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

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Addendum

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21.70S×179.55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21.76S×179.70W,h627km±37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:43.1±2.7,**22.3S**±0.2×**179.6W**±0.3,**h613**km±42km,
n22,σ1§**15**/21,**mb4.4**/9,**1C,South of Fiji Islands**

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

Epicentral Estimates

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

Observational Data

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

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

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

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

*NEIC **01** 00:11:43.6, 35.20N×23.31E, h14km, MD3.6(ATH), After ATH.*
*CSEM **01** 00:11:43.6, 35.20N×23.31E, h14km, MD3.6/10, After ATH*
ATH 01 00:11:43.6, 35.20N×23.31E, h14km±3km, MD3.6/10, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.73	119	ePG	Pg	00 11 57.5	-0.9
GVD	Gavdhos	0.73	119	ePg	Pg	00 11 57.5	-0.9
VAM	Vamos	0.76	74	ePB	Pb	00 11 58.4	+0.4
VAM	Vamos	0.76	74	ePb	Pb	00 11 58.4	+0.4
KYTH	Kithira	1.10	348	ePG	Pg	00 12 04.3	-1.4
KYTH	Kithira	1.10	348	ePg	Pg	00 12 04.3	-1.4
VLI	Veliai	1.54	349	ePB	Pb	00 12 12.8	+1.3
VLI	Veliai	1.54	349	ePb	Pb	00 12 12.8	+1.3
NPS	Neapolis	1.89	87	ePN	Pn	00 12 18.0	+2.2
NPS	Neapolis	1.89	87	ePn	Pn	00 12 18.0	+2.2
SANT	Santorini	2.10	56	eP	Pn	00 12 19.4	+0.6
ITM	Ithomi	2.27	331	ePG	Pg	00 12 26.7	-2.3
ITM	Ithomi	2.27	331	ePg	Pg	00 12 26.7	-2.3
NAIG	Nisos Aigina	2.56	3	ePB	Pb	00 12 26.3	-2.5
NAIG	Nisos Aigina	2.56	3	ePb	Pb	00 12 26.3	-2.5
APE	Apeiranthos	2.59	43	ePN	Pn	00 12 28.3	+2.4
APE	Apeiranthos	2.59	43	ePn	Pn	00 12 28.3	+2.4
NSAL	Nisos Salamina	2.70	3	ePB	Pb	00 12 29.8	-1.5
NSAL	Nisos Salamina	2.70	3	ePb	Pb	00 12 29.8	-1.5
PTL	Penteli	2.88	9	ePN	Pn	00 12 31.2	+1.2
PTL	Penteli	2.88	9	ePn	Pn	00 12 31.2	+1.2
KARP	Karpathos	3.17	83	ePN	Pn	00 12 34.8	+0.7
KARP	Karpathos	3.17	83	ePn	Pn	00 12 34.8	+0.7
EVR	Evrytania	3.90	343	ePN	Pn	00 12 45.5	+1.0
EVR	Evrytania	3.90	343	ePn	Pn	00 12 45.5	+1.0

MEX 01 00:15:28.1±1.2, 14.81N×93.98W, h16km±46km, MD4.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	2.30	50	eP	Pn	00 16 02.0	-4.1
CCIG				eS	Sn	00 16 29.9	-4.4
SCX	San Cristobal	2.31	34	i P	Pn	00 16 03.0	-3.2
CMIG	Matias Romero	2.43	339	eP	Pn	00 16 05.5	-2.5
CMIG				i S	Sn	00 16 31.8	-5.8
TUIG	Tuzandepetl	3.24	352	eP	Pn	00 16 17.1	-2.3
TUIG				i S	Sn	00 16 53.9	-4.1
VHO	Vista Hermosa	3.48	311	eP	Pn	00 16 18.6	-4.2
VHO				i S	Sn	00 17 00.6	-3.5
PPM	Popocatepetl	6.14	314	eP	Pn	00 16 54.6	-5.9
PPM				eS	Sn	00 18 09.1	-2.1

MEX 01 00:25:22.5±0.7, 14.59N×93.89W, h20km±202km, MD4.4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	2.38	45	eP	Pn	00 25 58.1	-3.1
CCIG				i S	Sn	00 26 25.4	-4.7
SCX	San Cristobal	2.45	29	i P	Pn	00 26 00.0	-2.2
SCX				i S	Sn	00 26 30.0	-1.8
CMIG	Matias Romero	2.66	339	eP	Pn	00 26 01.7	-3.6
CMIG				i S	Sn	00 26 32.6	-4.7
OXX	Oaxaca	3.69	313	eP	Pn	00 26 27.0	+7.2

*BJI **01** 00:47:33.0, 3.66N×94.62E, h47km, mB5.2, mb5.0, Ms4.5, Msz4.4*
*NEIC **01** 00:47:34.6±0.5, 3.99N×94.48E, h30km, mb4.8/12, Error ellipse: s-maj=15.3km s-min=9.3km az=61.0*
ISC 01 00:47:33.6±0.5, 3.95N±0.08×94.57E±0.10, h33km, (h34km±1.9km:pP-P), n38, σ0.91/37, mb4.8/18, MS4.3/1, 3D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	15.04	16	eP	P	00 51 06.0	+0.5
	23nm,0.6s						
NANT	Nan	15.93	22	P	P	00 51 21.6	+4.6
PKI	Pulchoki	25.06	341	eP	P	00 52 56.9	+0.2
	14nm,0.5s,mb4.7						
GUN	Gumba	25.22	342	eP	P	00 52 58.1	-0.1
	26nm,0.4s,mb5.1						
KKN	Kakani	25.31	340	eP	P	00 52 59.3	+0.3
	24nm,0.6s,mb4.9						
GKN	Gorkha	25.72	339	eP	P	00 53 02.4	-0.5
	17nm,0.4s,mb4.9						
LSA	Lhasa	25.81	353	P	P	00 53 05.2	+1.5
LSA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
LSA	Lhasa	25.81	353	eP	P	00 53 04.9	+1.1
	comp=Z,46nm,0.6s,mb5.2						
KOLN	Koldanda	25.89	337	eP	P	00 53 04.0	-0.5
	comp=Z,22nm,0.6s,mb4.9						
ENH	Enshi	29.73	27	eP	P	00 53 37.0	-2.2
	comp=Z,5.6nm,0.6s,mb4.5						
WHN	Wuhan	32.38	33	P	P	00 54 02.6	0.0
XAN	Xi'an	32.78	22	P	P	00 54 04.2	-1.9
XAN				AMB	AMB		
	comp=Z,28nm,0.8s,mb5.2						
XAN				LR	LR		
	comp=N,400nm,19.9s,MS4.4						
XAN				LR	LR		
	comp=E,610nm,22.1s,MS4.4						
XAN				LR	LR		
	comp=Z,719nm,21.1s,MS4.3						
FITZ	Fitzroy Crossi	37.66	127⇓	iP	P	00 54 47.7	-0.1
	comp=Z,23nm,0.6s,mb5.1						
FITZ				e	pP	00 54 57.0	-0.5
WMQ	Urumqi	40.16	352	P	P	00 55 09.2	+0.9
BJT	Baijiatuau	40.87	26	eP	P	00 55 14.9	+0.8
	comp=Z,41nm,0.6s,mb5.2						
KZA	Kyzart	41.70	338	P	P	00 55 21.7	+0.6
	SNR=5.2						
UCH	Uchtor	42.11	338	P	P	00 55 25.3	+0.9
	SNR=17						
TKM2	Tokmak 2	42.31	339	P	P	00 55 26.5	+0.4
	SNR=9.4						
KBK	Karagaybulak	42.31	338	P	P	00 55 27.2	+1.1
	SNR=20						
AML	Almayashu	42.34	337	P	P	00 55 27.3	+1.0
	SNR=17						
AAK	Ala-Archa	42.46	338	P	P	00 55 29.1	+1.8
	SNR=6.3						
AAK	Ala-Archa	42.46	338	eP	P	00 55 26.9	-0.4
	comp=Z,3.1nm,0.6s,mb4.1						
CHMS	Chumysh	42.68	338	P	P	00 55 29.3	+0.2
	SNR=5.4						
EKS2	Erkin-Say	42.76	337	P	P	00 55 30.6	+0.8
	SNR=9.2						
USP	Ospenovka	43.01	338	P	P	00 55 31.8	0.0
	SNR=24						
WRAB	Tennant Creek	45.72	123	eP	P	00 55 54.4	+0.5
	comp=Z,23nm,0.6s,mb5.3						
WB2	Warramunga Arr	45.73	123⇓	iP	P	00 55 54.7	+0.8
WB2				e	pP	00 56 04.4	+0.6
ASPA	Alice Springs	47.14	128⇓	iP	P	00 56 05.5	+0.5
ASPA				i	pP	00 56 16.4	+1.6
HIA	Hailar	49.97	21	eP	P	00 56 25.2	-1.3
	comp=Z,13nm,0.8s,mb5.0						
STKA	Stephens Creek	57.14	132	eP	P	00 57 19.8	+0.1
	comp=Z,2.5nm,0.6s,mb4.4						
MALT	Malatya	61.35	312	eP	P	00 57 48.0	-0.7
	comp=Z,2.8nm,1.0s,mb4.3						
LSZ	Lusaka	68.42	252	P	P	00 58 34.6	-0.2
JOF	Joensuu	74.55	335	ep	P	00 59 08.9	-1.8
	comp=Z,4.0nm,0.6s,mb4.5						
KAF	Kangasniemi	76.46	333	ep	P	00 59 20.0	-1.6
	comp=Z,5.7nm,0.8s,mb4.5						
PRU	Pruhonice	80.57	320	eP	P	00 59 38.0	-6.4
KHC	Kasperske Hory	81.13	319	eP	P	00 59 46.5	-0.8
NB2	NORSAR Subarra	83.34	331	P	P	00 59 57.6	-0.8
	comp=Z,3.4nm,1.0s,mb4.3,baz=91,slow=5.6						
JCT	Junction City	143.11	21	ePKP	PKPdf	01 07 03.1	-1.8

*BJI **01** 00:52:55.9, 8.18N×92.44E, h44km, mB5.0, mb4.7, Ms4.6, Msz4.3*
*NEIC **01** 00:52:57.3±0.3, 8.36N×92.46E, h30km, mb4.8/31, MS4.6/2, Error ellipse: s-maj=8.9km s-min=7.2km az=207.0*
ISC 01 00:52:56.0±0.4, 8.35N±0.06×92.49E±0.05, h32km, h32km±.9km:pP-P, n82, σ0.99/81, mb4.8/33, MS4.2/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.85	31	eP	P	00 55 45.4	-0.5
	4.8nm,0.4s						
VIS	Vishakhapatnam	12.90	317	eP	P	00 55 56.6	-3.3
VIS				e		00 55 59.5	
	comp=Z,215nm,1.2s						
VIS				eS	S	00 58 04.8	-18
VIS				eS	S	00 58 04.9	-18
MDRS	Chennai	12.91	292	e	P	00 55 58.0	-2.1
MDRS				e		00 58 08.0	
MDRS				e		00 58 09.0	
AGT	Agartala	15.50	356	eP	P	00 56 37.0	+2.9
HYB	Hyderabad	16.29	305	i P	P	00 56 45.5	+1.2
HYB				e		00 59 28.0	
HYB				eS	S	00 59 41.0	-2.5
IMP	Imphal	16.41	5	e	P	00 56 44.3	-1.4
SHL	Shillong	17.14	358	eP	P	00 56 53.0	-1.9
SHL				e		00 59 51.0	
MNGI	Mangalore	17.95	286	i P	P	00 57 04.9	-0.1
MNGI				e		01 00 07.9	
LATR	Latur	18.43	305	eP	P	00 57 12.5	+1.5
QIZ	Qiongzhong	19.91	56	eP	P	00 57 28.0	-0.1
QIZ				S	S	01 01 12.9	+8.1
QIZ				LR	LR		
	comp=N,2μm,17.2s						
QIZ				LR	LR		
	comp=Z,1μm,16.6s						
KAD	Karad	19.93	298	eP	P	00 57 29.5	+1.2
KAD				i		01 00 55.0	
PKI	Pulchoki	20.26	342	eP	P	00 57 31.1	-0.6
	comp=Z,188nm,0.9s						
DMN	Daman	20.39	341	eP	P	00 57 33.3	+0.3
	comp=Z,144nm,0.7s						
GUN	Gumba	20.44	343	eP	P	00 57 33.3	-0.2
	comp=Z,159nm,0.8s						
KKN	Kakani	20.51	342	eP	P	00 57 34.0	-0.2
	comp=Z,182nm,1.2s						
BHPL	Bhopal	20.69	317	eP	P	00 57 36.8	+0.6
BHPL				e		00 57 38.6	
	comp=Z,34nm,1.1s						
BHPL				e		01 01 12.1	
POO	Poona	20.74	301	eP	P	00 57 34.8	-1.9
POO				e		01 01 12.4	
GKN	Gorkha	20.91	340	eP	P	00 57 38.1	-0.3
	comp=Z,214nm,0.8s						
KOLN	Koldanda	21.07	338	eP	P	00 57 39.9	-0.1
	comp=Z,225nm,0.8s,mb5.5						
LSA	Lhasa	21.28	357	P	P	00 57 42.5	+0.4
LSA				AP		00 57 52.2	
LSA				XP		00 57 56.9	
LSA				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.0						
LSA				AMB	AMB		
	comp=Z,90nm,5.3s						
LSA				LR	LR		
	comp=N,860nm,25.6s,MS4.2						
LSA				LR	LR		
	comp=E,910nm,25.6s,MS4.2						
LSA				LR	LR		
	comp=Z,1μm,25.6s,MS4.3						
DDI	Dehra Dun	25.70	330	eP	P	00 58 25.9	+0.7
DDI				e		01 02 21.5	
ENH	Enshi	27.00	34	eP	P	00 58 35.6	-1.5
	comp=Z,9.0nm,0.3s,mb4.8						
KZA	Kyzart	36.88	338	P	P	01 00 05.1	+1.6
	SNR=6.0						
UCH	Uchtor	37.28	338	P	P	01 00 07.8	+0.9
	SNR=7.9						
KBK	Karagaybulak	37.50	339	P	P	01 00 10.1	+1.4
	SNR=15						
TKM2	Tokmak 2	37.50	339	P	P	01 00 10.5	+1.8
	SNR=5.2						
AML	Almayashu	37.51	337	P	P	01 00 10.3	+1.5
	SNR=18						
AAK	Ala-Archa	37.64	338	P	P	01 00 11.6	+1.7
	SNR=12						
AAK	Ala-Archa	37.64	338	eP	P	01 00 10.0	+0.2
	comp=Z,25nm,1.1s,mb4.8						
CHMS	Chumysh	37.87	339	P	P	01 00 12.5	+0.8
	SNR=6.7						
EKS2	Erkin-Say	37.94	337	P	P	01 00 13.6	+1.3
	SNR=6.0						
BJT	Baijiatuau	37.97	30	eP	P	01 00 13.2	+0.5
	comp=Z,5.4nm,0.6s,mb4.5						
USP	Ospenovka	38.19	339	P	P	01 00 15.2	+0.7
	SNR=12						
ULN	Ulaanbaatar	41.28	15	eP	P	01 00 39.3	-0.7
	comp=Z,1.5nm,0.4s,mb4.0						
MUN	Mundaring	46.06	152	eP	P	01 01 20.4	+1.5
	comp=Z,13nm,1.2s,mb4.7						
MUN				e	pP	01 01 30.4	+1.9
HIA	Hailar	46.75	24	eP	P	01 01 23.5	-0.5
	comp=Z,4.9nm,0.8s,mb4.5						
WRAB	Tennant Creek	49.87	125	eP	P	01 01 47.8	-0.9
	comp=Z,11nm,0.6s,mb5.0						
WB2	Warramunga Arr	49.88	125	eP	P	01 01 47.9	-0.9
WB2				e	pP	01 01 58.5	-0.1
ASPA	Alice Springs	51.47	129	eP	P	01 02 00.3	-0.6
ASPA				e	pP	01 02 10.1	-0.6
KMBO	Kilima Mbogo	55.85	263	eP	P	01 02 32.0	-1.3
KIV	Kislovodsk	55.87	318	eP	P	01 02 31.7	-1.3
	comp=Z,10nm,0.8s,mb4.9						
MALT	Malatya	56.91	311	P	P	01 02 37.3	-3.3
	comp=Z,5.2nm,1.1s,mb4.5						
EIL	Elat	57.77	300	eP	P	01 02 46.4	-0.3
	comp=Z,2.8nm,1.1s,mb4.2						
YAK	Yakutsk	60.08	19	P	P	01 03 01.1	-1.2
	comp=Z,21nm,0.8s,mb5.2						
ISP	Isparta	62.86	308	P	P	01 03 20.1	-1.2
	comp=Z,7.3nm,0.9s,mb4.8						
JOF	Joensuu	69.72	335	ep	P	01 04 03.4	-1.2
	comp=Z,4.4nm,0.7s,mb4.5						
KOLS	Kolonicke sedl	70.78	319	i pP	pP	01 04 19.3	-2.0
CRVS	Cervenica-Dubn	71.30	319	i P	P	01 04 15.6	+1.2
KAF	Kangasniemi	71.63	333	ep	P	01 04 15.1	-1.1
	comp=Z,7.0nm,1.0s,mb4.5						
VYHS	Vyhne	72.97	318	i P	P	01 04 24.0	-0.4
OKC	Ostrava-Krasne	73.57	319	epP	pP	01 04 37.4	-0.5
MORC	Moravsky Berou	73.95	319	eP	P	01 04 28.7	-1.3
	comp=Z,4.6nm,1.1s,mb4.3						
DPC	Dobruska-Polom	74.79	320	eP	P	01 04 35.1	+0.2
DPC				epP	pP	01 04 44.0	-1.0
KSP	Ksiaz	74.86	320	eP	P	01 04 35.1	-0.2
KSP				epP	pP	01 04 45.8	+0.4
UPC	Upice	75.00	320	epP	pP	01 04 46.7	+0.5
UPC				ex	x	01 04 54.2	
PRU	Pruhonice	75.91	319	eP	P	01 04 41.2	-0.1
PRU				epP	pP	01 04 51.6	+0.2
BRG	Berggiesshubel	76.34	320	i P	pP	01 04 54.6	+0.7
GEC2	GERESS Array S	76.39	318	eP	P	01 04 44.3	+0.3
KHC	Kasperske Hory	76.48	318	eP	P	01 04 44.1	-0.4
KHC				epP	pP	01 04 52.1	-2.6
KHC				ex	x	01 05 09.0	
WET	Wettzell	76.94	318	eP	P	01 04 47.3	+0.2
CLL	Collm	76.96	321	P	pP	01 04 56.0	-1.3
CLL				e*SP	sP	01 05 01.0	+0.2
NKC	Novy Kostel	77.27	320	eP	P	01 04 48.7	-0.1
NKC				epP	pP	01 04 59.5	+0.5
NKC				ex	x	01 05 09.0	
GRA1	Grafenberg Arr	78.04	319	eP	P	01 04 53.9	+0.8
	comp=Z,4.0nm,0.8s,mb4.4						
GRA1				epP	pP	01 05 04.4	+1.1
GRF	Grafenberg Arr	78.04	319	eP	P	01 04 53.9	+0.8
	comp=Z,4.0nm,0.8s,mb4.4						
GRF				epP	pP	01 05 04.4	+1.1
NB2	NORSAR Subarra	78.52	331	P	P	01 04 55.2	-0.3
	comp=Z,8.4nm,1.1s,mb4.6,baz=93,slow=5.8						
CLZ	Clausthal	78.62	321	eP	P	01 04 56.5	+0.2
BSEG	Bad Segeberg	78.70	323	eP	P	01 04 57.2	+0.6
PGF	Pioggiola	79.63	312	eP	P	01 05 02.0	+0.1
	comp=Z,60nm,1.4s,mb5.0						
BFO	Black Forest	79.94	318	eP	P	01 05 03.4	-0.1
CDF	Champ du Feu	80.64	318	eP	P	01 05 07.4	+0.2
	comp=Z,5.6nm,0.8s,mb4.3						
SBF	Sospel	80.72	313	eP	P	01 05 07.7	0.0
	comp=Z,28nm,0.8s,mb5.0						
LPG	La Plagne	81.13	315	eP	P	01 05 10.9	+1.1
	comp=Z,34nm,0.8s,mb5.0						
MBDF	Montbardon	81.15	314	eP	P	01 05 10.1	+0.1
	comp=Z,14nm,0.8s,mb4.6						
BNI	Bardonecchia	81.20	314	eP	P	01 05 10.3	+0.1
	comp=Z,12nm,0.9s,mb4.8						
HAU	Haudompre	81.28	317	eP	P	01 05 10.8	+0.2
	comp=Z,17nm,0.8s,mb4.7						
HAU				eR			
	comp=Z,233nm,18.2s						
BAIF	Baives	82.57	319	eP	P	01 05 17.9	+0.7
	comp=Z,62nm,1.5s,mb5.1						
SSF	Saint Saulge	83.27	317	eP	P	01 05 21.3	+0.4
	comp=Z,44nm,1.6s,mb4.9						
BGF	Bois d'Agland	83.76	316	eP	P	01 05 23.4	-0.1
	comp=Z,11nm,0.8s,mb4.8						
RJF	Les Rejaudoux	84.82	315	eP	P	01 05 29.1	+0.3
	comp=Z,15nm,1.0s,mb4.8						
RJF				eR			
	comp=Z,212nm,17.0s						
FLN	La Foliniere	85.75	318	eP	P	01 05 33.7	+0.4
	comp=Z,30nm,1.1s,mb5.1						
FLN				eR			
	comp=Z,217nm,20.2s						
ETSF	Etsaut	86.61	313	eP	P	01 05 37.8	+0.1
	comp=Z,44nm,1.5s,mb5.2						
IMA	Indian Mountai	91.80	22	eP	P	01 06 02.7	+1.1
	comp=Z,33nm,1.6s,mb5.4						

*NEIC **01** 00:56:46.6±0.7, 8.27N×92.95E, h30km, mb4.7/10, Error ellipse: s-maj=23.0km s-min=10.8km az=71.0*
*BJI **01** 00:56:46.3, 7.87N×93.05E, h57km, mB5.2, mb4.9, Ms4.7, Msz4.4*
ISC 01 00:56:44.5±0.7, 8.27N±0.09×93.0E±0.2, h30km, n16, σ1.08/16, mb4.7/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.66	29	P	P	00 59 33.0	+0.8
	13nm,0.6s						
LSA	Lhasa	21.39	356	eP	P	01 01 32.9	+0.9
ENH	Enshi	26.79	33	eP	P	01 02 23.5	-0.6
	18nm,0.6s,mb4.8						
AAK	Ala-Archa	37.90	338	eP	P	01 04 02.9	+2.1
	4.2nm,0.8s,mb4.2						
ULN	Ulaanbaatar	41.23	14	eP	P	01 04 28.6	+0.2
	3.0nm,0.7s,mb4.0						
MUN	Mundaring	45.76	152	eP	P	01 05 07.9	+2.5
	8.8nm,0.6s,mb4.9						
HIA	Hailar	46.62	24	eP	P	01 05 12.0	+0.1
	8.5nm,0.6s,mb4.8						
KMBL	Kambalda	48.15	146	eP	P	01 05 25.9	+1.7
	23nm,0.4s,mb5.5						
WRAB	Tennant Creek	49.43	125	eP	P	01 05 33.1	-1.0
WB2	Warramunga Arr	49.43	125	eP	P	01 05 33.3	-0.9
ASPA	Alice Springs	51.05	129	eP	P	01 05 45.8	-0.7
KIV	Kislovodsk	56.26	318	P	P	01 06 23.7	-1.0
	4.6nm,0.8s,mb4.6						
YAK	Yakutsk	59.99	19	P	P	01 06 49.5	-1.0
	17nm,0.8s,mb5.1						
STKA	Stephens Creek	61.21	133	eP	P	01 06 59.2	0.0
	5.8nm,1.0s,mb4.7						
JOF	Joensuu	70.00	335	ep	P	01 07 54.6	-0.6
	4.9nm,1.0s,mb4.4						
KAF	Kangasniemi	71.92	333	ep	P	01 08 05.7	-1.1
	2.1nm,0.7s,mb4.2						

ISC 01 00:58:43.9±4.8, 8.2N±0.3×9 4E± , h33km, n30, σ0.48/30, mb4.6/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBK	Karagaybulak	38.01	338	P	P	01 06 01.0	+0.3
	SNR=9.2						
AML	Almayashu	38.06	336	P	P	01 06 01.3	+0.2
	SNR=15						
AAK	Ala-Archa	38.17	337	P	P	01 06 02.1	+0.1
	SNR=5.5						
CHMS	Chumysh	38.38	338	P	P	01 06 03.6	-0.2
	SNR=6.2						
EKS2	Erkin-Say	38.47	336	P	P	01 06 04.8	+0.2
	SNR=9.2						
USP	Ospenovka	38.71	338	P	P	01 06 06.2	-0.3
	SNR=18						
JOF	Joensuu	70.30	335	ep	P	01 09 54.7	-1.1
	7.1nm,0.7s,mb4.7						
KOLS	Kolonicke sedl	71.58	319	i P	P	01 10 03.7	0.0
CRVS	Cervenica-Dubn	72.10	319	i P	P	01 10 01.2	-5.6
KAF	Kangasniemi	72.23	333	ep	P	01 10 06.9	-0.4
	2.3nm,0.7s,mb4.2						
VYHS	Vyhne	73.78	318	i P	P	01 10 16.1	-0.6
OKC	Ostrava-Krasne	74.37	319	eP	P	01 10 19.9	-0.2
DPC	Dobruska-Polom	75.58	320	eP	P	01 10 27.7	+0.6
UPC	Upice	75.79	320	eP	P	01 10 28.5	+0.2
PRU	Pruhonice	76.70	319	eP	P	01 10 33.7	+0.2
KHC	Kasperske Hory	77.29	318	eP	P	01 10 36.7	-0.1
NKC	Novy Kostel	78.06	320	eP	P	01 10 42.0	+1.0
NB2	NORSAR Subarra	79.16	331	P	P	01 10 47.2	+0.4
	1.1nm,0.6s,mb4.0,baz=95,slow=5.3						
PGF	Pioggiola	80.51	312	eP	P	01 10 53.3	-1.2
	33nm,1.1s,mb4.8						
CDF	Champ du Feu	81.46	318	eP	P	01 10 59.3	0.0
	11nm,1.1s,mb4.4						
SBF	Sospel	81.59	313	eP	P	01 10 59.6	-0.5
	20nm,0.8s,mb4.8						
LPG	La Plagne	81.98	315	eP	P	01 11 02.4	+0.3
	9.5nm,0.7s,mb4.5						
MBDF	Montbardon	82.01	314	eP	P	01 11 02.2	-0.1
	14nm,1.2s,mb4.5						
HAU	Haudompre	82.10	317	eP	P	01 11 02.9	+0.2
	6.7nm,0.7s,mb4.4						
BAIF	Baives	83.36	320	eP	P	01 11 09.4	+0.4
SSF	Saint Saulge	84.10	317	eP	P	01 11 13.5	+0.6
	24nm,1.3s,mb4.8						
BGF	Bois d'Agland	84.60	316	eP	P	01 11 14.7	-0.7
	3.5nm,0.7s,mb4.3						
RJF	Les Rejaudoux	85.67	315	eP	P	01 11 20.8	+0.1
FLN	La Foliniere	86.55	319	eP	P	01 11 25.5	+0.6
	95nm,1.9s,mb5.4						
ETSF	Etsaut	87.48	313	eP	P	01 11 29.5	-0.1
	102nm,1.9s,mb5.4						

*CSEM **01** 01:03:40.1, 38.81N×31.89E, h6km, MD3.5, After ISK*
ISK 01 01:03:40.1, 38.81N×31.89E, h6km, MD3.5, ML3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZT	Kizilcal	0.07	353	i PG	Pg	01 03 42.7	+0.8
KIZT	Kizilcal	0.07	353	i Pg	Pg	01 03 42.7	+0.8
KONT	Konya--Tatoy	0.94	157	i PG	Pg	01 03 58.5	-0.3
KONT				i SG	Sg	01 04 11.5	+0.2
KONT	Konya--Tatoy	0.94	157	i Pg	Pg	01 03 58.5	-0.3
KONT				i Sg	Sg	01 04 11.5	+0.2
ESKT	Eskisehir	1.08	312	i PN	Pn	01 04 00.6	-1.0
ESKT	Eskisehir	1.08	312	i P	Pb	01 04 01.0	+0.2
ESKT				i S	Sb	01 04 13.6	-1.3
ESKT	Eskisehir	1.08	312	i Pn	Pn	01 04 00.6	-1.0
ANTO	Ankara	1.27	33	i PN	Pn	01 04 04.7	+0.3
ANTO	Ankara	1.27	33	i Pn	Pn	01 04 04.7	+0.3
LOD	Lodumlu	1.27	32	i PN	Pn	01 04 05.0	+0.5
LOD	Lodumlu	1.27	32	i Pn	Pn	01 04 05.0	+0.5
ALT	Altintas	1.41	281	i PN	Pn	01 04 07.0	+0.6
ALT				i SN	Sn	01 04 26.2	+0.7
ALT	Altintas	1.41	281	i Pn	Pn	01 04 07.0	+0.6
ALT				i Sn	Sn	01 04 26.2	+0.7
ISP	Isparta	1.45	229	PN	Pn	01 04 07.9	+0.9
ISP	Isparta	1.45	229	ePn	Pn	01 04 07.9	+0.9
KAMT	Kaman	1.52	68	PN	Pn	01 04 08.5	+0.5
KAMT	Kaman	1.52	68	ePn	Pn	01 04 08.5	+0.5
BCK	Bucak	1.69	218	PN	Pn	01 04 11.5	+1.1
BCK	Bucak	1.69	218	ePn	Pn	01 04 11.5	+1.1
MDU	Mudurnu	1.74	343	PN	Pn	01 04 11.5	+0.4
MDU	Mudurnu	1.74	343	ePn	Pn	01 04 11.5	+0.4
SGKT	Sivrigoynuk	1.77	4	i P	Pn	01 04 12.6	+1.0
SGKT				i S	Sn	01 04 40.2	+5.6
HDMB	Hadim	1.90	165	ePN	Pn	01 04 14.4	+1.0
HDMB	Hadim	1.90	165	ePn	Pn	01 04 14.4	+1.0
KHL	Karahalli	1.92	256	ePN	Pn	01 04 14.0	+0.3
KHL	Karahalli	1.92	256	ePn	Pn	01 04 14.0	+0.3
GPA	Golpazari	1.92	321	ePN	Pn	01 04 14.2	+0.5
CANT	Cankiri	2.24	36	ePN	Pn	01 04 18.8	+0.6
CANT	Cankiri	2.24	36	ePn	Pn	01 04 18.8	+0.6
NIG	Nigde	2.24	107	ePN	Pn	01 04 19.3	+1.0
NIG	Nigde	2.24	107	ePn	Pn	01 04 19.3	+1.0
AVNT	Avonos	2.32	90	i P	Pn	01 04 21.2	+1.9
AVNT				i S	Sn	01 04 57.4	+8.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**2.48**	**246**	ePN	Pn	01 04 22.6	+0.8
DENT	**Denizli**	**2.48**	**246**	ePn	Pn	01 04 22.6	+0.8
SAFT	**Safranbolu**	**2.50**	**14**	ePN	Pn	01 04 22.5	+0.4
SAFT	**Safranbolu**	**2.50**	**14**	ePn	Pn	01 04 22.5	+0.4
ELL	**Elmali**	**2.59**	**218**	ePN	Pn	01 04 23.8	+0.6
ELL	**Elmali**	**2.59**	**218**	ePn	Pn	01 04 23.8	+0.6
YLV	**Yalova**	**2.62**	**313**	ePN	Pn	01 04 23.9	+0.2
YLV	**Yalova**	**2.62**	**313**	ePn	Pn	01 04 23.9	+0.2
MANT	**Manisa**	**2.63**	**264**	i P	Pn	01 04 28.2	+4.3
MANT				i S	Sn	01 05 04.4	+8.0
ORLT	**Orhaneli**	**2.63**	**299**	ePN	Pn	01 04 24.2	+0.4
ORLT	**Orhaneli**	**2.63**	**299**	ePn	Pn	01 04 24.2	+0.4
HRT	**Hereke**	**2.64**	**320**	ePN	Pn	01 04 24.4	+0.4
HRT	**Hereke**	**2.64**	**320**	ePn	Pn	01 04 24.4	+0.4
DST	**Dursunbey**	**2.66**	**288**	ePN	Pn	01 04 24.3	+0.1
DST	**Dursunbey**	**2.66**	**288**	ePn	Pn	01 04 24.3	+0.1
TOS	**Tosya**	**2.76**	**36**	ePN	Pn	01 04 26.1	+0.3
TOS	**Tosya**	**2.76**	**36**	ePn	Pn	01 04 26.1	+0.3
YOZ	**Yozgat**	**2.79**	**72**	ePN	Pn	01 04 26.6	+0.5
YOZ	**Yozgat**	**2.79**	**72**	ePn	Pn	01 04 26.6	+0.5
BNN	**Bunyan**	**3.09**	**88**	ePN	Pn	01 04 31.4	+1.0
BNN	**Bunyan**	**3.09**	**88**	ePn	Pn	01 04 31.4	+1.0
KCT	**Karacabey**	**3.10**	**299**	ePN	Pn	01 04 30.9	+0.4
KCT	**Karacabey**	**3.10**	**299**	ePn	Pn	01 04 30.9	+0.4
AKS	**Akhisar**	**3.19**	**273**	ePN	Pn	01 04 32.2	+0.4
AKS	**Akhisar**	**3.19**	**273**	ePn	Pn	01 04 32.2	+0.4
BALB	**Balikesir**	**3.23**	**286**	ePN	Pn	01 04 32.8	+0.5
BALB	**Balikesir**	**3.23**	**286**	ePn	Pn	01 04 32.8	+0.5
BYBT	**Boyabat**	**3.45**	**39**	ePN	Pn	01 04 36.0	+0.5
BYBT	**Boyabat**	**3.45**	**39**	ePn	Pn	01 04 36.0	+0.5

DJA 01 01:14:33.9±1.1**,7.10S×105.92E,h33km,MD4.2**/3**, ML4.1**/3**,2C-5D,Error ellipse: s-maj=35.7km s-min=7.5km az=27.0,Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PULI	**Pulasari**	**0.75**	**4**	⇓iPn	Pn	01 14 47.5	-0.7
PULI				⇓iSn	Sn	01 15 11.1	+13
PACI	**Pancar Gunung**	**1.10**	**63**	ePn	Pn	01 14 51.5	-1.7
	34nm,0.5s						
PACI	**Pancar Gunung**	**1.10**	**63**	⇓iP	P	01 14 53.2	+0.2
SINI	**Singah**	**1.57**	**87**	⇓iPn	Pn	01 14 58.8	-1.1
	53nm,0.3s						
SINI				⇑iSn	Sn	01 15 17.5	-1.7
PENI	**Pendagan**	**1.69**	**334**	⇑iPn	Pn	01 15 00.3	-1.4
	3μm,0.2s						
PENI				⇓eSn	Sn	01 15 20.3	-2.1

*CASC **01** 01:20:02.8±2.2,13.72N×88.95W,h170km±6km,MD4.7, ML4.7,mb5.0(NEIC)*
*BJI **01** 01:20:04.3,13.80N×88.80W,h193km,mB4.9*
*NEIC **01** 01:20:05.4±0.7,13.79N×88.78W,h193km±7km,mb5.0/51, Error ellipse: s-maj=6.4km s-min=4.2km az=52.0*
*HRVD **01** 01:20:05.4±0.9,13.76N×89.08W,h163km±12km, MW4.7/27,Centroid moment Tensor Solution. LP body waves: s4,c4;Mantle waves: s27,c33; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.84±.20; $M_{\theta\theta}$-0.01±.23; $M_{\phi\phi}$-0.83±.27; $M_{r\theta}$1.05±.12; $M_{\theta\phi}$0.04±.24; $M_{\phi r}$-0.37±.16; Best double couple: $M_0$1.312×10^{16} NP1: ϕ_s9°,δ29°,λ142°. NP2:ϕ_s133°,δ72°,λ66°. Principal axes: T 1.581, Plg56°, Azm12°; N -.537, Plg23°, Azm140°; P -1.044, Plg24°, Azm241°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 01 01:20:02.6±0.2**,13.77N**±0.05×**88.90W**±0.03**,h177**km±2km**, n149,**σ**0s89**/156**,mb4.9**/42**,20C-4D,El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCBS	**La Ceiba**	**0.14**	**213**	⇑iP	**P**	**01 20 25.5**	**-0.8**
LBRS	**Las Brisas**	**0.14**	**257**	⇑iP	**P**	**01 20 25.9**	**-0.4**
LBRS				eS	**S**	**01 20 43.2**	**-1.3**
SNVI	**San Vicente**	**0.17**	**159**	eP	**P**	**01 20 25.9**	**-0.4**
SNVI				⇑eP		01 20 26.0	
SNVI				eS	**S**	**01 20 46.0**	**+1.4**
LFU	**La Fuente**	**0.21**	**264**	⇑eP	**P**	**01 20 25.9**	**-0.5**
LFRS	**El Faro**	**0.21**	**227**	⇑iP	**P**	**01 20 25.6**	**-0.9**
SNET	**Serv Nac Est T**	**0.33**	**255**	eP	**P**	**01 20 26.1**	**-0.7**
BOQS	**Boqueron**	**0.37**	**265**	⇑iP	**P**	**01 20 26.1**	**-0.9**
CAHU	**Cacacuatique**	**0.67**	**90**	⇑eP	**P**	**01 20 28.4**	**+0.2**
CAHU				eS	**S**	**01 20 48.2**	**+0.3**
SNJE	**San Jose**	**0.69**	**278**	i P	**P**	**01 20 27.9**	**-0.4**
SNJE				eS	**S**	**01 20 46.2**	**-1.8**
SBLS	**San Blas**	**0.70**	**276**	⇑iP	**P**	**01 20 27.9**	**-0.4**
BLLM	**Bellamira**	**0.72**	**117**	⇑iP	**P**	**01 20 28.1**	**-0.3**
RTR	**El Retiro**	**0.73**	**280**	⇑iP	**P**	**01 20 28.1**	**-0.3**
MTO2	**Montecristo 2**	**0.77**	**325**	⇑iP	**P**	**01 20 28.8**	**+0.2**
MTO2				eS	**S**	**01 20 47.2**	**-1.6**
RBDL	**Robledal**	**0.83**	**294**	⇓iP	**P**	**01 20 28.8**	**-0.2**
RBDL				eS	**S**	**01 20 49.4**	**-0.1**
CNCH	**Conchagua**	**1.15**	**115**	⇑iP	**P**	**01 20 31.6**	**+0.2**
CNCH				eS	**S**	**01 20 53.9**	**+0.2**
IXG	**Ixpaco**	**1.56**	**285**	⇑iP	**P**	**01 20 34.5**	**-0.8**
IXG				eS	**S**	**01 21 02.8**	**+2.4**
IXG				AML	AML	01 21 05.7	
	comp=N,33μm,0.3s						
NBG	**Las Nubes**	**1.62**	**300**	⇑iP	**P**	**01 20 36.4**	**+0.5**
PCG	**Pacaya**	**1.77**	**291**	⇓eP	**P**	**01 20 37.6**	**+0.3**
GCG	**Guatemala City**	**1.78**	**297**	⇑iP	**P**	**01 20 37.7**	**+0.3**
GCG				eS	**S**	**01 21 04.3**	**0.0**
GCG				AML	AML	01 21 23.5	
	comp=N,726nm,0.5s						
FUG	**Fuego 3**	**2.00**	**290**	⇑iP	**P**	**01 20 39.5**	**-0.2**
CRIN	**San Cristobal**	**2.09**	**120**	eP	**P**	**01 20 42.0**	**+1.2**
TP2	**Tecpan 2**	**2.29**	**296**	⇑eP	**P**	**01 20 43.8**	**+0.7**
TP2				eS	**S**	**01 21 15.5**	**+1.2**
TP2				AML	AML	01 21 23.9	
	comp=E,1μm,0.4s						
TEL3	**Telica 3**	**2.33**	**120**	eP	**P**	**01 20 43.5**	**-0.1**
LEON	**Leon**	**2.38**	**124**	⇑eP	**P**	**01 20 43.8**	**-0.4**
CNGN	**Cerro Negro**	**2.49**	**120**	eP	**P**	**01 20 46.1**	**+0.6**
CNGN				eS	**S**	**01 21 20.2**	**+1.7**
MIRN	**Miramar**	**2.51**	**122**	eP	**P**	**01 20 45.7**	**0.0**
MOMJ	**Momotombo**	**2.67**	**120**	eP	**P**	**01 20 48.8**	**+1.2**
MOMJ				eS	**S**	**01 21 21.6**	**-0.7**
JAT	**Jato**	**2.71**	**282**	eP	**P**	**01 20 48.1**	**0.0**
JAT				eS	**S**	**01 21 21.1**	**-2.1**
COPN	**Copaltepe**	**2.75**	**125**	⇓eP	**P**	**01 20 48.9**	**+0.3**
APYN	**Apoyeque**	**2.92**	**121**	eP	**P**	**01 20 51.0**	**+0.4**
XAVN	**Gruta Xavier**	**2.98**	**122**	eP	**P**	**01 20 51.6**	**+0.2**
PYTN	**Playitas**	**3.03**	**114**	eP	**P**	**01 20 52.9**	**+0.9**
PYTN				eS	**S**	**01 21 30.8**	**+0.7**
MGAN	**Managua**	**3.05**	**122**	eP	**P**	**01 20 53.2**	**+1.0**
MGAN				i		01 21 32.4	
	comp=E,6μm,0.4s						
WILN	**Americas 2**	**3.09**	**121**	eP	**P**	**01 20 53.1**	**+0.3**
WILN				eS	**S**	**01 21 30.6**	**-0.9**
WILN				i		01 21 32.6	
	comp=N,16μm,0.6s						
TICN	**Ticuantepe**	**3.12**	**123**	eP	**P**	**01 20 54.3**	**+1.1**
APON	**Apoyo**	**3.32**	**123**	⇑eP	**P**	**01 20 57.5**	**+1.8**
APON				eS	**S**	**01 21 35.8**	**-0.8**
JTS	**JuntasAbangare**	**5.18**	**131**	eP	**P**	**01 21 20.1**	**+0.5**
	comp=N,536nm,0.4s						
JTS				eS	**S**	**01 22 07.7**	**-12**
TEIG	**Tepich**	**6.45**	**5**	eP	**P**	**01 21 36.5**	**+0.3**
	comp=N,18nm,0.8s						
DWPF	**Disney**	**15.87**	**25**	eP	**P**	**01 23 37.8**	**+0.1**
	comp=N,120nm,0.8s						
OTAV	**Otavalo**	**16.97**	**142**	P	**P**	**01 23 51.7**	**+0.7**
	comp=N,5.7nm,0.9s						
HKT	**Hockley**	**17.33**	**339**	eP	**P**	**01 23 55.3**	**+0.2**
	comp=N,64nm,1.3s						
SDV	**Santo Domingo**	**18.55**	**103**	eP	**P**	**01 24 07.1**	**-1.3**
	comp=N,40nm,0.6s						
NATX	**Nacogdoches**	**18.67**	**345**	eP	**P**	**01 24 10.1**	**+0.6**
	comp=N,102nm,0.8s						
LRAL	**Lakeview Retre**	**19.25**	**5**	eP	**P**	**01 24 16.5**	**+0.9**
	comp=N,92nm,0.9s						
JCT	**Junction City**	**19.43**	**331**	eP	**P**	**01 24 16.8**	**-0.6**
	comp=N,48nm,0.7s						
GOGA	**Godfrey**	**20.17**	**13**	eP	**P**	**01 24 25.7**	**+0.8**
	comp=N,80nm,0.6s						
OXF	**Oxford**	**20.66**	**359**	eP	**P**	**01 24 30.6**	**+0.8**
	comp=N,94nm,0.8s						
LTX	**Lajitas**	**20.66**	**321**	eP	**P**	**01 24 31.0**	**+1.1**
	comp=N,65nm,0.7s						
NHSC	**New Hope**	**20.83**	**21**	eP	**P**	**01 24 32.5**	**+1.1**
	comp=N,228nm,0.9s						
MIAR	**Mount Ida**	**21.11**	**349**	eP	**P**	**01 24 35.2**	**+0.9**
	comp=N,117nm,1.0s,mb5.2						
UALR	**University of**	**21.14**	**352**	eP	**P**	**01 24 35.1**	**+0.5**
	comp=N,141nm,1.0s,mb5.2						
HBAR	**Harrisburg**	**21.75**	**356**	eP	**P**	**01 24 42.1**	**+1.6**
CPCT	**Cooper Cave**	**21.94**	**10**	eP	**P**	**01 24 43.4**	**+1.1**
HALT	**Halls**	**22.05**	**359**	eP	**P**	**01 24 44.0**	**+0.6**
WVT	**Waverly**	**22.29**	**2**	eP	**P**	**01 24 45.8**	**+0.1**
	comp=N,21nm,0.6s,mb4.8						
SJG	**San Juan**	**22.29**	**76**	eP	**P**	**01 24 45.5**	**-0.4**
	comp=N,14nm,0.6s,mb4.6						
GLAT	**Glass**	**22.41**	**359**	eP	**P**	**01 24 47.8**	**+0.9**
UTMT	**University of**	**22.48**	**0**	eP	**P**	**01 24 47.8**	**+0.2**
	comp=N,152nm,1.1s,mb5.3						
WMOK	**Wichita Mounta**	**22.71**	**339**	eP	**P**	**01 24 49.5**	**-0.4**
	comp=N,37nm,0.9s,mb4.8						
GDL2	**Guadalupe Moun**	**23.17**	**325**	eP	**P**	**01 24 54.9**	**+0.5**
MNTX	**Cornudas Mount**	**23.38**	**322**	eP	**P**	**01 24 56.2**	**-0.2**
	comp=N,50nm,1.0s,mb4.9						
CPRX	**Cap Rock**	**23.53**	**327**	eP	**P**	**01 24 58.0**	**+0.2**
AMTX	**Amarillo**	**23.98**	**333**	eP	**P**	**01 25 02.0**	**-0.1**
	comp=N,73nm,0.9s,mb5.2						
USIN	**University of**	**24.12**	**2**	eP	**P**	**01 25 02.9**	**-0.5**
	comp=N,59nm,0.9s,mb5.1						
FVM	**French Village**	**24.15**	**357**	eP	**P**	**01 25 03.0**	**-0.7**
	comp=N,14nm,0.8s,mb4.5						
CCM	**Cathedral Cave**	**24.28**	**355**	eP	**P**	**01 25 04.9**	**+0.1**
	comp=N,167nm,0.8s,mb5.6						
ELN	**Prospectdale**	**24.47**	**16**	eP	**P**	**01 25 07.3**	**+0.7**
WCI	**Wyandotte Cave**	**24.47**	**5**	eP	**P**	**01 25 06.1**	**-0.5**
	comp=N,83nm,0.7s,mb5.4						
PWV	**Princeton**	**24.49**	**15**	eP	**P**	**01 25 07.0**	**+0.1**
BLA	**Blacksburg**	**24.54**	**16**	eP	**P**	**01 25 07.5**	**+0.2**
	comp=N,56nm,1.0s,mb5.0						
FWV	**Forest Hill**	**24.79**	**15**	eP	**P**	**01 25 09.5**	**-0.1**
SLM	**Saint Louis**	**24.80**	**358**	eP	**P**	**01 25 09.9**	**+0.2**
	comp=N,28nm,0.6s,mb5.0						
BLO	**Bloomington**	**25.39**	**4**	eP	**P**	**01 25 14.1**	**-1.1**
	comp=N,20nm,0.8s,mb4.7						
BNM	**Barren Site**	**25.88**	**325**	eP	**P**	**01 25 21.2**	**+1.4**
LPM	**Los Pinos Moun**	**26.00**	**325**	eP	**P**	**01 25 21.8**	**+0.9**
LENM	**Lemitar**	**26.09**	**324**	eP	**P**	**01 25 23.0**	**+1.3**
KSU1	**Kansas State U**	**26.13**	**346**	eP	**P**	**01 25 21.0**	**-1.0**
LAZ	**Ladron**	**26.35**	**324**	eP	**P**	**01 25 25.3**	**+1.2**
ANMO	**Albuquerque**	**26.38**	**326**	eP	**P**	**01 25 24.7**	**+0.3**
	comp=N,22nm,1.3s,mb4.6						
CBN	**Corbin**	**26.40**	**21**	eP	**P**	**01 25 24.8**	**+0.3**
	comp=N,131nm,0.9s,mb5.6						
ACSO	**Alum Creek Sta**	**26.87**	**10**	eP	**P**	**01 25 27.3**	**-1.4**
	comp=N,34nm,0.7s,mb5.1						
MCWV	**Mont Chateau**	**26.99**	**16**	eP	**P**	**01 25 29.1**	**-0.7**
	comp=N,34nm,0.9s,mb5.0						
TUC	**Tucson**	**27.21**	**316**	eP	**P**	**01 25 32.6**	**+0.6**
	comp=N,13nm,0.9s,mb4.6						
SDMD	**Soldier's Deli**	**27.66**	**20**	eP	**P**	**01 25 35.5**	**-0.5**
SDCO	**Great Sand Dun**	**28.08**	**331**	eP	**P**	**01 25 40.0**	**+0.3**
	comp=N,40nm,1.0s,mb5.1						
SSPA	**Standing Stone**	**28.45**	**18**	eP	**P**	**01 25 42.0**	**-1.0**
	comp=N,18nm,0.8s,mb4.8						
AAM	**Ann Arbor**	**28.79**	**8**	eP	**P**	**01 25 44.5**	**-1.5**
ALLY	**Alegheny Colle**	**28.80**	**14**	eP	**P**	**01 25 45.0**	**-1.1**
ISCO	**Idaho Springs**	**29.80**	**334**	eP	**P**	**01 25 55.1**	**0.0**
	comp=N,14nm,0.8s,mb4.7						
PV10	**Paradox Valley**	**30.32**	**328**	eP	**P**	**01 25 59.7**	**+0.1**
GENY	**Geneseo**	**30.44**	**16**	eP	**P**	**01 25 59.6**	**-1.0**
BINY	**Binghamton**	**30.46**	**19**	eP	**P**	**01 25 59.4**	**-1.3**
	comp=N,35nm,0.8s,mb5.2						
SRU	**San Rafael**	**31.64**	**327**	eP	**P**	**01 26 11.6**	**+0.4**
NEN	**Nelson**	**31.91**	**318**	eP	**P**	**01 26 13.6**	**+0.1**
TMUT	**Trail Mountain**	**32.14**	**326**	eP	**P**	**01 26 16.0**	**+0.5**
ARUT	**Antelope Range**	**32.37**	**322**	P	**P**	**01 26 18.1**	**+0.6**
MIV	**Mineville/With**	**32.94**	**21**	eP	**P**	**01 26 20.8**	**-1.5**
NLU	**North Lily Min**	**33.08**	**326**	eP	**P**	**01 26 23.8**	**+0.3**
JLU	**Jordanelle**	**33.22**	**328**	eP	**P**	**01 26 25.7**	**+1.0**
BW06	**Boulder Array**	**33.95**	**332**	eP	**P**	**01 26 31.1**	**+0.2**
	comp=N,11nm,0.9s,mb4.6						
HWUT	**Hardware Ranch**	**34.02**	**329**	eP	**P**	**01 26 31.9**	**+0.4**
	comp=N,26nm,1.0s,mb4.9						
EYMN	**Ely**	**34.14**	**357**	eP	**P**	**01 26 30.5**	**-2.0**
	comp=N,28nm,0.6s,mb5.2						
AHID	**Auburn Hatcher**	**34.66**	**331**	eP	**P**	**01 26 37.1**	**+0.1**
	comp=N,22nm,0.6s,mb5.0						
HVU	**Hansel Valley**	**34.76**	**328**	eP	**P**	**01 26 37.8**	**0.0**
SNOW	**Snow King Moun**	**35.04**	**332**	eP	**P**	**01 26 40.8**	**+0.7**
LOHW	**Long Hollow**	**35.09**	**332**	eP	**P**	**01 26 41.0**	**+0.5**
WUWY	**Wally Ulrich**	**35.09**	**332**	eP	**P**	**01 26 40.8**	**+0.2**
TPAW	**Teton Pass**	**35.15**	**332**	eP	**P**	**01 26 41.5**	**+0.4**
MOOW	**Moose Ponds**	**35.26**	**332**	eP	**P**	**01 26 42.1**	**+0.1**
MTUM	**Tungsten Hills**	**35.34**	**317**	eP	**P**	**01 26 44.2**	**+1.5**
ELK	**Elko**	**35.38**	**324**	eP	**P**	**01 26 43.8**	**+0.8**
	comp=N,3.2nm,0.8s,mb4.0						
IMW	**Indian Meadow**	**35.46**	**332**	eP	**P**	**01 26 44.0**	**+0.3**
MNV	**Mina**	**35.69**	**319**	eP	**P**	**01 26 46.4**	**+0.7**
	comp=N,16nm,0.5s,mb4.9						
YFT	**Old Faithful**	**35.85**	**333**	eP	**P**	**01 26 48.7**	**+1.8**
LAO	**LASA Array**	**35.89**	**340**	eP	**P**	**01 26 47.0**	**-0.3**
	comp=N,54nm,1.4s,mb5.0						
YNR	**Norris Junctio**	**35.99**	**333**	eP	**P**	**01 26 49.0**	**+1.0**
YMR	**Madison River**	**36.08**	**333**	eP	**P**	**01 26 49.8**	**+1.0**
LPAZ	**La Paz**	**36.24**	**145**	eP	**P**	**01 26 49.8**	**-0.7**
	comp=N,1.4nm,0.4s,mb3.9						
BMN	**Battle Mountai**	**36.32**	**322**	eP	**P**	**01 26 50.8**	**-0.1**
GCMT	**Greycliff**	**36.42**	**335**	eP	**P**	**01 26 52.0**	**+0.2**
DGMT	**Dagmar**	**36.84**	**343**	eP	**P**	**01 26 54.5**	**-0.7**
	comp=N,108nm,0.6s,mb5.7						
CMB	**Columbia Colle**	**36.93**	**317**	P	**P**	**01 26 56.4**	**+0.3**
HRY	**Holter Researc**	**38.06**	**334**	eP	**P**	**01 27 05.9**	**+0.5**
WVOR	**Wild Horse Val**	**38.41**	**324**	eP	**P**	**01 27 08.0**	**-0.4**
	comp=N,7.8nm,0.7s,mb4.5						
MSO	**Missoula**	**39.07**	**333**	eP	**P**	**01 27 13.8**	**-0.1**
	comp=N,29nm,1.2s,mb4.8						
BMO	**Blue Mountains**	**39.27**	**328**	eP	**P**	**01 27 14.3**	**-1.2**
	comp=N,5.4nm,0.9s,mb4.2						
LVC	**Limon Verde**	**41.12**	**151**	eP	**P**	**01 27 31.5**	**+0.6**
NEW	**Newport**	**41.58**	**332**	eP	**P**	**01 27 33.5**	**-0.9**
	comp=N,9.8nm,1.2s,mb4.3						
FFC	**Flin Flon**	**42.12**	**349**	P	**P**	**01 27 38.0**	**-0.7**
	comp=N,266nm,0.6s,mb6.0,SNR=24						
SCHQ	**Schefferville**	**44.45**	**18**	eP	**P**	**01 27 54.9**	**-2.5**
	comp=N,60nm,0.9s,mb5.2						
SCHQ				epP	pP	01 28 34.4	-2.0
BAO	**Brasilia Array**	**49.90**	**124**	P	**P**	**01 28 37.5**	**-2.8**
TRQA	**Tornquist**	**57.41**	**155**	P	**P**	**01 29 33.3**	**-1.5**
COLA	**College**	**64.67**	**336**	eP	**P**	**01 30 21.3**	**-2.0**
	comp=N,4.9nm,0.8s,mb4.4						
MCK	**McKinley**	**64.67**	**335**	eP	**P**	**01 30 21.4**	**-1.9**
	comp=N,5.8nm,1.0s,mb4.4						
IMA	**Indian Mountai**	**67.37**	**336**	P	**P**	**01 30 37.9**	**-2.5**
NB2	**NORSAR Subarra**	**82.90**	**29**	P	**P**	**01 32 06.3**	**-2.1**
	comp=N,3.7nm,0.8s,mb4.2,baz=288,slow=5.0						
CLL	**Collm**	**86.66**	**38**	eP	**P**	**01 32 26.0**	**-1.2**
CLL	**Collm**	**86.66**	**38**	P	**P**	**01 32 26.0**	**-1.2**
KHC	**Kasperske Hory**	**87.68**	**40**	eP	**P**	**01 32 32.0**	**-0.1**
WMQ	**Urumqi**	**122.61**	**3**	PKP	PKPdf	01 38 37.6	+0.4
WMQ				PP	PP	01 40 21.3	+0.2
WMQ				SKS	SKS	01 45 32.0	+12
WMQ				SKKS		01 46 55.9	
WMQ				PP	PP		
	comp=Z,50nm,10.3s						
LZH	**Lanzhou**	**128.97**	**347**	ePKP	PKPdf	01 38 47.5	-2.3
LZH				XPKP		01 39 57.5	
LZH				ePP	PP	01 41 00.0	-3.9
LZH				SKKS		01 47 30.2	
LZH				PP	PP		
	comp=Z,116nm,7.5s						
STKA	**Stephens Creek**	**130.55**	**240**	eP	PKPdf	01 38 54.8	+1.9
	comp=Z,3.6nm,1.1s						
WB2	**Warramunga Arr**	**138.24**	**255**	⇓iP		01 38 58.5	
WB2				e	PKPdf	01 39 08.4	+1.0
WRAB	**Tennant Creek**	**138.24**	**255**	ePKP		01 38 58.2	
ASPA	**Alice Springs**	**138.42**	**250**	eP		01 39 01.4	
KAKA	**Kakadu**	**139.78**	**267**	eP	PKPdf	01 39 12.2	+1.9
	comp=Z,44nm,1.5s						
FITZ	**Fitzroy Crossi**	**146.54**	**258**	⇑iP	PKPdf	01 39 25.8	+3.8
	comp=Z,22nm,0.8s						
MUN	**Mundaring**	**150.73**	**228**	eP	PKPdf	01 39 36.2	+7.9
	comp=Z,16nm,0.5s						
MBWA	**Marble Bar**	**151.75**	**251**	ePKPbc	PKPdf	01 39 37.5	+7.4

*THR **01** 01:31:38.6±1.0,37.06N×49.74E,h14km±18km,ML3.7*
*CSEM **01** 01:31:39.2±0.1,37.03N×49.75E,h18km,ML4.7/1,Error ellipse: s-maj=6.6km s-min=2.1km az=40.0*
*TEH **01** 01:31:40.0,36.90N×49.62E,Mn3.9*
ISC 01 01:31:39.8±0.5**,36.85N**±0.05×**49.50E**±0.04**,h10km,n37, σ1s16**/39**,Western Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IRAZ	**Razeghan**	**1.48**	**166**	Pn	**Pn**	**01 32 08.1**	**+1.5**
IRAZ	**Razeghan**	**1.48**	**166**	Pn	**Pn**	**01 32 08.1**	**+1.5**
IMHD	**Mahdasht**	**1.50**	**140**	Pg	**Pn**	**01 32 06.4**	**-0.4**
IMHD	**Mahdasht**	**1.50**	**140**	Pg	**Pn**	**01 32 06.4**	**-0.4**
IAFJ	**Afjeh**	**2.04**	**118**	Lg	**Sn**	**01 32 41.6**	**+1.2**
IAFJ	**Afjeh**	**2.04**	**118**	Pn	**Pn**	**01 32 14.4**	**-0.2**
IAFJ	**Afjeh**	**2.04**	**118**	Pn	**Pn**	**01 32 14.4**	**-0.2**
IBST	**Bostanabad**	**2.25**	**293**	Pn	**Pn**	**01 32 19.1**	**+1.5**
IBST	**Bostanabad**	**2.25**	**293**	Pn	**Pn**	**01 32 19.1**	**+1.5**
IPRN	**Paran-Amol**	**2.29**	**104**	Pn	**Pn**	**01 32 15.9**	**-2.3**
ASAO	**Ashtian**	**2.33**	**169**	ePN	**Pn**	**01 32 20.8**	**+2.0**
ASAO	**Ashtian**	**2.33**	**169**	ePn	**Pn**	**01 32 20.8**	**+2.0**
	SNR=52						
GRMI	**Germi**	**2.34**	**328**	ePN	**Pn**	**01 32 17.5**	**-1.3**
GRMI	**Germi**	**2.34**	**328**	ePn	**Pn**	**01 32 17.5**	**-1.4**
	SNR=52						
DAMV	**Damavand**	**2.34**	**120**	ePN	**Pn**	**01 32 18.8**	**-0.1**
DAMV				eSG	**Sn**	**01 32 50.7**	**+2.8**
DAMV				AML	AML	01 32 53.1	
	comp=E,581nm,0.8s						
DAMV				AML	AML	01 32 53.2	
	comp=N,538nm,0.4s						
DAMV	**Damavand**	**2.34**	**120**	ePn	**Pn**	**01 32 18.8**	**-0.1**
	SNR=52						
DAMV				eSg	**Sn**	**01 32 50.7**	**+2.8**
	comp=N,538nm,0.4s,SNR=90						
IQOM	**Qom**	**2.37**	**147**	Pn	**Pn**	**01 32 19.6**	**+0.2**
IQOM	**Qom**	**2.37**	**147**	Pn	**Pn**	**01 32 19.6**	**+0.2**
IDMV	**Damavand**	**2.41**	**121**	Pn	**Pn**	**01 32 19.4**	**-0.5**
IDMV	**Damavand**	**2.41**	**121**	Pn	**Pn**	**01 32 19.4**	**-0.5**
IHRS	**Heris**	**2.44**	**308**	Pn	**Pn**	**01 32 21.4**	**+1.0**
SNGE	**Sanandaj**	**2.47**	**226**	ePN	**Pb**	**01 32 24.7**	**+0.9**
SNGE				AML	AML	01 33 07.9	
	comp=N,216nm,0.5s						
SNGE	**Sanandaj**	**2.47**	**226**	ePn	**Pb**	**01 32 24.7**	**+0.8**
	SNR=52						
IVRN	**Varamin**	**2.58**	**135**	Pn	**Pn**	**01 32 22.2**	**-0.2**
IVRN	**Varamin**	**2.58**	**135**	Pn	**Pn**	**01 32 22.2**	**-0.2**
IFIR	**Firoozkooh**	**2.89**	**114**	Pn	**Pn**	**01 32 25.8**	**-1.0**
IFIR	**Firoozkooh**	**2.89**	**114**	Pn	**Pn**	**01 32 25.8**	**-1.0**
ITBZ	**Tabriz**	**3.00**	**298**	Pn	**Pn**	**01 32 29.8**	**+1.4**
IKOM	**Komasi**	**3.12**	**212**	Pn	**Pg**	**01 32 41.3**	**-0.7**
IVIS	**Veys**	**3.16**	**224**	Pn	**Pg**	**01 32 42.6**	**-0.3**
IGLO	**Galoogah**	**3.26**	**98**	Pn	**Pn**	**01 32 31.5**	**-0.5**
IDHR	**Dehrash**	**3.31**	**231**	Pn	**Pg**	**01 32 45.0**	**-0.9**
ISFB	**Sefidab**	**3.34**	**137**	Pn	**Pn**	**01 32 32.5**	**-0.7**
ISFB	**Sefidab**	**3.34**	**137**	Pn	**Pn**	**01 32 32.5**	**-0.7**
IGHG	**Ghaleghazi**	**3.46**	**224**	Pn	**Pg**	**01 32 46.7**	**-2.2**
MAKU	**Maku**	**4.55**	**305**	ePN	**Pn**	**01 32 50.1**	**-0.2**
MAKU	**Maku**	**4.55**	**305**	ePn	**Pn**	**01 32 50.1**	**-0.2**
	SNR=52						

*CSEM **01** 01:32:29.9,27.73N×53.09E,h14km,ML3.5,After THR*
THR 01 01:32:29.9±1.1**,27.73N×53.09E,h14**km±15km**,ML3.5, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.56**	**351**	ePG	Pg	01 32 40.6	-0.9
GHIR				eSG	Sg	01 32 49.4	+0.2
GHIR				AML	AML	01 32 54.0	
	comp=E,3μm,0.4s						
GHIR				AML	AML	01 32 58.2	
	comp=N,3μm,0.3s						
GHIR	**Ghir-Karzin**	**0.56**	**351**	ePg	Pg	01 32 40.6	-0.9
	SNR=90						
GHIR				eSg	Sg	01 32 49.4	+0.2
	comp=N,3μm,0.3s,SNR=90						
BNDS	**Bandar-Abbas**	**2.75**	**96**	ePN	Pn	01 33 15.9	+1.4
BNDS				eSG	Sg	01 33 55.8	-5.8
BNDS	**Bandar-Abbas**	**2.75**	**96**	ePn	Pn	01 33 15.9	+1.4
	SNR=52						
BNDS				eSg	Sg	01 33 55.8	-5.9
	SNR=90						
KRBR	**Kerman**	**3.93**	**54**	ePN	Pn	01 33 32.7	+1.5
KRBR				AML	AML	01 34 26.2	
	comp=N,40nm,0.5s						
KRBR				AML	AML	01 34 30.8	
	comp=E,94nm,0.7s						
KRBR	**Kerman**	**3.93**	**54**	ePn	Pn	01 33 32.7	+1.6
	SNR=52						

*BJI **01** 01:42:23.5,6.94N×93.66E,h52km,mB5.3,mb5.0,Ms5.0, Msz4.6*
*NEIC **01** 01:42:24.9±0.2,7.29N×93.92E,h30km,mb5.1/58,Error ellipse: s-maj=6.8km s-min=4.8km az=222.0*
*HRVD **01** 01:42:24.9±0.8,7.24N×93.96E,h12km,MW5.0/41, Centroid moment Tensor Solution. LP body waves: s17,c27;Mantle waves: s41,c58; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.31±.21; $M_{\theta\theta}$2.32±.17; $M_{\phi\phi}$-1.01±.24; $M_{r\theta}$0.01±.54; $M_{\theta\phi}$1.78±.15; $M_{\phi r}$-2.57±.67; Best double couple: $M_0$3.681×10^{16} NP1:ϕ_s282°,δ48°, λ-23°. NP2:ϕ_s28°,δ73°,λ-136°. Principal axes: T 3.376, Plg16°, Azm149°; N .611, Plg43°, Azm44°; P -3.987, Plg43°, Azm254°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 01 01:42:23.6±0.2**,7.27N**±0.04×**93.94E**±0.04**,h33km, (h31**km±1.6km**:pP-P),n170,**σ**0s82**/162**,mb5.0**/72**,MS4.9**/3**, 15C-5D,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**12.15**	**23**	P	**P**	**01 45 18.3**	**+1.0**
	35nm,0.8s						
MDRS	**Chennai**	**14.65**	**294**	e	**P**	**01 45 49.0**	**-1.5**
MDRS				e		01 46 48.0	
VJD	**Vijayawada**	**15.91**	**306**	i P	**P**	**01 46 06.0**	**-0.9**
VJD				i		01 47 07.0	
VJD				i		01 48 49.0	
KOD	**Kodaikanal**	**16.54**	**281**	eP	**P**	**01 46 18.3**	**+3.5**
KOD				e		01 46 20.6	
	comp=Z,38nm,1.0s						
KOD				e		01 49 36.8	
TRD	**Trivandrum**	**16.86**	**275**	eP	**P**	**01 46 23.8**	**+5.0**
TRD				e		01 46 29.3	
	comp=Z,56nm,1.6s						
TRD				e		01 47 26.6	
	comp=Z,252nm,0.9s						
IMP	**Imphal**	**17.42**	**360**	e	**P**	**01 46 26.3**	**+0.5**
HYB	**Hyderabad**	**18.08**	**305**	eP	**P**	**01 46 34.0**	**-0.1**
HYB	**Hyderabad**	**18.08**	**305**	i P	**P**	**01 46 34.0**	**-0.1**
HYB				eS	**S**	**01 49 57.0**	**+5.2**
SHL	**Shillong**	**18.30**	**354**	eP	**P**	**01 46 34.7**	**-2.2**
SHL				e		01 46 41.6	
	comp=Z,39nm,0.8s						
BLSP	**Bilaspur**	**18.65**	**324**	eP	**P**	**01 46 41.7**	**+0.5**
BLSP				e		01 46 52.0	
BLSP				e		01 47 57.9	
GOA	**Goa**	**21.33**	**294**	e	**P**	**01 47 19.9**	**+10**
	comp=Z,36nm,0.6s,mb4.9						
GOA				eS	**S**	**01 51 11.4**	**+11**
KAD	**Karad**	**21.70**	**299**	eP	**P**	**01 47 14.2**	**+0.4**
PKI	**Pulchoki**	**21.75**	**339**	eP	**P**	**01 47 14.9**	**+0.6**
	comp=Z,85nm,0.5s,mb5.4						
DMN	**Daman**	**21.90**	**339**	eP	**P**	**01 47 15.8**	**+0.1**
	comp=Z,122nm,0.8s,mb5.4						
GUN	**Gumba**	**21.91**	**341**	eP	**P**	**01 47 15.4**	**-0.4**
	comp=Z,104nm,0.6s,mb5.5						
KKN	**Kakani**	**22.00**	**339**	eP	**P**	**01 47 16.2**	**-0.5**
	comp=Z,87nm,0.9s,mb5.2						
GKN	**Gorkha**	**22.43**	**338**	eP	**P**	**01 47 20.5**	**-0.5**
	comp=Z,78nm,0.6s,mb5.3						
BHPL	**Bhopal**	**22.45**	**317**	eP	**P**	**01 47 23.1**	**+1.8**
BHPL				AMb	AMB	01 47 26.4	
	comp=Z,104nm,1.5s,mb5.0						
LSA	**Lhasa**	**22.47**	**354**	eP	**P**	**01 47 20.9**	**-0.5**
	comp=Z,44nm,0.8s,mb5.0						
KOLN	**Koldanda**	**22.62**	**336**	eP	**P**	**01 47 23.6**	**+0.6**
	comp=Z,95nm,0.6s,mb5.4						
AGRA	**Agra**	**24.99**	**325**	eP	**P**	**01 47 46.4**	**+0.4**
LGTI	**Lohaghat**	**25.56**	**331**	eP	**P**	**01 47 52.0**	**+0.7**
AYAN	**Aya Nagar**	**26.41**	**325**	eP	**P**	**01 47 59.0**	**-0.3**
AJM	**Ajmer**	**26.50**	**318**	⇑iP	**P**	**01 48 00.0**	**-0.1**
NDI	**New Delhi**	**26.52**	**326**	eP	**P**	**01 48 00.5**	**+0.3**
NDI				e		01 48 02.4	
	comp=Z,60nm,1.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NDI				eS	S	01 52 36.6	+6.4
KUDL	Kundal	26.53	324	eP	P	01 47 59.6	-0.8
BHGR	Bahadurgarh	26.68	325	eP	P	01 47 58.9	-2.8
KHET	Khetri	26.88	323	eP	P	01 48 04.2	+0.5
ENH	Enshi	27.15	31	eP	P	01 48 05.9	-0.2
	comp=Z,34nm,1.0s,mb4.8						
XAN	Xi'an	30.03	25	P	P	01 48 31.4	-0.4
XAN				S	S	01 53 34.4	+7.9
XAN				AMB	AMB		
	comp=Z,33nm,0.8s,mb5.1						
XAN				LR	LR		
	comp=N,761nm,14.0s,MS4.6						
XAN				LR	LR		
	comp=E,824nm,15.4s,MS4.6						
XAN				LR	LR		
	comp=Z,1µm,18.2s,MS4.5						
LZH	Lanzhou	30.09	16	⇑P	P	01 48 32.8	+0.5
LZH				AP	pP	01 48 42.0	+0.1
LZH				eS	S	01 53 28.8	+1.4
LZH				SS	SS	01 55 07.9	+2.1
LZH				AMB	AMB		
	comp=Z,73nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,312nm,5.7s						
LZH				LR	LR		
	comp=E,3µm,16.2s						
LZH				LR	LR		
	comp=Z,4µm,17.5s,MS5.1						
WMQ	Urumqi	36.82	352	P	P	01 49 30.9	+0.5
WMQ				AP	pP	01 49 40.6	+0.4
WMQ				PP	PP	01 50 56.8	+0.4
WMQ				S	S	01 55 12.3	+0.3
WMQ				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,320nm,5.2s						
WMQ				LR	LR		
	comp=N,2µm,18.6s,MS5.1						
WMQ				LR	LR		
	comp=E,2µm,21.3s,MS5.1						
WMQ				LR	LR		
	comp=Z,2µm,17.6s,MS4.9						
BJT	Baijiatuau	38.21	28	eP	P	01 49 43.7	+1.6
	comp=Z,52nm,1.1s,mb5.2						
KZA	Kyzart	38.42	337	P	P	01 49 43.9	0.0
	SNR=13						
UCH	Uchtor	38.83	337	P	P	01 49 48.2	+1.0
	SNR=19						
TKM2	Tokmak 2	39.02	338	P	P	01 49 49.3	+0.5
	SNR=14						
KBK	Karagaybulak	39.03	338	P	P	01 49 49.6	+0.7
	SNR=65						
AML	Almayashu	39.07	336	P	P	01 49 50.3	+1.1
	SNR=9.6						
AAK	Ala-Archa	39.18	337	eP	P	01 49 49.5	-0.7
	comp=Z,16nm,0.8s,mb4.8						
CHMS	Chumysh	39.40	338	P	P	01 49 52.3	+0.4
	SNR=14						
EKS2	Erkin-Say	39.48	336	P	P	01 49 53.6	+1.0
	SNR=22						
USP	Ospenovka	39.72	338	P	P	01 49 54.9	+0.2
	SNR=29						
FITZ	Fitzroy Crossi	40.18	129	eP	P	01 49 58.0	-0.7
	comp=Z,24nm,0.6s,mb5.1						
ULN	Ulaanbaatar	41.97	13	eP	P	01 50 12.6	-0.5
	comp=Z,5.0nm,0.7s,mb4.2						
KAKA	Kakadu	43.10	117	eP	P	01 50 23.9	+1.0
	comp=Z,17nm,0.8s,mb4.8						
SNY	Shenyang	43.29	33	⇑P	P	01 50 25.4	+1.3
SNY				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
MUN	Mundaring	44.44	153	eP	P	01 50 34.1	+0.7
	comp=Z,12nm,0.8s,mb4.7						
TLY	Talaya	45.00	9	eP	P	01 50 36.9	-0.8
KMBL	Kambalda	46.80	147	eP	P	01 50 52.8	+0.7
	comp=Z,47nm,0.6s,mb5.6						
HIA	Hailar	47.16	23	eP	P	01 50 55.6	+0.9
	comp=Z,38nm,0.8s,mb5.4						
WRAB	Tennant Creek	48.08	125	eP	P	01 51 01.2	-1.2
	comp=Z,72nm,0.8s,mb5.8						
WB2	Warramunga Arr	48.09	125	eP	P	01 51 01.4	-1.1
WB2				e		01 51 04.7	
MDJ	Mudanjiang	48.42	34	eP	P	01 51 02.4	-2.3
	comp=Z,25nm,1.1s,mb5.2						
ASPA	Alice Springs	49.68	129	eP	P	01 51 14.5	-0.2
ASPA				e		01 51 17.3	
MAT	Matsushiro	49.72	47	P	P	01 51 16.0	+1.2
MAT	Matsushiro	49.72	47	P	P	01 51 16.1	+1.3
GNI	Garni	54.72	315	eP	P	01 51 50.9	-1.2
	comp=Z,90nm,1.5s,mb5.6						
PMG	Port Moresby	55.55	107	eP	P	01 51 56.4	-2.1
KMBO	Kilima Mbogo	57.16	264	eP	P	01 52 11.0	+0.9
	comp=Z,12nm,0.9s,mb4.9						
YSS	Yuzh-Sakhalins	57.38	38	eP	P	01 52 11.3	+0.1
	comp=Z,18nm,0.6s,mb5.3						
KIV	Kislovodsk	57.63	318	P	P	01 52 12.1	-0.9
	comp=Z,147nm,1.1s,mb5.9,SNR=15						
KIV	Kislovodsk	57.63	318	eP	P	01 52 11.5	-1.5
	comp=Z,28nm,1.0s,mb5.2						
CTA	Charters Tower	58.19	119	eP	P	01 52 15.2	-2.0
	comp=Z,8.5nm,0.8s,mb4.8						
MALT	Malatya	58.70	311	eP	P	01 52 19.5	-1.0
	comp=Z,15nm,1.2s,mb4.9						
MKRJ	Makawir	59.30	302	P	P	01 52 24.9	+0.1
KSHT	Keshet	59.44	304	P	P	01 52 26.2	+0.4
AQBJ	Aqaba	59.48	300	P	P	01 52 25.9	-0.2
MZDA	Masada	59.49	302	P	P	01 52 27.6	+1.5
ZFRI	Zfri	59.51	301	P	P	01 52 26.3	0.0
DRGI	Dragot	59.52	302	P	P	01 52 26.4	+0.1
EIL	Elat	59.55	300	P	P	01 52 26.5	-0.1
EIL	Elat	59.55	300	eP	P	01 52 26.2	-0.4
	comp=Z,43nm,0.8s,mb5.5						
MBH	Mount Berech	59.60	300	P	P	01 52 27.1	+0.2
PRNI	Paran	59.62	301	P	P	01 52 27.2	+0.1
MMLI	Mount Malkishu	59.66	303	P	P	01 52 27.4	+0.1
KMTI	Karmit	59.82	301	P	P	01 52 28.3	-0.1
STKA	Stephens Creek	59.84	133	eP	P	01 52 27.7	-0.8
	comp=Z,10nm,1.1s,mb4.8						
STKA				e		01 52 30.8	
MASH	Mash'abbe Sade	59.92	302	P	P	01 52 29.0	-0.1
SLTI	Sal'it	59.93	303	P	P	01 52 29.3	+0.1
HNTI	Hanita	59.99	304	P	P	01 52 29.4	-0.1
RTMM	Retamin	60.01	302	P	P	01 52 29.6	-0.1
HAF	Haifa	60.05	304	P	P	01 52 29.9	-0.1
OFRI	'Ofer	60.05	303	P	P	01 52 29.9	-0.1
KZIT	Kziot	60.23	301	P	P	01 52 31.1	-0.1
YAK	Yakutsk	60.63	18	eP	P	01 52 32.4	-1.1
	comp=Z,39nm,0.8s,mb5.6						
CSS	Prodhromos	61.86	306	eP	P	01 52 40.9	-1.2
	comp=Z,18nm,1.0s,mb5.2						
MBAR	Mbarara	63.51	266	eP	P	01 52 53.5	-0.1
	comp=Z,16nm,1.4s,mb4.9						
ISP	Isparta	64.65	308	eP	P	01 52 58.7	-1.9
	comp=Z,36nm,1.1s,mb5.3						
TOO	Toolangi	65.55	137	eP	P	01 53 07.6	+1.2
	comp=Z,4.1nm,0.8s,mb4.5						
TOO				e		01 53 10.8	
CNB	Canberra Magne	67.16	133	eP	P	01 53 17.8	+1.2
	comp=Z,13nm,0.8s,mb5.0						
MA2	Magadan	67.40	27	eP	P	01 53 17.5	-0.1
	comp=Z,14nm,0.8s,mb5.0						
CFR	Carcaliu	67.89	316	⇑iP	P	01 53 20.0	-1.0
CFR	Carcaliu	67.89	316	⇑iP	P	01 53 20.0	-1.0
HARR	Harsova	67.92	315	⇑iP	P	01 53 20.3	-0.9
HARR	Harsova	67.92	315	⇑iP	P	01 53 20.3	-0.9
LSZ	Lusaka	68.88	251	eP	P	01 53 27.5	-0.1
	comp=Z,28nm,1.6s,mb4.9						
VRI	Vrincioaia	69.00	316	⇑iP	P	01 53 27.6	-0.3
VRI	Vrincioaia	69.00	316	⇑iP	P	01 53 27.6	-0.3
JOF	Joensuu	71.31	335	ep	P	01 53 40.1	-1.5
	comp=Z,9.0nm,0.6s,mb4.9						
KOLS	Kolonicke sedl	72.53	319	iP	P	01 53 49.1	0.0
CRVS	Cervenica-Dubn	73.05	319	iP	P	01 53 53.0	+0.8
CRVS				ePP	PP	01 56 30.8	-6.3
KAF	Kangasniemi	73.24	333	ep	P	01 53 51.3	-1.8
	comp=Z,6.2nm,0.5s,mb4.8						
LBTB	Lobatse	73.77	241	eP	P	01 53 57.3	+0.4
	comp=Z,22nm,1.1s,mb5.0						
PSZ	Piszkesteto	73.95	318	eP	P	01 53 56.4	-1.1
	comp=Z,34nm,1.5s,mb5.0						
PSZ	Piszkesteto	73.95	318	⇑iP	P	01 53 57.3	-0.2
VYHS	Vyhne	74.72	318	iP	P	01 54 01.5	-0.4
SRO2	Moca	74.94	317	iP	P	01 54 03.5	+0.3
SRO	Srobarova	75.00	317	iP	P	01 54 03.9	+0.4
BOSA	Boshof	75.09	238	eP	P	01 54 04.6	+0.1
	comp=Z,15nm,0.7s,mb5.0						
OKC	Ostrava-Krasne	75.32	320	eP	P	01 54 05.2	-0.1
KEV	Kevo	75.34	341	ep	P	01 54 03.9	-1.2
	comp=Z,15nm,0.7s,mb5.0						
MORC	Moravsky Berou	75.70	319	eP	P	01 54 07.1	-0.4
	comp=Z,28nm,1.3s,mb5.0						
ZST	Bratislava	75.84	318	iP	P	01 54 08.4	0.0
DPC	Dobruska-Polom	76.54	320	eP	P	01 54 12.5	+0.2
KSP	Ksiaz	76.60	320	eP	P	01 54 12.8	+0.2
KSP				epP	pP	01 54 16.0	-6.9
KSP				e	pP	01 54 22.2	-0.7
BILL	Bilibino	76.72	22	eP	P	01 54 12.2	-0.8
	comp=Z,5.2nm,0.7s,mb4.6						
UPC	Upice	76.75	320	eP	P	01 54 13.9	+0.4
ARSA	Arzberg	76.84	317	⇑iP	P	01 54 14.3	+0.3
	comp=Z,25nm,1.5s,mb4.9						
PERS	Pernice	77.08	316	eP	P	01 54 15.4	0.0
LJU	Ljubljana	77.46	315	iP	P	01 54 17.7	+0.1
PRU	Pruhonice	77.65	319	eP	P	01 54 18.9	+0.4
PVCC	Panska Ves	77.67	320	eP	P	01 54 18.7	+0.1
MAW	Mawson	77.90	192	eP	P	01 54 21.6	+2.1
	comp=Z,17nm,0.9s,mb5.0						
BRG	Berggiesshubel	78.09	320	⇑iP	P	01 54 21.5	+0.6
	comp=Z,36nm,1.7s,mb5.0						
BRG				e	pP	01 54 31.2	0.0
GEC2	GERESS Array S	78.14	318	eP	P	01 54 21.6	+0.4
	comp=Z,32nm,1.3s,mb5.1						
KHC	Kasperske Hory	78.24	319	eP	P	01 54 22.0	+0.3
KHC				ex	x	01 55 05.5	
RUE	Ruedersdorf	78.28	322	eP	P	01 54 21.6	-0.3
	comp=Z,15nm,0.6s,mb5.1						
WET	Wettzell	78.70	319	eP	P	01 54 24.6	+0.3
CLL	Collm	78.70	321	⇓iP	P	01 54 23.6	-0.6
	comp=Z,18nm,1.4s,mb4.8						
CLL				e	pP	01 54 34.0	-0.6
CLL	Collm	78.70	321	⇓P	P	01 54 23.6	-0.6
	comp=Z,logA/T=1.1,mb4.8						
CLL				e*PP	pP	01 54 34.0	-0.6
CLL				e		01 54 51.0	
NKC	Novy Kostel	79.01	320	eP	P	01 54 26.3	+0.3
WTTA	Wattenberg	79.48	317	⇑iP	P	01 54 28.1	-0.5
	comp=Z,36nm,1.3s,mb5.1						
WATA	Walderalm	79.53	317	⇓iP	P	01 54 28.1	-0.7
	comp=Z,17nm,1.2s,mb4.8						
MOX	Moxa	79.56	320	eP	P	01 54 29.1	+0.2
MOX	Moxa	79.56	320	iP	P	01 54 29.1	+0.2
FUR	Furstenfeldbru	79.74	318	eP	P	01 54 29.9	0.0
SQTA	Sankt Quirin	79.77	317	⇑iP	P	01 54 29.7	-0.5
	comp=Z,11nm,1.0s,mb4.8						
GRA1	Grafenberg Arr	79.79	319	eP	P	01 54 31.0	+0.8
	comp=Z,46nm,1.4s,mb5.2						
GRF	Grafenberg Arr	79.79	319	eP	P	01 54 31.0	+0.8
	comp=Z,46nm,1.4s,mb5.2						
MOTA	Moosalm	79.85	317	⇓iP	P	01 54 30.0	-0.5
	comp=Z,14nm,1.1s,mb4.8						
NB2	NORSAR Subarra	80.16	331	P	P	01 54 31.0	-0.9
	comp=Z,2.2nm,0.6s,mb4.3,baz=97,slow=5.0						
NAO01	NORSAR Array S	80.31	330	P	P	01 54 31.9	-0.8
CLZ	Clausthal	80.36	321	eP	P	01 54 33.5	+0.3
	comp=Z,37nm,1.6s,mb5.1						
BSEG	Bad Segeberg	80.42	323	eP	P	01 54 34.0	+0.6
DAVA	Damuels	80.68	317	⇑iP	P	01 54 35.3	+0.3
	comp=Z,27nm,1.1s,mb5.1						
BFO	Black Forest	81.70	318	eP	P	01 54 40.2	-0.1
	comp=Z,12nm,1.2s,mb4.7						
LPG	La Plagne	82.90	315	eP	P	01 54 46.9	+0.4
	comp=Z,25nm,0.8s,mb5.0						
BNI	Bardonecchia	82.98	314	eP	P	01 54 46.7	-0.2
	comp=Z,14nm,0.9s,mb5.0						
DAG	Danmarks Havn	88.02	348	⇓iP	P	01 55 11.5	+0.3
	comp=Z,4.2nm,0.4s,mb5.0						
EVIA	Vianos	90.52	309	P	P	01 55 25.0	+1.2
EQES	Quesada	91.10	308	P	P	01 55 26.8	+0.2
	comp=Z,6.2nm,0.7s,mb5.0						
GUD	Guadarrama	91.42	311	P	P	01 55 29.5	+1.5
	comp=Z,5.2nm,0.6s,mb5.0						
ESDC	Sonseca Array	91.45	310	P	P	01 55 29.1	+0.9
	comp=Z,3.4nm,0.6s,mb4.8						
EBAN	Banos Encina	91.59	309	P	P	01 55 29.7	+0.8
	comp=Z,3.3nm,0.8s,mb4.7						
EADA	Adamuz	92.20	309	P	P	01 55 31.5	-0.2
	comp=Z,6.9nm,1.0s,mb4.9						
IMA	Indian Mountai	92.26	22	eP	P	01 55 32.4	+1.2
	comp=Z,22nm,0.7s,mb5.6						
MSO	Missoula	120.72	22	PKP	PKPdf	02 01 13.2	+0.6
LOHW	Long Hollow	124.69	22	ePKP	PKPdf	02 01 22.0	+1.7
SNOW	Snow King Moun	124.77	22	PKP	PKPdf	02 01 21.6	+1.1
MNV	Mina	125.62	31	ePKP	PKPdf	02 01 24.3	+2.0
NEN	Nelson	129.44	31	ePKP	PKPdf	02 01 31.5	+1.8
PV01	Paradox Valley	130.20	23	ePKP	PKPdf	02 01 30.6	-0.4
ANMO	Albuquerque	133.81	23	ePKP	PKPdf	02 01 38.7	+0.7
NHSC	New Hope	139.47	352	PKP	PKPdf	02 01 52.1	+3.7
JCT	Junction City	140.22	19	ePKP	PKPdf	02 01 48.2	-1.6
SJG	San Juan	148.03	322	ePKP	PKPdf	02 02 05.7	+2.2
TEIG	Tepich	152.60	5	PKP	PKPdf	02 02 12.5	+2.0
TEIG				ePKPab	PKPab	02 02 29.4	-1.1
SDV	Santo Domingo	157.78	316	ePKP	PKPdf	02 02 19.6	+1.9
LPAZ	La Paz	160.30	241	ePKPdf	PKPdf	02 02 23.0	+2.5
OTAV	Otavalo	169.36	314	ePKP	PKPdf	02 02 28.6	+0.3
OTAV				ePKPab	PKPab	02 03 43.9	+0.9

*NEIC **01** 01:43:40.1±0.2, 7.03N×92.46E, mb4.9/25, Error ellipse: s-maj=7.2km s-min=6.0km az=46.0*

*HRVD **01** 01:43:40.1±0.3, 7.08N×92.46E, h14km±1km, MW5.1/44, Centroid moment Tensor Solution. LP body waves: s30,c47;Mantle waves: s44,c78; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.57±.30; $M_{\theta\theta}$-2.52±.21; $M_{\phi\phi}$6.09±.24; $M_{r\theta}$3.29±.76; $M_{\theta\phi}$-1.34±.19; $M_{\phi r}$0.04±.40; Best double couple: $M_0$6.38×10^{16} NP1:φs205°,δ55°,λ-37°. NP2:φs318°,δ60°,λ-139°. Principal axes: T 6.318, Plg3°, Azm80°; N .124, Plg41°, Azm348°; P -6.442, Plg49°, Azm174°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **01** 01:43:46.9, 7.38N×93.30E, h32km, mB5.1, mb4.7, Ms4.9, Msz4.5*

ISC 01 01:43:38.2±0.3**, 7.01N**±0.06×**92.49E**±0.05**, h36**km**, h36**km±.8km**:pP-P, n71, σ0s93**/65**, mb4.9**/27**, MS5.1**/1**, 2C, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	13.00	28	eP	P	01 46 42.0	-1.2
MNGI	Mangalore	18.36	290	e	P	01 47 55.1	+3.0
MNGI				e		01 50 25.1	
QIZ	Qiongzhong	20.67	53	P	P	01 48 18.1	+0.3
QIZ				S	S	01 52 03.2	+1.4
QIZ				AMB	AMB		
	comp=Z,65nm,1.7s						
QIZ				LR	LR		
	comp=N,4µm,14.4s						
QIZ				LR	LR		
	comp=Z,5µm,13.2s,MS5.1						
LSA	Lhasa	22.60	357	eP	P	01 48 39.4	+2.2
ENH	Enshi	28.11	32	eP	P	01 49 30.9	+1.8
	comp=Z,23nm,0.5s,mb5.1						
AAK	Ala-Archa	38.87	339	eP	P	01 51 02.5	+0.6
	comp=Z,10nm,0.7s,mb4.7						
BJT	Baijiatuau	39.12	29	eP	P	01 51 03.7	-0.3
FITZ	Fitzroy Crossi	41.15	128	eP	P	01 51 20.2	-0.8
	comp=Z,12nm,0.4s,mb4.9						
ULN	Ulaanbaatar	42.56	14	eP	P	01 51 32.0	-0.3
	comp=Z,3.5nm,0.7s,mb4.2						
MUN	Mundaring	44.89	151	eP	P	01 51 53.5	+2.1
	comp=Z,12nm,0.6s,mb4.9						
TLY	Talaya	45.47	10	eP	P	01 51 56.0	+0.2
	comp=Z,5.8nm,0.7s,mb4.5						
HIA	Hailar	47.96	24	eP	P	01 52 16.1	+0.7
	comp=Z,8.8nm,0.5s,mb5.0						
WRAB	Tennant Creek	49.12	124	eP	P	01 52 24.1	-0.7
	comp=Z,101nm,1.1s,mb5.8						
WB2	Warramunga Arr	49.13	124	eP	P	01 52 24.3	-0.5
WB2				i	pP	01 52 36.6	+1.4
MDJ	Mudanjiang	49.44	35	eP	P	01 52 28.1	+1.2
	comp=Z,34nm,1.4s,mb5.2						
ASPA	Alice Springs	50.64	128	eP	P	01 52 35.8	-0.5
ASPA				i	pP	01 52 48.6	+1.8
GNI	Garni	53.88	315	eP	P	01 52 59.2	-1.1
	comp=Z,5.9nm,0.6s,mb4.7						
KMBO	Kilima Mbogo	55.70	264	eP	P	01 53 14.4	+0.4
	comp=Z,3.1nm,0.5s,mb4.6						
KMBO				e	pP	01 53 25.9	+1.3
PMG	Port Moresby	56.86	106	P	P	01 53 21.4	-0.8
KIV	Kislovodsk	56.87	319	eP	P	01 53 20.0	-1.9
	comp=Z,12nm,0.8s,mb5.0						
MALT	Malatya	57.78	311	eP	P	01 53 28.1	-0.4
	comp=Z,2.1nm,0.7s,mb4.3						
EIL	Elat	58.44	300	eP	P	01 53 34.0	+0.8
	comp=Z,12nm,0.9s,mb4.9						
YSS	Yuzh-Sakhalins	58.46	38	eP	P	01 53 32.8	-0.3
CTAO	Charters Tower	59.33	118	eP	P	01 53 38.1	-1.4
	comp=Z,105nm,1.5s,mb5.7						
STKA	Stephens Creek	60.72	132	eP	P	01 53 49.0	+0.2
	comp=Z,7.8nm,0.9s,mb4.8						
STKA				e	pP	01 53 59.7	+0.2
CSS	Prodhromos	60.85	306	eP	P	01 53 48.1	-1.6
YAK	Yakutsk	61.33	19	eP	P	01 53 51.2	-1.3
	comp=Z,21nm,0.6s,mb5.5						
ISP	Isparta	63.69	309	eP	P	01 54 07.8	-0.8
LSZ	Lusaka	67.44	250	eP	P	01 54 32.9	0.0
CNB	Canberra Magne	68.05	132	eP	P	01 54 37.5	+1.1
	comp=Z,28nm,1.2s,mb5.2						
MA2	Magadan	68.28	28	eP	P	01 54 36.5	-1.0
BOLS	Boljevac	71.15	314	⇑iP	P	01 54 53.9	-1.4
LBTB	Lobatse	72.40	241	eP	P	01 55 03.3	+0.3
	comp=Z,14nm,0.9s,mb4.9						
PSZ	Piszkesteto	73.17	318	eP	P	01 55 05.1	-2.2
BOSA	Boshof	73.74	238	eP	P	01 55 11.3	+0.4
	comp=Z,14nm,0.8s,mb5.0						
BOSA				e	pP	01 55 22.3	+0.4
OKC	Ostrava-Krasne	74.58	320	eP	P	01 55 16.1	+0.7
OKC				epP	pP	01 55 25.5	-0.8
MORC	Moravsky Berou	74.96	320	eP	P	01 55 16.9	-0.7
MORC				epP	pP	01 55 27.6	-0.9
DPC	Dobruska-Polom	75.81	320	eP	P	01 55 22.9	+0.5
DPC				epP	pP	01 55 33.6	+0.2
KSP	Ksiaz	75.88	321	eP	P	01 55 22.8	0.0
KSP				epP	pP	01 55 33.8	0.0
UPC	Upice	76.02	320	eP	P	01 55 24.7	+1.1
UPC				epP	pP	01 55 34.9	+0.3
PRU	Pruhonice	76.92	320	eP	P	01 55 28.3	-0.4
PRU				epP	pP	01 55 39.6	-0.1
PVCC	Panska Ves	76.94	320	eP	P	01 55 29.5	+0.7
PVCC				epP	pP	01 55 40.1	+0.3
BRG	Berggiesshubel	77.37	320	iP	P	01 55 31.6	+0.4
	comp=Z,22nm,1.3s,mb4.9						
BRG				i	pP	01 55 43.0	+0.8
MAW	Mawson	77.37	191	P	P	01 55 31.9	+1.0
GEC2	GERESS Array S	77.38	318	eP	P	01 55 31.5	+0.2
	comp=Z,6.0nm,0.8s,mb4.6						
KHC	Kasperske Hory	77.48	319	eP	P	01 55 31.7	-0.2
KHC				epP	pP	01 55 42.5	-0.3
BILL	Bilibino	77.49	22	P	P	01 55 31.8	+0.3
RUE	Ruedersdorf	77.60	322	eP	P	01 55 31.6	-0.8
RUE				epP	pP	01 55 42.6	-0.9
WET	Wettzell	77.94	319	eP	P	01 55 34.6	+0.2
CLL	Collm	77.99	321	iP	P	01 55 34.4	-0.2
CLL				i	pP	01 55 45.4	-0.2
CLL	Collm	77.99	321	P	P	01 55 34.4	-0.2
CLL				i*PP	pP	01 55 45.4	-0.2
NKC	Novy Kostel	78.28	320	eP	P	01 55 36.4	+0.2
NKC				epP	pP	01 55 47.3	+0.1
MOX	Moxa	78.83	320	eP	P	01 55 39.3	+0.1
MOX				e	pP	01 55 50.2	0.0
MOX	Moxa	78.83	320	iP	P	01 55 39.3	+0.1
MOX				pP	pP	01 55 50.0	-0.2
GRA1	Grafenberg Arr	79.04	319	eP	P	01 55 41.4	+1.0
	comp=Z,9.0nm,0.7s,mb4.8						
GRA1				e	pP	01 55 51.7	+0.3
GRF	Grafenberg Arr	79.04	319	eP	P	01 55 41.4	+1.0
	comp=Z,9.0nm,0.7s,mb4.8						
GRF				e	pP	01 55 51.7	+0.3
CLZ	Clausthal	79.66	321	eP	P	01 55 43.9	+0.2
	comp=Z,6.0nm,0.8s,mb4.6						
NB2	NORSAR Subarra	79.68	331	P	P	01 55 42.4	-1.2
	comp=Z,3.5nm,0.6s,mb4.5,baz=99,slow=4.8						
BSEG	Bad Segeberg	79.76	323	eP	P	01 55 44.3	+0.1
LPG	La Plagne	82.06	315	eP	P	01 55 56.6	+0.1
	comp=Z,20nm,0.8s,mb4.8						
BNI	Bardonecchia	82.13	314	P	P	01 55 57.1	+0.3
DAG	Danmarks Havn	87.96	348	⇑iP	P	01 56 24.3	-0.9
	comp=Z,9.1nm,0.3s,mb5.5						
IMA	Indian Mountai	93.03	22	P	P	01 56 50.0	+1.0
MCK	McKinley	95.89	23	P	P	01 57 02.7	+0.6
MSO	Missoula	121.48	21	PKP	PKPdf	02 02 29.1	+0.8
LOHW	Long Hollow	125.44	20	PKP	PKPdf	02 02 34.6	-1.4
SDCO	Great Sand Dun	132.41	19	ePKP	PKPdf	02 02 52.1	+2.6
ANMO	Albuquerque	134.59	22	PKP	PKPdf	02 02 55.4	+1.7
MNTX	Cornudas Mount	137.89	23	PKP	PKPdf	02 02 59.9	+0.1
JCT	Junction City	140.90	17	ePKP	PKPdf	02 03 07.5	+2.1
LPAZ	La Paz	158.92	242	ePKPdf	PKPdf	02 03 36.2	+3.0
LPAZ				ePKPab	PKPab	02 04 11.8	0.0

*BJI **01** 01:55:26.6, 2.80N×95.58E, h29km, mB5.9, mb5.7, Ms5.9, Msz5.9*

*NEIC **01** 01:55:28.5±0.1, 2.91N×95.62E, mb5.3/73, MS5.6/127, MW5.7, Error ellipse: s-maj=5.8km s-min=4.0km az=223.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^{17} Nm; M_{rr}1.92; $M_{\theta\theta}$-0.47; $M_{\phi\phi}$-1.44; $M_{r\theta}$2.50; $M_{\theta\phi}$0.84; $M_{\phi r}$-3.05; Best double couple: $M_0$4.4×10^{17} NP1:φs338°, δ13°,λ106°. NP2:φs142°,δ77°,λ86°. Principal axes: T 4.4, Plg58°, Azm47°; N -.03, Plg4°, Azm142°; P -4.37, Plg32°, Azm235°;*

*MOS **01** 01:55:28.3±1.0, 2.87N×95.61E, h36km, mb5.6/46, MS5.5/21 Error ellipse: s-maj=10.4km s-min=5.6km az=113.9*

*HRVD **01** 01:55:28.5±0.2, 2.54N×95.42E, h26km, MW5.7/59, Centroid moment Tensor Solution. LP body waves: s57,c106;Mantle waves: s59,c144; Half duration: 1s8 Moment tensor: Scale 10^{17}Nm; M_{rr}1.78±.05; $M_{\theta\theta}$-1.08±.04; $M_{\phi\phi}$-0.70±.05; $M_{r\theta}$2.43±.09; $M_{\theta\phi}$1.41±.03; $M_{\phi r}$-2.94±.11; Best double couple: $M_0$4.334×10^{17} NP1: φs298°,δ15°,λ68°. NP2:φs140°,δ76°,λ96°. Principal axes: T 4.097, Plg59°, Azm58°; N .474, Plg5°, Azm319°; P -4.571, Plg31°, Azm225°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 01 01:55:26.6±0.2**, 2.86N**±0.03×**95.65E**±0.03**, h24**km**, h24**km±.5km**:pP-P, n369, σ0s95**/285**, mb5.4**/106**, MS5.7**/153**, 32C-22D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNG	Songkhla	6.55	49	P	Pn	01 57 03.5	-0.6
	1µm,1.0s						
NST	Nakhon Sawan	13.48	19	P	P	01 58 38.0	-1.0
	92nm,0.4s						
KKTK	Khon Kaen	15.14	27	P	P	01 59 02.0	+1.0
UBT	Ubonrachathani	15.39	36	P	P	01 59 05.5	+1.3
CM31	Chiang Mai Arr	15.83	12	eP	P	01 59 08.8	-1.1
	1.5nm,0.3s						
CHG	Chiang Mai	16.18	11	⇑P	P	01 59 14.0	-0.4
	68nm,0.8s						
TRD	Trivandrum	19.42	288	eP	P	01 59 54.2	-0.1
TRD				e		02 03 18.9	
QIZ	Qiongzhong	21.24	40	P	P	02 00 13.7	+0.3
QIZ				S	S	02 04 03.5	+0.1
QIZ				XS		02 04 14.8	
QIZ				LR	LR		
	comp=N,28µm,16.5s						
QIZ				LR	LR		
	comp=Z,22µm,17.5s,MS5.6						
QIZ	Qiongzhong	21.24	40	eP	P	02 00 13.3	-0.2
	comp=Z,99nm,0.8s,mb5.2						
QIZ				LR	LR		
	comp=Z,21µm,19.0s,MS5.5						
IMP	Imphal	21.86	356	e	P	02 00 10.9	-8.7
HYB	Hyderabad	22.15	312	eP	P	02 00 24.5	+1.9
	comp=Z,186nm,1.2s,mb5.4						
HYB				eS	S	02 04 24.0	+3.6
HYB	Hyderabad	22.15	312	iP	P	02 00 24.5	+1.9
	comp=Z,186nm,1.2s,mb5.4						
HYB				LR	LR	02 08 00.0	
	comp=Z,14nm,20.0s						
SHL	Shillong	22.86	351	⇓i	P	02 00 24.5	-5.2
SHL				e		02 04 23.0	
MNCY	Minicoy	23.13	284	i	P	02 00 42.0	+10
MNCY				i		02 02 06.0	
BLSP	Bilaspur	23.22	327	⇑iP	P	02 00 33.6	+0.4
BLSP				eS	S	02 04 43.8	+4.2
LATR	Latur	24.26	311	eP	P	02 00 43.8	+0.5
NGP	Nagpur	24.32	320	eP	P	02 00 45.3	+1.4

NGP				*e*S	**S**	**02 05 03.5**	**+4.9**
GOA	**Goa**	**24.89**	**302**⇑	*e*P	**P**	**02 00 47.1**	**-2.3**
DGAR	**Diego Garcia**	**25.29**	**246**	PFAKE		02 01 00.0	+6.7
DGAR				LR	LR		
	comp=Z,3μm,19.0s,MS4.8						
KAD	**Karad**	**25.50**	**306**	*e*P	**P**	**02 00 55.0**	**-0.1**
ALBI	**Allahabad**	**25.99**	**330**	*e*P	**P**	**02 01 00.0**	**+0.3**
POO	**Poona**	**26.42**	**308**	*e*	**P**	**02 01 10.2**	**+6.5**
POO				*e*	pP	02 01 16.4	+5.7
	comp=Z,85nm,1.5s						
POO				*e*		02 06 33.5	
PKI	**Pulchoki**	**26.45**	**339**	*e*P	**P**	**02 01 04.0**	**+0.1**
	comp=Z,1μm,1.6s,mb6.1						
DMN	**Daman**	**26.59**	**339**	*e*P	**P**	**02 01 05.9**	**+0.7**
	comp=Z,244nm,0.7s,mb5.8						
LUBP	**Lubang**	**26.60**	**65**	*e*P	**P**	**02 01 04.6**	**-0.7**
GUN	**Gumba**	**26.60**	**340**	*e*P	**P**	**02 01 06.0**	**+0.8**
	comp=Z,1μm,1.2s,mb6.3						
KKN	**Kakani**	**26.70**	**339**	*e*P	**P**	**02 01 06.1**	**0.0**
	comp=Z,365nm,0.8s,mb6.0						
BHPL	**Bhopal**	**26.87**	**320**⇑	*i*P	**P**	**02 01 08.4**	**+0.7**
	comp=Z,70nm,1.1s,mb5.1						
LSA	**Lhasa**	**27.03**	**351**	P	**P**	**02 01 10.5**	**+1.3**
LSA				S	**S**	**02 05 45.9**	**+2.3**
LSA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
LSA				LR	LR		
	comp=N,6μm,20.0s,MS5.3						
LSA				LR	LR		
	comp=E,7μm,18.7s,MS5.3						
LSA				LR	LR		
	comp=Z,11μm,22.1s,MS5.4						
LSA	**Lhasa**	**27.03**	**351**	*e*P	**P**	**02 01 09.6**	**+0.4**
	comp=Z,131nm,0.6s,mb5.6						
LSA				LR	LR		
	comp=Z,11μm,21.0s,MS5.4						
GKN	**Gorkha**	**27.12**	**338**	*e*P	**P**	**02 01 10.2**	**+0.2**
	comp=Z,607nm,0.8s,mb6.2						
KOLN	**Koldanda**	**27.31**	**336**	*e*P	**P**	**02 01 11.9**	**+0.1**
	comp=Z,366nm,0.7s,mb6.0						
GUIM	**Jordan**	**27.82**	**73**	*e*P	**P**	**02 01 15.4**	**-1.1**
PAGZ	**Pagadian**	**28.05**	**79**	*e*P	**P**	**02 01 19.9**	**+1.4**
RCP	**Roxas**	**28.21**	**71**⇑	*e*P	**P**	**02 01 21.0**	**+1.0**
TBP	**Tagbilaran**	**28.84**	**75**	*e*P	**P**	**02 01 26.0**	**+0.3**
LLP	**Lapu-Lapu**	**29.07**	**74**⇑	*e*P	**P**	**02 01 28.6**	**+0.8**
BUKP	**Musuan**	**29.70**	**79**	*e*P	**P**	**02 01 34.8**	**+1.3**
OCLP	**Ormoc**	**29.85**	**73**	*e*P	**P**	**02 01 34.5**	**-0.3**
MSLP	**Maasin**	**29.89**	**75**	*e*P	**P**	**02 01 33.1**	**-2.0**
DAV	**Davao City (W)**	**30.10**	**81**⇓	*e*P	**P**	**02 01 40.0**	**+3.0**
PVCP	**Virac**	**30.12**	**68**	*e*P	**P**	**02 01 36.9**	**-0.2**
LGTI	**Lohaghat**	**30.22**	**333**	*e*P	**P**	**02 01 38.0**	**+0.1**
ENH	**Enshi**	**30.25**	**24**	*e*P	**P**	**02 01 36.4**	**-1.7**
	comp=Z,134nm,0.7s,mb5.8						
ENH				LR	LR		
	comp=Z,16μm,20.0s,MS5.7						
QZH	**Quanzhou**	**31.16**	**43**⇑	*i*P	**P**	**02 01 46.3**	**+0.1**
QZH				*e*S	**S**	**02 06 48.0**	**-1.5**
QZH				AMB	AMB		
	comp=Z,150nm,0.8s,mb5.9						
QZH				AMB	AMB		
	comp=Z,2μm,4.1s						
QZH				LR	LR		
	comp=N,14μm,14.5s,MS6.0						
QZH				LR	LR		
	comp=E,16μm,13.7s,MS6.0						
QZH				LR	LR		
	comp=Z,18μm,13.1s,MS5.9						
DDI	**Dehra Dun**	**31.99**	**330**	*e*P	**P**	**02 01 52.2**	**-1.3**
DDI				*e*		02 06 26.4	
WHN	**Wuhan**	**32.73**	**31**	P	**P**	**02 01 58.7**	**-1.2**
WHN				S	**S**	**02 07 17.0**	**+3.1**
WHN				LR	LR		
	comp=Z,51μm,14.1s,MS6.4						
TATO	**Taipei**	**33.21**	**46**	PFAKE		02 02 20.0	+16
TATO				LR	LR		
	comp=Z,5μm,19.0s,MS5.2						
XAN	**Xi'an**	**33.40**	**20**	P	**P**	**02 02 04.8**	**-0.9**
XAN				S	**S**	**02 07 33.3**	**+9.0**
XAN				AMB	AMB		
	comp=Z,335nm,0.8s,mb6.3						
XAN				LR	LR		
	comp=N,4μm,14.4s,MS5.7						
XAN				LR	LR		
	comp=E,10μm,13.5s,MS5.7						
XAN				LR	LR		
	comp=Z,15μm,13.9s,MS5.9						
MBWA	**Marble Bar**	**33.56**	**136**	*e*P	**P**	**02 02 06.6**	**-0.6**
	comp=Z,31nm,0.9s,mb5.2						
MBWA				LR	LR		
	comp=Z,6μm,20.0s,MS5.3						
LZH	**Lanzhou**	**33.92**	**12**⇑	*i*P	**P**	**02 02 09.5**	**-0.7**
LZH				AP	pP	02 02 16.8	-0.5
LZH				XP	sP	02 02 20.5	+0.1
LZH				PP	PP	02 03 23.5	-0.5
LZH				S	**S**	**02 07 32.0**	**-0.3**
LZH				XS		02 07 44.5	
LZH				SS	SS	02 09 40.6	+1.0
LZH				AMB	AMB		
	comp=Z,221nm,1.2s,mb6.0						
LZH				AMB	AMB		
	comp=Z,2μm,10.0s						
LZH				LR	LR		
	comp=E,13μm,13.3s						
LZH				LR	LR		
	comp=Z,15μm,16.9s,MS5.8						
DLH	**Dalhousie**	**34.83**	**330**	*e*P	**P**	**02 02 19.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**36.15**	**126**⇓	*i*P	**P**	**02 02 29.1**	**-0.3**
	comp=Z,68nm,0.9s,mb5.6						
FITZ				*e*		02 02 40.8	
NJ2	**Nanjing**	**36.32**	**34**	*e*P	**P**	**02 02 31.1**	**+0.4**
NJ2				AP	pP	02 02 39.6	+1.8
NJ2				XP	sP	02 02 43.1	+2.2
NJ2				PP	PP	02 03 56.0	+1.8
NJ2				S	**S**	**02 08 14.0**	**+4.5**
NJ2				XS		02 08 25.0	
NJ2				SS	SS	02 10 38.0	+3.3
NJ2				AMB	AMB		
	comp=Z,390nm,0.9s,mb6.3						
NJ2				AMB	AMB		
	comp=Z,2μm,8.2s						
NJ2				LR	LR		
	comp=N,19μm,18.0s,MS6.1						
NJ2				LR	LR		
	comp=E,24μm,17.3s,MS6.1						
NJ2				LR	LR		
	comp=Z,21μm,14.8s,MS6.0						
SSE	**Sheshan**	**37.01**	**38**	P	**P**	**02 02 36.9**	**+0.4**
SSE				XP	sP	02 02 48.5	+1.9
SSE				PP	PP	02 04 03.0	-0.1
SSE				S	**S**	**02 08 22.7**	**+2.7**
SSE				XS		02 08 38.3	
SSE				AMB	AMB		
	comp=Z,66nm,1.2s,mb5.3						
SSE				AMB	AMB		
	comp=Z,970nm,10.9s						
SSE				LR	LR		
	comp=N,11μm,15.7s,MS5.9						
SSE				LR	LR		
	comp=E,8μm,15.7s,MS5.9						
SSE				LR	LR		
	comp=Z,20μm,16.2s,MS6.0						
TIY	**Taiyuan**	**37.95**	**22**	⇑P	**P**	**02 02 43.0**	**-1.3**
TIY				LR	LR		
	comp=N,26μm,15.0s						
TIA	**Tai'an**	**38.66**	**28**	⇑P	**P**	**02 02 50.5**	**+0.2**
TIA				SP		02 08 41.9	
TIA				AMB	AMB		
	comp=Z,59nm,0.8s,mb5.4						
TIA				LR	LR		
	comp=N,5μm,15.6s,MS5.6						
TIA				LR	LR		
	comp=E,5μm,15.0s,MS5.6						
KAKA	**Kakadu**	**39.68**	**114**⇑	*i*P	**P**	**02 02 58.0**	**-1.0**
	comp=E,56nm,0.9s,mb5.3						
MUN	**Mundaring**	**39.77**	**152**	*e*P	**P**	**02 03 01.6**	**+2.0**
	comp=E,14nm,0.5s,mb4.9						
MUN	**Mundaring**	**39.77**	**152**	*e*P	pP	02 03 10.0	+3.2
KLBR	**Kellerberrin**	**40.20**	**150**	*e*P	**P**	**02 03 04.5**	**+1.4**
	comp=E,39nm,1.1s,mb5.0						
NWAO	**Narrogin (SRO)**	**41.04**	**152**	*e*P	**P**	**02 03 10.4**	**+0.5**
	comp=E,61nm,1.5s,mb5.0						
NWAO				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
WMQ	**Urumqi**	**41.39**	**351**⇑	*i*P	**P**	**02 03 13.6**	**+0.9**
WMQ				AP	pP	02 03 21.0	+1.1
WMQ				XP	sP	02 03 24.4	+1.5
WMQ				PP	PP	02 04 52.8	+1.4
WMQ				S	**S**	**02 09 26.8**	**+0.9**
WMQ				XS		02 09 40.4	
WMQ				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,240nm,5.2s						
WMQ				LR	LR		
	comp=N,7μm,18.0s,MS5.6						
WMQ				LR	LR		
	comp=E,5μm,20.0s,MS5.6						
WMQ				LR	LR		
	comp=Z,7μm,21.5s,MS5.5						
BJT	**Baijiatuau**	**41.40**	**24**	*e*P	**P**	**02 03 14.2**	**+1.4**
	comp=Z,408nm,0.7s,mb6.2						
BJT				LR	LR		
	comp=Z,7μm,22.0s,MS5.5						
ULHL	**Ulahol**	**42.89**	**339**	P	**P**	**02 03 26.1**	**+1.0**
	SNR=13						
KZA	**Kyzart**	**43.11**	**338**	P	**P**	**02 03 28.3**	**+1.4**
	SNR=10						
UCH	**Uchtor**	**43.52**	**337**	P	**P**	**02 03 31.4**	**+1.2**
	SNR=26						
AAA	**Alma-Ata**	**43.54**	**340**	*i* P	**P**	**02 03 31.0**	**+0.6**
AAA				*i* S	**S**	**02 10 00.0**	**+2.5**
AAA				pmax	pmax		
	comp=Z,2μm,6.0s						
AAA				smax			
	comp=E,4μm,7.0s						
AAA				MLR	MLR		
	comp=Z,3μm,18.0s,MS5.2						
TKM2	**Tokmak 2**	**43.71**	**339**	P	**P**	**02 03 32.8**	**+1.0**
	SNR=18						
KBK	**Karagaybulak**	**43.72**	**338**	P	**P**	**02 03 33.2**	**+1.4**
	SNR=40						
AML	**Almayashu**	**43.76**	**336**	P	**P**	**02 03 33.6**	**+1.5**
	SNR=35						
AAK	**Ala-Archa**	**43.88**	**337**	P	**P**	**02 03 34.3**	**+1.2**
	SNR=22						
AAK	**Ala-Archa**	**43.88**	**337***c*	*i*P	**P**	**02 03 33.2**	**+0.1**
AAK				pmax	pmax		
	comp=Z,200nm,3.0s						
AAK	**Ala-Archa**	**43.88**	**337**	*e*P	**P**	**02 03 32.6**	**-0.5**
AAK			⇑	*i*P		02 03 33.2	
AAK				LR	LR		
	comp=Z,2μm,19.0s,MS4.9						
FRU	**Bishkek**	**44.00**	**338**⇑	*i*P	**P**	**02 03 34.5**	**+0.4**
FRU				pmax	pmax		
	comp=Z,760nm,2.6s,mb6.0						
FRU				MLR	MLR		
	comp=Z,6μm,18.0s,MS5.5						
CHMS	**Chumysh**	**44.09**	**338**	P	**P**	**02 03 35.3**	**+0.5**
	SNR=14						
EKS2	**Erkin-Say**	**44.18**	**337**	P	**P**	**02 03 36.8**	**+1.3**
	SNR=55						
WRAB	**Tennant Creek**	**44.23**	**123**	*e*P	**P**	**02 03 36.0**	**-0.3**
	comp=Z,110nm,0.9s,mb5.6						
WRAB				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
WB2	**Warramunga Arr**	**44.24**	**123**	*e*P	**P**	**02 03 36.3**	**0.0**
USP	**Ospenovka**	**44.41**	**338**	P	**P**	**02 03 38.4**	**+0.9**
	SNR=8.3						
INCN	**Inchon**	**44.67**	**36**	P	**P**	**02 03 38.8**	**-0.8**
INCN				LR	LR		
	comp=Z,7μm,19.0s,MS5.6						
MK02	**Makanchi Array**	**45.25**	**347**	P	**P**	**02 03 44.2**	**+0.1**
MK02				pmax	pmax		
	comp=Z,123nm,0.6s,mb5.9						
KS15	**Wonju Array Si**	**45.38**	**37**	*e*P	**P**	**02 03 45.0**	**-0.2**
ASPA	**Alice Springs**	**45.63**	**127**	*e*P	**P**	**02 03 47.8**	**+0.4**
ASPA				*e*	pP	02 03 56.2	+1.6
ULN	**Ulaanbaatar**	**45.90**	**11**	*e*P	**P**	**02 03 49.0**	**-0.2**
	comp=Z,45nm,0.8s,mb5.5						
ULN				*e*PcP	PcP	02 05 26.0	-0.6
ULN				LR	LR		
	comp=Z,8μm,22.0s,MS5.6						
SNY	**Shenyang**	**46.18**	**29**	⇑P	**P**	**02 03 51.1**	**-0.4**
SNY				AP	pP	02 04 01.9	+3.2
SNY				XP	sP	02 04 04.6	+3.0
SNY				S	**S**	**02 10 39.2**	**+3.7**
SNY				AMB	AMB		
	comp=Z,120nm,0.8s,mb5.9						
SNY				AMB	AMB		
	comp=Z,1μm,5.0s						
SNY				LR	LR		
	comp=N,8μm,15.7s,MS6.0						
SNY				LR	LR		
	comp=E,9μm,15.3s,MS6.0						
SNY				LR	LR		
	comp=Z,12μm,15.5s,MS6.0						
ZAK	**Zakamensk**	**47.79**	**7**⇓	*i*P	**P**	**02 04 03.8**	**-0.3**
ZAK				*e*		02 05 29.1	
MOY	**Mondy**	**48.84**	**4**	*e*P	**P**	**02 04 12.5**	**+0.3**
TLY	**Talaya**	**49.11**	**7**	P	**P**	**02 04 14.5**	**+0.2**
	comp=Z,472nm,0.7s,mb6.6,SNR=37						
TLY	**Talaya**	**49.11**	**7***d*	*i*P	**P**	**02 04 14.7**	**+0.4**
TLY				*e*		02 06 09.5	
TLY				*e*S	**S**	**02 11 17.2**	**+0.4**
TLY				*e*PS	PS	02 11 30.8	+2.7
TLY				*e*SS	ScS	02 14 01.9	0.0
TLY				pmax	pmax		
	comp=Z,67nm,0.9s,mb5.7						
TLY				MLR	MLR		
	comp=Z,7μm,18.0s,MS5.7						
TLY	**Talaya**	**49.11**	**7**	*e*P	**P**	**02 04 14.2**	**0.0**
	comp=Z,50nm,0.7s,mb5.7						
TLY				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
IRK	**Irkutsk**	**49.74**	**7**	*e*P	**P**	**02 04 19.0**	**-0.1**
IRK				*e*		02 11 40.5	
HIA	**Hailar**	**50.60**	**20**	*e*P	**P**	**02 04 25.6**	**-0.1**
	comp=Z,60nm,0.8s,mb5.6						
HIA				LR	LR		
	comp=Z,9μm,21.0s,MS5.8						
MDJ	**Mudanjiang**	**51.21**	**31**	P	**P**	**02 04 30.9**	**+0.5**
MDJ				AP	pP	02 04 37.2	-0.6
MDJ				XP	sP	02 04 39.7	-0.9
MDJ				PCP	PcP	02 05 42.3	-3.4
MDJ				PP	PP	02 06 29.2	+1.1
MDJ				S	**S**	**02 11 49.8**	**+3.9**
MDJ				SCS	ScS	02 14 16.2	0.0
MDJ				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.6						
MDJ				AMB	AMB		
	comp=Z,981nm,8.6s						
MDJ				LR	LR		
	comp=N,4μm,14.8s,MS5.9						
MDJ				LR	LR		
	comp=E,7μm,16.7s,MS5.9						
MDJ				LR	LR		
	comp=Z,7μm,16.7s,MS5.8						
MDJ	**Mudanjiang**	**51.21**	**31**	*e*P	**P**	**02 04 30.7**	**+0.3**
	comp=Z,56nm,0.9s,mb5.5						
MDJ				LR	LR		
	comp=Z,5μm,20.0s,MS5.5						
VLA	**Vladivostok**	**51.42**	**34**⇑	*i*P	**P**	**02 04 29.0**	**-3.0**
VLA				*e*		02 06 36.0	
VLA				*e*S	**S**	**02 12 05.0**	**+16**
VLA				pmax	pmax		
	comp=Z,2μm,5.0s						
VLA				pmax	pmax		
	comp=N,1μm,4.0s						
VLA				pmax	pmax		
	comp=E,1μm,7.0s						
VLA				pmax	pmax		
	comp=Z,600nm,5.6s						
VLA				pmax	pmax		
	comp=N,500nm,6.0s						
VLA				pmax	pmax		
	comp=E,500nm,7.0s						
VLA				smax			
	comp=E,2μm,9.6s						
VLA				smax			
	comp=N,1μm,12.0s						
VLA				MLR	MLR		
	comp=Z,13μm,16.0s,MS6.0						
VLA				MLR	MLR		
	comp=N,12μm,15.0s,MS6.1						
VLA				MLR	MLR		
	comp=E,5μm,14.0s,MS6.1						
MAJO	**Matsushiro**	**51.55**	**44**	*e*P	**P**	**02 04 32.8**	**-0.3**
	comp=E,28nm,0.8s,mb5.2						
MAJO				LR	LR		
	comp=Z,6μm,22.0s,MS5.6						
MAT	**Matsushiro**	**51.55**	**44**	*e*P	**P**	**02 04 33.0**	**-0.1**
MAT				LR	LR		
	comp=Z,6μm,18.0s,MS5.7						
MAT	**Matsushiro**	**51.55**	**44**	P	**P**	**02 04 32.9**	**-0.2**
PMG	**Port Moresby**	**52.75**	**104**	*e*P	**P**	**02 04 41.0**	**-1.4**
	comp=Z,62nm,0.9s,mb5.5						
PMG				LR	LR		
	comp=Z,3μm,19.0s,MS5.4						
NVS	**Novosibirsk**	**52.80**	**351**	*i* P	**P**	**02 04 40.7**	**-1.5**
NVS				*e*S	**S**	**02 11 58.0**	**-9.5**
NVS				pmax	pmax		
	comp=N,71nm,0.7s						
NVS				pmax	pmax		
	comp=E,42nm,0.7s						
NVS				pmax	pmax		
	comp=Z,98nm,0.7s,mb5.8						
NVS				smax			
	comp=E,283nm,2.1s						
NVS				smax			
	comp=N,98nm,1.7s						
CTA	**Charters Tower**	**54.63**	**117**⇓	*i*P	**P**	**02 04 56.7**	**+0.5**
	comp=N,42nm,0.9s,mb5.5						
CTA				*e*	pP	02 05 03.9	+0.4
CTAO	**Charters Tower**	**54.63**	**117**	*e*P	**P**	**02 04 55.5**	**-0.7**
	comp=N,73nm,0.9s,mb5.7						
CTAO				LR	LR		
	comp=Z,4μm,20.0s,MS5.5						
KLR	**Kul'dur**	**55.50**	**28**⇓	*i*P	**P**	**02 04 58.5**	**-3.6**
KLR				*e*		02 14 43.0	
KLR				pmax	pmax		
	comp=Z,2μm,6.5s						
KLR				pmax	pmax		
	comp=N,110nm,1.8s						
KLR				pmax	pmax		
	comp=E,120nm,1.8s						
KLR				pmax	pmax		
	comp=Z,180nm,1.8s,mb5.8						
STKA	**Stephens Creek**	**55.61**	**132**⇓	*i*P	**P**	**02 05 03.0**	**-0.2**
	comp=Z,25nm,0.9s,mb5.2						
BHD	**Baghdad**	**56.59**	**308**	*e*P	**P**	**02 05 04.0**	**-6.2**
BHD				*e*S		02 14 19.0	
BOD	**Bodaibo**	**56.69**	**12**⇓	*i*P	**P**	**02 05 09.7**	**-0.8**
MAK	**Makhachkala**	**58.47**	**320***c*	*i*P	**P**	**02 05 19.0**	**-4.3**
MAK				*e*		02 06 20.0	
MAK				*i* S	**S**	**02 13 24.0**	**+0.6**
MAK				*e*PS	PS	02 13 45.0	+4.8
MAK				*i*		02 15 10.0	
MAK				pmax	pmax		
	comp=Z,1μm,8.0s						
MAK				smax			
	comp=N,2μm,7.0s						
MAK				smax			
	comp=E,700nm,7.0s						
KMBO	**Kilima Mbogo**	**58.51**	**267**	*i* P	**P**	**02 05 24.1**	**+0.2**
KMBO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KMBO	**Kilima Mbogo**	**58.51**	**267**	*e*P	**P**	**02 05 23.5**	**-0.4**
	comp=Z,20nm,1.3s,mb5.0						
KMBO				LR	LR		
	comp=Z,9μm,20.0s,MS5.9						
CLNS	**Chul'man**	**58.64**	**18**	*e*P	**P**	**02 05 24.5**	**+0.2**
CLNS				*e**PP	pP	02 05 30.8	-0.9
CLNS				*e*		02 06 12.5	
CLNS				*e*		02 07 31.3	
CLNS				*e*PPP	PPP	02 08 53.2	-6.3
CLNS				*e*S	**S**	**02 13 29.5**	**+4.1**
CLNS				*e*SS	SS	02 17 24.7	+4.6
CLNS				pmax	pmax		
	comp=Z,87nm,0.7s,mb5.9						
CLNS				pmax	pmax		
	comp=N,28nm,0.6s						
CLNS				pmax	pmax		
	comp=E,37nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
CLNS				pmax	pmax		
	comp=N,30nm,1.0s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.7s						
CLNS				smax			
	comp=N,5.0nm,1.0s						
CLNS				smax			
	comp=Z,3.0nm,0.7s						
CLNS				smax			
	comp=E,4.0nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,26μm,16.0s,MS6.5						
CLNS				MLR	MLR		
	comp=N,19μm,17.0s,MS6.3						
CLNS				MLR	MLR		
	comp=E,3μm,16.0s,MS6.3						
MSL	**Mosul**	**58.68**	**311**	*e*P	**P**	**02 05 24.0**	**-0.8**
MSL				*e*PcP	PcP	02 05 32.5	-42
MSL				*e*S		02 15 03.5	
MSL				*e*sS		02 15 23.5	
GNI	**Garni**	**59.03**	**316**	*e*P	**P**	**02 05 25.3**	**-1.9**
	comp=E,24nm,1.0s,mb5.2						
GNI				LR	LR		
	comp=Z,2μm,21.0s,MS5.2						
TI2	**Plekhanov**	**59.71**	**318**α	*i*P	**P**	**02 05 30.8**	**-1.1**
TI2				*e*S	**S**	**02 13 53.2**	**+14**
YSS	**Yuzh-Sakhalins**	**59.88**	**35**α	*e*P	**P**	**02 05 32.8**	**-0.2**
YSS				*e**SP	sP	02 05 44.6	+1.4
YSS				*e*		02 06 18.1	
YSS				S	**S**	**02 13 58.0**	**+16**
YSS						02 15 16.0	
YSS				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.8						
YSS				pmax	pmax		
	comp=N,50nm,0.9s						
YSS				MLR	MLR		
	comp=N,6μm,17.0s,MS5.8						
YSS				MLR	MLR		
	comp=Z,5μm,17.0s,MS5.8						
YSS				MLR	MLR		
	comp=E,3μm,18.0s,MS5.8						
YSS	**Yuzh-Sakhalins**	**59.88**	**35**	*e*P	**P**	**02 05 32.5**	**-0.5**
	comp=E,157nm,1.1s,mb6.0						
YSS				LR	LR		
	comp=Z,4μm,19.0s,MS5.6						
SVE	**Sverdlovsk**	**60.59**	**339**	*e*P	**P**	**02 05 36.5**	**-1.1**
SVE				*e*		02 06 26.8	
SVE				*e*		02 07 52.5	
SVE				*i* S	**S**	**02 13 45.0**	**-5.4**
SVE				*e*		02 15 21.5	
SVE				pmax	pmax		
	comp=Z,410nm,2.0s,mb6.2						
SVE				smax			
	comp=N,2μm,8.6s						
SVE				smax			
	comp=E,2μm,8.6s						
SVE				MLR	MLR		
	comp=Z,5μm,17.0s,MS5.7						
ARU	**Arti**	**61.06**	**337**⇑	*i*P	**P**	**02 05 38.7**	**-2.2**
ARU				*i*		02 06 21.6	
ARU				*e*		02 07 53.7	
ARU				*e*S	**S**	**02 13 54.9**	**-1.6**
ARU				*e*		02 15 19.2	
ARU				*e*SS	SS	02 17 51.3	-6.5
ARU				*e*SSS	SSS	02 20 39.8	+4.0
ARU				pmax	pmax		
	comp=Z,46nm,0.9s,mb5.6						
ARU				MLR	MLR		
	comp=N,2μm,19.0s,MS5.5						
ARU				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.6						
ARU				MLR	MLR		
	comp=E,2μm,18.5s,MS5.5						
ARU	**Arti**	**61.06**	**337**	*e*P	**P**	**02 05 38.5**	**-2.3**
	comp=E,42nm,0.8s,mb5.6						
ARU				LR	LR		
	comp=Z,1μm,20.0s,MS5.0						
TOO	**Toolangi**	**61.20**	**136**	*e*P	**P**	**02 05 44.0**	**+1.9**
	comp=Z,22nm,0.9s,mb5.3						
KIV	**Kislovodsk**	**62.04**	**319**	P	**P**	**02 05 46.2**	**-1.5**
	comp=Z,130nm,0.9s,mb6.1,SNR=8.8						
KIV	**Kislovodsk**	**62.04**	**319**⇑	*e*P	**P**	**02 05 46.6**	**-1.1**
KIV				*e*		02 06 27.8	
KIV				*e*		02 08 05.2	
KIV				*i* S	**S**	**02 14 12.4**	**+3.2**
KIV				*i* SS	SS	02 18 16.6	+2.9
KIV				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.4						
KIV				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.2						
KIV	**Kislovodsk**	**62.04**	**319**	*e*P	**P**	**02 05 46.3**	**-1.5**
	comp=Z,15nm,0.8s,mb5.2						

KIV *e*pP pP 02 05 54.7 -0.5
KIV LR LR
comp=Z,449nm,20.0s,MS4.6
GOF Gofitskoye 62.30 321 *e*P **P 02 05 48.5 -0.9**
GOF pmax pmax
comp=Z,35nm,1.5s,mb5.3
ARMA Armidale 62.76 126 *e*P **P 02 05 54.1 +1.5**
MALT Malatya 62.87 312 *e*P **P 02 05 52.4 -0.8**
MALT *e**PP pP 02 06 00.1 -0.6
MALT pmax pmax
comp=Z,12nm,0.9s,mb5.0
MALT Malatya 62.87 312 *e*P **P 02 05 52.4 -0.8**
comp=Z,12nm,0.9s,mb5.0
MALT *e*pP pP 02 06 00.1 -0.6
EIL Elat 63.27 302 *e*P **P 02 05 56.0 0.0**
comp=Z,18nm,0.7s,mb5.3
SOC Sochi 63.85 318 *i* P **P 02 05 57.9 -1.8**
SOC *e* 02 06 38.8
SOC *e* 02 08 14.1
SOC *e*PPP PPP 02 09 56.2 +2.4
SOC *i* S **S 02 14 25.9 -6.0**
SOC *e*SS SS 02 18 41.1 -0.8
SOC pmax pmax
comp=Z,55nm,1.3s,mb5.4
SOC pmax pmax
comp=N,19nm,1.1s
SOC pmax pmax
comp=E,6.0nm,0.6s
SOC Sochi 63.85 318 *i* P **P 02 05 56.9 -2.8**
YAK Yakutsk 64.28 17⇑*i*P **P 02 06 01.2 -1.0**
YAK Yakutsk 64.28 17 *e*P **P 02 06 00.9 -1.3**
comp=E,266nm,0.8s,mb6.3
YAK LR LR
comp=Z,13μm,19.0s,MS6.1
MBAR Mbarara 64.98 268 *e*P **P 02 06 06.3 -1.2**
comp=Z,105nm,2.1s,mb5.5
MBAR *e*pP pP 02 06 14.7 -0.3
MBAR LR LR
comp=Z,1μm,19.0s,MS5.1
ANN Anapa 65.83 318 *e*P **P 02 06 10.9 -1.6**
ANN *i* *PP pP 02 06 18.9 -1.1
ANN *i* 02 06 39.3
ANN *i* 02 08 37.4
ANN *e*S S 02 14 58.5 +2.2
ANN *e* 02 16 04.0
ANN pmax pmax
comp=Z,22nm,1.1s,mb5.1
BR131 Keskin Array S 66.85 312 PFAKE 02 06 30.0 +11
BR131 LR LR
comp=Z,1μm,22.0s,MS5.2
SIM Simferopol' 68.10 318 *e*P **P 02 06 26.1 -0.7**
SIM *e*PPP PPP 02 10 40.0 +3.8
SIM *e*S S 02 15 23.7 +0.1
SIM pmax pmax
comp=Z,30nm,0.9s,mb5.3
ISP Isparta 68.73 310 *e*P **P 02 06 29.6 -1.3**
ISP pmax pmax
comp=Z,14nm,1.0s,mb4.8
ISP Isparta 68.73 310 *e*P **P 02 06 29.6 -1.3**
comp=Z,14nm,0.9s,mb4.9
LSZ Lusaka 69.11 253 *e*P **P 02 06 32.3 -1.2**
comp=Z,35nm,1.4s,mb5.1
LSZ *e*pP pP 02 06 40.5 -0.5
LSZ LR LR
comp=Z,4μm,19.0s,MS5.7
SKR Severo-Kuril's 69.43 36 *e*P **P 02 06 31.6 -3.3**
SKR *e* pP 02 06 38.6 -3.8
SKR *e* 02 06 50.4
SKR *e* 02 06 52.0
SKR *e*PPP PPP 02 10 49.0 -0.3
SKR S S 02 15 35.0 -4.2
SKR *e* 02 16 11.0
SKR pmax pmax
comp=N,100nm,0.8s
SKR pmax pmax
comp=E,100nm,0.8s
SKR pmax pmax
comp=Z,240nm,0.8s,mb6.2
SKR smax
comp=E,3μm,18.0s
SKR MLR MLR
comp=Z,6μm,18.0s,MS5.9
SKR MLR MLR
comp=N,4μm,20.0s,MS5.8
SKR MLR MLR
comp=E,2μm,18.0s,MS5.8
CASY Casey 69.81 174 PFAKE 02 06 50.0 +13
CASY LR LR
comp=Z,3μm,20.0s,MS5.6
MOS Moscow 70.12 329⇑*i*P **P 02 06 38.3 -0.7**
MOS *e* 02 07 01.4
MOS *e* 02 09 14.5
MOS *e*S S 02 15 42.3 -5.0
MOS pmax pmax
comp=Z,102nm,0.7s,mb5.9
MOS MLR MLR
comp=Z,4μm,23.2s,MS5.6
OBN Obninsk 70.40 328 *i* P **P 02 06 39.6 -1.1**
OBN *i* S S 02 15 46.2 -4.4
OBN pmax pmax
comp=Z,39nm,0.7s,mb5.5
OBN Obninsk 70.40 328 *e*P **P 02 06 39.3 -1.4**
comp=Z,40nm,0.7s,mb5.5
OBN LR LR
comp=Z,782nm,19.0s,MS5.0
MA2 Magadan 70.53 26 *e*P **P 02 06 41.3 -0.1**
MA2 *e* 02 09 17.8
MA2 *e*S S 02 15 50.3 -1.7
MA2 *e*SSS SSS 02 23 31.4 +0.7
MA2 pmax pmax
comp=Z,30nm,0.9s,mb5.2
MA2 MLR MLR
comp=Z,6μm,21.0s,MS5.8
MA2 Magadan 70.53 26 *e*P **P 02 06 40.8 -0.7**
comp=Z,50nm,0.8s,mb5.5
MA2 LR LR
comp=Z,3μm,19.0s,MS5.5
PET Petropavlovsk 71.74 35⇓*i*P **P 02 06 48.5 -0.4**
PET *e*PPP PPP 02 11 11.4 -0.3
PET *e*S S 02 16 00.9 -5.2
PET *e*PS PS 02 16 29.9 -9.2
PET pmax pmax
comp=Z,77nm,0.7s,mb5.7
PET pmax pmax
comp=Z,700nm,19.2s
PET MLR MLR
comp=Z,4μm,21.0s,MS5.7
PET MLR MLR
comp=Z,4μm,19.0s
PET Petropavlovsk 71.74 35 *e*P **P 02 06 47.8 -1.1**
comp=Z,48nm,0.8s,mb5.5
PET LR LR
comp=Z,4μm,20.0s,MS5.7
TIXI Tiksi 71.84 11 PFAKE 02 07 00.0 +11
TIXI LR LR
comp=Z,4μm,20.0s,MS5.7
CFR Carcaliu 72.23 317⇓*i*P **P 02 06 51.3 -0.6**
KIS Kishinev 72.23 319 *e*P **P 02 06 50.0 -1.9**
KIS *e* 02 07 08.0
KIS MLR MLR
comp=Z,2μm,20.0s,MS5.3
KIS MLR MLR
comp=Z,2μm,19.0s
HARR Harsova 72.25 316⇓*i*P **P 02 06 51.6 -0.4**
HARR Harsova 72.25 316⇓*i*P **P 02 06 51.7 -0.4**
SEY Seymchan 72.86 24 *e*P **P 02 06 55.2 -0.1**
SEY 02 07 09.6
SEY 02 09 35.6
SEY *e*S S 02 16 19.9 +1.2
SEY *e* 02 16 45.3
SEY *e* 02 17 04.3
SEY *e*SS SS 02 20 57.5 -3.9
SEY pmax pmax
comp=Z,150nm,1.1s,mb5.8
SEY pmax pmax
comp=E,50nm,0.9s
SEY MLR MLR
comp=Z,6μm,14.0s,MS6.0
SEY MLR MLR
comp=E,2μm,13.0s
LBTB Lobatse 73.24 243 *e*P **P 02 06 57.8 -0.5**
comp=E,30nm,1.0s,mb5.2
LBTB *e*pP pP 02 07 05.3 -0.5
LBTB LR LR
comp=Z,6μm,20.0s,MS5.9

VRI Vrincioaia 73.35 317⇓*i*P **P 02 06 58.9 +0.3**
VRI Vrincioaia 73.35 317⇓*i*P **P 02 06 58.9 +0.4**
MAW Mawson 73.98 192 *e*P **P 02 07 02.9 +1.2**
comp=Z,9.4nm,0.8s,mb4.8
MAW Mawson 73.98 192 *e*P **P 02 07 01.6 -0.1**
MAW pmax pmax
comp=Z,26nm,1.1s
BOSA Boshof 74.27 239 *e*P **P 02 07 03.5 -0.7**
comp=Z,60nm,1.6s,mb5.3
BOSA LR LR
comp=Z,5μm,19.0s,MS5.8
MNK Minsk 74.92 326 *e*P **P 02 07 05.0 -2.4**
PUL Pulkovo 75.30 332 *e*P **P 02 07 08.7 -0.8**
PUL *i* 02 07 21.0
PUL *e*S S 02 16 42.9 -3.2
PUL pmax pmax
comp=N,69nm,0.7s
PUL pmax pmax
comp=Z,92nm,0.7s,mb5.8
PUL pmax pmax
comp=E,74nm,1.3s
PUL smax
comp=Z,185nm,5.9s
PUL smax
comp=N,852nm,11.0s
PUL smax
comp=E,562nm,9.5s
PUL MLR MLR
comp=Z,4μm,21.0s,MS5.7
PUL MLR MLR
comp=N,3μm,18.0s,MS5.8
PUL MLR MLR
comp=E,4μm,21.0s,MS5.8
JOF Joensuu 75.99 335 *e*p **P 02 07 12.8 -0.6**
comp=E,11nm,0.7s,mb4.9
JOF Joensuu 75.99 335 *e*P **P 02 07 12.8 -0.6**
JOF pmax pmax
comp=Z,11nm,0.7s,mb4.9
BOLS Boljevac 76.28 314⇑*i*P **P 02 07 13.0 -2.4**
LVZ Lovozero 76.75 340 *e*P **P 02 07 17.6 +0.1**
LVZ *i* 02 10 14.1
LVZ *i* PPP PPP 02 12 04.1 +4.6
LVZ *e*S S 02 17 01.2 -0.6
LVZ *i* SS SS 02 22 01.0 +0.1
LVZ pmax pmax
comp=Z,52nm,0.9s,mb5.5
LVZ pmax pmax
comp=N,13nm,1.2s
LVZ pmax pmax
comp=E,27nm,1.7s
LVZ smax
comp=Z,650nm,15.7s
LVZ smax
comp=N,885nm,11.2s
LVZ smax
comp=E,565nm,9.3s
LVZ MLR MLR
comp=Z,5μm,21.0s,MS5.8
LVZ MLR MLR
comp=N,2μm,24.0s,MS5.6
LVZ MLR MLR
comp=E,3μm,21.0s,MS5.6
KWP Kalwaria 76.81 320 *e*P **P 02 07 18.5 +0.3**
KWP MLR MLR
comp=Z,1μm,20.8s,MS5.2
KWP Kalwaria 76.81 320 *e*P **P 02 07 18.5 +0.3**
KWP Kalwaria 76.81 320 *e*P **P 02 07 18.5 +0.2**
KWP MLR MLR 02 45 26.0
comp=Z,1μm,20.8s,MS5.2
SVIS Svilajnac 76.88 315 *e*P **P 02 07 17.7 -1.0**
KOLS Kolonicke sedl 76.95 320 *i* P **P 02 07 19.8 +0.8**
APA Apatity 77.04 340⇑*i*P **P 02 07 20.1 +1.0**
APA *e*S S 02 17 10.0 +5.1
APA pmax pmax
comp=Z,560nm,2.3s,mb6.1
CRVS Cervenica-Dubn 77.48 319 *i* P **P 02 07 22.9 +1.0**
DIVS Divcibare 77.72 314⇓*i*P **P 02 07 22.7 -0.7**
FINES FINESS Array B 77.82 333 *i* P **P 02 07 23.5 0.0**
FINES pmax pmax
comp=Z,16nm,0.6s
KAF Kangasniemi 77.91 333 *e*p **P 02 07 22.9 -1.1**
comp=Z,17nm,0.7s,mb5.1
KAF Kangasniemi 77.91 333 *e*P **P 02 07 22.9 -1.1**
KAF pmax pmax
comp=Z,17nm,0.7s,mb5.1
KECS Kecovo 78.04 319 *i* P **P 02 07 25.5 +0.5**
NIE Niedzica 78.31 320 *e*P **P 02 07 26.9 +0.4**
PSZ Piszkesteto 78.34 318 *e*P **P 02 07 26.2 -0.5**
PSZ pmax pmax
comp=Z,12nm,0.7s,mb4.9
PSZ Piszkesteto 78.34 318 *e*P **P 02 07 26.2 -0.5**
comp=Z,12nm,0.6s,mb5.0
PSZ Piszkesteto 78.34 318⇑*i*P **P 02 07 26.8 +0.1**
SUR Sutherland 78.78 236 PFAKE 02 07 40.0 +11
SUR LR LR
comp=Z,999nm,19.0s,MS5.2
VYHS Vyhne 79.13 319 *i* P **P 02 07 30.9 -0.1**
SRO2 Moca 79.32 318 *e*P **P 02 07 33.0 +0.9**
SRO Srobarova 79.38 318 *e*P **P 02 07 32.8 +0.4**
OKC Ostrava-Krasne 79.76 320 *e*P **P 02 07 34.7 +0.3**
OKC *e*pP pP 02 07 42.2 +0.2
MORC Moravsky Berou 80.14 320 *e*P **P 02 07 36.0 -0.4**
MORC pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
MORC Moravsky Berou 80.14 320 *e*P **P 02 07 36.0 -0.4**
comp=Z,8.0nm,0.7s,mb4.8
BILL Bilibino 80.18 21 *e*P **P 02 07 35.2 -1.1**
BILL pmax pmax
comp=Z,130nm,1.8s,mb5.6
BILL Bilibino 80.18 21 *e*P **P 02 07 35.2 -1.0**
comp=Z,129nm,1.8s,mb5.6
BILL LR LR
comp=Z,8μm,20.0s,MS6.0
ZST Bratislava 80.24 318 *i* P **P 02 07 37.5 +0.5**
SMY Shemya 80.74 37 PFAKE 02 07 50.0 +10
SMY LR LR
comp=Z,14μm,22.0s,MS6.3
GKP Gorka Klasztor 80.78 323 *e*P **P 02 07 41.9 +2.2**
GKP Gorka Klasztor 80.78 323 *e*P **P 02 07 41.9 +2.2**
GKP LR LR
comp=Z,2μm,21.0s,MS5.4
GKP Gorka Klasztor 80.78 323 *e*P **P 02 07 41.9 +2.1**
GKP MLR MLR 02 49 38.9
comp=Z,2μm,21.0s,MS5.4
DPC Dobruska-Polom 80.99 320 *e*P **P 02 07 41.6 +0.7**
DPC *e*pP pP 02 07 49.2 +0.7
KSP Ksiaz 81.06 321⇑*e*P **P 02 07 41.5 +0.2**
KSP *e*pP pP 02 07 48.3 -0.6
KSP *e*S S 02 17 45.0 -2.8
KSP *e*SS SS 02 23 09.0 +3.1
KSP LR LR
comp=Z,3μm,17.3s,MS5.8
KSP Ksiaz 81.06 321 *e*P **P 02 07 41.7 +0.5**
KSP MLR MLR 02 51 53.7
comp=Z,3μm,17.2s,MS5.7
KTK1 Kautokeino 81.08 340 *e*P **P 02 07 41.5 +0.5**
comp=Z,145nm,1.3s,mb5.8
KTK1 *e*pP pP 02 07 49.3 +0.6
KTK1 Kautokeino 81.08 340 *e*P **P 02 07 41.5 +0.5**
KTK1 *e*pP pP 02 07 49.3 +0.6
KTK1 AMb AMB 02 08 08.0
comp=Z,145nm,1.3s,mb5.8
ARSA Arzberg 81.20 317⇑*i*P **P 02 07 42.6 +0.5**
comp=Z,29nm,1.1s,mb5.1
UPC Upice 81.20 321 *e*P **P 02 07 42.8 +0.8**
UPC *e*pP pP 02 07 50.0 +0.3
BOJS Bojanci 81.23 315 *e*P **P 02 07 42.4 +0.2**
PERS Pernice 81.42 317 *e*P **P 02 07 43.6 +0.4**
LJU Ljubljana 81.78 316 *e*P **P 02 07 45.5 +0.3**
PRU Pruhonice 82.09 320 *e*P **P 02 07 46.9 +0.3**
PRU *e*pP pP 02 07 54.5 +0.2
PRU *e*S S 02 17 57.5 -0.9
PVCC Panska Ves 82.12 320 *e*P **P 02 07 47.1 +0.3**
PVCC *e*pP pP 02 07 54.8 +0.3
VOY Vojsko 82.22 316 *e*P **P 02 07 47.3 -0.1**
VOY *e* pP 02 07 54.7 -0.4
AQU L'Aquila 82.35 312 *e*P **P 02 07 48.5 +0.4**
AQU pmax pmax
comp=Z,18nm,0.8s,mb5.0
AQU L'Aquila 82.35 312 *e*P **P 02 07 48.5 +0.4**
comp=Z,18nm,0.8s,mb5.1
BSD Bornholm Skovb 82.36 325 *i* P **P 02 07 47.4 -0.5**
BSD *i* pP 02 07 54.5 -1.1
BSD *i* S S 02 18 04.3 +3.3

BSD pmax pmax
comp=Z,17nm,0.6s,mb5.2
BSD MLR MLR
comp=Z,2μm,18.0s,MS5.5
BSD Bornholm Skovb 82.36 325 *i* P **P 02 07 47.4 -0.5**
comp=Z,17nm,0.6s,mb5.1
BSD *i* pP 02 07 54.5 -1.1
BSD *i* S S 02 18 04.3 +3.3
BSD Bornholm Skovb 82.36 325 *i* P **P 02 07 47.4 -0.5**
comp=Z,17nm,0.6s,mb5.1
BSD *i* pP 02 07 54.5 -1.1
BSD Bornholm Skovb 82.36 325 *i* S S 02 18 04.3 +3.3
comp=Z,2μm,18.0s
BRG Berggiesshubel 82.55 321⇓*i*P **P 02 07 49.6 +0.6**
BRG *e* 02 07 59.4
BRG *i* S S 02 18 04.0 +0.9
BRG pmax pmax
comp=Z,29nm,1.2s,mb5.2
BRG MLR MLR
comp=N,2μm,19.8s,MS5.5
BRG MLR MLR
comp=E,1μm,19.8s,MS5.5
BRG MLR MLR
comp=Z,2μm,19.8s,MS5.4
BRG Berggiesshubel 82.55 321⇓*i*P **P 02 07 49.6 +0.6**
comp=Z,29nm,1.1s,mb5.2
BRG *e* 02 07 59.4
BRG *e* 02 08 21.9
BRG *i* S S 02 18 04.0 +0.9
BRG LR LR
comp=Z,2μm,19.8s,MS5.4
GEC2 GERESS Array S 82.55 319 *e*P **P 02 07 49.7 +0.7**
GEC2 pmax pmax
comp=Z,63nm,1.3s,mb5.5
GEC2 GERESS Array S 82.55 319 *e*P **P 02 07 49.7 +0.7**
comp=Z,63nm,1.3s,mb5.5
KHC Kasperske Hory 82.65 319 *e*P **P 02 07 49.6 0.0**
KHC *e*pP pP 02 07 57.7 +0.5
TRO Tromso 82.72 340 *e*P **P 02 07 48.6 -0.9**
TRO AMS AMS 02 50 22.5
comp=Z,3μm,17.9s,MS5.7
RUE Ruedersdorf 82.78 322 *e*P **P 02 07 50.1 -0.1**
comp=Z,13nm,0.7s,mb5.1
WET Wettzell 83.11 319 *e*P **P 02 07 52.4 +0.5**
CLL Collm 83.17 321 *i* P **P 02 07 53.4 +1.2**
CLL *i* 02 08 06.3
CLL *e*S S 02 18 09.0 -0.4
CLL MLR MLR
comp=Z,1μm,18.2s,MS5.4
CLL Collm 83.17 321 *i* P **P 02 07 53.4 +1.2**
CLL *i* 02 08 06.3
CLL *e*S S 02 18 09.0 -0.4
CLL LR LR
comp=Z,1μm,18.2s,MS5.4
CLL Collm 83.17 321 P **P 02 07 53.4 +1.2**
CLL *e**PP pP 02 08 00.0 +0.1
CLL *i* 02 08 06.3
CLL *e*S S 02 18 09.0 -0.4
NKC Novy Kostel 83.46 320 *e*P **P 02 07 52.9 -0.8**
BJO Bjornoya 83.65 345 AMS AMS 02 51 55.0
comp=Z,1μm,19.6s,MS5.4
MOR8 Moi Rana 83.84 336 *e*P **P 02 07 55.4 +0.1**
MOR8 *e*pP pP 02 08 02.9 -0.1
WTTA Wattenberg 83.84 317⇑*i*P **P 02 07 55.4 -0.3**
comp=Z,20nm,0.8s,mb5.3
MOX Moxa 84.01 320 *e*P **P 02 07 56.8 +0.3**
MOX pmax pmax
comp=Z,76nm,2.2s,mb5.4
MOX MLR MLR
comp=Z,700nm,22.0s,MS5.0
MOX Moxa 84.01 320 *e*P **P 02 07 56.8 +0.3**
comp=Z,76nm,2.2s,mb5.4
MOX LR LR
comp=Z,700nm,22.0s,MS5.0
MOX Moxa 84.01 320 *i* P **P 02 07 56.8 +0.3**
comp=Z,logA/T=1.5,mb5.4
MOX L 02 50 45.0
SQTA Sankt Quirin 84.13 317⇓*i*P **P 02 07 57.3 +0.1**
comp=Z,5.4nm,0.7s,mb4.8
MOTA Moosalm 84.21 317⇓*i*P **P 02 07 57.2 -0.4**
comp=Z,11nm,1.0s,mb4.9
GRA1 Grafenberg Arr 84.22 319 *e*P **P 02 07 58.5 +0.9**
comp=Z,56nm,1.3s,mb5.5
GRA1 *e*pP pP 02 08 05.9 +0.6
GRF Grafenberg Arr 84.22 319 *e*P **P 02 07 58.5 +0.9**
GRF *e**PP pP 02 08 05.9 +0.6
GRF pmax pmax
comp=Z,56nm,1.3s,mb5.5
GRF Grafenberg Arr 84.22 319 *e*P **P 02 07 58.5 +0.9**
comp=Z,56nm,1.3s,mb5.5
GRF *e*pP pP 02 08 05.9 +0.6
NSS Namsos 84.71 334 *e*P **P 02 07 59.2 -0.5**
NSS AMS AMS 02 55 47.4
comp=Z,2μm,15.0s,MS5.7
NB2 NORSAR Subarra 84.81 331 P **P 02 08 00.3 +0.1**
comp=Z,3.7nm,0.7s,mb4.6,baz=97,slow=5.0
NB2 NORSAR Subarra 84.81 331 P **P 02 08 00.3 +0.1**
baz=96,slow=5.1
CLZ Clausthal 84.84 322 *e*P **P 02 08 01.3 +0.7**
comp=Z,39nm,1.3s,mb5.4
BSEG Bad Segeberg 84.95 324 *e*P **P 02 08 01.9 +0.8**
DAVA Damuels 85.04 317⇑*i*P **P 02 08 00.0 -1.7**
comp=Z,20nm,0.9s,mb5.2
STU Stuttgart 85.52 319 *e*P **P 02 08 03.8 -0.3**
KONO Kongsberg 85.55 329 PFAKE 02 08 20.0 +16
KONO LR LR
comp=Z,2μm,19.0s,MS5.6
PGF Pioggiola 85.61 312 *e*P **P 02 08 05.1 +0.4**
comp=Z,30nm,1.2s,mb5.1
MUD Monsted U'grnd 85.68 326 *i* P **P 02 08 05.4 +0.7**
MUD *i* pP 02 08 12.3 -0.1
MUD pmax pmax
comp=Z,7.0nm,0.6s,mb5.1
MUD MLR MLR
comp=Z,1μm,18.0s,MS5.3
MUD Monsted U'grnd 85.68 326 *i* P **P 02 08 05.4 +0.7**
comp=Z,7.0nm,0.6s,mb5.1
MUD *i* pP 02 08 12.3 -0.1
comp=Z,1μm,18.0s
BFO Black Forest 86.09 318 *e*P **P 02 08 06.9 -0.1**
BFO pmax pmax
comp=Z,11nm,0.8s,mb5.1
BFO Black Forest 86.09 318 *e*P **P 02 08 06.9 -0.1**
comp=Z,11nm,0.8s,mb5.1
MOL Molde 86.60 332 *e*P **P 02 08 12.6 +3.5**
MOL *e*pP pP 02 08 20.0 +3.2
SBF Sospel 86.75 314 *e*P **P 02 08 10.1 -0.2**
comp=Z,19nm,0.7s,mb5.1
CDF Champ du Feu 86.80 318 *e*P **P 02 08 09.9 -0.5**
comp=Z,5.7nm,0.7s,mb4.6
LPG La Plagne 87.20 315 *e*P **P 02 08 12.7 +0.3**
comp=Z,15nm,0.8s,mb5.0
MBDF Montbardon 87.21 314 *e*P **P 02 08 13.3 +0.8**
comp=Z,22nm,1.1s,mb5.0
HAU Haudompre 87.42 318 *e*P **P 02 08 13.0 -0.4**
comp=Z,18nm,0.7s,mb5.1
HAU *e*R
comp=Z,1μm,18.2s
VNDA Vanda 87.75 169 *e*P **P 02 08 15.4 +1.0**
comp=Z,25nm,1.5s,mb5.2
VNDA LR LR
comp=Z,2μm,20.0s,MS5.5
RAO Raoul Island 88.27 119 PFAKE 02 08 30.0 +12
RAO LR LR
comp=Z,2μm,20.0s,MS5.6
BAIF Baives 88.75 320 *e*P **P 02 08 20.1 +0.3**
comp=Z,15nm,0.7s,mb5.1
SBA Scott Base 88.85 168 PFAKE 02 08 30.0 +10
SBA LR LR
comp=Z,1μm,21.0s,MS5.3
SSF Saint Saulge 89.39 317 *e*P **P 02 08 23.2 +0.3**
comp=Z,16nm,0.9s,mb5.0
BGF Bois d'Agland 89.87 316 *e*P **P 02 08 25.5 +0.4**
comp=Z,55nm,1.3s,mb5.4
RJF Les Rejaudoux 90.90 315 *e*P **P 02 08 30.3 +0.4**
RJF *e*R
comp=Z,2μm,20.5s
FLN La Foliniere 91.91 319 *e*P **P 02 08 34.8 +0.3**
comp=Z,14nm,0.7s,mb5.1
FLN *e*R
comp=Z,1μm,22.2s
UNV Unalaska Valle 92.34 36 PFAKE 02 08 50.0 +14
UNV LR LR
comp=Z,3μm,19.0s,MS5.8
ETSF Etsaut 92.62 313 *e*P **P 02 08 38.0 +0.1**
comp=Z,53nm,1.5s,mb5.4

DAG	Danmarks Havn	92.66	348	⇓eP	P	02 08 36.2	-1.1
DAG				pmax	pmax		
	comp=Z,8.0nm,0.3s,mb5.6						
DAG	Danmarks Havn	92.66	348	⇓iP	P	02 08 36.2	-1.1
	comp=Z,7.8nm,0.3s,mb5.6						
ESK	Eskdalemuir	92.70	326	PFAKE		02 08 50.0	+12
ESK				LR	LR		
	comp=Z,658nm,19.0s,MS5.1						
AFI	Afiamalu	93.18	104	PFAKE		02 08 50.0	+9.0
AFI				LR	LR		
	comp=Z,715nm,19.0s,MS5.1						
ESLA	Sonseca Array	95.58	310	PFAKE		02 09 00.0	+8.5
ESLA				LR	LR		
	comp=Z,8µm,21.0s,MS6.2						
IMA	Indian Mountai	95.66	23	eP	P	02 08 52.3	+1.0
IMA				pmax	pmax		
	comp=Z,37nm,0.7s,mb5.9						
IMA	Indian Mountai	95.66	23	eP	P	02 08 53.1	+1.8
	comp=Z,6.5nm,0.7s,mb5.2						
COLA	College	98.36	23	PFAKE		02 09 20.0	+16
COLA				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
MCK	McKinley	98.42	24	eP	P	02 09 02.9	-0.9
	comp=Z,2.9nm,0.9s,mb4.8						
MCK				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
FIB	Fire Island	98.91	27	PFAKE		02 09 20.0	+14
FIB				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
KDAK	Kodiak Island	99.01	30	PFAKE		02 09 20.0	+13
KDAK				LR	LR		
	comp=Z,563nm,19.0s,MS5.1						
SML	Sawmill	99.47	26	eP	P	02 09 08.5	-0.1
DBIC	Dimbokro	100.09	277	PFAKE		02 09 20.0	+7.4
DBIC				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
DIV	Divide	100.87	26	PFAKE		02 09 30.0	+15
DIV				LR	LR		
	comp=Z,4µm,19.0s,MS6.0						
MENT	Mentasta	100.88	24	eP	P	02 09 15.9	+0.9
SIT	Sitka	107.58	26	PFAKE		02 14 00.0	
SIT				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
TBI	Tubuai	113.95	114	ePP	PP	02 14 56.8	-6.6
TBI	Tubuai	113.95	114	ePS	PS	02 24 34.8	-0.5
TBI	Tubuai	113.95	114	eSS	SS	02 30 40.9	-7.0
TBI				eLR	LR	02 47 56.0	
	comp=Z,2µm,27.2s						
PPT	Papeete	114.47	108	ePP	PP	02 14 56.8	-10
PPT				ePS	PS	02 24 43.0	+2.5
PPT	Papeete	114.47	108	eLR	LR	02 48 20.4	
	comp=Z,2µm,27.0s						
PMSA	Palmer Station	116.50	190	PFAKE		02 14 20.0	+7.1
PMSA				LR	LR		
	comp=Z,891nm,22.0s,MS5.3						
OCWA	Octopus Mounta	118.76	30	PFAKE		02 14 30.0	+12
OCWA				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
SCHQ	Schefferville	120.71	348	PFAKE		02 14 30.0	+8.7
SCHQ				LR	LR		
	comp=Z,2µm,21.0s,MS5.8						
COR	Corvallis	121.36	32	PFAKE		02 14 30.0	+7.2
COR				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
NEW	Newport	121.62	25	PFAKE		02 14 30.0	+6.8
NEW				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
HUMO	Hull Mountain	122.88	33	PFAKE		02 14 30.0	+4.3
HUMO				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
YBH	Yreka Blue Hor	123.60	34	PFAKE		02 14 40.0	+13
YBH				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
MSO	Missoula	124.08	24	ePKP	PKPdf	02 14 24.4	-3.7
MSO				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
BMO	Blue Mountains	124.14	28	PFAKE		02 14 40.0	+12
BMO				LR	LR		
	comp=Z,2µm,22.0s,MS5.7						
WDC	Whiskeytown Da	124.46	35	PFAKE		02 14 40.0	+11
WDC				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
MOD	Modoc	124.79	32	ePKP	PKPdf	02 14 26.2	-3.3
MOD				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
HOPS	Hopland	125.18	37	PFAKE		02 14 40.0	+10
HOPS				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
WVOR	Wild Horse Val	125.28	31	PFAKE		02 14 40.0	+9.5
WVOR				LR	LR		
	comp=Z,2µm,21.0s,MS5.7						
DGMT	Dagmar	126.03	16	PFAKE		02 14 40.0	+8.3
DGMT				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
EFI	East Falkland	126.61	200	PFAKE		02 14 40.0	+7.3
EFI				LR	LR		
	comp=Z,453nm,19.0s,MS5.2						
LAO	LASA Array	127.02	19	ePKP	PKPdf	02 14 30.2	-3.4
LAO				LR	LR		
	comp=Z,2µm,19.0s,MS5.9						
RKT	Rikitea	127.07	117	ePP	PP	02 16 23.8	-8.6
RKT				ePS	PS	02 26 32.9	-0.5
RKT				eLR	LR	02 54 12.9	
	comp=Z,1µm,23.2s						
LKWY	Lake	127.36	23	PFAKE		02 14 40.0	+5.6
LKWY				LR	LR		
	comp=Z,4µm,19.0s,MS6.1						
CMB	Columbia Colle	127.40	36	PFAKE		02 14 40.0	+5.3
CMB				LR	LR		
	comp=Z,922nm,21.0s,MS5.4						
BMN	Battle Mountai	127.47	31	PFAKE		02 14 40.0	+5.2
BMN				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
SAO	San Andreas Ge	127.61	38	PFAKE		02 14 40.0	+4.9
SAO				LR	LR		
	comp=Z,1µm,22.0s,MS5.5						
MNV	Mina	128.40	34	ePKP	PKPdf	02 14 33.1	-3.5
MNV				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
AHID	Auburn Hatcher	128.56	25	PFAKE		02 14 50.0	+13
AHID				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
PQI	Presque Isle	128.61	346	PFAKE		02 14 50.0	+13
PQI				LR	LR		
	comp=Z,7µm,22.0s,MS6.3						
EYMN	Ely	129.02	6	PFAKE		02 14 50.0	+12
EYMN				LR	LR		
	comp=Z,3µm,19.0s,MS6.0						
TPH	Tonopah	129.17	34	PFAKE		02 14 50.0	+12
TPH				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
BW06	Boulder Array	129.19	24	PFAKE		02 14 50.0	+12
BW06				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
HWUT	Hardware Ranch	129.30	26	PFAKE		02 14 50.0	+12
HWUT				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
DAC	Darwin (Calif)	130.23	35	PFAKE		02 14 50.0	+10
DAC				LR	LR		
	comp=Z,1µm,22.0s,MS5.5						
WVL	Waterville	130.99	346	PFAKE		02 14 50.0	+8.6
WVL				LR	LR		
	comp=Z,7µm,22.0s,MS6.3						
MVU	Marysvale	131.46	29	PFAKE		02 14 50.0	+7.5
MVU				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
RCBR	Riachuelo	131.61	265	PFAKE		02 14 50.0	+6.6
RCBR				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
SRU	San Rafael	131.78	27	ePKIKP	PKPdf	02 14 39.3	-3.7
NEN	Nelson	132.24	34	ePKP	PKPdf	02 14 41.6	-2.4
NCB	Newcomb	132.50	350	PFAKE		02 14 50.0	+5.7
NCB				LR	LR		
	comp=Z,2µm,22.0s,MS5.7						
PV10	Paradox Valley	133.05	27	ePKP	PKPdf	02 14 42.6	-2.8
ISCO	Idaho Springs	133.27	23	PFAKE		02 14 50.0	+4.2
ISCO				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
HRV	Harvard--Oak R	133.38	347	PFAKE		02 14 50.0	+4.1
HRV				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
WES	Weston	133.44	347	PFAKE		02 14 50.0	+4.0
WES				LR	LR		
	comp=Z,3µm,21.0s,MS6.0						
PV01	Paradox Valley	133.46	26	PKP	PKPdf	02 14 42.1	-4.1
JFWS	Jewell Farm	134.13	6	PFAKE		02 15 00.0	+13
JFWS				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
BINY	Binghamton	134.51	351	PFAKE		02 15 00.0	+12
BINY				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
AAM	Ann Arbor	135.05	359	PFAKE		02 15 00.0	+11
AAM				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
ERPA	Erie	135.06	355	PFAKE		02 15 00.0	+11
ERPA				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
SDCO	Great Sand Dun	135.09	24	PFAKE		02 15 00.0	+11
SDCO				LR	LR		
	comp=Z,2µm,22.0s,MS5.7						
SSPA	Standing Stone	136.31	353	PFAKE		02 15 00.0	+8.6
SSPA				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
KSU1	Kansas State U	136.75	14	PKP	PKPdf	02 14 41.9	-10
TUC	Tucson	136.97	34	PFAKE		02 15 00.0	+7.2
TUC				LR	LR		
	comp=Z,785nm,21.0s,MS5.4						
ANMO	Albuquerque	137.04	27	ePKP	PKPdf	02 14 49.6	-3.2
ANMO				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
ACSO	Alum Creek Sta	137.10	358	ePKP	PKPdf	02 14 49.3	-3.5
ACSO				LR	LR		
	comp=Z,2µm,19.0s,MS5.9						
MCWV	Mont Chateau	137.49	355	PFAKE		02 15 00.0	+6.4
MCWV				LR	LR		
	comp=Z,2µm,19.0s,MS5.9						
CBN	Corbin	138.63	352	PFAKE		02 15 00.0	+4.3
CBN				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
CCM	Cathedral Cave	138.79	8	PFAKE		02 15 00.0	+4.0
CCM				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
WCI	Wyandotte Cave	139.08	2	PKP	PKPdf	02 14 49.0	-7.6
WCI				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
AMTX	Amarillo	139.08	22	PFAKE		02 15 10.0	+13
AMTX				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
TRQA	Tornquist	139.42	208	PFAKE		02 15 10.0	+13
TRQA				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
BLA	Blacksburg	139.97	355	PFAKE		02 15 10.0	+12
BLA				LR	LR		
	comp=Z,2µm,19.0s,MS5.9						
WMOK	Wichita Mounta	140.22	19	ePKP	PKPdf	02 14 47.2	-11
WMOK				LR	LR		
	comp=Z,2µm,19.0s,MS5.9						
MNTX	Cornudas Mount	140.24	29	ePKP	PKPdf	02 14 48.3	-11
MNTX				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
GDL2	Guadalupe Moun	140.30	27	ePKP	PKPdf	02 14 49.2	-10
BBSR	BB Station	140.31	334	PFAKE		02 15 10.0	+11
BBSR				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
WVT	Waverly	141.08	4	ePKP	PKPdf	02 14 50.0	-10
WVT				LR	LR		
	comp=Z,3µm,22.0s,MS6.0						
MIAR	Mount Ida	141.80	12	ePKP	PKPdf	02 14 52.7	-8.8
MIAR				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
BAO	Brasilia Array	142.02	248	P	PKPdf	02 14 59.7	-2.6
BAO				e		02 15 07.6	
BAO				e		02 15 14.7	
OXF	Oxford	142.52	7	ePKP	PKPdf	02 14 54.9	-7.8
OXF				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
LTX	Lajitas	143.02	29	ePKP	PKPdf	02 14 56.5	-7.3
LTX				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
JCT	Junction City	143.71	23	ePKP	PKPdf	02 14 58.5	-6.3
JCT				LR	LR		
	comp=Z,1µm,21.0s,MS5.7						
GOGA	Godfrey	143.91	359	PFAKE		02 15 10.0	+10
GOGA				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
NHSC	New Hope	144.01	354	PFAKE		02 15 10.0	+10
NHSC				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
NATX	Nacogdoches	144.20	15	ePKP	PKPdf	02 15 01.2	-4.6
NATX				LR	LR		
	comp=Z,2µm,22.0s,MS5.9						
LRAL	Lakeview Retre	144.21	4	ePKP	PKPdf	02 14 58.8	-6.9
LRAL				LR	LR		
	comp=Z,2µm,21.0s,MS5.9						
HKT	Hockley	145.58	18	ePKP	PKPdf	02 15 05.3	-2.9
HKT				LR	LR		
	comp=Z,2µm,21.0s,MS5.9						
DWPF	Disney	149.08	355	PFAKE		02 15 20.0	+6.0
DWPF				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
SJG	San Juan	152.50	320	PFAKE		02 15 30.0	+11
SJG				LR	LR		
	comp=Z,1µm,21.0s,MS5.7						
LVC	Limon Verde	155.30	216	PFAKE		02 15 30.0	+6.9
LVC				LR	LR		
	comp=Z,963nm,20.0s,MS5.6						
TEIG	Tepich	156.74	9	PFAKE		02 15 30.0	+4.9
TEIG				LR	LR		
	comp=Z,1µm,21.0s,MS5.7						
LPAZ	La Paz	159.20	229	ePKPdf	PKPdf	02 15 25.8	-2.4
LPAZ				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
SDV	Santo Domingo	162.02	311	PFAKE		02 15 40.0	+8.7
SDV				LR	LR		
	comp=Z,2µm,19.0s						
JTS	JuntasAbangare	166.92	3	PFAKE		02 15 40.0	+4.2
JTS				LR	LR		
	comp=Z,333nm,22.0s						
NNA	Nana	168.27	219	PFAKE		02 15 40.0	+3.4
NNA				LR	LR		
	comp=Z,489nm,20.0s						
OTAV	Otavalo	173.35	297	PFAKE		02 15 50.0	+10
OTAV				LR	LR		
	comp=Z,2µm,19.0s						

MAN 01 01:56:17.4, 9.18N×126.47E, h10km, mb4.5, ML3.3, MS3.2, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	0.86	256	eP	Pb	01 56 34.0	-0.1
BUTP				eS	Sb	01 56 44.7	-0.7
BIPH	Bislig	0.99	186	⇓eP	Pb	01 56 35.5	-0.8
BIPH				eS	Sb	01 56 48.7	-0.6
SCPH	Surigao	1.14	302	i P	Pb	01 56 38.0	-0.7
SCPH				eS	Sb	01 56 48.1	-5.3
MSLP	Maasin	1.85	301	eP	Pn	01 56 49.6	0.0
MSLP				eS	Sn	01 57 12.3	-0.8
CGP	Cagayan de Oro	1.90	248	⇑eP	Pn	01 57 00.1	+10
CGP				eS	Sn	01 57 10.6	-3.8
BUKP	Musuan	1.90	227	eP	Pn	01 56 50.1	-0.2
BUKP				eS	Sn	01 57 12.7	-1.8
BESP	Borongan	2.61	337	eP	Pn	01 57 00.5	0.0
TBP	Tagbilaran	2.62	281	eP	Pn	01 56 59.7	-0.9
TBP				eS	Sn	01 57 28.0	-4.8
LLP	Lapu-Lapu	2.71	295	⇑eP	Pn	01 57 02.1	+0.2
LLP				eS	Sn	01 57 33.2	-2.0
DCPH	Dipolog City	3.14	259	⇑iP	Pn	01 57 07.6	-0.3
DCPH				i S	Sn	01 57 42.2	-3.6
PAGZ	Pagadian	3.33	247	eP	Pn	01 57 11.2	+0.5
GUIM	Jordan	4.08	291	eP	Pn	01 57 20.4	-1.0

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*THR **01** 02:14:43.5±0.8, 27.68N×52.91E, h14km±12km, ML3.1*
*CSEM **01** 02:14:44.8±0.2, 27.75N×52.98E, h16km, ML3.7/1, Error ellipse: s-maj=6.0km s-min=4.1km az=149.0*
ISC 01 02:14:45.0±0.8**, 27.74N**±0.06×**52.93E**±0.08**, h14**km**, n10, σ0.69/14, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	0.54	5	ePG	Pg	02 14 55.1	-1.0
GHIR				eSG	Sg	02 15 04.3	+0.7
GHIR				AML	AML	02 15 07.9	
	comp=N,1µm,0.4s						
GHIR				AML	AML	02 15 09.1	
	comp=E,1µm,0.2s						
GHIR	Ghir-Karzin	0.54	5	ePg	Pg	02 14 55.1	-1.0
	SNR=90						
GHIR				eSg	Sg	02 15 04.3	+0.7
	comp=E,1µm,0.2s,SNR=90						
BNDS	Bandar-Abbas	2.90	96	ePN	Pn	02 15 31.9	+0.2
BNDS				eSG	Sg	02 16 14.5	-7.1
BNDS				AML	AML	02 16 23.7	
	comp=N,44nm,0.5s						
BNDS				AML	AML	02 16 26.3	
	comp=E,65nm,0.7s						
BNDS	Bandar-Abbas	2.90	96	ePn	Pn	02 15 31.9	+0.2
	SNR=52						
BNDS				eSg	Sg	02 16 14.5	-7.1
	comp=E,65nm,0.7s,SNR=90						
KRBR	Kerman	4.03	56	ePN	Pn	02 15 47.6	-0.2
KRBR	Kerman	4.03	56	ePn	Pn	02 15 47.6	-0.2
	SNR=52						
MZLS	Mizel	7.88	244	P	Pn	02 16 42.7	+0.8
ARSS	Ar Rass	8.86	260	P	P	02 16 56.2	+0.7
HILS	Ha'il	9.89	271	P	P	02 17 08.8	-1.1
TATS	Tathlith	11.90	229	P	P	02 17 37.1	-0.2

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*CSEM **01** 02:40:12.7±0.1, 36.01N×28.57E, h58km±2km, MD3.6, Error ellipse: s-maj=2.3km s-min=1.7km az=35.0*
*NEIC **01** 02:40:14.2, 36.11N×28.46E, h63km, After ATH.*
*ATH **01** 02:40:14.2, 36.11N×28.46E, h63km±3km*
*ISK **01** 02:40:14.3, 36.11N×28.46E, h77km, MD3.6*
*HLW **01** 02:40:16.3, 35.84N×28.51E, h33km, Mb4.0*
*NIC **01** 02:40:18.3±0.3, 36.22N×28.89E, h25km, mb4.1, ML3.7, MW3.2*
ISC 01 02:40:12.9±0.3**, 35.95N**±0.03×**28.60E**±0.03**, h81**km±9km**, n120, σ1.37/140, 15C-2D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.47	304	⇑iP	P	02 40 25.4	-1.1
ARG				eS	S	02 40 32.7	-4.1
ARG	Arkhangelos	0.47	304	⇑iP	P	02 40 25.4	-1.1
ARG				eS	S	02 40 32.7	-4.1
FETY	Fethiye	0.78	29	i PG	P	02 40 29.9	+0.1
FETY	Fethiye	0.78	29	i Pg	P	02 40 29.9	+0.1
DALT	Dalyan (Mudla)	0.81	2	i PG	P	02 40 30.6	+0.5
DALT				i SG	S	02 40 41.4	-1.5
DALT	Dalyan (Mudla)	0.81	2	i Pg	P	02 40 30.6	+0.5
DALT				i Sg	S	02 40 41.4	-1.5
KSL	Kastellorizon	0.82	76	eP	P	02 40 32.0	+1.8
KSL	Kastellorizon	0.82	76	eP	P	02 40 32.0	+1.8
KARP	Karpathos	1.24	251	⇑iP	P	02 40 36.8	+1.5
KARP				eS	S	02 40 51.9	-0.2
KARP	Karpathos	1.24	251	⇑iP	P	02 40 36.8	+1.5
KARP				eS	S	02 40 51.9	-0.2
ELL	Elmali	1.32	53	PN	P	02 40 38.5	+2.1
ELL	Elmali	1.32	53	ePn	P	02 40 38.5	+2.1
NISR	Nisiros	1.36	299	eP	P	02 40 35.5	-1.5
NISR	Nisiros	1.36	299	eP	P	02 40 35.5	-1.5
BDRM	Kayabasi	1.45	320	i P	P	02 40 37.4	-0.7
BDRM				i S	S	02 40 52.5	-4.3
DNZL	Cakiroluk	1.77	11	i P	P	02 40 42.7	+0.3
DNZL				i S	S	02 41 03.2	-0.8
AYDN	Tasoluk	1.80	341	i P	P	02 40 43.2	+0.5
AYDN				i S	S	02 41 02.4	-2.3
DENT	Denizli	1.83	11	PN	P	02 40 43.8	+0.7
DENT	Denizli	1.83	11	ePn	P	02 40 43.8	+0.7
BCK	Bucak	2.19	46	PN	P	02 40 50.2	+2.1
BCK	Bucak	2.19	46	ePn	P	02 40 50.2	+2.1
SMG	Samos	2.25	322	eP	P	02 40 48.3	-0.7
SMG	Samos	2.25	322	eP	P	02 40 48.3	-0.7
ISP	Isparta	2.43	38	eP	P	02 40 52.3	+0.9
KHL	Karahalli	2.48	17	PN	P	02 40 52.3	+0.2
KHL	Karahalli	2.48	17	ePn	P	02 40 52.3	+0.2
NPS	Neapolis	2.53	255	eP	P	02 40 53.3	+0.4
NPS				eS	S	02 41 20.6	-2.1
NPS	Neapolis	2.53	255	eP	P	02 40 53.3	+0.4
NPS				eS	S	02 41 20.6	-2.1
MANT	Manisa	2.53	359	i P	P	02 40 51.9	-1.0
MANT				i S	S	02 41 17.9	-4.8
IZM	Izmir	2.67	337	PN	P	02 40 54.4	-0.3
IZM	Izmir	2.67	337	ePn	P	02 40 54.4	-0.3
KDAG	Bornova	2.67	337	i P	P	02 40 53.2	-1.6
KDAG				i S	S	02 41 21.1	-5.0
APE	Apeiranthos	2.71	295	ePN	P	02 40 54.8	-0.6
APE	Apeiranthos	2.71	295	eP	P	02 40 55.4	0.0
APE	Apeiranthos	2.71	295	ePn	P	02 40 54.8	-0.6
APE	Apeiranthos	2.71	295	eP	P	02 40 55.4	0.0
BLCB	Balcova	2.73	333	PN	P	02 40 55.0	-0.6
BLCB	Balcova	2.73	333	ePn	P	02 40 55.0	-0.6
AKS	Akhisar	2.99	348	PN	P	02 40 58.5	-0.7
AKS	Akhisar	2.99	348	ePn	P	02 40 58.5	-0.7
AKMC	Akamas	3.18	106	⇑P	P	02 41 03.9	+2.0
AKMC	Akamas	3.18	106	⇑iP	P	02 41 03.9	+2.0
PPCY	Paphos	3.24	108	P	P	02 41 04.6	+1.9
PPCY	Paphos	3.24	108	P	P	02 41 04.6	+1.9
ALT	Altintas	3.32	21	PN	P	02 41 04.2	+0.3
ALT	Altintas	3.32	21	ePn	P	02 41 04.2	+0.3
ALFC	Alevga	3.35	103	P	P	02 41 05.6	+1.3
	7.0nm,0.2s						
ALFC				S	S	02 41 43.7	+0.6
ALFC	Alevga	3.35	103	P	P	02 41 05.6	+1.3
	7.0nm,0.2s						
ALFC				S	S	02 41 43.7	+0.6
KONT	Konya--Tatoy	3.61	55	PN	P	02 41 09.7	+1.9
KONT	Konya--Tatoy	3.61	55	ePn	P	02 41 09.7	+1.9
VAM	Vamos	3.63	263	eP	P	02 41 07.9	-0.2
VAM	Vamos	3.63	263	eP	P	02 41 07.9	-0.2
DST	Dursunbey	3.65	0	PN	P	02 41 08.2	-0.2
DST	Dursunbey	3.65	0	ePn	P	02 41 08.2	-0.2
SZAC	Souni-Zanaja	3.70	108	⇑P	P	02 41 11.0	+1.9
	8.2nm,0.2s						
SZAC				S	S	02 41 52.1	+0.5
SZAC	Souni-Zanaja	3.70	108	⇑eP	P	02 41 11.0	+1.9
	8.2nm,0.2s						
SZAC				S	S	02 41 52.1	+0.5
MAMC	Mammari	3.84	100	P	P	02 41 12.6	+1.5
MAMC	Mammari	3.84	100	P	P	02 41 12.6	+1.5
KIZT	Kizilcal	3.92	41	ePN	P	02 41 13.3	+1.2
KIZT	Kizilcal	3.92	41	ePn	P	02 41 13.3	+1.2
ESKT	Eskisehir	3.98	26	ePN	P	02 41 13.5	+0.5
ESKT	Eskisehir	3.98	26	ePn	P	02 41 13.5	+0.5
CSS	Prodhromos	3.98	103	P	P	02 41 14.3	+1.3
CSS				S	S	02 41 58.3	-0.5
CSS	Prodhromos	3.98	103	eP	P	02 41 14.3	+1.2
CSS	Prodhromos	3.98	103	P	P	02 41 14.3	+1.3
CSS				S	S	02 41 58.3	-0.5
KCT	Karacabey	4.31	357	ePN	P	02 41 17.0	-0.6
KCT	Karacabey	4.31	357	ePn	P	02 41 17.0	-0.6
VLI	Veliai	4.64	281	eP	P	02 41 22.3	+0.2
VLI	Veliai	4.64	281	eP	P	02 41 22.3	+0.2
DABA	Dabaa	4.94	183	P	P	02 41 26.6	+0.3
HMAT	Matruh	5.01	195	⇑P	P	02 41 27.7	+0.5
HMAT	Matruh	5.01	195	P	P	02 41 27.7	+0.5
SLUM		5.27	213	P	P	02 41 31.0	+0.2
SLUM				S	S	02 42 25.4	-5.4
SLUM		5.27	213	P	P	02 41 31.0	+0.2
HBRG	Burj al 'Arab	5.46	169	⇓P	P	02 41 35.0	+1.6
HBRG	Burj al 'Arab	5.46	169	P	P	02 41 35.0	+1.6
AANS		6.11	157	⇓P	P	02 41 44.1	+1.7
HNTI	Hanita	6.13	116	Sn	S	02 42 49.4	-2.7
HNTI	Hanita	6.13	116	Sn	S	02 42 49.4	-2.7
HAF	Haifa	6.18	119	Sn	S	02 42 51.5	-1.8
HAF	Haifa	6.18	119	Sn	S	02 42 51.5	-1.8
OFRI	'Ofer	6.24	120	Sn	S	02 42 52.1	-2.7
OFRI	'Ofer	6.24	120	Sn	S	02 42 52.1	-2.7
KSDI	Kefar Szold	6.44	113	Sn	S	02 42 57.1	-2.6
KSDI	Kefar Szold	6.44	113	Sn	S	02 42 57.1	-2.6
SLTI	Sal'it	6.50	123	Sn	S	02 42 58.1	-3.0
SLTI	Sal'it	6.50	123	Sn	S	02 42 58.1	-3.0
FYM	Al Fayyum	6.57	161	⇑P	P	02 41 50.3	+1.5
FYM	Al Fayyum	6.57	161	P	P	02 41 50.3	+1.5
MMLI	Mount Malkishu	6.65	120	Sn	S	02 43 03.4	-1.4
MMLI	Mount Malkishu	6.65	120	Sn	S	02 43 03.4	-1.4
KZIT	Kziot	6.98	134	Sn	S	02 43 09.4	-3.7
KZIT	Kziot	6.98	134	Sn	S	02 43 09.4	-3.7
SUZ		7.05	149	⇑P	P	02 41 56.6	+1.0
SUZ		7.05	149	P	P	02 41 56.6	+1.1
SWA1		7.10	201	P	P	02 41 57.0	+0.9
SWA1		7.10	201	P	P	02 41 57.0	+0.8
DRGI	Dragot	7.13	126	Sn	S	02 43 14.5	-2.2
DRGI	Dragot	7.13	126	Sn	S	02 43 14.5	-2.2
MASH	Mash'abbe Sade	7.15	132	Sn	S	02 43 15.0	-2.1
MASH	Mash'abbe Sade	7.15	132	Sn	S	02 43 15.0	-2.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SWA2		7.20	203	⇑P	P	02 41 57.7	+0.2
SWA2		7.20	203	P	P	02 41 57.7	+0.2
MZDA	Masada	7.29	127	Sn	S	02 43 18.5	-2.2
MZDA	Masada	7.29	127	Sn	S	02 43 18.5	-2.2
ZAF		7.44	152	⇑P	P	02 42 01.6	+0.8
ZAF		7.44	152	P	P	02 42 01.6	+0.8
ZNM		7.48	150	⇑P	P	02 42 02.5	+1.1
ZNM		7.48	150	P	P	02 42 02.5	+1.1
PRNI	Paran	7.74	134	Sn	S	02 43 28.4	-3.4
PRNI	Paran	7.74	134	Sn	S	02 43 28.4	-3.4
KMTI	Karmit	7.77	137	Sn	S	02 43 28.6	-3.9
KMTI	Karmit	7.77	137	Sn	S	02 43 28.6	-3.9
MBH	Mount Berech	8.12	137	Sn	S	02 43 38.0	-3.0
MBH	Mount Berech	8.12	137	Sn	S	02 43 38.0	-3.0
EIL	Elat	8.23	138	Sn	S	02 43 40.2	-3.6
EIL	Elat	8.23	138	Sn	S	02 43 40.2	-3.6
AQBJ	Aqaba	8.24	137	Sn	S	02 43 41.4	-2.6
HFRF	Wahat Farafira	8.78	182	⇑P	P	02 42 20.2	+1.2
HFRF	Wahat Farafira	8.78	182	P	P	02 42 20.2	+1.1

*NEIC **01** 02:54:20.8±0.6, 8.41N×91.52E, h30^{km}, mb4.9/16, Error ellipse: s-maj=17.8km s-min=10.2km az=57.0*
*BJI **01** 02:54:22.7, 8.40N×91.50E, h29^{km}, mB5.1, mb4.9, Ms4.6, Msz4.6*
ISC 01 02:54:21.1±0.6, **8.40N**±0.07×**91.83E**±0.09, **h33**^{km}, **(h30**^{km}±1.4^{km}**:pP-P), n65,** σ1^s**48**/43, **mb4.8**/18, **MS4.5**/1, **1D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	12.15	34	eP	P	02 57 14.2	-0.7
	14nm,0.8s						
VIS	Vishakhapatnam	12.42	319	i P	P	02 57 12.2	-6.2
VIS				i S	S	02 59 13.7	-23
KKTK	Khon Kaen	13.32	53	P	P	02 57 31.0	+0.6
NANT	Nan	13.46	39	P	P	02 57 31.5	-0.7
HYB	Hyderabad	15.73	306	i P	P	02 58 07.0	+5.0
	40nm,1.0s						
SHL	Shillong	17.07	0	e	P	02 58 15.0	-3.9
SHL				eS	S	03 01 29.0	+2.8
MNGI	Mangalore	17.30	287	i		02 58 31.1	
PKI	Pulchoki	20.01	343	eP	P	02 58 54.2	+0.3
DMN	Daman	20.13	342	eP	P	02 58 55.6	+0.4
POO	Poona	20.15	302	⇓i	P	02 59 01.0	+5.5
	70nm,1.0s						
POO				i		03 03 39.0	
GUN	Gumba	20.20	345	eP	P	02 58 57.3	+1.4
BHPL	Bhopal	20.21	319	e	P	02 59 00.2	+4.2
BHPL				e		02 59 02.0	
	comp=Z,21nm,0.7s						
BHPL				eS	S	03 02 30.7	-5.4
KKN	Kakani	20.25	343	eP	P	02 58 57.6	+1.1
GKN	Gorkha	20.64	342	eP	P	02 58 59.9	-0.6
KOLN	Koldanda	20.77	339	eP	P	02 59 00.8	-1.1
LSA	Lhasa	21.20	358	P	P	02 59 05.8	-0.4
LSA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
LSA	Lhasa	21.20	358	eP	P	02 59 04.0	-2.2
	comp=Z,24nm,0.6s,mb4.7						
NDI	New Delhi	24.42	328	e		02 59 49.0	
DDI	Dehra Dun	25.33	331	eP	P	02 59 49.6	+2.9
DDI				e		03 01 00.0	
ENH	Enshi	27.32	35	eP	P	03 00 05.6	+0.5
	comp=Z,31nm,0.7s,mb4.9						
LZH	Lanzhou	29.66	20	eP	pP	03 00 33.5	-2.0
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,102nm,5.2s						
LZH				LR	LR		
	comp=N,797nm,13.8s						
LZH				LR	LR		
	comp=Z,1µm,17.5s,MS4.5						
XAN	Xi'an	29.98	29	P	P	03 00 31.6	+2.7
XAN				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.8						
AAK	Ala-Archa	37.35	339	eP	P	03 01 31.2	-1.1
	comp=Z,4.1nm,0.9s,mb4.3						
BJT	Baijiatuau	38.26	31	P	P	03 01 43.3	+3.3
	comp=Z,10nm,0.6s,mb4.7						
MBWA	Marble Bar	40.18	137	P	P	03 01 57.4	+1.3
ULN	Ulaanbaatar	41.40	16	eP	P	03 02 01.3	-4.6
	comp=Z,1.1nm,0.7s						
ULN				e	pP	03 02 10.0	-5.7
MUN	Mundaring	46.42	151	eP	P	03 02 52.5	+5.8
	comp=Z,14nm,0.7s,mb5.0						
KLBR	Kellerberrin	46.87	149	eP	P	03 02 54.5	+4.3
	comp=Z,16nm,0.9s,mb5.0						
HIA	Hailar	46.97	25	eP	P	03 02 47.6	-3.1
	comp=Z,8.1nm,0.8s,mb4.7						
BRVK	Borovoye	47.84	343	eP	P	03 02 56.3	-1.2
	comp=Z,2.2nm,0.7s,mb4.3						
BRVK				e	pP	03 03 05.4	-2.0
WRAB	Tennant Creek	50.44	124	eP	P	03 03 17.1	-0.9
	comp=Z,10nm,0.7s,mb5.0						
WB2	Warramunga Arr	50.45	124	eP	P	03 03 17.5	-0.6
MAT	Matsushiro	50.53	49	eP	pP	03 03 25.0	-3.4
MAT	Matsushiro	50.53	49	P	pP	03 03 24.8	-3.6
ASPA	Alice Springs	52.02	129	eP	P	03 03 29.9	+0.1
GNI	Garni	52.44	315	P	P	03 03 29.9	-2.9
	comp=Z,25nm,1.3s,mb5.0						
ARU	Arti	54.53	338	eP	P	03 03 45.4	-2.7
ARU				e	pP	03 03 55.3	-2.8
KIV	Kislovodsk	55.40	318	P	P	03 03 50.3	-4.2
	comp=Z,12nm,0.9s,mb4.9						
KIV				e		03 04 05.8	
EIL	Elat	57.18	300	P	P	03 04 01.3	-6.2
	comp=Z,20nm,1.3s,mb5.0						
EIL				e		03 04 21.0	
YSS	Yuzh-Sakhalins	57.80	39	eP	P	03 04 12.7	+1.1
	comp=Z,18nm,0.8s,mb5.1						
YAK	Yakutsk	60.24	19	P	P	03 04 25.7	-2.7
	comp=Z,18nm,0.8s,mb5.2						
YAK				e		03 04 32.9	
CTA	Charters Tower	60.57	119	eP	P	03 04 31.4	+0.3
	comp=Z,8.5nm,0.9s,mb4.9						
CTAO	Charters Tower	60.57	119	eP	P	03 04 30.6	-0.5
ISP	Isparta	62.31	308	P	P	03 04 44.4	+1.8
JOF	Joensuu	69.39	335	ep	pP	03 05 36.4	-1.4
	comp=Z,6.6nm,0.7s						
CRVS	Cervenica-Dubn	70.83	319	epP	pP	03 05 44.8	-1.9
KAF	Kangasniemi	71.28	333	ep	pP	03 05 48.4	-0.9
	comp=Z,5.6nm,0.9s						
OJC	Ojcow	72.10	320	eP	pP	03 05 55.0	+0.7
OJC	Ojcow	72.10	320	eP	pP	03 05 55.0	+0.7
VYHS	Vyhne	72.49	318	esP	sP	03 05 57.1	-3.2
OKC	Ostrava-Krasne	73.10	320	eP	pP	03 06 01.6	+1.3
ZST	Bratislava	73.60	318	esP	sP	03 06 04.8	-2.1
DPC	Dobruska-Polom	74.33	320	eP	pP	03 06 09.4	+2.0
UPC	Upice	74.54	320	eP	pP	03 06 08.8	+0.2
PRU	Pruhonice	75.44	319	eP	pP	03 06 15.2	+1.4
PVCC	Panska Ves	75.46	320	eP	pP	03 06 16.0	+2.1
BRG	Berggiesshubel	75.88	320	eP	pP	03 06 19.7	+3.4
KHC	Kasperske Hory	76.01	318	eP	pP	03 06 18.5	+1.5
KHC				ex	x	03 06 39.5	
CLL	Collm	76.50	321	eP	pP	03 06 21.0	+1.2
CLL	Collm	76.50	321	e*SP	sP	03 06 21.0	-2.5
NKC	Novy Kostel	76.80	320	eP	pP	03 06 23.6	+2.1
NB2	NORSAR Subarra	78.15	331	P	pP	03 06 26.5	-2.3
	comp=Z,2.2nm,0.7s,baz=95,slow=5.0						
LPG	La Plagne	80.62	315	eP	P	03 06 34.4	+2.2
	comp=Z,4.8nm,1.0s,mb4.1						
IMA	Indian Mountai	92.00	22	eP	P	03 07 27.9	+0.4
JCT	Junction City	139.76	16	PKP	PKPdf	03 13 47.5	+1.0

MAN 01 03:00:42.8, 10.89N×126.98E, h99^{km}, mb4.3, ML3.1, MS2.9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BESP	Borongan	1.67	295	eP	P	03 01 08.2	-3.3
BESP				eS	S	03 01 24.9	-7.9
SCPH	Surigao	1.83	233	i P	P	03 01 13.5	-0.1
SCPH				eS	S	03 01 38.1	+1.7
MSLP	Maasin	2.21	250	eP	P	03 01 19.4	+0.7
MSLP				eS	S	03 01 42.7	-2.8
OCLP	Ormoc	2.33	274	eP	P	03 01 20.5	+0.1
CNP	Catarman	2.78	306	eP	P	03 01 24.2	-2.4
TBP	Tagbilaran	3.29	249	eP	P	03 01 33.3	-0.2
PVCP	Virac	3.85	315	eP	P	03 01 41.1	-0.1

DJA 01 03:05:34.4±0.6, **7.37S**×**106.01E, h33**^{km}**, mb5.1**/1, **MD4.2**/2, **ML3.6**/3, **4C-3D, Error ellipse: s-maj=19.2km s-min=6.4km az=37.0, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PULI	Pulasari	1.01	358	⇑iP	P	03 05 51.9	-0.4
PACI	Pancar Gunung	1.18	49	⇑ePn	Pn	03 05 53.4	-1.4
	36nm,0.2s						
SINI	Singah	1.52	77	⇓ePn	Pn	03 05 58.8	-0.8
	14nm,0.2s						
SINI				eSn	Sn	03 06 16.5	-1.9
PENI	Pendagan	1.97	335	⇓ePn	Pn	03 06 05.3	-0.9
	297nm,0.2s						
SRDI	Scrawed	8.13	98	⇑eP	P	03 07 33.2	+0.3
	37nm,0.2s						
KELI	Kelakatan	8.44	96	⇓eP	P	03 07 38.2	+0.9
RATI	Rata	9.52	99	⇑eP	P	03 07 50.8	-1.5

*NIED **01** 03:38:00, 37.30N×141.80E, h35^{km}, Mw4.0 Best double couple: Mo1.23×10^{15} NP1:φs21°, δ71°, λ80°. NP2:φs229°, δ21°, λ116°.*
*JMA **01** 03:38:04.7±0.2, 37.33N×141.77E, h43^{km}±3^{km}, M4.1 JMA Felt I J1.*
ISC 01 03:38:04.9±1.6, **37.32N**±0.07×**141.8E**±0.1, **h43**^{km}**, n11,** σ**0**^{s}**78**/17, **8D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.70	274	⇓P	P	03 38 18.4	+0.1
JFK				S	S	03 38 27.9	-0.3
ONAJ	Iwakimizuishiy	0.79	254	⇓P	P	03 38 19.7	+0.1
ONAJ				S	S	03 38 29.8	-0.7
JMM	Marumori	0.93	306	P	P	03 38 21.6	-0.1
JFT	Otama	1.14	280	⇓P	P	03 38 25.5	+0.9
JFT				S	S	03 38 40.1	+0.8
JIO	Ouri	1.17	344	⇓P	P	03 38 24.7	-0.3
JIO				S	S	03 38 38.4	-1.7
JHO	Hitachi	1.18	233	⇓P	P	03 38 24.8	-0.4
JHO				eS	S	03 38 38.8	-1.5
JOU	Okura	1.35	321	⇓P	P	03 38 28.0	+0.3
JYS	Shirataka	1.61	304	P	P	03 38 32.1	+0.8
JFY	Yanaizu	1.63	274	⇓P	P	03 38 32.4	+0.8
JMK	Ichinoseki	1.68	346	⇓P	P	03 38 32.4	+0.1
MAT	Matsushiro	2.94	256	P	P	03 38 51.3	+1.0
MAT				S	S	03 39 31.2	+6.5

MAN 01 03:59:10.9, 10.07N×126.59E, h13^{km}, mb4.6, ML3.5, MS3.4, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	1.12	255	eP	Pb	03 59 30.2	-1.4
SCPH				eS	Sb	03 59 45.1	-0.7
BUTP	Butuan	1.45	221	eP	Pn	03 59 36.2	-0.7
BUTP				eS	Sb	03 59 54.9	-0.4
MSLP	Maasin	1.70	272	eP	Pn	03 59 39.8	-0.7
MSLP				eS	Sn	04 00 03.4	+1.1
BESP	Borongan	1.90	324	eP	Pn	03 59 42.9	-0.5
BESP				eS	Sn	04 00 04.8	-2.4
LLP	Lapu-Lapu	2.59	276	⇓iP	Pn	03 59 54.1	+0.8
LLP				eS	Sn	04 00 25.4	+0.5
BUKP	Musuan	2.64	215	eP	Pn	03 59 54.0	0.0
TBP	Tagbilaran	2.71	262	eP	Pn	03 59 54.6	-0.4
GUIM	Jordan	3.97	278	eP	Pn	04 00 12.5	-0.4

*BJI **01** 04:03:09.6, 5.30N×94.31E, h52^{km}, mB5.8, mb5.7, Ms5.6, Msz5.4*
*MOS **01** 04:03:09.3±1.1, 5.53N×94.42E, h33^{km}, mb6.0/85, MS5.3/69, Error ellipse: s-maj=8.1km s-min=3.7km az=127.0*
*NEIC **01** 04:03:11.0±0.1, 5.47N×94.40E, h36^{km}, mb5.8/124, ME5.6, MS5.5/121, MW5.7, Error ellipse: s-maj=5.5km s-min=3.1km az=214.0 Broadband fault plane solution: P waves. NP1:φs130°, δ75°, λ75°. NP2:φs356°, δ21°, λ134°. Principal axes: T Plg57°, Azm20°; N Plg0°, Azm0°; P Plg28°, Azm232°; Moment Tensor Solution. s26 Moment tensor: Scale 10^{17} Nm; Mrr1.60; Mθθ0.77; Mφφ-2.37; Mrθ2.43; Mθφ0.89; Mφr-1.53; Best double couple: Mo3.7×10^{17} NP1:φs17°, δ31°, λ151°. NP2:φs132°, δ75°, λ62°. Principal axes: T 3.71, Plg51°, Azm10°; N -.1, Plg27°, Azm140°; P -3.61, Plg25°, Azm244°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*DHMR **01** 04:03:10.9±3.0, 5.37N×94.38E, h30^{km}, mb5.5*
*GUC **01** 04:03:10.9±0.0, 5.47N×94.40E, h36^{km}, mb5.8(NEIC), MS5.5(NEIC), MW5.7(NEIC)*
*HRVD **01** 04:03:11.0±0.2, 5.36N×94.29E, h35^{km}, MW5.7/67, Centroid moment Tensor Solution. LP body waves: s64,c123;Mantle waves: s67,c163; Half duration: 1^{s}6 Moment tensor: Scale 10^{17}Nm; Mrr2.41±.05; Mθθ-0.80±.04; Mφφ-1.61±.04; Mrθ2.19±.05; Mθφ1.56±.03; Mφr-1.73±.06; Best double couple: Mo3.831×10^{17} NP1: φs335°, δ23°, λ112°. NP2:φs131°, δ69°, λ81°. Principal axes: T 3.678, Plg65°, Azm26°; N .304, Plg9°, Azm135°; P -3.984, Plg23°, Azm228°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISC 01 04:03:10.4±0.1, **5.44N**±0.03×**94.43E**±0.02, **h46**^{km}**, h46**^{km}±1.3^{km}**:pP-P, n776,** σ**1**^{s}**03**/654, **mb5.8**/164, **MS5.4**/146, **152C-24D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNG	Songkhla	6.39	74	P	P	04 04 44.0	-0.4
	740nm,1.0s						
KKTK	Khon Kaen	13.61	37	P	P	04 06 24.0	+1.0
CM31	Chiang Mai Arr	13.67	18	eP	P	04 06 25.1	+1.3
	145nm,0.6s						
CHG	Chiang Mai	14.01	18	⇑P	P	04 06 22.9	-5.3
	147nm,1.1s						
CHG				S	S	04 09 12.6	+10
UBT	Ubonrachathani	14.26	46	P	P	04 06 46.5	+15
NANT	Nan	14.62	24	⇑P	P	04 06 40.0	+3.7
	569nm,1.0s						
PENI	Pendagan	15.31	135	⇑eP	P	04 06 44.4	-0.9
PENI				pmax	pmax		
	comp=Z,76nm,0.5s						
PENI	Pendagan	15.31	135	⇑eP	P	04 06 44.4	-0.9
	comp=Z,76nm,0.5s						
PENI				epP		04 06 46.9	
MDRS	Chennai	15.91	299	eP	P	04 06 52.0	-0.9
MDRS				eS	S	04 09 31.0	-17
MDRS				e		04 10 03.0	
VIS	Vishakhapatnam	16.33	319	i	P	04 06 47.5	-11
VIS				i S	S	04 09 38.9	-19
KOD	Kodaikanal	17.46	287	⇓iP	P	04 07 12.0	-0.4
KOD				e		04 07 17.7	
	comp=Z,205nm,1.8s						
KOD				eS	S	04 10 08.3	-15
TRD	Trivandrum	17.60	281	eP	P	04 07 11.7	-2.5
TRD				e		04 07 17.1	
	comp=Z,204nm,1.6s						
TRD				eS	S	04 10 13.3	-13
CAL	Calcutta	17.99	341	eP	P	04 07 15.7	-3.2
CAL				e		04 10 41.7	
AGT	Agartala	18.59	351	⇓iP	P	04 07 32.0	+5.7
AGT				i		04 07 58.0	
IMP	Imphal	19.24	359	eP	P	04 07 33.3	-0.5
HYB	Hyderabad	19.57	309	⇑eP	P	04 07 38.0	+0.6
HYB				pmax	pmax		
	comp=Z,100nm,1.0s						
HYB	Hyderabad	19.57	309	⇑iP	P	04 07 38.0	+0.6
	comp=Z,100nm,1.0s						
HYB				e		04 10 58.0	
HYB				eS	S	04 11 15.0	+4.6
HYB				LR	LR	04 14 12.0	
	comp=Z,4.9nm,20.0s						
SHL	Shillong	20.16	353	⇑i	P	04 07 39.5	-4.3
SHL				eS	S	04 11 23.3	+0.7
SHL				e		04 11 30.0	
QIZ	Qiongzhong	20.21	47	P	P	04 07 45.1	+0.9
QIZ				PP	PP	04 08 05.8	+0.8
QIZ				S	S	04 11 25.2	+1.7
QIZ				XS		04 11 38.2	
QIZ				SS	SS	04 11 53.6	-0.4
QIZ				AMB	AMB		
	comp=Z,194nm,1.4s						
QIZ				LR	LR		
	comp=N,9µm,15.9s,MS5.4						
QIZ				LR	LR		
	comp=E,11µm,16.5s,MS5.4						
QIZ				LR	LR		
	comp=Z,13µm,18.9s,MS5.3						
QIZ	Qiongzhong	20.21	47	eP	P	04 07 44.9	+0.6
	comp=Z,565nm,1.6s						
QIZ				LR	LR		
	comp=Z,13µm,19.0s,MS5.3						
BLSP	Bilaspur	20.42	326	⇑iP	P	04 07 46.9	+0.5
BLSP				e		04 07 51.6	
	comp=Z,1µm,1.5s						
BLSP				AMb	AMB	04 07 52.0	
	comp=Z,1µm,1.6s						
BLSP				eS	S	04 11 24.4	-3.2
MNGI	Mangalore	20.73	292	eP	P	04 07 51.3	+1.7
MNGI				eS	S	04 11 28.1	-5.4
MNCY	Minicoy	21.42	279	i		04 08 06.0	
NGP	Nagpur	21.60	318	eP	P	04 07 59.8	+1.4
NGP				i		04 08 02.9	
LATR	Latur	21.69	308	eP	P	04 08 01.0	+1.6
LATR				e		04 11 52.5	
GOA	Goa	22.57	298	⇑eP	P	04 08 05.9	-2.3
GOA				eP		04 08 07.8	
GOA				e		04 08 36.6	
	comp=Z,450nm,1.9s						
GOA				e		04 12 20.8	
KAD	Karad	23.05	302	eP	P	04 08 12.4	-0.5
KAD				eS	S	04 12 11.5	-4.9
BATP	Bataraza	23.43	80	eP	P	04 08 17.2	+0.7
PKI	Pulchoki	23.63	340	eP	P	04 08 18.3	0.0
	comp=Z,836nm,1.2s,mb6.0						
DMN	Daman	23.77	339	eP	P	04 08 19.4	-0.3
	comp=Z,5.1nm,0.0s,mb5.3						
GUN	Gumba	23.78	341	eP	P	04 08 19.9	+0.1
	comp=Z,2µm,1.2s,mb6.3						
KKN	Kakani	23.87	340	eP	P	04 08 20.4	-0.3
	comp=Z,1µm,1.3s,mb6.2						
SRDI	Scrawed	24.03	125	⇑eP	P	04 08 22.1	-0.3
SRDI				pmax	pmax		
	comp=Z,80nm,0.5s,mb5.4						
SRDI	Scrawed	24.03	125	⇑eP	P	04 08 22.1	-0.3
	comp=Z,80nm,0.5s,mb5.4						
BHPL	Bhopal	24.13	319	i P	P	04 08 24.4	+1.2
BHPL				⇑i		04 08 25.7	
BHPL				i		04 13 02.2	
	comp=Z,264nm,1.9s						
KELI	Kelakatan	24.17	124	⇓eP	P	04 08 24.5	+0.7
GKN	Gorkha	24.29	339	eP	P	04 08 25.1	+0.3
LSA	Lhasa	24.33	353	P	P	04 08 26.3	+1.1
LSA				AP		04 08 35.1	
LSA				XP		04 08 39.5	
LSA				PP	PP	04 08 59.3	-2.1
LSA				XS		04 12 56.4	
LSA				LR	LR		
	comp=N,3µm,27.9s,MS4.8						
LSA				LR	LR		
	comp=E,2µm,25.9s,MS4.8						
LSA				LR	LR		
	comp=Z,6µm,25.9s,MS5.0						
LSA	Lhasa	24.33	353	eP	P	04 08 25.7	+0.5
LSA				pmax	pmax		
	comp=Z,298nm,0.9s,mb5.7						
LSA				MLR	MLR		
	comp=Z,3µm,20.0s,MS4.8						
LSA	Lhasa	24.33	353	eP	P	04 08 25.7	+0.5
	comp=Z,298nm,0.9s,mb5.7						
LSA				LR	LR		
	comp=Z,3µm,20.0s,MS4.8						
KOLN	Koldanda	24.48	336	eP	P	04 08 27.7	+1.0
	comp=Z,4µm,1.7s,mb6.5						
BOM	Bombay	24.96	304	eP	P	04 08 33.4	+2.0
	comp=Z,692nm,3.4s						
BOM				e		04 12 57.3	
RATI	Rata	25.31	124	⇓eP	P	04 08 35.3	+0.6
	comp=Z,250nm,0.6s,mb5.9						
DGAR	Diego Garcia	25.37	240	eP	P	04 08 34.8	-0.5
DGAR				pmax	pmax		
	comp=Z,254nm,1.0s,mb5.7						
DGAR				MLR	MLR		
	comp=Z,2µm,21.0s,MS4.6						
DGAR	Diego Garcia	25.37	240	eP	P	04 08 34.8	-0.5
	comp=Z,254nm,1.0s,mb5.7						
DGAR				LR	LR		
	comp=Z,2µm,21.0s,MS4.6						
ENPP	El Nido	25.38	75	eP	P	04 08 36.1	+0.7
HKC	Hong Kong	25.41	47	P	P	04 08 40.0	+4.4
KEDI	Kedomdong	25.67	122	⇓eP	P	04 08 36.9	-1.2
KEDI				pmax	pmax		
	comp=Z,112nm,0.7s,mb5.5						
KEDI	Kedomdong	25.67	122	⇓eP	P	04 08 36.9	-1.2
	comp=Z,112nm,0.7s,mb5.5						
CUYO	Cuyo Island	26.86	77	eP	P	04 08 48.3	-0.8
SJMP	San Jose	27.26	73	eP	P	04 08 51.8	-0.9
PTH	Pithoragarh	27.49	332	eP	P	04 08 55.0	+0.3
PTH				e		04 11 54.0	
LQP	Lukban	28.05	70	eP	P	04 09 00.8	+0.9
IPIL	Ipil	28.05	84	eP	P	04 08 59.1	-0.8
OTRP	Odiongan	28.10	74	eP	P	04 08 59.0	-1.4
AJM	Ajmer	28.19	320	⇑iP	P	04 09 01.0	0.0
NDI	New Delhi	28.30	327	⇑iP	P	04 09 00.8	-1.2
NDI				e		04 09 05.0	
NDI				eS	S	04 13 40.9	-2.6
GUIM	Jordan	28.35	78	eP	P	04 09 02.3	-0.2
ENH	Enshi	28.49	28	eP	P	04 09 02.6	-1.1
	comp=Z,83nm,0.6s,mb5.5						
ENH				LR	LR		
	comp=Z,12µm,20.0s,MS5.5						
RCP	Roxas	28.64	76	⇑eP	P	04 09 06.2	+0.9
SNPH	Sibulan	28.82	81	eP	P	04 09 08.0	+1.2
PAGZ	Pagadian	28.86	84	eP	P	04 09 06.6	-0.5
DDI	Dehra Dun	29.17	330	eP	P	04 09 09.7	0.0
DDI				e		04 14 43.0	
TBP	Tagbilaran	29.47	80	eP	P	04 09 12.3	-0.3
BHJ	Bhuj	29.73	309	eP	P	04 09 15.9	+1.1
BHJ				e		04 09 20.6	
	comp=Z,128nm,1.9s						
BHJ				eS	S	04 14 02.3	-4.2
QZH	Quanzhou	30.23	48	⇑iP	P	04 09 20.0	+0.8
QZH				S	S	04 14 24.0	+10
QZH				AMB	AMB		
	comp=Z,590nm,1.7s,mb6.0						
QZH				LR	LR		
	comp=N,9µm,17.8s						
QZH				LR	LR		
	comp=E,7µm,11.4s						
QZH				LR	LR		
	comp=Z,18µm,18.1s,MS5.8						
OCLP	Ormoc	30.37	77	eP	P	04 09 20.1	-0.5
PVCP	Virac	30.39	72	eP	P	04 09 17.0	-3.7
MSLP	Maasin	30.50	79	eP	P	04 09 20.6	-1.2
BUKP	Musuan	30.52	84	eP	P	04 09 22.6	+0.6
CNP	Catarman	30.66	75	eP	P	04 09 22.4	-0.7
BHK	Bhakra	30.88	329	eP	P	04 09 25.0	+0.1
DAV	Davao City (W)	31.01	85	eP	P	04 09 28.0	+1.8
BUTP	Butuan	31.14	82	eP	P	04 09 27.9	+0.6
WHN	Wuhan	31.23	35	P	P	04 09 28.4	+0.4
WHN				LR	LR		
	comp=Z,21µm,16.1s,MS5.9						
XAN	Xi'an	31.48	23	P	P	04 09 29.1	-1.1
XAN				AMB	AMB		
	comp=Z,293nm,0.7s,mb6.2						
XAN				LR	LR		
	comp=N,3µm,21.6s,MS5.2						
XAN				LR	LR		
	comp=E,4µm,16.7s,MS5.2						
XAN				LR	LR		
	comp=Z,8µm,19.7s,MS5.4						
MATI	Mati	31.68	86	eP	P	04 09 26.6	-5.5
LZH	Lanzhou	31.71	15	⇑iP	P	04 09 31.5	-0.7
LZH				AP	pP	04 09 43.5	-0.8
LZH				XP	sP	04 09 48.8	-1.3
LZH				PP	PP	04 10 37.8	-0.2
LZH				XS		04 14 57.6	
LZH				SS	SS	04 16 30.4	+1.0
LZH				AMB	AMB		
	comp=Z,341nm,1.5s,mb6.0						
LZH				AMB	AMB		
	comp=Z,1µm,5.6s						
LZH				LR	LR		

comp=E,9μm,13.2s
LZH LR LR
comp=Z,11μm,16.9s,MS5.6
TATO Taipei 32.42 50 PFAKE 04 09 50.0 +12
TATO LR LR
comp=Z,6μm,20.0s,MS5.3
NJ2 Nanjing 34.97 38 *e*P **P 04 10 01.2 +0.8**
NJ2 AP pP 04 10 14.1 +1.4
NJ2 XP sP 04 10 19.7 +1.2
NJ2 PP PP 04 11 21.1 +1.6
NJ2 S **S 04 15 37.0 +8.9**
NJ2 XS 04 15 51.0
NJ2 SS SS 04 17 48.0 +3.3
NJ2 AMB AMB
comp=Z,2μm,6.3s
NJ2 LR LR
comp=N,16μm,15.4s,MS6.0
NJ2 LR LR
comp=E,11μm,15.2s,MS6.0
NJ2 LR LR
comp=Z,21μm,13.8s,MS6.0
SSE Sheshan 35.81 41 P **P 04 10 08.0 +0.4**
SSE XP sP 04 10 25.6 0.0
SSE PP PP 04 11 29.6 0.0
SSE S **S 04 15 42.3 +1.2**
SSE XS 04 16 04.9
SSE AMB AMB
comp=Z,71nm,1.0s,mb5.5
SSE AMB AMB
comp=Z,381nm,4.7s
SSE LR LR
comp=N,2μm,15.8s,MS5.5
SSE LR LR
comp=E,7μm,15.8s,MS5.5
SSE LR LR
comp=Z,8μm,14.7s,MS5.6
MBWA Marble Bar 36.26 138 *e*P **P 04 10 09.4 -2.0**
comp=Z,52nm,1.0s,mb5.4
MBWA LR LR
comp=Z,2μm,22.0s,MS4.9
TIA Tai'an 37.05 31 ⇑P **P 04 10 18.6 +0.7**
TIA AMB AMB
comp=Z,229nm,1.5s,mb5.8
FITZ Fitzroy Crossi 38.67 128 *e*P **P 04 10 31.3 -0.3**
comp=Z,114nm,0.9s,mb5.6
WMQ Urumqi 38.69 352⇑*i*P **P 04 10 32.9 +1.4**
WMQ AP pP 04 10 42.6 -1.3
WMQ XP sP 04 10 46.6 -2.9
WMQ PP PP 04 12 05.9 +1.6
WMQ S **S 04 16 27.3 +2.5**
WMQ XS 04 16 43.5
WMQ AMB AMB
comp=Z,250nm,1.0s,mb5.9
WMQ AMB AMB
comp=Z,1μm,4.5s
WMQ LR LR
comp=N,8μm,19.0s,MS5.6
WMQ LR LR
comp=E,6μm,22.4s,MS5.6
WMQ LR LR
comp=Z,6μm,18.0s,MS5.5
BJT Baijiatuau 39.60 27 *e*P **P 04 10 40.2 +1.0**
BJT pmax pmax
comp=Z,388nm,1.2s
BJT MLR MLR
comp=Z,7μm,21.0s
BJT Baijiatuau 39.60 27 *e*P **P 04 10 40.2 +1.0**
comp=Z,388nm,1.2s,mb6.0
BJT LR LR
comp=Z,7μm,21.0s,MS5.5
ULHL Ulahol 40.06 339 P **P 04 10 43.7 +0.7**
SNR=18
KZA Kyzart 40.28 338 P **P 04 10 46.0 +1.2**
SNR=32
UCH Uchtor 40.69 337 P **P 04 10 49.5 +1.3**
SNR=58
TKM2 Tokmak 2 40.88 339 P **P 04 10 50.5 +0.8**
SNR=37
KBK Karagaybulak 40.89 338 P **P 04 10 51.4 +1.6**
SNR=78
AML Almayashu 40.93 336 P **P 04 10 51.5 +1.4**
SNR=86
AAK Ala-Archa 41.04 337 P **P 04 10 52.2 +1.2**
SNR=51
AAK Ala-Archa 41.04 337 *e*P **P 04 10 51.2 +0.2**
AAK pmax pmax
comp=Z,88nm,1.2s,mb5.3
AAK MLR MLR
comp=Z,796nm,21.0s,MS4.6
AAK Ala-Archa 41.04 337 *e*P **P 04 10 51.2 +0.1**
comp=Z,88nm,1.2s,mb5.3
AAK LR LR
comp=Z,796nm,21.0s,MS4.6
FRU Bishkek 41.17 338⇑*i*P **P 04 10 53.2 +1.1**
FRU *i* pP 04 11 09.5 +5.0
FRU pmax pmax
comp=Z,780nm,2.4s,mb5.9
FRU MLR MLR
comp=Z,3μm,20.0s,MS5.2
CHMS Chumysh 41.26 338 P **P 04 10 53.4 +0.6**
SNR=41
EKS2 Erkin-Say 41.35 337 P **P 04 10 54.8 +1.3**
SNR=42
USP Ospenovka 41.59 338 P **P 04 10 56.1 +0.6**
SNR=84
KAKA Kakadu 41.86 116 *e*P **P 04 10 56.6 -1.5**
comp=Z,35nm,0.6s,mb5.2
MK02 Makanchi Array 42.49 348 P **P 04 11 03.3 +0.4**
MK02 pmax pmax
comp=Z,141nm,0.7s,mb5.7
MUN Mundaring 42.60 152⇓*i*P **P 04 11 04.8 +0.8**
comp=Z,22nm,0.6s,mb5.1
MUN Mundaring 42.60 152⇓*i*P **P 04 11 04.8 +0.8**
MUN pmax pmax
comp=Z,22nm,0.6s,mb5.1
KLBR Kellerberrin 43.02 150 *e*P **P 04 11 10.8 +3.3**
comp=Z,99nm,1.6s,mb5.3
INCN Inchon 43.35 38 *e*P **P 04 11 09.7 -0.4**
comp=Z,312nm,1.7s,mb5.8
INCN LR LR
comp=Z,8μm,19.0s,MS5.6
ULN Ulaanbaatar 43.63 12 *e*P **P 04 11 12.0 -0.2**
ULN pmax pmax
comp=Z,49nm,0.8s,mb5.3
ULN MLR MLR
comp=Z,3μm,20.0s,MS5.2
ULN Ulaanbaatar 43.63 12 *e*P **P 04 11 12.0 -0.3**
comp=Z,49nm,0.8s,mb5.3
ULN LR LR
comp=Z,3μm,20.0s,MS5.2
NWAO Narrogin (SRO) 43.87 152 *e*P **P 04 11 14.5 +0.2**
NWAO pmax pmax
comp=Z,43nm,1.0s
NWAO MLR MLR
comp=Z,2μm,20.0s
NWAO Narrogin (SRO) 43.87 152 *e*P **P 04 11 14.5 +0.1**
comp=Z,43nm,1.0s,mb5.1
NWAO LR LR
comp=Z,2μm,20.0s,MS4.9
KS15 Wonju Array Si 44.10 39 *e*P **P 04 11 15.9 -0.2**
SNY Shenyang 44.57 31 ⇑P **P 04 11 19.6 -0.2**
SNY AP pP 04 11 33.1 +0.7
SNY AMB AMB
comp=Z,140nm,1.7s,mb5.5
SNY AMB AMB
comp=Z,830nm,4.7s
SNY LR LR
comp=N,4μm,16.2s
SNY LR LR
comp=E,2μm,21.6s
SNY LR LR
comp=Z,3μm,15.1s,MS5.3
ZAK Zakamensk 45.41 8⇓*i*P **P 04 11 25.4 -1.0**
ZAK *e* 04 13 04.0
MOY Mondy 46.40 6 *e*P **P 04 11 34.2 0.0**
WRAB Tennant Creek 46.65 124 *e*P **P 04 11 36.2 -0.4**
WRAB pmax pmax
comp=Z,661nm,1.4s,mb6.4
WRAB MLR MLR
comp=Z,572nm,20.0s,MS4.5
WRAB Tennant Creek 46.65 124 *e*P **P 04 11 36.2 -0.4**
comp=Z,661nm,1.4s,mb6.4
WRAB LR LR
comp=Z,572nm,20.0s,MS4.5
WB2 Warramunga Arr 46.66 124⇑*i*P **P 04 11 36.4 -0.3**
WB2 *e*S **S 04 18 19.9 -1.9**

TLY Talaya 46.73 8 P **P 04 11 37.2 +0.4**
comp=Z,336nm,1.5s,mb6.0,SNR=10
TLY Talaya 46.73 8 *e*P **P 04 11 37.0 +0.2**
TLY *e* 04 13 09.3
TLY *e*S **S 04 18 16.1 -6.3**
TLY *e*SS SS 04 21 41.1 -0.6
TLY pmax pmax
comp=Z,139nm,1.6s,mb5.6
TLY MLR MLR
comp=Z,3μm,20.0s,MS5.3
TLY Talaya 46.73 8⇑*i*P **P 04 11 37.5 +0.7**
TLY LR LR
comp=Z,900nm,21.0s,MS4.7
IRK Irkutsk 47.36 8 *e*P **P 04 11 41.6 -0.2**
IRK *e* 04 13 36.2
ASPA Alice Springs 48.16 129⇑*i*P **P 04 11 48.2 -0.2**
ASPA *e*S **S 04 18 41.5 -1.6**
ASPA *e*SCS ScS 04 21 35.7 +1.2
HIA Hailar 48.65 22 *e*P **P 04 11 51.2 -0.6**
HIA pmax pmax
comp=Z,192nm,1.4s
HIA MLR MLR
comp=Z,11μm,20.0s
HIA Hailar 48.65 22 *e*P **P 04 11 51.2 -0.6**
comp=Z,192nm,1.4s,mb5.9
HIA LR LR
comp=Z,11μm,20.0s,MS5.8
LBOS 49.12 284⇑*e*P **P 04 11 56.0 +0.1**
LBOS AMb AMB 04 11 58.1
comp=Z,216nm,2.0s,mb5.8
MDJ Mudanjiang 49.67 33 P **P 04 12 00.4 +0.6**
MDJ AP pP 04 12 11.6 -0.8
MDJ XP sP 04 12 16.4 -1.4
MDJ PCP PcP 04 13 20.5 -0.3
MDJ PP PP 04 13 55.6 +0.5
MDJ SCP 04 17 11.0
MDJ S **S 04 19 07.3 +3.4**
MDJ XS 04 19 26.7
MDJ AMB AMB
comp=Z,151nm,1.8s,mb5.7
MDJ AMB AMB
comp=Z,772nm,5.8s
MDJ LR LR
comp=N,3μm,19.2s,MS5.3
MDJ LR LR
comp=E,2μm,19.2s,MS5.3
MDJ LR LR
comp=Z,3μm,18.3s,MS5.4
MDJ Mudanjiang 49.67 33 *e*P **P 04 11 59.6 -0.2**
comp=Z,322nm,1.4s,mb6.2
MDJ LR LR
comp=Z,4μm,19.0s,MS5.4
VLA Vladivostok 50.01 36⇓*i*P **P 04 12 03.0 +0.6**
VLA *e* pP 04 12 17.0 +2.0
VLA *e* 04 13 57.0
VLA pmax pmax
comp=Z,2μm,8.0s
VLA pmax pmax
comp=N,950nm,4.0s
VLA pmax pmax
comp=E,600nm,8.0s
VLA MLR MLR
comp=Z,9μm,17.0s,MS5.8
VLA MLR MLR
comp=N,4μm,16.0s,MS5.7
VLA MLR MLR
comp=E,4μm,16.0s,MS5.7
DHBB Dhamar BB 50.01 284⇑*e*P **P 04 12 02.8 +0.1**
NVS Novosibirsk 50.08 352 *i* P **P 04 12 01.8 -1.0**
NVS *i* *PP pP 04 12 13.8 -1.6
NVS *i* S **S 04 19 08.7 -0.7**
NVS pmax pmax
comp=Z,404nm,1.7s,mb6.2
NVS pmax pmax
comp=E,167nm,1.4s
NVS pmax pmax
comp=N,323nm,1.5s
NVS smax
comp=N,132nm,1.8s
NVS smax
comp=E,180nm,1.9s
MAJO Matsushiro 50.60 46 *e*P **P 04 12 05.2 -1.8**
MAJO pmax pmax
comp=Z,520nm,2.1s,mb6.1
MAJO MLR MLR
comp=Z,5μm,21.0s,MS5.5
MAJO Matsushiro 50.60 46 *e*P **P 04 12 05.2 -1.8**
comp=Z,520nm,2.1s,mb6.1
MAJO LR LR
comp=Z,5μm,21.0s,MS5.5
MAT Matsushiro 50.60 46 *e*P **P 04 12 07.0 0.0**
MAT MLR MLR
comp=Z,5μm,20.0s,MS5.5
MAT Matsushiro 50.60 46 P **P 04 12 06.7 -0.3**
MAT S **S 04 19 21.8 +4.9**
HAJJ Hajjah 50.88 286⇑*e*P **P 04 12 09.3 -0.1**
HAJJ AMb AMB 04 12 10.8
comp=Z,240nm,2.8s,mb5.6
KLR Kul'dur 53.84 29⇓*i*P **P 04 12 28.2 -2.8**
KLR *e* 04 13 31.8
KLR *e* 04 23 39.0
KLR pmax pmax
comp=N,170nm,2.0s
KLR pmax pmax
comp=E,250nm,2.0s
KLR pmax pmax
comp=Z,350nm,2.0s,mb5.9
KLR pmax pmax
comp=E,600nm,8.0s
KLR pmax pmax
comp=Z,1μm,8.0s
KLR MLR MLR
comp=E,10μm,20.0s
BHD Baghdad 54.06 308 *i* P **P 04 12 26.0 -6.9**
BHD *e*S **S 04 19 53.0 -11**
BOD Bodaibo 54.44 13⇓*i*P **P 04 12 33.7 -1.6**
BOD *e* 04 20 04.6
PMG Port Moresby 54.58 106 *e*P **P 04 12 35.7 -1.2**
PMG pmax pmax
comp=Z,154nm,1.3s
PMG MLR MLR
comp=Z,887nm,22.0s
PMG Port Moresby 54.58 106 *e*P **P 04 12 35.7 -1.2**
comp=Z,154nm,1.3s,mb5.9
PMG LR LR
comp=Z,887nm,22.0s,MS4.8
MAK Makhachkala 55.73 320 *e*P **P 04 12 42.0 -2.9**
MAK S **S 04 20 18.0 -8.4**
MAK *e* 04 22 30.0
MAK pmax pmax
comp=Z,900nm,6.0s
MAK pmax pmax
comp=Z,312nm,2.0s,mb6.0
HKR Hakkari 56.06 312 P **P 04 12 45.6 -1.7**
HKR Hakkari 56.06 312 P **P 04 12 45.6 -1.7**
MSL Mosul 56.09 311 *e*P **P 04 12 46.0 -1.5**
MSL *e*sP sP 04 13 01.5 -4.2
MSL *e*PcP PcP 04 13 48.0 +3.0
MSL *e*S **S 04 20 22.5 -8.7**
MSL *e*ScS ScS 04 22 22.0 -7.1
GNI Garni 56.35 315 *i* P **P 04 12 46.2 -3.1**
GNI Garni 56.35 315 *e*P **P 04 12 48.2 -1.1**
GNI pmax pmax
comp=Z,220nm,1.6s
GNI Garni 56.35 315 P **P 04 12 46.2 -3.1**
CLNS Chul'man 56.62 19 *e*P **P 04 12 50.7 -0.3**
CLNS *e**PP pP 04 13 02.5 -1.4
CLNS *e* 04 14 59.5
CLNS *e*PPP PPP 04 16 19.4 +2.1
CLNS *e*S **S 04 20 56.9 +19**
CLNS *e*SS SS 04 24 26.7 +0.1
CLNS pmax pmax
comp=Z,77nm,1.1s,mb5.7
CLNS pmax pmax
comp=N,72nm,1.5s
CLNS pmax pmax
comp=E,42nm,1.2s
CLNS pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
CLNS pmax pmax
comp=N,8.0nm,1.2s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS smax
comp=N,229nm,11.8s

CLNS smax
comp=Z,187nm,13.1s
CLNS smax
comp=E,23nm,11.2s
CLNS MLR MLR
comp=Z,5μm,20.0s,MS5.6
CLNS MLR MLR
comp=N,3μm,21.0s,MS5.4
CLNS MLR MLR
comp=E,700nm,17.0s,MS5.4
VANB Van 56.70 313 *e*P **P 04 12 47.9 -4.0**
VANB Van 56.70 313 P **P 04 12 47.9 -4.0**
CTA Charters Tower 56.89 118⇑*i*P **P 04 12 52.6 -0.9**
comp=E,34nm,1.1s,mb5.3
CTA Charters Tower 56.89 118⇑*i*P **P 04 12 52.6 -0.9**
CTA pmax pmax
comp=Z,34nm,1.1s
CTAO Charters Tower 56.89 118 *e*P **P 04 12 52.4 -1.1**
CTAO pmax pmax
comp=Z,94nm,1.3s,mb5.7
CTAO MLR MLR
comp=Z,2μm,22.0s,MS5.2
CTAO Charters Tower 56.89 118 *e*P **P 04 12 52.4 -1.2**
comp=Z,94nm,1.3s,mb5.7
CTAO LR LR
comp=Z,2μm,22.0s,MS5.2
STE Stepanavan 56.94 316 *i* P **P 04 12 52.0 -1.6**
STE *e*S **S 04 20 42.0 -0.4**
TI2 Plekhanov 57.00 317α*i*P **P 04 12 53.2 -0.8**
TI2 *i* S **S 04 20 43.0 -0.2**
TI2 *i* 04 22 42.0
TI2 pmax pmax
comp=Z,100nm,0.4s,mb6.2
TI2 pmax pmax
comp=Z,2μm,1.5s,mb6.8
KMBO Kilima Mbogo 57.47 265 *e*P **P 04 12 59.0 +1.3**
KMBO pmax pmax
comp=Z,15nm,1.0s
KMBO MLR MLR
comp=Z,4μm,22.0s
KMBO Kilima Mbogo 57.47 265 *e*P **P 04 12 59.0 +1.2**
comp=Z,15nm,1.0s,mb5.0
KMBO LR LR
comp=Z,4μm,22.0s,MS5.4
BTMT Batman 57.95 312 P **P 04 12 59.0 -1.7**
ARU Arti 58.23 337*c i*P **P 04 13 01.2 -1.2**
ARU pmax pmax
comp=Z,304nm,2.3s,mb5.9
ARU Arti 58.23 337⇑*i*P **P 04 13 01.3 -1.1**
ARU LR LR
comp=Z,455nm,21.0s,MS4.6
STKA Stephens Creek 58.24 133 *e*P **P 04 13 02.3 -0.5**
comp=Z,34nm,0.7s,mb5.5
YSS Yuzh-Sakhalins 58.53 37α*e*P **P 04 13 04.4 -0.2**
YSS *e**SP pP 04 13 15.3 -2.3
YSS *e* 04 15 15.1
YSS PPP PPP 04 16 34.0 -6.0
YSS *e*S **S 04 21 19.0 +16**
YSS pmax pmax
comp=Z,270nm,1.3s,mb6.1
YSS pmax pmax
comp=N,80nm,1.2s
YSS pmax pmax
comp=E,320nm,1.9s
YSS MLR MLR
comp=N,1μm,16.0s,MS5.3
YSS MLR MLR
comp=Z,2μm,16.0s,MS5.3
YSS MLR MLR
comp=E,2μm,18.0s,MS5.3
YSS Yuzh-Sakhalins 58.53 37 *e*P **P 04 13 03.5 -1.2**
comp=E,254nm,1.4s,mb6.1
YSS LR LR
comp=Z,2μm,20.0s,MS5.3
ERZM Erzurum 58.64 314 *e*P **P 04 13 05.3 -0.2**
EZM Erzurum 58.65 314 *i* P **P 04 13 04.8 -0.7**
BINT Bingol 58.92 313 P **P 04 13 05.4 -2.0**
KIV Kislovodsk 59.31 319 P **P 04 13 09.9 -0.2**
comp=Z,489nm,1.1s,mb6.5,SNR=29
KIV Kislovodsk 59.31 319⇑*i*P **P 04 13 08.9 -1.2**
KIV *i* pP 04 13 22.9 -0.1
KIV *e*S **S 04 21 16.0 +2.6**
KIV *e*SS SS 04 25 12.7 +2.6
KIV pmax pmax
comp=Z,106nm,1.1s,mb5.8
KIV Kislovodsk 59.31 319 *e*P **P 04 13 08.8 -1.4**
comp=Z,125nm,1.2s,mb5.8
KIV LR LR
comp=Z,183nm,20.0s
GOF Gofitskoye 59.56 320⇓*i*P **P 04 13 10.0 -1.8**
GOF *i* pP 04 13 24.0 -0.7
GOF pmax pmax
comp=Z,85nm,1.4s,mb5.6
URFA Urfa 59.70 310 P **P 04 13 11.5 -1.3**
EZC Erzincan 59.70 313 P **P 04 13 13.3 +0.4**
EZC Erzincan 59.70 313 P **P 04 13 13.3 +0.5**
PTK Pertek 59.73 312 P **P 04 13 10.7 -2.4**
ELZG Elazig 59.90 312 *i* P **P 04 13 13.8 -0.5**
GUMT Gumushane 60.19 314 *e*P **P 04 13 15.5 -0.7**
GUMT Gumushane 60.19 314 P **P 04 13 15.6 -0.6**
MALT Malatya 60.26 311 P **P 04 13 13.8 -2.9**
MALT Malatya 60.26 311 P **P 04 13 16.5 -0.2**
MALT pmax pmax
comp=Z,64nm,1.3s,mb5.5
MALT Malatya 60.26 311 P **P 04 13 13.8 -2.9**
GZT Gaziantep 60.62 310 *i* P **P 04 13 19.1 -0.1**
MKRJ Makawir 60.69 303 P **P 04 13 20.7 +0.9**
AQBJ Aqaba 60.82 301 P **P 04 13 21.0 +0.4**
GAZ Gaziantep 60.84 310 P **P 04 13 19.7 -1.0**
GAZ Gaziantep 60.84 310 P **P 04 13 19.7 -0.9**
KSHT Keshet 60.87 305 P **P 04 13 22.2 +1.3**
MZDA Masada 60.87 303 P **P 04 13 21.8 +0.8**
ZFRI Zfri 60.87 302 P **P 04 13 21.6 +0.6**
EIL Elat 60.89 301 P **P 04 13 21.6 +0.5**
EIL Elat 60.89 301 *e*P **P 04 13 21.2 +0.1**
comp=Z,70nm,1.4s,mb5.6
DRGI Dragot 60.91 303 P **P 04 13 22.1 +0.9**
MBH Mount Berech 60.95 301 P **P 04 13 22.2 +0.7**
PRNI Paran 60.98 302 P **P 04 13 22.5 +0.8**
HRI Mount Hermon 61.00 305 P **P 04 13 22.7 +0.9**
HWQ Hawqa 61.07 306 *e*P **P 04 13 23.2 +1.0**
MMLI Mount Malkishu 61.07 304 P **P 04 13 23.4 +1.1**
SOC Sochi 61.14 317 *i* P **P 04 13 20.4 -2.2**
SOC *e* 04 14 05.4
SOC *e*S **S 04 21 40.4 +3.5**
SOC *e*SS SS 04 25 39.3 +0.6
SOC pmax pmax
comp=Z,84nm,1.1s,mb5.8
SOC pmax pmax
comp=N,44nm,1.3s
SOC pmax pmax
comp=E,22nm,1.3s
SOC MLR MLR
comp=Z,587nm,22.0s,MS4.7
SOC MLR MLR
comp=N,576nm,19.0s,MS4.9
SOC MLR MLR
comp=E,481nm,17.0s,MS4.9
SOC Sochi 61.14 317⇑*i*P **P 04 13 20.1 -2.5**
KMTI Karmit 61.17 301 P **P 04 13 23.6 +0.6**
BHL Bhannes 61.22 306 *e*P **P 04 13 24.2 +0.9**
MASH Mash'abbe Sade 61.30 302 P **P 04 13 24.3 +0.5**
SLTI Sal'it 61.34 304 P **P 04 13 25.0 +0.9**
HTY Hatay 61.38 308 *e*P **P 04 13 23.7 -0.6**
HTY Hatay 61.38 308 P **P 04 13 23.7 -0.6**
RTMM Retamin 61.39 302 P **P 04 13 24.9 +0.5**
COBT Iskenderun 61.40 309 *i* P **P 04 13 24.7 +0.3**
HNTI Hanita 61.42 305 P **P 04 13 25.7 +1.1**
OFRI 'Ofer 61.47 304 P **P 04 13 25.8 +0.8**
HAF Haifa 61.47 304 P **P 04 13 25.9 +0.9**
KZIT Kziot 61.60 302 P **P 04 13 26.4 +0.5**
CEYT Ceyhan 61.92 309 P **P 04 13 27.8 -0.1**
CEYT Ceyhan 61.92 309 P **P 04 13 27.8 -0.1**
YAK Yakutsk 62.21 18*c i*P **P 04 13 27.0 -2.5**
YAK *e**PP pP 04 13 38.1 -4.4
YAK *e* 04 14 12.1
YAK *e* 04 15 41.7
YAK *e*S **S 04 21 42.8 -7.3**
YAK *e* 04 23 16.2
YAK pmax pmax
comp=N,33nm,1.2s
YAK pmax pmax
comp=Z,59nm,1.2s,mb5.6
YAK pmax pmax

comp=E,30nm,1.3s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
YAK pmax pmax
comp=E,6.0nm,1.7s
YAK smax
comp=N,7.0nm,1.0s
YAK smax
comp=E,3.0nm,1.0s
YAK MLR MLR
comp=Z,2µm,15.0s,MS5.4
YAK MLR MLR
comp=N,2µm,16.0s,MS5.4
YAK MLR MLR
comp=E,1µm,16.0s,MS5.4
YAK Yakutsk 62.21 18 *e*P **P 04 13 27.3 -2.2**
comp=E,826nm,1.8s,mb6.6
YAK LR LR
comp=Z,3µm,19.0s,MS5.5
BNN Bunyan 62.35 311 *e*P **P 04 13 29.2 -1.6**
BNN Bunyan 62.35 311 P **P 04 13 29.3 -1.5**
KVT Kavak 62.86 314 *e*P **P 04 13 31.1 -3.0**
KVT Kavak 62.86 314 P **P 04 13 31.2 -3.0**
AVNT Avonos 63.08 311 *i* P **P 04 13 34.8 -0.8**
NIG Nigde 63.08 310 P **P 04 13 36.1 +0.4**
NIG Nigde 63.08 310 P **P 04 13 36.1 +0.4**
ANN Anapa 63.12 318 *e*P **P 04 13 33.8 -2.0**
ANN *e* 04 14 07.7
ANN *i* 04 15 55.4
ANN *i* S **S 04 22 10.7 +9.0**
ANN *e* 04 23 25.5
ANN pmax pmax
comp=Z,63nm,1.7s,mb5.5
CSS Prodhromos 63.33 306 ⇑P **P 04 13 37.2 -0.1**
CSS Prodhromos 63.33 306 *e*P **P 04 13 36.6 -0.7**
comp=Z,219nm,1.4s,mb6.1
MAMC Mammari 63.46 307 ⇑P **P 04 13 38.9 +0.7**
MAMC Mammari 63.46 307⇑*e*P **P 04 13 38.9 +0.7**
CTKT Corum 63.63 313 *i* P **P 04 13 38.2 -1.1**
SZAC Souni-Zanaja 63.64 306 ⇑P **P 04 13 39.5 +0.1**
SZAC Souni-Zanaja 63.64 306⇑*i*P **P 04 13 39.5 +0.1**
LEF Lefka 63.71 307 *e*P **P 04 13 39.3 -0.6**
LEF Lefka 63.71 307 P **P 04 13 39.3 -0.6**
BOYT Boyabat 63.78 314 *i* P **P 04 13 39.6 -0.6**
MBAR Mbarara 63.88 267 *e*P **P 04 13 39.3 -2.0**
MBAR pmax pmax
comp=Z,5.0nm,0.8s
MBAR MLR MLR
comp=Z,1µm,20.0s,MS5.0
MBAR Mbarara 63.88 267 *e*P **P 04 13 39.3 -2.0**
comp=Z,4.9nm,0.8s
MBAR LR LR
comp=Z,1µm,20.0s,MS5.0
BYBT Boyabat 63.90 314 *e*P **P 04 13 35.5 -5.5**
BYBT Boyabat 63.90 314 P **P 04 13 35.6 -5.4**
TOO Toolangi 63.90 137⇑*i*P **P 04 13 41.5 +0.5**
comp=Z,40nm,0.9s,mb5.4
TOO Toolangi 63.90 137⇑*i*P **P 04 13 41.5 +0.5**
TOO pmax pmax
comp=Z,40nm,0.9s,mb5.5
ALFC Alevga 63.95 306 ⇑P **P 04 13 41.2 -0.3**
comp=Z,2.0nm,0.8s
ALFC Alevga 63.95 306⇑*i*P **P 04 13 41.2 -0.3**
KAMT Kaman 64.09 311 P **P 04 13 39.4 -2.9**
KAMT Kaman 64.09 311 P **P 04 13 39.5 -2.8**
PPCY Paphos 64.10 306 P **P 04 13 42.0 -0.4**
BR131 Keskin Array S 64.24 312 PFAKE 04 13 50.0 +6.8
BR131 LR LR
comp=Z,766nm,22.0s,MS4.8
TOS Tosya 64.31 313 P **P 04 13 42.1 -1.6**
TOS Tosya 64.31 313 P **P 04 13 42.1 -1.5**
HDMB Hadim 64.44 308 P **P 04 13 42.9 -1.7**
HDMB Hadim 64.44 308 P **P 04 13 42.9 -1.6**
CANT Cankiri 64.49 313 P **P 04 13 43.9 -0.9**
CANT Cankiri 64.49 313 P **P 04 13 44.0 -0.9**
BZK Bozkurt 64.58 314 P **P 04 13 44.4 -1.0**
BZK Bozkurt 64.58 314 P **P 04 13 44.4 -1.0**
ELDT Eldivan 64.60 312 *i* P **P 04 13 44.5 -1.0**
KONT Konya--Tatoy 64.76 309 P **P 04 13 46.0 -0.7**
ANTO Ankara 64.90 312 P **P 04 13 45.1 -2.4**
ANTO Ankara 64.90 312 P **P 04 13 45.2 -2.4**
BALT Daday 64.91 314 *i* P **P 04 13 46.6 -0.9**
LOD Lodumlu 64.93 312 *e*P **P 04 13 45.5 -2.2**
LOD Lodumlu 64.93 312 P **P 04 13 45.5 -2.2**
SAFT Safranbolu 65.34 313 P **P 04 13 47.2 -3.1**
SAFT Safranbolu 65.34 313 P **P 04 13 47.2 -3.1**
KIZT Kizilcal 65.35 310 *i* P **P 04 13 47.4 -3.0**
KIZT Kizilcal 65.35 310 P **P 04 13 47.4 -3.0**
SIM Simferopol' 65.39 317*c i*P **P 04 13 49.4 -1.2**
SIM *e*S S 04 22 31.1 +1.3
SIM pmax pmax
comp=Z,60nm,1.1s,mb5.5
SIM MLR MLR
comp=Z,730nm,20.7s,MS4.9
CNB Canberra Magne 65.57 133⇑*i*P **P 04 13 51.7 -0.2**
comp=Z,76nm,1.2s,mb5.6
SGKT Sivrigoynuk 65.63 312 *i* P **P 04 13 50.8 -1.4**
ANTB Antalya 65.86 308 *e*P pP 04 14 03.1 -3.8
BCK Bucak 66.03 309 P **P 04 13 53.5 -1.3**
BCK Bucak 66.03 309 P **P 04 13 53.5 -1.2**
ISP Isparta 66.17 309 P **P 04 13 54.3 -1.4**
MDU Mudurnu 66.22 312 P **P 04 13 53.7 -2.3**
MDU Mudurnu 66.22 312 P **P 04 13 53.8 -2.2**
ESKT Eskisehir 66.28 311 P **P 04 13 53.3 -3.0**
ESKT Eskisehir 66.28 311 P **P 04 13 53.4 -2.9**
ESKT Eskisehir 66.28 311 *i* P **P 04 13 55.2 -1.1**
ELL Elmali 66.42 308 P **P 04 13 55.0 -2.3**
HENT Hendek 66.54 312 *e*P **P 04 13 56.6 -1.4**
ALT Altintas 66.73 310 P **P 04 13 56.7 -2.5**
ALT Altintas 66.73 310 P **P 04 13 56.7 -2.5**
FETY Fethiye 67.05 307 P **P 04 13 58.7 -2.5**
DENT Denizli 67.30 309 P **P 04 14 01.6 -1.2**
DENT Denizli 67.30 309 P **P 04 14 01.7 -1.1**
MOS Moscow 67.30 329⇑*i*P **P 04 14 01.7 -0.8**
MOS *e* pP 04 14 14.1 -1.6
MOS *e* 04 14 28.2
MOS *e* 04 16 27.2
MOS *e*S S 04 22 49.3 -3.5
MOS *e* 04 23 17.3
MOS pmax pmax
comp=Z,900nm,1.8s,mb6.5
MOS pmax pmax
comp=Z,517nm,1.6s,mb6.3
MOS MLR MLR
comp=Z,2µm,22.6s,MS5.3
MOS MLR MLR
comp=E,1µm,22.9s
DALT Dalyan (Mudla) 67.42 308 *e*P **P 04 14 03.7 +0.1**
DALT Dalyan (Mudla) 67.42 308 P **P 04 14 03.8 +0.2**
HRT Hereke 67.45 312 *e*P **P 04 14 01.2 -2.5**
HRT Hereke 67.45 312 P **P 04 14 01.3 -2.4**
OBN Obninsk 67.58 328*c i*P **P 04 14 02.7 -1.5**
OBN *i* pP 04 14 16.1 -1.4
OBN *e*S S 04 22 58.8 +2.6
OBN *e*SS SS 04 27 19.6 +0.7
OBN pmax pmax
comp=Z,351nm,1.4s,mb6.2
OBN MLR MLR
comp=Z,800nm,18.0s,MS5.0
OBN Obninsk 67.58 328 *e*P **P 04 14 02.5 -1.7**
comp=Z,476nm,1.5s,mb6.3
OBN LR LR
comp=Z,359nm,19.0s,MS4.6
YLV Yalova 67.61 312 *e*P **P 04 14 01.6 -3.1**
YLV Yalova 67.61 312 P **P 04 14 01.7 -3.0**
ULDT Uludag 67.70 311 *i* P **P 04 14 04.4 -0.8**
ISK Istanbul-Kandi 67.95 312 P **P 04 14 04.7 -2.1**
ISK Istanbul-Kandi 67.95 312 P **P 04 14 04.7 -2.1**
DST Dursunbey 67.97 311 *e*P **P 04 14 05.3 -1.7**
DST Dursunbey 67.97 311 P **P 04 14 05.4 -1.6**
SKR Severo-Kuril's 68.10 37 *e*P **P 04 14 02.2 -5.4**
SKR *e* 04 14 09.4
SKR *e* pP 04 14 18.5 -2.3
SKR pmax pmax
comp=Z,80nm,0.5s,mb6.0
SKR pmax pmax
comp=Z,2µm,3.0s
SKR MLR MLR
comp=E,3µm,16.0s
SKR MLR MLR
comp=Z,3µm,16.0s,MS5.6

AKS Akhisar 68.45 310 P **P 04 14 08.4 -1.6**
AKS Akhisar 68.45 310 P **P 04 14 08.4 -1.5**
BALB Balikesir 68.55 310 P **P 04 14 07.9 -2.6**
BALB Balikesir 68.55 310 P **P 04 14 07.9 -2.6**
EDC Edincik 68.69 311 P **P 04 14 10.5 -1.0**
EDC Edincik 68.69 311 P **P 04 14 10.6 -0.9**
LSZ Lusaka 68.75 251 P **P 04 14 13.3 +1.2**
LSZ pmax pmax
comp=Z,62nm,1.7s,mb5.3
LSZ Lusaka 68.75 251 *e*P **P 04 14 12.2 0.0**
comp=Z,62nm,1.7s,mb5.3
LSZ LR LR
comp=Z,5µm,20.0s,MS5.7
MA2 Magadan 68.79 27 *e*P **P 04 14 11.1 -0.6**
MA2 *e*PPP PPP 04 18 20.8 -3.2
MA2 *e*S S 04 23 14.7 +4.2
MA2 *e*SSS SSS 04 30 35.6 -3.9
MA2 pmax pmax
comp=Z,90nm,1.4s,mb5.5
MA2 MLR MLR
comp=Z,4µm,21.0s,MS5.6
MA2 Magadan 68.79 27 *e*P **P 04 14 10.6 -1.1**
comp=Z,88nm,1.1s,mb5.6
MA2 LR LR
comp=Z,2µm,19.0s,MS5.3
KDAG Bornova 68.79 309 *i* P **P 04 14 12.1 +0.1**
IZM Izmir 68.79 309 *i* P **P 04 14 11.0 -1.1**
MRMT Marmara Adasi 68.95 311 *e*P **P 04 14 10.0 -3.0**
KIS Kishinev 69.51 318 *e*P **P 04 14 15.0 -1.3**
KIS *e* 04 14 23.0
KIS *e* pP 04 14 27.0 -2.6
KIS *e*S S 04 23 13.0 -6.3
KIS pmax pmax
comp=Z,220nm,1.7s,mb5.8
KIS pmax pmax
comp=Z,200nm,2.0s,mb5.7
KIS MLR MLR
comp=N,700nm,19.0s
KIS MLR MLR
comp=Z,600nm,19.0s,MS4.9
KIS MLR MLR
comp=Z,600nm,19.0s
CFR Carcaliu 69.53 316⇑*i*P **P 04 14 15.7 -0.8**
TIXI Tiksi 69.55 11 PFAKE 04 14 30.0 +14
TIXI LR LR
comp=Z,4µm,20.0s,MS5.7
HARR Harsova 69.56 316⇑*i*P **P 04 14 16.3 -0.4**
SANT Santorini 69.88 307 *e*P **P 04 14 17.6 -1.2**
comp=Z,125nm,1.2s,mb5.7
PET Petropavlovsk 70.34 35 *e*P **P 04 14 16.7 -4.5**
PET *e* 04 16 57.3
PET *e*S S 04 23 25.7 -3.1
PET *e* 04 24 13.0
PET pmax pmax
comp=Z,49nm,1.2s,mb5.3
PET pmax pmax
comp=Z,200nm,11.5s
PET pmax pmax
comp=Z,200nm,11.0s
PET MLR MLR
comp=Z,2µm,19.0s,MS5.4
PET Petropavlovsk 70.34 35 *e*P **P 04 14 19.7 -1.6**
comp=Z,31nm,0.9s,mb5.2
PET LR LR
comp=Z,2µm,21.0s,MS5.4
ISR Istrita 70.62 316⇓*i*P **P 04 14 24.5 +1.4**
VRI Vrincioaia 70.65 317⇑*i*P **P 04 14 23.7 +0.4**
GVD Gavdhos 70.79 305 *e*P **P 04 14 21.9 -2.4**
comp=Z,139nm,1.2s,mb5.8
SEY Seymchan 71.01 24 *e*P **P 04 14 24.5 -0.7**
SEY *SP sP 04 14 44.4 +1.0
SEY 04 17 03.3
SEY *e*PPP PPP 04 18 41.5 -4.7
SEY *e*S S 04 23 40.3 +3.8
SEY *SS 04 24 02.1
SEY 04 24 26.2
SEY *e*SSS SSS 04 31 24.1 +5.6
SEY pmax pmax
comp=Z,80nm,0.9s,mb5.7
SEY MLR MLR
comp=Z,7µm,17.0s,MS6.0
SEY MLR MLR
comp=N,5µm,18.0s,MS6.0
SEY MLR MLR
comp=E,7µm,20.0s,MS6.0
PVL Pavlikeni 71.10 314 *i* P **P 04 14 26.0 -0.1**
WAKE Wake Island 71.46 72 PFAKE 04 14 40.0 +11
WAKE LR LR
comp=Z,59µm,22.0s
PGB Panagyurishte 71.83 313 *i* P **P 04 14 30.0 -0.4**
MNK Minsk 72.11 326⇓*e*P **P 04 14 29.0 -2.9**
MNK pmax pmax
comp=Z,770nm,1.0s,mb6.6
MNK pmax pmax
comp=E,980nm,1.8s
PUL Pulkovo 72.47 331 *e*P **P 04 14 33.1 -0.8**
PUL *e*S S 04 23 49.4 -3.9
PUL pmax pmax
comp=N,102nm,0.7s
PUL pmax pmax
comp=Z,94nm,0.7s,mb5.8
PUL pmax pmax
comp=E,216nm,1.0s
PUL smax
comp=Z,185nm,6.0s
PUL smax
comp=N,194nm,8.0s
PUL MLR MLR
comp=N,2µm,21.0s,MS5.4
PUL MLR MLR
comp=E,1µm,18.0s,MS5.4
CASY Casey 72.49 173 P **P 04 14 34.6 +0.7**
comp=E,137nm,1.5s,mb5.7
CASY LR LR
comp=Z,3µm,19.0s,MS5.6
KKB Krupnik 72.52 312 *i* P **P 04 14 33.0 -1.5**
VTS Vitosha 72.53 313 *i* P **P 04 14 33.0 -1.6**
VAY Valandovo 72.82 311⇑*i*P **P 04 14 35.4 -0.9**
IDID Didziasalis 72.94 326 *i* P **P 04 14 36.4 -0.4**
IDID AMPb AMB 04 14 38.6
comp=Z,52nm,1.2s,mb5.3
IDID *e*pP pP 04 14 46.5 -3.6
JOF Joensuu 73.16 335 *e*p **P 04 14 36.9 -1.0**
comp=Z,38nm,0.9s,mb5.3
IIGN Ignalina 73.24 326 *i* P **P 04 14 38.2 -0.3**
IIGN AMPb AMB 04 14 40.4
comp=Z,54nm,1.2s,mb5.4
IZAR Zarasai 73.33 327 *i* P **P 04 14 38.6 -0.5**
IZAR AMPb AMB 04 14 40.8
comp=Z,40nm,1.1s,mb5.3
LBTB Lobatse 73.34 242 *e*P **P 04 14 40.4 +0.6**
LBTB pmax pmax
comp=Z,56nm,1.4s,mb5.3
LBTB MLR MLR
comp=Z,4µm,20.0s,MS5.7
LBTB Lobatse 73.34 242 *e*P **P 04 14 40.4 +0.7**
comp=Z,56nm,1.4s,mb5.3
LBTB LR LR
comp=Z,4µm,20.0s,MS5.7
ISAL Salakas 73.35 327 *i* P **P 04 14 38.8 -0.3**
BARS Barje 73.58 313⇑*i*P **P 04 14 39.4 -1.4**
BOLS Boljevac 73.62 314⇑*i*P **P 04 14 40.3 -0.7**
SKO Skopje 73.75 312 *i* P **P 04 14 40.6 -1.2**
SKO *i* pP 04 14 55.0 0.0
LVZ Lovozero 73.93 340 *e*P **P 04 14 41.6 -0.7**
LVZ *e*S S 04 24 36.1 +27
LVZ pmax pmax
comp=Z,37nm,0.9s,mb5.3
LVZ pmax pmax
comp=N,31nm,1.1s
LVZ smax
comp=Z,184nm,6.2s
LVZ smax
comp=N,125nm,7.8s
LVZ smax
comp=E,455nm,17.2s
LVZ MLR MLR
comp=Z,1µm,20.0s,MS5.2
LVZ MLR MLR
comp=N,1µm,19.0s
KWP Kalwaria 74.06 320 *e*P **P 04 14 43.4 0.0**
KWP *e*PP pP 04 14 56.1 -0.6
KWP Kalwaria 74.06 320 *e*P **P 04 14 43.4 0.0**
KWP *e*pP pP 04 14 56.1 -0.6
KWP Kalwaria 74.06 320 *e*P **P 04 14 43.4 0.0**

KWP *e*pP pP 04 14 56.1 -0.6
KWP MLR MLR 04 49 15.6
comp=N,700nm,26.9s,MS4.8
APA Apatity 74.22 340⇑*i*P **P 04 14 43.7 -0.3**
APA *i* pP 04 14 52.7 -4.6
APA *i* pP 04 15 00.7 +3.4
APA pmax pmax
comp=Z,310nm,2.0s,mb5.9
APA MLR MLR
comp=Z,2µm,19.0s,MS5.5
KOLS Kolonicke sedl 74.22 319 *i* P **P 04 14 45.1 +0.8**
GRUS Gruza 74.52 314⇓*i*P **P 04 14 45.9 -0.3**
CRVS Cervenica-Dubn 74.74 319 *i* P **P 04 14 48.3 +0.9**
BEO Belgrade 74.83 315⇑*i*P **P 04 14 47.8 -0.2**
QSH Qafa e Shtames 74.83 311 *i* p **P 04 14 46.0 -2.0**
PVY Plav 74.90 313⇑*i*P **P 04 14 47.6 -0.8**
IVA Berane 74.99 313⇑*i*P **P 04 14 48.4 -0.5**
DIVS Divcibare 75.06 314⇓*i*P **P 04 14 48.9 -0.5**
KAF Kangasniemi 75.08 333 *e*p **P 04 14 47.7 -1.3**
comp=Z,36nm,0.9s,mb5.3
KAF Kangasniemi 75.08 333 *e*P **P 04 14 47.7 -1.3**
KAF pmax pmax
comp=Z,36nm,0.9s,mb5.3
KECS Kecovo 75.32 319 *i* P **P 04 14 50.8 +0.1**
ULC Ulcinj 75.37 312⇑*i*P **P 04 14 50.3 -0.8**
NOUC Port Laguerre 75.40 114 *e*P **P 04 14 52.5 +0.8**
PLE Pljevlja 75.41 313⇑*i*P **P 04 14 51.3 0.0**
TTG Podgorica 75.41 312⇑*i*P **P 04 14 50.2 -1.1**
BBLS Bajina Basta - 75.45 314⇑*i*P **P 04 14 51.5 -0.1**
DZM Mont Dzumac 75.53 114⇑*e*P **P 04 14 53.4 +1.0**
DZM Mont Dzumac 75.53 114⇑*e*P **P 04 14 53.4 +1.0**
NIE Niedzica 75.57 320⇑*i*P **P 04 14 52.7 +0.6**
WAR Warsaw 75.58 323 *e*P **P 04 14 52.0 -0.1**
WAR *e**PP pP 04 15 06.3 +0.9
WAR MLR MLR
comp=Z,1µm,22.5s,MS5.1
WAR Warsaw 75.58 323 *e*P **P 04 14 52.0 -0.1**
WAR *e*pP pP 04 15 06.3 +0.9
WAR LR LR
comp=Z,1µm,22.5s,MS5.1
WAR Warsaw 75.58 323 *e*P **P 04 14 52.0 -0.1**
WAR *e*pP pP 04 15 06.3 +0.9
WAR MLR MLR 04 52 41.4
comp=Z,1µm,22.5s,MS5.1
PSZ Piszkesteto 75.63 318 *e*P **P 04 14 52.1 -0.4**
PSZ *e**PP pP 04 15 02.4 -3.4
PSZ pmax pmax
comp=Z,2µm,2.9s,mb6.4
PSZ Piszkesteto 75.63 318 *e*P **P 04 14 52.1 -0.4**
comp=Z,2µm,2.9s,mb6.4
PSZ *e*pP pP 04 15 02.4 -3.4
PSZ Piszkesteto 75.63 318⇑*e*P **P 04 14 52.7 +0.2**
NKY Niksic 75.64 313⇑*i*P **P 04 14 51.5 -1.2**
BUM Brajici-Budva 75.66 312⇑*i*P **P 04 14 52.0 -0.8**
UPM Unac-Piva 75.74 313⇑*i*P **P 04 14 52.2 -1.0**
HCY Herceg Novi 75.97 312⇑*i*P **P 04 14 53.6 -0.9**
BRY Bratogost 75.98 313⇑*i*P **P 04 14 53.5 -1.1**
OJC Ojcow 76.02 320⇑*e*P **P 04 14 54.9 +0.3**
OJC Ojcow 76.02 320⇑*e*P **P 04 14 54.9 +0.3**
OJC Ojcow 76.02 320⇑*e*P **P 04 14 54.9 +0.3**
MAW Mawson 76.22 192 *e*P **P 04 14 57.2 +1.8**
comp=Z,15nm,0.9s,mb4.9
MAW Mawson 76.22 192 *e*P **P 04 14 57.2 +1.8**
MAW pmax pmax
comp=Z,15nm,0.9s
VYHS Vyhne 76.40 318 *i* P **P 04 14 57.2 +0.3**
SRO2 Moca 76.61 318 *e*P **P 04 14 58.8 +0.8**
SRO Srobarova 76.67 318 *e*P **P 04 14 59.4 +1.0**
KOLL Kolacno 76.70 319 *e*P **P 04 14 59.1 +0.6**
OKC Ostrava-Krasne 77.02 320⇑*i*P **P 04 15 00.8 +0.5**
OKC *e*pP pP 04 15 15.2 +1.5
RAC Raciborz 77.02 320 *e*P **P 04 15 01.3 +1.0**
RAC MLR MLR
comp=Z,600nm,22.2s,MS4.9
RAC Raciborz 77.02 320 *e*P **P 04 15 01.3 +1.0**
RAC LR LR
comp=Z,600nm,22.2s,MS4.9
RAC Raciborz 77.02 320 *e*P **P 04 15 01.3 +1.0**
RAC MLR MLR 04 51 14.6
comp=Z,600nm,22.2s,MS4.9
TIP Timpagrande 77.03 309 *e*P **P 04 15 00.2 -0.4**
KEV Kevo 77.22 341 *e*p **P 04 15 00.2 -0.8**
comp=Z,22nm,0.6s,mb5.3
KEV Kevo 77.22 341 *e*P **P 04 15 00.2 -0.8**
KEV pmax pmax
comp=Z,23nm,0.6s,mb5.3
SMOL Smolenice 77.34 318 *e*P **P 04 15 02.7 +0.6**
MORC Moravsky Berou 77.40 320 *e*P **P 04 15 02.5 +0.1**
MORC pmax pmax
comp=Z,164nm,1.3s,mb5.8
MORC Moravsky Berou 77.40 320 *e*P **P 04 15 02.5 +0.1**
comp=Z,164nm,1.3s,mb5.8
ZST Bratislava 77.52 318 *e*P **P 04 15 03.7 +0.6**
ARE0 ARCESS Array S 77.64 340 *e*P **P 04 15 03.2 -0.1**
SOP Sopron 77.83 317⇑*i*P **P 04 15 05.2 +0.3**
GKP Gorka Klasztor 78.00 323 *e*P **P 04 15 05.6 -0.1**
GKP *e**PP pP 04 15 17.4 -1.6
GKP MLR MLR
comp=Z,1µm,21.8s,MS5.1
GKP Gorka Klasztor 78.00 323 *e*P **P 04 15 05.6 -0.1**
GKP *e*pP pP 04 15 17.4 -1.6
GKP LR LR
comp=Z,1µm,21.8s,MS5.1
GKP Gorka Klasztor 78.00 323 *e*P **P 04 15 05.6 -0.1**
GKP *e*pP pP 04 15 17.4 -1.7
GKP MLR MLR 04 58 47.6
comp=Z,1µm,21.8s,MS5.1
VKA Vienna 78.05 318⇑*i*P **P 04 15 06.6 +0.6**
comp=Z,933nm,2.5s,mb6.3
VKA Vienna 78.05 318⇑*i*P **P 04 15 06.6 +0.6**
VKA pmax pmax
comp=Z,933nm,2.5s,mb6.3
BILL Bilibino 78.23 21 *e*P **P 04 15 05.4 -1.2**
BILL pmax pmax
comp=Z,209nm,1.6s,mb5.8
BILL MLR MLR
comp=Z,6µm,20.0s,MS5.9
BILL Bilibino 78.23 21 *e*P **P 04 15 05.4 -1.3**
comp=Z,209nm,1.6s,mb5.8
BILL LR LR
comp=Z,6µm,20.0s,MS5.9
DPC Dobruska-Polom 78.25 320⇑*i*P **P 04 15 08.2 +1.2**
DPC *e*pP pP 04 15 20.1 -0.3
KTK1 Kautokeino 78.26 340 *e*P **P 04 15 07.2 +0.4**
comp=Z,70nm,1.5s,mb5.4
KTK1 Kautokeino 78.26 340 *e*P **P 04 15 07.2 +0.4**
KTK1 AMb AMB 04 15 09.0
comp=Z,70nm,1.5s,mb5.4
KSP Ksiaz 78.31 321⇑*e*P **P 04 15 08.0 +0.6**
KSP *e**PP pP 04 15 22.0 +1.2
KSP *e*S S 04 24 59.0 +1.2
KSP MLR MLR
comp=Z,1µm,21.6s,MS5.2
KSP Ksiaz 78.31 321⇑*e*P **P 04 15 08.0 +0.6**
KSP *e*pP pP 04 15 22.0 +1.2
KSP *e*S S 04 24 59.0 +1.2
KSP LR LR
comp=Z,1µm,21.6s,MS5.2
KSP Ksiaz 78.31 321 *e*P **P 04 15 08.1 +0.6**
KSP *e*pP pP 04 15 22.3 +1.6
KSP MLR MLR 04 56 43.8
comp=Z,1µm,21.6s,MS5.1
UPC Upice 78.46 320⇑*i*P **P 04 15 09.0 +0.8**
UPC *e*pP pP 04 15 23.0 +1.4
ARSA Arzberg 78.50 317⇑*i*P **P 04 15 09.2 +0.7**
comp=Z,174nm,1.4s,mb5.8
BOJS Bojanci 78.56 315⇑*e*P **P 04 15 09.1 +0.2**
comp=Z,421nm,1.7s,mb6.1
PERS Pernice 78.73 316⇑*e*P **P 04 15 10.5 +0.7**
comp=Z,529nm,1.8s,mb6.2
PERS *e* pP 04 15 24.5 +1.3
LJU Ljubljana 79.10 316⇑*e*P **P 04 15 12.4 +0.6**
LJU *e* pP 04 15 26.6 +1.4
LJU *e* 04 25 22.2
LJU pmax pmax
comp=Z,800nm,1.6s,mb6.4
LJU Ljubljana 79.10 316⇑*e*P **P 04 15 12.4 +0.5**
comp=Z,800nm,1.6s,mb6.4
LJU *e* pP 04 15 26.6 +1.3
LJU *e* 04 25 22.2
OBKA Obir 79.11 316⇑*i*P **P 04 15 12.5 +0.6**
comp=Z,161nm,1.5s,mb5.7
SUR Sutherland 79.19 236 *e*P **P 04 15 14.2 +1.6**
comp=Z,58nm,0.9s,mb5.5

SUR LR LR
comp=Z,582nm,19.0s,MS4.9
PRU Pruhonice 79.35 320⇑ *iP* **P 04 15 13.6 +0.5**
PRU *epP* pP 04 15 27.6 +1.1
PVCC Panska Ves 79.38 320⇑ *eP* **P 04 15 14.0 +0.7**
PVCC *epP* pP 04 15 27.7 +1.0
MOA Molln 79.39 318⇑ *iP* **P 04 15 13.6 +0.2**
comp=Z,75nm,1.4s,mb5.4
SMY Shemya 79.44 37 PFAKE 04 15 30.0 +16
SMY LR LR
comp=Z,17µm,19.0s,MS6.4
VOY Vojsko 79.54 316 *eP* **P 04 15 14.3 +0.1**
VOY *e* pP 04 15 28.5 +0.9
VOY *e* 04 15 47.4
VOY *e* 04 15 53.7
BSD Bornholm Skovb 79.56 325⇑ *iP* **P 04 15 13.6 -0.6**
BSD pmax pmax
comp=Z,67nm,1.0s,mb5.5
BSD Bornholm Skovb 79.56 325⇑ *iP* **P 04 15 13.6 -0.6**
comp=Z,66nm,1.0s,mb5.5
AQU L'Aquila 79.73 312 *eP* **P 04 15 14.9 -0.4**
AQU pmax pmax
comp=Z,663nm,2.1s,mb6.2
AQU L'Aquila 79.73 312 *eP* **P 04 15 14.9 -0.5**
comp=Z,663nm,2.1s,mb6.2
BRG Berggiesshubel 79.80 321⇑ *iP* **P 04 15 16.2 +0.7**
BRG *i* *PP pP 04 15 30.8 +1.9
BRG pmax pmax
comp=Z,195nm,1.5s,mb5.8
BRG Berggiesshubel 79.80 321⇑ *iP* **P 04 15 16.2 +0.7**
comp=Z,195nm,1.5s,mb5.8
BRG *i* pP pP 04 15 30.8 +1.9
GEC2 GERESS Array S 79.83 319 *eP* **P 04 15 16.4 +0.7**
GEC2 pmax pmax
comp=Z,279nm,1.4s,mb6.0
GEC2 GERESS Array S 79.83 319 *eP* **P 04 15 16.4 +0.7**
comp=Z,279nm,1.4s,mb6.0
TRO Tromso 79.90 340 *eP* **P 04 15 14.8 -0.8**
TRO *epP* pP 04 15 28.9 -0.2
KHC Kasperske Hory 79.92 319⇑ *iP* **P 04 15 16.6 +0.4**
KHC *e*PP pP 04 15 28.5 -1.1
KHC Kasperske Hory 79.92 319⇑ *iP* **P 04 15 16.6 +0.4**
KHC *e* 04 15 19.0
KHC *epP* pP 04 15 28.5 -1.1
KHC Kasperske Hory 79.92 319⇑ *iP* **P 04 15 16.6 +0.4**
KHC x x 04 15 19.0
KHC *epP* pP 04 15 28.5 -1.1
KBA Koelnbreinsper 79.97 317⇑ *iP* **P 04 15 16.8 +0.3**
comp=Z,82nm,1.4s,mb5.5
KBA Koelnbreinsper 79.97 317⇑ *iP* **P 04 15 16.8 +0.3**
KBA pmax pmax
comp=Z,82nm,1.4s,mb5.5
RUE Ruedersdorf 80.01 322 *eP* **P 04 15 16.9 +0.3**
comp=Z,236nm,1.1s,mb6.0
WET Wettzell 80.38 319 *eP* **P 04 15 19.3 +0.6**
WET pmax pmax
comp=Z,165nm,1.4s,mb5.8
WET Wettzell 80.38 319 *eP* **P 04 15 19.3 +0.6**
comp=Z,165nm,1.4s,mb5.8
CLL Collm 80.42 321⇑ *iP* **P 04 15 19.0 +0.2**
CLL *i* pP 04 15 28.8 -3.4
CLL *i* pP 04 15 33.3 +1.1
CLL pmax pmax
comp=Z,107nm,1.3s,mb5.6
CLL Collm 80.42 321⇑ *iP* **P 04 15 19.0 +0.2**
comp=Z,107nm,1.3s,mb5.6
CLL *i* pP 04 15 28.8 -3.4
CLL *i* pP 04 15 33.3 +1.1
CLL Collm 80.42 321⇑ **P 04 15 19.0 +0.2**
comp=Z,logA/T=1.9,mb5.6
CLL *i* *PP pP 04 15 28.8 -3.4
CLL *i* *SP sP 04 15 33.3 -4.0
NKC Novy Kostel 80.71 320⇑ *iP* **P 04 15 21.1 +0.7**
MOR8 Moi Rana 81.01 336 *eP* **P 04 15 22.6 +1.0**
COP Copenhagen 81.02 325 *eP* **P 04 15 21.3 -0.6**
COP pmax pmax
comp=Z,29nm,0.9s,mb5.2
COP Copenhagen 81.02 325 *eP* **P 04 15 21.3 -0.6**
comp=Z,29nm,0.9s,mb5.2
COP Copenhagen 81.02 325 *i* **P 04 15 21.3 -0.6**
comp=Z,29nm,0.9s,mb5.2
WTTA Wattenberg 81.14 317⇑ *iP* **P 04 15 22.8 +0.1**
comp=Z,162nm,1.3s,mb5.8
WTTA Wattenberg 81.14 317⇑ *iP* **P 04 15 22.8 +0.1**
WTTA pmax pmax
comp=Z,162nm,1.3s,mb5.8
WATA Walderalm 81.18 317⇑ *iP* **P 04 15 22.6 -0.3**
comp=Z,143nm,1.4s,mb5.7
WATA Walderalm 81.18 317⇑ *iP* **P 04 15 22.6 -0.3**
WATA pmax pmax
comp=Z,143nm,1.4s,mb5.7
MOX Moxa 81.26 320 *eP* **P 04 15 23.7 +0.4**
MOX *e* pP 04 15 38.1 +1.4
MOX pmax pmax
comp=Z,148nm,1.7s,mb5.6
MOX MLR MLR
comp=Z,600nm,20.0s,MS5.0
MOX Moxa 81.26 320 *eP* **P 04 15 23.7 +0.4**
comp=Z,148nm,1.7s,mb5.6
MOX *e* pP 04 15 38.1 +1.4
MOX LR LR
comp=Z,600nm,20.0s,MS5.0
MOX Moxa 81.26 320⇑ *iP* **P 04 15 23.7 +0.4**
comp=Z,logA/T=1.9,mb5.6
MOX pP pP 04 15 38.0 +1.3
MOX L 04 59 57.0
FUR Furstenfeldbru 81.41 318 *eP* **P 04 15 24.2 +0.1**
FUR pmax pmax
comp=Z,291nm,1.7s,mb5.9
FUR Furstenfeldbru 81.41 318 *eP* **P 04 15 24.2 +0.1**
comp=Z,291nm,1.7s,mb5.9
SQTA Sankt Quirin 81.43 317⇑ *iP* **P 04 15 24.3 +0.1**
comp=Z,130nm,1.3s,mb5.7
SQTA Sankt Quirin 81.43 317⇑ *iP* **P 04 15 24.3 +0.1**
SQTA pmax pmax
comp=Z,130nm,1.3s,mb5.7
GRA1 Grafenberg Arr 81.48 319 *eP* **P 04 15 25.4 +0.9**
comp=Z,196nm,1.3s,mb5.9
GRA1 *epP* pP 04 15 39.2 +1.3
GRF Grafenberg Arr 81.48 319 *eP* **P 04 15 25.4 +0.9**
GRF *e*PP pP 04 15 39.2 +1.3
GRF pmax pmax
comp=Z,196nm,1.3s,mb5.9
GRF Grafenberg Arr 81.48 319 *eP* **P 04 15 25.4 +0.9**
GRF *e*PP pP 04 15 39.2 +1.3
GRF pmax pmax
comp=Z,196nm,1.3s,mb5.9
GRF Grafenberg Arr 81.48 319 *eP* **P 04 15 25.4 +0.9**
comp=Z,196nm,1.3s,mb5.9
GRF *epP* pP 04 15 39.2 +1.3
MOTA Moosalm 81.50 317⇓ *iP* **P 04 15 24.4 -0.2**
comp=Z,91nm,1.2s,mb5.6
MOTA Moosalm 81.50 317⇓ *iP* **P 04 15 24.4 -0.2**
MOTA pmax pmax
comp=Z,91nm,1.2s,mb5.6
MAIM 81.89 313 P **P 04 15 25.9 -0.7**
SARO Sassorosso 81.96 314 P **P 04 15 26.9 -0.1**
NB2 NORSAR Subarra 81.98 331 P **P 04 15 26.2 -0.6**
comp=Z,68nm,1.4s,mb5.4,baz=97,slow=4.8
NB2 NORSAR Subarra 81.98 331 P **P 04 15 26.2 -0.6**
baz=97,slow=5.1
VALM 82.07 314 P **P 04 15 28.6 +1.0**
CLZ Clausthal 82.08 321 *eP* **P 04 15 28.0 +0.5**
comp=Z,131nm,1.2s,mb5.7
HDH Heidenheim 82.13 318⇑ *eP* **P 04 15 27.9 +0.1**
VINC Vinca 82.14 314 P **P 04 15 27.4 -0.5**
BSEG Bad Segeberg 82.17 324 *eP* **P 04 15 28.5 +0.6**
UBR Uberruh 82.19 317⇑ *eP* **P 04 15 28.3 +0.2**
BACM 82.19 314 P **P 04 15 28.2 0.0**
GRAM 82.20 314 P **P 04 15 29.1 +0.9**
DAVA Damuels 82.34 317⇑ *iP* **P 04 15 29.5 +0.6**
comp=Z,153nm,1.2s,mb5.8
CODM 82.35 314 P **P 04 15 29.4 +0.3**
SIND Sindeldorf 82.53 319⇑ *eP* **P 04 15 30.4 +0.5**
BUCH Bad Urach 82.70 318⇑ *eP* **P 04 15 31.2 +0.5**
KONO Kongsberg 82.72 329 PFAKE 04 15 40.0 +9.4
KONO LR LR
comp=Z,1µm,19.0s,MS5.3
VSL Villasalto 82.76 309 *eP* **P 04 15 30.8 -0.4**
comp=Z,293nm,1.9s,mb6.0
STU Stuttgart 82.80 318 *eP* **P 04 15 31.0 -0.2**
STU pmax pmax
comp=Z,150nm,1.6s,mb5.8
STU Stuttgart 82.80 318 *eP* **P 04 15 31.0 -0.3**
comp=Z,150nm,1.6s,mb5.8
GUT Gutenstein 82.86 318⇑ *eP* **P 04 15 31.8 +0.3**
MUD Monsted U'grnd 82.88 326 *i* **P 04 15 31.8 +0.4**
MUD pmax pmax
comp=Z,61nm,1.3s,mb5.5
MUD Monsted U'grnd 82.88 326 *i* **P 04 15 31.8 +0.4**
comp=Z,61nm,1.3s,mb5.5
PGF Pioggiola 82.99 312⇑ *iP* **P 04 15 33.1 +0.8**
comp=Z,353nm,1.6s,mb5.8
PGF Pioggiola 82.99 312⇑ *iP* **P 04 15 33.1 +0.8**
PGF pmax pmax
comp=Z,176nm,1.6s,mb5.8
TOD Tromm 83.06 319⇑ *eP* **P 04 15 33.1 +0.6**
LBG Lerchenberg 83.07 318⇑ *eP* **P 04 15 32.9 +0.3**
SPAK Spaichingen 83.08 318 *eP* **P 04 15 33.5 +0.9**
SPAK Spaichingen 83.08 318⇑ *eP* **P 04 15 33.3 +0.7**
SWS Schriesheim 83.12 319⇑ *eP* **P 04 15 33.2 +0.3**
PCP Pian Castagno 83.29 314 P **P 04 15 33.7 -0.1**
BFO Black Forest 83.38 318 *eP* **P 04 15 34.3 +0.1**
BFO pmax pmax
comp=Z,78nm,1.2s,mb5.6
BFO Black Forest 83.38 318 *eP* **P 04 15 34.3 +0.1**
comp=Z,78nm,1.2s,mb5.6
KTD Kalmit 83.53 319 *eP* **P 04 15 35.4 +0.5**
FIN Finale Ligure 83.53 314 P **P 04 15 35.5 +0.4**
FELD Feldberg 83.60 317⇑ *eP* **P 04 15 35.8 +0.5**
KIZ Kirchzarten 83.66 318⇑ *eP* **P 04 15 35.8 +0.2**
ORX Oropa 83.66 315 P **P 04 15 34.9 -0.8**
LANF Langenberg 83.72 319 *eP* **P 04 15 36.8 +0.9**
MOL Molde 83.77 332 *eP* **P 04 15 39.4 +3.5**
MOL *epP* pP 04 15 53.9 +4.6
IMI Imperia 83.77 313 P **P 04 15 36.8 +0.4**
ROB Roburent 83.78 314 P **P 04 15 36.8 +0.5**
TRAV 83.83 315 P **P 04 15 35.8 -0.8**
MONE Monesi 83.86 314 P **P 04 15 37.5 +0.7**
ABH Alteburg 83.87 319 *eP* **P 04 15 37.6 +1.0**
ABH Alteburg 83.87 319⇑ *eP* **P 04 15 37.5 +0.9**
LIBD Limburg 83.87 318 *eP* **P 04 15 37.6 +0.9**
LIBD Limburg 83.87 318 *eP* **P 04 15 37.4 +0.7**
NEGI Negi 83.91 313 P **P 04 15 37.5 +0.5**
BBS Basel-Blauen 83.95 317 *eP* **P 04 15 37.4 +0.3**
BBS Basel-Blauen 83.95 317⇑ *eP* **P 04 15 37.3 +0.2**
SAOF Saorge 84.01 314 *eP* **P 04 15 38.2 +0.7**
WLS Welschbruch 84.03 318 *eP* **P 04 15 37.7 +0.2**
CDF Champ du Feu 84.08 318⇑ *iP* **P 04 15 37.8 +0.1**
comp=Z,171nm,1.4s,mb5.7
CDF Champ du Feu 84.08 318⇑ *iP* **P 04 15 37.8 +0.1**
CDF pmax pmax
comp=Z,86nm,1.4s,mb5.7
ENR Entracque 84.10 314 P **P 04 15 37.5 -0.5**
SBF Sospel 84.10 313⇑ *iP* **P 04 15 38.4 +0.4**
comp=Z,394nm,1.3s,mb6.1
SBF Sospel 84.10 313⇑ *iP* **P 04 15 38.4 +0.4**
SBF pmax pmax
comp=Z,197nm,1.3s,mb6.1
AUTN L'Aution 84.10 314 *eP* **P 04 15 39.5 +1.5**
REVF Revere 84.15 313 *eP* **P 04 15 38.9 +0.7**
ECH Echery 84.16 318 *eP* **P 04 15 38.6 +0.4**
STV Sta Anna Valdi 84.17 314 P **P 04 15 37.4 -0.9**
RSP Reno Superiore 84.19 315 P **P 04 15 38.1 -0.3**
RUP Ruppelstein 84.19 319 *eP* **P 04 15 39.1 +0.8**
RUP Ruppelstein 84.19 319⇑ *eP* **P 04 15 39.0 +0.7**
MOF Molkenrain 84.19 317 *eP* **P 04 15 38.6 +0.3**
BHB Bricherasio 84.19 314 P **P 04 15 37.0 -1.4**
TOUF Mont Tournerai 84.23 314 *eP* **P 04 15 39.4 +0.8**
LSD Ceresole Reale 84.25 315 P **P 04 15 39.5 +0.8**
WTSB Winterswijk 84.29 322 *eP* **P 04 15 39.4 +0.7**
comp=Z,138nm,1.5s,mb5.9
WTSB *ex* x 04 15 53.2
MVIF Mont Vial 84.30 313 *eP* **P 04 15 39.7 +0.7**
PZZ Prazzo 84.32 314 P **P 04 15 38.2 -0.8**
FENE Fenestrelle 84.33 315 P **P 04 15 39.3 +0.2**
WIT Witteveen 84.35 322 *eP* **P 04 15 39.6 +0.6**
WIT *ex* x 04 15 54.1
LOMF Lomont 84.41 317 *eP* **P 04 15 40.0 +0.6**
SURF Saint Ours 84.53 314 *eP* **P 04 15 41.3 +1.2**
RRL Cesana Torines 84.53 315 P **P 04 15 40.2 +0.1**
LPG La Plagne 84.53 315⇑ *iP* **P 04 15 40.9 +0.8**
comp=Z,277nm,1.3s,mb5.9
LPG La Plagne 84.53 315⇑ *iP* **P 04 15 40.9 +0.8**
LPG pmax pmax
comp=Z,138nm,1.3s,mb5.9
MBDF Montbardon 84.55 314⇑ *iP* **P 04 15 40.2 0.0**
comp=Z,122nm,1.4s,mb5.5
MBDF Montbardon 84.55 314⇑ *iP* **P 04 15 40.2 0.0**
MBDF pmax pmax
comp=Z,61nm,1.4s,mb5.5
BNI Bardonecchia 84.60 315 *eP* **P 04 15 40.2 -0.2**
BNI pmax pmax
comp=Z,91nm,1.3s,mb5.8
BNI Bardonecchia 84.60 315 *eP* **P 04 15 40.2 -0.2**
comp=Z,91nm,1.3s,mb5.8
HAU Haudompre 84.71 318⇑ *iP* **P 04 15 41.0 +0.1**
comp=Z,357nm,1.4s,mb6.0
HAU *eR*
comp=Z,764nm,22.5s
HAU Haudompre 84.71 318⇑ *iP* **P 04 15 41.0 +0.1**
HAU pmax pmax
comp=Z,179nm,1.4s,mb6.0
HAU MLR MLR
comp=Z,760nm,22.5s,MS5.0
WLF Walferdange 84.78 319 *eP* **P 04 15 41.5 +0.3**
WLF pmax pmax
comp=Z,297nm,1.8s,mb6.1
WLF Walferdange 84.78 319 *eP* **P 04 15 41.5 +0.3**
comp=Z,297nm,1.8s,mb6.1
HGN Heimansgroeve 84.88 320 *eP* **P 04 15 41.8 +0.1**
comp=Z,78nm,1.9s,mb5.5
HGN *ex* x 04 15 56.1
THEF They Montfort 84.95 318 *eP* **P 04 15 42.6 +0.5**
GDM Grand'Maison 84.99 315 *eP* **P 04 15 43.2 +0.8**
BAIF Baives 86.01 320⇑ *iP* **P 04 15 48.0 +0.7**
comp=Z,183nm,1.3s,mb5.8
BAIF Baives 86.01 320⇑ *iP* **P 04 15 48.0 +0.7**
BAIF pmax pmax
comp=Z,92nm,1.3s,mb5.8
SSF Saint Saulge 86.69 317⇑ *iP* **P 04 15 51.2 +0.5**
SSF pmax pmax
comp=Z,175nm,1.7s,mb6.0
SSF Saint Saulge 86.69 317⇑ *iP* **P 04 15 51.2 +0.5**
comp=Z,175nm,1.7s,mb6.0
PLDF La Plantade 86.69 316 *eP* **P 04 15 52.8 +2.1**
LBL Lubilhac 87.01 315 *eP* **P 04 15 54.7 +2.4**
AGO Saint Agoulin 87.03 316 *eP* **P 04 15 54.3 +2.0**
PYM Petit Puy Mans 87.14 316 *eP* **P 04 15 55.1 +2.2**
BGF Bois d'Agland 87.18 316⇑ *iP* **P 04 15 53.9 +0.8**
comp=Z,286nm,1.4s,mb6.0
BGF Bois d'Agland 87.18 316⇑ *iP* **P 04 15 53.9 +0.8**
BGF pmax pmax
comp=Z,143nm,1.4s,mb6.0
VALF Valcebollere 88.15 312 *eP* **P 04 15 59.5 +1.7**
RJF Les Rejaudoux 88.22 315⇑ *iP* **P 04 15 59.2 +1.1**
comp=Z,215nm,1.4s,mb5.9
RJF *eR*
comp=Z,613nm,22.5s
RJF Les Rejaudoux 88.22 315⇑ *iP* **P 04 15 59.2 +1.1**
RJF pmax pmax
comp=Z,108nm,1.4s,mb5.9
RJF MLR MLR
comp=Z,610nm,22.5s,MS5.0
EMIR Miracle 88.57 312 P **P 04 16 01.3 +1.5**
comp=Z,148nm,1.8s,mb6.0
MLS Moulis 88.77 313 *eP* **P 04 16 01.2 +0.4**
EPOB Poblet 88.96 311 P **P 04 16 03.0 +1.3**
comp=Z,99nm,1.6s,mb5.9
FLN La Foliniere 89.19 319⇑ *iP* **P 04 16 03.2 +0.6**
comp=Z,243nm,1.4s,mb6.0
FLN *eR*
comp=Z,784nm,23.0s
FLN La Foliniere 89.19 319⇑ *iP* **P 04 16 03.2 +0.6**
FLN pmax pmax
comp=Z,122nm,1.4s,mb6.0
FLN MLR MLR
comp=Z,780nm,23.0s,MS5.1
RESF Ens 89.34 313 *eP* **P 04 16 05.0 +1.5**
ANM Nome 89.50 25 *eP* **P 04 16 05.2 +1.5**
EBIE Bielsa 89.50 313 P **P 04 16 04.7 +0.5**
comp=Z,90nm,1.5s,mb5.9
ERTA Horta de San J 89.56 311 P **P 04 16 06.1 +1.5**
comp=Z,143nm,1.7s,mb6.0
DAG Danmarks Havn 89.90 348⇓ *eP* **P 04 16 04.9 -0.5**
DAG pmax pmax
comp=Z,13nm,0.9s,mb5.3
DAG Danmarks Havn 89.90 348⇓ *eP* **P 04 16 04.9 -0.5**
comp=Z,13nm,0.9s,mb5.2
DAG Danmarks Havn 89.90 348⇓ *iP* **P 04 16 04.9 -0.5**
comp=Z,13nm,0.9s,mb5.2
ETSF Etsaut 89.99 313⇑ *iP* **P 04 16 07.8 +1.3**
comp=Z,52nm,1.0s,mb5.5
ETSF Etsaut 89.99 313⇑ *iP* **P 04 16 07.8 +1.3**
ETSF pmax pmax
comp=Z,26nm,1.0s,mb5.5
ESAC San Caprasio 90.07 312 P **P 04 16 08.1 +1.2**
comp=Z,199nm,1.9s,mb6.1
EMOS Mosqueruela 90.24 310 P **P 04 16 10.1 +2.3**
comp=Z,262nm,1.6s,mb6.3
LARF Larrau 90.28 313 *eP* **P 04 16 09.4 +1.5**
VNDA Vanda 90.50 168 *eP* **P 04 16 08.2 0.0**
VNDA pmax pmax
comp=Z,65nm,1.5s
VNDA MLR MLR
comp=Z,2µm,19.0s
VNDA Vanda 90.50 168 *eP* **P 04 16 08.2 0.0**
comp=Z,65nm,1.5s,mb5.7
VNDA LR LR
comp=Z,2µm,19.0s,MS5.5
RAO Raoul Island 90.58 119 PFAKE 04 16 20.0 +10
RAO LR LR
comp=Z,2µm,19.0s,MS5.5
EALK Alkurruntz 90.63 313 P **P 04 16 10.8 +1.2**
comp=Z,119nm,2.0s,mb5.9
UNV Unalaska Valle 90.98 36 P **P 04 16 09.5 -1.4**
UNV LR LR
comp=Z,4µm,22.0s,MS5.8
EMUR La Murta 91.17 308 P **P 04 16 13.3 +1.2**
comp=Z,96nm,1.7s,mb5.8
SBA Scott Base 91.60 168 PFAKE 04 16 30.0 +17
SBA LR LR
comp=Z,1µm,20.0s,MS5.3
ELAN Lanestosa 92.02 314 P **P 04 16 17.3 +1.3**
comp=Z,152nm,2.3s,mb5.9
EVIA Vianos 92.04 309 P **P 04 16 17.6 +1.5**
EVIA pmax pmax
comp=Z,60nm,1.2s,mb5.8
EVIA Vianos 92.04 309 P **P 04 16 17.6 +1.5**
comp=Z,60nm,1.2s,mb5.8
ENIJ Nijar 92.05 307 P **P 04 16 17.0 +0.8**
ENIJ pmax pmax
comp=Z,117nm,1.8s,mb5.9
ENIJ Nijar 92.05 307 P **P 04 16 17.0 +0.7**
comp=Z,117nm,1.8s,mb5.9
EBER Berja 92.60 307 P **P 04 16 20.3 +1.5**
comp=Z,164nm,1.7s,mb6.2
EQES Quesada 92.61 308 P **P 04 16 19.8 +1.0**
comp=Z,100nm,2.1s,mb5.9
GUD Guadarrama 92.98 311 P **P 04 16 22.2 +1.8**
GUD pmax pmax
comp=Z,45nm,1.1s,mb5.8
GUD Guadarrama 92.98 311 P **P 04 16 22.2 +1.8**
comp=Z,45nm,1.1s,mb5.8
ESDC Sonseca Array 93.00 310 P **P 04 16 21.4 +0.9**
comp=Z,35nm,1.4s,mb5.6
ESLA Sonseca Array 93.00 310 *eP* **P 04 16 21.7 +1.2**
comp=Z,22nm,1.5s,mb5.4
ESLA *epP* pP 04 16 35.1 +0.8
ESLA LR LR
comp=Z,5µm,22.0s,MS5.9
EBAN Banos Encina 93.11 309 P **P 04 16 21.8 +0.7**
EBAN pmax pmax
comp=Z,52nm,1.3s,mb5.8
EBAN Banos Encina 93.11 309 P **P 04 16 21.8 +0.8**
comp=Z,52nm,1.3s,mb5.8
EARI Arriondas 93.29 314 P **P 04 16 23.1 +1.3**
comp=Z,61nm,1.5s,mb5.8
ELUQ Luque 93.58 308 P **P 04 16 23.1 -0.1**
ELUQ pmax pmax
comp=Z,31nm,1.5s,mb5.5
ELUQ Luque 93.58 308 P **P 04 16 23.1 -0.1**
comp=Z,31nm,1.5s,mb5.5
EADA Adamuz 93.72 309 P **P 04 16 25.0 +1.1**
comp=Z,110nm,1.9s,mb6.0
IMA Indian Mountai 93.76 22 *eP* **P 04 16 24.5 +1.2**
IMA *e*PP pP 04 16 37.2 +0.1
IMA pmax pmax
comp=Z,2µm,1.9s
IMA Indian Mountai 93.76 22 *eP* **P 04 16 25.0 +1.7**
comp=Z,214nm,1.7s,mb6.3
EMIJ Mijas 94.15 307 P **P 04 16 25.8 0.0**
comp=Z,28nm,1.4s,mb5.5
ECAL Calabor 94.65 313 P **P 04 16 29.1 +1.1**
comp=Z,54nm,1.7s,mb5.7
EPON Pontenova 94.67 314 P **P 04 16 29.2 +1.1**
comp=Z,80nm,1.7s,mb5.9
PBRG Braganca 94.68 313 *eP* **P 04 16 29.4 +1.3**
PBRG *es*P sP 04 16 48.1 +1.6
ERUA La Rua 94.86 313 P **P 04 16 29.8 +0.9**
ERUA pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
ERUA La Rua 94.86 313 P **P 04 16 29.8 +0.9**
comp=Z,9.1nm,0.8s,mb5.3
ESPR Espera 94.95 308 P **P 04 16 30.2 +0.7**
comp=Z,58nm,2.4s,mb5.6
EMIN Mina Concepcio 95.42 309 P **P 04 16 31.5 -0.2**
comp=Z,32nm,1.7s,mb5.5
PCBR Castelo Branco 95.63 311 *eP* **P 04 16 33.7 +1.2**
comp=Z,30nm,1.8s,mb5.4
SPU Mount Spurr 96.33 27 *eP* **P 04 16 34.3 -0.8**
SPU *epP* pP 04 16 49.3 +0.4
COLA College 96.47 22 PFAKE 04 16 50.0 +14
COLA LR LR
comp=Z,1µm,21.0s,MS5.4
MCK McKinley 96.56 24 PFAKE 04 16 50.0 +14
MCK LR LR
comp=Z,773nm,20.0s,MS5.2
FIB Fire Island 97.16 26 PFAKE 04 16 50.0 +11
FIB LR LR
comp=Z,904nm,19.0s,MS5.3
KDAK Kodiak Island 97.40 30 PFAKE 04 16 50.0 +10
KDAK LR LR
comp=Z,466nm,19.0s,MS5.0
SLKM Skilak Lake 97.42 27 P **P 04 16 39.9 -0.2**
PMR Palmer 97.43 26 *eP* **P 04 16 40.1 -0.1**
PMR pmax pmax
comp=Z,95nm,1.8s,mb5.9
PMR Palmer 97.43 26 *eP* **P 04 16 40.1 -0.1**
comp=Z,94nm,1.8s,mb5.9
SML Sawmill 97.68 25 *eP* **P 04 16 41.1 -0.2**
SML *e*PP pP 04 16 54.7 -0.3
DBIC Dimbokro 98.55 278 PFAKE 04 17 00.0 +14
DBIC LR LR
comp=Z,939nm,22.0s,MS5.2
VNA2 Neumayer--Watz 98.97 199⇓ *iP* **P 04 16 52.7 +5.8**
VNA2 Neumayer--Watz 98.97 199 *e* **P 04 17 06.0 +19**
DIV Divide 99.08 25 PFAKE 04 17 00.0 +12
DIV LR LR
comp=Z,4µm,20.0s,MS5.9
VNA1 Neumayer--Stat 99.30 199⇓ *iP* **P 04 16 59.4 +11**
VNA3 Neumayer Olymp 99.64 199⇑ *iP* **P 04 17 00.7 +11**
SIT Sitka 105.82 26 PFAKE 04 21 40.0
SIT LR LR
comp=Z,2µm,19.0s,MS5.7
TBI Tubuai 116.09 113 *ePS* PS 04 32 44.1 +7.3
TBI *eSS* SS 04 39 00.8 +6.0
TBI *eLR* LR 04 56 49.3
comp=Z,1µm,23.8s
PPT Papeete 116.39 107 *ePP* PP 04 22 50.6 -11
PPT *ePS* PS 04 32 44.1 +4.5
PPT *eSS* SS 04 39 10.8 +12
PPT *eLR* LR 04 56 57.0
comp=Z,754nm,24.2s
OCWA Octopus Mounta 117.10 28 PFAKE 04 22 00.0 +9.3
OCWA LR LR
comp=Z,1µm,20.0s,MS5.6
SCHQ Schefferville 117.95 348 PFAKE 04 22 10.0 +18
SCHQ LR LR
comp=Z,1µm,21.0s,MS5.5
FFC Flin Flon 118.51 11 *ePKIPK* PKPdf 04 21 54.1 +0.9
FFC MLR MLR
comp=Z,288nm,20.0s,MS4.9
PMSA Palmer Station 118.81 190 PFAKE 04 22 10.0 +16
PMSA LR LR
comp=Z,1µm,19.0s,MS5.6
COR Corvallis 119.79 30 PFAKE 04 22 10.0 +14
COR LR LR
comp=Z,515nm,19.0s,MS5.2
NEW Newport 119.79 24 *ePKIPK* PKPdf 04 21 57.5 +1.6
NEW MLR MLR
comp=Z,1µm,22.0s
HUMO Hull Mountain 121.37 32 PFAKE 04 22 10.0 +11
HUMO LR LR
comp=Z,951nm,20.0s,MS5.4

YBH Yreka Blue Hor 122.12 32 PFAKE 04 22 10.0 +9.5
YBH LR LR
comp=Z,1μm,20.0s,MS5.5
MSO Missoula 122.21 23 *e*PKP PKPdf 04 22 01.8 +1.2
MSO LR LR
comp=Z,966nm,22.0s,MS5.4
BMO Blue Mountains 122.42 26 *e*PKIKP PKPdf 04 22 01.8 +0.7
BMO MLR MLR
comp=Z,793nm,21.0s,MS5.3
WDC Whiskeytown Da 123.02 33 PFAKE 04 22 20.0 +18
WDC LR LR
comp=Z,995nm,20.0s,MS5.5
HRY Holter Researc 123.10 21 *e*PKP PKPdf 04 22 04.1 +1.7
MOD Modoc 123.24 31 *e*PKP PKPdf 04 22 05.1 +2.3
MOD LR LR
comp=Z,1μm,19.0s,MS5.5
WVOR Wild Horse Val 123.67 29 *e*PKIKP PKPdf 04 22 05.4 +1.8
WVOR MLR MLR
comp=Z,1μm,21.0s,MS5.5
DGMT Dagmar 123.89 15 *e*PKP PKPdf 04 22 05.4 +1.5
DGMT LR LR
comp=Z,1μm,22.0s,MS5.6
BOZ Bozeman (W) 124.08 22 *e*PKIKP PKPdf 04 22 05.8 +1.5
BOZ MLR MLR
comp=Z,1μm,19.0s,MS5.6
GCMT Greycliff 124.66 20 *e*PKP PKPdf 04 22 07.3 +1.9
LAO LASA Array 124.96 17 *e*PKP PKPdf 04 22 08.1 +2.2
LAO LR LR
comp=Z,2μm,21.0s,MS5.8
YMR Madison River 125.16 22 *e*PKP PKPdf 04 22 08.9 +2.5
YNR Norris Junctio 125.22 22 *e*PKP PKPdf 04 22 08.8 +2.3
YFT Old Faithful 125.39 22 *e*PKP PKPdf 04 22 09.5 +2.7
LKWY Lake 125.45 22 PFAKE 04 22 20.0 +13
LKWY LR LR
comp=Z,2μm,20.0s,MS5.8
IMW Indian Meadow 125.82 22 *e*PKP PKPdf 04 22 09.9 +2.3
PQI Presque Isle 125.83 345 PFAKE 04 22 20.0 +12
PQI LR LR
comp=Z,5μm,20.0s,MS6.2
BMN Battle Mountai 125.88 30 *e*PKIKP PKPdf 04 22 09.7 +1.8
BMN MLR MLR
comp=Z,646nm,22.0s,MS5.2
CMB Columbia Colle 125.99 34 PKIKP PKPdf 04 22 10.4 +2.2
CMB *e* 04 22 20.9
CMB Columbia Colle 125.99 34 *e*PKP PKPdf 04 22 09.2 +1.0
CMB LR LR
comp=Z,720nm,21.0s,MS5.3
MOOW Moose Ponds 126.02 22 *e*PKP PKPdf 04 22 09.7 +1.7
TPAW Teton Pass 126.17 23 *e*PKP PKPdf 04 22 10.4 +2.0
LOHW Long Hollow 126.19 22 *e*PKP PKPdf 04 22 10.1 +1.7
WUWY Wally Ulrich 126.20 23 *e*PKP PKPdf 04 22 10.4 +2.0
SNOW Snow King Moun 126.26 23 *e*PKP PKPdf 04 22 10.8 +2.2
SAO San Andreas Ge 126.28 36 PFAKE 04 22 20.0 +11
SAO LR LR
comp=Z,816nm,20.0s,MS5.4
EYMN Ely 126.59 5 PFAKE 04 22 20.0 +11
EYMN LR LR
comp=Z,1μm,20.0s,MS5.6
AHID Auburn Hatcher 126.72 23 *e*PKP PKPdf 04 22 10.7 +1.3
AHID LR LR
comp=Z,1μm,20.0s,MS5.6
HVU Hansel Valley 126.86 25 PKIKP PKPdf 04 22 12.1 +2.3
HVU *e* 04 22 22.8
HVU Hansel Valley 126.86 25 *e*PKP PKPdf 04 22 11.2 +1.5
MNV Mina 126.91 32 *e*PKIKP PKPdf 04 22 11.9 +1.9
MNV MLR MLR
comp=Z,857nm,20.0s,MS5.4
BW06 Boulder Array 127.31 22 PFAKE 04 22 20.0 +9.4
BW06 LR LR
comp=Z,1μm,21.0s,MS5.6
BGU Big Grassy Mou 127.44 26 *e*PKP PKPdf 04 22 12.2 +1.3
MTUM Tungstan Hills 127.48 33 *e*PKP PKPdf 04 22 13.1 +2.0
HWUT Hardware Ranch 127.50 24 PFAKE 04 22 20.0 +9.0
HWUT LR LR
comp=Z,2μm,22.0s,MS5.7
TPH Tonopah 127.67 32 PFAKE 04 22 20.0 +8.6
TPH LR LR
comp=Z,644nm,21.0s,MS5.3
NOQ North Oquirrh 128.06 26 *e*PKP PKPdf 04 22 13.0 +0.9
WVL Waterville 128.21 346 PFAKE 04 22 30.0 +18
WVL LR LR
comp=Z,4μm,21.0s,MS6.1
TRCR Troy Canyon 128.29 30 *e*PKP PKPdf 04 22 14.7 +2.1
EFI East Falkland 128.57 202 PFAKE 04 22 30.0 +17
EFI LR LR
comp=Z,384nm,19.0s,MS5.1
NLU North Lily Min 128.66 26 *e*PKP PKPdf 04 22 15.0 +1.7
MPU Maple Canyon 128.80 26 *e*PKP PKPdf 04 22 15.0 +1.4
DAC Darwin (Calif) 128.80 33 PFAKE 04 22 30.0 +16
DAC LR LR
comp=Z,682nm,20.0s,MS5.3
RWWY Rawlins 129.11 21 *e*PKP PKPdf 04 22 16.0 +2.0
RKT Rikitea 129.29 115 *e*LR LR 05 03 05.0
comp=Z,678nm,24.0s
MIV Mineville/With 129.53 349 PKP PKPdf 04 22 17.2 +2.4
MDV Middlebury 129.54 348 *e*PKP PKPdf 04 22 16.1 +1.2
TMUT Trail Mountain 129.58 26 *e*PKP PKPdf 04 22 17.5 +2.4
NCB Newcomb 129.77 349 *e*PKP PKPdf 04 22 16.3 +1.0
NCB LR LR
comp=Z,949nm,19.0s,MS5.5
MVU Marysvale 129.78 27 *e*PKP PKPdf 04 22 17.9 +2.4
MVU LR LR
comp=Z,823nm,21.0s,MS5.4
ARUT Antelope Range 129.78 29 *e*PKIKP PKPdf 04 22 16.7 +1.2
MSU Marysvale 129.79 27 *e*PKIKP PKPdf 04 22 18.1 +2.6
SRU San Rafael 130.03 25 *e*PKIKP PKPdf 04 22 17.6 +1.7
PHWY Pilot Hill 130.05 20 *e*PKP PKPdf 04 22 16.9 +1.0
ACON Adirondack Com 130.23 349 PKP PKPdf 04 22 17.3 +1.1
RCBR Riachuelo 130.58 267 PFAKE 04 22 30.0 +12
RCBR LR LR
comp=Z,1μm,20.0s,MS5.5
HRV Harvard--Oak R 130.61 346 PFAKE 04 22 30.0 +13
HRV LR LR
comp=Z,771nm,20.0s,MS5.4
WES Weston 130.67 346 PFAKE 04 22 30.0 +13
WES LR LR
comp=Z,2μm,22.0s,MS5.7
NEN Nelson 130.75 32 *e*PKP PKPdf 04 22 19.6 +2.2
LDFC Landfair 131.04 32 *e*PKP PKPdf 04 22 20.8 +2.8
PV10 Paradox Valley 131.27 25 *e*PKP PKPdf 04 22 20.9 +2.6
PV10 *e*SKP 04 25 41.5
ISCO Idaho Springs 131.34 21 *e*PKIKP PKPdf 04 22 19.8 +1.4
ISCO MLR MLR
comp=Z,808nm,20.0s,MS5.4
JFWS Jewell Farm 131.69 5 PFAKE 04 22 30.0 +11
JFWS LR LR
comp=Z,1μm,21.0s,MS5.5
BINY Binghamton 131.79 350 PFAKE 04 22 30.0 +11
BINY LR LR
comp=Z,785nm,20.0s,MS5.4
ERPA Erie 132.40 354 PFAKE 04 22 30.0 +10
ERPA LR LR
comp=Z,992nm,22.0s,MS5.5
AAM Ann Arbor 132.46 358 PFAKE 04 22 30.0 +10
AAM LR LR
comp=Z,1μm,22.0s,MS5.6
SDCO Great Sand Dun 133.20 22 *e*PKP PKPdf 04 22 23.6 +1.6
SDCO LR LR
comp=Z,1μm,19.0s,MS5.6
SSPA Standing Stone 133.61 352 *e*PKP PKPdf 04 22 24.2 +1.6
SSPA LR LR
comp=Z,833nm,20.0s,MS5.5
ACSO Alum Creek Sta 134.50 357 *e*PKP PKPdf 04 22 25.6 +1.3
ACSO LR LR
comp=Z,1μm,21.0s,MS5.6
KSU1 Kansas State U 134.53 12 *e*PKP PKPdf 04 22 25.4 +1.0
MCWV Mont Chateau 134.82 354 PFAKE 04 22 40.0 +15
MCWV LR LR
comp=Z,1μm,22.0s,MS5.6
ANMO Albuquerque 135.27 25 *e*PKIKP PKPdf 04 22 28.0 +2.2
ANMO MLR MLR
comp=Z,1μm,21.0s
ANMO Albuquerque 135.27 25 *e*PKP PKPdf 04 22 28.0 +2.2
ANMO *e*SKP 04 25 55.4
ANMO LR LR
comp=Z,1μm,21.0s,MS5.5
TUC Tucson 135.45 31 *e*PKIKP PKPdf 04 22 28.7 +2.5
TUC MLR MLR
comp=Z,668nm,22.0s,MS5.3
TUC Tucson 135.45 31 *e*PKP PKPdf 04 22 28.7 +2.4
TUC *e*SKP 04 25 55.8
TUC LR LR
comp=Z,668nm,22.0s,MS5.3
BLO Bloomington 135.61 1 PKIKP PKPdf 04 22 29.0 +2.7

LENM Lemitar 135.72 26 *e*PKP PKPdf 04 22 28.7 +2.0
LPM Los Pinos Moun 135.74 25 *e*PKP PKPdf 04 22 29.1 +2.4
BNM Barren Site 135.88 25 *e*PKP PKPdf 04 22 29.6 +2.6
CBN Corbin 135.92 351 PFAKE 04 22 40.0 +13
CBN LR LR
comp=Z,1μm,22.0s,MS5.6
CCM Cathedral Cave 136.41 6 PKIKP PKPdf 04 22 29.4 +1.6
CCM *e* 04 22 44.8
CCM Cathedral Cave 136.41 6 *e*PKP PKPdf 04 22 28.2 +0.4
CCM LR LR
comp=Z,804nm,20.0s,MS5.5
WCI Wyandotte Cave 136.55 1 PKIKP PKPdf 04 22 29.9 +1.8
WCI Wyandotte Cave 136.55 1 *e*PKP PKPdf 04 22 28.8 +0.7
WCI LR LR
comp=Z,834nm,19.0s,MS5.5
USIN University of 136.78 2 *e*PKP PKPdf 04 22 30.0 +1.5
AMTX Amarillo 137.12 20 PFAKE 04 22 40.0 +11
AMTX LR LR
comp=Z,1μm,20.0s,MS5.6
PWV Princeton 137.24 355 *e*PKP PKPdf 04 22 30.8 +1.4
BLA Blacksburg 137.30 354 PFAKE 04 22 40.0 +10
BLA LR LR
comp=Z,701nm,20.0s,MS5.4
ELN Prospectdale 137.32 354 *e*PKP PKPdf 04 22 30.3 +0.8
BBSR BB Station 137.48 334 PFAKE 04 22 40.0 +10
BBSR LR LR
comp=Z,828nm,21.0s,MS5.5
CPRX Cap Rock 137.99 23 *e*PKP PKPdf 04 22 33.0 +2.1
WMOK Wichita Mounta 138.15 16 PKHKP 04 22 21.1
WMOK Wichita Mounta 138.15 16 *e*PKP PKPdf 04 22 20.6 -11
WMOK LR LR
comp=Z,1μm,22.0s,MS5.7
PVMO Portageville 138.19 5 *e*PKP PKPdf 04 22 33.0 +1.8
UTMT University of 138.33 4 *e*PKP PKPdf 04 22 34.3 +2.9
GLAT Glass 138.37 5 *e*PKP PKPdf 04 22 33.5 +2.0
GDL2 Guadalupe Moun 138.52 24 *e*PKP PKPdf 04 22 25.3 -6.5
MNTX Cornudas Mount 138.52 26 *e*PKPdf PKPdf 04 22 33.8 +1.9
MNTX LR LR
comp=Z,794nm,19.0s,MS5.5
WVT Waverly 138.60 3 *e*PKIKP PKPdf 04 22 33.3 +1.4
WVT MLR MLR
comp=Z,1μm,21.0s,MS5.6
CLNB Carlsbad 138.66 24 *e*PKP PKPdf 04 22 33.7 +1.6
CPCT Cooper Cave 139.32 359 *e*PKPdf PKPdf 04 22 35.0 +1.7
UALR University of 139.50 9 *e*PKP PKPdf 04 22 34.5 +1.0
MIAR Mount Ida 139.52 10 *e*PKHKP 04 22 26.0
MIAR MLR MLR
comp=Z,1μm,21.0s,MS5.6
OXF Oxford 140.10 5 *e*PKHKP 04 22 29.8
TRQA Tornquist 141.08 210 PKP PKPdf 04 22 33.6 -2.8
TRQA LR LR
comp=Z,1μm,21.0s,MS5.6
LTX Lajitas 141.30 26 *e*PKHKP 04 22 31.1
LTX MLR MLR
comp=Z,795nm,22.0s,MS5.4
GOGA Godfrey 141.31 357 PKIKP PKPdf 04 22 40.3 +3.4
GOGA *e* 04 22 54.4
GOGA Godfrey 141.31 357 *e*PKP PKPdf 04 22 38.9 +2.0
GOGA LR LR
comp=Z,1μm,19.0s,MS5.7
NHSC New Hope 141.33 353 PFAKE 04 22 50.0 +13
NHSC LR LR
comp=Z,781nm,21.0s,MS5.4
LRAL Lakeview Retre 141.72 2 *e*PKP PKPdf 04 22 33.0 -4.6
LRAL LR LR
comp=Z,1μm,20.0s,MS5.7
BAO Brasilia Array 141.75 252 P PKPdf 04 22 35.6 -2.5
JCT Junction City 141.78 20 *e*PKHKP 04 22 33.4
JCT MLR MLR
comp=Z,1μm,21.0s,MS5.7
NATX Nacogdoches 142.01 13 *e*PKP PKPdf 04 22 34.4 -3.8
NATX LR LR
comp=Z,2μm,21.0s,MS5.8
HKT Hockley 143.47 15 *e*PKHKP 04 22 38.0
HKT MLR MLR
comp=Z,1μm,19.0s,MS5.7
DWPF Disney 146.41 353 PKPbc PKPbc 04 22 49.3 +2.2
DWPF Disney 146.41 353 *e*PKP PKPdf 04 22 48.4 +2.6
DWPF LR LR
comp=Z,1μm,20.0s,MS5.7
FCH Farellones 148.82 205 *e*P PKPdf 04 22 55.8 +6.2
CLCH Cerro Calan 148.86 205 *e*P PKPdf 04 22 55.4 +5.8
SJG San Juan 149.75 321 *e*PKHKP 04 22 53.3
SJG MLR MLR
comp=Z,1μm,21.0s
SJG San Juan 149.75 321 *e*PKPdf PKPdf 04 22 53.3 +1.8
SJG *e*PKPbc PKPdf 04 22 58.0 +6.5
SJG LR LR
comp=Z,1μm,21.0s,MS5.7
TRN Trinidad (W) 151.11 304 *e*P PKPdf 04 22 58.0 +4.4
TEIG Tepich 154.36 6 *e*PKPdf PKPdf 04 23 00.4 +2.3
TEIG LR LR
comp=Z,393nm,21.0s,MS5.2
LVC Limon Verde 156.53 222 PFAKE 04 23 10.0 +9.1
LVC LR LR
comp=Z,1μm,19.0s,MS5.7
SDV Santo Domingo 159.40 314 *e*PKPdf PKPdf 04 23 06.5 +1.8
SDV LR LR
comp=Z,1μm,22.0s,MS5.6
LPAZ La Paz 159.78 236 *e*PKIKP PKPdf 04 23 08.2 +3.1
LPAZ La Paz 159.78 236 *e*PKPdf PKPdf 04 23 07.4 +2.3
LPAZ LR LR
comp=Z,1μm,22.0s,MS5.7
ARE Arequipa 162.38 230 *e*PKIKP PKPdf 04 23 12.0 +4.3
JTS JuntasAbangare 164.36 358 PFAKE 04 23 20.0 +10
JTS LR LR
comp=Z,242nm,20.0s
NNA Nana 169.19 232 PFAKE 04 23 30.0 +17
NNA LR LR
comp=Z,315nm,22.0s
OTAV Otavalo 170.93 308 *e*PKPdf PKPdf 04 23 17.2 +2.8
OTAV LR LR
comp=Z,2μm,21.0s

BJI ***01*** *04:29:12.2, 3.71N×95.34E, h36km, mB5.7, mb5.1, Ms4.8, Msz4.4*
NEIC ***01*** *04:29:14.7±0.3, 3.71N×95.49E, mb4.9/35, Error ellipse: s-maj=8.5km s-min=6.0km az=210.0*
ISC 01 04:29:12.8±0.3, 3.67N±0.06×95.53E±0.05, h35km, h35km±1.6km:pP-P, n95, σ0.95/92, mb5.0/43, MS4.3/1, 5C-3D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**12.76**	**21**	P	**P**	**04 32 16.0**	**+1.3**
UBT	**Ubonrachathani**	**14.82**	**38**	P	**P**	**04 32 49.0**	**+7.1**
CM31	**Chiang Mai Arr** 90nm,0.8s	**15.07**	**13**	*e*P	**P**	**04 32 46.9**	**+1.8**
PALK	**Pallekele** 56nm,1.0s	**15.18**	**284**	*e*P	**P**	**04 32 47.8**	**+1.2**
CHG	**Chiang Mai** 60nm,0.9s	**15.42**	**12**	⇓P	**P**	**04 32 54.0**	**+4.4**
NANT	**Nan**	**15.87**	**18**	P	**P**	**04 32 47.8**	**-7.5**
VIS	**Vishakhapatnam**	**18.38**	**320**	*e*P	**P**	**04 33 21.6**	**-5.4**
VIS	comp=Z,16nm,0.5s			*e*		04 33 27.0	
VIS				*e*S	**S**	**04 36 33.5**	**-14**
QIZ	**Qiongzhong**	**20.71**	**41**	P	**P**	**04 33 53.6**	**+0.8**
QIZ	**Qiongzhong** comp=Z,32nm,0.7s	**20.71**	**41**	*e*P	**P**	**04 33 52.1**	**-0.7**
IMP	**Imphal**	**21.05**	**356**	*e*P	**P**	**04 34 03.0**	**+6.8**
HYB	**Hyderabad**	**21.53**	**311**	*i* P	**P**	**04 34 01.0**	**-0.1**
HYB				*e*S	**S**	**04 37 54.0**	**+1.2**
PKI	**Pulchoki** comp=Z,29nm,0.7s,mb4.9	**25.65**	**339**	*e*P	**P**	**04 34 40.7**	**-0.6**
DMN	**Daman**	**25.80**	**338**	*e*P	**P**	**04 34 42.3**	**-0.4**
GUN	**Gumba** comp=Z,90nm,0.6s,mb5.5	**25.80**	**340**	*e*P	**P**	**04 34 42.2**	**-0.5**
KKN	**Kakani** comp=Z,71nm,0.8s,mb5.2	**25.90**	**339**	*e*P	**P**	**04 34 43.6**	**0.0**
BHPL	**Bhopal**	**26.17**	**320**	*e*P	**P**	**04 34 52.8**	**+6.7**
LSA	**Lhasa**	**26.22**	**351**	P	**P**	**04 34 46.5**	**0.0**
LSA	comp=Z,80nm,0.6s,mb5.4			AMB	AMB		
LSA	**Lhasa** comp=Z,62nm,0.6s,mb5.3	**26.22**	**351**	*e*P	**P**	**04 34 45.9**	**-0.6**
GKN	**Gorkha** comp=Z,116nm,0.8s,mb5.5	**26.33**	**338**	*e*P	**P**	**04 34 47.5**	**-0.1**
KOLN	**Koldanda** comp=Z,114nm,0.7s,mb5.5	**26.53**	**336**	*e*P	**P**	**04 34 50.0**	**+0.6**
ENH	**Enshi** comp=Z,10nm,0.6s,mb4.7	**29.57**	**25**	*e*P	**P**	**04 35 14.8**	**-2.0**
DDI	**Dehra Dun**	**31.23**	**330**	*e*	**P**	**04 35 50.0**	**+18**

XAN Xi'an 32.69 21 P **P 04 35 42.9 -1.4**
XAN AMB AMB
comp=Z,71nm,0.8s,mb5.7
LZH Lanzhou 33.16 12 *e*P **P 04 35 47.2 -1.1**
LZH AP pP 04 35 55.0 -3.4
LZH XP sP 04 35 57.6 -5.3
LZH AMB AMB
comp=Z,24nm,1.3s,mb5.0
LZH LR LR
comp=E,319nm,13.2s
LZH LR LR
comp=Z,493nm,17.1s,MS4.3
NJ2 Nanjing 35.73 35 *e*P **P 04 36 10.9 +0.5**
NJ2 AP pP 04 36 20.9 +0.4
NJ2 AMB AMB
comp=Z,70nm,0.8s,mb5.6
FITZ Fitzroy Crossi 36.73 127⇑ *i*P **P 04 36 18.8 -0.1**
comp=Z,13nm,0.6s,mb4.9
KAKA Kakadu 40.12 115⇓ *i*P **P 04 36 47.5 +0.3**
comp=Z,14nm,0.6s,mb4.9
WMQ Urumqi 40.58 351 P **P 04 36 51.0 +0.2**
BJT Baijiatuau 40.72 25 *e*P **P 04 36 52.9 +1.0**
comp=Z,25nm,0.6s,mb5.0
UCH Uchtor 42.73 337 P **P 04 37 08.9 +0.4**
SNR=14
TKM2 Tokmak 2 42.92 338 P **P 04 37 10.8 +0.8**
SNR=10
KBK Karagaybulak 42.93 338 P **P 04 37 11.4 +1.2**
SNR=15
AML Almayashu 42.98 336 P **P 04 37 11.6 +1.0**
SNR=16
AAK Ala-Archa 43.09 337 *e*P **P 04 37 10.4 -1.0**
comp=Z,8.3nm,0.8s,mb4.5
EKS2 Erkin-Say 43.39 337 P **P 04 37 14.7 +0.8**
SNR=12
USP Ospenovka 43.62 338 P **P 04 37 15.7 -0.1**
SNR=20
WRAB Tennant Creek 44.77 123 *e*P **P 04 37 25.3 +0.1**
comp=Z,28nm,0.6s,mb5.3
WB2 Warramunga Arr 44.78 123⇑ *i*P **P 04 37 26.2 +0.9**
KS15 Wonju Array Si 44.81 37 *e*P **P 04 37 25.1 -0.3**
ULN Ulaanbaatar 45.13 11 *e*P **P 04 37 26.0 -1.8**
comp=Z,3.9nm,0.4s,mb4.6
SNY Shenyang 45.53 30 ⇓P **P 04 37 31.2 +0.1**
SNY AMB AMB
comp=Z,30nm,0.6s,mb5.4
ASPA Alice Springs 46.22 128⇑ *i*P **P 04 37 37.6 +0.9**
HIA Hailar 49.89 21 *e*P **P 04 38 04.5 -0.4**
comp=Z,16nm,0.9s,mb5.1
MDJ Mudanjiang 50.58 31 P **P 04 38 10.7 +0.4**
MDJ AMB AMB
comp=Z,22nm,1.4s,mb4.9
MAT Matsushiro 51.06 45 P **P 04 38 15.0 +1.0**
MAT Matsushiro 51.06 45 P **P 04 38 14.5 +0.5**
PMG Port Moresby 53.07 105 *e*P **P 04 38 28.1 -1.2**
comp=Z,52nm,0.8s,mb5.5
BRVK Borovoye 53.45 341 *e*P **P 04 38 29.3 -2.3**
comp=Z,6.3nm,0.6s,mb4.7
CTA Charters Tower 55.11 117⇑ *i*P **P 04 38 45.1 +0.8**
comp=Z,32nm,0.8s,mb5.4
CTAO Charters Tower 55.11 117 *e*P **P 04 38 44.1 -0.1**
comp=Z,83nm,1.2s,mb5.6
STKA Stephens Creek 56.24 133⇑ *i*P **P 04 38 52.7 +0.4**
comp=Z,4.9nm,0.6s,mb4.7
GNI Garni 58.37 316 *e*P **P 04 39 05.0 -2.1**
comp=Z,16nm,0.8s,mb5.1
KMBO Kilima Mbogo 58.44 266 *e*P **P 04 39 07.3 -0.7**
comp=Z,14nm,1.1s,mb4.9
YSS Yuzh-Sakhalins 59.30 36 *e*P **P 04 39 13.2 -0.3**
comp=Z,56nm,1.1s,mb5.5
YSS *e* pP 04 39 24.7 +0.6
KIV Kislovodsk 61.36 319 *e*P **P 04 39 26.4 -1.3**
comp=Z,5.1nm,0.8s,mb4.7
MALT Malatya 62.24 312 *e*P **P 04 39 32.4 -1.3**
comp=Z,10nm,1.0s,mb4.9
EIL Elat 62.74 301 *e*P **P 04 39 36.0 -1.1**
comp=Z,5.2nm,1.0s,mb4.6
YAK Yakutsk 63.55 17 *e*P **P 04 39 39.9 -2.0**
comp=Z,39nm,0.6s,mb5.6
ISP Isparta 68.13 309 P **P 04 40 10.8 -0.8**
comp=Z,7.0nm,0.7s,mb4.8
LSZ Lusaka 69.24 252 *e*P **P 04 40 18.0 -0.9**
comp=Z,2.6nm,0.6s,mb4.3
BOSA Boshof 74.58 239 *e*P **P 04 40 49.6 -0.9**
JOF Joensuu 75.21 335 *e*p **P 04 40 50.1 -3.3**
comp=Z,5.9nm,0.7s,mb4.6
KWP Kalwaria 76.11 320 P **P 04 40 58.3 -0.5**
comp=Z,44nm,1.0s,mb5.3
KOLS Kolonicke sedl 76.26 319 *e*P **P 04 41 00.8 +1.1**
KOLS *es*P sP 04 41 14.3 -0.1
CRVS Cervenica-Dubn 76.79 319 *e* sP 04 41 15.4 -2.0
KAF Kangasniemi 77.14 333 *e*p **P 04 41 02.6 -1.8**
comp=Z,7.1nm,0.8s,mb4.7
PSZ Piszkesteto 77.66 318 *e*P **P 04 41 07.3 -0.3**
comp=Z,4.6nm,0.9s,mb4.4
PSZ Piszkesteto 77.66 318 *e*P **P 04 41 07.7 +0.1**
VYHS Vyhne 78.44 319 *e*pP pP 04 41 21.7 -1.0
OKC Ostrava-Krasne 79.07 320 *e*P **P 04 41 15.4 +0.1**
OKC *e*pP pP 04 41 25.5 -0.6
MORC Moravsky Berou 79.45 320 *e*P **P 04 41 17.6 +0.3**
comp=Z,4.1nm,1.1s,mb4.3
ZST Bratislava 79.56 318 *e*P **P 04 41 18.3 +0.3**
ZST *es*P sP 04 41 32.5 -0.1
DPC Dobruska-Polom 80.29 320 *e*P **P 04 41 22.4 +0.5**
DPC *e*pP pP 04 41 32.5 -0.2
KSP Ksiaz 80.36 321 *e*P **P 04 41 22.6 +0.4**
KSP *e*pP pP 04 41 32.4 -0.7
UPC Upice 80.51 320 *e*P **P 04 41 22.9 -0.1**
UPC *e*pP pP 04 41 37.1 +3.2
PRU Pruhonice 81.40 320 *e*P **P 04 41 28.4 +0.7**
PRU *e*pP pP 04 41 39.2 +0.6
BRG Berggiesshubel 81.85 321 *e*P **P 04 41 31.4 +1.4**
comp=Z,3.2nm,0.9s,mb4.2
BRG *e* pP 04 41 42.1 +1.2
GEC2 GERESS Array S 81.86 319 *e*P **P 04 41 31.2 +1.1**
KHC Kasperske Hory 81.97 319 *e*P **P 04 41 31.1 +0.5**
KHC *e*pP pP 04 41 41.2 -0.3
RUE Ruedersdorf 82.07 322 *e*P **P 04 41 31.3 +0.2**
comp=Z,25nm,1.0s,mb5.1
WET Wettzell 82.42 319 *e*P **P 04 41 33.8 +0.8**
CLL Collm 82.47 321 *i* P **P 04 41 34.2 +1.0**
comp=Z,5.0nm,1.0s,mb4.4
CLL *i* sP 04 41 47.5 -0.4
CLL Collm 82.47 321 P **P 04 41 34.2 +1.0**
comp=Z,logA/T=0.7,mb4.4
CLL *i* *SP sP 04 41 47.5 -0.4
NKC Novy Kostel 82.76 320 *e*P **P 04 41 35.9 +1.2**
NKC *e*pP pP 04 41 48.9 +3.3
MOX Moxa 83.31 320 *e*P pP 04 41 49.3 +0.9
MOX Moxa 83.31 320 *i* P pP 04 41 49.3 +0.9
comp=Z,logA/T=1.1
GRA1 Grafenberg Arr 83.53 319 *e*P **P 04 41 39.4 +0.8**
comp=Z,10.0nm,0.9s,mb5.0
GRA1 *e*pP pP 04 41 50.4 +0.8
GRF Grafenberg Arr 83.53 319 *e*P **P 04 41 39.4 +0.8**
comp=Z,10.0nm,0.9s,mb5.0
GRF *e*pP pP 04 41 50.4 +0.8
NB2 NORSAR Subarra 84.05 331 P **P 04 41 39.6 -1.4**
comp=Z,0.9nm,0.6s,mb4.1,baz=97,slow=4.8
CLZ Clausthal 84.13 322 *e*P **P 04 41 42.6 +1.0**
BSEG Bad Segeberg 84.23 324 *e*P **P 04 41 43.0 +0.9**
BFO Black Forest 85.41 318 *e*P **P 04 41 48.6 +0.5**
LPG La Plagne 86.55 315 *e*P **P 04 41 53.3 -0.4**
comp=Z,11nm,0.7s,mb4.9
IMA Indian Mountai 94.96 23 *e*P **P 04 42 32.5 0.0**
MNTX Cornudas Mount 139.59 28 *e*PKP PKPdf 04 48 39.6 +2.0

NEIC ***01*** *04:38:48.1±2.8, 3.90S×102.32E, h25km±17km, mb4.8/9, Error ellipse: s-maj=27.9km s-min=8.4km az=53.0*
BJI ***01*** *04:38:49.1, 3.90S×102.30E, h25km, mB5.2, mb4.8, Ms4.7, Msz4.4*
DJA ***01*** *04:38:51.7±1.1, 4.29S×102.31E, h116km, mb5.3/2, MD4.9/4, Error ellipse: s-maj=73.5km s-min=7.0km az=43.0*
ISC 01 04:38:49.6±0.4, 3.99S±0.08×102.67E±0.08, h33km, n48, σ19.32/44, mb4.9/17, MS4.4/2, 6C-8D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**0.35**	**347**	*e*P	**P**	**04 38 55.5**	**-2.5**
KSI	**Kapahiang**	**0.35**	**347**	*e*P	**P**	**04 38 55.0**	**-3.0**
PENI	**Pendagan**	**2.94**	**122**⇓	*e*Pn	**Pn**	**04 39 40.2**	**+5.0**
PENI				*e*Sn	**Sn**	**04 40 08.7**	**-1.1**

PENI				eS	S	04 40 21.9	+12
PENI	**Pendagan**	**2.94**	**122**	⇓eP	**Pn**	**04 39 40.2**	**+5.0**
	2µm,0.3s						
PULI	**Pulasari**	**4.04**	**126**	⇑eP	**P**	**04 39 55.1**	**+4.5**
PULI	**Pulasari**	**4.04**	**126**	eP	**P**	**04 39 54.9**	**+4.3**
PPI	**Padang Panjang**	**4.18**	**327**	ePn	**Pn**	**04 39 56.0**	**+3.1**
PPI				eSn	**Sn**	**04 40 58.0**	**+17**
PACI	**Pancar Gunung**	**4.95**	**122**	eP	**P**	**04 40 08.0**	**+4.4**
SRDI	**Scrawed**	**12.24**	**112**	⇓eP	**P**	**04 41 46.6**	**+2.0**
	255nm,0.2s						
KELI	**Kelakatan**	**12.48**	**110**	eP	**P**	**04 41 50.8**	**+3.0**
KELI				⇓eP		04 41 51.1	
RATI	**Rata**	**13.62**	**111**	eP	**P**	**04 42 02.9**	**-0.1**
	612nm,0.3s						
KEDI	**Kedomdong**	**14.09**	**109**	eP	**P**	**04 42 09.1**	**0.0**
KEDI				epP		04 42 10.1	
CM31	**Chiang Mai Arr**	**22.61**	**351**	P	**P**	**04 43 45.3**	**-3.6**
	3.2nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	**26.49**	**124**	⇑iP	**P**	**04 44 26.1**	**0.0**
	19nm,0.4s,mb5.0						
HYB	**Hyderabad**	**31.93**	**312**	i P	**P**	**04 45 13.0**	**-1.8**
HYB				e		04 47 10.0	
WRAB	**Tennant Creek**	**34.70**	**120**	eP	**P**	**04 45 37.8**	**-0.8**
	9.4nm,0.5s,mb5.0						
WB2	**Warramunga Arr**	**34.70**	**120**	⇓iP	**P**	**04 45 38.1**	**-0.6**
WB2				eS	**S**	**04 51 02.1**	**-3.5**
PKI	**Pulchoki**	**35.53**	**333**	eP	**P**	**04 45 45.7**	**0.0**
	10nm,0.4s,mb5.1						
GUN	**Gumba**	**35.61**	**334**	eP	**P**	**04 45 46.8**	**+0.4**
	71nm,0.4s						
DMN	**Daman**	**35.70**	**333**	eP	**P**	**04 45 47.3**	**+0.2**
	21nm,0.7s,mb5.2						
KKN	**Kakani**	**35.77**	**333**	eP	**P**	**04 45 47.9**	**+0.1**
	24nm,0.5s,mb5.4						
ASPA	**Alice Springs**	**35.93**	**126**	⇓iP	**P**	**04 45 48.9**	**-0.2**
ASPA				eS	**S**	**04 51 22.3**	**-2.1**
GKN	**Gorkha**	**36.25**	**332**	eP	**P**	**04 45 51.8**	**0.0**
	27nm,0.5s,mb5.4						
KOLN	**Koldanda**	**36.54**	**331**	eP	**P**	**04 45 54.4**	**+0.1**
	18nm,0.7s,mb5.0						
LZH	**Lanzhou**	**39.88**	**1**	eP	**P**	**04 46 25.0**	**+2.9**
LZH				PP	PP	04 48 02.9	+5.3
LZH				AMB	AMB		
	comp=Z,28nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,97nm,5.0s						
LZH				LR	LR		
	comp=N,185nm,13.2s						
LZH				LR	LR		
	comp=Z,293nm,17.0s,MS4.2						
NDI	**New Delhi**	**40.67**	**325**	e	**P**	**04 46 24.5**	**-4.2**
NDI				e		04 46 42.5	
CTA	**Charters Tower**	**45.34**	**114**	eP	**P**	**04 47 06.8**	**-0.1**
	comp=Z,4.9nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**45.84**	**132**	⇓iP	**P**	**04 47 10.3**	**-0.4**
	comp=Z,13nm,0.6s,mb5.0						
WMQ	**Urumqi**	**49.47**	**346**	P	**P**	**04 47 39.5**	**+0.7**
WMQ				PP	PP	04 49 36.2	+2.7
WMQ				S	**S**	**04 54 38.9**	**-3.8**
WMQ				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,80nm,5.6s						
WMQ				LR	LR		
	comp=N,528nm,20.1s,MS4.6						
WMQ				LR	LR		
	comp=E,458nm,22.3s,MS4.6						
WMQ				LR	LR		
	comp=Z,770nm,22.1s,MS4.7						
ULN	**Ulaanbaatar**	**51.78**	**4**	eP	**P**	**04 47 57.6**	**+1.3**
	comp=Z,12nm,1.3s,mb4.7						
AAK	**Ala-Archa**	**52.97**	**334**	eP	**P**	**04 48 02.5**	**-2.8**
	comp=Z,1.9nm,0.6s,mb4.2						
YAK	**Yakutsk**	**69.02**	**13**	eP	**P**	**04 49 52.7**	**-1.0**
	comp=Z,19nm,0.6s,mb5.2						
QSPA	**South Pole Qui**	**85.98**	**180**	⇑iP	**P**	**04 51 26.1**	**-1.1**
	comp=Z,6.0nm,0.5s,mb5.1						
KAF	**Kangasniemi**	**87.16**	**333**	ep	**P**	**04 51 29.8**	**-3.5**
	comp=Z,4.3nm,0.8s,mb4.7						
SNAA	**Sanae**	**91.08**	**198**	⇓i	**P**	**04 51 50.7**	**-1.0**
VNA2	**Neumayer--Watz**	**92.71**	**198**	⇑i	**P**	**04 52 00.8**	**+1.6**
VNA1	**Neumayer--Stat**	**93.07**	**198**	⇑i	**P**	**04 52 02.7**	**+1.8**
VNA3	**Neumayer Olymp**	**93.28**	**197**	⇑i	**P**	**04 52 02.6**	**+0.8**
MSO	**Missoula**	**126.88**	**31**	PKP	PKPdf	04 57 50.7	+0.2
ISCO	**Idaho Springs**	**136.13**	**32**	PKP	PKPdf	04 58 07.5	-0.7
WMOK	**Wichita Mounta**	**143.50**	**30**	ePKP	PKPdf	04 58 18.9	-2.5
WCI	**Wyandotte Cave**	**144.96**	**12**	ePKPdf	PKPdf	04 58 23.1	-0.8
MIAR	**Mount Ida**	**146.06**	**24**	ePKPdf	PKPdf	04 58 25.4	-0.5
JCT	**Junction City**	**146.17**	**36**	ePKPbc	PKPbc	04 58 28.5	+1.2
WVT	**Waverly**	**146.59**	**16**	ePKPbc	PKPbc	04 58 28.1	0.0
OXF	**Oxford**	**147.63**	**19**	ePKPbc	PKPdf	04 58 30.9	+2.4
CPCT	**Cooper Cave**	**148.00**	**11**	ePKPbc	PKPdf	04 58 32.2	+3.2
LVC	**Limon Verde**	**152.31**	**197**	ePKPbc	PKPdf	04 58 43.1	+7.0

*BJI **01** 05:18:21.4, 7.31N×92.83E, h30km, mB5.1, mb4.6, Ms4.5, Msz4.0*

*NEIC **01** 05:18:30.3±0.7, 8.12N×93.73E, h30km, mb4.5/12, Error ellipse: s-maj=19.5km s-min=13.8km az=90.0*

ISC 01 05:18:28.2±0.6, **8.07N**±0.07×**93.73E**±0.07, **h30**km, **n32**, σ**1s10**/34, **mb4.7**/18, **1D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**9.82**	**39**	P	**P**	**05 20 49.0**	**-1.7**
CM31	**Chiang Mai Arr**	**11.50**	**26**	eP	**P**	**05 21 13.8**	**+0.1**
	49nm,0.9s						
CHG	**Chiang Mai**	**11.82**	**25**	⇓P	**P**	**05 21 18.9**	**+0.9**
	21nm,0.8s						
NANT	**Nan**	**12.63**	**32**	P	**P**	**05 21 30.5**	**+1.6**
VIS	**Vishakhapatnam**	**13.95**	**314**	eP	**P**	**05 21 46.4**	**+0.1**
VIS				e		05 21 48.6	
	comp=Z,73nm,1.0s						
VIS				eS	**S**	**05 24 15.9**	**-5.0**
TRD	**Trivandrum**	**16.60**	**273**	eP	**P**	**05 22 17.8**	**-2.8**
TRD				AMb	AMB	05 22 20.9	
	comp=Z,43nm,1.2s						
HYB	**Hyderabad**	**17.46**	**304**	i P	**P**	**05 22 31.0**	**-0.4**
HYB				eS	**S**	**05 25 46.0**	**+3.2**
PKI	**Pulchoki**	**20.93**	**339**	eP	**P**	**05 23 10.0**	**-1.1**
	comp=Z,178nm,1.2s						
DMN	**Daman**	**21.08**	**338**	eP	**P**	**05 23 12.6**	**0.0**
	comp=Z,163nm,1.1s,mb5.3						
GUN	**Gumba**	**21.08**	**340**	eP	**P**	**05 23 12.7**	**+0.1**
	comp=Z,108nm,0.7s,mb5.3						
KKN	**Kakani**	**21.18**	**339**	eP	**P**	**05 23 13.3**	**-0.3**
	comp=Z,92nm,0.8s,mb5.1						
GKN	**Gorkha**	**21.61**	**338**	eP	**P**	**05 23 18.2**	**+0.3**
	comp=Z,75nm,0.5s,mb5.4						
LSA	**Lhasa**	**21.65**	**354**	P	**P**	**05 23 17.6**	**-0.8**
LSA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
LSA	**Lhasa**	**21.65**	**354**	eP	**P**	**05 23 17.6**	**-0.8**
	comp=Z,26nm,0.5s,mb4.9						
BHPL	**Bhopal**	**21.73**	**316**	eP	**P**	**05 23 19.5**	**+0.3**
BHPL				AMb	AMB	05 23 30.0	
	comp=Z,24nm,1.0s,mb4.6						
KOLN	**Koldanda**	**21.81**	**335**	eP	**P**	**05 23 20.4**	**+0.5**
	comp=Z,56nm,0.7s,mb5.1						
POO	**Poona**	**21.93**	**300**	eP	**P**	**05 23 19.8**	**-1.5**
POO				e		05 23 20.3	
	comp=Z,13nm,1.1s						
PTH	**Pithoragarh**	**24.85**	**331**	eP	**P**	**05 23 51.0**	**+1.3**
NDI	**New Delhi**	**25.74**	**325**	eP	**P**	**05 23 57.5**	**-0.6**
DDI	**Dehra Dun**	**26.56**	**329**	eP	**P**	**05 24 07.0**	**+1.3**
ENH	**Enshi**	**26.57**	**32**	P	**P**	**05 24 05.9**	**+0.1**
	comp=Z,3.3nm,0.4s,mb4.2						
WMQ	**Urumqi**	**36.00**	**353**	eP	**P**	**05 25 29.0**	**+0.4**
AAK	**Ala-Archa**	**38.36**	**337**	eP	**P**	**05 25 48.8**	**+0.3**
	comp=Z,5.0nm,0.9s,mb4.2						
NWAO	**Narrogin (SRO)**	**46.51**	**152**	eP	**P**	**05 26 54.1**	**-0.9**
	comp=Z,6.2nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**48.71**	**125**	eP	**P**	**05 27 12.3**	**0.0**
	comp=Z,9.7nm,1.0s,mb4.8						
BRVK	**Borovoye**	**48.73**	**341**	eP	**P**	**05 27 10.9**	**-1.2**
	comp=Z,1.9nm,0.5s,mb4.4						
KIV	**Kislovodsk**	**56.90**	**318**	P	**P**	**05 28 11.8**	**-1.2**
	comp=Z,5.4nm,0.8s,mb4.6						
KAF	**Kangasniemi**	**72.43**	**333**	ep	**P**	**05 29 51.7**	**-1.8**
	comp=Z,6.5nm,1.0s,mb4.5						
LBTB	**Lobatse**	**73.98**	**241**	P	**P**	**05 30 05.4**	**+2.1**
	comp=Z,5.6nm,1.0s,mb4.5						
BOSA	**Boshof**	**75.34**	**238**	P	**P**	**05 30 13.2**	**+2.1**
	comp=Z,4.4nm,0.7s,mb4.5						
NB2	**NORSAR Subarra**	**79.36**	**331**	P	**P**	**05 30 32.6**	**-0.1**
	comp=Z,1.9nm,0.6s,mb4.2,baz=97,slow=5.0						
LPG	**La Plagne**	**82.19**	**315**	eP	**P**	**05 30 49.1**	**+1.2**
	comp=Z,8.8nm,0.9s,mb4.4						

NEIC 01 05:25:38.9, 61.61N×146.37W, h14km, ML3.8(PMR), **ML3.6**(AEIC), **After AEIC., Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLZ	**Valdez**	**0.48**	**178**	P	Pb	05 25 48.4	-0.3
SCM	**Sheep Creek Mo**	**0.51**	**296**	P	Pb	05 25 49.0	-0.1
DIV	**Divide**	**0.56**	**149**	P	Pb	05 25 49.5	-0.5
DIV				S	Sb	05 25 58.0	+0.3
JPK	**Jack Peak**	**0.57**	**191**	P	Pb	05 25 49.6	-0.5
TZL	**Tazlina**	**0.62**	**46**	P	Pb	05 25 51.3	+0.3
GLI	**Glacier Island**	**0.81**	**206**	P	Pb	05 25 53.2	-1.1
GLI				S	Sb	05 26 04.9	0.0
FID	**Port Fidalgo**	**0.87**	**184**	P	Pb	05 25 54.4	-0.8
SML	**Sawmill**	**0.96**	**283**	P	Pb	05 25 54.9	-1.9
SML				S	Sb	05 26 07.3	-1.7
KNK	**Knik Glacier**	**1.02**	**260**	P	Pb	05 25 56.5	-1.3
EYAK	**Cordova Ski Ar**	**1.11**	**164**	P	Pb	05 25 58.0	-1.4
EYAK				S	Sb	05 26 13.8	+0.4
WANC	**Wrangell North**	**1.16**	**69**	P	Pb	05 25 59.0	-1.2
HIN	**Hinchinbrook I**	**1.22**	**183**	P	Pb	05 25 59.6	-1.6
HIN				S	Sb	05 26 16.9	+0.1
GHO	**Glory Hole Cre**	**1.23**	**279**	P	Pb	05 25 59.0	-2.4
GHO				S	Sb	05 26 16.4	-0.5
GLB	**Gilahina Butte**	**1.24**	**97**	P	Pb	05 25 59.3	-2.3
SGAM	**Sherman Glacie**	**1.25**	**153**	P	Pb	05 26 00.2	-1.6
PMR	**Palmer**	**1.32**	**270**	P	Pb	05 26 00.6	-2.3
PMR				S	Sb	05 26 18.2	-1.4
PAX	**Paxson**	**1.43**	**17**	P	Pn	05 26 02.3	-2.2
PAX				S	Sb	05 26 20.5	-2.1
RAGM	**Ragged Mountai**	**1.48**	**145**	P	Pn	05 26 03.3	-2.0
DHY	**Denali Highway**	**1.54**	**343**	P	Pn	05 26 04.1	-2.1
PWA	**Palmer West**	**1.68**	**273**	P	Pn	05 26 06.0	-2.0
RC01	**Rabbit Creek A**	**1.71**	**254**	P	Pn	05 26 06.5	-2.0
RC01				S	Sn	05 26 29.1	-1.1
LTI	**Latouche**	**1.74**	**205**	P	Pn	05 26 06.4	-2.6
MENT	**Mentasta**	**1.82**	**42**	P	Pn	05 26 08.1	-2.0
THY	**Trims Highway**	**1.83**	**9**	P	Pn	05 26 09.0	-1.3
MPA	**Moose Pass**	**1.84**	**234**	P	Pn	05 26 07.6	-2.8
FIB	**Fire Island**	**1.89**	**258**	P	Pn	05 26 09.6	-1.5
KAIM	**Kayak Island**	**1.94**	**150**	P	Pn	05 26 09.2	-2.7
CUT	**Chulitna**	**2.00**	**295**	P	Pn	05 26 10.9	-1.9
BALM	**Baldy**	**2.02**	**105**	P	Pn	05 26 10.4	-2.6
HUR	**Hurricane**	**2.05**	**313**	P	Pn	05 26 11.4	-2.0
VOGL	**Vogel Lake**	**2.06**	**254**	P	Pn	05 26 11.9	-1.6
RND	**Reindeer**	**2.14**	**328**	P	Pn	05 26 13.2	-1.4
SEW	**Seward**	**2.14**	**226**	P	Pn	05 26 11.9	-2.8
SLKM	**Skilak Lake**	**2.18**	**241**	P	Pn	05 26 13.5	-1.8
DDM	**Donnelly Dome**	**2.19**	**6**	P	Pn	05 26 14.3	-1.2
DOT	**Dot Lake**	**2.31**	**27**	P	Pn	05 26 15.1	-2.0
MCK	**McKinley**	**2.44**	**332**	P	Pn	05 26 17.0	-1.9
CTGM	**Chitina Glacie**	**2.52**	**103**	P	Pn	05 26 17.8	-2.3
YAH	**Yahtse**	**2.58**	**117**	P	Pn	05 26 18.0	-3.0
BCA3	**Beaver Creek A**	**2.59**	**54**	P	Pn	05 26 19.0	-2.1
TRF	**Thorofare Moun**	**2.59**	**317**	P	Pn	05 26 18.6	-2.6
STLK	**Strandline Lak**	**2.62**	**270**	P	Pn	05 26 19.2	-2.4
CGLM	**Capps Glacier**	**2.72**	**266**	P	Pn	05 26 21.1	-2.0
SPU	**Mount Spurr**	**2.77**	**264**	P	Pn	05 26 21.3	-2.4
CRP	**Crater Peak**	**2.80**	**265**	P	Pn	05 26 21.8	-2.3
HDA	**Harding Lake**	**2.82**	**355**	P	Pn	05 26 21.7	-2.7
CKN	**Chakachatna No**	**2.82**	**265**	P	Pn	05 26 22.6	-1.8
KTH	**Kantishna Hill**	**2.87**	**315**	P	Pn	05 26 22.6	-2.5
BRLK	**Bradley Lake**	**2.89**	**232**	P	Pn	05 26 22.3	-3.2
BGL	**Barrier Glacie**	**2.91**	**266**	P	Pn	05 26 23.1	-2.7
BWN	**Browne**	**2.93**	**332**	P	Pn	05 26 22.8	-3.2
CCB	**Clear Creek Bu**	**3.12**	**349**	P	Pn	05 26 25.5	-3.1
IL1	**Eielson Array**	**3.18**	**356**	P	Pn	05 26 26.2	-3.3
CNPM	**China Poot**	**3.19**	**231**	P	Pn	05 26 26.4	-3.3
NEA	**Nenana**	**3.22**	**339**	P	Pn	05 26 26.7	-3.4
DFR	**Drift River**	**3.23**	**254**	P	Pn	05 26 28.2	-2.1
RDN	**Redoubt North**	**3.30**	**253**	P	Pn	05 26 28.1	-3.1
RSO	**Redoubt South**	**3.31**	**252**	P	Pn	05 26 28.6	-2.8
COLA	**College**	**3.34**	**349**	P	Pn	05 26 28.4	-3.5
NCT	**North Crescent**	**3.36**	**255**	P	Pn	05 26 28.8	-3.2
XLV	**Seldovia**	**3.42**	**233**	P	Pn	05 26 29.1	-3.8
GLM	**Gilmore Dome**	**3.42**	**353**	P	Pn	05 26 30.2	-2.7
MDM	**Murphy Dome**	**3.46**	**347**	P	Pn	05 26 30.1	-3.4
ILIM	**Iliamna**	**3.57**	**247**	P	Pn	05 26 31.3	-3.8
ILW	**Iliamna West**	**3.66**	**248**	P	Pn	05 26 32.6	-3.7
OPT	**Oil Point**	**3.91**	**243**	P	Pn	05 26 37.0	-2.9
PNL	**Peninsula**	**3.95**	**117**	P	Pn	05 26 37.1	-3.3
MLY	**Manley**	**3.96**	**332**	P	Pn	05 26 37.2	-3.4
DAWY	**Dawson**	**4.04**	**49**	P	Pn	05 26 39.0	-2.7
TT01	**Tatalina**	**4.69**	**290**	P	Pn	05 26 46.2	-4.9
KDAK	**Kodiak Island**	**4.96**	**222**	P	Pn	05 26 50.0	-4.9
IM3	**Indian Mountai**	**5.47**	**327**	P	Pn	05 26 57.5	-4.5
IMA	**Indian Mountai**	**5.52**	**327**	eP	Pn	05 26 58.5	-4.2
WHY	**Whitehorse**	**5.65**	**95**	P	Pn	05 27 00.1	-4.4
GCSA	**Galena City Sc**	**5.70**	**308**	P	Pn	05 27 01.6	-3.7
COLD	**Coldfoot**	**5.88**	**345**	P	Pn	05 27 04.5	-3.2
BM3	**Burnt Mountain**	**5.88**	**7**	P	Pn	05 27 02.9	-4.9
ANM	**Nome**	**9.10**	**297**	P	P	05 27 45.7	-7.1

*JMA **01** 05:59:19.9±0.2, 22.57N×121.60E, h72km, M3.3*

TAP 01 05:59:19.1, 22.66N×121.34E, h37km, ML4.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.36**	**40**	P	P	05 59 56.1	-0.1
YOJ				eS	S	06 00 23.3	-0.9
HATJ	**Hateruma jima**	**2.66**	**58**	P	P	05 59 59.1	-1.4
HATJ				S	S	06 00 29.0	-2.8
IRIF	**Iriomote-Funau**	**2.76**	**52**	P	P	06 00 01.0	-0.9
IRIF				eS	S	06 00 32.1	-2.2
JKRS	**Kuro-shima**	**2.91**	**57**	P	P	06 00 03.0	-1.1
JKRS				eS	S	06 00 35.5	-2.8
JIJ	**Ishigaki jima**	**3.08**	**56**	P	P	06 00 05.1	-1.4
JIJ				eS	S	06 00 38.9	-3.7
JTJ	**Tarama**	**3.66**	**57**	P	P	06 00 13.1	-1.6
JTJ				eS	S	06 00 53.3	-4.0

*BJI **01** 06:25:43.0, 4.72N×92.25E, h28km, mB6.5, mb6.0, Ms7.1, Msz6.8*

*NEIC **01** 06:25:44.8±0.1, 5.10N×92.30E, mb6.0/133, ME7.2, MS6.7/127, MW6.5, Error ellipse: s-maj=5.4km s-min=3.5km az=35.0 Broadband fault plane solution: P waves. NP1:φs105°,δ85°,λ175°. NP2:φs195°,δ85°,λ5°. Principal axes: T Plg7°, Azm60°; N Plg0°, Azm0°; P Plg4°, Azm335°; Moment Tensor Solution. s33 Moment tensor: Scale 10^{18} Nm; M_{rr}-0.65; $M_{\theta\theta}$-3.16; $M_{\phi\phi}$3.80; $M_{r\theta}$0.99; $M_{\theta\phi}$-5.18; $M_{\phi r}$-2.44; Best double couple: $M_0 6.7\times10^{18}$ NP1:φs105°,δ75°,λ169°. NP2:φs198°,δ80°,λ15°. Principal axes: T 7.41, Plg18°, Azm62°; N -1.48, Plg72°, Azm231°; P -5.93, Plg3°, Azm331°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

*HRVD **01** 06:25:44.8±0.1, 4.97N×92.22E, h12km, MW6.7/75, Centroid moment Tensor Solution. LP body waves: s74,c173;Mantle waves: s75,c343; Half duration: 5s2 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.05±.01; $M_{\theta\theta}$-0.67±.01; $M_{\phi\phi}$0.72±.01; $M_{r\theta}$-0.29±.02; $M_{\theta\phi}$-0.85±.01; $M_{\phi r}$-0.38±.02; Best double couple: $M_0 1.199\times10^{19}$ NP1: φs111°,δ68°,λ-173°. NP2:φs18°,δ84°,λ-22°. Principal axes: T 1.169, Plg11°, Azm67°; N .06, Plg67°, Azm183°; P -1.229, Plg20°, Azm333°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=125s.*

*MOS **01** 06:25:46.7±1.0, 5.11N×92.26E, h33km, mb6.3/88, MS6.6/66 Error ellipse: s-maj=8.0km s-min=3.9km az=122.8*

ISC 01 06:25:43.0±0.7, **5.02N**±0.03×**92.32E**±0.02, **h12**km±4km, **h13**km±1.0km**:pP-P, n878,** σ**1s05**/758, **mb5.9**/177, **MS6.7**/158, **103C-83D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**6.61**	**4**	i P	**Pn**	**06 27 22.5**	**+0.1**
	303nm,0.8s						
SNG	**Songkhla**	**8.52**	**75**	P	**P**	**06 27 48.0**	**-1.1**
	2µm,1.0s						
PPI	**Padang Panjang**	**9.73**	**124**	eP	**P**	**06 28 00.0**	**-5.9**
PPI				eS	**Sn**	**06 29 50.0**	**-6.1**
NST	**Nakhon Sawan**	**13.08**	**35**	⇓P	**P**	**06 28 51.0**	**-0.3**
	350nm,1.0s						
MDRS	**Chennai**	**14.35**	**305**	⇓iP	**P**	**06 29 05.8**	**-2.5**
MDRS				e		06 29 11.7	
	comp=Z,4µm,0.3s						
MDRS				i		06 34 50.0	
	comp=Z,150µm,13.7s						
CM31	**Chiang Mai Arr**	**14.84**	**25**	eP	**P**	**06 29 14.4**	**-0.2**
CHG	**Chiang Mai**	**15.16**	**25**	⇑P	**P**	**06 29 18.6**	**-0.2**
	comp=Z,150nm,1.0s						
CHG				S	**S**	**06 32 07.8**	**+0.5**
VIS	**Vishakhapatnam**	**15.39**	**326**	⇓iP	**P**	**06 29 18.0**	**-3.8**
VIS				e		06 29 25.0	
	comp=Z,21µm,1.5s						
VIS				eS	**S**	**06 32 06.6**	**-6.1**
KOD	**Kodaikanal**	**15.61**	**290**	⇓iP	**P**	**06 29 23.1**	**-1.6**
KOD				e		06 29 34.2	
	comp=Z,1µm,1.3s						
KOD				e		06 31 56.1	
TRD	**Trivandrum**	**15.65**	**284**	⇑iP	**P**	**06 29 23.6**	**-1.5**
NANT	**Nan**	**15.95**	**30**	⇑P	**P**	**06 29 31.0**	**+1.9**
	comp=Z,1µm,1.8s						
PENI	**Pendagan**	**16.59**	**129**	⇓eP	**P**	**06 29 33.3**	**-3.9**
PENI				pmax	pmax		
	comp=Z,2µm,0.7s						
PENI	**Pendagan**	**16.59**	**129**	⇓eP	**P**	**06 29 33.3**	**-3.9**
	comp=Z,2µm,0.7s						
PULI	**Pulasari**	**17.70**	**129**	⇓eP	**P**	**06 29 50.8**	**-0.3**
	comp=Z,3µm,0.7s						
HYB	**Hyderabad**	**18.26**	**314**	i P	**P**	**06 29 55.5**	**-2.7**
	comp=Z,920nm,1.0s						
HYB				eS	**S**	**06 33 10.0**	**-8.8**
HYB				LR	LR	06 35 14.0	
	comp=Z,205nm,22.0s						
AGT	**Agartala**	**18.79**	**357**	⇑iP	**P**	**06 30 04.0**	**-0.5**
AGT				i		06 33 21.0	
MNGI	**Mangalore**	**18.98**	**296**	⇓iP	**P**	**06 30 06.6**	**-0.3**
MNGI				e		06 30 13.0	
	comp=Z,2µm,1.5s						
BLSP	**Bilaspur**	**19.66**	**331**	⇓iP	**P**	**06 30 14.3**	**-0.5**
BLSP				⇓eP		06 30 14.7	
BLSP				e		06 30 22.9	
	comp=Z,6µm,1.5s						
BLSP				eS	**S**	**06 33 45.9**	**-4.4**
BLSP				i		06 37 28.4	
	comp=Z,206µm,17.8s						
IMP	**Imphal**	**19.71**	**4**	e	**P**	**06 30 14.3**	**-1.0**
LATR	**Latur**	**20.36**	**312**	⇓iP	**P**	**06 30 21.8**	**-0.4**
LATR				e		06 33 11.5	
SHL	**Shillong**	**20.44**	**359**	⇓iP	**P**	**06 30 19.7**	**-3.3**
SHL				e		06 30 22.0	
SHL				e		06 30 27.8	
	comp=Z,4µm,1.3s						
SHL				e		06 34 00.0	
SHL				eS	**S**	**06 34 03.7**	**-2.7**
GOA	**Goa**	**20.95**	**301**	⇓iP		06 30 34.4	
GOA				e		06 30 40.3	
	comp=Z,3µm,1.4s						
GOA				eS	**S**	**06 34 20.8**	**+4.2**
KAD	**Karad**	**21.55**	**306**	⇓iP	**P**	**06 30 34.3**	**-0.2**
KAD				⇓iP		06 30 34.8	
KAD				i		06 34 21.4	
KAD				eS	**S**	**06 34 25.1**	**-3.0**
QIZ	**Qiongzhong**	**22.05**	**49**	P	**P**	**06 30 40.5**	**+1.1**
QIZ				XP		06 30 47.0	
QIZ				S	**S**	**06 34 38.5**	**+1.3**
QIZ				SS	SS	06 35 16.6	+0.5
QIZ				LR	LR		
	comp=N,613µm,13.8s						
QIZ				LR	LR		
	comp=Z,185µm,14.8s,MS6.6						
QIZ	**Qiongzhong**	**22.05**	**49**	eP	**P**	**06 30 40.4**	**+1.0**
	comp=Z,1µm,1.0s,mb6.2						
GTK	**Gangtok**	**22.47**	**351**	e		06 30 50.0	
GTK				e		06 30 53.0	
LKP	**Lekhapani**	**22.48**	**9**	eP	**P**	**06 30 42.5**	**-1.1**
LKP				e		06 30 46.0	
POO	**Poona**	**22.49**	**308**	⇓iP	**P**	**06 30 44.2**	**+0.4**
POO				eS	**S**	**06 34 43.4**	**-1.9**
ALBI	**Allahabad**	**22.56**	**334**	eP	**P**	**06 30 44.0**	**-0.5**
BHPL	**Bhopal**	**23.13**	**323**	⇓iP	**P**	**06 30 51.6**	**+1.4**
BHPL				e		06 35 03.3	
DGAR	**Diego Garcia**	**23.36**	**238**	⇑iP	**P**	**06 30 49.3**	**-3.2**
DGAR	**Diego Garcia**	**23.36**	**238**	eP	**P**	**06 30 52.4**	**-0.1**
	comp=Z,7µm,1.4s,mb6.9						
DGAR				LR	LR		
	comp=Z,30µm,19.0s,MS5.8						
PKI	**Pulchoki**	**23.38**	**344**	eP	**P**	**06 30 52.8**	**+0.3**
DMN	**Daman**	**23.50**	**344**	eP	**P**	**06 30 54.4**	**+0.7**
BOM	**Bombay**	**23.51**	**308**	⇓iP	**P**	**06 30 54.8**	**+0.9**
BOM				e		06 31 02.8	
	comp=Z,1µm,1.4s						
BOM				eS	**S**	**06 35 04.3**	**+0.8**
BOM				eS	**S**	**06 35 04.8**	**+1.2**
GUN	**Gumba**	**23.58**	**346**	eP	**P**	**06 30 55.1**	**+0.6**
KKN	**Kakani**	**23.62**	**344**	eP	**P**	**06 30 55.1**	**+0.2**
	comp=Z,8µm,1.6s,mb6.9						
KKN	**Kakani**	**23.62**	**344**	eP	**P**	**06 30 55.1**	**+0.2**
GKN	**Gorkha**	**24.00**	**343**	eP	**P**	**06 30 59.3**	**+0.8**
GKN	**Gorkha**	**24.00**	**343**	eP	**P**	**06 30 59.3**	**+0.8**
	comp=Z,11µm,1.5s						
KOLN	**Koldanda**	**24.10**	**341**	eP	**P**	**06 31 00.2**	**+0.6**
JHNI	**Jhansi**	**24.25**	**328**	eP	**P**	**06 30 59.0**	**-2.0**
JHNI				e		06 31 22.0	
LSA	**Lhasa**	**24.57**	**358**	P	**P**	**06 31 06.7**	**+2.6**
LSA				S	**S**	**06 35 23.9**	**+2.1**
LSA				AMB	AMB		
	comp=Z,2µm,1.1s,mb6.5						
LSA				LR	LR		
	comp=N,59µm,19.3s,MS6.3						
LSA				LR	LR		
	comp=E,100µm,24.0s,MS6.3						
LSA				LR	LR		
	comp=Z,100µm,23.5s,MS6.2						
LSA	**Lhasa**	**24.57**	**358**	eP	**P**	**06 31 05.5**	**+1.4**
LSA				pmax	pmax		
	comp=Z,461nm,0.7s,mb6.1						
LSA	**Lhasa**	**24.57**	**358**	eP	**P**	**06 31 05.5**	**+1.3**
	comp=Z,461nm,0.7s,mb6.1						
SRDI	**Scrawed**	**25.56**	**122**	⇓eP	**P**	**06 31 12.0**	**-1.6**
SRDI				pmax	pmax		
	comp=Z,163nm,0.9s,mb5.6						
SRDI	**Scrawed**	**25.56**	**122**	⇓eP	**P**	**06 31 12.0**	**-1.6**
	comp=Z,163nm,0.9s,mb5.6						
BATP	**Bataraza**	**25.56**	**80**	eP	**P**	**06 31 14.0**	**+0.3**
BHV	**Bhavnagar**	**25.67**	**312**	eP	**P**	**06 31 17.5**	**+2.9**
KELI	**Kelakatan**	**25.72**	**121**	⇓eP	pP	06 31 22.4	+3.6
	comp=Z,515nm,1.0s						
AGRA	**Agra**	**26.00**	**330**	eP	**P**	**06 31 18.4**	**+0.8**
PPR	**Puerto Princes**	**26.60**	**78**	⇓eP	**P**	**06 31 21.5**	**-1.8**
RATI	**Rata**	**26.87**	**120**	⇑eP	**P**	**06 31 28.2**	**+2.5**
	comp=Z,862nm,0.5s,mb6.5						
PTH	**Pithoragarh**	**26.95**	**336**	eP	**P**	**06 31 28.0**	**+1.6**
PTH				e		06 36 39.0	
AJM	**Ajmer**	**27.22**	**323**	⇓iP	**P**	**06 31 28.2**	**-0.6**
AJM				i P	pP	06 31 30.0	-2.5
AJM				eS	**S**	**06 36 02.4**	**-3.3**
HKC	**Hong Kong**	**27.24**	**49**	⇑iP	**P**	**06 31 31.0**	**+1.9**
HKC				i S	**S**	**06 36 07.0**	**+1.0**
KEDI	**Kedomdong**	**27.25**	**119**	⇑eP	**P**	**06 31 28.9**	**-0.4**
KEDI				pmax	pmax		
	comp=Z,461nm,1.1s,mb5.9						
KEDI	**Kedomdong**	**27.25**	**119**	⇑eP	**P**	**06 31 28.9**	**-0.4**
	comp=Z,461nm,1.1s,mb5.9						
ASOR	**Ausora**	**27.35**	**331**	eP	**P**	**06 31 31.0**	**+1.0**
ENPP	**El Nido**	**27.51**	**75**	eP	**P**	**06 31 31.6**	**0.0**
NDI	**New Delhi**	**27.56**	**330**	⇓iP	**P**	**06 31 32.2**	**+0.3**
NDI				e	pP	06 31 35.6	+0.1
	comp=Z,2µm,1.2s						
NDI				eS	**S**	**06 36 07.4**	**-3.7**
BHGR	**Bahadurgarh**	**27.70**	**330**	eP	**P**	**06 31 34.8**	**+1.7**
KHET	**Khetri**	**27.79**	**327**	eP	**P**	**06 31 35.0**	**+1.0**
BHJ	**Bhuj**	**28.41**	**312**	⇓eP	**P**	**06 31 39.2**	**-0.4**
BHJ				⇓iP		06 31 40.7	
BHJ				eS	**S**	**06 36 19.7**	**-5.2**
BHJ				e		06 36 35.2	
DDI	**Dehra Dun**	**28.54**	**334**	eP	**P**	**06 31 41.3**	**+0.5**
DDI				e		06 32 21.0	
DDI				e		06 37 13.0	
KKR	**Kurukshetra**	**28.81**	**331**	eP	**P**	**06 31 43.5**	**+0.4**
LUBP	**Lubang**	**28.85**	**71**	eP	**P**	**06 31 44.4**	**+0.7**

CUYO	Cuyo Island	28.99	77	eP	P	06 31 44.4	-0.5
SCZP	Santa Cruz	29.12	66	eP	P	06 31 42.9	-3.2
BOLP	Bolinao	29.32	65	eP	P	06 31 48.3	+0.4
SJMP	San Jose	29.38	74	eP	P	06 31 48.9	+0.4
SMLA	Simla	29.62	333	⇓i	P	06 32 04.4	+14
SMLA				e	pP	06 32 07.9	+14
	comp=Z,2μm,1.2s						
QVPH	Quezon City--P	29.85	69	⇑eP	P	06 31 47.3	-5.4
JASL	Jaisalmer	29.87	319	⇓eP	P	06 31 48.2	-4.6
ENH	Enshi	29.88	31	eP	P	06 31 51.9	-1.0
	comp=Z,14nm,0.5s,mb4.9						
BCPH	Baguio City Da	29.93	66	⇑iP	P	06 31 53.6	+0.3
PCPH	Palayan	30.14	67	⇓eP	P	06 31 53.6	-1.6
LQP	Lukban	30.16	70	⇓eP	P	06 31 55.8	+0.4
IPIL	Ipil	30.18	83	eP	P	06 31 55.2	-0.4
BHK	Bhakra	30.21	332	eP	P	06 31 56.5	+0.8
BHK				e		06 37 45.1	
OTRP	Odiongan	30.23	74	eP	P	06 31 56.5	+0.5
BOAC	Boac	30.29	72	eP	P	06 31 55.7	-0.9
KALP	Kalibo	30.40	76	eP	P	06 31 47.5	-10
ABRA	Dolores	30.47	63	eP	P	06 31 58.9	+0.8
GUIM	Jordan	30.48	78	eP	P	06 31 58.1	-0.2
BALP	Baler	30.64	67	eP	P	06 32 00.4	+0.8
POLP	Polilio Island	30.69	70	eP	P	06 31 59.9	-0.1
RCP	Roxas	30.78	76	⇑eP	P	06 32 01.2	+0.3
SNPH	Sibulan	30.96	80	eP	P	06 32 00.0	-2.5
PAGZ	Pagadian	30.98	83	eP	P	06 32 03.5	+0.8
APYP	Conner	31.02	63	eP	P	06 32 03.6	+0.6
CAUP	Cauayan	31.23	65	eP	P	06 32 05.0	+0.1
DLH	Dalhousie	31.36	333	eP	P	06 32 06.0	+0.2
DLH				e		06 32 59.0	
CVP	Callao Caves	31.48	64	⇓eP	P	06 32 08.0	+1.0
LLP	Lapu-Lapu	31.78	79	⇑eP	P	06 32 10.5	+0.7
	comp=Z,505μm,1.5s						
PALP	Palanan	31.82	66	eP	P	06 32 08.6	-1.4
SGCP	Mt. Cagua	31.87	63	eP	P	06 32 09.8	-0.6
QZH	Quanzhou	32.07	49	⇑iP	P	06 32 13.4	+1.3
QZH				PP	PP	06 33 23.0	+4.3
QZH				S	S	06 37 23.6	+0.9
QZH				AMB	AMB		
	comp=Z,2μm,2.0s,mb6.7						
QZH				AMB	AMB		
	comp=Z,11μm,5.3s						
QZH				LR	LR		
	comp=N,530μm,15.5s,MS7.4						
QZH				LR	LR		
	comp=E,369μm,16.5s,MS7.4						
QZH				LR	LR		
	comp=Z,451μm,13.6s,MS7.3						
OCLP	Ormoc	32.51	77	eP	P	06 32 16.1	0.0
PVCP	Virac	32.51	73	eP	P	06 32 14.9	-1.2
BBP	Basco	32.63	59	eP	P	06 32 16.7	-0.3
MSLP	Maasin	32.63	79	eP	P	06 32 15.7	-1.4
LZH	Lanzhou	32.69	17	⇑iP	P	06 32 17.4	0.0
LZH				AP	pP	06 32 22.1	+1.1
LZH				PP	PP	06 33 27.4	+0.8
LZH				S	S	06 37 33.6	+1.4
LZH				AMB	AMB		
	comp=Z,1μm,1.2s,mb6.7						
LZH				AMB	AMB		
	comp=Z,12μm,8.1s						
LZH				LR	LR		
	comp=E,188μm,14.3s						
LZH				LR	LR		
	comp=Z,272μm,17.5s,MS7.0						
XAN	Xi'an	32.73	26	P	P	06 32 16.6	-1.2
XAN				S	S	06 37 30.1	-2.9
XAN				AMB	AMB		
	comp=Z,252nm,0.9s,mb6.2						
XAN				LR	LR		
	comp=N,165μm,19.2s,MS7.0						
XAN				LR	LR		
	comp=E,205μm,18.0s,MS7.0						
XAN				LR	LR		
	comp=Z,244μm,17.7s,MS7.0						
CNP	Catarman	32.79	75	eP	P	06 32 18.0	-0.4
WHN	Wuhan	32.79	37	P	P	06 32 18.5	+0.2
WHN				LR	LR		
	comp=Z,321μm,18.6s,MS7.0						
DAV	Davao City (W)	33.13	85	⇑eP	P	06 32 23.0	+1.6
	comp=Z,2000μm,1.5s						
BUTP	Butuan	33.27	81	eP	P	06 32 22.0	-0.7
BESP	Borongan	33.39	77	eP	P	06 32 22.3	-1.4
MATI	Mati	33.80	85	eP	P	06 32 25.5	-1.8
TATO	Taipei	34.31	52	eP	P	06 32 31.9	+0.3
	comp=Z,449nm,1.0s,mb6.3						
TATO				LR	LR		
	comp=Z,179μm,20.0s,MS6.8						
NJ2	Nanjing	36.60	40	eP	P	06 32 51.2	+0.2
NJ2				AP	pP	06 32 56.1	+1.4
NJ2				XP	sP	06 32 58.7	+2.4
NJ2				PP	PP	06 34 16.1	+0.5
NJ2				S	S	06 38 31.0	-1.9
NJ2				SS	SS	06 41 00.0	+0.7
NJ2				AMB	AMB		
	comp=Z,1μm,1.1s,mb6.7						
NJ2				AMB	AMB		
	comp=Z,780nm,6.0s						
NJ2				LR	LR		
	comp=N,322μm,17.5s,MS7.3						
NJ2				LR	LR		
	comp=E,391μm,19.6s,MS7.3						
NJ2				LR	LR		
	comp=Z,340μm,12.6s						
TIY	Taiyuan	37.36	27	⇑P	P	06 32 58.0	+0.7
TIY				S	S	06 38 45.0	+0.6
TIY				LR	LR		
	comp=N,100μm,13.0s						
MBWA	Marble Bar	37.41	135	eP	P	06 32 56.6	-1.2
	comp=N,174nm,1.0s,mb5.8						
MBWA				LR	LR		
	comp=Z,106μm,19.0s,MS6.7						
SSE	Sheshan	37.52	43	P	P	06 32 59.6	+0.8
SSE				PP	PP	06 34 27.0	0.0
SSE				S	S	06 38 49.4	+2.4
SSE				AMB	AMB		
	comp=Z,133nm,1.3s,mb5.5						
SSE				AMB	AMB		
	comp=Z,5μm,10.9s						
SSE				LR	LR		
	comp=N,175μm,16.0s,MS7.0						
SSE				LR	LR		
	comp=E,100μm,16.0s,MS7.0						
SSE				LR	LR		
	comp=Z,139μm,14.8s,MS6.9						
TIA	Tai'an	38.51	33	⇑P	P	06 33 07.3	+0.3
TIA				AP	pP	06 33 17.0	+6.3
TIA				SP		06 33 21.0	
TIA				S	S	06 39 01.8	-0.1
TIA				AMB	AMB		
	comp=Z,43nm,0.8s,mb5.2						
TIA				LR	LR		
	comp=N,22μm,23.7s,MS6.3						
TIA				LR	LR		
	comp=E,44μm,22.8s,MS6.3						
WMQ	Urumqi	38.86	355	⇑iP	P	06 33 11.3	+1.5
WMQ				AP	pP	06 33 15.3	+1.8
WMQ				XP	sP	06 33 17.8	+2.7
WMQ				PP	PP	06 34 44.2	+1.4
WMQ				S	S	06 39 08.1	+1.0
WMQ				AMB	AMB		
	comp=Z,357nm,1.3s,mb5.9						
WMQ				AMB	AMB		
	comp=Z,6μm,9.9s						
WMQ				LR	LR		
	comp=N,55μm,18.0s,MS6.6						
WMQ				LR	LR		
	comp=E,68μm,20.0s,MS6.6						
WMQ				LR	LR		
	comp=Z,64μm,21.5s,MS6.4						
ULHL	Ulahol	39.74	341	P	P	06 33 18.0	+0.9
	SNR=88						
FITZ	Fitzroy Crossi	40.09	126	eP	P	06 33 19.2	-1.1
	comp=Z,187nm,0.9s,mb5.8						
UCH	Uchtor	40.30	339	P	P	06 33 23.1	+1.3
	SNR=569						
AAA	Alma-Ata	40.45	343	i P	P	06 33 23.0	0.0
AAA				i S	S	06 39 31.0	0.0
AAA				pmax	pmax		
	comp=Z,7μm,5.0s						
AAA				smax			
	comp=N,16μm,12.0s						
AML	Almayashu	40.51	339	P	P	06 33 25.1	+1.6
	SNR=17						

KBK	Karagaybulak	40.53	340	P	P	06 33 25.2	+1.6
	SNR=439						
TKM2	Tokmak 2	40.55	341	P	P	06 33 24.7	+0.9
	SNR=509						
AAK	Ala-Archa	40.67	340	P	P	06 33 26.0	+1.2
	SNR=450						
AAK	Ala-Archa	40.67	340	eP	P	06 33 24.7	-0.1
AAK				pmax	pmax		
	comp=Z,1μm,1.4s,mb6.3						
AAK				MLR	MLR		
	comp=Z,30μm,22.0s,MS6.1						
AAK	Ala-Archa	40.67	340	eP	P	06 33 24.7	-0.1
	comp=Z,1μm,1.4s,mb6.3						
AAK				LR	LR		
	comp=Z,30μm,22.0s,MS6.1						
FRU	Bishkek	40.80	340	⇓iP	P	06 33 27.5	+1.6
FRU				i		06 35 04.5	
FRU				i		06 39 34.0	
FRU				pmax	pmax		
	comp=Z,2μm,1.8s,mb6.4						
CHMS	Chumysh	40.90	340	P	P	06 33 27.0	+0.3
	SNR=201						
BJT	Baijiatuau	40.94	28	eP	P	06 33 28.5	+1.5
BJT				pmax	pmax		
	comp=Z,528nm,1.3s						
BJT	Baijiatuau	40.94	28	eP	P	06 33 28.5	+1.5
	comp=Z,528nm,1.3s,mb6.0						
EKS2	Erkin-Say	40.94	339	P	P	06 33 28.6	+1.5
	SNR=7.6						
USP	Ospenovka	41.23	340	P	P	06 33 29.8	+0.5
	SNR=691						
MK02	Makanchi Array	42.48	350	P	P	06 33 39.6	-0.1
MK02				pmax	pmax		
	comp=Z,496nm,1.1s,mb6.0						
MUN	Mundaring	43.25	150	eP	P	06 33 46.3	+0.2
	comp=Z,133nm,0.9s,mb5.7						
MUN				eS	S	06 40 17.7	+5.2
MUN	Mundaring	43.25	150	eP	P	06 33 46.3	+0.2
MUN				eS	S	06 40 17.7	+5.2
MUN				pmax	pmax		
	comp=Z,133nm,0.9s,mb5.7						
KAKA	Kakadu	43.58	114	⇑iP	P	06 33 48.5	-0.5
	comp=Z,55nm,0.5s,mb5.5						
KLBR	Kellerberrin	43.74	148	⇑iP	P	06 33 50.0	-0.1
	comp=Z,108nm,0.7s,mb5.7						
ULN	Ulaanbaatar	44.52	14	⇓iP	P	06 33 53.7	-2.5
ULN	Ulaanbaatar	44.52	14	⇓iP	P	06 33 53.8	-2.4
ULN				LR	LR		
	comp=Z,73μm,19.0s,MS6.6						
NWAO	Narrogin (SRO)	44.53	150	P	P	06 33 56.0	-0.5
NWAO				S	S	06 40 30.9	-0.2
NWAO	Narrogin (SRO)	44.53	150	eP	P	06 33 55.8	-0.7
NWAO				pmax	pmax		
	comp=Z,97nm,0.8s						
NWAO	Narrogin (SRO)	44.53	150	eP	P	06 33 55.8	-0.7
	comp=Z,97nm,0.8s,mb5.7						
NWAO				LR	LR		
	comp=Z,103μm,21.0s,MS6.7						
INCN	Inchon	44.99	39	eP	P	06 33 58.6	-1.5
	comp=Z,426nm,1.6s,mb6.0						
INCN				LR	LR		
	comp=Z,134μm,19.0s,MS6.9						
VAN	Vannovskaya	45.21	321	⇓iP	P	06 34 02.6	+0.7
VAN				S	S	06 40 42.8	+2.0
KS15	Wonju Array Si	45.76	40	eP	P	06 34 05.8	-0.4
SNY	Shenyang	46.03	33	⇑P	P	06 34 07.5	-0.8
SNY				AP	pP	06 34 17.4	+5.3
SNY				XP	sP	06 34 23.0	+9.4
SNY				S	S	06 40 53.1	+0.6
SNY				AMB	AMB		
	comp=Z,250nm,1.3s,mb6.0						
SNY				AMB	AMB		
	comp=Z,3μm,5.1s						
SNY				LR	LR		
	comp=N,53μm,14.9s,MS6.9						
SNY				LR	LR		
	comp=E,88μm,14.1s,MS6.9						
SNY				LR	LR		
	comp=Z,68μm,15.5s,MS6.7						
ZAK	Zakamensk	46.14	10	eP	P	06 34 10.2	+1.2
BDHA	Al Bayda'	46.89	284	⇑iP	P	06 34 16.7	+1.3
BDHA				AMb	AMB	06 34 17.7	
	comp=Z,131nm,1.2s,mb5.7						
MOY	Mondy	47.05	7	eP	P	06 34 17.9	+1.7
LBOS		47.19	284	⇑eP	P	06 34 19.0	+1.3
TLY	Talaya	47.45	10	eP	P	06 34 20.8	+1.4
TLY				e		06 35 57.0	
TLY				eS	S	06 41 11.4	-1.2
TLY				pmax	pmax		
	comp=Z,237nm,1.3s,mb6.0						
TLY				MLR	MLR		
	comp=Z,62μm,22.0s,MS6.5						
TLY	Talaya	47.45	10	⇓iP	P	06 34 17.2	-2.2
TLY				LR	LR		
	comp=Z,14μm,22.0s,MS5.9						
DHBB	Dhamar BB	48.09	285	⇓eP	P	06 34 26.1	+1.2
IRK	Irkutsk	48.10	10	eP	P	06 34 25.6	+1.1
WRAB	Tennant Creek	48.18	122	P	P	06 34 25.2	-0.3
WRAB				pmax	pmax		
	comp=Z,180nm,0.8s,mb6.2						
WRAB	Tennant Creek	48.18	122	eP	P	06 34 24.8	-0.7
	comp=Z,177nm,0.8s,mb6.1						
WRAB				LR	LR		
	comp=Z,20μm,21.0s,MS6.1						
WB2	Warramunga Arr	48.19	122	⇓iP	P	06 34 24.9	-0.6
WB2				eS	S	06 41 20.7	-2.6
ASPA	Alice Springs	49.56	127	eP	P	06 34 38.3	+2.2
ASPA				eS	S	06 41 42.1	-0.5
HIA	Hailar	49.84	23	eP	P	06 34 38.1	+0.2
HIA				pmax	pmax		
	comp=Z,239nm,0.9s						
HIA	Hailar	49.84	23	eP	P	06 34 38.1	+0.2
	comp=Z,239nm,0.9s,mb6.2						
NVS	Novosibirsk	50.22	353	i P	P	06 34 40.0	-0.7
NVS				i S	S	06 41 43.0	-8.2
NVS				pmax	pmax		
	comp=Z,752nm,1.6s,mb6.5						
NVS				pmax	pmax		
	comp=N,706nm,1.5s						
NVS				pmax	pmax		
	comp=E,183nm,1.5s						
NVS				smax			
	comp=N,710nm,2.5s						
NVS				smax			
	comp=E,387nm,2.5s						
MDJ	Mudanjiang	51.17	34	P	P	06 34 48.5	+0.4
MDJ				AP	pP	06 34 52.9	+1.0
MDJ				PCP	PcP	06 36 03.1	-0.7
MDJ				PP	PP	06 36 45.6	-0.2
MDJ				S	S	06 42 01.3	-3.2
MDJ				AMB	AMB		
	comp=Z,293nm,1.6s,mb6.0						
MDJ				AMB	AMB		
	comp=Z,6μm,10.4s						
MDJ				LR	LR		
	comp=N,65μm,18.4s,MS6.8						
MDJ				LR	LR		
	comp=E,55μm,16.9s,MS6.8						
MDJ				LR	LR		
	comp=Z,110μm,18.0s,MS6.9						
MDJ	Mudanjiang	51.17	34	eP	P	06 34 48.6	+0.5
	comp=Z,719nm,1.5s,mb6.4						
BRVK	Borovoye	51.20	343	eP	P	06 34 46.7	-1.5
BRVK				pmax	pmax		
	comp=Z,581nm,1.3s,mb6.3						
BRVK	Borovoye	51.20	343	eP	P	06 34 46.7	-1.5
	comp=Z,581nm,1.3s,mb6.3						
VLA	Vladivostok	51.58	37	⇓iP	P	06 34 51.0	-0.2
VLA				i		06 35 05.0	
VLA				i S	S	06 42 08.0	-2.1
VLA				i		06 42 29.0	
VLA				pmax	pmax		
	comp=Z,4μm,4.0s						
VLA				pmax	pmax		
	comp=N,700nm,5.0s						
VLA				pmax	pmax		
	comp=E,3μm,5.0s						
VLA				smax			
	comp=N,13μm,13.0s						
VLA				smax			
	comp=E,5μm,10.0s						
MAJO	Matsushiro	52.41	47	eP	P	06 34 57.0	-0.6
MAJO				pmax	pmax		
	comp=Z,529nm,1.8s,mb6.2						
MAJO				MLR	MLR		
	comp=Z,59μm,21.0s,MS6.6						

MAJO	Matsushiro	52.41	47	eP	P	06 34 57.0	-0.6
	comp=Z,530nm,1.8s,mb6.2						
MAJO				LR	LR		
	comp=Z,59μm,21.0s,MS6.6						
MAT	Matsushiro	52.41	47	eP	P	06 34 57.0	-0.6
MAT				eS	S	06 42 33.0	+11
MAT				pmax	pmax		
	comp=Z,1μm,2.1s,mb6.4						
MAT	Matsushiro	52.41	47	eP	P	06 34 57.0	-0.6
	comp=Z,1μm,2.1s,mb6.4						
MAT				eS	S	06 42 33.0	+11
MAT	Matsushiro	52.41	47	P	P	06 34 57.0	-0.6
MAT				S	S	06 42 33.0	+11
BHD	Baghdad	52.66	309	eP	P	06 34 54.0	-5.5
BHD				eS	S	06 42 20.0	-5.1
MAK	Makhachkala	54.71	321 c	iP	P	06 35 14.0	-0.4
MAK				e		06 36 12.5	
MAK				e		06 37 25.0	
MAK				eS	S	06 42 50.0	-2.7
MAK				ePS	PS	06 43 06.0	+1.1
MAK				pmax	pmax		
	comp=Z,400nm,1.4s,mb6.3						
MAK				pmax	pmax		
	comp=Z,4μm,4.3s						
MAK				smax			
	comp=E,13μm,10.0s						
MSL	Mosul	54.78	311	eP	P	06 35 14.0	-1.0
MSL				epP	pP	06 35 29.5	+11
MSL				esP	sP	06 35 41.5	+21
MSL				ePP	PP	06 37 19.5	+0.1
MSL				eS	S	06 42 51.5	-2.2
MSL				eScS	ScS	06 44 57.0	-3.8
GNI	Garni	55.19	316	eP	P	06 35 17.1	-0.9
	comp=E,554nm,1.3s,mb6.4						
GNI				LR	LR		
	comp=Z,30μm,21.0s,MS6.3						
KLR	Kul'dur	55.24	30	⇓P	P	06 35 15.5	-2.8
BOD	Bodaibo	55.33	14	eP	P	06 35 18.3	-0.5
BOD				e		06 43 00.2	
KMBO	Kilima Mbogo	55.35	265	eP	P	06 35 19.8	+0.2
	comp=Z,143nm,1.1s,mb5.9						
KMBO				LR	LR		
	comp=Z,56μm,20.0s,MS6.6						
MTA	Mtatsminda	55.85	318	P	P	06 35 22.1	-0.7
TI2	Plekhanov	55.90	318 κ	iP	P	06 35 21.6	-1.5
TI2				i S	S	06 43 04.4	-4.2
TI2				pmax	pmax		
	comp=Z,260nm,0.6s,mb6.4						
TI2				pmax	pmax		
	comp=Z,5μm,2.5s						
TI2				smax			
	comp=N,4μm,4.0s						
TI2				MLR	MLR		
	comp=N,17μm,18.0s,MS6.4						
TI2				MLR	MLR		
	comp=E,21μm,18.0s,MS6.4						
TI2				MLR	MLR		
	comp=Z,19μm,18.0s,MS6.2						
DUS	Dusheti	56.09	319	P	P	06 35 23.9	-0.6
PMG	Port Moresby	56.49	105	⇓iP	P	06 35 26.2	-1.5
PMG	Port Moresby	56.49	105	PFAKE		06 35 40.0	+12
PMG				LR	LR		
	comp=Z,56μm,20.0s,MS6.7						
AKH	Akhalkalaki	56.60	317	P	P	06 35 28.5	+0.4
BEST	Besiri	56.73	313	i P	P	06 35 28.7	-0.5
SVE	Sverdlovsk	57.41	340	eP	P	06 35 33.5	-0.2
SVE				e		06 36 30.0	
SVE				ePPP	PPP	06 39 05.0	+1.6
SVE				eS	S	06 43 22.0	-6.4
SVE				eSS	SS	06 47 20.0	+0.5
SVE				pmax	pmax		
	comp=Z,1μm,1.8s,mb6.7						
SVE				smax			
	comp=N,18μm,9.0s						
SVE				smax			
	comp=E,11μm,9.0s						
ERZM	Erzurum	57.44	315	i P	P	06 35 33.7	-0.5
CLNS	Chul'man	57.72	20	eP	P	06 35 36.3	+0.4
CLNS				e*PP	pP	06 35 42.9	+3.2
CLNS				e		06 36 27.5	
CLNS				e		06 37 42.8	
CLNS				eS	S	06 43 35.4	+2.9
CLNS				e		06 45 21.9	
CLNS				pmax	pmax		
	comp=E,102nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,278nm,1.0s,mb6.2						
CLNS				pmax	pmax		
	comp=N,154nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,59nm,1.0s,mb5.6						
CLNS				pmax	pmax		
	comp=N,56nm,0.9s						
CLNS				pmax	pmax		
	comp=E,74nm,1.2s						
CLNS				smax			
	comp=N,7μm,13.2s						
CLNS				smax			
	comp=Z,3μm,12.3s						
CLNS				smax			
	comp=E,902nm,12.1s						
CLNS				MLR	MLR		
	comp=Z,90μm,16.0s,MS7.0						
CLNS				MLR	MLR		
	comp=N,96μm,14.0s,MS7.1						
CLNS				MLR	MLR		
	comp=E,45μm,15.0s,MS7.1						
ARU	Arti	57.84	339	⇑iP	P	06 35 33.4	-3.3
ARU				e		06 36 30.7	
ARU				i S	S	06 43 32.4	-1.6
ARU				pmax	pmax		
	comp=Z,500nm,1.4s,mb6.3						
ARU				MLR	MLR		
	comp=Z,56μm,20.0s,MS6.7						
ARU				MLR	MLR		
	comp=N,33μm,22.0s,MS6.7						
ARU				MLR	MLR		
	comp=E,48μm,18.0s,MS6.7						
ARU	Arti	57.84	339	⇓iP	P	06 35 33.5	-3.2
KIV	Kislovodsk	58.26	320	P	P	06 35 38.8	-1.0
	comp=E,1μm,1.3s,mb6.8						
KIV	Kislovodsk	58.26	320	⇓iP	P	06 35 38.8	-1.0
KIV				e		06 36 36.9	
KIV				i S	S	06 43 36.1	-3.7
KIV				pmax	pmax		
	comp=Z,450nm,1.3s,mb6.3						
KIV				MLR	MLR		
	comp=Z,29μm,18.0s,MS6.4						
KIV	Kislovodsk	58.26	320	eP	P	06 35 38.5	-1.4
	comp=Z,430nm,1.3s,mb6.3						
KIV				LR	LR		
	comp=Z,7μm,19.0s,MS5.8						
EZC	Erzincan	58.48	314	eP	P	06 35 43.9	+2.5
GOF	Gofitskoye	58.55	321	⇑iP	P	06 35 40.5	-1.3
GOF				i		06 36 37.5	
GOF				pmax	pmax		
	comp=Z,200nm,1.4s,mb6.0						
GOF				pmax	pmax		
	comp=Z,5μm,4.0s						
GOF				MLR	MLR		
	comp=Z,45μm,16.0s,MS6.7						
CTA	Charters Tower	58.56	117	⇑iP	P	06 35 42.4	+0.2
	comp=Z,50nm,0.8s,mb5.6						
CTA				eS	S	06 43 42.9	-1.1
CTA	Charters Tower	58.56	117	⇑iP	P	06 35 42.4	+0.2
CTA				eS	S	06 43 42.9	-1.1
CTA				pmax	pmax		
	comp=Z,51nm,0.8s						
CTAO	Charters Tower	58.56	117	eP	P	06 35 40.7	-1.5
	comp=Z,203nm,1.3s,mb6.0						
CTAO				LR	LR		
	comp=Z,84μm,20.0s,MS6.9						
ELZG	Elazig	58.63	313	i P	P	06 35 42.1	-0.3
MALT	Malatya	58.97	312	eP	P	06 35 44.3	-0.6
MALT				pmax	pmax		
	comp=Z,276nm,1.4s,mb6.1						
MALT	Malatya	58.97	312	eP	P	06 35 44.3	-0.6
	comp=Z,276nm,1.4s,mb6.1						
MYA	Malataya	58.98	312	P	P	06 35 46.0	+1.1
GUMT	Gumushane	58.98	315	P	P	06 35 44.7	-0.2
DUSS	Damascus Unive	59.15	306	i P	P	06 35 48.8	+2.6
DUSS				i P		06 35 48.8	
DUSS				i P		06 35 48.9	
DUSS				e	pP	06 35 51.8	+1.7
	baz=103,slow=18						

DUSS			*e*S		**S**	**06 43 55.7 +4.1**
MKRJ	**Makawir**	**59.18 304**	P		**P**	**06 35 46.7 +0.3**
AQBJ	**Aqaba**	**59.25 302**	P		**P**	**06 35 46.9 0.0**
GZT	**Gaziantep**	**59.30 311**	*i* P		**P**	**06 35 47.1 0.0**
EIL	**Elat**	**59.32 302**	P		**P**	**06 35 47.4 0.0**
EIL	**Elat**	**59.32 302**	*e*P		**P**	**06 35 47.3 -0.1**
	comp=Z,250nm,1.2s,mb6.1					
ZFRI	**Zfri**	**59.33 303**	P		**P**	**06 35 47.6 +0.2**
MZDA	**Masada**	**59.35 303**	P		**P**	**06 35 47.9 +0.3**
MBH	**Mount Berech**	**59.38 302**	P		**P**	**06 35 48.0 +0.2**
DRGI	**Dragot**	**59.39 304**	P		**P**	**06 35 48.2 +0.3**
KSHT	**Keshet**	**59.40 305**	P		**P**	**06 35 48.8 +0.9**
PRNI	**Paran**	**59.42 302**	P		**P**	**06 35 48.4 +0.3**
HMDT	**Nahal Hemdat**	**59.44 305**	P		**P**	**06 35 48.5 +0.3**
GAZ	**Gaziantep**	**59.51 311**	*e*P		**P**	**06 35 49.2 +0.6**
STKA	**Stephens Creek**	**59.51 132**	⇓*i* P		**P**	**06 35 48.1 -0.6**
	comp=Z,68nm,0.6s,mb5.8					
HRI	**Mount Hermon**	**59.53 306**	P		**P**	**06 35 49.5 +0.7**
KSDI	**Kefar Szold**	**59.58 306**	P		**P**	**06 35 49.6 +0.5**
MMLI	**Mount Malkishu**	**59.58 305**	P		**P**	**06 35 49.8 +0.7**
KMTI	**Karmit**	**59.60 302**	P		**P**	**06 35 49.5 +0.1**
HWQ	**Hawqa**	**59.64 307**	*e*P		**P**	**06 35 50.4 +0.9**
MASH	**Mash'abbe Sade**	**59.76 303**	P		**P**	**06 35 50.5 +0.1**
BHL	**Bhannes**	**59.77 306**	*e*P		**P**	**06 35 51.2 +0.8**
SLTI	**Sal'it**	**59.84 304**	P		**P**	**06 35 51.4 +0.5**
RTMM	**Retamin**	**59.85 303**	P		**P**	**06 35 51.2 +0.2**
KAHT	**Ahir Dag**	**59.91 311**	*i* P		**P**	**06 35 51.3 0.0**
HNTI	**Hanita**	**59.94 305**	P		**P**	**06 35 52.4 +0.8**
OFRI	**'Ofer**	**59.98 305**	P		**P**	**06 35 52.3 +0.4**
HAF	**Haifa**	**59.99 305**	P		**P**	**06 35 52.3 +0.4**
HTY	**Hatay**	**60.01 309**	*e*P		**P**	**06 35 50.8 -1.2**
COBT	**Iskenderun**	**60.04 310**	*i* P		**P**	**06 35 52.7 +0.5**
SOC	**Sochi**	**60.05 318**	*i* P		**P**	**06 35 50.9 -1.3**
SOC			*e*			06 36 39.9
SOC			*e*			06 38 04.2
SOC			*e*PPP	PPP		06 39 27.8 -5.0
SOC			*i* S		**S**	**06 43 55.5 -7.4**
SOC			*e*SS	SS		06 47 55.3 -5.6
SOC			pmax	pmax		
	comp=Z,247nm,1.5s,mb6.0					
SOC			pmax	pmax		
	comp=N,60nm,1.3s					
SOC			pmax	pmax		
	comp=E,161nm,1.7s					
SOC			MLR	MLR		
	comp=N,9μm,20.0s,MS6.4					
SOC			MLR	MLR		
	comp=E,28μm,20.0s,MS6.4					
KZIT	**Kziot**	**60.06 303**	P		**P**	**06 35 52.5 0.0**
YSS	**Yuzh-Sakhalins**	**60.13 38**α	*i* P		**P**	**06 35 52.2 -0.5**
YSS			*e**SP		sP	06 36 05.0 +7.0
YSS			*e*			06 36 32.9
YSS			*i* S		**S**	**06 44 05.0 +1.0**
YSS			*e*SS	SS		06 47 58.0 -4.2
YSS			pmax	pmax		
	comp=Z,430nm,1.2s,mb6.3					
YSS			pmax	pmax		
	comp=N,60nm,1.0s					
YSS			pmax	pmax		
	comp=E,60nm,1.0s					
YSS			smax			
	comp=N,16μm,11.0s					
YSS			smax			
	comp=E,6μm,10.0s					
YSS			MLR	MLR		
	comp=Z,58μm,16.0s,MS6.8					
YSS			MLR	MLR		
	comp=E,35μm,15.0s					
YSS	**Yuzh-Sakhalins**	**60.13 38**	*e*P		**P**	**06 35 52.0 -0.7**
	comp=E,360nm,1.1s,mb6.3					
YSS			LR	LR		
	comp=Z,49μm,20.0s,MS6.6					
CEYT	**Ceyhan**	**60.57 310**	*e*P		**P**	**06 35 56.5 +0.6**
YUK	**Yuzh-Kuril'sk**	**60.84 42**⇑	*i* P		**P**	**06 35 57.0 -0.6**
YUK			*e*			06 36 45.0
YUK			*e*			06 38 07.0
YUK			*i* S		**S**	**06 44 13.0 -0.1**
YUK			*e*SS	SS		06 48 10.0 -3.6
YUK			*e*SSS	SSS		06 50 46.0 -4.1
YUK			pmax	pmax		
	comp=Z,5μm,2.5s					
YUK			smax			
	comp=N,10μm,4.5s					
YUK			smax			
	comp=E,8μm,6.5s					
YUK			MLR	MLR		
	comp=N,31μm,16.0s					
YUK			MLR	MLR		
	comp=Z,59μm,16.0s					
YUK			MLR	MLR		
	comp=E,49μm,17.0s					
BNN	**Bunyan**	**61.06 312**	*e*P		**P**	**06 35 58.8 -0.4**
PHNC	**Paralimni**	**61.35 307**	P		**P**	**06 35 58.7 -2.5**
KVT	**Kavak**	**61.64 314**	*e*P		**P**	**06 36 03.5 +0.4**
NIG	**Nigde**	**61.76 311**	*e*P		**P**	**06 36 05.6 +1.7**
MBAR	**Mbarara**	**61.76 267**	*e*P		**P**	**06 36 02.8 -1.5**
MBAR			pmax	pmax		
	comp=Z,1μm,2.1s,mb6.8					
MBAR			MLR	MLR		
	comp=Z,13μm,21.0s,MS6.1					
MBAR	**Mbarara**	**61.76 267**	*e*P		**P**	**06 36 02.8 -1.5**
	comp=Z,1μm,2.1s,mb6.8					
MBAR			LR	LR		
	comp=Z,13μm,21.0s,MS6.1					
AVNT	**Avonos**	**61.77 312**	*i* P		**P**	**06 36 03.2 -0.8**
CSS	**Prodhromos**	**61.90 307**	P		**P**	**06 36 04.7 -0.2**
IKL	**Isikli**	**61.95 309**	*e*P		**P**	**06 36 04.1 -1.1**
ANN	**Anapa**	**62.03 319**⇓	*i* P		**P**	**06 36 03.2 -2.5**
ANN			*i*			06 36 39.3
ANN			*i*			06 38 27.3
ANN			*i* PPP	PPP		06 39 49.0 -4.6
ANN			*i* S		**S**	**06 44 27.4 -0.8**
ANN			pmax	pmax		
	comp=Z,159nm,1.5s,mb5.9					
MAMC	**Mammari**	**62.04 307**	P		**P**	**06 36 06.3 +0.5**
SZAC	**Souni-Zanaja**	**62.20 307**	⇑P		**P**	**06 36 07.0 +0.1**
SZAC	**Souni-Zanaja**	**62.20 307**	⇑*i* P		**P**	**06 36 07.0 +0.1**
LEF	**Lefka**	**62.29 307**	*e*P		**P**	**06 36 07.2 -0.3**
CTKT	**Corum**	**62.39 314**	*i* P		**P**	**06 36 07.1 -1.0**
ALFC	**Alevga**	**62.53 307**	⇑P		**P**	**06 36 08.6 -0.5**
	comp=Z,2.7nm,0.8s					
ALFC	**Alevga**	**62.53 307**⇑	*e*P		**P**	**06 36 08.6 -0.5**
BOYT	**Boyabat**	**62.57 314**	*i* P		**P**	**06 36 08.4 -0.9**
PPCY	**Paphos**	**62.66 307**	⇑P		**P**	**06 36 09.4 -0.6**
PPCY	**Paphos**	**62.66 307**⇑	*e*P		**P**	**06 36 09.4 -0.6**
BYBT	**Boyabat**	**62.68 314**	*e*P		**P**	**06 36 06.0 -4.0**
KAMT	**Kaman**	**62.80 312**	P		**P**	**06 36 09.8 -1.0**
BR131	**Keskin Array S**	**62.96 312**	PFAKE			06 36 20.0 +8.2
BR131			LR	LR		
	comp=Z,31μm,19.0s,MS6.5					
HDMB	**Hadim**	**63.07 309**	*e*P		**P**	**06 36 12.9 +0.3**
TOS	**Tosya**	**63.08 314**	*e*P		**P**	**06 36 13.4 +0.8**
CANT	**Cankiri**	**63.23 313**	*e*P		**P**	**06 36 13.3 -0.4**
YAK	**Yakutsk**	**63.26 19***c*	*i* P		**P**	**06 36 12.8 -0.7**
YAK			*e*			06 36 52.4
YAK			*e*			06 38 30.7
YAK			*e*S		**S**	**06 44 39.6 -3.8**
YAK			*e*			06 46 02.5
YAK			*e*SS	SS		06 48 45.1 -6.7
YAK			*e*SSS	SSS		06 51 39.9 +2.7
YAK			pmax	pmax		
	comp=Z,285nm,1.0s,mb6.3					
YAK			pmax	pmax		
	comp=N,127nm,1.1s					
YAK			pmax	pmax		
	comp=E,103nm,1.1s					
YAK			pmax	pmax		
	comp=E,14nm,1.0s					
YAK			pmax	pmax		
	comp=Z,38nm,1.0s,mb5.5					
YAK			pmax	pmax		
	comp=N,20nm,1.1s					
YAK			smax			
	comp=E,35nm,1.3s					
YAK			smax			
	comp=Z,21nm,1.0s					
YAK			smax			
	comp=N,19nm,1.2s					
YAK			MLR	MLR		
	comp=N,27μm,15.0s,MS6.7					
YAK			MLR	MLR		
	comp=Z,43μm,15.0s,MS6.7					
YAK			MLR	MLR		
	comp=E,21μm,14.0s,MS6.7					
YAK	**Yakutsk**	**63.26 19**⇓	*i* P		**P**	**06 36 10.7 -2.8**
ELDT	**Eldivan**	**63.34 313**	*i* P		**P**	**06 36 14.0 -0.3**
BZK	**Bozkurt**	**63.38 315**	*e*P		**P**	**06 36 13.8 -0.8**
KONT	**Konya--Tatoy**	**63.42 310**	*e*P		**P**	**06 36 15.1 +0.2**
ANTO	**Ankara**	**63.62 312**	P		**P**	**06 36 15.5 -0.8**
LOD	**Lodumlu**	**63.65 312**	P		**P**	**06 36 15.0 -1.5**
BALT	**Daday**	**63.69 314**	*i* P		**P**	**06 36 15.8 -0.9**
PECR	**Pechory**	**63.78 332**⇓	*i* P		**P**	**06 36 15.2 -1.8**
PECR			*e*S		**S**	**06 44 45.0 -5.0**
PECR			*e*PS	PS		06 45 16.0 +5.4
PECR			*e*			06 46 02.0
PECR			pmax	pmax		
	comp=Z,3μm,11.3s					
PECR			smax			
	comp=E,7μm,8.0s					
PECR			smax			
	comp=N,8μm,10.5s					
PECR			MLR	MLR		
	comp=Z,48μm,23.0s,MS6.6					
PECR			MLR	MLR		
	comp=N,45μm,17.0s					
PECR			MLR	MLR		
	comp=E,16μm,19.0s					
KIZT	**Kizilcal**	**64.03 311**	*e*P		**P**	**06 36 17.4 -1.6**
SAFT	**Safranbolu**	**64.10 314**	*e*P		**P**	**06 36 18.4 -1.0**
SIM	**Simferopol'**	**64.29 318**	*e*P		**P**	**06 36 19.2 -1.3**
SIM			*e*PPP	PPP		06 40 23.0 +6.6
SIM			*i* S		**S**	**06 44 51.6 -4.9**
SIM			*e*PS	PS		06 45 18.0 +0.4
SIM			*e*SS	SS		06 49 03.0 -4.7
SIM			pmax	pmax		
	comp=Z,230nm,1.2s,mb6.1					
SGKT	**Sivrigoynuk**	**64.36 313**	*i* P		**P**	**06 36 19.9 -1.3**
ANTB	**Antalya**	**64.47 309**	*e*P		**P**	**06 36 23.8 +1.9**
BCK	**Bucak**	**64.66 309**	*e*P		**P**	**06 36 22.5 -0.6**
ISP	**Isparta**	**64.81 310**	P		**P**	**06 36 23.3 -0.8**
ISP	**Isparta**	**64.81 310**	*e*P		**P**	**06 36 23.2 -0.9**
ISP			pmax	pmax		
	comp=Z,244nm,1.4s,mb6.0					
ISP	**Isparta**	**64.81 310**	*e*P		**P**	**06 36 23.2 -0.9**
	comp=Z,244nm,1.4s,mb6.0					
MDU	**Mudurnu**	**64.95 312**	*e*P		**P**	**06 36 23.6 -1.3**
ESKT	**Eskisehir**	**64.97 311**	*e*P		**P**	**06 36 23.9 -1.2**
ESKT	**Eskisehir**	**64.97 311**	*i* P		**P**	**06 36 24.1 -1.0**
ELL	**Elmali**	**65.02 308**	P		**P**	**06 36 25.1 -0.4**
TOO	**Toolangi**	**65.05 135**	*e*P		**P**	**06 36 26.3 +0.7**
	comp=Z,72nm,1.0s,mb5.7					
TOO	**Toolangi**	**65.05 135**	*e*P		**P**	**06 36 26.3 +0.7**
TOO			pmax	pmax		
	comp=Z,72nm,1.0s,mb5.7					
HENT	**Hendek**	**65.28 313**	*i* P		**P**	**06 36 25.6 -1.5**
ALT	**Altintas**	**65.41 311**	P		**P**	**06 36 24.4 -3.5**
FETY	**Fethiye**	**65.64 308**	*e*P		**P**	**06 36 28.3 -1.1**
KHL	**Karahalli**	**65.68 310**	*e*P		**P**	**06 36 27.6 -2.1**
DENT	**Denizli**	**65.93 309**	*e*P		**P**	**06 36 30.8 -0.4**
DALT	**Dalyan (Mudla)**	**66.02 308**	*e*P		**P**	**06 36 31.4 -0.5**
HRT	**Hereke**	**66.18 313**	*e*P		**P**	**06 36 29.5 -3.3**
YLV	**Yalova**	**66.33 312**	*e*P		**P**	**06 36 32.4 -1.4**
ULDT	**Uludag**	**66.41 312**	*i* P		**P**	**06 36 33.4 -0.9**
BADT	**Buyukada**	**66.59 312**	*e*P		**P**	**06 36 33.3 -2.1**
MOS	**Moscow**	**66.59 330**⇓	*i* P		**P**	**06 36 34.5 -0.7**
MOS			*e*			06 37 01.3
MOS			*e*PPP	PPP		06 40 45.9 +5.9
MOS			*e*S	S		06 45 20.6 -3.9
MOS			*e*SSS	SSS		06 52 39.4 -0.3
MOS			pmax	pmax		
	comp=Z,2μm,1.9s,mb6.8					
MOS			pmax	pmax		
	comp=Z,879nm,1.4s,mb6.6					
MOS			MLR	MLR		
	comp=Z,95μm,21.9s,MS7.0					
MOS			MLR	MLR		
	comp=E,71μm,21.2s					
LSZ	**Lusaka**	**66.63 251**	*e*P		**P**	**06 36 35.1 -1.0**
LSZ			pmax	pmax		
	comp=Z,494nm,1.5s,mb6.3					
LSZ			MLR	MLR		
	comp=Z,65μm,20.0s,MS6.8					
LSZ	**Lusaka**	**66.63 251**	*e*P		**P**	**06 36 35.1 -1.0**
	comp=Z,494nm,1.5s,mb6.3					
LSZ			LR	LR		
	comp=Z,65μm,20.0s,MS6.8					
ISK	**Istanbul-Kandi**	**66.69 313**	*e*P		**P**	**06 36 35.6 -0.4**
ARMT	**Armutlu**	**66.71 312**	*e*P		**P**	**06 36 35.2 -1.0**
AYDN	**Tasoluk**	**66.80 309**	*i* P		**P**	**06 36 36.5 -0.3**
OBN	**Obninsk**	**66.85 329**⇑	*i* P		**P**	**06 36 33.8 -3.0**
OBN			*e*			06 37 05.1
OBN			*i* S	S		06 45 28.2 +0.6
OBN			pmax	pmax		
	comp=Z,348nm,0.8s,mb6.4					
OBN			MLR	MLR		
	comp=Z,61μm,24.0s,MS6.7					
OBN	**Obninsk**	**66.85 329**⇑	*i* P		**P**	**06 36 33.9 -2.9**
BDRM	**Kayabasi**	**67.02 308**	*i* P		**P**	**06 36 37.6 -0.6**
AKS	**Akhisar**	**67.11 310**	P		**P**	**06 36 37.9 -0.9**
BTOK	**Tokmak**	**67.14 311**	*i* P		**P**	**06 36 38.2 -0.8**
BALB	**Balikesir**	**67.23 311**	P		**P**	**06 36 39.8 +0.3**
BNT	**Bandirma**	**67.36 312**	*e*P		**P**	**06 36 39.0 -1.3**
KDAG	**Bornova**	**67.43 310**	*i* P		**P**	**06 36 40.2 -0.6**
IZM	**Izmir**	**67.43 310**	P		**P**	**06 36 40.8 0.0**
MRMT	**Marmara Adasi**	**67.66 312**	*e*P		**P**	**06 36 40.4 -1.8**
MFT	**Murefte**	**67.93 312**	*e*P		**P**	**06 36 43.2 -0.7**
CFR	**Carcaliu**	**68.39 317**⇑	*i* P		**P**	**06 36 46.0 -0.7**
HARR	**Harsova**	**68.41 316**⇑	*i* P		**P**	**06 36 46.2 -0.6**
HARR	**Harsova**	**68.41 316**⇑	*i* P		**P**	**06 36 46.2 -0.6**
PRD	**Provadia**	**68.41 315**	*i* P		**P**	**06 36 46.0 -0.8**
KIS	**Kishinev**	**68.44 319**α	*i* P		**P**	**06 36 46.0 -0.9**
KIS			*i*			06 37 12.0
KIS			*e*PPP	PPP		06 41 00.0 +2.4
KIS			*e*PS	PS		06 46 02.0 -11
KIS			*e*			06 46 12.0
KIS			*e*SSS	SSS		06 53 10.0 -3.0
KIS			pmax	pmax		
	comp=Z,880nm,1.4s,mb6.6					
KIS			pmax	pmax		
	comp=N,160nm,1.7s					
KIS			pmax	pmax		
	comp=E,480nm,1.5s					
KIS			pmax	pmax		
	comp=Z,2μm,4.8s					
KIS			pmax	pmax		
	comp=Z,3μm,16.0s					
KIS			MLR	MLR		
	comp=N,23μm,19.0s,MS6.7					
KIS			MLR	MLR		
	comp=E,33μm,19.0s,MS6.7					
KIS			MLR	MLR		
	comp=Z,28μm,19.0s,MS6.5					
KIS			MLR	MLR		
	comp=Z,28μm,20.0s					
SANT	**Santorini**	**68.46 307**	*e*P		**P**	**06 36 45.7 -1.6**
	comp=Z,289nm,1.2s,mb6.2					
EDRB	**Edirne**	**68.56 313**	*e*P		**P**	**06 36 45.3 -2.5**
BOZC	**Bozcaada**	**68.65 311**	*i* P		**P**	**06 36 47.2 -1.2**
TAU	**Tasmania Unive**	**68.84 140**	*e*P		**P**	**06 36 49.0 -0.5**
TAU			pmax	pmax		
	comp=Z,75nm,0.8s,mb5.7					
TAU	**Tasmania Unive**	**68.84 140**	*e*P		**P**	**06 36 49.0 -0.5**
	comp=Z,75nm,0.8s,mb5.7					
GVD	**Gavdhos**	**69.31 305**	*e*P		**P**	**06 36 52.1 -0.5**
	comp=Z,366nm,1.3s,mb6.2					
ISR	**Istrita**	**69.47 316**⇑	*i* P		**P**	**06 36 54.3 +1.0**
DIM	**Dimitrovgrad**	**69.49 313**	*i* P		**P**	**06 36 52.0 -1.5**
KDZ	**Kurdzhali**	**69.49 313**	*i* P		**P**	**06 36 53.0 -0.5**
VRI	**Vrincioaia**	**69.53 317**⇑	*i* P		**P**	**06 36 54.0 +0.3**
SKR	**Severo-Kuril's**	**69.70 37**	*e*P		**P**	**06 36 51.0 -3.6**
SKR			*e*			06 37 02.0
SKR			*e*PPP	PPP		06 41 04.0 -6.2
SKR			*e*S	S		06 45 59.0 -2.7
SKR			*e*			06 46 41.0
SKR			*e*SSS	SSS		06 53 40.0 +4.3
SKR			pmax	pmax		
	comp=N,180nm,1.0s					
SKR			pmax	pmax		
	comp=E,220nm,1.0s					
SKR			pmax	pmax		
	comp=Z,490nm,1.0s,mb6.4					
SKR			smax			
	comp=N,15μm,18.0s					
SKR			smax			
	comp=E,9μm,18.0s					
SKR			MLR	MLR		
	comp=N,28μm,16.0s,MS6.6					
SKR			MLR	MLR		
	comp=Z,42μm,16.0s,MS6.8					
SKR			MLR	MLR		
	comp=E,13μm,20.0s,MS6.6					
PVL	**Pavlikeni**	**69.88 314**	*e*P		**P**	**06 36 56.0 +0.1**
RZN	**Rozhen**	**70.01 313**	*e*P		**P**	**06 36 53.0 -3.7**
MA2	**Magadan**	**70.12 27***c*	*i* P		**P**	**06 36 56.7 -0.3**
MA2			*e*PPP	PPP		06 41 17.6 +3.4
MA2			*e*S	S		06 46 05.3 -1.1
MA2			*e*PS	PS		06 46 25.3 -10
MA2			*e*			06 46 55.3
MA2			*e*SS	SS		06 50 38.3 +0.6
MA2			*e*SSS	SSS		06 53 47.2 +4.3
MA2			pmax	pmax		
	comp=E,30nm,1.2s					
MA2			pmax	pmax		
	comp=Z,200nm,1.2s,mb5.9					
MA2			pmax	pmax		
	comp=N,20nm,1.0s					
MA2			MLR	MLR		
	comp=Z,196μm,24.0s,MS7.3					
MA2	**Magadan**	**70.12 27**⇓	*i* P		**P**	**06 36 54.6 -2.4**
TIXI	**Tiksi**	**70.37 12**⇑	*i* P		**P**	**06 36 57.7 -0.7**
TIXI			*e*S		S	06 46 06.4 -2.8
TIXI			*e*			06 46 58.7
TIXI			*e*SS	SS		06 50 32.0 -10
TIXI			pmax	pmax		
	comp=Z,342nm,1.1s,mb6.2					
TIXI			pmax	pmax		
	comp=N,57nm,1.2s					
TIXI			pmax	pmax		
	comp=E,74nm,1.3s					
TIXI			pmax	pmax		
	comp=Z,400nm,1.0s,mb6.3					
TIXI			smax			
	comp=N,10μm,17.9s					
TIXI			smax			
	comp=E,11μm,18.5s					
TIXI			MLR	MLR		
	comp=Z,43μm,17.0s,MS6.8					
TIXI			MLR	MLR		
	comp=N,29μm,15.0s,MS6.7					
TIXI			MLR	MLR		
	comp=E,17μm,14.0s,MS6.7					
TIXI	**Tiksi**	**70.37 12**⇓	*i* P		**P**	**06 36 56.5 -1.9**
TIXI			LR	LR		
	comp=Z,45μm,19.0s,MS6.7					
MTUR	**Matau**	**70.51 316**⇑	*i* P		**P**	**06 36 59.1 -0.6**
KKB	**Krupnik**	**71.25 312**	*i* P		**P**	**06 37 02.0 -2.2**
VTS	**Vitosha**	**71.29 313**	*i* P		**P**	**06 37 03.0 -1.4**
MNK	**Minsk**	**71.29 326**⇓	*e*P		**P**	**06 37 02.0 -2.2**
MNK			*e*PPP	PPP		06 41 20.0 -5.7
MNK			*e*S	S		06 46 10.0 -10
MNK			pmax	pmax		
	comp=Z,1μm,1.0s,mb6.8					
MNK			pmax	pmax		
	comp=E,800nm,1.5s					
MNK			MLR	MLR		
	comp=N,61μm,22.0s,MS6.9					
MNK			MLR	MLR		
	comp=E,33μm,18.0s,MS6.9					
MNK			MLR	MLR		
	comp=Z,34μm,19.0s,MS6.6					
LBTB	**Lobatse**	**71.30 242**	*e*P		**P**	**06 37 04.6 -0.2**
	comp=Z,633nm,1.6s,mb6.3					
LBTB			LR	LR		
	comp=Z,46μm,20.0s,MS6.7					
MIR	**Mirnyy**	**71.40 180***ce*	P		**P**	**06 37 08.0 +3.3**
MIR			*e*			06 39 48.0
MIR			*e*PPP	PPP		06 41 25.0 -1.5
MIR			*e*S	S		06 46 20.0 -1.2
MIR			*e*SS	SS		06 51 00.0 +2.3
MIR			smax			
	comp=N,5μm,18.0s					
MIR			smax			
	comp=E,5μm,19.0s					
MIR			MLR	MLR		
	comp=N,8μm,16.0s,MS6.1					
MIR			MLR	MLR		
	comp=E,2μm,16.0s,MS6.1					
MIR			MLR	MLR		
	comp=Z,24μm,16.0s,MS6.5					
VAY	**Valandovo**	**71.53 312**⇓	*i* P		**P**	**06 37 05.5 -0.4**
VAY		⇓	*i* S		S	06 46 20.2 -3.0
PUL	**Pulkovo**	**71.85 332***d*	*i* P		**P**	**06 37 07.2 -0.3**
PUL			*i* PPP	PPP		06 41 31.2 +0.6
PUL			*e*S	S		06 46 16.6 -10
PUL			pmax	pmax		
	comp=Z,2μm,3.3s					
PUL			pmax	pmax		
	comp=N,352nm,0.8s					
PUL			pmax	pmax		
	comp=E,1μm,1.2s					
PUL			pmax	pmax		
	comp=Z,370nm,1.0s,mb6.3					
PUL			pmax	pmax		
	comp=N,248nm,0.9s					
PUL			pmax	pmax		
	comp=E,1μm,1.2s					
PUL			smax			
	comp=Z,3μm,14.3s					
PUL			smax			
	comp=N,3μm,11.0s					
PUL			smax			
	comp=E,4μm,11.3s					
PUL			smax			
	comp=N,5μm,5.5s					
PUL			smax			
	comp=Z,3μm,4.3s					
PUL			smax			
	comp=E,7μm,7.8s					
PUL			MLR	MLR		
	comp=Z,59μm,26.0s,MS6.7					
PUL			MLR	MLR		
	comp=N,50μm,24.0s					
PUL			MLR	MLR		
	comp=E,35μm,18.0s					
PUL	**Pulkovo**	**71.85 332**⇓	*i* P		**P**	**06 37 04.8 -2.7**
PET	**Petropavlovsk**	**71.89 36**	*e*P		**P**	**06 37 06.9 -0.9**
PET			*e*			06 37 23.4
PET			*e*			06 39 51.8
PET			*e*S	S		06 46 25.8 -1.3
PET			*e*SS	SS		06 51 00.9 -4.5
PET			pmax	pmax		
	comp=Z,131nm,1.1s,mb5.8					
PET			pmax	pmax		
	comp=Z,2μm,6.3s					
PET			pmax	pmax		
	comp=Z,2μm,8.1s					
PET			smax			
	comp=N,6μm,15.3s					
PET			smax			
	comp=E,3μm,7.4s					
PET			smax			
	comp=N,16μm,24.6s					
PET			MLR	MLR		
	comp=Z,45μm,17.0s,MS6.8					
PET			MLR	MLR		
	comp=Z,42μm,16.0s					
PET	**Petropavlovsk**	**71.89 36**⇓	*i* P		**P**	**06 37 07.0 -0.8**
IDID	**Didziasalis**	**72.14 327**	*i* P		**P**	**06 37 08.2 -1.1**
IDID			AMPb	AMB		06 37 11.3
	comp=Z,85nm,1.2s,mb5.5					
SEY	**Seymchan**	**72.26 25**	*e*P		**P**	**06 37 09.5 -0.4**
SEY						06 37 21.4
SEY			*e*			06 39 51.9
SEY			*e*PPP	PPP		06 41 30.2 -4.4
SEY			*e*S	S		06 46 31.1 0.0
SEY			*e*			06 46 59.6
SEY			*e*			06 46 59.6
SEY						06 47 23.2
SEY			*e*SS	SS		06 51 13.2 +2.2
SEY			pmax	pmax		
	comp=E,230nm,1.5s					
SEY			pmax	pmax		
	comp=Z,400nm,1.5s,mb6.1					
SEY			pmax	pmax		
	comp=N,90nm,1.2s					
SEY			MLR	MLR		
	comp=Z,387μm,21.0s,MS7.7					
SEY			MLR	MLR		
	comp=E,218μm,22.0s					
BARS	**Barje**	**72.33 313**⇓	*i* P		**P**	**06 37 10.0 -0.7**
CASY	**Casey**	**72.34 172**	*e*P		**P**	**06 37 08.3 -2.0**
	comp=E,161nm,1.3s,mb5.8					
CASY			LR	LR		
	comp=Z,58μm,20.0s,MS6.8					

BOLS Boljevac 72.41 314⇑ iP P 06 37 10.2 -0.9
BIA Bitola 72.41 311⇓ iP P 06 37 11.0 -0.1
IIGN Ignalina 72.43 327 i P P 06 37 10.0 -1.0
IIGN AMPb AMB 06 37 13.0
comp=Z,84nm,1.3s,mb5.5
SKO Skopje 72.47 312 i P P 06 37 10.0 -1.5
SKO i pP 06 37 15.0 -0.4
SKO pmax pmax
comp=Z,82nm,1.2s,mb5.5
SKO Skopje 72.47 312 i P P 06 37 10.0 -1.5
comp=Z,82nm,1.2s,mb5.5
SKO i pP 06 37 15.0 -0.4
SKO Skopje 72.47 312 i P P 06 37 10.0 -1.5
SKO i pP 06 37 15.0 -0.4
comp=Z,0.1nm,1.2s
IZAR Zarasai 72.54 327 eP P 06 37 10.4 -1.2
IZAR AMPb AMB 06 37 14.4
comp=Z,65nm,1.6s,mb5.3
BOSA Boshof 72.55 238 eP P 06 37 11.4 -0.9
comp=Z,414nm,1.5s,mb6.1
BOSA LR LR
comp=Z,48µm,22.0s,MS6.7
JOF Joensuu 72.65 335 ep P 06 37 10.5 -1.6
comp=Z,4.4nm,0.4s
OHR Ohrid 72.81 311⇓ iP P 06 37 11.3 -2.3
SVIS Svilajnac 73.01 315⇑ iP P 06 37 13.5 -1.2
KWP Kalwaria 73.04 320 eP P 06 37 14.4 -0.3
KWP e 06 37 29.7
KWP eS S 06 46 45.1 +4.8
KWP e 06 47 18.1
KWP Kalwaria 73.04 320 eP P 06 37 14.4 -0.3
KWP epP pP 06 37 17.3 -1.3
KWP ePcP PcP 06 37 29.7 -2.1
KWP eS S 06 46 45.1 +4.8
KWP eSKS SKS 06 47 18.1 -2.7
KWP Kalwaria 73.04 320 eP P 06 37 14.4 -0.3
KWP epP pP 06 37 17.3 -1.3
KWP ePcP PcP 06 37 29.7 -2.1
KWP eS S 06 46 45.1 +4.8
KWP eSKS SKS 06 47 18.1 -2.7
KWP MLR MLR 07 05 42.2
comp=Z,27µm,30.6s,MS6.3
VSU Vasula 73.12 330⇓ iP P 06 37 11.6 -3.4
KOLS Kolonicke sedl 73.17 320 i P P 06 37 15.8 +0.3
KOLS e 06 37 30.1
GRUS Gruza 73.31 314⇓ iP P 06 37 15.8 -0.5
QSH Qafa e Shtames 73.54 312 i p P 06 37 16.0 -1.8
BCI Bajram Curri 73.54 313 i p P 06 37 18.0 +0.2
LVZ Lovozero 73.62 341 eP P 06 37 16.2 -1.5
LVZ i 06 40 03.1
LVZ i PPP PPP 06 41 48.7 +0.7
LVZ eS S 06 46 42.2 -4.2
LVZ i SS SS 06 51 24.8 -7.2
LVZ eSSS SSS 06 54 42.6 -0.7
LVZ pmax pmax
comp=N,44nm,1.1s
LVZ pmax pmax
comp=Z,128nm,1.1s,mb5.8
LVZ pmax pmax
comp=E,79nm,1.2s
LVZ smax
comp=N,3µm,5.1s
LVZ smax
comp=Z,2µm,5.2s
LVZ smax
comp=E,5µm,5.9s
LVZ smax
comp=Z,2µm,12.0s
LVZ smax
comp=N,10µm,26.2s
LVZ smax
comp=E,6µm,14.6s
LVZ MLR MLR
comp=Z,54µm,19.0s,MS6.8
LVZ MLR MLR
comp=N,42µm,21.0s,MS6.8
LVZ MLR MLR
comp=E,26µm,17.0s,MS6.8
PVY Plav 73.64 313⇑ iP P 06 37 17.6 -0.8
CRVS Cervenica-Dubn 73.69 319 i P P 06 37 19.2 +0.7
CRVS eS S 06 46 35.1 -12
CRVS eSCS ScS 06 47 13.1 -11
IVA Berane 73.74 313⇑ iP P 06 37 18.0 -0.9
DIVS Divcibare 73.85 314⇑ iP P 06 37 18.7 -0.9
APA Apatity 73.88 340⇑ iP P 06 37 18.8 -0.4
APA i 06 37 29.0
APA ePPP PPP 06 41 56.0 +5.3
APA i S S 06 46 46.0 -3.3
APA ePS PS 06 47 43.0 +18
APA i SS SS 06 51 35.0 -1.0
APA pmax pmax
comp=Z,210nm,1.3s,mb5.9
APA MLR MLR
comp=Z,68µm,19.0s,MS7.0
NVSS Nova Varos 2 73.97 314⇑ iP P 06 37 20.2 -0.1
ULC Ulcinj 74.09 312⇑ iP P 06 37 20.0 -1.0
TTG Podgorica 74.14 313⇑ iP P 06 37 19.8 -1.5
PLE Pljevlja 74.17 314⇑ iP P 06 37 21.4 0.0
KECS Kecovo 74.25 319 i P P 06 37 21.6 -0.1
NKY Niksic 74.39 313⇑ iP P 06 37 21.5 -1.2
BUM Brajici-Budva 74.39 312⇑ iP P 06 37 21.3 -1.4
UPM Unac-Piva 74.50 313⇑ iP P 06 37 22.4 -0.9
KAF Kangasniemi 74.51 334 ep P 06 37 21.2 -1.8
comp=Z,3.2nm,0.4s
KAF Kangasniemi 74.51 334 eP P 06 37 21.2 -1.8
KAF pmax pmax
comp=Z,3.0nm,0.4s
NIE Niedzica 74.53 320 eP P 06 37 23.4 0.0
PSZ Piszkesteto 74.54 318 eP P 06 37 22.5 -0.9
PSZ pmax pmax
comp=Z,283nm,1.4s,mb6.0
PSZ Piszkesteto 74.54 318 eP P 06 37 22.5 -0.9
comp=Z,284nm,1.4s,mb6.0
PSZ Piszkesteto 74.54 318⇑ eP P 06 37 23.3 -0.1
WAR Warsaw 74.64 323 eP P 06 37 24.3 +0.4
WAR e 06 37 38.6
WAR e 06 47 33.3
WAR Warsaw 74.64 323 eP P 06 37 24.3 +0.4
WAR epP pP 06 37 27.3 -0.5
WAR ePcP PcP 06 37 38.6 0.0
WAR eSKS SKS 06 47 33.3 +0.8
WAR LR LR
comp=Z,37µm,31.4s,MS6.5
WAR Warsaw 74.64 323 eP P 06 37 24.3 +0.4
WAR epP pP 06 37 27.3 -0.5
WAR ePcP PcP 06 37 38.6 0.0
WAR eSKS SKS 06 47 33.4 +0.8
WAR MLR MLR 07 07 28.8
comp=Z,37µm,31.4s,MS6.5
HCY Herceg Novi 74.70 313⇑ iP P 06 37 23.8 -0.7
BRY Bratogost 74.73 313⇑ iP P 06 37 24.2 -0.5
OJC Ojcow 75.00 321 eP P 06 37 25.9 -0.2
OJC ePcP PcP 06 37 41.9 +1.7
OJC eS S 06 46 56.9 -5.3
OJC LR LR
comp=Z,29µm,18.5s,MS6.6
OJC Ojcow 75.00 321 eP P 06 37 25.9 -0.2
OJC ePcP PcP 06 37 41.9 +1.7
OJC e 06 37 41.9
OJC eS S 06 46 56.9 -5.3
OJC MLR MLR 07 18 34.5
comp=Z,29µm,18.5s,MS6.6
BUD Budapest 75.05 318 ePd 06 37 26.5
VYHS Vyhne 75.33 319 i P **P 06 37 27.9 -0.1**
VYHS eS S 06 46 58.1 -7.8
MAW Mawson 75.39 191⇓ iP P 06 37 29.3 +1.3
comp=Z,58nm,1.0s,mb5.5
MAW i S S 06 47 09.5 +3.3
MAW Mawson 75.39 191⇓ iP P 06 37 29.3 +1.3
MAW i S S 06 47 09.5 +3.3
MAW pmax pmax
comp=Z,58nm,1.0s
SRO2 Moca 75.51 318 i P **P 06 37 30.2 +1.2**
SRO Srobarova 75.57 318 i P **P 06 37 30.0 +0.6**
KOLL Kolacno 75.63 319 i P **P 06 37 30.1 +0.4**
TIP Timpagrande 75.66 309 eP **P 06 37 29.6 -0.5**
OKC Ostrava-Krasne 75.99 320 eP **P 06 37 31.6 -0.1**
OKC epP pP 06 37 44.2 +8.6
OKC eS S 06 47 11.9 -1.2
OKC AMS AMS 07 15 20.0
comp=Z,19µm,17.9s
RAC Raciborz 76.00 320 eP **P 06 37 32.0 +0.2**
RAC eS S 06 47 13.7 +0.5
RAC Raciborz 76.00 320 eP **P 06 37 32.0 +0.2**
RAC eS S 06 47 13.7 +0.5
RAC LR LR
comp=Z,19µm,22.6s,MS6.3
RAC Raciborz 76.00 320 eP **P 06 37 32.0 +0.2**
RAC eS S 06 47 13.7 +0.5
RAC MLR MLR 07 09 26.5
RAC MLR MLR 07 11 19.6
RAC LMN 07 13 47.4
RAC LME 07 15 32.0
comp=Z,35µm,18.3s
SMOL Smolenice 76.26 319 i P **P 06 37 33.3 0.0**
MORC Moravsky Berou 76.37 320 eP **P 06 37 33.7 -0.1**
MORC pmax pmax
comp=Z,337nm,1.4s,mb6.1
MORC Moravsky Berou 76.37 320 eP **P 06 37 33.7 -0.2**
comp=Z,337nm,1.4s,mb6.1
ZST Bratislava 76.43 318 i P **P 06 37 34.4 +0.2**
ZST eS S 06 47 15.2 -2.7
SOP Sopron 76.73 318⇓ eP P 06 37 36.4 +0.5
KEV Kevo 76.92 341 ep **P 06 37 34.4 -2.2**
comp=Z,1.6nm,0.4s
VKA Vienna 76.96 318⇑ iP P 06 37 37.5 +0.3
comp=Z,1µm,2.5s,mb6.5
VKA MLRZ 07 16 00.0
comp=Z,20nm,18.0s
GKP Gorka Klasztor 77.09 323 eP **P 06 37 37.0 -0.8**
GKP e 06 37 48.6
GKP eS S 06 47 27.1 +2.1
GKP e 06 47 45.2
GKP Gorka Klasztor 77.09 323 eP **P 06 37 37.0 -0.8**
GKP epP pP 06 37 41.4 -0.3
GKP ePcP PcP 06 37 48.6 -0.5
GKP eS S 06 47 27.1 +2.1
GKP eSS 06 47 33.0
GKP eSKS SKS 06 47 45.2 -5.2
GKP LR LR
comp=Z,34µm,29.8s,MS6.5
GKP Gorka Klasztor 77.09 323 eP **P 06 37 37.0 -0.8**
GKP epP pP 06 37 41.4 -0.3
GKP ePcP PcP 06 37 48.6 -0.5
GKP eS S 06 47 27.1 +2.1
GKP eS 06 47 33.0
GKP eSKS SKS 06 47 45.2 -5.2
GKP MLR MLR 07 08 56.0
comp=Z,34µm,29.8s,MS6.5
NOUC Port Laguerre 77.14 114 eP **P 06 37 40.2 +1.4**
NOUC Port Laguerre 77.14 114 eP **P 06 37 40.1 +1.4**
DPC Dobruska-Polom 77.23 320 eP **P 06 37 38.8 +0.2**
DPC eS S 06 47 21.4 -5.1
DPC AMS AMS 07 17 50.0
comp=Z,29µm,17.3s
SUR Sutherland 77.23 235 eP **P 06 37 38.8 -0.2**
comp=Z,130nm,0.9s,mb5.9
SUR LR LR
comp=Z,7µm,22.0s,MS6.0
DZM Mont Dzumac 77.27 114⇑ eP P 06 37 40.7 +1.3
DZM Mont Dzumac 77.27 114⇑ eP P 06 37 40.7 +1.2
KSP Ksiaz 77.31 321⇓ eP P 06 37 39.4 +0.3
KSP e 06 37 49.9
KSP eS S 06 47 23.0 -4.4
KSP eSP SP 06 48 02.0 -5.1
KSP eSS SS 06 52 25.0 -3.7
KSP Ksiaz 77.31 321⇓ eP P 06 37 39.4 +0.3
KSP epP pP 06 37 43.7 +0.7
KSP ePcP PcP 06 37 49.9 -0.2
KSP eS S 06 47 23.0 -4.4
KSP eSP SP 06 48 02.0 -5.1
KSP eSS SS 06 52 25.0 -3.7
KSP eSSS SSS 06 55 55.0 +10
KSP LR LR
comp=Z,53µm,17.5s,MS6.9
KSP Ksiaz 77.31 321 eP **P 06 37 39.5 +0.4**
KSP epP pP 06 37 42.6 -0.3
KSP eS S 06 47 22.2 -5.2
KSP eSS 06 47 31.1
KSP eSKS SKS 06 47 49.9 -2.1
KSP MLR MLR 07 09 02.6
comp=Z,34µm,27.4s,MS6.5
ARE0 ARCESS Array S 77.33 341 eP **P 06 37 37.3 -1.5**
ARSA Arzberg 77.38 317⇑ iP P 06 37 39.7 +0.2
comp=Z,261nm,1.3s,mb6.0
BOJS Bojanci 77.38 315 eP **P 06 37 39.3 -0.2**
UPC Upice 77.44 321 eP **P 06 37 40.2 +0.4**
NVLJ Novalja 77.56 314 i P **P 06 37 42.7 +2.2**
PERS Pernice 77.59 317 eP **P 06 37 40.6 -0.1**
PERS e 06 37 56.4
PERS ePP PP 06 40 37.6 0.0
PERS eS S 06 47 26.8 -3.7
CII Carovilli 77.74 311 eP **P 06 37 41.0 -0.6**
KTK1 Kautokeino 77.93 340 eP **P 06 37 41.8 -0.3**
comp=Z,280nm,1.7s,mb5.9
KTK1 Kautokeino 77.93 340 eP **P 06 37 41.8 -0.3**
KTK1 AMb AMB 06 37 45.5
comp=Z,280nm,1.7s,mb5.9
KTK1 epP pP 06 37 45.6 -0.4
LJU Ljubljana 77.94 316 eP **P 06 37 43.0 +0.4**
LJU e 06 37 58.1
LJU e 06 40 40.4
LJU ePPP PPP 06 42 35.7 +6.0
LJU eS S 06 47 31.7 -2.6
LJU e 06 48 07.0
LJU eSS SS 06 52 39.4 +1.2
LJU Ljubljana 77.94 316 eP **P 06 37 43.0 +0.4**
LJU e 06 37 58.1
LJU e 06 38 15.5
LJU ePP PP 06 40 40.4 -0.3
LJU e 06 41 34.6
LJU ePPP PPP 06 42 35.7 +6.0
LJU e 06 43 53.6
LJU eS S 06 47 31.7 -2.6
LJU e 06 48 07.0
LJU eSS SS 06 52 39.4 +1.2
LJU eSSS SSS 06 56 23.4 +27
OBKA Obir 77.96 316⇑ iP P 06 37 43.1 +0.4
comp=Z,183nm,1.4s,mb5.8
MOA Molln 78.28 318⇑ iP P 06 37 44.5 0.0
comp=Z,125nm,1.3s,mb5.7
PRU Pruhonice 78.32 320 eP **P 06 37 44.6 0.0**
PRU eS S 06 47 35.9 -2.4
PRU AMS AMS 07 18 40.0
comp=Z,19µm,17.9s
PVCC Panska Ves 78.36 320 eP **P 06 37 45.2 +0.4**
PVCC AMS AMS 07 18 10.0
comp=Z,25µm,17.8s
VOY Vojsko 78.37 316 eP **P 06 37 44.8 -0.2**
PRA Prague 78.40 320 P **P 06 37 45.0 0.0**
PRA ex x 06 39 40.0
PRA AMS AMS 07 26 20.0
AQU L'Aquila 78.45 312 eP **P 06 37 45.7 +0.2**
AQU pmax pmax
comp=Z,86nm,1.1s,mb5.6
AQU L'Aquila 78.45 312 eP **P 06 37 45.7 +0.2**
comp=Z,86nm,1.1s,mb5.6
BSD Bornholm Skovb 78.70 325⇓ iP P 06 37 46.4 -0.2
comp=Z,123nm,0.7s,mb5.9
BSD i S S 06 47 40.7 -1.6
comp=Z,23µm,21.0s
GEC2 GERESS Array S 78.75 319 eP **P 06 37 47.5 +0.5**
GEC2 pmax pmax
comp=Z,574nm,1.3s,mb6.3
GEC2 GERESS Array S 78.75 319 eP **P 06 37 47.5 +0.5**
comp=Z,574nm,1.3s,mb6.3
BRG Berggiesshubel 78.79 321 i P **P 06 37 47.8 +0.6**
BRG e 06 38 01.5
BRG i S S 06 47 41.0 -2.3
BRG pmax pmax
comp=Z,192nm,1.2s,mb5.9
BRG Berggiesshubel 78.79 321 i P **P 06 37 47.8 +0.6**
comp=Z,192nm,1.2s,mb5.9
BRG e 06 38 01.5
BRG i S S 06 47 41.0 -2.3
BRG eSS SS 06 53 05.0 +14
BRG i 06 56 32.0
BRG LR LR
comp=Z,25µm,18.0s,MS6.6
KBA Koelnbreinsper 78.84 317⇑ iP P 06 37 47.9 +0.4
comp=Z,138nm,1.2s,mb5.8
KBA Koelnbreinsper 78.84 317⇑ iP P 06 37 47.9 +0.4
KBA pmax pmax
comp=Z,138nm,1.2s,mb5.8
KHC Kasperske Hory 78.86 319⇑ iP P 06 37 44.2 -3.4
KHC eS S 06 47 38.5 -5.6
KHC LR LR
comp=Z,20µm,17.4s,MS6.5
KHC Kasperske Hory 78.86 319 eP **P 06 37 47.5 -0.1**
KHC eS S 06 47 38.5 -5.6
KHC AMS AMS 07 17 20.0
comp=Z,20µm,17.4s
RUE Ruedersdorf 79.06 322 eP **P 06 37 48.5 -0.1**
comp=Z,364nm,1.0s,mb6.3
DRV Dumont d'Urvil 79.19 163 P **P 06 37 47.0 -2.1**
WET Wettzell 79.32 319 eP **P 06 37 50.6 +0.5**
WET pmax pmax
comp=Z,309nm,1.4s,mb6.0
WET Wettzell 79.32 319 eP **P 06 37 50.6 +0.5**
comp=Z,309nm,1.4s,mb6.0
BILL Bilibino 79.39 22 P **P 06 37 50.1 0.0**
BILL pmax pmax
comp=Z,240nm,1.6s,mb5.9
BILL Bilibino 79.39 22⇓ iP P 06 37 50.6 +0.5
CLL Collm 79.43 321 i P **P 06 37 50.8 +0.2**
comp=Z,201nm,1.3s,mb5.9
CLL i pP 06 37 54.4 -0.2
CLL eS S 06 47 48.0 -2.0
CLL LR LR
comp=Z,33µm,18.4s,MS6.7
CLL Collm 79.43 321 P **P 06 37 50.8 +0.2**
comp=Z,logA/T=2.2,mb5.9
CLL i *PP pP 06 37 54.4 -0.2
CLL i 06 38 09.4
CLL ePP PP 06 41 06.0 +13
CLL e 06 41 24.0
CLL eS S 06 47 48.0 -2.0
CLL ePS PS 06 48 22.0 -14
CLL eSS SS 06 53 07.0 +6.6
CLL eSSS SSS 06 56 30.0 +10
RGN Rugen 79.55 324 eP **P 06 37 51.8 +0.6**
comp=Z,230nm,1.1s,mb6.0
TRO Tromso 79.57 340 eP **P 06 37 49.6 -1.5**
TRO pmax pmax
comp=Z,220nm,1.1s,mb6.0
TRO Tromso 79.57 340 eP **P 06 37 49.6 -1.5**
comp=Z,220nm,1.1s,mb6.0
TRO Tromso 79.57 340 eP **P 06 37 49.6 -1.5**
TRO epP pP 06 37 53.9 -1.1
TRO AMb AMB 06 37 55.5
comp=Z,220nm,1.1s,mb6.0
NKC Novy Kostel 79.69 320 eP **P 06 37 52.4 +0.3**
NKC eS S 06 47 48.7 -4.1
NKC AMS AMS 07 18 50.0
comp=Z,20µm,16.8s
WTTA Wattenberg 80.01 317⇑ iP P 06 37 53.4 -0.5
comp=Z,285nm,1.2s,mb6.1
WTTA Wattenberg 80.01 317⇑ iP P 06 37 53.4 -0.5
WTTA pmax pmax
comp=Z,285nm,1.2s,mb6.1
WATA Walderalm 80.06 317⇑ iP P 06 37 53.3 -0.8
comp=Z,200nm,1.3s,mb5.9
WATA Walderalm 80.06 317⇑ iP P 06 37 53.3 -0.8
WATA pmax pmax
comp=Z,200nm,1.3s,mb5.9
COP Copenhagen 80.18 326⇓ iP P 06 37 55.5 +0.9
COP i S S 06 47 45.6 -12
COP pmax pmax
comp=Z,115nm,0.9s,mb5.8
COP Copenhagen 80.18 326⇓ iP P 06 37 55.5 +0.9
comp=Z,115nm,0.9s,mb5.8
COP i S S 06 47 45.6 -12
COP i 06 56 43.8
comp=Z,11µm,18.0s
MOX Moxa 80.25 320 eP **P 06 37 55.3 +0.2**
comp=Z,285nm,1.6s,mb6.0
MOX LR LR
comp=Z,18µm,20.0s,MS6.4
MOX Moxa 80.25 320⇓ iP P 06 37 55.3 +0.2
comp=Z,logA/T=2.2,mb5.9
MOX S S 06 48 02.0 +3.4
MOX SS SS 06 53 30.0 +17
MOX SSS SSS 06 56 40.0 +6.0
MOX L 07 17 30.0
SQTA Sankt Quirin 80.30 317⇓ iP P 06 37 55.0 -0.4
comp=Z,199nm,1.3s,mb5.9
SQTA Sankt Quirin 80.30 317⇓ iP P 06 37 55.0 -0.4
SQTA pmax pmax
comp=Z,199nm,1.3s,mb5.9
FUR Furstenfeldbru 80.31 318 eP **P 06 37 55.3 -0.1**
FUR pmax pmax
comp=Z,353nm,1.3s,mb6.1
FUR Furstenfeldbru 80.31 318 eP **P 06 37 55.3 -0.1**
comp=Z,353nm,1.3s,mb6.1
MOTA Moosalm 80.38 317⇓ iP P 06 37 55.1 -0.7
comp=Z,146nm,1.2s,mb5.8
MOTA Moosalm 80.38 317⇓ iP P 06 37 55.1 -0.7
MOTA pmax pmax
comp=Z,146nm,1.2s,mb5.8
GRA1 Grafenberg Arr 80.44 319 eP **P 06 37 56.9 +0.8**
comp=Z,417nm,1.4s,mb6.2
GRA1 eS S 06 47 58.5 -2.1
GRA1 LR LR
comp=Z,23µm,19.7s,MS6.5
GRF Grafenberg Arr 80.44 319 eP **P 06 37 56.9 +0.8**
comp=Z,417nm,1.4s,mb6.2
GRF eS S 06 47 58.5 -2.1
GRF LR LR
comp=Z,23µm,19.7s,MS6.5
FX1 Attu Island--F 80.49 37 eP **P 06 37 55.8 -0.5**
MOR8 Moi Rana 80.54 336 eP **P 06 37 58.1 +1.8**
comp=Z,173nm,1.5s,mb5.8
MOR8 Moi Rana 80.54 336 eP **P 06 37 58.1 +1.8**
MOR8 AMb AMB 06 38 11.7
comp=Z,173nm,1.5s,mb5.8
MAIM 80.66 314 P **P 06 37 56.3 -1.1**
SARO Sassorosso 80.73 314 P **P 06 37 57.2 -0.6**
VLC Villacollemand 80.74 314 eP **P 06 37 57.6 -0.2**
VALM 80.85 314 P **P 06 37 59.3 +0.9**
VINC Vinca 80.91 314 P **P 06 37 57.9 -0.9**
BACM 80.97 314 P **P 06 37 58.7 -0.3**
GRAM 80.98 314 P **P 06 37 58.9 -0.2**
HDH Heidenheim 81.04 318⇑ eP P 06 37 59.0 -0.3
SMY Shemya 81.05 38 eP **P 06 37 58.8 -0.4**
SMY MLR MLR
comp=Z,24µm,20.0s,MS6.5
UBR Uberruh 81.07 317⇑ eP P 06 37 59.5 0.0
CLZ Clausthal 81.10 322 eP **P 06 37 59.7 +0.2**
comp=Z,240nm,1.3s,mb6.0
CODM 81.13 314 P **P 06 37 59.8 -0.1**
LOF Lofoten 81.19 338 eP **P 06 38 03.2 +3.5**
DAVA Damuels 81.21 317⇑ iP P 06 38 00.8 +0.6
comp=Z,386nm,1.1s,mb6.2
BSEG Bad Segeberg 81.26 324 eP **P 06 38 00.6 +0.3**
NB2 NORSAR Subarra 81.33 331 P **P 06 37 59.6 -0.9**
comp=Z,93nm,1.2s,mb5.6,baz=94,slow=5.8
NB2 NORSAR Subarra 81.33 331 P **P 06 37 59.6 -0.9**
baz=94,slow=5.9
NSS Namsos 81.34 334 eP **P 06 37 59.2 -1.4**
NSS Namsos 81.34 334 eP **P 06 37 59.8 -0.7**
NSS epP pP 06 38 03.7 -0.8
VSL Villasalto 81.39 309 eP **P 06 38 00.9 -0.4**
comp=Z,90nm,1.3s,mb5.5
NAO01 NORSAR Array S 81.47 331 eP **P 06 38 01.3 +0.1**
comp=Z,53nm,1.1s,mb5.4
NAO01 LR LR
comp=Z,41µm,22.0s,MS6.8
OSL Oslo 81.47 330 eP **P 06 38 01.2 -0.1**
SIND Sindeldorf 81.47 319 eP **P 06 38 02.0 +0.5**
BUCH Bad Urach 81.61 318⇑ eP P 06 38 02.5 +0.3
PGF Pioggiola 81.71 312 eP **P 06 38 02.9 0.0**
comp=Z,330nm,1.4s,mb5.8
PGF Pioggiola 81.71 312 eP **P 06 38 02.9 0.0**
PGF pmax pmax
comp=Z,165nm,1.4s,mb5.8
STU Stuttgart 81.72 318 eP **P 06 38 03.0 +0.2**
STU pmax pmax
comp=Z,209nm,1.6s,mb5.8
STU Stuttgart 81.72 318 eP **P 06 38 03.0 +0.1**
comp=Z,209nm,1.6s,mb5.8
GUT Gutenstein 81.75 318⇑ eP P 06 38 03.1 +0.1
GENL Genova Univers 81.77 314 P **P 06 38 03.0 -0.1**
SPAK Spaichingen 81.97 318 eP **P 06 38 05.0 +0.8**
SPAK Spaichingen 81.97 318 eP **P 06 38 04.6 +0.4**
LBG Lerchenberg 81.98 318⇑ eP P 06 38 04.3 +0.1
TOD Tromm 82.00 319 eP **P 06 38 04.7 +0.4**
TOD Tromm 82.00 319⇑ eP P 06 38 04.6 +0.3
KONO Kongsberg 82.02 329 PFAKE 06 38 20.0 +16
KONO LR LR
comp=Z,38µm,20.0s,MS6.8
MUD Monsted U'grnd 82.06 326⇓ iP P 06 38 05.7 +1.3

MUD *i* 06 49 12.7
MUD pmax pmax
comp=Z,184nm,1.2s,mb5.9
MUD Monsted U'grnd 82.06 326⇓*i*P P 06 38 05.7 +1.3
comp=Z,184nm,1.2s,mb5.9
MUD *i* 06 49 12.7
MUD *i*S SS 06 53 52.8 +13
MUD *i* 06 57 25.1
comp=Z,23μm,20.0s
SWS Schriesheim 82.07 319 *e*P P 06 38 04.9 +0.3
PCP Pian Castagno 82.07 314 P P 06 38 05.1 +0.4
BFO Black Forest 82.28 318 *e*P P 06 38 05.7 -0.1
BFO pmax pmax
comp=Z,114nm,1.3s,mb5.6
BFO Black Forest 82.28 318 *e*P P 06 38 05.7 -0.1
comp=Z,114nm,1.3s,mb5.6
FIN Finale Ligure 82.31 314 P P 06 38 06.1 +0.1
DOMB Dombas 82.43 332 *e*P P 06 38 07.2 +0.9
comp=Z,124nm,1.5s,mb5.6
DOMB Dombas 82.43 332 *e*P P 06 38 07.2 +0.9
DOMB AMb AMB 06 38 08.6
comp=Z,124nm,1.5s,mb5.6
KTD Kalmit 82.47 319 *e*P P 06 38 07.8 +1.1
KTD Kalmit 82.47 319 *e*P P 06 38 07.4 +0.7
ORX Oropa 82.48 315 P P 06 38 05.7 -1.2
FELD Feldberg 82.49 317 *e*P P 06 38 07.0 +0.1
IMI Imperia 82.54 313 P P 06 38 07.4 +0.2
KIZ Kirchzarten 82.55 318⇑*e*P P 06 38 07.2 0.0
ROB Roburent 82.55 314 P P 06 38 06.4 -0.8
MONE Monesi 82.64 314 P P 06 38 07.1 -0.6
LANF Langenberg 82.64 319 *e*P P 06 38 08.1 +0.5
TRAV 82.65 315 P P 06 38 06.8 -1.0
NEGI Negi 82.67 313 P P 06 38 07.1 -0.8
LIBD Limburg 82.77 318 *e*P P 06 38 09.0 +0.7
LIBD Limburg 82.77 318 *e*P P 06 38 08.8 +0.5
SAOF Saorge 82.78 314 *e*P P 06 38 09.0 +0.6
ABH Alteburg 82.82 320 *e*P P 06 38 09.0 +0.5
ABH Alteburg 82.82 320 *e*P P 06 38 09.1 +0.6
BBS Basel-Blauen 82.82 317 *e*P P 06 38 09.0 +0.4
BBS Basel-Blauen 82.82 317 *e*P P 06 38 08.9 +0.3
SBF Sospel 82.87 313 *e*P P 06 38 09.2 +0.3
comp=Z,188nm,0.8s,mb5.9
SBF Sospel 82.87 313 *e*P P 06 38 09.2 +0.3
SBF pmax pmax
comp=Z,94nm,0.8s,mb5.9
AUTN L'Aution 82.87 314 *e*P P 06 38 10.5 +1.6
ENR Entracque 82.88 314 P P 06 38 08.4 -0.5
REVF Revere 82.92 313 *e*P P 06 38 09.5 +0.4
WLS Welschbruch 82.94 318 *e*P P 06 38 09.4 +0.2
STV Sta Anna Valdi 82.94 314 P P 06 38 08.4 -0.9
CDF Champ du Feu 82.99 318 *e*P P 06 38 09.4 0.0
comp=Z,206nm,1.5s,mb5.6
CDF Champ du Feu 82.99 318 *e*P P 06 38 09.4 0.0
CDF pmax pmax
comp=Z,103nm,1.5s,mb5.6
BHB Bricherasio 82.99 314 P P 06 38 08.1 -1.4
RSP Reno Superiore 82.99 315 P P 06 38 07.8 -1.7
TOUF Mont Tournerai 83.00 314 *e*P P 06 38 10.4 +0.8
LSD Ceresole Reale 83.06 315 P P 06 38 09.8 -0.1
ECH Echery 83.06 318 *e*P P 06 38 10.1 +0.3
MVIF Mont Vial 83.07 313 *e*P P 06 38 10.8 +0.9
MOF Molkenrain 83.08 317 *e*P P 06 38 10.0 +0.1
PZZ Prazzo 83.10 314 P P 06 38 08.7 -1.4
FENE Fenestrelle 83.13 315 P P 06 38 09.8 -0.4
RUP Ruppelstein 83.14 319 *e*P P 06 38 10.7 +0.5
LOMF Lomont 83.29 317 *e*P P 06 38 11.3 +0.3
SURF Saint Ours 83.31 314 *e*P P 06 38 12.1 +0.9
RRL Cesana Torines 83.33 315 P P 06 38 11.1 -0.1
MBDF Montbardon 83.34 314 *e*P P 06 38 11.1 -0.2
comp=Z,92nm,0.8s,mb5.5
MBDF Montbardon 83.34 314 *e*P P 06 38 11.1 -0.2
MBDF pmax pmax
comp=Z,46nm,0.8s,mb5.6
LPG La Plagne 83.35 315 *e*P P 06 38 12.1 +0.8
comp=Z,325nm,1.1s,mb6.0
LPG La Plagne 83.35 315 *e*P P 06 38 12.1 +0.8
LPG pmax pmax
comp=Z,162nm,1.1s,mb6.0
BNI Bardonecchia 83.40 315 *e*P P 06 38 11.5 -0.1
BNI pmax pmax
comp=Z,214nm,1.3s,mb6.0
BNI Bardonecchia 83.40 315 *e*P P 06 38 11.5 -0.2
comp=Z,214nm,1.3s,mb6.0
WIT Witteveen 83.41 322 *e*P P 06 38 12.4 +1.0
BLS5 Blasjo 83.61 329 *e*P P 06 38 13.4 +1.1
comp=Z,114nm,1.6s,mb5.8
BLS5 Blasjo 83.61 329 *e*P P 06 38 13.4 +1.1
BLS5 AMb AMB 06 38 17.4
comp=Z,114nm,1.6s,mb5.7
HAU Haudompre 83.61 318 *e*P P 06 38 12.7 +0.1
comp=Z,280nm,1.2s,mb6.0
HAU *e*R
comp=Z,20μm,18.5s
HAU Haudompre 83.61 318 *e*P P 06 38 12.7 +0.1
HAU pmax pmax
comp=Z,140nm,1.2s,mb6.0
HAU MLR MLR
comp=Z,20μm,18.5s,MS6.5
WLF Walferdange 83.73 319 P P 06 38 13.4 +0.2
WLF pmax pmax
comp=Z,190nm,1.2s,mb6.1
WLF Walferdange 83.73 319 *e*P P 06 38 13.6 +0.4
comp=Z,188nm,1.2s,mb6.1
GDM Grand'Maison 83.80 315 *e*P P 06 38 14.1 +0.4
THEF They Montfort 83.85 318 *e*P P 06 38 13.9 +1.0
HGN Heimansgroeve 83.86 320 *e*S S 06 48 37.4 +1.9
HGN *e*SS SS 06 54 13.8 +7.7
BAIF Baives 84.98 320 *e*P P 06 38 19.9 +0.5
comp=Z,349nm,1.3s,mb6.0
BAIF Baives 84.98 320 *e*P P 06 38 19.9 +0.5
BAIF pmax pmax
comp=Z,175nm,1.3s,mb6.0
PLDF La Plantade 85.53 316 *e*P P 06 38 24.0 +1.7
SSF Saint Saulge 85.56 317 *e*P P 06 38 22.9 +0.5
SSF pmax pmax
comp=Z,134nm,1.4s,mb6.0
SSF Saint Saulge 85.56 317 *e*P P 06 38 22.9 +0.5
comp=Z,134nm,1.4s,mb6.0
LBL Lubilhac 85.82 315 *e*P P 06 38 26.0 +2.2
AGO Saint Agoulin 85.86 316 *e*P P 06 38 25.9 +1.9
PYM Petit Puy Mans 85.97 315 *e*P P 06 38 26.1 +1.6
BGF Bois d'Agland 86.03 316 *e*P P 06 38 25.4 +0.6
comp=Z,379nm,1.2s,mb6.2
BGF Bois d'Agland 86.03 316 *e*P P 06 38 25.4 +0.6
BGF pmax pmax
comp=Z,190nm,1.2s,mb6.2
KIWB Kanaga Island 86.42 38 *e*P P 06 38 27.2 +0.6
LRDF Laroque-de-Fa 86.46 313 *e*P P 06 38 27.8 +0.8
VALF Valcebollere 86.88 312 *e*P P 06 38 30.4 +1.3
RJF Les Rejaudoux 87.04 315 *e*P P 06 38 30.5 +0.7
comp=Z,242nm,1.4s,mb6.0
RJF *e*R
comp=Z,26μm,22.8s
EMIR Miracle 87.28 312 P P 06 38 32.9 +1.9
comp=Z,67nm,1.2s,mb5.7
MLS Moulis 87.52 313 *e*P P 06 38 32.7 +0.6
LMK Market Rasen 87.59 323 *e*P P 06 38 32.8 +0.6
EIBI Ibiza 87.64 309 P P 06 38 35.0 +2.2
comp=Z,70nm,1.2s,mb5.8
EPOB Poblet 87.66 311 P P 06 38 33.6 +0.8
comp=Z,56nm,1.1s,mb5.7
MIDW Midway 87.93 62 PFAKE 06 38 50.0 +16
MIDW LR LR
comp=Z,11μm,21.0s,MS6.2
RESF Ens 88.08 313 *e*P P 06 38 36.0 +1.2
FLN La Foliniere 88.12 319 *e*P P 06 38 35.1 +0.3
comp=Z,190nm,1.2s,mb5.9
FLN *e*R
comp=Z,23μm,21.2s
LCP Cassop 88.14 325⇑*e*P P 06 38 34.8 0.0
EBIE Bielsa 88.24 313 P P 06 38 37.1 +1.5
comp=Z,28nm,1.2s,mb5.4
ERTA Horta de San J 88.25 311 P P 06 38 37.1 +1.4
comp=Z,65nm,1.3s,mb5.7
LABF Labassere 88.26 313 *e*P P 06 38 38.1 +2.4
HPK Haverah Park 88.31 324 *e*P P 06 38 36.3 +0.6
KBI1 Birley Grange 88.33 323⇑*e*P P 06 38 34.2 -1.5
LHO Holmfirth 88.49 323⇑*e*P P 06 38 36.8 +0.3
KWE Weaver Farm 88.54 323⇑*e*P P 06 38 35.6 -1.1
ESY Stoneypath 88.65 326 *e*P P 06 38 38.3 +1.1
ETSF Etsaut 88.73 313 *e*P P 06 38 39.2 +1.2
comp=Z,151nm,1.2s,mb5.9
ETSF Etsaut 88.73 313 *e*P P 06 38 39.2 +1.2
ETSF pmax pmax
comp=Z,75nm,1.2s,mb5.9
ESAC San Caprasio 88.78 312 P P 06 38 40.0 +1.7
comp=Z,58nm,1.1s,mb5.8
EMOS Mosqueruela 88.92 310 P P 06 38 41.2 +2.3
comp=Z,97nm,1.2s,mb6.0
EDI Edinburgh 88.97 326 *e*P P 06 38 40.1 +1.3
EDI AMb AMB 06 38 44.5
comp=Z,122nm,1.5s,mb6.0
LARF Larrau 89.03 313 *e*P P 06 38 40.5 +1.1
ESK Eskdalemuir 89.06 325 *e*P P 06 38 37.3 -1.9
ESK pmax pmax
comp=Z,152nm,1.3s,mb6.2
ESK MLR MLR
comp=Z,8μm,20.0s,MS6.1
ESK Eskdalemuir 89.06 325 *e*P P 06 38 37.3 -1.9
comp=Z,152nm,1.3s,mb6.2
ESK LR LR
comp=Z,8μm,20.0s,MS6.1
ESK Eskdalemuir 89.06 325⇑*e*P P 06 38 39.2 0.0
ESK AMb AMB 06 38 45.6
comp=Z,130nm,1.2s,mb6.1
HAE Alders End 89.08 322⇑*e*P P 06 38 39.6 +0.2
HAE AMb AMB 06 38 45.8
comp=Z,294nm,1.3s,mb6.4
OSSF Osses 89.21 313 *e*P P 06 38 41.5 +1.3
HLM1 Long Mynd 89.22 323 *e*P P 06 38 40.5 +0.5
HGH Gray Hill 89.29 322⇑*e*P P 06 38 40.7 +0.3
HGH AMb AMB 06 38 46.7
comp=Z,450nm,1.3s,mb6.6
MCH1 Michaelchurch 89.36 322 *e*P P 06 38 41.7 +1.0
SSP1 Stoney Pound 89.38 322⇑*e*P P 06 38 41.2 +0.4
EALK Alkurruntz 89.39 313 P P 06 38 42.7 +1.7
comp=Z,37nm,1.2s,mb5.6
SBD1 Bryn Du 89.40 323 *e*P P 06 38 41.4 +0.5
HTR Trewern Hill 89.52 322⇑*e*P P 06 38 42.6 +1.1
EAB Aberfoyle 89.58 326 *e*P P 06 38 42.9 +1.2
WPM1 Penmaenmawr 89.74 323 *e*P P 06 38 42.2 -0.2
EMUR La Murta 89.77 308 P P 06 38 44.3 +1.4
comp=Z,33nm,1.2s,mb5.5
DAG Danmarks Havn 89.86 348⇑*e*P P 06 38 42.7 +0.1
comp=Z,63nm,1.1s,mb5.9
DAG LR LR
comp=Z,17μm,20.0s,MS6.5
DAG Danmarks Havn 89.86 348⇑*i*P P 06 38 42.7 +0.1
comp=Z,63nm,1.1s,mb5.9
comp=Z,17μm,20.0s
WME Myndd Eilian 89.96 323 *e*P P 06 38 45.0 +1.6
YRC Rhoscolyn 90.14 323 *e*P P 06 38 45.3 +1.0
VNDA Vanda 90.52 168 *e*P P 06 38 47.3 +1.7
comp=Z,27nm,1.1s,mb5.5
VNDA LR LR
comp=Z,44μm,20.0s,MS6.9
EVIA Vianos 90.67 309 P P 06 38 49.2 +2.1
EVIA pmax pmax
comp=Z,34nm,0.9s,mb5.7
EVIA Vianos 90.67 309 P P 06 38 49.2 +2.1
comp=Z,34nm,0.9s,mb5.7
ANM Nome 90.76 25 *e*P P 06 38 49.2 +2.3
ELAN Lanestosa 90.79 313 P P 06 38 48.5 +1.0
comp=Z,29nm,1.0s,mb5.6
EBER Berja 91.18 307 P P 06 38 50.7 +1.1
comp=Z,88nm,1.2s,mb6.0
EQES Quesada 91.21 308 P P 06 38 50.4 +0.8
comp=Z,37nm,1.1s,mb5.6
DLF Lyons Farm 91.29 324 *e*P P 06 38 52.0 +2.4
NVL N'lazarevskaya 91.57 199⇓*e*P Px 06 39 09.0
NVL pmax pmax
comp=Z,572nm,1.7s,mb6.6
SBA Scott Base 91.62 168 *e*P P 06 38 52.3 +1.6
comp=Z,115nm,1.4s,mb6.0
SBA LR LR
comp=Z,30μm,20.0s,MS6.7
ESDC Sonseca Array 91.66 310 P P 06 38 52.4 +0.8
comp=Z,18nm,0.9s,mb5.4
ESLA Sonseca Array 91.66 310 *e*P P 06 38 52.4 +0.8
comp=Z,23nm,1.3s,mb5.4
ESLA LR LR
comp=Z,96μm,21.0s,MS7.2
GUD Guadarrama 91.67 311 P P 06 38 53.1 +1.4
GUD pmax pmax
comp=Z,74nm,1.4s,mb5.8
GUD Guadarrama 91.67 311 P P 06 38 53.1 +1.4
comp=Z,74nm,1.4s,mb5.8
DCN Croghan 91.72 324 *e*P P 06 38 54.0 +2.4
ERON Agron 91.89 307 P P 06 38 54.3 +1.5
comp=Z,3.5nm,0.6s,mb4.9
EARI Arriondas 92.06 314 P P 06 38 54.3 +0.9
comp=Z,23nm,1.0s,mb5.5
ELOJ Sierra Loja 92.15 307 P P 06 38 54.7 +0.7
ELOJ pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
ELOJ Sierra Loja 92.15 307 P P 06 38 54.7 +0.8
comp=Z,5.8nm,0.8s,mb5.0
ELUQ Luque 92.19 308 P P 06 38 55.0 +0.9
ELUQ pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
ELUQ Luque 92.19 308 P P 06 38 55.0 +0.8
comp=Z,8.4nm,0.9s,mb5.1
RAO Raoul Island 92.21 119 PFAKE 06 39 10.0 +16
RAO LR LR
comp=Z,20μm,22.0s,MS6.5
EADA Adamuz 92.34 308 P P 06 38 55.5 +0.7
comp=Z,39nm,1.1s,mb5.7
UNV Unalaska Valle 92.55 36 PFAKE 06 39 10.0 +15
UNV LR LR
comp=Z,59μm,21.0s,MS7.0
EMIJ Mijas 92.73 307 P P 06 38 56.1 -0.6
comp=Z,17nm,0.9s,mb5.5
SCO Scoresbysund 93.20 342 *i*P P 06 39 02.6 +4.6
comp=Z,6.6nm,1.0s,mb5.0
ECAL Calabor 93.39 312 P P 06 39 01.0 +1.5
comp=Z,26nm,1.3s,mb5.5
PBRG Braganca 93.42 312 *e*P P 06 39 01.6 +1.9
EPON Pontenova 93.45 314 P P 06 39 00.5 +0.7
comp=Z,23nm,1.1s,mb5.5
ESPR Espera 93.54 307 P P 06 39 00.1 -0.2
comp=Z,14nm,0.9s,mb5.4
ERUA La Rua 93.61 313 P P 06 39 02.3 +1.7
ERUA pmax pmax
comp=Z,15nm,0.9s,mb5.4
ERUA La Rua 93.61 313 P P 06 39 02.3 +1.7
comp=Z,14nm,0.9s,mb5.4
EINC Incio 93.72 313 P P 06 39 02.6 +1.6
comp=Z,19nm,1.1s,mb5.4
EMIN Mina Concepcio 94.04 308 P P 06 39 02.7 +0.1
comp=Z,16nm,1.1s,mb5.4
EBAD Badajoz 94.14 309 P P 06 39 03.9 +0.8
comp=Z,17nm,1.2s,mb5.3
PVRL Vila Real 94.23 312 *e*P P 06 39 05.1 +1.7
MTE Manteigas 94.26 311 *e*P P 06 39 06.6 +3.0
MTE *e*S S 06 50 18.3 +6.6
MTE *e*SS SS 06 56 47.1 +10
MTE *e*LQ 07 05 51.2
MTE *e*LR LR 07 11 58.6
comp=Z,14μm,22.3s
MTE Manteigas 94.26 311 *e*P P 06 39 05.7 +2.1
comp=Z,28nm,1.1s,mb5.6
PCBR Castelo Branco 94.31 310 *e*P P 06 39 05.6 +1.8
PBEJ Beja 94.93 309 *e*P P 06 39 08.3 +1.6
IMA Indian Mountai 94.93 22 P P 06 39 07.6 +1.5
IMA pmax pmax
comp=Z,140nm,1.1s,mb6.3
IMA Indian Mountai 94.93 22 *e*P P 06 39 08.0 +1.9
comp=Z,21nm,1.0s,mb5.5
QSPA South Pole Qui 94.94 180 P P 06 39 10.0 +4.2
comp=Z,51nm,1.1s,mb5.9
PTOM Tomar 95.06 310 *e*P P 06 39 10.0 +2.7
BORG Borgarnes 95.33 337 PFAKE 06 39 20.0 +12
BORG LR LR
comp=Z,9μm,20.0s,MS6.2
SNAA Sanae 96.36 198 *e* P 06 39 18.4 +5.9
SNAA Sanae 96.36 198 *e* P 06 39 20.5 +8.0
SNAA Sanae 96.36 198⇓*i*P P 06 39 15.1 +2.6
SNAA *e* 06 43 08.8
SNAA Sanae 96.36 198⇓*i*P P 06 39 15.1 +2.6
SNAA *e* pP 06 39 18.4 +1.9
SNAA *e* pP 06 39 20.5 +4.0
SNAA *e* 06 43 08.8
SUMG Summit 96.50 347 *e*P P 06 39 15.1 +2.0
DBIC Dimbokro 96.53 277 *e*P P 06 39 16.8 +2.3
comp=Z,87nm,1.6s,mb5.9
DBIC LR LR
comp=Z,23μm,20.0s,MS6.7
AFI Afiamalu 96.90 103 PFAKE 06 39 30.0 +14
AFI LR LR
comp=Z,10μm,22.0s,MS6.2
SPU Mount Spurr 97.63 26 *e*P P 06 39 18.7 +0.3
COLA College 97.64 22 P P 06 39 19.4 +1.0
COLA pmax pmax
comp=Z,10.0nm,1.4s,mb5.2
COLA College 97.64 22⇑*i*P P 06 39 16.9 -1.5
MCK McKinley 97.78 23 *e*P P 06 39 18.7 -0.3
comp=Z,5μm,1.3s
MCK LR LR
comp=Z,15μm,22.0s
VNA2 Neumayer--Watz 97.89 199 *e* P 06 39 27.1 +7.7
VNA2 Neumayer--Watz 97.89 199 *e* P 06 39 28.9 +10
VNA2 Neumayer--Watz 97.89 199⇑*i*P P 06 39 24.8 +5.4
VNA2 *e* pP 06 39 27.1 +3.7
VNA2 *e* pP 06 39 28.9 +5.5
VNA2 *e* 06 43 18.2
VNA1 Neumayer--Stat 98.22 199 *e* P 06 39 29.6 +8.7
VNA1 Neumayer--Stat 98.22 199 *e* P 06 39 31.3 +10
VNA1 Neumayer--Stat 98.22 199⇓*i*P P 06 39 26.7 +5.8
VNA1 *e* pP 06 39 29.6 +4.7
VNA1 *e* pP 06 39 31.3 +6.4
VNA1 *e* 06 43 19.5
FIB Fire Island 98.45 26 PFAKE 06 39 30.0 +7.9
FIB LR LR
comp=Z,16μm,20.0s,MS6.5
VNA3 Neumayer Olymp 98.58 199 *e* P 06 39 32.4 +10
VNA3 Neumayer Olymp 98.58 199 *e* P 06 39 33.6 +11
VNA3 Neumayer Olymp 98.58 199 *e* PP 06 43 22.8 -3.0
VNA3 Neumayer Olymp 98.58 199⇑*i*P P 06 39 29.3 +6.8
VNA3 *e* pP 06 39 32.4 +5.9
VNA3 *e* pP 06 39 33.6 +7.1
VNA3 *e* 06 43 22.8
KDAK Kodiak Island 98.80 29 PFAKE 06 39 40.0 +16
KDAK LR LR
comp=Z,10μm,21.0s,MS6.3
SML Sawmill 98.94 25 *e*P P 06 39 24.7 +0.4
DIV Divide 100.34 25 PFAKE 06 39 40.0 +9.3
DIV LR LR
comp=Z,71μm,20.0s,MS7.2
TRIS Tristan da Cun 104.69 233 PFAKE 06 40 00.0 +9.3
TRIS LR LR
comp=Z,10μm,19.0s,MS6.4
KIP Kipapa 106.31 66 PFAKE 06 44 20.0
KIP LR LR
comp=Z,11μm,19.0s,MS6.4
SIT Sitka 107.09 25 PFAKE 06 44 20.0
SIT LR LR
comp=Z,40μm,21.0s,MS6.9
RAR Rarotonga 108.48 111 PFAKE 06 44 30.0
RAR LR LR
comp=Z,7μm,20.0s,MS6.2
PDA Ponta Delgada 108.52 312 *e*PP PP 06 44 56.0 +14
PDA *e* 06 54 02.5
PDA *i*SS SS 07 00 14.0 +20
PDA Ponta Delgada 108.52 312 *i*LQ 07 10 45.0
ADH Angra Heroismo 109.31 314 *e* 06 54 20.0
ADH Angra Heroismo 109.31 314 *i*LQ 07 10 40.0
TBI Tubuai 117.85 114 *e*PP PP 06 45 39.2 -10
TBI *e*SP SP 06 55 22.1 -5.9
TBI *e*SS SS 07 02 12.4 +15
TBI *e*LR LR 07 20 49.4
comp=Z,29μm,24.0s
SCHQ Schefferville 117.89 347 PFAKE 06 44 40.0 +7.2
SCHQ LR LR
comp=Z,31μm,21.0s,MS6.9
PMSA Palmer Station 118.01 191 PFAKE 06 44 40.0 +7.2
PMSA LR LR
comp=Z,19μm,19.0s,MS6.7
PPT Papeete 118.27 107 *e*PP PP 06 45 44.8 -7.1
PPT *e*PS PS 06 55 38.6 +5.2
PPT *e*SS SS 07 01 58.3 -5.1
PPT *e*LR LR 07 20 30.2
comp=Z,26μm,24.8s
OCWA Octopus Mounta 118.44 27 PFAKE 06 44 40.0 +5.9
OCWA LR LR
comp=Z,20μm,21.0s,MS6.7
FFC Flin Flon 119.29 9 *e*PKIKP PKPdf 06 44 32.8 -2.7
TBM Table Mountain 120.47 25 P PKPdf 06 44 36.5 -1.5
EBG Ellensburg 120.68 26 P PKPdf 06 44 37.6 -0.8
NEW Newport 121.00 23 *e*PKIKP PKPdf 06 44 36.9 -2.1
NEW MLR MLR
comp=Z,25μm,21.0s
OD2 Odessa Site #2 121.08 24 P PKPdf 06 44 38.0 -1.2
COR Corvallis 121.19 29 PFAKE 06 44 50.0 +10
COR LR LR
comp=Z,4μm,21.0s,MS6.0
VFP Flag Point 121.51 27 P PKPdf 06 44 39.3 -0.8
CROR Criterion Ridg 121.98 27 P PKPdf 06 44 40.0 -1.0
HUMO Hull Mountain 122.81 30 *e*PKPdf PKPdf 06 44 41.2 -1.4
HUMO LR LR
comp=Z,14μm,20.0s,MS6.6
MSO Missoula 123.38 21 *e*PKPdf PKPdf 06 44 41.0 -2.6
MSO LR LR
comp=Z,17μm,19.0s,MS6.7
YBH Yreka Blue Hor 123.57 31 PFAKE 06 44 50.0 +5.9
YBH LR LR
comp=Z,13μm,20.0s,MS6.6
BMO Blue Mountains 123.70 25 *e*PKIKP PKPdf 06 44 39.8 -4.5
BMO MLR MLR
comp=Z,19μm,20.0s,MS6.8
LHEM Herd Peak 123.90 31 P PKPdf 06 44 43.8 -1.0
HRY Holter Researc 124.23 20 *e*PKPdf PKPdf 06 44 43.9 -1.4
WDC Whiskeytown Da 124.49 32 PFAKE 06 45 00.0 +14
WDC LR LR
comp=Z,12μm,20.0s,MS6.6
MOD Modoc 124.65 29 *e*P PKPdf 06 44 44.5 -1.8
MOD LR LR
comp=Z,15μm,19.0s,MS6.7
DGMT Dagmar 124.81 13 *e*PKPdf PKPdf 06 44 44.8 -1.6
DGMT LR LR
comp=Z,46μm,21.0s,MS7.1
LBCM Butte Creek Ri 124.92 31 P PKPdf 06 44 45.2 -1.7
WVOR Wild Horse Val 125.03 28 *e*PKIKP PKPdf 06 44 45.9 -1.1
WVOR MLR MLR
comp=Z,25μm,22.0s,MS6.8
BOZ Bozeman (W) 125.22 20 *e*PKIKP PKPdf 06 44 45.2 -2.1
BOZ MLR MLR
comp=Z,29μm,20.0s,MS7.0
HOPS Hopland 125.34 34 PFAKE 06 45 00.0 +12
HOPS LR LR
comp=Z,12μm,21.0s,MS6.5
PQI Presque Isle 125.67 343 PFAKE 06 45 00.0 +12
PQI LR LR
comp=Z,89μm,21.0s,MS7.4
GCMT Greycliff 125.75 19 *e*PKPdf PKPdf 06 44 47.1 -1.1
LAO LASA Array 125.96 16 *e*PKPdf PKPdf 06 44 48.1 -0.5
LAO LR LR
comp=Z,34μm,21.0s,MS7.0
YMR Madison River 126.30 20 *e*PKPdf PKPdf 06 44 48.8 -0.5
YNR Norris Junctio 126.36 20 *e*PKPdf PKPdf 06 44 49.3 -0.1
YFT Old Faithful 126.54 21 *e*PKPdf PKPdf 06 44 50.7 +1.0
LKWY Lake 126.59 20 *e*PKIKP PKPdf 06 44 51.0 +1.2
LKWY MLR MLR
comp=Z,54μm,21.0s,MS7.2
WCN Washoe City 126.88 31 *e*PKIKP PKPdf 06 44 50.0 -0.5
IMW Indian Meadow 126.98 21 *e*PKPdf PKPdf 06 44 48.4 -2.2
EYMN Ely 127.16 3 *e*PKPdf PKPdf 06 44 47.5 -3.3
EYMN LR LR
comp=Z,42μm,21.0s,MS7.1
MOOW Moose Ponds 127.18 21 *e*PKPdf PKPdf 06 44 48.6 -2.4
BMN Battle Mountai 127.26 28 *e*PKIKP PKPdf 06 44 50.7 -0.6
BMN MLR MLR
comp=Z,13μm,22.0s,MS6.5
TPAW Teton Pass 127.33 21 *e*PKPdf PKPdf 06 44 50.3 -1.1
LOHW Long Hollow 127.35 21 *e*PKPdf PKPdf 06 44 48.2 -3.1
WUWY Wally Ulrich 127.37 21 *e*PKPdf PKPdf 06 44 50.5 -0.9
EFI East Falkland 127.39 203 PFAKE 06 45 00.0 +8.8
EFI LR LR
comp=Z,3μm,20.0s,MS6.0
SNOW Snow King Moun 127.43 21 *e*PKPdf PKPdf 06 44 50.2 -1.3
CMB Columbia Colle 127.49 33 *e*PKIKP PKPdf 06 44 50.3 -1.5
CMB MLR MLR
comp=Z,14μm,21.0s,MS6.6
AHID Auburn Hatcher 127.91 22 *e*PKPdf PKPdf 06 44 51.3 -1.2
AHID LR LR
comp=Z,22μm,20.0s,MS6.8
WVL Waterville 128.06 344 PFAKE 06 45 00.0 +7.2
WVL LR LR
comp=Z,83μm,22.0s,MS7.4
HVU Hansel Valley 128.10 24 *e*PKIKP PKPdf 06 44 52.0 -1.0
MNV Mina 128.35 31 *e*PKIKP PKPdf 06 44 52.6 -0.9
MNV MLR MLR
comp=Z,18μm,20.0s,MS6.8
BW06 Boulder Array 128.46 21 PFAKE 06 45 00.0 +6.4

BW06				LR	LR		
	comp=Z,26µm,22.0s,MS6.9						
RCBR	**Riachuelo**	**128.47**	**267**	PFAKE		06 45 00.0	+5.6
RCBR				LR	LR		
	comp=Z,25µm,20.0s,MS6.9						
BGU	**Big Grassy Mou**	**128.72**	**25**	ePKPdf	PKPdf	06 44 52.3	-1.9
HWUT	**Hardware Ranch**	**128.73**	**23**	ePKPdf	PKPdf	06 44 53.0	-1.1
HWUT				LR	LR		
	comp=Z,24µm,20.0s,MS6.9						
MTUM	**Tungsten Hills**	**128.96**	**32**	ePKPdf	PKPdf	06 44 54.9	+0.2
TPH	**Tonopah**	**129.10**	**30**	ePKIKP	PKPdf	06 44 53.1	-1.9
TPH				MLR	MLR		
	comp=Z,15µm,20.0s,MS6.7						
TCUT	**Toone Canyon**	**129.21**	**23**	ePKPdf	PKPdf	06 44 54.4	-0.7
NOQ	**North Oquirrh**	**129.32**	**24**	ePKPdf	PKPdf	06 44 55.1	-0.2
MDV	**Middlebury**	**129.49**	**346**	ePKPdf	PKPdf	06 44 54.2	-1.3
MIV	**Mineville/With**	**129.50**	**347**	PKPdf	PKPdf	06 44 53.2	-2.4
JLU	**Jordanelle**	**129.63**	**23**	ePKPdf	PKPdf	06 44 54.9	-1.0
TRCR	**Troy Canyon**	**129.68**	**29**	ePKPdf	PKPdf	06 44 56.0	-0.1
NCB	**Newcomb**	**129.75**	**347**	ePKPdf	PKPdf	06 44 53.9	-2.2
NCB				LR	LR		
	comp=Z,40µm,22.0s,MS7.1						
NLU	**North Lily Min**	**129.93**	**24**	ePKPdf	PKPdf	06 44 55.5	-1.0
MPU	**Maple Canyon**	**130.06**	**24**	ePKPdf	PKPdf	06 44 55.4	-1.4
RWWY	**Rawlins**	**130.21**	**19**	ePKPdf	PKPdf	06 44 54.3	-2.7
DAC	**Darwin (Calif)**	**130.28**	**32**	ePKIKP	PKPdf	06 44 58.0	+0.7
DAC				MLR	MLR		
	comp=Z,14µm,21.0s,MS6.7						
HRV	**Harvard--Oak R**	**130.48**	**344**	PFAKE		06 45 10.0	+13
HRV				LR	LR		
	comp=Z,16µm,19.0s,MS6.7						
WES	**Weston**	**130.53**	**344**	PFAKE		06 45 10.0	+12
WES				LR	LR		
	comp=Z,18µm,19.0s,MS6.8						
TMUT	**Trail Mountain**	**130.84**	**24**	ePKPdf	PKPdf	06 44 57.6	-0.6
RKT	**Rikitea**	**130.99**	**116**	eSP	SP	06 57 20.5	-2.9
RKT				eSS	SS	07 04 44.5	+0.8
RKT				eLR	LR	07 26 36.0	
	comp=Z,23µm,22.8s						
MVU	**Marysvale**	**131.09**	**26**	ePKPdf	PKPdf	06 44 57.5	-1.2
MVU				LR	LR		
	comp=Z,15µm,20.0s,MS6.7						
MSU	**Marysvale**	**131.09**	**26**	ePKIKP	PKPdf	06 44 59.5	+0.8
PHWY	**Pilot Hill**	**131.12**	**18**	ePKPdf	PKPdf	06 44 58.2	-0.5
ARUT	**Antelope Range**	**131.13**	**27**	ePKIKP	PKPdf	06 44 55.6	-3.2
SRU	**San Rafael**	**131.28**	**24**	ePKIKP	PKPdf	06 44 58.6	-0.5
BINY	**Binghamton**	**131.82**	**348**	ePKPdf	PKPdf	06 44 59.2	-0.8
BINY				LR	LR		
	comp=Z,37µm,19.0s,MS7.1						
NEN	**Nelson**	**132.18**	**30**	ePKPdf	PKPdf	06 45 00.3	-0.6
JFWS	**Jewell Farm**	**132.24**	**3**	PFAKE		06 45 10.0	+9.2
JFWS				LR	LR		
	comp=Z,25µm,19.0s,MS6.9						
ISCO	**Idaho Springs**	**132.44**	**19**	ePKIKP	PKPdf	06 44 53.8	-7.5
ISCO				MLR	MLR		
	comp=Z,23µm,19.0s,MS6.9						
LDFC	**Landfair**	**132.49**	**31**	ePKPdf	PKPdf	06 45 01.1	-0.4
PV10	**Paradox Valley**	**132.49**	**23**	ePKPpre		06 44 56.9	
ERPA	**Erie**	**132.57**	**352**	PFAKE		06 45 10.0	+8.5
ERPA				LR	LR		
	comp=Z,33µm,22.0s,MS7.0						
AAM	**Ann Arbor**	**132.76**	**356**	PFAKE		06 45 10.0	+8.2
AAM				LR	LR		
	comp=Z,22µm,21.0s,MS6.8						
SSPA	**Standing Stone**	**133.69**	**350**	ePKPdf	PKPdf	06 45 02.0	-1.4
SSPA				LR	LR		
	comp=Z,4µm,22.0s,MS6.1						
SDCO	**Great Sand Dun**	**134.34**	**20**	ePKP	PKPdf	06 45 03.0	-1.8
SDCO				LR	LR		
	comp=Z,26µm,20.0s,MS7.0						
PTCN	**Pitcairn Islan**	**134.71**	**121**	PFAKE		06 45 20.0	+14
PTCN				LR	LR		
	comp=Z,10µm,20.0s,MS6.5						
ACSO	**Alum Creek Sta**	**134.77**	**355**	ePKPdf	PKPdf	06 45 04.2	-1.4
ACSO				LR	LR		
	comp=Z,21µm,20.0s,MS6.8						
MCWV	**Mont Chateau**	**134.96**	**351**	PFAKE		06 45 20.0	+14
MCWV				LR	LR		
	comp=Z,29µm,20.0s,MS7.0						
KSU1	**Kansas State U**	**135.33**	**10**	ePKPpre		06 44 48.8	
CBN	**Corbin**	**135.95**	**348**	PFAKE		06 45 20.0	+12
CBN				LR	LR		
	comp=Z,35µm,21.0s,MS7.1						
BLO	**Bloomington**	**136.02**	**359**	ePKPdf	PKPdf	06 45 07.0	-0.8
ANMO	**Albuquerque**	**136.49**	**23**	PKPdf	PKPdf	06 45 08.8	0.0
ANMO	**Albuquerque**	**136.49**	**23⇑**	iPKIKP	PKPdf	06 45 03.1	-5.7
ANMO	**Albuquerque**	**136.49**	**23**	ePKPdf	PKPdf	06 45 07.8	-1.0
ANMO				LR	LR		
	comp=Z,23µm,22.0s,MS6.9						
SLM	**Saint Louis**	**136.50**	**3**	ePKHKP		06 44 57.5	
LAZ	**Ladron**	**136.70**	**24**	ePKPdf	PKPdf	06 45 10.0	+0.9
TUC	**Tucson**	**136.86**	**29**	ePKPdf	PKPdf	06 45 08.6	-0.9
TUC				LR	LR		
	comp=Z,14µm,19.0s,MS6.7						
BBSR	**BB Station**	**136.87**	**331**	PFAKE		06 45 20.0	+10
BBSR				LR	LR		
	comp=Z,11µm,20.0s,MS6.6						
WCI	**Wyandotte Cave**	**136.96**	**358**	ePKPdf	PKPdf	06 45 08.0	-1.6
WCI				LR	LR		
	comp=Z,5µm,20.0s,MS6.3						
LENM	**Lemitar**	**136.98**	**24**	ePKPdf	PKPdf	06 45 10.0	+0.3
LPM	**Los Pinos Moun**	**136.98**	**23**	ePKPdf	PKPdf	06 45 09.4	-0.3
CCM	**Cathedral Cave**	**137.02**	**4**	ePKPpre		06 45 04.1	
CCM				LR	LR		
	comp=Z,9µm,20.0s,MS6.5						
BNM	**Barren Site**	**137.13**	**23**	ePKPdf	PKPdf	06 45 08.2	-1.8
FWV	**Forest Hill**	**137.14**	**352**	ePKPdf	PKPdf	06 45 09.0	-0.9
FVM	**French Village**	**137.14**	**3**	ePKPdf	PKPdf	06 45 08.0	-1.9
USIN	**University of**	**137.24**	**360**	ePKPdf	PKPdf	06 45 06.5	-3.6
PWV	**Princeton**	**137.41**	**352**	ePKPdf	PKPdf	06 45 09.3	-1.2
BLA	**Blacksburg**	**137.45**	**351**	ePKPdf	PKPdf	06 45 08.8	-1.8
BLA				LR	LR		
	comp=Z,27µm,20.0s,MS7.0						
ELN	**Prospectdale**	**137.48**	**352**	ePKPdf	PKPdf	06 45 08.6	-1.9
AMTX	**Amarillo**	**138.18**	**17**	ePKPpre		06 45 00.3	
AMTX				LR	LR		
	comp=Z,25µm,21.0s,MS6.9						
UTMT	**University of**	**138.84**	**1**	ePKPdf	PKPdf	06 45 12.6	-0.5
WVT	**Waverly**	**139.07**	**0**	ePKPpre		06 45 06.2	
WVT				LR	LR		
	comp=Z,28µm,21.0s,MS7.0						
WMOK	**Wichita Mounta**	**139.10**	**14**	ePKHKP		06 45 02.3	
WMOK				MLR	MLR		
	comp=Z,17µm,21.0s,MS6.8						
CPRX	**Cap Rock**	**139.16**	**21**	ePKPpre		06 45 03.5	
TRQA	**Tornquist**	**139.64**	**212**	ePKPpre		06 45 04.7	
TRQA				LR	LR		
	comp=Z,18µm,20.0s,MS6.8						
CPCT	**Cooper Cave**	**139.64**	**356**	ePKPpre		06 45 09.9	
GDL2	**Guadalupe Moun**	**139.73**	**22**	ePKPpre		06 45 04.0	
MNTX	**Cornudas Mount**	**139.78**	**24**	ePKPpre		06 45 04.7	
MNTX				LR	LR		
	comp=Z,19µm,20.0s,MS6.8						
CLNB	**Carlsbad**	**139.85**	**22**	ePKPdf	PKPdf	06 45 13.8	-1.3
UALR	**University of**	**140.18**	**6**	ePKPpre		06 45 06.7	
MIAR	**Mount Ida**	**140.26**	**8**	ePKPpre		06 45 07.1	
MIAR				LR	LR		
	comp=Z,27µm,19.0s,MS7.0						
OXF	**Oxford**	**140.65**	**2**	ePKPpre		06 45 11.4	
OXF				LR	LR		
	comp=Z,26µm,21.0s,MS7.0						
NHSC	**New Hope**	**141.42**	**350**	ePKPdf	PKPdf	06 45 18.7	+0.8
NHSC				LR	LR		
	comp=Z,28µm,20.0s,MS7.0						
GOGA	**Godfrey**	**141.57**	**354**	ePKPdf	PKPdf	06 45 18.2	0.0
GOGA				LR	LR		
	comp=Z,23µm,21.0s,MS6.9						
LRAL	**Lakeview Retre**	**142.15**	**359**	ePKPdf	PKPdf	06 45 14.3	-4.8
LRAL				LR	LR		
	comp=Z,30µm,20.0s,MS7.0						
LTX	**Lajitas**	**142.55**	**23**	ePKPdf	PKPdf	06 45 16.0	-3.9
NATX	**Nacogdoches**	**142.83**	**10**	ePKPpre		06 45 14.8	
NATX				LR	LR		
	comp=Z,25µm,19.0s,MS7.0						
JCT	**Junction City**	**142.84**	**17**	ePKPpre		06 45 14.4	
JCT				LR	LR		
	comp=Z,24µm,22.0s,MS6.9						
HKT	**Hockley**	**144.36**	**12**	PKPdf	PKPdf	06 45 19.3	-3.7
HKT	**Hockley**	**144.36**	**12**	ePKPpre		06 45 18.7	
HKT				LR	LR		
	comp=Z,9µm,20.0s,MS6.5						
CCHI	**Chillan**	**145.46**	**202**	iP	PKPbc	06 45 23.5	+1.5
NICH	**Los Niches**	**146.51**	**205**	eP	PKPbc	06 45 26.3	+1.7
DWPF	**Disney**	**146.52**	**350**	ePKPdf	PKPdf	06 45 26.0	-0.8
DWPF				LR	LR		
	comp=Z,6µm,22.0s,MS6.3						
LMEL	**Las Melosas**	**147.04**	**207**	iP	PKPdf	06 45 29.1	+1.6
MDZ	**Mendoza**	**147.18**	**210**	eP	PKPdf	06 45 31.0	+3.2
MDZ				e		06 45 31.8	
FCH	**Farellones**	**147.51**	**208⇑**	iP	PKPdf	06 45 30.0	+1.7
CLCH	**Cerro Calan**	**147.56**	**207**	iP	PKPdf	06 45 28.1	-0.3
PEL	**Peldehue**	**147.84**	**207**	iP	PKPdf	06 45 29.2	+0.3
SJG	**San Juan**	**148.71**	**318**	ePKPdf	PKPdf	06 45 30.4	-0.2
SJG				LR	LR		
	comp=Z,14µm,20.0s,MS6.8						
TRN	**Trinidad (W)**	**149.56**	**301**	eP	PKPdf	06 45 36.8	+4.7
TPP	**Pointe-a-Pierr**	**149.76**	**300**	eP	PKPdf	06 45 38.2	+5.8
RPN	**Rapa Nui**	**149.84**	**139**	ePKPbc	PKPdf	06 45 37.1	+4.9
RPN				LR	LR		
	comp=Z,2µm,21.0s,MS5.9						
TLL	**Tololo Astrono**	**150.35**	**211**	iP	PKPdf	06 45 38.2	+5.3
LVC	**Limon Verde**	**154.80**	**224**	ePKPdf	PKPdf	06 45 39.8	+0.4
LVC				LR	LR		
	comp=Z,10µm,20.0s,MS6.6						
TEIG	**Tepich**	**154.91**	**1**	ePKPdf	PKPdf	06 45 39.4	-0.2
TEIG				LR	LR		
	comp=Z,12µm,22.0s,MS6.7						
LPAZ	**La Paz**	**157.79**	**238**	PKIKP	PKPdf	06 45 42.6	-0.9
LPAZ	**La Paz**	**157.79**	**238**	ePKPdf	PKPdf	06 45 42.0	-1.5
LPAZ				LR	LR		
	comp=Z,15µm,20.0s,MS6.8						
SDV	**Santo Domingo**	**158.10**	**309**	ePKPdf	PKPdf	06 45 42.4	-1.6
SDV				LR	LR		
	comp=Z,14µm,21.0s,MS6.8						
ARE	**Arequipa**	**160.47**	**233**	eP	PKPdf	06 45 47.0	+0.4
JTS	**JuntasAbangare**	**164.55**	**350**	PKIKP	PKPdf	06 46 00.0	+9.3
JTS				MLR	MLR		
	comp=Z,4µm,21.0s						
JTS	**JuntasAbangare**	**164.55**	**350**	PFAKE		06 46 00.0	+9.3
JTS				LR	LR		
	comp=Z,4µm,21.0s						
NNA	**Nana**	**167.25**	**236**	PFAKE		06 46 00.0	+7.1
NNA				LR	LR		
	comp=Z,4µm,21.0s						
OTAV	**Otavalo**	**169.41**	**299**	ePKPdf	PKPdf	06 45 53.8	-0.5
OTAV				LR	LR		
	comp=Z,18µm,22.0s						

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*NEIC **01** 06:32:55.5±1.7, 51.57N×16.32E, h5km, ML2.9(VIE), Error ellipse: s-maj=20.7km s-min=8.2km az=49.0*
*IPEC **01** 06:32:55.2±0.3, 51.57N×16.18E, ML2.0/3, Error ellipse: s-maj=1.8km s-min=1.5km az=31.0*
*PRU **01** 06:32:57.6, 51.46N×16.11E, Felt In Harrachov*
*CSEM **01** 06:32:57.9±0.2, 51.46N×16.11E, h1km, ML3.1/4, Error ellipse: s-maj=2.8km s-min=1.5km az=17.0*
WAR 01 06:32:57.4, 51.50N×16.10E, h1km, ML2.7, 4C-2D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**169**	iPG	Pg	06 33 09.5	-1.2
KSP				eSG	Sg	06 33 18.5	-1.0
KSP	**Ksiaz**	**0.67**	**169⇓**	iPg	Pg	06 33 09.5	-1.2
KSP				eSg	Sg	06 33 18.4	-1.1
KSP	**Ksiaz**	**0.67**	**169**	ePg	Pg	06 33 09.5	-1.2
KSP				eSg	Sg	06 33 18.4	-1.1
KSP	**Ksiaz**	**0.67**	**169⇓**	iPg	Pg	06 33 09.5	-1.2
KSP				eSg	Sg	06 33 18.4	-1.1
UPC	**Upice**	**0.99**	**183**	ePG	Pg	06 33 15.6	-1.6
UPC	**Upice**	**0.99**	**183**	ePg	Pg	06 33 15.6	-1.6
DPC	**Dobruska-Polom**	**1.16**	**173**	ePG	Pg	06 33 18.4	-2.1
DPC				eSG	Sg	06 33 33.3	-2.6
	26nm,0.3s						
DPC	**Dobruska-Polom**	**1.16**	**173**	ePg	Pg	06 33 18.4	-2.1
DPC				Sg	Sg	06 33 33.3	-2.6
	26nm,0.3s						
PVCC	**Panska Ves**	**1.37**	**226**	ePG	Pg	06 33 22.8	-1.9
PVCC	**Panska Ves**	**1.37**	**226**	Pg	Pg	06 33 22.8	-1.9
PVCC	**Panska Ves**	**1.37**	**226**	ePn	Pn	06 33 22.9	-0.8
PVCC				eSg	Sg	06 33 41.0	-2.0
BRG	**Berggiesshubel**	**1.50**	**246**	ePn	Pn	06 33 25.3	-0.2
BRG				i Sg	Sg	06 33 45.1	-2.1
BRG	**Berggiesshubel**	**1.50**	**246**	ePn	Pn	06 33 25.3	-0.2
BRG				i Sg	Sg	06 33 45.1	-2.1
RUE	**Ruedersdorf**	**1.74**	**305**	eP	Pn	06 33 26.2	-2.7
PRU	**Pruhonice**	**1.81**	**214**	ePN	Pn	06 33 28.0	-1.9
PRU				ePG	Pg	06 33 30.3	-3.1
PRU				eSG	Sg	06 33 53.8	-3.7
PRU	**Pruhonice**	**1.81**	**214**	ePn	Pn	06 33 28.0	-1.9
CLL	**Collm**	**1.95**	**266**	i PG	Pg	06 33 32.9	-3.4
CLL				i SG	Sg	06 33 59.3	-3.0
CLL	**Collm**	**1.95**	**266**	i Pg	Pg	06 33 32.9	-3.4
CLL				i Sg	Sg	06 33 59.3	-3.0
MORC	**Moravsky Berou**	**1.95**	**151**	ePn	Pn	06 33 30.3	-1.7
MORC				eSg	Sg	06 33 58.1	-4.2
	11nm,0.2s						
OKC	**Ostrava-Krasne**	**2.11**	**141**	ePG	Pg	06 33 35.3	-4.2
OKC				eSG	Sg	06 34 03.2	-4.5
OKC	**Ostrava-Krasne**	**2.11**	**141**	ePn	Pn	06 33 32.0	-2.3
OKC	**Ostrava-Krasne**	**2.11**	**141**	Pg	Pg	06 33 35.3	-4.2
OKC				Sg	Sg	06 34 03.2	-4.5
VRAC	**Vranov**	**2.21**	**172**	ePn	Pn	06 33 34.2	-1.5
VRAC				eSg	Sg	06 34 06.6	-4.5
	10nm,0.2s						
KRUC	**Moravsky**	**2.44**	**175**	ePn	Pn	06 33 37.8	-1.3
KRUC				eSg	Sg	06 34 14.3	-4.5
	4.4nm,0.2s						
NKC	**Novy Kostel**	**2.64**	**243**	ePN	Pn	06 33 40.5	-1.3
NKC				ePG	Pg	06 33 46.7	-3.4
NKC				eSG	Sg	06 34 20.3	-4.9
NKC	**Novy Kostel**	**2.64**	**243**	ePn	Pn	06 33 40.5	-1.3
OJC	**Ojcow**	**2.67**	**117**	ePg	Pg	06 33 46.7	-4.0
OJC				eSg	Sg	06 34 22.1	-4.2
OJC	**Ojcow**	**2.67**	**117**	ePg	Pg	06 33 46.7	-4.0
OJC				eSg	Sg	06 34 22.1	-4.2
KHC	**Kasperske Hory**	**2.87**	**215**	ePN	Pn	06 33 43.1	-2.0
KHC				ePG	Pg	06 33 49.1	-5.5
KHC				eSN	Sn	06 34 17.0	-3.7
KHC				eSG	Sg	06 34 27.1	-5.8
KHC	**Kasperske Hory**	**2.87**	**215**	ePn	Pn	06 33 43.1	-2.0
VYHS	**Vyhne**	**3.48**	**149**	ePG	Pg	06 34 02.8	-4.2
VYHS				eSG	Sg	06 34 48.8	-4.6
VYHS	**Vyhne**	**3.48**	**149**	ePg	Pg	06 34 02.8	-4.2
VYHS				eSg	Sg	06 34 48.8	-4.6
MOA	**Molln**	**3.84**	**199⇑**	iPN	Pn	06 33 57.2	-1.7
MOA				i SG	Sg	06 35 00.6	-4.6
	11nm,0.6s						
MOA	**Molln**	**3.84**	**199⇑**	iPn	Pn	06 33 57.2	-1.7
MOA				i Sg	Sg	06 35 00.6	-4.6
ARSA	**Arzberg**	**4.27**	**185⇑**	iPN	Pn	06 34 04.3	-0.7
ARSA				i SG	Sg	06 35 13.1	-6.3
	3.8nm,0.5s						
ARSA	**Arzberg**	**4.27**	**185⇑**	iPn	Pn	06 34 04.3	-0.7
ARSA				i Sg	Sg	06 35 13.1	-6.3

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*BJI **01** 06:34:38.1, 8.06N×92.74E, h30km, mb5.3*
*MOS **01** 06:34:41.1±1.5, 8.57N×93.81E, h33km, mb5.4/11, Error ellipse: s-maj=17.8km s-min=9.3km az=112.8*
*NEIC **01** 06:34:46.5±0.3, 8.78N×93.06E, h30km, mb5.0/28, Error ellipse: s-maj=8.9km s-min=7.5km az=48.0*
ISC 01 06:34:45.1±0.3, **8.79N**±0.06×**93.10E**±0.06, **h33**km, **(h27**km±2.4km**:pP-P), n104,** σ**1.06**/103, **mb5.0**/37, **13C-3D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.16**	**30**	eP	**P**	**06 37 25.5**	**0.0**
	86nm,1.1s						
QIZ	**Qiongzhong**	**19.16**	**56**	P	**P**	**06 39 10.4**	**+1.8**
QIZ	**Qiongzhong**	**19.16**	**56**	eP	**P**	**06 39 10.2**	**+1.6**
LSA	**Lhasa**	**20.88**	**355**	eP	**P**	**06 39 30.0**	**+3.0**
LSA	**Lhasa**	**20.88**	**355**	eP	**P**	**06 39 27.0**	**0.0**
ENH	**Enshi**	**26.30**	**33**	eP	**P**	**06 40 19.0**	**-0.7**
	45nm,0.8s,mb5.0						
QZH	**Quanzhou**	**29.12**	**53**	eP	**P**	**06 40 45.7**	**+0.4**
BJT	**Baijiatuau**	**37.29**	**30**	eP	**P**	**06 41 56.3**	**+0.4**
	24nm,0.8s,mb5.1						
AAK	**Ala-Archa**	**37.46**	**337**	eP	**P**	**06 41 56.3**	**-1.0**
AAK	**Ala-Archa**	**37.46**	**337**	eP	**P**	**06 41 56.4**	**-0.9**
ULN	**Ulaanbaatar**	**40.70**	**14⇑**	iP	**P**	**06 42 19.8**	**-4.4**
ULN	**Ulaanbaatar**	**40.70**	**14⇑**	iP	**P**	**06 42 19.9**	**-4.3**
ZAK	**Zakamensk**	**42.32**	**10**	eP	**P**	**06 42 37.9**	**+0.4**
TLY	**Talaya**	**43.63**	**10⇓**	iP	**P**	**06 42 43.9**	**-4.3**
TLY				pmax	pmax		
	comp=Z,28nm,1.4s,mb4.8						
TLY	**Talaya**	**43.63**	**10**	eP	**P**	**06 42 48.6**	**+0.4**
	comp=Z,14nm,1.0s,mb4.7						
HIA	**Hailar**	**46.10**	**24**	eP	**P**	**06 43 08.1**	**+0.2**
	comp=Z,67nm,1.4s,mb5.4						
MUN	**Mundaring**	**46.16**	**152**	eP	**P**	**06 43 09.1**	**+0.4**
	comp=Z,61nm,0.7s,mb5.6						
KLBR	**Kellerberrin**	**46.57**	**151**	eP	**P**	**06 43 11.7**	**-0.2**
	comp=Z,78nm,0.8s,mb5.7						
NWAO	**Narrogin (SRO)**	**47.43**	**152**	eP	**P**	**06 43 17.7**	**-0.9**
	comp=Z,178nm,1.3s,mb5.8						
MDJ	**Mudanjiang**	**47.64**	**35**	P	**P**	**06 43 19.9**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,39nm,1.4s,mb5.2						
MDJ	**Mudanjiang**	**47.64**	**35**	eP	**P**	**06 43 20.9**	**+0.7**
	comp=Z,32nm,1.1s,mb5.3						
BRVK	**Borovoye**	**47.86**	**342**	eP	**P**	**06 43 18.8**	**-3.0**
MAJO	**Matsushiro**	**49.32**	**49**	P	**P**	**06 43 35.1**	**+1.9**
WRAB	**Tennant Creek**	**49.63**	**125**	eP	**P**	**06 43 34.2**	**-1.7**
WB2	**Warramunga Arr**	**49.64**	**126**	eP	**P**	**06 43 34.2**	**-1.7**
BOD	**Bodaibo**	**51.51**	**14**	eP	**P**	**06 43 48.0**	**-1.6**
GNI	**Garni**	**53.06**	**314**	eP	**P**	**06 44 00.0**	**-1.5**
GNI	**Garni**	**53.06**	**314**	eP	**P**	**06 44 00.1**	**-1.4**
ARU	**Arti**	**54.65**	**337⇑**	iP	**P**	**06 44 10.8**	**-2.1**
ARU				ePPP	PPP	06 47 23.4	-5.5
ARU				eS	**S**	**06 51 56.3**	**+7.4**
ARU				eSS	SS	06 55 35.9	+4.4
ARU				eSSS	SSS	06 57 44.7	+14
ARU				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.3						
ARU	**Arti**	**54.65**	**337⇑**	iP	**P**	**06 44 10.7**	**-2.2**
KIV	**Kislovodsk**	**55.95**	**318**	eP	**P**	**06 44 23.0**	**+0.5**
KIV				e		06 45 19.0	
KIV				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.5						
KIV	**Kislovodsk**	**55.95**	**318⇑**	iP	**P**	**06 44 22.5**	**0.0**
YSS	**Yuzh-Sakhalins**	**56.71**	**39**	eP	**P**	**06 44 23.7**	**-4.2**
YSS	**Yuzh-Sakhalins**	**56.71**	**39**	eP	**P**	**06 44 27.7**	**-0.2**
MALT	**Malatya**	**57.09**	**310**	eP	**P**	**06 44 30.8**	**0.0**
	comp=Z,10nm,1.1s,mb4.8						
SOC	**Sochi**	**57.81**	**316**	eP	**P**	**06 44 35.1**	**-0.7**
SOC				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
SOC				pmax	pmax		
	comp=N,16nm,1.1s						
SOC				pmax	pmax		
	comp=E,7.0nm,1.0s						
YAK	**Yakutsk**	**59.47**	**19⇑**	iP	**P**	**06 44 40.4**	**-6.6**
YAK				pmax	pmax		
	comp=Z,44nm,0.7s,mb5.6						
YAK	**Yakutsk**	**59.47**	**19**	eP	**P**	**06 44 45.6**	**-1.4**
	comp=Z,43nm,0.8s,mb5.5						
STKA	**Stephens Creek**	**61.48**	**134**	eP	**P**	**06 44 59.3**	**-1.8**
SIM	**Simferopol'**	**62.06**	**316**	ceP	**P**	**06 45 05.0**	**+0.2**
SIM				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
MBAR	**Mbarara**	**62.81**	**265**	eP	**P**	**06 45 08.6**	**-1.7**
OBN	**Obninsk**	**64.06**	**328⇑**	eP	**P**	**06 45 15.8**	**-2.1**
OBN				pmax	pmax		
	comp=Z,56nm,1.2s,mb5.5						
OBN	**Obninsk**	**64.06**	**328⇑**	iP	**P**	**06 45 15.8**	**-2.1**
MA2	**Magadan**	**66.44**	**28**	eP	**P**	**06 45 25.9**	**-7.2**
MA2	**Magadan**	**66.44**	**28**	eP	**P**	**06 45 25.0**	**-8.1**
TIXI	**Tiksi**	**66.55**	**12⇓**	iP	**P**	**06 45 29.8**	**-3.8**
TIXI				pmax	pmax		
	comp=Z,105nm,1.3s,mb5.7						
TIXI	**Tiksi**	**66.55**	**12⇓**	iP	**P**	**06 45 29.9**	**-3.7**
PET	**Petropavlovsk**	**68.40**	**36**	eP	**P**	**06 45 39.1**	**-6.4**
PET				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.2						
PET	**Petropavlovsk**	**68.40**	**36**	eP	**P**	**06 45 39.2**	**-6.3**
JOF	**Joensuu**	**69.58**	**335**	ep	**P**	**06 45 49.3**	**-3.3**
	comp=Z,1.2nm,0.4s,mb4.2						
JOF	**Joensuu**	**69.58**	**335**	eP	**P**	**06 45 49.3**	**-3.3**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
VSU	**Vasula**	**70.28**	**329⇑**	iP	**P**	**06 45 55.9**	**-1.0**
VSU	**Vasula**	**70.28**	**329⇑**	iP	**P**	**06 45 55.0**	**-1.9**
CRVS	**Cervenica-Dubn**	**71.37**	**319**	eP	**P**	**06 46 04.4**	**+0.7**
FINES	**FINESS Array B**	**71.43**	**332**	iP	**P**	**06 46 03.6**	**-0.2**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KAF	**Kangasniemi**	**71.51**	**333**	ep	**P**	**06 46 04.3**	**0.0**
	comp=Z,0.7nm,0.3s,mb4.1						
KAF	**Kangasniemi**	**71.51**	**333**	eP	**P**	**06 46 04.3**	**0.0**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
PSZ	**Piszkesteto**	**72.28**	**317**	eP	**P**	**06 46 09.4**	**+0.3**
OJC	**Ojcow**	**72.62**	**320**	eP	**P**	**06 46 11.2**	**+0.1**
OJC	**Ojcow**	**72.62**	**320**	eP	**P**	**06 46 11.2**	**+0.1**
OJC	**Ojcow**	**72.62**	**320**	eP	**P**	**06 46 11.2**	**+0.1**
VYHS	**Vyhne**	**73.04**	**318**	eP	**P**	**06 46 13.0**	**-0.7**
SRO	**Srobarova**	**73.32**	**317**	eP	**P**	**06 46 16.0**	**+0.7**
KEV	**Kevo**	**73.64**	**341**	ep	**P**	**06 46 16.4**	**-0.3**
	comp=Z,0.8nm,0.3s,mb4.1						
KEV	**Kevo**	**73.64**	**341**	eP	**P**	**06 46 16.4**	**-0.3**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
LBTB	**Lobatse**	**73.78**	**241**	eP	**P**	**06 46 20.9**	**+2.4**
	comp=Z,30nm,1.3s,mb5.1						
MORC	**Moravsky Berou**	**74.01**	**319**	eP	**P**	**06 46 19.5**	**+0.2**
	comp=Z,32nm,1.4s,mb5.1						
ZST	**Bratislava**	**74.17**	**318**	iP	**P**	**06 46 21.1**	**+0.9**
KSP	**Ksiaz**	**74.91**	**320**	eP	**P**	**06 46 24.9**	**+0.5**
KSP				epP	pP	06 46 33.5	-1.2
BOSA	**Boshof**	**75.20**	**237**	eP	**P**	**06 46 28.8**	**+2.2**
BILL	**Bilibino**	**75.62**	**22⇑**	iP	**P**	**06 46 23.0**	**-5.2**
BILL				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7						
BILL	**Bilibino**	**75.62**	**22⇑**	iP	**P**	**06 46 23.1**	**-5.1**
BRG	**Berggiesshubel**	**76.39**	**320**	iP	**P**	**06 46 33.9**	**+1.0**
BRG				e	pP	06 46 43.7	+0.5
BRG				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
BRG	**Berggiesshubel**	**76.39**	**320**	iP	**P**	**06 46 33.9**	**+1.0**
	comp=Z,19nm,1.2s,mb4.9						
BRG				e	pP	06 46 43.7	+0.5
BRG				e		06 47 04.4	
GEC2	**GERESS Array S**	**76.46**	**318**	eP	**P**	**06 46 33.6**	**+0.2**
KHC	**Kasperske Hory**	**76.55**	**318**	eP	**P**	**06 46 34.5**	**+0.6**
KHC				epP	pP	06 46 43.0	-1.2
RUE	**Ruedersdorf**	**76.58**	**322**	eP	**P**	**06 46 34.6**	**+0.6**
	comp=Z,29nm,1.2s,mb5.1						
WET	**Wettzell**	**77.01**	**318**	eP	**P**	**06 46 37.4**	**+0.9**
GRA1	**Grafenberg Arr**	**78.11**	**319**	eP	**P**	**06 46 43.7**	**+1.2**
	comp=Z,19nm,1.1s,mb4.9						
GRF	**Grafenberg Arr**	**78.11**	**319**	eP	**P**	**06 46 43.7**	**+1.2**
GRF				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
GRF	**Grafenberg Arr**	**78.11**	**319**	eP	**P**	**06 46 43.7**	**+1.2**
	comp=Z,19nm,1.1s,mb4.9						
NB2	**NORSAR Subarra**	**78.43**	**331**	P	**P**	**06 46 43.6**	**-0.4**
	comp=Z,15nm,1.0s,mb4.9,baz=93,slow=5.6						
CLZ	**Clausthal**	**78.66**	**321**	eP	**P**	**06 46 46.3**	**+0.8**
	comp=Z,6.0nm,0.9s,mb4.5						
BSEG	**Bad Segeberg**	**78.71**	**323**	eP	**P**	**06 46 46.6**	**+0.9**
PGF	**Pioggiola**	**79.78**	**312**	eP	**P**	**06 46 51.4**	**-0.4**
	comp=Z,18nm,1.0s,mb4.7						
SUR	**Sutherland**	**80.01**	**235**	eP	**P**	**06 46 56.9**	**+3.6**
CDF	**Champ du Feu**	**80.73**	**318**	eP	**P**	**06 46 56.4**	**-0.3**
	comp=Z,36nm,1.5s,mb4.8						
SBF	**Sospel**	**80.86**	**313**	eP	**P**	**06 46 56.8**	**-0.7**
LPG	**La Plagne**	**81.25**	**315**	eP	**P**	**06 47 00.0**	**+0.5**
	comp=Z,37nm,1.1s,mb4.9						
MBDF	**Montbardon**	**81.28**	**314**	eP	**P**	**06 47 00.2**	**+0.5**
	comp=Z,32nm,1.2s,mb4.8						
HAU	**Haudompre**	**81.37**	**317**	eP	**P**	**06 46 59.8**	**-0.3**
	comp=Z,39nm,1.2s,mb4.9						
BAIF	**Baives**	**82.62**	**319**	eP	**P**	**06 47 05.8**	**-0.7**
	comp=Z,27nm,1.3s,mb4.8						
SSF	**Saint Saulge**	**83.36**	**317**	eP	**P**	**06 47 09.7**	**-0.6**
	comp=Z,19nm,1.3s,mb4.7						
BGF	**Bois d'Agland**	**83.87**	**316**	eP	**P**	**06 47 12.6**	**-0.3**
	comp=Z,28nm,1.1s,mb5.0						
RJF	**Les Rejaudoux**	**84.94**	**315**	eP	**P**	**06 47 18.5**	**+0.2**
FLN	**La Foliniere**	**85.82**	**319**	eP	**P**	**06 47 21.9**	**-0.6**
ETSF	**Etsaut**	**86.75**	**313**	eP	**P**	**06 47 27.7**	**+0.4**
IMA	**Indian Mountai**	**91.17**	**22**	eP	**P**	**06 47 49.6**	**+1.9**
	comp=Z,47nm,0.8s,mb5.9						
SPU	**Mount Spurr**	**93.92**	**26**	eP	**P**	**06 48 00.9**	**+0.5**
VNDA	**Vanda**	**94.03**	**168**	eP	**P**	**06 48 02.2**	**+1.6**
MCK	**McKinley**	**94.03**	**23**	eP	**P**	**06 48 01.7**	**+0.9**
SLKM	**Skilak Lake**	**95.03**	**26**	eP	**P**	**06 48 06.1**	**+0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NLU	**North Lily Min**	**126.19**	**24**	*e*PKPdf	PKPdf	06 53 47.2	+2.4
JCT	**Junction City**	**139.04**	**17**	*e*PKPdf	PKPdf	06 54 11.9	+2.7

*MOS **01** 07:34:11.1±2.5, 6.70S×131.54E, h37km, mb5.2/8, Error ellipse: s-maj=22.9km s-min=11.2km az=115.6*
*DJA **01** 07:34:33.5±1.1, 8.77S×131.23E, h307km±28km, mb5.0/4, Error ellipse: s-maj=807.7km s-min=45.5km az=177.0*
ISC 01 07:34:11.4±1.2, **6.74S**±0.04×**131.66E**±0.07, **h35**km±12km, **n91**, σ1§**26**/78, **mb5.3**/22, **MS5.6**/1, **14C-3D, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.98**	**173**	⇓*i*P	**P**	**07 35 42.8**	**+3.0**
	345nm,0.3s						
KAKA				*e*S	**S**	**07 36 47.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**12.72**	**207**	⇑*i*P	**P**	**07 37 10.9**	**-1.9**
	554nm,0.4s						
FITZ				*e*S	**S**	**07 39 25.5**	**-8.7**
WRAB	**Tennant Creek**	**13.37**	**169**	⇑*i*P	**P**	**07 37 18.9**	**-2.4**
WB2	**Warramunga Arr**	**13.38**	**169**	⇑*i*P	**P**	**07 37 20.2**	**-1.3**
WB2				*e*S	**S**	**07 39 41.3**	**-8.6**
KEDI	**Kedomdong**	**15.50**	**263**	⇑*e*P	**P**	**07 37 52.5**	**+3.2**
	151nm,0.3s						
PMG	**Port Moresby**	**15.58**	**101**	*i* P	**P**	**07 37 54.3**	**+4.0**
BUKP	**Musuan**	**15.94**	**336**	*e*P	**P**	**07 37 53.0**	**-2.0**
RATI	**Rata**	**16.10**	**262**	⇑*e*P	**P**	**07 37 58.6**	**+1.7**
	394nm,0.4s						
RATI				*e*S	**S**	**07 40 41.8**	**-12**
PAGZ	**Pagadian**	**16.68**	**330**	*e*P	**P**	**07 38 05.1**	**+0.8**
ASPA	**Alice Springs**	**16.97**	**173**	*e*P	**P**	**07 38 07.8**	**0.0**
ASPA				*e*S	**S**	**07 41 04.4**	**-10**
IPIL	**Ipil**	**17.04**	**328**	*e*P	**P**	**07 38 07.7**	**-1.1**
KELI	**Kelakatan**	**17.08**	**264**	⇑*e*P	**P**	**07 38 09.6**	**+0.3**
	202nm,0.9s						
SRDI	**Scrawed**	**17.45**	**263**	⇑*e*P	**P**	**07 38 12.9**	**-1.0**
	171nm,0.2s						
SRDI				*e*S	**S**	**07 41 10.2**	**-15**
SNPH	**Sibulan**	**18.05**	**332**	*e*P	**P**	**07 38 22.0**	**+0.6**
MSLP	**Maasin**	**18.08**	**338**	*e*P	**P**	**07 38 23.8**	**+2.0**
OCLP	**Ormoc**	**19.02**	**338**	*e*P	**P**	**07 38 33.3**	**+0.1**
CTA	**Charters Tower**	**19.41**	**135**	⇑*i*P	**P**	**07 38 42.9**	**+5.3**
	22nm,1.0s						
CTA				*e*S	**S**	**07 42 09.0**	**-0.3**
GUIM	**Jordan**	**19.47**	**332**	*e*P	**P**	**07 38 37.8**	**-0.5**
CUYO	**Cuyo Island**	**20.43**	**329**	*e*P	**P**	**07 38 47.0**	**-1.6**
BATP	**Bataraza**	**20.71**	**318**	*e*P	**P**	**07 38 51.0**	**-0.5**
PPR	**Puerto Princes**	**20.86**	**322**	*e*P	**P**	**07 38 53.8**	**+0.8**
OTRP	**Odiongan**	**21.26**	**333**	*e*P	**P**	**07 38 56.9**	**-0.2**
ENPP	**El Nido**	**21.59**	**326**	*e*P	**P**	**07 39 00.4**	**+0.1**
SJMP	**San Jose**	**21.76**	**331**	*e*P	**P**	**07 39 02.1**	**0.0**
LUBP	**Lubang**	**23.28**	**331**	*e*P	**P**	**07 39 18.3**	**+1.1**
STKA	**Stephens Creek**	**26.67**	**161**	⇓*i*P	**P**	**07 39 52.5**	**+3.2**
	34nm,1.4s,mb4.7						
STKA				*e*S		07 44 51.1	
KLBR	**Kellerberrin**	**27.93**	**206**	⇓*i*P	**P**	**07 40 02.8**	**+2.0**
	30nm,0.7s,mb5.0						
MUN	**Mundaring**	**28.95**	**208**	*e*P	**P**	**07 40 12.4**	**+2.5**
	4.3nm,0.4s,mb4.5						
MUN				*e*S	tx	07 45 44.4	
TOO	**Toolangi**	**33.17**	**160**	*e*P	**P**	**07 40 51.8**	**+4.8**
	11nm,0.8s,mb4.8						
KKTK	**Khon Kaen**	**36.60**	**309**	P	**P**	**07 41 17.0**	**+0.5**
	1µm,0.5s						
NST	**Nakhon Sawan**	**38.35**	**306**	P	**P**	**07 41 31.0**	**-0.1**
NANT	**Nan**	**39.69**	**310**	⇑P	**P**	**07 41 42.5**	**+0.2**
	185nm,0.7s,mb5.9						
CMAR	**Chiang Mai Arr**	**40.84**	**308**	*i* P	**P**	**07 41 51.8**	**0.0**
CMAR				pmax	pmax		
	comp=Z,19nm,0.9s						
CHG	**Chiang Mai**	**41.05**	**309**	⇑P	**P**	**07 41 53.5**	**0.0**
	comp=Z,50nm,0.8s,mb5.2						
SHL	**Shillong**	**50.25**	**311**	*e*	**P**	**07 43 06.5**	**-0.2**
SHL	**Shillong**	**50.25**	**311**	*e*P	**P**	**07 43 06.5**	**-0.2**
VIS	**Vishakhapatnam**	**53.55**	**298**	*e*	**P**	**07 43 31.1**	**-0.4**
VIS				*e*		07 43 32.5	
	comp=Z,38nm,0.7s						
VIS				*e*S	tx	07 47 23.8	
YSS	**Yuzh-Sakhalins**	**54.36**	**9**	*e*P	**P**	**07 43 36.3**	**-0.8**
YSS				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
GUN	**Gumba**	**56.03**	**310**	*e*P	**P**	**07 43 49.1**	**-0.4**
	comp=Z,130nm,0.6s,mb6.1						
PKI	**Pulchoki**	**56.22**	**310**	*e*P	**P**	**07 43 50.0**	**-0.8**
	comp=Z,42nm,0.7s,mb5.6						
KKN	**Kakani**	**56.43**	**310**	*e*P	**P**	**07 43 51.6**	**-0.7**
	comp=Z,130nm,0.9s,mb5.9						
DMN	**Daman**	**56.47**	**309**	*e*P	**P**	**07 43 51.7**	**-0.9**
	comp=Z,147nm,0.9s,mb6.0						
TRD	**Trivandrum**	**56.59**	**285**	*e*	**P**	**07 43 53.3**	**-0.4**
TRD				*e*		07 43 56.0	
	comp=Z,53nm,1.4s						
GKN	**Gorkha**	**57.03**	**310**	*e*P	**P**	**07 43 56.0**	**-0.6**
	comp=Z,81nm,0.5s,mb6.0						
HYB	**Hyderabad**	**57.68**	**295**	*e*P	**P**	**07 43 59.5**	**-1.8**
KOLN	**Koldanda**	**57.71**	**309**	*e*P	**P**	**07 44 01.0**	**-0.4**
	comp=Z,158nm,0.9s,mb6.0						
ULN	**Ulaanbaatar**	**58.55**	**341**	⇑*i*P	**P**	**07 44 02.9**	**-4.0**
BHPL	**Bhopal**	**60.78**	**301**	*e*P	**P**	**07 44 21.0**	**-1.6**
BHPL				*e*		07 44 23.1	
	comp=Z,23nm,0.6s						
ZAK	**Zakamensk**	**61.97**	**340**	*e*P	**P**	**07 44 29.9**	**-0.4**
POO	**Poona**	**62.27**	**295**	*e*P	**P**	**07 44 32.0**	**-0.8**
TLY	**Talaya**	**62.96**	**341**	*e*P	**P**	**07 44 32.5**	**-4.4**
TLY				pmax	pmax		
	comp=Z,21nm,1.7s,mb5.0						
IRK	**Irkutsk**	**63.24**	**342**	*e*P	**P**	**07 44 38.0**	**-0.7**
MOY	**Mondy**	**63.84**	**339**	*e*P	**P**	**07 44 43.7**	**+1.0**
BOD	**Bodaibo**	**65.92**	**350**	*e*P	**P**	**07 44 55.7**	**-0.3**
YAK	**Yakutsk**	**68.58**	**359**	*e*P	**P**	**07 45 09.4**	**-3.2**
YAK				pmax	pmax		
	comp=Z,77nm,0.9s,mb5.6						
MK02	**Makanchi Array**	**68.90**	**326**	P	**P**	**07 45 15.5**	**+0.7**
MK02				pmax	pmax		
	comp=Z,80nm,0.8s,mb5.7						
TKM2	**Tokmak 2**	**70.84**	**320**	P	**P**	**07 45 27.9**	**+1.2**
	SNR=45						
UCH	**Uchtor**	**71.21**	**319**	P	**P**	**07 45 31.0**	**+2.0**
	SNR=70						
AAK	**Ala-Archa**	**71.41**	**319**	P	**P**	**07 45 31.8**	**+1.6**
	SNR=27						
AAK	**Ala-Archa**	**71.41**	**319**	⇑*i*P	**P**	**07 45 25.6**	**-4.6**
AAK				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.4						
CHMS	**Chumysh**	**71.42**	**320**	P	**P**	**07 45 30.9**	**+0.7**
	SNR=18						
FRU	**Bishkek**	**71.43**	**319**	*e*P	**P**	**07 45 31.5**	**+1.2**
AML	**Almayashu**	**71.70**	**318**	P	**P**	**07 45 33.8**	**+1.9**
	SNR=55						
USP	**Ospenovka**	**71.71**	**320**	P	**P**	**07 45 33.0**	**+1.1**
	SNR=62						
EKS2	**Erkin-Say**	**71.89**	**319**	P	**P**	**07 45 34.7**	**+1.7**
	SNR=36						
NVS	**Novosibirsk**	**73.37**	**333**	*i* P	**P**	**07 45 40.9**	**-0.7**
NVS				*e*		07 46 00.4	
NVS				pmax	pmax		
	comp=Z,55nm,1.5s,mb5.3						
NVS				pmax	pmax		
	comp=E,29nm,1.4s						
NVS				pmax	pmax		
	comp=N,30nm,1.5s						
TIXI	**Tiksi**	**78.25**	**359**	⇑*i*P	**P**	**07 46 06.6**	**-2.4**
TIXI				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
BILL	**Bilibino**	**78.50**	**13**	*e*P	**P**	**07 46 08.0**	**-2.4**
BILL				pmax	pmax		
	comp=Z,13nm,1.9s,mb4.5						
SVE	**Sverdlovsk**	**85.40**	**329**	*e*P	**P**	**07 46 48.0**	**+1.6**
SVE				pmax	pmax		
	comp=Z,110nm,2.0s,mb5.6						
SVE				MLR	MLR		
	comp=Z,2µm,15.0s,MS5.6						
ARU	**Arti**	**86.36**	**328**	⇑*i*P	**P**	**07 46 47.3**	**-3.8**
ARU				*i*		07 50 08.9	
ARU				*e*S	S	07 57 11.3	-11
ARU				*e*SS	SS	08 03 01.3	-4.8
ARU				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.1						
KMBO	**Kilima Mbogo**	**94.24**	**268**	*i* P	**P**	**07 47 32.6**	**+3.5**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HINF	**Hinteralfeld**	**117.92**	**321**	*e*PKIKP	PKPdf	07 52 57.3	+2.7
	comp=Z,9.6nm,0.9s						
HAU	**Haudompre**	**118.16**	**322**	*e*PKIKP	PKPdf	07 52 58.0	+2.9
LPG	**La Plagne**	**118.86**	**319**	*e*PKIKP	PKPdf	07 53 00.0	+3.5
	comp=Z,5.7nm,0.5s						
LPL	**La Plagne**	**118.86**	**319**	*e*PKIKP	PKPdf	07 52 59.9	+3.3
	comp=Z,8.1nm,0.7s						
CABF	**La Chapelle**	**118.86**	**320**	*e*PKIKP	PKPdf	07 52 59.9	+3.4
	comp=Z,10nm,0.7s						
MBDF	**Montbardon**	**119.12**	**318**	*e*PKIKP	PKPdf	07 52 59.8	+2.7
	comp=Z,9.9nm,0.9s						
FRF	**La Foret Royal**	**119.62**	**317**	*e*PKIKP	PKPdf	07 53 01.0	+2.9
ORIF	**Oris-en-Rattie**	**119.64**	**318**	*e*PKIKP	PKPdf	07 53 01.1	+3.0
	comp=Z,3.7nm,0.6s						
SMRF	**Simiane la Rot**	**120.20**	**318**	*e*PKIKP	PKPdf	07 53 02.6	+3.4
SMF	**Signal de Mont**	**120.27**	**321**	*e*PKIKP	PKPdf	07 53 02.0	+2.7
SSF	**Saint Saulge**	**120.30**	**321**	*e*PKIKP	PKPdf	07 53 02.4	+3.0
	comp=Z,8.3nm,0.8s						
VIVF	**Saint-Julien-l**	**120.46**	**319**	*e*PKIKP	PKPdf	07 53 02.6	+2.9
	comp=Z,9.5nm,0.8s						
AVF	**Avril sur Loir**	**120.51**	**321**	*e*PKIKP	PKPdf	07 53 02.5	+2.7
	comp=Z,1.3nm,0.4s						
BGF	**Bois d'Agland**	**120.93**	**321**	*e*PKIKP	PKPdf	07 53 03.8	+3.2
	comp=Z,20nm,1.0s						
LASF	**Ste Croix**	**121.30**	**318**	*e*PKIKP	PKPdf	07 53 04.5	+3.2
TCF	**Toulx Ste Croi**	**121.44**	**321**	*e*PKIKP	PKPdf	07 53 04.7	+3.2
MTLF	**Montolieu**	**122.69**	**318**	*e*PKIKP	PKPdf	07 53 06.9	+2.8
	comp=Z,15nm,1.0s						
MFF	**Saint Martin d**	**122.75**	**322**	*e*PKIKP	PKPdf	07 53 07.1	+3.0
	comp=Z,9.3nm,0.7s						
SGMF	**Saint Gilles**	**123.34**	**325**	*e*PKIKP	PKPdf	07 53 08.0	+2.8
EPF	**Esparros**	**124.06**	**318**	*e*PKIKP	PKPdf	07 53 09.8	+3.1

*NEIC **01** 07:45:14.9, 17.90N×68.14W, h80km, MD3.7(RSPR), After RSPR.*
RSPR 01 07:45:14.9, 17.90N×**68.14W, h80**km±2km, **MD3.6**/15, **9C-7D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPR	**Mayaguez**	**1.00**	**72**	⇑*e*P	P	07 45 33.1	-1.1
MPR				*e*S	S	07 45 47.3	-1.4
MGP	**Maguayo**	**1.00**	**84**	⇑*i*P	P	07 45 33.5	-0.8
MGP				*e*S	S	07 45 48.2	-0.6
MGP	**Maguayo**	**1.00**	**84**	⇓*e*P	P	07 45 33.5	-0.8
MGP	**Maguayo**	**1.00**	**84**	*e*S	S	07 45 47.9	-0.9
MGP	**Maguayo**	**1.00**	**84**	⇓*e*P	P	07 45 33.5	-0.8
MGP				*e*S	S	07 45 47.9	-0.9
LSP	**Las Mesas**	**1.04**	**75**	⇑*e*P	P	07 45 33.9	-0.8
LRS	**Lares**	**1.29**	**72**	⇑*e*P	P	07 45 37.0	-0.9
AOPR	**Arecibo Observ**	**1.39**	**71**	⇓*e*P	P	07 45 37.9	-1.5
AOPR				*e*S	S	07 45 56.8	-0.6
PORP	**Portuguez**	**1.44**	**84**	⇑*e*P	P	07 45 39.3	-0.6
PORP				*e*S	S	07 45 56.9	-1.5
CELP	**Cerrillos**	**1.49**	**83**	⇓*e*P	P	07 45 39.9	-0.8
CELP				*e*S	S	07 45 58.7	-1.0
SJG	**San Juan**	**1.90**	**83**	⇓*e*P	P	07 45 45.2	-0.9
SJG				*e*S	S	07 46 08.6	-0.4
SJG	**San Juan**	**1.90**	**83**	⇑*e*P	P	07 45 44.7	-1.4
SJG	**San Juan**	**1.90**	**83**	*e*S	S	07 46 09.0	0.0
SJG	**San Juan**	**1.90**	**83**	⇑*e*P	P	07 45 44.7	-1.4
SJG				*e*S	S	07 46 09.0	0.0
CSB	**Colonia Sabana**	**1.93**	**78**	⇓*e*P	P	07 45 45.0	-1.4
CSB				*e*S	S	07 46 08.7	-0.9
CPD	**Cerro la Pandu**	**2.12**	**86**	⇑*e*P	P	07 45 47.9	-1.2
CPD				*e*S	S	07 46 13.3	-1.1
HUMP	**Col San Antoni**	**2.19**	**83**	⇑*e*P	P	07 45 48.8	-1.3
HUMP				*e*S	S	07 46 15.1	-1.0
CBYP	**Canovanas**	**2.20**	**80**	⇓*e*P	P	07 45 49.1	-1.2
CBYP				*e*S	S	07 46 15.6	-0.8
MTP	**Monte Pirata**	**2.46**	**85**	⇑*e*P	P	07 45 53.3	-0.7
MTP				*e*S	S	07 46 22.3	-0.7

ISC 01 08:30:34.3±2.0, **7.9S**±0.1×**128.7E**±0.1, **h100**km, **n6**, σ1§**01**/10, **mb4.2**/2, **2D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.03**	**142**	⇓*i*P	**P**	**08 32 02.5**	**+0.1**
	50nm,0.4s						
KAKA				*e*S	**S**	**08 33 10.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**10.52**	**196**	*e*P	**P**	**08 33 05.0**	**+1.5**
	23nm,0.8s						
FITZ				*e*S	**S**	**08 34 59.3**	**-0.7**
WB2	**Warramunga Arr**	**13.15**	**156**	*e*P	**P**	**08 33 35.5**	**-2.8**
WB2				*e*S	**S**	**08 35 57.4**	**-5.1**
ASPA	**Alice Springs**	**16.43**	**163**	*e*P	**P**	**08 34 21.3**	**+1.1**
ASPA				*e*S	**S**	**08 37 19.0**	**+0.4**
KLBR	**Kellerberrin**	**25.63**	**202**	⇓*i*P	**P**	**08 35 56.1**	**-0.2**
	5.5nm,0.5s,mb4.2						
MUN	**Mundaring**	**26.58**	**204**	*e*P	**P**	**08 36 04.5**	**-0.5**
	6.1nm,0.9s,mb4.1						

*MOS **01** 08:50:38.8±1.2, 8.90N×94.15E, h32km, mb4.9/15, Error ellipse: s-maj=17.8km s-min=8.8km az=113.8*
*BJI **01** 08:50:41.2, 8.69N×93.85E, h54km, mB5.4, mb4.9, Ms4.5, Msz4.4*
*NEIC **01** 08:50:43.0±0.4, 9.19N×93.60E, mb4.8/20, Error ellipse: s-maj=11.9km s-min=10.1km az=111.0*
ISC 01 08:50:38.8±0.5, **8.87N**±0.07×**94.04E**±0.05, **h29**km, **h29**km±1.6km**:pP-P, n95,** σ1§**09**/99, **mb4.8**/34, **MS4.3**/1, **7C-2D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**9.01**	**41**	P	**P**	**08 52 50.0**	**-0.1**
CM31	**Chiang Mai Arr**	**10.65**	**26**	*e*P	**P**	**08 53 14.0**	**+1.1**
	3.0nm,0.4s						
CHG	**Chiang Mai**	**10.97**	**25**	⇑P	**P**	**08 53 32.6**	**+15**
	18nm,1.2s						
NANT	**Nan**	**11.80**	**33**	P	**P**	**08 53 31.2**	**+2.8**
VIS	**Vishakhapatnam**	**13.63**	**311**	*e*P	**P**	**08 53 51.9**	**-1.0**
VIS				*e*S	**S**	**08 56 13.7**	**-11**
VIS				*e*		08 56 21.4	
	comp=E,32nm,0.2s						
VIS				*e*		08 56 21.4	
	comp=N,29nm,0.4s						
MDRS	**Chennai**	**14.16**	**288**	*e*	**P**	**08 53 51.0**	**-8.9**
SHL	**Shillong**	**16.73**	**353**	*e*P	**P**	**08 54 32.0**	**-1.0**
SHL				*e*S	**S**	**08 57 43.0**	**+6.1**
HYB	**Hyderabad**	**17.29**	**301**	*i* P	**P**	**08 54 43.0**	**+2.9**
HYB				*e*S	**S**	**08 57 49.5**	**-0.3**
PKI	**Pulchoki**	**20.31**	**337**	*e*P	**P**	**08 55 15.3**	**-0.1**
	comp=N,249nm,1.2s						
GUN	**Gumba**	**20.44**	**339**	*e*P	**P**	**08 55 16.8**	**0.0**
	comp=N,237nm,0.9s						
DMN	**Daman**	**20.46**	**337**	*e*P	**P**	**08 55 16.8**	**-0.2**
	comp=N,98nm,0.9s						
KKN	**Kakani**	**20.55**	**337**	*e*P	**P**	**08 55 17.9**	**-0.1**
	comp=N,193nm,1.0s						
LSA	**Lhasa**	**20.90**	**353**	*e*P	**P**	**08 55 21.5**	**0.0**
LSA	**Lhasa**	**20.90**	**353**	*e*P	**P**	**08 55 21.4**	**0.0**
	comp=N,67nm,1.0s						
GKN	**Gorkha**	**20.99**	**336**	*e*P	**P**	**08 55 22.5**	**0.0**
	comp=N,225nm,0.8s						
KAD	**Karad**	**21.06**	**295**	*e*	**P**	**08 55 36.0**	**+13**
KOLN	**Koldanda**	**21.22**	**334**	*e*P	**P**	**08 55 25.3**	**+0.5**
	comp=N,142nm,0.9s,mb5.3						
BHPL	**Bhopal**	**21.39**	**314**	*e*	**P**	**08 55 34.6**	**+8.1**
BHPL				*e*		08 55 36.8	
	comp=Z,32nm,1.1s						
POO	**Poona**	**21.81**	**298**	*e*	**P**	**08 55 25.7**	**-5.1**
	comp=Z,25nm,1.3s,mb4.5						
POO				*e*P		08 55 30.0	
PTH	**Pithoragarh**	**24.31**	**330**	*e*P	**P**	**08 55 57.0**	**+1.7**
ENH	**Enshi**	**25.73**	**32**	*e*P	**P**	**08 56 09.0**	**+0.3**
	comp=Z,38nm,1.3s,mb4.8						
DDI	**Dehra Dun**	**26.05**	**327**	*e*P	**P**	**08 56 12.5**	**+0.8**
LZH	**Lanzhou**	**28.53**	**17**	⇓P	**P**	**08 56 34.5**	**+0.3**
LZH				AP	pP	08 56 48.2	+5.6
LZH				PP	PP	08 57 33.1	+6.7
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,103nm,4.7s						
LZH				LR	LR		
	comp=N,456nm,13.3s						
LZH				LR	LR		
	comp=Z,638nm,17.6s,MS4.3						
XAN	**Xi'an**	**28.55**	**27**	P	**P**	**08 56 34.0**	**-0.4**
XAN				AMB	AMB		
	comp=Z,24nm,1.2s,mb4.8						
WHN	**Wuhan**	**28.72**	**39**	P	**P**	**08 56 35.9**	**-0.1**
WMQ	**Urumqi**	**35.25**	**352**	P	**P**	**08 57 34.2**	**+1.1**
BJT	**Baijiatuau**	**36.76**	**29**	*e*P	**P**	**08 57 48.2**	**+2.4**
	comp=Z,35nm,0.9s,mb5.2						
UCH	**Uchtor**	**37.41**	**336**	P	**P**	**08 57 51.7**	**+0.5**
	SNR=12						
AML	**Almayashu**	**37.66**	**335**	P	**P**	**08 57 54.5**	**+1.2**
	SNR=16						
AAK	**Ala-Archa**	**37.75**	**336**	P	**P**	**08 57 55.6**	**+1.4**
	SNR=11						
AAK	**Ala-Archa**	**37.75**	**336**	⇑*i*P	**P**	**08 57 52.0**	**-2.1**
AAK				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
AAK	**Ala-Archa**	**37.75**	**336**	*e*P	**P**	**08 57 53.9**	**-0.2**
	comp=Z,27nm,1.0s,mb4.9						
CHMS	**Chumysh**	**37.96**	**337**	P	**P**	**08 57 56.1**	**+0.2**
	SNR=8.6						
EKS2	**Erkin-Say**	**38.07**	**336**	P	**P**	**08 57 57.8**	**+1.0**
	SNR=9.6						
USP	**Ospenovka**	**38.28**	**337**	P	**P**	**08 57 59.0**	**+0.4**
	SNR=18						
MK02	**Makanchi Array**	**39.07**	**347**	P	**P**	**08 58 05.1**	**0.0**
MK02				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**40.40**	**14**	⇓*i*P	**P**	**08 58 15.2**	**-0.9**
ZAK	**Zakamensk**	**42.09**	**9**	*e*P	**P**	**08 58 30.3**	**+0.4**
HIA	**Hailar**	**45.65**	**23**	*e*P	**P**	**08 58 59.9**	**+1.2**
	comp=Z,43nm,1.5s,mb5.2						
NVS	**Novosibirsk**	**46.65**	**351**	*i* P	**P**	**08 59 05.5**	**-1.0**
NVS				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
NVS				pmax	pmax		
	comp=E,8.0nm,1.3s						
NVS				pmax	pmax		
	comp=N,22nm,1.4s						
NWAO	**Narrogin (SRO)**	**47.08**	**153**	*e*P	**P**	**08 59 17.6**	**+7.4**
	comp=N,41nm,1.0s,mb5.3						
BRVK	**Borovoye**	**48.08**	**341**	*e*P	**P**	**08 59 16.8**	**-1.0**
	comp=N,7.6nm,1.1s,mb4.6						
WRAB	**Tennant Creek**	**48.93**	**126**	*e*P	**P**	**08 59 22.8**	**-2.0**
WRAB	**Tennant Creek**	**48.93**	**126**	*e*P	**P**	**08 59 24.1**	**-0.7**
	comp=N,11nm,0.8s,mb4.9						
BOD	**Bodaibo**	**51.21**	**14**	*e*P	**P**	**08 59 39.5**	**-2.2**
GNI	**Garni**	**53.67**	**314**	*e*P	**P**	**09 00 02.3**	**+1.9**
SVE	**Sverdlovsk**	**54.44**	**338**	*e*P	**P**	**09 00 05.0**	**-0.8**
SVE				pmax	pmax		
	comp=Z,50nm,2.0s,mb5.1						
ARU	**Arti**	**54.94**	**337**	⇑*i*P	**P**	**09 00 04.2**	**-5.3**
ARU				*e*		09 01 03.8	
ARU				*e*S	**S**	**09 07 43.0**	**-4.4**
ARU				*e*SS	SS	09 11 26.5	-4.3
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
YSS	**Yuzh-Sakhalins**	**56.06**	**38**	⇑*e*P	**P**	**09 00 18.9**	**+1.2**
YSS				*e*	pP	09 00 29.0	+2.5
YSS				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
YSS	**Yuzh-Sakhalins**	**56.06**	**38**	*e*P	**P**	**09 00 18.6**	**+0.9**
GOF	**Gofitskoye**	**56.71**	**319**	*e*P	**P**	**09 00 21.0**	**-1.4**
KMBO	**Kilima Mbogo**	**57.44**	**263**	*i* P	**P**	**09 00 29.3**	**+1.3**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MALT	**Malatya**	**57.74**	**310**	P	**P**	**09 00 24.5**	**-5.3**
	comp=Z,4.1nm,1.1s,mb4.4						
SOC	**Sochi**	**58.39**	**316**	*e*P	**P**	**09 00 26.7**	**-7.5**
SOC				*e*		09 01 18.8	
SOC				*e*S	**S**	**09 08 29.1**	**-4.3**
SOC				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
SOC				pmax	pmax		
	comp=N,4.0nm,0.9s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK	**Yakutsk**	**59.09**	**19**	*e*P	**P**	**09 00 36.0**	**-2.8**
YAK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**60.87**	**134**	*e*P	**P**	**09 00 57.7**	**+6.3**
OBN	**Obninsk**	**64.48**	**328**	⇑*i*P	**P**	**09 01 12.4**	**-2.7**
OBN				pmax	pmax		
	comp=Z,34nm,2.2s,mb5.0						
MA2	**Magadan**	**65.93**	**28**	*e*P	**P**	**09 01 22.4**	**-1.9**
MA2				pmax	pmax		
	comp=Z,50nm,2.4s,mb5.1						
TIXI	**Tiksi**	**66.28**	**11**	⇑*i*P	**P**	**09 01 25.5**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
JOF	**Joensuu**	**69.91**	**334**	*e*p	**P**	**09 01 47.7**	**-1.4**
	comp=Z,7.6nm,0.8s,mb4.7						
JOF	**Joensuu**	**69.91**	**334**	*e*P	**P**	**09 01 47.7**	**-1.4**
JOF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
KOLS	**Kolonicke sedl**	**71.39**	**319**	*e*P	**P**	**09 01 56.8**	**-1.6**
FINES	**FINESS Array B**	**71.79**	**332**	*i* P	**P**	**09 01 59.8**	**-0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KAF	**Kangasniemi**	**71.86**	**333**	*e*p	**P**	**09 01 59.2**	**-1.7**
	comp=Z,4.5nm,0.7s,mb4.5						
KAF	**Kangasniemi**	**71.86**	**333**	*e*P	**P**	**09 01 59.2**	**-1.7**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
CRVS	**Cervenica-Dubn**	**71.92**	**319**	*i* P	**P**	**09 02 01.6**	**+0.1**
OJC	**Ojcow**	**73.15**	**320**	*e*P	**P**	**09 02 08.0**	**-0.8**
OJC	**Ojcow**	**73.15**	**320**	*e*P	**P**	**09 02 08.0**	**-0.8**
VYHS	**Vyhne**	**73.60**	**318**	*e*P	**P**	**09 02 10.7**	**-0.7**
OKC	**Ostrava-Krasne**	**74.17**	**319**	*e*P	**P**	**09 02 14.4**	**-0.3**
LBTB	**Lobatse**	**74.63**	**241**	*e*P	**P**	**09 02 19.1**	**+1.2**
	comp=Z,11nm,0.9s,mb4.8						
ZST	**Bratislava**	**74.73**	**317**	*i* P	**P**	**09 02 17.4**	**-0.6**
BILL	**Bilibino**	**75.20**	**22**	⇑*i*P	**P**	**09 02 19.1**	**-1.2**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
DPC	**Dobruska-Polom**	**75.38**	**320**	*e*P	**P**	**09 02 21.8**	**+0.1**
DPC				*e*pP	pP	09 02 31.1	+0.4
UPC	**Upice**	**75.59**	**320**	*e*P	**P**	**09 02 17.6**	**-5.2**
BOSA	**Boshof**	**76.03**	**238**	*e*P	**P**	**09 02 26.6**	**+0.9**
	comp=Z,10nm,0.9s,mb4.8						
BOSA				*e*pP	pP	09 02 35.0	+0.2
PRU	**Pruhonice**	**76.51**	**319**	*e*P	**P**	**09 02 27.7**	**-0.3**
BRG	**Berggiesshubel**	**76.92**	**320**	*i* P	**P**	**09 02 30.7**	**+0.4**
BRG				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
BRG	**Berggiesshubel**	**76.92**	**320**	*i* P	**P**	**09 02 30.7**	**+0.4**
	comp=Z,2.2nm,1.0s,mb4.0						
GEC2	**GERESS Array S**	**77.02**	**318**	*e*P	**P**	**09 02 31.1**	**+0.2**
GEC2				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
GEC2	**GERESS Array S**	**77.02**	**318**	*e*P	**P**	**09 02 31.1**	**+0.2**
	comp=Z,5.0nm,0.9s,mb4.4						
KHC	**Kasperske Hory**	**77.11**	**318**	*e*P	**P**	**09 02 31.3**	**-0.1**
KHC				*e*pP	pP	09 02 38.6	-1.8
CLL	**Collm**	**77.53**	**321**	*e*P	**P**	**09 02 36.0**	**+2.4**
CLL	**Collm**	**77.53**	**321**	P	**P**	**09 02 36.0**	**+2.4**
WET	**Wettzell**	**77.57**	**318**	*e*P	**P**	**09 02 33.9**	**0.0**
GRA1	**Grafenberg Arr**	**78.65**	**319**	*e*P	**P**	**09 02 40.5**	**+0.7**
	comp=Z,8.0nm,1.0s,mb4.6						
GRA1				*e*pP	pP	09 02 49.4	+0.5
GRF	**Grafenberg Arr**	**78.65**	**319**	*e*P	**P**	**09 02 40.5**	**+0.7**
GRF				*e**PP	pP	09 02 49.4	+0.5
GRF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
GRF	**Grafenberg Arr**	**78.65**	**319**	*e*P	**P**	**09 02 40.5**	**+0.7**
	comp=Z,8.0nm,1.0s,mb4.6						
GRF				*e*pP	pP	09 02 49.4	+0.5
NB2	**NORSAR Subarra**	**78.82**	**331**	P	**P**	**09 02 39.8**	**-0.7**
	comp=Z,1.5nm,0.6s,mb4.1,baz=95,slow=5.0						
BSEG	**Bad Segeberg**	**79.19**	**323**	*e*P	**P**	**09 02 43.1**	**+0.4**
BFO	**Black Forest**	**80.59**	**318**	*e*P	**P**	**09 02 50.2**	**-0.1**
BFO				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BFO	**Black Forest**	**80.59**	**318**	*e*P	**P**	**09 02 50.2**	**-0.1**
	comp=Z,2.0nm,0.9s,mb4.0						
LPG	**La Plagne**	**81.84**	**315**	*e*P	**P**	**09 02 57.1**	**+0.2**
	comp=Z,18nm,0.7s,mb4.8						
IMA	**Indian Mountai**	**90.74**	**22**	*e*P	**P**	**09 03 42.4**	**+2.2**
	comp=Z,29nm,1.4s,mb5.4						
MSU	**Marysvale**	**126.91**	**26**	*e*PKPdf	PKPdf	09 09 44.1	-1.5

*NEIC **01** 09:56:01.1, 15.82N×61.49W, h20km, MD3.5(TRN), After TRN.*
TRN 01 09:56:01.3, 15.86N×**61.50W, h3**km, **MD3.4, M2.9**(FDF), **Md3.0**(FDF), **3C-5D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCG	**Saint Claude**	**0.24**	**314**	*e*P	Pg	09 56 06.3	+0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBL	**Barber's Block**	**0.33**	**175**	⇓*i*P	Pg	09 56 07.7	-0.3
BBL				*i* S	Sg	09 56 12.7	+0.2
BBL	**Barber's Block**	**0.33**	**175**	⇓*i*P	Pg	09 56 06.7	-1.4
BBL	**Barber's Block**	**0.33**	**175**	⇓*i*P	Pg	09 56 07.7	-0.3
BBL				*i* S	Sg	09 56 12.7	+0.2
DWS	**Wesley**	**0.34**	**148**	⇑*i*P	Pg	09 56 07.8	-0.4
DWS				*e*S	Sg	09 56 12.8	0.0
SEG	**Port Louis**	**0.54**	**360**	⇑*e*P	Pg	09 56 11.8	-0.3
MDN	**Morne-Daniel**	**0.55**	**169**	*e*P	Pg	09 56 11.6	-0.8
MDN				*e*S	Sg	09 56 18.5	-1.2
DBCT	**Belle View Cho**	**0.61**	**165**	*e*P	Pg	09 56 12.7	-0.8
DEG	**La Desirade**	**0.62**	**43**	*e*P	Pg	09 56 11.8	-1.9
DSTT	**Stowe**	**0.64**	**162**	*e*P	Pg	09 56 13.0	-1.1
DSTT				*e*S	Sg	09 56 21.6	-1.1
DSHT	**Scott's Head**	**0.66**	**169**	*e*P	Pg	09 56 13.6	-0.9
DSHT				*e*S	Sg	09 56 22.6	-0.6
FDF	**Fort de France**	**1.17**	**163**	⇑*e*P	Pb	09 56 20.6	-3.2
FDF				*e*S	Sb	09 56 36.1	-3.2
BPA	**Boggy Peak**	**1.23**	**344**	*e*P	Pb	09 56 23.7	-1.2
BPA				*e*S	Sb	09 56 40.4	-0.5
CRM	**Caravelle**	**1.24**	**153**	⇓*e*P	Pb	09 56 21.2	-3.9
CRM				*e*S	Sb	09 56 37.4	-3.9
BIM	**Bigot**	**1.40**	**163**	⇓*i*P	Pb	09 56 24.9	-2.8
CPB	**Codrington**	**1.80**	**350**	*e*P	Pn	09 56 32.0	-1.5
CPB				*e*S	Sn	09 56 54.6	-2.4

*NEIC **01** 09:59:39.7, 15.76N×61.57W, h21km, MD3.7(TRN), After TRN.*

TRN 01 09:59:41.9, 15.84N×61.54W, h6km, MD3.7, M3.2(FDF), **4C-6D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCG	**Saint Claude**	**0.23**	**324**	⇑*e*P	Pg	09 59 46.8	+0.1
BBL	**Barber's Block**	**0.32**	**168**	⇓*i*P	Pg	09 59 47.9	-0.4
BBL				*e*S	Sg	09 59 51.7	-0.9
BBL	**Barber's Block**	**0.32**	**168**	*e*P	Pg	09 59 46.7	-1.6
BBL	**Barber's Block**	**0.32**	**168**	⇓*i*P	Pg	09 59 47.9	-0.4
BBL				*e*S	Sg	09 59 51.7	-0.9
DWS	**Wesley**	**0.35**	**141**	⇑*i*P	Pg	09 59 48.2	-0.7
DWS				*e*S	Sg	09 59 54.3	+0.7
MDN	**Morne-Daniel**	**0.54**	**165**	⇓*i*P	Pg	09 59 51.3	-1.4
SEG	**Port Louis**	**0.56**	**3**	⇑*e*P	Pg	09 59 52.1	-1.1
DBCT	**Belle View Cho**	**0.59**	**162**	*e*P	Pg	09 59 52.4	-1.5
DSTT	**Stowe**	**0.63**	**159**	*e*P	Pg	09 59 52.8	-1.8
DSHT	**Scott's Head**	**0.64**	**166**	*e*P	Pg	09 59 53.2	-1.6
DEG	**La Desirade**	**0.66**	**44**	⇑*e*P	Pg	09 59 52.3	-2.8
FDF	**Fort de France**	**1.16**	**161**	⇓*e*P	Pb	10 00 01.3	-2.7
BPA	**Boggy Peak**	**1.24**	**346**	*e*P	Pb	10 00 04.2	-1.2
BPA				*e*S	Sb	10 00 21.8	+0.4
BIM	**Bigot**	**1.39**	**161**	⇓*e*P	Pb	10 00 04.9	-3.0
MVM	**Montagne Vaucl**	**1.42**	**154**	⇓*e*P	Pn	10 00 04.6	-3.7
CPB	**Codrington**	**1.81**	**351**	*e*P	Pn	10 00 12.4	-1.6
CPB				*e*S	Sn	10 00 37.3	-0.2

MAN 01 10:01:25.4, 9.67N×126.53E, h13km, mb4.4, ML3.2, MS3.0, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.03**	**276**	*e*P	Pb	10 01 43.6	-1.0
SCPH				*e*S	Sb	10 01 55.9	-2.0
BUTP	**Butuan**	**1.13**	**232**	*e*P	Pb	10 01 45.0	-1.3
BUTP				*e*S	Sb	10 01 57.4	-3.5
BIPH	**Bislig**	**1.48**	**186**	⇓*e*P	Pn	10 01 50.8	-1.2
BIPH				*e*S	Sb	10 02 08.5	-2.5
MSLP	**Maasin**	**1.71**	**286**	*e*P	Pn	10 01 55.7	+0.5
CGP	**Cagayan de Oro**	**2.17**	**237**	⇑*e*P	Pn	10 02 01.6	-0.3
CGP				*i* S	Sn	10 02 26.1	-2.8
BESP	**Borongan**	**2.20**	**331**	*e*P	Pn	10 02 01.7	-0.6
BUKP	**Musuan**	**2.29**	**219**	*e*P	Pn	10 02 03.8	+0.2
LLP	**Lapu-Lapu**	**2.60**	**285**	*e*P	Pn	10 02 08.5	+0.5
TBP	**Tagbilaran**	**2.63**	**271**	*e*P	Pn	10 02 07.7	-0.7

*CSEM **01** 10:02:36.4±0.1, 38.07N×42.78E, h25km, MD3.8, Error ellipse: s-maj=2.5km s-min=1.7km az=169.0*
*ISK **01** 10:02:36.8, 38.06N×42.74E, h22km, MD3.8, ML3.8*
*NEIC **01** 10:02:37.0, 38.05N×42.75E, h26km, ML3.8(ISK), After ISK.*

ISC 01 10:02:38.0±0.6**, 38.10N**±0.04×**42.74E**±0.06**, h27km**±10km**, n38,** σ**0**§**93**/48**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANT	**Van**	**0.61**	**56**	PG	**Pb**	**10 02 48.7**	**-1.4**
VANT	**Van**	**0.61**	**56**	Pg	**Pb**	**10 02 47.8**	**-2.3**
VANT				Sg	**Sb**	**10 02 57.8**	**-0.6**
TVAN	**Van**	**0.67**	**51**	*i* P	**Pb**	**10 02 50.8**	**-0.3**
TVAN				*i* S	**Sb**	**10 03 01.9**	**+1.8**
VANB	**Van**	**0.71**	**46**	PG	**Pb**	**10 02 51.3**	**-0.4**
VANB	**Van**	**0.71**	**46**	Pg	**Pb**	**10 02 51.4**	**-0.3**
VANB	**Van**	**0.71**	**46**	*e*Pg	**Pb**	**10 02 51.3**	**-0.4**
HKR	**Hakkari**	**0.95**	**123**	PG	**Pn**	**10 02 55.0**	**-0.6**
HKR				SG	**Sb**	**10 03 08.2**	**+0.3**
HKR	**Hakkari**	**0.95**	**123**	*e*Pg	**Pn**	**10 02 55.0**	**-0.6**
HKR				*e*Sg	**Sb**	**10 03 08.2**	**+0.3**
BEST	**Besiri**	**1.18**	**260**	*i* P	**Pn**	**10 02 58.1**	**-0.8**
BEST				*i* S	**Sn**	**10 03 15.4**	**+1.2**
VRT	**Varto**	**1.40**	**318**	PN	**Pn**	**10 03 02.4**	**+0.4**
VRT	**Varto**	**1.40**	**318**	Pn	**Pn**	**10 03 02.6**	**+0.5**
VRT	**Varto**	**1.40**	**318**	*e*Pn	**Pn**	**10 03 02.4**	**+0.4**
MSL	**Mosul**	**1.83**	**171**	*e*Pn	**Pn**	**10 03 10.5**	**+2.3**
MSL				*i* Pb	**Pb**	**10 03 11.0**	**+0.3**
MSL				*i* Pg	**Pn**	**10 03 13.0**	**+4.8**
MSL				*i* Sn	**Sn**	**10 03 33.0**	**+2.3**
MSL				*i* Sg	**Sn**	**10 03 35.0**	**+4.3**
BINT	**Bingol**	**1.93**	**294**	PN	**Pn**	**10 03 09.7**	**+0.1**
BINT	**Bingol**	**1.93**	**294**	Pn	**Pn**	**10 03 09.7**	**+0.1**
BINT	**Bingol**	**1.93**	**294**	*e*Pn	**Pn**	**10 03 09.7**	**+0.1**
DIY	**Diyarbakir**	**2.00**	**265**	PN	**Pn**	**10 03 09.6**	**-1.0**
DIY	**Diyarbakir**	**2.00**	**265**	Pn	**Pn**	**10 03 09.7**	**-0.9**
DIY	**Diyarbakir**	**2.00**	**265**	Pn	**Pn**	**10 03 09.7**	**-0.9**
ERZM	**Erzurum**	**2.09**	**330**	*i* P	**Pb**	**10 03 15.7**	**+0.6**
ERZM				*i* S	**Sb**	**10 03 44.2**	**+3.2**
EZM	**Erzurum**	**2.10**	**330**	PN	**Pn**	**10 03 12.3**	**+0.3**
KARS	**Kars**	**2.52**	**6**	*e*PN	**Pn**	**10 03 17.8**	**-0.3**
KARS	**Kars**	**2.52**	**6**	Pn	**Pn**	**10 03 17.9**	**-0.2**
GNI	**Garni**	**2.57**	**37**	Pn	**Pn**	**10 03 18.9**	**+0.1**
GNI	**Garni**	**2.57**	**37**	Pn	**Pn**	**10 03 18.9**	**+0.1**
PTK	**Pertek**	**2.74**	**288**	*e*PN	**Pn**	**10 03 21.6**	**+0.3**
PTK	**Pertek**	**2.74**	**288**	*e*Pn	**Pn**	**10 03 21.6**	**+0.3**
URFA	**Urfa**	**3.18**	**259**	*e*PN	**Pn**	**10 03 26.9**	**-0.5**
URFA	**Urfa**	**3.18**	**259**	*e*Pn	**Pn**	**10 03 26.9**	**-0.5**
MALT	**Malatya**	**3.41**	**275**	*e*PN	**Pn**	**10 03 29.5**	**-1.2**
MALT	**Malatya**	**3.41**	**275**	*e*Pn	**Pn**	**10 03 29.5**	**-1.2**
MYA	**Malataya**	**3.41**	**275**	*e*PN	**Pn**	**10 03 30.0**	**-0.7**
MYA	**Malataya**	**3.41**	**275**	*e*Pn	**Pn**	**10 03 30.0**	**-0.7**
GUMT	**Gumushane**	**3.46**	**314**	*e*PN	**Pn**	**10 03 31.9**	**+0.5**
GUMT	**Gumushane**	**3.46**	**314**	*e*Pn	**Pn**	**10 03 31.9**	**+0.5**
GAZ	**Gaziantep**	**4.49**	**260**	*e*PN	**Pn**	**10 03 45.4**	**-0.6**
GAZ	**Gaziantep**	**4.49**	**260**	Pn	**Pn**	**10 03 45.5**	**-0.6**
GAZ	**Gaziantep**	**4.49**	**260**	*e*Pn	**Pn**	**10 03 45.4**	**-0.6**

*NEIC **01** 10:12:54.4±0.7, 8.71N×93.63E, h30km, mb4.6/10, Error ellipse: s-maj=24.0km s-min=14.4km az=74.0*
*BJI **01** 10:12:59.3, 9.48N×93.06E, h30km, mb4.7, Ms4.5, Msz4.4*

ISC 01 10:12:53.7±0.5**, 8.77N**±0.07×**93.70E**±0.06**, h33km, (h33km**±.7km**:pP-P), n38,** σ**1**§**13**/39**, mb4.7**/10**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**9.30**	**42**	P	**P**	**10 15 08.0**	**-0.5**
CM31	**Chiang Mai Arr**	**10.89**	**27**	*e*P	**P**	**10 15 31.4**	**+1.0**
	12nm,0.8s						
KKTK	**Khon Kaen**	**11.65**	**49**	P	**P**	**10 15 42.0**	**+1.3**
	247nm,0.7s						
NANT	**Nan**	**12.06**	**34**	P	**P**	**10 15 49.5**	**+3.2**
	360nm,1.0s						
VIS	**Vishakhapatnam**	**13.45**	**312**	*e*P	**P**	**10 16 03.0**	**-1.7**
VIS				AMb	AMB	10 16 12.7	
	comp=Z,40nm,1.0s						
VIS				*e*S	**S**	**10 18 19.5**	**-15**
MDRS	**Chennai**	**13.88**	**289**	*e*P	**P**	**10 16 10.0**	**-0.6**
MDRS				AMb	AMB	10 16 12.2	
	comp=Z,104nm,0.2s						
HYB	**Hyderabad**	**17.06**	**302**	*i* P	**P**	**10 16 55.0**	**+3.5**
BLSP	**Bilaspur**	**17.33**	**321**	*e*P	**P**	**10 16 55.4**	**+0.6**
BLSP				*e*		10 16 57.8	
	comp=Z,27nm,1.5s						
BLSP				*e*S	**S**	**10 20 08.7**	**+4.0**
PKI	**Pulchoki**	**20.28**	**338**	*e*P	**P**	**10 17 28.9**	**-0.4**
	comp=Z,103nm,1.1s						
GUN	**Gumba**	**20.42**	**340**	*e*P	**P**	**10 17 30.7**	**-0.1**
	comp=Z,137nm,1.1s						
DMN	**Daman**	**20.42**	**338**	*e*P	**P**	**10 17 30.5**	**-0.4**
KKN	**Kakani**	**20.52**	**338**	*e*P	**P**	**10 17 31.1**	**-0.8**
	comp=Z,42nm,0.8s						
KAD	**Karad**	**20.81**	**296**	*e*P	**P**	**10 17 36.7**	**+1.8**
KAD				AMb	AMB	10 17 51.7	
	comp=Z,28nm,1.1s						
GKN	**Gorkha**	**20.96**	**337**	*e*P	**P**	**10 17 36.3**	**-0.1**
	comp=Z,156nm,1.0s						
LSA	**Lhasa**	**20.96**	**354**	P	**P**	**10 17 35.6**	**-0.8**
LSA				AMB	AMB		
	comp=Z,20nm,0.9s						
LSA	**Lhasa**	**20.96**	**354**	*e*P	**P**	**10 17 35.4**	**-1.0**
	comp=Z,15nm,0.9s						
COCO	**West Island**	**21.05**	**171**	*e*P	**P**	**10 17 39.7**	**+2.2**
	comp=Z,71nm,0.6s,mb5.2						
KOLN	**Koldanda**	**21.17**	**335**	*e*P	**P**	**10 17 38.9**	**+0.4**
	comp=Z,88nm,0.9s,mb5.1						
BHPL	**Bhopal**	**21.22**	**315**	*e*P	**P**	**10 17 41.0**	**+1.9**
BHPL				*i*		10 17 43.2	
	comp=Z,31nm,1.5s						
POO	**Poona**	**21.57**	**299**	*i* P	**P**	**10 17 42.7**	**+0.1**
PTH	**Pithoragarh**	**24.23**	**330**	*e*P	**P**	**10 18 09.0**	**+0.2**
AAK	**Ala-Archa**	**37.71**	**337**	*e*P	**P**	**10 20 06.2**	**-1.9**
	comp=Z,4.1nm,0.7s,mb4.3						
NWAO	**Narrogin (SRO)**	**47.14**	**153**	*e*P	**P**	**10 21 24.4**	**-0.6**
	comp=Z,9.6nm,0.5s,mb5.0						
BRVK	**Borovoye**	**48.07**	**341**	*e*P	**P**	**10 21 30.5**	**-1.5**
	comp=Z,3.0nm,0.7s,mb4.4						
WRAB	**Tennant Creek**	**49.14**	**126**	*e*P	**P**	**10 21 39.4**	**-1.3**
	comp=Z,5.4nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**61.03**	**134**	P	**P**	**10 23 04.5**	**-2.3**
OKC	**Ostrava-Krasne**	**74.03**	**319**	*e*P	**P**	**10 24 28.0**	**0.0**
DPC	**Dobruska-Polom**	**75.25**	**320**	*e*P	**P**	**10 24 34.7**	**-0.3**
DPC				*e*pP	pP	10 24 45.3	0.0
UPC	**Upice**	**75.45**	**320**	*e*P	**P**	**10 24 36.9**	**+0.7**
BOSA	**Boshof**	**75.69**	**238**	*e*P	**P**	**10 24 39.4**	**+1.3**
	comp=Z,2.4nm,0.5s,mb4.4						
PRU	**Pruhonice**	**76.37**	**319**	*e*P	**P**	**10 24 41.0**	**-0.4**
BRG	**Berggiesshubel**	**76.79**	**320**	P	**P**	**10 24 44.2**	**+0.4**
	comp=Z,4.5nm,1.4s,mb4.2						
BRG				*e*	pP	10 24 54.3	+0.2
KHC	**Kasperske Hory**	**76.96**	**318**	*e*P	**P**	**10 24 44.8**	**0.0**
KHC				*e*pP	pP	10 24 54.9	-0.2
CLL	**Collm**	**77.40**	**321**	*e*P	**P**	**10 24 47.0**	**-0.2**
CLL	**Collm**	**77.40**	**321**	P	**P**	**10 24 47.0**	**-0.2**
NB2	**NORSAR Subarra**	**78.74**	**331**	P	**P**	**10 24 53.2**	**-1.2**
	comp=Z,16nm,1.7s,mb4.7,baz=92,slow=5.6						
IMA	**Indian Mountai**	**90.96**	**22**	*e*P	**P**	**10 25 56.9**	**+1.5**
	comp=Z,6.3nm,0.6s,mb5.1						
JCT	**Junction City**	**138.88**	**18**	*e*PKPdf	PKPdf	10 32 17.6	+0.1

*NEIC **01** 10:14:33.0±1.1, 27.63N×53.14E, h10km, mb4.0/3, Error ellipse: s-maj=21.5km s-min=18.4km az=54.0*
*THR **01** 10:14:34.8±0.9, 27.91N×52.92E, h30km±8km, ML3.9*
*CSEM **01** 10:14:35.8±0.1, 27.89N×53.09E, h20km, mb3.8/1, Error ellipse: s-maj=2.5km s-min=1.9km az=139.0*
*TEH **01** 10:14:37.1, 27.85N×53.08E, h10km, Mn3.4*

ISC 01 10:14:36.8±0.6**, 27.99N**±0.05×**53.03E**±0.06**, h30km, n46,** σ**1**§**24**/51**, mb4.0**/2**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.30**	**353**	*i* PG	**Pb**	**10 14 43.6**	**-0.5**
GHIR				*e*SG	**Sb**	**10 14 49.7**	**+0.5**
GHIR				AML	AML	10 14 59.4	
	comp=E,10μm,0.6s						
GHIR				AML	AML	10 14 59.6	
	comp=N,10μm,0.4s						
GHIR	**Ghir-Karzin**	**0.30**	**353**	*i* Pg	**Pb**	**10 14 43.6**	**-0.6**
	SNR=121						
GHIR				*e*Sg	**Sb**	**10 14 49.7**	**+0.5**
	comp=N,10μm,0.4s,SNR=121						
ISRV	**Sarvestan**	**1.39**	**3**	Pn	**Pn**	**10 15 04.5**	**+4.0**
IPAR	**Pars**	**1.85**	**0**	Pn	**Pn**	**10 15 10.2**	**+3.2**
IPAR	**Pars**	**1.85**	**0**	Pn	**Pn**	**10 15 10.2**	**+3.2**
BNDS	**Bandar-Abbas**	**2.85**	**101**	*e*PN	**Pn**	**10 15 21.2**	**-0.1**
BNDS				*e*SG	**Sn**	**10 16 04.5**	**+10**
BNDS				AML	AML	10 16 23.0	
	comp=E,332nm,0.6s						
BNDS				AML	AML	10 16 26.4	
	comp=N,335nm,0.7s						
BNDS	**Bandar-Abbas**	**2.85**	**101**	*e*Pn	**Pn**	**10 15 21.2**	**-0.1**
	SNR=54						
IMEH	**Mehriz**	**3.66**	**22**	Pn	**Pn**	**10 15 34.9**	**+2.1**
IMEH	**Mehriz**	**3.66**	**22**	Pn	**Pn**	**10 15 34.9**	**+2.1**
KRBR	**Kerman**	**3.83**	**58**	*e*PN	**Pn**	**10 15 36.1**	**+1.0**
KRBR	**Kerman**	**3.83**	**58**	*e*Pn	**Pn**	**10 15 36.1**	**+0.9**
	SNR=54						
ICHK	**Chekchek**	**4.41**	**15**	Pn	**Pn**	**10 15 44.8**	**+1.4**
ICHK	**Chekchek**	**4.41**	**15**	Pn	**Pn**	**10 15 44.8**	**+1.4**
NASN	**Na'in**	**4.80**	**358**	*e*PN	**Pn**	**10 15 49.1**	**+0.1**
NASN	**Na'in**	**4.80**	**358**	*e*Pn	**Pn**	**10 15 49.1**	**+0.1**
	SNR=52						
SHGO	**Shushtar**	**5.50**	**319**	*e*PN	**Pn**	**10 15 57.3**	**-1.6**
ZHSF	**Zahedan**	**6.99**	**75**	*e*PN	**Pn**	**10 16 17.3**	**-2.5**
ZHSF	**Zahedan**	**6.99**	**75**	*e*Pn	**Pn**	**10 16 17.3**	**-2.5**
	SNR=52						
IFIR	**Firoozkooh**	**7.63**	**358**	Pn	**Pn**	**10 16 29.1**	**+0.2**
IFIR	**Firoozkooh**	**7.63**	**358**	Pn	**Pn**	**10 16 29.1**	**+0.2**
IFIR				Sn	**Sn**	**10 17 52.2**	**-3.1**
DAMV	**Damavand**	**7.67**	**354**	*e*PN	**Pn**	**10 16 27.6**	**-1.8**
DAMV	**Damavand**	**7.67**	**354**	*e*Pn	**Pn**	**10 16 27.6**	**-1.8**
	SNR=52						
IAFJ	**Afjeh**	**7.92**	**352**	Pn	**Pn**	**10 16 32.9**	**0.0**
IAFJ	**Afjeh**	**7.92**	**352**	Pn	**Pn**	**10 16 32.9**	**0.0**
IAFJ				Sn	**Sn**	**10 17 59.2**	**-3.3**
MZLS	**Mizel**	**8.07**	**242**	P	**P**	**10 16 35.0**	**+0.1**
ARSS	**Ar Rass**	**8.99**	**259**	P	**P**	**10 16 46.9**	**-0.8**
AFFS	**'Afif**	**9.89**	**248**	P	**P**	**10 17 00.2**	**+0.1**
HILS	**Ha'il**	**9.98**	**269**	P	**P**	**10 17 00.1**	**-1.3**
GNI	**Garni**	**13.93**	**333**	P	**P**	**10 17 56.5**	**+2.1**
	comp=N,17nm,0.8s						
GNI	**Garni**	**13.93**	**333**	P	**P**	**10 17 56.5**	**+2.1**
	comp=N,17nm,0.8s						
DBAS	**Duba**	**15.14**	**271**	P	**P**	**10 18 11.3**	**+0.9**
AYUS	**'Aynunah**	**15.68**	**275**	P	**P**	**10 18 18.3**	**+1.0**
MALT	**Malatya**	**15.97**	**314**	*e*P	**P**	**10 18 22.3**	**+1.3**
	comp=N,9.5nm,0.8s						
MALT	**Malatya**	**15.97**	**314**	*e*P	**P**	**10 18 22.3**	**+1.4**
	comp=N,9.5nm,0.8s						
BRVK	**Borovoye**	**28.12**	**22**	*e*P	**P**	**10 20 27.5**	**-0.4**
BRVK	**Borovoye**	**28.12**	**22**	*e*P	**P**	**10 20 27.5**	**-0.5**
DPC	**Dobruska-Polom**	**35.65**	**319**	*e*P	**P**	**10 21 34.4**	**+0.5**
DPC	**Dobruska-Polom**	**35.65**	**319**	*e*P	**P**	**10 21 34.4**	**+0.5**
KHC	**Kasperske Hory**	**36.82**	**316**	*e*P	**P**	**10 21 44.4**	**+0.6**
KHC	**Kasperske Hory**	**36.82**	**316**	*e*P	**P**	**10 21 44.4**	**+0.6**
KAF	**Kangasniemi**	**38.43**	**340**	*e*p	**P**	**10 21 55.4**	**-1.8**
	comp=N,3.8nm,0.8s,mb4.2						
NB2	**NORSAR Subarra**	**43.23**	**332**	P	**P**	**10 22 36.3**	**-0.4**
	comp=N,0.9nm,0.5s,mb3.8,baz=121,slow=7.9						
NB2	**NORSAR Subarra**	**43.23**	**332**	P	**P**	**10 22 36.3**	**-0.4**
	comp=N,0.9nm,0.5s,mb3.8,SNR=3.5						
ULN	**Ulaanbaatar**	**45.98**	**49**	*e*P	**P**	**10 22 58.5**	**-0.3**
ULN	**Ulaanbaatar**	**45.98**	**49**	*e*P	**P**	**10 22 58.5**	**-0.4**
LBTB	**Lobatse**	**58.95**	**209**	*e*P	**P**	**10 24 31.0**	**-4.9**

*BJI **01** 10:15:22.4, 4.54N×94.81E, h47km, mB5.3, mb5.0, Ms4.8, Msz4.5*
*MOS **01** 10:15:23.5±1.0, 5.16N×95.22E, h33km, mb5.2/25, Error ellipse: s-maj=18.0km s-min=8.1km az=110.1*
*NEIC **01** 10:15:24.6±0.2, 4.93N×94.81E, mb5.0/38, Error ellipse: s-maj=9.2km s-min=5.8km az=51.0*
*HRVD **01** 10:15:24.6±0.6, 4.75N×94.51E, h49km±3km, MW5.2/32, Centroid moment Tensor Solution. LP body waves: s10,c10; Mantle waves: s32,c49; Half duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.64±.10; $M_{\theta\theta}$0.01±.07; $M_{\phi\phi}$-0.65±.06; $M_{r\theta}$-0.06±.04; $M_{\theta\phi}$0.14±.04; $M_{\phi r}$-0.47±.05; Best double couple: M_0.814×10^{17} NP1:ϕ_s337°, δ29°, λ70°. NP2:ϕ_s180°, δ63°, λ101°. Principal axes: T .808, Plg70°, Azm112°; N .012, Plg10°, Azm355°; P -.82, Plg17°, Azm262°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 10:15:23.6±0.3**, 4.94N**±0.05×**94.89E**±0.05**, h34km, h34km**±2.9km**:pP-P, n144,** σ**1**§**12**/142**, mb5.1**/65**, MS4.6**/4**, 18C-6D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**11.84**	**25**	S	**P**	**10 18 17.0**	**+3.9**
CM31	**Chiang Mai Arr**	**14.00**	**16**	*e*P	**P**	**10 18 43.8**	**+1.9**
	18nm,0.6s						
MDRS	**Chennai**	**16.55**	**300**	*e*P	**P**	**10 19 18.4**	**+3.5**
MDRS				*e*		10 19 34.8	
	comp=Z,129nm,1.5s						
VIS	**Vishakhapatnam**	**17.01**	**319**	*e*P	**P**	**10 19 21.4**	**+0.8**
VIS				*e*		10 19 25.5	
	comp=Z,39nm,0.8s						
VIS				*e*S	**S**	**10 22 37.4**	**+10**
TRD	**Trivandrum**	**18.16**	**282**	*e*P	**P**	**10 19 32.9**	**-2.1**
TRD				*e*		10 19 40.8	
	comp=Z,56nm,1.6s						
HYB	**Hyderabad**	**20.24**	**309**	*i* P	**P**	**10 19 58.0**	**-0.7**
	comp=Z,86nm,1.2s						
HYB				*e*S	**S**	**10 23 38.0**	**-0.9**
SHL	**Shillong**	**20.71**	**352**	*e*	**P**	**10 20 10.0**	**+6.4**
SHL				*e*		10 23 38.0	
BLSP	**Bilaspur**	**21.08**	**325**	*e*P	**P**	**10 20 08.1**	**+0.7**
BLSP				*e*		10 20 24.0	
	comp=Z,102nm,1.5s						
BLSP				*e*		10 23 59.9	
PKI	**Pulchoki**	**24.25**	**339**	*e*P	**P**	**10 20 38.6**	**-0.1**
	comp=Z,46nm,0.5s,mb5.1						
DMN	**Daman**	**24.39**	**339**	*e*P	**P**	**10 20 40.2**	**+0.1**
GUN	**Gumba**	**24.40**	**340**	*e*P	**P**	**10 20 39.9**	**-0.3**
	comp=Z,96nm,0.7s,mb5.3						
KKN	**Kakani**	**24.49**	**339**	*e*P	**P**	**10 20 40.0**	**-1.1**
	comp=Z,65nm,0.7s,mb5.2						
POO	**Poona**	**24.59**	**305**	⇑*i*	**P**	**10 21 02.0**	**+20**
	comp=Z,91nm,1.2s,mb5.2						
POO				*e*		10 24 10.0	
LSA	**Lhasa**	**24.88**	**352**	P	**P**	**10 20 46.7**	**+1.9**
LSA	**Lhasa**	**24.88**	**352**	*e*P	**P**	**10 20 45.5**	**+0.8**
	comp=Z,28nm,0.4s,mb5.1						
GKN	**Gorkha**	**24.92**	**338**	*e*P	**P**	**10 20 45.3**	**+0.1**
	comp=Z,59nm,0.5s,mb5.4						
KOLN	**Koldanda**	**25.12**	**336**	*e*P	**P**	**10 20 47.5**	**+0.4**
	comp=Z,94nm,0.6s,mb5.5						
BOM	**Bombay**	**25.62**	**305**	*e*	**P**	**10 21 08.0**	**+16**
BOM				*e*		10 24 33.6	
PTH	**Pithoragarh**	**28.14**	**332**	*e*P	**P**	**10 21 15.0**	**+0.1**
PTH				*e*		10 28 05.0	
ENH	**Enshi**	**28.71**	**27**	*e*P	**P**	**10 21 19.0**	**-0.9**
	comp=Z,22nm,0.6s,mb5.1						
WHN	**Wuhan**	**31.38**	**34**	P	**P**	**10 21 44.0**	**+0.3**
WHN				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.5						
XAN	**Xi'an**	**31.75**	**22**	P	**P**	**10 21 45.7**	**-1.2**
XAN				AMB	AMB		
	comp=Z,27nm,1.0s,mb5.0						
XAN				LR	LR		
	comp=N,611nm,21.7s,MS4.5						
XAN				LR	LR		
	comp=E,907nm,19.7s,MS4.5						
XAN				LR	LR		
	comp=Z,832nm,18.4s,MS4.5						
LZH	**Lanzhou**	**32.07**	**14**	⇑P	**P**	**10 21 49.5**	**-0.2**
LZH				AP	pP	10 22 03.2	+3.7
LZH				AMB	AMB		
	comp=Z,32nm,1.3s,mb5.0						
LZH				LR	LR		
	comp=E,338nm,13.0s						
LZH				LR	LR		
	comp=Z,589nm,17.3s,MS4.3						
NJ2	**Nanjing**	**35.08**	**37**	*e*P	**P**	**10 22 16.9**	**+1.2**
NJ2				AP	pP	10 22 24.3	-1.3
NJ2				AMB	AMB		
	comp=Z,130nm,1.0s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,960nm,4.4s						
NJ2				LR	LR		
	comp=N,3μm,19.8s,MS5.1						
NJ2				LR	LR		
	comp=E,2μm,20.8s,MS5.1						
NJ2				LR	LR		
	comp=Z,2μm,18.1s,MS4.9						
MBWA	**Marble Bar**	**35.59**	**138**	*e*P	**P**	**10 22 19.8**	**-0.3**
TIA	**Tai'an**	**37.23**	**30**	*e*P	**P**	**10 22 34.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**38.00**	**128**	⇓*i*P	**P**	**10 22 40.5**	**0.0**
	comp=Z,47nm,0.9s,mb5.2						
WMQ	**Urumqi**	**39.23**	**352**	P	**P**	**10 22 52.5**	**+2.0**
BJT	**Baijiatuau**	**39.84**	**26**	*e*P	**P**	**10 22 57.3**	**+1.8**
	comp=Z,38nm,0.8s,mb5.2						
ULHL	**Ulahol**	**40.69**	**339**	P	**P**	**10 23 03.4**	**+0.9**
	SNR=5.6						
KAKA	**Kakadu**	**41.23**	**116**	*e*P	**P**	**10 23 07.9**	**+0.7**
	comp=Z,18nm,0.6s,mb4.9						
UCH	**Uchtor**	**41.32**	**337**	P	**P**	**10 23 09.1**	**+1.4**
	SNR=16						
TKM2	**Tokmak 2**	**41.51**	**339**	P	**P**	**10 23 10.2**	**+0.8**
	SNR=8.4						
KBK	**Karagaybulak**	**41.52**	**338**	P	**P**	**10 23 11.2**	**+1.7**
	SNR=15						
AML	**Almayashu**	**41.57**	**336**	P	**P**	**10 23 11.1**	**+1.3**
	SNR=24						
AAK	**Ala-Archa**	**41.67**	**337**	P	**P**	**10 23 12.9**	**+2.2**
	SNR=11						
AAK	**Ala-Archa**	**41.67**	**337**	⇓*i*P	**P**	**10 23 10.0**	**-0.7**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.6						
AAK	**Ala-Archa**	**41.67**	**337**	*e*P	**P**	**10 23 09.8**	**-0.9**
	comp=Z,7.7nm,0.6s,mb4.5						
FRU	**Bishkek**	**41.80**	**338**	*e*P	pP	10 23 24.0	+2.3
FRU				pmax	pmax		
	comp=Z,90nm,1.8s,mb5.1						
MUN	**Mundaring**	**41.95**	**152**	*e*P	**P**	**10 23 13.4**	**+0.3**
	comp=Z,10nm,0.6s,mb4.6						
EKS2	**Erkin-Say**	**41.98**	**337**	P	**P**	**10 23 14.4**	**+1.2**
	SNR=15						
USP	**Ospenovka**	**42.21**	**338**	P	**P**	**10 23 15.7**	**+0.6**
	SNR=20						
NWAO	**Narrogin (SRO)**	**43.22**	**152**	*e*P	**P**	**10 23 23.1**	**-0.4**
	comp=Z,16nm,0.9s,mb4.8						
ULN	**Ulaanbaatar**	**44.02**	**12**	⇑*i*P	**P**	**10 23 23.8**	**-5.9**
ULN	**Ulaanbaatar**	**44.02**	**12**	*e*P	**P**	**10 23 28.4**	**-1.3**
	comp=Z,5.4nm,0.6s,mb4.5						
KS15	**Wonju Array Si**	**44.20**	**38**	*e*P	**P**	**10 23 31.8**	**+0.5**
SNY	**Shenyang**	**44.76**	**31**	⇓P	**P**	**10 23 36.4**	**+0.7**
SNY				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.0						
ZAK	**Zakamensk**	**45.83**	**7**	*e*P	**P**	**10 23 42.2**	**-2.0**
ZAK				*e*		10 25 21.1	
WRAB	**Tennant Creek**	**45.99**	**124**	⇑*i*P	**P**	**10 23 44.6**	**-1.3**
WRAB	**Tennant Creek**	**45.99**	**124**	*e*P	**P**	**10 23 46.0**	**+0.1**
	comp=Z,196nm,0.9s,mb6.0						
WB2	**Warramunga Arr**	**46.00**	**124**	⇑*i*P	**P**	**10 23 46.4**	**+0.4**
MOY	**Mondy**	**46.84**	**5**	*e*P	**P**	**10 23 52.1**	**0.0**
TLY	**Talaya**	**47.15**	**7**	⇑*i*P	**P**	**10 23 54.9**	**+0.4**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
ASPA	**Alice Springs**	**47.49**	**128**	⇑*i*P	**P**	**10 23 57.8**	**+0.2**
HIA	**Hailar**	**48.94**	**21**	*e*P	**P**	**10 24 07.7**	**-0.8**
	comp=Z,26nm,1.2s,mb5.1						
MDJ	**Mudanjiang**	**49.84**	**32**	P	**P**	**10 24 15.2**	**-0.3**
MDJ				AMB	AMB		
	comp=Z,26nm,1.4s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,167nm,7.4s						
MDJ	**Mudanjiang**	**49.84**	**32**	*e*P	**P**	**10 24 16.0**	**+0.5**
	comp=Z,13nm,0.8s,mb5.0						
NVS	**Novosibirsk**	**50.63**	**351**	*i* P	**P**	**10 24 19.6**	**-1.8**
NVS				*e**PP	pP	10 24 31.9	+0.4
NVS				*i* S	**S**	**10 31 30.6**	**-1.9**
NVS				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0						
NVS				pmax	pmax		
	comp=E,16nm,1.3s						
NVS				pmax	pmax		
	comp=N,17nm,1.4s						
NVS				smax			
	comp=N,90nm,1.8s						
NVS				smax			
	comp=E,19nm,2.3s						
BRVK	**Borovoye**	**52.05**	**341**	*e*P	**P**	**10 24 30.9**	**-1.1**
	comp=E,11nm,0.7s,mb4.9						
KLR	**Kul'dur**	**54.04**	**29**	*e*P	**P**	**10 24 44.2**	**-2.8**
KLR				pmax	pmax		
	comp=Z,67nm,2.0s,mb5.2						

BOD	**Bodaibo**	**54.82**	**12**	*eP*	**P**	**10 24 50.7**	**-1.8**
BOD				*e*	pP	10 25 03.9	+1.1
CTA	**Charters Tower**	**56.26**	**118**	⇓*iP*	**P**	**10 25 03.6**	**+0.2**
	comp=Z,19nm,1.1s,mb5.0						
CTAO	**Charters Tower**	**56.26**	**118**	*eP*	**P**	**10 25 03.0**	**-0.4**
	comp=Z,68nm,1.4s,mb5.5						
CTAO				*e*pP	pP	10 25 16.3	+2.6
GNI	**Garni**	**57.02**	**315**	⇑*iP*	**P**	**10 25 07.7**	**-0.9**
GNI				pmax	pmax		
	comp=Z,13nm,1.2s						
GNI	**Garni**	**57.02**	**315**	*eP*	**P**	**10 25 07.9**	**-0.7**
	comp=Z,28nm,1.4s,mb5.1						
GNI				*e*pP	pP	10 25 16.7	-2.2
STKA	**Stephens Creek**	**57.57**	**133**	⇑*iP*	**P**	**10 25 12.4**	**-0.2**
	comp=Z,17nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**57.57**	**133**	*eP*	**P**	**10 25 11.4**	**-1.2**
TI2	**Plekhanov**	**57.68**	**317**	*eP*	**P**	**10 25 12.6**	**-0.6**
TI2				*i*		10 25 26.8	
TI2				pmax	pmax		
	comp=Z,40nm,0.6s,mb5.6						
KMBO	**Kilima Mbogo**	**57.89**	**266**	*eP*	**P**	**10 25 14.3**	**-0.8**
	comp=Z,13nm,1.5s,mb4.7						
SVE	**Sverdlovsk**	**58.38**	**339**	*eP*	**P**	**10 25 19.4**	**+1.5**
SVE				*e*		10 25 36.0	
YSS	**Yuzh-Sakhalins**	**58.65**	**37**	⇑*eP*	**P**	**10 25 19.9**	**0.0**
YSS				*e*	pP	10 25 32.8	+2.6
YSS				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
YSS	**Yuzh-Sakhalins**	**58.65**	**37**	*eP*	**P**	**10 25 19.6**	**-0.3**
	comp=Z,43nm,1.1s,mb5.4						
ARU	**Arti**	**58.86**	**337**	⇑*iP*	**P**	**10 25 19.8**	**-1.5**
ARU				*e*		10 26 07.5	
ARU				*e*S	**S**	**10 33 23.9**	**+1.0**
ARU				*e*SS	SS	10 37 16.9	-1.3
ARU				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.2						
GOF	**Gofitskoye**	**60.23**	**320**	*eP*	pP	10 25 39.0	-2.2
GOF				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.2						
MALT	**Malatya**	**60.93**	**311**	*eP*	**P**	**10 25 33.9**	**-1.9**
	comp=Z,14nm,1.4s,mb4.9						
SOC	**Sochi**	**61.82**	**317**	*eP*	**P**	**10 25 38.5**	**-3.1**
SOC				*e*		10 26 20.7	
SOC				*e*PPP	PPP	10 29 37.0	+8.2
SOC				*e*S	**S**	**10 34 00.5**	**-0.5**
SOC				*e*SS	SS	10 38 05.2	+0.5
SOC				pmax	pmax		
	comp=Z,29nm,1.4s,mb5.2						
SOC				pmax	pmax		
	comp=N,6.0nm,0.9s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.9s						
YAK	**Yakutsk**	**62.53**	**18**	*eP*	**P**	**10 25 44.3**	**-1.8**
YAK				*e*S	**S**	**10 34 04.4**	**-5.3**
YAK				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.0						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				smax			
	comp=E,8.0nm,1.3s						
YAK				smax			
	comp=N,5.0nm,1.2s						
YAK	**Yakutsk**	**62.53**	**18**	*eP*	**P**	**10 25 44.3**	**-1.8**
	comp=N,34nm,1.0s,mb5.4						
TOO	**Toolangi**	**63.22**	**137**	*eP*	**P**	**10 25 52.2**	**+1.1**
	comp=N,16nm,0.9s,mb5.2						
ANN	**Anapa**	**63.79**	**318**	*eP*	**P**	**10 25 46.4**	**-8.3**
ANN				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
CSS	**Prodhromos**	**63.99**	**307**	P	**P**	**10 25 53.9**	**-2.3**
	comp=Z,44nm,1.3s,mb5.3						
MBAR	**Mbarara**	**64.31**	**267**	*eP*	**P**	**10 26 03.7**	**+5.1**
MBAR	**Mbarara**	**64.31**	**267**	*eP*	**P**	**10 25 57.9**	**-0.7**
	comp=Z,18nm,1.2s,mb5.0						
SIM	**Simferopol'**	**66.06**	**317**	*eP*	**P**	**10 26 10.1**	**+0.7**
SIM				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
ISP	**Isparta**	**66.84**	**309**	*eP*	**P**	**10 26 14.8**	**+0.4**
	comp=Z,58nm,1.4s,mb5.4						
MOS	**Moscow**	**67.96**	**329**	*eP*	Px	10 26 37.9	
MOS				*e*		10 26 55.9	
MOS				*e*		10 35 07.4	
MOS				*e*		10 35 52.6	
OBN	**Obninsk**	**68.24**	**328**	⇑*iP*	**P**	**10 26 21.2**	**-1.7**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
OBN				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.5						
MA2	**Magadan**	**69.01**	**27**	⇑*iP*	**P**	**10 26 25.6**	**-2.0**
MA2				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.0						
TIXI	**Tiksi**	**69.95**	**11**	⇑*iP*	**P**	**10 26 28.9**	**-4.2**
TIXI				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.1						
PET	**Petropavlovsk**	**70.47**	**35**	⇓*iP*	**P**	**10 26 34.5**	**-2.1**
PET				pmax	pmax		
	comp=Z,31nm,1.3s,mb5.1						
LBTB	**Lobatse**	**73.52**	**242**	*eP*	**P**	**10 26 55.3**	**-0.1**
	comp=Z,12nm,1.3s,mb4.7						
JOF	**Joensuu**	**73.80**	**335**	*ep*	**P**	**10 26 54.6**	**-1.6**
	comp=Z,7.6nm,0.7s,mb4.7						
JOF	**Joensuu**	**73.80**	**335**	*eP*	**P**	**10 26 54.6**	**-1.6**
JOF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
BOLS	**Boljevac**	**74.29**	**314**	⇓*iP*	**P**	**10 27 02.5**	**+3.1**
VSU	**Vasula**	**74.47**	**330**	*eP*	pP	10 27 11.4	+0.8
KOLS	**Kolonicke sedl**	**74.89**	**319**	*eP*	**P**	**10 27 03.1**	**+0.3**
SUW	**Suwalki**	**75.31**	**325**	*eP*	**P**	**10 26 57.0**	**-8.0**
	comp=Z,44nm,1.0s,mb5.3						
CRVS	**Cervenica-Dubn**	**75.42**	**319**	*eP*	**P**	**10 27 06.6**	**+0.8**
KAF	**Kangasniemi**	**75.72**	**333**	*ep*	**P**	**10 27 05.6**	**-1.7**
	comp=Z,4.5nm,0.5s,mb4.7						
KAF	**Kangasniemi**	**75.72**	**333**	*eP*	**P**	**10 27 05.6**	**-1.7**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
NIE	**Niedzica**	**76.24**	**320**	*eP*	**P**	**10 27 11.3**	**+0.8**
PSZ	**Piszkesteto**	**76.30**	**318**	*eP*	**P**	**10 27 10.5**	**-0.3**
	comp=Z,11nm,0.9s,mb4.8						
PSZ	**Piszkesteto**	**76.30**	**318**	⇑*eP*	**P**	**10 27 10.7**	**-0.1**
OJC	**Ojcow**	**76.69**	**320**	*eP*	**P**	**10 27 12.9**	**-0.1**
OJC	**Ojcow**	**76.69**	**320**	*eP*	**P**	**10 27 12.9**	**-0.1**
LIKS	**Likavka**	**76.97**	**319**	*eP*	**P**	**10 27 15.2**	**+0.6**
VYHS	**Vyhne**	**77.08**	**319**	*i* P	**P**	**10 27 15.0**	**-0.2**
OKC	**Ostrava-Krasne**	**77.69**	**320**	*eP*	**P**	**10 27 19.1**	**+0.5**
OKC				*e*pP	pP	10 27 27.4	-1.7
KEV	**Kevo**	**77.83**	**341**	*ep*	**P**	**10 27 17.5**	**-1.5**
MORC	**Moravsky Berou**	**78.07**	**320**	*eP*	**P**	**10 27 19.8**	**-0.9**
	comp=Z,7.5nm,0.9s,mb4.6						
ZST	**Bratislava**	**78.19**	**318**	*i* P	**P**	**10 27 21.7**	**+0.3**
BILL	**Bilibino**	**78.52**	**21**	⇑*iP*	**P**	**10 27 20.6**	**-2.2**
BILL				pmax	pmax		
	comp=Z,21nm,1.7s,mb4.8						
DPC	**Dobruska-Polom**	**78.92**	**320**	*eP*	**P**	**10 27 25.9**	**+0.6**
UPC	**Upice**	**79.13**	**320**	*eP*	**P**	**10 27 26.9**	**+0.4**
UPC				*e*pP	pP	10 27 36.2	-0.8
PERS	**Pernice**	**79.40**	**316**	*eP*	**P**	**10 27 28.4**	**+0.4**
PRU	**Pruhonice**	**80.03**	**320**	*eP*	**P**	**10 27 31.5**	**+0.2**
PRU				*e*pP	pP	10 27 40.8	-1.1
VOY	**Vojsko**	**80.21**	**316**	*eP*	**P**	**10 27 32.3**	**-0.1**
VOY				*e*	pP	10 27 41.6	-1.4
AQU	**L'Aquila**	**80.40**	**312**	*e*pP	pP	10 27 44.9	+0.8
	comp=Z,60nm,1.3s						
BRG	**Berggiesshubel**	**80.47**	**321**	*i* P	**P**	**10 27 34.8**	**+1.1**
BRG				*i*	pP	10 27 43.5	-0.8
BRG				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
BRG	**Berggiesshubel**	**80.47**	**321**	*i* P	**P**	**10 27 34.8**	**+1.1**
	comp=Z,14nm,1.3s,mb4.7						
BRG				*i*	pP	10 27 43.5	-0.8
GEC2	**GERESS Array S**	**80.50**	**319**	*eP*	**P**	**10 27 34.5**	**+0.6**
GEC2				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
GEC2	**GERESS Array S**	**80.50**	**319**	*eP*	**P**	**10 27 34.5**	**+0.6**
	comp=Z,15nm,1.0s,mb4.9						
KHC	**Kasperske Hory**	**80.60**	**319**	*eP*	**P**	**10 27 34.5**	**+0.1**
KHC				*e*pP	pP	10 27 43.7	-1.3
WET	**Wettzell**	**81.06**	**319**	*eP*	**P**	**10 27 37.3**	**+0.5**
CLL	**Collm**	**81.09**	**321**	*i* P	**P**	**10 27 38.2**	**+1.3**
CLL				*e*	pP	10 27 46.0	-1.5
CLL				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
CLL	**Collm**	**81.09**	**321**	*i* P	**P**	**10 27 38.2**	**+1.3**
	comp=Z,15nm,1.3s,mb4.8						
CLL				*e*	pP	10 27 46.0	-1.5
CLL	**Collm**	**81.09**	**321**	P	**P**	**10 27 38.2**	**+1.3**
	comp=Z,logA/T=1.1,mb4.8						
CLL				*e*PP	pP	10 27 46.0	-1.5
NKC	**Novy Kostel**	**81.39**	**320**	*eP*	**P**	**10 27 40.4**	**+1.9**
MOX	**Moxa**	**81.94**	**320**	*eP*	pP	10 27 50.0	-2.0
GRA1	**Grafenberg Arr**	**82.16**	**319**	*eP*	**P**	**10 27 43.4**	**+0.9**
	comp=Z,14nm,1.0s,mb4.8						
GRF	**Grafenberg Arr**	**82.16**	**319**	*eP*	**P**	**10 27 43.4**	**+0.9**
GRF				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
GRF	**Grafenberg Arr**	**82.16**	**319**	*eP*	**P**	**10 27 43.4**	**+0.9**
	comp=Z,14nm,1.0s,mb4.8						
NB2	**NORSAR Subarra**	**82.64**	**331**	P	**P**	**10 27 42.3**	**-2.4**
	comp=Z,4.3nm,0.9s,mb4.5,baz=93,slow=5.3						
CLZ	**Clausthal**	**82.75**	**321**	*eP*	**P**	**10 27 46.0**	**+0.5**
	comp=Z,13nm,1.1s,mb4.9						
BSEG	**Bad Segeberg**	**82.83**	**324**	*eP*	**P**	**10 27 46.6**	**+0.7**
BFO	**Black Forest**	**84.05**	**318**	*eP*	**P**	**10 27 52.1**	**-0.1**
BFO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
BFO	**Black Forest**	**84.05**	**318**	*eP*	**P**	**10 27 52.1**	**-0.1**
	comp=Z,6.0nm,0.8s,mb4.8						
LPG	**La Plagne**	**85.20**	**315**	*eP*	**P**	**10 27 58.3**	**+0.3**
	comp=Z,26nm,0.9s,mb5.0						
IMA	**Indian Mountai**	**94.03**	**22**	*eP*	**P**	**10 28 40.0**	**+0.9**
	comp=Z,24nm,0.8s,mb5.7						
IMA				*e*	pP	10 28 53.2	+3.2
SNAA	**Sanae**	**97.10**	**198**	⇑*i*Pdif	**P**	**10 28 53.8**	**+0.7**
SNAA				*e*	pP	10 29 03.8	-0.1
SNAA				*e*	pP	10 29 07.0	+3.1
SML	**Sawmill**	**97.92**	**25**	P	**P**	**10 28 58.0**	**+1.0**
VNA2	**Neumayer--Watz**	**98.66**	**199**	⇑*i*Pdif	**P**	**10 29 03.3**	**+3.2**
VNA2				*e*	pP	10 29 13.6	+2.7
VNA2				*e*	pP	10 29 16.5	+5.6
ANMO	**Albuquerque**	**135.52**	**25**	*i* PKIKP	PKPdf	10 34 43.2	+2.2
JCT	**Junction City**	**142.07**	**21**	*e*PKPpre		10 34 49.0	

*NEIC **01** 10:23:50.2±1.5,34.79N×72.67E,h10km,mb4.0/4,Error ellipse: s-maj=31.5km s-min=15.1km az=222.0*
*NDI **01** 10:23:56.3±3.9,34.86N×72.88E,h10km,mb4.0(NEIC)*
ISC 01 10:23:53.6±0.9,34.96N±0.07×73.11E±0.08,h49km±15km, n30,σ1°28/33,mb4.3/3,2C,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.31**	**175**	P	**P**	**10 24 16.6**	**+0.6**
CEP	**Cherat**	**1.51**	**222**	P	**P**	**10 24 17.9**	**-0.9**
THW	**Thamme Wali**	**2.45**	**208**	P	**P**	**10 24 32.5**	**+0.5**
JMU	**Jammu**	**2.69**	**146**	⇑*i*	**S**	**10 25 12.5**	**+5.5**
JMU	**Jammu**	**2.69**	**146**	⇑*i*S	**S**	**10 25 12.5**	**+5.5**
SARP	**Sargodha**	**3.06**	**187**	P	**P**	**10 24 41.1**	**+0.4**
SBDP	**Sheikh Budin**	**3.28**	**217**	P	**P**	**10 24 43.7**	**-0.2**
DLH	**Dalhousie**	**3.39**	**135**	*e*	**P**	**10 24 50.0**	**+4.6**
DLH				*e*		10 25 40.0	
DLH	**Dalhousie**	**3.39**	**135**	*eP*	**P**	**10 24 50.0**	**+4.6**
DLH				*e*SB	**S**	**10 25 40.0**	**+15**
DRP	**Derazinda**	**4.03**	**218**	P	**P**	**10 24 43.8**	**-11**
BHK	**Bhakra**	**4.49**	**141**	*e*	**P**	**10 25 06.4**	**+5.4**
BHK				*e*		10 26 13.0	
BHK	**Bhakra**	**4.49**	**141**	*eP*	**P**	**10 25 06.4**	**+5.4**
BHK				*e*SB	**S**	**10 26 13.0**	**+20**
NDI	**New Delhi**	**7.17**	**150**	*e*	**P**	**10 25 39.0**	**+0.6**
NDI				*e*		10 27 00.0	
NDI	**New Delhi**	**7.17**	**150**	*eP*	**P**	**10 25 39.0**	**+0.6**
NDI				*e*S	**S**	**10 27 00.0**	**+0.7**
AAK	**Ala-Archa**	**7.73**	**8**	*eP*	**P**	**10 25 47.0**	**+0.8**
	6.6nm,0.4s						
AJM	**Ajmer**	**8.56**	**171**	*i*	**S**	**10 27 27.0**	**-6.8**
AJM	**Ajmer**	**8.56**	**171**	*i* S	**S**	**10 27 27.0**	**-6.8**
KOLN	**Koldanda**	**11.47**	**126**	*eP*	**P**	**10 26 37.0**	**-0.4**
	19nm,0.5s						
GKN	**Gorkha**	**12.03**	**122**	*eP*	**P**	**10 26 43.0**	**-1.9**
DMN	**Daman**	**12.60**	**122**	*eP*	**P**	**10 26 51.6**	**-1.0**
	47nm,0.6s						
KKN	**Kakani**	**12.61**	**121**	*eP*	**P**	**10 26 51.7**	**-1.0**
	36nm,0.6s						
PKI	**Pulchoki**	**12.83**	**122**	*eP*	**P**	**10 26 54.3**	**-1.4**
	29nm,0.6s						
GUN	**Gumba**	**12.96**	**119**	*eP*	**P**	**10 26 55.3**	**-2.1**
	26nm,0.5s						
LSA	**Lhasa**	**16.12**	**104**	P	**P**	**10 27 41.3**	**+3.0**
	5.7nm,0.7s						
HYB	**Hyderabad**	**18.14**	**163**	*i* P	**P**	**10 28 03.5**	**-0.1**
BRVK	**Borovoye**	**18.20**	**355**	*eP*	**P**	**10 28 03.2**	**-0.9**
	8.0nm,0.9s						
JOF	**Joensuu**	**38.05**	**330**	*ep*	**P**	**10 31 08.4**	**-0.3**
	6.1nm,0.5s,mb4.6						
KEV	**Kevo**	**42.86**	**338**	*ep*	**P**	**10 31 59.1**	**+11**
NB2	**NORSAR Subarra**	**46.64**	**324**	P	**P**	**10 32 18.1**	**-0.4**
	1.5nm,0.6s,mb4.1,baz=97,slow=7.4						
COLA	**College**	**75.46**	**17**	P	**P**	**10 35 35.6**	**+2.0**
	3.1nm,0.9s,mb4.2						

MEX 01 10:38:43.0±0.8,18.41N×103.25W,h16km±11km,MD4.0, 1C,Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLM	**Colima**	**0.88**	**331**	⇑*iP*	Pb	10 38 56.4	-3.0
COLM				*i* S	Sb	10 39 07.3	-3.4
CGX	**Ciudad Guzman**	**1.30**	**349**	*i* P	Pb	10 39 03.0	-3.6
CGX				*i* S	Sb	10 39 20.0	-2.9
ZIIG	**Zihuatanejo**	**1.87**	**115**	*i* P	Pn	10 39 11.3	-3.5
ZIIG				*i* S	Sn	10 39 32.4	-5.8
CJM	**Chamela**	**2.02**	**303**	*i* P	Pn	10 39 14.3	-2.6
CJM				*i* S	Sn	10 39 37.4	-4.5
SFJM	**Santa Fe**	**2.08**	**5**	*i* P	Pn	10 39 15.0	-2.8
SFJM				*i* S	Sn	10 39 41.0	-2.5
MOIG	**Morelia**	**2.32**	**57**	*eP*	Pn	10 39 18.8	-2.5
MOIG				*i* S	Sn	10 39 44.6	-5.0
CAIG	**El Cayaco**	**3.14**	**115**	*eP*	Pn	10 39 30.9	-2.0
CAIG				*i* S	Sn	10 40 03.7	-6.8
PLIG	**Platanillo**	**3.56**	**90**	*eP*	Pn	10 39 34.6	-4.2
PLIG				*i* S	Sn	10 40 16.6	-4.3
PPM	**Popocatepetl**	**4.43**	**81**	*i* S	Sn	10 40 40.1	-2.8

*ZUR **01** 10:42:10.8,47.14N×6.12E,h2km,ML2.3/6*
*NEIC **01** 10:42:11.3,47.20N×6.04E,h9km,ML2.7(LDG), ML2.3(STR),ML2.3(ZUR),After LDG.*
*CSEM **01** 10:42:11.3±0.0,47.20N×6.05E,h12km,ML2.6/16,Error ellipse: s-maj=1.0km s-min=0.8km az=128.0*
*BGR **01** 10:42:12.1±0.8,47.21N×6.08E,h10km,ML2.1/1,Error ellipse: s-maj=5.6km s-min=3.3km az=35.0*
LDG 01 10:42:11.3±0.1,47.20N×6.04E,h9km,Md3.0/1,Ml2.7/20, 6C-6D,Error ellipse: s-maj=1.0km s-min=0.8km az=133.0,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOMF	**Lomont**	**0.56**	**74**	*e*Pg	Pg	10 42 22.0	-0.5
	SNR=5.2						
LOMF				*e*Sg	Sg	10 42 28.8	-1.2
	SNR=6.6						
LOMF	**Lomont**	**0.56**	**74**	Pg	Pg	10 42 22.0	-0.5
LOMF	**Lomont**	**0.56**	**74**	Pg	Pg	10 42 22.0	-0.5
CABF	**La Chapelle**	**0.59**	**177**	*e*Pg	Pg	10 42 22.3	-0.9
CABF				*e*Sg	Sg	10 42 30.2	-0.9
	113nm,0.7s						
CABF	**La Chapelle**	**0.59**	**177**	*e*Pg	Pg	10 42 22.3	-0.9
CABF				*e*Sg	Sg	10 42 30.2	-0.9
	57nm,0.7s						
GIMEL	**Gimel**	**0.69**	**167**	⇑*iP*	Pb	10 42 24.1	-0.8
GIMEL	**Gimel**	**0.69**	**167**	⇑*i*Pg	Pg	10 42 24.1	-1.0
GIMEL				*i* Sg	Sg	10 42 33.3	-1.0
GIMEL	**Gimel**	**0.69**	**167**	⇑*i*Pg	Pg	10 42 24.1	-1.0
GIMEL				*i* Sg	Sg	10 42 33.3	-1.0
TORNY	**Torny**	**0.76**	**124**	⇓*iP*	Pb	10 42 25.3	-0.9
TORNY	**Torny**	**0.76**	**124**	⇓*i*Pg	Pg	10 42 25.3	-1.2
TORNY	**Torny**	**0.76**	**124**	⇓*i*Pg	Pg	10 42 25.3	-1.2
TORNY				*i* S*S		10 42 35.7	
HINF	**Hinteralfeld**	**0.83**	**41**	*e*Pg	Pg	10 42 26.8	-1.1
HINF				*e*Pn	Pn	10 42 27.4	-1.5
HINF				*e*Sg	Sg	10 42 37.2	-1.7
HINF				*e*Sn	Sn	10 42 38.7	-2.5
	36nm,0.3s						
HINF	**Hinteralfeld**	**0.83**	**41**	*e*Pg	Pg	10 42 26.8	-1.1
BOURR	**Bourrignon**	**0.83**	**76**	*e*Pg	Pg	10 42 27.7	-0.3
	SNR=9.3						
BOURR				*e*Sg	Sg	10 42 38.4	-0.8
	SNR=7.7						
BOURR	**Bourrignon**	**0.83**	**76**	*e*P	Pb	10 42 27.2	-0.3
BOURR	**Bourrignon**	**0.83**	**76**	*e*P*P		10 42 27.2	
HAU	**Haudompre**	**0.83**	**14**	*e*Pg	Pg	10 42 26.9	-1.1
HAU				*e*Pn	Pn	10 42 27.4	-1.6
HAU				*e*Sg	Sg	10 42 37.7	-1.4
	49nm,0.3s						
HAU				*e*Sn	Sn	10 42 38.8	-2.5
HAU	**Haudompre**	**0.83**	**14**	*e*Pg	Pg	10 42 26.9	-1.1
MOF	**Molkenrain**	**0.99**	**48**	*e*Pg	Pg	10 42 30.1	-1.0
	SNR=7.8						
MOF	**Molkenrain**	**0.99**	**48**	Pg	Pg	10 42 30.0	-1.0
MOF				Sg	Sg	10 42 43.8	-0.4
MOF	**Molkenrain**	**0.99**	**48**	Pg	Pg	10 42 30.0	-1.0
MOF				Sg	Sg	10 42 43.8	-0.4
THEF	**They Montfort**	**1.03**	**358**	*e*Pg	Pg	10 42 31.9	0.0
	SNR=7.2						
THEF				*e*Sg	Sg	10 42 44.8	-0.8
	SNR=3.9						
THEF	**They Montfort**	**1.03**	**358**	Pg	Pg	10 42 31.2	-0.7
THEF	**They Montfort**	**1.03**	**358**	Pg	Pg	10 42 31.2	-0.7
BBS	**Basel-Blauen**	**1.03**	**75**	*e*Pg	Pg	10 42 31.1	-0.9
	SNR=3.3						
BBS				*e*Sg	Sg	10 42 44.5	-1.2
	SNR=4.5						
BBS	**Basel-Blauen**	**1.03**	**75**	Pg	Pg	10 42 30.8	-1.2
BBS				Sg	Sg	10 42 44.4	-1.4
BBS	**Basel-Blauen**	**1.03**	**75**	Pg	Pg	10 42 30.8	-1.2
BALST	**Balsthal**	**1.13**	**83**	⇓*iP*	Pb	10 42 32.6	0.0
BALST	**Balsthal**	**1.13**	**83**	⇓*i*Pn	Pn	10 42 32.6	-0.7
BALST	**Balsthal**	**1.13**	**83**	⇓*i*Pn	Pn	10 42 32.6	-0.7
WIMIS	**Wimmis**	**1.21**	**116**	*eP*	Pb	10 42 34.2	+0.3
WIMIS	**Wimmis**	**1.21**	**116**	*eP*	Pb	10 42 34.2	+0.3
WIMIS	**Wimmis**	**1.21**	**116**	*eP*P		10 42 34.2	
SFTF	**Sexfontaines**	**1.21**	**326**	*e*Pg	Pg	10 42 34.1	-1.5
	baz=146						
SFTF				*e*Sg	Sg	10 42 49.6	-2.1
	30nm,0.2s,baz=148						
SFTF	**Sexfontaines**	**1.21**	**326**	*e*Pg	Pg	10 42 34.1	-1.5
SFTF				*e*Sg	Sg	10 42 49.6	-2.1
	15nm,0.2s						
OG05	**Jujurieux**	**1.23**	**199**	Pn	Pn	10 42 34.0	-0.6
OG05				Sg	Sg	10 42 52.8	+0.5
OG05	**Jujurieux**	**1.23**	**199**	Pn	Pn	10 42 34.0	-0.6
ECH	**Echery**	**1.27**	**36**	*e*Pn	Pn	10 42 33.8	-1.3
	SNR=3.8						
ECH				*e*Sg	Sg	10 42 51.7	-1.8
	SNR=5.8						
ECH	**Echery**	**1.27**	**36**	Pg	Pg	10 42 34.8	-1.8
ECH				Sg	Sg	10 42 52.2	-1.3
ECH	**Echery**	**1.27**	**36**	Pg	Pg	10 42 34.8	-1.8
ECH				Sg	Sg	10 42 52.2	-1.3
SULZ	**Sulz-Cheisache**	**1.45**	**76**	*e*Pg	Pg	10 42 38.7	-1.5
	SNR=4.1						
SULZ				*e*Sg	Sg	10 42 57.3	-2.3
	SNR=5.3						
SULZ	**Sulz-Cheisache**	**1.45**	**76**	*e*Pn	Pn	10 42 36.4	-1.4
SULZ	**Sulz-Cheisache**	**1.45**	**76**	*e*Pn	Pn	10 42 36.4	-1.4
MEZF	**Maizieres J'vi**	**1.46**	**333**	*e*Pn	Pn	10 42 36.0	-2.0
MEZF				*e*Pg	Pg	10 42 38.3	-2.2
	baz=152						
MEZF				*e*Sg	Sg	10 42 57.3	-2.8
	25nm,0.3s						
MEZF	**Maizieres J'vi**	**1.46**	**333**	*e*Pn	Pn	10 42 36.0	-2.0
MEZF	**Maizieres J'vi**	**1.46**	**333**	*e*Pg	Pg	10 42 38.3	-2.2
CDF	**Champ du Feu**	**1.47**	**34**	*e*Pn	Pn	10 42 36.3	-1.8
CDF				*e*Pg	Pg	10 42 38.6	-2.1
CDF				*e*Sn	Sn	10 42 53.9	-3.7
CDF				*e*Sg	Sg	10 42 57.8	-2.5
	13nm,0.2s						
CDF	**Champ du Feu**	**1.47**	**34**	*e*Pn	Pn	10 42 36.3	-1.8
RFYF	**Reffroy**	**1.48**	**345**	*e*Pg	Pg	10 42 38.7	-2.2
RFYF				*e*Sn	Sn	10 42 54.3	-3.5
	baz=162						
RFYF				*e*Sg	Sg	10 42 57.8	-2.8
	42nm,0.2s						
RFYF	**Reffroy**	**1.48**	**345**	*e*Pg	Pg	10 42 38.7	-2.2
FELD	**Feldberg**	**1.49**	**62**	*e*Sg	Sg	10 42 58.3	-2.7
	SNR=7.8						
WLS	**Welschbruch**	**1.50**	**36**	*e*Sg	Sg	10 42 58.8	-2.6
	SNR=5.1						
WLS	**Welschbruch**	**1.50**	**36**	Pn	Pn	10 42 36.9	-1.6
WLS				Pg	Pg	10 42 39.2	-2.1
WLS				Sg	Sg	10 42 59.6	-1.8
WLS	**Welschbruch**	**1.50**	**36**	Pn	Pn	10 42 36.9	-1.6
HASLI	**Hasliberg**	**1.51**	**106**	⇑*

BAIF	Baives	3.11	338	*e*Pn	Pn	10 42 58.5	-3.0
BAIF	Baives	3.11	338	*e*Pn	Pn	10 42 58.5	-3.0
LASF	Ste Croix 2.9nm,0.3s	3.48	207	*e*Sg	Sg	10 44 00.9	-6.3
LASF	Ste Croix 1.5nm,0.3s	3.48	207	*e*Sg	Sg	10 44 00.9	-6.3
CAF	Calviac 2.7nm,0.3s	3.58	232	*e*Sg	Sg	10 44 04.0	-6.6
CAF	Calviac 1.4nm,0.3s	3.58	232	*e*Sg	Sg	10 44 04.0	-6.6
FRF	La Foret Royal 4.2nm,0.6s	3.67	173	*e*Sn	Sn	10 43 47.8	-5.4
FRF	La Foret Royal 2.1nm,0.6s	3.67	173	*e*Sn	Sn	10 43 47.8	-5.4

DJA 01 11:13:50.8±0.8, 9.38S×115.46E, h79km±9km, MD4.8/4, ML3.9/3, 2C-2D, Error ellipse: s-maj=32.2km s-min=7.6km az=177.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	Rata 783nm,0.2s	0.66	6⇑	*e*Pn	P	11 14 05.6	-0.5
RATI				*e*Sn	S	11 14 15.9	-1.6
KEDI	Kedomdong 103nm,0.2s	1.10	36⇑	*e*Pn	P	11 14 10.7	-0.5
KEDI	Kedomdong	1.10	36	*e*P	P	11 14 11.5	+0.3
KEDI				*e*Sn	S	11 14 25.0	-1.5
KELI	Kelakatan 101nm,0.2s	1.50	320⇓	*e*Pn	P	11 14 15.8	-0.8
KELI				*e*Sn	S	11 14 34.6	-1.1
SRDI	Scrawed 142nm,0.2s	1.58	304⇓	*i*Pn	P	11 14 16.8	-0.9
SRDI				*e*Sn	S	11 14 35.7	-1.7

WEL 01 11:46:16.1±0.3, 38.54S×175.90E, h169km±2km, ML3.9/13, 9C-1D, Error ellipse: s-maj=1.9km s-min=1.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGZ	Maungaku	0.54	211	PN	P	11 46 40.2	-0.1
WTVZ	West Tongariro	0.63	203	PN	P	11 46 40.5	-0.1
WTVZ				*e*SN	S	11 46 59.3	-0.2
TWVZ	Taurewa	0.65	214	⇑PN	P	11 46 40.6	-0.2
NGZ	Ngauruhoe	0.68	200	PN	P	11 46 40.9	0.0
CNZ	Chateau	0.72	203	PN	P	11 46 41.1	0.0
WPVZ	Whakapapa	0.72	203	PN	P	11 46 41.1	0.0
TUVZ	Tukino	0.76	195	⇑PN	P	11 46 41.4	+0.1
TUVZ				SN	S	11 47 00.3	-0.4
FWVZ	Far West T-bar	0.77	201	PN	P	11 46 41.3	-0.1
FWVZ				SN	S	11 47 00.1	-0.8
BKZ	Black Stump Fm	0.78	144	⇑PN	P	11 46 41.5	+0.1
BKZ				SN	S	11 47 00.3	-0.7
DRZ	Dome Shelter	0.78	200	PN	P	11 46 41.9	+0.5
HIZ	Hauiti	0.82	271	PN	P	11 46 41.3	-0.4
HIZ				*e*SN	S	11 47 01.4	0.0
MOVZ	Moawhango	0.88	188	⇑PN	P	11 46 41.7	-0.3
MOVZ				SN	S	11 47 00.8	-1.2
URZ	Urewera	0.99	74	⇓PN	P	11 46 42.3	-0.5
URZ				SN	S	11 47 02.2	-1.1
VRZ	Vera Road	1.07	236	PN	P	11 46 43.1	-0.4
MWZ	Matawai	1.29	82	PN	P	11 46 45.3	-0.2
MWZ				SN	S	11 47 06.9	-1.3
RAEZ	Rainy Point	1.40	237	PN	P	11 46 45.9	-0.6
WAZ	Wanganui	1.41	210	PN	P	11 46 45.9	-0.8
KNZ	Kokohu	1.47	110	PN	P	11 46 47.2	0.0
KNZ				SN	S	11 47 10.2	-1.0
TSZ	Takapari Road	1.52	178	⇑PN	P	11 46 47.1	-0.6
TSZ				SN	S	11 47 10.2	-2.0
NEZ	North Egmont	1.59	242	PN	P	11 46 47.8	-0.7
DFE	Dawson Falls	1.61	240	PN	P	11 46 47.9	-0.7
PWZ	Pawanui	1.67	154	⇑PN	P	11 46 48.8	-0.4
PWZ				SN	S	11 47 13.6	-1.1
NRZ	Ngariki Road	1.73	242	*e*PN	P	11 46 49.0	-0.9
NWEZ	Newall Road	1.75	245	*e*PN	P	11 46 48.9	-1.2
PUZ	Puketiti	1.91	77	PN	P	11 46 49.8	-2.0
PUZ				SN	S	11 47 17.1	-2.2
MRZ	Mangatainoka R	2.14	187	⇑PN	P	11 46 52.5	-1.9
MRZ				SN	S	11 47 20.4	-3.5
MRZ				SN	S	11 47 20.8	-3.1
BFZ	Birch Farm	2.16	173	*e*PN	P	11 46 53.0	-1.6
KIW	Kapiti Island	2.44	198	⇑PN	P	11 46 55.5	-2.6
MTW	Mount Morrison	2.64	187	PN	P	11 46 57.5	-2.9
CAW	Cannon Point	2.65	194	PN	P	11 46 57.7	-2.8
MRW	Makara Radio	2.84	199	PN	P	11 46 59.9	-3.0
MRW				SN	S	11 47 34.6	-4.3
PAWZ	Paruwai Farm	2.87	187	PN	P	11 47 00.1	-3.1
WEL	Wellington	2.88	197	PN	P	11 47 00.2	-3.2
MSWZ	Moikau Station	2.92	190	⇑PN	P	11 47 00.6	-3.3
MSWZ				SN	S	11 47 35.3	-5.3
BHW	Baring Head	2.98	195	PN	P	11 47 01.0	-3.6
TUWZ	Tuamarina	3.26	207	PN	P	11 47 04.4	-3.8
NNZ	Nelson	3.31	215	PN	P	11 47 04.8	-4.0
NNZ				SN	S	11 47 43.9	-5.4
QRZ	Quartz Range	3.46	228	PN	P	11 47 05.9	-5.0
BSWZ	Blackbirch Sta	3.53	205	PN	P	11 47 08.1	-3.6
THZ	Tophouse	3.96	215	PN	P	11 47 12.8	-4.3
THZ				SN	S	11 47 59.0	-5.1
KHZ	Kahutara	4.27	204	PN	P	11 47 17.3	-4.0
DSZ	Denniston Nort	4.49	223	PN	P	11 47 18.8	-5.2
DSZ				SN	S	11 48 09.3	-7.0
LTZ	Lake Taylor	5.06	212	PN	P	11 47 26.2	-5.3
CRLZ	Canterbury Las	5.61	205	PN	P	11 47 32.9	-5.8
CRLZ				SN	S	11 48 33.3	-10
MQZ	McQueen's Vall	5.72	204	PN	P	11 47 34.2	-5.9
MQZ				SN	S	11 48 35.2	-10
WVZ	Waitaha Valley	5.99	219	PN	P	11 47 38.5	-5.2
WVZ				SN	S	11 48 41.5	-10
ODZ	Otahua Downs	7.59	209	PN	P	11 47 59.3	-5.7
ODZ				SN	S	11 49 19.1	-11
JCZ	Jackson Bay	7.71	222	*e*PN	P	11 48 00.6	-6.0
TUZ	Tuapeka	8.75	210	PN	P	11 48 15.1	-5.2

*BJI **01** 11:53:10.2, 10.61N×91.85E, h32km, mB5.2, mb4.8, Ms4.5, Msz4.2*
*NEIC **01** 11:53:12.7±0.2, 10.84N×91.78E, mb5.0/59, Error ellipse: s-maj=5.6km s-min=4.5km az=223.0*
*MOS **01** 11:53:12.3±0.8, 11.04N×91.96E, h33km, mb5.1/20, Error ellipse: s-maj=16.6km s-min=7.3km az=118.2*
*HRVD **01** 11:53:12.7±0.9, 11.14N×91.67E, h22km±2km, MW5.0/28, Centroid moment Tensor Solution. LP body waves: s5,c6; Mantle waves: s28,c38; Half duration: 1s3 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.20±.57; $M_{\theta\theta}$0.42±.30; $M_{\phi\phi}$2.78±.34; $M_{r\theta}$1.16±.64; $M_{r\phi}$0.61±.22; $M_{\theta\phi}$0.74±.41; Best double couple: $M_0$3.34×10^{16} NP1:φs1°, δ37°, λ-112°. NP2:φs208°, δ56°, λ-74°. Principal axes: T 3.094, Plg9°, Azm287°; N .493, Plg13°, Azm19°; P -3.586, Plg74°, Azm162°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 11:53:10.9±0.2, 10.82N±0.04×91.80E±0.04, h23km, h23km±.6km: pP-P, n188, σ1908/184, mb4.9/68, MS4.4/3, 9C-8D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.24	48	*i*	Pn	11 53 33.5	+0.5
PBA				*i*		11 53 46.5	
NST	Nakhon Sawan	9.44	58	P	P	11 55 30.0	+1.4
CM31	Chiang Mai Arr 3.1nm,0.4s	10.26	41	*e*P	P	11 55 39.5	-0.6
VIS	Vishakhapatnam	10.70	311	*e*P	P	11 55 42.8	-3.2
VIS				*e*S	S	11 57 30.6	-15
VIS	comp=E,132nm,0.7s			*e*		11 57 32.4	
VIS	comp=N,139nm,0.7s			*e*		11 57 32.5	
PALK	Pallekele comp=N,20nm,0.7s	11.51	253	*e*P	P	11 55 53.6	-3.5
MDRS	Chennai	11.53	282	*e*P	P	11 55 54.8	-2.5
MDRS				*e*S	S	11 57 50.2	-16
MDRS	comp=N,305nm,0.3s			*e*		11 57 58.5	
MDRS	comp=E,166nm,0.2s			*e*		11 57 58.5	
CAL	Calcutta	12.12	345	*e*	S	11 58 18.4	-2.2
CAL				*e*		12 01 38.1	
KOD	Kodaikanal comp=Z,55nm,1.0s	14.11	269	*e*P	P	11 56 29.4	-2.3
KOD				*e*		11 56 37.6	
HYB	Hyderabad	14.42	299	*i* P	P	11 56 33.5	-2.3
HYB				*e*S	S	11 59 12.5	-3.4
BLSP	Bilaspur	14.57	322	*e*P	P	11 56 40.0	+2.3
BLSP				*e*		11 59 01.5	
SHL	Shillong comp=Z,30nm,1.1s	14.67	0	*e*P	P	11 56 43.5	+4.5
SHL				*e*		11 56 50.3	
SHL				*e*		11 59 11.0	
TRD	Trivandrum comp=Z,26nm,0.6s	14.81	262	*e*P	P	11 56 39.7	-1.2
TRD				*e*		11 56 43.3	
LATR	Latur	16.56	299	*e*	P	11 57 08.0	+4.5
MNGI	Mangalore comp=Z,134nm,1.2s	16.75	279	*e*P	P	11 57 08.3	+2.4
MNGI				*e*		11 57 19.4	
PKI	Pulchoki	17.71	341	*e*P	P	11 57 18.7	+0.8
DMN	Daman comp=Z,179nm,0.9s	17.85	340	*e*P	P	11 57 21.2	+1.7
GUN	Gumba	17.89	343	*e*P	P	11 57 20.5	+0.5
KKN	Kakani	17.96	341	*e*P	P	11 57 22.3	+1.4
GOA	Goa	18.11	287	*e*	P	11 57 27.9	+5.0
KAD	Karad comp=Z,40nm,0.8s	18.26	293	*e*P	P	11 57 26.0	+1.3
KAD				*i*		12 00 30.0	
GKN	Gorkha comp=Z,94nm,0.8s	18.37	340	*e*P	P	11 57 26.8	+0.7
BHPL	Bhopal comp=Z,40nm,0.8s	18.46	314	*e*P	P	11 57 28.4	+1.3
BHPL				*e*		11 57 35.5	
KOLN	Koldanda comp=Z,100nm,0.7s	18.54	337	*e*P	P	11 57 30.2	+2.1
LSA	Lhasa	18.80	358	P	P	11 57 30.8	-0.4
LSA				AP		11 57 38.6	
LSA				XP		11 57 43.8	
LSA	comp=Z,10.0nm,1.1s			AMB	AMB		
LSA	comp=Z,90nm,5.1s			AMB	AMB		
LSA	comp=N,190nm,15.3s			LR	LR		
LSA	comp=E,550nm,15.3s			LR	LR		
LSA	comp=Z,480nm,15.2s			LR	LR		
LSA	Lhasa comp=Z,54nm,1.1s	18.80	358	*e*P	P	11 57 31.3	+0.1
POO	Poona	18.97	296	*e*P	P	11 57 31.8	-1.5
NDI	New Delhi	22.41	325	*e*P	P	11 58 10.5	+1.1
NDI				*e*		11 58 20.1	
NDI	comp=Z,95nm,1.3s			*e*		12 02 22.0	
AJM	Ajmer	22.47	316	*i* P	P	11 58 11.0	+1.0
DDI	Dehra Dun	23.24	329	*e*P	P	11 58 19.0	+1.4
DDI				*e*S	S	12 02 33.2	+9.0
SMLA	Simla	24.34	328	*e*	P	11 58 41.6	+13
ENH	Enshi comp=Z,42nm,0.6s,mb5.2	25.40	38	*e*P	P	11 58 37.0	-1.4
LZH	Lanzhou	27.42	22	*e*P	P	11 58 57.9	+1.0
LZH				AP	pP	11 59 08.1	+4.4
LZH				XP	sP	11 59 12.0	+5.2
LZH	comp=Z,33nm,1.3s,mb4.7			AMB	AMB		
LZH	comp=Z,95nm,5.2s			AMB	AMB		
LZH	comp=N,446nm,13.5s			LR	LR		
LZH	comp=Z,589nm,17.3s,MS4.2			LR	LR		
XAN	Xi'an comp=Z,10.0nm,0.9s,mb4.5	27.92	31	P	P	11 59 00.2	-1.3
XAN				AMB	AMB		
NJ2	Nanjing	32.70	46	*e*P	P	11 59 43.2	-0.7
NJ2				AP	pP	11 59 53.0	+2.2
NJ2				XP	sP	11 59 56.7	+2.9
NJ2				PP	PP	12 00 53.2	-0.2
NJ2				S	S	12 04 58.0	+0.2
NJ2				XS		12 05 13.0	
NJ2				SS	SS	12 06 56.0	0.0
NJ2	comp=Z,80nm,0.7s,mb5.8			AMB	AMB		
NJ2	comp=Z,860nm,4.1s			AMB	AMB		
NJ2	comp=Z,4μm,15.6s,MS5.2			LR	LR		
WMQ	Urumqi	33.07	355	P	P	11 59 47.6	+0.6
SSE	Sheshan	33.88	49	P	P	11 59 50.4	-3.8
SSE				AP	pP	11 59 58.7	-2.4
SSE				S	S	12 05 13.1	-3.0
SSE				XS		12 05 28.1	
SSE	comp=Z,20nm,0.8s,mb5.1			AMB	AMB		
SSE	comp=Z,80nm,5.4s			AMB	AMB		
SSE	comp=N,111nm,18.1s,MS3.8			LR	LR		
SSE	comp=E,117nm,18.1s,MS3.8			LR	LR		
SSE	comp=Z,122nm,21.2s,MS3.6			LR	LR		
UCH	Uchtor SNR=8.8	34.75	337	P	P	12 00 02.5	+1.0
KBK	Karagaybulak SNR=9.6	34.96	338	P	P	12 00 04.0	+0.6
AML	Almayashu SNR=19	34.99	336	P	P	12 00 05.1	+1.5
AAK	Ala-Archa SNR=14	35.11	338	P	P	12 00 05.5	+0.9
AAK	Ala-Archa	35.11	338⇑	*i*P	P	12 00 02.3	-2.3
AAK	comp=Z,22nm,1.3s,mb4.9			pmax	pmax		
AAK	Ala-Archa comp=Z,34nm,1.0s,mb5.2	35.11	338	*e*P	P	12 00 03.8	-0.8
CHMS	Chumysh SNR=6.1	35.33	338	P	P	12 00 07.1	+0.6
EKS2	Erkin-Say SNR=19	35.41	337	P	P	12 00 08.2	+1.1
USP	Ospenovka SNR=26	35.65	338	P	P	12 00 09.6	+0.4
BJT	Baijiatuan comp=Z,26nm,0.9s,mb5.2	36.22	32	*e*P	P	12 00 14.8	+0.8
ULN	Ulaanbaatar	39.09	16⇑	*e*P	P	12 00 37.1	-1.0
ULN	Ulaanbaatar comp=Z,10nm,0.9s,mb4.5	39.09	16	*e*P	P	12 00 38.2	+0.2
ZAK	Zakamensk	40.56	11	⇓*i*P	P	12 00 50.4	+0.2
MOY	Mondy	41.41	9	*e*P	P	12 00 58.5	+1.4
TLY	Talaya	41.87	11	*e*P	P	12 00 58.7	-2.2
TLY	comp=Z,5.0nm,1.0s,mb4.1			pmax	pmax		
TLY	Talaya comp=Z,9.0nm,0.8s,mb4.5	41.87	11	*e*P	P	12 01 01.8	+0.9
MBWA	Marble Bar	41.99	139	*e*P	P	12 01 01.2	-1.1
FITZ	Fitzroy Crossi comp=Z,24nm,0.6s,mb5.1	44.06	130⇑	*i*P	P	12 01 19.1	-0.1
FITZ				*e*	pP	12 01 26.3	+0.1
NVS	Novosibirsk	44.43	353	*e*P	P	12 01 19.8	-1.9
NVS	comp=N,10.0nm,1.3s			pmax	pmax		
NVS	comp=E,6.0nm,1.3s			pmax	pmax		
NVS	comp=Z,28nm,1.3s,mb4.8			pmax	pmax		
HIA	Hailar comp=Z,2.1nm,0.6s,mb4.1	44.81	26	*e*P	P	12 01 25.3	+0.5
BRVK	Borovoye comp=Z,13nm,0.8s,mb4.9	45.54	342	*e*P	P	12 01 30.0	-0.5
KAKA	Kakadu comp=Z,20nm,0.7s,mb5.2	46.63	119	*e*P	P	12 01 44.5	+4.8
MUN	Mundaring comp=Z,21nm,0.6s,mb5.3	48.55	152	*e*P	P	12 01 55.3	+0.8
MUN				*e*	pP	12 02 02.0	+0.4
KLBR	Kellerberrin comp=Z,14nm,0.6s,mb5.2	48.96	150	*e*P	P	12 01 57.4	-0.2
KLBR				*e*	pP	12 02 04.7	0.0
MAT	Matsushiro	48.99	51	P	pP	12 02 08.0	+3.0
MAT	Matsushiro	48.99	51	P	pP	12 02 07.8	+2.8
NWAO	Narrogin (SRO) comp=Z,13nm,0.6s,mb5.1	49.81	152	*e*P	P	12 02 04.1	-0.1
NWAO				*e*pP	pP	12 02 12.3	+0.9
BOD	Bodaibo	49.88	15	*e*P	P	12 02 03.9	-0.5
KLR	Kul'dur	50.61	33	*e*P	P	12 02 12.6	+2.5
GNI	Garni comp=Z,29nm,1.0s	50.74	314	*e*P	P	12 02 09.3	-1.9
GNI				pmax	pmax		
GNI	Garni comp=Z,40nm,1.0s,mb5.3	50.74	314	*e*P	P	12 02 12.0	+0.8
GNI				*e*pP	pP	12 02 19.6	+1.3
TI2	Plekhanov	51.34	315	*e*P	P	12 02 16.2	+0.5
SVE	Sverdlovsk	51.83	339	*e*P	P	12 02 19.0	-0.2
SVE				pmax	pmax		
WRAB	Tennant Creek comp=Z,60nm,1.2s,mb5.4	51.85	126⇑	*i*P	P	12 02 18.7	-1.1
WRAB	Tennant Creek comp=Z,16nm,0.6s,mb5.1	51.85	126	*e*P	P	12 02 19.4	-0.5
WB2	Warramunga Arr	51.85	126⇑	*i*P	P	12 02 19.5	-0.4
WB2				*e*	pP	12 02 27.2	+0.2
ARU	Arti	52.30	337⇓	*i*P	P	12 02 20.6	-2.1
ARU				*e*		12 03 29.2	
ARU				*e*		12 04 16.9	
ARU				*e*S	S	12 09 45.1	+0.1
ARU				*e*		12 12 07.0	
ARU				*e*SS	SS	12 13 23.3	+2.1
ARU	comp=Z,19nm,0.8s,mb5.1			pmax	pmax		
ARU	Arti comp=Z,20nm,0.9s,mb5.0	52.30	337	*e*P	P	12 02 22.0	-0.7
KIV	Kislovodsk comp=Z,395nm,0.7s,SNR=9.2	53.60	317	P	P	12 02 32.9	+0.3
MALT	Malatya comp=Z,10nm,0.9s,mb4.8	54.81	309	*e*P	P	12 02 41.6	0.0
MALT				*e*pP	pP	12 02 49.0	+0.3
SOC	Sochi	55.47	316	*e*P	P	12 02 38.4	-7.9
SOC				*e*S	S	12 10 24.2	-3.8
SOC				*e*SS	SS	12 14 16.1	+3.2
SOC	comp=Z,25nm,1.5s,mb5.0			pmax	pmax		
SOC	comp=N,24nm,1.6s			pmax	pmax		
SOC	comp=E,13nm,0.7s			pmax	pmax		
KMBO	Kilima Mbogo	55.52	261	*e*P	P	12 02 48.7	+1.7
YSS	Yuzh-Sakhalins	55.95	40	*e*P	P	12 02 47.3	-2.4
YSS				pmax	pmax		
YSS	Yuzh-Sakhalins comp=Z,13nm,0.7s,mb5.1	55.95	40	*e*P	P	12 02 50.1	+0.4
EIL	Elat comp=Z,9.2nm,1.0s,mb4.8	55.98	298	*e*P	P	12 02 50.5	+0.3
YAK	Yakutsk	57.99	20	*e*P	P	12 03 02.2	-1.7
YAK				*e*		12 03 50.7	
YAK				*e*		12 05 13.1	
YAK				*e*PPP	PPP	12 06 34.2	-2.6
YAK				*e*S	S	12 11 00.0	-1.1
YAK				*e*		12 12 42.3	
YAK				*e*SS	SS	12 14 55.9	+2.0
YAK	comp=N,3.0nm,0.9s			pmax	pmax		
YAK	comp=Z,10.0nm,0.9s,mb4.8			pmax	pmax		
YAK	comp=E,3.0nm,1.0s			pmax	pmax		
YAK	comp=Z,2.0nm,0.9s,mb4.2			pmax	pmax		
YAK	comp=E,2.0nm,1.1s			smax			
YAK	comp=E,6.0nm,1.3s			smax			
YAK	comp=N,3.0nm,1.5s			smax			
YAK	Yakutsk comp=N,25nm,0.8s,mb5.3	57.99	20	*e*P	P	12 03 02.8	-1.1
PMG	Port Moresby	58.62	108	*e*P	P	12 03 09.1	+0.2
PMG	Port Moresby comp=N,32nm,0.8s	58.62	108	*e*P	pP	12 03 16.8	+0.6
SIM	Simferopol'	59.72	316	*e*P	P	12 03 15.2	-1.0
SIM				pmax	pmax		
MOS	Moscow comp=Z,10.0nm,0.8s,mb4.9	61.38	329	*e*P	P	12 03 26.1	-1.2
MOS				*e*		12 04 11.8	
OBN	Obninsk	61.67	328⇓	*i*P	P	12 03 26.9	-2.4
OBN				pmax	pmax		
OBN	Obninsk comp=Z,21nm,1.3s,mb5.1	61.67	328	*e*P	P	12 03 28.4	-1.0
MBAR	Mbarara comp=Z,32nm,0.9s,mb5.5	61.75	263	*e*P	P	12 03 28.2	-2.2
MBAR	Mbarara comp=Z,13nm,1.3s,mb4.9	61.75	263	*e*P	P	12 03 31.0	+0.6
CTA	Charters Tower comp=Z,6.4nm,0.9s,mb4.8	61.76	120	*e*P	P	12 03 30.7	+0.3
CTA				*e*	pP	12 03 37.9	+0.2
STKA	Stephens Creek comp=Z,13nm,1.5s,mb4.7	63.80	134	*e*P	P	12 03 44.0	+0.2
STKA				*e*	pP	12 03 52.1	+1.0
TIXI	Tiksi	64.83	12⇓	*i*P	P	12 03 46.7	-3.2
TIXI				pmax	pmax		
MA2	Magadan comp=Z,9.0nm,1.0s,mb4.8	65.27	29	*e*P	P	12 03 50.1	-2.8
MA2				pmax	pmax		
JOF	Joensuu comp=Z,20nm,1.0s,mb5.1	67.21	334	*e*p	P	12 04 04.2	-1.0
JOF	Joensuu comp=Z,27nm,0.9s,mb5.3	67.21	334	*e*P	P	12 04 04.2	-1.0
JOF				pmax	pmax		
VSU	Vasula	67.89	329⇓	*i*P	P	12 04 06.0	-3.6
APA	Apatity	68.30	339⇑	*i*P	P	12 04 11.5	-0.4
APA				*i*	pP	12 04 16.9	-2.3
KWP	Kalwaria	68.31	319	*e*P	P	12 04 12.0	-0.3
KWP				*e*	pP	12 04 19.0	-0.6
KWP	Kalwaria comp=Z,1.1nm,1.0s,mb3.8	68.31	319	*e*P	P	12 04 12.0	-0.3
KWP				*e*	pP	12 04 19.0	-0.6
KWP	Kalwaria	68.31	319	*e*P	P	12 04 12.0	-0.3
KWP				*e*	pP	12 04 19.0	-0.5
KOLS	Kolonicke sedl	68.48	318	*e*P	P	12 04 13.6	+0.2
SUW	Suwalki	68.78	324	*e*P	P	12 04 14.0	-1.2
SUW				*e*	pP	12 04 21.0	-1.4
SUW	Suwalki comp=Z,1.5nm,1.1s,mb3.8	68.78	324	*e*P	P	12 04 14.0	-1.2
SUW				*e*	pP	12 04 21.0	-1.4
SUW	Suwalki	68.78	324	*e*P	P	12 04 14.0	-1.1
SUW				*e*	pP	12 04 21.0	-1.4
CRVS	Cervenica-Dubn	69.01	318	*i* P	P	12 04 17.1	+0.4
CRVS				*e*pP	pP	12 04 23.9	0.0
KAF	Kangasniemi comp=Z,22nm,0.9s,mb5.1	69.13	333	*e*p	P	12 04 16.2	-1.0
KAF	Kangasniemi comp=Z,22nm,0.9s,mb5.1	69.13	333	*e*P	P	12 04 16.2	-1.0
KAF				pmax	pmax		
KECS	Kecovo	69.60	318	*e*pP	pP	12 04 27.4	-0.1
NIE	Niedzica	69.82	319	*e*P	P	12 04 21.5	-0.1
PSZ	Piszkesteto comp=Z,4.8nm,0.8s,mb4.5	69.93	317	*e*P	P	12 04 21.7	-0.6
OJC	Ojcow	70.25	320	*e*P	P	12 04 23.8	-0.4
OJC	Ojcow	70.25	320	*e*P	P	12 04 23.8	-0.4
OJC	Ojcow	70.25	320	*e*P	P	12 04 23.8	-0.4
VYHS	Vyhne	70.69	318	*i* P	P	12 04 26.2	-0.7
OKC	Ostrava-Krasne	71.27	319	*e*P	P	12 04 29.9	-0.5
OKC				*e*pP	pP	12 04 37.5	-0.2
KEV	Kevo comp=Z,14nm,0.8s,mb5.0	71.31	341	*e*p	P	12 04 29.4	-0.9
KEV	Kevo comp=Z,14nm,0.8s,mb4.9	71.31	341	*e*P	P	12 04 29.4	-0.9
KEV				pmax	pmax		
MORC	Moravsky Berou comp=Z,10nm,0.9s,mb4.8	71.65	319	*e*P	P	12 04 32.0	-0.7
ZST	Bratislava	71.82	317	*i* P	P	12 04 33.4	-0.3
ZST				*i* pP	pP	12 04 40.7	-0.3
DPC	Dobruska-Polom	72.48	319	*e*P	P	12 04 37.4	-0.2
DPC				*e*pP	pP	12 04 45.0	+0.1
KSP	Ksiaz	72.54	320	*e*P	P	12 04 37.7	-0.2
KSP				*e*pP	pP	12 04 45.1	-0.1
KSP	Ksiaz	72.54	320	*e*P	P	12 04 38.2	+0.2
KSP				*e*		12 04 43.3	
KSP				*e*	pP	12 04 45.3	0.0
UPC	Upice	72.69	320	*e*P	P	12 04 38.6	-0.2
UPC				*e*pP	pP	12 04 44.4	-1.8
PERS	Pernice	73.08	316	*e*P	P	12 04 40.8	-0.4
PRU	Pruhonice	73.60	319	*e*P	P	12 04 43.8	-0.4
PRU				*e*pP	pP	12 04 51.7	+0.2
PVCC	Panska Ves	73.61	320	*e*P	P	12 04 44.1	-0.1
PVCC				*e*pP	pP	12 04 51.0	-0.5
LBTB	Lobatse comp=Z,18nm,1.1s,mb4.9	73.67	240	*e*P	P	12 04 46.7	+1.7
BRG	Berggiesshubel	74.03	320⇑	*i*P	P	12 04 46.6	0.0
BRG				*i* *PP	pP	12 04 54.0	+0.1
BRG	comp=Z,14nm,0.8s,mb4.9			pmax	pmax		

BRG	**Berggiesshubel**	**74.03**	**320**	⇑*i*P		**P**	**12 04 46.6**	**0.0**
	comp=Z,14nm,0.8s,mb4.9							
BRG				*i* pP		pP	12 04 54.0	+0.1
GEC2	**GERESS Array S**	**74.11**	**318**	*e*P		**P**	**12 04 46.9**	**-0.2**
GEC2				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.7							
GEC2	**GERESS Array S**	**74.11**	**318**	*e*P		**P**	**12 04 46.9**	**-0.2**
	comp=Z,11nm,1.0s,mb4.7							
KHC	**Kasperske Hory**	**74.20**	**318**	*e*P		**P**	**12 04 47.4**	**-0.2**
KHC				*e*pP		pP	12 04 52.8	-2.2
RUE	**Ruedersdorf**	**74.20**	**322**	*e*P		**P**	**12 04 47.4**	**-0.1**
	comp=Z,17nm,0.9s,mb5.0							
RUE				*e*pP		pP	12 04 54.7	-0.2
BILL	**Bilibino**	**74.23**	**22**	*e*P		**P**	**12 04 45.8**	**-1.7**
BILL				pmax		pmax		
	comp=Z,8.0nm,1.4s,mb4.5							
BILL	**Bilibino**	**74.23**	**22**	*e*P		**P**	**12 04 47.1**	**-0.3**
	comp=Z,1.1nm,0.4s,mb4.1							
CLL	**Collm**	**74.63**	**320**	⇓*i*P		**P**	**12 04 49.4**	**-0.7**
CLL				*i*		pP	12 04 57.2	-0.2
CLL				pmax		pmax		
	comp=Z,9.0nm,1.2s,mb4.6							
CLL	**Collm**	**74.63**	**320**	⇓*i*P		**P**	**12 04 49.4**	**-0.7**
	comp=Z,9.0nm,1.2s,mb4.6							
CLL				*i*		pP	12 04 57.2	-0.2
CLL	**Collm**	**74.63**	**320**	⇓P		**P**	**12 04 49.4**	**-0.7**
	comp=Z,logA/T=0.9,mb4.6							
CLL				*i* *PP		pP	12 04 57.2	-0.2
WET	**Wettzell**	**74.66**	**318**	*e*P		**P**	**12 04 50.1**	**-0.2**
NKC	**Novy Kostel**	**74.96**	**319**	*e*P		**P**	**12 04 51.7**	**-0.3**
NKC				*e*pP		pP	12 04 58.2	-1.2
BOSA	**Boshof**	**75.23**	**237**	*e*P		**P**	**12 04 55.6**	**+1.6**
	comp=Z,16nm,1.0s,mb4.9							
MOX	**Moxa**	**75.50**	**320**	*e*P		**P**	**12 04 54.6**	**-0.5**
MOX				*e*		pP	12 05 02.2	-0.2
MOX				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.7							
MOX	**Moxa**	**75.50**	**320**	*e*P		**P**	**12 04 54.6**	**-0.5**
	comp=Z,7.0nm,0.7s,mb4.7							
MOX				*e*		pP	12 05 02.2	-0.2
MOX	**Moxa**	**75.50**	**320**	*i* P		**P**	**12 04 54.6**	**-0.5**
	comp=Z,logA/T=1.0,mb4.7							
MOX				pP		pP	12 05 02.0	-0.4
FUR	**Furstenfeldbru**	**75.71**	**317**	*e*P		**P**	**12 04 55.6**	**-0.8**
GRA1	**Grafenberg Arr**	**75.74**	**319**	*e*P		**P**	**12 04 56.8**	**+0.3**
	comp=Z,14nm,0.9s,mb4.9							
GRA1				*e*pP		pP	12 05 04.1	+0.2
GRF	**Grafenberg Arr**	**75.74**	**319**	*e*P		**P**	**12 04 56.8**	**+0.3**
GRF				*e**PP		pP	12 05 04.1	+0.2
GRF				pmax		pmax		
	comp=Z,14nm,0.9s,mb4.9							
GRF	**Grafenberg Arr**	**75.74**	**319**	*e*P		**P**	**12 04 56.8**	**+0.3**
	comp=Z,14nm,0.9s,mb4.9							
GRF				*e*pP		pP	12 05 04.1	+0.2
NB2	**NORSAR Subarra**	**76.05**	**330**	P		**P**	**12 04 57.1**	**-0.9**
	comp=Z,1.0nm,0.7s,mb3.9,baz=95,slow=6.2							
CLZ	**Clausthal**	**76.28**	**321**	*e*P		**P**	**12 04 59.4**	**-0.1**
	comp=Z,15nm,1.0s,mb4.9							
BSEG	**Bad Segeberg**	**76.32**	**323**	*e*P		**P**	**12 04 59.9**	**+0.2**
STU	**Stuttgart**	**77.09**	**318**	*e*P		**P**	**12 05 03.6**	**-0.4**
	comp=Z,9.9nm,0.6s,mb4.9							
BFO	**Black Forest**	**77.68**	**317**	*e*P		**P**	**12 05 07.1**	**-0.2**
BFO				pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.5							
BFO	**Black Forest**	**77.68**	**317**	*e*P		**P**	**12 05 07.1**	**-0.2**
	comp=Z,7.0nm,1.1s,mb4.5							
FELD	**Feldberg**	**77.92**	**317**	*e*P		**P**	**12 05 08.7**	**+0.1**
LANF	**Langenberg**	**77.99**	**318**	*e*P		**P**	**12 05 09.4**	**+0.4**
WLS	**Welschbruch**	**78.32**	**317**	*e*P		**P**	**12 05 10.8**	**-0.1**
RUP	**Ruppelstein**	**78.44**	**319**	*e*P		**P**	**12 05 12.0**	**+0.5**
LOMF	**Lomont**	**78.74**	**316**	*e*P		**P**	**12 05 13.1**	**-0.1**
LPG	**La Plagne**	**78.92**	**314**	*e*P		**P**	**12 05 14.2**	**0.0**
	comp=Z,30nm,0.8s,mb5.0							
BNI	**Bardonecchia**	**79.00**	**314**	*e*P		**P**	**12 05 14.1**	**-0.6**
	comp=Z,7.0nm,0.8s,mb4.6							
THEF	**They Montfort**	**79.25**	**317**	*e*P		**P**	**12 05 15.8**	**-0.1**
EMIR	**Miracle**	**83.07**	**311**	P		**P**	**12 05 37.0**	**+0.8**
	comp=Z,21nm,0.7s,mb5.3							
EPOB	**Poblet**	**83.49**	**311**	P		**P**	**12 05 39.0**	**+0.6**
	comp=Z,12nm,0.7s,mb5.0							
EPOB				pP		pP	12 05 44.9	-0.8
EGRA	**Graus**	**83.92**	**312**	P		**P**	**12 05 41.8**	**+1.2**
	comp=Z,6.9nm,0.7s,mb4.9							
EGRA				pP		pP	12 05 49.2	+1.2
EBR	**Ebro Roquetas**	**84.01**	**310**	*e*P		**P**	**12 05 42.0**	**+1.0**
ERTA	**Horta de San J**	**84.10**	**310**	P		**P**	**12 05 42.2**	**+0.7**
	comp=Z,12nm,0.8s,mb5.1							
EMOS	**Mosqueruela**	**84.81**	**310**	P		**P**	**12 05 47.2**	**+2.2**
	comp=Z,17nm,0.9s,mb5.2							
EMOS				pP		pP	12 05 54.7	+2.2
EQES	**Quesada**	**87.26**	**308**	P		**P**	**12 05 58.8**	**+1.6**
	comp=Z,3.6nm,0.7s,mb4.7							
GUD	**Guadarrama**	**87.51**	**311**	P		**P**	**12 05 59.6**	**+1.3**
	comp=Z,5.3nm,0.9s,mb4.8							
ESDC	**Sonseca Array**	**87.57**	**310**	P		**P**	**12 05 59.3**	**+0.7**
	comp=Z,1.5nm,0.6s,mb4.4							
ESDC				pP		pP	12 06 04.7	-1.4
EADA	**Adamuz**	**88.35**	**308**	P		**P**	**12 06 03.2**	**+0.8**
	comp=Z,3.6nm,0.9s,mb4.6							
IMA	**Indian Mountai**	**89.77**	**22**	*e*P		**P**	**12 06 09.1**	**+0.6**
	comp=Z,8.8nm,0.8s,mb5.1							
EMIN	**Mina Concepcio**	**90.06**	**308**	P		**P**	**12 06 11.2**	**+0.7**
	comp=Z,2.5nm,0.7s,mb4.7							
EBAD	**Badajoz**	**90.08**	**309**	P		**P**	**12 06 11.5**	**+0.9**
	comp=Z,4.4nm,0.9s,mb4.8							
EGRO	**El Granado**	**90.74**	**308**	P		**P**	**12 06 15.5**	**+1.9**
	comp=Z,7.5nm,0.9s,mb5.0							
COLA	**College**	**92.48**	**22**	⇑*i*P		**P**	**12 06 20.2**	**-0.8**
MNV	**Mina**	**123.58**	**28**	*e*PKPdf		PKPdf	12 12 08.9	-2.6
MVU	**Marysvale**	**126.05**	**23**	*e*PKPdf		PKPdf	12 12 14.3	-2.0
MSU	**Marysvale**	**126.06**	**23**	*e*PKPdf		PKPdf	12 12 14.3	-2.0
ANMO	**Albuquerque**	**131.30**	**20**	*i* PKIKP		PKPdf	12 12 22.7	-3.8
GDL2	**Guadalupe Moun**	**134.51**	**19**	*e*PKPdf		PKPdf	12 12 30.6	-1.9
MNTX	**Cornudas Mount**	**134.63**	**21**	*e*PKPdf		PKPdf	12 12 29.9	-2.9
JCT	**Junction City**	**137.45**	**15**	*e*PKPdf		PKPdf	12 12 35.8	-2.1
TRQA	**Tornquist**	**144.12**	**217**	*e*PKPdf		PKPdf	12 12 45.2	-4.3
OTAV	**Otavalo**	**165.35**	**318**	*e*PKPdf		PKPdf	12 13 17.3	-1.5
OTAV				*e*PKPab		PKPab	12 14 14.0	-0.3

*HLW **01** 11:58:55.6,34.61N×25.41E,h33km,Mb3.7*
*CSEM **01** 11:58:56.3±0.1,34.42N×25.49E,h40km,MD3.5,Error ellipse: s-maj=4.6km s-min=2.2km az=56.0*
*NEIC **01** 11:58:57.2,34.52N×25.31E,h30km,MD3.5(ATH),After ATH.*
*ATH **01** 11:58:57.2,34.52N×25.31E,h30km±5km,MD3.5/5*
ISC 01 11:58:56.3±0.6,34.42N±0.07×25.47E±0.08,h57km±26km, n29,σ0°95/33,4C-3D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.49**	**23**	⇓*i*PB	**P**	**11 59 07.5**	**-0.4**
XRY	**Khrisi**	**0.49**	**23**	⇓*i*Pb	**P**	**11 59 07.5**	**-0.4**
NPS	**Neapolis**	**0.85**	**8**	*e*PN	**P**	**11 59 12.1**	**-0.2**
NPS	**Neapolis**	**0.85**	**8**	*e*Pn	**P**	**11 59 12.1**	**-0.2**
GVD	**Gavdhos**	**1.21**	**290**	*e*PN	**P**	**11 59 17.0**	**-0.3**
GVD	**Gavdhos**	**1.21**	**290**	*e*Pn	**P**	**11 59 17.0**	**-0.3**
VAM	**Vamos**	**1.43**	**314**	⇑*i*PB	**P**	**11 59 19.6**	**-0.9**
VAM				*e*SB	**S**	**11 59 39.3**	**+0.9**
VAM	**Vamos**	**1.43**	**314**	⇑*i*Pb	**P**	**11 59 19.6**	**-0.9**
VAM				*e*Sb	**S**	**11 59 39.3**	**+0.9**
KARP	**Karpathos**	**1.79**	**51**	*e*PB	**P**	**11 59 29.0**	**+3.6**
KYTH	**Kithira**	**2.72**	**314**	*e*PB	**P**	**11 59 40.0**	**+1.4**
KYTH	**Kithira**	**2.72**	**314**	*e*Pb	**P**	**11 59 40.0**	**+1.4**
SLUM		**2.93**	**184**	⇑P	**P**	**11 59 42.5**	**+0.9**
SLUM		**2.93**	**184**	P	**P**	**11 59 42.5**	**+0.9**
VLI	**Veliai**	**3.08**	**319**	*e*PN	**P**	**11 59 41.5**	**-2.2**
VLI	**Veliai**	**3.08**	**319**	*e*Pn	**P**	**11 59 41.5**	**-2.2**
HMAT	**Matruh**	**3.59**	**157**	P	**P**	**11 59 51.8**	**+0.8**
HMAT	**Matruh**	**3.59**	**157**	P	**P**	**11 59 51.8**	**+0.9**
SWA1		**5.15**	**178**	P	**P**	**12 00 13.1**	**+0.4**
SWA1				S	**S**	**12 01 09.8**	**-1.7**
SWA1		**5.15**	**178**	P	**P**	**12 00 13.1**	**+0.4**
SWA1				S	**S**	**12 01 09.8**	**-1.7**
SWA2		**5.16**	**180**	⇑P	**P**	**12 00 13.3**	**+0.4**
SWA2		**5.16**	**180**	P	**P**	**12 00 13.3**	**+0.4**
GLL	**Jalalah**	**7.17**	**131**	P	**P**	**12 00 41.1**	**+0.1**
GLL	**Jalalah**	**7.17**	**131**	P	**P**	**12 00 41.1**	**+0.2**
AMAG	**Maghara**	**7.55**	**118**	⇓P	**P**	**12 00 45.6**	**-0.5**
AMAG	**Maghara**	**7.55**	**118**	P	**P**	**12 00 45.6**	**-0.5**
HFRF	**Wahat Farafira**	**7.65**	**161**	P	**P**	**12 00 47.8**	**+0.3**
HFRF	**Wahat Farafira**	**7.65**	**161**	P	**P**	**12 00 47.8**	**+0.2**
SUZ		**7.74**	**124**	P	**P**	**12 00 48.6**	**-0.1**

*TIF **01** 12:04:02.0,41.78N×46.35E,h6km±3km*
*MOS **01** 12:04:08.9±0.8,41.93N×46.92E,h10km,mb4.1/1,Error ellipse: s-maj=47.3km s-min=17.2km az=92.4*
ISC 01 12:04:03.0±0.9,41.68N±0.06×46.42E±0.06,h6km,n8, σ0°64/13,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMKR	**Kumukh**	**0.68**	**48**	*i* PG	**Pg**	**12 04 15.5**	**-1.1**
KMKR				pmax	pmax		
	comp=Z,128nm,0.2s						
AKT	**Akhty**	**1.00**	**101**	*e*PG	**Pg**	**12 04 24.0**	**+1.0**
UNCR	**Uncukul**	**1.07**	**15**	*e*PG	**Pg**	**12 04 24.0**	**-0.5**
UNCR				*e*S	**Sb**	**12 04 38.5**	**+0.8**
UNCR				pmax	pmax		
	comp=Z,57nm,0.2s						
KRNR	**Karanay**	**1.21**	**17**	*e*PG	**Pg**	**12 04 26.5**	**-0.6**
KRNR				*i* S	**Sb**	**12 04 42.2**	**+0.7**
KRNR				pmax	pmax		
	comp=Z,42nm,0.2s						
MTA	**Mtatsminda**	**1.22**	**271**	P	**Pb**	**12 04 25.5**	**-0.6**
MTA				S	**Sb**	**12 04 42.6**	**+0.6**
DUS	**Dusheti**	**1.35**	**288**	P	**Pb**	**12 04 27.7**	**-0.6**
DBC	**Dubki**	**1.38**	**13**	*e*PG	**Pg**	**12 04 30.5**	**0.0**
DBC				*i* S	**Sb**	**12 04 46.5**	**0.0**
AKH	**Akhalkalaki**	**2.22**	**264**	P	**Pn**	**12 04 40.9**	**+0.1**
AKH				S	**Sn**	**12 05 09.2**	**+0.4**

*LDG **01** 12:06:57.6±0.1,43.10N×0.62W,h4km,Md2.9/3,Ml2.9/12, Error ellipse: s-maj=1.1km s-min=1.0km az=157.0*
*CSEM **01** 12:06:57.9±0.0,43.11N×0.61W,h5km,ML2.8/16,Error ellipse: s-maj=1.0km s-min=0.8km az=119.0*
*NEIC **01** 12:06:58.1,43.09N×0.59W,ML2.9(LDG),ML2.6(STR), MN2.5(MDD),After MDD.*
MDD 01 12:06:58.0±0.2,43.09N×0.59W,h6km±2km,mbLg2.2/18, 2C,Error ellipse: s-maj=2.2km s-min=1.2km az=15.0, PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.08**	**266**	Pg	Pg	12 06 59.8	-0.1
ATE				Lg		12 07 01.3	
REYF	**Montagne du Re**	**0.15**	**99**	Pg	Pg	12 07 00.9	-0.2
REYF	**Montagne du Re**	**0.15**	**99**	Pg	Pg	12 07 01.0	-0.1
REYF				Lg		12 07 03.3	
REYF	**Montagne du Re**	**0.15**	**99**	Pg	Pg	12 07 00.9	-0.2
ETSF	**Etsaut**	**0.19**	**173**	*e*Pg	Pg	12 07 01.6	-0.4
ETSF				*e*Sg	Sg	12 07 03.3	-1.4
	398nm,0.3s						
ETSF	**Etsaut**	**0.19**	**173**	*e*Pg	Pg	12 07 01.6	-0.4
ETSF				*e*Sg	Sg	12 07 03.3	-1.4
	199nm,0.3s						
FDAF	**Les Forges d'A**	**0.27**	**177**	Pg	Pg	12 07 03.0	-0.5
FDAF	**Les Forges d'A**	**0.27**	**177**	Pg	Pg	12 07 03.0	-0.5
FDAF				Lg		12 07 06.8	
FDAF	**Les Forges d'A**	**0.27**	**177**	Pg	Pg	12 07 03.0	-0.5
ORDF	**Ordiarp**	**0.28**	**296**	Pg	Pg	12 07 03.3	-0.3
ORDF				Lg		12 07 07.8	
LARF	**Larrau**	**0.30**	**260**	Pg	Pg	12 07 03.4	-0.6
LARF				Sg	Sg	12 07 08.1	+0.1
LARF	**Larrau**	**0.30**	**260**	Pg	Pg	12 07 03.5	-0.5
LARF				Lg		12 07 08.3	
LARF	**Larrau**	**0.30**	**260**	Pg	Pg	12 07 03.4	-0.6
LARF				Sg	Sg	12 07 08.1	+0.1
SJPF	**Ste Jean**	**0.47**	**273**	*e*Pg	Pg	12 07 06.3	-1.0
SJPF				*e*Sg	Sg	12 07 12.6	-1.0
	53nm,0.2s						
SJPF	**Ste Jean**	**0.47**	**273**	*e*Pg	Pg	12 07 06.3	-1.0
SJPF				*e*Sg	Sg	12 07 12.6	-1.0
	27nm,0.2s						
LABF	**Labassere**	**0.49**	**95**	Pg	Pg	12 07 06.8	-1.0
LABF				Sg	Sg	12 07 14.8	+0.5
LABF	**Labassere**	**0.49**	**95**	Pg	Pg	12 07 06.9	-0.9
LABF				Lg		12 07 13.6	
LABF	**Labassere**	**0.49**	**95**	Pg	Pg	12 07 06.8	-1.0
LABF				Sg	Sg	12 07 14.8	+0.5
OSSF	**Osses**	**0.52**	**289**	Pg	Pg	12 07 06.7	-1.7
OSSF	**Osses**	**0.52**	**289**	Pg	Pg	12 07 06.8	-1.5
OSSF				Lg		12 07 14.0	
OSSF	**Osses**	**0.52**	**289**	Pg	Pg	12 07 06.7	-1.7
EBIE	**Bielsa**	**0.67**	**127**	⇑Pg	Pg	12 07 10.3	-1.1
EBIE				Lg		12 07 19.1	
EBIE	**Bielsa**	**0.67**	**127**	⇑Pg	Pg	12 07 10.3	-1.1
	10nm,0.1s,SNR=18						
EBIE				Lg		12 07 18.9	
	66nm,0.2s,SNR=5.0						
EBIE	**Bielsa**	**0.67**	**127**	Pg	Pg	12 07 10.3	-1.1
	8.6nm,0.1s,SNR=18						
EALK	**Alkurruntz**	**0.68**	**281**	Pg	Pg	12 07 10.0	-1.6
EALK				Lg		12 07 20.3	
EALK	**Alkurruntz**	**0.68**	**281**	Pg	Pg	12 07 10.1	-1.5
	13nm,0.2s,SNR=41						
EALK				Lg		12 07 19.6	
	43nm,0.2s,SNR=18						
EALK	**Alkurruntz**	**0.68**	**281**	Pg	Pg	12 07 10.0	-1.6
	5.4nm,0.1s,SNR=41						
EPF	**Esparros**	**0.68**	**95**	*e*Pg	Pg	12 07 10.8	-0.8
EPF				*e*Sg	Sg	12 07 20.7	-0.1
	21nm,0.2s						
EPF	**Esparros**	**0.68**	**95**	*e*Pg	Pg	12 07 10.8	-0.8
EPF				*e*Sg	Sg	12 07 20.7	-0.1
	10nm,0.2s						
RESF	**Ens**	**0.74**	**112**	Pg	Pg	12 07 11.4	-1.3
RESF				Sg	Sg	12 07 22.1	-0.5
RESF	**Ens**	**0.74**	**112**	Pg	Pg	12 07 11.4	-1.3
RESF				Lg		12 07 21.6	
RESF	**Ens**	**0.74**	**112**	Pg	Pg	12 07 11.4	-1.3
RESF				Sg	Sg	12 07 22.1	-0.5
MELF	**Melles**	**1.01**	**102**	Pg	Pg	12 07 16.9	-1.3
MELF				Sg	Sg	12 07 30.8	-0.9
MELF	**Melles**	**1.01**	**102**	Pg	Pg	12 07 16.8	-1.4
MELF				Lg		12 07 30.5	
MELF	**Melles**	**1.01**	**102**	Pg	Pg	12 07 16.9	-1.3
MELF				Sg	Sg	12 07 30.8	-0.9
EGRA	**Graus**	**1.12**	**143**	Pg	Pg	12 07 18.9	-1.4
EGRA				Lg		12 07 33.9	
EGRA	**Graus**	**1.12**	**143**	Pg	Pg	12 07 19.1	-1.2
	3.9nm,0.1s,SNR=16						
EGRA				Lg		12 07 33.9	
	14nm,0.2s,SNR=5.0						
EGRA	**Graus**	**1.12**	**143**	Pg	Pg	12 07 18.9	-1.4
	3.8nm,0.2s,SNR=16						
SALF	**Salau**	**1.35**	**104**	Pg	Pg	12 07 23.8	-1.1
SALF	**Salau**	**1.35**	**104**	Pg	Pg	12 07 22.9	-2.0
SALF				Lg		12 07 40.6	
SALF	**Salau**	**1.35**	**104**	Pg	Pg	12 07 23.8	-1.1
ESAC	**San Caprasio**	**1.37**	**176**	Pg	Pg	12 07 23.9	-1.5
ESAC				Lg		12 07 42.1	
ESAC	**San Caprasio**	**1.37**	**176**	Pg	Pg	12 07 23.9	-1.5
	44nm,0.2s,SNR=14						
ESAC				Lg		12 07 42.1	
	363nm,0.2s,SNR=16						
ESAC	**San Caprasio**	**1.37**	**176**	Pg	Pg	12 07 23.9	-1.5
	44nm,0.2s,SNR=14						
GRBF	**Gourbit**	**1.58**	**98**	Pg	Pg	12 07 27.4	-2.1
PAND	**Andorre**	**1.67**	**109**	Pg	Pg	12 07 29.9	-1.5
PAND				Lg		12 07 51.2	
EMIR	**Miracle**	**1.96**	**126**	Pn	Pn	12 07 32.5	+0.5
EMIR				Pg	Pg	12 07 34.5	-2.6
EMIR				Lg		12 08 01.1	
EMIR	**Miracle**	**1.96**	**126**	Pn	Pn	12 07 30.6	-1.5
	0.2nm,0.1s,SNR=7.9						
EMIR				Pg	Pg	12 07 34.5	-2.6
	6.1nm,0.1s,SNR=25						
EMIR				Lg		12 08 00.7	
	19nm,0.3s,SNR=11						
EMIR	**Miracle**	**1.96**	**126**	Pn	Pn	12 07 32.5	+0.4
	0.5nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**1.96**	**126**	Pg	Pg	12 07 34.5	-2.5
	8.4nm,0.1s,SNR=25						
CARF	**Carcanieres**	**2.02**	**100**	Pg	Pg	12 07 36.8	-1.4
CARF	**Carcanieres**	**2.02**	**100**	Pg	Pg	12 07 36.8	-1.4
VALF	**Valcebollere**	**2.04**	**109**	Pg	Pg	12 07 37.2	-1.5
VALF				Sg	Sg	12 08 05.1	-0.8
VALF	**Valcebollere**	**2.04**	**109**	Pg	Pg	12 07 37.2	-1.5
VALF				Sg	Sg	12 08 05.1	-0.8
MTLF	**Montolieu**	**2.07**	**82**	*e*Pn	Pn	12 07 31.6	-2.1
MTLF				*e*Pg	Pg	12 07 35.5	-3.7
MTLF				*e*Sn	Sn	12 07 56.5	-3.5
MTLF				*e*Sg	Sg	12 08 04.0	-2.8
	18nm,0.4s						
MTLF	**Montolieu**	**2.07**	**82**	*e*Pn	Pn	12 07 31.6	-2.1
LFF	**La Frestale**	**2.08**	**27**	*e*Pn	Pn	12 07 31.4	-2.5
LFF				*e*Pg	Pg	12 07 36.5	-3.0
LFF				*e*Sn	Sn	12 07 56.4	-4.0
LFF				*e*Sg	Sg	12 08 03.5	-3.8
	31nm,0.3s						
LFF	**La Frestale**	**2.08**	**27**	*e*Pn	Pn	12 07 31.4	-2.5
ELAN	**Lanestosa**	**2.09**	**275**	Pn	Pn	12 07 33.7	-0.2
ELAN				Lg		12 08 02.4	
ELAN	**Lanestosa**	**2.09**	**275**	Pg	Pg	12 07 34.6	-5.0
	2.2nm,0.2s,SNR=7.1						
ELAN				Lg		12 08 02.0	
	2.5nm,0.2s,SNR=6.2						
ELAN	**Lanestosa**	**2.09**	**275**	Pn	Pn	12 07 33.7	-0.2
	0.6nm,0.2s,SNR=7.1						
EPOB	**Poblet**	**2.13**	**144**	Pg	Pg	12 07 37.2	-3.4
EPOB				Lg		12 08 04.7	
EPOB	**Poblet**	**2.13**	**144**	Pg	Pg	12 07 37.2	-3.4
	2.4nm,0.2s,SNR=10						
EPOB				Lg		12 08 04.4	
	14nm,0.2s,SNR=5.0						
EPOB	**Poblet**	**2.13**	**144**	Pg	Pg	12 07 37.2	-3.4
	1.5nm,0.1s,SNR=10						
ERTA	**Horta de San J**	**2.24**	**162**	Pg	Pg	12 07 39.5	-3.2
ERTA				Lg		12 08 08.7	
ERTA	**Horta de San J**	**2.24**	**162**	Pn	Pn	12 07 35.0	-1.2
	0.4nm,0.1s,SNR=7.9						
ERTA				Pg	Pg	12 07 39.5	-3.2
	2.1nm,0.2s,SNR=7.9						
ERTA				Lg		12 08 08.7	
	17nm,0.2s,SNR=13						
ERTA	**Horta de San J**	**2.24**	**162**	Pg	Pg	12 07 39.5	-3.2
	2.6nm,0.1s,SNR=7.9						
EBR	**Ebro Roquetas**	**2.41**	**160**	*e*SN	Sn	12 08 08.8	+0.1
EBR				*e*S*	Sb	12 08 13.5	+2.1
EJON	**La Jonquera**	**2.64**	**103**	Pn	Pn	12 07 40.5	-1.3
	0.1nm,0.1s,SNR=7.9						
EJON				Pg	Pg	12 07 44.9	-5.7
	1.5nm,0.2s,SNR=7.9						
EJON				Lg		12 08 22.3	
	7.4nm,0.2s,SNR=6.2						
EJON	**La Jonquera**	**2.64**	**103**	Pn	Pn	12 07 40.5	-1.4
	1.6nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**2.64**	**103**	Pg	Pg	12 07 44.9	-5.8
	1.2nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.65**	**45**	*e*Pn	Pn	12 07 39.4	-2.6
CAF				*e*Pg	Pg	12 07 47.0	-3.9
CAF				*e*Sn	Sn	12 08 10.5	-4.4
CAF				*e*Sg	Sg	12 08 21.7	-4.5
	8.0nm,0.2s						
CAF	**Calviac**	**2.65**	**45**	*e*Pn	Pn	12 07 39.4	-2.6
RJF	**Les Rejaudoux**	**2.68**	**34**	*e*Pn	Pn	12 07 39.8	-2.6
RJF				*e*Pg	Pg	12 07 47.6	-3.9
RJF				*e*Sn	Sn	12 08 10.2	-5.4
RJF				*e*Sg	Sg	12 08 22.1	-5.1
	12nm,0.3s						
RJF	**Les Rejaudoux**	**2.68**	**34**	*e*Pn	Pn	12 07 39.8	-2.6
EMOS	**Mosqueruela**	**2.73**	**178**	Pn	Pn	12 07 43.1	+0.1
EMOS				Pg	Pg	12 07 47.4	-5.0
EMOS				Sn	Sn	12 08 14.1	-2.7
EMOS				Lg		12 08 23.3	
EMOS	**Mosqueruela**	**2.73**	**178**	Pn	Pn	12 07 43.3	+0.3
	1.1nm,0.2s,SNR=7.9						
EMOS				Pg	Pg	12 07 47.5	-4.9
	1.1nm,0.1s,SNR=7.9						
EMOS				Sn	Sn	12 08 13.9	-2.8
	0.6nm,0.2s,SNR=7.9						
EMOS				Lg		12 08 21.6	
	3.7nm,0.1s,SNR=7.3						
EMOS	**Mosqueruela**	**2.73**	**178**	Pn	Pn	12 07 43.1	0.0
	SNR=7.9						
EMOS	**Mosqueruela**	**2.73**	**178**	Pg	Pg	12 07 47.4	-5.0
	0.6nm,0.1s,SNR=7.9						
EMOS				Sn	Sn	12 08 14.1	-2.7
	1.6nm,0.1s,SNR=7.9						
LASF	**Ste Croix**	**3.38**	**72**	*e*Pn	Pn	12 07 49.8	-2.5
LASF				*e*Sg	Sg	12 08 44.7	-5.7
	6.0nm,0.3s						
LASF	**Ste Croix**	**3.38**

ECAL	**Calabor**	**4.69 258**	Pn	Pn	12 08 09.6	-1.4
ECAL			Sn	Sn	12 09 01.0	-5.4
ECAL	**Calabor**	**4.69 258**	Pn	Pn	12 08 08.7	-2.2
	0.9nm,0.2s,SNR=7.0					
ECAL			Sn	Sn	12 09 00.5	-5.9
	1.1nm,0.2s,SNR=5.0					
ECAL	**Calabor**	**4.69 258**	Pn	Pn	12 08 09.6	-1.3
	0.9nm,0.2s,SNR=7.0					
SMF	**Signal de Mont**	**4.75 40**	*e*Pn	Pn	12 08 07.9	-3.9
SMF			*e*Sg	Sg	12 09 27.0	-9.0
	1.3nm,0.3s					
SMF	**Signal de Mont**	**4.75 40**	*e*Pn	Pn	12 08 07.9	-3.9
SMF			*e*Sg	Sg	12 09 27.0	-9.0
	0.6nm,0.3s					
HYF	**Humbligny**	**4.76 28**	*e*Sg	Sg	12 09 27.5	-8.9
HYF	**Humbligny**	**4.76 28**	*e*Sg	Sg	12 09 27.5	-8.9
EPON	**Pontenova**	**4.80 275**	Pn	Pn	12 08 11.3	-1.3
	0.4nm,0.2s,SNR=7.9					
EPON	**Pontenova**	**4.80 275**	Pn	Pn	12 08 11.3	-1.3
	SNR=7.9					
SSF	**Saint Saulge**	**4.92 35**	*e*Pn	Pn	12 08 10.2	-4.0
SSF			*e*Pg	Pg	12 08 28.8	-7.3
SSF	**Saint Saulge**	**4.92 35**	*e*Pn	Pn	12 08 10.2	-4.0
EINC	**Incio**	**4.99 267**	Pn	Pn	12 08 14.2	-0.9
EINC			Sn	Sn	12 09 07.8	-6.1
EINC	**Incio**	**4.99 267**	Pn	Pn	12 08 14.0	-1.2
	0.8nm,0.1s,SNR=6.9					
EINC			Sn	Sn	12 09 07.8	-6.1
	0.5nm,0.2s,SNR=7.9					
EINC	**Incio**	**4.99 267**	Pn	Pn	12 08 14.2	-1.0
	1.4nm,0.2s,SNR=6.9					
QUIF	**Quistinic**	**5.15 340**	*e*Pn	Pn	12 08 13.3	-4.2
QUIF	**Quistinic**	**5.15 340**	*e*Pn	Pn	12 08 13.3	-4.2
MBDF	**Montbardon**	**5.56 70**	*e*Pn	Pn	12 08 19.5	-3.8
MBDF	**Montbardon**	**5.56 70**	*e*Pn	Pn	12 08 19.5	-3.8
EQES	**Quesada**	**5.61 201**	Pn	Pn	12 08 22.1	-1.9
EQES	**Quesada**	**5.61 201**	Pn	Pn	12 08 22.2	-1.8
	0.5nm,0.1s,SNR=7.9					
EQES	**Quesada**	**5.61 201**	Pn	Pn	12 08 22.1	-1.9
	SNR=7.9					
ELOB	**Lobios**	**5.66 260**	Pn	Pn	12 08 22.9	-1.8
	0.1nm,0.1s,SNR=4.0					
EADA	**Adamuz**	**5.78 213**	Pn	Pn	12 08 23.3	-3.0
EADA			Sn	Sn	12 09 25.3	-8.5
EADA	**Adamuz**	**5.78 213**	Pn	Pn	12 08 23.4	-2.9
	0.3nm,0.2s,SNR=7.9					
EADA			Sn	Sn	12 09 24.9	-9.0
	0.4nm,0.1s,SNR=7.9					
EADA			Lg		12 10 01.2	
	0.5nm,0.2s,SNR=4.0					
EADA	**Adamuz**	**5.78 213**	Pn	Pn	12 08 23.3	-3.0

*BJI **01** 12:11:23.0, 39.49N×77.10E, h19km, mB5.0, mb4.5, ML4.7, Ms4.3, Msz3.9*
*NNC **01** 12:11:27.8±4.0, 39.99N×77.27E, mpv4.5, Error ellipse: s-maj=43.2km s-min=17.8km az=152.0*
ISC 01 12:11:23.4±0.4, 39.33N±0.03×77.23E±0.06, h33km, n32, σ0°95/38, mb4.4/1, 3C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**3.01**	**346**	P	**P**	**12 12 10.9**	**+1.0**
	SNR=343						
KZA	**Kyzart**	**3.13**	**332**	P	**P**	**12 12 11.8**	**+0.2**
	SNR=985						
UCH	**Uchtor**	**3.55**	**325**	P	**P**	**12 12 17.4**	**-0.2**
	SNR=76						
KBK	**Karagaybulak**	**3.75**	**333**	P	**P**	**12 12 20.6**	**+0.3**
	SNR=48						
TKM2	**Tokmak 2**	**3.79**	**342**	P	**P**	**12 12 21.4**	**+0.4**
	SNR=283						
AML	**Almayashu**	**3.88**	**317**	P	**P**	**12 12 21.6**	**-0.6**
	SNR=14						
AAK	**Ala-Archa**	**3.90**	**329**	⇑Pn	**Pn**	**12 12 22.3**	**-0.3**
	197nm,0.5s,baz=141						
AAK				Pg	**P**	**12 12 27.1**	**+4.7**
AAK				⇑Lg		12 13 16.6	
	324nm,0.3s						
AAK	**Ala-Archa**	**3.90**	**329**	P	**P**	**12 12 22.3**	**-0.2**
	SNR=59						
CHMS	**Chumysh**	**4.12**	**334**	P	**P**	**12 12 25.4**	**-0.2**
	SNR=42						
EKS2	**Erkin-Say**	**4.23**	**323**	P	**P**	**12 12 27.0**	**-0.3**
	SNR=23						
USP	**Ospenovka**	**4.44**	**333**	P	**P**	**12 12 29.6**	**-0.6**
	SNR=42						
CHCP	**Chirah Chowk**	**6.50**	**211**	⇓P	**P**	**12 13 06.7**	**+7.5**
DLH	**Dalhousie**	**6.85**	**189**	*e*P	**P**	**12 13 08.0**	**+3.8**
DLH				*e*S	**S**	**12 14 25.0**	**+3.2**
CEP	**Cherat**	**6.96**	**220**	P	**P**	**12 13 06.7**	**+0.9**
CEP				S	**S**	**12 14 25.0**	**+0.3**
THW	**Thamme Wali**	**7.89**	**216**	⇓P	**P**	**12 13 18.5**	**-0.1**
BHK	**Bhakra**	**7.92**	**185**	*e*S	**S**	**12 14 46.8**	**-1.7**
BHK				*e*		12 15 34.8	
MK31	**Makanchi Array**	**8.33**	**25**	⇑Pn	**P**	**12 13 24.1**	**-0.6**
	5.3nm,0.6s,baz=193,slow=15						
MK31				Lg		12 15 29.6	
	74nm,1.1s,baz=193,slow=29						
SBDP	**Sheikh Budin**	**8.74**	**219**	P	**P**	**12 13 29.6**	**-0.8**
DDI	**Dehra Dun**	**9.01**	**175**	*e*	**P**	**12 13 40.2**	**+6.0**
DDI				*e*S	**S**	**12 15 12.2**	**-3.4**
WMQ	**Urumqi**	**9.03**	**57**	P	**P**	**12 13 35.0**	**+0.5**
WMQ				S	**S**	**12 15 15.2**	**-1.0**
KALG	**Kalgarh**	**9.88**	**172**	*e*	**P**	**12 13 40.7**	**-5.5**
KALG				*e*		12 15 19.2	
BHGR	**Bahadurgarh**	**10.62**	**181**	*e*P	**P**	**12 13 58.9**	**+2.6**
AYAN	**Aya Nagar**	**10.82**	**180**	*e*P	**P**	**12 13 58.9**	**-0.3**
AYAN				*e*S	**S**	**12 15 51.9**	**-8.2**
AYAN				*e*		12 15 58.6	
	comp=Z,76nm,0.5s						
KUDL	**Kundal**	**11.17**	**183**	*e*P	**P**	**12 14 03.8**	**-0.1**
KUDL				*e*		12 15 56.4	
KUDL				*e*		12 16 04.6	
	comp=Z,37nm,0.4s						
KHET	**Khetri**	**11.29**	**186**	*e*P	**P**	**12 14 05.1**	**-0.4**
KHET				*e*		12 16 05.0	
KHET				*e*		12 16 12.8	
	comp=N,49nm,0.3s						
KHET				*e*		12 16 14.1	
	comp=E,39nm,0.3s						
KOLN	**Koldanda**	**12.69**	**153**	*e*P	**P**	**12 14 23.1**	**-1.2**
	comp=E,15nm,0.5s						
GKN	**Gorkha**	**12.86**	**149**	*e*P	**P**	**12 14 26.8**	**+0.1**
	comp=E,23nm,0.4s						
AJM	**Ajmer**	**13.00**	**190**	*e*	**P**	**12 14 18.3**	**-10**
AJM				*e*		12 16 37.9	
KKN	**Kakani**	**13.31**	**147**	*e*P	**P**	**12 14 33.3**	**+0.7**
	comp=E,15nm,0.4s						
GUN	**Gumba**	**13.47**	**145**	*e*P	**P**	**12 14 34.8**	**+0.2**
	comp=E,21nm,0.4s						
PKI	**Pulchoki**	**13.56**	**147**	*e*P	**P**	**12 14 35.5**	**-0.3**
	comp=E,19nm,0.5s						
LZH	**Lanzhou**	**21.28**	**90**	*e*P	**P**	**12 16 11.5**	**+2.4**
LZH				AP		12 16 15.1	
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.4						

*NNC **01** 12:15:01.8±78.0, 43.92N×86.63E, mpv3.8, Error ellipse: s-maj=844.1km s-min=512.8km az=134.0*
BJI 01 12:15:07.4, 43.75N×86.23E, h15km, ML3.6, 1C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.06**	**86**	PG	Pg	12 15 26.7	-2.1
WMQ				SG	Sg	12 15 40.0	-3.1
WMQ				Smax			
	comp=N,332nm,0.3s						
WMQ				Smax			
	comp=E,335nm,0.4s						
MK31	**Makanchi Array**	**4.12**	**319**	⇓Pn	Pn	12 16 10.1	-1.3
	comp=E,10nm,0.6s,baz=137,slow=17						
MK31				⇑Lg		12 17 13.6	
	comp=E,21nm,0.6s,baz=130,slow=27						

*NEIC **01** 12:27:15.5, 15.85N×61.47W, h17km, MD3.9(TRN), After TRN.*
TRN 01 12:27:18.4, 15.86N×61.49W, h2km, MD3.5, Md3.1(FDF), 4C-8D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCG	**Saint Claude**	**0.25**	**313**	⇑*e*P		12 27 23.5	+0.1
BBL	**Barber's Block**	**0.33**	**176**	⇓*i*P	Pg	12 27 24.7	-0.4
BBL				*e*S	Sg	12 27 29.2	-0.2
BBL	**Barber's Block**	**0.33**	**176**	⇓*i*P	Pg	12 27 23.9	-1.1
BBL	**Barber's Block**	**0.33**	**176**	⇓*i*P	Pg	12 27 24.7	-0.4
BBL				*e*S	Sg	12 27 28.7	-0.7
BBL				*e*S	Sg	12 27 29.2	-0.2
DWS	**Wesley**	**0.34**	**149**	⇑*e*P	Pg	12 27 24.4	-0.7
DWS				*e*S	Sg	12 27 29.2	-0.4
SEG	**Port Louis**	**0.54**	**359**	⇑*e*P	Pg	12 27 28.8	-0.4
MDN	**Morne-Daniel**	**0.55**	**170**	⇓*i*P	Pg	12 27 28.5	-0.8
MDN				*e*S	Sg	12 27 36.8	+0.2
DBCT	**Belle View Cho**	**0.60**	**167**	*e*P	Pg	12 27 29.6	-0.8
DEG	**La Desirade**	**0.61**	**42**	⇑*e*P	Pg	12 27 29.0	-1.6
DSTT	**Stowe**	**0.64**	**163**	*e*P	Pg	12 27 30.0	-1.1
DSTT				*e*S	Sg	12 27 43.9	+4.3
DSHT	**Scott's Head**	**0.65**	**170**	*e*P	Pg	12 27 30.5	-0.9
DSHT				*e*S	Sg	12 27 42.0	+1.9
FDF	**Fort de France**	**1.17**	**164**	⇓*e*P	Pb	12 27 37.9	-3.0
BPA	**Boggy Peak**	**1.23**	**343**	*e*P	Pb	12 27 39.9	-2.1
BPA				*e*S	Sb	12 27 57.5	-0.8
CRM	**Caravelle**	**1.23**	**153**	⇓*e*P	Pb	12 27 38.3	-3.7
BIM	**Bigot**	**1.40**	**163**	⇓*e*P	Pb	12 27 41.6	-3.2
MVM	**Montagne Vaucl**	**1.42**	**156**	⇓*e*P	Pb	12 27 41.3	-3.9
CPB	**Codrington**	**1.80**	**350**	*e*P	Pn	12 27 47.7	-3.0
CPB				*e*S	Sn	12 28 15.1	+0.7

JMA 01 12:35:38.2±0.6, 45.47N×150.42E, h150km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.96**	**240**	P	P	12 36 38.3	-0.4
NEM2				*e*S	S	12 37 25.4	+0.1
JRA	**Rausu**	**4.08**	**250**	P	P	12 36 40.5	+0.2
JNK	**Nakash**	**4.49**	**247**	P	P	12 36 45.8	0.0
JAK	**Akkeshi**	**4.80**	**241**	P	P	12 36 49.1	-0.7
JAK				*e*S	S	12 37 45.1	0.0
JAR	**Ashorobuto**	**5.24**	**248**	P	P	12 36 56.0	+0.4
JOB	**Onbets**	**5.38**	**244**	P	P	12 36 57.5	-0.1
JOB				*e*S	S	12 37 59.6	+0.5
JKK2	**Kamakawa 2**	**5.70**	**256**	P	P	12 37 01.7	-0.1
ASAJ	**Asahikawa**	**5.73**	**259**	P	P	12 37 02.3	+0.1
JCH	**Churui**	**5.83**	**243**	P	P	12 37 02.6	-0.9
JCH				*e*S	S	12 38 09.0	-0.8
JFR	**Furan**	**6.07**	**250**	P	P	12 37 06.9	+0.2
JEM	**Erimo**	**6.29**	**239**	P	P	12 37 10.1	+0.4
JNBK	**Urakawa-nobuka**	**6.39**	**243**	P	P	12 37 09.1	-2.0
JNB	**Noboribetsu**	**7.40**	**249**	P	P	12 37 23.4	-1.2
JANG	**Nango**	**8.28**	**235**	P	P	12 37 34.1	-2.2
JANG				*e*S	S	12 39 04.4	-4.2
JIO	**Ouri**	**9.73**	**227**	P	P	12 37 54.6	-0.8
JIO				*e*S	S	12 39 42.7	-0.2
JFK	**Kawauchi**	**10.80**	**225**	P	P	12 38 09.4	-0.2

*NDI **01** 12:35:58.9±6.7, 21.56N×87.29E, h10km, mb4.7, ML4.5*
ISC 01 12:35:58.8±0.8, 21.56N±0.04×87.10E±0.06, h10km, n21, σ1°21/33, 1D, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAL	**Calcutta**	**1.50**	**49**	*e*P	**Pn**	**12 36 24.9**	**-1.0**
CAL				*e*S	**Sb**	**12 36 44.4**	**-0.9**
BWNR	**Bhubaneshwar**	**1.74**	**224**	*e*P	**Pn**	**12 36 30.3**	**+0.9**
BWNR				*e*S	**Sn**	**12 36 54.1**	**+2.2**
BLSP	**Bilaspur**	**4.64**	**278**	*e*P	**Pn**	**12 37 12.3**	**+1.6**
BLSP				*e*		12 38 26.6	
VIS	**Vishakhapatnam**	**5.21**	**224**	*i* P	**Pn**	**12 37 20.7**	**+1.9**
VIS				*e*P		12 37 21.3	
VIS				AMb	AMB	12 37 26.4	
	comp=Z,14nm,0.3s						
VIS				*e*S	**Sn**	**12 38 17.8**	**-1.9**
SHL	**Shillong**	**5.93**	**47**	*e*P	**Pn**	**12 37 25.0**	**-3.9**
SHL				*e*		12 38 23.0	
ALBI	**Allahabad**	**6.12**	**309**	*e*S	**Sn**	**12 38 41.0**	**-1.4**
PKI	**Pulchoki**	**6.17**	**346**	*e*Pn	**Pn**	**12 37 33.5**	**+1.2**
PKI				*e*Sn	**Sn**	**12 38 44.8**	**+1.0**
	comp=Z,300nm,0.6s						
DMN	**Daman**	**6.29**	**344**	*e*Pn	**Pn**	**12 37 34.4**	**+0.5**
DMN				*e*Sn	**Sn**	**12 38 47.2**	**+0.6**
	comp=Z,830nm,0.9s						
GUN	**Gumba**	**6.42**	**350**	*e*Pn	**Pn**	**12 37 36.1**	**+0.4**
GUN				*e*Sn	**Sn**	**12 38 50.3**	**+0.5**
	comp=Z,673nm,0.8s						
KKN	**Kakani**	**6.42**	**345**	*e*Pn	**Pn**	**12 37 36.7**	**+1.0**
KKN				*e*Sn	**Sn**	**12 38 49.5**	**-0.3**
	comp=Z,493nm,0.7s						
GKN	**Gorkha**	**6.79**	**341**	*e*Pn	**Pn**	**12 37 40.7**	**-0.3**
GKN				*e*Sn	**Sn**	**12 38 58.3**	**-0.9**
	comp=Z,331nm,0.6s						
KOLN	**Koldanda**	**6.95**	**333**	*e*Pn	**Pn**	**12 37 43.4**	**+0.2**
KOLN				*e*Sn	**Sn**	**12 39 03.0**	**-0.1**
	comp=Z,154nm,0.6s						
JHNI	**Jhansi**	**8.76**	**298**	*e*S	**Sn**	**12 39 40.0**	**-8.3**
BHPL	**Bhopal**	**9.10**	**282**	⇓*i*P	**P**	**12 38 13.0**	**-0.3**
BHPL				*i* S	**Sn**	**12 39 50.1**	**-6.8**
AGRA	**Agra**	**10.07**	**306**	*e*P	**P**	**12 38 24.6**	**-2.0**
AGRA				*e*S	**S**	**12 40 13.7**	**-7.0**
AGRA				*e*		12 41 31.3	
	comp=N,297nm,1.2s						
AGRA				*e*		12 41 31.9	
	comp=E,408nm,0.5s						
AYAN	**Aya Nagar**	**11.36**	**309**	*e*P	**P**	**12 38 40.0**	**-4.2**
AYAN				*e*S	**S**	**12 40 43.7**	**-8.6**
BHGR	**Bahadurgarh**	**11.61**	**310**	*e*S	**S**	**12 40 48.6**	**-10**
KHET	**Khetri**	**12.12**	**305**	*e*P	**P**	**12 38 49.5**	**-5.2**
KHET				*e*		12 40 53.5	
KHET				*e*		12 42 34.0	
	comp=E,62nm,0.7s						
KHET				*e*		12 42 34.6	
	comp=N,38nm,0.9s						
AJM	**Ajmer**	**12.38**	**296**	*i*	**S**	**12 41 10.0**	**-7.3**
KAD	**Karad**	**12.89**	**253**	*e*	**S**	**12 41 18.8**	**-11**
BHK	**Bhakra**	**13.69**	**318**	*e*	**S**	**12 41 42.1**	**-6.6**

WEL 01 12:42:50.5±0.4, 45.14S×167.48E, h116km±2km, ML3.6/9, 7C, Error ellipse: s-maj=3.1km s-min=1.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.40**	**214**	PN	P	12 43 06.8	-0.8
DCZ				SN	S	12 43 19.0	-1.4
MLZ	**Mavora Lakes**	**0.53**	**113**	⇑PN	P	12 43 08.1	-0.3
MLZ				SN	S	12 43 21.7	-0.1
MSZ	**Milford Sound**	**0.57**	**35**	⇑PN	P	12 43 08.4	-0.2
MSZ				SN	S	12 43 21.8	-0.5
WHZ	**Wether Hill Ro**	**0.82**	**156**	PN	P	12 43 10.3	-0.4
WHZ				SN	S	12 43 25.3	-0.5
WKZ	**Wanaka**	**1.14**	**75**	⇑PN	P	12 43 13.9	-0.1
WKZ				SN	S	12 43 30.7	-0.8
EAZ	**Earnscleugh**	**1.30**	**95**	⇑PN	P	12 43 15.3	-0.5
EAZ				SN	S	12 43 32.7	-2.0
JCZ	**Jackson Bay**	**1.41**	**41**	⇑PN	P	12 43 16.3	-0.7
JCZ				SN	S	12 43 35.4	-1.7
TUZ	**Tuapeka**	**1.72**	**119**	PN	P	12 43 20.2	-0.5
TUZ				SN	S	12 43 40.4	-3.1
LBZ	**Lake Benmore**	**2.07**	**70**	⇑PN	P	12 43 23.3	-1.9
LBZ				SN	S	12 43 48.1	-3.2
FOZ	**Fox Glacier**	**2.24**	**46**	PN	P	12 43 26.2	-1.2
FOZ				SN	S	12 43 53.4	-1.8
ODZ	**Otahua Downs**	**2.25**	**89**	⇑PN	P	12 43 25.8	-1.7
ODZ				SN	S	12 43 51.1	-4.3
WVZ	**Waitaha Valley**	**3.13**	**50**	PN	P	12 43 36.8	-2.5
MQZ	**McQueen's Vall**	**3.98**	**71**	*e*SN	S	12 44 29.4	-7.4
LTZ	**Lake Taylor**	**4.19**	**57**	*e*PN	P	12 43 50.2	-3.4

DJA 01 12:46:09.4±5.3, 2.24N×97.28E, h6km, mb5.0/2, 2D, Error ellipse: s-maj=212.4km s-min=12.1km az=90.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**1.79**	**46**	*e*P	Pn	12 46 40.7	-0.4
PENI	**Pendagan**	**11.05**	**135**	*e*pP	P	12 48 50.8	-0.5
PENI	**Pendagan**	**11.05**	**135**	⇓*e*P	P	12 48 49.3	-2.0
	140nm,0.5s						
PACI	**Pancar Gunung**	**13.01**	**132**	*e*P	P	12 49 19.0	+1.3
RATI	**Rata**	**21.20**	**121**	*e*P	P	12 50 57.2	-1.1
KEDI	**Kedomdong**	**21.59**	**120**	⇓*e*P	P	12 51 02.5	+0.3
	30nm,0.4s						

*BJI **01** 13:15:40.4, 8.60N×93.50E, h30km, mB5.2, mb4.8*
*NEIC **01** 13:15:43.4±0.5, 8.62N×93.49E, h30km, mb4.6/18, Error ellipse: s-maj=15.4km s-min=12.3km az=88.0*
*MOS **01** 13:15:48.5±1.7, 9.99N×93.38E, h33km, mb4.9/8, Error ellipse: s-maj=25.6km s-min=12.9km az=102.9*
ISC 01 13:15:41.4±0.5, 8.78N±0.08×93.88E±0.09, h30km, n61, σ1°09/62, mb4.7/26, 1C-4D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**10.80**	**27**	*e*P	**P**	**13 18 22.4**	**+5.1**
	2.6nm,0.6s						
SHL	**Shillong**	**16.80**	**354**	*e*P	**P**	**13 19 37.0**	**+0.7**
HYB	**Hyderabad**	**17.21**	**301**	*i* P	**P**	**13 19 42.0**	**+0.5**
HYB				*e*S	**S**	**13 22 44.0**	**-6.2**
PKI	**Pulchoki**	**20.33**	**338**	*e*P	**P**	**13 20 17.9**	**-0.2**
	74nm,1.0s						
GUN	**Gumba**	**20.47**	**339**	*e*P	**P**	**13 20 18.8**	**-0.7**
	87nm,0.8s						
DMN	**Daman**	**20.48**	**337**	*e*P	**P**	**13 20 19.4**	**-0.2**
	38nm,0.7s						
KKN	**Kakani**	**20.58**	**338**	*e*P	**P**	**13 20 20.5**	**-0.1**
	38nm,0.7s						
LSA	**Lhasa**	**20.97**	**353**	P	**P**	**13 20 25.0**	**+0.4**
LSA				AMB	AMB		
	comp=Z,20nm,0.9s						
LSA	**Lhasa**	**20.97**	**353**	*e*P	**P**	**13 20 24.3**	**-0.3**
	comp=Z,12nm,0.6s						
GKN	**Gorkha**	**21.02**	**337**	*e*P	**P**	**13 20 24.8**	**-0.3**
	comp=Z,101nm,0.6s,mb5.3						
KOLN	**Koldanda**	**21.24**	**334**	*e*P	**P**	**13 20 27.2**	**-0.2**
	comp=Z,69nm,0.7s,mb5.1						
NJ2	**Nanjing**	**32.76**	**41**	*e*P	**P**	**13 22 14.1**	**0.0**
NJ2				AP	pP	13 22 27.8	+4.9
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,460nm,4.5s						
SSE	**Sheshan**	**33.76**	**45**	P	**P**	**13 22 21.2**	**-1.6**
SSE				AMB	AMB		
	comp=Z,17nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,130nm,3.8s						
KZA	**Kyzart**	**37.01**	**337**	P	**P**	**13 22 51.4**	**+1.2**
	SNR=5.1						
UCH	**Uchtor**	**37.43**	**336**	P	**P**	**13 22 54.9**	**+1.1**
	SNR=7.2						
KBK	**Karagaybulak**	**37.62**	**337**	P	**P**	**13 22 56.7**	**+1.3**
	SNR=7.5						
AML	**Almayashu**	**37.68**	**335**	P	**P**	**13 22 57.2**	**+1.3**
	SNR=8.8						
AAK	**Ala-Archa**	**37.78**	**336**	P	**P**	**13 22 58.0**	**+1.3**
	SNR=5.9						
AAK	**Ala-Archa**	**37.78**	**336**	⇓*i*P	**P**	**13 22 51.7**	**-5.0**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**37.78**	**336**	*e*P	**P**	**13 22 56.4**	**-0.4**
	comp=Z,8.3nm,1.0s,mb4.4						
CHMS	**Chumysh**	**37.98**	**337**	P	**P**	**13 22 58.7**	**+0.2**
	SNR=5.2						
EKS2	**Erkin-Say**	**38.09**	**336**	P	**P**	**13 23 00.1**	**+0.7**
	SNR=6.6						
USP	**Ospenovka**	**38.31**	**337**	P	**P**	**13 23 01.8**	**+0.6**
	SNR=11						
ULN	**Ulaanbaatar**	**40.52**	**14**	⇑*i*P	**P**	**13 23 17.0**	**-2.5**
ULN	**Ulaanbaatar**	**40.52**	**14**	*e*P	**P**	**13 23 20.6**	**+1.1**
	comp=Z,1.6nm,0.8s,mb3.7						
ZAK	**Zakamensk**	**42.20**	**9**	*e*P	**P**	**13 23 34.3**	**+1.1**
ZAL	**Zalesovo**	**45.62**	**352**	*i* P	**P**	**13 24 02.6**	**+1.8**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
HIA	**Hailar**	**45.80**	**23**	*e*P	**P**	**13 24 04.3**	**+2.1**
	comp=Z,2.9nm,0.8s,mb4.3						
NVS	**Novosibirsk**	**46.72**	**352**	*e*P	**P**	**13 24 08.2**	**-1.2**
NVS				pmax	pmax		
	comp=N,12nm,1.8s						
NVS				pmax	pmax		
	comp=E,17nm,1.8s						
NVS				pmax	pmax		
	comp=Z,34nm,1.8s,mb5.0						
NWAO	**Narrogin (SRO)**	**47.06**	**153**	*e*P	**P**	**13 24 12.8**	**+0.3**
	comp=Z,10.0nm,1.0s,mb4.7						
BRVK	**Borovoye**	**48.12**	**341**	*e*P	**P**	**13 24 19.2**	**-1.3**
	comp=Z,2.7nm,0.9s,mb4.3						
WRAB	**Tennant Creek**	**49.00**	**126**	*e*P	**P**	**13 24 29.1**	**+1.4**
	comp=Z,5.3nm,0.9s,mb4.6						
BOD	**Bodaibo**	**51.33**	**14**	*e*P	**P**	**13 24 43.4**	**-1.6**
GNI	**Garni**	**53.62**	**314**	*e*P	**P**	**13 25 00.0**	**-2.4**
GNI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARU	**Arti**	**54.96**	**337**	*i* P	**P**	**13 25 05.9**	**-6.1**
YAK	**Yakutsk**	**59.22**	**19**	⇓*i*P	**P**	**13 25 40.4**	**-1.7**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
MBAR	**Mbarara**	**63.58**	**265**	*e*P	**P**	**13 26 18.1**	**+5.8**
OBN	**Obninsk**	**64.48**	**328**	⇓*i*P	**P**	**13 26 14.9**	**-2.5**
OBN				pmax	pmax		
	comp=Z,25nm,1.8s,mb4.9						
TIXI	**Tiksi**	**66.40**	**11**	⇓*i*P	**P**	**13 26 28.1**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
KOLS	**Kolonicke sedl**	**71.36**	**319**	*e*P	**P**	**13 26 59.3**	**-1.2**
FINES	**FINESS Array B**	**71.80**	**332**	*i* P	**P**	**13 27 02.2**	**-0.7**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CRVS	**Cervenica-Dubn**	**71.88**	**319**	*e*P	**P**	**13 27 03.6**	**-0.1**
OJC	**Ojcow**	**73.12**	**320**	*e*P	**P**	**13 27 09.9**	**-1.0**
OJC	**Ojcow**	**73.12**	**320**	*e*P	**P**	**13 27 09.9**	**-1.0**
VYHS	**Vyhne**	**73.57**	**318**	*e*P	**P**	**13 27 12.9**	**-0.7**
BILL	**Bilib

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.11**	**132**	⇓*e*PN	P	13 46 32.4	0.0
MXZ				SN	S	13 46 55.8	-0.4
URZ	**Urewera**	**1.44**	**185**	PN	P	13 46 35.0	-0.2
PUZ	**Puketiti**	**1.47**	**148**	PN	P	13 46 34.9	-0.6
PUZ				SN	S	13 47 00.1	-1.5
MWZ	**Matawai**	**1.52**	**172**	PN	P	13 46 35.7	-0.2
MWZ				SN	S	13 47 01.9	-0.5
KNZ	**Kokohu**	**2.22**	**172**	PN	P	13 46 42.5	-0.3
KNZ				SN	S	13 47 13.8	-0.8
BKZ	**Black Stump Fm**	**2.42**	**194**	PN	P	13 46 44.7	-0.3
BKZ				*e*SN	S	13 47 18.0	-0.6
MOVZ	**Moawhango**	**2.84**	**204**	*e*PN	P	13 46 49.4	-0.5
PWZ	**Pawanui**	**3.22**	**186**	PN	P	13 46 53.3	-1.1
PWZ				SN	S	13 47 33.9	-1.3
TSZ	**Takapari Road**	**3.39**	**197**	PN	P	13 46 54.6	-1.9
WAZ	**Wanganui**	**3.43**	**211**	PN	P	13 46 56.9	-0.2
MRZ	**Mangatainoka R**	**4.05**	**199**	PN	P	13 47 02.5	-2.2
MRZ				SN	S	13 47 51.2	-2.3
KIW	**Kapiti Island**	**4.43**	**204**	PN	P	13 47 06.6	-2.8
MTW	**Mount Morrison**	**4.54**	**197**	*e*PN	P	13 47 07.8	-3.1
CAW	**Cannon Point**	**4.61**	**201**	PN	P	13 47 08.6	-3.2
WEL	**Wellington**	**4.86**	**203**	PN	P	13 47 12.1	-2.9
TUWZ	**Tuamarina**	**5.28**	**208**	*e*PN	P	13 47 16.9	-3.3

*TAP **01** 13:47:41.4,24.57N×121.59E,h11km,ML3.3*
TAP Felt III J at Nioudou, II J at Nanau, I J at Suao, I J at Nanshan, I J at Sanguang.
*JMA **01** 13:47:44.3±0.4,25.12N×121.91E,h12km*
ISC 01 13:47:42.4±0.3,24.56N±0.02×121.63E±0.02,h3km±3km, n45,σ0°81/75,1C-6D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENTT	**Nioudou**	**0.10**	**325**	⇑*i*P	**Pg**	**13 47 44.6**	**+0.1**
TWE	**Neicheng**	**0.16**	**13**	⇓*i*P	**Pg**	**13 47 46.4**	**+0.6**
TWE				S	**Sg**	**13 47 48.9**	**+0.9**
ENA	**Nanau**	**0.17**	**142**	⇓*i*P	**Pg**	**13 47 46.6**	**+0.8**
ENA				S	**Sg**	**13 47 49.3**	**+1.2**
TWC	**Suao**	**0.21**	**76**	⇓*i*P	**Pg**	**13 47 47.2**	**+0.6**
TWC				S	**Sg**	**13 47 50.6**	**+1.2**
ILA	**Ilan**	**0.23**	**28**	*e*P	**Pg**	**13 47 47.5**	**+0.4**
ILA				S	**Sg**	**13 47 51.3**	**+1.1**
NNS	**Nan Shan**	**0.26**	**243**	P	**Pg**	**13 47 47.1**	**-0.6**
NNS				S	**Sg**	**13 47 50.2**	**-0.9**
NSK	**Sanguang**	**0.27**	**295**	⇓*i*P	**Pg**	**13 47 47.5**	**-0.4**
NSK				S	**Sg**	**13 47 50.4**	**-1.1**
TWA	**Mucha**	**0.42**	**355**	⇓*i*P	**Pg**	**13 47 51.0**	**+0.2**
TWA				S	**Sg**	**13 47 56.2**	**-0.2**
TWD	**Chiawan**	**0.48**	**183**	P	**Pg**	**13 47 51.8**	**-0.3**
TWD				S	**Sg**	**13 47 58.0**	**-0.4**
TAP1	**Taipei**	**0.49**	**349**	P	**Pg**	**13 47 52.3**	**+0.1**
TAP1				S	**Sg**	**13 47 58.8**	**+0.1**
TAP	**Taipei**	**0.49**	**347**	*e*P	**Pg**	**13 47 52.0**	**-0.2**
TAP				S	**Sg**	**13 47 59.1**	**+0.3**
TWT	**Tachien**	**0.51**	**233**	*e*P	**Pg**	**13 47 51.9**	**-0.8**
TWT				S	**Sg**	**13 47 58.8**	**-0.7**
NWF	**Wu-fen Shan**	**0.53**	**15**	P	**Pg**	**13 47 53.0**	**0.0**
NWF				S	**Sg**	**13 47 59.6**	**-0.4**
WHF	**Hehuan Shan**	**0.53**	**219**	P	**Pg**	**13 47 52.1**	**-0.9**
WHF				S	**Sg**	**13 48 00.4**	**+0.3**
TWB1	**Santiao Chiao**	**0.55**	**36**	*e*P	**Pg**	**13 47 53.1**	**-0.4**
TWB1				S	**Sg**	**13 48 00.7**	**-0.2**
NCU	**National Centr**	**0.57**	**316**	*e*P	**Pg**	**13 47 54.1**	**+0.2**
HWA	**Hwalien**	**0.58**	**182**	*e*P	**Pg**	**13 47 54.4**	**+0.3**
HWA				S	**Sg**	**13 48 02.2**	**+0.4**
HSN	**Hsinchu**	**0.65**	**292**	*e*P	**Pg**	**13 47 55.1**	**-0.2**
TWY	**Chenhua**	**0.71**	**358**	*e*P	**Pg**	**13 47 56.6**	**0.0**
ESL	**Shilin**	**0.76**	**193**	P	**Pg**	**13 47 56.7**	**-1.0**
ESL				S	**Sg**	**13 48 06.6**	**-1.3**
NSY	**Sanyi**	**0.80**	**260**	*e*P	**Pg**	**13 47 58.3**	**-0.1**
NSY				S	**Sg**	**13 48 08.8**	**-0.4**
TWQ1	**Liyutan**	**0.81**	**255**	⇓P	**Pg**	**13 47 58.1**	**-0.4**
TWQ1				S	**Sg**	**13 48 08.1**	**-1.2**
SMLT	**Sun Moon Lake**	**0.95**	**225**	*e*P	**Pb**	**13 47 59.8**	**-1.3**
SMLT				S	**Sb**	**13 48 13.6**	**-0.2**
TCU	**Taichung**	**0.96**	**245**	*e*P	**Pb**	**13 48 01.3**	**0.0**
TYC	**Yuchr**	**0.96**	**227**	*e*P	**Pb**	**13 47 60.0**	**-1.3**
TYC				S	**Sb**	**13 48 13.8**	**-0.4**
EHY	**Hungye**	**1.09**	**195**	*e*P	**Pb**	**13 48 02.6**	**-0.9**
EHY				S	**Sb**	**13 48 17.0**	**-0.9**
YOJ	**Yonaguni jima**	**1.26**	**94**	P	**Pb**	**13 48 06.4**	**-0.1**
YOJ				*e*S	**Sb**	**13 48 21.8**	**-1.2**
ALS	**Alishan**	**1.29**	**216**	*e*P	**Pb**	**13 48 07.2**	**+0.3**
CHN5	**Tsauling**	**1.29**	**222**	*e*P	**Pb**	**13 48 07.2**	**+0.2**
CHN5				S	**Sb**	**13 48 24.4**	**+0.5**
WGK	**Gukeng**	**1.31**	**228**	*e*P	**Pb**	**13 48 07.6**	**+0.4**
ELDTW	**Lidau**	**1.48**	**202**	*e*P	**Pn**	**13 48 10.3**	**+0.3**
CHN4	**Tsaushan**	**1.53**	**218**	*e*P	**Pn**	**13 48 11.3**	**+0.6**
CHN4				S	**Sb**	**13 48 32.0**	**+1.2**
STYT	**Tauyuan**	**1.60**	**210**	*e*P	**Pn**	**13 48 13.0**	**+1.2**
WTP	**Ta-pu**	**1.60**	**216**	*e*P	**Pn**	**13 48 12.9**	**+1.1**
WTP				S	**Sb**	**13 48 34.3**	**+1.4**
TWK	**Hsinying**	**1.66**	**219**	*e*P	**Pn**	**13 48 13.7**	**+1.2**
TWK				S	**Sb**	**13 48 35.5**	**+1.1**
CHN1	**Nanshi**	**1.70**	**217**	*e*P	**Pn**	**13 48 14.0**	**+0.8**
CHN1				S	**Sn**	**13 48 35.8**	**+0.2**
SGST	**Jiashian**	**1.75**	**213**	*e*P	**Pn**	**13 48 15.9**	**+1.9**
CHN8	**Yiju**	**1.77**	**227**	*e*P	**Pn**	**13 48 14.5**	**+0.3**
TWG	**Pinlang**	**1.81**	**196**	*e*P	**Pn**	**13 48 15.6**	**+0.9**
IRIF	**Iriomote-Funau**	**1.93**	**96**	P	**Pn**	**13 48 15.8**	**-0.6**
IRIF				*e*S	**Sn**	**13 48 40.3**	**-1.2**
SSD	**Sandimen**	**2.02**	**207**	*e*P	**Pn**	**13 48 18.7**	**+0.9**
HATJ	**Hateruma jima**	**2.05**	**104**	*e*S	**Sn**	**13 48 44.5**	**0.0**
JKRS	**Kuro-shima**	**2.19**	**98**	P	**Pn**	**13 48 20.0**	**-0.3**
JKRS				*e*S	**Sn**	**13 48 46.3**	**-2.0**
EAST	**Anshuo**	**2.28**	**198**	*e*P	**Pn**	**13 48 22.6**	**+1.1**
JIJ	**Ishigaki jima**	**2.30**	**94**	P	**Pn**	**13 48 21.3**	**-0.5**
JIJ				*e*S	**Sn**	**13 48 48.1**	**-2.8**

*NEIC **01** 14:14:41.1,36.49N×29.21E,h30km,MD3.3(ATH),After ATH.*
*ATH **01** 14:14:41.1,36.49N×29.21E,h30km±24km,MD3.3/4*
*CSEM **01** 14:14:41.3±0.2,36.44N×29.16E,h10km,MD3.3,Error ellipse: s-maj=5.1km s-min=3.7km az=171.0*
*ISK **01** 14:14:41.4,36.41N×29.15E,h23km,MD3.3*
ISC 01 14:14:42.6±0.6,36.45N±0.04×29.16E±0.04,h24km±5km, n28,σ1°08/42,2D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.20**	**341**	PG	**Pb**	**14 14 47.2**	**-0.9**
FETY				SG	**Sb**	**14 14 52.0**	**+0.2**
FETY	**Fethiye**	**0.20**	**341**	*e*Pg	**Pb**	**14 14 47.2**	**-0.9**
FETY				*e*Sg	**Sb**	**14 14 52.0**	**+0.2**
KSL	**Kastellorizon**	**0.45**	**131**	*e*PB	**Pb**	**14 14 50.5**	**-1.3**
KSL				*e*SB	**Sb**	**14 14 59.0**	**+0.8**
DALT	**Dalyan (Mudla)**	**0.53**	**308**	PG	**Pb**	**14 14 53.6**	**+0.4**
DALT	**Dalyan (Mudla)**	**0.53**	**308**	*e*Pg	**Pb**	**14 14 53.6**	**+0.4**
ELL	**Elmali**	**0.67**	**63**	PG	**Pb**	**14 14 55.2**	**-0.3**
ELL				SG	**Sb**	**14 15 06.2**	**+1.8**
ELL	**Elmali**	**0.67**	**63**	*e*Pg	**Pb**	**14 14 55.2**	**-0.3**
ELL				*e*Sg	**Sb**	**14 15 06.2**	**+1.8**
ARG	**Arkhangelos**	**0.87**	**255**	*e*PN	**Pn**	**14 14 58.7**	**-0.7**
ARG				*e*SN	**Sn**	**14 15 12.4**	**+1.1**
ARG	**Arkhangelos**	**0.87**	**255**	*e*Pn	**Pn**	**14 14 58.7**	**-0.7**
ARG				*e*Sn	**Sn**	**14 15 12.4**	**+1.1**
DNZL	**Cakiroluk**	**1.25**	**356**	*i* P	**Pn**	**14 15 05.5**	**+0.8**
DNZL				*i* S	**Sn**	**14 15 22.2**	**+1.3**
DENT	**Denizli**	**1.31**	**356**	PN	**Pn**	**14 15 05.9**	**+0.2**
DENT	**Denizli**	**1.31**	**356**	*e*Pn	**Pn**	**14 15 05.9**	**+0.2**
BDRM	**Kayabasi**	**1.51**	**295**	*i* P	**Pn**	**14 15 09.6**	**+1.0**
BDRM				*i* S	**Sn**	**14 15 30.8**	**+3.2**
BCK	**Bucak**	**1.53**	**48**	*e*PN	**Pn**	**14 15 08.0**	**-0.8**
BCK	**Bucak**	**1.53**	**48**	*e*Pn	**Pn**	**14 15 08.0**	**-0.8**
AYDN	**Tasoluk**	**1.59**	**320**	*i* P	**Pn**	**14 15 11.1**	**+1.4**
AYDN				*i* S	**Sn**	**14 15 26.8**	**-2.8**
ISP	**Isparta**	**1.76**	**37**	*e*PN	**Pn**	**14 15 12.0**	**-0.1**
ISP	**Isparta**	**1.76**	**37**	*e*Pn	**Pn**	**14 15 12.0**	**-0.1**
KARP	**Karpathos**	**1.85**	**242**	⇓*i*PN	**Pn**	**14 15 13.2**	**-0.3**
KARP	**Karpathos**	**1.85**	**242**	⇓*i*Pn	**Pn**	**14 15 13.2**	**-0.3**
MANT	**Manisa**	**2.10**	**347**	*i* P	**Pn**	**14 15 16.6**	**-0.4**
MANT				*i* S	**Sn**	**14 15 39.1**	**-3.4**
SMG	**Samos**	**2.25**	**305**	*e*PN	**Pn**	**14 15 18.4**	**-0.7**
SMG				*e*SN	**Sn**	**14 15 46.9**	**+0.5**
SMG	**Samos**	**2.25**	**305**	*e*Pn	**Pn**	**14 15 18.4**	**-0.7**
SMG				*e*Sn	**Sn**	**14 15 46.9**	**+0.5**
IZM	**Izmir**	**2.47**	**323**	*e*PN	**Pn**	**14 15 21.6**	**-0.6**
IZM	**Izmir**	**2.47**	**323**	*e*Pn	**Pn**	**14 15 21.6**	**-0.6**
KDAG	**Bornova**	**2.47**	**323**	*i* P	**Pn**	**14 15 21.3**	**-0.9**
KDAG				*i* S	**Sn**	**14 16 00.8**	**+8.8**
AKS	**Akhisar**	**2.66**	**337**	*e*PN	**Pn**	**14 15 23.5**	**-1.4**
AKS	**Akhisar**	**2.66**	**337**	*e*Pn	**Pn**	**14 15 23.5**	**-1.4**

*SNSN **01** 14:17:19.7,29.73N×34.93E,h30km,Ml2.1*
*CSEM **01** 14:17:19.2±0.1,29.73N×35.00E,h20km,Mw2.5,Error ellipse: s-maj=5.0km s-min=1.6km az=79.0*
*GII **01** 14:17:20.3±0.3,29.80N×35.05E,h14km±1km,ML2.4/4, Mw2.5/6*
ISC 01 14:17:19.6±0.5,29.73N±0.03×35.04E±0.09,h23km±4km, n34,σ0°51/44,5D,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**0.01**	**120**	Pg	**Pb**	**14 17 23.7**	**+0.2**
EIL	**Elat**	**0.10**	**230**	Pg	**Pb**	**14 17 24.0**	**+0.1**
EIL	**Elat**	**0.10**	**230**	⇓Pg	**Pb**	**14 17 24.0**	**0.0**
EIL	**Elat**	**0.10**	**230**	⇓Pg	**Pb**	**14 17 24.0**	**0.0**
MBH	**Mount Berech**	**0.12**	**299**	Pg	**Pb**	**14 17 24.2**	**+0.1**
MBH	**Mount Berech**	**0.12**	**299**	⇓Pg	**Pb**	**14 17 24.2**	**0.0**
MBH	**Mount Berech**	**0.12**	**299**	⇓Pg	**Pb**	**14 17 24.2**	**0.0**
ALWS	**Ilw as Safayha**	**0.42**	**177**	P	**Pb**	**14 17 28.8**	**+0.4**
ALWS	**Ilw as Safayha**	**0.42**	**177**	P	**Pb**	**14 17 28.8**	**+0.4**
KMTI	**Karmit**	**0.46**	**324**	Pg	**Pb**	**14 17 28.6**	**-0.4**
KMTI				Sg	**Sb**	**14 17 34.6**	**-0.8**
KMTI	**Karmit**	**0.46**	**324**	Pg	**Pb**	**14 17 28.6**	**-0.4**
KMTI				Sg	**Sb**	**14 17 34.6**	**-0.8**
JMQS	**Jabal al Moall**	**0.57**	**174**	P	**Pb**	**14 17 31.3**	**+0.4**
JMOS	**Jabal al Moall**	**0.57**	**174**	P	**Pb**	**14 17 31.3**	**+0.5**
PRNI	**Paran**	**0.62**	**357**	Pg	**Pb**	**14 17 31.6**	**-0.1**
PRNI				Sg	**Sb**	**14 17 40.1**	**+0.3**
PRNI	**Paran**	**0.62**	**357**	⇓Pg	**Pb**	**14 17 31.5**	**-0.1**
PRNI				Sg	**Sb**	**14 17 40.1**	**+0.2**
HAQS	**Haql**	**0.68**	**188**	P	**Pb**	**14 17 33.2**	**+0.4**
HAQS	**Haql**	**0.68**	**188**	P	**Pb**	**14 17 33.2**	**+0.4**
ZFRI	**Zfri**	**0.83**	**8**	Pg	**Pb**	**14 17 35.1**	**0.0**
ZFRI				Sg	**Sb**	**14 17 45.9**	**-0.1**
ZFRI	**Zfri**	**0.83**	**8**	Pg	**Pb**	**14 17 35.2**	**0.0**
ZFRI				Sg	**Sb**	**14 17 45.8**	**-0.1**
JMQS	**Jabal Moqyreh**	**1.12**	**139**	P	**Pn**	**14 17 40.3**	**+0.3**
JMQS	**Jabal Moqyreh**	**1.12**	**139**	P	**Pn**	**14 17 40.3**	**+0.2**
TAYS	**Tayyib Ism**	**1.19**	**187**	P	**Pn**	**14 17 40.2**	**-0.9**
TAYS	**Tayyib Ism**	**1.19**	**187**	P	**Pn**	**14 17 40.2**	**-0.9**
MASH	**Mash'abbe Sade**	**1.28**	**350**	Pg	**Pn**	**14 17 42.6**	**+0.3**
MASH				Sg	**Sn**	**14 17 59.7**	**+0.8**
MASH	**Mash'abbe Sade**	**1.28**	**350**	Pg	**Pn**	**14 17 42.6**	**+0.3**
KZIT	**Kziot**	**1.29**	**335**	Pg	**Pn**	**14 17 43.4**	**+0.9**
KZIT				Sg	**Sn**	**14 18 00.0**	**+0.7**
KZIT	**Kziot**	**1.29**	**335**	Pg	**Pn**	**14 17 43.4**	**+0.8**
BDAS	**Al Bad'**	**1.30**	**178**	P	**Pn**	**14 17 41.9**	**-0.7**
BDAS	**Al Bad'**	**1.30**	**178**	P	**Pn**	**14 17 41.9**	**-0.7**
MZDA	**Masada**	**1.59**	**10**	Pn	**Pn**	**14 17 46.1**	**-0.8**
MZDA	**Masada**	**1.59**	**10**	Pn	**Pn**	**14 17 46.1**	**-0.8**
MKRJ	**Makawir**	**1.89**	**16**	Pn	**Pn**	**14 17 51.0**	**0.0**
SLTI	**Sal'it**	**2.50**	**0**	Pn	**Pn**	**14 17 59.5**	**-0.3**
SLTI				Sn	**Sn**	**14 18 29.3**	**-0.6**
SLTI	**Sal'it**	**2.50**	**0**	Pn	**Pn**	**14 17 59.5**	**-0.3**
SLTI				Sn	**Sn**	**14 18 29.3**	**-0.6**

ISC 01 14:22:08.6±0.4,46.35N±0.02×13.10E±0.04,h10km,n15, σ0°68/28,6C-6D,Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOO	**Bordano**	**0.03**	**182**	⇑*i*Pg	**Pg**	**14 22 10.2**	**-0.3**
BOO				*i* Sg	**Sg**	**14 22 10.9**	**-0.8**
BOO	**Bordano**	**0.03**	**182**	⇓*i*Pg	**Pg**	**14 22 10.2**	**-0.3**
BOO				*i* Sg	**Sg**	**14 22 10.9**	**-0.8**
BUA	**Buia**	**0.13**	**173**	⇓*i*Pg	**Pg**	**14 22 11.8**	**0.0**
BUA				*i* Sg	**Sg**	**14 22 14.2**	**+0.3**
MPRI	**Monte Prat**	**0.13**	**216**	⇓*i*Pg	**Pg**	**14 22 11.8**	**-0.1**
MPRI				*i* Sg	**Sg**	**14 22 14.1**	**+0.1**
BAD	**Bernadia**	**0.15**	**139**	⇑*i*Pg	**Pg**	**14 22 12.1**	**0.0**
BAD				*i* Sg	**Sg**	**14 22 14.8**	**+0.3**
PLRO	**Paularo**	**0.20**	**9**	⇓*i*Pg	**Pg**	**14 22 13.0**	**0.0**
PLRO				*i* Sg	**Sg**	**14 22 16.9**	**+0.9**
ZOU	**Zoufplan**	**0.23**	**337**	⇓*i*Pg	**Pg**	**14 22 13.4**	**0.0**
ZOU				*i* Sg	**Sg**	**14 22 17.2**	**+0.5**
COLI	**Coloredo**	**0.29**	**138**	⇑*i*Pg	**Pg**	**14 22 14.8**	**+0.1**
COLI				*i* Sg	**Sg**	**14 22 19.8**	**+1.1**
ROBS	**Robic**	**0.30**	**110**	*i* Pg	**Pg**	**14 22 14.6**	**-0.3**
LSR	**Lussari**	**0.32**	**67**	⇓*i*Pg	**Pg**	**14 22 15.3**	**+0.1**
LSR				*e*Sg	**Sg**	**14 22 20.2**	**+0.4**
MLNI	**Malnisio**	**0.40**	**240**	⇑*i*Pg	**Pg**	**14 22 16.5**	**-0.2**
MLNI				*i* Sg	**Sg**	**14 22 22.8**	**+0.7**
DRE	**Drenchia**	**0.41**	**115**	⇑*i*Pg	**Pg**	**14 22 16.8**	**-0.4**
DRE				*e*Sg	**Sg**	**14 22 23.4**	**+0.6**
VOJS	**Vojsko**	**0.63**	**120**	*i* Pg	**Pg**	**14 22 20.4**	**-0.9**
VOJS				*i* Sg	**Sg**	**14 22 31.1**	**+1.3**
JAVS	**Javornik**	**0.81**	**124**	*i* Pg	**Pg**	**14 22 23.5**	**-1.4**
OBKA	**Obir**	**1.01**	**80**	⇑*i*PG	**Pg**	**14 22 27.1**	**-1.8**
OBKA				*i* SG	**Sg**	**14 22 42.3**	**-0.2**
	3.0nm,0.3s						

*CSEM **01** 14:26:40.1±0.3,37.41N×24.78W,h30km,ML3.2,Error ellipse: s-maj=8.1km s-min=3.5km az=62.0*
*PDA **01** 14:26:40.6±0.8,37.44N×24.48W,h10km,MD3.0,ML3.2, Error ellipse: s-maj=4.3km s-min=2.2km az=62.0*
SVSA 01 14:26:40.6±0.8,37.44N×24.48W,h10km,MD3.0,ML3.2, Error ellipse: s-maj=4.3km s-min=2.2km az=62.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.64**	**227**	*i* P	Pb	14 26 50.8	-2.5
PSMN				*i* S	Sg	14 26 58.6	-3.4
PSMN	**Pico do Norte,**	**0.64**	**227**	*i* P	Pb	14 26 50.8	-2.5
PSMN				*i* S	Sg	14 26 58.6	-3.4
MIRA	**Miradouro**	**0.72**	**299**	*i* P	Pb	14 26 51.8	-3.0
MIRA				*i* S	Sb	14 27 00.8	-3.7
MIRA	**Miradouro**	**0.72**	**299**	*i* P	Pb	14 26 51.8	-3.0
MIRA				*i* S	Sb	14 27 00.8	-3.7
FRA1	**Furnas**	**0.76**	**294**	*e*P	Pb	14 26 52.6	-2.8
FRA1				*i* S	Sb	14 27 01.2	-4.4
FRA1	**Furnas**	**0.76**	**294**	*e*P	Pb	14 26 52.6	-2.8
FRA1				*i* S	Sb	14 27 01.2	-4.4
PFAD	**Fenais da Ajud**	**0.78**	**301**	*i* P	Pb	14 26 52.6	-3.2
PFAD				*i* S	Sb	14 27 02.3	-3.8
PFAD	**Fenais da Ajud**	**0.78**	**301**	*i* P	Pb	14 26 52.6	-3.2
PCNG	**Congro**	**0.80**	**295**	*e*P	Pb	14 26 53.4	-2.7
PCNG				*i* S	Sb	14 27 02.3	-4.4
	398nm,0.2s						
PCNG	**Congro**	**0.80**	**295**	*e*P	Pb	14 26 53.4	-2.7
VIF	**Vila Franca**	**0.82**	**292**	*e*P	Pb	14 26 53.5	-3.0
VIF				*i* S	Sb	14 27 03.1	-4.3
	228nm,0.2s						
VIF	**Vila Franca**	**0.82**	**292**	*e*P	Pb	14 26 53.5	-3.0
VIF				*i* S	Sb	14 27 03.1	-4.3
	228nm,0.2s						
MESC	**Monte Escuro**	**0.84**	**295**	*e*P	Pb	14 26 53.6	-3.3
MESC				*i* S	Sb	14 27 03.9	-4.1
MESC	**Monte Escuro**	**0.84**	**295**	*e*P	Pb	14 26 53.6	-3.3
MESC				*i* S	Sb	14 27 03.9	-4.1
PRCH	**Ribeira Ch**	**0.84**	**290**	*e*P	Pb	14 26 53.8	-3.1
PRCH				*i* S	Sb	14 27 04.0	-4.0
	4μm,0.3s						
PRCH	**Ribeira Ch**	**0.84**	**290**	*e*P	Pb	14 26 53.8	-3.1
PRCH				*i* S	Sb	14 27 04.0	-4.0
	4μm,0.3s						
LFA	**Lagoa do Fogo**	**0.86**	**293**	*i* P	Pb	14 26 54.1	-3.1
LFA	**Lagoa do Fogo**	**0.86**	**293**	*i* P	Pb	14 26 54.1	-3.1
PMAT	**Coroa da Mata**	**0.87**	**296**	*e*P	Pb	14 26 54.1	-3.3
PMAT				*i* S	Sb	14 27 04.4	-4.4
	172nm,0.2s						
PMAT	**Coroa da Mata**	**0.87**	**296**	*e*P	Pb	14 26 54.1	-3.3
PMAT				*i* S	Sb	14 27 04.4	-4.4
	172nm,0.2s						
PVER	**Pico Vermelho**	**0.90**	**294**	*i* S	Sb	14 27 05.1	-4.4
	156nm,0.2s						
PVER	**Pico Vermelho**	**0.90**	**294**	*i* S	Sb	14 27 05.1	-4.4
	156nm,0.2s						
CML	**Cha da Macela**	**0.91**	**292**	*e*P	Pb	14 26 54.8	-3.2
CML				*i* S	Sb	14 27 05.2	-4.7
CML	**Cha da Macela**	**0.91**	**292**	*e*P	Pb	14 26 54.8	-3.2
CML				*i* S	Sb	14 27 05.2	-4.7
FAC	**Faja de Cima**	**0.99**	**290**	*e*P	Pb	14 26 56.7	-2.6
FAC				*e*S	Sb	14 27 06.9	-5.3
FAC	**Faja de Cima**	**0.99**	**290**	*e*P	Pb	14 26 56.7	-2.6
FAC				*e*S	Sb	14 27 06.9	-5.3
PSET	**Sete Cidades**	**1.06**	**292**	*i* P	Pb	14 26 56.9	-3.6
PSET				*e*S	Sb	14 27 09.1	-5.1
	425nm,0.3s						
PSAN	**Santo Antonio**	**1.07**	**293**	*e*P	Pb	14 26 57.0	-3.8
PSAN				*e*S	Sb	14 27 09.4	-5.2
PSAN	**Santo Antonio**	**1.07**	**293**	*e*P	Pb	14 26 57.0	-3.8
PSAN				*e*S	Sb	14 27 09.4	-5.2
PFET	**Feteiras**	**1.10**	**291**	*e*P	Pb	14 26 57.5	-3.8
PFET				*i* S	Sb	14 27 09.9	-5.7
PFET	**Feteiras**	**1.10**	**291**	*e*P	Pb	14 26 57.5	-3.8
PFET				*i* S	Sb	14 27 09.9	-5.7
SET2	**Ginetes**	**1.13**	**292**	*e*P	Pb	14 26 58.2	-3.5
SET2				*i* S	Sb	14 27 10.7	-5.6
SET2	**Ginetes**	**1.13**	**292**	*e*P	Pb	14 26 58.2	-3.5
SET2				*i* S	Sb	14 27 10.7	-5.6
SET4	**Mosteiros**	**1.13**	**293**	*e*P	Pb	14 26 57.9	-3.9
SET4				*e*S	Sb	14 27 11.2	-5.2
SET4	**Mosteiros**	**1.13**	**293**	*e*P	Pb	14 26 57.9	-3.9
SET4				*e*S	Sb	14 27 11.2	-5.2
PFAV	**Pico das Favas**	**2.42**	**303**	*e*P	Pn	14 27 15.5	-5.3
PFAV				*i* S	Sn	14 27 41.8	-8.9
PFAV	**Pico das Favas**	**2.42**	**303**	*e*P	Pn	14 27 15.5	-5.3
PFAV				*i* S	Sn	14 27 41.8	-8.9
PSCM	**Serra do Cume**	**2.43**	**302**	*e*P	Pn	14 27 15.4	-5.7
PSCM				*e*S	Sn	14 27 41.5	-10
	54nm,0.2s						
PSCM	**Serra do Cume**	**2.43**	**302**	*e*P	Pn	14 27 15.4	-5.7
PSCM				*e*S	Sn	14 27 41.5	-10
	54nm,0.2s						
RIB2	**Ribeirinha**	**2.46**	**301**	*e*P	Pn	14 27 16.1	-5.3
RIB2				*i* S	Sn	14 27 42.6	-9.2
	33nm,0.1s						
RIB2	**Ribeirinha**	**2.46**	**301**	*e*P	Pn	14 27 16.1	-5.3
RIB2				*i* S	Sn	14 27 42.6	-9.2
	33nm,0.1s						
PVNV	**Vila Nova**	**2.49**	**303**	*e*P	Pn	14 27 16.6	-5.3
PVNV				*i* S	Sn	14 27 43.9	-8.7
	13nm,0.1s						
PVNV	**Vila Nova**	**2.49**	**303**	*e*P	Pn	14 27 16.6	-5.3
PVNV				*i* S	Sn	14 27 43.9	-8.7
	13nm,0.1s						
PPAD	**Pico dos Padre**	**2.55**	**301**	*e*P	Pn	14 27 17.8	-4.9
PPAD				*i* S	Sn	14 27 45.1	-9.0
	15nm,0.2s						
PPAD	**Pico dos Padre**	**2.55**	**301**	*e*P	Pn	14 27 17.8	-4.9
PPAD				*i* S	Sn	14 27 45.1	-9.0
	15nm,0.2s						
PBIS	**Biscoitos**	**2.56**	**302**	*e*S	Sn	14 27 45.5	-8.8
	6.8nm,0.2s						
PBIS	**Biscoitos**	**2.56**	**302**	*e*S	Sn	14 27 45.5	-8.8
	6.8nm,0.2s						
ASBA	**Santa Barbara**	**2.58**	**301**	*i* S	Sn	14 27 46.0	-9.0
	27nm,0.2s						
PSBA	**Serra de Santa**	**2.61**	**302**	*e*S	Sn	14 27 46.6	-9.

KOD	**Kodaikanal**	**15.72 279**	⇓*i*P	**P**	**14 32 54.0 +2.2**
KOD			*e*		14 35 57.0
TRD	**Trivandrum**	**16.12 273**	*e*P	**P**	**14 32 57.3 +0.3**
TRD			*e*		14 33 08.3
	comp=Z,206nm,0.9s				
TRD			*e*		14 35 40.1
IMP	**Imphal**	**16.61 2**	*e*P	**P**	**14 33 01.5 -1.5**
HYB	**Hyderabad**	**17.05 304**	*i* P	**P**	**14 33 08.0 -0.5**
	comp=Z,180nm,1.0s				
HYB			*e*S	**S**	**14 36 12.0 -3.2**
HYB			LR	LR	14 38 32.0
	comp=Z,4.6nm,24.0s				
SHL	**Shillong**	**17.42 356**	⇑*i*P	**P**	**14 33 10.1 -3.1**
SHL			*e*		14 33 17.1
	comp=Z,287nm,0.8s				
SHL			*e*S	**S**	**14 36 21.0 -2.5**
BLSP	**Bilaspur**	**17.58 324**	*e*P	**P**	**14 33 15.0 -0.2**
BLSP			*i*		14 36 16.0
MNGI	**Mangalore**	**18.73 286**	⇓*i*P	**P**	**14 33 29.8 +0.4**
MNGI			⇓*i*P		14 33 29.8
MNGI			*e*		14 33 35.2
	comp=Z,370nm,1.0s				
NGP	**Nagpur**	**18.87 315**	*e*P	**P**	**14 33 32.1 +1.1**
NGP			*e*		14 36 46.1
LATR	**Latur**	**19.19 304**	*e*P	**P**	**14 33 35.0 +0.4**
LATR			*e*		14 35 50.2
QIZ	**Qiongzhong**	**19.43 54**	P	**P**	**14 33 38.1 +0.8**
QIZ			PP	PP	14 33 55.4 -0.1
QIZ			S	**S**	**14 37 10.1 +1.3**
QIZ			AMB	AMB	
	comp=Z,75nm,1.0s				
QIZ			AMB	AMB	
	comp=Z,902nm,7.3s				
QIZ			LR	LR	
	comp=N,5μm,14.9s				
QIZ			LR	LR	
	comp=Z,3μm,20.2s				
QIZ	**Qiongzhong**	**19.43 54**	*e*P	**P**	**14 33 37.8 +0.5**
	comp=Z,74nm,1.0s				
MNCY	**Minicoy**	**20.00 272**	*i* P	**P**	**14 33 46.0 +2.5**
GOA	**Goa**	**20.37 293**	⇓*e*	**P**	**14 33 53.0 +5.7**
GOA			*e*		14 37 27.8
KAD	**Karad**	**20.71 298**	*e*P	**P**	**14 33 51.1 +0.3**
KAD			*i*		14 37 29.9
PKI	**Pulchoki**	**20.74 340**	*e*P	**P**	**14 33 51.6 +0.5**
	comp=Z,324nm,0.9s				
DMN	**Daman**	**20.88 339**	*e*P	**P**	**14 33 53.0 +0.5**
	comp=Z,333nm,0.9s				
GUN	**Gumba**	**20.90 341**	*e*P	**P**	**14 33 53.4 +0.7**
	comp=Z,519nm,0.8s				
KKN	**Kakani**	**20.99 340**	*e*P	**P**	**14 33 53.9 +0.3**
	comp=Z,280nm,0.8s				
GKN	**Gorkha**	**21.41 339**	*e*P	**P**	**14 33 58.4 +0.6**
	comp=Z,344nm,0.8s,mb5.7				
POO	**Poona**	**21.51 301**	*i*	**S**	**14 37 49.0 -0.6**
LSA	**Lhasa**	**21.58 355**	P	**P**	**14 33 59.5 0.0**
LSA			S	**S**	**14 37 49.8 -1.0**
LSA			XS		14 38 10.0
LSA			AMB	AMB	
	comp=Z,50nm,0.9s,mb4.9				
LSA			AMB	AMB	
	comp=Z,140nm,3.5s				
LSA			LR	LR	
	comp=N,650nm,22.8s				
LSA			LR	LR	
	comp=E,3μm,28.0s				
LSA			LR	LR	
	comp=Z,1μm,24.8s,MS4.2				
LSA	**Lhasa**	**21.58 355**	*e*P	**P**	**14 33 59.2 -0.3**
	comp=Z,59nm,0.6s,mb5.2				
LSA			LR	LR	
	comp=Z,1μm,21.0s,MS4.3				
KOLN	**Koldanda**	**21.59 336**	*e*P	**P**	**14 34 00.5 +0.9**
	comp=Z,216nm,0.7s,mb5.7				
BOM	**Bombay**	**22.55 300**	*e*P	**P**	**14 34 08.7 -0.7**
BOM			*e*		14 34 29.5
	comp=Z,327nm,1.5s				
BOM			*e*S	**S**	**14 38 12.2 +3.5**
PTH	**Pithoragarh**	**24.60 332**	*e*P	**P**	**14 34 30.0 +0.8**
PTH			*e*		14 39 03.0
AYAN	**Aya Nagar**	**25.34 325**	*e*P	**P**	**14 34 37.1 +0.9**
AJM	**Ajmer**	**25.42 318**	*i* P	**P**	**14 34 38.0 +1.0**
NDI	**New Delhi**	**25.45 326**	*e*P	**P**	**14 34 37.9 +0.7**
NDI			*e*		14 39 24.0
KUDL	**Kundal**	**25.45 324**	*e*P	**P**	**14 34 38.3 +1.0**
BHGR	**Bahadurgarh**	**25.61 325**	*e*P	**P**	**14 34 40.3 +1.6**
KHET	**Khetri**	**25.81 323**	*e*P	**P**	**14 34 42.1 +1.5**
DGAR	**Diego Garcia**	**25.83 234**	*e*P	**P**	**14 34 41.4 +0.5**
DGAR			LR	LR	
	comp=Z,860nm,19.0s,MS4.3				
DDI	**Dehra Dun**	**26.29 329**	*e*P	**P**	**14 34 45.0 -0.1**
DDI			*e*		14 39 43.1
KKR	**Kurukshetra**	**26.65 327**	*e*P	**P**	**14 34 49.1 +0.7**
ENH	**Enshi**	**26.80 32**	*e*P	**P**	**14 34 48.8 -0.9**
	comp=Z,178nm,0.9s,mb5.6				
ENH			LR	LR	
	comp=Z,3μm,19.0s,MS4.8				
KLP	**Kalpa**	**27.18 331**	*e*P	**P**	**14 34 53.9 +0.6**
SMLA	**Simla**	**27.39 329**	*e*	pP	14 35 09.1 +1.8
SMLA			*e*		14 35 12.9
	comp=Z,54nm,0.9s				
QZH	**Quanzhou**	**29.42 52**	⇓*i*P	**P**	**14 35 14.6 +1.2**
QZH			*e*S	**S**	**14 40 10.7 +7.9**
QZH			AMB	AMB	
	comp=Z,160nm,1.2s,mb5.6				
QZH			LR	LR	
	comp=N,2μm,13.2s,MS5.0				
QZH			LR	LR	
	comp=E,2μm,11.1s,MS5.0				
QZH			LR	LR	
	comp=Z,4μm,18.8s				
LZH	**Lanzhou**	**29.49 18**	⇑*i*P	**P**	**14 35 13.5 -0.4**
LZH			AP	pP	14 35 22.4 -3.7
LZH			PP	PP	14 36 10.6 -0.2
LZH			S	**S**	**14 40 07.5 +3.7**
LZH			SS	SS	14 41 43.4 +4.6
LZH			AMB	AMB	
	comp=Z,85nm,1.5s,mb5.2				
LZH			AMB	AMB	
	comp=Z,368nm,6.5s				
LZH			LR	LR	
	comp=E,3μm,13.1s				
LZH			LR	LR	
	comp=Z,6μm,17.2s,MS5.3				
XAN	**Xi'an**	**29.59 27**	P	**P**	**14 35 13.5 -1.3**
XAN			S	**S**	**14 40 14.0 +8.7**
XAN			AMB	AMB	
	comp=Z,55nm,1.0s,mb5.2				
XAN			LR	LR	
	comp=N,782nm,22.5s,MS4.7				
XAN			LR	LR	
	comp=E,2μm,23.8s,MS4.7				
XAN			LR	LR	
	comp=Z,3μm,24.1s,MS4.8				
WHN	**Wuhan**	**29.81 39**	P	**P**	**14 35 17.5 +0.7**
WHN			AMB	AMB	
	comp=Z,120nm,0.8s,mb5.7				
WHN			LR	LR	
	comp=Z,4μm,28.8s,MS4.9				
TATO	**Taipei**	**31.75 55**	PFAKE		14 35 50.0 +16
TATO			LR	LR	
	comp=Z,3μm,20.0s,MS5.0				
NJ2	**Nanjing**	**33.69 41**	*e*P	**P**	**14 35 51.6 +0.9**
NJ2			AP	pP	14 36 01.5 -1.6
NJ2			PP	PP	14 37 06.3 +1.9
NJ2			S	**S**	**14 41 15.0 +5.5**
NJ2			SS	SS	14 43 19.0 +2.5
NJ2			AMB	AMB	
	comp=Z,390nm,0.9s,mb6.3				
NJ2			AMB	AMB	
	comp=Z,1μm,4.7s				
NJ2			LR	LR	
	comp=N,3μm,23.0s,MS5.1				
NJ2			LR	LR	
	comp=E,3μm,22.9s,MS5.1				
NJ2			LR	LR	
	comp=Z,3μm,19.8s,MS5.0				
SSE	**Sheshan**	**34.69 45**	P	**P**	**14 36 00.3 +1.0**
SSE			AP	pP	14 36 09.1 -2.7
SSE			S	**S**	**14 41 23.9 -1.1**
SSE			AMB	AMB	
	comp=Z,102nm,1.0s,mb5.7				
SSE			AMB	AMB	
	comp=Z,199nm,8.2s				
SSE			LR	LR	
	comp=N,558nm,22.0s,MS4.5				
SSE			LR	LR	
	comp=E,688nm,22.0s,MS4.5				
SSE			LR	LR	
	comp=Z,940nm,25.8s,MS4.4				
TIA	**Tai'an**	**35.46 34**	⇑P	**P**	**14 36 06.5 +0.6**
TIA			AMB	AMB	
	comp=Z,38nm,1.0s,mb5.3				
WMQ	**Urumqi**	**35.91 353**	P	**P**	**14 36 10.4 +0.8**
WMQ			AP	pP	14 36 19.2 -2.9
WMQ			PP	PP	14 37 31.9 -0.2
WMQ			S	**S**	**14 41 46.8 +3.0**
WMQ			AMB	AMB	
	comp=Z,63nm,0.8s,mb5.6				
WMQ			AMB	AMB	
	comp=Z,311nm,4.0s				
WMQ			LR	LR	
	comp=N,794nm,18.4s,MS4.8				
WMQ			LR	LR	
	comp=E,1μm,23.2s,MS4.8				
WMQ			LR	LR	
	comp=Z,738nm,17.2s				
ULHL	**Ulahol**	**37.17 339**	P	**P**	**14 36 21.0 +0.8**
	SNR=6.0				
KZA	**Kyzart**	**37.39 338**	P	**P**	**14 36 23.7 +1.7**
	SNR=8.9				
UCH	**Uchtor**	**37.80 337**	P	**P**	**14 36 26.8 +1.3**
	SNR=28				
BJT	**Baijiatuau**	**37.82 29**	*e*P	**P**	**14 36 26.7 +1.1**
	comp=Z,45nm,0.7s,mb5.3				
BJT			LR	LR	
	comp=Z,772nm,20.0s,MS4.5				
TKM2	**Tokmak 2**	**37.99 339**	P	**P**	**14 36 27.9 +0.8**
	SNR=14				
KBK	**Karagaybulak**	**38.00 338**	P	**P**	**14 36 28.4 +1.2**
	SNR=32				
AML	**Almayashu**	**38.04 336**	P	**P**	**14 36 29.1 +1.6**
	SNR=47				
AAK	**Ala-Archa**	**38.15 337**	P	**P**	**14 36 29.8 +1.4**
	SNR=23				
AAK	**Ala-Archa**	**38.15 337**	⇓*i*P	**P**	**14 36 26.7 -1.7**
AAK			pmax	pmax	
	comp=Z,24nm,0.8s,mb5.0				
AAK	**Ala-Archa**	**38.15 337**	*e*P	**P**	**14 36 28.0 -0.4**
	comp=Z,23nm,0.8s,mb5.0				
AAK			LR	LR	
	comp=Z,413nm,22.0s,MS4.2				
FRU	**Bishkek**	**38.28 338**	*e*P	**P**	**14 36 30.5 +1.1**
FRU			pmax	pmax	
	comp=Z,166nm,2.5s,mb5.3				
CHMS	**Chumysh**	**38.37 338**	P	**P**	**14 36 30.8 +0.6**
	SNR=16				
EKS2	**Erkin-Say**	**38.45 337**	P	**P**	**14 36 31.7 +0.8**
	SNR=54				
USP	**Ospenovka**	**38.70 338**	P	**P**	**14 36 33.5 +0.6**
	SNR=39				
MBWA	**Marble Bar**	**39.01 139**	*e*P	**P**	**14 36 34.7 -1.1**
	comp=Z,30nm,0.9s,mb5.0				
MBWA			LR	LR	
	comp=Z,1μm,22.0s,MS4.6				
FITZ	**Fitzroy Crossi**	**41.24 129**	*e*P	**P**	**14 36 52.7 -1.5**
	comp=Z,22nm,1.0s,mb4.7				
ULN	**Ulaanbaatar**	**41.33 14**	⇓*i*P	**P**	**14 36 52.3 -2.4**
ULN	**Ulaanbaatar**	**41.33 14**	*e*P	**P**	**14 36 53.9 -0.7**
	comp=Z,13nm,0.7s,mb4.7				
ULN			LR	LR	
	comp=Z,2μm,21.0s,MS4.9				
INCN	**Inchon**	**42.06 41**	*e*P	**P**	**14 37 00.5 -0.4**
	comp=Z,72nm,0.9s,mb5.3				
INCN			LR	LR	
	comp=Z,1μm,20.0s,MS4.8				
KS15	**Wonju Array Si**	**42.85 42**	*e*P	**P**	**14 37 07.2 -0.1**
SNY	**Shenyang**	**42.97 34**	⇑*i*P	**P**	**14 37 08.9 +0.6**
SNY			AP	pP	14 37 19.7 -1.2
SNY			XP	sP	14 37 22.6 -3.9
SNY			AMB	AMB	
	comp=Z,90nm,0.9s,mb5.5				
SNY			LR	LR	
	comp=N,850nm,19.2s				
SNY			LR	LR	
	comp=E,850nm,24.5s				
SNY			LR	LR	
	comp=Z,950nm,27.9s				
MOY	**Mondy**	**43.90 7**	*e*P	**P**	**14 37 16.3 +0.6**
TLY	**Talaya**	**44.29 9**	*e*P	**P**	**14 37 19.2 +0.5**
TLY			*e*		14 39 02.0
TLY			*e*S	**S**	**14 43 57.5 +8.8**
TLY			*e*SS	SS	14 47 03.8 +4.3
TLY			pmax	pmax	
	comp=Z,17nm,0.9s,mb4.8				
TLY			MLR	MLR	
	comp=Z,972nm,23.0s,MS4.7				
TLY	**Talaya**	**44.29 9**	⇑*i*P	**P**	**14 37 16.1 -2.6**
TLY			LR	LR	
	comp=Z,119nm,21.0s				
IRK	**Irkutsk**	**44.93 10**	*e*P	**P**	**14 37 23.6 -0.3**
IRK			*e*	pP	14 37 37.6 +1.0
IRK			*e*		14 39 03.9
MUN	**Mundaring**	**45.49 152**	*e*P	**P**	**14 37 29.4 +0.8**
	comp=Z,43nm,1.0s,mb5.2				
MUN			*e*	pP	14 37 43.8 +2.5
KLBR	**Kellerberrin**	**45.90 150**	*e*P	**P**	**14 37 32.3 +0.4**
	comp=Z,49nm,0.9s,mb5.4				
HIA	**Hailar**	**46.67 24**	*e*P	**P**	**14 37 37.2 -0.5**
	comp=Z,71nm,0.9s,mb5.6				
HIA			LR	LR	
	comp=Z,1μm,20.0s,MS4.9				
NWAO	**Narrogin (SRO)**	**46.76 152**	*e*P	**P**	**14 37 38.2 -0.4**
	comp=Z,23nm,0.8s,mb5.2				
NWAO			LR	LR	
	comp=Z,815nm,21.0s,MS4.7				
NVS	**Novosibirsk**	**47.30 352**	*i* P	**P**	**14 37 41.3 -1.3**
NVS			*e*S	**S**	**14 44 27.6 -4.1**
NVS			pmax	pmax	
	comp=N,51nm,0.8s				
NVS			pmax	pmax	
	comp=E,37nm,0.8s				
NVS			pmax	pmax	
	comp=Z,122nm,0.8s,mb5.9				
NVS			smax		
	comp=N,32nm,2.1s				
NVS			smax		
	comp=E,56nm,2.1s				
MDJ	**Mudanjiang**	**48.12 35**	P	**P**	**14 37 49.8 +0.6**
MDJ			AP	pP	14 37 58.7 -3.2
MDJ			PCP	PcP	14 39 16.2 -0.3
MDJ			PP	PP	14 39 42.4 +1.4
MDJ			S	**S**	**14 44 50.2 +6.7**
MDJ			SCS	ScS	14 47 41.2 +6.0
MDJ			AMB	AMB	
	comp=Z,75nm,1.2s,mb5.6				
MDJ			AMB	AMB	
	comp=Z,284nm,5.9s				
MDJ			LR	LR	
	comp=N,828nm,21.7s				
MDJ			LR	LR	
	comp=E,572nm,26.8s				
MDJ			LR	LR	
	comp=Z,1μm,24.1s,MS4.7				
MDJ	**Mudanjiang**	**48.12 35**	*e*P	**P**	**14 37 49.9 +0.7**
	comp=Z,76nm,1.0s,mb5.7				
MDJ			LR	LR	
	comp=Z,616nm,19.0s,MS4.6				
BRVK	**Borovoye**	**48.56 342**	*e*P	**P**	**14 37 51.2 -1.2**
	comp=Z,6.4nm,0.6s,mb4.8				
WRAB	**Tennant Creek**	**49.12 125**	⇑*i*P	**P**	**14 37 54.5 -2.7**
WRAB	**Tennant Creek**	**49.12 125**	*e*P	**P**	**14 37 55.4 -1.8**
	comp=Z,30nm,0.8s,mb5.4				
WRAB			LR	LR	
	comp=Z,264nm,19.0s,MS4.2				
WB2	**Warramunga Arr**	**49.12 125**	⇑*i*P	**P**	**14 37 55.8 -1.4**
WB2			*e*	pP	14 38 11.8 +1.8
MAJO	**Matsushiro**	**49.67 48**	*e*P	**P**	**14 38 00.9 -0.3**
	comp=Z,35nm,1.0s,mb5.3				
MAJO			*e*PcP	PcP	14 39 21.6 -0.7
MAJO			LR	LR	
	comp=Z,2μm,20.0s,MS5.0				
MAT	**Matsushiro**	**49.67 48**	*e*P	**P**	**14 38 01.0 -0.2**
	comp=Z,122nm,1.5s,mb5.7				
MAT			LR	LR	
	comp=Z,1μm,20.0s,MS4.8				
MAT	**Matsushiro**	**49.67 48**	P	**P**	**14 38 01.2 0.0**
BOD	**Bodaibo**	**52.14 14**	⇓*i*P	**P**	**14 38 18.8 -0.8**
KLR	**Kul'dur**	**52.15 31**	*e*P	**P**	**14 38 17.2 -2.6**
KLR			pmax	pmax	
	comp=E,42nm,1.8s				
KLR			pmax	pmax	
	comp=Z,64nm,1.8s,mb5.2				
GNI	**Garni**	**53.65 315**	⇓*i*P	**P**	**14 38 29.0 -2.1**
GNI			pmax	pmax	
	comp=Z,24nm,1.1s				
GNI	**Garni**	**53.65 315**	*e*P	**P**	**14 38 31.0 -0.1**
	comp=Z,32nm,1.0s,mb5.2				
GNI			LR	LR	
	comp=Z,387nm,20.0s,MS4.5				
TI2	**Plekhanov**	**54.27 316**	*i* P	**P**	**14 38 35.8 +0.2**
TI2			*i*	pP	14 38 48.6 0.0
TI2			pmax	pmax	
	comp=Z,30nm,0.6s,mb5.4				
TI2			pmax	pmax	
	comp=Z,50nm,0.6s,mb5.6				
CLNS	**Chul'man**	**54.54 21**	*e*P	**P**	**14 38 35.9 -1.5**
CLNS			pmax	pmax	
	comp=Z,49nm,0.9s,mb5.5				
CLNS			pmax	pmax	
	comp=N,24nm,0.7s				
CLNS			pmax	pmax	
	comp=E,22nm,0.7s				
SVE	**Sverdlovsk**	**54.87 339**	⇑*e*P	**P**	**14 38 39.5 -0.3**
SVE			*e*		14 39 35.0
SVE			pmax	pmax	
	comp=Z,110nm,2.2s,mb5.5				
SVE			MLR	MLR	
	comp=Z,2μm,21.5s,MS5.1				
ARU	**Arti**	**55.34 337**	⇑*i*P	**P**	**14 38 41.9 -1.3**
ARU			*e*		14 39 38.0
ARU			*e*		14 40 44.4
ARU			*e*S	**S**	**14 46 26.7 +4.5**
ARU			*e*SS	SS	14 50 11.8 +4.9
ARU			pmax	pmax	
	comp=Z,27nm,1.0s,mb5.2				
PMG	**Port Moresby**	**56.45 107**	*e*P	**P**	**14 38 50.0 -1.7**
PMG	**Port Moresby**	**56.45 107**	*e*P	**P**	**14 38 50.6 -1.1**
	comp=Z,36nm,0.8s,mb5.5				
PMG			LR	LR	
	comp=Z,529nm,21.0s,MS4.6				
KIV	**Kislovodsk**	**56.56 318**	P	**P**	**14 38 51.7 -0.4**
	comp=Z,208nm,0.9s,mb6.2,SNR=10				
KMBO	**Kilima Mbogo**	**56.56 263**	*i* P	**P**	**14 38 54.7 +2.1**
KMBO			pmax	pmax	
	comp=Z,10.0nm,0.8s				
KMBO	**Kilima Mbogo**	**56.56 263**	*e*P	**P**	**14 38 53.6 +1.1**
	comp=Z,18nm,1.0s,mb5.0				
KMBO			LR	LR	
	comp=Z,2μm,21.0s,MS5.1				
GOF	**Gofitskoye**	**56.78 319**	*e*P	**P**	**14 38 52.0 -1.7**
GOF			pmax	pmax	
	comp=Z,35nm,1.4s,mb5.2				
YSS	**Yuzh-Sakhalins**	**57.16 38**	⇑*e*P	**P**	**14 38 55.5 -0.9**
YSS			*e*	pP	14 39 11.0 +1.5
YSS			pmax	pmax	
	comp=Z,80nm,0.9s,mb5.8				
YSS			MLR	MLR	
	comp=Z,500nm,16.0s,MS4.7				
YSS			MLR	MLR	
	comp=N,500nm,17.0s,MS4.8				
YSS			MLR	MLR	
	comp=E,400nm,17.0s,MS4.8				
YSS	**Yuzh-Sakhalins**	**57.16 38**	*e*P	**P**	**14 38 56.3 -0.1**
	comp=E,58nm,0.8s,mb5.7				
YSS			LR	LR	
	comp=Z,685nm,21.0s,MS4.7				
MALT	**Malatya**	**57.64 310**	*e*P	**P**	**14 38 59.1 -0.8**
	comp=Z,10.0nm,0.9s,mb4.8				
SOC	**Sochi**	**58.41 317**	*e*P	**P**	**14 39 01.2 -4.0**
SOC			*e*		14 39 55.9
SOC			*e*S	**S**	**14 47 03.8 +0.9**
SOC			*e*		14 48 55.3
SOC			*e*SSS	SSS	14 53 19.1 -1.1
SOC			pmax	pmax	
	comp=Z,25nm,1.0s,mb5.2				
SOC			pmax	pmax	
	comp=N,25nm,1.3s				
SOC			pmax	pmax	
	comp=E,7.0nm,0.9s				
SOC			MLR	MLR	
	comp=Z,475nm,20.0s,MS4.6				
SOC			MLR	MLR	
	comp=N,773nm,22.0s				
SOC			MLR	MLR	
	comp=E,267nm,16.0s				
EIL	**Elat**	**58.54 300**	*e*P	**P**	**14 39 06.7 +0.4**
	comp=E,19nm,0.8s,mb5.2				
CTA	**Charters Tower**	**59.19 119**	*e*P	**P**	**14 39 09.8 -1.1**
	comp=E,12nm,0.9s,mb4.9				
CTAO	**Charters Tower**	**59.19 119**	*e*P	**P**	**14 39 09.6 -1.3**
CTAO			LR	LR	
	comp=Z,469nm,20.0s,MS4.6				
YAK	**Yakutsk**	**60.07 19**	*e*P	**P**	**14 39 13.9 -2.5**
YAK			*e*		14 39 58.7
YAK			*e*		14 41 26.3
YAK			*e*PPP	PPP	14 42 51.1 -6.3
YAK			*e*S	**S**	**14 47 19.9 -4.2**
YAK			*e*		14 48 54.6
YAK			*e*SS	SS	14 51 19.4 -3.1
YAK			*e*SSS	SSS	14 53 53.3 -2.2
YAK			pmax	pmax	
	comp=Z,22nm,0.9s,mb5.2				
YAK			pmax	pmax	
	comp=N,8.0nm,1.0s				
YAK			pmax	pmax	
	comp=E,7.0nm,1.1s				
YAK			pmax	pmax	
	comp=Z,5.0nm,0.9s,mb4.5				
YAK			pmax	pmax	
	comp=N,5.0nm,1.0s				
YAK			pmax	pmax	
	comp=E,4.0nm,1.1s				
YAK			smax		
	comp=N,6.0nm,1.0s				
YAK			smax		
	comp=E,9.0nm,1.2s				
YAK	**Yakutsk**	**60.07 19**	*e*P	**P**	**14 39 14.5 -1.8**
	comp=E,49nm,0.8s,mb5.6				
YAK			LR	LR	
	comp=Z,913nm,19.0s,MS4.9				
ANN	**Anapa**	**60.37 317**	*e*P	**P**	**14 39 24.8 +6.1**
ANN			pmax	pmax	
	comp=Z,24nm,1.0s,mb5.2				
CSS	**Prodhromos**	**60.82 306**	*e*P	**P**	**14 39 20.7 -1.2**
	comp=Z,8.9nm,0.9s,mb4.9				
STKA	**Stephens Creek**	**60.90 133**	*e*P	**P**	**14 39 21.6 -0.9**
	comp=Z,35nm,1.0s,mb5.5				
BR131	**Keskin Array S**	**61.61 311**	PFAKE		14 39 40.0 +13
BR131			LR	LR	
	comp=Z,392nm,22.0s,MS4.5				
SIM	**Simferopol'**	**62.66 317**	*e*P	**P**	**14 39 32.6 -1.5**
SIM			pmax	pmax	
	comp=Z,40nm,0.9s,mb5.5				
SIM			MLR	MLR	
	comp=Z,770nm,25.0s,MS4.8				
MBAR	**Mbarara**	**62.89 265**	*e*P	**P**	**14 39 33.6 -2.5**
MBAR	**Mbarara**	**62.89 265**	*e*P	**P**	**14 39 36.0 -0.1**
	comp=Z,22nm,1.3s,mb5.1				
MBAR			LR	LR	
	comp=Z,391nm,21.0s,MS4.6				
MOS	**Moscow**	**64.43 329**	*e*P	pP	14 39 57.1 -1.7
MOS			pmax	pmax	
	comp=Z,102nm,1.3s,mb5.7				
OBN	**Obninsk**	**64.72 328**	⇑*i*P	**P**	**14 39 44.5 -2.9**
OBN			*e*	pP	14 39 56.4 -4.3
OBN			*e*S	**S**	**14 48 20.8 -1.9**
OBN			pmax	pmax	
	comp=Z,20nm,1.0s,mb5.1				
OBN	**Obninsk**	**64.72 328**	*e*P	**P**	**14 39 45.9 -1.5**
	comp=Z,34nm,0.9s,mb5.4				
OBN			LR	LR	
	comp=Z,209nm,21.0s,MS4.3				
TOO	**Toolangi**	**66.63 137**	*e*P	**P**	**14 40 00.8 +0.9**
	comp=Z,16nm,0.9s,mb5.0				
SKR	**Severo-Kuril's**	**66.72 38**	*e*P	**P**	**14 39 56.6 -3.7**
SKR			*e*	pP	14 40 10.0 -3.7
SKR			pmax	pmax	
	comp=N,130nm,1.0s				
SKR			pmax	pmax	
	comp=E,100nm,1.0s				
SKR			pmax	pmax	
	comp=Z,220nm,1.0s,mb6.1				
KIS	**Kishinev**	**66.76 318**	*e*P	**P**	**14 40 02.0 +1.4**
KIS			*e*	pP	14 40 13.0 -0.9
KIS			*e*		14 40 27.0
KIS			MLR	MLR	

comp=Z,300nm,16.0s,MS4.6
CFR Carcaliu 66.81 316⇓ iP P 14 39 59.9 -1.0
CFR Carcaliu 66.81 316⇓ iP P 14 39 59.9 -1.0
MA2 Magadan 66.98 28 eP P 14 40 01.2 -0.5
MA2 ePPP PPP 14 44 02.8 -5.5
MA2 eS S 14 48 49.6 -0.5
MA2 ePS PS 14 49 19.6 +0.4
MA2 pmax pmax
comp=Z,60nm,0.8s,mb5.7
MA2 MLR MLR
comp=Z,1μm,21.0s,MS5.2
MA2 Magadan 66.98 28 eP P 14 40 00.9 -0.8
comp=Z,78nm,0.8s,mb5.8
MA2 LR LR
comp=Z,499nm,19.0s,MS4.8
TIXI Tiksi 67.19 12⇑ iP P 14 40 01.7 -1.2
TIXI pmax pmax
comp=Z,75nm,0.8s,mb5.8
TIXI MLR MLR
comp=Z,559nm,20.0s,MS4.8
TIXI Tiksi 67.19 12⇑ iP P 14 39 58.7 -4.2
TIXI LR LR
comp=Z,665nm,20.0s,MS4.9
ARMA Armidale 67.80 127⇑ iP P 14 40 08.8 +1.4
ISR Istrita 67.91 315⇑ iP pP 14 40 22.0 +0.8
VRI Vrincioaia 67.93 316⇓ iP P 14 40 07.8 0.0
VRI Vrincioaia 67.93 316⇓ iP P 14 40 07.8 -0.1
LSZ Lusaka 68.51 250 eP P 14 40 12.8 +0.8
comp=Z,39nm,1.4s,mb5.2
LSZ e pP 14 40 26.3 +0.9
LSZ LR LR
comp=Z,1μm,21.0s,MS5.2
RZN Rozhen 68.64 312 eP P 14 40 11.0 -1.4
PET Petropavlovsk 68.88 36⇑ iP P 14 40 11.0 -2.6
PET LR LR
comp=Z,382nm,21.0s,MS4.6
KKB Krupnik 69.88 312 eP P 14 40 17.0 -3.0
VTS Vitosha 69.88 312 eP P 14 40 19.0 -1.0
JOF Joensuu 70.27 335 ep P 14 40 19.2 -2.8
comp=Z,8.8nm,0.7s,mb4.8
JOF Joensuu 70.27 335 eP P 14 40 19.2 -2.8
JOF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
BOLS Boljevac 70.94 314⇑ iP P 14 40 26.0 -0.4
VSU Vasula 70.94 329 i P P 14 40 23.7 -2.5
SKO Skopje 71.11 312 eP P 14 40 25.3 -2.1
SKO i pP 14 40 38.8 -2.1
APA Apatity 71.33 339⇑ iP P 14 40 27.4 -0.9
APA i pP 14 40 45.8 +4.0
APA pmax pmax
comp=Z,11nm,0.7s,mb4.9
KOLS Kolonicke sedl 71.45 319 i P P 14 40 30.5 +1.1
WAKE Wake Island 71.76 72 PFAKE 14 40 40.0 +8.3
WAKE LR LR
comp=Z,151μm,22.0s
SUW Suwalki 71.81 324 eP P 14 40 30.2 -1.2
SUW e pP 14 40 45.1 +0.2
SUW MLR MLR
comp=Z,500nm,22.7s,MS4.7
SUW Suwalki 71.81 324 eP P 14 40 30.2 -1.2
SUW e pP 14 40 45.1 +0.2
SUW Suwalki 71.81 324 eP P 14 40 30.2 -1.2
SUW e pP 14 40 45.1 +0.2
SUW MLR MLR 15 12 58.3
comp=Z,500nm,22.7s,MS4.7
CRVS Cervenica-Dubn 71.98 319 eP P 14 40 33.0 +0.5
KAF Kangasniemi 72.19 333 ep P 14 40 34.1 +0.6
comp=Z,4.8nm,0.6s,mb4.6
KAF Kangasniemi 72.19 333 eP P 14 40 34.1 +0.6
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
DIVS Divcibare 72.39 314⇑ iP P 14 40 33.9 -1.1
NIE Niedzica 72.80 319 eP P 14 40 39.0 +1.7
PSZ Piszkesteto 72.88 318 eP P 14 40 36.5 -1.4
comp=Z,9.0nm,1.2s,mb4.6
PSZ Piszkesteto 72.88 318 eP P 14 40 37.3 -0.6
OJC Ojcow 73.23 320 eP P 14 40 39.7 -0.2
OJC Ojcow 73.23 320 eP P 14 40 39.7 -0.2
OJC Ojcow 73.23 320 eP P 14 40 39.7 -0.2
LBTB Lobatse 73.57 241 eP P 14 40 43.2 +0.8
comp=Z,45nm,1.0s,mb5.3
LBTB e pP 14 40 57.1 +1.2
LBTB LR LR
comp=Z,2μm,19.0s,MS5.3
VYHS Vyhne 73.65 318 eP P 14 40 41.7 -0.7
SRO Srobarova 73.93 317 eP P 14 40 44.4 +0.4
SRO e pP 14 40 59.0 +1.5
OKC Ostrava-Krasne 74.25 319 eP P 14 40 45.8 0.0
OKC epP pP 14 40 58.8 -0.5
TIP Timpagrande 74.46 308 eP P 14 40 46.7 -0.6
MORC Moravsky Berou 74.63 319 eP P 14 40 46.6 -1.4
comp=Z,12nm,1.0s,mb4.8
ZST Bratislava 74.77 318 eP P 14 40 48.5 -0.4
ZST e pP 14 41 02.8 +0.4
BOSA Boshof 74.95 238 eP P 14 40 51.3 +1.0
comp=Z,52nm,1.2s,mb5.3
BOSA e pP 14 41 04.6 +0.7
BOSA LR LR
comp=Z,927nm,21.0s,MS5.1
CASY Casey 75.25 173 PFAKE 14 41 00.0 +8.7
CASY LR LR
comp=Z,1μm,19.0s,MS5.2
DPC Dobruska-Polom 75.46 320 eP P 14 40 52.9 +0.1
DPC epP pP 14 41 06.9 +0.6
KSP Ksiaz 75.53 320 eP P 14 40 53.1 0.0
KSP epP pP 14 41 06.0 -0.7
KSP e 14 41 15.8
KSP e 14 41 21.6
KSP Ksiaz 75.53 320 eP P 14 40 53.3 +0.2
KSP e pP 14 41 06.5 -0.1
KSP MLR MLR 15 19 13.7
comp=Z,800nm,20.0s,MS5.0
UPC Upice 75.67 320 eP P 14 40 55.5 +1.5
UPC epP pP 14 41 08.9 +1.4
PERS Pernice 76.01 316 eP P 14 40 55.9 -0.1
BILL Bilibino 76.21 22 eP P 14 40 56.5 -0.2
BILL e pP 14 41 07.2 -3.0
BILL pmax pmax
comp=Z,21nm,0.8s,mb5.1
BILL Bilibino 76.21 22 eP P 14 40 55.8 -0.9
comp=Z,17nm,0.8s,mb5.0
BILL LR LR
comp=Z,738nm,20.0s,MS5.0
PRU Pruhonice 76.58 319 eP P 14 40 59.2 +0.1
PRU epP pP 14 41 13.5 +0.8
PVCC Panska Ves 76.59 320 eP P 14 41 01.0 +1.8
VOY Vojsko 76.83 315 e(P) P 14 41 00.5 -0.1
VOY e pP 14 41 12.2 -2.0
BRG Berggiesshubel 77.01 320 eP P 14 41 01.5 -0.1
BRG i *PP pP 14 41 16.2 +1.1
BRG pmax pmax
comp=Z,13nm,1.0s,mb4.8
BRG Berggiesshubel 77.01 320 eP P 14 41 01.5 -0.1
comp=Z,13nm,1.0s,mb4.8
BRG i pP pP 14 41 16.2 +1.1
GEC2 GERESS Array S 77.07 318 eP P 14 41 01.9 0.0
GEC2 pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
GEC2 GERESS Array S 77.07 318 eP P 14 41 01.9 0.0
comp=Z,9.0nm,0.9s,mb4.7
KHC Kasperske Hory 77.16 318 eP P 14 41 01.7 -0.7
KHC epP pP 14 41 16.2 +0.2
RUE Ruedersdorf 77.21 322 eP P 14 41 01.3 -1.3
comp=Z,36nm,1.0s,mb5.3
WET Wettzell 77.62 318 eP P 14 41 05.0 0.0
CLL Collm 77.63 321 eP P 14 41 04.0 -1.0
CLL i pP 14 41 18.6 +0.1
CLL Collm 77.63 321 P **P 14 41 04.0 -1.0**
CLL i *SP sP 14 41 18.6 -5.1
NKC Novy Kostel 77.94 320 eP P 14 41 06.0 -0.7
NKC epP pP 14 41 21.3 +1.0
SMY Shemya 78.07 38 PFAKE 14 41 20.0 +13
SMY LR LR
comp=Z,4μm,21.0s,MS5.7
MOX Moxa 78.48 320 eP P 14 41 10.9 +1.2
MOX pmax pmax
comp=Z,22nm,1.4s,mb4.9
MOX Moxa 78.48 320 eP P 14 41 10.9 +1.2
comp=Z,22nm,1.4s,mb4.9
MOX Moxa 78.48 320 i P P 14 41 10.9 +1.2
comp=Z,logA/T=1.2,mb4.9
MAW Mawson 78.57 191 P **P 14 41 10.5 +0.7**
comp=Z,7.6nm,0.5s,mb4.9
FUR Furstenfeldbru 78.66 317 eP P 14 41 10.3 -0.4

GRA1 Grafenberg Arr 78.72 319 eP P 14 41 11.4 +0.4
comp=Z,32nm,1.6s,mb5.0
GRA1 e pP 14 41 26.2 +1.6
GRF Grafenberg Arr 78.72 319 eP P 14 41 11.4 +0.4
GRF e pP 14 41 26.2 +1.6
GRF pmax pmax
comp=Z,32nm,1.6s,mb5.0
GRF Grafenberg Arr 78.72 319 eP P 14 41 11.4 +0.4
comp=Z,32nm,1.6s,mb5.0
GRF e pP 14 41 26.2 +1.6
NB2 NORSAR Subarra 79.10 331 P **P 14 41 11.9 -0.9**
comp=Z,0.6nm,0.5s,baz=95,slow=6.2
CLZ Clausthal 79.28 321 eP P 14 41 14.1 +0.1
BSEG Bad Segeberg 79.34 323 eP P 14 41 15.5 +1.2
MUD Monsted U'grnd 80.03 326 i P pP 14 41 34.7 +3.1
MUD pmax pmax
comp=Z,28nm,0.8s,mb5.2
MUD Monsted U'grnd 80.03 326 i P pP 14 41 34.7 +3.1
comp=Z,28nm,0.8s
LPG La Plagne 81.83 315 eP P 14 41 28.0 +0.3
comp=Z,57nm,0.8s,mb5.2
BNI Bardonecchia 81.91 314 eP P 14 41 27.8 -0.3
comp=Z,8.1nm,0.8s,mb4.7
EMIR Miracle 85.93 312 P pP 14 42 03.7 +1.5
EGRA Graus 86.79 312 P pP 14 42 08.1 +1.7
EBIE Bielsa 86.84 312 P pP 14 42 07.8 +1.1
DAG Danmarks Havn 87.07 348⇓ eP P 14 41 53.5 +0.3
DAG pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
DAG Danmarks Havn 87.07 348⇓ eP P 14 41 53.5 +0.3
comp=Z,9.0nm,0.8s,mb5.0
DAG Danmarks Havn 87.07 348⇓ iP P 14 41 53.5 +0.3
comp=Z,9.0nm,0.8s,mb5.0
EMOS Mosqueruela 87.64 310 P pP 14 42 10.8 +0.2
EALK Alkurruntz 87.96 313 P pP 14 42 10.9 -1.2
EMUR La Murta 88.61 308 P pP 14 42 15.5 +0.1
EQES Quesada 90.05 308 P pP 14 42 22.0 -0.1
EBER Berja 90.07 307 P pP 14 42 20.7 -1.5
GUD Guadarrama 90.36 311 P **P 14 42 11.5 +1.9**
comp=Z,4.6nm,0.9s,mb4.8
ESDC Sonseca Array 90.39 310 P **P 14 42 11.3 +1.5**
comp=Z,3.4nm,1.0s,mb4.6
ESLA Sonseca Array 90.39 310 PFAKE 14 42 20.0 +10
ESLA LR LR
comp=Z,1μm,19.0s,MS5.4
ELUQ Luque 91.03 308 P pP 14 42 26.3 -0.5
EADA Adamuz 91.15 309 P pP 14 42 26.0 -1.4
EMIJ Mijas 91.61 307 P pP 14 42 28.8 -0.7
IMA Indian Mountai 91.75 22 eP P 14 42 16.5 +1.0
comp=Z,68nm,0.8s,mb6.0
ECAL Calabor 92.00 313 P pP 14 42 34.8 +3.7
EINC Incio 92.28 313 P pP 14 42 32.9 +0.5
EBAD Badajoz 92.90 310 P pP 14 42 34.0 -1.4
VNDA Vanda 93.33 168 eP P 14 42 22.5 0.0
comp=Z,3.7nm,0.9s,mb4.8
VNDA LR LR
comp=Z,751nm,19.0s,MS5.2
SBA Scott Base 94.43 168 PFAKE 14 42 40.0 +13
SBA LR LR
comp=Z,506nm,21.0s,MS5.0
COLA College 94.46 22 eP P 14 42 27.1 -0.8
COLA College 94.46 22 eP P 14 42 27.2 -0.7
COLA LR LR
comp=Z,509nm,21.0s,MS5.0
SPU Mount Spurr 94.48 26 eP P 14 42 28.3 +0.3
MCK McKinley 94.61 23 eP P 14 42 28.7 +0.2
comp=Z,4.4nm,1.0s,mb4.8
MCK LR LR
comp=Z,260nm,21.0s,MS4.7
FIB Fire Island 95.30 26 PFAKE 14 42 40.0 +8.2
FIB LR LR
comp=Z,1μm,20.0s,MS5.3
KDAK Kodiak Island 95.69 29 PFAKE 14 42 50.0 +16
KDAK LR LR
comp=Z,199nm,21.0s,MS4.6
SML Sawmill 95.78 25 eP P 14 42 34.6 +0.7
DBIC Dimbokro 97.03 278 PFAKE 14 42 50.0 +9.2
DBIC LR LR
comp=Z,767nm,20.0s,MS5.2
DIV Divide 97.18 25 PFAKE 14 42 50.0 +10
DIV LR LR
comp=Z,1μm,20.0s,MS5.4
SIT Sitka 103.94 25 PFAKE 14 43 20.0 +9.3
SIT LR LR
comp=Z,635nm,19.0s,MS5.2
SCHQ Schefferville 115.12 347 PFAKE 14 48 00.0 +12
SCHQ LR LR
comp=Z,857nm,19.0s,MS5.4
NEW Newport 117.82 22 PFAKE 14 48 10.0 +17
NEW LR LR
comp=Z,568nm,20.0s,MS5.2
TBI Tubuai 118.19 112 ePP PP 14 49 15.5 +0.1
TBI ePS PS 14 59 14.1 +17
TBI eLR LR 15 24 19.5
comp=Z,437nm,28.5s
PPT Papeete 118.26 106 ePP PP 14 49 05.3 -11
PPT ePS PS 14 59 06.9 +9.2
PPT eLR LR 15 24 08.4
comp=Z,380nm,24.5s
MSO Missoula 120.20 21 ePKP PKPdf 14 47 59.1 +1.1
MSO LR LR
comp=Z,486nm,22.0s,MS5.1
YBH Yreka Blue Hor 120.47 31 PFAKE 14 48 10.0 +11
YBH LR LR
comp=Z,512nm,20.0s,MS5.2
BMO Blue Mountains 120.54 25 ePKP PKPdf 14 47 59.5 +0.8
BMO LR LR
comp=Z,353nm,21.0s,MS5.0
HRY Holter Researc 121.04 20 ePKP PKPdf 14 48 01.4 +1.7
WDC Whiskeytown Da 121.41 31 PFAKE 14 48 10.0 +9.5
WDC LR LR
comp=Z,264nm,19.0s,MS4.9
MOD Modoc 121.53 29 ePKP PKPdf 14 48 03.2 +2.4
MOD LR LR
comp=Z,713nm,22.0s,MS5.3
DGMT Dagmar 121.62 14 PFAKE 14 48 10.0 +9.3
DGMT LR LR
comp=Z,553nm,20.0s,MS5.2
WVOR Wild Horse Val 121.90 27 ePKP PKPdf 14 48 03.7 +2.3
WVOR LR LR
comp=Z,553nm,21.0s,MS5.2
BOZ Bozeman (W) 122.03 20 ePKPdf PKPdf 14 48 03.9 +2.3
BOZ LR LR
comp=Z,595nm,20.0s,MS5.2
LAO LASA Array 122.77 16 ePKP PKPdf 14 48 05.4 +2.4
LAO LR LR
comp=Z,709nm,21.0s,MS5.3
PQI Presque Isle 122.97 345 PFAKE 14 48 20.0 +17
PQI LR LR
comp=Z,5μm,21.0s
YMR Madison River 123.12 20 ePKP PKPdf 14 48 06.9 +3.1
YFT Old Faithful 123.35 20 ePKPdf PKPdf 14 48 08.6 +4.4
LKWY Lake 123.40 20 PFAKE 14 48 20.0 +16
LKWY LR LR
comp=Z,513nm,20.0s,MS5.2
WCN Washoe City 123.78 31 PKP PKPdf 14 48 08.1 +2.9
EYMN Ely 124.05 4 PFAKE 14 48 20.0 +15
EYMN LR LR
comp=Z,365nm,20.0s,MS5.0
BMN Battle Mountai 124.13 28 ePKPdf PKPdf 14 48 09.0 +3.2
BMN LR LR
comp=Z,175nm,21.0s,MS4.7
TPAW Teton Pass 124.15 21 ePKPdf PKPdf 14 48 08.5 +2.7
LOHW Long Hollow 124.17 21 ePKPdf PKPdf 14 48 08.3 +2.5
WUWY Wally Ulrich 124.18 21 ePKPdf PKPdf 14 48 08.6 +2.8
SNOW Snow King Moun 124.25 21 ePKPdf PKPdf 14 48 09.4 +3.4
CMB Columbia Colle 124.41 32 PFAKE 14 48 20.0 +14
CMB LR LR
comp=Z,231nm,22.0s,MS4.8
AHID Auburn Hatcher 124.73 22 PFAKE 14 48 20.0 +13
AHID LR LR
comp=Z,549nm,22.0s,MS5.2
SAO San Andreas Ge 124.78 34 PFAKE 14 48 20.0 +13
SAO LR LR
comp=Z,408nm,21.0s,MS5.1
HVU Hansel Valley 124.94 24 ePKPdf PKPdf 14 48 09.8 +2.5
MNV Mina 125.25 30 ePKPdf PKPdf 14 48 11.0 +3.0
MNV LR LR
comp=Z,451nm,19.0s,MS5.2
BW06 Boulder Array 125.28 20 PFAKE 14 48 20.0 +12
BW06 LR LR
comp=Z,375nm,20.0s,MS5.1
WVL Waterville 125.36 345 PFAKE 14 48 20.0 +12
WVL LR LR
comp=Z,4μm,20.0s

HWUT Hardware Ranch 125.55 23 ePKPdf PKPdf 14 48 10.8 +2.2
HWUT LR LR
comp=Z,798nm,22.0s,MS5.3
BGU Big Grassy Mou 125.56 24 ePKPdf PKPdf 14 48 10.7 +2.2
MTUM Tungsten Hills 125.88 31 ePKPdf PKPdf 14 48 12.4 +3.2
TPH Tonopah 125.99 30 PFAKE 14 48 20.0 +11
TPH LR LR
comp=Z,358nm,19.0s,MS5.1
TCUT Toone Canyon 126.03 23 ePKPdf PKPdf 14 48 12.5 +3.1
JLU Jordanelle 126.46 23 ePKPdf PKPdf 14 48 13.1 +2.8
TRCR Troy Canyon 126.56 28 ePKPdf PKPdf 14 48 13.4 +2.8
DAU Daniels Canyon 126.70 23 ePKPdf PKPdf 14 48 13.4 +2.6
NLU North Lily Min 126.76 24 ePKPdf PKPdf 14 48 13.9 +3.0
MPU Maple Canyon 126.89 24 ePKPdf PKPdf 14 48 13.7 +2.6
NCB Newcomb 126.95 349 PFAKE 14 48 20.0 +8.8
NCB LR LR
comp=Z,514nm,21.0s,MS5.2
RWWY Rawlins 127.03 19 ePKPdf PKPdf 14 48 13.3 +1.9
DAC Darwin (Calif) 127.20 31 PFAKE 14 48 30.0 +18
DAC LR LR
comp=Z,293nm,20.0s,MS5.0
TMUT Trail Mountain 127.67 24 ePKP PKPdf 14 48 15.6 +2.9
WES Weston 127.82 346 PFAKE 14 48 30.0 +17
WES LR LR
comp=Z,1μm,19.0s,MS5.5
PHWY Pilot Hill 127.93 18 ePKP PKPdf 14 48 13.8 +0.7
MVU Marysvale 127.93 25 ePKP PKPdf 14 48 16.5 +3.3
MVU LR LR
comp=Z,149nm,19.0s,MS4.7
MSU Marysvale 127.94 25 ePKP PKPdf 14 48 16.5 +3.3
BINY Binghamton 128.99 350 PFAKE 14 48 30.0 +15
BINY LR LR
comp=Z,809nm,22.0s,MS5.4
NEN Nelson 129.07 30 ePKP PKPdf 14 48 18.1 +2.6
JFWS Jewell Farm 129.13 3 PFAKE 14 48 30.0 +15
JFWS LR LR
comp=Z,506nm,20.0s,MS5.2
ISCO Idaho Springs 129.25 19 PFAKE 14 48 30.0 +14
ISCO LR LR
comp=Z,527nm,19.0s,MS5.2
PV10 Paradox Valley 129.32 23 ePKP PKPdf 14 48 18.6 +2.7
LDFC Landfair 129.39 30 ePKP PKPdf 14 48 18.6 +2.5
ERPA Erie 129.65 353 PFAKE 14 48 30.0 +14
ERPA LR LR
comp=Z,403nm,20.0s,MS5.1
AAM Ann Arbor 129.77 357 PFAKE 14 48 30.0 +13
AAM LR LR
comp=Z,491nm,19.0s,MS5.2
SSPA Standing Stone 130.83 351 PFAKE 14 48 30.0 +11
SSPA LR LR
comp=Z,464nm,20.0s,MS5.2
SDCO Great Sand Dun 131.15 20 PFAKE 14 48 30.0 +11
SDCO LR LR
comp=Z,638nm,22.0s,MS5.3
RKT Rikitea 131.46 114 ePP PP 14 50 34.2 -10
RKT eLR LR 15 30 17.8
comp=Z,404nm,30.2s
ACSO Alum Creek Sta 131.79 356 PFAKE 14 48 30.0 +9.5
ACSO LR LR
comp=Z,523nm,20.0s,MS5.2
MCWV Mont Chateau 132.06 353 PFAKE 14 48 30.0 +9.0
MCWV LR LR
comp=Z,477nm,19.0s,MS5.2
CBN Corbin 133.12 350 PFAKE 14 48 40.0 +17
CBN LR LR
comp=Z,493nm,20.0s,MS5.2
ANMO Albuquerque 133.31 22⇓ iPKIKP PKPdf 14 48 24.1 +0.6
ANMO Albuquerque 133.31 22 ePKP PKPdf 14 48 26.3 +2.7
ANMO LR LR
comp=Z,474nm,22.0s,MS5.2
TUC Tucson 133.74 29 ePKPdf PKPdf 14 48 27.4 +3.0
TUC LR LR
comp=Z,230nm,19.0s,MS4.9
LENM Lemitar 133.81 23 ePKP PKPdf 14 48 27.3 +2.8
CCM Cathedral Cave 133.90 5 PFAKE 14 48 40.0 +15
CCM LR LR
comp=Z,438nm,21.0s,MS5.2
WCI Wyandotte Cave 133.91 359 ePKP PKPdf 14 48 25.9 +1.4
WCI LR LR
comp=Z,399nm,19.0s,MS5.2
BNM Barren Site 133.96 23 ePKPdf PKPdf 14 48 27.7 +3.0
PWV Princeton 134.49 354 ePKP PKPdf 14 48 27.7 +2.1
BLA Blacksburg 134.54 353 PFAKE 14 48 40.0 +14
BLA LR LR
comp=Z,689nm,19.0s,MS5.4
ELN Prospectdale 134.56 353 ePKP PKPdf 14 48 27.2 +1.4
BBSR BB Station 134.59 333 PFAKE 14 48 40.0 +14
BBSR LR LR
comp=Z,260nm,20.0s,MS5.0
AMTX Amarillo 134.98 17 PFAKE 14 48 40.0 +13
AMTX LR LR
comp=Z,556nm,19.0s,MS5.3
WMOK Wichita Mounta 135.91 14 PKPdf PKPdf 14 48 28.3 0.0
WMOK LR LR
comp=Z,367nm,21.0s,MS5.1
CPRX Cap Rock 135.98 21 ePKPdf PKPdf 14 48 31.4 +3.0
WVT Waverly 136.00 1 ePKP PKPdf 14 48 29.6 +1.2
WVT LR LR
comp=Z,600nm,20.0s,MS5.3
GDL2 Guadalupe Moun 136.55 22 ePKP PKPdf 14 48 23.1 -6.5
MNTX Cornudas Mount 136.61 23 ePKPdf PKPdf 14 48 32.0 +2.3
MNTX LR LR
comp=Z,365nm,20.0s,MS5.1
MIAR Mount Ida 137.10 8 ePKPdf PKPdf 14 48 32.5 +1.9
MIAR LR LR
comp=Z,384nm,19.0s,MS5.2
OXF Oxford 137.55 3 PFAKE 14 48 40.0 +8.6
OXF LR LR
comp=Z,550nm,22.0s,MS5.2
NHSC New Hope 138.55 352 PFAKE 14 48 50.0 +17
NHSC LR LR
comp=Z,341nm,19.0s,MS5.1
GOGA Godfrey 138.60 356 PFAKE 14 48 50.0 +17
GOGA LR LR
comp=Z,390nm,22.0s,MS5.1
LRAL Lakeview Retre 139.10 0 PFAKE 14 48 50.0 +16
LRAL LR LR
comp=Z,783nm,22.0s,MS5.4
LTX Lajitas 139.38 23 ePKPdf PKPdf 14 48 37.8 +3.0
LTX LR LR
comp=Z,416nm,19.0s,MS5.2
JCT Junction City 139.65 18 ePKPdf PKPdf 14 48 37.6 +2.3
JCT LR LR
comp=Z,495nm,22.0s,MS5.2
NATX Nacogdoches 139.66 10 ePKPdf PKPdf 14 48 39.9 +4.7
NATX LR LR
comp=Z,774nm,21.0s,MS5.4
HKT Hockley 141.18 13 PFAKE 14 48 50.0 +12
HKT LR LR
comp=Z,649nm,21.0s,MS5.4
TRQA Tornquist 142.71 213 PFAKE 14 48 50.0 +10
TRQA LR LR
comp=Z,411nm,20.0s,MS5.2
DWPF Disney 143.64 352 PFAKE 14 49 00.0 +19
DWPF LR LR
comp=Z,525nm,21.0s,MS5.3
SJG San Juan 146.95 322 PFAKE 14 49 00.0 +12
SJG LR LR
comp=Z,360nm,19.0s,MS5.2
TEIG Tepich 151.82 3 ePKPbc PKPdf 14 49 04.3 +8.5
TEIG ePKPab PKPab 14 49 13.2 -0.5
TEIG LR LR
comp=Z,267nm,22.0s,MS5.0
SDV Santo Domingo 156.70 316 PFAKE 14 49 20.0 +17
SDV LR LR
comp=Z,368nm,20.0s,MS5.2
LVC Limon Verde 157.58 228 PFAKE 14 49 20.0 +16
LVC LR LR
comp=Z,260nm,20.0s,MS5.1
LPAZ La Paz 160.07 244 ePKPdf PKPdf 14 49 08.7 +2.0
LPAZ LR LR
comp=Z,357nm,20.0s
JTS JuntasAbangare 161.65 354 PFAKE 14 49 20.0 +12
JTS LR LR
comp=Z,134nm,21.0s
OTAV Otavalo 168.29 315 PFAKE 14 49 30.0 +16
OTAV LR LR
comp=Z,361nm,20.0s
NNA Nana 169.50 248 PFAKE 14 49 30.0 +15
NNA LR LR
comp=Z,95nm,21.0s

*NEIC **01** 14:32:47.0, 48.08N×115.15W, h13km, ML2.8(BUT), After*

BUT.
PGC 01 14:32:45.9, 48.14N×115.08W, h1km, ML3.0/6, Northwestern Montana., Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEW	**Newport**	**1.37**	**276**	*e*P	Pb	14 33 11.2	-0.8
NEW				*e*S	Sb	14 33 27.2	-2.7
MSO	**Missoula**	**1.52**	**149**	*e*P	Pn	14 33 13.8	-0.4
DPW	**Davenport**	**2.12**	**264**	P	Pn	14 33 24.1	+1.4
OD2	**Odessa Site #2**	**2.56**	**254**	P	Pn	14 33 28.3	-0.9
HRY	**Holter Researc**	**2.62**	**122**	*e*Pn	Pn	14 33 28.9	-1.2
WRD	**Warden**	**3.06**	**246**	P	Pn	14 33 34.2	-2.1
CRF	**Corfu**	**3.20**	**247**	P	Pn	14 33 37.0	-1.3
PNT	**Penticton**	**3.23**	**293**	Pn	Pn	14 33 36.9	-1.8
PNT				Pg	Pg	14 33 44.0	-6.4
PNT				Sg	Sg	14 34 24.5	-8.9
PNT				Trac		14 34 30.3	
	comp=Z,33nm,0.4s						
LOCW	**Locke Island**	**3.28**	**246**	P	Pn	14 33 38.2	-1.2
WAH2	**Wahluke Slope**	**3.34**	**247**	P	Pn	14 33 39.1	-1.3
BOZ	**Bozeman (W)**	**3.43**	**135**	Pn	Pn	14 33 39.8	-1.8
H2OWA	**Water**	**3.43**	**241**	P	Pn	14 33 40.5	-1.1
REDWA	**Red Mountain**	**3.50**	**240**	P	Pn	14 33 41.3	-1.1
BVW	**Beverly**	**3.52**	**250**	P	Pn	14 33 41.4	-1.4
SLEB	**Sale Mountain**	**3.62**	**328**	Pn	Pn	14 33 43.7	-0.6
SLEB				Sg	Sg	14 34 40.8	-5.7
SLEB				Trac		14 34 43.7	
	comp=Z,9.0nm,0.5s						
BMO	**Blue Mountains**	**3.63**	**206**	*e*Pn	Pn	14 33 41.4	-2.9
EBG	**Ellensburg**	**3.92**	**254**	P	Pn	14 33 47.0	-1.5
HOPB	**Hope**	**4.38**	**289**	Pg	Pg	14 34 08.3	-5.0
HOPB				Sn	Sn	14 34 42.6	-4.9
HOPB				Sg	Sg	14 34 59.6	-12
HOPB				Trac		14 35 07.8	
	comp=Z,13nm,0.4s						
LLLB	**Lillooet**	**5.09**	**302**	Trac		14 35 29.3	
	comp=Z,7.0nm,0.5s						
LLLB	**Lillooet**	**5.09**	**302**	Sg	Sg	14 35 22.4	-13
HNB	**Haney**	**5.10**	**286**	Trac		14 35 27.8	
	comp=Z,4.0nm,0.3s						
HNB	**Haney**	**5.10**	**286**	Sg	Sg	14 35 21.2	-14
EDM	**Edmonton**	**5.21**	**12**	Pg	Pg	14 34 22.7	-7.1
EDM				Sg	Sg	14 35 26.6	-13
EDM				Trac		14 35 34.6	
	comp=Z,3.0nm,0.2s						
WSLR	**Whistler**	**5.52**	**294**	Trac		14 35 42.1	
	comp=Z,4.0nm,0.4s						
WSLR	**Whistler**	**5.52**	**294**	Sg	Sg	14 35 34.0	-16
WSLR				Sg	Sg	14 35 35.1	-15
YKW3	**Yellowknife Ar**	**14.46**	**1**	Pn	P	14 36 04.6	-8.8
YKW3				Pn	P	14 36 07.0	-6.4

*NEIC **01** 14:48:22.3, 38.69N×26.83E, h29km, MD3.5(ATH), ML3.7(ISK), After ISK.*
*CSEM **01** 14:48:22.1±0.1, 38.75N×26.83E, h20km, MD3.6, Error ellipse: s-maj=1.6km s-min=1.2km az=60.0*
*ISK **01** 14:48:22.2, 38.68N×26.82E, h30km, MD3.6, ML3.7*
*ATH **01** 14:48:23.8, 38.68N×26.27E, h23km±17km, MD3.5/5*
ISC 01 14:48:22.8±0.5, 38.75N±0.03×26.81E±0.04, h23km±5km, n85, σ0°89/101, 4C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.41**	**153**	PG	Pb	14 48 31.0	-0.3
BLCB				SG	Sb	14 48 37.0	-0.1
BLCB	**Balcova**	**0.41**	**153**	Pg	Pb	14 48 31.0	-0.3
BLCB				Sg	Sb	14 48 36.0	-1.1
BLCB	**Balcova**	**0.41**	**153**	*e*Pg	Pb	14 48 31.0	-0.3
BLCB				*e*Sg	Sb	14 48 37.0	-0.1
KDAG	**Bornova**	**0.50**	**134**	*i* P	Pb	14 48 35.5	+2.7
KDAG				*i* S	Sb	14 48 40.2	+0.5
IZM	**Izmir**	**0.50**	**134**	*i* PG	Pb	14 48 32.6	-0.2
IZM	**Izmir**	**0.50**	**134**	*i* Pg	Pb	14 48 32.6	-0.2
AYVA	**Ayvalik**	**0.57**	**351**	*i* P	Pb	14 48 33.0	-1.0
AYVA				*i* S	Sb	14 48 41.0	-0.6
PRK	**Paraskevi**	**0.65**	**320**	⇓*i*PN	Pn	14 48 35.2	-1.3
PRK	**Paraskevi**	**0.65**	**320**	⇓*i*Pn	Pn	14 48 35.2	-1.3
AKS	**Akhisar**	**0.80**	**80**	*i* PG	Pb	14 48 37.3	-0.5
AKS	**Akhisar**	**0.80**	**80**	*i* Pg	Pb	14 48 37.3	-0.5
AKS	**Akhisar**	**0.80**	**80**	*i* Pg	Pb	14 48 37.3	-0.5
SMG	**Samos**	**1.04**	**179**	⇑*i*PN	Pn	14 48 42.4	+0.4
SMG				*e*SN	Sn	14 48 59.9	+4.0
SMG	**Samos**	**1.04**	**179**	⇑*i*Pn	Pn	14 48 42.4	+0.4
EZN	**Ezine**	**1.14**	**341**	*e*PN	Pn	14 48 43.5	0.0
EZN				*e*SN	Sn	14 48 59.5	+1.0
EZN	**Ezine**	**1.14**	**341**	Pn	Pn	14 48 43.6	+0.1
EZN				Sg	Sb	14 48 59.6	+1.5
EZN	**Ezine**	**1.14**	**341**	Pn	Pn	14 48 43.6	+0.1
EZN				*e*Sn	Sn	14 48 59.5	+1.0
BALB	**Balikesir**	**1.22**	**43**	PN	Pn	14 48 44.7	+0.1
BALB	**Balikesir**	**1.22**	**43**	Pn	Pn	14 48 44.8	+0.1
BALB	**Balikesir**	**1.22**	**43**	*e*Pn	Pn	14 48 44.7	+0.1
BOZC	**Bozcaada**	**1.24**	**332**	*i* P	Pn	14 48 45.3	+0.4
BOZC				*i* S	Sb	14 49 03.6	+2.7
AYDN	**Tasoluk**	**1.38**	**142**	*i* P	Pn	14 48 47.4	+0.6
AYDN				*i* S	Sn	14 49 06.2	+1.7
BTOK	**Tokmak**	**1.39**	**43**	*i* P	Pn	14 48 47.1	0.0
BTOK				*i* S	Sn	14 49 05.3	+0.5
MANT	**Manisa**	**1.40**	**100**	*i* P	Pn	14 48 47.4	+0.2
MANT				*i* S	Sn	14 49 05.7	+0.7
DST	**Dursunbey**	**1.65**	**58**	PN	Pn	14 48 50.8	0.0
DST	**Dursunbey**	**1.65**	**58**	Pn	Pn	14 48 50.8	0.0
DST	**Dursunbey**	**1.65**	**58**	*e*Pn	Pn	14 48 50.8	0.0
LIA	**Limnos Island**	**1.71**	**313**	*e*PN	Pn	14 48 52.4	+0.8
LIA	**Limnos Island**	**1.71**	**313**	*e*Pn	Pn	14 48 52.4	+0.8
BDRM	**Kayabasi**	**1.75**	**163**	*i* P	Pn	14 48 56.7	+4.5
EDC	**Edincik**	**1.79**	**27**	PN	Pn	14 48 51.9	-0.9
EDC	**Edincik**	**1.79**	**27**	Pn	Pn	14 48 52.7	-0.1
EDC	**Edincik**	**1.79**	**27**	Pn	Pn	14 48 52.7	-0.1
BNT	**Bandirma**	**1.82**	**28**	*e*PN	Pn	14 48 52.7	-0.5
BNT	**Bandirma**	**1.82**	**28**	Pn	Pn	14 48 52.4	-0.9
KCT	**Karacabey**	**1.93**	**38**	PN	Pn	14 48 54.6	-0.2
KCT	**Karacabey**	**1.93**	**38**	Pn	Pn	14 48 54.6	-0.2
KCT	**Karacabey**	**1.93**	**38**	*e*Pn	Pn	14 48 54.6	-0.2
MRMT	**Marmara Adasi**	**1.95**	**18**	PN	Pn	14 48 54.3	-0.8
MRMT	**Marmara Adasi**	**1.95**	**18**	Pn	Pn	14 48 54.4	-0.7
MRMT	**Marmara Adasi**	**1.95**	**18**	Pn	Pn	14 48 54.4	-0.7
APE	**Apeiranthos**	**1.96**	**211**	*e*PN	Pn	14 48 53.4	-1.8
APE	**Apeiranthos**	**1.96**	**211**	⇑*i*PN	Pn	14 48 54.7	-0.5
APE	**Apeiranthos**	**1.96**	**211**	⇑*i*Pn	Pn	14 48 54.7	-0.5
SART	**Tekirdag**	**1.96**	**8**	*i* P	Pn	14 48 58.9	+3.7
SART				*i* S	Sn	14 49 20.2	+0.9
DENT	**Denizli**	**2.01**	**119**	*e*PN	Pn	14 48 54.4	-1.6
DENT	**Denizli**	**2.01**	**119**	*e*Pn	Pn	14 48 54.4	-1.6
MFT	**Murefte**	**2.07**	**10**	*e*PN	Pn	14 48 56.1	-0.7
MFT	**Murefte**	**2.07**	**10**	*e*Pn	Pn	14 48 56.1	-0.7
ORLT	**Orhaneli**	**2.07**	**51**	*e*PN	Pn	14 48 56.6	-0.3
ORLT	**Orhaneli**	**2.07**	**51**	Pn	Pn	14 48 56.6	-0.2
ORLT	**Orhaneli**	**2.07**	**51**	*e*Pn	Pn	14 48 56.6	-0.3
ULDT	**Uludag**	**2.28**	**52**	*i* P	Pn	14 49 03.2	+3.5
ULDT				*i* S	Sn	14 49 34.4	+7.0
RDO	**Rodhopi**	**2.59**	**338**	*e*PN	Pn	14 49 04.5	+0.3
RDO	**Rodhopi**	**2.59**	**338**	*e*Pn	Pn	14 49 04.5	+0.3
ALT	**Altintas**	**2.59**	**82**	*e*PN	Pn	14 49 02.8	-1.5
ALT	**Altintas**	**2.59**	**82**	Pn	Pn	14 49 02.8	-1.5
ALT	**Altintas**	**2.59**	**82**	*e*Pn	Pn	14 49 02.8	-1.5
YLV	**Yalova**	**2.69**	**47**	*e*PN	Pn	14 49 05.6	0.0
YLV	**Yalova**	**2.69**	**47**	Pn	Pn	14 49 05.6	0.0
YLV	**Yalova**	**2.69**	**47**	*e*Pn	Pn	14 49 05.6	0.0
ISK	**Istanbul-Kandi**	**2.89**	**36**	*e*PN	Pn	14 49 08.6	+0.1
ISK	**Istanbul-Kandi**	**2.89**	**36**	Pn	Pn	14 49 08.7	+0.2
ISK	**Istanbul-Kandi**	**2.89**	**36**	*e*Pn	Pn	14 49 08.6	+0.1
HRT	**Hereke**	**3.02**	**46**	*e*PN	Pn	14 49 10.4	0.0
HRT	**Hereke**	**3.02**	**46**	*e*Pn	Pn	14 49 10.4	0.0
KDZ	**Kurdzhali**	**3.09**	**340**	*e*P	Pn	14 49 11.0	-0.3
KDZ	**Kurdzhali**	**3.09**	**340**	*e*P	Pn	14 49 11.0	-0.3
ESKT	**Eskisehir**	**3.24**	**75**	*e*PN	Pn	14 49 13.1	-0.3
ESKT	**Eskisehir**	**3.24**	**75**	Pn	Pn	14 49 13.1	-0.3
ESKT	**Eskisehir**	**3.24**	**75**	*i* P	Pn	14 49 22.3	+8.9
ESKT				*i* S	Sn	14 50 05.6	+14
ESKT	**Eskisehir**	**3.24**	**75**	*e*Pn	Pn	14 49 13.1	-0.3
RZN	**Rozhen**	**3.34**	**332**	*e*P	Pn	14 49 15.0	0.0
RZN	**Rozhen**	**3.34**	**332**	*e*P	Pn	14 49 15.0	0.0
DIM	**Dimitrovgrad**	**3.44**	**344**	*e*P	Pn	14 49 16.0	-0.3
DIM	**Dimitrovgrad**	**3.44**	**344**	*e*P	Pn	14 49 16.0	-0.3
NVR	**Nevrokopi**	**3.44**	**320**	*e*PN	Pn	14 49 16.4	0.0
NVR	**Nevrokopi**	**3.44**	**320**	*e*Pn	Pn	14 49 16.4	0.0
KKB	**Krupnik**	**4.22**	**319**	*e*P	Pn	14 49 27.0	-0.4
KKB	**Krupnik**	**4.22**	**319**	*e*P	Pn	14 49 27.0	-0.4
PGB	**Panagyurishte**	**4.30**	**333**	*e*P	Pn	14 49 27.0	-1.5
PGB	**Panagyurishte**	**4.30**	**333**	*e*P	Pn	14 49 27.0	-1.5
SGKT	**Sivrigoynuk**	**4.44**	**64**	*i* P	Pn	14 49 30.2	-0.4
VTS	**Vitosha**	**4.71**	**326**	*e*P	Pn	14 49 34.5	+0.1
VTS	**Vitosha**	**4.71**	**326**	*e*P	Pn	14 49 34.5	+0.1

*NEIC **01** 14:57:28.5, 38.69N×26.77E, h28km, MD3.4(ATH), ML3.3(ISK), After ISK.*
*ATH **01** 14:57:28.8, 38.72N×26.72E, h32km±17km, MD3.4/4*
*CSEM **01** 14:57:28.8±0.1, 38.71N×26.81E, h25km, MD3.3, Error ellipse: s-maj=2.7km s-min=1.7km az=92.0*
*ISK **01** 14:57:28.2, 38.65N×26.73E, h38km, MD3.3*
ISC 01 14:57:28.1±0.7, 38.77N±0.03×26.72E±0.05, h11km±5km, n55, σ0°89/74, 2C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.46**	**146**	*i* PG	Pg	14 57 37.7	+0.3
BLCB				*i* SG	Sg	14 57 43.8	+0.2
BLCB	**Balcova**	**0.46**	**146**	Pg	Pg	14 57 37.7	+0.4
BLCB				Sg	Sg	14 57 43.7	+0.1
BLCB	**Balcova**	**0.46**	**146**	*i* Pg	Pg	14 57 37.7	+0.3
BLCB				Sg	Sg	14 57 43.7	+0.1
AYVA	**Ayvalik**	**0.54**	**358**	*i* P	Pb	14 57 39.8	+0.7
AYVA				*i* S	Sg	14 57 47.6	+1.1
IZM	**Izmir**	**0.56**	**130**	*i* PG	Pg	14 57 39.2	-0.3
IZM	**Izmir**	**0.56**	**130**	Pg	Pg	14 57 39.4	-0.1
IZM	**Izmir**	**0.56**	**130**	Pg	Pg	14 57 39.4	-0.1
KDAG	**Bornova**	**0.56**	**130**	*i* P	Pb	14 57 39.4	-0.1
KDAG				*i* S	Sg	14 57 46.8	-0.2
PRK	**Paraskevi**	**0.59**	**324**	⇓*i*PN	Pn	14 57 41.8	-0.3
PRK				*e*SN	Sn	14 57 51.3	-0.4
PRK	**Paraskevi**	**0.59**	**324**	⇓*i*Pn	Pn	14 57 41.8	-0.3
PRK				*e*Sn	Sn	14 57 51.3	-0.4
AKS	**Akhisar**	**0.86**	**82**	*i* PG	Pg	14 57 44.0	-1.4
AKS	**Akhisar**	**0.86**	**82**	*i* Pg	Pg	14 57 44.0	-1.4
SMG	**Samos**	**1.06**	**175**	*e*PN	Pn	14 57 47.7	-1.1
SMG	**Samos**	**1.06**	**175**	*e*Pn	Pn	14 57 47.7	-1.1
EZN	**Ezine**	**1.10**	**344**	PN	Pn	14 57 49.2	-0.2
EZN	**Ezine**	**1.10**	**344**	Pn	Pn	14 57 49.2	-0.2
EZN	**Ezine**	**1.10**	**344**	*e*Pn	Pn	14 57 49.2	-0.2
BOZC	**Bozcaada**	**1.19**	**335**	*i* P	Pb	14 57 51.6	+1.4
BOZC				*i* S	Sb	14 58 11.3	+5.8
BALB	**Balikesir**	**1.26**	**46**	PN	Pn	14 57 51.8	+0.2
BALB				SN	Sn	14 58 07.4	-1.2
BALB	**Balikesir**	**1.26**	**46**	Pn	Pn	14 57 51.9	+0.3
BALB	**Balikesir**	**1.26**	**46**	*e*Pn	Pn	14 57 51.8	+0.2
BALB				*e*Sn	Sn	14 58 07.4	-1.2
BTOK	**Tokmak**	**1.43**	**45**	*i* P	Pn	14 57 53.7	-0.3
BTOK				*i* S	Sb	14 58 11.9	-0.3
AYDN	**Tasoluk**	**1.43**	**140**	*i* P	Pn	14 57 56.1	+2.0
AYDN				*i* S	Sb	14 58 13.2	+0.7
MANT	**Manisa**	**1.47**	**100**	*i* P	Pn	14 57 53.9	-0.7
MANT				*i* S	Sb	14 58 13.5	+0.1
DST	**Dursunbey**	**1.71**	**60**	*e*PN	Pn	14 57 57.5	-0.5
DST	**Dursunbey**	**1.71**	**60**	Pn	Pn	14 57 57.5	-0.5
DST	**Dursunbey**	**1.71**	**60**	*e*Pn	Pn	14 57 57.5	-0.5
BDRM	**Kayabasi**	**1.79**	**161**	*i* P	Pn	14 58 06.4	+7.1
EDC	**Edincik**	**1.81**	**29**	PN	Pn	14 57 59.0	-0.5
EDC				SN	Sn	14 58 22.7	+0.1
EDC	**Edincik**	**1.81**	**29**	Pn	Pn	14 57 59.1	-0.4
EDC				*e*Sn	Sn	14 58 22.7	+0.1
BNT	**Bandirma**	**1.84**	**30**	*e*PN	Pn	14 57 58.6	-1.4
BNT	**Bandirma**	**1.84**	**30**	Pn	Pn	14 57 58.6	-1.3
BNT	**Bandirma**	**1.84**	**30**	*e*Pn	Pn	14 57 58.6	-1.4
APE	**Apeiranthos**	**1.94**	**209**	*e*PB	Pb	14 58 01.4	-1.5
APE	**Apeiranthos**	**1.94**	**209**	*e*Pb	Pb	14 58 01.4	-1.5
SART	**Tekirdag**	**1.95**	**10**	*i* P	Pn	14 58 02.1	+0.5
SART				*i* S	Sn	14 58 31.5	+5.2
MRMT	**Marmara Adasi**	**1.96**	**20**	*e*PN	Pn	14 58 01.7	+0.1
MRMT	**Marmara Adasi**	**1.96**	**20**	Pn	Pn	14 58 01.7	+0.1
MRMT	**Marmara Adasi**	**1.96**	**20**	*e*Pn	Pn	14 58 01.7	+0.1
KCT	**Karacabey**	**1.96**	**40**	PN	Pn	14 58 01.4	-0.3
KCT	**Karacabey**	**1.96**	**40**	Pn	Pn	14 58 01.4	-0.3
KCT	**Karacabey**	**1.96**	**40**	*e*Pn	Pn	14 58 01.4	-0.3
MFT	**Murefte**	**2.06**	**12**	PN	Pn	14 58 02.9	-0.3
MFT	**Murefte**	**2.06**	**12**	Pn	Pn	14 58 02.9	-0.2
MFT	**Murefte**	**2.06**	**12**	*e*Pn	Pn	14 58 02.9	-0.3
ORLT	**Orhaneli**	**2.12**	**52**	*e*PN	Pn	14 58 03.4	-0.5
ORLT	**Orhaneli**	**2.12**	**52**	Pn	Pn	14 58 03.4	-0.5
ORLT	**Orhaneli**	**2.12**	**52**	*e*Pn	Pn	14 58 03.4	-0.5
DNZL	**Cakiroluk**	**2.12**	**120**	*i* P	Pn	14 58 10.2	+6.2
DNZL				*i* S	Sn	14 58 32.9	+2.3
ULDT	**Uludag**	**2.32**	**53**	*i* P	Pn	14 58 09.8	+2.9
ULDT				*i* S	Sn	14 58 41.9	+6.3
RDO	**Rodhopi**	**2.55**	**339**	⇑*i*PN	Pn	14 58 11.0	+1.0
RDO	**Rodhopi**	**2.55**	**339**	⇑*i*Pn	Pn	14 58 11.0	+1.0
YLV	**Yalova**	**2.73**	**48**	Pn	Pn	14 58 12.5	-0.1
YLV	**Yalova**	**2.73**	**48**	Pn	Pn	14 58 12.5	-0.1
ESKT	**Eskisehir**	**3.30**	**75**	*i* P	Pn	14 58 29.0	+8.2
ESKT				*i* S	Sn	14 59 12.2	+12

*NEIC **01** 15:40:14.5±1.2, 17.69S×178.57W, h589km±15km, mb4.3/14, Error ellipse: s-maj=29.2km s-min=12.3km az=153.0*
ISC 01 15:40:13.9±1.3, 17.8S±0.2×178.5W±0.1, h607km±18km, n24, σ1°12/17, mb4.2/13, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.57**	**60**	*e*Pn	P	15 42 09.7	-0.2
CTA	**Charters Tower**	**33.35**	**260**	⇓*i*P	P	15 46 05.5	+0.5
	7.1nm,0.5s,mb4.5						
CTAO	**Charters Tower**	**33.35**	**260**	*e*P	P	15 46 05.4	+0.4
	11nm,0.7s,mb4.6						
PMG	**Port Moresby**	**34.33**	**280**	*e*P	P	15 46 15.3	+2.1
	34nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**38.57**	**241**	*e*P	P	15 46 48.3	+0.4
	6.1nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**44.52**	**259**	*e*P	P	15 47 34.5	-0.6
WRAB	**Tennant Creek**	**44.53**	**259**	*e*P	P	15 47 34.5	-0.6
	14nm,0.5s,mb4.7						
KAKA	**Kakadu**	**47.47**	**269**	*e*P	P	15 47 57.4	-0.1
	8.6nm,0.4s,mb4.6						
MBWA	**Marble Bar**	**57.98**	**256**	*e*P	P	15 49 11.2	-0.9
	12nm,1.0s,mb4.0						
VNDA	**Vanda**	**60.52**	**185**	P	P	15 49 28.1	-0.1
	1.9nm,0.8s,mb3.4						
MAJO	**Matsushiro**	**67.77**	**323**	P	P	15 50 11.2	-3.0
CMB	**Columbia Colle**	**77.85**	**43**	*e*P	P	15 51 09.5	-1.9
	3.4nm,0.9s,mb3.8						
TPH	**Tonopah**	**79.97**	**45**	P	P	15 51 24.0	+1.5
	6.3nm,1.0s,mb3.9						
MCK	**McKinley**	**84.48**	**13**	*e*P	P	15 51 44.2	-0.3
	3.9nm,1.1s,mb3.9						
COLA	**College**	**85.71**	**13**	*e*P	P	15 51 49.7	-0.8
	8.6nm,1.1s,mb4.3						
ANMO	**Albuquerque**	**86.13**	**52**	*e*P	P	15 51 54.5	+1.3
	3.3nm,1.2s,mb3.8						
BILL	**Bilibino**	**86.33**	**354**	*e*P	P	15 51 54.8	+1.4
	1.3nm,0.6s,mb3.7						
KSP	**Ksiaz**	**145.00**	**344**	*e*P	PKPdf	15 58 45.7	+3.0
CLL	**Collm**	**145.35**	**347**	⇑*i*P	PKPdf	15 58 46.5	+3.3
CLL				*e*		15 59 06.0	
CLL	**Collm**	**145.35**	**347**	P	Px	15 59 06.0	
UPC	**Upice**	**145.38**	**344**	*e*PKP	PKPdf	15 58 47.0	+3.7
DPC	**Dobruska-Polom**	**145.43**	**343**	*e*PKP	PKPdf	15 58 47.2	+3.8
BRG	**Berggiesshubel**	**145.56**	**346**	*i* P	PKPdf	15 58 47.0	+3.4
KHC	**Kasperske Hory**	**147.26**	**345**	*e*PKP	PKPdf	15 58 52.0	+5.5

MAN 01 15:45:43.3, 6.53N×125.97E, h44km, mb4.2, ML3.0, MS2.8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.50**	**35**	*e*P	P	15 46 05.7	+11
KCP	**Kidapawan**	**0.99**	**299**	⇓*e*P	P	15 46 11.7	+11
KCP				*i* S	S	15 46 24.9	+11
BUKP	**Musuan**	**1.61**	**326**	*e*P	P	15 46 20.1	+10
BUTP	**Butuan**	**2.45**	**352**	*e*P	P	15 46 32.4	+11
PAGZ	**Pagadian**	**2.88**	**297**	*e*P	P	15 46 37.9	+10
MSLP	**Maasin**	**3.75**	**343**	*e*P	P	15 46 49.3	+9.1

*ATH **01** 16:01:18.4, 38.68N×26.27E, h22km±6km, MD3.3/5*
*ISK **01** 16:01:18.6, 38.72N×26.53E, h21km, MD3.2*
*NEIC **01** 16:01:18.4, 38.68N×26.27E, h22km, MD3.3(ATH), After ATH.*
*CSEM **01** 16:01:19.0±0.1, 38.71N×26.58E, h20km, MD3.2, Error ellipse: s-maj=2.3km s-min=1.4km az=50.0*
ISC 01 16:01:17.9±0.9, 38.75N±0.03×26.46E±0.05, h10km±5km, n37, σ0°97/51, 2C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.52**	**343**	⇑*i*PN	Pn	16 01 30.0	-0.9
PRK				*e*SN	Sn	16 01 37.8	-2.0
PRK	**Paraskevi**	**0.52**	**343**	⇑*i*Pn	Pn	16 01 30.0	-0.9
PRK				*e*Sn	Sn	16 01 37.8	-2.0
AYVA	**Ayvalik**	**0.58**	**18**	*i* P	Pg	16 01 29.4	-0.2
AYVA				*i* S	Sg	16 01 38.6	+1.2
BLCB	**Balcova**	**0.58**	**129**	PG	Pg	16 01 29.5	-0.1
BLCB	**Balcova**	**0.58**	**129**	*e*Pg	Pg	16 01 29.5	-0.1
IZM	**Izmir**	**0.72**	**119**	PG	Pg	16 01 31.9	-0.4
KDAG	**Bornova**	**0.72**	**119**	*i* P	Pb	16 01 31.4	-0.7
KDAG				*i* S	Sb	16 01 43.6	+1.8
AKS	**Akhisar**	**1.06**	**83**	*i* PG	Pg	16 01 38.5	-0.6
AKS				*i* SG	Sg	16 01 52.5	-0.8
AKS	**Akhisar**	**1.06**	**83**	*i* Pg	Pg	16 01 38.5	-0.6
AKS				*i* Sg	Sg	16 01 52.5	-0.8
EZN	**Ezine**	**1.08**	**354**	PN	Pn	16 01 40.0	+1.0
EZN				SN	Sn	16 01 54.4	+0.3
EZN	**Ezine**	**1.08**	**354**	*e*Pn	Pn	16 01 40.0	+1.0
EZN				*e*Sn	Sn	16 01 54.4	+0.3
SMG	**Samos**	**1.08**	**164**	*e*PN	Pn	16 01 38.3	-0.8
SMG				*e*SN	Sn	16 01 54.0	-0.2
SMG	**Samos**	**1.08**	**164**	*e*Pn	Pn	16 01 38.3	-0.8
SMG				*e*Sn	Sn	16 01 54.0	-0.2
BOZC	**Bozcaada**	**1.13**	**344**	*i* P	Pb	16 01 40.2	+1.0
BOZC				*i* S	Sb	16 01 52.4	-1.4
BALB	**Balikesir**	**1.41**	**51**	*e*PN	Pn	16 01 43.7	-0.1
BALB	**Balikesir**	**1.41**	**51**	*e*Pn	Pn	16 01 43.7	-0.1
LIA	**Limnos Island**	**1.51**	**319**	*e*PN	Pn	16 01 46.6	+1.4
LIA	**Limnos Island**	**1.51**	**319**	*e*Pn	Pn	16 01 46.6	+1.4
AYDN	**Tasoluk**	**1.56**	**134**	*i* P	Pn	16 01 45.1	-0.8
AYDN				*i* S	Sb	16 02 05.6	-0.5
MANT	**Manisa**	**1.66**	**98**	*i* P	Pn	16 01 49.6	+2.2
MANT				*i* S	Sn	16 02 08.9	0.0
APE	**Apeiranthos**	**1.83**	**204**	*e*PN	Pn	16 01 49.1	-0.7
APE	**Apeiranthos**	**1.83**	**204**	*e*Pn	Pn	16 01 49.1	-0.7
BDRM	**Kayabasi**	**1.85**	**155**	*i* P	Pn	16 01 52.7	+2.6
BDRM				*i* S	Sn	16 02 14.0	+0.2
DST	**Dursunbey**	**1.89**	**62**	PN	Pn	16 01 50.0	-0.6
DST	**Dursunbey**	**1.89**	**62**	*e*Pn	Pn	16 01 50.0	-0.6
EDC	**Edincik**	**1.93**	**34**	*e*PN	Pn	16 01 50.9	-0.2
EDC	**Edincik**	**1.93**	**34**	*e*Pn	Pn	16 01 50.9	-0.2
BNT	**Bandirma**	**1.96**	**35**	PN	Pn	16 01 50.7	-0.9
BNT	**Bandirma**	**1.96**	**35**	*e*Pn	Pn	16 01 50.7	-0.9
KCT	**Karacabey**	**2.10**	**44**	PN	Pn	16 01 53.6	-0.1
KCT	**Karacabey**	**2.10**	**44**	*e*Pn	Pn	16 01 53.6	-0.1
MFT	**Murefte**	**2.13**	**17**	*e*PN	Pn	16

UCH	Uchtor	40.78	337	P	P	16 10 35.3	+1.3
	SNR=7.7						
TKM2	Tokmak 2	40.97	339	P	P	16 10 38.1	+2.5
	SNR=7.6						
KBK	Karagaybulak	40.98	338	P	P	16 10 37.3	+1.6
	SNR=14						
AML	Almayashu	41.02	336	P	P	16 10 37.5	+1.4
	SNR=8.8						
AAK	Ala-Archa	41.13	337	*e*P	P	16 10 33.7	-3.3
AAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.2						
AAK	Ala-Archa	41.13	337	*e*P	P	16 10 35.4	-1.6
	comp=Z,13nm,0.9s,mb4.6						
EKS2	Erkin-Say	41.43	337	P	P	16 10 40.5	+1.0
	SNR=9.8						
USP	Ospenovka	41.67	338	P	P	16 10 41.9	+0.4
	SNR=14						
ULN	Ulaanbaatar	43.65	12	⇓*i*P	P	16 10 56.0	-1.5
ULN	Ulaanbaatar	43.65	12	*e*P	P	16 10 57.5	0.0
	comp=Z,5.1nm,0.6s,mb4.4						
ULN				*e*	pP	16 11 09.2	-1.5
ULN				*e*PcP	PcP	16 12 44.5	-0.1
ULN				*e*ScP		16 16 32.0	
KS15	Wonju Array Si	44.05	39	*e*P	P	16 11 02.1	+1.2
ZAK	Zakamensk	45.43	8	⇑*i*P	P	16 11 11.7	0.0
ZAK				*e*	pP	16 11 25.6	+0.6
WRAB	Tennant Creek	46.52	124	⇑*i*P	P	16 11 19.8	-1.0
WRAB	Tennant Creek	46.52	124	*e*P	P	16 11 20.9	+0.1
	comp=Z,40nm,0.8s,mb5.4						
WB2	Warramunga Arr	46.53	124	⇑*i*P	P	16 11 21.0	+0.2
TLY	Talaya	46.75	8	*e*P	P	16 11 23.2	+1.1
	comp=Z,4.9nm,0.8s,mb4.5						
HIA	Hailar	48.64	22	*e*P	P	16 11 37.2	+0.2
	comp=Z,5.2nm,0.6s,mb4.7						
HIA				*e*	pP	16 11 49.5	-0.7
NVS	Novosibirsk	50.14	351	*e*P	P	16 11 46.5	-1.9
NVS				*e*S	S	16 18 54.6	-0.5
NVS				pmax	pmax		
	comp=N,13nm,1.0s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.3						
NVS				smax			
	comp=N,25nm,2.1s						
NVS				smax			
	comp=E,32nm,2.1s						
MAJO	Matsushiro	50.54	46	P	P	16 11 49.6	-2.1
	comp=E,10nm,1.1s,mb4.7						
BRVK	Borovoye	51.52	342	*e*P	P	16 11 57.9	-1.0
	comp=E,16nm,1.1s,mb4.9						
BRVK				*e*	pP	16 12 11.2	-1.0
KLR	Kul'dur	53.81	29	*e*P	pP	16 12 27.2	-2.3
PMG	Port Moresby	54.44	106	P	P	16 12 24.3	+3.2
	comp=E,23nm,1.1s,mb5.0						
BOD	Bodaibo	54.45	13	⇑*i*P	P	16 12 19.2	-1.4
BOD				*e*	pP	16 12 31.8	-2.4
GNI	Garni	56.47	315	⇑*i*P	P	16 12 32.0	-3.4
GNI				pmax	pmax		
	comp=Z,9.0nm,1.7s						
GNI	Garni	56.47	315	P	P	16 12 33.6	-1.8
	comp=Z,12nm,1.0s,mb4.9						
TI2	Plekhanov	57.12	317	*e*P	P	16 12 38.0	-2.1
KMBO	Kilima Mbogo	57.60	265	*i*P	P	16 12 44.6	+0.8
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KMBO	Kilima Mbogo	57.60	265	*e*P	P	16 12 43.8	0.0
	comp=Z,3.3nm,0.9s,mb4.4						
SVE	Sverdlovsk	57.84	339	*e*P	P	16 12 45.0	+0.1
SVE				*e*	pP	16 12 58.0	-0.6
STKA	Stephens Creek	58.12	133	*e*P	P	16 12 50.9	+3.7
ARU	Arti	58.32	337	⇑*i*P	pP	16 13 00.6	-1.3
ARU				*e*		16 13 42.6	
ARU				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.2						
ARU	Arti	58.32	337	*e*P	P	16 12 45.9	-2.3
	comp=Z,29nm,1.0s,mb5.3						
YSS	Yuzh-Sakhalins	58.48	37	*e*P	P	16 12 49.0	-0.5
YSS				pmax	pmax		
	comp=Z,26nm,1.5s,mb5.0						
YSS	Yuzh-Sakhalins	58.48	37	P	P	16 12 49.6	+0.1
	comp=Z,9.2nm,0.8s,mb4.9						
GOF	Gofitskoye	59.67	320	*e*P	P	16 12 54.0	-3.7
MALT	Malatya	60.39	311	P	P	16 13 01.0	-1.8
	comp=Z,3.2nm,0.9s,mb4.3						
EIL	Elat	61.03	301	*e*P	P	16 13 06.5	-0.7
	comp=Z,5.4nm,0.8s,mb4.7						
YAK	Yakutsk	62.20	18	⇑*i*P	P	16 13 12.1	-2.5
YAK				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.8						
YAK	Yakutsk	62.20	18	*e*P	P	16 13 13.2	-1.4
	comp=Z,11nm,0.7s,mb5.1						
SIM	Simferopol'	65.51	317	*e*P	P	16 13 35.9	-0.6
SIM				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
SIM				MLR	MLR		
	comp=Z,160nm,15.7s,MS4.3						
OBN	Obninsk	67.69	328	⇑*i*P	P	16 13 48.0	-2.1
OBN				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
OBN	Obninsk	67.69	328	P	P	16 13 48.4	-1.7
	comp=Z,23nm,1.1s,mb5.1						
MA2	Magadan	68.76	27	*e*P	P	16 13 56.6	0.0
	comp=Z,5.1nm,0.6s,mb4.6						
TIXI	Tiksi	69.57	11	⇑*i*P	P	16 13 58.8	-2.7
TIXI				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.7						
JOF	Joensuu	73.25	335	*e*p	P	16 14 22.1	-1.5
	comp=Z,4.4nm,0.9s,mb4.4						
JOF	Joensuu	73.25	335	*e*P	P	16 14 22.1	-1.5
JOF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KOLS	Kolonicke sedl	74.34	319	*e*P	P	16 14 29.2	-1.0
SUW	Suwalki	74.75	325	*e*P	P	16 14 31.6	-0.9
SUW	Suwalki	74.75	325	*e*P	P	16 14 31.6	-0.9
SUW	Suwalki	74.75	325	*e*P	P	16 14 31.6	-0.9
CRVS	Cervenica-Dubn	74.86	319	*i*P	P	16 14 34.8	+1.6
FINES	FINESS Array B	75.08	332	*i*P	P	16 14 32.3	-1.9
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KECS	Kecovo	75.43	319	*i*P	P	16 14 36.2	-0.3
NIE	Niedzica	75.68	320	*e*P	P	16 14 38.5	+0.6
PSZ	Piszkesteto	75.74	318	*e*P	P	16 14 38.6	+0.3
	comp=Z,20nm,1.4s,mb4.8						
OJC	Ojcow	76.13	320	*e*P	P	16 14 40.5	+0.1
OJC	Ojcow	76.13	320	*e*P	P	16 14 40.5	+0.1
OJC	Ojcow	76.13	320	*e*P	P	16 14 40.5	+0.1
VYHS	Vyhne	76.52	318	*i*P	P	16 14 43.0	+0.3
SRO	Srobarova	76.79	318	*i*P	P	16 14 45.6	+1.4
OKC	Ostrava-Krasne	77.14	320	*e*P	P	16 14 46.6	+0.5
OKC				*e*pP	pP	16 15 00.6	+0.3
MORC	Moravsky Berou	77.52	320	*e*P	P	16 14 48.1	-0.1
	comp=Z,9.9nm,1.1s,mb4.7						
ZST	Bratislava	77.64	318	*i*P	P	16 14 49.2	+0.3
BILL	Bilibino	78.22	21	*e*P	P	16 14 52.0	+0.3
BILL				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.4						
BILL	Bilibino	78.22	21	*e*P	P	16 14 51.6	-0.2
	comp=Z,2.3nm,0.5s,mb4.4						
DPC	Dobruska-Polom	78.36	320	*e*P	P	16 14 53.4	+0.6
DPC				*e*pP	pP	16 15 07.7	+0.7
KSP	Ksiaz	78.43	321	*e*P	P	16 14 53.3	+0.1
KSP	Ksiaz	78.43	321	*e*P	P	16 14 53.3	+0.1
UPC	Upice	78.57	320	*e*P	P	16 14 55.2	+1.2
PRU	Pruhonice	79.47	320	*e*P	P	16 14 59.2	+0.3
BRG	Berggiesshubel	79.91	321	*i*P	P	16 15 02.1	+0.8
BRG				*e*	pP	16 15 19.6	+4.1
BRG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
BRG	Berggiesshubel	79.91	321	*i*P	P	16 15 02.1	+0.8
	comp=Z,5.3nm,0.8s,mb4.5						
BRG				*e*	pP	16 15 19.6	+4.1
GEC2	GERESS Array S	79.94	319	*e*P	P	16 15 02.1	+0.6
GEC2				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
GEC2	GERESS Array S	79.94	319	*e*P	P	16 15 02.1	+0.6
	comp=Z,9.0nm,0.9s,mb4.7						
KHC	Kasperske Hory	80.04	319	*e*P	P	16 15 01.3	-0.7
KHC				*e*pP	pP	16 15 18.5	+2.3
WET	Wettzell	80.50	319	*e*P	P	16 15 05.2	+0.7
CLL	Collm	80.53	321	*e*P	P	16 15 07.0	+2.4
CLL	Collm	80.53	321	P	P	16 15 07.0	+2.4
MOX	Moxa	81.38	320	*e*P	P	16 15 09.6	+0.6
MOX	Moxa	81.38	320	*i*P	P	16 15 09.6	+0.6
GRA1	Grafenberg Arr	81.60	319	*e*P	P	16 15 11.1	+0.9
	comp=Z,24nm,1.5s,mb4.9						
GRF	Grafenberg Arr	81.60	319	*e*P	P	16 15 11.1	+0.9
GRF				pmax	pmax		
	comp=Z,24nm,1.5s,mb4.9						
GRF	Grafenberg Arr	81.60	319	*e*P	P	16 15 11.1	+0.9
	comp=Z,24nm,1.5s,mb4.9						
CLZ	Clausthal	82.19	321	*e*P	P	16 15 13.9	+0.7
	comp=Z,5.0nm,0.7s,mb4.5						
BSEG	Bad Segeberg	82.28	324	*e*P	P	16 15 14.4	+0.8
PGF	Pioggiola	83.11	312	*e*P	P	16 15 18.3	+0.2
	comp=Z,25nm,1.2s,mb4.8						
CDF	Champ du Feu	84.20	318	*e*P	P	16 15 23.4	-0.1
	comp=Z,8.2nm,1.0s,mb4.5						
SBF	Sospel	84.22	313	*e*P	P	16 15 24.2	+0.5
	comp=Z,24nm,0.8s,mb5.1						
LPG	La Plagne	84.65	315	*e*P	P	16 15 26.3	+0.5
	comp=Z,14nm,0.8s,mb4.8						
MBDF	Montbardon	84.67	314	*e*P	P	16 15 26.3	+0.4
	comp=Z,12nm,1.1s,mb4.6						
HAU	Haudompre	84.83	318	*e*P	P	16 15 25.7	-1.0
	comp=Z,12nm,0.7s,mb4.8						
BAIF	Baives	86.13	320	*e*P	P	16 15 33.5	+0.5
	comp=Z,9.3nm,0.7s,mb4.8						
SSF	Saint Saulge	86.81	317	*e*P	P	16 15 37.5	+1.1
BGF	Bois d'Agland	87.30	316	*e*P	P	16 15 39.2	+0.4
	comp=Z,31nm,1.1s,mb5.1						
RJF	Les Rejaudoux	88.34	315	*e*P	P	16 15 44.0	+0.2
	comp=Z,25nm,1.3s,mb5.0						
FLN	La Foiniere	89.30	319	*e*P	P	16 15 48.7	+0.4
ETSF	Etsaut	90.11	313	*e*P	P	16 15 52.6	+0.4
ESLA	Sonseca Array	93.12	310	P	P	16 16 07.4	+1.1
	comp=Z,0.1nm,0.6s						
ANMO	Albuquerque	135.25	25	⇓*i*PKIKP	PKPdf	16 22 13.2	+2.3

MOS 01 16:15:35.4±0.5, 41.10N×48.95E, h29km, mb4.1/1, 1C, Error ellipse: s-maj=95.6km s-min=35.1km az=43.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKT	Akhty	0.99	293	*e*PG	Pn	16 15 53.0	-0.5
AKT				*e*S	Sn	16 16 11.0	+4.4
AKT				pmax	pmax		
	comp=Z,80nm,0.2s						
DRN	Derbent	1.03	334	⇑*i*PG	Pn	16 15 53.8	-0.3
DRN				*i* S	Sn	16 16 11.0	+3.3
DRN				pmax	pmax		
	comp=Z,144nm,0.2s						
KMKR	Kumukh	1.73	307	PN	Pn	16 16 04.0	0.0
KMKR				*e*S	Sn	16 16 30.0	+4.8
KMKR				pmax	pmax		
	comp=Z,56nm,0.3s						
TI2	Plekhanov	3.22	283	*e*PN	Pn	16 16 25.0	-0.3

*NIED **01** 16:30:00, 35.90N×137.60E, h5km, Mw4.0 Best double couple: M0 1.32×10^15 NP1:φs20°, δ52°, λ92°. NP2:φs196°, δ38°, λ87°.*
*JMA **01** 16:30:26.5, 35.87N×137.58E, h6km, M4.2 Broadband fault plane solution: P waves. NP1:φs202°, δ42°, λ86°. NP2:φs27°, δ48°, λ94°. Principal axes: T Plg86°, Azm336°; N Plg3°, Azm205°; P Plg3°, Azm115°;*
JMA Felt III J1.

ISC 01 16:30:26.0±0.7, 35.87N±0.04×137.59E±0.06, h6km, n7, σ0§27/10, 1C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGF	Kuroka	0.33	215	⇑P	Pg	16 30 32.8	+0.1
JGF				S	Sg	16 30 37.0	-0.1
JGN	Niukaw	0.42	328	⇓P	Pg	16 30 34.7	+0.3
JGN				S	Sg	16 30 40.2	+0.2
JGM	Miyama	0.73	257	⇓P	Pg	16 30 40.3	-0.3
JTT	Ttatey	0.76	344	⇓P	Pg	16 30 41.3	0.0
MAT	Matsushiro	0.84	36	P	Pb	16 30 42.5	-0.1
MAT				S	Sb	16 30 53.4	-0.4
JYN	Shimob	0.86	115	⇓P	Pb	16 30 43.5	+0.5
SHZ3	Shizuoka 3	0.95	148	⇓P	Pb	16 30 44.4	-0.1

IGQ 01 16:35:45.6, 1.76S×77.56W, h5km±2km, mb4.0, 4C-11D, Error ellipse: s-maj=3.4km s-min=2.2km az=72.9, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	Ulba	0.90	290	⇓P	Pb	16 36 03.5	+0.1
PATA	Patacocha	0.91	286	⇓P	Pb	16 36 03.6	+0.1
PATA				S	Sb	16 36 15.2	-0.6
RUN2	Runtun	0.92	292	⇓P	Pb	16 36 03.6	-0.1
ARRY	Arrayan	0.93	286	⇓P	Pb	16 36 03.6	-0.3
RETU	Refugio	0.94	289	⇓P	Pb	16 36 04.0	0.0
JUIV	Juive	0.97	290	⇓P	Pb	16 36 04.3	-0.2
JUIV				S	Sb	16 36 16.9	-0.4
CUSU	Cusua	0.97	289	⇓P	Pb	16 36 04.5	-0.1
CUSU				S	Sb	16 36 17.0	-0.6
IGUA	Igualata	1.11	284	⇓P	Pb	16 36 07.5	+0.6
TAMB	Tambo	1.33	323	⇓P	Pb	16 36 11.8	+1.1
MARY	Rancho Maria	1.38	318	P	Pb	16 36 12.6	+1.1
MARY				S	Sb	16 36 32.0	+2.6
VC1	Cotopaxi 1	1.40	323	⇓P	Pb	16 36 13.1	+1.2
ANTI	Antisana	1.44	335	⇑P	Pn	16 36 13.5	+1.1
NAS1	Nasa	1.45	321	⇑P	Pn	16 36 14.0	+1.4
LAV3	Lava3-Reventad	1.66	357	⇓P	Pn	16 36 17.0	+1.5
CONE	Cono NE Rev Vo	1.68	357	P	Pn	16 36 16.9	+1.0
CONE				S	Sn	16 36 41.8	+3.6
CAYR	Refugio Cayamb	1.82	346	⇑P	Pn	16 36 19.8	+1.9
CAYR				S	Sn	16 36 44.1	+2.4
JUA2	San Juan 2	1.86	326	P	Pn	16 36 21.3	+2.8
JUA2				S	Sn	16 36 46.6	+3.9
CAYA	Cayambe	1.87	347	⇑P	Pn	16 36 21.0	+2.4
TERV	Terraza Guagua	1.89	326	P	Pn	16 36 21.9	+3.0
TERV				S	Sn	16 36 48.0	+4.5
PINO	Pino	1.91	327	P	Pn	16 36 21.7	+2.5
YANA	Yana	1.92	328	P	Pn	16 36 22.2	+2.8
YANA				S	Sn	16 36 47.5	+3.2

*NEIC **01** 16:42:34.8, 15.78N×61.45W, h29km, MD3.6(TRN), After TRN.*

TRN 01 16:42:33.6, 15.87N×61.45W, h15km, MD3.6, M2.8(FDF), Md3.0(FDF), 3C-7D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCG	Saint Claude	0.27	304	⇑*e*P	Pb	16 42 41.2	+1.5
DWS	Wesley	0.33	157	⇑*i*P	Pb	16 42 43.1	+2.4
DWS				*e*S	Sb	16 42 48.3	+2.9
BBL	Barber's Block	0.35	184	⇓*i*P	Pb	16 42 43.7	+2.7
BBL				*e*S	Sb	16 42 48.5	+2.7
BBL	Barber's Block	0.35	184	⇓*e*P	Pb	16 42 42.7	+1.7
BBL	Barber's Block	0.35	184	⇓*i*P	Pb	16 42 43.7	+2.7
BBL				*e*S	Sb	16 42 48.5	+2.7
SEG	Port Louis	0.53	354	*e*P	Pb	16 42 46.7	+2.6
SEG				*e*S	Sb	16 42 55.1	+3.9
DEG	La Desirade	0.57	40	⇑*e*P	Pb	16 42 47.6	+2.8
DEG				*e*S	Sb	16 42 56.4	+4.0
FDF	Fort de France	1.17	166	⇓*i*P	Pb	16 42 56.9	+1.9
FDF				*e*S	Sb	16 43 12.6	+2.8
CRM	Caravelle	1.23	155	⇓*i*P	Pb	16 42 57.2	+1.3
CRM				*e*S	Sb	16 43 13.6	+2.2
BPA	Boggy Peak	1.23	341	*e*P	Pb	16 42 58.8	+2.7
BPA				*e*S	Sb	16 43 15.3	+3.8
BIM	Bigot	1.40	165	⇓*i*P	Pn	16 43 00.4	+1.7
MVM	Montagne Vaucl	1.42	158	⇓*i*P	Pn	16 43 00.2	+1.3
CPB	Codrington	1.79	348	*e*P	Pn	16 43 07.5	+3.1
CPB				*e*S	Sn	16 43 30.1	+3.1

*BJI **01** 17:06:31.8, 10.86N×91.61E, h54km, mB5.1, mb4.4, Ms4.3*
*NEIC **01** 17:06:32.9±0.7, 11.28N×91.43E, h30km, mb4.6/18, Error ellipse: s-maj=18.2km s-min=16.8km az=171.0*

ISC 01 17:06:31.2±0.6, 11.04N±0.08×91.36E±0.09, h30km, (h25km±.4km:pP-P), n38, σ1§28/40, mb4.5/18, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.49	65	*i*	Pn	17 06 50.0	-6.3
PBA				*i*		17 06 56.5	
VIS	Vishakhapatnam	10.23	311	*e*P	P	17 08 58.8	-0.5
VIS				AMb	AMB	17 09 03.0	
	comp=Z,9.4nm,0.6s						
VIS				*e*S	S	17 10 47.6	-6.3
BWNR	Bhubaneshwar	10.64	331	*e*	P	17 09 00.4	-4.5
BWNR				*i* P		17 09 00.9	
BWNR				*e*		17 09 15.7	
	comp=N,128nm,0.3s						
BWNR				*e*		17 09 15.9	
	comp=E,45nm,0.3s						
BWNR				*e*S	S	17 10 54.6	-9.4
MDRS	Chennai	11.05	282	*e*P	P	17 09 11.9	+1.3
MDRS				*e*		17 09 11.9	
PALK	Pallekele	11.16	251	*e*P	P	17 09 10.1	-1.9
PALK				*e*S	S	17 11 11.6	-5.2
HYB	Hyderabad	13.94	299	*i* P	P	17 09 57.0	+7.9
HYB				*e*S	S	17 12 18.0	-5.6
SHL	Shillong	14.46	2	*e*P	P	17 10 00.0	+4.0
PKI	Pulchoki	17.37	342	*e*P	P	17 10 34.0	+0.8
	comp=E,29nm,0.7s						
DMN	Daman	17.50	341	*e*P	P	17 10 34.8	0.0
	comp=E,77nm,0.9s						
GUN	Gumba	17.56	344	*e*P	P	17 10 36.5	+1.0
	comp=E,15nm,0.5s						
KKN	Kakani	17.62	342	*e*P	P	17 10 37.0	+0.7
	comp=E,32nm,0.7s						
BHPL	Bhopal	18.00	314	*e*S	S	17 14 05.5	+7.7
GKN	Gorkha	18.02	340	*e*P	P	17 10 42.5	+1.2
KOLN	Koldanda	18.17	337	*e*P	P	17 10 46.5	+3.3
	comp=E,39nm,0.7s						
LSA	Lhasa	18.57	359	*e*P	P	17 10 47.4	-0.7
DDI	Dehra Dun	22.83	329	*e*	P	17 11 34.5	+1.5
ENH	Enshi	25.50	39	*e*P	P	17 11 54.1	-4.7
	comp=E,15nm,0.6s,mb4.7						
AAK	Ala-Archa	34.74	338	*e*P	P	17 13 20.8	-0.1
	comp=E,8.7nm,0.9s,mb4.7						
AAK				*e*	pP	17 13 28.0	-1.7
BJT	Baijiatuau	36.28	33	*e*P	P	17 13 32.2	-1.6
	comp=E,8.1nm,0.9s,mb4.7						
ULN	Ulaanbaatar	39.01	17	*e*P	P	17 13 52.8	-3.9
	comp=E,2.7nm,0.8s,mb4.0						
BRVK	Borovoye	45.20	342	*e*P	P	17 14 46.4	-0.8
	comp=E,4.8nm,0.9s,mb4.3						
BRVK				*e*		17 14 53.1	
GNI	Garni	50.28	314	*e*P	P	17 15 27.9	+0.8
	comp=E,7.2nm,0.8s,mb4.8						
ARU	Arti	51.93	338	P	P	17 15 38.3	-1.1
	comp=E,11nm,1.0s,mb4.7						
WRAB	Tennant Creek	52.33	126	*e*P	P	17 15 42.7	-0.1
	comp=E,8.5nm,0.7s,mb4.8						
WB2	Warramunga Arr	52.33	126	*e*P	P	17 15 35.7	-7.2
WB2				*e*	pP	17 15 43.6	-8.4
MALT	Malatya	54.34	309	*e*P	P	17 15 57.2	-0.2
	comp=E,8.3nm,1.3s,mb4.5						
EIL	Elat	55.50	298	P	P	17 16 04.8	-1.2
	comp=E,5.9nm,1.3s,mb4.5						
YAK	Yakutsk	57.94	20	P	P	17 16 19.5	-3.4
	comp=E,22nm,1.4s,mb5.0						
STKA	Stephens Creek	64.26	133	*e*P	P	17 17 08.0	+1.8
	comp=E,2.3nm,0.6s,mb4.4						
JOF	Joensuu	66.83	334	*e*p	P	17 17 27.8	+5.7
	comp=E,8.2nm,0.8s,mb4.8						
BRG	Berggiesshubel	73.58	320	*i* P	P	17 18 03.2	-0.1
	comp=E,4.0nm,1.1s,mb4.3						
BRG				*i* pP	pP	17 18 11.1	-1.7
KHC	Kasperske Hory	73.75	318	*e*P	pP	17 18 11.0	-2.8
BILL	Bilibino	74.20	22	P	P	17 18 10.8	+4.2
	comp=E,1.3nm,0.6s,mb4.0						
NB2	NORSAR Subarra	75.64	330	P	P	17 18 13.0	-2.0
	comp=E,5.9nm,0.9s,mb4.5,baz=92,slow=5.8						
LPG	La Plagne	78.46	314	*e*P	P	17 18 30.3	-0.7
	comp=E,7.6nm,0.7s,mb4.5						
ESLA	Sonseca Array	87.10	310	P	pP	17 19 22.8	-2.5
	comp=E,0.7nm,0.9s						
MCK	McKinley	92.65	23	P	P	17 19 45.6	+4.5
	comp=E,8.0nm,1.5s,mb4.9						
SBA	Scott Base	97.67	168	P	P	17 20 06.3	+2.5

*BJI **01** 17:28:17.9, 8.70N×92.15E, h24km, mB5.1, mb4.9, Ms4.4, Msz4.2*
*NEIC **01** 17:28:20.0±3.2, 8.70N×92.14E, h26km±22km, mb4.8/20, Error ellipse: s-maj=13.1km s-min=8.9km az=169.0*

ISC 01 17:28:20.0±0.5, 8.78N±0.06×92.15E±0.04, h33km, n72, σ1§29/77, mb4.8/20, MS4.1/3, 2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	Nakhon Sawan	10.38	48	P	P	17 30 49.0	-0.8
PALK	Pallekele	11.44	263	*e*P	P	17 31 01.1	-3.0
PALK				*e*S	S	17 32 57.4	-14
CM31	Chiang Mai Arr	11.67	34	*e*P	P	17 31 06.4	-0.8
CHG	Chiang Mai	11.96	33	⇓P	P	17 31 11.4	+0.3
	22nm,0.8s						
VIS	Vishakhapatnam	12.36	317	*e*P	P	17 31 13.0	-3.6
VIS				*e*S	S	17 33 18.7	-15
MDRS	Chennai	12.44	291	*e*	P	17 31 15.0	-2.7
MDRS				*e*		17 33 19.0	
KKTK	Khon Kaen	12.84	53	P	P	17 31 34.0	+11
NANT	Nan	12.96	39	P	P	17 31 25.5	+0.9
BWNR	Bhubaneshwar	12.99	333	*e*P	P	17 31 18.4	-6.6
BWNR				*e*S	S	17 33 30.8	-19
TRD	Trivandrum	15.03	270	*e*P	P	17 31 52.7	+0.9
TRD				*e*		17 31 53.8	
	comp=Z,20nm,0.4s						
TRD				*e*		17 34 21.8	
HYB	Hyderabad	15.78	304	*i* P	P	17 32 01.0	-0.5
HYB				*e*		17 34 15.0	
IMP	Imphal	16.01	6	*e*P	P	17 32 04.3	-0.1
BLSP	Bilaspur	16.41	325	*e*P	P	17 32 07.7	-1.7
BLSP				*e*		17 34 24.0	
SHL	Shillong	16.70	359	*e*P	P	17 32 09.0	-4.2
	comp=Z,53nm,0.8s						
SHL				*e*S	S	17 35 12.0	-4.6
MNGI	Mangalore	17.51	285	*e*P	P	17 32 24.7	+1.3
MNGI				*e*		17 32 26.1	
	comp=Z,75nm,0.6s						
MNGI				*e*		17 35 23.4	
NGP	Nagpur	17.63	316	*e*P	P	17 32 26.9

DDI				*e*		17 38 20.3	
ENH	**Enshi**	**26.84**	**35**	*e*P	**P**	**17 33 57.4**	**-2.2**
	comp=Z,35nm,0.7s,mb5.0						
LZH	**Lanzhou**	**29.20**	**20**	⇓P	**P**	**17 34 19.8**	**-1.0**
LZH				AP	pP	17 34 31.5	+1.2
LZH				XP	sP	17 34 36.6	+1.9
LZH				AMB	AMB		
	comp=Z,47nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,152nm,5.7s						
LZH				LR	LR		
	comp=N,612nm,13.0s						
LZH				LR	LR		
	comp=Z,783nm,17.1s,MS4.4						
XAN	**Xi'an**	**29.50**	**29**	P	**P**	**17 34 21.3**	**-2.2**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.6						
SSE	**Sheshan**	**34.99**	**47**	P	**P**	**17 35 14.4**	**+2.9**
SSE				XP	sP	17 35 27.1	+1.6
SSE				S	**S**	**17 40 46.7**	**+6.4**
SSE				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,110nm,4.2s						
SSE				LR	LR		
	comp=N,174nm,26.4s,MS3.8						
SSE				LR	LR		
	comp=E,106nm,26.3s,MS3.8						
SSE				LR	LR		
	comp=Z,90nm,17.8s						
WMQ	**Urumqi**	**35.13**	**354**	P	**P**	**17 35 13.0**	**+0.5**
UCH	**Uchtor**	**36.76**	**338**	P	**P**	**17 35 28.2**	**+1.9**
	SNR=7.2						
KBK	**Karagaybulak**	**36.98**	**339**	P	**P**	**17 35 30.0**	**+1.8**
	SNR=20						
TKM2	**Tokmak 2**	**36.98**	**340**	P	**P**	**17 35 29.3**	**+1.1**
	SNR=7.8						
AML	**Almayashu**	**36.99**	**337**	P	**P**	**17 35 30.2**	**+1.9**
	SNR=5.5						
AAK	**Ala-Archa**	**37.12**	**338**	P	**P**	**17 35 31.3**	**+2.0**
	SNR=12						
AAK	**Ala-Archa**	**37.12**	**338**	*e*P	**P**	**17 35 29.7**	**+0.3**
	comp=Z,22nm,1.0s,mb5.0						
CHMS	**Chumysh**	**37.35**	**339**	P	**P**	**17 35 32.0**	**+0.8**
	SNR=8.0						
EKS2	**Erkin-Say**	**37.41**	**337**	P	**P**	**17 35 33.5**	**+1.7**
	SNR=12						
USP	**Ospenovka**	**37.67**	**339**	P	**P**	**17 35 35.0**	**+1.1**
	SNR=21						
BJT	**Baijiatuao**	**37.77**	**31**	*e*P	**P**	**17 35 33.7**	**-1.1**
	comp=Z,10.0nm,0.7s,mb4.7						
ULN	**Ulaanbaatar**	**40.95**	**15**	*e*P	**P**	**17 36 00.7**	**-0.4**
	comp=Z,6.3nm,0.7s,mb4.3						
HIA	**Hailar**	**46.50**	**25**	*e*P	**P**	**17 36 45.6**	**-0.4**
	comp=Z,7.5nm,0.8s,mb4.7						
HIA				*e*		17 36 57.6	
BRVK	**Borovoye**	**47.58**	**342**	*e*P	**P**	**17 36 53.5**	**-0.9**
	comp=Z,7.7nm,1.0s,mb4.7						
NWAO	**Narrogin (SRO)**	**47.86**	**151**	*e*P	**P**	**17 36 58.8**	**+1.9**
	comp=Z,37nm,1.3s,mb5.2						
MAJO	**Matsushiro**	**50.04**	**49**	*e*P	**P**	**17 37 13.7**	**0.0**
	comp=Z,7.5nm,0.9s,mb4.7						
WB2	**Warramunga Arr**	**50.39**	**125**	*e*P	**P**	**17 37 14.6**	**-2.0**
WB2				*e*		17 37 27.6	
GNI	**Garni**	**52.41**	**315**	*e*P	**P**	**17 37 29.9**	**-1.5**
	comp=Z,18nm,0.9s,mb5.0						
ARU	**Arti**	**54.31**	**338**	*e*P	**P**	**17 37 44.3**	**-1.0**
	comp=Z,9.7nm,0.8s,mb4.8						
MALT	**Malatya**	**56.38**	**310**	*e*P	**P**	**17 37 59.9**	**-0.7**
	comp=Z,5.4nm,1.0s,mb4.5						
EIL	**Elat**	**57.27**	**300**	P	**P**	**17 38 05.9**	**-1.1**
	comp=Z,7.0nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**62.15**	**133**	*e*P	**P**	**17 38 39.4**	**-1.1**
	comp=Z,2.3nm,0.6s,mb4.5						
JOF	**Joensuu**	**69.19**	**335**	*e*p	sP	17 39 36.5	-2.6
	comp=Z,5.6nm,0.6s						
KAF	**Kangasniemi**	**71.10**	**333**	*e*p	sP	17 39 45.8	-5.0
	comp=Z,5.4nm,0.7s						
OJC	**Ojcow**	**72.02**	**320**	*e*P	**P**	**17 39 41.9**	**-0.5**
OJC	**Ojcow**	**72.02**	**320**	*e*P	**P**	**17 39 41.9**	**-0.5**
DPC	**Dobruska-Polom**	**74.25**	**320**	*e*P	**P**	**17 39 55.9**	**+0.4**
KSP	**Ksiaz**	**74.32**	**320**	*e*P	**P**	**17 39 55.9**	**0.0**
BRG	**Berggiesshubel**	**75.81**	**320**	*i* P	**P**	**17 40 04.7**	**+0.2**
	comp=Z,17nm,1.0s,mb4.9						
BRG				*e*		17 40 18.6	
KHC	**Kasperske Hory**	**75.94**	**318**	*e*P	**P**	**17 40 05.0**	**-0.3**
RUE	**Ruedersdorf**	**76.01**	**322**	P	**P**	**17 40 03.1**	**-2.5**
	comp=Z,17nm,0.9s,mb5.0						
NB2	**NORSAR Subarra**	**77.98**	**331**	P	pP	17 40 25.0	-1.8
	comp=Z,1.8nm,0.7s,baz=97,slow=5.0						
LPG	**La Plagne**	**80.59**	**315**	*e*P	**P**	**17 40 30.8**	**-0.1**
	comp=Z,17nm,0.9s,mb4.7						
BNI	**Bardonecchia**	**80.67**	**314**	*e*P	**P**	**17 40 33.5**	**+2.2**
	comp=Z,6.8nm,0.8s,mb4.6						

MAN 01 17:38:11.6, 10.17N×124.84E, h6km, mb4.7, ML3.6, MS3.5, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.04**	**155**	*e*P	Pg	17 38 14.1	+1.2
MSLP				*e*S	Sg	17 38 15.7	+2.0
SCPH	**Surigao**	**0.74**	**121**	*i* P	Pg	17 38 24.7	-1.7
SCPH				*i* S	Sg	17 38 36.3	-0.1
LLP	**Lapu-Lapu**	**0.88**	**280**	⇓*i*P	Pb	17 38 28.5	-0.3
LLP				*i* S	Sb	17 38 42.8	+2.3
OCLP	**Ormoc**	**0.91**	**345**	*e*P	Pb	17 38 28.9	-0.3
TBP	**Tagbilaran**	**1.08**	**244**	*e*P	Pb	17 38 32.7	+0.6
TBP				*e*S	Sb	17 38 51.3	+5.0
BUTP	**Butuan**	**1.42**	**147**	*e*P	Pn	17 38 36.5	-1.4
BESP	**Borongan**	**1.54**	**22**	*e*P	Pn	17 38 39.2	-0.5
GUIM	**Jordan**	**2.26**	**282**	*e*P	Pn	17 38 43.8	-6.2

DJA 01 17:48:12.8±1.5, 3.04N×95.55E, h25km, mb5.2/5, 4C-4D, Error ellipse: s-maj=44.6km s-min=15.9km az=106.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**3.04**	**81**	*e*P	Pn	17 49 01.0	+0.5
PENI	**Pendagan**	**12.86**	**132**	⇓*e*P	P	17 51 16.5	-0.5
	431nm,0.3s						
PULI	**Pulasari**	**13.97**	**132**	⇑*e*P	P	17 51 32.6	+0.8
PACI	**Pancar Gunung**	**14.84**	**130**	⇑*e*P	P	17 51 41.7	-1.4
	31nm,0.5s						
SRDI	**Scrawed**	**21.79**	**122**	*e*pP		17 53 12.6	
SRDI	**Scrawed**	**21.79**	**122**	⇑*e*P	P	17 53 05.8	+0.8
	190nm,1.0s						
KELI	**Kelakatan**	**21.95**	**121**	⇓*e*P	P	17 53 08.0	+1.3
RATI	**Rata**	**23.10**	**121**	⇓*e*P	P	17 53 18.2	+0.1
	299nm,0.3s						
KEDI	**Kedomdong**	**23.49**	**119**	⇓*e*P	P	17 53 20.8	-1.0
	145nm,0.3s						
TANI	**Tanete Lipujan**	**24.67**	**105**	⇑*e*P	P	17 53 31.0	-2.4

*BJI **01** 18:07:08.9, 5.10N×96.30E, h28km, mB5.0, mb4.6, Ms4.5, Msz4.0*
*NEIC **01** 18:07:09.0±0.6, 5.10N×96.28E, h30km, mb4.5/8, Error ellipse: s-maj=16.5km s-min=11.6km az=216.0*
ISC 01 18:07:07.0±0.6, 5.08N±0.10×96.27E±0.09, h30km, n16, σ1§02/16, mb4.6/9, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**13.55**	**11**	P	**P**	**18 10 29.4**	**+9.4**
PALK	**Pallekele**	**15.63**	**279**	P	**P**	**18 10 48.4**	**+1.2**
	15nm,0.9s						
HYB	**Hyderabad**	**21.24**	**307**	*i* P	**P**	**18 11 51.0**	**-2.1**
LSA	**Lhasa**	**24.96**	**349**	*e*P	**P**	**18 12 31.7**	**+2.1**
LSA	**Lhasa**	**24.96**	**349**	*e*P	**P**	**18 12 31.0**	**+1.4**
	4.6nm,0.5s,mb4.3						
ENH	**Enshi**	**27.99**	**25**	*e*P	**P**	**18 12 56.6**	**-0.8**
	9.2nm,1.1s,mb4.3						
XAN	**Xi'an**	**31.12**	**21**	P	**P**	**18 13 24.8**	**-0.5**
XAN				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.8						
LZH	**Lanzhou**	**31.64**	**12**	*e*P	**P**	**18 13 30.5**	**+0.6**
LZH				AP	pP	18 13 40.1	+1.4
LZH				XP	sP	18 13 44.2	+1.6
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**37.01**	**129**	⇑*i*P	**P**	**18 14 15.9**	**-0.2**
	comp=Z,20nm,1.1s,mb4.9						
ULN	**Ulaanbaatar**	**43.62**	**11**	*e*P	**P**	**18 15 10.3**	**-0.2**
	comp=Z,2.0nm,0.9s,mb3.9						
WRAB	**Tennant Creek**	**44.93**	**125**	*e*P	**P**	**18 15 21.7**	**+0.2**
	comp=Z,22nm,0.6s,mb5.2						
WB2	**Warramunga Arr**	**44.94**	**125**	⇑*i*P	**P**	**18 15 21.7**	**+0.2**
HIA	**Hailar**	**48.32**	**20**	P	**P**	**18 15 48.5**	**+0.7**
STKA	**Stephens Creek**	**56.66**	**134**	*e*P	**P**	**18 16 50.1**	**-0.1**
KMBO	**Kilima Mbogo**	**59.27**	**266**	P	**P**	**18 17 09.1**	**+0.4**
	comp=Z,6.5nm,1.3s,mb4.5						
EIL	**Elat**	**62.66**	**301**	*e*P	**P**	**18 17 28.7**	**-2.7**
	comp=Z,4.2nm,0.9s,mb4.6						

MAN 01 18:14:59.6, 7.88N×126.80E, h20km, mb4.6, ML3.5, MS3.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.53**	**305**	⇑*i*P	Pb	18 15 12.4	+2.3
BIPH				*i* S	Sb	18 15 24.7	+7.5
MATI	**Mati**	**1.07**	**210**	*e*P	Pb	18 15 18.5	-0.8
MATI				*e*S	Sb	18 15 36.1	+3.2
BUTP	**Butuan**	**1.59**	**313**	*e*P	Pn	18 15 25.1	-1.9
BUKP	**Musuan**	**1.72**	**270**	*e*P	Pn	18 15 30.7	+1.8
SCPH	**Surigao**	**2.29**	**326**	*e*P	Pn	18 15 37.4	+0.3
SCPH				*e*S	Sn	18 16 04.8	-0.2
MSLP	**Maasin**	**2.95**	**320**	*e*P	Pn	18 15 47.5	+1.0

*MOS **01** 18:24:03.3±1.6, 12.09N×92.56E, h33km, mb5.0/12, Error ellipse: s-maj=21.8km s-min=10.4km az=105.8*
*BJI **01** 18:24:06.9, 12.23N×92.45E, h50km, mB5.1, mb4.8, Ms4.3, Msz4.1*
*NEIC **01** 18:24:08.7±1.9, 12.31N×92.52E, h41km±17km, mb4.8/35, Error ellipse: s-maj=11.0km s-min=7.0km az=50.0*
ISC 01 18:24:07.0±0.8, 12.36N±0.04×92.48E±0.04, h40km±7km, n105, σ1§28/110, mb4.8/41, MS4.2/2, 5C-5D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.75**	**159**	*i* P	**P**	**18 24 22.0**	**+0.9**
PBA				*i* S	**S**	**18 24 32.5**	**+1.0**
NST	**Nakhon Sawan**	**8.13**	**65**	P	**P**	**18 26 06.0**	**+0.7**
	67nm,0.5s						
CM31	**Chiang Mai Arr**	**8.70**	**45**	*e*Pn	**P**	**18 26 12.0**	**-1.2**
CHG	**Chiang Mai**	**8.94**	**43**	⇑P	**P**	**18 26 15.3**	**-1.3**
	24nm,0.8s						
VIS	**Vishakhapatnam**	**10.32**	**302**	*e*P	**P**	**18 26 32.0**	**-3.7**
VIS				*e*S	**S**	**18 28 17.6**	**-13**
VIS				*e*		18 28 21.6	
	comp=E,180nm,0.5s						
VIS				*e*		18 28 21.6	
	comp=N,322nm,0.6s						
KKTK	**Khon Kaen**	**10.78**	**67**	P	**P**	**18 26 44.0**	**+2.1**
	comp=N,463nm,0.7s						
SHL	**Shillong**	**13.15**	**358**	*e*	**P**	**18 27 09.5**	**-4.3**
SHL				*e*S	**S**	**18 29 32.5**	**-7.1**
HYB	**Hyderabad**	**14.36**	**292**	*i* P	**P**	**18 27 34.5**	**+4.7**
HYB				*e*S	**S**	**18 29 54.5**	**-14**
PKI	**Pulchoki**	**16.52**	**337**	*e*P	**P**	**18 27 56.4**	**-1.1**
	comp=N,56nm,0.6s						
GUN	**Gumba**	**16.66**	**339**	*e*P	**P**	**18 27 58.4**	**-0.8**
	comp=N,72nm,0.7s						
DMN	**Daman**	**16.67**	**337**	*e*P	**P**	**18 27 58.4**	**-0.9**
	comp=N,79nm,0.6s						
KKN	**Kakani**	**16.77**	**337**	*e*P	**P**	**18 28 00.1**	**-0.5**
	comp=N,32nm,0.5s						
GKN	**Gorkha**	**17.20**	**336**	*e*P	**P**	**18 28 05.8**	**-0.3**
	comp=N,46nm,0.3s						
LSA	**Lhasa**	**17.30**	**356**	*e*P	**P**	**18 28 06.4**	**-0.9**
LSA	**Lhasa**	**17.30**	**356**	*e*P	**P**	**18 28 04.9**	**-2.4**
	comp=N,19nm,0.6s						
KOLN	**Koldanda**	**17.44**	**333**	*e*P	**P**	**18 28 09.1**	**+0.1**
	comp=N,54nm,0.6s						
BHPL	**Bhopal**	**17.94**	**309**	*e*P	**P**	**18 28 12.3**	**-3.0**
BHPL				AMb	AMB	18 28 31.0	
	comp=Z,31nm,0.6s						
BHPL				*e*		18 31 19.7	
QIZ	**Qiongzhong**	**17.98**	**66**	P	**P**	**18 28 16.9**	**+1.1**
QIZ				*e*S	**S**	**18 31 32.8**	**+0.7**
QIZ				AMB	AMB		
	comp=Z,50nm,2.1s						
QIZ				LR	LR		
	comp=E,489nm,12.1s						
QIZ				LR	LR		
	comp=Z,573nm,13.3s						
QIZ	**Qiongzhong**	**17.98**	**66**	*e*P	**P**	**18 28 16.8**	**+1.0**
	comp=Z,28nm,1.0s						
POO	**Poona**	**18.97**	**291**	*e*P	**P**	**18 28 23.0**	**-4.8**
POO				*i*		18 31 43.0	
PTH	**Pithoragarh**	**20.55**	**328**	*e*P	**P**	**18 28 45.0**	**+0.1**
PTH				*e*		18 32 27.0	
DDI	**Dehra Dun**	**22.32**	**325**	*e*P	**P**	**18 29 05.1**	**+2.5**
DDI				*e*S	**S**	**18 33 05.3**	**+4.7**
ENH	**Enshi**	**23.79**	**39**	*e*P	**P**	**18 29 17.2**	**+0.1**
	comp=Z,48nm,0.5s,mb5.2						
LZH	**Lanzhou**	**25.75**	**22**	*e*P	**P**	**18 29 37.0**	**+1.1**
LZH				AP	pP	18 29 51.0	+4.5
LZH				AMB	AMB		
	comp=Z,37nm,1.3s,mb4.8						
LZH				LR	LR		
	comp=E,197nm,13.0s						
LZH				LR	LR		
	comp=Z,343nm,17.5s,MS3.9						
XAN	**Xi'an**	**26.27**	**32**	P	**P**	**18 29 41.8**	**+1.1**
XAN				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.0						
NJ2	**Nanjing**	**31.17**	**47**	*e*P	**P**	**18 30 20.1**	**-4.6**
NJ2				AP	pP	18 30 33.4	-2.2
NJ2				PP	PP	18 31 23.4	-4.7
NJ2				S	**S**	**18 35 24.0**	**-2.6**
NJ2				SS	SS	18 37 11.0	-2.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,1μm,4.7s						
NJ2				LR	LR		
	comp=N,530nm,15.9s,MS4.5						
NJ2				LR	LR		
	comp=E,640nm,18.1s,MS4.5						
NJ2				LR	LR		
	comp=Z,620nm,16.5s,MS4.3						
WMQ	**Urumqi**	**31.62**	**353**	*e*P	**P**	**18 30 29.5**	**+1.0**
UCH	**Uchtor**	**33.62**	**336**	P	**P**	**18 30 47.5**	**+1.6**
	SNR=11						
TKM2	**Tokmak 2**	**33.78**	**337**	P	**P**	**18 30 48.3**	**+1.0**
	SNR=10.0						
KBK	**Karagaybulak**	**33.81**	**336**	P	**P**	**18 30 49.3**	**+1.8**
	SNR=13						
AML	**Almayashu**	**33.87**	**335**	P	**P**	**18 30 49.9**	**+1.7**
	SNR=6.4						
AAK	**Ala-Archa**	**33.97**	**336**	P	**P**	**18 30 50.6**	**+1.7**
	SNR=10.0						
AAK	**Ala-Archa**	**33.97**	**336**	⇓*i*P	**P**	**18 30 45.9**	**-3.0**
AAK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
AAK	**Ala-Archa**	**33.97**	**336**	*e*P	**P**	**18 30 47.0**	**-1.9**
	comp=Z,9.8nm,0.7s,mb4.8						
CHMS	**Chumysh**	**34.17**	**337**	P	**P**	**18 30 51.5**	**+0.8**
	SNR=12						
EKS2	**Erkin-Say**	**34.28**	**335**	P	**P**	**18 30 53.2**	**+1.7**
	SNR=22						
USP	**Ospenovka**	**34.50**	**337**	P	**P**	**18 30 54.5**	**+1.1**
	SNR=32						
ULN	**Ulaanbaatar**	**37.44**	**16**	⇑*i*P	**P**	**18 31 15.0**	**-3.3**
ULN	**Ulaanbaatar**	**37.44**	**16**	*e*P	**P**	**18 31 18.6**	**+0.3**
	comp=Z,9.0nm,1.2s,mb4.5						
ZAK	**Zakamensk**	**38.94**	**11**	*e*P	**P**	**18 31 31.8**	**+1.1**
MOY	**Mondy**	**39.80**	**8**	*e*P	**P**	**18 31 39.8**	**+1.9**
TLY	**Talaya**	**40.25**	**11**	*e*P	**P**	**18 31 43.6**	**+2.0**
	comp=Z,5.8nm,0.8s,mb4.4						
KS15	**Wonju Array Si**	**40.30**	**45**	*e*P	**P**	**18 31 42.2**	**0.0**
NVS	**Novosibirsk**	**43.00**	**352**	*e*P	**P**	**18 32 02.9**	**-1.3**
HIA	**Hailar**	**43.14**	**26**	P	**P**	**18 32 04.5**	**-1.0**
	comp=Z,12nm,1.3s,mb4.5						
BRVK	**Borovoye**	**44.30**	**341**	*e*P	**P**	**18 32 14.6**	**-0.2**
	comp=Z,8.8nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**44.58**	**132**	*e*P	**P**	**18 32 15.6**	**-1.8**
	comp=Z,14nm,0.6s,mb5.0						
TRBA	**At Turbah**	**47.11**	**277**	⇓*i*P	**P**	**18 32 32.6**	**-5.0**
	baz=213,slow=5.1						
TRBA				*i* S	tx	18 32 36.5	
TRBA				AMP		18 32 36.7	
	comp=N,16nm,0.2s						
MAJO	**Matsushiro**	**47.52**	**51**	*e*P	**P**	**18 32 38.9**	**-1.6**
BOD	**Bodaibo**	**48.23**	**15**	*e*P	**P**	**18 32 44.9**	**-0.9**
MUN	**Mundaring**	**49.60**	**153**	*e*P	**P**	**18 32 55.7**	**-1.0**
	comp=N,9.6nm,0.7s,mb4.9						
HILS	**Ha'il**	**49.62**	**295**	P	pP	18 33 04.8	-3.4
GNI	**Garni**	**50.18**	**312**	⇓*i*P	**P**	**18 32 57.9**	**-3.1**
GNI				pmax	pmax		
	comp=Z,16nm,1.0s						
GNI	**Garni**	**50.18**	**312**	*e*P	**P**	**18 33 02.6**	**+1.6**
	comp=Z,25nm,0.9s,mb5.2						
TI2	**Plekhanov**	**50.73**	**314**	*e*P	**P**	**18 33 06.0**	**+0.9**
TI2				*i*		18 33 13.0	
NWAO	**Narrogin (SRO)**	**50.86**	**153**	*e*P	**P**	**18 33 04.5**	**-1.8**
NWAO				*e*		18 33 12.0	
ARU	**Arti**	**51.15**	**337**	⇑*i*P	**P**	**18 33 07.3**	**-0.8**
ARU				*e*		18 34 15.9	
ARU				*e*		18 35 03.5	
ARU				*e*PPP	PPP	18 36 02.3	-4.2
ARU				*e*S	**S**	**18 40 27.4**	**+5.6**
ARU				*e*		18 42 51.4	
ARU				*e*SSS	SSS	18 45 42.2	+10
ARU				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
ARU	**Arti**	**51.15**	**337**	*e*P	**P**	**18 33 07.8**	**-0.3**
	comp=Z,10nm,0.9s,mb4.8						
ARU				*e*		18 33 13.8	
WRAB	**Tennant Creek**	**52.23**	**127**	*e*P	**P**	**18 33 12.0**	**-4.7**
WRAB	**Tennant Creek**	**52.23**	**127**	*e*P	**P**	**18 33 14.9**	**-1.8**
	comp=Z,20nm,0.7s,mb5.2						
WRAB				*e*		18 33 21.5	
WB2	**Warramunga Arr**	**52.24**	**127**	⇑*i*P	**P**	**18 33 14.8**	**-2.0**
YNBS	**Yanbu' al Bahr**	**52.78**	**291**	P	pP	18 33 28.2	-3.9
GOF	**Gofitskoye**	**53.11**	**318**	*e*P	**P**	**18 33 21.0**	**-1.9**
UMJS	**Umm Lajj**	**53.44**	**292**	P	**P**	**18 33 27.7**	**+2.1**
TBKS	**Tabuk**	**54.33**	**296**	P	pP	18 33 39.9	-3.8
YSS	**Yuzh-Sakhalins**	**54.36**	**40**	*e*P	**P**	**18 33 32.0**	**-0.1**
	comp=Z,5.9nm,0.5s,mb4.8						
MALT	**Malatya**	**54.37**	**308**	*e*P	**P**	**18 33 33.0**	**+0.7**
	comp=Z,8.6nm,1.1s,mb4.6						
SOC	**Sochi**	**54.84**	**315**	*e*P	**P**	**18 33 41.9**	**+6.2**
SOC				*e*S	**S**	**18 41 22.5**	**+10**
SOC				*e*SSS	SSS	18 47 00.8	+3.9
SOC				pmax	pmax		
	comp=N,7.0nm,1.0s						
SOC				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
SOC				pmax	pmax		
	comp=E,15nm,1.4s						
EIL	**Elat**	**55.85**	**297**	*e*P	**P**	**18 33 43.0**	**-0.2**
	comp=E,5.3nm,0.8s,mb4.6						
EIL				*e*		18 33 49.6	
EIL				*e*PcP	PcP	18 34 38.6	-3.0
YAK	**Yakutsk**	**56.33**	**20**	⇓*i*P	**P**	**18 33 43.0**	**-3.1**
YAK				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
YAK	**Yakutsk**	**56.33**	**20**	*e*P	**P**	**18 33 45.0**	**-1.2**
	comp=Z,15nm,0.7s,mb5.1						
SIM	**Simferopol'**	**59.09**	**315**	*e*P	**P**	**18 34 03.8**	**-2.0**
SIM				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
OBN	**Obninsk**	**60.74**	**327**	*e*P	**P**	**18 34 13.6**	**-3.4**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
TIXI	**Tiksi**	**63.20**	**12**	⇓*i*P	**P**	**18 34 29.9**	**-3.4**
TIXI				pmax	pmax		
	comp=Z,18nm,1.5s,mb5.0						
MA2	**Magadan**	**63.61**	**29**	*e*P	**P**	**18 34 33.0**	**-3.1**
MA2				pmax	pmax		
	comp=Z,21nm,1.5s,mb5.0						
MA2	**Magadan**	**63.61**	**29**	*e*P	**P**	**18 34 35.4**	**-0.6**
	comp=Z,13nm,0.9s,mb5.0						
SANT	**Santorini**	**64.31**	**304**	P	**P**	**18 34 38.6**	**-2.4**
	comp=Z,36nm,1.3s,mb5.2						
STKA	**Stephens Creek**	**64.38**	**134**	*e*P	**P**	**18 34 40.6**	**-1.0**
	comp=Z,4.7nm,0.9s,mb4.5						
JOF	**Joensuu**	**66.12**	**334**	*e*p	**P**	**18 34 51.8**	**-0.4**
	comp=Z,6.3nm,0.7s,mb4.8						
JOF	**Joensuu**	**66.12**	**334**	*e*P	**P**	**18 34 51.8**	**-0.4**
JOF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
KAF	**Kangasniemi**	**68.08**	**332**	*e*p	**P**	**18 35 03.8**	**-0.7**
	comp=Z,6.0nm,1.0s,mb4.6						
KAF	**Kangasniemi**	**68.08**	**332**	*e*P	**P**	**18 35 03.8**	**-0.7**
KAF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
LSZ	**Lusaka**	**69.30**	**248**	*e*P	**P**	**18 35 13.0**	**+0.2**
	comp=Z,9.8nm,0.8s,mb4.8						
LSZ				*e*		18 35 20.6	
OJC	**Ojcow**	**69.52**	**319**	*e*P	**P**	**18 35 13.8**	**+0.2**
OJC	**Ojcow**	**69.52**	**319**	*e*P	**P**	**18 35 13.8**	**+0.2**
OJC	**Ojcow**	**69.52**	**319**	*e*P	**P**	**18 35 13.8**	**+0.2**
KEV	**Kevo**	**70.09**	**340**	*e*p	**P**	**18 35 16.0**	**-0.8**
TOO	**Toolangi**	**70.25**	**138**	*e*P	**P**	**18 35 19.1**	**+0.8**
	comp=Z,5.4nm,0.7s,mb4.6						
MORC	**Moravsky Berou**	**70.94**	**319**	*e*P	**P**	**18 35 22.4**	**+0.2**
	comp=Z,7.4nm,0.9s,mb4.6						
MORC				*e*		18 35 29.4	
BILL	**Bilibino**	**72.57**	**22**	⇑*i*P	**P**	**18 35 30.1**	**-1.5**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.3						
BRG	**Berggiesshubel**	**73.29**	**320**	*e*P	**P**	**18 35 37.3**	**+1.1**
BRG				*i*		18 35 43.9	
BRG				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.8						
BRG	**Berggiesshubel**	**73.29**	**320**	*e*P	**P**	**18 35 37.3**	**+1.1**
	comp=Z,18nm,1.4s,mb4.8						
BRG				*i*		18 35 43.9	
KHC	**Kasperske Hory**	**73.50**	**318**	*e*P	**P**	**18 35 35.8**	**-1.7**
KHC	**Kasperske Hory**	**73.50**	**318**	*e*P	**P**	**18

MOS ***01*** *19:08:04.3±1.0, 7.37N×94.32E, h33km, mb5.9/82, MS5.9/51, Error ellipse: s-maj=8.3km s-min=4.3km az=119.8*
BJI ***01*** *19:08:06.7, 7.10N×94.18E, h77km, mB6.2, mb5.6, Ms6.4, Msz6.1*
GUC ***01*** *19:08:07.8±0.0, 7.34N×94.46E, h55km, mb5.6(NEIC), MS5.9(NEIC), MW6.1(NEIC)*
NEIC ***01*** *19:08:07.8±1.2, 7.34N×94.46E, h55km±10km, mb5.6/128, ME6.1, MS5.9/44, MW6.1, Error ellipse: s-maj=5.9km s-min=4.2km az=221.0 Broadband fault plane solution: P waves. NP1:φs155°, δ80°, λ175°. NP2:φs246°, δ85°, λ10°. Principal axes: T Plg11°, Azm111°; N Plg0°, Azm0°; P Plg4°, Azm20°; Moment Tensor Solution. s11 Moment tensor: Scale 10^18 Nm; Mrr-0.05; Mθθ-1.17; Mφφ1.23; Mrθ-0.29; Mθφ1.02; Mφr0.01; Best double couple: M0 1.6×10^18 NP1:φs156°, δ80°, λ-175°. NP2:φs65°, δ85°, λ-10°. Principal axes: T 1.6, Plg3°, Azm110°; N -.01, Plg79°, Azm218°; P -1.6, Plg10°, Azm20°; Energy computed from BB mechanism.*
HRVD ***01*** *19:08:07.8±0.1, 7.15N×94.49E, h20km, MW6.1/67, Centroid moment Tensor Solution. LP body waves: s63,c135;Mantle waves: s67,c244; Half duration: 2s7 Moment tensor: Scale 10^18Nm; Mrr-0.11±.01; Mθθ-1.21±.02; Mφφ1.32±.02; Mrθ-0.49±.04; Mθφ1.03±.01; Mφr0.18±.04; Best double couple: M0 1.715×10^18 NP1: φs63°, δ77°, λ-13°. NP2:φs156°, δ78°, λ-167°. Principal axes: T 1.686, Plg0°, Azm290°; N .056, Plg72°, Azm199°; P -1.745, Plg18°, Azm20°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 01 19:08:06.2±0.2, 7.33N±0.03×94.31E±0.02, h50km, h50km±2.8km: pP-P, n617, σ1§18/565, mb5.6/168, MS6.0/80, 56C-46D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**10.06**	**34**	P		**P**	**19 10 28.0**	**-2.9**
	400nm,0.5s							
CM31	**Chiang Mai Arr**	**11.94**	**22**	*e*Pn		**P**	**19 10 55.0**	**-1.4**
	46nm,0.4s							
CHG	**Chiang Mai**	**12.27**	**21**	⇓P		**P**	**19 11 00.6**	**-0.2**
	150nm,0.8s							
CHG				S		**S**	**19 13 18.0**	**+1.1**
NANT	**Nan**	**12.98**	**28**	⇓P		**P**	**19 11 11.5**	**+1.2**
	354nm,1.1s							
UBT	**Ubonrachathani**	**13.12**	**52**	P		**P**	**19 11 14.0**	**+2.0**
VIS	**Vishakhapatnam**	**14.87**	**315**	⇑*i*P		**P**	**19 11 32.4**	**-2.6**
VIS				*e*			19 11 40.9	
	comp=Z,400nm,0.5s							
VIS				*e*S		**S**	**19 14 10.7**	**-8.3**
MDRS	**Chennai**	**14.96**	**294**	*e*P		**P**	**19 11 38.0**	**+1.7**
MDRS				*e*			19 14 04.0	
BWNR	**Bhubaneshwar**	**15.29**	**328**	⇓*e*P		**P**	**19 11 36.9**	**-3.6**
BWNR				*e*			19 14 00.0	
	comp=Z,435nm,0.5s							
CAL	**Calcutta**	**16.18**	**340**	*e*P		**P**	**19 11 48.9**	**-2.8**
CAL				*e*			19 14 56.4	
AGT	**Agartala**	**16.71**	**350**	⇓*i*P		**P**	**19 11 58.0**	**-0.5**
AGT				*i*			19 12 47.0	
KOD	**Kodaikanal**	**16.89**	**281**	⇑*i*P		**P**	**19 12 01.2**	**+0.4**
KOD				⇓*i*			19 12 06.0	
KOD				*e*			19 12 14.8	
	comp=Z,647nm,1.5s							
KOD				*e*			19 15 18.7	
TRD	**Trivandrum**	**17.22**	**275**	*e*P		**P**	**19 12 08.3**	**+3.3**
IMP	**Imphal**	**17.36**	**359**	⇓*i*P		**P**	**19 12 08.2**	**+1.6**
BOK	**Bokaro**	**18.25**	**335**	*i*P		**P**	**19 12 18.0**	**+0.3**
BOK				*i*			19 15 46.8	
SHL	**Shillong**	**18.28**	**353**	⇓*i*P		**P**	**19 12 14.7**	**-3.3**
SHL				*e*			19 12 43.5	
	comp=Z,721nm,1.3s							
SHL				*e*S		**S**	**19 15 36.0**	**-0.9**
HYB	**Hyderabad**	**18.35**	**305**	*i*P		**P**	**19 12 18.5**	**-0.4**
	comp=Z,400nm,1.0s							
HYB				*e*S		**S**	**19 15 44.0**	**+5.5**
HYB				LR		LR	19 20 14.0	
	comp=Z,46nm,18.0s							
BLSP	**Bilaspur**	**18.82**	**323**	⇓*i*P		**P**	**19 12 24.0**	**-0.5**
BLSP				*e*			19 12 42.6	
	comp=Z,918nm,1.5s							
BLSP				*e*			19 15 52.4	
BLSP				*i*			19 20 50.9	
	comp=Z,48μm,19.0s							
QIZ	**Qiongzhong**	**19.06**	**51**	P		**P**	**19 12 25.8**	**-1.4**
QIZ				AP			19 12 43.1	
QIZ				S		**S**	**19 15 50.9**	**-3.5**
QIZ				AMB		AMB		
	comp=Z,10μm,9.6s							
QIZ				LR		LR		
	comp=N,174μm,12.7s							
QIZ				LR		LR		
	comp=Z,57μm,16.4s							
QIZ	**Qiongzhong**	**19.06**	**51**	*e*P		**P**	**19 12 25.5**	**-1.8**
	comp=Z,571nm,1.3s							
COCO	**West Island**	**19.56**	**173**	*e*P		**P**	**19 12 31.2**	**-1.5**
MNGI	**Mangalore**	**19.97**	**288**	⇑*i*P		**P**	**19 12 39.0**	**+1.9**
MNGI				*e*			19 12 48.8	
	comp=Z,730nm,1.5s							
MNGI				*e*S		**S**	**19 16 20.7**	**+6.7**
NGP	**Nagpur**	**20.15**	**315**	⇑*i*P		**P**	**19 12 40.6**	**+1.5**
NGP				*e*			19 16 25.6	
LATR	**Latur**	**20.49**	**304**	*e*P		**P**	**19 12 44.5**	**+1.9**
MNCY	**Minicoy**	**21.10**	**274**	*i*P		**P**	**19 12 53.0**	**+4.2**
MNCY				*i*			19 14 53.0	
ALBI	**Allahabad**	**21.50**	**328**	*e*P		**P**	**19 12 52.0**	**-0.8**
GOA	**Goa**	**21.64**	**294**	⇑*e*P		**P**	**19 12 59.7**	**+5.5**
GOA				*e*			19 13 12.7	
	comp=Z,595nm,1.3s							
GOA				*e*S		**S**	**19 16 53.3**	**+7.5**
PKI	**Pulchoki**	**21.82**	**338**	*e*P		**P**	**19 12 54.3**	**-1.7**
	comp=Z,5μm,1.8s,mb6.7							
GUN	**Gumba**	**21.97**	**340**	*e*P		**P**	**19 12 56.0**	**-1.4**
	comp=Z,3μm,1.2s,mb6.5							
DMN	**Daman**	**21.97**	**338**	*e*P		**P**	**19 12 56.4**	**-1.1**
	comp=Z,1μm,0.9s,mb6.4							
KAD	**Karad**	**21.99**	**299**	⇑*e*P		**P**	**19 12 58.8**	**+1.1**
KAD				*e*S		**S**	**19 16 58.1**	**+5.7**
KAD				*i*			19 21 55.7	
	comp=Z,53μm,18.2s							
KKN	**Kakani**	**22.07**	**338**	*e*P		**P**	**19 12 56.8**	**-1.6**
	comp=Z,2μm,1.3s,mb6.4							
LSA	**Lhasa**	**22.45**	**353**	P		**P**	**19 13 01.5**	**-0.7**
LSA				AP			19 13 25.1	
LSA				XP			19 13 33.0	
LSA				S		**S**	**19 17 03.3**	**+2.8**
LSA				AMB		AMB		
	comp=Z,290nm,0.8s,mb5.8							
LSA				LR		LR		
	comp=N,14μm,16.0s,MS5.7							
LSA				LR		LR		
	comp=E,20μm,20.0s,MS5.7							
LSA				LR		LR		
	comp=Z,31μm,19.0s,MS5.8							
LSA	**Lhasa**	**22.45**	**353**	*e*P		**P**	**19 13 01.7**	**-0.5**
LSA				pmax		pmax		
	comp=Z,514nm,0.9s,mb6.0							
LSA	**Lhasa**	**22.45**	**353**	*e*P		**P**	**19 13 01.7**	**-0.4**
	comp=Z,514nm,0.9s,mb6.0							
GKN	**Gorkha**	**22.50**	**337**	*e*P		**P**	**19 13 01.8**	**-1.0**
	comp=Z,841nm,0.9s,mb6.2							
BHPL	**Bhopal**	**22.66**	**316**	⇓*i*P		**P**	**19 13 05.7**	**+1.3**
BHPL				*e*			19 13 22.4	
	comp=Z,546nm,1.3s							
BHPL				*e*S		**S**	**19 17 12.0**	**+7.6**
BHPL				*i*			19 22 12.5	
	comp=Z,27μm,24.1s							
KOLN	**Koldanda**	**22.72**	**335**	*e*P		**P**	**19 13 03.3**	**-1.6**
	comp=Z,2μm,1.2s,mb6.3							
POO	**Poona**	**22.80**	**301**	⇑*i*P		**P**	**19 13 08.0**	**+2.2**
POO				AMb		AMB	19 13 28.6	
	comp=Z,310nm,1.3s,mb5.6							
POO				*e*S		**S**	**19 17 14.4**	**+7.4**
POO				*i*			19 22 50.6	
	comp=Z,57μm,22.2s							
BATP	**Bataraza**	**23.31**	**85**	*e*P		**P**	**19 13 13.7**	**+2.9**
JHNI	**Jhansi**	**23.49**	**322**	⇓*i*P		**P**	**19 13 12.0**	**-0.4**
JHNI				*e*			19 13 49.0	
BOM	**Bombay**	**23.85**	**301**	⇑*i*P		**P**	**19 13 20.6**	**+4.7**
BOM				*e*			19 13 33.6	
	comp=Z,604nm,1.8s							
BOM				*e*S		**S**	**19 17 35.8**	**+11**
HKC	**Hong Kong**	**24.25**	**50**	⇓*i*P		**P**	**19 13 21.0**	**+1.2**
HKC				*i* S		**S**	**19 17 44.0**	**+12**
PPR	**Puerto Princes**	**24.27**	**83**	⇑*i*P		**P**	**19 13 21.8**	**+1.7**
ENPP	**El Nido**	**25.08**	**79**	*e*P		**P**	**19 13 32.2**	**+4.3**
BHV	**Bhavnagar**	**25.75**	**306**	*e*P		**P**	**19 13 37.0**	**+2.9**
PTH	**Pithoragarh**	**25.77**	**331**	*e*P		**P**	**19 13 35.0**	**+0.7**
PTH				*e*			19 18 17.0	
DGAR	**Diego Garcia**	**26.26**	**237**	⇓*i*P		**P**	**19 13 42.6**	**+3.6**
DGAR	**Diego Garcia**	**26.26**	**237**	*e*P		**P**	**19 13 42.2**	**+3.2**
	comp=Z,633nm,1.6s,mb5.9							
DGAR				LR		LR		
	comp=Z,4μm,20.0s							
LUBP	**Lubang**	**26.27**	**74**	*e*P		**P**	**19 13 44.0**	**+5.0**
NDI	**New Delhi**	**26.67**	**325**	⇓*i*P		**P**	**19 13 41.4**	**-1.3**
NDI				*e*		pP	19 13 52.9	-2.4
	comp=Z,492nm,1.3s							
NDI				*e*S		**S**	**19 18 15.2**	**+2.9**
AJM	**Ajmer**	**26.69**	**318**	⇓*i*P		**P**	**19 13 43.3**	**+0.5**
AJM				*e*		pP	19 13 55.2	-0.3
	comp=Z,380nm,1.7s							
AJM				*e*S		**S**	**19 18 16.2**	**+3.5**
AJM				*e*			19 26 14.3	
	comp=Z,33μm,16.8s							
SJMP	**San Jose**	**26.89**	**77**	*e*P		**P**	**19 13 46.5**	**+1.7**
ENH	**Enshi**	**26.90**	**30**	*e*P		**P**	**19 13 43.1**	**-1.6**
	comp=Z,396nm,1.1s,mb5.9							
DDI	**Dehra Dun**	**27.49**	**328**	*e*P		**P**	**19 13 49.5**	**-0.6**
DDI				*e*S		**S**	**19 18 30.6**	**+5.0**
ABRA	**Dolores**	**27.70**	**66**	*e*P		**P**	**19 13 49.7**	**-2.4**
BOAC	**Boac**	**27.75**	**75**	*e*P		**P**	**19 13 54.0**	**+1.4**
OTRP	**Odiongan**	**27.75**	**77**	*e*P		**P**	**19 13 52.6**	**0.0**
BALP	**Baler**	**27.97**	**70**	*e*P		**P**	**19 13 56.6**	**+2.1**
GUIM	**Jordan**	**28.12**	**81**	*e*P		**P**	**19 13 55.7**	**-0.2**
APYP	**Conner**	**28.25**	**66**	*e*P		**P**	**19 13 57.6**	**+0.6**
RCP	**Roxas**	**28.36**	**79**	⇓*e*P		**P**	**19 13 58.4**	**+0.4**
BHJ	**Bhuj**	**28.49**	**306**	⇑*i*P		**P**	**19 14 02.2**	**+3.1**
BHJ				*e*		pP	19 14 15.8	+3.9
	comp=Z,235nm,1.8s							
BHJ				*e*S		**S**	**19 18 47.8**	**+6.1**
BHJ				*i*			19 28 31.6	
	comp=Z,21μm,17.4s							
CAUP	**Cauayan**	**28.51**	**68**	*e*P		**P**	**19 13 56.4**	**-2.9**
SMLA	**Simla**	**28.59**	**328**	⇓*i*		pP	19 14 11.2	-1.6
SMLA				*e*			19 14 30.7	
	comp=Z,348nm,1.5s							
CVP	**Callao Caves**	**28.73**	**66**	*e*P		**P**	**19 14 04.0**	**+2.7**
PAGZ	**Pagadian**	**28.82**	**87**	*e*P		**P**	**19 14 01.5**	**-0.7**
QZH	**Quanzhou**	**29.08**	**50**	*i* PR			19 14 04.2	
QZH				S		**S**	**19 18 58.4**	**+7.3**
QZH				AMB		AMB		
	comp=Z,5μm,7.6s							
QZH				LR		LR		
	comp=N,113μm,13.6s,MS6.7							
QZH				LR		LR		
	comp=E,100μm,16.2s,MS6.7							
QZH				LR		LR		
	comp=Z,129μm,13.0s,MS6.7							
BHK	**Bhakra**	**29.21**	**327**	*e*P		**P**	**19 14 07.9**	**+2.4**
BHK				*e*S		**S**	**19 18 58.7**	**+5.5**
LLP	**Lapu-Lapu**	**29.45**	**82**	*e*P		**P**	**19 14 06.9**	**-0.9**
WHN	**Wuhan**	**29.77**	**37**	P		**P**	**19 14 10.3**	**-0.1**
WHN				S		**S**	**19 19 06.0**	**+4.0**
WHN				AMB		AMB		
	comp=Z,270nm,1.2s,mb5.8							
WHN				LR		LR		
	comp=Z,129μm,12.3s,MS6.8							
XAN	**Xi'an**	**29.81**	**25**	P		**P**	**19 14 09.5**	**-1.3**
XAN				S		**S**	**19 19 06.6**	**+4.0**
XAN				AMB		AMB		
	comp=Z,147nm,1.2s,mb5.6							
XAN				AMB		AMB		
	comp=Z,2μm,9.8s							
XAN				LR		LR		
	comp=N,22μm,16.6s,MS6.2							
XAN				LR		LR		
	comp=E,38μm,14.9s,MS6.2							
XAN				LR		LR		
	comp=Z,57μm,20.2s							
LZH	**Lanzhou**	**29.92**	**16**	⇓P		**P**	**19 14 11.5**	**-0.2**
LZH				AP		pP	19 14 25.4	+0.7
LZH				PP		PP	19 15 10.5	-0.1
LZH				*e*S		**S**	**19 19 06.4**	**+2.1**
LZH				SS		SS	19 20 43.5	+0.3
LZH				AMB		AMB		
	comp=Z,487nm,1.5s,mb6.0							
LZH				AMB		AMB		
	comp=Z,2μm,6.6s							
LZH				LR		LR		
	comp=E,20μm,13.5s							
LZH				LR		LR		
	comp=Z,27μm,17.2s,MS6.0							
OCLP	**Ormoc**	**30.13**	**81**	*e*P		**P**	**19 14 16.7**	**+2.9**
MSLP	**Maasin**	**30.32**	**83**	*e*P		**P**	**19 14 16.7**	**+1.2**
DLH	**Dalhousie**	**30.33**	**328**	*e*P		**P**	**19 14 17.0**	**+1.6**
BUKP	**Musuan**	**30.49**	**87**	*e*P		**P**	**19 14 18.1**	**+1.1**
DAV	**Davao City (W)**	**31.02**	**88**	*e*P		**P**	**19 14 24.0**	**+2.3**
BUTP	**Butuan**	**31.04**	**85**	*e*P		**P**	**19 14 21.6**	**-0.2**
TATO	**Taipei**	**31.34**	**53**	PFAKE			19 14 30.0	+5.6
TATO				LR		LR		
	comp=Z,36μm,20.0s,MS6.0							
NJ2	**Nanjing**	**33.58**	**40**	*e*P		**P**	**19 14 43.9**	**+0.1**
NJ2				AP		pP	19 14 58.8	+1.9
NJ2				PP		PP	19 15 57.9	+0.6
NJ2				S		**S**	**19 20 06.0**	**+4.5**
NJ2				SS		SS	19 22 10.0	+1.9
NJ2				AMB		AMB		
	comp=Z,190nm,0.8s,mb6.1							
NJ2				AMB		AMB		
	comp=Z,5μm,6.6s							
NJ2				LR		LR		
	comp=N,86μm,18.5s,MS6.7							
NJ2				LR		LR		
	comp=E,83μm,17.0s,MS6.7							
NJ2				LR		LR		
	comp=Z,96μm,13.9s,MS6.7							
TIY	**Taiyuan**	**34.42**	**26**	PR			19 14 51.0	
TIY				S		**S**	**19 20 16.0**	**+1.4**
TIY				LR		LR		
	comp=N,59μm,13.0s							
SSE	**Sheshan**	**34.50**	**43**	P		**P**	**19 14 51.6**	**-0.1**
SSE				PP		PP	19 16 11.2	+2.3
SSE				S		**S**	**19 20 19.0**	**+3.2**
SSE				AMB		AMB		
	comp=Z,62nm,0.9s,mb5.5							
SSE				AMB		AMB		
	comp=Z,1μm,9.3s							
SSE				LR		LR		
	comp=N,34μm,14.5s,MS6.5							
SSE				LR		LR		
	comp=E,53μm,14.5s,MS6.5							
SSE				LR		LR		
	comp=Z,71μm,14.4s,MS6.5							
TIA	**Tai'an**	**35.51**	**33**	⇑P		**P**	**19 15 01.0**	**+0.7**
TIA				S		**S**	**19 20 39.5**	**+8.1**
TIA				AMB		AMB		
	comp=Z,133nm,1.5s,mb5.7							
TIA				AMB		AMB		
	comp=Z,2μm,8.0s							
TIA				LR		LR		
	comp=N,31μm,17.0s,MS6.3							
TIA				LR		LR		
	comp=E,34μm,17.0s,MS6.3							
WMQ	**Urumqi**	**36.80**	**352**	P		**P**	**19 15 11.7**	**+0.6**
WMQ				AP		pP	19 15 26.9	+2.6
WMQ				XP		sP	19 15 34.1	+3.6
WMQ				PP		PP	19 16 38.6	+1.1
WMQ				S		**S**	**19 20 50.9**	**-0.3**
WMQ				AMB		AMB		
	comp=Z,250nm,0.9s,mb6.0							
WMQ				AMB		AMB		
	comp=Z,2μm,4.9s							
WMQ				LR		LR		
	comp=N,24μm,20.1s,MS6.0							
WMQ				LR		LR		
	comp=E,14μm,22.3s,MS6.0							
WMQ				LR		LR		
	comp=Z,25μm,22.1s,MS6.0							
MBWA	**Marble Bar**	**37.75**	**139**	*e*P		**P**	**19 15 19.1**	**-0.2**
	comp=Z,397nm,1.5s,mb5.9							
MBWA				LR		LR		
	comp=Z,20μm,20.0s,MS5.9							
BJT	**Baijiatuau**	**37.98**	**28**	*e*P		**P**	**19 15 22.8**	**+1.8**
BJT				pmax		pmax		
	comp=Z,421nm,1.3s							
BJT	**Baijiatuau**	**37.98**	**28**	*e*P		**P**	**19 15 22.8**	**+1.8**
	comp=Z,421nm,1.3s,mb6.0							
KZA	**Kyzart**	**38.50**	**337**	P		**P**	**19 15 26.4**	**+1.1**
	SNR=15							
AAA	**Alma-Ata**	**38.91**	**340**	*e*P		**P**	**19 15 30.0**	**+1.3**
AAA				*i*			19 17 00.0	
AAA				*e*S		**S**	**19 21 29.0**	**+5.8**
AAA				pmax		pmax		
	comp=Z,2μm,4.0s							
AAA				pmax		pmax		
	comp=Z,3μm,7.0s							
AAA				smax				
	comp=E,5μm,10.0s							
AAA				MLR		MLR		
	comp=Z,10μm,17.0s,MS5.7							
UCH	**Uchtor**	**38.91**	**336**	P		**P**	**19 15 29.9**	**+1.2**
	SNR=42							
TKM2	**Tokmak 2**	**39.09**	**338**	P		**P**	**19 15 30.8**	**+0.6**
	SNR=21							
KBK	**Karagaybulak**	**39.11**	**337**	P		**P**	**19 15 31.0**	**+0.7**
	SNR=63							
AML	**Almayashu**	**39.16**	**336**	P		**P**	**19 15 32.4**	**+1.5**
	SNR=22							
AAK	**Ala-Archa**	**39.26**	**337**	P		**P**	**19 15 32.9**	**+1.2**
	SNR=34							
AAK	**Ala-Archa**	**39.26**	**337**	⇑*i*P		**P**	**19 15 28.1**	**-3.5**
AAK				pmax		pmax		
	comp=Z,75nm,1.3s,mb5.3							
AAK	**Ala-Archa**	**39.26**	**337**	*e*P		**P**	**19 15 30.9**	**-0.7**
	comp=Z,132nm,1.3s,mb5.5							
AAK				LR		LR		
	comp=Z,8μm,21.0s,MS5.5							
FRU	**Bishkek**	**39.38**	**337**	*e*P		**P**	**19 15 34.0**	**+1.3**
FRU				*e*			19 21 33.0	
FRU				pmax		pmax		
	comp=Z,514nm,2.5s,mb5.8							
FRU				MLR		MLR		
	comp=Z,28μm,20.0s,MS6.1							
CHMS	**Chumysh**	**39.47**	**337**	P		**P**	**19 15 33.2**	**-0.2**
	SNR=27							
EKS2	**Erkin-Say**	**39.57**	**336**	P		**P**	**19 15 35.6**	**+1.3**
	SNR=40							
USP	**Ospenovka**	**39.80**	**337**	P		**P**	**19 15 36.8**	**+0.7**
	SNR=60							
FITZ	**Fitzroy Crossi**	**39.94**	**130**	*e*P		**P**	**19 15 34.4**	**-3.1**
	comp=Z,68nm,0.6s,mb5.5							
ULN	**Ulaanbaatar**	**41.82**	**13**	⇓*i*P		**P**	**19 15 48.7**	**-4.0**
ULN	**Ulaanbaatar**	**41.82**	**13**	*e*P		**P**	**19 15 52.5**	**-0.2**
	comp=Z,52nm,1.1s,mb5.1							
ULN				LR		LR		
	comp=Z,13μm,19.0s,MS5.8							
INCN	**Inchon**	**41.96**	**40**	*e*P		**P**	**19 15 53.5**	**-0.5**
	comp=Z,161nm,1.3s,mb5.5							
INCN				LR		LR		
	comp=Z,44μm,19.0s,MS6.4							
KS15	**Wonju Array Si**	**42.73**	**40**	*e*P		**P**	**19 16 00.9**	**+0.5**
KAKA	**Kakadu**	**42.81**	**118**	*e*P		**P**	**19 16 03.6**	**+2.3**
	comp=Z,20nm,0.6s,mb5.0							
SNY	**Shenyang**	**43.03**	**32**	⇓P		**P**	**19 16 02.2**	**-0.6**
SNY				S		**S**	**19 22 20.1**	**-4.3**
SNY				AMB		AMB		
	comp=Z,140nm,2.0s,mb5.3							
SNY				AMB		AMB		
	comp=Z,2μm,5.4s							
SNY				LR		LR		
	comp=N,21μm,14.1s,MS6.4							
SNY				LR		LR		
	comp=E,26μm,13.2s,MS6.4							
SNY				LR		LR		
	comp=Z,20μm,14.4s,MS6.2							
ZAK	**Zakamensk**	**43.56**	**8**	⇓*i*P		**P**	**19 16 06.2**	**-0.7**
ZAK				*e*			19 17 47.0	
MUN	**Mundaring**	**44.33**	**153**	*e*P		**P**	**19 16 10.1**	**-3.3**
	comp=Z,46nm,1.1s,mb5.1							
MUN	**Mundaring**	**44.33**	**153**	*e*P		**P**	**19 16 10.1**	**-3.3**
MUN				pmax		pmax		
	comp=Z,46nm,1.1s,mb5.1							
MOY	**Mondy**	**44.54**	**6**	*e*P		**P**	**19 16 15.3**	**+0.5**
KLBR	**Kellerberrin**	**44.73**	**151**	*e*P		**P**	**19 16 15.7**	**-0.9**
	comp=Z,49nm,0.8s,mb5.4							
TLY	**Talaya**	**44.88**	**8**	*e*P		**P**	**19 16 17.3**	**-0.2**
TLY				*e*			19 17 56.0	
TLY				*e*S		**S**	**19 22 55.1**	**+4.1**
TLY				pmax		pmax		
	comp=Z,55nm,1.3s,mb5.2							
TLY				MLR		MLR		
	comp=Z,15μm,2.0s							
TLY	**Talaya**	**44.88**	**8**	*i*P		**P**	**19 16 13.9**	**-3.6**
TLY				LR		LR		
	comp=Z,5μm,20.0s,MS5.4							
IRK	**Irkutsk**	**45.52**	**9**	*e*P		**P**	**19 16 23.4**	**+0.8**
IRK				*e*			19 18 11.5	
NWAO	**Narrogin (SRO)**	**45.59**	**153**	*e*P		**P**	**19 16 22.4**	**-1.1**
NWAO				pmax		pmax		
	comp=Z,80nm,0.9s							
NWAO				MLR		MLR		
	comp=Z,10μm,21.0s							
NWAO	**Narrogin (SRO)**	**45.59**	**153**	*e*P		**P**	**19 16 22.4**	**-1.1**
	comp=Z,80nm,0.9s,mb5.7							
NWAO				LR		LR		
	comp=Z,10μm,21.0s,MS5.7							
HIA	**Hailar**	**46.95**	**23**	*e*P		**P**	**19 16 33.7**	**-0.2**
HIA				pmax		pmax		
	comp=Z,95nm,0.9s							
HIA	**Hailar**	**46.95**	**23**	*e*P		**P**	**19 16 33.7**	**-0.3**
	comp=Z,95nm,0.9s,mb5.7							
WRAB	**Tennant Creek**	**47.82**	**125**	*e*P		**P**	**19 16 37.6**	**-3.6**
WRAB				pmax		pmax		
	comp=Z,487nm,1.7s,mb6.3							
WRAB				MLR		MLR		
	comp=Z,8μm,20.0s,MS5.7							
WRAB	**Tennant Creek**	**47.82**	**125**	*e*P		**P**	**19 16 37.6**	**-3.6**
	comp=Z,487nm,1.7s,mb6.3							
WRAB				LR		LR		
	comp=Z,8μm,20.0s,MS5.7							
WB2	**Warramunga Arr**	**47.83**	**125**	⇓*i*P		**P**	**19 16 36.6**	**-4.6**
WB2				*e*PCP		PcP	19 18 14.4	+4.7
MDJ	**Mudanjiang**	**48.16**	**34**	P		**P**	**19 16 43.9**	**+0.4**
MDJ				PCP		PcP	19 18 10.5	-0.1
MDJ				PP		PP	19 18 36.4	+0.9
MDJ				S		**S**	**19 23 42.0**	**+4.2**
MDJ				AMB		AMB		
	comp=Z,80nm,1.8s,mb5.5							
MDJ				AMB		AMB		
	comp=Z,2μm,7.5s							
MDJ				LR		LR		
	comp=N,11μm,19.5s,MS6.1							
MDJ				LR		LR		
	comp=E,14μm,15.8s,MS6.1							
MDJ				LR		LR		
	comp=Z,19μm,18.1s,MS6.1							
MDJ	**Mudanjiang**	**48.16**	**34**	*e*P		**P**	**19 16 42.3**	**-1.2**
	comp=Z,254nm,1.4s,mb6.1							
NVS	**Novosibirsk**	**48.20**	**351**	*e*P		**P**	**19 16 41.7**	**-1.9**
NVS				*e*S		**S**	**19 23 38.7**	**+0.6**
NVS				pmax		pmax		
	comp=N,191nm,1.5s							
NVS				pmax		pmax		
	com

VLA				smax			
	comp=N,2μm,9.0s						
VLA				smax			
	comp=Z,4μm,13.0s						
VLA				MLR	MLR		
	comp=Z,36μm,14.0s,MS6.5						
VLA				MLR	MLR		
	comp=E,26μm,13.0s						
VLA				MLR	MLR		
	comp=N,15μm,19.0s						
MAJO	**Matsushiro**	**49.40**	**47**	*e*P	**P**	**19 16 53.2**	**0.0**
MAJO				pmax	pmax		
	comp=Z,220nm,1.7s,mb5.9						
MAJO				MLR	MLR		
	comp=Z,10μm,20.0s,MS5.8						
MAJO	**Matsushiro**	**49.40**	**47**	*e*P	**P**	**19 16 53.2**	**0.0**
	comp=Z,220nm,1.7s,mb5.9						
MAJO				LR	LR		
	comp=Z,10μm,20.0s,MS5.8						
MAT	**Matsushiro**	**49.40**	**47**	*e*P	**P**	**19 16 54.0**	**+0.8**
MAT				*e*S	**S**	**19 24 00.0**	**+4.8**
MAT				pmax	pmax		
	comp=Z,454nm,2.2s,mb6.1						
MAT				MLR	MLR		
	comp=Z,18μm,18.0s,MS6.1						
MAT	**Matsushiro**	**49.40**	**47**	*e*P	**P**	**19 16 54.0**	**+0.8**
	comp=Z,454nm,2.2s,mb6.1						
MAT				*e*S	**S**	**19 24 00.0**	**+4.8**
MAT				LR	LR		
	comp=Z,18μm,18.0s,MS6.1						
MAT	**Matsushiro**	**49.40**	**47**	P	**P**	**19 16 53.8**	**+0.6**
MAT				S	**S**	**19 24 00.0**	**+4.8**
BRVK	**Borovoye**	**49.61**	**341**	*e*P	**P**	**19 16 52.8**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,91nm,0.7s,mb5.9						
BRVK	**Borovoye**	**49.61**	**341**	*e*P	**P**	**19 16 52.8**	**-1.8**
	comp=Z,91nm,0.7s,mb5.9						
KLR	**Kul'dur**	**52.26**	**30**	*e*P	**P**	**19 17 11.5**	**-3.2**
KLR				*e*		19 19 10.2	
KLR				*e*S	**S**	**19 24 33.5**	**-1.0**
KLR				*e*		19 28 07.5	
KLR				pmax	pmax		
	comp=E,280nm,2.8s						
KLR				pmax	pmax		
	comp=Z,450nm,2.8s,mb5.9						
KLR				pmax	pmax		
	comp=N,1μm,9.0s						
KLR				pmax	pmax		
	comp=E,1μm,9.0s						
KLR				pmax	pmax		
	comp=Z,3μm,9.0s						
KLR				smax			
	comp=N,1μm,15.0s						
KLR				smax			
	comp=E,4μm,15.0s						
KLR				MLR	MLR		
	comp=Z,56μm,12.0s,MS6.8						
BOD	**Bodaibo**	**52.63**	**13**⇓	*i*P	**P**	**19 17 16.6**	**-0.7**
BOD				*e*		19 24 43.6	
BHD	**Baghdad**	**52.83**	**306**	*e*P	**P**	**19 17 11.0**	**-8.1**
BHD				*e*S	**S**	**19 24 37.0**	**-5.4**
MAK	**Makhachkala**	**54.23**	**319**	*e*P	**P**	**19 17 30.0**	**+0.7**
MAK				*e*		19 18 29.0	
MAK				*i* PPP	PPP	19 20 37.0	-7.0
MAK				*e*S	**S**	**19 25 04.0**	**+2.8**
MAK				*i*		19 27 11.0	
MAK				*e*SS	SS	19 28 43.0	-0.1
MAK				pmax	pmax		
	comp=Z,3μm,7.0s						
MAK				pmax	pmax		
	comp=Z,2μm,9.0s						
MAK				smax			
	comp=N,4μm,15.0s						
MSL	**Mosul**	**54.78**	**310**	*e*P	**P**	**19 17 31.0**	**-2.5**
MSL				*e*pP	pP	19 17 57.0	+10
MSL				*e*sP	sP	19 18 10.0	+17
MSL				*e*PcP	PcP	19 18 34.0	-1.3
MSL				*e*S	**S**	**19 25 09.5**	**+0.7**
MSL				*e*ScS	ScS	19 27 22.0	+7.3
CLNS	**Chul'man**	**54.88**	**20**	*e*P	**P**	**19 17 33.7**	**-0.2**
CLNS				*e**PP	pP	19 17 42.1	-5.6
CLNS				*e*		19 18 35.4	
CLNS				*e*		19 19 33.5	
CLNS				*e*S	**S**	**19 25 12.3**	**+2.5**
CLNS				*e*SS	SS	19 28 48.9	-4.5
CLNS				*e*SSS	SSS	19 31 00.4	+4.6
CLNS				pmax	pmax		
	comp=Z,75nm,0.7s,mb5.8						
CLNS				pmax	pmax		
	comp=N,44nm,0.8s						
CLNS				pmax	pmax		
	comp=E,36nm,0.8s						
CLNS				pmax	pmax		
	comp=N,49nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
CLNS				pmax	pmax		
	comp=E,35nm,1.3s						
CLNS				smax			
	comp=N,551nm,13.3s						
CLNS				smax			
	comp=Z,408nm,12.7s						
CLNS				smax			
	comp=E,180nm,11.2s						
CLNS				MLR	MLR		
	comp=Z,17μm,14.0s,MS6.3						
CLNS				MLR	MLR		
	comp=N,11μm,13.0s,MS6.1						
CLNS				MLR	MLR		
	comp=E,2μm,12.0s,MS6.1						
GNI	**Garni**	**54.93**	**315**⇑	*i*P	**P**	**19 17 31.6**	**-2.9**
PMG	**Port Moresby**	**55.22**	**107**⇑	*i*P	**P**	**19 17 40.9**	**+4.0**
PMG	**Port Moresby**	**55.22**	**107**	*e*P	**P**	**19 17 34.9**	**-2.0**
	comp=E,39nm,0.8s,mb5.5						
PMG				LR	LR		
	comp=Z,6μm,21.0s,MS5.7						
TI2	**Plekhanov**	**55.55**	**316**	*i* P	**P**	**19 17 38.2**	**-0.7**
TI2				*i*	pP	19 17 48.2	-4.5
TI2				*i* S	**S**	**19 25 22.6**	**+3.7**
TI2				*i*		19 27 28.6	
TI2				pmax	pmax		
	comp=Z,100nm,0.6s,mb6.0						
TI2				MLR	MLR		
	comp=N,2μm,18.0s,MS5.5						
TI2				MLR	MLR		
	comp=E,2μm,18.0s,MS5.5						
TI2				MLR	MLR		
	comp=Z,3μm,18.0s,MS5.4						
SVE	**Sverdlovsk**	**55.96**	**338**⇓	*i*P	**P**	**19 17 40.8**	**-0.9**
SVE				*e*		19 19 47.0	
SVE				*e*PPP	PPP	19 21 05.5	+1.1
SVE				*i* S	**S**	**19 25 28.5**	**+4.3**
SVE				*e*		19 27 26.0	
SVE				pmax	pmax		
	comp=Z,620nm,2.0s,mb6.3						
SVE				smax			
	comp=N,3μm,8.6s						
SVE				smax			
	comp=E,4μm,8.6s						
SVE				MLR	MLR		
	comp=Z,22μm,19.5s,MS6.3						
ARU	**Arti**	**56.45**	**337**⇓	*i*P	**P**	**19 17 42.8**	**-2.4**
ARU				*i*		19 18 35.7	
ARU				*i*		19 19 47.9	
ARU				*e*PPP	PPP	19 21 04.9	-5.7
ARU				*i* S	**S**	**19 25 32.4**	**+1.7**
ARU				*i*		19 27 30.3	
ARU				*i* SS	SS	19 29 20.9	+2.0
ARU				pmax	pmax		
	comp=Z,230nm,1.2s,mb6.1						
ARU				MLR	MLR		
	comp=Z,20μm,20.0s,MS6.2						
ARU				MLR	MLR		
	comp=N,12μm,21.0s,MS6.1						
ARU				MLR	MLR		
	comp=E,7μm,19.0s,MS6.1						
ARU	**Arti**	**56.45**	**337**	*e*P	**P**	**19 17 43.4**	**-1.8**
	comp=E,368nm,1.2s,mb6.3						
BEST	**Besiri**	**56.67**	**311**	*i* P	**P**	**19 17 45.8**	**-1.2**
YSS	**Yuzh-Sakhalins**	**57.11**	**38**⇓	*e*P	**P**	**19 17 49.0**	**-1.0**
YSS				*e**SP	sP	19 18 00.0	-10
YSS				*e*		19 18 51.0	
YSS				*e*		19 19 54.0	
YSS				PPP	PPP	19 21 20.0	+0.9
YSS				S	**S**	**19 25 46.0**	**+6.5**
YSS				*e*SSS	SSS	19 31 46.0	+0.2
YSS				pmax	pmax		
	comp=Z,2μm,6.0s						
YSS				pmax	pmax		
	comp=Z,100nm,1.1s,mb5.8						
YSS				pmax	pmax		
	comp=Z,140nm,1.1s,mb5.9						
YSS				smax			
	comp=E,2μm,10.0s						
YSS				smax			
	comp=N,2μm,8.0s						
YSS				MLR	MLR		
	comp=Z,11μm,15.0s,MS6.1						
YSS				MLR	MLR		
	comp=E,15μm,14.0s						
YSS	**Yuzh-Sakhalins**	**57.11**	**38**⇑	*i*P	**P**	**19 17 48.1**	**-1.9**
KMBO	**Kilima Mbogo**	**57.53**	**264**	*i* P	**P**	**19 17 55.3**	**+1.9**
KMBO				pmax	pmax		
	comp=Z,50nm,0.9s						
KMBO	**Kilima Mbogo**	**57.53**	**264**	*e*P	**P**	**19 17 55.0**	**+1.5**
	comp=Z,85nm,1.0s,mb5.7						
KMBO				LR	LR		
	comp=Z,14μm,22.0s,MS6.0						
YUK	**Yuzh-Kuril'sk**	**57.81**	**42**	P	**P**	**19 17 51.0**	**-4.0**
YUK				*e*		19 20 08.0	
YUK				pmax	pmax		
	comp=Z,2μm,4.0s						
YUK				MLR	MLR		
	comp=Z,12μm,18.0s,MS6.0						
YUK				MLR	MLR		
	comp=N,9μm,17.0s,MS6.2						
YUK				MLR	MLR		
	comp=E,12μm,18.0s,MS6.2						
KIV	**Kislovodsk**	**57.83**	**318**	P	**P**	**19 17 54.2**	**-0.9**
	comp=E,375nm,1.0s,mb6.4,SNR=35						
CTA	**Charters Tower**	**57.90**	**119**	*e*P	**P**	**19 17 51.3**	**-4.6**
	comp=E,9.8nm,0.4s,mb5.2						
CTA	**Charters Tower**	**57.90**	**119**	*e*P	**P**	**19 17 51.3**	**-4.6**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CTAO	**Charters Tower**	**57.90**	**119**	*e*P	**P**	**19 17 53.9**	**-2.0**
CTAO				pmax	pmax		
	comp=Z,62nm,1.2s,mb5.5						
CTAO				MLR	MLR		
	comp=Z,10μm,22.0s,MS5.9						
CTAO	**Charters Tower**	**57.90**	**119**	*e*P	**P**	**19 17 53.9**	**-2.1**
	comp=Z,62nm,1.2s,mb5.5						
CTAO				LR	LR		
	comp=Z,10μm,22.0s,MS5.9						
GOF	**Gofitskoye**	**58.04**	**319**	*e*P	**P**	**19 17 55.0**	**-1.6**
MALT	**Malatya**	**58.94**	**311**	*e*P	**P**	**19 18 01.5**	**-1.4**
MALT				pmax	pmax		
	comp=Z,45nm,1.6s,mb5.2						
MALT	**Malatya**	**58.94**	**311**	*e*P	**P**	**19 18 01.5**	**-1.4**
	comp=Z,46nm,1.6s,mb5.2						
GZT	**Gaziantep**	**59.33**	**309**	*i* P	**P**	**19 18 04.4**	**-1.2**
SOKR	**Solikamsk**	**59.36**	**339**⇓	*i*P	**P**	**19 18 04.2**	**-1.3**
SOKR				pmax	pmax		
	comp=Z,160nm,1.1s,mb6.0						
SOKR				MLR	MLR		
	comp=Z,23μm,20.0s,MS6.3						
MKRJ	**Makawir**	**59.58**	**302**	P	**P**	**19 18 07.6**	**+0.2**
STKA	**Stephens Creek**	**59.62**	**134**	*e*P	**P**	**19 18 04.0**	**-3.7**
	comp=Z,49nm,1.1s,mb5.5						
SOC	**Sochi**	**59.68**	**317**	*i* P	**P**	**19 18 06.2**	**-1.8**
SOC				*e*		19 18 51.6	
SOC				*e*		19 20 15.9	
SOC				*e*S	**S**	**19 26 11.1**	**-2.0**
SOC				*e*SSS	SSS	19 32 42.2	+0.7
SOC				pmax	pmax		
	comp=Z,65nm,1.0s,mb5.6						
SOC				pmax	pmax		
	comp=N,35nm,1.3s						
SOC				pmax	pmax		
	comp=E,32nm,1.0s						
SOC				MLR	MLR		
	comp=N,8μm,22.0s,MS5.9						
SOC				MLR	MLR		
	comp=Z,7μm,22.0s,MS5.7						
SOC				MLR	MLR		
	comp=E,5μm,21.0s,MS5.9						
MZDA	**Masada**	**59.77**	**302**	P	**P**	**19 18 09.1**	**+0.4**
ZFRI	**Zfri**	**59.79**	**301**	P	**P**	**19 18 09.1**	**+0.2**
DRGI	**Dragot**	**59.79**	**302**	P	**P**	**19 18 09.1**	**+0.2**
HMDT	**Nahal Hemdat**	**59.80**	**303**	P	**P**	**19 18 09.1**	**+0.1**
EIL	**Elat**	**59.84**	**300**	P	**P**	**19 18 09.5**	**+0.3**
EIL	**Elat**	**59.84**	**300**	*e*P	**P**	**19 18 09.3**	**+0.1**
	comp=E,165nm,1.1s,mb6.0						
HWQ	**Hawqa**	**59.87**	**305**	*e*P	**P**	**19 18 10.0**	**+0.6**
MBH	**Mount Berech**	**59.89**	**300**	P	**P**	**19 18 09.9**	**+0.3**
PRNI	**Paran**	**59.90**	**301**	P	**P**	**19 18 10.1**	**+0.4**
MMLI	**Mount Malkishu**	**59.92**	**303**	P	**P**	**19 18 10.3**	**+0.5**
BHL	**Bhannes**	**60.03**	**305**	*e*P	**P**	**19 18 11.3**	**+0.8**
KMTI	**Karmit**	**60.10**	**300**	P	**P**	**19 18 11.3**	**+0.3**
COBT	**Iskenderun**	**60.13**	**308**	*i* P	**P**	**19 18 10.2**	**-1.0**
MASH	**Mash'abbe Sade**	**60.20**	**301**	P	**P**	**19 18 11.8**	**+0.1**
SLTI	**Sal'it**	**60.20**	**303**	P	**P**	**19 18 11.7**	**0.0**
RTMM	**Retamin**	**60.29**	**302**	P	**P**	**19 18 12.3**	**0.0**
OFRI	**'Ofer**	**60.32**	**303**	P	**P**	**19 18 12.8**	**+0.3**
YAK	**Yakutsk**	**60.45**	**18**↓	*i*P	**P**	**19 18 11.6**	**-1.4**
YAK				*e**PP	pP	19 18 20.3	-6.6
YAK				*e*		19 18 56.6	
YAK				*e*		19 20 24.5	
YAK				*e*S	**S**	**19 26 23.7**	**+0.9**
YAK				*e*		19 27 59.6	
YAK				*e*SS	SS	19 30 22.7	+0.3
YAK				pmax	pmax		
	comp=N,34nm,0.9s						
YAK				pmax	pmax		
	comp=Z,96nm,0.9s,mb5.8						
YAK				pmax	pmax		
	comp=E,30nm,1.1s						
YAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.0s						
YAK				smax			
	comp=N,3.0nm,1.1s						
YAK				smax			
	comp=E,5.0nm,1.9s						
YAK				MLR	MLR		
	comp=Z,13μm,12.0s,MS6.3						
YAK				MLR	MLR		
	comp=N,10μm,13.0s,MS6.2						
YAK				MLR	MLR		
	comp=E,6μm,13.0s,MS6.2						
YAK	**Yakutsk**	**60.45**	**18**⇓	*i*P	**P**	**19 18 09.9**	**-3.1**
KZIT	**Kziot**	**60.51**	**301**	P	**P**	**19 18 14.1**	**+0.3**
ANN	**Anapa**	**61.64**	**317**	*e*P	**P**	**19 18 21.8**	**+0.5**
ANN				*e*S	**S**	**19 26 41.5**	**+3.3**
ANN				pmax	pmax		
	comp=Z,54nm,1.6s,mb5.4						
ANN				MLR	MLR		
	comp=N,6μm,15.0s						
ANN				MLR	MLR		
	comp=Z,7μm,15.0s,MS6.0						
ANN				MLR	MLR		
	comp=E,7μm,22.0s						
AVNT	**Avonos**	**61.76**	**310**	*i* P	**P**	**19 18 19.9**	**-2.2**
MEST	**Erdemli**	**61.80**	**308**	*i* P	**P**	**19 18 21.0**	**-1.5**
CSS	**Prodhromos**	**62.12**	**306**	*e*P	**P**	**19 18 23.5**	**-1.1**
	comp=E,146nm,1.5s,mb5.9						
BOYT	**Boyabat**	**62.40**	**313**	*i* P	**P**	**19 18 24.9**	**-1.5**
PECR	**Pechory**	**62.68**	**331**	*e*P	**P**	**19 18 26.4**	**-1.7**
PECR				*e*S	**S**	**19 26 50.4**	**-0.7**
PECR				*e*PS	PS	19 27 24.0	+8.1
PECR				pmax	pmax		
	comp=Z,2μm,5.0s						
PECR				pmax	pmax		
	comp=E,23μm,10.0s						
PECR				smax			
	comp=N,13μm,14.0s						
PECR				smax			
	comp=E,1μm,6.0s						
PECR				MLR	MLR		
	comp=Z,7μm,19.0s,MS5.9						
PECR				MLR	MLR		
	comp=N,11μm,15.0s,MS6.1						
PECR				MLR	MLR		
	comp=E,2μm,16.0s,MS6.1						
PECR				MLR	MLR		
	comp=E,4μm,18.0s						
PECR				MLR	MLR		
	comp=Z,8μm,18.0s						
PECR				MLR	MLR		
	comp=N,10μm,15.0s						
BR131	**Keskin Array S**	**62.91**	**311**	PFAKE		**19 18 40.0**	**+10**
BR131				LR	LR		
	comp=Z,5μm,21.0s,MS5.7						
ELDT	**Eldivan**	**63.25**	**312**	*i* P	**P**	**19 18 30.9**	**-1.2**
BALT	**Daday**	**63.53**	**313**	*i* P	**P**	**19 18 30.9**	**-3.1**
MBAR	**Mbarara**	**63.88**	**266**⇓	*i*P	**P**	**19 18 34.9**	**-1.8**
MBAR	**Mbarara**	**63.88**	**266**	*e*P	**P**	**19 18 36.3**	**-0.4**
	comp=Z,340nm,2.0s,mb6.0						
MBAR				LR	LR		
	comp=Z,3μm,20.0s,MS5.5						
SIM	**Simferopol'**	**63.93**	**317**	*e*P	**P**	**19 18 34.8**	**-1.7**
SIM				*e*S	**S**	**19 27 06.6**	**-0.3**
SIM				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.5						
SIM				MLR	MLR		
	comp=Z,15μm,27.4s,MS6.0						
ISP	**Isparta**	**64.90**	**308**⇓	*i*P	**P**	**19 18 39.5**	**-3.4**
ISP	**Isparta**	**64.90**	**308**	*e*P	**P**	**19 18 41.1**	**-1.7**
ESKT	**Eskisehir**	**64.96**	**310**	*i* P	**P**	**19 18 41.9**	**-1.3**
TOO	**Toolangi**	**65.35**	**137**⇑	*i*P	**P**	**19 18 44.1**	**-1.7**
	comp=Z,72nm,1.0s,mb5.7						
TOO	**Toolangi**	**65.35**	**137**⇑	*i*P	**P**	**19 18 44.1**	**-1.7**
TOO				pmax	pmax		
	comp=Z,72nm,1.0s,mb5.7						
MOS	**Moscow**	**65.62**	**329**⇓	*i*P	**P**	**19 18 46.8**	**-0.4**
MOS				*e*		19 21 10.6	
MOS				*e*PPP	PPP	19 22 44.6	-4.3
MOS				*e*S	S	19 27 29.3	+1.9
MOS				*e*		19 28 34.6	
MOS				pmax	pmax		
	comp=Z,600nm,1.9s,mb6.3						
MOS				pmax	pmax		
	comp=Z,234nm,1.5s,mb6.0						
MOS				MLR	MLR		
	comp=Z,11μm,18.3s,MS6.1						
MOS				MLR	MLR		
	comp=N,8μm,19.7s,MS6.1						
MOS				MLR	MLR		
	comp=E,9μm,19.2s,MS6.1						
OBN	**Obninsk**	**65.92**	**328**⇑	*i*P	**P**	**19 18 45.2**	**-3.9**
OBN				*e*		19 19 16.7	
OBN				*e*S	S	19 27 29.5	-1.6
OBN				pmax	pmax		
	comp=Z,128nm,1.3s,mb5.8						
OBN				MLR	MLR		
	comp=Z,7μm,18.0s,MS5.9						
OBN	**Obninsk**	**65.92**	**328**⇑	*i*P	**P**	**19 18 45.3**	**-3.8**
ULDT	**Uludag**	**66.38**	**311**	*i* P	**P**	**19 18 51.1**	**-1.1**
MANT	**Manisa**	**66.53**	**309**	*i* P	**P**	**19 18 52.1**	**-1.2**
SKR	**Severo-Kuril's**	**66.68**	**38**	*e*P	**P**	**19 18 53.0**	**-1.0**
SKR				*e*		19 21 28.0	
SKR				*e*PS	PS	19 27 44.0	-26
SKR				*e*		19 28 08.0	
SKR				pmax	pmax		
	comp=Z,400nm,1.2s,mb6.3						
SKR				pmax	pmax		
	comp=Z,3μm,12.0s						
SKR				pmax	pmax		
	comp=N,3μm,10.0s						
SKR				pmax	pmax		
	comp=Z,3μm,10.0s						
SKR				MLR	MLR		
	comp=N,5μm,16.0s,MS5.9						
SKR				MLR	MLR		
	comp=E,3μm,16.0s,MS5.9						
SKR				MLR	MLR		
	comp=Z,8μm,16.0s,MS6.0						
CNB	**Canberra Magne**	**66.94**	**133**	*e*P	**P**	**19 18 54.1**	**-1.8**
	comp=Z,238nm,1.5s,mb6.0						
BTOK	**Tokmak**	**67.14**	**310**	*i* P	**P**	**19 18 54.9**	**-2.2**
MA2	**Magadan**	**67.17**	**27**⇑	*i*P	**P**	**19 18 55.0**	**-1.9**
MA2				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.6						
MA2	**Magadan**	**67.17**	**27**	*e*P	**P**	**19 18 55.9**	**-1.0**
	comp=Z,109nm,1.0s,mb5.8						
MA2				LR	LR		
	comp=Z,8μm,20.0s,MS5.9						
TIXI	**Tiksi**	**67.73**	**11**⇓	*i*P	**P**	**19 18 58.3**	**-1.9**
TIXI				*e*S	S	19 27 54.3	+1.7
TIXI				*e*SS	SS	19 32 09.6	-6.3
TIXI				pmax	pmax		
	comp=Z,225nm,1.5s,mb6.0						
TIXI				pmax	pmax		
	comp=N,47nm,1.7s						
TIXI				pmax	pmax		
	comp=E,36nm,1.6s						
TIXI				pmax	pmax		
	comp=Z,376nm,1.4s,mb6.2						
TIXI				MLR	MLR		
	comp=Z,14μm,14.0s,MS6.3						
TIXI				MLR	MLR		
	comp=N,11μm,16.0s,MS6.2						
TIXI				MLR	MLR		
	comp=E,2μm,12.0s,MS6.2						
TIXI	**Tiksi**	**67.73**	**11**⇑	*i*P	**P**	**19 18 57.5**	**-2.7**
TIXI				LR	LR		
	comp=Z,13μm,19.0s,MS6.2						
KIS	**Kishinev**	**68.03**	**318**	*e*P	**P**	**19 19 00.0**	**-2.5**
KIS				*e*		19 19 06.0	
KIS				*e*	pP	19 19 16.0	-0.7
KIS				*e*		19 19 30.0	
KIS				*e*S	S	19 27 57.0	+0.4
CFR	**Carcaliu**	**68.09**	**316**⇑	*i*P	**P**	**19 19 01.7**	**-1.2**
HARR	**Harsova**	**68.14**	**315**⇓	*i*P	**P**	**19 19 02.5**	**-0.7**
PRD	**Provadia**	**68.22**	**314**	*i* P	**P**	**19 19 03.0**	**-0.8**
SANT	**Santorini**	**68.67**	**306**	*e*P	**P**	**19 19 04.0**	**-2.7**
	comp=Z,174nm,1.2s,mb5.9						
PET	**Petropavlovsk**	**68.87**	**36**	*e*P	**P**	**19 19 06.6**	**-1.0**
PET				pmax	pmax		
	comp=Z,45nm,1.2s,mb5.3						
PET				MLR	MLR		
	comp=Z,10μm,20.0s,MS6.1						
PET	**Petropavlovsk**	**68.87**	**36**	*e*P	**P**	**19 19 06.6**	**-1.0**
	comp=Z,45nm,1.2s,mb5.3						
PET				LR	LR		
	comp=Z,10μm,20.0s,MS6.1						
ISR	**Istrita**	**69.19**	**315**⇓	*i*P	**P**	**19 19 08.1**	**-1.6**
VRI	**Vrincioaia**	**69.20**	**316**⇑	*i*P	**P**	**19 19 09.8**	**0.0**
LSZ	**Lusaka**	**69.25**	**251**	*e*P	**P**	**19 19 10.4**	**-0.1**
LSZ				pmax	pmax		
	comp=Z,41nm,0.9s,mb5.4						
LSZ				MLR	MLR		
	comp=Z,13μm,20.0s,MS6.2						
LSZ	**Lusaka**	**69.25**	**251**	*e*P	**P**	**19 19 10.4**	**-0.1**
	comp=Z,40nm,0.9s,mb5.3						
LSZ				LR	LR		
	comp=Z,13μm,20.0s,MS6.2						
SEY	**Seymchan**	**69.35**	**25**	*e*P	**P**	**19 19 08.7**	**-1.7**
SEY						19 19 35.2	
SEY						19 21 39.0	
SEY				PPP	PPP	19 23 28.3	+3.4
SEY				*e*S	S	19 28 08.8	-3.2
SEY						19 29 05.3	
SEY				pmax	pmax		
	comp=Z,200nm,1.2s,mb5.9						
SEY				pmax	pmax		
	comp=N,70nm,1.1s						
SEY				pmax	pmax		
	comp=E,10.0nm,1.1s						
SEY				smax			
	comp=N,3μm,18.3s						
SEY				smax			
	comp=E,5μm,23.1s						
SEY				MLR	MLR		
	comp=E,67μm,23.0s,MS6.9						
SEY				MLR	MLR		
	comp=Z,97μm,23.0s,MS7.0						
SEY				MLR	MLR		
	comp=N,40μm,21.0s,MS6.9						
GVD	**Gavdhos**	**69.62**	**304**	*e*P	**P**	**19 19 12.2**	**-0.4**
	comp=N,100nm,1.0s,mb5.7						
RZN	**Rozhen**	**69.93**	**312**	*i* P	**P**	**19 19 13.0**	**-1.3**
MNK	**Minsk**	**70.49**	**325**⇑	*e*P	**P**	**19 19 14.0**	**-3.5**
MNK				pmax	pmax		
	comp=Z,280nm,1.0s,mb6.2						
MMB	**Musomiste**	**70.66**	**311**	*i* P	**P**	**19 19 16.0**	**-2.7**
PUL	**Pulkovo**	**70.76**	**331**	*e*P	**P**	**19 19 19.0**	**0.0**
PUL				*e*S	S	19 28 31.2	+2.6
PUL				pmax	pmax		
	comp=Z,138nm,0.8s,mb5.9						
PUL				pmax	pmax		
	comp=N,80nm,0.7s						
PUL				pmax	pmax		

comp=E,140nm,0.9s
PUL smax
comp=Z,641nm,14.2s
PUL smax
comp=N,2µm,16.5s
PUL smax
comp=E,881nm,10.9s
PUL Pulkovo 70.76 331 *e*P **P 19 19 15.8 -3.2**
WAKE Wake Island 70.99 72 PFAKE 19 19 30.0 +8.9
WAKE LR LR
comp=Z,58µm,21.0s,MS6.8
KKB Krupnik 71.17 312 *i* P **P 19 19 20.0 -1.8**
VTS Vitosha 71.17 312 *i* P **P 19 19 20.0 -1.8**
IDID Didziasalis 71.31 326 *e*P **P 19 19 21.6 -0.8**
IDID AMPb AMB 19 19 33.8
comp=Z,46nm,1.0s,mb5.3
JOF Joensuu 71.40 335 *e*p **P 19 19 21.4 -1.4**
comp=Z,55nm,0.8s,mb5.5
VAY Valandovo 71.48 311 *i* P **P 19 19 22.3 -1.4**
IIGN Ignalina 71.61 326 *e*P **P 19 19 23.6 -0.5**
IIGN AMPb AMB 19 19 35.8
comp=Z,46nm,1.3s,mb5.2
IZAR Zarasai 71.69 326 *e*P **P 19 19 23.7 -1.0**
IZAR AMPb AMB 19 19 36.1
comp=Z,51nm,1.4s,mb5.3
LVZ Lovozero 72.12 340 *e*P **P 19 19 26.2 -0.8**
LVZ *e*S S 19 28 41.9 -2.2
LVZ pmax pmax
comp=Z,145nm,1.8s,mb5.6
LVZ pmax pmax
comp=N,42nm,2.5s
LVZ pmax pmax
comp=E,32nm,1.8s
LVZ smax
comp=Z,557nm,9.6s
LVZ smax
comp=N,2µm,11.2s
LVZ smax
comp=E,1µm,12.1s
LVZ Lovozero 72.12 340 *e*P **P 19 19 23.2 -3.8**
VSU Vasula 72.13 329⇓ *i*P **P 19 19 26.2 -1.0**
BOLS Boljevac 72.23 314⇑ *i*P **P 19 19 27.1 -0.9**
SKO Skopje 72.40 312 *e*P **P 19 19 27.5 -1.6**
SKO *i* pP 19 19 40.6 -2.8
APA Apatity 72.41 339⇑ *i*P **P 19 19 28.2 -0.5**
APA *i* 19 19 35.5
APA *i* pP 19 19 42.4 -0.6
APA pmax pmax
comp=Z,75nm,1.1s,mb5.5
APA MLR MLR
comp=Z,20µm,19.0s,MS6.4
KWP Kalwaria 72.55 320 *e*P **P 19 19 29.9 +0.1**
KWP Kalwaria 72.55 320 *e*P **P 19 19 29.9 +0.1**
KWP Kalwaria 72.55 320 *e*P **P 19 19 29.9 +0.1**
KWP MLR MLR 19 48 08.6
comp=Z,6µm,32.9s,MS5.7
KOLS Kolonicke sedl 72.72 319 *i* P **P 19 19 31.5 +0.6**
SUW Suwalki 73.04 324 *e*P **P 19 19 31.5 -1.1**
SUW MLR MLR
comp=Z,8µm,18.1s,MS6.0
SUW Suwalki 73.04 324 *e*P **P 19 19 24.4 -8.3**
comp=Z,163nm,1.0s,mb5.9
SUW Suwalki 73.04 324 *e*P **P 19 19 31.5 -1.1**
SUW MLR MLR 19 57 04.4
comp=Z,8µm,18.1s,MS6.0
GRUS Gruza 73.13 314⇑ *i*P **P 19 19 32.1 -1.4**
CRVS Cervenica-Dubn 73.24 319 *i* P **P 19 19 34.9 +0.9**
CRVS *e*S S 19 28 57.2 0.0
KAF Kangasniemi 73.34 333 *e*p **P 19 19 33.4 -0.9**
comp=Z,55nm,0.9s,mb5.5
KAF Kangasniemi 73.34 333 *e*P **P 19 19 33.4 -0.9**
KAF pmax pmax
comp=Z,55nm,0.9s,mb5.5
BEO Belgrade 73.42 314⇑ *i*P **P 19 19 34.1 -1.0**
QSH Qafa e Shtames 73.50 311 *i* p pP 19 19 45.2 -4.7
DIVS Divcibare 73.67 314⇓ *i*P **P 19 19 35.2 -1.4**
MIR Mirnyy 73.70 181 *de*P **P 19 19 43.0 +6.7**
MIR *e*S S 19 29 09.0 +7.1
MIR *e*SS SS 19 33 46.0 -2.4
MIR MLR MLR
comp=N,4µm,16.0s,MS5.8
MIR MLR MLR
comp=E,1µm,16.0s,MS5.8
MIR MLR MLR
comp=Z,10µm,16.0s,MS6.2
NVSS Nova Varos 2 73.83 313 *e*P **P 19 19 33.8 -3.7**
KECS Kecovo 73.83 318 *i* P **P 19 19 37.2 -0.2**
NIE Niedzica 74.06 319 *e*P **P 19 19 39.4 +0.7**
NIE MLR MLR 19 54 18.2
comp=Z,10µm,26.2s,MS6.0
LBTB Lobatse 74.13 242 *e*P **P 19 19 39.9 +0.3**
LBTB pmax pmax
comp=Z,59nm,1.0s,mb5.5
LBTB MLR MLR
comp=Z,8µm,20.0s,MS6.0
LBTB Lobatse 74.13 242 *e*P **P 19 19 39.9 +0.3**
comp=Z,59nm,1.0s,mb5.5
LBTB LR LR
comp=Z,8µm,20.0s,MS6.0
PSZ Piszkesteto 74.15 318 *e*P **P 19 19 38.6 -0.7**
PSZ pmax pmax
comp=Z,143nm,1.6s,mb5.7
PSZ Piszkesteto 74.15 318 *e*P **P 19 19 38.6 -0.7**
comp=Z,143nm,1.6s,mb5.7
PSZ Piszkesteto 74.15 318⇑ *e*P **P 19 19 39.0 -0.3**
CASY Casey 74.38 173 *e*P **P 19 19 38.8 -1.5**
comp=Z,208nm,1.7s,mb5.8
CASY LR LR
comp=Z,7µm,20.0s,MS6.0
OJC Ojcow 74.49 320 *e*P **P 19 19 41.1 -0.1**
OJC *e*S S 19 29 11.1 0.0
OJC MLR MLR
comp=Z,7µm,18.8s,MS6.0
OJC Ojcow 74.49 320 *e*P **P 19 19 41.1 -0.1**
OJC *e*S S 19 29 11.1 0.0
OJC LR LR
comp=Z,7µm,18.8s,MS6.0
OJC Ojcow 74.49 320 *e*P **P 19 19 41.1 -0.1**
OJC *e*S S 19 29 11.1 0.0
OJC MLR MLR 19 58 31.9
comp=Z,7µm,18.8s,MS6.0
VYHS Vyhne 74.92 318 *i* P **P 19 19 43.2 -0.5**
VYHS *e*S S 19 29 08.4 -7.5
SRO Srobarova 75.20 317 *i* P **P 19 19 45.7 +0.4**
KEV Kevo 75.40 341 *e*p **P 19 19 45.2 -0.8**
comp=Z,35nm,0.8s,mb5.3
KEV Kevo 75.40 341 *e*P **P 19 19 45.2 -0.8**
KEV pmax pmax
comp=Z,35nm,0.8s,mb5.3
BOSA Boshof 75.44 238 *e*P **P 19 19 47.5 +0.4**
BOSA pmax pmax
comp=Z,80nm,1.1s,mb5.6
BOSA MLR MLR
comp=Z,4µm,22.0s,MS5.7
BOSA Boshof 75.44 238 *e*P **P 19 19 47.5 +0.4**
comp=Z,80nm,1.1s,mb5.6
BOSA LR LR
comp=Z,4µm,22.0s,MS5.7
RAC Raciborz 75.50 320 *e*P **P 19 19 48.1 +1.1**
RAC *e*S S 19 29 24.2 +1.9
RAC MLR MLR
comp=Z,5µm,30.7s,MS5.7
RAC Raciborz 75.50 320 *e*P **P 19 19 48.1 +1.1**
RAC *e*S S 19 29 24.2 +1.9
RAC LR LR
comp=Z,5µm,30.7s,MS5.7
RAC Raciborz 75.50 320 *e*P **P 19 19 48.1 +1.1**
RAC *e*S S 19 29 24.2 +1.9
RAC MLR MLR 19 49 52.4
RAC MLR MLR 19 57 30.3
comp=Z,4µm,21.5s,MS5.7
OKC Ostrava-Krasne 75.51 320 *e*P **P 19 19 46.7 -0.3**
OKC AMS AMS 19 59 10.0
comp=Z,4µm,18.5s
TIP Timpagrande 75.76 308 *e*P **P 19 19 48.3 -0.4**
ARE0 ARCESS Array S 75.83 340 *e*P **P 19 19 48.4 -0.1**
SMOL Smolenice 75.85 318 *e*P **P 19 19 50.2 +1.2**
MORC Moravsky Berou 75.89 319 *e*P **P 19 19 49.1 -0.1**
MORC *e* 19 22 43.5
MORC pmax pmax
comp=Z,91nm,1.2s,mb5.6
MORC Moravsky Berou 75.89 319 *e*P **P 19 19 49.1 -0.1**
comp=Z,91nm,1.2s,mb5.6
MORC *e*PP PP 19 22 43.5 +1.8
ZST Bratislava 76.04 318 *i* P **P 19 19 49.8 -0.3**
ZST *e*S S 19 29 24.6 -3.6
NOUC Port Laguerre 76.30 115 *e*P **P 19 19 56.4 +4.3**
NOUC Port Laguerre 76.30 115 *e*P **P 19 19 56.4 +4.3**
SOP Sopron 76.37 317 *e*P **P 19 19 52.2 +0.2**
GKP Gorka Klasztor 76.43 323 *e*P **P 19 19 52.5 +0.3**
GKP MLR MLR
comp=Z,10µm,26.2s,MS6.0
GKP Gorka Klasztor 76.43 323 *e*P **P 19 19 52.5 +0.3**
KTK1 Kautokeino 76.45 339 *e*P **P 19 19 52.0 -0.1**
comp=Z,230nm,1.6s,mb5.9
KTK1 Kautokeino 76.45 339 *e*P **P 19 19 52.0 -0.1**
KTK1 AMb AMB 19 20 03.4
comp=Z,230nm,1.6s,mb5.9
BILL Bilibino 76.53 22 *e*P **P 19 19 52.1 -0.4**
BILL *e* 19 20 00.8
BILL *i* S S 19 29 38.6 +5.5
BILL pmax pmax
comp=Z,23nm,1.2s,mb5.0
BILL MLR MLR
comp=Z,11µm,17.0s,MS6.2
BILL Bilibino 76.53 22⇑ *i*P **P 19 19 49.4 -3.1**
VKA Vienna 76.57 318⇑ *i*P **P 19 19 53.2 +0.1**
comp=Z,653nm,2.5s,mb6.1
VKA Vienna 76.57 318⇑ *i*P **P 19 19 53.2 +0.1**
VKA pmax pmax
comp=Z,653nm,2.5s,mb6.1
DPC Dobruska-Polom 76.72 320 *e*P **P 19 19 54.6 +0.7**
DPC AMS AMS 19 59 40.0
comp=Z,6µm,17.4s
KSP Ksiaz 76.78 320⇓ *e*P **P 19 19 53.9 -0.3**
KSP *e**PP pP 19 19 59.3 -9.3
KSP *e*S S 19 29 37.0 +0.7
KSP MLR MLR
comp=Z,14µm,19.0s,MS6.3
KSP Ksiaz 76.78 320⇓ *e*P **P 19 19 53.9 -0.3**
KSP *e*pP pP 19 19 59.3 -9.3
KSP *e*S S 19 29 37.0 +0.7
KSP LR LR
comp=Z,14µm,19.0s,MS6.3
KSP Ksiaz 76.78 320 *e*P **P 19 19 54.4 +0.1**
KSP MLR MLR 19 50 42.8
comp=Z,11µm,30.5s,MS6.0
UPC Upice 76.93 320 *e*P **P 19 19 54.8 -0.3**
ARSA Arzberg 77.04 317⇑ *i*P **P 19 19 55.8 0.0**
comp=Z,92nm,1.1s,mb5.6
BOJS Bojanci 77.14 315 *i* P **P 19 19 55.8 -0.6**
PERS Pernice 77.29 316 *e*P **P 19 19 57.2 +0.1**
LJU Ljubljana 77.67 315 *e*P **P 19 19 59.4 +0.1**
OBKA Obir 77.67 316⇑ *i*P **P 19 19 59.5 +0.2**
comp=Z,104nm,1.4s,mb5.6
PRU Pruhonice 77.84 319 *e*P **P 19 20 00.2 +0.1**
PRU *e*S S 19 29 49.2 +1.5
PRU AMS AMS 19 59 40.0
comp=Z,4µm,19.1s
PVCC Panska Ves 77.85 320 *e*P **P 19 19 59.9 -0.3**
PVCC AMS AMS 20 00 30.0
comp=Z,6µm,17.7s
MOA Molln 77.92 317⇑ *i*P **P 19 20 00.3 -0.3**
comp=Z,56nm,1.3s,mb5.3
BSD Bornholm Skovb 77.95 325⇓ *i*P pP 19 20 09.8 -5.2
comp=Z,47nm,0.6s
BSD *i* S S 19 29 43.5 -5.3
comp=Z,6µm,18.0s
SMY Shemya 78.02 38 PFAKE 19 20 10.0 +8.9
SMY LR LR
comp=Z,9µm,20.0s,MS6.1
MAW Mawson 78.04 192 *e*P **P 19 20 00.7 -0.2**
comp=Z,36nm,1.4s,mb5.1
MAW Mawson 78.04 192 *e*P **P 19 20 00.7 -0.2**
MAW pmax pmax
comp=Z,36nm,1.4s
TRO Tromso 78.09 340 *e*P **P 19 19 59.7 -1.4**
comp=Z,129nm,1.5s,mb5.6
TRO Tromso 78.09 340 *e*P **P 19 19 59.7 -1.4**
TRO AMb AMB 19 20 11.2
comp=Z,129nm,1.5s,mb5.6
TRO *e*pP pP 19 20 15.5 0.0
VOY Vojsko 78.11 315 *e*P **P 19 20 01.2 -0.5**
VOY *e* pP 19 20 11.5 -4.6
VOY *e* 19 20 55.0
BRG Berggiesshubel 78.27 320 *i* P **P 19 20 02.8 +0.3**
BRG *i* pP 19 20 12.9 -4.0
BRG *i* S S 19 29 58.0 +5.7
BRG pmax pmax
comp=Z,66nm,1.3s,mb5.4
BRG MLR MLR
comp=Z,8µm,19.0s,MS6.1
BRG Berggiesshubel 78.27 320 *i* P **P 19 20 02.8 +0.3**
comp=Z,66nm,1.3s,mb5.4
BRG *i* pP 19 20 12.9 -4.0
BRG *e* 19 20 28.1
BRG *i* S S 19 29 58.0 +5.7
BRG *i* SS SS 19 35 07.0 +8.8
BRG LR LR
comp=Z,8µm,19.0s,MS6.1
GEC2 GERESS Array S 78.34 318 *e*P **P 19 20 03.2 +0.3**
GEC2 pmax pmax
comp=Z,116nm,1.1s,mb5.7
GEC2 GERESS Array S 78.34 318 *e*P **P 19 20 03.2 +0.3**
comp=Z,116nm,1.1s,mb5.7
AQU L'Aquila 78.39 312 *e*P **P 19 20 03.3 0.0**
AQU pmax pmax
comp=Z,128nm,1.6s,mb5.6
AQU L'Aquila 78.39 312 *e*P **P 19 20 03.3 0.0**
comp=Z,128nm,1.6s,mb5.6
KHC Kasperske Hory 78.43 319 *e*P **P 19 20 03.4 0.0**
KHC *e*S S 19 29 56.0 +2.0
KHC AMS AMS 20 00 20.0
comp=Z,3µm,18.6s
RUE Ruedersdorf 78.45 322 *e*P **P 19 20 03.1 -0.3**
comp=Z,140nm,1.3s,mb5.7
CLL Collm 78.88 321 *i* P **P 19 20 04.2 -1.6**
CLL *i* pP 19 20 20.7 +0.5
CLL *e*S S 19 29 52.0 -6.8
CLL pmax pmax
comp=Z,91nm,1.9s,mb5.4
CLL MLR MLR
comp=Z,6µm,22.0s,MS5.8
CLL Collm 78.88 321 *i* P **P 19 20 04.2 -1.6**
comp=Z,91nm,1.9s,mb5.4
CLL *i* pP 19 20 20.7 +0.5
CLL *e*S S 19 29 52.0 -6.8
CLL LR LR
comp=Z,6µm,22.0s,MS5.8
CLL Collm 78.88 321 P **P 19 20 04.2 -1.6**
comp=Z,logA/T=1.7,mb5.4
CLL *i* 19 20 09.9
CLL *i* pP 19 20 20.7 +0.5
CLL *e*S S 19 29 58.0 -0.8
CLL *e*SS SS 19 35 06.0 -1.3
WET Wettzell 78.89 319 *e*P **P 19 20 06.2 +0.3**
NKC Novy Kostel 79.20 320 *e*P **P 19 20 07.2 -0.4**
NKC AMS AMS 20 01 10.0
comp=Z,6µm,16.9s
MOR8 Moi Rana 79.24 336 *e*P **P 19 20 06.6 -0.9**
comp=Z,188nm,1.4s,mb5.8
MOR8 Moi Rana 79.24 336 *e*P **P 19 20 06.6 -0.9**
MOR8 AMb AMB 19 20 18.2
comp=Z,188nm,1.4s,mb5.8
COP Copenhagen 79.40 325⇑ *e*P **P 19 20 11.5 +2.9**
COP *i* S S 19 30 07.1 +2.9
COP pmax pmax
comp=Z,74nm,0.9s,mb5.6
COP MLR MLR
comp=Z,3µm,19.0s,MS5.7
COP Copenhagen 79.40 325⇑ *e*P **P 19 20 11.5 +2.9**
comp=Z,74nm,0.9s,mb5.6
COP *i* S S 19 30 07.1 +2.9
COP LR LR
comp=Z,3µm,19.0s,MS5.7
COP Copenhagen 79.40 325⇑ *i*P **P 19 20 11.5 +2.9**
comp=Z,74nm,0.9s,mb5.6
COP *i* S S 19 30 07.1 +2.9
comp=Z,3µm,19.0s
WTTA Wattenberg 79.69 317⇑ *i*P **P 19 20 09.9 -0.4**
comp=Z,135nm,1.0s,mb5.8
WTTA Wattenberg 79.69 317⇑ *i*P **P 19 20 09.9 -0.4**
WTTA pmax pmax
comp=Z,135nm,1.0s,mb5.8
WATA Walderalm 79.73 317⇑ *i*P **P 19 20 09.9 -0.6**
comp=Z,65nm,1.1s,mb5.5
WATA Walderalm 79.73 317⇑ *i*P **P 19 20 09.9 -0.6**
WATA pmax pmax
comp=Z,65nm,1.1s,mb5.5
MOX Moxa 79.74 320 *e*P **P 19 20 10.7 +0.2**
MOX pmax pmax
comp=Z,179nm,2.0s,mb5.7
MOX MLR MLR
comp=Z,5µm,19.0s,MS5.9
MOX Moxa 79.74 320 *e*P **P 19 20 10.7 +0.2**
comp=Z,179nm,2.0s,mb5.7
MOX LR LR
comp=Z,5µm,19.0s,MS5.9
MOX Moxa 79.74 320 *i* P **P 19 20 10.7 +0.2**
comp=Z,logA/T=1.9,mb5.6
MOX L 20 02 00.0
LOF Lofoten 79.79 338 *e*P **P 19 20 12.2 +1.8**
comp=Z,263nm,1.6s,mb5.9
LOF Lofoten 79.79 338 *e*P **P 19 20 12.2 +1.8**
LOF AMb AMB 19 20 17.9
comp=Z,263nm,1.6s,mb5.9
FUR Furstenfeldbru 79.94 318 *e*P **P 19 20 11.4 -0.2**
SQTA Sankt Quirin 79.98 317⇑ *i*P **P 19 20 11.5 -0.4**
comp=Z,68nm,1.1s,mb5.5
SQTA Sankt Quirin 79.98 317⇑ *i*P **P 19 20 11.5 -0.4**
SQTA pmax pmax
comp=Z,68nm,1.1s,mb5.5
GRA1 Grafenberg Arr 79.98 319 *e*P **P 19 20 12.5 +0.7**
comp=Z,117nm,1.1s,mb5.7
GRF Grafenberg Arr 79.98 319 *e*P **P 19 20 12.5 +0.7**
GRF pmax pmax
comp=Z,117nm,1.1s,mb5.7
GRF Grafenberg Arr 79.98 319 *e*P **P 19 20 12.5 +0.7**
GRF pmax pmax
comp=Z,117nm,1.1s,mb5.7
GRF Grafenberg Arr 79.98 319 *e*P **P 19 20 12.5 +0.7**
comp=Z,117nm,1.1s,mb5.7
MOTA Moosalm 80.05 317⇑ *i*P **P 19 20 11.7 -0.5**
comp=Z,70nm,1.2s,mb5.5
MOTA Moosalm 80.05 317⇑ *i*P **P 19 20 11.7 -0.5**
MOTA pmax pmax
comp=Z,71nm,1.2s,mb5.5
NSS Namsos 80.12 334 *e*P **P 19 20 11.1 -1.1**
SUR Sutherland 80.16 235 *e*P **P 19 20 15.1 +1.9**
comp=Z,78nm,1.1s,mb5.5
SUR LR LR
comp=Z,1µm,20.0s,MS5.3
NB2 NORSAR Subarra 80.28 331 P **P 19 20 12.6 -0.6**
comp=Z,130nm,1.4s,mb5.7,baz=91,slow=5.8
NB2 NORSAR Subarra 80.28 331 P **P 19 20 12.6 -0.6**
NB2 pmax pmax
comp=Z,130nm,1.4s,mb5.7
NB2 NORSAR Subarra 80.28 331 P **P 19 20 12.6 -0.6**
baz=91,slow=5.9
NAO01 NORSAR Array S 80.43 330 *e*P **P 19 20 12.8 -1.2**
comp=Z,26nm,0.8s,mb5.2
NAO01 LR LR
comp=Z,10µm,20.0s,MS6.1
OSL Oslo 80.48 330 *e*P **P 19 20 14.3 0.0**
CLZ Clausthal 80.53 321 *e*P **P 19 20 14.9 +0.2**
comp=Z,89nm,1.1s,mb5.6
BSEG Bad Segeberg 80.58 323 *e*P **P 19 20 15.4 +0.5**
VLC Villacollemand 80.58 313 *e*P **P 19 20 13.1 -2.1**
comp=Z,57nm,1.9s,mb5.2
DAVA Damuels 80.88 317⇑ *i*P **P 19 20 16.5 -0.1**
comp=Z,108nm,1.0s,mb5.7
KONO Kongsberg 81.04 329 PFAKE 19 20 30.0 +13
KONO LR LR
comp=Z,12µm,19.0s,MS6.2
MUD Monsted U'grnd 81.25 326 *i* P **P 19 20 19.2 +0.8**
comp=Z,64nm,1.0s,mb5.5
comp=Z,5µm,17.0s
STU Stuttgart 81.31 318 *e*P **P 19 20 18.7 -0.2**
STU pmax pmax
comp=Z,56nm,1.3s,mb5.3
STU Stuttgart 81.31 318 *e*P **P 19 20 18.6 -0.2**
comp=Z,56nm,1.3s,mb5.3
VSL Villasalto 81.48 309 *e*P **P 19 20 19.4 -0.5**
comp=Z,149nm,1.9s,mb5.6
TOD Tromm 81.55 319 *e*P **P 19 20 21.4 +1.3**
PGF Pioggiola 81.64 312 *e*P **P 19 20 20.7 0.0**
PCP Pian Castagno 81.89 314 P **P 19 20 22.3 +0.3**
BFO Black Forest 81.90 318 *e*P **P 19 20 21.7 -0.2**
BFO pmax pmax
comp=Z,71nm,1.3s,mb5.4
BFO Black Forest 81.90 318 *e*P **P 19 20 21.7 -0.2**
comp=Z,71nm,1.3s,mb5.4
MOL Molde 82.05 332 *e*P **P 19 20 24.4 +2.0**
comp=Z,251nm,1.8s,mb5.8
MOL Molde 82.05 332⇓ *i*P **P 19 20 24.4 +2.0**
MOL AMb AMB 19 20 28.5
comp=Z,251nm,1.8s,mb5.8
FELD Feldberg 82.14 317 *e*P **P 19 20 24.3 +1.1**
FIN Finale Ligure 82.15 314 P **P 19 20 23.2 -0.1**
LANF Langenberg 82.23 318 *e*P **P 19 20 24.0 +0.4**
ORX Oropa 82.24 315 P **P 19 20 22.7 -1.1**
ABH Altenburg 82.36 319 *e*P **P 19 20 25.6 +1.3**
ROB Roburent 82.39 314 P **P 19 20 24.0 -0.5**
IMI Imperia 82.39 313 P **P 19 20 23.7 -0.9**
LIBD Limburg 82.39 318 *e*P **P 19 20 25.9 +1.4**
TRAV 82.41 315 P **P 19 20 23.8 -0.9**
MONE Monesi 82.48 313 P **P 19 20 24.7 -0.3**
NEGI Negi 82.53 313 P **P 19 20 24.4 -0.9**
WLS Welschbruch 82.55 318 *e*P **P 19 20 25.2 -0.1**
CDF Champ du Feu 82.60 318 *e*P **P 19 20 25.3 -0.2**
comp=Z,111nm,1.2s,mb5.5
CDF Champ du Feu 82.60 318 *e*P **P 19 20 25.3 -0.2**
CDF pmax pmax
comp=Z,55nm,1.2s,mb5.5
BLS5 Blasjo 82.65 329 *e*P **P 19 20 26.9 +1.4**
BLS5 Blasjo 82.65 329⇓ *i*P **P 19 20 27.0 +1.4**
RUP Ruppelstein 82.68 319 *e*P **P 19 20 27.0 +1.1**
ECH Echery 82.69 318 *e*P **P 19 20 27.0 +1.0**
ENR Entracque 82.71 314 P **P 19 20 25.8 -0.4**
SBF Sospel 82.72 313 *e*P **P 19 20 26.5 +0.3**
comp=Z,174nm,0.8s,mb5.8
SBF Sospel 82.72 313 *e*P **P 19 20 26.5 +0.3**
SBF pmax pmax
comp=Z,87nm,0.8s,mb5.8
MOF Molkenrain 82.72 317 *e*P **P 19 20 27.3 +1.1**
REVF Revere 82.78 313 *e*P **P 19 20 27.7 +1.2**
RSP Reno Superiore 82.78 315 P **P 19 20 25.5 -1.0**
STV Sta Anna Valdi 82.78 314 P **P 19 20 25.9 -0.6**
BHB Bricherasio 82.79 314 P **P 19 20 24.8 -1.7**
LSD Ceresole Reale 82.83 315 P **P 19 20 26.8 0.0**
TOUF Mont Tournerai 82.85 313 *e*P **P 19 20 28.5 +1.6**
FENE Fenestrelle 82.92 314 P **P 19 20 27.3 0.0**
MVIF Mont Vial 82.92 313 *e*P **P 19 20 28.7 +1.4**
PZZ Prazzo 82.92 314 P **P 19 20 27.1 -0.1**
LOMF Lomont 82.96 317 *e*P **P 19 20 28.4 +1.1**
OG01 Vacheresse 83.11 316 *e*P **P 19 20 26.9 -1.3**
LPG La Plagne 83.11 315 *e*P **P 19 20 28.7 +0.5**
comp=Z,162nm,0.9s,mb5.8
LPG La Plagne 83.11 315 *e*P **P 19 20 28.7 +0.5**
LPG pmax pmax
comp=Z,81nm,0.9s,mb5.8
RRL Cesana Torines 83.12 314 P **P 19 20 27.7 -0.6**
SURF Saint Ours 83.13 314 *e*P **P 19 20 28.9 +0.6**
MBDF Montbardon 83.15 314 *e*P **P 19 20 27.9 -0.5**
comp=Z,76nm,1.0s,mb5.4
MBDF Montbardon 83.15 314 *e*P **P 19 20 27.9 -0.5**
MBDF pmax pmax
comp=Z,38nm,1.0s,mb5.4
BNI Bardonecchia 83.19 314 *e*P **P 19 20 28.1 -0.5**
BNI pmax pmax
comp=Z,43nm,1.2s,mb5.3
BNI Bardonecchia 83.19 314 *e*P **P 19 20 28.1 -0.5**
comp=Z,43nm,1.2s,mb5.3
HAU Haudompre 83.24 317 *e*P **P 19 20 28.7 -0.1**
comp=Z,162nm,1.0s,mb5.7
HAU *e*R
comp=Z,5µm,22.0s
HAU Haudompre 83.24 317 *e*P **P 19 20 28.7 -0.1**
HAU pmax pmax
comp=Z,81nm,1.0s,mb5.7
HAU MLR MLR
comp=Z,5µm,22.0s,MS5.9
WLF Walferdange 83.27 319 *e*P **P 19 20 29.7 +0.8**
WLF pmax pmax
comp=Z,168nm,1.7s,mb5.8
WLF Walferdange 83.27 319 *e*P **P 19 20 29.6 +0.7**
comp=Z,168nm,1.7s,mb5.8
THEF They Montfort 83.47 318 *e*P **P 19 20 30.0 +0.1**
OG25 Le Caire 83.67 314 *e*P **P 19 20 30.6 -0.5**
OG05 Jujurieux 83.98 316 *e*P **P 19 20 34.4 +1.8**
OCF Saint Nazaire 84.20 314 *e*P **P 19 20 33.9 +0.2**
OG26 St.-Nazaire-De 84.20 314 *e*P **P 19 20 33.9 +0.2**
BAIF Baives 84.50 320 *e*P **P 19 20 35.5 +0.4**
comp=Z,175nm,1.3s,mb5.7
BAIF Baives 84.50 320 *e*P **P 19 20 35.5 +0.4**

BAIF pmax pmax
comp=Z,87nm,1.3s,mb5.7
MIDW Midway 85.11 62 PFAKE 19 20 50.0 +11
MIDW LR LR
comp=Z,3μm,19.0s,MS5.8
SSF Saint Saulge 85.24 317 *e*P **P 19 20 39.0 +0.2**
SSF pmax pmax
comp=Z,69nm,1.5s,mb5.6
SSF Saint Saulge 85.24 317 *e*P **P 19 20 39.0 +0.2**
comp=Z,69nm,1.5s,mb5.6
PLDF La Plantade 85.26 316 *e*P **P 19 20 40.5 +1.5**
AGO Saint Agoulin 85.59 316 *e*P **P 19 20 43.0 +2.4**
LBL Lubilhac 85.60 315 *e*P **P 19 20 43.0 +2.3**
PYM Petit Puy Mans 85.71 315 *e*P **P 19 20 43.5 +2.3**
BGF Bois d'Agland 85.74 316 *e*P **P 19 20 41.8 +0.5**
comp=Z,214nm,1.3s,mb5.9
BGF Bois d'Agland 85.74 316 *e*P **P 19 20 41.8 +0.5**
BGF pmax pmax
comp=Z,107nm,1.3s,mb5.9
EJON La Jonquera 86.15 312 P **P 19 20 46.1 +2.7**
comp=Z,4.2nm,0.7s,mb4.8
RJF Les Rejaudoux 86.80 315 *e*P **P 19 20 47.3 +0.7**
comp=Z,117nm,1.2s,mb5.7
RJF *e*R
comp=Z,4μm,21.8s
RJF Les Rejaudoux 86.80 315 *e*P **P 19 20 47.3 +0.7**
RJF pmax pmax
comp=Z,58nm,1.2s,mb5.7
RJF MLR MLR
comp=Z,4μm,21.8s,MS5.8
EMIR Miracle 87.22 312 P **P 19 20 49.3 +0.6**
comp=Z,1.9nm,0.7s
LCP Cassop 87.40 325⇑ *e*P **P 19 20 50.3 +1.1**
HPK Haverah Park 87.61 324⇑ *e*P **P 19 20 51.2 +0.9**
EPOB Poblet 87.63 311 P **P 19 20 50.1 -0.6**
comp=Z,37nm,1.0s,mb5.6
KBI1 Birley Grange 87.66 323⇑ *e*P **P 19 20 46.5 -4.0**
FLN La Foliniere 87.69 319 *e*P **P 19 20 51.0 +0.2**
comp=Z,165nm,1.4s,mb5.8
FLN *e*R
comp=Z,5μm,19.5s
FLN La Foliniere 87.69 319 *e*P **P 19 20 51.0 +0.2**
FLN pmax pmax
comp=Z,82nm,1.4s,mb5.8
FLN MLR MLR
comp=Z,5μm,19.5s,MS5.9
LHO Holmfirth 87.81 324⇑ *e*P **P 19 20 52.0 +0.8**
ANM Nome 87.84 25 *e*P **P 19 20 54.1 +3.0**
KWE Weaver Farm 87.89 323⇑ *e*P **P 19 20 47.8 -3.8**
DAG Danmarks Havn 88.04 348⇓ *i*P **P 19 20 51.8 0.0**
DAG pmax pmax
comp=Z,9.0nm,0.5s,mb5.3
DAG MLR MLR
comp=Z,6μm,22.0s,MS6.0
DAG Danmarks Havn 88.04 348⇓ *i*P **P 19 20 51.8 0.0**
comp=Z,9.2nm,0.5s,mb5.3
comp=Z,6μm,22.0s
EBIE Bielsa 88.14 313 P **P 19 20 54.2 +1.2**
comp=Z,18nm,1.2s,mb5.2
EBR Ebro Roquetas 88.14 311 *e*P **P 19 20 54.3 +1.2**
EDI Edinburgh 88.17 326 *e*P **P 19 20 53.8 +1.0**
ERTA Horta de San J 88.24 311 P **P 19 20 54.4 +0.9**
comp=Z,25nm,1.3s,mb5.3
ESK Eskdalemuir 88.29 325 PFAKE 19 21 00.0 +6.6
ESK LR LR
comp=Z,2μm,21.0s,MS5.4
ESK Eskdalemuir 88.29 325 *e*P **P 19 20 53.8 +0.4**
ETSF Etsaut 88.61 313 *e*P **P 19 20 56.4 +1.1**
comp=Z,50nm,0.9s,mb5.5
ETSF Etsaut 88.61 313 *e*P **P 19 20 56.4 +1.1**
ETSF pmax pmax
comp=Z,25nm,0.9s,mb5.5
ESAC San Caprasio 88.73 312 P **P 19 20 55.9 0.0**
comp=Z,28nm,0.9s,mb5.6
EAB Aberfoyle 88.75 326 *e*P **P 19 20 57.1 +1.5**
LARF Larrau 88.90 313 *e*P **P 19 20 57.9 +1.2**
EMOS Mosqueruela 88.93 310 P **P 19 20 58.9 +2.0**
comp=Z,23nm,0.8s,mb5.6
EALK Alkurruntz 89.25 313 P **P 19 20 58.9 +0.6**
comp=Z,41nm,1.1s,mb5.7
CART Cartagena 89.76 308 *e*P **P 19 20 55.2 -5.6**
comp=Z,88nm,1.3s,mb5.9
ELAN Lanestosa 90.64 314 P **P 19 21 05.1 +0.3**
comp=Z,7.2nm,0.6s,mb5.2
EVIA Vianos 90.76 309 P **P 19 21 06.5 +1.0**
EVIA pmax pmax
comp=Z,42nm,1.2s,mb5.6
EVIA Vianos 90.76 309 P **P 19 21 06.5 +0.9**
comp=Z,42nm,1.2s,mb5.6
ENIJ Nijar 90.81 307 P **P 19 21 07.4 +1.6**
ENIJ pmax pmax
comp=Z,14nm,0.7s,mb5.4
ENIJ Nijar 90.81 307 P **P 19 21 07.4 +1.6**
comp=Z,14nm,0.7s,mb5.4
EQES Quesada 91.35 308 P **P 19 21 08.9 +0.6**
comp=Z,10nm,0.9s,mb5.2
EBER Berja 91.36 307 P **P 19 21 09.2 +0.9**
comp=Z,17nm,0.7s,mb5.5
SCO Scoresbysund 91.61 342 *e*P **P 19 21 10.4 +1.7**
SCO Scoresbysund 91.61 342 *i*P **P 19 21 10.4 +1.7**
GUD Guadarrama 91.65 311 P **P 19 21 10.7 +1.1**
GUD pmax pmax
comp=Z,21nm,0.8s,mb5.5
GUD Guadarrama 91.65 311 P **P 19 21 10.7 +1.1**
comp=Z,20nm,0.8s,mb5.5
ESDC Sonseca Array 91.69 310 ⇑P **P 19 21 09.9 +0.1**
comp=Z,12nm,0.9s,mb5.2
ESLA Sonseca Array 91.69 310 *e*P **P 19 21 10.3 +0.5**
comp=Z,48nm,1.5s,mb5.6
EBAN Banos Encina 91.84 309 P **P 19 21 11.0 +0.5**
EBAN pmax pmax
comp=Z,58nm,1.3s,mb5.8
EBAN Banos Encina 91.84 309 P **P 19 21 11.0 +0.5**
comp=Z,58nm,1.3s,mb5.8
EARI Arriondas 91.90 314 P **P 19 21 13.8 +3.1**
comp=Z,8.7nm,0.7s,mb5.2
IMA Indian Mountai 92.06 22 *e*P **P 19 21 11.6 +0.7**
IMA pmax pmax
comp=Z,632nm,1.2s
IMA Indian Mountai 92.06 22 *e*P **P 19 21 11.6 +0.8**
comp=Z,632nm,1.2s
ERON Agron 92.06 308 P **P 19 21 11.7 +0.1**
ELOJ Sierra Loja 92.31 308 P **P 19 21 11.6 -1.1**
ELOJ pmax pmax
comp=Z,1.0nm,0.4s
ELOJ Sierra Loja 92.31 308 P **P 19 21 11.6 -1.2**
comp=Z,1.2nm,0.4s,mb4.6
ELUQ Luque 92.32 308 P **P 19 21 12.4 -0.4**
ELUQ pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
ELUQ Luque 92.32 308 P **P 19 21 12.4 -0.3**
comp=Z,4.2nm,0.7s,mb4.9
VNDA Vanda 92.37 168 *e*P **P 19 21 10.8 -1.3**
VNDA pmax pmax
comp=Z,39nm,1.5s
VNDA MLR MLR
comp=Z,6μm,19.0s
VNDA Vanda 92.37 168 *e*P **P 19 21 10.8 -1.3**
comp=Z,39nm,1.5s,mb5.5
VNDA LR LR
comp=Z,6μm,19.0s,MS6.1
EADA Adamuz 92.45 309 P **P 19 21 14.0 +0.7**
comp=Z,17nm,0.9s,mb5.4
EMIJ Mijas 92.91 307 P **P 19 21 15.9 +0.4**
comp=Z,4.9nm,0.6s,mb5.1
ECAL Calabor 93.29 313 P **P 19 21 17.9 +0.8**
comp=Z,21nm,1.0s,mb5.5
PBRG Braganca 93.32 313 *e*P **P 19 21 18.2 +1.0**
PBRG *e*pP pP 19 21 33.4 +1.4
SBA Scott Base 93.47 168 *e*P **P 19 21 17.8 +0.7**
SBA pmax pmax
comp=Z,115nm,1.6s,mb6.1
SBA MLR MLR
comp=Z,4μm,19.0s,MS5.9
SBA Scott Base 93.47 168 *e*P **P 19 21 17.8 +0.7**
comp=Z,115nm,1.6s,mb6.1
SBA LR LR
comp=Z,4μm,19.0s,MS5.9
EINC Incio 93.57 314 P **P 19 21 22.1 +3.8**
comp=Z,20nm,1.1s,mb5.5
ESPR Espera 93.70 308 P **P 19 21 19.3 +0.2**
comp=Z,6.2nm,1.0s,mb5.0
EMIN Mina Concepcio 94.15 309 P **P 19 21 21.5 +0.5**
comp=Z,13nm,0.9s,mb5.4
PVRL Vila Real 94.15 312 *e*P **P 19 21 20.2 -0.8**
EBAD Badajoz 94.20 310 P **P 19 21 23.5 +2.3**
comp=Z,3.8nm,0.7s,mb4.9
PCBR Castelo Branco 94.31 311 *e*P **P 19 21 23.3 +1.6**
PCBR *e*pP pP 19 21 38.5 +2.0
PVIS Viseu 94.41 312 *e*P **P 19 21 21.6 -0.6**
SPU Mount Spurr 94.69 26 *e*P **P 19 21 22.6 -0.4**
SUMG Summit 94.70 347 *e*P **P 19 21 23.3 +0.5**
comp=Z,44nm,1.4s,mb5.7
COLA College 94.77 22 *e*P **P 19 21 22.5 -0.7**
COLA pmax pmax
comp=Z,33nm,1.8s,mb5.5
COLA College 94.77 22 *e*P **P 19 21 22.5 -0.8**
comp=Z,33nm,1.8s,mb5.5
MCK McKinley 94.89 24 *e*P **P 19 21 23.5 -0.3**
MCK pmax pmax
comp=Z,43nm,1.3s,mb5.7
MCK McKinley 94.89 24 *e*P **P 19 21 23.5 -0.3**
comp=Z,43nm,1.3s,mb5.7
PBEJ Beja 95.01 309 *e*P **P 19 21 26.0 +1.0**
comp=Z,18nm,1.3s,mb5.3
PMR Palmer 95.78 25 *e*P **P 19 21 29.3 +1.4**
PMR pmax pmax
comp=Z,30nm,1.3s,mb5.6
PMR Palmer 95.78 25 *e*P **P 19 21 29.3 +1.4**
comp=Z,30nm,1.3s,mb5.6
PTEO Sao Teotonio 95.79 309 *e*P **P 19 21 30.2 +1.7**
SLKM Skilak Lake 95.79 27 *e*P **P 19 21 27.6 -0.4**
SML Sawmill 96.02 25 *e*P **P 19 21 29.3 +0.3**
THY Trims Highway 96.29 23 *e*P **P 19 21 31.6 +1.5**
MENT Mentasta 97.33 23 *e*P **P 19 21 36.2 +1.3**
DIV Divide 97.43 25 *e*P **P 19 21 35.2 -0.2**
comp=Z,27nm,1.0s,mb5.6
EYAK Cordova Ski Ar 97.73 26 P **P 19 21 39.1 +2.3**
DBIC Dimbokro 98.18 278 *e*P **P 19 21 41.3 +1.4**
DBIC pmax pmax
comp=Z,71nm,1.8s
DBIC Dimbokro 98.18 278 *e*P **P 19 21 41.3 +1.4**
comp=Z,71nm,1.8s,mb5.9
SNAA Sanae 99.17 199 ⇑ *i*P **P 19 21 45.4 +2.3**
SNAA Sanae 99.17 199 **P 19 21 58.1 +15**
VNA2 Neumayer--Watz 100.71 199 P P 19 21 54.7 +4.6
VNA2 Neumayer--Watz 100.71 199 P 19 22 06.8 +17
VNA2 Neumayer--Watz 100.71 199 P 19 22 10.7 +21
VNA3 Neumayer Olymp 101.39 199 P P 19 21 58.1 +5.0
VNA3 Neumayer Olymp 101.39 199 ⇑ *i* P 19 22 09.5 +16
VNA3 Neumayer Olymp 101.39 199 ⇓ *i* P 19 22 13.4 +20
PDA Ponta Delgada 108.39 314 *e*LR LR 20 01 10.0
ADH Angra Heroismo 109.11 315 *i*LR LR 20 01 07.5
FFC Flin Flon 116.68 10 *e*PKIKP PKPdf 19 26 43.9 -1.0
TBI Tubuai 116.93 112 *e*PP PP 19 27 55.0 -5.6
TBI *e*PS PS 19 37 42.8 +3.1
TBI *e*SS SS 19 44 14.4 +14
TBI *e*LR LR 20 02 43.9
comp=Z,6μm,25.5s
MSO Missoula 120.52 22 *e*PKPdf PKPdf 19 26 52.2 -0.4
MSO *e*PP PP 19 28 28.8 +4.7
CHMT Chamberlain Mo 120.70 22 *e*PKPdf PKPdf 19 26 52.9 0.0
BMO Blue Mountains 120.78 26 *e*PKIKP PKPdf 19 26 53.3 +0.1
HRY Holter Researc 121.38 21 *e*PKPdf PKPdf 19 26 54.6 +0.3
MOD Modoc 121.67 30 *e*PKPdf PKPdf 19 26 56.3 +1.3
WVOR Wild Horse Val 122.08 28 *e*PKIKP PKPdf 19 26 57.1 +1.4
BOZ Bozeman (W) 122.37 21 *e*PKIKP PKPdf 19 26 56.9 +0.7
QLMT Earthquake Lak 123.14 22 *e*PKPdf PKPdf 19 26 59.0 +1.3
LAO LASA Array 123.20 17 *e*PKPdf PKPdf 19 26 59.0 +1.3
YMR Madison River 123.45 21 *e*PKPdf PKPdf 19 26 60.0 +1.6
YNR Norris Junctio 123.51 21 PKPdf PKPdf 19 27 01.4 +3.0
YFT Old Faithful 123.69 21 *e*PKPdf PKPdf 19 27 01.5 +2.7
WCN Washoe City 123.89 32 *e*PKIKP PKPdf 19 26 58.0 -1.3
IMW Indian Meadow 124.12 22 *e*PKPdf PKPdf 19 27 00.6 +0.9
BMN Battle Mountai 124.30 29 *e*PKIKP PKPdf 19 27 00.0 -0.1
MOOW Moose Ponds 124.32 22 *e*PKPdf PKPdf 19 27 00.4 +0.4
TPAW Teton Pass 124.47 22 *e*PKPdf PKPdf 19 27 01.6 +1.3
CMB Columbia Colle 124.49 33 *e*PKIKP PKPdf 19 27 00.7 +0.2
LOHW Long Hollow 124.49 22 *e*PKPdf PKPdf 19 27 01.0 +0.7
SNOW Snow King Moun 124.57 22 *e*PKPdf PKPdf 19 26 60.0 -0.5
HVU Hansel Valley 125.20 25 *e*PKIKP PKPdf 19 27 02.9 +1.1
MNV Mina 125.37 31 *e*PKIKP PKPdf 19 27 04.0 +1.8
BGU Big Grassy Mou 125.80 25 *e*PKPdf PKPdf 19 27 04.2 +1.3
HWUT Hardware Ranch 125.83 24 *e*PKPdf PKPdf 19 27 04.0 +1.0
MTUM Tungsten Hills 125.97 32 *e*PKPdf PKPdf 19 27 04.2 +0.8
TCUT Toone Canyon 126.31 24 *e*PKPdf PKPdf 19 27 02.9 -1.1
NOQ North Oquirrh 126.41 25 *e*PKPdf PKPdf 19 27 06.5 +2.3
TRCR Troy Canyon 126.71 29 *e*PKPdf PKPdf 19 27 06.0 +1.2
JLU Jordanelle 126.73 24 *e*PKPdf PKPdf 19 27 05.3 +0.5
DAU Daniels Canyon 126.97 24 *e*PKIKP PKPdf 19 27 09.2 +3.9
NLU North Lily Min 127.01 25 *e*PKPdf PKPdf 19 27 06.3 +0.9
MPU Maple Canyon 127.15 25 *e*PKPdf PKPdf 19 27 07.4 +1.8
RWWY Rawlins 127.38 20 *e*PKPdf PKPdf 19 27 06.8 +0.8
MDV Middlebury 127.67 349 *e*PKPdf PKPdf 19 27 07.3 +0.8
TMUT Trail Mountain 127.93 25 *e*PKPdf PKPdf 19 27 08.6 +1.5
MVU Marysvale 128.15 26 *e*PKPdf PKPdf 19 27 09.5 +1.9
MSU Marysvale 128.16 26 *e*PKIKP PKPdf 19 27 09.5 +1.9
SRU San Rafael 128.37 25 *e*PKIKP PKPdf 19 27 09.0 +1.0
NEN Nelson 129.20 31 *e*PKPdf PKPdf 19 27 11.4 +1.7
LDFC Landfair 129.50 31 *e*PKPdf PKPdf 19 27 12.2 +2.0
PV10 Paradox Valley 129.60 24 *e*PKPdf PKPdf 19 27 13.0 +2.7
ISCO Idaho Springs 129.62 20 *e*PKIKP PKPdf 19 27 11.4 +1.1
GENY Geneseo 129.63 352 *e*PKPdf PKPdf 19 27 09.0 -1.3
BAR Barrett 130.47 35 *e*PKPdf PKPdf 19 27 13.0 +0.8
ACSO Alum Creek Sta 132.61 357 *e*PKPdf PKPdf 19 27 16.8 +0.8
ANMO Albuquerque 133.60 24 *e*PKPdf PKPdf 19 27 17.6 -0.5
ANMO *e*PP PP 19 29 48.0 -3.0
ANMO *e*SKP 19 30 44.2
BLO Bloomington 133.73 1 *e*PKPdf PKPdf 19 27 19.5 +1.3
BLO *e*PP PP 19 29 47.9 -3.9
BLO *e*SKP 19 30 47.7
TUC Tucson 133.89 30 *e*PKPdf PKPdf 19 27 19.1 +0.5
TUC *e*SKP 19 30 43.7
WCI Wyandotte Cave 134.67 1 *e*PKIKP PKPdf 19 27 20.8 +0.9
FWV Forest Hill 135.09 355 *e*PKPdf PKPdf 19 27 12.9 -7.8
PWV Princeton 135.35 355 *e*PKPdf PKPdf 19 27 20.8 -0.4
PWV *e*PP PP 19 29 57.3 -4.5
WMOK Wichita Mounta 136.37 16 *e*PKPpre 19 27 10.2
WMOK *e*PKPdf PKPdf 19 27 23.8 +0.7
WMOK *e*PP PP 19 29 59.6 -8.3
UTMT University of 136.46 4 PKPdf PKPdf 19 27 25.1 +1.8
GLAT Glass 136.50 4 PKPdf PKPdf 19 27 24.5 +1.2
WVT Waverly 136.72 3 *e*PKIKP PKPdf 19 27 23.3 -0.4
MNTX Cornudas Mount 136.87 25 *e*PKPdf PKPdf 19 27 24.8 +0.7
HBAR Harrisburg 137.09 6 *e*PKPdf PKPdf 19 27 24.7 +0.3
CPCT Cooper Cave 137.43 359 *e*PKPdf PKPdf 19 27 25.3 +0.2
UALR University of 137.65 8 *e*PKPdf PKPdf 19 27 26.6 +1.1
MIAR Mount Ida 137.69 10 *e*PKIKP PKPdf 19 27 26.4 +0.8
GOGA Godfrey 139.43 357 *e*PKIKP PKPdf 19 27 32.1 +3.4
LTX Lajitas 139.65 25 *e*PKIKP PKPdf 19 27 33.3 +4.1
LRAL Lakeview Retre 139.84 2 *e*PKPdf PKPdf 19 27 27.1 -2.4
JCT Junction City 140.04 19 *e*PKIKP PKPdf 19 27 27.3 -2.6
NATX Nacogdoches 140.19 12 *e*PKPpre 19 27 28.2
HKT Hockley 141.67 14 *e*PKIKP PKPdf 19 27 33.6 +0.7
BAO Brasilia Array 142.19 254 P PKPdf 19 27 34.2 +0.1
BAO *e* 19 27 42.4
BAO *e* 19 28 58.4
TRQA Tornquist 142.63 212 *e*PKPdf PKPdf 19 27 31.6 -2.6
DWPF Disney 144.53 354 *e*PKPdf PKPdf 19 27 37.8 -0.1
SJG San Juan 148.20 323 *e*PKP2 PKPab 19 27 48.3 -4.5
MDZ Mendoza 150.15 209 *e*PKIKP PKPdf 19 27 52.6 +5.6
MDZ *e* 19 28 00.2
FCH Farellones 150.46 207 *i*P PKPdf 19 27 55.0 +7.6
CLCH Cerro Calan 150.51 206 ⇓ *i*P PKPdf 19 27 54.7 +7.2
TEIG Tepich 152.50 5 *e*PKPbc PKPdf 19 27 58.9 +8.1
TLL Tololo Astrono 153.33 210 *i*P PKPdf 19 28 01.1 +9.4
LVC Limon Verde 157.82 225 *e*PKPdf PKPdf 19 28 01.9 +4.0
SDV Santo Domingo 157.98 317 *e*PKPdf PKPdf 19 27 59.9 +1.6
SDV *e* 19 28 11.5
LPAZ La Paz 160.66 241 *e*PKIKP PKPdf 19 28 02.9 +1.7
ARE Arequipa 163.41 236 P PKPdf 19 28 14.0 +10
OTAV Otavalo 169.57 316 *e*PKPdf PKPdf 19 28 10.6 +1.8

MOS ***01*** *19:10:29.3±1.3, 49.94N×156.47E, h15km, mb4.3/1, Error ellipse: s-maj=99.9km s-min=12.5km az=72.8*
KRSC 01 19:10:28.8±0.6, 49.82N×156.07E, h62km±9km, ML4.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.86**	**2**	*i* P	P		19 10 45.1	-0.2
SKR				*i* S	S		19 10 57.5	-0.1
ALID	**Alaid**	**1.10**	**343**	*e*P	P		19 10 49.0	+0.4
ALID				*e*S	S		19 11 03.6	+0.4
PAU	**Pauzhetka**	**1.71**	**16**	*e*P	P		19 10 58.2	+1.2
PAU				*e*S	S		19 11 18.5	+0.6
PAU				Smax				
	2μm,0.5s							
MIPR	**Malaya Ipel'ka**	**2.50**	**10**	*e*P	P		19 11 08.6	+0.6
MIPR				*e*S	S		19 11 38.2	+0.9
GRL	**Gorelyy**	**3.01**	**24**	*e*P	P		19 11 16.7	+1.4
GRL				*e*S	S		19 11 51.3	+1.0
RUS	**Russkaya**	**3.04**	**30**	P	P		19 11 15.7	+0.1
RUS				S	S		19 11 49.1	-1.8
RUS	**Russkaya**	**3.04**	**30**	PN	P		19 11 15.7	+0.1
RUS				S	S		19 11 49.1	-1.8
RUS	**Russkaya**	**3.04**	**30**	*e*P	P		19 11 16.8	+1.2
RUS				*e*S	S		19 11 51.5	+0.6
APC	**Apacha**	**3.18**	**12**	*e*P	P		19 11 19.0	+1.3
APC				*e*S	S		19 11 55.5	+0.9
KRMR	**Karymshinskiy**	**3.28**	**22**	*e*P	P		19 11 20.4	+1.4
PET	**Petropavlovsk**	**3.59**	**26**	P	P		19 11 24.4	+1.0
PET				S	S		19 12 04.8	-0.1
PET	**Petropavlovsk**	**3.59**	**26**	PN	P		19 11 24.4	+1.0
PET				S	S		19 12 04.8	-0.1
PET	**Petropavlovsk**	**3.59**	**26**	*e*PN	P		19 11 24.8	+1.4
PET				*e*S	S		19 12 05.3	+0.4
PET				pmax	pmax			
	comp=Z,43nm,0.6s							
PET				smax				
	comp=E,88nm,0.5s							
PET				smax				
	comp=N,123nm,0.5s							
PET	**Petropavlovsk**	**3.59**	**26**	*e*P	P		19 11 24.3	+0.9
PET				*e*S	S		19 12 04.8	-0.1
UGLR	**Uglovaya**	**3.81**	**26**	*e*P	P		19 11 27.9	+1.5
KOK	**Koryaka**	**3.83**	**24**	*e*P	P		19 11 28.5	+1.8
AVH	**Avacha**	**3.83**	**25**	*e*P	P		19 11 27.9	+1.1
AVH				*e*S	S		19 12 10.6	-0.3
SMAR	**Somma**	**3.85**	**25**	*e*P	P		19 11 28.1	+1.1
SDLR	**Sedlovina**	**3.88**	**26**	*e*P	P		19 11 28.1	+0.6
NLC	**Nalytchevo**	**3.93**	**30**	P	P		19 11 27.3	-0.9
NLC				S	S		19 12 08.9	-4.5
NLC	**Nalytchevo**	**3.93**	**30**	PN	P		19 11 27.3	-0.9
NLC	**Nalytchevo**	**3.93**	**30**	*e*P	P		19 11 28.5	+0.3
NLC				*e*S	S		19 12 11.8	-1.6
GNL	**Ganaly**	**4.05**	**16**	*e*P	P		19 11 30.1	+0.2
GNL				*e*S	S		19 12 15.2	-1.2
SPN	**Mys Shipunski**	**4.11**	**35**	P	P		19 11 30.5	-0.2
SPN				S	S		19 12 15.8	-2.1
SPN	**Mys Shipunski**	**4.11**	**35**	PN	P		19 11 30.5	-0.2
SPN				S	S		19 12 15.8	-2.1
SPN	**Mys Shipunski**	**4.11**	**35**	*e*P	P		19 11 30.9	+0.2
SPN				*e*S	S		19 12 16.3	-1.6
TUMR	**Tumrok**	**6.01**	**23**	*e*P	P		19 11 58.4	+1.3
ESO	**Esso**	**6.32**	**14**	*e*P	P		19 12 01.2	-0.2
KPT	**Kopyto**	**6.65**	**21**	*e*P	P		19 12 05.4	-0.7
KOZ	**Kozyrevsk**	**6.66**	**19**	P	P		19 12 05.5	-0.7
KOZ	**Kozyrevsk**	**6.66**	**19**	*e*P	P		19 12 05.7	-0.5
KOZR	**Kozyr**	**6.67**	**19**	PN	P		19 12 05.5	-0.9
LGNR	**Loginova**	**6.87**	**22**	*e*P	P		19 12 09.6	+0.5
SRDR	**Sredinnyy**	**6.87**	**17**	*e*P	P		19 12 10.0	+0.9
CIRR	**Tsirk**	**6.91**	**22**	*e*P	P		19 12 09.2	-0.5
SVLR	**Shiveluch**	**7.44**	**23**	*e*P	P		19 12 16.1	-0.9
KBTR	**Krutoberegovo**	**7.58**	**30**	P	P		19 12 16.6	-2.4
KBTR	**Krutoberegovo**	**7.58**	**30**	PN	P		19 12 16.6	-2.4
KBTR	**Krutoberegovo**	**7.58**	**30**	*e*P	P		19 12 17.4	-1.6

CSEM ***01*** *19:58:01.3±0.1, 36.15N×53.41E, h2km, ML3.1, Error ellipse: s-maj=3.1km s-min=2.0km az=155.0*
THR ***01*** *19:58:02.0±0.4, 36.18N×53.46E, h14km±7km, ML2.9*
TEH ***01*** *19:58:03.1, 36.16N×53.41E, h3km, Mn3.1*
ISC 01 19:58:02.2±0.6, 36.16N±0.09×53.40E±0.06, h3km, n37, σ1§16/36, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IFIR	**Firoozkooh**	**0.74**	**226**	Pg	**Pg**		**19 58 16.2**	**-0.7**
IFIR	**Firoozkooh**	**0.74**	**226**	Pg	**Pg**		**19 58 16.2**	**-0.7**
IDMV	**Damavand**	**1.25**	**243**	Pg	**Pg**		**19 58 26.0**	**-1.3**
IDMV	**Damavand**	**1.25**	**243**	Pg	**Pg**		**19 58 26.0**	**-1.3**
DAMV	**Damavand**	**1.28**	**246**	*e*PG	**Pg**		**19 58 26.6**	**-1.1**
DAMV				AML	AML		19 58 54.6	
	comp=E,227nm,0.4s							
DAMV				AML	AML		19 58 56.7	
	comp=N,192nm,0.4s							
DAMV	**Damavand**	**1.28**	**246**	*e*Pg	**Pg**		**19 58 26.6**	**-1.1**
	SNR=90							
IAFJ	**Afjeh**	**1.40**	**258**	Pn	**Pn**		**19 58 29.1**	**+0.4**
IAFJ	**Afjeh**	**1.40**	**258**	Pn	**Pn**		**19 58 29.1**	**+0.4**
IVRN	**Varamin**	**1.79**	**230**	Pn	**Pn**		**19 58 35.4**	**+1.1**
IVRN	**Varamin**	**1.79**	**230**	Pn	**Pn**		**19 58 35.4**	**+1.1**
ISFB	**Sefidab**	**2.04**	**208**	Lg			19 59 06.7	
ISFB	**Sefidab**	**2.04**	**208**	Pn	**Pn**		**19 58 37.7**	**-0.1**
ISFB	**Sefidab**	**2.04**	**208**	Pn	**Pn**		**19 58 37.7**	**-0.1**
IMHD	**Mahdasht**	**2.27**	**259**	Pn	**Pn**		**19 58 45.6**	**+4.5**
IMHD	**Mahdasht**	**2.27**	**259**	Pn	**Pn**		**19 58 45.6**	**+4.5**
IQOM	**Qom**	**2.31**	**236**	Pn	**Pn**		**19 58 43.0**	**+1.2**
IQOM	**Qom**	**2.31**	**236**	Pn	**Pn**		**19 58 43.0**	**+1.2**
IGZV	**Gazvin**	**2.58**	**276**	Pn	**Pn**		**19 58 39.5**	**-6.1**
IGZV	**Gazvin**	**2.58**	**276**	Pn	**Pn**		**19 58 39.5**	**-6.1**
IRAZ	**Razeghan**	**2.92**	**256**	Pn	**Pn**		**19 58 53.0**	**+2.5**
IRAZ	**Razeghan**	**2.92**	**256**	Pn	**Pn**		**19 58 53.0**	**+2.5**
ASAO	**Ashtian**	**3.19**	**241**	*e*PN	**Pn**		**19 58 54.9**	**+0.6**
ASAO	**Ashtian**	**3.19**	**241**	*e*Pn	**Pn**		**19 58 54.9**	**+0.6**
	SNR=52							
NASN	**Na'in**	**3.39**	**189**	*e*PN	**Pn**		**19 58 57.1**	**+0.1**
NASN	**Na'in**	**3.39**	**189**	*e*Pn	**Pn**		**19 58 57.1**	**0.0**
	SNR=52							
ISHV	**Shirvan**	**3.71**	**67**	Pn	**Pn**		**19 59 02.6**	**+1.0**
ISHV	**Shirvan**	**3.71**	**67**	Pn	**Pn**		**19 59 02.6**	**+1.0**
ISFR	**Esferayen**	**3.80**	**75**	Pn	**Pn**		**19 59 03.1**	**+0.1**
ISFR	**Esferayen**	**3.80**	**75**	Pn	**Pn**		**19 59 03.1**	**+0.1**
IKRD	**Kardeh**	**4.17**	**80**	Pn	**Pb**		**19 59 17.8**	**+1.8**
IPAY	**Payeh**	**4.53**	**85**	Pn	**Pn**		**19 59 11.8**	**-1.5**
SNGE	**Sanandaj**	**5.05**	**260**	*e*PN	**Pn**		**19 59 20.1**	**-0.5**
SNGE	**Sanandaj**	**5.05**	**260**	*e*Pn	**Pn**		**19 59 20.1**	**-0.5**
	SNR=52							
GRMI	**Germi**	**5.12**	**303**	*e*PN	**Pn**		**19 59 20.8**	**-0.8**
GRMI				AML	AML		20 00 22.1	
	comp=E,7.6nm,0.5s							
GRMI				AML	AML		20 00 23.8	
	comp=N,9.1nm,0.4s							
GRMI	**Germi**	**5.12**	**303**	*e*Pn	**Pn**		**19 59 20.8**	**-0.8**
	SNR=52							
IMYA	**Miamay**	**5.42**	**86**	Pn	**Pn**		**19 59 23.5**	**-2.4**
IMYA	**Miamay**	**5.42**	**86**	Pn	**Pn**		**19 59 23.5**	**-2.4**

CSEM ***01*** *20:04:20.7±1.2, 39.01N×27.99W, ML2.3, Error ellipse: s-maj=3.8km s-min=2.1km az=140.0, After PDA*
PDA ***01*** *20:04:20.7±1.2, 39.01N×27.99W, MD2.9, ML2.3, Error ellipse: s-maj=3.8km s-min=2.1km az=140.0*
SVSA 01 20:04:20.7±1.2, 39.01N×27.99W, MD2.9, ML2.3, Error ellipse: s-maj=3.8km s-min=2.1km az=140.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STGR	**Santa Cruz**	**0.07**	**353**	*i* P	Pg		20 04 21.8	-0.2
STGR				*i* S	Sg		20 04 23.4	+0.5
ROSA	**Rosais**	**0.35**	**214**	*e*P	Pg		20 04 27.3	-0.4
ROSA				*e*S	Sg		20 04 32.1	-0.3
ROSA	**Rosais**	**0.35**	**214**	*e*P	Pg		20 04 27.3	-0.4
ROSA				*e*S	Sg		20 04 32.1	-0.3
PMAN	**Manadas**	**0.39**	**191**	*e*P	Pg		20 04 27.7	-0.7
PMAN				*e*

PICO	**Pico**	**0.61**	**214**	*e*P	Pg	20 04 31.7	-1.2
PICO				*e*S	Sg	20 04 39.7	-1.4
PICO	**Pico**	**0.61**	**214**	*e*P	Pg	20 04 31.7	-1.2
PICO				*e*S	Sg	20 04 39.7	-1.4
PBIS	**Biscoitos**	**0.63**	**113**	*e*P	Pg	20 04 31.8	-1.5
PBIS				*i* S	Sg	20 04 40.5	-1.2
	40nm,0.1s						
PBIS	**Biscoitos**	**0.63**	**113**	*e*P	Pg	20 04 31.8	-1.5
PBIS				*i* S	Sg	20 04 40.5	-1.2
	40nm,0.1s						
PPAD	**Pico dos Padre**	**0.63**	**119**	*i* S	Sg	20 04 40.4	-1.4
	24nm,0.2s						
PCED	**Cedros**	**0.67**	**235**	*e*P	Pg	20 04 32.5	-1.7
PCED				*e*S	Sg	20 04 41.5	-1.6
	83nm,0.5s						
HOR	**Horta**	**0.70**	**226**	*e*rx	Pg	20 04 32.9	-1.7
PVNV	**Vila Nova**	**0.70**	**111**	*e*P	Pg	20 04 33.2	-1.5
PVNV				*i* S	Sg	20 04 42.1	-1.9
	36nm,0.1s						
CALA	**Caldeira**	**0.70**	**232**	*e*P	Pg	20 04 32.8	-1.9
RIB2	**Ribeirinha**	**0.72**	**118**	*e*S	Sg	20 04 42.4	-2.5
	25nm,0.2s						
PSCM	**Serra do Cume**	**0.75**	**114**	*e*S	Sg	20 04 43.5	-2.2
	41nm,0.1s						
PFAV	**Pico das Favas**	**0.77**	**113**	*i* S	Sg	20 04 43.9	-2.5
	34nm,0.2s						

*CSEM **01** 21:19:05.9±0.2,67.19N×20.41E,h2km,ML2.6,Error ellipse: s-maj=4.7km s-min=4.4km az=16.0,Suspected Mining explosion.*
*UPP **01** 21:19:06.6,67.17N×20.70E,h0km,ML2.6,Suspected Mining explosion.*
*HEL **01** 21:19:07.2±0.2,67.17N×20.68E,ML2.6(UPP),Explosion*

ISC 01 21:19:06.3±0.5,67.19N±0.03×20.72E±0.08,n23,σ0§91/30, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.09**	**221**	*i* P	**Pg**	**21 19 07.9**	**-0.2**
DUNU				*i* S	**Sg**	**21 19 09.5**	**+0.1**
DUNU	**Dundret**	**0.09**	**221**	P	**Pg**	**21 19 07.9**	**-0.2**
DUNU				S	**Sg**	**21 19 09.5**	**+0.2**
MASU	**Masugnsbyn**	**0.56**	**61**	*i* P	**Pg**	**21 19 17.2**	**-0.3**
MASU	**Masugnsbyn**	**0.56**	**61**	P	**Pg**	**21 19 17.2**	**-0.3**
KUA	**Kurravaara**	**0.78**	**349**	*i* P	**Pg**	**21 19 21.4**	**-0.5**
KUA				*i* S	**Sg**	**21 19 32.5**	**+0.2**
ERTU	**Ertsjaerv**	**0.86**	**137**	*i* P	**Pg**	**21 19 22.4**	**-1.1**
ERTU	**Ertsjaerv**	**0.86**	**137**	P	**Pg**	**21 19 22.5**	**-1.0**
NIKU	**Nikkaluokta**	**0.94**	**317**	*e*P	**Pg**	**21 19 23.7**	**-1.3**
NIKU	**Nikkaluokta**	**0.94**	**317**	P	**Pg**	**21 19 23.7**	**-1.3**
PAJU	**Pajala**	**0.95**	**99**	*e*P	**Pg**	**21 19 23.9**	**-1.4**
PAJU				*e*S	**Sg**	**21 19 37.5**	**-0.4**
PAJU	**Pajala**	**0.95**	**99**	P	**Pg**	**21 19 23.8**	**-1.4**
PAJU				S	**Sg**	**21 19 37.5**	**-0.4**
SJUU	**Sjulsmark**	**1.73**	**168**	*e*P	**Pn**	**21 19 38.1**	**+0.3**
SJUU	**Sjulsmark**	**1.73**	**168**	P	**Pn**	**21 19 38.0**	**+0.2**
KTK1	**Kautokeino**	**2.06**	**26**	*e*P	**Pn**	**21 19 43.2**	**+0.7**
KTK1	**Kautokeino**	**2.06**	**26**	*e*P	**Pn**	**21 19 43.2**	**+0.7**
SGF	**Sodankyl**	**2.26**	**81**	*e*P	**Pn**	**21 19 46.8**	**+1.3**
SGF				*e*S	**Sn**	**21 20 16.7**	**+2.2**
SGF	**Sodankyl**	**2.26**	**81**	P	**Pn**	**21 19 46.7**	**+1.2**
SGF				S	**Sn**	**21 20 16.7**	**+2.2**
MOR8	**Moi Rana**	**2.70**	**251**	*e*SG	**Sn**	**21 20 26.6**	**+1.0**
MOR8	**Moi Rana**	**2.70**	**251**	Sg	**Sn**	**21 20 26.6**	**+1.0**
KEV	**Kevo**	**3.46**	**39**	*e*S	**Sn**	**21 20 44.8**	**-0.1**
KEV	**Kevo**	**3.46**	**39**	S	**Sn**	**21 20 44.7**	**-0.2**
MSF	**Maaselka**	**3.56**	**107**	*e*SG	**Sg**	**21 20 57.8**	**-7.2**
MSF	**Maaselka**	**3.56**	**107**	Sg	**Sg**	**21 20 57.8**	**-7.2**

*TIR **01** 21:22:39.9,40.04N×19.80E,h8km,Ml2.8*
*CSEM **01** 21:22:40.2±0.1,40.09N×19.73E,h2km,MD3.5,Error ellipse: s-maj=3.3km s-min=2.7km az=57.0*
*ATH **01** 21:22:43.2,39.72N×19.92E,h10km±2km,MD3.5/5*
*NEIC **01** 21:22:43.2,39.72N×19.92E,h10km,MD3.5(ATH),After ATH.*

ISC 01 21:22:40.4±0.6,39.97N±0.04×19.73E±0.07,h10km,n21, σ1§11/27,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.26**	**169**	*e*PG	**Pg**	**21 22 45.6**	**-0.3**
KEK	**Kerkira**	**0.26**	**169**	*e*Pg	**Pg**	**21 22 45.6**	**-0.3**
TPE	**Tepelena**	**0.39**	**33**	*e*Pg	**Pg**	**21 22 46.2**	**-2.1**
TPE				*i* Sg	**Sg**	**21 22 52.3**	**-1.4**
TPE	**Tepelena**	**0.39**	**33**	*e*Pg	**Pg**	**21 22 46.2**	**-2.1**
TPE				*i* Sg	**Sg**	**21 22 52.3**	**-1.4**
VLO	**Vlora**	**0.53**	**340**	*e*Pg	**Pg**	**21 22 49.8**	**-1.3**
VLO	**Vlora**	**0.53**	**340**	*e*Pg	**Pg**	**21 22 49.8**	**-1.3**
JAN	**Janina**	**0.92**	**110**	*e*PB	**Pb**	**21 22 58.2**	**+0.3**
JAN	**Janina**	**0.92**	**110**	*e*Pb	**Pb**	**21 22 58.2**	**+0.3**
TIR	**Tirane**	**1.38**	**4**	*e*Pn	**Pn**	**21 23 06.0**	**+0.2**
TIR				*i* Sg	**Sg**	**21 23 28.0**	**+1.6**
TIR	**Tirane**	**1.38**	**4**	*e*Pn	**Pn**	**21 23 06.0**	**+0.2**
TIR				*i* Sn	**Sg**	**21 23 28.0**	**+1.6**
QSH	**Qafa e Shtames**	**1.56**	**5**	*e*pn?	**Pn**	**21 23 08.4**	**+0.1**
QSH				*i* Sn	**Sn**	**21 23 32.4**	**+3.7**
QSH	**Qafa e Shtames**	**1.56**	**5**	*e*Pn	**Pn**	**21 23 08.4**	**+0.1**
QSH				*i* Sn	**Sn**	**21 23 32.4**	**+3.7**
KZN	**Kozani**	**1.60**	**77**	*e*PN	**Pn**	**21 23 10.4**	**+1.5**
KZN	**Kozani**	**1.60**	**77**	*e*Pn	**Pn**	**21 23 10.4**	**+1.5**
VLS	**Valsamata**	**1.91**	**159**	*e*PG	**Pn**	**21 23 12.9**	**-0.5**
EVR	**Evrytania**	**1.92**	**123**	*e*PB	**Pb**	**21 23 15.5**	**+0.4**
EVR	**Evrytania**	**1.92**	**123**	*e*Pb	**Pb**	**21 23 15.5**	**+0.4**
PE1	**Pezze di Greco**	**1.95**	**296**	*e*Pn	**Pn**	**21 23 15.3**	**+1.4**
SKO	**Skopje**	**2.38**	**32**	*e*Pn	**Pn**	**21 23 20.5**	**+0.4**
SKO	**Skopje**	**2.38**	**32**	*e*Pn	**Pn**	**21 23 20.5**	**+0.4**
SG1	**Sgolgore (BA)**	**2.49**	**291**	*e*Pn	**Pn**	**21 23 20.6**	**-1.0**

MAN 01 21:30:30.0,15.67N×121.51E,h35km,mb3.6,ML2.3, MS1.9,1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.09**	**42**	*e*P	P	21 30 37.0	+1.1
BALP				*e*S	S	21 30 40.9	+0.8
PCPH	**Palayan**	**0.42**	**255**	⇓*e*P	P	21 30 41.1	+1.6
PCPH				*i* S	S	21 30 48.0	+2.0
POLP	**Polilio Island**	**1.03**	**156**	*e*P	P	21 30 48.0	-0.1
POLP				*e*S	S	21 31 01.1	-0.3

*NIED **01** 21:39:00,27.50N×143.20E,h26km,Mw4.3 Best double couple: M_0:2.68×10^15 NP1:ϕ_s26°,δ78°,λ30°. NP2:ϕ_s289°,δ60°,λ166°.*
*BJI **01** 21:39:09.5,27.26N×143.23E,h30km,mB5.0,mb4.2,Ms4.4,Msz4.1*
*NEIC **01** 21:39:11.2±1.9,27.51N×143.52E,h36km±16km,mb4.5/12,MW4.3(NIED),Error ellipse: s-maj=27.1km s-min=12.4km az=76.0*

ISC 01 21:39:03.9±7.0,27.5N±0.1×143.8E±0.2,h4km±43km,n22, σ0§99/22,mb4.6/11,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAJO	**Matsushiro**	**10.14**	**334**	*e*Pn	**P**	**21 41 33.2**	**-0.2**
MAT	**Matsushiro**	**10.14**	**334**	*e*P	**P**	**21 41 33.0**	**-0.4**
	8.9nm,0.7s						
MAT	**Matsushiro**	**10.14**	**334**	P	**P**	**21 41 33.0**	**-0.4**
KS15	**Wonju Array Si**	**16.62**	**310**	*e*P	**P**	**21 43 00.1**	**+0.8**
MDJ	**Mudanjiang**	**20.48**	**330**	*e*P	**P**	**21 43 45.3**	**-0.1**
	14nm,0.7s						
MDJ				*e*		21 43 58.7	
HIA	**Hailar**	**28.50**	**326**	*e*P	**P**	**21 45 05.9**	**+3.7**
	6.7nm,0.6s,mb4.5						
HIA				*e*		21 45 19.1	
ENH	**Enshi**	**30.05**	**283**	P	**P**	**21 45 12.1**	**-4.3**
	3.3nm,0.6s,mb4.2						
ULN	**Ulaanbaatar**	**34.98**	**315**	P	**P**	**21 45 58.8**	**-0.3**
	3.9nm,1.1s,mb4.2						
TLY	**Talaya**	**38.49**	**320**	P	**P**	**21 46 27.1**	**-1.6**
	12nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**48.05**	**192**	*e*P	**P**	**21 47 46.4**	**-0.2**
	25nm,0.8s,mb5.3						
WB2	**Warramunga Arr**	**48.06**	**192**	*e*P	**P**	**21 47 46.8**	**+0.2**
AAK	**Ala-Archa**	**57.15**	**305**	*e*P	**P**	**21 48 54.7**	**+0.6**
	7.5nm,1.4s,mb4.5						
BRVK	**Borovoye**	**58.73**	**317**	*e*P	**P**	**21 49 05.8**	**+0.8**
	3.5nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**59.11**	**182**	*e*P	**P**	**21 49 08.0**	**0.0**
HYB	**Hyderabad**	**60.50**	**275**	*i* P	**P**	**21 49 22.0**	**+4.3**
ARU	**Arti**	**64.93**	**322**	*e*P	**P**	**21 49 45.7**	**-0.8**
	6.2nm,0.6s,mb4.8						
NEW	**Newport**	**75.65**	**43**	P	**P**	**21 50 54.0**	**+2.2**
KAF	**Kangasniemi**	**77.68**	**335**	*e*p	**P**	**21 51 04.4**	**+1.5**
	4.7nm,0.9s,mb4.4						
SUW	**Suwalki**	**84.00**	**329**	P	**P**	**21 51 30.6**	**-5.9**
MALT	**Malatya**	**84.30**	**310**	*e*P	**P**	**21 51 37.6**	**-0.8**
	4.5nm,1.0s,mb4.5						
PV01	**Paradox Valley**	**85.98**	**49**	*e*P	**P**	**21 51 45.0**	**-1.8**
MORC	**Moravsky Berou**	**89.43**	**328**	P	**P**	**21 52 03.0**	**-0.1**
	1.1nm,0.8s,mb4.2						

*TAP **01** 21:39:39.8,24.39N×122.81E,h15km,ML4.2*

JMA 01 21:39:39.7±0.1,24.35N×122.99E,h49km±1km,M3.7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.11**	**10**	P	P	21 39 47.3	-0.1
YOJ				S	S	21 39 52.8	-0.1
IRIF	**Iriomote-Funau**	**0.68**	**91**	P	P	21 39 52.9	-0.2
IRIF				S	S	21 40 02.8	-0.2
HATJ	**Hateruma jima**	**0.80**	**111**	P	P	21 39 54.7	-0.1
HATJ				S	S	21 40 05.6	-0.3
JKRS	**Kuro-shima**	**0.94**	**97**	P	P	21 39 57.0	+0.3
JKRS				S	S	21 40 09.7	+0.4
JIJ	**Ishigaki jima**	**1.05**	**89**	P	P	21 39 58.0	-0.3
JIJ				S	S	21 40 11.3	-0.8
JTJ	**Tarama**	**1.59**	**79**	P	P	21 40 06.0	+0.1
JTJ				S	S	21 40 25.1	-0.3
JMJ	**Miyako jima 2**	**2.15**	**77**	P	P	21 40 14.4	+0.6
JMJ				S	S	21 40 39.1	-0.2
JOGS	**Gusukube**	**2.24**	**79**	P	P	21 40 15.7	+0.6
JOGS				S	S	21 40 42.1	+0.5

*NEIC **01** 21:47:24.8,33.65S×72.61W,h39km,MD3.5(GUC),After GUC.*

GUC 01 21:47:24.8±0.7,33.65S×72.61W,h39km±3km,MD3.5, ML2.6,4C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.88**	**79**	⇑*i*P	P	21 47 40.9	+0.1
LCCH				*i* S	S	21 47 53.5	+0.9
LNV	**Longovilo**	**1.04**	**107**	*e*P	P	21 47 43.2	+0.1
TACH	**Talagante**	**1.39**	**91**	*e*P	P	21 47 49.2	+1.1
TACH				*i* S	S	21 48 07.4	+1.9
SFDO	**San Fernando**	**1.63**	**127**	⇑*i*P	P	21 47 52.2	+0.6
CHCH	**Chadas Angostu**	**1.65**	**100**	*e*P	P	21 47 52.4	+0.6
CACH	**El Canelo**	**1.73**	**106**	⇓*i*P	P	21 47 54.7	+1.7
PCH	**Pirque**	**1.75**	**90**	*i* P	P	21 47 53.4	+0.2
CLCH	**Cerro Calan**	**1.75**	**82**	⇑*i*P	P	21 47 54.2	+1.0
CLCH				*i* S	S	21 48 16.2	+1.8
FCH	**Farellones**	**1.96**	**81**	⇑*i*P	P	21 47 57.4	+1.1
FCH				*i* S	S	21 48 21.8	+2.0
FCH				AMP		21 48 38.1	
	comp=E,70nm,0.4s						

*NEIC **01** 22:20:16.9±1.1,30.47N×141.20E,h40km,mb4.1/5,Error ellipse: s-maj=29.9km s-min=15.3km az=76.0*
*JMA **01** 22:20:18.0±0.2,30.76N×141.43E,h45km,M4.4*

ISC 01 22:20:18.4±0.9,30.71N±0.07×141.3E±0.2,h69km±11km, n22,σ1§14/26,mb4.0/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.70**	**333**	P	**P**	**22 21 00.5**	**-0.1**
JHJ2				*e*S	**S**	**22 21 31.3**	**-0.9**
CBIJ	**Chichi jima**	**3.68**	**167**	P	**P**	**22 21 13.9**	**-0.5**
BSO1	**Boso 1**	**3.94**	**356**	P	**P**	**22 21 17.4**	**-0.6**
BSO3	**Boso 3**	**4.13**	**351**	P	**P**	**22 21 21.0**	**+0.3**
BSO4	**Boso 4**	**4.34**	**350**	P	**P**	**22 21 25.6**	**+2.0**
JOD2	**Odawara 2**	**4.90**	**339**	P	**P**	**22 21 32.0**	**+0.7**
JHMK	**Hamakita**	**5.06**	**325**	P	**P**	**22 21 34.7**	**+1.2**
HMMJ	**Hamamatsu 2**	**5.11**	**325**	P	**P**	**22 21 35.5**	**+1.4**
JHU	**Hanno**	**5.40**	**343**	P	**P**	**22 21 39.2**	**+1.1**
JYT	**Yasato**	**5.58**	**351**	P	**P**	**22 21 40.1**	**-0.6**
JRY	**Ryogami san**	**5.66**	**340**	P	**P**	**22 21 42.9**	**+1.2**
JRY				*e*S	**S**	**22 22 44.8**	**-1.3**
JHO	**Hitachi**	**5.92**	**355**	P	**P**	**22 21 43.6**	**-1.7**
MAJO	**Matsushiro**	**6.36**	**337**	*e*Pn	**P**	**22 21 51.2**	**-0.3**
	11nm,0.4s						
MAT	**Matsushiro**	**6.36**	**337**	*e*P	**P**	**22 21 52.0**	**+0.5**
MAT				*e*S	**S**	**22 23 03.0**	**-0.5**
MAT	**Matsushiro**	**6.36**	**337**	P	**P**	**22 21 51.8**	**+0.3**
MAT				S	**S**	**22 23 03.0**	**-0.5**
JMK	**Ichinoseki**	**8.23**	**360**	P	**P**	**22 22 14.7**	**-2.6**
HIA	**Hailar**	**24.67**	**325**	*e*P	**P**	**22 25 34.3**	**+0.4**
	3.5nm,0.6s,mb4.0						
ENH	**Enshi**	**27.35**	**277**	P	**P**	**22 25 57.8**	**-1.2**
	4.3nm,0.7s,mb4.1						
ULN	**Ulaanbaatar**	**31.22**	**313**	P	**P**	**22 26 33.0**	**-0.2**
	0.8nm,0.6s,mb3.6						
WRAB	**Tennant Creek**	**50.78**	**188**	*e*P	**P**	**22 29 12.5**	**-1.4**
MALT	**Malatya**	**80.62**	**309**	*e*P	**P**	**22 32 28.4**	**+3.3**
	1.4nm,0.9s,mb3.8						
WMOK	**Wichita Mounta**	**93.78**	**46**	*e*P	**P**	**22 33 30.3**	**+1.2**
	6.1nm,1.5s,mb4.7						

*MOS **01** 22:23:15.3±1.1,7.26N×92.93E,h35km,mb5.0/15,Error ellipse: s-maj=15.6km s-min=7.5km az=113.1*
*BJI **01** 22:23:16.2,6.86N×92.87E,h64km,mB5.2,mb4.8,Ms5.4,Msz5.1*
*NEIC **01** 22:23:19.0±1.7,7.14N×92.70E,h49km±14km,mb4.9/64,Error ellipse: s-maj=8.4km s-min=5.1km az=50.0*
*HRVD **01** 22:23:19.0±0.4,7.12N×92.56E,h12km,MW5.1/44,Centroid moment Tensor Solution. LP body waves: s24,c31;Mantle waves: s44,c71; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}3.66±.20; $M_{\theta\theta}$-2.31±.16; $M_{\phi\phi}$-1.36±.20; $M_{r\theta}$-0.98±.55; $M_{\theta\phi}$2.14±.15; $M_{\phi r}$-4.52±.54; Best double couple: $M_0$5.792×10^16 NP1:ϕ_s290°,δ33°,λ38°. NP2:ϕ_s167°,δ70°,λ117°. Principal axes: T 6.71, Plg56°, Azm112°; N -1.908, Plg26°, Azm337°; P -4.843, Plg21°, Azm236°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 22:23:15.3±0.2,7.13N±0.04×92.81E±0.04,h33km, h33km±3.2km:pP-P,n194,σ1§13/188,mb4.9/76,MS5.1/4, 10C-9D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.75**	**89**	P	**P**	**22 25 11.0**	**+2.5**
	200nm,1.0s						
CM31	**Chiang Mai Arr**	**12.75**	**27**	*e*P	**P**	**22 26 20.5**	**+3.5**
	94nm,0.9s						
CHG	**Chiang Mai**	**13.06**	**27**	⇓P	**P**	**22 26 24.9**	**+3.7**
	22nm,0.8s						
KKTK	**Khon Kaen**	**13.41**	**46**	P	**P**	**22 26 37.0**	**+11**
	278nm,0.7s						
MDRS	**Chennai**	**13.70**	**297**	*e*	**P**	**22 26 27.0**	**-2.6**
MDRS				*e*		22 28 31.0	
NANT	**Nan**	**13.91**	**33**	P	**P**	**22 26 41.0**	**+8.5**
VIS	**Vishakhapatnam**	**14.01**	**320**	*e*P	**P**	**22 26 30.3**	**-3.4**
VIS				*e*		22 26 34.0	
	comp=Z,52nm,0.3s						
VIS				*e*		22 28 55.3	
UBT	**Ubonrachathani**	**14.44**	**55**	P	**P**	**22 26 48.0**	**+8.7**
BWNR	**Bhubaneshwar**	**14.74**	**333**	*e*P	**P**	**22 26 37.8**	**-5.6**
BWNR				*e*		22 26 41.5	
	comp=Z,27nm,0.5s						
BWNR				*e*		22 29 09.3	
KOD	**Kodaikanal**	**15.47**	**283**	*e*P	**P**	**22 26 54.0**	**+1.1**
TRD	**Trivandrum**	**15.76**	**276**	*e*	**P**	**22 26 54.0**	**-2.5**
TRD				*i*		22 30 02.3	
AGT	**Agartala**	**16.73**	**355**	*e*P	**P**	**22 27 09.0**	**+0.3**
HYB	**Hyderabad**	**17.26**	**308**	*i* P	**P**	**22 27 15.5**	**0.0**
HYB				*e*S	**S**	**22 30 27.5**	**+2.7**
IMP	**Imphal**	**17.59**	**3**	*e*P	**P**	**22 27 18.3**	**-1.2**
SHL	**Shillong**	**18.36**	**357**	*e*	**P**	**22 27 20.0**	**-9.2**
SHL				*e*		22 31 32.0	
NGP	**Nagpur**	**19.27**	**318**	*e*P	**P**	**22 27 42.1**	**+2.1**
NGP				*e*	**S**	**22 31 18.0**	**+7.9**
LATR	**Latur**	**19.39**	**307**	*e*P	**P**	**22 27 42.0**	**+0.6**
QIZ	**Qiongzhong**	**20.36**	**53**	P	**P**	**22 27 50.0**	**-1.7**
QIZ				S	**S**	**22 31 31.7**	**-1.3**
QIZ				LR	LR		
	comp=N,8μm,13.2s						
QIZ				LR	LR		
	comp=Z,7μm,13.4s,MS5.2						
QIZ	**Qiongzhong**	**20.36**	**53**	*e*P	**P**	**22 27 52.5**	**+0.8**
	comp=Z,141nm,1.3s						
KAD	**Karad**	**20.80**	**301**	*e*P	**P**	**22 27 57.2**	**+0.9**
KAD				*e*		22 32 29.4	
PKI	**Pulchoki**	**21.51**	**342**	*e*P	**P**	**22 28 03.8**	**+0.4**
	comp=Z,195nm,1.0s,mb5.5						
DMN	**Daman**	**21.64**	**341**	*e*P	**P**	**22 28 05.3**	**+0.6**
GUN	**Gumba**	**21.69**	**343**	*e*P	**P**	**22 28 05.8**	**+0.6**
	comp=Z,198nm,0.8s,mb5.6						
KKN	**Kakani**	**21.75**	**342**	*e*P	**P**	**22 28 06.4**	**+0.5**
	comp=Z,117nm,0.8s,mb5.3						
BHPL	**Bhopal**	**21.80**	**319**	*e*P	**P**	**22 28 07.8**	**+1.4**
BHPL				*e*		22 28 08.7	
	comp=Z,29nm,0.6s						
BHPL				*e*S	**S**	**22 32 06.5**	**+6.1**
GKN	**Gorkha**	**22.16**	**341**	*e*P	**P**	**22 28 10.6**	**+0.7**
	comp=Z,90nm,0.6s,mb5.4						
KOLN	**Koldanda**	**22.31**	**338**	*e*P	**P**	**22 28 12.3**	**+0.9**
	comp=Z,130nm,0.9s,mb5.4						
LSA	**Lhasa**	**22.51**	**356**	*e*P	**P**	**22 28 15.5**	**+2.1**
LSA				LR	LR		
	comp=N,2μm,13.0s,MS4.9						
LSA				LR	LR		
	comp=E,2μm,13.0s,MS4.9						
LSA				LR	LR		
	comp=Z,3μm,13.5s,MS4.9						
LSA	**Lhasa**	**22.51**	**356**	*e*P	**P**	**22 28 15.0**	**+1.6**
	comp=Z,30nm,0.6s,mb4.9						
BOM	**Bombay**	**22.69**	**303**	*e*S	**S**	**22 32 20.9**	**+4.1**
NDI	**New Delhi**	**26.01**	**327**	*e*P	**P**	**22 28 46.0**	**-1.2**
NDI				*e*		22 33 47.0	
DDI	**Dehra Dun**	**26.91**	**331**	*e*P	**P**	**22 28 56.8**	**+1.3**
DDI				*e*		22 33 57.4	
ENH	**Enshi**	**27.85**	**32**	*e*P	**P**	**22 29 02.6**	**-1.4**
	comp=Z,17nm,0.7s,mb4.8						
LZH	**Lanzhou**	**30.54**	**18**	*e*P	**P**	**22 29 25.0**	**-3.0**
LZH				PP	PP	22 30 28.5	0.0
LZH				*e*S	**S**	**22 34 28.0**	**+1.9**
LZH				SS	SS	22 36 15.0	+7.1
LZH				AMB	AMB		
	comp=Z,98nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,486nm,5.3s						
LZH				LR	LR		
	comp=E,7μm,13.9s						
LZH				LR	LR		
	comp=Z,17μm,18.5s,MS5.7						
XAN	**Xi'an**	**30.64**	**27**	P	**P**	**22 29 28.0**	**-0.9**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
NJ2	**Nanjing**	**34.70**	**41**	*e*P	**P**	**22 30 04.1**	**0.0**
NJ2				AP	pP	22 30 17.7	+3.8
NJ2				PP	PP	22 31 21.4	-0.1
NJ2				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,640nm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,14.2s						
NJ2				LR	LR		
	comp=Z,1μm,15.2s,MS4.7						
SSE	**Sheshan**	**35.68**	**44**	P	**P**	**22 30 09.2**	**-3.3**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,209nm,8.5s						
WMQ	**Urumqi**	**36.82**	**354**	*e*P	**P**	**22 30 23.0**	**+1.0**
UCH	**Uchtor**	**38.52**	**338**	P	**P**	**22 30 38.3**	**+2.0**
	SNR=24						
MBWA	**Marble Bar**	**38.59**	**137**	*e*P	**P**	**22 30 36.1**	**-0.9**
	comp=Z,35nm,1.1s,mb5.0						
KBK	**Karagaybulak**	**38.74**	**339**	P	**P**	**22 30 39.4**	**+1.3**
	SNR=40						
TKM2	**Tokmak 2**	**38.74**	**340**	P	**P**	**22 30 38.5**	**+0.4**
	SNR=13						
AML	**Almayashu**	**38.75**	**337**	P	**P**	**22 30 39.7**	**+1.5**
	SNR=26						
BJT	**Baijiatuau**	**38.87**	**29**	*e*P	**P**	**22 30 39.8**	**+0.6**
	comp=Z,13nm,0.8s,mb4.7						
AAK	**Ala-Archa**	**38.88**	**338**	P	**P**	**22 30 40.8**	**+1.6**
	SNR=13						
AAK	**Ala-Archa**	**38.88**	**338**	⇓*i*P	**P**	**22 30 36.2**	**-3.1**
AAK				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
AAK	**Ala-Archa**	**38.88**	**338**	*e*P	**P**	**22 30 39.4**	**+0.2**
	comp=Z,43nm,1.2s,mb5.1						
FRU	**Bishkek**	**39.01**	**339**	*e*P	**P**	**22 30 41.5**	**+1.2**
FRU				pmax	pmax		
	comp=Z,166nm,2.5s,mb5.3						
CHMS	**Chumysh**	**39.11**	**339**	P	**P**	**22 30 42.4**	**+1.2**
	SNR=12						
EKS2	**Erkin-Say**	**39.17**	**338**	P	**P**	**22 30 43.7**	**+2.1**
	SNR=28						
USP	**Ospenovka**	**39.43**	**339**	P	**P**	**22 30 44.4**	**+0.6**
	SNR=36						
FITZ	**Fitzroy Crossi**	**40.97**	**128**	*e*P	**P**	**22 30 56.5**	**-0.3**
	comp=Z,23nm,0.5s,mb5.1						
ULN	**Ulaanbaatar**	**42.37**	**14**	⇓*i*P	**P**	**22 31 05.2**	**-2.9**
ULN	**Ulaanbaatar**	**42.37**	**14**	*e*P	**P**	**22 31 08.7**	**+0.6**
	comp=Z,2.4nm,0.8s,mb3.9						
KS15	**Wonju Array Si**	**43.86**	**41**	P	**P**	**22 31 20.5**	**+0.1**
ZAK	**Zakamensk**	**43.99**	**10**	*e*P	**P**	**22 31 19.0**	**-2.2**
KAKA	**Kakadu**	**44.04**	**116**	*e*P	**P**	**22 31 21.5

YSS	Yuzh-Sakhalins	58.18	38	P	P	22 33 08.8	+0.4
EIL	Elat	58.65	300	eP	P	22 33 11.4	-0.5
	comp=Z,9.9nm,1.0s,mb4.8						
SOC	Sochi	58.82	317	eP	P	22 33 10.2	-2.7
SOC				ePPP	PPP	22 36 47.0	-2.0
SOC				eS	S	22 41 15.1	+0.9
SOC				eSS	SS	22 45 06.2	-3.2
SOC				pmax	pmax		
	comp=Z,24nm,2.1s,mb4.9						
SOC				pmax	pmax		
	comp=N,27nm,1.5s						
SOC				pmax	pmax		
	comp=E,6.0nm,1.1s						
SOC				pmax	pmax		
	comp=E,83nm,0.2s						
CTA	Charters Tower	59.11	118	eP	P	22 33 15.7	+0.5
	comp=E,16nm,1.0s,mb5.0						
CTAO	Charters Tower	59.11	118	eP	P	22 33 15.3	+0.1
	comp=E,46nm,1.2s,mb5.4						
STKA	Stephens Creek	60.56	133	eP	P	22 33 25.0	-0.1
	comp=E,25nm,0.6s,mb5.5						
YAK	Yakutsk	61.12	19	eP	P	22 33 26.2	-2.2
YAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
YAK	Yakutsk	61.12	19	eP	P	22 33 27.9	-0.5
	comp=Z,16nm,0.8s,mb5.2						
ISP	Isparta	63.86	309	eP	P	22 33 44.4	-2.6
MOS	Moscow	65.03	329	eP	P	22 33 51.6	-2.7
MOS				e		22 34 31.8	
OBN	Obninsk	65.31	328	⇓iP	P	22 33 52.7	-3.4
OBN				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0						
OBN	Obninsk	65.31	328	eP	P	22 33 54.4	-1.7
	comp=Z,71nm,1.6s,mb5.5						
TOO	Toolangi	66.22	136	eP	P	22 34 04.3	+2.1
	comp=Z,7.2nm,1.0s,mb4.7						
SANT	Santorini	67.59	306	eP	P	22 34 09.2	-1.6
	comp=Z,20nm,0.9s,mb5.1						
LSZ	Lusaka	67.77	250	eP	P	22 34 12.2	-0.1
	comp=Z,20nm,1.4s,mb5.0						
MA2	Magadan	68.04	28	⇑iP	P	22 34 12.0	-1.2
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MA2	Magadan	68.04	28	eP	P	22 34 13.2	0.0
	comp=Z,32nm,0.9s,mb5.3						
TIXI	Tiksi	68.22	12	⇑iP	P	22 34 13.4	-0.8
TIXI				pmax	pmax		
	comp=Z,49nm,1.2s,mb5.4						
KWP	Kalwaria	71.74	320	eP	P	22 34 35.7	-0.3
KWP	Kalwaria	71.74	320	eP	P	22 34 35.7	-0.3
KWP	Kalwaria	71.74	320	eP	P	22 34 35.7	-0.3
SUW	Suwalki	72.34	325	eP	P	22 34 38.6	-0.8
SUW	Suwalki	72.34	325	eP	P	22 34 38.6	-0.8
	comp=Z,1.1nm,1.0s						
SUW	Suwalki	72.34	325	eP	P	22 34 38.6	-0.8
CRVS	Cervenica-Dubn	72.42	319	iP	P	22 34 40.1	+0.1
LBTB	Lobatse	72.72	241	eP	P	22 34 42.6	+0.2
	comp=Z,40nm,1.4s,mb5.2						
KAF	Kangasniemi	72.85	333	ep	P	22 34 41.2	-1.2
	comp=Z,8.6nm,0.9s,mb4.7						
KAF	Kangasniemi	72.85	333	eP	P	22 34 41.2	-1.2
KAF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
NIE	Niedzica	73.25	319	eP	P	22 34 45.9	+1.0
PSZ	Piszkesteto	73.30	318	eP	P	22 34 44.0	-1.3
	comp=Z,14nm,1.3s,mb4.7						
OJC	Ojcow	73.69	320	eP	P	22 34 47.7	+0.2
OJC	Ojcow	73.69	320	eP	P	22 34 47.7	+0.2
OJC	Ojcow	73.69	320	eP	P	22 34 47.7	+0.2
OJC	Ojcow	73.69	320	eP	P	22 34 47.7	+0.2
BOSA	Boshof	74.07	238	eP	P	22 34 50.6	+0.5
	comp=Z,14nm,0.7s,mb5.0						
BOSA				e	pP	22 34 59.8	-0.8
VYHS	Vyhne	74.08	318	iP	P	22 34 50.0	+0.2
CASY	Casey	74.35	173	eP	P	22 34 52.3	+1.2
	comp=Z,35nm,1.2s,mb5.2						
OKC	Ostrava-Krasne	74.70	320	eP	P	22 34 53.7	+0.4
MORC	Moravsky Berou	75.08	320	eP	P	22 34 55.6	0.0
	comp=Z,6.1nm,0.9s,mb4.5						
KEV	Kevo	75.10	341	ep	P	22 34 54.4	-0.9
ZST	Bratislava	75.19	318	iP	P	22 34 56.3	+0.1
DPC	Dobruska-Polom	75.92	320	eP	P	22 35 01.0	+0.6
DPC				epP	pP	22 35 10.7	-0.1
KSP	Ksiaz	75.99	321	eP	P	22 35 00.9	+0.2
KSP				epP	pP	22 35 10.6	-0.5
KSP	Ksiaz	75.99	321	eP	P	22 35 01.2	+0.5
UPC	Upice	76.14	320	eP	P	22 35 01.8	+0.2
PERS	Pernice	76.40	316	iP	P	22 35 03.9	+0.7
PRU	Pruhonice	77.03	320	eP	P	22 35 07.1	+0.4
PRU				epP	pP	22 35 23.6	+6.5
PVCC	Panska Ves	77.06	320	eP	P	22 35 07.4	+0.6
BILL	Bilibino	77.27	22	⇑iP	P	22 35 05.5	-2.1
BILL				pmax	pmax		
	comp=Z,21nm,1.7s,mb4.8						
BILL	Bilibino	77.27	22	eP	P	22 35 08.0	+0.4
	comp=Z,9.5nm,0.9s,mb4.7						
BRG	Berggiesshubel	77.48	320	iP	P	22 35 09.8	+0.7
BRG				i	pP	22 35 19.9	+0.3
BRG				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
BRG	Berggiesshubel	77.48	320	iP	P	22 35 09.8	+0.7
	comp=Z,10nm,1.2s,mb4.6						
BRG				i	pP	22 35 19.9	+0.3
GEC2	GERESS Array S	77.50	318	eP	P	22 35 09.8	+0.5
GEC2				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
GEC2	GERESS Array S	77.50	318	eP	P	22 35 09.8	+0.5
	comp=Z,8.0nm,0.8s,mb4.7						
MAW	Mawson	77.54	191	P	P	22 35 09.4	+0.3
	comp=Z,4.0nm,0.7s,mb4.5						
KHC	Kasperske Hory	77.60	319	⇑iP	P	22 35 07.1	-2.7
KHC	Kasperske Hory	77.60	319	eP	P	22 35 10.0	+0.2
RUE	Ruedersdorf	77.70	322	eP	P	22 35 10.8	+0.4
	comp=Z,18nm,0.8s,mb5.1						
WET	Wettzell	78.06	319	eP	P	22 35 12.9	+0.6
CLL	Collm	78.10	321	eP	P	22 35 12.0	-0.5
CLL				e		22 35 32.0	
CLL	Collm	78.10	321	P	P	22 35 12.0	-0.5
CLL				e*PP	pP	22 35 32.0	+9.0
NKC	Novy Kostel	78.39	320	eP	P	22 35 14.6	+0.5
NKC				epP	pP	22 35 25.1	+0.5
WTTA	Wattenberg	78.81	317	⇑iP	P	22 35 15.9	-0.6
	comp=Z,14nm,0.7s,mb5.0						
WATA	Walderalm	78.86	317	⇓iP	P	22 35 16.0	-0.8
	comp=Z,5.4nm,0.9s,mb4.5						
MOX	Moxa	78.94	320	eP	P	22 35 17.4	+0.2
MOX	Moxa	78.94	320	iP	P	22 35 17.4	+0.2
SQTA	Sankt Quirin	79.10	317	⇑iP	P	22 35 17.6	-0.5
	comp=Z,7.1nm,0.9s,mb4.6						
GRA1	Grafenberg Arr	79.16	319	eP	P	22 35 19.4	+1.0
	comp=Z,12nm,0.7s,mb4.9						
GRF	Grafenberg Arr	79.16	319	eP	P	22 35 19.4	+1.0
GRF				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
GRF	Grafenberg Arr	79.16	319	eP	P	22 35 19.4	+1.0
	comp=Z,12nm,0.7s,mb4.9						
MOTA	Moosalm	79.18	317	⇑iP	P	22 35 17.5	-1.0
	comp=Z,6.5nm,0.9s,mb4.6						
NB2	NORSAR Subarra	79.73	331	P	P	22 35 20.9	-0.3
	comp=Z,2.0nm,0.7s,mb4.2,baz=96,slow=5.0						
CLZ	Clausthal	79.76	321	eP	P	22 35 22.4	+0.8
	comp=Z,6.0nm,0.8s,mb4.6						
BSEG	Bad Segeberg	79.86	323	eP	P	22 35 22.7	+0.7
DAVA	Damuels	80.01	317	⇑iP	P	22 35 22.8	-0.2
	comp=Z,17nm,1.1s,mb4.9						
PGF	Pioggiola	80.67	312	eP	P	22 35 25.7	-0.9
	comp=Z,93nm,1.6s,mb5.2						
BFO	Black Forest	81.05	318	eP	P	22 35 28.6	+0.1
BFO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BFO	Black Forest	81.05	318	eP	P	22 35 28.6	+0.1
	comp=Z,3.0nm,0.8s,mb4.3						
CDF	Champ du Feu	81.75	318	eP	P	22 35 31.1	-1.1
SBF	Sospel	81.78	313	eP	P	22 35 31.7	-0.7
	comp=Z,40nm,0.7s,mb5.2						
LPG	La Plagne	82.20	315	eP	P	22 35 34.3	-0.2
	comp=Z,27nm,0.9s,mb4.9						
MBDF	Montbardon	82.22	314	eP	P	22 35 33.4	-1.2
	comp=Z,12nm,0.9s,mb4.5						
BNI	Bardonecchia	82.27	314	eP	P	22 35 34.5	-0.4
	comp=Z,14nm,1.0s,mb4.8						
HAU	Haudompre	82.39	317	eP	P	22 35 35.0	-0.4
	comp=Z,19nm,0.9s,mb4.7						
BAIF	Baives	83.69	320	eP	P	22 35 40.7	-1.3
	comp=Z,12nm,0.9s,mb4.7						
SSF	Saint Saulge	84.36	317	eP	P	22 35 44.3	-1.2
	comp=Z,26nm,1.4s,mb4.9						
BGF	Bois d'Agland	84.86	316	eP	P	22 35 47.2	-0.8
RJF	Les Rejaudoux	85.90	315	eP	P	22 35 52.3	-0.8
FLN	La Foliniere	86.86	319	eP	P	22 35 56.8	-1.0
ETSF	Etsaut	87.66	313	eP	P	22 36 00.7	-1.1
ESLA	Sonseca Array	90.68	310	eP	P	22 36 16.9	+0.7
	comp=Z,2.7nm,1.0s,mb4.5						
VNDA	Vanda	92.47	168	eP	P	22 36 23.9	+0.3
	comp=Z,0.4nm,0.5s,mb4.0						
IMA	Indian Mountai	92.81	22	eP	P	22 36 27.4	+2.0
	comp=Z,34nm,1.0s,mb5.7						
SBA	Scott Base	93.57	168	P	P	22 36 29.6	+1.0
MCK	McKinley	95.66	23	eP	P	22 36 39.4	+1.0
	comp=Z,3.8nm,1.1s,mb4.7						
DBIC	Dimbokro	96.73	278	eP	P	22 36 46.1	+1.6
	comp=Z,4.2nm,0.9s,mb4.9						
VNA2	Neumayer--Watz	100.03	199	⇓iP	P	22 36 55.6	-2.5
MSO	Missoula	121.26	21	ePKPdf	PKPdf	22 42 06.9	+1.8
MOD	Modoc	122.58	29	ePKPdf	PKPdf	22 42 11.0	+3.1
WVOR	Wild Horse Val	122.95	27	ePKPdf	PKPdf	22 42 10.8	+2.2
TPAW	Teton Pass	125.21	21	ePKPdf	PKPdf	22 42 16.1	+3.2
LOHW	Long Hollow	125.22	21	ePKPdf	PKPdf	22 42 14.4	+1.5
SNOW	Snow King Moun	125.30	21	ePKPdf	PKPdf	22 42 16.5	+3.5
TRCR	Troy Canyon	127.61	28	ePKPdf	PKPdf	22 42 21.8	+4.1
MSU	Marysvale	129.00	25	ePKPdf	PKPdf	22 42 24.3	+3.9
ANMO	Albuquerque	134.37	22	⇓iPKIKP	PKPdf	22 42 33.3	+2.7
ANMO	Albuquerque	134.37	22	ePKPdf	PKPdf	22 42 33.7	+3.1
TUC	Tucson	134.79	29	ePKPdf	PKPdf	22 42 34.9	+3.4
MNTX	Cornudas Mount	137.66	23	ePKPdf	PKPdf	22 42 39.7	+2.9
JCT	Junction City	140.70	17	ePKPdf	PKPdf	22 42 45.3	+3.0
OTAV	Otavalo	168.62	310	ePKPdf	PKPdf	22 43 21.8	+2.4

BJI ***01*** *22:28:12.8, 7.11N×92.61E, h17km, mB5.7, mb5.1, Ms5.7, Msz5.4*

GUC ***01*** *22:28:13.8±0.0, 7.19N×92.77E, h10km, mb5.4(NEIC), MS5.4(NEIC), MW5.5(NEIC)*

HRVD ***01*** *22:28:13.8±0.2, 7.02N×92.61E, h12km, MW5.5/63, Centroid moment Tensor Solution. LP body waves: s41,c71;Mantle waves: s63,c136; Half duration: 1s4 Moment tensor: Scale 1017Nm; Mrr1.62±.03; Mθθ-0.70±.03; Mφφ-0.91±.03; Mrθ0.23±.08; Mθφ0.91±.02; Mφr-1.41±.08; Best double couple: M0:2.198×1017 NP1: φs301°, δ30°, λ57°. NP2:φs158°, δ66°, λ107°. Principal axes: T 2.257, Plg65°, Azm98°; N -.118, Plg16°, Azm331°; P -2.139, Plg19°, Azm235°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***01*** *22:28:13.8±0.2, 7.19N×92.77E, h10km, mb5.4/100, MS5.4/36, MW5.5 Error ellipse: s-maj=7.3km s-min=4.7km az=217.0, Moment Tensor Solution. s15 Moment tensor: Scale 1017Nm; Mrr1.78; Mθθ-0.28; Mφφ-1.49; Mrθ0.03; Mθφ0.52; Mφr0.00; Best double couple: M0:1.7×1017 NP1: φs341°, δ45°, λ91°. NP2:φs159°, δ45°, λ89°. Principal axes: T 1.78, Plg89°, Azm349°; N -.1, Plg1°, Azm160°; P -1.68, Plg0°, Azm250°;*

MOS ***01*** *22:28:15.2±1.1, 7.10N×92.77E, h33km, mb5.7/23, MS5.3/15 Error ellipse: s-maj=13.5km s-min=6.7km az=114.5*

ISC 01 22:28:14.1±0.2, 7.08N±0.04×92.79E±0.03, h24km, h24km±.9km: pP-P, n393, σ1°25/367, mb5.4/126, MS5.4/53, 17C-17D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	Songkhla	7.77	89	P	Pn	22 30 10.0	+1.3
	242nm,1.0s						
CM31	Chiang Mai Arr	12.80	27	eP	P	22 31 09.7	-7.9
	170nm,0.8s						
CM31				e		22 31 20.8	
CHG	Chiang Mai	13.11	27	⇓P	P	22 31 25.8	+4.1
	72nm,0.8s						
KKTK	Khon Kaen	13.46	46	P	P	22 31 35.0	+8.8
	340nm,0.5s						
NANT	Nan	13.96	33	P	P	22 31 30.0	-3.0
VIS	Vishakhapatnam	14.04	320	eP	P	22 31 31.8	-2.2
UBT	Ubonrachathani	14.48	55	P	P	22 31 35.5	-4.3
BWNR	Bhubaneshwar	14.78	333	e	P	22 31 35.0	-8.7
BWNR				e		22 33 30.0	
	81nm,0.4s						
KOD	Kodaikanal	15.47	283	eP	P	22 31 52.3	-0.4
KOD				e		22 32 12.2	
	comp=Z,377nm,1.8s						
TRD	Trivandrum	15.75	276	eP	P	22 31 58.2	+1.9
TRD				e		22 32 04.7	
	comp=Z,120nm,0.6s						
TRD				eS	S	22 34 51.6	+1.4
HYB	Hyderabad	17.28	308	iP	P	22 32 19.0	+3.3
	comp=Z,475nm,1.4s						
HYB				eS	S	22 35 31.0	+5.6
BLSP	Bilaspur	18.15	327	eP	P	22 32 29.0	+2.4
SHL	Shillong	18.41	357	eP	P	22 32 29.7	0.0
SHL				eS	S	22 36 00.5	+9.5
MNGI	Mangalore	18.62	290	eP	P	22 32 33.0	+0.7
MNGI				eS	S	22 36 04.4	+8.6
GOA	Goa	20.37	296	eP	P	22 32 50.8	-1.2
GOA				e		22 33 10.2	
	comp=Z,262nm,1.9s						
QIZ	Qiongzhong	20.40	53	eP	P	22 32 53.6	+1.4
QIZ				XP		22 33 00.0	
QIZ				S	S	22 36 36.6	+2.2
QIZ				LR	LR		
	comp=N,17μm,12.9s						
QIZ				LR	LR		
	comp=Z,22μm,11.9s,MS5.7						
QIZ	Qiongzhong	20.40	53	eP	P	22 32 53.5	+1.2
	comp=Z,458nm,1.4s						
PKI	Pulchoki	21.55	342	eP	P	22 33 06.3	+2.4
	comp=Z,822nm,0.8s,mb6.2						
POO	Poona	21.66	303	eP	P	22 33 05.8	+0.7
POO				e		22 33 18.1	
	comp=Z,214nm,1.1s						
POO				e		22 36 35.2	
DMN	Daman	21.68	341	eP	P	22 33 07.4	+2.2
	comp=Z,1μm,1.3s,mb6.2						
GUN	Gumba	21.73	343	eP	P	22 33 09.1	+3.4
	comp=Z,490nm,0.7s,mb6.1						
KKN	Kakani	21.79	342	eP	P	22 33 08.5	+2.1
	comp=Z,557nm,0.9s,mb6.0						
BHPL	Bhopal	21.83	319	eP	P	22 33 06.1	-0.7
BHPL				e		22 33 18.1	
	comp=Z,182nm,1.2s						
GKN	Gorkha	22.20	341	eP	P	22 33 12.0	+1.6
	comp=Z,419nm,0.8s,mb5.9						
KOLN	Koldanda	22.35	338	eP	P	22 33 13.5	+1.6
	comp=Z,262nm,0.7s,mb5.8						
LSA	Lhasa	22.55	356	P	P	22 33 15.4	+1.4
LSA				XP		22 33 28.6	
LSA				S	S	22 37 17.3	+2.2
LSA				LR	LR		
	comp=N,5μm,14.6s,MS5.4						
LSA				LR	LR		
	comp=E,9μm,14.0s,MS5.4						
LSA				LR	LR		
	comp=Z,5μm,14.6s,MS5.1						
LSA	Lhasa	22.55	356	eP	P	22 33 04.4	-10
	comp=Z,146nm,0.8s,mb5.5						
LSA				e		22 33 16.9	
LSA				LR	LR		
	comp=Z,6μm,20.0s,MS5.0						
BOM	Bombay	22.70	303	eP	P	22 33 17.4	+1.9
BOM				e		22 33 29.1	
	comp=Z,431nm,1.6s						
BOM				eS	S	22 37 29.6	+12
BATP	Bataraza	24.83	84	eP	P	22 33 39.1	+2.8
DGAR	Diego Garcia	24.87	235	P	P	22 33 37.8	+1.1
	comp=Z,67nm,0.9s,mb5.2						
HKC	Hong Kong	25.57	51	P	P	22 33 48.0	+4.8
HKC				S	S	22 38 22.0	+15
PPR	Puerto Princes	25.80	82	eP	P	22 33 49.2	+3.8
NDI	New Delhi	26.04	328	eP	P	22 33 49.1	+1.6
NDI				e		22 34 01.2	
	comp=Z,123nm,2.1s						
NDI				eS	S	22 38 18.3	+3.5
ENPP	El Nido	26.61	79	eP	P	22 33 57.8	+4.9
ENH	Enshi	27.90	32	eP	P	22 34 01.9	-2.5
	comp=Z,93nm,1.0s,mb5.4						
ENH				LR	LR		
	comp=Z,13μm,19.0s,MS5.5						
SMLA	Simla	28.04	331	e	P	22 34 18.7	+13
SMLA				e	pP	22 34 26.3	+13
	comp=Z,85nm,1.8s						
BHK	Bhakra	28.64	330	e	P	22 34 29.0	+18
BCPH	Baguio City Da	28.71	69	⇓iP	P	22 34 13.3	+1.4
QZH	Quanzhou	30.40	51	eP	P	22 34 28.8	+1.8
QZH				LR	LR		
	comp=N,11μm,12.3s,MS6.0						
QZH				LR	LR		
	comp=E,16μm,13.0s,MS6.0						
QZH				LR	LR		
	comp=Z,29μm,16.2s,MS6.0						
XAN	Xi'an	30.69	27	P	P	22 34 26.9	-2.5
XAN				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.8						
XAN				LR	LR		
	comp=N,2μm,12.2s,MS5.5						
XAN				LR	LR		
	comp=E,6μm,15.0s,MS5.5						
XAN				LR	LR		
	comp=Z,10μm,13.7s,MS5.6						
WHN	Wuhan	30.88	38	P	P	22 34 31.4	+0.3
WHN				S	S	22 39 39.0	+6.5
WHN				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.4						
WHN				LR	LR		
	comp=Z,21μm,15.6s,MS5.9						
DAV	Davao City (W)	32.54	88	eP	P	22 34 50.0	+4.2
NJ2	Nanjing	34.74	41	eP	P	22 35 04.6	-0.1
NJ2				AP	pP	22 35 13.6	+1.6
NJ2				XP	sP	22 35 17.4	+2.3
NJ2				PP	PP	22 36 27.8	+5.7
NJ2				S	S	22 40 28.0	-4.5
NJ2				XS		22 40 43.0	
NJ2				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,1μm,4.4s						
NJ2				LR	LR		
	comp=N,15μm,12.4s,MS6.1						
NJ2				LR	LR		
	comp=E,14μm,12.7s,MS6.1						
NJ2				LR	LR		
	comp=Z,17μm,11.9s,MS6.0						
TIY	Taiyuan	35.33	27	PR		22 35 10.0	
TIY				LR	LR		
	comp=E,7μm,13.0s						
TIY				LR	LR		
	comp=Z,5μm,12.0s,MS5.5						
SSE	Sheshan	35.72	44	P	P	22 35 10.1	-3.0
SSE				XP	sP	22 35 22.8	-0.6
SSE				S	S	22 40 45.0	-2.7
SSE				XS		22 41 00.0	
SSE				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,145nm,5.0s						
SSE				LR	LR		
	comp=N,4μm,13.6s,MS5.5						
SSE				LR	LR		
	comp=E,3μm,13.6s,MS5.5						
SSE				LR	LR		
	comp=Z,5μm,12.4s,MS5.5						
WMQ	Urumqi	36.87	354	P	P	22 35 23.5	+0.9
WMQ				AP	pP	22 35 27.9	-1.9
WMQ				XP	sP	22 35 30.5	-2.4
WMQ				PP	PP	22 36 48.4	-0.2
WMQ				S	S	22 41 06.0	+0.9
WMQ				XS		22 41 13.2	
WMQ				AMB	AMB		
	comp=Z,130nm,0.8s,mb5.8						
WMQ				AMB	AMB		
	comp=Z,730nm,4.7s						
WMQ				LR	LR		
	comp=N,5μm,19.0s,MS5.4						
WMQ				LR	LR		
	comp=E,4μm,22.4s,MS5.4						
WMQ				LR	LR		
	comp=Z,4μm,18.0s,MS5.3						
KZA	Kyzart	38.16	339	P	P	22 35 42.2	+8.7
	SNR=5.8						
UCH	Uchtor	38.56	338	P	P	22 35 25.6	-11
	SNR=5.1						
MBWA	Marble Bar	38.57	137	eP	P	22 35 36.6	-0.4
	comp=Z,78nm,1.3s,mb5.3						
AAA	Alma-Ata	38.65	341	eP	P	22 35 40.0	+2.5
AAA				MLR	MLR		
	comp=Z,2μm,14.0s,MS5.0						
KBK	Karagaybulak	38.78	339	P	P	22 35 27.7	-11
	SNR=7.0						
TKM2	Tokmak 2	38.78	340	P	P	22 35 38.8	+0.1
	SNR=21						
AML	Almayashu	38.79	337	P	P	22 35 27.8	-11
	SNR=5.9						
AAK	Ala-Archa	38.92	338	P	P	22 35 40.3	+0.5
	SNR=16						
AAK	Ala-Archa	38.92	338	⇓iP	P	22 35 39.1	-0.7
AAK				pmax	pmax		
	comp=Z,77nm,1.0s,mb5.4						
AAK	Ala-Archa	38.92	338	eP	P	22 35 39.0	-0.8
AAK				LR	LR		
	comp=Z,1μm,19.0s,MS4.7						
BJT	Baijiatuau	38.92	29	P	P	22 35 29.1	-11
BJT				e		22 35 40.8	
FRU	Bishkek	39.05	339	eP	P	22 35 42.0	+1.1
FRU				i	pP	22 35 51.0	+2.8
FRU				pmax	pmax		
	comp=Z,373nm,2.5s,mb5.7						
CHMS	Chumysh	39.15	339	P	P	22 35 41.7	0.0
	SNR=17						
EKS2	Erkin-Say	39.21	338	P	P	22 35 30.9	-11
	SNR=5.3						
USP	Ospenovka	39.47	339	P	P	22 35 32.2	-12
	SNR=8.4						
FITZ	Fitzroy Crossi	40.96	128	eP	P	22 35 57.3	+0.4
	comp=Z,62nm,0.9s,mb5.2						
ULN	Ulaanbaatar	42.42	14	eP	P	22 36 07.5	-1.1
ULN	Ulaanbaatar	42.42	14	eP	P	22 36 07.8	-0.9
	comp=Z,7.9nm,0.7s,mb4.5						
ULN				LR	LR		
	comp=Z,5μm,20.0s,MS5.4						
KS15	Wonju Array Si	43.91	41	eP	P	22 36 19.5	-1.3
KAKA	Kakadu	44.04	116	eP	P	22 36 22.5	+0.3
	comp=Z,17nm,0.9s,mb4.8						
ZAK	Zakamensk	44.04	10	eP	P	22 36 23.0	+1.3
ZAK				e		22 38 00.7	
SNY	Shenyang	44.07	33	⇑P	P	22 36 23.5	+1.4
SNY				S	S	22 42 51.8	-0.7
SNY				AMB	AMB		
	comp=Z,50nm,1.6s,mb5.0						
SNY				AMB	AMB		
	comp=Z,540nm,4.4s						
SNY				LR	LR		
	comp=N,3μm,13.7s,MS5.5						
SNY				LR	LR		
	comp=E,3μm,16.3s,MS5.5						
SNY				LR	LR		
	comp=Z,4μm,15.7s,MS5.4						
MUN	Mundaring	44.81	151	eP	P	22 36 29.6	+1.4
	comp=Z,30nm,1.0s,mb5.1						
MOY	Mondy	44.96	7	eP	P	22 36 34.2	+5.1
KLBR	Kellerberrin	45.25	150	eP	P	22 36 29.6	-2.1
	comp=Z,62nm,1.1s,mb5.3						
TLY	Talaya	45.36	9	eP	P	22 36 36.6	+4.3
TLY				e		22 38 17.8	
TLY				eS	S	22 43 14.6	+3.6

comp=E,59nm,2.1s
WRAB Tennant Creek 48.92 124⇓ iP P 22 36 59.4 -1.2
WRAB Tennant Creek 48.92 124 eP P 22 36 59.7 -0.9
comp=E,180nm,0.9s,mb6.1
WRAB LR LR
comp=Z,1μm,20.0s,MS5.0
WB2 Warramunga Arr 48.92 124 eP P 22 37 00.2 -0.4
MDJ Mudanjiang 49.22 34 P P 22 37 04.6 +2.0
MDJ AP pP 22 37 13.6 +3.6
MDJ XP sP 22 37 17.1 +4.2
MDJ PCP PcP 22 38 22.4 -3.4
MDJ PP PP 22 39 00.3 +3.6
MDJ S **S 22 44 12.1 +6.4**
MDJ AMB AMB
comp=Z,30nm,1.7s,mb5.0
MDJ AMB AMB
comp=Z,310nm,5.9s
MDJ LR LR
comp=N,3μm,12.7s,MS5.6
MDJ LR LR
comp=E,3μm,14.2s,MS5.6
MDJ LR LR
comp=Z,3μm,14.9s,MS5.4
MDJ Mudanjiang 49.22 34 eP P 22 37 01.8 -0.8
comp=Z,27nm,0.9s,mb5.3
MDJ LR LR
comp=Z,2μm,20.0s,MS5.2
MAJO Matsushiro 50.69 48 eP P 22 37 13.0 -1.0
comp=Z,18nm,0.9s,mb5.0
MAJO LR LR
comp=Z,3μm,19.0s,MS5.3
MAT Matsushiro 50.69 48 eP P 22 37 16.0 +2.1
MAT LR LR
comp=Z,3μm,18.0s,MS5.4
MAT Matsushiro 50.69 48 P P 22 37 16.2 +2.3
BOD Bodaibo 53.23 14⇑ iP P 22 37 31.9 -0.9
KLR Kul'dur 53.25 31 eP P 22 37 32.3 -0.8
KLR *e* 22 48 37.0
KLR pmax pmax
comp=E,160nm,2.8s
KLR pmax pmax
comp=Z,220nm,2.8s,mb5.6
GNI Garni 54.04 315 eP P 22 37 37.5 -1.4
GNI pmax pmax
comp=Z,47nm,1.7s
GNI Garni 54.04 315 eP P 22 37 35.3 -3.6
comp=Z,347nm,1.7s,mb6.0
TI2 Plekhanov 54.70 317 i P P 22 37 33.8 -10
TI2 *i* 22 37 50.2
TI2 pmax pmax
comp=Z,90nm,0.8s,mb5.8
CLNS Chul'man 55.64 21 eP P 22 37 50.4 -0.1
CLNS *e* 22 38 48.2
CLNS *e* 22 39 51.5
CLNS *e*PPP PPP 22 41 13.3 +2.4
CLNS *e*S **S 22 45 44.7 +11**
CLNS *e* 22 47 33.5
CLNS pmax pmax
comp=Z,24nm,0.7s,mb5.3
CLNS pmax pmax
comp=N,16nm,0.6s
CLNS pmax pmax
comp=E,9.0nm,0.6s
CLNS pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS smax
comp=N,318nm,11.8s
CLNS smax
comp=Z,129nm,10.2s
CLNS smax
comp=E,182nm,20.8s
CLNS MLR MLR
comp=N,5μm,14.0s,MS5.8
CLNS MLR MLR
comp=E,700nm,14.0s,MS5.8
CLNS MLR MLR
comp=Z,4μm,14.0s,MS5.7
SVE Sverdlovsk 55.65 339 eP P 22 37 48.0 -2.5
SVE *e* 22 38 42.0
SVE *e* 22 39 51.0
SVE *e*S **S 22 45 23.0 -10**
SVE pmax pmax
comp=Z,210nm,1.5s,mb6.0
SVE MLR MLR
comp=Z,3μm,18.0s,MS5.4
KMBO Kilima Mbogo 56.00 264 eP P 22 37 52.6 -1.0
comp=Z,29nm,1.5s,mb5.1
KMBO LR LR
comp=Z,4μm,22.0s,MS5.4
ARU Arti 56.10 338⇓ iP P 22 37 52.3 -1.5
ARU *e* 22 38 45.0
ARU *e* 22 40 00.1
ARU *e*PPP PPP 22 41 12.1 -4.4
ARU *e*S **S 22 45 40.8 +1.4**
ARU *e* 22 47 37.6
ARU *e*SS SS 22 49 28.4 +2.4
ARU pmax pmax
comp=Z,100nm,1.1s,mb5.8
ARU Arti 56.10 338 eP P 22 37 51.8 -2.0
comp=Z,127nm,1.1s,mb5.9
ERZM Erzurum 56.34 314 i P P 22 37 56.0 +0.3
PMG Port Moresby 56.59 106 eP P 22 37 56.7 -1.1
comp=Z,28nm,0.7s,mb5.4
PMG LR LR
comp=Z,2μm,20.0s,MS5.2
KIV Kislovodsk 57.01 319 P P 22 37 59.2 -1.3
comp=Z,454nm,1.1s,mb6.4,SNR=8.7
GOF Gofitskoye 57.26 320 eP P 22 38 00.0 -2.2
GOF pmax pmax
comp=Z,78nm,1.4s,mb5.5
ELZG Elazig 57.60 311 i P P 22 38 03.6 -1.1
MALT Malatya 57.96 311 eP P 22 38 05.5 -1.7
comp=Z,30nm,1.2s,mb5.2
YSS Yuzh-Sakhalins 58.23 38 P P 22 38 09.9 +1.0
YSS pmax pmax
comp=Z,50nm,1.2s,mb5.4
YSS MLR MLR
comp=Z,3μm,14.0s,MS5.6
YSS MLR MLR
comp=N,3μm,15.0s,MS5.7
YSS MLR MLR
comp=E,3μm,14.0s,MS5.7
YSS Yuzh-Sakhalins 58.23 38 eP P 22 38 09.6 +0.7
comp=E,36nm,0.9s,mb5.4
YSS LR LR
comp=Z,2μm,20.0s,MS5.2
GZT Gaziantep 58.33 310 i P P 22 38 08.5 -1.2
MKRJ Makawir 58.44 303 P P 22 38 11.4 +0.8
KSHT Keshet 58.60 304 P P 22 38 12.5 +0.7
MZDA Masada 58.62 302 P P 22 38 12.8 +0.9
ZFRI Zfri 58.63 301 P P 22 38 12.7 +0.7
DRGI Dragot 58.66 303 P P 22 38 12.9 +0.8
EIL Elat 58.66 300 P P 22 38 12.8 +0.6
EIL Elat 58.66 300 eP P 22 38 11.0 -1.2
comp=Z,66nm,1.2s,mb5.5
MBH Mount Berech 58.71 301 P P 22 38 13.3 +0.7
PRNI Paran 58.74 301 P P 22 38 13.5 +0.8
MMLI Mount Malkishu 58.81 304 P P 22 38 14.3 +1.1
SOC Sochi 58.84 317 i P P 22 38 13.0 -0.2
SOC *e*S **S 22 46 14.3 -1.2**
SOC pmax pmax
comp=N,13nm,1.0s
SOC pmax pmax
comp=Z,46nm,1.0s,mb5.5
SOC pmax pmax
comp=E,20nm,1.3s
SOC MLR MLR
comp=N,650nm,19.0s,MS5.0
SOC MLR MLR
comp=Z,1μm,19.0s,MS5.1
SOC MLR MLR
comp=E,821nm,20.0s,MS5.0
KMTI Karmit 58.93 301 P P 22 38 14.7 +0.6
KAHT Ahir Dag 58.93 310 i P P 22 38 13.4 -0.6
BHL Bhannes 58.94 305 eP P 22 38 06.5 -7.6
SOKR Solikamsk 59.06 340⇓ iP P 22 38 13.3 -1.3
SOKR *i* SS SS 22 50 08.2 -5.9
SOKR pmax pmax
comp=Z,100nm,1.2s,mb5.7
SOKR MLR MLR
comp=Z,2μm,18.0s,MS5.3

SLTI Sal'it 59.08 303 P P 22 38 16.0 +0.9
CTA Charters Tower 59.10 118 eP P 22 38 15.0 -0.4
comp=Z,37nm,1.1s,mb5.3
CTAO Charters Tower 59.10 118 eP P 22 38 14.7 -0.7
comp=Z,129nm,1.3s,mb5.8
CTAO LR LR
comp=Z,2μm,22.0s,MS5.2
COBT Iskenderun 59.11 308 i P P 22 38 14.9 -0.3
HNTI Hanita 59.15 304 P P 22 38 16.5 +1.0
OFRI 'Ofer 59.20 304 P P 22 38 16.7 +0.8
HAF Haifa 59.21 304 P P 22 38 16.7 +0.7
KZIT Kziot 59.36 302 P P 22 38 17.5 +0.5
STKA Stephens Creek 60.54 133 eP P 22 38 24.7 -0.4
comp=Z,33nm,0.9s,mb5.5
ANN Anapa 60.81 318 eP P 22 38 30.9 +4.1
ANN *e*S **S 22 46 55.3 +14**
ANN pmax pmax
comp=Z,42nm,1.1s,mb5.5
CSS Prodhromos 61.05 306 eP P 22 38 26.8 -1.7
comp=Z,123nm,1.5s,mb5.8
YAK Yakutsk 61.17 19 eP P 22 38 30.5 +1.5
YAK *e**PP pP 22 38 40.8 +4.2
YAK *e* 22 39 16.6
YAK *e* 22 40 42.9
YAK *e*S **S 22 46 41.3 -3.9**
YAK *e* 22 48 18.3
YAK *e*SS SS 22 50 38.5 -8.4
YAK *e*SSS SSS 22 53 21.4 -3.9
YAK pmax pmax
comp=Z,57nm,1.1s,mb5.6
YAK pmax pmax
comp=N,24nm,1.2s
YAK pmax pmax
comp=E,26nm,1.3s
YAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK smax
comp=E,3.0nm,1.3s
YAK smax
comp=N,2.0nm,1.0s
YAK MLR MLR
comp=Z,3μm,17.0s,MS5.5
YAK MLR MLR
comp=N,2μm,14.0s,MS5.5
YAK MLR MLR
comp=E,2μm,17.0s,MS5.5
YAK Yakutsk 61.17 19 eP P 22 38 27.3 -1.6
comp=E,87nm,0.9s,mb5.9
YAK LR LR
comp=Z,5μm,19.0s,MS5.7
BOYT Boyabat 61.48 314 i P P 22 38 29.8 -1.5
ELDT Eldivan 62.29 312 i P P 22 38 35.3 -1.6
BALT Daday 62.60 313 i P pP 22 38 45.6 -0.8
SIM Simferopol' 63.09 317 eP P 22 38 42.6 +0.6
SIM pmax pmax
comp=Z,40nm,1.4s,mb5.4
SGKT Sivrigoynuk 63.32 312 i P P 22 38 43.1 -0.5
ISP Isparta 63.88 309 eP P 22 38 45.9 -1.5
ISP Isparta 63.88 309 eP P 22 38 47.2 -0.2
comp=Z,83nm,1.2s,mb5.6
ESKT Eskisehir 63.98 311 i P P 22 38 46.5 -1.5
MOS Moscow 65.06 329 eP P 22 38 52.4 -2.3
MOS *e* 22 39 20.2
MOS *e* 22 41 23.3
MOS *e*PPP PPP 22 42 49.0 -5.0
OBN Obninsk 65.34 328⇑ iP P 22 38 53.7 -2.8
OBN pmax pmax
comp=Z,47nm,1.6s,mb5.3
OBN Obninsk 65.34 328 eP P 22 38 51.4 -5.1
comp=Z,76nm,1.1s,mb5.6
ULDT Uludag 65.40 311 i P P 22 38 58.3 +1.1
MANT Manisa 65.51 309 i P P 22 38 57.1 -0.8
TOO Toolangi 66.20 136 eP P 22 39 03.0 +0.6
comp=Z,16nm,1.1s,mb5.0
KIS Kishinev 67.21 318 eP P 22 39 09.0 +0.4
KIS *e* pP 22 39 15.0 -1.2
KIS *e* 22 39 36.0
KIS MLR MLR
comp=N,1μm,18.0s,MS5.3
KIS MLR MLR
comp=Z,2μm,18.0s,MS5.4
KIS MLR MLR
comp=E,1μm,16.0s,MS5.3
KIS MLR MLR
comp=Z,2μm,18.0s
CFR Carcaliu 67.23 316⇓ iP P 22 39 07.7 -1.1
CFR Carcaliu 67.23 316⇓ iP P 22 39 07.7 -1.1
HARR Harsova 67.26 316⇑ iP P 22 39 08.7 -0.2
HARR Harsova 67.26 316⇑ iP P 22 39 08.7 -0.3
SANT Santorini 67.60 306 eP P 22 39 09.2 -2.0
comp=Z,133nm,1.2s,mb5.8
LSZ Lusaka 67.74 250 eP P 22 39 12.5 0.0
comp=Z,17nm,1.1s,mb5.0
LSZ LR LR
comp=Z,5μm,19.0s,MS5.8
CNB Canberra Magne 67.87 133 eP P 22 39 14.2 +1.2
comp=Z,92nm,1.4s,mb5.6
MA2 Magadan 68.09 28⇓ iP P 22 39 12.8 -1.1
MA2 pmax pmax
comp=Z,42nm,0.7s,mb5.6
MA2 Magadan 68.09 28 eP P 22 39 13.2 -0.7
comp=Z,65nm,0.8s,mb5.7
MA2 *e* pP 22 39 21.6 +0.1
MA2 LR LR
comp=Z,1μm,20.0s,MS5.1
TIXI Tiksi 68.27 12 eP P 22 39 13.6 -1.3
TIXI *e*S S 22 48 11.1 -1.5
TIXI pmax pmax
comp=Z,174nm,0.9s,mb6.1
TIXI pmax pmax
comp=N,29nm,1.4s
TIXI pmax pmax
comp=E,87nm,1.9s
TIXI pmax pmax
comp=Z,256nm,1.1s,mb6.2
TIXI MLR MLR
comp=Z,4μm,19.0s,MS5.6
TIXI Tiksi 68.27 12⇑ iP P 22 39 13.6 -1.3
ISR Istrita 68.31 316⇓ iP P 22 39 17.7 +2.1
ISR Istrita 68.31 316⇓ iP P 22 39 17.7 +2.1
VRI Vrincioaia 68.35 317⇑ iP P 22 39 15.5 -0.2
VRI Vrincioaia 68.35 317⇑ iP P 22 39 15.5 -0.3
GVD Gavdhos 68.52 305 eP P 22 39 16.3 -0.7
comp=Z,152nm,1.2s,mb5.8
RZN Rozhen 68.98 312 eP P 22 39 18.0 -1.7
MMB Musomiste 69.69 312 eP P 22 39 22.0 -2.1
MNK Minsk 69.85 326⇓ eP P 22 39 23.0 -1.8
PET Petropavlovsk 69.96 36 eP P 22 39 25.5 0.0
PET pmax pmax
comp=Z,50nm,1.4s,mb5.2
SEY Seymchan 70.20 25 eP P 22 39 27.1 +0.3
SEY *e* 22 39 46.8
SEY *e* 22 42 02.4
SEY *e* 22 48 27.5
SEY pmax pmax
comp=N,30nm,0.9s
SEY pmax pmax
comp=E,70nm,0.9s
SEY pmax pmax
comp=Z,110nm,0.9s,mb5.8
KKB Krupnik 70.21 312 eP P 22 39 26.0 -1.3
VTS Vitosha 70.23 313 eP P 22 39 26.0 -1.3
BOLS Boljevac 71.31 314⇑ iP P 22 39 33.1 -0.8
SKO Skopje 71.44 312 eP P 22 39 32.0 -2.7
SKO *i* pP 22 39 40.2 -2.2
VSU Vasula 71.58 330 eP P 22 39 34.3 -1.0
KWP Kalwaria 71.77 320 eP P 22 39 36.0 -0.5
KWP *e* pP 22 39 43.1 -1.1
KWP Kalwaria 71.77 320 eP P 22 39 36.0 -0.5
KWP *e* pP 22 39 43.1 -1.1
KWP Kalwaria 71.77 320 eP P 22 39 36.0 -0.5
KWP *e* pP 22 39 43.1 -1.1
KOLS Kolonicke sedl 71.92 319 i P P 22 39 37.5 +0.1
APA Apatity 72.12 340⇑ iP P 22 39 36.2 -2.1
APA *i* pP 22 39 45.2 -0.8
APA pmax pmax
comp=Z,36nm,1.2s,mb5.2
APA MLR MLR
comp=Z,4μm,14.0s,MS5.8
GRUS Gruza 72.21 314⇑ iP P 22 39 37.8 -1.5

SUW Suwalki 72.36 325 eP P 22 39 38.6 -1.4
SUW *e* pP 22 39 44.7 -2.9
SUW Suwalki 72.36 325 eP P 22 39 30.8 -9.2
comp=Z,251nm,1.1s,mb6.1
SUW *e* 22 39 44.7
SUW Suwalki 72.36 325 eP P 22 39 38.6 -1.4
SUW *e* pP 22 39 44.7 -3.0
CRVS Cervenica-Dubn 72.44 319 i P P 22 39 41.3 +0.8
LBTB Lobatse 72.69 241 eP P 22 39 43.3 +0.8
comp=Z,94nm,1.5s,mb5.5
LBTB LR LR
comp=Z,3μm,20.0s,MS5.6
DIVS Divcibare 72.76 314⇑ iP P 22 39 41.2 -1.3
KAF Kangasniemi 72.89 333 ep P 22 39 41.4 -1.5
comp=Z,0.8nm,0.4s
KAF Kangasniemi 72.89 333 eP P 22 39 41.4 -1.5
KAF pmax pmax
comp=Z,1.0nm,0.4s
KECS Kecovo 73.01 318 i P P 22 39 45.1 +1.2
NIE Niedzica 73.27 319 eP P 22 39 45.7 +0.3
PSZ Piszkesteto 73.32 318⇓ eP P 22 39 46.0 +0.3
OJC Ojcow 73.72 320 eP P 22 39 47.2 -0.8
OJC Ojcow 73.72 320 eP P 22 39 47.2 -0.8
OJC Ojcow 73.72 320 eP P 22 39 47.2 -0.8
BOSA Boshof 74.03 238 eP P 22 39 50.2 0.0
comp=Z,154nm,1.7s,mb5.7
BOSA *e* pP 22 39 59.1 +1.2
VYHS Vyhne 74.10 318 i P P 22 39 49.8 -0.4
VYHS *e* pP 22 39 56.9 -1.0
CASY Casey 74.31 173 eP P 22 39 49.9 -1.1
comp=Z,88nm,1.4s,mb5.5
SRO Srobarova 74.36 318 eP P 22 39 52.3 +0.5
OKC Ostrava-Krasne 74.72 320 eP P 22 39 53.5 -0.3
OKC *e*pP pP 22 40 00.9 -0.6
TIP Timpagrande 74.74 309 eP P 22 39 53.1 -1.0
MORC Moravsky Berou 75.10 320 eP P 22 39 54.1 -1.9
comp=Z,60nm,1.3s,mb5.4
KEV Kevo 75.14 341 ep P 22 39 53.7 -2.1
comp=Z,1.0nm,0.4s
KEV Kevo 75.14 341 eP P 22 39 53.7 -2.1
KEV pmax pmax
comp=Z,1.0nm,0.4s
ZST Bratislava 75.22 318 i P P 22 39 56.3 -0.4
ZST *e* pP 22 40 04.2 -0.2
ZST *e*PP PP 22 42 35.9 -11
SOP Sopron 75.53 317 eP P 22 39 57.8 -0.7
GKP Gorka Klasztor 75.72 323 eP P 22 39 54.0 -5.5
GKP *e* 22 40 05.7
GKP Gorka Klasztor 75.72 323 eP P 22 39 54.0 -5.5
GKP *e* 22 40 05.7
GKP Gorka Klasztor 75.72 323 eP P 22 39 54.0 -5.4
GKP *e* 22 40 05.8
DPC Dobruska-Polom 75.95 320 eP P 22 40 00.6 -0.2
DPC AMS AMS 23 18 00.0
comp=Z,1μm,18.2s
KSP Ksiaz 76.02 321 eP P 22 40 00.2 -1.0
KSP *e*pP pP 22 40 08.3 -0.6
KSP Ksiaz 76.02 321 eP P 22 40 01.5 +0.3
KSP *e* pP 22 40 08.1 -0.8
UPC Upice 76.16 320 eP P 22 40 01.9 -0.1
UPC *e*pP pP 22 40 09.3 -0.4
ARSA Arzberg 76.19 317⇑ iP P 22 40 01.6 -0.6
comp=Z,60nm,1.6s,mb5.3
PERS Pernice 76.42 316 eP P 22 40 03.3 -0.3
LJU Ljubljana 76.79 316 eP P 22 40 05.8 +0.1
LJU *e* pP 22 40 12.8 -0.5
PRU Pruhonice 77.06 320 eP P 22 40 06.5 -0.5
PRU *e*pP pP 22 40 13.8 -0.9
PRU AMS AMS 23 19 20.0
comp=Z,1μm,20.6s
PVCC Panska Ves 77.08 320 eP P 22 40 07.6 +0.5
PVCC *e*pP pP 22 40 14.7 -0.1
VOY Vojsko 77.23 315 eP P 22 40 05.7 -2.4
VOY *e* pP 22 40 14.5 -1.3
BILL Bilibino 77.32 22 eP P 22 40 07.3 -0.8
BILL *e* pP 22 40 16.1 +0.3
BILL *e*S S 22 50 01.7 +6.4
BILL pmax pmax
comp=Z,40nm,0.9s,mb5.3
BILL Bilibino 77.32 22 eP P 22 40 06.5 -1.6
comp=Z,40nm,0.9s,mb5.3
BILL LR LR
comp=Z,2μm,19.0s,MS5.5
MAW Mawson 77.49 191 eP P 22 40 11.2 +2.1
comp=Z,43nm,1.3s,mb5.2
BRG Berggiesshubel 77.50 320 i P P 22 40 10.1 +0.7
BRG *i* pP 22 40 16.7 -0.5
BRG pmax pmax
comp=Z,40nm,1.2s,mb5.2
BRG MLR MLR
comp=N,600nm,20.7s,MS5.3
BRG MLR MLR
comp=E,1μm,20.7s,MS5.3
BRG MLR MLR
comp=Z,1μm,20.7s,MS5.3
BRG Berggiesshubel 77.50 320 i P P 22 40 10.1 +0.7
comp=Z,40nm,1.1s,mb5.3
BRG *i* pP 22 40 16.7 -0.5
BRG LR LR
comp=Z,1μm,20.7s,MS5.3
GEC2 GERESS Array S 77.52 318 eP P 22 40 09.5 -0.1
GEC2 pmax pmax
comp=Z,57nm,1.0s,mb5.5
GEC2 GERESS Array S 77.52 318 eP P 22 40 09.5 -0.1
comp=Z,57nm,1.0s,mb5.5
KHC Kasperske Hory 77.62 319 eP P 22 40 09.3 -0.8
RUE Ruedersdorf 77.72 322 eP P 22 40 10.0 -0.7
comp=Z,93nm,1.0s,mb5.7
WET Wettzell 78.08 319 eP P 22 40 12.6 -0.1
CLL Collm 78.12 321 eP P 22 40 13.0 +0.2
CLL *i* pP 22 40 19.6 -1.0
CLL MLR MLR
comp=Z,2μm,20.3s,MS5.4
CLL Collm 78.12 321 eP P 22 40 13.0 +0.2
CLL *i* pP 22 40 19.6 -1.0
CLL LR LR
comp=Z,2μm,20.3s,MS5.4
CLL Collm 78.12 321 P P 22 40 13.0 +0.2
CLL *i* *SP sP 22 40 19.6 -3.6
CLL *e* 22 40 40.0
NKC Novy Kostel 78.42 320 eP P 22 40 16.5 +2.0
NKC *e*pP pP 22 40 21.8 -0.4
WTTA Wattenberg 78.83 317⇓ iP P 22 40 16.1 -0.7
comp=Z,85nm,1.0s,mb5.6
WATA Walderalm 78.88 317⇓ iP P 22 40 16.3 -0.8
comp=Z,37nm,1.0s,mb5.3
MOX Moxa 78.97 320 eP P 22 40 18.0 +0.5
MOX pmax pmax
comp=Z,55nm,1.6s,mb5.2
MOX MLR MLR
comp=Z,900nm,17.0s,MS5.2
MOX Moxa 78.97 320 eP P 22 40 18.0 +0.5
comp=Z,55nm,1.6s,mb5.2
MOX LR LR
comp=Z,900nm,17.0s,MS5.2
MOX Moxa 78.97 320 i P P 22 40 18.0 +0.5
comp=Z,logA/T=1.5,mb5.2
MOX L 23 20 24.0
FUR Furstenfeldbru 79.10 318 eP P 22 40 17.7 -0.6
SQTA Sankt Quirin 79.13 317⇓ iP P 22 40 17.6 -0.8
comp=Z,32nm,1.0s,mb5.2
GRA1 Grafenberg Arr 79.19 319 eP P 22 40 19.1 +0.4
comp=Z,80nm,1.0s,mb5.6
GRF Grafenberg Arr 79.19 319 eP P 22 40 19.1 +0.4
GRF pmax pmax
comp=Z,80nm,1.0s,mb5.6
GRF Grafenberg Arr 79.19 319 eP P 22 40 19.1 +0.4
comp=Z,80nm,1.0s,mb5.6
MOTA Moosalm 79.20 317⇑ iP P 22 40 17.6 -1.2
comp=Z,38nm,1.0s,mb5.3
MAIM 79.58 313 P P 22 40 19.9 -1.1
SARO Sassorosso 79.65 314 P P 22 40 20.4 -0.9
VLC Villacollemand 79.66 314 eP P 22 40 20.1 -1.3
comp=Z,33nm,1.1s,mb5.2
NB2 NORSAR Subarra 79.76 331 P P 22 40 20.3 -1.3
comp=Z,21nm,0.9s,mb5.1,baz=93,slow=5.6
NB2 NORSAR Subarra 79.76 331 P P 22 40 20.3 -1.3
baz=93,slow=5.6
VALM 79.76 314 P P 22 40 21.3 -0.6
CLZ Clausthal 79.79 321 eP P 22 40 21.7 -0.2
comp=Z,48nm,1.0s,mb5.4
VINC Vinca 79.83 313 P P 22 40 21.3 -1.0
BSEG Bad Segeberg 79.89 323 eP P 22 40 22.4 0.0
BACM 79.89 314 P P 22 40 21.9 -0.7

GRAM		79.89	314	P		P	22 40 22.5	-0.1
DAVA	Damuels	80.03	317	⇑ *i* P		P	22 40 22.9	-0.4
	comp=Z,88nm,1.1s,mb5.6							
CODM		80.05	314	P		P	22 40 23.0	-0.5
STU	Stuttgart	80.50	318	*e*P		P	22 40 24.0	-1.7
	comp=Z,62nm,1.3s,mb5.4							
MUD	Monsted U'grnd	80.61	326	*i* P		pP	22 40 34.6	+0.6
PGF	Pioggiola	80.69	312	*e*P		P	22 40 27.2	+0.3
	comp=Z,92nm,1.2s,mb5.3							
TOD	Tromm	80.75	319	*e*P		pP	22 40 34.3	-0.6
PCP	Pian Castagno	80.98	314	P		P	22 40 27.9	-0.5
BFO	Black Forest	81.08	318	*e*P		P	22 40 28.3	-0.5
BFO				pmax		pmax		
	comp=Z,35nm,1.2s,mb5.2							
BFO	Black Forest	81.08	318	*e*P		P	22 40 28.3	-0.5
	comp=Z,35nm,1.2s,mb5.2							
FIN	Finale Ligure	81.23	314	P		P	22 40 28.9	-0.8
FELD	Feldberg	81.30	317	*e*P		P	22 40 32.8	+2.8
ORX	Oropa	81.36	315	P		P	22 40 28.8	-1.6
LANF	Langenberg	81.41	318	*e*P		P	22 40 31.9	+1.3
STR	Strasbourg	81.45	318	*e*P		P	22 40 34.1	+3.4
IMI	Imperia	81.47	313	P		P	22 40 30.1	-0.8
ROB	Roburent	81.47	314	P		P	22 40 30.2	-0.7
TRAV		81.52	315	P		P	22 40 29.9	-1.3
MONE	Monesi	81.56	313	P		P	22 40 30.7	-0.7
ABH	Alteburg	81.57	319	*e*P		P	22 40 33.1	+1.8
NEGI	Negi	81.60	313	P		P	22 40 31.4	-0.2
SAOF	Saorge	81.70	313	*e*P		P	22 40 35.5	+3.3
WLS	Welschbruch	81.72	318	*e*P		P	22 40 36.8	+4.6
CDF	Champ du Feu	81.78	318	*e*P		P	22 40 32.8	+0.4
	comp=Z,42nm,1.1s,mb5.0							
ENR	Entracque	81.79	314	P		P	22 40 32.3	-0.3
SBF	Sospel	81.80	313	*e*P		P	22 40 33.4	+0.8
	comp=Z,110nm,0.7s,mb5.6							
AUTN	L'Aution	81.80	313	*e*P		P	22 40 37.5	+4.9
ECH	Echery	81.86	318	*e*P		P	22 40 34.2	+1.3
STV	Sta Anna Valdi	81.86	314	P		P	22 40 32.5	-0.5
RSP	Reno Superiore	81.88	315	P		P	22 40 32.8	-0.3
BHB	Bricherasio	81.89	314	P		P	22 40 31.6	-1.5
MOF	Molkenrain	81.89	317	*e*P		P	22 40 34.5	+1.5
TOUF	Mont Tournerai	81.92	313	*e*P		P	22 40 37.3	+4.0
LSD	Ceresole Reale	81.94	315	P		P	22 40 33.2	-0.2
MVIF	Mont Vial	82.00	313	*e*P		P	22 40 35.6	+1.9
PZZ	Prazzo	82.01	314	P		P	22 40 32.9	-0.9
FENE	Fenestrelle	82.02	314	P		P	22 40 32.6	-1.2
LOMF	Lomont	82.11	317	*e*P		P	22 40 33.0	-1.2
SURF	Saint Ours	82.22	314	*e*P		P	22 40 35.7	+0.9
RRL	Cesana Torines	82.22	314	P		P	22 40 34.2	-0.6
LPG	La Plagne	82.22	315	*e*P		P	22 40 34.0	-0.8
	comp=Z,63nm,0.8s,mb5.3							
MBDF	Montbardon	82.24	314	*e*P		P	22 40 34.5	-0.4
	comp=Z,30nm,0.7s,mb5.0							
OG01	Vacheresse	82.24	316	*e*P		P	22 40 40.9	+6.0
BNI	Bardonecchia	82.29	314	*e*P		P	22 40 34.2	-1.0
	comp=Z,61nm,1.0s,mb5.5							
HAU	Haudompre	82.41	317	*e*P		P	22 40 35.4	-0.3
	comp=Z,99nm,1.2s,mb5.3							
OG25	Le Caire	82.75	314	*e*P		P	22 40 38.1	+0.5
BAIF	Baives	83.72	320	*e*P		P	22 40 42.1	-0.3
	comp=Z,86nm,1.2s,mb5.4							
SSF	Saint Saulge	84.38	317	*e*P		P	22 40 45.1	-0.8
	comp=Z,93nm,1.4s,mb5.4							
PLDF	La Plantade	84.39	316	*e*P		P	22 40 46.8	+0.9
LBL	Lubilhac	84.71	315	*e*P		P	22 40 50.8	+3.3
PYM	Petit Puy Mans	84.83	315	*e*P		P	22 40 51.3	+3.2
BGF	Bois d'Agland	84.88	316	*e*P		P	22 40 48.0	-0.3
	comp=Z,99nm,1.2s,mb5.5							
RJF	Les Rejaudoux	85.92	315	*e*P		P	22 40 53.1	-0.5
	comp=Z,74nm,1.2s,mb5.5							
EMIR	Miracle	86.26	312	P		P	22 40 56.8	+1.4
	comp=Z,2.1nm,1.2s							
EPOB	Poblet	86.66	311	P		P	22 40 59.9	+2.6
	comp=Z,16nm,0.8s,mb5.3							
FLN	La Foliniere	86.89	319	*e*P		P	22 40 58.0	-0.2
	comp=Z,119nm,1.4s,mb5.6							
EGRA	Graus	87.13	312	P		P	22 41 02.3	+2.7
	comp=Z,276nm,0.4s							
EBR	Ebro Roquetas	87.16	311	*e*P		P	22 41 03.3	+3.5
EBIE	Bielsa	87.19	312	P		P	22 41 01.1	+1.2
	comp=Z,1.7nm,0.6s,mb4.5							
ERTA	Horta de San J	87.26	311	P		P	22 41 02.2	+1.9
	comp=Z,2.3nm,0.6s,mb4.6							
ETSF	Etsaut	87.68	313	*e*P		P	22 41 01.9	-0.3
	comp=Z,61nm,1.2s,mb5.4							
ESAC	San Caprasio	87.77	312	P		P	22 41 03.9	+1.3
	comp=Z,4.7nm,0.5s,mb5.0							
EMOS	Mosqueruela	87.94	310	P		P	22 41 06.3	+2.8
	comp=Z,5.1nm,0.7s,mb4.9							
EBEN	Beniarda	87.97	309	P		P	22 41 05.5	+1.8
	comp=Z,1.4nm,0.6s,mb4.4							
ENIJ	Nijar	89.76	307	P		P	22 41 14.7	+2.5
	comp=Z,2.5nm,0.5s,mb4.8							
EBER	Berja	90.32	307	P		P	22 41 17.9	+3.1
	comp=Z,7.6nm,0.6s,mb5.2							
EQES	Quesada	90.32	308	P		P	22 41 16.8	+2.0
	comp=Z,2.1nm,0.5s,mb4.7							
GUD	Guadarrama	90.68	311	P		P	22 41 18.4	+2.0
	comp=Z,4.1nm,0.6s,mb4.9							
ESDC	Sonseca Array	90.70	310	P		P	22 41 17.6	+1.0
	comp=Z,4.0nm,0.6s,mb4.9							
ESLA	Sonseca Array	90.70	310	*e*P		P	22 41 16.5	0.0
	comp=Z,14nm,1.3s,mb5.2							
ESLA				LR		LR		
	comp=Z,2μm,19.0s,MS5.6							
EBAN	Banos Encina	90.81	308	P		P	22 41 18.1	+1.0
	comp=Z,2.0nm,0.5s,mb4.7							
ERON	Agron	91.02	307	P		P	22 41 18.5	+0.4
	comp=Z,1.7nm,0.4s,mb4.7							
ELUQ	Luque	91.29	308	P		P	22 41 19.4	+0.1
	comp=Z,1.2nm,0.5s,mb4.5							
EADA	Adamuz	91.43	309	P		P	22 41 21.3	+1.4
	comp=Z,22nm,1.0s,mb5.4							
EMIJ	Mijas	91.86	307	P		P	22 41 22.8	+0.8
	comp=Z,4.0nm,0.6s,mb4.9							
EPON	Pontenova	92.36	314	P		P	22 41 24.3	+0.2
	comp=Z,1.5nm,0.5s,mb4.6							
PBRG	Braganca	92.38	312	*e*P		pP	22 41 33.0	+1.0
VNDA	Vanda	92.43	168	*e*P		P	22 41 23.4	-0.3
	comp=Z,31nm,1.7s,mb5.4							
ESPR	Espera	92.66	307	P		P	22 41 26.3	+0.7
	comp=Z,15nm,1.1s,mb5.3							
IMA	Indian Mountai	92.86	22	*e*P		P	22 41 27.6	+1.7
	comp=Z,68nm,1.0s,mb6.0							
EMIN	Mina Concepcio	93.13	308	P		P	22 41 29.4	+1.6
EBAD	Badajoz	93.20	309	P		P	22 41 29.2	+1.2
PCBR	Castelo Branco	93.33	311	*e*P		P	22 41 29.3	+0.7
SBA	Scott Base	93.53	168	P		P	22 41 29.4	+0.6
	comp=Z,2.2nm,0.7s,mb4.7							
SBA				LR		LR		
	comp=Z,697nm,21.0s,MS5.1							
COLA	College	95.57	22	*e*P		P	22 41 39.8	+1.5
COLA	College	95.57	22	P		P	22 41 36.8	-1.5
	comp=Z,3.3nm,0.8s,mb4.8							
COLA				LR		LR		
	comp=Z,2μm,19.0s,MS5.5							
SPU	Mount Spurr	95.59	26	*e*P		P	22 41 40.4	+1.9
SPU				*e*			22 42 10.0	
MCK	McKinley	95.72	23	*e*P		P	22 41 39.7	+0.7
	comp=Z,9.8nm,1.1s,mb5.2							
MCK				LR		LR		
	comp=Z,1μm,22.0s,MS5.3							
PWA	Palmer West	96.31	25	*e*P		P	22 41 44.1	+2.3
	comp=Z,13nm,0.8s,mb5.4							
SLKM	Skilak Lake	96.69	26	*e*P		P	22 41 42.7	-0.8
DBIC	Dimbokro	96.72	278	*e*P		P	22 41 44.7	-0.1
	comp=Z,45nm,1.5s,mb5.7							
DBIC				LR		LR		
	comp=Z,2μm,19.0s,MS5.5							
SML	Sawmill	96.89	25	*e*P		P	22 41 46.5	+2.2
QSPA	South Pole Qui	96.99	180	⇓ *i* P		pP	22 41 53.6	+1.3
	comp=Z,6.8nm,1.3s							
SNAA	Sanae	98.45	199	P		P	22 41 50.3	-0.9
SNAA	Sanae	98.45	199	*e*P		P	22 41 51.7	+0.5
SNAA	Sanae	98.45	199	*e*P		P	22 41 52.8	+1.6
	comp=Z,13nm,1.4s,mb5.3							
EYAK	Cordova Ski Ar	98.60	25	P		P	22 41 53.8	+1.7
VNA2	Neumayer--Watz	99.98	199	P		P	22 41 52.6	-5.6
TBI	Tubuai	118.23	113	*e*PS		PS	22 57 56.0	-6.2
TBI				*e*LR		LR	23 22 29.5	
	comp=Z,605nm,25.5s							
PPT	Papeete	118.42	106	*e*PP		PP	22 48 09.5	-13
PPT				*e*PS		PS	22 58 05.0	+1.0
PPT				*e*LR		LR	23 23 20.9	
	comp=Z,638nm,23.0s							
NEW	Newport	118.93	22	PFAKE			22 47 10.0	+4.5
NEW				LR		LR		
	comp=Z,1μm,19.0s,MS5.6							
HUMO	Hull Mountain	120.81	30	*e*PKPdf		PKPdf	22 47 07.4	-1.9
HUMO				LR		LR		
	comp=Z,723nm,20.0s,MS5.3							
MSO	Missoula	121.31	21	*e*PKPdf		PKPdf	22 47 07.0	-3.1
CHMT	Chamberlain Mo	121.48	21	*e*PKPdf		PKPdf	22 47 07.6	-2.9
MOD	Modoc	122.64	29	*e*PKPdf		PKPdf	22 47 09.7	-3.1
WVOR	Wild Horse Val	123.00	27	*e*PKPdf		PKPdf	22 47 11.1	-2.3
WVOR				*e*PP		PP	22 48 52.9	+0.2
WVOR				LR		LR		
	comp=Z,1μm,21.0s,MS5.5							
BOZ	Bozeman (W)	123.14	20	*e*PKPdf		PKPdf	22 47 10.2	-3.5
LAO	LASA Array	123.86	16	*e*PKPdf		PKPdf	22 47 13.4	-1.7
YFT	Old Faithful	124.46	20	*e*PKPdf		PKPdf	22 47 16.0	-0.3
IMW	Indian Meadow	124.91	21	*e*PKPdf		PKPdf	22 47 14.8	-2.4
MOOW	Moose Ponds	125.11	21	*e*PKPdf		PKPdf	22 47 15.2	-2.4
TPAW	Teton Pass	125.26	21	*e*PKPdf		PKPdf	22 47 16.2	-1.7
LOHW	Long Hollow	125.27	21	*e*PKPdf		PKPdf	22 47 15.4	-2.5
WUWY	Wally Ulrich	125.29	21	*e*PKPdf		PKPdf	22 47 16.2	-1.7
SNOW	Snow King Moun	125.35	21	*e*PKPdf		PKPdf	22 47 16.8	-1.3
MNV	Mina	126.35	30	*e*PKPdf		PKPdf	22 47 16.9	-3.2
MTUM	Tungsten Hills	126.97	31	*e*PKPdf		PKPdf	22 47 19.3	-2.0
JLU	Jordanelle	127.57	23	*e*PKPdf		PKPdf	22 47 21.3	-1.1
TRCR	Troy Canyon	127.66	28	*e*PKPdf		PKPdf	22 47 20.4	-2.2
NLU	North Lily Min	127.87	24	*e*PKPdf		PKPdf	22 47 21.3	-1.7
RWWY	Rawlins	128.13	19	*e*PKPdf		PKPdf	22 47 21.8	-1.7
MVU	Marysvale	129.04	25	*e*PKPdf		PKPdf	22 47 24.7	-0.6
MSU	Marysvale	129.05	25	*e*PKPdf		PKPdf	22 47 23.8	-1.5
RW3	Ridgway	131.04	21	*e*PKPdf		PKPdf	22 47 25.9	-3.2
RKT	Rikiltea	131.46	115	*e*LR		LR	23 29 20.4	
	comp=Z,583nm,22.8s							
SDCO	Great Sand Dun	132.25	20	PFAKE			22 47 40.0	+8.6
SDCO				LR		LR		
	comp=Z,1μm,21.0s,MS5.7							
ANMO	Albuquerque	134.42	22	*e*PKPdf		PKPdf	22 47 33.7	-1.8
ANMO				*e*SKP			22 51 02.5	
ANMO				LR		LR		
	comp=Z,831nm,20.0s,MS5.5							
TUC	Tucson	134.84	29	*e*PKPdf		PKPdf	22 47 34.9	-1.6
WMOK	Wichita Mounta	137.00	14	*e*PKPpre			22 47 25.4	
WMOK				LR		LR		
	comp=Z,1μm,19.0s,MS5.7							
WVT	Waverly	137.02	1	*e*PKPpre			22 47 36.5	
MNTX	Cornudas Mount	137.71	23	*e*PKPpre			22 47 34.8	
MIAR	Mount Ida	138.17	8	*e*PKPpre			22 47 30.5	
MIAR				*e*PKPdf		PKPdf	22 47 39.7	-2.8
LTX	Lajitas	140.49	23	*e*PKPdf		PKPdf	22 47 43.2	-3.6
LTX				LR		LR		
	comp=Z,774nm,19.0s,MS5.5							
JCT	Junction City	140.75	17	*e*PKPpre			22 47 39.4	
JCT				*e*PKPdf		PKPdf	22 47 45.9	-1.4
TRQA	Tornquist	141.62	213	PFAKE			22 48 00.0	+11
TRQA				LR		LR		
	comp=Z,1μm,20.0s,MS5.7							
FCH	Farellones	149.53	209	⇑ *i* P		PKPdf	22 48 05.0	+2.9
TEIG	Tepich	152.85	2	*e*PKPdf		PKPdf	22 48 05.9	-1.4
LVC	Limon Verde	156.56	227	PKPdf		PKPdf	22 48 12.4	+0.1
LVC				*e*PKPab		PKPab	22 48 40.0	+0.9
LVC				LR		LR		
	comp=Z,692nm,19.0s,MS5.5							
SDV	Santo Domingo	157.10	314	PFAKE			22 48 20.0	+6.8
SDV				LR		LR		
	comp=Z,871nm,21.0s,MS5.6							
LPAZ	La Paz	159.21	242	*e*PKPdf		PKPdf	22 48 13.8	-1.9
OTAV	Otavalo	168.63	309	*e*PKPdf		PKPdf	22 48 21.9	-2.4

*BJI **01** 22:40:42.5, 8.05N×92.48E, h30km, mB5.7, mb4.7, Ms5.5, Msz5.4*
*HRVD **01** 22:40:51.4±0.4, 8.33N×92.42E, h18km±1km, MW5.2/58, Centroid moment Tensor Solution. LP body waves: s18,c20;Mantle waves: s58,c105; Half duration: 1s0 Moment tensor: Scale 1016Nm; Mrr=0.04±.28; Mθθ=-4.81±.20; Mφφ=4.86±.24; Mrθ=0.26±.50; Mθφ=-4.73±.20; Mφr=-3.49±.67; Best double couple: M0=7.542×1016 NP1: φs=111°, δ67°, λ171°. NP2:φs=204°, δ82°, λ23°. Principal axes: T 8.154, Plg22°, Azm70°; N -1.218, Plg65°, Azm223°; P -6.93, Plg10°, Azm335°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 22:40:51.4±0.5, 9.03N×92.63E, h30km, mb5.0/43 Error ellipse: s-maj=15.5km s-min=9.1km az=136.0*
ISC 01 22:40:49.2±0.4, 9.10N±0.07×92.58E±0.05, h30km, (h32km±2.8km:pP-P), n100, σ1§52/70, mb5.0/39, 1C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.16	33	*e*P	P	22 43 34.4	+4.4
	30nm,0.9s						
BWNR	Bhubaneshwar	12.91	330	*e*P	P	22 43 49.7	-3.8
BWNR				*e*		22 43 53.1	
	comp=N,423nm,0.3s						
BWNR				*e*		22 43 53.2	
	comp=E,106nm,0.4s						
KOD	Kodaikanal	14.94	276	*e*P	P	22 44 29.5	+9.2
KOD				*e*		22 44 33.5	
	comp=Z,45nm,0.8s						
TRD	Trivandrum	15.45	269	*e*P	P	22 44 36.2	+9.3
IMP	Imphal	15.65	5	*e*	P	22 44 39.3	+10
HYB	Hyderabad	15.95	303	*i* P	P	22 44 33.0	-0.3
HYB				*e*S	S	22 47 31.0	+1.9
SHL	Shillong	16.39	358	*e*P	P	22 44 43.7	+4.8
SHL				*e*		22 47 48.0	
MNGI	Mangalore	17.84	284	*e*	P	22 45 08.8	+12
MNGI				*e*		22 45 13.9	
	comp=Z,76nm,1.5s						
GOA	Goa	19.39	291	*e*P	P	22 45 19.1	+3.3
GOA				*e*		22 45 27.8	
	comp=Z,72nm,1.2s						
QIZ	Qiongzhong	19.42	58	*e*P	P	22 45 16.9	+0.8
QIZ	Qiongzhong	19.42	58	*e*P	P	22 45 16.2	+0.1
	comp=Z,106nm,1.5s						
BHPL	Bhopal	20.21	316	*e*P	P	22 45 25.9	+1.3
BHPL				AMb	AMB	22 45 29.3	
	comp=Z,121nm,1.9s						
BHPL				AMb	AMB	22 45 29.3	
	comp=Z,122nm,2.0s						
LSA	Lhasa	20.54	356	*e*P	P	22 45 30.6	+2.6
	comp=Z,53nm,1.0s						
BOM	Bombay	21.49	299	*e*P	P	22 45 44.2	+6.5
BOM				*e*		22 45 53.0	
	comp=Z,136nm,1.3s						
NDI	New Delhi	24.25	325	*e*P	P	22 46 13.8	+8.9
NDI				*e*		22 46 18.0	
	comp=Z,60nm,0.9s						
DGAR	Diego Garcia	25.91	231	P	P	22 46 20.1	-0.6
	comp=Z,297nm,1.5s,mb5.6						
SMLA	Simla	26.20	329	*e*	P	22 46 25.1	+1.9
ENH	Enshi	26.33	35	*e*P	P	22 46 24.7	+0.2
	comp=Z,52nm,1.0s,mb5.0						
NJ2	Nanjing	33.39	43	*e*P	P	22 47 28.2	+0.9
NJ2				AP	pP	22 47 39.8	+3.6
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
WMQ	Urumqi	34.85	354	*e*P	P	22 47 38.5	-1.3
AAK	Ala-Archa	36.98	338	*e*P	P	22 47 59.2	+1.4
	comp=Z,23nm,1.1s,mb4.9						
BJT	Baijiatuan	37.28	30	*e*P	P	22 48 01.8	+1.4
	comp=Z,20nm,1.1s,mb4.8						
MBWA	Marble Bar	40.20	139	P	P	22 48 16.0	-8.8
	comp=Z,34nm,1.3s,mb4.9						
ULN	Ulaanbaatar	40.53	15	*e*P	P	22 48 27.7	+0.4
	comp=Z,6.1nm,0.9s,mb4.2						
KS15	Wonju Array Si	42.56	43	P	P	22 48 43.6	-0.6
TLY	Talaya	43.41	10	*e*P	P	22 48 53.2	+2.3
	comp=Z,6.9nm,0.9s,mb4.4						
HIA	Hailar	46.03	25	⇑ *i* P	P	22 49 11.2	-0.6
HIA	Hailar	46.03	25	*e*P	P	22 49 12.9	+1.0
	comp=Z,18nm,1.0s,mb5.0						
MDJ	Mudanjiang	47.69	36	*e*P	P	22 49 27.0	+1.9
	comp=Z,19nm,1.2s,mb5.0						
MAJO	Matsushiro	49.51	49	*e*P	P	22 49 39.3	+0.1
	comp=Z,13nm,0.9s,mb5.0						
MAT	Matsushiro	49.51	49	P	P	22 49 40.0	+0.8
MAT	Matsushiro	49.51	49	P	P	22 49 39.6	+0.4
WRAB	Tennant Creek	50.23	125	*e*P	P	22 49 44.7	-0.2
	comp=Z,28nm,0.8s,mb5.3						
WB2	Warramunga Arr	50.23	125	*e*P	P	22 49 36.9	-8.1
GNI	Garni	52.48	314	*e*P	P	22 49 59.4	-2.3
GNI	Garni	52.48	314	*e*P	P	22 50 00.4	-1.3
	comp=Z,41nm,1.3s,mb5.2						
GNI				*e*	pP	22 50 10.8	-0.1
ARU	Arti	54.17	337	*e*P	P	22 50 12.8	-1.1
	comp=Z,42nm,1.1s,mb5.3						
GOF	Gofitskoye	55.60	319	*e*P	P	22 50 21.0	-3.5
KMBO	Kilima Mbogo	56.04	262	*e*P	P	22 50 28.2	+0.1
	comp=Z,11nm,1.0s,mb4.8						
MALT	Malatya	56.50	310	*e*P	pP	22 50 37.3	-3.1
	comp=Z,10nm,1.2s						
YSS	Yuzh-Sakhalins	56.79	39	P	P	22 50 30.6	-2.5
	comp=Z,16nm,0.8s,mb5.1						
PMG	Port Moresby	57.37	107	P	P	22 50 38.9	+1.3
	comp=Z,16nm,0.8s,mb5.1						
EIL	Elat	57.48	299	*e*P	P	22 50 36.5	-1.7
	comp=Z,20nm,1.0s,mb5.1						
YAK	Yakutsk	59.34	19	*e*P	P	22 50 47.0	-3.7
YAK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
YAK	Yakutsk	59.34	19	*e*P	P	22 50 48.4	-2.3
	comp=Z,32nm,1.2s,mb5.2						
CTAO	Charters Tower	60.25	119	*e*P	P	22 50 59.9	+2.4
	comp=Z,8.4nm,0.8s,mb4.8						
STKA	Stephens Creek	62.06	133	*e*P	P	22 51 02.4	-7.3
	comp=Z,8.2nm,0.7s,mb5.0						
STKA				*e*P		22 51 08.9	
MBAR	Mbarara	62.33	265	*e*P	P	22 51 13.9	+2.3
	comp=Z,7.5nm,1.1s,mb4.7						
ISP	Isparta	62.47	308	*e*P	pP	22 51 19.0	-2.6
OBN	Obninsk	63.53	328	P	P	22 51 20.3	+1.3
	comp=Z,27nm,1.0s,mb5.2						
OBN				*e*	pP	22 51 28.2	-0.1
TIXI	Tiksi	66.35	12	⇓ *i* P	P	22 51 30.1	-6.8
TIXI				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
MA2	Magadan	66.41	28	*e*P	P	22 51 35.3	-2.2
	comp=Z,15nm,1.0s,mb5.0						
LSZ	Lusaka	68.23	250	*e*P	P	22 51 50.7	+1.0
	comp=Z,15nm,0.8s,mb5.1						
KWP	Kalwaria	70.10	320	*e*P	pP	22 52 05.9	-4.1
KWP	Kalwaria	70.10	320	*e*P	P	22 52 00.9	+0.2
	comp=Z,18nm,0.8s,mb5.1						
KWP	Kalwaria	70.10	320	*e*P	pP	22 52 05.9	-4.1
KOLS	Kolonicke sedl	70.27	319	*e*P	pP	22 52 12.3	+1.2
KOLS	Kolonicke sedl	70.27	319	*e*pP	pP	22 52 12.3	+1.2
SUW	Suwalki	70.61	324	*e*P	pP	22 52 09.9	-3.2
SUW	Suwalki	70.61	324	*e*P	P	22 52 01.9	-1.8
	comp=Z,86nm,1.1s,mb5.6						
SUW	Suwalki	70.61	324	*e*P	pP	22 52 09.8	-3.2
SUW	Suwalki	70.61	324	*e*P	pP	22 52 09.9	-3.2
CRVS	Cervenica-Dubn	70.80	319	*e*P	pP	22 52 14.7	+0.4
CRVS	Cervenica-Dubn	70.80	319	*e*pP	pP	22 52 14.7	+0.4
KAF	Kangasniemi	71.00	333	*e*p	P	22 52 03.8	-2.1
	comp=Z,4.8nm,0.6s,mb4.6						
KAF	Kangasniemi	71.00	333	*e*P	P	22 52 03.8	-2.1
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
OJC	Ojcow	72.05	320	*e*P	P	22 52 10.1	-2.3
OJC	Ojcow	72.05	320	*e*P	P	22 52 10.1	-2.3
OJC	Ojcow	72.05	320	*e*P	P	22 52 10.1	-2.3
VYHS	Vyhne	72.47	318	*e*P	pP	22 52 23.4	-0.9
VYHS	Vyhne	72.47	318	*e*pP	pP	22 52 23.4	-0.9
SRO	Srobarova	72.75	317	*e*P	pP	22 52 24.8	-1.2
SRO	Srobarova	72.75	317	*e*pP	pP	22 52 24.8	-1.2
OKC	Ostrava-Krasne	73.06	319	*e*P	pP	22 52 26.3	-1.5
MORC	Moravsky Berou	73.44	319	*e*P	P	22 52 18.0	-2.6
	comp=Z,22nm,1.4s,mb4.9						
LBTB	Lobatse	73.48	241	*e*P	P	22 52 22.1	+0.8
	comp=Z,11nm,0.8s,mb4.8						
ZST	Bratislava	73.59	318	*e*P	pP	22 52 31.0	+0.1
ZST	Bratislava	73.59	318	*e*pP	pP	22 52 31.0	+0.1
DPC	Dobruska-Polom	74.28	320	*e*P	pP	22 52 34.6	-0.3
KSP	Ksiaz	74.34	320	*e*P	P	22 52 24.3	-1.4
KSP				*e*pP	pP	22 52 34.7	-0.5
KSP	Ksiaz	74.34	320	*e*P	P	22 52 24.5	-1.2
KSP				*e*	pP	22 52 33.4	-1.8
UPC	Upice	74.49	320	*e*P	pP	22 52 33.8	-2.3
BOSA	Boshof	74.94	237	*e*P	P	22 52 29.9	+0.3
	comp=Z,11nm,0.9s,mb4.8						
PRU	Pruhonice	75.40	319	*e*P	pP	22 52 39.1	-2.2
BILL	Bilibino	75.53	22	*e*P	pP	22 52 41.2	-0

0.6nm,0.2s,SNR=7.9
ELOJ S **Sn** **22 43 28.0 -1.6**
1.5nm,0.2s,SNR=7.9
EBER Berja 1.89 34 P **Pn** **22 43 06.8 -0.4**
EBER S **Sn** **22 43 30.1 -1.6**
EBER Berja 1.89 34 P **Pn** **22 43 06.8 -0.4**
1.6nm,0.2s,SNR=7.9
EBER S **Sn** **22 43 29.6 -2.1**
16nm,0.3s,SNR=7.9
EBER Berja 1.89 34 P **Pn** **22 43 06.8 -0.4**
0.8nm,0.2s,SNR=7.9
EBER S **Sn** **22 43 30.1 -1.6**
1.2nm,0.5s,SNR=7.9
ESPR Espera 2.03 319 P **Pn** **22 43 11.3 +2.0**
ESPR S **Sn** **22 43 35.5 +0.2**
ESPR Espera 2.03 319 P **Pn** **22 43 11.8 +2.6**
0.3nm,0.1s,SNR=7.9
ESPR S **Sn** **22 43 35.2 -0.1**
4.3nm,0.3s,SNR=7.9
ESPR Espera 2.03 319 P **Pn** **22 43 11.3 +2.0**
0.7nm,0.3s,SNR=7.9
ESPR S **Sn** **22 43 35.5 +0.2**
0.7nm,0.3s,SNR=7.9
MIF Mishlifen 2.10 204 P **Pn** **22 43 08.0 -2.3**
MIF S **Sn** **22 43 36.0 -1.1**
ELUQ Luque 2.22 359 P **Pn** **22 43 14.9 +2.9**
ELUQ S **Sn** **22 43 41.4 +1.2**
ELUQ Luque 2.22 359 P **Pn** **22 43 15.6 +3.6**
2.8nm,0.2s,SNR=7.7
ELUQ S **Sn** **22 43 41.2 +1.1**
5.7nm,0.2s,SNR=7.9
ELUQ Luque 2.22 359 P **Pn** **22 43 14.9 +2.9**
1.0nm,0.2s,SNR=7.7
ENIJ Nijar 2.30 44 P **Pn** **22 43 13.5 +0.4**
0.6nm,0.2s,SNR=5.0
ENIJ S **Sn** **22 43 39.7 -2.4**
3.5nm,0.2s,SNR=5.0
EQES Quesada 2.62 20 P **Pn** **22 43 20.0 +2.2**
EQES S **Sn** **22 43 49.0 -1.4**
EQES Quesada 2.62 20 P **Pn** **22 43 20.4 +2.6**
2.6nm,0.1s,SNR=34
EQES S **Sn** **22 43 53.4 +3.0**
8.9nm,0.3s,SNR=7.9
EQES Quesada 2.62 20 P **Pn** **22 43 20.0 +2.2**
1.8nm,0.2s,SNR=34
EQES S **Sn** **22 43 49.0 -1.4**
1.1nm,0.2s,SNR=7.9
EADA Adamuz 2.84 354 P **Pn** **22 43 22.7 +1.9**
EADA S **Sn** **22 43 55.1 -0.8**
EADA Adamuz 2.84 354 P **Pn** **22 43 23.0 +2.1**
0.5nm,0.2s,SNR=9.7
EADA S **Sn** **22 43 55.4 -0.4**
1.7nm,0.1s,SNR=7.9
EADA Adamuz 2.84 354 P **Pn** **22 43 22.7 +1.8**
0.5nm,0.2s,SNR=9.7
EADA S **Sn** **22 43 55.1 -0.8**
0.5nm,0.2s,SNR=7.9
EBAN Banos Encina 2.84 7 P **Pn** **22 43 22.0 +1.1**
EBAN S **Sn** **22 43 53.8 -2.1**
EBAN Banos Encina 2.84 7 P **Pn** **22 43 22.0 +1.1**
0.3nm,0.2s,SNR=7.9
EBAN S **Sn** **22 43 53.8 -2.1**
0.6nm,0.2s,SNR=7.9
EMIN Mina Concepcio 3.13 321 P **Pn** **22 43 25.8 +0.7**
EMIN S **Sn** **22 44 01.5 -1.8**
EMIN Mina Concepcio 3.13 321 P **Pn** **22 43 25.8 +0.7**
1.0nm,0.1s,SNR=22
EMIN S **Sn** **22 44 02.3 -1.0**
0.7nm,0.1s,SNR=7.9
EMIN Mina Concepcio 3.13 321 P **Pn** **22 43 25.8 +0.8**
0.7nm,0.2s,SNR=22
EMIN S **Sn** **22 44 01.5 -1.8**
SNR=7.9
PALC Alcoutim 3.38 310 *e*Pn **Pn** **22 43 29.1 +0.5**
PALC *e*Sn **Sn** **22 44 09.4 -0.3**
2.1nm,0.2s
PALC Alcoutim 3.38 310 P **Pn** **22 43 29.1 +0.5**
PALC S **Sn** **22 44 09.4 -0.3**
1.1nm,0.2s
PALC Alcoutim 3.38 310 *e*P **Pn** **22 43 29.1 +0.5**
PALC *e*S **Sn** **22 44 09.4 -0.3**
2.1nm,0.2s
EGRO El Granado 3.43 311 P **Pn** **22 43 29.8 +0.6**
EGRO S **Sn** **22 44 09.8 -1.0**
EGRO El Granado 3.43 311 P **Pn** **22 43 29.7 +0.4**
0.5nm,0.1s,SNR=7.9
EGRO S **Sn** **22 44 09.8 -1.0**
0.7nm,0.1s,SNR=7.9
EGRO El Granado 3.43 311 P **Pn** **22 43 29.8 +0.5**
1.0nm,0.2s,SNR=7.9
EGRO S **Sn** **22 44 09.8 -1.1**
SNR=7.9
EMUR La Murta 3.46 43 S **Sn** **22 44 08.8 -2.6**
1.1nm,0.4s,SNR=7.9
EMUR La Murta 3.46 43 S **Sn** **22 44 09.3 -2.2**
SNR=7.9
PBEJ Beja 3.98 313 *e*Pn **Pn** **22 43 37.7 +0.6**
PBEJ Beja 3.98 313 *e*P **Pn** **22 43 37.7 +0.6**
EBAD Badajoz 4.08 327 P **Pn** **22 43 39.7 +1.1**
EBAD S **Sn** **22 44 25.9 -1.5**
EBAD Badajoz 4.08 327 P **Pn** **22 43 39.2 +0.7**
0.7nm,0.1s,SNR=5.9
EBAD S **Sn** **22 44 25.9 -1.5**
5.2nm,0.3s,SNR=7.9
EBAD Badajoz 4.08 327 P **Pn** **22 43 39.7 +1.2**
0.4nm,0.2s,SNR=5.9
EBAD S **Sn** **22 44 25.9 -1.5**
SNR=7.9
PTEO Sao Teotonio 4.26 302 *e*Pn **Pn** **22 43 41.3 +0.3**
PTEO *e*Sn **Sn** **22 44 30.1 -1.6**
PTEO Sao Teotonio 4.26 302 *e*S **Sn** **22 44 30.1 -1.6**
PTEO Sao Teotonio 4.26 302 *e*P **Pn** **22 43 41.3 +0.3**
ESDC Sonseca Array 4.33 2 P **Pn** **22 43 43.7 +1.6**
0.5nm,0.1s,baz=179,slow=12,SNR=5.7
ESDC S **Sn** **22 44 30.6 -3.1**
0.5nm,0.1s,baz=179,slow=24,SNR=4.0
ESDC Sonseca Array 4.33 2 P **Pn** **22 43 43.7 +1.6**
0.7nm,0.2s,SNR=5.7
ESDC S **Sn** **22 44 30.6 -3.1**
SNR=7.9
PCBR Castelo Branco 5.19 331 *e*Pn **Pn** **22 43 54.8 +0.6**
PCBR *e*Sn **Sn** **22 44 53.0 -2.3**
PCBR Castelo Branco 5.19 331 *e*P **Pn** **22 43 54.8 +0.6**
GUD Guadarrama 5.30 0 P **Pn** **22 43 56.4 +0.7**
0.3nm,0.2s,SNR=4.0
PBRG Braganca 6.76 344 *e*Pn **Pn** **22 44 16.8 +0.5**
ECAL Calabor 6.88 344 P **Pn** **22 44 19.0 +0.9**
0.5nm,0.2s,SNR=7.9

*CSEM **01** 22:48:33.9±0.1, 39.21N×27.81E, h10km, MD2.7, Error ellipse: s-maj=7.9km s-min=2.8km az=103.0*
*ISK **01** 22:48:33.9, 39.21N×27.80E, h15km, MD2.7*
ISC 01 22:48:34.3±0.8, 39.23N±0.04×27.8E±0.1, h5km±9km, n12, σ0°76/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.35**	**173**	*i* PG	**Pg**	**22 48 40.9**	**-0.4**
AKS				*i* SG	**Sg**	**22 48 46.5**	**+0.5**
AKS	**Akhisar**	**0.35**	**173**	*i* Pg	**Pg**	**22 48 40.9**	**-0.4**
AKS				*i* Sg	**Sg**	**22 48 46.5**	**+0.5**
BALB	**Balikesir**	**0.42**	**13**	*e*PG	**Pg**	**22 48 42.4**	**-0.3**
BALB				*e*SG	**Sg**	**22 48 50.0**	**+1.6**
BALB	**Balikesir**	**0.42**	**13**	*e*Pg	**Pg**	**22 48 42.4**	**-0.3**
BALB				*e*Sg	**Sg**	**22 48 50.0**	**+1.6**
DST	**Dursunbey**	**0.77**	**60**	PG	**Pg**	**22 48 48.9**	**-0.8**
DST	**Dursunbey**	**0.77**	**60**	*e*Pg	**Pg**	**22 48 48.9**	**-0.8**
KDAG	**Bornova**	**0.91**	**205**	*i* P	**Pb**	**22 48 51.4**	**-0.7**
KDAG				*i* S	**Sb**	**22 49 05.2**	**+0.9**
IZM	**Izmir**	**0.92**	**205**	*e*PG	**Pg**	**22 48 52.0**	**-0.5**
MANT	**Manisa**	**0.96**	**140**	*i* P	**Pb**	**22 48 53.8**	**+0.8**
KCT	**Karacabey**	**1.13**	**24**	*e*PN	**Pn**	**22 48 55.9**	**-0.8**
KCT	**Karacabey**	**1.13**	**24**	*e*Pn	**Pn**	**22 48 55.9**	**-0.8**
ULDT	**Uludag**	**1.40**	**49**	*i* P	**Pn**	**22 49 00.4**	**-0.1**

*NNC **01** 22:49:56.7±10.0, 43.74N×85.49E, mpv3.1, Error ellipse: s-maj=99.0km s-min=56.2km az=144.0*
BJI 01 22:50:04.0, 43.97N×85.16E, h13km, ML3.3, 1C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.84**	**94**	PG	Pg	22 50 36.2	-4.6
WMQ				SG	Sg	22 51 02.1	-3.2
WMQ				Smax			
	comp=N,291nm,0.2s						
WMQ				Smax			
	comp=E,385nm,0.2s						
MK31	**Makanchi Array**	**3.47**	**325**	⇓Pn	Pn	22 50 58.9	-0.1
	comp=E,0.4nm,0.2s,baz=148,slow=14						
MK31				⇓Pg	Pg	22 51 07.4	-5.9
	comp=E,5.2nm,0.3s,baz=140,slow=16						
MK31				⇑Lg		22 51 54.3	
	comp=E,35nm,0.5s,baz=142,slow=29						

*CSEM **01** 22:52:24.1±0.1, 38.44N×25.65E, h5km, MD3.2, Error ellipse: s-maj=2.4km s-min=1.8km az=166.0*
*ATH **01** 22:52:25.1, 38.47N×25.62E, h33km±8km, MD3.2/8*
*NEIC **01** 22:52:25.1, 38.47N×25.62E, h33km, MD3.2(ATH), After ATH.*
*ISK **01** 22:52:27.2, 38.31N×25.61E, h35km, MD3.2*
ISC 01 22:52:23.6±1.1, 38.41N±0.04×25.61E±0.04, h2km±9km, n33, σ0°93/45, 2C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.98**	**31**	⇑*i*PN	**Pg**	**22 52 42.6**	**-0.6**
PRK				*e*SN	**Sg**	**22 52 56.6**	**+0.2**
PRK	**Paraskevi**	**0.98**	**31**	⇑*i*Pn	**Pg**	**22 52 42.6**	**-0.6**
PRK				*e*Sn	**Sg**	**22 52 56.6**	**+0.2**
BLCB	**Balcova**	**1.12**	**91**	PN	**Pn**	**22 52 46.5**	**+0.2**
BLCB				SN	**Sn**	**22 53 01.6**	**-0.9**
BLCB	**Balcova**	**1.12**	**91**	*e*Pn	**Pn**	**22 52 46.5**	**+0.2**
BLCB				*e*Sn	**Sn**	**22 53 01.6**	**-0.9**
SMG	**Samos**	**1.19**	**125**	*e*PN	**Pn**	**22 52 47.5**	**+0.3**
SMG				*e*SN	**Sn**	**22 53 04.4**	**+0.2**
SMG	**Samos**	**1.19**	**125**	*e*Pn	**Pn**	**22 52 47.5**	**+0.3**
SMG				*e*Sn	**Sn**	**22 53 04.4**	**+0.2**
AYVA	**Ayvalik**	**1.23**	**43**	*i* P	**Pb**	**22 52 47.2**	**0.0**
AYVA				*i* S	**Sb**	**22 53 03.0**	**-0.5**
IZM	**Izmir**	**1.30**	**90**	PN	**Pn**	**22 52 49.2**	**+0.5**
IZM				SN	**Sn**	**22 53 06.4**	**-0.5**
KDAG	**Bornova**	**1.30**	**90**	*i* P	**Pb**	**22 52 48.9**	**+0.5**
KDAG				*i* S	**Sb**	**22 53 04.9**	**-0.6**
APE	**Apeiranthos**	**1.34**	**183**	PN	**Pn**	**22 52 48.8**	**-0.5**
APE	**Apeiranthos**	**1.34**	**183**	*e*PB	**Pb**	**22 52 49.3**	**+0.2**
APE	**Apeiranthos**	**1.34**	**183**	*e*Pn	**Pn**	**22 52 48.8**	**-0.5**
APE	**Apeiranthos**	**1.34**	**183**	*e*Pb	**Pb**	**22 52 49.3**	**+0.2**
PTL	**Penteli**	**1.42**	**256**	*e*PN	**Pn**	**22 52 51.5**	**+1.0**
PTL	**Penteli**	**1.42**	**256**	*e*Pn	**Pn**	**22 52 51.5**	**+1.0**
BOZC	**Bozcaada**	**1.47**	**13**	*i* P	**Pn**	**22 52 49.9**	**-1.3**
MPAR	**Parnis Oros**	**1.50**	**261**	*e*PN	**Pn**	**22 52 52.2**	**+0.6**
MPAR	**Parnis Oros**	**1.50**	**261**	*e*Pn	**Pn**	**22 52 52.2**	**+0.6**
EZN	**Ezine**	**1.52**	**21**	*e*PN	**Pn**	**22 52 54.1**	**+2.2**
EZN				*e*SN	**Sn**	**22 53 13.5**	**+0.9**
EZN	**Ezine**	**1.52**	**21**	*e*Pn	**Pn**	**22 52 54.1**	**+2.2**
EZN				*e*Sn	**Sn**	**22 53 13.5**	**+0.9**
LIA	**Limnos Island**	**1.53**	**348**	*e*PB	**Pb**	**22 52 50.6**	**-1.7**
LIA	**Limnos Island**	**1.53**	**348**	*e*Pb	**Pb**	**22 52 50.6**	**-1.7**
NSAL	**Nisos Salamina**	**1.77**	**254**	*e*PB	**Pb**	**22 52 57.0**	**+0.6**
NSAL	**Nisos Salamina**	**1.77**	**254**	*e*Pb	**Pb**	**22 52 57.0**	**+0.6**
AKS	**Akhisar**	**1.79**	**74**	PN	**Pn**	**22 52 57.7**	**+2.0**
AKS	**Akhisar**	**1.79**	**74**	*e*Pn	**Pn**	**22 52 57.7**	**+2.0**
MGER	**Gerania Oros**	**1.90**	**258**	*e*PB	**Pb**	**22 52 58.0**	**-0.7**
MGER	**Gerania Oros**	**1.90**	**258**	*e*Pb	**Pb**	**22 52 58.0**	**-0.7**
AYDN	**Tasoluk**	**1.94**	**112**	*i* P	**Pn**	**22 53 03.0**	**+5.1**
MANT	**Manisa**	**2.32**	**87**	*i* P	**Pn**	**22 53 10.1**	**+6.8**
MANT				*i* S	**Sn**	**22 53 37.4**	**+4.6**
VLI	**Veliai**	**2.71**	**232**	*e*PN	**Pn**	**22 53 07.3**	**-1.7**
VLI	**Veliai**	**2.71**	**232**	*e*Pn	**Pn**	**22 53 07.3**	**-1.7**
DNZL	**Cakiroluk**	**2.81**	**104**	*i* P	**Pn**	**22 53 18.6**	**+8.3**

*BJI **01** 22:57:32.1, 7.80N×93.23E, h49km, mb4.8, Ms5.1, Msz5.1*
*NEIC **01** 22:57:33.7±0.5, 8.14N×93.34E, h30km, mb4.9/18, Error ellipse: s-maj=16.5km s-min=10.5km az=79.0*
ISC 01 22:57:31.6±3.6, 8.10N±0.08×93.40E±0.09, h27km±25km, n43, σ1°05/45, mb4.8/22, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**13.70**	**315**	*e*P	**P**	**23 00 46.0**	**-0.7**
VIS				*e*S	**S**	**23 02 58.0**	**-21**
VIS				*e*		23 03 09.5	
	comp=N,100nm,0.4s						
VIS				*e*		23 03 09.5	
	comp=E,127nm,0.5s						
BWNR	**Bhubaneshwar**	**14.18**	**330**	*e*P	**P**	**23 00 56.1**	**+3.1**
BWNR				*e*		23 00 56.7	
	comp=Z,54nm,0.4s						
BWNR				*e*S	**S**	**23 03 12.7**	**-18**
BWNR				*e*S	**S**	**23 03 13.6**	**-17**
BWNR				*e*		23 03 20.9	
	comp=N,83nm,0.2s						
BWNR				*e*		23 03 20.9	
	comp=E,130nm,0.3s						
TRD	**Trivandrum**	**16.27**	**273**	*e*P	**P**	**23 01 15.3**	**-4.9**
TRD				*e*S	**S**	**23 04 00.2**	**-19**
HYB	**Hyderabad**	**17.18**	**304**	*e*P	Px	23 01 47.0	
SHL	**Shillong**	**17.43**	**355**	*e*	**P**	**23 01 35.0**	**+0.3**
PKI	**Pulchoki**	**20.80**	**340**	*e*P	**P**	**23 02 13.3**	**-0.1**
	comp=E,98nm,1.0s						
DMN	**Daman**	**20.94**	**339**	*e*P	**P**	**23 02 14.2**	**-0.6**
	comp=E,74nm,0.8s						
GUN	**Gumba**	**20.95**	**341**	*e*P	**P**	**23 02 14.9**	**-0.1**
	comp=E,227nm,1.2s						
KKN	**Kakani**	**21.04**	**340**	*e*P	**P**	**23 02 15.5**	**-0.4**
	comp=E,73nm,0.8s,mb5.1						
GKN	**Gorkha**	**21.46**	**338**	*e*P	**P**	**23 02 20.5**	**+0.4**
BHPL	**Bhopal**	**21.49**	**316**	*e*		23 02 33.9	
BHPL				*e*S	**S**	**23 06 12.5**	**+0.2**
LSA	**Lhasa**	**21.60**	**355**	*e*P	**P**	**23 02 21.5**	**0.0**
	comp=E,19nm,0.3s,mb5.0						
KOLN	**Koldanda**	**21.65**	**336**	*e*P	**P**	**23 02 22.6**	**+0.6**
	comp=E,48nm,0.7s,mb5.0						
ENH	**Enshi**	**26.72**	**32**	*e*P	**P**	**23 03 10.5**	**-0.3**
	comp=E,24nm,0.9s,mb4.7						
XAN	**Xi'an**	**29.52**	**27**	P	**P**	**23 03 34.8**	**-1.3**
XAN				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.5						
BJT	**Baijiatuau**	**37.74**	**29**	*e*P	**P**	**23 04 48.0**	**+1.1**
	comp=Z,10nm,0.6s,mb4.7						
KBK	**Karagaybulak**	**38.06**	**338**	P	**P**	**23 04 50.8**	**+1.1**
	SNR=8.4						
AML	**Almayashu**	**38.10**	**336**	P	**P**	**23 04 51.2**	**+1.2**
	SNR=6.6						
AAK	**Ala-Archa**	**38.21**	**337**	P	**P**	**23 04 52.3**	**+1.4**
	SNR=5.7						
CHMS	**Chumysh**	**38.43**	**338**	P	**P**	**23 04 53.2**	**+0.5**
	SNR=5.3						
USP	**Ospenovka**	**38.76**	**338**	P	**P**	**23 04 55.7**	**+0.2**
	SNR=8.6						
MBWA	**Marble Bar**	**38.91**	**139**	*e*P	**P**	**23 04 56.6**	**-0.3**
	comp=Z,2.0nm,0.5s,mb4.1						
ULN	**Ulaanbaatar**	**41.29**	**14**	*e*P	**P**	**23 05 15.8**	**-0.6**
	comp=Z,4.0nm,0.7s,mb4.2						
KS15	**Wonju Array Si**	**42.75**	**42**	*e*P	**P**	**23 05 29.0**	**+0.6**
HIA	**Hailar**	**46.61**	**24**	*e*P	**P**	**23 05 59.5**	**+0.2**
	comp=Z,15nm,0.7s,mb5.0						
NWAO	**Narrogin (SRO)**	**46.68**	**152**	*e*P	**P**	**23 06 02.1**	**+2.1**
MDJ	**Mudanjiang**	**48.04**	**35**	P	**P**	**23 06 12.3**	**+1.8**
MDJ				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.9						
MDJ	**Mudanjiang**	**48.04**	**35**	*e*P	**P**	**23 06 12.1**	**+1.6**
	comp=Z,47nm,1.4s,mb5.3						
WRAB	**Tennant Creek**	**48.99**	**125**	*e*P	**P**	**23 06 16.7**	**-1.5**
	comp=Z,11nm,0.4s,mb5.2						
MAJO	**Matsushiro**	**49.56**	**48**	P	**P**	**23 06 22.8**	**+0.4**
	comp=Z,7.5nm,0.8s,mb4.8						
ARU	**Arti**	**55.40**	**337**	*e*P	**P**	**23 07 04.0**	**-1.8**
	comp=Z,12nm,1.2s,mb4.8						
YSS	**Yuzh-Sakhalins**	**57.06**	**38**	P	**P**	**23 07 16.9**	**-0.9**
	comp=Z,10nm,0.6s,mb5.0						
MALT	**Malatya**	**57.76**	**310**	*e*P	**P**	**23 07 21.0**	**-1.8**
	comp=Z,7.1nm,1.4s,mb4.5						
EIL	**Elat**	**58.68**	**300**	*e*P	**P**	**23 07 28.6**	**-0.7**
	comp=Z,4.1nm,0.9s,mb4.5						
YAK	**Yakutsk**	**60.02**	**19**	*e*P	**P**	**23 07 34.9**	**-3.3**
	comp=Z,16nm,0.7s,mb5.2						
STKA	**Stephens Creek**	**60.79**	**133**	*e*P	**P**	**23 07 42.7**	**-1.1**
MA2	**Magadan**	**66.91**	**28**	*e*P	**P**	**23 08 22.9**	**-0.6**
	comp=Z,17nm,0.7s,mb5.2						
KAF	**Kangasniemi**	**72.26**	**333**	*e*p	**P**	**23 08 55.4**	**-0.8**
	comp=Z,3.4nm,0.8s,mb4.3						
CASY	**Casey**	**75.23**	**173**	P	**P**	**23 09 14.0**	**+0.6**
BILL	**Bilibino**	**76.15**	**22**	*e*P	**P**	**23 09 17.7**	**-0.9**
	comp=Z,10nm,1.4s,mb4.6						
NB2	**NORSAR Subarra**	**79.18**	**331**	P	pP	23 09 42.4	-1.7
	comp=Z,3.1nm,0.8s,baz=93,slow=5.8						
IMA	**Indian Mountai**	**91.69**	**22**	*e*P	**P**	**23 10 38.8**	**+1.3**
	comp=Z,72nm,1.3s,mb5.8						
SNAA	**Sanae**	**99.60**	**199**	P	**P**	**23 11 15.5**	**+2.1**
	comp=Z,12nm,1.6s,mb5.1						

*NEIC **01** 23:04:49.9, 17.90N×68.50W, h94km, MD3.9(RSPR), After RSPR.*
RSPR 01 23:04:49.9, 17.89N×68.50W, h94km±2km, MD3.9/14, MD3.9/14, 12C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPR	**Mayaguez**	**1.34**	**76**	⇓*e*P	P	23 05 13.1	-1.1
MPR				*e*S	S	23 05 31.2	-1.1
MGP	**Maguayo**	**1.35**	**85**	⇑*e*P	P	23 05 13.6	-0.8
MGP				*e*S	S	23 05 32.0	-0.6
MGP	**Maguayo**	**1.35**	**85**	⇑*e*P	P	23 05 13.6	-0.8
MGP				*e*S	S	23 05 32.0	-0.6
LSP	**Las Mesas**	**1.38**	**78**	⇑*e*P	P	23 05 14.0	-0.7
LRS	**Lares**	**1.63**	**76**	⇓*e*P	P	23 05 16.8	-1.1
AOPR	**Arecibo Observ**	**1.73**	**75**	⇑*e*P	P	23 05 18.1	-1.0
AOPR				*e*S	S	23 05 40.7	0.0
PORP	**Portuguez**	**1.78**	**85**	⇑*e*P	P	23 05 19.3	-0.5
PORP				*e*S	S	23 05 42.1	+0.1
CELP	**Cerrillos**	**1.84**	**84**	⇑*e*P	P	23 05 19.3	-1.3
CELP				*e*S	S	23 05 42.3	-1.0
SJG	**San Juan**	**2.25**	**84**	⇓*e*P	P	23 05 25.0	-1.2
SJG				*e*S	S	23 05 52.5	-0.6
SJG	**San Juan**	**2.25**	**84**	⇑*e*P	P	23 05 25.0	-1.1
SJG	**San Juan**	**2.25**	**84**	⇑*e*P	P	23 05 25.0	-1.1
SJG				*e*S	S	23 05 52.6	-0.5
CSB	**Colonia Sabana**	**2.27**	**80**	⇑*e*P	P	23 05 25.2	-1.1
CSB				*e*S	S	23 05 52.7	-0.8
CPD	**Cerro la Pandu**	**2.47**	**86**	⇑*e*P	P	23 05 28.1	-1.1
CPD				*e*S	S	23 05 58.0	-0.5
HUMP	**Col San Antoni**	**2.54**	**84**	⇑*e*P	P	23 05 28.8	-1.3
HUMP				*e*S	S	23 06 00.1	-0.1
MTP	**Monte Pirata**	**2.81**	**86**	⇑*e*P	P	23 05 33.2	-0.8
MTP				*e*S	S	23 06 06.3	-0.7
SDV	**Santo Domingo**	**9.19**	**193**	*e*P	P	23 06 59.8	-1.4

*BJI **01** 23:11:14.3, 4.87N×92.78E, h30km, mB5.4, mb4.7, Ms4.8, Msz4.6*
*MOS **01** 23:11:21.5±1.9, 6.16N×93.37E, h33km, mb4.9/11, Error ellipse: s-maj=21.8km s-min=10.2km az=110.1*
*NEIC **01** 23:11:22.8±0.6, 5.71N×92.94E, h30km, mb4.8/14, Error ellipse: s-maj=14.6km s-min=11.4km az=184.0*
ISC 01 23:11:20.3±2.2, 5.62N±0.08×92.99E±0.06, h29km±14km, n72, σ1°13/76, mb4.8/26, MS4.4/1, 5C-3D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**14.03**	**24**	*e*P	**P**	**23 14 39.5**	**-0.1**
	3.5nm,0.7s						
VIS	**Vishakhapatnam**	**15.29**	**323**	*e*P	**P**	**23 14 54.7**	**-1.5**
VIS				*e*		23 17 29.2	
TRD	**Trivandrum**	**16.16**	**281**	*e*P	**P**	**23 15 06.6**	**-0.8**
TRD				*e*		23 15 07.3	
	comp=Z,32nm,0.9s						
TRD				*e*		23 17 55.8	
BWNR	**Bhubaneshwar**	**16.17**	**335**	*e*P	**P**	**23 15 02.1**	**-5.3**
BWNR				*e*		23 17 49.5	
HYB	**Hyderabad**	**18.35**	**311**	*i* P	**P**	**23 15 35.0**	**+0.2**
SHL	**Shillong**	**19.87**	**357**	*e*P	**P**	**23 15 51.0**	**-1.3**
LATR	**Latur**	**20.47**	**310**	*e*P	**P**	**23 15 59.0**	**+0.4**
LATR				*e*S	**S**	**23 19 40.0**	**-1.2**
QIZ	**Qiongzhong**	**21.16**	**49**	P	**P**	**23 16 06.9**	**+1.2**
QIZ				*e*S	**S**	**23 19 51.2**	**-3.3**
QIZ				LR	LR		
	comp=N,1μm,10.9s						
QIZ				LR	LR		
	comp=Z,888nm,11.7s,MS4.4						
QIZ	**Qiongzhong**	**21.16**	**49**	*e*P	**P**	**23 16 06.3**	**+0.7**
	comp=Z,57nm,1.2s,mb4.8						
KAD	**Karad**	**21.76**	**304**	*e*P	**P**	**23 16 12.6**	**+0.9**
KAD				*e*		23 20 17.3	
POO	**Poona**	**22.66**	**306**	⇓*i*P	**P**	**23 16 19.0**	**-1.8**
POO				*i* S	**S**	**23 20 24.0**	**+1.7**
PKI	**Pulchoki**	**22.99**	**343**	*e*P	**P**	**23 16 24.7**	**+0.7**
	comp=Z,37nm,0.6s,mb5.0						
BHPL	**Bhopal**	**23.07**	**321**	*e*P	**P**	**23 16 24.7**	**0.0**
BHPL				*e*		23 16 30.0	
	comp=Z,30nm,0.8s						
BHPL				*e*		23 20 45.5	
DMN	**Daman**	**23.12**	**342**	*e*P	**P**	**23 16 26.0**	**+0.8**
	comp=Z,38nm,0.5s,mb5.1						
GUN	**Gumba**	**23.18**	**344**	*e*P	**P**	**23 16 26.3**	**+0.5**
	comp=Z,46nm,0.7s,mb5.0						
KKN	**Kakani**	**23.24**	**342**	*e*P	**P**	**23 16 26.7**	**+0.4**
	comp=Z,149nm,1.3s,mb5.3						
GKN	**Gorkha**	**23.64**	**341**	*e*P	**P**	**23 16 31.1**	**+0.9**
	comp=Z,196nm,1.1s,mb5.4						
KOLN	**Koldanda**	**23.77**	**339**	*e*P	**P**	**23 16 33.0**	**+1.5**
	comp=Z,60nm,0.8s,mb5.1						
LSA	**Lhasa**	**24.02**	**356**	P	**P**	**23 16 35.6**	**+1.7**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.2						
LSA	**Lhasa**	**24.02**	**356**	*e*P	**P**	**23 16 35.3**	**+1.4**
	comp=Z,9.7nm,0.7s,mb4.3						
ENH	**Enshi**	**29.04**	**30**	*e*P	**P**	**23 17 19.1**	**-1.2**
	comp=Z,15nm,1.3s,mb4.6						
XAN	**Xi'an**	**31.91**	**26**	P	**P**	**23 17 44.6**	**-1.2**
XAN				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
WMQ	**Urumqi**	**38.33**	**354**	P	**P**	**23 18 41.5**	**+1.0**
UCH	**Uchtor**	**39.98**	**339**	P	**P**	**23 18 55.3**	**+1.0**
	SNR=12						
KBK	**Karagaybulak**	**40.20**	**339**	P	**P**	**23 18 57.5**	**+1.4**
	SNR=15						
AML	**Almayashu**	**40.21**	**338**	P	**P**	**23 18 57.4**	**+1.4**
	SNR=12						
AAK	**Ala-Archa**	**40.35**	**339**	P	**P**	**23 18 58.8**	**+1.6**
	SNR=6.6						
AAK	**Ala-Archa**	**40.35**	**339**	⇑*i*P	**P**	**23 18 53.8**	**-3.4**
AAK				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.5						
EKS2	**Erkin-Say**	**40.63**	**338**	P	**P**	**23 19 00.7**	**+1.2**
	SNR=5.3						
USP	**Ospenovka**	**40.90**	**339**	P	**P**	**23 19 02.3**	**+0.6**
	SNR=16						
ULN

MALT	**Malatya**	59.07	312	*e*P	P	23 21 18.4	-2.1
	comp=Z,7.5nm,1.1s,mb4.6						
EIL	**Elat**	59.57	301	*e*P	P	23 21 24.5	+0.4
	comp=Z,8.7nm,0.8s,mb4.8						
YAK	**Yakutsk**	62.49	19	*e*P	P	23 21 38.4	-5.0
YAK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
ISP	**Isparta**	64.94	309	*e*P	P	23 21 58.2	-1.7
OBN	**Obninsk**	66.68	329	⇑*i*P	P	23 22 08.3	-2.4
OBN				pmax	pmax		
	comp=Z,43nm,1.9s,mb5.2						
OBN	**Obninsk**	66.68	329	*e*P	P	23 22 09.2	-1.5
	comp=Z,39nm,1.4s,mb5.2						
SANT	**Santorini**	68.63	307	P	P	23 22 21.6	-1.7
	comp=Z,39nm,1.2s,mb5.2						
TIXI	**Tiksi**	69.66	11	⇑*i*P	P	23 22 28.8	-0.2
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
KOLS	**Kolonicke sedl**	73.15	319	*i*P	P	23 22 50.8	+0.5
CRVS	**Cervenica-Dubn**	73.67	319	*i*P	P	23 22 54.4	+1.1
FINES	**FINESS Array B**	74.17	333	*i*P	P	23 22 55.5	-0.4
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KAF	**Kangasniemi**	74.27	333	*e*p	P	23 22 55.4	-1.1
	comp=Z,4.9nm,0.8s,mb4.5						
KAF	**Kangasniemi**	74.27	333	*e*P	P	23 22 55.4	-1.1
KAF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
OJC	**Ojcow**	74.96	320	*e*P	P	23 23 00.9	+0.2
OJC	**Ojcow**	74.96	320	*e*P	P	23 23 00.9	+0.2
OJC	**Ojcow**	74.96	320	*e*P	P	23 23 00.9	+0.2
VYHS	**Vyhne**	75.32	319	*i*P	P	23 23 02.8	0.0
ZST	**Bratislava**	76.43	318	*i*P	P	23 23 09.8	+0.7
DPC	**Dobruska-Polom**	77.19	320	*e*P	P	23 23 14.3	+1.0
KSP	**Ksiaz**	77.27	321	*e*P	P	23 23 14.3	+0.6
PRU	**Pruhonice**	78.29	320	*e*P	P	23 23 20.0	+0.7
BRG	**Berggiesshubel**	78.75	321	*i*P	P	23 23 22.5	+0.7
BRG				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.7						
BRG	**Berggiesshubel**	78.75	321	*i*P	P	23 23 22.5	+0.7
	comp=Z,17nm,1.7s,mb4.7						
KHC	**Kasperske Hory**	78.84	319	*e*P	P	23 23 21.1	-1.3
KHC	**Kasperske Hory**	78.84	319	*e*P	P	23 23 22.8	+0.4
CLL	**Collm**	79.38	321	*e*P	P	23 23 22.0	-3.3
CLL	**Collm**	79.38	321	P	P	23 23 26.0	+0.7

WEL 01 23:14:11.8±0.4, 38.31S×175.96E, h189km±3km, ML3.6/7, 2C, Error ellipse: s-maj=3.8km s-min=3.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGZ	**Maungaku**	0.76	205	PN	P	23 14 39.1	0.0
NGZ	**Ngauruhoe**	0.91	198	PN	P	23 14 40.0	0.0
CNZ	**Chateau**	0.94	200	PN	P	23 14 40.1	-0.1
BKZ	**Black Stump Fm**	0.95	154	⇑PN	P	23 14 40.1	-0.1
BKZ				SN	S	23 15 02.0	-0.2
TUVZ	**Tukino**	0.98	194	PN	P	23 14 40.4	0.0
MOVZ	**Moawhango**	1.10	188	PN	P	23 14 40.8	-0.5
MOVZ				SN	S	23 15 03.3	-1.0
MWZ	**Matawai**	1.24	92	PN	P	23 14 41.9	-0.6
MWZ				SN	S	23 15 05.3	-0.9
KNZ	**Kokohu**	1.52	118	PN	P	23 14 44.8	-0.2
KNZ				SN	S	23 15 10.3	-0.4
TSZ	**Takapari Road**	1.75	180	⇑PN	P	23 14 46.4	-0.9
TSZ				SN	S	23 15 13.1	-1.5
MRZ	**Mangatainoka R**	2.37	187	PN	P	23 14 51.9	-2.0
KIW	**Kapiti Island**	2.67	197	PN	P	23 14 54.9	-2.6
MTW	**Mount Morrison**	2.86	187	PN	P	23 14 56.8	-2.9
CAW	**Cannon Point**	2.88	194	PN	P	23 14 57.2	-2.7
MRW	**Makara Radio**	3.07	198	PN	P	23 14 59.4	-2.8
MSWZ	**Moikau Station**	3.15	190	PN	P	23 14 59.9	-3.3
TUWZ	**Tuamarina**	3.48	206	PN	P	23 15 03.7	-3.6
KHZ	**Kahutara**	4.50	203	PN	P	23 15 16.2	-4.0
MQZ	**McQueen's Vall**	5.94	204	*e*SN	S	23 16 37.5	-9.1
ODZ	**Otahua Downs**	7.81	209	PN	P	23 15 57.7	-5.7

JMA 01 23:20:30.3±0.2, 27.57N×143.29E, h4km, M4.1, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	1.09	245	P	Pb	23 20 51.3	-0.1
CBIJ				*e*S	Sb	23 21 06.7	+0.9
JHHJ	**Haha-jima-NKT**	1.36	227	P	Pb	23 20 56.0	0.0
JHHJ				*e*S	Sb	23 21 13.1	-0.6
JHU	**Hanno**	8.93	339	P	P	23 22 40.8	-2.3
JHU				*e*S	Sn	23 24 18.9	-6.4
JRY	**Ryogami san**	9.21	337	P	P	23 22 45.5	-1.4
JHO	**Hitachi**	9.30	346	P	P	23 22 45.6	-2.6
JHO				*e*S	Sn	23 24 23.7	-11
JAG	**Ashikaga**	9.41	341	P	P	23 22 47.6	-2.1
JAG				*e*S	Sn	23 24 28.8	-8.3

*GRAL **01** 23:25:13.7±1.4, 33.14N×35.87E, h15km±999km, MD2.9*
*CSEM **01** 23:25:13.7, 33.14N×35.87E, h15km, ML2.9, After GRAL*
*GII **01** 23:25:16.3±2.4, 33.25N×35.79E, h1km±8km, ML1.9/3, Mw2.1/2*

ISC 01 23:25:15.2±0.7, 33.30N±0.02×35.85E±0.05, h1km, n16, σ0§82/27, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRI	**Mount Hermon**	0.10	250	Pg	**Pg**	23 25 17.6	+0.5
HRI				Sg	**Sg**	23 25 18.5	0.0
KSDI	**Kefar Szold**	0.19	236	Pg	**Pg**	23 25 19.2	+0.3
KSDI				Sg	**Sg**	23 25 22.3	+0.8
KSHT	**Keshet**	0.32	185	Pg	**Pg**	23 25 22.4	+0.9
KSHT				Sg	**Sg**	23 25 27.8	+2.0
MATL	**Matirih**	0.47	294	*i*PG	**Pg**	23 25 24.5	-0.1
MATL	**Matirih**	0.47	294	*i*Pg	**Pg**	23 25 24.5	-0.1
HNTI	**Hanita**	0.60	249	Pg	**Pg**	23 25 27.1	-0.1
HNTI				Sg	**Sg**	23 25 35.8	+0.5
BHL	**Bhannes**	0.62	345	*i*PG	**Pg**	23 25 27.0	-0.7
BHL				*i*SG	**Sg**	23 25 37.1	+1.2
BHL	**Bhannes**	0.62	345	*i*Pg	**Pg**	23 25 27.0	-0.6
BHL				*i*Sg	**Sg**	23 25 37.1	+1.1
HAF	**Haifa**	0.86	233	Pg	**Pg**	23 25 31.9	-0.5
MMLI	**Mount Malkishu**	0.93	203	Pg	**Pg**	23 25 33.2	-0.5
HWQ	**Hawqa**	0.98	5	*i*PG	**Pg**	23 25 33.1	-1.6
HWQ				*i*SG	**Sg**	23 25 48.7	+0.9
HWQ	**Hawqa**	0.98	5	*i*Pg	**Pg**	23 25 33.1	-1.6
HWQ				*i*Sg	**Sg**	23 25 48.7	+0.9
OFRI	**'Ofer**	0.99	227	Pg	**Pg**	23 25 34.0	-1.0
OFRI				Sg	**Sg**	23 25 48.0	-0.2
SLTI	**Sal'it**	1.25	213	Pg	**Pg**	23 25 39.0	-1.2
SLTI				Sg	**Sg**	23 25 55.9	-1.1
DRGI	**Dragot**	1.74	193	Pn	**Pn**	23 25 46.5	-0.3
MKRJ	**Makawir**	1.75	186	Pn	**Pn**	23 25 47.1	+0.2
MKRJ				Sn	**Sn**	23 26 10.5	+0.3

*NNC **01** 23:28:22.1±6.8, 42.77N×78.60E, mpv3.8, Error ellipse: s-maj=96.9km s-min=31.2km az=148.0*

ISC 01 23:28:25.3±3.0, 42.5N±0.3×78.6E±0.3, h33km, n12, σ0§99/13, 3C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	1.79	261	P	**P**	23 28 51.9	-2.3
	SNR=505						
TKM2	**Tokmak 2**	2.27	281	P	**P**	23 29 00.2	-0.9
	SNR=120						
KZA	**Kyzart**	2.55	261	P	**P**	23 29 04.9	-0.2
	SNR=85						
KBK	**Karagaybulak**	2.72	274	P	**P**	23 29 07.2	-0.4
	SNR=120						
CHMS	**Chumysh**	2.89	280	P	**P**	23 29 10.2	+0.2
	SNR=28						
AAK	**Ala-Archa**	3.05	273	⇑Pn	**Pn**	23 29 12.6	+0.1
	29nm,0.3s,baz=128,slow=28						
AAK				⇓Lg		23 29 50.4	
	180nm,0.6s,baz=213,slow=28						
AAK	**Ala-Archa**	3.05	273	P	**P**	23 29 12.5	+0.2
	SNR=31						
UCH	**Uchtor**	3.06	266	P	**P**	23 29 12.4	-0.1
	SNR=31						
USP	**Ospenovka**	3.12	285	P	**P**	23 29 12.6	-0.6
	SNR=21						
EKS2	**Erkin-Say**	3.58	274	P	**P**	23 29 21.7	+1.8
	SNR=19						
AML	**Almayashu**	3.68	265	P	**P**	23 29 23.4	+2.1
	SNR=21						
MK31	**Makanchi Array**	4.99	30	⇓Pn	**Pn**	23 29 40.0	0.0
	2.8nm,0.5s,baz=204,slow=15						
MK31				⇑Sn	**Sn**	23 30 37.4	0.0
	20nm,0.6s,baz=211,slow=23						
MK31				⇑Lg		23 30 53.0	
	11nm,0.3s,baz=213,slow=28						

*BJI **01** 23:40:21.2, 2.39N×96.49E, h30km, mB5.4, mb5.0, Ms4.7, Msz4.6*
*MOS **01** 23:40:27.7±1.6, 3.24N×96.66E, h35km, mb5.2/13, Error ellipse: s-maj=17.8km s-min=9.1km az=108.7*
*HRVD **01** 23:40:29.4±0.6, 2.74N×96.33E, h58km±2km, MW4.9/41, Centroid moment Tensor Solution. LP body waves: s19,c25;Mantle waves: s41,c60; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.83±.22; $M_{\theta\theta}$-1.42±.14; $M_{\phi\phi}$-0.41±.19; $M_{r\theta}$0.80±.10; $M_{\theta\phi}$1.93±.11; $M_{\phi r}$-1.04±.14; Best double couple: $M_0$2.735×10^{16} NP1:ϕ_s289°, δ33°, λ62°. NP2:ϕ_s141°, δ61°, λ107°. Principal axes: T 2.239, Plg69°, Azm87°; N .991, Plg15°, Azm313°; P -3.231, Plg14°, Azm219°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 23:40:29.4±0.3, 3.18N×96.49E, h30km, mb5.0/34 Error ellipse: s-maj=9.7km s-min=7.1km az=50.0*
*DJA **01** 23:40:50.9±0.4, 3.55N×99.38E, h2km, mb4.5/3, Error ellipse: s-maj=22.1km s-min=8.5km az=175.0*

ISC 01 23:40:29.1±0.3, 3.25N±0.05×96.57E±0.05, h41km, h41km±2.8km: pP-P, n120, σ1§17/120, mb5.0/51, MS4.8/3, 9C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	2.00	83	*e*P	**P**	23 41 08.0	+6.8
PSI	**Prapat**	2.41	103	*e*P	**P**	23 41 11.4	+4.4
CM31	**Chiang Mai Arr**	15.29	9	P	**P**	23 44 03.5	-0.4
	8.9nm,0.6s						
KOD	**Kodaikanal**	20.19	291	*e*P	**P**	23 45 02.8	-0.5
QIZ	**Qiongzhong**	20.36	39	P	**P**	23 45 07.0	+2.0
QIZ				*e*S	**S**	23 48 47.3	+1.5
QIZ				LR	LR		
	comp=N,950nm,15.3s,MS4.4						
QIZ				LR	LR		
	comp=E,839nm,14.6s,MS4.4						
QIZ				LR	LR		
	comp=Z,1μm,17.6s,MS4.4						
QIZ	**Qiongzhong**	20.36	39	*e*P	**P**	23 45 06.4	+1.5
	comp=Z,61nm,1.3s						
IMP	**Imphal**	21.56	353	*e*P	**P**	23 45 16.2	-1.0
HYB	**Hyderabad**	22.60	310	*i*P	**P**	23 45 31.5	+3.8
	comp=Z,93nm,1.2s,mb5.1						
HYB				*e*S	**S**	23 49 40.0	+12
SHL	**Shillong**	22.65	349	*e*P	**P**	23 45 27.4	-0.6
SHL				*e*		23 45 31.4	
	comp=Z,50nm,0.6s						
SHL				*e*S	**S**	23 49 37.0	+8.4
MNGI	**Mangalore**	23.57	295	*e*P	**P**	23 45 39.4	+2.3
MNGI				*e*		23 45 48.6	
	comp=Z,47nm,1.5s						
TANI	**Tanete Lipujan**	23.74	106	⇑*e*P	**P**	23 45 39.7	+0.9
	comp=Z,16nm,0.5s,mb4.4						
NINI	**Niniconang**	24.38	108	⇓*e*P	**P**	23 45 46.4	+1.3
	comp=Z,206nm,0.5s,mb5.5						
BUNI	**Buntu Taipa**	24.71	106	⇑*i*P	**P**	23 45 50.1	+1.9
	comp=Z,47nm,0.4s,mb5.1						
GOA	**Goa**	25.49	300	*e*P	**P**	23 45 55.5	-0.1
GOA				*e*		23 46 15.9	
	comp=Z,56nm,1.2s						
DGAR	**Diego Garcia**	26.30	246	*e*P	pP	23 46 11.0	-3.0
	comp=Z,87nm,1.0s						
PKI	**Pulchoki**	26.44	337	*e*P	**P**	23 46 02.9	-1.4
	comp=Z,31nm,0.7s,mb5.0						
GUN	**Gumba**	26.57	338	*e*P	**P**	23 46 05.3	-0.2
	comp=Z,76nm,0.6s,mb5.4						
DMN	**Daman**	26.59	337	*e*P	**P**	23 46 03.6	-2.1
	comp=Z,60nm,0.9s,mb5.1						
KKN	**Kakani**	26.68	337	*e*P	**P**	23 46 05.6	-0.9
	comp=Z,87nm,1.1s,mb5.2						
LSA	**Lhasa**	26.81	349	P	**P**	23 46 08.1	+0.4
LSA				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8						
LSA	**Lhasa**	26.81	349	*e*P	**P**	23 46 08.1	+0.5
	comp=Z,27nm,0.8s,mb4.8						
GKN	**Gorkha**	27.12	336	*e*P	**P**	23 46 10.0	-0.6
	comp=Z,68nm,0.7s,mb5.3						
KOLN	**Koldanda**	27.35	334	*e*P	**P**	23 46 12.5	-0.2
	comp=Z,67nm,0.7s,mb5.2						
BOM	**Bombay**	27.96	306	*e*P	**P**	23 46 14.5	-3.8
BOM				*e*		23 46 16.9	
	comp=Z,102nm,1.8s						
ENH	**Enshi**	29.53	23	*e*P	**P**	23 46 31.7	-0.5
	comp=Z,31nm,0.7s,mb5.1						
NDI	**New Delhi**	31.29	326	*e*P	**P**	23 46 47.2	-0.6
NDI				*e*		23 46 48.6	
	comp=Z,31nm,1.4s						
DDI	**Dehra Dun**	32.13	329	*e*P	**P**	23 46 54.6	-0.5
XAN	**Xi'an**	32.73	19	P	**P**	23 47 00.1	-0.2
XAN				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.9						
MBWA	**Marble Bar**	33.21	138	P	**P**	23 47 03.4	-1.2
	comp=Z,35nm,1.3s,mb5.1						
SMLA	**Simla**	33.23	329	*e*	**P**	23 47 18.0	+13
SMLA				*e*	pP	23 47 31.2	+15
	comp=Z,71nm,1.6s						
NJ2	**Nanjing**	35.49	34	*e*P	**P**	23 47 22.5	-1.5
NJ2				AP	pP	23 47 32.4	-3.0
NJ2				XP	sP	23 47 36.1	-4.5
NJ2				PP	PP	23 48 42.0	-2.7
NJ2				S	**S**	23 52 55.0	-0.7
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,600nm,4.2s						
NJ2				LR	LR		
	comp=N,3μm,16.0s,MS5.4						
NJ2				LR	LR		
	comp=E,4μm,14.0s,MS5.4						
NJ2				LR	LR		
	comp=Z,3μm,15.2s,MS5.2						
FITZ	**Fitzroy Crossi**	35.64	128	*e*P	**P**	23 47 24.1	-1.4
	comp=Z,19nm,0.9s,mb5.0						
SSE	**Sheshan**	36.14	37	P	**P**	23 47 25.7	-3.9
SSE				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,65nm,4.0s						
KAKA	**Kakadu**	38.99	115	*e*P	**P**	23 47 52.8	-0.7
	comp=Z,16nm,0.5s,mb5.0						
BJT	**Baijiatuao**	40.68	23	*e*P	**P**	23 48 09.2	+1.8
	comp=Z,36nm,0.8s,mb5.0						
NWAO	**Narrogin (SRO)**	40.95	153	P	**P**	23 48 10.1	+0.5
	comp=Z,39nm,1.1s,mb5.0						
WMQ	**Urumqi**	41.16	350	P	**P**	23 48 11.5	+0.2
UCH	**Uchtor**	43.54	336	P	**P**	23 48 32.1	+1.4
	SNR=34						
WRAB	**Tennant Creek**	43.66	123	*e*P	**P**	23 48 29.4	-2.7
WB2	**Warramunga Arr**	43.67	123	*e*P	**P**	23 48 32.0	-0.1
TKM2	**Tokmak 2**	43.70	338	P	**P**	23 48 33.4	+1.3
	SNR=12						
KBK	**Karagaybulak**	43.73	337	P	**P**	23 48 33.7	+1.4
	SNR=35						
AML	**Almayashu**	43.79	335	P	**P**	23 48 34.4	+1.6
	SNR=16						
AAK	**Ala-Archa**	43.88	336	P	**P**	23 48 36.1	+2.5
	SNR=11						
AAK	**Ala-Archa**	43.88	336	⇓*i*P	**P**	23 48 30.5	-3.1
AAK				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.8						
AAK	**Ala-Archa**	43.88	336	*e*P	**P**	23 48 33.7	+0.1
	comp=Z,14nm,0.8s,mb4.7						
FRU	**Bishkek**	44.01	337	*e*P	**P**	23 48 36.0	+1.5
FRU				pmax	pmax		
	comp=Z,66nm,2.0s,mb5.0						
CHMS	**Chumysh**	44.09	337	P	**P**	23 48 35.8	+0.6
	SNR=12						
EKS2	**Erkin-Say**	44.20	336	P	**P**	23 48 37.3	+1.2
	SNR=27						
USP	**Ospenovka**	44.42	337	P	**P**	23 48 38.6	+0.8
	SNR=57						
KS15	**Wonju Array Si**	44.52	36	P	**P**	23 48 39.1	+0.3
ULN	**Ulaanbaatar**	45.36	10	*i*P	**P**	23 48 43.7	-1.6
ULN	**Ulaanbaatar**	45.36	10	*e*P	**P**	23 48 45.6	+0.3
	comp=Z,15nm,1.1s,mb4.7						
ZAK	**Zakamensk**	47.31	6	⇑*i*P	**P**	23 49 00.9	+0.3
TLY	**Talaya**	48.63	6	⇑*i*P	**P**	23 49 08.2	-2.7
TLY				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0						
TLY	**Talaya**	48.63	6	*e*P	**P**	23 49 11.6	+0.7
	comp=Z,15nm,0.8s,mb5.1						
HIA	**Hailar**	49.92	20	⇓*i*P	**P**	23 49 19.6	-1.3
HIA	**Hailar**	49.92	20	*e*P	**P**	23 49 21.2	+0.3
	comp=Z,40nm,1.0s,mb5.4						
NVS	**Novosibirsk**	52.57	350	*e*P	**P**	23 49 39.1	-1.7
NVS				pmax	pmax		
	comp=N,29nm,1.0s						
NVS				pmax	pmax		
	comp=E,22nm,1.0s						
NVS				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.3						
CTA	**Charters Tower**	53.98	118	*e*P	**P**	23 49 51.5	-0.2
	comp=Z,7.2nm,0.8s,mb4.7						
CTAO	**Charters Tower**	53.98	118	*e*P	**P**	23 49 51.6	-0.1
	comp=Z,15nm,1.0s,mb4.9						
KLR	**Kul'dur**	54.73	28	*e*P	**P**	23 49 54.3	-2.5
STKA	**Stephens Creek**	55.19	133	⇑*i*P	**P**	23 50 00.9	+0.5
	comp=Z,5.7nm,0.6s,mb4.8						
BOD	**Bodaibo**	56.13	11	⇓*i*P	**P**	23 50 06.6	-0.2
YSS	**Yuzh-Sakhalins**	59.03	35	⇓*i*P	**P**	23 50 27.9	+0.5
YSS	**Yuzh-Sakhalins**	59.03	35	*e*P	**P**	23 50 27.7	+0.3
	comp=Z,23nm,1.0s,mb5.2						
GNI	**Garni**	59.40	316	⇑*i*P	**P**	23 50 28.6	-1.4
GNI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GNI	**Garni**	59.40	316	*e*P	**P**	23 50 27.5	-2.5
	comp=Z,12nm,0.8s,mb5.0						
KMBO	**Kilima Mbogo**	59.45	267	*i*P	**P**	23 50 30.2	-0.6
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KMBO	**Kilima Mbogo**	59.45	267	*e*P	**P**	23 50 29.7	-1.1
	comp=Z,9.8nm,1.2s,mb4.7						
TI2	**Plekhanov**	60.05	317	*e*P	**P**	23 50 34.6	+0.1
SVE	**Sverdlovsk**	60.57	338	*e*P	**P**	23 50 37.0	-0.8
ARU	**Arti**	61.07	337	⇓*i*P	**P**	23 50 39.9	-1.3
ARU				*e*		23 51 18.7	
ARU				*e*PPP	PPP	23 54 19.8	-6.4
ARU				*e*S	**S**	23 58 59.5	+4.1
ARU				*e*SS	SS	00 03 01.7	+4.9
ARU				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
ARU	**Arti**	61.07	337	*e*P	**P**	23 50 39.2	-1.9
	comp=Z,9.2nm,0.8s,mb5.0						
KIV	**Kislovodsk**	62.36	319	P	**P**	23 50 49.6	-0.4
	comp=Z,136nm,0.9s,mb6.1,SNR=10						
GOF	**Gofitskoye**	62.60	320	*e*P	pP	23 51 01.0	-2.6
GOF				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.3						
MALT	**Malatya**	63.31	312	*e*P	**P**	23 50 55.7	-0.8
	comp=Z,8.8nm,0.9s,mb4.9						
YAK	**Yakutsk**	63.65	17	*e*P	**P**	23 50 57.7	-0.6
YAK				*e*	pP	23 51 11.6	+1.3
YAK				pmax	pmax		
	comp=N,11nm,1.0s						
YAK				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4						
YAK				pmax	pmax		
	comp=E,9.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.2						
YAK				pmax	pmax		
	comp=N,10.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.0s						
YAK	**Yakutsk**	63.65	17	*e*P	**P**	23 50 57.3	-0.9
	comp=E,153nm,1.0s,mb6.0						
EIL	**Elat**	63.85	301	*e*P	**P**	23 50 59.7	-0.5
	comp=E,13nm,0.9s,mb5.0						
EIL				*e*	pP	23 51 10.8	-1.4
SOC	**Sochi**	64.19	317	*e*P	**P**	23 51 00.1	-2.0
SOC				*e*		23 53 27.0	
SOC				*e*PPP	PPP	23 54 52.0	-5.8
SOC				*e*S	**S**	23 59 27.5	-7.4
SOC				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
SOC				pmax	pmax		
	comp=N,9.0nm,0.9s						
SOC				pmax	pmax		
	comp=E,8.0nm,1.0s						
KAHT	**Ahir Dag**	64.27	310	*i*P	**P**	23 51 04.5	+1.8
MBAR	**Mbarara**	65.92	268	*e*P	**P**	23 51 15.0	+1.2
	comp=E,12nm,1.2s,mb4.8						
ISP	**Isparta**	69.20	309	⇑*i*P	**P**	23 51 36.3	+2.4
MOS	**Moscow**	70.27	329	*e*P	**P**	23 51 37.0	-3.1
MOS				*e*		23 51 52.8	
OBN	**Obninsk**	70.56	328	⇑*i*P	**P**	23 51 39.1	-2.8
OBN				pmax	pmax		
	comp=Z,35nm,1.7s,mb5.0						
OBN	**Obninsk**	70.56	328	P	**P**	23 51 38.8	-3.0
	comp=Z,72nm,1.4s,mb5.4						
PET	**Petropavlovsk**	70.90	34	*e*P	sP	23 51 57.9	-2.7
TIXI	**Tiksi**	71.30	10	*e*P	**P**	23 51 45.6	-0.4
TIXI				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
TIXI				MLR	MLR		
	comp=Z,498nm,16.0s,MS4.9						
LBTB	**Lobatse**	74.24	243	*e*P	**P**	23 52 02.2	-2.1
	comp=Z,15nm,0.9s,mb4.9						
KWP	**Kalwaria**	77.11	320	*e*P	**P**	23 52 20.6	+0.5
	comp=Z,34nm,1.0s,mb5.2						
KOLS	**Kolonicke sedl**	77.27	319	*i*P	**P**	23 52 22.0	+1.0
SUW	**Suwalki**	77.65	325	*e*P	**P**	23 52 15.1	-7.9
	comp=Z,119nm,1.1s,mb5.7						
CRVS	**Cervenica-Dubn**	77.79	319	*i*P	**P**	23 52 24.1	+0.2
FINES	**FINESS Array B**	77.91	332	*i*P	**P**	23 52 24.0	-0.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KAF	**Kangasniemi**	77.99	333	*e*p	**P**	23 52 21.1	-3.6
	comp=Z,10nm,0.9s,mb4.8						
KAF	**Kangasniemi**	77.99	333	*e*P	**P**	23 52 21.1	-3.6
KAF				pmax	pmax		
	comp

SCPH			*e*S	**S**	**00 05 33.6**	**-2.8**
MSLP	**Maasin**	**0.66 281**	*e*P	**P**	**00 05 18.3**	**+0.6**
MSLP			*e*S	**S**	**00 05 39.1**	**0.0**
BUTP	**Butuan**	**1.04 174**	*e*P	**P**	**00 05 20.8**	**+0.9**
OCLP	**Ormoc**	**1.37 319**	*e*P	**P**	**00 05 22.3**	**-0.4**
LLP	**Lapu-Lapu**	**1.56 281**	⇓*i*P	**P**	**00 05 25.0**	**+0.7**
LLP			*i* S	**S**	**00 05 49.9**	**-0.8**
BESP	**Borongan**	**1.58 357**	*e*P	**P**	**00 05 24.7**	**+0.1**
BESP			*e*S	**S**	**00 05 50.3**	**-0.9**
TBP	**Tagbilaran**	**1.66 259**	⇓*i*P	**P**	**00 05 25.8**	**+0.5**
TBP			*i* S	**S**	**00 05 50.9**	**-1.6**
CGP	**Cagayan de Oro**	**1.75 208**	⇓*e*P	**P**	**00 05 27.1**	**+1.0**
BIPH	**Bislig**	**2.00 155**	⇓*i*P	**P**	**00 05 29.4**	**+0.8**
BIPH			*i* S	**S**	**00 05 58.0**	**-0.2**
BUKP	**Musuan**	**2.16 192**	*e*P	**P**	**00 05 32.3**	**+1.8**
DCPH	**Dipolog City**	**2.56 237**	⇓*i*P	**P**	**00 05 35.1**	**+0.1**
PAGZ	**Pagadian**	**3.01 225**	*e*P	**P**	**00 05 39.7**	**-0.5**
MATI	**Mati**	**3.13 166**	*e*P	**P**	**00 05 41.4**	**-0.2**
RCP	**Roxas**	**3.13 300**	⇑*e*P	**P**	**00 05 42.5**	**+0.9**
IPIL	**Ipil**	**3.65 233**	*e*P	**P**	**00 05 47.1**	**-1.0**
PVCP	**Virac**	**3.81 340**	*e*P	**P**	**00 05 49.2**	**-0.8**
OTRP	**Odiongan**	**4.15 305**	*e*P	**P**	**00 05 52.6**	**-1.7**
GQP	**Guinayangan**	**4.90 322**	⇑*e*P	**P**	**00 06 04.1**	**+0.3**
SJMP	**San Jose**	**4.96 300**	*e*P	**P**	**00 06 05.8**	**+1.3**
BOAC	**Boac**	**4.97 314**	*e*P	**P**	**00 06 05.2**	**+0.5**
LQP	**Lukban**	**5.64 317**	⇑*e*P	**P**	**00 06 14.0**	**+0.7**
TGY	**Tagaytay City**	**6.05 313**	⇓*e*P	**P**	**00 06 07.6**	**-11**
QVPH	**Quezon City--P**	**6.35 317**	⇑*e*P	**P**	**00 06 17.1**	**-5.4**
LUBP	**Lubang**	**6.35 306**	*e*P	**P**	**00 06 23.7**	**+1.1**
CAUP	**Cauayan**	**7.77 333**	*e*P	**P**	**00 06 40.3**	**-0.9**
SCZP	**Santa Cruz**	**7.92 317**	*e*P	**P**	**00 06 43.8**	**+0.7**
CVP	**Callao Caves**	**8.45 335**	*e*P	**P**	**00 06 50.0**	**0.0**
APYP	**Conner**	**8.84 332**	*e*P	**P**	**00 06 54.8**	**-0.3**
KAKA	**Kakadu**	**23.60 163**	*e*P	**P**	**00 09 44.1**	**-0.5**
	15nm,0.4s,mb5.0					
KAKA			*e*		00 09 45.9	
FITZ	**Fitzroy Crossi**	**27.93 180**	*e*P	**P**	**00 10 23.6**	**-0.9**
	14nm,0.9s,mb4.6					
WB2	**Warramunga Arr**	**31.01 164**	*e*P	**P**	**00 10 49.9**	**-1.7**
STKA	**Stephens Creek**	**44.40 160**	*e*P	**P**	**00 12 43.4**	**+0.3**
	9.1nm,0.6s,mb4.3					

MEX 02 00:09:14.3±0.7, 19.17N×104.42W, h43km±14km, MD3.6, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.68**	**299**	*i* P	P	00 09 25.8	-1.7
CJM				*i* S	S	00 09 35.1	-2.1
COLM	**Colima**	**0.69**	**89**	*i* P	P	00 09 26.0	-1.6
COLM				*i* S	S	00 09 35.5	-1.9
CGX	**Ciudad Guzman**	**1.00**	**59**	*e*P	P	00 09 30.5	-1.6
CGX				*i* S	S	00 09 41.0	-4.2
SFJM	**Santa Fe**	**1.84**	**45**	*i* P	P	00 09 42.0	-2.0
SFJM				*i* S	S	00 10 04.5	-1.7

ISC 02 00:10:00.4±1.5, 7.6N±0.1×92.4E±0.1, h33km, n19, σ1§00/21, mb4.9/3, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHG	**Chiang Mai**	**12.85**	**29**	⇓P	**P**	**00 13 04.3**	**+0.7**
	20nm,0.9s						
NANT	**Nan**	**13.76**	**35**	P	**P**	**00 13 16.5**	**+0.8**
BWNR	**Bhubaneshwar**	**14.17**	**334**	*e*P	**P**	**00 13 19.4**	**-1.6**
BWNR				*e*		00 13 22.7	
	comp=Z,12nm,0.4s						
BWNR				*e*S	**S**	**00 15 58.4**	**+0.4**
SHL	**Shillong**	**17.90**	**358**	*e*P	**P**	**00 14 08.0**	**-0.6**
PKI	**Pulchoki**	**20.97**	**342**	*e*P	**P**	**00 14 43.3**	**+0.1**
	comp=Z,57nm,0.8s						
POO	**Poona**	**21.08**	**303**	*e*P	**P**	**00 14 47.4**	**+3.0**
POO				*e*		00 14 47.7	
	comp=Z,20nm,0.7s						
POO				*e*S	**S**	**00 18 49.0**	**+17**
DMN	**Daman**	**21.09**	**342**	*e*P	**P**	**00 14 44.3**	**-0.2**
	comp=Z,70nm,0.8s,mb5.0						
GUN	**Gumba**	**21.15**	**344**	*e*P	**P**	**00 14 45.0**	**0.0**
	comp=Z,81nm,1.0s,mb5.0						
KKN	**Kakani**	**21.21**	**342**	*e*P	**P**	**00 14 45.7**	**+0.1**
	comp=Z,56nm,1.2s,mb4.8						
BHPL	**Bhopal**	**21.21**	**319**	*e*P	**P**	**00 14 47.4**	**+1.7**
BHPL				*e*		00 14 47.9	
	comp=Z,25nm,1.8s						
GKN	**Gorkha**	**21.61**	**341**	*e*P	**P**	**00 14 50.2**	**+0.6**
	comp=Z,52nm,0.9s						
KOLN	**Koldanda**	**21.75**	**339**	*e*P	**P**	**00 14 52.2**	**+1.2**
	comp=Z,48nm,0.8s						
UCH	**Uchtor**	**37.97**	**338**	P	**P**	**00 17 16.0**	**-0.9**
	SNR=11						
KBK	**Karagaybulak**	**38.18**	**339**	P	**P**	**00 17 18.3**	**-0.4**
	SNR=13						
AML	**Almayashu**	**38.19**	**337**	P	**P**	**00 17 18.1**	**-0.6**
	SNR=7.5						
AAK	**Ala-Archa**	**38.33**	**339**	P	**P**	**00 17 19.4**	**-0.5**
	SNR=7.3						
EKS2	**Erkin-Say**	**38.61**	**338**	P	**P**	**00 17 21.3**	**-0.9**
	SNR=10						
USP	**Ospenovka**	**38.88**	**339**	P	**P**	**00 17 22.8**	**-1.6**
KAF	**Kangasniemi**	**72.28**	**333**	*e*p	**P**	**00 21 17.5**	**-6.7**

*CSEM **02** 00:18:37.4±0.1, 67.84N×20.37E, h2km, ML2.7, Error ellipse: s-maj=5.0km s-min=3.1km az=85.0, Mining explosion.*
*UPP **02** 00:18:37.6, 67.85N×20.20E, ML2.7, Mining explosion.*

HEL 02 00:18:38.2±0.1, 67.85N×20.19E, ML2.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**29**	*i* P	Pg	00 18 40.2	-0.4
KUA				*i* S	Sg	00 18 42.0	-0.1
NIKU	**Nikkaluokta**	**0.44**	**273**	*i* P	Pg	00 18 46.2	-0.8
LANU	**Lannavaara**	**0.71**	**73**	*i* P	Pg	00 18 51.0	-1.4
DUNU	**Dundret**	**0.75**	**169**	*i* P	Pg	00 18 51.4	-1.7
MASU	**Masugnsbyn**	**0.80**	**119**	*i* P	Pg	00 18 52.7	-1.4
PAJU	**Pajala**	**1.40**	**125**	*e*P	Pb	00 19 03.1	-1.9
ERTU	**Ertsjaerv**	**1.52**	**148**	*e*P	Pn	00 19 05.4	-1.3
KTK1	**Kautokeino**	**1.62**	**43**	*e*P	Pn	00 19 07.0	-1.1
KTK1	**Kautokeino**	**1.62**	**43**	P	Pn	00 19 07.0	-1.2
TRO	**Tromso**	**1.85**	**346**	*e*P	Pn	00 19 10.6	-0.8
SJUU	**Sjulsmark**	**2.42**	**166**	*e*P	Pn	00 19 19.6	0.0
SGF	**Sodankyl**	**2.46**	**97**	*e*PB	Pb	00 19 21.1	-2.0
SGF				*e*SB	Sb	00 19 51.5	-2.5
BREU	**Bredtraesk**	**4.03**	**190**	*e*P	Pn	00 19 41.7	-0.8

*BJI **02** 00:24:37.6, 56.61N×118.11E, h10km, mB5.3, mb5.0, Ms5.4, Msz5.3*
*MOS **02** 00:24:37.5±1.1, 56.69N×117.83E, h16km, mb5.4/82, MS4.8/28, Error ellipse: s-maj=6.0km s-min=4.3km az=106.0*
MOS Felt (V-VI) at Novaya Chara, Ust'-Muya; (V) at Chara, Udokan; (IV-V) at Taksimo; (IV) at Bodaibo, Mamakan; (III-IV) at Chita.
*BYKL **02** 00:24:38.7±0.3, 56.66N×118.01E, h15km±3km, #FAULT_PLANE Typ Strike Dip Rake NP NS Plane Author # FM 60.00 22.00 -112.00 32 0 IEC + 264.00 70.00 -81.00 IEC #PRINAX sc T_val T_azim T_pl B_val B_azim B_pl P_val P_azim P_pl Author + eTv eTa eTp eBv eBa eBp ePv ePa ePp fCLVD # 347.00 24.00 81.00 8.00 188.00 64.00 IEC + 0.00 0.00 0.00 0.00 0.00 0.00 FELT I=V-VI MSK at Novaya Chara, Ust-Muya, V at Chara, Udokan,) IV-V at Taksimo, IV at Mamakan, III-IV at Bodaybo, II-III at Chita)*
*HRVD **02** 00:24:39.0±0.2, 56.71N×117.90E, h18km, MW5.1/57, Centroid moment Tensor Solution. LP body waves: s30,c42;Mantle waves: s57,c99; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.35±.21; $M_{\theta\theta}$2.46±.15; $M_{\phi\phi}$1.89±.15; $M_{r\theta}$1.61±.34; $M_{\theta\phi}$2.71±.09; $M_{\phi r}$-0.04±.33; Best double couple: $M_0$4.915×10^{16} NP1:φs34°, δ40°, λ-113°. NP2:φs242°, δ54°, λ-72°. Principal axes: T 5.05, Plg7°, Azm319°; N -.27, Plg14°, Azm51°; P -4.78, Plg74°, Azm203°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **02** 00:24:39.0±0.1, 56.63N×117.80E, mb5.2/135, MS4.9/6 Error ellipse: s-maj=4.3km s-min=3.4km az=185.0*
NEIC Felt [VI] at Novaya Chara and Ust'-Muya; [V] at Chara, Taksimo and Udokan; [IV] at Bodaybo, Chita and Mamakan.

ISC 02 00:24:37.9±0.1, 56.72N±0.02×117.75E±0.03, h13km, h13km±.3km: pP-P, n503, σ1§13/528, mb5.2/133, MS5.0/33, 40C-26D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**0.33**	**58**	*e*PG	**Pg**	**00 24 44.9**	**-0.1**
CRS				*e*		00 24 49.2	
CRS				pmax	pmax		
	comp=Z,89μm,0.8s						
CRS				smax			
	comp=E,221μm,0.8s						
CRS	**Chara**	**0.33**	**58**	⇓*i*Pg	**Pg**	**00 24 44.8**	**-0.2**
CRS				Pmax		00 24 45.8	
	comp=E,92μm,0.8s						
CRS				*e*Sg	**Sg**	**00 24 48.9**	**-0.8**
CRS				Smax		00 24 49.9	
	comp=E,69μm,0.9s						
NLYR	**Nelyaty**	**1.16**	**259**	*e*PG	**Pg**	**00 25 01.2**	**+0.1**
NLYR				*e*		00 25 17.2	
NLYR				pmax	pmax		
	comp=Z,17μm,1.0s						
NLYR				smax			
	comp=N,199μm,1.4s						
NLYR	**Nelyaty**	**1.16**	**259**	⇑*i*Pg	**Pg**	**00 25 01.4**	**+0.3**
NLYR				Pmax		00 25 13.3	
	comp=N,7μm,0.5s						
NLYR				*i* Sg	**Sg**	**00 25 17.8**	**+1.2**
NLYR				Smax		00 25 21.2	
	comp=N,199μm,1.4s						
BOD	**Bodaibo**	**2.31**	**300**	*e*PN	**Pn**	**00 25 17.9**	**+1.6**
BOD				*e*		00 25 21.6	
BOD				*e*		00 25 52.6	
BOD				pmax	pmax		
	comp=Z,4μm,0.4s						
BOD				smax			
	comp=N,3μm,0.3s						
BOD	**Bodaibo**	**2.31**	**300**	⇑*i*Pn	**Pn**	**00 25 18.6**	**+2.3**
BOD				⇑*i*Pg	**Pg**	**00 25 22.5**	**-1.6**
BOD				Pmax		00 25 29.8	
	comp=N,6μm,0.7s						
BOD				*e*Sg	**Sg**	**00 25 53.5**	**-1.5**
BOD				Smax		00 25 54.7	
	comp=N,53μm,1.4s						
SVKR	**Severomuysk**	**2.41**	**257**	*e*PN	**Pn**	**00 25 19.8**	**+2.2**
SVKR				*e*		00 25 23.7	
SVKR				*e*		00 25 56.0	
SVKR				pmax	pmax		
	comp=Z,4μm,0.4s						
SVKR				smax			
	comp=N,2μm,1.3s						
SVKR	**Severomuysk**	**2.41**	**257**	⇑*i*Pn	**Pn**	**00 25 19.9**	**+2.3**
SVKR				⇓*i*Pg	**Pg**	**00 25 23.9**	**-2.1**
SVKR				Pmax		00 25 30.6	
	comp=N,6μm,0.5s						
SVKR				*i* Sg	**Sg**	**00 25 55.9**	**-2.3**
SVKR				Smax		00 25 58.3	
	comp=N,59μm,1.6s						
TUP	**Tupik**	**2.62**	**151**	*e*PN	**Pn**	**00 25 20.3**	**-0.4**
TUP				*e*		00 25 24.4	
TUP				*e*S	**Sn**	**00 25 51.1**	**-1.5**
TUP				*e*		00 25 57.0	
TUP				pmax	pmax		
	comp=Z,22μm,0.7s						
TUP				smax			
	comp=N,42μm,1.1s						
TUP	**Tupik**	**2.62**	**151**	*e*Pn	**Pn**	**00 25 20.3**	**-0.4**
TUP				⇓*i*Pg	**Pg**	**00 25 23.9**	**-6.3**
TUP				Pmax		00 25 26.3	
	comp=N,20μm,1.1s						
TUP				*e*Sn	**Sn**	**00 25 50.7**	**-1.9**
TUP				*e*Sg	**Sg**	**00 25 56.8**	**-8.4**
TUP				*e*		00 26 06.9	
TUP				max		00 26 08.5	
	comp=N,66μm,1.1s						
UKT	**Uakit**	**2.62**	**244**	*e*PN	**Pg**	**00 25 27.0**	**-3.3**
UKT				*e*		00 26 02.0	
UKT				pmax	pmax		
	comp=Z,2μm,0.4s						
UKT				smax			
	comp=N,3μm,0.5s						
UKT	**Uakit**	**2.62**	**244**	*e*Pn	**Pn**	**00 25 22.7**	**+2.0**
UKT				⇓*i*Pg	**Pg**	**00 25 27.2**	**-3.1**
UKT				Pmax		00 25 31.5	
	comp=N,6μm,1.2s						
UKT				*i* Sg	**Sg**	**00 26 02.2**	**-3.1**
UKT				Smax		00 26 02.7	
	comp=N,25μm,0.8s						
YOA	**Uoyan**	**3.40**	**262**	⇓*i*PN	**Pn**	**00 25 34.2**	**+2.5**
YOA				*e*		00 26 28.8	
YOA				pmax	pmax		
	comp=Z,2μm,0.5s						
YOA				smax			
	comp=N,72μm,1.0s						
YOA	**Uoyan**	**3.40**	**262**	*e*Pn	**Pn**	**00 25 34.3**	**+2.6**
YOA				*e*Pg	**Pg**	**00 25 42.3**	**-3.5**
YOA				*i* Sg	**Sg**	**00 26 28.3**	**-2.9**
KMO	**Kumora**	**3.75**	**260**	*e*PN	**Pn**	**00 25 39.0**	**+2.4**
KMO				*e*		00 25 48.4	
KMO				*e*		00 26 37.8	
KMO				pmax	pmax		
	comp=Z,3μm,0.8s						
KMO				smax			
	comp=N,37μm,1.1s						
KMO	**Kumora**	**3.75**	**260**	⇑*i*Pn	**Pn**	**00 25 38.8**	**+2.1**
KMO				*e*Pg	**Pg**	**00 25 48.4**	**-4.3**
KMO				Pmax		00 25 58.5	
	comp=N,3μm,0.7s						
KMO				*e*Sg	**Sg**	**00 26 37.9**	**-4.8**
KMO				Smax		00 26 47.2	
	comp=N,36μm,1.1s						
CLNS	**Chul'man**	**3.93**	**85**	*e*PN	**Pn**	**00 25 38.7**	**-0.6**
CLNS				*e*		00 25 49.4	
CLNS				*e*		00 26 41.9	
CLNS				pmax	pmax		
	comp=E,86nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,76nm,1.0s						
CLNS				pmax	pmax		
	comp=N,44nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,2μm,0.8s						
CLNS				pmax	pmax		
	comp=N,1μm,0.9s						
CLNS				pmax	pmax		
	comp=E,2μm,1.0s						
CLNS				smax			
	comp=N,14μm,0.9s						
CLNS				smax			
	comp=Z,4μm,0.8s						
CLNS				smax			
	comp=E,11μm,1.0s						
CLNS	**Chul'man**	**3.93**	**85**	*e*	**Pn**	**00 25 40.5**	**+1.2**
CLNS				*e*		00 25 48.3	
CLNS				*e*Sg	**Sg**	**00 26 36.2**	**-13**
YLYR	**Ulyunkhan**	**4.16**	**246**	*e*PN	**Pn**	**00 25 43.8**	**+1.3**
YLYR				*e*		00 25 56.0	
YLYR				*e*		00 26 50.1	
YLYR				pmax	pmax		
	comp=Z,1μm,0.9s						
YLYR				smax			
	comp=N,18μm,1.1s						
YLYR	**Ulyunkhan**	**4.16**	**246**	⇑*i*Pn	**Pn**	**00 25 44.0**	**+1.5**
YLYR				*e*Pg	**Pg**	**00 25 55.4**	**-5.5**
YLYR				Pmax		00 25 56.8	
	comp=N,1μm,0.7s						
YLYR				*i* Sg	**Sg**	**00 26 49.5**	**-6.8**
YLYR				Smax		00 27 01.2	
	comp=N,17μm,1.4s						
TNDR	**Tynda**	**4.22**	**109**	*e*	**Pn**	**00 25 42.0**	**-1.5**
TNDR				*e*Pg	**Pg**	**00 25 52.4**	**-10**
TNDR				*e*		00 26 30.0	
TNDR				*e*Sg	**Sg**	**00 26 46.2**	**-12**
NIZ	**Nizh Angarsk**	**4.68**	**262**	*e*PN	**Pg**	**00 26 05.9**	**-5.4**
NIZ				*e*		00 27 06.1	
NIZ				pmax	pmax		
	comp=Z,2μm,0.9s						
NIZ				smax			
	comp=N,7μm,1.0s						
NIZ	**Nizh Angarsk**	**4.68**	**262**	⇑*i*Pn	**Pn**	**00 25 51.9**	**+2.0**
NIZ				⇑*i*Pg	**Pg**	**00 26 04.9**	**-6.4**
NIZ				*e*		00 26 10.1	
NIZ				max		00 26 11.2	
	comp=N,3μm,1.1s						
NIZ				*e*Sg	**Sg**	**00 27 06.3**	**-7.4**
NIZ				Smax		00 27 21.9	
	comp=N,11μm,2.0s						
CIT	**Chita**	**5.31**	**209**	*e*PN	**Pn**	**00 25 57.5**	**-1.4**
CIT				*e*		00 26 14.8	
CIT				*e*		00 27 24.8	
CIT				pmax	pmax		
	comp=Z,995nm,1.2s						
CIT				smax			
	comp=N,25μm,1.4s						
CIT	**Chita**	**5.31**	**209**	⇓*i*Pn	**Pn**	**00 25 57.4**	**-1.5**
CIT				*e*Pg	**Pg**	**00 26 14.7**	**-9.3**
CIT				Pmax		00 26 25.2	
	comp=N,923nm,0.9s						
CIT				*e*		00 27 00.9	
CIT				*e*Sg	**Sg**	**00 27 22.9**	**-12**
CIT				Smax		00 27 26.7	
	comp=N,25μm,1.3s						
SYVR	**Suvo**	**5.40**	**239**	*e*PN	**Pn**	**00 26 00.6**	**+0.5**
SYVR				*e*		00 26 17.5	
SYVR				*e*		00 27 26.6	
SYVR				pmax	pmax		
	comp=Z,935nm,1.1s						
SYVR				smax			
	comp=N,8μm,1.0s						
SYVR	**Suvo**	**5.40**	**239**	⇓*i*Pn	**Pn**	**00 26 00.4**	**+0.3**
SYVR				*e*Pg	**Pg**	**00 26 17.2**	**-8.5**
SYVR				Pmax		00 26 22.2	
	comp=N,2μm,1.3s						
SYVR				*e*Sn	**Sn**	**00 27 03.3**	**+0.5**
SYVR				*e*Sg	**Sg**	**00 27 27.1**	**-11**
SYVR				Smax		00 27 47.8	
	comp=N,18μm,1.5s						
ZEA	**Zeya**	**6.20**	**115**	*e*	**Pn**	**00 26 06.3**	**-5.1**
ZEA				*i* Pg	**Pg**	**00 26 26.2**	**-16**
ZEA				*i* Sg	**Sg**	**00 27 44.2**	**-20**
MXMB	**Maximikha**	**6.24**	**240**	*e*Sg	Sx	00 27 54.6	
MXMB				Smax		00 28 02.4	
	comp=N,18μm,0.9s						
OGRR	**Ongureny**	**6.58**	**246**	*e*PN	**Pn**	**00 26 17.2**	**+0.4**
OGRR				*e*		00 26 38.8	
OGRR				*e*		00 28 04.7	
OGRR				pmax	pmax		
	comp=Z,181nm,1.2s						
OGRR				smax			
	comp=N,1μm,1.3s						
OGRR	**Ongureny**	**6.58**	**246**	⇓*i*Pn	**Pn**	**00 26 17.1**	**+0.3**
OGRR				*e*Pg	**Pg**	**00 26 38.9**	**-10**
OGRR				Pmax		00 27 04.8	
	comp=N,487nm,1.2s						
OGRR				*e*Sg	**Sg**	**00 28 04.4**	**-13**
OGRR				Smax		00 28 14.7	
	comp=N,5μm,1.8s						
TRTB	**Turuntaevo**	**7.42**	**237**	*e*Pn	**Pn**	**00 26 27.9**	**-0.6**
TRTB				*e*Pg	**Pg**	**00 26 53.3**	**-13**
TRTB				Pmax		00 26 59.9	
	comp=N,554nm,1.1s						
TRTB				*e*Sg	**Sg**	**00 28 29.6**	**-15**
TRTB				Smax		00 28 43.6	
	comp=N,7μm,1.4s						
ZRHB	**Zarechye**	**7.43**	**240**	*e*Pn	**Pn**	**00 26 28.4**	**-0.3**
ZRHB				*e*Pg	**Pg**	**00 26 55.8**	**-10**
ZRHB				*e*Sg	**Sg**	**00 28 34.2**	**-11**
HIA	**Hailar**	**7.56**	**170**	*e*PN	**Pn**	**00 26 25.3**	**-5.3**
HIA				pmax	pmax		
	comp=Z,47nm,0.4s						
HIA	**Hailar**	**7.56**	**170**	*e*Pn	**Pn**	**00 26 25.3**	**-5.2**
	comp=Z,47nm,0.4s						
TRG	**Tyrgan**	**7.70**	**244**	*e*PN	**Pn**	**00 26 32.6**	**+0.2**
TRG				*e*		00 26 59.2	
TRG				*e*		00 28 41.1	
TRG				pmax	pmax		
	comp=Z,193nm,1.5s						
TRG				smax			
	comp=N,4μm,2.0s						
TRG	**Tyrgan**	**7.70**	**244**	*e*Pn	**Pn**	**00 26 32.5**	**+0.1**
TRG				*e*Pg	**Pg**	**00 26 58.8**	**-13**
TRG				Pmax		00 27 16.8	
	comp=N,202nm,1.7s						
TRG				*e*Sn	**Sn**	**00 27 59.4**	**-0.9**
TRG				*e*Sg	**Sg**	**00 28 39.4**	**-15**
TRG				Smax		00 28 58.6	
	comp=N,4μm,2.0s						
KPC	**Khapcheranga**	**7.73**	**207**	*e*PN	**Pn**	**00 26 30.2**	**-2.7**
KPC				*e*		00 26 58.6	
KPC				*e*		00 28 38.2	
KPC				pmax	pmax		
	comp=Z,131nm,1.2s						
KPC				smax			
	comp=E,3μm,0.9s						
KPC	**Khapcheranga**	**7.73**	**207**	*e*Pn	**Pn**	**00 26 30.0**	**-2.9**
KPC				*e*Pg	**Pg**	**00 26 58.6**	**-14**
KPC				Pmax		00 27 05.1	
	comp=E,326nm,1.3s						
KPC				*e*Sg	**Sg**	**00 28 38.3**	**-17**
KPC				Smax		00 28 49.4	
	comp=E,11μm,1.6s						
FFNB	**Fofonovo**	**7.94**	**238**	Pn	**Pn**	**00 26 36.0**	**+0.2**
FFNB				Pg	**Pg**	**00 27 03.3**	**-13**
FFNB				Pmax		00 27 07.6	
	comp=E,34nm,0.1s						
FFNB				*e*Sg	**Sg**	**00 28 46.8**	**-15**
FFNB				Smax		00 28 57.3	
	comp=E,10μm,1.4s						
KAB	**Kabansk**	**7.99**	**239**	*e*Pg	Px	00 27 04.9	
KAB				*e*Sg	**Sg**	**00 28 50.2**	**-14**
YAK	**Yakutsk**	**8.08**	**44**	*e*PN	**P**	**00 26 32.9**	**-4.8**
YAK				*e*S	**Sn**	**00 28 03.5**	**-6.3**
YAK				*e*		00 28 46.2	
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,20nm,0.9s						
YAK				smax			
	comp=N,297nm,0.8s						
YAK				smax			
	comp=E,106nm,0.8s						
YAK				smax			
	comp=Z,107nm,0.9s						
YAK				smax			
	comp=N,4μm,1.2s						
YAK				smax			
	comp=Z,2μm,0.9s						
YAK				smax			
	comp=E,2μm,1.0s						
YAK				MLR	MLR		
	comp=Z,5μm,8.0s						
YAK	**Yakutsk**	**8.08**	**44**	*e*Pn	**P**	**00 26 33.3**	**-4.5**
	comp=Z,73nm,0.7s						
BTMB	**Babushkin**	**8.61**	**239**	*e*Sg	Sx	00 29 08.5	
BTMB				Smax		00 29 12.8	
	comp=Z,3μm,1.5s						
LSTR	**Listvyanka**	**8.98**	**243**	*e*P	**P**	**00 26 49.6**	**-0.6**
LSTR				pmax	pmax		
	comp=Z,66nm,1.1s						
LSTR	**Listvyanka**	**8.98**	**243**	⇓*i*Pn	**P**	**00 26 49.9**	**-0.3**
LSTR				*e*Pg	P	00 27 22.4	+32
LSTR				Pmax		00 27 35.0	
	comp=Z,119nm,1.8s						
LSTR				*e*Sg	**Sg**	**00 29 18.4**	**-18**
LSTR				Smax		00 29 45.6	
	comp=Z,2μm,2.0s						
IRK	**Irkutsk**	**9.04**	**246**	*e*P	**P**	**00 26 51.0**	**0.0**
IRK				pmax	pmax		
	comp=Z,162nm,0.6s						
IRK	**Irkutsk**	**9.04**	**246**	*e*	Px	00 27 27.3	
IRK				*e*		00 28 33.4	
IRK				*e*Sg	**Sg**	**00 29 23.0**	**-16**
IRK				Smax		00 29 29.0	
	comp=Z,4μm,1.8s						
TLY	**Talaya**	**9.68**	**244**	*e*P	**P**	**00 26 58.4**	**-1.4**
TLY				pmax	pmax		
	comp=Z,57nm,0.9s						
TLY	**Talaya**	**9.68**	**244**	*e*Pn	**P**	**00 26 57.8**	**-1.9**
TLY	**Talaya**	**9.68**	**244**	*e*Pn	**P**	**00 26 59.0**	**-0.8**
TLY				Pg	P	00 27 34.9	+35
TLY				Pmax		00 27 47.8	

comp=Z,76nm,1.7s
TLY e Sg **Sg** **00 29 40.5 -20**
TLY Smax 00 29 48.6
comp=Z,2μm,1.8s
ARS Arshan 10.16 248 e P **P** **00 27 05.7 -0.6**
ARS pmax pmax
comp=Z,98nm,0.4s
ARS Arshan 10.16 248 e Pn **P** **00 27 07.5 +1.2**
ARS e Pg P 00 27 43.6 +37
ARS Pmax 00 27 58.1
comp=Z,106nm,0.9s
ARS e 00 29 04.0
ARS e Sg S 00 29 55.7 +55
ARS Smax 00 30 14.5
comp=Z,5μm,1.7s
ZAK Zakamensk 10.69 240⇑ i P **P** **00 27 13.7 +0.1**
ZAK pmax pmax
comp=Z,59nm,1.3s
ZAK Zakamensk 10.69 240 e Pn **P** **00 27 14.0 +0.4**
ZAK e Pg P 00 27 54.7 +41
ZAK Pmax 00 28 05.1
comp=Z,36nm,0.9s
ZAK e Sg S 00 30 12.1 +58
ZAK Smax 00 30 27.0
comp=Z,2μm,1.6s
ULN Ulaanbaatar 11.02 221⇓ i P **P** **00 27 15.9 -2.2**
ULN Ulaanbaatar 11.02 221 e Pn **P** **00 27 15.8 -2.2**
comp=Z,7.0nm,0.6s
MOY Mondy 11.04 250 e P **P** **00 27 18.2 -0.2**
MOY pmax pmax
comp=Z,192nm,1.1s
MOY pmax pmax
comp=E,7μm,1.8s
MOY Mondy 11.04 250 e Pn **P** **00 27 18.2 -0.2**
MOY e 00 27 45.7
MOY max 00 28 40.3
comp=E,239nm,1.0s
MOY e 00 30 00.0
MOY e Sg S 00 30 24.0 +61
MOY Smax 00 30 43.9
comp=E,7μm,1.5s
ORL Orlik 11.20 256 e P **P** **00 27 20.2 -0.4**
ORL pmax pmax
comp=Z,144nm,1.4s
ORL Orlik 11.20 256 e Pn **P** **00 27 20.4 -0.2**
ORL e 00 28 06.4
ORL max 00 28 08.5
comp=Z,147nm,1.4s
ORL e Sg S 00 30 29.0 +62
ORL Smax 00 30 34.9
comp=Z,3μm,1.5s
KLR Kul'dur 11.28 126 e P **P** **00 27 15.7 -5.9**
KLR MLR MLR
comp=N,9μm,11.0s
KLR MLR MLR
comp=E,10μm,11.0s
MDJ Mudanjiang 14.23 143 P **P** **00 27 58.6 -2.3**
MDJ S **S** **00 30 39.0 -0.5**
MDJ PCP PcP 00 33 18.6 -0.7
MDJ SCP 00 36 51.5
MDJ PCS 00 36 57.0
MDJ SCS ScS 00 40 31.4 +3.9
MDJ AMB AMB
comp=Z,8.0nm,1.0s
MDJ AMB AMB
comp=Z,407nm,6.0s
MDJ LR LR
comp=N,6μm,11.3s
MDJ LR LR
comp=E,3μm,8.4s
MDJ LR LR
comp=Z,9μm,8.9s
MDJ Mudanjiang 14.23 143 e Pn **P** **00 27 57.9 -3.0**
comp=Z,84nm,1.5s
OKH Okha 14.71 92 e P **P** **00 28 04.6 -2.6**
OKH pmax pmax
comp=Z,1μm,4.0s
SNY Shenyang 15.38 163⇑ P **P** **00 28 16.9 +1.0**
SNY AMB AMB
comp=Z,20nm,1.1s
SNY LR LR
comp=N,6μm,7.7s
SNY LR LR
comp=Z,6μm,12.6s
TIXI Tiksi 15.70 13 e P **P** **00 28 14.2 -5.7**
TIXI e S **S** **00 31 04.1 -10**
TIXI pmax pmax
comp=Z,184nm,0.8s
TIXI MLR MLR
comp=Z,5μm,11.0s
VLA Vladivostok 16.33 140⇑ i P **P** **00 28 28.0 -0.2**
VLA pmax pmax
comp=Z,1μm,5.0s
VLA pmax pmax
comp=N,900nm,4.0s
VLA MLR MLR
comp=Z,8μm,14.0s
VLA MLR MLR
comp=N,6μm,10.0s
VLA MLR MLR
comp=E,2μm,8.0s
UGL Uglegorsk 16.48 107 e P **P** **00 28 29.0 -1.0**
UGL pmax pmax
comp=Z,240nm,1.2s
UGL pmax pmax
comp=Z,1μm,2.5s
UGL MLR MLR
comp=N,8μm,10.0s
UGL MLR MLR
comp=E,7μm,10.0s
UGL MLR MLR
comp=Z,9μm,10.0s
BJT Baijiatuau 16.75 184 e P **P** **00 28 30.9 -2.6**
BJT pmax pmax
comp=Z,74nm,1.1s
BJT Baijiatuau 16.75 184 e Pn **P** **00 28 30.9 -2.7**
comp=Z,74nm,1.1s
MA2 Magadan 17.55 67⇓ i P **P** **00 28 42.5 -0.9**
MA2 pmax pmax
comp=Z,77nm,1.7s
MA2 MLR MLR
comp=Z,1μm,13.0s
MA2 Magadan 17.55 67 e P **P** **00 28 40.3 -3.1**
comp=Z,50nm,1.1s
YSS Yuzh-Sakhalins 18.18 112 αe P **P** **00 28 53.0 +1.6**
YSS e S **S** **00 32 18.0 +6.8**
YSS pmax pmax
comp=Z,80nm,1.5s
YSS pmax pmax
comp=Z,1μm,8.0s
YSS pmax pmax
comp=N,500nm,6.0s
YSS pmax pmax
comp=E,900nm,6.0s
YSS smax
comp=N,1μm,7.0s
YSS smax
comp=E,800nm,9.0s
YSS MLR MLR
comp=N,2μm,14.0s
YSS MLR MLR
comp=E,3μm,14.0s
YSS MLR MLR
comp=Z,4μm,14.0s
SEY Seymchan 18.30 56 e P **P** **00 28 48.9 -3.9**
SEY e S **S** **00 32 07.7 -6.0**
SEY pmax pmax
comp=Z,190nm,1.2s
SEY pmax pmax
comp=E,120nm,1.1s
SEY MLR MLR
comp=E,800nm,13.0s
SEY MLR MLR
comp=Z,800nm,13.0s
SEY MLR MLR
comp=N,600nm,14.0s
ZAL Zalesovo 18.85 275 i P **P** **00 29 01.8 +2.3**
ZAL pmax pmax
comp=Z,13nm,0.8s
NVS Novosibirsk 19.38 279 e P **P** **00 29 05.3 -0.5**
NVS pmax pmax
comp=N,27nm,1.2s
NVS pmax pmax
comp=E,84nm,1.2s
NVS pmax pmax
comp=Z,106nm,1.2s
INCN Inchon 20.14 159 e P **P** **00 29 12.3 -2.0**
comp=Z,65nm,1.0s
KS15 Wonju Array Si 20.44 156 e P **P** **00 29 13.1 -4.3**
TIA Tai'an 20.52 181 P **P** **00 29 17.2 -1.1**
TIA LR LR
comp=N,7μm,15.0s,MS5.2
TIA LR LR
comp=E,2μm,15.0s,MS5.2
LZH Lanzhou 22.68 210⇓ P **P** **00 29 41.7 +1.8**
LZH AP 00 29 46.2
LZH XP 00 29 48.7
LZH PP PP 00 30 09.9 +1.4
LZH e S **S** **00 33 44.0 +1.2**
LZH XS 00 33 50.7
LZH SS SS 00 34 25.1 -0.3
LZH AMB AMB
comp=Z,133nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,517nm,5.2s
LZH LR LR
comp=E,6μm,11.5s
LZH LR LR
comp=Z,10μm,13.5s,MS5.4
WMQ Urumqi 22.92 249 P **P** **00 29 45.0 +2.8**
WMQ AP 00 29 49.2
WMQ XP 00 29 52.0
WMQ PP PP 00 30 14.9 +3.0
WMQ S **S** **00 33 50.6 +3.4**
WMQ XS 00 33 57.5
WMQ AMB AMB
comp=Z,60nm,0.6s,mb5.2
WMQ AMB AMB
comp=Z,490nm,4.1s
WMQ LR LR
comp=N,4μm,15.0s,MS5.1
WMQ LR LR
comp=E,4μm,15.4s,MS5.1
WMQ LR LR
comp=Z,5μm,16.1s,MS5.0
XAN Xi'an 23.48 199 P **P** **00 29 48.6 +0.9**
XAN LG2 00 37 04.9
XAN AMB AMB
comp=Z,30nm,2.4s,mb4.3
XAN LR LR
comp=N,2μm,12.5s,MS5.2
XAN LR LR
comp=E,5μm,12.9s,MS5.2
XAN LR LR
comp=Z,5μm,10.8s,MS5.3
PET Petropavlovsk 23.57 82 e P **P** **00 29 50.3 +1.9**
PET e S **S** **00 34 01.3 +2.9**
PET pmax pmax
comp=Z,68nm,1.5s,mb4.9
PET smax
comp=E,600nm,14.2s
PET smax
comp=N,700nm,15.4s
PET MLR MLR
comp=Z,1μm,13.0s,MS4.5
MAT Matsushiro 24.41 137 P **P** **00 29 50.0 -6.8**
MAT e S **S** **00 34 16.0 +2.8**
MAT MLR MLR
comp=Z,2μm,18.0s,MS4.6
MAT Matsushiro 24.41 137 P **P** **00 29 54.1 -2.7**
MAT S **S** **00 34 16.0 +2.8**
BILL Bilibino 24.44 43⇓ i P **P** **00 29 56.0 -0.7**
BILL pmax pmax
comp=Z,55nm,1.0s,mb4.9
BILL MLR MLR
comp=Z,2μm,20.0s,MS4.5
BILL Biiibino 24.44 43 e P **P** **00 29 57.7 +1.0**
comp=Z,56nm,1.0s,mb5.0
NJ2 Nanjing 24.68 178 e P **P** **00 29 59.6 +0.2**
NJ2 AP 00 30 03.9
NJ2 XP 00 30 06.1
NJ2 PP PP 00 30 35.6 -0.3
NJ2 PPP PPP 00 30 46.8 +0.2
NJ2 S **S** **00 34 20.0 +2.3**
NJ2 XS 00 34 29.0
NJ2 AMB AMB
comp=Z,462nm,8.0s
NJ2 LR LR
comp=N,9μm,11.5s,MS5.5
NJ2 LR LR
comp=E,3μm,12.3s,MS5.5
NJ2 LR LR
comp=Z,10μm,10.8s,MS5.6
SSE Sheshan 25.73 173 e P **P** **00 30 08.7 -0.7**
SSE AP pP 00 30 11.9 -1.4
SSE S **S** **00 34 37.6 +2.2**
SSE XS 00 34 43.4
SSE AMB AMB
comp=Z,55nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,202nm,5.4s
SSE LR LR
comp=N,2μm,14.6s,MS4.9
SSE LR LR
comp=E,1μm,14.6s,MS4.9
SSE LR LR
comp=Z,2μm,15.9s,MS4.8
WHN Wuhan 26.28 187⇑ P **P** **00 30 14.5 0.0**
WHN LR LR
comp=N,2μm,7.4s
WHN LR LR
comp=E,4μm,7.6s
WHN LR LR
comp=Z,10μm,13.8s,MS5.5
ENH Enshi 27.07 196 e P **P** **00 30 21.1 -0.6**
comp=Z,28nm,1.2s,mb4.7
TKM2 Tokmak 2 29.97 261 P **P** **00 30 49.2 +1.5**
SNR=16
USP Ospenovka 30.34 262 P **P** **00 30 52.7 +1.7**
SNR=27
CHMS Chumysh 30.38 262 P **P** **00 30 53.0 +1.6**
SNR=24
KBK Karagaybulak 30.50 261 P **P** **00 30 54.3 +1.9**
SNR=24
SVE Sverdlovsk 30.52 295 e P **P** **00 30 54.0 +1.6**
SVE e S **S** **00 35 54.0 +1.7**
SVE MLR MLR
comp=Z,4μm,13.0s,MS5.2
FRU Bishkek 30.56 262 e P **P** **00 30 54.0 +1.0**
FRU pmax pmax
comp=Z,79nm,2.0s,mb5.2
KZA Kyzart 30.73 260 P **P** **00 30 57.2 +2.7**
SNR=6.7
AAK Ala-Archa 30.76 261 P **P** **00 30 56.4 +1.7**
SNR=28
AAK Ala-Archa 30.76 261⇑ e P **P** **00 30 52.7 -2.0**
AAK pmax pmax
comp=Z,36nm,1.0s,mb5.2
AAK MLR MLR
comp=Z,2μm,17.0s,MS4.8
AAK Ala-Archa 30.76 261 e P **P** **00 30 54.9 +0.1**
comp=Z,28nm,0.9s,mb5.1
UCH Uchtor 31.03 261 P **P** **00 30 59.0 +2.0**
SNR=6.7
EKS2 Erkin-Say 31.13 262 P **P** **00 30 59.8 +1.7**
SNR=27
SOKR Solikamsk 31.31 301⇓ i P **P** **00 30 59.1 -0.3**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb4.9
SOKR MLR MLR
comp=Z,1μm,17.0s,MS4.6
ARU Arti 31.72 295⇓ i P **P** **00 31 03.4 +0.3**
ARU e 00 32 08.6
ARU e 00 33 48.9
ARU e S **S** **00 36 16.4 +5.2**
ARU e SS SS 00 37 59.6 -1.8
ARU e SSS SSS 00 38 27.9 +3.8
ARU e 00 41 33.5
ARU pmax pmax
comp=Z,12nm,1.1s,mb4.6
ARU MLR MLR
comp=E,900nm,16.0s,MS4.7
ARU MLR MLR
comp=Z,1μm,16.0s,MS4.7
ARU MLR MLR
comp=N,800nm,15.0s,MS4.7
ARU Arti 31.72 295 e P **P** **00 31 01.9 -1.1**
comp=N,21nm,1.4s,mb4.8
LSA Lhasa 32.85 226 P **P** **00 31 17.6 +4.5**
LSA AMB AMB
comp=Z,20nm,1.2s,mb4.9
LSA Lhasa 32.85 226 e P **P** **00 31 13.6 +0.5**
LSA pmax pmax
comp=Z,74nm,1.8s,mb5.3
LSA Lhasa 32.85 226 e P **P** **00 31 13.6 +0.4**
comp=Z,74nm,1.8s,mb5.3
GUN Gumba 36.60 232 e P **P** **00 31 46.6 +1.3**
comp=Z,200nm,1.5s,mb5.7
KKN Kakani 36.97 232 e P **P** **00 31 49.8 +1.4**
comp=Z,129nm,1.1s,mb5.7
GKN Gorkha 37.07 233 e P **P** **00 31 51.0 +1.8**
comp=Z,154nm,1.0s,mb5.8
PKI Pulchoki 37.10 232 e P **P** **00 31 50.9 +1.4**
comp=Z,181nm,1.6s,mb5.7
DMN Daman 37.20 232 e P **P** **00 31 51.9 +1.5**
comp=Z,252nm,1.5s,mb5.8
APA Apatity 37.70 321⇑ i P **P** **00 31 54.5 +0.4**
APA i 00 33 17.1
KOLN Koldanda 37.73 234 e P **P** **00 31 56.9 +2.1**
comp=Z,98nm,1.1s,mb5.5
DDI Dehra Dun 38.20 243 e **P** **00 32 01.5 +2.8**
KEV Kevo 38.77 326 ep **P** **00 32 02.7 -0.4**
IMA Indian Mountai 39.88 39 e P **P** **00 32 13.3 +0.9**
IMA pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
IMA Indian Mountai 39.88 39 e P **P** **00 32 13.3 +0.9**
comp=Z,8.8nm,0.6s,mb4.7
NDI New Delhi 39.96 243 e P **P** **00 32 13.0 -0.4**
KTK1 Kautokeino 40.30 326 e P **P** **00 32 16.1 +0.3**
comp=Z,130nm,1.3s,mb5.5
KTK1 Kautokeino 40.30 326 e P **P** **00 32 16.1 +0.3**
KTK1 e pP pP 00 32 20.7 +0.9
KTK1 AMb AMB 00 32 21.7
comp=Z,130nm,1.2s,mb5.5
TRO Tromso 41.24 328 e P **P** **00 32 22.1 -1.5**
comp=Z,58nm,2.0s,mb4.9
TRO Tromso 41.24 328 e P **P** **00 32 22.1 -1.5**
TRO AMb AMB 00 32 25.1
comp=Z,58nm,2.0s,mb4.9
MOS Moscow 42.14 304 e P **P** **00 32 29.8 -1.1**
MOS e S **S** **00 38 49.8 -0.1**
MOS pmax pmax
comp=Z,76nm,1.5s,mb5.1
MOS MLR MLR
comp=Z,2μm,14.5s,MS5.2
MOS MLR MLR
comp=N,1μm,14.2s,MS5.1
MOS MLR MLR
comp=E,1μm,13.8s,MS5.1
COLA College 42.57 39⇑ i P **P** **00 32 32.4 -1.9**
COLA College 42.57 39 e P **P** **00 32 35.4 +1.1**
comp=E,16nm,0.9s,mb4.8
MCK McKinley 42.86 41 e P **P** **00 32 36.5 -0.2**
MCK pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
MCK McKinley 42.86 41 e P **P** **00 32 36.5 -0.2**
comp=Z,7.3nm,1.0s,mb4.4
OBN Obninsk 42.99 304⇑ i P **P** **00 32 38.8 +0.9**
OBN i pP 00 32 41.9 0.0
OBN e 00 34 54.5
OBN e S **S** **00 39 03.3 +0.8**
OBN pmax pmax
comp=Z,20nm,0.8s,mb4.9
OBN MLR MLR
comp=Z,3μm,17.0s,MS5.2
OBN Obninsk 42.99 304 e P **P** **00 32 38.2 +0.3**
comp=Z,48nm,1.4s,mb5.0
KAF Kangasniemi 43.13 317 ep **P** **00 32 38.0 -0.9**
comp=Z,11nm,0.9s,mb4.6
KAF Kangasniemi 43.13 317 e P **P** **00 32 38.0 -0.9**
KAF pmax pmax
comp=Z,11nm,0.9s,mb4.6
SPU Mount Spurr 43.20 45 e P **P** **00 32 40.2 +0.7**
RSO Redoubt South 43.35 46 e P **P** **00 32 42.0 +1.3**
DAG Danmarks Havn 43.95 347⇑ e P **P** **00 32 45.2 -0.2**
DAG pmax pmax
comp=Z,43nm,1.0s,mb5.1
DAG Danmarks Havn 43.95 347⇑ e P **P** **00 32 45.2 -0.2**
comp=Z,43nm,1.0s,mb5.1
DAG Danmarks Havn 43.95 347⇑ i P **P** **00 32 45.2 -0.2**
comp=Z,43nm,1.0s,mb5.1
PMR Palmer 44.08 43 e P **P** **00 32 47.1 +0.5**
PMR pmax pmax
comp=Z,30nm,0.7s,mb5.1
PMR Palmer 44.08 43 e P **P** **00 32 47.1 +0.5**
comp=Z,30nm,0.7s,mb5.1
SML Sawmill 44.24 43 e P **P** **00 32 48.2 +0.3**
SLKM Skilak Lake 44.33 45 e P **P** **00 32 48.5 -0.1**
MOR8 Moi Rana 44.70 326 e P **P** **00 32 48.2 -3.3**
comp=Z,61nm,1.5s,mb5.2
MOR8 Moi Rana 44.70 326 e P **P** **00 32 48.2 -3.3**
MOR8 AMb AMB 00 32 54.5
comp=Z,61nm,1.5s,mb5.2
VSU Vasula 45.20 312⇑ i P **P** **00 32 55.3 -0.3**
EYAK Cordova Ski Ar 46.01 43 e P **P** **00 33 02.9 +0.8**
GOF Gofitskoye 46.25 289⇑ i P **P** **00 33 06.0 +1.9**
GOF i pP 00 33 10.0 +1.9
KIV Kislovodsk 47.18 288 P **P** **00 33 03.5 -8.0**
comp=Z,1μm,1.0s,SNR=30
KIV Kislovodsk 47.18 288 e P **P** **00 33 13.9 +2.4**
KIV e S **S** **00 40 13.8 +11**
KIV pmax pmax
comp=Z,181nm,0.9s,mb6.0
KIV MLR MLR
comp=Z,2μm,17.0s,MS5.2
TI2 Plekhanov 47.63 284 i P **P** **00 33 16.8 +1.7**
TI2 pmax pmax
comp=Z,60nm,0.8s,mb5.7
STE Stepanavan 48.33 284 i P **P** **00 33 21.0 +0.4**
STE e S **S** **00 40 28.0 +8.8**
GNI Garni 48.75 283⇑ i P **P** **00 33 23.4 -0.4**
GNI pmax pmax
comp=Z,63nm,1.7s
GNI MLR MLR
comp=Z,200nm,14.0s
GNI Garni 48.75 283 e P **P** **00 33 25.6 +1.8**
comp=Z,139nm,1.3s,mb5.8
SOC Sochi 48.99 290 i P **P** **00 33 26.9 +1.3**
SOC e* PP pP 00 33 29.7 0.0
SOC e 00 34 44.2
SOC e 00 35 17.4
SOC e S **S** **00 40 39.3 +11**
SOC e 00 43 14.8
SOC e SSS SSS 00 45 12.3 -4.5
SOC pmax pmax
comp=Z,106nm,1.1s,mb5.8
SOC pmax pmax
comp=N,32nm,1.0s
SOC pmax pmax
comp=E,22nm,0.9s
SOC MLR MLR
comp=Z,2μm,16.0s,MS5.1
SOC MLR MLR
comp=N,1μm,17.0s,MS5.1
SOC MLR MLR
comp=E,1μm,18.0s,MS5.1
HYB Hyderabad 49.00 233 i P **P** **00 33 26.5 +0.5**
NB2 NORSAR Subarra 49.27 322 P **P** **00 33 26.9 -0.6**
comp=E,71nm,1.4s,mb5.5,baz=40,slow=7.0
NB2 NORSAR Subarra 49.27 322 P **P** **00 33 26.9 -0.6**
baz=40,slow=6.9
NAO01 NORSAR Array S 49.52 322 e P **P** **00 33 28.9 -0.6**
comp=E,28nm,1.1s,mb5.2
SUW Suwalki 49.64 309 e P **P** **00 33 29.5 -0.9**
SUW Suwalki 49.64 309 e P **P** **00 33 29.6 -0.9**
SUW MLR MLR 00 57 55.4
comp=E,1μm,14.9s,MS5.1
SUMG Summit 49.94 351 e P **P** **00 33 32.5 -0.1**
comp=E,39nm,1.1s,mb5.3
SUMG e pP 00 33 36.6 0.0
TVAN Van 50.64 282 i P **P** **00 33 41.2 +2.9**
ERZM Erzurum 50.73 285 i P **P** **00 33 41.4 +2.4**
SIM Simferopol' 50.89 295 de P **P** **00 33 41.0 +0.9**
SIM pmax pmax
comp=Z,40nm,0.8s,mb5.4
SIM MLR MLR
comp=Z,330nm,10.4s,MS4.6
KIS Kishinev 52.03 300 e P **P** **00 33 49.0 +0.3**
KIS e pP 00 33 53.0 +0.2
KIS MLR MLR
comp=N,1μm,15.0s,MS5.1
KIS MLR MLR
comp=E,600nm,15.0s,MS5.1
KIS MLR MLR
comp=Z,1μm,15.0s,MS5.1
KIS MLR MLR
comp=Z,1μm,15.0s

LVV L'vov 52.23 305 *eP* **P 00 33 50.6 +0.4**
LVV MLR MLR
comp=Z,500nm,16.8s,MS4.6
LVV MLR MLR
comp=N,300nm,16.7s,MS4.6
LVV MLR MLR
comp=E,400nm,16.7s,MS4.6
MSL Mosul 52.45 281 *eP* **P 00 33 55.0 +3.0**
MSL *eS* **S 00 41 29.0 +13**
GKP Gorka Klasztor 52.65 312 *eP* **P 00 33 51.8 -1.5**
GKP MLR MLR 00 59 26.8
comp=E,1µm,17.4s,MS5.0
KWP Kalwaria 52.96 306 *eP* **P 00 33 56.4 +0.7**
KWP MLR MLR 00 58 28.1
comp=E,3µm,15.4s,MS5.5
MALT Malatya 53.46 286 *eP* **P 00 34 01.2 +1.7**
MALT pmax pmax
comp=Z,58nm,1.1s,mb5.4
MALT Malatya 53.46 286 *eP* **P 00 34 01.2 +1.7**
comp=Z,58nm,1.1s,mb5.4
CTKT Corum 53.66 290 *i* P **P 00 34 02.2 +1.3**
KOLS Kolonicke sedl 53.67 305 *i* P **P 00 34 01.5 +0.7**
CFR Carcaliu 53.67 299⇑*iP* **P 00 34 01.5 +0.6**
OJC Ojcow 53.81 308 *eP* **P 00 34 01.6 -0.3**
VRI Vrincioaia 53.85 300⇑*iP* pP 00 34 07.2 +0.9
CRVS Cervenica-Dubn 54.05 306 *i* P **P 00 34 03.8 +0.1**
HARR Harsova 54.13 298⇑*iP* **P 00 34 05.0 +0.7**
NIE Niedzica 54.18 307 *eP* **P 00 34 05.9 +1.3**
ELDT Eldivan 54.47 291 *i* P **P 00 34 08.5 +1.7**
ISR Istrita 54.48 300⇑*iP* pP 00 34 12.3 +1.3
GZT Gaziantep 54.62 286 *i* P **P 00 34 09.9 +1.9**
KAHT Ahir Dag 54.79 286 *i* P **P 00 34 10.9 +1.6**
OKC Ostrava-Krasne 54.81 309 *eP* **P 00 34 09.2 -0.1**
OKC *ep*P pP 00 34 12.8 -0.6
KSP Ksiaz 54.85 311 *eP* **P 00 34 09.5 0.0**
KSP *e**PP pP 00 34 12.8 -0.8
KSP Ksiaz 54.85 311 *eP* **P 00 34 09.9 +0.4**
KSP MLR MLR 00 59 32.2
comp=Z,2µm,16.3s,MS5.2
SGKT Sivrigoynuk 55.11 292 *i* P **P 00 34 13.0 +1.4**
MORC Moravsky Berou 55.12 309 *eP* **P 00 34 10.8 -0.7**
MORC pmax pmax
comp=Z,13nm,0.9s,mb5.0
MORC Moravsky Berou 55.12 309 *eP* **P 00 34 10.8 -0.7**
comp=Z,13nm,0.9s,mb5.0
DPC Dobruska-Polom 55.21 310 *eP* **P 00 34 12.7 +0.6**
UPC Upice 55.22 310 *eP* **P 00 34 12.4 +0.2**
UPC *ep*P pP 00 34 17.0 +0.7
PSZ Piszkesteto 55.48 306 *eP* **P 00 34 14.3 +0.1**
PSZ pmax pmax
comp=Z,33nm,1.2s,mb5.2
PSZ Piszkesteto 55.48 306 *eP* **P 00 34 14.2 +0.1**
comp=Z,33nm,1.2s,mb5.2
PSZ Piszkesteto 55.48 306⇓*e* **P 00 34 15.1 +0.9**
VYHS Vyhne 55.52 307 *i* P **P 00 34 15.1 +0.7**
BRG Berggiesshubel 55.80 312 *i* P **P 00 34 16.4 0.0**
BRG pmax pmax
comp=Z,24nm,1.1s,mb5.1
BRG MLR MLR
comp=Z,2µm,19.9s,MS5.2
BRG Berggiesshubel 55.80 312 *i* P **P 00 34 16.4 0.0**
comp=Z,24nm,1.1s,mb5.1
BRG *e* 00 34 43.3
BRG LR LR
comp=Z,2µm,19.9s,MS5.2
PVCC Panska Ves 55.80 311 *eP* **P 00 34 16.6 +0.2**
PVCC *ep*P pP 00 34 20.4 -0.1
CLL Collm 55.85 313 *i* P **P 00 34 16.0 -0.7**
CLL *i* pP 00 34 20.4 -0.4
CLL pmax pmax
comp=Z,14nm,0.9s,mb5.0
CLL Collm 55.85 313 *i* P **P 00 34 16.0 -0.7**
comp=Z,14nm,0.9s,mb5.0
CLL *i* pP 00 34 20.4 -0.4
CLL Collm 55.85 313 P **P 00 34 16.0 -0.7**
comp=Z,logA/T=1.2,mb5.0
CLL *i* *PP pP 00 34 20.4 -0.4
CLL *i* *SP sP 00 34 22.4 0.0
COBT Iskenderun 55.94 286 *i* P **P 00 34 18.9 +1.3**
SMOL Smolenice 56.12 308 *i* P **P 00 34 19.8 +1.1**
PRU Pruhonice 56.23 311 *eP* **P 00 34 19.6 +0.1**
PRU *ep*P pP 00 34 24.0 +0.4
ZST Bratislava 56.50 308 *i* P **P 00 34 22.9 +1.4**
ESKT Eskisehir 56.51 292 *i* P **P 00 34 22.1 +0.4**
NKC Novy Kostel 56.90 312 *eP* **P 00 34 23.5 -0.8**
ULDT Uludag 56.91 294 *i* P **P 00 34 25.3 +0.8**
MOX Moxa 56.92 313 *eP* **P 00 34 24.7 +0.3**
MOX pmax pmax
comp=Z,58nm,1.5s,mb5.4
MOX MLR MLR
comp=Z,1µm,16.0s,MS5.0
MOX Moxa 56.92 313 *eP* **P 00 34 24.7 +0.3**
comp=Z,58nm,1.5s,mb5.4
MOX LR LR
comp=Z,1µm,16.0s,MS5.0
MOX Moxa 56.92 313 *i* P **P 00 34 24.7 +0.3**
comp=Z,logA/T=1.6,mb5.4
MOX L 01 01 08.0
MEST Erdemli 57.01 288 *i* P **P 00 34 26.1 +0.8**
KHC Kasperske Hory 57.29 311 *eP* **P 00 34 27.4 +0.3**
KHC *e* pP 00 34 30.5 -0.7
KHC Kasperske Hory 57.29 311 *eP* **P 00 34 27.4 +0.3**
KHC x x 00 34 30.5
GEC2 GERESS Array S 57.46 311 *eP* **P 00 34 28.4 +0.1**
GEC2 pmax pmax
comp=Z,17nm,1.0s,mb5.0
GEC2 GERESS Array S 57.46 311 *eP* **P 00 34 28.4 +0.1**
comp=Z,17nm,1.0s,mb5.0
WET Wettzell 57.57 311 *eP* **P 00 34 29.5 +0.5**
WET pmax pmax
comp=Z,24nm,1.0s,mb5.2
WET Wettzell 57.57 311 *eP* **P 00 34 29.5 +0.5**
comp=Z,24nm,1.0s,mb5.2
BTOK Tokmak 57.75 294 *i* P **P 00 34 30.3 -0.1**
WTSB Winterswijk 57.76 317 *eP* **P 00 34 30.3 0.0**
comp=Z,59nm,1.1s,mb5.5
GRA1 Grafenberg Arr 57.82 313 *eP* **P 00 34 31.1 +0.3**
comp=Z,76nm,1.7s,mb5.5
GRA1 *ep*P pP 00 34 35.0 +0.1
GRF Grafenberg Arr 57.82 313 *eP* **P 00 34 31.1 +0.3**
GRF *e**PP pP 00 34 35.0 +0.1
GRF pmax pmax
comp=Z,76nm,1.7s,mb5.5
GRF Grafenberg Arr 57.82 313 *eP* **P 00 34 31.1 +0.3**
GRF *e**PP pP 00 34 35.0 +0.1
GRF pmax pmax
comp=Z,76nm,1.7s,mb5.5
GRF Grafenberg Arr 57.82 313 *eP* **P 00 34 31.1 +0.3**
comp=Z,76nm,1.7s,mb5.5
GRF *ep*P pP 00 34 35.0 +0.1
ARSA Arzberg 57.91 308⇑*iP* **P 00 34 32.3 +0.8**
comp=Z,16nm,1.0s,mb5.0
RZN Rozhen 57.93 298 *eP* **P 00 34 32.0 +0.3**
ISP Isparta 57.95 291⇓*iP* **P 00 34 31.2 -0.6**
ISP Isparta 57.95 291 *eP* **P 00 34 31.6 -0.2**
VTS Vitosha 57.97 300 *eP* **P 00 34 31.0 -0.9**
MOA Molln 57.99 309⇑*iP* **P 00 34 32.2 +0.2**
comp=Z,34nm,1.4s,mb5.2
DIVS Divcibare 58.34 303⇓*iP* **P 00 34 29.2 -5.2**
MMB Musomiste 58.49 299 *eP* **P 00 34 35.0 -0.6**
PERS Pernice 58.57 308 *i* P **P 00 34 36.4 +0.3**
CSS Prodhromos 58.67 287 *eP* **P 00 34 36.9 -0.1**
comp=Z,125nm,0.9s,mb5.9
HRI Mount Hermon 58.69 284 P **P 00 34 38.0 +0.9**
KSDI Kefar Szold 58.79 284 P **P 00 34 38.5 +0.7**
KSHT Keshet 58.87 284 P **P 00 34 39.3 +0.9**
OBKA Obir 58.91 308⇑*iP* **P 00 34 39.2 +0.7**
comp=Z,57nm,1.0s,mb5.6
KBA Koelnbreinsper 58.98 309⇑*iP* **P 00 34 39.6 +0.7**
comp=Z,45nm,0.9s,mb5.5
KBA Koelnbreinsper 58.98 309⇑*iP* **P 00 34 39.6 +0.7**
KBA pmax pmax
comp=Z,45nm,0.9s,mb5.5
FUR Furstenfeldbru 59.00 311 *eP* **P 00 34 39.7 +0.7**
HGN Heimansgroeve 59.05 317 *eP* **P 00 34 39.1 -0.2**
comp=Z,25nm,0.8s,mb5.3
HNTI Hanita 59.13 284 P **P 00 34 40.9 +0.7**
KDAG Bornova 59.17 294 *i* P **P 00 34 39.5 -0.9**
LJU Ljubljana 59.28 308 *eP* **P 00 34 40.9 -0.1**
SKO Skopje 59.29 300 *eP* **P 00 34 41.5 +0.3**
SKO *i* pP 00 34 46.0 +0.7
VISS Visnje 59.34 308 *eP* **P 00 34 41.4 0.0**
VISS *i* pP 00 34 45.4 -0.1
STU Stuttgart 59.37 313 *eP* **P 00 34 41.1 -0.5**
STU pmax pmax
comp=Z,38nm,1.1s,mb5.3
STU Stuttgart 59.37 313 *eP* **P 00 34 41.1 -0.4**
comp=Z,38nm,1.1s,mb5.3
BOJS Bojanci 59.39 307 *eP* **P 00 34 41.3 -0.5**
BOJS *e* pP 00 34 45.8 -0.2
HAF Haifa 59.45 284 P **P 00 34 43.1 +0.7**
MMLI Mount Malkishu 59.50 283 P **P 00 34 43.8 +1.1**
WATA Walderalm 59.53 311⇓*iP* **P 00 34 43.1 +0.4**
comp=Z,32nm,1.2s,mb5.2
WATA Walderalm 59.53 311⇓*iP* **P 00 34 43.1 +0.4**
WATA pmax pmax
comp=Z,33nm,1.2s,mb5.2
WTTA Wattenberg 59.56 311⇑*iP* **P 00 34 43.4 +0.5**
comp=Z,46nm,1.0s,mb5.5
WTTA Wattenberg 59.56 311⇑*iP* **P 00 34 43.4 +0.5**
WTTA pmax pmax
comp=Z,46nm,1.0s,mb5.5
CEY Cerknica 59.56 308 *i* P **P 00 34 42.7 -0.3**
ROBS Robic 59.57 309 *i* P **P 00 34 42.5 -0.5**
OFRI 'Ofer 59.59 284 P **P 00 34 43.9 +0.5**
MOTA Moosalm 59.72 311⇑*iP* **P 00 34 44.1 +0.1**
comp=Z,15nm,1.1s,mb4.9
MOTA Moosalm 59.72 311⇑*iP* **P 00 34 44.1 +0.1**
MOTA pmax pmax
comp=Z,15nm,1.1s,mb4.9
SQTA Sankt Quirin 59.77 311⇑*iP* **P 00 34 44.6 +0.2**
comp=Z,28nm,1.1s,mb5.2
SQTA Sankt Quirin 59.77 311⇑*iP* **P 00 34 44.6 +0.2**
SQTA pmax pmax
comp=Z,28nm,1.1s,mb5.2
SLTI Sal'it 59.85 284 P **P 00 34 45.9 +0.7**
GIVF Givet 60.00 317 *eP* **P 00 34 44.2 -1.7**
comp=Z,87nm,1.6s,mb5.2
GIVF Givet 60.00 317 *eP* **P 00 34 44.2 -1.7**
GIVF pmax pmax
comp=Z,44nm,1.5s,mb5.3
MKRJ Makawir 60.06 283 P **P 00 34 47.6 +1.0**
BFO Black Forest 60.06 313 *eP* **P 00 34 46.2 -0.2**
BAIF Baives 60.27 317 *eP* **P 00 34 46.1 -1.6**
comp=Z,61nm,1.2s,mb5.2
BAIF Baives 60.27 317 *eP* **P 00 34 46.1 -1.6**
BAIF pmax pmax
comp=Z,31nm,1.2s,mb5.2
DAVA Damuels 60.27 312⇑*iP* **P 00 34 48.3 +0.5**
comp=Z,20nm,1.0s,mb5.1
MZDA Masada 60.40 283 P **P 00 34 49.8 +0.9**
CDF Champ du Feu 60.42 314 *eP* **P 00 34 47.6 -1.2**
comp=Z,60nm,1.0s,mb5.3
CDF Champ du Feu 60.42 314 *eP* **P 00 34 47.6 -1.2**
CDF pmax pmax
comp=Z,30nm,1.0s,mb5.3
MASH Mash'abbe Sade 60.96 283 P **P 00 34 53.4 +0.7**
RTMM Retamin 60.97 283 P **P 00 34 53.4 +0.6**
HINF Hinteralfeld 61.07 314 *eP* **P 00 34 51.7 -1.5**
comp=Z,51nm,1.2s,mb5.2
HINF Hinteralfeld 61.07 314 *eP* **P 00 34 51.7 -1.5**
HINF pmax pmax
comp=Z,25nm,1.3s,mb5.2
APE Apeiranthos 61.08 294 *eP* **P 00 34 51.5 -1.9**
ZFRI Zfri 61.09 282 P **P 00 34 54.5 +0.9**
HAU Haudompre 61.11 314 *eP* **P 00 34 52.0 -1.5**
comp=Z,60nm,1.2s,mb5.3
HAU *eR*
comp=Z,780nm,17.2s
HAU Haudompre 61.11 314 *eP* **P 00 34 52.0 -1.5**
HAU pmax pmax
comp=Z,30nm,1.3s,mb5.3
HAU MLR MLR
comp=Z,780nm,17.3s,MS4.9
MEZF Maizieres J'vi 61.22 316 *eP* **P 00 34 53.0 -1.2**
comp=Z,63nm,0.9s,mb5.5
KZIT Kziot 61.23 283 P **P 00 34 55.2 +0.6**
PRNI Paran 61.34 282 P **P 00 34 56.3 +1.0**
KMTI Karmit 61.68 282 P **P 00 34 58.4 +0.8**
AQBJ Aqaba 61.80 282 P **P 00 34 59.5 +1.0**
EIL Elat 61.90 282 P **P 00 35 00.1 +1.0**
EIL Elat 61.90 282 *eP* **P 00 34 59.2 +0.1**
comp=Z,81nm,1.1s,mb5.8
CABF La Chapelle 62.35 314 *eP* **P 00 34 59.6 -2.3**
comp=Z,82nm,1.5s,mb5.3
CABF La Chapelle 62.35 314 *eP* **P 00 34 59.6 -2.3**
CABF pmax pmax
comp=Z,41nm,1.5s,mb5.3
ORX Oropa 62.38 312 P **P 00 35 01.5 -0.6**
GRAM 62.43 310 P **P 00 35 02.5 0.0**
VALM 62.47 310 P **P 00 35 03.1 +0.4**
SARO Sassorosso 62.54 309 P **P 00 35 03.7 +0.6**
VLC Villacollemand 62.56 309 *eP* **P 00 35 03.4 0.0**
comp=Z,180nm,1.4s,mb6.0
TRAV 62.57 312 P **P 00 35 03.0 -0.4**
BACM 62.60 310 P **P 00 35 03.4 -0.1**
CODM 62.60 310 P **P 00 35 03.7 +0.1**
VINC Vinca 62.68 309 P **P 00 35 03.4 -0.7**
AQU L'Aquila 62.70 306 *eP* **P 00 35 04.3 +0.1**
AQU pmax pmax
comp=Z,59nm,0.9s,mb5.7
AQU L'Aquila 62.70 306 *eP* **P 00 35 04.3 +0.1**
comp=Z,59nm,0.9s,mb5.7
MAIM 62.72 309 P **P 00 35 03.7 -0.6**
LSD Ceresole Reale 62.86 312 P **P 00 35 05.3 0.0**
LPL La Plagne 62.98 313 *eP* **P 00 35 05.6 -0.5**
comp=Z,67nm,1.2s,mb5.4
LPL La Plagne 62.98 313 *eP* **P 00 35 05.6 -0.5**
LPL pmax pmax
comp=Z,34nm,1.2s,mb5.3
LPG La Plagne 62.99 313 *eP* **P 00 35 05.8 -0.3**
comp=Z,54nm,1.0s,mb5.3
LPG La Plagne 62.99 313 *eP* **P 00 35 05.8 -0.3**
LPG pmax pmax
comp=Z,27nm,1.0s,mb5.3
SSF Saint Saulge 62.99 316 *eP* **P 00 35 04.3 -1.8**
SSF pmax pmax
comp=Z,13nm,0.7s,mb5.2
SSF Saint Saulge 62.99 316 *eP* **P 00 35 04.3 -1.8**
comp=Z,13nm,0.7s,mb5.2
PCP Pian Castagno 63.03 311 P **P 00 35 05.9 -0.5**
FLN La Foliniere 63.06 319 *eP* **P 00 35 04.4 -2.2**
comp=Z,79nm,1.0s,mb5.5
FLN *eR*
comp=Z,1µm,18.0s
FLN La Foliniere 63.06 319 *eP* **P 00 35 04.4 -2.2**
FLN pmax pmax
comp=Z,39nm,1.0s,mb5.5
FLN MLR MLR
comp=Z,1µm,18.0s,MS5.0
RSP Reno Superiore 63.07 312 P **P 00 35 05.7 -0.9**
LDF La Druitiere 63.08 319 *eP* **P 00 35 04.3 -2.3**
comp=Z,32nm,0.8s,mb5.2
LDF La Druitiere 63.08 319 *eP* **P 00 35 04.3 -2.3**
LDF pmax pmax
comp=Z,16nm,0.8s,mb5.2
HYF Humbligny 63.15 316 *eP* **P 00 35 05.5 -1.7**
SMF Signal de Mont 63.21 315 *eP* **P 00 35 05.8 -1.7**
comp=Z,56nm,1.0s,mb5.3
SMF Signal de Mont 63.21 315 *eP* **P 00 35 05.8 -1.7**
SMF pmax pmax
comp=Z,28nm,1.0s,mb5.3
FENE Fenestrelle 63.25 312 P **P 00 35 07.4 -0.4**
AVF Avril sur Loir 63.28 316 *eP* **P 00 35 06.2 -1.8**
comp=Z,27nm,1.1s,mb5.0
AVF Avril sur Loir 63.28 316 *eP* **P 00 35 06.2 -1.8**
AVF pmax pmax
comp=Z,14nm,1.1s,mb5.0
BHB Bricherasio 63.32 312 P **P 00 35 06.4 -1.9**
BNI Bardonecchia 63.38 312 *eP* **P 00 35 08.0 -0.7**
BNI pmax pmax
comp=Z,26nm,0.9s,mb5.4
BNI Bardonecchia 63.38 312 *eP* **P 00 35 08.0 -0.7**
comp=Z,26nm,0.9s,mb5.4
FIN Finale Ligure 63.44 311 P **P 00 35 07.5 -1.6**
RRL Cesana Torines 63.45 312 P **P 00 35 08.8 -0.4**
ROB Roburent 63.51 311 P **P 00 35 07.5 -2.0**
GRR Gorron 63.52 319 *eP* **P 00 35 07.4 -2.0**
comp=Z,40nm,1.0s,mb5.1
GRR Gorron 63.52 319 *eP* **P 00 35 07.4 -2.0**
GRR pmax pmax
comp=Z,20nm,1.0s,mb5.1
MBDF Montbardon 63.61 312 *eP* **P 00 35 09.0 -1.1**
comp=Z,35nm,1.0s,mb5.0
MBDF Montbardon 63.61 312 *eP* **P 00 35 09.0 -1.1**
MBDF pmax pmax
comp=Z,18nm,1.0s,mb5.1
PZZ Prazzo 63.66 312 P **P 00 35 08.3 -2.1**
BGF Bois d'Agland 63.66 316 *eP* **P 00 35 08.9 -1.5**
comp=Z,57nm,1.0s,mb5.2
BGF Bois d'Agland 63.66 316 *eP* **P 00 35 08.9 -1.5**
BGF pmax pmax
comp=Z,29nm,1.0s,mb5.3
TIP Timpagrande 63.69 302 *eP* **P 00 35 10.0 -0.8**
MONE Monesi 63.74 311 P **P 00 35 10.0 -1.0**
ENR Entracque 63.76 311 P **P 00 35 09.2 -1.9**
STV Sta Anna Valdi 63.78 311 P **P 00 35 09.8 -1.4**
IMI Imperia 63.82 311 P **P 00 35 10.4 -1.1**
ORIF Oris-en-Rattie 63.82 313 *eP* **P 00 35 10.7 -0.8**
comp=Z,30nm,1.2s,mb4.9
ORIF *eR*
comp=Z,707nm,21.7s
NEGI Negi 63.95 311 P **P 00 35 10.7 -1.6**
SBF Sospel 64.05 311 *eP* **P 00 35 11.9 -1.1**
comp=Z,102nm,1.2s,mb5.4
SBF Sospel 64.05 311 *eP* **P 00 35 11.9 -1.1**
SBF pmax pmax
comp=Z,51nm,1.2s,mb5.4
TCF Toulx Ste Croi 64.13 316 *eP* **P 00 35 12.1 -1.4**
comp=Z,47nm,1.2s,mb5.1
TCF Toulx Ste Croi 64.13 316 *eP* **P 00 35 12.1 -1.4**
TCF pmax pmax
comp=Z,23nm,1.2s,mb5.1
SGMF Saint Gilles 64.23 320 *eP* **P 00 35 12.5 -1.6**
comp=Z,144nm,1.4s,mb5.5
SGMF Saint Gilles 64.23 320 *eP* **P 00 35 12.5 -1.6**
SGMF pmax pmax
comp=Z,72nm,1.4s,mb5.5
VIVF Saint-Julien-l 64.36 313 *eP* **P 00 35 14.1 -0.9**
comp=Z,63nm,1.2s,mb5.2
VIVF Saint-Julien-l 64.36 313 *eP* **P 00 35 14.1 -0.9**
VIVF pmax pmax
comp=Z,31nm,1.2s,mb5.2
ROSF Rostrenen 64.42 321 *eP* **P 00 35 13.8 -1.5**
comp=Z,128nm,1.3s,mb5.5
ROSF Rostrenen 64.42 321 *eP* **P 00 35 13.8 -1.5**
ROSF pmax pmax
comp=Z,64nm,1.3s,mb5.5
PGF Pioggiola 64.46 309 *eP* **P 00 35 14.8 -0.9**
comp=Z,56nm,0.9s,mb5.3
PGF Pioggiola 64.46 309 *eP* **P 00 35 14.8 -0.9**
PGF pmax pmax
comp=Z,28nm,0.9s,mb5.3
FRF La Foret Royal 64.62 311 *eP* **P 00 35 15.3 -1.4**
comp=Z,72nm,1.2s,mb5.3
FRF La Foret Royal 64.62 311 *eP* **P 00 35 15.3 -1.4**
FRF pmax pmax
comp=Z,36nm,1.2s,mb5.3
SMRF Simiane la Rot 64.72 312 *eP* **P 00 35 16.4 -1.0**
comp=Z,21nm,0.9s,mb4.9
QUIF Quistinic 64.74 320 *eP* **P 00 35 15.9 -1.5**
comp=Z,147nm,1.4s,mb5.5
QUIF Quistinic 64.74 320 *eP* **P 00 35 15.9 -1.5**
QUIF pmax pmax
comp=Z,73nm,1.4s,mb5.5
MFF Saint Martin d 64.76 318 *eP* **P 00 35 16.0 -1.6**
comp=Z,63nm,1.1s,mb5.3
MFF Saint Martin d 64.76 318 *eP* **P 00 35 16.0 -1.6**
MFF pmax pmax
comp=Z,31nm,1.1s,mb5.2
LMR La Mourre 64.86 311 *eP* **P 00 35 16.9 -1.4**
comp=Z,16nm,1.1s,mb4.7
RJF Les Rejaudoux 65.22 316 *eP* **P 00 35 19.2 -1.4**
comp=Z,75nm,1.6s,mb5.2
RJF *eR*
comp=Z,712nm,17.5s
RJF Les Rejaudoux 65.22 316 *eP* **P 00 35 19.2 -1.4**
RJF pmax pmax
comp=Z,38nm,1.6s,mb5.2
RJF MLR MLR
comp=Z,710nm,17.5s,MS4.9
CAF Calviac 65.33 315 *eP* **P 00 35 20.5 -0.8**
comp=Z,19nm,1.0s,mb4.8
CAF Calviac 65.33 315 *eP* **P 00 35 20.5 -0.8**
CAF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
LASF Ste Croix 65.33 314 *eP* **P 00 35 19.9 -1.4**
comp=Z,56nm,1.2s,mb5.2
LFF La Frestale 65.83 316 *eP* **P 00 35 22.6 -1.9**
comp=Z,100nm,1.5s,mb5.3
LFF La Frestale 65.83 316 *eP* **P 00 35 22.6 -1.9**
LFF pmax pmax
comp=Z,50nm,1.5s,mb5.3
NEW Newport 65.87 37 *eP* **P 00 35 24.2 -0.5**
comp=Z,20nm,1.4s,mb5.0
NEW *ep*P pP 00 35 28.6 -0.3
NEW LR LR
comp=Z,607nm,19.0s,MS4.8
MTLF Montolieu 66.60 314 *eP* **P 00 35 29.0 -0.4**
comp=Z,33nm,1.1s,mb5.0
MTLF Montolieu 66.60 314 *eP* **P 00 35 29.0 -0.4**
MTLF pmax pmax
comp=Z,17nm,1.1s,mb5.0
EJON La Jonquera 67.08 313 P pP 00 35 36.6 -0.1
comp=Z,17nm,0.8s
EPF Esparros 67.59 315 *eP* **P 00 35 34.6 -1.1**
comp=Z,16nm,0.7s,mb4.8
EPF Esparros 67.59 315 *eP* **P 00 35 34.6 -1.1**
EPF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
EBIE Bielsa 67.96 315 P pP 00 35 43.4 +1.1
comp=Z,12nm,0.7s
ETSF Etsaut 68.05 316 *eP* **P 00 35 37.6 -1.0**
comp=Z,30nm,0.9s,mb5.0
ETSF Etsaut 68.05 316 *eP* **P 00 35 37.6 -1.0**
ETSF pmax pmax
comp=Z,15nm,0.9s,mb5.0
EMIR Miracle 68.07 314 P pP 00 35 44.6 +1.6
comp=Z,17nm,0.9s
EALK Alkurruntz 68.14 317 P pP 00 35 42.8 -0.6
comp=Z,4.1nm,0.6s
MSO Missoula 68.17 35 *eP* **P 00 35 39.5 +0.3**
comp=Z,18nm,1.1s,mb5.0
CHMT Chamberlain Mo 68.31 35 *eP* **P 00 35 39.9 -0.3**
CHMT *ep*P pP 00 35 44.7 +0.3
EPOB Poblet 68.73 314 P pP 00 35 47.3 +0.3
comp=Z,18nm,0.8s
BMO Blue Mountains 68.79 39 *eP* **P 00 35 43.1 -0.1**
comp=Z,40nm,1.2s,mb5.2
BMO *ep*P pP 00 35 47.2 -0.1
ELAN Lanestosa 68.85 318 P pP 00 35 49.9 +2.2
comp=Z,10nm,0.9s
HRY Holter Researc 68.93 34 *eP* **P 00 35 43.7 -0.3**
ESAC San Caprasio 69.02 315 P pP 00 35 50.3 +1.5
comp=Z,53nm,1.1s
EARI Arriondas 69.44 319 P pP 00 35 51.5 +0.1
comp=Z,12nm,0.8s
DGMT Dagmar 69.52 28 *eP* **P 00 35 46.7 -0.8**
comp=Z,43nm,1.0s,mb5.3
EPON Pontenova 70.11 320 P pP 00 35 54.8 -0.7
comp=Z,2.0nm,0.5s
EMOS Mosqueruela 70.18 314 P pP 00 35 56.7 +0.8
comp=Z,13nm,0.7s
KAKA Kakadu 70.25 165 *eP* **P 00 35 51.5 -1.0**
comp=Z,24nm,0.8s,mb5.2
MOD Modoc 70.28 42 *eP* **P 00 35 51.6 -0.7**
comp=Z,23nm,1.2s,mb5.0
GCMT Greycliff 70.42 33 P **P 00 35 53.5 +0.4**
EINC Incio 70.76 320 P pP 00 35 59.3 -0.1
comp=Z,2.5nm,0.6s
PBRG Braganca 71.30 319 *eP* **P 00 35 58.9 +0.4**
PBRG *ep*P pP 00 36 03.1 +0.4
GUD Guadarrama 71.36 317 P pP 00 36 02.7 -0.4
comp=Z,2.5nm,0.6s
EBEN Beniarda 71.51 313 P pP 00 36 03.7 -0.3
comp=Z,4.4nm,0.7s
ELOB Lobios 71.71 320 P **P 00 36 03.8 +2.8**
comp=Z,1.8nm,0.5s,mb4.3
MOOW Moose Ponds 71.93 35 *eP* **P 00 36 02.8 +0.5**
OHCM Honcut 72.06 44 *eP* **P 00 36 03.1 0.0**
LOHW Long Hollow 72.10 35 P **P 00 36 03.6 +0.3**
TPAW Teton Pass 72.10 35 *eP* **P 00 36 03.9 +0.6**
PVRL Vila Real 72.11 320 *eP* **P 00 36 03.3 -0.1**
PVRL *ep*P pP 00 36 08.0 +0.4
WUWY Wally Ulrich 72.12 35 *eP* **P 00 36 03.8 +0.4**
ESDC Sonseca Array 72.13 316 P pP 00 36 07.2 -0.5
comp=Z,2.0nm,1.1s
ESLA Sonseca Array 72.13 316 *eP* **P 00 36 03.1 -0.4**
comp=Z,9.0nm,1.2s,mb4.6
ESLA *ep*P pP 00 36 07.7 0.0
SNOW Snow King Moun 72.19 35 *eP* **P 00 36 04.5 +0.8**
EVIA Vianos 72.47 315 P pP 00 36 11.2 +1.5
EVIA pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
EVIA Vianos 72.47 315 P pP 00 36 11.2 +1.5

	comp=Z,5.2nm,0.6s								
EMUR	**La Murta**	**72.65**	**313**		P		pP	00 36 11.2	+0.4
	comp=Z,1.9nm,0.6s								
PVIS	**Viseu**	**72.67**	**320**		*e*pP		pP	00 36 10.7	-0.1
HVU	**Hansel Valley**	**73.04**	**37**		*e*P		**P**	**00 36 09.0**	**+0.3**
BW06	**Boulder Array**	**73.19**	**34**		*e*P		**P**	**00 36 08.7**	**-0.9**
	comp=Z,13nm,1.1s,mb4.8								
BW06					*e*pP		pP	00 36 13.4	-0.4
EBAN	**Banos Encina**	**73.38**	**315**		P		pP	00 36 15.8	+0.9
	comp=Z,1.4nm,0.5s								
EQES	**Quesada**	**73.41**	**315**		P		pP	00 36 16.9	+1.7
	comp=Z,19nm,1.1s								
HWUT	**Hardware Ranch**	**73.59**	**36**		*e*P		**P**	**00 36 12.8**	**+0.8**
	comp=Z,54nm,1.2s,mb5.3								
HWUT					*e*pP		pP	00 36 17.3	+1.1
EADA	**Adamuz**	**73.68**	**316**		P		pP	00 36 17.3	+0.6
	comp=Z,4.5nm,0.8s								
EBAD	**Badajoz**	**74.08**	**318**		P		pP	00 36 18.7	-0.3
	comp=Z,2.0nm,0.6s								
TCUT	**Toone Canyon**	**74.09**	**36**		*e*P		**P**	**00 36 15.8**	**+1.0**
ELUQ	**Luque**	**74.09**	**316**		P		pP	00 36 20.8	+1.7
ELUQ					pmax		pmax		
	comp=Z,14nm,1.0s,mb4.8								
ELUQ	**Luque**	**74.09**	**316**		P		pP	00 36 20.8	+1.7
	comp=Z,14nm,1.0s								
ELOJ	**Sierra Loja**	**74.40**	**315**		P		pP	00 36 21.5	+0.6
	comp=Z,2.8nm,0.6s								
JLU	**Jordanelle**	**74.54**	**37**		*e*P		**P**	**00 36 18.2**	**+0.7**
EVO	**Evora**	**74.64**	**319**		*e*P		**P**	**00 36 17.0**	**-1.1**
	comp=Z,53nm,1.3s,mb5.0								
EVO					*e*R				
	comp=Z,754nm,18.8s								
TPH	**Tonopah**	**74.77**	**42**		*e*P		**P**	**00 36 19.6**	**+0.8**
TPH					pmax		pmax		
	comp=Z,35nm,1.4s,mb5.1								
TPH	**Tonopah**	**74.77**	**42**		*e*P		**P**	**00 36 19.6**	**+0.8**
	comp=Z,35nm,1.4s,mb5.1								
EMIN	**Mina Concepcio**	**74.82**	**317**		P		pP	00 36 23.9	+0.6
	comp=Z,11nm,0.8s								
NLU	**North Lily Min**	**74.91**	**37**		*e*P		**P**	**00 36 20.3**	**+0.7**
NLU					*e*pP		pP	00 36 24.6	+0.8
PBEJ	**Beja**	**75.03**	**318**		*e*P		**P**	**00 36 21.4**	**+1.0**
TRCR	**Troy Canyon**	**75.12**	**41**		*e*P		**P**	**00 36 21.6**	**+0.7**
ESPR	**Espera**	**75.30**	**316**		P		**P**	**00 36 25.7**	**+3.8**
PHWY	**Pilot Hill**	**75.77**	**32**		*e*P		**P**	**00 36 25.1**	**+0.6**
MVU	**Marysvale**	**76.17**	**38**		*e*P		**P**	**00 36 27.7**	**+0.9**
	comp=Z,19nm,1.2s,mb4.9								
MSU	**Marysvale**	**76.17**	**38**		*e*P		**P**	**00 36 27.7**	**+0.9**
ARUT	**Antelope Range**	**76.39**	**39**		*e*P		**P**	**00 36 28.1**	**0.0**
ISCO	**Idaho Springs**	**77.10**	**33**		*e*P		**P**	**00 36 32.9**	**+0.9**
ISCO					*e**PP		pP	00 36 37.4	+1.2
ISCO					pmax		pmax		
	comp=Z,29nm,1.4s,mb5.0								
ISCO	**Idaho Springs**	**77.10**	**33**		*e*P		**P**	**00 36 32.9**	**+0.9**
	comp=Z,29nm,1.4s,mb5.0								
ISCO					*e*pP		pP	00 36 37.4	+1.2
PV10	**Paradox Valley**	**77.34**	**36**		*e*P		**P**	**00 36 34.3**	**+0.9**
MBWA	**Marble Bar**	**77.59**	**178**		*e*P		**P**	**00 36 33.5**	**-1.6**
WRAB	**Tennant Creek**	**77.63**	**164**	⇓	*i*P		**P**	**00 36 33.2**	**-2.1**
WRAB	**Tennant Creek**	**77.63**	**164**		*e*P		**P**	**00 36 33.6**	**-1.7**
	comp=Z,53nm,1.0s,mb5.4								
WB2	**Warramunga Arr**	**77.64**	**164**		*e*P		**P**	**00 36 34.1**	**-1.2**
PV01	**Paradox Valley**	**77.71**	**36**		*e*P		**P**	**00 36 36.2**	**+0.8**
NEN	**Nelson**	**77.80**	**41**		*e*P		**P**	**00 36 37.0**	**+1.1**
NEN					*e*pP		pP	00 36 41.7	+1.6
MWC	**Mount Wilson**	**77.85**	**45**		*e*P		**P**	**00 36 36.9**	**+0.7**
RW3	**Ridgway**	**77.89**	**35**		*e*P		**P**	**00 36 37.5**	**+1.2**
LDFC	**Landfair**	**78.21**	**42**		*e*P		**P**	**00 36 38.9**	**+0.7**
SDCO	**Great Sand Dun**	**79.03**	**34**		*e*P		**P**	**00 36 42.9**	**+0.2**
	comp=Z,19nm,1.2s,mb4.9								
SDCO					*e*pP		pP	00 36 47.4	+0.6
MIV	**Mineville/With**	**79.12**	**8**		*e*P		**P**	**00 36 43.5**	**+0.5**
CTA	**Charters Tower**	**80.18**	**153**		*e*P		**P**	**00 36 48.7**	**-0.5**
	comp=Z,13nm,0.9s,mb4.9								
CTA	**Charters Tower**	**80.18**	**153**		*e*P		**P**	**00 36 48.7**	**-0.5**
CTA					pmax		pmax		
	comp=Z,13nm,0.9s								
CTAO	**Charters Tower**	**80.18**	**153**		*e*P		**P**	**00 36 47.8**	**-1.4**
CTAO					pmax		pmax		
	comp=Z,31nm,1.4s,mb5.0								
CTAO	**Charters Tower**	**80.18**	**153**		*e*P		**P**	**00 36 47.8**	**-1.4**
	comp=Z,31nm,1.4s,mb5.0								
KSU1	**Kansas State U**	**80.21**	**26**		*e*P		**P**	**00 36 48.5**	**-0.4**
BINY	**Binghamton**	**80.77**	**10**		*e*P		**P**	**00 36 51.7**	**-0.1**
ANMO	**Albuquerque**	**81.30**	**35**		*e*P		**P**	**00 36 55.3**	**+0.5**
ANMO					*e**PP		pP	00 37 00.1	+1.0
ANMO					pmax		pmax		
	comp=Z,8.0nm,1.1s								
ANMO	**Albuquerque**	**81.30**	**35**		*e*P		**P**	**00 36 55.3**	**+0.5**
	comp=Z,8.0nm,1.1s,mb4.6								
ANMO					*e*pP		pP	00 37 00.1	+1.0
ACSO	**Alum Creek Sta**	**81.83**	**16**		*e*P		**P**	**00 36 57.2**	**-0.3**
	comp=Z,34nm,1.0s,mb5.2								
ACSO					*e*pP		pP	00 37 00.9	-0.8
ACSO					LR		LR		
	comp=Z,699nm,21.0s,MS5.0								
LPM	**Los Pinos Moun**	**81.83**	**36**		*e*P		**P**	**00 36 59.1**	**+1.5**
BNM	**Barren Site**	**81.98**	**36**		*e*P		**P**	**00 36 59.6**	**+1.2**
SSPA	**Standing Stone**	**82.11**	**12**		*e*P		**P**	**00 36 58.5**	**-0.4**
	comp=Z,36nm,1.5s,mb5.1								
BLO	**Bloomington**	**82.29**	**19**		*e*P		**P**	**00 36 59.7**	**-0.1**
BLO					pmax		pmax		
	comp=Z,11nm,0.7s,mb4.9								
BLO	**Bloomington**	**82.29**	**19**		*e*P		**P**	**00 36 59.7**	**-0.1**
	comp=Z,11nm,0.7s,mb4.9								
CCM	**Cathedral Cave**	**82.44**	**23**		*e*P		**P**	**00 37 00.1**	**-0.6**
CCM					pmax		pmax		
	comp=Z,17nm,1.1s,mb4.9								
CCM	**Cathedral Cave**	**82.44**	**23**		*e*P		**P**	**00 37 00.1**	**-0.6**
	comp=Z,17nm,1.1s,mb4.9								
AMTX	**Amarillo**	**82.82**	**32**		*e*P		**P**	**00 37 03.5**	**+0.8**
	comp=Z,45nm,1.4s,mb5.3								
WCI	**Wyandotte Cave**	**83.24**	**19**		*e*P		**P**	**00 37 05.3**	**+0.5**
WCI					pmax		pmax		
	comp=Z,46nm,0.9s,mb5.5								
WCI	**Wyandotte Cave**	**83.24**	**19**		*e*P		**P**	**00 37 05.3**	**+0.5**
	comp=Z,46nm,0.9s,mb5.5								
WMOK	**Wichita Mounta**	**83.77**	**30**		*e*P		**P**	**00 37 08.6**	**+1.1**
WMOK					pmax		pmax		
	comp=Z,56nm,1.6s,mb5.4								
WMOK					MLR		MLR		
	comp=Z,278nm,20.0s,MS4.6								
WMOK	**Wichita Mounta**	**83.77**	**30**		*e*P		**P**	**00 37 08.6**	**+1.1**
	comp=Z,56nm,1.6s,mb5.4								
WMOK					LR		LR		
	comp=Z,278nm,20.0s,MS4.6								
CPRX	**Cap Rock**	**83.89**	**34**		*e*P		**P**	**00 37 08.5**	**+0.4**
GDL2	**Guadalupe Moun**	**84.50**	**35**		*e*P		**P**	**00 37 11.5**	**+0.3**
MNTX	**Cornudas Mount**	**84.64**	**36**		*e*P		**P**	**00 37 12.4**	**+0.5**
	comp=Z,7.9nm,1.1s,mb4.8								
FWV	**Forest Hill**	**84.75**	**15**		P		**P**	**00 37 12.7**	**+0.3**
PWV	**Princeton**	**84.96**	**15**		*e*P		**P**	**00 37 13.9**	**+0.5**
WVT	**Waverly**	**85.00**	**21**		*e*P		**P**	**00 37 13.2**	**-0.4**
WVT					pmax		pmax		
	comp=Z,20nm,1.0s,mb5.2								
WVT	**Waverly**	**85.00**	**21**		*e*P		**P**	**00 37 13.2**	**-0.4**
	comp=Z,20nm,1.0s,mb5.2								
ELN	**Prospectdale**	**85.11**	**15**		*e*P		**P**	**00 37 14.1**	**0.0**
ELN					*e*		pP	00 37 18.6	+0.2
BLA	**Blacksburg**	**85.17**	**14**		*e*P		**P**	**00 37 14.3**	**-0.1**
BLA					pmax		pmax		
	comp=Z,12nm,0.8s,mb5.1								
BLA	**Blacksburg**	**85.17**	**14**		*e*P		**P**	**00 37 14.3**	**-0.1**
	comp=Z,12nm,0.8s,mb5.1								
MIAR	**Mount Ida**	**85.28**	**26**		*e*P		**P**	**00 37 14.8**	**-0.3**
OXF	**Oxford**	**86.24**	**22**		*e*P		**P**	**00 37 19.8**	**0.0**
OXF					pmax		pmax		
	comp=Z,20nm,1.1s,mb5.3								
OXF	**Oxford**	**86.24**	**22**		*e*P		**P**	**00 37 19.8**	**-0.1**
	comp=Z,20nm,1.1s,mb5.2								
CPCT	**Cooper Cave**	**86.26**	**18**		*e*P		**P**	**00 37 19.6**	**-0.3**
JCT	**Junction City**	**87.49**	**32**		*e*P		**P**	**00 37 26.8**	**+0.8**
JCT					pmax		pmax		
	comp=Z,34nm,1.6s,mb5.3								
JCT	**Junction City**	**87.49**	**32**		*e*P		**P**	**00 37 26.8**	**+0.8**
	comp=Z,34nm,1.6s,mb5.3								
KLBR	**Kellerberrin**	**87.97**	**180**		*e*P		**P**	**00 37 27.2**	**-1.0**
	comp=Z,21nm,0.9s,mb5.4								
LRAL	**Lakeview Retre**	**88.16**	**21**		*e*P		**P**	**00 37 29.0**	**-0.2**
GOGA	**Godfrey**	**88.43**	**18**		*e*P		**P**	**00 37 30.8**	**+0.4**
GOGA					pmax		pmax		
	comp=Z,24nm,1.0s,mb5.4								
GOGA	**Godfrey**	**88.43**	**18**		*e*P		**P**	**00 37 30.8**	**+0.4**
	comp=Z,24nm,1.0s,mb5.4								
LVC	**Limon Verde**	**145.58**	**11**		*e*PKP		PKPdf	00 44 17.9	-0.9
SNAA	**Sanae**	**151.67**	**215**		*e*		PKPdf	00 44 36.0	+8.9
SNAA	**Sanae**	**151.67**	**215**		*e*		PKPdf	00 44 48.2	+21
SNAA	**Sanae**	**151.67**	**215**	⇓	*i*PKPdf		PKPdf	00 44 30.7	+3.6
SNAA					*e*			00 44 36.0	
SNAA					*e*			00 44 48.2	
VNA2	**Neumayer--Watz**	**153.16**	**217**		*e*		PKPdf	00 44 44.3	+15
VNA2	**Neumayer--Watz**	**153.16**	**217**		*e*		PKPdf	00 44 55.2	+26
VNA2	**Neumayer--Watz**	**153.16**	**217**	⇓	*i*PKPdf		PKPdf	00 44 37.8	+8.5
VNA2					*e*			00 44 44.3	
VNA2					*e*			00 44 55.2	
VNA1	**Neumayer--Stat**	**153.47**	**217**	⇓	*i*P		PKPdf	00 44 38.4	+8.7
VNA3	**Neumayer Olymp**	**153.88**	**216**		*e*		PKPdf	00 44 45.5	+15
VNA3	**Neumayer Olymp**	**153.88**	**216**	⇓	*i*PKPdf		PKPdf	00 44 38.9	+8.7
VNA3					*e*			00 44 45.5	

ATH ***02*** *00:38:32.4, 36.93N×27.81E, h28km±2km, MD3.2/4*
CSEM ***02*** *00:38:32.3±0.1, 37.00N×27.87E, h20km, MD3.2, Error ellipse: s-maj=2.2km s-min=2.0km az=18.0*
ISK ***02*** *00:38:32.7, 36.92N×27.82E, h32km, MD3.4*
NEIC ***02*** *00:38:32.4, 36.93N×27.81E, h28km, MD3.2(ATH), After ATH.*

ISC 02 00:38:32.6±0.5, 36.94N±0.03×27.80E±0.04, h22km±6km, n18, σ0§75/27, Dodecanese Islands

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.31**	**293**		*i* P	**Pb**	**00 38 39.0**	**-0.5**
BDRM					*i* S	**Sb**	**00 38 44.8**	**+0.5**
NISR	**Nisiros**	**0.63**	**239**		*e*PN	**Pn**	**00 38 45.5**	**-0.6**
NISR					*e*SN	**Sn**	**00 38 55.0**	**-0.5**
DALT	**Dalyan (Mudla)**	**0.69**	**104**		PG	**Pb**	**00 38 46.0**	**+0.1**
DALT					SG	**Sb**	**00 38 55.6**	**+0.6**
AYDN	**Tasoluk**	**0.72**	**5**		*i* P	**Pb**	**00 38 45.8**	**-0.5**
AYDN					*i* S	**Sb**	**00 38 55.0**	**-0.8**
ARG	**Arkhangelos**	**0.77**	**160**		*e*PN	**Pn**	**00 38 46.6**	**-1.5**
ARG					*e*SN	**Sn**	**00 38 59.4**	**+0.4**
FETY	**Fethiye**	**1.07**	**106**		PG	**Pb**	**00 38 52.0**	**-0.4**
SMG	**Samos**	**1.08**	**315**		*e*PN	**Pn**	**00 38 52.9**	**+0.4**
SMG					*e*SN	**Sn**	**00 39 08.9**	**+2.0**
DNZL	**Cakiroluk**	**1.24**	**53**		*i* P	**Pn**	**00 38 54.4**	**-0.4**
DNZL					*i* S	**Sb**	**00 39 12.8**	**+2.1**
DENT	**Denizli**	**1.27**	**50**		PN	**Pn**	**00 38 55.4**	**+0.2**
KARP	**Karpathos**	**1.49**	**201**		*e*PN	**Pn**	**00 38 58.9**	**+0.6**
KARP					*e*SN	**Sn**	**00 39 18.3**	**+1.1**
IZM	**Izmir**	**1.51**	**344**		PN	**Pn**	**00 38 58.4**	**-0.3**
BLCB	**Balcova**	**1.56**	**338**		PN	**Pn**	**00 38 59.1**	**-0.2**
MANT	**Manisa**	**1.66**	**21**		*i* P	**Pn**	**00 39 00.7**	**-0.1**
MANT					*i* S	**Sn**	**00 39 27.1**	**+5.6**
ELL	**Elmali**	**1.70**	**96**		*e*PN	**Pn**	**00 39 00.8**	**-0.6**
APE	**Apeiranthos**	**1.82**	**275**		*e*PN	**Pn**	**00 39 02.9**	**-0.2**
AKS	**Akhisar**	**1.93**	**0**		PN	**Pn**	**00 39 04.2**	**-0.5**
BCK	**Bucak**	**2.29**	**76**		*e*PN	**Pn**	**00 39 09.5**	**-0.2**
ALT	**Altintas**	**2.79**	**40**		*e*PN	**Pn**	**00 39 16.5**	**-0.4**

SNSN ***02*** *00:48:11.6, 27.58N×33.23E, Ml2.5*
CSEM ***02*** *00:48:14.9±0.5, 27.53N×33.51E, h5km, ML2.5, Error ellipse: s-maj=11.2km s-min=3.7km az=62.0*
GII ***02*** *00:48:17.5±0.7, 27.71N×33.49E, h6km±30km, ML2.8/2*

ISC 02 00:48:15.4±2.3, 27.63N±0.09×33.5E±0.2, h10km, n15, σ0§46/18, Egypt

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
TAYS	**Tayyib Ism**	**1.52**	**53**		P	**Pn**	**00 48 42.8**	**-0.1**
TAYS					S	**Sb**	**00 49 07.0**	**+4.4**
BDAS	**Al Bad'**	**1.63**	**60**		P	**Pn**	**00 48 43.9**	**-0.4**
AYUS	**'Aynunah**	**1.67**	**70**		P	**Pn**	**00 48 44.2**	**-0.7**
HAQS	**Haql**	**1.90**	**41**		P	**Pn**	**00 48 48.2**	**-0.1**
JMOS	**Jabal al Moall**	**2.09**	**42**		P	**Pn**	**00 48 51.0**	**0.0**
ALWS	**Ilw as Safayha**	**2.17**	**39**		P	**Pn**	**00 48 51.6**	**-0.5**
DBAS	**Duba**	**2.24**	**100**		P	**Pn**	**00 48 53.1**	**0.0**
EIL	**Elat**	**2.40**	**32**		Pn	**Pn**	**00 48 55.6**	**+0.2**
JMQS	**Jabal Moqyreh**	**2.45**	**59**		P	**Pn**	**00 48 56.4**	**+0.4**
MBH	**Mount Berech**	**2.49**	**30**		Pn	**Pn**	**00 48 57.0**	**+0.3**
AQBJ	**Aqaba**	**2.50**	**33**		Pn	**Pn**	**00 48 57.4**	**+0.6**
KMTI	**Karmit**	**2.69**	**23**		Pn	**Pn**	**00 48 59.4**	**-0.2**
KMTI					Sn	**Sn**	**00 49 32.3**	**-0.3**
TBKS	**Tabuk**	**2.77**	**77**		P	**Pn**	**00 49 01.1**	**+0.5**
PRNI	**Paran**	**3.02**	**26**		Pn	**Pn**	**00 49 04.3**	**+0.1**
PRNI					Sn	**Sn**	**00 49 40.7**	**-0.1**
KZIT	**Kziot**	**3.36**	**13**		Pn	**Pn**	**00 49 09.3**	**+0.2**

ATH ***02*** *01:24:53.1, 41.30N×20.20E, h5km, MD3.5/4*
PDG ***02*** *01:24:53.6±0.2, 40.76N×19.97E, h12km*
TIR ***02*** *01:24:55.3, 41.07N×20.22E, h5km, Ml2.5*
CSEM ***02*** *01:24:57.7±0.1, 41.09N×20.27E, h2km, MD3.5, Error ellipse: s-maj=2.0km s-min=1.5km az=38.0*
NEIC ***02*** *01:24:57.5±0.5, 41.10N×20.21E, h10km, MD3.5(ATH), MD3.2(PDG), Error ellipse: s-maj=8.0km s-min=4.7km az=50.0*

ISC 02 01:24:56.8±0.4, 41.06N±0.02×20.20E±0.03, h5km, n29, σ1§30/48, 4C-1D, Albania

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.39**	**319**		*i* Pg	**Pg**	**01 25 03.5**	**-1.0**
TIR					*i* Sg	**Sg**	**01 25 08.5**	**-1.2**
OHR	**Ohrid**	**0.46**	**83**	⇓	*i*Pg	**Pg**	**01 25 05.6**	**-0.3**
OHR					*i* Sg	**Sg**	**01 25 12.9**	**+0.9**
QSH	**Qafa e Shtames**	**0.52**	**335**		*i* Pg	**Pg**	**01 25 04.5**	**-2.6**
QSH					*i* Sg	**Sg**	**01 25 13.2**	**-0.8**
PRZA	**Preza**	**0.55**	**313**		*i* Pg	**Pg**	**01 25 09.0**	**+1.3**
TPE	**Tepelena**	**0.77**	**191**		*e*Pg	**Pg**	**01 25 11.9**	**-0.3**
VLO	**Vlora**	**0.79**	**223**		*e*Pg	**Pg**	**01 25 12.5**	**-0.1**
VLO					*i* Sg	**Sg**	**01 25 28.2**	**+5.0**
BIA	**Bitola**	**0.85**	**92**		*i* Pg	**Pg**	**01 25 14.1**	**+0.3**
BIA					*i* Sg	**Sg**	**01 25 26.3**	**+1.2**
LSK	**Leskovik**	**0.95**	**161**		*e*Pg	**Pg**	**01 25 12.6**	**-3.2**
LSK					*i* Sg	**Sg**	**01 25 28.5**	**-0.1**
PUK	**Puka**	**1.01**	**347**		*i* Pg	**Pg**	**01 25 15.2**	**-1.8**
PUK					*i* Sg	**Sg**	**01 25 32.1**	**+1.6**
ULC	**Ulcinj**	**1.15**	**322**	⇑	*i*Pg	**Pg**	**01 25 17.9**	**-1.9**
ULC					*e*Sg	**Sg**	**01 25 38.7**	**+3.5**
SKO	**Skopje**	**1.31**	**45**		*i* Pg	**Pg**	**01 25 21.5**	**-1.3**
SKO					*i*		01 25 24.7	
SKO					*i* Sg	**Sg**	**01 25 39.2**	**-1.1**
SKO					Lg		01 25 42.5	
	comp=Z,0.1nm,0.4s							
SKO	**Skopje**	**1.31**	**45**		*i* Pg	**Pg**	**01 25 21.5**	**-1.3**
SKO					*i* Sg	**Sg**	**01 25 39.2**	**-1.1**
BCI	**Bajram Curri**	**1.31**	**356**		*i* Pn	**Pn**	**01 25 21.3**	**-0.5**
BCI	**Bajram Curri**	**1.31**	**356**		*e*Pn	**Pn**	**01 25 21.3**	**-0.5**
KEK	**Kerkira**	**1.38**	**193**		*e*PB	**Pb**	**01 25 23.5**	**+0.9**
KZN	**Kozani**	**1.41**	**122**		*e*PB	**Pb**	**01 25 22.5**	**-0.7**
JAN	**Janina**	**1.48**	**160**		*e*PN	**Pn**	**01 25 25.5**	**+1.3**
TTG	**Podgorica**	**1.54**	**333**	⇑	*i*Pn	**Pn**	**01 25 24.7**	**-0.4**
TTG					*e*Sn	**Sn**	**01 25 49.5**	**+3.8**
PVY	**Plav**	**1.55**	**354**		*e*Pn	**Pn**	**01 25 24.8**	**-0.3**
PVY					*e*Sn	**Sn**	**01 25 51.1**	**+5.3**
BUM	**Brajici-Budva**	**1.58**	**322**	⇑	*i*Pn	**Pn**	**01 25 24.9**	**-0.7**
BUM					*e*Sn	**Sn**	**01 25 49.3**	**+2.6**
IVA	**Berane**	**1.83**	**353**		*e*Pn	**Pn**	**01 25 30.0**	**+0.8**
IVA					*e*Sn	**Sn**	**01 25 58.2**	**+5.2**
HCY	**Herceg Novi**	**1.89**	**318**	⇑	*i*Pn	**Pn**	**01 25 28.6**	**-1.4**
HCY					*e*Sn	**Sn**	**01 25 55.7**	**+1.3**
NKY	**Niksic**	**1.97**	**333**		*e*Pn	**Pn**	**01 25 30.3**	**-0.9**
NKY					*e*Sn	**Sn**	**01 25 59.8**	**+3.2**
TREB	**Trebinje**	**2.16**	**321**		Sg	**Sn**	**01 26 01.6**	**+0.2**
TREB	**Trebinje**	**2.16**	**321**		Pn	**Pn**	**01 25 32.9**	**-1.0**
BRY	**Bratogost**	**2.22**	**327**		*e*Pn	**Pn**	**01 25 33.8**	**-0.9**
BRY					*e*Sn	**Sn**	**01 26 04.8**	**+1.9**
PLE	**Pljevlja**	**2.35**	**346**		*e*Pn	**Pn**	**01 25 36.8**	**+0.2**
PLE					*e*Sn	**Sn**	**01 26 10.2**	**+4.0**
UPM	**Unac-Piva**	**2.35**	**336**		*e*Pn	**Pn**	**01 25 36.2**	**-0.4**
UPM					*e*Sn	**Sn**	**01 26 09.1**	**+2.9**
EVR	**Evrytania**	**2.47**	**149**		*e*PN	**Pn**	**01 25 40.0**	**+1.7**

BJI ***02*** *01:55:40.4, 6.72N×91.99E, h38km, mB5.1, mb4.7, Ms4.1, Msz4.0*
NEIC ***02*** *01:55:42.3±0.5, 6.98N×91.83E, mb4.6/9, Error ellipse: s-maj=14.1km s-min=9.7km az=66.0*

ISC 02 01:55:40.3±0.5, 6.95N±0.06×91.97E±0.07, h26km, h26km±.5km: pP-P, n40, σ1§01/41, mb4.8/16, MS4.0/1, 2C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**13.30**	**30**		*e*P	**P**	**01 58 51.6**	**+1.4**
	11nm,0.8s							
CHG	**Chiang Mai**	**13.60**	**29**	⇓	P	**P**	**01 59 03.9**	**+10**
	12nm,1.2s							
VIS	**Vishakhapatnam**	**13.62**	**323**		*e*P	**P**	**01 58 52.0**	**-2.6**
VIS					AMb	AMB	01 59 00.9	
	comp=Z,63nm,1.2s							
VIS					*e*		02 01 08.5	
KKTK	**Khon Kaen**	**14.13**	**48**	⇑	P	**P**	**01 59 09.4**	**+8.2**
CHRT	**Chiangrai**	**14.91**	**30**	⇑	P	**P**	**01 59 10.5**	**-0.9**
HYB	**Hyderabad**	**16.73**	**310**		*i* P	**P**	**01 59 36.5**	**+1.8**
	comp=Z,71nm,1.2s							
HYB					*e*S	**S**	**02 02 40.0**	**+1.3**
AGT	**Agartala**	**16.85**	**358**		*e*P	**P**	**01 59 39.0**	**+2.8**
IMP	**Imphal**	**17.83**	**6**		*e*P	**P**	**01 59 48.3**	**-0.2**
SHL	**Shillong**	**18.51**	**360**		*e*P	**P**	**01 59 58.0**	**+1.1**
SHL					*e*S	**S**	**02 03 15.0**	**-4.3**
COCO	**West Island**	**19.62**	**166**		*e*P	**P**	**02 00 11.1**	**+1.0**
	comp=Z,67nm,0.4s							
PKI	**Pulchoki**	**21.43**	**344**		*e*P	**P**	**02 00 28.6**	**-0.1**
	comp=Z,135nm,1.3s,mb5.1							
DMN	**Daman**	**21.55**	**343**		*e*P	**P**	**02 00 30.4**	**+0.5**
	comp=Z,39nm,0.7s,mb4.9							
GUN	**Gumba**	**21.63**	**345**		*e*P	**P**	**02 00 30.8**	**+0.1**
	comp=Z,89nm,0.7s,mb5.3							
KKN	**Kakani**	**21.67**	**344**		*e*P	**P**	**02 00 30.7**	**-0.5**
	comp=Z,178nm,1.4s,mb5.3							
LSA	**Lhasa**	**22.64**	**358**		P	**P**	**02 00 42.8**	**+2.0**
LSA					AMB	AMB		
	comp=Z,20nm,1.1s,mb4.5							
LSA	**Lhasa**	**22.64**	**358**		*e*P	**P**	**02 00 43.3**	**+2.5**
	comp=Z,33nm,1.1s,mb4.7							
NDI	**New Delhi**	**25.72**	**329**		*e*P	**P**	**02 01 09.5**	**-1.0**
DDI	**Dehra Dun**	**26.67**	**332**		*e*P	**P**	**02 01 12.5**	**-6.7**
ENH	**Enshi**	**28.44**	**33**		*e*P	**P**	**02 01 35.4**	**+0.1**
	comp=Z,4.1nm,0.6s,mb4.2							
LZH	**Lanzhou**	**30.97**	**19**		*e*P	**P**	**02 01 57.2**	**-0.6**
LZH					AP	pP	02 02 05.6	+0.1
LZH					XP	sP	02 02 09.5	+0.5
LZH					AMB	AMB		
	comp=Z,26nm,1.3s,mb4.9							
LZH					LR	LR		
	comp=N,193nm,13.0s							
LZH					LR	LR		
	comp=Z,295nm,17.2s,MS4.0							
WMQ	**Urumqi**	**36.91**	**355**		P	**P**	**02 02 50.0**	**+1.1**
AAK	**Ala-Archa**	**38.74**	**339**		*e*P	**P**	**02 03 03.0**	**-1.3**
	comp=Z,21nm,1.4s,mb4.7							
AAK					*e*	pP	02 03 11.2	-1.0
ULN	**Ulaanbaatar**	**42.75**	**15**		*e*P	**P**	**02 03 36.7**	**-0.5**
	comp=Z,6.4nm,1.0s,mb4.3							
HIA	**Hailar**	**48.22**	**24**		*e*P	**P**	**02 04 20.3**	**-0.5**
	comp=Z,6.3nm,0.8s,mb4.

0.4nm,0.1s,SNR=7.9
EQES Quesada 3.26 34 Pn Pn 02 04 42.6 -1.5
0.1nm,0.1s,SNR=4.0
EQES Sn Sn 02 05 20.4 -3.9
0.2nm,0.1s,SNR=7.9
EBAN Banos Encina 3.29 23 Pn Pn 02 04 43.3 -1.4
0.6nm,0.1s,SNR=4.0
EHUE Huescar 3.50 39 Pn Pn 02 04 45.9 -1.7
0.2nm,0.2s,SNR=4.0
EHUE Sn Sn 02 05 25.3 -5.1
0.2nm,0.2s,SNR=4.0
PBEJ Beja 3.51 326 *e*Pn Pn 02 04 45.4 -2.4
PBEJ *e*Sn Sn 02 05 26.3 -4.4
PTEO Sao Teotonio 3.62 313 *e*Pn Pn 02 04 46.4 -2.8
PTEO *e*Sn Sn 02 05 28.0 -5.2
EBAD Badajoz 3.85 341 Pn Pn 02 04 50.1 -2.4
EBAD Badajoz 3.85 341 Pn Pn 02 04 50.2 -2.4
0.8nm,0.1s,SNR=7.9
EBAD Sn Sn 02 05 33.9 -5.3
0.0nm,0.1s,SNR=7.9

ISC 02 02:25:24.1±1.7,**7.0N**±0.2×**92.7E**±0.2,**h33**km,**n14**, σ0°**70**/16,**mb4.5**/2,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDRS	**Chennai**	**13.66**	**297**	*e*P	**P**	**02 28 42.6**	**+4.6**
VIS	**Vishakhapatnam**	**14.04**	**320**	*e*P	**P**	**02 28 43.8**	**+0.8**
VIS				*e*		02 28 45.6	
	comp=Z,70nm,0.1s						
VIS				*e*S	**S**	**02 31 18.3**	**-0.3**
BWNR	**Bhubaneshwar**	**14.82**	**334**	*e*P	**P**	**02 28 51.4**	**-1.7**
BWNR				*e*		02 28 52.8	
	comp=Z,29nm,0.3s						
BWNR				*e*S	**S**	**02 31 37.5**	**+0.6**
HYB	**Hyderabad**	**17.26**	**308**	*e*P	**P**	**02 29 24.0**	**-0.3**
HYB				*e*		02 32 35.0	
SHL	**Shillong**	**18.49**	**358**	*e*P	**P**	**02 29 39.0**	**-0.6**
PKI	**Pulchoki**	**21.60**	**342**	*e*P	**P**	**02 30 13.2**	**0.0**
	comp=Z,13nm,0.5s						
DMN	**Daman**	**21.73**	**342**	*e*P	**P**	**02 30 14.1**	**-0.4**
GUN	**Gumba**	**21.79**	**344**	*e*P	**P**	**02 30 15.5**	**+0.5**
	comp=Z,32nm,0.8s,mb4.8						
BHPL	**Bhopal**	**21.84**	**319**	*e*P	**P**	**02 30 15.3**	**-0.2**
BHPL				*e*		02 30 16.3	
	comp=Z,5.9nm,0.3s						
KKN	**Kakani**	**21.85**	**342**	*e*P	**P**	**02 30 15.3**	**-0.3**
	comp=Z,42nm,1.1s						
GKN	**Gorkha**	**22.25**	**341**	*e*P	**P**	**02 30 20.6**	**+1.0**
	comp=Z,75nm,1.1s						
KOLN	**Koldanda**	**22.39**	**338**	*e*P	**P**	**02 30 21.8**	**+0.7**
	comp=Z,84nm,1.6s						
KAF	**Kangasniemi**	**72.92**	**333**	*e*p	**P**	**02 36 44.9**	**-6.7**
	comp=Z,1.9nm,0.5s,mb4.3						
KHC	**Kasperske Hory**	**77.63**	**319**	*e*P	**P**	**02 37 12.0**	**-6.8**

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*ATH **02** 02:53:22.9, 38.14N×26.16E, h38km±6km, MD3.4/5, ML3.6*
*NEIC **02** 02:53:22.9, 38.14N×26.16E, h38km, MD3.4(ATH), After ATH.*
*CSEM **02** 02:53:23.5±0.1, 38.10N×26.21E, h40km, ML3.6, Error ellipse: s-maj=4.3km s-min=2.3km az=130.0*
*ISK **02** 02:53:23.6, 38.07N×26.19E, h32km, MD3.4*
ISC 02 02:53:23.0±0.8,**38.12N**±0.03×**26.07E**±0.05,**h22**km±8km, **n22**,σ1°**00**/34,**2C-1D**,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.73**	**124**	*i*PN	**Pn**	**02 53 36.8**	**-1.2**
SMG				*e*SN	**Sn**	**02 53 47.5**	**-1.0**
BLCB	**Balcova**	**0.81**	**71**	*i* PG	**Pb**	**02 53 38.1**	**-0.2**
BLCB				*i* SG	**Sb**	**02 53 48.4**	**-0.4**
IZM	**Izmir**	**0.98**	**73**	PG	**Pb**	**02 53 40.6**	**-0.6**
APE	**Apeiranthos**	**1.13**	**202**	PN	**Pn**	**02 53 43.6**	**-0.1**
APE				SN	**Sn**	**02 53 58.2**	**-0.5**
APE	**Apeiranthos**	**1.13**	**202**	*i*Pb	**Pb**	**02 53 43.8**	**0.0**
APE				*e*Sn	**Sn**	**02 53 58.2**	**-0.5**
PRK	**Paraskevi**	**1.14**	**8**	*i*PN	**Pn**	**02 53 43.4**	**-0.4**
PRK				*e*SN	**Sn**	**02 53 58.5**	**-0.3**
AYVA	**Ayvalik**	**1.28**	**22**	*i* P	**Pn**	**02 53 45.5**	**-0.4**
AYVA				*i* S	**Sb**	**02 54 04.1**	**+1.7**
AYDN	**Tasoluk**	**1.50**	**107**	*i* P	**Pn**	**02 53 51.7**	**+2.6**
BDRM	**Kayabasi**	**1.52**	**134**	*i* P	**Pn**	**02 53 51.4**	**+2.2**
BDRM				*i* S	**Sn**	**02 54 09.3**	**+0.9**
AKS	**Akhisar**	**1.56**	**60**	PN	**Pn**	**02 53 49.3**	**-0.6**
EZN	**Ezine**	**1.71**	**7**	PN	**Pn**	**02 53 52.1**	**0.0**
EZN				SN	**Sn**	**02 54 14.0**	**+0.5**
BOZC	**Bozcaada**	**1.72**	**360**	*i* P	**Pn**	**02 53 51.5**	**-0.7**
BOZC				*i* S	**Sn**	**02 53 58.5**	**-15**
PTL	**Penteli**	**1.74**	**268**	*e*PB	**Pb**	**02 53 53.7**	**-0.5**
ATH	**Athens Observa**	**1.86**	**266**	*e*PN	**Pn**	**02 53 55.5**	**+1.3**
MANT	**Manisa**	**1.99**	**79**	*i* P	**Pn**	**02 53 59.8**	**+3.7**
MANT				*i* S	**Sn**	**02 54 25.1**	**+4.6**
BALB	**Balikesir**	**2.07**	**42**	*e*PN	**Pn**	**02 53 56.6**	**-0.6**
BTOK	**Tokmak**	**2.24**	**42**	*i* P	**Pn**	**02 54 03.8**	**+4.2**
BTOK				*i* S	**Sn**	**02 54 32.6**	**+5.7**
DNZL	**Cakiroluk**	**2.39**	**99**	*i* P	**Pn**	**02 54 07.7**	**+5.9**
DNZL				*i* S	**Sn**	**02 54 41.6**	**+11**
KARP	**Karpathos**	**2.71**	**161**	*e*PN	**Pn**	**02 54 05.9**	**-0.4**
MRMT	**Marmara Adasi**	**2.75**	**25**	*e*PN	**Pn**	**02 54 06.8**	**0.0**
KCT	**Karacabey**	**2.78**	**39**	*e*PN	**Pn**	**02 54 06.3**	**-1.0**
ULDT	**Uludag**	**3.12**	**49**	*i* P	**Pn**	**02 54 20.1**	**+8.0**

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*NIED **02** 03:30:00, 33.70N×131.90E, h74km, Mw4.3 Best double couple: M0=2.69×10^15 NP1:φs=299°, δ76°, λ157°. NP2:φs=35°, δ68°, λ16°.*
*JMA **02** 03:30:01.3, 33.75N×131.93E, h73km±1km, M4.2 Broadband fault plane solution: P waves. NP1:φs=35°, δ63°, λ19°. NP2:φs=296°, δ73°, λ151°. Principal axes: T Plg32°, Azm253°; N Plg57°, Azm88°; P Plg7°, Azm347°;*
JMA Felt II J1.
ISC 02 03:30:00.6±1.5,**33.76N**±0.07×**131.96E**±0.08,**h77**km±9km, **n7**,σ0°**32**/14,**4C-2D**,**Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKD	**Kudamatsu**	**0.31**	**346**	⇑P	**P**	**03 30 12.9**	**+0.2**
JKD				S	**S**	**03 30 21.4**	**-0.3**
JKI	**Kunimi**	**0.35**	**250**	⇓P	**P**	**03 30 13.2**	**+0.2**
JKI				S	**S**	**03 30 21.8**	**-0.4**
JNA	**Nagahama**	**0.47**	**115**	⇑P	**P**	**03 30 14.3**	**+0.4**
JNA				*e*S	**S**	**03 30 23.8**	**-0.1**
JHM	**Kurahashi**	**0.61**	**51**	⇑P	**P**	**03 30 15.6**	**+0.3**
JHM				*e*S	**S**	**03 30 26.4**	**+0.4**
UWA2	**Uwa jima 2**	**0.77**	**134**	⇓P	**P**	**03 30 17.2**	**+0.1**
UWA2				S	**S**	**03 30 28.9**	**-0.4**
JET	**Tanbara**	**0.90**	**88**	⇑P	**P**	**03 30 18.9**	**+0.4**
JET				*e*S	**S**	**03 30 32.0**	**0.0**
MAT	**Matsushiro**	**5.82**	**60**	P	**P**	**03 31 25.8**	**-0.2**
MAT				*e*S	**S**	**03 32 31.6**	**-0.6**

MEX 02 03:37:20.9±0.6,**16.13N**×**97.63W**,**h12**km±8km,**MD4.0**, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.55**	**299**	*i* P	**Pb**	03 37 30.3	-1.6
PNIG				*e*S	**Sb**	03 37 37.8	-1.5
VHO	**Vista Hermosa**	**1.27**	**42**	*e*P	**Pb**	03 37 40.9	-3.5
VHO				*i* S	**Sb**	03 37 56.4	-4.1
OXX	**Oaxaca**	**1.29**	**42**	*i* P	**Pb**	03 37 41.0	-3.6
OXX				*i* S	**Sb**	03 37 57.0	-3.9
HUIG	**Huatulco**	**1.51**	**103**	*e*P	**Pn**	03 37 44.2	-3.6
HUIG				*e*S	**Sb**	03 38 02.4	-4.8
CAIG	**El Cayaco**	**2.69**	**290**	*e*P	**Pn**	03 38 00.3	-4.5
CAIG				*e*S	**Sn**	03 38 30.0	-7.5
CMIG	**Matias Romero**	**2.80**	**70**	*e*P	**Pn**	03 38 03.0	-3.4
CMIG				*e*S	**Sn**	03 38 36.9	-3.5
PLIG	**Platanillo**	**2.88**	**322**	*i* P	**Pn**	03 38 04.2	-3.2
PLIG				*e*S	**Sn**	03 38 39.2	-3.0
PPM	**Popocatepetl**	**3.08**	**342**	*e*P	**Pn**	03 38 07.9	-2.4
PPM				*e*S	**Sn**	03 38 41.8	-5.5

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*CSEM **02** 03:44:06.6±0.9, 66.32N×20.72E, h2km, ML2.7, Error ellipse: s-maj=49.8km s-min=19.4km az=110.0, Suspected Mining explosion.*
*UPP **02** 03:44:20.8, 67.18N×20.70E, h1km, ML2.7, Suspected Mining explosion.*

HEL 02 03:44:21.3±0.1,**67.18N**×**20.69E**,**ML2.7**(UPP), **Explosion**,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**220**	*i* P	**Pg**	03 44 22.6	-0.3
DUNU	**Dundret**	**0.07**	**220**	P	**Pg**	03 44 22.5	-0.3
MASU	**Masugnsbyn**	**0.58**	**61**	*i* P	**Pg**	03 44 31.8	-1.1
MASU	**Masugnsbyn**	**0.58**	**61**	P	**Pg**	03 44 31.7	-1.1
KUA	**Kurravaara**	**0.79**	**350**	*i* P	**Pg**	03 44 35.5	-1.6
ERTU	**Ertsjaerv**	**0.86**	**136**	*i* P	**Pg**	03 44 36.6	-1.9
NIKU	**Nikkaluokta**	**0.94**	**318**	*e*P	**Pg**	03 44 38.3	-1.8
NIKU	**Nikkaluokta**	**0.94**	**318**	P	**Pg**	03 44 38.2	-1.9
PAJU	**Pajala**	**0.96**	**98**	*e*P	**Pg**	03 44 38.6	-1.8
LANU	**Lannavaara**	**1.00**	**29**	*e*P	**Pb**	03 44 39.1	-2.2
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	**Pn**	03 44 51.9	-0.7
KTK1	**Kautokeino**	**2.07**	**26**	*e*P	**Pn**	03 44 58.2	+0.4
SGF	**Sodankyl**	**2.28**	**81**	*e*PB	**Pb**	03 45 00.9	-2.1
SGF				*e*SG	**Sg**	03 45 30.9	-6.3
TRO	**Tromso**	**2.55**	**346**	*e*SG	**Sg**	03 45 39.4	-6.8

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*GUC **02** 03:46:28.9±0.7, 37.40S×71.95W, h110km±8km, MD3.4, ML3.6*
*NEIC **02** 03:46:28.9, 37.40S×71.95W, h110km, mb3.6/1, MD3.4(GUC), After GUC.*
ISC 02 03:46:28.2±0.7,**37.41S**±0.04×**71.8W**±0.2,**h118**km±13km, **n19**,σ0°**72**/31,**mb3.6**/1,**11C-3D**,**Southern Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.83**	**345**	⇓*i*P	**P**	**03 46 48.1**	**-0.6**
CCHI				*i* S	**S**	**03 47 03.0**	**-1.2**
CCHI				AMP		03 47 03.6	
	comp=E,3μm,0.3s						
TMCH	**Temuco**	**1.48**	**205**	⇓*i*P	**P**	**03 46 56.9**	**+1.2**
TMCH				*i* S	**S**	**03 47 17.3**	**+0.7**
TMCH				AMP		03 47 19.0	
	comp=N,140nm,0.2s						
TALC	**Talca**	**2.01**	**4**	⇑*i*P	**P**	**03 47 03.0**	**+0.9**
TALC				*i* S	**S**	**03 47 28.0**	**+0.3**
TALC				AMP		03 47 30.0	
	comp=E,2μm,0.1s						
NICH	**Los Niches**	**2.45**	**11**	⇑*i*P	**P**	**03 47 09.2**	**+1.3**
NICH				*i* S	**S**	**03 47 38.9**	**+1.0**
VLCH	**Valdivia**	**2.64**	**205**	⇑*i*P	**P**	**03 47 10.4**	**-0.2**
VLCH				*i* S	**S**	**03 47 41.2**	**-1.5**
SFDO	**San Fernando**	**2.86**	**13**	⇑*i*P	**P**	**03 47 14.1**	**+0.6**
SFDO				*i* S	**S**	**03 47 48.5**	**+0.7**
CACH	**El Canelo**	**3.43**	**17**	⇑*i*P	**P**	**03 47 21.9**	**+0.8**
LNV	**Longovilo**	**3.46**	**6**	⇑*i*P	**P**	**03 47 21.8**	**+0.2**
LNV				*i* S	**S**	**03 48 01.5**	**-0.6**
CHCH	**Chadas Angostu**	**3.59**	**16**	⇑*i*P	**P**	**03 47 23.5**	**+0.2**
LMEL	**Las Melosas**	**3.79**	**21**	⇑*i*P	**P**	**03 47 26.8**	**+0.8**
TACH	**Talagante**	**3.81**	**11**	⇓*i*P	**P**	**03 47 25.8**	**-0.5**
TACH				*i* S	**S**	**03 48 09.7**	**-0.9**
PCH	**Pirque**	**3.92**	**16**	⇑*i*P	**P**	**03 47 28.1**	**+0.3**
LCCH	**Las Cruces**	**3.93**	**3**	*i* P	**P**	**03 47 27.7**	**-0.1**
RCDM	**Rinconada Maip**	**4.00**	**12**	*i* P	**P**	**03 47 28.2**	**-0.5**
RCDM				*i* S	**S**	**03 48 14.0**	**-1.0**
CLCH	**Cerro Calan**	**4.14**	**15**	⇑*i*P	**P**	**03 47 30.5**	**-0.1**
CLCH				*i* S	**S**	**03 48 17.9**	**-0.5**
FCH	**Farellones**	**4.26**	**17**	⇑*i*P	**P**	**03 47 32.0**	**-0.3**
FCH				*i* S	**S**	**03 48 21.2**	**-0.2**
PEL	**Peldehue**	**4.35**	**13**	*i* P	**P**	**03 47 33.8**	**+0.3**
PEL				*i* S	**S**	**03 48 23.5**	**-0.2**
TRQA	**Tornquist**	**7.82**	**98**	*e*P	**P**	**03 48 19.6**	**-1.0**
LPAZ	**La Paz**	**21.29**	**10**	*e*P	**P**	**03 51 13.6**	**+7.1**
	comp=E,1.9nm,0.6s,mb3.6						

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*MDD **02** 03:52:03.2±0.3, 46.04N×2.92E, mbLg2.1/23, Error ellipse: s-maj=3.0km s-min=2.4km az=105.0*
*CSEM **02** 03:52:03.7±0.1, 46.08N×2.85E, h15km, ML2.8/20, Error ellipse: s-maj=1.1km s-min=0.8km az=123.0*
*NEIC **02** 03:52:03.8, 46.09N×2.84E, h17km, ML2.8(STR), ML2.7(LDG), After LDG.*
LDG 02 03:52:03.8±0.1,**46.09N**×**2.84E**,**h17**km,**Md3.1**/3,**Ml2.7**/22, **Error ellipse: s-maj=1.3km s-min=1.0km az=118.0**, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGO	**Saint Agoulin**	**0.21**	**100**	Pg	Pb	03 52 09.9	+1.1
AGO				Sg	Sb	03 52 13.4	+1.2
PYM	**Petit Puy Mans**	**0.36**	**161**	Pg	Pb	03 52 12.5	+1.1
PYM				Sg	Sb	03 52 17.2	+0.7
CFF	**Clermont-Ferra**	**0.38**	**150**	Pg	Pb	03 52 12.7	+1.0
CFF				Sg	Sb	03 52 17.7	+0.7
BGF	**Bois d'Agland**	**0.47**	**1**	*e*Pg	Pb	03 52 13.7	+0.5
BGF				*e*Sg	Sb	03 52 19.9	+0.3
	136nm,0.4s						
TCF	**Toulx Ste Croi**	**0.48**	**295**	*e*Pg	Pb	03 52 14.0	+0.6
TCF				*e*Sg	Sb	03 52 20.8	+0.9
	56nm,0.1s						
PLDF	**La Plantade**	**0.56**	**102**	Pg	Pb	03 52 15.8	+1.1
PLDF				Sg	Sb	03 52 22.8	+0.6
FRNF	**Fournols**	**0.73**	**195**	Pg	Pb	03 52 17.6	-0.1
FRNF				Sg	Sb	03 52 27.1	-0.1
AVF	**Avril sur Loir**	**0.79**	**27**	*e*Pg	Pb	03 52 18.5	-0.1
AVF				*e*Pn	Pn	03 52 19.0	-1.0
AVF				*e*Sg	Sb	03 52 29.1	+0.3
	81nm,0.2s						
AVF	**Avril sur Loir**	**0.79**	**27**	Pg	Pb	03 52 18.5	-0.1
AVF				Lg		03 52 29.1	
	41nm,0.2s						
COLF	**Collangettes**	**0.83**	**133**	Pg	Pb	03 52 18.6	-0.7
COLF				Sg	Sb	03 52 28.8	-1.2
SMF	**Signal de Mont**	**0.89**	**51**	*e*Pg	Pb	03 52 19.8	-0.6
SMF				*e*Pn	Pn	03 52 20.6	-0.8
SMF				*e*Sg	Sb	03 52 31.7	-0.1
	39nm,0.2s						
SMF	**Signal de Mont**	**0.89**	**51**	Pg	Pb	03 52 19.8	-0.6
SMF				Lg		03 52 31.7	
	20nm,0.2s						
LBL	**Lubilhac**	**0.90**	**161**	Pg	Pb	03 52 21.7	+1.1
LBL				Sg	Sb	03 52 33.2	+1.0
SSF	**Saint Saulge**	**1.07**	**25**	*e*Pg	Pb	03 52 24.0	+0.5
SSF				*e*Sg	Sb	03 52 36.6	-0.6
	37nm,0.3s						
HYF	**Humbligny**	**1.19**	**353**	*e*Pg	Pb	03 52 26.3	+0.9
HYF				*e*Sg	Sb	03 52 41.5	+1.1
RJF	**Les Rejaudoux**	**1.22**	**230**	*e*Pn	Pn	03 52 24.6	-1.5
RJF				*e*Pg	Pb	03 52 26.6	+0.6
RJF				*e*Sg	Sb	03 52 41.8	+0.6
	28nm,0.2s						
CAF	**Calviac**	**1.28**	**205**	*e*Pn	Pn	03 52 25.2	-1.9
CAF				*e*Pg	Pn	03 52 27.4	+0.3
CAF				*e*Sg	Sb	03 52 43.8	+0.5
	28nm,0.2s						
VIVF	**Saint-Julien-l**	**1.79**	**133**	*e*Pn	Pn	03 52 32.1	-2.2
VIVF				*e*Pg	Pn	03 52 37.0	+2.7
VIVF				*e*Sg	Sn	03 52 57.5	+0.8
	25nm,0.3s						
LFF	**La Frestale**	**1.87**	**233**	*e*Pn	Pn	03 52 33.9	-1.6
LFF				*e*Pg	Pn	03 52 38.6	+3.1
LFF				*e*Sn	Sn	03 52 55.5	-3.4
LFF				*e*Sg	Sn	03 53 02.4	+3.5
	25nm,0.3s						
MFF	**Saint Martin d**	**2.13**	**285**	*e*Pn	Pn	03 52 37.5	-1.7
MFF				*e*Pg	Pn	03 52 43.0	+3.8
MFF				*e*Sn	Sn	03 53 01.7	-3.8
MFF				*e*Sg	Sn	03 53 09.6	+4.1
	12nm,0.3s						
LASF	**Ste Croix**	**2.14**	**160**	*e*Pn	Pn	03 52 37.1	-2.2
LASF				*e*Pg	Pn	03 52 43.4	+4.1
LASF				*e*Sn	Sn	03 53 02.1	-3.6
LASF				*e*Sg	Sn	03 53 10.2	+4.5
	4.1nm,0.2s						
CABF	**La Chapelle**	**2.31**	**76**	*e*Pn	Pn	03 52 39.5	-2.3
CABF				*e*Sn	Sn	03 53 05.9	-4.1
CABF				*e*Sg	Sn	03 53 16.5	+6.5
	3.0nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.44**	**118**	*e*Pn	Pn	03 52 41.7	-1.9
ORIF				*e*Sg	Sn	03 53 20.5	+7.2
	2.9nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.44**	**118**	*e*Sg	Sn	03 53 20.5	+7.2
	1.5nm,0.3s						
LPL	**La Plagne**	**2.78**	**100**	*e*Sg	Sn	03 53 31.5	+9.5
	2.9nm,0.5s						
MTLF	**Montolieu**	**2.78**	**189**	*e*Pn	Pn	03 52 46.3	-2.3
MTLF				*e*Pg	Pn	03 52 55.0	+6.4
MTLF				*e*Sg	Sn	03 53 31.2	+9.1
	6.6nm,0.3s						
LPG	**La Plagne**	**2.80**	**101**	*e*Sg	Sn	03 53 32.3	+10
	2.7nm,0.4s						
MEZF	**Maizieres J'vi**	**2.84**	**31**	*e*Pn	Pn	03 52 46.7	-2.7
MEZF				*e*Sg	Sn	03 53 32.3	+8.7
	12nm,0.3s						
SMRF	**Simiane la Rot**	**2.87**	**136**	*e*Sg	Sn	03 53 34.1	+10
	1.8nm,0.2s						
HAU	**Haudompre**	**3.07**	**50**	*e*Pn	Pn	03 52 49.0	-3.6
HAU				*e*Sg	Sn	03 53 39.6	+10
	7.2nm,0.3s						
LDF	**La Druitiere**	**3.21**	**322**	*e*Sn	Sn	03 53 27.6	-5.3
LDF				*e*Sg	Sn	03 53 43.8	+11
	5.3nm,0.4s						
HINF	**Hinteralfeld**	**3.25**	**56**	*e*Pn	Pn	03 52 52.3	-2.8
HINF				*e*Sg	Sn	03 53 45.4	+12
	5.1nm,0.3s						
EPF	**Esparros**	**3.54**	**211**	*e*Pn	Pn	03 52 56.5	-2.8
EPF				*e*Sg	Sn	03 53 54.8	+14
	3.4nm,0.2s						
EJON	**La Jonquera**	**3.64**	**179**	Pn	Pn	03 52 58.0	-2.7
	0.1nm,0.2s,SNR=4.0						
EJON				Lg		03 53 58.0	
	4.8nm,0.3s,SNR=6.3						
CDF	**Champ du Feu**	**3.81**	**51**	*e*Pn	Pn	03 53 00.0	-3.1
CDF				*e*Sg	Sn	03 54 03.5	+15
	2.4nm,0.3s						
EBIE	**Bielsa**	**3.91**	**211**	Pn	Pn	03 53 04.6	0.0
	1.0nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	03 53 47.9	-2.7
	0.2nm,0.1s,SNR=4.0						
EBIE				Lg		03 54 06.1	
	2.6nm,0.3s,SNR=7.9						
ETSF	**Etsaut**	**4.01**	**219**	*e*Sg	Sn	03 54 09.8	+17
	3.5nm,0.3s						
EALK	**Alkurruntz**	**4.22**	**229**	Sn	Sn	03 53 51.6	-6.9
	0.5nm,0.1s,SNR=7.9						
EALK				Lg		03 54 18.4	
	2.0nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**4.90**	**196**	Lg		03 54 37.6	
	0.3nm,0.2s,SNR=4.0						
ELAN	**Lanestosa**	**5.31**	**240**	Sn	Sn	03 54 18.9	-7.0
	0.2nm,0.2s,SNR=4.0						

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*BJI **02** 04:01:30.8, 4.35N×95.11E, h56km, mB5.2, mb5.3, Ms4.5, Msz4.1*
*MOS **02** 04:01:30.5±0.9, 4.92N×95.41E, h33km, mb5.3/19, Error ellipse: s-maj=14.8km s-min=7.9km az=112.7*
*NEIC **02** 04:01:31.9±0.2, 4.78N×95.20E, h30km, mb4.8/43, MS4.2/2, Error ellipse: s-maj=6.1km s-min=5.0km az=26.0*
ISC 02 04:01:32.3±1.1,**4.75N**±0.05×**95.22E**±0.04,**h49**km±9km, **h52**km±1.0km:**pP-P**,**n173**,σ1°**09**/180,**mb5.0**/67,**MS4.2**/6, **23C-10D**,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**5.88**	**66**	P	**P**	**04 03 00.0**	**+1.0**
	376nm,1.0s						
NST	**Nakhon Sawan**	**11.88**	**24**	P	**P**	**04 04 26.0**	**+4.4**
	92nm,0.5s						
KKTK	**Khon Kaen**	**13.72**	**32**	P	**P**	**04 04 51.0**	**+4.9**
	247nm,0.8s						
CM31	**Chiang Mai Arr**	**14.10**	**15**	P	**P**	**04 04 51.8**	**+0.7**
	89nm,0.7s						
CHG	**Chiang Mai**	**14.44**	**14**	⇑P	**P**	**04 05 00.7**	**+5.1**
	82nm,0.7s						
PALK	**Pallekele**	**14.65**	**281**	*e*P	**P**	**04 04 58.4**	**-0.1**
	14nm,0.7s						
NANT	**Nan**	**14.95**	**21**	P	**P**	**04 05 07.0**	**+4.8**
CHRT	**Chiangrai**	**15.67**	**16**	⇓P	**P**	**04 05 15.5**	**+4.0**
	210nm,1.0s						
VIS	**Vishakhapatnam**	**17.37**	**319**	*e*P	**P**	**04 05 33.2**	**+0.3**
VIS				*e*		04 05 36.6	
	comp=Z,21nm,0.3s						
BWNR	**Bhubaneshwar**	**17.96**	**330**	*e*P	**P**	**04 05 36.9**	**-3.3**
BWNR				*e*		04 05 40.3	
	comp=Z,31nm,0.3s						
BWNR				*e*S	**S**	**04 08 45.2**	**-11**
IMP	**Imphal**	**19.95**	**357**	*e*P	**P**	**04 05 58.1**	**-5.0**
QIZ	**Qiongzhong**	**20.12**	**44**	*e*P	**P**	**04 06 06.9**	**+2.0**
QIZ				*e*S	**S**	**04 09 45.9**	**+2.7**
QIZ				LR	LR		
	comp=E,423nm,20.2s						
QIZ				LR	LR		
	comp=Z,548nm,22.1s,MS3.9						
QIZ	**Qiongzhong**	**20.12**	**44**	*e*P	**P**	**04 06 02.2**	**-2.7**
	comp=Z,4.2nm,0.6s						
HYB	**Hyderabad**	**20.61**	**309**	*i* P	**P**	**04 06 10.5**	**+0.5**
HYB				*e*S	**S**	**04 09 53.0**	**+0.3**
SHL	**Shillong**	**20.94**	**352**	*e*P	**P**	**04 06 10.0**	**-3.4**
SHL				*e*S	**S**	**04 09 50.3**	**-8.7**
PKI	**Pulchoki**	**24.54**	**339**	*e*P	**P**	**04 06 49.0**	**+0.2**
	comp=Z,29nm,0.5s,mb5.0						
GUN	**Gumba**	**24.69**	**340**	*e*P	**P**	**04 06 49.8**	**-0.4**
	comp=Z,94nm,0.5s,mb5.6						
DMN	**Daman**	**24.69**	**338**	*e*P	**P**	**04 06 49.8**	**-0.4**
	comp=Z,32nm,0.6s,mb5.0						
KKN	**Kakani**	**24.79**	**339**	*e*P	**P**	**04 06 50.7**	**-0.5**
	comp=Z,37nm,0.7s,mb5.0						
LSA	**Lhasa**	**25.11**	**352**	P	**P**	**04 06 55.2**	**+0.9**
LSA	**Lhasa**	**25.11**	**352**	*e*P	**P**	**04 06 54.6**	**+0.3**
	comp=Z,43nm,0.6s,mb5.2						
BHPL	**Bhopal**	**25.16**	**319**	*e*P	**P**	**04 06 54.9**	**+0.1**
BHPL				*e*		04 06 56.7	
	comp=Z,20nm,0.8s						
GKN	**Gorkha**	**25.22**	**338**	*e*P	**P**	**04 06 55.1**	**-0.2**
	com

KBK	**Karagaybulak**	41.82	337	P		P	04 09 21.1	+2.1
	SNR=76							
AML	**Almayashu**	41.87	336	P		P	04 09 21.4	+2.0
	SNR=11							
AAK	**Ala-Archa**	41.98	337	P		P	04 09 22.0	+1.7
	SNR=49							
AAK	**Ala-Archa**	41.98	337	⇑	*iP*	P	04 09 17.9	-2.4
AAK					pmax	pmax		
	comp=Z,40nm,1.0s,mb5.0							
AAK	**Ala-Archa**	41.98	337		*eP*	P	04 09 20.5	+0.2
	comp=Z,43nm,0.7s,mb5.2							
FRU	**Bishkek**	42.10	337	⇓	*iP*	P	04 09 23.5	+2.2
FRU					pmax	pmax		
	comp=Z,80nm,2.0s,mb5.0							
CHMS	**Chumysh**	42.19	338		P	P	04 09 22.7	+0.7
	SNR=34							
EKS2	**Erkin-Say**	42.28	336		P	P	04 09 24.6	+1.8
	SNR=52							
USP	**Ospenovka**	42.52	338		P	P	04 09 25.8	+1.2
	SNR=165							
ULN	**Ulaanbaatar**	44.14	11		*eP*	P	04 09 35.8	-2.0
ULN	**Ulaanbaatar**	44.14	11		*eP*	P	04 09 36.9	-0.9
	comp=Z,4.8nm,0.7s,mb4.3							
ULN					LR	LR		
	comp=Z,265nm,20.0s,MS4.2							
KS15	**Wonju Array Si**	44.14	38		*eP*	P	04 09 38.5	+0.6
SNY	**Shenyang**	44.75	30	⇑	*iP*	P	04 09 43.5	+0.7
SNY					AMB	AMB		
	comp=Z,50nm,0.6s,mb5.5							
WRAB	**Tennant Creek**	45.62	124	⇓	*iP*	P	04 09 48.4	-1.6
WRAB	**Tennant Creek**	45.62	124		*eP*	P	04 09 50.8	+0.8
	comp=Z,102nm,0.7s,mb5.9							
WB2	**Warramunga Arr**	45.62	124		*eP*	P	04 09 50.8	+0.8
ZAK	**Zakamensk**	45.98	7		*eP*	P	04 09 51.8	-0.6
ZAK					*e*		04 11 26.3	
TLY	**Talaya**	47.30	7	⇑	*iP*	P	04 10 00.3	-2.5
TLY					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
TLY	**Talaya**	47.30	7		*eP*	P	04 10 02.5	-0.3
	comp=Z,4.9nm,0.6s,mb4.6							
TLY					*e*PcP	PcP	04 11 33.5	-0.1
HIA	**Hailar**	48.99	21	⇓	*iP*	P	04 10 14.2	-1.8
HIA	**Hailar**	48.99	21		*eP*	P	04 10 16.3	+0.3
	comp=Z,16nm,0.6s,mb5.2							
MDJ	**Mudanjiang**	49.83	32		P	P	04 10 21.9	-0.6
MDJ					AP	pP	04 10 35.9	+0.1
MDJ					PCP	PcP	04 11 40.0	-2.8
MDJ					PP	PP	04 12 15.3	-2.9
MDJ					SCP		04 15 34.8	
MDJ					PCS		04 15 39.7	
MDJ					S	S	04 17 29.2	+2.0
MDJ					SS	SS	04 21 02.7	+6.0
MDJ					AMB	AMB		
	comp=Z,30nm,0.8s,mb5.4							
MDJ					AMB	AMB		
	comp=Z,166nm,4.2s							
MDJ					LR	LR		
	comp=N,67nm,25.7s,MS3.8							
MDJ					LR	LR		
	comp=E,105nm,21.1s,MS3.8							
MDJ					LR	LR		
	comp=Z,160nm,23.7s,MS4.0							
MDJ	**Mudanjiang**	49.83	32		*eP*	P	04 10 22.2	-0.3
	comp=Z,25nm,0.8s,mb5.3							
MAT	**Matsushiro**	50.51	45		*eP*	P	04 10 28.0	+0.2
MAT	**Matsushiro**	50.51	45		P	P	04 10 28.3	+0.5
MAT					*e*S	S	04 17 36.2	-0.6
NVS	**Novosibirsk**	50.87	351		*eP*	P	04 10 28.5	-1.8
NVS					*e*S	S	04 17 49.7	+8.2
NVS					pmax	pmax		
	comp=N,6.0nm,0.7s							
NVS					pmax	pmax		
	comp=E,7.0nm,0.7s							
NVS					pmax	pmax		
	comp=Z,17nm,0.7s,mb5.1							
NVS					smax			
	comp=N,23nm,1.6s							
NVS					smax			
	comp=E,4.0nm,1.0s							
PMG	**Port Moresby**	53.64	105		*eP*	P	04 10 51.1	-0.5
	comp=E,14nm,0.7s,mb5.0							
KLR	**Kul'dur**	54.05	29		*eP*	P	04 10 51.2	-2.9
KLR					pmax	pmax		
	comp=E,20nm,0.9s							
KLR					pmax	pmax		
	comp=Z,32nm,0.9s,mb5.2							
BOD	**Bodaibo**	54.94	12	⇑	*iP*	P	04 10 59.6	-0.8
CTA	**Charters Tower**	55.88	118		*eP*	P	04 11 07.7	0.0
	comp=Z,7.7nm,0.9s,mb4.7							
STKA	**Stephens Creek**	57.20	133		*eP*	P	04 11 17.1	+0.1
	comp=Z,5.0nm,0.9s,mb4.5							
GNI	**Garni**	57.39	315	⇑	*iP*	P	04 11 16.4	-1.9
GNI					pmax	pmax		
	comp=Z,9.0nm,1.0s							
GNI	**Garni**	57.39	315		*eP*	P	04 11 17.3	-0.9
	comp=Z,14nm,0.9s,mb5.0							
KMBO	**Kilima Mbogo**	58.21	266		*iP*	P	04 11 25.8	+1.5
KMBO					pmax	pmax		
	comp=Z,2.0nm,0.7s							
KMBO	**Kilima Mbogo**	58.21	266		*eP*	P	04 11 24.9	+0.6
KMBO					LR	LR		
	comp=Z,209nm,19.0s,MS4.3							
YSS	**Yuzh-Sakhalins**	58.61	36	⇑	*iP*	P	04 11 25.8	-0.9
YSS					pmax	pmax		
	comp=Z,36nm,1.0s,mb5.4							
SVE	**Sverdlovsk**	58.68	339	⇑	*eP*	P	04 11 26.4	-0.6
SVE					pmax	pmax		
	comp=Z,60nm,1.5s,mb5.4							
ARU	**Arti**	59.16	337	⇓	*iP*	P	04 11 28.6	-1.8
ARU					*e*		04 12 11.0	
ARU					*e*		04 13 35.1	
ARU					*e*S	S	04 19 36.5	+4.0
ARU					*e*SS	SS	04 23 30.4	+1.5
ARU					pmax	pmax		
	comp=Z,22nm,1.1s,mb5.1							
ARU	**Arti**	59.16	337		*eP*	P	04 11 28.9	-1.5
	comp=Z,22nm,1.0s,mb5.1							
KIV	**Kislovodsk**	60.35	319	⇑	*iP*	P	04 11 37.9	-0.8
KIV					pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2							
GOF	**Gofitskoye**	60.59	320		*eP*	P	04 11 31.0	-9.3
ELZG	**Elazig**	60.95	312		*iP*	P	04 11 41.9	-1.0
MALT	**Malatya**	61.30	311		*eP*	P	04 11 44.8	-0.5
	comp=Z,7.7nm,1.0s,mb4.8							
GZT	**Gaziantep**	61.67	310		*iP*	P	04 11 47.1	-0.6
EIL	**Elat**	61.92	301		*eP*	P	04 11 49.3	-0.2
SOC	**Sochi**	62.18	317		*eP*	P	04 11 49.6	-1.5
SOC					*e*		04 12 24.7	
SOC					*e*		04 14 07.8	
SOC					*e*S	S	04 20 09.0	-2.2
SOC					pmax	pmax		
	comp=Z,19nm,0.8s,mb5.3							
SOC					pmax	pmax		
	comp=N,3.0nm,0.6s							
SOC					pmax	pmax		
	comp=E,7.0nm,1.1s							
KAHT	**Ahir Dag**	62.27	310		*iP*	P	04 11 51.7	-0.1
COBT	**Iskenderun**	62.44	309		*iP*	P	04 11 51.3	-1.6
YAK	**Yakutsk**	62.61	17		*eP*	P	04 11 51.2	-2.5
YAK					pmax	pmax		
	comp=N,4.0nm,1.0s							
YAK					pmax	pmax		
	comp=Z,16nm,1.0s,mb5.1							
YAK					pmax	pmax		
	comp=E,3.0nm,1.1s							
YAK	**Yakutsk**	62.61	17		*eP*	P	04 11 52.3	-1.4
	comp=E,40nm,0.9s,mb5.5							
MEST	**Erdemli**	64.10	308		*iP*	P	04 12 01.5	-2.4
ANN	**Anapa**	64.15	318		*eP*	P	04 12 05.7	+1.6
ANN					pmax	pmax		
	comp=Z,58nm,1.6s,mb5.4							
MBAR	**Mbarara**	64.63	267		*eP*	P	04 12 06.1	-1.7
	comp=Z,0.8nm,0.5s,mb4.0							
SIM	**Simferopol'**	66.43	317		*eP*	P	04 12 18.3	-0.4
SIM					pmax	pmax		
	comp=Z,20nm,0.7s,mb5.3							
ISP	**Isparta**	67.21	309	⇓	*iP*	P	04 12 22.1	-1.6
ISP	**Isparta**	67.21	309		*eP*	P	04 12 23.2	-0.6
	comp=Z,8.3nm,0.6s,mb4.9							
ESKT	**Eskisehir**	67.32	311		*iP*	P	04 12 22.4	-2.0
OBN	**Obninsk**	68.58	328	α	*iP*	P	04 12 30.8	-1.1
OBN					*i*	pP	04 12 45.6	-0.4
OBN					*e*		04 13 00.5	
OBN							04 15 09.0	
OBN					*e*S	S	04 21 26.1	-3.2
OBN					pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9							
OBN	**Obninsk**	68.58	328		*eP*	P	04 12 29.9	-2.0
	comp=Z,10nm,0.6s,mb4.9							
MA2	**Magadan**	69.03	27		*eP*	P	04 12 33.2	-1.5
MA2					pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8							
LSZ	**Lusaka**	69.28	252		*eP*	P	04 12 37.4	+0.5
	comp=Z,12nm,1.4s,mb4.6							
TIXI	**Tiksi**	70.07	11	⇑	*iP*	P	04 12 39.6	-1.2
TIXI					pmax	pmax		
	comp=Z,28nm,0.7s,mb5.3							
TIXI					MLR	MLR		
	comp=Z,167nm,20.0s,MS4.3							
PET	**Petropavlovsk**	70.44	35		*iP*	P	04 12 41.5	-1.8
CFR	**Carcaliu**	70.57	316	⇑	*iP*	P	04 12 43.8	-0.5
CFR	**Carcaliu**	70.57	316	⇑	*iP*	P	04 12 43.8	-0.5
HARR	**Harsova**	70.60	316	⇑	*iP*	P	04 12 44.2	-0.3
HARR	**Harsova**	70.60	316	⇑	*iP*	P	04 12 44.2	-0.3
APE	**Apeiranthos**	70.97	307		*eP*	P	04 12 44.4	-2.5
VRI	**Vrincioaia**	71.69	317	⇓	*iP*	P	04 12 51.8	+0.8
VRI	**Vrincioaia**	71.69	317	⇓	*iP*	P	04 12 51.8	+0.8
LBTB	**Loatse**	73.73	242		*eP*	P	04 13 04.2	+0.7
	comp=Z,9.0nm,1.1s,mb4.6							
LBTB					*e*PcP	PcP	04 13 19.9	+0.6
IDID	**Didziasalis**	73.95	326		*eP*	P	04 13 03.8	-0.3
IDID					AMPb	AMB	04 13 05.8	
	comp=Z,6.2nm,1.6s,mb4.3							
IIGN	**Ignalina**	74.24	326		*eP*	P	04 13 05.7	-0.1
IIGN					AMPb	AMB	04 13 06.7	
	comp=Z,8.2nm,0.6s,mb4.8							
IZAR	**Zarasai**	74.33	327		*eP*	P	04 13 06.1	-0.2
IZAR					AMPb	AMB	04 13 08.2	
	comp=Z,6.9nm,0.8s,mb4.7							
BOSA	**Boshof**	74.87	239		*eP*	P	04 13 10.6	+0.5
	comp=Z,2.0nm,0.6s,mb4.2							
KWP	**Kalwaria**	75.09	320		*eP*	P	04 13 10.8	0.0
	comp=Z,38nm,1.0s,mb5.3							
KOLS	**Kolonicke sedl**	75.25	319		*iP*	P	04 13 12.4	+0.6
SUW	**Suwalki**	75.65	325		*eP*	P	04 13 12.1	-1.8
	comp=Z,41nm,0.7s,mb5.5							
CRVS	**Cervenica-Dubn**	75.77	319		*iP*	P	04 13 15.5	+0.7
FINES	**FINESS Array B**	75.96	332		*iP*	P	04 13 15.2	-0.3
FINES					pmax	pmax		
	comp=Z,10.0nm,0.4s							
KAF	**Kangasniemi**	76.04	333		*ep*	P	04 13 15.2	-0.8
	comp=Z,7.6nm,0.5s,mb4.9							
KAF	**Kangasniemi**	76.04	333		*eP*	P	04 13 15.2	-0.8
KAF					pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9							
KECS	**Kecovo**	76.35	319		*iP*	P	04 13 18.5	+0.5
NIE	**Niedzica**	76.60	320		*eP*	P	04 13 20.3	+0.9
PSZ	**Piszkesteto**	76.66	318		*eP*	P	04 13 20.0	+0.2
	comp=Z,12nm,0.8s,mb4.9							
PSZ	**Piszkesteto**	76.66	318	⇑	*iP*	P	04 13 20.1	+0.3
OJC	**Ojcow**	77.04	320		*eP*	P	04 13 22.2	+0.3
VYHS	**Vyhne**	77.44	319		*iP*	P	04 13 24.6	+0.5
SRO	**Srobarova**	77.70	318		*iP*	P	04 13 26.6	+1.0
OKC	**Ostrava-Krasne**	78.05	320		*eP*	P	04 13 28.0	+0.5
OKC					*e*pP	pP	04 13 42.9	+1.2
KEV	**Kevo**	78.12	341		*ep*	P	04 13 26.8	-0.7
MORC	**Moravsky Berou**	78.43	320		*eP*	P	04 13 28.9	-0.6
	comp=Z,18nm,1.4s,mb4.8							
ZST	**Bratislava**	78.55	318		*iP*	P	04 13 31.2	+0.9
BILL	**Bilibino**	78.58	21	⇓	*iP*	P	04 13 28.9	-1.1
BILL					pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4							
BILL	**Bilibino**	78.58	21		*eP*	P	04 13 29.7	-0.3
	comp=Z,2.3nm,0.6s,mb4.3							
DPC	**Dobruska-Polom**	79.27	320		*eP*	P	04 13 35.1	+0.9
DPC					*e*pP	pP	04 13 49.9	+1.5
KSP	**Ksiaz**	79.34	321		*eP*	P	04 13 35.1	+0.6
KSP					*e*pP	pP	04 13 50.1	+1.3
SUR	**Sutherland**	79.47	236		*eP*	P	04 13 35.1	-0.5
	comp=Z,2.7nm,0.6s,mb4.3							
UPC	**Upice**	79.49	320		*eP*	P	04 13 35.8	+0.5
ARSA	**Arzberg**	79.53	317	⇓	*iP*	P	04 13 36.3	+0.7
	comp=Z,16nm,1.3s,mb4.8							
BOJS	**Bojanci**	79.60	315		*iP*	P	04 13 36.3	+0.3
BOJS					*i*		04 13 56.6	
LJU	**Ljubljana**	80.14	316		*iP*	P	04 13 39.7	+0.8
LJU					*i*		04 13 59.8	
OBKA	**Obir**	80.15	316	⇑	*iP*	P	04 13 39.7	+0.7
	comp=Z,6.4nm,0.9s,mb4.5							
PRU	**Pruhonice**	80.38	320		*eP*	P	04 13 40.5	+0.4
VOY	**Vojsko**	80.58	316		*eP*	P	04 13 41.2	-0.1
BRG	**Berggiesshubel**	80.83	321		*iP*	P	04 13 43.1	+0.6
BRG					*e*	pP	04 13 59.4	+2.7
BRG					pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7							
BRG	**Berggiesshubel**	80.83	321		*iP*	P	04 13 43.1	+0.6
	comp=Z,7.7nm,0.9s,mb4.6							
BRG					*e*	pP	04 13 59.4	+2.7
ROBS	**Robic**	80.85	316		*iP*	P	04 13 42.8	+0.1
GEC2	**GERESS Array S**	80.86	319		*eP*	P	04 13 43.6	+0.9
KHC	**Kasperske Hory**	80.96	319		*eP*	P	04 13 43.6	+0.4
KHC					*e*	pP	04 13 58.0	+0.5
KHC	**Kasperske Hory**	80.96	319		*eP*	P	04 13 43.6	+0.4
KHC					x	x	04 13 58.0	
WET	**Wettzell**	81.42	319		*eP*	P	04 13 46.2	+0.6
CLL	**Collm**	81.44	321		*eP*	P	04 13 46.0	+0.3
CLL	**Collm**	81.44	321		P	P	04 13 46.0	+0.3
WTTA	**Wattenberg**	82.18	317	⇑	*iP*	P	04 13 49.5	-0.1
	comp=Z,14nm,1.4s,mb4.7							
WATA	**Walderalm**	82.22	317	⇑	*iP*	P	04 13 49.5	-0.3
	comp=Z,3.2nm,0.7s,mb4.4							
MOX	**Moxa**	82.29	320		*eP*	P	04 13 50.5	+0.4
MOX	**Moxa**	82.29	320		*iP*	P	04 13 50.5	+0.4
SQTA	**Sankt Quirin**	82.47	317	⇑	*iP*	P	04 13 51.1	0.0
	comp=Z,3.7nm,0.6s,mb4.5							
GRA1	**Grafenberg Arr**	82.52	319		*eP*	P	04 13 52.2	+1.0
	comp=Z,5.0nm,0.8s,mb4.6							
GRF	**Grafenberg Arr**	82.52	319		*eP*	P	04 13 52.2	+1.0
GRF					pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6							
GRF	**Grafenberg Arr**	82.52	319		*eP*	P	04 13 52.2	+1.0
	comp=Z,5.0nm,0.8s,mb4.6							
MOTA	**Moosalm**	82.54	317	⇑	*iP*	P	04 13 51.3	-0.1
	comp=Z,13nm,1.4s,mb4.8							
NB2	**NORSAR Subarra**	82.96	331		P	P	04 13 53.0	-0.3
	comp=Z,1.6nm,0.7s,mb4.2,baz=95,slow=5.3							
CLZ	**Clausthal**	83.11	322		*eP*	P	04 13 54.9	+0.7
LPG	**La Plagne**	85.57	315		*eP*	P	04 14 07.6	+0.9
	comp=Z,14nm,0.7s,mb5.0							
IMA	**Indian Mountai**	94.08	22		*eP*	P	04 14 48.3	+2.0
	comp=Z,35nm,0.6s,mb6.0							
SNAA	**Sanae**	97.02	198		P	P	04 15 02.2	+2.6
	comp=Z,0.5nm,0.7s,mb4.0							
MSO	**Missoula**	122.53	23		*e*PKPdf	PKPdf	04 20 23.7	+1.0
LAO	**LASA Array**	125.37	18		PKPdf	PKPdf	04 20 29.8	+1.6
NEN	**Nelson**	130.90	33		PKPdf	PKPdf	04 20 41.4	+2.3
JCT	**Junction City**	142.13	21		*e*PKPpre		04 20 55.9	

*BJI **02** 04:11:47.9, 6.85N×92.80E, h22km, mB5.1, mb4.5*
*NEIC **02** 04:11:51.7±0.8, 6.86N×92.34E, h30km, mb4.6/4, Error ellipse: s-maj=24.2km s-min=12.1km az=68.0*

ISC 02 04:11:50.1±0.8, 6.9N±0.1×92.4E±0.2, h30km, n19, σ0.98/19, mb4.7/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	13.11	28	*eP*	P	04 14 57.5	+0.5
	9.4nm,0.4s						
PKI	**Pulchoki**	21.60	343	*eP*	P	04 16 38.2	-1.6
	45nm,0.8s,mb5.0						
DMN	**Daman**	21.73	342	*eP*	P	04 16 39.3	-1.8
GUN	**Gumba**	21.79	344	*eP*	P	04 16 41.1	-0.6
	44nm,0.9s,mb4.9						
KKN	**Kakani**	21.85	343	*eP*	P	04 16 40.6	-1.6
GKN	**Gorkha**	22.24	342	*eP*	P	04 16 45.1	-1.1
	39nm,0.7s,mb4.9						
KOLN	**Koldanda**	22.38	339	*eP*	P	04 16 47.3	-0.2
	24nm,0.9s,mb4.6						
LSA	**Lhasa**	22.70	357	*eP*	P	04 16 51.9	+1.1
	8.5nm,0.8s,mb4.2						
UCH	**Uchtor**	38.59	338	P	P	04 19 13.6	+1.3
	SNR=6.7						
AML	**Almayashu**	38.81	338	P	P	04 19 15.2	+1.0
	SNR=9.6						
KBK	**Karagaybulak**	38.81	339	P	P	04 19 15.2	+1.1
	SNR=7.8						
AAK	**Ala-Archa**	38.95	339	P	P	04 19 16.6	+1.3
	SNR=5.0						
AAK	**Ala-Archa**	38.95	339	*eP*	P	04 19 14.9	-0.4
	9.2nm,1.1s,mb4.4						
EKS2	**Erkin-Say**	39.24	338	P	P	04 19 18.7	+1.0
	SNR=6.0						
USP	**Ospenovka**	39.50	339	P	P	04 19 20.6	+0.7
	SNR=6.3						
WRAB	**Tennant Creek**	49.11	124	*eP*	P	04 20 36.9	-0.4
	14nm,0.7s,mb5.1						
WRAB				*e*		04 20 43.6	
WB2	**Warramunga Arr**	49.11	124	*eP*	P	04 20 37.0	-0.4
STKA	**Stephens Creek**	60.68	132	*eP*	P	04 22 01.4	+0.1
	3.7nm,0.6s,mb4.7						
KHC	**Kasperske Hory**	77.52	319	*eP*	P	04 23 45.0	+0.2

CASC 02 04:22:33.3±2.6, 14.26N×91.77W, h62km±14km, MD4.1, ML3.6, 3C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	0.14	68	⇓ *eP*	P	04 22 42.5	-0.2
JAT				*e*S	S	04 22 51.1	+1.5
TP2	**Tecpan 2**	0.89	55	⇓ *eP*	P	04 22 51.0	+0.8
TP2				*e*S	S	04 23 04.9	+2.1
TP2				AML	AML	04 23 06.2	
	comp=N,288nm,0.4s						
FUG	**Fuego 3**	0.92	78	*eP*	P	04 22 50.1	-0.5
FUG				*e*S	S	04 23 02.9	-0.6
IXG	**Ixpaco**	1.28	94	⇑ *eP*	P	04 22 55.1	-0.4
IXG				*e*S	S	04 23 12.4	+0.4
IXG				AML	AML	04 23 21.0	
	comp=N,4μm,0.4s						
NBG	**Las Nubes**	1.42	77	⇓ *eP*	P	04 22 58.2	+0.7
NBG				*e*S	S	04 23 18.9	+3.5
NBG				AML	AML	04 23 21.4	
	comp=N,2μm,0.5s						
RTR	**El Retiro**	2.10	100	⇑ *eP*	P	04 23 06.6	-0.2
RTR				*e*S	S	04 23 33.7	+2.0
SBLS	**San Blas**	2.13	101	*eP*	P	04 23 07.0	-0.3
SBLS				*e*S	S	04 23 34.2	+1.7
SNJE	**San Jose**	2.14	100	*eP*	P	04 23 07.2	-0.2
SNJE				*e*S	S	04 23 34.1	+1.3
LFRS	**El Faro**	2.71	103	*eP*	P	04 23 15.1	-0.4
LFRS				*e*S	S	04 23 46.7	-0.5
LCBS	**La Ceiba**	2.78	102	*eP*	P	04 23 16.0	-0.6
LCBS				*e*S	S	04 23 48.2	-0.8
SNVI	**San Vicente**	2.92	102	⇑ *eP*	P	04 23 19.8	+1.3

*ATH **02** 04:24:12.9, 39.67N×20.55E, h28km±1km, MD3.3/6*
*NEIC **02** 04:24:12.9, 39.67N×20.55E, h28km, MD3.3(ATH), After ATH.*
*CSEM **02** 04:24:13.9±0.2, 39.70N×20.56E, h23km±2km, MD3.3, Error ellipse: s-maj=9.7km s-min=4.5km az=9.0*
*TIR **02** 04:24:22.0, 40.22N×20.54E, h12km*

ISC 02 04:24:13.4±0.8, 39.54N±0.04×20.54E±0.07, h10km, n11, σ1.9/17/15, 2D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	0.27	64	⇓ *i*PB	Pb	04 24 19.3	-0.5
JAN				*e*SB	Sb	04 24 23.7	-0.4
KEK	**Kerkira**	0.60	287	*e*PN	Pn	04 24 24.9	-2.8
LSK	**Leskovik**	0.61	4	*e*Pg	Pg	04 24 24.8	-1.0
LSK				*i* Sg	Sg	04 24 35.4	+1.4
TPE	**Tepelena**	0.86	332	*e*Pg	Pg	04 24 30.6	-0.1
EVR	**Evrytania**	1.16	122	*e*PN	Pn	04 24 36.1	+0.4
KZN	**Kozani**	1.22	51	*e*PN	Pn	04 24 34.5	-2.0
VLS	**Valsamata**	1.36	178	*e*PB	Pb	04 24 39.1	+0.6
VLS				*e*SN	Sn	04 25 00.5	+3.8
BIA	**Bitola**	1.59	22	⇓ *i*Pn	Pn	04 24 43.7	+1.8
BIA				*i*		04 24 47.9	
BIA				*i* Sg	Sg	04 25 06.6	0.0
TIR	**Tirane**	1.88	344	*e*Pg	Pg	04 24 46.7	-4.3
LKR	**Lokris**	2.11	114	*e*PB	Pb	04 24 51.2	-0.1
SKO	**Skopje**	2.52	15	*e*Pn	Pn	04 24 56.0	+0.8
SKO				*e*		04 25 00.5	
SKO				*i*		04 25 36.0	

*NEIC **02** 05:30:59.3, 15.65N×61.43W, h18km, MD3.6(TRN), After TRN.*

TRN 02 05:30:58.5, 15.66N×61.43W, h21km, MD3.6, M3.1(FDF), 8C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBL	**Barber's Block**	0.14	195	⇑ *iP*	Pb	05 31 05.0	+1.9
BBL				*e*S	Sb	05 31 07.7	+1.6
BBL	**Barber's Block**	0.14	195	⇑ *iP*	Pb	05 31 02.9	-0.1
BBL	**Barber's Block**	0.14	195	⇑ *iP*	Pb	05 31 05.0	+1.9
BBL				*e*S	Sb	05 31 07.7	+1.6
DWS	**Wesley**	0.15	128	*eP*	Pb	05 31 04.9	+1.7
DWS				*e*S	Sb	05 31 08.2	+1.9
DBCT	**Belle View Cho**	0.40	168	*eP*	Pb	05 31 09.3	+2.5
DSTT	**Stowe**	0.43	163	*eP*	Pb	05 31 09.9	+2.5
DSTT				*e*S	Sb	05 31 16.9	+3.4
SCG	**Saint Claude**	0.44	327	⇓ *iP*	Pb	05 31 09.1	+1.6
DSHT	**Scott's Head**	0.45	173	*eP*	Pb	05 31 10.3	+2.6
SEG	**Port Louis**	0.74	355	*eP*	Pb	05 31 15.1	+2.5
DEG	**La Desirade**	0.74	29	⇑ *iP*	Pb	05 31 14.4	+1.8
FDF	**Fort de France**	0.96	163	⇑ *iP*	Pb	05 31 18.1	+1.7
CRM

*BJI **02** 05:49:14.8, 6.90N×91.80E, h30km, mb4.4*
*NEIC **02** 05:49:15.8±0.8, 6.94N×91.83E, h30km, mb4.4/8, Error ellipse: s-maj=16.2km s-min=14.9km az=161.0*
ISC 02 05:49:13.9±0.7, 6.88N±0.09×91.89E±0.08, h30km, n22, σ1§00/23, mb4.4/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele** 9.8nm,0.4s	**11.11**	**273**	*eP*	**P**	**05 51 52.5**	**-1.5**
CM31	**Chiang Mai Arr** 7.5nm,0.9s	**13.40**	**30**	*eP*	**P**	**05 52 23.4**	**-1.3**
HYB	**Hyderabad**	**16.71**	**310**	*i* P	**P**	**05 53 10.5**	**+2.9**
HYB				*eS*	**S**	**05 56 12.5**	**+1.3**
POO	**Poona**	**21.04**	**305**	*e*	**P**	**05 53 57.0**	**-0.9**
PKI	**Pulchoki** 20nm,0.8s,mb4.5	**21.48**	**344**	*eP*	**P**	**05 54 02.7**	**+0.5**
DMN	**Daman** 21nm,0.8s,mb4.6	**21.60**	**343**	*eP*	**P**	**05 54 03.0**	**-0.4**
GUN	**Gumba** 45nm,0.8s,mb5.0	**21.68**	**345**	*eP*	**P**	**05 54 04.3**	**+0.1**
KKN	**Kakani** 22nm,0.9s,mb4.6	**21.72**	**344**	*eP*	**P**	**05 54 04.7**	**0.0**
GKN	**Gorkha** 39nm,0.8s,mb4.9	**22.10**	**343**	*eP*	**P**	**05 54 08.5**	**0.0**
KOLN	**Koldanda** 20nm,0.8s,mb4.6	**22.21**	**340**	*eP*	**P**	**05 54 09.1**	**-0.5**
LSA	**Lhasa**	**22.71**	**358**	*eP*	**P**	**05 54 16.1**	**+1.5**
LSA	**Lhasa** 3.8nm,0.4s,mb4.2	**22.71**	**358**	*eP*	**P**	**05 54 16.9**	**+2.4**
NDI	**New Delhi**	**25.74**	**329**	*eP*	**P**	**05 54 43.5**	**-0.2**
AAK	**Ala-Archa** 7.5nm,1.2s,mb4.3	**38.78**	**339**	*eP*	**P**	**05 56 36.6**	**-1.0**
MBWA	**Marble Bar** 0.8nm,0.5s,mb3.7	**39.03**	**136**	P	**P**	**05 56 41.3**	**+1.3**
ULN	**Ulaanbaatar** 1.3nm,0.7s,mb3.8	**42.84**	**15**	*eP*	**P**	**05 57 11.4**	**+0.4**
WRAB	**Tennant Creek** 5.6nm,0.7s,mb4.7	**49.55**	**123**	*eP*	**P**	**05 58 04.5**	**+0.1**
EIL	**Elat** 3.4nm,0.5s,mb4.6	**57.99**	**301**	*eP*	**P**	**05 59 03.0**	**-3.4**
LSZ	**Lusaka** 4.5nm,1.1s,mb4.4	**66.83**	**250**	P	**P**	**06 00 06.2**	**+0.6**
KHC	**Kasperske Hory**	**77.18**	**319**	*eP*	**P**	**06 01 06.5**	**-0.1**
NB2	**NORSAR Subarra** 1.1nm,0.7s,mb3.9,baz=96,slow=5.3	**79.50**	**331**	P	**P**	**06 01 18.1**	**-0.9**
LPG	**La Plagne** 20nm,1.0s,mb4.7	**81.73**	**315**	*eP*	**P**	**06 01 31.5**	**+0.3**

TRN 02 05:52:03.3, 15.66N×61.44W, h21km, MD3.5, M3.0(FDF), 9C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBL	**Barber's Block**	**0.14**	**192**	⇑*iP*	Pb	05 52 07.7	0.0
BBL	**Barber's Block**	**0.14**	**192**	⇑*iP*	Pb	05 52 08.7	+1.0
BBL				*eS*	Sb	05 52 13.3	+2.6
DWS	**Wesley**	**0.15**	**126**	⇓*iP*	Pb	05 52 10.0	+2.1
DWS				*eS*	Sb	05 52 12.8	+1.7
MDN	**Morne-Daniel**	**0.34**	**172**	⇓*eP*	Pb	05 52 12.9	+2.2
MDN				*eS*	Sb	05 52 18.2	+2.6
DBCT	**Belle View Cho**	**0.40**	**167**	*eP*	Pb	05 52 14.0	+2.4
DSTT	**Stowe**	**0.43**	**162**	*eP*	Pb	05 52 14.8	+2.6
SCG	**Saint Claude**	**0.43**	**328**	⇑*eP*	Pb	05 52 14.0	+1.8
DSHT	**Scott's Head**	**0.45**	**172**	*eP*	Pb	05 52 14.9	+2.5
SEG	**Port Louis**	**0.74**	**355**	⇑*eP*	Pb	05 52 19.5	+2.1
DEG	**La Desirade**	**0.75**	**29**	⇑*eP*	Pb	05 52 19.2	+1.7
FDF	**Fort de France**	**0.96**	**163**	⇑*eP*	Pb	05 52 22.3	+1.1
CRM	**Caravelle**	**1.03**	**151**	⇑*iP*	Pb	05 52 23.6	+1.3
BIM	**Bigot**	**1.19**	**162**	⇑*iP*	Pn	05 52 26.2	+1.3
MVM	**Montagne Vaucl**	**1.22**	**154**	⇑*eP*	Pn	05 52 26.6	+1.3
MVM				*eS*	Sb	05 52 43.2	+2.4
BPA	**Boggy Peak**	**1.44**	**344**	*eP*	Pn	05 52 30.4	+1.9
BPA				*eS*	Sn	05 52 49.9	+3.0
CPB	**Codrington**	**2.00**	**349**	*eP*	Pn	05 52 38.4	+1.8
CPB				*eS*	Sn	05 53 04.2	+2.9

*CSEM **02** 05:58:55.0±0.4, 39.26N×42.22E, h42km±4km, MD3.6, Error ellipse: s-maj=6.1km s-min=3.0km az=25.0*
ISK 02 05:58:56.0, 39.20N×42.20E, h56km, MD3.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRT	**Varto**	**0.53**	**263**	PG	P	05 59 08.2	+0.2
VRT				SG	S	05 59 17.6	+0.8
EZM	**Erzurum**	**0.96**	**318**	PG	P	05 59 14.3	+0.7
EZM				SG	S	05 59 27.6	+1.0
VANB	**Van**	**1.10**	**123**	PN	P	05 59 16.3	+0.7
VANB				SN	S	05 59 31.0	+1.0
BTMT	**Batman**	**1.15**	**209**	PN	P	05 59 18.9	+2.8
VANT	**Van**	**1.19**	**129**	PN	P	05 59 16.1	-0.6
BINT	**Bingol**	**1.37**	**257**	PN	P	05 59 19.7	+0.3
KARS	**Kars**	**1.57**	**26**	*e*PN	P	05 59 22.5	+0.3
GNI	**Garni**	**2.18**	**63**	*e*PN	P	05 59 30.6	0.0

*GUC **02** 06:11:34.7±0.8, 31.72S×70.18W, h135km±5km, ML4.4*
*NEIC **02** 06:11:34.7, 31.72S×70.18W, h135km, After GUC.*
ISC 02 06:11:34.4±0.6, 31.72S±0.03×70.09W±0.09, h134km±7km, n26, σ0§73/47, 12C-13D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCH	**Petorca**	**0.89**	**233**	⇑*iP*	**P**	**06 11 57.0**	**+0.2**
PTCH				*i* S	**S**	**06 12 13.8**	**-0.2**
PTCH				AMP		06 12 14.9	
	comp=N,17μm,0.2s						
ILCH	**Illapel**	**0.92**	**275**	⇓*iP*	**P**	**06 11 57.4**	**+0.3**
ILCH				*i* S	**S**	**06 12 14.2**	**-0.2**
ILCH	**Illapel**	**0.92**	**275**	⇓*iP*	**P**	**06 11 57.4**	**+0.3**
ILCH				*i* S	**S**	**06 12 14.2**	**-0.2**
ILCH				AMP		06 12 14.7	
	comp=N,6μm,0.3s						
JACH	**Jahuel**	**1.05**	**204**	⇓*iP*	**P**	**06 11 58.8**	**+0.5**
JACH				*i* S	**S**	**06 12 16.5**	**0.0**
ROCH	**El Roble**	**1.47**	**212**	⇓*iP*	**P**	**06 12 03.1**	**+0.2**
PEL	**Peldehue**	**1.50**	**199**	⇑*iP*	**P**	**06 12 03.5**	**+0.3**
PEL				*i* S	**S**	**06 12 24.8**	**-0.5**
MDZ	**Mendoza**	**1.57**	**138**	⇓*iP*	**P**	**06 12 02.3**	**-1.6**
MDZ				*i*		06 12 04.5	
MDZ				*i* S	**S**	**06 12 24.5**	**-1.9**
TLL	**Tololo Astrono**	**1.67**	**338**	⇑*iP*	**P**	**06 12 06.0**	**+1.0**
TLL				*i* S	**S**	**06 12 28.4**	**+0.1**
TLL				AMP		06 12 32.1	
	comp=N,10μm,0.6s						
CLCH	**Cerro Calan**	**1.71**	**193**	⇓*iP*	**P**	**06 12 06.1**	**+0.5**
CLCH				*i* S	**S**	**06 12 29.5**	**+0.1**
CLCH				AMP		06 12 32.7	
	comp=N,4μm,0.4s						
DSCH	**Colegio Aleman**	**1.72**	**193**	⇑*iP*	**P**	**06 12 06.2**	**+0.5**
DSCH				*i* S	**S**	**06 12 29.8**	**+0.3**
DSCH				AMP		06 12 31.5	
	comp=N,5μm,0.8s						
STL	**Santa Lucia**	**1.77**	**195**	⇑*iP*	**P**	**06 12 06.8**	**+0.5**
STL				*i* S	**S**	**06 12 30.7**	**+0.1**
STL				AMP		06 12 33.5	
	comp=N,1μm,0.4s						
PUEX	**Pudahuel**	**1.81**	**198**	⇓*iP*	**P**	**06 12 07.1**	**+0.5**
PUEX				*i* S	**S**	**06 12 31.3**	**0.0**
PUEX				AMP		06 12 32.6	
	comp=N,13μm,0.5s						
IHA	**Instituto Hidr**	**1.85**	**225**	⇑*iP*	**P**	**06 12 06.8**	**-0.3**
IHA				*i* S	**S**	**06 12 31.2**	**-0.9**
RCDM	**Rinconada Maip**	**1.86**	**199**	⇑*iP*	**P**	**06 12 07.6**	**+0.3**
RCDM				*i* S	**S**	**06 12 32.5**	**0.0**
RCDM				AMP		06 12 33.6	
	comp=N,5μm,0.3s						
ANTU	**Antumapu**	**1.90**	**194**	⇓*iP*	**P**	**06 12 08.2**	**+0.5**
ANTU				*i* S	**S**	**06 12 33.3**	**+0.1**
ANTU				AMP		06 12 34.2	
	comp=E,3μm,0.2s						
PCH	**Pirque**	**1.93**	**191**	⇑*iP*	**P**	**06 12 08.7**	**+0.6**
PCH				*i* S	**S**	**06 12 34.7**	**+0.9**
SJCH	**San Jose de Ma**	**1.93**	**186**	⇓*iP*	**P**	**06 12 08.4**	**+0.4**
SJCH				*i* S	**S**	**06 12 34.6**	**+0.9**
SJCH				AMP		06 12 36.1	
	comp=N,1μm,0.3s						
TACH	**Talagante**	**2.06**	**200**	⇑*iP*	**P**	**06 12 09.5**	**-0.1**
TACH				*i* S	**S**	**06 12 36.1**	**-0.4**
LMEL	**Las Melosas**	**2.12**	**182**	⇓*iP*	**P**	**06 12 11.4**	**+0.9**
LMEL				AMP		06 12 43.9	
	comp=N,2μm,0.2s						
LCCH	**Las Cruces**	**2.15**	**215**	⇑*iP*	**P**	**06 12 10.8**	**-0.1**
LCCH				*i* S	**S**	**06 12 37.9**	**-0.8**
CHCH	**Chadas Angostu**	**2.26**	**192**	⇑*iP*	**P**	**06 12 12.2**	**0.0**
CHCH				*i* S	**S**	**06 12 41.5**	**+0.4**
CACH	**El Canelo**	**2.43**	**190**	⇓*iP*	**P**	**06 12 14.9**	**+0.5**
CACH				*i* S	**S**	**06 12 46.6**	**+1.6**
SFDO	**San Fernando**	**2.99**	**195**	⇓*iP*	**P**	**06 12 21.1**	**-0.7**
VACH	**Vallenar**	**3.19**	**349**	⇑*iP*	**P**	**06 12 24.1**	**-0.3**
TALC	**Talca**	**3.89**	**199**	⇓*iP*	**P**	**06 12 32.1**	**-1.6**
TALC				*i* S	**S**	**06 13 16.7**	**-2.5**
BAO	**Brasilia Array**	**25.73**	**57**	P	**P**	**06 16 53.9**	**-0.3**
BAO				*e*	pP	06 17 20.1	-2.0

MEX 02 06:12:01.8±1.0, 16.95N×94.96W, h118km±12km, MD3.7, 1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.16**	**26**	⇓*iP*	P	06 12 17.0	-1.2
CMIG				*i* S	S	06 12 28.2	-2.3
HUIG	**Huatulco**	**1.61**	**223**	*i* P	P	06 12 28.6	-2.3
HUIG				*i* S	S	06 12 50.9	-1.9
OXX	**Oaxaca**	**1.70**	**275**	*i* P	P	06 12 31.0	-0.9
OXX				*i* S	S	06 12 54.0	-0.6
VHO	**Vista Hermosa**	**1.71**	**274**	*i* P	P	06 12 31.0	-1.0
VHO				*i* S	S	06 12 52.4	-2.3

*CSEM **02** 06:18:10.2, 38.80N×21.26E, h26km, MD3.5/6, After ATH*
*NEIC **02** 06:18:10.2, 38.80N×21.26E, h26km, MD3.5(ATH), After ATH.*
ATH 02 06:18:10.2, 38.80N×21.26E, h26km±3km, MD3.5/6, 2C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.44**	**75**	⇑*iPB*	Pb	06 18 19.1	-0.4
EVR				*e*SB	Sb	06 18 26.9	+1.0
RLS	**Riolos of Patr**	**0.76**	**168**	⇓*iPN*	Pn	06 18 24.9	-0.3
VLS	**Valsamata**	**0.81**	**220**	*e*PN	Pn	06 18 25.1	-0.9
VLS				*e*SN	Sn	06 18 38.8	+1.5
JAN	**Janina**	**0.91**	**340**	*e*PN	Pn	06 18 27.6	+0.2
JAN				*e*SN	Sn	06 18 41.6	+1.8
LKR	**Lokris**	**1.37**	**96**	*e*PN	Pn	06 18 35.7	+1.8
KEK	**Kerkira**	**1.46**	**309**	⇑*iPN*	Pn	06 18 36.7	+1.5
NEO	**Neokhori**	**1.61**	**71**	*e*PN	Pn	06 18 39.0	+1.6
ITM	**Ithomi**	**1.70**	**162**	*e*PN	Pn	06 18 41.5	+2.8
PLG	**Polygyros**	**2.31**	**46**	*e*PN	Pn	06 18 48.0	+0.6
VLI	**Velíai**	**2.47**	**147**	*e*PB	Pb	06 18 53.4	-0.3

MAN 02 06:19:17.1, 13.59N×120.60E, h98km, mb3.9, ML2.6, MS2.3, 3C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.37**	**293**	⇑*eP*	P	06 19 33.4	+1.4
LUBP	**Lubang**	**0.37**	**293**	*eP*	P	06 19 33.4	+1.5
LUBP				*eS*	S	06 19 45.5	+2.3
LBPH	**Los Banos**	**0.80**	**45**	*eP*	P	06 19 36.1	+0.6
LQP	**Lukban**	**1.05**	**60**	⇑*iP*	P	06 19 38.7	+0.5
ARP	**Angono**	**1.08**	**30**	*eP*	P	06 19 38.1	-0.5
QVPH	**Quezon City--P**	**1.15**	**23**	⇑*eP*	P	06 19 36.0	-3.4
NBP	**Mount Natib**	**1.16**	**351**	*eP*	P	06 19 39.3	-0.3
BOAC	**Boac**	**1.22**	**96**	*eP*	P	06 19 40.1	-0.2
BOAC				*eS*	S	06 19 57.9	+0.3
SJMP	**San Jose**	**1.23**	**156**	*eP*	P	06 19 40.7	+0.2
SJMP				*eS*	S	06 19 58.6	+0.8
OTRP	**Odiongan**	**1.85**	**131**	*eP*	P	06 19 47.6	-0.5
PCPH	**Palayan**	**2.02**	**14**	*eP*	P	06 19 49.3	-1.1
PCPH				*e*S	S	06 20 17.4	+2.5
ENPP	**El Nido**	**2.63**	**206**	*eP*	P	06 19 58.8	0.0

*CSEM **02** 06:42:00.6±0.2, 35.01N×2.85W, h15km, MD2.8, Error ellipse: s-maj=5.4km s-min=4.6km az=11.0*
*CNRM **02** 06:42:01.0, 35.08N×2.72W, h16km, MD2.8*
*MDD **02** 06:42:02.1±0.7, 34.97N×2.79W, h15km±4km, mb3.1/5, Error ellipse: s-maj=7.6km s-min=5.9km az=103.0, PRXIMO*
*NEIC **02** 06:42:04.2, 35.09N×3.17W, MG3.1(MDD), After MDD.*
ISC 02 06:42:01.3±0.6, 35.06N±0.03×2.93W±0.05, h10km, n26, σ1§60/43, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.17**	**119**	P	**Pg**	**06 42 04.5**	**-0.7**
ZAI				S	**Sg**	**06 42 07.0**	**-0.9**
ZAI	**Zaio**	**0.17**	**119**	*i* P	**Pg**	**06 42 04.5**	**-0.7**
EMLI	**Melilla** 22nm,0.1s,SNR=11	**0.24**	**357**	P	**Pg**	**06 42 09.3**	**+2.8**
EMLI				S	**Sg**	**06 42 13.0**	**+3.0**
	74nm,0.3s,SNR=4.6						
EMEL	**Melilla** 32nm,0.1s,SNR=11	**0.25**	**355**	P	**Pg**	**06 42 09.3**	**+2.8**
EMEL				S	**Sg**	**06 42 13.3**	**+3.3**
	214nm,0.2s,SNR=4.6						
TOU	**Touzarine**	**0.68**	**262**	*i* P	**Pb**	**06 42 16.0**	**+1.2**
TOU				*i* S	**Sb**	**06 42 27.5**	**+3.5**
TZK	**Tazeka**	**1.41**	**227**	*i* P	**Pn**	**06 42 27.0**	**-0.2**
TZK				*i* S	**Sb**	**06 42 45.5**	**+0.3**
EBER	**Berja** 5.2nm,0.3s,SNR=7.9	**1.84**	**1**	S	**Sn**	**06 42 56.1**	**-0.7**
EBER	**Berja** 7.9nm,0.6s,SNR=7.9	**1.84**	**1**	S	**Sn**	**06 42 56.0**	**-0.8**
EMIJ	**Mijas**	**2.12**	**316**	P	**Pn**	**06 42 37.2**	**-0.2**
EMIJ				S	**Sn**	**06 43 01.2**	**-2.8**
EMIJ	**Mijas** 0.5nm,0.1s,SNR=5.8	**2.12**	**316**	P	**Pn**	**06 42 37.2**	**-0.1**
EMIJ				S	**Sn**	**06 43 02.0**	**-2.0**
	5.3nm,0.3s,SNR=7.9						
EMIJ	**Mijas** 0.8nm,0.1s,SNR=5.8	**2.12**	**316**	P	**Pn**	**06 42 37.2**	**-0.2**
EMIJ				S	**Sn**	**06 43 01.2**	**-2.8**
	SNR=7.9						
EQES	**Quesada**	**2.75**	**358**	P	**Pn**	**06 42 49.1**	**+2.9**
EQES				S	**Sn**	**06 43 21.7**	**+1.9**
EQES	**Quesada** 0.5nm,0.1s,SNR=7.9	**2.75**	**358**	P	**Pn**	**06 42 49.6**	**+3.4**
EQES				S	**Sn**	**06 43 23.0**	**+3.2**
	2.8nm,0.3s,SNR=6.3						
EQES	**Quesada** 3.3nm,0.4s,SNR=6.3	**2.75**	**358**	S	**Sn**	**06 43 21.7**	**+1.9**
EMUR	**La Murta** 0.5nm,0.2s,SNR=7.9	**3.10**	**26**	P	**Pn**	**06 42 52.9**	**+1.6**
EMUR				S	**Sn**	**06 43 24.6**	**-4.1**
	0.5nm,0.3s,SNR=7.9						
EBAN	**Banos Encina** 0.8nm,0.2s,SNR=4.0	**3.18**	**348**	S	**Sn**	**06 43 29.3**	**-1.5**
EADA	**Adamuz**	**3.38**	**337**	P	**Pn**	**06 42 55.4**	**+0.2**
EADA				S	**Sn**	**06 43 33.1**	**-2.6**
EADA	**Adamuz** 0.1nm,0.1s,SNR=7.9	**3.38**	**337**	P	**Pn**	**06 42 56.0**	**+0.7**
EADA				S	**Sn**	**06 43 34.0**	**-1.8**
	0.5nm,0.1s,SNR=7.9						
EADA	**Adamuz** SNR=7.9	**3.38**	**337**	S	**Sn**	**06 43 33.1**	**-2.7**
EADA	**Adamuz** 0.1nm,0.1s,SNR=7.9	**3.38**	**337**	P	**Pn**	**06 42 55.4**	**+0.2**
EMIN	**Mina Concepcio**	**4.05**	**313**	P	**Pn**	**06 43 04.0**	**-0.8**
EMIN				S	**Sn**	**06 43 48.0**	**-4.9**
EMIN	**Mina Concepcio** 0.4nm,0.2s,SNR=7.9	**4.05**	**313**	P	**Pn**	**06 43 04.2**	**-0.6**
EMIN				S	**Sn**	**06 43 50.1**	**-2.8**
	0.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio** 0.4nm,0.2s,SNR=7.9	**4.05**	**313**	P	**Pn**	**06 43 04.0**	**-0.8**
EBAD	**Badajoz**	**4.93**	**320**	P	**Pn**	**06 43 16.4**	**-1.0**
EBAD				S	**Sn**	**06 44 10.3**	**-4.9**
EBAD	**Badajoz** 0.3nm,0.1s,SNR=7.9	**4.93**	**320**	P	**Pn**	**06 43 16.7**	**-0.6**
EBAD				S	**Sn**	**06 44 11.3**	**-3.9**
	1.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz** 0.4nm,0.1s,SNR=7.9	**4.93**	**320**	P	**Pn**	**06 43 16.4**	**-0.9**

MEX 02 07:10:47.5±0.7, 15.22N×92.81W, h115km±23km, MD4.1, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.24**	**32**	*e*P	P	07 11 10.9	-1.2
CCIG				*e*S	S	07 11 28.5	-1.9
SCX	**San Cristobal**	**1.51**	**6**	*i* P	P	07 11 13.0	-2.2
SCX				*i* S	S	07 11 35.0	-1.1
CMIG	**Matias Romero**	**2.72**	**313**	*e*P	P	07 11 29.2	-1.7
CMIG				*i* S	S	07 11 59.1	-4.5
TUIG	**Tuzandepetl**	**3.19**	**331**	*e*P	P	07 11 35.5	-1.7
TUIG				*e*S	S	07 12 12.8	-2.1
SCIG		**4.04**	**22**	*e*P	P	07 11 46.5	-2.0
SCIG				*i* S	S	07 12 31.9	-3.2
OXX	**Oaxaca**	**4.19**	**297**	*e*P	P	07 11 53.0	+2.4
VHO	**Vista Hermosa**	**4.19**	**297**	*e*P	P	07 11 48.1	-2.6
VHO				*i* S	S	07 12 37.3	-1.8

BJI 02 07:12:13.7, 26.02N×99.92E, h10km, ML3.6, Yunnan

*BJI **02** 07:21:25.8, 11.46N×92.09E, h49km, mb4.5*
*NEIC **02** 07:21:28.6±0.5, 11.90N×92.25E, h30km, mb4.5/10, Error ellipse: s-maj=13.0km s-min=10.4km az=73.0*
ISC 02 07:21:27.4±1.3, 11.90N±0.07×92.19E±0.07, h36km±13km, n27, σ0§96/30, mb4.5/10, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.59**	**114**	*i*	**P**	**07 21 40.0**	**+0.7**
PBA				*i*		07 22 03.0	
CM31	**Chiang Mai Arr** 9.4nm,0.7s	**9.22**	**44**	*eP*	**P**	**07 23 40.3**	**-0.7**
VIS	**Vishakhapatnam**	**10.34**	**305**	*eP*	**P**	**07 23 52.8**	**-3.6**
VIS				*e*		07 25 38.0	
SHL	**Shillong**	**13.60**	**359**	*e*	**P**	**07 24 33.5**	**-6.8**
HYB	**Hyderabad**	**14.28**	**294**	*i* P	**P**	**07 24 57.0**	**+7.7**
HYB				*eS*	**S**	**07 27 11.0**	**-16**
HYB				*eS*	**S**	**07 27 25.0**	**-2.4**
PKI	**Pulchoki** 129nm,1.1s	**16.84**	**339**	*eP*	**P**	**07 25 21.7**	**-0.4**
DMN	**Daman** 44nm,0.8s	**16.98**	**338**	*eP*	**P**	**07 25 23.6**	**-0.3**
GUN	**Gumba** 76nm,1.1s	**16.99**	**341**	*eP*	**P**	**07 25 24.8**	**+0.8**
KKN	**Kakani** 27nm,0.7s	**17.09**	**339**	*eP*	**P**	**07 25 25.3**	**+0.1**
GKN	**Gorkha** 16nm,0.3s	**17.52**	**337**	*eP*	**P**	**07 25 30.5**	**-0.1**
KOLN	**Koldanda** 79nm,1.0s	**17.73**	**334**	*eP*	**P**	**07 25 32.9**	**-0.3**
LSA	**Lhasa** 34nm,1.1s	**17.74**	**357**	*eP*	**P**	**07 25 33.5**	**+0.1**
BHPL	**Bhopal**	**18.02**	**311**	*eP*	**P**	**07 25 39.4**	**+2.5**
BHPL				*e*S	**S**	**07 28 41.8**	**-12**
BHPL				*e*		07 28 45.3	
	comp=Z,9.5nm,0.3s						
KAD	**Karad**	**18.23**	**289**	*eP*	**P**	**07 25 38.1**	**-1.5**
KAD				AMb	AMB	07 25 49.0	
	comp=Z,16nm,0.4s						
KAD				*i* S	S	07 28 27.4	-31
POO	**Poona**	**18.88**	**293**	*eP*	**P**	**07 25 48.3**	**+0.9**
POO				AMb	AMB	07 26 04.0	
	comp=Z,25nm,1.0s						
POO				*e*S	S	07 28 47.0	-26
NDI	**New Delhi**	**21.78**	**322**	*e*	**P**	**07 26 17.5**	**-0.5**
ENH	**Enshi** comp=Z,16nm,0.7s,mb4.6	**24.33**	**39**	*eP*	**P**	**07 26 43.2**	**+0.1**
XAN	**Xi'an**	**26.81**	**32**	P	**P**	**07 27 07.6**	**+1.2**
XAN				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.5						
AAK	**Ala-Archa** comp=Z,9.3nm,1.4s,mb4.5	**34.27**	**337**	*eP*	**P**	**07 28 12.4**	**+0.1**
MBWA	**Marble Bar** comp=Z,16nm,1.1s,mb4.7	**42.56**	**140**	*eP*	**P**	**07 29 20.7**	**-1.1**
GNI	**Garni** comp=Z,12nm,1.1s,mb4.8	**50.29**	**313**	*eP*	**P**	**07 30 22.5**	**0.0**
WRAB	**Tennant Creek** comp=Z,8.5nm,0.7s,mb4.8	**52.18**	**127**	*eP*	**P**	**07 30 35.8**	**-1.3**
WB2	**Warramunga Arr**	**52.19**	**127**	⇓*iP*	**P**	**07 30 36.5**	**-0.6**
STKA	**Stephens Creek** comp=Z,2.0nm,0.6s,mb4.3	**64.27**	**134**	*eP*	**P**	**07 32 01.7**	**+0.1**
LSZ	**Lusaka** comp=Z,2.3nm,0.8s,mb4.2	**68.87**	**248**	*eP*	**P**	**07 32 32.3**	**+1.4**
LBTB	**Lobatse** comp=Z,3.7nm,0.7s,mb4.4	**74.53**	**240**	*eP*	**P**	**07 33 06.2**	**+1.5**
NB2	**NORSAR Subarra** comp=Z,1.3nm,0.7s,mb4.0,baz=95,slow=5.3	**75.31**	**330**	P	**P**	**07 33 08.2**	**-0.2**

*NEIC **02** 07:27:48.2±1.7, 6.30N×92.64E, h42km±17km, mb4.4/5, Error ellipse: s-maj=15.9km s-min=13.4km az=167.0*
ISC 02 07:27:45.6±0.7, 6.21N±0.09×92.67E±0.08, h33km, n22, σ0§83/26, mb4.5/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele** 22nm,0.7s	**11.94**	**276**	*eP*	**P**	**07 30 35.7**	**-0.8**
PALK				*e*		07 30 47.9	
CM31	**Chiang Mai Arr** 12nm,0.7s	**13.63**	**26**	*eP*	**P**	**07 30 57.7**	**-1.4**
MDRS	**Chennai**	**14.02**	**300**	*i* P	**P**	**07 31 05.2**	**+1.1**
MDRS				AMb	AMB	07 31 05.8	
	comp=Z,86nm,0.5s						
MDRS				*e*S	**S**	**07 33 24.7**	**-15**
VIS	**Vishakhapatnam**	**14.64**	**322**	*eP*	**P**	**07 31 10.7**	**-1.7**
VIS				AMb	AMB	07 31 12.5	
	comp=Z,19nm,0.1s						
VIS				*e*S	**S**	**07 33 38.8**	**-15**
TRD	**Trivandrum**	**15.75**	**279**	*e*	**P**	**07 31 32.1**	**+5.3**
TRD				*e*		07 31 33.2	
	comp=Z,16nm,0.9s						
HYB	**Hyderabad**	**17.74**	**310**	*i* P	**P**	**07 31 58.0**	**+6.2**
HYB				*e*S	**S**	**07 34 49.0**	**-17**
HYB				*e*S	**S**	**07 35 06.5**	**+0.6**
SHL	**Shillong**	**19.27**	**358**	*eP*	**P**	**07 32 06.0**	**-4.3**
POO	**Poona**	**22.06**	**305**	*e*	**P**	**07 32 48.5**	**+9.2**
PKI	**Pulchoki** comp=Z,23nm,0.7s,mb4.7	**22.34**	**343**	*eP*	**P**	**07 32 42.3**	**+0.2**
BHPL	**Bhopal**	**22.42**	**321**	*eP*	**P**	**07 32 44.5**	**+1.7**
BHPL				AMb	AMB	07 32 51.2	
	comp=Z,7.2nm,1.3s,mb4.0						
DMN	**Daman** comp=Z,20nm,0.7s,mb4.7	**22.47**	**342**	*eP*	**P**	**07 32 43.6**	**+0.2**
**GU

ACR	**Cerro Adams**	**1.37 129**	⇓ *e*P	Pb	07 52 33.1	-3.1
BRU2	**Volcan**	**1.69 115**	⇑ *e*P	Pn	07 52 39.6	-1.4
BRU2			*e*S	Sn	07 53 05.0	+1.7
CNI	**Changuinola**	**1.70 94**	⇑ *e*P	Pn	07 52 41.2	+0.1
CNI			*e*S	Sn	07 53 03.1	-0.4
DVD	**David**	**2.07 121**	⇑ *e*P	Pn	07 52 45.7	-0.7
DVD			*e*S	Sn	07 53 14.4	+1.5
PTP1	**Petroterminal**	**2.22 126**	*e*P	Pn	07 52 43.2	-5.3
AZU	**Azuero**	**4.28 113**	*e*P	Pn	07 53 18.1	+0.2
UPA	**Univ. de Panam**	**4.68 96**	⇓ *i*P	Pn	07 53 21.8	-1.7
JEF	**Cerro Jefe**	**4.81 93**	*e*P	Pn	07 53 24.0	-1.4

NEIC ***02*** *08:15:03.7, 32.60S×71.70W, h23km, ML2.6(GUC), After GUC.*

GUC 02 08:15:03.7±0.7, 32.60S×71.70W, h23km±6km, MD3.5, ML2.6, 12C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.23**	**74**	⇓ *i*P	Pb	08 15 10.0	+0.4
PACH				*i* S	Sb	08 15 14.7	+1.1
ROCH	**El Roble**	**0.69**	**122**	⇑ *i*P	Pb	08 15 16.7	-0.2
ROCH				*i* S	Sb	08 15 26.8	+0.6
PTCH	**Petorca**	**0.74**	**63**	⇑ *i*P	Pb	08 15 17.5	-0.3
PTCH				*i* S	Sb	08 15 27.9	+0.5
PTCH				AMP		08 15 30.4	
	comp=E,608nm,0.2s						
LCCH	**Las Cruces**	**0.88**	**173**	⇑ *i*P	Pb	08 15 19.2	-0.9
LCCH				*i* S	Sb	08 15 30.5	-0.9
JACH	**Jahuel**	**0.94**	**95**	⇓ *i*P	Pb	08 15 20.4	-0.8
JACH				*i* S	Sb	08 15 33.5	+0.3
PEL	**Peldehue**	**1.01**	**122**	*e*P	Pb	08 15 21.9	-0.5
PEL				*i* S	Sb	08 15 35.6	+0.3
ILCH	**Illapel**	**1.07**	**25**	*i* P	Pb	08 15 22.8	-0.5
ILCH				*i* S	Sb	08 15 36.9	0.0
ILCH				AMP		08 15 37.9	
	comp=N,224nm,0.2s						
PUEX	**Pudahuel**	**1.15**	**137**	⇑ *i*P	Pn	08 15 24.2	-0.4
RCDM	**Rinconada Maip**	**1.16**	**140**	⇑ *i*P	Pn	08 15 23.8	-0.9
RCDM				*i* S	Sb	08 15 39.5	-0.1
RCDM				AMP		08 15 43.1	
	comp=E,334nm,0.1s						
TACH	**Talagante**	**1.23**	**149**	⇑ *i*P	Pn	08 15 25.0	-0.7
TACH				*i* S	Sb	08 15 40.5	-1.0
DSCH	**Colegio Aleman**	**1.24**	**130**	⇑ *i*P	Pn	08 15 25.3	-0.5
DSCH				*i* S	Sb	08 15 41.8	0.0
DSCH				AMP		08 15 43.3	
	comp=E,304nm,0.2s						
CLCH	**Cerro Calan**	**1.26**	**129**	⇓ *i*P	Pn	08 15 25.6	-0.5
CLCH				*i* S	Sb	08 15 42.3	-0.1
CLCH				AMP		08 15 49.4	
	comp=E,141nm,0.5s						
ANTU	**Antumapu**	**1.32**	**137**	⇓ *i*P	Pn	08 15 26.7	-0.2
ANTU				*i* S	Sn	08 15 44.1	+0.2
ANTU				AMP		08 15 49.0	
	comp=N,149nm,0.3s						
LNV	**Longovilo**	**1.37**	**170**	⇑ *i*P	Pn	08 15 27.2	-0.5
LNV				*i* S	Sn	08 15 45.4	+0.2
FCH	**Farellones**	**1.39**	**122**	⇑ *i*P	Pn	08 15 27.6	-0.3
FCH				*i* S	Sn	08 15 46.2	+0.5
FCH				AMP		08 15 47.7	
	comp=E,207nm,0.3s						
PCH	**Pirque**	**1.42**	**136**	⇑ *i*P	Pn	08 15 28.3	-0.1
CHCH	**Chadas Angostu**	**1.59**	**147**	⇓ *i*P	Pn	08 15 31.1	+0.3
CHCH				*i* S	Sn	08 15 51.6	+0.7
LMEL	**Las Melosas**	**1.77**	**135**	⇑ *i*P	Pn	08 15 33.8	+0.4
LMEL				*i* S	Sn	08 15 57.5	+2.2
LMEL				AMP		08 16 00.6	
	comp=N,154nm,0.2s						
CACH	**El Canelo**	**1.77**	**149**	⇑ *i*P	Pn	08 15 35.1	+1.7
SFDO	**San Fernando**	**2.09**	**164**	*i* P	Pn	08 15 39.0	+1.0

ISC 02 08:21:35.1±0.8, 13.83N±0.08×92.86E±0.09, h33km, n15, σ0°94/18, mb3.9/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.16**	**183**	*i* P	**P**	**08 22 09.0**	**-0.4**
PBA				*i*		08 22 16.5	
	227nm,0.8s						
NST	**Nakhon Sawan**	**7.27**	**74**	P	**P**	**08 23 22.0**	**+0.4**
	58nm,1.0s						
VIS	**Vishakhapatnam**	**9.96**	**294**	*e*P	**P**	**08 23 58.1**	**-1.0**
VIS				*e*S	**S**	**08 25 39.5**	**-11**
VIS				*e*		08 25 45.0	
	comp=E,58nm,0.4s						
VIS				*e*		08 25 45.1	
	comp=N,133nm,0.6s						
IMP	**Imphal**	**10.95**	**5**	*e*P	**P**	**08 24 11.7**	**-0.9**
SHL	**Shillong**	**11.72**	**356**	*e*P	**P**	**08 24 19.5**	**-3.5**
SHL				*e*S	**S**	**08 26 23.5**	**-10**
HYB	**Hyderabad**	**14.24**	**286**	*e*P	**P**	**08 25 03.5**	**+7.0**
HYB				*e*S	**S**	**08 27 25.0**	**-9.3**
PKI	**Pulchoki**	**15.34**	**334**	*e*P	**P**	**08 25 11.2**	**+0.3**
	comp=N,43nm,0.5s						
GUN	**Gumba**	**15.45**	**336**	*e*P	**P**	**08 25 11.9**	**-0.4**
	comp=N,49nm,0.7s						
DMN	**Daman**	**15.51**	**333**	*e*P	**P**	**08 25 12.9**	**-0.1**
	comp=N,75nm,0.7s						
KKN	**Kakani**	**15.59**	**334**	*e*P	**P**	**08 25 13.7**	**-0.4**
	comp=N,37nm,0.7s						
GKN	**Gorkha**	**16.05**	**333**	*e*P	**P**	**08 25 20.8**	**+0.8**
	comp=N,56nm,0.5s						
KOLN	**Koldanda**	**16.34**	**330**	*e*P	**P**	**08 25 24.4**	**+0.7**
	comp=N,73nm,0.7s						
DDI	**Dehra Dun**	**21.36**	**323**	*e*P	**P**	**08 26 24.6**	**+2.9**
MAT	**Matsushiro**	**46.32**	**52**	P	**P**	**08 29 59.4**	**-0.4**
NB2	**NORSAR Subarra**	**73.97**	**330**	P	**P**	**08 33 09.7**	**+1.0**
	comp=N,1.0nm,0.6s,mb3.9,baz=90,slow=5.8						

BJI ***02*** *08:27:40.0, 3.09N×95.35E, h15km, mB6.0, mb5.3, Ms6.2, Msz6.0*

GUC ***02*** *08:27:41.6±0.0, 3.20N×95.48E, h8km, mb5.6(NEIC), MS5.9(NEIC), MW5.9(NEIC)*

NEIC ***02*** *08:27:41.9±0.1, 3.24N×95.46E, h8km, mb5.6/86, ME5.6, MS5.9/129, MW5.9, Error ellipse: s-maj=5.9km s-min=3.6km az=41.0 Broadband fault plane solution: P waves. NP1:φs100°, δ35°, λ90°. NP2:φs280°, δ55°, λ90°. Principal axes: T Plg80°, Azm190°; N Plg0°, Azm0°; P Plg10°, Azm10°; Moment Tensor Solution. s29 Moment tensor: Scale 10^17 Nm; Mrr6.43; Mθθ-6.99; Mφφ0.55; Mrθ0.50; Mθφ1.36; Mφr0.19; Best double couple: M0 6.9×10^17 NP1:φs283°, δ43°, λ94°. NP2:φs97°, δ47°, λ86°. Principal axes: T 6.46, Plg87°, Azm315°; N .78, Plg3°, Azm100°; P -7.24, Plg2°, Azm190°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

HRVD ***02*** *08:27:41.9±0.1, 3.18N×95.32E, h12km, MW5.8/67, Centroid moment Tensor Solution. LP body waves: s63, c118; Mantle waves: s67, c214; Half duration: 1s9 Moment tensor: Scale 10^17 Nm; Mrr5.19±.05; Mθθ-4.65±.05; Mφφ-0.54±.06; Mrθ-1.63±.14; Mθφ1.95±.05; Mφr-0.52±.16; Best double couple: M0 5.582×10^17 NP1: φs123°, δ39°, λ108°. NP2:φs281°, δ53°, λ76°. Principal axes: T 5.57, Plg77°, Azm142°; N .016, Plg11°, Azm289°; P -5.594, Plg7°, Azm20°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***02*** *08:27:44.3±1.1, 3.30N×95.46E, h33km, mb5.8/68, MS5.7/62 Error ellipse: s-maj=8.5km s-min=4.6km az=122.5*

DJA ***02*** *08:27:48.4±3.7, 2.60N×96.04E, h12km, mb5.4/4, Error ellipse: s-maj=142.7km s-min=24.1km az=82.0*

ISC 02 08:27:40.0±0.8, 3.22N±0.03×95.45E±0.03, h7km±5km, h11km±2.7km: pP-P, n553, σ1s11/471, mb5.6/120, MS5.8/150, 87C-31D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.47**	**52**	P	**Pn**	**08 29 20.0**	**+1.9**
	700nm,1.0s						
PENI	**Pendagan**	**13.05**	**132**	⇓ *e*P	**P**	**08 30 44.9**	**-3.8**
PENI				pmax	pmax		
	comp=Z,321nm,0.7s						
PENI	**Pendagan**	**13.05**	**132**	⇓ *e*P	**P**	**08 30 44.9**	**-3.8**
	comp=Z,321nm,0.7s						
PENI	**Pendagan**	**13.05**	**132**	*e*pP		08 30 48.1	
PENI	**Pendagan**	**13.05**	**132**	⇓ *e*P	**P**	**08 30 45.1**	**-3.6**
PULI	**Pulasari**	**14.17**	**132**	⇓ *e*P	**P**	**08 30 59.7**	**-3.8**
KKTK	**Khon Kaen**	**14.91**	**29**	P	**P**	**08 31 16.0**	**+2.7**
	comp=Z,2μm,0.7s						
PACI	**Pancar Gunung**	**15.03**	**130**	*e*P	**P**	**08 31 11.3**	**-3.5**
UBT	**Ubonrachathani**	**15.22**	**38**	P	**P**	**08 31 23.0**	**+5.7**
	comp=Z,361nm,1.0s						
PALK	**Pallekele**	**15.23**	**286**	*e*P	**P**	**08 31 17.1**	**-0.4**
	comp=Z,3μm,3.0s						
CM31	**Chiang Mai Arr**	**15.52**	**12**	*e*P	**P**	**08 31 20.9**	**-0.3**
	comp=Z,316nm,1.1s						
CHG	**Chiang Mai**	**15.87**	**12**	⇓ P	**P**	**08 31 27.2**	**+1.5**
	comp=Z,150nm,1.1s						
NANT	**Nan**	**16.31**	**18**	P	**P**	**08 31 33.6**	**+2.3**
	comp=Z,125nm,1.7s						
MDRS	**Chennai**	**17.94**	**304**	⇑ *i*P	**P**	**08 31 52.3**	**+0.5**
MDRS				*e*		08 32 00.1	
	comp=Z,213nm,1.3s						
MDRS				*e*S	**S**	**08 35 08.9**	**-0.8**
VIS	**Vishakhapatnam**	**18.68**	**321**	⇑ *i*P	**P**	**08 32 00.5**	**-0.5**
VIS				*e*		08 32 21.3	
	comp=Z,354nm,1.9s						
VIS				*e*S	**S**	**08 35 30.2**	**+3.8**
TRD	**Trivandrum**	**19.13**	**287**	⇑ *i*P	**P**	**08 32 07.0**	**+0.6**
TRD				*e*		08 32 12.9	
	comp=Z,182nm,1.1s						
TRD				*e*S	**S**	**08 35 43.2**	**+6.6**
KOD	**Kodaikanal**	**19.16**	**292**	*e*P	**P**	**08 32 08.4**	**+1.6**
KOD				*e*		08 32 14.4	
	comp=Z,300nm,1.8s						
KOD				*e*S	**S**	**08 35 46.6**	**+9.2**
CAL	**Calcutta**	**20.41**	**341**	*e*P	**P**	**08 32 17.7**	**-2.8**
CAL				*e*		08 36 11.8	
QIZ	**Qiongzhong**	**21.09**	**41**	P	**P**	**08 32 28.4**	**+0.8**
QIZ				AP		08 32 34.0	
QIZ				LR	LR		
	comp=N,34μm,19.5s,MS5.9						
QIZ				LR	LR		
	comp=E,36μm,17.6s,MS5.9						
QIZ				LR	LR		
	comp=Z,40μm,18.5s,MS5.8						
QIZ	**Qiongzhong**	**21.09**	**41**	PFAKE		08 32 40.0	+12
QIZ				LR	LR		
	comp=Z,42μm,19.0s,MS5.8						
IMP	**Imphal**	**21.49**	**356**	*e*P	**P**	**08 32 28.9**	**-2.7**
HYB	**Hyderabad**	**21.77**	**312**	*i* P	**P**	**08 32 36.0**	**+1.5**
	comp=Z,245nm,1.0s,mb5.6						
HYB				*e*S	**S**	**08 36 36.0**	**+5.5**
HYB				LR	LR	08 42 14.0	
	comp=Z,19nm,18.0s						
SRDI	**Scrawed**	**21.96**	**122**	⇑ *e*P	**P**	**08 32 36.3**	**-0.1**
	comp=Z,288nm,1.0s,mb5.4						
SHL	**Shillong**	**22.48**	**352**	⇓ *i*P	**P**	**08 32 40.1**	**-1.4**
SHL				*e*		08 32 51.2	
	comp=Z,184nm,0.9s						
SHL				*e*S	**S**	**08 36 42.2**	**-1.3**
MNGI	**Mangalore**	**22.57**	**296**	⇑ *i*P	**P**	**08 32 44.7**	**+2.1**
MNGI				*e*		08 32 51.1	
	comp=Z,384nm,2.0s						
MNGI				*e*S	**S**	**08 36 52.9**	**+7.6**
BLSP	**Bilaspur**	**22.81**	**327**	⇑ *i*P	**P**	**08 32 45.4**	**+0.5**
BLSP				*e*		08 32 52.2	
	comp=Z,537nm,2.0s						
BLSP				*e*S	**S**	**08 36 52.5**	**+2.8**
MNCY	**Minicoy**	**22.86**	**284**	*i*	**P**	**08 32 57.0**	**+12**
MNCY				*i*		08 34 59.0	
RATI	**Rata**	**23.27**	**121**	⇓ *e*P	**P**	**08 32 46.2**	**-3.2**
	comp=Z,446nm,0.8s,mb6.0						
RATI	**Rata**	**23.27**	**121**	⇑ *e*P	**P**	**08 32 48.0**	**-1.4**
	comp=Z,446nm,0.8s,mb5.6						
KEDI	**Kedomdong**	**23.66**	**120**	⇓ *e*P	**P**	**08 32 52.8**	**-0.4**
KEDI				pmax	pmax		
	comp=Z,105nm,1.2s,mb5.1						
KEDI	**Kedomdong**	**23.66**	**120**	⇓ *e*P	**P**	**08 32 52.8**	**-0.4**
	comp=Z,105nm,1.2s,mb5.1						
KEDI	**Kedomdong**	**23.66**	**120**	⇑ *i*P	**P**	**08 32 52.4**	**-0.8**
	comp=Z,210nm,1.2s,mb5.1						
LATR	**Latur**	**23.88**	**311**	*e*P	**P**	**08 32 58.8**	**+3.4**
NGP	**Nagpur**	**23.92**	**319**	*e*P	**P**	**08 32 58.0**	**+2.3**
NGP				*e*		08 37 18.8	
GOA	**Goa**	**24.54**	**301**	⇑ *i*	**P**	**08 33 10.1**	**+8.3**
GOA				*e*		08 33 17.5	
	comp=Z,235nm,1.5s						
GOA				*i* S	**S**	**08 37 25.8**	**+6.0**
TANI	**Tanete Lipujan**	**24.81**	**105**	⇑ *e*P	**P**	**08 33 04.4**	**0.0**
TANI				pmax	pmax		
	comp=Z,197nm,0.9s,mb5.6						
TANI	**Tanete Lipujan**	**24.81**	**105**	⇑ *e*P	**P**	**08 33 04.4**	**0.0**
	comp=Z,395nm,0.9s,mb5.6						
KAD	**Karad**	**25.13**	**305**	*e*P	**P**	**08 33 09.6**	**+2.2**
KAD				*e*		08 33 16.4	
	comp=Z,116nm,1.3s						
KAD				*e*S	**S**	**08 37 34.4**	**+4.7**
DGAR	**Diego Garcia**	**25.27**	**245**	P	**P**	**08 33 08.3**	**-0.4**
DGAR				pmax	pmax		
	comp=Z,511nm,1.5s,mb5.8						
DGAR				MLR	MLR		
	comp=Z,5μm,20.0s,MS5.0						
DGAR	**Diego Garcia**	**25.27**	**245**	P	**P**	**08 33 08.3**	**-0.5**
	comp=Z,511nm,1.5s,mb5.8						
DGAR				LR	LR		
	comp=Z,5μm,20.0s,MS5.0						
NINI	**Niniconang**	**25.44**	**107**	⇑ *e*P	**P**	**08 33 10.8**	**+0.4**
NINI				pmax	pmax		
	comp=Z,503nm,1.1s,mb6.0						
NINI	**Niniconang**	**25.44**	**107**	⇑ *e*P	**P**	**08 33 10.8**	**+0.4**
	comp=Z,503nm,1.1s,mb6.0						
NINI	**Niniconang**	**25.44**	**107**	⇑ *e*P	**P**	**08 33 10.9**	**+0.5**
BUNI	**Buntu Taipa**	**25.78**	**105**	⇓ *e*P	**P**	**08 33 14.1**	**+0.6**
	comp=Z,54nm,0.8s,mb5.1						
BUNI	**Buntu Taipa**	**25.78**	**105**	⇓ *e*P	**P**	**08 33 14.2**	**+0.7**
PKI	**Pulchoki**	**26.05**	**339**	*e*P	**P**	**08 33 16.1**	**+0.2**
	comp=Z,1μm,1.6s,mb6.2						
POO	**Poona**	**26.05**	**307**	⇑ *i*P	**P**	**08 33 17.2**	**+1.2**
POO				*e*		08 33 24.6	
	comp=Z,208nm,1.6s						
POO				*e*S	**S**	**08 37 47.3**	**+2.2**
DMN	**Daman**	**26.19**	**339**	*e*P	**P**	**08 33 18.0**	**+0.8**
	comp=Z,335nm,1.1s,mb5.8						
GUN	**Gumba**	**26.20**	**341**	*e*P	**P**	**08 33 16.7**	**-0.6**
	comp=Z,660nm,0.9s,mb6.2						
HKC	**Hong Kong**	**26.26**	**42**	⇓ *i*P	**P**	**08 33 21.0**	**+3.1**
HKC				*e*S	**S**	**08 38 01.0**	**+13**
KKN	**Kakani**	**26.29**	**339**	*e*P	**P**	**08 33 17.5**	**-0.7**
	comp=Z,396nm,1.0s,mb5.9						
BHPL	**Bhopal**	**26.47**	**320**	⇑ *i*P	**P**	**08 33 20.5**	**+0.7**
BHPL				*e*		08 33 26.6	
	comp=Z,118nm,1.7s						
BHPL				*e*S	**S**	**08 37 53.0**	**+1.0**
LSA	**Lhasa**	**26.65**	**352**	P	**P**	**08 33 22.4**	**+1.0**
LSA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
LSA	**Lhasa**	**26.65**	**352**	*e*P	**P**	**08 33 22.5**	**+1.1**
LSA				pmax	pmax		
	comp=Z,170nm,0.9s,mb5.6						
LSA				MLR	MLR		
	comp=Z,12μm,19.0s,MS5.5						
LSA	**Lhasa**	**26.65**	**352**	*e*P	**P**	**08 33 22.5**	**+1.0**
	comp=Z,170nm,0.9s,mb5.6						
LSA				LR	LR		
	comp=Z,12μm,19.0s,MS5.5						
GKN	**Gorkha**	**26.72**	**338**	*e*P	**P**	**08 33 21.6**	**-0.5**
	comp=Z,521nm,0.9s,mb6.0						
KOLN	**Koldanda**	**26.91**	**336**	*e*P	**P**	**08 33 24.3**	**+0.5**
	comp=Z,405nm,0.9s,mb6.0						
BOM	**Bombay**	**27.07**	**307**	⇑ *i*P	**P**	**08 33 26.9**	**+1.5**
BOM				*e*		08 33 37.9	
	comp=Z,223nm,1.7s						
BOM				*e*S	**S**	**08 38 01.4**	**-0.5**
ENH	**Enshi**	**30.00**	**25**	*e*P	**P**	**08 33 50.2**	**-1.6**
	comp=Z,12nm,0.6s,mb4.8						
ENH				LR	LR		
	comp=Z,19μm,20.0s,MS5.7						
DAV	**Davao City (W)**	**30.24**	**82**	*e*P	**P**	**08 33 57.0**	**+3.0**
ASOR	**Ausora**	**30.46**	**328**	*e*P	**P**	**08 33 55.1**	**-0.7**
AJM	**Ajmer**	**30.54**	**321**	⇑ *i*P	**P**	**08 33 56.5**	**0.0**
AJM				*e*		08 34 02.9	
	comp=Z,108nm,1.8s						
AJM				*e*S	**S**	**08 38 55.1**	**-2.1**
KUDL	**Kundal**	**30.68**	**326**	*e*P	**P**	**08 33 57.1**	**-0.6**
NDI	**New Delhi**	**30.70**	**327**	⇑ *i*P	**P**	**08 33 57.3**	**-0.6**
NDI				*e*		08 34 03.8	
	comp=Z,86nm,1.9s						
NDI				*e*S	**S**	**08 38 57.0**	**-2.7**
KHET	**Khetri**	**31.01**	**325**	*e*P	**P**	**08 34 00.2**	**-0.5**
QZH	**Quanzhou**	**31.03**	**44**	⇑ *i*P	**P**	**08 34 02.1**	**+1.2**
QZH				S	**S**	**08 39 03.4**	**-1.6**
QZH				AMB	AMB		
	comp=Z,200nm,1.5s,mb5.7						
QZH				AMB	AMB		
	comp=Z,2μm,4.2s						
QZH				LR	LR		
	comp=N,21μm,16.2s,MS6.1						
QZH				LR	LR		
	comp=E,20μm,12.4s,MS6.1						
QZH				LR	LR		
	comp=Z,30μm,18.3s						
DDI	**Dehra Dun**	**31.58**	**330**	*e*P	**P**	**08 34 05.3**	**-0.4**
DDI				*e*		08 39 26.2	
BHJ	**Bhuj**	**31.93**	**311**	*e*P	**P**	**08 34 10.4**	**+1.6**
BHJ				*e*		08 34 17.9	
	comp=Z,140nm,2.1s						
WHN	**Wuhan**	**32.52**	**31**	⇑ P	**P**	**08 34 14.0**	**+0.1**
WHN				S	**S**	**08 39 32.0**	**+3.8**
WHN				LR	LR		
	comp=N,10μm,8.6s						
WHN				LR	LR		
	comp=E,36μm,13.8s						
WHN				LR	LR		
	comp=Z,70μm,13.0s,MS6.5						
SMLA	**Simla**	**32.68**	**330**	⇑ *i*	**P**	**08 34 27.0**	**+12**
SMLA				*e*		08 34 48.7	
	comp=Z,160nm,1.6s						
TATO	**Taipei**	**33.11**	**47**	PFAKE		08 34 30.0	+11
TATO				LR	LR		
	comp=Z,7μm,21.0s,MS5.4						
XAN	**Xi'an**	**33.13**	**21**	P	**P**	**08 34 17.6**	**-1.6**
XAN				S	**S**	**08 39 36.5**	**-1.2**
XAN				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.0						
XAN				LR	LR		
	comp=N,11μm,12.5s,MS6.0						
XAN				LR	LR		
	comp=E,20μm,14.3s,MS6.0						
XAN				LR	LR		
	comp=Z,21μm,17.3s,MS5.9						
BHK	**Bhakra**	**33.29**	**329**	*e*	**P**	**08 34 31.9**	**+11**
BHK				*e*		08 39 50.3	
LZH	**Lanzhou**	**33.61**	**12**	⇑ P	**P**	**08 34 23.3**	**0.0**
LZH				AP	pP	08 34 27.0	+1.7
LZH				PP	PP	08 35 37.2	+1.5
LZH				S	**S**	**08 39 44.8**	**-0.2**
LZH				SS	SS	08 41 51.6	+2.6
LZH				AMB	AMB		
	comp=Z,212nm,1.4s,mb5.9						
LZH				AMB	AMB		
	comp=Z,2μm,7.2s						
LZH				LR	LR		
	comp=E,20μm,12.1s						
LZH				LR	LR		
	comp=Z,25μm,17.2s						
MBWA	**Marble Bar**	**33.95**	**137**	*e*P	**P**	**08 34 25.6**	**-0.8**
	comp=Z,87nm,1.1s,mb5.6						
MBWA				LR	LR		
	comp=Z,6μm,21.0s,MS5.3						
NJ2	**Nanjing**	**36.14**	**35**	*e*P	**P**	**08 34 46.1**	**+1.1**
NJ2				AP	pP	08 34 55.6	+8.6
NJ2				XP	sP	08 34 59.4	+12
NJ2				PP	PP	08 36 10.7	+3.5
NJ2				PPP	PPP	08 36 30.5	+3.3
NJ2				S	**S**	**08 40 25.0**	**+0.8**
NJ2				XS		08 40 42.0	
NJ2				AMB	AMB		
	comp=Z,200nm,1.2s,mb5.9						
NJ2				AMB	AMB		
	comp=Z,3μm,7.6s						
NJ2				LR	LR		
	comp=N,33μm,12.2s,MS6.5						
NJ2				LR	LR		
	comp=E,41μm,14.6s,MS6.5						
NJ2				LR	LR		
	comp=Z,37μm,19.0s,MS6.2						
FITZ	**Fitzroy Crossi**	**36.52**	**127**	*e*P	**P**	**08 34 47.3**	**-1.0**
	comp=Z,52nm,0.9s,mb5.4						
SSE	**Sheshan**	**36.84**	**38**	P	**P**	**08 34 51.8**	**+0.9**
SSE				AP	pP	08 34 54.0	+1.0
SSE				XP	sP	08 34 56.1	+2.3
SSE				PP	PP	08 36 22.4	+6.0
SSE				S	**S**	**08 40 38.8**	**+3.7**
SSE				AMB	AMB		
	comp=Z,41nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,923nm,7.4s						
SSE				LR	LR		
	comp=N,8μm,16.2s,MS6.0						
SSE				LR	LR		
	comp=E,18μm,16.2s,MS6.0						
SSE				LR	LR		
	comp=Z,26μm,16.9s,MS6.1						
TIY	**Taiyuan**	**37.69**	**22**	PR		08 35 00.0	
TIY				S	**S**	**08 40 46.0**	**-1.9**
TIY				LR	LR		
	comp=N,52μm,16.0s						
TIA	**Tai'an**	**38.44**	**29**	⇑ P	**P**	**08 35 03.4**	**-0.9**
TIA				S	**S**	**08 40 55.8**	**-3.5**
TIA				AMB	AMB		
	comp=Z,2μm,8.0s						
TIA				LR	LR		
	comp=N,6μm,16.8s,MS5.7						
TIA				LR	LR		
	comp=E,6μm,15.9s,MS5.7						
KAKA	**Kakadu**	**40.00**	**114**	*e*P	**P**	**08 35 16.4**	**-1.1**
	comp=E,52nm,1.0s,mb5.2						
MUN	**Mundaring**	**40.18**	**152**	*e*P	**P**	**08 35 20.1**	**+1.3**
	comp=E,29nm,0.7s,mb5.1						
MUN				*e*S	**S**	**08 41 35.4**	**+10**
MUN	**Mundaring**	**40.18**	**152**	*e*P	**P**	**08 35 20.1**	**+1.3**
MUN				pmax	pmax		
	comp=Z,29nm,0.7s,mb5.1						
KLBR	**Kellerberrin**	**40.61**	**150**	*e*P	**P**	**08 35 22.1**	**-0.2**
	comp=Z,111nm,1.5s,mb5.3						
WMQ	**Urumqi**	**41.01**	**351**	P	**P**	**08 35 26.5**	**+1.1**
WMQ				AP	pP	08 35 31.0	+3.5
WMQ				XP	sP	08 35 33.5	+5.1
WMQ				PP	PP	08 37 04.5	+1.3
WMQ				S	**S**	**08 41 38.1**	**+0.3**
WMQ				XS		08 41 45.5	
WMQ				AMB	AMB		
	comp=Z,310nm,1.2s,mb5.8						
WMQ				AMB	AMB		
	comp=Z,1μm,5.8s						
WMQ				LR	LR		
	comp=N,8μm,20.1s,MS5.7						
WMQ				LR	LR		
	comp=E,7μm,23.6s,MS5.7						
WMQ				LR	LR		
	comp=Z,8μm,19.7s,MS5.6						
BJT	**Baijiatuau**	**41.15**	**24**	*e*P	**P**	**08 35 27.8**	**+1.1**
BJT				pmax	pmax		
	comp=Z,57nm,0.8s						
BJT				MLR	MLR		
	comp=Z,13μm,19.0s						
BJT	**Baijiatuau**	**41.15**	**24**	*e*P	**P**	**08 35 27

AAK	**Ala-Archa**	**43.47**	**337**	*c*	*i*P	**P**	**08 35 46.3 +0.7**
AAK					pmax	pmax	
	comp=Z,161nm,2.3s,mb5.3						
AAK	**Ala-Archa**	**43.47**	**337**		*e*P	**P**	**08 35 45.5 -0.1**
	comp=Z,268nm,1.9s,mb5.7						
AAK					LR	LR	
	comp=Z,3μm,20.0s,MS5.2						
FRU	**Bishkek**	**43.59**	**338**⇑		*e*P	**P**	**08 35 48.0 +1.4**
FRU					*e*S	**S**	**08 42 19.0 +3.2**
FRU					*e*		08 45 38.0
FRU					pmax	pmax	
	comp=Z,700nm,2.4s,mb6.0						
FRU					pmax	pmax	
	comp=Z,4μm,6.0s						
FRU					smax		
	comp=N,3μm,7.0s						
FRU					MLR	MLR	
	comp=Z,12μm,18.0s,MS5.8						
CHMS	**Chumysh**	**43.68**	**338**		P	**P**	**08 35 47.9 +0.6**
	SNR=12						
EKS2	**Erkin-Say**	**43.77**	**337**		P	**P**	**08 35 49.8 +1.7**
	SNR=25						
USP	**Ospenovka**	**44.01**	**338**		P	**P**	**08 35 51.1 +1.1**
	SNR=36						
INCN	**Inchon**	**44.49**	**36**		*e*P	**P**	**08 35 53.5 -0.5**
	comp=Z,59nm,1.1s,mb5.2						
INCN					LR	LR	
	comp=Z,13μm,19.0s,MS5.9						
WRAB	**Tennant Creek**	**44.59**	**123**		*i*P	**P**	**08 35 52.9 -2.1**
WRAB	**Tennant Creek**	**44.59**	**123**		*e*P	**P**	**08 35 54.4 -0.6**
	comp=Z,162nm,1.0s,mb5.8						
WRAB					LR	LR	
	comp=Z,4μm,21.0s,MS5.3						
WB2	**Warramunga Arr**	**44.59**	**123**⇑		*i*P	**P**	**08 35 54.8 -0.3**
KS15	**Wonju Array Si**	**45.21**	**37**		*e*P	**P**	**08 35 59.5 -0.3**
ULN	**Ulaanbaatar**	**45.58**	**11**	*c*	*i*P	**P**	**08 36 02.6 0.0**
ULN	**Ulaanbaatar**	**45.58**	**11**		*e*P	**P**	**08 36 02.2 -0.4**
	comp=Z,50nm,1.1s,mb5.4						
ULN					LR	LR	
	comp=Z,24μm,20.0s,MS6.1						
SNY	**Shenyang**	**45.96**	**29**	⇑	P	**P**	**08 36 05.0 -0.6**
SNY					XP	sP	08 36 15.5 +7.0
SNY					PP	PP	08 37 48.6 -5.1
SNY					S	**S**	**08 42 47.3 -2.6**
SNY					SS	SS	08 46 11.6 +4.9
SNY					AMB	AMB	
	comp=Z,60nm,1.1s,mb5.4						
SNY					LR	LR	
	comp=N,20μm,17.4s,MS6.2						
SNY					LR	LR	
	comp=E,9μm,14.7s,MS6.2						
SNY					LR	LR	
	comp=Z,22μm,16.7s,MS6.2						
ZAK	**Zakamensk**	**47.46**	**7**	⇓	*i*P	**P**	**08 36 16.4 -0.9**
MOY	**Mondy**	**48.50**	**5**		*e*P	**P**	**08 36 25.5 +0.1**
MOY					*e*		08 37 53.0
TLY	**Talaya**	**48.78**	**7**		*e*P	**P**	**08 36 27.9 +0.3**
TLY					*e*		08 38 21.3
TLY					*e*PPP	PPP	08 39 18.1 +4.8
TLY					*e*S	**S**	**08 43 31.5 +1.7**
TLY					pmax	pmax	
	comp=Z,38nm,1.1s,mb5.3						
TLY					MLR	MLR	
	comp=Z,15μm,18.0s,MS6.0						
TLY	**Talaya**	**48.78**	**7**		*e*P	**P**	**08 36 27.7 +0.1**
	comp=Z,25nm,0.9s,mb5.2						
TLY					LR	LR	
	comp=Z,3μm,20.0s,MS5.3						
IRK	**Irkutsk**	**49.41**	**7**		*e*P	**P**	**08 36 31.5 -0.9**
HIA	**Hailar**	**50.33**	**20**		*e*P	**P**	**08 36 39.6 +0.1**
HIA					pmax	pmax	
	comp=Z,59nm,1.2s						
HIA					MLR	MLR	
	comp=Z,13μm,21.0s						
HIA	**Hailar**	**50.33**	**20**		*e*P	**P**	**08 36 39.6 +0.1**
	comp=Z,59nm,1.2s,mb5.5						
HIA					LR	LR	
	comp=Z,13μm,21.0s,MS5.9						
LBOS		**50.66**	**285**⇑		*e*P	**P**	**08 36 44.2 +1.7**
MDJ	**Mudanjiang**	**51.00**	**31**		P	**P**	**08 36 44.6 -0.1**
MDJ					PCP	PcP	08 38 00.8 -0.3
MDJ					PP	PP	08 38 40.3 -1.8
MDJ					SCP		08 41 57.2
MDJ					S	**S**	**08 44 03.4 +2.7**
MDJ					SCS	ScS	08 46 36.6 +3.7
MDJ					SS	SS	08 47 38.8 +5.3
MDJ					AMB	AMB	
	comp=Z,54nm,1.5s,mb5.3						
MDJ					AMB	AMB	
	comp=Z,2μm,7.4s						
MDJ					LR	LR	
	comp=N,7μm,25.4s,MS5.8						
MDJ					LR	LR	
	comp=E,9μm,20.7s,MS5.8						
MDJ					LR	LR	
	comp=Z,9μm,20.7s,MS5.8						
MDJ	**Mudanjiang**	**51.00**	**31**		*e*P	**P**	**08 36 44.5 -0.2**
	comp=Z,49nm,1.1s,mb5.3						
MDJ					LR	LR	
	comp=Z,10μm,22.0s,MS5.8						
MAT	**Matsushiro**	**51.43**	**44**		*e*P	**P**	**08 36 47.0 -1.0**
MAT					*e*S	**S**	**08 44 08.0 +1.3**
MAT					pmax	pmax	
	comp=Z,150nm,1.8s,mb5.6						
MAT					MLR	MLR	
	comp=Z,10μm,22.0s,MS5.8						
MAT	**Matsushiro**	**51.43**	**44**		*e*P	**P**	**08 36 47.0 -1.0**
	comp=Z,150nm,1.8s,mb5.6						
MAT					*e*S	**S**	**08 44 08.0 +1.3**
MAT					LR	LR	
	comp=Z,10μm,22.0s,MS5.8						
MAT	**Matsushiro**	**51.43**	**44**		P	**P**	**08 36 46.8 -1.2**
MAT					S	**S**	**08 44 07.0 +0.3**
MAJO	**Matsushiro**	**51.43**	**44**		*e*P	**P**	**08 36 46.7 -1.3**
MAJO					pmax	pmax	
	comp=Z,220nm,2.0s,mb5.7						
MAJO					MLR	MLR	
	comp=Z,9μm,22.0s,MS5.8						
MAJO	**Matsushiro**	**51.43**	**44**		*e*P	**P**	**08 36 46.6 -1.4**
	comp=Z,220nm,2.0s,mb5.7						
MAJO					LR	LR	
	comp=Z,9μm,22.0s,MS5.8						
NVS	**Novosibirsk**	**52.41**	**351**		*i*P	**P**	**08 36 53.8 -1.4**
NVS					*e*S	**S**	**08 44 16.8 -3.1**
NVS					*e*		08 46 34.4
NVS					pmax	pmax	
	comp=N,196nm,1.6s						
NVS					pmax	pmax	
	comp=E,227nm,1.6s						
NVS					pmax	pmax	
	comp=Z,351nm,1.6s,mb6.0						
NVS					smax		
	comp=N,154nm,2.8s						
NVS					smax		
	comp=E,380nm,2.8s						
PMG	**Port Moresby**	**53.02**	**104**		*e*P	**P**	**08 36 59.4 -1.0**
PMG					pmax	pmax	
	comp=Z,61nm,0.9s						
PMG					MLR	MLR	
	comp=Z,4μm,19.0s						
PMG	**Port Moresby**	**53.02**	**104**		*e*P	**P**	**08 36 59.4 -1.0**
	comp=Z,61nm,0.9s,mb5.5						
PMG					LR	LR	
	comp=Z,4μm,19.0s,MS5.5						
CTA	**Charters Tower**	**54.97**	**117**⇑		*i*P	**P**	**08 37 14.6 0.0**
	comp=Z,72nm,1.1s,mb5.6						
CTA					*e*S	**S**	**08 44 54.7 -0.2**
CTA	**Charters Tower**	**54.97**	**117**⇑		*i*P	**P**	**08 37 14.6 0.0**
CTA					*e*S	**S**	**08 44 54.7 -0.2**
CTA					pmax	pmax	
	comp=Z,72nm,1.1s						
CTAO	**Charters Tower**	**54.97**	**117**		*e*P	**P**	**08 37 13.8 -0.8**
CTAO					pmax	pmax	
	comp=Z,188nm,1.3s,mb6.0						
CTAO					MLR	MLR	
	comp=Z,5μm,19.0s,MS5.6						
CTAO	**Charters Tower**	**54.97**	**117**		*e*P	**P**	**08 37 13.8 -0.7**
	comp=Z,188nm,1.3s,mb6.0						
CTAO					LR	LR	
	comp=Z,5μm,19.0s,MS5.6						
KLR	**Kul'dur**	**55.27**	**28**	⇓	*i*P	**P**	**08 37 14.0 -2.4**
KLR					*e*		08 39 19.5
KLR					*e*S	**S**	**08 44 55.5 -3.1**
KLR					*e*		08 48 43.5
KLR					pmax	pmax	
	comp=N,180nm,2.4s						
KLR					pmax	pmax	
	comp=E,270nm,2.4s						
KLR					pmax	pmax	
	comp=Z,400nm,2.4s,mb6.0						
KLR					pmax	pmax	
	comp=N,1μm,12.0s						
KLR					pmax	pmax	
	comp=E,900nm,12.0s						
KLR					pmax	pmax	
	comp=Z,3μm,12.0s						
KLR					smax		
	comp=N,3μm,13.0s						
KLR					smax		
	comp=E,3μm,13.0s						
KLR					MLR	MLR	
	comp=Z,42μm,14.0s,MS6.7						
STKA	**Stephens Creek**	**56.00**	**132**⇑		*i*P	**P**	**08 37 21.2 -0.6**
	comp=Z,26nm,1.8s,mb5.0						
STKA					*e*S	**S**	**08 45 29.0 +20**
BHD	**Baghdad**	**56.22**	**308**		*e*P	**P**	**08 37 16.0 -7.4**
BHD					*e*S	tx	08 43 53.0
BOD	**Bodaibo**	**56.38**	**12**		*i*P	**P**	**08 37 24.0 -0.2**
MAK	**Makhachkala**	**58.07**	**320**		*e*P	**P**	**08 37 34.0 -2.4**
MAK					pmax	pmax	
	comp=Z,2μm,8.0s						
MSL	**Mosul**	**58.30**	**311**		*e*P	**P**	**08 37 38.5 +0.4**
MSL					*e*pP	pP	08 37 54.0 +14
MSL					*e*PP	tx	08 38 47.0
MSL					*e*S	tx	08 45 06.5
MSL					*e*ScS	tx	08 47 07.5
HKR	**Hakkari**	**58.30**	**313**		*e*P	**P**	**08 37 38.6 +0.5**
KMBO	**Kilima Mbogo**	**58.34**	**267**		*i*P	**P**	**08 37 39.6 +1.0**
KMBO					pmax	pmax	
	comp=Z,21nm,0.9s						
KMBO	**Kilima Mbogo**	**58.34**	**267**		*e*P	**P**	**08 37 38.9 +0.3**
	comp=Z,69nm,1.3s,mb5.5						
KMBO					LR	LR	
	comp=Z,4μm,19.0s,MS5.6						
CLNS	**Chul'man**	**58.36**	**18**		*e*P	**P**	**08 37 38.6 +0.4**
CLNS					*e*		08 38 28.1
CLNS					*e*		08 39 41.9
CLNS					*e*PPP	PPP	08 41 05.5 -6.6
CLNS					*e*S	**S**	**08 45 43.4 +4.0**
CLNS					pmax	pmax	
	comp=Z,68nm,1.5s,mb5.5						
CLNS					pmax	pmax	
	comp=N,43nm,1.6s						
CLNS					pmax	pmax	
	comp=E,26nm,1.4s						
CLNS					pmax	pmax	
	comp=Z,14nm,1.1s,mb4.9						
CLNS					pmax	pmax	
	comp=N,12nm,0.9s						
CLNS					pmax	pmax	
	comp=E,9.0nm,1.0s						
CLNS					smax		
	comp=N,2μm,9.8s						
CLNS					smax		
	comp=Z,1μm,7.6s						
CLNS					smax		
	comp=E,444nm,5.7s						
CLNS					MLR	MLR	
	comp=Z,44μm,15.0s,MS6.7						
CLNS					MLR	MLR	
	comp=N,25μm,16.0s,MS6.5						
CLNS					MLR	MLR	
	comp=E,5μm,14.0s,MS6.5						
GNI	**Garni**	**58.63**	**316**		P	**P**	**08 37 40.5 +0.1**
GNI	**Garni**	**58.63**	**316**	*c*	*i*P	**P**	**08 37 40.2 -0.2**
GNI					pmax	pmax	
	comp=Z,100nm,1.8s						
GNI	**Garni**	**58.63**	**316**		*e*P	**P**	**08 37 39.3 -1.1**
	comp=Z,160nm,1.6s,mb5.8						
GNI					LR	LR	
	comp=Z,2μm,21.0s,MS5.3						
DGRG	**David-gareji**	**58.77**	**318**		P	**P**	**08 37 42.4 +1.1**
VANB	**Van**	**58.96**	**314**		*e*P	**P**	**08 37 38.9 -3.7**
STE	**Stepanavan**	**59.23**	**317**		*i*P	**P**	**08 37 43.0 -1.6**
MTA	**Mtatsminda**	**59.27**	**318**		P	**P**	**08 37 44.2 -0.6**
YSS	**Yuzh-Sakhalins**	**59.70**	**36**	α	*e*P	**P**	**08 37 47.6 -0.1**
YSS					*e*		08 38 31.5
YSS					*e*S	**S**	**08 45 58.0 +1.0**
YSS					*e*PPS	PPS	08 46 23.0 +2.7
YSS					pmax	pmax	
	comp=Z,230nm,1.3s,mb6.0						
YSS					pmax	pmax	
	comp=Z,2μm,7.5s						
YSS					pmax	pmax	
	comp=N,700nm,4.0s						
YSS					pmax	pmax	
	comp=E,1μm,4.0s						
YSS					smax		
	comp=E,1μm,14.0s						
YSS					MLR	MLR	
	comp=N,5μm,17.0s,MS5.9						
YSS					MLR	MLR	
	comp=E,5μm,17.0s,MS5.9						
YSS					MLR	MLR	
	comp=Z,8μm,17.0s,MS5.9						
YSS	**Yuzh-Sakhalins**	**59.70**	**36**		*e*P	**P**	**08 37 46.7 -1.0**
	comp=Z,154nm,1.3s,mb5.9						
YSS					LR	LR	
	comp=Z,11μm,20.0s,MS6.0						
AKH	**Akhalkalaki**	**60.03**	**317**		P	**P**	**08 37 49.3 -0.7**
SVE	**Sverdlovsk**	**60.18**	**339**⇑		*i*P	**P**	**08 37 50.5 -0.3**
SVE					*e*		08 38 39.0
SVE					*e*		08 40 10.0
SVE					*e*PPP	PPP	08 41 33.0 +1.1
SVE					*i*S	**S**	**08 46 03.0 0.0**
SVE							08 47 34.0
SVE					pmax	pmax	
	comp=Z,450nm,2.2s,mb6.1						
SVE					smax		
	comp=N,2μm,8.6s						
SVE					smax		
	comp=E,2μm,8.6s						
SVE					MLR	MLR	
	comp=Z,9μm,19.0s,MS5.9						
BTMT	**Batman**	**60.19**	**313**		*e*P	**P**	**08 37 50.0 -1.2**
BEST	**Besiri**	**60.24**	**312**		*i*P	**P**	**08 37 51.0 -0.5**
VRT	**Varto**	**60.50**	**314**		P	**P**	**08 37 54.0 +0.7**
ONI	**Oni**	**60.55**	**318**		P	**P**	**08 37 53.1 -0.4**
ARU	**Arti**	**60.66**	**338**⇑		*i*P	**P**	**08 37 52.9 -1.2**
ARU					*e*		08 38 35.0
ARU					*e*PPP	PPP	08 41 33.7 -3.5
ARU					*i*S	**S**	**08 46 09.0 -0.1**
ARU					*e*		08 47 40.5
ARU					*e*SS	SS	08 50 07.4 -1.4
ARU					pmax	pmax	
	comp=Z,54nm,1.0s,mb5.6						
ARU					MLR	MLR	
	comp=N,4μm,19.0s,MS5.8						
ARU					MLR	MLR	
	comp=Z,8μm,19.0s,MS5.9						
ARU					MLR	MLR	
	comp=E,6μm,20.0s,MS5.8						
ERZM	**Erzurum**	**60.91**	**315**		*i*P	**P**	**08 37 55.1 -0.9**
EZM	**Erzurum**	**60.91**	**315**		P	**P**	**08 37 56.5 +0.5**
BCA	**Borcka**	**61.33**	**316**		*e*P	**P**	**08 37 58.2 -0.6**
TOO	**Toolangi**	**61.60**	**136**		*e*P	**P**	**08 38 01.8 +1.1**
	comp=E,19nm,1.6s,mb5.0						
TOO	**Toolangi**	**61.60**	**136**		*e*P	**P**	**08 38 01.8 +1.1**
TOO					pmax	pmax	
	comp=Z,19nm,1.6s,mb5.0						
KIV	**Kislovodsk**	**61.65**	**319**		P	**P**	**08 38 00.8 -0.2**
	comp=Z,243nm,0.9s,mb6.3,SNR=17						
KIV	**Kislovodsk**	**61.65**	**319**	*c*	*i*P	**P**	**08 38 00.0 -1.0**
KIV					*e*		08 38 42.5
KIV					*e*		08 40 18.8
KIV					*i*S	**S**	**08 46 27.9 +6.0**
KIV					pmax	pmax	
	comp=Z,31nm,0.9s,mb5.4						
KIV					MLR	MLR	
	comp=Z,2μm,19.0s,MS5.3						
GOF	**Gofitskoye**	**61.90**	**320**⇑		*e*P	**P**	**08 38 01.0 -1.7**
GOF					pmax	pmax	
	comp=Z,3μm,5.0s						
GOF					pmax	pmax	
	comp=Z,80nm,2.0s,mb5.5						
URFA	**Urfa**	**61.91**	**311**		P	**P**	**08 38 03.5 +0.7**
EZC	**Erzincan**	**61.96**	**314**		*e*P	**P**	**08 38 04.0 +0.8**
PTK	**Pertek**	**61.97**	**313**		P	**P**	**08 38 04.2 +1.0**
ELZG	**Elazig**	**62.14**	**312**		*i*P	**P**	**08 38 04.6 +0.2**
GUMT	**Gumushane**	**62.46**	**315**		P	**P**	**08 38 06.4 0.0**
MALT	**Malatya**	**62.49**	**312**		P	**P**	**08 38 07.7 +1.0**
MALT	**Malatya**	**62.49**	**312**		*e*P	**P**	**08 38 06.2 -0.5**
MALT					pmax	pmax	
	comp=Z,38nm,1.1s,mb5.4						
MALT	**Malatya**	**62.49**	**312**		*e*P	**P**	**08 38 06.2 -0.5**
	comp=Z,38nm,1.1s,mb5.4						
MYA	**Malataya**	**62.49**	**312**		P	**P**	**08 38 05.7 -1.0**
DUSS	**Damascus Unive**	**62.73**	**306**		*i*P	**P**	**08 38 10.1 +1.7**
DUSS					*i*P	pP	08 38 10.3 -0.1
DUSS					*i*P	pP	08 38 10.3 -0.1
DUSS					*e*	pP	08 38 14.0 +3.6
	baz=102,slow=18						
DUSS					*e*S	**S**	**08 46 40.3 +4.6**
DUSS					AMS	AMS	09 06 26.8
	comp=N,141μm,16.1s						
DUSS					AMS	AMS	09 06 28.8
	comp=E,80μm,18.7s						
DUSS					AMS	AMS	09 09 49.6
	comp=Z,63μm,20.1s						
GZT	**Gaziantep**	**62.83**	**311**		*i*P	**P**	**08 38 09.1 +0.1**
EIL	**Elat**	**62.91**	**302**		*e*P	**P**	**08 38 08.5 -1.1**
	comp=Z,32nm,0.9s,mb5.4						
GAZ	**Gaziantep**	**63.04**	**310**		P	**P**	**08 38 10.6 +0.2**
CNB	**Canberra Magne**	**63.33**	**132**		*e*P	**P**	**08 38 14.2 +1.9**
	comp=Z,114nm,1.7s,mb5.7						
BHL	**Bhannes**	**63.34**	**306**		*e*P	**P**	**08 38 14.3 +2.0**
KAHT	**Ahir Dag**	**63.44**	**311**		*i*P	**P**	**08 38 13.2 +0.3**
SOC	**Sochi**	**63.46**	**318**		*i*P	**P**	**08 38 11.6 -1.4**
SOC					*e*		08 38 25.0
SOC					*e*		08 40 27.1
SOC					*e*S	**S**	**08 46 48.4 +3.7**
SOC					*e*SS	SS	08 50 51.8 -1.6
SOC					pmax	pmax	
	comp=Z,43nm,0.8s,mb5.6						
SOC					pmax	pmax	
	comp=N,30nm,1.1s						
SOC					pmax	pmax	
	comp=E,8.0nm,0.9s						
SOC					pmax	pmax	
	comp=Z,1μm,4.8s						
COBT	**Iskenderun**	**63.58**	**309**		*i*P	Px	08 38 28.2
SOKR	**Solikamsk**	**63.58**	**339**⇓		*i*P	**P**	**08 38 11.3 -2.3**
SOKR					pmax	pmax	
	comp=Z,60nm,0.9s,mb5.6						
SOKR					MLR	MLR	
	comp=Z,8μm,19.0s,MS5.9						
YAK	**Yakutsk**	**63.99**	**17**	*c*	*i*P	**P**	**08 38 15.4 -0.9**
YAK					*e**PP	pP	08 38 25.7 +7.3
YAK					*e*		08 38 46.8
YAK					*e*		08 40 43.0
YAK					*e*S	**S**	**08 46 50.9 -0.2**
YAK					*e*		08 48 01.4
YAK					pmax	pmax	
	comp=Z,74nm,1.1s,mb5.6						
YAK					pmax	pmax	
	comp=N,27nm,1.0s						
YAK					pmax	pmax	
	comp=E,25nm,1.2s						
YAK					pmax	pmax	
	comp=N,7.0nm,1.0s						
YAK					pmax	pmax	
	comp=Z,8.0nm,1.0s,mb4.7						
YAK					pmax	pmax	
	comp=E,3.0nm,1.1s						
YAK					smax		
	comp=N,754nm,10.5s						
YAK					smax		
	comp=E,411nm,10.5s						
YAK					MLR	MLR	
	comp=N,10μm,16.0s,MS6.2						
YAK					MLR	MLR	
	comp=E,10μm,16.0s,MS6.2						
YAK					MLR	MLR	
	comp=Z,16μm,16.0s,MS6.3						
YAK	**Yakutsk**	**63.99**	**17**		*e*P	**P**	**08 38 15.0 -1.3**
	comp=Z,158nm,1.1s,mb6.0						
YAK					LR	LR	
	comp=Z,12μm,21.0s,MS6.1						
BNN	**Bunyan**	**64.58**	**312**		*i*P	**P**	**08 38 20.1 -0.4**
MBAR	**Mbarara**	**64.80**	**268**		*e*P	**P**	**08 38 20.9 -1.4**
MBAR					pmax	pmax	
	comp=Z,44nm,1.1s,mb5.4						
MBAR					MLR	MLR	
	comp=Z,554nm,21.0s						
MBAR	**Mbarara**	**64.80**	**268**		*e*P	**P**	**08 38 20.9 -1.4**
	comp=Z,44nm,1.1s,mb5.4						
MBAR					LR	LR	
	comp=Z,554nm,21.0s						
KVT	**Kavak**	**65.12**	**314**		*e*P	**P**	**08 38 23.7 -0.2**
MEST	**Erdemli**	**65.23**	**309**		*i*P	**P**	**08 38 24.3 -0.4**
NIG	**Nigde**	**65.29**	**311**		P	**P**	**08 38 24.8 -0.3**
CSS	**Prodhromos**	**65.46**	**307**		*e*P	**P**	**08 38 25.4 -0.8**
	comp=Z,42nm,1.1s,mb5.4						
CTKT	**Corum**	**65.89**	**313**		*i*P	**P**	**08 38 28.1 -0.7**
BOYT	**Boyabat**	**66.05**	**314**		*i*P	**P**	**08 38 29.4 -0.4**
BYBT	**Boyabat**	**66.16**	**314**		*e*P	**P**	**08 38 28.0 -2.6**
KAMT	**Kaman**	**66.31**	**312**		P	**P**	**08 38 30.4 -1.2**
TOS	**Tosya**	**66.56**	**314**		*e*P	**P**	**08 38 32.3 -0.8**
HDMB	**Hadim**	**66.62**	**309**		*e*P	**P**	**08 38 31.8 -1.8**
CANT	**Cankiri**	**66.73**	**313**		*e*P	**P**	**08 38 34.2 0.0**
PECR	**Pechory**	**66.82**	**332**		*e*P	**P**	**08 38 32.6 -1.9**
PECR					pmax	pmax	
	comp=Z,2μm,10.0s						
ELDT	**Eldivan**	**66.84**	**313**		*i*P	**P**	**08 38 34.3 -0.6**
BZK	**Bozkurt**	**66.85**	**315**		P	**P**	**08 38 35.5 +0.5**
VOR	**Voronezh**	**67.13**	**326**		*e*P	**P**	**08 38 35.0 -1.6**
VOR					pmax	pmax	
	comp=Z,250nm,2.0s,mb5.9						
ANTO	**Ankara**	**67.14**	**312**		P	**P**	**08 38 35.2 -1.7**
LOD	**Lodumlu**	**67.16**	**312**		*e*P	**P**	**08 38 38.2 +1.2**
BALT	**Daday**	**67.17**	**314**		*i*P	**P**	**08 38 37.2 +0.1**
KIZT	**Kizilcal**	**67.56**	**311**		*e*P	**P**	**08 38 38.1 -1.5**
SAFT	**Safranbolu**	**67.59**	**314**		P	**P**	**08 38 39.0 -0.7**
SIM	**Simferopol'**	**67.70**	**318**	*c*	*e*P	**P**	**08 38 39.7 -0.6**
SIM					*e*S	S	08 47 33.0 -3.6
SIM					pmax	pmax	
	comp=Z,50nm,0.9s,mb5.5						
SGKT	**Sivrigoynuk**	**67.87**	**313**		*i*P	**P**	**08 38 40.0 -1.4**
ISP	**Isparta**	**68.35**	**310**		P	**P**	**08 38 42.5 -2.1**
ISP	**Isparta**	**68.35**	**310**		*i*P	**P**	**08 38 44.1 -0.4**
MDU	**Mudurnu**	**68.46**	**312**		*e*P	**P**	**08 38 44.1 -1.0**
ESKT	**Eskisehir**	**68.49**	**311**		P	**P**	**08 38 44.7 -0.7**
ESKT	**Eskisehir**	**68.49**	**311**		*i*P	**P**	**08 38 44.4 -1.0**
ELL	**Elmali**	**68.58**	**308**		P	**P**	**08 38 45.2 -0.7**
ALT	**Altintas**	**68.94**	**311**		P	**P**	**08 38 47.4 -0.7**
LSZ	**Lusaka**	**69.04**	**252**		*e*P	**P**	**08 38 48.7 -0.4**
LSZ					pmax	pmax	
	comp=Z,170nm,1.8s,mb5.7						
LSZ					MLR	MLR	
	comp=Z,5μm,19.0s,MS5.8						
LSZ	**Lusaka**	**69.04**	**252**		*e*P	**P**	**08 38 48.6 -0.4**
	comp=Z,170nm,1.8s,mb5.7						
LSZ					LR	LR	
	comp=Z,5μm,19.0s,MS5.8						
FETY	**Fethiye**	**69.20**	**308**		*i*P	**P**	**08 38 48.6 -1.1**
SKR	**Severo-Kuril's**	**69.25**	**36**		*e*P	**P**	**08 38 46.9 -2.9**
SKR					*e*		08 39 02.0
SKR					*e*		08 39 14.0
SKR					*e*S	S	08 47 58.0 +3.1
SKR					*e*		08 48 25.0
SKR					*e*PS	PS	08 48 44.0 +22
SKR					pmax	pmax	
	comp=Z,20nm,1.2s,mb4.9						
SKR					pmax	pmax	
	comp=Z,3μm,14.0s						
SKR					smax		
	comp=E,5μm,10.0s						
SKR					smax		
	comp=N,3μm,14.0s						
SKR					MLR	MLR	
	comp=N,5μm,16.0s,MS6.0						
SKR					MLR	MLR	
	comp=E,6μm,16.0s,MS6.0						
SKR					MLR	MLR	
	comp=Z,10μm,16.0s,MS6.2						
DALT	**Dalyan (Mudla)**	**69.58**	**308**		*e*P	**P**	**08 38 50.5 -1.6**
HRT	**Hereke**	**69.69**	**312**		*e*P	**P**	**08 38 53.4 +0.7**
MOS	**Moscow**	**69.71**	**329**	α	*i*P	**P**	**08 38 52.2 -0.3**
MOS					*e*		08 39 14.0
MOS					*e*S	S	08 47 59.2 -1.1
MOS					pmax	pmax	
	comp=Z,382nm,1.8s,mb6.0						
YLV	**Yalova**	**69.84**	**312**		*e*P	**P**	**08 38 50.5 -3.1**
ULDT	**Uludag**	**69.92**	**312**		*i*P	**P**	**08 38 53.8 -0.3**
OBN	**Obninsk**	**69

OBN e 08 39 08.1
OBN e 08 39 16.1
OBN e 08 41 28.8
OBN eS S 08 47 57.0 -6.6
OBN ePS PS 08 48 28.2 -2.9
OBN i 08 48 56.6
OBN SS SS 08 52 33.0 -1.2
OBN pmax pmax
comp=Z,227nm,1.7s,mb5.8
OBN Obninsk 69.99 328 eP **P 08 38 53.1 -1.1**
comp=Z,395nm,1.6s,mb6.1
OBN LR LR
comp=Z,1μm,20.0s,MS5.1
CASY Casey 70.19 174⇓ iP **P 08 38 56.2 +0.9**
CASY eS S 08 48 09.9 +4.2
ISK Istanbul-Kandi 70.19 313 eP **P 08 38 53.8 -1.9**
MA2 Magadan 70.29 26 eP **P 08 38 55.7 -0.3**
MA2 pmax pmax
comp=Z,197nm,1.5s,mb5.8
MA2 MLR MLR
comp=Z,9μm,19.0s,MS6.0
MA2 Magadan 70.29 26 eP **P 08 38 55.7 -0.3**
comp=Z,197nm,1.5s,mb5.8
MA2 LR LR
comp=Z,9μm,19.0s,MS6.0
AKS Akhisar 70.65 310 i P **P 08 38 58.1 -0.5**
BTOK Tokmak 70.67 311 i P **P 08 38 58.0 -0.6**
BALB Balikesir 70.76 311 P **P 08 38 58.6 -0.6**
BNT Bandirma 70.88 312 i P **P 08 38 59.4 -0.5**
KDAG Bornova 70.97 310 i P **P 08 38 59.2 -1.3**
IZM Izmir 70.97 309 eP **P 08 38 59.8 -0.7**
MRMT Marmara Adasi 71.17 312 eP **P 08 38 59.8 -1.9**
TIXI Tiksi 71.52 11⇑ iP **P 08 39 02.5 -0.8**
TIXI eS S 08 48 21.9 +0.8
TIXI pmax pmax
comp=Z,301nm,2.1s,mb5.9
TIXI pmax pmax
comp=N,346nm,3.8s
TIXI pmax pmax
comp=E,64nm,2.5s
TIXI pmax pmax
comp=Z,725nm,2.2s,mb6.2
TIXI MLR MLR
comp=Z,11μm,15.0s,MS6.2
TIXI MLR MLR
comp=N,8μm,19.0s,MS6.2
TIXI MLR MLR
comp=E,5μm,14.0s,MS6.2
TIXI Tiksi 71.52 11 i P **P 08 39 02.0 -1.3**
TIXI LR LR
comp=Z,13μm,19.0s,MS6.2
PET Petropavlovsk 71.55 35 eP **P 08 39 03.5 -0.3**
PET eS S 08 48 25.0 +3.2
PET pmax pmax
comp=Z,62nm,1.1s,mb5.5
PET pmax pmax
comp=Z,800nm,12.6s
PET smax
comp=E,1μm,25.2s
PET MLR MLR
comp=Z,6μm,18.0s,MS5.9
PET MLR MLR
comp=Z,6μm,16.0s
PET Petropavlovsk 71.55 35 PFAKE 08 39 20.0 +16
PET LR LR
comp=Z,7μm,20.0s,MS5.9
AYVA Ayvalik 71.59 310 i P **P 08 39 02.5 -1.8**
CFR Carcaliu 71.83 317⇓ iP **P 08 39 05.5 -0.1**
CFR Carcaliu 71.83 317⇓ iP **P 08 39 05.4 -0.2**
KIS Kishinev 71.84 319 eP **P 08 39 05.0 -0.6**
KIS e 08 39 28.0
KIS e 08 48 24.0
KIS MLR MLR
comp=Z,2μm,20.0s,MS5.3
KIS MLR MLR
comp=Z,2μm,20.0s
HARR Harsova 71.86 316⇓ iP **P 08 39 05.8 +0.1**
PRD Provadia 71.88 314 eP **P 08 39 06.0 +0.1**
EDRB Edirne 72.06 313 eP **P 08 39 04.5 -2.5**
BOZC Bozcaada 72.18 311 i P **P 08 39 05.9 -1.8**
SEY Seymchan 72.61 24 eP **P 08 39 10.4 +0.6**
SEY e 08 39 27.2
SEY 08 41 53.9
SEY ePPP PPP 08 43 38.1 +2.2
SEY eS S 08 48 34.7 +1.0
SEY e 08 49 16.7
SEY SS SS 08 53 14.2 -0.7
SEY pmax pmax
comp=Z,240nm,1.5s,mb5.9
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY pmax pmax
comp=E,150nm,2.0s
SEY smax
comp=N,3μm,18.5s
SEY smax
comp=E,5μm,21.5s
SEY MLR MLR
comp=Z,56μm,18.0s,MS6.9
SEY MLR MLR
comp=N,30μm,19.0s,MS6.7
SEY MLR MLR
comp=E,26μm,17.0s,MS6.7
ISR Istrita 72.92 316⇓ iP **P 08 39 13.2 +1.2**
VRI Vrincioaia 72.96 317⇑ iP **P 08 39 12.8 +0.6**
DIM Dimitrovgrad 72.99 313 eP **P 08 39 12.0 -0.5**
LBTB Lobatse 73.23 243 eP **P 08 39 13.7 -0.6**
LBTB pmax pmax
comp=Z,42nm,1.0s,mb5.3
LBTB MLR MLR
comp=Z,9μm,19.0s,MS6.1
LBTB Lobatse 73.23 243 eP **P 08 39 13.7 -0.6**
comp=Z,42nm,1.0s,mb5.3
LBTB LR LR
comp=Z,9μm,19.0s,MS6.1
PVL Pavlikeni 73.36 314 eP **P 08 39 15.0 +0.3**
MLR Muntele Rosu 73.41 317⇑ iP **P 08 39 15.3 +0.4**
RZN Rozhen 73.52 312 eP **P 08 39 15.0 -0.6**
NOUC Port Laguerre 73.57 114 eP **P 08 39 17.0 +0.7**
DZM Mont Dzumac 73.69 114 eP **P 08 39 17.6 +0.6**
PGB Panagyurishte 74.08 313 eP **P 08 39 19.0 +0.2**
MMB Musomiste 74.23 312 eP **P 08 39 19.0 -0.7**
MAW Mawson 74.29 192 eP **P 08 39 19.5 0.0**
MAW pmax pmax
comp=Z,522nm,2.1s
MAW MLR MLR
comp=Z,10μm,22.0s
MAW Mawson 74.29 192 eP **P 08 39 19.5 0.0**
comp=Z,522nm,2.1s,mb6.1
MAW LR LR
comp=Z,10μm,22.0s,MS6.1
BOSA Boshof 74.29 239 PFAKE 08 39 30.0 +10
BOSA LR LR
comp=Z,4μm,20.0s,MS5.7
MNK Minsk 74.51 326 eP **P 08 39 19.0 -2.0**
KKB Krupnik 74.75 312 eP **P 08 39 22.0 -0.7**
VTS Vitosha 74.78 313 eP **P 08 39 20.5 -2.4**
PUL Pulkovo 74.89 332 eP **P 08 39 22.8 -0.4**
PUL i 08 39 37.9
PUL eS S 08 48 51.8 -7.6
PUL pmax pmax
comp=N,75nm,0.6s
PUL pmax pmax
comp=Z,80nm,0.6s,mb5.8
PUL pmax pmax
comp=E,227nm,1.0s
PUL smax
comp=Z,299nm,7.3s
PUL smax
comp=N,756nm,14.5s
PUL smax
comp=E,780nm,11.0s
VAY Valandovo 75.05 312 i P **P 08 39 24.8 +0.4**
LVV L'vov 75.61 321 eP **P 08 39 27.5 0.0**
LVV e 08 42 23.5
LVV ePPP PPP 08 44 04.5 -0.6
LVV eS S 08 49 08.1 +0.6
LVV ePS PS 08 49 51.1 +5.9
BOLS Boljevac 75.89 314⇑ iP **P 08 39 27.7 -1.5**
SKO Skopje 75.98 312 eP **P 08 39 28.5 -1.3**
VSU Vasula 76.23 330 i P **P 08 39 31.2 +0.4**
VSU Vasula 76.23 330 i P **P 08 39 31.3 +0.5**
OHR Ohrid 76.34 311⇑ iP **P 08 39 30.2 -1.6**
LVZ Lovozero 76.35 340 eP **P 08 39 31.5 +0.2**

LVZ i 08 39 42.3
LVZ i 08 42 20.2
LVZ eS S 08 49 12.8 -2.4
LVZ i 08 49 38.8
LVZ i 08 49 43.3
LVZ i SS SS 08 54 06.7 -5.6
LVZ pmax pmax
comp=Z,86nm,1.3s,mb5.5
LVZ pmax pmax
comp=N,13nm,1.0s
LVZ pmax pmax
comp=E,40nm,1.4s
LVZ smax
comp=Z,497nm,15.1s
LVZ smax
comp=N,909nm,15.4s
LVZ smax
comp=E,1μm,13.5s
LVZ smax
comp=N,812nm,4.3s
LVZ smax
comp=Z,674nm,3.8s
LVZ smax
comp=E,623nm,3.5s
LVZ MLR MLR
comp=Z,7μm,20.0s,MS6.0
LVZ MLR MLR
comp=N,3μm,19.0s,MS5.9
LVZ MLR MLR
comp=E,5μm,20.0s,MS5.9
LVZ Lovozero 76.35 340 i P **P 08 39 31.3 0.0**
KWP Kalwaria 76.41 320 eP **P 08 39 32.5 +0.5**
KWP MLR MLR 09 14 56.6
comp=E,2μm,26.1s,MS5.2
KOLS Kolonicke sedl 76.56 320 i P **P 08 39 33.7 +0.9**
DRV Dumont d'Urvil 76.57 163 P **P 08 39 33.0 +0.4**
APA Apatity 76.63 340⇓ iP **P 08 39 33.0 +0.1**
APA i 08 39 47.7
APA eS S 08 49 21.0 +2.7
APA pmax pmax
comp=Z,52nm,1.0s,mb5.4
APA MLR MLR
comp=Z,16μm,18.0s,MS6.4
GRUS Gruza 76.79 314⇑ iP **P 08 39 33.5 -0.7**
SUW Suwalki 77.03 325 eP **P 08 39 35.2 -0.2**
SUW MLR MLR 09 20 49.7
comp=Z,2μm,21.8s,MS5.4
CRVS Cervenica-Dubn 77.08 319 i P **P 08 39 37.8 +2.1**
BEO Belgrade 77.11 315⇑ iP **P 08 39 35.7 -0.3**
DIVS Divcibare 77.33 314⇓ iP **P 08 39 37.1 -0.2**
KAF Kangasniemi 77.50 333 ep **P 08 39 37.2 -0.6**
comp=Z,40nm,0.9s,mb5.3
KAF Kangasniemi 77.50 333 eP **P 08 39 37.2 -0.6**
KAF pmax pmax
comp=Z,40nm,0.9s,mb5.3
NIE Niedzica 77.91 320⇑ eP **P 08 39 41.1 +0.8**
PSZ Piszkesteto 77.95 318 eP **P 08 39 40.6 +0.1**
PSZ pmax pmax
comp=Z,127nm,1.6s,mb5.6
PSZ Piszkesteto 77.95 318 eP **P 08 39 40.6 +0.1**
comp=Z,127nm,1.6s,mb5.6
PSZ Piszkesteto 77.95 318⇑ eP **P 08 39 41.1 +0.6**
OJC Ojcow 78.36 321 eP **P 08 39 43.5 +0.7**
VYHS Vyhne 78.73 319 i P **P 08 39 44.6 -0.2**
SUR Sutherland 78.81 236 PFAKE 08 40 00.0 +14
SUR LR LR
comp=Z,1μm,19.0s,MS5.2
SRO Srobarova 78.99 318 i P **P 08 39 47.5 +1.2**
TIP Timpagrande 79.21 309 eP **P 08 39 47.6 -0.1**
OKC Ostrava-Krasne 79.36 320⇑ iP **P 08 39 48.5 +0.2**
OKC ex x 08 40 04.7
OKC AMS AMS 09 20 30.0
comp=Z,1μm,19.0s
RAC Raciborz 79.36 320 eP **P 08 39 49.0 +0.7**
RAC MLR MLR 09 27 16.0
comp=Z,2μm,18.0s,MS5.5
KEV Kevo 79.63 341 ep **P 08 39 48.9 -0.4**
SMOL Smolenice 79.66 319 i P **P 08 39 50.5 +0.6**
MORC Moravsky Berou 79.74 320 eP **P 08 39 49.4 -0.9**
MORC pmax pmax
comp=Z,150nm,1.8s,mb5.6
MORC Moravsky Berou 79.74 320 eP **P 08 39 49.4 -0.9**
comp=Z,150nm,1.8s,mb5.6
ZST Bratislava 79.84 318 i P **P 08 39 52.1 +1.2**
BILL Bilibino 79.91 21 i P **P 08 39 50.8 -0.1**
BILL pmax pmax
comp=Z,96nm,2.3s,mb5.3
BILL Bilibino 79.91 21 eP **P 08 39 49.8 -1.1**
comp=Z,166nm,1.9s,mb5.6
BILL LR LR
comp=Z,12μm,19.0s,MS6.2
ARE0 ARCESS Array S 80.06 340 eP **P 08 39 51.5 -0.1**
JCZ Jackson Bay 80.33 136 eP **P 08 39 54.3 +0.7**
VKA Vienna 80.37 318⇑ iP **P 08 39 54.6 +0.9**
comp=Z,560nm,2.5s,mb6.0
VKA Vienna 80.37 318⇑ iP **P 08 39 54.6 +0.9**
VKA pmax pmax
comp=Z,560nm,2.5s,mb6.0
SMY Shemya 80.57 37 PFAKE 08 40 10.0 +15
SMY LR LR
comp=Z,18μm,19.0s,MS6.4
DPC Dobruska-Polom 80.59 320⇑ iP **P 08 39 55.9 +1.1**
DPC ex x 08 40 11.1
DPC AMS AMS 09 24 50.0
comp=Z,2μm,20.3s
KSP Ksiaz 80.66 321⇑ eP **P 08 39 56.2 +1.0**
KSP e 08 40 11.1
KSP eS S 08 49 59.0 -2.6
KSP MLR MLR
comp=Z,4μm,19.5s,MS5.8
KSP Ksiaz 80.66 321 eP **P 08 39 56.3 +1.1**
KSP MLR MLR 09 21 30.1
comp=Z,4μm,19.5s,MS5.8
KTK1 Kautokeino 80.68 340⇑ iP **P 08 39 55.5 +0.6**
comp=Z,227nm,1.7s,mb5.8
KTK1 Kautokeino 80.68 340⇑ iP **P 08 39 55.5 +0.6**
KTK1 AMb AMB 08 40 00.9
comp=Z,227nm,1.7s,mb5.8
ARSA Arzberg 80.81 317⇑ iP **P 08 39 56.9 +0.9**
comp=Z,48nm,1.3s,mb5.3
UPC Upice 80.81 321⇑ eP **P 08 39 57.0 +1.1**
SYO Syowa Base 81.38 198 ⇑P **P 08 40 00.9 +2.3**
SYO Syowa Base 81.38 198 ⇓pP pP 08 40 03.2 +2.4
SYO Syowa Base 81.38 198 ⇓PcP PcP 08 40 04.9 -0.3
OBKA Obir 81.41 316⇑ iP **P 08 40 00.0 +0.8**
comp=Z,59nm,1.9s,mb5.2
PRU Pruhonice 81.69 320⇑ iP **P 08 40 01.1 +0.5**
PRU ex x 08 40 18.0
PRU AMS AMS 09 22 00.0
comp=Z,2μm,20.0s
MOA Molln 81.70 318⇑ iP **P 08 40 01.3 +0.6**
comp=Z,25nm,1.5s,mb4.9
PVCC Panska Ves 81.72 320⇑ eP **P 08 40 01.5 +0.8**
VOY Vojsko 81.83 316 eP **P 08 40 01.7 +0.3**
VOY e 08 40 14.0
AQU L'Aquila 81.96 312 eP **P 08 40 02.4 +0.2**
AQU pmax pmax
comp=Z,70nm,1.2s,mb5.5
AQU L'Aquila 81.96 312 eP **P 08 40 02.4 +0.2**
comp=Z,70nm,1.2s,mb5.5
DSZ Denniston Nort 81.99 133 eP **P 08 40 05.0 +2.7**
BRG Berggiesshubel 82.15 321 eP **P 08 40 03.9 +1.0**
BRG pmax pmax
comp=Z,21nm,1.2s,mb4.9
BRG MLR MLR
comp=Z,3μm,20.7s,MS5.6
BRG Berggiesshubel 82.15 321 eP **P 08 40 03.9 +1.0**
comp=Z,21nm,1.2s,mb4.9
BRG i pP 08 40 06.8 +1.7
BRG i 08 40 25.6
BRG eS S 08 49 59.0 -18
BRG eSS SS 08 55 15.0 -25
BRG LR LR
comp=Z,3μm,20.7s,MS5.6
GEC2 GERESS Array S 82.15 319 eP **P 08 40 04.0 +1.0**
GEC2 e*PP pP 08 40 19.5 +14
GEC2 pmax pmax
comp=Z,204nm,1.9s,mb5.7
GEC2 GERESS Array S 82.15 319 eP **P 08 40 04.0 +1.0**
comp=Z,204nm,1.9s,mb5.7
GEC2 epP pP 08 40 19.5 +14
KHC Kasperske Hory 82.25 319⇑ iP **P 08 40 03.7 +0.2**
KHC eS S 08 50 22.9 +4.9
KHC MLR MLR
comp=Z,2μm,19.7s,MS5.4

KHC Kasperske Hory 82.25 319⇑ iP **P 08 40 03.7 +0.2**
KHC ex x 08 40 23.6
KHC eS S 08 50 22.9 +4.9
KHC AMS AMS 09 24 50.0
comp=Z,2μm,19.7s
TRO Tromso 82.31 340 eP **P 08 40 03.1 -0.3**
TRO eS S 08 50 13.4 -4.7
TRO AMS AMS 09 20 10.2
comp=Z,6μm,17.2s,MS6.0
RUE Ruedersdorf 82.38 322 eP **P 08 40 04.1 0.0**
comp=Z,57nm,1.0s,mb5.5
WET Wettzell 82.71 319 eP **P 08 40 06.7 +0.8**
CLL Collm 82.77 321⇓ iP **P 08 40 05.5 -0.7**
CLL MLR MLR
comp=Z,2μm,21.0s,MS5.5
CLL Collm 82.77 321⇓ iP **P 08 40 05.5 -0.7**
comp=Z,logA/T=2.1,mb5.9
CLL i 08 40 28.0
CLL i 08 41 19.4
NKC Novy Kostel 83.06 320⇑ eP **P 08 40 08.5 +0.8**
NKC ex x 08 40 23.6
NKC AMS AMS 09 22 40.0
comp=Z,2μm,20.0s
BJO Bjornoya 83.25 345 AMS AMS 09 21 45.4
comp=Z,2μm,18.7s,MS5.4
MOR8 Moi Rana 83.43 336⇑ iP **P 08 40 09.4 +0.1**
comp=Z,167nm,1.8s,mb5.8
MOR8 Moi Rana 83.43 336⇑ iP **P 08 40 09.4 +0.1**
MOR8 AMb AMB 08 40 14.7
comp=Z,167nm,1.8s,mb5.8
WTTA Wattenberg 83.45 317⇑ iP **P 08 40 10.0 +0.3**
comp=Z,34nm,1.0s,mb5.3
WTTA Wattenberg 83.45 317⇑ iP **P 08 40 10.0 +0.3**
WTTA pmax pmax
comp=Z,34nm,1.0s,mb5.3
WATA Walderalm 83.49 317⇑ iP **P 08 40 10.0 0.0**
comp=Z,73nm,1.9s,mb5.4
WATA Walderalm 83.49 317⇑ iP **P 08 40 10.0 0.0**
WATA pmax pmax
comp=Z,73nm,1.9s,mb5.4
MOX Moxa 83.61 320 eP **P 08 40 11.5 +1.0**
MOX pmax pmax
comp=Z,108nm,2.0s,mb5.6
MOX MLR MLR
comp=Z,2μm,21.0s,MS5.3
MOX Moxa 83.61 320 eP **P 08 40 11.5 +1.0**
comp=Z,108nm,2.0s,mb5.6
MOX LR LR
comp=Z,2μm,21.0s,MS5.3
MOX Moxa 83.61 320 i P **P 08 40 11.5 +1.0**
comp=Z,logA/T=1.7,mb5.6
MOX L 09 22 38.0
FUR Furstenfeldbru 83.73 318 eP **P 08 40 11.4 +0.2**
SQTA Sankt Quirin 83.74 317⇑ iP **P 08 40 11.4 +0.2**
comp=Z,28nm,1.2s,mb5.3
SQTA Sankt Quirin 83.74 317⇑ iP **P 08 40 11.4 +0.2**
SQTA pmax pmax
comp=Z,29nm,1.2s,mb5.3
MOTA Moosalm 83.81 317⇑ iP **P 08 40 11.9 +0.3**
comp=Z,23nm,1.2s,mb5.2
MOTA Moosalm 83.81 317⇑ iP **P 08 40 11.9 +0.3**
MOTA pmax pmax
comp=Z,23nm,1.2s,mb5.2
GRA1 Grafenberg Arr 83.82 319 eP **P 08 40 12.7 +1.1**
comp=Z,228nm,2.1s,mb5.9
GRA1 eS ScS 08 50 44.8 -0.3
GRA1 LR LR
comp=Z,2μm,19.2s,MS5.6
GRF Grafenberg Arr 83.82 319 eP **P 08 40 12.7 +1.1**
GRF pmax pmax
comp=Z,228nm,2.1s,mb5.9
GRF MLR MLR
comp=Z,2μm,19.2s,MS5.6
GRF Grafenberg Arr 83.82 319 eP **P 08 40 12.7 +1.1**
GRF pmax pmax
comp=Z,228nm,2.1s,mb5.9
GRF MLR MLR
comp=Z,2μm,19.2s,MS5.6
GRF Grafenberg Arr 83.82 319 eP **P 08 40 12.7 +1.1**
comp=Z,228nm,2.1s,mb5.9
GRF eS ScS 08 50 44.8 -0.3
GRF LR LR
comp=Z,2μm,19.2s,MS5.6
NSS Namsos 84.30 334 eP **P 08 40 13.2 -0.5**
NSS AMS AMS 09 25 31.3
comp=Z,2μm,12.7s,MS5.8
NB2 NORSAR Subarra 84.40 331 P **P 08 40 14.5 +0.3**
comp=Z,52nm,1.2s,mb5.5,baz=92,slow=5.3
NB2 NORSAR Subarra 84.40 331 P **P 08 40 14.5 +0.3**
baz=92,slow=5.3
CLZ Clausthal 84.44 322 eP **P 08 40 15.6 +0.9**
comp=Z,218nm,2.2s,mb5.9
BSEG Bad Segeberg 84.54 324 eP **P 08 40 16.2 +1.1**
DAVA Damuels 84.64 317⇓ iP **P 08 40 14.8 -1.0**
comp=Z,46nm,1.4s,mb5.4
BFZ Birch Farm 85.11 131 eP **P 08 40 20.1 +1.8**
KONO Kongsberg 85.14 329 PFAKE 08 40 30.0 +12
KONO LR LR
comp=Z,5μm,19.0s,MS5.9
PGF Pioggiola 85.22 312 eP **P 08 40 17.1 -1.7**
comp=Z,122nm,1.8s,mb5.4
PGF Pioggiola 85.22 312 eP **P 08 40 17.1 -1.7**
PGF pmax pmax
comp=Z,61nm,1.8s,mb5.4
BFO Black Forest 85.70 318 eP **P 08 40 21.3 +0.3**
BFO pmax pmax
comp=Z,101nm,2.1s,mb5.7
BFO Black Forest 85.70 318 eP **P 08 40 21.3 +0.3**
comp=Z,101nm,2.1s,mb5.7
FELD Feldberg 85.92 318 eP **P 08 40 25.0 +2.9**
MIDW Midway 86.00 62 PFAKE 08 40 30.0 +6.9
MIDW LR LR
comp=Z,2μm,21.0s,MS5.5
LANF Langenberg 86.04 319 eP **P 08 40 24.5 +1.8**
LANF Langenberg 86.04 319 eP **P 08 40 23.6 +0.9**
BBS Basel-Blauen 86.25 317 eP **P 08 40 26.6 +2.8**
WLS Welschbruch 86.35 318 eP **P 08 40 24.3 0.0**
SBF Sospel 86.36 314 eP **P 08 40 24.1 -0.3**
comp=Z,39nm,0.8s,mb5.4
SBF Sospel 86.36 314 eP **P 08 40 24.1 -0.3**
SBF pmax pmax
comp=Z,20nm,0.8s,mb5.4
CDF Champ du Feu 86.40 318 eP **P 08 40 23.9 -0.6**
comp=Z,48nm,1.4s,mb5.2
CDF Champ du Feu 86.40 318 eP **P 08 40 23.9 -0.6**
CDF pmax pmax
comp=Z,24nm,1.4s,mb5.2
ECH Echery 86.48 318 eP **P 08 40 26.3 +1.4**
ECH Echery 86.48 318 eP **P 08 40 25.3 +0.4**
RUP Ruppelstein 86.52 319 eP **P 08 40 25.9 +0.8**
LOMF Lomont 86.72 317 eP **P 08 40 27.1 +1.0**
LPG La Plagne 86.81 315 eP **P 08 40 26.7 +0.1**
comp=Z,60nm,1.1s,mb5.4
LPG La Plagne 86.81 315 eP **P 08 40 26.7 +0.1**
LPG pmax pmax
comp=Z,30nm,1.1s,mb5.4
MBDF Montbardon 86.82 314 eP **P 08 40 25.8 -0.8**
comp=Z,29nm,1.2s,mb5.1
MBDF Montbardon 86.82 314 eP **P 08 40 25.8 -0.8**
MBDF pmax pmax
comp=Z,15nm,1.2s,mb5.1
BNI Bardonecchia 86.88 315 eP **P 08 40 26.5 -0.4**
BNI pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
BNI Bardonecchia 86.88 315 eP **P 08 40 26.5 -0.4**
comp=Z,9.6nm,0.8s,mb5.1
HAU Haudompre 87.03 318 eP **P 08 40 27.1 -0.5**
comp=Z,43nm,1.1s,mb5.3
HAU eR
comp=Z,2μm,22.0s
HAU Haudompre 87.03 318 eP **P 08 40 27.1 -0.5**
HAU pmax pmax
comp=Z,21nm,1.1s,mb5.3
HAU MLR MLR
comp=Z,2μm,22.0s,MS5.5
THEF They Montfort 87.27 318 eP **P 08 40 28.8 +0.1**
VNDA Vanda 88.14 168 eP **P 08 40 32.2 -0.1**
VNDA pmax pmax
comp=Z,67nm,1.4s
VNDA MLR MLR
comp=Z,3μm,20.0s
VNDA Vanda 88.14 168 eP **P 08 40 32.2 -0.1**
comp=Z,67nm,1.4s,mb5.7
VNDA LR LR
comp=Z,3μm,20.0s,MS5.7
BAIF Baives 88.36 320 eP **P 08 40 34.2 +0.3**

comp=Z,38nm,1.0s,mb5.3
BAIF Baives 88.36 320 *e*P **P 08 40 34.2 +0.3**
BAIF pmax pmax

comp=Z,19nm,1.0s,mb5.3
RAO Raoul Island 88.61 119 PFAKE 08 40 50.0 +14
RAO LR LR

comp=Z,3μm,19.0s,MS5.8
PLDF La Plantade 88.98 316 *e*P **P 08 40 40.5 +3.5**
PLDF La Plantade 88.98 316 *e*P **P 08 40 39.0 +2.0**
SSF Saint Saulge 89.00 317 *e*P **P 08 40 35.5 -1.5**
SSF pmax pmax

comp=Z,71nm,1.9s,mb5.7
SSF Saint Saulge 89.00 317 *e*P **P 08 40 35.5 -1.5**
comp=Z,71nm,1.9s,mb5.7
SBA Scott Base 89.24 168 *e*P **P 08 40 38.6 +1.0**
SBA pmax pmax

comp=Z,203nm,1.6s,mb6.2
SBA MLR MLR

comp=Z,2μm,20.0s,MS5.6
SBA Scott Base 89.24 168 *e*P **P 08 40 38.6 +1.0**
comp=Z,203nm,1.6s,mb6.2
SBA LR LR

comp=Z,2μm,20.0s,MS5.6
LBL Lubilhac 89.29 315 *e*P **P 08 40 41.5 +3.0**
LBL Lubilhac 89.29 315 *e*P **P 08 40 40.9 +2.4**
AGO Saint Agoulin 89.32 316 *e*P **P 08 40 41.9 +3.3**
PYM Petit Puy Mans 89.42 316 *e*P **P 08 40 40.6 +1.5**
BGF Bois d'Agland 89.48 316 *e*P **P 08 40 38.2 -1.2**
comp=Z,44nm,1.1s,mb5.4
BGF Bois d'Agland 89.48 316 *e*P **P 08 40 38.2 -1.2**
BGF pmax pmax

comp=Z,22nm,1.1s,mb5.4
RJF Les Rejaudoux 90.51 315 *e*P **P 08 40 42.8 -1.4**
comp=Z,241nm,1.8s,mb5.9
RJF *e*R

comp=Z,2μm,22.2s
RJF Les Rejaudoux 90.51 315 *e*P **P 08 40 42.8 -1.4**
RJF pmax pmax

comp=Z,120nm,1.8s,mb5.9
RJF MLR MLR

comp=Z,2μm,22.3s,MS5.4
FLN La Foliniere 91.52 319 *e*P **P 08 40 46.4 -2.3**
comp=Z,174nm,1.5s,mb5.9
FLN *e*R

comp=Z,3μm,21.5s
FLN La Foliniere 91.52 319 *e*P **P 08 40 46.4 -2.3**
FLN pmax pmax

comp=Z,87nm,1.5s,mb5.9
FLN MLR MLR

comp=Z,3μm,21.5s,MS5.7
EBR Ebro Roquetas 91.67 311 *e*P **P 08 40 50.0 +0.4**
UNV Unalaska Valle 92.17 36 PFAKE 08 41 00.0 +8.4
UNV LR LR

comp=Z,7μm,20.0s,MS6.1
ETSF Etsaut 92.23 313 *e*P **P 08 40 52.7 +0.5**
comp=Z,58nm,1.3s,mb5.5
ETSF Etsaut 92.23 313 *e*P **P 08 40 52.7 +0.5**
ETSF pmax pmax

comp=Z,29nm,1.3s,mb5.5
DAG Danmarks Havn 92.27 348⇓ *e*P **P 08 40 51.9 +0.3**
DAG pmax pmax

comp=Z,43nm,1.6s,mb5.5
DAG Danmarks Havn 92.27 348⇓ *e*P **P 08 40 51.9 +0.3**
comp=Z,43nm,1.6s,mb5.5
DAG Danmarks Havn 92.27 348⇓ *i*P **P 08 40 51.9 +0.3**
comp=Z,43nm,1.6s,mb5.5
QSPA South Pole Qui 93.15 180 *e*P **P 08 40 57.6 +2.0**
comp=Z,43nm,1.3s,mb5.7
ESLA Sonseca Array 95.20 310 PFAKE 08 41 20.0 +14
ESLA LR LR

comp=Z,6μm,19.0s,MS6.1
IMA Indian Mountai 95.40 23 *e*P **P 08 41 07.0 +0.8**
IMA pmax pmax

comp=Z,130nm,1.4s,mb6.2
IMA Indian Mountai 95.40 23 *e*P **P 08 41 08.1 +1.9**
comp=Z,19nm,1.2s,mb5.4
SNAA Sanae 95.65 198 *e* **P 08 41 11.8 +4.6**
SNAA Sanae 95.65 198 *e* **P 08 41 13.2 +6.0**
SNAA Sanae 95.65 198⇑ *i*P **P 08 41 09.2 +2.0**
SNAA *e* pP 08 41 11.8 +2.4
SNAA *e* pP 08 41 13.2 +3.8
VNA2 Neumayer--Watz 97.22 199 *e* **P 08 41 22.0 +7.7**
VNA2 Neumayer--Watz 97.22 199 *e* **P 08 41 23.4 +9.1**
VNA2 Neumayer--Watz 97.22 199⇑ *i*P **P 08 41 19.0 +4.7**
VNA2 *e* pP 08 41 22.0 +5.4
VNA2 *e* 08 41 23.4
VNA1 Neumayer--Stat 97.56 199⇑ *i* **P 08 41 27.1 +11**
VNA3 Neumayer Olymp 97.88 198⇑ *i* **P 08 41 23.7 +6.4**
VNA3 Neumayer Olymp 97.88 198 *e* **P 08 41 26.8 +10**
VNA3 Neumayer Olymp 97.88 198 *e* **P 08 41 27.8 +11**
COLA College 98.11 23 PFAKE 08 41 30.0 +12
COLA LR LR

comp=Z,4μm,19.0s,MS5.9
KDAK Kodiak Island 98.80 30 PFAKE 08 41 30.0 +8.3
KDAK LR LR

comp=Z,957nm,19.0s,MS5.3
DBIC Dimbokro 99.85 277 P **P 08 41 40.0 +12**
DBIC MLR MLR

comp=Z,2μm,20.0s
DBIC Dimbokro 99.85 277 PFAKE 08 41 40.0 +12
DBIC LR LR

comp=Z,2μm,20.0s,MS5.5
DIV Divide 100.63 26 PFAKE 08 41 40.0 +10
DIV LR LR

comp=Z,2μm,20.0s,MS5.6
SIT Sitka 107.35 26 PFAKE 08 46 20.0
SIT LR LR

comp=Z,4μm,22.0s,MS6.0
NRS Narsarsuaq 109.07 341 *i* P Pdif 08 41 51.3 -16
comp=Z,36nm,1.0s
PMSA Palmer Station 116.82 190 PFAKE 08 46 40.0 +12
PMSA LR LR

comp=Z,5μm,19.0s,MS6.1
OCWA Octopus Mounta 118.54 29 PFAKE 08 46 40.0 +8.4
OCWA LR LR

comp=Z,2μm,19.0s,MS5.8
SCHQ Schefferville 120.31 348 PFAKE 08 46 50.0 +15
SCHQ LR LR

comp=Z,5μm,22.0s,MS6.1
COR Corvallis 121.15 32 PFAKE 08 46 50.0 +13
COR LR LR

comp=Z,2μm,19.0s,MS5.8
NEW Newport 121.38 25 *e*PKIKP PKPdf 08 46 35.6 -1.5
NEW MLR MLR

comp=Z,4μm,20.0s
HUMO Hull Mountain 122.68 33 PFAKE 08 46 50.0 +10
HUMO LR LR

comp=Z,1μm,21.0s,MS5.6
YBH Yreka Blue Hor 123.41 34 PFAKE 08 46 50.0 +8.9
YBH LR LR

comp=Z,2μm,19.0s,MS5.7
MSO Missoula 123.83 24 *e*PKP PKPdf 08 46 40.2 -1.7
MSO LR LR

comp=Z,3μm,19.0s,MS6.0
BMO Blue Mountains 123.92 28 PFAKE 08 46 50.0 +7.9
BMO LR LR

comp=Z,3μm,20.0s,MS6.0
WDC Whiskeytown Da 124.27 35 PFAKE 08 46 50.0 +7.1
WDC LR LR

comp=Z,1μm,20.0s,MS5.6
MOD Modoc 124.59 32 *e*PKP PKPdf 08 46 42.8 -0.7
MOD LR LR

comp=Z,2μm,20.0s,MS5.8
HRY Holter Researc 124.76 23 *e*PKP PKPdf 08 46 41.4 -2.2
HOPS Hopland 125.01 36 PFAKE 08 46 50.0 +5.6
HOPS LR LR

comp=Z,2μm,20.0s,MS5.7
WVOR Wild Horse Val 125.07 30 *e*PKIKP PKPdf 08 46 43.7 -0.7
WVOR MLR MLR

comp=Z,3μm,20.0s,MS6.0
OHCM Honcut 125.71 35 *e*PKP PKPdf 08 46 44.6 -1.1
BOZ Bozeman (W) 125.72 23 *e*PKIKP PKPdf 08 46 44.2 -1.3
BOZ MLR MLR

comp=Z,3μm,19.0s,MS6.0
DGMT Dagmar 125.74 16 PFAKE 08 47 00.0 +15
DGMT LR LR

comp=Z,3μm,21.0s,MS5.9
WCN Washoe City 126.71 34 *e*PKIKP PKPdf 08 46 45.1 -2.4
LAO LASA Array 126.74 19 *e*PKP PKPdf 08 46 47.2 -0.1
LAO LR LR

comp=Z,3μm,19.0s,MS6.0
EFI East Falkland 126.88 200 PFAKE 08 47 00.0 +13
EFI LR LR

comp=Z,960nm,20.0s,MS5.5
LKWY Lake 127.10 23 PFAKE 08 47 00.0 +12
LKWY LR LR

comp=Z,6μm,19.0s,MS6.3
CMB Columbia Colle 127.22 35 PFAKE 08 47 00.0 +11
CMB LR LR

comp=Z,2μm,22.0s,MS5.7
BMN Battle Mountai 127.26 31 PFAKE 08 47 00.0 +11
BMN LR LR

comp=Z,2μm,20.0s,MS5.8
SAO San Andreas Ge 127.44 37 PFAKE 08 47 00.0 +11
SAO LR LR

comp=Z,2μm,20.0s,MS5.7
TPAW Teton Pass 127.78 24 *e*PKP PKPdf 08 46 49.0 -0.6
SNOW Snow King Moun 127.88 24 *e*PKP PKPdf 08 46 48.9 -0.9
MNV Mina 128.21 34 *e*PKIKP PKPdf 08 46 49.8 -0.8
MNV MLR MLR

comp=Z,2μm,20.0s,MS5.9
PQI Presque Isle 128.22 346 PFAKE 08 47 00.0 +10
PQI LR LR

comp=Z,14μm,20.0s,MS6.6
AHID Auburn Hatcher 128.31 25 PFAKE 08 47 00.0 +9.4
AHID LR LR

comp=Z,4μm,21.0s,MS6.0
EYMN Ely 128.68 6 PFAKE 08 47 00.0 +8.8
EYMN LR LR

comp=Z,5μm,19.0s,MS6.2
MTUM Tungsten Hills 128.74 35 *e*PKP PKPdf 08 46 51.1 -0.5
BW06 Boulder Array 128.94 24 PFAKE 08 47 00.0 +8.2
BW06 LR LR

comp=Z,4μm,19.0s,MS6.1
BGU Big Grassy Mou 128.94 28 *e*PKP PKPdf 08 46 49.4 -2.5
TPH Tonopah 128.97 33 PFAKE 08 47 00.0 +8.0
TPH LR LR

comp=Z,2μm,21.0s,MS5.7
HWUT Hardware Ranch 129.06 26 *e*PKP PKPdf 08 46 51.1 -1.0
HWUT LR LR

comp=Z,4μm,20.0s,MS6.1
TRCR Troy Canyon 129.65 32 *e*PKP PKPdf 08 46 53.3 0.0
JLU Jordanelle 129.92 27 *e*PKP PKPdf 08 46 53.2 -0.6
DAC Darwin (Calif) 130.04 35 PFAKE 08 47 00.0 +5.9
DAC LR LR

comp=Z,2μm,21.0s,MS5.7
NLU North Lily Min 130.16 28 *e*PKP PKPdf 08 46 53.6 -0.6
WVL Waterville 130.59 346 PFAKE 08 47 10.0 +15
WVL LR LR

comp=Z,11μm,21.0s,MS6.5
RWWY Rawlins 130.77 22 *e*PKP PKPdf 08 46 54.6 -0.7
PTCN Pitcairn Islan 131.12 121 PFAKE 08 47 10.0 +14
PTCN LR LR

comp=Z,2μm,22.0s,MS5.7
MWC Mount Wilson 131.19 37 *e*PKIKP PKPdf 08 46 55.0 -1.3
MVU Marysvale 131.24 29 *e*PKP PKPdf 08 46 55.1 -1.2
MVU LR LR

comp=Z,2μm,19.0s,MS5.8
MSU Marysvale 131.25 29 *e*PKIKP PKPdf 08 46 56.0 -0.3
RCBR Riachuelo 131.45 265 PFAKE 08 47 10.0 +13
RCBR LR LR

comp=Z,2μm,19.0s,MS5.8
PHWY Pilot Hill 131.76 21 *e*PKP PKPdf 08 46 55.6 -1.7
NCB Newcomb 132.11 350 PFAKE 08 47 10.0 +12
NCB LR LR

comp=Z,1μm,22.0s,MS5.5
LDFC Landfair 132.31 34 *e*PKP PKPdf 08 46 57.6 -0.9
PV10 Paradox Valley 132.81 26 *e*PKP PKPdf 08 46 59.9 +0.5
HRV Harvard--Oak R 132.99 347 PFAKE 08 47 10.0 +10
HRV LR LR

comp=Z,3μm,19.0s,MS6.1
ISCO Idaho Springs 133.01 22 PFAKE 08 47 10.0 +10
ISCO LR LR

comp=Z,3μm,20.0s,MS5.9
WES Weston 133.05 347 PFAKE 08 47 10.0 +10
WES LR LR

comp=Z,4μm,20.0s,MS6.1
PV01 Paradox Valley 133.22 26 PKP PKPdf 08 46 58.3 -1.7
JFWS Jewell Farm 133.79 6 PFAKE 08 47 10.0 +9.2
JFWS LR LR

comp=Z,4μm,19.0s,MS6.1
BINY Binghamton 134.13 351 PFAKE 08 47 10.0 +8.5
BINY LR LR

comp=Z,3μm,21.0s,MS6.0
AAM Ann Arbor 134.68 359 PFAKE 08 47 10.0 +7.4
AAM LR LR

comp=Z,4μm,22.0s,MS6.1
ERPA Erie 134.68 355 PFAKE 08 47 10.0 +7.4
ERPA LR LR

comp=Z,3μm,21.0s,MS6.0
SDCO Great Sand Dun 134.84 24 PFAKE 08 47 10.0 +6.9
SDCO LR LR

comp=Z,3μm,20.0s,MS6.0
SSPA Standing Stone 135.93 353 PFAKE 08 47 20.0 +15
SSPA LR LR

comp=Z,3μm,21.0s,MS6.0
KSU1 Kansas State U 136.44 14 *e*PKPdf PKPdf 08 47 04.7 -1.2
ACSO Alum Creek Sta 136.73 358 PFAKE 08 47 20.0 +14
ACSO LR LR

comp=Z,3μm,20.0s,MS6.0
TUC Tucson 136.77 33 PFAKE 08 47 20.0 +13
TUC LR LR

comp=Z,2μm,19.0s,MS5.8
ANMO Albuquerque 136.81 27 *e*PKIKP PKPdf 08 47 06.4 -0.2
ANMO MLR MLR

comp=Z,3μm,20.0s
MCWV Mont Chateau 137.11 355 PFAKE 08 47 20.0 +13
MCWV LR LR

comp=Z,5μm,20.0s,MS6.3
LENM Lemitar 137.23 28 PKP PKPdf 08 47 06.8 -0.7
LPM Los Pinos Moun 137.26 27 *e*PKP PKPdf 08 47 06.8 -0.7
BNM Barren Site 137.40 27 *e*PKP PKPdf 08 47 07.6 -0.2
CBN Corbin 138.25 352 PFAKE 08 47 20.0 +11
CBN LR LR

comp=Z,3μm,20.0s,MS6.1
CCM Cathedral Cave 138.46 8 *e*PKIKP PKPdf 08 47 08.2 -1.5
CCM MLR MLR

comp=Z,3μm,20.0s,MS6.0
WCI Wyandotte Cave 138.73 2 PFAKE 08 47 20.0 +10
WCI LR LR

comp=Z,4μm,19.0s,MS6.1
AMTX Amarillo 138.82 22 PFAKE 08 47 20.0 +10
AMTX LR LR

comp=Z,3μm,20.0s,MS6.0
BLA Blacksburg 139.59 355 PFAKE 08 47 20.0 +8.2
BLA LR LR

comp=Z,4μm,22.0s,MS6.1
TRQA Tornquist 139.65 208 PKPdf PKPdf 08 47 10.1 -1.7
TRQA LR LR

comp=Z,4μm,22.0s,MS6.2
BBSR BB Station 139.90 334 PFAKE 08 47 20.0 +7.5
BBSR LR LR

comp=Z,1μm,19.0s,MS5.7
WMOK Wichita Mounta 139.94 18 *e*PKHKP 08 47 02.2
WMOK MLR MLR

comp=Z,2μm,22.0s,MS5.8
LPA La Plata 139.95 215 *ce*PKP PKPdf 08 47 11.0 -1.5
comp=Z,3μm,20.0s
MNTX Cornudas Mount 140.02 28 *e*PKPdf PKPdf 08 47 11.8 -0.9
MNTX LR LR

comp=Z,2μm,19.0s,MS5.9
GDL2 Guadalupe Moun 140.06 27 *e*PKP PKPdf 08 47 11.5 -1.2
WVT Waverly 140.73 4 *e*PKHKP 08 47 05.8
WVT MLR MLR

comp=Z,3μm,20.0s,MS6.0
MIAR Mount Ida 141.49 12 *e*PKHKP 08 47 08.2
MIAR MLR MLR

comp=Z,3μm,22.0s,MS6.1
UALR University of 141.50 10 *e*PKP PKPdf 08 47 13.9 -1.3
BAO Brasilia Array 141.97 249 P PKPdf 08 47 16.2 -0.4
OXF Oxford 142.19 7 PFAKE 08 47 30.0 +14
OXF LR LR

comp=Z,3μm,20.0s,MS6.0
LTX Lajitas 142.80 28 *e*PKIKP PKPdf 08 47 16.7 -1.0
LTX MLR MLR

comp=Z,2μm,20.0s,MS5.8
JCT Junction City 143.46 22 *e*PKIKP PKPdf 08 47 14.1 -4.6
JCT MLR MLR

comp=Z,2μm,22.0s,MS5.9
GOGA Godfrey 143.55 358 *e*PKIKP PKPdf 08 47 17.1 -1.7
GOGA MLR MLR

comp=Z,5μm,22.0s,MS6.2
NHSC New Hope 143.63 354 PFAKE 08 47 30.0 +15
NHSC LR LR

comp=Z,3μm,20.0s,MS6.0
LRAL Lakeview Retre 143.87 3 *e*PKP PKPdf 08 47 14.3 -5.0
LRAL LR LR

comp=Z,2μm,21.0s,MS5.9
NATX Nacogdoches 143.91 15 *e*PKP PKPdf 08 47 17.3 -2.2
NATX LR LR

comp=Z,3μm,19.0s,MS6.0
HKT Hockley 145.29 17 *e*PKIKP PKPdf 08 47 20.7 -1.3
HKT MLR MLR

comp=Z,3μm,21.0s,MS6.1
MDZ Mendoza 147.03 205 *e*PKP2 PKPab 08 47 25.3 -2.5
FCH Farellones 147.22 202⇑ *i*P PKPdf 08 47 27.2 +2.1
CLCH Cerro Calan 147.25 202⇓ *i*P PKPdf 08 47 25.8 +0.7
DWPF Disney 148.71 355 PFAKE 08 47 40.0 +12
DWPF LR LR

comp=Z,3μm,19.0s,MS6.1
SEG Port Louis 150.02 311 *e*P PKPdf 08 47 34.5 +4.4
BBL Barber's Block 150.53 310 *e*P PKPdf 08 47 35.2 +4.4
SJG San Juan 152.10 320 PKIKP PKPdf 08 47 40.0 +6.9
SJG MLR MLR

comp=Z,2μm,20.0s
SJG San Juan 152.10 320 PFAKE 08 47 40.0 +6.9
SJG LR LR

comp=Z,2μm,20.0s,MS5.8
LVC Limon Verde 155.48 217 PFAKE 08 47 50.0 +12
LVC LR LR

comp=Z,3μm,21.0s,MS6.1
TEIG Tepich 156.41 9 *e*PKPab PKPab 08 48 06.5 -0.8
TEIG LR LR

comp=Z,938nm,20.0s,MS5.6
LPAZ La Paz 159.28 230 *e*PKIKP PKPdf 08 47 41.5 -1.1
LPAZ MLR MLR

comp=Z,2μm,20.0s
SDV Santo Domingo 161.64 311 *e*PKPdf PKPdf 08 47 43.3 -1.9
SDV *e*PKPab PKPab 08 48 28.9 -1.0
SDV LR LR

comp=Z,4μm,19.0s
NNA Nana 168.42 221 PFAKE 08 48 00.0 +9.1
NNA LR LR

comp=Z,597nm,21.0s
OTAV Otavalo 173.00 299 *e*PKPdf PKPdf 08 47 52.7 -1.0
OTAV *e*PKPab PKPab 08 49 20.7 +0.9
OTAV LR LR

comp=Z,2μm,20.0s

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*BJI **02** 09:16:19.6, 8.25N×92.05E, h57km, mB5.0, mb4.7, Ms4.8, Msz4.5*
*NEIC **02** 09:16:20.4±3.2, 8.59N×92.24E, h30km±22km, mb4.7/15,*
Error ellipse: s-maj=10.6km s-min=10.4km az=132.0
ISC 02 09:16:15.9±3.5, 8.54N±0.07×92.23E±0.07, h12km±22km,
n52, σ1§03/54, mb4.7/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.49**	**265**	*e*P		**P**	**09 19 02.5**	**-0.5**
	24nm,1.1s							
PALK							09 22 28.8	
CM31	**Chiang Mai Arr**	**11.82**	**33**	*e*P		**P**	**09 19 07.6**	**+0.2**
	3.6nm,0.4s							
VIS	**Vishakhapatnam**	**12.58**	**317**	*e*P		**P**	**09 19 15.4**	**-2.2**
VIS					AMb	AMB	09 19 19.8	
	comp=Z,49nm,0.3s							
VIS				*e*S		**S**	**09 21 21.6**	**-17**
VIS				*e*			09 21 24.5	
	comp=N,88nm,0.9s							
VIS				*e*			09 21 24.6	
	comp=E,119nm,0.9s							
MDRS	**Chennai**	**12.60**	**292**	*e*P		**P**	**09 19 16.0**	**-1.9**
MDRS				*e*			09 19 43.0	
MDRS				*e*S		**S**	**09 21 24.0**	**-15**
HYB	**Hyderabad**	**15.97**	**305**	*i*P		**P**	**09 20 03.5**	**+1.2**
HYB				*e*S		**S**	**09 22 42.0**	**-17**
HYB				*e*S		**S**	**09 22 56.5**	**-2.8**
SHL	**Shillong**	**16.93**	**359**	*e*P		**P**	**09 20 15.5**	**+1.1**
SHL				*e*			09 24 10.0	
KAD	**Karad**	**19.61**	**298**	*e*P		**P**	**09 20 47.9**	**+0.8**
KAD					AMb	AMB	09 20 59.1	
	comp=Z,18nm,1.1s							
KAD				*e*			09 24 06.8	
PKI	**Pulchoki**	**20.00**	**342**	*e*P		**P**	**09 20 50.7**	**-0.6**
	comp=Z,38nm,0.6s							
DMN	**Daman**	**20.13**	**341**	*e*P		**P**	**09 20 51.9**	**-0.8**
	comp=Z,48nm,0.7s							
GUN	**Gumba**	**20.18**	**344**	*e*P		**P**	**09 20 53.0**	**-0.2**
	comp=Z,71nm,0.7s							
KKN	**Kakani**	**20.24**	**342**	*e*P		**P**	**09 20 52.7**	**-1.2**
	comp=Z,40nm,0.8s							
BHPL	**Bhopal**	**20.38**	**318**	*e*P		**P**	**09 21 00.4**	**+5.1**
BHPL					AMb	AMB	09 21 07.2	
	comp=Z,18nm,0.8s							
POO	**Poona**	**20.42**	**301**	*e*		**P**	**09 21 07.0**	**+11**
POO				*i*			09 24 25.0	
GKN	**Gorkha**	**20.64**	**341**	*e*P		**P**	**09 20 57.7**	**-0.4**
	comp=Z,82nm,0.6s							
KOLN	**Koldanda**	**20.79**	**338**	*e*P		**P**	**09 20 59.2**	**-0.4**
	comp=Z,29nm,0.6s							
LSA	**Lhasa**	**21.07**	**357**	P		**P**	**09 21 02.4**	**-0.1**
LSA	**Lhasa**	**21.07**	**357**	*e*P		**P**	**09 21 01.7**	**-0.7**
	comp=Z,12nm,0.6s,mb4.4							
BISR	**Bishrakh**	**24.31**	**327**	*e*P		**P**	**09 21 35.3**	**+0.7**
BISR					AMb	AMB	09 21 37.6	
	comp=Z,51nm,0.1s							
AYAN	**Aya Nagar**	**24.41**	**326**	*e*P		**P**	**09 21 36.5**	**+1.0**
AYAN					AMb	AMB	09 21 38.0	
	comp=Z,23nm,1.1s,mb4.5							
NDI	**New Delhi**	**24.52**	**327**	*e*P		**P**	**09 21 36.5**	**-0.1**
KHET	**Khetri**	**24.85**	**324**	*e*P		**P**	**09 21 41.1**	**+1.4**
KHET				*e*			09 25 20.9	
KLP	**Kalpa**	**26.32**	**332**	*e*P		**P**	**09 21 53.8**	**+0.3**
ENH	**Enshi**	**26.98**	**34**	*e*P		**P**	**09 21 58.9**	**-0.7**
	comp=Z,16nm,0.8s,mb4.6							
LZH	**Lanzhou**	**29.39**	**19**	*e*P		**P**	**09 22 26.8**	**+5.5**
LZH				AP		pP	09 22 35.2	+10
LZH					AMB	AMB		
	comp=Z,21nm,1.5s,mb4.7							
WMQ	**Urumqi**	**35.37**	**354**	*e*P		**P**	**09 23 13.0**	**-0.4**
UCH	**Uchtor**	**37.01**	**338**	P		**P**	**09 23 28.9**	**+1.6**
	SNR=6.7							
TKM2	**Tokmak 2**	**37.23**	**340**	P		**P**	**09 23 30.2**	**+1.1**
	SNR=5.1							
AML	**Almayashu**	**37.23**	**337**	P		**P**	**09 23 30.8**	**+1.6**
	SNR=13							
AAK	**Ala-Archa**	**37.37**	**338**	P		**P**	**09 23 32.0**	**+1.8**
	SNR=6.9							
AAK	**Ala-Archa**	**37.37**	**338**	*e*P		**P**	**09 23 30.4**	**+0.2**
	comp=Z,7.1nm,1.0s,mb4.5							
AAK				*e*			09 23 39.1	
EKS2	**Erkin-Say**	**37.66**	**338**	P		**P**	**09 23 34.5**	**+1.8**
	SNR=8.8							
USP	**Ospenovka**	**37.91**	**339**	P		**P**	**09 23 35.7**	**+0.9**
	SNR=14							
MBWA	**Marble Bar**	**40.01**	**138**	*e*P		**P**	**09 23 52.1**	**-0.4**
	comp=Z,13nm,1.1s,mb4.6							
TLY	**Talaya**	**44.02**	**10**	*e*P		**P**	**09 24 25.5**	**+0.5**
	comp=Z,6.3nm,1.1s,mb4.3							
NWAO	**Narrogin (SRO)**	**47.62**	**151**	P		**P**	**09 24 53.2**	**-0.7**
	comp=Z,2.4nm,0.4s,mb4.6							
WRAB	**Tennant Creek**	**50.19**	**125**	*e*P		**P**	**09 25 14.0**	**+0.1**
	comp=Z,109nm,1.9s,mb5.6							
GNI	**Garni**	**52.62**	**315**	P		**P**	**09 25 32.1**	**+0.1**
	comp=Z,9.6nm,0.8s,mb4.8							
EIL	**Elat**	**57.45**	**300**	*e*P		**P**	**09 26 05.8**	**-1.5**
	comp=Z,7.9nm,0.7s,mb4.8							
YAK	**Yakutsk**	**59.98**	**19**	P		**P**	**09 26 22.5**	**-1.9**
	comp=Z,11nm,0.6s,mb5.1							
LSZ	**Lusaka**	**67.72**	**250**	*e*P		**P**	**09 27 17.2**	**+1.3**
	comp=Z,2.1nm,0.4s,mb4.5							
KAF	**Kangasniemi**	**71.34**	**333**	*ep*		**P**	**09 27 36.2**	**-1.1**
LBTB	**Lobatse**	**72.91**	**241**	*e*P		**P**	**09 27 49.0**	**+1.6**
	comp=Z,20nm,1.3s,mb4.9							
KEV	**Kevo**	**73.58**	**341**	*ep*		**P**	**09 27 49.0**	**-1.4**
DPC	**Dobruska-Polom**	**74.48**	**320**	*e*P		**P**	**09 27 56.0**	**0.0**
UPC	**Upice**	**74.69**	**320**	*e*P		**P**	**09 27 57.4**	**+0.2**
PRU	**Pruhonice**	**75.59**	**319**	*e*P		**P**	**09 28 02.3**	**-0.1**
BRG	**Berggiesshubel**	**76.03**	**320**	*e*P		**P**	**09 28 05.2**	**+0.4**
	comp=Z,11nm,1.1s,mb4.7							
BRG				*e*			09 28 16.2	
KHC	**Kasperske Hory**	**76.17**	**318**	*e*P		**P**	**09 28 05.0**	**-0.6**
NB2	**NORSAR Subarra**	**78.22**	**331**	P		**P**	**09 28 15.6**	**-1.2**
	comp=Z,3.4nm,0.8s,mb4.3,baz=94,slow=5.8							
LPG	**La Plagne**	**80.81**	**315**	*e*P		**P**	**09 28 31.3**	**+0.2**
	comp=Z,15nm,0.7s,mb4.7							
JCT	**Junction City**	**139.52**	**16**	*e*P		PKPdf	09 35 48.2	+0.8
LPAZ	**La Paz**	**159.35**	**246**	*e*PKPdf		PKPdf	09 36 17.7	-0.6

NEIC 02 09:59:09.5±4.0, 42.51N×126.16W, h10km, mb3.3/1, 1C,
Error ellipse: s-maj=47.0km s-min=11.1km az=76.0, Off

coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMO	**Hull Mountain**	**2.37**	**87**	*e*P	Pn	09 59 47.7	-1.4
BBOR	**Butler Butte**	**2.60**	**81**	P	Pn	09 59 51.9	-0.4
YBH	**Yreka Blue Hor**	**2.69**	**106**	*e*P	Pn	09 59 52.5	-1.0
BUOR	**Burton Butte**	**2.91**	**93**	P	Pn	09 59 57.3	+0.5
IRO	**Indian Ridge**	**3.22**	**61**	P	Pn	10 00 00.3	-0.9
BROR	**Big Rock Looko**	**3.23**	**56**	P	Pn	09 59 59.9	-1.3
FRIS	**Frissel Point**	**3.42**	**59**	⇑P	Pn	10 00 03.0	-1.0
HUOR	**Husband**	**3.54**	**62**	P	Pn	10 00 05.0	-0.6
SSOR	**Sweet Springs**	**3.56**	**48**	P	Pn	10 00 04.9	-1.1
GT2	**Goat Mountain**	**3.86**	**46**	P	Pn	10 00 08.9	-1.3
TDH	**Tom, Dick, Har**	**4.21**	**47**	P	Pn	10 00 13.7	-1.5
ASR	**Mount Adams--S**	**4.90**	**40**	P	Pn	10 00 23.6	-1.3
BMO	**Blue Mountains**	**6.83**	**67**	*e*P	Pn	10 00 49.2	-3.1
WMOK	**Wichita Mounta**	**22.69**	**101**	*e*P	P	10 04 11.0	-1.3
	0.5nm,0.5s						

WEL 02 10:05:09.2±0.5, 37.17S×177.61E, h111km±4km, ML3.8/10, 3C, Error ellipse: s-maj=3.2km s-min=3.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.49**	**223**	*e*PN	P	10 05 25.4	-0.8
MXZ	**Matakaoa Point**	**0.68**	**126**	⇑PN	P	10 05 27.6	+0.1
MXZ				SN	S	10 05 41.3	-0.2
PUZ	**Puketiti**	**1.04**	**151**	PN	P	10 05 30.9	-0.3
PUZ				*e*SN	S	10 05 47.2	-0.4
MYRZ	**Mayor Island**	**1.10**	**264**	*e*PN	P	10 05 31.0	-0.7
MARZ	**Manawahe**	**1.10**	**222**	PN	P	10 05 31.6	-0.2
URZ	**Urewera**	**1.16**	**200**	PN	P	10 05 32.0	-0.6
URZ				SN	S	10 05 49.0	-1.0
EDRZ	**Edgecumbe**	**1.17**	**216**	PN	P	10 05 32.7	+0.1
MWZ	**Matawai**	**1.17**	**183**	⇑PN	P	10 05 32.1	-0.5
MWZ				*e*SN	S	10 05 50.0	-0.2
TAZ	**Tarawera**	**1.38**	**219**	PN	P	10 05 35.5	+0.5
KUZ	**Kuaotunu**	**1.57**	**285**	PN	P	10 05 36.2	-1.1
KNZ	**Kokohu**	**1.85**	**178**	PN	P	10 05 39.4	-1.4
KNZ				*e*SN	S	10 06 02.6	-1.9
BKZ	**Black Stump Fm**	**2.18**	**203**	PN	P	10 05 43.5	-1.6
BKZ				SN	S	10 06 10.9	-1.2
RITZ	**Rihia Road**	**2.27**	**217**	*e*PN	P	10 05 46.0	-0.4
MGZ	**Maungaku**	**2.45**	**221**	PN	P	10 05 48.4	-0.4
OTVZ	**Oturere**	**2.51**	**217**	PN	P	10 05 48.8	-0.8
NGZ	**Ngauruhoe**	**2.56**	**218**	*e*PN	P	10 05 49.2	-0.9
TUVZ	**Tukino**	**2.60**	**216**	*e*PN	P	10 05 49.5	-1.3
WPVZ	**Whakapapa**	**2.60**	**218**	*e*PN	P	10 05 48.8	-2.0
MOVZ	**Moawhango**	**2.67**	**213**	PN	P	10 05 49.5	-2.2
PWZ	**Pawanui**	**2.92**	**191**	PN	P	10 05 51.7	-3.3
PWZ				SN	S	10 06 25.6	-4.1
TSZ	**Takapari Road**	**3.16**	**204**	PN	P	10 05 54.5	-3.8
TSZ				SN	S	10 06 31.9	-3.7
WAZ	**Wanganui**	**3.30**	**218**	PN	P	10 05 58.4	-1.9
BFZ	**Birch Farm**	**3.67**	**196**	PN	P	10 06 00.4	-4.7
BFZ				SN	S	10 06 42.3	-5.5
MRZ	**Mangatainoka R**	**3.83**	**204**	PN	P	10 06 02.6	-4.8
MRZ				SN	S	10 06 45.9	-5.9
KIW	**Kapiti Island**	**4.25**	**209**	PN	P	10 06 07.9	-5.1
MTW	**Mount Morrison**	**4.31**	**202**	⇑PN	P	10 06 08.2	-5.7
CAW	**Cannon Point**	**4.40**	**206**	PN	P	10 06 09.4	-5.8
PAWZ	**Paruwai Farm**	**4.54**	**201**	PN	P	10 06 10.8	-6.2
MSWZ	**Moikau Station**	**4.62**	**203**	*e*PN	P	10 06 11.8	-6.3
WEL	**Wellington**	**4.67**	**207**	*e*PN	P	10 06 12.8	-5.9
TUWZ	**Tuamarina**	**5.12**	**213**	*e*PN	P	10 06 18.7	-6.2
NNZ	**Nelson**	**5.21**	**218**	PN	P	10 06 20.0	-6.1
QRZ	**Quartz Range**	**5.38**	**226**	*e*PN	P	10 06 22.9	-5.5
THZ	**Tophouse**	**5.86**	**217**	PN	P	10 06 28.5	-6.4
KHZ	**Kahutara**	**6.11**	**210**	*e*PN	P	10 06 31.1	-7.2
DSZ	**Denniston Nort**	**6.41**	**223**	*e*PN	P	10 06 35.2	-7.3
LTZ	**Lake Taylor**	**6.95**	**215**	PN	P	10 06 42.0	-7.8
MQZ	**McQueen's Vall**	**7.55**	**208**	*e*PN	P	10 06 49.4	-8.5

OTT 02 10:24:24.5±0.8, 69.05N×53.89W, h18km, ML3.9/3, 441km northeast from Qikiqtarjuaq, Nu Eastern Arctic Background Seismic Zone. Eastern Arctic Background Seismic Zone. 451km northeast from Qikiqtarjuaq, Nu, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**7.91**	**235**	PN	Pn	10 26 17.2	-4.3
FRB				SN	Sn	10 27 43.1	-8.4
FRB				Trac		10 27 52.1	
	comp=Z,3.5nm,0.1s						
PINU	**Pond Inlet**	**8.67**	**306**	PN	P	10 26 27.7	-4.4
PINU				SN	Sn	10 27 58.9	-11
IGL	**Igloolik**	**9.89**	**285**	PN	P	10 26 44.8	-3.9
IGL				SN	Sn	10 28 28.0	-12
IGL				Trac		10 29 06.8	
	comp=Z,4.9nm,0.2s						
KUQ	**Kuujjuuaa**	**12.69**	**217**	PN	P	10 27 22.6	-4.1
KUQ				SN	S	10 29 41.0	-7.4
RES	**Resolute Bay**	**13.68**	**312**	PN	P	10 27 36.2	-3.3
RES				SN	S	10 29 58.5	-13
RES				Trac		10 30 10.4	
	comp=Z,6.7nm,1.1s						
EUNU	**Eureka**	**13.69**	**337**	PN	P	10 27 34.5	-5.2
EUNU				SN	S	10 29 56.7	-16
SCHQ	**Schefferville**	**15.45**	**209**	PN	P	10 28 01.1	-1.7
YRTN	**Rankin Inlet**	**16.54**	**267**	PN	P	10 28 11.7	-5.1
YRTN				SN	S	10 31 04.1	-15
LG4Q	**La Grande 4**	**18.09**	**222**	PN	P	10 28 33.2	-3.0
LG4Q				SN	S	10 31 43.1	-12
FCC	**Fort Churchill**	**20.03**	**259**	SN	S	10 32 26.5	-11
YKW3	**Yellowknife Ar**	**24.72**	**285**	PN	P	10 29 52.8	+7.4
YKW3				SN	S	10 34 13.7	+10

BJI ***02*** *10:36:55.2, 5.37N×92.99E, h30km, mB5.4, mb4.6*
NEIC ***02*** *10:37:04.5±0.7, 6.30N×92.80E, h30km, mb4.6/7, Error ellipse: s-maj=15.7km s-min=13.1km az=225.0*

ISC 02 10:37:04.0±0.7, 6.5N±0.1×93.02E±0.09, h33km, n34, σ1§07/34, mb4.6/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.25**	**275**	*e*P	**P**	**10 39 54.7**	**-4.4**
CM31	**Chiang Mai Arr**	**13.25**	**25**	*e*P	**P**	**10 40 16.4**	**+4.0**
	14nm,0.7s						
CM31				*e*		10 40 28.6	
VIS	**Vishakhapatnam**	**14.65**	**321**	*e*P	**P**	**10 40 29.4**	**-1.6**
VIS				AMb	AMB	10 40 35.1	
	comp=Z,44nm,1.1s						
VIS				*e*		10 42 58.2	
TRD	**Trivandrum**	**16.05**	**278**	*e*	**P**	**10 40 52.9**	**+3.9**
TRD				AMb	AMB	10 41 12.0	
	comp=Z,24nm,1.8s						
HYB	**Hyderabad**	**17.84**	**309**	*i* P	**P**	**10 41 11.5**	**+0.1**
HYB				*e*		10 44 10.0	
HYB				*e*S	**S**	**10 44 23.5**	**-3.1**
SHL	**Shillong**	**19.03**	**357**	*e*P	**P**	**10 41 24.5**	**-1.6**
KAD	**Karad**	**21.32**	**302**	*e*P	**P**	**10 41 50.1**	**-0.3**
KAD				AMb	AMB	10 41 56.7	
	comp=Z,23nm,1.1s,mb4.4						
POO	**Poona**	**22.20**	**304**	*e*	**S**	**10 45 58.0**	**+1.5**
PKI	**Pulchoki**	**22.20**	**342**	*e*P	**P**	**10 41 59.0**	**-0.1**
	comp=Z,37nm,0.9s,mb4.8						
DMN	**Daman**	**22.34**	**341**	*e*P	**P**	**10 42 00.6**	**+0.2**
	comp=Z,26nm,0.7s,mb4.8						
GUN	**Gumba**	**22.38**	**343**	*e*P	**P**	**10 42 00.2**	**-0.7**
	comp=Z,33nm,0.8s,mb4.8						
BHPL	**Bhopal**	**22.44**	**320**	*e*P	**P**	**10 42 01.9**	**+0.3**
BHPL				AMb	AMB	10 42 06.4	
	comp=Z,12nm,1.2s,mb4.2						
BHPL				*e*		10 46 22.4	
KKN	**Kakani**	**22.45**	**342**	*e*P	**P**	**10 42 01.6**	**0.0**
	comp=Z,36nm,0.8s,mb4.8						
GKN	**Gorkha**	**22.85**	**341**	*e*P	**P**	**10 42 06.5**	**+0.9**
	comp=Z,90nm,1.1s,mb5.1						
KOLN	**Koldanda**	**23.00**	**338**	*e*P	**P**	**10 42 08.4**	**+1.3**
	comp=Z,55nm,1.2s,mb4.9						
LSA	**Lhasa**	**23.18**	**356**	*e*P	**P**	**10 42 10.9**	**+2.0**
	comp=Z,7.6nm,0.5s,mb4.4						
PTH	**Pithoragarh**	**25.95**	**334**	*e*P	**P**	**10 42 35.0**	**-0.4**
PTH				*e*		10 46 46.0	
ENH	**Enshi**	**28.30**	**31**	*e*P	**P**	**10 42 55.9**	**-0.9**
	comp=Z,4.5nm,0.5s,mb4.3						
XAN	**Xi'an**	**31.14**	**26**	P	**P**	**10 43 21.0**	**-1.1**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
UCH	**Uchtor**	**39.22**	**338**	P	**P**	**10 44 31.8**	**+0.9**
	SNR=8.5						
KBK	**Karagaybulak**	**39.43**	**339**	P	**P**	**10 44 34.2**	**+1.6**
	SNR=10						
AML	**Almayashu**	**39.44**	**337**	P	**P**	**10 44 34.2**	**+1.5**
	SNR=12						
AAK	**Ala-Archa**	**39.58**	**338**	P	**P**	**10 44 35.5**	**+1.7**
	SNR=6.1						
AAK	**Ala-Archa**	**39.58**	**338**	*e*P	**P**	**10 44 33.9**	**+0.1**
	comp=Z,5.7nm,0.9s,mb4.3						
USP	**Ospenovka**	**40.12**	**339**	P	**P**	**10 44 39.0**	**+0.7**
	SNR=5.7						
FITZ	**Fitzroy Crossi**	**40.40**	**128**	*e*P	**P**	**10 44 41.0**	**+0.1**
	comp=Z,60nm,4.2s						
ULN	**Ulaanbaatar**	**42.96**	**14**	*e*P	**P**	**10 45 01.9**	**+0.2**
	comp=Z,1.8nm,0.8s,mb3.9						
HIA	**Hailar**	**48.25**	**23**	*e*P	**P**	**10 45 43.0**	**-0.8**
	comp=Z,14nm,1.2s,mb4.9						
WRAB	**Tennant Creek**	**48.38**	**124**	*e*P	**P**	**10 45 45.3**	**+0.2**
	comp=Z,7.1nm,0.6s,mb4.9						
WB2	**Warramunga Arr**	**48.39**	**124**	*e*P	**P**	**10 45 44.5**	**-0.7**
ARU	**Arti**	**56.76**	**338**	*e*P	**P**	**10 46 45.6**	**-1.5**
	comp=Z,11nm,1.2s,mb4.8						
KHC	**Kasperske Hory**	**78.23**	**319**	*e*P	**P**	**10 49 01.5**	**-0.6**
KHC				*e*	pP	10 49 11.5	-1.0
KHC	**Kasperske Hory**	**78.23**	**319**	*e*P	**P**	**10 49 01.5**	**-0.6**
KHC				pP	pP	10 49 11.5	-1.0
JCT	**Junction City**	**141.27**	**18**	*e*PKPdf	PKPdf	10 56 34.6	+2.5

MAN 02 10:44:17.9, 16.55N×120.19E, h8km, mb4.1, ML2.9, MS2.6, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.31**	**238**	*e*P	Pg	10 44 24.9	+0.6
BCPH	**Baguio City Da**	**0.41**	**114**	⇑*i*P	Pg	10 44 26.6	+0.3
BCPH				*i* S	Sg	10 44 34.2	+2.3
SCZP	**Santa Cruz**	**0.81**	**199**	*e*P	Pb	10 44 33.9	0.0
ABRA	**Dolores**	**1.21**	**25**	*e*P	Pb	10 44 40.6	+0.1
PCPH	**Palayan**	**1.31**	**138**	⇓*e*P	Pb	10 44 41.1	-1.4
PCPH				*e*S	Sb	10 45 01.8	+2.5
BALP	**Baler**	**1.56**	**121**	*e*P	Pn	10 44 45.4	-0.7
APYP	**Conner**	**1.65**	**38**	*e*P	Pn	10 44 42.1	-5.4
APYP				*e*S	Sn	10 45 03.0	-6.0
QVPH	**Quezon City--P**	**2.06**	**156**	⇓*i*P	Pn	10 45 02.2	+8.9
QVPH				*i* S	Sn	10 45 19.6	+0.1
LQP	**Lukban**	**2.75**	**151**	*e*P	Pn	10 45 02.3	-0.9

CASC 02 10:58:40.0±1.1, 11.97N×88.26W, h31km±10km, MD3.8, 3C-4D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.36**	**18**	⇑*e*P	Pn	10 59 02.7	-0.5
CNCH				*e*S	Sn	10 59 21.6	+1.3
CRIN	**San Cristobal**	**1.38**	**58**	*e*P	Pn	10 59 03.5	+0.1
LEON	**Leon**	**1.40**	**72**	⇓*e*P	Pn	10 59 03.2	-0.6
BLLM	**Bellamira**	**1.46**	**1**	⇑*e*P	Pn	10 59 03.9	-0.7
BLLM				*e*S	Sn	10 59 23.0	+0.1
TEL3	**Telica 3**	**1.50**	**66**	*e*P	Pn	10 59 04.3	-0.9
MIRN	**Miramar**	**1.58**	**73**	*e*P	Pn	10 59 05.7	-0.6
MIRN				*e*S	Sn	10 59 25.1	-0.7
CNGN	**Cerro Negro**	**1.61**	**71**	*e*P	Pn	10 59 06.6	-0.2
COPN	**Copaltepe**	**1.64**	**83**	⇓*e*P	Pn	10 59 06.9	-0.3
COPN				*e*S	Sn	10 59 27.2	-0.2
MOMJ	**Momotombo**	**1.73**	**75**	⇑*e*P	Pn	10 59 08.0	-0.5
MOMJ				*e*S	Sn	10 59 29.3	-0.4
CAHU	**Cacacuatique**	**1.79**	**1**	*e*P	Pn	10 59 08.8	-0.5
CAHU				*e*S	Sn	10 59 32.5	+1.4
LFRS	**El Faro**	**1.82**	**334**	*e*P	Pn	10 59 08.5	-1.3
LFRS				*e*S	Sn	10 59 31.7	-0.2
APYN	**Apoyeque**	**1.88**	**82**	*e*P	Pn	10 59 10.3	-0.4
APYN				*e*S	Sn	10 59 33.6	+0.1
XAVN	**Gruta Xavier**	**1.90**	**84**	*e*P	Pn	10 59 10.7	-0.1
LBRS	**Las Brisas**	**1.92**	**336**	*e*P	Pn	10 59 11.0	-0.1
LFU	**La Fuente**	**1.95**	**335**	*e*P	Pn	10 59 11.0	-0.6
MGAN	**Managua**	**1.97**	**85**	⇓*e*P	Pn	10 59 11.7	-0.2
MGAN				*e*S	Sn	10 59 35.8	0.0
BOQS	**Boqueron**	**2.02**	**330**	*e*P	Pn	10 59 12.0	-0.6
BOQS				*e*S	Sn	10 59 37.2	+0.2
SBLS	**San Blas**	**2.29**	**324**	*e*P	Pn	10 59 15.9	-0.5
SBLS				*e*S	Sn	10 59 44.6	+0.9
RTR	**El Retiro**	**2.34**	**325**	⇓*e*P	Pn	10 59 17.1	-0.2
RTR				*e*S	Sn	10 59 45.9	+0.6

BJI ***02*** *11:01:32.3, 52.45N×158.68E, h161km, mB4.9, mb4.6*
MOS ***02*** *11:01:38.0±0.9, 52.61N×157.84E, h168km, mb4.4/28, Error ellipse: s-maj=13.0km s-min=6.3km az=87.6*
MOS Felt (II) at Petropavlovsk-Kamchatskiy.
KRSC ***02*** *11:01:39.4±0.9, 52.64N×158.19E, h168km±2km, ML4.9*
NEIC ***02*** *11:01:39.2±0.3, 52.73N×157.78E, mb4.4/35, Error ellipse: s-maj=8.6km s-min=5.3km az=153.0*
NEIC Felt [II] at Petropavlovsk-Kamchatskiy.

ISC 02 11:01:38.8±0.2, 52.67N±0.03×157.91E±0.07, h174km±1km, h164km±2.5km: pP-P, n151, σ1§00/187, mb4.5/43, 9C-5D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRL	**Gorelyy**	**0.16**	**140**	*i* P	**P**	**11 02 02.7**	**+0.5**
GRL				*i* S	**S**	**11 02 20.0**	**-0.2**
KRMR	**Karymshinskiy**	**0.21**	**40**	*i* P	**P**	**11 02 02.5**	**+0.1**
KRMR				*i* S	**S**	**11 02 19.8**	**-0.6**
RUS	**Russkaya**	**0.44**	**123**	*i* P	**P**	**11 02 02.2**	**-0.9**
RUS				*e*S	**S**	**11 02 18.9**	**-2.8**
APC	**Apacha**	**0.52**	**300**	*i* P	**P**	**11 02 04.7**	**+1.3**
APC				*e*S	**S**	**11 02 23.2**	**+0.9**
APC				Smax			
	7μm,0.9s						
PET	**Petropavlovsk**	**0.57**	**52**	α *i*PN	**P**	**11 02 03.5**	**-0.1**
PET				*e*S	**S**	**11 02 21.0**	**-1.7**
PET				pmax	pmax		
	comp=Z,4μm,0.6s						
PET				pmax	pmax		
	comp=N,1μm,0.4s						
PET				pmax	pmax		
	comp=E,652nm,0.7s						
PET				pmax	pmax		
	comp=Z,2μm,0.3s						
PET				pmax	pmax		
	comp=N,1μm,0.4s						
PET				pmax	pmax		
	comp=E,1μm,0.8s						
PET				pmax	pmax		
	comp=Z,3μm,0.5s						
PET				smax			
	comp=N,4μm,0.6s						
PET				smax			
	comp=E,6μm,0.5s						
PET				smax			
	comp=N,10μm,1.7s						
PET				smax			
	comp=E,11μm,2.0s						
PET	**Petropavlovsk**	**0.57**	**52**	⇑*i*Pn	**P**	**11 02 03.4**	**-0.2**
PET				*e*		11 02 06.7	
PET				*e*Sn	**S**	**11 02 20.4**	**-2.4**
PET	**Petropavlovsk**	**0.57**	**52**	*i* P	**P**	**11 02 03.4**	**-0.2**
PET				*e*S	**S**	**11 02 20.9**	**-1.8**
KOK	**Koryaka**	**0.76**	**35**	*i* P	**P**	**11 02 05.3**	**+0.7**
KOK				*i* S	**S**	**11 02 24.5**	**+0.1**
UGLR	**Uglovaya**	**0.77**	**45**	*i* P	**P**	**11 02 05.1**	**+0.5**
AVH	**Avacha**	**0.78**	**40**	*i* P	**P**	**11 02 05.3**	**+0.6**
AVH				*e*S	**S**	**11 02 24.1**	**-0.5**
SMAR	**Somma**	**0.80**	**42**	*i* P	**P**	**11 02 05.3**	**+0.5**
SMAR				*i* S	**S**	**11 02 25.0**	**+0.1**
MIPR	**Malaya Ipel'ka**	**0.81**	**241**	*e*P	**P**	**11 02 05.8**	**+1.0**
SDLR	**Sedlovina**	**0.85**	**44**	*i* P	**P**	**11 02 05.2**	**+0.1**
SDLR				*e*S	**S**	**11 02 24.0**	**-1.3**
NLC	**Nalytchevo**	**1.00**	**59**	*i* P	**P**	**11 02 05.2**	**-0.9**
NLC				*e*S	**S**	**11 02 24.1**	**-3.1**
GNL	**Ganaly**	**1.03**	**1**	*i* P	**P**	**11 02 07.4**	**+1.1**
GNL				*i* S	**S**	**11 02 28.1**	**+0.6**
SPN	**Mys Shipunski**	**1.35**	**71**	*i* P	**P**	**11 02 08.1**	**-1.1**
SPN				*e*S	**S**	**11 02 29.1**	**-3.6**
PAU	**Pauzhetka**	**1.38**	**210**	*i* P	**P**	**11 02 10.1**	**+0.6**
PAU				*e*S	**S**	**11 02 32.6**	**-0.6**
PAU				Smax			
	comp=E,3μm,0.9s						
SKR	**Severo-Kuril's**	**2.28**	**210**	⇑*i*PN	**P**	**11 02 16.1**	**-3.0**
SKR				*i* S	**S**	**11 02 45.4**	**-4.7**
SKR				pmax	pmax		
	comp=E,280nm,0.5s						
SKR				pmax	pmax		
	comp=Z,620nm,0.5s						
SKR				pmax	pmax		
	comp=N,250nm,0.2s						
SKR				smax			
	comp=N,14μm,2.0s						
SKR				smax			
	comp=E,7μm,2.0s						
SKR				smax			
	comp=N,6μm,0.5s						
SKR				smax			
	comp=E,3μm,0.5s						
SKR	**Severo-Kuril's**	**2.28**	**210**	*i* P	**P**	**11 02 22.9**	**+3.8**
SKR				*i* S	**S**	**11 02 52.2**	**+2.1**
ALID	**Alaid**	**2.32**	**220**	*e*P	**P**	**11 02 20.3**	**+0.7**
TUMR	**Tumrok**	**2.93**	**26**	*e*P	**P**	**11 02 28.2**	**+1.3**
TUMR				*e*S	**S**	**11 03 04.1**	**+0.1**
ESO	**Esso**	**3.29**	**8**	*i* P	**P**	**11 02 33.0**	**+1.5**
ESO				*e*S	**S**	**11 03 12.0**	**0.0**
ESO				Smax			
	comp=E,320nm,1.5s						
KMNR	**Kamenistaya**	**3.38**	**23**	*i* P	**P**	**11 02 34.1**	**+1.5**
KMNR				*e*S	**S**	**11 03 14.5**	**+0.5**
KPT	**Kopyto**	**3.57**	**21**	*i* P	**P**	**11 02 35.9**	**+0.9**
KPT				*e*S	**S**	**11 03 17.1**	**-1.1**
KOZ	**Kozyrevsk**	**3.58**	**18**	P	**P**	**11 02 36.1**	**+1.0**
KOZ				S	**S**	**11 03 17.3**	**-1.2**
KOZ	**Kozyrevsk**	**3.58**	**18**	*i* P	**P**	**11 02 36.3**	**+1.2**
KOZ				*i* S	**S**	**11 03 17.7**	**-0.8**
KOZR	**Kozyr**	**3.60**	**18**	PN	**P**	**11 02 36.1**	**+0.8**
KOZR				S	**S**	**11 03 17.3**	**-1.5**
ZLN	**Zelenaya**	**3.76**	**26**	*i* P	**P**	**11 02 38.8**	**+1.5**
ZLN				*i* S	**S**	**11 03 21.9**	**-0.6**
LGNR	**Loginova**	**3.79**	**24**	*i* P	**P**	**11 02 39.5**	**+1.8**
LGNR				*e*S	**S**	**11 03 23.6**	**+0.5**
SRDR	**Sredinnyy**	**3.80**	**15**	*i* P	**P**	**11 02 39.0**	**+1.1**
SRDR				*e*S	**S**	**11 03 22.1**	**-1.4**
CIRR	**Tsirk**	**3.83**	**25**	*e*P	**P**	**11 02 39.5**	**+1.2**
CIRR				*e*S	**S**	**11 03 23.4**	**-0.7**
KRSR	**Krestovskiy**	**3.88**	**23**	*e*P	**P**	**11 02 39.9**	**+1.0**
KRSR				*e*S	**S**	**11 03 23.8**	**-1.4**
KLY	**Klyuchi**	**3.98**	**23**	P	**P**	**11 02 41.7**	**+1.4**
KLY				S	**S**	**11 03 28.1**	**+0.4**
KLY	**Klyuchi**	**3.98**	**23**	*i* P	**P**	**11 02 41.9**	**+1.6**
KLY				*i* S	**S**	**11 03 27.3**	**-0.4**
SVLR	**Shiveluch**	**4.36**	**25**	*e*P	**P**	**11 02 46.1**	**+1.0**
SVLR				*e*S	**S**	**11 03 34.7**	**-1.6**
KBG	**Krutoberegovo**	**4.55**	**36**	*i* P	**P**	**11 02 47.1**	**-0.5**
KBG				*e*S	**S**	**11 03 36.1**	**-4.6**
KBG				Smax			
	comp=E,2μm,0.5s						
KBTR	**Krutoberegovo**	**4.56**	**37**	P	**P**	**11 02 46.8**	**-0.9**
KBTR				S	**S**	**11 03 35.3**	**-5.6**
KBTR	**Krutoberegovo**	**4.56**	**37**	*i* P	**P**	**11 02 46.8**	**-0.9**
KBTR				*i* S	**S**	**11 03 36.0**	**-4.9**
MA2	**Magadan**	**7.98**	**333**	⇓*i*PN	**P**	**11 03 33.8**	**+1.0**
MA2				pmax	pmax		
	comp=Z,28nm,0.6s						
MA2	**Magadan**	**7.98**	**333**	⇓*i*P	**P**	**11 03 33.8**	**+1.0**
	comp=Z,28nm,0.6s						
FX1	**Attu Island--F**	**9.25**	**83**	*e*Pn	**P**	**11 03 49.9**	**+0.4**
YSS	**Yuzh-Sakhalins**	**11.33**	**246**	*e*PN	**P**	**11 04 18.4**	**+2.0**
YSS	**Yuzh-Sakhalins**	**11.33**	**246**	P	**P**	**11 04 17.8**	**+1.5**
BILL	**Bilibino**	**15.94**	**11**	*i* P	**P**	**11 05 16.2**	**+1.9**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BILL	**Bilibino**	**15.94**	**11**	*e*P	**P**	**11 05 15.0**	**+0.7**
	comp=Z,7.2nm,0.3s						
KLR	**Kul'dur**	**16.80**	**269**	*e*P	**P**	**11 05 24.6**	**-0.4**
YAK	**Yakutsk**	**17.74**	**313**	*d i*P	**P**	**11 05 34.2**	**-1.4**
YAK				pmax	pmax		
	comp=Z,80nm,0.7s						
YAK	**Yakutsk**	**17.74**	**313**	*e*P	**P**	**11 05 33.6**	**-2.0**
	comp=Z,83nm,0.7s						
MDJ	**Mudanjiang**	**20.27**	**258**	P	**P**	**11 06 00.4**	**-1.6**
MDJ				AP		11 06 28.2	
MDJ				XP		11 06 48.4	
MDJ				S	**S**	**11 09 35.1**	**+0.7**
MDJ				PCP	PcP	11 10 08.1	-1.1
MDJ				XS		11 10 23.0	
MDJ				SCP		11 13 29.0	
MDJ				PCS		11 13 45.5	
MDJ				SCS	ScS	11 17 12.4	+3.1
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,83nm,9.6s						
MDJ	**Mudanjiang**	**20.27**	**258**	*e*P	**P**	**11 06 01.0**	**-1.0**
	comp=Z,4.0nm,0.5s						
MAJO	**Matsushiro**	**21.26**	**228**	⇑*e*P	**P**	**11 06 13.0**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,81nm,0.8s,mb5.1						
MAJO	**Matsushiro**	**21.26**	**228**	⇑*e*P	**P**	**11 06 12.9**	**+1.0**
	comp=Z,81nm,0.8s,mb5.1						
MAT	**Matsushiro**	**21.26**	**228**	*e*P	**P**	**11 06 13.0**	**+1.1**
MAT				pmax	pmax		
	comp=Z,88nm,1.0s,mb5.0						
MAT	**Matsushiro**	**21.26**	**228**	*e*P	**P**	**11 06 13.0**	**+1.1**
	comp=Z,88nm,1.0s,mb5.0	

ARU	**Arti**	**52.80 317**	⇓*i*P	**P**	**11 10 35.4**	**-2.1**
ARU			*e*		11 12 46.4	
ARU			*e*PPP	PPP	11 13 52.0	+1.2
ARU			*e*S	**S**	**11 17 51.5**	**+0.9**
ARU			pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4					
ARU	**Arti**	**52.80 317**	*e*P	**P**	**11 10 35.1**	**-2.4**
	comp=Z,7.0nm,0.6s,mb4.6					
AAK	**Ala-Archa**	**54.07 295**	*e*P	**P**	**11 10 44.9**	**-2.1**
AAK			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1					
AAK	**Ala-Archa**	**54.07 295**	*e*P	**P**	**11 10 44.9**	**-2.2**
	comp=Z,3.0nm,0.8s,mb4.1					
BOZ	**Bozeman (W)**	**55.82 58**	*e*P	**P**	**11 11 00.6**	**+1.0**
BOZ			pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2					
BOZ	**Bozeman (W)**	**55.82 58**	*e*P	**P**	**11 11 00.6**	**+0.9**
	comp=Z,2.6nm,0.7s,mb4.2					
CMAR	**Chiang Mai Arr**	**56.80 256**	*i* P	**P**	**11 11 07.0**	**+0.1**
CMAR			pmax	pmax		
	comp=Z,2.0nm,0.8s					
GUN	**Gumba**	**57.61 275**	*e*P	**P**	**11 11 11.4**	**-1.1**
	comp=Z,7.6nm,0.4s,mb4.9					
KKN	**Kakani**	**58.06 275**	*e*P	**P**	**11 11 14.5**	**-1.2**
	comp=Z,14nm,0.4s,mb5.1					
PKI	**Pulchoki**	**58.15 275**	*e*P	**P**	**11 11 15.2**	**-1.0**
	comp=Z,6.4nm,0.4s,mb4.8					
GKN	**Gorkha**	**58.30 276**	*e*P	**P**	**11 11 16.4**	**-0.9**
	comp=Z,7.4nm,0.4s,mb4.9					
DMN	**Daman**	**58.30 275**	*e*P	**P**	**11 11 16.8**	**-0.5**
	comp=Z,12nm,0.4s,mb5.1					
BW06	**Boulder Array**	**58.88 59**	*e*P	**P**	**11 11 21.6**	**+0.4**
	comp=Z,2.0nm,0.6s,mb4.1					
BW06			*e*pP	pP	11 11 58.6	-3.0
KOLN	**Koldanda**	**59.10 276**	*e*P	**P**	**11 11 21.4**	**-1.5**
	comp=Z,6.9nm,0.5s,mb4.7					
KAF	**Kangasniemi**	**59.34 336**	*e*p	**P**	**11 11 22.1**	**-1.9**
FINES	**FINESS Array B**	**59.97 336**	*i* P	**P**	**11 11 25.4**	**-2.9**
FINES			pmax	pmax		
	comp=Z,2.0nm,0.7s					
OBN	**Obninsk**	**62.15 326**	*e*P	**P**	**11 11 38.3**	**-4.7**
OBN			pmax	pmax		
	comp=Z,30nm,1.4s,mb4.9					
PV10	**Paradox Valley**	**62.30 62**	*e*P	**P**	**11 11 44.0**	**-0.2**
PV10			*e*pP	pP	11 12 22.9	-2.3
PV01	**Paradox Valley**	**62.73 62**	*e*P	**P**	**11 11 47.8**	**+0.7**
ISCO	**Idaho Springs**	**63.08 59**	*e*P	**P**	**11 11 50.6**	**+1.2**
ISCO			*e**PP	pP	11 12 29.1	-1.3
ISCO			pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0					
ISCO	**Idaho Springs**	**63.08 59**	*e*P	**P**	**11 11 50.6**	**+1.2**
	comp=Z,2.2nm,0.9s,mb4.0					
ISCO			*e*pP	pP	11 12 29.1	-1.3
NB2	**NORSAR Subarra**	**63.56 343**	P	**P**	**11 11 51.3**	**-0.8**
	comp=Z,5.7nm,0.6s,mb4.6,baz=21,slow=6.5					
NB2	**NORSAR Subarra**	**63.56 343**	P	**P**	**11 11 51.3**	**-0.8**
NB2			pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6					
SOC	**Sochi**	**70.38 317**	*e*P	**P**	**11 12 34.5**	**-0.6**
SOC			*e**PP	pP	11 13 16.1	-0.8
SOC			*e*PPP	PPP	11 16 58.9	+2.9
SOC			*e*S	S	11 21 33.7	+1.8
SOC			*e*SS	SS	11 26 12.2	+4.1
SOC			*e*SSS	SSS	11 29 13.6	-2.1
SOC			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6					
SOC			pmax	pmax		
	comp=N,9.0nm,1.1s					
SOC			pmax	pmax		
	comp=E,7.0nm,1.1s					
KOLS	**Kolonicke sedl**	**71.99 331**	*i* P	**P**	**11 12 44.3**	**-0.3**
CRVS	**Cervenica-Dubn**	**72.26 331**	*i* P	**P**	**11 12 46.5**	**+0.3**
CLL	**Collm**	**72.26 338**	*i* P	**P**	**11 12 46.2**	**0.0**
CLL	**Collm**	**72.26 338**	P	**P**	**11 12 46.2**	**0.0**
UPC	**Upice**	**72.28 336**	*e*P	**P**	**11 12 56.1**	**+10**
PRU	**Pruhonice**	**73.12 336**	*e*P	**P**	**11 12 51.1**	**0.0**
VYHS	**Vyhne**	**73.37 333**	*i* P	**P**	**11 12 53.0**	**+0.4**
ZST	**Bratislava**	**74.11 334**	*i* P	**P**	**11 12 58.4**	**+1.5**
KHC	**Kasperske Hory**	**74.15 337**	*e*P	**P**	**11 12 57.5**	**+0.4**
GIVF	**Givet**	**75.10 342**	*e*P	**P**	**11 13 02.6**	**+0.1**
WRAB	**Tennant Creek**	**75.14 203**	*e*P	**P**	**11 13 02.4**	**-0.9**
WRAB			pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3					
WRAB	**Tennant Creek**	**75.14 203**	*e*P	**P**	**11 13 02.4**	**-1.0**
	comp=Z,4.1nm,0.5s,mb4.3					
BAIF	**Baives**	**75.25 343**	*e*P	**P**	**11 13 02.7**	**-0.6**
CDF	**Champ du Feu**	**76.24 340**	*e*P	**P**	**11 13 08.2**	**-0.7**
	comp=Z,12nm,1.0s,mb4.2					
CDF	**Champ du Feu**	**76.24 340**	*e*P	**P**	**11 13 08.2**	**-0.7**
CDF			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2					
MEZF	**Maizieres J'vi**	**76.59 342**	*e*P	**P**	**11 13 10.5**	**-0.4**
	comp=Z,42nm,1.1s,mb4.7					
HAU	**Haudompre**	**76.81 341**	*e*P	**P**	**11 13 12.1**	**0.0**
GRR	**Gorron**	**77.71 346**	*e*P	**P**	**11 13 17.3**	**+0.3**
CABF	**La Chapelle**	**78.20 341**	*e*P	**P**	**11 13 19.6**	**-0.2**
SSF	**Saint Saulge**	**78.27 342**	*e*P	**P**	**11 13 20.3**	**+0.2**
SSF			pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4					
SSF	**Saint Saulge**	**78.27 342**	*e*P	**P**	**11 13 20.3**	**+0.2**
	comp=Z,9.0nm,0.9s,mb4.4					
AVF	**Avril sur Loir**	**78.56 342**	*e*P	**P**	**11 13 21.3**	**-0.4**
	comp=Z,18nm,0.9s,mb4.4					
AVF	**Avril sur Loir**	**78.56 342**	*e*P	**P**	**11 13 21.3**	**-0.4**
AVF			pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4					
SMF	**Signal de Mont**	**78.60 342**	*e*P	**P**	**11 13 21.5**	**-0.4**
	comp=Z,41nm,1.4s,mb4.6					
SMF	**Signal de Mont**	**78.60 342**	*e*P	**P**	**11 13 21.5**	**-0.4**
SMF			pmax	pmax		
	comp=Z,21nm,1.4s,mb4.6					
LPL	**La Plagne**	**79.11 340**	*e*P	**P**	**11 13 25.3**	**+0.6**
	comp=Z,8.3nm,0.5s,mb4.3					
LPL	**La Plagne**	**79.11 340**	*e*P	**P**	**11 13 25.3**	**+0.6**
LPL			pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3					
LPG	**La Plagne**	**79.13 340**	*e*P	**P**	**11 13 25.4**	**+0.6**
	comp=Z,21nm,0.8s,mb4.5					
LPG	**La Plagne**	**79.13 340**	*e*P	**P**	**11 13 25.4**	**+0.6**
LPG			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5					
TCF	**Toulx Ste Croi**	**79.25 343**	*e*P	**P**	**11 13 26.0**	**+0.6**
	comp=Z,28nm,1.2s,mb4.5					
TCF	**Toulx Ste Croi**	**79.25 343**	*e*P	**P**	**11 13 26.0**	**+0.6**
TCF			pmax	pmax		
	comp=Z,14nm,1.2s,mb4.5					
MFF	**Saint Martin d**	**79.34 345**	*e*P	**P**	**11 13 25.7**	**-0.2**
MBDF	**Montbardon**	**79.86 340**	*e*P	**P**	**11 13 30.8**	**+2.1**
	comp=Z,8.1nm,0.9s,mb4.1					
MBDF	**Montbardon**	**79.86 340**	*e*P	**P**	**11 13 30.8**	**+2.1**
MBDF			pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0					
ORIF	**Oris-en-Rattie**	**79.86 340**	*e*P	**P**	**11 13 28.5**	**-0.2**
	comp=Z,8.7nm,0.7s,mb4.2					
ORIF	**Oris-en-Rattie**	**79.86 340**	*e*P	**P**	**11 13 28.5**	**-0.2**
ORIF			pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2					
VIVF	**Saint-Julien-l**	**80.16 341**	*e*P	**P**	**11 13 30.5**	**+0.1**
	comp=Z,15nm,1.0s,mb4.3					
VIVF	**Saint-Julien-l**	**80.16 341**	*e*P	**P**	**11 13 30.5**	**+0.1**
VIVF			pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2					
RJF	**Les Rejaudoux**	**80.32 343**	*e*P	**P**	**11 13 31.4**	**+0.2**
CAF	**Calviac**	**80.59 343**	*e*P	**P**	**11 13 33.0**	**+0.4**
	comp=Z,12nm,0.7s,mb4.3					
CAF	**Calviac**	**80.59 343**	*e*P	**P**	**11 13 33.0**	**+0.4**
CAF			pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3					
PGF	**Pioggiola**	**81.43 337**	*e*P	**P**	**11 13 37.2**	**+0.1**
	comp=Z,17nm,0.8s,mb4.4					
PGF	**Pioggiola**	**81.43 337**	*e*P	**P**	**11 13 37.2**	**+0.1**
PGF			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5					
EPF	**Esparros**	**82.73 344**	*e*P	**P**	**11 13 44.3**	**+0.6**
	comp=Z,4.5nm,0.6s,mb4.1					
EPF	**Esparros**	**82.73 344**	*e*P	**P**	**11 13 44.3**	**+0.6**
EPF			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0					
SJPF	**Ste Jean**	**82.91 345**	*e*P	**P**	**11 13 45.4**	**+0.7**
	comp=Z,15nm,0.8s,mb4.5					
SJPF	**Ste Jean**	**82.91 345**	*e*P	**P**	**11 13 45.4**	**+0.7**
SJPF			pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5					
ETSF	**Etsaut**	**83.01 344**	*e*P	**P**	**11 13 45.8**	**+0.6**
	comp=Z,12nm,0.7s,mb4.4					
ETSF	**Etsaut**	**83.01 344**	*e*P	**P**	**11 13 45.8**	**+0.6**
ETSF			pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4					
SNAA	**Sanae**	**159.12 197**	⇑*i*	PKPdf	11 21 08.5	-5.4
VNA2	**Neumayer--Watz**	**160.52 194**	⇓*i*	PKPdf	11 21 16.3	+0.9
VNA3	**Neumayer Olymp**	**160.55 192**	⇑*i*	PKPdf	11 21 13.4	-2.0

CASC 02 11:07:42.1±1.5, 12.17N×88.18W, h23km±6km, MD4.0, ML3.0, 3C-8D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.15**	**17**	*e*P	Pn	11 08 02.8	-0.2
CNCH				*e*S	Sb	11 08 18.9	+1.1
CRIN	**San Cristobal**	**1.22**	**64**	⇓*e*P	Pn	11 08 04.5	+0.5
CRIN				*e*S	Sb	11 08 21.2	+1.4
BLLM	**Bellamira**	**1.27**	**357**	⇑*e*P	Pn	11 08 04.9	+0.3
LEON	**Leon**	**1.28**	**79**	⇑*e*P	Pn	11 08 03.9	-0.9
LEON				*e*S	Sn	11 08 21.6	+0.2
TEL3	**Telica 3**	**1.36**	**73**	⇓*e*P	Pn	11 08 05.3	-0.7
TEL3				*e*S	Sn	11 08 23.4	-0.1
MIRN	**Miramar**	**1.46**	**79**	⇓*e*P	Pn	11 08 07.1	-0.3
MIRN				*e*S	Sn	11 08 26.2	+0.2
CNGN	**Cerro Negro**	**1.48**	**77**	*e*P	Pn	11 08 07.4	-0.3
CNGN				*e*S	Sn	11 08 27.8	+1.2
COPN	**Copaltepe**	**1.55**	**89**	⇓*e*P	Pn	11 08 07.7	-1.0
COPN				*e*S	Sn	11 08 28.5	+0.2
CAHU	**Cacacuatique**	**1.59**	**359**	⇓*e*P	Pn	11 08 10.2	+0.9
MOMJ	**Momotombo**	**1.62**	**81**	⇓*e*P	Pn	11 08 08.7	-0.9
MOMJ				*e*S	Sn	11 08 30.4	+0.4
LFRS	**El Faro**	**1.68**	**329**	*e*P	Pn	11 08 09.6	-1.0
LFRS				*e*S	Sn	11 08 32.8	+1.2
APYN	**Apoyeque**	**1.79**	**88**	*e*P	Pn	11 08 10.3	-1.8
APYN				*e*S	Sn	11 08 33.5	-0.8
XAVN	**Gruta Xavier**	**1.81**	**90**	*e*P	Pn	11 08 11.5	-0.9
XAVN				*e*S	Sn	11 08 34.8	-0.1
LFU	**La Fuente**	**1.82**	**330**	*e*P	Pn	11 08 12.0	-0.5
LFU				*e*S	Sn	11 08 34.9	-0.1
MGAN	**Managua**	**1.89**	**90**	⇓*e*P	Pn	11 08 12.4	-1.2
MGAN				*e*S	Sn	11 08 36.5	-0.4
	comp=E,160nm,0.7s						
BOQS	**Boqueron**	**1.89**	**326**	⇓*e*P	Pn	11 08 13.4	-0.2
BOQS				*e*S	Sn	11 08 38.0	+1.1
TICN	**Ticuantepe**	**1.91**	**94**	*e*P	Pn	11 08 13.2	-0.6
WILN	**Americas 2**	**1.95**	**90**	*e*S	Sn	11 08 38.2	-0.1
SBLS	**San Blas**	**2.18**	**320**	⇑*e*P	Pn	11 08 17.0	-0.7
SBLS				*e*S	Sn	11 08 44.8	+0.6
SNJE	**San Jose**	**2.19**	**321**	*e*P	Pn	11 08 16.9	-1.0
RTR	**El Retiro**	**2.24**	**320**	*e*P	Pn	11 08 17.6	-1.0
RBDL	**Robledal**	**2.43**	**323**	*e*P	Pn	11 08 20.2	-1.1
PRS1	**Puriscal**	**4.37**	**119**	*e*P	Pn	11 08 48.8	-0.1
LAJ	**Bijagual**	**4.59**	**119**	*e*P	Pn	11 08 47.3	-4.8
LAJ				*e*S	Sn	11 09 35.9	-9.5
LCR2	**La Lucha 2**	**4.76**	**120**	*e*P	Pn	11 08 53.6	-0.7
URSC	**Urasca**	**4.90**	**118**	*e*P	Pn	11 08 56.6	+0.2
URSC				*e*S	Sn	11 09 53.2	0.0

*CSEM **02** 11:22:49.6±0.1, 35.03N×3.76W, h12km, MD2.6, Error ellipse: s-maj=4.2km s-min=2.2km az=91.0*
*CNRM **02** 11:22:50.0, 35.08N×3.62W, h10km, MD2.6*
*MDD **02** 11:22:52.0±0.5, 35.01N×3.86W, h3km±5km, mb3.3/6, Error ellipse: s-maj=5.6km s-min=3.4km az=54.0, PRXIMO*
*NEIC **02** 11:22:53.3, 35.20N×3.85W, MG2.9(MDD), After MDD.*
ISC 02 11:22:50.9±0.5, 35.07N±0.03×3.87W±0.04, h10km, n27, σ1§28/49, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.14**	**137**	P	**Pg**	**11 22 53.0**	**-1.3**
TOU				S	**Sg**	**11 22 56.0**	**-0.6**
TOU	**Touzarine**	**0.14**	**137**	*i* P	**Pg**	**11 22 53.0**	**-1.3**
MPAL	**Palemas**	**0.17**	**340**	P	**Pg**	**11 22 56.0**	**+1.3**
MPAL				S	**Sg**	**11 22 59.0**	**+2.3**
MPAL	**Palemas**	**0.17**	**340**	*i* P	**Pg**	**11 22 56.0**	**+1.3**
EMEL	**Melilla**	**0.79**	**73**	P	**Pb**	**11 23 06.6**	**+0.3**
	141nm,0.1s,SNR=15						
EMEL				S	**Sb**	**11 23 17.5**	**+0.9**
	343nm,0.2s,SNR=5.0						
EMLI	**Melilla**	**0.79**	**73**	P	**Pb**	**11 23 06.7**	**+0.4**
	103nm,0.1s,SNR=15						
EMLI				S	**Sb**	**11 23 17.4**	**+0.6**
	180nm,0.6s,SNR=5.0						
TZK	**Tazeka**	**1.01**	**195**	*i* P	**Pb**	**11 23 09.5**	**-0.6**
TZK				*i* S	**Sb**	**11 23 24.0**	**+0.8**
EMIJ	**Mijas**	**1.66**	**334**	P	**Pn**	**11 23 21.0**	**+0.6**
EMIJ				S	**Sn**	**11 23 40.5**	**-1.4**
EMIJ	**Mijas**	**1.66**	**334**	P	**Pn**	**11 23 21.6**	**+1.2**
	0.8nm,0.1s,SNR=5.6						
EMIJ				S	**Sn**	**11 23 40.7**	**-1.2**
	3.6nm,0.2s						
EMIJ	**Mijas**	**1.66**	**334**	P	**Pn**	**11 23 21.0**	**+0.6**
	0.2nm,0.1s,SNR=5.6						
EMIJ				S	**Sn**	**11 23 40.5**	**-1.4**
	6.9nm,0.5s						
ERON	**Agron**	**1.95**	**2**	P	**Pn**	**11 23 30.9**	**+6.5**
	0.7nm,0.2s,SNR=4.0						
ERON				S	**Sn**	**11 23 50.7**	**+1.5**
	2.7nm,0.3s,SNR=4.0						
EBER	**Berja**	**1.99**	**23**	P	**Pn**	**11 23 23.5**	**-1.6**
EBER				S	**Sn**	**11 23 48.9**	**-1.4**
EBER	**Berja**	**1.99**	**23**	P	**Pn**	**11 23 26.1**	**+1.0**
	1.2nm,0.2s,SNR=5.2						
EBER				S	**Sn**	**11 23 51.8**	**+1.6**
	3.7nm,0.2s,SNR=5.0						
EBER	**Berja**	**1.99**	**23**	P	**Pn**	**11 23 23.5**	**-1.6**
	0.5nm,0.2s,SNR=5.2						
EBER				S	**Sn**	**11 23 48.9**	**-1.4**
	3.8nm,0.3s,SNR=5.0						
EQES	**Quesada**	**2.80**	**13**	P	**Pn**	**11 23 37.5**	**+0.8**
EQES				S	**Sn**	**11 24 09.6**	**-1.3**
EQES	**Quesada**	**2.80**	**13**	P	**Pn**	**11 23 39.2**	**+2.5**
	1.5nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**11 24 10.3**	**-0.6**
	8.2nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.80**	**13**	P	**Pn**	**11 23 37.5**	**+0.8**
	0.4nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**11 24 09.6**	**-1.3**
	SNR=7.9						
EADA	**Adamuz**	**3.14**	**350**	P	**Pn**	**11 23 42.3**	**+0.8**
EADA				S	**Sn**	**11 24 16.4**	**-3.1**
EADA	**Adamuz**	**3.14**	**350**	P	**Pn**	**11 23 42.3**	**+0.8**
	0.2nm,0.1s,SNR=5.3						
EADA				S	**Sn**	**11 24 17.6**	**-1.9**
	0.5nm,0.2s						
EADA	**Adamuz**	**3.14**	**350**	P	**Pn**	**11 23 42.3**	**+0.8**
	0.5nm,0.2s,SNR=5.3						
EADA				S	**Sn**	**11 24 16.4**	**-3.1**
	7.1nm,1.1s						
EMUR	**La Murta**	**3.49**	**37**	S	**Sn**	**11 24 25.7**	**-2.5**
	2.3nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.51**	**321**	P	**Pn**	**11 23 46.9**	**+0.1**
EMIN				S	**Sn**	**11 24 24.4**	**-4.5**
EMIN	**Mina Concepcio**	**3.51**	**321**	P	**Pn**	**11 23 47.3**	**+0.6**
	0.8nm,0.1s,SNR=6.6						
EMIN				S	**Sn**	**11 24 26.2**	**-2.7**
	0.6nm,0.2s						
EMIN	**Mina Concepcio**	**3.51**	**321**	P	**Pn**	**11 23 46.8**	**0.0**
	0.2nm,0.1s,SNR=6.6						
EBAD	**Badajoz**	**4.46**	**327**	P	**Pn**	**11 24 00.3**	**+0.1**
EBAD				S	**Sn**	**11 24 48.5**	**-4.3**
EBAD	**Badajoz**	**4.46**	**327**	P	**Pn**	**11 24 00.2**	**0.0**
	0.3nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**11 24 49.6**	**-3.2**
	1.0nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.46**	**327**	P	**Pn**	**11 24 00.3**	**+0.1**
	SNR=7.9						

*ATH **02** 11:27:17.0, 33.95N×25.09E, h19km, MD3.5/4*
*NEIC **02** 11:27:17.0, 33.95N×25.09E, h19km, MD3.5(ATH), After ATH.*
*CSEM **02** 11:27:19.4±0.1, 33.98N×25.27E, h30km, MD3.5, Error ellipse: s-maj=3.2km s-min=1.4km az=80.0*
*HLW **02** 11:27:20.5, 34.12N×25.30E, h30km, Mb3.6*
ISC 02 11:27:19.5±0.6, 33.96N±0.04×25.24E±0.10, h33km, n16, σ1§16/18, 1C-2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.98**	**22**	*e*PN	**Pn**	**11 27 37.2**	**+0.1**
GVD	**Gavdhos**	**1.29**	**313**	Pn	**Pn**	**11 27 39.7**	**-1.9**
GVD	**Gavdhos**	**1.29**	**313**	Pn	**Pn**	**11 27 39.7**	**-1.8**
NPS	**Neapolis**	**1.33**	**13**	*e*PN	**Pn**	**11 27 42.5**	**+0.4**
VAM	**Vamos**	**1.68**	**330**	*e*PN	**Pn**	**11 27 47.0**	**0.0**
KARP	**Karpathos**	**2.24**	**44**	*e*PN	**Pn**	**11 27 56.8**	**+1.8**
SLUM		**2.46**	**181**	⇓P	**P**	**11 27 59.9**	**+1.8**
SLUM				S	**S**	**11 28 28.4**	**+1.0**
HMAT	**Matruh**	**3.26**	**151**	P	**P**	**11 28 10.0**	**+0.6**
SWA1		**4.70**	**175**	⇓P	**P**	**11 28 30.6**	**+0.7**
SWA1				S	**S**	**11 29 21.9**	**-2.2**
SWA1		**4.70**	**175**	P	**P**	**11 28 30.6**	**+0.6**
SWA2		**4.71**	**178**	P	**P**	**11 28 30.4**	**+0.4**
HBRG	**Burj al 'Arab**	**5.16**	**130**	P	**P**	**11 28 35.8**	**-0.5**
HSAF	**As Saff**	**6.90**	**127**	P	**P**	**11 29 00.9**	**+0.1**
HSAF	**As Saff**	**6.90**	**127**	P	**P**	**11 29 00.9**	**0.0**
GLL	**Jalalah**	**7.03**	**127**	P	**P**	**11 29 01.9**	**-0.7**
AMAG	**Maghara**	**7.51**	**114**	⇑P	**P**	**11 29 07.2**	**-2.2**

*CSEM **02** 11:56:14.6±0.1, 46.33N×13.02E, h2km, ML2.6/4, Error ellipse: s-maj=1.9km s-min=1.4km az=54.0*
*ROM **02** 11:56:14.5±0.2, 46.36N×13.11E, h10km±3km, MD2.6/4, ML1.6/3, Error ellipse: s-maj=2.5km s-min=2.4km az=0.0*
*PRU **02** 11:56:16.5, 46.37N×13.05E*
ISC 02 11:56:15.2±0.3, 46.36N±0.02×13.09E±0.02, h2km±5km, n39, σ0§81/66, 7C-16D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOO	**Bordano**	**0.04**	**170**	⇑*i*Pg	**Pg**	**11 56 16.5**	**+0.5**
BOO				*i* Sg	**Sg**	**11 56 17.4**	**+0.9**
GMNA	**Gemona**	**0.13**	**129**	⇓*i*PG	**Pg**	**11 56 17.3**	**-0.5**
GMNA				SG	**Sg**	**11 56 18.8**	**-0.7**
MPRI	**Monte Prat**	**0.13**	**212**	⇓*i*Pg	**Pg**	**11 56 18.1**	**+0.2**
MPRI				*e*Sg	**Sg**	**11 56 20.3**	**+0.7**
BUA	**Buia**	**0.14**	**171**	⇓*i*Pg	**Pg**	**11 56 18.1**	**+0.2**
BUA				*i* Sg	**Sg**	**11 56 20.2**	**+0.4**
BAD	**Bernadia**	**0.16**	**138**	⇓*i*Pg	**Pg**	**11 56 18.4**	**0.0**
BAD				*e*Sg	**Sg**	**11 56 20.9**	**+0.4**
PTCC	**Patocco-Chiusa**	**0.19**	**75**	⇑*i*PG	**Pg**	**11 56 19.0**	**+0.1**
PTCC				SG	**Sg**	**11 56 22.4**	**+0.9**
	151nm,0.5s						
PTCC	**Patocco-Chiusa**	**0.19**	**75**	⇑*i*Pg	**Pg**	**11 56 19.0**	**+0.1**
	151nm,0.5s						
PLRO	**Paularo**	**0.20**	**11**	⇓*i*Pg	**Pg**	**11 56 19.3**	**+0.1**
PLRO				*i* Sg	**Sg**	**11 56 22.9**	**+1.1**
ZOU	**Zoufplan**	**0.22**	**338**	⇓*i*Pg	**Pg**	**11 56 19.7**	**+0.2**
ZOU				*e*Sg	**Sg**	**11 56 23.5**	**+1.1**
COLI	**Coloredo**	**0.30**	**138**	⇓*i*Pg	**Pg**	**11 56 21.1**	**-0.1**
COLI				*e*Sg	**Sg**	**11 56 25.9**	**+0.8**
COLI	**Coloredo**	**0.30**	**138**	⇓*i*Pg	**Pg**	**11 56 21.0**	**-0.1**
COLI				*e*Sg	**Sg**	**11 56 26.0**	**+0.9**
ROBS	**Robic**	**0.31**	**111**	*i* Pg	**Pg**	**11 56 20.9**	**-0.5**
ROBS				*i* Sg	**Sg**	**11 56 25.4**	**-0.1**
	comp=Z,19nm,0.1s						
FVI	**Forni Avoltri**	**0.32**	**318**	⇓*i*PG	**Pg**	**11 56 21.4**	**-0.2**
FVI				SG	**Sg**	**11 56 26.6**	**+0.6**
LSR	**Lussari**	**0.33**	**68**	⇓*e*Pg	**Pg**	**11 56 21.6**	**0.0**
LSR				*e*Sg	**Sg**	**11 56 26.9**	**+0.9**
CSMI	**Casera Mimoias**	**0.34**	**297**	⇑*i*Pg	**Pg**	**11 56 21.8**	**-0.2**
CSMI	**Casera Mimoias**	**0.34**	**297**	*e*Sg	**Sg**	**11 56 27.2**	**+0.6**
MLNI	**Malnisio**	**0.39**	**239**	⇓*i*Pg	**Pg**	**11 56 22.7**	**-0.3**
MLNI				*e*Sg	**Sg**	**11 56 29.4**	**+1.1**
DRE	**Drenchia**	**0.42**	**115**	⇓*i*Pg	**Pg**	**11 56 23.1**	**-0.6**
DRE				*e*Sg	**Sg**	**11 56 29.7**	**+0.4**
DRE	**Drenchia**	**0.42**	**115**	⇓*i*Pg	**Pg**	**11 56 23.0**	**-0.7**
DRE				*e*Sg	**Sg**	**11 56 29.7**	**+0.4**
TLI	**Talmassons**	**0.43**	**179**	⇓*i*Pg	**Pg**	**11 56 23.4**	**-0.4**
CSO	**Casso**	**0.54**	**262**	⇓*i*Pg	**Pg**	**11 56 24.8**	**-1.1**
CAE	**Caneva**	**0.57**	**233**	⇓*i*Pg	**Pg**	**11 56 25.9**	**-0.7**
VOJS	**Vojsko**	**0.64**	**120**	*i* Pg	**Pg**	**11 56 26.7**	**-1.2**
VOJS				*i* Sg	**Sg**	**11 56 37.0**	**+0.6**
KBA	**Koelnbreinsper**	**0.74**	**13**	⇑*i*PG	**Pg**	**11 56 29.8**	**-0.2**
KBA				*i* SG	**Sg**	**11 56 40.0**	**0.0**
	comp=Z,39nm,0.3s						
TRI	**Trieste**	**0.80**	**144**	*e*PG	**Pg**	**11 56 29.3**	**-1.8**
TRI				SG	**Sg**	**11 56 42.9**	**+1.1**
	comp=Z,12nm,0.2s						
TRI	**Trieste**	**0.80**	**144**	*e*Pg	**Pg**	**11 56

HYB eS S 12 20 12.0 -1.4
SHL Shillong 20.19 353 eP P 12 16 43.5 -2.3
SHL e 12 16 50.6
comp=Z,61nm,0.6s
SHL eS S 12 20 24.2 -1.5
QIZ Qiongzhong 20.21 47 P P 12 16 47.7 +1.5
QIZ XP 12 16 55.2
QIZ PP PP 12 17 07.4 +1.0
QIZ S S 12 20 28.5 +2.3
QIZ SS SS 12 20 56.4 +0.9
QIZ AMB AMB
comp=Z,83nm,1.9s
QIZ LR LR
comp=N,3μm,18.9s,MS4.9
QIZ LR LR
comp=E,4μm,16.5s,MS4.9
QIZ LR LR
comp=Z,4μm,18.2s,MS4.8
QIZ Qiongzhong 20.21 47 eP P 12 16 47.1 +0.9
comp=Z,34nm,0.7s
BLSP Bilaspur 20.44 326 eP P 12 16 49.0 +0.4
BLSP eS S 12 20 34.5 +3.8
MNGI Mangalore 20.75 292 eP P 12 16 54.9 +3.1
MNGI eS S 12 20 43.3 +6.6
KAD Karad 23.08 302 eP P 12 17 16.4 +1.3
KAD e 12 17 33.1
comp=Z,56nm,1.1s
BATP Bataraza 23.42 80 eP P 12 17 20.9 +2.4
PKI Pulchoki 23.65 340 eP P 12 17 20.6 0.0
comp=Z,318nm,1.0s,mb5.7
DMN Daman 23.79 339 eP P 12 17 21.2 -0.8
comp=Z,158nm,0.8s,mb5.5
KKN Kakani 23.90 340 eP P 12 17 23.4 +0.4
comp=Z,794nm,1.5s,mb5.9
POO Poona 23.95 305 i S 12 21 44.0 +8.9
BHPL Bhopal 24.16 319 eP P 12 17 26.5 +0.9
BHPL e 12 17 43.0
comp=Z,144nm,1.3s
GKN Gorkha 24.32 339 eP P 12 17 27.8 +0.7
comp=Z,348nm,0.7s,mb5.9
LSA Lhasa 24.35 353⇑ eP P 12 17 27.5 +0.1
comp=Z,141nm,0.6s,mb5.6
PPR Puerto Princes 24.45 78 eP P 12 17 30.1 +1.6
KOLN Koldanda 24.51 336 eP P 12 17 29.0 0.0
comp=Z,2μm,1.8s,mb6.4
BOM Bombay 24.99 304 eP P 12 17 35.4 +1.7
BOM eS S 12 21 56.4 +3.7
ENPP El Nido 25.37 75 eP P 12 17 37.8 +0.5
LUBP Lubang 26.73 70 eP P 12 17 51.1 +1.2
AGRA Agra 26.79 326 eP P 12 17 49.5 -0.9
SJMP San Jose 27.25 73 eP P 12 17 55.0 +0.3
PTH Pithoragarh 27.51 332 eP P 12 17 57.0 0.0
PTH eS S 12 22 33.0 -1.0
ASOR Ausora 28.08 328 eP P 12 18 02.4 +0.3
AYAN Aya Nagar 28.21 326 eP P 12 18 03.1 -0.2
AYAN e 12 18 23.5
comp=Z,55nm,1.6s
KUDL Kundal 28.31 325 eP P 12 18 02.8 -1.4
KUDL eP 12 18 02.8
NDI New Delhi 28.32 327 eP P 12 18 03.7 -0.6
NDI e 12 18 22.6
comp=Z,67nm,1.4s
GUIM Jordan 28.33 78 eP P 12 18 03.8 -0.7
ENH Enshi 28.50 28 eP P 12 18 04.8 -1.0
comp=Z,50nm,0.6s,mb5.4
ENH LR LR
comp=Z,4μm,19.0s,MS5.0
RCP Roxas 28.63 76⇓ eP P 12 18 08.3 +1.2
KHET Khetri 28.66 324 eP P 12 18 06.7 -0.5
KHET e 12 18 23.9
comp=Z,36nm,2.0s
KHET eS S 12 22 52.0 -0.3
DDI Dehra Dun 29.19 330 eP P 12 18 11.5 -0.5
DDI e 12 23 30.7
KKR Kurukshetra 29.54 328 eP P 12 18 14.2 -0.9
KLP Kalpa 30.09 332 eP P 12 18 19.6 -0.4
KLP e 12 18 38.7
comp=Z,106nm,2.0s
QZH Quanzhou 30.23 48 P P 12 18 23.0 +1.8
QZH S S 12 23 27.0 +10
QZH AMB AMB
comp=Z,90nm,0.9s,mb5.5
QZH LR LR
comp=N,4μm,20.0s
QZH LR LR
comp=E,2μm,9.4s
QZH LR LR
comp=Z,5μm,17.0s,MS5.2
WHN Wuhan 31.24 35 ⇑P P 12 18 30.5 +0.3
WHN LR LR
comp=Z,6μm,17.3s,MS5.3
XAN Xi'an 31.49 23 P P 12 18 31.3 -1.1
XAN AMB AMB
comp=Z,190nm,0.8s,mb6.0
XAN LR LR
comp=N,900nm,20.1s,MS4.6
XAN LR LR
comp=E,793nm,17.9s,MS4.6
XAN LR LR
comp=Z,3μm,20.6s,MS4.9
LZH Lanzhou 31.72 15 ⇑P P 12 18 33.5 -0.9
LZH AP pP 12 18 40.8 -3.2
LZH XP sP 12 18 44.5 -3.9
LZH PP PP 12 19 39.5 -0.3
LZH eS S 12 23 41.5 +0.8
LZH XS 12 23 54.0
LZH SS SS 12 25 35.4 +3.6
LZH AMB AMB
comp=Z,89nm,1.4s,mb5.4
LZH AMB AMB
comp=Z,276nm,5.4s
LZH LR LR
comp=E,2μm,14.5s
LZH LR LR
comp=Z,4μm,17.2s,MS5.1
NJ2 Nanjing 34.98 38 eP P 12 19 03.1 +0.5
NJ2 AP pP 12 19 12.6 +0.3
NJ2 XP sP 12 19 16.1 -0.5
NJ2 PP PP 12 20 20.2 -1.0
NJ2 PPP PPP 12 20 37.2 -2.0
NJ2 S S 12 24 31.0 -0.3
NJ2 XS 12 24 47.0
NJ2 AMB AMB
comp=Z,220nm,0.9s,mb6.1
NJ2 AMB AMB
comp=Z,530nm,4.0s
NJ2 LR LR
comp=N,5μm,15.2s,MS5.5
NJ2 LR LR
comp=E,3μm,14.9s,MS5.5
NJ2 LR LR
comp=Z,7μm,15.0s,MS5.5
SSE Sheshan 35.82 41 eP P 12 19 09.1 -0.6
SSE AP pP 12 19 18.1 -1.3
SSE S S 12 24 47.7 +3.5
SSE XS 12 25 01.2
SSE AMB AMB
comp=Z,44nm,0.7s,mb5.5
SSE LR LR
comp=N,354nm,15.5s,MS5.0
SSE LR LR
comp=E,2μm,15.6s,MS5.0
SSE LR LR
comp=Z,2μm,14.6s,MS5.1
TIA Tai'an 37.05 31 ⇑P P 12 19 20.4 +0.3
FITZ Fitzroy Crossi 38.64 128 eP P 12 19 32.4 -1.1
comp=Z,50nm,0.7s,mb5.4
WMQ Urumqi 38.71 352 P P 12 19 34.2 +0.4
WMQ AP pP 12 19 41.6 -2.0
WMQ XP sP 12 19 44.5 -3.3
WMQ PP PP 12 21 06.9 +0.4
WMQ S S 12 25 29.4 +1.1
WMQ XS 12 25 41.7
WMQ AMB AMB
comp=Z,90nm,0.9s,mb5.5
WMQ AMB AMB
comp=Z,460nm,4.7s
WMQ LR LR
comp=N,3μm,20.1s,MS5.2
WMQ LR LR
comp=E,3μm,23.6s,MS5.2
WMQ LR LR
comp=Z,3μm,19.7s,MS5.1
BJT Baijiatuau 39.62 26⇑ eP P 12 19 42.8 +1.4
comp=Z,200nm,1.3s,mb5.7

KZA Kyzart 40.31 338 P P 12 19 49.0 +1.9
SNR=9.4
UCH Uchtor 40.72 337 P P 12 19 51.3 +0.8
SNR=23
TKM2 Tokmak 2 40.91 339 P P 12 19 53.1 +1.0
SNR=22
KBK Karagaybulak 40.92 338 P P 12 19 53.5 +1.3
SNR=46
AML Almayashu 40.96 336 P P 12 19 54.5 +2.0
SNR=9.8
AAK Ala-Archa 41.07 337 P P 12 19 55.4 +1.9
SNR=24
AAK Ala-Archa 41.07 337c iP P 12 19 53.7 +0.3
AAK pmax pmax
comp=Z,47nm,1.4s,mb4.9
AAK Ala-Archa 41.07 337 eP P 12 19 53.0 -0.4
comp=Z,17nm,0.6s,mb4.9
FRU Bishkek 41.20 338 eP P 12 19 55.0 +0.6
FRU pmax pmax
comp=Z,220nm,2.4s,mb5.4
FRU MLR MLR
comp=Z,800nm,19.0s,MS4.6
CHMS Chumysh 41.29 338 P P 12 19 56.6 +1.4
SNR=15
EKS2 Erkin-Say 41.37 337 P P 12 19 57.6 +1.7
SNR=7.8
USP Ospenovka 41.61 338 P P 12 19 58.5 +0.6
SNR=32
KAKA Kakadu 41.83 116 eP P 12 19 58.0 -2.1
comp=Z,40nm,0.7s,mb5.2
MUN Mundaring 42.58 152 eP P 12 20 06.7 +0.7
comp=Z,20nm,0.8s,mb4.9
ULN Ulaanbaatar 43.65 12c iP P 12 20 14.2 -0.3
ULN Ulaanbaatar 43.65 12⇑ iP P 12 20 14.0 -0.5
comp=Z,25nm,0.6s,mb5.1
ULN ePcP PcP 12 22 01.7 -0.3
ULN eScP 12 25 49.3
ULN LR LR
comp=Z,882nm,19.0s,MS4.7
KS15 Wonju Array Si 44.11 39 eP P 12 20 17.9 -0.4
SNY Shenyang 44.58 31 ⇑P P 12 20 21.9 -0.2
SNY XP sP 12 20 35.7 -0.4
SNY PP PP 12 22 11.3 +4.1
SNY AMB AMB
comp=Z,70nm,2.0s,mb5.1
SNY LR LR
comp=N,1μm,18.0s,MS4.9
SNY LR LR
comp=E,670nm,21.2s,MS4.9
SNY LR LR
comp=Z,2μm,19.2s,MS5.0
ZAK Zakamensk 45.42 8⇓ iP P 12 20 28.2 -0.5
ZAK e 12 22 07.3
MOY Mondy 46.42 6 eP P 12 20 37.4 +0.9
WRA Warramunga Arr 46.62 124 i P P 12 20 37.9 -0.6
WRA pmax pmax
comp=Z,41nm,0.7s
WRAB Tennant Creek 46.63 124 i P P 12 20 38.2 -0.3
WRAB Tennant Creek 46.63 124 eP P 12 20 37.9 -0.7
comp=Z,82nm,0.7s,mb5.8
WRAB LR LR
comp=Z,236nm,21.0s,MS4.1
WB2 Warramunga Arr 46.63 124⇑ iP P 12 20 38.1 -0.5
TLY Talaya 46.74 8 eP P 12 20 39.0 0.0
TLY e 12 27 28.6
TLY pmax pmax
comp=Z,25nm,1.0s,mb5.1
TLY MLR MLR
comp=Z,954nm,19.0s,MS4.8
TLY Talaya 46.74 8 eP P 12 20 38.8 -0.2
comp=Z,32nm,1.2s,mb5.1
IRK Irkutsk 47.38 8 eP P 12 20 42.5 -1.6
IRK e 12 20 55.8
IRK e 12 22 11.5
IRK e 12 22 26.9
HIA Hailar 48.66 22 eP P 12 20 53.6 -0.4
comp=Z,30nm,0.7s,mb5.4
MDJ Mudanjiang 49.68 33 P P 12 21 02.0 0.0
MDJ AP pP 12 21 08.3 -3.6
MDJ XP sP 12 21 11.2 -4.8
MDJ PCP PcP 12 22 21.1 -2.1
MDJ PP PP 12 22 58.2 +1.0
MDJ SCP 12 26 15.7
MDJ PCS 12 26 19.6
MDJ S S 12 28 17.7 +10
MDJ SCS ScS 12 30 51.3 +3.4
MDJ SS SS 12 31 43.2 +7.2
MDJ AMB AMB
comp=Z,60nm,1.3s,mb5.5
MDJ AMB AMB
comp=Z,185nm,5.8s
MDJ LR LR
comp=N,522nm,23.5s,MS4.7
MDJ LR LR
comp=E,711nm,21.9s,MS4.7
MDJ LR LR
comp=Z,734nm,21.9s,MS4.6
MDJ Mudanjiang 49.68 33⇑ eP P 12 21 02.2 +0.2
comp=Z,124nm,1.5s,mb5.7
MAJO Matsushiro 50.61 46 eP P 12 21 07.3 -1.9
comp=Z,147nm,1.9s,mb5.6
MAT Matsushiro 50.61 46 eP P 12 21 07.0 -2.2
comp=Z,176nm,2.0s,mb5.7
MAT eS S 12 28 19.0 -1.2
MAT LR LR
comp=Z,1μm,20.0s,MS4.8
MAT Matsushiro 50.61 46 P P 12 21 07.4 -1.8
MAT S S 12 28 19.0 -1.2
KLR Kul'dur 53.85 29 eP P 12 21 30.0 -3.3
KLR e 12 23 30.2
KLR eS S 12 29 25.5 +21
KLR e 12 32 47.0
KLR pmax pmax
comp=N,80nm,2.0s
KLR pmax pmax
comp=E,100nm,2.0s
KLR pmax pmax
comp=Z,110nm,2.0s,mb5.4
KLR MLR MLR
comp=N,1μm,14.0s,MS5.3
KLR MLR MLR
comp=E,1μm,14.0s,MS5.3
KLR MLR MLR
comp=Z,2μm,14.0s,MS5.4
BOD Bodaibo 54.46 13⇑ iP P 12 21 36.9 -0.7
BOD e 12 29 07.9
PMG Port Moresby 54.56 105 i P P 12 21 40.5 +1.6
PMG Port Moresby 54.56 105 eP P 12 21 37.7 -1.2
comp=Z,22nm,0.6s,mb5.4
PMG LR LR
comp=Z,306nm,22.0s,MS4.3
GNI Garni 56.37 315 i P P 12 21 51.1 -0.6
GNI pmax pmax
comp=Z,66nm,2.1s
GNI Garni 56.37 315 i P P 12 21 51.2 -0.5
CLNS Chul'man 56.63 19 eP P 12 21 52.4 -0.9
CLNS pmax pmax
comp=Z,43nm,1.5s,mb5.3
CLNS pmax pmax
comp=N,28nm,1.6s
CLNS pmax pmax
comp=E,14nm,1.1s
CTA Charters Tower 56.87 118 eP P 12 21 54.4 -1.1
comp=E,14nm,0.8s,mb5.0
CTAO Charters Tower 56.87 118 eP P 12 21 53.6 -1.9
comp=E,11nm,0.8s,mb5.0
CTAO LR LR
comp=Z,661nm,21.0s,MS4.7
KMBO Kilima Mbogo 57.49 265 eP P 12 22 01.8 +1.8
comp=Z,52nm,1.8s,mb5.3
KMBO LR LR
comp=Z,1μm,22.0s,MS5.0
SVE Sverdlovsk 57.78 339 eP P 12 22 00.0 -1.5
SVE e 12 22 51.0
SVE e 12 29 55.0
SVE pmax pmax
comp=Z,210nm,2.0s,mb5.8
STKA Stephens Creek 58.21 133 eP P 12 22 03.6 -1.2
comp=Z,17nm,0.9s,mb5.1
ARU Arti 58.26 337⇑ iP P 12 22 03.4 -1.4
ARU e 12 22 51.1
ARU eS S 12 30 03.5 +0.7
ARU e 12 31 48.7
ARU eSS SS 12 33 57.4 +1.1
ARU pmax pmax
comp=Z,61nm,1.0s,mb5.6
VRT Varto 58.27 313 eP P 12 22 06.0 +0.9
YSS Yuzh-Sakhalins 58.54 37⇑ eP P 12 22 06.0 -0.9
YSS e 12 22 19.9
YSS pmax pmax
comp=Z,700μm,1.6s
YSS MLR MLR
comp=N,500nm,15.0s,MS4.9
YSS MLR MLR
comp=E,500nm,15.0s,MS4.9
YSS MLR MLR
comp=Z,600nm,15.0s,MS4.8
YSS Yuzh-Sakhalins 58.54 37 eP P 12 22 07.1 +0.2
comp=Z,22nm,0.8s,mb5.2
YSS LR LR
comp=Z,809nm,20.0s,MS4.8
ERZM Erzurum 58.67 314 i P P 12 22 08.7 +0.8
BINT Bingol 58.94 313 eP sP 12 22 21.1 -2.7
KIV Kislovodsk 59.34 319 P P 12 22 12.5 0.0
comp=Z,250nm,0.7s,mb6.3,SNR=8.0
KIV Kislovodsk 59.34 319c iP P 12 22 11.5 -1.0
KIV i pP 12 22 21.3 -1.3
KIV eS S 12 30 19.4 +2.3
KIV pmax pmax
comp=Z,33nm,0.8s,mb5.4
GOF Gofitskoye 59.58 320 eP P 12 22 11.0 -3.2
EZC Erzincan 59.73 313 eP P 12 22 11.8 -3.5
PTK Pertek 59.76 312 P P 12 22 16.7 +1.2
ELZG Elazig 59.93 312 i P P 12 22 15.9 -0.7
GUMT Gumushane 60.22 314 eP P 12 22 17.5 -1.1
MALT Malatya 60.29 311 eP P 12 22 18.6 -0.5
comp=Z,66nm,1.9s,mb5.3
GZT Gaziantep 60.65 310 i P P 12 22 21.6 0.0
GAZ Gaziantep 60.87 310 P P 12 22 23.8 +0.8
EIL Elat 60.92 301 eP P 12 22 23.0 -0.5
SOC Sochi 61.17 317 i P P 12 22 22.7 -2.3
SOC e 12 23 01.5
SOC e 12 24 34.0
SOC ePPP PPP 12 26 15.3 +5.2
SOC eS S 12 30 48.1 +7.6
SOC pmax pmax
comp=N,9.0nm,0.9s
SOC pmax pmax
comp=E,6.0nm,0.7s
SOC pmax pmax
comp=Z,18nm,0.7s,mb5.3
SOKR Solikamsk 61.19 339⇓ iP P 12 22 22.6 -2.3
SOKR pmax pmax
comp=Z,50nm,0.9s,mb5.6
KAHT Ahir Dag 61.26 310 i P P 12 22 26.5 +0.8
COBT Iskenderun 61.42 309 i P P 12 22 26.0 -0.8
YAK Yakutsk 62.22 18 eP P 12 22 30.8 -1.0
YAK e*PP pP 12 22 43.2 +1.2
YAK e 12 23 10.3
YAK e 12 24 52.5
YAK eS S 12 30 50.2 -3.4
YAK e 12 32 12.8
YAK eSS SS 12 34 52.5 -6.1
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=Z,17nm,1.2s,mb5.0
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.3
YAK smax
comp=N,3.0nm,1.0s
YAK MLR MLR
comp=N,308nm,14.0s,MS4.8
YAK MLR MLR
comp=Z,529nm,14.0s,MS4.9
YAK MLR MLR
comp=E,455nm,16.0s,MS4.8
YAK Yakutsk 62.22 18 eP P 12 22 29.1 -2.6
comp=E,51nm,0.9s,mb5.7
YAK LR LR
comp=Z,977nm,19.0s,MS5.0
BNN Bunyan 62.38 311 eP P 12 22 32.9 -0.3
MEST Erdemli 63.09 308 i P P 12 22 37.7 -0.2
NIG Nigde 63.11 310 eP P 12 22 37.4 -0.7
CTKT Corum 63.66 313 i P P 12 22 41.5 -0.2
BOYT Boyabat 63.81 314 i P P 12 22 42.2 -0.4
TOO Toolangi 63.87 137 eP P 12 22 44.1 +1.0
comp=Z,12nm,0.8s,mb5.0
KAMT Kaman 64.12 311 P P 12 22 44.6 -0.1
CANT Cankiri 64.51 313 eP P 12 22 46.9 -0.3
BZK Bozkurt 64.61 314 eP P 12 22 46.4 -1.4
ELDT Eldivan 64.62 312 i P P 12 22 47.6 -0.3
ANTO Ankara 64.93 312 eP P 12 22 47.9 -2.1
BALT Daday 64.94 314 i P P 12 22 48.2 -1.8
SAFT Safranbolu 65.36 313 eP P 12 22 50.5 -2.2
SIM Simferopol' 65.42 317 eP P 12 22 52.0 -1.0
SIM pmax pmax
comp=Z,20nm,0.8s,mb5.2
CNB Canberra Magne 65.54 133 eP P 12 22 53.3 -0.6
comp=Z,16nm,0.9s,mb5.0
SGKT Sivrigoynuk 65.66 312 i P P 12 22 53.6 -1.0
BCK Bucak 66.05 309 eP P 12 22 56.7 -0.5
MDU Mudurnu 66.25 312 eP P 12 22 57.7 -0.6
ESKT Eskisehir 66.30 311 P P 12 22 58.4 -0.3
ESKT Eskisehir 66.30 311 i P P 12 22 57.8 -0.9
ALT Altintas 66.76 310 eP P 12 22 59.5 -2.1
DNZL Cakiroluk 67.30 309 i P P 12 23 05.1 +0.1
MOS Moscow 67.33 329 eP P 12 23 03.6 -1.2
MOS i 12 23 17.9
MOS pmax pmax
comp=Z,119nm,0.8s,mb6.0
OBN Obninsk 67.61 328α iP P 12 23 05.3 -1.3
OBN e 12 23 12.8
OBN i 12 23 20.2
OBN 12 23 34.0
OBN eS S 12 31 57.3 -2.5
OBN pmax pmax
comp=Z,200nm,1.4s,mb6.0
OBN pmax pmax
comp=Z,134nm,1.5s,mb5.8
OBN MLR MLR
comp=Z,300nm,15.0s,MS4.6
OBN Obninsk 67.61 328 eP P 12 23 04.7 -1.9
comp=Z,123nm,1.1s,mb5.8
YLV Yalova 67.64 312 eP P 12 23 05.0 -2.1
ULDT Uludag 67.73 311 i P P 12 23 07.7 +0.1
MANT Manisa 67.83 309 i P P 12 23 08.8 +0.5
AKS Akhisar 68.48 310 eP P 12 23 12.6 +0.2
BTOK Tokmak 68.48 311 i P P 12 23 12.5 +0.1
BALB Balikesir 68.57 310 eP P 12 23 12.8 -0.2
BNT Bandirma 68.68 311 P P 12 23 13.7 +0.1
LSZ Lusaka 68.76 251 eP P 12 23 14.8 +0.4
comp=Z,35nm,1.4s,mb5.1
LSZ LR LR
comp=Z,1μm,21.0s,MS5.2
MA2 Magadan 68.80 27 i P P 12 23 13.5 -0.5
MA2 pmax pmax
comp=Z,67nm,1.7s,mb5.3
MA2 Magadan 68.80 27 eP P 12 23 12.5 -1.5
comp=Z,27nm,0.9s,mb5.2
KDAG Bornova 68.81 309 i P P 12 23 14.2 -0.2
MRMT Marmara Adasi 68.97 311 eP P 12 23 14.3 -1.1
SART Tekirdag 69.30 311 i P P 12 23 17.0 -0.4
AYVA Ayvalik 69.42 310 i P P 12 23 14.8 -3.3
CFR Carcaliu 69.56 316⇓ iP P 12 23 18.4 -0.5
CFR Carcaliu 69.56 316⇓ iP P 12 23 18.4 -0.5
TIXI Tiksi 69.57 11c iP P 12 23 17.6 -0.9
TIXI pmax pmax
comp=Z,131nm,1.5s,mb5.6
TIXI Tiksi 69.57 11⇑ iP P 12 23 17.7 -0.8
HARR Harsova 69.59 316⇑ iP P 12 23 18.8 -0.3
HARR Harsova 69.59 316⇑ iP P 12 23 18.8 -0.3
PRD Provadia 69.64 314 eP P 12 23 19.0 -0.4
VRI Vrincioaia 70.68 317⇓ iP P 12 23 26.2 +0.5
VRI Vrincioaia 70.68 317⇓ iP P 12 23 26.2 +0.5
DIM Dimitrovgrad 70.77 313 eP P 12 23 26.0 -0.3
SEY Seymchan 71.03 24 eP P 12 23 26.8 -0.7
SEY e 12 23 48.4
SEY e 12 26 01.9
SEY eS S 12 32 38.7 -1.3
SEY 12 33 31.4
SEY eSS SS 12 37 14.8 -0.7
SEY pmax pmax
comp=Z,20nm,0.9s,mb5.0
SEY MLR MLR
comp=Z,4μm,22.0s,MS5.7

SEY MLR MLR
comp=N,3μm,23.0s,MS5.5
SEY MLR MLR
comp=E,2μm,22.0s,MS5.5
RZN Rozhen 71.31 312 *eP* **P 12 23 29.0 -0.6**
PGB Panagyurishte 71.85 313 *eP* **P 12 23 32.0 -0.8**
MMB Musomiste 72.02 312 P **P 12 23 33.0 -0.8**
KKB Krupnik 72.54 312 P **P 12 23 36.0 -0.9**
VTS Vitosha 72.56 313 P **P 12 23 37.0 0.0**
LVV L'vov 73.28 320 *eP* **P 12 23 40.5 -0.7**
LVV *e* 12 26 30.3
LVV *eS* S 12 33 06.1 0.0
LBTB Lobatse 73.35 242 *eP* **P 12 23 42.5 +0.4**
comp=E,37nm,1.2s,mb5.2
LBTB LR LR
comp=Z,1μm,20.0s,MS5.2
BOLS Boljevac 73.65 314⇑*iP* **P 12 23 43.1 -0.3**
KWP Kalwaria 74.09 320 *eP* **P 12 23 45.9 0.0**
APA Apatity 74.24 340⇓*iP* PcP 12 24 01.0 -0.5
APA *i* 12 24 15.7
APA pmax pmax
comp=Z,22nm,0.8s,mb5.1
KOLS Kolonicke sedl 74.25 319 *eP* **P 12 23 47.9 +1.1**
BOSA Boshof 74.55 239 *eP* **P 12 23 49.2 +0.2**
comp=Z,46nm,1.3s,mb5.2
BOSA LR LR
comp=Z,1μm,20.0s,MS5.1
SUW Suwalki 74.67 325 *eP* **P 12 23 48.2 -0.9**
CRVS Cervenica-Dubn 74.77 319 *iP* **P 12 23 50.7 +0.9**
FINES FINESS Array B 75.01 332 *iP* **P 12 23 50.5 -0.4**
FINES pmax pmax
comp=Z,8.0nm,0.7s
DIVS Divcibare 75.09 314⇑*iP* **P 12 23 51.8 0.0**
KAF Kangasniemi 75.10 333 *ep* **P 12 23 50.5 -1.0**
comp=Z,4.9nm,0.6s,mb4.6
KAF Kangasniemi 75.10 333 *eP* **P 12 23 50.5 -1.0**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
KECS Kecovo 75.34 319 *iP* **P 12 23 53.3 +0.2**
NIE Niedzica 75.59 320 *eP* **P 12 23 55.7 +1.2**
PSZ Piszkesteto 75.65 318 *eP* **P 12 23 54.6 -0.2**
comp=Z,28nm,1.0s,mb5.2
PSZ Piszkesteto 75.65 318⇑*iPcP* **P 12 23 55.4 +0.5**
OJC Ojcow 76.04 320 *eP* **P 12 23 57.3 +0.3**
MAW Mawson 76.20 192 *eP* **P 12 23 59.1 +1.5**
comp=Z,9.3nm,0.8s,mb4.8
VYHS Vyhne 76.43 318 *iP* **P 12 24 00.0 +0.7**
VYHS *e* 12 24 13.7
SRO Srobarova 76.70 318 *eP* **P 12 24 02.4 +1.6**
OKC Ostrava-Krasne 77.05 320 *eP* **P 12 24 03.2 +0.4**
OKC *epP* pP 12 24 14.9 +1.8
TIP Timpagrande 77.05 309 *eP* **P 12 24 02.1 -1.0**
KEV Kevo 77.24 341 *ep* **P 12 24 03.0 -0.5**
MORC Moravsky Berou 77.43 320 *eP* **P 12 24 04.9 0.0**
comp=Z,46nm,1.1s,mb5.3
ZST Bratislava 77.55 318 *iP* **P 12 24 06.0 +0.4**
ARE0 ARCESS Array S 77.67 340 *eP* **P 12 24 05.8 0.0**
BILL Bilibino 78.25 21 *iP* **P 12 24 08.7 -0.3**
BILL pmax pmax
comp=Z,73nm,2.6s,mb5.2
BILL Bilibino 78.25 21 *eP* **P 12 24 08.0 -1.0**
comp=Z,14nm,0.6s,mb5.1
DPC Dobruska-Polom 78.27 320 *eP* **P 12 24 10.3 +0.8**
DPC *epP* pP 12 24 20.5 +0.7
KSP Ksiaz 78.34 321 *eP* **P 12 24 10.1 +0.2**
KSP *epP* pP 12 24 18.8 -1.4
KSP *e* 12 24 25.7
KSP Ksiaz 78.34 321 *eP* **P 12 24 10.4 +0.6**
UPC Upice 78.48 320 *eP* **P 12 24 12.0 +1.3**
UPC *epP* pP 12 24 26.6 +5.6
ARSA Arzberg 78.52 317⇑*iP* **P 12 24 11.6 +0.7**
comp=Z,54nm,1.4s,mb5.3
BOJS Bojanci 78.58 315 *eP* **P 12 24 11.5 +0.2**
BOJS *e* 12 24 25.6
FX1 Attu Island--F 78.90 37 *eP* **P 12 24 12.4 -0.5**
LJU Ljubljana 79.12 316 *eP* **P 12 24 15.2 +0.9**
LJU *e* 12 24 30.3
OBKA Obir 79.14 316⇑*iP* **P 12 24 14.9 +0.6**
comp=Z,38nm,1.4s,mb5.1
SUR Sutherland 79.20 236 *eP* **P 12 24 16.2 +1.2**
comp=Z,19nm,0.8s,mb5.1
PRU Pruhonice 79.38 320 *eP* **P 12 24 16.0 +0.4**
PRU *e*PP* pP 12 24 31.1 +5.1
PRU pmax pmax
comp=Z,97nm,1.7s,mb5.5
PRU Pruhonice 79.38 320 *eP* **P 12 24 16.0 +0.4**
comp=Z,97nm,1.7s,mb5.5
PRU *epP* pP 12 24 31.1 +5.1
MOA Molln 79.42 318⇑*iP* **P 12 24 15.7 -0.1**
comp=Z,29nm,1.2s,mb5.1
VOY Vojsko 79.56 316 *eP* **P 12 24 16.3 -0.4**
VOY *e* 12 24 31.9
AQU L'Aquila 79.76 312 *eP* **P 12 24 18.3 +0.6**
comp=Z,54nm,1.4s,mb5.3
AQU *e* 12 24 32.2
BRG Berggiesshubel 79.83 321 *iP* **P 12 24 18.2 +0.2**
BRG *i* pP 12 24 28.2 -0.1
BRG *i* 12 24 34.2
BRG pmax pmax
comp=Z,59nm,1.9s,mb5.2
BRG Berggiesshubel 79.83 321 *iP* **P 12 24 18.2 +0.2**
comp=Z,59nm,1.9s,mb5.2
BRG *i* pP 12 24 28.2 -0.1
BRG *i* 12 24 34.2
BRG *e* 12 51 13.5
ROBS Robic 79.84 316 *eP* **P 12 24 18.1 0.0**
ROBS *e* 12 24 33.0
GEC2 GERESS Array S 79.85 319 *eP* **P 12 24 18.6 +0.5**
GEC2 pmax pmax
comp=Z,181nm,1.8s,mb5.7
GEC2 GERESS Array S 79.85 319 *eP* **P 12 24 18.6 +0.5**
comp=Z,181nm,1.8s,mb5.7
KHC Kasperske Hory 79.95 319 *eP* **P 12 24 18.9 +0.2**
KHC *epP* pP 12 24 34.0 +4.9
RUE Ruedersdorf 80.04 322 *eP* **P 12 24 19.3 +0.3**
comp=Z,65nm,0.6s,mb5.7
WET Wettzell 80.41 319 *eP* **P 12 24 21.5 +0.4**
CLL Collm 80.45 321 *iP* **P 12 24 21.7 +0.5**
CLL *i* pP 12 24 31.3 -0.4
CLL pmax pmax
comp=Z,80nm,2.0s,mb5.3
CLL Collm 80.45 321 *iP* **P 12 24 21.7 +0.5**
comp=Z,80nm,2.0s,mb5.3
CLL *i* pP 12 24 31.3 -0.4
CLL Collm 80.45 321 P **P 12 24 21.7 +0.5**
comp=Z,logA/T=1.6,mb5.3
CLL *i *PP* pP 12 24 31.3 -0.4
CLL *i *SP* sP 12 24 36.7 +1.5
CLL *ePP* PP 12 27 12.0 -14
NKC Novy Kostel 80.74 320 *eP* **P 12 24 23.4 +0.6**
NKC *epP* pP 12 24 39.0 +5.7
WTTA Wattenberg 81.17 317⇑*iP* **P 12 24 24.8 -0.3**
comp=Z,74nm,1.7s,mb5.3
WATA Walderalm 81.21 317⇑*iP* **P 12 24 24.9 -0.5**
comp=Z,30nm,1.2s,mb5.1
MOX Moxa 81.29 320 *eP* **P 12 24 26.2 +0.5**
MOX pmax pmax
comp=Z,95nm,2.2s,mb5.3
MOX Moxa 81.29 320 *eP* **P 12 24 26.2 +0.5**
comp=Z,95nm,2.2s,mb5.3
MOX Moxa 81.29 320 *iP* **P 12 24 26.2 +0.5**
comp=Z,logA/T=1.6,mb5.3
FUR Furstenfeldbru 81.44 318 *eP* **P 12 24 26.8 +0.3**
SQTA Sankt Quirin 81.46 317⇑*iP* **P 12 24 26.5 -0.2**
comp=Z,14nm,0.8s,mb5.0
GRA1 Grafenberg Arr 81.51 319 *eP* **P 12 24 27.7 +0.8**
comp=Z,175nm,1.8s,mb5.7
GRF Grafenberg Arr 81.51 319 *eP* **P 12 24 27.7 +0.8**
GRF pmax pmax
comp=Z,175nm,1.8s,mb5.7
GRF Grafenberg Arr 81.51 319 *eP* **P 12 24 27.7 +0.8**
comp=Z,175nm,1.8s,mb5.7
MOTA Moosalm 81.53 317⇑*iP* **P 12 24 26.7 -0.3**
comp=Z,35nm,1.3s,mb5.1
NB2 NORSAR Subarra 82.01 331 P **P 12 24 28.4 -0.8**
comp=Z,1.4nm,0.6s,baz=96,slow=4.8
DAVA Damuels 82.36 317⇑*iP* **P 12 24 31.4 +0.1**
comp=Z,34nm,1.3s,mb5.1
STU Stuttgart 82.83 318 *eP* **P 12 24 34.2 +0.6**
comp=Z,22nm,1.0s,mb5.2
PGF Pioggiola 83.02 312 *eP* **P 12 24 35.0 +0.2**
comp=Z,39nm,0.8s,mb5.2
TOD Tromm 83.08 319 *eP* **P 12 24 34.8 -0.1**
SYO Syowa Base 83.16 197⇓P **P 12 24 33.7 -1.3**
SYO Syowa Base 83.16 197⇓PcP PcP 12 24 38.4 -1.5
BFO Black Forest 83.41 318 *eP* **P 12 24 36.8 +0.2**
BFO pmax pmax
comp=Z,18nm,0.7s,mb5.2
BFO Black Forest 83.41 318 *eP* **P 12 24 36.8 +0.2**
comp=Z,18nm,0.7s,mb5.2
FELD Feldberg 83.63 317 *eP* **P 12 24 38.7 +0.9**
LANF Langenberg 83.74 319 *eP* **P 12 24 38.9 +0.6**
ABH Alteburg 83.89 319 *eP* **P 12 24 39.7 +0.6**
BBS Basel-Blauen 83.97 317 *eP* **P 12 24 41.1 +1.6**
SAOF Saorge 84.04 314 *eP* **P 12 24 42.0 +2.0**
CDF Champ du Feu 84.11 318 *eP* **P 12 24 40.0 -0.2**
comp=Z,20nm,0.7s,mb5.1
SBF Sospel 84.13 313 *eP* **P 12 24 40.6 +0.2**
comp=Z,63nm,0.7s,mb5.6
AUTN L'Aution 84.13 314 *eP* **P 12 24 41.5 +1.1**
ECH Echery 84.19 318 *eP* **P 12 24 41.0 +0.4**
TOUF Mont Tournerai 84.26 314 *eP* **P 12 24 41.8 +0.7**
MVIF Mont Vial 84.33 313 *eP* **P 12 24 42.0 +0.6**
CALN Calern 84.53 313 *eP* **P 12 24 43.1 +0.7**
LPG La Plagne 84.56 315 *eP* **P 12 24 43.1 +0.6**
comp=Z,35nm,0.7s,mb5.3
MBDF Montbardon 84.57 314 *eP* **P 12 24 43.0 +0.4**
comp=Z,18nm,0.6s,mb5.1
BNI Bardonecchia 84.63 315 *eP* **P 12 24 42.9 0.0**
comp=Z,13nm,0.8s,mb5.1
HAU Haudompre 84.74 318 *eP* **P 12 24 43.3 -0.1**
comp=Z,60nm,0.7s,mb5.5
HAU *eR*
comp=Z,312nm,18.2s
THEF They Montfort 84.97 318 *eP* **P 12 24 45.2 +0.7**
OG05 Jujurieux 85.44 316 *eP* **P 12 24 47.5 +0.6**
BAIF Baives 86.04 320 *eP* **P 12 24 50.2 +0.5**
comp=Z,27nm,0.6s,mb5.3
SSF Saint Saulge 86.72 317 *eP* **P 12 24 53.1 0.0**
comp=Z,20nm,0.8s,mb5.1
PLDF La Plantade 86.72 316 *eP* **P 12 24 55.3 +2.1**
PYM Petit Puy Mans 87.17 316 *eP* **P 12 24 56.7 +1.4**
BGF Bois d'Agland 87.21 316 *eP* **P 12 24 56.1 +0.6**
comp=Z,33nm,0.9s,mb5.2
RJF Les Rejaudoux 88.25 315 *eP* **P 12 25 01.3 +0.8**
comp=Z,22nm,0.7s,mb5.2
RJF *eR*
comp=Z,291nm,17.2s
FLN La Foliniere 89.21 319 *eP* **P 12 25 05.4 +0.3**
comp=Z,106nm,1.2s,mb5.7
FLN *eR*
comp=Z,311nm,18.2s
ANM Nome 89.51 25 *eP* **P 12 25 07.1 +1.0**
ETSF Etsaut 90.01 313 *eP* **P 12 25 08.8 -0.2**
comp=Z,10nm,0.6s,mb5.1
VNDA Vanda 90.48 168 P **P 12 25 10.8 +0.4**
comp=Z,16nm,1.3s,mb5.2
VNDA LR LR
comp=Z,586nm,20.0s,MS5.0
IMA Indian Mountai 93.77 22 *eP* **P 12 25 27.9 +2.2**
comp=Z,36nm,1.3s,mb5.6
PWA Palmer West 97.10 26 *eP* **P 12 25 41.4 +0.4**
comp=Z,13nm,0.9s,mb5.4
SNAA Sanae 97.40 198 *eP* **P 12 25 43.1 +0.9**
MSO Missoula 122.23 23 *e*PKPdf PKPdf 12 31 04.0 +1.0
BMO Blue Mountains 122.43 26 *e*PKPdf PKPdf 12 31 04.1 +0.6
MOD Modoc 123.25 31 *e*PKPdf PKPdf 12 31 07.2 +2.0
BOZ Bozeman (W) 124.09 22 *e*PKPdf PKPdf 12 31 08.1 +1.4
GCMT Greycliff 124.67 22 PKPdf PKPdf 12 31 09.7 +1.9
LAO LASA Array 124.98 17 *e*PKPdf PKPdf 12 31 09.8 +1.4
YMR Madison River 125.17 22 *e*PKPdf PKPdf 12 31 10.8 +2.0
YFT Old Faithful 125.40 22 *e*PKPdf PKPdf 12 31 12.6 +3.3
LOHW Long Hollow 126.21 22 *e*PKPdf PKPdf 12 31 12.9 +2.0
WUWY Wally Ulrich 126.22 23 *e*PKPdf PKPdf 12 31 13.6 +2.7
SNOW Snow King Moun 126.28 23 *e*PKPdf PKPdf 12 31 13.2 +2.2
MNV Mina 126.92 32 *e*PKPdf PKPdf 12 31 15.0 +2.6
TRCR Troy Canyon 128.30 30 *e*PKPdf PKPdf 12 31 16.4 +1.4
RWWY Rawlins 129.12 21 *e*PKPdf PKPdf 12 31 17.2 +0.7
RKT Rikitea 129.26 115 *e*LR LR 13 12 32.0
comp=Z,215nm,25.0s
MSU Marysvale 129.80 27 *e*PKPdf PKPdf 12 31 21.2 +3.3
NEN Nelson 130.75 32 *e*PKPdf PKPdf 12 31 22.6 +2.8
ANMO Albuquerque 135.28 25 *e*PKPdf PKPdf 12 31 30.6 +2.3
ELN Prospectdale 137.34 354 PKPdf PKPdf 12 31 33.6 +1.6
WMOK Wichita Mounta 138.16 16 *e*PKPpre 12 31 22.5
GDL2 Guadalupe Moun 138.53 24 *e*PKPdf PKPdf 12 31 36.9 +2.6
MNTX Cornudas Mount 138.53 26 PKPdf PKPdf 12 31 36.7 +2.3
WVT Waverly 138.62 3 *e*PKPpre 12 31 24.4
MIAR Mount Ida 139.54 10 *e*PKPpre 12 31 27.8
JCT Junction City 141.79 20 *e*PKPpre 12 31 35.2
JCT *e*PKPdf PKPdf 12 31 42.3 +2.0
NATX Nacogdoches 142.03 13 *e*PKPpre 12 31 36.7
SJG San Juan 149.78 321 *e*PKPdf PKPdf 12 31 56.1 +2.2
LPAZ La Paz 159.78 236 *e*PKPdf PKPdf 12 32 10.2 +2.7
LPAZ *e*PKPab PKPab 12 32 49.9 +1.1
LPAZ LR LR
comp=Z,330nm,20.0s,MS5.2
OTAV Otavalo 170.95 308 *e*PKPdf PKPdf 12 32 19.8 +2.9
OTAV *e*PKPab PKPab 12 33 38.8 +1.0

JMA ***02*** *12:58:52.8±0.5, 23.02N×121.53E, h71km, M2.9*
TAP 02 12:58:51.2, 23.17N×121.40E, h18km, ML3.2, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.96**	**49**	*eS*	Sn	12 59 48.7	+0.4
HATJ	**Hateruma jima**	**2.38**	**68**	P	Pn	12 59 29.5	-0.5
HATJ				*eS*	Sn	12 59 57.1	-1.9
IRIF	**Iriomote-Funau**	**2.43**	**61**	P	Pn	12 59 30.9	+0.1
IRIF				*eS*	Sn	12 59 59.5	-0.8
JKRS	**Kuro-shima**	**2.62**	**66**	P	Pn	12 59 33.8	+0.3
JKRS				*eS*	Sn	13 00 03.8	-1.3
JIJ	**Ishigaki jima**	**2.78**	**64**	P	Pn	12 59 35.3	-0.5
JIJ				*eS*	Sn	13 00 06.4	-2.8
JTJ	**Tarama**	**3.36**	**63**	P	Pn	12 59 43.5	-0.5
JTJ				*eS*	Sn	13 00 22.0	-1.8

CASC 02 13:01:23.2±2.5, 12.17N×88.20W, h88km±60km, MD4.2, ML3.7, 10C-14D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.15**	**18**⇑	*eP*	P	13 01 44.8	-0.1
CNCH				*eS*	S	13 02 01.9	+0.8
CRIN	**San Cristobal**	**1.24**	**65**⇑	*eP*	P	13 01 45.1	-0.8
CRIN				*eS*	S	13 02 04.9	+1.9
BLLM	**Bellamira**	**1.26**	**358**⇓	*eP*	P	13 01 46.4	+0.1
LEON	**Leon**	**1.30**	**79**⇑	*eP*	P	13 01 45.1	-1.6
TEL3	**Telica 3**	**1.38**	**73**⇑	*eP*	P	13 01 46.4	-1.4
MIRN	**Miramar**	**1.48**	**79**	*eP*	P	13 01 48.3	-0.8
CNGN	**Cerro Negro**	**1.50**	**77**	*eP*	P	13 01 47.9	-1.5
SNVI	**San Vicente**	**1.56**	**336**⇓	*eP*	P	13 01 50.2	+0.1
COPN	**Copaltepe**	**1.57**	**90**⇓	*eP*	P	13 01 49.0	-1.2
COPN				*eS*	S	13 02 12.9	+2.7
CAHU	**Cacacuatique**	**1.59**	**360**⇓	*eP*	P	13 01 51.4	+1.0
MOMJ	**Momotombo**	**1.64**	**82**⇓	*eP*	P	13 01 50.0	-1.1
LFRS	**El Faro**	**1.67**	**330**	*eP*	P	13 01 50.8	-0.7
LFRS				*eS*	S	13 02 13.1	+0.7
LBRS	**Las Brisas**	**1.76**	**332**⇓	*eP*	P	13 01 52.9	+0.2
LFU	**La Fuente**	**1.80**	**330**⇓	*eP*	P	13 01 53.2	0.0
APYN	**Apoyeque**	**1.81**	**88**⇓	*eP*	P	13 01 52.5	-0.8
XAVN	**Gruta Xavier**	**1.83**	**91**⇑	*eP*	P	13 01 52.8	-0.8
BOQS	**Boqueron**	**1.88**	**326**⇑	*eP*	P	13 01 54.3	+0.1
BOQS				*eS*	S	13 02 18.4	+1.3
MGAN	**Managua**	**1.91**	**91**⇑	*eP*	P	13 01 53.1	-1.6
MGAN				⇓*eP*		13 01 53.7	
MGAN				*i*		13 02 29.1	
	comp=N,678nm,0.7s						
TICN	**Ticuantepe**	**1.93**	**94**⇓	*eP*	P	13 01 54.4	-0.5
APON	**Apoyo**	**2.10**	**97**⇑	*eP*	P	13 01 56.2	-1.0
SBLS	**San Blas**	**2.16**	**320**⇓	*eP*	P	13 01 58.2	+0.1
SNJE	**San Jose**	**2.17**	**321**⇓	*eP*	P	13 01 58.3	0.0
SNJE				*eS*	S	13 02 24.7	+0.5
RTR	**El Retiro**	**2.22**	**321**⇑	*eP*	P	13 01 59.0	0.0
RTR				*eS*	S	13 02 26.3	+0.9
RBDL	**Robledal**	**2.41**	**323**⇑	*eP*	P	13 02 02.3	+0.7
MTO2	**Montecristo 2**	**2.49**	**333**⇓	*eP*	P	13 02 03.5	+0.9
JCR	**Jicaral**	**3.81**	**127**	*eP*	P	13 02 19.6	-1.4
PRS1	**Puriscal**	**4.39**	**119**	*eP*	P	13 02 31.9	+2.9
LAJ	**Bijagual**	**4.61**	**119**	*eP*	P	13 02 27.9	-4.1
LCR2	**La Lucha 2**	**4.78**	**120**	*eP*	P	13 02 34.3	+0.1
URSC	**Urasca**	**4.92**	**118**⇓	*eP*	P	13 02 38.0	+1.8
BUS	**Buena Vista**	**5.08**	**120**	*eP*	P	13 02 38.9	+0.5
BUS				*eS*	S	13 03 35.6	-0.6

MAN 02 13:12:55.9, 10.10N×123.14E, h1km, mb4.2, ML3.0, MS2.7, 2C-3D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.75**	**173**⇑	*iP*	Pg	13 13 12.0	+1.0
SNPH				*i* S	Sg	13 13 25.5	+4.5
GUIM	**Jordan**	**0.76**	**314**	*eP*	Pg	13 13 10.1	-0.9
GUIM				*eS*	Sg	13 13 20.7	-0.5
TBP	**Tagbilaran**	**0.81**	**120**⇓	*eP*	Pg	13 13 12.2	0.0
TBP				*eS*	Sg	13 13 25.7	+2.7
LLP	**Lapu-Lapu**	**0.84**	**75**⇓	*iP*	Pg	13 13 12.0	-0.7
LLP				*i* S	Sg	13 13 23.4	-0.5
RCP	**Roxas**	**1.51**	**345**⇓	*eP*	Pn	13 13 23.6	-0.5
RCP				*eS*	Sb	13 13 45.7	+1.8
DCPH	**Dipolog City**	**1.52**	**172**⇓	*eP*	Pn	13 13 24.0	-0.3
DCPH				*i* S	Sb	13 13 45.0	+0.7
OCLP	**Ormoc**	**1.73**	**57**	*eP*	Pn	13 13 26.8	-0.5
PAGZ	**Pagadian**	**2.25**	**174**	*eP*	Pn	13 13 36.2	+1.4
IPIL	**Ipil**	**2.36**	**194**	*eP*	Pn	13 13 37.2	+0.8

MDD ***02*** *13:31:25.7±0.6, 44.24N×3.08E, h10km±5km, mbLg1.9/12, Error ellipse: s-maj=3.3km s-min=2.9km az=138.0, PRXIMO MAGNITUD POBRE*
NEIC ***02*** *13:31:25.4, 44.24N×3.09E, h3km, ML2.6(STR), ML2.5(LDG), After LDG.*
CSEM ***02*** *13:31:26.0±0.1, 44.25N×3.08E, h8km, ML2.6/13, Error ellipse: s-maj=1.3km s-min=1.1km az=119.0*
LDG 02 13:31:25.4±0.0, 44.24N×3.09E, h3km, Md2.6/2, Ml2.5/14, Error ellipse: s-maj=0.9km s-min=0.7km az=147.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LASF	**Ste Croix**	**0.58**	**106**	*ePg*	Pg	13 31 36.4	-0.5
LASF				*eSg*	Sg	13 31 44.3	-0.4
LASF				*eSn*	Sn	13 31 47.8	-2.4
	24nm,0.2s						
LBL	**Lubilhac**	**1.00**	**7**	Pg	Pg	13 31 45.0	-0.4
LBL				Sg	Sg	13 31 56.0	-2.7
CAF	**Calviac**	**1.00**	**314**	*ePg*	Pg	13 31 44.3	-1.1
CAF				*ePn*	Pn	13 31 44.6	-1.6
CAF				*eSg*	Sg	13 31 57.5	-1.3
	13nm,0.2s						
CAF	**Calviac**	**1.00**	**314**	Pg	Pg	13 31 44.3	-1.1
CAF				Lg		13 31 57.5	
	6.5nm,0.2s						
CAF	**Calviac**	**1.00**	**314**	*ePn*	Pn	13 31 44.6	-1.6
MTLF	**Montolieu**	**1.10**	**215**	*ePn*	Pn	13 31 45.5	-2.0
MTLF				*ePg*	Pg	13 31 45.9	-1.4
MTLF				*eSg*	Sg	13 32 00.1	-1.8
	14nm,0.2s						
MTLF	**Montolieu**	**1.10**	**215**	*ePg*	Pg	13 31 45.9	-1.4
MTLF				*eSg*	Sg	13 32 00.1	-1.8
	7.2nm,0.2s						
FRNF	**Fournols**	**1.21**	**342**	Pn	Pn	13 31 48.4	-0.7
FRNF				Sg	Sg	13 32 03.8	-1.8
VIVF	**Saint-Julien-l**	**1.29**	**61**	*ePn*	Pn	13 31 48.8	-1.5
VIVF				*ePg*	Pg	13 31 49.7	-1.5
VIVF				*eSn*	Sn	13 32 05.3	-3.0
VIVF				*eSg*	Sg	13 32 06.5	-1.9
	10nm,0.2s						
COLF	**Collangettes**	**1.35**	**18**	Pn	Pn	13 31 50.3	-0.9
COLF				Sg	Sg	13 32 07.4	-2.9
PYM	**Petit Puy Mans**	**1.51**	**358**	Pg	Pg	13 31 54.6	-1.0
PYM				Sg	Sg	13 32 13.2	-2.6
RJF	**Les Rejaudoux**	**1.54**	**314**	*ePn*	Pn	13 31 52.1	-1.9
RJF				*ePg*	Pg	13 31 54.3	-1.9
RJF				*eSn*	Sn	13 32 12.6	-2.2
RJF				*eSg*	Sg	13 32 14.7	-2.1
	9.4nm,0.2s						
PLDF	**La Plantade**	**1.77**	**12**	Pg	Pg	13 31 58.4	-2.4
PLDF				Sg	Sg	13 32 21.0	-3.4
EJON	**La Jonquera**	**1.79**	**185**	Pg	Pg	13 31 59.0	-2.3
EJON				Lg		13 32 23.1	
EJON	**La Jonquera**	**1.79**	**185**	Pg	Pg	13 31 58.8	-2.5
	0.7nm,0.1s,SNR=8.1						
EJON				Lg		13 32 22.2	
	10nm,0.4s,SNR=13						
EJON	**La Jonquera**	**1.79**	**185**	Pg	Pg	13 31 59.0	-2.2
	0.6nm,0.0s,SNR=8.1						
SMRF	**Simiane la Rot**	**1.81**	**97**	*ePn*	Pn	13 31 55.8	-2.0
AGO	**Saint Agoulin**	**1.81**	**1**	Pg	Pg	13 31 59.8	-1.8
AGO				Sg	Sg	13 32 22.6	-3.2
LFF	**La Frestale**	**1.82**	**293**	*ePn*	Pn	13 31 56.1	-1.7
LFF				*ePg*	Pg	13 31 59.4	-2.3
LFF				*eSg*	Sg	13 32 22.6	-3.3
	11nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.11**	**70**	*ePg*	Pg	13 32 04.9	-2.6
ORIF				*eSg*	Sg	13 32 32.1	-3.5
	0.9nm,0.2s						
TCF	**Toulx Ste Croi**	**2.14**	**343**	*ePn*	Pn	13 32 00.4	-2.1
TCF				*ePg*	Pg	13 32 05.5	-2.6
TCF				*eSn*	Sn	13 32 25.7	-4.2
TCF				*eSg*	Sg	13 32 32.0	-4.7
	5.3nm,0.3s						
BGF	**Bois d'Agland**	**2.33**	**356**	*ePn*	Pn	13 32 02.9	-2.2
BGF				*ePg*	Pg	13 32 08.8	-3.0
BGF				*eSn*	Sn	13 32 30.2	-4.4
BGF				*eSg*	Sg	13 32 36.9	-5.9
	11nm,0.3s						
EPF	**Esparros**	**2.33**	**240**	*ePn*	Pn	13 32 02.5	-2.7
EPF				*ePg*	Pg	13 32 08.6	-3.3
EPF				*eSn*	Sn	13 32 29.9	-4.8
EPF				*eSg*	Sg	13 32 39.5	-3.5
	7.8nm,0.3s						
SMF	**Signal de Mont**	**2.46**	**12**	*ePn*	Pn	13 32 04.7	-2.4
SMF				*ePg*	Pg	13 32 11.2	-3.4
SMF				*eSn*	Sn	13 32 33.2	-4.9
SMF				*eSg*	Sg	13 32 41.4	-6.0
	3.6nm,0.3s						
AVF	**Avril sur Loir**	**2.56**	**4**	*ePn*	Pn	13 32 06.1	-2.4
AVF				*ePg*	Pg	13 32 12.5	-4.0
AVF				*eSn*	Sn	13 32 35.6	-4.9
AVF				*eSg*	Sg	13 32 44.5	-6.1
	1.9nm,0.2s						
EMIR	**Miracle**	**2.59**	**207**	Pn	Pn	13 32 08.4	-0.5
EMIR				Pg	Pg	13 32 13.9	-3.2
EMIR				Sn	Sn	13 32 39.2	-2.1
EMIR				Lg		13 32 46.8	
EMIR	**Miracle**	**2.59**	**207**	Pn	Pn	13 32 07.8	-1.2
	0.7nm,0.2s,SNR=7.9						
EMIR				Pg	Pg	13 32 13.9	-3.2
	1.2nm,0.2s,SNR=7.9						
EMIR				Sn	Sn	13 32 38.8	-2.5
	2.0nm,0.2s,SNR=7.9						
EMIR				Lg		13 32 48.5	
	5.3nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.59**	**207**	Pn	Pn	13 32 08.4	-0.5
EMIR	**Miracle**	**2.59**	**207**	Pg	Pg	13 32 13.9	-3.2
	SNR=7.9						
EMIR				Sn	Sn	13 32 39.2	-2.1
	2.0nm,0.1s,SNR=7.9						
LMR	**La Mourre**	**2.64**	**109**	*ePn*	Pn	13 32 07.1	-2.5
EBIE	**Bielsa**	**2.65**	**235**	Pn	Pn	13 32 07.5	-2.2
	0.2nm,0.1s,SNR=7.9						
EBIE				Pb	Pb	13 32 09.8	-3.4
	SNR=7.9						
EBIE				Pg	Pg	13 32 13.5	-4.7
	1.0nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	13 32 37.3	-5.4
	0.1nm,0.1s,SNR=4.0						
EBIE				Lg		13 32 43.6	
	1.1nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**2.65**	**235**	Pn	Pn	13 32 07.5	-2.2
	0.5nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**2.65**	**235**	Pg	Pg	13 32 13.1	-5.1
	1.0nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	13 32 36.6	-6.1
	0.3nm,0.1s,SNR=7.9						
SSF	**Saint Saulge**	**2.84**	**6**	*ePn*	Pn	13 32 09.8	-

ETSF				*e*Sn	Sn	13 32 45.7	-5.2
	5.8nm,0.2s						
HYF	**Humbligny**	**3.05**	**354**	*e*Pn	Pn	13 32 12.6	-2.8
CABF	**La Chapelle**	**3.18**	**41**	*e*Pn	Pn	13 32 14.7	-2.6
CABF				*e*Pg	Pg	13 32 24.8	-4.0
EPOB	**Poblet**	**3.24**	**208**	Pg	Pg	13 32 25.6	-4.5
EPOB				Lg		13 33 06.9	
EPOB	**Poblet**	**3.24**	**208**	Pg	Pg	13 32 25.6	-4.5
	0.4nm,0.1s,SNR=7.9						
EPOB				Lg		13 33 07.4	
	1.5nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**3.24**	**208**	Pg	Pg	13 32 25.6	-4.5
	0.5nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**3.48**	**255**	Pg	Pb	13 32 25.9	-1.6
EALK				Sn	Sn	13 32 56.2	-7.7
EALK	**Alkurruntz**	**3.48**	**255**	Pg	Pb	13 32 25.8	-1.7
	1.0nm,0.3s,SNR=7.9						
EALK				Sn	Sn	13 32 56.6	-7.3
	0.7nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**3.48**	**255**	Pg	Pb	13 32 25.9	-1.6
	SNR=7.9						
EALK				Sn	Sn	13 32 56.2	-7.7
	SNR=7.9						
ELAN	**Lanestosa**	**4.83**	**260**	Pn	Pn	13 32 37.8	-3.0
	0.4nm,0.1s,SNR=4.0						
ELAN				Sn	Sn	13 33 29.8	-8.2
	0.2nm,0.1s,SNR=7.9						

*NEIC **02** 13:39:58.9±2.0,7.40N×92.06E,h43km±23km,mb4.3/3, Error ellipse: s-maj=23.3km s-min=16.7km az=149.0*

ISC 02 13:39:55.3±5.8,7.5N±0.1×92.0E±0.1,h30km±45km,n12, σ0∓71/12,mb4.5/8,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.25**	**270**	*e*P	**P**	**13 42 37.6**	**+0.2**
	7.1nm,0.4s						
CM31	**Chiang Mai Arr**	**12.84**	**31**	*e*P	**P**	**13 42 59.1**	**+0.4**
	4.2nm,0.6s						
CM31				*e*		13 43 08.3	
SHL	**Shillong**	**18.01**	**360**	*e*P	**P**	**13 44 04.5**	**-0.9**
PKI	**Pulchoki**	**20.97**	**343**	*e*P	**P**	**13 44 38.5**	**-0.1**
	7.9nm,0.3s						
DMN	**Daman**	**21.09**	**343**	*e*P	**P**	**13 44 39.6**	**-0.3**
	13nm,0.5s,mb4.5						
GUN	**Gumba**	**21.17**	**345**	*e*P	**P**	**13 44 40.6**	**0.0**
	20nm,0.6s,mb4.6						
KKN	**Kakani**	**21.21**	**343**	*e*P	**P**	**13 44 40.8**	**-0.3**
	8.1nm,0.5s,mb4.3						
GKN	**Gorkha**	**21.61**	**342**	*e*P	**P**	**13 44 44.6**	**-0.4**
	15nm,0.4s,mb4.7						
KOLN	**Koldanda**	**21.73**	**339**	*e*P	**P**	**13 44 46.3**	**0.0**
	16nm,0.6s,mb4.6						
LSA	**Lhasa**	**22.14**	**358**	*e*P	**P**	**13 44 53.1**	**+2.7**
	4.8nm,0.5s,mb4.2						
LSA				*e*		13 45 02.0	
AAK	**Ala-Archa**	**38.30**	**339**	*e*P	**P**	**13 47 15.3**	**+0.1**
	3.5nm,0.8s,mb4.1						
WRAB	**Tennant Creek**	**49.74**	**124**	*e*P	**P**	**13 48 47.1**	**-0.3**
	7.7nm,0.9s,mb4.7						

*NEIC **02** 13:39:57.6,38.18S×176.09E,h158km,After WEL*

WEL 02 13:39:57.2±0.3,38.18S×176.10E,h162km±2km,ML3.9/8, 8C,Error ellipse: s-maj=2.7km s-min=2.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.80**	**96**	P	P	13 40 21.6	-0.4
URZ	**Urewera**	**0.80**	**96**	PN	P	13 40 21.6	-0.4
URZ				SN	S	13 40 39.8	-1.2
MGZ	**Maungaku**	**0.93**	**208**	P	P	13 40 22.6	-0.2
MGZ	**Maungaku**	**0.93**	**208**	PN	P	13 40 23.0	+0.2
TWVZ	**Taurewa**	**1.03**	**210**	⇑PN	P	13 40 23.5	-0.1
BKZ	**Black Stump Fm**	**1.04**	**163**	P	P	13 40 23.6	0.0
BKZ				S	S	13 40 43.4	-0.6
BKZ	**Black Stump Fm**	**1.04**	**163**	⇑PN	P	13 40 23.6	0.0
BKZ				SN	S	13 40 43.4	-0.5
OTVZ	**Oturere**	**1.04**	**199**	⇑PN	P	13 40 24.0	+0.3
NGZ	**Ngauruhoe**	**1.07**	**201**	P	P	13 40 24.1	+0.2
NGZ	**Ngauruhoe**	**1.07**	**201**	PN	P	13 40 24.1	+0.2
CNZ	**Chateau**	**1.11**	**203**	P	P	13 40 24.1	-0.2
CNZ	**Chateau**	**1.11**	**203**	*e*PN	P	13 40 24.1	-0.1
WPVZ	**Whakapapa**	**1.11**	**203**	P	P	13 40 24.2	-0.1
WPVZ	**Whakapapa**	**1.11**	**203**	*e*PN	P	13 40 24.0	-0.3
MWZ	**Matawai**	**1.14**	**98**	P	P	13 40 24.7	+0.2
MWZ	**Matawai**	**1.14**	**98**	PN	P	13 40 24.6	+0.1
MWZ				SN	S	13 40 45.2	-0.4
TUVZ	**Tukino**	**1.15**	**198**	P	P	13 40 24.6	0.0
TUVZ	**Tukino**	**1.15**	**198**	PN	P	13 40 24.7	+0.1
TUVZ				*e*SN	S	13 40 45.8	+0.1
WNVZ	**Wahianoa**	**1.22**	**199**	P	P	13 40 24.8	-0.5
MOVZ	**Moawhango**	**1.26**	**192**	⇑PN	P	13 40 25.0	-0.7
MOVZ				*e*SN	S	13 40 45.9	-1.7
KNZ	**Kokohu**	**1.50**	**125**	*e*P	P	13 40 27.9	-0.1
KNZ	**Kokohu**	**1.50**	**125**	PN	P	13 40 27.9	-0.1
KNZ				SN	S	13 40 50.9	-0.9
PUZ	**Puketiti**	**1.71**	**87**	*e*P	P	13 40 29.7	-0.5
PUZ	**Puketiti**	**1.71**	**87**	PN	P	13 40 29.7	-0.5
PUZ				SN	S	13 40 54.2	-1.4
WAZ	**Wanganui**	**1.80**	**208**	*e*P	P	13 40 30.3	-0.9
WAZ	**Wanganui**	**1.80**	**208**	PN	P	13 40 30.2	-1.0
WAZ				SN	S	13 40 56.9	-0.5
MXZ	**Matakaoa Point**	**1.85**	**71**	P	P	13 40 31.4	-0.4
MXZ	**Matakaoa Point**	**1.85**	**71**	PN	P	13 40 31.4	-0.3
MXZ				SN	S	13 40 57.4	-1.1
TSZ	**Takapari Road**	**1.88**	**183**	P	P	13 40 31.0	-1.1
TSZ	**Takapari Road**	**1.88**	**183**	⇑PN	P	13 40 31.0	-1.1
TSZ				SN	S	13 40 56.7	-2.4
PWZ	**Pawanui**	**1.94**	**162**	P	P	13 40 32.2	-0.6
PWZ	**Pawanui**	**1.94**	**162**	⇑PN	P	13 40 32.2	-0.6
PWZ				SN	S	13 40 59.8	-0.4
BFZ	**Birch Farm**	**2.50**	**177**	P	P	13 40 37.5	-2.0
BFZ	**Birch Farm**	**2.50**	**177**	⇑PN	P	13 40 37.4	-2.1
BFZ				SN	S	13 41 07.9	-4.2
KIW	**Kapiti Island**	**2.83**	**199**	P	P	13 40 40.4	-3.2
KIW	**Kapiti Island**	**2.83**	**199**	PN	P	13 40 40.3	-3.3
MTW	**Mount Morrison**	**3.01**	**189**	P	P	13 40 42.4	-3.5
MTW	**Mount Morrison**	**3.01**	**189**	⇑PN	P	13 40 42.4	-3.5
CAW	**Cannon Point**	**3.03**	**195**	P	P	13 40 42.8	-3.4
CAW	**Cannon Point**	**3.03**	**195**	PN	P	13 40 42.7	-3.5
MRW	**Makara Radio**	**3.23**	**199**	*e*PN	P	13 40 44.7	-4.0
MSWZ	**Moikau Station**	**3.30**	**191**	P	P	13 40 45.7	-3.9
NNZ	**Nelson**	**3.69**	**214**	*e*P	P	13 40 50.1	-4.5
THZ	**Tophouse**	**4.34**	**213**	P	P	13 40 58.3	-4.7
KHZ	**Kahutara**	**4.67**	**204**	*e*P	P	13 41 02.4	-4.9
DSZ	**Denniston Nort**	**4.86**	**221**	*e*P	P	13 41 05.2	-4.6
LTZ	**Lake Taylor**	**5.45**	**211**	*e*P	P	13 41 12.3	-5.2

*NEIC **02** 14:55:40.6,31.11S×71.53W,h68km,MD3.5(GUC),After GUC.*

GUC 02 14:55:40.6±0.8,31.11S×71.53W,h68km±6km,MD3.5, ML3.8,13C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.61**	**150**	⇑*i*P	P	14 55 55.2	+0.7
ILCH				*i* S	S	14 56 05.2	+0.6
ILCH				AMP		14 56 06.1	
	comp=N,5μm,0.1s						
TLL	**Tololo Astrono**	**1.13**	**34**	⇓*i*P	P	14 56 01.7	+0.8
TLL				*i* S	S	14 56 17.1	+1.0
TLL				AMP		14 56 19.2	
	comp=N,3μm,0.6s						
PTCH	**Petorca**	**1.26**	**156**	⇑*i*P	P	14 56 02.9	+0.3
PTCH				*i* S	S	14 56 18.9	-0.1
PTCH				AMP		14 56 22.4	
	comp=E,3μm,0.2s						
PACH	**Papudo**	**1.42**	**177**	⇑*i*P	P	14 56 04.8	-0.2
JACH	**Jahuel**	**1.76**	**153**	⇓*i*P	P	14 56 09.9	+0.4
JACH				*i* S	S	14 56 31.9	+1.1
ROCH	**El Roble**	**1.91**	**167**	⇑*i*P	P	14 56 11.6	0.0
IHA	**Instituto Hidr**	**1.91**	**183**	⇑*i*P	P	14 56 10.8	-0.8
PEL	**Peldehue**	**2.15**	**161**	*i* P	P	14 56 15.1	+0.1
PEL				*i* S	S	14 56 40.6	+0.3
DSCH	**Colegio Aleman**	**2.42**	**161**	⇑*i*P	P	14 56 18.8	0.0
DSCH				*i* S	S	14 56 47.2	-0.1
DSCH				AMP		14 56 49.3	
	comp=N,836nm,0.5s						
CLCH	**Cerro Calan**	**2.43**	**160**	⇑*i*P	P	14 56 18.9	0.0
CLCH				*i* S	S	14 56 47.6	+0.2
CLCH				AMP		14 56 50.5	
	comp=N,394nm,0.4s						
FCH	**Farellones**	**2.45**	**155**	⇑*i*P	P	14 56 19.6	+0.4
FCH				*i* S	S	14 56 49.4	+1.5
FCH				AMP		14 56 51.5	
	comp=E,442nm,0.2s						
RCDM	**Rinconada Maip**	**2.45**	**166**	*i* P	P	14 56 18.8	-0.4
RCDM				*i* S	S	14 56 47.8	-0.2
RCDM				AMP		14 56 50.3	
	comp=E,1μm,0.1s						
ANTU	**Antumapu**	**2.56**	**163**	*i* P	P	14 56 20.6	-0.2
ANTU				*i* S	S	14 56 50.6	-0.3
ANTU				AMP		14 56 51.8	
	comp=N,408nm,0.2s						
TACH	**Talagante**	**2.58**	**169**	⇑*i*P	P	14 56 20.7	-0.4
TACH				*i* S	S	14 56 50.4	-1.0
VACH	**Vallenar**	**2.61**	**15**	⇑*i*P	P	14 56 21.0	-0.5
VACH				*i* S	S	14 56 51.5	-0.6
PCH	**Pirque**	**2.65**	**161**	⇑*i*P	P	14 56 21.8	-0.2
PCH				*i* S	S	14 56 52.3	-0.6
CHCH	**Chadas Angostu**	**2.91**	**166**	⇓*i*P	P	14 56 25.4	-0.3
CHCH				*i* S	S	14 56 58.8	-0.8
LMEL	**Las Melosas**	**2.95**	**158**	⇑*i*P	P	14 56 26.8	+0.5
LMEL				*i* S	S	14 57 01.1	+0.6
LMEL				AMP		14 57 03.1	
	comp=N,570nm,0.2s						
CACH	**El Canelo**	**3.10**	**166**	⇓*i*P	P	14 56 28.6	+0.3
CACH				*i* S	S	14 57 05.0	+0.7
CICH	**Cipreses**	**3.33**	**164**	*e*P	P	14 56 31.3	-0.3
SFDO	**San Fernando**	**3.52**	**173**	⇑*i*P	P	14 56 33.9	-0.3
SFDO				*i* S	S	14 57 13.4	-1.5

*BJI **02** 15:04:21.3,9.03N×93.52E,h24km,mB5.2,mb4.6,Ms4.3*
*NEIC **02** 15:04:30.5±1.1,9.93N×93.49E,mb4.5/4,Error ellipse: s-maj=29.0km s-min=13.0km az=74.0*

ISC 02 15:04:30.9±0.8,10.0N±0.1×93.8E±0.1,h33km,n27, σ0∓96/26,mb4.7/5,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**9.77**	**30**	*e*P	**P**	**15 06 53.7**	**+1.4**
	18nm,0.9s						
SHL	**Shillong**	**15.57**	**354**	*e*P	**P**	**15 08 12.8**	**+3.0**
HYB	**Hyderabad**	**16.52**	**298**	*i* P	**P**	**15 08 25.5**	**+3.7**
PKI	**Pulchoki**	**19.16**	**337**	*e*P	**P**	**15 08 54.9**	**+0.4**
	53nm,1.3s						
GUN	**Gumba**	**19.30**	**338**	*e*P	**P**	**15 08 55.2**	**-0.7**
	35nm,0.7s						
DMN	**Daman**	**19.32**	**336**	*e*P	**P**	**15 08 55.7**	**-0.5**
	18nm,0.9s						
KKN	**Kakani**	**19.41**	**337**	*e*P	**P**	**15 08 56.3**	**-0.9**
	41nm,1.2s						
LSA	**Lhasa**	**19.74**	**353**	*e*P	**P**	**15 08 59.5**	**-1.3**
	15nm,1.0s						
LSA				*e*		15 09 06.0	
GKN	**Gorkha**	**19.86**	**336**	*e*P	**P**	**15 09 01.2**	**-0.9**
	25nm,0.5s						
KOLN	**Koldanda**	**20.10**	**333**	*e*P	**P**	**15 09 04.5**	**-0.1**
	24nm,0.7s						
ENH	**Enshi**	**24.91**	**34**	*e*P	**P**	**15 09 52.8**	**+0.3**
	17nm,1.0s,mb4.5						
ENH				*e*		15 09 58.4	
DDI	**Dehra Dun**	**24.96**	**326**	*e*	**P**	**15 09 53.7**	**+0.7**
WMQ	**Urumqi**	**34.09**	**352**	*e*P	**P**	**15 11 12.7**	**-1.8**
UCH	**Uchtor**	**36.27**	**336**	P	**P**	**15 11 33.5**	**+0.4**
	SNR=5.2						
KBK	**Karagaybulak**	**36.45**	**336**	P	**P**	**15 11 35.8**	**+1.1**
	SNR=9.9						
AML	**Almayashu**	**36.53**	**335**	P	**P**	**15 11 36.2**	**+0.9**
	SNR=9.2						
AAK	**Ala-Archa**	**36.62**	**336**	P	**P**	**15 11 36.6**	**+0.6**
	SNR=7.5						
AAK	**Ala-Archa**	**36.62**	**336**	*e*P	**P**	**15 11 35.3**	**-0.7**
	5.6nm,0.8s,mb4.5						
CHMS	**Chumysh**	**36.82**	**336**	P	**P**	**15 11 37.6**	**-0.2**
	SNR=6.3						
EKS2	**Erkin-Say**	**36.93**	**335**	P	**P**	**15 11 39.5**	**+0.8**
	SNR=9.6						
USP	**Ospenovka**	**37.15**	**336**	P	**P**	**15 11 40.5**	**+0.1**
	SNR=11						
WRAB	**Tennant Creek**	**49.80**	**127**	*e*P	**P**	**15 13 22.9**	**-0.1**
	16nm,0.6s,mb5.2						
WRAB				*e*	pP	15 13 31.0	-1.9
WB2	**Warramunga Arr**	**49.81**	**127**	*e*P	**P**	**15 13 23.0**	**0.0**
YAK	**Yakutsk**	**58.09**	**19**	*e*P	**P**	**15 14 21.8**	**-1.5**
	6.0nm,0.6s,mb4.8						
YAK				*e*	pP	15 14 30.3	-3.1
CTAO	**Charters Tower**	**59.67**	**120**	*e*P	pP	15 14 41.5	-3.4
STKA	**Stephens Creek**	**61.84**	**134**	*e*P	**P**	**15 14 49.5**	**+0.1**
	5.8nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**61.84**	**134**	*e*P	**P**	**15 14 49.5**	**+0.1**
STKA				*e*		15 14 56.6	

BJI 02 15:07:30.6,40.57N×111.34E,h15km,ML3.4,Ms3.6, Msz3.1,1D,Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIY	**Taiyuan**	**2.98**	**163**	⇓PG	Pg	15 08 21.8	-8.3
TIY				SG	Sg	15 09 00.0	-10
TIY				Smax			
	comp=N,136nm,0.8s						
TIY				Smax			
	comp=E,66nm,0.4s						

FUNV 02 15:08:13.4,6.74N×73.13W,h165km,MD3.8,1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.38**	**36**	⇓*i*P	P	15 08 42.5	-0.8
CAPV				*e*S	S	15 09 04.0	-2.4
VIGV	**El Vigia**	**2.72**	**40**	*e*P	P	15 08 57.1	-1.4
VIGV				*e*S	S	15 09 29.1	-4.2
SOCV	**Socops**	**2.73**	**56**	*e*P	P	15 08 57.4	-1.2
SOCV				*e*S	S	15 09 29.6	-3.8
VIRV	**Villa del Rosa**	**3.81**	**11**	*e*P	P	15 09 09.8	-2.5
VIRV				*e*S	S	15 09 52.2	-5.5
CURV	**Curarigua**	**4.52**	**44**	*e*P	P	15 09 19.2	-2.4
CURV				*e*S	S	15 10 07.4	-6.7
DABV	**Dabajuro**	**4.83**	**30**	*e*P	P	15 09 23.9	-1.8
DABV				*e*S	S	15 10 15.6	-6.0
BAUV	**El Baul**	**5.50**	**66**	*e*P	P	15 09 31.1	-3.3
BAUV				*e*S	S	15 10 30.0	-7.2
MONV	**Montecano**	**6.05**	**31**	*e*P	P	15 09 39.3	-2.4

*MOS **02** 15:09:04.1±0.9,52.39N×158.99E,h60km,mb4.8/20,Error ellipse: s-maj=17.5km s-min=6.5km az=89.9*
MOS Felt (III) at Petropavlovsk-Kamchatskiy.
*NEIC **02** 15:09:05.6±0.8,52.44N×159.01E,h60km±6km,mb4.6/22, Error ellipse: s-maj=9.6km s-min=8.6km az=155.0*
NEIC Felt [III] at Petropavlovsk-Kamchatskiy.
*KRSC **02** 15:09:07.6±0.5,52.57N×159.13E,h39km±3km,ML4.5*

ISC 02 15:09:05.8±0.5,52.51N±0.03×159.06E±0.07,h70km±3km, n102,σ1∓19/137,mb4.4/22,1D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.34**	**258**	P	**P**	**15 09 16.7**	**-0.7**
RUS	**Russkaya**	**0.34**	**258**	*i* P	**P**	**15 09 16.8**	**-0.6**
PET	**Petropavlovsk**	**0.58**	**334**	P	**P**	**15 09 19.2**	**-0.4**
PET				S	**S**	**15 09 27.2**	**-2.4**
PET	**Petropavlovsk**	**0.58**	**334**	⇓*i*Pn	**P**	**15 09 19.2**	**-0.4**
PET				*e*Sn	**S**	**15 09 27.9**	**-1.7**
PET	**Petropavlovsk**	**0.58**	**334**	*i* P	**P**	**15 09 19.2**	**-0.4**
PET				*i* S	**S**	**15 09 27.5**	**-2.1**
GRL	**Gorelyy**	**0.61**	**275**	*i* P	**P**	**15 09 20.9**	**+1.0**
GRL				*e*S	**S**	**15 09 30.3**	**+0.1**
KRMR	**Karymshinskiy**	**0.66**	**300**	*i* P	**P**	**15 09 20.6**	**+0.2**
KRMR				*i* S	**S**	**15 09 30.5**	**-0.7**
NLC	**Nalytchevo**	**0.69**	**14**	P	**P**	**15 09 19.5**	**-1.2**
NLC				S	**S**	**15 09 29.2**	**-2.7**
NLC	**Nalytchevo**	**0.69**	**14**	*i* P	**P**	**15 09 19.5**	**-1.2**
NLC				*i* S	**S**	**15 09 28.5**	**-3.4**
UGLR	**Uglovaya**	**0.72**	**348**	*i* P	**P**	**15 09 21.2**	**+0.1**
UGLR				*i* S	**S**	**15 09 31.4**	**-1.1**
SMAR	**Somma**	**0.78**	**348**	*i* P	**P**	**15 09 21.6**	**-0.2**
SDLR	**Sedlovina**	**0.78**	**352**	*i* P	**P**	**15 09 21.6**	**-0.2**
SDLR				*i* S	**S**	**15 09 31.7**	**-2.0**
AVH	**Avacha**	**0.79**	**346**	*i* P	**P**	**15 09 22.3**	**+0.4**
AVH				*e*S	**S**	**15 09 33.2**	**-0.6**
KOK	**Koryaka**	**0.83**	**342**	*i* P	**P**	**15 09 22.9**	**+0.5**
KOK				*i* S	**S**	**15 09 34.3**	**-0.4**
SPN	**Mys Shipunski**	**0.83**	**44**	P	**P**	**15 09 21.2**	**-1.2**
SPN				S	**S**	**15 09 30.8**	**-4.0**
SPN	**Mys Shipunski**	**0.83**	**44**	*i* P	**P**	**15 09 21.3**	**-1.1**
SPN				*e*S	**S**	**15 09 31.1**	**-3.7**
APC	**Apacha**	**1.23**	**291**	*i* P	**P**	**15 09 29.0**	**+1.3**
APC				*e*S	**S**	**15 09 44.5**	**+0.6**
APC				Smax			
	1μm,0.6s						
GNL	**Ganaly**	**1.37**	**331**	*i* P	**P**	**15 09 30.5**	**+0.9**
GNL				*e*S	**S**	**15 09 47.5**	**+0.3**
MIPR	**Malaya Ipel'ka**	**1.43**	**262**	*e*P	**P**	**15 09 31.7**	**+1.3**
SKR	**Severo-Kuril's**	**2.59**	**226**	*e*PN	**P**	**15 09 44.1**	**-2.4**
SKR				*e*S	**S**	**15 10 13.0**	**-3.8**
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=E,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR	**Severo-Kuril's**	**2.59**	**226**	*e*P	**P**	**15 09 49.5**	**+3.0**
SKR				*e*S	**S**	**15 10 18.4**	**+1.6**
ALID	**Alaid**	**2.73**	**235**	*e*P	**P**	**15 09 50.5**	**+2.0**
TUMR	**Tumrok**	**2.85**	**13**	*e*P	**P**	**15 09 51.7**	**+1.5**
TUMR				*e*S	**S**	**15 10 23.8**	**+0.3**
KMNR	**Kamenistaya**	**3.33**	**11**	*i* P	**P**	**15 09 58.4**	**+1.6**
KMNR				*e*S	**S**	**15 10 35.9**	**+0.6**
ESO	**Esso**	**3.43**	**357**	*i* P	**P**	**15 09 59.5**	**+1.2**
ESO				*e*S	**S**	**15 10 37.5**	**-0.4**
ESO				Smax			
	comp=Z,150nm,1.0s						
KPT	**Kopyto**	**3.53**	**11**	*i* P	**P**	**15 10 00.6**	**+0.9**
KPT				*e*S	**S**	**15 10 39.7**	**-0.7**
KOZ	**Kozyrevsk**	**3.59**	**7**	P	**P**	**15 10 02.2**	**+1.7**
KOZ				S	**S**	**15 10 41.9**	**0.0**
KOZ	**Kozyrevsk**	**3.59**	**7**	*e*P	**P**	**15 10 01.8**	**+1.3**
KOZ				*e*S	**S**	**15 10 40.9**	**-1.0**
KOZR	**Kozyr**	**3.60**	**7**	PN	**P**	**15 10 02.2**	**+1.6**
KOZR				S	**S**	**15 10 41.9**	**-0.2**
ZLN	**Zelenaya**	**3.66**	**15**	*e*P	**P**	**15 10 03.2**	**+1.7**
ZLN				*e*S	**S**	**15 10 43.6**	**-0.1**
LGNR	**Loginova**	**3.71**	**14**	*e*P	**P**	**15 10 04.4**	**+2.3**
LGNR				*e*S	**S**	**15 10 45.5**	**+0.7**
CIRR	**Tsirk**	**3.75**	**15**	*e*P	**P**	**15 10 04.5**	**+1.8**
CIRR				*e*S	**S**	**15 10 45.7**	**-0.1**
KRSR	**Krestovskiy**	**3.82**	**13**	*e*P	**P**	**15 10 04.6**	**+0.9**
KRSR				*e*S	**S**	**15 10 46.8**	**-0.8**
SRDR	**Sredinnyy**	**3.84**	**5**	*e*P	**P**	**15 10 05.1**	**+1.2**
SRDR				*e*S	**S**	**15 10 46.8**	**-1.3**
KLY	**Klyuchi**	**3.93**	**13**	P	**P**	**15 10 07.5**	**+2.4**
KLY				S	**S**	**15 10 51.5**	**+1.2**
KLY	**Klyuchi**	**3.93**	**13**	*e*P	**P**	**15 10 06.9**	**+1.8**
KLY				*e*S	**S**	**15 10 50.2**	**-0.1**
SVLR	**Shiveluch**	**4.27**	**16**	*e*P	**P**	**15 10 11.9**	**+2.0**
SVLR				*e*S	**S**	**15 10 58.9**	**+0.1**
KBTR	**Krutoberegovo**	**4.31**	**29**	P	**P**	**15 10 10.4**	**-0.1**
KBTR				S	**S**	**15 10 58.4**	**-1.5**
KBTR	**Krutoberegovo**	**4.31**	**29**	*e*P	**P**	**15 10 10.7**	**+0.2**
KBTR				*e*S	**S**	**15 10 57.1**	**-2.8**
KBG	**Krutoberegovo**	**4.32**	**28**	*e*P	**P**	**15 10 10.4**	**-0.2**
KBG				*e*S	**S**	**15 10 55.9**	**-4.2**
KBG				Smax			
	comp=Z,2μm,0.9s						
BKI	**Bering**	**4.90**	**54**	*e*S	**S**	**15 11 06.6**	**-8.1**
MA2	**Magadan**	**8.46**	**330**	*e*PN	**P**	**15 11 07.0**	**-0.9**
FX1	**Attu Island--F**	**8.58**	**82**	*e*Pn	**P**	**15 11 06.6**	**-2.9**
KAMR	**Kamenskoye**	**10.68**	**18**	*e*P	**P**	**15 11 40.0**	**+2.0**
BILL	**Bilibino**	**15.97**	**10**	*i* P	**P**	**15 12 49.4**	**+2.4**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BILL	**Bilibino**	**15.97**	**10**	*e*P	**P**	**15 12 46.2**	**-0.8**
	comp=Z,4.0nm,0.6s						
YAK	**Yakutsk**	**18.37**	**313**	*i* P	**P**	**15 13 14.9**	**-1.9**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
YAK	**Yakutsk**	**18.37**	**313**	*e*P	**P**	**15 13 14.7**	**-2.1**
	comp=Z,8.6nm,0.6s						
MAJO	**Matsushiro**	**21.69**	**231**	*e*P	**P**	**15 13 50.5**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.2						
MAJO	**Matsushiro**	**21.69**	**231**	*e*P	**P**	**15 13 50.5**	**-1.7**
	comp=Z,7.4nm,0.6s,mb4.2						
MAT	**Matsushiro**	**21.69**	**231**	*e*P	**P**	**15 13 51.0**	**-1.2**
MAT				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.2						
MAT	**Matsushiro**	**21.69**	**231**	*e*P	**P**	**15 13 51.0**	**-1.2**
	comp=Z,8.9nm,0.7s,mb4.2						
MAT	**Matsushiro**	**21.69**	**231**	P	**P**	**15 13 51.4**	**-0.8**
TIXI	**Tiksi**	**23.36**	**336**	*i* P	**P**	**15 14 08.7**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8						
ARU	**Arti**	**53.40**	**317**	*e*P	**P**	**15 18 18.5**	**-1.5**
BOZ	**Bozeman (W)**	**55.30**	**59**	*e*P	**P**	**15 18 33.6**	**-0.4**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BOZ	**Bozeman (W)**	**55.30**	**59**	*e*P	**P**	**15 18 33.6**	**-0.4**
	comp=Z

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
MFF	**Saint Martin d**	**79.68**	**346**	*eP*	**P**	**15 21 06.6**	**-0.1**
ORIF	**Oris-en-Rattie**	**80.25**	**341**	*eP*	**P**	**15 21 10.2**	**+0.4**
	comp=Z,13nm,0.9s,mb4.4						
ORIF	**Oris-en-Rattie**	**80.25**	**341**	*eP*	**P**	**15 21 10.2**	**+0.4**
ORIF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
MBDF	**Montbardon**	**80.25**	**340**	*eP*	**P**	**15 21 13.1**	**+3.2**
	comp=Z,7.7nm,0.8s,mb4.3						
MBDF	**Montbardon**	**80.25**	**340**	*eP*	**P**	**15 21 13.1**	**+3.2**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
VIVF	**Saint-Julien-l**	**80.55**	**342**	*eP*	**P**	**15 21 11.5**	**+0.1**
	comp=Z,14nm,0.9s,mb4.5						
VIVF	**Saint-Julien-l**	**80.55**	**342**	*eP*	**P**	**15 21 11.5**	**+0.1**
VIVF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
RJF	**Les Rejaudoux**	**80.68**	**344**	*eP*	**P**	**15 21 12.3**	**+0.2**
CAF	**Calviac**	**80.95**	**344**	*eP*	**P**	**15 21 14.1**	**+0.6**
	comp=Z,17nm,0.9s,mb4.6						
CAF	**Calviac**	**80.95**	**344**	*eP*	**P**	**15 21 14.1**	**+0.6**
CAF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
EPF	**Esparros**	**83.08**	**344**	*eP*	**P**	**15 21 25.8**	**+1.2**
	comp=Z,11nm,0.9s,mb4.4						
EPF	**Esparros**	**83.08**	**344**	*eP*	**P**	**15 21 25.8**	**+1.2**
EPF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
SJPF	**Ste Jean**	**83.25**	**346**	*eP*	**P**	**15 21 27.9**	**+2.5**
	comp=Z,14nm,0.9s,mb4.5						
SJPF	**Ste Jean**	**83.25**	**346**	*eP*	**P**	**15 21 27.9**	**+2.5**
SJPF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
ETSF	**Etsaut**	**83.36**	**345**	*eP*	**P**	**15 21 26.5**	**+0.6**

BJI ***02*** *15:16:22.5, 3.96N×95.14E, h49km, mB5.3, mb5.1, Ms4.6*
NEIC ***02*** *15:16:25.2±1.1, 4.34N×94.73E, h30km, mb4.7/5, Error ellipse: s-maj=30.7km s-min=20.7km az=73.0*

ISC 02 15:16:25.1±1.1, 4.5N±0.2×95.0E±0.2, h33km, n24, σ1§11/23, mb4.8/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**14.44**	**15**	*eP*	**P**	**15 19 51.8**	**+2.6**
	17nm,0.6s						
PKI	**Pulchoki**	**24.74**	**339**	*eP*	**P**	**15 21 45.0**	**-0.1**
	13nm,0.6s,mb4.6						
DMN	**Daman**	**24.89**	**339**	*eP*	**P**	**15 21 46.0**	**-0.4**
	17nm,0.7s,mb4.7						
GUN	**Gumba**	**24.89**	**341**	*eP*	**P**	**15 21 45.8**	**-0.7**
	27nm,0.5s,mb5.0						
KKN	**Kakani**	**24.99**	**339**	*eP*	**P**	**15 21 46.4**	**-1.0**
	16nm,0.7s,mb4.7						
LSA	**Lhasa**	**25.37**	**352**	*eP*	**P**	**15 21 51.2**	**+0.2**
	11nm,0.7s,mb4.5						
GKN	**Gorkha**	**25.41**	**338**	*eP*	**P**	**15 21 51.0**	**-0.4**
	35nm,0.6s,mb5.0						
KOLN	**Koldanda**	**25.61**	**336**	*eP*	**P**	**15 21 53.3**	**0.0**
	33nm,0.6s,mb5.0						
XAN	**Xi'an**	**32.16**	**22**	P	**P**	**15 22 49.8**	**-2.3**
XAN				AMB	AMB		
	comp=Z,48nm,0.7s,mb5.4						
BJT	**Baijiatuan**	**40.23**	**25**	*eP*	**P**	**15 24 01.1**	**+0.8**
	comp=Z,16nm,0.7s,mb4.9						
UCH	**Uchtor**	**41.81**	**337**	P	**P**	**15 24 14.5**	**+1.1**
	SNR=31						
TKM2	**Tokmak 2**	**42.00**	**339**	P	**P**	**15 24 15.6**	**+0.6**
	SNR=9.2						
KBK	**Karagaybulak**	**42.01**	**338**	P	**P**	**15 24 16.1**	**+1.0**
	SNR=36						
AML	**Almayashu**	**42.06**	**336**	P	**P**	**15 24 16.4**	**+1.1**
	SNR=26						
AAK	**Ala-Archa**	**42.17**	**337**	P	**P**	**15 24 18.3**	**+2.0**
	SNR=13						
AAK	**Ala-Archa**	**42.17**	**337**	*eP*	**P**	**15 24 16.3**	**0.0**
	comp=Z,13nm,0.8s,mb4.6						
EKS2	**Erkin-Say**	**42.47**	**337**	P	**P**	**15 24 19.8**	**+1.0**
	SNR=13						
USP	**Ospenovka**	**42.71**	**338**	P	**P**	**15 24 21.0**	**+0.3**
	SNR=33						
ULN	**Ulaanbaatar**	**44.47**	**12**	*eP*	**P**	**15 24 33.0**	**-1.9**
	comp=Z,1.6nm,0.6s,mb3.9						
ULN				*e*		15 26 17.5	
WRAB	**Tennant Creek**	**45.63**	**123**	*eP*	**P**	**15 24 45.6**	**+1.0**
	comp=Z,9.7nm,0.6s,mb4.9						
HIA	**Hailar**	**49.35**	**21**	*eP*	**P**	**15 25 11.8**	**-1.4**
	comp=Z,5.5nm,0.6s,mb4.8						
KAF	**Kangasniemi**	**76.21**	**333**	*ep*	**P**	**15 28 10.6**	**-1.0**
	comp=Z,2.9nm,0.4s,mb4.6						
KHC	**Kasperske Hory**	**81.04**	**319**	*eP*	**P**	**15 28 37.0**	**-1.3**
DAU	**Daniels Canyon**	**129.26**	**26**	*e*PKPdf	PKPdf	15 35 31.6	+0.9

NIED ***02*** *15:16:00, 27.70N×130.80E, h5km, Mw4.0 Best double couple: M₀1.2×10¹⁵ NP1:ϕs13°, δ71°, λ-110°. NP2:ϕs241°, δ27°, λ-45°.*

JMA 02 15:16:58.1, 27.72N×130.80E, h65km±2km, M4.2, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.94**	**309**	P	P	15 17 15.8	0.0
JAM	**Amami Oshima**	**1.26**	**303**	P	P	15 17 20.1	0.0
JAM				S	S	15 17 36.2	-0.3
JTK	**Tokunoshima**	**1.64**	**273**	P	P	15 17 25.6	+0.2
JTK				S	S	15 17 45.0	-0.5
JMZ	**Minamidaito 2**	**1.93**	**169**	P	P	15 17 29.4	+0.1
JMZ				S	S	15 17 51.5	-0.9
JNN	**Nakanoshima**	**2.26**	**339**	P	P	15 17 34.0	0.0
JNN				S	S	15 18 00.8	0.0
JOW	**Kunigami**	**2.42**	**249**	P	P	15 17 36.0	-0.2
JOW				S	S	15 18 03.6	-1.0
JIH	**Iheya**	**2.61**	**255**	P	P	15 17 38.8	-0.1
JIH				S	S	15 18 08.0	-1.5
JKC	**Kuchinoerabu**	**2.78**	**349**	P	P	15 17 41.2	-0.2
JKC				S	S	15 18 12.3	-1.6
JTN	**Tanegashima 3**	**2.93**	**3**	P	P	15 17 43.2	-0.2
JTN				S	S	15 18 16.5	-1.0
JJT2	**Tamagusuku 2**	**3.15**	**241**	P	P	15 17 46.2	-0.3
JJT2				S	S	15 18 23.0	0.0
NAH1	**Naha**	**3.16**	**242**	P	P	15 17 46.6	-0.1
NAH1				S	S	15 18 22.6	-0.7
JAGN	**Aguni-jima**	**3.36**	**251**	P	P	15 17 49.2	-0.3
JAGN				S	S	15 18 27.7	-0.8
JTSR	**Tashiro 2**	**3.44**	**2**	P	P	15 17 50.9	+0.4
JTSR				S	S	15 18 28.9	-1.4
JSU	**Suzuyama**	**3.79**	**356**	P	P	15 17 54.7	-0.7
JSU				*e*S	S	15 18 37.2	-1.8
JNAR	**Kushima--Naru**	**3.81**	**6**	P	P	15 17 56.3	+0.5
JNAR				S	S	15 18 38.8	-1.0
JKE	**Kume jima 2**	**3.84**	**250**	P	P	15 17 54.8	-1.4
JSJ	**Shimokoshiki**	**4.06**	**347**	P	P	15 17 58.9	-0.3
JSJ				S	S	15 18 43.7	-2.1
JTZ	**Takazaki**	**4.17**	**3**	P	P	15 18 01.1	+0.2
JTZ				S	S	15 18 46.5	-2.3
JZO	**Okuchi**	**4.41**	**358**	P	P	15 18 04.7	+0.6

CASC 02 15:31:55.1±1.0, 12.35N×87.04W, h133km±7km, MD3.8, ML2.8, 1C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.16**	**65**	⇓*eP*	P	15 32 13.1	-0.2
LEON				*e*S	S	15 32 27.1	-0.1
TEL3	**Telica 3**	**0.30**	**41**	⇓*eP*	P	15 32 13.5	-0.1
TEL3				*e*S	S	15 32 28.3	+0.5
MIRN	**Miramar**	**0.34**	**74**	*eP*	P	15 32 13.6	-0.2
MIRN				*e*S	S	15 32 28.7	+0.6
CRIN	**San Cristobal**	**0.35**	**359**	*eP*	P	15 32 13.5	-0.4
CRIN				*e*S	S	15 32 28.5	+0.3
CNGN	**Cerro Negro**	**0.37**	**66**	⇓*eP*	P	15 32 13.8	-0.1
CNGN				*e*S	S	15 32 29.0	+0.7
COPN	**Copaltepe**	**0.47**	**111**	⇑*eP*	P	15 32 14.5	0.0
COPN				*e*S	S	15 32 29.1	0.0
MOMJ	**Momotombo**	**0.50**	**83**	⇓*eP*	P	15 32 14.5	-0.1
MOMJ				*e*S	S	15 32 29.5	+0.1
APYN	**Apoyeque**	**0.69**	**99**	*eP*	P	15 32 15.9	+0.1
APYN				*e*S	S	15 32 32.3	+0.7
MGAN	**Managua**	**0.80**	**104**	*e*S	S	15 32 32.8	-0.3
MGAN				*e*		15 32 34.9	
	comp=N,129nm,0.5s						
MGAN				*e*		15 32 36.2	
	comp=E,112nm,0.2s						
TICN	**Ticuantepe**	**0.85**	**111**	*eP*	P	15 32 17.4	+0.3
TICN				*e*S	S	15 32 34.6	+0.7
SBLS	**San Blas**	**2.92**	**301**	*eP*	P	15 32 41.7	+0.1
SBLS				*e*S	S	15 33 17.4	+0.5
RTR	**El Retiro**	**2.97**	**302**	*eP*	P	15 32 42.5	+0.4
RTR				*e*S	S	15 33 20.1	+2.1

BJI ***02*** *15:35:55.0, 6.43N×92.69E, h30km, mB6.2, mb5.6, Ms6.6, Msz6.4*
MOS ***02*** *15:35:56.1±1.2, 6.45N×92.73E, h33km, mb6.0/76, MS6.1/88, Error ellipse: s-maj=7.8km s-min=4.0km az=123.4*
HRVD ***02*** *15:35:56.7±0.1, 6.26N×92.57E, h13km, MW6.4/73, Centroid moment Tensor Solution. LP body waves: s67,c150;Mantle waves: s73,c306; Half duration: 3§7 Moment tensor: Scale 10¹⁸Nm; Mrr3.20±.02; Mθθ-0.12±.02; Mϕϕ-3.09±.02; Mrθ0.73±.06; Mθϕ1.23±.02; Mϕr-2.45±.05; Best double couple: M₀4.227×10¹⁸ NP1: ϕs338°, δ26°, λ86°. NP2:ϕs162°, δ64°, λ92°. Principal axes: T 4.063, Plg71°, Azm77°; N .32, Plg2°, Azm341°; P -4.391, Plg19°, Azm251°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***02*** *15:35:56.7±0.1, 6.36N×92.79E, h30km, mb5.7/119, ME6.0, MS6.2/130, MW6.1 Error ellipse: s-maj=6.2km s-min=4.0km az=27.0, Moment Tensor Solution. s34 Moment tensor: Scale 10¹⁸Nm; Mrr1.15; Mθθ-0.14; Mϕϕ-1.00; Mrθ0.29; Mθϕ0.56; Mϕr-1.23; Best double couple: M₀1.8×10¹⁸ NP1:ϕs322°, δ23°, λ71°. NP2:ϕs163°, δ68°, λ98°. Principal axes: T 1.7, Plg66°, Azm87°; N .1, Plg7°, Azm340°; P -1.8, Plg23°, Azm247°; Depth from synthetics of broadband displacement seismograms. Energy computed from MT mechanism.*

ISC 02 15:35:55.9±0.2, 6.33N±0.03×92.76E±0.02, h38km, h38km±2.6km: pP-P, n763, σ1§11/652, mb5.7/145, MS6.2/166, 72C-43D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**11.77**	**37**	P	**P**	**15 38 43.0**	**-1.3**
	125nm,0.8s						
PALK	**Pallekele**	**12.01**	**275**	*eP*	**P**	**15 38 44.1**	**-3.4**
	48nm,0.8s						
CM31	**Chiang Mai Arr**	**13.48**	**26**	*eP*	**P**	**15 39 05.9**	**-1.1**
	6.7nm,0.3s						
KKTK	**Khon Kaen**	**14.00**	**44**	⇑P	**P**	**15 39 14.6**	**+0.6**
	2μm,0.6s						
MDRS	**Chennai**	**14.03**	**299**	⇓*i*P	**P**	**15 39 11.7**	**-2.7**
MDRS				*e*		15 41 37.3	
VIS	**Vishakhapatnam**	**14.59**	**322**	*eP*	**P**	**15 39 20.9**	**-0.9**
VIS				*e*		15 39 32.4	
	comp=Z,1μm,1.6s						
VIS				*e*		15 41 59.0	
NANT	**Nan**	**14.61**	**31**	PG	**P**	**15 39 23.0**	**+1.0**
NANT				SG	rx	15 39 55.0	
UBT	**Ubonrachathani**	**14.94**	**53**	P	**P**	**15 39 28.5**	**+2.2**
KOD	**Kodaikanal**	**15.62**	**285**	⇓*i*P	**P**	**15 39 33.9**	**-1.3**
KOD				*e*		15 39 59.0	
	comp=Z,715nm,1.6s						
TRD	**Trivandrum**	**15.82**	**279**	*eP*	**P**	**15 39 36.3**	**-1.3**
TRD				*e*		15 39 49.3	
	comp=Z,354nm,1.0s						
TRD				*e*		15 42 18.5	
CAL	**Calcutta**	**16.67**	**346**	*e*	**P**	**15 39 51.0**	**+2.6**
	comp=Z,799nm,0.3s						
CAL				*e*		15 43 07.1	
AGT	**Agartala**	**17.51**	**355**	⇓*i*P	**P**	**15 39 56.0**	**-3.0**
AGT				*i*		15 41 44.0	
HYB	**Hyderabad**	**17.72**	**310**	*i* P	**P**	**15 40 00.5**	**-1.1**
	comp=Z,500nm,1.2s						
HYB				*e*S	**S**	**15 43 12.0**	**-3.3**
HYB				*e*S	**S**	**15 43 20.0**	**+4.7**
IMP	**Imphal**	**18.38**	**3**	*eP*	**P**	**15 40 06.4**	**-3.4**
BOK	**Bokaro**	**18.58**	**340**	*i* P	**P**	**15 40 10.5**	**-1.7**
BLSP	**Bilaspur**	**18.76**	**328**	⇑*i*P	**P**	**15 40 13.5**	**-1.0**
BLSP				*e*		15 40 35.9	
	comp=Z,1μm,1.5s						
BLSP				*e*S	**S**	**15 43 46.6**	**+7.7**
MNGI	**Mangalore**	**18.86**	**292**	⇓*i*P	**P**	**15 40 15.6**	**-0.1**
MNGI				*e*		15 40 48.1	
	comp=Z,1μm,1.8s						
MNGI				*e*S	**S**	**15 43 47.1**	**+6.2**
SHL	**Shillong**	**19.15**	**358**	⇑*i*P	**P**	**15 40 15.8**	**-3.1**
SHL				*e*		15 40 40.1	
	comp=Z,797nm,1.6s						
SHL				*e*S	**S**	**15 43 52.2**	**+4.8**
MNCY	**Minicoy**	**19.66**	**277**	*i*	**P**	**15 40 19.0**	**-5.6**
NGP	**Nagpur**	**19.83**	**319**	*eP*	**P**	**15 40 26.1**	**-0.3**
NGP				*e*S	**S**	**15 44 09.9**	**+7.4**
LATR	**Latur**	**19.84**	**309**	*eP*	**P**	**15 40 26.5**	**0.0**
SLGI	**Shiliguri**	**20.68**	**349**	*e*	**P**	**15 40 38.3**	**+3.1**
GOA	**Goa**	**20.68**	**298**	⇓*i*	**P**	**15 40 41.8**	**+6.4**
GOA				*e*S	**S**	**15 44 24.7**	**+5.4**
QIZ	**Qiongzhong**	**20.88**	**51**	P	**P**	**15 40 37.3**	**-0.1**
QIZ				AP		15 40 46.1	
QIZ				*e*S	**S**	**15 44 22.4**	**-0.7**
QIZ				LR	LR		
	comp=N,90μm,14.4s,MS6.5						
QIZ				LR	LR		
	comp=E,106μm,11.6s,MS6.5						
QIZ				LR	LR		
	comp=Z,172μm,12.3s,MS6.6						
QIZ	**Qiongzhong**	**20.88**	**51**	⇑*eP*	**P**	**15 40 36.9**	**-0.4**
	comp=Z,2μm,1.6s						
LKP	**Lekhapani**	**21.12**	**8**	*eP*	**P**	**15 40 40.5**	**+0.7**
LKP				*e*		15 40 52.5	
KAD	**Karad**	**21.18**	**303**	⇑*i*P	**P**	**15 40 40.2**	**-0.2**
KAD				*e*S	**S**	**15 44 34.3**	**+5.5**
ALBI	**Allahabad**	**21.59**	**332**	*eP*	**P**	**15 40 46.0**	**+1.5**
POO	**Poona**	**22.06**	**305**	⇑*i*P	**P**	**15 40 49.2**	**0.0**
POO				*e*S	**S**	**15 44 51.8**	**+6.6**
PKI	**Pulchoki**	**22.25**	**343**	*eP*	**P**	**15 40 50.4**	**-0.6**
	comp=Z,5μm,1.5s,mb6.7						
BHPL	**Bhopal**	**22.38**	**320**	⇑*i*P	**P**	**15 40 53.4**	**+1.1**
BHPL				*e*		15 41 18.2	
	comp=Z,734nm,1.5s						
BHPL				*e*S	**S**	**15 44 57.7**	**+6.8**
DMN	**Daman**	**22.38**	**342**	*eP*	**P**	**15 40 52.1**	**-0.2**
	comp=Z,1μm,0.9s,mb6.3						
GUN	**Gumba**	**22.43**	**344**	*eP*	**P**	**15 40 52.5**	**-0.4**
	comp=Z,7μm,1.6s,mb6.8						
KKN	**Kakani**	**22.49**	**342**	*eP*	**P**	**15 40 53.2**	**-0.2**
	comp=Z,2μm,1.3s,mb6.5						
GKN	**Gorkha**	**22.89**	**341**	*eP*	**P**	**15 40 56.4**	**-1.0**
	comp=Z,2μm,1.1s,mb6.5						
KOLN	**Koldanda**	**23.03**	**339**	*eP*	**P**	**15 40 57.5**	**-1.3**
	comp=Z,3μm,1.6s,mb6.4						
BOM	**Bombay**	**23.09**	**305**	⇑*i*P	**P**	**15 41 00.9**	**+1.5**
BOM				*e*		15 41 29.9	
	comp=Z,859nm,1.5s						
BOM				*e*S	**S**	**15 45 11.1**	**+7.2**
LSA	**Lhasa**	**23.30**	**356**	P	**P**	**15 41 02.3**	**+0.9**
LSA				S	**S**	**15 45 12.7**	**+5.4**
LSA				AMB	AMB		
	comp=Z,5μm,10.0s						
LSA				LR	LR		
	comp=N,33μm,26.0s,MS6.1						
LSA				LR	LR		
	comp=E,87μm,30.0s,MS6.1						
LSA				LR	LR		
	comp=Z,48μm,24.0s						
LSA	**Lhasa**	**23.30**	**356**	⇑*eP*	**P**	**15 41 00.9**	**-0.5**
LSA				pmax	pmax		
	comp=Z,99nm,0.8s,mb5.3						
LSA	**Lhasa**	**23.30**	**356**	⇑*eP*	**P**	**15 41 00.9**	**-0.4**
	comp=Z,99nm,0.8s,mb5.3						
JHNI	**Jhansi**	**23.39**	**326**	*eP*	**P**	**15 41 01.0**	**-1.3**
JHNI				*e*		15 45 28.0	
DGAR	**Diego Garcia**	**24.43**	**236**	P	**P**	**15 41 13.0**	**+0.5**
DGAR				pmax	pmax		
	comp=Z,143nm,1.1s,mb5.3						
DGAR				MLR	MLR		
	comp=Z,16μm,20.0s,MS5.5						
DGAR	**Diego Garcia**	**24.43**	**236**	P	**P**	**15 41 13.0**	**+0.5**
	comp=Z,143nm,1.1s,mb5.3						
DGAR				LR	LR		
	comp=Z,16μm,20.0s,MS5.5						
BATP	**Bataraza**	**24.94**	**83**	*eP*	**P**	**15 41 17.0**	**-0.5**
BHV	**Bhavnagar**	**25.14**	**310**	*eP*	**P**	**15 41 22.5**	**+3.2**
PTH	**Pithoragarh**	**25.95**	**334**	*eP*	**P**	**15 41 28.0**	**+1.2**
PTH				*e*		15 46 30.0	
HKC	**Hong Kong**	**26.06**	**50**	⇑*i*P	**P**	**15 41 30.0**	**+2.0**
HKC				*i* S	**S**	**15 46 06.0**	**+12**
AJM	**Ajmer**	**26.45**	**321**	⇑*i*P	**P**	**15 41 31.9**	**+0.4**
AJM				*e*S	**S**	**15 46 04.6**	**+4.0**
NDI	**New Delhi**	**26.66**	**328**	⇑*i*P	**P**	**15 41 32.7**	**-0.7**
NDI				*e*		15 41 58.4	
	comp=Z,480nm,1.4s						
NDI				*e*S	**S**	**15 46 07.3**	**+3.4**
ENPP	**El Nido**	**26.79**	**78**	*eP*	**P**	**15 41 35.1**	**+0.5**
DDI	**Dehra Dun**	**27.58**	**332**	*eP*	**P**	**15 41 41.2**	**-0.6**
DDI				*e*		15 47 08.7	
BHJ	**Bhuj**	**27.89**	**310**	⇓*eP*	**P**	**15 41 41.9**	**-2.8**
BHJ				*e*S	**S**	**15 46 29.2**	**+5.3**
LUBP	**Lubang**	**28.03**	**73**	*eP*	**P**	**15 41 46.0**	**0.0**
LUBP	**Lubang**	**28.03**	**73**	*eP*	**P**	**15 41 45.8**	**-0.2**
SCZP	**Santa Cruz**	**28.22**	**68**	*eP*	**P**	**15 41 48.3**	**+0.7**
BOLP	**Bolinao**	**28.39**	**67**	*eP*	**P**	**15 41 56.2**	**+7.0**
ENH	**Enshi**	**28.54**	**31**	⇑*eP*	**P**	**15 41 48.6**	**-1.8**
	comp=Z,374nm,1.4s,mb5.9						
SJMP	**San Jose**	**28.62**	**76**	*eP*	**P**	**15 41 51.8**	**+0.5**
SMLA	**Simla**	**28.67**	**331**	⇑*i*	**P**	**15 42 03.7**	**+12**
SMLA				*e*		15 42 26.9	
	comp=Z,472nm,1.5s						
SMLA				*e*S	**S**	**15 46 40.3**	**+3.9**
PCPH	**Palayan**	**29.26**	**69**	*eP*	**P**	**15 41 55.8**	**-1.2**
BHK	**Bhakra**	**29.27**	**331**	*eP*	**P**	**15 41 59.4**	**+2.5**
BHK				*e*		15 47 45.2	
OTRP	**Odiongan**	**29.47**	**76**	*eP*	**P**	**15 41 59.1**	**+0.3**
BOAC	**Boac**	**29.49**	**74**	*eP*	**P**	**15 41 58.0**	**-0.9**
ABRA	**Dolores**	**29.52**	**65**	*eP*	**P**	**15 41 56.8**	**-2.4**
KALP	**Kalibo**	**29.68**	**78**	*eP*	sP	15 42 15.0	-1.1
BALP	**Baler**	**29.75**	**69**	*eP*	**P**	**15 42 01.7**	**+0.4**
GUIM	**Jordan**	**29.80**	**80**	*eP*	**P**	**15 42 00.7**	**-1.0**
POLP	**Polilio Island**	**29.85**	**71**	*eP*	**P**	**15 42 02.8**	**+0.7**
RCP	**Roxas**	**30.06**	**78**	⇓*eP*	**P**	**15 42 04.9**	**+0.9**
APYP	**Conner**	**30.06**	**65**	*eP*	**P**	**15 42 02.9**	**-1.2**
CAUP	**Cauayan**	**30.31**	**67**	*eP*	**P**	**15 42 06.7**	**+0.4**
DCPH	**Dipolog City**	**30.41**	**84**	⇑*eP*	**P**	**15 42 07.8**	**+0.6**
DLH	**Dalhousie**	**30.41**	**331**	*e*	**P**	**15 42 11.0**	**+3.9**
PAGZ	**Pagadian**	**30.42**	**85**	*eP*	**P**	**15 42 08.1**	**+0.8**
CVP	**Callao Caves**	**30.54**	**66**	⇑*eP*	**P**	**15 42 10.0**	**+1.7**
QZH	**Quanzhou**	**30.89**	**50**	⇑*i*P	**P**	**15 42 11.4**	**0.0**
QZH				S	**S**	**15 47 12.5**	**+0.9**
QZH				AMB	AMB		
	comp=Z,530nm,1.2s,mb6.2						
QZH				LR	LR		
	comp=N,56μm,14.0s,MS6.8						
QZH				LR	LR		
	comp=E,132μm,12.6s,MS6.8						
QZH				LR	LR		
	comp=Z,202μm,13.6s,MS6.9						
TBP	**Tagbilaran**	**30.97**	**82**	⇑*eP*	**P**	**15 42 11.9**	**-0.3**
LLP	**Lapu-Lapu**	**31.12**	**81**	⇓*eP*	**P**	**15 42 14.0**	**+0.5**
LZH	**Lanzhou**	**31.31**	**17**	⇑P	**P**	**15 42 14.1**	**-0.9**
LZH				AP	pP	15 42 23.5	-2.1
LZH				XP	sP	15 42 27.7	-2.8
LZH				PP	PP	15 43 17.8	-1.1
LZH				S	**S**	**15 47 18.5**	**+0.5**
LZH				XS		15 47 34.2	
LZH				SS	SS	15 49 06.5	+0.3
LZH				AMB	AMB		
	comp=Z,612nm,1.5s,mb6.2						
LZH				AMB	AMB		
	comp=Z,3μm,6.6s						
LZH				LR	LR		
	comp=E,48μm,13.5s						
LZH				LR	LR		
	comp=Z,83μm,17.6s,MS6.5						
XAN	**Xi'an**	**31.37**	**26**	P	**P**	**15 42 13.6**	**-1.9**
XAN				AMB	AMB		
	comp=Z,109nm,2.0s,mb5.3						
XAN				LR	LR		
	comp=N,48μm,14.3s,MS6.4						
XAN				LR	LR		
	comp=E,45μm,16.7s,MS6.4						
XAN				LR	LR		
	comp=Z,74μm,13.0s,MS6.5						
BBP	**Basco**	**31.60**	**61**	*eP*	**P**	**15 42 17.1**	**-0.6**
OCLP	**Ormoc**	**31.82**	**79**	*eP*	**P**	**15 42 21.4**	**+1.8**
MSLP	**Maasin**	**31.98**	**81**	*eP*	**P**	**15 42 24.1**	**+3.0**
BUKP	**Musuan**	**32.09**	**85**	*eP*	**P**	**15 42 20.8**	**-1.2**
KCP	**Kidapawan**	**32.12**	**87**	⇓*eP*	**P**	**15 42 21.7**	**-0.5**
DAV	**Davao City (W)**	**32.60**	**87**	*eP*	**P**	**15 42 29.0**	**+2.5**
TATO	**Taipei**	**33.17**	**53**	*eP*	**P**	**15 42 29.8**	**-1.5**
	comp=Z,328nm,1.3s,mb6.1						
TATO				LR	LR		
	comp=Z,51μm,20.0s,MS6.2						
MATI	**Mati**	**33.27**	**87**	*eP*	**P**	**15 42 32.8**	**+0.5**
NJ2	**Nanjing**	**35.33**	**40**	*eP*	**P**	**15 42 49.5**	**-0.2**
NJ2				AP	pP	15 42 59.4	-1.1
NJ2				XP	sP	15 43 05.0	-0.3
NJ2				PP	PP	15 44 09.0	-0.8
NJ2				PPP	PPP	15 44 27.7	-0.7
NJ2				S	**S**	**15 48 23.0**	**+2.5**
NJ2				XS		15 48 39.0	
NJ2				AMB	AMB		
	comp=Z,330nm,1.1s,mb6.2						
NJ2				AMB	AMB		
	comp=Z,7μm,9.8s						
NJ2				LR	LR		
	comp=N,95μm,14.4s,MS6.8						
NJ2				LR	LR		
	comp=E,77μm,15.2s,MS6.8						
NJ2				LR	LR		
	comp=Z,59μm,12.4s,MS6.5						
TIY	**Taiyuan**	**36.00**	**27**	⇑PC	**P**	**15 42 56.0**	**+0.6**
TIY				S	**S**	**15 48 38.0**	**+7.2**
TIY				LR	LR		
	comp=N,69μm,13.0s						
SSE	**Sheshan**	**36.28**	**44**	⇑P	**P**	**

AAA				smax			
	comp=E,9μm,14.0s						
AAA				MLR	MLR		
	comp=Z,5μm,18.0s,MS5.4						
KBK	**Karagaybulak**	**39.46**	**339**	P	**P**	**15 43 25.6**	**+1.4**
	SNR=104						
AML	**Almayashu**	**39.46**	**338**	P	**P**	**15 43 25.7**	**+1.4**
	SNR=106						
TKM2	**Tokmak 2**	**39.47**	**340**	P	**P**	**15 43 25.0**	**+0.7**
	SNR=22						
BJT	**Baijiatuau**	**39.59**	**29⇑**	*e*P	**P**	**15 43 26.0**	**+0.7**
BJT				pmax	pmax		
	comp=Z,266nm,1.4s						
BJT	**Baijiatuau**	**39.59**	**29⇑**	*e*P	**P**	**15 43 26.0**	**+0.7**
	comp=Z,266nm,1.4s,mb5.8						
AAK	**Ala-Archa**	**39.60**	**339**	P	**P**	**15 43 25.8**	**+0.3**
	SNR=66						
AAK	**Ala-Archa**	**39.60**	**339***c*	*i*P	**P**	**15 43 25.4**	**0.0**
AAK				pmax	pmax		
	comp=Z,230nm,1.5s,mb5.7						
AAK				MLR	MLR		
	comp=Z,37μm,20.0s,MS6.2						
AAK	**Ala-Archa**	**39.60**	**339**	*e*P	**P**	**15 43 24.9**	**-0.5**
	comp=Z,318nm,1.4s,mb5.9						
AAK				LR	LR		
	comp=Z,6μm,21.0s,MS5.4						
FRU	**Bishkek**	**39.73**	**339**	*e*P	**P**	**15 43 27.0**	**+0.5**
FRU				*e*S	**S**	**15 49 32.0**	**+4.5**
FRU				pmax	pmax		
	comp=Z,1μm,2.2s,mb6.2						
FRU				MLR	MLR		
	comp=Z,36μm,21.0s,MS6.2						
CHMS	**Chumysh**	**39.83**	**339**	P	**P**	**15 43 27.7**	**+0.4**
	SNR=39						
EKS2	**Erkin-Say**	**39.89**	**338**	P	**P**	**15 43 28.2**	**+0.4**
	SNR=48						
USP	**Ospenovka**	**40.15**	**339**	P	**P**	**15 43 30.4**	**+0.4**
	SNR=93						
FITZ	**Fitzroy Crossi**	**40.52**	**127**	*e*P	**P**	**15 43 31.9**	**-1.4**
	comp=Z,104nm,0.8s,mb5.5						
ULN	**Ulaanbaatar**	**43.15**	**14***c*	*i*P	**P**	**15 43 54.3**	**-0.3**
ULN	**Ulaanbaatar**	**43.15**	**14**	*e*P	**P**	**15 43 53.6**	**-1.0**
	comp=Z,196nm,1.8s,mb5.5						
ULN				LR	LR		
	comp=Z,16μm,19.0s,MS5.9						
INCN	**Inchon**	**43.71**	**40**	PFAKE		15 44 10.0	+11
INCN				LR	LR		
	comp=Z,33μm,22.0s,MS6.2						
KAKA	**Kakadu**	**43.74**	**116**	*e*P	**P**	**15 43 57.9**	**-1.9**
	comp=Z,62nm,0.8s,mb5.4						
KAKA				*e*		15 45 57.8	
MUN	**Mundaring**	**44.17**	**151**	*e*P	**P**	**15 44 03.9**	**+0.8**
	comp=Z,50nm,0.8s,mb5.3						
MUN	**Mundaring**	**44.17**	**151**	*e*P	**P**	**15 44 03.9**	**+0.8**
MUN				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.3						
KS15	**Wonju Array Si**	**44.49**	**41**	*e*P	**P**	**15 44 03.7**	**-1.9**
SNY	**Shenyang**	**44.70**	**33**	⇑P	**P**	**15 44 06.5**	**-0.7**
SNY				XP	sP	15 44 20.9	-1.9
SNY				PP	PP	15 45 56.5	+3.8
SNY				S	**S**	**15 50 41.2**	**+0.6**
SNY				LR	LR		
	comp=N,33μm,17.1s,MS6.4						
SNY				LR	LR		
	comp=E,20μm,14.2s,MS6.4						
SNY				LR	LR		
	comp=Z,34μm,15.3s,MS6.4						
ZAK	**Zakamensk**	**44.78**	**10⇑**	*i*P	**P**	**15 44 08.1**	**+0.4**
NWAO	**Narrogin (SRO)**	**45.45**	**151**	*e*P	**P**	**15 44 11.0**	**-2.3**
NWAO				pmax	pmax		
	comp=Z,244nm,1.9s						
NWAO				MLR	MLR		
	comp=Z,36μm,20.0s						
NWAO	**Narrogin (SRO)**	**45.45**	**151**	*e*P	**P**	**15 44 11.0**	**-2.3**
	comp=Z,244nm,1.9s,mb5.7						
NWAO				LR	LR		
	comp=Z,36μm,20.0s,MS6.3						
MOY	**Mondy**	**45.70**	**7**	*e*P	**P**	**15 44 16.0**	**+0.9**
TLY	**Talaya**	**46.10**	**9**	*e*P	**P**	**15 44 18.3**	**+0.1**
TLY				*e*		15 46 07.4	
TLY				*e*S	**S**	**15 51 03.6**	**+3.2**
TLY				*e*SS	SS	15 54 12.5	-5.3
TLY				pmax	pmax		
	comp=Z,80nm,1.0s,mb5.6						
TLY	**Talaya**	**46.10**	**9**	*e*P	**P**	**15 44 17.9**	**-0.3**
	comp=Z,258nm,1.6s,mb5.9						
TLY				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
IRK	**Irkutsk**	**46.74**	**10**	*e*P	**P**	**15 44 23.9**	**+0.7**
IRK				*e*		15 44 41.3	
HIA	**Hailar**	**48.47**	**23⇑**	*e*P	**P**	**15 44 36.0**	**-0.8**
HIA				pmax	pmax		
	comp=Z,131nm,0.9s						
HIA	**Hailar**	**48.47**	**23⇑**	*e*P	**P**	**15 44 36.0**	**-0.8**
	comp=Z,131nm,0.9s,mb6.0						
WRAB	**Tennant Creek**	**48.52**	**124***c*	*i*P	**P**	**15 44 36.5**	**-1.1**
WRAB	**Tennant Creek**	**48.52**	**124**	*e*P	**P**	**15 44 36.3**	**-1.3**
	comp=Z,198nm,0.8s,mb6.2						
WRAB				LR	LR		
	comp=Z,17μm,20.0s,MS6.0						
WB2	**Warramunga Arr**	**48.53**	**124⇑**	*i*P	**P**	**15 44 36.5**	**-1.1**
WB2				*e*S	**S**	**15 51 47.0**	**+12**
NVS	**Novosibirsk**	**48.97**	**353**	*i*P	**P**	**15 44 39.0**	**-1.6**
NVS				*i*S	**S**	**15 51 44.0**	**+3.0**
NVS				pmax	pmax		
	comp=N,241nm,1.2s						
NVS				pmax	pmax		
	comp=E,203nm,1.2s						
NVS				pmax	pmax		
	comp=Z,299nm,1.2s,mb6.2						
NVS				smax			
	comp=N,404nm,2.2s						
NVS				smax			
	comp=E,143nm,2.2s						
MDJ	**Mudanjiang**	**49.84**	**34**	P	**P**	**15 44 46.8**	**-0.6**
MDJ				AP	pP	15 44 55.7	-2.7
MDJ				XP	sP	15 44 59.7	-3.3
MDJ				PCP	PcP	15 46 05.6	-2.3
MDJ				PP	PP	15 46 44.0	+1.0
MDJ				SCP		15 49 59.0	
MDJ				PCS		15 50 01.9	
MDJ				S	**S**	**15 51 56.3**	**+3.0**
MDJ				XS		15 52 13.5	
MDJ				SCS	ScS	15 54 35.7	+3.1
MDJ				AMB	AMB		
	comp=Z,107nm,1.6s,mb5.6						
MDJ				AMB	AMB		
	comp=Z,3μm,9.3s						
MDJ				LR	LR		
	comp=E,34μm,12.5s,MS6.6						
MDJ				LR	LR		
	comp=N,17μm,13.4s,MS6.6						
MDJ				LR	LR		
	comp=Z,26μm,17.6s,MS6.3						
MDJ	**Mudanjiang**	**49.84**	**34⇑**	*e*P	**P**	**15 44 47.2**	**-0.2**
	comp=Z,242nm,1.4s,mb6.0						
VLA	**Vladivostok**	**50.27**	**37⇓**	*i*P	**P**	**15 44 50.0**	**-0.7**
VLA				*i*		15 45 06.0	
VLA				*i*		15 46 48.0	
VLA				*i*S	**S**	**15 52 16.0**	**+17**
VLA				pmax	pmax		
	comp=Z,3μm,10.0s						
VLA				pmax	pmax		
	comp=N,500nm,6.0s						
VLA				pmax	pmax		
	comp=E,2μm,10.0s						
VLA				pmax	pmax		
	comp=Z,3μm,10.0s						
VLA				pmax	pmax		
	comp=N,1μm,7.0s						
VLA				pmax	pmax		
	comp=E,1μm,6.0s						
VLA				smax			
	comp=E,6μm,15.0s						
VLA				smax			
	comp=Z,2μm,12.0s						
VLA				smax			
	comp=N,2μm,10.0s						
VLA				MLR	MLR		
	comp=Z,37μm,10.0s,MS6.7						
VLA				MLR	MLR		
	comp=N,24μm,13.0s,MS6.6						
VLA				MLR	MLR		
	comp=E,23μm,10.0s,MS6.6						
MAT	**Matsushiro**	**51.20**	**47**	*e*P	**P**	**15 44 57.0**	**-0.9**
MAT				*e*S	**S**	**15 52 16.0**	**+3.8**
MAT				pmax	pmax		
	comp=Z,81nm,1.5s,mb5.4						
MAT				MLR	MLR		
	comp=Z,14μm,22.0s,MS5.9						
MAT	**Matsushiro**	**51.20**	**47**	*e*P	**P**	**15 44 57.0**	**-0.9**
	comp=Z,81nm,1.5s,mb5.4						
MAT				*e*S	**S**	**15 52 16.0**	**+3.8**
MAT				LR	LR		
	comp=Z,14μm,22.0s,MS5.9						
MAT	**Matsushiro**	**51.20**	**47**	P	**P**	**15 44 56.6**	**-1.3**
MAT				S	**S**	**15 52 15.0**	**+2.8**
MAJO	**Matsushiro**	**51.21**	**47**	*e*P	**P**	**15 44 55.7**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,159nm,1.8s,mb5.7						
MAJO				MLR	MLR		
	comp=Z,15μm,19.0s,MS6.0						
MAJO	**Matsushiro**	**51.21**	**47**	*e*P	**P**	**15 44 55.7**	**-2.2**
	comp=Z,159nm,1.8s,mb5.7						
MAJO				LR	LR		
	comp=Z,15μm,19.0s,MS6.0						
BHD	**Baghdad**	**52.20**	**308**	*i*P	**P**	**15 44 58.0**	**-7.4**
BHD				*e*S	tx	15 51 53.0	
KLR	**Kul'dur**	**53.90**	**31⇓**	*i*P	**P**	**15 45 14.9**	**-2.9**
KLR				*e*S	**S**	**15 52 50.0**	**+1.2**
KLR				pmax	pmax		
	comp=N,120nm,2.0s						
KLR				pmax	pmax		
	comp=E,200nm,2.0s						
KLR				pmax	pmax		
	comp=Z,270nm,2.0s,mb5.8						
KLR				pmax	pmax		
	comp=N,1μm,10.0s						
KLR				pmax	pmax		
	comp=E,2μm,10.0s						
KLR				pmax	pmax		
	comp=Z,4μm,10.0s						
BOD	**Bodaibo**	**53.96**	**14⇑**	*i*P	**P**	**15 45 18.0**	**-0.1**
MAK	**Makhachkala**	**53.98**	**320**	*e*P	**P**	**15 45 18.0**	**-0.5**
MAK				*i*S	**S**	**15 52 52.0**	**+2.0**
MAK				*i*PS	PS	15 53 11.0	+5.2
MAK				*i*		15 55 06.0	
MAK				pmax	pmax		
	comp=Z,5μm,9.0s						
MAK				smax			
	comp=N,8μm,9.0s						
MSL	**Mosul**	**54.25**	**311**	*e*P	**P**	**15 45 21.0**	**+0.4**
MSL				*e*S	**S**	**15 52 38.0**	**-16**
GNI	**Garni**	**54.55**	**316**	*i*P	**P**	**15 45 21.2**	**-1.5**
GNI	**Garni**	**54.55**	**316***c*	*i*P	**P**	**15 45 22.9**	**+0.2**
GNI				MLR	MLR		
	comp=Z,7μm,15.0s						
DGRG	**David-gareji**	**54.68**	**317**	P	**P**	**15 45 23.8**	**+0.2**
DGRG				S	S	15 53 27.6	+28
TVAN	**Van**	**54.84**	**313**	*i*P	**P**	**15 45 29.3**	**+4.4**
VANB	**Van**	**54.88**	**313**	*e*P	**P**	**15 45 25.1**	**-0.1**
STE	**Stepanavan**	**55.15**	**316**	*i*P	**P**	**15 45 25.0**	**-2.0**
STE				*e*S	**S**	**15 53 11.0**	**+5.4**
MTA	**Mtatsminda**	**55.18**	**317**	P	**P**	**15 45 26.4**	**-0.9**
MTA				S	**S**	**15 53 07.6**	**+1.5**
KARS	**Kars**	**55.89**	**315**	*e*P	**P**	**15 45 33.4**	**+1.0**
KMBO	**Kilima Mbogo**	**55.90**	**264**	*e*P	**P**	**15 45 33.5**	**+0.7**
KMBO				pmax	pmax		
	comp=Z,119nm,1.7s						
KMBO				MLR	MLR		
	comp=Z,35μm,21.0s						
KMBO	**Kilima Mbogo**	**55.90**	**264**	*e*P	**P**	**15 45 33.5**	**+0.7**
	comp=Z,119nm,1.7s,mb5.7						
KMBO				LR	LR		
	comp=Z,35μm,21.0s,MS6.4						
AKH	**Akhalkalaki**	**55.94**	**317**	P	**P**	**15 45 33.4**	**+0.6**
BTMT	**Batman**	**56.12**	**312**	P	**P**	**15 45 34.1**	**0.0**
BEST	**Besiri**	**56.17**	**312**	*i*P	**P**	**15 45 33.5**	**-1.0**
SVE	**Sverdlovsk**	**56.34**	**339**	*e*P	**P**	**15 45 34.0**	**-1.4**
SVE				*e*		15 47 41.0	
SVE				*i*S	**S**	**15 53 24.0**	**+2.7**
SVE				*e*		15 55 17.0	
SVE				pmax	pmax		
	comp=Z,610nm,2.3s,mb6.2						
SVE				smax			
	comp=N,7μm,13.0s						
SVE				smax			
	comp=E,5μm,13.0s						
SVE				MLR	MLR		
	comp=Z,29μm,21.5s,MS6.3						
CLNS	**Chul'man**	**56.35**	**21**	*e*P	**P**	**15 45 35.5**	**0.0**
CLNS				*e*		15 46 29.4	
CLNS				*e*		15 47 46.9	
CLNS				*e*PPP	PPP	15 48 54.3	-5.7
CLNS				*e*S	**S**	**15 53 27.6**	**+6.2**
CLNS				pmax	pmax		
	comp=Z,175nm,1.2s,mb6.0						
CLNS				pmax	pmax		
	comp=N,137nm,1.3s						
CLNS				pmax	pmax		
	comp=E,93nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,85nm,1.2s,mb5.7						
CLNS				pmax	pmax		
	comp=N,87nm,1.1s						
CLNS				pmax	pmax		
	comp=E,77nm,1.2s						
CLNS				smax			
	comp=N,2μm,10.2s						
CLNS				smax			
	comp=Z,870nm,8.0s						
CLNS				smax			
	comp=E,162nm,6.1s						
CLNS				MLR	MLR		
	comp=Z,32μm,13.0s,MS6.6						
CLNS				MLR	MLR		
	comp=N,46μm,15.0s,MS6.7						
CLNS				MLR	MLR		
	comp=E,11μm,15.0s,MS6.7						
PMG	**Port Moresby**	**56.41**	**106**	*i*P	**P**	**15 45 35.2**	**-1.3**
PMG	**Port Moresby**	**56.41**	**106**	*e*P	**P**	**15 45 34.1**	**-2.4**
	comp=E,60nm,0.8s,mb5.7						
PMG				LR	LR		
	comp=Z,22μm,21.0s,MS6.2						
VRT	**Varto**	**56.43**	**313**	P	**P**	**15 45 36.8**	**+0.5**
ONI	**Oni**	**56.46**	**318**	P	**P**	**15 45 36.4**	**-0.1**
ONI				S	**S**	**15 53 35.7**	**+13**
ARU	**Arti**	**56.78**	**338⇑**	*i*P	**P**	**15 45 36.9**	**-1.7**
ARU				*e*		15 46 30.4	
ARU				*e*		15 47 40.7	
ARU				*i*S	**S**	**15 53 29.5**	**+2.3**
ARU				*i*		15 55 19.1	
ARU				*e*SS	SS	15 57 18.8	+2.5
ARU				pmax	pmax		
	comp=Z,217nm,1.5s,mb6.0						
ARU				MLR	MLR		
	comp=Z,23μm,20.0s,MS6.3						
ARU				MLR	MLR		
	comp=N,11μm,21.0s,MS6.3						
ARU				MLR	MLR		
	comp=E,22μm,19.0s,MS6.3						
ARU	**Arti**	**56.78**	**338⇑**	*e*P	**P**	**15 45 36.4**	**-2.2**
	comp=E,264nm,1.4s,mb6.1						
ERZM	**Erzurum**	**56.83**	**314**	*i*P	pP	15 45 47.3	-3.1
EZM	**Erzurum**	**56.84**	**314**	*i*P	**P**	**15 45 39.5**	**+0.3**
BCA	**Borcka**	**57.24**	**316**	P	**P**	**15 45 42.1**	**0.0**
KIV	**Kislovodsk**	**57.55**	**319**	P	**P**	**15 45 43.8**	**-0.4**
	comp=E,516nm,1.0s,mb6.5,SNR=20						
KIV	**Kislovodsk**	**57.55**	**319***c*	*i*P	**P**	**15 45 43.1**	**-1.1**
KIV				*e*	pP	15 45 53.7	-1.8
KIV				*e*		15 46 39.8	
KIV				*i*S	**S**	**15 53 39.7**	**+2.2**
KIV				pmax	pmax		
	comp=Z,143nm,1.3s,mb5.8						
KIV				MLR	MLR		
	comp=Z,12μm,20.0s,MS6.0						
GOF	**Gofitskoye**	**57.81**	**320⇑**	*i*P	**P**	**15 45 45.0**	**-1.0**
GOF				pmax	pmax		
	comp=Z,4μm,6.0s						
GOF				pmax	pmax		
	comp=Z,150nm,1.3s,mb5.9						
GOF				MLR	MLR		
	comp=Z,15μm,14.0s,MS6.2						
URFA	**Urfa**	**57.86**	**311**	*i*P	**P**	**15 45 45.6**	**-0.8**
EZC	**Erzincan**	**57.89**	**313**	P	**P**	**15 45 49.2**	**+2.6**
PTK	**Pertek**	**57.90**	**312**	P	**P**	**15 45 49.5**	**+2.8**
ELZG	**Elazig**	**58.07**	**312**	*i*P	**P**	**15 45 47.3**	**-0.6**
GUMT	**Gumushane**	**58.38**	**314**	P	**P**	**15 45 50.6**	**+0.6**
MALT	**Malatya**	**58.43**	**311**	*e*P	**P**	**15 45 49.9**	**-0.6**
DUSS	**Damascus Unive**	**58.74**	**305**	*i*P	**P**	**15 45 46.0**	**-6.6**
DUSS				*i*P		15 45 46.1	
DUSS				*i*P		15 45 46.2	
DUSS				*e*		15 46 02.6	
	baz=102,slow=4.3						
DUSS				*e*S	**S**	**15 53 56.5**	**+3.4**
DUSS				AMS	AMS	16 11 12.3	
	comp=N,555μm,16.3s						
DUSS				AMS	AMS	16 12 34.6	
	comp=E,329μm,19.0s						
DUSS				AMS	AMS	16 16 54.2	
	comp=Z,235μm,17.7s						
CTA	**Charters Tower**	**58.78**	**118⇑**	*i*P	**P**	**15 45 52.4**	**-0.7**
	comp=Z,105nm,1.2s,mb5.7						
CTA	**Charters Tower**	**58.78**	**118⇑**	*i*P	**P**	**15 45 52.4**	**-0.7**
CTA				pmax	pmax		
	comp=Z,105nm,1.2s						
CTAO	**Charters Tower**	**58.78**	**118**	*e*P	**P**	**15 45 52.0**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,157nm,1.4s,mb5.8						
CTAO				MLR	MLR		
	comp=Z,35μm,19.0s,MS6.5						
CTAO	**Charters Tower**	**58.78**	**118**	*e*P	**P**	**15 45 52.0**	**-1.1**
	comp=Z,157nm,1.4s,mb5.8						
CTAO				LR	LR		
	comp=Z,35μm,19.0s,MS6.5						
GZT	**Gaziantep**	**58.78**	**310**	*i*P	**P**	**15 45 52.9**	**0.0**
MKRJ	**Makawir**	**58.82**	**303**	P	**P**	**15 45 54.5**	**+1.3**
YSS	**Yuzh-Sakhalins**	**58.83**	**38**α*e*P		**P**	**15 45 52.0**	**-1.1**
YSS				*i* *SP	sP	15 46 06.4	-2.4
YSS				*e*S	**S**	**15 53 51.0**	**-3.2**
YSS				pmax	pmax		
	comp=Z,170nm,1.2s,mb6.0						
YSS				pmax	pmax		
	comp=N,30nm,1.0s						
YSS				pmax	pmax		
	comp=E,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,2μm,10.0s						
YSS				pmax	pmax		
	comp=Z,370nm,1.2s,mb6.3						
YSS				pmax	pmax		
	comp=N,110nm,1.0s						
YSS				MLR	MLR		
	comp=N,11μm,13.0s,MS6.4						
YSS				MLR	MLR		
	comp=E,14μm,13.0s,MS6.4						
YSS				MLR	MLR		
	comp=Z,14μm,13.0s,MS6.3						
YSS	**Yuzh-Sakhalins**	**58.83**	**38**	*e*P	**P**	**15 45 51.7**	**-1.4**
	comp=Z,176nm,1.3s,mb5.9						
YSS				LR	LR		
	comp=Z,13μm,21.0s,MS6.0						
AQBJ	**Aqaba**	**58.94**	**301**	P	**P**	**15 45 55.1**	**+1.0**
ZFRI	**Zfri**	**59.00**	**302**	P	**P**	**15 45 55.8**	**+1.3**
GAZ	**Gaziantep**	**59.00**	**310**	P	**P**	**15 45 55.2**	**+0.8**
MZDA	**Masada**	**59.00**	**303**	P	**P**	**15 45 55.4**	**+0.9**
EIL	**Elat**	**59.01**	**301**	P	**P**	**15 45 54.9**	**+0.3**
EIL	**Elat**	**59.01**	**301**	*e*P	**P**	**15 45 54.8**	**+0.1**
	comp=Z,171nm,1.7s,mb5.8						
PRNI	**Paran**	**59.10**	**302**	P	**P**	**15 45 56.6**	**+1.4**
MMLI	**Mount Malkishu**	**59.20**	**304**	P	**P**	**15 45 57.5**	**+1.7**
KMTI	**Karmit**	**59.29**	**301**	P	**P**	**15 45 57.7**	**+1.2**
BHL	**Bhannes**	**59.35**	**306**	*e*P	**P**	**15 45 57.3**	**+0.4**
SOC	**Sochi**	**59.37**	**318**	*i*P	**P**	**15 45 55.1**	**-1.8**
SOC				*e*		15 46 42.0	
SOC				*e*		15 48 02.3	
SOC				*i*S	**S**	**15 54 00.8**	**-0.4**
SOC				*e*		15 55 41.0	
SOC				*e*SS	SS	15 58 01.3	+3.6
SOC				*e*SSS	SSS	16 00 23.9	-2.0
SOC				pmax	pmax		
	comp=Z,129nm,1.2s,mb5.8						
SOC				pmax	pmax		
	comp=N,35nm,0.9s						
SOC				pmax	pmax		
	comp=E,95nm,1.4s						
SOC				pmax	pmax		
	comp=Z,537nm,2.3s,mb6.2						
KAHT	**Ahir Dag**	**59.39**	**310**	*i*P	**P**	**15 45 57.7**	**+0.6**
HNTI	**Hanita**	**59.55**	**305**	P	**P**	**15 46 01.7**	**+3.4**
COBT	**Iskenderun**	**59.55**	**309**	*i*P	**P**	**15 45 57.5**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**59.58**	**42**	P	**P**	**15 45 48.0**	**-10**
YUK				*i*SP	sP	15 46 05.0	-9.0
YUK				*e*		15 46 38.0	
YUK				S	**S**	**15 54 11.0**	**+7.1**
YUK				*e*PS	PS	15 54 29.0	+4.9
YUK				*e*SS	SS	15 58 03.0	+2.1
YUK				MLR	MLR		
	comp=N,9μm,18.0s,MS6.3						
YUK				MLR	MLR		
	comp=E,21μm,18.0s,MS6.3						
YUK				MLR	MLR		
	comp=Z,21μm,18.0s,MS6.3						
KZIT	**Kziot**	**59.73**	**302**	P	**P**	**15 46 00.8**	**+1.3**
STKA	**Stephens Creek**	**60.06**	**132**	*e*P	**P**	**15 46 01.6**	**-0.2**
	comp=Z,50nm,0.7s,mb5.7						
CEYT	**Ceyhan**	**60.08**	**309**	P	**P**	**15 46 01.9**	**0.0**
KVT	**Kavak**	**61.05**	**314**	P	**P**	**15 46 08.4**	**+0.1**
MEST	**Erdemli**	**61.21**	**308**	*i*P	**P**	**15 46 11.6**	**+2.0**
AVNT	**Avonos**	**61.24**	**311**	*i*P	**P**	**15 46 09.0**	**-0.7**
NIG	**Nigde**	**61.24**	**310**	*e*P	**P**	**15 46 10.4**	**+0.6**
ANN	**Anapa**	**61.35**	**318**	*e*P	**P**	**15 46 17.5**	**+7.2**
ANN				*e*S	**S**	**15 54 41.6**	**+15**
ANN				*e*SSS	SSS	16 01 10.5	+2.2
ANN				pmax	pmax		
	comp=Z,86nm,1.4s,mb5.7						
CSS	**Prodhromos**	**61.46**	**306**	*e*P	**P**	**15 46 10.5**	**-0.8**
	comp=Z,196nm,1.4s,mb6.0						
CTKT	**Corum**	**61.81**	**313**	*i*P	**P**	**15 46 14.6**	**+1.1**
LEF	**Lefka**	**61.85**	**306**	*e*P	**P**	**15 46 17.6**	**+3.7**
YAK	**Yakutsk**	**61.88**	**19***c*	*i*P	**P**	**15 46 12.3**	**-1.4**
YAK				pmax	pmax		
	comp=Z,432nm,1.9s,mb6.3						
YAK				MLR	MLR		
	comp=Z,14μm,14.0s,MS6.3						
YAK	**Yakutsk**	**61.88**	**19**	*e*P	**P**	**15 46 12.1**	**-1.6**
	comp=Z,272nm,1.3s,mb6.2						
YAK				LR	LR		
	comp=Z,18μm,21.0s,MS6.2						
BOYT	**Boyabat**	**61.97**	**314**	*i*P	**P**	**15 46 13.9**	**-0.7**
BYBT	**Boyabat**	**62.08**	**314**	P	**P**	**15 46 15.0**	**-0.3**
KAMT	**Kaman**	**62.26**	**311**	*i*P	**P**	**15 46 15.9**	**-0.6**
BR131	**Keskin Array S**	**62.41**	**312**	PFAKE		15 46 30.0	+12
BR131				LR	LR		
	comp=Z,7μm,20.0s,MS5.8						
TOS	**Tosya**	**62.49**	**313**	*e*P	**P**	**15 46 17.9**	**-0.2**
HDMB	**Hadim**	**62.59**	**308**	*i*P	**P**	**15 46 18.7**	**-0.1**
CANT	**Cankiri**	**62.66**	**313**	P	**P**	**15 46 19.1**	**-0.1**
ELDT	**Eldivan**	**62.77**	**312**	*i*P	**P**	**15 46 19.3**	**-0.7**
BZK	**Bozkurt**	**62.77**	**314**	P	**P**	**15 46 18.4**	**-1.5**
PECR	**Pechory**	**62.83**	**332**	*e*P	**P**	**15 46 18.0**	**-2.1**
PECR				*e*S	**S**	**15 54 42.0**	**-3.0**
PECR				*e*PS	PS	15 55 01.0	-7.0
PECR				*e*		15 56 02.0	
PECR				pmax	pmax		
	comp=Z,2μm,10.0s						
PECR				smax			
	comp=N,8μm,15.0s						
PECR				smax			
	comp=E,2μm,14.0s						
PECR				MLR	MLR		
	comp=Z,14μm,20.0s,MS6.1						
PECR				MLR	MLR		
	comp=N,7μm,14.0s						
PECR				MLR	MLR		
	comp=E,7μm,21.0s,MS6.0						
PECR				MLR	MLR		
	comp=Z,13μm,18.0s						
PECR				MLR	MLR		
	comp=N,7μm,16.0s,MS6.0						
PECR				MLR	MLR		
	comp=E,5μm,15.0s						
KONT	**Konya--Tatoy**	**62.92**	**309**	*e*P	**P**	**15 46 23.7**	**+2.8**
VOR	**Voronezh**	**63.07**	**326**	*e*P	**P**	**15 46 20.0**	**-1.7**
VOR				pmax	pmax		
	comp=Z,200nm,2.0s,mb5.9						
ANTO	**Ankara**	**63.07**	**312**	P	**P**	**15 46 20.3**	**-1.7**
BALT	**Daday**	**63.09**	**314**	*i*P	**P**	**15 46 19.9**	**-2.2**
LOD	**Lodumlu**	**63.10**	**312**	P	**P**	**15 46 21.6**	**-0.6**
KIZT	**Kizilcal**	**63.51**	**310**	P	**P**	**15 46 23.6**	**-1.3**

comp=Z,90nm,1.2s,mb5.7
SIM MLR MLR
comp=Z,28μm,26.7s,MS6.3
ANTB Antalya 64.01 308 *e*P **P 15 46 29.2 +1.1**
BCK Bucak 64.18 309 *e*P sP 15 46 45.0 +0.1
ISP Isparta 64.32 309 P **P 15 46 28.2 -1.9**
ISP Isparta 64.32 309*c i*P **P 15 46 29.2 -1.0**
MDU Mudurnu 64.40 312 P **P 15 46 29.7 -0.9**
ESKT Eskisehir 64.44 311 P **P 15 46 29.5 -1.4**
ESKT Eskisehir 64.44 311 *i*P **P 15 46 29.9 -1.0**
ELL Elmali 64.56 308 P **P 15 46 32.1 +0.4**
HENT Hendek 64.72 312 *i*P **P 15 46 27.8 -4.9**
ALT Altintas 64.89 310 P **P 15 46 33.5 -0.3**
KHL Karahalli 65.18 309 *e*P **P 15 46 35.7 -0.1**
FETY Fethiye 65.19 307 *i*P **P 15 46 35.2 -0.6**
DNZL Cakiroluk 65.42 309 *i*P **P 15 46 37.3 0.0**
DENT Denizli 65.45 309 P **P 15 46 38.2 +0.8**
DALT Dalyan (Mudla) 65.57 307 *i*P **P 15 46 37.8 -0.4**
HRT Hereke 65.62 312 P **P 15 46 37.9 -0.6**
TOO Toolangi 65.69 136 *e*P **P 15 46 40.2 +1.2**
comp=Z,21nm,1.0s,mb5.1
TOO Toolangi 65.69 136 *e*P **P 15 46 40.2 +1.2**
TOO pmax pmax
comp=Z,21nm,1.0s,mb5.1
MOS Moscow 65.69 329 *e*P **P 15 46 37.3 -1.4**
MOS *i* 15 46 54.7
MOS *i*S S 15 55 18.5 -1.8
MOS *e* 15 56 35.3
MOS *e*SS SS 15 59 40.6 +4.2
MOS pmax pmax
comp=Z,225nm,1.7s,mb5.9
MOS smax
comp=N,4μm,8.0s
YLV Yalova 65.78 312 *i*P **P 15 46 38.4 -1.1**
ULDT Uludag 65.87 311 *i*P **P 15 46 38.7 -1.3**
OBN Obninsk 65.96 328α *i*P **P 15 46 38.9 -1.5**
OBN *i* pP 15 46 47.8 -4.0
OBN *i* 15 46 57.5
OBN *i* 15 47 12.6
OBN *e* 15 49 12.1
OBN *i*S S 15 55 24.7 +1.1
OBN SS SS 15 59 45.0 +4.6
OBN pmax pmax
comp=Z,700nm,2.3s,mb6.3
OBN pmax pmax
comp=Z,27nm,0.4s,mb5.6
OBN MLR MLR
comp=Z,15μm,22.0s,MS6.2
OBN Obninsk 65.96 328 *e*P **P 15 46 38.5 -1.9**
comp=Z,163nm,1.3s,mb5.9
OBN LR LR
comp=Z,4μm,21.0s,MS5.6
MANT Manisa 65.96 309 *i*P **P 15 46 41.1 +0.4**
ISK Istanbul-Kandi 66.13 312 P **P 15 46 42.0 +0.2**
ISK Istanbul-Kandi 66.13 312 P **P 15 46 41.0 -0.7**
AYDN Tasoluk 66.33 308 *i*P **P 15 46 43.4 +0.3**
BDRM Kayabasi 66.56 308 *i*P **P 15 46 44.2 -0.3**
AKS Akhisar 66.61 310 P **P 15 46 44.2 -0.6**
BTOK Tokmak 66.62 311 *i*P **P 15 46 43.7 -1.1**
BALB Balikesir 66.71 310 P **P 15 46 44.7 -0.7**
BNT Bandirma 66.82 311 P **P 15 46 45.8 -0.3**
KDAG Bornova 66.94 309 *i*P **P 15 46 46.8 -0.1**
IZM Izmir 66.94 309 *i*P **P 15 46 47.7 +0.8**
BLCB Balcova 67.11 309 *e*P **P 15 46 48.6 +0.6**
MRMT Marmara Adasi 67.11 311 *i*P **P 15 46 47.1 -0.9**
PSN Preselentsi 67.36 315 *e*P **P 15 46 49.0 -0.4**
MFT Murefte 67.39 312 *e*P **P 15 46 43.1 -6.5**
CNB Canberra Magne 67.39 132 *e*P **P 15 46 50.5 +0.7**
comp=Z,81nm,1.3s,mb5.6
SART Tekirdag 67.44 311 *i*P **P 15 46 50.5 +0.5**
LSZ Lusaka 67.47 251 *e*P **P 15 46 49.9 -0.6**
LSZ pmax pmax
comp=Z,130nm,1.9s,mb5.6
LSZ MLR MLR
comp=Z,56μm,19.0s,MS6.8
LSZ Lusaka 67.47 251 *e*P **P 15 46 49.9 -0.7**
comp=Z,130nm,1.9s,mb5.6
LSZ LR LR
comp=Z,56μm,19.0s,MS6.8
AYVA Ayvalik 67.55 310 *i*P **P 15 46 50.8 +0.1**
CFR Carcaliu 67.75 316⇓ *i*P **P 15 46 51.6 -0.2**
KIS Kishinev 67.75 318 *e*P **P 15 46 50.0 -1.8**
KIS *e* 15 47 09.0
KIS *e* 15 49 22.0
KIS *e* 15 51 05.0
KIS *e*S S 15 55 46.0 +0.7
KIS *e*PS PS 15 56 20.0 +5.5
KIS MLR MLR
comp=Z,6μm,18.0s,MS5.9
KIS MLR MLR
comp=E,7μm,20.0s
KIS MLR MLR
comp=Z,9μm,20.0s
HARR Harsova 67.77 316⇓ *i*P **P 15 46 51.9 -0.1**
PRD Provadia 67.81 314 *e*P **P 15 46 52.0 -0.2**
EDRB Edirne 68.00 313 P **P 15 46 53.4 -0.1**
SANT Santorini 68.02 307 P **P 15 46 51.9 -1.8**
comp=Z,302nm,1.4s,mb6.1
APE Apeiranthos 68.07 307 *e*P **P 15 46 55.7 +1.7**
APE Apeiranthos 68.07 307 *i*P **P 15 46 53.9 -0.1**
BOZC Bozcaada 68.13 310 *i*P **P 15 46 54.1 -0.2**
JMB Yambol 68.24 313 *e*P **P 15 46 55.0 0.0**
MA2 Magadan 68.76 28 *e*P **P 15 46 57.4 -0.5**
MA2 pmax pmax
comp=Z,234nm,1.5s,mb5.9
MA2 MLR MLR
comp=Z,9μm,19.0s,MS6.0
MA2 Magadan 68.76 28 *e*P **P 15 46 57.4 -0.5**
comp=Z,234nm,1.5s,mb5.9
MA2 LR LR
comp=Z,9μm,19.0s,MS6.0
ISR Istrita 68.83 316⇓ *i*P **P 15 46 59.6 +1.0**
SZH Strazhica 68.87 314 *e*P **P 15 47 01.0 +2.2**
VRI Vrincioaia 68.87 317⇓ *i*P **P 15 46 59.1 +0.3**
GVD Gavdhos 68.92 305 *e*P **P 15 46 58.3 -1.1**
KDZ Kurdzhali 68.93 312 *e*P **P 15 46 59.0 -0.3**
TIXI Tiksi 69.01 12⇑ *i*P **P 15 46 58.1 -1.1**
TIXI *e*S S 15 55 58.7 -1.2
TIXI *e*SS SS 16 00 27.2 -0.7
TIXI pmax pmax
comp=Z,265nm,1.1s,mb6.1
TIXI pmax pmax
comp=N,73nm,1.8s
TIXI pmax pmax
comp=E,68nm,1.7s
TIXI pmax pmax
comp=Z,558nm,1.5s,mb6.3
TIXI MLR MLR
comp=Z,19μm,14.0s,MS6.5
TIXI MLR MLR
comp=N,12μm,15.0s
TIXI MLR MLR
comp=E,19μm,21.0s
TIXI Tiksi 69.01 12⇑ *i*P **P 15 46 58.4 -0.8**
TIXI LR LR
comp=Z,17μm,20.0s,MS6.3
PVL Pavlikeni 69.29 314 *e*P **P 15 47 02.5 +1.1**
RZN Rozhen 69.45 312 P **P 15 47 02.2 -0.3**
PLD Plovdiv 69.54 313 *e*P **P 15 47 03.0 0.0**
PGB Panagyurishte 70.01 313 *e*P **P 15 47 05.0 -0.8**
MMB Musomiste 70.17 312 P **P 15 47 06.0 -0.8**
MNK Minsk 70.45 326 *e*P **P 15 47 05.0 -3.3**
MNK MLR MLR
comp=Z,14μm,22.0s,MS6.2
PET Petropavlovsk 70.58 36 *i*P **P 15 47 07.9 -1.2**
PET pmax pmax
comp=Z,90nm,2.1s,mb5.3
PET Petropavlovsk 70.58 36 *e*P **P 15 47 08.4 -0.7**
PET LR LR
comp=Z,9μm,19.0s,MS6.0
KKB Krupnik 70.69 312 P **P 15 47 09.0 -1.0**
VTS Vitosha 70.71 313 P **P 15 47 10.0 -0.1**
SEY Seymchan 70.89 25 *e*P **P 15 47 11.3 +0.5**
SEY 15 47 28.3
SEY 15 49 47.1
SEY PPP PPP 15 51 31.5 +0.3
SEY *e*S S 15 56 27.5 +5.4
SEY 15 57 12.5
SEY *e*SSS SSS 16 04 07.1 +4.0
SEY pmax pmax
comp=Z,370nm,1.3s,mb6.2
SEY pmax pmax
comp=E,210nm,1.4s
SEY smax
comp=N,18μm,16.3s
SEY smax
comp=E,7μm,12.5s
SEY MLR MLR
comp=Z,52μm,19.0s,MS6.8
SEY MLR MLR
comp=N,20μm,17.0s
SEY MLR MLR
comp=E,41μm,23.0s
PUL Pulkovo 70.90 332 *e*P **P 15 47 10.8 -0.2**
PUL *i* 15 47 33.5
PUL *e*S S 15 56 24.3 +2.0
PUL pmax pmax
comp=Z,72nm,0.7s,mb5.7
PUL pmax pmax
comp=N,66nm,0.6s
PUL pmax pmax
comp=E,108nm,0.7s
PUL smax
comp=Z,784nm,9.2s
PUL smax
comp=N,2μm,12.3s
PUL smax
comp=E,1μm,11.4s
PUL MLR MLR
comp=Z,14μm,23.0s,MS6.2
PUL MLR MLR
comp=N,18μm,22.0s,MS6.3
PUL MLR MLR
comp=E,9μm,21.0s,MS6.3
PUL Pulkovo 70.90 332 *i*P **P 15 47 10.6 -0.4**
LVV L'vov 71.52 320 *e*P **P 15 47 15.9 +1.1**
LVV *e* 15 47 33.5
LVV *e* 15 49 49.3
LVV *i*S S 15 56 34.7 +5.1
LVV *e*PS PS 15 57 06.3 +2.3
LVV *e*SS SS 16 01 05.3 -1.6
LVV *e*SSS SSS 16 04 16.3 +1.8
IIGN Ignalina 71.58 326 *e*P **P 15 47 14.8 -0.3**
IZAR Zarasai 71.68 327 *e*P **P 15 47 15.4 -0.3**
ISAL Salakas 71.70 327 *e*P **P 15 47 14.8 -1.0**
BARS Barje 71.75 313⇑ *i*P **P 15 47 15.0 -1.4**
BOLS Boljevac 71.81 314⇓ *i*P **P 15 47 16.6 -0.1**
SKO Skopje 71.92 312⇑ *i*P **P 15 47 16.3 -1.0**
VSU Vasula 72.21 330 *i*P **P 15 47 18.7 -0.1**
LBTB Lobatse 72.31 241 *e*P **P 15 47 19.8 -0.1**
LBTB pmax pmax
comp=Z,225nm,1.8s,mb5.8
LBTB MLR MLR
comp=Z,44μm,20.0s,MS6.7
LBTB Lobatse 72.31 241 *e*P **P 15 47 19.8 -0.1**
comp=Z,225nm,1.8s,mb5.8
LBTB LR LR
comp=Z,44μm,20.0s,MS6.7
KWP Kalwaria 72.32 320 *e*P **P 15 47 20.0 +0.5**
KWP *e*pP pP 15 47 25.8 -5.2
KWP *e*PcP PcP 15 47 36.0 -1.8
KWP MLR MLR 16 21 36.6
comp=Z,9μm,26.6s,MS5.9
UZH Uzhgorod 72.39 319 *e*P **P 15 47 20.0 0.0**
UZH *e*S S 15 56 37.0 -2.7
KOLS Kolonicke sedl 72.46 319 *i*P **P 15 47 21.5 +1.1**
MIR Mirnyy 72.70 180*de*P **P 15 47 27.0 +5.5**
MIR *e* 15 50 09.0
MIR *e*PPP PPP 15 51 45.0 -3.2
MIR *e*S S 15 56 47.0 +4.1
MIR *e*SS SS 16 01 30.0 +5.0
MIR pmax pmax
comp=Z,2μm,10.0s
MIR MLR MLR
comp=N,7μm,17.0s,MS6.1
MIR MLR MLR
comp=E,5μm,17.0s,MS6.1
MIR MLR MLR
comp=Z,14μm,17.0s,MS6.3
GRUS Gruza 72.71 314 *e*P **P 15 47 22.1 +0.1**
APA Apatity 72.81 340⇑ *i*P **P 15 47 22.4 +0.3**
APA *i* 15 47 30.3
APA *i* 15 47 45.7
APA *i*S S 15 56 43.0 -1.1
APA pmax pmax
comp=Z,92nm,1.4s,mb5.5
APA MLR MLR
comp=Z,23μm,18.0s,MS6.5
SUW Suwalki 72.95 325 *e*P **P 15 47 22.4 -0.9**
SUW *e*pP pP 15 47 28.5 -6.2
SUW *e*PcP PcP 15 47 39.7 -0.7
SUW MLR MLR 16 22 39.3
comp=Z,12μm,24.9s,MS6.1
CRVS Cervenica-Dubn 72.99 319 *i*P **P 15 47 24.3 +0.7**
CRVS *e*S S 15 56 40.1 -6.3
QSH Qafa e Shtames 73.00 311 *i*p **P 15 47 14.0 -10**
TIR Tirane 73.01 311 *i*p **P 15 47 17.0 -6.9**
PVY Plav 73.08 312⇓ *i*P **P 15 47 23.8 -0.5**
IVA Berane 73.17 313⇓ *i*P **P 15 47 24.7 -0.1**
DIVS Divcibare 73.25 314⇓ *i*P **P 15 47 24.4 -0.9**
FINES FINESS Array B 73.43 333 *i*P **P 15 47 25.4 -0.5**
FINES pmax pmax
comp=Z,13nm,0.8s
ULC Ulcinj 73.54 312⇓ *i*P **P 15 47 26.3 -0.6**
KAF Kangasniemi 73.54 333 *e*p **P 15 47 25.7 -0.8**
KECS Kecovo 73.55 319 *i*P **P 15 47 27.7 +0.8**
CASY Casey 73.58 173 *e*P **P 15 47 26.4 -0.3**
comp=Z,106nm,1.3s,mb5.6
CASY LR LR
comp=Z,16μm,19.0s,MS6.3
TTG Podgorica 73.58 312⇓ *i*P **P 15 47 26.5 -0.7**
PLE Pljevlja 73.59 313⇓ *i*P **P 15 47 26.8 -0.4**
BOSA Boshof 73.61 238 *e*P **P 15 47 27.0 -0.6**
BOSA pmax pmax
comp=Z,41nm,1.0s,mb5.3
BOSA MLR MLR
comp=Z,24μm,20.0s,MS6.5
BOSA Boshof 73.61 238 *e*P **P 15 47 27.0 -0.6**
comp=Z,42nm,1.0s,mb5.3
BOSA LR LR
comp=Z,24μm,20.0s,MS6.5
NIE Niedzica 73.82 320 *e*P **P 15 47 28.4 0.0**
NKY Niksic 73.82 313⇓ *i*P **P 15 47 27.6 -1.0**
BUM Brajici-Budva 73.83 312⇓ *i*P **P 15 47 28.5 -0.1**
PSZ Piszkesteto 73.86 318 *e*P **P 15 47 27.7 -1.0**
PSZ pmax pmax
comp=Z,289nm,1.8s,mb5.9
PSZ Piszkesteto 73.86 318 *e*P **P 15 47 27.7 -1.0**
comp=Z,289nm,1.8s,mb5.9
PSZ Piszkesteto 73.86 318⇓ *e*P **P 15 47 29.2 +0.5**
WAR Warsaw 73.86 323 *e*P **P 15 47 31.1 +2.5**
WAR MLR MLR 16 21 00.3
comp=Z,9μm,27.2s,MS5.9
UPM Unac-Piva 73.92 313⇓ *i*P **P 15 47 29.1 0.0**
HCY Herceg Novi 74.14 312⇓ *i*P **P 15 47 30.3 -0.2**
BRY Bratogost 74.16 313⇓ *i*P **P 15 47 30.5 0.0**
OJC Ojcow 74.27 320⇓ *e*P **P 15 47 30.8 -0.2**
OJC *e*S S 15 56 57.3 -3.5
OJC MLR MLR 16 25 16.0
comp=Z,8μm,21.4s,MS6.0
VYHS Vyhne 74.64 318 *e*P **P 15 47 33.5 +0.3**
VYHS *e*S S 15 57 02.1 -2.9
VYHS *e*SS SS 16 01 48.8 -5.9
SRO Srobarova 74.90 318 *e*P **P 15 47 35.9 +1.2**
KOLL Kolacno 74.94 319 *e*P **P 15 47 35.5 +0.6**
TIP Timpagrande 75.18 309 *e*P **P 15 47 37.0 +0.5**
OKC Ostrava-Krasne 75.27 320⇓ *i*P **P 15 47 37.1 +0.3**
OKC *e*pP pP 15 47 50.5 +2.2
OKC *e*S S 15 57 09.9 -2.1
OKC AMS AMS 16 23 20.0
comp=Z,5μm,22.0s
RAC Raciborz 75.27 320 *e*P **P 15 47 37.2 +0.4**
RAC *e*S S 15 57 16.8 +4.8
RAC MLR MLR 16 25 56.5
comp=Z,8μm,19.8s,MS6.0
MORC Moravsky Berou 75.65 320 *e*P **P 15 47 38.1 -0.9**
MORC pmax pmax
comp=Z,133nm,1.3s,mb5.7
MORC Moravsky Berou 75.65 320 *e*P **P 15 47 38.1 -0.9**
comp=Z,133nm,1.3s,mb5.7
ZST Bratislava 75.75 318 *e*P **P 15 47 40.2 +0.6**
ZST *e*S S 15 57 20.9 +3.6
ZST *e*SS tx 16 02 52.7
KEV Kevo 75.83 341 *e*p **P 15 47 39.3 -0.3**
SOP Sopron 76.06 317 *e*P **P 15 47 40.6 -0.7**
ARE0 ARCESS Array S 76.25 340 *e*P **P 15 47 41.0 -1.0**
VKA Vienna 76.28 318⇑ *i*P **P 15 47 42.5 -0.1**
comp=Z,933nm,2.5s,mb6.3
VKA Vienna 76.28 318⇑ *i*P **P 15 47 42.5 -0.1**
VKA pmax pmax
comp=Z,933nm,2.5s,mb6.3
GKP Gorka Klasztor 76.30 323 *e*P **P 15 47 42.2 -0.4**
GKP *e**PP pP 15 47 47.6 -6.5
GKP *e* PcP 15 47 55.1 +0.4
GKP MLR MLR
comp=Z,11μm,22.4s,MS6.1
GKP Gorka Klasztor 76.30 323 *e*P **P 15 47 42.2 -0.3**
GKP *e*pP pP 15 47 47.6 -6.5
GKP *e*PcP PcP 15 47 55.1 +0.4
GKP MLR MLR 16 24 55.5
comp=Z,11μm,22.4s,MS6.1
DPC Dobruska-Polom 76.50 320 *e*P **P 15 47 44.4 +0.6**
DPC *e**PP pP 15 47 57.6 +2.3
DPC *e*S S 15 57 26.4 +1.0
DPC MLR MLR
comp=Z,5μm,20.1s,MS5.8
DPC Dobruska-Polom 76.50 320 *e*P **P 15 47 44.4 +0.6**
DPC *e*pP pP 15 47 57.6 +2.3
DPC *e*S S 15 57 26.4 +1.0
DPC *e*x x 16 05 54.1
DPC AMS AMS 16 25 00.0
comp=Z,5μm,20.1s
KSP Ksiaz 76.57 321 *e*P **P 15 47 44.0 -0.2**
KSP *e**PP pP 15 47 56.7 +1.0
KSP *e*S S 15 57 24.0 -2.2
KSP *e*SS SS 16 02 17.0 -7.7
KSP *e*SSS SSS 16 05 41.0 +0.7
KSP MLR MLR
comp=Z,13μm,27.4s,MS6.1
KSP Ksiaz 76.57 321 *e*P **P 15 47 44.0 -0.2**
KSP *e*pP pP 15 47 56.7 +1.0
KSP *e* 15 48 03.4
KSP *e*PP PP 15 50 46.0 +7.9
KSP *e*S S 15 57 24.0 -2.2
KSP *e*SS SS 16 02 17.0 -7.7
KSP *e*SSS SSS 16 05 41.0 +0.7
KSP LR LR
comp=Z,13μm,27.4s,MS6.1
KSP Ksiaz 76.57 321 *e*P **P 15 47 45.0 +0.8**
KSP *e*pP pP 15 47 50.8 -4.9
KSP *e*PcP PcP 15 47 56.6 +0.7
KSP MLR MLR 16 20 35.5
comp=Z,12μm,27.4s,MS6.0
ARSA Arzberg 76.72 317⇑ *i*P **P 15 47 45.8 +0.7**
comp=Z,158nm,1.1s,mb5.9
UPC Upice 76.72 320⇓ *e*P **P 15 47 45.7 +0.7**
BOJS Bojanci 76.76 315 *e*P **P 15 47 44.9 -0.4**
BOJS *i* 15 47 51.9
BOJS *e* pP 15 47 58.8 +2.0
MAW Mawson 76.76 191 *e*P **P 15 47 46.9 +2.0**
comp=Z,19nm,0.8s,mb5.1
MAW Mawson 76.76 191 *e*P **P 15 47 46.9 +2.0**
MAW pmax pmax
comp=Z,19nm,0.8s
KTK1 Kautokeino 76.85 340 *e*P **P 15 47 45.2 -0.2**
comp=Z,143nm,1.7s,mb5.6
KTK1 Kautokeino 76.85 340 *e*P **P 15 47 45.2 -0.2**
KTK1 AMb AMB 15 47 50.5
comp=Z,143nm,1.7s,mb5.6
NVLJ Novalja 76.96 314 *i*P **P 15 47 45.0 -1.5**
CII Carovilli 77.20 311 *e*P **P 15 47 47.9 -0.1**
comp=Z,22nm,1.0s,mb5.0
NOUC Port Laguerre 77.28 114 *e*P **P 15 47 49.5 +0.7**
NOUC Port Laguerre 77.28 114 *e*P **P 15 47 49.5 +0.7**
OBKA Obir 77.32 316⇑ *i*P **P 15 47 48.9 +0.4**
comp=Z,152nm,1.3s,mb5.8
DZM Mont Dzumac 77.40 114 *e*P **P 15 47 50.9 +1.4**
PRU Pruhonice 77.60 320⇓ *i*P **P 15 47 50.2 +0.2**
PRU *e**PP pP 15 48 03.9 +2.4
PRU *e*S S 15 57 40.8 +3.4
PRU pmax pmax
comp=Z,116nm,1.2s,mb5.7
PRU MLR MLR
comp=Z,5μm,16.2s,MS5.9
PRU Pruhonice 77.60 320⇓ *i*P **P 15 47 50.2 +0.2**
comp=Z,116nm,1.2s,mb5.7
PRU *e*pP pP 15 48 03.9 +2.4
PRU *e*S S 15 57 40.8 +3.4
PRU *e*SS SS 16 02 59.2 +19
PRU *e*x x 16 06 15.6
PRU AMS AMS 16 27 00.0
comp=Z,5μm,16.2s
MOA Molln 77.61 317⇑ *i*P **P 15 47 50.5 +0.4**
comp=Z,82nm,1.2s,mb5.5
PVCC Panska Ves 77.63 320⇓ *e*P **P 15 47 50.7 +0.6**
PVCC *e*pP pP 15 48 03.9 +2.2
PVCC *e*S S 15 57 41.4 +3.7
PVCC AMS AMS 16 25 50.0
comp=Z,7μm,18.8s
VOY Vojsko 77.74 316 *e*P **P 15 47 50.2 -0.6**
VOY *e* pP 15 48 03.4 +1.0
BSD Bornholm Skovb 77.88 325 *e*P **P 15 47 46.2 -5.2**
BSD *i*S S 15 57 42.7 +2.4
BSD pmax pmax
comp=Z,62nm,1.1s,mb5.5
BSD Bornholm Skovb 77.88 325 *e*P **P 15 47 46.2 -5.2**
comp=Z,62nm,1.1s,mb5.5
BSD *i*S S 15 57 42.7 +2.4
BSD Bornholm Skovb 77.88 325 *i*P **P 15 47 46.2 -5.2**
comp=Z,62nm,1.1s,mb5.5
BSD *i*S S 15 57 42.7 +2.4
comp=Z,9μm,19.0s
AQU L'Aquila 77.90 312 *e*P **P 15 47 51.6 -0.2**
AQU pmax pmax
comp=Z,83nm,1.3s,mb5.5
AQU L'Aquila 77.90 312 *e*P **P 15 47 51.6 -0.1**
comp=Z,83nm,1.3s,mb5.5
BILL Bilibino 78.02 22*c i*P **P 15 47 51.6 -0.3**
BILL pmax pmax
comp=Z,132nm,1.9s,mb5.5
BILL MLR MLR
comp=Z,7μm,14.0s,MS6.1
BILL Bilibino 78.02 22 *e*P **P 15 47 50.4 -1.5**
comp=Z,213nm,1.8s,mb5.8
BILL LR LR
comp=Z,14μm,19.0s,MS6.3
ROBS Robic 78.02 316 *e*P **P 15 47 51.6 -0.7**
BRG Berggiesshubel 78.06 321 *i*P **P 15 47 53.1 +0.7**
BRG *i* pP 15 48 02.9 -1.1
BRG *i*S S 15 57 44.0 +1.7
BRG pmax pmax
comp=Z,130nm,1.5s,mb5.6
BRG MLR MLR
comp=Z,8μm,17.7s,MS6.1
BRG Berggiesshubel 78.06 321 *i*P **P 15 47 53.1 +0.7**
comp=Z,130nm,1.5s,mb5.6
BRG *i* 15 47 56.1
BRG *i* pP 15 48 02.9 -1.1
BRG *i* 15 48 19.9
BRG *i*S S 15 57 44.0 +1.7
BRG *i*SS SS 16 02 54.0 +7.0
BRG LR LR
comp=Z,8μm,17.7s,MS6.1
GEC2 GERESS Array S 78.06 318 *e*P **P 15 47 53.1 +0.6**
GEC2 pmax pmax
comp=Z,248nm,1.5s,mb5.9
GEC2 GERESS Array S 78.06 318 *e*P **P 15 47 53.1 +0.6**
comp=Z,248nm,1.5s,mb5.9
KHC Kasperske Hory 78.16 319⇓ *i*P **P 15 47 53.9 +0.9**
KHC *e* 15 47 59.5
KHC *e**PP pP 15 48 06.9 +2.3
KHC *e*S S 15 57 45.2 +1.8
KHC MLR MLR
comp=Z,6μm,18.3s,MS6.0
KHC Kasperske Hory 78.16 319⇓ *i*P **P 15 47 53.9 +0.9**
KHC *e* 15 47 59.5
KHC *e*pP pP 15 48 06.9 +2.3
KHC *e*S S 15 57 45.2 +1.8
KHC *e*SS SS 16 03 02.2 +14
KHC LR LR
comp=Z,6μm,18.3s,MS6.0
KHC Kasperske Hory 78.16 319⇓ *i*P **P 15 47 53.9 +0.9**
KHC pP pP 15 47 59.5 -5.1
KHC *e*sP sP 15 48 06.9 -1.9
KHC *e*S S 15 57 45.2 +1.8
KHC *e*x x 16 03 02.2
KHC AMS AMS 16 25 00.0
comp=Z,6μm,18.3s
KBA Koelnbreinsper 78.19 317⇑ *i*P **P 15 47 53.1 -0.1**
comp=Z,112nm,1.1s,mb5.7
KBA Koelnbreinsper 78.19 317⇑ *i*P **P 15 47 53.1 -0.1**

KBA pmax pmax
comp=Z,112nm,1.1s,mb5.7
RUE Ruedersdorf 78.30 322 *eP* **P 15 47 54.2 +0.5**
comp=Z,76nm,0.9s,mb5.6
SUR Sutherland 78.33 235 *eP* **P 15 47 54.4 +0.1**
comp=Z,95nm,1.3s,mb5.6
SUR LR LR
comp=Z,4μm,22.0s,MS5.7
TRO Tromso 78.49 340 *eP* **P 15 47 53.4 -1.1**
TRO *eS* S 15 57 42.9 -3.6
TRO AMS AMS 16 26 48.7
comp=Z,15μm,19.6s,MS6.3
WET Wettzell 78.62 319 *eP* **P 15 47 55.5 -0.1**
CLL Collm 78.68 321 *eP* **P 15 47 56.0 +0.1**
CLL *i* pP 15 48 08.9 +1.5
CLL *eS* S 15 57 48.0 -0.9
CLL pmax pmax
comp=Z,85nm,1.4s,mb5.5
CLL MLR MLR
comp=Z,6μm,15.7s,MS6.0
CLL Collm 78.68 321 *eP* **P 15 47 56.0 +0.1**
comp=Z,85nm,1.4s,mb5.5
CLL *i* pP 15 48 08.9 +1.5
CLL *eS* S 15 57 48.0 -0.9
CLL LR LR
comp=Z,6μm,15.7s,MS6.0
CLL Collm 78.68 321 P **P 15 47 56.0 +0.1**
comp=Z,logA/T=1.8,mb5.5
CLL *i* *PP pP 15 48 08.9 +1.5
CLL *i* *SP sP 15 48 14.8 +3.2
CLL *e* 15 49 33.0
CLL *eS* S 15 57 48.0 -0.9
CLL *e*PPS PPS 15 58 49.0 -5.7
CLL *eSS* SS 16 02 42.0 -14
CLL *eSSS* SSS 16 06 30.0 +15
NKC Novy Kostel 78.97 320⇓ *eP* **P 15 47 59.5 +2.1**
NKC *e*pP pP 15 48 11.2 +2.2
NKC *eS* S 15 57 56.9 +5.0
NKC *eSS* SS 16 03 08.5 +7.9
NKC AMS AMS 16 26 40.0
comp=Z,6μm,20.4s
COP Copenhagen 79.35 325 *i* **P 15 48 06.9 +7.5**
COP *i* S S 15 58 02.1 +6.3
comp=Z,8μm,20.0s
WTTA Wattenberg 79.36 317⇑ *iP* **P 15 47 59.2 -0.4**
comp=Z,166nm,1.1s,mb5.9
WTTA Wattenberg 79.36 317⇑ *iP* **P 15 47 59.2 -0.4**
WTTA pmax pmax
comp=Z,166nm,1.1s,mb5.9
WATA Walderalm 79.40 317⇓ *iP* **P 15 47 59.2 -0.7**
comp=Z,108nm,1.3s,mb5.6
WATA Walderalm 79.40 317⇓ *iP* **P 15 47 59.2 -0.7**
WATA pmax pmax
comp=Z,108nm,1.3s,mb5.6
MOX Moxa 79.52 320 *eP* **P 15 48 00.1 -0.3**
MOX pmax pmax
comp=Z,171nm,1.8s,mb5.7
MOX MLR MLR
comp=Z,5μm,19.0s,MS5.9
MOX Moxa 79.52 320 *eP* **P 15 48 00.1 -0.3**
comp=Z,171nm,1.8s,mb5.7
MOX LR LR
comp=Z,5μm,19.0s,MS5.9
MOX Moxa 79.52 320 *i* P **P 15 48 00.1 -0.3**
comp=Z,logA/T=2.0,mb5.7
MOX S S 15 58 02.0 +4.3
MOX L 16 31 22.0
MOR8 Moi Rana 79.52 336 *eP* **P 15 47 59.8 -0.3**
BJO Bjornoya 79.57 345 *eP* **P 15 48 01.1 +0.8**
BJO *eS* S 15 58 00.4 +2.6
BJO AMS AMS 16 26 34.0
comp=Z,7μm,19.4s,MS6.0
BJO1 Bjornoya 79.62 345 *eP* **P 15 48 01.1 +0.6**
BJO1 LR LR
comp=Z,6702μm,19.4s
FUR Furstenfeldbru 79.64 318 *eP* **P 15 48 01.1 0.0**
SQTA Sankt Quirin 79.65 317⇑ *iP* **P 15 48 00.8 -0.4**
comp=Z,112nm,1.1s,mb5.7
SQTA Sankt Quirin 79.65 317⇑ *iP* **P 15 48 00.8 -0.4**
SQTA pmax pmax
comp=Z,112nm,1.1s,mb5.7
MOTA Moosalm 79.72 317⇑ *iP* **P 15 48 00.8 -0.8**
comp=Z,108nm,1.1s,mb5.7
MOTA Moosalm 79.72 317⇑ *iP* **P 15 48 00.8 -0.8**
MOTA pmax pmax
comp=Z,108nm,1.1s,mb5.7
GRA1 Grafenberg Arr 79.73 319 *eP* **P 15 48 02.2 +0.6**
comp=Z,226nm,1.5s,mb5.9
GRA1 *eS* S 15 58 05.1 +5.1
GRA1 *eSS* SS 16 03 23.5 +11
GRA1 LR LR
comp=Z,5μm,20.5s,MS5.8
GRF Grafenberg Arr 79.73 319 *eP* **P 15 48 02.2 +0.6**
GRF *eS* S 15 58 05.1 +5.1
GRF pmax pmax
comp=Z,226nm,1.5s,mb5.9
GRF MLR MLR
comp=Z,5μm,20.5s,MS5.8
GRF Grafenberg Arr 79.73 319 *eP* **P 15 48 02.2 +0.6**
comp=Z,226nm,1.5s,mb5.9
GRF *eS* S 15 58 05.1 +5.1
GRF *eSS* SS 16 03 23.5 +11
GRF LR LR
comp=Z,5μm,20.5s,MS5.8
SMY Shemya 79.75 38 PFAKE 15 48 10.0 +8.4
SMY LR LR
comp=Z,13μm,21.0s,MS6.2
MAIM 80.08 313 P **P 15 48 02.8 -0.7**
SARO Sassorosso 80.14 314 P **P 15 48 04.1 +0.2**
VLC Villacollemand 80.15 314 *eP* **P 15 48 04.8 +0.8**
comp=Z,34nm,1.1s,mb5.2
VALM 80.26 314 P **P 15 48 04.6 +0.1**
DRV Dumont d'Urvil 80.31 163 P **P 15 48 09.0 +4.6**
DRV Dumont d'Urvil 80.31 163 PP PP 15 51 10.0 +1.1
DRV S S 15 58 14.0 +8.3
DRV SS SS 16 03 28.0 +7.6
DRV L 16 09 00.0
VINC Vinca 80.32 314 P **P 15 48 04.3 -0.5**
CLZ Clausthal 80.35 321 *eP* **P 15 48 04.8 -0.1**
comp=Z,87nm,1.4s,mb5.5
NSS Namsos 80.36 334 *eP* **P 15 48 04.3 -0.3**
NSS *eS* S 15 58 08.3 +2.1
NSS AMS AMS 16 28 17.8
comp=Z,10μm,18.9s,MS6.2
HDH Heidenheim 80.36 318 *eP* **P 15 48 04.3 -0.7**
BACM 80.38 314 P **P 15 48 05.0 -0.2**
GRAM 80.39 314 P **P 15 48 05.6 +0.4**
NB2 NORSAR Subarra 80.40 331 P **P 15 48 04.5 -0.4**
comp=Z,55nm,1.1s,mb5.4,baz=94,slow=5.6
NB2 NORSAR Subarra 80.40 331 P **P 15 48 04.5 -0.4**
baz=94,slow=5.6
UBR Uberruh 80.41 317 *eP* **P 15 48 05.6 +0.4**
BSEG Bad Segeberg 80.47 324 *eP* **P 15 48 05.5 +0.1**
CODM 80.54 314 P **P 15 48 06.3 +0.3**
NAO01 NORSAR Array S 80.54 331 PFAKE 15 48 20.0 +14
NAO01 LR LR
comp=Z,14μm,20.0s,MS6.3
DAVA Damuels 80.55 317⇑ *iP* **P 15 48 06.6 +0.6**
comp=Z,246nm,1.4s,mb5.9
SIND Sindeldorf 80.77 319 *eP* **P 15 48 07.5 +0.4**
VSL Villasalto 80.91 309 *eP* **P 15 48 08.2 +0.2**
comp=Z,50nm,1.1s,mb5.4
BUCH Bad Urach 80.92 318 *eP* **P 15 48 09.4 +1.4**
STU Stuttgart 81.03 318 *eP* **P 15 48 09.1 +0.6**
STU pmax pmax
comp=Z,52nm,1.0s,mb5.4
STU Stuttgart 81.03 318 *eP* **P 15 48 09.1 +0.6**
comp=Z,52nm,1.0s,mb5.4
GUT Gutenstein 81.08 318 *eP* **P 15 48 09.0 +0.2**
KONO Kongsberg 81.11 329 PFAKE 15 48 20.0 +11
KONO LR LR
comp=Z,15μm,22.0s,MS6.3
PGF Pioggiola 81.16 312 *eP* **P 15 48 06.5 -2.8**
comp=Z,562nm,1.6s,mb5.9
PGF Pioggiola 81.16 312 *eP* **P 15 48 06.5 -2.8**
PGF pmax pmax
comp=Z,281nm,1.6s,mb5.9
GENL Genova Univers 81.17 314 P **P 15 48 08.3 -1.0**
MUD Monsted U'grnd 81.21 326 *eP* **P 15 48 13.3 +4.0**
MUD *i* S S 15 58 17.9 +2.7
MUD pmax pmax
comp=Z,81nm,1.1s,mb5.6
MUD Monsted U'grnd 81.21 326 *eP* **P 15 48 13.3 +4.0**
comp=Z,81nm,1.1s,mb5.6
MUD *i* S S 15 58 17.9 +2.7
MUD Monsted U'grnd 81.21 326 *i* P **P 15 48 13.3 +4.0**
comp=Z,81nm,1.1s,mb5.6
MUD Monsted U'grnd 81.21 326 *i* S S 15 58 17.9 +2.7
comp=Z,5μm,18.0s
LBG Lerchenberg 81.30 318⇑ *eP* **P 15 48 08.7 -1.2**
TOD Tromm 81.30 319 *eP* **P 15 48 12.3 +2.4**
SPAK Spaichingen 81.30 318 *eP* **P 15 48 10.1 +0.2**
SWS Schriesheim 81.36 319 *eP* **P 15 48 09.7 -0.6**
PCP Pian Castagno 81.48 314 P **P 15 48 10.6 -0.3**
BFO Black Forest 81.61 318 *eP* **P 15 48 11.4 -0.1**
BFO pmax pmax
comp=Z,65nm,1.5s,mb5.3
BFO Black Forest 81.61 318 *eP* **P 15 48 11.4 -0.1**
comp=Z,65nm,1.5s,mb5.3
FIN Finale Ligure 81.72 314 P **P 15 48 12.2 0.0**
FELD Feldberg 81.83 317 *eP* **P 15 48 12.5 -0.2**
ORX Oropa 81.86 315 P **P 15 48 12.3 -0.6**
KIZ Kirchzarten 81.88 317 *eP* **P 15 48 12.9 -0.1**
LANF Langenberg 81.95 318 *eP* **P 15 48 14.0 +0.7**
IMI Imperia 81.96 313 P **P 15 48 13.2 -0.3**
ROB Roburent 81.96 314 P **P 15 48 12.9 -0.6**
TRAV 82.03 315 P **P 15 48 12.8 -1.0**
MONE Monesi 82.05 314 P **P 15 48 13.4 -0.5**
NEGI Negi 82.09 313 P **P 15 48 13.4 -0.7**
LIBD Limburg 82.09 318 *eP* **P 15 48 16.8 +2.7**
LIBD Limburg 82.09 318 *eP* **P 15 48 14.7 +0.6**
ABH Alteburg 82.11 319 *eP* **P 15 48 17.6 +3.5**
ABH Alteburg 82.11 319 *eP* **P 15 48 14.5 +0.4**
BBS Basel-Blauen 82.17 317 *eP* **P 15 48 14.8 +0.4**
SAOF Saorge 82.20 313 *eP* **P 15 48 15.3 +0.6**
WLS Welschbruch 82.26 318 *eP* **P 15 48 15.8 +0.9**
SBF Sospel 82.28 313 *eP* **P 15 48 14.2 -0.9**
comp=Z,265nm,0.9s,mb5.9
SBF Sospel 82.28 313 *eP* **P 15 48 14.2 -0.9**
SBF pmax pmax
comp=Z,132nm,0.9s,mb5.9
ENR Entracque 82.29 314 P **P 15 48 14.9 -0.2**
AUTN L'Aution 82.29 313 *eP* **P 15 48 19.0 +3.9**
CDF Champ du Feu 82.31 318 *eP* **P 15 48 13.9 -1.2**
comp=Z,255nm,1.7s,mb5.6
CDF Champ du Feu 82.31 318 *eP* **P 15 48 13.9 -1.2**
CDF pmax pmax
comp=Z,127nm,1.7s,mb5.6
REVF Revere 82.34 313 *eP* **P 15 48 18.1 +2.7**
STV Sta Anna Valdi 82.36 314 P **P 15 48 15.4 -0.1**
RSP Reno Superiore 82.38 315 P **P 15 48 14.8 -0.8**
BHB Bricherasio 82.39 314 P **P 15 48 14.7 -1.0**
ECH Echery 82.39 318 *eP* **P 15 48 17.9 +2.3**
MOF Molkenrain 82.41 317 *eP* **P 15 48 18.4 +2.7**
TOUF Mont Tournerai 82.42 313 *eP* **P 15 48 16.9 +1.1**
RUP Ruppelstein 82.43 319 *eP* **P 15 48 18.5 +2.8**
RUP Ruppelstein 82.43 319 *eP* **P 15 48 16.2 +0.5**
LSD Ceresole Reale 82.45 315 P **P 15 48 16.5 +0.6**
MVIF Mont Vial 82.49 313 *eP* **P 15 48 19.6 +3.4**
PZZ Prazzo 82.51 314 P **P 15 48 16.3 0.0**
FENE Fenestrelle 82.52 315 P **P 15 48 15.8 -0.5**
WTSB Winterswijk 82.57 322 *eP* **P 15 48 16.7 +0.3**
comp=Z,95nm,2.2s,mb5.4
LOMF Lomont 82.63 317 *eP* **P 15 48 19.2 +2.4**
CALN Calern 82.68 313 *eP* **P 15 48 18.1 +0.9**
RRL Cesana Torines 82.72 314 P **P 15 48 16.7 -0.6**
LPG La Plagne 82.73 315 *eP* **P 15 48 16.6 -0.8**
comp=Z,497nm,1.3s,mb6.1
LPG La Plagne 82.73 315 *eP* **P 15 48 16.6 -0.8**
LPG pmax pmax
comp=Z,249nm,1.3s,mb6.1
MBDF Montbardon 82.74 314 *eP* **P 15 48 14.8 -2.6**
comp=Z,170nm,1.0s,mb5.7
MBDF Montbardon 82.74 314 *eP* **P 15 48 14.8 -2.6**
MBDF pmax pmax
comp=Z,85nm,1.0s,mb5.7
OG01 Vacheresse 82.75 316 *eP* **P 15 48 16.4 -1.1**
BNI Bardonecchia 82.80 315 *eP* **P 15 48 17.9 +0.2**
BNI pmax pmax
comp=Z,26nm,0.9s,mb5.3
BNI Bardonecchia 82.80 315 *eP* **P 15 48 17.9 +0.2**
comp=Z,26nm,0.9s,mb5.3
HAU Haudompre 82.94 318 *eP* **P 15 48 17.0 -1.4**
comp=Z,315nm,1.4s,mb5.8
HAU *eR* 15 49 23.0
comp=Z,11μm,23.0s
HAU Haudompre 82.94 318 *eP* **P 15 48 17.0 -1.4**
HAU pmax pmax
comp=Z,158nm,1.4s,mb5.8
HAU MLR MLR
comp=Z,11μm,23.0s,MS6.2
WLF Walferdange 83.02 319 *eP* **P 15 48 17.8 -0.9**
WLF pmax pmax
comp=Z,147nm,1.4s,mb5.8
WLF Walferdange 83.02 319 *eP* **P 15 48 17.8 -1.0**
comp=Z,147nm,1.4s,mb5.8
HGN Heimansgroeve 83.13 320 *eP* **P 15 48 19.4 +0.1**
comp=Z,61nm,2.4s,mb5.2
HGN Heimansgroeve 83.13 320 *eS* S 15 58 42.6 +7.7
THEF They Montfort 83.17 318 *eP* **P 15 48 19.9 +0.3**
OG25 Le Caire 83.25 314 *eP* **P 15 48 20.1 +0.1**
SYO Syowa Base 83.54 197 ⇑P **P 15 48 23.0 +2.0**
SYO Syowa Base 83.54 197 ⇑PcP PcP 15 48 26.5 +0.9
SYO Syowa Base 83.54 197 ⇓sP sP 15 48 40.0 +3.3
OG05 Jujurieux 83.62 316 *eP* **P 15 48 24.2 +2.3**
OCF Saint Nazaire 83.79 314 *eP* **P 15 48 26.7 +3.9**
OG26 St.-Nazaire-De 83.79 314 *eP* **P 15 48 26.7 +3.9**
BAIF Baives 84.26 320 *eP* **P 15 48 24.2 -0.9**
comp=Z,277nm,1.4s,mb5.9
BAIF Baives 84.26 320 *eP* **P 15 48 24.2 -0.9**
BAIF pmax pmax
comp=Z,139nm,1.4s,mb5.9
PLDF La Plantade 84.90 316 *eP* **P 15 48 29.9 +1.6**
SSF Saint Saulge 84.91 317 *eP* **P 15 48 27.4 -0.9**
SSF pmax pmax
comp=Z,187nm,1.7s,mb5.9
SSF Saint Saulge 84.91 317 *eP* **P 15 48 27.4 -0.9**
comp=Z,186nm,1.7s,mb5.9
LBL Lubilhac 85.21 315 *eP* **P 15 48 31.8 +1.9**
AGO Saint Agoulin 85.23 316 *eP* **P 15 48 31.3 +1.3**
PYM Petit Puy Mans 85.34 315 *eP* **P 15 48 35.1 +4.6**
BGF Bois d'Agland 85.39 316 *eP* **P 15 48 30.0 -0.8**
comp=Z,374nm,1.4s,mb6.0
BGF Bois d'Agland 85.39 316 *eP* **P 15 48 30.0 -0.8**
BGF pmax pmax
comp=Z,187nm,1.4s,mb6.0
EJON La Jonquera 85.68 312 P pP 15 48 42.6 -1.4
comp=Z,20nm,1.1s
FILF Fillols 85.91 312 *eP* pP 15 48 41.4 -3.7
QRZ Quartz Range 86.41 132 *eP* **P 15 48 36.9 +1.0**
RJF Les Rejaudoux 86.42 315 *eP* **P 15 48 35.5 -0.3**
comp=Z,436nm,1.6s,mb6.1
RJF *eR* 15 49 23.0
comp=Z,5μm,22.0s
RJF Les Rejaudoux 86.42 315 *eP* **P 15 48 35.5 -0.3**
RJF pmax pmax
comp=Z,218nm,1.6s,mb6.1
RJF MLR MLR
comp=Z,5μm,22.0s,MS5.9
LTZ Lake Taylor 86.61 134 *eP* **P 15 48 37.5 +0.7**
EMIR Miracle 86.74 312 P **P 15 48 42.1 +4.6**
comp=Z,23nm,0.8s,mb5.5
THZ Tophouse 86.87 132 *eP* **P 15 48 38.3 +0.2**
MIDW Midway 86.93 62 PFAKE 15 48 50.0 +11
MIDW LR LR
comp=Z,9μm,20.0s,MS6.2
KTG1 Tilbrook Grang 86.97 322 *eP* **P 15 48 36.2 -2.1**
EPOB Poblet 87.13 311 P **P 15 48 44.1 +4.7**
comp=Z,41nm,1.1s,mb5.6
EIBI Ibiza 87.16 309 P **P 15 48 41.8 +2.2**
comp=Z,53nm,2.1s,mb5.4
LCP Cassop 87.32 325 *eP* **P 15 48 41.8 +1.8**
FLN La Foliniere 87.42 319 *eP* **P 15 48 39.5 -1.1**
comp=Z,199nm,1.5s,mb5.8
FLN *eR* 15 49 23.0
comp=Z,6μm,21.8s
FLN La Foliniere 87.42 319 *eP* **P 15 48 39.5 -1.1**
FLN pmax pmax
comp=Z,100nm,1.5s,mb5.8
FLN MLR MLR
comp=Z,6μm,21.8s,MS5.9
KBI1 Birley Grange 87.54 323 *eP* **P 15 48 40.2 -0.9**
EGRA Graus 87.60 312 P **P 15 48 45.1 +3.5**
comp=Z,67nm,1.5s,mb5.7
EBR Ebro Roquetas 87.62 311 *eP* **P 15 48 39.7 -2.1**
EBIE Bielsa 87.68 313 P **P 15 48 45.7 +3.7**
comp=Z,21nm,1.0s,mb5.3
JMIC Jan Mayen 87.72 341 AMS AMS 16 31 55.6
comp=Z,8μm,19.4s,MS6.1
ERTA Horta de San J 87.73 311 P **P 15 48 46.5 +4.2**
comp=Z,30nm,1.1s,mb5.4
KWE Weaver Farm 87.76 323 *eP* **P 15 48 40.5 -1.6**
EDI Edinburgh 88.13 326 *eP* **P 15 48 44.1 +0.3**
ETSF Etsaut 88.17 313 *eP* **P 15 48 42.8 -1.5**
comp=Z,128nm,1.2s,mb5.7
ETSF Etsaut 88.17 313 *eP* **P 15 48 42.8 -1.5**
ETSF pmax pmax
comp=Z,64nm,1.2s,mb5.7
ESK Eskdalemuir 88.23 325 PFAKE 15 49 00.0 +16
ESK LR LR
comp=Z,3μm,20.0s,MS5.7
ESK Eskdalemuir 88.23 325 *eP* **P 15 48 45.3 +1.0**
EMOS Mosqueruela 88.40 310 P **P 15 48 48.9 +3.4**
comp=Z,32nm,1.0s,mb5.5
EBEN Beniarda 88.41 309 P **P 15 48 48.0 +2.4**
comp=Z,35nm,2.5s,mb5.2
DAG Danmarks Havn 88.68 348 *eP* **P 15 48 44.0 -2.1**
DAG pmax pmax
comp=Z,15nm,0.8s,mb5.4
DAG Danmarks Havn 88.68 348 *eP* **P 15 48 44.0 -2.1**
comp=Z,15nm,0.8s,mb5.4
DAG Danmarks Havn 88.68 348 *i* P **P 15 48 44.0 -2.1**
comp=Z,15nm,0.8s,mb5.4
CART Cartagena 89.16 308 *eP* **P 15 48 49.0 -0.2**
comp=Z,116nm,1.5s,mb6.0
EMUR La Murta 89.31 308 P **P 15 48 53.3 +3.4**
comp=Z,21nm,1.2s,mb5.3
ANM Nome 89.40 25 *eP* **P 15 48 51.8 +2.1**
EVIA Vianos 90.19 309 P **P 15 48 57.4 +3.4**
EVIA pmax pmax
comp=Z,66nm,1.4s,mb5.8
EVIA Vianos 90.19 309 P **P 15 48 57.4 +3.4**
comp=Z,66nm,1.4s,mb5.8
ENIJ Nijar 90.19 307 P **P 15 48 57.3 +3.2**
ENIJ pmax pmax
comp=Z,128nm,1.7s,mb6.0
ENIJ Nijar 90.19 307 P **P 15 48 57.3 +3.2**
comp=Z,128nm,1.7s,mb6.0
EBER Berja 90.74 307 P **P 15 48 58.8 +2.1**
comp=Z,30nm,1.0s,mb5.6
EQES Quesada 90.75 308 P **P 15 49 00.2 +3.5**
comp=Z,16nm,1.5s,mb5.1
GUD Guadarrama 91.14 311 P **P 15 49 00.7 +2.3**
GUD pmax pmax
comp=Z,14nm,0.8s,mb5.3
GUD Guadarrama 91.14 311 P **P 15 49 00.7 +2.2**
comp=Z,14nm,0.8s,mb5.3
ESDC Sonseca Array 91.16 310 P **P 15 49 00.0 +1.5**
comp=Z,10nm,1.7s,mb4.9
ESLA Sonseca Array 91.16 310 *eP* **P 15 48 58.9 +0.4**
comp=Z,24nm,1.4s,mb5.3
ESLA LR LR
comp=Z,22μm,19.0s,MS6.6
UNV Unalaska Valle 91.23 36 PFAKE 15 49 10.0 +11
UNV LR LR
comp=Z,16μm,20.0s,MS6.5
ERON Agron 91.45 307 P pP 15 49 10.2 -1.6
comp=Z,28nm,1.7s
EARI Arriondas 91.48 314 P sP 15 49 14.8 -0.9
VNDA Vanda 91.70 168 *eP* **P 15 48 59.5 -0.7**
VNDA pmax pmax
comp=Z,70nm,1.7s
VNDA MLR MLR
comp=Z,11μm,19.0s
VNDA Vanda 91.70 168 *eP* **P 15 48 59.5 -0.8**
comp=Z,70nm,1.7s,mb5.7
VNDA LR LR
comp=Z,11μm,19.0s,MS6.3
EADA Adamuz 91.87 309 P **P 15 49 02.4 +0.5**
comp=Z,20nm,1.2s,mb5.3
EMIJ Mijas 92.29 307 P **P 15 49 04.8 +1.0**
comp=Z,15nm,1.2s,mb5.2
RAO Raoul Island 92.46 119 PFAKE 15 49 20.0 +15
RAO LR LR
comp=Z,11μm,19.0s,MS6.3
SBA Scott Base 92.81 168 PFAKE 15 49 20.0 +15
SBA LR LR
comp=Z,9μm,20.0s,MS6.2
ECAL Calabor 92.83 313 P pP 15 49 16.7 -1.3
comp=Z,40nm,1.5s
NVL N'lazarevskaya 92.95 199⇓ *eP* **P 15 49 10.0 +4.0**
NVL *eS* 15 59 35.0
NVL pmax pmax
comp=Z,460nm,1.7s,mb6.6
ESPR Espera 93.09 307 P **P 15 49 10.8 +3.3**
comp=Z,15nm,1.3s,mb5.3
EINC Incio 93.14 313 P pP 15 49 15.8 -3.6
comp=Z,22nm,1.1s
SFS San Fernando 93.44 307 P **P 15 49 00.2 -8.9**
IMA Indian Mountai 93.56 22 *eP* **P 15 49 10.1 +1.2**
IMA pmax pmax
comp=Z,760nm,1.8s,mb6.8
IMA Indian Mountai 93.56 22 *eP* **P 15 49 11.2 +2.3**
comp=Z,34nm,1.1s,mb5.7
EMIN Mina Concepcio 93.57 308 P **P 15 49 11.9 +2.3**
comp=Z,11nm,1.6s,mb5.0
EBAD Badajoz 93.65 309 P pP 15 49 18.8 -3.0
comp=Z,7.8nm,0.9s
MTE Manteigas 93.73 311 P **P 15 49 11.0 +0.8**
comp=Z,33nm,1.2s,mb5.6
BORG Borgarnes 94.31 337 PFAKE 15 49 20.0 +7.7
BORG LR LR
comp=Z,4μm,22.0s,MS5.8
EVO Evora 94.46 309 *eP* **P 15 49 10.9 -2.7**
comp=Z,54nm,1.5s,mb5.5
EVO *eR* 15 49 23.0
comp=Z,9μm,22.2s
SUMG Summit 95.33 347 *eP* **P 15 49 18.4 +1.6**
RSO Redoubt South 96.26 27 *eP* **P 15 49 24.1 +2.9**
COLA College 96.27 22 P **P 15 49 21.6 +0.4**
COLA pmax pmax
comp=Z,21nm,1.3s,mb5.4
COLA MLR MLR
comp=Z,6μm,19.0s,MS6.1
COLA College 96.27 22 P **P 15 49 21.6 +0.4**
comp=Z,21nm,1.3s,mb5.4
COLA LR LR
comp=Z,6μm,19.0s,MS6.1
MCK McKinley 96.41 23 *eP* **P 15 49 21.7 -0.2**
MCK pmax pmax
comp=Z,36nm,1.7s,mb5.5
MCK MLR MLR
comp=Z,5μm,20.0s,MS6.0
MCK McKinley 96.41 23 *eP* **P 15 49 21.7 -0.1**
comp=Z,36nm,1.7s,mb5.5
MCK LR LR
comp=Z,5μm,20.0s,MS6.0
AFI Afiamalu 96.78 103 PFAKE 15 49 40.0 +15
AFI LR LR
comp=Z,6μm,22.0s,MS6.0
DBIC Dimbokro 96.79 277 *eP* **P 15 49 24.9 +0.1**
DBIC pmax pmax
comp=Z,27nm,1.4s
DBIC MLR MLR
comp=Z,9μm,20.0s
DBIC Dimbokro 96.79 277 *eP* **P 15 49 24.9 +0.1**
comp=Z,27nm,1.4s,mb5.5
DBIC LR LR
comp=Z,9μm,20.0s,MS6.2
PWA Palmer West 97.00 25 *eP* **P 15 49 27.5 +2.9**
PWA pmax pmax
comp=Z,41nm,1.2s,mb5.7
PWA Palmer West 97.00 25 *eP* **P 15 49 27.5 +2.9**
comp=Z,41nm,1.2s,mb5.7
FIB Fire Island 97.09 26 PFAKE 15 49 40.0 +15
FIB LR LR
comp=Z,3μm,19.0s,MS5.8
SLKM Skilak Lake 97.37 26 P **P 15 49 26.2 -0.1**
KDAK Kodiak Island 97.45 29 P **P 15 49 29.2 +2.5**
KDAK LR LR
comp=Z,2μm,22.0s,MS5.6
SML Sawmill 97.57 25 *eP* **P 15 49 26.7 -0.5**
SNAA Sanae 97.73 199 *i* P **P 15 49 30.7 +2.9**
THY Trims Highway 97.80 23 P **P 15 49 29.4 +1.2**
DIV Divide 98.98 25 PFAKE 15 49 50.0 +16
DIV LR LR
comp=Z,20μm,21.0s,MS6.6
KIP Kipapa 105.38 66 PFAKE 15 54 30.0
KIP LR LR

comp=Z,7μm,21.0s,MS6.2
SIT Sitka 105.73 25 PFAKE 15 54 30.0
SIT LR LR
comp=Z,10μm,19.0s,MS6.4
TRIS Tristan da Cun 105.81 233 PFAKE 15 54 30.0
TRIS LR LR
comp=Z,7μm,19.0s,MS6.2
RAR Rarotonga 108.53 110 PFAKE 15 54 30.0
RAR LR LR
comp=Z,5μm,21.0s,MS6.1
SCHQ Schefferville 116.72 347 PFAKE 15 54 50.0 +14
SCHQ LR LR
comp=Z,11μm,22.0s,MS6.4
OCWA Octopus Mounta 117.09 27 PFAKE 15 54 50.0 +13
OCWA LR LR
comp=Z,5μm,22.0s,MS6.1
PMSA Palmer Station 119.38 191 PFAKE 15 54 50.0 +8.8
PMSA LR LR
comp=Z,6μm,20.0s,MS6.2
NEW Newport 119.63 23 *e*PKIKP PKPdf 15 54 44.0 +1.9
NEW MLR MLR
comp=Z,7μm,21.0s
COR Corvallis 119.84 29 PFAKE 15 55 00.0 +17
COR LR LR
comp=Z,1μm,21.0s,MS5.5
HUMO Hull Mountain 121.46 30 *e*PKP PKPdf 15 54 48.7 +2.9
HUMO LR LR
comp=Z,4μm,19.0s,MS6.1
MSO Missoula 122.01 21 *e*PKP PKPdf 15 54 47.9 +1.2
MSO LR LR
comp=Z,5μm,20.0s,MS6.1
YBH Yreka Blue Hor 122.23 31 PFAKE 15 55 00.0 +13
YBH LR LR
comp=Z,4μm,20.0s,MS6.1
BMO Blue Mountains 122.34 25 *e*PKIKP PKPdf 15 54 48.7 +1.3
BMO MLR MLR
comp=Z,6μm,22.0s,MS6.2
HRY Holter Researc 122.85 20 *e*PKP PKPdf 15 54 50.0 +1.6
WDC Whiskeytown Da 123.15 32 *e*PKIKP PKPdf 15 54 50.5 +1.4
WDC MLR MLR
comp=Z,5μm,21.0s,MS6.2
MOD Modoc 123.30 29 *e*PKP PKPdf 15 54 51.5 +2.1
MOD LR LR
comp=Z,5μm,19.0s,MS6.2
DGMT Dagmar 123.44 13 *e*PKP PKPdf 15 54 51.1 +1.6
DGMT LR LR
comp=Z,9μm,20.0s,MS6.4
WVOR Wild Horse Val 123.67 28 *e*PKIKP PKPdf 15 54 52.7 +2.6
WVOR MLR MLR
comp=Z,8μm,22.0s,MS6.3
BOZ Bozeman (W) 123.85 20 *e*PKIKP PKPdf 15 54 52.6 +2.3
BOZ MLR MLR
comp=Z,9μm,20.0s,MS6.4
HOPS Hopland 124.01 33 PFAKE 15 55 00.0 +9.2
HOPS LR LR
comp=Z,5μm,22.0s,MS6.1
GCMT Greycliff 124.38 19 *e*PKP PKPdf 15 54 53.7 +2.4
PQI Presque Isle 124.53 344 PFAKE 15 55 00.0 +8.4
PQI LR LR
comp=Z,33μm,21.0s,MS7.0
LAO LASA Array 124.58 16 *e*PKP PKPdf 15 54 54.6 +2.9
LAO LR LR
comp=Z,7μm,20.0s,MS6.3
OHCM Honcut 124.62 32 *e*PKP PKPdf 15 54 53.8 +1.8
YMR Madison River 124.93 20 *e*PKP PKPdf 15 54 55.0 +2.6
YNR Norris Junctio 124.99 20 *e*PKP PKPdf 15 54 55.5 +2.9
YFT Old Faithful 125.17 21 *e*PKP PKPdf 15 54 56.6 +3.7
LKWY Lake 125.22 20 PFAKE 15 55 10.0 +17
LKWY LR LR
comp=Z,13μm,21.0s,MS6.6
WCN Washoe City 125.54 31 *e*PKIKP PKPdf 15 54 55.5 +1.8
IMW Indian Meadow 125.61 21 *e*PKP PKPdf 15 54 56.2 +2.4
MOOW Moose Ponds 125.81 21 *e*PKP PKPdf 15 54 56.5 +2.4
EYMN Ely 125.83 4 PKPdf PKPdf 15 54 55.1 +1.1
EYMN LR LR
comp=Z,9μm,20.0s,MS6.5
BMN Battle Mountai 125.91 28 *e*PKIKP PKPdf 15 54 56.9 +2.5
BMN MLR MLR
comp=Z,5μm,19.0s,MS6.2
TPAW Teton Pass 125.96 21 *e*PKP PKPdf 15 54 56.5 +2.1
LOHW Long Hollow 125.98 21 *e*PKP PKPdf 15 54 56.7 +2.3
WUWY Wally Ulrich 125.99 21 *e*PKP PKPdf 15 54 56.8 +2.3
SNOW Snow King Moun 126.06 21 *e*PKP PKPdf 15 54 57.5 +2.9
CMB Columbia Colle 126.16 32 *e*PKIKP PKPdf 15 54 56.5 +1.5
CMB MLR MLR
comp=Z,3μm,21.0s,MS5.9
SAO San Andreas Ge 126.50 34 *e*PKIKP PKPdf 15 54 57.2 +1.5
SAO MLR MLR
comp=Z,4μm,21.0s,MS6.1
AHID Auburn Hatcher 126.54 22 PFAKE 15 55 10.0 +14
AHID LR LR
comp=Z,7μm,20.0s,MS6.3
HVU Hansel Valley 126.73 24 *e*PKIKP PKPdf 15 54 57.6 +1.6
WVL Waterville 126.92 344 PFAKE 15 55 10.0 +14
WVL LR LR
comp=Z,18μm,19.0s,MS6.8
LRV Little Rabbit 126.99 34 *e*PKP PKPdf 15 55 00.1 +3.5
MNV Mina 127.01 30 *e*PKIKP PKPdf 15 54 59.2 +2.5
MNV MLR MLR
comp=Z,5μm,21.0s,MS6.2
BW06 Boulder Array 127.09 21 *e*PKP PKPdf 15 54 58.0 +1.3
BW06 LR LR
comp=Z,10μm,20.0s,MS6.5
OMM Old Mammoth Mi 127.20 32 *e*PKP PKPdf 15 54 58.6 +1.5
BGU Big Grassy Mou 127.35 25 *e*PKP PKPdf 15 54 59.1 +1.9
HWUT Hardware Ranch 127.36 23 *e*PKP PKPdf 15 54 59.0 +1.8
HWUT LR LR
comp=Z,11μm,22.0s,MS6.5
MTUM Tungsten Hills 127.62 32 *e*PKP PKPdf 15 55 01.1 +3.3
TPH Tonopah 127.75 30 *e*PKIKP PKPdf 15 55 00.2 +2.1
TPH MLR MLR
comp=Z,5μm,19.0s,MS6.2
TCUT Toone Canyon 127.84 23 *e*PKP PKPdf 15 54 59.9 +1.7
NOQ North Oquirrh 127.95 24 *e*PKP PKPdf 15 55 00.0 +1.6
JLU Jordanelle 128.26 23 *e*PKP PKPdf 15 55 01.1 +2.2
TRCR Troy Canyon 128.33 28 *e*PKP PKPdf 15 55 01.8 +2.6
NLU North Lily Min 128.56 24 *e*PKP PKPdf 15 55 01.9 +2.3
NCB Newcomb 128.57 348 PFAKE 15 55 10.0 +11
NCB LR LR
comp=Z,6μm,20.0s,MS6.3
MPU Maple Canyon 128.69 24 *e*PKP PKPdf 15 55 01.0 +1.2
RWWY Rawlins 128.84 19 *e*PKP PKPdf 15 55 01.5 +1.4
DAC Darwin (Calif) 128.94 32 *e*PKIKP PKPdf 15 55 02.8 +2.4
DAC MLR MLR
comp=Z,4μm,20.0s,MS6.1
RCBR Riachuelo 128.96 268 PFAKE 15 55 10.0 +9.0
RCBR LR LR
comp=Z,17μm,19.0s,MS6.7
HRV Harvard--Oak R 129.34 345 PFAKE 15 55 10.0 +9.0
HRV LR LR
comp=Z,4μm,19.0s,MS6.2
WES Weston 129.39 345 PFAKE 15 55 10.0 +8.9
WES LR LR
comp=Z,8μm,20.0s,MS6.4
TMUT Trail Mountain 129.47 24 *e*PKP PKPdf 15 55 03.4 +2.1
MVU Marysvale 129.72 26 *e*PKP PKPdf 15 55 04.9 +3.0
MVU LR LR
comp=Z,6μm,21.0s,MS6.2
MSU Marysvale 129.73 25 *e*PKIKP PKPdf 15 55 05.2 +3.4
PHWY Pilot Hill 129.74 18 *e*PKP PKPdf 15 55 04.1 +2.3
SRU San Rafael 129.91 24 *e*PKIKP PKPdf 15 55 04.5 +2.3
MWC Mount Wilson 130.24 34 *e*PKIKP PKPdf 15 55 05.7 +2.8
BINY Binghamton 130.62 349 PFAKE 15 55 20.0 +17
BINY LR LR
comp=Z,6μm,21.0s,MS6.2
NEN Nelson 130.83 30 *e*PKPdf PKPdf 15 55 07.3 +3.3
JFWS Jewell Farm 130.91 3 PFAKE 15 55 20.0 +16
JFWS LR LR
comp=Z,6μm,20.0s,MS6.3
ISCO Idaho Springs 131.06 19 *e*PKIKP PKPdf 15 55 06.5 +2.2
ISCO MLR MLR
comp=Z,8μm,20.0s,MS6.4
PV10 Paradox Valley 131.12 23 *e*PKP PKPdf 15 55 06.8 +2.4
LDFC Landfair 131.15 31 *e*PKP PKPdf 15 55 07.7 +3.1
ERPA Erie 131.33 353 PFAKE 15 55 20.0 +15
ERPA LR LR
comp=Z,8μm,22.0s,MS6.4
AAM Ann Arbor 131.49 356 PFAKE 15 55 20.0 +15
AAM LR LR
comp=Z,8μm,21.0s,MS6.4
PV01 Paradox Valley 131.51 23 *e*PKP PKPdf 15 55 05.0 -0.2
RW3 Ridgway 131.74 22 PKIKP PKPdf 15 55 11.5 +5.8
RW3 Ridgway 131.74 22 PKPdf PKPdf 15 55 08.0 +2.4
BAR Barrett 132.16 34 *e*PKPdf PKPdf 15 55 07.9 +1.3
SSPA Standing Stone 132.48 350 PFAKE 15 55 20.0 +13
SSPA LR LR
comp=Z,1μm,22.0s,MS5.6
SDCO Great Sand Dun 132.96 20 *e*PKPdf PKPdf 15 55 10.4 +2.4
SDCO LR LR
comp=Z,8μm,20.0s,MS6.4
ACSO Alum Creek Sta 133.50 356 *e*PKPdf PKPdf 15 55 09.9 +1.0
ACSO LR LR
comp=Z,8μm,22.0s,MS6.4
MCWV Mont Chateau 133.74 352 PFAKE 15 55 20.0 +11
MCWV LR LR
comp=Z,9μm,21.0s,MS6.5
KSU1 Kansas State U 133.97 10 *e*PKPdf PKPdf 15 55 12.1 +2.2
BLO Bloomington 134.72 359 PKIKP PKPdf 15 55 14.0 +2.8
CBN Corbin 134.75 349 PFAKE 15 55 20.0 +8.7
CBN LR LR
comp=Z,7μm,19.0s,MS6.4
ANMO Albuquerque 135.12 23 *e*PKIKP PKPdf 15 55 14.5 +2.4
ANMO MLR MLR
comp=Z,7μm,20.0s
LAZ Ladron 135.33 24 *e*PKPdf PKPdf 15 55 15.6 +3.1
TUC Tucson 135.51 29 *e*PKIKP PKPdf 15 55 15.1 +2.3
TUC MLR MLR
comp=Z,4μm,20.0s,MS6.2
LENM Lemitar 135.61 24 *e*PKPdf PKPdf 15 55 16.3 +3.3
LPM Los Pinos Moun 135.61 23 *e*PKPdf PKPdf 15 55 16.3 +3.3
WCI Wyandotte Cave 135.66 359 PKIKP PKPdf 15 55 14.7 +1.8
WCI MLR MLR
comp=Z,2μm,22.0s,MS5.8
CCM Cathedral Cave 135.69 5 *e*PKIKP PKPdf 15 55 14.6 +1.6
CCM MLR MLR
comp=Z,2μm,21.0s,MS5.9
BNM Barren Site 135.76 23 PKPdf PKPdf 15 55 15.0 +1.7
BBSR BB Station 135.93 332 PFAKE 15 55 30.0 +16
BBSR LR LR
comp=Z,6μm,21.0s,MS6.3
BLA Blacksburg 136.22 352 PFAKE 15 55 30.0 +16
BLA LR LR
comp=Z,9μm,20.0s,MS6.5
ELN Prospectdale 136.25 353 PKPdf PKPdf 15 55 15.6 +1.6
AMTX Amarillo 136.80 17 PFAKE 15 55 30.0 +15
AMTX LR LR
comp=Z,9μm,22.0s,MS6.5
UTMT University of 137.53 2 PKPdf PKPdf 15 55 17.5 +1.0
WMOK Wichita Mounta 137.72 14 *e*PKHKP 15 55 06.7
WMOK MLR MLR
comp=Z,7μm,22.0s,MS6.3
WVT Waverly 137.76 1 PKIKP PKPdf 15 55 15.1 -1.8
WVT Waverly 137.76 1 *e*PKPpre 15 55 10.5
WVT LR LR
comp=Z,8μm,22.0s,MS6.4
CPRX Cap Rock 137.79 21 PKPpre 15 55 12.7
HALT Halls 137.94 3 *e*PKPdf PKPdf 15 55 18.9 +1.7
HBAR Harrisburg 138.22 4 PKP PKPdf 15 55 15.6 -2.1
GDL2 Guadalupe Moun 138.35 22 *e*PKPdf PKPdf 15 55 20.3 +2.2
CPCT Cooper Cave 138.37 357 *e*PKPdf PKPdf 15 55 20.6 +2.6
MNTX Cornudas Mount 138.41 24 *e*PKPpre 15 55 12.1
MNTX LR LR
comp=Z,10μm,20.0s,MS6.5
UALR University of 138.83 6 PKPdf PKPdf 15 55 20.9 +2.0
PLAL Pickwick Lake 138.90 1 *e*PKPdf PKPdf 15 55 19.7 +0.7
MIAR Mount Ida 138.91 8 *e*PKHKP 15 55 10.9
MIAR *e* 15 55 20.7
MIAR MLR MLR
comp=Z,10μm,20.0s,MS6.6
OXF Oxford 139.33 3 *e*PKIKP PKPdf 15 55 22.0 +2.2
OXF MLR MLR
comp=Z,8μm,22.0s,MS6.4
NHSC New Hope 140.21 351 PFAKE 15 55 30.0 +8.6
NHSC LR LR
comp=Z,8μm,22.0s,MS6.4
GOGA Godfrey 140.31 355 *e*PKIKP PKPdf 15 55 19.5 -2.1
GOGA MLR MLR
comp=Z,7μm,22.0s,MS6.4
LPA La Plata 140.78 220 *ce*PKP PKPdf 15 55 23.0 +0.6
LPA *e*PP PP 15 58 27.0 +0.4
LPA *e*PKS PKS 15 59 01.0 +3.7
comp=Z,8μm,18.0s
LRAL Lakeview Retre 140.85 360 *e*PKPdf PKPdf 15 55 24.0 +1.4
LRAL LR LR
comp=Z,10μm,21.0s,MS6.5
TRQA Tornquist 140.97 212 *e*PKP PKPdf 15 55 24.5 +1.9
TRQA LR LR
comp=Z,11μm,20.0s,MS6.6
LTX Lajitas 141.18 23 *e*PKIKP PKPdf 15 55 24.1 +0.8
LTX MLR MLR
comp=Z,9μm,22.0s,MS6.5
NATX Nacogdoches 141.47 10 *e*PKPpre 15 55 19.6
NATX LR LR
comp=Z,10μm,20.0s,MS6.6
JCT Junction City 141.47 18 *e*PKIKP PKPdf 15 55 20.5 -3.3
JCT MLR MLR
comp=Z,9μm,20.0s,MS6.5
HKT Hockley 143.00 12 *e*PKIKP PKPdf 15 55 24.0 -2.4
HKT MLR MLR
comp=Z,2μm,21.0s,MS5.9
DWPF Disney 145.31 351 PFAKE 15 55 40.0 +10
DWPF LR LR
comp=Z,2μm,20.0s,MS5.9
SJG San Juan 148.01 320 PFAKE 15 55 50.0 +15
SJG LR LR
comp=Z,7μm,22.0s,MS6.4
MDZ Mendoza 148.52 211 *e*PKP2 PKPab 15 55 40.6 -4.3
TRN Trinidad (W) 149.24 303 *e*P PKPdf 15 55 42.5 +5.2
RPN Rapa Nui 150.52 137 PFAKE 15 55 50.0 +11
RPN LR LR
comp=Z,1μm,22.0s,MS5.7
TEIG Tepich 153.59 2 *e*PKPdf PKPdf 15 55 45.0 +1.5
TEIG *e*PKPbc PKPdf 15 55 53.7 +10
TEIG LR LR
comp=Z,3μm,22.0s,MS6.1
LVC Limon Verde 156.03 226 PKPdf PKPdf 15 55 50.2 +3.5
LVC LR LR
comp=Z,6μm,21.0s,MS6.4
SDV Santo Domingo 157.58 312 *e*PKPdf PKPdf 15 55 51.4 +2.3
SDV *e* 15 56 00.6
SDV LR LR
comp=Z,8μm,20.0s,MS6.6
LPAZ La Paz 158.83 241 *e*PKIKP PKPdf 15 55 52.9 +2.4
LPAZ *e* 15 56 07.0
LPAZ MLR MLR
comp=Z,9μm,19.0s
NNA Nana 168.30 241 PFAKE 15 56 10.0 +11
NNA LR LR
comp=Z,2μm,19.0s
OTAV Otavalo 169.07 306 *e*PKPdf PKPdf 15 56 02.9 +3.1
OTAV LR LR
comp=Z,10μm,22.0s

NEIC ***02*** *15:55:02.9±0.8, 3.56N×92.75E, h30km, mb4.5/8, Error ellipse: s-maj=16.9km s-min=15.0km az=205.0*
BJI ***02*** *15:55:03.2, 3.27N×92.53E, h52km, mb4.8*
ISC 02 15:55:00.9±0.8, 3.6N±0.1×92.8E±0.1, h30km, n12, σ1§21/13, mb4.5/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.55**	**288**	*e*P	**P**	**15 57 58.0**	**-2.6**
PALK				*e*S	**S**	**16 00 05.6**	**-15**
CM31	**Chiang Mai Arr**	**16.01**	**22**	*e*P	**P**	**15 58 44.8**	**-1.0**
	8.2nm,0.5s						
LSA	**Lhasa**	**26.05**	**357**	*e*P	**P**	**16 00 36.4**	**+2.8**
LSA	**Lhasa**	**26.05**	**357**	*e*P	**P**	**16 00 36.1**	**+2.5**
	23nm,0.6s,mb4.9						
ENH	**Enshi**	**30.93**	**29**	*e*P	**P**	**16 01 16.8**	**-0.8**
	7.4nm,0.7s,mb4.6						
AAK	**Ala-Archa**	**42.18**	**340**	*e*P	**P**	**16 02 53.3**	**+0.6**
	6.6nm,1.1s,mb4.2						
WRAB	**Tennant Creek**	**47.05**	**121**	*e*P	**P**	**16 03 31.7**	**-0.3**
	6.1nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**58.23**	**131**	*e*P	**P**	**16 04 54.8**	**-0.3**
	7.9nm,1.9s,mb4.4						
MALT	**Malatya**	**60.27**	**313**	*e*P	**P**	**16 05 10.2**	**+1.0**
	3.8nm,0.8s,mb4.5						
LBTB	**Lobatse**	**70.99**	**242**	*e*P	**P**	**16 06 18.9**	**+0.7**
	3.2nm,0.7s,mb4.4						
KHC	**Kasperske Hory**	**80.24**	**319**	*e*P	**P**	**16 07 10.5**	**+0.2**
CLL	**Collm**	**80.83**	**321**	P	**P**	**16 07 17.0**	**+3.6**

BJI ***02*** *16:01:21.9, 2.16N×95.96E, h50km, mb5.2*
NEIC ***02*** *16:01:23.9±1.4, 2.49N×95.78E, h30km, mb4.8/5, Error ellipse: s-maj=40.9km s-min=17.1km az=63.0*

ISC 02 16:01:24.4±1.1, 2.7N±0.2×96.2E±0.2, h33km, n18, σ0§88/17, mb4.9/7, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**15.86**	**10**	*e*P	**P**	**16 05 11.0**	**+4.0**
	14nm,0.8s						
QIZ	**Qiongzhong**	**20.99**	**39**	*e*P	**P**	**16 06 08.6**	**+1.1**
LSA	**Lhasa**	**27.25**	**350**	*e*P	**P**	**16 07 08.2**	**+0.4**
	21nm,0.8s,mb4.7						
ENH	**Enshi**	**30.15**	**23**	*e*P	**P**	**16 07 33.2**	**-0.5**
	17nm,0.6s,mb5.0						
ENH				*e*		16 07 40.4	
WHN	**Wuhan**	**32.56**	**30**	*e*P	**P**	**16 07 53.8**	**-1.2**
WMQ	**Urumqi**	**41.61**	**351**	P	**P**	**16 09 11.6**	**+0.5**
WRAB	**Tennant Creek**	**43.69**	**123**	*e*P	**P**	**16 09 28.6**	**+0.1**
	10nm,0.5s,mb4.8						
UCH	**Uchtor**	**43.86**	**337**	P	**P**	**16 09 29.9**	**+0.4**
	SNR=6.9						
KBK	**Karagaybulak**	**44.05**	**337**	P	**P**	**16 09 32.1**	**+1.1**
	SNR=10						
AML	**Almayashu**	**44.11**	**336**	P	**P**	**16 09 32.0**	**+0.5**
	SNR=7.8						
AAK	**Ala-Archa**	**44.21**	**337**	*e*P	**P**	**16 09 31.8**	**-0.6**
	145nm,2.5s,mb5.3						
EKS2	**Erkin-Say**	**44.52**	**336**	P	**P**	**16 09 35.2**	**+0.5**
	SNR=6.5						
USP	**Ospenovka**	**44.75**	**337**	P	**P**	**16 09 36.5**	**-0.1**
	SNR=11						
ULN	**Ulaanbaatar**	**45.93**	**10**	*e*P	**P**	**16 09 46.0**	**+0.1**
	5.1nm,0.6s,mb4.6						
CTA	**Charters Tower**	**54.08**	**117⇓**	*i*P	**P**	**16 10 49.2**	**+0.6**
	7.7nm,0.9s,mb4.6						
YAK	**Yakutsk**	**64.25**	**17**	*e*P	**P**	**16 11 56.7**	**-1.6**
	43nm,0.9s,mb5.5						
KAF	**Kangasniemi**	**78.28**	**333**	*e*p	**P**	**16 13 20.6**	**-1.9**
JCT	**Junction City**	**143.61**	**24**	*e*PKPpre	PKPdf	16 20 54.9	-1.7

MAN 02 16:18:58.4, 9.61N×126.43E, h53km, mb4.7, ML3.6, MS3.6, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.02**	**231**	*e*P	P	16 19 16.3	-0.4
MSLP	**Maasin**	**1.63**	**289**	*e*P	P	16 19 26.4	+1.1
MSLP				*e*S	S	16 19 50.2	+5.0
BUKP	**Musuan**	**2.19**	**218**	*e*P	P	16 19 32.9	-0.2
BUKP				*e*S	S	16 20 00.1	+1.1
BESP	**Borongan**	**2.20**	**334**	*e*P	P	16 19 32.0	-1.4
OCLP	**Ormoc**	**2.29**	**309**	*e*P	P	16 19 35.0	+0.4
LLP	**Lapu-Lapu**	**2.52**	**286**	*e*P	P	16 19 38.4	+0.4
LLP				*e*S	S	16 20 07.7	+0.1
TBP	**Tagbilaran**	**2.53**	**272⇑**	*e*P	P	16 19 38.0	-0.1
TBP				*e*S	S	16 20 08.1	+0.3
MATI	**Mati**	**2.65**	**184**	*e*P	P	16 19 40.3	+0.5
KCP	**Kidapawan**	**2.91**	**207⇓**	*e*P	P	16 19 43.4	0.0
KCP				*i*S	S	16 20 17.0	-0.3

BJI 02 18:08:25.3, 24.83N×100.41E, h19km, ML3.5, Yunnan

CSEM ***02*** *18:23:16.7, 2.18N×126.85E, h33km, mb5.6*
BJI ***02*** *18:23:16.7, 1.81N×126.85E, h52km, mB5.5, mb5.4, Ms4.8, Msz4.7*
MOS ***02*** *18:23:16.4±1.0, 2.25N×126.93E, h33km, mb5.6/17, Error ellipse: s-maj=22.5km s-min=8.8km az=111.0*
HRVD ***02*** *18:23:18.0±0.6, 2.39N×126.66E, h16km, MW5.2/36, Centroid moment Tensor Solution. LP body waves: s1,c1; Mantle waves: s36,c48; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.88±.43; $M_{\theta\theta}$2.23±.29; $M_{\phi\phi}$-0.35±.34; $M_{r\theta}$-6.63±.97; $M_{\theta\phi}$2.41±.22; $M_{\phi r}$0.59±1.20; Best double couple: $M_0$7.377×10^{16} NP1:ϕ_s204°, δ22°, λ-158°. NP2: ϕ_s93°, δ82°, λ-70°. Principal axes: T 7.451, Plg34°, Azm166°; N -.152, Plg20°, Azm270°; P -7.303, Plg49°, Azm24°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***02*** *18:23:18.0±2.6, 2.16N×126.74E, h32km± 18km, mb5.3/41 Error ellipse: s-maj=8.1km s-min=4.3km az=76.0*
DJA ***02*** *18:23:28.2±7.8, 3.41N×124.47E, h2km, mb5.7/4, Error ellipse: s-maj=250.1km s-min=29.1km az=75.0*
ISC 02 18:23:19.8±0.6, 2.14N±0.03×126.75E±0.05, h63km±5km, h35km±3.7km: pP-P, n188, σ1§04/181, mb5.5/69, 13C-21D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**4.80**	**354**	*e*P	**P**	**18 24 31.1**	**-0.1**
MATI				*e*S	**S**	**18 25 23.9**	**-2.2**
DAV	**Davao City (W)**	**5.03**	**347**	*e*P	**P**	**18 24 38.7**	**+4.2**
DAV	**Davao City (W)**	**5.03**	**347**	*i*S	**S**	**18 25 36.0**	**+4.0**
KCP	**Kidapawan**	**5.11**	**341⇓**	*e*P	**P**	**18 24 36.6**	**+1.0**
KCP				*i*S	**S**	**18 25 35.5**	**+1.6**
BUKP	**Musuan**	**5.94**	**344**	*e*P	**P**	**18 24 48.1**	**+1.1**
BUKP				*e*S	**S**	**18 25 53.4**	**-1.2**
PAGZ	**Pagadian**	**6.58**	**330**	*e*P	**P**	**18 24 54.5**	**-1.6**
BUTP	**Butuan**	**6.87**	**351**	*e*P	**P**	**18 25 00.8**	**+0.6**
IPIL	**Ipil**	**6.98**	**324**	*e*P	**P**	**18 25 01.6**	**-0.1**
DCPH	**Dipolog City**	**7.24**	**332⇓**	*e*P	**P**	**18 25 06.0**	**+0.9**
SCPH	**Surigao**	**7.69**	**351**	*e*P	**P**	**18 25 10.7**	**-0.7**
SCPH				*e*S	rx	18 25 29.6	
MSLP	**Maasin**	**8.16**	**347**	*e*P	**P**	**18 25 17.8**	**0.0**
LLP	**Lapu-Lapu**	**8.58**	**341**	*e*P	**P**	**18 25 24.1**	**+0.5**
BUNI	**Buntu Taipa**	**8.63**	**228⇑**	*e*P	**P**	**18 25 22.9**	**-1.4**
	253nm,0.3s						
OCLP	**Ormoc**	**9.10**	**347**	*e*P	**P**	**18 25 31.2**	**+0.5**
TANI	**Tanete Lipujan**	**9.21**	**233⇑**	*e*P	**P**	**18 25 33.9**	**+1.6**
	65nm,0.6s						
NINI	**Niniconang**	**9.56**	**227⇑**	*e*P	**P**	**18 25 37.7**	**+0.5**
PPR	**Puerto Princes**	**11.00**	**314**	*e*P	**P**	**18 25 57.7**	**+1.0**
BATP	**Bataraza**	**11.09**	**307**	*e*P	**P**	**18 25 59.2**	**+1.3**
OTRP	**Odiongan**	**11.18**	**335**	*e*P	**P**	**18 26 09.8**	**+11**
ENPP	**El Nido**	**11.57**	**321**	*e*P	**P**	**18 26 05.0**	**+0.6**
PVCP	**Virac**	**11.66**	**347**	*e*P	**P**	**18 26 06.6**	**+0.9**
BOAC	**Boac**	**12.25**	**337**	*e*P	**P**	**18 26 17.4**	**+4.0**
LUBP	**Lubang**	**13.19**	**331⇑**	*e*P	**P**	**18 26 27.7**	**+1.7**
POLP	**Polilio Island**	**13.38**	**339**	*e*P	**P**	**18 26 28.9**	**+0.6**
BALP	**Baler**	**14.44**	**340**	*e*P	**P**	**18 26 42.3**	**-0.1**
KEDI	**Kedomdong**	**14.96**	**225⇓**	*e*P	**P**	**18 26 56.0**	**+6.8**
	425nm,0.7s						
SCZP	**Santa Cruz**	**15.13**	**334**	*e*P	**P**	**18 26 48.7**	**-2.6**
CAUP	**Cauayan**	**15.48**	**342**	*e*P	**P**	**18 26 54.3**	**-1.5**
RATI	**Rata**	**15.54**	**226⇓**	*e*P	**P**	**18 27 02.7**	**+6.1**
KELI	**Kelakatan**	**15.98**	**230⇓**	*e*P	**P**	**18 27 08.7**	**+6.6**
SRDI	**Scrawed**	**16.41**	**230⇑**	*e*P	**P**	**18 27 12.9**	**+5.4**
ABRA	**Dolores**	**16.51**	**339**	*e*P	**P**	**18 27 08.3**	**-0.4**
APYP	**Conner**	**16.53**	**341**	*e*P	**P**	**18 27 08.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**20.15**	**183**	*e*P	**P**	**18 27 50.7**	**-0.7**
	53nm,0.7s						
PENI	**Pendagan**	**22.87**	**250**	*e*P	**P**	**18 28 17.4**	**-1.5**
	703nm,0.7s,mb5.9						
WRAB	**Tennant Creek**	**23.17**	**162**	*i*P	**P**	**18 28 21.4**	**-0.3**
WRAB	**Tennant Creek**	**23.17**	**162**	*e*P	**P**	**18 28 21.2**	**-0.5**
	150nm,0.6s,mb5.6						
WRAB				*e*S	**S**	**18 32 27.0**	**+2.1**
WRA	**Warramunga Arr**	**23.18**	**162**	*i*P	**P**	**18 28 21.3**	**-0.5**
WRA				pmax	pmax		
	comp=Z,50nm,0.6s						
WB2	**Warramunga Arr**	**23.18**	**162**	*e*P	**P**	**18 28 21.4**	**-0.4**
WB2				*e*S	**S**	**18 32 25.0**	**0.0**
PMG	**Port Moresby**	**23.35**	**120**	*e*P	**P**	**18 28 24.6**	**+1.1**
	comp=Z,27nm,0.9s,mb4.7						
QIZ	**Qiongzhong**	**23.57**	**317**	P	**P**	**18 28 26.1**	**+0.5**
QIZ				AP		18 28 38.1	
QIZ				*e*S	**S**	**18 32 35.2**	**+3.3**
QIZ				AMB	AMB		
	comp=Z,59nm,1.4s,mb4.8						
QIZ				LR	LR		
	comp=Z,934nm,19.1s						
QIZ	**Qiongzhong**	**23.57**	**317**	*e*P	**P**	**18 28 25.9**	**+0.3**
	comp=Z,34nm,0.8s,mb4.8						
QZH	**Quanzhou**	**24.00**	**342**	P	**P**	**18 28 29.8**	**+0.2**
QZH				S	**S**	**18 32 39.1**	**0.0**
QZH				LR	LR		
	comp=Z,4μm,27.5s						
MBWA	**Marble Bar**	**24.16**	**196**	*e*P	**P**	**18 28 31.8**	**+0.5**
	comp=Z,43nm,0.6s,mb5.0						
UBT	**Ubonrachathani**	**25.08**	**303**	P	**P**	**18 28 41.0**	**+0.8**
KKTK	**Khon Kaen**	**27.45**	**302**	P	**P**	**18 29 02.0**	**-0.1**
	comp=Z,802nm,0.9s,mb6.2						

CTA	**Charters Tower**	**29.23**	**140**	*e*P	**P**	**18 29 17.7**	**-0.3**
	comp=Z,12nm,0.7s,mb4.7						
CTAO	**Charters Tower**	**29.23**	**140**	*e*P	**P**	**18 29 17.4**	**-0.6**
	comp=Z,19nm,0.8s,mb4.9						
SSE	**Sheshan**	**29.27**	**350**	*e*P	**P**	**18 29 16.5**	**-1.8**
SSE				S	**S**	**18 34 08.4**	**+3.0**
SSE				AMB	AMB		
	comp=Z,34nm,1.4s,mb4.9						
SSE				AMB	AMB		
	comp=Z,395nm,12.0s						
SSE				LR	LR		
	comp=N,421nm,30.1s						
SSE				LR	LR		
	comp=E,148nm,30.2s						
SSE				LR	LR		
	comp=Z,546nm,28.3s						
NST	**Nakhon Sawan**	**29.47**	**299**	P	**P**	**18 29 20.0**	**-0.2**
WHN	**Wuhan**	**30.59**	**339**	*e*P	**P**	**18 29 29.7**	**-0.3**
NJ2	**Nanjing**	**30.67**	**347**	*e*P	**P**	**18 29 31.5**	**+0.8**
NJ2				AP	pP	18 29 43.8	-2.4
NJ2				PP	PP	18 30 34.0	+0.9
NJ2				PPP	PPP	18 30 48.2	+0.3
NJ2				S	**S**	**18 34 34.0**	**+6.7**
NJ2				XS		18 34 51.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,240nm,4.0s						
NJ2				LR	LR		
	comp=N,670nm,15.9s						
NJ2				LR	LR		
	comp=E,590nm,12.2s						
NJ2				LR	LR		
	comp=Z,8μm,17.7s						
CHRT	**Chiangrai**	**31.70**	**306**	⇓P	**P**	**18 29 39.5**	**-0.3**
	comp=Z,671nm,1.0s,mb6.4						
CM31	**Chiang Mai Arr**	**31.71**	**303**	*e*P	**P**	**18 29 39.5**	**-0.5**
	comp=Z,41nm,0.8s,mb5.3						
CMAR	**Chiang Mai Arr**	**31.71**	**303**	*i* P	**P**	**18 29 39.7**	**-0.3**
CMAR				pmax	pmax		
	comp=Z,40nm,1.0s						
CHG	**Chiang Mai**	**31.88**	**303**	⇓P	**P**	**18 29 40.9**	**-0.5**
	comp=Z,119nm,0.8s,mb5.8						
ENH	**Enshi**	**32.41**	**331**	*e*P	**P**	**18 29 44.9**	**-1.1**
	comp=Z,44nm,0.8s,mb5.3						
TIA	**Tai'an**	**35.05**	**346**	*e*P	**P**	**18 30 08.7**	**+0.1**
KS15	**Wonju Array Si**	**35.14**	**2**	*e*P	**P**	**18 30 09.9**	**+0.5**
MUN	**Mundaring**	**35.38**	**196**	*e*P	**P**	**18 30 11.3**	**-0.2**
	comp=Z,21nm,0.6s,mb5.2						
MAJO	**Matsushiro**	**35.83**	**16**	*e*P	**P**	**18 30 13.7**	**-1.6**
	comp=Z,22nm,0.6s,mb5.3						
MAT	**Matsushiro**	**35.83**	**16**	*e*P	**P**	**18 30 13.0**	**-2.3**
	comp=Z,253nm,1.9s,mb5.8						
MAT	**Matsushiro**	**35.83**	**16**	P	**P**	**18 30 13.3**	**-2.0**
XAN	**Xi'an**	**35.84**	**334**	P	**P**	**18 30 14.5**	**-0.9**
XAN				AMB	AMB		
	comp=Z,45nm,0.8s,mb5.5						
NWAO	**Narrogin (SRO)**	**36.02**	**194**	*e*P	**P**	**18 30 15.5**	**-1.4**
	comp=Z,17nm,0.6s,mb5.2						
STKA	**Stephens Creek**	**36.65**	**159**	⇑*i*P	**P**	**18 30 21.5**	**-0.7**
	comp=Z,47nm,0.8s,mb5.4						
IMP	**Imphal**	**38.84**	**308**	*e*P	**P**	**18 30 39.8**	**-0.7**
BJT	**Baijiatuau**	**38.91**	**347**	*e*P	**P**	**18 30 41.4**	**+0.5**
	comp=Z,143nm,1.2s,mb5.6						
SNY	**Shenyang**	**39.61**	**356**	⇓P	**P**	**18 30 47.3**	**+0.6**
SNY				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.4						
LZH	**Lanzhou**	**39.88**	**331**	⇑P	**P**	**18 30 50.2**	**+1.2**
LZH				AP	pP	18 30 59.5	-5.6
LZH				PP	PP	18 32 27.2	+1.9
LZH				*e*S	**S**	**18 36 53.5**	**+4.5**
LZH				SS	SS	18 39 44.5	+3.0
LZH				AMB	AMB		
	comp=Z,157nm,1.4s,mb5.5						
LZH				AMB	AMB		
	comp=Z,498nm,5.9s						
LZH				LR	LR		
	comp=N,3μm,13.2s						
LZH				LR	LR		
	comp=Z,4μm,16.5s						
ARMA	**Armidale**	**40.15**	**146**	*e*P	**P**	**18 30 51.6**	**+0.3**
SHL	**Shillong**	**40.84**	**308**	*e*P	**P**	**18 30 58.0**	**+0.9**
SHL				*e*		18 36 49.0	
MDJ	**Mudanjiang**	**42.37**	**3**	P	**P**	**18 31 10.4**	**+0.9**
MDJ				AP	pP	18 31 19.3	-6.3
MDJ				PP	PP	18 32 49.9	-1.3
MDJ				PCP	PcP	18 33 02.0	-0.5
MDJ				SCP		18 36 52.0	
MDJ				S	**S**	**18 37 31.2**	**+5.4**
MDJ				SCS	ScS	18 41 08.8	+5.9
MDJ				AMB	AMB		
	comp=Z,76nm,1.1s,mb5.2						
MDJ				LR	LR		
	comp=N,336nm,29.6s						
MDJ				LR	LR		
	comp=E,87nm,22.2s						
MDJ				LR	LR		
	comp=Z,433nm,32.8s						
MDJ	**Mudanjiang**	**42.37**	**3**	*e*P	**P**	**18 31 09.3**	**-0.2**
	comp=Z,142nm,1.3s,mb5.4						
CNB	**Canberra Magne**	**42.86**	**152**	*e*P	**P**	**18 31 14.6**	**+1.0**
	comp=Z,11nm,0.6s,mb4.8						
TOO	**Toolangi**	**43.17**	**158**	*e*P	**P**	**18 31 16.7**	**+0.6**
	comp=Z,6.9nm,0.7s,mb4.5						
LSA	**Lhasa**	**43.51**	**313**	P	**P**	**18 31 20.4**	**+1.4**
LSA				AMB	AMB		
	comp=Z,80nm,0.7s,mb5.6						
LSA	**Lhasa**	**43.51**	**313**	⇓*e*P	**P**	**18 31 19.8**	**+0.8**
	comp=Z,49nm,0.6s,mb5.4						
VIS	**Vishakhapatnam**	**45.33**	**293**	*e*P	**P**	**18 31 34.0**	**+0.3**
VIS				*e*		18 31 36.0	
	comp=Z,61nm,0.9s						
VIS				*e*		18 37 29.2	
GUN	**Gumba**	**46.68**	**307**	*e*P	**P**	**18 31 44.0**	**-0.3**
	comp=Z,271nm,0.6s,mb6.3						
YSS	**Yuzh-Sakhalins**	**46.76**	**15**	⇑*e*P	**P**	**18 31 44.3**	**-0.3**
YSS				pmax	pmax		
	comp=Z,80nm,1.4s,mb5.5						
YSS	**Yuzh-Sakhalins**	**46.76**	**15**	*e*P	**P**	**18 31 44.1**	**-0.5**
	comp=Z,19nm,0.5s,mb5.3						
PKI	**Pulchoki**	**46.91**	**307**	*e*P	**P**	**18 31 45.3**	**-0.8**
	comp=Z,54nm,0.7s,mb5.6						
KLR	**Kul'dur**	**47.11**	**4**	*e*P	**P**	**18 31 44.0**	**-3.3**
KLR				pmax	pmax		
	comp=E,38nm,1.4s						
KLR				pmax	pmax		
	comp=Z,57nm,1.4s,mb5.3						
KKN	**Kakani**	**47.11**	**307**	*e*P	**P**	**18 31 47.0**	**-0.6**
	comp=Z,65nm,0.5s,mb5.8						
DMN	**Daman**	**47.17**	**306**	*e*P	**P**	**18 31 47.5**	**-0.6**
	comp=Z,207nm,1.3s,mb5.9						
HIA	**Hailar**	**47.33**	**354**	*e*P	**P**	**18 31 50.0**	**+0.9**
	comp=Z,70nm,1.3s,mb5.4						
HIA				*e*PcP	PcP	18 33 20.0	+0.5
GKN	**Gorkha**	**47.71**	**307**	*e*P	**P**	**18 31 51.4**	**-1.0**
	comp=Z,155nm,1.0s,mb6.0						
KOLN	**Koldanda**	**48.45**	**306**	*e*P	**P**	**18 31 57.6**	**-0.5**
	comp=Z,111nm,0.5s,mb6.2						
ULN	**Ulaanbaatar**	**48.62**	**342**	*d i*P	**P**	**18 31 59.9**	**+0.7**
ULN	**Ulaanbaatar**	**48.62**	**342**	⇓*e*P	**P**	**18 31 59.5**	**+0.3**
	comp=Z,45nm,0.9s,mb5.5						
ULN				LR	LR		
	comp=Z,482nm,22.0s						
HYB	**Hyderabad**	**49.68**	**291**	*i* P	**P**	**18 32 07.0**	**-0.7**
	comp=Z,100nm,1.2s,mb5.7						
ZAK	**Zakamensk**	**52.02**	**341**	⇓*i*P	**P**	**18 32 24.7**	**-0.3**
ZAK				*e*		18 33 36.8	
ZAK				*e*		18 39 44.8	
BHPL	**Bhopal**	**52.14**	**298**	*e*P	**P**	**18 32 25.2**	**-1.0**
BHPL				*e*		18 32 27.5	
	comp=Z,93nm,1.3s						
TLY	**Talaya**	**53.03**	**342**	*e*P	**P**	**18 32 32.8**	**+0.2**
TLY				*e*		18 32 42.1	
TLY				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.3						
TLY	**Talaya**	**53.03**	**342**	*e*P	**P**	**18 32 32.3**	**-0.3**
	comp=Z,45nm,0.9s,mb5.4						
IRK	**Irkutsk**	**53.34**	**343**	*e*P	**P**	**18 32 34.5**	**-0.3**
IRK				*e*		18 33 37.9	
KAD	**Karad**	**53.75**	**290**	*e*P	**P**	**18 32 35.8**	**-2.5**
MOY	**Mondy**	**53.87**	**340**	*e*P	**P**	**18 32 39.8**	**+1.1**
DDI	**Dehra Dun**	**53.91**	**307**	*e*P	**P**	**18 32 37.8**	**-1.5**
NDI	**New Delhi**	**54.01**	**304**	*e*P	**P**	**18 32 37.0**	**-3.1**
	comp=Z,67nm,0.6s,mb5.8						
WMQ	**Urumqi**	**54.03**	**326**	P	**P**	**18 32 42.3**	**+2.3**
WMQ				AP	pP	18 32 53.2	-3.4
WMQ				PP	PP	18 34 45.2	+1.8
WMQ				S	**S**	**18 40 15.1**	**+5.5**
WMQ				AMB	AMB		
	comp=Z,70nm,1.8s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,370nm,6.3s						
WMQ				LR	LR		
	comp=N,2μm,21.2s						
WMQ				LR	LR		
	comp=E,2μm,21.0s						
WMQ				LR	LR		
	comp=Z,3μm,21.5s						
POO	**Poona**	**54.29**	**291**	*e*P	**P**	**18 32 38.0**	**-4.2**
CLNS	**Chul'man**	**54.55**	**359**	*e*P	**P**	**18 32 43.8**	**+0.2**
CLNS				pmax	pmax		
	comp=Z,60nm,0.7s,mb5.7						
CLNS				pmax	pmax		
	comp=N,36nm,1.0s						
CLNS				pmax	pmax		
	comp=E,21nm,0.9s						
DLH	**Dalhousie**	**56.39**	**308**	*e*P	**P**	**18 32 56.0**	**-1.2**
BOD	**Bodaibo**	**56.43**	**352**	*e*P	**P**	**18 32 56.5**	**-0.6**
PET	**Petropavlovsk**	**57.18**	**22**	*i* P	**P**	**18 33 01.6**	**-0.9**
PET				pmax	pmax		
	comp=Z,64nm,1.9s,mb5.3						
MSZ	**Milford Sound**	**59.30**	**147**	*e*P	**P**	**18 33 16.9**	**-0.5**
JCZ	**Jackson Bay**	**59.37**	**146**	P	**P**	**18 33 17.9**	**0.0**
YAK	**Yakutsk**	**59.78**	**2**	*e*P	**P**	**18 33 19.9**	**-0.6**
YAK				*e*		18 33 59.9	
YAK				*e*		18 35 35.0	
YAK				*e*S	**S**	**18 41 30.8**	**+5.7**
YAK				*e*		18 43 02.1	
YAK				pmax	pmax		
	comp=Z,52nm,0.8s,mb5.6						
YAK				pmax	pmax		
	comp=N,32nm,1.3s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				smax			
	comp=N,9.0nm,1.3s						
YAK				smax			
	comp=E,5.0nm,1.2s						
YAK	**Yakutsk**	**59.78**	**2**	⇓*i*P	**P**	**18 33 19.8**	**-0.7**
	comp=E,158nm,0.9s,mb6.0						
MA2	**Magadan**	**60.23**	**14**	*e*P	**P**	**18 33 23.6**	**0.0**
MA2				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.3						
MA2	**Magadan**	**60.23**	**14**	*e*P	**P**	**18 33 23.3**	**-0.3**
	comp=Z,88nm,1.4s,mb5.6						
LBZ	**Lake Benmore**	**60.37**	**145**	⇑P	**P**	**18 33 23.8**	**-1.0**
NNZ	**Nelson**	**60.44**	**141**	*e*P	**P**	**18 33 22.8**	**-2.5**
THZ	**Tophouse**	**60.45**	**142**	P	**P**	**18 33 23.8**	**-1.6**
KZA	**Kyzart**	**60.80**	**318**	P	**P**	**18 33 28.6**	**+0.9**
SNR=8.9							
TKM2	**Tokmak 2**	**60.95**	**319**	P	**P**	**18 33 28.5**	**-0.2**
SNR=25							
KBK	**Karagaybulak**	**61.25**	**319**	P	**P**	**18 33 31.3**	**+0.6**
SNR=16							
UCH	**Uchtor**	**61.35**	**318**	P	**P**	**18 33 32.6**	**+1.1**
SNR=51							
CHMS	**Chumysh**	**61.53**	**319**	P	**P**	**18 33 32.0**	**-0.7**
SNR=11							
AAK	**Ala-Archa**	**61.54**	**318**	P	**P**	**18 33 33.0**	**+0.3**
SNR=12							
AAK	**Ala-Archa**	**61.54**	**318**	*d i*P	**P**	**18 33 31.8**	**-0.9**
AAK				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
AAK	**Ala-Archa**	**61.54**	**318**	*e*P	**P**	**18 33 31.2**	**-1.5**
	comp=Z,11nm,0.9s,mb5.0						
FRU	**Bishkek**	**61.55**	**319**	*e*P	**P**	**18 33 33.0**	**+0.2**
USP	**Ospenovka**	**61.82**	**319**	P	**P**	**18 33 34.2**	**-0.4**
SNR=40							
AML	**Almayashu**	**61.86**	**318**	P	**P**	**18 33 35.4**	**+0.5**
SNR=48							
EKS2	**Erkin-Say**	**62.03**	**318**	P	**P**	**18 33 36.8**	**+0.8**
SNR=28							
NVS	**Novosibirsk**	**63.29**	**334**	*i* P	**P**	**18 33 42.7**	**-1.5**
NVS				*i*		18 34 20.5	
NVS				*i* S	**S**	**18 42 07.9**	**-1.7**
NVS				*i* PS	PS	18 42 37.3	-0.1
NVS				*i*		18 43 29.0	
NVS				pmax	pmax		
	comp=N,51nm,1.6s						
NVS				pmax	pmax		
	comp=E,50nm,1.6s						
NVS				pmax	pmax		
	comp=Z,79nm,1.6s,mb5.6						
NVS				smax			
	comp=N,26nm,1.5s						
NVS				smax			
	comp=E,21nm,1.5s						
CASY	**Casey**	**69.25**	**187**	*e*P	**P**	**18 34 22.0**	**+0.2**
	comp=E,28nm,0.8s,mb5.2						
TIXI	**Tiksi**	**69.42**	**1**	*d i*P	**P**	**18 34 22.2**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,11nm,0.5s,mb5.0						
TIXI	**Tiksi**	**69.42**	**1**	*i* Pr		18 34 22.2	
SVE	**Sverdlovsk**	**75.32**	**329**	*e*P	**P**	**18 34 58.0**	**+0.2**
SVE				*e*		18 44 35.0	
SVE				pmax	pmax		
	comp=Z,240nm,1.2s,mb6.0						
ARU	**Arti**	**76.28**	**328**	⇓*i*P	**P**	**18 35 02.7**	**-0.6**
ARU				*e*		18 35 12.0	
ARU				*e*		18 37 54.1	
ARU				*e*S	S	18 44 45.4	+3.9
ARU				*e*SS	SS	18 49 38.1	-1.3
ARU				pmax	pmax		
	comp=Z,86nm,1.0s,mb5.6						
ARU	**Arti**	**76.28**	**328**	*e*P	**P**	**18 35 02.6**	**-0.7**
	comp=Z,117nm,1.1s,mb5.7						
SOKR	**Solikamsk**	**78.09**	**331**	⇑*i*P	**P**	**18 35 12.3**	**-1.0**
SOKR				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
VNDA	**Vanda**	**81.86**	**173**	*e*P	**P**	**18 35 33.4**	**+0.2**
	comp=Z,17nm,0.7s,mb5.1						
MAW	**Mawson**	**82.28**	**200**	*e*P	**P**	**18 35 36.5**	**+0.9**
	comp=Z,13nm,0.6s,mb5.0						
GNI	**Garni**	**82.51**	**310**	*d i*P	**P**	**18 35 38.9**	**+1.6**
GNI				pmax	pmax		
	comp=Z,99nm,1.8s						
GNI	**Garni**	**82.51**	**310**	*e*P	**P**	**18 35 37.3**	**0.0**
	comp=Z,29nm,0.7s,mb5.4						
SBA	**Scott Base**	**82.77**	**172**	P	**P**	**18 35 38.1**	**+0.2**
	comp=Z,25nm,1.1s,mb5.2						
KDAK	**Kodiak Island**	**83.21**	**32**	*e*P	**P**	**18 35 41.4**	**+0.9**
	comp=Z,16nm,0.5s,mb5.3						
RSO	**Redoubt South**	**83.45**	**29**	*e*P	**P**	**18 35 42.1**	**+0.5**
IMA	**Indian Mountai**	**83.82**	**24**	*e*P	**P**	**18 35 45.7**	**+2.4**
	comp=Z,13nm,0.7s,mb5.2						
GOF	**Gofitskoye**	**84.05**	**315**	⇑*i*P	**P**	**18 35 45.5**	**+0.6**
GOF				pmax	pmax		
	comp=Z,110nm,1.3s,mb5.8						
KIV	**Kislovodsk**	**84.24**	**314**	P	**P**	**18 35 47.6**	**+1.6**
	comp=Z,279nm,1.0s,mb6.3,SNR=15						
KIV	**Kislovodsk**	**84.24**	**314**	*d i*P	**P**	**18 35 47.0**	**+1.0**
KIV				*i*		18 35 58.6	
KIV				*e*		18 39 00.7	
KIV				pmax	pmax		
	comp=Z,73nm,1.1s,mb5.7						
SLKM	**Skilak Lake**	**84.71**	**30**	*e*P	**P**	**18 35 48.6**	**+0.8**
PMR	**Palmer**	**85.32**	**29**	*e*P	**P**	**18 35 51.5**	**+0.6**
	comp=Z,20nm,0.8s,mb5.3						
MCK	**McKinley**	**85.57**	**26**	*e*P	**P**	**18 35 52.7**	**+0.6**
	comp=Z,6.8nm,1.1s,mb4.8						
SML	**Sawmill**	**85.72**	**28**	*e*P	**P**	**18 35 53.8**	**+1.0**
SOC	**Sochi**	**86.38**	**313**	*i* P	**P**	**18 35 57.2**	**+0.7**
SOC				*e*PPP	PPP	18 41 11.8	-5.8
SOC				*e*S	S	18 46 20.2	-5.3
SOC				*e*SSS	SSS	18 55 43.4	+3.5
SOC				pmax	pmax		
	comp=Z,28nm,0.6s,mb5.7						
SOC				pmax	pmax		
	comp=N,5.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,6.0nm,0.6s						
MALT	**Malatya**	**87.37**	**308**	*e*P	**P**	**18 36 03.1**	**+1.6**
	comp=E,75nm,1.4s,mb5.7						
MOS	**Moscow**	**87.75**	**326**	*e*P	**P**	**18 36 01.7**	**-1.2**
MOS				*e*		18 46 40.4	
MENT	**Mentasta**	**87.89**	**27**	*e*P	**P**	**18 36 05.0**	**+1.6**
ANN	**Anapa**	**88.02**	**315**	*e*P	**P**	**18 36 06.5**	**+2.1**
ANN				pmax	pmax		
	comp=Z,128nm,1.1s,mb6.1						
OBN	**Obninsk**	**88.36**	**325**	⇑*i*P	**P**	**18 36 06.2**	**+0.4**
OBN				*i*		18 46 54.5	
OBN				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.7						
OBN	**Obninsk**	**88.36**	**325**	*e*P	**P**	**18 36 05.5**	**-0.3**
	comp=Z,30nm,0.5s,mb5.8						
KMBO	**Kilima Mbogo**	**89.54**	**269**	*i* P	**P**	**18 36 15.1**	**+2.7**
KMBO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KMBO	**Kilima Mbogo**	**89.54**	**269**	*e*P	**P**	**18 36 14.3**	**+1.9**
	comp=Z,17nm,1.2s,mb5.2						
SIM	**Simferopol'**	**90.37**	**315**	*e*P	**P**	**18 36 16.8**	**+1.3**
SIM				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.7						
SYO	**Syowa Base**	**90.96**	**201**	⇑P	**P**	**18 36 18.2**	**+0.5**
SYO	**Syowa Base**	**90.96**	**201**	⇓PcP	PcP	18 36 19.6	+0.7
SYO	**Syowa Base**	**90.96**	**201**	⇓sP	sP	18 36 32.9	-9.4
KEV	**Kevo**	**91.38**	**340**	*e*p	**P**	**18 36 18.3**	**-1.4**
QSPA	**South Pole Qui**	**92.06**	**180**	⇓*i*P	**P**	**18 36 25.2**	**+2.6**
	comp=Z,14nm,1.1s,mb5.2						
KAF	**Kangasniemi**	**93.00**	**332**	*e*p	**P**	**18 36 26.4**	**-0.9**
	comp=Z,5.6nm,0.5s,mb5.2						
KAF	**Kangasniemi**	**93.00**	**332**	*e*P	**P**	**18 36 26.4**	**-0.9**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb5.3						
ISP	**Isparta**	**93.63**	**308**	*i* P	**P**	**18 36 31.0**	**+0.3**
ISP	**Isparta**	**93.63**	**308**	*i* P	**P**	**18 36 31.1**	**+0.4**
NB2	**NORSAR Subarra**	**100.21**	**333**	P	P	18 36 59.0	-1.0
	comp=Z,9.7nm,1.2s,baz=68,slow=4.5						
NB2	**NORSAR Subarra**	**100.21**	**333**	P	P	18 36 59.0	-1.0
	baz=68,slow=4.4						
PRU	**Pruhonice**	**102.44**	**322**	*e*PDIF	Pdif	18 37 13.5	+3.2
KHC	**Kasperske Hory**	**103.31**	**322**	*e*PDIF	Pdif	18 37 15.5	+1.4
SNAA	**Sanae**	**103.69**	**195**	Pdif	Pdif	18 37 16.3	+1.0
MNTX	**Cornudas Mount**	**120.23**	**51**	*e*PKPdf	PKPdf	18 42 06.9	+2.6
WMOK	**Wichita Mounta**	**123.74**	**45**	*e*PKPdf	PKPdf	18 42 12.7	+1.6
JCT	**Junction City**	**125.07**	**50**	*e*PKPdf	PKPdf	18 42 16.1	+2.4
CCM	**Cathedral Cave**	**126.79**	**37**	*e*PKPdf	PKPdf	18 42 18.5	+1.6
MIAR	**Mount Ida**	**127.44**	**42**	*e*PKPdf	PKPdf	18 42 20.8	+2.6
WCI	**Wyandotte Cave**	**129.56**	**34**	*e*PKPdf	PKPdf	18 42 24.3	+2.2
WVT	**Waverly**	**130.11**	**37**	*e*PKPdf	PKPdf	18 42 25.2	+1.9
DBIC	**Dimbokro**	**130.91**	**281**	*e*PKPdf	PKPdf	18 42 28.1	+2.7
LRAL	**Lakeview Retre**	**132.68**	**39**	*e*PKPdf	PKPdf	18 42 30.8	+2.5
ELN	**Prospectdale**	**133.25**	**30**	*e*PKPdf	PKPdf	18 42 31.0	+1.8
TRQA	**Tornquist**	**143.37**	**168**	*e*PKPpre		18 42 46.2	
LVC	**Limon Verde**	**154.60**	**144**	*e*PKPbc	PKPdf	18 43 17.9	+12
OTAV	**Otavalo**	**154.69**	**85**	*e*PKPdf	PKPdf	18 43 08.7	+2.8

DJA 02 18:35:33.7±1.0, 9.44S×113.16E, h80km, MD4.7/4, ML5.3/4, 1C-3D, Error ellipse: s-maj=25.2km s-min=18.6km az=9.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.35**	**46**	⇓*e*Pn	P	18 35 56.3	-1.3
	4μm,0.2s						
SRDI				*e*Sn	S	18 36 10.2	-5.1
KELI	**Kelakatan**	**1.78**	**47**	⇓*i*Pn	P	18 36 02.8	-0.5
	2μm,0.2s						
KELI				*e*Sn	S	18 36 24.6	-0.4
RATI	**Rata**	**2.44**	**73**	⇑*e*Pn	P	18 36 11.6	-0.8
	4μm,0.2s						
RATI				*e*Sn	S	18 36 39.2	-2.0
KEDI	**Kedomdong**	**3.06**	**72**	⇓*e*Pn	P	18 36 20.2	-0.8
	518nm,0.2s						
KEDI				*e*Sn	S	18 36 52.6	-4.0

*BJI **02** 18:41:01.8, 8.50N×92.10E, h24km, mb4.5, Ms4.2, Msz4.1*
*NEIC **02** 18:41:01.8±0.4, 8.50N×92.14E, mb4.6/11, Error ellipse: s-maj=10.5km s-min=9.6km az=142.0*
ISC 02 18:40:59.3±3.7, 8.48N±0.08×92.12E±0.07, h22km±26km, h26km±.8km:pP-P, n37, σ0°88/39, mb4.5/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.37**	**265**	*e*P	**P**	**18 43 42.7**	**-1.1**
CM31	**Chiang Mai Arr**	**11.94**	**33**	*e*P	**P**	**18 43 51.9**	**+0.5**
	1.8nm,0.4s						
MDRS	**Chennai**	**12.52**	**292**	*e*S	**S**	**18 46 03.9**	**-15**
VIS	**Vishakhapatnam**	**12.55**	**318**	*i*	**P**	**18 43 50.0**	**-10**
VIS				*e*		18 46 02.1	
VIS				*i* S	**S**	**18 46 05.5**	**-14**
HYB	**Hyderabad**	**15.92**	**305**	*i* P	**P**	**18 44 49.0**	**+5.1**
HYB				*e*S	**S**	**18 47 29.0**	**-11**
HYB				*e*S	**S**	**18 47 38.0**	**-1.7**
SHL	**Shillong**	**17.00**	**359**	*e*P	**P**	**18 45 00.0**	**+2.5**
PKI	**Pulchoki**	**20.02**	**342**	*e*P	**P**	**18 45 33.6**	**-0.2**
	29nm,0.5s						
DMN	**Daman**	**20.15**	**342**	*e*P	**P**	**18 45 34.6**	**-0.5**
	39nm,0.7s						
GUN	**Gumba**	**20.21**	**344**	*e*P	**P**	**18 45 35.2**	**-0.5**
	46nm,0.7s						
KKN	**Kakani**	**20.27**	**342**	*e*P	**P**	**18 45 35.9**	**-0.4**
	16nm,0.4s						
BHPL	**Bhopal**	**20.35**	**318**	*i* P	**P**	**18 45 38.5**	**+1.4**
BHPL				AMb	AMB	18 45 49.5	
	comp=Z,25nm,1.0s						
BHPL				*e*		18 49 14.3	
POO	**Poona**	**20.36**	**301**	*e*	**P**	**18 45 46.6**	**+9.3**
GKN	**Gorkha**	**20.67**	**341**	*e*P	**P**	**18 45 40.0**	**-0.4**
	comp=Z,25nm,0.3s						
KOLN	**Koldanda**	**20.81**	**338**	*e*P	**P**	**18 45 42.8**	**+0.9**
	comp=Z,27nm,0.6s						
LSA	**Lhasa**	**21.13**	**358**	*e*P	**P**	**18 45 49.9**	**+4.7**
LSA	**Lhasa**	**21.13**	**358**	*e*P	**P**	**18 45 44.1**	**-1.1**
	comp=Z,36nm,1.1s,mb4.6						
NDI	**New Delhi**	**24.51**	**327**	*e*P	**P**	**18 46 18.0**	**-0.6**
DDI	**Dehra Dun**	**25.41**	**331**	*e*P	**P**	**18 46 23.0**	**-4.1**
ENH	**Enshi**	**27.10**	**35**	P	**P**	**18 46 40.6**	**-2.1**
	comp=Z,7.7nm,0.8s,mb4.3						
AAK	**Ala-Archa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**15.51**	**18**	*e*Pn	**P**	**18 50 41.9**	**-0.8**
	11nm,0.8s						
CM31				*e*P		18 50 46.1	
CM31				*e*		18 50 55.3	
HYB	**Hyderabad**	**20.48**	**313**	*i* P	**P**	**18 51 42.0**	**-0.5**
HYB				*e*S	**S**	**18 55 30.0**	**+4.8**
PKI	**Pulchoki**	**25.21**	**342**	*e*P	**P**	**18 52 28.6**	**-0.6**
	16nm,0.7s,mb4.7						
DMN	**Daman**	**25.35**	**341**	*e*P	**P**	**18 52 29.4**	**-1.0**
	19nm,0.7s,mb4.7						
GUN	**Gumba**	**25.39**	**343**	*e*P	**P**	**18 52 30.4**	**-0.4**
	51nm,0.9s,mb5.0						
KKN	**Kakani**	**25.46**	**342**	*e*P	**P**	**18 52 30.4**	**-1.1**
	24nm,0.9s,mb4.7						
GKN	**Gorkha**	**25.86**	**341**	*e*P	**P**	**18 52 35.3**	**0.0**
	25nm,0.7s,mb4.9						
KOLN	**Koldanda**	**26.01**	**338**	*e*P	**P**	**18 52 36.5**	**-0.1**
	20nm,0.7s,mb4.7						
LSA	**Lhasa**	**26.09**	**354**	P	**P**	**18 52 39.9**	**+2.6**
LSA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.0						
LSA	**Lhasa**	**26.09**	**354**	*e*P	**P**	**18 52 39.1**	**+1.7**
	comp=Z,49nm,0.6s,mb5.2						
LSA				*e*	pP	18 52 49.1	+3.1
XAN	**Xi'an**	**33.28**	**23**	P	**P**	**18 53 40.1**	**-1.4**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
MBWA	**Marble Bar**	**35.20**	**135**	P	**P**	**18 53 57.2**	**-0.9**
	comp=Z,1.2nm,0.6s,mb4.0						
MBWA				*e*	pP	18 54 06.9	0.0
UCH	**Uchtor**	**42.23**	**338**	P	**P**	**18 54 57.8**	**+1.3**
	SNR=14						
KBK	**Karagaybulak**	**42.44**	**339**	P	**P**	**18 54 59.8**	**+1.6**
	SNR=15						
TKM2	**Tokmak 2**	**42.45**	**340**	P	**P**	**18 54 59.2**	**+0.9**
	SNR=5.6						
AML	**Almayashu**	**42.45**	**337**	P	**P**	**18 54 59.7**	**+1.4**
	SNR=14						
AAK	**Ala-Archa**	**42.59**	**339**	P	**P**	**18 55 01.4**	**+2.0**
	SNR=5.6						
AAK	**Ala-Archa**	**42.59**	**339**	*e*P	**P**	**18 54 57.4**	**-2.0**
	comp=Z,7.5nm,1.0s,mb4.4						
EKS2	**Erkin-Say**	**42.88**	**338**	P	**P**	**18 55 03.0**	**+1.2**
	SNR=10						
USP	**Ospenovka**	**43.14**	**339**	P	**P**	**18 55 04.3**	**+0.5**
	SNR=16						
ULN	**Ulaanbaatar**	**45.48**	**12**	*e*P	**P**	**18 55 22.5**	**-0.2**
	comp=Z,2.0nm,0.9s,mb4.0						
WRAB	**Tennant Creek**	**45.97**	**122**	*e*P	**P**	**18 55 27.8**	**+0.9**
WRAB				*e*		18 55 34.5	
WB2	**Warramunga Arr**	**45.98**	**122**	*e*P	**P**	**18 55 27.7**	**+0.8**
TLY	**Talaya**	**48.57**	**8**	*e*P	**P**	**18 55 46.6**	**-0.2**
	comp=Z,5.6nm,0.7s,mb4.7						
HIA	**Hailar**	**50.47**	**22**	*e*P	**P**	**18 56 01.1**	**-0.4**
	comp=Z,2.4nm,0.6s,mb4.4						
HIA				*e*	pP	18 56 09.3	-1.2
KMBO	**Kilima Mbogo**	**56.98**	**266**	*e*P	**P**	**18 56 50.7**	**+0.8**
STKA	**Stephens Creek**	**57.29**	**132**	*e*P	**P**	**18 56 52.0**	**+0.1**
GNI	**Garni**	**57.39**	**316**	*e*P	**P**	**18 56 51.7**	**-0.8**
	comp=Z,3.0nm,0.6s,mb4.5						
EIL	**Elat**	**61.53**	**302**	P	**P**	**18 57 20.8**	**-0.4**
	comp=Z,5.0nm,0.8s,mb4.7						
LSZ	**Lusaka**	**67.83**	**252**	*e*P	**P**	**18 58 02.1**	**-0.2**
	comp=Z,1.3nm,0.8s,mb4.0						
LBTB	**Lobatse**	**72.18**	**242**	*e*P	**P**	**18 58 27.2**	**-1.5**
	comp=Z,4.1nm,1.0s,mb4.3						
KAF	**Kangasniemi**	**76.53**	**333**	*e*p	**P**	**18 58 51.9**	**-1.2**
	comp=Z,2.3nm,0.5s,mb4.4						
BRG	**Berggiesshubel**	**80.97**	**321**	*i* P	**P**	**18 59 18.4**	**+0.9**
	comp=Z,22nm,1.7s,mb4.8						
KHC	**Kasperske Hory**	**81.05**	**319**	P	**P**	**18 59 18.0**	**+0.1**
CLL	**Collm**	**81.60**	**321**	*e**SP	sP	18 59 36.0	+2.6
NB2	**NORSAR Subarra**	**83.39**	**331**	P	**P**	**18 59 29.5**	**-0.3**
	comp=Z,3.9nm,0.9s,mb4.4,baz=93,slow=5.3						
LVC	**Limon Verde**	**154.92**	**220**	*e*PKPab	PKPab	19 07 23.5	+2.2
LVC				*e*		19 07 33.0	
LPAZ	**La Paz**	**158.44**	**233**	*e*PKPab	PKPab	19 07 37.3	+0.8
LPAZ				*e*		19 07 47.7	

MAN 02 19:06:02.2,6.04N×126.69E,h27km,mb3.3,ML3.5,MS4.4, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.99**	**335**	*e*P	Pn	19 06 20.2	-0.3
KCP	**Kidapawan**	**1.85**	**301⇑**	*e*P	Pn	19 06 31.4	-1.4
KCP				*i* S	Sn	19 06 56.9	+1.4
BIPH	**Bislig**	**2.15**	**351⇓**	*i* P	Pn	19 06 38.4	+1.4
BIPH				*i* S	Sn	19 07 04.1	+1.0
BUKP	**Musuan**	**2.43**	**319**	*e*P	Pn	19 06 41.5	+0.3
BUTP	**Butuan**	**3.09**	**340**	*e*P	Pn	19 06 49.9	-0.6
PAGZ	**Pagadian**	**3.74**	**299**	*e*P	Pn	19 06 58.9	-0.7

JMA 02 19:08:12.0,31.96N×130.13E,h10km±1km,M3.8,4C-2D
Broadband fault plane solution: P waves. NP1:ϕ_s278°, δ62°,λ-23°. **NP2:**ϕ_s19°,δ70°,λ-150°. **Principal axes:** T Plg5°, Azm147°; N Plg55°, Azm50°; P Plg35°, Azm240°;
Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZO	**Okuchi**	**0.44**	**66**	P	Pg	19 08 20.7	-0.2
JZO				S	Sg	19 08 26.6	-0.2
JSJ	**Shimokoshiki**	**0.45**	**232**	⇓P	Pg	19 08 20.8	-0.4
JSJ				S	Sg	19 08 27.2	-0.1
JHD	**Hondo**	**0.50**	**1**	⇑P	Pg	19 08 21.8	-0.4
JHD				S	Sg	19 08 29.2	+0.2
JSU	**Suzuyama**	**0.53**	**148**	P	Pg	19 08 22.0	-0.7
JSU				S	Sg	19 08 29.4	-0.5
JTZ	**Takazaki**	**0.82**	**94**	⇑P	Pb	19 08 27.8	0.0
JTZ				S	Sb	19 08 38.5	-0.1
JIU2	**Izumi 2**	**0.82**	**45**	⇓P	Pb	19 08 27.3	-0.6
JIU2				S	Sb	19 08 38.5	-0.3
JTA	**Tamana**	**1.06**	**19**	⇑P	Pb	19 08 31.5	-0.4
JTA				S	Sb	19 08 45.3	-0.3
JNAR	**Kushima--Naru**	**1.06**	**114**	⇑P	Pb	19 08 32.4	+0.3

*BJI **02** 19:35:23.4,5.20N×94.33E,h54km,mB5.1,mb5.2,Ms4.3, Msz4.0*
*MOS **02** 19:35:23.4±0.7,5.63N×94.49E,h33km,mb5.2/17,Error ellipse: s-maj=18.5km s-min=8.3km az=114.4*
*HRVD **02** 19:35:25.9±1.1,5.22N×94.15E,h72km±12km,MW5.0/21, Centroid moment Tensor Solution. LP body waves: s8,c11;Mantle waves: s21,c24; Half duration: 1s3 Moment tensor: Scale 10^{16}Nm; M_{rr}2.35±.62; $M_{\theta\theta}$0.15±.43; $M_{\phi\phi}$-2.50±.47; $M_{r\theta}$2.51±.42; $M_{\theta\phi}$0.39±.31; $M_{\phi r}$-2.98±.50; Best double couple: $M_0$4.598×10^{16} NP1:ϕ_s11°,δ21°,λ133°. NP2:ϕ_s146°,δ75°,λ75°. Principal axes: T 4.773, Plg57°, Azm37°; N -.344, Plg14°, Azm150°; P -4.423, Plg29°, Azm248°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 19:35:25.9±0.2,5.35N×94.34E,mb5.0/28 Error ellipse: s-maj=8.1km s-min=5.8km az=216.0*
ISC 02 19:35:24.3±1.1,5.35N±0.05×94.38E±0.04,h49km±9km, h48km±1.4km:pP-P,n143,σ1§02/144,mb5.1/51,MS4.1/4, 19C-3D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.46**	**73**	P	**P**	**19 37 00.1**	**+0.8**
	480nm,6.9s						
NST	**Nakhon Sawan**	**11.71**	**28**	P	**P**	**19 38 13.0**	**+1.5**
KKTK	**Khon Kaen**	**13.70**	**37**	P	**P**	**19 38 46.0**	**+8.0**
	1um,0.6s						
PALK	**Pallekele**	**13.72**	**279**	*e*Pn	**P**	**19 38 36.3**	**-2.0**
	7.2nm,0.4s						
CM31	**Chiang Mai Arr**	**13.77**	**19**	*e*Pn	**P**	**19 38 40.5**	**+1.7**
	9.3nm,0.3s						
UBT	**Ubonrachathani**	**14.35**	**46**	P	**P**	**19 38 55.5**	**+9.0**
CHRT	**Chiangrai**	**15.36**	**20**	⇑P	**P**	**19 39 02.0**	**+2.4**
	300nm,0.9s						
VIS	**Vishakhapatnam**	**16.36**	**320**	*e*	**P**	**19 39 11.0**	**-1.3**
VIS				*e*		19 41 58.0	
KOD	**Kodaikanal**	**17.43**	**287**	*e*P	**P**	**19 39 25.6**	**-0.3**
KOD				*e*		19 39 31.4	
	comp=Z,21nm,1.4s						
CAL	**Calcutta**	**18.06**	**342**	*e*P	**P**	**19 39 32.2**	**-1.3**
IMP	**Imphal**	**19.32**	**359**	*e*P	**P**	**19 39 46.3**	**-2.1**
HYB	**Hyderabad**	**19.58**	**309**	*i* P	**P**	**19 39 51.0**	**-0.2**
HYB				*e*S	**S**	**19 43 14.5**	**-10**
HYB				*e*S	**S**	**19 43 25.0**	**+0.9**
SHL	**Shillong**	**20.24**	**353**	*e*P	**P**	**19 39 52.6**	**-5.6**
SHL				*e*		19 40 01.7	
	comp=Z,25nm,0.7s						
QIZ	**Qiongzhong**	**20.30**	**47**	P	**P**	**19 40 00.2**	**+1.3**
QIZ				S	**S**	**19 43 44.4**	**+5.6**
QIZ				AMB	AMB		
	comp=Z,41nm,0.9s						
QIZ				LR	LR		
	comp=N,635nm,16.1s,MS4.2						
QIZ				LR	LR		
	comp=E,608nm,18.8s,MS4.2						
QIZ				LR	LR		
	comp=Z,570nm,18.2s,MS4.0						
QIZ	**Qiongzhong**	**20.30**	**47**	*e*P	**P**	**19 39 60.0**	**+1.1**
	comp=Z,32nm,0.8s						
MNGI	**Mangalore**	**20.71**	**293**	*e*P	**P**	**19 40 04.6**	**+1.5**
GOA	**Goa**	**22.56**	**298**	*e*P	**P**	**19 40 21.4**	**-0.2**
KAD	**Karad**	**23.06**	**303**	*e*	**S**	**19 44 37.0**	**+7.2**
PKI	**Pulchoki**	**23.69**	**340**	*e*P	**P**	**19 40 32.3**	**-0.2**
	comp=Z,48nm,0.6s,mb5.1						
DMN	**Daman**	**23.83**	**339**	*e*P	**P**	**19 40 33.6**	**-0.3**
	comp=Z,98nm,0.8s,mb5.3						
GUN	**Gumba**	**23.84**	**341**	*e*P	**P**	**19 40 33.6**	**-0.4**
	comp=Z,104nm,0.7s,mb5.4						
KKN	**Kakani**	**23.93**	**340**	*e*P	**P**	**19 40 34.4**	**-0.5**
	comp=Z,94nm,0.8s,mb5.3						
POO	**Poona**	**23.93**	**305**	*e*S	**S**	**19 44 58.0**	**+13**
BHPL	**Bhopal**	**24.16**	**319**	*e*P	**P**	**19 40 39.1**	**+2.0**
GKN	**Gorkha**	**24.35**	**339**	*e*P	**P**	**19 40 39.5**	**+0.5**
	comp=Z,126nm,0.7s,mb5.5						
LSA	**Lhasa**	**24.41**	**353**	*e*P	**P**	**19 40 39.6**	**+0.1**
LSA	**Lhasa**	**24.41**	**353**	*e*P	**P**	**19 40 39.6**	**0.0**
	comp=Z,71nm,0.8s,mb5.2						
KOLN	**Koldanda**	**24.54**	**336**	*e*P	**P**	**19 40 41.4**	**+0.6**
	comp=Z,155nm,0.8s,mb5.6						
BOM	**Bombay**	**24.97**	**304**	*e*	**P**	**19 40 46.8**	**+1.8**
NDI	**New Delhi**	**28.34**	**327**	*e*P	**P**	**19 41 15.3**	**-0.7**
ENH	**Enshi**	**28.59**	**28**	*e*P	**P**	**19 41 17.1**	**-1.0**
	comp=Z,37nm,0.6s,mb5.3						
DDI	**Dehra Dun**	**29.21**	**330**	*e*	sP	19 41 40.0	-2.5
DDI				*e*		19 46 32.8	
SMLA	**Simla**	**30.31**	**330**	*e*	pP	19 41 42.3	-3.9
SMLA				*e*		19 41 46.6	
	comp=Z,15nm,1.1s						
WHN	**Wuhan**	**31.33**	**35**	⇓P	**P**	**19 41 43.2**	**+0.7**
XAN	**Xi'an**	**31.57**	**23**	P	**P**	**19 41 43.3**	**-1.3**
XAN				AMB	AMB		
	comp=Z,97nm,0.8s,mb5.7						
LZH	**Lanzhou**	**31.80**	**15**	⇑P	**P**	**19 41 45.2**	**-1.4**
LZH				AP	pP	19 41 57.2	-2.2
LZH				XP	sP	19 42 02.3	-3.3
LZH				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.1						
NJ2	**Nanjing**	**35.07**	**38**	⇑P	**P**	**19 42 15.4**	**+0.6**
NJ2				AP	pP	19 42 28.7	+0.9
NJ2				PP	PP	19 43 33.5	-0.9
NJ2				PPP	PPP	19 43 51.5	-1.2
NJ2				S	**S**	**19 47 44.0**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,150nm,0.9s,mb5.9						
NJ2				AMB	AMB		
	comp=Z,420nm,6.2s						
NJ2				LR	LR		
	comp=N,670nm,15.2s,MS4.6						
NJ2				LR	LR		
	comp=E,620nm,17.0s,MS4.6						
NJ2				LR	LR		
	comp=Z,320nm,15.5s,MS4.2						
SSE	**Sheshan**	**35.91**	**41**	*e*P	**P**	**19 42 18.9**	**-3.1**
SSE				S	**S**	**19 47 55.5**	**-0.4**
SSE				AMB	AMB		
	comp=Z,16nm,0.6s,mb5.1						
SSE				AMB	AMB		
	comp=Z,70nm,4.7s						
SSE				LR	LR		
	comp=N,80nm,16.0s,MS4.2						
SSE				LR	LR		
	comp=E,311nm,16.0s,MS4.2						
SSE				LR	LR		
	comp=Z,317nm,15.7s,MS4.2						
MBWA	**Marble Bar**	**36.24**	**137**	*e*P	**P**	**19 42 24.2**	**-0.6**
	comp=Z,6.2nm,0.7s,mb4.7						
TIA	**Tai'an**	**37.14**	**31**	⇑P	**P**	**19 42 32.4**	**+0.1**
TIA				AMB	AMB		
	comp=Z,22nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**38.66**	**128⇑**	*i*P	**P**	**19 42 44.9**	**-0.2**
	comp=Z,30nm,0.6s,mb5.2						
WMQ	**Urumqi**	**38.76**	**352**	P	**P**	**19 42 46.8**	**+1.1**
BJT	**Baijiatuau**	**39.70**	**27**	*e*P	**P**	**19 42 54.9**	**+1.3**
	comp=Z,70nm,1.0s,mb5.3						
UCH	**Uchtor**	**40.75**	**337**	P	**P**	**19 43 03.2**	**+1.0**
	SNR=20						
TKM2	**Tokmak 2**	**40.94**	**339**	P	**P**	**19 43 04.3**	**+0.5**
	SNR=7.8						
KBK	**Karagaybulak**	**40.95**	**338**	P	**P**	**19 43 04.9**	**+1.1**
	SNR=28						
AML	**Almayashu**	**40.99**	**336**	P	**P**	**19 43 05.2**	**+1.1**
	SNR=20						
AAK	**Ala-Archa**	**41.10**	**338**	P	**P**	**19 43 06.7**	**+1.6**
	SNR=11						
AAK	**Ala-Archa**	**41.10**	**338**	*i* P	**P**	**19 43 05.0**	**-0.1**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**41.10**	**338**	*i* P	**P**	**19 43 05.1**	**0.0**
FRU	**Bishkek**	**41.23**	**338**	*e*P	pP	19 43 20.0	+0.7
CHMS	**Chumysh**	**41.32**	**338**	P	**P**	**19 43 07.1**	**+0.3**
	SNR=5.4						
EKS2	**Erkin-Say**	**41.40**	**337**	P	**P**	**19 43 08.6**	**+1.0**
	SNR=10						
USP	**Ospenovka**	**41.64**	**338**	P	**P**	**19 43 09.9**	**+0.4**
	SNR=21						
KAKA	**Kakadu**	**41.87**	**116**	*e*P	**P**	**19 43 11.1**	**-0.7**
	comp=Z,17nm,0.6s,mb4.9						
ULN	**Ulaanbaatar**	**43.73**	**12**	*c i*P	**P**	**19 43 26.2**	**-0.3**
ULN	**Ulaanbaatar**	**43.73**	**12**	⇑*i*P	**P**	**19 43 26.2**	**-0.3**
SNY	**Shenyang**	**44.67**	**31**	⇑P	**P**	**19 43 33.6**	**-0.6**
SNY				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
ZAK	**Zakamensk**	**45.49**	**8**	⇓*i*P	**P**	**19 43 39.8**	**-0.9**
ZAK				*e*		19 45 19.3	
WRAB	**Tennant Creek**	**46.65**	**124**	*c i*P	**P**	**19 43 50.7**	**+0.5**
WRAB	**Tennant Creek**	**46.65**	**124**	*e*P	**P**	**19 43 50.2**	**+0.1**
	comp=Z,70nm,0.8s,mb5.6						
WB2	**Warramunga Arr**	**46.65**	**124**	⇑*i*P	**P**	**19 43 50.6**	**+0.4**
TLY	**Talaya**	**46.81**	**8**	*i* P	**P**	**19 43 50.1**	**-0.9**
TLY				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
TLY				MLR	MLR		
	comp=Z,100nm,22.0s,MS3.7						
HIA	**Hailar**	**48.75**	**22**	*e*P	**P**	**19 44 05.7**	**-0.5**
	comp=Z,22nm,0.8s,mb5.2						
MDJ	**Mudanjiang**	**49.77**	**33**	P	**P**	**19 44 14.1**	**0.0**
MDJ				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,107nm,4.5s						
MDJ	**Mudanjiang**	**49.77**	**33**	*e*P	**P**	**19 44 14.0**	**-0.2**
	comp=Z,15nm,0.9s,mb5.0						
MDJ				*e*	pP	19 44 27.0	-0.5
NVS	**Novosibirsk**	**50.16**	**352**	*i* P	**P**	**19 44 15.3**	**-1.6**
NVS				*i*	pP	19 44 28.5	-1.8
NVS				*e*S	**S**	**19 51 14.4**	**-9.3**
NVS				pmax	pmax		
	comp=N,25nm,1.0s						
NVS				pmax	pmax		
	comp=E,18nm,1.0s						
NVS				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.3						
NVS				smax			
	comp=N,12nm,1.8s						
NVS				smax			
	comp=E,14nm,1.8s						
KLR	**Kul'dur**	**53.94**	**29**	*e*P	**P**	**19 44 38.9**	**-6.4**
BOD	**Bodaibo**	**54.54**	**13**	*e*P	**P**	**19 44 48.3**	**-1.3**
PMG	**Port Moresby**	**54.61**	**105**	*e*P	**P**	**19 44 50.3**	**-0.4**
	comp=E,8.4nm,0.6s,mb5.0						
CLNS	**Chul'man**	**56.71**	**20**	*e*P	**P**	**19 45 03.7**	**-1.6**
CLNS				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
CLNS				pmax	pmax		
	comp=N,9.0nm,1.1s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.9s						
CTA	**Charters Tower**	**56.90**	**118**	*e*P	**P**	**19 45 06.7**	**-0.4**
	comp=E,8.4nm,1.0s,mb4.7						
CTAO	**Charters Tower**	**56.90**	**118**	*e*P	**P**	**19 45 06.5**	**-0.7**
	comp=E,5.3nm,0.8s,mb4.6						
KMBO	**Kilima Mbogo**	**57.41**	**265**	P	**P**	**19 45 08.9**	**-1.9**
	comp=E,4.4nm,1.0s,mb4.4						
SVE	**Sverdlovsk**	**57.82**	**339**	*e*P	**P**	**19 45 11.5**	**-1.6**
STKA	**Stephens Creek**	**58.22**	**133⇑**	*i*P	**P**	**19 45 16.1**	**-0.2**
	comp=E,11nm,0.8s,mb4.9						
ARU	**Arti**	**58.29**	**338⇑**	*i*P	**P**	**19 45 14.8**	**-1.6**
ARU				*e*		19 46 03.6	
ARU				*e*		19 47 23.3	
ARU				*e*S	**S**	**19 53 15.8**	**+2.7**
ARU				*e*SS	SS	19 57 05.9	-1.3
ARU				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
ARU	**Arti**	**58.29**	**338**	*e*P	**P**	**19 45 14.7**	**-1.7**
	comp=Z,21nm,1.3s,mb5.0						
YSS	**Yuzh-Sakhalins**	**58.63**	**37⇓**	*e*P	**P**	**19 45 18.8**	**-0.1**
YSS				*e*	pP	19 45 30.8	-1.8
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
YSS	**Yuzh-Sakhalins**	**58.63**	**37**	*i* P	**P**	**19 45 18.0**	**-0.9**
YSS				*e*	pP	19 45 30.8	-1.7
KIV	**Kislovodsk**	**59.34**	**319**	*e*P	**P**	**19 45 22.7**	**-1.2**
KIV				*e*		19 46 15.1	
KIV				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
SOC	**Sochi**	**61.17**	**317**	*e*P	**P**	**19 45 30.9**	**-5.5**
SOC				*e*		19 46 15.6	
SOC				*e*S	**S**	**19 53 49.0**	**-1.5**
SOC				*e*SS	SS	19 57 50.3	-2.1
SOC				pmax	pmax		
	comp=N,3.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.5s						
SOC				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
YAK	**Yakutsk**	**62.30**	**18**	*e*P	**P**	**19 45 41.4**	**-2.3**
YAK				*e*	pP	19 45 53.0	-4.5
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.2						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.9						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK	**Yakutsk**	**62.30**	**18⇑**	*i*P	**P**	**19 45 41.0**	**-2.7**
ANN	**Anapa**	**63.14**	**318**	*e*P	**P**	**19 45 40.8**	**-8.7**
ANN				pmax	pmax		
	comp=Z,53nm,1.5s,mb5.5						
TOO	**Toolangi**	**63.87**	**136**	*e*P	**P**	**19 45 55.8**	**+1.4**
	comp=Z,11nm,0.8s,mb4.9						
TOO				*e*	pP	19 46 09.4	+1.1
MOS	**Moscow**	**67.34**	**329**	*e*P	**P**	**19 46 14.7**	**-1.6**
MOS				pmax	pmax		
	comp=Z,49nm,0.8s,mb5.6						
OBN	**Obninsk**	**67.63**	**328***c i*P	**P**	**19 46 16.7**	**-1.4**
OBN				*e*	pP	19 46 30.2	-1.9
OBN						19 46 45.0	
OBN				*e*		19 55 31.1	
OBN				pmax	pmax		
	comp=Z,14nm,0.5s,mb5.2						
OBN	**Obninsk**	**67.63**	**328**	*i* P	**P**	**19 46 16.0**	**-2.1**
LSZ	**Lusaka**	**68.67**	**251**	P	**P**	**19 46 29.9**	**+4.7**
MA2	**Magadan**	**68.88**	**27***c i*P	**P**	**19 46 25.3**	**-0.5**
MA2				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
MA2	**Magadan**	**68.88**	**27**	*i* P	**P**	**19 46 25.5**	**-0.3**
TIXI	**Tiksi**	**69.64**	**11***c i*P	**P**	**19 46 28.9**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.5						
TIXI	**Tiksi**	**69.64**	**11⇑**	*i*P	**P**	**19 46 28.9**	**-1.4**
RZN	**Rozhen**	**71.30**	**312**	*e*P	**P**	**19 46 41.0**	**+0.2**
MMB	**Musomiste**	**72.01**	**312**	*e*P	**P**	**19 46 44.0**	**-1.1**
KKB	**Krupnik**	**72.53**	**312**	*e*P	**P**	**19 46 47.0**	**-1.2**
VTS	**Vitosha**	**72.55**	**313**	*e*P	**P**	**19 46 47.5**	**-0.8**
LBTB	**Lobatse**	**73.26**	**242**	*e*P	**P**	**19 46 55.1**	**+2.3**
	comp=Z,5.0nm,0.6s,mb4.6						
KWP	**Kalwaria**	**74.09**	**320**	*e*P	**P**	**19 46 57.3**	**+0.1**
KOLS	**Kolonicke sedl**	**74.25**	**319**	*i* P	**P**	**19 46 58.5**	**+0.4**
SUW	**Suwalki**	**74.68**	**325**	*e*P	**P**	**19 46 59.6**	**-0.8**
CRVS	**Cervenica-Dubn**	**74.77**	**319**	*i* P	**P**	**19 47 01.5**	**+0.4**
KAF	**Kangasniemi**	**75.13**	**333**	*e*p	**P**	**19 47 01.9**	**-1.0**
	comp=Z,3.7nm,0.5s,mb4.6						
KAF	**Kangasniemi**	**75.13**	**333**	*e*P	**P**	**19 47 01.9**	**-1.0**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
OJC	**Ojcow**	**76.05**	**320**	*e*P	**P**	**19 47 08.5**	**+0.2**
VYHS	**Vyhne**	**76.43**	**318**	*i* P	**P**	**19 47 10.6**	**0.0**
OKC	**Ostrava-Krasne**	**77.05**	**320**	*e*P	**P**	**19 47 14.6**	**+0.6**
OKC				*e*pP	pP	19 47 28.6	+0.4
KEV	**Kevo**	**77.28**	**341**	*e*p	**P**	**19 47 15.1**	**+0.2**
MORC	**Moravsky Berou**	**77.43**	**320**	*e*P	**P**	**19 47 16.6**	**+0.5**
	comp=Z,52nm,1.6s,mb5.2						
ZST	**Bratislava**	**77.55**	**318**	*i* P	**P**	**19 47 17.2**	**+0.4**
DPC	**Dobruska-Polom**	**78.28**	**320**	*e*P	**P**	**19 47 21.8**	**+1.0**
DPC				*e*pP	pP	19 47 35.5	+0.6
BILL	**Bilibino**	**78.33**	**21**	*i* P	**P**	**19 47 20.5**	**-0.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
KSP	**Ksiaz**	**78.34**	**321⇑**	*e*P	**P**	**19 47 21.5**	**+0.4**
KSP	**Ksiaz**	**78.34**	**321**	*e*P	**P**	**19 47 22.1**	**+1

ML3.5, 14C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.63**	**29**	⇓*e*P	Pb	20 02 30.1	+0.7
CRUN	**El Crucero**	**0.69**	**59**	⇓*e*P	Pb	20 02 29.9	-0.5
XAVN	**Gruta Xavier**	**0.77**	**48**	⇑*e*P	Pb	20 02 31.2	-0.7
TICN	**Ticuantepe**	**0.77**	**59**	⇑*e*P	Pb	20 02 31.1	-0.8
LEON	**Leon**	**0.78**	**1**	⇑*e*P	Pb	20 02 32.8	+0.7
APYN	**Apoyeque**	**0.81**	**42**	⇓*e*P	Pb	20 02 32.1	-0.4
MGAN	**Managua**	**0.83**	**51**	*e*P	Pb	20 02 32.0	-0.8
MGAN				*e*		20 02 50.4	
	comp=N,2μm,0.4s						
MIRN	**Miramar**	**0.83**	**13**	⇓*e*P	Pb	20 02 33.2	+0.4
MOMN	**Momotombo**	**0.85**	**25**	⇑*e*P	Pb	20 02 33.2	0.0
APON	**Apoyo**	**0.87**	**71**	⇑*e*P	Pb	20 02 31.7	-1.9
WILN	**Americas 2**	**0.88**	**53**	⇑*e*P	Pb	20 02 32.8	-1.0
WILN				*e*S	Sb	20 02 45.6	+0.6
CNGN	**Cerro Negro**	**0.89**	**13**	⇑*e*P	Pb	20 02 33.9	0.0
TEL3	**Telica 3**	**0.94**	**4**	⇑*e*P	Pb	20 02 35.0	+0.2
CRIN	**San Cristobal**	**1.07**	**353**	⇓*e*P	Pb	20 02 37.3	+0.3
CRIN				*e*S	Sb	20 02 51.9	+1.3
PYTN	**Playitas**	**1.23**	**43**	⇑*e*P	Pb	20 02 37.7	-1.9
CONN	**Concepcion**	**1.26**	**93**	⇑*e*P	Pb	20 02 35.6	-4.6
CONN				*e*S	Sb	20 02 51.8	-4.2
CNCH	**Conchagua**	**1.87**	**331**	⇑*e*P	Pn	20 02 48.6	-0.4
CNCH				*e*S	Sn	20 03 13.2	+0.8
BLLM	**Bellamira**	**2.22**	**324**	⇑*e*P	Pn	20 02 53.5	-0.5
BLLM				*e*S	Sn	20 03 20.2	-1.0
VSM	**San Miguel**	**2.23**	**323**	*e*P	Pn	20 02 54.2	+0.1
FORC	**Fortuna**	**2.48**	**117**	*e*P	Pn	20 02 54.9	-2.8
JCR	**Jicaral**	**2.50**	**135**	*e*P	Pn	20 02 55.9	-2.1
JCR				*e*S	Sn	20 03 29.3	+1.0
SNVI	**San Vicente**	**2.73**	**316**	*e*P	Pn	20 03 01.1	-0.1
SNVI				*e*P		20 03 01.7	
LCBS	**La Ceiba**	**2.85**	**315**	*e*P	Pn	20 03 01.6	-1.4
LCBS				*e*S	Sn	20 03 36.2	-1.1
CGA2	**Cerro Gallo 2**	**2.89**	**124**	*e*P	Pn	20 03 03.4	-0.1
CGA2				*e*S	Sn	20 03 38.4	+0.2
LFRS	**El Faro**	**2.89**	**314**	⇑*e*P	Pn	20 03 02.6	-1.0
LFRS				*e*S	Sn	20 03 37.0	-1.2
LFU	**La Fuente**	**3.01**	**315**	*e*P	Pn	20 03 04.6	-0.7
PRS1	**Puriscal**	**3.03**	**122**	*e*P	Pn	20 03 03.8	-1.8
BOQS	**Boqueron**	**3.12**	**312**	*e*P	Pn	20 03 06.2	-0.6
BOQS				*e*S	Sn	20 03 44.2	+0.2
LAJ	**Bijagual**	**3.25**	**122**	*e*P	Pn	20 03 03.7	-5.0
LAJ				*e*S	Sn	20 03 41.3	-6.1
SJS	**Escuela Geolog**	**3.27**	**121**	*e*S	Sn	20 03 48.3	+0.5
TRTC	**Tortuguero**	**3.31**	**108**	*e*P	Pn	20 03 07.6	-1.9
LCR2	**La Lucha 2**	**3.42**	**123**	*e*P	Pn	20 03 10.7	-0.3
LCR2				*e*S	Sn	20 03 51.9	+0.3
ICR	**Volcan Irazu**	**3.44**	**118**	*e*P	Pn	20 03 11.1	-0.2
SBLS	**San Blas**	**3.44**	**310**	*e*P	Pn	20 03 10.5	-0.8
SBLS				*e*S	Sn	20 03 51.7	-0.5
SNJE	**San Jose**	**3.45**	**310**	*e*P	Pn	20 03 10.3	-1.1
URSC	**Urasca**	**3.56**	**120**	⇑*e*P	Pn	20 03 10.9	-2.1
BUS	**Buena Vista**	**3.72**	**123**	*e*P	Pn	20 03 13.8	-1.5
BUS				*e*S	Sn	20 04 01.4	+2.2

NEIC 02 20:07:03.5, 20.04N×155.09W, h36^{km}, ML3.6(HVO), 11C-25D, After HVO., Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKU	**Keanakolu**	**0.28**	**239**	⇓*i*P	P	20 07 10.7	-0.6
NGH	**National Guard**	**0.34**	**171**	⇓*i*P	P	20 07 11.2	-0.8
NGH				*e*S	S	20 07 17.4	-0.5
HPU	**Hale Pohaku**	**0.43**	**234**	⇑*i*P	P	20 07 12.3	-0.9
WKH	**Waikii**	**0.57**	**252**	⇑*i*P	P	20 07 13.7	-1.4
HMH	**Humuula**	**0.57**	**221**	⇑*i*P	P	20 07 14.1	-1.0
HMH				*e*S	S	20 07 22.1	-1.4
RSD	**Rainshed**	**0.60**	**198**	⇓*i*P	P	20 07 14.3	-1.2
MLH	**Mauna Loa**	**0.61**	**208**	⇓*i*P	P	20 07 14.4	-1.2
MLH				*e*S	S	20 07 22.6	-1.8
PLL	**Puu Ulaula**	**0.61**	**215**	⇓*i*P	P	20 07 14.4	-1.3
HUL	**Heiheiahulu**	**0.62**	**171**	⇓*i*P	P	20 07 14.3	-1.5
HUL				*e*S	S	20 07 22.3	-2.5
KLCH	**Kalalua Cone**	**0.63**	**178**	⇓*e*P	P	20 07 14.3	-1.6
UWE	**Uwekahuna**	**0.64**	**198**	⇓*i*P	P	20 07 14.5	-1.6
UWE				*e*S	S	20 07 22.7	-2.5
NPH	**North Pit**	**0.65**	**197**	⇓*i*P	P	20 07 14.4	-1.8
NPH				*e*S	S	20 07 22.6	-2.8
STCH	**Steam Cracks**	**0.65**	**183**	⇓*i*P	P	20 07 14.6	-1.6
KNHH	**Kane Nui o Ham**	**0.66**	**187**	⇓*i*P	P	20 07 14.7	-1.6
KNHH				*e*S	S	20 07 23.1	-2.6
KOH	**Kohala**	**0.66**	**278**	⇑*i*P	P	20 07 14.1	-2.2
RIM	**Rim**	**0.66**	**196**	⇓*i*P	P	20 07 14.7	-1.6
PUH	**Pauahi**	**0.67**	**191**	⇑*i*P	P	20 07 14.9	-1.6
PUH				*e*S	S	20 07 23.2	-2.7
OUT	**Outlet**	**0.67**	**196**	⇓*i*P	P	20 07 14.8	-1.7
OUT				*e*S	S	20 07 23.0	-2.9
CPK	**Cone Peak**	**0.68**	**200**	⇓*i*P	P	20 07 14.8	-1.8
AHA	**Ahua**	**0.68**	**194**	⇑*i*P	P	20 07 15.0	-1.6
WOB	**Weather Observ**	**0.68**	**223**	⇑*e*P	P	20 07 15.8	-0.9
KNH	**Kipuka Nene**	**0.72**	**195**	⇓*i*P	P	20 07 15.4	-1.9
MWH	**Mokuaweoweo**	**0.73**	**222**	⇓*i*P	P	20 07 16.0	-1.3
WIH	**Wilkes Camp**	**0.73**	**220**	⇓*i*P	P	20 07 16.1	-1.4
WIH				*e*S	S	20 07 25.4	-2.2
AIN	**Ainahou**	**0.75**	**208**	⇓*i*P	P	20 07 16.2	-1.4
AIN				*e*S	S	20 07 25.7	-2.2
DES	**Desert**	**0.75**	**202**	⇑*i*P	P	20 07 15.8	-1.9
SWH	**Southwest Rift**	**0.76**	**220**	⇓*i*P	P	20 07 16.2	-1.5
PWH	**Poliokeawe Pal**	**0.76**	**190**	⇓*i*P	P	20 07 16.1	-1.7
HLP	**Hilina Pali**	**0.76**	**196**	⇓*i*P	P	20 07 15.9	-1.9
HUH	**Hualalai**	**0.79**	**244**	⇑*i*P	P	20 07 16.9	-1.3
RCO	**Red Cone**	**0.81**	**219**	⇓*i*P	P	20 07 16.6	-1.8
KIH	**Kanekii**	**0.83**	**231**	⇑*i*P	P	20 07 17.2	-1.5
KIH				*e*S	S	20 07 27.8	-2.1
DAH	**Dandelion**	**0.87**	**219**	⇓*i*P	P	20 07 17.4	-2.0
WOH	**Wood Valley**	**0.87**	**207**	⇑*i*P	P	20 07 17.6	-1.7
PPL	**Puu Pili**	**0.94**	**202**	⇓*i*P	P	20 07 18.4	-2.0
KKH	**Kailua Kona**	**0.95**	**247**	*e*P	P	20 07 18.2	-2.4
OVEH	**Oceanview Est**	**1.09**	**216**	⇓*e*P	P	20 07 20.4	-2.0
HKL	**Haleakala**	**1.29**	**302**	*e*P	P	20 07 22.5	-2.8
KIP	**Kipapa**	**3.07**	**297**	*e*P	P	20 07 46.7	-4.1

CASC 02 20:07:13.9±2.6, 15.55N×89.73W, h25^{km}±55^{km}, MD3.6, ML3.7, 1C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBG	**Las Nubes**	**1.13**	**212**	*e*P	Pn	20 07 33.0	-1.3
NBG				*e*S	Sb	20 07 51.8	+2.9
NBG				AML	AML	20 07 55.4	
	comp=E,5μm,0.5s						
MTO2	**Montecristo 2**	**1.20**	**163**	*e*P	Pn	20 07 36.3	+1.0
MTO2				*e*S	Sn	20 07 52.0	+1.1
RBDL	**Robledal**	**1.43**	**178**	⇑*e*P	Pn	20 07 37.8	-0.8
RBDL				*e*S	Sn	20 07 55.7	-1.1
TP2	**Tecpan 2**	**1.46**	**239**	⇓*e*P	Pn	20 07 38.4	-0.8
TP2				*e*S	Sn	20 07 59.3	+1.6
TP2				AML	AML	20 08 03.2	
	comp=E,561nm,0.6s						
IXG	**Ixpaco**	**1.54**	**207**	⇓*e*P	Pn	20 07 39.2	-1.0
IXG				*e*S	Sn	20 08 02.4	+2.9
IXG				AML	AML	20 08 09.6	
	comp=E,3μm,0.5s						
RTR	**El Retiro**	**1.65**	**177**	*e*P	Pn	20 07 41.5	-0.2
RTR				*e*S	Sn	20 08 02.2	0.0
SNJE	**San Jose**	**1.68**	**176**	*e*P	Pn	20 07 42.0	-0.2
BOQS	**Boqueron**	**1.86**	**166**	*e*P	Pn	20 07 45.0	+0.3
BOQS				*e*S	Sn	20 08 07.4	-0.2
LFU	**La Fuente**	**1.89**	**162**	*e*P	Pn	20 07 45.5	+0.3
LBRS	**Las Brisas**	**1.92**	**160**	*e*P	Pn	20 07 45.8	+0.1
LBRS				*e*S	Sn	20 08 10.2	+1.0
LCBS	**La Ceiba**	**2.02**	**159**	*e*P	Pn	20 07 46.8	-0.3
LCBS				*e*S	Sn	20 08 12.0	+0.3
LFRS	**El Faro**	**2.02**	**161**	*e*P	Pn	20 07 46.7	-0.4
LFRS				*e*S	Sn	20 08 11.8	0.0

*BJI **02** 20:12:19.0, 6.48N×92.98E, h45^{km}, mB5.1, mb4.5, Ms4.6, Msz4.0*
*NEIC **02** 20:12:25.4±0.4, 7.14N×93.00E, mb4.6/15, Error ellipse: s-maj=9.7km s-min=9.5km az=172.0*
ISC 02 20:12:21.0±3.3, 7.06N±0.07×93.02E±0.07, h23^{km}±23^{km}, n43, σ0^{s}92/43, mb4.7/21, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.22**	**272**	*e*P	P	**20 15 15.7**	**-1.2**
	14nm,0.3s						
CM31	**Chiang Mai Arr**	**12.71**	**26**	*e*Pn	P	**20 15 24.6**	**+1.2**
	6.0nm,0.6s						
MDRS	**Chennai**	**13.92**	**296**	*e*P	P	**20 15 38.8**	**-0.6**
MDRS				*e*		20 15 40.0	
	comp=Z,130nm,0.2s						
VIS	**Vishakhapatnam**	**14.20**	**319**	*e*P	P	**20 15 42.2**	**-0.9**
VIS				*e*		20 15 43.4	
	comp=Z,19nm,0.4s						
VIS				*e*		20 18 04.2	
TRD	**Trivandrum**	**15.98**	**276**	*e*P	P	**20 16 07.5**	**+1.2**
TRD				*e*		20 16 08.2	
	comp=Z,14nm,0.4s						
HYB	**Hyderabad**	**17.47**	**307**	*i*P	P	**20 16 24.5**	**-0.6**
HYB				*e*S	S	**20 19 22.0**	**-15**
SHL	**Shillong**	**18.44**	**357**	*e*P	P	**20 16 35.0**	**-2.1**
KAD	**Karad**	**21.02**	**301**	*e*P	P	**20 17 05.7**	**0.0**
KAD				*e*		20 17 10.5	
	comp=Z,29nm,1.1s						
PKI	**Pulchoki**	**21.64**	**341**	*e*P	P	**20 17 12.8**	**+0.9**
	comp=Z,35nm,0.6s,mb5.0						
DMN	**Daman**	**21.77**	**341**	*e*P	P	**20 17 13.9**	**+0.7**
	comp=Z,58nm,0.7s,mb5.1						
GUN	**Gumba**	**21.81**	**343**	*e*P	P	**20 17 14.1**	**+0.4**
	comp=Z,66nm,0.7s,mb5.2						
POO	**Poona**	**21.87**	**303**	*e*	P	**20 17 28.0**	**+14**
POO				*e*		20 17 29.5	
	comp=Z,14nm,0.8s						
KKN	**Kakani**	**21.89**	**341**	*e*P	P	**20 17 14.9**	**+0.5**
	comp=Z,45nm,0.8s,mb5.0						
GKN	**Gorkha**	**22.29**	**340**	*e*P	P	**20 17 19.0**	**+0.6**
	comp=Z,56nm,0.7s,mb5.1						
KOLN	**Koldanda**	**22.45**	**338**	*e*P	P	**20 17 20.5**	**+0.5**
	comp=Z,72nm,1.2s,mb5.0						
LSA	**Lhasa**	**22.59**	**356**	P	P	**20 17 22.1**	**+0.7**
LSA	**Lhasa**	**22.59**	**356**	*e*P	P	**20 17 19.7**	**-1.8**
	comp=Z,14nm,0.8s,mb4.4						
DGAR	**Diego Garcia**	**25.05**	**235**	P	P	**20 17 46.6**	**+1.2**
	comp=Z,21nm,0.6s,mb4.8						
ENH	**Enshi**	**27.79**	**32**	*e*P	P	**20 18 09.7**	**-0.9**
	comp=Z,7.5nm,0.5s,mb4.6						
UCH	**Uchtor**	**38.67**	**338**	P	P	**20 19 45.6**	**+0.8**
	SNR=8.5						
KBK	**Karagaybulak**	**38.88**	**339**	P	P	**20 19 47.9**	**+1.4**
	SNR=17						
AML	**Almayashu**	**38.90**	**337**	P	P	**20 19 48.2**	**+1.5**
	SNR=23						
AAK	**Ala-Archa**	**39.02**	**338**	*e*P	P	**20 19 47.6**	**-0.2**
	comp=Z,5.0nm,0.9s,mb4.2						
AAK				*e*		20 19 59.1	
EKS2	**Erkin-Say**	**39.32**	**337**	P	P	**20 19 51.6**	**+1.4**
	SNR=9.2						
USP	**Ospenovka**	**39.57**	**339**	P	P	**20 19 52.8**	**+0.5**
	SNR=9.5						
FITZ	**Fitzroy Crossi**	**40.77**	**128**	*e*P	P	**20 20 02.4**	**0.0**
	comp=Z,7.3nm,0.5s,mb4.6						
HIA	**Hailar**	**47.70**	**23**	*e*P	P	**20 20 58.2**	**+0.3**
	comp=Z,8.9nm,1.1s,mb4.7						
WRAB	**Tennant Creek**	**48.72**	**124**	*e*P	P	**20 21 05.1**	**-1.0**
	comp=Z,6.9nm,0.8s,mb4.7						
WRAB				*e*		20 21 17.7	
WB2	**Warramunga Arr**	**48.72**	**124**	*e*P	P	**20 21 05.9**	**-0.3**
GNI	**Garni**	**54.22**	**315**	*e*P	P	**20 21 46.1**	**-1.2**
	comp=Z,2.9nm,0.7s,mb4.3						
ARU	**Arti**	**56.21**	**338**	*e*P	P	**20 21 59.7**	**-1.9**
	comp=Z,5.3nm,0.4s,mb4.9						
KMBO	**Kilima Mbogo**	**56.23**	**264**	*e*P	P	**20 22 03.0**	**+0.7**
	comp=Z,1.1nm,0.5s,mb4.1						
EIL	**Elat**	**58.87**	**300**	*e*P	P	**20 22 20.7**	**0.0**
	comp=Z,3.5nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**60.36**	**133**	*e*P	P	**20 22 31.7**	**+0.7**
	comp=Z,2.3nm,0.7s,mb4.3						
LSZ	**Lusaka**	**67.95**	**250**	*e*P	P	**20 23 20.7**	**-0.2**
	comp=Z,2.4nm,0.7s,mb4.3						
LSZ				*e*		20 23 32.9	
LBTB	**Lobatse**	**72.88**	**241**	*e*P	P	**20 23 51.2**	**+0.5**
	comp=Z,4.8nm,0.8s,mb4.5						
KAF	**Kangasniemi**	**73.01**	**333**	*e*p	P	**20 23 49.3**	**-1.4**
OJC	**Ojcow**	**73.88**	**320**	*e*P	P	**20 23 55.7**	**-0.3**
KEV	**Kevo**	**75.23**	**341**	*e*p	P	**20 24 02.5**	**-1.0**
KHC	**Kasperske Hory**	**77.79**	**319**	*e*P	P	**20 24 17.5**	**-0.6**
KHC				*e*		20 24 32.0	
KHC	**Kasperske Hory**	**77.79**	**319**	*e*P	P	**20 24 17.5**	**-0.6**
KHC				x	x	20 24 32.0	
LPG	**La Plagne**	**82.40**	**315**	*e*P	P	**20 24 42.3**	**-0.6**
	comp=Z,9.1nm,0.6s,mb4.6						
LPAZ	**La Paz**	**159.40**	**242**	*e*PKPdf	PKPdf	20 32 20.1	-2.8
LPAZ				*e*PKPab	PKPab	20 32 58.0	-0.5

*NEIC **02** 20:41:30.9±0.4, 11.26N×92.18E, mb4.6/12, Error ellipse: s-maj=9.9km s-min=9.6km az=164.0*
*BJI **02** 20:41:32.4, 10.93N×92.19E, h46^{km}, mB5.1, mb4.6*
ISC 02 20:41:28.8±0.5, 11.23N±0.06×92.09E±0.05, h22^{km}, h22^{km}±.4^{km}; pP-P, n32, σ1^{s}23/34, mb4.5/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.77**	**57**	*i*P	**Pb**	**20 41 44.0**	**+0.7**
PBA				*i*S	**Sb**	**20 41 49.5**	**-3.9**
CM31	**Chiang Mai Arr**	**9.77**	**42**	*e*P	P	**20 43 50.0**	**-1.4**
	0.1nm,0.8s						
VIS	**Vishakhapatnam**	**10.65**	**308**	*e*P	P	**20 44 01.1**	**-2.3**
VIS				*e*		20 44 03.4	
	comp=Z,37nm,0.2s						
VIS				*e*S	**S**	**20 45 51.4**	**-12**
MDRS	**Chennai**	**11.72**	**280**	*e*P	P	**20 44 17.4**	**-0.5**
MDRS				*e*		20 44 18.6	
	comp=Z,106nm,0.3s						
MDRS				*e*		20 45 54.2	
PALK	**Pallekele**	**11.90**	**252**	*e*P	P	**20 44 20.1**	**-0.4**
	comp=Z,8.9nm,0.8s						
SHL	**Shillong**	**14.26**	**359**	*e*	P	**20 44 54.5**	**+2.8**
HYB	**Hyderabad**	**14.48**	**297**	*i*P	P	**20 44 54.0**	**-0.6**
HYB				*e*S	**S**	**20 47 21.5**	**-14**
HYB				*e*S	**S**	**20 47 34.0**	**-1.4**
PKI	**Pulchoki**	**17.42**	**340**	*e*P	P	**20 45 32.7**	**+0.4**
	comp=Z,58nm,1.2s						
DMN	**Daman**	**17.56**	**339**	*e*P	P	**20 45 33.6**	**-0.4**
	comp=Z,45nm,0.8s						
GUN	**Gumba**	**17.58**	**342**	*e*P	P	**20 45 36.9**	**+2.6**
	comp=Z,14nm,0.5s						
KKN	**Kakani**	**17.67**	**340**	*e*P	P	**20 45 35.9**	**+0.5**
	comp=Z,24nm,0.9s						
GKN	**Gorkha**	**18.09**	**338**	*e*P	P	**20 45 40.0**	**-0.6**
	comp=Z,15nm,0.3s						
KOLN	**Koldanda**	**18.28**	**335**	*e*P	P	**20 45 44.0**	**+1.0**
	comp=Z,22nm,0.7s						
LSA	**Lhasa**	**18.39**	**357**	P	P	**20 45 47.4**	**+3.0**
LSA	**Lhasa**	**18.39**	**357**	*e*P	P	**20 45 45.5**	**+1.1**
	comp=Z,3.3nm,0.6s						
POO	**Poona**	**19.05**	**295**	*e*	**S**	**20 49 33.0**	**+12**
NDI	**New Delhi**	**22.24**	**323**	*e*P	P	**20 46 23.0**	**-2.8**
ENH	**Enshi**	**24.91**	**38**	*e*P	P	**20 46 50.5**	**-1.4**
	comp=Z,12nm,0.6s,mb4.6						
XAN	**Xi'an**	**27.43**	**31**	P	P	**20 47 14.7**	**-0.4**
XAN				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb3.8						
AAK	**Ala-Archa**	**34.84**	**337**	*e*P	P	**20 48 20.1**	**-0.3**
	comp=Z,7.9nm,1.4s,mb4.5						
MBWA	**Marble Bar**	**42.12**	**140**	*e*P	P	**20 49 21.8**	**+0.3**
	comp=Z,2.3nm,0.5s,mb4.1						
MBWA				*e*	pP	20 49 27.8	-0.1
FITZ	**Fitzroy Crossi**	**44.12**	**131**	*e*P	P	**20 49 37.3**	**-0.5**
	comp=Z,17nm,1.3s,mb4.6						
FITZ				*i*	pP	20 49 44.2	-0.1
GNI	**Garni**	**50.66**	**313**	*e*P	P	**20 50 28.4**	**-0.3**
	comp=Z,13nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**51.87**	**126**	*e*P	P	**20 50 37.5**	**-0.6**
	comp=Z,11nm,0.6s,mb5.0						
WRAB				*e*	pP	20 50 44.0	-0.8
WB2	**Warramunga Arr**	**51.87**	**126**	*e*P	P	**20 50 37.3**	**-0.9**
WB2				*e*	pP	20 50 44.1	-0.7
MALT	**Malatya**	**54.77**	**309**	*e*P	P	**20 51 00.0**	**+0.6**
	comp=Z,8.5nm,1.2s,mb4.7						
STKA	**Stephens Creek**	**63.88**	**134**	*e*P	pP	20 52 09.5	+0.2
	comp=Z,1.9nm,0.4s						
LSZ	**Lusaka**	**68.53**	**249**	*e*P	P	**20 52 34.2**	**+1.8**
	comp=Z,3.0nm,0.9s,mb4.2						
KAF	**Kangasniemi**	**68.90**	**333**	*e*p	P	**20 52 34.0**	**+0.1**
LBTB	**Lobatse**	**74.11**	**240**	*e*P	P	**20 53 07.9**	**+2.1**
	comp=Z,3.1nm,0.7s,mb4.3						
IMA	**Indian Mountai**	**89.29**	**22**	*e*P	P	**20 54 26.0**	**+1.6**
	comp=Z,15nm,0.6s,mb5.5						
IMA				*e*	pP	20 54 33.0	+1.7
LPAZ	**La Paz**	**160.14**	**253**	PKPdf	PKPdf	21 01 29.9	-1.6

*NEIC **02** 20:58:48.3, 32.35N×115.22W, h6^{km}, ML4.0(PAS), After PAS.*
NEIC Felt at Calexico and El Centro, California.
ECX 02 20:58:45.8±0.5, 32.30N×115.19W, h7^{km}, MD4.2, ML4.4, 4C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.15**	**320**	⇓*e*P	Pg	20 58 50.6	+1.6
CPBX				*e*S	Sg	20 58 54.6	+3.4
CPBX				⇓*e*		20 58 55.1	
	comp=E,473μm,0.4s						
COA	**Coachella**	**0.56**	**6**	⇓*i*P	Pg	20 58 58.2	+1.2
PLT	**Pilot Knob**	**0.58**	**42**	⇑*i*P	Pg	20 58 58.4	+1.0
YMD	**Yuma Desert**	**0.60**	**65**	⇑*i*P	Pg	20 58 59.7	+1.9
RDX	**Rancho Dowling**	**0.74**	**240**	*e*PN	Pn	20 59 03.2	+0.8
RDX				*e*S	Sg	20 59 14.3	+3.7
RDX				⇑*e*		20 59 15.5	
	comp=E,12μm,0.3s						
RDX				⇑*e*		20 59 15.5	
	comp=N,7μm,0.5s						
BAR	**Barrett**	**1.31**	**287**	*e*P	Pb	20 59 10.2	-0.1
ENX	**Ensenada**	**1.32**	**252**	⇓*e*PN	Pn	20 59 12.4	+1.7
ECNX	**Esteban Cantu**	**1.36**	**242**	*e*PN	Pn	20 59 12.5	+1.3
PBX	**Punta Banda**	**1.42**	**247**	*e*PN	Pn	20 59 14.3	+2.2
PFO	**Pinyon Flat Ob**	**1.68**	**321**	*e*P	Pn	20 59 14.1	-1.7
LDFC	**Landfair**	**2.77**	**1**	*e*P	Pn	20 59 30.7	-0.8
MWC	**Mount Wilson**	**3.07**	**309**	*e*P	Pn	20 59 34.2	-1.5
NEN	**Nelson**	**3.35**	**5**	*e*P	Pn	20 59 38.0	-1.6
TUC	**Tucson**	**3.73**	**89**	*e*P	Pn	20 59 43.8	-1.3
DAC	**Darwin (Calif)**	**4.43**	**334**	P	Pn	20 59 55.0	-0.1
MTUM	**Tungsten Hills**	**5.75**	**332**	P	Pn	21 00 12.7	-1.0
TPH	**Tonopah**	**5.99**	**344**	P	Pn	21 00 11.3	-5.8
TRCR	**Troy Canyon**	**6.04**	**357**	P	Pn	21 00 14.5	-3.3
OMM	**Old Mammoth Mi**	**6.15**	**331**	P	Pn	21 00 15.0	-4.3
MNV	**Mina**	**6.58**	**339**	*e*P	Pn	21 00 20.9	-4.5
MVU	**Marysvale**	**6.65**	**21**	P	Pn	21 00 21.8	-4.6
MSU	**Marysvale**	**6.67**	**21**	*e*P	Pn	21 00 23.1	-3.5
LAZ	**Ladron**	**7.05**	**71**	P	Pn	21 00 25.9	-6.1
CMB	**Columbia Colle**	**7.13**	**325**	*e*P	Pn	21 00 28.2	-4.9
LENM	**Lemitar**	**7.13**	**73**	*e*P	Pn	21 00 29.0	-4.1
BNM	**Barren Site**	**7.41**	**73**	P	Pn	21 00 33.9	-3.1
LPM	**Los Pinos Moun**	**7.44**	**72**	P	Pn	21 00 34.0	-3.5
TMUT	**Trail Mountain**	**7.69**	**24**	*e*P	Pn	21 00 34.1	-6.9
ANMO	**Albuquerque**	**7.74**	**68**	*e*P	Pn	21 00 39.8	-1.9
SRU	**San Rafael**	**7.78**	**28**	*e*P	Pn	21 00 38.3	-3.9
PV10	**Paradox Valley**	**7.87**	**38**	P	Pn	21 00 39.7	-3.8
PV01	**Paradox Valley**	**7.95**	**41**	*e*P	Pn	21 00 34.1	-10
NLU	**North Lily Min**	**8.04**	**17**	*e*P	P	21 00 40.6	-5.3
MPU	**Maple Canyon**	**8.21**	**19**	P	P	21 00 42.9	-5.4
MNTX	**Cornudas Mount**	**8.35**	**92**	P	P	21 00 47.2	-3.0
RW3	**Ridgway**	**8.53**	**44**	P	P	21 00 49.8	-2.9
JLU	**Jordanelle**	**8.81**	**19**	P	P	21 00 55.0	-1.5
GDL2	**Guadalupe Moun**	**9.17**	**88**	*e*P	P	21 00 56.8	-4.8
IMW	**Indian Meadow**	**12.05**	**15**	P	P	21 01 39.8	-1.1
MCMT	**McKenzie Canyo**	**12.64**	**8**	P	P	21 01 47.8	-1.0
BMO	**Blue Mountains**	**12.64**	**353**	P	P	21 01 47.3	-1.5
CHMT	**Chamberlain Mo**	**14.67**	**5**	P	P	21 02 14.8	-0.7

*TRN **02** 21:56:18.6, 18.44N×64.76W, h33^{km}, MD3.7, M4.6(FDF)*
*RSPR **02** 21:56:22.2, 18.74N×64.71W, h14^{km}±26^{km}, MD3.7/14, MD3.7/14*
*NEIC **02** 21:56:22.2, 18.74N×64.71W, h

IMP	**Imphal**	**16.88**	**1**	*e*P	**P**	**22 29 40.3**	**+0.9**
HYB	**Hyderabad**	**17.46**	**305**	*i* P	**P**	**22 29 49.5**	**+2.8**
SHL	**Shillong**	**17.72**	**355**	*e*P	**P**	**22 29 49.0**	**-1.0**
PKI	**Pulchoki**	**21.11**	**340**	*e*P	**P**	**22 30 28.1**	**-0.1**
	42nm,0.5s,mb5.0						
DMN	**Daman**	**21.25**	**339**	*e*P	**P**	**22 30 29.5**	**-0.1**
	50nm,0.8s,mb4.9						
GUN	**Gumba**	**21.26**	**341**	*e*P	**P**	**22 30 29.5**	**-0.2**
	90nm,0.6s,mb5.3						
KKN	**Kakani**	**21.35**	**340**	*e*P	**P**	**22 30 30.1**	**-0.5**
	42nm,0.6s,mb4.9						
GKN	**Gorkha**	**21.78**	**338**	*e*P	**P**	**22 30 34.5**	**-0.4**
	41nm,0.5s,mb5.1						
LSA	**Lhasa**	**21.89**	**354**	*e*P	**P**	**22 30 35.8**	**-0.2**
	15nm,0.6s,mb4.6						
KOLN	**Koldanda**	**21.97**	**336**	*e*P	**P**	**22 30 37.0**	**+0.2**
	30nm,0.8s,mb4.8						
ENH	**Enshi**	**26.87**	**32**	*e*P	**P**	**22 31 23.4**	**-0.5**
	15nm,0.6s,mb4.7						
XAN	**Xi'an**	**29.70**	**26**	P	**P**	**22 31 48.2**	**-1.1**
XAN				AMB	AMB		
	comp=Z,17nm,0.7s,mb4.9						
BJT	**Baijiatuan**	**37.91**	**29**	*e*P	**P**	**22 33 01.3**	**+1.3**
	comp=Z,8.2nm,0.6s,mb4.6						
AAK	**Ala-Archa**	**38.53**	**337**	*e*P	**P**	**22 33 04.4**	**-0.7**
	comp=Z,3.9nm,0.9s,mb4.1						
MBWA	**Marble Bar**	**38.60**	**139**	*e*P	**P**	**22 33 06.4**	**+0.4**
	comp=Z,1.5nm,0.4s,mb4.1						
ULN	**Ulaanbaatar**	**41.53**	**14**	*e*P	**P**	**22 33 29.1**	**-0.8**
	comp=Z,2.7nm,0.6s,mb4.0						
HIA	**Hailar**	**46.80**	**23**	*e*P	**P**	**22 34 11.9**	**-0.4**
	comp=Z,7.8nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**48.71**	**125**	*e*P	**P**	**22 34 27.2**	**-0.4**
	comp=Z,9.3nm,0.4s,mb5.2						
MAT	**Matsushiro**	**49.63**	**48**	*e*P	**P**	**22 34 35.0**	**+0.5**
MAT	**Matsushiro**	**49.63**	**48**	P	**P**	**22 34 34.6**	**+0.1**
STKA	**Stephens Creek**	**60.49**	**133**	*e*P	**P**	**22 35 53.0**	**-0.4**
LSZ	**Lusaka**	**68.70**	**250**	*e*P	**P**	**22 36 47.8**	**+0.9**
	comp=Z,1.8nm,0.6s,mb4.2						
KAF	**Kangasniemi**	**72.58**	**333**	*e*p	**P**	**22 37 05.9**	**-3.6**
LBTB	**Lobatse**	**73.70**	**241**	*e*P	**P**	**22 37 18.0**	**+1.1**
	comp=Z,0.9nm,0.6s,mb3.9						
KEV	**Kevo**	**74.70**	**341**	*e*p	**P**	**22 37 20.8**	**-1.0**
JCT	**Junction City**	**139.82**	**18**	PKPdf	PKPdf	22 45 11.4	+1.9

*BJI **02** 23:01:43.9, 4.70N×93.60E, h45km, mb4.5*
*NEIC **02** 23:01:45.0±4.4, 4.72N×93.58E, h46km±39km, mb4.5/5, Error ellipse: s-maj=27.5km s-min=21.1km az=60.0*
ISC 02 23:01:41.3±6.4, 4.5N±0.2×93.9E±0.2, h45km±55km, n16, σ0:83/16, mb4.6/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**14.78**	**19**	*e*Pn	**P**	**23 05 09.2**	**0.0**
	9.4nm,0.6s						
CM31				*e*P		23 05 14.7	
PKI	**Pulchoki**	**24.36**	**342**	*e*P	**P**	**23 06 56.4**	**0.0**
	11nm,0.8s,mb4.3						
DMN	**Daman**	**24.49**	**341**	*e*P	**P**	**23 06 57.4**	**-0.3**
GUN	**Gumba**	**24.54**	**343**	*e*P	**P**	**23 06 58.4**	**+0.3**
	21nm,0.7s,mb4.8						
KKN	**Kakani**	**24.61**	**341**	*e*P	**P**	**23 06 58.5**	**-0.3**
	14nm,0.8s,mb4.5						
GKN	**Gorkha**	**25.01**	**340**	*e*P	**P**	**23 07 03.0**	**+0.3**
	38nm,0.7s,mb5.0						
KOLN	**Koldanda**	**25.16**	**338**	*e*P	**P**	**23 07 04.5**	**+0.3**
	44nm,0.8s,mb5.0						
LSA	**Lhasa**	**25.24**	**354**	*e*P	**P**	**23 07 09.0**	**+4.1**
LSA	**Lhasa**	**25.24**	**354**	*e*P	**P**	**23 07 05.8**	**+0.9**
	11nm,0.6s,mb4.6						
ENH	**Enshi**	**29.62**	**28**	*e*P	**P**	**23 07 43.8**	**-0.9**
	4.1nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**41.74**	**338**	*e*P	**P**	**23 09 26.9**	**-0.8**
	5.3nm,1.2s,mb4.0						
WRAB	**Tennant Creek**	**46.59**	**123**	*e*P	**P**	**23 10 12.3**	**+5.3**
	8.5nm,0.8s,mb4.7						
HIA	**Hailar**	**49.77**	**22**	*e*P	**P**	**23 10 32.1**	**+0.7**
	3.1nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**58.00**	**132**	*e*P	**P**	**23 11 30.5**	**-1.6**
LSZ	**Lusaka**	**67.90**	**252**	*e*P	**P**	**23 12 37.8**	**0.0**
KAF	**Kangasniemi**	**75.70**	**333**	*e*p	**P**	**23 13 23.8**	**+0.3**

*NNC **02** 23:16:00.8±4.0, 43.05N×78.55E, mpv4.0, Error ellipse: s-maj=80.8km s-min=17.6km az=154.0*
ISC 02 23:16:03.4±1.6, 43.3N±0.2×78.2E±0.2, h10km, n12, σ0:77/14, 3C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.76**	**236**	P	**Pn**	**23 16 32.8**	**-1.6**
	SNR=33						
TKM2	**Tokmak 2**	**1.94**	**261**	P	**Pn**	**23 16 36.8**	**-0.2**
	SNR=575						
KBK	**Karagaybulak**	**2.47**	**257**	P	**Pn**	**23 16 45.5**	**+1.0**
	SNR=1163						
KZA	**Kyzart**	**2.48**	**243**	P	**Pn**	**23 16 44.9**	**+0.3**
	SNR=97						
CHMS	**Chumysh**	**2.55**	**266**	P	**Pn**	**23 16 45.4**	**-0.2**
	SNR=110						
USP	**Ospenovka**	**2.71**	**272**	P	**Pn**	**23 16 46.8**	**-1.1**
	SNR=58						
AAK	**Ala-Archa**	**2.80**	**259**	⇓Pn	**Pn**	**23 16 49.1**	**-0.1**
	46nm,0.3s						
AAK				⇑Sn	**Sn**	**23 17 28.4**	**+5.1**
	152nm,0.4s						
AAK	**Ala-Archa**	**2.80**	**259**	P	**Pn**	**23 16 49.1**	**0.0**
	SNR=135						
UCH	**Uchtor**	**2.91**	**251**	P	**Pn**	**23 16 52.0**	**+1.2**
	SNR=151						
EKS2	**Erkin-Say**	**3.31**	**261**	P	**Pn**	**23 16 56.0**	**-0.4**
	SNR=16						
AML	**Almayashu**	**3.51**	**253**	P	**Pn**	**23 17 00.0**	**+0.8**
	SNR=22						
MK31	**Makanchi Array**	**4.58**	**38**	⇑Pn	**Pn**	**23 17 14.3**	**0.0**
	3.8nm,0.3s,baz=185,slow=12						
MK31				⇓Sn	**Sn**	**23 18 08.3**	**+0.1**
	12nm,0.3s,baz=216,slow=25						
MK31				⇑Lg		23 18 25.7	
	30nm,0.5s,baz=218,slow=29						

*TAP **02** 23:18:27.0, 23.97N×122.44E, h13km±1km, ML2.7*
JMA 02 23:18:28.4±0.2, 24.13N×122.46E, h32km, M1.7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.60**	**57**	P	Pb	23 18 40.2	-0.3
YOJ				S	Sb	23 18 48.6	-0.3
IRIF	**Iriomote-Funau**	**1.18**	**80**	P	Pn	23 18 49.1	+0.2
IRIF				S	Sn	23 19 03.8	-0.1
HATJ	**Hateruma jima**	**1.23**	**93**	*e*S	Sn	23 19 05.1	-0.2
JKRS	**Kuro-shima**	**1.42**	**85**	P	Pn	23 18 52.9	+0.5
JKRS				S	Sn	23 19 10.6	+0.5
JIJ	**Ishigaki jima**	**1.55**	**81**	P	Pn	23 18 54.0	-0.3
JIJ				*e*S	Sn	23 19 13.5	0.0

*NEIC **03** 00:40:30.0, 30.65S×117.48E, h2km, ML3.5(AUST), After AUST.*
AUST 03 00:40:30.2, 30.65S×117.48E, h2km, ML3.5, 1D, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLDU	**Ballidu**	**0.67**	**273**	⇓*i*P	Pg	00 40 42.3	-1.1
BLDU				*e*S	Sg	00 40 50.1	-2.2
	752nm,0.6s						
MUN	**Mundaring**	**1.71**	**219**	*e*P	Pn	00 40 59.9	-1.4
MUN				*e*S	Sb	00 41 22.0	-2.0
	104nm,0.3s						
MORW	**Morawa**	**2.01**	**321**	*e*P	Pn	00 41 03.8	-1.8
MORW				*e*S	Sn	00 41 28.7	-3.0
	82nm,0.3s						
NWAO	**Narrogin (SRO)**	**2.28**	**185**	*e*P	Pn	00 41 07.3	-2.1
NWAO				*e*S	Sn	00 41 34.4	-4.0
	410nm,0.3s						
KMBL	**Kambalda**	**3.85**	**102**	*e*P	Pn	00 41 28.7	-3.0
KMBL				*e*S	Sn	00 42 11.6	-6.6
	53nm,0.4s						
RKGY	**Rocky Gully**	**3.97**	**186**	*e*P	Pn	00 41 32.0	-1.4
RKGY				*e*S	Sn	00 42 17.2	-4.1
	4.4nm,0.1s						
MEEK	**Meekatharra**	**4.12**	**14**	*e*P	Pn	00 41 34.3	-1.3
MEEK				*e*S	Sn	00 42 18.0	-7.2
	9.7nm,0.2s						

DJA 03 00:51:28.1±1.0, 4.38S×120.34E, h28km±18km, MD4.4/3, ML3.9/1, 1C-5D, Error ellipse: s-maj=22.2km s-min=10.0km az=132.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NINI	**Niniconang**	**0.58**	**266**	⇑*e*Pn	Pn	00 51 38.8	-1.6
	616nm,0.2s						
NINI				⇓*e*Sn	Sn	00 51 47.1	-1.9
BUNI	**Buntu Taipa**	**0.72**	**359**	⇓*e*Pn	Pn	00 51 40.8	-1.6
	943nm,0.3s						
BUNI				⇓*e*Sn	Sn	00 51 49.3	-3.3
TANI	**Tanete Lipujan**	**1.34**	**315**	⇓*e*Pn	Pn	00 51 49.2	-2.1
	131nm,0.2s						
TANI				⇓*e*Sn	Sn	00 52 04.9	-3.4

*NEIC **03** 01:01:23.8±1.2, 20.37S×178.38W, h503km±16km, mb4.0/8, Error ellipse: s-maj=19.3km s-min=12.5km az=137.0*
ISC 03 01:01:22.1±1.8, 20.55±0.1×178.4W±0.2, h493km±22km, n14, σ0:84/12, mb3.9/7, 1C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.05**	**45**	*e*P	**P**	**01 03 30.9**	**+0.3**
	49nm,0.9s						
CTAO	**Charters Tower**	**33.16**	**264**	*e*P	**P**	**01 07 18.7**	**+0.5**
	1.9nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**37.51**	**244**	*e*P	**P**	**01 07 54.1**	**-0.1**
WRAB	**Tennant Creek**	**44.27**	**262**	*e*P	**P**	**01 08 48.0**	**-0.7**
	1.1nm,0.3s,mb3.8						
SBA	**Scott Base**	**57.89**	**184**	*e*P	**P**	**01 10 26.8**	**-0.7**
	1.8nm,0.4s,mb3.8						
VNDA	**Vanda**	**57.92**	**185**	*e*P	**P**	**01 10 26.5**	**-1.2**
	1.5nm,0.8s,mb3.4						
MCK	**McKinley**	**87.00**	**13**	*e*P	**P**	**01 13 14.2**	**-0.6**
	4.2nm,1.0s,mb4.1						
VNA3	**Neumayer Olymp**	**88.20**	**176**	⇑*i*	**P**	**01 13 21.0**	**+0.7**
COLA	**College**	**88.24**	**13**	*e*P	**P**	**01 13 19.6**	**-1.0**
	5.2nm,0.8s,mb4.3						
VNA2	**Neumayer--Watz**	**88.64**	**177**	⇓*i*	**P**	**01 13 24.0**	**+1.7**
BW06	**Boulder Array**	**89.16**	**43**	*e*P	**P**	**01 13 25.5**	**+0.1**
	1.4nm,0.6s,mb4.0						
SHL	**Shillong**	**98.38**	**294**	*e*P	**P**	**01 14 09.0**	**+1.1**
CLL	**Collm**	**147.95**	**347**	⇓*i*PKP1	PKPdf	01 20 11.3	+4.4
BRG	**Berggiesshubel**	**148.14**	**345**	*i* P	PKPdf	01 20 12.2	+5.0
BRG				*i*		01 20 17.2	

*CSEM **03** 01:12:48.0±0.1, 40.54N×30.60E, h5km, MD2.9, Error ellipse: s-maj=2.1km s-min=1.4km az=29.0*
*ISK **03** 01:12:48.1, 40.54N×30.60E, h5km, MD2.9*
ISC 03 01:12:48.7±0.5, 40.56N±0.04×30.59E±0.04, h5km, n13, σ0:80/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPA	**Golpazari**	**0.34**	**219**	*i* PG	**Pg**	**01 12 55.0**	**-0.6**
GPA				*i* SG	**Sg**	01 13 00.1	-0.2
HENT	**Hendek**	**0.35**	**41**	*i* P	**Pg**	**01 12 56.0**	**+0.2**
HENT				*i* S	**Sg**	**01 13 01.4**	**+0.9**
MDU	**Mudurnu**	**0.48**	**101**	*i* PG	**Pg**	**01 12 57.8**	**-0.6**
MDU				*i* SG	**Sg**	**01 13 04.7**	**-0.1**
HRT	**Hereke**	**0.75**	**291**	*e*PG	**Pg**	**01 13 03.4**	**-0.3**
YLV	**Yalova**	**0.93**	**271**	*e*PG	**Pg**	**01 13 06.5**	**-0.8**
ESKT	**Eskisehir**	**1.05**	**169**	PG	**Pg**	**01 13 08.9**	**-0.9**
ESKT	**Eskisehir**	**1.05**	**169**	*i* P	**Pb**	**01 13 08.7**	**-0.4**
ESKT				*i* S	**Sb**	**01 13 25.5**	**+2.6**
ULDT	**Uludag**	**1.19**	**250**	*i* P	**Pb**	**01 13 10.9**	**-0.4**
ULDT				*i* S	**Sb**	**01 13 29.0**	**+2.2**
ISK	**Istanbul-Kandi**	**1.27**	**294**	*e*PN	**Pn**	**01 13 12.9**	**-0.2**
ORLT	**Orhaneli**	**1.40**	**249**	*e*PN	**Pn**	**01 13 15.0**	**+0.1**
ALT	**Altintas**	**1.55**	**194**	*e*PN	**Pn**	**01 13 16.9**	**-0.1**
KCT	**Karacabey**	**1.73**	**261**	*e*PN	**Pn**	**01 13 19.6**	**-0.1**
DST	**Dursunbey**	**1.78**	**238**	*e*PN	**Pn**	**01 13 20.6**	**+0.2**

*INMG **03** 02:08:09.4±1.4, 42.99N×9.27W, h12km±5km, ML2.1, Error ellipse: s-maj=8.3km s-min=3.6km az=98.0*
*CSEM **03** 02:08:09.1±0.3, 42.99N×9.34W, h18km±1km, ML3.1/4, Error ellipse: s-maj=4.8km s-min=2.0km az=106.0*
*NEIC **03** 02:08:09.3, 42.99N×9.26W, h11km, MN2.5(MDD), After MDD.*
MDD 03 02:08:09.4±0.7, 42.98N×9.26W, h11km, mbLg2.4/18, 2C-3D, Error ellipse: s-maj=6.4km s-min=4.7km az=148.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**0.21**	**99**	⇓Pg	Pg	02 08 13.6	-0.4
	73nm,0.1s,SNR=18						
EMAZ				Lg		02 08 16.7	
	257nm,0.1s,SNR=7.6						
EMAZ	**Mazaricos**	**0.21**	**99**	Pg	Pg	02 08 13.6	-0.3
	73nm,0.1s,SNR=18						
EMAZ				Lg		02 08 16.6	
STS	**Santiago**	**0.53**	**100**	⇓Pg	Pg	02 08 19.2	-0.8
STS				Lg		02 08 26.5	
STS	**Santiago**	**0.53**	**100**	⇓Pg	Pg	02 08 19.3	-0.8
	61nm,0.1s,SNR=18						
STS				Lg		02 08 26.5	
	110nm,0.1s,SNR=14						
STS	**Santiago**	**0.53**	**100**	Pg	Pg	02 08 19.2	-0.8
	61nm,0.1s,SNR=18						
STS				Lg		02 08 26.5	
	72nm,0.1s,SNR=14						
EZAM	**Zamans**	**0.93**	**153**	⇑Pg	Pg	02 08 26.6	-1.4
	5.2nm,0.1s,SNR=18						
EZAM				Lg		02 08 39.3	
	31nm,0.2s,SNR=16						
ELOB	**Lobios**	**1.42**	**141**	Pn	Pn	02 08 33.2	-2.1
ELOB				Pg	Pg	02 08 35.4	-2.4
ELOB				Lg		02 08 54.2	
ELOB	**Lobios**	**1.42**	**141**	Pn	Pn	02 08 33.2	-2.0
	0.7nm,0.1s,SNR=7.9						
ELOB				Pg	Pg	02 08 35.4	-2.5
	3.2nm,0.1s,SNR=30						
ELOB				Lg		02 08 54.3	
	32nm,0.1s,SNR=5.0						
ELOB	**Lobios**	**1.42**	**141**	Pn	Pn	02 08 33.2	-2.1
	0.5nm,0.0s,SNR=7.9						
ELOB	**Lobios**	**1.42**	**141**	Pg	Pg	02 08 35.4	-2.4
	3.2nm,0.1s,SNR=30						
EINC	**Incio**	**1.44**	**102**	Pn	Pn	02 08 33.3	-2.2
EINC				Pg	Pg	02 08 35.4	-2.8
EINC				Lg		02 08 54.3	
EINC	**Incio**	**1.44**	**102**	Pn	Pn	02 08 33.3	-2.2
	1.1nm,0.0s,SNR=45						
EINC				Pg	Pg	02 08 35.4	-2.8
	9.6nm,0.1s,SNR=11						
EINC				Lg		02 08 54.1	
	21nm,0.1s,SNR=18						
EINC	**Incio**	**1.44**	**102**	Pn	Pn	02 08 33.3	-2.2
	1.4nm,0.0s,SNR=45						
EINC	**Incio**	**1.44**	**102**	Pg	Pg	02 08 35.4	-2.7
	6.6nm,0.1s,SNR=11						
EPON	**Pontenova**	**1.58**	**77**	Pn	Pn	02 08 35.8	-1.7
EPON				Pg	Pg	02 08 38.2	-2.8
EPON				Lg		02 08 58.5	
EPON	**Pontenova**	**1.58**	**77**	Pn	Pn	02 08 35.7	-1.8
	0.4nm,0.0s,SNR=4.0						
EPON				Pg	Pg	02 08 38.2	-2.8
	5.8nm,0.2s,SNR=12						
EPON				Lg		02 08 58.4	
	52nm,0.3s,SNR=19						
EPON	**Pontenova**	**1.58**	**77**	Pn	Pn	02 08 35.8	-1.7
	SNR=4.0						
EPON	**Pontenova**	**1.58**	**77**	Pg	Pg	02 08 38.2	-2.7
	5.8nm,0.2s,SNR=12						
ERUA	**La Rua**	**1.67**	**110**	Pn	Pn	02 08 37.1	-1.7
ERUA				Pg	Pg	02 08 39.9	-2.8
ERUA				Lg		02 09 01.2	
ERUA	**La Rua**	**1.67**	**110**	Pn	Pn	02 08 37.1	-1.7
	1.7nm,0.1s,SNR=7.9						
ERUA				Pg	Pg	02 08 39.7	-2.9
	4.3nm,0.2s,SNR=18						
ERUA				Lg		02 09 01.3	
	10nm,0.3s,SNR=5.0						
PVRL	**Vila Real**	**2.05**	**146**	*e*Pn	Pn	02 08 42.4	-1.9
PVRL				*e*Sg	Sg	02 09 13.1	-4.7
	16nm,0.1s						
PVRL	**Vila Real**	**2.05**	**146**	*e*Pn	Pn	02 08 42.4	-1.9
PVRL				*e*Sg	Sg	02 09 13.1	-4.7
	16nm,0.1s						
ECAL	**Calabor**	**2.13**	**118**	Pn	Pn	02 08 43.4	-2.0
ECAL				Pg	Pg	02 08 48.5	-3.5
ECAL				Lg		02 09 16.4	
ECAL	**Calabor**	**2.13**	**118**	Pn	Pn	02 08 43.2	-2.2
	0.8nm,0.1s,SNR=7.9						
ECAL				Pg	Pg	02 08 48.1	-3.9
	8.3nm,0.2s,SNR=13						
ECAL				Lg		02 09 16.3	
	21nm,0.3s,SNR=5.0						
ECAL	**Calabor**	**2.13**	**118**	Pn	Pn	02 08 43.4	-2.0
	2.0nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**2.13**	**118**	Pg	Pg	02 08 48.5	-3.5
	1.3nm,0.1s,SNR=13						
PBRG	**Braganca**	**2.20**	**121**	*e*Pn	Pn	02 08 44.5	-1.9
PBRG				*e*Pg	Pg	02 08 50.7	-2.7
PBRG				*e*Sn	Sn	02 09 11.2	-2.7
PBRG				*e*Sg	Sg	02 09 18.9	-3.9
	6.6nm,0.4s						
PBRG	**Braganca**	**2.20**	**121**	Pn	Pn	02 08 44.5	-1.9
PBRG				Pg	Pg	02 08 50.7	-2.7
PBRG				Sn	Sn	02 09 11.2	-2.7
PBRG				Lg		02 09 18.9	
	3.3nm,0.4s						
PVIS	**Viseu**	**2.48**	**155**	*e*Sn	Sn	02 09 16.8	-4.2
PVIS				*e*Sg	Sg	02 09 26.8	-5.3
	10nm,0.6s						
PVIS	**Viseu**	**2.48**	**155**	*e*Sn	Sn	02 09 16.8	-4.2
PVIS				*e*Sg	Sg	02 09 26.8	-5.3
	10nm,0.6s						
MTE	**Manteigas**	**2.88**	**153**	*e*Sg	Sg	02 09 38.3	-7.0
	13nm,0.4s						
MTE	**Manteigas**	**2.88**	**153**	*e*Sg	Sg	02 09 38.3	-7.0
	13nm,0.4s						
EARI	**Arriondas**	**2.98**	**82**	Pn	Pn	02 08 55.2	-2.2
EARI				Pg	Pg	02 09 02.9	-5.9
EARI				Sn	Sn	02 09 30.2	-3.4
EARI				Lg		02 09 42.8	
EARI	**Arriondas**	**2.98**	**82**	Pn	Pn	02 08 55.3	-2.2
	0.5nm,0.2s,SNR=4.0						
EARI				Pg	Pg	02 09 02.6	-6.2
	SNR=4.0						
EARI				Sn	Sn	02 09 29.8	-3.8
	1.0nm,0.2s,SNR=4.0						
EARI				Lg		02 09 42.8	
	2.2nm,0.2s,SNR=4.0						
EARI	**Arriondas**	**2.98**	**82**	Pn	Pn	02 08 55.3	-2.2
	SNR=4.0						
EARI	**Arriondas**	**2.98**	**82**	Pg	Pg	02 09 02.9	-5.9
	SNR=4.0						
EARI				Sn	Sn	02 09 30.2	-3.4
	SNR=4.0						
PCBR	**Castelo Branco**	**3.41**	**156**	*e*Sn	Sn	02 09 39.5	-5.0
PCBR				*e*Sg	Sg	02 09 56.0	-7.0
	5.3nm,2.7s						
PCBR	**Castelo Branco**	**3.41**	**156**	Sn	Sn	02 09 39.5	-5.0
PCBR				Lg		02 09 56.0	
	2.7nm,2.7s						
PTOM	**Tomar**	**3.42**	**169**	*e*Sn	Sn	02 09 40.5	-4.3
PTOM				*e*Sg	Sg	02 09 55.6	-7.7
	5.5nm,0.4s						
PTOM	**Tomar**	**3.42**	**169**	Sn	Sn	02 09 40.5	-4.3
PTOM				Lg		02 09 55.6	
	2.8nm,0.4s						
ELAN	**Lanestosa**	**4.27**	**85**	Pn	Pn	02 09 13.2	-2.7
ELAN				Lg		02 10 22.2	
ELAN	**Lanestosa**	**4.27**	**85**	Pn	Pn	02 09 13.2	-2.7
	0.7nm,0.1s,SNR=7.9						
ELAN				Lg		02 10 22.5	
	1.3nm,0.2s,SNR=4.0						
ELAN	**Lanestosa**	**4.27**	**85**	Pn	Pn	02 09 13.2	-2.6
	SNR=7.9						
GUD	**Guadarrama**	**4.47**	**120**	Pn	Pn	02 09 16.0	-2.7
GUD				Lg		02 10 31.9	
GUD	**Guadarrama**	**4.47**	**120**	⇑Pn	Pn	02 09 16.4	-2.3
	0.4nm,0.2s,SNR=18						
GUD				Lg		02 10 31.4	
	2.5nm,0.5s,SNR=4.0						
GUD	**Guadarrama**	**4.47**	**120**	Pn	Pn	02 09 16.0	-2.7
	0.4nm,0.2s,SNR=5.1						
EBAD	**Badajoz**	**4.55**	**157**	Pn	Pn	02 09 16.9	-2.9
EBAD				Sn	Sn	02 10 06.2	-7.2
EBAD				Lg		02 10 30.7	
EBAD	**Badajoz**	**4.55**	**157**	Pn	Pn	02 09 17.2	-2.6
	0.4nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	02 10 06.0	-7.4
	0.7nm,0.1s,SNR=5.1						
EBAD				Lg		02 10 30.6	
	1.2nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.55**	**157**	Pn	Pn	02 09 16.9	-3.0
	0.3nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	02 10 06.2	-7.2
ESDC	**Sonseca Array**	**5.18**	**128**	Lg		02 10 52.7	
	0.7nm,0.4s,baz=313,slow=30,SNR=4.7						
EMIN	**Mina Concepcio**	**5.57**	**158**	Pn	Pn	02 09 30.7	-3.5
EMIN				Sn	Sn	02 10 30.3	-8.7
EMIN				Lg		02 11 04.3	
EMIN	**Mina Concepcio**	**5.57**	**158**	Pn	Pn	02 09 30.8	-3.5
	0.2nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	02 10 30.3	-8.7
	SNR=7.9						
EMIN				Lg		02 11 04.8	
	2.6nm,0.6s,SNR=4.0						
EMIN	**Mina Concepcio**	**5.57**	**158**	Pn	Pn	02 09 30.7	-3.5
	SNR=7.9						
EMIN				Sn	Sn	02 10 30.3	-8.7
	SNR=7.9						
EADA	**Adamuz**	**5.98**	**142**	Sn	Sn	02 10 40.5	-8.8
	SNR=4.0						
EADA				Lg		02 11 16.1	
	1.2nm,0.4s,SNR=4.0						
EADA	**Adamuz**	**5.98**	**142**	Sn	Sn	02 10 43.0	-6.4
	SNR=4.0						

*BJI **03** 02:31:49.9, 11.88S×41.08E, h5km, mb4.6*
NEIC 03 02:31:52.9±2.1, 12.09S×40.75E, h10km, mb4.1/4, Error ellipse: s-maj=41.9km s-min=13.9km az=99.0, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**11.43**	**342**	*e*Pn	P

comp=Z,254nm,0.2s
BALM Baldy 2.13 169 P Pn 02 40 38.0 +1.7
SCM Sheep Creek Mo 2.32 238 P Pn 02 40 39.5 +0.4
SCM S Sn 02 41 09.7 +1.0
CTGM Chitina Glacie 2.33 157 P Pn 02 40 39.3 +0.1
IL1 Eielson Array 2.33 317 P Pn 02 40 37.9 -1.3
DIV Divide 2.34 213 P Pn 02 40 40.4 +1.1
DIV S Sn 02 41 11.8 +2.6
VLZ Valdez 2.49 218 P Pn 02 40 43.1 +1.7
VLZ S Sn 02 41 13.1 +0.2
CCB Clear Creek Bu 2.56 309 P Pn 02 40 40.9 -1.6
JPK Jack Peak 2.63 219 P Pn 02 40 43.9 +0.6
MCK McKinley 2.66 286 P Pn 02 40 44.5 +0.6
COLA College 2.71 313 P Pn 02 40 45.9 +1.3
SML Sawmill 2.74 244 P Pn 02 40 46.5 +1.5
RAGM Ragged Mountai 2.84 195 P Pn 02 40 48.5 +2.1
FID Port Fidalgo 2.85 215 P Pn 02 40 48.6 +2.1
YAH Yahtse 2.85 166 P Pn 02 40 47.8 +1.3
EYAK Cordova Ski Ar 2.86 206 P Pn 02 40 48.4 +1.7
CVA Cordova 2.86 206 P Pn 02 40 48.5 +1.9
MDM Murphy Dome 2.89 312 P Pn 02 40 45.4 -1.8
GHO Glory Hole Cre 3.00 246 P Pn 02 40 49.7 +1.0
PMR Palmer 3.17 244 P Pn 02 40 52.6 +1.4
TRF Thorofare Moun 3.23 279 P Pn 02 40 53.7 +1.7
HYT Haines Junctio 3.53 128 Pn Pn 02 40 54.5 -1.7
HYT Pg Pg 02 41 03.6 -6.0
HYT Sg Sg 02 41 49.8 -6.8
HYT Trac 02 41 52.6
comp=Z,18nm,0.4s
BM3 Burnt Mountain 4.36 353 P Pn 02 41 06.8 -1.2
WHY Whitehorse 4.63 118 Pn Pn 02 41 09.8 -2.1
WHY Sn Sn 02 42 03.5 -3.6
WHY Sg Sg 02 42 23.5 -10
WHY Trac 02 42 36.0
comp=Z,5.0nm,0.3s
INK Inuvik 6.55 33 Pn Pn 02 41 36.0 -2.9
INK Sn Sn 02 42 45.9 -9.2
INK Trac 02 43 46.1
comp=Z,5.0nm,0.7s
DLBC Dease Lake 7.96 120 Pn Pn 02 41 55.8 -2.9
DLBC Sg Sg 02 44 08.7 -15
DLBC Trac 02 44 24.5
comp=Z,3.0nm,0.7s
FNBB Fort Nelson 10.64 104 Pn P 02 42 31.2 -4.4

*SNSN **03** 02:52:44.8, 24.15N×36.54E, Ml3.2*
*CSEM **03** 02:52:45.5±0.1, 24.05N×36.39E, h40km, ML3.2, Error ellipse: s-maj=4.7km s-min=3.4km az=154.0*
*HLW **03** 02:52:47.8, 24.04N×36.17E, h20km, Mb3.0*
ISC 03 02:52:43.0±0.9, **24.02N**±0.06×**36.36E**±0.08, **h10**km, **n12**, σ0:**65**/13, **2C-1D, Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSHL	**Bi'r Shalatayn**	**1.27**	**224**	⇑P	**Pb**	**02 53 07.8**	**+1.3**
HSHL				S	**Sb**	**02 53 21.7**	**-1.0**
HAGS	**Hagol**	**1.30**	**286**	P	**Pb**	**02 53 08.2**	**+0.9**
UMJS	**Umm Lajj**	**1.49**	**35**	P	**Pn**	**02 53 09.6**	**-0.4**
YNBS	**Yanbu' al Bahr**	**1.52**	**78**	P	**Pn**	**02 53 10.5**	**0.0**
EMRS	**Mersa Alam**	**1.70**	**306**	P	**Pn**	**02 53 12.8**	**-0.3**
HADB		**2.06**	**310**	⇑P	**Pn**	**02 53 18.4**	**+0.2**
HSFG		**3.36**	**320**	⇓P	**Pn**	**02 53 35.8**	**-0.9**
HHRG	**Al Ghardaqah**	**4.06**	**322**	P	**Pn**	**02 53 46.1**	**-0.6**
TAYS	**Tayyib Ism**	**4.71**	**344**	P	**Pn**	**02 53 55.5**	**-0.3**
JMQS	**Jabal Moqyreh**	**4.87**	**355**	P	**Pn**	**02 53 58.3**	**+0.2**
HAQS	**Haql**	**5.17**	**346**	P	**Pn**	**02 54 02.9**	**+0.4**
JMOS	**Jabal al Moail**	**5.25**	**348**	P	**Pn**	**02 54 03.9**	**+0.4**

NEIC 03 02:55:02.3, 51.27N×174.24W, h5km, **ML3.5**(AEIC), **After AEIC., Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.93**	**2**	P	Pb	02 55 19.5	-1.1
ATKA				S	Sb	02 55 33.2	+0.1
GSIG	**Igitkin Island**	**1.27**	**305**	P	Pb	02 55 24.0	-2.4
GSIG				S	Sb	02 55 42.4	-0.5
GSMY	**Great Sitkin M**	**1.37**	**305**	P	Pb	02 55 25.7	-2.4
GSTR	**Great Sitkin T**	**1.40**	**307**	P	Pn	02 55 26.7	-1.9
GSTD	**Great Sitkin T**	**1.42**	**304**	P	Pn	02 55 26.6	-2.3
GSTD				S	Sb	02 55 45.6	-1.7
ADAG	**Mount Adagdak**	**1.63**	**297**	P	Pn	02 55 29.8	-2.1
KIWB	**Kanaga Island**	**1.91**	**289**	P	Pn	02 55 33.9	-2.0
KIWB				S	Sn	02 55 58.1	-2.5
KINC	**Kanaga Island**	**1.92**	**291**	P	Pn	02 55 34.3	-1.7
KINC				S	Sn	02 55 59.9	-0.9
KIKV	**Kanaga Island**	**1.93**	**289**	P	Pn	02 55 34.4	-1.8
KIMD	**Kanaga Island**	**1.94**	**286**	P	Pn	02 55 33.6	-2.7

*CSEM **03** 03:09:59.6±0.1, 46.10N×12.47E, h15km, ML2.5/6, Error ellipse: s-maj=2.1km s-min=1.2km az=14.0*
*ROM **03** 03:09:59.6±0.3, 46.17N×12.50E, h5km, MD2.6/4, ML1.6/5, Error ellipse: s-maj=2.4km s-min=1.7km az=0.0*
*PRU **03** 03:10:00.5, 46.10N×12.45E, h7km*
ISC 03 03:09:59.9±0.4, **46.16N**±0.02×**12.44E**±0.02, **h5**km, **n41**, σ0:**91**/69, **9C-9D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLNI	**Malnisio**	**0.12**	**94**	⇑iPg	**Pg**	**03 10 02.6**	**+0.1**
MLNI				eSg	**Sg**	**03 10 04.6**	**+0.4**
CSO	**Casso**	**0.14**	**326**	⇓iPg	**Pg**	**03 10 03.0**	**+0.2**
CSO				eSg	**Sg**	**03 10 05.4**	**+0.6**
CAE	**Caneva**	**0.15**	**180**	⇓iPg	**Pg**	**03 10 03.0**	**-0.1**
CAE				eSg	**Sg**	**03 10 05.3**	**+0.1**
CSMI	**Casera Mimoias**	**0.38**	**23**	eSg	**Sg**	**03 10 12.5**	**-0.3**
CSMI	**Casera Mimoias**	**0.38**	**23**	⇑iPg	**Pg**	**03 10 07.1**	**-0.6**
MPRI	**Monte Prat**	**0.39**	**78**	⇓iPg	**Pg**	**03 10 07.7**	**-0.2**
MPRI				eSg	**Sg**	**03 10 13.9**	**+0.8**
BUA	**Buia**	**0.48**	**83**	⇓iPg	**Pg**	**03 10 09.2**	**-0.4**
BOO	**Bordano**	**0.49**	**70**	ePg	**Pg**	**03 10 08.9**	**-0.9**
FVI	**Forni Avoltri**	**0.50**	**28**	ePG	**Pg**	**03 10 09.8**	**-0.1**
FVI				SG	**Sg**	**03 10 17.3**	**+0.7**
41nm,0.1s							
FVI	**Forni Avoltri**	**0.50**	**28**	ePg	**Pg**	**03 10 09.8**	**-0.1**
41nm,0.1s							
FVI				Sg	**Sg**	**03 10 17.3**	**+0.7**
TLI	**Talmassons**	**0.52**	**117**	⇑iPg	**Pg**	**03 10 09.9**	**-0.5**
ZOU	**Zoufplan**	**0.55**	**43**	⇑iPg	**Pg**	**03 10 10.5**	**-0.3**
ZOU				eSg	**Sg**	**03 10 18.6**	**+0.4**
CTI	**Castel Tesino**	**0.56**	**259**	ePG	**Pg**	**03 10 11.7**	**+0.6**
21nm,0.2s							
CTI	**Castel Tesino**	**0.56**	**259**	ePg	**Pg**	**03 10 11.7**	**+0.6**
21nm,0.2s							
BAD	**Bernadia**	**0.57**	**82**	⇑iPg	**Pg**	**03 10 10.3**	**-0.9**
BAD				eSg	**Sg**	**03 10 19.1**	**+0.3**
GMNA	**Gemona**	**0.57**	**78**	⇓iPG	**Pg**	**03 10 09.5**	**-1.8**
GMNA				SG	**Sg**	**03 10 18.0**	**-0.9**
114nm,0.2s							
GMNA	**Gemona**	**0.57**	**78**	⇓iPg	**Pg**	**03 10 09.5**	**-1.8**
114nm,0.2s							
COLI	**Coloredo**	**0.66**	**92**	ePg	**Pg**	**03 10 12.2**	**-0.8**
COLI				eSg	**Sg**	**03 10 22.7**	**+0.9**
PTCC	**Patocco-Chiusa**	**0.68**	**68**	ePG	**Pg**	**03 10 12.8**	**-0.8**
PTCC				SG	**Sg**	**03 10 22.8**	**+0.1**
12nm,0.2s							
PTCC	**Patocco-Chiusa**	**0.68**	**68**	ePg	**Pg**	**03 10 12.8**	**-0.8**
12nm,0.2s							
PTCC				Sg	**Sg**	**03 10 22.8**	**+0.1**
ROBS	**Robic**	**0.75**	**83**	i Pg	**Pg**	**03 10 13.4**	**-1.5**
comp=Z,7.0nm,0.1s							
DRE	**Drenchia**	**0.84**	**89**	ePg	**Pg**	**03 10 15.3**	**-1.4**
DRE				eSg	**Sg**	**03 10 29.1**	**+1.1**
VOJS	**Vojsko**	**1.02**	**97**	i Pg	**Pg**	**03 10 20.0**	**-0.2**
VOY	**Vojsko**	**1.02**	**97**	eSg	**Sg**	**03 10 34.9**	**+0.9**
WTTA	**Wattenberg**	**1.23**	**334**	⇑iPG	**Pg**	**03 10 24.6**	**0.0**
WTTA				i SG	**Sg**	**03 10 42.5**	**+1.4**
comp=Z,6.7nm,0.4s							
WATA	**Walderalm**	**1.32**	**334**	⇓iPG	**Pg**	**03 10 25.8**	**-0.4**
WATA				i SG	**Sg**	**03 10 45.2**	**+1.4**
comp=Z,5.9nm,0.2s							
SQTA	**Sankt Quirin**	**1.36**	**322**	⇑iPG	**Pg**	**03 10 26.4**	**-0.6**
SQTA				i SG	**Sg**	**03 10 45.4**	**+0.3**
comp=Z,3.6nm,0.2s							
CEY	**Cerknica**	**1.45**	**106**	ePn	**Pn**	**03 10 27.1**	**+0.2**
CEY				i Sn	**Sn**	**03 10 47.3**	**+0.8**
BRMO	**Bormio**	**1.46**	**283**	ePN	**Pn**	**03 10 27.9**	**+0.8**
comp=Z,5.0nm,0.3s							
BRMO	**Bormio**	**1.46**	**283**	ePn	**Pn**	**03 10 27.9**	**+0.8**
comp=Z,5.0nm,0.3s							
MOTA	**Moosalm**	**1.50**	**323**	⇓iPG	**Pg**	**03 10 29.0**	**-0.9**
MOTA				i SG	**Sg**	**03 10 50.7**	**+0.8**
comp=Z,2.9nm,0.3s							
OBKA	**Obir**	**1.51**	**76**	⇑iPG	**Pg**	**03 10 29.0**	**-1.0**
OBKA				i SG	**Sg**	**03 10 50.2**	**+0.1**
comp=Z,3.2nm,0.2s							
PDKS	**Podkum**	**1.79**	**92**	i Pn	**Pn**	**03 10 32.0**	**+0.3**
PDKS				i Sn	**Sn**	**03 10 55.8**	**+0.8**
PERS	**Pernice**	**1.92**	**75**	eSn	**Sn**	**03 11 9.7**	**+3.3**
LEGS	**Legarje**	**2.02**	**95**	i Sn	**Sn**	**03 11 00.8**	**-0.2**
BOJS	**Bojanci**	**2.08**	**107**	ePn	**Pn**	**03 10 36.0**	**+0.1**
BOJS				i Sn	**Sn**	**03 11 05.7**	**+3.3**
DAVA	**Damuels**	**2.09**	**304**	⇓iPN	**Pn**	**03 10 35.0**	**-1.0**
DAVA				i SG	**Sg**	**03 11 09.4**	**-0.1**
comp=Z,4.5nm,0.4s							
MOA	**Molin**	**2.10**	**36**	⇑iPN	**Pn**	**03 10 37.0**	**+0.7**
MOA				i SN	**Sn**	**03 11 04.4**	**+1.3**
GOLS	**Golise**	**2.23**	**93**	ePn	**Pn**	**03 10 40.3**	**+2.3**
GOLS				eSn	**Sn**	**03 11 10.3**	**+4.1**
KHC	**Kasperske Hory**	**3.07**	**14**	ePN	**Pn**	**03 10 50.0**	**-0.1**
KHC				ePG	**Pg**	**03 10 59.4**	**-1.9**
KHC				eSN	**Sn**	**03 11 27.5**	**-0.2**
KHC				eSG	**Sg**	**03 11 39.8**	**-2.4**
KHC	**Kasperske Hory**	**3.07**	**14**	Pg	**Pg**	**03 10 59.4**	**-1.9**
KHC				Sg	**Sg**	**03 11 39.8**	**-2.4**

JMA 03 03:12:51.1±0.3, **44.11N×148.20E, M4.4, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.93**	**248**	P	Pn	03 13 25.6	+0.1
NEM2				eS	Sn	03 13 51.0	+0.2
JRA	**Rausu**	**2.23**	**267**	P	Pn	03 13 30.1	+0.3
JRA				eS	Sn	03 13 58.5	+0.1
JNK	**Nakash**	**2.57**	**259**	P	Pn	03 13 35.0	+0.3
JNK				eS	Sn	03 14 07.0	-0.2
JAK	**Akkeshi**	**2.78**	**248**	P	Pn	03 13 37.7	0.0
JAK				eS	Sn	03 14 12.2	-0.2
JTKR	**Abashiri--Toko**	**3.10**	**269**	P	Pn	03 13 43.3	+1.1
JAR	**Ashorobuto**	**3.31**	**257**	P	Pn	03 13 46.2	+0.9
JAR				eS	Sn	03 14 26.2	+0.3
JCH	**Churui**	**3.83**	**249**	P	Pn	03 13 53.2	+0.6
JCH				eS	Sn	03 14 39.3	+0.3
JFR	**Furan**	**4.18**	**259**	P	Pn	03 13 59.3	+1.8
JNBK	**Urakawa-nobuka**	**4.38**	**247**	P	Pn	03 14 00.6	+0.2
JNBK				eS	Sn	03 14 53.6	+0.6
JKB	**Kayabe**	**5.71**	**250**	P	Pn	03 14 18.5	-0.7
JKB				eS	Sn	03 15 22.8	-3.5
JOT	**Ohata**	**5.93**	**245**	P	Pn	03 14 21.2	-1.1
JOT				eS	Sn	03 15 28.4	-3.5
JANG	**Nango**	**6.21**	**235**	eS	Sn	03 15 33.1	-5.8

*JMA **03** 03:20:21.3±0.1, 36.43N×141.01E, h45km±1km, M3.5*
ISC 03 03:20:21.1±1.6, **36.45N**±0.07×**141.1E**±0.1, **h34**km±31km, **n10**, σ0:**55**/19, **8D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.42**	**293**	⇓P	**P**	**03 20 30.8**	**+0.3**
JHO				S	**S**	**03 20 37.3**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.68**	**343**	⇓P	**P**	**03 20 34.3**	**0.0**
ONAJ				S	**S**	**03 20 43.4**	**-0.4**
JYT	**Yasato**	**0.72**	**253**	⇓P	**P**	**03 20 34.6**	**-0.3**
JYT				S	**S**	**03 20 44.0**	**-0.9**
JFK	**Kawauchi**	**0.93**	**351**	⇓P	**P**	**03 20 37.6**	**-0.2**
JFK				S	**S**	**03 20 49.0**	**-1.1**
JFT	**Otama**	**1.21**	**332**	⇓P	**P**	**03 20 42.9**	**+1.1**
JFT				S	**S**	**03 20 58.0**	**+0.7**
JAG	**Ashikaga**	**1.29**	**269**	⇓P	**P**	**03 20 42.7**	**-0.1**
JAG				S	**S**	**03 20 58.5**	**-0.7**
JMM	**Marumori**	**1.43**	**352**	P	**P**	**03 20 45.0**	**0.0**
JMM				S	**S**	**03 21 02.4**	**-0.4**
JFY	**Yanaizu**	**1.44**	**312**	⇓P	**P**	**03 20 45.7**	**+0.6**
JKT	**Katashina**	**1.48**	**283**	⇓P	**P**	**03 20 46.3**	**+0.6**
JKT				S	**S**	**03 21 04.8**	**+0.7**
MAT	**Matsushiro**	**2.29**	**273**	P	**P**	**03 20 57.2**	**-0.1**
MAT				S	**S**	**03 21 24.8**	**+0.2**

ISC 03 04:31:47.9±1.5, **15.1N**±0.2×**93.85E**±0.06, **h33**km, **n15**, σ0:**79**/18, **1C, Bay of Bengal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**6.08**	**84**	P	**P**	**04 33 17.6**	**-0.2**
238nm,0.5s							
CHG	**Chiang Mai**	**6.10**	**52**	PG	**P**	**04 33 17.4**	**-0.6**
CHG				SG	Px	04 33 18.8	
CHRT	**Chiangrai**	**7.37**	**49**	⇑P	**P**	**04 33 36.0**	**+0.2**
382nm,1.2s							
NANT	**Nan**	**7.50**	**60**	P	**P**	**04 33 37.0**	**-0.7**
KKTK	**Khon Kaen**	**8.72**	**81**	P	**P**	**04 33 58.0**	**+3.4**
370nm,0.7s							
IMP	**Imphal**	**9.61**	**0**	e	**P**	**04 34 06.6**	**-0.3**
VIS	**Vishakhapatnam**	**10.42**	**286**	eP	**P**	**04 34 17.0**	**-1.2**
VIS				AMb	AMB	04 34 19.0	
comp=Z,18nm,0.3s							
VIS				eS	**S**	**04 36 04.7**	**-10**
PKI	**Pulchoki**	**14.66**	**329**	eP	**P**	**04 35 14.4**	**-0.4**
comp=Z,29nm,0.5s							
GUN	**Gumba**	**14.72**	**331**	eP	**P**	**04 35 16.6**	**+1.1**
comp=Z,83nm,0.8s							
DMN	**Daman**	**14.84**	**328**	eP	**P**	**04 35 16.9**	**-0.3**
comp=Z,42nm,0.6s							
HYB	**Hyderabad**	**14.86**	**281**	eP	**P**	**04 35 27.0**	**+10**
HYB				eS	**S**	**04 37 47.0**	**-15**
KKN	**Kakani**	**14.90**	**329**	eP	**P**	**04 35 18.3**	**+0.3**
comp=Z,38nm,0.8s							
GKN	**Gorkha**	**15.40**	**328**	eP	**P**	**04 35 24.9**	**+0.4**
comp=Z,30nm,0.4s							
KOLN	**Koldanda**	**15.78**	**325**	eP	**P**	**04 35 28.9**	**-0.4**
comp=Z,33nm,0.6s							
BHPL	**Bhopal**	**17.48**	**300**	eP	**P**	**04 35 51.7**	**+1.0**
BHPL				AMb	AMB	04 35 54.8	
comp=Z,5.8nm,0.5s							
BHPL				eS	**S**	**04 38 51.9**	**-10**

TRN 03 04:59:41.3, 17.58N×60.83W, h35km, **MD3.6, M3.4**(FDF), **1C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**0.95**	**274**	eP	P	04 59 59.9	+1.5
CPB				eS	S	05 00 13.0	+2.1
BPA	**Boggy Peak**	**1.11**	**242**	⇑iP	P	05 00 01.8	+1.1
BPA				eS	S	05 00 17.4	+2.4
DEG	**La Desirade**	**1.27**	**190**	eP	P	05 00 04.1	+1.2
DEG				eS	S	05 00 20.6	+1.5
SCG	**Saint Claude**	**1.74**	**208**	eP	P	05 00 10.6	+1.0

DJA 03 05:16:12.3±0.6, **6.48S×106.67E, h30**km±5km, **mb4.4**/4, **ML4.1**/1, **6C-5D, Error ellipse: s-maj=65.4km s-min=8.5km az=24.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACI	**Pancar Gunung**	**0.26**	**116**	⇓ePn	Pn	05 16 36.4	+16
PACI				⇑eSn	Sn	05 16 54.4	+30
PULI	**Pulasari**	**0.70**	**281**	⇓ePn	Pn	05 16 38.1	+12
PULI				⇑eSn	Sn	05 16 57.1	+21
PENI	**Pendagan**	**1.74**	**301**	⇑ePn	Pn	05 16 47.3	+6.2
142nm,0.3s							
PENI				⇓eSn	Sn	05 17 11.8	+9.3
SRDI	**Scrawed**	**7.67**	**106**	⇓eP	Pn	05 18 03.0	-1.9
70nm,0.2s							
SRDI				⇑eS	Sn	05 19 27.7	-4.0
KELI	**Kelakatan**	**7.95**	**103**	⇓eP	Pn	05 18 05.9	-2.9
48nm,0.2s							
RATI	**Rata**	**9.06**	**105**	⇑eP	P	05 18 20.2	-4.0
88nm,0.2s							
KEDI	**Kedomdong**	**9.57**	**103**	⇑eP	P	05 18 26.4	-5.0
30nm,0.2s							

*BJI **03** 06:30:46.6, 40.69N×79.62E, h15km, mb4.2, ML3.9*
*NNC **03** 06:30:50.8±6.8, 40.85N×79.44E, h13km±25km, mpv3.9, Error ellipse: s-maj=57.4km s-min=22.8km az=154.0*
ISC 03 06:30:49.8±1.5, **40.9N**±0.1×**79.69E**±0.07, **h15**km, **n12**, σ0:**71**/16, **5C-1D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.93**	**299**	P	**Pn**	**06 31 37.3**	**+0.5**
SNR=63							
TKM2	**Tokmak 2**	**3.68**	**305**	P	**Pn**	**06 31 47.5**	**+0.1**
SNR=20							
KBK	**Karagaybulak**	**3.97**	**298**	P	**Pb**	**06 32 01.2**	**+2.1**
SNR=5.3							
UCH	**Uchtor**	**4.12**	**291**	P	**Pn**	**06 31 53.0**	**-0.6**
SNR=9.2							
CHMS	**Chumysh**	**4.25**	**302**	P	**Pb**	**06 32 03.4**	**-0.5**
SNR=7.2							
AAK	**Ala-Archa**	**4.27**	**296**	⇑Pn	**Pn**	**06 31 55.6**	**-0.2**
31nm,0.8s							
AAK				⇑Lg		06 32 59.0	
76nm,0.8s							
AAK	**Ala-Archa**	**4.27**	**296**	P	**Pn**	**06 31 55.8**	**0.0**
SNR=11							
USP	**Ospenovka**	**4.54**	**303**	P	**Pb**	**06 32 08.1**	**-0.8**
SNR=10							
AML	**Almayashu**	**4.68**	**288**	P	**Pb**	**06 32 10.9**	**-0.2**
SNR=20							
EKS2	**Erkin-Say**	**4.77**	**294**	P	**Pb**	**06 32 13.0**	**+0.3**
SNR=5.8							
MK05	**Makanchi Array**	**6.21**	**17**	⇑Pn	**Pn**	**06 32 22.5**	**-0.7**
4.5nm,0.5s,baz=196,slow=12							
MK05				⇑Pg	**Pg**	**06 32 45.1**	**-8.6**
baz=191,slow=16							
MK05				⇑Sn	**Sn**	**06 33 34.7**	**0.0**
23nm,0.9s,baz=193,slow=26							
MK05				⇓Lg		06 34 13.3	
20nm,0.8s,baz=194,slow=26							
WMQ	**Urumqi**	**6.62**	**61**	eP	**Pn**	**06 32 28.6**	**-0.4**
WMQ				S	**Sn**	**06 33 45.5**	**+0.6**
WMQ				SG	**Sg**	**06 34 20.5**	**-10**
WMQ				Smax			
comp=N,49nm,1.0s							
WMQ				Smax			
comp=E,41nm,0.8s							

CASC 03 07:08:19.2±1.9, **8.28N×82.85W, h1**km±8km, **MD3.8, MW4.4, 1C-2D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.49**	**320**	⇑eP	Pg	07 08 29.5	+0.6
ACR				eS	Sg	07 08 37.9	+2.5
BRU2	**Volcan**	**0.54**	**17**	⇓eP	Pg	07 08 31.4	+1.5
BRU2				eS	Sg	07 08 40.6	+3.6
URSC	**Urasca**	**1.80**	**329**	eP	Pn	07 08 50.7	-0.9
URSC				eS	Sn	07 09 16.1	+0.8
LCR2	**La Lucha 2**	**1.85**	**322**	eP	Pn	07 08 52.0	-0.3
LCR2				eS	Sn	07 09 18.5	+1.9
LAJ	**Bijagual**	**2.01**	**322**	eP	Pn	07 08 56.5	+1.8
PRS1	**Puriscal**	**2.23**	**320**	⇓eP	Pn	07 08 57.1	-0.6
PRS1				eS	Sn	07 09 26.1	-0.1

NEIC 03 07:25:51.7, 51.25N×174.19W, h35km, **ML3.5**(AEIC), **After AEIC., Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.96**	**360**	P	P	07 26 08.3	-0.4
ATKA				S	S	07 26 22.0	+0.6
GSIG	**Igitkin Island**	**1.31**	**305**	P	P	07 26 12.8	-1.0
GSIG				S	S	07 26 30.1	-0.3
GSMY	**Great Sitkin M**	**1.41**	**305**	P	P	07 26 14.4	-0.9
GSMY				S	S	07 26 32.9	+0.1
GSTR	**Great Sitkin T**	**1.44**	**307**	P	P	07 26 15.1	-0.6
GSTD	**Great Sitkin T**	**1.46**	**304**	P	P	07 26 15.6	-0.4
GSTD				S	S	07 26 33.1	-1.1
GSSP	**Great Sitkin S**	**1.50**	**305**	P	P	07 26 16.3	-0.2
ADAG	**Mount Adagdak**	**1.67**	**297**	P	P	07 26 18.6	-0.4
ADAG				S	S	07 26 38.7	-0.7
KIWB	**Kanaga Island**	**1.94**	**289**	P	P	07 26 22.3	-0.6
KIKV	**Kanaga Island**	**1.96**	**290**	P	P	07 26 23.1	-0.1
KIMD	**Kanaga Island**	**1.97**	**286**	P	P	07 26 22.3	-0.9

*NEIC **03** 08:03:34.6, 32.75S×71.93W, h39km, MD4.3(GUC), After GUC.*
GUC 03 08:03:34.6±0.9, **32.75S×71.93W, h39**km±2km, **MD4.3, ML4.0, 8C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.37**	**140**	⇓iP	P	08 03 43.2	-0.3
IHA				i S	S	08 03 49.9	+0.1
PACH	**Papudo**	**0.46**	**63**	⇓iP	P	08 03 44.7	-0.1
LCCH	**Las Cruces**	**0.79**	**158**	⇓iP	P	08 03 48.8	-0.4
ROCH	**El Roble**	**0.80**	**107**	⇑iP	P	08 03 49.9	+0.4
ROCH				i S	S	08 04 01.7	+1.3
PTCH	**Petorca**	**0.97**	**61**	⇑iP	P	08 03 52.3	+0.4
PTCH				i S	S	08 04 06.0	+1.4
PTCH				AMP		08 04 07.8	
comp=E,16μm,0.1s							
PEL	**Peldehue**	**1.12**	**111**	⇑iP	P	08 03 55.0	+1.1
PEL				AMP		08 04 11.6	
comp=N,10μm,0.5s							
JACH	**Jahuel**	**1.12**	**87**	⇑iP	P	08 03 54.5	+0.4
JACH				i S	S	08 04 10.0	+1.5
RCDM	**Rinconada Maip**	**1.20**	**129**	eP	P	08 03 55.7	+0.6
RCDM				i S	S	08 04 11.5	+1.1
RCDM				AMP		08 04 12.3	
comp=N,7μm,0.1s							
PUEX	**Pudahuel**	**1.20**	**126**	eP	P	08 03 57.4	+2.2
PUEX				i S	S	08 04 13.6	+3.1
PUEX				AMP		08 04 15.3	
comp=N,7μm,0.5s							
TACH	**Talagante**	**1.23**	**138**	eP	P	08 03 56.0	+0.5
SAN	**Santiago**	**1.27**	**124**	eP	P	08 03 57.3	+1.1
SAN				i S	S	08 04 14.1	+1.7
ILCH	**Illapel**	**1.28**	**30**	eP	P	08 03 56.2	-0.1
ILCH				i S	S	08 04 12.6	+0.1
ILCH				AMP		08 04 15.6	
comp=N,3μm,0.2s							
STL	**Santa Lucia**	**1.28**	**123**	eP	P	08 03 57.3	+1.0
STL				AMP		08 04 15.5	
comp=N,3μm,0.2s							
LNV	**Longovilo**	**1.28**	**161**	i P	P	08 03 55.5	-0.9
DSCH	**Colegio Aleman**	**1.31**	**120**	⇑iP	P	08 03 58.0	+1.2
DSCH				i S	S	08 04 15.3	+2.0
DSCH				AMP		08 04 17.3	

148nm,0.2s
SRDI ⇓iSn Sn 08 26 19.3 -3.7
RATI Rata 2.17 39⇓iPn Pn 08 26 01.3 -1.6
RATI Rata 2.17 39 eP P 08 26 02.1 -0.6
RATI ⇑iSn Sn 08 26 25.9 -3.0
KELI Kelakatan 2.23 9⇑iPn Pn 08 26 02.2 -1.4
68nm,0.2s
KELI ⇑iSn Sn 08 26 27.4 -2.9
KEDI Kedomdong 2.73 45⇑iPn Pn 08 26 09.2 -1.6
28nm,0.2s
KEDI Kedomdong 2.73 45⇑iP P 08 26 10.8 +0.1

*TAP **03** 08:49:48.8,23.97N×122.72E,h14km±1km,ML3.3*
JMA 03 08:49:50.2±0.2,23.99N×122.67E,h25km,M2.9,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.56**	**33**	P	Pb	08 50 01.4	0.0
YOJ				eS	Sb	08 50 09.0	-0.1
IRIF	**Iriomote-Funau**	**1.03**	**70**	P	Pn	08 50 09.2	+0.1
IRIF				eS	Sb	08 50 22.9	+0.6
HATJ	**Hateruma jima**	**1.04**	**86**	P	Pn	08 50 08.9	-0.4
HATJ				eS	Sb	08 50 22.5	-0.2
JKRS	**Kuro-shima**	**1.25**	**78**	P	Pn	08 50 12.2	-0.1
JKRS				eS	Sn	08 50 29.1	+0.7
JIJ	**Ishigaki jima**	**1.40**	**74**	P	Pn	08 50 13.8	-0.6
JIJ				S	Sn	08 50 32.1	-0.1
JTJ	**Tarama**	**1.96**	**70**	P	Pn	08 50 23.0	+0.5
JTJ				eS	Sn	08 50 47.9	+1.3

MAN 03 08:53:51.5,18.64N×120.93E,h18km,mb4.5,ML3.4, MS3.3,1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.82**	**159**	eP	Pb	08 53 54.7	-12
APYP				eS	Sb	08 54 19.6	+2.0
ABRA	**Dolores**	**1.00**	**192**	eP	Pb	08 54 00.0	-10
CVP	**Callao Caves**	**1.26**	**137**⇓iP	Pn		08 54 13.0	-1.4
CVP				i S	Sb	08 54 31.0	+0.9
CAUP	**Cauayan**	**1.88**	**153**	eP	Pn	08 54 24.0	+0.7
CAUP				eS	Sn	08 54 51.8	+5.0
BBP	**Basco**	**2.04**	**28**	eP	Pn	08 54 25.4	-0.3
PALP	**Palanan**	**2.11**	**137**	eP	Pn	08 54 32.9	+6.2
BOLP	**Bolinao**	**2.44**	**204**	eP	Pn	08 54 30.7	-0.7
BALP	**Baler**	**2.94**	**168**	eP	Pn	08 54 38.9	+0.4

*BJI **03** 09:14:01.4, 10.34N×92.27E,h39km,mB5.2,mb5.0,Ms4.6, Msz4.4*
*MOS **03** 09:14:02.6±0.7, 10.62N×92.37E,h33km,mb5.2/8, MS4.2/7,Error ellipse: s-maj=23.0km s-min=11.4km az=103.9*
*HRVD **03** 09:14:03.5±0.8, 10.47N×92.32E,h16km,MW5.1/24, Centroid moment Tensor Solution. LP body waves: s21,c25;Mantle waves: s24,c28; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.85±.20; $M_{\theta\theta}$0.58±.15; $M_{\phi\phi}$-1.42±.16; $M_{r\theta}$1.48±.52; $M_{\theta\phi}$0.41±.14; $M_{\phi r}$-5.29±.46; Best double couple: $M_0$5.619×10^{16} NP1:ϕ_s0°,δ6°,λ106°. NP2:ϕ_s164°,δ84°,λ88°. Principal axes: T 5.298, Plg51°, Azm72°; N .646, Plg2°, Azm164°; P -5.939, Plg39°, Azm256°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 09:14:03.5±3.2, 10.58N×92.22E,h25km±22km,mb5.0/30 Error ellipse: s-maj=9.6km s-min=7.7km az=70.0*
ISC 03 09:14:01.8±1.1,**10.57N**±0.04×**92.26E**±0.03,**h27**km±8km, **h28**km±2.5km:**pP-P,n101,**σ1**9**11/109,**mb5.0**/40,**MS4.4**/11, **13C-8D,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.18**	**24**	eP	**Pn**	**09 14 23.0**	**+0.2**
PBA				e		09 14 24.0	
CM31	**Chiang Mai Arr**	**10.17**	**39**	eP	**P**	**09 16 29.7**	**+0.4**
41nm,0.9s							
CHG	**Chiang Mai**	**10.44**	**38**	⇑P	**P**	**09 16 32.9**	**-0.2**
29nm,1.1s							
VIS	**Vishakhapatnam**	**11.20**	**310**	eP	**P**	**09 16 40.2**	**-3.2**
VIS				eS	**S**	**09 18 33.0**	**-16**
VIS				e		09 18 39.4	
comp=N,374nm,1.3s							
VIS				e		09 18 41.2	
comp=E,384nm,1.5s							
NANT	**Nan**	**11.56**	**44**	P	**P**	**09 16 48.0**	**-0.3**
KKTK	**Khon Kaen**	**11.77**	**60**	P	**P**	**09 16 54.0**	**+2.9**
comp=E,432nm,0.7s							
PALK	**Pallekele**	**11.87**	**255**	P	**P**	**09 16 50.4**	**-2.2**
MDRS	**Chennai**	**12.02**	**283**⇑e		**P**	**09 16 53.0**	**-1.5**
MDRS				eP		09 16 53.1	
MDRS				eS	**S**	**09 18 53.2**	**-15**
MDRS				e		09 18 55.0	
MDRS				e		09 18 57.1	
comp=E,239nm,0.2s							
MDRS				e		09 18 57.8	
comp=N,477nm,0.4s							
AGT	**Agartala**	**13.28**	**356**	eP	**P**	**09 17 10.0**	**-1.2**
KOD	**Kodaikanal**	**14.55**	**270**	eP	**P**	**09 17 28.8**	**+0.7**
KOD				e		09 17 45.9	
comp=Z,83nm,1.5s							
SHL	**Shillong**	**14.92**	**359**	eP	**P**	**09 17 34.9**	**+2.0**
SHL				e		09 17 41.9	
comp=Z,33nm,1.5s							
SHL				e		09 20 06.0	
HYB	**Hyderabad**	**14.93**	**299**	i P	**P**	**09 17 31.5**	**-1.6**
comp=Z,40nm,1.0s							
HYB				e		09 17 41.0	
HYB				eS	**S**	**09 20 06.0**	**-12**
HYB				eS	**S**	**09 20 17.0**	**-1.3**
BLSP	**Bilaspur**	**15.04**	**321**	eP	**P**	**09 17 33.6**	**-0.9**
BLSP				e		09 20 07.5	
TRD	**Trivandrum**	**15.22**	**264**	eP	**P**	**09 17 39.5**	**+2.6**
TRD				e		09 17 40.1	
comp=Z,58nm,1.3s							
TRD				e		09 20 10.2	
MNGI	**Mangalore**	**17.23**	**280**	eP	**P**	**09 18 04.2**	**+1.7**
MNGI				e		09 18 07.9	
comp=Z,92nm,1.3s							
ALBI	**Allahabad**	**17.70**	**327**	e	**P**	**09 18 08.3**	**+0.1**
PKI	**Pulchoki**	**18.10**	**340**	eP	**P**	**09 18 13.9**	**+0.6**
comp=Z,68nm,0.7s							
DMN	**Daman**	**18.24**	**339**	eP	**P**	**09 18 15.8**	**+0.8**
comp=Z,132nm,0.9s							
GUN	**Gumba**	**18.26**	**342**	eP	**P**	**09 18 16.0**	**+0.7**
comp=Z,22nm,0.4s							
KKN	**Kakani**	**18.34**	**340**	eP	**P**	**09 18 16.7**	**+0.4**
GOA	**Goa**	**18.61**	**287**	e	**P**	**09 18 25.6**	**+6.1**
GOA				e		09 18 29.9	
comp=Z,38nm,0.7s							
GKN	**Gorkha**	**18.76**	**339**	eP	**P**	**09 18 22.0**	**+0.7**
comp=Z,37nm,0.3s							
KAD	**Karad**	**18.77**	**293**	eP	**P**	**09 18 21.5**	**+0.1**
KAD				i		09 21 33.0	
KOLN	**Koldanda**	**18.95**	**336**	eP	**P**	**09 18 23.9**	**+0.4**
comp=Z,34nm,0.5s							
BHPL	**Bhopal**	**18.95**	**314**	eP	**P**	**09 18 23.4**	**-0.2**
BHPL				eS	**S**	**09 21 50.0**	**-0.6**
QIZ	**Qiongzhong**	**18.96**	**62**	P	**P**	**09 18 25.3**	**+1.6**
QIZ				XP		09 18 34.1	
QIZ				S	**S**	**09 21 54.9**	**+4.3**
QIZ				AMB	AMB		
comp=Z,22nm,0.9s							
QIZ				LR	LR		
comp=N,807nm,17.9s							
QIZ				LR	LR		
comp=E,440nm,17.9s							
QIZ				LR	LR		
comp=Z,748nm,17.9s							
LSA	**Lhasa**	**19.06**	**357**	P	**P**	**09 18 25.4**	**+0.5**
LSA				AP		09 18 37.0	
LSA				S	**S**	**09 21 51.6**	**-1.6**
LSA				AMB	AMB		
comp=Z,30nm,1.3s							
LSA				LR	LR		
comp=N,330nm,13.6s							
LSA				LR	LR		
comp=E,430nm,16.0s							
LSA				LR	LR		
comp=Z,540nm,15.0s							
LSA	**Lhasa**	**19.06**	**357**	eP	**P**	**09 18 25.3**	**+0.4**
comp=Z,44nm,0.8s							
POO	**Poona**	**19.48**	**296**	eP	**P**	**09 18 29.9**	**+0.1**
POO				e		09 18 32.9	
comp=Z,80nm,1.5s							
NDI	**New Delhi**	**22.88**	**324**	eP	**P**	**09 19 05.7**	**+1.2**
DDI	**Dehra Dun**	**23.69**	**328**	eP	**P**	**09 19 14.4**	**+2.0**
DDI				e		09 23 34.5	
SMLA	**Simla**	**24.79**	**328**	e		09 19 36.7	
SMLA				e		09 19 44.6	
comp=Z,39nm,1.0s							
ENH	**Enshi**	**25.33**	**37**	eP	**P**	**09 19 27.3**	**-0.9**
comp=Z,112nm,0.8s,mb5.5							
LZH	**Lanzhou**	**27.49**	**21**	⇑P	**P**	**09 19 48.1**	**0.0**
LZH				AP	pP	09 19 55.1	-0.8
LZH				XP	sP	09 19 58.6	-0.8
LZH				PP	PP	09 20 36.5	+0.4
LZH				eS	**S**	**09 24 26.5**	**+1.0**
LZH				SS	SS	09 25 45.4	+1.5
LZH				AMB	AMB		
comp=Z,66nm,1.3s,mb5.0							
LZH				AMB	AMB		
comp=Z,163nm,5.1s							
LZH				LR	LR		
comp=N,1μm,12.2s							
LZH				LR	LR		
comp=Z,2μm,15.5s,MS4.8							
XAN	**Xi'an**	**27.91**	**31**	P	**P**	**09 19 50.0**	**-1.8**
XAN				AMB	AMB		
comp=Z,22nm,0.8s,mb4.8							
WHN	**Wuhan**	**28.58**	**43**	eP	**P**	**09 19 56.0**	**-1.9**
NJ2	**Nanjing**	**32.56**	**45**	eP	**P**	**09 20 33.0**	**-0.1**
NJ2				AP	pP	09 20 42.5	+1.5
NJ2				XP	sP	09 20 47.3	+2.9
NJ2				PP	PP	09 21 38.5	-3.5
NJ2				S	**S**	**09 25 41.0**	**-4.8**
NJ2				AMB	AMB		
comp=Z,90nm,0.9s,mb5.7							
NJ2				AMB	AMB		
comp=Z,490nm,5.1s							
NJ2				LR	LR		
comp=N,2μm,24.0s,MS4.8							
NJ2				LR	LR		
comp=E,1μm,19.1s,MS4.8							
NJ2				LR	LR		
comp=Z,950nm,20.6s,MS4.5							
WMQ	**Urumqi**	**33.37**	**354**	P	**P**	**09 20 41.2**	**+1.2**
WMQ				AP	pP	09 20 48.5	+0.6
WMQ				XP	sP	09 20 51.8	+0.5
WMQ				PP	PP	09 21 53.3	+1.3
WMQ				S	**S**	**09 25 59.9**	**+1.8**
WMQ				XS		09 26 12.0	
WMQ				AMB	AMB		
comp=Z,40nm,0.8s,mb5.4							
WMQ				AMB	AMB		
comp=Z,230nm,4.7s							
WMQ				LR	LR		
comp=N,2μm,20.1s,MS5.0							
WMQ				LR	LR		
comp=E,2μm,23.6s,MS5.0							
WMQ				LR	LR		
comp=Z,2μm,19.7s,MS4.8							
SSE	**Sheshan**	**33.71**	**48**	eP	**P**	**09 20 39.2**	**-3.9**
SSE				AP	pP	09 20 51.9	+0.9
SSE				S	**S**	**09 26 01.5**	**-2.1**
SSE				XS		09 26 15.9	
SSE				AMB	AMB		
comp=Z,16nm,0.6s,mb5.1							
SSE				AMB	AMB		
comp=Z,55nm,4.1s							
SSE				LR	LR		
comp=N,206nm,19.0s,MS4.0							
SSE				LR	LR		
comp=E,148nm,19.4s,MS4.0							
SSE				LR	LR		
comp=Z,223nm,17.4s,MS3.9							
AAK	**Ala-Archa**	**35.51**	**337**⇓eP		**P**	**09 20 58.4**	**-0.1**
AAK				MLR	MLR		
comp=Z,200nm,6.0s							
AAK	**Ala-Archa**	**35.51**	**337**	eP	**P**	**09 20 58.4**	**0.0**
comp=Z,9.6nm,1.2s,mb4.6							
BJT	**Baijiatuau**	**36.20**	**32**	eP	**P**	**09 21 04.6**	**+0.3**
comp=Z,32nm,0.8s,mb5.3							
MK02	**Makanchi Array**	**37.05**	**349**	P	**P**	**09 21 11.8**	**+0.4**
MK02				pmax	pmax		
comp=Z,12nm,0.8s,mb4.8							
ULN	**Ulaanbaatar**	**39.21**	**16***d*	iP	**P**	**09 21 29.3**	**-0.2**
ULN	**Ulaanbaatar**	**39.21**	**16**	eP	**P**	**09 21 29.6**	**+0.2**
comp=Z,18nm,1.0s,mb4.8							
ULN				ePcP	PcP	09 23 39.0	+0.1
ULN				LR	LR		
comp=Z,222nm,19.0s,MS4.0							
ZAK	**Zakamensk**	**40.73**	**11**⇓iP		**P**	**09 21 42.5**	**+0.6**
ZAK				e		09 23 44.1	
MBWA	**Marble Bar**	**41.51**	**139**	eP	**P**	**09 21 47.7**	**-1.0**
comp=Z,9.4nm,0.8s,mb4.5							
SNY	**Shenyang**	**41.51**	**36**	⇑P	**P**	**09 21 48.4**	**-0.1**
SNY				AMB	AMB		
comp=Z,20nm,0.8s,mb4.8							
SNY				LR	LR		
comp=E,490nm,16.9s							
SNY				LR	LR		
comp=Z,470nm,15.9s,MS4.5							
FITZ	**Fitzroy Crossi**	**43.56**	**131**	eP	**P**	**09 22 05.1**	**-0.4**
comp=Z,99nm,1.0s,mb5.5							
NVS	**Novosibirsk**	**44.74**	**353**	i P	**P**	**09 22 13.5**	**-1.1**
NVS				pmax	pmax		
comp=Z,15nm,1.3s,mb4.7							
NVS				pmax	pmax		
comp=E,6.0nm,1.0s							
NVS				pmax	pmax		
comp=N,9.0nm,1.1s							
HIA	**Hailar**	**44.84**	**25**	eP	**P**	**09 22 15.4**	**-0.1**
comp=N,73nm,1.4s,mb5.3							
KAKA	**Kakadu**	**46.12**	**119**	eP	**P**	**09 22 25.0**	**-1.0**
comp=N,14nm,0.5s,mb5.2							
MDJ	**Mudanjiang**	**46.70**	**37**	P	**P**	**09 22 31.8**	**+1.6**
MDJ				AMB	AMB		
comp=Z,11nm,0.9s,mb4.8							
MDJ				AMB	AMB		
comp=Z,106nm,4.0s							
MUN	**Mundaring**	**48.12**	**152**	eP	**P**	**09 22 42.8**	**+1.2**
comp=Z,22nm,0.6s,mb5.4							
MAT	**Matsushiro**	**48.81**	**50**	eP	**P**	**09 22 46.0**	**-0.9**
MAT	**Matsushiro**	**48.81**	**50**	P	**P**	**09 22 46.4**	**-0.5**
NWAO	**Narrogin (SRO)**	**49.38**	**152**	eP	**P**	**09 22 51.0**	**-0.3**
BOD	**Bodaibo**	**50.01**	**15**	eP	**P**	**09 22 54.3**	**-1.5**
KLR	**Kul'dur**	**50.58**	**33**	eP	**P**	**09 22 56.4**	**-3.8**
GNI	**Garni**	**51.24**	**314**⇓eP		**P**	**09 23 06.5**	**+1.1**
GNI				pmax	pmax		
comp=Z,24nm,1.9s							
GNI				MLR	MLR		
comp=Z,100nm,18.0s							
GNI	**Garni**	**51.24**	**314**	eP	**P**	**09 23 05.9**	**+0.6**
comp=Z,18nm,1.1s,mb4.9							
WRA	**Warramunga Arr**	**51.34**	**126**	i P	**P**	**09 23 05.8**	**-0.6**
WRA				pmax	pmax		
comp=Z,43nm,0.6s							
WRAB	**Tennant Creek**	**51.34**	**126***c*	iP	**P**	**09 23 06.0**	**-0.4**
WRAB	**Tennant Creek**	**51.34**	**126**	eP	**P**	**09 23 05.9**	**-0.5**
comp=Z,82nm,0.6s,mb5.8							
WB2	**Warramunga Arr**	**51.35**	**126**⇑iP		**P**	**09 23 05.9**	**-0.6**
SVE	**Sverdlovsk**	**52.23**	**339**	eP	**P**	**09 23 13.0**	**+0.4**
ARU	**Arti**	**52.70**	**337**⇑iP		**P**	**09 23 15.6**	**-0.6**
ARU				e		09 24 24.1	
ARU				e		09 25 12.5	
ARU				eS	**S**	**09 30 42.8**	**+2.2**
ARU				eSS	SS	09 34 18.5	+0.4
ARU				eSSS	SSS	09 36 05.6	+1.6
ARU				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
ARU	**Arti**	**52.70**	**337**	eP	**P**	**09 23 15.3**	**-0.9**
comp=Z,13nm,1.0s,mb4.8							
KIV	**Kislovodsk**	**54.09**	**317***c*	iP	**P**	**09 23 27.4**	**+0.9**
KIV				eS	**S**	**09 31 01.4**	**+1.8**
KIV				pmax	pmax		
comp=Z,13nm,0.9s,mb4.9							
KIV				MLR	MLR		
comp=Z,200nm,22.0s,MS4.1							
KIV	**Kislovodsk**	**54.09**	**317**	eP	**P**	**09 23 18.2**	**-8.3**
comp=Z,10nm,0.8s,mb4.8							
MALT	**Malatya**	**55.32**	**309**	eP	**P**	**09 23 30.9**	**-4.8**
comp=Z,0.9nm,0.4s,mb4.2							
YSS	**Yuzh-Sakhalins**	**55.86**	**40**⇓eP		**P**	**09 23 38.8**	**-0.6**
YSS				pmax	pmax		
comp=Z,31nm,0.9s,mb5.3							
YSS				MLR	MLR		
comp=Z,300nm,25.0s,MS4.3							
YAK	**Yakutsk**	**58.07**	**20***c*	iP	**P**	**09 23 53.9**	**-1.0**
YAK				pmax	pmax		
comp=Z,51nm,0.7s,mb5.7							
YAK				MLR	MLR		
comp=Z,200nm,23.0s,MS4.2							
YAK	**Yakutsk**	**58.07**	**20**	eP	**P**	**09 23 53.6**	**-1.3**
comp=Z,55nm,0.8s,mb5.6							
YAK				LR	LR		
comp=Z,199nm,21.0s,MS4.2							
PMG	**Port Moresby**	**58.11**	**108**	eP	**P**	**09 23 55.3**	**-0.5**
comp=Z,31nm,0.9s,mb5.3							
CTA	**Charters Tower**	**61.25**	**120**⇑iP		**P**	**09 24 17.4**	**+0.1**
comp=Z,12nm,0.9s,mb5.0							
CTAO	**Charters Tower**	**61.25**	**120**	eP	**P**	**09 24 17.2**	**-0.1**
comp=Z,32nm,1.2s,mb5.3							
MOS	**Moscow**	**61.83**	**328**	eP	**P**	**09 24 19.0**	**-1.8**
OBN	**Obninsk**	**62.12**	**328**⇓eP		**P**	**09 24 22.6**	**-0.2**
OBN				e	pP	09 24 30.2	-0.9
OBN				e		09 25 02.1	
OBN				eS	**S**	**09 32 44.5**	**+0.1**
OBN				pmax	pmax		
comp=Z,47nm,1.7s,mb5.3							
OBN				MLR	MLR		
comp=Z,400nm,24.0s,MS4.5							
STKA	**Stephens Creek**	**63.30**	**134**⇑iP		**P**	**09 24 31.1**	**+0.2**
comp=Z,29nm,1.0s,mb5.4							
TIXI	**Tiksi**	**64.99**	**12**⇑iP		**P**	**09 24 40.3**	**-1.0**
TIXI				pmax	pmax		
comp=Z,46nm,1.3s,mb5.3							
MA2	**Magadan**	**65.28**	**29***c*eP		**P**	**09 24 42.8**	**-0.5**
MA2				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
MA2	**Magadan**	**65.28**	**29**	eP	**P**	**09 24 42.5**	**-0.8**
comp=Z,22nm,1.0s,mb5.1							
LSZ	**Lusaka**	**68.45**	**249**	P	**P**	**09 25 05.6**	**+1.4**
comp=Z,6.5nm,1.1s,mb4.6							
TOO	**Toolangi**	**69.08**	**137**	eP	**P**	**09 25 09.4**	**+1.7**
comp=Z,11nm,1.0s,mb4.7							
FINES	**FINESS Array B**	**69.47**	**332**	i P	**P**	**09 25 09.7**	**0.0**
FINES				pmax	pmax		
comp=Z,2.0nm,0.7s							
ARMA	**Armidale**	**70.07**	**128**	eP	**P**	**09 25 15.7**	**+1.9**
CNB	**Canberra Magne**	**70.62**	**133**	eP	**P**	**09 25 17.8**	**+0.7**
comp=Z,14nm,0.8s,mb4.9							
BILL	**Bilibino**	**74.30**	**22**⇓eP		**P**	**09 25 38.3**	**+0.1**
BILL				e*PP	pP	09 25 47.0	+0.4
BILL				e		09 28 22.2	
BILL				eS	S	09 35 08.8	-0.3
BILL				eSS	SS	09 39 54.0	-3.4
BILL				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.6							
BILL				MLR	MLR		
comp=Z,300nm,24.0s,MS4.5							
BILL	**Bilibino**	**74.30**	**22**	eP	**P**	**09 25 37.5**	**-0.7**
comp=Z,3.6nm,0.7s,mb4.4							
CLL	**Collm**	**75.11**	**320**	e*PP	pP	09 25 51.0	-0.7
CLL				e		09 26 03.0	
BOSA	**Boshof**	**75.46**	**237**	P	**P**	**09 25 44.1**	**-1.7**
comp=Z,7.8nm,0.9s,mb4.6							
NB2	**NORSAR Subarra**	**76.48**	**330**	P	**P**	**09 25 48.8**	**-2.0**
comp=Z,5.4nm,0.9s,mb4.5,baz=93,slow=5.8							
LPG	**La Plagne**	**79.41**	**314**	eP	**P**	**09 26 08.0**	**+0.7**
comp=Z,12nm,0.8s,mb4.6							
SYO	**Syowa Base**	**87.42**	**197**	⇓P	**P**	**09 26 53.4**	**+5.8**
IMA	**Indian Mountai**	**89.84**	**22**	eP	**P**	**09 27 00.8**	**+1.6**
comp=Z,25nm,0.6s,mb5.7							
MCK	**McKinley**	**92.73**	**23**	eP	**P**	**09 27 13.3**	**+0.8**
comp=Z,7.0nm,1.2s,mb5.0							
SNOW	**Snow King Moun**	**122.28**	**20**	ePKPdf	PKPdf	09 32 57.6	-1.9
MVU	**Marysvale**	**126.10**	**24**	ePKPdf	PKPdf	09 33 05.8	-1.3
MSU	**Marysvale**	**126.11**	**24**	ePKPdf	PKPdf	09 33 05.8	-1.3
JCT	**Junction City**	**137.57**	**16**	ePKPpre		09 33 22.5	

NDI 03 09:26:36.9±8.1,**16.60N**×**85.39E,h33**km,**ML2.9,Bay of Bengal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**2.26**	**300**	eP	P	09 27 15.2	+2.6
VIS				e		09 27 33.6	
VIS				eS	S	09 27 36.0	-3.6
BWNR	**Bhubaneshwar**	**3.69**	**6**	eP	P	09 27 32.1	-1.0
BWNR				e		09 28 18.4	
comp=E,37nm,0.4s							
BWNR				e		09 28 18.6	
comp=N,46nm,0.5s							
MDRS	**Chennai**	**6.09**	**235**	i P	P	09 28 04.7	-2.2
MDRS				i		09 30 10.2	
BHPL	**Bhopal**	**9.98**	**313**	eP	P	09 28 52.9	-8.2
BHPL				i S	S	09 30 42.4	-11

ISC 03 09:47:00.6±2.8,**8.2S**±0.1×**128.5E**±0.1,**h172**km±21km,**n6,** σ0**83/9,mb4.1**/2,**Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.96**	**139**	eP	**P**	**09 48 27.5**	**-0.3**
81nm,0.6s							
KAKA				eS	**S**	**09 49 35.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**10.25**	**195**	eP	**P**	**09 49 25.8**	**+1.4**
26nm,0.8s							
FITZ				eS	**S**	**09 51 16.2**	**-0.8**
WB2	**Warramunga Arr**	**13.01**	**155**	eP	**P**	**09 49 58.8**	**-1.3**
WB2				e		09 50 05.9	
WB2				eS	**S**	**09 52 22.0**	**+0.6**
KLBR	**Kellerberrin**	**25.35**	**202**	eP	**P**	**09 52 13.6**	**+0.1**
STKA	**Stephens Creek**	**26.56**	**154**	eP	**P**	**09 52 23.7**	**-0.9**
3.6nm,0.5s,mb4.3							
TOO	**Toolangi**	**33.08**	**155**	eP	**P**	**09 53 23.0**	**+0.9**
4.4nm,1.7s,mb3.9							

*NIED **03** 09:55:00,33.20N×137.20E,h11km,Mw3.8 Best double couple: $M_0$5.91×10^{14} NP1:ϕ_s261°,δ51°,λ79°. NP2:ϕ_s98°, δ40°,λ104°.*
*JMA **03** 09:55:23.6±0.1,33.21N×137.18E,h40km±2km,M3.9*
ISC 03 09:55:24.1±0.9,**33.25N**±0.06×**137.16E**±0.04,**h46**km±21km, **n19,**σ0**66/33,7D,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.63**	**34**	P	**P**	**09 55 36.3**	**-0.4**
TK01				eS	**S**	**09 55 45.5**	**-0.5**
TK02	**Tokai 2**	**0.86**	**35**	⇓P	**P**	**09 55 39.6**	**-0.3**
TK02				S	**S**	**09 55 51.4**	**-0.1**
TK03	**Tokai 3**	**1.14**	**36**	P	**P**	**09 55 43.6**	**-0.1**
TK03				S	**S**	**09 55 58.4**	**0.0**
JIE	**Ise**	**1.21**	**342**	⇓P	**P**	**09 55 45.5**	**+0.8**
JIE				S	**S**	**09 56 00.6**	**+0.4**
JWZ	**Kozaga**	**1.25**	**284**	P	**P**	**09 55 45.2**	**-0.1**
JWZ				S	**S**	**09 56 00.2**	**-1.0**
TK04	**Tokai 4**	**1.28**	**27**	⇓P	**P**	**09 55 46.0**	**+0.1**
TK04				S	**S**	**09 56 02.2**	**0.0**
TSUJ	**Tsu 2**	**1.59**	**337**	⇓P	**P**	**09 55 50.8**	**+0.6**
TSUJ				S	**S**	**09 56 10.0**	**+0.3**
JWM	**Minabe**	**1.63**	**292**	⇓P	**P**	**09 55 50.9**	**+0.1**
JWM				S	**S**	**09 56 09.7**	**-1.0**
JWY	**Kouya**	**1.63**	**307**	P	**P**	**09 55 51.6**	**+0.8**
JWY				S	**S**	**09 56 11.1**	**+0.3**
JHE	**Heguri**	**1.87**	**319**	P	**P**	**09 55 54.8**	**+0.6**
JHE				S	**S**	**09 56 17.0**	**+0.4**
SHZ3	**Shizuoka 3**	**2.01**	**25**	P	**P**	**09 55 55.9**	**-0.3**
SHZ3				S	**S**	**09 56 19.4**	**-0.9**
JIZS	**Izushimoda**	**2.05**	**44**	P	**P**	**09 55 58.0**	**+1.3**
JHJ2	**Mitsune**	**2.23**	**93**	P	**P**	**09 55 59.0**	**-0.3**
JAI	**Aioi**	**2.33**	**284**	P	**P**	**09 56 01.0**	**+0.2**
JAI				S	**S**	**09 56 26.8**	**-1.5**
**

*PDA **03** 10:01:43.2±0.5, 38.92N×28.50W, h6km±21km, MD3.3, Error ellipse: s-maj=11.7km s-min=3.2km az=167.0*

SVSA 03 10:01:43.2±0.5, 38.92N×28.50W, h6km±21km, MD3.3, Error ellipse: s-maj=11.7km s-min=3.2km az=167.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSA	**Rosais**	**0.28**	**135**	*eP*	Pg	10 01 48.4	-0.5
ROSA				*eS*	Sg	10 01 52.2	-0.5
CALA	**Caldeira**	**0.37**	**206**	*eP*	Pg	10 01 50.1	-0.6
CALA				*eS*	Sg	10 01 54.9	-0.8
HOR	**Horta**	**0.40**	**195**	*eS*	Sg	10 01 55.4	-1.4
PICO	**Pico**	**0.42**	**172**	*eP*	Pg	10 01 50.4	-1.2
PICO				*eS*	Sg	10 01 56.3	-1.0
PMAN	**Manadas**	**0.43**	**132**	*erx*		10 01 58.5	

DJA 03 10:02:05.0±0.7, 4.36S×120.34E, h33km, MD4.4/3, ML3.1/1, 6C-3D, Error ellipse: s-maj=17.8km s-min=6.9km az=130.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NINI	**Niniconang**	**0.58**	**264**	⇑*iPn*	Pn	10 02 16.7	-0.2
	85nm,0.2s						
NINI	**Niniconang**	**0.58**	**264**	⇑*iP*	P	10 02 17.4	+0.7
NINI				⇑*iSn*	Sn	10 02 23.4	-2.0
BUNI	**Buntu Taipa**	**0.70**	**359**	⇓*iPn*	Pn	10 02 18.1	-0.5
	131nm,0.2s						
BUNI	**Buntu Taipa**	**0.70**	**359**	⇓*iP*	P	10 02 18.3	-0.1
BUNI				⇑*iSn*	Sn	10 02 26.6	-1.7
TANI	**Tanete Lipujan**	**1.33**	**314**	⇓*iPn*	Pn	10 02 26.6	-0.9
	23nm,0.2s						
TANI	**Tanete Lipujan**	**1.33**	**314**	⇑*iP*	P	10 02 26.9	-0.5
TANI				⇑*iSn*	Sn	10 02 41.8	-2.4

MAN 03 10:25:05.5, 16.88N×120.48E, h73km, mb3.8, ML2.5, MS2.1, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.51**	**169**	⇑*iP*	P	10 25 20.6	+1.8
BCPH				*i* S	S	10 25 33.2	+4.6
BOLP	**Bolinao**	**0.74**	**228**	*eP*	P	10 25 22.8	+1.5
ABRA	**Dolores**	**0.79**	**16**	*eP*	P	10 25 23.1	+1.2
ABRA				*eS*	S	10 25 37.0	+3.0
APYP	**Conner**	**1.22**	**37**	*eP*	P	10 25 24.8	-2.4
APYP				*eS*	S	10 25 45.5	+2.1
SCZP	**Santa Cruz**	**1.23**	**207**	*eP*	P	10 25 28.0	+0.6
CAUP	**Cauayan**	**1.29**	**87**	*eP*	P	10 25 29.1	+1.0
BALP	**Baler**	**1.55**	**137**	*eP*	P	10 25 31.7	0.0

JMA 03 10:32:11.6±0.1, 42.97N×145.34E, h48km±1km, M3.6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.47**	**273**	P	P	10 32 22.4	0.0
JAK				S	S	10 32 30.2	+0.1
NEM2	**Nemuro 2**	**0.49**	**37**	P	P	10 32 22.3	-0.4
NEM2				S	S	10 32 29.8	-0.8
JNK	**Nakash**	**0.76**	**324**	P	P	10 32 25.9	-0.3
JNK				S	S	10 32 35.9	-1.0
JRA	**Rausu**	**0.98**	**351**	P	P	10 32 29.0	-0.2
JRA				*eS*	S	10 32 41.8	-0.4
JOB	**Onbets**	**1.11**	**267**	P	P	10 32 30.7	-0.3
JOB				*eS*	S	10 32 45.0	-0.4
JAR	**Ashorobuto**	**1.20**	**286**	P	P	10 32 32.1	-0.1
JAR				*eS*	S	10 32 47.3	-0.2
JTKR	**Abashiri--Toko**	**1.45**	**314**	P	P	10 32 36.0	+0.2
JCH	**Churui**	**1.50**	**257**	P	P	10 32 35.7	-0.9
JCH				*eS*	S	10 32 54.3	-0.8

*NEIC **03** 10:42:05.9, 37.67S×177.26E, h123km, After WEL.*

WEL 03 10:42:05.7±0.3, 37.68S×177.27E, h126km±3km, ML3.6/6, 10C, Error ellipse: s-maj=1.8km s-min=1.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.56**	**237**	*eP*	P	10 42 25.0	+0.2
MARZ	**Manawahe**	**0.56**	**237**	*ePN*	P	10 42 25.0	+0.2
URZ	**Urewera**	**0.59**	**192**	⇑P	P	10 42 24.7	-0.3
URZ	**Urewera**	**0.59**	**192**	⇑PN	P	10 42 24.7	-0.3
URZ				SN	S	10 42 38.8	-0.9
EDRZ	**Edgecumbe**	**0.60**	**224**	P	P	10 42 25.1	0.0
EDRZ	**Edgecumbe**	**0.60**	**224**	PN	P	10 42 25.1	+0.1
MWZ	**Matawai**	**0.69**	**163**	⇑P	P	10 42 25.6	-0.1
MWZ				S	S	10 42 40.7	-0.2
MWZ	**Matawai**	**0.69**	**163**	⇑PN	P	10 42 25.6	-0.1
MWZ				SN	S	10 42 40.7	-0.2
TAZ	**Tarawera**	**0.82**	**227**	P	P	10 42 27.1	+0.4
TAZ	**Tarawera**	**0.82**	**227**	PN	P	10 42 27.1	+0.4
MXZ	**Matakaoa Point**	**0.83**	**82**	⇑P	P	10 42 26.7	-0.2
MXZ	**Matakaoa Point**	**0.83**	**82**	⇑PN	P	10 42 26.7	-0.1
MXZ				SN	S	10 42 42.6	-0.3
PUZ	**Puketiti**	**0.88**	**117**	⇑P	P	10 42 27.1	-0.2
PUZ				S	S	10 42 42.8	-0.8
PUZ	**Puketiti**	**0.88**	**117**	⇑PN	P	10 42 27.1	-0.2
PUZ				SN	S	10 42 42.8	-0.8
MYRZ	**Mayor Island**	**0.91**	**296**	PN	P	10 42 27.1	-0.5
KNZ	**Kokohu**	**1.38**	**167**	⇑P	P	10 42 32.1	-0.5
KNZ	**Kokohu**	**1.38**	**167**	⇑PN	P	10 42 32.1	-0.5
KNZ				SN	S	10 42 51.9	-1.1
BKZ	**Black Stump Fm**	**1.60**	**202**	*eP*	P	10 42 34.1	-1.1
BKZ	**Black Stump Fm**	**1.60**	**202**	PN	P	10 42 34.1	-1.0
BKZ				SN	S	10 42 56.5	-1.0
PWZ	**Pawanui**	**2.37**	**188**	P	P	10 42 42.8	-1.9
PWZ	**Pawanui**	**2.37**	**188**	PN	P	10 42 42.8	-1.8
PWZ				SN	S	10 43 11.7	-2.5
TSZ	**Takapari Road**	**2.59**	**203**	*eP*	P	10 42 45.0	-2.6
TSZ	**Takapari Road**	**2.59**	**203**	PN	P	10 42 45.0	-2.6
BFZ	**Birch Farm**	**3.10**	**195**	*ePN*	P	10 42 51.4	-3.0
MRZ	**Mangatainoka R**	**3.25**	**203**	P	P	10 42 53.0	-3.4
MRZ	**Mangatainoka R**	**3.25**	**203**	PN	P	10 42 53.0	-3.5
KIW	**Kapiti Island**	**3.67**	**209**	PN	P	10 42 58.9	-3.0

*ATH **03** 10:57:20.0, 35.52N×26.07E, h38km±3km, MD3.5/10*
*CSEM **03** 10:57:20.6±0.1, 35.54N×26.09E, h25km, MD3.5, Error ellipse: s-maj=3.1km s-min=2.3km az=161.0*
*ISK **03** 10:57:20.7, 35.73N×26.04E, h128km, MD3.5*
*NEIC **03** 10:57:20.0, 35.52N×26.07E, h38km, MD3.5(ATH), After ATH.*

ISC 03 10:57:21.1±0.7, 35.52N±0.06×26.06E±0.05, h34km±32km, n18, σ0§82/25, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.45**	**235**	*ePB*	**P**	**10 57 30.8**	**0.0**
NPS				*eSB*	**S**	**10 57 37.1**	**-0.6**
XRY	**Khrisi**	**0.71**	**205**	*ePN*	**P**	**10 57 34.5**	**-0.1**
KARP	**Karpathos**	**0.90**	**88**	*ePN*	**P**	**10 57 37.1**	**-0.2**
KARP				*eSN*	**S**	**10 57 50.1**	**+0.8**
SANT	**Santorini**	**0.98**	**330**	*ePn*	**P**	**10 57 38.8**	**+0.4**
SANT				*eSn*	**S**	**10 57 49.9**	**-1.4**
SANT	**Santorini**	**0.98**	**330**	*ePn*	**P**	**10 57 38.8**	**+0.3**
SANT				*eSn*	**S**	**10 57 49.9**	**-1.4**
VAM	**Vamos**	**1.52**	**266**	*ePB*	**P**	**10 57 46.3**	**+0.1**
APE	**Apeiranthos**	**1.60**	**345**	PN	**P**	**10 57 48.0**	**+0.6**
APE				SN	**S**	**10 58 07.4**	**+0.3**
APE	**Apeiranthos**	**1.60**	**345**	*ePB*	**P**	**10 57 48.0**	**+0.6**
APE				*eSN*	**S**	**10 58 07.6**	**+0.5**
ARG	**Arkhangelos**	**1.82**	**67**	*ePN*	**P**	**10 57 50.8**	**+0.3**
SMG	**Samos**	**2.27**	**16**	*ePN*	**P**	**10 57 57.0**	**0.0**
DALT	**Dalyan (Mudla)**	**2.43**	**58**	PN	**P**	**10 57 59.7**	**+0.4**
DALT				SN	**S**	**10 58 27.8**	**-0.3**
KYTH	**Kithira**	**2.57**	**288**	*ePN*	**P**	**10 58 01.0**	**-0.2**
FETY	**Fethiye**	**2.69**	**65**	PN	**P**	**10 58 03.4**	**+0.4**
VLI	**Veliai**	**2.79**	**296**	*ePN*	**P**	**10 58 04.8**	**+0.4**
NAIG	**Nisos Aigina**	**3.04**	**318**	*ePB*	**P**	**10 58 10.5**	**+2.5**
DENT	**Denizli**	**3.27**	**46**	*ePN*	**P**	**10 58 10.2**	**-1.0**
ELL	**Elmali**	**3.35**	**67**	*ePN*	**P**	**10 58 12.3**	**0.0**
KIZT	**Kizilcal**	**5.73**	**52**	*ePN*	**P**	**10 58 43.6**	**-2.4**

WEL 03 11:15:17.5±0.2, 44.63S×167.55E, h7km±1km, ML3.5/4, 1D, Error ellipse: s-maj=1.3km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.27**	**100**	PG	Pg	11 15 23.2	+0.2
MSZ				SG	Sg	11 15 26.7	-0.1
MLZ	**Mavora Lakes**	**0.85**	**149**	*eP**	Pb	11 15 33.4	-0.8
MLZ				S*	Sb	11 15 45.6	+0.1
DCZ	**Deep Cove**	**0.90**	**198**	P*	Pb	11 15 34.4	-0.6
DCZ				S*	Sb	11 15 46.0	-1.0
JCZ	**Jackson Bay**	**1.02**	**58**	P*	Pb	11 15 36.9	-0.3
JCZ				S*	Sb	11 15 50.6	-0.1
WKZ	**Wanaka**	**1.06**	**102**	⇓P*	Pb	11 15 37.4	-0.4
WKZ				S*	Sb	11 15 51.3	-0.5
WHZ	**Wether Hill Ro**	**1.30**	**168**	P*	Pb	11 15 41.5	-0.4
WHZ				S*	Sb	11 15 58.6	-0.1
EAZ	**Earnscleugh**	**1.39**	**117**	PN	Pn	11 15 42.8	-0.6
EAZ				SN	Sn	11 16 01.8	-0.3
FOZ	**Fox Glacier**	**1.87**	**56**	*ePN*	Pn	11 15 49.5	-0.8
FOZ				SN	Sn	11 16 20.0	+5.6
LBZ	**Lake Benmore**	**1.90**	**84**	PN	Pn	11 15 51.4	+0.7
LBZ				SN	Sn	11 16 15.9	+0.8
TUZ	**Tuapeka**	**1.98**	**133**	PN	Pn	11 15 52.2	+0.3
TUZ				SN	Sn	11 16 16.9	-0.3
ODZ	**Otahua Downs**	**2.24**	**102**	PN	Pn	11 15 55.5	0.0
RPZ	**Rata Peaks**	**2.68**	**71**	PN	Pn	11 16 00.5	-1.3
WVZ	**Waitaha Valley**	**2.77**	**57**	PN	Pn	11 16 00.9	-2.3
LTZ	**Lake Taylor**	**3.88**	**63**	PN	Pn	11 16 18.4	-0.6
DSZ	**Denniston Nort**	**4.23**	**49**	PN	Pn	11 16 20.7	-3.3
THZ	**Tophouse**	**4.84**	**56**	PN	Pn	11 16 30.3	-2.4
QRZ	**Quartz Range**	**5.27**	**46**	PN	Pn	11 16 34.9	-3.8

*BJI **03** 11:18:40.3, 2.20N×94.90E, h29km, mB5.4, mb4.7, Ms4.6, Msz4.4*
*MOS **03** 11:18:40.0±1.1, 2.42N×94.54E, h33km, mb5.0/12, Error ellipse: s-maj=28.7km s-min=12.0km az=106.5*
*NEIC **03** 11:18:40.3±0.8, 2.21N×94.89E, mb4.5/11, Error ellipse: s-maj=18.8km s-min=12.1km az=127.0*

ISC 03 11:18:39.4±0.5, 2.35N±0.07×94.70E±0.08, h30km, h30km±.5km:pP-P, n55, σ1§09/60, mb4.7/25, MS4.2/3, 7C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.78**	**290**	*eP*	**P**	**11 22 12.3**	**+3.9**
CM31	**Chiang Mai Arr**	**16.54**	**14**	*eP*	**P**	**11 22 32.5**	**+1.4**
	28nm,1.1s						
HYB	**Hyderabad**	**21.81**	**314**	*eP*	**P**	**11 23 31.5**	**+0.3**
HYB	**Hyderabad**	**21.81**	**314**	*i* P	**P**	**11 23 31.5**	**+0.3**
HYB				*e*		11 23 35.0	
HYB				*e*		11 23 40.5	
IMP	**Imphal**	**22.32**	**358**	*e*	**P**	**11 23 34.9**	**-1.3**
SHL	**Shillong**	**23.24**	**354**	*i* P	**P**	**11 23 44.0**	**-1.3**
SHL				*eS*	**S**	**11 27 54.0**	**+2.5**
PKI	**Pulchoki**	**26.61**	**341**	*eP*	**P**	**11 24 17.8**	**+0.5**
DMN	**Daman**	**26.74**	**341**	*eP*	**P**	**11 24 18.6**	**+0.1**
	45nm,0.8s,mb5.0						
GUN	**Gumba**	**26.78**	**342**	*eP*	**P**	**11 24 19.0**	**+0.1**
	114nm,1.2s,mb5.3						
KKN	**Kakani**	**26.85**	**341**	*eP*	**P**	**11 24 19.5**	**-0.1**
	60nm,1.2s,mb5.0						
GKN	**Gorkha**	**27.26**	**340**	*eP*	**P**	**11 24 23.5**	**+0.2**
LSA	**Lhasa**	**27.41**	**353**	P	**P**	**11 24 26.0**	**+1.4**
LSA	**Lhasa**	**27.41**	**353**	*eP*	**P**	**11 24 24.9**	**+0.3**
	17nm,0.9s,mb4.6						
LSA				*eS*P	sP	11 24 37.1	-0.1
KOLN	**Koldanda**	**27.42**	**338**	*eP*	**P**	**11 24 24.6**	**-0.1**
	86nm,1.4s,mb5.1						
ENH	**Enshi**	**31.11**	**25**	*eP*	**P**	**11 24 56.1**	**-1.5**
	2.6nm,0.6s,mb4.2						
ENH				*e*pP	pP	11 25 04.6	-1.8
ENH				*eS*P	sP	11 25 11.2	+0.9
XAN	**Xi'an**	**34.21**	**21**	P	**P**	**11 25 23.8**	**-0.9**
XAN				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.6						
NJ2	**Nanjing**	**37.28**	**35**	*eP*	**P**	**11 25 50.3**	**-0.4**
NJ2				AP	pP	11 25 59.3	-0.2
NJ2				S	**S**	**11 31 36.0**	**+0.4**
NJ2				XS		11 31 54.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,370nm,5.5s						
NJ2				LR	LR		
	comp=N,1μm,11.9s,MS5.0						
NJ2				LR	LR		
	comp=E,460nm,10.9s,MS5.0						
NJ2				LR	LR		
	comp=Z,1μm,14.9s,MS4.8						
WMQ	**Urumqi**	**41.76**	**352**	*eP*	**P**	**11 26 29.0**	**+1.2**
BJT	**Baijiatuan**	**42.25**	**25**	*eP*	**P**	**11 26 32.6**	**+0.7**
	comp=Z,3.5nm,0.6s,mb4.2						
BJT				*e*pP	pP	11 26 41.5	+0.7
ULHL	**Ulahol**	**43.03**	**340**	P	**P**	**11 26 39.1**	**+0.9**
	SNR=12						
KZA	**Kyzart**	**43.23**	**339**	P	**P**	**11 26 41.2**	**+1.3**
	SNR=5.0						
UCH	**Uchtor**	**43.63**	**338**	P	**P**	**11 26 44.1**	**+1.1**
	SNR=9.1						
KBK	**Karagaybulak**	**43.85**	**339**	P	**P**	**11 26 46.2**	**+1.4**
	SNR=8.5						
TKM2	**Tokmak 2**	**43.85**	**340**	P	**P**	**11 26 45.8**	**+1.0**
	SNR=8.9						
AML	**Almayashu**	**43.86**	**337**	P	**P**	**11 26 46.1**	**+1.3**
	SNR=6.7						
AAK	**Ala-Archa**	**43.99**	**338**	⇓*eP*	**P**	**11 26 46.1**	**+0.2**
AAK				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.5						
AAK				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.8						
AAK	**Ala-Archa**	**43.99**	**338**	*eP*	**P**	**11 26 45.6**	**-0.4**
	comp=Z,15nm,1.3s,mb4.6						
FRU	**Bishkek**	**44.12**	**339**	*eP*	**P**	**11 26 48.0**	**+1.0**
FRU				pmax	pmax		
	comp=Z,40nm,1.8s,mb4.8						
USP	**Ospenovka**	**44.54**	**339**	P	**P**	**11 26 50.9**	**+0.5**
	SNR=11						
WRA	**Warramunga Arr**	**44.76**	**122**	*i* P	**P**	**11 26 54.7**	**+2.2**
WRA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WRAB	**Tennant Creek**	**44.76**	**122**	⇑*eP*	**P**	**11 26 53.8**	**+1.3**
MK02	**Makanchi Array**	**45.54**	**348**	P	**P**	**11 26 58.1**	**-0.2**
MK02				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
ULN	**Ulaanbaatar**	**46.58**	**11**	⇓*eP*	**P**	**11 27 05.7**	**-0.8**
ULN	**Ulaanbaatar**	**46.58**	**11**	*eP*	**P**	**11 27 05.5**	**-1.0**
	comp=Z,2.8nm,0.9s,mb4.2						
ZAK	**Zakamensk**	**48.41**	**7**	*eP*	**P**	**11 27 18.7**	**-2.1**
HIA	**Hailar**	**51.41**	**21**	*eP*	**P**	**11 27 43.8**	**+0.1**
	comp=Z,8.0nm,0.9s,mb4.7						
HIA				*e*pP	pP	11 27 52.7	-0.1
ZAL	**Zalesovo**	**52.06**	**353**	*i* P	**P**	**11 27 48.6**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NVS	**Novosibirsk**	**53.16**	**352**	*i* P	**P**	**11 27 55.4**	**-1.4**
NVS				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
NVS				pmax	pmax		
	comp=N,17nm,1.4s						
NVS				pmax	pmax		
	comp=E,11nm,1.4s						
BOD	**Bodaibo**	**57.38**	**12**	*eP*	**P**	**11 28 26.2**	**-1.2**
BOD				*e*	pP	11 28 34.9	-1.6
KMBO	**Kilima Mbogo**	**57.54**	**267**	*i* P	**P**	**11 28 31.5**	**+2.4**
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KMBO	**Kilima Mbogo**	**57.54**	**267**	*eP*	**P**	**11 28 30.0**	**+0.9**
KMBO				*e*pP	pP	11 28 39.9	+1.7
SVE	**Sverdlovsk**	**60.72**	**339**	*eP*	**P**	**11 28 49.5**	**-1.0**
ARU	**Arti**	**61.17**	**338**	⇑*iP*	**P**	**11 28 51.4**	**-2.2**
ARU				*e*		11 29 34.3	
ARU				*e*		11 31 05.8	
ARU				*eS*	**S**	**11 37 05.8**	**-3.6**
ARU				*eSS*	SS	11 41 02.7	-8.3
ARU				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.9						
KIV	**Kislovodsk**	**61.82**	**320**	*i* P	**P**	**11 28 57.8**	**-0.3**
KIV				*e*		11 29 37.1	
KIV				*eS*	**S**	**11 37 18.9**	**+1.2**
KIV				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.1						
KIV				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.1						
MALT	**Malatya**	**62.51**	**312**	*eP*	**P**	**11 29 02.5**	**-0.3**
	comp=Z,5.2nm,1.0s,mb4.6						
SOC	**Sochi**	**63.60**	**318**	*eP*	**P**	**11 29 07.5**	**-2.5**
SOC				*e*		11 29 46.5	
SOC				*e*		11 31 25.1	
SOC				*eS*	**S**	**11 37 38.7**	**-1.5**
SOC				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
SOC				pmax	pmax		
	comp=N,26nm,0.9s						
SOC				pmax	pmax		
	comp=E,19nm,0.8s						
YAK	**Yakutsk**	**65.05**	**17**	⇑*eP*	**P**	**11 29 19.1**	**+0.1**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
ANN	**Anapa**	**65.59**	**319**	*eP*	**P**	**11 29 11.2**	**-12**
LSZ	**Lusaka**	**68.06**	**253**	P	**P**	**11 29 38.8**	**-0.2**
	comp=Z,5.1nm,1.1s,mb4.5						
OBN	**Obninsk**	**70.34**	**329**	⇑*eP*	**P**	**11 29 51.7**	**-0.6**
OBN				*e*		11 30 13.2	
OBN				*e*		11 32 27.3	
OBN				*eS*	S	11 38 59.7	-1.5
OBN				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.6						
LBTB	**Lobatse**	**72.17**	**243**	*eP*	**P**	**11 30 02.7**	**-1.1**
	comp=Z,12nm,1.2s,mb4.7						
TIXI	**Tiksi**	**72.51**	**11**	⇑*eP*	**P**	**11 30 04.5**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,18nm,2.0s,mb4.7						
PSZ	**Piszkesteto**	**78.10**	**318**	*eP*	**P**	**11 30 37.5**	**+0.2**
	comp=Z,2.2nm,0.6s,mb4.3						
VNA2	**Neumayer--Watz**	**96.16**	**199**	⇑*i*	**P**	**11 32 06.1**	**+0.7**
VNA3	**Neumayer Olymp**	**96.82**	**198**	⇑*i*	**P**	**11 32 06.4**	**-1.9**

*CSEM **03** 11:34:12.7±0.1, 36.54N×7.56W, h88km±1km, ML4.2/20, Error ellipse: s-maj=2.1km s-min=1.1km az=80.0*
*IGIL **03** 11:34:14.7, 36.75N×7.53W, h2km, ML4.2*
*MDD **03** 11:34:15.2±0.5, 36.62N×7.60W, h61km±11km, mb4.9/23, Error ellipse: s-maj=4.9km s-min=3.1km az=51.0, II AYAMONTE DATOS DE INTENSIDAD DE PORTUGAL: IMGP-ESCALA MM PRXIMO*
MDD EMS: II-III FARO.
*CNRM **03** 11:34:15.0, 36.38N×7.52W, h14km, MD3.9*
*INMG **03** 11:34:16.2±1.0, 36.69N×7.61W, h19km±3km, MD3.4, ML4.1, Error ellipse: s-maj=5.0km s-min=2.4km az=62.0*
*ZUR_RM **03** 11:34:16, 36.68N×7.56W, h21km, Mw3.9/5, Moment Tensor Solution. s5 Moment tensor: Scale 10^{14}Nm; M_{rr}6.69; $M_{\theta\theta}$-5.61; $M_{\phi\phi}$-1.08; $M_{r\theta}$3.83; $M_{\theta\phi}$-4.81; $M_{\phi r}$-1.13; Best double couple: $M_0$8.8×10^{14} NP1:ϕ_s80°, δ59°, λ178°. NP2:ϕ_s214°, δ41°, λ52°. Principal axes: T 8.482, Plg64°, Azm39°; N .641, Plg24°, Azm245°; P -9.122, Plg10°, Azm150°;*
*NEIC **03** 11:34:16.1, 36.68N×7.56W, h60km, MG4.7(MDD), After MDD.*
NEIC Felt [II] at Ayamonte, Spain.
*SFS **03** 11:34:16.0, 36.69N×7.52W*
*IAG **03** 11:34:16, 36.68N×7.55W, h30km, Mw3.9, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.56; $M_{\theta\theta}$-0.45; $M_{\phi\phi}$-0.11; $M_{r\theta}$0.61; $M_{\theta\phi}$-0.41; $M_{\phi r}$0.02; Best double couple: M_0.897×10^{15} NP1:ϕ_s79°, δ68°, λ111°. NP2:ϕ_s212°, δ30°, λ48°. Principal axes: T .917, Plg61°, Azm21°; N -.0428, Plg20°, Azm250°; P -.875, Plg21°, Azm153°;*
*LDG **03** 11:34:17.3±0.2, 36.74N×7.52W, h30km, Md4.0/1, Ml4.2/18 Error ellipse: s-maj=4.9km s-min=2.6km az=35.0*

ISC 03 11:34:13.3±0.3, 36.65N±0.02×7.51W±0.02, h72km±4km, n238, σ1§25/407, 6C-23D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALC	**Alcoutim**	**0.81**	**2**	*i* P	**P**	**11 34 30.4**	**+0.6**
PALC				*eS*	**S**	**11 34 40.9**	**-1.2**
	7μm,0.3s						
PALC	**Alcoutim**	**0.81**	**2**	⇓P	**P**	**11 34 30.4**	**+0.6**
PALC				S	**S**	**11 34 40.8**	**-1.2**
PALC	**Alcoutim**	**0.81**	**2**	⇓P	**P**	**11 34 30.4**	**+0.6**
PALC				S	**S**	**11 34 40.9**	**-1.2**
	3μm,0.3s						
EGRO	**El Granado**	**0.88**	**1**	⇓P	**P**	**11 34 31.3**	**+0.7**
EGRO				S	**S**	**11 34 42.4**	**-1.1**
EGRO	**El Granado**	**0.88**	**1**	⇓P	**P**	**11 34 31.3**	**+0.7**
	597nm,0.1s,SNR=18						
EGRO				S	**S**	**11 34 42.6**	**-0.9**
	1μm,0.1s,SNR=7.9						
EGRO	**El Granado**	**0.88**	**1**	P	**P**	**11 34 31.3**	**+0.7**
	478nm,0.1s,SNR=18						
SFS	**San Fernando**	**1.07**	**100**	*ePn*	**P**	**11 34 34.7**	**+1.7**
SFS				*eSn*	**S**	**11 34 49.8**	**+2.2**
SFS	**San Fernando**	**1.07**	**100**	P	**P**	**11 34 35.9**	**+2.9**
SFS				S	**S**	**11 34 45.5**	**-2.2**
SFS	**San Fernando**	**1.07**	**100**	*ePn*	**P**	**11 34 34.7**	**+1.7**
SFS	**San Fernando**	**1.07**	**100**	*eP*	**P**	**11 34 35.8**	**+2.8**
SFS				*eS*	**S**	**11 34 45.5**	**-2.2**
SFS				*eSn*	**S**	**11 34 49.8**	**+2.1**
SCRT	**Cerro San Cris**	**1.07**	**90**	P	**P**	**11 34 35.8**	**+2.8**
SCRT				S	**S**	**11 34 45.6**	**-2.2**
SCRT	**Cerro San Cris**	**1.07**	**90**	*eS*	**S**	**11 34 45.7**	**-2.1**
SCRT	**Cerro San Cris**	**1.07**	**90**	*i* P	**P**	**11 34 35.8**	**+2.7**
CNIL	**Conil**	**1.21**	**103**	P	**P**	**11 34 37.4**	**+2.6**
CNIL				S	**S**	**11 34 48.4**	**-2.5**
CNIL	**Conil**	**1.21**	**103**	*i* P	**P**	**11 34 37.4**	**+2.6**
CNIL				*eS*	**S**	**11 34 48.4**	**-2.5**
GIBL	**Gibalbin**	**1.25**	**81**	P	**P**	**11 34 38.0**	**+2.6**
GIBL				S	**S**	**11 34 49.1**	**-2.9**
GIBL	**Gibalbin**	**1.25**	**81**	*eP*	**P**	**11 34 38.0**	**+2.6**
EMIN	**Mina Concepcio**	**1.30**	**31**	⇓P	**P**	**11 34 36.9**	**+0.8**
EMIN				S	**S**	**11 34 52.5**	**-0.5**
EMIN	**Mina Concepcio**	**1.30**	**31**	⇓P	**P**	**11 34 36.9**	**+0.8**
	43nm,0.1s,SNR=18

MOE eSn S 11 35 08.8 -0.2
MOE Montemor 1.98 341 Pn P 11 34 46.4 +1.1
MOE Sn S 11 35 08.8 -0.2
MOE Montemor 1.98 341 ⇓P P 11 34 46.4 +1.1
MOE S S 11 35 08.8 -0.2
EBAD Badajoz 2.14 11 ⇓Pn P 11 34 48.3 +0.8
EBAD Sn S 11 35 12.1 -0.7
EBAD Badajoz 2.14 11 ⇓P P 11 34 48.2 +0.8
60nm,0.1s,SNR=18
EBAD S S 11 35 11.8 -1.0
0.6nm,0.2s
EBAD Badajoz 2.14 11 Pn P 11 34 48.3 +0.8
41nm,0.1s,SNR=18
EBAD Sn S 11 35 12.1 -0.7
104nm,0.1s
EHOR Hornachuelos 2.15 56 P P 11 34 49.1 +1.4
SNR=4.0
EMIJ Mijas 2.21 91 Pn P 11 34 49.6 +1.1
EMIJ Sn S 11 35 16.9 +2.3
EMIJ Mijas 2.21 91 ⇓P P 11 34 49.6 +1.1
35nm,0.2s,SNR=18
EMIJ S S 11 35 15.9 +1.4
207nm,0.3s
EMIJ Mijas 2.21 91 Pn P 11 34 49.6 +1.1
23nm,0.2s,SNR=54
EMIJ Sn S 11 35 16.9 +2.3
98nm,0.3s
LIS Lisbon 2.44 328 eP P 11 34 52.7 +0.9
LIS eS S 11 35 19.8 -0.5
LIS eS S 11 35 20.0 -0.4
LIS AML AML 11 35 22.5
comp=E,2µm,0.3s
LIS Lisbon 2.44 328 P P 11 34 52.7 +0.9
LIS S S 11 35 19.8 -0.5
comp=E,2µm,0.3s
INMG Instituto de M 2.48 329 ePn P 11 34 53.6 +1.3
EMAL Malaga-Limoner 2.48 87 P P 11 34 54.6 +2.3
EMAL S S 11 35 22.7 +1.2
EMAL Malaga-Limoner 2.48 87 ⇓P P 11 34 54.6 +2.2
comp=E,14nm,0.1s,SNR=18
EMAL S S 11 35 22.2 +0.7
comp=E,78nm,0.2s,SNR=7.9
EMAL Malaga-Limoner 2.48 87 P P 11 34 54.6 +2.3
comp=E,23nm,0.2s,SNR=7.9
EMAL S S 11 35 22.7 +1.2
comp=E,91nm,0.4s,SNR=7.9
PLOU Loures 2.58 330 *i* Pn P 11 34 55.4 +1.6
PLOU eSn S 11 35 25.4 +1.4
comp=E,756nm,0.2s
PLOU Loures 2.58 330 ⇓P P 11 34 55.4 +1.6
PLOU S S 11 35 25.4 +1.4
comp=E,378nm,0.2s
ALMR Almeirim 2.64 342 eP P 11 34 55.4 +0.8
ALMR AML AML 11 34 56.4
comp=Z,621nm,0.0s
ALMR eS S 11 35 23.8 -1.6
ALMR eS S 11 35 23.9 -1.6
ALMR Almeirim 2.64 342 P P 11 34 55.4 +0.8
comp=Z,310nm,0.0s
ALMR S S 11 35 23.8 -1.6
RTC Rabat Centre 2.71 168 P P 11 34 54.0 -1.6
RTC S S 11 35 22.0 -5.3
RTC Rabat Centre 2.71 168 *i* S S 11 35 22.0 -5.3
RTC Rabat Centre 2.71 168 *i* P P 11 34 54.0 -1.6
ELOJ Sierra Loja 2.74 79 Pn P 11 34 57.0 +1.0
ELOJ Sn S 11 35 28.6 +0.6
ELOJ Sierra Loja 2.74 79 P P 11 34 57.4 +1.4
comp=Z,28nm,0.2s,SNR=15
ELOJ S S 11 35 28.6 +0.6
comp=Z,82nm,0.3s,SNR=8.1
ELOJ Sierra Loja 2.74 79 Pn P 11 34 57.0 +1.0
comp=Z,23nm,0.2s,SNR=15
ELOJ Sn S 11 35 28.6 +0.6
comp=Z,30nm,0.2s,SNR=8.1
ELUQ Luque 2.75 70 Pn P 11 34 57.2 +1.1
ELUQ Sn S 11 35 28.1 -0.1
ELUQ Luque 2.75 70 P P 11 34 57.2 +1.1
comp=Z,33nm,0.1s,SNR=14
ELUQ S S 11 35 29.2 +1.0
comp=Z,263nm,0.2s
ELUQ Luque 2.75 70 Pn P 11 34 57.2 +1.1
comp=Z,16nm,0.2s,SNR=14
ELUQ Sn S 11 35 28.1 -0.1
comp=Z,50nm,0.2s
EADA Adamuz 2.78 56 Pn P 11 34 57.8 +1.1
EADA Sn S 11 35 28.3 -0.8
EADA Adamuz 2.78 56 P P 11 34 57.6 +1.0
comp=Z,144nm,0.2s,SNR=136
EADA S S 11 35 27.6 -1.5
comp=Z,124nm,0.1s
EADA Adamuz 2.78 56 Sn S 11 35 28.3 -0.8
comp=Z,69nm,0.1s
EADA Adamuz 2.78 56 Pn P 11 34 57.7 +1.1
comp=Z,22nm,0.1s,SNR=136
ERON Agron 3.00 82 Pn P 11 35 02.1 +2.5
ERON Sn S 11 35 32.7 -1.7
ERON Agron 3.00 82 P P 11 35 01.1 +1.5
comp=Z,38nm,0.2s,SNR=18
ERON S S 11 35 33.6 -0.8
comp=Z,95nm,0.4s,SNR=6.0
ERON Agron 3.00 82 Pn P 11 35 02.1 +2.5
comp=Z,11nm,0.2s,SNR=18
ERON Sn S 11 35 32.7 -1.7
comp=Z,43nm,0.3s,SNR=6.0
PTOM Tomar 3.04 347 *i* Pn P 11 35 02.9 +2.6
PTOM eSn S 11 35 35.7 0.0
comp=Z,605nm,0.2s
PTOM Tomar 3.04 347 ⇓Pn P 11 35 02.9 +2.6
PTOM Sn S 11 35 35.7 +0.1
PTOM Tomar 3.04 347 ⇓P P 11 35 02.9 +2.6
PTOM S S 11 35 35.7 0.0
comp=Z,302nm,0.2s
PCBR Castelo Branco 3.18 0 *i* Pn P 11 35 02.8 +0.6
PCBR eSn S 11 35 38.3 -0.8
comp=Z,548nm,0.3s
PCBR Castelo Branco 3.18 0 ⇓Pn P 11 35 02.8 +0.6
PCBR Sn S 11 35 38.3 -0.8
PCBR Castelo Branco 3.18 0 ⇓P P 11 35 02.8 +0.6
PCBR S S 11 35 38.3 -0.8
comp=Z,274nm,0.3s
TGT Taghat 3.27 141 P P 11 35 02.0 -1.4
TGT S S 11 35 37.0 -4.2
TGT Taghat 3.27 141 *i* S S 11 35 37.0 -4.2
TGT Taghat 3.27 141 *i* P P 11 35 02.0 -1.4
EBAN Banos Encina 3.33 62 ⇑Pn P 11 35 05.0 +0.8
EBAN Sn S 11 35 41.6 -1.2
EBAN Banos Encina 3.33 62 ⇑P P 11 35 05.0 +0.8
comp=Z,95nm,0.1s,SNR=18
EBAN S S 11 35 42.0 -0.7
comp=Z,87nm,0.1s
EBAN Banos Encina 3.33 62 Pn P 11 35 05.0 +0.8
comp=Z,56nm,0.2s,SNR=18
EBAN Sn S 11 35 41.6 -1.2
comp=Z,78nm,0.4s
AVE Averroes 3.35 179 P P 11 35 04.0 -0.5
AVE S S 11 35 41.0 -2.2
TOU Touzarine 3.49 118 *i* P P 11 35 06.0 -0.5
TOU *i* S S 11 35 45.0 -1.8
IFR Ifrane 3.69 147 P P 11 35 08.0 -1.2
IFR S S 11 35 47.5 -4.3
EBER Berja 3.72 85 Pn P 11 35 11.6 +1.9
EBER Sn S 11 35 52.2 -0.3
EBER Berja 3.72 85 P P 11 35 10.6 +0.9
comp=Z,33nm,0.2s,SNR=37
EBER S S 11 35 52.1 -0.4
comp=Z,123nm,0.3s
EBER Berja 3.72 85 Pn P 11 35 11.6 +1.9
comp=Z,17nm,0.2s,SNR=37
EBER Sn S 11 35 52.2 -0.3
comp=Z,19nm,0.2s
EQES Quesada 3.73 71 Pn P 11 35 10.2 +0.5
EQES Sn S 11 35 51.0 -1.6
EQES Quesada 3.73 71 P P 11 35 10.3 +0.5
comp=Z,24nm,0.1s,SNR=7.9
EQES S S 11 35 51.3 -1.4
comp=Z,91nm,0.2s,SNR=7.9
EQES Quesada 3.73 71 Pn P 11 35 10.2 +0.4
comp=Z,9.0nm,0.1s,SNR=7.9
EQES Sn S 11 35 51.0 -1.7
comp=Z,22nm,0.1s,SNR=7.9
TZK Tazeka 3.73 132 P P 11 35 08.5 -1.4
TZK S S 11 35 48.0 -4.8
TZK Tazeka 3.73 132 *i* S S 11 35 48.0 -4.8
TZK Tazeka 3.73 132 *i* P P 11 35 08.5 -1.4
MIF Mishlifen 3.74 149 *i* P P 11 35 09.0 -0.9

MIF *i* S S 11 35 49.0 -4.0
MTE Manteigas 3.74 360 *i* Pn P 11 35 10.4 +0.4
MTE eSn S 11 35 51.1 -2.0
comp=Z,525nm,0.5s
MTE Manteigas 3.74 360 ePn P 11 35 10.1 +0.1
MTE eSn S 11 35 50.9 -2.2
MTE Manteigas 3.74 360 ⇓P P 11 35 10.4 +0.4
MTE S S 11 35 51.1 -2.0
comp=Z,262nm,0.5s
MTE Manteigas 3.74 360 ePn P 11 35 10.1 +0.1
MTE eSn S 11 35 50.9 -2.2
EMEL Melilla 3.93 109 P P 11 35 13.4 +0.8
comp=Z,163nm,0.1s,SNR=4.0
EMEL S S 11 35 55.0 -2.9
comp=Z,193nm,0.2s,SNR=7.9
EMLI Melilla 3.94 109 Pn P 11 35 14.6 +1.9
comp=Z,163nm,0.1s,SNR=7.9
EMLI Sn S 11 35 55.8 -2.2
comp=Z,117nm,0.1s,SNR=7.9
PVIS Viseu 4.07 356 ePn P 11 35 14.8 +0.3
PVIS eSn S 11 35 59.3 -2.0
comp=Z,382nm,0.1s
PVIS Viseu 4.07 356 P P 11 35 14.8 +0.3
PVIS S S 11 35 59.2 -2.0
PVIS Viseu 4.07 356 Pn P 11 35 14.8 +0.3
PVIS Sn S 11 35 59.2 -2.1
ESDC Sonseca Array 4.11 42 P P 11 35 16.0 +0.9
comp=Z,6.3nm,0.2s,baz=226,slow=13,SNR=64
ESDC S S 11 35 59.1 -3.2
comp=Z,48nm,0.2s,baz=226,slow=23,SNR=25
ESDC Sonseca Array 4.11 42 Pn P 11 35 16.0 +0.8
comp=Z,6.3nm,0.2s,SNR=64
ESDC Sonseca Array 4.11 42 Sn S 11 35 59.1 -3.3
comp=Z,48nm,0.2s,SNR=25
ESLA Sonseca Array 4.11 42 ePn P 11 35 15.9 +0.7
ESLA eSn S 11 35 58.2 -4.2
ESLA Sonseca Array 4.11 42 ePn P 11 35 15.9 +0.7
ESLA Sonseca Array 4.11 42 eSn S 11 35 58.2 -4.2
CZD Col de Zad 4.14 150 P P 11 35 14.0 -1.6
CZD S S 11 35 57.0 -6.1
CZD Col de Zad 4.14 150 *i* S S 11 35 57.0 -6.1
CZD Col de Zad 4.14 150 *i* P P 11 35 14.0 -1.6
ZAI Zaio 4.22 112 P P 11 35 16.0 -0.7
ZAI S S 11 36 02.0 -3.1
ZAI Zaio 4.22 112 *i* S S 11 36 02.0 -3.1
ZAI Zaio 4.22 112 *i* P P 11 35 16.0 -0.7
ENIJ Nijar 4.27 84 Pn P 11 35 18.3 +1.0
ENIJ Sn S 11 36 02.3 -3.9
ENIJ Nijar 4.27 84 P P 11 35 18.6 +1.3
comp=Z,32nm,0.3s,SNR=7.9
ENIJ S S 11 36 02.4 -3.8
comp=Z,32nm,0.2s,SNR=7.9
ENIJ Nijar 4.27 84 Sn S 11 36 02.3 -4.0
SNR=7.9
EVIA Vianos 4.44 62 Pn P 11 35 19.7 0.0
EVIA Sn S 11 36 08.9 -1.8
EVIA Vianos 4.44 62 ⇑P P 11 35 19.7 -0.1
comp=Z,31nm,0.2s,SNR=18
EVIA S S 11 36 08.8 -1.9
comp=Z,70nm,0.2s,SNR=9.3
EVIA Vianos 4.44 62 Pn P 11 35 19.7 0.0
comp=Z,12nm,0.1s,SNR=43
EVIA Sn S 11 36 08.9 -1.7
comp=Z,46nm,0.2s,SNR=9.3
PVRL Vila Real 4.62 358 ePn P 11 35 22.2 0.0
PVRL eSn S 11 36 12.1 -2.9
comp=Z,683nm,0.3s
PVRL Vila Real 4.62 358 P P 11 35 22.2 0.0
PVRL S S 11 36 12.1 -2.9
GUD Guadarrama 4.77 32 Pn P 11 35 25.1 +0.7
GUD Sn S 11 36 16.4 -2.5
GUD Guadarrama 4.77 32 P P 11 35 25.0 +0.6
comp=Z,16nm,0.2s,SNR=82
GUD S S 11 36 16.7 -2.2
comp=Z,54nm,0.3s
GUD Guadarrama 4.77 32 Pn P 11 35 25.1 +0.8
comp=Z,17nm,0.2s,SNR=82
GUD Sn S 11 36 16.4 -2.5
comp=Z,9.9nm,0.2s
EMUR La Murta 5.14 75 Pn P 11 35 30.9 +1.5
EMUR Sn S 11 36 23.7 -4.4
EMUR La Murta 5.14 75 P P 11 35 30.5 +1.1
comp=Z,18nm,0.2s,SNR=17
EMUR S S 11 36 24.5 -3.5
comp=Z,35nm,0.3s
EMUR La Murta 5.14 75 Sn S 11 36 23.7 -4.4
comp=Z,6.6nm,0.2s
EMUR La Murta 5.14 75 Pn P 11 35 30.9 +1.5
comp=Z,8.3nm,0.2s,SNR=17
CIA Chichaoua 5.18 192 *i* P P 11 35 28.0 -1.9
CIA *i* S S 11 36 22.0 -7.0
PBRG Braganca 5.18 6 ePn P 11 35 30.0 +0.1
PBRG eSn S 11 36 25.4 -3.6
comp=Z,125nm,0.1s
PBRG Braganca 5.18 6 P P 11 35 29.8 -0.1
PBRG S S 11 36 24.6 -4.4
PBRG Braganca 5.18 6 Pn P 11 35 29.8 -0.1
PBRG Sn S 11 36 24.6 -4.4
ELOB Lobios 5.23 355 Pn P 11 35 30.7 +0.2
ELOB Sn S 11 36 27.8 -2.3
ELOB Lobios 5.23 355 ⇑P P 11 35 30.6 +0.1
comp=Z,50nm,0.2s,SNR=18
ELOB S S 11 36 25.8 -4.3
comp=Z,306nm,0.1s
ELOB Lobios 5.23 355 Pn P 11 35 30.7 +0.1
comp=Z,50nm,0.2s,SNR=143
ELOB Lobios 5.23 355 Sn S 11 36 27.8 -2.3
comp=Z,20nm,0.1s
CART Cartagena 5.29 78 ePn P 11 35 31.1 -0.3
comp=Z,22nm,0.3s
CART Cartagena 5.29 78 ePn P 11 35 31.1 -0.3
comp=Z,22nm,0.3s
ECAL Calabor 5.32 6 Pn P 11 35 31.9 +0.2
ECAL Sn S 11 36 28.9 -3.5
ECAL Calabor 5.32 6 ⇓P P 11 35 31.9 +0.1
comp=Z,106nm,0.3s,SNR=18
ECAL S S 11 36 29.3 -3.1
comp=Z,263nm,0.3s
ECAL Calabor 5.32 6 Pn P 11 35 32.0 +0.2
OUK Oukaimeden 5.44 183 P P 11 35 31.5 -2.0
OUK S S 11 36 26.0 -9.4
OUK Oukaimeden 5.44 183 *i* P P 11 35 31.5 -2.0
EZAM Zamans 5.57 351 Pn P 11 35 35.4 +0.1
EZAM Sn S 11 36 33.4 -5.2
EZAM Zamans 5.57 351 P P 11 35 35.2 0.0
comp=Z,36nm,0.2s,SNR=49
EZAM S S 11 36 33.7 -4.9
comp=Z,50nm,0.3s
EZAM Zamans 5.57 351 Pn P 11 35 35.4 +0.2
comp=Z,24nm,0.1s,SNR=49
ERUA La Rua 5.74 3 Pn P 11 35 37.9 +0.2
ERUA Sn S 11 36 38.8 -4.1
ERUA La Rua 5.74 3 ⇑P P 11 35 37.8 +0.2
comp=Z,31nm,0.2s,SNR=18
ERUA S S 11 36 39.3 -3.6
comp=Z,76nm,0.4s
ERUA La Rua 5.74 3 Pn P 11 35 37.9 +0.3
comp=Z,31nm,0.2s,SNR=10
EINC Incio 6.00 1 Pn P 11 35 41.6 +0.3
EINC Sn S 11 36 45.2 -4.1
EINC Incio 6.00 1 ⇑P P 11 35 41.5 +0.2
comp=Z,21nm,0.2s,SNR=18
EINC S S 11 36 45.2 -4.2
comp=Z,21nm,0.3s
EINC Incio 6.00 1 Pn P 11 35 41.6 +0.3
comp=Z,14nm,0.2s,SNR=79
EBEN Beniarda 6.13 68 Pn P 11 35 43.4 +0.3
EBEN Sn S 11 36 46.9 -5.7
EBEN Beniarda 6.13 68 P P 11 35 42.8 -0.2
comp=Z,7.9nm,0.2s,SNR=26
EBEN S S 11 36 47.7 -4.9
comp=Z,35nm,0.4s,SNR=8.2
EBEN Beniarda 6.13 68 Pn P 11 35 43.4 +0.3
comp=Z,3.1nm,0.1s,SNR=26
STS Santiago 6.28 353 Pn P 11 35 45.3 +0.1
STS Sn S 11 36 50.7 -5.5
STS Santiago 6.28 353 P P 11 35 45.3 +0.1
comp=Z,31nm,0.2s,SNR=16
STS S S 11 36 51.7 -4.5
comp=Z,30nm,0.4s
EMAZ Mazaricos 6.39 350 Pn P 11 35 46.7 -0.1
EMAZ Sn S 11 36 53.0 -6.0
EMAZ Mazaricos 6.39 350 P P 11 35 46.7 -0.1
comp=Z,32nm,0.2s,SNR=67
EMAZ S S 11 36 53.0 -6.0

comp=Z,71nm,0.3s
EMAZ Mazaricos 6.39 350 Pn P 11 35 46.7 0.0
comp=Z,11nm,0.1s,SNR=67
EMOS Mosqueruela 6.65 54 Pn P 11 35 51.4 +1.1
EMOS Sn S 11 37 01.8 -3.5
EMOS Mosqueruela 6.65 54 P P 11 35 51.2 +0.9
comp=Z,3.7nm,0.1s,SNR=31
EMOS S S 11 37 00.3 -5.0
comp=Z,36nm,0.4s
EMOS Mosqueruela 6.65 54 Pn P 11 35 51.4 +1.1
comp=Z,3.0nm,0.2s,SNR=31
EMOS Sn S 11 37 01.8 -3.5
comp=Z,1.8nm,0.1s
EPON Pontenova 6.67 2 Pn P 11 35 50.6 -0.1
EPON Sn S 11 37 00.3 -5.7
EPON Pontenova 6.67 2 P P 11 35 50.5 -0.1
comp=Z,8.3nm,0.3s,SNR=20
EPON S S 11 37 00.3 -5.7
comp=Z,29nm,0.2s
EPON Pontenova 6.67 2 Pn P 11 35 50.6 -0.1
comp=Z,6.2nm,0.2s,SNR=20
EARI Arriondas 6.87 14 Pn P 11 35 53.2 -0.3
EARI Sn S 11 37 04.5 -6.3
EARI Arriondas 6.87 14 P P 11 35 53.2 -0.3
comp=Z,11nm,0.2s,SNR=33
EARI S S 11 37 03.6 -7.2
comp=Z,19nm,0.2s,SNR=5.7
EARI Arriondas 6.87 14 Pn P 11 35 53.2 -0.3
comp=Z,6.5nm,0.2s,SNR=33
ELAN Lanestosa 7.28 24 Pn P 11 35 58.8 -0.2
ELAN Sn S 11 37 14.2 -6.7
ELAN Lanestosa 7.28 24 P P 11 35 58.5 -0.6
comp=Z,2.6nm,0.1s,SNR=14
ELAN S S 11 37 13.5 -7.4
comp=Z,24nm,0.2s,SNR=5.0
ELAN Lanestosa 7.28 24 Pn P 11 35 58.8 -0.3
comp=Z,11nm,0.8s,SNR=14
EIBI Ibiza 7.40 69 Pn P 11 36 01.6 +0.9
EIBI Sn S 11 37 17.1 -6.7
EIBI Ibiza 7.40 69 P P 11 36 00.1 -0.5
comp=Z,5.8nm,0.1s,SNR=11
EIBI S S 11 37 17.3 -6.5
comp=Z,18nm,0.2s,SNR=5.0
EIBI Ibiza 7.40 69 Pn P 11 36 01.6 +0.9
comp=Z,5.6nm,0.1s,SNR=11
ESAC San Caprasio 7.45 45 Pn P 11 36 03.0 +1.6
ESAC Sn S 11 37 19.4 -5.8
ESAC San Caprasio 7.45 45 P P 11 36 01.9 +0.5
comp=Z,19nm,0.2s,SNR=9.5
ESAC S S 11 37 19.2 -6.0
comp=Z,229nm,0.4s,SNR=5.0
ESAC San Caprasio 7.45 45 Pn P 11 36 03.0 +1.6
comp=Z,4.3nm,0.1s,SNR=9.5
ERTA Horta de San J 7.48 53 Pn P 11 36 02.9 +1.0
ERTA Sn S 11 37 19.3 -6.6
ERTA Horta de San J 7.48 53 P P 11 36 02.7 +0.8
comp=Z,2.4nm,0.1s,SNR=7.9
ERTA S S 11 37 19.5 -6.4
comp=Z,15nm,0.3s,SNR=7.9
ERTA Horta de San J 7.48 53 Pn P 11 36 02.9 +1.0
SNR=7.9
EBR Ebro Roquetas 7.51 54 eSN S 11 37 27.0 +0.3
EALK Alkurruntz 8.02 33 Pn P 11 36 09.7 +0.5
EALK Sn S 11 37 32.3 -6.8
EALK Alkurruntz 8.02 33 P P 11 36 09.6 +0.4
comp=Z,4.1nm,0.1s,SNR=14
EALK S S 11 37 32.2 -6.9
comp=Z,118nm,0.4s,SNR=11
EALK Alkurruntz 8.02 33 Pn P 11 36 09.7 +0.5
comp=Z,2.5nm,0.1s,SNR=14
SJPF Ste Jean 8.06 35 ePn P 11 36 10.3 +0.5
SJPF eSn S 11 37 32.7 -7.5
comp=Z,38nm,0.4s
LARF Larrau 8.11 36 P P 11 36 11.6 +1.1
OSSF Osses 8.15 34 P P 11 36 11.8 +0.7
EPOB Poblet 8.17 52 Pn P 11 36 11.9 +0.7
EPOB Sn S 11 37 36.9 -6.0
EPOB Poblet 8.17 52 P P 11 36 11.5 +0.3
comp=Z,2.3nm,0.1s,SNR=8.1
EPOB S S 11 37 37.1 -5.8
comp=Z,4.6nm,0.3s
EPOB Poblet 8.17 52 Pn P 11 36 11.9 +0.6
comp=Z,2.5nm,0.2s,SNR=8.1
EGRA Graus 8.20 45 Pn P 11 36 13.7 +2.0
EGRA Sn S 11 37 36.1 -7.7
EGRA Graus 8.20 45 P P 11 36 12.8 +1.0
comp=Z,4.6nm,0.3s,SNR=6.9
EGRA S S 11 37 35.8 -7.9
comp=Z,5.7nm,0.2s
EGRA Graus 8.20 45 Pn P 11 36 13.7 +2.0
comp=Z,1.6nm,0.1s,SNR=6.9
ETSF Etsaut 8.22 38 ePn P 11 36 12.4 +0.5
ETSF eSn S 11 37 37.0 -7.1
comp=Z,27nm,0.4s
EBIE Bielsa 8.43 42 Pn P 11 36 15.8 +0.9
EBIE Sn S 11 37 42.8 -6.6
EBIE Bielsa 8.43 42 P P 11 36 15.3 +0.4
comp=Z,10nm,0.2s,SNR=50
EBIE S S 11 37 43.2 -6.2
comp=Z,37nm,0.6s
EBIE Bielsa 8.43 42 Pn P 11 36 15.8 +0.9
comp=Z,2.7nm,0.1s,SNR=50
EMIR Miracle 8.76 50 Pn P 11 36 20.1 +0.8
EMIR Sn S 11 37 50.9 -6.5
EMIR Miracle 8.76 50 P P 11 36 20.1 +0.8
comp=Z,3.0nm,0.1s,SNR=6.4
EMIR S S 11 37 52.1 -5.2
comp=Z,39nm,0.5s
EMIR Miracle 8.76 50 Pn P 11 36 20.1 +0.8
comp=Z,1.9nm,0.1s,SNR=6.4
EPF Esparros 8.78 41 ePn P 11 36 20.3 +0.8
EPF eSn S 11 37 50.8 -7.0
comp=Z,29nm,0.4s
EFAM Famara 9.05 216 S S 11 37 53.0 -11
comp=Z,21nm,0.3s,SNR=6.6
CFUE Fuerteventura 9.64 216 S S 11 38 07.8 -11
comp=Z,28nm,0.4s,SNR=7.9
EJON La Jonquera 9.90 51 P P 11 36 34.8 +0.1
SNR=4.0
MTLF Montolieu 10.01 45 ePn P 11 36 37.2 +0.8
MTLF eSn S 11 38 20.4 -7.5
comp=Z,5.0nm,0.4s
LFF La Frestale 10.37 34 ePn P 11 36 40.8 -0.4
LFF eSn S 11 38 27.9 -8.7
comp=Z,15nm,0.4s
EOSO Osorio 10.92 221 S S 11 38 38.1 -12
comp=Z,13nm,0.4s,SNR=7.9
CAF Calviac 10.99 38 ePn P 11 36 49.4 -0.2
CAF eSn S 11 38 42.8 -8.8
comp=Z,9.5nm,0.4s
RJF Les Rejaudoux 11.01 35 ePn P 11 36 49.3 -0.5
RJF eSn S 11 38 42.3 -10
comp=Z,12nm,0.4s
MFF Saint Martin d 11.36 27 ePn P 11 36 53.8 -0.7
MFF eSn S 11 38 51.9 -8.6
comp=Z,8.5nm,0.3s
LASF Ste Croix 11.40 46 ePn P 11 36 55.6 +0.5
QUIF Quistinic 11.71 15 ePn P 11 36 57.8 -1.3
QUIF eSn S 11 38 58.4 -10
comp=Z,9.7nm,0.3s
LBL Lubilhac 11.81 40 P P 11 37 01.3 +0.8
PYM Petit Puy Mans 12.05 38 P P 11 37 03.4 -0.3
TCF Toulx Ste Croi 12.07 34 ePn P 11 37 03.4 -0.6
TCF eSn S 11 39 08.9 -8.5
comp=Z,4.9nm,0.4s
ROSF Rostrenen 12.09 14 ePn P 11 37 02.7 -1.5
ROSF eSn S 11 39 07.7 -10
comp=Z,2.7nm,0.2s
SGMF Saint Gilles 12.15 16 ePn P 11 37 03.5 -1.6
SGMF eSn S 11 39 08.8 -11
comp=Z,5.5nm,0.4s
VIVF Saint-Julien-l 12.34 45 ePn P 11 37 07.9 +0.3
BGF Bois d'Agland 12.56 35 ePn P 11 37 09.9 -0.6
BGF eSn S 11 39 19.0 -10
comp=Z,17nm,0.4s
GRR Gorron 12.71 21 ePn P 11 37 11.8 -0.7
GRR eSn S 11 39 23.6 -9.1
comp=Z,4.9nm,0.3s
AVF Avril sur Loir 12.97 35 ePn P 11 37 15.7 -0.2
AVF eSn S 11 39 30.4 -8.4
comp=Z,3.5nm,0.5s
HYF Humbligny 13.01 32 ePn P 11 37 16.7 +0.2
SMF Signal de Mont 13.09 37 ePn P 11 37 17.4 -0.1
SMF eSn S 11 39 32.2 -10
comp=Z,1.8nm,0.4s
LDF La Druitiere 13.11 22 ePn P 11 37 17.1 -0.6

LDF				*e*Sn	**S**	**11 39 33.0**	**-9.2**
FLN	**La Foliniere**	**13.15**	**21**	*e*Pn	**P**	**11 37 16.6**	**-1.7**
SSF	**Saint Saulge**	**13.24**	**35**	*e*Pn	**P**	**11 37 19.1**	**-0.3**
BAIF	**Baives**	**15.85**	**29**	*e*Pn	**P**	**11 37 55.0**	**+1.9**
KHC	**Kasperske Hory**	**19.78**	**44**	*e*P	**P**	**11 38 43.5**	**+3.6**

*BJI **03** 11:55:44.0, 2.38N×95.47E, h22km, mB4.9, mb5.0, Ms4.3, Msz4.2*
*NEIC **03** 11:55:45.1±1.2, 2.28N×95.57E, mb4.7/10, Error ellipse: s-maj=24.0km s-min=18.7km az=223.0*
*MOS **03** 11:55:55.1±1.3, 3.82N×95.52E, h33km, mb5.2/9, Error ellipse: s-maj=28.2km s-min=13.9km az=97.9*
ISC 03 11:55:44.8±1.0, 2.4N±0.1×95.83E±0.09, h27km, h27km±1.0km: pP-P, n53, σ1§01/53, mb4.9/28, MS4.2/6, 7C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKTK	**Khon Kaen**	**15.51**	**26**	P	**P**	**11 59 29.0**	**+5.4**
	1μm,0.5s						
CM31	**Chiang Mai Arr**	**16.29**	**11**	*e*P	**P**	**11 59 32.7**	**-1.0**
	106nm,1.4s						
CHG	**Chiang Mai**	**16.64**	**10**	⇓P	**P**	**11 59 36.5**	**-1.5**
	22nm,0.8s						
QIZ	**Qiongzhong**	**21.52**	**39**	*e*P	**P**	**12 00 36.1**	**+2.1**
QIZ				LR	LR		
	comp=N,523nm,16.4s						
QIZ				LR	LR		
	comp=Z,509nm,16.0s,MS4.0						
QIZ	**Qiongzhong**	**21.52**	**39**	*e*P	**P**	**12 00 35.3**	**+1.3**
	comp=Z,18nm,0.8s,mb4.6						
HYB	**Hyderabad**	**22.62**	**313**	*e*P	**P**	**12 00 41.5**	**-3.7**
HYB	**Hyderabad**	**22.62**	**313**	*i* P	**P**	**12 00 41.5**	**-3.7**
PKI	**Pulchoki**	**26.98**	**339**	*e*P	**P**	**12 01 26.5**	**0.0**
	comp=Z,22nm,0.7s,mb4.8						
DMN	**Daman**	**27.13**	**339**	*e*P	**P**	**12 01 28.3**	**+0.5**
	comp=Z,38nm,0.8s,mb5.0						
GUN	**Gumba**	**27.13**	**340**	*e*P	**P**	**12 01 27.8**	**-0.1**
	comp=Z,51nm,0.7s,mb5.2						
KKN	**Kakani**	**27.23**	**339**	*e*P	**P**	**12 01 28.0**	**-0.8**
	comp=Z,73nm,0.9s,mb5.2						
LSA	**Lhasa**	**27.56**	**351**	*e*P	**P**	**12 01 32.5**	**+0.8**
	comp=Z,18nm,0.8s,mb4.8						
GKN	**Gorkha**	**27.66**	**338**	*e*P	**P**	**12 01 32.6**	**0.0**
	comp=Z,108nm,1.0s,mb5.5						
KOLN	**Koldanda**	**27.85**	**336**	*e*P	**P**	**12 01 33.8**	**-0.6**
	comp=Z,39nm,0.7s,mb5.2						
ENH	**Enshi**	**30.64**	**24**	*e*P	**P**	**12 01 58.0**	**-1.3**
	comp=Z,17nm,0.8s,mb4.9						
ENH				*e*		12 04 26.6	
XAN	**Xi'an**	**33.81**	**20**	P	**P**	**12 02 26.9**	**-0.1**
XAN				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.6						
LZH	**Lanzhou**	**34.38**	**12**	⇑P	**P**	**12 02 31.5**	**-0.4**
LZH				AP	pP	12 02 40.5	+0.5
LZH				AMB	AMB		
	comp=Z,32nm,1.5s,mb5.0						
LZH				LR	LR		
	comp=N,191nm,12.9s						
LZH				LR	LR		
	comp=Z,341nm,17.3s,MS4.1						
NJ2	**Nanjing**	**36.64**	**34**	*e*P	**P**	**12 02 53.5**	**+2.4**
NJ2				AP	pP	12 03 03.1	+3.8
NJ2				XP	sP	12 03 09.8	+7.1
NJ2				PP	PP	12 04 13.1	-3.0
NJ2				S	**S**	**12 08 26.0**	**-5.8**
NJ2				XS		12 08 45.0	
NJ2				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,280nm,5.0s						
NJ2				LR	LR		
	comp=N,710nm,17.2s,MS4.6						
NJ2				LR	LR		
	comp=E,580nm,18.8s,MS4.6						
NJ2				LR	LR		
	comp=Z,660nm,11.8s						
SSE	**Sheshan**	**37.30**	**37**	*e*P	**P**	**12 02 56.6**	**0.0**
SSE				XP	sP	12 03 09.4	+1.2
SSE				S	**S**	**12 08 36.1**	**-5.8**
SSE				AMB	AMB		
	comp=Z,43nm,0.6s,mb5.5						
SSE				AMB	AMB		
	comp=Z,71nm,4.1s						
SSE				LR	LR		
	comp=N,122nm,15.9s,MS3.9						
SSE				LR	LR		
	comp=E,95nm,16.2s,MS3.9						
SSE				LR	LR		
	comp=Z,206nm,16.2s,MS4.0						
BJT	**Baijiatuau**	**41.79**	**24**	*e*P	**P**	**12 03 35.3**	**+1.4**
	comp=Z,24nm,0.6s,mb5.0						
BJT				*e*pP	pP	12 03 43.4	+1.3
WMQ	**Urumqi**	**41.92**	**351**	P	**P**	**12 03 35.8**	**+1.0**
WRAB	**Tennant Creek**	**43.81**	**122**	⇑*e*P	sP	12 04 09.3	+7.1
UCH	**Uchtor**	**44.05**	**337**	P	**P**	**12 03 53.5**	**+1.2**
	SNR=11						
TKM2	**Tokmak 2**	**44.24**	**339**	P	**P**	**12 03 54.6**	**+0.8**
	SNR=7.1						
KBK	**Karagaybulak**	**44.26**	**338**	P	**P**	**12 03 55.4**	**+1.5**
	SNR=6.3						
AML	**Almayashu**	**44.30**	**336**	P	**P**	**12 03 55.4**	**+1.2**
	SNR=11						
AAK	**Ala-Archa**	**44.41**	**337**	⇑*e*P	**P**	**12 03 54.8**	**-0.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**44.41**	**337**	*e*P	**P**	**12 03 54.6**	**-0.5**
	comp=Z,6.2nm,0.9s,mb4.3						
AAK				*e*pP	pP	12 04 02.1	-1.2
EKS2	**Erkin-Say**	**44.71**	**337**	P	**P**	**12 03 58.5**	**+1.0**
	SNR=6.8						
USP	**Ospenovka**	**44.95**	**338**	P	**P**	**12 04 00.1**	**+0.6**
	SNR=9.1						
MKAR	**Makanchi Array**	**45.81**	**347**	*i* P	**P**	**12 04 06.0**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,21nm,0.7s						
ULN	**Ulaanbaatar**	**46.36**	**10**	⇑*e*P	**P**	**12 04 11.0**	**+0.4**
ULN	**Ulaanbaatar**	**46.36**	**10**	*e*P	**P**	**12 04 10.6**	**0.0**
	comp=Z,6.2nm,0.8s,mb4.6						
ULN				*e*pP	pP	12 04 18.0	-0.8
ZAK	**Zakamensk**	**48.27**	**6**	*e*P	**P**	**12 04 25.6**	**+0.1**
ZAK				*e*		12 05 54.4	
HIA	**Hailar**	**51.01**	**20**	P	**P**	**12 04 44.7**	**-1.8**
	comp=Z,8.6nm,0.9s,mb4.7						
NVS	**Novosibirsk**	**53.32**	**351**	*i* P	**P**	**12 05 02.4**	**-1.4**
NVS				*e*		12 06 54.7	
NVS				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
NVS				pmax	pmax		
	comp=E,8.0nm,0.7s						
NVS				pmax	pmax		
	comp=N,13nm,1.0s						
CTAO	**Charters Tower**	**54.24**	**117**	P	**P**	**12 05 09.8**	**-1.2**
CTAO				*e*pP	pP	12 05 18.0	-1.4
KLR	**Kul'dur**	**55.86**	**28**	*e*P	**P**	**12 05 21.8**	**-0.6**
BOD	**Bodaibo**	**57.15**	**11**	*e*P	**P**	**12 05 30.6**	**-0.9**
CLNS	**Chul'man**	**59.07**	**18**	*e*P	**P**	**12 05 38.8**	**-6.1**
CLNS				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.8s						
YSS	**Yuzh-Sakhalins**	**60.19**	**35**	⇑*e*P	**P**	**12 05 54.4**	**+1.6**
YSS				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.2						
YSS				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.1						
ARU	**Arti**	**61.60**	**338**	⇑*i* P	**P**	**12 06 00.9**	**-1.3**
ARU				*e*		12 06 49.0	
ARU				*e*		12 08 15.0	
ARU				*e*S	**S**	**12 14 13.1**	**-7.6**
ARU				*e*SS	SS	12 18 11.4	-12
ARU				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
KIV	**Kislovodsk**	**62.54**	**319**	*e*P	**P**	**12 06 09.1**	**+0.4**
KIV				*e*		12 08 23.3	
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
SOC	**Sochi**	**64.35**	**318**	*e*P	**P**	**12 06 20.3**	**-0.3**
SOC				*e*		12 06 57.6	
SOC				*e*		12 08 36.0	
SOC				*e*PPP	PPP	12 10 16.5	-0.2
SOC				*e*S	**S**	**12 14 53.2**	**-2.2**
SOC				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.3						
SOC				pmax	pmax		
	comp=N,31nm,1.1s						
SOC				pmax	pmax		
	comp=E,21nm,0.9s						
YAK	**Yakutsk**	**64.71**	**17**	*c i* P	**P**	**12 06 22.8**	**+0.1**
YAK				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.4						
YAK				MLR	MLR		
	comp=Z,200nm,14.0s,MS4.5						
YAK	**Yakutsk**	**64.71**	**17**	*e*P	**P**	**12 06 21.6**	**-1.1**
	comp=Z,35nm,1.0s,mb5.3						
YAK				*e*pP	pP	12 06 29.7	-1.5
MA2	**Magadan**	**70.90**	**26**	P	**P**	**12 07 01.2**	**-0.2**
	comp=Z,4.1nm,0.7s,mb4.5						
OBN	**Obninsk**	**70.92**	**328**	*e*P	**P**	**12 07 01.4**	**-0.2**
OBN				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
TIXI	**Tiksi**	**72.30**	**10**	⇓*i* P	**P**	**12 07 10.2**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7						
FINES	**FINESS Array B**	**78.35**	**333**	*i* P	pP	12 07 52.5	-0.3
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
OJC	**Ojcow**	**79.27**	**321**	*e*P	pP	12 07 58.1	0.0
BILL	**Bilibino**	**80.58**	**21**	*e*P	**P**	**12 08 00.6**	**+4.5**
BILL				*e*		12 10 59.7	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
JCT	**Junction City**	**144.11**	**23**	*e*PKPdf	PKPdf	12 15 20.6	-3.0

*BJI **03** 12:03:43.1, 9.29N×92.76E, h30km, mB5.3, mb4.4, Ms4.2, Msz3.9*
*NEIC **03** 12:03:50.9±1.0, 10.05N×93.50E, h30km, mb4.3/3, Error ellipse: s-maj=36.6km s-min=14.9km az=223.0*
ISC 03 12:03:48.9±1.0, 10.0N±0.1×93.5E±0.2, h30km, n17, σ1§01/18, mb4.3/2, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**12.50**	**309**	*e*P	**P**	**12 06 40.6**	**-7.1**
VIS				*e*S	S	12 08 45.3	-22
VIS				*e*		12 08 50.9	
	comp=N,45nm,0.3s						
VIS				*e*		12 08 51.0	
	comp=E,45nm,0.2s						
BWNR	**Bhubaneshwar**	**12.64**	**325**	*e*P	**P**	**12 06 42.0**	**-7.6**
BWNR				*e*		12 08 51.8	
BWNR				*e*		12 08 56.7	
	comp=N,62nm,0.4s						
BWNR				*e*		12 08 56.8	
	comp=E,191nm,0.6s						
SHL	**Shillong**	**15.57**	**355**	*e*P	**P**	**12 07 30.5**	**+2.4**
SHL				*e*S	**S**	**12 10 12.0**	**-7.8**
HYB	**Hyderabad**	**16.27**	**299**	*e*P	**P**	**12 07 37.5**	**+0.4**
HYB	**Hyderabad**	**16.27**	**299**	*i* P	**P**	**12 07 37.5**	**+0.4**
PKI	**Pulchoki**	**19.07**	**338**	*e*P	**P**	**12 08 12.2**	**+0.4**
	comp=E,24nm,0.7s						
GUN	**Gumba**	**19.21**	**339**	*e*P	**P**	**12 08 13.1**	**-0.3**
	comp=E,39nm,0.7s						
DMN	**Daman**	**19.22**	**337**	*e*P	**P**	**12 08 13.8**	**+0.3**
	comp=E,34nm,0.9s						
KKN	**Kakani**	**19.32**	**338**	*e*P	**P**	**12 08 14.2**	**-0.4**
	comp=E,27nm,0.9s						
LSA	**Lhasa**	**19.73**	**354**	*e*P	**P**	**12 08 18.5**	**-0.7**
	comp=E,9.7nm,0.6s						
GKN	**Gorkha**	**19.76**	**336**	*e*P	**P**	**12 08 18.2**	**-1.3**
	comp=E,23nm,0.6s						
KOLN	**Koldanda**	**19.99**	**334**	*e*P	**P**	**12 08 21.2**	**-0.8**
	comp=E,23nm,0.7s						
BHPL	**Bhopal**	**20.23**	**313**	*e*	**S**	**12 12 14.2**	**+9.5**
DDI	**Dehra Dun**	**24.82**	**327**	*e*	**P**	**12 09 12.0**	**+1.9**
AAK	**Ala-Archa**	**36.52**	**336**	*e*P	**P**	**12 10 52.5**	**-1.2**
	comp=E,3.0nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**50.03**	**127**	*e*P	**P**	**12 12 42.6**	**-0.5**
CTAO	**Charters Tower**	**59.91**	**120**	*e*P	**P**	**12 13 55.5**	**+0.7**
	comp=E,3.5nm,0.8s,mb4.4						

*CSEM **03** 12:09:14.5±0.1, 35.74N×4.86W, h40km, mb3.6/7, Error ellipse: s-maj=2.9km s-min=2.4km az=54.0*
*NEIC **03** 12:09:14.9, 35.70N×4.99W, h57km, MG3.6(MDD), After MDD.*
*MDD **03** 12:09:15.3±1.6, 35.72N×5.00W, h57km±28km, mb3.5/6, Error ellipse: s-maj=17.4km s-min=7.3km az=1.0, PRXIMO*
ISC 03 12:09:13.5±0.7, 35.79N±0.04×5.05W±0.04, h78km±12km, n39, σ0§98/68, 4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.81**	**16**	P	**P**	**12 09 30.2**	**-0.2**
EMIJ				S	**S**	**12 09 42.6**	**-0.4**
EMIJ	**Mijas**	**0.81**	**16**	P	**P**	**12 09 30.5**	**+0.1**
	2.7nm,0.1s,SNR=6.7						
EMIJ				S	**S**	**12 09 42.4**	**-0.6**
	14nm,0.2s,SNR=12						
EMIJ	**Mijas**	**0.81**	**16**	P	**P**	**12 09 30.2**	**-0.2**
	2.7nm,0.1s,SNR=6.7						
EMIJ				S	**S**	**12 09 42.6**	**-0.4**
	9.2nm,0.3s,SNR=12						
ESPR	**Espera**	**1.26**	**329**	P	**P**	**12 09 38.6**	**+2.6**
ESPR				S	**S**	**12 09 53.9**	**+1.0**
ESPR	**Espera**	**1.26**	**329**	P	**P**	**12 09 38.1**	**+2.1**
	3.2nm,0.2s,SNR=7.9						
ESPR				S	**S**	**12 09 54.6**	**+1.7**
	9.4nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.26**	**329**	P	**P**	**12 09 38.6**	**+2.6**
	1.0nm,0.1s,SNR=7.9						
ESPR				S	**S**	**12 09 53.9**	**+1.0**
	SNR=7.9						
ERON	**Agron**	**1.59**	**39**	P	**P**	**12 09 41.2**	**+0.8**
	SNR=4.0						
ERON				S	**S**	**12 09 59.2**	**-1.0**
	3.4nm,0.3s,SNR=4.0						
TZK	**Tazeka**	**1.84**	**157**	*i* P	**P**	**12 09 43.0**	**-0.7**
TZK				*i* S	**S**	**12 10 05.0**	**-1.0**
EBER	**Berja**	**2.07**	**57**	P	**P**	**12 09 46.3**	**-0.5**
EBER				S	**S**	**12 10 09.9**	**-1.6**
EBER	**Berja**	**2.07**	**57**	P	**P**	**12 09 47.3**	**+0.4**
	1.0nm,0.2s,SNR=6.2						
EBER				S	**S**	**12 10 10.8**	**-0.6**
	7.6nm,0.3s						
EBER	**Berja**	**2.07**	**57**	P	**P**	**12 09 46.3**	**-0.5**
	0.4nm,0.2s,SNR=6.2						
EBER				S	**S**	**12 10 09.9**	**-1.6**
	19nm,1.1s						
EMIN	**Mina Concepcio**	**2.37**	**327**	P	**P**	**12 09 51.9**	**+0.8**
EMIN				S	**S**	**12 10 17.7**	**-1.3**
EMIN	**Mina Concepcio**	**2.37**	**327**	⇓P	**P**	**12 09 51.9**	**+0.8**
	4.7nm,0.1s,SNR=18						
EMIN				S	**S**	**12 10 18.2**	**-0.8**
	3.5nm,0.1s						
EMIN	**Mina Concepcio**	**2.37**	**327**	P	**P**	**12 09 51.9**	**+0.8**
	1.5nm,0.1s,SNR=26						
EADA	**Adamuz**	**2.41**	**9**	P	**P**	**12 09 52.9**	**+1.3**
EADA				S	**S**	**12 10 21.0**	**+1.0**
EADA	**Adamuz**	**2.41**	**9**	P	**P**	**12 09 52.5**	**+0.9**
	1.8nm,0.1s,SNR=5.9						
EADA				S	**S**	**12 10 20.0**	**+0.1**
	9.0nm,0.1s,SNR=16						
EADA	**Adamuz**	**2.41**	**9**	P	**P**	**12 09 52.9**	**+1.3**
	1.8nm,0.1s,SNR=5.9						
EADA				S	**S**	**12 10 21.0**	**+1.0**
	1.9nm,0.2s,SNR=16						
EQES	**Quesada**	**2.56**	**38**	P	**P**	**12 09 54.6**	**+0.8**
	1.6nm,0.2s,SNR=4.0						
EQES				S	**S**	**12 10 24.0**	**+0.1**
	3.5nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.56**	**38**	S	**S**	**12 10 24.5**	**+0.6**
	SNR=7.9						
PALC	**Alcoutim**	**2.57**	**311**	*i* P	**P**	**12 09 54.6**	**+0.7**
PALC				*e*S	**S**	**12 10 24.2**	**+0.1**
	7.0nm,0.1s						
PALC	**Alcoutim**	**2.57**	**311**	⇓Pn	**P**	**12 09 54.6**	**+0.7**
PALC				Sn	**S**	**12 10 23.9**	**-0.3**
PALC	**Alcoutim**	**2.57**	**311**	⇓P	**P**	**12 09 54.6**	**+0.7**
PALC				S	**S**	**12 10 24.2**	**+0.1**
	3.5nm,0.1s						
PALC	**Alcoutim**	**2.57**	**311**	Pn	**P**	**12 09 54.7**	**+0.8**
PALC				Sn	**S**	**12 10 23.9**	**-0.2**
EBAN	**Banos Encina**	**2.58**	**23**	P	**P**	**12 09 54.8**	**+0.8**
	1.4nm,0.2s,SNR=4.0						
EBAN				S	**S**	**12 10 23.8**	**-0.5**
	4.0nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.62**	**312**	P	**P**	**12 09 55.3**	**+0.7**
EGRO				S	**S**	**12 10 24.7**	**-0.6**
EGRO	**El Granado**	**2.62**	**312**	⇓P	**P**	**12 09 55.3**	**+0.7**
	4.4nm,0.0s,SNR=7.9						
EGRO				S	**S**	**12 10 25.1**	**-0.3**
	11nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.62**	**312**	P	**P**	**12 09 55.3**	**+0.7**
	4.4nm,0.0s,SNR=7.9						
PBEJ	**Beja**	**3.18**	**316**	*e*S	**S**	**12 10 38.6**	**-0.7**
PBEJ	**Beja**	**3.18**	**316**	Sn	**S**	**12 10 37.8**	**-1.5**
EBAD	**Badajoz**	**3.35**	**333**	P	**P**	**12 10 05.6**	**+0.8**
EBAD				S	**S**	**12 10 40.8**	**-2.8**
EBAD	**Badajoz**	**3.35**	**333**	P	**P**	**12 10 05.7**	**+0.9**
	6.3nm,0.1s,SNR=18						
EBAD				S	**S**	**12 10 42.9**	**-0.7**
	4.9nm,0.1s						
EBAD	**Badajoz**	**3.35**	**333**	P	**P**	**12 10 05.6**	**+0.8**
	6.3nm,0.1s,SNR=18						
PTEO	**Sao Teotonio**	**3.44**	**302**	*e*P	**P**	**12 10 06.6**	**+0.6**
PTEO				*e*S	**S**	**12 10 45.0**	**-0.7**
PTEO	**Sao Teotonio**	**3.44**	**302**	P	**P**	**12 10 06.6**	**+0.6**
PTEO				S	**S**	**12 10 45.0**	**-0.7**
MOE	**Montemor**	**3.80**	**317**	S	**S**	**12 10 53.2**	**-1.4**
MOE	**Montemor**	**3.80**	**317**	Sn	**S**	**12 10 53.2**	**-1.5**
PCBR	**Castelo Branco**	**4.48**	**335**	Pn	**P**	**12 10 20.4**	**-0.1**
PCBR	**Castelo Branco**	**4.48**	**335**	Pn	**P**	**12 10 20.4**	**-0.1**
GUD	**Guadarrama**	**4.90**	**8**	P	**P**	**12 10 27.1**	**+0.8**
	0.3nm,0.1s,SNR=4.0						
GUD				S	**S**	**12 11 18.9**	**-3.3**
	0.2nm,0.1s,SNR=4.0						

*MOS **03** 12:50:33.3±1.8, 3.19N×93.74E, h33km, mb5.0/8, MS4.7/5, Error ellipse: s-maj=27.0km s-min=13.8km az=103.0*
*NEIC **03** 12:50:37.8±0.9, 3.57N×94.47E, h30km, mb4.8/10, Error ellipse: s-maj=20.3km s-min=15.6km az=200.0*
*BJI **03** 12:50:38.4, 3.46N×94.29E, h40km, mB5.1, mb4.5, Ms5.0, Msz4.7*
ISC 03 12:50:36.7±0.6, 3.55N±0.08×94.49E±0.06, h30km, n70, σ1§50/78, mb4.9/25, MS4.8/8, 5C-4D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.08**	**59**	P	**Pn**	**12 52 26.0**	**+4.8**
	150nm,1.0s						
NST	**Nakhon Sawan**	**13.26**	**24**	P	**P**	**12 53 46.6**	**+0.9**
PALK	**Pallekele**	**14.21**	**286**	*e*Pn	**P**	**12 53 55.1**	**-3.3**
	34nm,1.1s						
PALK				*e*Sn	**S**	**12 56 16.3**	**-20**
KKTK	**Khon Kaen**	**15.12**	**32**	P	**P**	**12 54 15.0**	**+4.8**
	340nm,0.5s						
CM31	**Chiang Mai Arr**	**15.44**	**16**	*e*P	**P**	**12 54 12.3**	**-2.1**
	40nm,0.8s						
CHG	**Chiang Mai**	**15.78**	**16**	⇑P	**P**	**12 54 19.0**	**+0.2**
	48nm,1.0s						
MDRS	**Chennai**	**16.96**	**305**	⇓*e*	**P**	**12 54 52.0**	**+18**
MDRS				*e*		12 57 05.0	
CHRT	**Chiangrai**	**17.02**	**17**	⇓P	**P**	**12 54 33.5**	**-1.0**
	121nm,1.3s						
CAL	**Calcutta**	**19.80**	**343**	*e*S	**S**	**12 58 54.4**	**+11**
HYB	**Hyderabad**	**20.84**	**313**	*e*P	**P**	**12 55 20.0**	**+1.3**
	133nm,1.6s						
HYB				*e*S	**S**	**12 59 10.0**	**+5.3**
HYB	**Hyderabad**	**20.84**	**313**	*i* P	**P**	**12 55 20.0**	**+1.3**
	133nm,1.6s						
HYB				*e*S	**S**	**12 59 10.0**	**+5.3**
IMP	**Imphal**	**21.12**	**359**	*e*P	**P**	**12 55 20.9**	**-0.6**
QIZ	**Qiongzhong**	**21.49**	**43**	P	**P**	**12 55 29.0**	**+3.7**
QIZ				S	**S**	**12 59 16.2**	**-0.8**
QIZ				LR	LR		
	comp=N,3μm,14.6s,MS4.9						
QIZ				LR	LR		
	comp=E,2μm,13.9s,MS4.9						
QIZ				LR	LR		
	comp=Z,2μm,15.1s,MS4.5						
SHL	**Shillong**	**22.03**	**354**	*e*P	**P**	**12 55 30.0**	**-0.7**
SHL				*i* S	**S**	**12 59 37.0**	**+10**
KAD	**Karad**	**24.16**	**306**	*e*P	**P**	**12 55 52.6**	**+0.9**
KAD				*e*		12 56 02.3	
	comp=Z,56nm,1.5s						
POO	**Poona**	**25.09**	**308**	*e*	**P**	**12 56 04.0**	**+3.4**
PKI	**Pulchoki**	**25.41**	**341**	*e*P	**P**	**12 56 03.6**	**0.0**
	comp=Z,51nm,1.0s,mb5.0						
DMN	**Daman**	**25.55**	**340**	*e*P	**P**	**12 56 04.2**	**-0.6**
	comp=Z,41nm,0.9s,mb4.9						
GUN	**Gumba**	**25.58**	**342**	*e*P	**P**	**12 56 04.4**	**-0.7**
	comp=Z,167nm,1.2s,mb5.4						
BHPL	**Bhopal**	**25.61**	**321**	*e*P	**P**	**12 56 06.5**	**+1.1**
BHPL				*e*		12 56 10.3	
	comp=Z,15nm,1.0s						
KKN	**Kakani**	**25.66**	**341**	*e*P	**P**	**12 56 05.5**	**-0.3**
	comp=Z,75nm,1.0s,mb5.2						
GKN	**Gorkha**	**26.07**	**340**	*e*P	**P**	**12 56 08.2**	**-1.5**
	comp=Z,95nm,1.0s,mb5.3						
LSA	**Lhasa**	**26.20**	**353**	P	**P**	**12 56 12.0**	**+1.1**
LSA	**Lhasa**	**26.20**	**353**	*e*P	**P**	**12 56 10.8**	**-0.1**
	comp=Z,55nm,1.0s,mb5.0						
KOLN	**Koldanda**	**26.23**	**338**	*e*P	**P**	**12 56 10.0**	**-1.2**
	comp=Z,32nm,1.0s,mb4.8						
ENH	**Enshi**	**30.12**	**26**	*e*P	**P**	**12 56 46.5**	**+0.1**
	comp=Z,4.0nm,0.7s,mb4.3						
KHET	**Khetri**	**30.20**	**326**	*e*P	**P**	**12 56 47.1**	**+0.1**
DDI	**Dehra Dun**	**30.83**	**331**	*e*	**P**	**12 57 02.0**	**+9.4**
KLP	**Kalpa**	**31.76**	**333**	*e*P	**P**	**12 57 02.9**	**+2.2**
XAN	**Xi'an**	**33.18**	**22**	P	**P**	**12 57 10.9**	**-2.2**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
LZH	**Lanzhou**	**33.51**	**14**	*e*P	**P**	**12 57 19.2**	**+3.3**
LZH				AP	pP	12 57 27.5	+2.7
LZH				XP	sP	12 57 30.2	+1.6
LZH				PP	PP	12 58 32.3	+3.9
LZH				*e*S	**S**	**13 02 40.5**	**+5.8**
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,137nm,5.3s						
LZH				LR	LR		
	comp=E,638nm,13.9s						
LZH				LR	LR		
	comp=Z,986nm,16.5s,MS4.6						
NJ2	**Nanjing**	**36.43**	**36**	*e*P	**P**	**12 57 44.6**	**+3.7**
NJ2				AP	pP	12 57 53.4	+3.6
NJ2				XP	sP	12 57 58.4	+4.8
NJ2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,450nm,10.5s						
NJ2				LR	LR		
	comp=N,3μm,

comp=Z,10nm,1.1s,mb4.5
FRU Bishkek 42.93 338 *e*P **P 12 58 37.0 +2.3**
FRU *e* 13 00 43.0
EKS2 Erkin-Say 43.10 338 P **P 12 58 38.4 +2.3**
SNR=6.3
USP Ospenovka 43.35 339 P **P 12 58 36.9 -1.2**
SNR=16
MKAR Makanchi Array 44.36 348 *i* P **P 12 58 44.5 -1.7**
MKAR pmax pmax
comp=Z,6.0nm,0.5s
ULN Ulaanbaatar 45.45 12⇑*e*P pP 12 59 02.2 -1.8
WRA Warramunga Arr 45.57 122 *i* P **P 12 58 57.0 +0.8**
WRA pmax pmax
comp=Z,7.0nm,0.7s
WRAB Tennant Creek 45.58 122⇓*e*P **P 12 58 55.2 -1.1**
WRAB Tennant Creek 45.58 122 *e*P **P 12 58 55.1 -1.2**
comp=Z,10nm,0.8s,mb4.8
ZAK Zakamensk 47.25 8 *e*P **P 12 59 06.2 -2.9**
HIA Hailar 50.37 21 *e*P **P 12 59 31.3 -1.9**
comp=Z,8.3nm,1.0s,mb4.7
NVS Novosibirsk 51.94 352 *e*P **P 12 59 45.2 +0.1**
NVS pmax pmax
comp=Z,20nm,1.8s,mb4.8
NVS pmax pmax
comp=E,13nm,1.9s
NVS pmax pmax
comp=N,10.0nm,1.7s
CTAO Charters Tower 55.97 117 *e*P **P 13 00 13.7 -1.4**
comp=N,17nm,1.5s,mb4.9
BOD Bodaibo 56.26 12 *e*P **P 13 00 14.2 -2.5**
SVE Sverdlovsk 59.53 339 *e*P **P 13 00 39.0 -0.7**
ARU Arti 59.99 338⇑*i*P **P 13 00 38.9 -3.9**
ARU *e* 13 01 19.4
ARU *e* 13 02 54.2
ARU *e*S **S 13 08 51.8 +0.3**
ARU *e*SS SS 13 12 47.4 -1.9
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
YSS Yuzh-Sakhalins 60.00 36 P **P 13 00 43.4 +0.4**
YSS MLR MLR
comp=Z,400nm,14.0s,MS4.7
KIV Kislovodsk 60.77 319 *e*P **P 13 00 40.7 -7.6**
KIV pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
GOF Gofitskoye 61.04 321 *e*P **P 13 00 55.0 +4.9**
MALT Malatya 61.55 312 *e*P **P 13 00 52.0 -1.8**
comp=Z,6.5nm,1.1s,mb4.7
SOC Sochi 62.57 318 *e*P **P 13 00 53.7 -6.8**
SOC *e* 13 01 39.5
SOC *e* 13 03 08.8
SOC *e*PPP PPP 13 04 47.3 -2.8
SOC *e*S **S 13 09 17.8 -6.7**
SOC *e* 13 10 43.0
SOC pmax pmax
comp=Z,42nm,1.1s,mb5.5
SOC pmax pmax
comp=N,25nm,1.2s
SOC pmax pmax
comp=E,11nm,0.9s
YAK Yakutsk 63.97 18*d i*P **P 13 01 10.6 +1.2**
YAK pmax pmax
comp=Z,15nm,0.5s,mb5.3
YAK MLR MLR
comp=Z,600nm,14.0s,MS4.9
YAK Yakutsk 63.97 18 *e*P **P 13 01 07.3 -2.1**
MA2 Magadan 70.43 27 P **P 13 01 51.6 +1.5**
MA2 *e*S S 13 11 05.6 +6.1
MA2 *e* 13 11 55.6
MA2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
MA2 MLR MLR
comp=Z,600nm,22.0s,MS4.8
TIXI Tiksi 71.38 11*c e*P **P 13 01 53.6 -2.1**
TIXI pmax pmax
comp=Z,28nm,1.4s,mb5.0
TIXI MLR MLR
comp=Z,400nm,18.0s,MS4.7
KOLS Kolonicke sedl 75.68 320 *e*P **P 13 02 21.8 +0.7**
CRVS Cervenica-Dubn 76.20 319 *e*P **P 13 02 28.2 +4.1**
CRVS Cervenica-Dubn 76.20 319 *e* **P 13 02 28.2 +4.1**
VYHS Vyhne 77.85 319 *e*P **P 13 02 33.9 +0.7**
VYHS *e* 13 02 49.5
ZST Bratislava 78.96 318 *e*P **P 13 02 40.7 +1.4**
ZST *e*sP sP 13 02 53.4 +1.4

OTT 03 13:19:03.1±1.9, 59.92N×56.27W, h18km, ML3.1/4,
LAlbertaRADOR Sea Seismic Zone. 425km northeast from Nutak, NI, Labrador Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**6.96**	**309**	PN	Pn	13 20 44.5	-2.4
FRB				SN	Sn	13 21 56.0	-10
FRB				Trac		13 22 02.6	
comp=Z,0.9nm,0.1s							
SCHQ	**Schefferville**	**7.65**	**233**	PN	Pn	13 20 54.4	-2.2
SCHQ				SN	Sn	13 22 15.2	-8.4
SCHQ				Trac		13 22 21.5	
comp=Z,2.0nm,0.2s							
DRLN	**Deer Lake**	**10.71**	**184**	PN	P	13 21 33.2	-5.5
DRLN				SN	S	13 23 24.9	-14
SMQ	**Clarke City**	**11.39**	**216**	SN	S	13 23 40.6	-15
LG4Q	**La Grande 4**	**11.61**	**245**	PN	P	13 21 45.6	-5.3
LG4Q				SN	S	13 23 46.6	-14
LG4Q				Trac		13 23 50.9	
comp=Z,1.0nm,0.2s							
MNQ	**Manicouagan**	**11.79**	**223**	PN	P	13 21 50.7	-2.5
MNQ				SN	S	13 23 49.7	-16
MNQ				Trac		13 23 56.7	
comp=Z,0.4nm,0.1s							
ICQ	**Pointe Anglais**	**12.19**	**216**	SN	S	13 24 00.7	-14
SILO	**Sutton Inlier**	**16.36**	**263**	PN	P	13 22 49.6	-3.5
SILO				SN	S	13 25 41.4	-12
MALO	**McAlpine Lake**	**16.64**	**244**	PN	P	13 22 51.4	-5.4
MALO				SN	S	13 25 45.1	-15
YRTN	**Rankin Inlet**	**17.27**	**295**	PN	P	13 23 01.1	-3.5

JMA 03 13:26:28.1±0.5, 46.31N×146.82E, h366km, M3.7,
Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**2.66**	**207**	P	P	13 27 26.4	+0.2
NEM2	**Nemuro 2**	**3.04**	**195**	P	P	13 27 27.9	-1.5
NEM2				*e*S	S	13 28 15.7	-1.8
JTKR	**Abashiri--Toko**	**3.12**	**222**	P	P	13 27 30.2	+0.1
JTKR				*e*S	S	13 28 19.0	+0.2
JSE	**Soyaes**	**3.26**	**247**	P	P	13 27 30.5	-0.9
JWK2	**Keihoku**	**3.58**	**256**	P	P	13 27 33.5	-0.9
JAK	**Akkeshi**	**3.64**	**205**	P	P	13 27 34.4	-0.6
JAK				*e*S	S	13 28 26.2	-1.3
JAR	**Ashorobuto**	**3.71**	**217**	P	P	13 27 36.1	+0.4
JAR				*e*S	S	13 28 28.9	+0.1
JKK2	**Kamakawa 2**	**3.77**	**231**	P	P	13 27 36.7	+0.4
JFR	**Furan**	**4.36**	**225**	P	P	13 27 43.0	+0.8
JHR	**Hokuryu**	**4.43**	**236**	P	P	13 27 44.8	+1.8
JCH	**Churui**	**4.45**	**215**	P	P	13 27 42.3	-0.8
JCH				*e*S	S	13 28 40.0	-2.0
JNBK	**Urakawa-nobuka**	**4.97**	**217**	P	P	13 27 47.4	-1.3
JNBK				*e*S	S	13 28 50.0	-2.0
JEW	**Eniwo**	**5.17**	**230**	P	P	13 27 52.2	+1.3
JNB	**Noboribetsu**	**5.65**	**229**	P	P	13 27 56.1	0.0
JNB				*e*S	S	13 29 05.0	-0.2
JKB	**Kayabe**	**6.07**	**225**	P	P	13 28 00.3	-0.6
JKB				*e*S	S	13 29 12.5	-1.3
JOT	**Ohata**	**6.46**	**222**	P	P	13 28 04.5	-0.8
JOT				*e*S	S	13 29 18.9	-2.8
JANG	**Nango**	**7.08**	**215**	P	P	13 28 11.8	-0.8
JANG				*e*S	S	13 29 32.0	-2.8
JOM	**Ohasama**	**7.95**	**213**	P	P	13 28 23.2	+0.5
JOM				*e*S	S	13 29 53.1	+0.2
JMK	**Ichinoseki**	**8.43**	**211**	P	P	13 28 29.6	+1.2
JMK				*e*S	S	13 30 05.4	+2.2

*NEIC **03** 14:03:19.0, 33.21S×70.65W, h91km, MD3.5(GUC), After GUC.*
GUC 03 14:03:19.0±0.6, 33.21S×70.65W, h91km±2km, MD3.5,
ML3.2, 5C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.07**	**337**	*e*P	P	14 03 32.3	+0.4
PEL				*i* S	S	14 03 42.1	+0.5
PEL				AMP		14 03 42.6	
comp=N,4μm,0.4s							
DSCH	**Colegio Aleman**	**0.20**	**160**	*e*P	P	14 03 32.4	+0.2
DSCH				*i* S	S	14 03 42.6	+0.6
DSCH				AMP		14 03 43.6	
comp=N,2μm,0.3s							
CLCH	**Cerro Calan**	**0.21**	**153**⇓	*i*P	P	14 03 32.6	+0.4
CLCH				*i* S	S	14 03 42.9	+0.8
CLCH				AMP		14 03 44.1	
comp=N,698nm,0.4s							
STL	**Santa Lucia**	**0.22**	**178**	*e*P	P	14 03 32.2	0.0
STL				*i* S	S	14 03 42.6	+0.4
RCDM	**Rinconada Maip**	**0.31**	**205**	*e*P	P	14 03 33.0	+0.4
RCDM				*i* S	S	14 03 43.5	+0.5
RCDM				AMP		14 03 45.1	
comp=N,3μm,0.1s							
FCH	**Farellones**	**0.32**	**111**⇓	*i*P	P	14 03 33.2	+0.5
FCH				*i* S	S	14 03 45.0	+1.8
FCH				AMP		14 03 46.0	
comp=N,2μm,0.2s							
ROCH	**El Roble**	**0.39**	**308**	*e*P	P	14 03 33.5	+0.4
ROCH				*i* S	S	14 03 44.7	+0.9
PCH	**Pirque**	**0.42**	**164**⇑	*i*P	P	14 03 33.6	+0.2
PCH				*i* S	S	14 03 44.9	+0.7
SJCH	**San Jose de Ma**	**0.49**	**150**⇑	*i*P	P	14 03 33.8	-0.1
SJCH				*i* S	S	14 03 45.4	+0.2
TACH	**Talagante**	**0.50**	**209**⇑	*i*P	P	14 03 34.2	+0.1
TACH				*i* S	S	14 03 45.5	+0.2
JACH	**Jahuel**	**0.53**	**5**	*e*P	P	14 03 34.4	+0.1
JACH				*i* S	S	14 03 46.2	+0.6
CHCH	**Chadas Angostu**	**0.72**	**180**⇑	*i*P	P	14 03 36.0	0.0
CHCH				*i* S	S	14 03 49.0	+0.4
LMEL	**Las Melosas**	**0.74**	**150**	*e*P	P	14 03 36.5	+0.3
LMEL				*i* S	S	14 03 50.0	+1.1
LMEL				AMP		14 03 51.8	
comp=N,778nm,0.2s							
LCCH	**Las Cruces**	**0.81**	**251**	*e*P	P	14 03 37.6	+0.6
LCCH				*i* S	S	14 03 51.1	+0.8
CACH	**El Canelo**	**0.90**	**177**	*e*P	P	14 03 38.6	+0.7
CACH				*i* S	S	14 03 53.5	+1.4
PACH	**Papudo**	**0.94**	**315**⇑	*i*P	P	14 03 38.6	+0.3
PACH				*i* S	S	14 03 53.0	+0.2
PTCH	**Petorca**	**0.97**	**346**⇓	*i*P	P	14 03 39.0	+0.3
PTCH				*i* S	S	14 03 54.3	+0.8
PTCH				AMP		14 03 55.6	
comp=N,746nm,0.5s							
LNV	**Longovilo**	**0.98**	**220**⇓	*i*P	P	14 03 38.6	-0.1
LNV				*i* S	S	14 03 53.6	0.0
CICH	**Cipreses**	**1.12**	**170**	*e*P	P	14 03 41.2	+0.7
SFDO	**San Fernando**	**1.43**	**192**⇓	*i*P	P	14 03 44.5	+0.1
SFDO				*i* S	S	14 04 03.6	+0.4

*NEIC **03** 14:43:53.2, 30.41S×70.94W, h79km, MD3.4(GUC), After GUC.*
GUC 03 14:43:53.2±0.8, 30.41S×70.94W, h79km±4km, MD3.4,
ML3.6, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.27**	**27**	*e*P	P	14 44 06.2	+0.9
TLL				*i* S	S	14 44 15.5	+1.2
TLL				AMP		14 44 16.9	
comp=N,3μm,0.4s							
ILCH	**Illapel**	**1.24**	**189**	*e*P	P	14 44 15.6	+0.2
ILCH				*i* S	S	14 44 32.2	+0.2
ILCH				AMP		14 44 33.0	
comp=E,1μm,0.2s							
VACH	**Vallenar**	**1.83**	**5**	*e*P	P	14 44 22.8	-0.6
VACH				*i* S	S	14 44 46.3	+0.7
VACH				AMP		14 44 49.8	
comp=E,2μm,0.1s							
PTCH	**Petorca**	**1.85**	**180**	*e*P	P	14 44 23.4	-0.2
PTCH				*i* S	S	14 44 45.9	0.0
PTCH				AMP		14 44 51.2	
comp=N,1μm,0.2s							
PACH	**Papudo**	**2.16**	**191**	*e*P	P	14 44 27.6	-0.3
JACH	**Jahuel**	**2.29**	**173**	*e*P	P	14 44 29.2	-0.5
FCH	**Farellones**	**2.96**	**169**	*e*P	P	14 44 39.5	+0.4
TACH	**Talagante**	**3.23**	**180**	*e*P	P	14 44 42.1	-0.8

*BJI **03** 15:00:09.0, 2.62N×95.89E, h40km, mB5.3, mb5.0, Ms5.1, Msz5.0*
*MOS **03** 15:00:10.3±1.5, 2.96N×96.24E, h33km, mb5.1/19, MS4.8/8, Error ellipse: s-maj=20.4km s-min=9.4km az=97.3*
*NEIC **03** 15:00:11.1±1.5, 2.61N×95.88E, h43km±14km, mb4.8/23, Error ellipse: s-maj=14.8km s-min=8.8km az=222.0*
ISC 03 15:00:10.3±1.1, 2.72N±0.05×95.98E±0.05, h43km±9km,
h36km±1.5km: pP-P, n100, σ1§31/109, mb5.0/43, MS4.9/18,
8C-10D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**2.70**	**73**	*e*P	**P**	**15 00 55.0**	**+2.7**
SNG	**Songkhla**	**6.40**	**46**	P	**P**	**15 01 45.0**	**+0.6**
590nm,0.9s							
PENI	**Pendagan**	**12.33**	**132**⇓	*i*P	**P**	**15 03 00.8**	**-5.2**
104nm,0.6s							
PULI	**Pulasari**	**13.45**	**132**⇑	*i*P	**P**	**15 03 18.0**	**-2.7**
144nm,0.3s							
NST	**Nakhon Sawan**	**13.51**	**17**	P	**P**	**15 03 21.0**	**-0.7**
KKTK	**Khon Kaen**	**15.12**	**26**	P	**P**	**15 03 48.0**	**+5.3**
926nm,0.7s							
PALK	**Pallekele**	**15.87**	**287**	P	**P**	**15 03 51.2**	**-1.2**
90nm,1.5s							
PALK				*e*Sn	**S**	**15 06 28.9**	**-18**
CM31	**Chiang Mai Arr**	**15.91**	**10**	*e*P	**P**	**15 03 53.7**	**+0.8**
44nm,1.0s							
CHG	**Chiang Mai**	**16.26**	**10**	⇓P	**P**	**15 03 56.7**	**-0.5**
34nm,0.8s							
NANT	**Nan**	**16.64**	**16**	P	**P**	**15 04 02.0**	**0.0**
CHRT	**Chiangrai**	**17.45**	**12**	⇓P	**P**	**15 04 12.0**	**-0.2**
VIS	**Vishakhapatnam**	**19.40**	**321**	*e*P	**P**	**15 04 37.9**	**+2.3**
VIS				*e*		15 04 42.1	
comp=Z,9.4nm,0.6s							
VIS				*e*S	**S**	**15 07 54.6**	**-12**
QIZ	**Qiongzhong**	**21.14**	**39**	P	**P**	**15 04 53.0**	**-0.9**
QIZ				S	**S**	**15 08 49.9**	**+8.3**
QIZ				XS		15 09 02.9	
QIZ				LR	LR		
comp=N,3μm,16.5s,MS5.0							
QIZ				LR	LR		
comp=E,5μm,16.4s,MS5.0							
QIZ				LR	LR		
comp=Z,2μm,17.7s,MS4.6							
IMP	**Imphal**	**22.02**	**355**	*e*	**P**	**15 05 01.1**	**-1.6**
HYB	**Hyderabad**	**22.49**	**312**	*e*P	**P**	**15 05 18.0**	**+11**
HYB				*e*S	**S**	**15 09 14.0**	**+7.5**
RATI	**Rata**	**22.57**	**120**⇓	*i*P	**P**	**15 05 10.0**	**+1.7**
comp=Z,118nm,1.1s,mb5.2							
KEDI	**Kedomdong**	**22.96**	**119**⇑	*i*P	**P**	**15 05 14.2**	**+2.1**
comp=Z,29nm,1.3s,mb4.5							
SHL	**Shillong**	**23.05**	**351**	*e*P	**P**	**15 05 11.0**	**-1.9**
SHL				*e*S	**S**	**15 09 22.0**	**+5.4**
TANI	**Tanete Lipujan**	**24.18**	**105**⇓	*i*P	**P**	**15 05 25.1**	**+1.1**
comp=Z,18nm,0.8s,mb4.5							
NINI	**Niniconang**	**24.80**	**107**⇑	*e*P	**P**	**15 05 30.8**	**+0.8**
comp=Z,213nm,0.9s,mb5.7							
NINI				*e*pP		15 05 31.9	
BUNI	**Buntu Taipa**	**25.14**	**104**⇑	*i*P	**P**	**15 05 33.7**	**+0.4**
comp=Z,15nm,0.5s,mb4.8							
KAD	**Karad**	**25.85**	**306**	*e*P	**P**	**15 05 32.8**	**-7.0**
KAD				*e*		15 05 34.2	
comp=Z,11nm,0.9s							
PKI	**Pulchoki**	**26.70**	**339**	*e*P	**P**	**15 05 47.8**	**+0.2**
comp=Z,125nm,1.1s,mb5.3							
DMN	**Daman**	**26.84**	**338**	*e*P	**P**	**15 05 49.1**	**+0.2**
comp=Z,90nm,0.8s,mb5.4							
GUN	**Gumba**	**26.84**	**340**	*e*P	**P**	**15 05 49.2**	**+0.3**
comp=Z,160nm,0.7s,mb5.7							
KKN	**Kakani**	**26.94**	**339**	*e*P	**P**	**15 05 49.9**	**+0.1**
comp=Z,148nm,0.8s,mb5.6							
BHPL	**Bhopal**	**27.18**	**320**	*e*	**P**	**15 06 09.6**	**+17**
BHPL				*e*		15 06 11.3	
comp=Z,12nm,1.0s							
LSA	**Lhasa**	**27.22**	**351**	P	**P**	**15 05 52.5**	**+0.1**
LSA				S	**S**	**15 10 27.3**	**+0.8**
LSA				XS		15 10 50.6	
LSA				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.3							
LSA				AMB	AMB		
comp=Z,240nm,9.3s							
LSA				LR	LR		
comp=N,730nm,22.7s,MS4.4							
LSA				LR	LR		
comp=E,960nm,23.0s,MS4.4							
LSA				LR	LR		
comp=Z,1μm,22.7s,MS4.4							
LSA	**Lhasa**	**27.22**	**351**	*e*P	**P**	**15 05 52.8**	**+0.4**
comp=Z,48nm,0.9s,mb5.0							
GKN	**Gorkha**	**27.38**	**338**	*e*P	**P**	**15 05 53.6**	**-0.2**
comp=Z,147nm,0.9s,mb5.5							
KOLN	**Koldanda**	**27.57**	**336**	*e*P	**P**	**15 05 55.6**	**0.0**
comp=Z,89nm,0.6s,mb5.6							
ENH	**Enshi**	**30.25**	**24**	*e*P	**P**	**15 06 18.2**	**-1.3**
comp=Z,20nm,0.9s,mb4.8							
QZH	**Quanzhou**	**31.04**	**43**	P	**P**	**15 06 24.2**	**-2.3**
QZH				LR	LR		
comp=N,3μm,13.0s,MS5.2							
QZH				LR	LR		
comp=E,3μm,12.5s,MS5.2							
QZH				LR	LR		
comp=Z,5μm,11.9s,MS5.4							
WHN	**Wuhan**	**32.68**	**30**	*e*P	**P**	**15 06 41.0**	**+0.2**
WHN				LR	LR		
comp=N,870nm,12.2s,MS5.2							
WHN				LR	LR		
comp=E,3μm,13.4s,MS5.2							
WHN				LR	LR		
comp=Z,4μm,13.3s,MS5.2							
XAN	**Xi'an**	**33.42**	**20**	P	**P**	**15 06 45.8**	**-1.4**
XAN				S	**S**	**15 12 04.5**	**+0.1**
XAN				AMB	AMB		
comp=Z,38nm,1.5s,mb5.1							
XAN				LR	LR		
comp=N,293nm,10.9s,MS4.9							
XAN				LR	LR		
comp=E,1μm,15.1s,MS4.9							
XAN				LR	LR		
comp=Z,1μm,19.9s,MS4.6							
LZH	**Lanzhou**	**33.99**	**11**	⇑P	**P**	**15 06 51.8**	**-0.3**
LZH				AP	pP	15 07 02.5	-1.3
LZH				AMB	AMB		
comp=Z,97nm,1.5s,mb5.5							
LZH				AMB	AMB		
comp=Z,463nm,6.2s							
LZH				LR	LR		
comp=N,2μm,13.2s							
LZH				LR	LR		
comp=Z,3μm,17.1s,MS5.1							
DLH	**Dalhousie**	**35.12**	**330**	*e*	**P**	**15 07 00.0**	**-1.7**
NJ2	**Nanjing**	**36.26**	**34**	*e*P	**P**	**15 07 12.1**	**+0.7**
NJ2				AP	pP	15 07 21.5	-1.7
NJ2				XP	sP	15 07 27.2	-1.5
NJ2				PP	PP	15 08 32.0	-3.1
NJ2				PPP	PPP	15 08 51.2	-4.1
NJ2				S	**S**	**15 12 42.0**	**-6.2**
NJ2				AMB	AMB		
comp=Z,90nm,1.2s,mb5.6							
NJ2				AMB	AMB		
comp=Z,470nm,7.6s							
NJ2				LR	LR		
comp=N,2μm,14.4s,MS5.3							
NJ2				LR	LR		
comp=E,3μm,17.7s,MS5.3							
NJ2				LR	LR		
comp=Z,3μm,15.0s,MS5.2							
BJT	**Baijiatuan**	**41.40**	**24**	*e*P	**P**	**15 07 55.7**	**+1.6**
comp=Z,112nm,0.9s,mb5.5							
WMQ	**Urumqi**	**41.58**	**351**	*e*P	**P**	**15 07 56.8**	**+1.2**
KZA	**Kyzart**	**43.37**	**337**	P	**P**	**15 08 12.4**	**+2.2**
SNR=14							
UCH	**Uchtor**	**43.78**	**337**	P	**P**	**15 08 14.8**	**+1.2**
SNR=15							
WRAB	**Tennant Creek**	**43.88**	**123**⇓	*e*P	**P**	**15 08 15.6**	**+0.9**
WRAB	**Tennant Creek**	**43.88**	**123**	*e*P	**P**	**15 08 12.1**	**-2.6**
comp=Z,15nm,0.9s,mb4.7							
WB2	**Warramunga Arr**	**43.89**	**123**	*e*P	**P**	**15 08 14.5**	**-0.2**
TKM2	**Tokmak 2**	**43.96**	**338**	P	**P**	**15 08 18.0**	**+2.9**
SNR=13							
KBK	**Karagaybulak**	**43.98**	**338**	P	**P**	**15 08 16.5**	**+1.3**
SNR=19							
AML	**Almayashu**	**44.02**	**336**	P	**P**	**15 08 16.7**	**+1.1**
SNR=14							
AAK	**Ala-Archa**	**44.13**	**337**	P	**P**	**15 08 18.2**	**+1.8**
SNR=9.8							
AAK	**Ala-Archa**	**44.13**	**337**⇓	*e*P	**P**	**15 08 17.1**	**+0.7**
AAK				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.4							
AAK				MLR	MLR		
comp=Z,1μm,27.0s,MS4.6							
AAK	**Ala-Archa**	**44.13**	**337**	*e*P	**P**	**15 08 16.8**	**+0.4**
comp=Z,4.0nm,0.5s,mb4.4							
FRU	**Bishkek**	**44.25**	**337**	*e*P	**P**	**15 08 19.0**	**+1.6**
FRU				*e*		15 08 27.0	
FRU				pmax	pmax		
comp=Z,60nm,2.0s,mb5.0							
CHMS	**Chumysh**	**44.34**	**338**	P	**P**	**15 08 19.4**	**+1.2**
SNR=6.2							
EKS2	**Erkin-Say**	**44.44**	**337**	P	**P**	**15 08 19.9**	**+1.1**
SNR=20							
USP	**Ospenovka**	**44.67**	**338**	P	**P**	**15 08 21.2**	**+0.5**
SNR=32							
MKAR	**Makanchi Array**	**45.49**	**347**	*i* P	**P**	**15 08 26.8**	**-0.4**
MKAR				pmax	pmax		
comp=Z,11nm,0.4s							
ULN	**Ulaanbaatar**	**45.98**	**10**⇑	*e*P	**P**	**15 08 29.3**	**-1.8**
ULN	**Ulaanbaatar**	**45.98**	**10**	*e*P	**P**	**15 08 29.1**	**-2.0**
comp=Z,10nm,0.6s,mb4.9							
SNY	**Shenyang**	**46.14**	**29**	⇓P	**P**	**15 08 32.9**	**+0.4**
SNY				AMB	AMB		
comp=Z,20nm,1.2s,mb4.9							
SNY				LR	LR		
comp=N,970nm,13.5s							
SNY				LR	LR		
comp=Z,1μm,14.9s,MS5.0							
ZAK	**Zakamensk**	**47.89**	**6**	*e*P	**P**	**15 08 45.4**	**-0.7**
MOY	**Mondy**	**48.96**	**4**	*e*P	**P**	**15 08 54.9**	**+0.6**
HIA	**Hailar**	**50.62**	**20**	*e*P	**P**	**15 09 06.9**	**-0.2**
comp=Z,26nm,1.0s,mb5.1							
ZAL	**Zalesovo**	**51.87**	**352**	*i* P	**P**	**15 09 15.9**	**-0.5**
ZAL				pmax	pmax		
comp=Z,12nm,0.7s							
CTA	**Charters Tower**	**54.27**	**117**	*e*P	**P**	**15 09 34.8**	**0.0**
comp=Z,7.2nm,0.9s,mb4.6							
CTAO	**Charters Tower**	**54.27**	**117**	*e*P	**P**	**15 09 32.5**	**-2.3**
comp=Z,22nm,1.3s,mb4.9							
STKA	**Stephens Creek**	**55.28**	**132**	*e*P	**P**	**15 09 41.6**	**-0.3**
comp=Z,4.5nm,0.7s,mb4.6							
KLR	**Kul'dur**	**55.47**	**28**	*e*P	**P**	**15 09 40.0**	**-3.0**
KLR				pmax	pmax		
comp=E,46nm,1.8s							
KLR				pmax	pmax		
comp=Z,67nm,1.8s,mb5.4							
BOD	**Bodaibo**	**56.76**	**11**	*e*P	**P**	**15 09 51.2**	**-1.0**
CLNS	**Chul'man**	**58.67**	**18**	*e*P	**P**	**15 10 06.0**	**+0.4**
CLNS				*e*S	**S**	**15 18 01.3**	**-3.9**
CLNS				*e*		15 19 43.1	
CLNS				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.7							
CLNS				pmax	pmax		
comp=N,5.0nm,0.9s							
CLNS				pmax	pmax		
comp=N,2.0nm,0.7s							
CLNS				smax			
comp=N,106nm,13.7s							
CLNS				MLR	MLR		
comp=N,2μm,14.0s,MS5.3							
CLNS				MLR	MLR		
comp=Z,2μm,14.0s,MS5.5							
CLNS				MLR	MLR		
comp=E,300nm,12.0s,MS5.3							
KMBO	**Kilima Mbogo**	**58.83**	**267**	*i* P	pP	15 10 18.1	-1.6
KMBO				pmax	pmax		
comp=Z,1.0nm,0.6s							
KMBO	**Kilima Mbogo**	**58.83**	**267**	P	**P**	**15 10 05.2**	**-2.1**
comp=Z,5.0nm,1.0s,mb4.5							
GNI	**Garni**	**59.36**	**316**	*i* P	**P**	**15 10 18.2**	**+7.6**
GNI				pmax	pmax		
comp=Z,24nm,1.4s							
GNI				MLR	MLR		
comp=Z,200nm,20.0s							
YSS	**Yuzh-Sakhalins**	**59.81**	**35**	P	**P**	**15 10 13.2**	**-0.4**
YSS				MLR	MLR		
comp=Z,600nm,17.0s,MS4.8							
YSS				MLR	MLR		

	comp=E,400nm,18.0s						
SVE	**Sverdlovsk**	**60.84**	**339**	*e*P	**P**	**15 10 19.0**	**-1.5**
ARU	**Arti**	**61.32**	**337**	⇑*i*P	**P**	**15 10 21.6**	**-2.1**
ARU				*e*		15 11 03.1	
ARU				*e*S	**S**	**15 18 35.2**	**-4.1**
ARU				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.1						
KIV	**Kislovodsk**	**62.37**	**319**	⇑*e*P	**P**	**15 10 37.6**	**+6.7**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.8						
KIV				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.3						
GOF	**Gofitskoye**	**62.62**	**320**	*e*P	sP	15 10 49.5	-0.6
MALT	**Malatya**	**63.21**	**312**	*e*P	**P**	**15 10 33.8**	**-2.8**
	comp=Z,4.0nm,0.9s,mb4.5						
MALT				*e*pP	pP	15 10 44.5	-4.7
SOC	**Sochi**	**64.18**	**318**	*e*P	**P**	**15 10 45.9**	**+3.0**
SOC				*e*		15 11 24.6	
SOC				*e*		15 12 59.9	
SOC				*e*PPP	PPP	15 14 40.7	+2.1
SOC				*e*S	**S**	**15 19 21.1**	**+5.7**
SOC				*e*		15 20 29.2	
SOC				*e*SS	SS	15 23 32.0	+5.4
SOC				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.0						
SOC				pmax	pmax		
	comp=N,24nm,1.3s						
SOC				pmax	pmax		
	comp=E,28nm,1.1s						
SOKR	**Solikamsk**	**64.23**	**339**	⇓*i*P	**P**	**15 10 43.5**	**+0.5**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
SOKR				MLR	MLR		
	comp=Z,410nm,20.0s,MS4.6						
YAK	**Yakutsk**	**64.32**	**17**	*e*P	**P**	**15 10 42.2**	**-1.3**
YAK				*e**PP	pP	15 10 53.8	-2.3
YAK				*e*S	**S**	**15 19 18.7**	**+1.9**
YAK				*e**SS		15 19 32.5	
YAK				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
YAK				pmax	pmax		
	comp=N,17nm,1.2s						
YAK				pmax	pmax		
	comp=E,11nm,1.2s						
YAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
YAK				smax			
	comp=N,4.0nm,1.2s						
YAK				MLR	MLR		
	comp=N,697nm,15.0s,MS5.1						
YAK				MLR	MLR		
	comp=Z,1μm,15.0s,MS5.2						
YAK				MLR	MLR		
	comp=E,589nm,16.0s,MS5.1						
YAK	**Yakutsk**	**64.32**	**17**	*e*P	**P**	**15 10 40.9**	**-2.6**
	comp=E,52nm,0.9s,mb5.6						
ANN	**Anapa**	**66.16**	**318**	*e*P	**P**	**15 11 00.2**	**+4.6**
ANN				*e*		15 11 08.1	
ANN				*e*		15 11 29.4	
ANN				*e*S	S	15 19 44.0	+4.5
ANN				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.3						
MOS	**Moscow**	**70.41**	**329**	*e*P	**P**	**15 11 29.3**	**+7.5**
MOS				pmax	pmax		
	comp=Z,54nm,1.1s,mb5.4						
MA2	**Magadan**	**70.51**	**26**	*e*P	**P**	**15 11 21.9**	**-0.4**
MA2				*e*		15 14 02.8	
MA2				*e*S	S	15 20 26.7	-4.4
MA2				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8						
MA2				MLR	MLR		
	comp=Z,1μm,24.0s,MS5.0						
OBN	**Obninsk**	**70.69**	**328**	⇓*e*P	**P**	**15 11 26.4**	**+2.9**
OBN				*e*		15 14 05.2	
OBN				pmax	pmax		
	comp=Z,44nm,2.5s,mb5.0						
OBN				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.7						
PET	**Petropavlovsk**	**71.67**	**34**	*e*P	**P**	**15 11 26.6**	**-2.8**
PET				*e*S	S	15 20 34.5	-10
PET				pmax	pmax		
	comp=Z,300nm,18.6s						
PET				MLR	MLR		
	comp=Z,500nm,20.0s,MS4.8						
TIXI	**Tiksi**	**71.92**	**10**	*e*P	**P**	**15 11 29.2**	**-1.4**
TIXI				*e*S	S	15 20 41.7	-5.5
TIXI				pmax	pmax		
	comp=Z,33nm,1.7s,mb5.0						
TIXI				MLR	MLR		
	comp=Z,750nm,13.0s,MS5.1						
SEY	**Seymchan**	**72.86**	**24**	*e*P	**P**	**15 11 37.0**	**+0.7**
SEY				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.2						
JOF	**Joensuu**	**76.26**	**335**	*e*p	**P**	**15 11 55.2**	**-0.7**
FINES	**FINESS Array B**	**78.09**	**333**	*i*P	**P**	**15 12 04.4**	**-1.8**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KAF	**Kangasniemi**	**78.18**	**333**	*e*p	**P**	**15 12 06.3**	**-0.3**
	comp=Z,8.6nm,1.0s,mb4.6						
KAF	**Kangasniemi**	**78.18**	**333**	*e*P	**P**	**15 12 06.3**	**-0.3**
KAF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
BILL	**Bilibino**	**80.19**	**21**	*e*P	**P**	**15 12 17.0**	**-0.4**
BILL				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.6						
BILL	**Bilibino**	**80.19**	**21**	*e*P	**P**	**15 12 17.1**	**-0.4**
	comp=Z,2.2nm,0.5s,mb4.3						
KEV	**Kevo**	**80.27**	**341**	*e*p	**P**	**15 12 13.5**	**-4.4**
KHC	**Kasperske Hory**	**82.97**	**319**	*e*P	**P**	**15 12 34.0**	**+1.7**
KHC				*e*		15 12 59.0	
KHC	**Kasperske Hory**	**82.97**	**319**	*e*P	**P**	**15 12 34.0**	**+1.7**
KHC				x	x	15 12 59.0	
CLL	**Collm**	**83.49**	**321**	*e**PP	pP	15 12 45.0	-2.8
LPG	**La Plagne**	**87.53**	**315**	*e*P	**P**	**15 12 56.9**	**+1.9**
	comp=Z,14nm,0.8s,mb4.9						

*PRU **03** 15:47:02.9, 50.17N×19.10E*
WAR 03 15:47:01.0, 50.16N×19.32E, h0km, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.32**	**79**	*e*PG	Pg	15 47 07.0	-0.3
OJC				*i* SG	Sg	15 47 11.3	-0.2
OKC	**Ostrava-Krasne**	**0.82**	**247**	*e*PG	Pg	15 47 16.2	-1.2
NIE	**Niedzica**	**0.99**	**139**	*e*PG	Pg	15 47 20.0	-0.7
NIE				*e*SG	Sg	15 47 34.0	+0.2
LIKS	**Likavka**	**1.12**	**187**	*e*SN	Sn	15 47 38.1	-2.0
VYHS	**Vyhne**	**1.70**	**191**	*e*PN	Pn	15 47 30.0	-2.0
VYHS				*e*SN	Sn	15 47 52.8	-2.0
CRVS	**Cervenica-Dubn**	**1.88**	**131**	*e*PN	Pn	15 47 34.1	-0.6
CRVS				*e*PG	Pg	15 47 36.9	-1.7
CRVS				*e*SN	Sn	15 47 59.6	+0.2
CRVS				*e*SG	Sg	15 48 02.6	-1.1
DPC	**Dobruska-Polom**	**1.93**	**277**	*e*PG	Pg	15 47 32.9	-6.6
DPC				*e*SG	Sg	15 48 00.5	-4.8
KSP	**Ksiaz**	**2.05**	**291**	*e*PG	Pg	15 47 40.0	-1.9
KSP				*e*SN	Sn	15 48 05.0	+1.4
UPC	**Upice**	**2.15**	**281**	*e*SG	Sg	15 48 06.1	-6.3
KOLS	**Kolonicke sedl**	**2.29**	**121**	*e*PN	Pn	15 47 39.3	-1.1
KOLS				*e*PG	Pg	15 47 44.2	-2.4
KOLS				*e*SN	Sn	15 48 07.8	-1.9
PRU	**Pruhonice**	**3.08**	**269**	*e*SG	Sg	15 48 35.4	-8.1
KHC	**Kasperske Hory**	**3.87**	**257**	*e*PG	Pg	15 48 14.5	-3.7
KHC				*e*x	x	15 48 49.0	
KHC				*e*SG	Sg	15 49 02.8	-7.0
CLL	**Collm**	**4.17**	**288**	*e*SG	Sg	15 49 13.0	-6.8

MEX 03 16:14:05.4±0.7, 16.10N×98.85W, h4km±17km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.75**	**67**	*i* P	Pg	16 14 18.6	-1.8
PNIG				*i* S	Sg	16 14 28.9	-1.5
ACX	**Acapulco**	**1.28**	**307**	*i* P	Pb	16 14 26.0	-3.6
ACX				*i* S	Sb	16 14 43.0	-3.2
VHO	**Vista Hermosa**	**2.25**	**64**	*e*P	Pn	16 14 39.8	-4.1
VHO				*i* S	Sn	16 15 08.7	-3.6
OXX	**Oaxaca**	**2.26**	**64**	*i* P	Pn	16 14 41.0	-3.0
OXX				*i* S	Sn	16 15 10.5	-2.1
PLIG	**Platanillo**	**2.36**	**345**	*e*P	Pn	16 14 43.0	-2.5
PLIG				*i* S	Sn	16 15 11.2	-4.0
PPM	**Popocatepetl**	**2.96**	**4**	*e*P	Pn	16 14 50.1	-3.9
PPM				*i* S	Sn	16 15 24.9	-5.4
POHV	**Veracruz**	**3.31**	**27**	*e*P	Pn	16 15 01.5	+2.5

DJA 03 16:20:01.7±0.7, 4.36S×120.34E, h33km, MD4.4/3, ML4.1/1, 5C-2D, Error ellipse: s-maj=19.9km s-min=9.4km az=131.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NINI	**Niniconang**	**0.58**	**264**	⇑*i*Pn	Pn	16 20 12.8	-0.8
	672nm,0.2s						
BUNI	**Buntu Taipa**	**0.70**	**359**	⇓*e*Pn	Pn	16 20 14.7	-0.5
	1μm,0.2s						
BUNI	**Buntu Taipa**	**0.70**	**359**	⇑*i*P	P	16 20 14.9	-0.1
BUNI				⇓*i*Sn	Sn	16 20 23.2	-1.7
TANI	**Tanete Lipujan**	**1.32**	**314**	⇑*e*Pn	Pn	16 20 23.1	-1.1
	199nm,0.2s						
TANI	**Tanete Lipujan**	**1.32**	**314**	⇑*i*P	P	16 20 23.4	-0.6
TANI				⇓*i*Sn	Sn	16 20 38.2	-2.6

*ISK **03** 16:55:27.4, 34.88N×26.89E, h133km, MD3.6*
*CSEM **03** 16:55:28.7±0.1, 35.07N×27.12E, h2km, MD3.6, Error ellipse: s-maj=3.1km s-min=1.7km az=112.0*
*ATH **03** 16:55:29.9, 35.13N×27.12E, h21km±2km, MD3.6/8*
*NEIC **03** 16:55:29.9, 35.13N×27.12E, h21km, MD3.6(ATH), After ATH.*
*HLW **03** 16:55:32.0, 35.12N×27.67E, h25km, Mb3.1*
ISC 03 16:55:29.6±0.5, 35.11N±0.04×27.12E±0.06, h10km, n25, σ1§04/28, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.43**	**5**	*e*PB	**Pb**	**16 55 38.1**	**-0.8**
KARP				*e*SB	**Sb**	**16 55 44.6**	**-0.6**
XRY	**Khrisi**	**1.19**	**259**	*e*PN	**Pn**	**16 55 52.0**	**-0.4**
NPS	**Neapolis**	**1.24**	**277**	*e*PN	**Pn**	**16 55 53.5**	**+0.4**
ARG	**Arkhangelos**	**1.37**	**36**	*e*PN	**Pn**	**16 55 56.6**	**+1.7**
SANT	**Santorini**	**1.84**	**313**	*e*Pn	**Pn**	**16 56 00.8**	**-0.8**
SANT	**Santorini**	**1.84**	**313**	*e*Pn	**Pn**	**16 56 00.8**	**-0.8**
BDRM	**Kayabasi**	**1.96**	**8**	*i* P	**Pn**	**16 56 01.7**	**-1.7**
DALT	**Dalyan (Mudla)**	**2.06**	**36**	PN	**Pn**	**16 56 06.1**	**+1.3**
DALT				SN	**Sn**	**16 56 35.7**	**+4.9**
FETY	**Fethiye**	**2.20**	**46**	PN	**Pn**	**16 56 08.3**	**+1.5**
MLSB	**Milas**	**2.24**	**14**	PN	**Pn**	**16 56 07.9**	**+0.5**
KSL	**Kastellorizon**	**2.26**	**62**	*e*PB	**Pb**	**16 56 08.5**	**-1.6**
APE	**Apeiranthos**	**2.34**	**327**	PN	**Pn**	**16 56 08.3**	**-0.4**
APE	**Apeiranthos**	**2.34**	**327**	*e*Pn	**Pn**	**16 56 08.7**	**0.0**
SMG	**Samos**	**2.60**	**355**	*e*PN	**Pn**	**16 56 13.0**	**+0.5**
AYDN	**Tasoluk**	**2.62**	**13**	*i* P	**Pn**	**16 56 05.0**	**-7.7**
ELL	**Elmali**	**2.79**	**53**	*e*PN	**Pn**	**16 56 16.3**	**+1.1**
DNZL	**Cakiroluk**	**3.00**	**31**	*i* P	**Pn**	**16 56 14.1**	**-4.2**
KYTH	**Kithira**	**3.52**	**290**	*e*PN	**Pn**	**16 56 27.0**	**+1.4**
VLI	**Veliai**	**3.75**	**296**	*e*PN	**Pn**	**16 56 28.8**	**-0.1**
SLUM		**3.95**	**204**	P	**Pn**	**16 56 33.4**	**+1.8**
SLUM				S	**Sn**	**16 57 17.8**	**-0.8**
KONT	**Konya--Tatoy**	**5.08**	**55**	*e*PN	**Pn**	**16 56 47.2**	**-0.5**
KIZT	**Kizilcal**	**5.35**	**44**	*e*PN	**Pn**	**16 56 50.5**	**-1.1**
SWA1		**5.95**	**192**	P	**Pn**	**16 56 59.6**	**-0.5**
SWA2		**6.02**	**194**	P	**Pn**	**16 57 00.3**	**-0.7**
ASUT		**8.58**	**152**	P	**P**	**16 57 32.0**	**-4.8**

*CSEM **03** 17:00:06.1, 49.14N×155.56E, h10km, mb5.5*
*SKHL **03** 17:00:06.2±1.4, 48.99N×156.68E, h64km±33km, mb5.3/2, Ms4.9/8, msh6.1/1*
*BJI **03** 17:00:07.5, 49.33N×156.31E, h46km, mB5.1, mb5.3, Ms4.9, Msz4.6*
*KRSC **03** 17:00:07.7±1.8, 48.97N×156.57E, h44km±11km, ML5.6*
*MOS **03** 17:00:09.5±1.0, 49.12N×156.22E, h39km, mb5.4/78, MS4.6/18, Error ellipse: s-maj=8.7km s-min=4.1km az=95.2*
*HRVD **03** 17:00:10.9±0.5, 48.95N×156.61E, h28km±1km, MW5.0/45, Centroid moment Tensor Solution. LP body waves: s29,c38;Mantle waves: s45,c67; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.89±.20; $M_{\theta\theta}$-1.06±.14; $M_{\phi\phi}$-1.83±.13; $M_{r\theta}$1.64±.25; $M_{\theta\phi}$-1.37±.08; $M_{\phi r}$1.49±.16; Best double couple: $M_0$3.633×10^{16} NP1:φs211°, δ27°, λ79°. NP2:φs44°, δ64°, λ96°. Principal axes: T 3.662, Plg71°, Azm325°; N -.058, Plg5°, Azm221°; P -3.604, Plg19°, Azm129°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 17:00:10.9±0.2, 49.05N×156.18E, mb5.1/114 Error ellipse: s-maj=5.5km s-min=3.5km az=167.0*
ISC 03 17:00:09.7±0.2, 49.14N±0.02×156.15E±0.03, h42km, h42km±.7km: pP-P, n487, σ1§10/526, mb5.2/139, MS4.7/14, 57C-19D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.54**	**359**	*i* P	**P**	**17 00 34.0**	**-1.2**
SKR				*i* P		17 00 34.0	
SKR				AMB	AMB	17 00 34.4	
	2μm,2.0s						
SKR				AMB	AMB	17 00 34.4	
	4μm,2.0s						
SKR				AMB	AMB	17 00 34.4	
	4μm,2.0s						
SKR				AMB	AMB	17 00 34.4	
	2μm,2.0s						
SKR				AMB	AMB	17 00 34.4	
	5μm,2.0s						
SKR				AMB	AMB	17 00 34.4	
	180nm,0.5s						
SKR				AMB	AMB	17 00 34.4	
	150nm,0.5s						
SKR				AMB	AMB	17 00 34.4	
	420nm,0.5s						
SKR				*i* S	**S**	**17 00 55.7**	**+1.4**
SKR				A		17 01 06.0	
	34μm,3.0s						
SKR				A		17 01 06.0	
	20μm,3.0s						
SKR				A		17 01 06.0	
	34μm,3.0s						
SKR				A		17 01 06.0	
	20μm,3.0s						
SKR				AMS	AMS	17 01 21.0	
	30μm,14.0s						
SKR				AMS	AMS	17 01 21.0	
	31μm,14.0s						
SKR				AMS	AMS	17 01 21.0	
	30μm,14.0s						
SKR				AMS	AMS	17 01 21.0	
	33μm,14.0s						
SKR	**Severo-Kuril's**	**1.54**	**359**	*i* P	**P**	**17 00 34.0**	**-1.2**
SKR				*i* S	**S**	**17 00 55.7**	**+1.4**
ALID	**Alaid**	**1.77**	**348**	*i* P	**P**	**17 00 41.1**	**+2.6**
ALID				*e*S	**S**	**17 01 04.8**	**+4.8**
PAU	**Pauzhetka**	**2.37**	**10**	⇓*i*P	**P**	**17 00 47.2**	**+0.2**
PAU				⇓*i*S	**S**	**17 01 18.3**	**+3.3**
PAU	**Pauzhetka**	**2.37**	**10**	*i* P	**P**	**17 00 47.4**	**+0.5**
PAU				*e*S	**S**	**17 01 15.4**	**+0.4**
PAU				Smax			
	10μm,0.7s						
MIPR	**Malaya Ipel'ka**	**3.16**	**7**	*e*P	**P**	**17 00 59.3**	**+1.0**
RUS	**Russkaya**	**3.62**	**24**	P	**P**	**17 01 03.2**	**-1.6**
RUS				S	**S**	**17 01 43.0**	**-3.8**
RUS	**Russkaya**	**3.62**	**24**	*i* P	**P**	**17 01 03.4**	**-1.4**
RUS				*i* S	**S**	**17 01 44.1**	**-2.7**
GRL	**Gorelyy**	**3.63**	**19**	*i* P	**P**	**17 01 04.7**	**-0.1**
GRL				*e*S	**S**	**17 01 46.1**	**-0.8**
APC	**Apacha**	**3.84**	**9**	*e*P	**P**	**17 01 09.0**	**+1.1**
APC				*e*S	**S**	**17 01 52.5**	**+0.1**
APC				Smax			
	800nm,0.8s						
KRMR	**Karymshinskiy**	**3.90**	**18**	*e*P	**P**	**17 01 09.0**	**+0.3**
KRMR				*e*S	**S**	**17 01 53.3**	**-0.5**
PET	**Petropavlovsk**	**4.20**	**21**	P	**P**	**17 01 12.2**	**-0.7**
PET				S	**S**	**17 01 58.4**	**-2.9**
PET	**Petropavlovsk**	**4.20**	**21**	*e*Pn	**P**	**17 01 11.4**	**-1.5**
PET				*e*Sn	**S**	**17 01 58.8**	**-2.5**
PET	**Petropavlovsk**	**4.20**	**21**	⇑*i*P	**P**	**17 01 12.1**	**-0.8**
PET				AMB	AMB	17 01 12.6	
	200nm,4.0s						
PET				AMB	AMB	17 01 14.1	
	500nm,4.0s						
PET				AMB	AMB	17 01 18.7	
	530nm,0.6s						
PET				*e*S	**S**	**17 02 00.3**	**-1.0**
PET				A		17 02 13.1	
	4μm,0.7s						
PET				A		17 02 13.6	
	4μm,0.6s						
PET				AMS	AMS	17 03 09.5	
	3μm,15.0s						
PET				AMS	AMS	17 03 13.4	
	4μm,14.0s						
PET	**Petropavlovsk**	**4.20**	**21**	*i* P	**P**	**17 01 12.0**	**-0.9**
PET				*e*S	**S**	**17 01 58.4**	**-2.9**
UGLR	**Uglovaya**	**4.41**	**21**	*e*P	**P**	**17 01 15.7**	**-0.2**
AVH	**Avacha**	**4.44**	**20**	*i* P	**P**	**17 01 16.6**	**+0.3**
AVH				*i* S	**S**	**17 02 05.4**	**-2.0**
KOK	**Koryaka**	**4.44**	**20**	*i* P	**P**	**17 01 16.7**	**+0.3**
SMAR	**Somma**	**4.45**	**21**	*e*P	**P**	**17 01 16.3**	**-0.2**
SDLR	**Sedlovina**	**4.49**	**21**	*e*P	**P**	**17 01 16.1**	**-0.9**
SDLR				*e*S	**S**	**17 02 04.8**	**-3.8**
NLC	**Nalytchevo**	**4.51**	**25**	*e*P	**P**	**17 01 14.9**	**-2.4**
SPN	**Mys Shipunski**	**4.65**	**30**	P	**P**	**17 01 17.7**	**-1.7**
SPN				S	**S**	**17 02 08.4**	**-4.4**
SPN	**Mys Shipunski**	**4.65**	**30**	*e*P	**P**	**17 01 18.3**	**-1.1**
SPN				*e*S	**S**	**17 02 10.4**	**-2.4**
GNL	**Ganaly**	**4.70**	**13**	*i* P	**P**	**17 01 20.7**	**+0.7**
GNL				*e*S	**S**	**17 02 13.5**	**-0.4**
TUMR	**Tumrok**	**6.62**	**20**	*e*P	**P**	**17 01 46.5**	**-0.5**
TUMR				*e*S	**S**	**17 02 57.4**	**-4.7**
KUR	**Kuril'sk**	**6.87**	**238**	⇓*i*PN	**P**	**17 01 46.4**	**-4.0**
KUR				MLR	MLR		
	comp=N,11μm,16.0s						
KUR				MLR	MLR		
	comp=E,5μm,16.0s						
KUR				MLR	MLR		
	comp=Z,6μm,16.0s						
KUR	**Kuril'sk**	**6.87**	**238**	*i* P	**P**	**17 01 46.4**	**-4.0**
KUR				AMB	AMB	17 01 58.4	
	comp=Z,280nm,0.8s						
KUR				*i* S	**S**	**17 03 05.0**	**-3.1**
KUR				A		17 03 10.2	
	comp=Z,720nm,1.0s						
KUR				A		17 03 10.2	
	comp=Z,450nm,1.0s						
KUR				A		17 03 11.3	
	comp=Z,8μm,4.0s						
KUR				A		17 03 11.3	
	comp=Z,6μm,4.0s						
KUR				AMS	AMS	17 04 18.0	
	comp=Z,11μm,16.0s						
KUR				AMS	AMS	17 04 18.0	
	comp=Z,5μm,16.0s						
KUR				AMS	AMS	17 04 18.0	
	comp=Z,6μm,16.0s						
ESO	**Esso**	**6.97**	**12**	*i* P	**P**	**17 01 52.0**	**+0.1**
ESO				*e*S	**S**	**17 03 07.0**	**-3.7**
ESO				Smax			
	comp=Z,170nm,1.0s						
KMNR	**Kamenistaya**	**7.08**	**19**	*e*P	**P**	**17 01 52.5**	**-0.9**
KPT	**Kopyto**	**7.27**	**18**	*e*P	**P**	**17 01 53.7**	**-2.4**
KOZ	**Kozyrevsk**	**7.29**	**17**	P	**P**	**17 01 55.2**	**-1.1**
KOZ	**Kozyrevsk**	**7.29**	**17**	*e*P	**P**	**17 01 55.1**	**-1.2**
KOZR	**Kozyr**	**7.30**	**17**	PN	**P**	**17 01 55.2**	**-1.3**
ZLN	**Zelenaya**	**7.45**	**21**	*e*P	**P**	**17 01 57.9**	**-0.6**
ZLN				*e*S	**S**	**17 03 17.6**	**-4.9**
LGNR	**Loginova**	**7.48**	**20**	*e*P	**P**	**17 01 58.9**	**-0.1**
LGNR				*e*S	**S**	**17 03 18.4**	**-5.0**
SRDR	**Sredinnyy**	**7.51**	**15**	*e*P	**P**	**17 01 58.8**	**-0.5**
CIRR	**Tsirk**	**7.52**	**20**	*e*P	**P**	**17 01 58.3**	**-1.2**
KRSR	**Krestovskiy**	**7.58**	**19**	*e*P	**P**	**17 01 58.7**	**-1.6**
KLY	**Klyuchi**	**7.69**	**19**	P	**P**	**17 02 01.0**	**-0.8**
KLY	**Klyuchi**	**7.69**	**19**	*e*P	**P**	**17 02 00.7**	**-1.1**
SVLR	**Shiveluch**	**8.05**	**20**	*e*P	**P**	**17 02 06.1**	**-0.8**
KBTR	**Krutoberegovo**	**8.15**	**27**	P	**P**	**17 02 05.0**	**-3.3**
KBTR				S	**S**	**17 03 28.2**	**-12**
KBTR	**Krutoberegovo**	**8.15**	**27**	*e*P	**P**	**17 02 05.1**	**-3.2**
KBG	**Krutoberegovo**	**8.16**	**27**	*e*P	**P**	**17 02 04.0**	**-4.3**
KBG				*e*S	**S**	**17 03 34.5**	**-5.8**
KBG				Smax			
	comp=Z,2μm,1.0s						
BKI	**Bering**	**8.56**	**41**	*e*S	**S**	**17 03 34.3**	**-16**
YUK	**Yuzh-Kuril'sk**	**8.73**	**238**	⇑*i*PN	**P**	**17 02 12.0**	**-4.3**
YUK				pmax	pmax		
	comp=Z,3μm,1.0s						
YUK				pmax	pmax		
	comp=E,2μm,0.8s						
YUK				pmax	pmax		
	comp=Z,690nm,0.5s						
YUK				MLR	MLR		
	comp=Z,5μm,16.0s						
YUK				MLR	MLR		
	comp=N,4μm,20.0s						
YUK				MLR	MLR		
	comp=E,4μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**8.73**	**238**	*i* P	**P**	**17 02 12.0**	**-4.3**
YUK				AMB	AMB	17 02 16.0	
	comp=E,2μm,1.0s						
YUK				AMB	AMB	17 02 16.0	
	comp=E,3μm,1.0s						
YUK				AMB	AMB	17 02 16.7	
	comp=E,690nm,0.5s						
YUK				*i* S	**S**	**17 03 52.2**	**-2.3**
YUK				A		17 03 56.0	
	comp=E,210nm,0.6s						
YUK				A		17 03 56.0	
	comp=E,320nm,0.6s						
YUK				AMS	AMS	17 05 41.5	
	comp=E,4μm,20.0s						
YUK				AMS	AMS	17 05 41.5	
	comp=E,4μm,16.0s						
YUK				AMS	AMS	17 05 41.5	
	comp=E,5μm,16.0s						
TYV	**Tymovskoe**	**8.87**	**286**	*e*P	**P**	**17 02 17.0**	**-1.1**
TYV				AMB	AMB	17 02 19.0	
	comp=E,70nm,1.0s						
TYV				*e*S	**S**	**17 03 51.5**	**-6.3**
TYV				A		17 04 29.0	
	comp=E,50nm,1.0s						
TYV				AMS	AMS	17 06 27.0	
	comp=E,4μm,15.0s						
TYV				AMS	AMS	17 06 27.0	
	comp=E,5μm,15.0s						
TYV				AMS	AMS	17 06 27.0	
	comp=E,8μm,15.0s						
YSS	**Yuzh-Sakhalins**	**9.24**	**261**	α*i*PN	**P**	**17 02 24.2**	**+0.9**
YSS				*e*		17 04 13.8	
YSS				pmax	pmax		
	comp=Z,80nm,0.7s						
YSS				smax			
	comp=N,110nm,0.9s						
YSS				MLR	MLR		
	comp=E,1μm,16.0s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
	comp=N,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**9.24**	**261**	*e*Pn	**P**	**17 02 23.9**	**+0.6**
	comp=N,64nm,0.6s						
YSS	**Yuzh-Sakhalins**	**9.24**	**261**	*i* P	**P**	**17 02 24.2**	**+0.9**
YSS				AMB	AMB	17 02 25.0	
	comp=N,80nm,0.7s						
YSS				*e*S	**S**	**17 04 04.2**	**-2.9**
YSS				AMS	AMS	17 06 09.0	
	comp=N,1μm,15.0s						
YSS				AMS	AMS	17 06 09.0	
	comp=N,1μm,15.0s						
YSS				AMS	AMS	17 06 09.0	
	comp=N,2μm,15.0s						
UGL	**Uglegorsk**	**9.24**	**275**	*e*P	**P**	**17 02 23.5**	**+0.1**
UGL			

OKH				AMS	AMS	17 06 50.2	
	comp=N,3μm,15.0s						
NKL	**Nikolayevsk**	**10.52**	**298**	*i* P	**P**	**17 02 38.3**	**-2.4**
NKL				AMB	AMB	17 02 40.0	
	comp=N,500nm,2.0s						
NKL				AMS	AMS	17 07 45.0	
	comp=N,3μm,15.0s						
MA2	**Magadan**	**10.91**	**345**	*e*PN	**P**	**17 02 45.9**	**-0.2**
MA2				pmax	pmax		
	comp=Z,30nm,0.6s						
MA2				MLR	MLR		
	comp=Z,12μm,15.0s						
MA2	**Magadan**	**10.91**	**345**	*e*Pn	**P**	**17 02 45.3**	**-0.8**
	comp=Z,52nm,0.6s						
FX1	**Attu Island--F**	**11.35**	**64**	*e*Pn	**P**	**17 02 46.2**	**-5.8**
TEY	**Ternei**	**13.93**	**260**	*e*P	**P**	**17 03 25.0**	**-1.3**
TEY				AMB	AMB	17 03 27.0	
	comp=Z,340nm,1.8s						
TEY				AMS	AMS	17 09 10.0	
	comp=Z,2μm,14.0s						
SEY	**Seymchan**	**13.98**	**353**	*e*P	**P**	**17 03 25.6**	**-1.2**
SEY				*e*		17 06 10.2	
SEY				pmax	pmax		
	comp=Z,70nm,0.9s						
SEY				pmax	pmax		
	comp=N,50nm,1.1s						
SEY				pmax	pmax		
	comp=E,20nm,0.7s						
KAMR	**Kamenskoye**	**14.47**	**19**	*e*P	**P**	**17 03 31.6**	**-1.6**
KLR	**Kul'dur**	**15.94**	**280**	*e*P	**P**	**17 03 52.2**	**-0.1**
KLR				pmax	pmax		
	comp=N,42nm,1.8s						
KLR				pmax	pmax		
	comp=Z,100nm,1.8s						
KLR				MLR	MLR		
	comp=N,1μm,12.5s						
KLR				MLR	MLR		
	comp=Z,10μm,12.5s						
KLR	**Kul'dur**	**15.94**	**280**	*e*P	**P**	**17 03 52.2**	**-0.1**
KLR				*e*P		17 03 53.0	
KLR				AMB	AMB	17 03 56.0	
	comp=Z,40nm,1.8s						
KLR				AMB	AMB	17 03 56.0	
	comp=Z,100nm,1.8s						
YASR	**Yasnyy**	**18.07**	**294**	*e*P	**P**	**17 04 16.0**	**-3.0**
YASR				AMB	AMB	17 04 17.5	
	comp=Z,10.0nm,0.7s						
YASR				AMB	AMB	17 04 17.5	
	comp=Z,20nm,0.7s						
MAJO	**Matsushiro**	**18.15**	**233**	*e*P	**P**	**17 04 19.1**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,23nm,0.7s						
MAJO	**Matsushiro**	**18.15**	**233**	*e*P	**P**	**17 04 19.1**	**-1.1**
	comp=Z,23nm,0.7s						
MAT	**Matsushiro**	**18.15**	**233**	*e*P	**P**	**17 04 16.0**	**-4.2**
MAT				*e*S	**S**	**17 07 46.0**	**+7.9**
MAT				pmax	pmax		
	comp=Z,12nm,0.9s						
MAT	**Matsushiro**	**18.15**	**233**	*e*P	**P**	**17 04 16.0**	**-4.2**
	comp=Z,12nm,0.9s						
MAT				*e*S	**S**	**17 07 46.0**	**+7.9**
MAT	**Matsushiro**	**18.15**	**233**	P	**P**	**17 04 15.6**	**-4.6**
MAT				S	**S**	**17 07 46.2**	**+8.1**
ZEA	**Zeya**	**18.53**	**295**	*e*P	**P**	**17 04 20.5**	**-4.2**
ZEA				AMB	AMB	17 04 21.4	
	comp=Z,30nm,0.8s						
ZEA				AMS	AMS	17 12 45.0	
	comp=Z,1μm,16.0s						
ZEA				AMS	AMS	17 12 45.0	
	comp=Z,1μm,16.0s						
MDJ	**Mudanjiang**	**18.67**	**266**	P	**P**	**17 04 23.2**	**-3.2**
MDJ				AP		17 04 33.3	
MDJ				XP		17 04 38.6	
MDJ				S	**S**	**17 07 50.6**	**+0.9**
MDJ				XS		17 08 09.7	
MDJ				PCP	PcP	17 08 51.2	-2.4
MDJ				PCS		17 12 28.0	
MDJ				AMB	AMB		
	comp=Z,38nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,354nm,5.2s						
MDJ				LR	LR		
	comp=N,714nm,12.7s						
MDJ				LR	LR		
	comp=E,921nm,15.0s						
MDJ				LR	LR		
	comp=Z,979nm,16.6s						
MDJ	**Mudanjiang**	**18.67**	**266**	*e*P	**P**	**17 04 24.0**	**-2.4**
	comp=Z,41nm,0.8s						
YAK	**Yakutsk**	**19.57**	**321**	*c i*P	**P**	**17 04 34.4**	**-2.1**
YAK				pmax	pmax		
	comp=Z,152nm,0.6s						
YAK				MLR	MLR		
	comp=Z,2μm,22.0s						
YAK	**Yakutsk**	**19.57**	**321**	*e*P	**P**	**17 04 34.0**	**-2.5**
	comp=Z,192nm,0.7s						
BILL	**Bilibino**	**19.62**	**11**	⇑*e*P	**P**	**17 04 34.8**	**-2.2**
BILL				pmax	pmax		
	comp=Z,31nm,0.7s						
BILL				MLR	MLR		
	comp=Z,2μm,16.0s						
BILL	**Bilibino**	**19.62**	**11**	*e*P	**P**	**17 04 34.4**	**-2.6**
	comp=Z,26nm,0.6s						
CLNS	**Chul'man**	**20.19**	**304**	*e*P	**P**	**17 04 44.0**	**+0.8**
CLNS				*e*		17 04 54.1	
CLNS				*e*PPP	PPP	17 05 05.8	-7.1
CLNS				*e*S	**S**	**17 08 21.0**	**-1.5**
CLNS				*e*SS	SS	17 08 48.1	-4.5
CLNS				*e*		17 08 56.7	
CLNS				*e*SSS	SSS	17 09 01.5	-5.5
CLNS				pmax	pmax		
	comp=Z,47nm,0.9s						
CLNS				pmax	pmax		
	comp=N,23nm,0.7s						
CLNS				pmax	pmax		
	comp=E,41nm,1.1s						
CLNS				smax			
	comp=N,238nm,14.3s						
CLNS				smax			
	comp=Z,260nm,13.4s						
CLNS				smax			
	comp=E,53nm,13.3s						
CLNS				MLR	MLR		
	comp=Z,3μm,13.0s,MS4.8						
CLNS				MLR	MLR		
	comp=N,700nm,15.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,500nm,14.0s,MS4.2						
KS15	**Wonju Array Si**	**23.52**	**251**	*e*P	**P**	**17 05 17.3**	**+0.7**
HIA	**Hailar**	**23.65**	**284**	*e*P	**P**	**17 05 16.2**	**-1.4**
HIA				pmax	pmax		
	comp=Z,14nm,0.5s						
HIA	**Hailar**	**23.65**	**284**	*e*P	**P**	**17 05 16.2**	**-1.4**
	comp=Z,14nm,0.5s,mb4.7						
SNY	**Shenyang**	**23.84**	**265**	⇓P	**P**	**17 05 19.4**	**-0.2**
SNY				S	**S**	**17 09 30.5**	**+1.0**
SNY				AMB	AMB		
	comp=Z,40nm,0.9s,mb4.8						
SNY				AMB	AMB		
	comp=Z,340nm,4.4s						
SNY				LR	LR		
	comp=N,1μm,16.5s						
SNY				LR	LR		
	comp=Z,780nm,17.3s,MS4.2						
INCN	**Inchon**	**24.28**	**252**	*e*P	**P**	**17 05 23.3**	**-0.6**
ANM	**Nome**	**25.55**	**39**	*e*P	**P**	**17 05 37.0**	**+1.2**
TIXI	**Tiksi**	**25.82**	**341**	*e*P	**P**	**17 05 35.7**	**-2.5**
TIXI				pmax	pmax		
	comp=Z,82nm,0.8s,mb5.3						
TIXI				MLR	MLR		
	comp=Z,1μm,15.0s,MS4.6						
BOD	**Bodaibo**	**26.15**	**305**	*e*P	**P**	**17 05 38.9**	**-2.5**
BJT	**Baijiatuau**	**29.61**	**267**	*e*P	**P**	**17 06 11.3**	**-1.5**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.5s						
BJT	**Baijiatuau**	**29.61**	**267**	*e*P	**P**	**17 06 11.3**	**-1.5**
	comp=Z,8.8nm,0.5s,mb4.8						
IMA	**Indian Mountai**	**30.67**	**38**	*e*P	**P**	**17 06 21.5**	**-0.5**
IMA				*e*		17 09 19.0	
IMA				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.2						
IMA	**Indian Mountai**	**30.67**	**38**	*e*P	**P**	**17 06 21.8**	**-0.2**
	comp=Z,6.3nm,0.8s,mb4.5						
SSE	**Sheshan**	**31.87**	**249**	P	**P**	**17 06 30.2**	**-2.8**
SSE				AP	pP	17 06 42.8	-1.6
SSE				S	**S**	**17 11 39.7**	**+0.1**
SSE				XS		17 11 55.4	
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,128nm,5.3s						
SSE				LR	LR		
	comp=N,283nm,18.8s,MS4.0						
SSE				LR	LR		
	comp=E,110nm,18.8s,MS4.0						
SSE				LR	LR		
	comp=Z,324nm,19.3s,MS4.0						
ULN	**Ulaanbaatar**	**32.11**	**287**	⇑*e*P	**P**	**17 06 32.7**	**-2.1**
ULN	**Ulaanbaatar**	**32.11**	**287**	*e*P	**P**	**17 06 32.4**	**-2.4**
	comp=Z,2.4nm,0.5s,mb4.3						
MCK	**McKinley**	**32.51**	**43**	*e*P	**P**	**17 06 36.6**	**-1.6**
MCK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
MCK	**McKinley**	**32.51**	**43**	*e*P	**P**	**17 06 36.6**	**-1.6**
	comp=Z,6.5nm,0.9s,mb4.6						
NJ2	**Nanjing**	**32.66**	**252**	*e*P	**P**	**17 06 39.1**	**-0.7**
NJ2				AP	pP	17 06 48.3	-3.0
NJ2				XP	sP	17 06 54.1	-2.5
NJ2				PP	PP	17 07 48.1	-1.5
NJ2				S	**S**	**17 11 50.0**	**-1.9**
NJ2				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,430nm,5.0s						
NJ2				LR	LR		
	comp=N,3μm,19.2s,MS5.1						
NJ2				LR	LR		
	comp=E,3μm,22.0s,MS5.1						
NJ2				LR	LR		
	comp=Z,2μm,15.8s						
SML	**Sawmill**	**32.83**	**46**	*e*P	**P**	**17 06 39.6**	**-1.4**
COLA	**College**	**32.99**	**41**	*c i*P	**P**	**17 06 41.6**	**-0.8**
COLA	**College**	**32.99**	**41**	*e*P	**P**	**17 06 41.8**	**-0.6**
	comp=Z,34nm,1.0s,mb5.2						
ZAK	**Zakamensk**	**33.58**	**293**	⇓*i*P	**P**	**17 06 45.2**	**-2.4**
ZAK				*e*		17 09 25.8	
DIV	**Divide**	**34.12**	**47**	*e*P	**P**	**17 06 50.7**	**-1.4**
	comp=Z,24nm,0.6s,mb5.3						
MOY	**Mondy**	**34.55**	**296**	*e*P	**P**	**17 06 54.9**	**-1.0**
WHN	**Wuhan**	**36.52**	**255**	P	**P**	**17 07 11.2**	**-1.6**
XAN	**Xi'an**	**37.77**	**264**	P	**P**	**17 07 21.8**	**-1.5**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
ENH	**Enshi**	**39.81**	**259**	*e*P	**P**	**17 07 39.2**	**-1.1**
	comp=Z,26nm,0.8s,mb5.0						
LZH	**Lanzhou**	**39.87**	**271**	⇑P	**P**	**17 07 40.0**	**-0.7**
LZH				AP	pP	17 07 51.7	-0.7
LZH				XP	sP	17 07 56.8	-0.7
LZH				PP	PP	17 09 16.2	-0.3
LZH				*e*S	**S**	**17 13 40.0**	**-2.4**
LZH				XS		17 14 01.2	
LZH				SS	SS	17 16 31.3	-2.3
LZH				AMB	AMB		
	comp=Z,58nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,237nm,5.2s						
LZH				LR	LR		
	comp=N,957nm,13.2s						
LZH				LR	LR		
	comp=Z,1μm,16.9s,MS4.8						
NVS	**Novosibirsk**	**43.39**	**306**	*i* P	**P**	**17 08 07.2**	**-2.1**
NVS				*e*		17 09 58.8	
NVS				*e*S	**S**	**17 14 33.9**	**0.0**
NVS				pmax	pmax		
	comp=Z,33nm,1.7s,mb4.8						
NVS				pmax	pmax		
	comp=E,35nm,2.0s						
NVS				pmax	pmax		
	comp=N,21nm,1.8s						
NVS				smax			
	comp=E,26nm,2.4s						
WMQ	**Urumqi**	**45.98**	**291**	P	**P**	**17 08 29.6**	**-0.7**
WMQ				AP	pP	17 08 42.0	0.0
WMQ				XP	sP	17 08 47.3	+0.2
WMQ				PP	PP	17 10 17.9	-0.6
WMQ				S	**S**	**17 15 10.6**	**-0.9**
WMQ				XS		17 15 31.6	
WMQ				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,160nm,5.2s						
WMQ				LR	LR		
	comp=N,821nm,20.0s,MS4.8						
WMQ				LR	LR		
	comp=E,758nm,22.8s,MS4.8						
WMQ				LR	LR		
	comp=Z,800nm,19.2s,MS4.7						
MK02	**Makanchi Array**	**47.68**	**297**	P	**P**	**17 08 41.7**	**-1.8**
MK02				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
LSA	**Lhasa**	**52.18**	**273**	P	**P**	**17 09 18.8**	**+0.6**
LSA	**Lhasa**	**52.18**	**273**	*e*P	**P**	**17 09 18.9**	**+0.7**
LSA				pmax	pmax		
	comp=Z,24nm,0.7s,mb5.2						
LSA	**Lhasa**	**52.18**	**273**	*e*P	**P**	**17 09 18.9**	**+0.7**
	comp=Z,24nm,0.7s,mb5.2						
CHRT	**Chiangrai**	**53.34**	**258**	⇑P	**P**	**17 09 27.0**	**+0.1**
SVE	**Sverdlovsk**	**53.47**	**317**	*e*P	**P**	**17 09 27.0**	**-0.4**
SOKR	**Solikamsk**	**53.51**	**321**	⇓*i*P	**P**	**17 09 24.6**	**-3.1**
SOKR				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
SOKR				MLR	MLR		
	comp=Z,230nm,19.0s,MS4.2						
IMP	**Imphal**	**53.66**	**267**	*e*	**P**	**17 09 23.3**	**-6.0**
TKM2	**Tokmak 2**	**53.78**	**296**	P	**P**	**17 09 28.9**	**-1.0**
SNR=14							
KKTK	**Khon Kaen**	**54.03**	**252**	P	**P**	**17 09 31.0**	**-1.1**
	comp=Z,679nm,0.7s						
NEW	**Newport**	**54.12**	**55**	*e*P	**P**	**17 09 31.2**	**-1.1**
USP	**Ospenovka**	**54.22**	**297**	P	**P**	**17 09 31.7**	**-1.5**
SNR=27							
CHMS	**Chumysh**	**54.23**	**297**	P	**P**	**17 09 32.3**	**-0.9**
SNR=8.9							
DAG	**Danmarks Havn**	**54.32**	**359**	⇓*i*P	**P**	**17 09 32.2**	**-1.3**
DAG				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
DAG	**Danmarks Havn**	**54.32**	**359**	⇓*i*P	**P**	**17 09 32.2**	**-1.3**
	comp=Z,5.3nm,0.6s,mb4.7						
KBK	**Karagaybulak**	**54.32**	**296**	P	**P**	**17 09 32.6**	**-1.3**
SNR=8.9							
SHL	**Shillong**	**54.47**	**269**	*e*P	**P**	**17 09 35.0**	**-0.2**
KZA	**Kyzart**	**54.49**	**295**	P	**P**	**17 09 34.7**	**-0.5**
SNR=10.0							
AAK	**Ala-Archa**	**54.60**	**296**	P	**P**	**17 09 34.8**	**-1.2**
SNR=16							
AAK	**Ala-Archa**	**54.60**	**296**	*c i*P	**P**	**17 09 33.4**	**-2.6**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
AAK				MLR	MLR		
	comp=Z,1μm,15.0s,MS5.2						
AAK	**Ala-Archa**	**54.60**	**296**	*e*P	**P**	**17 09 33.1**	**-2.9**
	comp=Z,8.1nm,0.8s,mb4.8						
ARU	**Arti**	**54.63**	**318**	⇓*i*P	**P**	**17 09 33.0**	**-2.9**
ARU				*e*		17 10 36.5	
ARU				*e*		17 11 35.6	
ARU				*e*S	**S**	**17 17 10.4**	**-0.6**
ARU				*e*SS	SS	17 20 51.5	-2.2
ARU				*e*SSS	SSS	17 22 55.3	+1.5
ARU				pmax	pmax		
	comp=Z,65nm,0.8s,mb5.7						
CHG	**Chiang Mai**	**54.65**	**258**	⇑P	**P**	**17 09 36.3**	**-0.2**
	comp=Z,42nm,0.9s,mb5.5						
CM31	**Chiang Mai Arr**	**54.91**	**257**	*e*P	**P**	**17 09 38.1**	**-0.3**
	comp=Z,26nm,0.8s,mb5.3						
CMAR	**Chiang Mai Arr**	**54.91**	**257**	*i* P	**P**	**17 09 38.4**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,18nm,0.8s						
EKS2	**Erkin-Say**	**55.01**	**297**	P	**P**	**17 09 37.7**	**-1.2**
SNR=8.8							
AML	**Almayashu**	**55.38**	**296**	P	**P**	**17 09 41.4**	**-0.2**
SNR=5.8							
BMO	**Blue Mountains**	**56.06**	**59**	*e*P	**P**	**17 09 47.7**	**+1.2**
	comp=Z,5.2nm,1.0s,mb4.5						
MOD	**Modoc**	**56.16**	**63**	*e*P	**P**	**17 09 46.2**	**-1.0**
	comp=Z,12nm,1.1s,mb4.8						
MOD				*e*pP	pP	17 09 58.9	-0.3
NST	**Nakhon Sawan**	**56.22**	**254**	P	**P**	**17 09 46.4**	**-1.5**
MSO	**Missoula**	**56.70**	**55**	*e*P	**P**	**17 09 50.4**	**-0.6**
	comp=Z,7.4nm,1.1s,mb4.6						
WVOR	**Wild Horse Val**	**56.80**	**62**	*e*P	**P**	**17 09 51.7**	**-0.1**
WVOR				*e**PP	pP	17 10 03.1	-0.7
WVOR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
WVOR	**Wild Horse Val**	**56.80**	**62**	*e*P	**P**	**17 09 51.7**	**-0.1**
	comp=Z,10.0nm,1.1s,mb4.8						
WVOR				*e*pP	pP	17 10 03.1	-0.7
GUN	**Gumba**	**56.82**	**276**	*e*P	**P**	**17 09 51.2**	**-0.9**
	comp=Z,71nm,0.7s,mb5.8						
CHMT	**Chamberlain Mo**	**57.02**	**55**	*e*P	**P**	**17 09 52.3**	**-1.0**
KKN	**Kakani**	**57.29**	**276**	*e*P	**P**	**17 09 54.6**	**-0.9**
	comp=Z,83nm,0.7s,mb5.9						
PKI	**Pulchoki**	**57.35**	**276**	*e*P	**P**	**17 09 55.1**	**-0.8**
	comp=Z,32nm,0.7s,mb5.4						
DMN	**Daman**	**57.53**	**276**	*e*P	**P**	**17 09 56.8**	**-0.3**
	comp=Z,108nm,0.8s,mb6.0						
GKN	**Gorkha**	**57.57**	**276**	*e*P	**P**	**17 09 56.7**	**-0.7**
	comp=Z,57nm,0.5s,mb5.9						
HRY	**Holter Researc**	**57.91**	**54**	*e*P	**P**	**17 10 00.5**	**+0.9**
WCN	**Washoe City**	**58.12**	**65**	P	**P**	**17 10 01.8**	**+0.7**
WCN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
WCN	**Washoe City**	**58.12**	**65**	P	**P**	**17 10 01.8**	**+0.7**
	comp=Z,7.8nm,0.9s,mb4.7						
SUMG	**Summit**	**58.16**	**5**	*e*P	**P**	**17 10 00.7**	**-0.2**
	comp=Z,57nm,0.9s,mb5.6						
SUMG				*e*	pP	17 10 12.6	-0.4
KOLN	**Koldanda**	**58.40**	**277**	*e*P	**P**	**17 10 02.4**	**-0.8**
	comp=Z,53nm,0.9s,mb5.6						
MCMT	**McKenzie Canyo**	**58.55**	**57**	*e*P	**P**	**17 10 03.0**	**-1.0**
BOZ	**Bozeman (W)**	**58.69**	**55**	*e*P	**P**	**17 10 04.1**	**-0.9**
BOZ				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.9						
BOZ	**Bozeman (W)**	**58.69**	**55**	*e*P	**P**	**17 10 04.1**	**-0.9**
	comp=Z,18nm,1.3s,mb5.0						
BMN	**Battle Mountai**	**58.89**	**63**	P	**P**	**17 10 08.0**	**+1.6**
	comp=Z,2.9nm,0.8s,mb4.4						
BMN				*e*pP	pP	17 10 18.0	-0.5
QLMT	**Earthquake Lak**	**59.33**	**56**	*e*P	**P**	**17 10 09.3**	**-0.1**
YFT	**Old Faithful**	**59.90**	**56**	*e*P	**P**	**17 10 13.4**	**0.0**
YFT				*e*	pP	17 10 26.8	+1.3
YFT				*e*		17 10 32.8	
JOF	**Joensuu**	**60.08**	**334**	*e*p	**P**	**17 10 12.2**	**-2.2**
	comp=Z,22nm,0.8s,mb5.2						
JOF	**Joensuu**	**60.08**	**334**	*e*p	**P**	**17 10 12.2**	**-2.2**
	comp=Z,22nm,0.8s,mb5.2						
IMW	**Indian Meadow**	**60.20**	**56**	*e*P	**P**	**17 10 15.7**	**+0.3**
DDI	**Dehra Dun**	**60.27**	**283**	*e*P	**P**	**17 10 14.1**	**-2.0**
MOOW	**Moose Ponds**	**60.40**	**56**	*e*P	**P**	**17 10 16.2**	**-0.6**
TPH	**Tonopah**	**60.42**	**65**	P	**P**	**17 10 16.6**	**-0.4**
	comp=Z,6.1nm,0.8s,mb4.7						
TPH				*e*	pP	17 10 28.3	-0.9
TPAW	**Teton Pass**	**60.46**	**57**	*e*P	**P**	**17 10 17.4**	**+0.2**
LOHW	**Long Hollow**	**60.57**	**56**	*e*P	**P**	**17 10 18.2**	**+0.2**
LAO	**LASA Array**	**60.86**	**51**	P	**P**	**17 10 18.7**	**-1.1**
SPUT	**South Promonto**	**61.06**	**59**	*e*P	**P**	**17 10 20.6**	**-0.7**
TRCR	**Troy Canyon**	**61.21**	**64**	P	**P**	**17 10 20.9**	**-1.5**
TRCR				*e*pP	pP	17 10 33.3	-1.2
HWUT	**Hardware Ranch**	**61.36**	**59**	*e*P	**P**	**17 10 22.8**	**-0.6**
	comp=Z,216nm,1.1s,mb6.2						
HWUT				*e*	pP	17 10 35.1	-0.3
BW06	**Boulder Array**	**61.70**	**57**	*e*P	**P**	**17 10 24.9**	**-0.7**
	comp=Z,6.5nm,0.8s,mb4.8						
BW06				*e*pP	pP	17 10 36.6	-1.2
NDI	**New Delhi**	**61.91**	**282**	*e*P	**P**	**17 10 23.0**	**-4.2**
KAF	**Kangasniemi**	**62.12**	**336**	*e*p	**P**	**17 10 24.8**	**-3.3**
	comp=Z,17nm,0.8s,mb5.2,baz=46,slow=5.6						
KAF	**Kangasniemi**	**62.12**	**336**	*e*p	**P**	**17 10 25.2**	**-2.9**
	comp=Z,17nm,0.8s,mb5.2,baz=36,slow=6.9						
KAF	**Kangasniemi**	**62.12**	**336**	*e*P	**P**	**17 10 24.8**	**-3.3**
KAF				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.2						
KAF	**Kangasniemi**	**62.12**	**336**	*e*P	**P**	**17 10 25.2**	**-2.9**
	comp=Z,17nm,0.8s,mb5.2						
NLU	**North Lily Min**	**62.18**	**60**	*e*P	**P**	**17 10 28.5**	**-0.4**
NLU				*e*	pP	17 10 40.8	-0.2
FINES	**FINESS Array B**	**62.73**	**336**	*i* P	**P**	**17 10 30.0**	**-2.2**
FINES				pmax	pmax		
	comp=Z,19nm,0.8s						
MVU	**Marysvale**	**63.07**	**62**	*e*P	**P**	**17 10 34.4**	**-0.5**
	comp=Z,5.4nm,1.2s,mb4.5						
MSU	**Marysvale**	**63.09**	**62**	*e*P	**P**	**17 10 33.8**	**-1.1**
TMUT	**Trail Mountain**	**63.11**	**60**	*e*P	**P**	**17 10 34.5**	**-0.6**
TMUT				*e*	pP	17 10 47.0	-0.3
NEN	**Nelson**	**63.46**	**66**	*e*P	**P**	**17 10 36.7**	**-0.7**
NEN				*e*	pP	17 10 48.3	-1.3
SRU	**San Rafael**	**63.63**	**60**	*e*P	**P**	**17 10 37.8**	**-0.6**
OBN	**Obninsk**	**64.47**	**326**	⇓*e*P	**P**	**17 10 41.7**	**-1.9**
OBN				*e*		17 11 14.5	
OBN				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.3						
OBN				MLR	MLR		
	comp=Z,500nm,21.0s,MS4.7						
OBN	**Obninsk**	**64.47**	**326**	*e*P	**P**	**17 10 41.1**	**-2.5**
	comp=Z,26nm,0.8s,mb5.3						
PV10	**Paradox Valley**	**64.98**	**60**	*e*P	**P**	**17 10 47.4**	**+0.3**
KAKA	**Kakadu**	**65.05**	**206**	*e*P	**P**	**17 10 45.8**	**-2.2**
	comp=Z,17nm,0.7s,mb5.2						
AJM	**Ajmer**	**65.08**	**282**	*e*P	**P**	**17 10 47.2**	**-0.8**
AJM				*e*		17 10 48.9	
	comp=Z,15nm,0.9s						
BHPL	**Bhopal**	**65.55**	**278**	*e*P	**P**	**17 10 50.7**	**-0.4**
BHPL				*e*		17 10 52.1	
	comp=Z,47nm,1.2s						
RW3	**Ridgway**	**65.83**	**59**	*e*P	**P**	**17 10 53.0**	**+0.4**
ISCO	**Idaho Springs**	**65.90**	**57**	*e*P	**P**	**17 10 53.0**	**0.0**
ISCO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
ISCO	**Idaho Springs**	**65.90**	**57**	*e*P	**P**	**17 10 53.0**	**-0.1**
	comp=Z,6.3nm,0.8s,mb4.7						
BORG	**Borgarnes**	**66.44**	**359**	P	**P**	**17 10 54.5**	**-1.5**
	comp=Z,127nm,0.9s,mb6.0						
NB2	**NORSAR Subarra**	**66.60**	**342**	P	**P**	**17 10 55.4**	**-1.7**
	comp=Z,5.5nm,0.7s,mb4.7,baz=24,slow=6.2						
NB2	**NORSAR Subarra**	**66.60**	**342**	P	**P**	**17 10 55.4**	**-1.7**
NB2				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
EYMN	**Ely**	**67.03**	**42**	*e*P	**P**	**17 10 58.7**	**-1.3**
	comp=Z,6.4nm,0.8s,mb4.7						
EYMN				*e*pP	pP	17 11 11.9	-0.4
SDCO	**Great Sand Dun**	**67.41**	**58**	*e*P	**P**	**17 11 02.1**	**-0.5**
	comp=Z,9.4nm,1.2s,mb4.7						
SDCO				*e*pP	pP	17 11 14.5	-0.4
ANMO	**Albuquerque**	**68.86**	**61**	*e*P	**P**	**17 11 11.2**	**-0.4**
	comp=Z,4.3nm,1.1s,mb4.3						
ANMO				*e*pP	pP	17 11 23.3	-0.7
HYB	**Hyderabad**	**68.96**	**273**	*e*P	**P**	**17 11 12.0**	**-0.6**
HYB	**Hyderabad**	**68.96**	**273**	⇑*i*P	**P**	**17 11 12.0**	**-0.6**
	comp=Z,45nm,1.0s,mb5.3						
CTAO	**Charters Tower**	**69.48**	**190**	P	**P**	**17 11

SOC ePPP PPP 17 16 01.5 +5.0
SOC eS S 17 20 47.5 -2.6
SOC e 17 21 33.8
SOC eSS SS 17 25 23.8 -6.2
SOC eSSS SSS 17 28 46.5 +7.1
SOC pmax pmax
comp=Z,23nm,0.8s,mb5.2
SOC pmax pmax
comp=N,33nm,0.9s
SOC pmax pmax
comp=E,7.0nm,0.7s
SOC MLR MLR
comp=Z,208nm,7.0s
SOC MLR MLR
comp=N,224nm,8.0s
SOC MLR MLR
comp=E,65nm,6.0s
FITZ Fitzroy Crossi 72.23 210 eP P **17 11 31.3 -1.0**
comp=E,11nm,0.8s,mb4.8
GNI Garni 72.51 312⇑ eP P **17 11 34.2 +0.7**
GNI pmax pmax
comp=Z,50nm,1.6s
GNI MLR MLR
comp=Z,200nm,14.0s
GNI Garni 72.51 312 eP P **17 11 34.5 +1.0**
comp=Z,29nm,1.1s,mb5.1
LVV L'vov 73.19 330 i P P **17 11 36.7 -0.6**
WMOK Wichita Mounta 73.31 56 eP P **17 11 37.5 -0.9**
WMOK e pP 17 11 49.3 -1.5
WMOK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
WMOK Wichita Mounta 73.31 56 eP P **17 11 37.5 -0.9**
comp=Z,6.4nm,0.9s,mb4.5
WMOK e pP 17 11 49.3 -1.5
BSEG Bad Segeberg 73.33 340 eP P **17 11 38.4 +0.3**
KWP Kalwaria 73.78 331 eP P **17 11 41.1 +0.3**
KWP pmax pmax
comp=Z,130nm,0.9s,mb5.9
KWP Kalwaria 73.78 331 eP P **17 11 41.3 +0.5**
KWP Kalwaria 73.78 331 eP P **17 11 41.3 +0.5**
OJC Ojcow 74.18 333⇑ eP P **17 11 43.3 +0.2**
KOLS Kolonicke sedl 74.53 330 eP P **17 11 45.4 +0.2**
KOLS e pP 17 11 58.7 +1.1
KOLS Kolonicke sedl 74.53 330 eP P **17 11 45.4 +0.2**
KOLS e 17 11 49.3
KOLS e 17 11 50.3
KOLS e pP 17 11 58.7 +1.1
LTX Lajitas 74.56 63 eP P **17 11 45.4 -0.3**
LTX e pP 17 11 56.9 -1.3
LTX pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LTX Lajitas 74.56 63 eP P **17 11 45.4 -0.4**
comp=Z,6.8nm,0.8s,mb4.6
LTX e pP 17 11 56.9 -1.2
KSP Ksiaz 74.64 335⇑ eP P **17 11 45.7 0.0**
KSP e*PP pP 17 11 58.2 +0.1
KSP Ksiaz 74.64 335 eP P **17 11 46.1 +0.3**
NIE Niedzica 74.73 332 eP P **17 11 47.2 +0.9**
CRVS Cervenica-Dubn 74.82 331 eP P **17 11 47.2 +0.4**
CRVS e 17 11 49.8
CRVS e 17 11 50.6
OKC Ostrava-Krasne 75.01 333⇑ iP P **17 11 48.4 +0.5**
PALK Pallekele 75.02 264 eP P **17 11 48.7 +0.1**
comp=Z,19nm,0.8s,mb5.1
UPC Upice 75.02 335 eP P **17 11 48.6 +0.7**
UPC Upice 75.02 335⇑ eP P **17 11 48.6 +0.7**
DPC Dobruska-Polom 75.08 335⇑ iP P **17 11 49.1 +0.8**
CLL Collm 75.10 337⇑ iP P **17 11 48.1 -0.3**
CLL pmax pmax
comp=Z,78nm,0.9s,mb5.6
CLL Collm 75.10 337⇑ iP P **17 11 48.1 -0.3**
comp=Z,78nm,0.9s,mb5.6
CLL Collm 75.10 337 ⇑P P **17 11 48.1 -0.3**
comp=Z,logA/T=1.9,mb5.6
MORC Moravsky Berou 75.24 334 eP P **17 11 49.4 +0.2**
MORC pmax pmax
comp=Z,72nm,0.8s,mb5.7
MORC Moravsky Berou 75.24 334 eP P **17 11 49.4 +0.2**
comp=Z,72nm,0.8s,mb5.7
BRG Berggiesshubel 75.25 336 i P P **17 11 49.2 0.0**
BRG e 17 11 57.6
BRG pmax pmax
comp=Z,26nm,1.0s,mb5.1
BRG Berggiesshubel 75.25 336 i P P **17 11 49.2 0.0**
comp=Z,26nm,1.0s,mb5.1
BRG e 17 11 57.6
CLZ Clausthal 75.25 339 eP P **17 11 49.9 +0.7**
comp=Z,90nm,1.0s,mb5.7
PVCC Panska Ves 75.40 336⇑ eP P **17 11 50.4 +0.3**
KECS Kecovo 75.50 331 eP P **17 11 51.3 +0.6**
VRI Vrincioaia 75.64 326⇑ iP P **17 11 51.8 +0.2**
CFR Carcaliu 75.70 325⇓ iP P **17 11 52.0 +0.1**
PRU Pruhonice 75.89 336⇑ iP P **17 11 53.5 +0.6**
WTSB Winterswijk 75.94 341 eP P **17 11 53.4 +0.2**
comp=Z,64nm,1.0s,mb5.5
VYHS Vyhne 76.00 332 i P P **17 11 54.3 +0.7**
VYHS e 17 11 56.9
KOLL Kolacno 76.06 333 eP P **17 11 54.8 +0.9**
KOLL e 17 12 00.5
KOLL Kolacno 76.06 333 eP P **17 11 54.8 +0.9**
KOLL e 17 11 56.8
KOLL e 17 12 00.5
MOX Moxa 76.06 338 eP P **17 11 54.1 +0.3**
MOX pmax pmax
comp=Z,66nm,1.1s,mb5.5
MOX Moxa 76.06 338 eP P **17 11 54.1 +0.3**
comp=Z,66nm,1.1s,mb5.5
MOX Moxa 76.06 338 i P P **17 11 54.1 +0.3**
comp=Z,logA/T=1.8,mb5.5
BOYT Boyabat 76.07 319 i P P **17 11 55.6 +1.5**
BLO Bloomington 76.11 45 P P **17 11 49.8 -4.6**
BLO pmax pmax
comp=Z,35nm,1.0s,mb5.2
PSZ Piszkesteto 76.18 331 eP P **17 11 55.1 +0.5**
PSZ pmax pmax
comp=Z,27nm,0.8s,mb5.2
PSZ Piszkesteto 76.18 331 eP P **17 11 55.1 +0.5**
comp=Z,27nm,0.8s,mb5.2
HARR Harsova 76.19 325⇑ iP P **17 11 54.8 +0.1**
NKC Novy Kostel 76.22 337⇑ iP P **17 11 55.2 +0.4**
MIAR Mount Ida 76.24 53 eP P **17 11 54.3 -0.9**
MIAR e*PP pP 17 12 06.3 -1.4
MIAR pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MIAR Mount Ida 76.24 53 eP P **17 11 54.3 -0.9**
comp=Z,10.0nm,1.1s,mb4.7
MIAR epP pP 17 12 06.3 -1.4
DMUB Kingscourt 76.34 350⇑ iP P **17 11 53.9 -1.5**
ISR Istrita 76.34 326⇓ iP P **17 11 56.5 +0.9**
SMOL Smolenice 76.41 333 eP P **17 11 57.1 +1.2**
SMOL e 17 12 01.5
SVST Sivas 76.49 316 i P P **17 11 58.0 +1.4**
ELZG Elazig 76.57 314 i P P **17 11 58.7 +1.6**
BALT Daday 76.63 320 i P P **17 11 58.7 +1.4**
SRO Srobarova 76.77 332 eP P **17 11 59.4 +1.5**
CTKT Corum 76.77 318 i P P **17 11 59.5 +1.4**
SRO1 Iza 76.84 332 eP P **17 11 59.3 +1.0**
DLF Lyons Farm 76.89 349⇑ iP P **17 11 57.1 -1.4**
DCN Croghan 76.93 350⇑ iP P **17 11 57.3 -1.5**
KHC Kasperske Hory 76.94 336⇑ iP P **17 11 59.6 +0.7**
KHC pmax pmax
comp=Z,84nm,0.9s,mb5.7
KHC Kasperske Hory 76.94 336⇑ iP P **17 11 59.6 +0.7**
comp=Z,84nm,0.9s,mb5.7
WCI Wyandotte Cave 76.97 46 eP P **17 11 58.5 -0.8**
WCI pmax pmax
comp=Z,15nm,0.9s,mb4.9
WCI Wyandotte Cave 76.97 46 eP P **17 11 58.5 -0.9**
comp=Z,15nm,0.9s,mb4.9
MALT Malatya 76.98 314 eP P **17 12 00.6 +1.2**
MALT e pP 17 12 13.8 +2.0
MALT pmax pmax
comp=Z,47nm,1.0s,mb5.4
MALT Malatya 76.98 314 eP P **17 12 00.6 +1.2**
comp=Z,47nm,1.0s,mb5.4
MALT e pP 17 12 13.8 +2.0
GRA1 Grafenberg Arr 77.03 337 eP P **17 12 00.2 +0.8**
comp=Z,127nm,0.9s,mb5.8
GRF Grafenberg Arr 77.03 337 eP P **17 12 00.2 +0.8**
GRF pmax pmax
comp=Z,127nm,0.9s,mb5.8
GRF Grafenberg Arr 77.03 337 eP P **17 12 00.2 +0.8**
GRF pmax pmax
comp=Z,127nm,0.9s,mb5.8
GRF Grafenberg Arr 77.03 337 eP P **17 12 00.2 +0.8**
comp=Z,127nm,0.9s,mb5.8
WET Wettzell 77.11 336 eP P **17 12 00.6 +0.7**
WET pmax pmax
comp=Z,60nm,1.0s,mb5.5
WET Wettzell 77.11 336 eP P **17 12 00.6 +0.7**
comp=Z,60nm,1.0s,mb5.5
GEC2 GERESS Array S 77.16 336 eP P **17 12 00.4 +0.2**
GEC2 pmax pmax
comp=Z,25nm,0.8s,mb5.2
GEC2 GERESS Array S 77.16 336 eP P **17 12 00.4 +0.2**
comp=Z,25nm,0.8s,mb5.2
HGN Heimansgroeve 77.26 341 eP P **17 12 00.9 +0.3**
comp=Z,90nm,1.3s,mb5.5
SOP Sopron 77.41 333 eP P **17 12 02.8 +1.3**
PRD Provadia 77.66 324 i P P **17 12 03.5 +0.5**
TOD Tromm 77.70 339 eP P **17 12 03.6 +0.5**
TOD Tromm 77.70 339⇑ eP P **17 12 03.7 +0.6**
ABH Alteburg 77.74 340 eP P **17 12 03.6 +0.3**
ABH Alteburg 77.74 340⇑ eP P **17 12 03.8 +0.5**
SIND Sindeldorf 77.75 336⇑ eP P **17 12 03.8 +0.4**
SWS Schriesheim 77.84 339 eP P **17 12 04.2 +0.3**
WVT Waverly 77.91 48 eP P **17 12 03.7 -0.8**
comp=Z,3.3nm,0.7s,mb4.4
WVT e pP 17 12 16.3 -0.7
MOA Molln 77.92 335⇑ iP P **17 12 05.1 +0.8**
comp=Z,32nm,0.9s,mb5.2
SGKT Sivrigoynuk 77.99 320 i P P **17 12 05.8 +1.0**
RUP Ruppelstein 78.02 340 eP P **17 12 05.3 +0.5**
RUP Ruppelstein 78.02 340 eP P **17 12 05.4 +0.6**
ARSA Arzberg 78.10 334⇑ iP P **17 12 06.4 +1.1**
comp=Z,41nm,1.0s,mb5.3
GIVF Givet 78.12 342 eP P **17 12 05.8 +0.4**
comp=Z,66nm,1.0s,mb5.2
GIVF Givet 78.12 342 eP P **17 12 05.8 +0.4**
GIVF pmax pmax
comp=Z,33nm,1.0s,mb5.2
AVNT Avonos 78.25 317 i P P **17 12 06.6 +0.2**
WLF Walferdange 78.25 341 eP P **17 12 06.6 +0.5**
WLF pmax pmax
comp=Z,18nm,1.0s,mb5.0
WLF Walferdange 78.25 341 eP P **17 12 06.6 +0.5**
comp=Z,18nm,1.0s,mb5.0
KAHT Ahir Dag 78.26 315 i P P **17 12 08.0 +1.6**
BAIF Baives 78.29 342 eP P **17 12 07.0 +0.7**
comp=Z,72nm,0.9s,mb5.3
BAIF Baives 78.29 342 eP P **17 12 07.0 +0.7**
BAIF pmax pmax
comp=Z,36nm,0.9s,mb5.3
HDH Heidenheim 78.31 338 eP P **17 12 06.8 +0.3**
STU Stuttgart 78.39 338 eP P **17 12 07.5 +0.6**
STU e pP 17 12 19.3 0.0
STU pmax pmax
comp=Z,27nm,0.8s,mb5.2
STU Stuttgart 78.39 338 eP P **17 12 07.5 +0.7**
comp=Z,27nm,0.8s,mb5.2
STU e pP 17 12 19.3 0.0
FUR Furstenfeldbru 78.43 337 eP P **17 12 07.8 +0.7**
FUR pmax pmax
comp=Z,71nm,1.0s,mb5.5
FUR Furstenfeldbru 78.43 337 eP P **17 12 07.8 +0.7**
comp=Z,71nm,1.0s,mb5.5
LANF Langenberg 78.52 339 eP P **17 12 08.1 +0.5**
LBG Lerchenberg 78.58 339⇑ eP P **17 12 08.5 +0.5**
BUCH Bad Urach 78.65 338⇑ eP P **17 12 09.2 +0.9**
BEO Belgrade 78.74 330⇑ iP P **17 12 08.9 0.0**
PERS Pernice 78.78 334 i P P **17 12 09.9 +0.8**
comp=Z,114nm,1.0s,mb5.8
GROS Grobnik 78.82 333 i P P **17 12 09.7 +0.4**
KBA Koelnbreinsper 78.88 335⇑ iP P **17 12 11.3 +1.7**
comp=Z,158nm,1.0s,mb5.9
KBA Koelnbreinsper 78.88 335⇑ iP P **17 12 11.3 +1.7**
KBA pmax pmax
comp=Z,158nm,1.0s,mb5.9
SVIS Svilajnac 78.94 329 eP P **17 12 08.7 -1.4**
BFO Black Forest 79.01 339 eP P **17 12 10.7 +0.4**
BFO pmax pmax
comp=Z,36nm,1.0s,mb5.3
BFO Black Forest 79.01 339 eP P **17 12 10.7 +0.4**
comp=Z,36nm,1.0s,mb5.3
OBKA Obir 79.06 334⇑ iP P **17 12 11.2 +0.6**
comp=Z,29nm,0.8s,mb5.3
GUT Gutenstein 79.06 338⇑ eP P **17 12 11.3 +0.7**
BOLS Boljevac 79.10 328⇓ iP P **17 12 10.2 -0.7**
SPAK Spaichingen 79.11 338⇑ eP P **17 12 11.5 +0.6**
WATA Walderalm 79.12 336⇑ iP P **17 12 12.0 +1.1**
comp=Z,55nm,1.1s,mb5.4
WATA Walderalm 79.12 336⇑ iP P **17 12 12.0 +1.1**
WATA pmax pmax
comp=Z,55nm,1.1s,mb5.4
WLS Welschbruch 79.16 339 eP P **17 12 11.6 +0.5**
WTTA Wattenberg 79.17 336⇑ iP P **17 12 12.5 +1.3**
comp=Z,100nm,1.0s,mb5.7
WTTA Wattenberg 79.17 336⇑ iP P **17 12 12.5 +1.3**
WTTA pmax pmax
comp=Z,100nm,1.0s,mb5.7
CDF Champ du Feu 79.18 339 eP P **17 12 11.7 +0.5**
comp=Z,103nm,1.1s,mb5.4
CDF Champ du Feu 79.18 339 eP P **17 12 11.7 +0.5**
CDF pmax pmax
comp=Z,52nm,1.1s,mb5.4
UBR Uberruh 79.18 337⇑ eP P **17 12 11.9 +0.7**
MOTA Moosalm 79.23 337⇓ iP P **17 12 12.5 +1.0**
comp=Z,48nm,1.0s,mb5.4
MOTA Moosalm 79.23 337⇓ iP P **17 12 12.5 +1.0**
MOTA pmax pmax
comp=Z,48nm,1.0s,mb5.4
SQTA Sankt Quirin 79.32 337⇑ iP P **17 12 13.3 +1.3**
comp=Z,67nm,1.1s,mb5.5
SQTA Sankt Quirin 79.32 337⇑ iP P **17 12 13.3 +1.3**
SQTA pmax pmax
comp=Z,67nm,1.1s,mb5.5
LIBD Limburg 79.35 339 eP P **17 12 12.5 +0.4**
LIBD Limburg 79.35 339 eP P **17 12 12.8 +0.7**
DIM Dimitrovgrad 79.35 325 i P P **17 12 13.0 +0.7**
ECH Echery 79.39 339 eP P **17 12 12.8 +0.4**
PGB Panagyurishte 79.43 326 P P **17 12 13.5 +0.8**
COBT Iskenderun 79.45 315 i P P **17 12 14.3 +1.3**
KIZ Kirchzarten 79.45 339⇑ eP P **17 12 12.9 +0.2**
GRUS Gruza 79.48 329⇓ iP P **17 12 13.0 +0.1**
LJU Ljubljana 79.49 334 i P P **17 12 13.2 +0.2**
FELD Feldberg 79.51 339⇑ eP P **17 12 13.4 +0.4**
DIVS Divcibare 79.53 330⇓ iP P **17 12 13.1 -0.1**
MEZF Maizieres J'vi 79.59 341 eP P **17 12 14.6 +1.2**
comp=Z,102nm,1.1s,mb5.4
DAVA Damuels 79.60 337⇑ iP P **17 12 14.6 +1.1**
comp=Z,45nm,1.0s,mb5.3
THEF They Montfort 79.64 340 eP P **17 12 14.4 +0.7**
MOF Molkenrain 79.74 339 eP P **17 12 14.4 +0.1**
VTS Vitosha 79.74 327 i P P **17 12 15.3 +0.9**
BOJS Bojanci 79.76 333 eP P **17 12 14.7 +0.2**
HAU Haudompre 79.77 340 eP P **17 12 15.2 +0.8**
comp=Z,68nm,1.1s,mb5.2
HAU eR
comp=Z,362nm,17.5s
HAU Haudompre 79.77 340 eP P **17 12 15.2 +0.8**
HAU pmax pmax
comp=Z,34nm,1.1s,mb5.2
HAU MLR MLR
comp=Z,360nm,17.5s,MS4.8
HINF Hinteralfeld 79.83 340 eP P **17 12 15.3 +0.5**
comp=Z,12nm,0.7s,mb4.7
HINF Hinteralfeld 79.83 340 eP P **17 12 15.3 +0.5**
HINF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
BBLS Bajina Basta - 79.93 330⇑ iP P **17 12 15.9 +0.5**
RZN Rozhen 79.97 325 i P P **17 12 16.3 +0.6**
BBS Basel-Blauen 80.01 339 eP P **17 12 16.3 +0.6**
NVSS Nova Varos 2 80.16 329⇓ iP P **17 12 18.4 +1.8**
LOMF Lomont 80.28 339 eP P **17 12 17.5 +0.3**
BTOK Tokmak 80.33 322 i P P **17 12 18.0 +0.3**
FLN La Foliniere 80.42 345 eP P **17 12 18.8 +0.9**
comp=Z,118nm,1.1s,mb5.4
FLN eR
comp=Z,503nm,18.0s
FLN La Foliniere 80.42 345 eP P **17 12 18.8 +0.9**
FLN pmax pmax
comp=Z,59nm,1.1s,mb5.4
FLN MLR MLR
comp=Z,500nm,18.0s,MS4.9
KKB Krupnik 80.42 326 i P P **17 12 18.5 +0.5**
MMB Musomiste 80.43 326 i P P **17 12 18.5 +0.4**
LDF La Druitiere 80.52 344 eP P **17 12 19.2 +0.8**
comp=Z,29nm,0.6s,mb5.1
LDF La Druitiere 80.52 344 eP P **17 12 19.2 +0.8**
LDF pmax pmax
comp=Z,15nm,0.6s,mb5.1
LRAL Lakeview Retre 80.79 49 eP P **17 12 19.3 -0.9**
comp=Z,4.0nm,0.7s,mb4.5
GRR Gorron 80.84 345 eP P **17 12 21.6 +1.5**
comp=Z,124nm,0.9s,mb5.5
GRR Gorron 80.84 345 eP P **17 12 21.6 +1.5**
GRR pmax pmax
comp=Z,62nm,0.9s,mb5.5
SKO Skopje 80.92 328 i P P **17 12 21.3 +0.6**
CABF La Chapelle 81.15 340 eP P **17 12 22.3 +0.5**
comp=Z,88nm,1.4s,mb5.2
CABF La Chapelle 81.15 340 eP P **17 12 22.3 +0.5**
CABF pmax pmax
comp=Z,44nm,1.4s,mb5.2
SGMF Saint Gilles 81.26 346 eP P **17 12 24.0 +1.7**
comp=Z,64nm,0.6s,mb5.4
SGMF Saint Gilles 81.26 346 eP P **17 12 24.0 +1.7**
SGMF pmax pmax
comp=Z,32nm,0.6s,mb5.4
HYF Humbligny 81.26 342 eP P **17 12 23.5 +1.1**
SSF Saint Saulge 81.28 341 eP P **17 12 23.8 +1.3**
SSF pmax pmax
comp=Z,13nm,1.0s,mb4.8
SSF Saint Saulge 81.28 341 eP P **17 12 23.8 +1.3**
comp=Z,13nm,1.0s,mb4.8
ROSF Rostrenen 81.29 346 eP P **17 12 24.1 +1.6**
comp=Z,65nm,0.8s,mb5.3
ROSF Rostrenen 81.29 346 eP P **17 12 24.1 +1.6**
ROSF pmax pmax
comp=Z,33nm,0.8s,mb5.3
AVF Avril sur Loir 81.57 341 eP P **17 12 25.2 +1.2**
comp=Z,36nm,0.8s,mb5.0
AVF Avril sur Loir 81.57 341 eP P **17 12 25.2 +1.2**
AVF pmax pmax
comp=Z,18nm,0.8s,mb5.0
SMF Signal de Mont 81.61 341 eP P **17 12 24.9 +0.7**
comp=Z,120nm,1.4s,mb5.3
SMF Signal de Mont 81.61 341 eP P **17 12 24.9 +0.7**
SMF pmax pmax
comp=Z,60nm,1.4s,mb5.3
ORX Oropa 81.62 338 P P **17 12 25.0 +0.8**
QUIF Quistinic 81.68 346 eP P **17 12 26.0 +1.5**
comp=Z,21nm,0.7s,mb4.9
QUIF Quistinic 81.68 346 eP P **17 12 26.0 +1.5**
QUIF pmax pmax
comp=Z,11nm,0.6s,mb5.0
STKA Stephens Creek 81.69 192 P P **17 12 23.4 -1.5**
TRAV 81.79 338 P P **17 12 25.8 +0.7**
BGF Bois d'Agland 81.90 342 eP P **17 12 27.2 +1.5**
comp=Z,15nm,0.6s,mb4.8
BGF Bois d'Agland 81.90 342 eP P **17 12 27.2 +1.5**
BGF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
LSD Ceresole Reale 81.98 339 P P **17 12 28.1 +2.0**
LPL La Plagne 82.03 339 eP P **17 12 28.2 +1.8**
comp=Z,30nm,0.7s,mb5.1
LPL La Plagne 82.03 339 eP P **17 12 28.2 +1.8**
LPL pmax pmax
comp=Z,15nm,0.7s,mb5.0
LPG La Plagne 82.04 339 eP P **17 12 28.0 +1.6**
comp=Z,40nm,0.7s,mb5.2
LPG La Plagne 82.04 339 eP P **17 12 28.0 +1.6**
LPG pmax pmax
comp=Z,20nm,0.7s,mb5.2
GRAM 82.15 336 P P **17 12 28.2 +1.1**
VALM 82.23 336 P P **17 12 28.4 +1.0**
RSP Reno Superiore 82.24 338 P P **17 12 28.2 +0.7**
TCF Toulx Ste Croi 82.29 342 eP P **17 12 29.0 +1.3**
comp=Z,38nm,0.9s,mb5.0
TCF Toulx Ste Croi 82.29 342 eP P **17 12 29.0 +1.3**
TCF pmax pmax
comp=Z,19nm,0.9s,mb5.0
PLDF La Plantade 82.30 341 eP P **17 12 28.9 +1.2**
CODM 82.30 336 P P **17 12 28.6 +0.8**
AGO Saint Agoulin 82.32 341 eP P **17 12 29.1 +1.2**
SARO Sassorosso 82.34 336 P P **17 12 29.1 +1.1**
BACM 82.34 336 P P **17 12 28.3 +0.3**
VLC Villacollemand 82.37 336 eP P **17 12 29.5 +1.3**
comp=Z,48nm,1.1s,mb5.3
FENE Fenestrelle 82.41 338 P P **17 12 29.4 +1.1**
MFF Saint Martin d 82.44 344 eP P **17 12 30.2 +1.7**
comp=Z,28nm,0.6s,mb5.0
MFF Saint Martin d 82.44 344 eP P **17 12 30.2 +1.7**
MFF pmax pmax
comp=Z,14nm,0.6s,mb5.1
VINC Vinca 82.45 336 P P **17 12 28.2 -0.3**
BNI Bardonecchia 82.48 339 eP P **17 12 30.3 +1.6**
BNI pmax pmax
comp=Z,12nm,0.8s,mb4.9
BNI Bardonecchia 82.48 339 eP P **17 12 30.3 +1.7**
comp=Z,12nm,0.8s,mb4.9
PCP Pian Castagno 82.50 337 P P **17 12 29.3 +0.5**
BHB Bricherasio 82.53 338 P P **17 12 28.9 -0.1**
MAIM 82.57 336 P P **17 12 28.8 -0.4**
RRL Cesana Torines 82.58 339 P P **17 12 30.1 +0.9**
PYM Petit Puy Mans 82.64 341 eP P **17 12 31.0 +1.5**
MBDF Montbardon 82.76 339 eP P **17 12 31.8 +1.7**
comp=Z,18nm,0.6s,mb5.0
MBDF Montbardon 82.76 339 eP P **17 12 31.8 +1.7**
MBDF pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
ORIF Oris-en-Rattie 82.79 339 eP P **17 12 31.8 +1.5**
comp=Z,21nm,0.7s,mb5.0
ORIF eR
comp=Z,392nm,19.2s
PZZ Prazzo 82.89 338 P P **17 12 30.9 +0.1**
FIN Finale Ligure 82.89 337 P P **17 12 31.5 +0.7**
ROB Roburent 82.90 338 P P **17 12 30.6 -0.2**
ENR Entracque 83.07 338 P P **17 12 31.9 +0.2**
LBL Lubilhac 83.08 341 eP P **17 12 31.1 -0.6**
STV Sta Anna Valdi 83.08 338 P P **17 12 31.5 -0.3**
VIVF Saint-Julien-l 83.13 340 eP P **17 12 33.0 +1.0**
comp=Z,21nm,0.8s,mb4.9
VIVF Saint-Julien-l 83.13 340 eP P **17 12 33.0 +1.0**
VIVF pmax pmax
comp=Z,11nm,0.8s,mb4.9
MONE Monesi 83.13 338 P P **17 12 31.9 -0.1**
MMLI Mount Malkishu 83.18 313 P P **17 12 33.5 +1.0**
AQU L'Aquila 83.18 333 eP P **17 12 33.2 +0.9**
IMI Imperia 83.25 337 P P **17 12 33.2 +0.5**
HMDT Nahal Hemdat 83.28 313 P P **17 12 33.9 +0.9**
NEGI Negi 83.36 338 P P **17 12 33.2 0.0**
RJF Les Rejaudoux 83.37 342 eP P **17 12 34.5 +1.3**
comp=Z,17nm,0.7s,mb4.9
RJF eR
comp=Z,465nm,17.2s
RJF Les Rejaudoux 83.37 342 eP P **17 12 34.5 +1.3**
RJF pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
RJF MLR MLR
comp=Z,460nm,17.3s,MS4.9
SBF Sospel 83.41 338 eP P **17 12 33.9 +0.5**
comp=Z,68nm,0.9s,mb5.4
SBF Sospel 83.41 338 eP P **17 12 33.9 +0.5**
SBF pmax pmax
comp=Z,34nm,0.9s,mb5.4
CAF Calviac 83.62 342 eP P **17 12 36.9 +2.5**
comp=Z,14nm,0.5s,mb5.1
CAF Calviac 83.62 342 eP P **17 12 36.9 +2.5**
CAF pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
SMRF Simiane la Rot 83.75 339 eP P **17 12 35.7 +0.6**
comp=Z,16nm,0.8s,mb4.9
MKRJ Makawir 83.80 312 P P **17 12 36.6 +1.0**
LFF La Frestale 83.87 343 eP P **17 12 38.1 +2.4**
comp=Z,37nm,0.6s,mb5.4
LFF La Frestale 83.87 343 eP P **17 12 38.1 +2.4**
LFF pmax pmax
comp=Z,19nm,0.6s,mb5.4
DRGI Dragot 83.89 312 P P **17 12 36.6 +0.5**
FRF La Foret Royal 83.89 338 eP P **17 12 36.3 +0.5**
comp=Z,11nm,0.7s,mb4.8
FRF La Foret Royal 83.89 338 eP P **17 12 36.3 +0.5**
FRF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
LASF Ste Croix 84.05 340 eP P **17 12 38.4 +1.8**
comp=Z,81nm,1.3s,mb5.4
LMR La Mourre 84.14 338 eP P **17 12 38.8 +1.7**
comp=Z,51nm,1.1s,mb5.3
LMR La Mourre 84.14 338 eP P **17 12 38.8 +1.7**
LMR pmax pmax
comp=Z,26nm,1.1s,mb5.3
PGF Pioggiola 84.24 336 eP P **17 12 39.0 +1.4**

comp=Z,33nm,0.7s,mb5.3
PGF Pioggiola 84.24 336 *e*P **P 17 12 39.0 +1.4**
PGF pmax pmax
comp=Z,16nm,0.7s,mb5.3
ZFRI Zfri 84.84 312 P **P 17 12 41.5 +0.6**
KZIT Kziot 84.93 313 P **P 17 12 42.0 +0.7**
TIP Timpagrande 85.01 329 *e*P **P 17 12 41.9 +0.4**
PRNI Paran 85.09 312 P **P 17 12 42.7 +0.5**
MTLF Montolieu 85.11 341 *e*P **P 17 12 44.6 +2.7**
comp=Z,34nm,1.0s,mb5.1
MTLF Montolieu 85.11 341 *e*P **P 17 12 44.6 +2.7**
MTLF pmax pmax
comp=Z,17nm,1.0s,mb5.1
KMTI Karmit 85.44 312 P **P 17 12 44.1 +0.3**
AQBJ Aqaba 85.59 312 P **P 17 12 45.8 +1.2**
MBH Mount Berech 85.60 312 P **P 17 12 45.7 +1.0**
EIL Elat 85.68 312 P **P 17 12 45.6 +0.5**
EIL Elat 85.68 312 *e*P **P 17 12 45.9 +0.9**
comp=Z,39nm,0.8s,mb5.7
EIL *e*pP pP 17 12 58.6 +0.9
EPF Esparros 85.79 342 *e*P **P 17 12 47.4 +2.2**
comp=Z,12nm,0.5s,mb5.1
EPF Esparros 85.79 342 *e*P **P 17 12 47.4 +2.2**
EPF pmax pmax
comp=Z,6.0nm,0.5s,mb5.1
SJPF Ste Jean 86.01 344 *e*P **P 17 12 48.7 +2.4**
comp=Z,15nm,0.7s,mb5.0
SJPF Ste Jean 86.01 344 *e*P **P 17 12 48.7 +2.4**
SJPF pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
ETSF Etsaut 86.09 343 *e*P **P 17 12 49.8 +3.1**
comp=Z,16nm,0.6s,mb5.1
ETSF Etsaut 86.09 343 *e*P **P 17 12 49.8 +3.1**
ETSF pmax pmax
comp=Z,8.0nm,0.6s,mb5.1
NWAO Narrogin (SRO) 88.75 212 P **P 17 12 59.6 -0.2**
NWAO pmax pmax
comp=Z,10.0nm,0.9s
NWAO Narrogin (SRO) 88.75 212 P **P 17 12 59.6 -0.3**
comp=Z,10nm,0.9s,mb5.2
PVRL Vila Real 88.85 348 *e*P **P 17 13 02.9 +2.8**
DBIC Dimbokro 121.99 338 *e*PKIKP PKPdf 17 19 00.5 +0.6
LSZ Lusaka 125.97 290 *e*PKIKP PKPdf 17 19 09.1 +1.6
LPAZ La Paz 131.43 63 *e*PKIKP PKPdf 17 19 19.2 +1.3

GUC 03 17:01:24.6±0.5, 29.60S×72.62W, h38km±4km, MD3.7, ML3.6, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**1.23**	**105**	*i* P	P	17 01 46.0	+0.5
LSCH				*i* S	S	17 02 02.7	+1.4
LSCH				AMP		17 02 04.0	
comp=E,744nm,0.4s							
TLL	**Tololo Astrono**	**1.67**	**110**	⇑*i* P	P	17 01 53.3	+1.3
TLL				*i* S	S	17 02 14.9	+2.6
TLL				AMP		17 02 18.4	
comp=N,692nm,0.3s							
CMCH	**Combarbala**	**2.10**	**139**	⇓*i* P	P	17 01 58.8	+0.8
CMCH				*i* S	S	17 02 24.5	+1.4
CMCH				AMP		17 02 24.8	
comp=N,1μm,0.2s							
PTCH	**Petorca**	**3.03**	**152**	*i* S	S	17 02 46.2	-0.5
PTCH				AMP		17 02 46.9	
comp=E,299nm,0.5s							
PEL	**Peldehue**	**3.90**	**155**	*i* S	S	17 03 08.3	-0.6

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*JMA **03** 17:07:56.6±0.1, 27.68N×140.80E, h507km, M3.8*
ISC 03 17:07:55.0±2.4, 27.5N±0.2×140.7E±0.6, h521km±32km, n9, σ0°49/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.37**	**107**	P	**P**	**17 09 00.1**	**+0.2**
JHHJ	**Haha-jima-NKT**	**1.57**	**124**	P	**P**	**17 09 01.0**	**+0.3**
JHHJ				S	**S**	**17 09 52.3**	**-0.4**
BSO1	**Boso 1**	**7.13**	**2**	*e*S	**S**	**17 11 10.9**	**+0.2**
JIE	**Ise**	**7.68**	**334**	P	**P**	**17 09 49.9**	**+0.3**
JNY	**Yasuok**	**8.20**	**343**	P	**P**	**17 09 55.1**	**+0.2**
JRY	**Ryogami san**	**8.62**	**350**	P	**P**	**17 09 59.4**	**+0.1**
JAG	**Ashikaga**	**8.95**	**353**	P	**P**	**17 10 01.6**	**-1.1**
JHO	**Hitachi**	**9.08**	**359**	P	**P**	**17 10 04.7**	**+0.7**
MAT	**Matsushiro**	**9.26**	**347**	P	**P**	**17 10 05.4**	**-0.5**

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*JMA **03** 17:08:12.2±0.1, 27.46N×140.90E, h476km, M4.2*
ISC 03 17:08:10.9±0.6, 27.27N±0.06×140.4E±0.2, h475km±9km, n30, σ0°91/36, mb4.5/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.61**	**96**	P	**P**	**17 09 11.9**	**-0.4**
JHHJ	**Haha-jima-NKT**	**1.72**	**111**	P	**P**	**17 09 12.9**	**+0.1**
JHHJ				S	**S**	**17 10 01.4**	**-0.4**
JHJ2	**Mitsune**	**5.84**	**355**	P	**P**	**17 09 45.0**	**-0.6**
BSO1	**Boso 1**	**7.38**	**4**	P	**P**	**17 10 01.6**	**+0.2**
BSO1				S	**S**	**17 11 29.8**	**+0.9**
BSO3	**Boso 3**	**7.51**	**1**	P	**P**	**17 10 03.1**	**+0.3**
BSO3				*e*S	**S**	**17 11 30.9**	**-0.5**
BSO4	**Boso 4**	**7.69**	**360**	P	**P**	**17 10 06.2**	**+1.5**
BSO4				S	**S**	**17 11 35.4**	**+0.4**
JIE	**Ise**	**7.77**	**337**	P	**P**	**17 10 07.3**	**+1.7**
JAI	**Aioi**	**8.27**	**323**	P	**P**	**17 10 11.6**	**+0.6**
JEG	**Eigenji**	**8.55**	**337**	P	**P**	**17 10 16.4**	**+2.4**
JHU	**Hanno**	**8.61**	**354**	S	**S**	**17 11 51.0**	**-1.6**
JRY	**Ryogami san**	**8.81**	**352**	P	**P**	**17 10 17.1**	**+0.3**
JRY				S	**S**	**17 11 55.1**	**-1.5**
JYT	**Yasato**	**8.93**	**359**	P	**P**	**17 10 17.4**	**-0.7**
MAT	**Matsushiro**	**9.43**	**349**	P	**P**	**17 10 22.6**	**-0.8**
MAT				S	**S**	**17 12 08.4**	**-0.3**
GUN	**Gumba**	**47.97**	**284**	*e*P	**P**	**17 16 07.2**	**0.0**
42nm,0.6s,mb5.0							
PKI	**Pulchoki**	**48.45**	**284**	*e*P	**P**	**17 16 09.8**	**-1.0**
5.1nm,0.3s,mb4.3							
KKN	**Kakani**	**48.52**	**284**	*e*P	**P**	**17 16 10.3**	**-0.9**
18nm,0.9s,mb4.4							
DMN	**Daman**	**48.71**	**284**	*e*P	**P**	**17 16 11.5**	**-1.2**
10nm,0.5s,mb4.5							
GKN	**Gorkha**	**49.02**	**284**	*e*P	**P**	**17 16 12.0**	**-3.1**
29nm,1.0s,mb4.6							
KOLN	**Koldanda**	**49.97**	**284**	*e*P	**P**	**17 16 16.0**	**-6.2**
19nm,0.8s,mb4.5							
TKM2	**Tokmak 2**	**54.01**	**305**	P	**P**	**17 16 51.6**	**+0.4**
SNR=8.0							
KZA	**Kyzart**	**54.35**	**304**	P	**P**	**17 16 54.9**	**+1.2**
SNR=7.5							
KBK	**Karagaybulak**	**54.51**	**305**	P	**P**	**17 16 55.0**	**+0.2**
SNR=11							
USP	**Ospenovka**	**54.77**	**305**	P	**P**	**17 16 56.3**	**-0.4**
SNR=6.0							
AAK	**Ala-Archa**	**54.84**	**305**	P	**P**	**17 16 57.2**	**0.0**
SNR=5.5							
UCH	**Uchtor**	**54.88**	**304**	P	**P**	**17 16 58.4**	**+1.0**
SNR=12							
AML	**Almayashu**	**55.49**	**304**	P	**P**	**17 17 02.6**	**+0.8**
SNR=10							
JOF	**Joensuu**	**74.21**	**333**	*e*p	**P**	**17 18 59.0**	**-0.2**
7.5nm,0.4s,mb4.6							
KAF	**Kangasniemi**	**76.62**	**334**	*e*p	**P**	**17 19 11.9**	**-0.6**
baz=67,slow=5.3							
NB2	**NORSAR Subarra**	**82.85**	**338**	P	**P**	**17 19 45.4**	**+0.3**
3.5nm,0.5s,mb4.2,baz=56,slow=5.0							
KHC	**Kasperske Hory**	**90.38**	**328**	*e*P	**P**	**17 20 21.5**	**+0.2**

MAN 03 17:26:19.8, 9.63N×126.29E, h19km, mb4.5, ML3.4, MS3.2, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.81**	**281**	⇓*i* P	Pb	17 26 34.7	-0.3
SCPH				*i* S	Sb	17 26 45.8	+0.3
BUTP	**Butuan**	**0.93**	**225**	*e*P	Pb	17 26 36.6	-0.6
BUTP				*e*S	Sb	17 26 49.7	+0.7
BIPH	**Bislig**	**1.44**	**177**	⇑*i* P	Pn	17 26 44.3	-0.8
BIPH				*i* S	Sn	17 27 00.4	-3.2
MSLP	**Maasin**	**1.50**	**290**	*e*P	Pn	17 26 45.9	-0.1
CGP	**Cagayan de Oro**	**1.96**	**234**	⇑*e*P	Pn	17 26 51.2	-1.5
CGP				*e*S	Sn	17 27 14.5	-2.4
BUKP	**Musuan**	**2.12**	**215**	*e*P	Pn	17 26 55.5	+0.5
BUKP				*e*S	Sn	17 27 22.8	+1.8
BESP	**Borongan**	**2.13**	**337**	*e*P	Pn	17 26 54.4	-0.7
OCLP	**Ormoc**	**2.18**	**311**	*e*P	Pn	17 26 56.6	+0.9
LLP	**Lapu-Lapu**	**2.39**	**287**	*e*P	Pn	17 26 57.7	-1.1
LLP				*e*S	Sn	17 27 28.7	+0.8
TBP	**Tagbilaran**	**2.40**	**272**	*i* P	Pn	17 26 58.3	-0.5
KCP	**Kidapawan**	**2.86**	**205**	⇓*e*P	Pn	17 27 05.4	-0.1
KCP				*i* S	Sn	17 27 39.4	-0.3
CNP	**Catarman**	**3.28**	**331**	*e*P	Pn	17 27 10.7	-0.7
PAGZ	**Pagadian**	**3.38**	**239**	*e*P	Pn	17 27 12.9	+0.1
GUIM	**Jordan**	**3.78**	**286**	*e*P	Pn	17 27 18.1	-0.5
PVCP	**Virac**	**4.46**	**332**	*e*P	Pn	17 27 34.6	+6.4

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*MOS **03** 17:45:12.3±2.1, 4.59N×96.81E, h33km, mb5.0/12, MS4.5/7, Error ellipse: s-maj=22.8km s-min=11.3km az=114.2*
*BJI **03** 17:45:15.0, 4.35N×96.39E, h78km, mB5.2, mb4.7, Ms4.8, Msz4.5*
*NEIC **03** 17:45:16.0±1.7, 4.60N×96.68E, h52km±15km, mb4.9/26, Error ellipse: s-maj=10.3km s-min=8.1km az=212.0*
*HRVD **03** 17:45:16.0±0.5, 4.52N×96.76E, h12km±2km, MW5.0/37, Centroid moment Tensor Solution. LP body waves: s20,c26; Mantle waves: s37,c63; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.58±.18; $M_{\theta\theta}$-2.43±.14; $M_{\phi\phi}$3.01±.20; $M_{r\theta}$-1.72±.59; $M_{\theta\phi}$-2.53±.16; $M_{\phi r}$-1.51±.60; Best double couple: $M_0$4.375×10^{16} NP1:φ±117°, δ62°, λ-166°. NP2:φ±21°, δ78°, λ-29°. Principal axes: T 4.151, Plg11°, Azm72°; N .448, Plg59°, Azm180°; P -4.599, Plg29°, Azm336°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 03 17:45:12.8±0.9, 4.56N±0.05×96.70E±0.04, h42km±8km, h38km±5.4km: pP-P, n95, σ1°±20/98, mb4.9/46, MS4.7/10, 7C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**1.68**	**303**	*e*P	**P**	**17 45 40.5**	**+0.3**
TSI	**Tuntungan**	**2.14**	**120**	*e*P	**P**	**17 45 47.0**	**+0.3**
SNG	**Songkhla**	**4.68**	**56**	P	**P**	**17 46 22.0**	**-0.8**
780nm,1.0s							
NST	**Nakhon Sawan**	**11.54**	**17**	P	**P**	**17 47 56.3**	**-1.6**
139nm,1.4s							
NST				S	Sx	17 50 45.0	
PENI	**Pendagan**	**13.14**	**140**	⇓*i* pP	**P**	**17 48 16.4**	**-3.0**
PENI	**Pendagan**	**13.14**	**140**	⇑*i* P	**P**	**17 48 15.9**	**-3.5**
122nm,0.4s							
KKTK	**Khon Kaen**	**13.15**	**27**	P	**P**	**17 48 33.0**	**+14**
556nm,0.5s							
CM31	**Chiang Mai Arr**	**13.98**	**9**	*e*P	**P**	**17 48 30.9**	**+0.5**
13nm,0.8s							
CHG	**Chiang Mai**	**14.33**	**9**	⇑P	**P**	**17 48 37.2**	**+2.2**
38nm,1.0s							
CHRT	**Chiangrai**	**15.51**	**11**	⇓P	**P**	**17 48 51.5**	**+1.2**
158nm,1.4s							
PALK	**Pallekele**	**16.14**	**280**	*e*P	**P**	**17 48 58.8**	**+0.3**
151nm,1.1s							
PALK				*e*		17 49 03.5	
VIS	**Vishakhapatnam**	**18.50**	**316**	*e*P	**P**	**17 49 25.7**	**-2.3**
VIS				*e*		17 49 33.5	
comp=Z,42nm,0.8s							
QIZ	**Qiongzhong**	**19.27**	**41**	P	**P**	**17 49 41.2**	**+4.4**
QIZ				S	**S**	**17 53 11.1**	**+4.5**
QIZ				AMB	AMB		
comp=Z,48nm,1.7s							
QIZ				LR	LR		
comp=N,2μm,18.3s							
QIZ				LR	LR		
comp=E,2μm,17.5s							
QIZ				LR	LR		
comp=Z,932nm,13.7s							
AGT	**Agartala**	**19.91**	**345**	⇑*i*	**P**	**17 49 41.0**	**-2.8**
AGT				*i*		17 50 38.0	
TRD	**Trivandrum**	**20.00**	**282**	*e*P	**P**	**17 49 44.2**	**-0.6**
TRD				*e*		17 49 48.4	
comp=Z,57nm,0.8s							
IMP	**Imphal**	**20.28**	**353**	⇓*i* P	**P**	**17 49 47.9**	**+0.2**
SHL	**Shillong**	**21.39**	**348**	*e*		17 50 08.0	
SHL				*e*		17 54 08.0	
HYB	**Hyderabad**	**21.89**	**307**	*e*P	**P**	**17 50 05.0**	**+0.9**
comp=Z,92nm,0.8s,mb5.3							
HYB				*e*S	**S**	**17 54 05.5**	**+7.2**
HYB	**Hyderabad**	**21.89**	**307**	*i* P	**P**	**17 50 05.0**	**+0.9**
comp=Z,92nm,0.8s,mb5.3							
HYB				*e*S	**S**	**17 54 05.5**	**+7.2**
RATI	**Rata**	**22.95**	**125**	⇑*i* P	**P**	**17 50 13.5**	**-1.2**
comp=Z,102nm,1.0s,mb4.9							
MNGI	**Mangalore**	**23.15**	**292**	*e*P	**P**	**17 50 15.3**	**-1.3**
MNGI				*e*		17 54 25.6	
KEDI	**Kedomdong**	**23.30**	**124**	⇑*i* pP		17 50 21.3	
KEDI	**Kedomdong**	**23.30**	**124**	⇑*i* P	**P**	**17 50 18.1**	**+0.1**
comp=Z,100nm,0.9s,mb4.9							
NGP	**Nagpur**	**23.79**	**315**	*e*P	**P**	**17 50 26.9**	**+4.2**
NGP				*e*		17 54 45.7	
LATR	**Latur**	**24.02**	**307**	*e*P	**P**	**17 50 26.0**	**+1.0**
NINI	**Niniconang**	**24.70**	**111**	⇑*i* P	**P**	**17 50 34.8**	**+3.1**
comp=Z,201nm,0.8s,mb5.4							
PKI	**Pulchoki**	**25.29**	**336**	*e*P	**P**	**17 50 36.8**	**-0.3**
comp=Z,89nm,1.4s,mb5.1							
GUN	**Gumba**	**25.40**	**337**	*e*P	**P**	**17 50 38.5**	**+0.3**
comp=Z,55nm,0.7s,mb5.2							
DMN	**Daman**	**25.44**	**335**	*e*P	**P**	**17 50 39.0**	**+0.4**
comp=Z,32nm,0.8s,mb4.9							
KKN	**Kakani**	**25.53**	**336**	*e*P	**P**	**17 50 39.0**	**-0.5**
comp=Z,47nm,1.2s,mb4.9							
LSA	**Lhasa**	**25.55**	**349**	P	**P**	**17 50 40.6**	**+1.0**
LSA				AP	pP	17 50 53.6	+3.1
LSA				S	**S**	**17 55 09.1**	**+7.2**
LSA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.4							
LSA				LR	LR		
comp=N,450nm,12.2s							
LSA				LR	LR		
comp=E,330nm,8.5s							
LSA				LR	LR		
comp=Z,750nm,12.0s,MS4.4							
LSA	**Lhasa**	**25.55**	**349**	*e*P	**P**	**17 50 40.2**	**+0.7**
comp=Z,77nm,0.8s,mb5.3							
GKN	**Gorkha**	**25.98**	**335**	*e*P	**P**	**17 50 42.8**	**-0.9**
comp=Z,50nm,1.0s,mb5.0							
KOLN	**Koldanda**	**26.24**	**333**	*e*P	**P**	**17 50 46.2**	**+0.2**
comp=Z,59nm,0.7s,mb5.2							
POO	**Poona**	**26.29**	**304**	*i* P	**P**	**17 50 47.0**	**+0.4**
BHPL	**Bhopal**	**26.30**	**317**	*e*P	**P**	**17 50 51.0**	**+4.4**
BHPL				*e*		17 50 53.5	
comp=Z,14nm,0.6s							
ENH	**Enshi**	**28.27**	**24**	*e*P	**P**	**17 51 04.3**	**-0.2**
comp=Z,17nm,0.9s,mb4.7							
PTH	**Pithoragarh**	**29.34**	**330**	*e*	**P**	**17 51 14.0**	**-0.1**
DDI	**Dehra Dun**	**31.08**	**328**	*e*P	**P**	**17 51 31.3**	**+1.8**
LZH	**Lanzhou**	**32.05**	**11**	*e*P	**P**	**17 51 38.7**	**+0.7**
LZH				AMB	AMB		
comp=Z,66nm,1.3s,mb5.3							
LZH				AMB	AMB		
comp=Z,127nm,5.4s							
LZH				LR	LR		
comp=N,638nm,13.0s							
LZH				LR	LR		
comp=Z,759nm,17.3s,MS4.4							
NJ2	**Nanjing**	**34.33**	**35**	*e*P	**P**	**17 51 58.1**	**+0.4**
NJ2				S	**S**	**17 57 22.0**	**+0.7**
NJ2				AMB	AMB		
comp=Z,50nm,1.2s,mb5.3							
NJ2				AMB	AMB		
comp=Z,360nm,9.7s							
NJ2				LR	LR		
comp=N,1μm,24.5s							
NJ2				LR	LR		
comp=E,580nm,17.6s							
NJ2				LR	LR		
comp=Z,520nm,14.0s							
SSE	**Sheshan**	**35.03**	**38**	*e*P	**P**	**17 52 01.7**	**-2.0**
SSE				S	**S**	**17 57 30.6**	**-1.5**
SSE				AMB	AMB		
comp=Z,21nm,0.6s,mb5.2							
SSE				AMB	AMB		
comp=Z,99nm,5.0s							
SSE				LR	LR		
comp=N,836nm,23.6s,MS4.5							
SSE				LR	LR		
comp=E,616nm,23.6s,MS4.5							
FITZ	**Fitzroy Crossi**	**36.35**	**129**	*e*P	**P**	**17 52 15.2**	**+0.2**
comp=E,27nm,0.6s,mb5.3							
BJT	**Baijiatuao**	**39.43**	**24**	*e*P	**P**	**17 52 41.8**	**+1.3**
comp=E,49nm,0.8s,mb5.3							
WMQ	**Urumqi**	**39.90**	**350**	*e*P	**P**	**17 52 46.6**	**+2.3**
AAK	**Ala-Archa**	**42.74**	**336**	*i* P	**P**	**17 53 08.3**	**+0.5**
AAK				pmax	pmax		
comp=Z,12nm,2.4s,mb4.2							
AAK				MLR	MLR		
comp=Z,800nm,23.0s,MS4.5							
AAK	**Ala-Archa**	**42.74**	**336**	*e*P	**P**	**17 53 06.8**	**-1.0**
comp=Z,7.3nm,0.8s,mb4.5							
MK02	**Makanchi Array**	**43.85**	**346**	P	**P**	**17 53 15.3**	**-1.5**
MK02				pmax	pmax		
comp=Z,17nm,0.9s,mb4.8							
ULN	**Ulaanbaatar**	**44.05**	**10**	*i* P	**P**	**17 53 22.4**	**+4.1**
ULN	**Ulaanbaatar**	**44.05**	**10**	*e*P	**P**	**17 53 18.9**	**+0.6**
comp=Z,7.8nm,1.0s,mb4.4							
WRAB	**Tennant Creek**	**44.29**	**125**	⇓*e*P	**P**	**17 53 20.5**	**-0.2**
WRAB	**Tennant Creek**	**44.29**	**125**	*e*P	**P**	**17 53 20.3**	**-0.4**
comp=Z,29nm,0.6s,mb5.2							
WB2	**Warramunga Arr**	**44.30**	**125**	⇓*i* P	**P**	**17 53 20.3**	**-0.4**
ZAK	**Zakamensk**	**45.99**	**6**	*e*P	**P**	**17 53 33.1**	**-0.8**
HIA	**Hailar**	**48.65**	**20**	*e*P	**P**	**17 53 55.8**	**+1.1**
comp=Z,32nm,1.6s,mb5.1							
NVS	**Novosibirsk**	**51.30**	**350**	*e*P	**P**	**17 54 18.8**	**+4.0**
NVS				pmax	pmax		
comp=Z,13nm,1.6s,mb4.6							
NVS				pmax	pmax		
comp=N,17nm,1.9s							
NVS				pmax	pmax		
comp=E,13nm,1.9s							
KLR	**Kul'dur**	**53.51**	**28**	*e*P	**P**	**17 54 31.2**	**-0.2**
KLR				pmax	pmax		
comp=N,45nm,2.0s							
KLR				pmax	pmax		
comp=Z,63nm,2.0s,mb5.2							
KLR				MLR	MLR		
comp=N,800nm,13.0s							
KLR				MLR	MLR		
comp=Z,2μm,13.0s,MS5.4							
CTA	**Charters Tower**	**54.49**	**119**	*e*P	**P**	**17 54 39.8**	**+0.8**
comp=Z,4.8nm,0.9s,mb4.4							
CTAO	**Charters Tower**	**54.49**	**119**	*e*P	**P**	**17 54 39.3**	**+0.3**
comp=Z,12nm,1.1s,mb4.7							
STKA	**Stephens Creek**	**55.99**	**134**	*e*P	**P**	**17 54 50.4**	**+0.7**
comp=Z,5.4nm,0.7s,mb4.7							
CLNS	**Chul'man**	**56.70**	**18**	*e*P	**P**	**17 54 46.0**	**-8.5**
CLNS				pmax	pmax		
comp=Z,15nm,1.4s,mb4.8							
CLNS				pmax	pmax		
comp=N,7.0nm,1.1s							
CLNS				MLR	MLR		
comp=Z,800nm,14.0s,MS5.0							
CLNS				MLR	MLR		
comp=N,600nm,15.0s,MS4.8							
CLNS				MLR	MLR		
comp=E,200nm,16.0s,MS4.8							
YSS	**Yuzh-Sakhalins**	**57.89**	**36**	P	**P**	**17 55 08.3**	**+5.3**
GNI	**Garni**	**58.56**	**315**	*i* P	**P**	**17 55 08.5**	**+0.7**
GNI				pmax	pmax		
comp=Z,14nm,1.6s							
GNI				MLR	MLR		
comp=Z,200nm,16.0s							
GNI	**Garni**	**58.56**	**315**	*e*P	**P**	**17 55 08.1**	**+0.4**
comp=Z,4.5nm,0.7s,mb4.6							
SVE	**Sverdlovsk**	**59.40**	**338**	*e*P	**P**	**17 55 13.0**	**-0.4**
KMBO	**Kilima Mbogo**	**59.67**	**266**	*i* P	**P**	**17 55 18.1**	**+2.3**
KMBO				pmax	pmax		
comp=Z,7.0nm,0.7s							
KMBO	**Kilima Mbogo**	**59.67**	**266**	*e*P	**P**	**17 55 17.2**	**+1.4**
comp=Z,12nm,1.0s,mb4.9							
ARU	**Arti**	**59.91**	**337**	*e*P	**P**	**17 55 11.8**	**-5.1**
ARU				*e*S	**S**	**18 03 18.2**	**-6.0**
ARU				*e*SSS	SSS	18 09 53.3	-0.5
KIV	**Kislovodsk**	**61.47**	**318**	*i* P	**P**	**17 55 31.0**	**+3.4**
KIV				pmax	pmax		
comp=Z,11nm,0.9s,mb5.0							
KIV				MLR	MLR		
comp=Z,300nm,23.0s,MS4.4							
KIV	**Kislovodsk**	**61.47**	**318**	*e*P	**P**	**17 55 26.5**	**-1.1**
comp=Z,15nm,1.1s,mb5.0							
YAK	**Yakutsk**	**62.36**	**17**	⇓*e*P	**P**	**17 55 32.6**	**-0.7**
YAK				pmax	pmax		
comp=Z,43nm,1.9s,mb5.2							
YAK				MLR	MLR		
comp=Z,300nm,15.0s,MS4.6							
YAK	**Yakutsk**	**62.36**	**17**	*e*P	**P**	**17 55 32.2**	**-1.1**
comp=Z,26nm,1.0s,mb5.3							
MALT	**Malatya**	**62.54**	**311**	*e*P	**P**	**17 55 33.9**	**-0.9**
comp=Z,3.3nm,0.9s,mb4.5							
SOKR	**Solikamsk**	**62.79**	**338**	*e*P	**P**	**17 55 38.2**	**+2.0**
SOKR				pmax	pmax		
comp=Z,10.0nm,0.8s,mb5.0							
SOKR				MLR	MLR		
comp=Z,680nm,22.0s,MS4.8							
EIL	**Elat**	**63.28**	**301**	*e*P	**P**	**17 55 38.2**	**-1.8**
comp=Z,20nm,1.0s,mb5.2							
SOC	**Sochi**	**63.32**	**317**	*e*P	**P**	**17 55 38.9**	**-1.1**
SOC				*e*		17 58 00.2	
SOC				*e*PPP	PPP	17 59 35.2	+2.8
SOC				*e*S	**S**	**18 04 13.5**	**+6.0**
SOC				*e*SS	SS	18 08 10.4	-5.9
SOC				pmax	pmax		
comp=N,9.0nm,0.8s							
SOC				pmax	pmax		
comp=Z,16nm,0.8s,mb5.2							
SOC				pmax	pmax		
comp=E,10.0nm,0.9s							
ANN	**Anapa**	**65.28**	**318**	*e*P	**P**	**17 55 51.2**	**-1.5**
ANN				*e*PP	pP	17 56 02.6	-2.4
ANN				*e*		17 56 20.8	
ANN				*e*S	S	18 04 29.1	-2.6
ANN				pmax	pmax		
comp=Z,39nm,1.1s,mb5.3							
MA2	**Magadan**	**68.54**	**26**	*e*P	**P**	**17 56 14.6**	**+1.6**
MA2				pmax	pmax		
comp=Z,10.0nm,1.6s,mb4.5							
OBN	**Obninsk**	**69.52**	**328**	*e*P	PcP	17 56 38.2	-4.0
OBN				pmax	pmax		
comp=Z,12nm,1.6s,mb4.6							
TIXI	**Tiksi**	**69.98**	**10**	*e*P	**P**	**17 56 20.1**	**-1.6**
TIXI				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.5							
TIXI				MLR	MLR		
comp=Z,306nm,17.0s,MS4.6							
LSZ	**Lusaka**	**70.63**	**252**	*e*P	**P**	**17 56 27.4**	**+0.9**
comp=Z,13nm,1.1s,mb4.8							
LBTB	**Lobatse**	**74.95**	**243**	*e*P	**P**	**17 56 53.1**	**+1.2**
comp=Z,8.7nm,0.7s,mb4.8							
BOSA	**Boshof**	**76.04**	**239**	*e*P	**P**	**17 56 58.8**	**+0.7**
comp=Z,11nm,0.9s,mb4.8							
KOLS	**Kolonicke sedl**	**76.36**	**319**	*e*P	**P**	**17 56 59.6**	**+0.2**
KOLS				*e*		17 57 33.1	
FINES	**FINESS Array B**	**76.81**	**332**	*i* P	**P**	**17 57 05.9**	**+4.2**
FINES				pmax	pmax		
comp=Z,1.0nm,0.6s							
CRVS	**Cervenica-Dubn**	**76.88**	**319**	*e*P	**P**	**17 57 04.3**	**+1.9**
CRVS				*e*		17 57 22.0	
PSZ	**Piszkesteto**	**77.79**	**

	comp=N,106nm,0.2s								
VIS					*e*				17 57 53.7
	comp=E,82nm,0.2s								
HYB	**Hyderabad**	**14.22**	**298**		*i* P		**P**		**17 57 02.0 +9.4**
HYB					*e*S		**S**		**17 59 15.0 -15**
SHL	**Shillong**	**14.40**	**1**		*e*P		**P**		**17 56 56.0 +1.0**
SHL					*e*S		**S**		**17 59 20.0 -15**
PKI	**Pulchoki**	**17.43**	**341**		*e*P		**P**		**17 57 33.8 0.0**
	comp=E,16nm,0.6s								
DMN	**Daman**	**17.57**	**340**		*e*P		**P**		**17 57 34.7 -0.8**
	comp=E,34nm,0.9s								
GUN	**Gumba**	**17.61**	**343**		*e*P		**P**		**17 57 37.0 +1.0**
	comp=E,58nm,1.2s								
KKN	**Kakani**	**17.68**	**341**		*e*P		**P**		**17 57 37.0 +0.2**
	comp=E,38nm,1.2s								
GKN	**Gorkha**	**18.09**	**339**		*e*P		**P**		**17 57 42.5 +0.5**
	comp=E,13nm,0.4s								
KOLN	**Koldanda**	**18.26**	**336**		*e*P		**P**		**17 57 45.8 +1.7**
	comp=E,14nm,0.7s								
LSA	**Lhasa**	**18.53**	**358**		*e*P		**P**		**17 57 48.4 +1.1**
	comp=E,6.3nm,0.5s								
POO	**Poona**	**18.77**	**295**		*i* S		**S**		**18 01 13.0 -2.4**
ENH	**Enshi**	**25.25**	**38**		*e*P		**P**		**17 58 54.3 -2.0**
	comp=E,30nm,0.7s,mb4.9								
LZH	**Lanzhou**	**27.21**	**22**		*e*P		**P**		**17 59 13.7 -0.6**
LZH					AP		pP		17 59 23.2 +1.0
LZH					AMB		AMB		
	comp=Z,19nm,1.3s,mb4.5								
AAK	**Ala-Archa**	**34.83**	**338**		*e*P		**P**		**18 00 22.1 +0.6**
	comp=Z,3.0nm,0.9s,mb4.2								
FITZ	**Fitzroy Crossi**	**44.30**	**131**	⇑	*i* P		**P**		**18 01 41.1 +0.7**
	comp=Z,10nm,0.7s,mb4.7								
WB2	**Warramunga Arr**	**52.08**	**126**	⇑	*i* P		**P**		**18 02 41.4 +0.5**
KIV	**Kislovodsk**	**53.34**	**317**		*e*P		**P**		**18 02 51.2 +1.2**
	comp=Z,16nm,1.0s,mb4.9								
KIV					*e*pP		pP		18 02 59.3 +1.1
MALT	**Malatya**	**54.58**	**309**		*e*P		**P**		**18 03 00.9 +1.8**
MALT					*e*pP		pP		18 03 07.9 +0.5
YSS	**Yuzh-Sakhalins**	**55.81**	**40**		P		**P**		**18 03 06.4 -1.5**
	comp=Z,7.3nm,0.8s,mb4.8								
YAK	**Yakutsk**	**57.77**	**20**		P		**P**		**18 03 20.1 -1.5**
	comp=Z,4.2nm,0.4s,mb4.8								
OBN	**Obninsk**	**61.40**	**328**		P		**P**		**18 03 46.4 -0.3**
	comp=Z,7.8nm,0.4s,mb5.2								
MA2	**Magadan**	**65.08**	**29**		*e*P		**P**		**18 04 09.6 -1.3**
	comp=Z,6.9nm,0.9s,mb4.7								
JOF	**Joensuu**	**66.93**	**334**		*e*p		**P**		**18 04 23.3 +0.6**
	comp=Z,4.8nm,0.5s,mb4.8								
KAF	**Kangasniemi**	**68.86**	**333**		*e*p		**P**		**18 04 31.2 -3.5**
	comp=Z,13nm,1.5s,mb4.7								
BRG	**Berggiesshubel**	**73.76**	**320**		P		pP		18 05 13.5 +0.7
	comp=Z,18nm,1.5s								
NB2	**NORSAR Subarra**	**75.77**	**330**		P		**P**		**18 05 16.2 +0.5**
	comp=Z,1.1nm,0.6s,mb4.0,baz=95,slow=5.3								

BJI ***03*** *17:59:27.1,50.97S×161.30E,h11km,mB5.9,mb5.7, Ms5.8,Msz5.4*

HRVD ***03*** *17:59:28.9±0.1,50.69S×161.51E,h12km,MW6.0/67, Centroid moment Tensor Solution. LP body waves: s64,c143;Mantle waves: s67,c229; Half duration: 2s7 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.10±.01; $M_{\theta\theta}$0.97±.02; $M_{\phi\phi}$-0.87±.01; $M_{r\theta}$0.11±.04; $M_{r\phi}$-1.10±.01; $M_{\theta r}$-0.09±.04; Best double couple: $M_0$1.444×10^{18} NP1: ϕ_s70°,δ85°,λ178°. NP2:ϕ_s160°,δ88°,λ5°. Principal axes: T 1.498, Plg5°, Azm25°; N -.109, Plg85°, Azm185°; P -1.389, Plg2°, Azm295°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***03*** *17:59:28.9±0.2,50.66S×161.87E,h10km,mb5.6/27, MS5.4/24,MW6.1 Error ellipse: s-maj=6.5km s-min=3.3km az=139.0,Moment Tensor Solution. s4 Moment tensor: Scale 10^{18}Nm; M_{rr}0.02; $M_{\theta\theta}$0.21; $M_{\phi\phi}$-0.23; $M_{r\theta}$0.11; $M_{\theta\phi}$-1.36; $M_{\phi r}$-0.29; Best double couple: $M_0$1.4×10^{18} NP1:ϕ_s85°,δ78°,λ176°. NP2:ϕ_s176°,δ86°,λ12°. Principal axes: T 1.41, Plg11°, Azm41°; N -.01, Plg77°, Azm191°; P -1.4, Plg6°, Azm310°;*

MOS ***03*** *17:59:32.2±1.9,50.75S×161.52E,h33km,mb5.8/14, MS5.4/20 Error ellipse: s-maj=20.1km s-min=9.8km az=97.8*

ISC 03 17:59:27.6±0.2,**50.60S**±0.04×**161.92E**±0.05,**h10**km,**n303,** σ1$**40**/153,**mb5.7**/38,**MS5.5**/35,**25C-24D,North of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**6.19**	**43**	*e*P	**Pn**	**18 01 00.7**	**-0.7**
WHZ				S	**Sn**	**18 02 09.3**	**-3.8**
WHZ	**Wether Hill Ro**	**6.19**	**43**	P	**Pn**	**18 01 00.7**	**-0.7**
WHZ				S	**Sn**	**18 02 12.0**	**-1.1**
DCZ	**Deep Cove**	**6.21**	**36**	P	**Pn**	**18 01 00.4**	**-1.3**
MLZ	**Mavora Lakes**	**6.72**	**41**	*e*P	**Pn**	**18 01 07.9**	**-1.0**
MLZ				S	**Sn**	**18 02 21.6**	**-4.8**
MLZ	**Mavora Lakes**	**6.72**	**41**	P	**Pn**	**18 01 07.9**	**-1.0**
MLZ				S	**Sn**	**18 02 25.0**	**-1.4**
TUZ	**Tuapeka**	**6.93**	**51**	*e*P	**Pn**	**18 01 10.9**	**-0.9**
TUZ	**Tuapeka**	**6.93**	**51**	P	**Pn**	**18 01 10.9**	**-0.9**
TUZ				S	**Sn**	**18 02 28.2**	**-3.3**
MSZ	**Milford Sound**	**7.18**	**37**	P	**Pn**	**18 01 16.1**	**+0.7**
MSZ				S	**Sn**	**18 02 39.6**	**+1.7**
EAZ	**Earnscleugh**	**7.31**	**46**	*e*P	**Pn**	**18 01 15.8**	**-1.3**
EAZ	**Earnscleugh**	**7.31**	**46**	P	**Pn**	**18 01 15.8**	**-1.3**
EAZ				S	**Sn**	**18 02 38.6**	**-2.4**
WKZ	**Wanaka**	**7.50**	**42**	*e*P	**Pn**	**18 01 19.0**	**-0.8**
WKZ	**Wanaka**	**7.50**	**42**	P	**Pn**	**18 01 19.0**	**-0.8**
WKZ				S	**Sn**	**18 02 44.9**	**-0.8**
JCZ	**Jackson Bay**	**8.01**	**38**	*e*P	**P**	**18 01 27.1**	**+0.2**
JCZ	**Jackson Bay**	**8.01**	**38**	P	**P**	**18 01 27.1**	**+0.2**
ODZ	**Otahua Downs**	**8.08**	**50**	*e*P	**P**	**18 01 25.8**	**-2.1**
ODZ	**Otahua Downs**	**8.08**	**50**	P	**P**	**18 01 25.8**	**-2.1**
ODZ				S	**Sn**	**18 02 56.2**	**-4.1**
LBZ	**Lake Benmore**	**8.36**	**45**	P	**P**	**18 01 29.2**	**-2.6**
FOZ	**Fox Glacier**	**8.81**	**40**	P	**P**	**18 01 38.1**	**+0.1**
RPZ	**Rata Peaks**	**9.28**	**46**	*e*P	**P**	**18 01 40.2**	**-4.3**
RPZ	**Rata Peaks**	**9.28**	**46**	P	**P**	**18 01 40.2**	**-4.3**
WVZ	**Waitaha Valley**	**9.65**	**42**	*e*P	**P**	**18 01 48.7**	**-0.8**
WVZ	**Waitaha Valley**	**9.65**	**42**	P	**P**	**18 01 48.7**	**-0.8**
MQZ	**McQueen's Vall**	**10.04**	**51**	*e*P	**P**	**18 01 53.0**	**-1.9**
MQZ	**McQueen's Vall**	**10.04**	**51**	P	**P**	**18 01 53.0**	**-1.9**
LTZ	**Lake Taylor**	**10.56**	**46**	*e*P	**P**	**18 01 58.5**	**-3.5**
LTZ	**Lake Taylor**	**10.56**	**46**	P	**P**	**18 01 58.5**	**-3.5**
DSZ	**Denniston Nort**	**11.19**	**41**	*e*P	**P**	**18 02 08.1**	**-2.5**
DSZ	**Denniston Nort**	**11.19**	**41**	P	**P**	**18 02 08.1**	**-2.5**
THZ	**Tophouse**	**11.65**	**45**	*e*P	**P**	**18 02 14.6**	**-2.3**
THZ	**Tophouse**	**11.65**	**45**	P	**P**	**18 02 14.6**	**-2.3**
QRZ	**Quartz Range**	**12.26**	**41**	*e*P	**P**	**18 02 22.8**	**-2.3**
QRZ	**Quartz Range**	**12.26**	**41**	P	**P**	**18 02 22.8**	**-2.3**
NNZ	**Nelson**	**12.30**	**45**	*e*P	**P**	**18 02 24.3**	**-1.4**
NNZ	**Nelson**	**12.30**	**45**	P	**P**	**18 02 24.3**	**-1.4**
CAW	**Cannon Point**	**13.18**	**49**	*e*P	**P**	**18 02 37.6**	**+0.3**
MRZ	**Mangatainoka R**	**13.77**	**49**	*e*P	**P**	**18 02 44.4**	**-0.6**
PKE	**Pukeiti**	**14.23**	**41**	*e*P	**P**	**18 02 50.2**	**-1.0**
TSZ	**Takapari Road**	**14.42**	**48**	*e*P	**P**	**18 02 54.4**	**+0.8**
WNVZ	**Wahianoa**	**14.83**	**46**	*e*P	**P**	**18 03 00.6**	**+1.6**
MOVZ	**Moawhango**	**14.84**	**46**	*e*P	**P**	**18 02 59.7**	**+0.6**
FWVZ	**Far West T-bar**	**14.87**	**45**	*e*P	**P**	**18 03 01.1**	**+1.6**
PWZ	**Pawanui**	**14.88**	**50**	*e*P	**P**	**18 02 59.8**	**+0.2**
TUVZ	**Tukino**	**14.90**	**46**	*e*P	**P**	**18 03 02.2**	**+2.2**
NGZ	**Ngauruhoe**	**14.95**	**45**	*e*P	**P**	**18 03 01.7**	**+1.1**
MGZ	**Maungaku**	**15.07**	**45**	*e*P	**P**	**18 03 04.5**	**+2.4**
HIZ	**Hauiti**	**15.17**	**42**	*e*P	**P**	**18 03 01.2**	**-2.3**
KNZ	**Kokohu**	**16.05**	**50**	*e*P	**P**	**18 03 15.6**	**+0.7**
URZ	**Urewera**	**16.39**	**47**	*e*P	**P**	**18 03 19.0**	**-0.2**
WTAZ	**Waiatarua**	**16.40**	**38**	*e*P	**P**	**18 03 19.8**	**+0.4**
MKAZ	**Moumakai**	**16.49**	**40**	*e*P	**P**	**18 03 20.2**	**-0.3**
MWZ	**Matawai**	**16.52**	**48**	*e*P	**P**	**18 03 20.5**	**-0.4**
WCZ	**Waipu Caves**	**17.18**	**36**	*e*P	**P**	**18 03 31.5**	**+2.3**
MXZ	**Matakaoa Point**	**17.51**	**48**	*e*P	**P**	**18 03 34.3**	**+1.0**
TOO	**Toolangi**	**17.53**	**312**	⇓	*i* P	**P**	**18 03 34.2**	**+0.7**
	123nm,1.1s						
TOO	**Toolangi**	**17.53**	**312**	⇓	*i* P	**P**	**18 03 34.2**	**+0.7**
TOO					pmax	pmax	
	comp=Z,123nm,1.1s						
OUZ	**Omahuta**	**17.56**	**33**	*e*P	**P**	**18 03 35.9**	**+2.0**
RIV	**Riverview**	**18.53**	**331**	*e*P	**P**	**18 03 48.5**	**+2.5**
RIV				*e*S	**S**	**18 07 25.2**	**+16**
DRV	**Dumont d'Urvil**	**19.54**	**206**	P	**P**	**18 03 58.0**	**+0.2**
DRV				S	**S**	**18 07 42.0**	**+10**
DRV				R		18 08 00.0	
STKA	**Stephens Creek**	**24.02**	**313**	⇓	*i* P	**P**	**18 04 45.1**	**+1.8**
	comp=Z,196nm,1.6s,mb5.3						
STKA				*e*S	**S**	**18 09 01.4**	**+4.2**
RAO	**Raoul Island**	**26.18**	**43**	PFAKE		18 05 20.0	+16
RAO				LR	LR		
	comp=Z,9μm,20.0s,MS5.3						
VNDA	**Vanda**	**27.02**	**180**	*e*P	**P**	**18 05 10.7**	**-0.4**
VNDA				pmax	pmax		
	comp=Z,78nm,1.4s						
VNDA				MLR	MLR		
	comp=Z,8μm,19.0s						
VNDA	**Vanda**	**27.02**	**180**	*e*P	**P**	**18 05 10.7**	**-0.4**
	comp=Z,78nm,1.4s,mb5.0						
VNDA				LR	LR		
	comp=Z,8μm,19.0s,MS5.3						
SBA	**Scott Base**	**27.42**	**178**	P	**P**	**18 05 13.6**	**-1.1**
SBA				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.7						
SBA				MLR	MLR		
	comp=Z,14μm,20.0s,MS5.5						
SBA	**Scott Base**	**27.42**	**178**	P	**P**	**18 05 13.6**	**-1.2**
	comp=Z,24nm,0.9s,mb4.7						
SBA				LR	LR		
	comp=Z,14μm,20.0s,MS5.5						
NOUC	**Port Laguerre**	**28.65**	**8**	*e*P	**P**	**18 05 28.4**	**+1.9**
DZM	**Mont Dzumac**	**28.70**	**9**	⇑	*i* P	**P**	**18 05 29.2**	**+2.4**
CASY	**Casey**	**30.04**	**219**	*e*P	**P**	**18 05 36.3**	**-2.2**
	comp=Z,16nm,0.7s,mb4.9						
CASY				*e*		18 06 34.2	
CASY				LR	LR		
	comp=Z,7μm,19.0s,MS5.3						
CTA	**Charters Tower**	**32.88**	**332**	⇑	*i* P	**P**	**18 06 04.0**	**+0.2**
	comp=Z,84nm,1.2s,mb5.5						
CTA				*e*PCP	PcP	18 08 47.5	-1.0
CTA				*e*S	**S**	**18 11 23.0**	**+2.8**
CTA	**Charters Tower**	**32.88**	**332**	⇑	*i* P	**P**	**18 06 04.0**	**+0.2**
CTA				*e*		18 08 47.5	
CTA				*e*S	**S**	**18 11 23.0**	**+2.8**
CTA				pmax	pmax		
	comp=Z,84nm,1.2s						
CTAO	**Charters Tower**	**32.88**	**332**	*e*P	**P**	**18 06 02.7**	**-1.1**
CTAO				*e*		18 08 47.0	
CTAO				pmax	pmax		
	comp=Z,190nm,1.3s,mb5.9						
CTAO				MLR	MLR		
	comp=Z,17μm,20.0s,MS5.7						
CTAO	**Charters Tower**	**32.88**	**332**	*e*P	**P**	**18 06 02.7**	**-1.1**
	comp=Z,190nm,1.3s,mb5.9						
CTAO				*e*PcP	PcP	18 08 47.0	-1.5
CTAO				LR	LR		
	comp=Z,17μm,20.0s,MS5.7						
MIR	**Mirnyy**	**37.06**	**218**	o*e*P	**P**	**18 06 37.8**	**-1.3**
MIR				*e*		18 08 05.0	
MIR				*e*PPP	PPP	18 08 24.0	-1.7
MIR				*e*S	**S**	**18 12 23.0**	**-1.3**
MIR				pmax	pmax		
	comp=Z,2μm,5.4s						
MIR				pmax	pmax		
	comp=Z,100nm,1.2s,mb5.5						
MIR				smax			
	comp=N,2μm,8.0s						
MIR				smax			
	comp=E,3μm,15.0s						
MIR				MLR	MLR		
	comp=N,2μm,14.0s,MS5.5						
MIR				MLR	MLR		
	comp=E,4μm,14.0s,MS5.5						
MIR				MLR	MLR		
	comp=Z,10μm,14.0s,MS5.8						
NWAO	**Narrogin (SRO)**	**37.07**	**281**	⇓	*i* P	**P**	**18 06 37.8**	**-1.7**
NWAO				*e*		18 07 59.4	
NWAO				pmax	pmax		
	comp=Z,208nm,1.3s						
NWAO				MLR	MLR		
	comp=Z,9μm,22.0s						
NWAO	**Narrogin (SRO)**	**37.07**	**281**	⇓	*i* P	**P**	**18 06 37.8**	**-1.7**
	comp=Z,208nm,1.3s,mb5.8						
NWAO				*e*PP	PP	18 07 59.4	-6.6
NWAO				LR	LR		
	comp=Z,9μm,22.0s,MS5.5						
WB2	**Warramunga Arr**	**37.56**	**314**	⇓	*i* P	**P**	**18 06 42.9**	**-0.9**
WB2				*e*S	**S**	**18 12 29.6**	**-2.9**
WRAB	**Tennant Creek**	**37.57**	**314**	*d*	*i* P	**P**	**18 06 42.8**	**-1.0**
WRAB	**Tennant Creek**	**37.57**	**314**	⇓	*i* P	**P**	**18 06 42.9**	**-1.0**
	comp=Z,680nm,1.1s,mb6.3						
WRAB				LR	LR		
	comp=Z,5μm,19.0s,MS5.3						
KLBR	**Kellerberrin**	**37.64**	**283**	⇓	*i* P	**P**	**18 06 43.0**	**-1.4**
	comp=Z,566nm,1.1s,mb6.2						
KLBR				*e*PP	PP	18 08 05.2	-7.8
MUN	**Mundaring**	**38.34**	**281**	⇓	*i* P	**P**	**18 06 49.0**	**-1.2**
	comp=Z,124nm,0.9s,mb5.6						
MUN	**Mundaring**	**38.34**	**281**	⇓	*i* P	**P**	**18 06 49.0**	**-1.2**
MUN				pmax	pmax		
	comp=Z,124nm,0.9s,mb5.6						
QSPA	**South Pole Qui**	**39.52**	**180**	⇑	*i* P	**P**	**18 07 00.3**	**+0.7**
	comp=Z,113nm,1.0s,mb5.5						
QSPA				LR	LR		
	comp=Z,2.0nm,22.0s						
RAR	**Rarotonga**	**41.94**	**60**	*e*P	**P**	**18 07 22.2**	**+2.1**
RAR				pmax	pmax		
	comp=Z,325nm,1.7s						
RAR				MLR	MLR		
	comp=Z,6μm,21.0s						
RAR	**Rarotonga**	**41.94**	**60**	*e*P	**P**	**18 07 22.2**	**+2.1**
	comp=Z,325nm,1.7s,mb5.7						
RAR				LR	LR		
	comp=Z,6μm,21.0s,MS5.4						
AFI	**Afiamalu**	**42.37**	**40**	*e*P	**P**	**18 07 25.5**	**+1.9**
AFI				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.0						
PMG	**Port Moresby**	**42.85**	**338**	*c*	*i* P	**P**	**18 07 28.8**	**+1.2**
PMG	**Port Moresby**	**42.85**	**338**	⇑	*i* P	**P**	**18 07 28.6**	**+1.1**
	comp=Z,151nm,1.3s,mb5.6						
PMG				LR	LR		
	comp=Z,9μm,19.0s,MS5.7						
FITZ	**Fitzroy Crossi**	**43.40**	**305**	⇓	*i* P	**P**	**18 07 31.7**	**-0.3**
	comp=Z,190nm,0.9s,mb5.8						
FITZ				*e*S	**S**	**18 14 01.3**	**+1.7**
FITZ				*e*SS	SS	18 17 16.9	+10
MBWA	**Marble Bar**	**44.17**	**296**	⇓	*i* P	**P**	**18 07 37.1**	**-1.2**
	comp=Z,314nm,1.0s,mb6.0						
MBWA				LR	LR		
	comp=Z,7μm,21.0s,MS5.5						
KAKA	**Kakadu**	**44.78**	**317**	⇓	*i* P	**P**	**18 07 42.6**	**-0.6**
	comp=Z,164nm,1.1s,mb5.8						
KAKA				*e*PP	PP	18 09 29.7	+0.8
MAW	**Mawson**	**47.67**	**211**	*e*P	**P**	**18 08 04.4**	**-1.0**
	comp=Z,21nm,1.1s,mb5.1						
MAW	**Mawson**	**47.67**	**211**	*e*P	**P**	**18 08 04.4**	**-1.0**
MAW				pmax	pmax		
	comp=Z,21nm,1.1s						
PAE	**Paea**	**50.58**	**68**	*e*P	**P**	**18 08 30.6**	**+2.2**
	comp=Z,337nm,1.3s,mb6.1						
PPT	**Papeete**	**50.66**	**67**	*e*P	**P**	**18 08 31.5**	**+2.5**
	comp=Z,156nm,1.4s,mb5.8						
PPT	**Papeete**	**50.66**	**67**	*e*LR	LR	18 23 10.5	
	comp=Z,12μm,25.5s,baz=222						
TVO	**Taravao**	**50.68**	**68**	*e*P	**P**	**18 08 31.9**	**+2.7**
	comp=Z,578nm,1.5s,mb6.3						
TIAR	**Tiarei**	**50.80**	**68**	*e*P	**P**	**18 08 32.7**	**+2.6**
	comp=Z,715nm,1.2s,mb6.5						
MEH	**Mehetia**	**51.31**	**69**	*e*P	**P**	**18 08 36.1**	**+2.1**
	comp=Z,94nm,1.3s,mb5.5						
SYO	**Syowa Base**	**53.41**	**202**	⇓	P	**P**	**18 08 47.1**	**-2.0**
SYO	**Syowa Base**	**53.41**	**202**	⇓	pP	pP	18 08 49.5	-2.6
SYO	**Syowa Base**	**53.41**	**202**	⇓	PcP	PcP	18 09 53.0	-3.3
PMOR	**Pomariorio Ree**	**53.66**	**67**	*e*P	**P**	**18 08 53.7**	**+2.1**
	comp=Z,244nm,1.4s,mb6.0						
RKT	**Rikitea**	**55.51**	**85**	*e*SS	SS	18 20 42.5	+9.2
RKT				*e*LQ		18 22 54.0	
RKT				*e*LR	LR	18 25 03.7	
	comp=Z,10μm,23.2s,baz=220						
NVL	**N'lazarevskaya**	**57.04**	**191**	⇑	*e*P	**P**	**18 09 11.0**	**-4.4**
NVL				*e*S	**S**	**18 17 03.0**	**-5.1**
NVL				pmax	pmax		
	comp=Z,1μm,5.1s						
PTCN	**Pitcairn Islan**	**57.22**	**90**	PFAKE		18 09 30.0	+13
PTCN				LR	LR		
	comp=Z,6μm,21.0s,MS5.7						
SNAA	**Sanae**	**57.55**	**186**	⇑	*i*	**P**	**18 09 17.0**	**-2.0**
SNAA	**Sanae**	**57.55**	**186**	⇑	*i*	**P**	**18 09 21.0**	**+2.0**
SNAA	**Sanae**	**57.55**	**186**	*c*	*i* P	**P**	**18 09 17.3**	**-1.7**
VNA3	**Neumayer Olymp**	**58.31**	**183**	⇑	*i*	**P**	**18 09 26.2**	**+1.9**
VNA3	**Neumayer Olymp**	**58.31**	**183**	⇑	*i*	**P**	**18 09 31.6**	**+7.3**
VNA2	**Neumayer--Watz**	**58.54**	**184**	⇑	*i*	**P**	**18 09 28.7**	**+2.8**
VNA2	**Neumayer--Watz**	**58.54**	**184**	⇑	*i*	**P**	**18 09 32.2**	**+6.3**
VNA2	**Neumayer--Watz**	**58.54**	**184**	⇑	*i*	**P**	**18 09 41.3**	**+15**
VNA1	**Neumayer--Stat**	**58.85**	**184**	⇑	*i*	**P**	**18 09 31.1**	**+3.0**
VNA1	**Neumayer--Stat**	**58.85**	**184**	⇓	*i*	**P**	**18 09 35.6**	**+7.5**
PMSA	**Palmer Station**	**59.57**	**159**	PFAKE			18 09 40.0	+6.9
PMSA				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
DAV	**Davao City (W)**	**65.47**	**320**	*e*P	**P**	**18 10 12.5**	**-0.6**
RPN	**Rapa Nui**	**68.78**	**107**	PFAKE		18 10 50.0	+16
RPN				LR	LR		
	comp=Z,913nm,20.0s,MS5.0						
LLP	**Lapu-Lapu**	**69.06**	**320**	*e*P	**P**	**18 10 34.8**	**-0.9**
WAKE	**Wake Island**	**69.70**	**5**	PFAKE		18 10 50.0	+10
WAKE				LR	LR		
	comp=Z,28μm,19.0s,MS6.5						
MIDW	**Midway**	**80.59**	**18**	PFAKE		18 11 50.0	+8.4
MIDW				LR	LR		
	comp=Z,3μm,21.0s,MS5.6						
QIZ	**Qiongzhong**	**83.07**	**311**	P	**P**	**18 11 55.1**	**+0.4**
QIZ				S	S	18 22 12.6	-0.2
QIZ				PS	PS	18 23 06.0	-0.1
QIZ				SS	SS	18 27 38.3	-1.8
QIZ				LR	LR		
	comp=N,1μm,23.6s,MS5.4						
QIZ				LR	LR		
	comp=E,1μm,22.4s,MS5.4						
QIZ				LR	LR		
	comp=Z,1μm,21.7s,MS5.2						
TATO	**Taipei**	**83.30**	**324**	PFAKE		18 12 10.0	+14
TATO				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
TRQA	**Tornquist**	**83.65**	**147**	*e*P	**P**	**18 11 58.8**	**+1.6**
	comp=Z,16nm,1.0s,mb5.1						
DGAR	**Diego Garcia**	**84.00**	**266**	*i* P	**P**	**18 11 58.1**	**-1.4**
DGAR				MLR	MLR		
	comp=Z,815nm,20.0s,MS5.1						
KKTK	**Khon Kaen**	**84.33**	**304**	P	**P**	**18 12 02.0**	**+0.9**
	comp=Z,370nm,0.8s,mb6.6						
QZH	**Quanzhou**	**84.40**	**321**	P	**P**	**18 12 01.4**	**+0.1**
QZH				SKS	SKS	18 22 26.0	-0.3
QZH				S	S	18 22 28.0	+2.0
QZH				AMB	AMB		
	comp=Z,130nm,1.2s,mb5.9						
QZH				LR	LR		
	comp=N,2μm,20.4s,MS5.6						
QZH				LR	LR		
	comp=E,2μm,17.1s,MS5.6						
QZH				LR	LR		
	comp=Z,3μm,22.5s						
NST	**Nakhon Sawan**	**85.22**	**302**	P	**P**	**18 12 05.0**	**-0.6**
CM31	**Chiang Mai Arr**	**88.15**	**302**	*e*P	**P**	**18 12 20.3**	**+0.5**
	comp=Z,91nm,1.0s,mb6.0						
CM31				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
CHG	**Chiang Mai**	**88.44**	**302**	⇑	P	**P**	**18 12 21.7**	**+0.5**
	comp=Z,54nm,0.9s,mb5.8						
CHRT	**Chiangrai**	**88.86**	**304**	⇓	P	**P**	**18 12 24.0**	**+0.8**
	comp=Z,253nm,1.3s,mb6.4						
SSE	**Sheshan**	**88.96**	**326**	P	**P**	**18 12 24.9**	**+1.4**
SSE				AP	pP	18 12 29.5	+2.8
SSE				S	S	18 23 11.5	+2.1
SSE				AMB	AMB		
	comp=Z,53nm,1.0s,mb5.8						
SSE				AMB	AMB		
	comp=Z,323nm,8.7s						
SSE				LR	LR		
	comp=N,1μm,18.2s,MS5.8						
SSE				LR	LR		
	comp=E,3μm,18.3s,MS5.8						
SSE				LR	LR		
	comp=Z,1μm,22.8s,MS5.2						
MAJO	**Matsushiro**	**89.26**	**341**	*e*P	**P**	**18 12 24.9**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,86nm,1.5s,mb5.9						
MAJO				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.3						
MAJO	**Matsushiro**	**89.26**	**341**	*e*P	**P**	**18 12 24.9**	**+0.1**
	comp=Z,86nm,1.5s,mb5.9						
MAJO				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
MAT	**Matsushiro**	**89.26**	**341**	*e*P	**P**	**18 12 25.0**	**+0.3**
MAT				*e*S	S	18 23 06.0	-6.0
MAT				pmax	pmax		
	comp=Z,77nm,1.4s,mb5.8						
MAT				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.3						
MAT	**Matsushiro**	**89.26**	**341**	*e*P	**P**	**18 12 25.0**	**+0.3**
	comp=Z,77nm,1.4s,mb5.8						
MAT				*e*S	S	18 23 06.0	-6.0
MAT				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
MAT	**Matsushiro**	**89.26**	**341**	P	**P**	**18 12

WMQ				LR	LR		
	comp=N,1μm,22.3s,MS5.5						
WMQ				LR	LR		
	comp=E,1μm,24.0s,MS5.5						
WMQ				LR	LR		
	comp=Z,910nm,19.5s,MS5.4						
YAK	**Yakutsk**	**115.18**	**344**	*i* PKIKP	PKPdf	18 18 08.4	-2.8
YAK	**Yakutsk**	**115.18**	**344**	*i* PKP	PKPdf	18 18 08.5	-2.7
WVOR	**Wild Horse Val**	**115.57**	**54**	*e*PKIKP	PKPdf	18 18 10.9	-1.6
LAZ	**Ladron**	**116.23**	**67**	*e*PKPdf	PKPdf	18 18 12.9	-1.1
MSU	**Marysvale**	**116.24**	**61**	*e*PKIKP	PKPdf	18 18 14.1	+0.2
BNM	**Barren Site**	**116.36**	**68**	*e*PKPdf	PKPdf	18 18 13.1	-1.2
SRU	**San Rafael**	**117.58**	**61**	*e*PKIKP	PKPdf	18 18 15.4	-1.0
PV10	**Paradox Valley**	**117.91**	**63**	*e*PKPdf	PKPdf	18 18 16.0	-1.1
BMO	**Blue Mountains**	**117.97**	**53**	*e*PKIKP	PKPdf	18 18 14.9	-2.1
BILL	**Bilibino**	**118.36**	**2**	*i* PKIKP	PKPdf	18 18 15.8	-1.5
BILL				*e*		18 25 21.0	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.5s						
BILL	**Bilibino**	**118.36**	**2**	*e*PKPdf	PKPdf	18 18 15.2	-2.0
RW3	**Ridgway**	**118.59**	**64**	*e*PKIKP	PKPdf	18 18 18.1	-0.4
RW3				*e*		18 18 30.1	
HWUT	**Hardware Ranch**	**118.73**	**59**	*e*PKPdf	PKPdf	18 18 16.7	-1.9
SDCO	**Great Sand Dun**	**119.50**	**65**	*e*PKPdf	PKPdf	18 18 18.4	-1.7
SDCO				*e*		18 18 30.3	
AAK	**Ala-Archa**	**119.93**	**302**	*e*PKIKP	PKPdf	18 18 17.2	-3.6
AAK				*e*		18 18 26.9	
MCMT	**McKenzie Canyo**	**120.25**	**55**	*e*PKPdf	PKPdf	18 18 20.1	-1.4
MCK	**McKinley**	**120.31**	**23**	*e*PKIKP	PKPdf	18 18 18.8	-2.3
TPAW	**Teton Pass**	**120.35**	**57**	*e*PKPdf	PKPdf	18 18 20.4	-1.3
NEW	**Newport**	**120.43**	**50**	*e*PKIKP	PKPdf	18 18 19.1	-2.6
BW06	**Boulder Array**	**120.61**	**59**	*e*PKPdf	PKPdf	18 18 20.7	-1.6
LOHW	**Long Hollow**	**120.62**	**57**	*e*PKPdf	PKPdf	18 18 21.3	-1.0
IMW	**Indian Meadow**	**120.63**	**57**	*e*PKPdf	PKPdf	18 18 21.9	-0.4
MOOW	**Moose Ponds**	**120.63**	**57**	*e*PKPdf	PKPdf	18 18 21.1	-1.2
ISCO	**Idaho Springs**	**120.83**	**64**	*e*PKIKP	PKPdf	18 18 21.5	-1.3
QLMT	**Earthquake Lak**	**121.00**	**56**	*e*PKPdf	PKPdf	18 18 22.8	-0.1
MSO	**Missoula**	**121.04**	**53**	*e*PKPdf	PKPdf	18 18 20.6	-2.4
YFT	**Old Faithful**	**121.06**	**57**	*e*PKPdf	PKPdf	18 18 23.3	+0.2
YMR	**Madison River**	**121.13**	**56**	*e*PKPdf	PKPdf	18 18 22.7	-0.6
RWWY	**Rawlins**	**121.19**	**61**	*e*PKPdf	PKPdf	18 18 21.8	-1.7
BOZ	**Bozeman (W)**	**121.44**	**55**	*e*PKIKP	PKPdf	18 18 22.5	-1.3
CHMT	**Chamberlain Mo**	**121.44**	**53**	*e*PKPdf	PKPdf	18 18 22.4	-1.4
WMOK	**Wichita Mounta**	**121.46**	**72**	*e*PKIKP	PKPdf	18 18 22.2	-1.9
COLA	**College**	**121.52**	**23**	*e*PKIKP	PKPdf	18 18 19.7	-3.8
COLA				*e*		18 18 29.7	
HRY	**Holter Researc**	**122.04**	**54**	*e*PKPdf	PKPdf	18 18 23.5	-1.4
ZAL	**Zalesovo**	**122.52**	**317**	*i* PKIKP	PKPdf	18 18 24.0	-1.6
GCMT	**Greycliff**	**122.56**	**56**	*e*PKPdf	PKPdf	18 18 25.1	-0.7
NVS	**Novosibirsk**	**123.80**	**317**	*e*PKIKP	PKPdf	18 18 35.5	+7.4
TIXI	**Tiksi**	**124.18**	**348**⇓	*e*PKIKP	PKPdf	18 18 25.4	-3.1
LAO	**LASA Array**	**124.97**	**57**	*e*PKPdf	PKPdf	18 18 29.4	-1.1
KSU1	**Kansas State U**	**125.64**	**70**	*e*PKPdf	PKPdf	18 18 30.2	-1.8
KSU1				*e*		18 18 41.0	
DGMT	**Dagmar**	**127.15**	**56**	*e*PKPdf	PKPdf	18 18 32.7	-1.8
HALT	**Halls**	**128.04**	**77**	*e*PKPdf	PKPdf	18 18 35.0	-1.7
CCM	**Cathedral Cave**	**128.22**	**74**	*e*PKIKP	PKPdf	18 18 34.0	-3.0
FVM	**French Village**	**128.68**	**75**	*e*PKIKP	PKPdf	18 18 34.5	-3.4
WVT	**Waverly**	**129.12**	**78**	*e*PKIKP	PKPdf	18 18 35.7	-3.1
CPCT	**Cooper Cave**	**130.76**	**81**	*e*PKPdf	PKPdf	18 18 39.6	-2.3
WCI	**Wyandotte Cave**	**131.39**	**77**	*e*PKIKP	PKPdf	18 18 40.5	-2.5
JSC	**Jenkinsville**	**132.08**	**85**	*e*PKIKP	PKPdf	18 18 42.5	-2.0
ELN	**Prospectdale**	**134.25**	**82**	*e*PKPdf	PKPdf	18 18 45.8	-2.5
FWV	**Forest Hill**	**134.42**	**81**	*e*PKPdf	PKPdf	18 18 46.1	-2.6
ACSO	**Alum Creek Sta**	**134.65**	**77**	*e*PKPdf	PKPdf	18 18 46.5	-2.6
DBIC	**Dimbokro**	**134.84**	**199**	*e*PKIKP	PKPdf	18 18 47.3	-2.8
GNI	**Garni**	**135.90**	**282**	*i* PKIKP	PKPdf	18 18 50.6	-0.8
GNI				MLR	MLR		
	comp=Z,800nm,18.0s						
GNI	**Garni**	**135.90**	**282**	*e*PKPdf	PKPdf	18 18 49.8	-1.6
ARU	**Arti**	**136.27**	**309**	*i* PKIKP	PKPdf	18 18 48.7	-2.8
MALT	**Malatya**	**138.80**	**275**	*e*PKIKP	PKPdf	18 18 54.1	-2.6
KIV	**Kislovodsk**	**139.27**	**285**⇑	PKIKP	PKPdf	18 18 58.1	+0.7
KIV				*e*		18 26 00.7	
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,700nm,28.0s,MS5.3						
KIV	**Kislovodsk**	**139.27**	**285**	PKPdf	PKPdf	18 18 54.6	-2.8
KIV			⇑	*e*PKP	PKPdf	18 18 58.2	+0.8
GOF	**Gofitskoye**	**139.63**	**287**	*e*PKIKP	PKPdf	18 18 53.0	-5.0
GOF				pmax	pmax		
	comp=Z,30nm,1.4s						
BINY	**Binghamton**	**140.11**	**79**	*e*PKPdf	PKPdf	18 18 56.6	-2.3
SOC	**Sochi**	**140.92**	**283**	*i* PKIKP	PKPdf	18 19 00.7	+0.4
SOC				*e*SS	SS	18 40 20.2	-5.9
SOC				*e*SSS	SSS	18 45 33.7	-8.5
SOC				pmax	pmax		
	comp=Z,21nm,0.9s						
SOC				pmax	pmax		
	comp=N,10.0nm,0.8s						
SOC				pmax	pmax		
	comp=E,21nm,0.9s						
NCB	**Newcomb**	**142.14**	**78**	*e*PKPdf	PKPdf	18 19 02.5	+0.1
MIV	**Mineville/With**	**142.62**	**78**	*e*PKPdf	PKPdf	18 19 01.1	-2.1
ANN	**Anapa**	**142.95**	**283**	*i* PKIKP	PKPdf	18 19 07.0	+3.3
ANN				pmax	pmax		
	comp=Z,72nm,0.8s						
VOR	**Voronezh**	**144.86**	**295**	PKIKP	PKPdf	18 19 04.0	-2.8
VOR				pmax	pmax		
	comp=Z,150nm,1.2s						
SIM	**Simferopol'**	**145.09**	**281**	*i* PKIKP	PKPdf	18 19 03.5	-4.0
SIM				pmax	pmax		
	comp=Z,71nm,1.1s						
WVL	**Waterville**	**145.28**	**80**	*e*PKPdf	PKPdf	18 19 05.8	-2.1
GVD	**Gavdhos**	**145.77**	**259**	*e*PKPdf	PKPdf	18 19 06.8	-2.1
SANT	**Santorini**	**145.88**	**262**	*e*PKPdf	PKPdf	18 19 06.2	-2.9
APE	**Apeiranthos**	**146.26**	**263**⇓	*e*PKP2	PKPab	18 19 08.0	-2.7
MOS	**Moscow**	**147.00**	**301**	*e*PKP2	PKPab	18 19 10.8	-2.1
MOS				pmax	pmax		
	comp=Z,91nm,1.4s						
OBN	**Obninsk**	**147.42**	**300**⇓	*i*PKP2	PKPab	18 19 11.4	-3.2
OBN				*e*SS	SS	18 41 41.9	+1.6
OBN				pmax	pmax		
	comp=Z,209nm,1.5s						
OBN				MLR	MLR		
	comp=Z,700nm,15.0s,MS5.6						
OBN	**Obninsk**	**147.42**	**300**	*e*PKPbc	PKPdf	18 19 11.6	+0.5
PRD	**Provadia**	**148.47**	**274**	P	PKPdf	18 19 14.5	+1.4
HARR	**Harsova**	**148.85**	**277**⇑	*i*P	PKPdf	18 19 15.8	+2.1
CFR	**Carcaliu**	**148.95**	**278**⇑	*i*P	PKPdf	18 19 15.8	+2.0
KIS	**Kishinev**	**149.31**	**282**	*e*PKP2	PKPab	18 19 16.0	-6.5
RZN	**Rozhen**	**149.41**	**270**	*i* P	PKPdf	18 19 16.5	+1.8
APA	**Apatity**	**149.76**	**323**⇑	*i*PKP2	PKPab	18 19 17.4	-6.3
APA				pmax	pmax		
	comp=Z,54nm,1.2s						
MMB	**Musomiste**	**149.99**	**269**	*i* P	PKPdf	18 19 17.5	+1.9
VRI	**Vrincioaia**	**150.14**	**279**⇑	*i*P	PKPdf	18 19 18.7	+3.0
PGB	**Panagyurishte**	**150.21**	**271**	P	PKPdf	18 19 18.0	+2.1
KKB	**Krupnik**	**150.55**	**269**	*i* P	PKPdf	18 19 18.7	+2.3
SCHQ	**Schefferville**	**150.65**	**63**	*e*PKPdf	PKPdf	18 19 13.4	-2.7
SCHQ				*e*PKPbc	PKPdf	18 19 20.2	+4.0
SCHQ				*e*PKPab	PKPab	18 19 25.5	-2.3
VTS	**Vitosha**	**150.84**	**270**	*i* P	PKPdf	18 19 20.0	+3.1
JOF	**Joensuu**	**151.05**	**314**	*e*p	PKPab	18 19 26.8	-2.4
KEV	**Kevo**	**151.53**	**329**	*e*p	PKPdf	18 19 20.3	+3.2
SKO	**Skopje**	**151.65**	**268**	*i* PKHKP		18 19 21.5	
BARS	**Barje**	**151.84**	**270**⇓	*i*PKP	PKPdf	18 19 22.5	+4.2
ARE0	**ARCESS Array S**	**152.10**	**329**	*e*PKPbc	PKPdf	18 19 22.1	+4.2
ARE0				*e*PKPab	PKPab	18 19 32.3	-1.2
MNK	**Minsk**	**152.20**	**296**	*e*PKIKP	PKPab	18 19 30.0	-4.3
TIP	**Timpagrande**	**153.05**	**258**	*e*PKPbc	PKPdf	18 19 25.6	+5.5
VSU	**Vasula**	**153.28**	**305**	*i* PKP2	PKPab	18 19 37.6	-1.1
LVV	**L'vov**	**153.30**	**285**	*e*PKIKP	PKPdf	18 19 26.5	+6.3
KAF	**Kangasniemi**	**153.42**	**313**	*e*p	PKPdf	18 19 25.0	+5.1
DIVS	**Divcibare**	**153.62**	**271**⇑	*i*PKP	PKPdf	18 19 26.2	+5.5
DAG	**Danmarks Havn**	**153.73**	**0**⇓	*i*P	PKPdf	18 19 25.7	+5.7
	comp=Z,8.9nm,1.1s						
KOLS	**Kolonicke sedl**	**154.11**	**282**	*e*PKP	PKPdf	18 19 28.3	+7.0
KOLS				*e*		18 19 33.7	
KOLS				*e*		18 19 42.2	
CRVS	**Cervenica-Dubn**	**154.60**	**282**	*e*PKP	PKPdf	18 19 29.0	+7.0
CRVS				*e*		18 19 38.2	
CRVS				*e*		18 19 42.9	
KECS	**Kecovo**	**155.07**	**280**	*e*PKP2	PKPab	18 19 43.9	-2.7
KECS	**Kecovo**	**155.07**	**280**	*e*	PKPab	18 19 43.9	-2.7
OJC	**Ojcow**	**156.03**	**284**	*e*PKP	PKPab	18 19 49.8	-0.8
VYHS	**Vyhne**	**156.11**	**279**	*e*PKIKP	PKPdf	18 19 31.2	+7.3
VYHS				*e*		18 19 40.7	
VYHS				*e*		18 19 49.8	
VYHS	**Vyhne**	**156.11**	**279**	*e*PKP	PKPab	18 19 49.8	-1.2
VYHS	**Vyhne**	**156.11**	**279**	*e*	PKPdf	18 19 31.2	+7.3
VYHS				*e*		18 19 40.7	
OKC	**Ostrava-Krasne**	**156.95**	**282**	*e*PKPAB	PKPab	18 19 52.5	-2.1
OKC	**Ostrava-Krasne**	**156.95**	**282**	AMS	AMS	19 36 40.0	
	comp=Z,1μm,19.8s						
ZST	**Bratislava**	**157.11**	**278**	*e*PKP	PKPab	18 19 54.0	-1.3
MORC	**Moravsky Berou**	**157.31**	**282**	*e*PKP2	PKPab	18 19 54.1	-2.0
DPC	**Dobruska-Polom**	**158.22**	**283**	*e*PKPAB	PKPab	18 19 59.3	-0.7
DPC				AMS	AMS	19 36 30.0	
	comp=Z,2μm,24.2s						
DPC	**Dobruska-Polom**	**158.22**	**283**	AMS	AMS	19 36 40.0	
	comp=Z,1μm,20.5s						
KSP	**Ksiaz**	**158.35**	**284**	*e*PKPdf	PKPdf	18 19 25.4	-1.4
KSP				*e*PKPab	PKPab	18 19 59.6	-1.0
KSP				*e*SS	SS	18 43 46.0	+6.3
UPC	**Upice**	**158.45**	**283**	*e*PKPAB	PKPab	18 19 59.9	-1.1
PRU	**Pruhonice**	**159.24**	**281**	AMS	AMS	19 40 20.0	
	comp=Z,2μm,18.4s						
PRU	**Pruhonice**	**159.24**	**281**	AMS	AMS	19 48 10.0	
	comp=Z,1μm,19.4s						
PVCC	**Panska Ves**	**159.35**	**283**	AMS	AMS	19 37 50.0	
	comp=Z,2μm,18.9s						
GEC2	**GERESS Array S**	**159.46**	**277**	*e*PKP2	PKPab	18 20 03.8	-1.6
GEC2				pmax	pmax		
	comp=Z,44nm,1.4s						
KHC	**Kasperske Hory**	**159.62**	**278**	*e*PKPDF	PKPdf	18 19 33.1	+4.8
KHC				*e*PKPAB	PKPab	18 20 04.4	-1.7
KHC				AMS	AMS	19 33 50.0	
	comp=Z,2μm,21.0s						
KHC	**Kasperske Hory**	**159.62**	**278**	AMS	AMS	19 33 40.0	
	comp=Z,2μm,21.0s						
PGF	**Pioggiola**	**159.80**	**257**	*e*PKP2	PKPab	18 20 06.6	-0.5
BRG	**Berggiesshubel**	**159.81**	**283**	*e*PKIKP	PKPdf	18 19 31.8	+3.3
BRG				*e*		18 20 03.1	
BRG				MLR	MLR		
	comp=Z,1μm,18.8s,MS5.8						
BRG	**Berggiesshubel**	**159.81**	**283**	*e*PKP	PKPdf	18 19 31.8	+3.3
BRG				*e*		18 20 03.1	
BRG				*e*SS	SS	18 44 04.0	+9.0
BRG				*e*		18 50 23.0	
BRG				LR	LR		
	comp=Z,1μm,18.8s,MS5.8						
WET	**Wettzell**	**160.06**	**278**	*e*PKP2	PKPab	18 20 06.5	-1.5
CLL	**Collm**	**160.48**	**284**	*i* PKP2	PKPab	18 20 08.5	-1.2
CLL				pmax	pmax		
	comp=Z,35nm,1.4s						
CLL	**Collm**	**160.48**	**284**	*e*P	PKPdf	18 19 19.0	-10
CLL				*i*		18 19 33.9	
CLL	**Collm**	**160.48**	**284**	P	PKPdf	18 19 19.0	-10
CLL				*i*		18 19 33.9	
CLL				*i* PKP2	PKPab	18 20 08.5	-1.2
CLL				*i*		18 20 18.6	
CLL				*e*		18 20 25.0	
NKC	**Novy Kostel**	**160.61**	**281**	AMS	AMS	19 47 50.0	
	comp=Z,1μm,20.9s						
NKC	**Novy Kostel**	**160.61**	**281**	AMS	AMS	19 47 50.0	
	comp=Z,1μm,20.9s						
NB2	**NORSAR Subarra**	**160.69**	**314**	P	PKPab	18 20 08.8	-1.5
	comp=Z,2.2nm,0.8s,baz=66,slow=4.6						
MOX	**Moxa**	**161.21**	**282**	*e*PKP2	PKPab	18 20 11.6	-1.3
MOX				pmax	pmax		
	comp=Z,58nm,1.8s						
MOX				MLR	MLR		
	comp=Z,900nm,19.0s						
GRF	**Grafenberg Arr**	**161.25**	**279**	*e*PKP2	PKPab	18 20 12.2	-0.9
GRF				pmax	pmax		
	comp=Z,51nm,1.2s						
SBF	**Sospel**	**161.47**	**259**	*e*PKP2	PKPab	18 20 09.2	-5.1
LMR	**La Mourre**	**161.77**	**256**	*e*PKP2	PKPab	18 20 12.9	-2.7
FRF	**La Foret Royal**	**161.80**	**257**	*e*PKP2	PKPab	18 20 14.2	-1.6
MBDF	**Montbardon**	**162.30**	**260**	*e*PKP2	PKPab	18 20 16.0	-1.9
SMRF	**Simiane la Rot**	**162.68**	**257**	*e*PKP2	PKPab	18 20 17.7	-1.8
LPL	**La Plagne**	**162.69**	**263**	*e*PKP2	PKPab	18 20 17.6	-1.9
BFO	**Black Forest**	**162.72**	**273**	*e*PKP2	PKPab	18 20 17.6	-1.9
BFO				pmax	pmax		
	comp=Z,29nm,1.6s						
ORIF	**Oris-en-Rattie**	**162.95**	**260**	*e*PKP2	PKPab	18 20 18.6	-2.1
CDF	**Champ du Feu**	**163.41**	**272**	*e*PKP2	PKPab	18 20 21.9	-0.7
CABF	**La Chapelle**	**163.55**	**265**	*e*PKP2	PKPab	18 20 21.0	-2.3
LASF	**Ste Croix**	**163.79**	**255**	*e*PKP2	PKPab	18 20 22.9	-1.5
HAU	**Haudompre**	**163.88**	**270**	*e*PKP2	PKPab	18 20 25.7	+1.1
MEZF	**Maizieres J'vi**	**164.85**	**271**	*e*PKP2	PKPab	18 20 27.4	-1.4
EPF	**Esparros**	**165.32**	**246**	*e*PKP2	PKPab	18 20 29.9	-1.1
CAF	**Calviac**	**165.33**	**255**	*e*PKP2	PKPab	18 20 29.5	-1.5
SSF	**Saint Saulge**	**165.36**	**264**	*e*PKP2	PKPab	18 20 29.4	-1.7
	comp=Z,24nm,1.3s						
GIVF	**Givet**	**165.38**	**277**	*e*PKP2	PKPab	18 20 30.0	-1.1
	comp=Z,68nm,1.2s						
BGF	**Bois d'Agland**	**165.58**	**262**	*e*PKP2	PKPab	18 20 30.1	-2.0
ETSF	**Etsaut**	**165.75**	**244**	*e*PKP2	PKPab	18 20 31.3	-1.7
BAIF	**Baives**	**165.76**	**276**	*e*PKP2	PKPab	18 20 31.7	-1.1
	comp=Z,129nm,1.5s						
RJF	**Les Rejaudoux**	**165.85**	**256**	*e*PKP2	PKPab	18 20 31.4	-1.9
LFF	**La Frestale**	**166.15**	**253**	*e*PKP2	PKPab	18 20 32.9	-1.7
	comp=Z,47nm,1.2s						
MFF	**Saint Martin d**	**167.48**	**258**	*e*PKP2	PKPab	18 20 38.6	-1.7
GRR	**Gorron**	**168.58**	**265**	*e*PKP2	PKPab	18 20 45.0	-0.1

TEH ***03*** *18:03:23.6, 37.19N×44.28E, h10km, Mn3.9*
THR ***03*** *18:03:25.4±1.0, 37.11N×44.73E, h14km±9km, ML3.6*
CSEM ***03*** *18:03:26.9±0.1, 37.09N×44.77E, h18km, MD4.2, Error ellipse: s-maj=5.2km s-min=1.6km az=22.0*
ISK ***03*** *18:03:27.0, 36.94N×44.49E, h5km, MD4.2, ML4.4*
ISC 03 18:03:27.0±0.4, 37.13N±0.04×44.87E±0.04, h10km, n29, σ0.95/34, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ITBZ	**Tabriz**	**1.50**	**42**		Pn	**Pn**	**18 03 53.5**	**-0.6**
IMRD	**Marand**	**1.71**	**22**		Pn	**Pn**	**18 03 56.7**	**-0.5**
VANT	**Van**	**1.76**	**319**		PN	**Pn**	**18 03 59.9**	**+2.1**
VANB	**Van**	**1.87**	**322**		PN	**Pn**	**18 04 00.8**	**+1.3**
VANB					SN	**Sn**	**18 04 27.5**	**+4.2**
MAKU	**Maku**	**2.23**	**356**		*e*PG	**Pn**	**18 04 05.9**	**+1.4**
IDHR	**Dehrash**	**2.72**	**153**		Pn	**Pn**	**18 04 11.7**	**+0.1**
SNGE	**Sanandaj**	**2.86**	**135**		*e*PN	**Pn**	**18 04 14.0**	**+0.5**
SNGE					*e*SG	**Sg**	**18 04 56.5**	**-5.7**
BTMT	**Batman**	**2.88**	**293**		PN	**Pn**	**18 04 14.5**	**+0.6**
BTMT					SN	**Sn**	**18 04 48.9**	**-0.1**
GRMI	**Germi**	**2.92**	**54**		*e*PN	**Pn**	**18 04 15.3**	**+0.9**
GRMI					AML	AML	18 05 14.0	
	comp=E,182nm,0.5s							
GRMI					AML	AML	18 05 14.9	
	comp=N,159nm,0.9s							
GNI	**Garni**	**3.02**	**358**		*e*PN	**Pn**	**18 04 20.9**	**+5.1**
IGHG	**Ghaleghazi**	**3.12**	**153**		Pn	**Pn**	**18 04 16.4**	**-0.9**
VRT	**Varto**	**3.30**	**308**		*e*PN	**Pn**	**18 04 20.3**	**+0.4**
DIY	**Diyarbakir**	**3.77**	**283**		PN	**Pn**	**18 04 25.9**	**-0.6**
BHD	**Baghdad**	**3.87**	**186**		*e*P	**Pn**	**18 04 19.0**	**-9.0**
BHD	**Baghdad**	**3.87**	**186**		*e*Pn	Pn	18 04 50.0	+22
BHD					*i* Sn	**Sn**	**18 05 26.5**	**+12**
BHD					*i* Sb	**Sb**	**18 05 32.0**	**+10**
BHD					*i* Sg	**Sg**	**18 05 38.0**	**+2.0**
BINT	**Bingol**	**3.87**	**298**		*e*PN	**Pn**	**18 04 26.8**	**-1.2**
EZM	**Erzurum**	**3.90**	**316**		*e*PN	**Pn**	**18 04 29.1**	**+0.7**
IRAZ	**Razeghan**	**4.44**	**111**		Pn	**Pn**	**18 04 36.5**	**+0.5**
URFA	**Urfa**	**4.83**	**276**		*e*PN	**Pn**	**18 04 39.9**	**-1.7**
IMHD	**Mahdasht**	**4.90**	**105**		Pn	**Pn**	**18 04 43.0**	**+0.5**
ASAO	**Ashtian**	**4.92**	**120**		*e*PN	**Pn**	**18 04 42.3**	**-0.5**
ASAO					AML	AML	18 06 09.8	
	comp=N,54nm,0.7s							
ASAO					AML	AML	18 06 14.9	
	comp=E,45nm,0.6s							
MYA	**Malataya**	**5.24**	**285**		*e*PN	**Pn**	**18 04 46.5**	**-0.9**
IQOM	**Qom**	**5.52**	**113**		Pn	**Pn**	**18 04 50.6**	**-0.7**
IAFJ	**Afjeh**	**5.66**	**101**		Pn	**Pn**	**18 04 53.3**	**0.0**
DAMV	**Damavand**	**5.92**	**103**		*e*PN	**Pn**	**18 04 56.1**	**-0.8**
IVRN	**Varamin**	**5.95**	**109**		Pn	**Pn**	**18 04 57.2**	**-0.2**
IDMV	**Damavand**	**5.99**	**103**		Pn	**Pn**	**18 04 57.7**	**-0.2**
GAZ	**Gaziantep**	**6.12**	**273**		*e*PN	**Pn**	**18 04 58.0**	**-1.7**
IFIR	**Firoozkooh**	**6.53**	**101**		Pn	**Pn**	**18 05 05.2**	**-0.4**

WEL 03 18:15:12.8±0.2, 38.84S×175.97E, h114km±1km, ML3.7/9, 5C-2D, Error ellipse: s-maj=1.2km s-min=1.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KATZ	**Kakaramea**	**0.25**	**237**		PN	P	18 15 28.9	-0.1
MGZ	**Maungaku**	**0.37**	**244**		PN	P	18 15 29.2	-0.3
OTVZ	**Oturere**	**0.40**	**216**		⇑PN	P	18 15 29.9	+0.2
OTVZ					SN	S	18 15 42.4	+0.1
WTVZ	**West Tongariro**	**0.40**	**227**		PN	P	18 15 29.6	-0.1
WTVZ					SN	S	18 15 42.5	+0.2
NGZ	**Ngauruhoe**	**0.44**	**220**		PN	P	18 15 30.1	+0.2
NGZ					SN	S	18 15 43.5	+0.8
TWVZ	**Taurewa**	**0.47**	**241**⇓		PN	P	18 15 29.8	-0.3
CNZ	**Chateau**	**0.48**	**222**		PN	P	18 15 30.1	-0.1
WPVZ	**Whakapapa**	**0.49**	**222**		PN	P	18 15 30.2	0.0
WPVZ					SN	S	18 15 43.5	+0.2
TUVZ	**Tukino**	**0.49**	**209**		PN	P	18 15 30.3	+0.1
TUVZ					SN	S	18 15 43.3	-0.1
BKZ	**Black Stump Fm**	**0.52**	**129**⇑		PN	P	18 15 30.5	+0.1
BKZ					SN	S	18 15 43.5	-0.2
FWVZ	**Far West T-bar**	**0.52**	**218**⇓		PN	P	18 15 30.6	+0.2
FWVZ					SN	S	18 15 43.6	-0.1
DRZ	**Dome Shelter**	**0.54**	**216**		PN	P	18 15 31.5	+1.0
WNVZ	**Wahianoa**	**0.56**	**210**⇑		PN	P	18 15 30.2	-0.5
WNVZ					SN	S	18 15 43.4	-0.8
MOVZ	**Moawhango**	**0.59**	**196**⇑		PN	P	18 15 30.4	-0.4
MOVZ					SN	S	18 15 43.5	-1.1
HIZ	**Hauiti**	**0.93**	**290**		PN	P	18 15 33.3	-0.7
VRZ	**Vera Road**	**0.98**	**253**		PN	P	18 15 33.9	-0.6
VRZ					SN	S	18 15 50.0	-0.6
URZ	**Urewera**	**1.07**	**57**		PN	P	18 15 35.0	-0.4
URZ					SN	S	18 15 51.3	-1.0
WAZ	**Wanganui**	**1.19**	**219**		PN	P	18 15 35.9	-0.8
WAZ					SN	S	18 15 54.1	-0.5
TSZ	**Takapari Road**	**1.22**	**180**		PN	P	18 15 36.1	-1.0
RAEZ	**Rainy Point**	**1.30**	**249**		PN	P	18 15 37.5	-0.6
MWZ	**Matawai**	**1.32**	**68**		PN	P	18 15 38.0	-0.3
KNZ	**Kokohu**	**1.34**	**98**		PN	P	18 15 38.4	-0.1
KNZ					SN	S	18 15 56.7	-1.3
PWZ	**Pawanui**	**1.38**	**150**⇑		PN	P	18 15 38.2	-0.7
PWZ					SN	S	18 15 56.9	-1.7
NEZ	**North Egmont**	**1.52**	**253**		PN	P	18 15 40.0	-0.5
DFE	**Dawson Falls**	**1.53**	**251**		PN	P	18 15 40.1	-0.5
PKE	**Pukeiti**	**1.58**	**256**		PN	P	18 15 40.4	-0.9
MRZ	**Mangatainoka R**	**1.84**	**189**		PN	P	18 15 42.4	-2.1
MRZ					SN	S	18 16 04.1	-4.2
PUZ	**Puketiti**	**1.96**	**68**		PN	P	18 15 45.3	-0.6
PUZ					*e*SN	S	18 16 09.5	-1.3
KIW	**Kapiti Island**	**2.18**	**202**		PN	P	18 15 45.9	-2.9
MXZ	**Matakaoa Point**	**2.24**

APC	**Apacha**	**3.92**	**8**	P	**P**	**18 52 58.3 +2.3**
APC				eS	**S**	**18 53 43.3 +1.9**
APC				Smax		
	100nm,0.6s					
KRMR	**Karymshinskiy**	**3.96**	**16**	eP	**P**	**18 52 57.3 +0.7**
KRMR				eS	**S**	**18 53 43.2 +0.8**
PET	**Petropavlovsk**	**4.25**	**20**	P	**P**	**18 53 00.6 -0.1**
PET				S	**S**	**18 53 48.7 -1.0**
PET	**Petropavlovsk**	**4.25**	**20**	c iPN	**P**	**18 53 00.0 -0.7**
PET	**Petropavlovsk**	**4.25**	**20**	ePn	**P**	**18 52 59.8 -0.9**
PET	**Petropavlovsk**	**4.25**	**20**	eP	**P**	**18 52 59.9 -0.8**
PET				AMB	AMB	18 53 05.0
	40nm,0.6s					
PET				eS	**S**	**18 53 50.6 +0.9**
PET				A		18 54 01.9
	340nm,0.6s					
PET				A		18 54 01.9
	360nm,0.6s					
PET	**Petropavlovsk**	**4.25**	**20**	eP	**P**	**18 53 00.5 -0.2**
PET				eS	**S**	**18 53 49.4 -0.3**
UGLR	**Uglovaya**	**4.46**	**20**	eP	**P**	**18 53 03.9 +0.2**
AVH	**Avacha**	**4.49**	**19**	eP	**P**	**18 53 04.8 +0.6**
AVH				eS	**S**	**18 53 55.6 -0.3**
KOK	**Koryaka**	**4.50**	**18**	eP	**P**	**18 53 04.9 +0.7**
SMAR	**Somma**	**4.50**	**20**	eP	**P**	**18 53 04.7 +0.4**
SDLR	**Sedlovina**	**4.54**	**20**	eP	**P**	**18 53 04.3 -0.5**
SDLR				eS	**S**	**18 53 55.0 -2.0**
SPN	**Mys Shipunski**	**4.69**	**29**	P	**P**	**18 53 06.2 -0.7**
SPN				S	**S**	**18 53 57.5 -3.2**
SPN	**Mys Shipunski**	**4.69**	**29**	eP	**P**	**18 53 06.2 -0.7**
SPN				eS	**S**	**18 53 58.0 -2.7**
GNL	**Ganaly**	**4.76**	**12**	eP	**P**	**18 53 08.7 +0.7**
GNL				eS	**S**	**18 54 02.6 -0.1**
TUMR	**Tumrok**	**6.68**	**19**	eP	**P**	**18 53 34.6 -0.2**
ESO	**Esso**	**7.04**	**11**	P	**P**	**18 53 41.4 +1.5**
KMNR	**Kamenistaya**	**7.14**	**18**	eP	**P**	**18 53 40.9 -0.3**
KOZ	**Kozyrevsk**	**7.35**	**16**	P	**P**	**18 53 44.3 +0.1**
KOZ	**Kozyrevsk**	**7.35**	**16**	eP	**P**	**18 53 44.8 +0.6**
KOZR	**Kozyr**	**7.36**	**16**	PN	**P**	**18 53 44.3 -0.1**
ZLN	**Zelenaya**	**7.50**	**20**	eP	**P**	**18 53 45.4 -0.9**
SRDR	**Sredinnyy**	**7.57**	**15**	eP	**P**	**18 53 48.5 +1.2**
CIRR	**Tsirk**	**7.58**	**19**	eP	**P**	**18 53 46.2 -1.2**
KBTR	**Krutoberegovo**	**8.19**	**26**	P	**P**	**18 53 53.1 -2.8**
KBTR	**Krutoberegovo**	**8.19**	**26**	eP	**P**	**18 53 54.1 -1.8**
YSS	**Yuzh-Sakhalins**	**9.32**	**262**	PN	**P**	**18 54 13.0 +1.5**
YSS	**Yuzh-Sakhalins**	**9.32**	**262**	Pn	**P**	**18 54 12.6 +1.1**
MA2	**Magadan**	**11.03**	**345**	ePN	**P**	**18 54 34.0 -0.7**
MA2				pmax	pmax	
	comp=Z,6.0nm,0.6s					
MA2	**Magadan**	**11.03**	**345**	ePn	**P**	**18 54 34.0 -0.7**
	comp=Z,6.1nm,0.6s					
MAJO	**Matsushiro**	**18.17**	**233**	eP	**P**	**18 56 07.9 +0.4**
MAJO				pmax	pmax	
	comp=Z,11nm,0.9s					
MAJO	**Matsushiro**	**18.17**	**233**	eP	**P**	**18 56 07.9 +0.4**
	comp=Z,11nm,0.9s					
BILL	**Bilibino**	**19.69**	**11⇓**	eP	**P**	**18 56 23.3 -1.6**
BILL				pmax	pmax	
	comp=Z,8.0nm,1.2s					
BILL				MLR	MLR	
	comp=Z,800nm,19.0s					
BILL	**Bilibino**	**19.69**	**11**	eP	**P**	**18 56 23.2 -1.7**
	comp=Z,7.1nm,0.9s					
YAK	**Yakutsk**	**19.70**	**321**	eP	**P**	**18 56 22.6 -2.5**
YAK				pmax	pmax	
	comp=Z,13nm,0.9s					
YAK	**Yakutsk**	**19.70**	**321**	eP	**P**	**18 56 22.5 -2.5**
	comp=Z,23nm,0.7s					
CLNS	**Chul'man**	**20.32**	**304**	eP	**P**	**18 56 30.9 -0.7**
CLNS				pmax	pmax	
	comp=Z,10.0nm,0.9s					
CLNS				MLR	MLR	
	comp=N,500nm,19.0s					
CLNS				MLR	MLR	
	comp=Z,800nm,19.0s,MS4.1					
CLNS				MLR	MLR	
	comp=E,200nm,27.0s					
TIXI	**Tiksi**	**25.94**	**341⇓**	eP	**P**	**18 57 23.6 -2.9**
TIXI				pmax	pmax	
	comp=Z,10.0nm,1.0s,mb4.3					
TIXI				MLR	MLR	
	comp=Z,2μm,18.0s,MS4.6					
ULN	**Ulaanbaatar**	**32.22**	**287⇑**	eP	**P**	**18 58 23.0 0.0**
ULN	**Ulaanbaatar**	**32.22**	**287**	eP	**P**	**18 58 21.1 -1.9**
	comp=Z,0.6nm,0.6s,mb3.6					
NJ2	**Nanjing**	**32.72**	**253**	eP	**P**	**18 58 26.3 -1.2**
NJ2				AP	pP	18 58 35.4 -3.3
NJ2				PP	PP	18 59 34.1 -3.4
NJ2				S	**S**	**19 03 41.0 +0.9**
NJ2				XS		19 03 56.0
NJ2				AMB	AMB	
	comp=Z,20nm,0.6s,mb5.2					
NJ2				AMB	AMB	
	comp=Z,690nm,9.8s					
NJ2				LR	LR	
	comp=N,470nm,14.8s,MS4.5					
NJ2				LR	LR	
	comp=E,710nm,17.0s,MS4.5					
NJ2				LR	LR	
	comp=Z,810nm,17.0s,MS4.5					
ZAK	**Zakamensk**	**33.70**	**293**	eP	**P**	**18 58 33.4 -2.4**
ENH	**Enshi**	**39.89**	**260**	P	**P**	**18 59 27.1 -0.9**
YKA	**Yellowknife Ar**	**47.80**	**39**	i P	**P**	**19 00 32.1 +0.7**
YKA				pmax	pmax	
	comp=Z,1.0nm,0.9s					
LSA	**Lhasa**	**52.28**	**274**	eP	**P**	**19 01 07.3 +1.2**
LSA				pmax	pmax	
	comp=Z,4.0nm,0.7s,mb4.5					
LSA	**Lhasa**	**52.28**	**274**	eP	**P**	**19 01 07.3 +1.2**
	comp=Z,3.7nm,0.7s,mb4.4					
AAK	**Ala-Archa**	**54.73**	**297**	eP	**P**	**19 01 21.8 -2.2**
AAK				pmax	pmax	
	comp=Z,1.0nm,0.7s,mb4.0					
AAK	**Ala-Archa**	**54.73**	**297**	eP	**P**	**19 01 21.8 -2.3**
	comp=Z,1.2nm,0.7s,mb4.0					
ARU	**Arti**	**54.76**	**318**	eP	**P**	**19 01 22.0 -2.0**
ARU	**Arti**	**54.76**	**318**	eP	**P**	**19 01 21.6 -2.4**
	comp=Z,5.2nm,0.4s,mb4.9					
CM31	**Chiang Mai Arr**	**54.98**	**257**	eP	**P**	**19 01 26.0 -0.1**
	comp=Z,1.5nm,0.5s,mb4.3					
GUN	**Gumba**	**56.92**	**276**	eP	**P**	**19 01 39.3 -0.7**
	comp=Z,6.7nm,0.5s,mb5.0					
KKN	**Kakani**	**57.39**	**276**	eP	**P**	**19 01 42.8 -0.5**
	comp=Z,9.8nm,0.6s,mb5.0					
PKI	**Pulchoki**	**57.45**	**276**	eP	**P**	**19 01 40.5 -3.3**
	comp=Z,4.8nm,0.4s,mb4.9					
DMN	**Daman**	**57.63**	**276**	eP	**P**	**19 01 42.3 -2.7**
	comp=Z,15nm,0.8s,mb5.1					
GKN	**Gorkha**	**57.67**	**277**	eP	**P**	**19 01 44.7 -0.6**
	comp=Z,7.8nm,0.5s,mb5.0					
KOLN	**Koldanda**	**58.50**	**277**	eP	**P**	**19 01 47.2 -3.9**
	comp=Z,3.4nm,0.5s,mb4.6					
ARUT	**Antelope Range**	**62.80**	**63**	eP	**P**	**19 02 19.1 -1.1**
FINES	**FINESS Array B**	**62.85**	**336**	i P	**P**	**19 02 19.2 -1.0**
FINES				pmax	pmax	
	comp=Z,2.0nm,0.5s					
WRA	**Warramunga Arr**	**71.41**	**202**	i P	**P**	**19 03 14.3 -0.3**
WRA				pmax	pmax	
	comp=Z,1.0nm,0.9s					
DPC	**Dobruska-Polom**	**75.20**	**335**	eP	**P**	**19 03 37.4 +1.3**
CLL	**Collm**	**75.22**	**337**	⇑P	**P**	**19 03 36.0 -0.2**
	comp=Z,logA/T=1.0,mb4.7					
PVCC	**Panska Ves**	**75.52**	**336**	eP	**P**	**19 03 40.8 +2.9**
NKC	**Novy Kostel**	**76.34**	**337**	eP	**P**	**19 03 43.8 +1.1**
KHC	**Kasperske Hory**	**77.06**	**336**	eP	**P**	**19 03 48.0 +1.3**
CDF	**Champ du Feu**	**79.30**	**340**	eP	**P**	**19 03 59.7 +0.7**
FLN	**La Foliniere**	**80.53**	**345**	eP	**P**	**19 04 06.6 +1.0**
LDF	**La Druitiere**	**80.63**	**344**	eP	**P**	**19 04 07.3 +1.1**
	comp=Z,3.3nm,0.5s,mb4.2					
LDF	**La Druitiere**	**80.63**	**344**	eP	**P**	**19 04 07.3 +1.1**
LDF				pmax	pmax	
	comp=Z,2.0nm,0.5s,mb4.3					
GRR	**Gorron**	**80.95**	**345**	eP	**P**	**19 04 09.3 +1.4**
	comp=Z,15nm,0.9s,mb4.7					
GRR	**Gorron**	**80.95**	**345**	eP	**P**	**19 04 09.3 +1.4**
GRR				pmax	pmax	
	comp=Z,8.0nm,0.9s,mb4.7					
SGMF	**Saint Gilles**	**81.37**	**346**	eP	**P**	**19 04 12.0 +2.0**
	comp=Z,16nm,0.8s,mb4.7					
SGMF	**Saint Gilles**	**81.37**	**346**	eP	**P**	**19 04 12.0 +2.0**
SGMF				pmax	pmax	
	comp=Z,8.0nm,0.8s,mb4.7					
SSF	**Saint Saulge**	**81.40**	**342**	eP	**P**	**19 04 11.8 +1.6**
AVF	**Avril sur Loir**	**81.69**	**342**	eP	**P**	**19 04 13.9 +2.2**
	comp=Z,12nm,1.0s,mb4.5					
AVF	**Avril sur Loir**	**81.69**	**342**	eP	**P**	**19 04 13.9 +2.2**
AVF				pmax	pmax	
	comp=Z,6.0nm,1.0s,mb4.5					
LPL	**La Plagne**	**82.14**	**339**	eP	**P**	**19 04 17.8 +3.7**
	comp=Z,3.9nm,0.6s,mb4.2					
LPL	**La Plagne**	**82.14**	**339**	eP	**P**	**19 04 17.8 +3.7**
LPL				pmax	pmax	
	comp=Z,2.0nm,0.6s,mb4.2					
EPF	**Esparros**	**85.90**	**343**	eP	**P**	**19 04 36.1 +3.1**
	comp=Z,3.0nm,0.5s,mb4.5					
EPF	**Esparros**	**85.90**	**343**	eP	**P**	**19 04 36.1 +3.1**
EPF				pmax	pmax	
	comp=Z,2.0nm,0.5s,mb4.6					

*NEIC **03** 18:59:34.2, 37.52S×176.62E, h211km, After WEL.*
WEL 03 18:59:34.2±0.3, 37.55S×176.61E, h213km±2km, ML3.8/7, 3D, Error ellipse: s-maj=3.5km s-min=3.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.81**	**151**	⇓PN	P	19 00 04.0	-0.4
URZ				SN	S	19 00 27.0	-0.8
MWZ	**Matawai**	**1.07**	**137**	P	P	19 00 05.6	-0.3
MWZ	**Matawai**	**1.07**	**137**	PN	P	19 00 05.6	-0.3
MWZ				SN	S	19 00 30.3	-0.2
MXZ	**Matakaoa Point**	**1.35**	**91**	⇓P	P	19 00 07.5	-0.6
MXZ	**Matakaoa Point**	**1.35**	**91**	⇓PN	P	19 00 07.5	-0.6
MXZ				SN	S	19 00 34.5	+0.1
PUZ	**Puketiti**	**1.41**	**112**	P	P	19 00 08.1	-0.5
PUZ	**Puketiti**	**1.41**	**112**	PN	P	19 00 08.1	-0.5
PUZ				SN	S	19 00 33.9	-1.3
BKZ	**Black Stump Fm**	**1.62**	**183**	eP	P	19 00 10.1	-0.3
BKZ	**Black Stump Fm**	**1.62**	**183**	PN	P	19 00 10.1	-0.3
BKZ				SN	S	19 00 37.7	-0.7
MGZ	**Maungaku**	**1.68**	**210**	P	P	19 00 11.1	+0.2
MGZ	**Maungaku**	**1.68**	**210**	PN	P	19 00 11.1	+0.1
KNZ	**Kokohu**	**1.69**	**151**	eP	P	19 00 11.1	0.0
KNZ	**Kokohu**	**1.69**	**151**	PN	P	19 00 11.1	+0.1
KNZ				SN	S	19 00 38.6	-0.9
OTVZ	**Oturere**	**1.77**	**204**	PN	P	19 00 12.1	+0.3
NGZ	**Ngauruhoe**	**1.81**	**206**	P	P	19 00 12.5	+0.4
NGZ	**Ngauruhoe**	**1.81**	**206**	PN	P	19 00 12.5	+0.4
CNZ	**Chateau**	**1.85**	**206**	P	P	19 00 12.5	0.0
CNZ	**Chateau**	**1.85**	**206**	PN	P	19 00 12.5	0.0
TUVZ	**Tukino**	**1.87**	**203**	PN	P	19 00 12.8	0.0
FWVZ	**Far West T-bar**	**1.90**	**206**	eP	P	19 00 13.2	+0.2
FWVZ	**Far West T-bar**	**1.90**	**206**	PN	P	19 00 13.2	+0.2
WNVZ	**Wahianoa**	**1.94**	**204**	P	P	19 00 12.9	-0.5
MOVZ	**Moawhango**	**1.97**	**200**	P	P	19 00 13.6	-0.1
MOVZ	**Moawhango**	**1.97**	**200**	PN	P	19 00 13.6	-0.1
MOVZ				eSN	S	19 00 43.3	-0.8
PWZ	**Pawanui**	**2.48**	**175**	eP	P	19 00 18.5	-0.6
PWZ	**Pawanui**	**2.48**	**175**	PN	P	19 00 18.5	-0.6
PWZ				SN	S	19 00 53.1	-0.8
TSZ	**Takapari Road**	**2.56**	**191**	eP	P	19 00 19.0	-0.9
TSZ	**Takapari Road**	**2.56**	**191**	PN	P	19 00 19.0	-1.0
TSZ				SN	S	19 00 54.0	-1.3
MRZ	**Mangatainoka R**	**3.21**	**194**	eP	P	19 00 25.4	-2.0
MRZ	**Mangatainoka R**	**3.21**	**194**	PN	P	19 00 25.4	-2.1
MRZ				SN	S	19 01 07.1	-1.5
KIW	**Kapiti Island**	**3.56**	**201**	P	P	19 00 29.3	-2.3
KIW	**Kapiti Island**	**3.56**	**201**	PN	P	19 00 29.3	-2.3
KIW				eSN	S	19 01 13.2	-2.9
MTW	**Mount Morrison**	**3.71**	**193**	P	P	19 00 30.7	-2.7
MTW	**Mount Morrison**	**3.71**	**193**	PN	P	19 00 30.7	-2.7
CAW	**Cannon Point**	**3.75**	**198**	P	P	19 00 31.5	-2.4
CAW	**Cannon Point**	**3.75**	**198**	PN	P	19 00 31.5	-2.5
CAW				SN	S	19 01 17.8	-2.4
MRW	**Makara Radio**	**3.96**	**201**	P	P	19 00 33.8	-2.7
MRW	**Makara Radio**	**3.96**	**201**	PN	P	19 00 33.8	-2.7
TUWZ	**Tuamarina**	**4.39**	**207**	PN	P	19 00 38.6	-3.3
NNZ	**Nelson**	**4.44**	**213**	eP	P	19 00 39.0	-3.4
NNZ	**Nelson**	**4.44**	**213**	PN	P	19 00 39.0	-3.4
NNZ				SN	S	19 01 32.4	-2.9
QRZ	**Quartz Range**	**4.55**	**223**	eP	P	19 00 40.2	-3.7
QRZ	**Quartz Range**	**4.55**	**223**	PN	P	19 00 40.2	-3.7
QRZ				SN	S	19 01 34.8	-3.2
BSWZ	**Blackbirch Sta**	**4.66**	**206**	P	P	19 00 42.1	-3.2
BSWZ	**Blackbirch Sta**	**4.66**	**206**	ePN	P	19 00 42.1	-3.2
THZ	**Tophouse**	**5.09**	**213**	eP	P	19 00 47.1	-3.5
THZ	**Tophouse**	**5.09**	**213**	PN	P	19 00 47.1	-3.5
THZ				SN	S	19 01 46.8	-3.2
KHZ	**Kahutara**	**5.40**	**205**	eP	P	19 00 51.4	-3.3
KHZ	**Kahutara**	**5.40**	**205**	PN	P	19 00 51.4	-3.3
LTZ	**Lake Taylor**	**6.19**	**211**	eP	P	19 01 00.7	-4.1
LTZ	**Lake Taylor**	**6.19**	**211**	PN	P	19 01 00.7	-4.1
MQZ	**McQueen's Vall**	**6.85**	**205**	SN	S	19 02 22.9	-7.6
ODZ	**Otahua Downs**	**8.73**	**209**	eP	P	19 01 33.5	-4.1
ODZ	**Otahua Downs**	**8.73**	**209**	PN	P	19 01 33.5	-4.1

*CSEM **03** 19:31:31.8±0.1, 37.12N×28.44E, h13km±1km, MD3.1, Error ellipse: s-maj=2.7km s-min=1.2km az=42.0*
*ISK **03** 19:31:31.6, 36.95N×28.28E, h28km, MD3.1*
*ATH **03** 19:31:33.3, 37.00N×28.26E, h17km±3km, MD3.0/4*
*NEIC **03** 19:31:33.3, 37.00N×28.26E, h17km, MD3.0(ATH), After ATH.*
ISC 03 19:31:32.9±0.6, 37.06N±0.04×28.38E±0.05, h9km±6km, n13, σ1§01/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.36**	**145**	PG	**Pg**	**19 31 40.3**	**+0.1**
DALT				SG	**Sg**	**19 31 45.7**	**+0.7**
MLSB	**Milas**	**0.54**	**296**	PG	**Pg**	**19 31 43.2**	**-0.5**
MLSB				SG	**Sg**	**19 31 51.5**	**+0.5**
FETY	**Fethiye**	**0.70**	**127**	ePG	**Pg**	**19 31 46.0**	**-1.0**
FETY				eSG	**Sg**	**19 31 56.4**	**-0.1**
AYDN	**Tasoluk**	**0.72**	**326**	i P	**Pb**	**19 31 47.6**	**+0.5**
AYDN				i S	**Sb**	**19 31 57.7**	**+0.9**
BDRM	**Kayabasi**	**0.75**	**270**	i P	**Pb**	**19 31 47.4**	**-0.3**
BDRM				i S	**Sb**	**19 31 58.9**	**+1.1**
DNZL	**Cakiroluk**	**0.82**	**40**	i P	**Pb**	**19 31 49.8**	**+1.0**
DNZL				i S	**Sb**	**19 32 06.2**	**+6.5**
DENT	**Denizli**	**0.86**	**37**	PG	**Pg**	**19 31 50.1**	**-0.1**
ARG	**Arkhangelos**	**0.87**	**194**	ePN	**Pn**	**19 31 47.8**	**-3.3**
KSL	**Kastellorizon**	**1.33**	**133**	ePN	**Pn**	**19 31 59.5**	**+1.9**
SMG	**Samos**	**1.39**	**298**	ePN	**Pn**	**19 31 58.5**	**0.0**
IZM	**Izmir**	**1.60**	**327**	ePN	**Pn**	**19 31 59.4**	**-2.2**
KARP	**Karpathos**	**1.81**	**214**	ePN	**Pn**	**19 32 05.0**	**+0.5**
KARP				eSN	**Sn**	**19 32 27.0**	**-0.7**
AKS	**Akhisar**	**1.87**	**346**	ePN	**Pn**	**19 32 03.8**	**-1.6**

WEL 03 19:32:07.7±0.5, 37.24S×179.59E, h12km, ML3.6/13, Error ellipse: s-maj=5.6km s-min=3.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.07**	**252**	P*	Pb	19 32 26.8	-0.9
MXZ				S*	Sb	19 32 41.4	-0.1
MXZ				S*	Sb	19 32 41.5	-0.1
PUZ	**Puketiti**	**1.35**	**231**	PN	Pn	19 32 31.6	-0.8
PUZ				SN	Sn	19 32 49.5	-0.9
MWZ	**Matawai**	**1.97**	**236**	PN	Pn	19 32 39.9	-1.4
MWZ				SN	Sn	19 33 04.7	-1.4
URZ	**Urewera**	**2.22**	**242**	PN	Pn	19 32 43.9	-0.9
URZ				SN	Sn	19 33 10.8	-1.6
KNZ	**Kokohu**	**2.34**	**220**	PN	Pn	19 32 44.6	-2.0
EDRZ	**Edgecumbe**	**2.43**	**248**	PN	Pn	19 32 47.0	-0.8
TAZ	**Tarawera**	**2.64**	**247**	PN	Pn	19 32 51.1	+0.2
MYRZ	**Mayor Island**	**2.68**	**268**	PN	Pn	19 32 51.5	+0.1
BKZ	**Black Stump Fm**	**3.11**	**231**	PN	Pn	19 32 55.3	-2.3
BKZ				SN	Sn	19 33 32.1	-3.0
KUZ	**Kuaotunu**	**3.14**	**278**	PN	Pn	19 32 54.9	-3.1
KUZ				SN	Sn	19 33 28.7	-7.1
PWZ	**Pawanui**	**3.51**	**217**	PN	Pn	19 32 59.0	-4.3
NGZ	**Ngauruhoe**	**3.69**	**237**	PN	Pn	19 33 03.9	-1.9
CNZ	**Chateau**	**3.74**	**237**	PN	Pn	19 33 04.7	-1.8
TSZ	**Takapari Road**	**4.00**	**224**	PN	Pn	19 33 05.7	-4.6
MRZ	**Mangatainoka R**	**4.63**	**221**	PN	Pn	19 33 14.1	-5.2
MRZ				SN	Sn	19 34 06.4	-7.3
CAW	**Cannon Point**	**5.22**	**221**	PN	Pn	19 33 21.7	-5.9
NNZ	**Nelson**	**6.25**	**229**	PN	Pn	19 33 35.9	-6.2
QRZ	**Quartz Range**	**6.56**	**235**	PN	Pn	19 33 41.2	-5.3

*JMA **03** 19:35:13.4±0.3, 23.04N×121.50E, h65km, M3.2*
*TAP **03** 19:35:13.5, 23.18N×121.34E, h16km, ML3.7*
TAP Felt III J at Chenggung, I J at Yuli.
ISC 03 19:35:12.6±0.3, 23.13N±0.02×121.47E±0.02, h21km±3km, n60, σ0§89/104, 15C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.10**	**252**	⇓i P	**Pb**	**19 35 17.1**	**+0.4**
CHKT				S	**Sb**	**19 35 19.8**	**+0.3**
TWF1	**Yuli**	**0.27**	**325**	⇑i P	**Pb**	**19 35 18.5**	**-0.3**
TWF1				S	**Sb**	**19 35 22.4**	**-0.8**
EHY	**Hungye**	**0.40**	**340**	i P	**Pb**	**19 35 20.6**	**-0.3**
EHY				S	**Sb**	**19 35 26.3**	**-0.3**
ELDTW	**Lidau**	**0.42**	**278**	⇑i P	**Pb**	**19 35 20.2**	**-1.1**
ELDTW				S	**Sb**	**19 35 24.6**	**-2.6**
TTN	**Taitung**	**0.48**	**218**	eP	**Pb**	**19 35 23.1**	**+1.0**
TTN				S	**Sb**	**19 35 30.8**	**+2.0**
TWG	**Pinlang**	**0.48**	**230**	⇑i P	**Pb**	**19 35 22.2**	**0.0**
TWG				S	**Sb**	**19 35 28.6**	**-0.1**
YUS	**Yu-Shan**	**0.59**	**307**	⇑i P	**Pb**	**19 35 23.6**	**-0.6**
YUS				S	**Sb**	**19 35 30.6**	**-1.5**
STYT	**Tauyuan**	**0.66**	**273**	⇑i P	**Pb**	**19 35 24.4**	**-0.7**
STYT				S	**Sb**	**19 35 31.9**	**-2.0**
ESL	**Shilin**	**0.68**	**357**	eP	**Pb**	**19 35 24.9**	**-0.7**
ECL	**Taimali**	**0.71**	**222**	eP	**Pb**	**19 35 25.4**	**-0.8**
ECL				S	**Sb**	**19 35 34.9**	**-0.6**
ALS	**Alishan**	**0.72**	**302**	⇑i P	**Pb**	**19 35 25.9**	**-0.3**
ALS				S	**Sb**	**19 35 34.2**	**-1.5**
WTP	**Ta-pu**	**0.79**	**279**	⇑i P	**Pb**	**19 35 27.4**	**-0.2**
WTP				S	**Sb**	**19 35 37.4**	**-0.5**
SGST	**Jiashian**	**0.82**	**267**	⇑i P	**Pb**	**19 35 28.0**	**0.0**
SGST				S	**Sb**	**19 35 38.4**	**-0.1**
CHN4	**Tsaushan**	**0.83**	**286**	⇑i P	**Pb**	**19 35 28.2**	**-0.1**
CHN4				S	**Sb**	**19 35 38.8**	**-0.2**
HWA	**Hwalien**	**0.85**	**8**	eP	**Pb**	**19 35 29.2**	**+0.6**
HWA				S	**Sb**	**19 35 42.5**	**+2.9**
SSD	**Sandimen**	**0.86**	**244**	eP	**Pb**	**19 35 27.9**	**-0.7**
CHN5	**Tsauling**	**0.86**	**303**	⇑P	**Pb**	**19 35 28.9**	**+0.1**
CHN1	**Nanshi**	**0.87**	**274**	⇑i P	**Pb**	**19 35 29.0**	**+0.2**
CHN1				S	**Sb**	**19 35 40.4**	**+0.4**
TWK	**Hsinying**	**0.91**	**279**	⇑P	**Pb**	**19 35 29.5**	**0.0**
TWK				S	**Sb**	**19 35 41.5**	**+0.3**
SMLT	**Sun Moon Lake**	**0.91**	**325**	i P	**Pb**	**19 35 29.2**	**-0.3**
SMLT				S	**Sb**	**19 35 42.2**	**+0.9**
EAST	**Anshuo**	**0.94**	**218**	eP	**Pb**	**19 35 29.3**	**-0.7**
TYC	**Yuchr**	**0.95**	**324**	⇑i P	**Pb**	**19 35 30.0**	**-0.3**
TYC				S	**Sb**	**19 35 43.0**	**+0.6**
TWD	**Chiawan**	**0.95**	**7**	eP	**Pb**	**19 35 29.5**	**-0.8**
TWD				S	**Sb**	**19 35 44.0**	**+1.5**
SGLT	**Jiouru**	**0.99**	**246**	eP	**Pb**	**19 35 31.6**	**+0.7**
WGK	**Gukeng**	**1.00**	**304**	eP	**Pb**	**19 35 31.3**	**+0.2**
TWM1	**Shoushan**	**1.01**	**253**	eP	**Pb**	**19 35 32.5**	**+1.3**
CHN3	**Shinhua**	**1.02**	**267**	eP	**Pb**	**19 35 32.7**	**+1.4**
CHN3				S	**Sb**	**19 35 47.3**	**+3.0**
CHY	**Chiayi**	**1.03**	**291**	P	**Pb**	**19 35 32.0**	**+0.5**
CHY				S	**Sb**	**19 35 44.0**	**-0.6**
WHF	**Hehuan Shan**	**1.03**	**350**	eP	**Pb**	**19 35 30.9**	**-0.6**
WHF				S	**Sb**	**19 35 44.9**	**+0.2**
WNT	**Mingjian**	**1.04**	**316**	⇑P	**Pb**	**19 35 32.3**	**+0.7**
WNT				S	**Sb**	**19 35 45.5**	**+0.7**
SCZT	**Fangliau**	**1.09**	**226**	eP	**Pb**	**19 35 32.4**	**-0.1**
SCZT				S	**Sb**	**19 35 47.2**	**+0.9**
TWT	**Tachien**	**1.15**	**347**	eP	**Pn**	**19 35 33.5**	**-0.1**
TWT				S	**Sb**	**19 35 48.1**	**0.0**
SCLT	**Jiali**	**1.17**	**272**	eP	**Pn**	**19 35 34.0**	**+0.1**
CHN8	**Yiju**	**1.18**	**281**	eP	**Pn**	**19 35 33.7**	**-0.3**
CHN8				S	**Sb**	**19 35 50.2**	**+1.3**
TCU	**Taichung**	**1.25**	**325**	eP	**Pn**	**19 35 33.3**	**-1.6**
TCU				S	**Sb**	**19 35 51.7**	**+0.8**
WSF	**Szhu**	**1.25**	**294**	eP	**Pn**	**19 35 35.3**	**+0.2**
WSF				S	**Sb**	**19 35 51.2**	**+0.2**
HEN	**Hengchun**	**1.31**	**211**	eP	**Pn**	**19 35 38.7**	**+2.9**
NNS	**Nan Shan**	**1.31**	**356**	eP	**Pn**	**19 35 35.5**	**-0.4**
NNS				S	**Sb**	**19 35 52.0**	**-0.7**
WTCT	**Ta-ch'eng**	**1.31**	**304**	eP	**Pn**	**19 35 36.0**	**+0.1**
WTCT				S	**Sb**	**19 35 53.4**	**+0.6**
ENA	**Nanau**	**1.32**	**11**	eP	**Pn**	**19 35 34.6**	**-1.4**
ENA				S	**Sb**	**19 35 51.8**	**-1.1**
TWQ1	**Liyutan**	**1.37**	**332**	eP	**Pn**	**19 35 38.2**	**+1.5**
NSY	**Sanyi**	**1.44**	**333**	eP	**Pn**	**19 35 39.0**	**+1.3**
NSY				S

SDLR Sedlovina 4.62 21 *e*P **Pn 20 00 08.2 -0.8**
NLC Nalytchevo 4.64 25 *e*P **Pn 20 00 07.8 -1.5**
NLC *e*S **Sn 20 01 00.6 -2.9**
SPN Mys Shipunski 4.78 30 P **Pn 20 00 09.5 -1.8**
SPN S **Sn 20 00 57.1 -10**
SPN Mys Shipunski 4.78 30 *e*P **Pn 20 00 10.3 -1.0**
SPN *e*S **Sn 20 01 04.5 -2.5**
GNL Ganaly 4.83 13 *i* P **Pn 20 00 12.6 +0.5**
TUMR Tumrok 6.75 20 *e*P **Pn 20 00 38.3 -0.9**
KUR Kuril'sk 6.78 239 *e*PN **Pn 20 00 39.0 -0.6**
ESO Esso 7.10 12 *e*P **Pn 20 00 44.4 +0.3**
KMNR Kamenistaya 7.21 19 *e*P **Pn 20 00 44.6 -1.0**
KPT Kopyto 7.40 18 *e*P **Pn 20 00 46.2 -2.1**
KOZ Kozyrevsk 7.42 17 P **Pn 20 00 47.9 -0.7**
KOZ Kozyrevsk 7.42 17 *e*P **Pn 20 00 47.1 -1.5**
KOZR Kozyr 7.43 17 PN **Pn 20 00 47.9 -0.8**
ZLN Zelenaya 7.58 20 *e*P **Pn 20 00 49.9 -0.8**
LGNR Loginova 7.61 20 *e*P **Pn 20 00 51.3 +0.1**
SRDR Sredinnyy 7.64 15 *e*P **Pn 20 00 50.6 -1.0**
CIRR Tsirk 7.65 20 *e*P **Pn 20 00 51.3 -0.5**
KRSR Krestovskiy 7.71 19 *e*P **Pn 20 00 50.5 -2.1**
KLY Klyuchi 7.82 19 P **Pn 20 00 54.3 +0.2**
KLY Klyuchi 7.82 19 *e*P **Pn 20 00 53.3 -0.8**
SVLR Shiveluch 8.18 20 *e*P **P 20 00 57.5 -1.7**
KBTR Krutoberegovo 8.28 27 *e*P **P 20 00 57.1 -3.4**
YUK Yuzh-Kuril'sk 8.64 239 *e*PN **P 20 01 04.0 -1.6**
YUK pmax pmax
comp=Z,230nm,0.5s
YUK MLR MLR
comp=Z,3μm,17.0s
BKI Bering 8.67 41 *e*S **Sn 20 02 26.3 -18**
YSS Yuzh-Sakhalins 9.20 262 ⇓*i*PN **P 20 01 16.7 +3.4**
YSS *e* 20 03 08.0
YSS MLR MLR
comp=Z,1μm,18.0s
YSS MLR MLR
comp=E,600nm,16.0s
YSS Yuzh-Sakhalins 9.20 262 *e*Pn **P 20 01 13.5 +0.2**
comp=E,37nm,1.1s
MA2 Magadan 11.04 346 ⇓*e*PN **P 20 01 38.1 -0.3**
MA2 pmax pmax
comp=Z,20nm,0.7s
MA2 Magadan 11.04 346 Pn **P 20 01 36.3 -2.1**
comp=Z,19nm,0.6s
FX1 Attu Island--F 11.43 64 *e*Pn **P 20 01 38.5 -5.2**
KLR Kul'dur 15.94 280 *e*P **P 20 02 47.2 +3.9**
MAJO Matsushiro 18.06 233 *e*P **P 20 03 11.6 +1.6**
MAJO pmax pmax
comp=Z,7.0nm,0.6s
MAJO Matsushiro 18.06 233 *e*P **P 20 03 11.6 +1.6**
comp=Z,7.4nm,0.6s
MAT Matsushiro 18.06 233 *e*P **P 20 03 11.0 +1.0**
MAT pmax pmax
comp=Z,10.0nm,0.8s
MAT Matsushiro 18.06 233 P **P 20 03 11.2 +1.2**
MDJ Mudanjiang 18.64 266 P **P 20 03 18.7 +1.6**
MDJ AMB AMB
comp=Z,21nm,0.9s
MDJ AMB AMB
comp=Z,252nm,4.5s
MDJ Mudanjiang 18.64 266 *e*P **P 20 03 15.5 -1.6**
YAK Yakutsk 19.66 321 *c i*P **P 20 03 26.6 -2.4**
YAK pmax pmax
comp=Z,64nm,0.7s
YAK MLR MLR
comp=Z,600nm,17.0s
YAK Yakutsk 19.66 321 *e*P **P 20 03 25.9 -3.1**
comp=Z,66nm,0.7s
BILL Bilibino 19.75 11 *d i*P **P 20 03 27.4 -2.6**
BILL *e*S **S 20 07 01.5 -4.6**
BILL pmax pmax
comp=Z,18nm,1.0s
BILL MLR MLR
comp=Z,700nm,17.0s
BILL Bilibino 19.75 11 *e*P **P 20 03 26.6 -3.4**
comp=Z,27nm,1.0s
CLNS Chul'man 20.25 305 *e*P **P 20 03 34.4 -0.9**
CLNS pmax pmax
comp=E,8.0nm,0.8s
CLNS pmax pmax
comp=Z,17nm,0.8s
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS MLR MLR
comp=Z,1μm,15.0s,MS4.3
CLNS MLR MLR
comp=N,500nm,17.0s
HIA Hailar 23.66 285 *e*P **P 20 04 08.1 -1.3**
HIA pmax pmax
comp=Z,4.0nm,0.6s
HIA Hailar 23.66 285 *e*P **P 20 04 08.1 -1.3**
comp=Z,4.2nm,0.6s,mb4.0
TIXI Tiksi 25.94 341 ⇓*e*P **P 20 04 28.2 -2.7**
TIXI pmax pmax
comp=Z,18nm,0.6s,mb4.8
TIXI MLR MLR
comp=Z,500nm,13.0s,MS4.2
BOD Bodaibo 26.21 306 *e*P **P 20 04 31.6 -2.0**
IMA Indian Mountai 30.79 38 *e*P **P 20 05 14.9 +0.2**
IMA pmax pmax
comp=Z,15nm,0.7s,mb4.9
IMA Indian Mountai 30.79 38 *e*P **P 20 05 14.9 +0.2**
comp=Z,15nm,0.7s,mb4.9
SSE Sheshan 31.80 249 *e*P **P 20 05 22.8 -1.3**
SSE AMB AMB
comp=Z,29nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,107nm,5.4s
ULN Ulaanbaatar 32.12 287 *e*P **P 20 05 24.9 -1.8**
ULN pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
ULN Ulaanbaatar 32.12 287 *e*P **P 20 05 24.9 -1.7**
comp=Z,1.2nm,0.6s,mb3.9
NJ2 Nanjing 32.60 253 *e*P **P 20 05 31.5 +0.5**
NJ2 AP pP 20 05 41.4 +5.8
NJ2 XP sP 20 05 46.9 +9.3
NJ2 PP PP 20 06 37.4 -2.5
NJ2 S **S 20 10 44.0 -0.9**
NJ2 XS 20 11 01.0
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
NJ2 AMB AMB
comp=Z,290nm,7.3s
NJ2 LR LR
comp=N,1μm,16.1s
NJ2 LR LR
comp=E,1μm,24.2s
NJ2 LR LR
comp=Z,740nm,16.4s,MS4.5
COLA College 33.11 40 *d i*P **P 20 05 33.9 -1.2**
COLA College 33.11 40 *e*P **P 20 05 33.7 -1.4**
comp=Z,7.5nm,0.8s,mb4.7
ZAK Zakamensk 33.61 293 *e*P **P 20 05 38.0 -1.6**
WHN Wuhan 36.46 255 P **P 20 06 04.1 -0.1**
ENH Enshi 39.77 259 *e*P **P 20 06 30.7 -1.1**
comp=Z,8.0nm,0.8s,mb4.5
LZH Lanzhou 39.85 271 ⇑P **P 20 06 32.5 0.0**
LZH AP pP 20 06 38.5 +1.3
LZH XP sP 20 06 42.1 +3.0
LZH AMB AMB
comp=Z,28nm,1.0s,mb5.0
NVS Novosibirsk 43.45 306 *e*P **P 20 06 59.1 -2.5**
NVS pmax pmax
comp=E,16nm,2.0s
NVS pmax pmax
comp=Z,15nm,2.0s,mb4.4
NVS pmax pmax
comp=N,9.0nm,1.8s
MK02 Makanchi Array 47.72 297 P **P 20 07 33.8 -1.9**
MK02 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
LSA Lhasa 52.17 273 *e*P **P 20 08 10.2 +0.2**
LSA Lhasa 52.17 273 *e*P **P 20 08 10.3 +0.3**
LSA pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
LSA Lhasa 52.17 273 *e*P **P 20 08 10.3 +0.3**
comp=Z,7.9nm,0.7s,mb4.8
SHL Shilong 54.44 269 ⇑*i*P **P 20 08 27.0 +0.1**
CHG Chiang Mai 54.60 258 ⇑P **P 20 08 23.2 -4.9**
comp=Z,16nm,0.9s,mb5.0
AAK Ala-Archa 54.64 296 ⇑*e*P **P 20 08 25.1 -3.1**
AAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
AAK MLR MLR
comp=Z,200nm,5.0s
AAK Ala-Archa 54.64 296 *e*P **P 20 08 24.8 -3.4**
comp=Z,4.5nm,1.0s,mb4.5
ARU Arti 54.71 318 ⇑*i*P **P 20 08 25.4 -3.1**
ARU *e* 20 09 24.5
ARU *e* 20 10 27.2
ARU *e*S **S 20 16 00.8 -5.5**
ARU *e* 20 18 10.9
ARU *e*SS SS 20 19 48.4 -0.9
ARU pmax pmax
comp=Z,25nm,0.9s,mb5.2
ARU Arti 54.71 318 *e*P **P 20 08 25.3 -3.1**
comp=Z,35nm,1.0s,mb5.3
CM31 Chiang Mai Arr 54.86 257 *e*P **P 20 08 29.6 -0.4**
comp=Z,4.3nm,0.6s,mb4.7
GUN Gumba 56.81 276 *e*P **P 20 08 43.6 -0.4**
comp=Z,19nm,0.7s,mb5.3
WVOR Wild Horse Val 56.88 62 P **P 20 08 45.1 +0.8**
WVOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
WVOR Wild Horse Val 56.88 62 P **P 20 08 45.1 +0.8**
comp=Z,2.8nm,0.8s,mb4.3
KKN Kakani 57.28 276 *e*P **P 20 08 46.8 -0.6**
comp=Z,24nm,0.7s,mb5.4
PKI Pulchoki 57.34 276 *e*P **P 20 08 46.9 -0.9**
comp=Z,17nm,0.9s,mb5.1
DMN Daman 57.52 276 *e*P **P 20 08 48.8 -0.2**
comp=Z,33nm,0.7s,mb5.5
GKN Gorkha 57.56 277 *e*P **P 20 08 48.9 -0.4**
SUMG Summit 58.29 5 *e*P **P 20 08 52.8 -1.0**
comp=Z,26nm,1.0s,mb5.2
SUMG *e* 20 09 04.7
KOLN Koldanda 58.39 277 *e*P **P 20 08 54.6 -0.5**
comp=Z,20nm,0.9s,mb5.1
BOZ Bozeman (W) 58.78 55 *e*P **P 20 08 56.6 -1.0**
BOZ *e* 20 09 09.8
BOZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
BOZ Bozeman (W) 58.78 55 *e*P **P 20 08 56.5 -1.1**
comp=Z,3.2nm,0.8s,mb4.4
BOZ *e* 20 09 09.8
QLMT Earthquake Lak 59.42 56 *e*P **P 20 09 03.6 +1.6**
MOWW Moose Ponds 60.49 56 *e*P **P 20 09 09.7 +0.3**
TPAW Teton Pass 60.55 57 *e*P **P 20 09 10.6 +0.8**
LOHW Long Hollow 60.66 56 *e*P **P 20 09 10.7 +0.1**
BW06 Boulder Array 61.79 56 *e*P **P 20 09 17.2 -1.0**
comp=Z,2.6nm,0.9s,mb4.4
KAF Kangasniemi 62.23 336 *e*p **P 20 09 17.3 -3.6**
comp=Z,7.7nm,0.9s,mb4.8
KAF Kangasniemi 62.23 336 *e*P **P 20 09 17.3 -3.6**
KAF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SRU San Rafael 63.71 60 *e*P **P 20 09 30.5 -0.5**
OBN Obninsk 64.57 326 ⇑*e*P **P 20 09 33.2 -3.1**
OBN *e**PP pP 20 09 49.0 +7.9
OBN *e* 20 10 06.9
OBN *e* 20 11 53.3
OBN *e*S **S 20 18 06.5 -6.9**
OBN *e*SS SS 20 22 18.9 -7.0
OBN pmax pmax
comp=Z,18nm,1.1s,mb5.0
OBN MLR MLR
comp=Z,600nm,5.0s
PV10 Paradox Valley 65.06 60 *e*P **P 20 09 39.4 -0.3**
NB2 NORSAR Subarra 66.72 342 P **P 20 09 47.7 -2.2**
comp=Z,1.5nm,0.7s,mb4.1,baz=24,slow=6.2
NB2 NORSAR Subarra 66.72 342 P **P 20 09 47.7 -2.2**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
WRAB Tennant Creek 71.32 202 *e*P **P 20 10 17.5 -1.6**
WRAB pmax pmax
comp=Z,11nm,1.0s,mb4.7
WRAB Tennant Creek 71.32 202 *e*P **P 20 10 17.5 -1.6**
comp=Z,11nm,1.0s,mb4.7
WRA Warramunga Arr 71.33 202 *i* P **P 20 10 17.8 -1.3**
WRA pmax pmax
comp=Z,3.0nm,0.8s
GNI Garni 72.58 312 ⇓*e*P **P 20 10 26.2 +0.1**
GNI pmax pmax
comp=Z,24nm,1.8s
GNI MLR MLR
comp=Z,100nm,8.0s
GNI Garni 72.58 312 *e*P **P 20 10 26.4 +0.3**
comp=Z,7.2nm,0.8s,mb4.7
WMOK Wichita Mounta 73.40 56 *e*P **P 20 10 29.8 -1.3**
WMOK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
WMOK Wichita Mounta 73.40 56 *e*P **P 20 10 29.8 -1.3**
comp=Z,2.9nm,0.9s,mb4.2
BSEG Bad Segeberg 73.44 340 *e*P **P 20 10 31.0 +0.1**
OJC Ojcow 74.28 333 *e*P **P 20 10 35.3 -0.5**
ERZM Erzurum 74.41 314 *i* P **P 20 10 38.4 +1.6**
KOLS Kolonicke sedl 74.63 330 *i* P **P 20 10 37.6 -0.3**
KOLS *e*pP pP 20 10 42.4 -0.4
KOLS *e*sP sP 20 10 43.9 -0.6
LTX Lajitas 74.64 63 *e*P **P 20 10 40.4 +2.0**
LTX pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LTX Lajitas 74.64 63 *e*P **P 20 10 40.4 +2.1**
comp=Z,3.5nm,0.6s,mb4.5
CRVS Cervenica-Dubn 74.92 331 *e*P **P 20 10 39.2 -0.4**
OKC Ostrava-Krasne 75.12 333 *e*P **P 20 10 40.8 +0.1**
UPC Upice 75.13 335 *e*P **P 20 10 40.7 0.0**
UPC *e*PCP PcP 20 10 52.5 -2.2
DPC Dobruska-Polom 75.19 335 *e*P **P 20 10 41.2 +0.2**
DPC *e*PCP PcP 20 10 57.2 +2.3
CLL Collm 75.21 337 ⇑*i*P **P 20 10 40.4 -0.8**
CLL pmax pmax
comp=Z,27nm,0.9s,mb5.2
CLL Collm 75.21 337 ⇑*i*P **P 20 10 40.4 -0.8**
comp=Z,27nm,0.9s,mb5.2
CLL *i* 20 10 42.9
CLL Collm 75.21 337 ⇑P **P 20 10 40.4 -0.8**
comp=Z,logA/T=1.5,mb5.2
CLL *i* *PP pP 20 10 42.9 -3.2
CLL *e* 20 10 55.0
MORC Moravsky Berou 75.35 334 *e*P **P 20 10 41.4 -0.6**
MORC pmax pmax
comp=Z,23nm,0.8s,mb5.2
MORC Moravsky Berou 75.35 334 *e*P **P 20 10 41.4 -0.6**
comp=Z,23nm,0.8s,mb5.2
BRG Berggiesshubel 75.36 336 *i* P **P 20 10 41.5 -0.5**
BRG pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BRG Berggiesshubel 75.36 336 *i* P **P 20 10 41.5 -0.5**
comp=Z,9.9nm,1.0s,mb4.7
CLZ Clausthal 75.37 339 *e*P **P 20 10 41.9 -0.2**
comp=Z,35nm,1.0s,mb5.2
PVCC Panska Ves 75.51 336 *e*P **P 20 10 42.7 -0.2**
LIKS Likavka 75.53 332 *e*P **P 20 10 41.6 -1.4**
KECS Kecovo 75.60 331 *e*P **P 20 10 43.4 -0.1**
VRI Vrincioaia 75.73 326 ⇑*i*P **P 20 10 46.5 +2.2**
CFR Carcaliu 75.79 325 ⇓*i*P **P 20 10 44.0 -0.6**
PRU Pruhonice 76.00 336 *e*P **P 20 10 45.7 0.0**
PRU *e*PCP PcP 20 10 59.1 +0.7
BEST Besiri 76.03 312 *i* P **P 20 10 47.0 +0.9**
VYHS Vyhne 76.11 332 *i* P **P 20 10 46.3 0.0**
BOYT Boyabat 76.15 319 *i* P **P 20 10 47.4 +0.7**
MOX Moxa 76.17 338 *e*P **P 20 10 46.2 -0.4**
MOX pmax pmax
comp=Z,19nm,1.1s,mb4.9
MOX Moxa 76.17 338 *e*P **P 20 10 46.2 -0.4**
comp=Z,19nm,1.1s,mb4.9
MOX Moxa 76.17 338 *i* P **P 20 10 46.2 -0.4**
comp=Z,logA/T=1.2,mb4.9
HARR Harsova 76.28 325 ⇓*i*P **P 20 10 44.6 -2.8**
HARR Harsova 76.28 325 ⇓*i*P **P 20 10 44.5 -2.9**
PSZ Piszkesteto 76.29 331 *e*P **P 20 10 46.8 -0.5**
PSZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
PSZ Piszkesteto 76.29 331 *e*P **P 20 10 46.8 -0.5**
comp=Z,8.8nm,0.8s,mb4.7
NKC Novy Kostel 76.34 337 *e*P **P 20 10 47.2 -0.4**
NKC *e*PCP PcP 20 11 04.3 +4.4
SMOL Smolenice 76.51 333 *e*P **P 20 10 49.4 +0.8**
SMOL *e*pP pP 20 10 53.3 -0.2
ELZG Elazig 76.65 314 *i* P **P 20 10 50.9 +1.3**
BALT Daday 76.71 320 *i* P **P 20 10 50.4 +0.5**
CTKT Corum 76.85 318 *i* P **P 20 10 51.7 +1.0**
ZST Bratislava 76.89 333 *e*P **P 20 10 51.9 +1.2**
ZST *e*pP pP 20 10 57.6 +1.9
KHC Kasperske Hory 77.05 336 *e*P **P 20 10 51.8 +0.2**
KHC *e*x x 20 11 08.9
MALT Malatya 77.06 314 *e*P **P 20 10 52.7 +0.8**
MALT pmax pmax
comp=Z,19nm,1.0s,mb5.0
MALT Malatya 77.06 314 *e*P **P 20 10 52.7 +0.9**
comp=Z,18nm,1.0s,mb5.0
GRA1 Grafenberg Arr 77.15 337 *e*P **P 20 10 52.1 0.0**
comp=Z,40nm,0.9s,mb5.3
GRF Grafenberg Arr 77.15 337 *e*P **P 20 10 52.1 0.0**
GRF pmax pmax
comp=Z,40nm,0.9s,mb5.3
GRF Grafenberg Arr 77.15 337 *e*P **P 20 10 52.1 0.0**
GRF pmax pmax
comp=Z,40nm,0.9s,mb5.3
GRF Grafenberg Arr 77.15 337 *e*P **P 20 10 52.1 0.0**
comp=Z,40nm,0.9s,mb5.3
WET Wettzell 77.22 336 *e*P **P 20 10 52.6 +0.1**
WET pmax pmax
comp=Z,20nm,1.0s,mb5.0
WET Wettzell 77.22 336 *e*P **P 20 10 52.6 +0.1**
comp=Z,20nm,1.0s,mb5.0
GEC2 GERESS Array S 77.27 336 *e*P **P 20 10 52.5 -0.3**
GEC2 pmax pmax
comp=Z,11nm,0.9s,mb4.8
GEC2 GERESS Array S 77.27 336 *e*P **P 20 10 52.5 -0.3**
comp=Z,11nm,0.9s,mb4.8
ELDT Eldivan 77.55 319 *i* P **P 20 10 55.0 +0.5**
MOA Molln 78.03 335 ⇑*i*P **P 20 10 57.1 +0.1**
comp=Z,11nm,0.9s,mb4.8
SGKT Sivrigoynuk 78.07 320 *i* P **P 20 10 58.1 +0.7**
ARSA Arzberg 78.21 334 ⇑*i*P **P 20 10 58.1 +0.1**
comp=Z,13nm,1.0s,mb4.8
GZT Gaziantep 78.23 314 *i* P **P 20 10 58.9 +0.5**
GIVF Givet 78.24 342 *e*P **P 20 10 58.3 +0.2**
AVNT Avonos 78.33 317 *i* P **P 20 10 59.1 +0.2**
KAHT Ahir Dag 78.34 315 *i* P **P 20 10 60.0 +1.0**
BAIF Baives 78.40 342 *e*P **P 20 10 59.2 +0.2**
comp=Z,23nm,1.0s,mb4.8
BAIF Baives 78.40 342 *e*P **P 20 10 59.2 +0.2**
BAIF pmax pmax
comp=Z,12nm,1.0s,mb4.8
FUR Furstenfeldbru 78.54 337 *e*P **P 20 11 00.1 +0.3**
PERS Pernice 78.89 334 *i* P **P 20 11 02.0 +0.3**
KBA Koelnbreinsper 78.98 335 ⇑*i*P **P 20 11 03.3 +1.0**
comp=Z,57nm,1.0s,mb5.5
KBA Koelnbreinsper 78.98 335 ⇑*i*P **P 20 11 03.3 +1.0**
KBA pmax pmax
comp=Z,57nm,1.0s,mb5.5
BFO Black Forest 79.12 339 *e*P **P 20 11 02.6 -0.4**
BFO pmax pmax
comp=Z,15nm,1.2s,mb4.8
BFO Black Forest 79.12 339 *e*P **P 20 11 02.6 -0.4**
comp=Z,15nm,1.2s,mb4.8
WATA Walderalm 79.23 336 ⇓*i*P **P 20 11 04.1 +0.5**
comp=Z,15nm,1.0s,mb4.9
WATA Walderalm 79.23 336 ⇓*i*P **P 20 11 04.1 +0.5**
WATA pmax pmax
comp=Z,15nm,1.0s,mb4.9
WTTA Wattenberg 79.28 336 ⇑*i*P **P 20 11 04.7 +0.8**
comp=Z,33nm,1.0s,mb5.2
WTTA Wattenberg 79.28 336 ⇑*i*P **P 20 11 04.7 +0.8**
WTTA pmax pmax
comp=Z,33nm,1.0s,mb5.2
CDF Champ du Feu 79.29 339 *e*P **P 20 11 04.2 +0.3**
comp=Z,38nm,1.1s,mb4.9
CDF Champ du Feu 79.29 339 *e*P **P 20 11 04.2 +0.3**
CDF pmax pmax
comp=Z,19nm,1.1s,mb4.9
MOTA Moosalm 79.34 337 ⇑*i*P **P 20 11 04.5 +0.3**
comp=Z,15nm,1.0s,mb4.9
MOTA Moosalm 79.34 337 ⇑*i*P **P 20 11 04.5 +0.3**
MOTA pmax pmax
comp=Z,15nm,1.0s,mb4.9
SQTA Sankt Quirin 79.43 337 ⇑*i*P **P 20 11 05.5 +0.8**
comp=Z,24nm,1.2s,mb5.0
SQTA Sankt Quirin 79.43 337 ⇑*i*P **P 20 11 05.5 +0.8**
SQTA pmax pmax
comp=Z,24nm,1.2s,mb5.0
CRES Cresnjev 79.52 333 *i* P **P 20 11 05.1 0.0**
COBT Iskenderun 79.53 315 *i* P **P 20 11 06.7 +1.2**
DIVS Divcibare 79.64 329 ⇓*i*P **P 20 11 05.2 -0.6**
ULDT Uludag 79.65 322 *i* P **P 20 11 06.0 0.0**
MEZF Maizieres J'vi 79.70 341 *e*P **P 20 11 06.6 +0.5**
comp=Z,54nm,1.1s,mb5.1
DAVA Damuels 79.71 337 ⇑*i*P **P 20 11 07.0 +0.8**
comp=Z,13nm,1.1s,mb4.8
HAU Haudompre 79.89 340 *e*P **P 20 11 07.3 +0.2**
comp=Z,22nm,1.0s,mb4.7
HAU Haudompre 79.89 340 *e*P **P 20 11 07.3 +0.2**
HAU pmax pmax
comp=Z,11nm,1.0s,mb4.7
HINF Hinteralfeld 79.95 340 *e*P **P 20 11 07.4 -0.1**
BTOK Tokmak 80.42 322 *i* P **P 20 11 10.3 +0.1**
FLN La Foliniere 80.54 345 *e*P **P 20 11 10.9 +0.3**
comp=Z,28nm,0.9s,mb4.9
FLN La Foliniere 80.54 345 *e*P **P 20 11 10.9 +0.3**
FLN pmax pmax
comp=Z,14nm,0.9s,mb4.9
LDF La Druitiere 80.64 344 *e*P **P 20 11 11.4 +0.3**
comp=Z,7.5nm,0.6s,mb4.5
LDF La Druitiere 80.64 344 *e*P **P 20 11 11.4 +0.3**
LDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
GRR Gorron 80.96 345 *e*P **P 20 11 13.5 +0.7**
comp=Z,34nm,0.9s,mb5.0
GRR Gorron 80.96 345 *e*P **P 20 11 13.5 +0.7**
GRR pmax pmax
comp=Z,17nm,0.9s,mb5.0
CABF La Chapelle 81.26 340 *e*P **P 20 11 15.2 +0.8**
SGMF Saint Gilles 81.38 346 *e*P **P 20 11 15.8 +0.8**
comp=Z,19nm,0.7s,mb4.8
SGMF Saint Gilles 81.38 346 *e*P **P 20 11 15.8 +0.8**
SGMF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
SSF Saint Saulge 81.40 341 *e*P **P 20 11 16.4 +1.3**
ROSF Rostrenen 81.41 346 *e*P **P 20 11 16.3 +1.1**
AVF Avril sur Loir 81.69 341 *e*P **P 20 11 17.4 +0.8**
comp=Z,10nm,0.7s,mb4.5
AVF Avril sur Loir 81.69 341 *e*P **P 20 11 17.4 +0.8**
AVF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SMF Signal de Mont 81.72 341 *e*P **P 20 11 17.1 +0.3**
comp=Z,60nm,1.5s,mb5.0
SMF Signal de Mont 81.72 341 *e*P **P 20 11 17.1 +0.3**
SMF pmax pmax
comp=Z,30nm,1.5s,mb5.0
QUIF Quistinic 81.80 346 *e*P **P 20 11 18.0 +0.8**
BGF Bois d'Agland 82.02 342 *e*P **P 20 11 19.2 +0.9**
LPL La Plagne 82.14 339 *e*P **P 20 11 20.7 +1.7**
comp=Z,14nm,0.8s,mb4.7
LPL La Plagne 82.14 339 *e*P **P 20 11 20.7 +1.7**
LPL pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LPG La Plagne 82.15 339 *e*P **P 20 11 20.5 +1.4**
comp=Z,16nm,0.7s,mb4.7
LPG La Plagne 82.15 339 *e*P **P 20 11 20.5 +1.4**
LPG pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
TCF Toulx Ste Croi 82.41 342 *e*P **P 20 11 21.0 +0.6**
MFF Saint Martin d 82.56 344 *e*P **P 20 11 22.5 +1.3**
comp=Z,22nm,1.1s,mb4.8
MFF Saint Martin d 82.56 344 *e*P **P 20 11 22.5 +1.3**
MFF pmax pmax
comp=Z,11nm,1.1s,mb4.8
MBDF Montbardon 82.88 339 *e*P **P 20 11 23.4 +0.6**
ORIF Oris-en-Rattie 82.91 339 *e*P **P 20 11 23.7 +0.7**
comp=Z,19nm,1.0s,mb4.8
ORIF Oris-en-Rattie 82.91 339 *e*P **P 20 11 23.7 +0.7**
ORIF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
VIVF Saint-Julien-l 83.24 340 *e*P **P 20 11 25.6 +0.9**
RJF Les Rejaudoux 83.49 342 *e*P **P 20 11 27.5 +1.5**
comp=Z,4.1nm,0.6s,mb4.3
RJF Les Rejaudoux 83.49 342 *e*P **P 20 11 27.5 +1.5**
RJF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
CAF Calviac 83.74 342 *e*P **P 20 11 28.9 +1.7**
LFF La Frestale 83.99 343 *e*P **P 20 11 30.2 +1.8**
comp=Z,18nm,0.8s,mb5.0
LFF La Frestale 83.99 343 *e*P **P 20 11 30.2 +1.8**
LFF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
MTLF Montolieu 85.22 341 *e*P **P 20 11 36.5 +1.9**
EIL Elat 85.75 312 *e*P **P 20 11 36.9 -0.8**
comp=Z,12nm,0.8s,mb5.2
EPF Esparros 85.91 342 *e*P **P 20 11 39.4 +1.3**
comp=Z,7.0nm,0.6s,mb4.8
EPF Esparros 85.91 342 *e*P **P 20 11 39.4 +1.3**
EPF pmax pmax

comp=Z,4.0nm,0.6s,mb4.8
SJPF Ste Jean 86.13 344 *e*P **P 20 11 41.4 +2.2**
ETSF Etsaut 86.21 343 *e*P **P 20 11 41.9 +2.3**
comp=Z,6.6nm,0.7s,mb4.7
ETSF Etsaut 86.21 343 *e*P **P 20 11 41.9 +2.3**
ETSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.7

NIED ***03*** *20:06:00,35.00N×131.60E,h11km,Mw4.0 Best double couple: M0 1.06×10^15 NP1:φs36°,δ51°,λ117°. NP2:φs177°, δ46°,λ61°.*
JMA ***03*** *20:06:31.4,35.03N×131.58E,h19km±1km,M4.0 Broadband fault plane solution: P waves. NP1:φs61°,δ46°, λ167°. NP2:φs160°,δ81°,λ44°. Principal axes: T Plg37°, Azm31°; N Plg45°, Azm169°; P Plg22°, Azm283°;*
JMA Felt II J1.

ISC 03 20:06:31.8±2.9,35.0N±0.1×131.6E±0.2,h24km±17km,n4, σ0°72/8,3D,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHIK	**Hikimi**	**0.56**	**152**	⇓P	**Pb**	**20 06 42.6**	**-0.2**
JHIK				*e*S	**Sb**	**20 06 50.3**	**-0.1**
JGT	**Gotsu**	**0.59**	**89**	⇓P	**Pb**	**20 06 43.1**	**-0.4**
JGT				*e*S	**Sb**	**20 06 51.6**	**+0.1**
JHT	**Toyohira**	**0.76**	**118**	⇓P	**Pb**	**20 06 46.0**	**-0.2**
JHT				*e*S	**Sb**	**20 06 56.6**	**+0.5**
MAT	**Matsushiro**	**5.57**	**72**	P	**Pn**	**20 07 56.5**	**+1.0**
MAT				S	**Sn**	**20 08 58.8**	**-0.7**

ATH ***03*** *20:06:35.6,37.47N×22.00E,h5km,MD3.7/14,ML3.5*
CSEM ***03*** *20:06:35.7±0.1,37.48N×22.00E,h10km,ML3.5,Error ellipse: s-maj=2.0km s-min=1.7km az=86.0*
NEIC ***03*** *20:06:35.6,37.47N×22.00E,h5km,MD3.7(ATH),After ATH.*

ISC 03 20:06:35.5±0.4,37.49N±0.03×22.03E±0.04,h5km,n37, σ1°32/42,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.32**	**194**	*e*PG	**Pg**	**20 06 41.6**	**-0.3**
ITM				*e*SG	**Sg**	**20 06 45.9**	**-0.3**
RLS	**Riolos of Patr**	**0.72**	**322**	*e*PG	**Pg**	**20 06 49.1**	**-0.9**
VLI	**Veliai**	**1.06**	**136**	*e*PB	**Pb**	**20 06 55.9**	**-0.1**
MGER	**Gerania Oros**	**1.10**	**63**	*e*PG	**Pg**	**20 06 56.5**	**-1.0**
MGER				*e*SB	**Sb**	**20 07 12.5**	**+1.4**
NAIG	**Nisos Aigina**	**1.19**	**76**	*e*PG	**Pg**	**20 06 58.2**	**-1.2**
NSAL	**Nisos Salamina**	**1.22**	**69**	*e*PN	**Pn**	**20 06 58.5**	**-0.7**
VLS	**Valsamata**	**1.33**	**302**	*e*PB	**Pb**	**20 07 00.9**	**+0.3**
LKR	**Lokris**	**1.39**	**33**	*e*PG	**Pg**	**20 07 01.6**	**-1.8**
ATH	**Athens Observa**	**1.43**	**70**	*e*PG	**Pg**	**20 07 02.5**	**-1.5**
ATH				*e*SB	**Sb**	**20 07 23.7**	**+3.1**
EVR	**Evrytania**	**1.44**	**353**	*e*PG	**Pg**	**20 07 02.1**	**-2.1**
KYTH	**Kithira**	**1.45**	**146**	*e*PB	**Pb**	**20 07 04.5**	**+1.8**
MPAR	**Parnis Oros**	**1.51**	**63**	*e*PG	**Pg**	**20 07 04.0**	**-1.7**
MPAR				*e*SB	**Sb**	**20 07 26.5**	**+3.5**
AGG	**Agios Georgios**	**1.55**	**9**	*e*P	**Pn**	**20 07 03.9**	**-0.1**
PTL	**Penteli**	**1.56**	**68**	*e*PG	**Pg**	**20 07 04.2**	**-2.5**
PTL				*e*SB	**Sb**	**20 07 27.5**	**+2.9**
NEO	**Neokhori**	**2.05**	**27**	*e*PG	**Pg**	**20 07 15.8**	**-0.6**
XOR	**Xorichti**	**2.09**	**26**	*e*P	**Pn**	**20 07 11.3**	**-0.4**
AOS	**Alonnisos**	**2.23**	**40**	*e*P	**Pn**	**20 07 10.7**	**-2.9**
MEV	**Metsovon**	**2.38**	**345**	*e*P	**Pn**	**20 07 18.4**	**+2.6**
IGT	**Igoumenitsa**	**2.44**	**327**	*e*P	**Pn**	**20 07 17.6**	**+1.0**
LIT	**Litokhoron**	**2.63**	**8**	*e*P	**Pn**	**20 07 19.2**	**-0.3**
VAM	**Vamos**	**2.72**	**139**	*e*PN	**Pn**	**20 07 23.5**	**+2.8**
PAIG	**Paliouri**	**2.76**	**27**	*e*P	**Pn**	**20 07 21.9**	**+0.7**
KZN	**Kozani**	**2.82**	**356**	*e*PN	**Pn**	**20 07 24.8**	**+2.7**
KEK	**Kerkira**	**2.83**	**323**	*e*PG	**Pg**	**20 07 26.5**	**-5.4**
APE	**Apeiranthos**	**2.83**	**97**	*e*PN	**Pn**	**20 07 21.6**	**-0.6**
PLG	**Polygyros**	**3.09**	**21**	*e*PN	**Pn**	**20 07 27.3**	**+1.4**
OUR	**Ouranopolis**	**3.23**	**28**	*e*P	**Pn**	**20 07 27.2**	**-0.7**
FNA	**Florina**	**3.33**	**351**	*e*P	**Pn**	**20 07 29.4**	**0.0**
GRG	**Griva**	**3.48**	**5**	*e*P	**Pn**	**20 07 31.3**	**-0.1**
SOH	**Sokhos**	**3.49**	**17**	*e*P	**Pn**	**20 07 32.1**	**+0.5**
KNT	**Kendrikon**	**3.73**	**10**	*e*P	**Pn**	**20 07 35.0**	**-0.1**
SRS	**Serrai**	**3.82**	**18**	*e*P	**Pn**	**20 07 37.5**	**+1.2**
MMB	**Musomiste**	**4.30**	**17**	S	**Sn**	**20 08 36.0**	**+1.6**
KKB	**Krupnik**	**4.45**	**10**	P	**Pn**	**20 07 45.5**	**+0.2**
ALN	**Alexandroupoli**	**4.62**	**41**	*e*P	**Pn**	**20 07 46.1**	**-1.6**
RZN	**Rozhen**	**4.68**	**26**	S	**Sn**	**20 08 43.5**	**-0.5**
VTS	**Vitosha**	**5.18**	**10**	P	**Pn**	**20 07 56.0**	**+0.4**

BJI 03 20:09:50.4,26.42N×99.96E,h14km,mb3.9,ML3.8,Ms3.8, Msz3.7,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**12.62**	**280**	*e*P	P	20 12 49.4	-3.1
	18nm,0.9s						
PKI	**Pulchoki**	**13.03**	**278**	*e*P	P	20 12 51.6	-6.2
	9.5nm,0.7s						
KKN	**Kakani**	**13.15**	**279**	*e*P	P	20 12 55.2	-4.2
	22nm,0.8s						
DMN	**Daman**	**13.30**	**278**	*e*P	P	20 12 54.1	-7.3
	8.4nm,0.6s						
KOLN	**Koldanda**	**14.64**	**279**	*e*P	P	20 13 07.8	-11
	7.6nm,0.7s						

WEL 03 20:26:40.7±0.3,41.11S×172.95E,h147km±2km,ML3.5/9, 6C,Error ellipse: s-maj=2.1km s-min=1.9km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.34**	**109**	⇑PN	P	20 27 01.2	-0.3
NNZ				SN	S	20 27 16.3	-1.2
QRZ	**Quartz Range**	**0.43**	**311**	⇑PN	P	20 27 01.3	-0.6
QRZ				SN	S	20 27 16.1	-2.0
THZ	**Tophouse**	**0.66**	**183**	⇑PN	P	20 27 02.8	-0.2
THZ				SN	S	20 27 19.3	-0.9
TUWZ	**Tuamarina**	**0.81**	**114**	PN	P	20 27 04.1	0.0
TUWZ				SN	S	20 27 20.9	-1.0
BSWZ	**Blackbirch Sta**	**0.92**	**131**	PN	P	20 27 04.7	-0.1
BSWZ				SN	S	20 27 23.3	0.0
DSZ	**Denniston Nort**	**1.07**	**233**	PN	P	20 27 05.3	-0.8
DSZ				SN	S	20 27 23.0	-2.6
MRW	**Makara Radio**	**1.32**	**96**	⇑PN	P	20 27 08.2	-0.4
MRW				SN	S	20 27 27.7	-2.3
KHZ	**Kahutara**	**1.38**	**162**	⇑PN	P	20 27 08.8	-0.3
KHZ				SN	S	20 27 29.0	-2.0
BHW	**Baring Head**	**1.48**	**102**	⇑PN	P	20 27 09.5	-0.6
BHW				SN	S	20 27 30.1	-2.7
KIW	**Kapiti Island**	**1.50**	**81**	PN	P	20 27 09.9	-0.5
KIW				SN	S	20 27 31.7	-1.6
CAW	**Cannon Point**	**1.60**	**91**	PN	P	20 27 10.8	-0.7
CAW				SN	S	20 27 33.0	-2.1
LTZ	**Lake Taylor**	**1.75**	**197**	PN	P	20 27 12.4	-0.7
LTZ				SN	S	20 27 34.7	-3.3
MSWZ	**Moikau Station**	**1.76**	**101**	PN	P	20 27 12.5	-0.7
MSWZ				SN	S	20 27 35.5	-2.7
PAWZ	**Paruwai Farm**	**1.89**	**99**	PN	P	20 27 13.8	-0.8
PAWZ				SN	S	20 27 38.0	-2.8
MTW	**Mount Morrison**	**1.93**	**92**	PN	P	20 27 14.3	-0.9
MTW				SN	S	20 27 39.0	-2.6
MRZ	**Mangatainoka R**	**2.04**	**78**	PN	P	20 27 15.3	-1.2
MRZ				SN	S	20 27 41.9	-2.1
PKE	**Pukeiti**	**2.07**	**23**	PN	P	20 27 16.2	-0.7
CRLZ	**Canterbury Las**	**2.48**	**186**	SN	S	20 27 48.9	-4.7
WVZ	**Waitaha Valley**	**2.56**	**219**	*e*PN	P	20 27 21.0	-2.2
MQZ	**McQueen's Vall**	**2.61**	**185**	PN	P	20 27 21.4	-2.3
MQZ				SN	S	20 27 51.2	-5.2
CNZ	**Chateau**	**2.76**	**47**	PN	P	20 27 23.8	-1.7
TUVZ	**Tukino**	**2.77**	**49**	PN	P	20 27 23.9	-1.8
TWVZ	**Taurewa**	**2.79**	**44**	PN	P	20 27 23.8	-2.2
NGZ	**Ngauruhoe**	**2.80**	**47**	PN	P	20 27 24.7	-1.4
MGZ	**Maungaku**	**2.89**	**44**	PN	P	20 27 25.6	-1.7
FOZ	**Fox Glacier**	**3.44**	**224**	PN	P	20 27 29.7	-4.8
LBZ	**Lake Benmore**	**3.86**	**211**	PN	P	20 27 36.7	-3.2
ODZ	**Otahua Downs**	**4.28**	**202**	PN	P	20 27 42.8	-2.7
ODZ				*e*SN	S	20 28 28.9	-6.5
JCZ	**Jackson Bay**	**4.29**	**225**	PN	P	20 27 42.0	-3.5

NEIC ***03*** *20:38:48.2,37.39S×179.82E,h12km,ML4.1(WEL),After WEL.*

WEL 03 20:38:48.0±0.8,37.36S×179.83E,h12km,ML4.1/15, Error ellipse: s-maj=8.7km s-min=6.6km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.23**	**260**	P	Pb	20 39 09.5	-1.1
MXZ				S	Sb	20 39 26.5	+0.3
MXZ	**Matakaoa Point**	**1.23**	**260**	P*	Pb	20 39 09.5	-1.1
MXZ				S*	Sb	20 39 26.5	+0.3
MXZ				S*	Sb	20 39 26.6	+0.4
PUZ	**Puketiti**	**1.43**	**240**	*e*P	Pn	20 39 11.8	-2.1
PUZ				S	Sb	20 39 31.6	-0.6
PUZ	**Puketiti**	**1.43**	**240**	PN	Pn	20 39 11.8	-2.1
PUZ				SN	Sn	20 39 31.6	-1.2
MWZ	**Matawai**	**2.06**	**241**	*e*P	Pn	20 39 21.4	-1.5
MWZ	**Matawai**	**2.06**	**241**	PN	Pn	20 39 21.4	-1.6
MWZ				SN	Sn	20 39 47.5	-1.2
URZ	**Urewera**	**2.33**	**247**	*e*P	Pn	20 39 25.4	-1.4
URZ	**Urewera**	**2.33**	**247**	PN	Pn	20 39 25.4	-1.4
KNZ	**Kokohu**	**2.37**	**225**	P	Pn	20 39 24.8	-2.5
KNZ	**Kokohu**	**2.37**	**225**	PN	Pn	20 39 24.8	-2.5
EDRZ	**Edgecumbe**	**2.56**	**252**	P	Pn	20 39 29.4	-0.6
EDRZ	**Edgecumbe**	**2.56**	**252**	PN	Pn	20 39 29.4	-0.6
TAZ	**Tarawera**	**2.77**	**251**	*e*P	Pn	20 39 31.9	-1.1
TAZ	**Tarawera**	**2.77**	**251**	PN	Pn	20 39 31.9	-1.2
LIRZ	**Lichensteins R**	**2.81**	**256**	*e*P	Pn	20 39 32.3	-1.2
LIRZ	**Lichensteins R**	**2.81**	**256**	PN	Pn	20 39 32.3	-1.2
MYRZ	**Mayor Island**	**2.86**	**271**	PN	Pn	20 39 33.4	-1.0
BKZ	**Black Stump Fm**	**3.18**	**235**	P	Pn	20 39 36.3	-2.6
BKZ	**Black Stump Fm**	**3.18**	**235**	PN	Pn	20 39 36.3	-2.6
NGZ	**Ngauruhoe**	**3.79**	**240**	*e*P	Pn	20 39 44.7	-2.8
NGZ	**Ngauruhoe**	**3.79**	**240**	PN	Pn	20 39 44.7	-2.8
TUVZ	**Tukino**	**3.79**	**239**	*e*P	Pn	20 39 45.3	-2.3
TUVZ	**Tukino**	**3.79**	**239**	PN	Pn	20 39 45.3	-2.3
CNZ	**Chateau**	**3.83**	**240**	PN	Pn	20 39 46.1	-2.0
FWVZ	**Far West T-bar**	**3.86**	**239**	*e*P	Pn	20 39 46.8	-1.7
FWVZ	**Far West T-bar**	**3.86**	**239**	PN	Pn	20 39 46.8	-1.7
WNVZ	**Wahianoa**	**3.86**	**238**	P	Pn	20 39 45.3	-3.2
TSZ	**Takapari Road**	**4.05**	**227**	*e*P	Pn	20 39 46.4	-4.8
TSZ	**Takapari Road**	**4.05**	**227**	PN	Pn	20 39 46.4	-4.8
TSZ				SN	Sn	20 40 33.5	-5.6
WCZ	**Waipu Caves**	**4.63**	**286**	*e*P	Pn	20 39 57.1	-2.4
WCZ	**Waipu Caves**	**4.63**	**286**	PN	Pn	20 39 57.1	-2.4
MRZ	**Mangatainoka R**	**4.67**	**224**	P	Pn	20 39 55.0	-5.0
MRZ	**Mangatainoka R**	**4.67**	**224**	PN	Pn	20 39 55.0	-5.0
MTW	**Mount Morrison**	**5.06**	**220**	P	Pn	20 40 00.0	-5.6
MTW	**Mount Morrison**	**5.06**	**220**	PN	Pn	20 39 60.0	-5.6
QRZ	**Quartz Range**	**6.65**	**236**	*e*P	Pn	20 40 22.6	-5.3
QRZ	**Quartz Range**	**6.65**	**236**	PN	Pn	20 40 22.6	-5.3
THZ	**Tophouse**	**6.92**	**228**	*e*P	Pn	20 40 24.9	-6.9
THZ	**Tophouse**	**6.92**	**228**	PN	Pn	20 40 24.9	-6.9

NEIC ***03*** *20:58:27.0,54.94N×161.02W,h68km,ML4.0(AEIC),After AEIC.*

ISC 03 20:58:24.6±0.6,55.09N±0.09×161.1W±0.1,h99km±4km, n48,σ0°94/59,mb4.7/7,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PN6	**Pavlof North-6**	**0.59**	**309**	P	**P**	**20 58 41.9**	**+0.8**
PN6				S	**S**	**20 58 53.4**	**-0.1**
PN7A	**Pavlof North-7**	**0.62**	**305**	P	**P**	**20 58 41.7**	**+0.4**
PN7A				S	**S**	**20 58 54.0**	**+0.2**
DTNA	**Dutton South F**	**0.66**	**276**	P	**P**	**20 58 41.7**	**0.0**
DT1	**Dutton Round H**	**0.68**	**272**	P	**P**	**20 58 41.6**	**-0.2**
DRIA	**Deer Island**	**0.68**	**260**	P	**P**	**20 58 41.3**	**-0.6**
BLHA	**Black Hill**	**0.83**	**319**	P	**P**	**20 58 43.8**	**+0.4**
BLHA				S	**S**	**20 58 56.0**	**-1.3**
BALA	**Baldy Mountain**	**0.97**	**277**	P	**P**	**20 58 45.7**	**+0.9**
FALS	**False Pass**	**1.35**	**261**	P	**P**	**20 58 49.2**	**-0.1**
FALS				S	**S**	**20 59 07.5**	**-0.3**
SSLN	**Shishaldin Nor**	**1.69**	**262**	P	**P**	**20 58 54.3**	**+0.8**
SSLW	**Shishaldin Wes**	**1.77**	**261**	P	**P**	**20 58 55.0**	**+0.4**
SSLW				S	**S**	**20 59 17.5**	**+0.7**
WTUG	**Tugumak**	**1.91**	**264**	P	**P**	**20 58 56.6**	**+0.2**
WESN	**West Dahl Nort**	**2.08**	**257**	P	**P**	**20 58 59.4**	**+0.7**
WPOG	**Pogromni**	**2.16**	**258**	P	**P**	**20 59 00.3**	**+0.5**
WESS	**West Dahl Sout**	**2.18**	**255**	P	**P**	**20 59 00.8**	**+0.7**
WESS				S	**S**	**20 59 26.1**	**-0.3**
WFAR	**Faris Peak**	**2.19**	**257**	P	**P**	**20 59 00.8**	**+0.5**
ANPB	**Aniakchak Plen**	**2.34**	**42**	P	**P**	**20 59 03.0**	**+0.7**
ANPB				S	**S**	**20 59 30.9**	**+0.5**
ANPK	**Aniakchak Peak**	**2.43**	**42**	P	**P**	**20 59 04.2**	**+0.7**
ANPK				S	**S**	**20 59 34.1**	**+1.6**
AKA	**Akutan**	**2.88**	**253**	P	**P**	**20 59 09.7**	**+0.1**
AHB	**Akutan Harbor**	**2.91**	**252**	P	**P**	**20 59 10.1**	**+0.1**
LVA	**Lava Point**	**3.01**	**254**	P	**P**	**20 59 11.4**	**-0.1**
UNV	**Unalaska Valle**	**3.38**	**251**	P	**P**	**20 59 15.9**	**-0.7**
UNV				S	**S**	**20 59 53.8**	**-2.1**
MTBL	**Makushin Table**	**3.44**	**253**	P	**P**	**20 59 17.1**	**-0.2**
MNAT	**Makushin Natee**	**3.47**	**252**	P	**P**	**20 59 17.1**	**-0.7**
MNAT				S	**S**	**20 59 56.7**	**-1.3**
MSW	**Makushin Switc**	**3.51**	**253**	P	**P**	**20 59 17.8**	**-0.5**
OKFG	**Magazine Ridge**	**4.33**	**250**	P	**P**	**20 59 29.0**	**-0.5**
OKFG				S	**S**	**21 00 15.5**	**-3.7**
OKCD	**Okmok Cone D**	**4.43**	**251**	P	**P**	**20 59 31.2**	**+0.3**
OKCE	**Okmok Cone E**	**4.46**	**251**	P	**P**	**20 59 33.0**	**+1.7**
KAIC	**Katmai Ikaglui**	**4.76**	**42**	P	**P**	**20 59 36.2**	**+0.7**
KAWH	**Katmai**	**4.79**	**44**	P	**P**	**20 59 35.8**	**0.0**
KAHC	**Katmai Hardscr**	**4.89**	**41**	P	**P**	**20 59 37.9**	**+0.6**
KDAK	**Kodiak Island**	**5.45**	**57**	P	**P**	**20 59 43.2**	**-1.5**
RSO	**Redoubt South**	**7.00**	**36**	*e*P	**P**	**21 00 07.2**	**+1.1**
SPU	**Mount Spurr**	**7.76**	**34**	*e*P	**P**	**21 00 16.8**	**+0.3**
PWA	**Palmer West**	**8.83**	**37**	*e*P	**P**	**21 00 30.0**	**-0.9**
PMR	**Palmer**	**9.05**	**39**	*e*P	**P**	**21 00 32.3**	**-1.7**
EYAK	**Cordova Ski Ar**	**9.84**	**50**	*e*P	**P**	**21 00 42.2**	**-2.2**
DIV	**Divide**	**10.11**	**47**	*e*P	**P**	**21 00 46.2**	**-1.8**
THY	**Trims Highway**	**11.44**	**37**	*e*P	**P**	**21 01 04.9**	**-0.9**
IMA	**Indian Mountai**	**11.60**	**15**	*e*P	**P**	**21 01 05.4**	**-2.5**
KEV	**Kevo**	**55.33**	**357**	*e*p	**P**	**21 07 48.4**	**-1.2**
KAF	**Kangasniemi**	**63.00**	**356**	*e*p	**P**	**21 08 41.3**	**-1.3**
NB2	**NORSAR Subarra**	**64.06**	**4**	P	**P**	**21 08 49.8**	**+0.5**
	1.3nm,0.6s,mb3.9,baz=357,slow=6.5						
GUN	**Gumba**	**79.51**	**304**	*e*P	**P**	**21 10 23.2**	**+1.6**
	27nm,1.0s,mb5.0						
KKN	**Kakani**	**79.90**	**304**	*e*P	**P**	**21 10 24.9**	**+1.2**
	12nm,0.9s,mb4.7						
PKI	**Pulchoki**	**80.02**	**304**	*e*P	**P**	**21 10 25.1**	**+0.7**
	12nm,0.9s,mb4.7						
GKN	**Gorkha**	**80.02**	**305**	*e*P	**P**	**21 10 25.5**	**+1.1**
	25nm,1.1s,mb5.0						
DMN	**Daman**	**80.13**	**304**	*e*P	**P**	**21 10 25.6**	**+0.6**
	23nm,1.1s,mb4.9						
KOLN	**Koldanda**	**80.70**	**306**	*e*P	**P**	**21 10 28.1**	**+0.1**
	11nm,0.9s,mb4.7						

MAN 03 21:36:07.4,8.66N×125.64E,h56km,mb3.9,ML2.7,MS2.4, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.31**	**357**	*e*P	P	21 36 19.1	+1.9
BUTP				*e*S	S	21 36 29.3	+4.9
BIPH	**Bislig**	**0.85**	**123**	⇓*e*P	P	21 36 23.4	-0.1
BIPH				*i* S	S	21 36 35.2	-0.3
CGP	**Cagayan de Oro**	**0.96**	**258**	⇑*e*P	P	21 36 25.2	+0.3
CGP				*i* S	S	21 36 38.9	+1.0
BUKP	**Musuan**	**0.96**	**217**	*e*P	P	21 36 25.6	+0.6
BUKP				*e*S	S	21 36 39.8	+1.7
SCPH	**Surigao**	**1.13**	**352**	*e*P	P	21 36 27.6	+0.3
SCPH				*e*S	S	21 36 43.3	+1.3
MSLP	**Maasin**	**1.66**	**332**	*e*P	P	21 36 34.8	0.0
MSLP				*e*S	S	21 36 54.0	-1.0
TBP	**Tagbilaran**	**2.03**	**300**	*i* P	P	21 36 40.5	+0.5

MOS ***03*** *21:44:22.5±1.6,37.44N×22.87E,h9km,mb4.7/14,Error ellipse: s-maj=4.9km s-min=2.4km az=116.0*
CSEM ***03*** *21:44:28.2,37.68N×23.30E,h117km,mb4.5*
ATH ***03*** *21:44:28.9,37.64N×23.33E,h123km±2km,ML4.5*
NEIC ***03*** *21:44:28.9,37.64N×23.33E,h123km,mb4.5/65,After ATH.*
ZUR_RM ***03*** *21:44:28,37.64N×23.33E,h114km,Mw4.8/21,Moment Tensor Solution. s21 Moment tensor: Scale 10^16Nm; Mrr0.08; Mθθ-1.44; Mφφ1.36; Mrθ-0.07; Mφr-0.73; Mφr-0.17; Best double couple: M0 1.59×10^16 NP1:φs211°,δ89°,λ7°. NP2:φs121°,δ83°,λ179°. Principal axes: T 1.549, Plg6°, Azm76°; N .076, Plg83°, Azm222°; P -1.625, Plg4°, Azm346°;*
BJI ***03*** *21:44:28.9,37.60N×23.30E,h122km,mB5.0,mb4.6*
THE ***03*** *21:44:31.7,37.88N×23.16E,h133km,ML4.5*
PDG ***03*** *21:44:31.0±0.2,37.90N×22.56E,h11km±11km*
NIC ***03*** *21:44:34.2±0.5,36.75N×23.52E,h40km,mb5.3,ML4.9, MW3.7,Earthquake Southern Greece 8 km NW Makrilongos.*
UPP ***03*** *21:44:35.2,37.46N×23.76E,h33km,ML3.5*
HLW ***03*** *21:44:35.5,37.05N×24.15E,h19km,Mb5.2*

ISC 03 21:44:28.2±0.1,37.62N±0.01×23.31E±0.02,h125km±2km, n494,σ1°37/569,mb4.5/32,43C-36D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAIG	**Nisos Aigina**	**0.20**	**45**	⇓*e*P	**P**	**21 44 46.2**	**+0.7**
NSAL	**Nisos Salamina**	**0.31**	**23**	*e*P	**P**	**21 44 46.7**	**+0.9**
MGER	**Gerania Oros**	**0.37**	**354**	*e*P	**P**	**21 44 46.5**	**+0.4**
ATH	**Athens Observa**	**0.48**	**42**	*e*P	**P**	**21 44 47.5**	**+0.8**
ATH				*e*S	**S**	**21 44 59.8**	**-0.9**
PTL	**Penteli**	**0.61**	**45**	*e*P	**P**	**21 44 48.5**	**+1.0**
MPAR	**Parnis Oros**	**0.63**	**32**	*e*P	**P**	**21 44 48.8**	**+1.1**
VLI	**Veliai**	**0.95**	**199**	*e*P	**P**	**21 44 51.5**	**+1.1**
LKR	**Lokris**	**1.06**	**347**	*e*P	**P**	**21 44 52.1**	**+0.6**
LKR				*e*S	**S**	**21 45 08.0**	**-1.1**
ITM	**Ithomi**	**1.19**	**249**	*e*P	**P**	**21 44 54.6**	**+1.7**
ITM				*e*S	**S**	**21 45 12.7**	**+1.3**
KYTH	**Kithira**	**1.35**	**189**	*e*P	**P**	**21 44 56.0**	**+1.2**
RLS	**Riolos of Patr**	**1.52**	**287**	*e*P	**P**	**21 44 58.4**	**+1.7**
RLS				*e*S	**S**	**21 45 19.8**	**+1.5**
AGG	**Agios Georgios**	**1.60**	**331**	*e*Pb	**P**	**21 44 58.4**	**+0.9**
AGG				*e*Sb	**S**	**21 45 17.9**	**-1.9**
NEO	**Neokhori**	**1.69**	**358**	*e*P	**P**	**21 44 59.3**	**+0.7**
XOR	**Xorichti**	**1.75**	**357**	*e*Pb	**P**	**21 45 00.1**	**+0.8**
XOR				*e*Sb	**S**	**21 45 22.5**	**-0.3**
EVR	**Evrytania**	**1.75**	**318**	*e*P	**P**	**21 45 01.1**	**+1.7**
APE	**Apeiranthos**	**1.85**	**107**	*i* P	**P**	**21 45 00.9**	**+0.4**
APE	**Apeiranthos**	**1.85**	**107**	*e*P	**P**	**21 45 02.6**	**+2.1**
APE				*e*S	**S**	**21 45 26.1**	**+1.1**
SANT	**Santorini**	**2.12**	**125**	⇓*i*P	**P**	**21 45 06.3**	**+2.3**
SANT	**Santorini**	**2.12**	**125**	⇓*i*P	**P**	**21 45 06.3**	**+2.4**
VLS	**Valsamata**	**2.22**	**285**	*e*P	**P**	**21 45 05.3**	**0.0**
VAM	**Vamos**	**2.32**	**162**	*e*P	**P**	**21 45 07.3**	**+0.7**
PAIG	**Paliouri**	**2.32**	**7**	*e*Pn	**P**	**21 45 07.0**	**+0.4**
PAIG				*e*Sn	**S**	**21 45 35.2**	**-0.5**
LIT	**Litokhoron**	**2.56**	**346**	*e*Pn	**P**	**21 45 10.0**	**+0.3**
LIT				*e*Sn	**S**	**21 45 38.9**	**-2.3**
IDI	**Anoyia**	**2.65**	**151**	Pn	**P**	**21 45 11.3**	**+0.4**
LOS	**Limnos**	**2.69**	**30**	*e*Pn	**P**	**21 45 12.4**	**+1.0**
	comp=Z,9.2nm,0.8s						
LOS				*e*Sn	**S**	**21 45 44.6**	**+0.4**
LIA	**Limnos Island**	**2.71**	**32**	*e*P	**P**	**21 45 12.4**	**+0.8**
MEV	**Metsovon**	**2.71**	**324**	*e*Pn	**P**	**21 45 12.5**	**+0.8**
MEV				*e*Sn	**S**	**21 45 43.0**	**-1.5**
PLG	**Polygyros**	**2.75**	**2**	*e*P	**P**	**21 45 12.2**	**-0.1**
OUR	**Ouranopolis**	**2.76**	**11**	*e*Pn	**P**	**21 45 13.0**	**+0.7**
OUR				*e*Sn	**S**	**21 45 46.1**	**+0.3**
SMG	**Samos**	**2.80**	**87**	*e*P	**P**	**21 45 15.1**	**+2.2**
JAN	**Janina**	**2.80**	**317**	*e*P	**P**	**21 45 14.1**	**+1.2**
PRK	**Paraskevi**	**2.83**	**54**	*e*P	**P**	**21 45 13.9**	**+0.5**
GVD	**Gavdhos**	**2.84**	**167**	*e*P	**P**	**21 45 14.2**	**+0.7**
KZN	**Kozani**	**2.94**	**336**	*e*P	**P**	**21 45 15.0**	**+0.3**
NPS	**Neapolis**	**3.00**	**141**	*e*P	**P**	**21 45 15.7**	**+0.2**
IGT	**Igoumenitsa**	**3.02**	**310**	*e*Pn	**P**	**21 45 15.6**	**-0.2**
IGT				*e*Sn	**S**	**21 45 48.2**	**-3.6**
THE	**Thessaloniki**	**3.02**	**355**	*e*Pn	**P**	**21 45 15.8**	**0.0**
BLCB	**Balcova**	**3.04**	**74**	*i* P	**P**	**21 45 18.4**	**+2.3**
SOH	**Sokhos**	**3.20**	**1**	*e*Pn	**P**	**21 45 19.1**	**+0.9**
IZM	**Izmir**	**3.22**	**75**	*i* P	**P**	**21 45 21.0**	**+2.6**
EZN	**Ezine

PVL	Pavlikeni	5.80	15	*i* P	P	21 45 51.2	-1.9
IVA	Berane	5.86	335	⇓*i*Pn	P	21 45 52.8	-1.1
IVA				*e*Sn	S	21 46 54.0	-6.3
HRT	Hereke	5.88	55	*e*P	P	21 45 55.2	+1.1
CEL	Celeste	5.90	278	P	P	21 45 54.3	-0.1
ANTB	Antalya	5.90	95	*e*P	P	21 45 60.0	+5.5
SZH	Strazhica	5.98	19	*i* P	P	21 45 56.0	+0.4
SG1	Sgolgore (BA)	6.07	304	*e*Pn	P	21 45 55.7	-1.1
HCY	Herceg Novi	6.07	324	⇓*i*Pn	P	21 45 53.8	-3.0
HCY				*e*Sn	S	21 46 57.3	-8.2
BAI	Bari	6.08	307	*e*Pn	P	21 45 55.7	-1.2
NKY	Niksic	6.15	329	⇓*i*Pn	P	21 45 55.3	-2.5
NKY				*e*Sn	S	21 47 00.1	-7.2
ORH	Orhaniye	6.16	56	P	P	21 45 57.5	-0.5
ESKT	Eskisehir	6.20	70	*i* P	P	21 45 58.9	+3.4
BOLS	Boljevac	6.29	351	⇓*i*Pn	P	21 45 59.5	-0.3
SLUM		6.31	165	P	P	21 45 58.2	-1.9
CUC	Castrococco	6.32	294	P	P	21 45 59.6	-0.5
TREB	Trebinje	6.35	325	Pn	P	21 45 57.5	-3.1
PRD	Provadia	6.39	28	P	P	21 46 01.0	-0.1
BRY	Bratogost	6.41	327	⇓*i*Pn	P	21 45 58.7	-2.8
BRY				*e*Sn	S	21 47 06.1	-7.7
PLE	Pljevlja	6.44	334	⇓*i*Pn	P	21 46 00.1	-1.7
PLE				*e*Sn	S	21 47 07.6	-6.7
CDT	Castel del Mon	6.46	305	*e*Pn	P	21 46 01.0	-1.1
NVSS	Nova Varos 2	6.49	336	⇑*i*Pn	P	21 46 00.8	-1.7
NVSS				Sn	S	21 47 09.3	-6.4
UPM	Unac-Piva	6.51	330	⇓*i*Pn	P	21 46 01.4	-1.4
UPM				*e*Sn	S	21 47 08.8	-7.3
GRUS	Gruza	6.56	343	⇑*i*Pn	P	21 46 01.7	-1.8
GRUS				Sn	S	21 47 11.9	-5.6
KIZT	Kizilcal	6.86	77	*i* P	P	21 46 11.9	+4.3
BBLS	Bajina Basta -	6.91	336	⇓*i*Pn	S	21 47 16.4	-9.4
DIVS	Divcibare	6.94	340	⇑*i*Pn	P	21 46 05.8	-2.9
DIVS				Sn	S	21 47 19.0	-7.6
MS1	Monte Sant'Ang	7.00	308	*e*Pn	P	21 46 07.4	-2.0
PSN	Preselentsi	7.10	30	*i* P	P	21 46 11.0	+0.2
KONT	Konya--Tatoy	7.17	85	*e*P	P	21 46 16.7	+4.8
WDD	Wield Dalam	7.27	259	P	P	21 46 14.0	+0.9
HDMB	Hadim	7.34	92	*e*P	P	21 46 17.0	+2.9
AKMC	Akamas	7.72	107	P	P	21 46 18.8	-0.5
ANTO	Ankara	7.74	70	P	P	21 46 23.1	+3.6
DABA	Dabaa	7.77	147	⇑P	P	21 46 15.6	-4.2
ISR	Istrita	7.88	17	⇓*i*P	P	21 46 33.2	+12
ALFC	Alevga	7.88	105	P	P	21 46 20.8	-0.6
	comp=Z,20nm,0.3s						
ALFC				S	S	21 47 45.8	-3.6
CLTB	Caltabellotta	8.02	273	P	P	21 46 23.8	+0.6
CII	Carovilli	8.06	303	*e*P	P	21 46 23.2	-0.6
CII	Carovilli	8.06	303	*e*Pn	P	21 46 23.2	-0.6
SAFT	Safranbolu	8.11	61	*i* P	P	21 46 26.9	+2.5
MLR	Muntele Rosu	8.11	13	P	P	21 46 24.7	+0.3
LEF	Lefka	8.12	105	*e*P	P	21 46 22.2	-2.4
SZAC	Souni-Zanaja	8.25	107	P	P	21 46 25.8	-0.5
MAMC	Mammari	8.35	104	P	P	21 46 28.3	+0.6
CFR	Carcaliu	8.38	24	⇓*i*P	P	21 46 28.3	+0.3
BLY	Banja Luka	8.49	329	Pn	P	21 46 26.4	-3.1
CSS	Prodhromos	8.51	105	⇓P	P	21 46 30.9	+1.1
	comp=Z,7.0nm,0.3s						
CSS				S	S	21 48 02.3	-2.3
CSS	Prodhromos	8.51	105	*e*P	P	21 46 29.5	-0.3
CSS	Prodhromos	8.51	105	*e*P	P	21 46 29.5	-0.3
CSS				S	S	21 48 02.3	-2.3
SWA2		8.54	167	P	P	21 46 28.3	-1.9
SWA1		8.57	166	P	P	21 46 28.9	-1.7
SWA1				S	S	21 47 51.1	-15
VRI	Vrincioaia	8.63	16	⇑*i*P	P	21 46 32.0	+0.7
VRI	Vrincioaia	8.63	16	P	P	21 46 31.6	+0.3
HBRG	Burj al 'Arab	8.87	141	⇓P	P	21 46 30.8	-3.7
AQU	L'Aquila	8.95	305	*e*P	P	21 46 34.3	-1.4
PHNC	Paralimni	9.04	104	P	P	21 46 39.1	+2.3
NVLJ	Novalja	9.41	320	*i* Pn	P	21 46 39.1	-2.7
NVLJ				*i* Sn	S	21 48 16.2	-10
BOJS	Bojanci	9.92	325	*i* Pn	P	21 46 45.4	-3.1
BOJS				*e*Sn	S	21 48 27.4	-11
HMYD	Mayadein	9.98	139	⇑P	P	21 46 46.4	-3.0
HNAT	Natroun	10.02	140	⇑P	P	21 46 46.7	-3.2
SQR		10.13	137	⇑P	P	21 46 48.0	-3.3
FYM	Al Fayyum	10.19	139	P	P	21 46 49.3	-3.0
KIS	Kishinev	10.22	22	*e*P	P	21 46 51.0	-1.5
BUD	Budapest	10.35	344	*e*S	S	21 48 47.0	-1.5
AWBH		10.39	152	P	P	21 46 52.7	-2.1
KOT	Kottamia	10.44	135	P	P	21 46 52.4	-3.1
KOT				S	S	21 48 32.8	-18
HSAF	As Saff	10.53	137	⇓P	P	21 46 53.7	-2.9
GROS	Grobnik	10.57	329	*i* Pn	P	21 46 53.6	-3.5
HHAG	Hagoal	10.57	134	P	P	21 46 54.4	-2.9
PSZ	Piszkesteto	10.59	347	⇑*e*P	P	21 46 56.1	-1.4
PSZ				*e*S	S	21 48 51.5	-2.8
PSZ	Piszkesteto	10.59	347	*e*P	P	21 46 55.7	-1.8
GLL	Jalalah	10.64	136	P	P	21 46 55.4	-2.7
LJU	Ljubljana	10.66	325	*e*Pn	P	21 46 55.3	-3.1
LJU				*e*Sn	S	21 48 45.3	-11
HNTI	Hanita	10.69	112	Pn	P	21 46 58.8	0.0
HNTI				Sn	S	21 48 48.2	-8.5
AMAG	Maghara	10.75	127	⇑P	P	21 46 56.4	-3.2
SRO2	Moca	10.76	342	*e*SN	S	21 48 55.9	-2.4
HWQ	Hawqa	10.77	104	*e*PN	P	21 47 01.2	+1.3
TRI	Trieste	10.78	322	P	P	21 46 58.1	-1.8
OFRI	'Ofer	10.78	114	Pn	P	21 46 59.8	-0.2
SRO	Srobarova	10.83	342	*e*SN	S	21 48 58.2	-1.7
HBNS	Bani Suwayf	10.88	140	⇑P	P	21 46 58.6	-2.7
VOY	Vojsko	10.95	323	*e*Pn	P	21 46 59.3	-2.9
VOY				*e*Sn	S	21 48 52.0	-11
KSDI	Kefar Szold	11.00	110	Pn	P	21 47 02.5	-0.4
OBKA	Obir	11.01	327	⇑*i*PN	P	21 46 59.9	-3.0
OBKA				*i* SN	S	21 48 54.4	-10
SLTI	Sal'it	11.02	116	Pn	P	21 47 02.3	-0.8
SLTI				Sn	S	21 48 54.8	-10
KECS	Kecovo	11.05	350	*e*PN	P	21 47 03.6	+0.1
SUZ		11.09	132	P	P	21 47 01.6	-2.4
MMLI	Mount Malkishu	11.19	114	Pn	P	21 47 04.4	-1.0
ARSA	Arzberg	11.21	332	⇑*i*PN	P	21 47 02.9	-2.7
ARSA				*i* SN	S	21 48 58.5	-10
GLH	Golan-Tel Qazi	11.22	112	Pn	P	21 47 06.2	+0.4
HFRF	Wahat Farafira	11.26	157	⇑P	P	21 47 05.3	-1.0
HFRF	Wahat Farafira	11.26	157	P	P	21 47 05.3	-1.0
KOLS	Kolonicke sedl	11.33	357	*e*PN	P	21 47 08.1	+0.9
ZAF		11.34	134	⇑P	P	21 47 05.0	-2.3
VYHS	Vyhne	11.35	345	*e*Pn	P	21 47 05.4	-2.0
VYHS				*e*Sn	S	21 49 07.9	-4.3
KZIT	Kziot	11.35	123	Pn	P	21 47 04.8	-2.7
KZIT				Sn	S	21 49 01.3	-11
HMDT	Nahal Hemdat	11.36	114	P	P	21 47 06.8	-0.9
ZNM		11.45	133	⇑P	P	21 47 06.8	-2.1
RTMM	Retamin	11.45	122	Pn	P	21 47 06.9	-2.0
ZST	Bratislava	11.50	339	*e*Pn	P	21 47 06.8	-2.7
ZST				*e*Sn	S	21 49 07.9	-8.0
KOLL	Kolacno	11.52	343	*e*SN	S	21 49 14.0	-2.4
MASH	Mash'abbe Sade	11.55	121	Pn	P	21 47 08.5	-1.7
DRGI	Dragot	11.62	118	Pn	P	21 47 10.7	-0.4
HNKL	Nakhl	11.72	128	⇑P	P	21 47 10.1	-2.4
MZDA	Masada	11.77	119	Pn	P	21 47 11.7	-1.3
MZDA				Sn	S	21 49 12.7	-9.4
MKRJ	Makawir	11.82	117	Pn	P	21 47 13.5	-0.2
MALT	Malatya	11.95	82	*e*P	P	21 47 16.6	+1.2
KBA	Koelnbreinsper	11.98	325	⇑*i*Pn	P	21 47 13.3	-2.4
KBA				*i* Sn	S	21 49 18.9	-8.2
NIE	Niedzica	11.99	351	⇑*i*P	P	21 47 16.8	+0.9
PGF	Pioggiola	12.01	299	*e*P	P	21 47 17.2	+1.0
	comp=Z,63nm,0.9s						
PGF	Pioggiola	12.01	299	*e*P	P	21 47 17.2	+1.0
PGF				pmax	pmax		
	comp=Z,31nm,0.9s						
KWP	Kalwaria	12.02	358	*e*P	P	21 47 17.6	+1.4
KMTI	Karmit	12.08	125	Pn	P	21 47 15.2	-2.0
KMTI				Sn	S	21 49 17.8	-12
ZFRI	Zfri	12.09	122	Pn	P	21 47 15.5	-1.8
PRNI	Paran	12.11	123	Pn	P	21 47 15.4	-2.1
PRNI				Sn	S	21 49 19.1	-11
MOA	Molln	12.19	330	⇑*i*Pn	P	21 47 15.9	-2.6
MOA				*i* Sn	S	21 49 24.5	-7.5
LVV	L'vov	12.21	2	*e*P	P	21 47 18.1	-0.6
GRB	Gharib	12.25	137	P	P	21 47 17.1	-2.3
GRB	Gharib	12.25	137	P	P	21 47 17.0	-2.4
ASUT		12.34	143	⇑P	P	21 47 18.7	-1.8
MBH	Mount Berech	12.41	126	Pn	P	21 47 20.2	-1.3
EIL	Elat	12.52	126	P	P	21 47 21.6	-1.3
AQBJ	Aqaba	12.54	125	Pn	P	21 47 22.2	-1.0
TR2		12.69	134	P	P	21 47 22.7	-2.4
HBST	Basata	12.69	128	P	P	21 47 23.6	-1.5
HKAT	Jabal Katrina	12.74	132	⇑P	P	21 47 23.5	-2.2
OKC	Ostrava-Krasne	12.77	345	*e*P	P	21 47 26.1	0.0
OKC	Ostrava-Krasne	12.77	345	P	P	21 47 26.1	0.0
MORC	Moravsky Berou	12.84	343	*e*P	P	21 47 25.0	-2.1
WTTA	Wattenberg	12.92	322	*i* SN	S	21 49 41.2	-8.0
WTTA	Wattenberg	12.92	322	⇑*i*Pn	P	21 47 26.6	-1.4
WTTA				*i* Sn	S	21 49 41.2	-8.0
WTTA	Wattenberg	12.92	322	*i* P	P	21 47 26.6	-1.4
ZEIT		12.97	136	⇑P	P	21 47 27.7	-1.2
WATA	Walderalm	13.00	322	*i* SN	S	21 49 42.4	-8.7
WATA	Walderalm	13.00	322	⇓*i*Pn	P	21 47 27.2	-1.8
WATA				*i* Sn	S	21 49 42.4	-8.7
WATA	Walderalm	13.00	322	*i* P	P	21 47 27.2	-1.8
SQTA	Sankt Quirin	13.10	321	*i* SN	S	21 49 45.9	-7.6
SQTA	Sankt Quirin	13.10	321	⇑*i*Pn	P	21 47 29.2	-1.2
SQTA				*i* Sn	S	21 49 45.9	-7.6
SQTA	Sankt Quirin	13.10	321	*i* P	P	21 47 29.2	-1.2
TR1		13.10	134	⇑P	P	21 47 28.2	-2.3
HDK1	Dakhla	13.11	155	⇑P	P	21 47 29.4	-1.1
GEC2	GERESS Array S	13.21	331	*e*P	P	21 47 38.9	+7.1
GEC2				pmax	pmax		
	comp=Z,42nm,0.9s						
GEC2	GERESS Array S	13.21	331	*e*P	P	21 47 38.9	+7.1
	comp=Z,21nm,0.9s						
MOTA	Moosalm	13.24	321	*i* SN	S	21 49 48.9	-7.8
MOTA	Moosalm	13.24	321	⇑*i*Pn	P	21 47 30.9	-1.2
MOTA				*i* Sn	S	21 49 48.9	-7.8
MOTA	Moosalm	13.24	321	*i* P	P	21 47 30.9	-1.2
KHC	Kasperske Hory	13.49	332	*e*P	P	21 47 33.6	-1.8
KHC				*e*		21 47 41.5	
KHC				*e*		21 49 09.5	
KHC				*e*S	S	21 49 55.7	-7.0
KHC	Kasperske Hory	13.49	332	*e*P	P	21 47 33.6	-1.8
KHC				x	x	21 47 41.5	
KHC				*ex*	x	21 49 09.5	
KHC				*e*S	S	21 49 55.7	-7.0
HHRG	Al Ghardaqah	13.50	137	⇑P	P	21 47 34.2	-1.4
SBF	Sospel	13.55	302	*e*P	P	21 47 37.6	+1.5
	comp=Z,76nm,0.8s						
SBF	Sospel	13.55	302	*e*P	P	21 47 37.6	+1.5
SBF				pmax	pmax		
	comp=Z,38nm,0.8s						
VDL	Val di Lei	13.56	315	⇓P	P	21 47 36.8	+0.6
DPC	Dobruska-Polom	13.68	341	*e*P	P	21 47 39.9	+2.2
DPC				*e*S	S	21 50 00.6	-6.3
FUR	Furstenfeldbru	13.73	324	*e*P	P	21 47 43.9	+5.5
WET	Wettzell	13.78	330	*e*P	P	21 47 44.9	+5.9
WET				pmax	pmax		
	comp=Z,62nm,1.0s						
WET	Wettzell	13.78	330	*e*P	P	21 47 44.9	+5.9
	comp=Z,62nm,1.0s						
SOC	Sochi	13.81	59	*e*P	P	21 47 41.3	+1.9
SOC				*e*		21 50 15.5	
SOC				pmax	pmax		
	comp=Z,40nm,1.2s						
SOC				pmax	pmax		
	comp=N,44nm,1.1s						
SOC				MLR	MLR		
	comp=Z,135nm,6.0s						
SOC				MLR	MLR		
	comp=N,125nm,8.0s						
SOC				MLR	MLR		
	comp=E,81nm,6.0s						
SOC	Sochi	13.81	59	*e*P	P	21 47 41.3	+1.9
	comp=E,22nm,1.1s						
DAVA	Damuels	13.82	319	⇓*i*Pn	P	21 47 38.2	-1.4
DAVA				*i* Sn	S	21 50 03.1	-7.3
PRU	Pruhonice	13.88	336	*e*P	P	21 47 40.8	+0.5
PRU				*e*S	S	21 50 03.8	-7.8
UPC	Upice	13.90	340	*e*P	P	21 47 42.9	+2.3
DFRA	Djebel Bou Aff	13.96	271	P	P	21 47 41.0	-0.5
FRF	La Foret Royal	13.98	300	*e*P	P	21 47 39.8	-1.8
	comp=E,30nm,0.9s						
FRF	La Foret Royal	13.98	300	*e*P	P	21 47 39.8	-1.8
FRF				pmax	pmax		
	comp=Z,15nm,0.9s						
LMR	La Mourre	14.00	299	*e*P	P	21 47 41.6	-0.3
LLS	Linth-Limmern	14.03	316	⇑P	P	21 47 44.0	+1.8
KSP	Ksiaz	14.13	342	*e*P	P	21 47 48.6	+5.0
KSP	Ksiaz	14.13	342	*e*P	P	21 47 49.2	+5.6
MMK	Mattmark	14.19	311	⇑P	P	21 47 44.3	0.0
MUO	Muotathal	14.30	315	⇓P	P	21 47 47.3	+1.5
MBDF	Montbardon	14.32	305	*e*P	P	21 47 45.7	-0.4
	comp=Z,26nm,0.7s						
MBDF	Montbardon	14.32	305	*e*P	P	21 47 45.7	-0.4
MBDF				pmax	pmax		
	comp=Z,13nm,0.7s						
PVCC	Panska Ves	14.34	337	*e*P	P	21 47 46.5	+0.3
BNI	Bardonecchia	14.52	306	P	P	21 47 47.1	-1.5
BNI				pmax	pmax		
	comp=Z,13nm,0.9s						
BNI	Bardonecchia	14.52	306	P	P	21 47 47.1	-1.5
	comp=Z,13nm,0.9s						
BNI	Bardonecchia	14.52	306	P	P	21 47 47.1	-1.5
	comp=Z,13nm,0.9s						
DIX	Grande Dixence	14.54	311	⇑P	P	21 47 50.6	+1.8
LKBD	Leukerbad	14.56	312	⇑P	P	21 47 48.6	-0.5
ZUR	Zurich	14.57	317	⇑P	P	21 47 53.4	+4.2
LPG	La Plagne	14.67	308	*e*P	P	21 47 51.3	+0.9
	comp=Z,24nm,0.4s						
LPG	La Plagne	14.67	308	*e*P	P	21 47 51.3	+0.9
LPG				pmax	pmax		
	comp=Z,12nm,0.4s						
LPL	La Plagne	14.69	308	*e*P	P	21 47 51.4	+0.7
	comp=Z,16nm,0.4s						
LPL	La Plagne	14.69	308	*e*P	P	21 47 51.4	+0.7
LPL				pmax	pmax		
	comp=Z,8.0nm,0.4s						
NKC	Novy Kostel	14.82	332	*e*P	P	21 47 54.9	+2.6
NKC				*e*S	S	21 50 25.9	-7.5
RSL	Roselend	14.83	308	*e*P	P	21 47 55.1	+2.6
BRG	Berggiesshubel	14.84	336	*i* P	P	21 47 56.4	+3.9
BRG				pmax	pmax		
	comp=Z,50nm,1.0s						
BRG	Berggiesshubel	14.84	336	*i* P	P	21 47 56.4	+3.9
	comp=Z,50nm,1.0s						
EMV	Vieux Emosson	14.84	310	⇓P	P	21 47 56.0	+3.4
SMRF	Simiane la Rot	14.85	301	*e*P	P	21 47 53.5	+0.8
	comp=Z,19nm,0.8s						
SLE	Schleitheim	14.86	318	⇑P	P	21 47 53.0	+0.2
GRA1	Grafenberg Arr	14.88	328	*e*P	P	21 47 57.4	+4.3
	comp=Z,178nm,1.0s						
GRF	Grafenberg Arr	14.88	328	*e*P	P	21 47 57.4	+4.3
GRF				pmax	pmax		
	comp=Z,178nm,1.0s						
GRF	Grafenberg Arr	14.88	328	*e*P	P	21 47 57.4	+4.3
GRF				pmax	pmax		
	comp=Z,178nm,1.0s						
GRF	Grafenberg Arr	14.88	328	*e*P	P	21 47 57.4	+4.3
	comp=Z,178nm,1.0s						
SULZ	Sulz-Cheisache	14.92	316	⇑P	P	21 47 53.9	+0.3
ORIF	Oris-en-Rattie	14.98	305	*e*P	P	21 47 55.6	+1.2
	comp=Z,8.3nm,0.5s						
ORIF	Oris-en-Rattie	14.98	305	*e*P	P	21 47 55.6	+1.2
ORIF				pmax	pmax		
	comp=Z,4.0nm,0.5s						
STU	Stuttgart	15.14	322	*e*P	P	21 47 55.0	-1.4
STU				pmax	pmax		
	comp=Z,14nm,0.6s						
STU	Stuttgart	15.14	322	*e*P	P	21 47 55.0	-1.4
	comp=Z,14nm,0.6s						
STU	Stuttgart	15.14	322	*e*P	P	21 47 55.0	-1.4
	comp=Z,14nm,0.6s						
FELD	Feldberg	15.19	317	*e*P	P	21 47 56.3	-0.7
BFO	Black Forest	15.29	319	*e*P	P	21 47 58.7	+0.4
BFO				pmax	pmax		
	comp=Z,59nm,1.4s						
BFO	Black Forest	15.29	319	*e*P	P	21 47 58.7	+0.4
	comp=Z,59nm,1.4s						
MOX	Moxa	15.47	331	*e*P	P	21 48 04.2	+3.7
MOX				*e*		21 50 58.4	
MOX				pmax	pmax		
	comp=Z,42nm,1.3s						
MOX	Moxa	15.47	331	*e*P	P	21 48 04.2	+3.7
	comp=Z,42nm,1.3s						
MOX				*e*		21 50 58.4	
MOX	Moxa	15.47	331	*i* P	P	21 48 04.2	+3.7
	comp=Z,logA/T=1.5						
MOX				*e*		21 50 58.0	
MOX	Moxa	15.47	331	*e*P	P	21 48 03.5	+3.0
	comp=Z,25nm,0.9s						
CLL	Collm	15.52	335	*e*P	P	21 48 02.0	+0.9
CLL				pmax	pmax		
	comp=Z,68nm,1.0s						
CLL	Collm	15.52	335	*e*P	P	21 48 02.0	+0.9
	comp=Z,68nm,1.0s						
CLL				*i*		21 48 37.6	
CLL	Collm	15.52	335	P	P	21 48 02.0	+0.9
CLL				*i*		21 48 04.2	
CLL				*i*		21 48 09.7	
CLL				*i* PP	PP	21 48 15.0	-0.3
CLL				*i* *SP		21 48 37.6	
CLL				*e*		21 48 49.0	
CLL				*e*L		21 52 07.0	
LOMF	Lomont	15.54	314	*e*P	P	21 48 02.2	+0.8
CABF	La Chapelle	15.60	311	*e*P	P	21 48 02.0	-0.1
	comp=Z,46nm,0.7s						
CABF	La Chapelle	15.60	311	*e*P	P	21 48 02.0	-0.1
CABF				pmax	pmax		
	comp=Z,23nm,0.7s						
MOF	Molkenrain	15.65	316	*e*P	P	21 48 03.8	+1.0
VIVF	Saint-Julien-l	15.76	303	*e*P	P	21 48 04.4	+0.3
	comp=Z,12nm,0.7s						
VIVF	Saint-Julien-l	15.76	303	*e*P	P	21 48 04.4	+0.3
VIVF				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HINF	Hinteralfeld	15.79	315	*e*P	P	21 48 04.3	-0.2
	comp=Z,15nm,0.5s						
HINF	Hinteralfeld	15.79	315	*e*P	P	21 48 04.3	-0.2
HINF				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ECH	Echery	15.85	317	*e*P	P	21 48 05.7	+0.5
CDF	Champ du Feu	15.90	318	*e*P	P	21 48 05.7	-0.2
	comp=Z,6.3nm,0.4s						
CDF	Champ du Feu	15.90	318	*e*P	P	21 48 05.7	-0.2
CDF				pmax	pmax		
	comp=Z,3.0nm,0.4s						
TOD	Tromm	15.90	323	*e*P	P	21 48 08.8	+2.9
EMRS	Mersa Alam	15.95	139	P	P	21 48 08.5	+1.9
KIV	Kislovodsk	15.96	61	P	P	21 48 10.2	+3.5
	comp=Z,218nm,1.2s,SNR=11						
KIV	Kislovodsk	15.96	61	⇓*i*P	P	21 48 09.7	+3.0
KIV				*e*S	S	21 51 10.7	+11
KIV				pmax	pmax		
	comp=Z,55nm,1.1s						
KIV	Kislovodsk	15.96	61	*e*Pn	P	21 48 06.8	0.0
	comp=Z,42nm,1.0s						
KIV	Kislovodsk	15.96	61	*e*Pn	P	21 48 06.8	+0.1
	comp=Z,42nm,1.0s						
KIV	Kislovodsk	15.96	61	*i* P	P	21 48 09.7	+3.0
	comp=Z,28nm,1.1s						
KIV				*e*S	S	21 51 10.7	+11
LANF	Langenberg	15.98	320	*e*P	P	21 48 09.2	+2.4
KTD	Kalmit	16.06	322	*e*P	P	21 48 09.7	+1.9
LASF	Ste Croix	16.06	300	*e*P	P	21 48 09.1	+1.2
	comp=Z,25nm,0.9s						
HAU	Haudompre	16.17	315	*e*P	P	21 48 09.7	+0.4
	comp=Z,16nm,0.4s						
HAU	Haudompre	16.17	315	*e*P	P	21 48 09.7	+0.4
HAU				pmax	pmax		
	comp=Z,8.0nm,0.4s						
GKP	Gorka Klasztor	16.21	347	*e*P	P	21 48 12.3	+2.6
SUW	Suwalki	16.40	360	*e*P	P	21 48 11.6	-0.4
SUW				*e*		21 48 13.8	
SUW	Suwalki	16.40	360	*e*P	P	21 48 11.6	-0.4
SUW				*e*		21 48 13.8	
THEF	They Montfort	16.50	315	*e*P	P	21 48 14.0	+0.7
GOF	Gofitskoye	16.55	57	⇑*i*P	P	21 48 16.0	+2.0
GOF				pmax	pmax		
	comp=Z,80nm,1.2s						
GOF	Gofitskoye	16.55	57	*i* P	P	21 48 16.0	+2.0
	comp=Z,40nm,1.2s						
ABH	Alteburg	16.69	322	*e*P	P	21 48 17.2	+1.5
RUP	Ruppelstein	16.81	321	*e*P	P	21 48 18.4	+1.2
LBL	Lubilhac	16.84	303	*e*P	P	21 48 18.3	+0.8
PLDF	La Plantade	16.86	306	*e*P	P	21 48 19.0	+1.2
GNI	Garni	16.87	75	⇓*e*P	P	21 48 22.3	+4.3
GNI				pmax	pmax		
	comp=Z,140nm,1.8s						
GNI	Garni	16.87	75	*e*P	P	21 48 19.6	+1.5
	comp=Z,234nm,1.6s						
GNI	Garni	16.87	75	*e*P	P	21 48 19.6	+1.6
	comp=Z,234nm,1.6s						
CLZ	Clausthal	16.89	331	*e*P	P	21 48 20.0	+1.8
SMF	Signal de Mont	16.99	308	*e*P	P	21 48 19.8	+0.4
	comp=Z,11nm,0.5s						
SMF	Signal de Mont	16.99	308	*e*P	P	21 48 19.8	+0.4
SMF				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MTLF	Montolieu	17.02	296	*e*P	P	21 48 20.1	+0.3
MNK	Minsk	17.17	9	*e*P	P	21 48 15.0	-6.5
MEZF	Maizieres J'vi	17.17	315	*e*P	P	21 48 23.1	+1.5
	comp=Z,29nm,0.5s						
PYM	Petit Puy Mans	17.17	305	*e*P	P	21 48 21.4	-0.3
WLF	Walferdange	17.25	320	P	P	21 48 24.0	+1.4
AVF	Avril sur Loir

comp=Z,42nm,0.6s,SNR=8.9
UCC Uccle 18.85 320 P **P 21 48 41.6 +0.8**
ETSF Etsaut 18.94 294 *e*P **P 21 48 42.1 +0.3**
comp=Z,7.7nm,0.5s
ETSF Etsaut 18.94 294 *e*P **P 21 48 42.1 +0.3**
ETSF pmax pmax
comp=Z,4.0nm,0.5s
SJPF Ste Jean 19.45 294 *e*P **P 21 48 47.4 +0.1**
comp=Z,27nm,1.0s
SJPF Ste Jean 19.45 294 *e*P **P 21 48 47.4 +0.1**
SJPF pmax pmax
comp=Z,14nm,1.0s
MFF Saint Martin d 19.52 305 *e*P **P 21 48 48.4 +0.5**
comp=Z,46nm,0.5s
MFF Saint Martin d 19.52 305 *e*P **P 21 48 48.4 +0.5**
MFF pmax pmax
comp=Z,23nm,0.5s
OBN Obninsk 19.68 23 *c i*P **P 21 48 49.0 -0.6**
OBN *e*S **S 21 52 27.5 +7.9**
OBN pmax pmax
comp=Z,9.0nm,0.3s
OBN Obninsk 19.68 23 *e*P **P 21 48 48.4 -1.2**
comp=Z,21nm,0.4s
OBN Obninsk 19.68 23 *i*P **P 21 48 49.0 -0.6**
comp=Z,4.5nm,0.3s
LDF La Druitiere 20.24 310 *e*P **P 21 48 54.9 -0.4**
comp=Z,39nm,0.5s
LDF La Druitiere 20.24 310 *e*P **P 21 48 54.9 -0.4**
LDF pmax pmax
comp=Z,20nm,0.5s
ENIJ Nijar 20.30 276 P **P 21 48 55.9 -0.1**
ENIJ pmax pmax
comp=Z,11nm,0.6s
ENIJ Nijar 20.30 276 P **P 21 48 55.9 -0.1**
comp=Z,11nm,0.6s
ENIJ Nijar 20.30 276 P **P 21 48 55.9 -0.1**
comp=Z,11nm,0.6s,SNR=7.9
EVIA Vianos 20.32 281 P **P 21 48 57.7 +1.5**
EVIA pmax pmax
comp=Z,6.0nm,0.5s
EVIA Vianos 20.32 281 P **P 21 48 57.7 +1.5**
comp=Z,6.0nm,0.5s
EVIA Vianos 20.32 281 P **P 21 48 57.7 +1.5**
comp=Z,6.0nm,0.5s,SNR=5.1
GOTU Gotland 20.32 353 P **P 21 48 54.7 -1.4**
FLN La Foliniere 20.53 310 *e*P **P 21 48 58.2 0.0**
comp=Z,44nm,0.4s
FLN La Foliniere 20.53 310 *e*P **P 21 48 58.2 0.0**
FLN pmax pmax
comp=Z,22nm,0.4s
GRR Gorron 20.61 309 *e*P **P 21 48 58.8 -0.2**
comp=Z,28nm,0.4s
GRR Gorron 20.61 309 *e*P **P 21 48 58.8 -0.2**
GRR pmax pmax
comp=Z,14nm,0.4s
EBER Berja 20.85 276 P **P 21 49 02.3 +0.8**
comp=Z,19nm,0.9s
EBER Berja 20.85 276 P **P 21 49 02.3 +0.8**
comp=Z,19nm,0.9s,SNR=4.5
EQES Quesada 20.86 279 P **P 21 49 01.9 +0.3**
comp=Z,6.8nm,0.6s,SNR=6.4
VSU Vasula 20.98 5⇓ *e*P **P 21 49 02.1 -0.5**
ESDC Sonseca Array 21.37 284 P **P 21 49 07.1 +0.4**
comp=Z,5.3nm,0.6s,mb4.0
ESDC Sonseca Array 21.37 284 P **P 21 49 07.1 +0.4**
comp=Z,5.3nm,0.6s,mb4.0,SNR=31
ESLA Sonseca Array 21.37 284 *e*P **P 21 49 06.3 -0.4**
comp=Z,3.1nm,0.9s,mb3.6
ESLA Sonseca Array 21.37 284 *e*P **P 21 49 06.3 -0.4**
comp=Z,3.1nm,0.9s,mb3.6
GUD Guadarrama 21.49 287 P **P 21 49 09.1 +1.3**
GUD pmax pmax
comp=Z,8.0nm,0.5s,mb4.3
GUD Guadarrama 21.49 287 P **P 21 49 09.1 +1.3**
comp=Z,7.7nm,0.5s,mb4.3
GUD Guadarrama 21.49 287 P **P 21 49 09.1 +1.3**
comp=Z,7.7nm,0.5s,mb4.3,SNR=13
SGMF Saint Gilles 21.62 308 *e*P **P 21 49 09.5 +0.4**
comp=Z,17nm,0.5s,mb4.4
SGMF Saint Gilles 21.62 308 *e*P **P 21 49 09.5 +0.4**
SGMF pmax pmax
comp=Z,8.0nm,0.5s,mb4.3
QUIF Quistinic 21.89 306 *e*P **P 21 49 12.4 +0.6**
comp=Z,31nm,0.4s,mb4.7
QUIF Quistinic 21.89 306 *e*P **P 21 49 12.4 +0.6**
QUIF pmax pmax
comp=Z,16nm,0.4s,mb4.7
EADA Adamuz 21.99 280 P **P 21 49 15.1 +2.3**
comp=Z,1.7nm,0.5s,mb3.6
EADA Adamuz 21.99 280 P **P 21 49 15.1 +2.3**
comp=Z,1.7nm,0.5s,mb3.7,SNR=9.9
ROSF Rostrenen 22.10 307 *e*P **P 21 49 14.1 +0.3**
comp=Z,21nm,0.5s,mb4.4
ROSF Rostrenen 22.10 307 *e*P **P 21 49 14.1 +0.3**
ROSF pmax pmax
comp=Z,11nm,0.5s,mb4.4
EMIJ Mijas 22.40 276 P **P 21 49 19.6 +2.9**
comp=Z,24nm,0.7s,mb4.6
PUL Pulkovo 22.62 9⇓ *i*P **P 21 49 20.5 +1.9**
ESPR Espera 23.20 277 P **P 21 49 25.9 +1.4**
comp=Z,4.6nm,0.5s,mb4.1
ESPR Espera 23.20 277 P **P 21 49 25.9 +1.4**
comp=Z,4.6nm,0.5s,mb4.1,SNR=6.6
PBRG Braganca 23.43 290 *e*P **P 21 49 28.2 +1.5**
EMIN Mina Concepcio 23.68 280 P **P 21 49 31.0 +1.9**
comp=Z,15nm,0.5s,mb4.6
EMIN Mina Concepcio 23.68 280 P **P 21 49 31.0 +1.8**
comp=Z,15nm,0.5s,mb4.6,SNR=34
EPON Pontenova 23.78 293 P **P 21 49 32.8 +2.7**
comp=Z,2.0nm,0.5s,mb3.7
EPON Pontenova 23.78 293 P **P 21 49 32.8 +2.7**
comp=Z,2.0nm,0.5s,mb3.7,SNR=6.9
EBAD Badajoz 23.82 282 P **P 21 49 31.3 +0.9**
comp=Z,6.9nm,0.6s,mb4.2
EBAD Badajoz 23.82 282 P **P 21 49 31.3 +0.9**
comp=Z,6.9nm,0.6s,mb4.2,SNR=10
FINES FINESS Array B 23.91 3 *i*P **P 21 49 31.6 +0.5**
FINES pmax pmax
comp=Z,13nm,0.7s
FINES FINESS Array B 23.91 3 *i*P **P 21 49 31.6 +0.5**
comp=Z,6.5nm,0.7s,mb4.1
PCBR Castelo Branco 24.07 285 *e*P **P 21 49 33.5 +0.7**
comp=Z,18nm,1.5s,mb4.2
MTE Manteigas 24.08 286 *e*P **P 21 49 34.7 +1.8**
PVIS Viseu 24.33 287 *e*P **P 21 49 37.2 +1.9**
EGRO El Granado 24.36 279 P **P 21 49 36.9 +1.3**
comp=Z,16nm,0.6s,mb4.5
EGRO El Granado 24.36 279 P **P 21 49 36.9 +1.3**
comp=Z,16nm,0.6s,mb4.5,SNR=7.9
PALC Alcoutim 24.36 279 *e*P **P 21 49 37.8 +2.1**
PBEJ Beja 24.58 281 *e*P **P 21 49 39.4 +1.7**
EVO Evora 24.62 282 *e*P **P 21 49 39.3 +1.2**
comp=Z,6.9nm,0.6s,mb4.0
NB2 NORSAR Subarra 24.65 346 P **P 21 49 37.7 -0.5**
comp=Z,5.8nm,0.5s,mb4.3,baz=147,slow=9.3
NB2 NORSAR Subarra 24.65 346 P **P 21 49 37.7 -0.5**
NB2 pmax pmax
comp=Z,6.0nm,0.5s,mb4.3
PTOM Tomar 24.80 284 *e*P **P 21 49 42.6 +2.7**
ARU Arti 30.04 40⇑ *i*P **P 21 50 26.5 -0.8**
ARU pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
ARU Arti 30.04 40 *i*P **P 21 50 26.5 -0.8**
comp=Z,3.5nm,1.0s,mb3.9
AAK Ala-Archa 38.97 66 P **P 21 51 43.2 -0.3**
DBIC Dimbokro 40.05 227 *e*P **P 21 51 54.1 +1.4**
DBIC pmax pmax
comp=Z,4.0nm,0.6s
DBIC Dimbokro 40.05 227 *e*P **P 21 51 54.1 +1.4**
comp=Z,4.3nm,0.6s,mb4.5
DBIC Dimbokro 40.05 227 *e*P **P 21 51 54.1 +1.4**
comp=Z,4.2nm,0.6s,mb4.5
KMBO Kilima Mbogo 40.65 158 *e*P **P 21 51 58.1 +0.4**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 40.65 158 *e*P **P 21 51 58.1 +0.4**
comp=Z,1.2nm,0.5s,mb4.0
KMBO Kilima Mbogo 40.65 158 *e*P **P 21 51 58.1 +0.4**
comp=Z,0.5nm,0.5s,mb3.6
NVS Novosibirsk 43.45 47 *i*P **P 21 52 20.8 +0.8**
NVS pmax pmax
comp=Z,21nm,0.9s,mb4.9
NVS pmax pmax
comp=E,14nm,1.1s
NVS pmax pmax
comp=N,10.0nm,1.3s
NVS Novosibirsk 43.45 47 *i*P **P 21 52 20.8 +0.8**

comp=N,5.0nm,1.3s,mb4.1
MK02 Makanchi Array 43.73 58 P **P 21 52 22.8 +0.5**
MK02 pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
MK02 Makanchi Array 43.73 58 P **P 21 52 22.8 +0.5**
comp=Z,0.5nm,0.3s,mb3.7
WMQ Urumqi 48.09 61 *e*P **P 21 53 00.3 +3.4**
WMQ AP pP 21 53 26.2 +0.4
WMQ XP sP 21 53 39.0 -0.8
WMQ PP PP 21 54 53.6 +3.9
WMQ S **S 21 59 49.2 +4.6**
WMQ XS 22 00 34.6
WMQ AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
WMQ AMB AMB
comp=Z,40nm,5.9s
KOLN Koldanda 50.92 83 *e*P **P 21 53 18.7 0.0**
comp=Z,4.5nm,0.3s,mb5.0
GKN Gorkha 51.62 82 *e*P **P 21 53 24.3 +0.3**
comp=Z,12nm,0.3s,mb5.3
DMN Daman 52.17 82 *e*P **P 21 53 28.1 0.0**
comp=Z,16nm,0.4s,mb5.4
KKN Kakani 52.23 82 *e*P **P 21 53 28.3 -0.2**
comp=Z,6.8nm,0.4s,mb5.0
PKI Pulchoki 52.43 82 *e*P **P 21 53 29.7 -0.4**
comp=Z,4.6nm,0.4s,mb4.9
GUN Gumba 52.64 81 *e*P **P 21 53 31.2 -0.4**
comp=Z,13nm,0.4s,mb5.3
LSZ Lusaka 52.81 174 *e*P **P 21 53 32.1 -0.9**
ZAK Zakamensk 56.26 49 *e*P **P 21 53 59.4 +1.8**
TIXI Tiksi 59.40 21⇓ *e*P **P 21 54 19.3 +0.1**
TIXI Tiksi 59.40 21 *e*P **P 21 54 19.3 +0.1**
BOD Bodaibo 59.45 38 *e*P **P 21 54 15.9 -3.9**
LZH Lanzhou 62.47 64 *e*P **P 21 54 41.9 +1.4**
LZH AP pP 21 55 10.1 -0.7
LZH XP sP 21 55 22.5 -2.1
LZH PP PP 21 57 02.2 +1.1
LZH AMB AMB
comp=Z,25nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,112nm,6.4s
WVL Waterville 66.69 309 P **P 21 55 05.3 -2.3**
NJ2 Nanjing 75.17 61 *e*P **P 21 56 00.5 +2.0**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
SSE Sheshan 77.35 61 *e*P **P 21 56 11.3 +0.6**
SSE AMB AMB
comp=Z,23nm,0.6s,mb5.1
SSE AMB AMB
comp=Z,145nm,4.0s

WEL 03 21:44:37.4±0.2, 38.93S×176.15E, h86km±1km, ML3.5/7, 9C-1D, Error ellipse: s-maj=0.9km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATZ	**Hinemaiaia**	**0.06**	**307**	⇑P*	P	21 44 49.4	-0.2
HATZ				S*	S	21 44 58.2	-0.4
RITZ	**Rihia Road**	**0.23**	**257**	⇑P*	P	21 44 50.2	+0.2
RATZ	**Rangitukua**	**0.30**	**281**	⇑P*	P	21 44 50.1	-0.2
KATZ	**Kakaramea**	**0.36**	**262**	⇑P*	P	21 44 50.7	0.0
BKZ	**Black Stump Fm**	**0.36**	**132**	P*	P	21 44 50.9	+0.2
BKZ				S*	S	21 45 00.6	-0.2
OTVZ	**Oturere**	**0.45**	**237**	⇑P*	P	21 44 51.6	+0.2
WTVZ	**West Tongariro**	**0.48**	**246**	P*	P	21 44 51.3	-0.3
MGZ	**Maungaku**	**0.48**	**261**	⇑P*	P	21 44 51.3	-0.3
NGZ	**Ngauruhoe**	**0.49**	**239**	P*	P	21 44 51.5	-0.2
TUVZ	**Tukino**	**0.52**	**228**	⇑P*	P	21 44 52.0	+0.1
CNZ	**Chateau**	**0.54**	**239**	P*	P	21 44 51.7	-0.5
WPVZ	**Whakapapa**	**0.55**	**239**	P*	P	21 44 51.8	-0.4
FWVZ	**Far West T-bar**	**0.57**	**234**	P*	P	21 44 52.2	-0.3
FWVZ				S*	S	21 45 03.5	-0.1
MOVZ	**Moawhango**	**0.57**	**212**	⇑P*	P	21 44 52.1	-0.4
MOVZ				S*	S	21 45 02.6	-1.1
TWVZ	**Taurewa**	**0.57**	**255**	⇑P*	P	21 44 52.1	-0.4
DRZ	**Dome Shelter**	**0.57**	**232**	P*	P	21 44 52.6	+0.1
URZ	**Urewera**	**1.00**	**49**	⇓P*	P	21 44 56.6	-0.4
URZ				S*	S	21 45 11.0	-0.9
HIZ	**Hauiti**	**1.09**	**292**	PN	P	21 44 57.7	-0.4
HIZ				SN	S	21 45 13.2	-0.5
VRZ	**Vera Road**	**1.10**	**259**	P*	P	21 44 57.8	-0.4
VRZ				S*	S	21 45 13.2	-0.7
TSZ	**Takapari Road**	**1.14**	**187**	PN	P	21 44 58.0	-0.8
TSZ				SN	S	21 45 13.7	-1.1
KNZ	**Kokohu**	**1.19**	**95**	PN	P	21 44 59.2	-0.2
WAZ	**Wanganui**	**1.23**	**227**	PN	P	21 44 59.5	-0.3
WAZ				SN	S	21 45 16.4	-0.2
MWZ	**Matawai**	**1.23**	**62**	P*	P	21 44 59.5	-0.4
MWZ				S*	S	21 45 16.3	-0.4
PWZ	**Pawanui**	**1.23**	**154**	PN	P	21 44 59.5	-0.5
PWZ				SN	S	21 45 15.9	-0.9
PKE	**Pukeiti**	**1.70**	**260**	PN	P	21 45 05.5	-0.5
MRZ	**Mangatainoka R**	**1.79**	**194**	PN	P	21 45 05.0	-2.2
MRZ				SN	S	21 45 26.1	-3.0
PUZ	**Puketiti**	**1.86**	**63**	PN	P	21 45 07.3	-0.8
PUZ				SN	S	21 45 29.7	-1.1
KIW	**Kapiti Island**	**2.16**	**206**	PN	P	21 45 09.3	-2.8
KIW				SN	S	21 45 34.6	-3.3
MTW	**Mount Morrison**	**2.29**	**192**	PN	P	21 45 10.7	-3.3
MTW				SN	S	21 45 37.0	-4.1
CAW	**Cannon Point**	**2.33**	**200**	PN	P	21 45 11.4	-3.2
CAW				SN	S	21 45 37.5	-4.8
TUWZ	**Tuamarina**	**3.02**	**213**	PN	P	21 45 20.0	-4.2
NNZ	**Nelson**	**3.12**	**222**	PN	P	21 45 21.5	-4.1
QRZ	**Quartz Range**	**3.37**	**235**	PN	P	21 45 25.2	-3.9
THZ	**Tophouse**	**3.77**	**220**	PN	P	21 45 29.7	-4.8
KHZ	**Kahutara**	**4.01**	**209**	PN	P	21 45 32.5	-5.4
LTZ	**Lake Taylor**	**4.85**	**216**	PN	P	21 45 43.1	-6.3

*WAR **03** 21:44:45.6, 51.46N×16.11E, h1km, ML2.6, Mining Induced*
*PRU **03** 21:44:46.0, 51.40N×16.09E*
ISC 03 21:44:42.6±0.9, **51.46N**±0.04×**16.10E**±0.04, **n10**, σ1§**23**/24, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**169**	*e*PG	**Pg**	**21 44 57.0**	**+1.7**
KSP				*e*SG	**Sg**	**21 45 05.0**	**+1.3**
UPC	**Upice**	**0.96**	**183**	*e*PG	**Pg**	**21 45 03.5**	**+1.7**
UPC				*e*SG	**Sg**	**21 45 15.2**	**+0.6**
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*PG	**Pg**	**21 45 06.0**	**+0.9**
DPC				*e*SG	**Sg**	**21 45 19.8**	**-0.3**
	17nm,0.2s						
PVCC	**Panska Ves**	**1.34**	**226**	*e*PG	**Pg**	**21 45 10.8**	**+1.3**
PVCC				*e*SG	**Sg**	**21 45 28.5**	**+1.1**
PRU	**Pruhonice**	**1.78**	**214**	*e*PG	**Pg**	**21 45 17.3**	**-0.8**
PRU				*ex*	x	21 45 21.9	
PRU				*e*SG	**Sg**	**21 45 41.8**	**0.0**
CLL	**Collm**	**1.94**	**267**	*i*PN	**Pn**	**21 45 18.0**	**+0.8**
CLL				*i*PG	**Pg**	**21 45 20.8**	**-0.6**
CLL				*e*SG	**Sg**	**21 45 48.0**	**+0.7**
OKC	**Ostrava-Krasne**	**2.09**	**140**	*e*PG	**Pg**	**21 45 23.3**	**-1.0**
OKC				*e*SG	**Sg**	**21 45 50.4**	**-1.7**
NKC	**Novy Kostel**	**2.62**	**243**	*e*PN	**Pn**	**21 45 27.9**	**+1.0**
NKC				*e*PG	**Pg**	**21 45 33.0**	**-1.9**
NKC				*e*SG	**Sg**	**21 46 08.3**	**-1.5**
OJC	**Ojcow**	**2.66**	**117**	*e*PG	**Pg**	**21 45 35.0**	**-0.7**
OJC				*e*SG	**Sg**	**21 46 11.0**	**-0.1**
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PN	**Pn**	**21 45 31.3**	**+1.3**
KHC				*e*PG	**Pg**	**21 45 36.6**	**-2.7**
KHC				*e*SN	**Sn**	**21 46 04.9**	**-0.5**
KHC				*e*SG	**Sg**	**21 46 14.7**	**-2.4**

DJA 03 21:48:38.7±0.8, **8.48S**×**116.25E, h124**km±5km, **MD4.7**/4, **ML3.2**/2, **5C-5D, Error ellipse: s-maj=40.2km s-min=13.6km az=3.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.14**	**269**	⇓ *i*Pn	P	21 48 55.5	-0.3
	207nm,0.2s						
KEDI	**Kedomdong**	**0.14**	**269**	⇑ *i*P	P	21 48 55.7	-0.1
KEDI				⇓ *i*Sn	S	21 49 08.6	-0.1
RATI	**Rata**	**0.75**	**251**	⇓ *i*Pn	P	21 48 59.0	0.0
	469nm,0.2s						
RATI				⇑ *i*Sn	S	21 49 14.4	-0.1
KELI	**Kelakatan**	**1.76**	**279**	⇑ *i*Pn	P	21 49 10.3	+0.4
	8.9nm,0.2s						
KELI				⇑ *i*Sn	S	21 49 32.9	-0.7
SRDI	**Scrawed**	**2.09**	**270**	⇓ *i*Pn	P	21 49 13.5	-0.4
	22nm,0.2s						
SRDI	**Scrawed**	**2.09**	**270**	⇓ *i*P	P	21 49 13.8	-0.1
SRDI				⇑ *i*Sn	S	21 49 39.5	-1.2

CASC 03 23:13:31.2±1.8, **13.25N**×**89.72W, h32**km±3km, **MD3.7, ML3.9, 9C-8D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.60**	**9**⇑	*e*P	Pb	23 13 43.8	+0.5
SBLS				*e*S	Sb	23 13 53.8	+2.3
SNJE	**San Jose**	**0.63**	**10**⇑	*e*P	Pb	23 13 44.1	+0.3
SNJE				*e*S	Sb	23 13 53.6	+1.2
SNET	**Serv Nac Est T**	**0.65**	**47**	*e*P	Pb	23 13 43.0	-1.1
SNET				*e*S	Sb	23 13 52.5	-0.3
SNET				*i*		23 13 56.1	
	comp=Z,3μm,0.4s						
BOQS	**Boqueron**	**0.65**	**41**⇑	*e*P	Pb	23 13 44.5	+0.4
BOQS				*e*S	Sb	23 13 54.1	+1.2
RTR	**El Retiro**	**0.65**	**6**⇑	*e*P	Pb	23 13 44.6	+0.5
RTR				*e*S	Sb	23 13 54.6	+1.6
LFRS	**El Faro**	**0.74**	**60**⇓	*e*P	Pn	23 13 45.4	0.0
LFRS				*e*S	Sb	23 13 56.3	+0.7
LFU	**La Fuente**	**0.77**	**50**⇓	*e*P	Pn	23 13 46.4	+0.5
LFU				*e*S	Sb	23 13 57.7	+1.3
LBRS	**Las Brisas**	**0.82**	**53**	*e*	Pn	23 13 46.6	+0.1
LBRS				⇓ *e*P		23 13 46.8	
LBRS				*e*S	Sn	23 13 58.8	+1.1
LCBS	**La Ceiba**	**0.83**	**61**⇓	*e*P	Pn	23 13 46.6	-0.1
LCBS				*e*S	Sn	23 13 58.2	+0.3
RBDL	**Robledal**	**0.86**	**2**⇓	*e*P	Pn	23 13 47.6	+0.4
RBDL				*e*S	Sn	23 14 00.2	+1.5
SNVI	**San Vicente**	**0.93**	**67**⇑	*e*P	Pn	23 13 48.2	0.0
SNVI				*e*S	Sn	23 14 01.3	+0.8
IXG	**Ixpaco**	**1.17**	**322**⇑	*e*P	Pn	23 13 50.5	-1.0
IXG				*e*S	Sn	23 14 06.2	-0.3
IXG				AML	AML	23 14 12.3	
	comp=N,7μm,0.4s						
MTO2	**Montecristo 2**	**1.20**	**17**⇑	*e*P	Pn	23 13 51.9	-0.1
MTO2				*e*S	Sn	23 14 08.0	+0.7
BLLM	**Bellamira**	**1.46**	**82**⇓	*e*P	Pn	23 13 55.8	+0.1
BLLM				*e*S	Sn	23 14 15.1	+1.2
NBG	**Las Nubes**	**1.47**	**336**	*e*P	Pn	23 13 54.1	-1.8
NBG				*e*S	Sn	23 14 16.4	+2.4
NBG				AML	AML	23 14 20.8	
	comp=E,2μm,0.3s						
CAHU	**Cacacuatique**	**1.56**	**70**⇓	*e*P	Pn	23 13 57.3	+0.2
CAHU				*e*S	Sn	23 14 16.7	+0.3
CNCH	**Conchagua**	**1.84**	**89**⇑	*e*P	Pn	23 14 01.1	-0.1
CNCH				*e*S	Sn	23 14 23.8	+0.3
TP2	**Tecpan 2**	**1.98**	**321**⇓	*e*P	Pn	23 14 03.5	+0.3
TP2				*e*S	Sn	23 14 29.2	+2.0
TP2				AML	AML	23 14 31.3	
	comp=N,376nm,0.3s						
JAT	**Jato**	**2.15**	**300**⇑	*e*P	Pn	23 14 05.2	-0.4
JAT				*e*S	Sn	23 14 30.9	-0.4

CASC 03 23:29:02.3±1.8, **12.85N**×**89.21W, h40**km±5km, **MD3.9, 2C-12D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.78**	**11**⇓	*i*P	P	23 29 16.7	-0.2
LCBS	**La Ceiba**	**0.83**	**16**⇓	*e*P	P	23 29 17.3	-0.3
LCBS				*e*S	S	23 29 29.5	+0.6
SNET	**Serv Nac Est T**	**0.83**	**359**⇓	*e*P	P	23 29 17.8	+0.1
SNET				*e*S	S	23 29 28.5	-0.4
SNVI	**San Vicente**	**0.84**	**25**	*e*P	P	23 29 17.6	-0.2
SNVI				⇑ *e*P		23 29 17.6	
SNVI				*e*S	S	23 29 29.6	+0.5
BOQS	**Boqueron**	**0.88**	**356**⇓	*i*P	P	23 29 18.6	+0.3
LBRS	**Las Brisas**	**0.90**	**10**⇓	*e*P	P	23 29 18.6	0.0
LBRS				*e*S	S	23 29 30.9	+0.3
LFU	**La Fuente**	**0.90**	**6**⇓	*e*P	P	23 29 18.6	0.0
SBLS	**San Blas**	**1.06**	**338**⇓	*e*P	P	23 29 21.2	+0.3
SNJE	**San Jose**	**1.08**	**339**⇓	*e*P	P	23 29 21.4	+0.2
SNJE				*e*S	S	23 29 36.0	+0.7
BLLM	**Bellamira**	**1.12**	**58**⇓	*e*P	P	23 29 22.0	+0.3
BLLM				*e*S	S	23 29 37.1	+1.1
RTR	**El Retiro**	**1.13**	**338**⇓	*e*P	P	23 29 22.2	+0.4
CAHU	**Cacacuatique**	**1.34**	**47**	*e*P	P	23 29 25.4	+0.5
CAHU				*e*S	S	23 29 43.4	+1.7
RBDL	**Robledal**	**1.34**	**340**⇑	*e*P	P	23 29 25.4	+0.4
CNCH	**Conchagua**	**1.41**	**72**⇓	*e*P	P	23 29 26.0	+0.1
CNCH				*e*S	S	23 29 44.2	+0.8
MTO2	**Montecristo 2**	**1.55**	**355**⇓	*e*P	P	23 29 27.9	0.0
LEON	**Leon**	**2.30**	**100**	*e*P	P	23 29 38.2	-0.4
LEON				*e*S	S	23 30 03.7	-2.3
TEL3	**Telica 3**	**2.32**	**97**	*e*P	P	23 29 38.7	-0.3
TEL3				*e*S	S	23 30 05.4	-1.1
MIRN	**Miramar**	**2.47**	**99**	*e*P	P	23 29 40.9	-0.2
MIRN				*e*S	S	23 30 09.6	-0.7
CNGN	**Cerro Negro**	**2.48**	**98**	*e*P	P	23 29 41.6	+0.5
CNGN				*e*S	S	23 30 10.2	-0.2
COPN	**Copaltepe**	**2.64**	**104**	*e*P	P	23 29 43.0	-0.4
COPN				*e*S	S	23 30 13.1	-1.5
MOMJ	**Momotombo**	**2.64**	**99**	*e*P	P	23 29 43.8	+0.3
MOMJ				*e*S	S	23 30 14.3	-0.3
APYN	**Apoyeque**	**2.86**	**102**	*e*P	P	23 29 46.7	+0.1
APYN				*e*S	S	23 30 18.2	-1.9
XAVN	**Gruta Xavier**	**2.90**	**104**	*e*S	S	23 30 20.6	-0.6
MGAN	**Managua**	**2.98**	**103**	*e*S	S	23 30 20.5	-2.5

CASC 03 23:45:37.5±2.1, **10.55N**×**86.09W, h5**km±7km, **MD3.9, 10C-5D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCR	**Jicaral**	**1.18**	**126**⇑	*e*P	Pb	23 45 57.8	-2.2
APON	**Apoyo**	**1.36**	**1**⇓	*e*P	Pb	23 46 02.8	-0.3
FORC	**Fortuna**	**1.40**	**93**⇓	*e*P	Pn	23 46 02.4	-1.3
FORC				*i* P		23 46 02.6	
TICN	**Ticuantepe**	**1.49**	**355**	*e*P	Pn	23 46 04.5	-0.5
MGAN	**Managua**	**1.60**	**354**	*e*S	Sb	23 46 28.0	+0.5
WILN	**Americas 2**	**1.61**	**357**⇑	*e*P	Pn	23 46 06.5	-0.2
WILN				*e*S	Sb	23 46 28.0	+0.2
XAVN	**Gruta Xavier**	**1.61**	**352**	*e*P	Pn	23 46 06.6	-0.1
CGA2	**Cerro Gallo 2**	**1.68**	**108**⇑	*e*P	Pn	23 46 07.3	-0.5
APYN	**Apoyeque**	**1.70**	**351**⇑	*e*P	Pn	23 46 07.3	-0.7
APYN				*e*S	Sn	23 46 30.7	+0.5
COPN	**Copaltepe**	**1.70**	**343**⇑	*e*P	Pn	23 46 07.1	-0.8
COPN				*e*S	Sn	23 46 28.6	-1.7
PRS1	**Puriscal**	**1.84**	**108**⇑	*e*P	Pn	23 46 09.5	-0.5
VPS2	**Volcan Poas 2**	**1.86**	**101**⇓	*e*P	Pn	23 46 10.2	0.0
MOMJ	**Momotombo**	**1.90**	**347**⇓	*e*P	Pn	23 46 10.0	-0.9
MOMJ				*e*S	Sn	23 46 35.9	+0.3
MIRN	**Miramar**	**1.98**	**342**	*e*P	Pn	23 46 10.4	-1.6
PYTN	**Playitas**	**1.98**	**1**	*e*S	Sn	23 46 38.6	+1.2
LEON	**Leon**	**2.02**	**337**	*e*P	Pn	23 46 10.9	-1.7
CNGN	**Cerro Negro**	**2.03**	**343**	*e*P	Pn	23 46 12.0	-0.7
LAJ	**Bijagual**	**2.05**	**109**⇑	*e*P	Pn	23 46 07.8	-5.2
SJS	**Escuela Geolog**	**2.09**	**107**⇓	*e*P	Pn	23 46 13.8	+0.2
SJS				*e*S	Sn	23 46 40.2	0.0
TEL3	**Telica 3**	**2.15**	**340**	*e*P	Pn	23 46 13.6	-0.8
LCR2	**La Lucha 2**	**2.20**	**111**⇑	*e*P	Pn	23 46 13.6	-1.6
LCR2				*e*S	Sn	23 46 45.2	+2.1
ICR	**Volcan Irazu**	**2.29**	**104**	*e*P	Pn	23 46 18.4	+2.0
TRTC	**Tortuguero**	**2.33**	**89**⇑	*e*P	Pn	23 46 16.0	-1.1
URSC	**Urasca**	**2.38**	**107**⇑	*e*P	Pn	23 46 16.7	-

MEV	**Metsovon**	**0.28**	**185**	*e*Pg	**Pg**	**23 51 50.6**	**+0.4**
MEV				*e*Sg	**Sg**	**23 51 54.1**	**+0.1**
KZN	**Kozani**	**0.46**	**58**	⇓*i*PB	**Pb**	**23 51 53.0**	**-1.1**
JAN	**Janina**	**0.51**	**218**	*e*PN	**Pn**	**23 51 54.0**	**-3.3**
LSK	**Leskovik**	**0.51**	**280**	*e*Pg	**Pg**	**23 51 53.6**	**-1.2**
LSK				*i* Sg	**Sg**	**23 52 01.5**	**-0.2**
KBN	**Korca**	**0.67**	**327**	*e*Pg	**Pg**	**23 51 56.3**	**-1.5**
KBN				*i* Sg	**Sg**	**23 52 06.8**	**0.0**
FNA	**Florina**	**0.73**	**7**	*e*Pg	**Pg**	**23 51 58.0**	**-1.0**
	comp=Z,26nm,0.2s						
FNA				*e*Sg	**Sg**	**23 52 09.7**	**+1.0**
IGT	**Igoumenitsa**	**0.89**	**234**	*e*Pg	**Pg**	**23 52 01.1**	**-1.1**
IGT				*e*Sg	**Sg**	**23 52 15.5**	**+1.4**
IGT	**Igoumenitsa**	**0.89**	**234**	*e*Pg	**Pg**	**23 52 01.0**	**-1.2**
IGT				S	**Sb**	**23 52 15.5**	**+2.4**
LIT	**Litokhoron**	**0.94**	**87**	*e*Pg	**Pg**	**23 52 01.7**	**-1.5**
LIT				*e*Sg	**Sg**	**23 52 16.4**	**+0.5**
BIA	**Bitola**	**0.96**	**3**	*i* Pg	**Pg**	**23 52 02.8**	**-0.8**
BIA				*i* Sg	**Sg**	**23 52 18.1**	**+1.7**
TPE	**Tepelena**	**0.98**	**284**	*e*Pn	**Pn**	**23 52 02.5**	**-1.6**
OHR	**Ohrid**	**1.11**	**342**	*i* Pg	**Pg**	**23 52 04.5**	**-2.0**
OHR				*i* Sg	**Sg**	**23 52 21.0**	**-0.3**
KEK	**Kerkira**	**1.18**	**253**	*e*PN	**Pn**	**23 52 07.0**	**+0.2**
EVR	**Evrytania**	**1.22**	**159**	*e*PN	**Pn**	**23 52 06.5**	**-0.9**
GRG	**Griva**	**1.25**	**44**	*e*Pb	**Pb**	**23 52 07.3**	**-0.3**
GRG				*e*Sb	**Sb**	**23 52 27.0**	**+3.5**
AGG	**Agios Georgios**	**1.33**	**141**	*e*Pb	**Pb**	**23 52 09.2**	**+0.4**
	comp=Z,27nm,0.2s						
AGG				*e*Sb	**Sb**	**23 52 29.2**	**+3.4**
AGG	**Agios Georgios**	**1.33**	**141**	*e*Pb	**Pb**	**23 52 09.2**	**+0.3**
	27nm,0.2s						
AGG				S	**Sb**	**23 52 29.2**	**+3.4**
THE	**Thessaloniki**	**1.42**	**66**	*e*Pb	**Pb**	**23 52 11.0**	**+0.5**
THE				*e*Sb	**Sb**	**23 52 30.6**	**+2.0**
XOR	**Xorichti**	**1.64**	**114**	*e*Pb	**Pb**	**23 52 13.7**	**-0.6**
KNT	**Kendrikon**	**1.66**	**48**	*e*Pb	**Pb**	**23 52 14.2**	**-0.4**
KNT				*e*Sb	**Sb**	**23 52 37.0**	**+1.5**
KNT	**Kendrikon**	**1.66**	**48**	P	**Pn**	**23 52 14.2**	**+0.4**
KNT				*e*Sb	**Sb**	**23 52 37.0**	**+1.5**
TIR	**Tirane**	**1.67**	**321**	*e*Pn	**Pn**	**23 52 16.2**	**+2.4**
PLG	**Polygyros**	**1.70**	**79**	*e*PN	**Pn**	**23 52 14.0**	**-0.4**
SOH	**Sokhos**	**1.77**	**64**	*e*Pb	**Pb**	**23 52 16.1**	**-0.3**
QSH	**Qafa e Shtames**	**1.79**	**325**	*e*Pn	**Pn**	**23 52 19.0**	**+3.5**
QSH				*i* Sn	**Sn**	**23 52 43.0**	**+4.6**
PAIG	**Paliouri**	**1.86**	**93**	*e*Pb	**Pb**	**23 52 16.1**	**-2.0**
SKO	**Skopje**	**1.91**	**4**	*e*Pn	**Pn**	**23 52 17.7**	**+0.3**
SKO				*i*		23 52 21.0	
SKO				*i*		23 52 40.2	
SKO				Lg		23 52 48.5	
	comp=Z,0.1nm,0.7s						
VLS	**Valsamata**	**1.95**	**196**	*e*PN	**Pn**	**23 52 19.0**	**+1.1**
SRS	**Serrai**	**2.07**	**59**	*e*Pn	**Pn**	**23 52 19.2**	**-0.4**
OUR	**Ouranopolis**	**2.10**	**82**	*e*Pn	**Pn**	**23 52 20.0**	**-0.1**
PUK	**Puka**	**2.23**	**333**	*e*Pn	**Pn**	**23 52 23.6**	**+1.6**
KKB	**Krupnik**	**2.27**	**37**	P	**Pn**	**23 52 22.5**	**0.0**
KKB	**Krupnik**	**2.27**	**37**	Sg	**Sg**	**23 52 51.5**	**-8.5**
MMB	**Musomiste**	**2.42**	**50**	P	**Pn**	**23 52 24.5**	**-0.1**
VTS	**Vitosha**	**2.92**	**29**	P	**Pn**	**23 52 31.5**	**-0.3**
VTS				S	**Sn**	**23 53 07.0**	**-0.3**
RZN	**Rozhen**	**3.08**	**57**	P	**Pn**	**23 52 42.0**	**+7.9**

*CSEM **04** 00:20:11.8±0.2, 67.82N×19.93E, h2km, ML2.6/1, Error ellipse: s-maj=8.0km s-min=5.0km az=2.0, Mining explosion.*
*UPP **04** 00:20:11.5, 67.84N×20.20E, h0km, ML2.7, Mining explosion.*
HEL 04 00:20:12.8±0.3, 67.96N×20.06E, ML1.9, ML2.7(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.10**	**95**	*i* P	Pg	00 20 14.1	-0.8
KUA				*i* S	Sg	00 20 15.9	-0.4
NIKU	**Nikkaluokta**	**0.40**	**256**	*i* P	Pg	00 20 19.9	-0.9
NIKU	**Nikkaluokta**	**0.40**	**256**	P	Pg	00 20 19.8	-1.0
LANU	**Lannavaara**	**0.73**	**82**	*i* P	Pg	00 20 24.7	-2.7
DUNU	**Dundret**	**0.87**	**167**	*i* P	Pg	00 20 25.3	-4.8
MASU	**Masugnsbyn**	**0.90**	**124**	*i* P	Pg	00 20 26.2	-4.5
MASU	**Masugnsbyn**	**0.90**	**124**	P	Pg	00 20 26.2	-4.5
KTK1	**Kautokeino**	**1.57**	**47**	*e*P	Pn	00 20 41.0	-1.1
KTK1	**Kautokeino**	**1.57**	**47**	P	Pn	00 20 40.9	-1.2
ERTU	**Ertsjaerv**	**1.64**	**149**	*e*P	Pn	00 20 39.2	-3.8
TRO	**Tromso**	**1.73**	**347**	*e*P	Pn	00 20 44.6	+0.3
TRO	**Tromso**	**1.73**	**347**	P	Pn	00 20 44.5	+0.2
LOF	**Lofoten**	**2.46**	**277**	*e*	Sg	00 21 34.4	-0.2
LOF	**Lofoten**	**2.46**	**277**	*e*	Sg	00 21 34.4	-0.2
SGF	**Sodankyl**	**2.52**	**99**	*e*P	Pn	00 20 55.2	-0.4
SGF				*e*S	Sn	00 21 26.0	-1.5
MOR8	**Moi Rana**	**2.84**	**233**	*e*SG	Sn	00 21 35.2	-0.6
MOR8	**Moi Rana**	**2.84**	**233**	Sg	Sn	00 21 35.1	-0.6
KEV	**Kevo**	**3.09**	**51**	*e*P	Pn	00 21 02.9	-1.0
KEV				*e*S	Sn	00 21 40.3	-1.7
KEV				*e*SG	Sg	00 21 47.8	-8.0
KEV				MSG		00 21 49.4	
	comp=Z,2.3nm,0.3s						
KEV	**Kevo**	**3.09**	**51**	P	Pn	00 21 02.8	-1.0
KEV				Sg	Sg	00 21 47.7	-8.1
	comp=Z,2.3nm,0.3s						
OUL	**Oulu**	**3.71**	**138**	*e*P	Pn	00 21 14.3	+1.6
OUL				*e*S	Sn	00 21 57.8	0.0
OUL				*e*SG	Sg	00 22 10.2	-6.3
KU4	**Oulanka**	**4.04**	**109**	*e*P	Pn	00 21 17.8	+0.5
KU4				*e*S	Sn	00 22 03.8	-2.3
KU4				*e*SG	Sg	00 22 17.8	-10
MSF	**Maaselka**	**4.09**	**116**	*e*P	Pn	00 21 17.0	-1.0
MSF				*e*S	Sn	00 22 05.7	-1.5
MSF				*e*SG	Sg	00 22 19.7	-9.2
MSF				MSG		00 22 20.8	
	comp=Z,2.2nm,0.4s						
MSF	**Maaselka**	**4.09**	**116**	P	Pn	00 21 16.9	-1.1
MSF				S	Sn	00 22 05.7	-1.6
NSS	**Namsos**	**4.75**	**227**	*e*SG	Sg	00 22 39.2	-12

*JMA **04** 00:20:39.8±0.3, 22.77N×120.72E*
*TAP **04** 00:20:41.2, 22.82N×120.56E, h26km, ML3.6*
TAP Felt II J at Sandimen, I J at Shoushan.
ISC 04 00:20:42.0±0.3, 22.80N±0.01×120.53E±0.02, h26km, n49, σ1$00/91, 9C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGLT	**Jiouru**	**0.08**	**202**	P	**Pb**	**00 20 46.6**	**-0.1**
SGLT				S	**Sb**	**00 20 51.3**	**+1.4**
TWM1	**Shoushan**	**0.10**	**282**	⇑*i*P	**Pb**	**00 20 46.8**	**+0.1**
SSD	**Sandimen**	**0.11**	**120**	⇑*i*P	**Pb**	**00 20 46.2**	**-0.6**
SSD				S	**Sb**	**00 20 50.2**	**0.0**
SGST	**Jiashian**	**0.28**	**11**	⇑*i*P	**Pb**	**00 20 48.7**	**-0.1**
SGST				S	**Sb**	**00 20 54.5**	**+1.0**
KAU	**Kaohsiung**	**0.31**	**221**	P	**Pb**	**00 20 49.1**	**0.0**
KAU				S	**Sb**	**00 20 55.6**	**+1.5**
CHN3	**Shinhua**	**0.31**	**332**	*e*P	**Pb**	**00 20 49.6**	**+0.4**
CHN3				S	**Sb**	**00 20 56.6**	**+2.5**
CHN1	**Nanshi**	**0.38**	**0**	⇑*i*P	**Pb**	**00 20 50.1**	**-0.1**
CHN1				S	**Sb**	**00 20 57.3**	**+1.3**
STYT	**Tauyuan**	**0.42**	**31**	⇑*i*P	**Pb**	**00 20 50.5**	**-0.3**
STYT				S	**Sb**	**00 20 57.9**	**+0.9**
SCZT	**Fangliau**	**0.44**	**168**	⇓*i*P	**Pb**	**00 20 50.5**	**-0.7**
SCZT				S	**Sb**	**00 20 58.2**	**+0.8**
ECL	**Taimali**	**0.45**	**117**	⇓*i*P	**Pb**	**00 20 51.0**	**-0.3**
ECL				S	**Sb**	**00 20 58.1**	**+0.4**
WTP	**Ta-pu**	**0.45**	**10**	⇑*i*P	**Pb**	**00 20 51.1**	**-0.2**
WTP				S	**Sb**	**00 20 59.0**	**+1.2**
TWK	**Hsinying**	**0.46**	**356**	*i* P	**Pb**	**00 20 51.5**	**-0.1**
TWK				S	**Sb**	**00 20 59.6**	**+1.5**
TWP	**Hsiaoliuchiu**	**0.48**	**198**	⇑P	**Pb**	**00 20 52.5**	**+0.7**
TWP				S	**Sb**	**00 21 01.2**	**+2.6**
SCLT	**Jiali**	**0.48**	**321**	P	**Pb**	**00 20 51.6**	**-0.2**
SCLT				S	**Sb**	**00 21 00.1**	**+1.5**
TWG	**Pinlang**	**0.51**	**88**	⇓*i*P	**Pb**	**00 20 52.2**	**-0.1**
TWG				S	**Sb**	**00 21 00.2**	**+0.9**
EAST	**Anshuo**	**0.51**	**144**	⇓*i*P	**Pb**	**00 20 52.1**	**-0.3**
EAST				S	**Sb**	**00 20 60.0**	**+0.4**
CHN4	**Tsaushan**	**0.55**	**7**	⇑P	**Pb**	**00 20 52.5**	**-0.5**
CHN4				S	**Sb**	**00 21 01.5**	**+1.0**
TAW	**Tawu**	**0.56**	**142**	⇓*i*P	**Pb**	**00 20 52.7**	**-0.4**
TAW				S	**Sb**	**00 21 01.3**	**+0.5**
TTN	**Taitung**	**0.58**	**95**	*e*P	**Pb**	**00 20 54.1**	**+0.7**
TTN				S	**Sb**	**00 21 04.1**	**+2.8**

ELDTW	**Lidau**	**0.59**	**50**	*e*P	**Pb**	**00 20 53.8**	**0.0**
ELDTW				S	**Sb**	**00 21 03.1**	**+1.4**
CHY	**Chiayi**	**0.70**	**352**	*e*P	**Pb**	**00 20 54.9**	**-0.5**
CHY				S	**Sb**	**00 21 05.7**	**+1.0**
ALS	**Alishan**	**0.75**	**20**	⇑P	**Pb**	**00 20 56.1**	**-0.2**
ALS				S	**Sb**	**00 21 07.2**	**+1.0**
YUS	**Yu-Shan**	**0.79**	**30**	P	**Pb**	**00 20 57.0**	**+0.1**
YUS				S	**Sb**	**00 21 08.1**	**+0.8**
CHN5	**Tsauling**	**0.80**	**10**	*e*P	**Pb**	**00 20 56.4**	**-0.8**
CHN5				S	**Sb**	**00 21 08.5**	**+0.8**
HEN	**Hengchun**	**0.82**	**166**	*e*P	**Pb**	**00 20 56.8**	**-0.7**
HEN				S	**Sb**	**00 21 09.4**	**+1.4**
CHKT	**Chengkung**	**0.83**	**69**	*e*P	**Pb**	**00 20 57.7**	**+0.1**
CHKT				S	**Sb**	**00 21 09.5**	**+1.1**
WGK	**Gukeng**	**0.88**	**2**	*e*P	**Pb**	**00 20 57.7**	**-0.8**
TWK1	**Hengchun**	**0.89**	**163**	*e*P	**Pb**	**00 20 57.5**	**-1.2**
TWK1				S	**Sb**	**00 21 10.9**	**+0.7**
TWF1	**Yuli**	**0.90**	**52**	⇓*i*P	**Pb**	**00 20 58.4**	**-0.3**
TWF1				S	**Sb**	**00 21 10.6**	**+0.3**
WDGT	**Dungji**	**0.92**	**300**	*e*P	**Pb**	**00 20 57.0**	**-2.2**
WDGT				S	**Sb**	**00 21 08.7**	**-2.3**
EHY	**Hungye**	**1.01**	**46**	*e*P	**Pn**	**00 21 00.2**	**-0.4**
EHY				S	**Sb**	**00 21 13.5**	**-0.2**
WNT	**Mingjian**	**1.08**	**8**	*e*P	**Pn**	**00 21 00.8**	**-0.8**
SMLT	**Sun Moon Lake**	**1.13**	**18**	*e*P	**Pn**	**00 21 01.7**	**-0.6**
SMLT				S	**Sb**	**00 21 16.9**	**-0.1**
TYC	**Yuchr**	**1.14**	**15**	*e*P	**Pn**	**00 21 01.8**	**-0.6**
TYC				S	**Sn**	**00 21 16.7**	**-0.6**
PNG	**Penghu**	**1.17**	**311**	*e*P	**Pn**	**00 21 00.5**	**-2.4**
PNG				S	**Sn**	**00 21 14.8**	**-3.4**
ESL	**Shilin**	**1.31**	**39**	*e*P	**Pn**	**00 21 05.5**	**+0.7**
ESL				S	**Sn**	**00 21 22.2**	**+0.6**
WHF	**Hehuan Shan**	**1.50**	**27**	*e*P	**Pn**	**00 21 07.2**	**-0.3**
WHF				S	**Sn**	**00 21 29.9**	**+3.5**
TWQ1	**Liyutan**	**1.56**	**8**	*e*P	**Pn**	**00 21 07.0**	**-1.4**
TWT	**Tachien**	**1.56**	**22**	*e*P	**Pn**	**00 21 07.8**	**-0.6**
TWT				S	**Sn**	**00 21 28.5**	**+0.5**
TWD	**Chiawan**	**1.61**	**38**	*e*P	**Pn**	**00 21 08.4**	**-0.7**
TWD				S	**Sn**	**00 21 29.7**	**+0.5**
NNS	**Nan Shan**	**1.81**	**25**	*e*P	**Pn**	**00 21 11.8**	**-0.2**
NSK	**Sanguang**	**2.02**	**22**	*e*P	**Pn**	**00 21 14.7**	**-0.2**
NSK				S	**Sn**	**00 21 40.5**	**+1.0**
ENTT	**Nioudou**	**2.06**	**27**	*e*P	**Pn**	**00 21 15.4**	**-0.3**
ENTT				S	**Sn**	**00 21 41.9**	**+1.1**
YOJ	**Yonaguni jima**	**2.81**	**54**	P	**Pn**	**00 21 25.4**	**-1.0**
YOJ				S	**Sn**	**00 21 59.2**	**-0.6**
HATJ	**Hateruma jima**	**3.26**	**67**	P	**Pn**	**00 21 31.4**	**-1.3**
HATJ				S	**Sn**	**00 22 09.7**	**-1.4**
IRIF	**Iriomote-Funau**	**3.31**	**62**	P	**Pn**	**00 21 32.7**	**-0.7**
IRIF				S	**Sn**	**00 22 10.5**	**-1.9**
JKRS	**Kuro-shima**	**3.50**	**65**	*e*S	**Sn**	**00 22 15.8**	**-1.4**
JIJ	**Ishigaki jima**	**3.66**	**64**	P	**Pn**	**00 21 37.0**	**-1.4**
JIJ				S	**Sn**	**00 22 19.1**	**-2.2**
JTJ	**Tarama**	**4.24**	**64**	P	**Pn**	**00 21 45.3**	**-1.4**

*NEIC **04** 00:42:22.5, 35.97S×178.34E, h186km, mb4.3/1, After WEL.*
WEL 04 00:42:23.0±0.4, 36.02S×178.32E, h185km±3km, ML4.3/9, 2C-1D, Error ellipse: s-maj=3.5km s-min=3.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.54**	**180**	P	P	00 42 56.0	-0.1
MXZ				S	S	00 43 21.2	-0.5
MXZ	**Matakaoa Point**	**1.54**	**180**	PN	P	00 42 55.9	-0.2
MXZ				SN	S	00 43 20.8	-0.9
PUZ	**Puketiti**	**2.05**	**181**	P	P	00 43 01.2	-0.1
PUZ				S	S	00 43 30.6	-0.2
PUZ	**Puketiti**	**2.05**	**181**	PN	P	00 43 01.2	-0.1
PUZ				SN	S	00 43 29.2	-1.6
MYRZ	**Mayor Island**	**2.09**	**232**	PN	P	00 43 01.6	-0.2
MARZ	**Manawahe**	**2.36**	**213**	P	P	00 43 05.2	+0.3
MARZ	**Manawahe**	**2.36**	**213**	PN	P	00 43 05.2	+0.4
MWZ	**Matawai**	**2.39**	**195**	P	P	00 43 05.2	-0.1
MWZ				S	S	00 43 37.6	-0.2
MWZ	**Matawai**	**2.39**	**195**	PN	P	00 43 05.2	0.0
MWZ				SN	S	00 43 37.6	-0.3
URZ	**Urewera**	**2.43**	**203**	P	P	00 43 05.1	-0.6
URZ	**Urewera**	**2.43**	**203**	PN	P	00 43 05.1	-0.6
URZ				SN	S	00 43 38.1	-0.6
EDRZ	**Edgecumbe**	**2.44**	**211**	P	P	00 43 06.1	+0.4
EDRZ	**Edgecumbe**	**2.44**	**211**	PN	P	00 43 05.9	+0.2
TAZ	**Tarawera**	**2.64**	**213**	*e*P	P	00 43 08.9	+0.8
TAZ	**Tarawera**	**2.64**	**213**	PN	P	00 43 08.6	+0.4
KNZ	**Kokohu**	**3.04**	**190**	P	P	00 43 12.2	-0.7
KNZ				S	S	00 43 50.7	-0.7
KNZ	**Kokohu**	**3.04**	**190**	PN	P	00 43 12.2	-0.6
KNZ				SN	S	00 43 50.3	-1.0
BKZ	**Black Stump Fm**	**3.46**	**204**	P	P	00 43 17.4	-0.7
BKZ	**Black Stump Fm**	**3.46**	**204**	PN	P	00 43 17.4	-0.8
BKZ				SN	S	00 44 00.0	-0.6
MGZ	**Maungaku**	**3.71**	**216**	P	P	00 43 21.1	-0.1
MGZ	**Maungaku**	**3.71**	**216**	PN	P	00 43 21.0	-0.2
OTVZ	**Oturere**	**3.78**	**213**	PN	P	00 43 21.5	-0.6
NGZ	**Ngauruhoe**	**3.82**	**214**	P	P	00 43 22.1	-0.5
NGZ	**Ngauruhoe**	**3.82**	**214**	PN	P	00 43 22.1	-0.5
CNZ	**Chateau**	**3.86**	**214**	P	P	00 43 22.6	-0.6
CNZ	**Chateau**	**3.86**	**214**	PN	P	00 43 22.6	-0.6
TUVZ	**Tukino**	**3.87**	**212**	P	P	00 43 22.3	-1.0
TUVZ	**Tukino**	**3.87**	**212**	PN	P	00 43 22.3	-1.0
FWVZ	**Far West T-bar**	**3.90**	**213**	P	P	00 43 22.9	-0.8
FWVZ	**Far West T-bar**	**3.90**	**213**	PN	P	00 43 22.9	-0.9
OUZ	**Omahuta**	**3.93**	**280**	⇓*e*P	P	00 43 21.1	-3.0
OUZ	**Omahuta**	**3.93**	**280**	⇑PN	P	00 43 21.1	-3.0
WNVZ	**Wahianoa**	**3.94**	**212**	P	P	00 43 22.5	-1.7
WNVZ	**Wahianoa**	**3.94**	**212**	PN	P	00 43 22.5	-1.7
MOVZ	**Moawhango**	**3.94**	**210**	P	P	00 43 22.2	-2.1
MOVZ	**Moawhango**	**3.94**	**210**	PN	P	00 43 22.2	-2.0
MOVZ				SN	S	00 44 09.9	-1.7
PWZ	**Pawanui**	**4.16**	**196**	PN	P	00 43 25.0	-2.0
PWZ				SN	S	00 44 13.2	-3.2
TSZ	**Takapari Road**	**4.44**	**204**	P	P	00 43 27.6	-3.0
MRZ	**Mangatainoka R**	**5.11**	**204**	P	P	00 43 35.3	-3.9
MRZ				S	S	00 44 33.5	-4.8
KIW	**Kapiti Island**	**5.52**	**208**	P	P	00 43 40.6	-4.0
MTW	**Mount Morrison**	**5.58**	**202**	P	P	00 43 41.1	-4.3
CAW	**Cannon Point**	**5.68**	**206**	P	P	00 43 42.6	-4.1
MSWZ	**Moikau Station**	**5.89**	**203**	*e*P	P	00 43 44.8	-4.7
MRW	**Makara Radio**	**5.92**	**208**	*e*P	P	00 43 45.0	-4.8
NNZ	**Nelson**	**6.47**	**215**	P	P	00 43 52.3	-4.7
BSWZ	**Blackbirch Sta**	**6.66**	**210**	P	P	00 43 55.4	-4.1
THZ	**Tophouse**	**7.12**	**215**	*e*P	P	00 44 00.0	-5.5
THZ				S	S	00 45 21.1	-4.4
KHZ	**Kahutara**	**7.38**	**209**	*e*P	P	00 44 03.5	-5.5
LTZ	**Lake Taylor**	**8.21**	**213**	*e*P	P	00 44 15.4	-4.5
MQZ	**McQueen's Vall**	**8.82**	**208**	*e*P	P	00 44 21.5	-6.4
ODZ	**Otahua Downs**	**10.73**	**211**	*e*P	P	00 44 47.4	-5.3
QSPA	**South Pole Qui**	**54.10**	**180**	⇑*i*P	P	00 51 32.0	+1.9
	3.5nm,0.5s						

IGQ 04 00:42:54.1, 1.32N×79.12W, h12km±3km, mb4.3, 8C-6D, Error ellipse: s-maj=4.9km s-min=3.6km az=152.8, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COTA	**Cotacachi**	**1.25**	**141**	⇑P	Pb	00 43 18.1	+0.9
YANA	**Yana**	**1.53**	**159**	⇑P	Pn	00 43 22.4	+0.9
YANA				S	Sb	00 43 43.2	+2.0
PINO	**Pino**	**1.55**	**161**	⇑P	Pn	00 43 22.8	+0.9
TERV	**Terraza Guagua**	**1.57**	**161**	⇓P	Pn	00 43 23.4	+1.4
TERV				S	Sb	00 43 46.0	+3.7
GGP	**Refugio Guagua**	**1.57**	**161**	P	Pn	00 43 23.5	+1.4
JUA2	**San Juan 2**	**1.61**	**161**	⇓P	Pn	00 43 23.8	+1.2
CAYA	**Cayambe**	**1.68**	**138**	⇑P	Pn	00 43 25.2	+1.7
CAYR	**Refugio Cayamb**	**1.71**	**139**	⇑P	Pn	00 43 26.1	+2.1
CAYR				S	Sn	00 43 49.3	+3.5
ANTI	**Antisana**	**2.00**	**151**	⇑P	Pn	00 43 30.5	+2.3
CONE	**Cono NE Rev Vo**	**2.02**	**133**	P	Pn	00 43 31.0	+2.5
CONE				S	Sn	00 43 58.8	+4.9
NAS1	**Nasa**	**2.04**	**162**	⇑P	Pn	00 43 31.6	+2.8
LAV3	**Lava3-Reventad**	**2.05**	**133**	⇓P	Pn	00 43 31.2	+2.3
VC1	**Cotopaxi 1**	**2.08**	**160**	⇑P	Pn	00 43 32.0	+2.8
VC1				S	Sn	00 44 01.1	+5.8
MARY	**Rancho Maria**	**2.13**	**163**	P	Pn	00 43 33.8	+3.6
TAMB	**Tambo**	**2.14**	**159**	⇓P	Pn	00 43 33.5	+3.4
TAMB				S	Sn	00 44 03.1	+6.3

JUIV	**Juive**	**2.80**	**167**	P	Pn	00 43 44.1	+4.4
RUN2	**Runtun**	**2.81**	**165**	⇓P	Pn	00 43 44.7	+4.8
CUSU	**Cusua**	**2.82**	**167**	P	Pn	00 43 44.4	+4.6
IGUA	**Igualata**	**2.83**	**170**	⇓P	Pn	00 43 43.5	+3.4
RETU	**Refugio**	**2.83**	**166**	P	Pn	00 43 44.7	+4.6
ULBA	**Ulba**	**2.84**	**166**	P	Pn	00 43 44.2	+4.0
ARRY	**Arrayan**	**2.88**	**167**	P	Pn	00 43 44.9	+4.1
PATA	**Patacocha**	**2.89**	**166**	P	Pn	00 43 46.0	+5.2

*CSEM **04** 00:50:49.6±0.1, 35.97N×4.84W, h40km, MD3.5, Error ellipse: s-maj=1.9km s-min=1.4km az=98.0*
*INMG **04** 00:50:51.9±2.0, 35.93N×4.86W, h34km±10km, MD3.2, ML3.3, Error ellipse: s-maj=5.1km s-min=3.8km az=9.0*
*SFS **04** 00:50:51.0, 35.80N×4.80W*
*NEIC **04** 00:50:51.9, 35.90N×4.86W, h36km, MD4.0(LDG), After MDD.*
*MDD **04** 00:50:52.4±0.3, 35.93N×4.82W, h53km±8km, mb4.7/24, Error ellipse: s-maj=3.1km s-min=2.8km az=74.0, PRXIMO*
*LDG **04** 00:50:53.6±0.3, 36.04N×4.83W, h25km, Md4.0/1, Ml3.8/7, Error ellipse: s-maj=7.3km s-min=3.0km az=170.0*
*IGIL **04** 00:50:53.2, 36.10N×5.00W, h0km, ML3.5*
*CNRM **04** 00:50:55.0, 35.70N×4.83W, h32km, MD3.5*
ISC 04 00:50:49.7±0.2, 35.95N±0.02×4.87W±0.02, h80km±4km, n201, σ1$29/340, 15C-23D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DKH	**Dar Kharkhour**	**0.61**	**221**	P	**P**	**00 51 06.5**	**+1.9**
DKH				S	**S**	**00 51 13.0**	**-2.6**
DKH	**Dar Kharkhour**	**0.61**	**221**	*i* P	**P**	**00 51 06.5**	**+1.9**
EMIJ	**Mijas**	**0.62**	**7**	⇓P	**P**	**00 51 04.4**	**-0.3**
EMIJ				S	**S**	**00 51 13.2**	**-2.6**
EMIJ	**Mijas**	**0.62**	**7**	⇓P	**P**	**00 51 04.4**	**-0.3**
	SNR=18						
EMIJ				S	**S**	**00 51 13.3**	**-2.5**
	791nm,0.2s,SNR=46						
EMIJ	**Mijas**	**0.62**	**7**	P	**P**	**00 51 04.4**	**-0.3**
	77nm,0.3s,SNR=18						
MOMI	**Momias**	**0.79**	**299**	⇓P	**P**	**00 51 09.3**	**+2.7**
MOMI	**Momias**	**0.79**	**299**	*i* P	**P**	**00 51 09.3**	**+2.8**
EMAL	**Malaga-Limoner**	**0.89**	**23**	⇓P	**P**	**00 51 07.7**	**+0.2**
	144nm,0.1s,SNR=18						
EMAL				S	**S**	**00 51 18.8**	**-2.1**
	517nm,0.1s,SNR=7.9						
MPAL	**Palemas**	**1.04**	**133**	P	**P**	**00 51 09.0**	**-0.5**
MPAL				S	**S**	**00 51 22.0**	**-2.3**
MPAL	**Palemas**	**1.04**	**133**	*i* P	**P**	**00 51 09.0**	**-0.5**
CNIL	**Conil**	**1.05**	**294**	P	**P**	**00 51 12.3**	**+2.8**
CNIL				S	**S**	**00 51 25.6**	**+1.2**
CNIL	**Conil**	**1.05**	**294**	*i* P	**P**	**00 51 12.3**	**+2.8**
CNIL				*e*S	**S**	**00 51 25.6**	**+1.2**
LIJA	**Lijar**	**1.05**	**336**	⇑P	**P**	**00 51 12.0**	**+2.5**
LIJA				S	**S**	**00 51 24.7**	**+0.3**
LIJA	**Lijar**	**1.05**	**336**	*i* P	**P**	**00 51 12.0**	**+2.5**
LIJA				*e*S	**S**	**00 51 24.7**	**+0.3**
SFS	**San Fernando**	**1.20**	**296**	⇑P	**P**	**00 51 14.6**	**+3.2**
SFS				S	**S**	**00 51 27.8**	**+0.1**
SFS	**San Fernando**	**1.20**	**296**	*i* P	**P**	**00 51 14.6**	**+3.2**
SFS				*e*S	**S

ENIJ	**Nijar**	**2.38**	**64**	⇓P	**P**	**00 51 27.9**	**+0.5**
	23nm,0.2s,SNR=18						
ENIJ				S	**S**	**00 51 55.3**	**-0.1**
	66nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**2.38**	**64**	P	**P**	**00 51 27.9**	**+0.5**
	SNR=18						
ENIJ				S	**S**	**00 51 55.1**	**-0.3**
	37nm,0.3s,SNR=7.9						
IFR	**Ifrane**	**2.44**	**185**	P	**P**	**00 51 28.5**	**+0.3**
IFR				S	**S**	**00 51 55.0**	**-1.9**
RTC	**Rabat Centre**	**2.55**	**220**	*i* P	**P**	**00 51 30.0**	**+0.2**
RTC				*i* S	**S**	**00 51 59.0**	**-0.8**
MIF	**Mishlifen**	**2.55**	**187**	P	**P**	**00 51 29.0**	**-0.9**
MIF				S	**S**	**00 51 56.0**	**-3.8**
MIF	**Mishlifen**	**2.55**	**187**	*i* P	**P**	**00 51 29.0**	**-0.9**
PALC	**Alcoutim**	**2.58**	**307**	*i* P	**P**	**00 51 31.3**	**+1.0**
PALC				*e*S	**S**	**00 51 59.6**	**-1.1**
	98nm,0.1s						
PALC	**Alcoutim**	**2.58**	**307**	⇑P	**P**	**00 51 31.3**	**+0.9**
PALC				S	**S**	**00 51 59.3**	**-1.3**
PALC	**Alcoutim**	**2.58**	**307**	⇑P	**P**	**00 51 31.3**	**+0.9**
PALC				⇑P		00 51 31.3	
PALC				S	**S**	**00 51 59.3**	**-1.3**
PALC				S	**S**	**00 51 59.6**	**-1.1**
	49nm,0.1s						
PALC	**Alcoutim**	**2.58**	**307**	P	**P**	**00 51 31.3**	**+1.0**
PALC				*e*S	**S**	**00 51 59.6**	**-1.1**
	98nm,0.1s						
EGRO	**El Granado**	**2.63**	**308**	⇑P	**P**	**00 51 31.9**	**+0.9**
EGRO				S	**S**	**00 52 00.4**	**-1.4**
EGRO	**El Granado**	**2.63**	**308**	⇑P	**P**	**00 51 31.9**	**+0.9**
	28nm,0.1s,SNR=18						
EGRO				S	**S**	**00 52 00.2**	**-1.6**
	176nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.63**	**308**	P	**P**	**00 51 31.9**	**+0.9**
	SNR=18						
EGRO				S	**S**	**00 52 00.4**	**-1.4**
	150nm,0.1s,SNR=7.9						
CZD	**Col de Zad**	**2.91**	**183**	P	**P**	**00 51 34.0**	**-0.9**
CZD				S	**S**	**00 52 05.0**	**-3.9**
CZD	**Col de Zad**	**2.91**	**183**	*i* P	**P**	**00 51 34.0**	**-0.9**
PBEJ	**Beja**	**3.17**	**312**	*e*P	**P**	**00 51 39.2**	**+0.7**
PBEJ				*e*S	**S**	**00 52 13.2**	**-2.1**
	54nm,0.1s						
PBEJ	**Beja**	**3.17**	**312**	P	**P**	**00 51 39.2**	**+0.7**
PBEJ				S	**S**	**00 52 13.2**	**-2.2**
PBEJ	**Beja**	**3.17**	**312**	*e*P	**P**	**00 51 39.2**	**+0.7**
PBEJ				*e*S	**S**	**00 52 13.2**	**-2.1**
	54nm,0.1s						
EVIA	**Vianos**	**3.28**	**34**	P	**P**	**00 51 40.6**	**+0.6**
EVIA				S	**S**	**00 52 17.3**	**-0.8**
EVIA	**Vianos**	**3.28**	**34**	⇑P	**P**	**00 51 40.6**	**+0.6**
	17nm,0.2s,SNR=18						
EVIA				S	**S**	**00 52 16.9**	**-1.2**
	35nm,0.2s,SNR=9.9						
EVIA	**Vianos**	**3.28**	**34**	P	**P**	**00 51 40.6**	**+0.6**
	36nm,0.6s,SNR=35						
EVIA				S	**S**	**00 52 17.3**	**-0.7**
	16nm,0.2s,SNR=9.9						
EBAD	**Badajoz**	**3.28**	**329**	⇓P	**P**	**00 51 40.7**	**+0.7**
EBAD				S	**S**	**00 52 16.4**	**-1.7**
EBAD	**Badajoz**	**3.28**	**329**	⇓P	**P**	**00 51 40.7**	**+0.7**
	14nm,0.1s,SNR=18						
EBAD				S	**S**	**00 52 16.0**	**-2.1**
	156nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.28**	**329**	P	**P**	**00 51 40.7**	**+0.7**
	SNR=18						
EBAD				S	**S**	**00 52 16.4**	**-1.7**
	45nm,0.1s,SNR=7.9						
AVE	**Averroes**	**3.38**	**219**	P	**P**	**00 51 41.5**	**+0.2**
EMUR	**La Murta**	**3.47**	**56**	P	**P**	**00 51 43.7**	**+1.0**
EMUR				S	**S**	**00 52 21.9**	**-0.8**
EMUR	**La Murta**	**3.47**	**56**	P	**P**	**00 51 43.3**	**+0.7**
	6.0nm,0.2s,SNR=7.9						
EMUR				S	**S**	**00 52 21.1**	**-1.6**
	22nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**3.47**	**56**	P	**P**	**00 51 43.7**	**+1.1**
	SNR=7.9						
EMUR				S	**S**	**00 52 21.9**	**-0.8**
	7.5nm,0.3s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.48**	**298**	*e*P	**P**	**00 51 43.7**	**+0.9**
PTEO				*e*S	**S**	**00 52 20.9**	**-2.2**
	60nm,0.3s						
PTEO	**Sao Teotonio**	**3.48**	**298**	P	**P**	**00 51 43.6**	**+0.8**
PTEO				S	**S**	**00 52 20.9**	**-2.2**
PTEO	**Sao Teotonio**	**3.48**	**298**	P	**P**	**00 51 43.7**	**+0.9**
PTEO				S	**S**	**00 52 20.9**	**-2.2**
	30nm,0.3s						
EVO	**Evora**	**3.60**	**317**	*e*Pn	**P**	**00 51 46.1**	**+1.7**
EVO				*e*Sn	**S**	**00 52 24.8**	**-1.1**
	166nm,0.4s						
MOE	**Montemor**	**3.79**	**314**	*e*P	**P**	**00 51 48.6**	**+1.6**
MOE				*e*S	**S**	**00 52 28.3**	**-2.3**
MOE	**Montemor**	**3.79**	**314**	P	**P**	**00 51 48.1**	**+1.1**
MOE				S	**S**	**00 52 28.4**	**-2.2**
MOE	**Montemor**	**3.79**	**314**	P	**P**	**00 51 48.1**	**+1.1**
MOE				*e*S	**S**	**00 52 28.3**	**-2.3**
ESLA	**Sonseca Array**	**3.79**	**11**	*e*Pn	**P**	**00 51 47.6**	**+0.6**
ESLA	**Sonseca Array**	**3.79**	**11**	*e*P	**P**	**00 51 47.6**	**+0.6**
ALMR	**Almeirim**	**4.35**	**318**	*e*P	**P**	**00 51 56.0**	**+1.2**
ALMR				*e*S	**S**	**00 52 42.1**	**-2.6**
ALMR				*e*S	**S**	**00 52 42.1**	**-2.6**
ALMR				AML	AML	00 52 44.1	
	comp=E,90nm,0.1s						
ALMR	**Almeirim**	**4.35**	**318**	P	**P**	**00 51 56.0**	**+1.2**
ALMR				S	**S**	**00 52 42.1**	**-2.6**
	comp=E,45nm,0.1s						
PCBR	**Castelo Branco**	**4.40**	**333**	*e*P	**P**	**00 51 56.2**	**+0.7**
PCBR				*e*S	**S**	**00 52 42.2**	**-3.7**
	comp=E,34nm,0.3s						
PCBR	**Castelo Branco**	**4.40**	**333**	P	**P**	**00 51 56.2**	**+0.6**
PCBR				S	**S**	**00 52 42.2**	**-3.7**
PCBR	**Castelo Branco**	**4.40**	**333**	P	**P**	**00 51 56.2**	**+0.7**
PCBR				S	**S**	**00 52 42.2**	**-3.7**
	comp=E,17nm,0.3s						
PLOU	**Loures**	**4.50**	**312**	*e*P	**P**	**00 51 58.6**	**+1.7**
PLOU				*e*S	**S**	**00 52 46.5**	**-1.8**
	comp=E,35nm,0.4s						
PLOU	**Loures**	**4.50**	**312**	P	**P**	**00 51 58.6**	**+1.7**
PLOU				S	**S**	**00 52 46.5**	**-1.8**
	comp=E,17nm,0.4s						
EBEN	**Beniarda**	**4.61**	**52**	P	**P**	**00 51 58.3**	**-0.2**
EBEN				S	**S**	**00 52 48.8**	**-2.3**
EBEN	**Beniarda**	**4.61**	**52**	P	**P**	**00 51 59.0**	**+0.5**
	comp=E,2.7nm,0.2s,SNR=7.9						
EBEN				S	**S**	**00 52 46.3**	**-4.9**
	comp=E,5.2nm,0.5s,SNR=7.9						
EBEN	**Beniarda**	**4.61**	**52**	P	**P**	**00 51 58.3**	**-0.1**
	SNR=7.9						
EBEN				S	**S**	**00 52 48.8**	**-2.3**
	SNR=7.9						
PTOM	**Tomar**	**4.61**	**324**	*e*P	**P**	**00 52 01.5**	**+3.0**
PTOM				*e*S	**S**	**00 52 49.6**	**-1.7**
	comp=E,56nm,0.2s						
PTOM	**Tomar**	**4.61**	**324**	P	**P**	**00 52 01.5**	**+3.0**
PTOM				S	**S**	**00 52 49.6**	**-1.7**
	comp=E,28nm,0.2s						
GUD	**Guadarrama**	**4.72**	**7**	P	**P**	**00 52 00.2**	**+0.3**
GUD				S	**S**	**00 52 51.0**	**-2.9**
GUD	**Guadarrama**	**4.72**	**7**	P	**P**	**00 52 00.6**	**+0.6**
	comp=E,14nm,0.2s,SNR=60						
GUD				S	**S**	**00 52 50.5**	**-3.4**
	comp=E,23nm,0.4s,SNR=14						
GUD	**Guadarrama**	**4.72**	**7**	S	**S**	**00 52 51.0**	**-2.9**
	comp=E,10nm,0.3s,SNR=14						
GUD	**Guadarrama**	**4.72**	**7**	P	**P**	**00 52 00.2**	**+0.2**
	comp=E,14nm,0.2s,SNR=60						
MTE	**Manteigas**	**4.92**	**335**	*e*P	**P**	**00 52 03.2**	**+0.5**
MTE				*e*S	**S**	**00 52 55.4**	**-3.4**
	comp=E,27nm,0.4s						
MTE	**Manteigas**	**4.92**	**335**	P	**P**	**00 52 03.2**	**+0.5**
MTE				S	**S**	**00 52 54.3**	**-4.5**
MTE	**Manteigas**	**4.92**	**335**	P	**P**	**00 52 03.2**	**+0.5**
MTE				S	**S**	**00 52 55.4**	**-3.4**
	comp=E,14nm,0.4s						
PVIS	**Viseu**	**5.32**	**334**	*e*P	**P**	**00 52 08.7**	**+0.5**
PVIS				*e*S	**S**	**00 53 05.7**	**-3.1**
	comp=E,21nm,0.1s						
PVIS	**Viseu**	**5.32**	**334**	P	**P**	**00 52 08.7**	**+0.5**
PVIS	**Viseu**	**5.32**	**334**	P	**P**	**00 52 08.7**	**+0.5**
PVIS				S	**S**	**00 53 05.7**	**-3.1**
	comp=E,11nm,0.1s						
OUK	**Oukaimeden**	**5.35**	**209**	P	**P**	**00 52 09.0**	**+0.4**
OUK				S	**S**	**00 53 05.0**	**-4.5**
OUK	**Oukaimeden**	**5.35**	**209**	*i* P	**P**	**00 52 09.0**	**+0.4**
CIA	**Chichaoua**	**5.44**	**218**	P	**P**	**00 52 11.0**	**+1.1**
CIA				S	**S**	**00 53 08.0**	**-3.8**
CIA	**Chichaoua**	**5.44**	**218**	*i* P	**P**	**00 52 11.0**	**+1.1**
EMOS	**Mosqueruela**	**5.61**	**37**	P	**P**	**00 52 13.4**	**+1.3**
EMOS				S	**S**	**00 53 11.9**	**-3.9**
EMOS	**Mosqueruela**	**5.61**	**37**	P	**P**	**00 52 13.2**	**+1.1**
	comp=E,11nm,0.4s,SNR=7.9						
EMOS				S	**S**	**00 53 10.7**	**-5.1**
	comp=E,9.5nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**5.61**	**37**	P	**P**	**00 52 13.4**	**+1.3**
	SNR=7.9						
PVRL	**Vila Real**	**5.77**	**338**	*e*P	**P**	**00 52 15.2**	**+0.9**
PVRL				*e*S	**S**	**00 53 15.6**	**-4.3**
	comp=E,84nm,0.2s						
PVRL	**Vila Real**	**5.77**	**338**	P	**P**	**00 52 14.9**	**+0.5**
PVRL				S	**S**	**00 53 15.4**	**-4.5**
PVRL	**Vila Real**	**5.77**	**338**	P	**P**	**00 52 15.2**	**+0.9**
PVRL				S	**S**	**00 53 15.6**	**-4.3**
	comp=E,42nm,0.2s						
PVRL	**Vila Real**	**5.77**	**338**	P	**P**	**00 52 14.9**	**+0.6**
EIBI	**Ibiza**	**5.82**	**56**	P	**P**	**00 52 14.5**	**-0.5**
EIBI				S	**S**	**00 53 19.2**	**-1.9**
EIBI	**Ibiza**	**5.82**	**56**	P	**P**	**00 52 15.3**	**+0.4**
	comp=E,2.9nm,0.2s,SNR=7.9						
EIBI				S	**S**	**00 53 16.5**	**-4.6**
	comp=E,3.1nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**5.82**	**56**	S	**S**	**00 53 19.2**	**-1.9**
	SNR=7.9						
EIBI	**Ibiza**	**5.82**	**56**	P	**P**	**00 52 14.5**	**-0.5**
	SNR=7.9						
PBRG	**Braganca**	**6.03**	**347**	*e*P	**P**	**00 52 18.6**	**+0.7**
	comp=E,21nm,0.2s						
PBRG	**Braganca**	**6.03**	**347**	P	**P**	**00 52 18.6**	**+0.6**
ECAL	**Calabor**	**6.16**	**347**	P	**P**	**00 52 20.5**	**+0.7**
ECAL				S	**S**	**00 53 25.4**	**-4.1**
ECAL	**Calabor**	**6.16**	**347**	P	**P**	**00 52 20.6**	**+0.9**
	comp=E,12nm,0.1s,SNR=7.9						
ECAL				S	**S**	**00 53 24.4**	**-5.1**
	comp=E,44nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**6.16**	**347**	P	**P**	**00 52 20.5**	**+0.7**
	SNR=7.9						
ELOB	**Lobios**	**6.41**	**338**	P	**P**	**00 52 23.8**	**+0.5**
ELOB				S	**S**	**00 53 31.4**	**-4.4**
ELOB	**Lobios**	**6.41**	**338**	P	**P**	**00 52 23.8**	**+0.5**
	comp=E,3.9nm,0.2s,SNR=7.9						
ELOB				S	**S**	**00 53 30.5**	**-5.3**
	comp=E,16nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**6.41**	**338**	P	**P**	**00 52 23.8**	**+0.5**
	SNR=7.9						
ERTA	**Horta de San J**	**6.45**	**38**	P	**P**	**00 52 24.7**	**+0.7**
ERTA				S	**S**	**00 53 33.0**	**-3.8**
ERTA	**Horta de San J**	**6.45**	**38**	P	**P**	**00 52 24.7**	**+0.8**
	comp=E,5.8nm,0.3s,SNR=7.9						
ERTA				S	**S**	**00 53 31.7**	**-5.0**
	comp=E,7.9nm,0.5s,SNR=7.9						
ERTA	**Horta de San J**	**6.45**	**38**	P	**P**	**00 52 24.7**	**+0.8**
	SNR=7.9						
ERUA	**La Rua**	**6.67**	**345**	⇓P	**P**	**00 52 27.4**	**+0.4**
ERUA				S	**S**	**00 53 38.3**	**-3.9**
ERUA	**La Rua**	**6.67**	**345**	⇓P	**P**	**00 52 27.3**	**+0.3**
	comp=E,27nm,0.2s,SNR=18						
ERUA				S	**S**	**00 53 37.2**	**-5.0**
	comp=E,8.8nm,0.3s,SNR=9.2						
ERUA	**La Rua**	**6.67**	**345**	P	**P**	**00 52 27.4**	**+0.4**
	comp=E,16nm,0.2s,SNR=18						
ESAC	**San Caprasio**	**6.71**	**29**	P	**P**	**00 52 27.3**	**-0.2**
ESAC				S	**S**	**00 53 40.4**	**-2.7**
ESAC	**San Caprasio**	**6.71**	**29**	P	**P**	**00 52 27.3**	**-0.2**
	comp=E,20nm,0.3s,SNR=7.9						
ESAC				S	**S**	**00 53 38.8**	**-4.2**
	comp=E,20nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**6.71**	**29**	P	**P**	**00 52 27.3**	**-0.2**
	SNR=7.9						
EZAM	**Zamans**	**6.87**	**335**	P	**P**	**00 52 29.9**	**+0.2**
EZAM	**Zamans**	**6.87**	**335**	P	**P**	**00 52 30.0**	**+0.3**
	comp=E,1.4nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**6.87**	**335**	P	**P**	**00 52 29.9**	**+0.2**
	SNR=7.9						
EINC	**Incio**	**6.97**	**345**	⇑P	**P**	**00 52 31.9**	**+0.8**
EINC				S	**S**	**00 53 46.0**	**-3.6**
EINC	**Incio**	**6.97**	**345**	⇑P	**P**	**00 52 31.9**	**+0.8**
	comp=E,7.3nm,0.3s,SNR=18						
EINC				S	**S**	**00 53 44.3**	**-5.3**
	comp=E,4.9nm,0.3s,SNR=7.9						
EINC	**Incio**	**6.97**	**345**	P	**P**	**00 52 31.9**	**+0.8**
	comp=E,3.1nm,0.3s,SNR=18						
EPOB	**Poblet**	**7.12**	**39**	P	**P**	**00 52 33.5**	**+0.2**
EPOB				S	**S**	**00 53 49.3**	**-4.0**
EPOB	**Poblet**	**7.12**	**39**	P	**P**	**00 52 33.2**	**0.0**
	comp=E,4.2nm,0.3s,SNR=7.9						
EPOB				S	**S**	**00 53 48.5**	**-4.8**
	comp=E,1.0nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**7.12**	**39**	P	**P**	**00 52 33.4**	**+0.2**
	SNR=7.9						
EARI	**Arriondas**	**7.35**	**358**	P	**P**	**00 52 37.2**	**+0.9**
EARI				S	**S**	**00 53 53.1**	**-5.7**
EARI	**Arriondas**	**7.35**	**358**	P	**P**	**00 52 36.7**	**+0.4**
	comp=E,3.4nm,0.2s,SNR=7.9						
EARI				S	**S**	**00 53 52.3**	**-6.5**
	comp=E,6.9nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**7.35**	**358**	P	**P**	**00 52 37.2**	**+0.9**
	SNR=7.9						
ELAN	**Lanestosa**	**7.36**	**8**	P	**P**	**00 52 36.4**	**0.0**
ELAN				S	**S**	**00 53 54.9**	**-4.1**
ELAN	**Lanestosa**	**7.36**	**8**	P	**P**	**00 52 36.3**	**-0.1**
	comp=E,7.1nm,0.2s,SNR=7.9						
ELAN				S	**S**	**00 53 51.8**	**-7.3**
	comp=E,6.6nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**7.36**	**8**	P	**P**	**00 52 36.4**	**0.0**
	SNR=7.9						
EPON	**Pontenova**	**7.58**	**347**	P	**P**	**00 52 39.9**	**+0.5**
EPON				S	**S**	**00 54 00.2**	**-4.3**
EPON	**Pontenova**	**7.58**	**347**	P	**P**	**00 52 39.9**	**+0.5**
	comp=E,6.9nm,0.2s,SNR=7.9						
EPON				S	**S**	**00 53 57.5**	**-6.9**
	comp=E,6.5nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**7.58**	**347**	P	**P**	**00 52 39.9**	**+0.5**
	SNR=7.9						
EMAZ	**Mazaricos**	**7.68**	**337**	P	**P**	**00 52 41.2**	**+0.4**
EMAZ				S	**S**	**00 54 00.3**	**-6.6**
EMAZ	**Mazaricos**	**7.68**	**337**	P	**P**	**00 52 41.1**	**+0.3**
	comp=E,2.1nm,0.1s,SNR=7.9						
EMAZ				S	**S**	**00 53 59.5**	**-7.5**
	comp=E,4.8nm,0.3s,SNR=7.9						
EMAZ	**Mazaricos**	**7.68**	**337**	P	**P**	**00 52 41.2**	**+0.4**
	SNR=7.9						
SJPF	**Ste Jean**	**7.69**	**20**	*e*Pn	**P**	**00 52 41.0**	**+0.1**
SJPF				*e*Sn	**S**	**00 53 59.7**	**-7.5**
	comp=E,4.5nm,0.4s						
ETSF	**Etsaut**	**7.70**	**24**	*e*Pn	**P**	**00 52 41.2**	**+0.1**
ETSF				*e*Sn	**S**	**00 54 00.5**	**-6.9**
	comp=E,5.3nm,0.4s						
ETSF	**Etsaut**	**7.70**	**24**	*e*S	**S**	**00 54 00.5**	**-6.9**
	comp=E,2.7nm,0.4s						
EALK	**Alkurruntz**	**7.71**	**19**	P	**P**	**00 52 41.9**	**+0.7**
EALK				S	**S**	**00 54 04.3**	**-3.4**
EALK	**Alkurruntz**	**7.71**	**19**	P	**P**	**00 52 41.9**	**+0.6**
	comp=E,18nm,0.2s,SNR=7.9						
EALK				S	**S**	**00 54 02.0**	**-5.7**
	comp=E,30nm,0.4s,SNR=7.9						
EMIR	**Miracle**	**7.76**	**38**	P	**P**	**00 52 42.8**	**+0.8**
EMIR				S	**S**	**00 54 04.2**	**-4.8**
EMIR	**Miracle**	**7.76**	**38**	P	**P**	**00 52 42.2**	**+0.2**
	comp=E,23nm,0.4s,SNR=22						
EMIR				S	**S**	**00 54 03.0**	**-6.0**
	comp=E,4.1nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**7.76**	**38**	P	**P**	**00 52 42.8**	**+0.8**
	comp=E,13nm,0.4s,SNR=22						
EBIE	**Bielsa**	**7.77**	**28**	P	**P**	**00 52 41.8**	**-0.2**
EBIE				S	**S**	**00 54 05.2**	**-3.9**
EBIE	**Bielsa**	**7.77**	**28**	P	**P**	**00 52 41.8**	**-0.2**
	comp=E,5.0nm,0.3s,SNR=7.9						
EBIE				S	**S**	**00 54 03.3**	**-5.8**
	comp=E,3.4nm,0.4s,SNR=7.9						
EBIE	**Bielsa**	**7.77**	**28**	P	**P**	**00 52 41.8**	**-0.2**
	SNR=7.9						
OSSF	**Osses**	**7.81**	**20**	P	**P**	**00 52 42.7**	**+0.1**
ORDF	**Ordiarp**	**7.86**	**21**	P	**P**	**00 52 43.7**	**+0.4**
EPF	**Esparros**	**8.14**	**28**	*e*Pn	**P**	**00 52 47.0**	**0.0**
EPF				*e*Sn	**S**	**00 54 11.6**	**-6.6**
	comp=E,3.6nm,0.2s						
EJON	**La Jonquera**	**8.85**	**40**	P	**P**	**00 52 57.8**	**+1.0**
	SNR=4.0						
EJON				S	**S**	**00 54 29.6**	**-6.1**
	SNR=4.0						
LFF	**La Frestale**	**9.94**	**24**	*e*Pn	**P**	**00 53 11.6**	**0.0**
EFAM	**Famara**	**9.98**	**229**	S	**S**	**00 54 53.2**	**-10**
	comp=E,7.8nm,0.2s,SNR=4.0						
CAF	**Calviac**	**10.40**	**28**	*e*Pn	**P**	**00 53 17.0**	**-0.8**
RJF	**Les Rejaudoux**	**10.53**	**25**	*e*Pn	**P**	**00 53 18.5**	**-0.9**
CFUE	**Fuerteventura**	**10.57**	**229**	P	**P**	**00 53 18.2**	**-1.9**
	comp=E,2.0nm,0.1s,SNR=7.9						
CFUE				S	**S**	**00 55 06.5**	**-11**
	comp=E,5.9nm,0.2s,SNR=7.9						
CFUE	**Fuerteventura**	**10.57**	**229**	P	**P**	**00 53 20.3**	**+0.2**
	SNR=7.9						
MFF	**Saint Martin d**	**11.22**	**17**	*e*Pn	**P**	**00 53 27.9**	**-0.8**
TCF	**Toulx Ste Croi**	**11.62**	**25**	*e*Pn	**P**	**00 53 32.9**	**-1.2**
EOSO	**Osorio**	**11.99**	**232**	S	**S**	**00 55 40.2**	**-11**
	comp=E,1.3nm,0.2s,SNR=7.9						
QUIF	**Quistinic**	**12.03**	**6**	*e*Pn	**P**	**00 53 39.5**	**0.0**
QUIF				*e*Sn	**S**	**00 55 43.3**	**-9.1**
	comp=E,5.4nm,0.4s						
BGF	**Bois d'Agland**	**12.08**	**26**	*e*Pn	**P**	**00 53 39.4**	**-0.8**
SGMF	**Saint Gilles**	**12.41**	**7**	*e*Pn	**P**	**00 53 44.6**	**-0.1**
SGMF				*e*Sn	**S**	**00 55 52.4**	**-9.2**
	comp=E,1.5nm,0.3s						
ROSF	**Rostrenen**	**12.44**	**5**	*e*Pn	**P**	**00 53 44.9**	**-0.1**
ROSF				*e*Sn	**S**	**00 55 51.0**	**-11**
	comp=E,2.4nm,0.3s						
AVF	**Avril sur Loir**	**12.46**	**27**	*e*Pn	**P**	**00 53 44.1**	**-1.2**
SMF	**Signal de Mont**	**12.52**	**29**	*e*Pn	**P**	**00 53 45.3**	**-0.9**
SSF	**Saint Saulge**	**12.74**	**27**	*e*P	**P**	**00 53 48.0**	**-1.1**
GRR	**Gorron**	**12.78**	**12**	*e*Pn	**P**	**00 53 50.1**	**+0.6**
LDF	**La Druitiere**	**13.11**	**14**	*e*Pn	**P**	**00 53 54.3**	**+0.4**
FLN	**La Foliniere**	**13.21**	**13**	*e*Pn	**P**	**00 53 55.9**	**+0.8**

LDG ***04*** *01:13:18.9±0.1, 44.54N×7.29E, h3km, Md2.5/1, Ml2.6/8, Error ellipse: s-maj=2.5km s-min=1.2km az=63.0*
CSEM ***04*** *01:13:18.4±0.1, 44.55N×7.31E, h10km, ML2.6/8, Error ellipse: s-maj=1.6km s-min=1.0km az=76.0*
GEN ***04*** *01:13:19.3, 44.51N×7.23E, h13km, ML2.6*
NEIC ***04*** *01:13:19.3, 44.51N×7.23E, h13km, ML2.6(GEN), ML2.6(LDG), ML2.3(STR), After GEN.*

ISC 04 01:13:18.5±0.3, 44.52N±0.01×7.22E±0.03, h13km±2km, n49, σ0°71/83, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Prazzo**	**0.09**	**262**	P	**Pg**	**01 13 22.3**	**+0.9**
PZZ				S	**Sg**	**01 13 24.3**	**+0.9**
STV	**Sta Anna Valdi**	**0.28**	**165**	P	**Pg**	**01 13 25.1**	**+0.5**
STV				S	**Sg**	**01 13 28.8**	**+0.1**
STV	**Sta Anna Valdi**	**0.28**	**165**	P	**Pg**	**01 13 25.1**	**+0.5**
SURF	**Saint Ours**	**0.29**	**263**	Pg	**Pg**	**01 13 25.6**	**+0.8**
SURF				Sg	**Sg**	**01 13 29.8**	**+0.7**
ENR	**Entracque**	**0.32**	**154**	P	**Pg**	**01 13 25.8**	**+0.4**
ENR				S	**Sg**	**01 13 30.1**	**+0.1**
ENR	**Entracque**	**0.32**	**154**	P	**Pg**	**01 13 25.8**	**+0.4**
BHB	**Bricherasio**	**0.33**	**5**	P	**Pg**	**01 13 25.7**	**+0.3**
BHB				S	**Sg**	**01 13 30.1**	**0.0**
BHB	**Bricherasio**	**0.33**	**5**	P	**Pg**	**01 13 25.7**	**+0.3**
MBDF	**Montbardon**	**0.38**	**303**	*e*Pg	**Pg**	**01 13 27.2**	**+0.7**
MBDF				*e*Sg	**Sg**	**01 13 32.5**	**+0.6**
	44nm,0.2s						
TOUF	**Mont Tournerai**	**0.50**	**178**	Pg	**Pg**	**01 13 29.2**	**+0.4**
TOUF				Sg	**Sg**	**01 13 35.3**	**-0.4**
RRL	**Cesana Torines**	**0.51**	**322**	P	**Pb**	**01 13 29.3**	**+0.6**
RRL				S	**Sb**	**01 13 36.4**	**+0.6**
RRL	**Cesana Torines**	**0.51**	**322**	P	**Pb**	**01 13 29.3**	**+0.5**
ROB	**Roburent**	**0.52**	**115**	P	**Pb**	**01 13 29.2**	**+0.3**
ROB				S	**Sb**	**01 13 36.1**	**+0.2**
ROB	**Roburent**	**0.52**	**115**	P	**Pb**	**01 13 29.2**	**+0.3**
FENE	**Fenestrelle**	**0.53**	**348**	P	**Pb**	**01 13 29.6**	**+0.5**
FENE				S	**Sb**	**01 13 36.5**	**+0.3**
FENE	**Fenestrelle**	**0.53**	**348**	S	**Sb**	**01 13 36.5**	**+0.3**
FENE	**Fenestrelle**	**0.53**	**348**	P	**Pb**	**01 13 29.6**	**+0.5**
AUTN	**L'Aution**	**0.54**	**164**	Pg	**Pg**	**01 13 29.4**	**-0.2**
AUTN				Sg	**Sg**	**01 13 37.2**	**+0.2**
MONE	**Monesi**	**0.58**	**139**	P	**Pb**	**01 13 30.1**	**+0.1**
MONE				S	**Sb**	**01 13 37.5**	**-0.3**
MONE	**Monesi**	**0.58**	**139**	P	**Pb**	**01 13 30.1**	**+0.1**
SAOF	**Saorge**	**0.58**	**156**	Pg	**Pg**	**01 13 30.1**	**-0.2**
SAOF				Sg	**Sg**	**01 13 37.5**	**-0.8**
MVIF	**Mont Vial**	**0.62**	**185**	Pg	**Pg**	**01 13 31.5**	**+0.4**
MVIF				Sg	**Sg**	**01 13

	34nm,1.0s,mb4.7								
KIV					*e*			01 39 49.3	
KIV	**Kislovodsk**	**21.80**	**323**	*e*P		**P**		**01 39 35.8**	**+2.2**
EIL	**Elat**	**22.78**	**281**	*e*P		**P**		**01 39 45.2**	**+1.8**
	8.0nm,0.8s,mb4.2								
CSS	**Prodhromos**	**24.52**	**294**	*e*P		**P**		**01 39 59.2**	**-1.1**
	3.8nm,0.6s,mb4.1								
CSS	**Prodhromos**	**24.52**	**294**	*e*P		**P**		**01 39 59.2**	**-1.2**
	3.8nm,0.6s,mb4.1								
KMBO	**Kilima Mbogo**	**36.57**	**222**	P		**P**		**01 41 47.7**	**+0.2**
	3.3nm,1.0s,mb4.1								
KMBO	**Kilima Mbogo**	**36.57**	**222**	P		**P**		**01 41 47.7**	**+0.2**
	3.3nm,1.0s,mb4.1								
JOF	**Joensuu**	**40.13**	**340**	*e*p		**P**		**01 42 15.4**	**-1.3**
	0.5nm,0.3s,mb3.7								
KAF	**Kangasniemi**	**41.24**	**336**	*e*p		**P**		**01 42 25.0**	**-1.0**
	0.5nm,0.4s,mb3.5								
KEV	**Kevo**	**46.35**	**344**	*e*p		**P**		**01 43 06.7**	**-0.3**
	0.9nm,0.3s,mb4.2								
NB2	**NORSAR Subarra**	**46.85**	**329**	P		**P**		**01 43 09.7**	**-1.4**
	1.9nm,0.6s,mb4.2,baz=112,slow=7.4								
WRAB	**Tennant Creek**	**85.42**	**115**	*e*P		**P**		**01 47 11.9**	**-6.7**
	14nm,1.1s,mb5.0								
MCK	**McKinley**	**85.86**	**13**	P		**P**		**01 47 18.5**	**-1.1**
	2.1nm,0.9s,mb4.4								

*BJI **04** 02:04:45.3,4.05N×93.15E,h57km,mB5.1,mb4.9,Ms4.6, Msz4.3*
*HRVD **04** 02:04:46.5±0.5,4.45N×93.16E,h20km±1km,MW4.9/44, Centroid moment Tensor Solution. LP body waves: s19,c24;Mantle waves: s44,c69; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.68±.20; Mθθ-0.13±.12; Mφφ1.81±.15; Mrθ1.20±.27; Mφφ-2.26±.10; Mφr0.14±.26; Best double couple: M0=3.057×10^16 NP1:φs182°,δ54°, λ-32°. NP2:φs293°,δ64°,λ-139°. Principal axes: T 3.362, Plg6°, Azm55°; N -.609, Plg43°, Azm319°; P -2.751, Plg46°, Azm152°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 02:04:46.5±0.4,4.51N×93.10E,h30km,mb4.9/14 Error ellipse: s-maj=13.2km s-min=8.6km az=222.0*
ISC 04 02:04:44.7±0.4,**4.50N**±0.05×**93.12E**±0.05,**h30**km, **(h44**km±2.0km:**pP-P),n53**,σ1§**24**/63,**mb5.0**/25,**MS4.4**/7, **1C-5D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.92**	**70**	P	**Pn**	**02 06 39.0**	**-1.8**
	328nm,0.9s						
PALK	**Pallekele**	**12.65**	**283**	*e*P	**P**	**02 07 43.1**	**-2.5**
CM31	**Chiang Mai Arr**	**15.00**	**22**	*e*P	**P**	**02 08 15.6**	**-1.0**
	32nm,0.6s						
CM31				*e*		02 08 23.4	
KKTK	**Khon Kaen**	**15.14**	**38**	P	**P**	**02 08 18.3**	**-0.1**
	370nm,0.9s						
MDRS	**Chennai**	**15.30**	**305**	*e*P	**P**	**02 08 20.0**	**-0.5**
MDRS				*e*		02 10 51.2	
MDRS				*e*		02 11 49.0	
CHG	**Chiang Mai**	**15.33**	**21**	⇑P	**P**	**02 08 19.7**	**-1.1**
	25nm,0.8s						
VIS	**Vishakhapatnam**	**16.27**	**325**	*e*P	**P**	**02 08 32.1**	**-0.8**
VIS				*e*		02 08 39.4	
	comp=Z,111nm,1.2s						
VIS				*e*S	**S**	**02 11 19.3**	**-13**
TRD	**Trivandrum**	**16.54**	**285**	*e*P	**P**	**02 08 40.9**	**+4.6**
TRD				*e*		02 08 46.9	
	comp=Z,55nm,1.9s						
TRD				*e*S	**S**	**02 11 45.9**	**+7.6**
BWNR	**Bhubaneshwar**	**17.24**	**336**	*e*P	**P**	**02 08 42.5**	**-2.7**
BWNR				*e*		02 08 43.3	
	comp=Z,150nm,0.6s						
BWNR				*e*		02 11 38.0	
BWNR				*e*S	**S**	**02 11 38.0**	**-16**
HYB	**Hyderabad**	**19.20**	**313**	*e*P	**P**	**02 09 09.0**	**-0.1**
HYB	**Hyderabad**	**19.20**	**313**	*i* P	**P**	**02 09 09.0**	**-0.1**
HYB				*e*S	**S**	**02 12 38.0**	**-0.6**
AGT	**Agartala**	**19.36**	**355**	*e*P	**P**	**02 09 07.0**	**-3.9**
IMP	**Imphal**	**20.19**	**2**	*e*	**P**	**02 09 27.9**	**+8.0**
BLSP	**Bilaspur**	**20.51**	**330**	*e*P	**P**	**02 09 29.2**	**+6.0**
BLSP				*e*S	**S**	**02 13 05.5**	**-0.6**
SHL	**Shillong**	**20.98**	**357**	*e*P	**P**	**02 09 26.0**	**-2.1**
SHL				*e*S	**S**	**02 13 10.0**	**-5.4**
QIZ	**Qiongzhong**	**21.80**	**47**	P	**P**	**02 09 36.8**	**+0.5**
QIZ				S	**S**	**02 13 32.2**	**+1.6**
QIZ				LR	LR		
	comp=N,624nm,18.9s,MS4.2						
QIZ				LR	LR		
	comp=E,680nm,20.2s,MS4.2						
QIZ				LR	LR		
	comp=Z,396nm,19.4s,MS3.8						
QIZ	**Qiongzhong**	**21.80**	**47**	P	**P**	**02 09 35.9**	**-0.4**
	comp=Z,38nm,0.9s,mb4.8						
POO	**Poona**	**23.43**	**308**	*e*	Px	02 10 06.0	
POO				*i* S	**S**	**02 14 09.0**	**+8.9**
BHPL	**Bhopal**	**24.02**	**322**	*e*P	**P**	**02 10 03.2**	**+5.0**
BHPL				*e*		02 10 16.1	
	comp=Z,28nm,1.7s						
PKI	**Pulchoki**	**24.09**	**343**	*e*P	**P**	**02 10 02.1**	**+3.2**
	comp=Z,185nm,1.0s,mb5.5						
DMN	**Daman**	**24.22**	**342**	*e*P	**P**	**02 10 02.8**	**+2.7**
	comp=Z,213nm,1.1s,mb5.5						
GUN	**Gumba**	**24.28**	**344**	*e*P	**P**	**02 10 02.7**	**+2.0**
	comp=Z,163nm,0.8s,mb5.5						
KKN	**Kakani**	**24.34**	**343**	*e*P	**P**	**02 10 03.8**	**+2.5**
	comp=Z,154nm,1.1s,mb5.3						
GKN	**Gorkha**	**24.73**	**342**	*e*P	**P**	**02 10 05.8**	**+0.7**
	comp=Z,80nm,0.5s,mb5.5						
KOLN	**Koldanda**	**24.86**	**340**	*e*P	**P**	**02 10 07.6**	**+1.3**
	comp=Z,78nm,0.8s,mb5.3						
LSA	**Lhasa**	**25.14**	**356**	P	**P**	**02 10 11.7**	**+2.8**
LSA	**Lhasa**	**25.14**	**356**	*e*P	**P**	**02 10 11.8**	**+2.9**
	comp=Z,19nm,0.4s,mb5.0						
NDI	**New Delhi**	**28.40**	**330**	*e*	**P**	**02 10 40.0**	**+1.2**
ENH	**Enshi**	**29.93**	**29**	*e*P	**P**	**02 10 52.1**	**-0.5**
	comp=Z,7.4nm,0.4s,mb4.8						
XAN	**Xi'an**	**32.86**	**25**	P	**P**	**02 11 16.8**	**-1.4**
XAN				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.0						
XAN				LR	LR		
	comp=N,275nm,18.7s,MS4.3						
XAN				LR	LR		
	comp=E,458nm,18.1s,MS4.3						
XAN				LR	LR		
	comp=Z,537nm,17.0s,MS4.3						
LZH	**Lanzhou**	**32.95**	**16**	*e*P	**P**	**02 11 18.5**	**-0.5**
LZH				AP	pP	02 11 31.6	+3.7
LZH				PP	PP	02 12 32.1	+2.5
LZH				*e*S	**S**	**02 16 34.2**	**+0.1**
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,118nm,5.3s						
LZH				LR	LR		
	comp=E,957nm,13.0s						
LZH				LR	LR		
	comp=Z,2μm,17.2s,MS4.8						
MBWA	**Marble Bar**	**36.48**	**135**	*e*P	**P**	**02 11 48.0**	**-1.4**
	comp=Z,18nm,0.8s,mb5.1						
NJ2	**Nanjing**	**36.51**	**38**	*e*P	**P**	**02 11 50.9**	**+1.4**
NJ2				AP	pP	02 12 04.6	+6.2
NJ2				PP	PP	02 13 16.9	+3.0
NJ2				S	**S**	**02 17 31.0**	**+1.9**
NJ2				AMB	AMB		
	comp=Z,80nm,0.6s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,1μm,4.4s						
NJ2				LR	LR		
	comp=N,1μm,29.4s,MS4.6						
NJ2				LR	LR		
	comp=E,930nm,25.2s,MS4.6						
NJ2				LR	LR		
	comp=Z,1μm,17.1s						
SSE	**Sheshan**	**37.38**	**42**	*e*P	**P**	**02 11 56.2**	**-0.6**
SSE				AP	pP	02 12 08.8	+3.1
SSE				S	**S**	**02 17 45.8**	**+3.4**
SSE				AMB	AMB		
	comp=Z,25nm,0.6s,mb5.2						
SSE				AMB	AMB		
	comp=Z,160nm,3.8s						
SSE				LR	LR		
	comp=N,321nm,20.1s,MS4.2						
SSE				LR	LR		
	comp=E,301nm,20.1s,MS4.2						
SSE				LR	LR		
	comp=Z,358nm,18.6s,MS4.2						
FITZ	**Fitzroy Crossi**	**39.15**	**126**	*e*P	**P**	**02 12 11.1**	**-0.6**
	comp=Z,17nm,0.6s,mb4.9						
WMQ	**Urumqi**	**39.45**	**354**	*e*P	**P**	**02 12 14.2**	**+0.2**
WMQ				AP	pP	02 12 28.0	+5.0
WMQ				PP	PP	02 13 49.4	+0.9
WMQ				S	**S**	**02 18 13.4**	**-0.3**
WMQ				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,50nm,5.2s						
WMQ				LR	LR		
	comp=N,358nm,16.3s						
WMQ				LR	LR		
	comp=E,178nm,23.3s						
WMQ				LR	LR		
	comp=Z,970nm,18.0s,MS4.7						
AAK	**Ala-Archa**	**41.43**	**339**	*e*P	**P**	**02 12 31.4**	**+1.1**
	comp=Z,17nm,1.3s,mb4.5						
ULN	**Ulaanbaatar**	**44.84**	**13**	*e*P	**P**	**02 12 57.4**	**-0.6**
	comp=Z,2.6nm,0.5s,mb4.3						
WRAB	**Tennant Creek**	**47.23**	**122**	⇓*e*P	**P**	**02 13 17.3**	**0.0**
	comp=Z,24nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**47.24**	**122**	⇓*i*P	**P**	**02 13 17.2**	**-0.2**
MDJ	**Mudanjiang**	**51.17**	**33**	P	**P**	**02 13 47.1**	**-0.1**
MDJ				AP	pP	02 13 59.4	+3.0
MDJ				PCP	PcP	02 15 01.5	-1.1
MDJ				PP	PP	02 15 43.4	-1.4
MDJ				S	**S**	**02 21 08.0**	**+6.0**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,96nm,3.8s						
MDJ				LR	LR		
	comp=N,167nm,19.3s,MS4.2						
MDJ				LR	LR		
	comp=E,149nm,20.5s,MS4.2						
MDJ				LR	LR		
	comp=Z,145nm,24.4s,MS3.9						
KMBO	**Kilima Mbogo**	**56.10**	**266**	*e*P	**P**	**02 14 24.6**	**+0.5**
	comp=Z,6.5nm,1.0s,mb4.6						
CTA	**Charters Tower**	**57.62**	**117**	*e*P	**P**	**02 14 34.6**	**-0.2**
	comp=Z,12nm,1.0s,mb4.9						
CTAO	**Charters Tower**	**57.62**	**117**	⇓*e*P	**P**	**02 14 33.7**	**-1.1**
	comp=Z,29nm,1.1s,mb5.2						
STKA	**Stephens Creek**	**58.58**	**132**	⇓*i*P	**P**	**02 14 41.4**	**+0.1**
	comp=Z,10nm,0.6s,mb5.0						
TOO	**Toolangi**	**64.13**	**136**	*e*P	**P**	**02 15 20.1**	**+1.3**
	comp=Z,6.2nm,0.7s,mb4.8						
ARMA	**Armidale**	**65.76**	**126**	⇓*i*P	**P**	**02 15 31.4**	**+2.0**
CRVS	**Cervenica-Dubn**	**74.60**	**319**	*e*P	pP	02 16 32.6	+0.3
CRVS				*e*		02 16 51.5	
VYHS	**Vyhne**	**76.24**	**319**	*e*P	**P**	**02 16 32.0**	**-0.2**
VYHS				*e*		02 16 44.5	
ZST	**Bratislava**	**77.35**	**318**	*e*P	**P**	**02 16 37.6**	**-0.8**
ZST				*e*		02 16 49.8	
KHC	**Kasperske Hory**	**79.77**	**319**	*e*P	**P**	**02 16 50.5**	**-1.1**
CLL	**Collm**	**80.33**	**321**	*e**SP	sP	02 17 08.0	+0.8
LPG	**La Plagne**	**84.27**	**315**	*e*P	**P**	**02 17 15.9**	**+0.8**
	comp=Z,10nm,0.9s,mb4.7						

CASC 04 02:13:19.4±2.6,**14.00N×91.61W,h18**km±11km,**MD3.9, ML4.1,2C-6D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.32**	**356**	⇓*e*P	Pb	02 13 27.4	+1.1
JAT				*e*S	Sb	02 13 33.5	+2.5
FUG	**Fuego 3**	**0.87**	**59**	⇓*i*P	Pb	02 13 34.9	-0.8
TP2	**Tecpan 2**	**0.97**	**36**	⇓*e*P	Pb	02 13 36.0	-1.3
TP2				*e*S	Sb	02 13 49.7	0.0
TP2				AML	AML	02 13 53.2	
	comp=E,3μm,0.5s						
PCG	**Pacaya**	**1.05**	**68**	⇑*e*P	Pb	02 13 38.4	-0.3
PCG				*e*S	Sb	02 13 53.5	+1.4
IXG	**Ixpaco**	**1.14**	**81**	⇓*e*P	Pb	02 13 39.9	-0.4
IXG				*e*S	Sb	02 13 56.4	+1.8
IXG				AML	AML	02 14 02.5	
	comp=E,37μm,0.4s						
GCG	**Guatemala City**	**1.20**	**61**	*e*S	Sb	02 13 58.4	+2.0
GCG				AML	AML	02 14 01.9	
	comp=E,3μm,0.6s						
GCG				AML	AML	02 14 04.8	
	comp=N,1μm,0.5s						
NBG	**Las Nubes**	**1.36**	**64**	⇓*e*P	Pn	02 13 43.3	-0.3
NBG				*e*S	Sb	02 14 03.9	+2.8
NBG				AML	AML	02 14 05.2	
	comp=E,8μm,0.3s						
RBDL	**Robledal**	**1.87**	**86**	⇓*e*P	Pn	02 13 50.8	-0.2
RBDL				*e*S	Sn	02 14 15.9	+1.5
RTR	**El Retiro**	**1.91**	**93**	⇑*e*P	Pn	02 13 51.7	+0.1
RTR				*e*S	Sn	02 14 16.4	+1.0
SBLS	**San Blas**	**1.94**	**94**	*e*P	Pn	02 13 51.6	-0.4
SBLS				*e*S	Sn	02 14 17.4	+1.4
SNJE	**San Jose**	**1.95**	**94**	*e*P	Pn	02 13 51.6	-0.6
SNJE				*e*S	Sn	02 14 17.8	+1.4
MTO2	**Montecristo 2**	**2.22**	**79**	*e*P	Pn	02 13 55.7	-0.3
BOQS	**Boqueron**	**2.28**	**96**	*e*P	Pn	02 13 56.3	-0.6
BOQS				*e*S	Sn	02 14 25.6	+0.9
LFU	**La Fuente**	**2.44**	**96**	*e*P	Pn	02 13 58.8	-0.4
LFRS	**El Faro**	**2.51**	**98**	*e*P	Pn	02 13 59.6	-0.5
LFRS				*e*S	Sn	02 14 29.6	-0.8
LBRS	**Las Brisas**	**2.51**	**96**	*e*P	Pn	02 13 59.7	-0.5
LCBS	**La Ceiba**	**2.58**	**97**	*e*P	Pn	02 14 00.7	-0.5
LCBS				*e*S	Sn	02 14 31.0	-1.4
SNVI	**San Vicente**	**2.72**	**98**	*e*P	Pn	02 14 03.1	-0.1
SNVI				*e*S	Sn	02 14 35.7	-0.2
CNCH	**Conchagua**	**3.75**	**101**	*e*P	Pn	02 14 16.4	-1.3

KRSC 04 02:19:05.0±0.2,**48.89N×156.57E,h40**km±10km,**ML4.2, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.82**	**351**	*e*P	P	02 19 34.1	-0.3
SKR				*e*S	S	02 19 55.6	-0.8
ALID	**Alaid**	**2.09**	**342**	*e*P	P	02 19 38.5	+0.2
PAU	**Pauzhetka**	**2.58**	**3**	*e*P	P	02 19 44.8	-0.6
PAU				*e*S	S	02 20 13.8	-2.0
PAU				Smax			
	460nm,0.9s						
RUS	**Russkaya**	**3.76**	**18**	*e*P	P	02 20 01.7	-0.3
RUS				*e*S	S	02 20 43.1	-2.5
GRL	**Gorelyy**	**3.79**	**14**	*e*P	P	02 20 02.5	0.0
GRL				*e*S	S	02 20 44.6	-1.8
APC	**Apacha**	**4.06**	**5**	*e*P	P	02 20 07.0	+0.7
APC				*e*S	S	02 20 52.0	-1.2
UGLR	**Uglovaya**	**4.55**	**17**	*e*P	P	02 20 13.7	+0.4
AVH	**Avacha**	**4.59**	**17**	*e*P	P	02 20 14.4	+0.6
KOK	**Koryaka**	**4.60**	**16**	*e*P	P	02 20 14.6	+0.7
SMAR	**Somma**	**4.60**	**17**	*e*P	P	02 20 14.7	+0.8
SDLR	**Sedlovina**	**4.63**	**17**	*e*P	P	02 20 13.8	-0.6
SPN	**Mys Shipunski**	**4.74**	**26**	*e*P	P	02 20 15.8	-0.2
SPN				*e*S	S	02 21 07.5	-3.0
GNL	**Ganaly**	**4.89**	**10**	*e*P	P	02 20 18.6	+0.6
KMNR	**Kamenistaya**	**7.23**	**17**	*e*P	P	02 20 51.3	+0.4
KBTR	**Krutoberegovo**	**8.26**	**25**	*e*P	P	02 21 02.7	-2.4

*JMA **04** 02:22:31.8±0.3,24.05N×122.50E,h22km,M1.9*
TAP 04 02:22:31.2,23.97N×122.41E,h14km±1km,**ML3.0, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.73**	**48**	P	Pb	02 22 43.8	-1.5
YOJ				S	Sb	02 22 52.2	-2.7
IRIF	**Iriomote-Funau**	**1.26**	**73**	P	Pb	02 22 52.6	-1.6
IRIF				*e*S	Sb	02 23 07.9	-2.2
HATJ	**Hateruma jima**	**1.28**	**86**	S	Sb	02 23 07.8	-2.9
JKRS	**Kuro-shima**	**1.48**	**79**	P	Pn	02 22 56.7	-1.0
JKRS				*e*S	Sb	02 23 14.7	-2.0
JIJ	**Ishigaki jima**	**1.63**	**76**	P	Pn	02 22 57.3	-2.4
JIJ				*e*S	Sn	02 23 16.1	-4.5

*JMA **04** 02:23:42.5±0.3,24.00N×122.56E,h18km,M2.2*
TAP 04 02:23:42.6,24.00N×122.30E,h8km±1km,**ML3.1,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.80**	**55**	P	Pb	02 23 54.4	-3.8
YOJ				S	Sb	02 24 02.6	-6.3
IRIF	**Iriomote-Funau**	**1.35**	**75**	P	Pb	02 24 03.1	-4.6
IRIF				*e*S	Sb	02 24 18.0	-6.9
HATJ	**Hateruma jima**	**1.38**	**87**	P	Pn	02 24 02.9	-5.3
HATJ				S	Sb	02 24 18.6	-7.2
JKRS	**Kuro-shima**	**1.58**	**81**	P	Pn	02 24 06.9	-4.2
JKRS				S	Sb	02 24 25.1	-6.5
JIJ	**Ishigaki jima**	**1.72**	**77**	P	Pn	02 24 07.7	-5.4
JIJ				*e*S	Sn	02 24 27.3	-8.1

*NIED **04** 02:24:00,24.00N×122.50E,h29km,Mw4.3 Best double couple: M0=3.34×10^15 NP1:φs239°,δ88°,λ-79°. NP2: φs337°,δ11°,λ-172°.*
*BJI **04** 02:24:47.8,23.92N×122.50E,h32km,mB4.8,mb4.1, ML3.9,Ms4.2,Msz4.0*
*TAP **04** 02:24:48.3,23.96N×122.42E,h10km±1km,ML4.2*
*JMA **04** 02:24:49.3±0.3,24.05N×122.51E,h31km,M4.3*
ISC 04 02:24:48.9±1.0,**24.1N**±0.1×**122.43E**±0.04,**h45**km±10km, **n13**,σ0§**74**/20,**mb3.7**/3,**1D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.63**	**57**	P	**P**	**02 25 01.4**	**-0.2**
YOJ				S	**S**	**02 25 09.6**	**-1.2**
IRIF	**Iriomote-Funau**	**1.21**	**80**	P	**P**	**02 25 09.8**	**+0.2**
IRIF				*e*S	**S**	**02 25 24.4**	**-0.7**
HATJ	**Hateruma jima**	**1.26**	**93**	P	**P**	**02 25 09.9**	**-0.5**
HATJ				S	**S**	**02 25 25.8**	**-0.7**
JKRS	**Kuro-shima**	**1.45**	**85**	P	**P**	**02 25 13.0**	**-0.1**
JKRS				S	**S**	**02 25 32.1**	**+0.9**
JIJ	**Ishigaki jima**	**1.58**	**81**	P	**P**	**02 25 14.4**	**-0.6**
JIJ				S	**S**	**02 25 34.5**	**0.0**
JTJ	**Tarama**	**2.14**	**76**	P	**P**	**02 25 22.8**	**-0.1**
JTJ				S	**S**	**02 25 48.9**	**+0.6**
JMJ	**Miyako jima 2**	**2.70**	**75**	*e*S	**S**	**02 26 03.4**	**+0.8**
JOGS	**Gusukube**	**2.79**	**76**	*e*S	**S**	**02 26 06.5**	**+1.7**
QZH	**Quanzhou**	**3.59**	**284**	⇓*i*P	**P**	**02 25 44.3**	**+0.8**
QZH				S	**S**	**02 26 25.5**	**+0.4**
QZH				Smax			
	comp=N,340nm,1.2s						
QZH				Smax			
	comp=E,240nm,0.8s						
LZH	**Lanzhou**	**19.98**	**311**	*e*P	**P**	**02 29 20.5**	**+0.3**
LZH				AP		02 29 29.2	
LZH				AMB	AMB		
	comp=Z,19nm,1.3s						
JOF	**Joensuu**	**69.32**	**331**	*e*p	**P**	**02 35 51.8**	**-1.5**
	comp=Z,0.4nm,0.3s,mb3.8						
KEV	**Kevo**	**69.46**	**338**	*e*p	**P**	**02 35 53.6**	**-0.4**
	comp=Z,0.3nm,0.4s,mb3.6						
KAF	**Kangasniemi**	**71.77**	**331**	*e*p	**P**	**02 36 08.3**	**+0.2**
	comp=Z,0.3nm,0.4s,mb3.6						

*BJI **04** 02:49:15.7,8.10N×94.11E,h45km,mB5.5,mb4.6,Ms5.1, Msz4.7*
*NEIC **04** 02:49:16.7±0.5,8.45N×94.08E,h30km,mb4.7/17,Error ellipse: s-maj=19.8km s-min=10.1km az=54.0*
ISC 04 02:49:15.1±0.4,**8.32N**±0.06×**93.87E**±0.08,**h30**km,**n39**, σ1§**18**/42,**mb4.6**/21,**MS4.8**/1,**1C,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**13.88**	**313**	*e*P	**P**	**02 52 31.1**	**-1.2**
VIS				AMb	AMB	02 52 40.3	
	comp=Z,42nm,0.6s						
VIS				*i*		02 54 09.9	
VIS				*e*		02 54 16.7	
BWNR	**Bhubaneshwar**	**14.23**	**328**	*e*P	**P**	**02 52 34.9**	**-2.0**
BWNR				AMb	AMB	02 52 37.7	
	comp=Z,33nm,0.4s						
BWNR				*e*		02 53 05.1	
BWNR				*e*		02 55 00.4	
SHL	**Shillong**	**17.26**	**354**	*e*P	**P**	**02 53 16.7**	**+1.0**
HYB	**Hyderabad**	**17.44**	**303**	*e*P	**P**	**02 53 21.0**	**+2.9**
HYB	**Hyderabad**	**17.44**	**303**	*i* P	**P**	**02 53 21.0**	**+2.9**
PKI	**Pulchoki**	**20.75**	**338**	*e*P	**P**	**02 53 56.8**	**+0.7**
	comp=Z,127nm,1.4s						
GUN	**Gumba**	**20.90**	**340**	*e*P	**P**	**02 53 57.8**	**+0.2**
	comp=Z,90nm,0.9s						
DMN	**Daman**	**20.90**	**338**	*e*P	**P**	**02 53 59.0**	**+1.4**
	comp=Z,25nm,0.7s						
KKN	**Kakani**	**21.00**	**338**	*e*P	**P**	**02 53 58.3**	**-0.4**
	comp=Z,28nm,0.7s						
LSA	**Lhasa**	**21.42**	**354**	*e*P	**P**	**02 54 02.1**	**-0.8**
	comp=Z,12nm,0.6s,mb4.4						
GKN	**Gorkha**	**21.43**	**337**	*e*P	**P**	**02 54 02.9**	**-0.1**
KOLN	**Koldanda**	**21.64**	**335**	*e*P	**P**	**02 54 05.6**	**+0.4**
	comp=Z,70nm,1.2s,mb5.0						
BHPL	**Bhopal**	**21.65**	**315**	*e*	**P**	**02 54 04.5**	**-0.7**
BHPL				*e*P		02 54 05.0	
BHPL				AMb	AMB	02 54 17.2	
	comp=Z,9.4nm,0.7s,mb4.3						
POO	**Poona**	**21.93**	**300**	*e*	**P**	**02 54 13.3**	**+5.2**
NDI	**New Delhi**	**25.62**	**324**	*e*P	**P**	**02 54 43.0**	**-0.8**
DDI	**Dehra Dun**	**26.42**	**328**	*e*	**P**	**02 54 40.4**	**-11**
NJ2	**Nanjing**	**33.11**	**41**	*e*P	**P**	**02 55 51.2**	**+0.4**
NJ2				AP	pP	02 55 58.8	-0.9
NJ2				PP	PP	02 57 02.0	0.0
NJ2				S	**S**	**03 01 08.0**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,430nm,5.8s						
NJ2				LR	LR		
	comp=N,1μm,15.5s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,14.7s,MS4.8						
NJ2				LR	LR		
	comp=Z,1μm,13.6s,MS4.7						
WMQ	**Urumqi**	**35.77**	**352**	*e*P	**P**	**02 56 13.8**	**+0.2**
WMQ				S	**S**	**03 01 49.2**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
AAK	**Ala-Archa**	**38.19**	**337**	*e*P	**P**	**02 56 33.6**	**-0.3**
	comp=Z,5.9nm,1.0s,mb4.3						
MBWA	**Marble Bar**	**38.78**	**139**	P	**P**	**02 56 37.5**	**-1.5**
	comp=Z,7.8nm,0.8s,mb4.5						
MUN	**Mundaring**	**45.40**	**153**	*e*P	**P**	**02 57 34.2**	**+1.1**
	comp=Z,13nm,0.6s,mb4.9						
KLBR	**Kellerberrin**	**45.79**	**151**	⇑*i*P	**P**	**02 57 36.8**	**+0.6**
	comp=Z,21nm,0.7s,mb5.2						
NWAO	**Narrogin (SRO)**	**46.66**	**153**	*e*P	**P**	**02 57 42.9**	**-0.2**
	comp=Z,40nm,1

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.63**	**42**	P	Pb	02 51 08.5	0.0
YOJ				*e*S	Sb	02 51 16.8	-0.1
IRIF	**Iriomote-Funau**	**1.13**	**72**	P	Pb	02 51 17.2	+0.1
IRIF				S	Sb	02 51 32.8	+1.4
HATJ	**Hateruma jima**	**1.15**	**86**	P	Pb	02 51 16.8	-0.6
HATJ				S	Sb	02 51 32.5	+0.6
JKRS	**Kuro-shima**	**1.36**	**79**	P	Pn	02 51 21.0	+0.3
JKRS				*e*S	Sb	02 51 38.3	+0.4
JIJ	**Ishigaki jima**	**1.50**	**75**	P	Pn	02 51 21.8	-1.0
JIJ				*e*S	Sn	02 51 40.8	-1.3

*CSEM **04** 02:59:13.4±0.1, 37.84N×47.50E, h2km, ML3.8/2, Error ellipse: s-maj=3.0km s-min=2.4km az=24.0*
*THR **04** 02:59:14.3±0.9, 37.79N×47.61E, h14km±15km, ML2.8*
*TEH **04** 02:59:15.5, 37.89N×47.42E, h6km, Mn3.4*
ISC 04 02:59:13.8±0.6,**37.84N**±0.04×**47.49E**±0.05,**h6**km,**n16**, σ0ˢ**96**/19,**Northwestern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISRB	**Sarab**	**0.14**	**96**	Pg	**Pg**	**02 59 16.0**	**-0.8**
IBST	**Bostanabad**	**0.49**	**254**	Pg	**Pg**	**02 59 24.0**	**+0.3**
GRMI	**Germi**	**1.02**	**18**	*e*PG	**Pg**	**02 59 33.6**	**-0.5**
GRMI				*e*SG	**Sg**	**02 59 48.4**	**+0.6**
GRMI				AML	AML	02 59 54.8	
	comp=N,404nm,0.4s						
GRMI	**Germi**	**1.02**	**18**	*e*Pg	**Pg**	**02 59 33.6**	**-0.6**
	SNR=90						
GRMI				*e*Sg	**Sg**	**02 59 48.4**	**+0.6**
	comp=N,404nm,0.4s,SNR=90						
MAKU	**Maku**	**2.67**	**305**	*e*PN	**Pn**	**03 00 00.7**	**+2.6**
MAKU				*e*SG	**Sg**	**03 00 41.2**	**-1.4**
MAKU				AML	AML	03 00 45.9	
	comp=N,27nm,0.4s						
MAKU	**Maku**	**2.67**	**305**	*e*Pn	**Pn**	**03 00 00.7**	**+2.6**
	SNR=52						
MAKU				*e*Sg	**Sg**	**03 00 41.2**	**-1.4**
	comp=N,27nm,0.4s,SNR=90						
SNGE	**Sanandaj**	**2.74**	**182**	*e*PN	**Pn**	**02 59 59.1**	**-0.1**
SNGE				AML	AML	03 00 41.0	
	comp=N,27nm,0.6s						
IRAZ	**Razeghan**	**3.12**	**140**	Pn	**Pn**	**03 00 02.8**	**-1.8**
IDHR	**Dehrash**	**3.26**	**196**	Pn	**Pn**	**03 00 07.1**	**+0.6**
IGHG	**Ghaleghazi**	**3.58**	**192**	Pn	**Pn**	**03 00 19.6**	**+8.5**
IAFJ	**Afjeh**	**3.92**	**119**	Pn	**Pn**	**03 00 16.5**	**+0.5**
IAFJ	**Afjeh**	**3.92**	**119**	Lg		03 01 20.0	
DAMV	**Damavand**	**4.22**	**120**	*e*PN	**Pn**	**03 00 19.5**	**-0.7**
DAMV				AML	AML	03 01 27.8	
	comp=N,13nm,0.6s						
IDMV	**Damavand**	**4.29**	**120**	Pn	**Pn**	**03 00 21.9**	**+0.7**
IVRN	**Varamin**	**4.44**	**128**	Pn	**Pn**	**03 00 23.7**	**+0.4**
IFIR	**Firoozkooh**	**4.76**	**116**	Pn	**Pn**	**03 00 28.1**	**+0.2**

MAN 04 03:01:17.9, 17.21N×121.52E, h35km, mb3.9, ML2.6, MS2.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.39**	**133**	*e*P	P	03 01 28.8	+1.8
CVP	**Callao Caves**	**0.56**	**30**	*e*P	P	03 01 30.0	+0.7
CVP				*i* S	S	03 01 37.5	-0.1
APYP	**Conner**	**0.70**	**338**	*e*P	P	03 01 18.3	-13
PALP	**Palanan**	**0.87**	**100**	*e*P	P	03 01 34.7	+1.0
PALP				*e*S	S	03 01 51.5	+6.1
ABRA	**Dolores**	**0.89**	**299**	*e*P	P	03 01 34.7	+0.8
ABRA				*e*S	S	03 01 46.7	+1.0

*DJA **04** 03:08:01.2±0.3, 7.86S×113.94E, h15km, MD4.7/4, ML5.3/2, Error ellipse: s-maj=10.9km s-min=7.3km az=21.0*
ISC 04 03:08:00.9±3.6,**7.9S**±0.1×**114.05E**±0.08,**h24**km±32km, **n13**, σ0ˢ**73**/13,**mb5.1**/5,**Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELI	**Kelakatan**	**0.54**	**126**	*e*Pn	**Pn**	**03 08 13.4**	**+0.4**
	3μm,0.3s						
SRDI	**Scrawed**	**0.58**	**171**	*e*Pn	**Pn**	**03 08 11.7**	**-1.9**
	2μm,0.2s						
TRT	**Tretes**	**1.42**	**278**	*e*Pn	**Pn**	**03 08 26.2**	**+0.7**
RATI	**Rata**	**1.68**	**119**	*e*Pn	**Pn**	**03 08 30.3**	**+1.0**
	3μm,0.3s						
KEDI	**Kedomdong**	**2.12**	**106**	*e*Pn	**Pn**	**03 08 36.1**	**+0.4**
	1μm,0.3s						
BUNI	**Buntu Taipa**	**7.53**	**56**	*e*Pn	**Pn**	**03 09 51.0**	**-1.1**
WB2	**Warramunga Arr**	**23.02**	**123**	*e*P	**P**	**03 13 05.8**	**+0.3**
GUN	**Gumba**	**44.83**	**324**	*e*P	**P**	**03 16 15.7**	**+0.5**
	24nm,0.7s,mb5.2						
PKI	**Pulchoki**	**44.85**	**323**	*e*P	**P**	**03 16 15.2**	**-0.3**
	14nm,0.8s,mb4.8						
DMN	**Daman**	**45.06**	**323**	*e*P	**P**	**03 16 17.3**	**+0.2**
	41nm,0.9s,mb5.2						
KKN	**Kakani**	**45.09**	**323**	*e*P	**P**	**03 16 17.5**	**+0.1**
GKN	**Gorkha**	**45.63**	**323**	*e*P	**P**	**03 16 21.4**	**-0.2**
	25nm,0.8s,mb5.2						
KOLN	**Koldanda**	**46.10**	**321**	*e*P	**P**	**03 16 24.9**	**-0.4**
	24nm,0.7s,mb5.2						

*BJI **04** 03:19:53.5, 17.90S×178.80W, h549km, mB4.9, mb4.6*
*NEIC **04** 03:19:54.0±0.9, 17.92S×178.76W, h549km±10km, mb4.7/25, Error ellipse: s-maj=12.3km s-min=9.1km az=150.0*
ISC 04 03:19:53.8±0.9,**17.96S**±0.08×**178.73W**±0.06, **h563**km±13km,**n98**,σ1ˢ**07**/44,**mb4.6**/29,**8C-5D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.80**	**60**	*e*P	**P**	**03 21 50.0**	**-0.6**
DZM	**Mont Dzumac**	**14.53**	**251**	*e*P	**P**	**03 22 59.1**	**+1.2**
NOUC	**Port Laguerre**	**14.66**	**251**	*e*P	**P**	**03 23 00.4**	**+1.1**
RAR	**Rarotonga**	**18.15**	**103**	*e*P	**P**	**03 23 32.8**	**-0.1**
	48nm,0.8s						
PAE	**Paea**	**27.74**	**94**	*e*P	**P**	**03 24 59.1**	**-0.5**
	73nm,1.3s,mb5.2						
PPT	**Papeete**	**27.75**	**94**	*e*P	**P**	**03 24 59.5**	**-0.2**
	26nm,1.1s,mb4.8						
TIAR	**Tiarei**	**27.97**	**94**	*e*P	**P**	**03 25 01.3**	**-0.3**
	51nm,0.9s,mb5.2						
ARMA	**Armidale**	**29.66**	**240**	||*i*P	**P**	**03 25 16.7**	**+0.7**
PMOR	**Pomariorio Ree**	**29.69**	**89**	*e*P	**P**	**03 25 16.4**	**0.0**
	53nm,1.2s,mb5.0						
CTA	**Charters Tower**	**33.14**	**261**	⇑*i*P	**P**	**03 25 45.4**	**-0.1**
	23nm,0.6s,mb4.9						
CTAO	**Charters Tower**	**33.14**	**261**	*e*P	**P**	**03 25 44.9**	**-0.6**
	47nm,0.8s,mb5.1						
PMG	**Port Moresby**	**34.17**	**280**	*e*P	**P**	**03 25 55.2**	**+1.0**
	57nm,0.8s,mb5.2						
TOO	**Toolangi**	**36.91**	**231**	*e*P	**P**	**03 26 17.4**	**+0.9**
	21nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**38.34**	**241**	⇑*i*P	**P**	**03 26 28.9**	**+0.6**
	25nm,0.9s,mb4.7						
TAOE	**Nuku Hiva Isla**	**38.53**	**82**	*e*P	**P**	**03 26 30.7**	**+0.7**
WB2	**Warramunga Arr**	**44.31**	**260**	⇑*i*P	**P**	**03 27 14.7**	**-1.3**
WRAB	**Tennant Creek**	**44.32**	**260**	*e*P	**P**	**03 27 14.3**	**-1.7**
KAKA	**Kakadu**	**47.28**	**269**	*e*P	**P**	**03 27 37.9**	**-0.8**
	30nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**52.72**	**261**	*e*P	**P**	**03 28 17.8**	**-0.8**
	8.3nm,0.6s,mb4.2						
MBWA	**Marble Bar**	**57.77**	**256**	*e*P	**P**	**03 28 52.0**	**-1.6**
	21nm,0.7s,mb4.5						
KLBR	**Kellerberrin**	**58.54**	**244**	*e*P	**P**	**03 28 57.0**	**-1.7**
	20nm,0.7s,mb4.5						
SBA	**Scott Base**	**60.35**	**184**	*e*P	**P**	**03 29 10.5**	**+0.3**
	11nm,0.6s,mb4.4						
VNDA	**Vanda**	**60.37**	**185**	*e*P	**P**	**03 29 10.0**	**-0.3**
	4.8nm,0.7s,mb3.9						
CASY	**Casey**	**65.97**	**205**	*e*P	**P**	**03 29 44.0**	**-2.0**
	19nm,0.6s,mb4.8						
MAJO	**Matsushiro**	**67.77**	**324**	*e*P	**P**	**03 29 57.0**	**-0.5**
	12nm,0.4s,mb4.8						
MAT	**Matsushiro**	**67.77**	**324**	*e*P	**P**	**03 29 57.0**	**-0.5**
MAT	**Matsushiro**	**67.77**	**324**	P	**P**	**03 29 57.0**	**-0.5**
QSPA	**South Pole Qui**	**72.10**	**180**	*e*P	**P**	**03 30 22.7**	**+0.3**
	48nm,1.0s,mb4.9						
NJ2	**Nanjing**	**77.73**	**310**	*e*P	**P**	**03 30 55.7**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,50nm,1.2s,mb4.7						
MDJ	**Mudanjiang**	**78.05**	**325**	P	**P**	**03 30 56.9**	**+1.1**
MDJ				AP	pP	03 32 50.2	-5.5
MDJ				XP	sP	03 33 49.3	-2.8
MDJ				PP	PP	03 34 03.2	+0.2
MDJ				S	S	03 40 06.6	+2.6
MDJ				SCS	ScS	03 40 28.5	+6.5
MDJ				XS		03 43 30.9	
MDJ				SS	SS	03 45 22.7	-2.3
MDJ				AMB	AMB		
	comp=Z,25nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,106nm,5.9s						
MDJ	**Mudanjiang**	**78.05**	**325**	*e*P	**P**	**03 30 57.3**	**+1.5**
	comp=Z,16nm,0.7s,mb4.5						
OCWA	**Octopus Mounta**	**81.58**	**34**	*e*P	**P**	**03 31 14.8**	**+0.8**
	comp=Z,5.0nm,0.4s,mb4.3						
MAW	**Mawson**	**83.71**	**200**	*e*P	**P**	**03 31 22.5**	**-1.8**
	comp=Z,16nm,0.7s,mb4.7						
ENH	**Enshi**	**84.05**	**304**	*e*P	**P**	**03 31 27.1**	**+0.3**
	comp=Z,19nm,0.6s,mb4.8						
MCK	**McKinley**	**84.65**	**13**	*e*P	**P**	**03 31 28.7**	**-0.3**
	comp=Z,2.8nm,0.6s,mb4.0						
COLA	**College**	**85.89**	**13**	*e*P	**P**	**03 31 33.7**	**-1.2**
	comp=Z,6.2nm,0.7s,mb4.3						
XAN	**Xi'an**	**86.05**	**308**	P	**P**	**03 31 37.8**	**+1.4**
XAN				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.6						
ANMO	**Albuquerque**	**86.36**	**52**	*e*P	**P**	**03 31 38.2**	**+0.3**
	comp=Z,1.8nm,0.9s,mb3.7						
BILL	**Bilibino**	**86.45**	**354**	*e*P	**P**	**03 31 37.6**	**+0.1**
	comp=Z,6.9nm,0.8s,mb4.3						
SNAA	**Sanae**	**90.56**	**179**	⇑*i*	**P**	**03 31 55.8**	**-0.8**
VNA3	**Neumayer Olymp**	**90.71**	**176**	⇑*i*	**P**	**03 31 59.8**	**+2.5**
VNA2	**Neumayer--Watz**	**91.15**	**177**	⇑*i*	**P**	**03 32 02.2**	**+2.9**
VNA1	**Neumayer--Stat**	**91.38**	**177**	⇑*i*	**P**	**03 32 03.3**	**+2.9**
ULN	**Ulaanbaatar**	**92.99**	**320**	*e*P	**P**	**03 32 08.3**	**0.0**
	comp=Z,2.2nm,0.8s,mb4.2						
GUN	**Gumba**	**102.82**	**295**	*e*P	Pdif	03 32 57.2	+4.3
PKI	**Pulchoki**	**103.14**	**295**	*e*P	Pdif	03 32 54.8	+0.5
KKN	**Kakani**	**103.31**	**295**	*e*P	Pdif	03 32 57.1	+2.1
DMN	**Daman**	**103.41**	**295**	*e*P	Pdif	03 32 55.6	+0.1
GKN	**Gorkha**	**103.91**	**295**	*e*P	Pdif	03 33 01.5	+3.8
KOLN	**Koldanda**	**104.75**	**295**	*e*P	Pdif	03 33 03.2	+1.8
KEV	**Kevo**	**125.85**	**349**	*e*p	PKPdf	03 37 49.2	-2.1
	comp=Z,0.3nm,0.4s						
JOF	**Joensuu**	**130.51**	**342**	*e*p	PKPdf	03 38 00.3	-0.1
	comp=Z,0.7nm,0.4s						
KAF	**Kangasniemi**	**132.53**	**344**	*e*p	PKPdf	03 38 03.8	-0.4
	comp=Z,0.5nm,0.3s						
BSEG	**Bad Segeberg**	**143.41**	**351**	*e*PKPbc	PKPbc	03 38 24.1	+1.1
OJC	**Ojcow**	**144.55**	**339**	*e*PKP	PKPdf	03 38 27.8	+1.8
KOLS	**Kolonicke sedl**	**144.72**	**336**	*e*PKP	PKPdf	03 38 28.9	+2.6
KOLS				*e*		03 38 29.6	
NIE	**Niedzica**	**145.05**	**338**	*e*PKP	PKPdf	03 38 29.6	+2.7
CRVS	**Cervenica-Dubn**	**145.06**	**337**	*e*PKP	PKPdf	03 38 29.4	+2.5
CRVS				*e*		03 38 30.5	
KSP	**Ksiaz**	**145.07**	**343**	*e*PKP	PKPdf	03 38 29.4	+2.5
OKC	**Ostrava-Krasne**	**145.42**	**341**	*e*P	PKPdf	03 38 30.5	+3.0
CLL	**Collm**	**145.44**	**347**	*i* PKP	PKPdf	03 38 30.4	+2.9
CLL				*e*		03 38 47.0	
CLL	**Collm**	**145.44**	**347**	||*i*PKP1	PKPbc	03 38 30.4	+1.7
UPC	**Upice**	**145.45**	**343**	*e*PKP	PKPdf	03 38 30.7	+3.2
UPC				*ex*	x	03 38 32.8	
DPC	**Dobruska-Polom**	**145.50**	**343**	*e*PKP	PKPdf	03 38 31.1	+3.5
DPC				*ex*	x	03 38 33.1	
BRG	**Berggiesshubel**	**145.64**	**346**	*i* P	PKPdf	03 38 31.4	+3.6
PVCC	**Panska Ves**	**145.81**	**345**	*e*PKP	PKPdf	03 38 31.8	+3.7
PVCC				*ex*	x	03 38 34.2	
PRU	**Pruhonice**	**146.31**	**345**	*e*P	PKPdf	03 38 32.9	+3.9
PRU				*e*		03 38 35.6	
VYHS	**Vyhne**	**146.35**	**339**	*i* PKP	PKPdf	03 38 33.9	+4.8
VYHS				*i*		03 38 36.3	
MOX	**Moxa**	**146.35**	**348**	*e*PKP	PKPdf	03 38 33.2	+4.2
MOX	**Moxa**	**146.35**	**348**	*i* P	PKPdf	03 38 33.2	+4.2
NKC	**Novy Kostel**	**146.57**	**347**	*e*PKP	PKPdf	03 38 33.8	+4.4
NKC				*ex*	x	03 38 36.6	
GRA1	**Grafenberg Arr**	**147.34**	**348**	*e*PKPbc	PKPdf	03 38 36.2	+5.5
GRA1				*e*PKPab	PKPab	03 38 40.1	-0.3
GRF	**Grafenberg Arr**	**147.34**	**348**	*e*PKP	PKPdf	03 38 36.2	+5.5
GRF				*e*PKP	PKPdf	03 38 40.1	+9.4
KHC	**Kasperske Hory**	**147.34**	**345**	*e*PKP	PKPdf	03 38 35.9	+5.2
KHC				*ex*	x	03 38 40.0	
WET	**Wettzell**	**147.50**	**346**	*e*PKPbc	PKPdf	03 38 36.8	+5.8
GEC2	**GERESS Array S**	**147.58**	**345**	*e*PKPbc	PKPdf	03 38 36.5	+5.4
GIVF	**Givet**	**147.80**	**356**	*e*PKP1	PKPdf	03 38 36.4	+5.0
	comp=Z,20nm,0.6s						
BAIF	**Baives**	**147.89**	**356**	*e*PKP1	PKPdf	03 38 36.7	+5.1
	comp=Z,15nm,0.6s						
BFO	**Black Forest**	**149.16**	**351**	*e*PKPbc	PKPdf	03 38 40.7	+7.1
BFO				*e*PKPab	PKPab	03 38 46.9	-0.9
CDF	**Champ du Feu**	**149.23**	**352**	*e*PKP1	PKPdf	03 38 40.0	+6.3
	comp=Z,6.4nm,0.6s						
FLN	**La Foliniere**	**149.24**	**2**	*e*PKP1	PKPdf	03 38 39.8	+6.1
	comp=Z,7.7nm,0.4s						
MEZF	**Maizieres J'vi**	**149.38**	**355**	*e*PKP1	PKPdf	03 38 40.1	+6.2
LDF	**La Druitiere**	**149.42**	**2**	*e*PKP1	PKPdf	03 38 40.0	+6.0
	comp=Z,8.9nm,0.5s						
WATA	**Walderalm**	**149.50**	**346**	||*i*P	PKPdf	03 38 40.7	+6.5
WTTA	**Wattenberg**	**149.55**	**346**	⇑*i*P	PKPdf	03 38 41.2	+6.9
GRR	**Gorron**	**149.60**	**3**	*e*PKP1	PKPdf	03 38 40.8	+6.5
	comp=Z,19nm,0.6s						
MOTA	**Moosalm**	**149.60**	**347**	||*i*P	PKPdf	03 38 40.9	+6.6
SQTA	**Sankt Quirin**	**149.69**	**347**	||*i*P	PKPdf	03 38 40.4	+5.9
HAU	**Haudompre**	**149.74**	**353**	*e*PKP1	PKPdf	03 38 41.1	+6.6
	comp=Z,8.7nm,0.7s						
HINF	**Hinteralfeld**	**149.87**	**352**	*e*PKP1	PKPdf	03 38 41.7	+6.9
	comp=Z,6.9nm,0.6s						
SSF	**Saint Saulge**	**150.91**	**357**	*e*PKP1	PKPdf	03 38 44.0	+7.6
	comp=Z,6.7nm,0.5s						
CABF	**La Chapelle**	**151.15**	**353**	*e*PKP1	PKPdf	03 38 44.6	+7.9
MFF	**Saint Martin d**	**151.41**	**2**	*e*PKP1	PKPdf	03 38 44.5	+7.4
BGF	**Bois d'Agland**	**151.45**	**358**	*e*PKP1	PKPdf	03 38 44.6	+7.5
	comp=Z,6.4nm,0.5s						
TCF	**Toulx Ste Croi**	**151.74**	**359**	*e*PKP1	PKPdf	03 38 45.5	+8.0
LPL	**La Plagne**	**152.14**	**352**	*e*PKP1	PKPdf	03 38 47.2	+9.1
LPG	**La Plagne**	**152.16**	**352**	*e*PKP1	PKPdf	03 38 47.5	+9.3
MBDF	**Montbardon**	**152.91**	**351**	*e*PKP1	PKPdf	03 38 49.7	+10
	comp=Z,5.4nm,0.6s						

*TAP **04** 03:38:35.7, 24.00N×122.41E, h18km±1km, ML2.9*
JMA 04 03:38:36.3±0.6,**24.02N**×**122.53E**,**h21**km,**M2.0**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.62**	**45**	P	Pb	03 38 48.3	-0.1
YOJ				S	Sb	03 38 56.7	+0.1
IRIF	**Iriomote-Funau**	**1.14**	**74**	P	Pb	03 38 57.0	-0.2
IRIF				*e*S	Sb	03 39 12.2	+0.6
HATJ	**Hateruma jima**	**1.17**	**88**	P	Pn	03 38 57.0	-0.6
HATJ				S	Sb	03 39 12.7	+0.4
JKRS	**Kuro-shima**	**1.37**	**81**	P	Pn	03 39 01.8	+1.3
JKRS				S	Sn	03 39 19.1	+1.0
JIJ	**Ishigaki jima**	**1.51**	**77**	P	Pn	03 39 01.5	-1.0
JIJ				S	Sn	03 39 21.5	-0.2

*NEIC **04** 03:40:45.1, 28.47S×71.26W, h30km, ML3.5(GUC), After GUC.*
NEIC Felt [III] at Freirina and Huasco.
GUC 04 03:40:45.1±0.6,**28.47S**×**71.26W**,**h30**km±4km,**MD3.9**, **ML3.5**,**1C**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.45**	**104**	⇑*i*P	Pb	03 40 54.6	-0.2
VACH				*i* S	Sb	03 41 01.8	+0.4
VACH				AMP		03 41 03.1	
	comp=N,6μm,0.1s						
CPCH	**Copiapo**	**1.36**	**36**	*e*P	Pn	03 41 09.1	+0.7
CPCH				*i* S	Sn	03 41 26.6	+1.0
CPCH				AMP		03 41 30.8	
	comp=E,7μm,0.1s						
LSCH	**La Serena**	**1.43**	**180**	*e*P	Pn	03 41 09.7	+0.3
LSCH				*i* S	Sn	03 41 28.5	+1.2
LSCH				AMP		03 41 31.1	
	comp=E,460nm,0.2s						
TLL	**Tololo Astrono**	**1.74**	**167**	*i* P	Pn	03 41 15.0	+1.2
TLL				*i* S	Sn	03 41 38.3	+3.2
TLL				AMP		03 41 42.4	
	comp=E,583nm,0.6s						
CMCH	**Combarbala**	**2.70**	**175**	*i* P	Pn	03 41 26.9	-0.7

*NEIC **04** 03:46:38.1±1.5, 16.23S×179.55W, h518km±25km, mb4.2/8, Error ellipse: s-maj=45.1km s-min=20.7km az=177.0*
ISC 04 03:46:34.0±3.0,**16.9S**±0.6×**179.8W**±0.2,**h446**km±64km, **n19**, σ0ˢ**97**/10,**mb4.2**/7,**1C-1D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.27**	**70**	*e*P	**P**	**03 48 33.5**	**-0.1**
CTA	**Charters Tower**	**32.34**	**259**	*e*P	**P**	**03 52 29.0**	**+2.7**
	6.9nm,0.8s,mb4.1						
CTAO	**Charters Tower**	**32.34**	**259**	||*e*P	**P**	**03 52 28.3**	**+2.0**
	11nm,0.7s,mb4.4						
CTAO				*e*		03 52 42.6	
STKA	**Stephens Creek**	**38.00**	**240**	*e*P	**P**	**03 53 12.5**	**-1.0**
	5.2nm,0.6s,mb4.1						
WB2	**Warramunga Arr**	**43.52**	**259**	*e*P	**P**	**03 53 58.2**	**-0.1**
WRAB	**Tennant Creek**	**43.53**	**259**	*e*P	**P**	**03 53 58.0**	**-0.3**
	12nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**51.91**	**260**	*e*P	**P**	**03 55 02.1**	**0.0**
	9.7nm,1.2s,mb4.0						
MBWA	**Marble Bar**	**57.06**	**255**	*e*P	**P**	**03 55 34.9**	**-3.6**
	9.7nm,0.9s,mb4.1						
QSPA	**South Pole Qui**	**73.18**	**180**	⇑*i*P	**P**	**03 57 19.6**	**+0.6**
	4.4nm,0.8s,mb4.0						
SNAA	**Sanae**	**91.66**	**179**	*e*P	**P**	**03 58 52.7**	**-0.1**
	1.2nm,0.5s,mb4.1						
OKC	**Ostrava-Krasne**	**144.06**	**340**	*e*SKP		04 08 14.3	
UPC	**Upice**	**144.12**	**343**	*e*PKP	PKPdf	04 05 13.7	-3.8
UPC				*ex*	x	04 08 14.4	
CLL	**Collm**	**144.16**	**346**	*i*	PKPbc	04 05 10.7	-6.7
CLL				*i* PKIKP	PKPdf	04 05 13.4	-4.2
CLL				*i*		04 05 27.4	
DPC	**Dobruska-Polom**	**144.17**	**342**	*e*PKP	PKPdf	04 05 14.2	-3.4
DPC				*ex*	x	04 05 28.1	
DPC				*ex*	x	04 08 14.5	
PVCC	**Panska Ves**	**144.50**	**344**	*e*SKP		04 08 15.5	
PVCC				*ex*	x	04 08 18.3	
PRU	**Pruhonice**	**145.00**	**344**	*e*PKP	PKPdf	04 05 15.9	-3.2
PRU				*ex*	x	04 05 29.4	
PRU				*ex*	x	04 08 16.5	
PRU				*ex*	x	04 08 19.0	
NKC	**Novy Kostel**	**145.29**	**346**	*e*PKP	PKPdf	04 05 16.9	-2.7
NKC				*ex*	x	04 08 20.3	
KHC	**Kasperske Hory**	**146.03**	**344**	*e*PKP	PKPdf	04 05 19.1	-1.8
KHC				*ex*	x	04 05 32.4	
KHC				*ex*	x	04 08 19.3	
KHC				*ex*	x	04 08 23.7	
WLF	**Walferdange**	**146.94**	**353**	PKPbc	PKPbc	04 05 21.0	-3.4

*BJI **04** 04:18:15.8, 6.77N×93.13E, h43km, mB5.1, mb5.0, Ms4.5, Msz4.0*
*MOS **04** 04:18:19.3±0.7, 7.46N×93.32E, h30km, mb5.1/17, MS4.0/7, Error ellipse: s-maj=17.9km s-min=8.0km az=117.9*
*HRVD **04** 04:18:22.5±1.1, 7.08N×93.02E, h34km±1km, MW4.8/20, Centroid moment Tensor Solution. LP body waves: s10,c14; Mantle waves: s20,c25; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.27±.20; $M_{\theta\theta}$0.54±.17; $M_{\phi\phi}$0.73±.22; $M_{r\theta}$0.58±.14; $M_{r\phi}$-0.91±.14; $M_{\theta\phi}$0.53±.14; Best double couple: $M_0$1.628×10^{16} NP1:φs292°,δ52°, λ-128°. NP2:φs164°,δ52°,λ-52°. Principal axes: T 1.551, Plg0°, Azm228°; N .151, Plg29°, Azm318°; P -1.705, Plg61°, Azm138°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 04:18:22.5±0.2, 7.42N×93.30E, mb4.9/39 Error ellipse: s-maj=8.5km s-min=5.0km az=224.0*
ISC 04 04:18:19.5±1.5,**7.40N**±0.04×**93.32E**±0.04,**h32**km±10km, **h38**km±1.7km:**pP-P**,**n131**,σ1ˢ**03**/140,**mb4.9**/58,**MS4.1**/8, **5C-18D**,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**12.28**	**26**	*e*P	**P**	**04 21 21.9**	**+6.8**
PALK	**Pallekele**	**12.51**	**270**	*e*P	**P**	**04 21 15.2**	**-3.1**
MDRS	**Chennai**	**14.04**	**295**	*e*P	**P**	**04 21 37.9**	**-0.7**
MDRS				*e*		04 23 26.1	
MDRS				*e*S	**S**	**04 23 54.2**	**-20**
VIS	**Vishakhapatnam**	**14.14**	**317**	||*i*P	**P**	**04 21 39.1**	**-0.8**
VIS				AMb	AMB	04 21 41.2	
	comp=Z,44nm,0.4s						
VIS				*i* S	**S**	**04 24 03.4**	**-13**
BWNR	**Bhubaneshwar**	**14.74**	**331**	*e*P	**P**	**04 21 44.6**	**-3.2**
BWNR				*e*		04 21 45.2	
	comp=Z,20nm,0.4s						
BWNR				*e*		04 24 13.0	
AGT	**Agartala**	**16.51**	**353**	*e*P	**P**	**04 22 08.2**	**-2.3

comp=E,758nm,22.8s,MS4.7
WMQ LR LR
comp=Z,1μm,18.6s,MS4.7
BJT Baijiatuau 38.39 29 *e*P **P 04 25 38.2 -1.4**
comp=Z,25nm,0.7s,mb5.1
MBWA Marble Bar 38.45 138 *e*P **P 04 25 39.6 -0.7**
comp=Z,3.5nm,0.5s,mb4.3
UCH Uchtor 38.47 337 P **P 04 25 41.8 +1.6**
SNR=12
TKM2 Tokmak 2 38.67 339 P **P 04 25 43.2 +1.3**
SNR=5.2
KBK Karagaybulak 38.67 338 P **P 04 25 43.7 +1.7**
SNR=9.1
AML Almayashu 38.70 336 P **P 04 25 44.0 +1.7**
SNR=21
AAK Ala-Archa 38.82 338 P **P 04 25 44.7 +1.5**
SNR=9.7
AAK Ala-Archa 38.82 338⇓ *e*P **P 04 25 43.3 +0.1**
AAK pmax pmax
comp=Z,25nm,2.0s,mb4.6
AAK MLR MLR
comp=Z,100nm,15.0s,MS3.8
AAK Ala-Archa 38.82 338 *e*P **P 04 25 43.2 -0.1**
comp=Z,12nm,0.9s,mb4.6
EKS2 Erkin-Say 39.12 337 P **P 04 25 47.3 +1.5**
SNR=8.7
USP Ospenovka 39.37 338 P **P 04 25 48.5 +0.8**
SNR=9.7
MKAR Makanchi Array 40.38 348 *i* P **P 04 25 56.3 +0.3**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
FITZ Fitzroy Crossi 40.74 129⇓ *i*P **P 04 25 59.2 -0.1**
comp=Z,61nm,0.8s,mb5.3
SNY Shenyang 43.51 33 ⇓P **P 04 26 22.0 +0.2**
SNY AMB AMB
comp=Z,20nm,1.1s,mb4.8
ZAK Zakamensk 43.64 9⇓ *i*P **P 04 26 23.2 +0.5**
ZAK *e* 04 28 09.8
MUN Mundaring 44.84 152 *e*P **P 04 26 33.4 +0.7**
comp=Z,17nm,0.8s,mb4.9
KLBR Kellerberrin 45.26 150 *e*P **P 04 26 36.4 +0.4**
comp=Z,17nm,0.9s,mb4.9
NWAO Narrogin (SRO) 46.11 152 *e*P **P 04 26 43.0 +0.3**
comp=Z,7.7nm,0.4s,mb5.0
NVS Novosibirsk 48.00 352 *i* P **P 04 26 57.1 -0.2**
NVS *e* 04 27 11.4
NVS pmax pmax
comp=Z,27nm,1.2s,mb5.2
NVS pmax pmax
comp=E,12nm,1.3s
NVS pmax pmax
comp=N,27nm,1.5s
MDJ Mudanjiang 48.66 34 P **P 04 26 58.3 -4.2**
MDJ AP pP 04 27 09.6 -2.8
MDJ XP sP 04 27 14.4 -1.9
MDJ PCP PcP 04 28 25.0 -2.9
MDJ SCP 04 32 16.2
MDJ PCS 04 32 21.0
MDJ S **S 04 33 55.1 -6.3**
MDJ SCS ScS 04 36 48.0 -1.5
MDJ AMB AMB
comp=Z,258nm,4.6s
MDJ LR LR
comp=N,152nm,32.8s
MDJ LR LR
comp=E,82nm,25.6s
MDJ LR LR
comp=Z,89nm,22.6s
WRAB Tennant Creek 48.66 125 *d i*P **P 04 27 02.3 -0.6**
WRAB Tennant Creek 48.66 125⇓ *e*P **P 04 27 02.2 -0.7**
comp=Z,42nm,0.5s,mb5.7
WRAB *e* pP 04 27 12.8 +0.1
WB2 Warramunga Arr 48.67 125 *e*P **P 04 27 02.3 -0.6**
BOD Bodaibo 52.80 14 *e*P **P 04 27 33.2 -0.6**
GNI Garni 54.19 315 *d i*P **P 04 27 44.1 -0.1**
GNI pmax pmax
comp=Z,33nm,1.9s
GNI MLR MLR
comp=Z,100nm,17.0s
GNI Garni 54.19 315 *e*P **P 04 27 43.9 -0.4**
comp=Z,22nm,1.0s,mb5.0
ARU Arti 56.01 338⇑ *i*P **P 04 27 55.1 -2.2**
ARU *e* 04 28 51.5
ARU *e* 04 29 56.9
ARU *e*S **S 04 35 42.2 +0.6**
ARU *e*SS SS 04 39 30.6 +2.9
ARU pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
PMG Port Moresby 56.18 106 *e*P **P 04 27 58.0 -1.0**
comp=Z,8.9nm,0.6s,mb5.0
KMBO Kilima Mbogo 56.56 264 *i* P **P 04 28 02.6 +0.8**
KMBO pmax pmax
comp=Z,4.0nm,0.8s
KMBO Kilima Mbogo 56.56 264 *e*P **P 04 28 02.1 +0.3**
comp=Z,6.0nm,0.8s,mb4.7
KMBO *e* 04 28 15.1
KIV Kislovodsk 57.12 318 *d i*P **P 04 28 04.4 -1.0**
KIV *e*S **S 04 36 13.7 +17**
KIV pmax pmax
comp=Z,41nm,1.6s,mb5.2
KIV Kislovodsk 57.12 318 *e*P **P 04 28 04.3 -1.2**
comp=Z,22nm,0.8s,mb5.2
YSS Yuzh-Sakhalins 57.66 38⇓ *e*P **P 04 28 09.9 +0.8**
YSS pmax pmax
comp=Z,20nm,1.1s,mb5.1
YSS MLR MLR
comp=Z,100nm,14.0s,MS4.1
CTA Charters Tower 58.79 119 *e*P **P 04 28 16.5 -0.9**
comp=Z,7.7nm,0.8s,mb4.8
CTAO Charters Tower 58.79 119 *e*P **P 04 28 15.0 -2.4**
comp=Z,16nm,0.9s,mb5.0
CTAO *e* 04 28 27.9
CTAO *e*PcP PcP 04 29 06.8 +0.2
EIL Elat 58.95 300 *e*P **P 04 28 19.0 +0.6**
comp=Z,16nm,0.9s,mb5.0
EIL *e* 04 28 31.8
SOC Sochi 58.97 317 *e*P **P 04 28 13.9 -4.4**
SOC *e* 04 29 01.8
SOC *e* 04 30 24.2
SOC *e*S **S 04 36 19.3 -1.3**
SOC pmax pmax
comp=Z,25nm,1.2s,mb5.1
SOC pmax pmax
comp=N,13nm,1.0s
SOC pmax pmax
comp=E,7.0nm,0.9s
STKA Stephens Creek 60.37 133 *i*P **P 04 28 27.7 -0.5**
comp=E,6.9nm,0.6s,mb4.9
YAK Yakutsk 60.70 19⇓ *e*P **P 04 28 29.2 -0.8**
YAK pmax pmax
comp=Z,4.0nm,0.3s,mb5.0
YAK MLR MLR
comp=Z,200nm,20.0s,MS4.3
MOS Moscow 65.06 329 *e*P **P 04 28 55.9 -3.0**
MOS pmax pmax
comp=Z,59nm,1.0s,mb5.6
OBN Obninsk 65.35 328⇑ *i*P **P 04 28 59.2 -1.5**
OBN *e*S S 04 37 44.0 +3.1
OBN pmax pmax
comp=Z,29nm,1.8s,mb5.0
ARMA Armidale 67.32 127 *e*P **P 04 29 15.5 +1.7**
MA2 Magadan 67.56 28⇓ *e*P **P 04 29 14.8 0.0**
MA2 pmax pmax
comp=Z,17nm,1.0s,mb5.0
MA2 MLR MLR
comp=Z,100nm,15.0s,MS4.2
MA2 Magadan 67.56 28 *e*P **P 04 29 13.0 -1.8**
comp=Z,14nm,0.8s,mb5.0
MA2 *e* 04 29 29.9
TIXI Tiksi 67.86 11 *i*P **P 04 29 15.9 -0.6**
TIXI pmax pmax
comp=Z,26nm,1.0s,mb5.2
TIXI MLR MLR
comp=Z,83nm,16.0s,MS4.1
LSZ Lusaka 68.34 250 *e*P **P 04 29 19.9 -0.4**
comp=Z,3.3nm,0.7s,mb4.5
JOF Joensuu 70.92 335 *e*p **P 04 29 34.4 -1.0**
comp=Z,0.6nm,0.3s,mb4.0
JOF Joensuu 70.92 335 *e*P **P 04 29 34.4 -1.0**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
KWP Kalwaria 71.86 320 *e*P **P 04 29 40.9 -0.3**
KOLS Kolonicke sedl 72.02 319 *e*P **P 04 29 41.9 -0.3**
SUW Suwalki 72.41 324 *e*P **P 04 29 43.1 -1.3**
CRVS Cervenica-Dubn 72.55 319 *i* P **P 04 29 45.9 +0.6**
FINES FINESS Array B 72.75 332 *i* P **P 04 29 45.4 -0.9**
FINES pmax pmax
comp=Z,7.0nm,0.7s
KAF Kangasniemi 72.84 333 *e*p **P 04 29 45.9 -0.9**
comp=Z,0.8nm,0.4s,mb4.0,baz=105,slow=5.6
KAF Kangasniemi 72.84 333 *e*P **P 04 29 45.9 -0.9**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
LBTB Lobatse 73.30 241 *e*P **P 04 29 50.5 +0.3**
comp=Z,11nm,1.1s,mb4.7
NIE Niedzica 73.37 319 *e*P **P 04 29 50.0 -0.1**
OJC Ojcow 73.81 320 *e*P **P 04 29 52.6 -0.1**
VYHS Vyhne 74.22 318 *e*P **P 04 29 53.9 -1.1**
VYHS *e* pP 04 30 05.0 -0.3
SRO Srobarova 74.49 317 *e*P **P 04 29 57.2 +0.6**
BOSA Boshof 74.64 238 *e*P **P 04 29 57.7 -0.2**
comp=Z,5.2nm,0.9s,mb4.5
OKC Ostrava-Krasne 74.82 320 *e*P **P 04 29 58.3 -0.2**
KEV Kevo 75.01 341 *e*p **P 04 29 58.8 -0.4**
comp=Z,0.6nm,0.4s,mb3.9
KEV Kevo 75.01 341 *e*P **P 04 29 58.8 -0.4**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
MORC Moravsky Berou 75.20 319 *e*P **P 04 29 58.7 -2.0**
comp=Z,19nm,1.1s,mb4.9
MORC *e* 04 30 13.2
ZST Bratislava 75.33 318 *i* P **P 04 30 01.5 0.0**
ZST *e* 04 30 14.9
ZST Bratislava 75.33 318 *i* P **P 04 30 01.5 0.0**
ZST *e* 04 30 04.9
ZST *e* 04 30 14.9
DPC Dobruska-Polom 76.04 320 *e*P **P 04 30 05.9 +0.4**
KSP Ksiaz 76.11 320 *e*P **P 04 30 06.0 +0.2**
UPC Upice 76.25 320 *e*P **P 04 30 07.0 +0.3**
BILL Bilibino 76.83 22⇓ *e*P **P 04 30 10.3 +0.8**
BILL pmax pmax
comp=Z,14nm,1.2s,mb4.8
BILL MLR MLR
comp=Z,100nm,17.0s,MS4.2
BILL Bilibino 76.83 22 *e*P **P 04 30 09.5 0.0**
comp=Z,14nm,0.9s,mb4.9
PRU Pruhonice 77.16 320 *e*P **P 04 30 12.0 +0.3**
PVCC Panska Ves 77.17 320 *e*P **P 04 30 12.2 +0.4**
GEC2 GERESS Array S 77.64 318 *e*P **P 04 30 14.8 +0.4**
GEC2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GEC2 GERESS Array S 77.64 318 *e*P **P 04 30 14.8 +0.4**
comp=Z,10.0nm,0.9s,mb4.8
KHC Kasperske Hory 77.73 319⇑ *e*P **P 04 30 15.2 +0.3**
KHC Kasperske Hory 77.73 319 *e*P **P 04 30 14.8 -0.1**
MAW Mawson 77.91 191 *e*P **P 04 30 16.5 +1.0**
comp=Z,10nm,0.6s,mb4.9
WET Wettzell 78.19 319 *e*P **P 04 30 17.9 +0.5**
CLL Collm 78.21 321 *e*P **P 04 30 17.0 -0.5**
CLL Collm 78.21 321 P **P 04 30 17.0 -0.5**
NKC Novy Kostel 78.51 320 *e*P **P 04 30 14.5 -4.7**
WTTA Wattenberg 78.97 317⇓ *i*P **P 04 30 21.3 -0.4**
comp=Z,19nm,1.0s,mb5.0
WATA Walderalm 79.01 317⇑ *i*P **P 04 30 20.9 -1.0**
comp=Z,4.9nm,0.9s,mb4.4
MOX Moxa 79.06 320 *e*P **P 04 30 22.4 +0.3**
MOX Moxa 79.06 320 *i* P **P 04 30 22.4 +0.3**
SQTA Sankt Quirin 79.26 317⇓ *i*P **P 04 30 22.6 -0.7**
comp=Z,12nm,0.9s,mb4.8
GRA1 Grafenberg Arr 79.29 319 *e*P **P 04 30 24.2 +0.8**
comp=Z,12nm,0.8s,mb4.9
GRF Grafenberg Arr 79.29 319 *e*P **P 04 30 24.2 +0.8**
GRF pmax pmax
comp=Z,12nm,0.8s,mb4.9
GRF Grafenberg Arr 79.29 319 *e*P **P 04 30 24.2 +0.8**
comp=Z,12nm,0.8s,mb4.9
MOTA Moosalm 79.33 317⇑ *i*P **P 04 30 22.6 -1.1**
comp=Z,11nm,1.0s,mb4.7
SUR Sutherland 79.39 235 *e*P **P 04 30 25.5 +1.2**
comp=Z,14nm,0.8s,mb4.9
NB2 NORSAR Subarra 79.74 331 P **P 04 30 24.9 -0.7**
comp=Z,7.4nm,0.8s,mb4.7,baz=94,slow=5.8
CLZ Clausthal 79.87 321 *e*P **P 04 30 27.1 +0.6**
comp=Z,8.0nm,0.9s,mb4.7
BSEG Bad Segeberg 79.94 323 *e*P **P 04 30 27.3 +0.5**
DAVA Damuels 80.16 317⇓ *i*P **P 04 30 28.3 +0.2**
comp=Z,14nm,0.8s,mb4.9
BFO Black Forest 81.19 318 *e*P **P 04 30 33.7 +0.1**
BFO pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BFO Black Forest 81.19 318 *e*P **P 04 30 33.7 +0.1**
comp=Z,4.0nm,0.7s,mb4.5
LPG La Plagne 82.37 315 *e*P **P 04 30 40.3 +0.6**
comp=Z,33nm,1.0s,mb4.9
IMA Indian Mountai 92.37 22 *e*P **P 04 31 29.9 +2.2**
comp=Z,135nm,1.4s,mb6.1
SNOW Snow King Moun 124.87 21 *e*PKP PKPdf 04 37 19.0 -3.0
SNOW *e* 04 37 32.3
MSU Marysvale 128.53 26 *e*PKP PKPdf 04 37 26.6 -2.6
GDL2 Guadalupe Moun 137.16 22 *e*PKP PKPdf 04 37 42.2 -3.2
JCT Junction City 140.29 18 *e*PKPdf PKPdf 04 37 48.4 -2.8

MEX 04 04:58:43.4±0.9, 16.86N×99.74W, h42km±10km, MD3.9, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.17**	**273**	*i* P	P	04 58 49.0	-1.6
ACX				*i* S	S	04 58 54.0	-1.7
CAIG	**El Cayaco**	**0.54**	**291**	*i*P	P	04 58 53.4	-1.4
CAIG				*i* S	S	04 59 01.2	-1.7
PLIG	**Platanillo**	**1.54**	**8**	*i* P	P	04 59 06.3	-2.7
PLIG				*i* S	S	04 59 24.6	-3.4
ZIIG	**Zihuatanejo**	**1.81**	**295**	*i* P	P	04 59 10.8	-1.9
ZIIG				*i* S	S	04 59 30.7	-3.9
PPM	**Popocatepetl**	**2.44**	**26**	*e*P	P	04 59 20.0	-1.7
PPM				*i* P		04 59 20.8	
PPM				*i* S	S	04 59 48.0	-2.5
VHO	**Vista Hermosa**	**2.88**	**85**	*e*P	P	04 59 26.1	-1.9
VHO				*i* S	S	04 59 57.7	-4.1
OXX	**Oaxaca**	**2.90**	**85**	*i* P	P	04 59 33.0	+4.8
OXX				*i* S	S	05 00 11.0	+8.9
POHV	**Veracruz**	**3.21**	**46**	*e*P	P	04 59 29.5	-3.2

WEL 04 05:06:58.5±0.9, 35.81S×178.09E, h196km±17km, ML3.6/3, Error ellipse: s-maj=17.2km s-min=16.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.76**	**174**	PN	P	05 07 34.3	-0.3
MXZ				SN	S	05 08 01.9	-0.6
PUZ	**Puketiti**	**2.26**	**177**	PN	P	05 07 39.7	-0.2
PUZ				SN	S	05 08 11.1	-0.8
MWZ	**Matawai**	**2.56**	**190**	PN	P	05 07 43.7	+0.5
MWZ				SN	S	05 08 18.6	+0.7
URZ	**Urewera**	**2.57**	**197**	PN	P	05 07 43.1	-0.3
URZ				SN	S	05 08 16.6	-1.4
KNZ	**Kokohu**	**3.22**	**186**	PN	P	05 07 49.8	-1.3
MRZ	**Mangatainoka R**	**5.23**	**201**	PN	P	05 08 13.0	-3.4
KIW	**Kapiti Island**	**5.63**	**205**	PN	P	05 08 18.0	-3.6

*IPEC **04** 05:13:58.4±0.3, 49.82N×18.57E, ML2.3/4, Error ellipse: s-maj=2.2km s-min=2.0km az=142.0*
*CSEM **04** 05:13:59.4±0.1, 49.84N×18.48E, h2km, ML3.1/4, Error ellipse: s-maj=2.0km s-min=1.4km az=9.0*
*NEIC **04** 05:13:59.6±0.6, 49.87N×18.40E, h5km, ML2.8(VIE), Error ellipse: s-maj=8.4km s-min=5.0km az=214.0*

PRU 04 05:13:59.7, 49.85N×18.48E, 3C, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.22**	**267**	*e*PG	Pg	05 14 04.4	+0.4
OKC				*e*SG	Sg	05 14 07.6	+0.7
RAC	**Raciborz**	**0.30**	**322**	*e*Pg	Pg	05 14 06.4	+0.8
RAC				*e*Sg	Sg	05 14 12.3	+2.7
MORC	**Moravsky Berou**	**0.61**	**263**	*e*Pg	Pg	05 14 10.9	-1.0
MORC	**Moravsky Berou**	**0.61**	**263**	*e*Pg	Pg	05 14 11.0	-0.9
MORC				*e*Sg	Sg	05 14 19.4	-0.7
	80nm,0.4s						
LIKS	**Likavka**	**0.90**	**153**	*e*PG	Pg	05 14 19.0	+1.4
LIKS				*e*SG	Sg	05 14 32.5	+2.9
OJC	**Ojcow**	**0.93**	**66**	*e*Pg	Pg	05 14 16.7	-1.5
OJC				*e*Sg	Sg	05 14 30.0	-0.6
VRAC	**Vranov**	**1.34**	**247**	*e*Pg	Pg	05 14 24.3	-2.2
VRAC				*e*Sg	Sg	05 14 41.3	-3.1
	38nm,0.3s						
VYHS	**Vyhne**	**1.38**	**170**	*e*PG	Pg	05 14 24.9	-2.3
VYHS				*e*SG	Sg	05 14 43.9	-1.7
DPC	**Dobruska-Polom**	**1.48**	**291**	*e*PG	Pg	05 14 26.9	-2.3
DPC				*e*SG	Sg	05 14 47.5	-1.4
	47nm,0.5s						
DPC	**Dobruska-Polom**	**1.48**	**291**	*e*Pn	Pn	05 14 26.3	-1.3
DPC	**Dobruska-Polom**	**1.48**	**291**	Pg	Pg	05 14 26.9	-2.3
DPC				*e*Sg	Sg	05 14 46.5	-2.4
SMOL	**Smolenice**	**1.50**	**208**	*e*PN	Pn	05 14 26.9	-1.1
SMOL				*e*SN	Sn	05 14 47.9	-0.7
KRUC	**Moravsky**	**1.57**	**241**	*e*Pn	Pn	05 14 28.1	-0.9
KRUC				*e*Sg	Sg	05 14 48.5	-3.6
	22nm,0.3s						
KSP	**Ksiaz**	**1.72**	**306**	*e*Pn	Pn	05 14 29.7	-1.4
KSP				*e*Pg	Pg	05 14 31.2	-2.8
KSP				*e*Sg	Sg	05 14 54.0	-2.9
KSP	**Ksiaz**	**1.72**	**306**	*e*Pn	Pn	05 14 29.7	-1.3
KSP				*e*Sn	Sn	05 14 54.0	0.0
KSP	**Ksiaz**	**1.72**	**306**	*e*Pg	Pg	05 14 31.2	-2.8
KSP				*e*Sg	Sg	05 14 54.0	-2.9
UPC	**Upice**	**1.72**	**293**	*e*PG	Pg	05 14 31.1	-2.9
UPC				*e*SG	Sg	05 14 54.7	-2.2
ZST	**Bratislava**	**1.89**	**209**	*e*PN	Pn	05 14 32.7	-0.8
ZST				*e*SG	Sg	05 14 56.3	-6.2
KECS	**Kecovo**	**1.90**	**135**	*e*PN	Pn	05 14 32.9	-0.7
PSZ	**Piszkesteto**	**2.15**	**154**	*e*Pn	Pn	05 14 36.1	-1.1
PSZ	**Piszkesteto**	**2.15**	**154⇑**	*e*PB	Pb	05 14 40.5	+1.3
PSZ	**Piszkesteto**	**2.15**	**154**	*e*Pn	Pn	05 14 36.1	-1.1
CRVS	**Cervenica-Dubn**	**2.17**	**115**	*e*PN	Pn	05 14 38.7	+1.2
CRVS				*e*SN	Sn	05 15 08.1	+2.6
PRU	**Pruhonice**	**2.55**	**275**	*e*PN	Pn	05 14 41.2	-1.8
PRU				*e*PG	Pg	05 14 45.1	-5.5
PRU				*e*SG	Sg	05 15 21.0	-3.6
PRU	**Pruhonice**	**2.55**	**275**	Pg	Pg	05 14 45.1	-5.5
PRU				Sg	Sg	05 15 21.0	-3.6
PVCC	**Panska Ves**	**2.60**	**287**	*e*PG	Pg	05 14 46.0	-5.7
PVCC				*e*SG	Sg	05 15 21.7	-4.7
KOLS	**Kolonicke sedl**	**2.64**	**109**	*e*PB	Pb	05 14 49.9	+2.2
BRG	**Berggiesshubel**	**3.08**	**291**	*e*Pg	Pg	05 14 55.6	-5.6
BRG				*i* Sg	Sg	05 15 37.2	-5.1
ARSA	**Arzberg**	**3.26**	**218⇑**	*i*PN	Pn	05 14 51.4	-1.7
ARSA				*i* SG	Sg	05 15 43.3	-4.9
	3.6nm,0.4s						
KHC	**Kasperske Hory**	**3.28**	**259**	*e*PN	Pn	05 14 51.2	-2.1
KHC				*e*PG	Pg	05 14 58.6	-6.5
KHC				*e*SG	Sg	05 15 45.0	-3.8
MOA	**Molln**	**3.43**	**236⇑**	*i*PN	Pn	05 14 52.9	-2.6
MOA				*i* SG	Sg	05 15 49.4	-4.4
	6.3nm,0.4s						
CLL	**Collm**	**3.78**	**295**	*e*PN	Pn	05 14 59.0	-1.5
CLL				*e*PG	Pg	05 15 11.0	-4.2
CLL				*e*SG	Sg	05 16 00.0	-5.7
NKC	**Novy Kostel**	**3.91**	**278**	*e*PG	Pg	05 15 10.2	-7.5
NKC				*e*SG	Sg	05 16 05.0	-4.8
MOX	**Moxa**	**4.48**	**283**	*e*Pg	Pg	05 15 21.7	-7.4
MOX				*e*Sg	Sg	05 16 24.7	-4.0

KRSC 04 05:29:16.9±0.2, 55.85N×161.28E, h112km±2km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.32**	**302**	*i* P	P	05 29 34.0	+0.9
ZLN				*i* S	S	05 29 46.4	+1.2
CIRR	**Tsirk**	**0.40**	**312**	*i* P	P	05 29 34.2	+0.7
CIRR				*e*S	S	05 29 46.9	+0.9
LGNR	**Loginova**	**0.41**	**305**	*i* P	P	05 29 34.5	+0.9
LGNR				*i* S	S	05 29 47.6	+1.5
KRSR	**Krestovskiy**	**0.54**	**313**	*i* P	P	05 29 34.7	+0.3
KRSR				*i* S	S	05 29 47.9	+0.3
KLY	**Klyuchi**	**0.58**	**323**	*i* P	P	05 29 34.6	-0.1
KLY				*i* S	S	05 29 47.6	-0.5
KMNR	**Kamenistaya**	**0.60**	**261**	*i* P	P	05 29 35.2	+0.4
KMNR				*i* S	S	05 29 48.6	+0.3
KPT	**Kopyto**	**0.61**	**281**	*i* P	P	05 29 35.2	+0.4
KPT				*i* S	S	05 29 48.7	+0.3
SVLR	**Shiveluch**	**0.73**	**357**	*i* P	P	05 29 36.7	+0.9
SVLR				*e*S	S	05 29 51.0	+0.8
KOZ	**Kozyrevsk**	**0.82**	**285**	*i* P	P	05 29 37.1	+0.4
KOZ				*i* S	S	05 29 51.8	+0.2
TUMR	**Tumrok**	**0.86**	**229**	*i* P	P	05 29 38.0	+0.8
TUMR				*i* S	S	05 29 53.2	+0.9
KBG	**Krutoberegovo**	**0.90**	**62**	*i* P	P	05 29 37.7	+0.2
KBG				*e*S	S	05 29 52.9	-0.1
KBG				Smax			
	2μm,0.7s						
KBTR	**Krutoberegovo**	**0.94**	**67**	*i* P	P	05 29 38.2	+0.3
KBTR				*e*S	S	05 29 54.0	+0.4
SRDR	**Sredinnyy**	**0.99**	**299**	*i* P	P	05 29 38.7	+0.2
ESO	**Esso**	**1.46**	**274**	*i* P	P	05 29 43.7	-0.1
ESO				*e*S	S	05 30 03.7	-0.3
ESO				Smax			
	200nm,1.0s						
BKI	**Bering**	**2.75**	**102**	*i* S	S	05 30 32.6	-0.7
SPN	**Mys Shipunski**	**2.85**	**195**	*e*P	P	05 30 01.9	0.0
SPN				*e*S	S	05 30 34.7	-1.2
GNL	**Ganaly**	**2.90**	**223**	*e*P	P	05 30 02.9	+0.4
NLC	**Nalytchevo**	**2.91**	**204**	*e*P	P	05 30 03.4	+0.7
NLC				*e*S	S	05 30 37.7	+0.4
SDLR	**Sedlovina**	**2.93**	**209**	*e*P	P	05 30 04.5	+1.5
SMAR	**Somma**	**2.97**	**210**	*e*P	P	05 30 05.5	+2.0
AVH	**Avacha**	**2.98**	**211**	P	P	05 30 04.9	+1.2
KOK	**Koryaka**	**2.99**	**212**	*e*P	P	05 30 06.4	+2.6
UGLR	**Uglovaya**	**3.01**	**209**	*e*P	P	05 30 05.8	+1.8
PET	**Petropavlovsk**	**3.22**	**210**	*e*S	S	05 30 45.4	+0.6
KRMR	**Karymshinskiy**	**3.54**	**213**	*i* S	S	05 30 52.3	-0.3
RUS	**Russkaya**	**3.79**	**207**	*e*P	P	05 30 15.5	+0.9
RUS				*e*S	S	05 30 58.4	-0.2
GRL	**Gorelyy**	**3.80**	**211**	*e*P	P	05 30 14.5	-0.3

*NEIC **04** 06:03:15.0, 32.09S×71.62W, h60km, MD3.5(GUC), After GUC.*

GUC 04 06:03:15.0±1.0, 32.09S×71.62W, h60km±8km, MD3.5, ML2.6, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.47**	**161**	*e*P	P	06 03 26.9	+0.2
PACH				*i* S	S	06 03 35.7	+0.5
PTCH	**Petorca**	**0.61**	**106⇑**	*i*P	P	06 03 28.7	+0.5
PTCH				*i* S	S	06 03 38.8	+0.8
PTCH				AMP		06 03 39.2	
	comp=N,1μm,0.4s						
CMCH	**Combarbala**	**1.06**	**30⇑**	*i*P	P	06 03 34.3	+0.2
CMCH				*i* S	S	06 03 48.5	+0.3
CMCH				AMP		06 03 49.6	
	comp=E,605nm,0.7s						
PEL	**Peldehue**	**1.31**	**143**	*i* S	S	06 03 55.0	+0.6
PEL				AMP		06 03 56.3	
	comp=N,90nm,0.4s						
RCDM	**Rinconada Maip**	**1.55**	**154**	*e*P	P	06 03 41.3	+0.3
RCDM				*i* S	S	06 04 00.2	+0.1
RCDM				AMP		06 04 03.1	
	comp=E,134nm,0.2s						
FCH	**Farellones**	**1.67**	**138**	*e*P	P	06 03 43.2	+0.7
FCH				*i* S	S	06 04 04.2	+1.4
FCH				AMP		06 04 06.0	
	comp=N,36nm,0.2s						
ANTU	**Antumapu**	**1.69**	**151**	*e*P	P	06 03 43.8	+0.9
ANTU				*i* S	S	06 04 04.5	+1.1

*TAP **04** 06:14:49.4, 24.15N×122.53E, h30km±1km, ML2.8*

JMA 04 06:14:47.3±0.3, 24.97N×122.66E, h32km, M2.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.60**	**148**	P	Pb	06 14 58.9	-0.5
YOJ				S	Sb	06 15 07.2	-0.5
IRIF	**Iriomote-Funau**	**1.16**	**123**	P	Pn	06 15 08.0	+0.4
IRIF				S	Sn	06 15 23.0	+0.6
JKRS	**Kuro-shima**	**1.43**	**120**	P	Pn	06 15 11.4	0.0
JKRS				*e*S	Sn	06 15 29.1	-0.1
JIJ	**Ishigaki jima**	**1.48**	**114**	P	Pn	06 15 12.1	0.0
JIJ				S	Sn	06 15 29.9	-0.6

*CSEM **04** 06:52:08.6, 33.30N×47.97E, h16km, ML3.2, After TEH*
TEH 04 06:52:08.6, 33.30N×47.97E, h16km, Mn3.2, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**0.96**	**337**	Pg	Pb	06 52 21.8	-4.5
IVIS	**Veys**	**1.54**	**323**	Pn	Pn	06 52 34.5	-1.1
IGHG	**Ghaleghazi**	**1.56**	**312**	Pn	Pn	06 52 35.9	0.0
IDHR	**Dehrash**	**1.92**	**317**	Pn	Pn	06 52 40.1	-1.0
IRAZ	**Razeghan**	**2.65**	**37**	Lg		06 53 31.2	
IRAZ	**Razeghan**	**2.65**	**37**	Pn	Pn	06 52 50.5	-1.0
IQOM	**Qom**	**3.00**	**58**	Pn	Pn	06 52 55.0	-1.4
IBRJ	**Borojen**	**3.17**	**118**	Pn	Pn	06 52 57.4	-1.5
IGZV	**Gazvin**	**3.59**	**30**	Pn	Pn	06 53 14.3	+9.4
IAFJ	**Afjeh**	**4.00**	**49**	Pn	Pn	06 53 10.6	-0.1
IDMV	**Damavand**	**4.05**	**55**	Pn	Pn	06 53 09.4	-2.0
IFIR	**Firoozkooh**	**4.59**	**58**	Pn	Pn	06 53 16.7	-2.3
IFIR	**Firoozkooh**	**4.59**	**58**	Lg		06 54 31.7	

IGQ 04 06:54:28.2, 2.03S×77.91W, h199km±8km, mb4.3, 18D, Error ellipse: s-maj=5.6km s-min=3.2km az=70.7, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**0.74**	**315**	⇓P	P	06 54 57.2	+0.7
ARRY	**Arrayan**	**0.76**	**314**	⇓P	P	06 54 56.9	+0.3
ULBA	**Ulba**	**0.76**	**319**	⇓P	P	06 54 57.1	+0.5
RETU	**Refugio**	**0.79**	**317**	⇓P	P	06 54 57.4	+0.7
RUN2	**Runtun**	**0.79**	**320**	⇓P	P	06 54 57.2	+0.4
CUSU	**Cusua**	**0.82**	**316**	⇓P	P	06 54 57.6	+0.7
JUIV	**Juive**	**0.82**	**317**	⇓P	P	06 54 57.2	+0.3
IGUA	**Igualata**	**0.91**	**306**	⇓P	P	06 54 58.3	+0.9
TAMB	**Tambo**	**1.41**	**341**	⇓P	P	06 55 02.2	+0.9
VC1	**Cotopaxi 1**	**1.47**	**340**	⇓P	P	06 55 02.8	+1.0
NAS1	**Nasa**	**1.50**	**338**	⇓P	P	06 55 03.6	+1.4
ANTI	**Antisana**	**1.59**	**351**	⇓P	P	06 55 03.8	+0.7
JUA2	**San Juan 2**	**1.94**	**339**	⇓P	P	06 55 07.2	+0.9
LAV3	**Lava3-Reventad**	**1.94**	**8**	P	P	06 55 06.8	+0.5
CONE	**Cono NE Rev Vo**	**1.97**	**8**	P	P	06 55 07.4	+0.8
TERV	**Terraza Guagua**	**1.97**	**339**	⇓P	P	06 55 07.8	+1.1
PINO	**Pino**	**1.99**	**339**	⇓P	P	06 55 08.0	+1.1
YANA	**Yana**	**2.01**	**341**	⇓P	P	06 55 07.9	+0.8
CAYR	**Refugio Cayamb**	**2.04**	**357**	P	P	06 55 08.7	+1.3
CAYA	**Cayambe**	**2.09**	**358**	⇓P	P	06 55 09.3	+1.4
COTA	**Cotacachi**	**2.39**	**350**	⇓P	P	06 55 12.7	+1.5

*SOF **04** 06:56:27.8, 42.16N×24.87E, h11km, MD2.8*
*CSEM **04** 06:56:27.6±0.2, 42.21N×24.84E, h2km, MD2.8, Error ellipse: s-maj=3.8km s-min=2.5km az=15.0*
*THE **04** 06:56:29.8, 42.11N×24.93E, h2km, ML3.0*
ISC 04 06:56:28.0±0.5, 42.19N±0.03×24.86E±0.03, h2km, n14, σ0°91/25, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLD	**Plovdiv**	**0.14**	**236**	*i* Pg	**Pg**	**06 56 31.0**	**+0.1**
PLD				*i* Sg	**Sg**	**06 56 32.0**	**-0.8**
RZN	**Rozhen**	**0.51**	**192**	*i* Pg	**Pg**	**06 56 37.2**	**-1.0**
RZN				*i* Sg	**Sg**	**06 56 43.5**	**-1.4**
DIM	**Dimitrovgrad**	**0.52**	**105**	*i* Pg	**Pg**	**06 56 39.0**	**+0.6**
DIM				*i* Sg	**Sg**	**06 56 46.0**	**+0.7**
PGB	**Panagyurishte**	**0.63**	**306**	*i* Pg	**Pg**	**06 56 40.8**	**+0.2**
PGB				*i* Sg	**Sg**	**06 56 49.0**	**0.0**
MMB	**Musomiste**	**1.03**	**235**	*i* Pg	**Pg**	**06 56 47.5**	**-1.2**
MMB				*i* Sg	**Sg**	**06 57 03.0**	**+0.5**
PVL	**Pavlikeni**	**1.09**	**18**	*i* Pg	**Pg**	**06 56 47.5**	**-2.3**
VTS	**Vitosha**	**1.29**	**289**	*i* P	**Pb**	**06 56 52.5**	**-0.2**
VTS				*i* S	**Sb**	**06 57 09.5**	**-0.1**
SZH	**Strazhica**	**1.34**	**36**	*i* P	**Pb**	**06 56 55.2**	**+1.7**
KKB	**Krupnik**	**1.36**	**257**	*i* P	**Pb**	**06 56 54.0**	**+0.1**
SRS	**Serrai**	**1.43**	**222**	*e*Pb	**Pb**	**06 56 55.4**	**+0.3**
SRS				*e*Sb	**Sb**	**06 57 15.1**	**+1.5**
ALN	**Alexandroupoli** comp=Z,4.5nm,0.1s	**1.56**	**145**	*e*Pb	**Pb**	**06 56 56.8**	**-0.5**
ALN				*e*Sb	**Sb**	**06 57 17.4**	**-0.2**
SOH	**Sokhos**	**1.77**	**220**	*e*Pb	**Pb**	**06 57 00.1**	**-0.8**
SOH				*e*Sb	**Sb**	**06 57 24.9**	**+1.3**
KNT	**Kendrikon** comp=Z,6.1nm,0.2s	**1.79**	**236**	*e*Pb	**Pb**	**06 57 01.2**	**-0.1**
KNT				*e*Sb	**Sb**	**06 57 25.2**	**+1.1**
KNT	**Kendrikon** 6.1nm,0.2s	**1.79**	**236**	*e*Pb	**Pb**	**06 57 01.2**	**-0.1**
KNT				*e*Sb	**Sb**	**06 57 25.2**	**+1.1**

*NEIC **04** 07:26:24.7, 36.68N×9.75W, h15km, MG4.0(MDD), After MDD.*
*INMG **04** 07:26:25.7±1.1, 36.69N×9.69W, h10km±6km, MD2.6, ML2.5, Error ellipse: s-maj=6.2km s-min=3.0km az=57.0*
*CSEM **04** 07:26:25.2±0.7, 36.77N×9.47W, h15km, ML2.5, Error ellipse: s-maj=12.3km s-min=7.7km az=45.0*
MDD 04 07:26:24.9±1.5, 36.63N×9.78W, h23km±35km, mbLg3.0/24, 1C, Error ellipse: s-maj=41.2km s-min=8.5km az=46.0, PRXIMO PROFUNDIDAD POBRE, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.25**	**42**	*e*P	Pn	07 26 46.0	-1.1
PTEO				*e*S	Sb	07 27 01.6	-1.6
	39nm,0.1s						
PTEO	**Sao Teotonio**	**1.25**	**42**	P	Pn	07 26 46.0	-1.2
PTEO				S	Sb	07 27 01.4	-1.8
PTEO	**Sao Teotonio**	**1.25**	**42**	P	Pn	07 26 46.0	-1.1
PTEO				S	Sb	07 27 01.6	-1.6
	20nm,0.1s						
PALC	**Alcoutim**	**2.02**	**65**	*e*Pn	Pn	07 26 57.0	-1.3
PALC				*e*Sn	Sn	07 27 20.0	-3.1
	35nm,0.2s						
PALC	**Alcoutim**	**2.02**	**65**	*e*P	Pn	07 26 57.0	-1.3
PALC				*e*S	Sn	07 27 20.0	-3.1
	35nm,0.2s						
EGRO	**El Granado**	**2.05**	**63**	P	Pn	07 26 56.9	-1.7
EGRO				S	Sn	07 27 20.9	-2.8
EGRO	**El Granado** 3.3nm,0.1s,SNR=7.9	**2.05**	**63**	P	Pn	07 26 56.9	-1.8
EGRO				S	Sn	07 27 20.6	-3.1
	20nm,0.1s,SNR=7.9						
EGRO	**El Granado** 3.3nm,0.1s,SNR=7.9	**2.05**	**63**	P	Pn	07 26 56.9	-1.7
EGRO				S	Sn	07 27 20.9	-2.8
	20nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**2.07**	**47**	*e*Pn	Pn	07 26 57.0	-1.9
PBEJ				*e*Sn	Sn	07 27 21.2	-3.0
	20nm,0.1s						
PBEJ	**Beja**	**2.07**	**47**	P	Pn	07 26 57.0	-2.0
PBEJ				S	Sn	07 27 20.9	-3.4
PBEJ	**Beja**	**2.07**	**47**	P	Pn	07 26 57.0	-1.9
PBEJ				S	Sn	07 27 21.2	-3.0
	9.9nm,0.1s						
PBEJ	**Beja**	**2.07**	**47**	*e*P	Pn	07 26 57.0	-1.9
PBEJ				S	Sn	07 27 20.9	-3.3
MOE	**Montemor**	**2.21**	**31**	P	Pn	07 26 59.5	-1.4
MOE				S	Sn	07 27 24.8	-3.0
MOE	**Montemor**	**2.21**	**31**	*e*P	Pn	07 26 59.5	-1.4
MOE				S	Sn	07 27 24.8	-3.0
PLOU	**Loures**	**2.31**	**12**	*e*Pn	Pn	07 27 01.3	-1.0
PLOU				*e*Sn	Sn	07 27 27.8	-2.5
	28nm,0.1s						
PLOU	**Loures**	**2.31**	**12**	P	Pn	07 27 01.3	-1.0
PLOU				S	Sn	07 27 27.8	-2.5
PLOU	**Loures**	**2.31**	**12**	P	Pn	07 27 01.3	-1.0
PLOU				S	Sn	07 27 27.8	-2.5
	14nm,0.1s						
EMIN	**Mina Concepcio**	**2.73**	**64**	P	Pn	07 27 06.0	-2.4
EMIN				S	Sn	07 27 37.1	-3.9
EMIN	**Mina Concepcio** 0.9nm,0.1s,SNR=20	**2.73**	**64**	P	Pn	07 27 05.9	-2.4
EMIN				S	Sn	07 27 36.8	-4.2
	7.0nm,0.1s,SNR=11						
EMIN	**Mina Concepcio** 0.9nm,0.1s,SNR=20	**2.73**	**64**	P	Pn	07 27 05.9	-2.5
EMIN				S	Sn	07 27 37.1	-3.9
	11nm,0.2s,SNR=11						
EBAD	**Badajoz**	**3.05**	**45**	P	Pn	07 27 10.3	-2.7
EBAD				S	Sn	07 27 45.2	-4.1
EBAD	**Badajoz** 4.7nm,0.1s,SNR=18	**3.05**	**45**	⇑P	Pn	07 27 10.3	-2.7
EBAD				S	Sn	07 27 44.7	-4.5
	10nm,0.1s,SNR=12						
EBAD	**Badajoz** 4.9nm,0.1s,SNR=26	**3.05**	**45**	P	Pn	07 27 10.3	-2.7
EBAD				S	Sn	07 27 45.2	-4.0
	26nm,0.1s,SNR=12						
ESPR	**Espera**	**3.16**	**84**	P	Pn	07 27 12.2	-2.3
ESPR				S	Sn	07 27 47.4	-4.6
ESPR	**Espera** 2.8nm,0.1s,SNR=5.8	**3.16**	**84**	P	Pn	07 27 12.3	-2.1
ESPR				S	Sn	07 27 47.2	-4.7
	76nm,0.2s,SNR=9.9						
ESPR	**Espera** 1.6nm,0.1s,SNR=5.8	**3.16**	**84**	P	Pn	07 27 12.2	-2.3
ESPR				S	Sn	07 27 47.4	-4.5
	78nm,0.2s,SNR=9.9						
PTOM	**Tomar**	**3.17**	**19**	*e*Pn	Pn	07 27 13.8	-0.9
PTOM				*e*Sn	Sn	07 27 47.2	-5.1
	11nm,0.1s						
PTOM	**Tomar**	**3.17**	**19**	P	Pn	07 27 13.1	-1.6
PTOM				S	Sn	07 27 47.2	-5.1
PTOM	**Tomar**	**3.17**	**19**	P	Pn	07 27 13.8	-0.9
PTOM				S	Sn	07 27 47.2	-5.1
	5.6nm,0.1s						
PTOM	**Tomar**	**3.17**	**19**	P	Pn	07 27 13.1	-1.6
PTOM				*e*S	Sn	07 27 47.2	-5.1
	11nm,0.1s						
PCBR	**Castelo Branco**	**3.68**	**29**	*e*Pn	Pn	07 27 19.6	-2.3
PCBR				*e*Sn	Sn	07 27 59.6	-5.6
	5.3nm,0.2s						
PCBR	**Castelo Branco**	**3.68**	**29**	P	Pn	07 27 19.6	-2.3
PCBR				S	Sn	07 27 59.5	-5.6
PCBR	**Castelo Branco**	**3.68**	**29**	P	Pn	07 27 19.6	-2.3
PCBR				S	Sn	07 27 59.6	-5.6
	2.7nm,0.2s						
PCBR	**Castelo Branco**	**3.68**	**29**	*e*P	Pn	07 27 19.6	-2.3
PCBR				S	Sn	07 27 59.5	-5.7
EMIJ	**Mijas**	**4.03**	**89**	P	Pn	07 27 24.9	-2.0
EMIJ				S	Sn	07 28 09.1	-4.8
EMIJ	**Mijas** 4.1nm,0.3s,SNR=7.9	**4.03**	**89**	P	Pn	07 27 24.9	-2.0
EMIJ				S	Sn	07 28 08.3	-5.6
	4.7nm,0.3s,SNR=7.9						
EMIJ	**Mijas** 0.7nm,0.1s,SNR=7.9	**4.03**	**89**	P	Pn	07 27 24.9	-1.9
EMIJ				S	Sn	07 28 09.1	-4.8
	4.8nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**4.15**	**24**	S	Sn	07 28 11.2	-5.9
PVIS	**Viseu** 11nm,0.1s	**4.34**	**19**	*e*Sn	Sn	07 28 15.3	-6.5
PVIS	**Viseu** 5.4nm,0.1s	**4.34**	**19**	S	Sn	07 28 15.3	-6.5
EADA	**Adamuz**	**4.42**	**68**	P	Pn	07 27 29.6	-2.8
EADA				S	Sn	07 28 16.9	-6.9
EADA	**Adamuz** 0.7nm,0.1s,SNR=10.0	**4.42**	**68**	P	Pn	07 27 29.5	-2.9
EADA				S	Sn	07 28 17.1	-6.7
	6.1nm,0.1s,SNR=8.9						
EADA	**Adamuz** 1.0nm,0.1s,SNR=10.0	**4.42**	**68**	P	Pn	07 27 29.6	-2.8
EADA				S	Sn	07 28 16.9	-6.9
	6.1nm,0.1s,SNR=8.9						
ELUQ	**Luque** 5.3nm,0.2s,SNR=7.9	**4.50**	**76**	S	Sn	07 28 18.7	-7.3
ELUQ	**Luque** 5.3nm,0.2s,SNR=7.9	**4.50**	**76**	S	Sn	07 28 19.3	-6.7
ERON	**Agron** 1.2nm,0.2s,SNR=4.0	**4.81**	**84**	S	Sn	07 28 26.6	-7.0
PVRL	**Vila Real** 9.4nm,0.1s	**4.91**	**18**	*e*Sn	Sn	07 28 29.1	-7.1
PVRL	**Vila Real** 4.7nm,0.1s	**4.91**	**18**	S	Sn	07 28 29.1	-7.1
MIF	**Mishlifen**	**4.92**	**129**	*i* P	Pn	07 27 35.0	-4.5
ELOB	**Lobios** 0.5nm,0.1s,SNR=7.9	**5.40**	**14**	P	Pn	07 27 42.4	-3.9
ELOB				S	Sn	07 28 39.9	-8.6
	3.0nm,0.1s,SNR=9.6						
ELOB	**Lobios** 0.5nm,0.1s,SNR=7.9	**5.40**	**14**	P	Pn	07 27 42.3	-3.9
ELOB				S	Sn	07 28 40.2	-8.3
	3.7nm,0.1s,SNR=9.6						
EQES	**Quesada**	**5.48**	**76**	P	Pn	07 27 43.7	-3.7
EQES				S	Sn	07 28 43.8	-6.7
EQES	**Quesada** 0.7nm,0.1s,SNR=7.9	**5.48**	**76**	P	Pn	07 27 43.9	-3.5
EQES				S	Sn	07 28 43.5	-7.0
	4.2nm,0.2s,SNR=7.9						
EQES	**Quesada** 0.7nm,0.1s,SNR=7.9	**5.48**	**76**	P	Pn	07 27 43.7	-3.7
EQES				S	Sn	07 28 43.8	-6.7
	3.4nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.50**	**55**	P	Pn	07 27 44.3	-3.3
ESDC				S	Sn	07 28 43.7	-7.3
ESDC	**Sonseca Array** 2.7nm,0.1s,baz=240,slow=13,SNR=18	**5.50**	**55**	P	Pn	07 27 44.3	-3.3
ESDC				S	Sn	07 28 43.4	-7.6
	4.3nm,0.2s,baz=242,slow=23,SNR=7.9						
ESDC	**Sonseca Array** 11nm,0.2s,SNR=18	**5.50**	**55**	P	Pn	07 27 44.3	-3.3
ESDC				S	Sn	07 28 43.7	-7.3
	4.3nm,0.2s,SNR=7.9						
EZAM	**Zamas** 2.3nm,0.2s,SNR=7.9	**5.58**	**8**	S	Sn	07 28 45.5	-7.4
PBRG	**Braganca**	**5.68**	**24**	*e*Pn	Pn	07 27 47.0	-3.2
PBRG				*e*Sn	Sn	07 28 47.9	-7.6
	3.2nm,0.1s						
PBRG	**Braganca**	**5.68**	**24**	P	Pn	07 27 47.0	-3.2
PBRG				S	Sn	07 28 47.9	-7.6
	1.6nm,0.1s						
ECAL	**Calabor** 1.7nm,0.2s,SNR=7.9	**5.81**	**23**	P	Pn	07 27 48.7	-3.2
ECAL				S	Sn	07 28 50.1	-8.5
	4.3nm,0.2s,SNR=7.3						
ECAL	**Calabor** 3.7nm,0.2s,SNR=7.3	**5.81**	**23**	S	Sn	07 28 50.1	-8.6
ECAL	**Calabor** 0.2nm,0.1s,SNR=7.9	**5.81**	**23**	P	Pn	07 27 48.7	-3.3
GUD	**Guadarrama** 1.9nm,0.2s,SNR=7.9	**5.96**	**46**	P	Pn	07 27 50.6	-3.4
GUD				S	Sn	07 28 54.3	-8.1
	3.2nm,0.3s,SNR=7.9						
EINC	**Incio**	**6.31**	**17**	P	Pn	07 27 54.8	-4.2
EINC				S	Sn	07 29 01.7	-10
EINC	**Incio** 0.3nm,0.1s,SNR=7.9	**6.31**	**17**	P	Pn	07 27 54.9	-4.2
EINC				S	Sn	07 29 03.2	-8.0
	1.7nm,0.1s,SNR=5.0						
EINC	**Incio** 0.6nm,0.1s,SNR=7.9	**6.31**	**17**	P	Pn	07 27 54.8	-4.3
EINC				S	Sn	07 29 01.7	-10
	0.7nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.34**	**5**	P	Pn	07 27 54.7	-4.9
EMAZ				S	Sn	07 29 01.2	-11
EMAZ	**Mazaricos** 1.5nm,0.1s,SNR=7.9	**6.34**	**5**	P	Pn	07 27 54.7	-4.9
EMAZ				S	Sn	07 29 01.1	-11
	5.1nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos** 1.5nm,0.1s,SNR=7.9	**6.34**	**5**	P	Pn	07 27 54.7	-4.8
EPON	**Pontenova** 1.2nm,0.2s,SNR=4.0	**6.99**	**16**	S	Sn	07 29 18.0	-10
EARI	**Arriondas**	**7.53**	**26**	P	Pn	07 28 11.9	-4.3
EARI				S	Sn	07 29 31.4	-10
EARI	**Arriondas** 0.2nm,0.2s,SNR=7.9	**7.53**	**26**	P	Pn	07 28 12.0	-4.2
EARI				S	Sn	07 29 33.2	-8.6
	0.3nm,0.2s,SNR=7.9						
EARI	**Arriondas** 0.2nm,0.2s,SNR=7.9	**7.53**	**26**	P	Pn	07 28 11.9	-4.3
EARI				S	Sn	07 29 31.4	-10
	1.0nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**8.20**	**60**	P	P	07 28 21.9	-3.5
EMOS				S	Sn	07 29 47.6	-11
EMOS	**Mosqueruela** 0.2nm,0.1s,SNR=7.9	**8.20**	**60**	P	P	07 28 22.9	-2.5
EMOS				S	Sn	07 29 48.4	-10
	3.1nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela** 3.7nm,0.4s,SNR=7.9	**8.20**	**60**	S	Sn	07 29 47.6	-11
EMOS	**Mosqueruela** 2.3nm,0.3s,SNR=7.9	**8.20**	**60**	P	P	07 28 21.9	-3.6
ERTA	**Horta de San J** 3.5nm,0.2s,SNR=4.0	**9.00**	**58**	S	Sn	07 30 05.9	-12
EIBI	**Ibiza** SNR=7.9	**9.12**	**71**	S	Sn	07 30 09.8	-11
EBIE	**Bielsa**	**9.75**	**49**	P	P	07 28 42.2	-4.7
EBIE				S	Sn	07 30 24.5	-12
EBIE	**Bielsa** 0.4nm,0.2s,SNR=7.9	**9.75**	**49**	P	P	07 28 42.3	-4.6
EBIE				S	Sn	07 30 24.8	-12
	0.3nm,0.2s,SNR=7.9						
EBIE	**Bielsa** 2.3nm,0.3s,SNR=7.9	**9.75**	**49**	P	P	07 28 42.2	-4.7
EBIE				S	Sn	07 30 24.5	-12
	1.4nm,0.3s,SNR=7.9						

*JMA **04** 07:55:09.7±0.3, 23.86N×121.69E, h62km, M3.7*
*TAP **04** 07:55:09.6, 23.84N×121.61E, h42km, ML4.1*
TAP Felt I J at Hualien, II J at Shilin, I J at Hungye, I J at Hehuanshan, I J at Nanau.
ISC 04 07:55:09.6±0.2, 23.81N±0.02×121.69E±0.02, h37km±6km, n60, σ0°82/112, 8C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.18**	**334**	*i* P	**P**	**07 55 16.7**	**+0.3**
HWA				S	**S**	**07 55 22.5**	**+1.3**
ESL	**Shilin**	**0.24**	**270**	⇑*i* P	**P**	**07 55 16.6**	**-0.4**
ESL				S	**S**	**07 55 21.4**	**-0.7**
TWD	**Chiawan**	**0.28**	**342**	⇓*i* P	**P**	**07 55 17.3**	**-0.2**
TWD				S	**S**	**07 55 23.3**	**+0.3**
EHY	**Hungye**	**0.46**	**228**	⇑*i* P	**P**	**07 55 18.9**	**-0.8**
EHY				S	**S**	**07 55 25.5**	**-1.2**
WHF	**Hehuan Shan**	**0.51**	**310**	⇑*i* P	**P**	**07 55 20.0**	**-0.4**
WHF				S	**S**	**07 55 27.4**	**-0.7**
TWF1	**Yuli**	**0.58**	**218**	⇑P	**P**	**07 55 20.6**	**-0.8**
TWF1				S	**S**	**07 55 28.6**	**-1.3**
ENA	**Nanau**	**0.61**	**4**	*e*P	**P**	**07 55 21.6**	**-0.3**
ENA				S	**S**	**07 55 30.4**	**-0.3**
TWT	**Tachien**	**0.65**	**313**	⇑*i* P	**P**	**07 55 22.3**	**0.0**
TWT				S	**S**	**07 55 30.9**	**-0.6**
NNS	**Nan Shan**	**0.69**	**335**	P	**P**	**07 55 22.4**	**-0.5**
NNS				S	**S**	**07 55 31.3**	**-1.3**
SMLT	**Sun Moon Lake**	**0.73**	**276**	⇑*i* P	**P**	**07 55 23.3**	**-0.2**
SMLT				S	**S**	**07 55 32.9**	**-0.7**
YUS	**Yu-Shan**	**0.75**	**245**	⇑*i* P	**P**	**07 55 24.1**	**+0.3**
YUS				S	**S**	**07 55 33.6**	**-0.5**
TYC	**Yuchr**	**0.77**	**277**	P	**P**	**07 55 23.6**	**-0.4**
TYC				S	**S**	**07 55 34.3**	**-0.3**
CHKT	**Chengkung**	**0.77**	**203**	*e*P	**P**	**07 55 24.0**	**-0.1**
CHKT				S	**S**	**07 55 35.4**	**+0.8**
TWC	**Suao**	**0.81**	**10**	⇓P	**P**	**07 55 24.7**	**+0.2**
TWC				S	**S**	**07 55 36.5**	**+1.0**
ENTT	**Nioudou**	**0.83**	**352**	⇑*i* P	**P**	**07 55 24.6**	**-0.4**
ENTT				S	**S**	**07 55 36.0**	**-0.2**
ALS	**Alishan**	**0.87**	**250**	*e*P	**P**	**07 55 25.6**	**+0.2**
ALS				S	**S**	**07 55 36.8**	**-0.3**
ELDTW	**Lidau**	**0.88**	**225**	*e*P	**P**	**07 55 25.0**	**-0.6**
ELDTW				S	**S**	**07 55 35.7**	**-1.6**
TWE	**Neicheng**	**0.91**	**359**	*e*P	**P**	**07 55 25.7**	**-0.3**
TWE				S	**S**	**07 55 37.3**	**-0.7**
NSK	**Sanguang**	**0.91**	**341**	P	**P**	**07 55 25.9**	**-0.2**
NSK				S	**S**	**07 55 37.1**	**-1.1**
WNT	**Mingjian**	**0.93**	**274**	*e*P	**P**	**07 55 26.9**	**+0.6**
WNT				S	**S**	**07 55 39.0**	**+0.5**
CHN5	**Tsauling**	**0.95**	**257**	*e*P	**P**	**07 55 27.1**	**+0.4**
CHN5				S	**S**	**07 55 39.5**	**+0.3**
TCU	**Taichung**	**0.99**	**290**	*e*P	**P**	**07 55 27.8**	**+0.6**
TCU				S	**S**	**07 55 40.1**	**0.0**
TWQ1	**Liyutan**	**0.99**	**303**	*e*P	**P**	**07 55 27.9**	**+0.6**
TWQ1				S	**S**	**07 55 40.5**	**+0.2**
NSTT	**Nanjuang**	**1.03**	**322**	P	**P**	**07 55 28.3**	**+0.6**
NSY	**Sanyi**	**1.04**	**305**	*e*P	**P**	**07 55 28.4**	**+0.5**
NSY				S	**S**	**07 55 41.8**	**+0.3**
WGK	**Gukeng**	**1.04**	**263**	*e*P	**P**	**07 55 28.6**	**+0.7**
WGK				S	**S**	**07 55 42.0**	**+0.5**
STYT	**Tauyuan**	**1.07**	**233**	*e*P	**P**	**07 55 28.7**	**+0.3**
STYT				S	**S**	**07 55 42.6**	**+0.2**
CHN4	**Tsaushan**	**1.11**	**246**	*e*P	**P**	**07 55 29.7**	**+0.8**
CHN4				S	**S**	**07 55 44.4**	**+1.2**
WTP	**Ta-pu**	**1.14**	**241**	⇓P	**P**	**07 55 30.1**	**+0.8**
WTP				S	**S**	**07 55 45.0**	**+1.0**
TWG	**Pinlang**	**1.14**	**210**	*e*P	**P**	**07 55 27.8**	**-1.5**
TWG				S	**S**	**07 55 41.8**	**-2.2**
TTN	**Taitung**	**1.17**	**206**	*e*P	**P**	**07 55 30.7**	**+1.0**
TWA	**Mucha**	**1.17**	**355**	*e*P	**P**	**07 55 30.0**	**+0.3**
TWA				S	**S**	**07 55 44.4**	**-0.3**
HSN	**Hsinchu**	**1.19**	**326**	*e*P	**P**	**07 55 30.1**	**+0.2**
HSN				S	**S**	**07 55 45.5**	**+0.4**
CHY	**Chiayi**	**1.20**	**255**	*e*P	**P**	**07 55 30.9**	**+0.6**
CHY				S	**S**	**07 55 46.3**	**+0.6**
TWB1	**Santiao Chiao**	**1.22**	**13**	*e*P	**P**	**07 55 31.2**	**+0.7**
TWB1				S	**S**	**07 55 46.7**	**+0.6**
TWK	**Hsinying**	**1.23**	**244**	*e*P	**P**	**07 55 31.2**	**+0.6**
TWK				S	**S**	**07 55 46.7**	**+0.4**
CHN1	**Nanshi**	**1.24**	**240**	*e*P	**P**	**07 55 30.7**	**0.0**
CHN1				S	**S**	**07 55 47.6**	**+1.1**
NCU	**National Centr**	**1.24**	**338**	*e*P	**P**	**07 55 31.2**	**+0.4**
NCU				S	**S**	**07 55 47.9**	**+1.3**
SGST	**Jiashian**	**1.25**	**235**	*e*P	**P**	**07 55 31.9**	**+1.0**
SGST				S	**S**	**07 55 48.3**	**+1.5**
NWF	**Wu-fen Shan**	**1.26**	**4**	*e*P	**P**	**07 55 31.2**	**+0.2**
NWF				S	**S**	**07 55 47.4**	**+0.5**
TWS1	**Kuangyinshan**	**1.31**	**349**	*e*P	**P**	**07 55 31.8**	**0.0**
TWS1				S	**S**	**07 55 48.6**	**+0.4**
WSF	**Szhu**	**1.36**	**263**	*e*P	**P**	**07 55 32.0**	**-0.5**
YOJ	**Yonaguni jima**	**1.37**	**62**	P	**P**	**07 55 32.8**	**+0.2**
YOJ				S	**S**	**07 55 49.8**	**0.0**
ECL	**Taimali**	**1.39**	**209**	*e*P	**P**	**07 55 31.3**	**-1.7**
ECL	

CHRT				SG	Sn	08 52 04.0	+11
SHL	**Shillong**	**6.26**	**278**	*e*P	Pn	08 51 01.0	-12
NANT	**Nan**	**6.28**	**163**	⇓P	Pn	08 51 08.0	-4.8
	156nm,1.0s						

MEX 04 08:50:10.7±0.9, 17.86N×99.38W, h52km±18km, MD3.7, 2C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**0.54**	**348**	⇑*i*P	P	08 50 21.1	-1.5
PLIG				*i* S	S	08 50 29.4	-1.8
YAIG	**Yautepec**	**1.04**	**17**	⇑*i*P	P	08 50 27.3	-2.0
YAIG				*i* S	S	08 50 40.7	-2.4
ACX	**Acapulco**	**1.11**	**207**	*i* P	P	08 50 28.0	-2.2
ACX				*i* S	S	08 50 43.0	-1.7
CAIG	**El Cayaco**	**1.17**	**226**	*i* P	P	08 50 28.9	-2.0
CAIG				*i* S	S	08 50 43.4	-2.7
IIZ	**Mezontepec**	**1.33**	**6**	*i* P	P	08 50 32.0	-1.4
PPM	**Popocatepetl**	**1.40**	**31**	*i* P	P	08 50 32.6	-1.7
PPM				*i* P		08 50 33.0	
PPM				*i* S	S	08 50 50.4	-1.6
POHV	**Veracruz**	**2.33**	**59**	*e*P	P	08 50 44.5	-3.0
OXX	**Oaxaca**	**2.66**	**107**	*i* P	P	08 50 49.0	-3.1

MAN 04 08:50:51.5, 14.18N×125.63E, h35km, mb4.9, ML3.8, MS3.8, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.54**	**248**	*e*P	P	08 51 16.9	-0.1
PVCP				*e*S	S	08 51 35.9	-0.2
CNP	**Cataraman**	**1.90**	**210**	*e*P	P	08 51 22.6	+0.4
CNP				*e*S	S	08 51 44.8	-0.3
BESP	**Borongan**	**2.57**	**184**	*e*P	P	08 51 31.2	-0.5
BESP				*e*S	S	08 51 58.5	-3.5
OCLP	**Ormoc**	**3.26**	**198**	*e*P	P	08 51 49.4	+7.8
BOAC	**Boac**	**3.74**	**259**	*e*P	P	08 51 47.5	-0.9
RCP	**Roxas**	**3.83**	**228**	⇓*e*P	P	08 51 50.0	+0.4
RCP				*e*S	S	08 52 33.9	-0.2
OTRP	**Odiongan**	**3.95**	**243**	*e*P	P	08 51 53.5	+2.2
LQP	**Lukban**	**3.96**	**270**	⇑*e*P	P	08 51 52.0	+0.5
MSLP	**Maasin**	**4.09**	**191**	*e*P	P	08 51 58.5	+5.3
MSLP				*e*S	S	08 52 39.1	-1.5
BALP	**Baler**	**4.21**	**292**	*e*P	P	08 51 52.9	-2.1
SCPH	**Surigao**	**4.37**	**182**	*e*P	P	08 52 09.2	+12
SCPH				*e*S	S	08 52 40.3	-7.5
SCPH	**Surigao**	**4.37**	**182**	*e*P	P	08 52 09.2	+12
SCPH				*e*S	S	08 52 40.3	-7.5
CAUP	**Cauayan**	**4.58**	**307**	*e*P	P	08 52 00.3	0.0
PCPH	**Palayan**	**4.59**	**288**	⇑*e*P	P	08 51 58.5	-1.9
PCPH				*e*S	S	08 52 49.3	-4.0
SJMP	**San Jose**	**4.71**	**249**	*e*P	P	08 52 04.0	+1.9
CVP	**Callao Caves**	**5.07**	**314**	*e*P	P	08 52 06.5	-0.6
BUTP	**Butuan**	**5.18**	**180**	*e*P	P	08 52 01.2	-7.5
ABRA	**Dolores**	**5.85**	**307**	*e*P	P	08 52 18.5	+0.4

DJA 04 09:01:04.6±0.9, 9.21S×116.57E, h165km±9km, ML3.7/4, 1C-6D, Error ellipse: s-maj=59.3km s-min=17.3km az=5.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.85**	**328**	*e*Pn	P	09 01 29.3	-0.6
	76nm,0.2s						
KEDI				⇓*i*Sn	S	09 01 48.6	-0.9
RATI	**Rata**	**1.14**	**295**	⇓*i*Pn	P	09 01 32.6	+0.4
	443nm,0.2s						
RATI				⇓*i*Sn	S	09 01 52.2	-1.2
KELI	**Kelakatan**	**2.28**	**296**	⇑*e*Pn	P	09 01 45.2	+0.8
	16nm,0.2s						
KELI				⇓*i*Sn	S	09 02 13.2	-1.7
SRDI	**Scrawed**	**2.51**	**287**	⇓*i*Pn	P	09 01 46.1	-1.0
	36nm,0.2s						
SRDI				⇓*i*Sn	S	09 02 17.3	-2.5

BJI ***04*** *09:13:10.5, 10.53N×92.40E, h32km, mB6.0, mb5.7, Ms6.1, Msz6.0*

GUC ***04*** *09:13:11.7±0.0, 10.66N×92.37E, h20km, mb6.0(NEIC), MS5.9(NEIC), MW6.1(NEIC)*

MOS ***04*** *09:13:12.4±1.0, 10.72N×92.37E, h33km, mb6.1/92, MS5.9/51, Error ellipse: s-maj=7.1km s-min=4.0km az=121.2*

HRVD ***04*** *09:13:12.2±0.1, 10.65N×92.03E, h24km, MW5.9/60, Centroid moment Tensor Solution. LP body waves: s40,c79; Mantle waves: s60,c162; Half duration: 2±8 Moment tensor: Scale 10^{18}Nm; M_{rr}0.59±.01; $M_{\theta\theta}$0.10±.01; $M_{\phi\phi}$-0.69±.01; $M_{r\theta}$0.18±.02; $M_{\theta\phi}$0.06±.01; $M_{\phi r}$-0.75±.02; Best double couple: $M_0$1.004×10^{18} NP1:ϕ_s5°, δ20°, λ107°. NP2:ϕ_s168°, δ70°, λ84°. Principal axes: T.96, Plg64°, Azm68°; N.089, Plg6°, Azm170°; P-1.049, Plg25°, Azm263°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***04*** *09:13:12.2±0.1, 10.67N×92.36E, mb6.0/135, ME5.6, MS5.9/40, MW6.1 Error ellipse: s-maj=4.7km s-min=3.1km az=211.0 Broadband fault plane solution: P waves. NP1: ϕ_s160°, δ85°, λ70°. NP2:ϕ_s57°, δ21°, λ166°. Principal axes: T Plg46°, Azm49°; N Plg0°, Azm0°; P Plg37°, Azm268°; Moment Tensor Solution. s31 Moment tensor: Scale 10^{18} Nm; M_{rr}0.38; $M_{\theta\theta}$0.24; $M_{\phi\phi}$-0.62; $M_{r\theta}$0.47; $M_{\theta\phi}$-0.25; $M_{\phi r}$-1.18; Best double couple: $M_0$1.4×10^{18} NP1:ϕ_s49°, δ21°, λ156°. NP2:ϕ_s161°, δ82°, λ71°. Principal axes: T 1.4, Plg50°, Azm50°; N 0, Plg19°, Azm164°; P -1.4, Plg34°, Azm268°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

CSEM ***04*** *09:13:15.4, 11.15N×92.05E, h33km, mb6.0*

ISC 04 09:13:10.6±0.1, 10.67N±0.03×92.38E±0.02, h23km, h23km±.3km: pP-P, n709, σ19/00/631, mb5.9/172, MS5.9/78, 137C-63D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**8.84**	**112**	P	**P**	**09 15 20.0**	**-0.2**
	620nm,1.0s						
CM31	**Chiang Mai Arr**	**10.01**	**39**	*e*P	**P**	**09 15 37.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**10.01**	**39**	*i* P	**P**	**09 15 36.5**	**+0.1**
CHG	**Chiang Mai**	**10.28**	**37**	⇓P	**P**	**09 15 40.7**	**+0.6**
	137nm,0.8s						
CHG				S	**S**	**09 17 47.4**	**+12**
VIS	**Vishakhapatnam**	**11.23**	**310**	⇓*i*P	**P**	**09 15 48.3**	**-4.7**
VIS				*i*		09 15 52.1	
	comp=Z,4μm,1.1s						
VIS				*e*S	**S**	**09 17 43.4**	**-15**
VIS				*e*		09 17 47.2	
	comp=N,3μm,0.8s						
VIS				*e*		09 17 47.6	
	comp=E,3μm,0.7s						
VIS				*e*		09 20 46.4	
	comp=Z,55μm,18.2s						
NANT	**Nan**	**11.40**	**44**	⇑P	**P**	**09 15 55.0**	**-0.3**
	comp=Z,238nm,1.0s						
BWNR	**Bhubaneshwar**	**11.48**	**327**	⇓*i*P	**P**	**09 15 50.5**	**-5.8**
BWNR				*e*		09 15 52.5	
	comp=Z,3μm,0.1s						
BWNR				*e*		09 17 46.2	
CHRT	**Chiangrai**	**11.60**	**37**	⇑P	**P**	**09 15 58.0**	**0.0**
	comp=Z,921nm,0.9s						
MDRS	**Chennai**	**12.12**	**283**	⇓*i*P	**P**	**09 16 00.8**	**-4.3**
MDRS				*e*		09 18 05.0	
CAL	**Calcutta**	**12.42**	**342**	*e*P	**P**	**09 16 11.2**	**+2.1**
CAL				*e*		09 18 46.5	
UBT	**Ubonrachathani**	**13.13**	**68**	P	**P**	**09 16 22.5**	**+4.0**
AGT	**Agartala**	**13.19**	**355**	⇑*i*	**P**	**09 16 13.0**	**-6.2**
AGT				*i*		09 17 47.0	
IMP	**Imphal**	**14.11**	**6**	*e*	**P**	**09 16 29.9**	**-1.7**
BOK	**Bokaro**	**14.45**	**335**	*e*P	**P**	**09 16 34.3**	**-1.6**
BOK				*e*		09 16 40.1	
	comp=Z,223nm,0.8s						
BOK				*e*		09 19 07.1	
KOD	**Kodaikanal**	**14.68**	**270**	⇓*i*P	**P**	**09 16 36.0**	**-2.9**
KOD				⇓*i*		09 16 42.0	
KOD				*e*S	**S**	**09 19 12.0**	**-10**
SHL	**Shillong**	**14.82**	**358**	*e*P	**P**	**09 16 39.8**	**-1.0**
SHL				*e*		09 19 16.0	
HYB	**Hyderabad**	**14.99**	**298**	⇑*i*P	**P**	**09 16 40.5**	**-2.6**
	comp=Z,720nm,1.0s						
HYB				*e*		09 19 14.0	
HYB				*e*S	**S**	**09 19 27.0**	**-2.2**
HYB				LR	LR	09 24 18.0	
	comp=Z,77nm,16.0s						
BLSP	**Bilaspur**	**15.04**	**321**	⇓*i*P	**P**	**09 16 39.8**	**-3.9**
BLSP				*e*P		09 16 40.5	
BLSP				*e*		09 16 50.3	
	comp=Z,913nm,0.9s						
BLSP				*e*		09 19 09.5	
BLSP				*e*		09 19 13.3	
TRD	**Trivandrum**	**15.36**	**263**	⇓*i*P	**P**	**09 16 43.6**	**-4.3**
TRD				*e*		09 17 01.8	
	comp=Z,1μm,1.9s						
TRD				*e*		09 19 27.1	
NGP	**Nagpur**	**16.51**	**311**	*e*P	**P**	**09 16 59.2**	**-3.3**
NGP				*i*		09 17 02.1	
NGP				*e*		09 19 53.3	
LATR	**Latur**	**17.13**	**299**	*e*P	**P**	**09 17 09.5**	**-1.0**
MNGI	**Mangalore**	**17.34**	**279**	⇓*i*P	**P**	**09 17 10.8**	**-2.2**
MNGI				*e*		09 17 15.1	
	comp=Z,2μm,1.5s						
MNGI				*e*		09 20 06.1	
MNGI				*i*		09 24 19.6	
	comp=Z,64μm,18.2s						
ALBI	**Allahabad**	**17.68**	**327**	*e*P	**P**	**09 17 14.5**	**-2.7**
JIRN	**Jiri**	**17.88**	**342**	*e*P	**P**	**09 17 19.9**	**+0.2**
	comp=Z,1μm,1.0s						
JIRN				*e*S	**S**	**09 20 29.6**	**-6.1**
PKI	**Pulchoki**	**18.05**	**340**	*e*P	**P**	**09 17 21.6**	**-0.2**
	comp=Z,2μm,1.1s						
PKI				*e*S	**S**	**09 20 33.7**	**-5.9**
DMN	**Daman**	**18.19**	**339**	*e*P	**P**	**09 17 23.6**	**0.0**
	comp=Z,1μm,0.9s						
GUN	**Gumba**	**18.21**	**341**	*e*P	**P**	**09 17 23.9**	**+0.1**
	comp=Z,811nm,0.9s						
KKN	**Kakani**	**18.29**	**340**	*e*P	**P**	**09 17 25.2**	**+0.3**
	comp=Z,1μm,1.2s						
KKN				*e*S	**S**	**09 20 40.2**	**-4.9**
GOA	**Goa**	**18.70**	**287**	⇓*i*	**P**	**09 17 34.9**	**+5.0**
GOA				*e*		09 20 55.0	
GKN	**Gorkha**	**18.72**	**338**	*e*P	**P**	**09 17 30.1**	**+0.1**
	comp=Z,2μm,1.1s						
GKN				*e*S	**S**	**09 20 48.6**	**-6.0**
QIZ	**Qiongzhong**	**18.80**	**62**	P	**P**	**09 17 30.9**	**-0.2**
QIZ				XP		09 17 38.7	
QIZ				S	**S**	**09 20 58.0**	**+1.5**
QIZ				AMB	AMB		
	comp=Z,8μm,10.1s						
QIZ				LR	LR		
	comp=N,46μm,17.5s						
QIZ				LR	LR		
	comp=E,23μm,19.0s						
QIZ				LR	LR		
	comp=Z,42μm,18.3s						
QIZ	**Qiongzhong**	**18.80**	**62**	*e*P	**P**	**09 17 30.8**	**-0.3**
	comp=Z,131nm,0.9s						
KAD	**Karad**	**18.84**	**293**	⇓*i*P	**P**	**09 17 27.8**	**-3.8**
KAD				*e*		09 17 34.6	
	comp=Z,886nm,1.3s						
KAD				*e*S	**S**	**09 21 01.3**	**+3.7**
KOLN	**Koldanda**	**18.91**	**335**	*e*P	**P**	**09 17 32.5**	**+0.2**
	comp=Z,671nm,0.7s						
KOLN				*e*S	**S**	**09 20 53.3**	**-5.7**
LSA	**Lhasa**	**18.97**	**357**	P	**P**	**09 17 34.6**	**+1.6**
LSA				XP		09 17 48.8	
LSA				S	**S**	**09 20 56.8**	**-3.5**
LSA				AMB	AMB		
	comp=Z,210nm,1.4s						
LSA				AMB	AMB		
	comp=Z,7μm,10.0s						
LSA				LR	LR		
	comp=N,11μm,29.0s						
LSA				LR	LR		
	comp=E,31μm,27.0s						
LSA				LR	LR		
	comp=Z,24μm,27.0s						
LSA	**Lhasa**	**18.97**	**357**	⇑*i*P	**P**	**09 17 33.2**	**+0.2**
LSA				pmax	pmax		
	comp=Z,332nm,0.7s						
LSA	**Lhasa**	**18.97**	**357**	⇑*i*P	**P**	**09 17 33.2**	**+0.2**
	comp=Z,332nm,0.7s						
LSA				*e*PcP	PcP	09 22 15.2	+17
BHPL	**Bhopal**	**18.98**	**313**	⇓*i*P	**P**	**09 17 31.9**	**-1.2**
BHPL				*e*		09 17 37.6	
	comp=Z,906nm,1.4s						
BHPL				*e*S	**S**	**09 21 04.2**	**+3.7**
MNCY	**Minicoy**	**19.23**	**265**	*i*	**P**	**09 17 26.0**	**-10**
MNCY				*i*		09 24 09.0	
POO	**Poona**	**19.55**	**296**	⇓*i*P	**P**	**09 17 38.0**	**-1.8**
POO				*e*		09 17 42.3	
	comp=Z,2μm,1.4s						
POO				*e*S	**S**	**09 21 12.7**	**-0.8**
JHNI	**Jhansi**	**19.71**	**320**	*e*P	**P**	**09 17 42.0**	**+0.4**
JHNI				*e*		09 21 25.0	
PENI	**Pendagan**	**20.55**	**141**	*e*P	**P**	**09 17 43.6**	**-6.9**
PENI				pmax	pmax		
	comp=Z,95nm,0.5s						
PENI	**Pendagan**	**20.55**	**141**	*e*P	**P**	**09 17 43.6**	**-6.9**
	comp=Z,95nm,0.5s						
BOM	**Bombay**	**20.60**	**296**	⇓*i*P	**P**	**09 17 50.4**	**-0.5**
BOM				*e*		09 18 01.9	
	comp=Z,2μm,1.4s						
BOM				*e*S	**S**	**09 21 37.7**	**+2.5**
BOM				*i*		09 26 57.7	
	comp=Z,27μm,17.7s						
PTH	**Pithoragarh**	**21.95**	**331**	*e*P	**P**	**09 18 07.0**	**+2.4**
PTH				*e*	**S**	**09 22 04.0**	**+3.3**
BHV	**Bhavnagar**	**22.31**	**302**	*e*P	**P**	**09 18 10.0**	**+1.8**
NDI	**New Delhi**	**22.87**	**324**	*e*P	**P**	**09 18 16.8**	**+3.1**
NDI				*e*S	**S**	**09 22 22.6**	**+5.2**
KUDL	**Kundal**	**22.91**	**322**	⇓*e*P	**P**	**09 18 15.3**	**+1.1**
AJM	**Ajmer**	**22.98**	**316**	⇓*i*P	**P**	**09 18 16.2**	**+1.4**
AJM				*e*		09 18 26.1	
	comp=Z,736nm,1.3s						
AJM				*e*S	**S**	**09 22 23.4**	**+4.0**
COCO	**West Island**	**23.14**	**169**	*e*P	**P**	**09 18 19.6**	**+3.2**
	comp=Z,667nm,1.2s,mb5.9						
KHET	**Khetri**	**23.28**	**320**	⇓*e*P	**P**	**09 18 19.7**	**+2.0**
DDI	**Dehra Dun**	**23.67**	**328**	*e*P	**P**	**09 18 23.1**	**+1.6**
DDI				*e*	**S**	**09 22 30.1**	**-1.3**
HKC	**Hong Kong**	**23.84**	**58**	⇑*i*P	**P**	**09 18 26.0**	**+2.7**
HKC				*i* S	**S**	**09 22 42.0**	**+7.5**
SMLA	**Simla**	**24.77**	**328**	⇑*e*P	**P**	**09 18 46.4**	**+14**
SMLA				*e*S	**S**	**09 23 06.4**	**+16**
BHJ	**Bhuj**	**25.04**	**303**	*e*P	**P**	**09 18 32.5**	**-2.3**
BHJ				*e*		09 18 45.5	
	comp=Z,342nm,1.0s						
BHJ				*e*S	**S**	**09 22 59.0**	**+4.3**
BATP	**Bataraza**	**25.12**	**92**	*e*P	**P**	**09 18 35.9**	**+0.3**
ENH	**Enshi**	**25.18**	**37**	⇑*i*P	**P**	**09 18 35.4**	**-0.6**
	comp=Z,391nm,0.6s,mb6.1						
ENH				*e*		09 18 44.3	
ENH				LR	LR		
	comp=Z,28μm,19.0s,MS5.8						
BHK	**Bhakra**	**25.40**	**327**	*e*	**P**	**09 18 42.6**	**+4.5**
BHK				*e*		09 23 30.8	
PPR	**Puerto Princes**	**25.94**	**90**	⇑*e*P	**P**	**09 18 43.7**	**+0.3**
DLH	**Dalhousie**	**26.51**	**328**	*e*P	**P**	**09 18 49.0**	**+0.6**
DLH				*e*		09 19 26.0	
ENPP	**El Nido**	**26.55**	**86**	*e*P	**P**	**09 18 48.2**	**-0.7**
DGAR	**Diego Garcia**	**26.76**	**229**	*i* P	**P**	**09 18 50.0**	**-0.9**
DGAR	**Diego Garcia**	**26.76**	**229**	*e*P	**P**	**09 18 49.2**	**-1.7**
	comp=Z,530nm,1.1s,mb6.0						
DGAR				LR	LR		
	comp=Z,12μm,20.0s,MS5.4						
BOLP	**Bolinao**	**27.34**	**75**	*e*P	**P**	**09 18 56.9**	**+0.7**
LZH	**Lanzhou**	**27.36**	**21**	⇑*i*P	**P**	**09 18 56.5**	**+0.4**
LZH				AP	pP	09 19 03.6	+0.7
LZH				XP	sP	09 19 07.1	+1.1
LZH				PP	PP	09 19 44.2	+0.6
LZH				S	**S**	**09 23 33.5**	**+0.6**
LZH				XS		09 23 45.6	
LZH				SS	SS	09 24 51.0	+0.9
LZH				AMB	AMB		
	comp=Z,557nm,1.3s,mb5.9						
LZH				AMB	AMB		
	comp=Z,2μm,9.0s						
LZH				LR	LR		
	comp=E,14μm,13.9s						
LZH				LR	LR		
	comp=Z,26μm,16.9s,MS5.9						
LUBP	**Lubang**	**27.40**	**81**	*e*P	**P**	**09 18 56.3**	**-0.4**
LUBP	**Lubang**	**27.40**	**81**	*e*P	**P**	**09 18 56.9**	**+0.2**
XAN	**Xi'an**	**27.75**	**31**	P	**P**	**09 18 58.2**	**-1.6**
XAN				XP	sP	09 19 16.6	+6.9
XAN				S	**S**	**09 23 42.0**	**+2.7**
XAN				AMB	AMB		
	comp=Z,129nm,0.6s,mb5.7						
XAN				LR	LR		
	comp=N,18μm,21.3s,MS5.8						
XAN				LR	LR		
	comp=E,22μm,21.6s,MS5.8						
XAN				LR	LR		
	comp=Z,27μm,18.2s,MS5.9						
SJMP	**San Jose**	**28.20**	**84**	*e*P	**P**	**09 19 03.7**	**-0.3**
WHN	**Wuhan**	**28.42**	**43**	⇑P	**P**	**09 19 05.4**	**-0.4**
WHN				S	**S**	**09 23 53.0**	**+2.9**
WHN				AMB	AMB		
	comp=Z,163nm,1.5s,mb5.4						
WHN				AMB	AMB		
	comp=Z,2μm,7.5s						
WHN				LR	LR		
	comp=N,7μm,14.7s						
WHN				LR	LR		
	comp=E,46μm,20.1s						
WHN				LR	LR		
	comp=Z,75μm,17.4s,MS6.3						
QZH	**Quanzhou**	**28.63**	**57**	⇑*i*P	**P**	**09 19 07.7**	**0.0**
QZH				S	**S**	**09 23 54.0**	**+0.5**
QZH				AMB	AMB		
	comp=Z,3μm,6.1s						
QZH				LR	LR		
	comp=N,5μm,9.4s						
QZH				LR	LR		
	comp=E,36μm,17.4s						
QZH				LR	LR		
	comp=Z,41μm,18.1s,MS6.1						
LQP	**Lukban**	**28.67**	**80**	⇑*e*P	**P**	**09 19 08.2**	**0.0**
APYP	**Conner**	**28.84**	**72**	*e*P	**P**	**09 19 02.0**	**-7.7**
BALP	**Baler**	**28.85**	**77**	*e*P	**P**	**09 19 14.4**	**+4.7**
OTRP	**Odiongan**	**29.08**	**84**	*e*P	**P**	**09 19 11.0**	**-1.0**
CAUP	**Cauayan**	**29.24**	**74**	*e*P	pP	09 19 20.6	+0.5
CVP	**Callao Caves**	**29.36**	**73**	*e*P	**P**	**09 19 14.5**	**+0.1**
KEDI	**Kedomdong**	**30.33**	**128**	⇓*e*P	**P**	**09 19 19.8**	**-3.2**
KEDI				pmax	pmax		
	comp=Z,150nm,0.6s,mb5.9						
KEDI	**Kedomdong**	**30.33**	**128**	⇓*e*P	**P**	**09 19 19.8**	**-3.2**
	comp=Z,150nm,0.6s,mb5.9						
SNPH	**Sibulan**	**30.41**	**90**	*e*P	**P**	**09 19 24.0**	**+0.3**
NINI	**Niniconang**	**31.11**	**117**	⇓*e*P	**P**	**09 19 28.8**	**-1.1**
NINI				pmax	pmax		
	comp=Z,369nm,1.1s,mb6.1						
NINI	**Niniconang**	**31.11**	**117**	⇓*e*P	**P**	**09 19 28.8**	**-1.1**
	comp=Z,369nm,1.1s,mb6.1						
BUNI	**Buntu Taipa**	**31.24**	**116**	⇓*e*P	**P**	**09 19 30.9**	**-0.2**
	comp=Z,196nm,0.5s,mb6.2						
BUKP	**Musuan**	**32.36**	**92**	*e*P	**P**	**09 19 40.8**	**0.0**
TIY	**Taiyuan**	**32.40**	**30**	*e*P	**P**	**09 19 39.0**	**-2.0**
TIY				S	**S**	**09 24 53.0**	**+0.2**
TIY				LR	LR		
	comp=N,28μm,18.0s						
NJ2	**Nanjing**	**32.40**	**45**	*e*P	**P**	**09 19 40.7**	**-0.4**
NJ2				AP	pP	09 19 47.9	-0.1
NJ2				XP	sP	09 19 50.3	-0.7
NJ2				PP	PP	09 20 47.3	-1.9
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,5μm,6.9s						
NJ2				LR	LR		
	comp=N,6μm,20.2s,MS5.4						
NJ2				LR	LR		
	comp=E,4μm,19.3s,MS5.4						
NJ2				LR	LR		
	comp=Z,4μm,19.4s,MS5.1						
DAV	**Davao City (W)**	**32.98**	**93**	*e*P	**P**	**09 19 48.0**	**+1.7**
WMQ	**Urumqi**	**33.28**	**354**	⇑*i*P	**P**	**09 19 49.4**	**+0.8**
WMQ				AP	pP	09 19 56.7	+1.2
WMQ				XP	sP	09 20 00.0	+1.5
WMQ				PP	PP	09 21 01.5	+1.3
WMQ				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.6						
WMQ				AMB	AMB		
	comp=Z,610nm,4.2s						
WMQ				LR	LR		
	comp=N,28μm,18.0s,MS6.1						
WMQ				LR	LR		
	comp=E,18μm,20.0s,MS6.1						
WMQ				LR	LR		
	comp=Z,26μm,21.5s,MS5.9						
SSE	**Sheshan**	**33.55**	**48**	P	**P**	**09 19 51.3**	**+0.2**
SSE				XP	sP	09 20 04.0	+3.0
SSE				S	**S**	**09 25 06.9**	**-3.8**
SSE				XS		09 25 21.7	
SSE				AMB	AMB		
	comp=Z,61nm,0.9s,mb5.5						
SSE				AMB	AMB		
	comp=Z,2μm,11.2s						
SSE				LR	LR		
	comp=N,19μm,17.8s,MS5.9						
SSE				LR	LR		
	comp=E,5μm,17.8s,MS5.9						
SSE				LR	LR		
	comp=Z,18μm,16.2s,MS5.9						
TIA	**Tai'an**	**33.88**	**37**	P	**P**	**09 19 53.5**	**-0.4**
TIA				AMB	AMB		
	comp=Z,85nm,1.2s,mb5.5						
TIA				AMB	AMB		
	comp=Z,2μm,6.0s						
TIA				LR	LR		
	comp=N,8μm,14.3s,MS5.8						
TIA				LR	LR		
	comp=E,11μm,16.7s,MS5.8						
ULHL	**Ulahol**	**34.48**	**339**	P	**P**	**09 19 59.7**	**+0.7**
	SNR=23						
KZA	**Kyzart**	**34.70**	**337**	P	**P**	**09 20 02.2**	**+1.3**
	SNR=36						
UCH	**Uchtor**	**35.12**	**337**	P	**P**	**09 20 05.8**	**+1.4**
	SNR=24						
AAA	**Alma-Ata**	**35.15**	**340**	*e*P	**P**	**09 20 05.0**	**+0.3**
AAA				*e*S	**S**	**09 25 38.0**	**+2.6**
AAA				pmax	pmax		
	comp=Z,2μm,6.0s						
AAA				smax			
	comp=N,6μm,8.0s						
AAA				MLR	MLR		
	comp=Z,13μm,16.0s,MS5.8						
TKM2	**Tokmak 2**	**35.30**	**338**	P	**P**	**09 20 06.9**	**+0.8**
	SNR=22						
KBK	**Karagaybulak**	**35.31**	**338**	P	**P**	**09 20 07.8**	**+1.6**
	SNR=35						
AML	**Almayashu**	**35.36**	**336**	P	**P**	**09 20 08.0**	**+1.5**
	SNR=119						
AAK	**Ala-Archa**	**35.47**	**337**	P	**P**	**09 20 09.0**	**+1.6**
	SNR=53						
AAK	**Ala-Archa**	**35.47**	**337**	*c i*P	**P**	**09 20 07.3**	**-0.1**
AAK				pmax	pmax		
	comp=Z,109nm,1.4s,mb5.6						
AAK	**Ala-Archa**	**35.47**	**337**	⇑*i*P	**P**	**09 20 07.2**	**-0.2**
	comp=Z,251nm,1.2s,mb6.0						
AAK				LR	LR		
	comp=Z,5μm,20.0s,MS5.3						
FRU	**Bishkek**	**35.59**	**337**	⇑*i*P	**P**	**09 20 09.5**	**+1.0**
FRU				*e*		09 25 44.0	
FRU				pmax	pmax		
	comp=Z,160nm,1.6s,mb5.7						
CHMS	**Chumysh**	**35.68**	**338**	P	**P**	**09 20 09.7**	**+0.5**
	SNR=20						
EKS2	**Erkin-Say**	**35.77**	**336**	P	**P**	**09 20 11.6**	**+1.6**
	SNR=57						
USP	**Ospenovka**	**36.01**

INCN	**Inchon**	**40.73**	**43**⇑	*i*P	**P**	**09 20 51.1**	**-0.3**
	comp=Z,176nm,0.9s,mb5.7						
INCN				LR	LR		
	comp=Z,26μm,19.0s,MS6.1						
SNY	**Shenyang**	**41.36**	**36**	⇑P	**P**	**09 20 56.7**	**+0.2**
SNY				AMB	AMB		
	comp=Z,170nm,1.5s,mb5.5						
SNY				LR	LR		
	comp=N,9μm,18.2s,MS6.2						
SNY				LR	LR		
	comp=E,26μm,17.0s,MS6.2						
SNY				LR	LR		
	comp=Z,21μm,17.4s,MS6.1						
MOY	**Mondy**	**41.48**	**8**	*e*P	**P**	**09 20 58.7**	**+1.3**
MBWA	**Marble Bar**	**41.50**	**140**⇑	*e*P	**P**	**09 20 56.0**	**-2.0**
	comp=Z,132nm,1.2s,mb5.4						
MBWA				LR	LR		
	comp=Z,12μm,20.0s,MS5.8						
KS15	**Wonju Array Si**	**41.56**	**44**⇑	*i*P	**P**	**09 20 57.9**	**-0.4**
TLY	**Talaya**	**41.91**	**10**⇑	*i*P	**P**	**09 21 02.4**	**+1.4**
TLY				*e*		09 22 44.0	
TLY				*e*S	**S**	**09 27 14.2**	**-3.5**
TLY				pmax	pmax		
	comp=Z,141nm,1.5s,mb5.4						
TLY				MLR	MLR		
	comp=Z,12μm,22.0s,MS5.7						
TLY	**Talaya**	**41.91**	**10**⇑	*i*P	**P**	**09 21 02.7**	**+1.7**
	comp=Z,261nm,1.3s,mb5.7						
TLY				LR	LR		
	comp=Z,2μm,22.0s,MS5.0						
IRK	**Irkutsk**	**42.57**	**11**	*e*P	**P**	**09 21 07.0**	**+0.7**
IRK				*e*		09 21 22.7	
IRK				*e*		09 22 50.2	
IRK				*e*		09 30 56.5	
FITZ	**Fitzroy Crossi**	**43.53**	**131**⇑	*i*P	**P**	**09 21 13.3**	**-1.4**
	comp=Z,608nm,0.9s,mb6.3						
NVS	**Novosibirsk**	**44.65**	**352**	*i* P	**P**	**09 21 22.1**	**-1.1**
NVS				*i* S	**S**	**09 27 53.4**	**-4.1**
NVS				*e*SS	SS	09 31 18.6	+9.2
NVS				pmax	pmax		
	comp=Z,165nm,1.6s,mb5.6						
NVS				pmax	pmax		
	comp=E,62nm,1.3s						
NVS				pmax	pmax		
	comp=N,138nm,1.4s						
NVS				smax			
	comp=E,134nm,2.0s						
NVS				smax			
	comp=N,470nm,1.8s						
HIA	**Hailar**	**44.70**	**25**⇑	*i*P	**P**	**09 21 23.6**	**-0.1**
HIA				pmax	pmax		
	comp=Z,174nm,0.9s						
HIA				MLR	MLR		
	comp=Z,16μm,20.0s						
HIA	**Hailar**	**44.70**	**25**⇑	*i*P	**P**	**09 21 23.6**	**-0.1**
	comp=Z,174nm,0.9s,mb5.9						
HIA				LR	LR		
	comp=Z,16μm,20.0s,MS6.0						
KAKA	**Kakadu**	**46.06**	**119**⇑	*i*P	**P**	**09 21 33.2**	**-1.7**
	comp=Z,91nm,0.5s,mb6.0						
LBOS		**46.11**	**279**⇓	*e*P	**P**	**09 21 37.4**	**+2.0**
MDJ	**Mudanjiang**	**46.54**	**37**	P	**P**	**09 21 38.5**	**+0.2**
MDJ				AP	pP	09 21 44.9	-0.5
MDJ				XP	sP	09 21 47.6	-0.7
MDJ				PCP	PcP	09 23 11.6	-1.3
MDJ				PP	PP	09 23 28.3	+0.7
MDJ				AMB	AMB		
	comp=Z,68nm,1.6s,mb5.3						
MDJ				LR	LR		
	comp=N,17μm,22.9s,MS6.1						
MDJ				LR	LR		
	comp=E,16μm,20.3s,MS6.1						
MDJ				LR	LR		
	comp=Z,18μm,19.0s,MS6.0						
MDJ	**Mudanjiang**	**46.54**	**37**	*e*P	**P**	**09 21 37.2**	**-1.1**
	comp=Z,29nm,0.5s,mb5.5						
DHBB	**Dhamar BB**	**46.93**	**280**⇓	*e*P	**P**	**09 21 44.5**	**+2.7**
VLA	**Vladivostok**	**47.11**	**39**⇓	*i*P	**P**	**09 21 43.0**	**+0.1**
VLA				*i*		09 23 30.0	
VLA				*i* S	**S**	**09 28 43.0**	**+10**
VLA				*i*		09 31 45.0	
VLA				pmax	pmax		
	comp=Z,3μm,13.6s						
VLA				pmax	pmax		
	comp=N,1μm,12.0s						
VLA				pmax	pmax		
	comp=E,2μm,13.0s						
VLA				pmax	pmax		
	comp=Z,2μm,11.0s						
VLA				pmax	pmax		
	comp=N,600nm,9.0s						
VLA				pmax	pmax		
	comp=E,1μm,13.0s						
VLA				smax			
	comp=E,4μm,17.0s						
VLA				smax			
	comp=N,2μm,12.0s						
VLA				MLR	MLR		
	comp=Z,24μm,17.0s,MS6.2						
VLA				MLR	MLR		
	comp=E,21μm,18.0s,MS6.2						
VLA				MLR	MLR		
	comp=N,10μm,16.0s,MS6.2						
MUN	**Mundaring**	**48.15**	**153**	*e*P	**P**	**09 21 51.1**	**-0.1**
	comp=N,103nm,0.8s,mb5.9						
MUN	**Mundaring**	**48.15**	**153**	*e*P	**P**	**09 21 51.1**	**-0.1**
MUN				pmax	pmax		
	comp=Z,103nm,0.8s,mb5.9						
KLBR	**Kellerberrin**	**48.55**	**151**⇑	*i*P	**P**	**09 21 53.0**	**-1.2**
	comp=Z,104nm,0.9s,mb5.9						
MAJO	**Matsushiro**	**48.65**	**50**⇑	*e*P	**P**	**09 21 54.3**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,170nm,1.2s,mb6.0						
MAJO	**Matsushiro**	**48.65**	**50**⇑	*e*P	**P**	**09 21 54.3**	**-0.7**
	comp=Z,170nm,1.2s,mb6.0						
MAT	**Matsushiro**	**48.65**	**50**	*e*P	**P**	**09 21 54.0**	**-1.0**
MAT				*e*S	**S**	**09 29 08.0**	**+13**
MAT				pmax	pmax		
	comp=Z,361nm,1.5s,mb6.2						
MAT				MLR	MLR		
	comp=Z,12μm,20.0s,MS5.9						
MAT	**Matsushiro**	**48.65**	**50**	*e*P	**P**	**09 21 54.0**	**-1.0**
	comp=Z,361nm,1.5s,mb6.2						
MAT				*e*S	**S**	**09 29 08.0**	**+13**
MAT				LR	LR		
	comp=Z,12μm,20.0s,MS5.9						
MAT	**Matsushiro**	**48.65**	**50**	P	**P**	**09 21 54.2**	**-0.8**
MAT				S	**S**	**09 28 56.0**	**+1.4**
BHD	**Baghdad**	**49.35**	**305**	*e*P	**P**	**09 21 50.0**	**-10**
BHD				*e*S	**S**	**09 28 57.0**	**-7.5**
NWAO	**Narrogin (SRO)**	**49.41**	**152**⇑	*i*P	**P**	**09 21 59.9**	**-1.0**
NWAO				pmax	pmax		
	comp=Z,165nm,0.8s						
NWAO				MLR	MLR		
	comp=Z,14μm,22.0s						
NWAO	**Narrogin (SRO)**	**49.41**	**152**⇑	*i*P	**P**	**09 21 59.9**	**-1.0**
	comp=Z,165nm,0.8s,mb6.1						
NWAO				LR	LR		
	comp=Z,14μm,22.0s,MS5.9						
BOD	**Bodaibo**	**49.88**	**15**⇓	*i*P	**P**	**09 22 03.5**	**-0.6**
KLR	**Kul'dur**	**50.43**	**33**⇓	*i*P	**P**	**09 22 05.4**	**-3.0**
KLR				*e*	PP	09 24 00.0	-5.0
KLR				*e*S	**S**	**09 29 14.5**	**-4.7**
KLR				*e*	ScS	09 31 50.0	-5.0
KLR				pmax	pmax		
	comp=N,90nm,2.0s						
KLR				pmax	pmax		
	comp=E,130nm,2.0s						
KLR				pmax	pmax		
	comp=Z,190nm,2.0s,mb5.8						
KLR				pmax	pmax		
	comp=N,1μm,11.0s						
KLR				pmax	pmax		
	comp=E,1μm,11.0s						
KLR				pmax	pmax		
	comp=Z,4μm,11.0s						
KLR				MLR	MLR		
	comp=E,19μm,14.0s						
KLR				MLR	MLR		
	comp=Z,43μm,14.0s,MS6.6						
MAK	**Makhachkala**	**50.49**	**318**	*e*P	**P**	**09 22 14.0**	**+5.0**
MAK				*e*PPP	PPP	09 25 08.0	+4.7
MAK				*e*S	**S**	**09 29 22.0**	**+1.9**
MAK				*i* PS	PS	09 29 41.0	+9.5
MAK				*i*		09 31 56.0	
MAK				pmax	pmax		
	comp=E,2μm,8.0s						
MAK				pmax	pmax		
	comp=Z,4μm,8.0s						
MAK				pmax	pmax		
	comp=E,2μm,9.0s						
MAK				pmax	pmax		
	comp=Z,3μm,9.0s						
MAK				smax			
	comp=N,10μm,10.0s						
MAK				smax			
	comp=E,3μm,8.0s						
HKR	**Hakkari**	**51.12**	**310**	*e*P	Px	09 21 15.6	
MSL	**Mosul**	**51.22**	**308**	*e*P	**P**	**09 22 10.0**	**-4.6**
MSL				*e*S	**S**	**09 29 16.0**	**-14**
MSL				*e*ScS	ScS	09 31 14.5	-46
GNI	**Garni**	**51.26**	**313***d*	*i*P	**P**	**09 22 14.8**	**-0.1**
GNI				pmax	pmax		
	comp=Z,93nm,1.3s						
GNI	**Garni**	**51.26**	**313**	*e*P	**P**	**09 22 15.7**	**+0.8**
	comp=Z,686nm,1.1s,mb6.5						
GNI				LR	LR		
	comp=Z,6μm,21.0s,MS5.6						
WRA	**Warramunga Arr**	**51.30**	**126**	*i* P	**P**	**09 22 14.3**	**-1.1**
WRA				pmax	pmax		
	comp=Z,144nm,0.5s						
WRAB	**Tennant Creek**	**51.30**	**126**⇑	*i*P	**P**	**09 22 14.4**	**-1.0**
WRAB				*e*S	**S**	**09 29 26.6**	**-5.0**
WRAB				pmax	pmax		
	comp=Z,372nm,0.5s,mb6.6						
WRAB				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.2						
WRAB	**Tennant Creek**	**51.30**	**126**⇑	*i*P	**P**	**09 22 14.4**	**-1.0**
	comp=Z,372nm,0.5s,mb6.6						
WRAB				*e*S	**S**	**09 29 26.6**	**-5.0**
WRAB				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
WB2	**Warramunga Arr**	**51.30**	**126**⇑	*i*P	**P**	**09 22 14.3**	**-1.2**
WB2				*e*S	**S**	**09 29 27.8**	**-3.9**
VANB	**Van**	**51.71**	**311**	*e*P	Px	09 21 20.5	
MTA	**Mtatsminda**	**51.80**	**315**	P	**P**	**09 22 19.9**	**+0.9**
MTA				S	**S**	**09 29 39.7**	**+1.5**
STE	**Stepanavan**	**51.82**	**314**	*e*P	**P**	**09 22 20.0**	**+0.9**
STE				*e*S	**S**	**09 29 39.0**	**+0.6**
TI2	**Plekhanov**	**51.85**	**315**⇑	*i*P	**P**	**09 22 21.4**	**+2.1**
TI2				*i*	pP	09 22 29.2	+2.7
TI2				*i* S	**S**	**09 29 40.8**	**+1.9**
TI2						09 32 07.6	
TI2				smax			
	comp=N,4μm,4.0s						
SVE	**Sverdlovsk**	**52.18**	**339**⇑	*i*P	**P**	**09 22 21.7**	**+0.1**
SVE				*e*		09 23 32.0	
SVE				*e*		09 24 24.0	
SVE				*i* S	**S**	**09 29 43.0**	**-0.2**
SVE				*e*		09 32 00.0	
SVE				pmax	pmax		
	comp=Z,430nm,1.6s,mb6.1						
SVE				smax			
	comp=N,3μm,8.6s						
SVE				smax			
	comp=E,3μm,8.6s						
SVE				MLR	MLR		
	comp=Z,15μm,18.5s,MS6.0						
CLNS	**Chul'man**	**52.47**	**22**	*i* P	**P**	**09 22 24.2**	**+0.4**
CLNS				*e**PP	pP	09 22 32.1	+1.2
CLNS				*e*		09 23 30.5	
CLNS				*e*		09 24 19.6	
CLNS				*e*PPP	PPP	09 25 21.8	-6.5
CLNS				*e*S	**S**	**09 29 49.2**	**+2.1**
CLNS				*e*		09 32 00.7	
CLNS				*e*SS	SS	09 33 24.4	+0.6
CLNS				pmax	pmax		
	comp=N,113nm,0.9s						
CLNS				pmax	pmax		
	comp=E,91nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,175nm,0.9s,mb6.0						
CLNS				pmax	pmax		
	comp=Z,39nm,1.6s,mb5.1						
CLNS				pmax	pmax		
	comp=N,22nm,0.8s						
CLNS				pmax	pmax		
	comp=E,30nm,1.1s						
CLNS				smax			
	comp=N,1μm,12.5s						
CLNS				smax			
	comp=Z,774nm,12.2s						
CLNS				smax			
	comp=E,370nm,14.0s						
CLNS				MLR	MLR		
	comp=Z,16μm,17.0s,MS6.1						
CLNS				MLR	MLR		
	comp=N,9μm,16.0s,MS5.9						
CLNS				MLR	MLR		
	comp=E,2μm,16.0s,MS5.9						
AKH	**Akhalkalaki**	**52.60**	**314**	P	**P**	**09 22 29.0**	**+4.0**
AKH				S	**S**	**09 29 54.8**	**+5.6**
KARS	**Kars**	**52.60**	**313**	*e*P	Px	09 21 31.0	
ARU	**Arti**	**52.66**	**337**⇑	*i*P	**P**	**09 22 24.3**	**-0.9**
ARU				*e*		09 23 32.5	
ARU				*e*		09 24 19.6	
ARU				*e*PPP	PPP	09 25 28.8	-1.8
ARU				*i* S	**S**	**09 29 49.9**	**+0.2**
ARU				*e*SS	SS	09 33 30.2	+3.1
ARU				pmax	pmax		
	comp=Z,157nm,1.1s,mb5.8						
ARU				MLR	MLR		
	comp=Z,12μm,19.0s,MS6.0						
ARU				MLR	MLR		
	comp=N,10μm,18.0s,MS6.1						
ARU				MLR	MLR		
	comp=E,12μm,18.0s,MS6.1						
BTMT	**Batman**	**53.00**	**310**	*e*P	Px	09 21 27.5	
ONI	**Oni**	**53.06**	**316**	P	**P**	**09 22 35.0**	**+6.6**
ONI				S	**S**	**09 29 59.9**	**+4.5**
BEST	**Besiri**	**53.08**	**310**	*i* P	**P**	**09 22 35.5**	**+6.9**
VRT	**Varto**	**53.26**	**311**	*e*P	Px	09 21 30.3	
ERZM	**Erzurum**	**53.62**	**312**	*i* P	**P**	**09 22 38.5**	**+6.0**
EZM	**Erzurum**	**53.62**	**312**	*e*P	Px	09 21 38.7	
BCA	**Borcka**	**53.93**	**314**	*e*P	Px	09 21 40.1	
KIV	**Kislovodsk**	**54.10**	**317**	P	**P**	**09 22 36.1**	**+0.2**
	comp=E,2μm,1.1s,SNR=18						
KIV	**Kislovodsk**	**54.10**	**317***c*	*i*P	**P**	**09 22 36.1**	**+0.2**
KIV				*i*	pP	09 22 44.0	+0.9
KIV				*e*		09 24 42.7	
KIV				*i* S	**S**	**09 30 25.7**	**+16**
KIV				pmax	pmax		
	comp=Z,88nm,1.2s,mb5.6						
KIV	**Kislovodsk**	**54.10**	**317**⇑	*e*P	**P**	**09 22 36.2**	**+0.3**
	comp=Z,593nm,1.1s,mb6.4						
KIV				*e*	pP	09 22 43.8	+0.7
KIV				LR	LR		
	comp=Z,1μm,21.0s,MS4.9						
GOF	**Gofitskoye**	**54.30**	**319**⇑	*i*P	**P**	**09 22 37.0**	**-0.4**
GOF				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.2						
GOF				pmax	pmax		
	comp=Z,220nm,1.3s,mb5.9						
GOF				pmax	pmax		
	comp=Z,4μm,6.0s						
GOF				MLR	MLR		
	comp=Z,16μm,16.0s,MS6.2						
PTK	**Pertek**	**54.78**	**310**	*e*P	Px	09 21 49.7	
URFA	**Urfa**	**54.83**	**308**	*e*P	Px	09 21 48.3	
ELZG	**Elazig**	**54.98**	**310**	*i* P	**P**	**09 22 42.9**	**+0.3**
GUMT	**Gumushane**	**55.16**	**312**	*e*P	Px	09 21 44.4	
MALT	**Malatya**	**55.35**	**309**	*e*P	Px	09 21 51.9	
MALT	**Malatya**	**55.35**	**309**	*e*P	**P**	**09 22 44.9**	**-0.4**
MALT				pmax	pmax		
	comp=Z,169nm,1.1s,mb6.0						
MALT	**Malatya**	**55.35**	**309**	*e*P	**P**	**09 22 44.9**	**-0.3**
	comp=Z,169nm,1.1s,mb6.0						
MYA	**Malataya**	**55.36**	**309**	*e*P	Px	09 21 50.7	
SOKR	**Solikamsk**	**55.58**	**339**⇑	*i*P	**P**	**09 22 44.0**	**-2.6**
SOKR				pmax	pmax		
	comp=Z,180nm,1.3s,mb5.9						
SOKR				MLR	MLR		
	comp=Z,16μm,20.0s,MS6.1						
YSS	**Yuzh-Sakhalins**	**55.70**	**40***a*	*i*P	**P**	**09 22 47.0**	**-0.7**
YSS				*i* *SP	sP	09 22 58.0	+0.4
YSS				*e*		09 23 42.0	
YSS				*e*		09 24 56.0	
YSS				*e*PPP	PPP	09 26 02.0	-6.3
YSS				*e*S	**S**	**09 30 26.0**	**-4.9**
YSS				*e*PS	PS	09 30 36.0	-9.5
YSS				*e*SS	SS	09 34 12.0	-4.3
YSS				pmax	pmax		
	comp=Z,250nm,1.0s,mb6.2						
YSS				pmax	pmax		
	comp=Z,1μm,10.0s						
YSS				MLR	MLR		
	comp=Z,10μm,18.0s,MS5.9						
YSS				MLR	MLR		
	comp=N,6μm,16.0s,MS6.0						
YSS				MLR	MLR		
	comp=E,9μm,18.0s,MS6.0						
YSS	**Yuzh-Sakhalins**	**55.70**	**40**⇑	*i*P	**P**	**09 22 47.3**	**-0.3**
	comp=E,188nm,0.7s,mb6.2						
YSS				*e*ScP		09 27 26.5	
SOC	**Sochi**	**55.98**	**316**	*i* P	**P**	**09 22 54.3**	**+4.7**
SOC				*e*		09 24 58.6	
SOC				*e*PPP	PPP	09 26 11.7	+0.1
SOC				*i* S	**S**	**09 30 33.2**	**-1.4**
SOC				pmax	pmax		
	comp=Z,193nm,1.1s,mb6.0						
SOC				pmax	pmax		
	comp=N,76nm,1.4s						
SOC				pmax	pmax		
	comp=E,20nm,0.9s						
SOC				MLR	MLR		
	comp=Z,9μm,22.0s,MS5.8						
SOC				MLR	MLR		
	comp=N,5μm,23.0s,MS5.8						
SOC				MLR	MLR		
	comp=E,7μm,22.0s,MS5.8						
GAZ	**Gaziantep**	**56.01**	**308**	*e*P	Px	09 21 56.8	
KMBO	**Kilima Mbogo**	**56.06**	**261**	*e*P	**P**	**09 22 51.7**	**+1.0**
KMBO				pmax	pmax		
	comp=Z,93nm,1.2s						
KMBO				MLR	MLR		
	comp=Z,16μm,19.0s						
KMBO	**Kilima Mbogo**	**56.06**	**261**	*e*P	**P**	**09 22 51.7**	**+1.0**
	comp=Z,93nm,1.2s,mb5.7						
KMBO				LR	LR		
	comp=Z,16μm,19.0s,MS6.1						
MKRJ	**Makawir**	**56.22**	**301**	P	**P**	**09 22 52.5**	**+0.9**
GLH	**Golan-Tel Qazi**	**56.39**	**302**	P	**P**	**09 22 53.8**	**+1.0**
MZDA	**Masada**	**56.42**	**300**	P	**P**	**09 22 54.0**	**+1.0**
HMDT	**Nahal Hemdat**	**56.42**	**302**	P	**P**	**09 22 53.8**	**+0.8**
DRGI	**Dragot**	**56.44**	**301**	P	**P**	**09 22 54.0**	**+0.9**
ZFRI	**Zfri**	**56.48**	**300**	P	**P**	**09 22 54.2**	**+0.8**
AQBJ	**Aqaba**	**56.48**	**299**	P	**P**	**09 22 54.2**	**+0.7**
MMLI	**Mount Malkishu**	**56.54**	**302**	P	**P**	**09 22 55.0**	**+1.1**
EIL	**Elat**	**56.56**	**298**	P	**P**	**09 22 54.8**	**+0.8**
EIL	**Elat**	**56.56**	**298**	*e*P	**P**	**09 22 54.0**	**0.0**
	comp=Z,245nm,1.2s,mb6.1						
EIL				*e*	pP	09 23 01.2	-0.1
PRNI	**Paran**	**56.60**	**299**	P	**P**	**09 22 55.2**	**+0.9**
MBH	**Mount Berech**	**56.60**	**299**	P	**P**	**09 22 55.3**	**+0.9**
COBT	**Iskenderun**	**56.61**	**307**	*i* P	**P**	**09 22 57.8**	**+3.5**
YUK	**Yuzh-Kuril'sk**	**56.68**	**44**	*e*P	**P**	**09 22 53.0**	**-1.7**
YUK				*e*		09 23 48.0	
YUK				*e*		09 25 06.0	
YUK				S	**S**	**09 30 56.0**	**+12**
YUK				pmax	pmax		
	comp=Z,3μm,1.8s						
YUK				pmax	pmax		
	comp=Z,470nm,0.6s,mb6.7						
YUK				MLR	MLR		
	comp=N,3μm,20.0s,MS5.7						
YUK				MLR	MLR		
	comp=E,6μm,20.0s,MS5.7						
YUK				MLR	MLR		
	comp=Z,10μm,20.0s,MS5.9						
KMTI	**Karmit**	**56.81**	**299**	P	**P**	**09 22 56.6**	**+0.8**
SLTI	**Sal'it**	**56.83**	**302**	P	**P**	**09 22 56.7**	**+0.7**
HNTI	**Hanita**	**56.85**	**303**	P	**P**	**09 22 56.8**	**+0.7**
HAF	**Haifa**	**56.92**	**302**	P	**P**	**09 22 57.3**	**+0.7**
OFRI	**'Ofer**	**56.93**	**302**	P	**P**	**09 22 57.4**	**+0.7**
RTMM	**Retamin**	**56.96**	**300**	P	**P**	**09 22 57.4**	**+0.5**
CEYT	**Ceyhan**	**57.11**	**307**	*e*P	Px	09 22 04.0	
KZIT	**Kziot**	**57.19**	**300**	P	**P**	**09 22 59.1**	**+0.6**
BNN	**Bunyan**	**57.44**	**309**	*e*P	Px	09 22 03.3	
KVT	**Kavak**	**57.84**	**312**	*e*P	Px	09 22 07.5	
ANN	**Anapa**	**57.92**	**317**⇑	*i*P	**P**	**09 23 07.9**	**+4.5**
ANN				*e*		09 24 02.5	
ANN				*e*S	**S**	**09 30 58.0**	**-2.2**
ANN				*e*SP	SP	09 31 13.4	+0.4
ANN				pmax	pmax		
	comp=N,53nm,1.3s						
ANN				pmax	pmax		
	comp=E,26nm,1.3s						
ANN				pmax	pmax		
	comp=Z,118nm,1.3s,mb5.8						
YAK	**Yakutsk**	**57.94**	**20***c*	*i*P	**P**	**09 23 02.3**	**-1.0**
YAK				*i* *PP	pP	09 23 09.4	-1.1
YAK				*e*S	**S**	**09 30 58.5**	**-1.7**
YAK				*i*		09 32 46.1	
YAK				*e*SS	SS	09 34 50.2	-2.6
YAK				pmax	pmax		
	comp=Z,127nm,0.8s,mb6.0						
YAK				pmax	pmax		
	comp=N,59nm,1.0s						
YAK				pmax	pmax		
	comp=E,61nm,1.2s						
YAK				smax			
	comp=E,18nm,1.2s						
YAK				smax			
	comp=N,14nm,1.5s						
YAK				MLR	MLR		
	comp=Z,6μm,19.0s,MS5.7						
YAK				MLR	MLR		
	comp=N,2μm,17.0s,MS5.6						
YAK				MLR	MLR		
	comp=E,3μm,17.0s,MS5.6						
YAK	**Yakutsk**	**57.94**	**20**⇑	*i*P	**P**	**09 23 02.1**	**-1.1**
	comp=E,348nm,0.7s,mb6.5						
YAK				LR	LR		
	comp=Z,11μm,19.0s,MS6.0						
PMG	**Port Moresby**	**58.02**	**108**⇑	*e*P	**P**	**09 23 04.1**	**-0.5**
PMG				pmax	pmax		
	comp=Z,200nm,0.8s						
PMG				MLR	MLR		
	comp=Z,6μm,20.0s						
PMG	**Port Moresby**	**58.02**	**108**⇑	*e*P	**P**	**09 23 04.1**	**-0.5**
	comp=Z,200nm,0.8s,mb6.2						
PMG				LR	LR		
	comp=Z,6μm,20.0s,MS5.7						
AVNT	**Avonos**	**58.18**	**309**	*i* P	Px	09 22 04.5	
NIG	**Nigde**	**58.23**	**308**	*e*P	Px	09 22 10.6	
CSS	**Prodhromos**	**58.66**	**304**	*e*P	**P**	**09 23 07.6**	**-1.2**
	comp=Z,188nm,1.2s,mb6.0						
BOYT	**Boyabat**	**58.76**	**312**	*i* P	Px	09 22 11.3	
PECR	**Pechory**	**58.86**	**331**	*e*P	**P**	**09 23 07.0**	**-2.9**
PECR				*i* S	**S**	**09 31 11.4**	**-1.0**
PECR				*e*PS	PS	09 31 26.0	-3.5
PECR				pmax	pmax		
	comp=Z,2μm,6.0s						
PECR				smax			
	comp=E,8μm,10.6s						
PECR				smax			
	comp=E,2μm,8.0s						
PECR				MLR	MLR		
	comp=Z,8μm,22.0s,MS5.8						
KAMT	**Kaman**	**59.18**	**310**	*e*P	Px	09 22 16.7	
VOR	**Voronezh**	**59.31**	**325**	*e*P	**P**	**09 23 11.5**	**-1.5**
VOR				*e*S	**S**	**09 31 17.0**	**-1.3**
VOR				pmax	pmax		
	comp=Z,220nm,1.2s,mb6.1						
VOR				smax			
	comp=N,330nm,1.7s						
CANT	**Cankiri**	**59.51**	**311**	*e*P	Px	09 22 19.5	
ELDT	**Eldivan**	**59.63**	**311**	*i* P	Px	09 22 15.1	
HDMB	**Hadim**	**59.67**	**307**	*e*P	Px	09 22 19.5	
KONT	**Konya--Tatoy**	**59.94**	**308**	*e*P	Px	09 22 22.3	
ANTO	**Ankara**	**59.98**	**310**	*e*P	Px	09 22 21.6	
SIM	**Simferopol'**	**60.22**	**316***de*	P	**P**	**09 23 25.1**	**+5.7**
SIM				*e*S	**S**	**09 31 26.2**	**-3.9**
SIM				pmax	pmax		
	comp=Z,162nm,1.0s,mb6.0						
SAFT	**Safranbolu**	**60.34**	**311**	*e*P	Px	09 22 23.7	
KIZT	**Kizilcal**	**60.48**	**309**	*e*P	Px	09 22 20.2	
CTA	**Charters Tower**	**61.19**	**120**⇑	*i*P	**P**	**09 23 25.8**	**-0.5**
	comp=Z,97nm,1.1s,mb5.8						
CTA	**Charters Tower**	**61.19**	**120**⇑	*i*P	**P**	**09 23 25.8**	**-0.5**
CTA				pmax	pmax		
	comp=Z,97nm,1.1s						
CTAO	**Charters Tower**	**61.19**	**120**⇑	*i*P	**P**	**09 23 25.8**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,197nm,1.0s,mb6.2						

CTAO				MLR	MLR		
	comp=Z,10μm,21.0s,MS5.9						
CTAO	**Charters Tower**	**61.19**	**120**⇑	*i*P	**P**	**09 23 25.8**	**-0.5**
	comp=Z,196nm,1.0s,mb6.2						
CTAO				LR	LR		
	comp=Z,10μm,21.0s,MS5.9						
MDU	**Mudurnu**	**61.28**	**310**	*e*P	Px	09 22 31.4	
ISP	**Isparta**	**61.37**	**307**	*e*P	Px	09 22 27.9	
ISP	**Isparta**	**61.37**	**307**	*e*P	**P**	**09 23 26.3**	**-1.0**
ISP				*e*		09 23 44.4	
ISP				pmax	pmax		
	comp=Z,279nm,1.3s,mb6.2						
ISP	**Isparta**	**61.37**	**307**	*e*P	**P**	**09 23 26.3**	**-1.0**
	comp=Z,278nm,1.3s,mb6.2						
ISP				*e*		09 23 44.4	
ESKT	**Eskisehir**	**61.38**	**309**	*e*P	Px	09 22 30.0	
ELL	**Elmali**	**61.68**	**306**	*e*P	Px	09 22 29.3	
MOS	**Moscow**	**61.80**	**328**	*e*P	**P**	**09 23 29.7**	**-0.3**
OBN	**Obninsk**	**62.10**	**327***d*	*i*P	**P**	**09 23 30.7**	**-1.3**
OBN				*i*	pP	09 23 37.9	-1.4
OBN				*e*		09 25 43.6	
OBN				*i* S	**S**	**09 31 57.3**	**+3.4**
OBN				pmax	pmax		
	comp=Z,210nm,1.3s,mb6.1						
OBN				MLR	MLR		
	comp=Z,11μm,17.0s,MS6.1						
OBN	**Obninsk**	**62.10**	**327**⇑	*e*P	**P**	**09 23 30.2**	**-1.8**
	comp=Z,1μm,1.4s,mb6.8						
MBAR	**Mbarara**	**62.30**	**264**⇓	*e*P	**P**	**09 23 34.0**	**+0.1**
MBAR				*e*	pP	09 23 41.2	0.0
MBAR				pmax	pmax		
	comp=Z,124nm,1.2s,mb5.9						
MBAR				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.4						
MBAR	**Mbarara**	**62.30**	**264**⇓	*e*P	**P**	**09 23 34.0**	**+0.1**
	comp=Z,124nm,1.2s,mb5.9						
MBAR				*e*	pP	09 23 41.2	0.0
MBAR				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
FETY	**Fethiye**	**62.32**	**306**	*e*P	Px	09 22 39.0	
DENT	**Denizli**	**62.51**	**307**	*e*P	Px	09 22 38.4	
YLV	**Yalova**	**62.68**	**310**	*e*P	Px	09 22 37.0	
DALT	**Dalyan (Mudla)**	**62.69**	**306**	*e*P	Px	09 22 42.0	
ADE	**Adelaide**	**63.09**	**138**	*e*P	**P**	**09 23 38.9**	**+0.1**
STKA	**Stephens Creek**	**63.28**	**134**⇑	*i*P	**P**	**09 23 39.7**	**-0.4**
	comp=Z,149nm,0.9s,mb6.1						
MLSB	**Milas**	**63.44**	**306**	*e*P	Px	09 22 46.2	
EDC	**Edincik**	**63.78**	**310**	*e*P	Px	09 22 49.0	
IZM	**Izmir**	**63.98**	**308**	*e*P	Px	09 22 43.4	
KIS	**Kishinev**	**64.30**	**317**	*e*P	**P**	**09 23 45.0**	**-1.6**
KIS				*i*		09 23 50.0	
KIS				*e*S	**S**	**09 32 20.0**	**-1.5**
KIS				smax			
	comp=N,400nm,1.0s						
KIS				smax			
	comp=E,500nm,1.2s						
KIS				smax			
	comp=N,4μm,16.0s						
KIS				MLR	MLR		
	comp=Z,4μm,16.0s,MS5.7						
KIS				MLR	MLR		
	comp=N,5μm,17.0s,MS5.9						
KIS				MLR	MLR		
	comp=E,5μm,17.0s,MS5.9						
LPK	**Lapseki**	**64.62**	**310**	*e*P	Px	09 22 55.1	
EDRB	**Edirne**	**64.84**	**311**	*e*P	Px	09 22 54.5	
TIXI	**Tiksi**	**64.86**	**12**⇑	*i*P	**P**	**09 23 48.9**	**-0.9**
TIXI				*e*		09 26 08.3	
TIXI				*e*S	**S**	**09 32 23.5**	**-4.5**
TIXI				*e*SS	SS	09 36 43.4	+1.9
TIXI				pmax	pmax		
	comp=N,98nm,1.3s						
TIXI				pmax	pmax		
	comp=Z,489nm,1.3s,mb6.4						
TIXI				pmax	pmax		
	comp=E,91nm,1.5s						
TIXI				pmax	pmax		
	comp=Z,782nm,1.3s,mb6.6						
TIXI				smax			
	comp=N,2μm,16.4s						
TIXI				smax			
	comp=E,2μm,19.9s						
TIXI	**Tiksi**	**64.86**	**12**	*i* P	**P**	**09 23 50.0**	**+0.2**
MA2	**Magadan**	**65.13**	**29**⇑	*i*P	**P**	**09 23 51.0**	**-0.7**
MA2				pmax	pmax		
	comp=Z,103nm,1.0s,mb5.8						
MA2				MLR	MLR		
	comp=Z,8μm,20.0s,MS5.9						
MA2	**Magadan**	**65.13**	**29**⇑	*i*P	**P**	**09 23 51.0**	**-0.7**
	comp=Z,103nm,1.0s,mb5.8						
MA2				LR	LR		
	comp=Z,8μm,20.0s,MS5.9						
SKR	**Severo-Kuril's**	**65.25**	**39**	*e*P	**P**	**09 23 46.8**	**-5.9**
SKR				pmax	pmax		
	comp=N,220nm,1.0s						
SKR				pmax	pmax		
	comp=E,180nm,1.0s						
SKR				pmax	pmax		
	comp=Z,220nm,1.0s,mb6.1						
SKR				pmax	pmax		
	comp=N,3μm,14.0s						
SKR				pmax	pmax		
	comp=E,3μm,14.0s						
SKR				pmax	pmax		
	comp=Z,3μm,14.0s						
KDZ	**Kurdzhali**	**65.79**	**311**	*e*P	**P**	**09 23 55.0**	**-1.3**
PVL	**Pavlikeni**	**66.06**	**313**	*e*P	**P**	**09 23 56.0**	**-2.0**
RZN	**Rozhen**	**66.32**	**311**	*e*P	**P**	**09 23 57.0**	**-2.7**
MNK	**Minsk**	**66.69**	**325**⇓	*e*P	**P**	**09 23 58.0**	**-3.8**
MNK				*e*S	S	09 32 44.0	-6.5
MNK				pmax	pmax		
	comp=Z,1μm,1.0s						
MNK				MLR	MLR		
	comp=E,5μm,16.0s						
MNK				MLR	MLR		
	comp=Z,6μm,14.0s						
PGB	**Panagyurishte**	**66.83**	**312**	*e*P	**P**	**09 24 01.0**	**-1.9**
PUL	**Pulkovo**	**66.94**	**331**⇓	*e*P	**P**	**09 24 03.6**	**+0.3**
PUL				*e*S	S	09 32 53.5	0.0
PUL				*e*		09 33 47.6	
PUL				*e*SS	SS	09 37 18.7	+4.8
PUL				pmax	pmax		
	comp=Z,361nm,1.1s,mb6.3						
PUL				pmax	pmax		
	comp=N,182nm,1.0s						
PUL				pmax	pmax		
	comp=E,613nm,1.2s						
PUL				smax			
	comp=N,4μm,4.5s						
PUL				smax			
	comp=E,5μm,5.8s						
PUL	**Pulkovo**	**66.94**	**331**	*i* P	**P**	**09 24 03.5**	**+0.2**
MMB	**Musomiste**	**67.05**	**311**	*e*P	**P**	**09 24 03.0**	**-1.3**
SEY	**Seymchan**	**67.14**	**25**	*e*P	**P**	**09 24 03.7**	**-0.9**
SEY						09 24 32.6	
SEY						09 26 34.2	
SEY				*e*PPP	PPP	09 28 18.2	+7.0
SEY				*e*S	S	09 32 55.3	-0.6
SEY				pmax	pmax		
	comp=N,20nm,1.1s						
SEY				pmax	pmax		
	comp=Z,260nm,1.1s,mb6.2						
SEY				pmax	pmax		
	comp=E,170nm,1.3s						
SEY				smax			
	comp=N,7μm,8.9s						
SEY				smax			
	comp=E,3μm,9.8s						
PET	**Petropavlovsk**	**67.32**	**37**	*e*P	**P**	**09 24 04.6**	**-1.3**
PET				*e*		09 24 31.6	
PET				*e*		09 26 37.6	
PET				*e*PPP	PPP	09 28 14.7	+1.7
PET				*i* S	S	09 32 59.0	+0.8
PET				*e*		09 33 59.8	
PET				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.3						
PET				pmax	pmax		
	comp=N,300nm,18.6s						
PET				pmax	pmax		
	comp=Z,2μm,16.0s						
PET				pmax	pmax		
	comp=E,700nm,16.9s						
PET				pmax	pmax		
	comp=Z,800nm,9.4s						
PET				pmax	pmax		
	comp=Z,800nm,16.7s						
PET				pmax	pmax		
	comp=Z,900nm,16.0s						
PET				smax			
	comp=N,2μm,9.4s						
PET				smax			
	comp=N,2μm,18.5s						
PET				MLR	MLR		
	comp=Z,13μm,18.0s,MS6.2						
PET				MLR	MLR		
	comp=N,7μm,16.0s,MS6.1						
PET				MLR	MLR		
	comp=E,6μm,19.0s,MS6.1						
PET				MLR	MLR		
	comp=Z,14μm,18.0s						
PET				MLR	MLR		
	comp=N,7μm,17.0s						
PET				MLR	MLR		
	comp=E,7μm,18.0s						
PET	**Petropavlovsk**	**67.32**	**37**	*i* P	**P**	**09 24 03.5**	**-2.4**
IDID	**Didziasalis**	**67.50**	**326**	*e*P	**P**	**09 24 06.3**	**-0.7**
IDID				AMPb	AMB	09 24 15.8	
	comp=Z,79nm,1.2s,mb5.6						
VTS	**Vitosha**	**67.54**	**312**	*e*P	**P**	**09 24 06.0**	**-1.4**
KKB	**Krupnik**	**67.55**	**311**	*e*P	**P**	**09 24 05.0**	**-2.5**
JOF	**Joensuu**	**67.59**	**334**	*e*p	**P**	**09 24 06.2**	**-1.2**
	comp=Z,5.4nm,0.4s,mb4.9						
IIGN	**Ignalina**	**67.80**	**326**	*e*P	**P**	**09 24 08.2**	**-0.6**
IIGN				AMPb	AMB	09 24 18.6	
	comp=Z,76nm,1.7s,mb5.5						
IZAR	**Zarasai**	**67.88**	**326**	*e*P	**P**	**09 24 08.7**	**-0.6**
IZAR				AMPb	AMB	09 24 18.9	
	comp=Z,70nm,1.6s,mb5.5						
VAY	**Valandovo**	**67.88**	**310**⇓	*i*P	**P**	**09 24 10.4**	**+0.8**
VAY				⇓*i*		09 24 15.3	
LVV	**L'vov**	**67.97**	**320**	*e*P	**P**	**09 24 16.0**	**+6.0**
LVV				*e*S	S	09 33 05.8	-0.3
LVV				*e*PS	PS	09 33 38.2	+4.6
VSU	**Vasula**	**68.31**	**329**	*i* P	**P**	**09 24 11.5**	**-0.5**
LVZ	**Lovozero**	**68.36**	**340**⇓	*e*P	**P**	**09 24 11.3**	**-0.8**
LVZ				*e*S	S	09 33 09.7	-0.6
LVZ				*e*		09 33 59.5	
LVZ				pmax	pmax		
	comp=Z,78nm,1.4s,mb5.5						
LVZ				pmax	pmax		
	comp=N,11nm,1.6s						
LVZ				pmax	pmax		
	comp=E,25nm,1.1s						
LVZ				smax			
	comp=N,3μm,6.4s						
LVZ				smax			
	comp=E,847nm,5.7s						
LVZ				MLR	MLR		
	comp=N,8μm,19.0s,MS6.1						
LVZ				MLR	MLR		
	comp=E,6μm,19.0s,MS6.1						
LVZ				MLR	MLR		
	comp=Z,15μm,19.0s,MS6.2						
BARS	**Barje**	**68.57**	**312**⇑	*i*P	**P**	**09 24 11.1**	**-2.7**
BOLS	**Boljevac**	**68.58**	**313**⇓	*i*P	**P**	**09 24 12.9**	**-0.9**
LSZ	**Lusaka**	**68.61**	**249**	*e*P	**P**	**09 24 15.2**	**+0.7**
LSZ				*e*	pP	09 24 22.4	+0.6
LSZ				pmax	pmax		
	comp=Z,181nm,1.1s,mb5.9						
LSZ				MLR	MLR		
	comp=Z,10μm,20.0s,MS6.0						
LSZ	**Lusaka**	**68.61**	**249**	*e*P	**P**	**09 24 15.2**	**+0.7**
	comp=Z,181nm,1.1s,mb5.9						
LSZ				*e*	pP	09 24 22.4	+0.7
LSZ				LR	LR		
	comp=Z,10μm,20.0s,MS6.0						
APA	**Apatity**	**68.64**	**339**⇓	*i*P	**P**	**09 24 13.1**	**-0.7**
APA				*i*		09 24 30.5	
APA				*i* S	S	09 33 16.0	+2.3
APA				*i* PS	PS	09 33 31.0	-11
APA				*i*		09 34 11.0	
APA				*e*SS	SS	09 37 42.0	+2.1
APA				pmax	pmax		
	comp=Z,140nm,1.2s,mb5.8						
APA				MLR	MLR		
	comp=Z,15μm,18.0s,MS6.3						
SKO	**Skopje**	**68.78**	**311**	*e*P	**P**	**09 24 13.5**	**-1.7**
SKO				*i*	pP	09 24 20.4	-2.1
SKO				*i*		09 24 34.3	
SKO				pmax	pmax		
	comp=Z,56nm,0.8s,mb5.5						
SKO	**Skopje**	**68.78**	**311**	*e*P	**P**	**09 24 13.5**	**-1.7**
	comp=Z,56nm,0.8s,mb5.5						
SKO				*i*		09 24 16.0	
SKO				*i*	pP	09 24 20.4	-2.1
SKO				*i*		09 24 34.3	
SKO	**Skopje**	**68.78**	**311**	*e*P	**P**	**09 24 13.5**	**-1.7**
SKO				*i*		09 24 16.0	
SKO					pP	09 24 20.4	-2.1
	comp=Z,0.1nm,0.8s						
SKO				*i*		09 24 34.3	
KWP	**Kalwaria**	**68.79**	**319**	*e*P	**P**	**09 24 14.6**	**-0.5**
KWP				*e*	pP	09 24 20.8	-1.6
KWP	**Kalwaria**	**68.79**	**319**	*e*P	**P**	**09 24 14.7**	**-0.4**
KWP				*e*	pP	09 24 20.9	-1.5
KWP				MLR	MLR	09 59 58.2	
	comp=Z,6μm,19.4s,MS5.8						
UZH	**Uzhgorod**	**68.92**	**318**	*e*P	**P**	**09 24 16.0**	**+0.1**
UZH				*e*S	S	09 33 07.0	-10
KOLS	**Kolonicke sedl**	**68.97**	**318**	*i* P	**P**	**09 24 16.3**	**+0.1**
KOLS				*e*pP	pP	09 24 23.4	-0.1
TOO	**Toolangi**	**69.07**	**137**⇑	*i*P	**P**	**09 24 17.9**	**+0.9**
	comp=Z,111nm,1.0s,mb5.7						
TOO	**Toolangi**	**69.07**	**137**⇑	*i*P	**P**	**09 24 17.9**	**+0.9**
TOO				pmax	pmax		
	comp=Z,111nm,1.0s,mb5.8						
SVIS	**Svilajnac**	**69.15**	**313**	*e*P	**P**	**09 24 17.6**	**+0.2**
FINES	**FINESS Array B**	**69.44**	**332**	*i* P	**P**	**09 24 18.3**	**-0.6**
FINES				pmax	pmax		
	comp=Z,15nm,0.7s						
GRUS	**Gruza**	**69.48**	**313**⇑	*i*P	**P**	**09 24 18.3**	**-1.1**
CRVS	**Cervenica-Dubn**	**69.50**	**318**	*i* P	**P**	**09 24 19.6**	**+0.2**
CRVS				*i* pP	pP	09 24 26.7	0.0
CRVS				*e*S	S	09 33 19.4	-4.8
KAF	**Kangasniemi**	**69.53**	**333**	*e*p	**P**	**09 24 18.5**	**-0.9**
	comp=Z,2.4nm,0.4s						
KAF	**Kangasniemi**	**69.53**	**333**	*e*P	**P**	**09 24 18.5**	**-0.9**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BEO	**Belgrade**	**69.74**	**314**⇓	*i*P	**P**	**09 24 27.3**	**+6.3**
PVY	**Plav**	**69.92**	**311**⇓	*i*P	**P**	**09 24 20.7**	**-1.4**
IVA	**Berane**	**69.99**	**312**	*e*P	**P**	**09 24 21.5**	**-1.0**
KECS	**Kecovo**	**70.09**	**318**	*i* P	**P**	**09 24 22.9**	**-0.1**
KECS				*i* pP	pP	09 24 30.2	-0.1
NIE	**Niedzica**	**70.31**	**319**	*e*P	**P**	**09 24 24.9**	**+0.5**
NIE				*e*	pP	09 24 32.2	+0.5
PLE	**Pljevlja**	**70.39**	**312**⇓	*i*P	**P**	**09 24 25.0**	**+0.1**
ULC	**Ulcinj**	**70.41**	**311**⇓	*i*P	**P**	**09 24 24.5**	**-0.6**
PSZ	**Piszkesteto**	**70.42**	**317**	*e*P	**P**	**09 24 24.5**	**-0.6**
PSZ				*e*	pP	09 24 31.7	-0.7
PSZ				pmax	pmax		
	comp=Z,89nm,1.0s,mb5.7						
PSZ	**Piszkesteto**	**70.42**	**317**	*e*P	**P**	**09 24 24.5**	**-0.6**
	comp=Z,89nm,1.0s,mb5.7						
PSZ				*e*	pP	09 24 31.7	-0.7
TTG	**Podgorica**	**70.43**	**311**⇓	*i*P	**P**	**09 24 24.8**	**-0.4**
NKY	**Niksic**	**70.65**	**312**⇓	*i*P	**P**	**09 24 25.4**	**-1.1**
BUM	**Brajici-Budva**	**70.69**	**311**⇓	*i*P	**P**	**09 24 25.9**	**-0.9**
OJC	**Ojcow**	**70.73**	**320**	*e*P	**P**	**09 24 26.0**	**-0.9**
OJC				*i*	pP	09 24 33.7	-0.5
OJC				*e*S	S	09 33 35.9	-2.8
OJC				MLR	MLR		
	comp=Z,6μm,18.5s,MS5.9						
OJC	**Ojcow**	**70.73**	**320**	*e*P	**P**	**09 24 26.0**	**-0.9**
OJC				*e*	pP	09 24 33.7	-0.5
OJC				*e*S	S	09 33 35.9	-2.8
OJC				MLR	MLR	10 00 38.7	
	comp=Z,6μm,18.5s,MS5.9						
UPM	**Unac-Piva**	**70.73**	**312**⇓	*i*P	**P**	**09 24 26.1**	**-0.9**
BRY	**Bratogost**	**70.99**	**312**⇓	*i*P	**P**	**09 24 27.1**	**-1.5**
HCY	**Herceg Novi**	**71.00**	**311**⇓	*i*P	**P**	**09 24 27.3**	**-1.4**
VYHS	**Vyhne**	**71.18**	**318**	*i* P	**P**	**09 24 29.0**	**-0.7**
VYHS				*i* pP	pP	09 24 36.7	-0.3
VYHS				*e*S	S	09 33 38.4	-5.5
VYHS				*e*SS	SS	09 38 39.8	+20
RIV	**Riverview**	**71.20**	**131**	*e*P	**P**	**09 24 30.8**	**+0.7**
SRO2	**Moca**	**71.42**	**317**	*e*pP	pP	09 24 38.6	+0.2
SRO	**Srobarova**	**71.47**	**317**	*e*P	**P**	**09 24 31.7**	**+0.3**
SRO				*i* pP	pP	09 24 38.6	-0.2
SRO1	**Iza**	**71.53**	**317**	*e*pP	pP	09 24 39.1	0.0
KEV	**Kevo**	**71.64**	**341**	*e*p	**P**	**09 24 31.4**	**-0.7**
	comp=Z,3.9nm,0.4s						
KEV	**Kevo**	**71.64**	**341**	*e*P	**P**	**09 24 31.4**	**-0.7**
KEV				pmax	pmax		
	comp=Z,4.0nm,0.4s						
OKC	**Ostrava-Krasne**	**71.75**	**319**	*e*P	**P**	**09 24 33.1**	**0.0**
OKC				*e*pP	pP	09 24 40.5	+0.1
OKC				*e*S	S	09 33 50.0	-0.4
OKC				AMS	AMS	10 04 00.0	
	comp=Z,3μm,17.1s						
ARE0	**ARCESS Array S**	**72.06**	**340**	*e*P	**P**	**09 24 34.6**	**0.0**
MORC	**Moravsky Berou**	**72.14**	**319**	*e*P	**P**	**09 24 35.0**	**-0.4**
MORC				*e*	pP	09 24 42.5	-0.2
MORC				pmax	pmax		
	comp=Z,71nm,1.1s,mb5.5						
MORC	**Moravsky Berou**	**72.14**	**319**	*e*P	**P**	**09 24 35.0**	**-0.4**
	comp=Z,71nm,1.1s,mb5.5						
MORC				*e*	pP	09 24 42.5	-0.2
TIP	**Timpagrande**	**72.22**	**308**	P	**P**	**09 24 37.4**	**+1.4**
ZST	**Bratislava**	**72.31**	**317**	*i* P	**P**	**09 24 36.0**	**-0.4**
ZST				*i* *PP	pP	09 24 43.9	+0.1
ZST				*e*S	S	09 33 49.1	-7.8
ZST	**Bratislava**	**72.31**	**317**	*i* P	**P**	**09 24 36.0**	**-0.4**
ZST				*i* pP	pP	09 24 43.9	+0.1
ZST				*e*PP	PP	09 27 27.8	+8.8
ZST				*e*S	S	09 33 49.1	-7.8
GKP	**Gorka Klasztor**	**72.64**	**323**	*e*P	**P**	**09 24 43.9**	**+5.7**
GKP				MLR	MLR	09 58 44.1	
	comp=Z,7μm,22.7s,MS5.9						
SOP	**Sopron**	**72.65**	**317**⇓	*e*pP	pP	09 24 45.7	-0.1
KTK1	**Kautokeino**	**72.68**	**339**⇑	*i*P	**P**	**09 24 37.9**	**-0.3**
	comp=Z,208nm,1.4s,mb5.9						
KTK1	**Kautokeino**	**72.68**	**339**⇑	*i*P	**P**	**09 24 37.9**	**-0.3**
KTK1				*e*pP	pP	09 24 46.0	+0.4
KTK1				AMb	AMB	09 24 48.6	
	comp=Z,208nm,1.4s,mb5.9						
DPC	**Dobruska-Polom**	**72.97**	**319**	*e*P	**P**	**09 24 40.6**	**+0.4**
DPC				*e*PP	pP	09 24 47.9	+0.3
DPC				*e*S	S	09 34 04.2	-0.1
DPC				*e*SS	SS	09 38 51.7	+4.2
DPC				MLR	MLR		
	comp=Z,5μm,17.4s,MS5.8						
DPC	**Dobruska-Polom**	**72.97**	**319**	*e*P	**P**	**09 24 40.6**	**+0.4**
DPC				*e*pP	pP	09 24 47.9	+0.3
DPC				*e*S	S	09 34 04.2	-0.1
DPC				*e*SS	SS	09 38 51.7	+4.2
DPC				*e*x	x	09 42 03.6	
DPC				AMS	AMS	10 01 40.0	
	comp=Z,5μm,17.4s						
KSP	**Ksiaz**	**73.02**	**320**	*e*P	**P**	**09 24 40.7**	**+0.2**
KSP				*e*PP	pP	09 24 47.7	-0.2
KSP				*e*S	S	09 34 02.5	-2.3
KSP				*e*		09 34 32.0	
KSP				*e*SS	SS	09 38 54.0	+5.7
KSP				MLR	MLR		
	comp=Z,10μm,18.3s,MS6.2						
KSP	**Ksiaz**	**73.02**	**320**	*e*P	**P**	**09 24 40.8**	**+0.2**
KSP				*e*	pP	09 24 47.7	-0.2
KSP				MLR	MLR	10 00 51.5	
	comp=Z,8μm,21.2s,MS5.9						
UPC	**Upice**	**73.17**	**320**	*e*P	**P**	**09 24 41.9**	**+0.5**
UPC				*e*pP	pP	09 24 49.0	+0.2
ARSA	**Arzberg**	**73.33**	**316**⇑	*i*P	**P**	**09 24 42.2**	**-0.2**
	comp=Z,123nm,1.1s,mb5.8						
BOJS	**Bojanci**	**73.46**	**314**	*e*P	**P**	**09 24 42.5**	**-0.6**
BOJS				*i*	pP	09 24 50.0	-0.6
BOJS				*i*		09 25 07.8	
OBKA	**Obir**	**73.97**	**315**⇑	*i*P	**P**	**09 24 45.7**	**-0.5**
	comp=Z,140nm,1.2s,mb5.8						
LBTB	**Lobatse**	**74.09**	**240**	*e*P	**P**	**09 24 48.1**	**+0.8**
LBTB				*e*	pP	09 24 55.4	+0.8
LBTB				pmax	pmax		
	comp=Z,200nm,1.0s,mb6.0						
LBTB				MLR	MLR		
	comp=Z,12μm,19.0s,MS6.2						
LBTB	**Lobatse**	**74.09**	**240**	*e*P	**P**	**09 24 48.1**	**+0.8**
	comp=Z,200nm,1.0s,mb6.0						
LBTB				*e*	pP	09 24 55.4	+0.8
LBTB				LR	LR		
	comp=Z,12μm,19.0s,MS6.2						
PRU	**Pruhonice**	**74.09**	**319**	*e*P	**P**	**09 24 46.8**	**0.0**
PRU				*e*PP	pP	09 24 54.1	0.0
PRU				*e*S	S	09 34 15.9	-0.9
PRU				MLR	MLR		
	comp=Z,4μm,17.2s,MS5.8						
PRU	**Pruhonice**	**74.09**	**319**	*e*P	**P**	**09 24 46.8**	**0.0**
PRU				*e*pP	pP	09 24 54.1	0.0
PRU				*e*S	S	09 34 15.9	-0.9
PRU				*e*x	x	09 39 14.7	
PRU				*e*x	x	09 42 27.5	
PRU				AMS	AMS	10 02 20.0	
	comp=Z,4μm,17.2s						
PVCC	**Panska Ves**	**74.10**	**320**	*e*P	**P**	**09 24 47.0**	**+0.2**
PVCC				*e*PP	pP	09 24 54.5	+0.4
PVCC				*e*S	S	09 34 17.7	+0.8
PVCC				MLR	MLR		
	comp=Z,5μm,18.0s,MS5.8						
PVCC	**Panska Ves**	**74.10**	**320**	*e*P	**P**	**09 24 47.0**	**+0.2**
PVCC				*e*pP	pP	09 24 54.5	+0.4
PVCC				*e*S	S	09 34 17.7	+0.8
PVCC				*e*x	x	09 39 23.2	
PVCC				*e*x	x	09 42 32.2	
PVCC				AMS	AMS	10 02 10.0	
	comp=Z,5μm,18.0s						
BSD	**Bornholm Skovb**	**74.15**	**324**⇓	*i*P	**P**	**09 24 53.3**	**+6.3**
BSD				pmax	pmax		
	comp=Z,99nm,1.0s,mb5.7						
BSD	**Bornholm Skovb**	**74.15**	**324**⇓	*i*P	**P**	**09 24 53.3**	**+6.3**
	comp=Z,99nm,1.0s,mb5.7						
BILL	**Bilibino**	**74.16**	**22**⇑	*i*P	**P**	**09 24 46.1**	**-0.7**
BILL				*e*	pP	09 24 55.2	+1.1
BILL				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.4						
BILL	**Bilibino**	**74.16**	**22**⇑	*i*P	**P**	**09 24 46.1**	**-0.7**
	comp=Z,41nm,0.8s,mb5.4						
BILL				*e*	pP	09 24 55.2	+1.0
MOA	**Molln**	**74.20**	**317**⇑	*i*P	**P**	**09 24 46.9**	**-0.5**
	comp=Z,89nm,1.3s,mb5.5						
TRO	**Tromso**	**74.32**	**340**	*e*P	**P**	**09 24 46.2**	**-1.4**
TRO				LR	LR		
	comp=Z,11056μm,23.1s						
TRO	**Tromso**	**74.32**	**340**	*e*P	**P**	**09 24 46.2**	**-1.4**
TRO				*e*S	S	09 34 20.4	+1.4
TRO				*e*SS	SS	09 39 06.9	-0.5
TRO				AMS	AMS	10 00 09.1	
	comp=Z,11μm,23.1s,MS6.1						
VOY	**Vojsko**	**74.42**	**315**	*e*P	**P**	**09 24 47.9**	**-0.9**
VOY				*e*	pP	09 24 55.3	-0.8
BRG	**Berggiesshubel**	**74.51**	**320**⇑	*i*P	**P**	**09 24 49.3**	**+0.1**
BRG				*i* *PP	pP	09 24 57.0	+0.5
BRG				*i* S	S	09 34 20.0	-1.5
BRG				*i* SS	SS	09 39 16.0	+5.4
BRG				pmax	pmax		
	comp=Z,173nm,1.3s,mb5.8						
BRG				MLR	MLR		
	comp=Z,6μm,18.5s,MS5.9						
BRG	**Berggiesshubel**	**74.51**	**320**⇑	*i*P	**P**	**09 24 49.3**	**+0.1**
	comp=Z,173nm,1.3s,mb5.8						
BRG				*i* pP	pP	09 24 57.0	+0.5
BRG				*i* S	S	09 34 20.

KHC eSS SS 09 39 18.2 +4.8
KHC ex x 09 42 38.5
KHC AMS AMS 10 01 30.0
comp=Z,4µm,16.7s
AQU L'Aquila 74.77 311 P **P** **09 24 52.6 +1.7**
AQU pmax pmax
comp=Z,67nm,1.0s,mb5.5
AQU L'Aquila 74.77 311 P **P** **09 24 52.6 +1.8**
comp=Z,67nm,1.0s,mb5.5
KBA Koelnbreinsper 74.81 316⇑iP **P** **09 24 50.4 -0.6**
comp=Z,68nm,1.2s,mb5.5
KBA Koelnbreinsper 74.81 316⇑iP **P** **09 24 50.4 -0.6**
KBA pmax pmax
comp=Z,69nm,1.2s,mb5.5
CLL Collm 75.11 320⇑iP **P** **09 24 52.2 -0.5**
CLL i pP 09 24 59.3 -0.7
CLL pmax pmax
comp=Z,40nm,1.2s,mb5.2
CLL MLR MLR
comp=Z,6µm,18.8s,MS5.9
CLL Collm 75.11 320⇑iP **P** **09 24 52.2 -0.5**
comp=Z,40nm,1.2s,mb5.2
CLL i pP 09 24 59.3 -0.7
CLL LR LR
comp=Z,6µm,18.8s,MS5.9
CLL Collm 75.11 320 ⇑P **P** **09 24 52.2 -0.5**
comp=Z,logA/T=1.5,mb5.2
CLL i *PP pP 09 24 59.3 -0.7
CLL eS S 09 34 24.0 -4.3
CLL eSS SS 09 39 42.0 +22
CLL eSSS SSS 09 42 48.0 +14
WET Wettzell 75.15 318 eP **P** **09 24 53.0 +0.1**
BJO Bjornoya 75.31 345 AMS AMS 10 01 42.3
comp=Z,3µm,21.5s,MS5.6
MOR8 Moi Rana 75.43 336⇑iP **P** **09 24 53.1 -1.0**
comp=Z,146nm,1.5s,mb5.7
MOR8 Moi Rana 75.43 336⇑iP **P** **09 24 53.1 -1.0**
MOR8 epP pP 09 25 01.4 -0.2
MOR8 AMb AMB 09 25 03.9
comp=Z,146nm,1.5s,mb5.7
NKC Novy Kostel 75.44 319 eP **P** **09 24 55.1 +0.5**
NKC epP pP 09 25 02.1 +0.2
NKC eS S 09 34 33.6 +1.7
NKC eSS SS 09 39 22.7 -2.4
NKC ex x 09 42 57.6
NKC AMS AMS 10 03 00.0
comp=Z,6µm,18.1s
COP Copenhagen 75.60 325 eP **P** **09 24 50.2 -5.1**
COP i S S 09 34 22.3 -11
COP pmax pmax
comp=Z,36nm,0.7s,mb5.4
COP MLR MLR
comp=Z,3µm,17.0s,MS5.7
COP Copenhagen 75.60 325 eP **P** **09 24 50.2 -5.1**
comp=Z,36nm,0.7s,mb5.4
COP i 09 32 31.6
COP i S S 09 34 22.3 -11
COP LR LR
comp=Z,3µm,17.0s,MS5.7
COP Copenhagen 75.60 325 i P **P** **09 24 50.2 -5.1**
comp=Z,36nm,0.7s,mb5.4
COP i 09 32 31.6
COP i S S 09 34 22.3 -11
comp=Z,3µm,17.0s
BOSA Boshof 75.62 237 eP **P** **09 24 56.8 +0.7**
BOSA e pP 09 25 03.9 +0.5
BOSA pmax pmax
comp=Z,203nm,0.9s,mb6.0
BOSA MLR MLR
comp=Z,21µm,19.0s,MS6.5
BOSA Boshof 75.62 237 eP **P** **09 24 56.8 +0.7**
comp=Z,203nm,0.9s,mb6.0
BOSA e pP 09 25 03.9 +0.5
BOSA LR LR
comp=Z,21µm,19.0s,MS6.5
WTTA Wattenberg 75.98 316⇓iP **P** **09 24 57.1 -0.5**
comp=Z,138nm,1.2s,mb5.8
WTTA Wattenberg 75.98 316⇓iP **P** **09 24 57.1 -0.5**
WTTA pmax pmax
comp=Z,138nm,1.2s,mb5.8
MOX Moxa 75.98 320 eP **P** **09 24 57.5 -0.1**
MOX e pP 09 25 04.8 -0.2
MOX MLR MLR
comp=Z,3µm,22.0s,MS5.5
MOX Moxa 75.98 320 i P **P** **09 24 57.5 -0.1**
MOX pP pP 09 25 05.0 0.0
MOX S S 09 34 39.0 +1.2
MOX SSS SSS 09 43 09.0 +20
MOX L 10 03 52.0
LOF Lofoten 76.01 338⇑iP **P** **09 24 58.8 +1.4**
comp=Z,208nm,1.5s,mb5.8
LOF Lofoten 76.01 338⇑iP **P** **09 24 58.8 +1.4**
LOF AMb AMB 09 25 07.7
comp=Z,208nm,1.5s,mb5.8
FX1 Attu Island--F 76.01 38 eP **P** **09 24 57.4 -0.3**
WATA Walderalm 76.02 316⇓iP **P** **09 24 56.7 -1.2**
comp=Z,78nm,1.1s,mb5.5
WATA Walderalm 76.02 316⇓iP **P** **09 24 56.7 -1.2**
WATA pmax pmax
comp=Z,78nm,1.1s,mb5.5
FUR Furstenfeldbru 76.21 317 eP **P** **09 24 58.5 -0.4**
GRA1 Grafenberg Arr 76.23 319 eP **P** **09 24 59.6 +0.6**
comp=Z,214nm,1.2s,mb6.0
GRA1 epP pP 09 25 06.6 +0.2
GRA1 eS S 09 34 38.0 -2.6
GRA1 LR LR
comp=Z,6µm,19.8s,MS5.9
GRF Grafenberg Arr 76.23 319 eP **P** **09 24 59.6 +0.6**
GRF e*PP pP 09 25 06.6 +0.2
GRF eS S 09 34 38.0 -2.6
GRF pmax pmax
comp=Z,214nm,1.2s,mb6.0
GRF MLR MLR
comp=Z,6µm,19.8s,MS5.9
GRF Grafenberg Arr 76.23 319 eP **P** **09 24 59.6 +0.6**
GRF e*PP pP 09 25 06.6 +0.2
GRF eS S 09 34 38.0 -2.6
GRF pmax pmax
comp=Z,214nm,1.2s,mb6.0
GRF epP pP 09 25 06.6 +0.2
GRF eS S 09 34 38.0 -2.6
GRF LR LR
comp=Z,6µm,19.8s,MS5.9
SQTA Sankt Quirin 76.27 316⇑iP **P** **09 24 58.3 -1.0**
comp=Z,82nm,1.0s,mb5.6
SQTA Sankt Quirin 76.27 316⇑iP **P** **09 24 58.3 -1.0**
SQTA pmax pmax
comp=Z,82nm,1.0s,mb5.6
NSS Namsos 76.31 334 eP **P** **09 24 58.0 -1.2**
NSS eS S 09 34 42.8 +1.6
NSS AMS AMS 10 04 39.2
comp=Z,7µm,17.1s,MS6.0
MOTA Moosalm 76.34 316⇓iP **P** **09 24 58.7 -1.0**
comp=Z,66nm,1.1s,mb5.5
MOTA Moosalm 76.34 316⇓iP **P** **09 24 58.7 -1.0**
MOTA pmax pmax
comp=Z,66nm,1.1s,mb5.5
NB2 NORSAR Subarra 76.46 330 P **P** **09 24 59.5 -0.6**
comp=Z,15nm,0.8s,mb5.0,baz=96,slow=5.3
NB2 NORSAR Subarra 76.46 330 P **P** **09 24 59.5 -0.6**
baz=96,slow=5.3
SMY Shemya 76.58 38 eP **P** **09 25 01.4 +0.5**
SMY pmax pmax
comp=Z,243nm,0.7s,mb6.2
SMY Shemya 76.58 38 eP **P** **09 25 01.4 +0.5**
comp=Z,243nm,0.7s,mb6.2
NAO01 NORSAR Array S 76.61 330 eP **P** **09 24 58.8 -2.1**
comp=Z,77nm,1.0s,mb5.6
NAO01 e pP 09 25 07.8 -0.5
NAO01 LR LR
comp=Z,6µm,20.0s,MS5.9
HSP Hornsund 76.71 347 eP **P** **09 25 01.4 +0.1**
CLZ Clausthal 76.76 321 eP **P** **09 25 02.2 +0.3**
comp=Z,168nm,1.2s,mb5.8
BSEG Bad Segeberg 76.79 323 eP **P** **09 25 02.6 +0.6**
MAIM 76.86 313 P **P** **09 25 01.2 -1.5**
SARO Sassorosso 76.92 313 P **P** **09 25 01.9 -1.0**
HDH Heidenheim 76.92 318⇑eP **P** **09 25 02.4 -0.5**
VLC Villacollemand 76.93 313 eP **P** **09 25 01.9 -1.2**
comp=Z,164nm,1.3s,mb5.8
UBR Uberruh 77.00 317⇑eP **P** **09 25 02.8 -0.6**

MIR Mirnyy 77.01 180beP **P** **09 25 05.0 +2.0**
MIR e 09 28 04.0
MIR eS S 09 34 50.0 +1.3
MIR pmax pmax
comp=Z,800nm,6.5s
MIR pmax pmax
comp=Z,150µm,1.3s
MIR smax
comp=N,1µm,10.0s
MIR smax
comp=E,2µm,10.0s
MIR MLR MLR
comp=N,3µm,16.0s
MIR MLR MLR
comp=E,800nm,16.0s
MIR MLR MLR
comp=Z,5µm,16.0s
VALM 77.02 313 P **P** **09 25 03.8 +0.3**
VINC Vinca 77.10 313 P **P** **09 25 02.7 -1.3**
GRAM 77.14 313 P **P** **09 25 04.1 -0.1**
BACM 77.15 313 P **P** **09 25 03.5 -0.7**
DAVA Damuels 77.17 316⇑iP **P** **09 25 04.3 0.0**
comp=Z,230nm,1.1s,mb6.0
KONO Kongsberg 77.22 329 eS S 09 34 58.6 +7.5
KONO AMS AMS 10 05 55.0
comp=Z,7µm,18.4s,MS6.0
SIND Sindeldorf 77.29 318⇑eP **P** **09 25 04.9 0.0**
CODM 77.30 313 P **P** **09 25 04.6 -0.5**
MUD Monsted U'grnd 77.44 326⇑iP **P** **09 25 06.1 +0.5**
comp=Z,94nm,1.1s,mb5.6
MUD i S S 09 34 52.6 -0.9
comp=Z,4µm,16.0s
BUCH Bad Urach 77.49 317⇑eP **P** **09 25 05.7 -0.3**
DOMB Dombas 77.52 331⇑iP **P** **09 25 05.9 -0.1**
comp=Z,198nm,1.3s,mb5.9
DOMB Dombas 77.52 331⇑iP **P** **09 25 05.9 -0.1**
DOMB epP pP 09 25 13.8 +0.5
DOMB AMb AMB 09 25 16.3
comp=Z,198nm,1.2s,mb5.9
STU Stuttgart 77.58 318 eP **P** **09 25 06.3 -0.2**
STU e pP 09 25 13.7 -0.2
STU pmax pmax
comp=Z,122nm,0.9s,mb5.8
STU Stuttgart 77.58 318 eP **P** **09 25 06.3 -0.3**
comp=Z,122nm,0.9s,mb5.8
STU e pP 09 25 13.7 -0.3
GUT Gutenstein 77.66 317⇑eP **P** **09 25 06.6 -0.4**
TOD Tromm 77.81 319 eP **P** **09 25 07.9 +0.1**
TOD Tromm 77.81 319 eP **P** **09 25 07.7 -0.1**
LBG Lerchenberg 77.85 318⇑eP **P** **09 25 07.7 -0.3**
SPAK Spaichingen 77.88 317⇑eP **P** **09 25 08.1 -0.1**
SWS Schriesheim 77.88 318 eP **P** **09 25 08.0 -0.2**
CASY Casey 77.90 173 PFAKE 09 25 20.0 +12
CASY LR LR
comp=Z,12µm,20.0s,MS6.2
PGF Pioggiola 78.02 311⇑iP **P** **09 25 08.4 -0.7**
comp=Z,248nm,1.4s,mb5.6
PGF Pioggiola 78.02 311⇑iP **P** **09 25 08.4 -0.7**
PGF pmax pmax
comp=Z,124nm,1.4s,mb5.7
BFO Black Forest 78.17 317 eP **P** **09 25 09.5 -0.3**
BFO pmax pmax
comp=Z,112nm,1.2s,mb5.7
BFO Black Forest 78.17 317 eP **P** **09 25 09.5 -0.3**
comp=Z,112nm,1.2s,mb5.7
PCP Pian Castagno 78.23 313 P **P** **09 25 09.7 -0.5**
FELD Feldberg 78.42 317⇑eP **P** **09 25 11.1 0.0**
KIZ Kirchzarten 78.47 317⇑eP **P** **09 25 11.3 -0.1**
LANF Langenberg 78.49 318 eP **P** **09 25 11.8 +0.3**
FIN Finale Ligure 78.49 313 P **P** **09 25 10.8 -0.8**
ORX Oropa 78.56 315 P **P** **09 25 10.4 -1.6**
ABH Alteburg 78.61 319 eP **P** **09 25 12.4 +0.2**
ABH Alteburg 78.61 319⇑eP **P** **09 25 12.3 +0.1**
LIBD Limburg 78.67 317 eP **P** **09 25 12.6 +0.1**
LIBD Limburg 78.67 317 eP **P** **09 25 12.7 +0.2**
ROB Roburent 78.72 313 P **P** **09 25 12.5 -0.4**
TRAV 78.73 314 P **P** **09 25 11.3 -1.7**
IMI Imperia 78.74 313 P **P** **09 25 12.6 -0.4**
BBS Basel-Blauen 78.77 316 eP **P** **09 25 12.6 -0.5**
BBS Basel-Blauen 78.77 316⇑eP **P** **09 25 12.5 -0.6**
WLS Welschbruch 78.82 317 eP **P** **09 25 13.3 -0.1**
MONE Monesi 78.82 313 P **P** **09 25 13.3 -0.2**
CDF Champ du Feu 78.87 317⇑iP **P** **09 25 13.2 -0.4**
comp=Z,217nm,1.2s,mb5.7
CDF Champ du Feu 78.87 317⇑iP **P** **09 25 13.2 -0.4**
CDF pmax pmax
comp=Z,108nm,1.2s,mb5.7
NEGI Negi 78.88 313 P **P** **09 25 12.5 -1.3**
RUP Ruppelstein 78.93 319 eP **P** **09 25 14.1 +0.1**
RUP Ruppelstein 78.93 319⇑eP **P** **09 25 14.3 +0.3**
ECH Echery 78.96 317 eP **P** **09 25 13.7 -0.4**
WTSB Winterswijk 78.97 321 eP **P** **09 25 14.3 +0.2**
comp=Z,95nm,1.6s,mb5.5
SAOF Saorge 78.97 313 eP **P** **09 25 15.5 +1.2**
MOF Molkenrain 79.00 317 eP **P** **09 25 14.1 -0.3**
ENR Entracque 79.05 313 P **P** **09 25 14.6 -0.1**
SBF Sospel 79.07 313⇑iP **P** **09 25 14.2 -0.6**
comp=Z,222nm,1.1s,mb5.7
SBF Sospel 79.07 313⇑iP **P** **09 25 14.2 -0.6**
SBF pmax pmax
comp=Z,111nm,1.1s,mb5.7
RSP Reno Superiore 79.10 314 P **P** **09 25 14.1 -0.9**
STV Sta Anna Valdi 79.12 313 P **P** **09 25 14.7 -0.4**
LSD Ceresole Reale 79.15 314 P **P** **09 25 15.5 +0.3**
LOMF Lomont 79.24 316 eP **P** **09 25 15.4 -0.3**
FENE Fenestrelle 79.25 314 P **P** **09 25 15.7 -0.1**
PZZ Prazzo 79.26 313 P **P** **09 25 15.0 -0.8**
NOUC Port Laguerre 79.42 115⇑eP **P** **09 25 17.9 +0.8**
NOUC Port Laguerre 79.42 115⇑eP **P** **09 25 17.9 +0.8**
LPG La Plagne 79.43 314⇑iP **P** **09 25 17.0 +0.3**
comp=Z,354nm,1.0s,mb5.9
LPG La Plagne 79.43 314⇑iP **P** **09 25 17.0 +0.3**
LPG pmax pmax
comp=Z,177nm,1.0s,mb6.0
RRL Cesana Torines 79.45 314 P **P** **09 25 16.3 -0.6**
SURF Saint Ours 79.47 313 eP **P** **09 25 17.4 +0.4**
CALN Calern 79.47 313 eP **P** **09 25 17.3 +0.3**
MBDF Montbardon 79.48 314⇑iP **P** **09 25 16.3 -0.7**
comp=Z,202nm,1.1s,mb5.7
MBDF Montbardon 79.48 314⇑iP **P** **09 25 16.3 -0.7**
MBDF pmax pmax
comp=Z,101nm,1.1s,mb5.7
HAU Haudompre 79.52 317⇑iP **P** **09 25 16.8 -0.4**
comp=Z,475nm,1.1s,mb6.0
HAU eR
comp=Z,4µm,19.8s
HAU Haudompre 79.52 317⇑iP **P** **09 25 16.8 -0.4**
HAU pmax pmax
comp=Z,237nm,1.1s,mb6.0
HAU MLR MLR
comp=Z,4µm,19.8s,MS5.8
BNI Bardonecchia 79.52 314 eP **P** **09 25 16.9 -0.3**
BNI pmax pmax
comp=Z,165nm,1.0s,mb5.9
BNI Bardonecchia 79.52 314 eP **P** **09 25 16.9 -0.4**
comp=Z,165nm,1.0s,mb5.9
WLF Walferdange 79.53 319 eP **P** **09 25 17.6 +0.4**
WLF e pP 09 25 25.4 +0.8
WLF pmax pmax
comp=Z,317nm,1.5s,mb6.0
WLF Walferdange 79.53 319 eP **P** **09 25 17.6 +0.5**
comp=Z,317nm,1.5s,mb6.0
WLF e pP 09 25 25.4 +0.8
DZM Mont Dzumac 79.53 115 eP **P** **09 25 19.2 +1.4**
HGN Heimansgroeve 79.59 320 eP **P** **09 25 17.3 -0.1**
comp=Z,66nm,3.6s
HGN eS S 09 35 13.5 -3.0
HGN ex x 09 44 06.9
THEF They Montfort 79.74 317 eP **P** **09 25 18.0 -0.4**
GDM Grand'Maison 79.90 314 eP **P** **09 25 19.3 0.0**
OG25 Le Caire 80.00 313 eP **P** **09 25 18.8 -1.1**
TAVF Tavernes 80.08 313 eP **P** **09 25 21.5 +1.2**
OG05 Jujurieux 80.29 315 eP **P** **09 25 21.6 +0.3**
VILF Villemus 80.31 313 eP **P** **09 25 22.8 +1.3**
PUYF Puyloubier 80.35 313 eP **P** **09 25 23.0 +1.3**
SUR Sutherland 80.51 234 eP **P** **09 25 25.3 +2.5**
comp=Z,109nm,0.8s,mb5.8
SUR epP pP 09 25 32.2 +2.0
SUR LR LR
comp=Z,3µm,20.0s,MS5.6
OG26 St.-Nazaire-De 80.53 314 eP **P** **09 25 23.2 +0.5**
OCF Saint Nazaire 80.54 314 eP **P** **09 25 23.2 +0.5**
PRAF Pradon 80.71 313 eP **P** **09 25 25.0 +1.4**
BAIF Baives 80.75 319⇑iP **P** **09 25 24.0 +0.3**
comp=Z,365nm,1.2s,mb5.9
BAIF Baives 80.75 319⇑iP **P** **09 25 24.0 +0.3**
BAIF pmax pmax
comp=Z,183nm,1.2s,mb5.9
MAW Mawson 80.92 191 eP **P** **09 25 25.1 +0.9**
MAW e pP 09 25 32.5 +0.8
MAW pmax pmax
comp=Z,213nm,1.2s
MAW MLR MLR
comp=Z,6µm,20.0s
MAW Mawson 80.92 191 eP **P** **09 25 25.1 +0.9**
comp=Z,213nm,1.2s,mb6.0
MAW e pP 09 25 32.5 +0.9
MAW LR LR
comp=Z,6µm,20.0s,MS5.9
SSF Saint Saulge 81.52 316⇑iP **P** **09 25 27.9 +0.1**
SSF pmax pmax
comp=Z,220nm,1.3s,mb5.9
SSF Saint Saulge 81.52 316⇑iP **P** **09 25 27.9 +0.1**
comp=Z,220nm,1.3s,mb5.9
COLF Collangettes 81.57 315 eP **P** **09 25 28.5 +0.4**
BGF Bois d'Agland 82.03 316⇑iP **P** **09 25 30.7 +0.3**
comp=Z,508nm,1.2s,mb6.0
BGF Bois d'Agland 82.03 316⇑iP **P** **09 25 30.7 +0.3**
BGF pmax pmax
comp=Z,254nm,1.2s,mb6.0
EJON La Jonquera 82.52 312 P **P** **09 25 33.0 -0.1**
comp=Z,138nm,1.3s,mb5.8
SJAF Saint Jean de 82.52 312 eP **P** **09 25 32.9 -0.2**
LRDF Laroque-de-Fa 82.72 312 eP **P** **09 25 34.5 +0.4**
FILF Fillols 82.75 312 eP **P** **09 25 34.8 +0.5**
RJF Les Rejaudoux 83.12 315⇑iP **P** **09 25 36.6 +0.5**
comp=Z,494nm,1.2s,mb6.1
RJF eR
comp=Z,4µm,22.2s
RJF Les Rejaudoux 83.12 315⇑iP **P** **09 25 36.6 +0.5**
RJF pmax pmax
comp=Z,247nm,1.2s,mb6.1
RJF MLR MLR
comp=Z,4µm,22.3s,MS5.8
LPEF Le Peyrat 83.17 312 eP **P** **09 25 36.9 +0.5**
LCP Cassop 83.60 324⇑eP **P** **09 25 39.0 +0.6**
EMIR Miracle 83.60 311 P **P** **09 25 39.6 +0.9**
comp=Z,521nm,1.3s,mb6.5
MLS Moulis 83.76 312 eP **P** **09 25 39.2 -0.3**
KBI1 Birley Grange 83.87 323⇑eP **P** **09 25 39.0 -0.8**
FLN La Foliniere 83.95 318⇑iP **P** **09 25 40.5 +0.2**
comp=Z,384nm,1.2s,mb6.1
FLN eR
comp=Z,4µm,18.8s
FLN La Foliniere 83.95 318⇑iP **P** **09 25 40.5 +0.2**
FLN pmax pmax
comp=Z,192nm,1.2s,mb6.1
FLN MLR MLR
comp=Z,4µm,18.8s,MS5.8
LHO Holmfirth 84.02 323⇑eP **P** **09 25 40.8 +0.3**
EPOB Poblet 84.02 311 P **P** **09 25 41.2 +0.4**
comp=Z,344nm,1.1s,mb6.4
MELF Melles 84.02 312 eP **P** **09 25 40.6 -0.2**
ESY Stoneypath 84.04 326 eP **P** **09 25 39.9 -0.7**
KWE Weaver Farm 84.10 323⇑eP **P** **09 25 39.9 -1.0**
EIBI Ibiza 84.18 308 P **P** **09 25 40.8 -0.8**
comp=Z,417nm,1.4s,mb6.4
EDI Edinburgh 84.36 326⇑eP **P** **09 25 42.7 +0.5**
EDI AMb AMB 09 25 53.2
comp=Z,378nm,1.4s,mb6.3
DAG Danmarks Havn 84.39 348⇓iP **P** **09 25 41.3 -0.6**
DAG pmax pmax
comp=Z,15nm,1.0s,mb5.1
DAG Danmarks Havn 84.39 348⇓iP **P** **09 25 41.3 -0.6**
comp=Z,15nm,1.0s,mb5.1
EGRA Graus 84.45 312 P **P** **09 25 44.1 +1.1**
comp=Z,78nm,0.8s,mb5.9
LCHF La Chataignera 84.46 316 eP **P** **09 25 43.8 +0.9**
ESK Eskdalemuir 84.48 325⇑eP **P** **09 25 43.0 +0.2**
ESK AMb AMB 09 25 53.7
comp=Z,223nm,1.2s,mb6.2
EBIE Bielsa 84.50 312 P **P** **09 25 44.2 +1.0**
comp=Z,460nm,2.4s,mb6.2
DRV Dumont d'Urvil 84.54 163 P **P** **09 25 44.0 +1.2**
EBR Ebro Roquetas 84.54 310 eP **P** **09 25 44.2 +0.8**
VIEF Viey 84.55 312 eP **P** **09 25 44.2 +0.8**
ERTA Horta de San J 84.64 311 P **P** **09 25 44.6 +0.7**
comp=Z,417nm,1.4s,mb6.4
EAB Aberfoyle 84.94 326 eP **P** **09 25 44.6 -0.4**
ETSF Etsaut 84.97 313⇑iP **P** **09 25 46.3 +0.8**
comp=Z,198nm,1.0s,mb5.9
ETSF Etsaut 84.97 313⇑iP **P** **09 25 46.3 +0.8**
ETSF pmax pmax
comp=Z,99nm,1.0s,mb5.9
MCH1 Michaelchurch 84.98 322 eP **P** **09 25 46.1 +0.8**
ESAC San Caprasio 85.10 311 P **P** **09 25 46.9 +0.6**
comp=Z,427nm,1.3s,mb6.4
LARF Larrau 85.25 313 eP **P** **09 25 47.8 +0.8**
WPM1 Penmaenmawr 85.28 323 eP **P** **09 25 47.5 +0.7**
EMOS Mosqueruela 85.34 310 P **P** **09 25 48.5 +1.0**
comp=Z,584nm,1.2s,mb6.6
OSSF Osses 85.42 313 eP **P** **09 25 46.9 -0.8**
GAL1 Galloway 85.42 325 eP **P** **09 25 48.3 +0.9**
EBEN Beniarda 85.44 308 P **P** **09 25 47.4 -0.6**
comp=Z,115nm,1.0s,mb6.0
EALK Alkurruntz 85.60 313 P **P** **09 25 49.3 +0.6**
comp=Z,149nm,1.1s,mb6.1
YRE Yr Eifl 85.64 323 eP **P** **09 25 49.3 +0.7**
ANM Nome 85.65 25 eP **P** **09 25 49.9 +1.5**
EMUR La Murta 86.38 308 P **P** **09 25 52.3 -0.4**
comp=Z,202nm,1.8s,mb6.0
DLF Lyons Farm 86.81 324 eP **P** **09 25 53.8 -0.6**
DMUB Kingscourt 86.88 324 eP **P** **09 25 54.8 +0.1**
ELAN Lanestosa 86.98 313 P **P** **09 25 59.5 +4.0**
comp=Z,195nm,1.3s,mb6.2
EVIA Vianos 87.20 309 P **P** **09 25 57.5 +0.8**
EVIA pmax pmax
comp=Z,83nm,1.2s,mb5.8
EVIA Vianos 87.20 309 P **P** **09 25 57.5 +0.9**
comp=Z,83nm,1.2s,mb5.8
DCN Croghan 87.23 324 eP **P** **09 25 56.2 -0.2**
EQES Quesada 87.81 308 P **P** **09 26 00.5 +0.9**
comp=Z,151nm,1.2s,mb6.1
EBER Berja 87.85 307 P **P** **09 26 00.7 +0.9**
comp=Z,233nm,1.2s,mb6.3
GUD Guadarrama 88.04 311 P **P** **09 26 01.7 +1.1**
GUD pmax pmax
comp=Z,92nm,1.0s,mb6.0
GUD Guadarrama 88.04 311 P **P** **09 26 01.7 +1.1**
comp=Z,92nm,1.0s,mb6.0
ESDC Sonseca Array 88.10 310 P **P** **09 26 01.6 +0.6**
comp=Z,58nm,1.1s,mb5.7
ESLA Sonseca Array 88.10 310 eP **P** **09 26 01.4 +0.4**
comp=Z,5.8nm,0.8s,mb4.9
ESLA e pP 09 26 08.6 +0.2
ESLA LR LR
comp=Z,20µm,19.0s,MS6.5
EARI Arriondas 88.23 314 P **P** **09 26 06.5 +5.0**
comp=Z,34nm,1.2s,mb5.5
EBAN Banos Encina 88.28 308 P **P** **09 26 03.3 +1.4**
EBAN pmax pmax
comp=Z,64nm,1.0s,mb5.8
EBAN Banos Encina 88.28 308 P **P** **09 26 03.3 +1.5**
comp=Z,64nm,1.0s,mb5.8
ELOJ Sierra Loja 88.78 307 P **P** **09 26 05.6 +1.3**
ELOJ pmax pmax
comp=Z,11nm,0.8s,mb5.2
ELOJ Sierra Loja 88.78 307 P **P** **09 26 05.6 +1.3**
comp=Z,11nm,0.8s,mb5.2
ELUQ Luque 88.78 308 P **P** **09 26 05.8 +1.5**
ELUQ pmax pmax
comp=Z,26nm,0.8s,mb5.6
ELUQ Luque 88.78 308 P **P** **09 26 05.8 +1.5**
comp=Z,26nm,0.8s,mb5.6
EADA Adamuz 88.89 309 P **P** **09 26 05.2 +0.4**
comp=Z,172nm,1.2s,mb6.3
EMIJ Mijas 89.40 307 P **P** **09 26 07.7 +0.5**
comp=Z,94nm,1.0s,mb6.1
ECAL Calabor 89.64 313 P **P** **09 26 13.0 +4.8**
comp=Z,187nm,1.9s,mb6.1
PBRG Braganca 89.68 312 eP **P** **09 26 09.7 +1.3**
PBRG epP pP 09 26 16.5 +0.6
IMA Indian Mountai 89.70 22 eP **P** **09 26 09.4 +1.5**
IMA e pP 09 26 16.8 +1.4
IMA pmax pmax
comp=Z,1µm,1.3s
IMA Indian Mountai 89.70 22 eP **P** **09 26 10.0 +2.1**
comp=Z,38nm,0.5s,mb6.0
ERUA La Rua 89.83 313 P **P** **09 26 14.3 +5.2**
ERUA pmax pmax

	comp=Z,71nm,1.4s,mb5.8							
ERUA	**La Rua**	**89.83**	**313**	P	**P**	**09 26 14.3**	**+5.3**
	comp=Z,71nm,1.4s,mb5.8							
EINC	**Incio**	**89.91**	**313**	P	**P**	**09 26 14.3**	**+4.8**
	comp=Z,148nm,1.5s,mb6.1							
ESPR	**Espera**	**90.18**	**307**	P	**P**	**09 26 11.5**	**+0.7**
	comp=Z,140nm,1.0s,mb6.2							
EMIN	**Mina Concepcio**	**90.60**	**308**	P	**P**	**09 26 13.3**	**+0.6**
	comp=Z,182nm,1.2s,mb6.3							
MTE	**Manteigas**	**90.61**	**311**	*e*P	**P**	**09 26 14.0**	**+1.3**
	comp=Z,64nm,1.2s,mb5.8							
MTE				*e*pP	pP	09 26 20.2	-0.1
MTE				*e*S	S	09 36 47.6	-17
MTE				*e*SS	SS	09 43 15.8	+6.0
MTE	**Manteigas**	**90.61**	**311**	*e*P	**P**	**09 26 13.7**	**+0.9**
	comp=Z,80nm,0.9s,mb6.0							
MTE				*e*	pP	09 26 21.2	+1.0
ELOB	**Lobios**	**90.62**	**313**	P	**P**	**09 26 13.9**	**+1.1**
	comp=Z,102nm,1.0s,mb6.1							
EBAD	**Badajoz**	**90.62**	**310**	P	**P**	**09 26 13.9**	**+1.0**
	comp=Z,121nm,1.1s,mb6.1							
PCBR	**Castelo Branco**	**90.70**	**311**	*e*P	**P**	**09 26 14.4**	**+1.2**
	comp=Z,43nm,1.1s,mb5.7							
PCBR				*e*pP	pP	09 26 21.6	+0.9
STS	**Santiago**	**90.70**	**314**	P	**P**	**09 26 17.9**	**+4.8**
STS				pmax	pmax		
	comp=Z,25nm,0.5s,mb5.8							
STS	**Santiago**	**90.70**	**314**	P	**P**	**09 26 17.9**	**+4.8**
	comp=Z,25nm,0.5s,mb5.8							
PVIS	**Viseu**	**90.79**	**312**	*e*P	**P**	**09 26 14.7**	**+1.1**
	comp=Z,47nm,1.3s,mb5.7							
PVIS				*e*pP	pP	09 26 22.1	+1.0
EMAZ	**Mazaricos**	**90.99**	**314**	P	**P**	**09 26 15.7**	**+1.2**
	comp=Z,331nm,1.2s,mb6.5							
EZAM	**Zamans**	**91.00**	**313**	P	**P**	**09 26 19.3**	**+4.8**
EZAM				pmax	pmax		
	comp=Z,109nm,1.4s,mb6.0							
EZAM	**Zamans**	**91.00**	**313**	P	**P**	**09 26 19.3**	**+4.8**
	comp=Z,108nm,1.4s,mb6.0							
EGRO	**El Granado**	**91.28**	**308**	P	**P**	**09 26 15.7**	**-0.2**
	comp=Z,240nm,1.2s,mb6.4							
PBEJ	**Beja**	**91.45**	**309**	*e*P	**P**	**09 26 18.1**	**+1.5**
	comp=Z,61nm,1.4s,mb5.7							
PBEJ				*e*pP	pP	09 26 25.3	+1.1
PTOM	**Tomar**	**91.45**	**311**	*e*P	**P**	**09 26 18.6**	**+2.0**
	comp=Z,97nm,1.4s,mb5.9							
PTOM				*e*pP	pP	09 26 25.7	+1.6
PTEO	**Sao Teotonio**	**92.23**	**309**	*e*P	**P**	**09 26 22.0**	**+1.8**
PTEO				*e*pP	pP	09 26 28.8	+1.0
COLA	**College**	**92.41**	**22**	*e*P	**P**	**09 26 20.5**	**+0.1**
COLA				pmax	pmax		
	comp=Z,60nm,1.4s,mb5.7							
COLA	**College**	**92.41**	**22**	*e*P	**P**	**09 26 20.5**	**+0.1**
	comp=Z,60nm,1.4s,mb5.7							
SPU	**Mount Spurr**	**92.56**	**26**	*e*P	**P**	**09 26 21.7**	**+0.6**
RSO	**Redoubt South**	**92.58**	**27**	P	**P**	**09 26 16.1**	**-5.2**
MCK	**McKinley**	**92.59**	**23⇑**	*i*P	**P**	**09 26 21.7**	**+0.4**
MCK				pmax	pmax		
	comp=Z,46nm,1.1s,mb5.8							
MCK				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.8							
MCK	**McKinley**	**92.59**	**23⇑**	*i*P	**P**	**09 26 21.7**	**+0.5**
	comp=Z,46nm,1.1s,mb5.8							
MCK				LR	LR		
	comp=Z,4μm,20.0s,MS5.8							
PMR	**Palmer**	**93.59**	**25**	*e*P	**P**	**09 26 26.9**	**+1.0**
PMR				pmax	pmax		
	comp=Z,65nm,0.9s,mb6.1							
PMR	**Palmer**	**93.59**	**25**	*e*P	**P**	**09 26 26.9**	**+1.0**
	comp=Z,65nm,0.9s,mb6.1							
SLKM	**Skilak Lake**	**93.67**	**26**	*e*P	**P**	**09 26 26.5**	**+0.2**
SML	**Sawmill**	**93.81**	**25**	*e*P	**P**	**09 26 27.8**	**+0.9**
THY	**Trims Highway**	**93.97**	**23**	*e*P	**P**	**09 26 28.5**	**+0.9**
DBIC	**Dimbokro**	**95.84**	**278**	*e*P	**P**	**09 26 38.5**	**+1.1**
DBIC				*e*	pP	09 26 45.7	+0.8
DBIC				pmax	pmax		
	comp=Z,96nm,1.2s							
DBIC				MLR	MLR		
	comp=Z,6μm,19.0s							
DBIC	**Dimbokro**	**95.84**	**278**	*e*P	**P**	**09 26 38.5**	**+1.1**
	comp=Z,96nm,1.2s,mb6.1							
DBIC				*e*	pP	09 26 45.7	+0.7
DBIC				LR	LR		
	comp=Z,6μm,19.0s,MS6.1							
NVL	**N'lazarevskaya**	**96.90**	**199⇓**	*e*P	**P**	**09 26 49.0**	**+8.2**
NVL				*e*		09 30 42.0	
NVL				*e*S		09 37 11.0	
NVL				*e*		09 38 05.0	
NVL				pmax	pmax		
	comp=Z,482nm,5.0s							
NVL				MLR	MLR		
	comp=Z,1μm,14.0s,MS5.6							
SBA	**Scott Base**	**97.10**	**168**	PFAKE		09 26 50.0	+8.3
SBA				LR	LR		
	comp=Z,5μm,19.0s,MS6.0							
QSPA	**South Pole Qui**	**100.56**	**180**	PFAKE		09 27 10.0	+13
QSPA				LR	LR		
	comp=Z,2.0nm,22.0s							
SNAA	**Sanae**	**101.70**	**199**	P	P	09 27 10.7	+8.2
SNAA				pmax	pmax		
	comp=Z,5.0nm,1.0s							
SNAA	**Sanae**	**101.70**	**199**	Pdif	P	09 27 10.7	+8.1
	comp=Z,5.1nm,1.0s							
HUMO	**Hull Mountain**	**117.90**	**29**	*e*PKPdf	PKPdf	09 31 57.8	-2.3
MSO	**Missoula**	**118.11**	**20**	*e*PKPdf	PKPdf	09 31 57.0	-3.4
MSO				*e*PP	PP	09 33 06.7	-9.3
CHMT	**Chamberlain Mo**	**118.27**	**20**	*e*PKPdf	PKPdf	09 31 56.4	-4.3
CHMT				*e*PP	PP	09 33 07.0	-10
BMO	**Blue Mountains**	**118.56**	**24**	*e*PKPdf	PKPdf	09 31 57.9	-3.5
BMO				*e*PP	PP	09 33 11.8	-7.5
HRY	**Holter Researc**	**118.91**	**19**	*e*PKPdf	PKPdf	09 31 58.5	-3.5
MOD	**Modoc**	**119.68**	**28**	*e*PKPdf	PKPdf	09 32 01.5	-2.1
PPT	**Papeete**	**119.73**	**104**	*e*PP	PP	09 33 16.9	-10
PPT				*e*PS	PS	09 43 16.3	+3.8
PPT				*e*SS	SS	09 49 44.4	-2.9
PPT				*e*LR	LR	10 09 17.7	
	comp=Z,3μm,22.2s						
WVOR	**Wild Horse Val**	**120.00**	**26**	*e*PKIKP	PKPdf	09 32 01.6	-2.6
WVOR				*e*		09 33 22.7	
GCMT	**Greycliff**	**120.40**	**18**	*e*PKPdf	PKPdf	09 32 02.3	-2.6
LAO	**LASA Array**	**120.52**	**15**	*e*PKPdf	PKPdf	09 32 03.0	-2.1
HLID	**Hailey**	**120.76**	**22**	*e*PKPdf	PKPdf	09 32 03.5	-2.2
YMR	**Madison River**	**121.00**	**19**	*e*PKPdf	PKPdf	09 32 04.4	-1.8
YMR				*e*PP	PP	09 33 31.1	-4.2
OHCM	**Honcut**	**121.12**	**30**	*e*PKPdf	PKPdf	09 32 03.8	-2.7
YFT	**Old Faithful**	**121.24**	**19**	*e*PKPdf	PKPdf	09 32 06.0	-0.6
YFT				*e*PP	PP	09 33 30.9	-6.1
EYMN	**Ely**	**121.55**	**3**	*e*PKPdf	PKPdf	09 32 03.8	-3.3
IMW	**Indian Meadow**	**121.70**	**20**	*e*PKPdf	PKPdf	09 32 04.2	-3.3
WCN	**Washoe City**	**121.99**	**29**	*e*PKIKP	PKPdf	09 32 04.3	-3.9
TPAW	**Teton Pass**	**122.06**	**20**	*e*PKPdf	PKPdf	09 32 05.9	-2.3
TPAW				*e*PP	PP	09 33 37.0	-5.7
LOHW	**Long Hollow**	**122.06**	**20**	*e*PKPdf	PKPdf	09 32 05.8	-2.4
WUWY	**Wally Ulrich**	**122.08**	**20**	*e*PKPdf	PKPdf	09 32 05.9	-2.3
WUWY				*e*PP	PP	09 33 36.6	-6.3
SNOW	**Snow King Moun**	**122.14**	**20**	*e*PKPdf	PKPdf	09 32 06.4	-2.0
CMB	**Columbia Colle**	**122.67**	**31**	*e*PKIKP	PKPdf	09 32 06.7	-2.7
ELK	**Elko**	**122.83**	**25**	*e*PKIKP	PKPdf	09 32 07.9	-1.8
HVU	**Hansel Valley**	**122.91**	**22**	*e*PKIKP	PKPdf	09 32 07.1	-2.7
MNV	**Mina**	**123.44**	**29**	*e*PKIKP	PKPdf	09 32 09.2	-1.8
HWUT	**Hardware Ranch**	**123.50**	**21**	*e*PKPdf	PKPdf	09 32 08.2	-2.9
TCUT	**Toone Canyon**	**123.99**	**22**	*e*PKPdf	PKPdf	09 32 09.4	-2.6
MTUM	**Tungsten Hills**	**124.10**	**30**	*e*PKPdf	PKPdf	09 32 10.6	-1.8
NOQ	**North Oquirrh**	**124.14**	**22**	*e*PKPdf	PKPdf	09 32 09.9	-2.4
TPH	**Tonopah**	**124.16**	**28**	*e*PKIKP	PKPdf	09 32 10.0	-2.4
NCB	**Newcomb**	**124.27**	**348**	*e*PKPdf	PKPdf	09 32 07.5	-5.0
JLU	**Jordanelle**	**124.43**	**22**	*e*PKPdf	PKPdf	09 32 09.9	-2.9
JLU				*e*PP	PP	09 33 53.6	-5.4
DAU	**Daniels Canyon**	**124.66**	**22**	*e*PKIKP	PKPdf	09 32 11.4	-2.0
DAU				*e*		09 33 55.7	
NLU	**North Lily Min**	**124.76**	**23**	*e*PKPdf	PKPdf	09 32 11.2	-2.4
NLU				*e*PP	PP	09 33 55.6	-5.4
RWWY	**Rawlins**	**124.87**	**18**	*e*PKPdf	PKPdf	09 32 10.4	-3.3
DAC	**Darwin (Calif)**	**125.43**	**30**	*e*PKIKP	PKPdf	09 32 12.9	-2.0
TMUT	**Trail Mountain**	**125.66**	**22**	*e*PKPdf	PKPdf	09 32 13.0	-2.2
PHWY	**Pilot Hill**	**125.73**	**17**	*e*PKPdf	PKPdf	09 32 11.8	-3.5
MVU	**Marysvale**	**125.96**	**24**	*e*PKPdf	PKPdf	09 32 14.6	-1.3
MSU	**Marysvale**	**125.97**	**24**	*e*PKIKP	PKPdf	09 32 14.2	-1.7
GENY	**Geneseo**	**126.07**	**351**	*e*PKPdf	PKPdf	09 32 12.2	-3.8
SRU	**San Rafael**	**126.08**	**22**	*e*PKIKP	PKPdf	09 32 13.0	-3.1
SRU				*e*		09 34 04.5	
BINY	**Binghamton**	**126.32**	**349**	*e*PKPdf	PKPdf	09 32 11.1	-5.4
MWC	**Mount Wilson**	**126.81**	**32**	*e*PKIKP	PKPdf	09 32 14.2	-3.4
NEN	**Nelson**	**127.24**	**28**	*e*PKPdf	PKPdf	09 32 16.5	-1.9
PV10	**Paradox Valley**	**127.26**	**21**	*e*PKPdf	PKPdf	09 32 16.5	-1.9
PV10				*e*PP	PP	09 34 12.8	-4.6
PFO	**Pinyon Flat Ob**	**128.12**	**31**	*e*PKIKP	PKPdf	09 32 18.2	-2.0
SSPA	**Standing Stone**	**128.17**	**351**	PKPdf	PKPdf	09 32 16.4	-3.7
TAOE	**Nuku Hiva Isla**	**128.25**	**93**	*e*PP	PP	09 34 14.7	-10
TAOE				*e*PS	PS	09 44 31.0	+3.6
TAOE				*e*SS	SS	09 51 51.2	+16
TAOE				*e*LR	LR	10 12 57.9	
BAR	**Barrett**	**128.74**	**32**	*e*PKPdf	PKPdf	09 32 19.4	-2.0
ACSO	**Alum Creek Sta**	**129.18**	**355**	*e*PKPdf	PKPdf	09 32 17.9	-4.1
KSU1	**Kansas State U**	**129.78**	**9**	*e*PKPdf	PKPdf	09 32 19.9	-3.3
KSU1				*e*PP	PP	09 34 25.9	-8.3
ANMO	**Albuquerque**	**131.25**	**21**	*e*PKPdf	PKPdf	09 32 24.0	-2.1
ANMO				*e*SKP		09 35 47.6	
WCI	**Wyandotte Cave**	**131.34**	**359**	*e*PKIKP	PKPdf	09 32 22.2	-4.0
CCM	**Cathedral Cave**	**131.41**	**4**	*e*PKIKP	PKPdf	09 32 22.0	-4.4
FVM	**French Village**	**131.53**	**3**	*e*PKIKP	PKPdf	09 32 22.8	-3.8
LPM	**Los Pinos Moun**	**131.76**	**21**	*e*PKPdf	PKPdf	09 32 24.1	-3.0
LENM	**Lemitar**	**131.77**	**22**	*e*PKPdf	PKPdf	09 32 25.0	-2.1
LENM				*e*PP	PP	09 34 43.4	-3.8
LENM				*e*SKP		09 35 49.2	
TUC	**Tucson**	**131.87**	**27**	*e*PKPdf	PKPdf	09 32 25.5	-1.8
TUC				*e*SKP		09 35 48.9	
BNM	**Barren Site**	**131.91**	**21**	*e*PKPdf	PKPdf	09 32 25.2	-2.2
BNM				*e*PP	PP	09 34 41.9	-6.2
BNM				*e*SKP		09 35 48.8	
AMTX	**Amarillo**	**132.78**	**16**	*e*PKPdf	PKPdf	09 32 26.1	-3.0
RKT	**Rikitea**	**133.22**	**112**	*e*SS	SS	09 52 42.3	+6.0
RKT				*e*LR	LR	10 15 25.8	
	comp=Z,4μm,23.0s						
WVT	**Waverly**	**133.45**	**0**	*e*PKIKP	PKPdf	09 32 26.5	-3.7
WMOK	**Wichita Mounta**	**133.62**	**13**	*e*PKPdf	PKPdf	09 32 27.4	-3.1
WMOK				*e*SKP		09 35 52.9	
CPRX	**Cap Rock**	**133.86**	**19**	*e*PKPdf	PKPdf	09 32 28.2	-2.8
CPRX				*e*PP	PP	09 34 56.2	-4.5
CPRX				*e*SKP		09 35 55.6	
CPCT	**Cooper Cave**	**134.04**	**356**	*e*PKPdf	PKPdf	09 32 27.6	-3.7
GDL2	**Guadalupe Moun**	**134.46**	**20**	*e*PKPdf	PKPdf	09 32 29.4	-2.8
GDL2				*e*SKP		09 35 57.8	
CLNB	**Carlsbad**	**134.57**	**19**	*e*PKP	PKPdf	09 32 27.6	-4.9
MNTX	**Cornudas Mount**	**134.57**	**21**	*e*PKPdf	PKPdf	09 32 29.6	-2.8
MNTX				*e*SKP		09 35 58.5	
MIAR	**Mount Ida**	**134.68**	**7**	*e*PKPdf	PKPdf	09 32 29.7	-2.9
MIAR				*e*SKP		09 35 58.1	
LRAL	**Lakeview Retre**	**136.54**	**359**	*e*PKPdf	PKPdf	09 32 31.1	-4.8
LTX	**Lajitas**	**137.32**	**21**	*e*PKPdf	PKPdf	09 32 35.4	-2.2
LTX				*e*SKP		09 36 07.2	
JCT	**Junction City**	**137.44**	**16**	*e*PKIKP	PKPdf	09 32 34.0	-3.7
BAO	**Brasilia Array**	**141.14**	**258**	P	PKPdf	09 32 42.1	-2.7
BAO				*i*		09 32 49.6	
BAO				*e*		09 33 05.3	
BIM	**Bigot**	**143.69**	**313**	*e*P	PKPbc	09 32 43.5	-0.1
LPA	**La Plata**	**143.77**	**224**	*de*P	Pdif	09 30 09.0	+0.4
LPA	**La Plata**	**143.77**	**224**	*e*PKP	PKPdf	09 32 46.0	-2.8
LPA				*e*PP	PP	09 35 58.0	-3.3
LPA				*e*S		09 44 36.0	
TRQA	**Tornquist**	**144.34**	**216**	*e*PKPdf	PKPdf	09 32 44.7	-5.0
TRQA				*e*PP	PP	09 36 01.4	-3.2
SJG	**San Juan**	**144.41**	**323**	*e*PKIKP	PKPdf	09 32 45.0	-5.4
TPR	**Prospect**	**145.60**	**308**	*e*P	PKPbc	09 32 51.9	+3.0
TRN	**Trinidad (W)**	**146.42**	**308**	*e*P	PKPbc	09 32 54.6	+3.8
TPP	**Pointe-a-Pierr**	**146.66**	**308**	*e*P	PKPbc	09 32 55.8	+4.4
TEIG	**Tepich**	**149.29**	**1**	*e*PKPbc	PKPdf	09 33 00.2	+1.7
FCH	**Farellones**	**152.40**	**213**	*e*P	PKPdf	09 33 06.2	+3.3
CLCH	**Cerro Calan**	**152.47**	**212**	*e*P	PKPdf	09 33 05.3	+2.4
SDV	**Santo Domingo**	**154.25**	**318**	*e*PKPdf	PKPdf	09 33 02.5	-3.4
LVC	**Limon Verde**	**158.53**	**234**	*e*PKPdf	PKPdf	09 33 09.7	-1.6
LVC				*e*		09 33 18.0	
LPAZ	**La Paz**	**160.25**	**251**	*e*PKPdf	PKPdf	09 33 10.7	-2.7
LPAZ				*e*PKPab	PKPab	09 33 58.8	+7.1
OTAV	**Otavalo**	**165.84**	**319**	*e*PKPdf	PKPdf	09 33 17.1	-1.9
OTAV				*e*PKPab	PKPab	09 34 17.1	+0.9
OTAV				*e*PP	PP	09 38 02.3	-2.2

*BJI **04** 09:17:52.7, 10.39N×92.46E, h64km, mB5.5, mb5.2, Ms5.9, Msz5.6*
*NEIC **04** 09:17:53.7±2.4, 10.61N×92.39E, h44km±21km, mb5.2/24, Error ellipse: s-maj=14.5km s-min=8.7km az=68.0*
ISC 04 09:17:46.4±2.0, 10.58N±0.05×92.28E±0.05, h9km±13km, h45km±4.7km:pP-P, n53, σ1°02/55, mb5.1/30, MS5.6/3, 7C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**10.14**	**39**	*e*P	**P**	**09 20 16.8**	**+1.3**
VIS	**Vishakhapatnam**	**11.21**	**310**	*e*P	**P**	**09 20 29.1**	**-0.9**
VIS				*e*S	**S**	**09 22 22.4**	**-14**
BWNR	**Bhubaneshwar**	**11.49**	**328**	*e*P	**P**	**09 20 30.0**	**-4.0**
BWNR				*e*S	**S**	**09 22 24.7**	**-19**
MDRS	**Chennai**	**12.03**	**283**	*e*P	**P**	**09 20 40.0**	**-1.2**
BOK	**Bokaro**	**14.48**	**336**	*e*S	**S**	**09 23 48.3**	**-7.2**
KOD	**Kodaikanal**	**14.57**	**270**	*e*P	**P**	**09 21 14.6**	**-0.4**
KOD				*e*		09 23 44.9	
SHL	**Shillong**	**14.91**	**359**	*e*P	**P**	**09 21 18.5**	**-0.9**
BLSP	**Bilaspur**	**15.04**	**321**	*e*P	**P**	**09 21 23.3**	**+2.1**
BLSP				*e*		09 23 58.6	
TRD	**Trivandrum**	**15.25**	**264**	*e*P	**P**	**09 21 30.4**	**+6.5**
TRD				*e*		09 21 40.3	
	comp=Z,169nm,1.6s						
LATR	**Latur**	**17.09**	**299**	*i*	**S**	**09 25 07.4**	**+11**
MNGI	**Mangalore**	**17.25**	**280**	*e*P	**P**	**09 21 47.9**	**-1.5**
GOA	**Goa**	**18.62**	**287**	*e*P	**P**	**09 22 08.0**	**+1.5**
QIZ	**Qiongzhong**	**18.93**	**62**	P	**P**	**09 22 09.1**	**-1.1**
	comp=Z,12nm,0.6s						
BHPL	**Bhopal**	**18.96**	**313**	*e*	**P**	**09 22 21.4**	**+11**
BOM	**Bombay**	**20.54**	**296**	*e*P	**P**	**09 22 26.9**	**-1.2**
SMLA	**Simla**	**24.79**	**328**	*e*	**P**	**09 23 15.2**	**+5.0**
SMLA				*e*		09 23 34.0	
	comp=Z,419nm,1.7s						
ENH	**Enshi**	**25.31**	**37**	*e*P	**P**	**09 23 14.8**	**-0.3**
	comp=Z,118nm,0.5s,mb5.7						
DGAR	**Diego Garcia**	**26.63**	**229**	P	**P**	**09 23 21.4**	**-6.1**
	comp=Z,79nm,0.9s,mb5.2						
NJ2	**Nanjing**	**32.54**	**45**	*e*P	**P**	**09 24 20.4**	**+0.3**
NJ2				AP	pP	09 24 32.3	+10
NJ2				XP	sP	09 24 37.7	+14
NJ2				PP	PP	09 25 29.7	+1.1
NJ2				S	**S**	**09 29 31.0**	**-3.3**
NJ2				XS		09 29 51.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,2μm,6.7s						
NJ2				LR	LR		
	comp=N,9μm,14.5s,MS5.8						
NJ2				LR	LR		
	comp=E,10μm,16.4s,MS5.8						
NJ2				LR	LR		
	comp=Z,12μm,15.1s,MS5.7						
WMQ	**Urumqi**	**33.35**	**354**	P	**P**	**09 24 30.3**	**+3.2**
WMQ				AP	pP	09 24 42.3	+13
WMQ				XP	sP	09 24 47.7	+17
WMQ				PP	PP	09 25 43.1	+4.4
WMQ				S	**S**	**09 29 47.2**	**+0.3**
WMQ				XS		09 30 07.5	
WMQ				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,260nm,4.2s						
WMQ				LR	LR		
	comp=N,3μm,18.7s,MS5.0						
WMQ				LR	LR		
	comp=E,2μm,22.8s,MS5.0						
WMQ				LR	LR		
	comp=Z,3μm,18.6s,MS5.0						
AAK	**Ala-Archa**	**35.51**	**337**	*e*P	**P**	**09 24 45.9**	**+0.3**
	comp=Z,11nm,0.8s,mb4.8						
BJT	**Baijiatuau**	**36.17**	**32**	*e*P	**P**	**09 24 52.3**	**+1.0**
	comp=Z,46nm,0.7s,mb5.5						
SNY	**Shenyang**	**41.49**	**36**	⇑P	**P**	**09 25 36.0**	**+0.5**
SNY				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.2						
MBWA	**Marble Bar**	**41.50**	**140**	*e*P	**P**	**09 25 34.2**	**-1.7**
	comp=Z,13nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**43.55**	**131**	*e*P	**P**	**09 25 52.4**	**-0.3**
	comp=Z,51nm,0.6s,mb5.4						
HIA	**Hailar**	**44.82**	**25**	*e*P	**P**	**09 26 02.9**	**+0.3**
	comp=Z,24nm,0.8s,mb5.1						
MDJ	**Mudanjiang**	**46.67**	**37**	P	**P**	**09 26 17.8**	**+0.5**
MDJ				AP	pP	09 26 34.2	+14
MDJ				PCP	PcP	09 27 50.4	-1.1
MDJ				PP	PP	09 28 07.6	+0.7
MDJ				SCP		09 31 40.8	
MDJ				PCS		09 31 45.6	
MDJ				S	**S**	**09 33 05.2**	**-0.8**
MDJ				XS		09 33 25.2	
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,55nm,3.6s						
MDJ				LR	LR		
	comp=N,12μm,18.1s,MS6.1						
MDJ				LR	LR		
	comp=E,16μm,18.6s,MS6.1						
MDJ				LR	LR		
	comp=Z,18μm,17.8s,MS6.1						
MUN	**Mundaring**	**48.12**	**152**	*e*P	**P**	**09 26 30.2**	**+1.3**
	comp=Z,22nm,0.6s,mb5.4						
KLBR	**Kellerberrin**	**48.52**	**151⇓**	*i*P	**P**	**09 26 31.9**	**-0.1**
	comp=Z,22nm,0.7s,mb5.3						
NWAO	**Narrogin (SRO)**	**49.38**	**152**	*e*P	**P**	**09 26 38.5**	**-0.1**
	comp=Z,22nm,0.6s,mb5.4						
WRAB	**Tennant Creek**	**51.33**	**126⇑**	*e*P	**P**	**09 26 52.8**	**-0.8**
	comp=Z,154nm,0.4s						
WB2	**Warramunga Arr**	**51.34**	**126⇑**	*i*P	**P**	**09 26 53.2**	**-0.4**
KIV	**Kislovodsk**	**54.09**	**317⇓**	*e*P	**P**	**09 27 15.0**	**+1.1**
	comp=Z,30nm,0.8s,mb5.3						
YSS	**Yuzh-Sakhalins**	**55.84**	**40⇑**	*e*P	**P**	**09 27 26.2**	**-0.4**
	comp=Z,36nm,0.7s,mb5.5						
YAK	**Yakutsk**	**58.05**	**20⇑**	*e*P	**P**	**09 27 41.1**	**-1.0**
	comp=Z,71nm,0.7s,mb5.8						
PMG	**Port Moresby**	**58.10**	**108**	*e*P	**P**	**09 27 42.7**	**-0.3**
	comp=Z,46nm,0.8s,mb5.6						
STKA	**Stephens Creek**	**63.29**	**134**	*e*P	**P**	**09 28 18.2**	**0.0**
	comp=Z,36nm,1.1s,mb5.4						
MA2	**Magadan**	**65.26**	**29⇑**	*e*P	**P**	**09 28 29.5**	**-1.1**
	comp=Z,23nm,0.8s,mb5.3						
JOF	**Joensuu**	**67.63**	**334**	*e*p	**P**	**09 28 45.3**	**-0.3**
	comp=Z,3.7nm,0.4s,mb4.8						
SKO	**Skopje**	**68.76**	**311⇑**	*i*P	**P**	**09 28 45.5**	**-7.5**
TOO	**Toolangi**	**69.08**	**137⇓**	*i*P	**P**	**09 28 56.8**	**+1.7**
	comp=Z,9.5nm,0.6s,mb4.9						
KAF	**Kangasniemi**	**69.36**	**333**	*e*p	**P**	**09 28 56.8**	**-0.8**
	comp=Z,1.9nm,0.3s,mb4.5						
KEV	**Kevo**	**71.69**	**341**	*e*p	**P**	**09 29 10.3**	**-0.1**
	comp=Z,1.9nm,0.3s,mb4.5						
LBTB	**Lobatse**	**73.95**	**240**	P	**P**	**09 29 24.5**	**0.0**
	comp=Z,8.9nm,0.7s,mb4.8						
CLL	**Collm**	**75.12**	**320**	P	**P**	**09 29 30.0**	**-0.7**
BOSA	**Boshof**	**75.49**	**237**	*e*P	**P**	**09 29 34.5**	**+1.2**
	comp=Z,12nm,0.8s,mb4.9						
BOSA				*e*		09 29 41.9	
NB2	**NORSAR Subarra**	**76.48**	**330**	P	**P**	**09 29 38.1**	**-0.1**
	comp=Z,3.7nm,0.6s,mb4.5,baz=96,slow=5.0						
LPG	**La Plagne**	**79.42**	**314**	*e*P	**P**	**09 29 55.9**	**+1.2**
	comp=Z,9.7nm,0.4s,mb4.8						
SUR	**Sutherland**	**80.37**	**234**	*e*P	**P**	**09 30 03.2**	**+3.1**
	comp=Z,14nm,0.7s,mb5.0						
SUR				*e*		09 30 10.0	
MCK	**McKinley**	**92.71**	**23**	*e*P	**P**	**09 31 00.5**	**+0.6**
	comp=Z,5.7nm,0.7s,mb5.1						
BOZ	**Bozeman (W)**	**120.04**	**19**	PKP	PKPdf	09 36 39.9	-0.8
MSU	**Marysvale**	**126.09**	**24**	*e*PKP	PKPdf	09 36 53.5	+0.8
JCT	**Junction City**	**137.56**	**16**	*e*PKP	PKPdf	09 37 15.9	+1.4

*BER **04** 09:48:24.1±3.9, 74.63N×9.19E, h14km±77km, MD2.6, ML2.4,

comp=Z,110nm,2.0s
ENH Enshi 29.50 26 *e*P **P 10 05 01.5 -0.2**
comp=Z,14nm,0.5s,mb4.9
AJM Ajmer 29.55 321 *e*P **P 10 04 58.8 -3.4**
AJM *e* 10 05 04.6
comp=Z,28nm,1.6s
NDI New Delhi 29.70 327 *e*P **P 10 05 01.1 -2.5**
NDI *e* 10 05 04.9
comp=Z,38nm,1.4s
SMLA Simla 31.69 330 *e*P **P 10 05 23.6 +2.5**
SMLA *e* 10 05 37.1
comp=Z,58nm,1.6s
WHN Wuhan 32.11 33 ⇑P **P 10 05 24.5 -0.4**
XAN Xi'an 32.56 22 P **P 10 05 28.6 -0.2**
XAN AMB AMB
comp=Z,24nm,1.2s,mb5.0
LZH Lanzhou 32.93 13 *e*P **P 10 05 32.1 +0.2**
LZH AP pP 10 05 42.5 +0.9
LZH AMB AMB
comp=Z,24nm,1.3s,mb5.0
NJ2 Nanjing 35.79 36 *e*P **P 10 05 55.8 -0.7**
NJ2 AP pP 10 06 09.7 +3.5
NJ2 PP PP 10 07 16.3 -1.6
NJ2 S **S 10 11 29.0 -1.8**
NJ2 AMB AMB
comp=Z,80nm,0.5s,mb5.9
NJ2 AMB AMB
comp=Z,1μm,7.2s
NJ2 LR LR
comp=N,1μm,14.3s,MS5.0
NJ2 LR LR
comp=E,1μm,14.0s,MS5.0
NJ2 LR LR
comp=Z,2μm,17.4s,MS4.9
SSE Sheshan 36.55 40 *e*P **P 10 06 00.7 -2.2**
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.2
FITZ Fitzroy Crossi 37.46 127 *e*P **P 10 06 11.1 +0.4**
comp=Z,15nm,0.6s,mb5.0
FITZ *e* pP 10 06 19.9 -0.5
WMQ Urumqi 40.11 352 ⇑P **P 10 06 34.5 +2.0**
WMQ AP pP 10 06 45.1 +2.8
WMQ PP PP 10 08 11.2 +2.8
WMQ AMB AMB
comp=Z,80nm,1.2s,mb5.3
WMQ AMB AMB
comp=Z,350nm,5.7s
WMQ LR LR
comp=N,3μm,20.1s,MS5.1
WMQ LR LR
comp=E,2μm,22.5s,MS5.1
WMQ LR LR
comp=Z,2μm,19.6s,MS5.0
BJT Baijiatuao 40.63 25 *e*P **P 10 06 39.5 +2.6**
comp=Z,35nm,0.8s,mb5.0
UCH Uchtor 42.14 337 P **P 10 06 50.6 +1.4**
SNR=5.8
TKM2 Tokmak 2 42.33 339 P **P 10 06 52.2 +1.4**
SNR=7.5
AAK Ala-Archa 42.49 338 P **P 10 06 54.1 +1.9**
SNR=6.7
AAK Ala-Archa 42.49 338 *c i*P **P 10 06 52.5 +0.4**
AAK pmax pmax
comp=Z,53nm,1.3s,mb5.0
AAK Ala-Archa 42.49 338 *e*P **P 10 06 52.0 -0.1**
comp=Z,68nm,1.1s,mb5.2
FRU Bishkek 42.62 338 ⇑ *i*P **P 10 06 54.5 +1.3**
FRU pmax pmax
comp=Z,90nm,1.8s,mb5.2
CHMS Chumysh 42.71 338 P **P 10 06 54.9 +1.0**
SNR=11
EKS2 Erkin-Say 42.79 337 P **P 10 06 56.1 +1.5**
SNR=18
USP Ospenovka 43.03 338 P **P 10 06 57.6 +1.0**
SNR=25
MK02 Makanchi Array 43.93 348 P **P 10 07 04.4 +0.6**
MK02 pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
WRAB Tennant Creek 45.51 123 *i*P **P 10 07 18.1 +1.3**
WRAB Tennant Creek 45.51 123 *e*P **P 10 07 17.6 +0.9**
comp=Z,91nm,1.0s,mb5.7
WRAB *e* pP 10 07 26.6 -0.1
WB2 Warramunga Arr 45.51 123 *e*P **P 10 07 18.1 +1.3**
WB2 *e* pP 10 07 26.9 +0.2
SNY Shenyang 45.52 30 ⇓P **P 10 07 17.7 +1.1**
ZAK Zakamensk 46.70 7 *e*P **P 10 07 25.9 +0.1**
ZAK *e* 10 08 57.4
MOY Mondy 47.72 5 *e*P **P 10 07 34.6 +0.8**
TLY Talaya 48.02 7 *e*P **P 10 07 36.3 +0.1**
TLY pmax pmax
comp=Z,11nm,1.1s,mb4.8
HIA Hailar 49.76 21 *e*P **P 10 07 49.8 +0.2**
comp=Z,18nm,0.5s,mb5.3
MDJ Mudanjiang 50.59 32 P **P 10 07 53.4 -2.5**
MDJ PCP PcP 10 09 11.8 -1.7
MDJ PP PP 10 09 48.4 -4.3
MDJ SCP 10 13 06.9
MDJ PCS 10 13 09.5
MDJ S **S 10 15 03.0 -3.8**
MDJ SS SS 10 18 39.9 +1.6
MDJ LR LR
comp=N,474nm,20.9s,MS4.6
MDJ LR LR
comp=E,419nm,22.7s,MS4.6
MDJ LR LR
comp=Z,535nm,21.3s,MS4.5
MDJ Mudanjiang 50.59 32 *e*P **P 10 07 55.8 -0.1**
comp=Z,22nm,1.1s,mb5.0
MAJO Matsushiro 51.23 45 P **P 10 08 00.7 -0.3**
comp=Z,9.5nm,0.8s,mb4.8
NVS Novosibirsk 51.51 351 *i*P **P 10 08 01.8 -0.9**
NVS *e*S **S 10 15 16.4 -2.9**
NVS pmax pmax
comp=E,15nm,1.1s
NVS pmax pmax
comp=Z,33nm,1.1s,mb5.2
NVS pmax pmax
comp=N,23nm,1.3s
NVS smax
comp=N,24nm,2.3s
NVS smax
comp=E,7.0nm,1.9s
KLR Kul'dur 54.81 29 *e*P **P 10 08 26.0 -1.3**
KLR pmax pmax
comp=Z,23nm,1.2s,mb5.1
BOD Bodaibo 55.68 12 *e*P **P 10 08 32.6 -0.9**
CTAO Charters Tower 55.84 117 *e*P **P 10 08 35.5 +0.3**
comp=Z,16nm,1.2s,mb4.9
STKA Stephens Creek 56.97 132 *e*P **P 10 08 43.8 +0.7**
GNI Garni 57.65 316 ⇑ *i*P **P 10 08 47.4 -0.4**
GNI pmax pmax
comp=Z,40nm,1.9s
KMBO Kilima Mbogo 57.83 266 *i*P **P 10 08 49.4 0.0**
KMBO pmax pmax
comp=Z,9.0nm,1.0s
KMBO Kilima Mbogo 57.83 266 *e*P **P 10 08 48.8 -0.7**
comp=Z,14nm,1.0s,mb5.0
SVE Sverdlovsk 59.21 339 ⇓ *e*P **P 10 08 57.5 -0.9**
SVE pmax pmax
comp=Z,60nm,1.5s,mb5.4
ARU Arti 59.68 338 ⇓ *i*P **P 10 08 59.0 -2.7**
ARU *e* 10 09 43.0
ARU *e*S **S 10 17 07.4 -0.9**
ARU *e*SS SS 10 21 01.0 -4.4
ARU pmax pmax
comp=Z,20nm,1.1s,mb5.1
KIV Kislovodsk 60.66 319 ⇑ *i*P **P 10 09 07.6 -1.0**
KIV *e**PP pP 10 09 21.3 +2.6
KIV *e* 10 11 30.9
KIV *e*S **S 10 17 38.9 +18**
KIV pmax pmax
comp=Z,26nm,1.4s,mb5.2
KIV Kislovodsk 60.66 319 *e*P **P 10 09 07.2 -1.3**
comp=Z,31nm,1.0s,mb5.4
GOF Gofitskoye 60.91 320 *e*P **P 10 09 09.0 -1.3**
MALT Malatya 61.52 312 *e*P **P 10 09 13.3 -1.1**
comp=Z,26nm,1.2s,mb5.2
EIL Elat 62.00 301 *e*P **P 10 09 17.4 -0.4**
comp=Z,22nm,0.8s,mb5.3
SOC Sochi 62.47 318 *e*P **P 10 09 16.8 -4.0**
SOC *e* 10 09 55.9
SOC *e*PPP PPP 10 13 04.3 -5.8
SOC *e*S **S 10 17 45.8 +1.8**
SOC *e*SSS SSS 10 24 34.7 +1.3
SOC pmax pmax
comp=Z,33nm,1.0s,mb5.4
SOC pmax pmax
comp=N,27nm,0.9s
SOC pmax pmax
comp=E,35nm,1.1s
SOC MLR MLR
comp=Z,1μm,20.0s,MS5.0
SOC MLR MLR
comp=N,762nm,21.0s
SOC MLR MLR
comp=E,335nm,13.0s
YAK Yakutsk 63.37 18 *e*P **P 10 09 26.2 -0.3**
YAK *i* *PP pP 10 09 32.1 -4.6
YAK *i* *SS 10 17 54.4
YAK pmax pmax
comp=Z,15nm,1.2s,mb5.0
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK Yakutsk 63.37 18 *e*P **P 10 09 26.0 -0.5**
comp=E,13nm,0.3s,mb5.5
YAK *e* pP 10 09 34.4 -2.3
MBAR Mbarara 64.27 267 *e*P **P 10 09 32.1 -1.0**
comp=E,31nm,1.2s,mb5.2
MOS Moscow 68.72 329 *e*P **P 10 09 59.8 -0.8**
MOS pmax pmax
comp=Z,96nm,1.3s,mb5.6
LSZ Lusaka 68.76 252 *e*P **P 10 10 00.4 -1.1**
comp=Z,29nm,1.4s,mb5.0
LSZ *e* pP 10 10 09.5 -2.3
OBN Obninsk 69.00 328 *de*P **P 10 10 00.3 -2.0**
OBN pmax pmax
comp=Z,51nm,1.2s,mb5.3
MA2 Magadan 69.80 27 *i*P **P 10 10 06.0 -1.1**
MA2 pmax pmax
comp=Z,20nm,2.1s,mb4.7
TIXI Tiksi 70.81 11 *i*P **P 10 10 12.6 -0.5**
TIXI pmax pmax
comp=Z,28nm,1.2s,mb5.1
JOF Joensuu 74.60 335 *e*p **P 10 10 34.6 -0.9**
comp=Z,7.4nm,0.7s,mb4.7
JOF Joensuu 74.60 335 *e*P **P 10 10 34.6 -0.9**
JOF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
LVV L'vov 74.61 321 *e*P **P 10 10 35.2 -0.7**
KWP Kalwaria 75.42 320 *e*P **P 10 10 40.8 +0.2**
KOLS Kolonicke sedl 75.57 319 *i*P **P 10 10 41.8 +0.4**
CRVS Cervenica-Dubn 76.09 319 *i*P **P 10 10 44.4 +0.1**
FINES FINESS Array B 76.42 333 *i*P **P 10 10 45.5 -0.5**
FINES pmax pmax
comp=Z,7.0nm,0.7s
KAF Kangasniemi 76.51 333 *e*p **P 10 10 45.4 -1.1**
comp=Z,4.7nm,0.5s,mb4.7,baz=105,slow=5.3
KAF Kangasniemi 76.51 333 *e*P **P 10 10 45.4 -1.1**
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
KECS Kecovo 76.66 319 *i*P **P 10 10 47.4 -0.2**
PSZ Piszkesteto 76.96 318 *e*P **P 10 10 47.3 -2.1**
comp=Z,19nm,0.9s,mb5.0
OJC Ojcow 77.37 320 *e*P **P 10 10 51.9 +0.3**
VYHS Vyhne 77.74 319 *i*P **P 10 10 53.5 -0.2**
OKC Ostrava-Krasne 78.37 320 *e*P **P 10 10 57.6 +0.5**
OKC *e*pP pP 10 11 07.4 0.0
KEV Kevo 78.67 341 *e*p **P 10 10 57.5 -0.8**
comp=Z,6.4nm,0.8s,mb4.6
KEV Kevo 78.67 341 *e*P **P 10 10 57.5 -0.8**
KEV pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MORC Moravsky Berou 78.75 320 *e*P **P 10 10 59.2 +0.1**
comp=Z,40nm,1.3s,mb5.2
MORC *e* pP 10 11 08.6 -0.9
SUR Sutherland 78.81 236 *e*P **P 10 11 00.5 +0.7**
comp=Z,40nm,1.3s,mb5.2
SUR *e* 10 11 07.8
ZST Bratislava 78.85 318 *i*P **P 10 11 00.3 +0.5**
BILL Bilibino 79.34 21 ⇓ *e*P **P 10 10 59.5 -2.5**
BILL pmax pmax
comp=Z,18nm,1.8s,mb4.7
DPC Dobruska-Polom 79.60 320 *e*P **P 10 11 04.4 +0.6**
DPC *e*pP pP 10 11 14.0 -0.2
KSP Ksiaz 79.67 321 *e*P **P 10 11 04.7 +0.6**
KSP Ksiaz 79.67 321 *e*P **P 10 11 04.8 +0.7**
UPC Upice 79.81 320 *e*P **P 10 11 05.5 +0.6**
ARSA Arzberg 79.82 317 ⇓ *i*P **P 10 11 05.4 +0.4**
comp=Z,28nm,1.1s,mb5.1
BOJS Bojanci 79.86 315 *e*P **P 10 11 04.7 -0.6**
BOJS *e*PcP PcP 10 11 15.0 +1.9
OBKA Obir 80.43 316 ⇑ *i*P **P 10 11 08.3 0.0**
comp=Z,16nm,1.2s,mb4.8
PRU Pruhonice 80.70 320 *e*P **P 10 11 09.8 +0.1**
MOA Molln 80.72 318 ⇓ *i*P **P 10 11 09.5 -0.3**
comp=Z,10nm,1.2s,mb4.6
PVCC Panska Ves 80.73 320 *e*P **P 10 11 10.6 +0.8**
PVCC *e*pP pP 10 11 19.7 -0.5
ROBS Robic 81.13 316 *e*P **P 10 11 11.5 -0.5**
BRG Berggiesshubel 81.16 321 *i*P **P 10 11 12.4 +0.4**
BRG pmax pmax
comp=Z,27nm,1.3s,mb5.0
BRG Berggiesshubel 81.16 321 *i*P **P 10 11 12.4 +0.4**
comp=Z,27nm,1.3s,mb5.0
GEC2 GERESS Array S 81.16 319 *e*P **P 10 11 12.6 +0.5**
GEC2 *e**PP pP 10 11 22.1 -0.4
GEC2 pmax pmax
comp=Z,47nm,1.1s,mb5.3
GEC2 GERESS Array S 81.16 319 *e*P **P 10 11 12.6 +0.5**
comp=Z,47nm,1.1s,mb5.3
GEC2 *e*pP pP 10 11 22.1 -0.4
KHC Kasperske Hory 81.26 319 *e*P **P 10 11 12.8 +0.2**
KHC *e*pP pP 10 11 24.1 +1.0
WET Wettzell 81.72 319 *e*P **P 10 11 15.5 +0.5**
CLL Collm 81.78 321 *i*P **P 10 11 15.1 -0.2**
CLL *i* pP 10 11 24.8 -0.9
CLL pmax pmax
comp=Z,13nm,1.1s,mb4.8
CLL Collm 81.78 321 *i*P **P 10 11 15.1 -0.2**
comp=Z,13nm,1.1s,mb4.8
CLL *i* pP 10 11 24.8 -0.9
CLL Collm 81.78 321 P **P 10 11 15.1 -0.2**
comp=Z,logA/T=1.1,mb4.8
CLL *i* *SP sP 10 11 24.8 -4.5
NKC Novy Kostel 82.07 320 *e*P **P 10 11 17.2 +0.4**
WTTA Wattenberg 82.46 317 ⇓ *i*P **P 10 11 18.7 -0.2**
comp=Z,30nm,1.0s,mb5.2
WATA Walderalm 82.51 317 ⇓ *i*P **P 10 11 18.6 -0.5**
comp=Z,12nm,1.0s,mb4.9
MOX Moxa 82.62 320 *e*P **P 10 11 19.8 +0.2**
MOX Moxa 82.62 320 *i*P **P 10 11 19.8 +0.2**
FUR Furstenfeldbru 82.74 318 *e*P **P 10 11 20.3 +0.1**
SQTA Sankt Quirin 82.75 317 ⇑ *i*P **P 10 11 20.1 -0.2**
comp=Z,11nm,0.9s,mb4.9
MOTA Moosalm 82.83 317 ⇓ *i*P **P 10 11 20.4 -0.3**
comp=Z,16nm,1.1s,mb5.0
GRA1 Grafenberg Arr 82.83 319 *e*P **P 10 11 21.6 +0.9**
comp=Z,36nm,1.1s,mb5.3
GRF Grafenberg Arr 82.83 319 *e*P **P 10 11 21.6 +0.9**
GRF pmax pmax
comp=Z,36nm,1.1s,mb5.3
GRF Grafenberg Arr 82.83 319 *e*P **P 10 11 21.6 +0.9**
comp=Z,36nm,1.1s,mb5.3
NB2 NORSAR Subarra 83.41 331 P **P 10 11 23.1 -0.3**
comp=Z,2.0nm,0.8s,mb4.2,baz=97,slow=5.3
CLZ Clausthal 83.44 322 *e*P **P 10 11 24.3 +0.5**
comp=Z,29nm,1.2s,mb5.2
BSEG Bad Segeberg 83.55 324 *e*P **P 10 11 25.1 +0.9**
DAVA Damuels 83.66 317 ⇓ *i*P **P 10 11 25.1 +0.1**
comp=Z,29nm,1.1s,mb5.3
BFO Black Forest 84.71 318 *e*P **P 10 11 30.3 0.0**
BFO pmax pmax
comp=Z,17nm,1.3s,mb5.0
BFO Black Forest 84.71 318 *e*P **P 10 11 30.3 0.0**
comp=Z,17nm,1.3s,mb5.0
LPG La Plagne 85.83 315 *e*P **P 10 11 36.2 +0.3**
comp=Z,38nm,1.0s,mb5.3
MNV Mina 127.82 33 *e*PKP PKPdf 10 18 04.3 +3.2
PV10 Paradox Valley 132.31 26 *e*PKP PKPdf 10 18 11.6 +1.9
KSU1 Kansas State U 135.76 13 PKP PKPdf 10 18 18.6 +2.6
GDL2 Guadalupe Moun 139.56 26 *e*PKP PKPdf 10 18 25.8 +2.6
JCT Junction City 142.90 21 *e*PKPdf PKPdf 10 18 31.7 +2.5
LPAZ La Paz 159.37 233 *e*PKPdf PKPdf 10 18 56.6 +2.5
LPAZ *e*PKPab PKPab 10 19 33.4 -0.6

NEIC ***04*** *09:59:51.4±7.2, 11.19S×162.90E, h145km±66km, mb4.8/8, Error ellipse: s-maj=49.7km s-min=22.7km az=136.0*
ISC 04 09:59:37.6±0.7, 11.2S±0.3×163.1E±0.2, h33km, n15, σ0^{2}95/15, mb5.0/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.30**	**164**	*e*P	**P**		**10 02 11.0**	**-8.9**
CTA	**Charters Tower** 13nm,1.0s	**18.44**	**239**	*e*P	**P**		**10 03 55.2**	**+2.6**
CTAO	**Charters Tower** 33nm,1.1s	**18.44**	**239**	*e*P	**P**		**10 03 53.8**	**+1.1**
STKA	**Stephens Creek** 7.4nm,0.9s,mb4.4	**28.58**	**221**	*e*P	**P**		**10 05 32.8**	**-0.1**
WRAB	**Tennant Creek** 31nm,1.1s,mb4.9	**28.96**	**249**	*e*P	**P**		**10 05 34.6**	**-1.8**
WB2	**Warramunga Arr**	**28.96**	**249**	*e*P	**P**		**10 05 36.8**	**+0.4**
MBWA	**Marble Bar** 36nm,1.0s,mb5.1	**42.67**	**251**	*e*P	**P**		**10 07 33.6**	**+0.4**
MAW	**Mawson** 7.8nm,0.4s,mb5.2	**83.61**	**202**	P	**P**		**10 12 02.8**	**-0.8**
OHCM	**Honcut**	**86.01**	**49**	*e*P	**P**		**10 12 10.7**	**-5.5**
HYB	**Hyderabad**	**88.15**	**288**	*i*P	**P**		**10 12 26.5**	**-0.6**
WVOR	**Wild Horse Val** 21nm,1.5s,mb5.2	**88.97**	**46**	*e*P	**P**		**10 12 30.5**	**0.0**
NEN	**Nelson**	**90.10**	**54**	*e*P	**P**		**10 12 36.3**	**+0.4**
BMO	**Blue Mountains** 15nm,1.4s,mb5.1	**90.56**	**44**	*e*P	**P**		**10 12 37.3**	**-0.5**
MSU	**Marysvale**	**92.81**	**51**	*e*P	**P**		**10 12 49.8**	**+1.4**
CHMT	**Chamberlain Mo**	**93.80**	**43**	*e*P	**P**		**10 12 52.4**	**-0.3**

DJA ***04*** *10:16:42.4±0.9, 11.17S×113.32E, h15km, MD4.9/4, ML5.1/4, Error ellipse: s-maj=20.4km s-min=18.2km az=122.0*
NEIC ***04*** *10:16:42.1±1.6, 10.92S×113.20E, h10km, mb4.4/2, Error ellipse: s-maj=25.6km s-min=18.3km az=76.0*
ISC 04 10:16:41.9±1.2, 11.10S±0.07×113.4E±0.1, h33km, n10, σ0^{2}67/17, mb4.3/2, 3C-7D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**2.71**	**16** ⇑	*e*Pn	**Pn**		**10 17 24.6**	**+0.4**
SRDI				*i* Sn	**Sn**		**10 17 55.7**	**-0.5**
SRDI	**Scrawed** 451nm,0.2s	**2.71**	**16** ⇑	*e*Pn	**Pn**		**10 17 24.6**	**+0.4**
SRDI				⇓ *i*Sn	**Sn**		**10 17 55.6**	**-0.6**
KELI	**Kelakatan**	**3.06**	**21** ⇓	*e*Pn	**Pn**		**10 17 30.3**	**+1.1**
KELI				*i* Sn	**Sn**		**10 18 04.0**	**-1.1**
KELI	**Kelakatan** 423nm,0.3s	**3.06**	**21** ⇓	*e*Pn	**Pn**		**10 17 30.3**	**+1.1**
KELI				⇓ *i*Sn	**Sn**		**10 18 04.5**	**-0.6**
RATI	**Rata**	**3.16**	**42** ⇓	*e*Pn	**Pn**		**10 17 31.2**	**+0.6**
RATI				*i* Sn	**Sn**		**10 18 08.5**	**+0.9**
RATI	**Rata** 1μm,0.2s	**3.16**	**42** ⇓	*e*Pn	**Pn**		**10 17 31.2**	**+0.6**
RATI				⇑ *i*Sn	**Sn**		**10 18 07.3**	**-0.3**
KEDI	**Kedomdong** 729nm,0.3s	**3.73**	**46**	*e*Pn	**Pn**		**10 17 39.3**	**+0.6**
KEDI				⇓ *e*Sn	**Sn**		**10 18 21.5**	**-0.5**
MBWA	**Marble Bar**	**11.70**	**150**	*e*P	**P**		**10 19 28.9**	**-0.7**
WRAB	**Tennant Creek** 7.4nm,0.5s,mb4.4	**21.99**	**116**	*e*P	**P**		**10 21 39.7**	**+4.8**
AAK	**Ala-Archa** 3.1nm,0.9s,mb4.3	**64.25**	**329**	*e*P	**P**		**10 27 15.7**	**-0.4**

NEIC ***04*** *10:17:26.0, 10.44N×61.15W, h30km, MD3.7(TRN), After TRN.*
TRN 04 10:17:26.0, 10.44N×61.15W, h31km, MD3.7, 3C-1D, Trinidad

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.09**	**58** ⇑	*i*P	Pn		10 17 31.1	0.0
TBH				*e*S	Sn		10 17 36.0	+1.9
TPP	**Pointe-a-Pierr**	**0.32**	**249** ⇓	*i*P	Pb		10 17 34.4	+0.5
TPP				*e*S	Sb		10 17 45.1	+5.8
TRN	**Trinidad (W)**	**0.33**	**310** ⇑	*i*P	Pb		10 17 33.9	-0.1
TRN				*e*S	Sb		10 17 39.7	+0.3
TPR	**Prospect**	**0.83**	**26** ⇑	*i*P	Pn		10 17 41.3	-0.4
TPR				*e*S	Sb		10 17 53.2	+0.5
BOT	**Bacolet**	**0.84**	**30**	*e*P	Pn		10 17 41.5	-0.2
BOT				*e*S	Sb		10 17 53.8	+0.8
GRW	**Mount Saint Ca**	**1.79**	**344**	*e*P	Pn		10 17 55.2	-0.1
GRW				*e*S	Sn		10 18 16.7	-0.5

CSEM ***04*** *10:24:53.4±0.3, 35.69N×7.61W, h50km, ML3.6/1, Error ellipse: s-maj=6.5km s-min=3.8km az=63.0*
INMG ***04*** *10:24:54.7±0.8, 35.81N×7.76W, h10km, MD2.4, ML2.5, Error ellipse: s-maj=5.1km s-min=2.7km az=51.0*
SFS ***04*** *10:24:54.0, 35.78N×7.74W*
CNRM ***04*** *10:24:54.0, 35.54N×7.83W, h19km, MD3.1*
NEIC ***04*** *10:24:54.6, 35.70N×7.78W, h50km, MG3.9(MDD), After MDD.*
MDD ***04*** *10:24:54.3±0.7, 35.67N×7.78W, h40km±29km, mbLg2.8/17, Error ellipse: s-maj=7.9km s-min=5.4km az=74.0, PRXIMO PROFUNDIDAD POBRE*
ISC 04 10:24:52.6±0.5, 35.73N±0.03×7.71W±0.04, h40km, n79, σ1^{2}21/128, 2C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PALC	**Alcoutim**	**1.74**	**6**	P	**P**		**10 25 22.4**	**+1.5**
PALC	**Alcoutim**	**1.74**	**6**	P	**P**		**10 25 22.4**	**+1.4**
EGRO	**El Granado**	**1.81**	**6**	P	**P**		**10 25 23.4**	**+1.4**
EGRO				S	**S**		**10 25 43.8**	**-0.1**
EGRO	**El Granado** 7.4nm,0.1s,SNR=7.9	**1.81**	**6**	P	**P**		**10 25 23.2**	**+1.3**
EGRO				S	**S**		**10 25 44.0**	**+0.1**
EGRO	**El Granado** 53nm,0.1s,SNR=7.9	**1.81**	**6**	P	**P**		**10 25 23.4**	**+1.4**
ESPR	**Espera** 6.7nm,0.1s,SNR=7.9	**1.88**	**52**	P	**P**		**10 25 24.8**	**+1.9**
ESPR				S	**S**		**10 25 46.0**	**+0.4**
ESPR	**Espera** 2.6nm,0.1s,SNR=7.9	**1.88**	**52**	P	**P**		**10 25 24.6**	**+1.7**
ESPR				UNK			10 25 38.9	
ESPR	SNR=7.9			S	**S**		**10 25 46.2**	**+0.7**
ESPR	**Espera** 14nm,0.2s,SNR=7.9 2.7nm,0.1s,SNR=7.9	**1.88**	**52**	P	**P**		**10 25 24.8**	**+1.9**
ESPR	11nm,0.2s,SNR=7.9			S	**S**		**10 25 46.0**	**+0.5**
PTEO	**Sao Teotonio** 13nm,0.1s	**1.99**	**336**	*e*Pn	**P**		**10 25 25.3**	**+0.8**
PTEO				*e*Sn	**S**		**10 25 48.3**	**-0.1**
PTEO	**Sao Teotonio**	**1.99**	**336**	Pn	**P**		**10 25 25.3**	**+0.8**
PTEO				Sn	**S**		**10 25 47.8**	**-0.6**
PTEO	**Sao Teotonio** 13nm,0.1s	**1.99**	**336**	Pn	**P**		**10 25 25.3**	**+0.8**
PTEO				*e*Sn	**S**		**10 25 48.3**	**-0.1**
EMIN	**Mina Concepcio**	**2.20**	**22**	P	**P**		**10 25 28.4**	**+0.9**
EMIN				S	**S**		**10 25 52.9**	**-0.8**
EMIN	**Mina Concepcio** 3.0nm,0.1s,SNR=7.9	**2.20**	**22**	P	**P**		**10 25 28.5**	**+1.0**
EMIN				S	**S**		**10 25 52.7**	**-1.0**
EMIN	**Mina Concepcio** 28nm,0.1s,SNR=7.9	**2.20**	**22**	P	**P**		**10 25 28.4**	**+0.9**
LIJA	**Lijar** 2.6nm,0.2s,SNR=7.9	**2.20**	**57**	*e*P	**P**		**10 25 29.0**	**+1.5**
LIJA				*e*S	**S**		**10 25 55.0**	**+1.3**
PBEJ	**Beja**	**2.30**	**357**	*e*Pn	**P**		**10 25 29.9**	**+1.0**
PBEJ				*e*Sn	**S**		**10 25 55.8**	**-0.4**
PBEJ	**Beja** 16nm,0.1s	**2.30**	**357**	Pn	**P**		**10 25 29.6**	**+0.7**
PBEJ				Sn	**S**		**10 25 55.6**	**-0.6**
PBEJ	**Beja**	**2.30**	**357**	P	**P**		**10 25 29.9**	**+1.0**
PBEJ				S	**S**		**10 25 55.8**	**-0.4**
PBEJ	**Beja** 8.2nm,0.1s	**2.30**	**357**	Pn	**P**		**10 25 29.6**	**+0.7**
PBEJ				Sn	**S**		**10 25 55.6**	**-0.6**
EMIJ	**Mijas**	**2.52**	**70**	P	**P**		**10 25 32.5**	**+0.5**
EMIJ				S	**S**		**10 26 02.2**	**+0.5**
EMIJ	**Mijas** 2.6nm,0.1s,SNR=7.9	**2.52**	**70**	P	**P**		**10 25 32.8**	**+0.8**
EMIJ				S	**S**		**10 26 01.9**	**+0.2**
EMIJ	**Mijas** 3.9nm,0.2s,SNR=7.9	**2.52**	**70**	P	**P**		**10 25 32.5**	**+0.5**
EMIJ				S	**S**		**10 26 02.2**	**+0.5**

	3.5nm,0.2s,SNR=7.9							
MOE	**Montemor**	**2.84**	**350**	*e*Pn		**P**	**10 25 37.3**	**+0.7**
MOE	**Montemor**	**2.84**	**350**	Pn		**P**	**10 25 37.3**	**+0.7**
MOE	**Montemor**	**2.84**	**350**	⇑P		**P**	**10 25 37.3**	**+0.7**
EBAD	**Badajoz**	**3.07**	**10**	P		**P**	**10 25 40.1**	**+0.1**
EBAD				S		**S**	**10 26 14.6**	**-1.2**
EBAD	**Badajoz**	**3.07**	**10**	P		**P**	**10 25 40.0**	**0.0**
	3.3nm,0.1s,SNR=7.9							
EBAD				S		**S**	**10 26 14.8**	**-1.1**
	12nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**3.07**	**10**	P		**P**	**10 25 40.1**	**+0.2**
	3.2nm,0.1s,SNR=7.9							
EBAD				S		**S**	**10 26 14.6**	**-1.3**
	8.0nm,0.1s,SNR=7.9							
MIF	**Mishlifen**	**3.09**	**138**	*i* P		**P**	**10 25 40.5**	**+0.4**
MIF				*i* S		**S**	**10 26 14.5**	**-1.7**
ELOJ	**Sierra Loja**	**3.20**	**63**	P		**P**	**10 25 43.0**	**+1.3**
	4.2nm,0.2s,SNR=7.9							
ELOJ	**Sierra Loja**	**3.20**	**63**	P		**P**	**10 25 43.4**	**+1.7**
	2.3nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**3.32**	**56**	P		**P**	**10 25 44.8**	**+1.5**
	7.7nm,0.2s,SNR=7.9							
TZK	**Tazeka**	**3.32**	**118**	P		**P**	**10 25 44.0**	**+0.5**
TZK				S		**S**	**10 26 33.0**	**+11**
TZK	**Tazeka**	**3.32**	**118**	*i* P		**P**	**10 25 44.0**	**+0.5**
PLOU	**Loures**	**3.36**	**340**	*e*Pn		**P**	**10 25 45.8**	**+1.8**
PLOU				*e*Sn		**S**	**10 26 23.4**	**+0.3**
	17nm,0.3s							
PLOU	**Loures**	**3.36**	**340**	*e*Pn		**P**	**10 25 45.8**	**+1.8**
PLOU				*e*Sn		**S**	**10 26 23.4**	**+0.3**
	17nm,0.3s							
ERON	**Agron**	**3.40**	**67**	P		**P**	**10 25 46.9**	**+2.3**
ERON	**Agron**	**3.40**	**67**	P		**P**	**10 25 46.4**	**+1.8**
	4.6nm,0.2s,SNR=5.1							
ERON	**Agron**	**3.40**	**67**	P		**P**	**10 25 46.9**	**+2.3**
	4.6nm,0.2s,SNR=5.1							
EADA	**Adamuz**	**3.49**	**45**	P		**P**	**10 25 46.7**	**+0.8**
EADA				S		**S**	**10 26 24.0**	**-2.6**
EADA	**Adamuz**	**3.49**	**45**	⇑P		**P**	**10 25 46.7**	**+0.8**
	8.0nm,0.1s,SNR=18							
EADA				S		**S**	**10 26 24.6**	**-1.9**
	12nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**3.49**	**45**	P		**P**	**10 25 46.7**	**+0.8**
	8.4nm,0.2s,SNR=7.9							
PTOM	**Tomar**	**3.92**	**352**	*e*Pn		**P**	**10 25 52.8**	**+0.8**
PTOM				*e*Sn		**S**	**10 26 35.7**	**-1.7**
	9.3nm,0.1s							
PTOM	**Tomar**	**3.92**	**352**	*e*Pn		**P**	**10 25 52.8**	**+0.8**
PTOM				*e*Sn		**S**	**10 26 35.7**	**-1.7**
	9.3nm,0.1s							
EBER	**Berja**	**4.06**	**72**	P		**P**	**10 25 53.5**	**-0.4**
EBER				S		**S**	**10 26 40.4**	**-0.5**
EBER	**Berja**	**4.06**	**72**	P		**P**	**10 25 53.5**	**-0.4**
	1.7nm,0.3s,SNR=7.9							
EBER				S		**S**	**10 26 39.3**	**-1.6**
	4.8nm,0.3s,SNR=7.9							
EBER	**Berja**	**4.06**	**72**	P		**P**	**10 25 53.5**	**-0.4**
	0.1nm,0.2s,SNR=7.9							
EBER				S		**S**	**10 26 40.4**	**-0.5**
	0.2nm,0.2s,SNR=7.9							
PCBR	**Castelo Branco**	**4.11**	**2**	*e*Pn		**P**	**10 25 54.7**	**+0.1**
PCBR				*e*Sn		**S**	**10 26 39.5**	**-2.6**
	4.7nm,0.1s							
PCBR	**Castelo Branco**	**4.11**	**2**	Pn		**P**	**10 25 54.7**	**0.0**
PCBR				Sn		**S**	**10 26 39.5**	**-2.7**
PCBR	**Castelo Branco**	**4.11**	**2**	P		**P**	**10 25 54.7**	**+0.1**
PCBR				S		**S**	**10 26 39.5**	**-2.6**
	2.3nm,0.1s							
CIA	**Chichaoua**	**4.24**	**192**	P		**P**	**10 25 55.0**	**-1.5**
CIA				S		**S**	**10 26 38.5**	**-7.0**
CIA	**Chichaoua**	**4.24**	**192**	*i* P		**P**	**10 25 55.0**	**-1.5**
EQES	**Quesada**	**4.26**	**60**	P		**P**	**10 25 57.4**	**+0.6**
EQES				S		**S**	**10 26 44.5**	**-1.3**
EQES	**Quesada**	**4.26**	**60**	P		**P**	**10 25 57.3**	**+0.5**
	1.6nm,0.1s,SNR=7.9							
EQES				S		**S**	**10 26 43.7**	**-2.2**
	1.1nm,0.1s,SNR=7.9							
EQES	**Quesada**	**4.26**	**60**	P		**P**	**10 25 57.4**	**+0.7**
	2.7nm,0.1s,SNR=7.9							
EQES				S		**S**	**10 26 44.5**	**-1.4**
	2.2nm,0.1s,SNR=7.9							
OUK	**Oukaimeden**	**4.51**	**182**	*i* P		**P**	**10 25 58.0**	**-2.3**
OUK				*i* S		**S**	**10 26 45.5**	**-6.7**
MTE	**Manteigas**	**4.67**	**2**	*e*Sn		**S**	**10 26 52.8**	**-3.4**
	8.6nm,0.5s							
MTE	**Manteigas**	**4.67**	**2**	S		**S**	**10 26 52.8**	**-3.4**
	4.3nm,0.5s							
ESDC	**Sonseca Array**	**4.93**	**36**	P		**P**	**10 26 06.2**	**-0.1**
	5.8nm,0.1s,baz=221,slow=13,SNR=5.4							
ESDC				S		**S**	**10 26 57.8**	**-5.0**
	3.1nm,0.5s,baz=221,slow=24,SNR=6.1							
ESDC	**Sonseca Array**	**4.93**	**36**	P		**P**	**10 26 06.2**	**-0.1**
	5.8nm,0.1s,SNR=5.4							
EVIA	**Vianos**	**5.07**	**53**	P		**P**	**10 26 07.7**	**-0.5**
	6.8nm,0.2s,SNR=7.9							
EVIA				S		**S**	**10 27 03.1**	**-3.2**
	1.9nm,0.2s,SNR=4.0							
PVRL	**Vila Real**	**5.54**	**360**	*e*Sn		**S**	**10 27 12.8**	**-5.3**
GUD	**Guadarrama**	**5.65**	**29**	P		**P**	**10 26 16.7**	**+0.4**
GUD				S		**S**	**10 27 16.9**	**-3.9**
GUD	**Guadarrama**	**5.65**	**29**	P		**P**	**10 26 16.7**	**+0.4**
	2.6nm,0.2s,SNR=7.9							
GUD				S		**S**	**10 27 16.2**	**-4.7**
	3.3nm,0.2s,SNR=7.9							
PBRG	**Braganca**	**6.12**	**7**	*e*Sn		**S**	**10 27 27.0**	**-5.5**
	2.5nm,0.2s							
PBRG	**Braganca**	**6.12**	**7**	S		**S**	**10 27 27.0**	**-5.5**
	1.2nm,0.2s							
ELOB	**Lobios**	**6.14**	**358**	P		**P**	**10 26 22.4**	**-0.8**
ELOB				S		**S**	**10 27 27.2**	**-5.8**
ELOB	**Lobios**	**6.14**	**358**	P		**P**	**10 26 22.6**	**-0.6**
	1.3nm,0.1s,SNR=7.9							
ELOB				S		**S**	**10 27 27.1**	**-5.9**
	2.5nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**6.14**	**358**	P		**P**	**10 26 22.4**	**-0.7**
ECAL	**Calabor**	**6.25**	**7**	P		**P**	**10 26 23.3**	**-1.4**
ECAL				S		**S**	**10 27 29.9**	**-5.9**
ECAL	**Calabor**	**6.25**	**7**	P		**P**	**10 26 24.0**	**-0.7**
	1.2nm,0.1s,SNR=7.9							
ECAL				S		**S**	**10 27 29.7**	**-6.1**
	4.7nm,0.3s,SNR=7.9							
ECAL	**Calabor**	**6.25**	**7**	P		**P**	**10 26 23.3**	**-1.4**
	1.3nm,0.2s,SNR=7.9							
EBEN	**Beniarda**	**6.67**	**61**	P		**P**	**10 26 29.3**	**-1.3**
	0.4nm,0.1s,SNR=7.9							
EBEN	**Beniarda**	**6.67**	**61**	P		**P**	**10 26 29.2**	**-1.4**
	0.3nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**7.28**	**353**	P		**P**	**10 26 38.6**	**-0.6**
	1.1nm,0.1s,SNR=4.0							
EMOS	**Mosqueruela**	**7.35**	**49**	P		**P**	**10 26 39.4**	**-0.7**
EMOS	**Mosqueruela**	**7.35**	**49**	P		**P**	**10 26 40.1**	**0.0**
	0.8nm,0.2s,SNR=7.9							
EMOS				S		**S**	**10 27 57.3**	**-5.8**
	0.8nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**7.35**	**49**	P		**P**	**10 26 39.4**	**-0.7**
	SNR=7.9							
EARI	**Arriondas**	**7.80**	**14**	S		**S**	**10 28 07.5**	**-7.0**
	0.1nm,0.1s,SNR=4.0							

DJA 04 11:17:46.1±0.9, 8.51S×114.47E, h139km±6km, MD5.0/4, ML4.2/2, 2C-6D, Error ellipse: s-maj=40.1km s-min=10.9km az=7.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELI	**Kelakatan**	**0.29**	**4**	⇓*i*Pn	P	11 18 05.5	-0.3
	193nm,0.2s						
KELI				⇑*i*Sn	S	11 18 19.3	-1.6
SRDI	**Scrawed**	**0.32**	**276**	⇓*i*Pn	P	11 18 05.0	-1.0
	335nm,0.2s						
SRDI				⇓*i*Sn	S	11 18 18.5	-2.6
RATI	**Rata**	**1.07**	**101**	⇓*i*Pn	P	11 18 10.7	0.0
	623nm,0.2s						
RATI				⇓*i*Sn	S	11 18 29.1	-0.6
KEDI	**Kedomdong**	**1.63**	**89**	⇑*i*Pn	P	11 18 15.8	-0.8
	120nm,0.1s						
KEDI				⇓*i*Sn	S	11 18 36.8	-3.2

*NEIC **04** 11:22:05.2,35.89S×72.37W,h18km,ML4.4(GUC),After GUC.*
NEIC Felt [IV] at Cauquenes; [III] at Constitucion and Talca; [II] at Curico and Linares.
GUC 04 11:22:05.2±0.8, 35.89S×72.37W, h18km±4km, ML4.4,

2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCO	**Chanco**	**0.20**	**319**	⇓*i*P	Pb	11 22 10.6	+0.3
CNCO				*i* S	Sb	11 22 14.2	+0.5
CTCH	**Constitucion**	**0.56**	**356**	*e*P	Pb	11 22 15.6	-0.6
CTCH				*i* S	Sb	11 22 23.5	-0.1
CTCH				AMP		11 22 27.8	
	comp=E,26μm,0.6s						
CCHI	**Chillan**	**0.75**	**162**	⇑*i*P	Pb	11 22 18.5	-0.9
CCHI				*i* S	Sb	11 22 29.4	+0.2
CCHI				AMP		11 22 32.0	
	comp=N,24μm,0.2s						
TALC	**Talca**	**0.77**	**51**	⇓*i*P	Pb	11 22 19.4	-0.4
TALC				*i* S	Sb	11 22 29.8	0.0
TALC				AMP		11 22 30.8	
	comp=E,30μm,0.4s						
NICH	**Los Niches**	**1.28**	**47**	⇓*i*P	Pn	11 22 27.6	-0.8
NICH				*i* S	Sb	11 22 44.1	-0.4
SFDO	**San Fernando**	**1.69**	**41**	⇑*i*P	Pn	11 22 33.5	-0.6
LNV	**Longovilo**	**2.08**	**22**	*e*P	Pn	11 22 38.0	-1.8
LNV				*i* S	Sn	11 23 04.4	-1.0
CACH	**El Canelo**	**2.29**	**40**	⇓*i*P	Pn	11 22 42.9	+0.1
CACH				*i* S	Sn	11 23 11.9	+1.2
CHCH	**Chadas Angostu**	**2.41**	**36**	*e*P	Pn	11 22 43.9	-0.6
CHCH				*i* S	Sn	11 23 14.0	+0.3
LMEL	**Las Melosas**	**2.70**	**42**	⇓*i*P	Pn	11 22 49.1	+0.4
LMEL				*i* S	Sn	11 23 22.9	+1.7
LMEL				AMP		11 23 31.9	
	comp=N,1μm,0.5s						
CLCH	**Cerro Calan**	**2.91**	**32**	*e*P	Pn	11 22 51.5	-0.1
CLCH				AMP		11 23 41.3	
	comp=N,4μm,0.7s						
TRQA	**Tornquist**	**8.59**	**108**	*e*P	P	11 24 09.7	-2.0

*GUC **04** 11:25:19.4±0.8, 31.45S×72.71W, h38km±3km, ML4.8*
*NEIC **04** 11:25:19.4, 31.45S×72.71W, h38km, mb4.6/3, After GUC.*
ISC 04 11:25:18.2±0.8, 31.45S±0.03×72.86W±0.06, h48km±10km, n45, σ0§83/57, mb4.8/2, 3C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**1.46**	**98**	⇑*i*P	**P**	**11 25 42.8**	**+0.2**
ILCH				*i* S	**S**	**11 26 00.3**	**-0.4**
ILCH				AMP		11 26 02.7	
	comp=N,12μm,0.3s						
CMCH	**Combarbala**	**1.62**	**81**	⇑*i*P	**P**	**11 25 45.5**	**+0.7**
CMCH				*i* S	**S**	**11 26 06.0**	**+1.4**
CMCH				AMP		11 26 06.8	
	comp=N,78μm,0.5s						
PACH	**Papudo**	**1.63**	**132**	⇓*i*P	**P**	**11 25 44.7**	**-0.3**
OVCH	**Ovalle**	**1.65**	**60**	⇑*i*P	**P**	**11 25 45.2**	**-0.2**
OVCH				*i* S	**S**	**11 26 05.7**	**+0.2**
IHA	**Instituto Hidr**	**1.89**	**147**	*e*P	**P**	**11 25 48.4**	**-0.2**
TLL	**Tololo Astrono**	**2.18**	**55**	⇓*i*P	**P**	**11 25 53.1**	**+0.2**
TLL				*i* S	**S**	**11 26 19.8**	**+1.0**
TLL				AMP		11 26 22.9	
	comp=E,12μm,0.6s						
ROCH	**El Roble**	**2.19**	**135**	*e*P	**P**	**11 25 53.3**	**+0.4**
JACH	**Jahuel**	**2.29**	**123**	⇓*i*P	**P**	**11 25 55.1**	**+0.8**
JACH				*i* S	**S**	**11 26 21.2**	**-0.1**
LCCH	**Las Cruces**	**2.30**	**152**	*e*P	**P**	**11 25 53.6**	**-0.9**
PEL	**Peldehue**	**2.50**	**133**	*e*P	**P**	**11 25 57.7**	**+0.3**
PEL				*i* S	**S**	**11 26 26.4**	**-0.5**
PEL				AMP		11 26 28.6	
	comp=N,6μm,0.3s						
PUEX	**Pudahuel**	**2.67**	**139**	*e*P	**P**	**11 25 51.9**	**-7.9**
PUEX				*i* S	**S**	**11 26 30.8**	**-0.3**
PUEX				AMP		11 26 33.4	
	comp=N,8μm,0.4s						
RCDM	**Rinconada Maip**	**2.68**	**140**	*e*P	**P**	**11 25 60.0**	**+0.1**
RCDM				*i* S	**S**	**11 26 30.9**	**-0.4**
RCDM				AMP		11 26 32.8	
	comp=E,4μm,0.5s						
SAN	**Santiago**	**2.73**	**138**	*i* S	**S**	**11 26 32.2**	**-0.5**
TACH	**Talagante**	**2.74**	**144**	*e*P	**P**	**11 26 01.0**	**+0.3**
TACH				*i* S	**S**	**11 26 32.5**	**-0.2**
DSCH	**Colegio Aleman**	**2.75**	**136**	*e*P	**P**	**11 26 01.0**	**+0.1**
DSCH				*i* S	**S**	**11 26 32.7**	**-0.3**
CLCH	**Cerro Calan**	**2.77**	**135**	⇓*i*P	**P**	**11 26 01.2**	**0.0**
CLCH				*i* S	**S**	**11 26 33.2**	**-0.3**
CLCH				AMP		11 26 35.5	
	comp=N,3μm,0.4s						
ANTU	**Antumapu**	**2.83**	**139**	*e*P	**P**	**11 26 02.5**	**+0.3**
ANTU				*e*S	**S**	**11 26 35.1**	**-0.1**
FCH	**Farellones**	**2.87**	**131**	⇓*i*P	**P**	**11 26 03.2**	**+0.5**
FCH				*i* S	**S**	**11 26 36.3**	**+0.1**
FCH				AMP		11 26 37.1	
	comp=N,3μm,0.2s						
PCH	**Pirque**	**2.94**	**138**	*e*P	**P**	**11 26 04.1**	**+0.4**
PCH				*i* S	**S**	**11 26 37.5**	**-0.4**
CHCH	**Chadas Angostu**	**3.10**	**144**	*e*P	**P**	**11 26 06.2**	**+0.3**
CHCH				*i* S	**S**	**11 26 41.6**	**-0.4**
CACH	**El Canelo**	**3.27**	**145**	*e*P	**P**	**11 26 09.2**	**+0.8**
LMEL	**Las Melosas**	**3.28**	**138**	*e*P	**P**	**11 26 09.1**	**+0.6**
LMEL				*i* S	**S**	**11 26 46.3**	**-0.3**
LMEL				AMP		11 26 49.1	
	comp=E,3μm,0.1s						
VACH	**Vallenar**	**3.39**	**33**	*e*P	**P**	**11 26 08.4**	**-1.6**
VACH				*i* S	**S**	**11 26 46.7**	**-2.7**
SFDO	**San Fernando**	**3.52**	**154**	*e*P	**P**	**11 26 12.0**	**+0.1**
MDZ	**Mendoza**	**3.69**	**114**	*e*P	**P**	**11 26 15.6**	**+1.3**
MDZ				*e*S	S	11 27 17.6	+21
TALC	**Talca**	**4.07**	**166**	*e*P	**P**	**11 26 22.0**	**+2.3**
TALC				*i* S	**S**	**11 27 01.2**	**-5.4**
CPCH	**Copiapo**	**4.63**	**29**	*e*P	**P**	**11 26 24.5**	**-2.9**
CPCH				*i* S	**S**	**11 27 16.2**	**-4.3**
CCHI	**Chillan**	**5.18**	**173**	*e*P	**P**	**11 26 33.8**	**-1.5**
CCHI				*e*S	**S**	**11 27 29.2**	**-5.4**
LVC	**Limon Verde**	**9.48**	**23**	*e*P	**P**	**11 27 30.7**	**-4.2**
TRQA	**Tornquist**	**11.11**	**129**	*e*P	**P**	**11 27 54.8**	**-2.5**
LPAZ	**La Paz**	**15.70**	**17**	*e*P	**P**	**11 28 57.9**	**+0.2**
	comp=E,15nm,1.0s						
BAO	**Brasilia Array**	**27.61**	**61**	P	**P**	**11 31 04.2**	**+0.8**
OTAV	**Otavalo**	**31.95**	**349**	*e*P	**P**	**11 31 42.9**	**+0.9**
	comp=E,7.4nm,0.8s,mb4.6						
QSPA	**South Pole Qui**	**58.78**	**180**	P	**P**	**11 35 14.0**	**+0.7**
	comp=E,11nm,0.8s,mb4.9						
CPRX	**Cap Rock**	**70.50**	**333**	*e*P	**P**	**11 36 29.1**	**-0.8**
CPRX				*e*		11 36 37.0	
MSU	**Marysvale**	**78.65**	**330**	*e*P	**P**	**11 37 16.8**	**+0.1**
JLU	**Jordanelle**	**80.09**	**331**	*e*P	**P**	**11 37 24.3**	**-0.1**
YAK	**Yakutsk**	**146.10**	**341**	*e*PKPdf	PKPdf	11 44 53.1	+1.9
EKS2	**Erkin-Say**	**151.29**	**58**	P	PKPdf	11 45 09.5	+9.3
	SNR=7.9						
AML	**Almayashu**	**151.34**	**59**	P	PKPdf	11 45 09.8	+10
	SNR=5.3						
USP	**Ospenovka**	**151.68**	**56**	P	PKPdf	11 45 10.0	+9.3
	SNR=6.0						
AAK	**Ala-Archa**	**151.82**	**57**	P	PKPdf	11 45 10.6	+10
	SNR=8.2						
AAK	**Ala-Archa**	**151.82**	**57**	*e*PKPbc	PKPdf	11 45 09.0	+8.1
UCH	**Uchtor**	**151.92**	**58**	P	PKPdf	11 45 11.2	+10
	SNR=10						
TKM2	**Tokmak 2**	**152.54**	**56**	P	PKPdf	11 45 11.5	+10
	SNR=5.3						

ISC 04 11:26:15.5±3.4, 9.9N±0.7×9 2E±, h33km, n10, σ0§41/10, mb4.7/2, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**18.59**	**343**	*e*P	**P**	**11 30 33.0**	**+0.7**
	38nm,0.9s						
PKI	**Pulchoki**	**18.75**	**341**	*e*P	**P**	**11 30 34.2**	**0.0**
	9.8nm,0.3s						
DMN	**Daman**	**18.89**	**340**	*e*P	**P**	**11 30 35.4**	**-0.4**
	16nm,0.4s						
GUN	**Gumba**	**18.92**	**342**	*e*P	**P**	**11 30 36.3**	**+0.1**
	11nm,0.4s						
KKN	**Kakani**	**19.00**	**341**	*e*P	**P**	**11 30 37.1**	**0.0**
	4.0nm,0.2s						
GKN	**Gorkha**	**19.41**	**339**	*e*P	**P**	**11 30 41.6**	**-0.1**
	16nm,0.3s						
KOLN	**Koldanda**	**19.58**	**336**	*e*P	**P**	**11 30 43.4**	**-0.3**
	6.7nm,0.3s						
FITZ	**Fitzroy Crossi**	**43.10**	**130**	*e*P	**P**	**11 34 14.8**	**+0.2**
	6.3nm,0.4s,mb4.7						
WB2	**Warramunga Arr**	**50.92**	**126**	⇑*i*P	**P**	**11 35 15.3**	**-0.7**
STKA	**Stephens Creek**	**62.81**	**134**	*e*P	**P**	**11 36 41.0**	**+0.6**
	7.4nm,1.1s,mb4.7						

MAN 04 11:30:09.1, 5.79N×124.36E, h33km, mb4.3, ML3.2, MS3.0, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.41**	**31**	⇑*i*P	P	11 30 32.8	+0.1
KCP				*i* S	S	11 30 49.7	-0.7
PAGZ	**Pagadian**	**2.27**	**335**	*e*P	P	11 30 45.0	0.0
IPIL	**Ipil**	**2.67**	**318**	*e*P	P	11 30 50.0	-0.7
IPIL				*e*S	S	11 31 18.9	-3.3
CGP	**Cagayan de Oro**	**2.67**	**7**	⇑*e*P	P	11 30 51.5	+0.8
CGP				*e*S	S	11 31 25.8	+3.5
DCPH	**Dipolog City**	**2.96**	**340**	⇑*e*P	P	11 30 55.0	+0.3
DCPH				*e*S	S	11 31 29.7	+0.2

NEIC 04 11:55:45.5, 54.72N×156.81W, h20km, ML3.5(AEIC), After AEIC., South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANPB	**Aniakchak Plen**	**2.25**	**339**	P	Pn	11 56 20.5	-1.8
ANPK	**Aniakchak Peak**	**2.25**	**341**	P	Pn	11 56 20.2	-2.2
PN7A	**Pavlof North-7**	**3.06**	**286**	P	Pn	11 56 31.9	-2.0
DTNA	**Dutton South F**	**3.17**	**280**	P	Pn	11 56 32.9	-2.6
BLHA	**Black Hill**	**3.17**	**290**	P	Pn	11 56 32.9	-2.6
DT1	**Dutton Round H**	**3.18**	**279**	P	Pn	11 56 32.8	-2.8
DT1				S	Sn	11 57 09.4	-3.9
FALS	**False Pass**	**3.83**	**275**	P	Pn	11 56 41.7	-3.1
FALS				S	Sn	11 57 26.3	-3.4
KDAK	**Kodiak Island**	**3.87**	**36**	P	Pn	11 56 41.8	-3.6
SSLN	**Shishaldin Nor**	**4.16**	**274**	P	Pn	11 56 47.4	-2.1
WTUG	**Tugumak**	**4.39**	**275**	P	Pn	11 56 50.4	-2.4
WESN	**West Dahl Nort**	**4.52**	**271**	P	Pn	11 56 52.1	-2.5
WESE	**West Dahl East**	**4.53**	**270**	P	Pn	11 56 52.6	-2.2
WESE				S	Sn	11 57 43.5	-4.0
WFAR	**Faris Peak**	**4.63**	**271**	P	Pn	11 56 53.5	-2.7
AHB	**Akutan Harbor**	**5.29**	**267**	P	Pn	11 57 02.6	-2.9
ILW	**Iliamna West**	**5.71**	**19**	P	Pn	11 57 08.3	-3.2
INE	**Iliamna NE**	**5.73**	**19**	P	Pn	11 57 08.2	-3.4
MTBL	**Makushin Table**	**5.82**	**267**	P	Pn	11 57 09.3	-3.7
MSW	**Makushin Switc**	**5.89**	**266**	P	Pn	11 57 09.9	-4.1
BRLK	**Bradley Lake**	**5.99**	**30**	P	Pn	11 57 11.2	-4.2
RDN	**Redoubt North**	**6.20**	**19**	P	Pn	11 57 15.2	-3.2
NCT	**North Crescent**	**6.22**	**18**	P	Pn	11 57 15.0	-3.6
DFR	**Drift River**	**6.29**	**19**	P	Pn	11 57 16.4	-3.2
SCM	**Sheep Creek Mo**	**8.70**	**31**	P	P	11 57 48.2	-5.1

*CSEM **04** 12:09:15.0±1.6, 38.67N×28.46W, h14km, ML1.8, Error ellipse: s-maj=52.6km s-min=31.3km az=147.0, After PDA*
*PDA **04** 12:09:15.0±0.8, 38.67N×28.46W, h14km±4km, MD2.9, ML1.8, Error ellipse: s-maj=3.7km s-min=1.9km az=164.0*
SVSA 04 12:09:15.0±0.8, 38.67N×28.46W, h14km±4km, MD2.9, ML1.8, Error ellipse: s-maj=3.7km s-min=1.9km az=164.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICO	**Pico**	**0.17**	**171**	*e*P	Pg	12 09 18.5	-0.7
PICO				*e*S	Sg	12 09 21.4	-0.6
ROSA	**Rosais**	**0.18**	**73**	*e*P	Pg	12 09 18.6	-0.8
ROSA				*e*S	Sg	12 09 21.5	-0.8
HOR	**Horta**	**0.19**	**224**	*e*rx	Sg	12 09 20.3	-2.4
PCED	**Cedros**	**0.19**	**259**	*e*S	Sg	12 09 21.5	-1.2
	120nm,0.3s						
CALA	**Caldeira**	**0.21**	**246**	*e*P	Pg	12 09 19.3	-0.6
CALA				*e*S	Sg	12 09 22.6	-0.5
PMAN	**Manadas**	**0.29**	**97**	*e*S	Sg	12 09 24.2	-1.4
	44nm,0.1s						
PSBA	**Serra de Santa**	**0.89**	**83**	*e*rx	Sb	12 09 41.0	-2.3

*BJI **04** 12:15:26.4, 8.20N×93.56E, h30km, mB5.3, mb4.7, Ms4.6, Msz4.3*
*MOS **04** 12:15:31.6±0.7, 8.83N×93.77E, h32km, mb5.3/20, Error ellipse: s-maj=15.6km s-min=6.9km az=115.3*
*HRVD **04** 12:15:33.5±0.7, 8.83N×93.64E, h12km, MW4.9/29, Centroid moment Tensor Solution. LP body waves: s5,c5; Mantle waves: s29,c39; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.53±.11; $M_{\theta\theta}$0.41±.09; $M_{\phi\phi}$1.12±.10; $M_{r\theta}$-1.46±.43; $M_{\theta\phi}$0.61±.09; $M_{\phi r}$-1.37±.38; Best double couple: $M_0$2.499×10^{16} NP1:ϕ_s199°, δ20°, λ-112°. NP2: ϕ_s43°, δ72°, λ-82°. Principal axes: T 2.429, Plg26°, Azm127°; N .142, Plg7°, Azm221°; P -2.568, Plg62°, Azm325°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 12:15:33.5±0.2, 8.86N×93.67E, h30km, mb5.0/44 Error ellipse: s-maj=7.3km s-min=5.3km az=224.0*
ISC 04 12:15:31.1±1.3, 8.81N±0.04×93.61E±0.04, h27km±9km, h25km±2.8km: pP-P, n160, σ1§00/174, mb4.9/62, MS4.4/5, 10C-12D, Nicobar Islands region

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

comp=Z,50nm,0.8s
LSA Lhasa 20.91 354⇓ *i*P P 12 20 14.0 -0.1
comp=Z,101nm,0.5s
KOLN Koldanda 21.10 335 *e*P P 12 20 16.8 +0.8
comp=Z,272nm,0.7s,mb5.7
BHPL Bhopal 21.13 315 *e*P P 12 20 17.1 +0.7
BHPL *e* 12 20 23.5
comp=Z,97nm,1.1s
BHPL *e*S **S 12 24 03.0 -2.2**
POO Poona 21.47 299 *e*P P 12 20 21.0 +1.1
POO *i* S **S 12 24 12.0 +0.4**
PTH Pithoragarh 24.16 330 *e*P P 12 20 50.0 +3.7
PTH *e* 12 25 26.0
NDI New Delhi 25.08 324 *e*P P 12 20 54.5 -0.6
comp=Z,97nm,0.7s,mb5.4
NDI *e*P 12 20 55.8
NDI *e* pP 12 21 01.8 -1.2
comp=Z,78nm,1.1s
DDI Dehra Dun 25.88 328 *e*P P 12 21 03.6 +0.9
DDI *e*S **S 12 25 29.2 +0.7**
ENH Enshi 26.01 33 *e*P P 12 21 03.9 0.0
comp=Z,10nm,0.6s,mb4.5
SMLA Simla 26.98 328 *e* P 12 21 27.3 +14
SMLA *e* 12 21 32.6
comp=Z,69nm,1.3s
LZH Lanzhou 28.71 17 ⇑P **P 12 21 29.0 +0.6**
LZH AP pP 12 21 38.1 +1.8
LZH XP sP 12 21 42.0 +2.1
LZH PP PP 12 22 22.3 +1.0
LZH *e*S **S 12 26 15.0 +0.6**
LZH XS 12 26 31.2
LZH AMB AMB
comp=Z,39nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,157nm,5.2s
LZH LR LR
comp=N,2μm,13.2s
LZH LR LR
comp=Z,2μm,16.9s,MS4.7
XAN Xi'an 28.80 27 P **P 12 21 28.2 -1.0**
XAN AMB AMB
comp=Z,6.0nm,0.8s,mb4.4
NJ2 Nanjing 32.92 42 *e*P P 12 22 02.3 -3.3
NJ2 AP pP 12 22 11.9 -1.7
NJ2 XP sP 12 22 15.9 -1.1
NJ2 PP PP 12 23 11.6 -4.4
NJ2 S **S 12 27 14.0 -6.6**
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.4
NJ2 AMB AMB
comp=Z,1μm,6.6s
NJ2 LR LR
comp=N,480nm,15.3s
NJ2 LR LR
comp=E,930nm,20.6s
NJ2 LR LR
comp=Z,410nm,13.7s,MS4.3
SSE Sheshan 33.93 45 P **P 12 22 10.5 -3.9**
SSE AMB AMB
comp=Z,22nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,133nm,4.4s
WMQ Urumqi 35.26 353 P **P 12 22 26.0 +0.4**
WMQ AP pP 12 22 35.7 +2.0
WMQ XP sP 12 22 39.6 +2.5
WMQ PP PP 12 23 45.4 +0.3
WMQ S **S 12 27 56.3 -0.5**
WMQ XS 12 28 12.3
WMQ AMB AMB
comp=Z,40nm,0.8s,mb5.4
WMQ AMB AMB
comp=Z,230nm,4.6s
WMQ LR LR
comp=N,1μm,18.2s,MS4.9
WMQ LR LR
comp=E,2μm,21.4s,MS4.9
WMQ LR LR
comp=Z,2μm,18.5s,MS4.9
ULHL Ulahol 36.65 338 P **P 12 22 38.0 +0.6**
SNR=20
KZA Kyzart 36.88 337 P **P 12 22 40.6 +1.3**
SNR=16
BJT Baijiatuau 37.02 29 *e*P P 12 22 42.0 +1.4
comp=Z,10nm,0.6s,mb4.8
TKM2 Tokmak 2 37.47 338 P **P 12 22 45.2 +1.0**
SNR=20
KBK Karagaybulak 37.49 337 P **P 12 22 45.9 +1.5**
SNR=42
AML Almayashu 37.54 335 P **P 12 22 46.5 +1.6**
SNR=21
AAK Ala-Archa 37.64 337 P **P 12 22 47.2 +1.5**
SNR=28
AAK Ala-Archa 37.64 337 *d i*P P 12 22 45.7 0.0
AAK pmax pmax
comp=Z,35nm,1.2s,mb5.0
AAK Ala-Archa 37.64 337 *e*P P 12 22 45.4 -0.4
comp=Z,36nm,0.9s,mb5.1
AAK *e*PP PP 12 24 15.5 +0.8
FRU Bishkek 37.77 337 *e*P P 12 22 47.5 +0.7
FRU pmax pmax
comp=Z,44nm,1.8s,mb4.9
CHMS Chumysh 37.85 337 P **P 12 22 48.0 +0.4**
SNR=17
EKS2 Erkin-Say 37.95 336 P **P 12 22 49.6 +1.3**
SNR=20
USP Ospenovka 38.18 337 P **P 12 22 51.0 +0.8**
SNR=50
MK02 Makanchi Array 39.04 348 P **P 12 22 57.2 -0.2**
MK02 pmax pmax
comp=Z,15nm,0.9s,mb4.7
MBWA Marble Bar 39.31 140 *e*P P 12 22 59.0 -0.9
comp=Z,3.6nm,0.5s,mb4.4
ZAK Zakamensk 42.22 9 *e*P P 12 23 23.9 +0.4
ZAK *e* 12 25 17.9
MOY Mondy 43.16 7 *e*P P 12 23 32.3 +1.1
TLY Talaya 43.53 9 *i*P P 12 23 34.3 +0.1
TLY pmax pmax
comp=Z,9.0nm,1.6s,mb4.2
HIA Hailar 45.88 24 *e*P P 12 23 53.3 +0.3
comp=Z,10nm,0.7s,mb4.9
MUN Mundaring 45.95 153 ⇑ *i*P **P 12 23 54.8 +0.9**
comp=Z,25nm,0.8s,mb5.2
KLBR Kellerberrin 46.34 151 *e*P P 12 23 57.0 0.0
comp=Z,16nm,0.5s,mb5.2
NVS Novosibirsk 46.65 352 *i*P P 12 23 58.1 -1.0
NVS pmax pmax
comp=Z,22nm,1.0s,mb5.0
NVS pmax pmax
comp=N,14nm,0.8s
MDJ Mudanjiang 47.34 35 P **P 12 24 03.5 -1.2**
MDJ AP pP 12 24 12.6 -0.3
MDJ XP sP 12 24 16.4 +0.2
MDJ PCP PcP 12 25 34.1 -1.6
MDJ PP PP 12 25 54.4 -0.8
MDJ SCP 12 29 24.8
MDJ PCS 12 29 29.5
MDJ S **S 12 30 55.5 -0.2**
MDJ XS 12 31 11.0
MDJ SCS ScS 12 33 55.0 +1.0
MDJ SS SS 12 34 24.8 +8.0
MDJ AMB AMB
comp=Z,11nm,2.0s,mb4.4
MDJ AMB AMB
comp=Z,182nm,4.2s
MDJ LR LR
comp=N,144nm,4.5s
MDJ LR LR
comp=E,239nm,5.4s
MDJ LR LR
comp=Z,318nm,5.6s
WRAB Tennant Creek 49.23 126 *i*P P 12 24 17.7 -2.0
WRAB Tennant Creek 49.23 126 *e*P P 12 24 18.5 -1.2
comp=Z,13nm,0.5s,mb5.2
WB2 Warramunga Arr 49.24 126 ⇑ *i*P **P 12 24 18.7 -1.0**
BOD Bodaibo 51.37 14 *e*P P 12 24 34.5 -1.0
GNI Garni 53.41 314 ⇑ *i*P **P 12 24 51.4 +0.4**
GNI pmax pmax
comp=Z,39nm,1.7s
GNI Garni 53.41 314 *e*P P 12 24 51.6 +0.6
comp=Z,27nm,0.9s,mb5.2
CLNS Chul'man 53.75 21 *e*P P 12 24 53.1 -0.1
CLNS pmax pmax
comp=N,11nm,0.7s
CLNS pmax pmax
comp=Z,16nm,0.7s,mb5.1
CLNS pmax pmax
comp=E,9.0nm,0.9s
TI2 Plekhanov 54.02 316 *i*P P 12 24 56.2 +0.8
SVE Sverdlovsk 54.34 338 *e*P P 12 24 57.0 -0.6
ARU Arti 54.83 337⇓ *i*P P 12 24 59.0 -2.2
ARU *e* 12 26 00.4
ARU *e* 12 26 58.7
ARU *e*S **S 12 32 36.3 -2.4**
ARU *e*SS SS 12 36 24.7 +2.9
ARU pmax pmax
comp=Z,13nm,0.8s,mb5.0
KIV Kislovodsk 56.28 318 P **P 12 25 11.5 -0.3**
comp=Z,302nm,1.0s,SNR=7.3
KIV Kislovodsk 56.28 318 ⇑ *i*P **P 12 25 11.8 0.0**
KIV *e*S **S 12 33 00.3 +2.1**
KIV pmax pmax
comp=Z,36nm,0.9s,mb5.4
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.0
KIV Kislovodsk 56.28 318 *e*P P 12 25 10.5 -1.3
comp=Z,60nm,0.9s,mb5.6
YSS Yuzh-Sakhalins 56.38 38 *i*P P 12 25 10.9 -1.6
GOF Gofitskoye 56.48 319 *e*P P 12 25 13.0 -0.3
GOF pmax pmax
comp=Z,30nm,1.4s,mb5.1
KMBO Kilima Mbogo 57.01 263 *i*P P 12 25 19.6 +2.1
KMBO pmax pmax
comp=Z,3.0nm,0.6s
KMBO Kilima Mbogo 57.01 263 *e*P P 12 25 18.7 +1.3
comp=Z,4.5nm,0.6s,mb4.7
MALT Malatya 57.46 310⇓ *e*P P 12 25 19.4 -1.0
comp=Z,16nm,1.0s,mb5.0
GZT Gaziantep 57.87 309 *i*P P 12 25 23.0 -0.2
COBT Iskenderun 58.69 307 *i*P P 12 25 29.2 +0.3
CTA Charters Tower 59.22 120 *e*P P 12 25 32.9 +0.1
comp=Z,5.4nm,0.8s,mb4.6
CTAO Charters Tower 59.22 120 *e*P P 12 25 32.4 -0.4
comp=Z,7.0nm,0.8s,mb4.7
CTAO *e*PcP PcP 12 26 21.1 +0.4
YAK Yakutsk 59.28 19 *d i*P P 12 25 31.4 -1.3
YAK pmax pmax
comp=Z,34nm,0.9s,mb5.4
YAK Yakutsk 59.28 19 *e*P P 12 25 30.9 -1.8
comp=Z,41nm,0.8s,mb5.5
AVNT Avonos 60.29 310 *i*P P 12 25 39.0 -0.9
CTKT Corum 60.78 312 *i*P P 12 25 44.8 +1.5
BOYT Boyabat 60.90 313 *i*P P 12 25 42.9 -1.1
STKA Stephens Creek 61.13 134 *e*P P 12 25 44.6 -1.1
comp=Z,3.7nm,0.9s,mb4.5
ELDT Eldivan 61.76 311 *i*P P 12 25 48.4 -1.5
BALT Daday 62.03 312 *i*P P 12 25 49.7 -2.0
SGKT Sivrigoynuk 62.79 311 *i*P P 12 25 55.5 -1.2
ESKT Eskisehir 63.49 310 *i*P P 12 25 59.8 -1.6
MOS Moscow 64.01 329 *e*P P 12 26 04.0 -0.6
MOS *e* 12 26 18.9
MOS pmax pmax
comp=Z,60nm,0.6s,mb5.8
OBN Obninsk 64.31 328⇓ *e*P P 12 26 05.0 -1.5
OBN *e*S **S 12 34 46.9 +5.7**
OBN pmax pmax
comp=Z,68nm,1.6s,mb5.4
ULDT Uludag 64.90 310 *i*P P 12 26 08.9 -1.7
MA2 Magadan 66.19 28 *e*P P 12 26 17.9 -0.6
MA2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
MA2 Magadan 66.19 28 *e*P P 12 26 18.3 -0.2
comp=Z,23nm,0.9s,mb5.2
TIXI Tiksi 66.43 12⇓ *i*P P 12 26 18.9 -1.0
TIXI pmax pmax
comp=Z,22nm,0.9s,mb5.2
LSZ Lusaka 69.09 250 *e*P P 12 26 38.3 +0.8
comp=Z,10nm,0.9s,mb4.8
JOF Joensuu 69.78 334 *e*p P 12 26 39.3 -1.6
comp=Z,2.0nm,0.4s,mb4.4
JOF Joensuu 69.78 334 *e*P P 12 26 39.3 -1.6
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
LVV L'vov 70.17 320 *e*P P 12 26 42.6 -0.9
LVV *e* 12 29 24.8
APA Apatity 70.80 339⇓ *i*P P 12 26 46.4 -0.6
APA pmax pmax
comp=Z,16nm,0.8s,mb5.0
KWP Kalwaria 70.98 319 *e*P P 12 26 48.2 -0.3
KOLS Kolonicke sedl 71.16 319 *i*P P 12 26 49.6 +0.1
KOLS *e* 12 26 50.9
KOLS *e* 12 26 53.1
SUW Suwalki 71.45 324 *e*P P 12 26 50.4 -0.7
FINES FINESS Array B 71.64 332 *i*P P 12 26 51.7 -0.5
FINES pmax pmax
comp=Z,9.0nm,0.6s
CRVS Cervenica-Dubn 71.69 319 *e*P P 12 26 52.1 -0.6
CRVS *e*pP pP 12 26 53.5 -7.6
KAF Kangasniemi 71.73 333 *e*p P 12 26 51.4 -1.3
comp=Z,1.4nm,0.4s,mb4.2
KAF Kangasniemi 71.73 333 *e*P P 12 26 51.4 -1.3
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
OJC Ojcow 72.93 320 *e*P P 12 26 59.8 -0.2
VYHS Vyhne 73.37 318 *i*P P 12 27 02.2 -0.4
KEV Kevo 73.79 341 *e*p P 12 27 04.6 0.0
comp=Z,1.4nm,0.5s,mb4.2
KEV Kevo 73.79 341 *e*P P 12 27 04.6 0.0
KEV pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
OKC Ostrava-Krasne 73.94 319 *e*P P 12 27 06.4 +0.5
OKC *e*x x 12 27 09.7
LBTB Lobatse 74.23 241 *e*P P 12 27 09.4 +1.3
comp=Z,14nm,0.7s,mb5.0
MORC Moravsky Berou 74.33 319 *e*P P 12 27 08.3 +0.2
comp=Z,18nm,1.1s,mb4.9
ZST Bratislava 74.49 318 *i*P P 12 27 09.5 +0.4
ZST *i* 12 27 12.3
DPC Dobruska-Polom 75.16 320 *e*P P 12 27 13.7 +0.8
KSP Ksiaz 75.21 320 *e*P P 12 27 13.6 +0.4
KSP Ksiaz 75.21 320 *e*P P 12 27 13.7 +0.5
UPC Upice 75.37 320 *e*P P 12 27 14.9 +0.8
BILL Bilibino 75.42 22 ⇑ *i*P **P 12 27 13.9 -0.2**
BILL *e*SS SS 12 41 44.3 +0.3
BILL pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.1
ARSA Arzberg 75.50 316 ⇑ *i*P **P 12 27 15.5 +0.6**
comp=Z,14nm,1.2s,mb4.8
BOSA Boshof 75.64 238 *e*P P 12 27 17.4 +1.4
comp=Z,16nm,0.6s,mb5.1
OBKA Obir 76.14 316 ⇑ *i*P **P 12 27 19.1 +0.5**
comp=Z,16nm,1.1s,mb4.9
PRU Pruhonice 76.28 319 *e*P P 12 27 19.9 +0.6
PRU *e*x x 12 27 23.3
PVCC Panska Ves 76.29 320 *e*P P 12 27 20.0 +0.7
PVCC *e*pP pP 12 27 24.6 -3.2
MOA Molln 76.38 317 ⇑ *i*P **P 12 27 19.9 0.0**
comp=Z,15nm,1.2s,mb4.8
BRG Berggiesshubel 76.70 320 *i*P P 12 27 21.8 +0.2
BRG pmax pmax
comp=Z,13nm,1.0s,mb4.8
BRG Berggiesshubel 76.70 320 *i*P P 12 27 21.8 +0.2
comp=Z,12nm,1.0s,mb4.8
GEC2 GERESS Array S 76.78 318 *e*P P 12 27 22.6 +0.5
GEC2 pmax pmax
comp=Z,18nm,0.9s,mb5.0
GEC2 GERESS Array S 76.78 318 *e*P P 12 27 22.6 +0.5
comp=Z,18nm,0.9s,mb5.0
KHC Kasperske Hory 76.87 318 *e*P P 12 27 23.1 +0.5
KHC *e*pP pP 12 27 28.0 -3.2
CLL Collm 77.31 321 *e*P P 12 27 25.0 0.0
CLL pmax pmax
comp=Z,14nm,1.2s,mb4.8
CLL Collm 77.31 321 *e*P P 12 27 25.0 0.0
comp=Z,14nm,1.2s,mb4.8
CLL Collm 77.31 321 P **P 12 27 25.0 0.0**
comp=Z,logA/T=1.1,mb4.8
WET Wettzell 77.33 318 *e*P P 12 27 25.5 +0.3
NKC Novy Kostel 77.64 319 *e*P P 12 27 27.7 +0.9
NKC *e*pP pP 12 27 34.1 -1.2
WTTA Wattenberg 78.15 316⇓ *i*P P 12 27 29.5 -0.2
comp=Z,18nm,0.9s,mb5.0
MOX Moxa 78.17 320 *e*P P 12 27 30.1 +0.4
MOX Moxa 78.17 320 *i*P P 12 27 30.1 +0.4
WATA Walderalm 78.19 317⇓ *i*P P 12 27 29.1 -0.8
comp=Z,9.2nm,1.0s,mb4.7
GRA1 Grafenberg Arr 78.42 319 *e*P P 12 27 31.9 +0.8
comp=Z,25nm,1.1s,mb5.1
GRF Grafenberg Arr 78.42 319 *e*P P 12 27 31.9 +0.8
GRF pmax pmax
comp=Z,25nm,1.1s,mb5.1
GRF Grafenberg Arr 78.42 319 *e*P P 12 27 31.9 +0.8
comp=Z,25nm,1.1s,mb5.1
SQTA Sankt Quirin 78.44 316⇓ *i*P P 12 27 31.0 -0.3
comp=Z,9.6nm,0.9s,mb4.7
MOTA Moosalm 78.51 317 ⇑ *i*P **P 12 27 31.3 -0.4**
comp=Z,9.0nm,1.0s,mb4.7
NB2 NORSAR Subarra 78.67 331 P **P 12 27 31.9 -0.3**
comp=Z,13nm,0.7s,mb5.0,baz=97,slow=5.0
NB2 NORSAR Subarra 78.67 331 P **P 12 27 31.9 -0.3**
baz=97,slow=5.1
BSEG Bad Segeberg 78.99 323 *e*P P 12 27 35.0 +0.8
DAVA Damuels 79.34 316⇓ *i*P P 12 27 36.7 +0.5
comp=Z,25nm,1.1s,mb5.0
BFO Black Forest 80.35 318 *e*P P 12 27 41.9 +0.3
BFO pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BFO Black Forest 80.35 318 *e*P P 12 27 41.9 +0.3
comp=Z,7.0nm,0.9s,mb4.6
SUR Sutherland 80.43 235 *e*P P 12 27 44.8 +2.5
comp=Z,24nm,0.7s,mb5.2
LPG La Plagne 81.59 315 *e*P P 12 27 49.1 +0.9
comp=Z,51nm,0.8s,mb5.2
BNI Bardonecchia 81.67 314 *e*P P 12 27 48.3 -0.3
comp=Z,19nm,0.8s,mb5.1
IMA Indian Mountai 90.96 22 *e*P P 12 28 35.5 +1.8
comp=Z,32nm,0.8s,mb5.7
DBIC Dimbokro 97.29 278 *e*P P 12 29 03.6 -0.3
comp=Z,5.2nm,0.9s,mb5.0
SDV Santo Domingo 156.44 318 *e*PKPab PKPab 12 35 54.5 -0.9
LPAZ La Paz 160.70 246 *e*PKPab PKPab 12 36 13.3 -0.3

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*MEX **04** 12:27:51.0±1.0, 17.26N×94.34W, h163km±7km, MD4.5*
*NEIC **04** 12:27:52.2±1.0, 17.46N×94.06W, h170km±7km, mb4.6/35,*
Error ellipse: s-maj=12.1km s-min=5.8km az=222.0
ISC 04 12:27:48.8±0.3, 17.32N±0.04×94.30W±0.02, h161km±2km, n94, σ1§05/111, mb4.5/29, 4C-1D, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.60**	**248**	⇑ *i*P	**P**	**12 28 13.0**	**+0.7**
CMIG				*i* S	**S**	**12 28 29.6**	**-0.9**
TUIG	**Tuzandepetl**	**0.72**	**350**	*i* P	**P**	**12 28 14.1**	**+1.1**
TUIG				*i* S	**S**	**12 28 32.0**	**+0.4**
EVV	**El Vigia**	**1.52**	**319**	*e*P	**P**	**12 28 19.9**	**+0.1**
EVV				*i* S	**S**	**12 28 43.0**	**-0.6**
SCX	**San Cristobal**	**1.69**	**110**	*i* P	**P**	**12 28 22.9**	**+1.4**
SCX				*i* S	**S**	**12 28 47.1**	**+0.3**
CCIG	**Comitan**	**2.31**	**116**	⇓ *i*P	**P**	**12 28 30.3**	**+1.6**
CCIG				*i* S	**S**	**12 28 59.0**	**-0.4**
HUIG	**Huatulco**	**2.32**	**229**	⇑ *i*P	**P**	**12 28 27.3**	**-1.5**
HUIG				*i* S	**S**	**12 28 57.8**	**-1.8**
OXX	**Oaxaca**	**2.33**	**265**	*i* P	**P**	**12 28 30.2**	**+1.2**
OXX				*i* S	**S**	**12 28 58.9**	**-1.0**
VHO	**Vista Hermosa**	**2.34**	**264**	⇑ *i*P	**P**	**12 28 30.2**	**+1.1**
VHO				*i* S	**S**	**12 29 00.5**	**+0.4**
POHV	**Veracruz**	**3.33**	**302**	*i* P	**P**	**12 28 42.5**	**+1.0**
IISM	**Ciudad Serdan**	**3.37**	**300**	*i* P	**P**	**12 28 42.4**	**+0.4**
IISM				*i* S	**S**	**12 29 20.2**	**-2.6**
SCIG		**3.38**	**60**	*i* P	**P**	**12 28 41.9**	**-0.3**
SCIG				*i* S	**S**	**12 29 21.5**	**-1.7**
PNIG	**Pinotepa**	**3.78**	**257**	*i* P	**P**	**12 28 45.4**	**-1.9**
PNIG				*i* S	**S**	**12 29 29.5**	**-2.9**
PPM	**Popocatepetl**	**4.47**	**294**	*i* P	**P**	**12 28 58.3**	**+2.0**
PPM				⇑ *i*P		12 28 59.1	
PPM				*i* S	**S**	**12 29 49.1**	**+0.8**
YAIG	**Yautepec**	**4.79**	**289**	*i* P	**P**	**12 29 02.4**	**+1.9**
YAIG				*i* S	**S**	**12 29 53.5**	**-2.4**
UNM	**Universidad Na**	**5.05**	**294**	*e*P	**P**	**12 29 05.0**	**+1.1**
IIZ	**Mezontepec**	**5.05**	**292**	*i* P	**P**	**12 29 06.0**	**+2.0**
PLIG	**Platanillo**	**5.07**	**283**	*i* P	**P**	**12 29 05.5**	**+1.3**
PLIG				*i* S	**S**	**12 30 02.8**	**+0.3**
ACX	**Acapulco**	**5.39**	**266**	*e*P	**P**	**12 29 06.5**	**-1.9**
ACX				*i* S	**S**	**12 30 11.2**	**+1.0**
CRX	**Cerrillo**	**5.52**	**293**	*i* P	**P**	**12 29 13.0**	**+2.9**
CAIG	**El Cayaco**	**5.71**	**268**	*e*P	**P**	**12 29 10.2**	**-2.5**
CAIG				*i* S	**S**	**12 30 16.9**	**-0.9**
TEIG	**Tepich**	**6.40**	**62**	*e*P	**P**	**12 29 20.9**	**-0.8**
MOIG	**Morelia**	**6.95**	**291**	*i* P	**P**	**12 29 29.8**	**+0.6**
MOIG				*i* S	**S**	**12 30 46.5**	**-0.7**
SFJM	**Santa Fe**	**8.86**	**292**	*i* P	**P**	**12 29 54.4**	**-0.1**
JTS	**JuntasAbangare**	**11.45**	**126**	*e*P	**P**	**12 30 29.8**	**+1.4**
JCT	**Junction City**	**14.03**	**340**	P	**P**	**12 31 01.9**	**+0.3**
LRAL	**Lakeview Retre** 18nm,0.6s	**16.98**	**21**	*e*P	**P**	**12 31 37.6**	**-0.5**
MIAR	**Mount Ida** 13nm,0.8s	**17.17**	**2**	*e*P	**P**	**12 31 40.1**	**-0.4**
MIAR				*e*		12 31 46.7	
CLNB	**Carlsbad**	**17.22**	**332**	*e*P	**P**	**12 31 42.1**	**+1.1**
GDL2	**Guadalupe Moun**	**17.40**	**330**	*e*P	**P**	**12 31 44.4**	**+1.3**
MNTX	**Cornudas Mount** 3.2nm,0.6s	**17.50**	**327**	*e*P	**P**	**12 31 44.4**	**+0.1**
CPRX	**Cap Rock**	**17.87**	**333**	*e*P	**P**	**12 31 48.9**	**+0.4**
AMTX	**Amarillo** 14nm,0.5s	**18.70**	**341**	*e*P	**P**	**12 31 56.5**	**-0.8**
GOGA	**Godfrey** 14nm,0.7s	**18.76**	**29**	*e*P	**P**	**12 31 57.2**	**-0.7**
WVT	**Waverly** 5.6nm,0.4s	**19.60**	**16**	*e*P	**P**	**12 32 04.3**	**-2.3**
CPCT	**Cooper Cave**	**20.05**	**24**	*e*P	**P**	**12 32 08.9**	**-2.3**
BNM	**Barren Site**	**20.08**	**329**	*e*P	**P**	**12 32 14.1**	**+2.5**
ANMO	**Albuquerque** 2.7nm,0.6s	**20.65**	**331**	*e*P	**P**	**12 32 17.8**	**+0.5**
CCM	**Cathedral Cave** 12nm,0.5s	**20.84**	**7**	*e*P	**P**	**12 32 17.7**	**-1.4**
WCI	**Wyandotte Cave** 18nm,0.6s,mb4.7	**21.99**	**17**	*e*P	**P**	**12 32 28.9**	**-1.5**
PV10	**Paradox Valley**	**24.64**	**331**	*e*P	**P**	**12 32 57.2**	**+1.3**
LPAZ	**La Paz** 3.6nm,0.6s,mb4.2	**42.19**	**141**	P	**P**	**12 35 28.2**	**+0.6**
EVO	**Evora** 6.9nm,0.6s,mb4.1	**76.58**	**54**	*e*P	**P**	**12 39 21.8**	**-1.4**
ROSF	**Rostrenen**	**77.94**	**43**	*e*P	**P**	**12 39 30.5**	**0.0**
QUIF	**Quistinic** 18nm,0.7s,mb4.5	**78.10**	**43**	*e*P	**P**	**12 39 31.2**	**-0.2**
GRR	**Gorron** 19nm,0.5s,mb4.7	**79.50**	**43**	*e*P	**P**	**12 39 38.7**	**-0.2**
FLN	**La Foliniere** 16nm,0.5s,mb4.6	**79.65**	**42**	*e*P	**P**	**12 39 39.5**	**-0.2**
LDF	**La Druitiere** 16nm,0.7s,mb4.4	**79.92**	**42**	*e*P	**P**	**12 39 41.0**	**-0.2**
MFF	**Saint Martin d**	**80.41**	**44**	*e*P	**P**	**12 39 43.4**	**-0.5**
SJPF	**Ste Jean**	**80.56**	**48**	*e*P	**P**	**12 39 44.9**	**+0.2**
ETSF	**Etsaut** 19nm,0.8s,mb4.5	**81.09**	**48**	*e*P	**P**	**12 39 47.5**	**0.0**
LFF	**La Frestale** 17nm,0.5s,mb4.7	**81.45**	**46**	*e*P	**P**	**12 39 49.1**	**-0.3**
EPF	**Esparros** 14nm,0.8s,mb4.3	**81.69**	**48**	*e*P	**P**	**12 39 51.1**	**+0.4**
RJF	**Les Rejaudoux** 28nm,0.8s,mb4.7	**81.88**	**45**	*e*P	**P**	**12 39 51.1**	**-0.5**
TCF	**Toulx Ste Croi** 11nm,0.6s,mb4.4	**82.06**	**44**	*e*P	**P**	**12 39 52.1**	**-0.4**
NB2	**NORSAR Subarra** 3.2nm,0.7s,mb4.1,baz=292,slow=5.0	**82.30**	**28**	P	**P**	**12 39 53.9**	**+0.5**
CAF	**Calviac** 17nm,0.8s,mb4.4	**82.36**	**45**	*e*P	**P**	**12 39 53.5**	**-0.5**
BGF	**Bois d'Agland** 39nm,0.9s,mb4.7	**82.41**	**44**	*e*P	**P**	**12 39 53.9**	**-0.4**
AVF	**Avril sur Loir** 8.1nm,0.7s,mb4.3	**82.67**	**43**	*e*P	**P**	**12 39 54.9**	**-0.7**
SSF	**Saint Saulge** 23nm,1.0s,mb4.6	**82.69**	**43**	*e*P	**P**	**12 39 55.2**	**-0.5**
MTLF	**Montolieu** 15nm,0.7s,mb4.5	**82.92**	**47**	*e*P	**P**	**12 39 56.7**	**-0.2**
SMF	**Signal de Mont**	**83.04**	**43**	*e*P	**P**	**12 39 56.9**	**-0.6**
MEZF	**Maizieres J'vi**	**83.24**	**41**	*e*P	**P**	**12 39 58.5**	**+0.1**
LASF	**Ste Croix** 20nm,0.9s,mb4.5	**83.83**	**46**	*e*P	**P**	**12 40 01.4**	**-0.1**
VIVF	**Saint-Julien-l** 12nm,0.8s,mb4.4	**84.14**	**45**	*e*P	**P**	**12 40 02.7**	**-0.4**
HAU	**Haudompre** 27nm,0.8s,mb4.8	**84.22**	**42**	*e*P	**P**	**12 40 03.6**	**+0.2**
CABF	**La Chapelle**	**84.52**	**43**	*e*P	**P**	**12 40 05.0**	**+0.1**
HINF	**Hinteralfeld** 7.2nm,0.6s,mb4.3	**84.61**	**42**	*e*P	**P**	**12 40 05.3**	**0.0**
CDF	**Champ du Feu**	**84.67**	**41**	*e*P	**P**	**12 40 05.8**	**+0.2**
ORIF	**Oris-en-Rattie** 14nm,0.9s,mb4.4	**84.94**	**45**	*e*P	**P**	**12 40 06.7**	**-0.3**
SMRF	**Simiane la Rot** 9.9nm,0.7s,mb4.4	**85.04**	**46**	*e*P	**P**	**12 40 08.4**	**+0.8**

LPG	La Plagne	85.32	44	eP	P	12 40 10.2	+1.3
RRL	Cesana Torines	85.54	44	P	P	12 40 11.0	+1.0
MBDF	Montbardon	85.60	45	eP	P	12 40 10.4	+0.1
	21nm,0.9s,mb4.5						
LSD	Ceresole Reale	85.61	44	P	P	12 40 11.7	+1.4
FENE	Fenestrelle	85.69	44	P	P	12 40 11.8	+1.1
RSP	Reno Superiore	85.78	44	P	P	12 40 12.2	+1.1
BHB	Bricherasio	85.89	44	P	P	12 40 12.2	+0.5
LMR	La Mourre	85.89	46	eP	P	12 40 12.1	+0.3
	40nm,0.7s,mb5.0						
PZZ	Prazzo	85.90	45	P	P	12 40 13.5	+1.8
FRF	La Foret Royal	85.91	46	eP	P	12 40 12.0	+0.2
	31nm,1.0s,mb4.7						
TRAV		85.98	44	P	P	12 40 12.5	+0.4
ORX	Oropa	86.09	43	P	P	12 40 12.9	+0.2
STV	Sta Anna Valdi	86.14	45	P	P	12 40 13.1	+0.2
ENR	Entracque	86.21	45	P	P	12 40 13.5	+0.3
SBF	Sospel	86.34	45	eP	P	12 40 12.9	-1.0
	14nm,0.7s,mb4.5						
MONE	Monesi	86.48	45	P	P	12 40 14.8	+0.3
ROB	Roburent	86.49	45	P	P	12 40 14.5	-0.1
NEGI	Negi	86.53	45	P	P	12 40 13.1	-1.7
IMI	Imperia	86.64	45	P	P	12 40 13.8	-1.5
FIN	Finale Ligure	86.74	45	P	P	12 40 14.3	-1.5
PCP	Pian Castagno	86.85	44	P	P	12 40 15.3	-1.0
PGF	Pioggiola	87.88	46	eP	P	12 40 22.1	+0.8
	27nm,0.8s,mb4.8						
BACM		87.96	44	P	P	12 40 13.1	-8.5
SARO	Sassorosso	88.22	44	P	P	12 40 14.4	-8.5

BJI ***04*** *12:33:59.3, 3.78N×94.44E, h42km, mB5.2, mb5.0, Ms4.7, Msz4.3*

HRVD ***04*** *12:34:01.4±0.6, 3.86N×94.43E, h26km±2km, MW5.0/39, Centroid moment Tensor Solution. LP body waves: s18,c21;Mantle waves: s39,c57; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.47±.21; $M_{\theta\theta}$0.73±.16; $M_{\phi\phi}$-0.25±.17; $M_{r\theta}$-0.27±.34; $M_{\theta\phi}$-2.89±.14; $M_{\phi r}$-1.62±.40; Best double couple: $M_0$3.385×10^{16} NP1:φ$_s$88°, δ61°, λ-170°. NP2:φ$_s$353°, δ81°, λ-29°. Principal axes: T 3.367, Plg13°, Azm43°; N .034, Plg60°, Azm158°; P -3.402, Plg27°, Azm307°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***04*** *12:34:01.4±0.3, 4.01N×94.44E, h30km, mb4.9/25 Error ellipse: s-maj=11.6km s-min=8.2km az=219.0*

CSEM ***04*** *12:34:04.9, 4.52N×93.94E, h33km, mb5.5*

MOS ***04*** *12:34:04.2±1.0, 4.55N×93.95E, h33km, mb5.1/22, Error ellipse: s-maj=15.8km s-min=7.7km az=111.4*

ISC 04 12:34:00.0±0.4, 4.03N±0.06×94.41E±0.05, h33km, (h29km±2.0km:pP-P), n125, σ1$14/131, mb4.9/55, MS4.3/7, 3C-6D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	14.02	284	eP	P	12 37 17.2	-1.5
CM31	Chiang Mai Arr	15.01	17	eP	P	12 37 32.5	+0.9
	134nm,0.7s						
CMAR	Chiang Mai Arr	15.01	17	i P	P	12 37 32.5	+0.9
CMAR				pmax	pmax		
	comp=Z,59nm,0.8s						
KOD	Kodaikanal	17.90	291	eP	P	12 38 06.3	-1.9
HYB	Hyderabad	20.46	312	eP	P	12 38 31.0	-6.6
	comp=Z,167nm,1.6s						
HYB	Hyderabad	20.46	312	i P	P	12 38 31.0	-6.6
	comp=Z,167nm,1.6s						
HYB				e		12 38 38.5	
HYB				eS	rx	12 41 33.5	
IMP	Imphal	20.64	359	e	P	12 38 27.9	-12
QIZ	Qiongzhong	21.20	44	P	P	12 38 43.1	-2.1
QIZ				eS	S	12 42 36.0	+1.9
QIZ				AMB	AMB		
	comp=Z,40nm,1.4s,mb4.6						
QIZ				LR	LR		
	comp=N,741nm,15.0s						
QIZ				LR	LR		
	comp=Z,632nm,18.3s,MS4.0						
MNGI	Mangalore	21.29	296	eP	P	12 38 45.5	-0.5
MNGI				e		12 38 49.7	
	comp=Z,77nm,1.5s						
SHL	Shillong	21.56	354	eP	P	12 38 41.4	-7.3
SHL				e		12 38 52.8	
	comp=Z,36nm,0.5s						
SHL				eS	S	12 42 46.9	+6.2
GOA	Goa	23.24	301	e	P	12 39 13.0	+7.5
GOA				e		12 39 18.4	
	comp=Z,59nm,1.4s						
POO	Poona	24.74	307	e	P	12 39 12.0	-8.1
POO				i		12 43 14.0	
JIRN	Jiri	24.78	342	eP	P	12 39 15.9	-4.5
	comp=Z,128nm,0.9s,mb5.4						
PKI	Pulchoki	24.94	341	eP	P	12 39 17.3	-4.6
	comp=Z,58nm,0.6s,mb5.3						
DMN	Daman	25.08	340	eP	P	12 39 18.9	-4.3
	comp=Z,76nm,0.8s,mb5.3						
GUN	Gumba	25.11	342	eP	P	12 39 19.0	-4.5
	comp=Z,92nm,0.7s,mb5.4						
KKN	Kakani	25.19	341	eP	P	12 39 20.0	-4.3
	comp=Z,81nm,0.8s,mb5.3						
GKN	Gorkha	25.60	340	eP	P	12 39 23.8	-4.4
	comp=Z,156nm,0.9s,mb5.5						
LSA	Lhasa	25.72	353	P	P	12 39 32.1	+2.8
LSA	Lhasa	25.72	353	⇓eP	P	12 39 31.8	+2.5
	comp=Z,93nm,0.6s,mb5.5						
BOM	Bombay	25.76	307	eP	P	12 39 26.5	-3.3
BOM				e	pP	12 39 35.7	-3.4
	comp=Z,116nm,1.8s						
KOLN	Koldanda	25.77	338	eP	P	12 39 25.2	-4.5
	comp=Z,227nm,1.3s,mb5.5						
NDI	New Delhi	29.47	328	eP	P	12 40 01.1	-2.1
NDI				e		12 40 06.1	
	comp=Z,40nm,1.6s						
ENH	Enshi	29.74	27	eP	P	12 40 03.4	-2.3
	comp=Z,18nm,0.8s,mb4.9						
DDI	Dehra Dun	30.38	331	eP	P	12 40 08.2	-3.2
SMLA	Simla	31.48	331	e	P	12 40 29.4	+8.4
WHN	Wuhan	32.40	33	⇓P	P	12 40 29.3	+0.1
XAN	Xi'an	32.77	23	P	P	12 40 30.8	-1.6
XAN				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.2						
LZH	Lanzhou	33.07	14	eP	P	12 40 35.0	+0.1
LZH				AP	pP	12 40 44.1	-0.5
LZH				XP	sP	12 40 48.0	-0.9
LZH				AMB	AMB		
	comp=Z,25nm,1.4s,mb5.0						
MBWA	Marble Bar	35.25	136	P	P	12 40 54.9	+1.1
	comp=Z,26nm,1.1s,mb5.1						
NJ2	Nanjing	36.10	37	eP	P	12 41 01.0	+0.1
NJ2				AP	pP	12 41 10.6	0.0
NJ2				XP	sP	12 41 15.6	+0.7
NJ2				PP	PP	12 42 23.7	+0.2
NJ2				S	S	12 46 35.0	-2.4
NJ2				XS		12 46 53.0	
NJ2				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,3μm,8.0s						
NJ2				LR	LR		
	comp=N,640nm,15.8s,MS4.7						
NJ2				LR	LR		
	comp=E,860nm,14.8s,MS4.7						
NJ2				LR	LR		
	comp=Z,660nm,18.0s,MS4.5						
SSE	Sheshan	36.89	40	eP	P	12 41 10.4	+2.9
SSE				XP	sP	12 41 23.1	+1.6
SSE				S	S	12 46 54.2	+4.7
SSE				XS		12 47 08.2	
SSE				AMB	AMB		
	comp=Z,46nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,238nm,5.6s						
SSE				LR	LR		
	comp=N,178nm,21.9s,MS3.9						
SSE				LR	LR		
	comp=E,79nm,21.8s,MS3.9						
SSE				LR	LR		
	comp=Z,214nm,16.2s						
FITZ	Fitzroy Crossi	37.83	126	eP	P	12 41 13.8	-1.8
	comp=Z,13nm,0.6s,mb4.8						
FITZ				i	pP	12 41 23.7	-1.6
WMQ	Urumqi	40.07	352	eP	P	12 41 35.2	+1.3
WMQ				AP	pP	12 41 45.0	+1.3
WMQ				XP	sP	12 41 49.0	+1.1
WMQ				PP	PP	12 43 12.0	+2.1
WMQ				S	S	12 47 38.4	+0.8
WMQ				XS		12 47 54.6	
WMQ				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,100nm,6.0s						
WMQ				LR	LR		
	comp=N,458nm,17.3s						
WMQ				LR	LR		
	comp=E,322nm,22.5s						
WMQ				LR	LR		
	comp=Z,1μm,17.6s,MS4.9						
BJT	Baijiatuau	40.87	26	eP	P	12 41 41.8	+1.2
	comp=Z,41nm,0.7s,mb5.2						
ULHL	Ulahol	41.37	339	P	P	12 41 46.5	+1.9
	SNR=60						
KZA	Kyzart	41.58	338	P	P	12 41 47.1	+0.6
	SNR=35						
UCH	Uchtor	41.98	338	P	P	12 41 50.4	+0.7
	SNR=77						
TKM2	Tokmak 2	42.19	339	P	P	12 41 51.9	+0.5
	SNR=41						
KBK	Karagaybulak	42.19	339	P	P	12 41 52.2	+0.8
	SNR=80						
AML	Almayashu	42.21	337	P	P	12 41 52.5	+0.8
	SNR=121						
AAK	Ala-Archa	42.34	338	P	P	12 41 53.8	+1.1
	SNR=30						
AAK	Ala-Archa	42.34	338	i P	P	12 41 52.0	-0.7
AAK				pmax	pmax		
	comp=Z,65nm,1.7s,mb5.0						
AAK	Ala-Archa	42.34	338	⇑eP	P	12 41 52.0	-0.7
	comp=Z,68nm,1.2s,mb5.2						
FRU	Bishkek	42.47	338	eP	P	12 41 54.0	+0.3
FRU				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.1						
CHMS	Chumysh	42.56	339	P	P	12 41 54.8	+0.3
	SNR=14						
EKS2	Erkin-Say	42.63	337	P	P	12 41 55.9	+0.8
	SNR=41						
USP	Ospenovka	42.88	339	P	P	12 41 57.2	+0.1
	SNR=124						
MK02	Makanchi Array	43.85	348	P	P	12 42 05.2	+0.2
MK02				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.7						
SNY	Shenyang	45.78	31	⇓P	P	12 42 20.3	-0.2
SNY				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
WRAB	Tennant Creek	45.90	123	d iP	pP	12 42 30.5	-1.0
WRAB	Tennant Creek	45.90	123	eP	P	12 42 20.3	-1.3
	comp=Z,112nm,0.9s,mb5.8						
WRAB				e	pP	12 42 29.7	-1.8
WB2	Warramunga Arr	45.90	123	eP	P	12 42 20.8	-0.9
WB2				i	pP	12 42 30.5	-1.1
ZAK	Zakamensk	46.80	8	eP	P	12 42 28.3	0.0
ZAK				e		12 44 17.0	
MOY	Mondy	47.80	6	eP	P	12 42 36.4	+0.2
TLY	Talaya	48.12	8	i P	P	12 42 38.6	-0.1
TLY				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
HIA	Hailar	49.96	21	eP	P	12 42 52.4	-0.5
	comp=Z,19nm,0.7s,mb5.2						
MDJ	Mudanjiang	50.87	32	P	P	12 42 58.9	-1.0
MDJ				AP	pP	12 43 07.8	-2.0
MDJ				XP	sP	12 43 11.8	-2.1
MDJ				PCP	PcP	12 44 15.0	-1.4
MDJ				PP	PP	12 44 55.6	-1.4
MDJ				SCP		12 48 08.8	
MDJ				PCS		12 48 12.5	
MDJ				S	S	12 50 13.5	+1.1
MDJ				XS		12 50 29.0	
MDJ				SCS	ScS	12 52 47.3	+2.5
MDJ				SS	SS	12 53 48.6	+3.7
MDJ				AMB	AMB		
	comp=Z,15nm,2.4s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,125nm,4.5s						
MDJ				LR	LR		
	comp=N,132nm,24.1s,MS4.0						
MDJ				LR	LR		
	comp=E,125nm,20.4s,MS4.0						
MDJ				LR	LR		
	comp=Z,136nm,23.5s,MS3.9						
NVS	Novosibirsk	51.47	352	i P	P	12 43 02.9	-1.3
NVS				eS	S	12 50 20.0	-0.5
NVS				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
NVS				pmax	pmax		
	comp=N,9.0nm,1.1s						
NVS				smax			
	comp=E,37nm,2.3s						
KLR	Kul'dur	55.07	29	eP	P	12 43 31.0	0.0
BOD	Bodaibo	55.82	13	eP	P	12 43 34.3	-1.9
BOD				e		12 43 40.5	
CTAO	Charters Tower	56.26	117	P	P	12 43 41.1	+1.1
	comp=E,8.8nm,0.7s,mb4.9						
STKA	Stephens Creek	57.30	132	eP	pP	12 43 55.9	-1.5
	comp=E,7.3nm,1.5s						
GNI	Garni	57.34	316	i P	P	12 43 46.6	-0.8
GNI				pmax	pmax		
	comp=Z,25nm,1.8s						
KMBO	Kilima Mbogo	57.35	266	i P	P	12 43 49.8	+2.0
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KMBO	Kilima Mbogo	57.35	266	eP	P	12 43 48.7	+0.8
	comp=Z,3.9nm,0.9s,mb4.4						
SVE	Sverdlovsk	59.06	339	eP	P	12 43 58.0	-1.2
SVE				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.2						
ARU	Arti	59.52	338	⇓iP	P	12 44 00.2	-2.2
ARU				e		12 44 47.5	
ARU				eS	S	12 52 03.6	-4.5
ARU				eSS	SS	12 56 00.5	-4.3
ARU				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.2						
YSS	Yuzh-Sakhalins	59.67	36	i P	P	12 44 08.0	+4.5
YSS				pmax	pmax		
	comp=Z,22nm,1.8s,mb4.9						
KIV	Kislovodsk	60.36	319	⇑eP	P	12 44 07.7	-0.6
KIV				e*PP	pP	12 44 22.2	+3.7
KIV				e		12 46 14.3	
KIV				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
MALT	Malatya	61.18	312	eP	P	12 44 14.3	+0.4
	comp=Z,11nm,1.1s,mb4.9						
EIL	Elat	61.61	302	eP	P	12 44 17.3	+0.3
	comp=Z,14nm,0.8s,mb5.2						
SOC	Sochi	62.17	318	eP	P	12 44 16.7	-3.8
SOC				e		12 44 54.0	
SOC				eS	S	12 52 34.9	-7.1
SOC				eSS	SS	12 56 36.6	-10
SOC				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.5						
SOC				pmax	pmax		
	comp=N,38nm,1.0s						
SOC				pmax	pmax		
	comp=E,14nm,0.8s						
YAK	Yakutsk	63.55	18	eP	P	12 44 36.1	+6.7
YAK				e		12 52 55.4	
YAK				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
MBAR	Mbarara	63.79	267	eP	P	12 44 31.9	+0.1
	comp=N,5.0nm,1.0s,mb4.5						
ANN	Anapa	64.15	318	eP	P	12 44 37.6	+4.0
ANN				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.3						
MOS	Moscow	68.50	329	eP	P	12 44 58.9	-2.1
MOS				e		12 45 24.3	
OBN	Obninsk	68.77	329	⇑eP	P	12 45 01.7	-1.0
OBN				e*PP	pP	12 45 22.9	+10
OBN				e		12 47 30.6	
OBN				pmax	pmax		
	comp=Z,36nm,1.4s,mb5.1						
MA2	Magadan	70.04	27	i P	P	12 45 14.6	+4.2
MA2				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
TIXI	Tiksi	70.93	11	eP	P	12 45 14.2	-1.4
TIXI				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,164nm,18.0s,MS4.3						
JOF	Joensuu	74.42	335	ep	P	12 45 35.7	-0.6
	comp=Z,1.1nm,0.4s,mb4.1						
JOF	Joensuu	74.42	335	eP	P	12 45 35.7	-0.6
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
MAW	Mawson	74.85	192	eP	P	12 45 39.5	+0.8
	comp=Z,2.7nm,0.6s,mb4.3						
KOLS	Kolonicke sedl	75.27	320	eP	P	12 45 42.7	+1.2
KOLS				epP	pP	12 45 50.2	-1.6
APA	Apatity	75.53	340	⇓iP	P	12 45 42.1	-0.5
APA				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
SUW	Suwalki	75.78	325	eP	P	12 45 43.8	-0.4
CRVS	Cervenica-Dubn	75.80	319	i P	P	12 45 42.8	-1.7
CRVS	Cervenica-Dubn	75.80	319	i pP	P	12 45 42.8	-1.7
KAF	Kangasniemi	76.32	333	ep	P	12 45 46.6	-0.6
	comp=Z,2.7nm,0.4s,mb4.5						
KAF	Kangasniemi	76.32	333	eP	P	12 45 46.6	-0.6
KAF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
KECS	Kecovo	76.36	319	i P	P	12 45 46.5	-1.2
OJC	Ojcow	77.09	321	eP	P	12 45 52.5	+0.7
VYHS	Vyhne	77.45	319	i P	P	12 45 54.0	+0.2
OKC	Ostrava-Krasne	78.08	320	eP	P	12 45 58.2	+0.9
MORC	Moravsky Berou	78.46	320	eP	P	12 45 59.5	+0.1
	comp=Z,5.6nm,0.8s,mb4.5						
KEV	Kevo	78.53	341	ep	P	12 45 58.3	-1.1
	comp=Z,0.6nm,0.3s,mb4.0						
KEV	Kevo	78.53	341	eP	P	12 45 58.3	-1.1
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
ZST	Bratislava	78.55	318	i P	P	12 46 00.9	+1.0
DPC	Dobruska-Polom	79.31	320	eP	P	12 46 05.1	+1.1
DPC				epP	pP	12 46 12.8	-1.6
UPC	Upice	79.53	320	eP	P	12 46 06.2	+1.0
UPC				epP	pP	12 46 12.4	-3.2
BILL	Bilibino	79.55	21	eP	P	12 46 09.0	+4.1
BILL				eS	S	12 56 15.7	+13
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
BILL				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.5						
PRU	Pruhonice	80.42	320	eP	P	12 46 10.9	+1.0
PRU				epP	pP	12 46 19.9	-0.4
PVCC	Panska Ves	80.45	320	eP	P	12 46 11.2	+1.1
PVCC				epP	pP	12 46 19.1	-1.4
GEC2	GERESS Array S	80.87	319	eP	P	12 46 13.1	+0.8
GEC2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
GEC2	GERESS Array S	80.87	319	eP	P	12 46 13.1	+0.8
	comp=Z,10.0nm,0.9s,mb4.8						
BRG	Berggiesshubel	80.87	321	i P	P	12 46 12.9	+0.6
BRG				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
BRG	Berggiesshubel	80.87	321	i P	P	12 46 12.9	+0.6
	comp=Z,6.5nm,0.9s,mb4.6						
KHC	Kasperske Hory	80.97	319	eP	P	12 46 02.1	-11
KHC				epP	pP	12 46 13.5	-10
KHC				ex	x	12 46 31.5	
WET	Wettzell	81.43	319	eP	P	12 46 16.1	+0.8
CLL	Collm	81.50	321	i P	P	12 46 15.9	+0.3
CLL				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
CLL	Collm	81.50	321	i P	P	12 46 15.9	+0.3
	comp=Z,10.0nm,1.1s,mb4.7						
CLL	Collm	81.50	321	P	P	12 46 15.9	+0.3
	comp=Z,logA/T=1.0,mb4.7						
NKC	Novy Kostel	81.78	320	eP	P	12 46 18.2	+1.1
MOX	Moxa	82.33	320	eP	P	12 46 20.7	+0.8
MOX	Moxa	82.33	320	i P	P	12 46 20.7	+0.8
GRA1	Grafenberg Arr	82.54	319	eP	P	12 46 22.2	+1.2
	comp=Z,10.0nm,0.8s,mb4.9						
GRF	Grafenberg Arr	82.54	319	eP	P	12 46 22.2	+1.2
GRF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
GRF	Grafenberg Arr	82.54	319	eP	P	12 46 22.2	+1.2
	comp=Z,10.0nm,0.8s,mb4.9						
NB2	NORSAR Subarra	83.20	331	P	P	12 46 23.9	-0.2
	comp=Z,2.3nm,0.7s,mb4.3,baz=98,slow=5.0						
BSEG	Bad Segeberg	83.29	324	eP	P	12 46 25.6	+0.9
BFO	Black Forest	84.41	318	eP	P	12 46 31.1	+0.6
BFO				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
BFO	Black Forest	84.41	318	eP	P	12 46 31.1	+0.6
	comp=Z,2.0nm,0.9s,mb4.2						
LPG	La Plagne	85.51	315	eP	P	12 46 36.8	+0.7
HAU	Haudompre	85.74	318	eP	P	12 46 37.1	0.0
JCT	Junction City	143.10	21	PKPdf	PKPdf	12 53 30.3	-0.9

NEIC ***04*** *12:41:53.5, 35.46S×178.66E, h221km, After WEL.*

WEL 04 12:41:54.4±0.3, 35.56S×178.79E, h221km±4km, ML3.6/4, Error ellipse: s-maj=8.3km s-min=4.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.03	191	P	P	12 42 35.1	-0.1
MXZ				S	S	12 43 06.6	-0.1
MXZ	Matakaoa Point	2.03	191	PN	P	12 42 35.1	-0.1
MXZ				SN	S	12 43 06.5	-0.1
PUZ	Puketiti	2.54	189	SN	S	12 43 15.1	-1.2
MWZ	Matawai	2.94	200	eP	P	12 42 45.0	0.0
MWZ	Matawai	2.94	200	PN	P	12 42 45.0	0.0
MWZ				SN	S	12 43 23.6	-0.6
URZ	Urewera	3.01	206	eP	P	12 42 45.1	-0.6
URZ	Urewera	3.01	206	PN	P	12 42 45.1	-0.6
URZ				SN	S	12 43 25.1	-0.3
KNZ	Kokohu	3.56	194	eP	P	12 42 51.7	-0.6
KNZ	Kokohu	3.56	194	PN	P	12 42 51.7	-0.6
KNZ				SN	S	12 43 36.4	-0.7
BKZ	Black Stump Fm	4.04	206	eP	P	12 42 57.0	-1.0
BKZ	Black Stump Fm	4.04	206	PN	P	12 42 57.0	-1.0
BKZ				SN	S	12 43 47.9	+0.7
PWZ	Pawanui	4.71	198	eP	P	12 43 04.3	-2.1
PWZ	Pawanui	4.71	198	PN	P	12 43 04.3	-2.1
TSZ	Takapari Road	5.01	206	eP	P	12 43 08.3	-1.9
TSZ	Takapari Road	5.01	206	PN	P	12 43 08.3	-1.9
TSZ				eSN	S	12 44 08.3	-0.8
MRZ	Mangatainoka R	5.68	205	ePN	P	12 43 16.1	-2.6
THZ	Tophouse	7.71	215	eP	P	12 43 42.4	-2.3
THZ	Tophouse	7.71	215	PN	P	12 43 42.4	-2.3
THZ				SN	S	12 45 08.4	-2.5
KHZ	Kahutara	7.97	209	PN	P	12 43 44.7	-3.3

JMA ***04*** *12:44:47.7±0.2, 23.42N×122.95E, h39km, M2.4*

TAP 04 12:44:47.7, 23.42N×122.81E, h16km±1km, ML3.2, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.05	10	P	Pb	12 45 06.1	-1.0
YOJ				eS	Sb	12 45 19.8	-0.6
HATJ	Hateruma jima	1.11	55	P	Pb	12 45 05.6	-2.5
HATJ				S	Sb	12 45 18.9	-3.2
IRIF	Iriomote-Funau	1.24	43	P	Pb	12 45 07.9	-2.4
IRIF				S	Sb	12 45 22.4	-3.5
JKRS	Kuro-shima	1.37	53	P	Pn	12 45 09.7	-2.6
JKRS				S	Sb	12 45 25.2	-4.3
JIJ	Ishigaki jima	1.54	52	P	Pn	12 45 11.7	-3.0
JIJ				S	Sn	12 45 28.9	-5.5
JTJ	Tarama	2.11	55	P	Pn	12 45 19.8	-3.2
JTJ				S	Sn	12 45 44.1	-5.0

BJI ***04*** *12:55:58.6, 6.27N×93.18E, h41km, mB5.4, mb4.9, Ms4.9, Msz4.7*

MOS ***04*** *12:55:58.9±1.4, 6.59N×93.43E, h33km, mb5.3/14, MS4.4/5, Error ellipse: s-maj=18.2km s-min=8.5km az=108.6*

HRVD ***04*** *12:56:00.8±1.1, 6.46N×93.10E, h12km, MW4.9/40, Centroid moment Tensor Solution. LP body waves: s8,c10;Mantle waves: s40,c62; Half du

Best double couple: M0.2454×10^16 NP1:φ0=256°, δ52°, λ38°. NP2:φ0=140°, δ61°, λ135°. Principal axes: T 2.094, Plg51°, Azm103°; N .724, Plg38°, Azm295°; P -2.814, Plg6°, Azm200°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*NEIC **04** 12:56:00.8±0.4, 6.50N×93.07E, h30km, mb5.1/25, MS4.4/13 Error ellipse: s-maj=12.7km s-min=9.7km az=200.0*
*CSEM **04** 12:56:06.0, 8.01N×93.40E, h33km, mb5.6*
ISC 04 12:55:59.3±0.4, 6.58N±0.05×93.14E±0.04, h33km, (h31km±.8km:pP-P), n128, σ1§32/138, mb5.2/42, MS4.5/23, 9C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.45**	**85**	P	**P**	**12 57 50.0**	**+1.6**
	160nm,1.0s						
PALK	**Pallekele**	**12.37**	**274**	*e*P	**P**	**12 58 51.1**	**-4.9**
CM31	**Chiang Mai Arr**	**13.09**	**25**	P	**P**	**12 59 06.3**	**+0.7**
CHG	**Chiang Mai**	**13.41**	**24**	⇑P	**P**	**12 59 13.7**	**+3.9**
	23nm,0.9s						
MDRS	**Chennai**	**14.24**	**298**	*e*P	**P**	**12 59 18.3**	**-2.6**
MDRS				*e*		13 01 43.9	
UBT	**Ubonrachathani**	**14.49**	**53**	P	**P**	**12 59 34.5**	**+10**
VIS	**Vishakhapatnam**	**14.64**	**320**	*e*P	**P**	**12 59 21.3**	**-4.8**
VIS				*e*S	**S**	**13 01 51.3**	**-17**
CHRT	**Chiangrai**	**14.70**	**25**	⇑P	**P**	**12 59 30.5**	**+3.6**
	250nm,1.0s						
BWNR	**Bhubaneshwar**	**15.38**	**333**	*e*P	**P**	**12 59 28.9**	**-6.7**
KOD	**Kodaikanal**	**15.92**	**284**	*e*P	**P**	**12 59 42.4**	**-0.3**
KOD				*e*		12 59 48.5	
	comp=Z,116nm,1.6s						
TRD	**Trivandrum**	**16.15**	**278**	*e*P	**P**	**12 59 48.0**	**+2.3**
TRD				*e*		12 59 49.8	
	comp=Z,127nm,1.9s						
AGT	**Agartala**	**17.30**	**354**	*e*P	**P**	**12 59 58.0**	**-2.0**
HYB	**Hyderabad**	**17.86**	**308**	*e*P	**P**	**13 00 06.5**	**-0.5**
	comp=Z,143nm,1.2s						
HYB				*e*S	**S**	**13 03 18.0**	**-4.3**
HYB	**Hyderabad**	**17.86**	**308**	*i* P	**P**	**13 00 06.5**	**-0.5**
	comp=Z,143nm,1.2s						
HYB				*e*		13 03 12.0	
HYB				*e*S	**S**	**13 03 18.0**	**-4.3**
IMP	**Imphal**	**18.11**	**2**	*e*P	**P**	**13 00 05.4**	**-4.8**
BLSP	**Bilaspur**	**18.76**	**327**	*e*P	**P**	**13 00 16.2**	**-2.0**
BLSP				*e*S	**S**	**13 03 34.8**	**-7.8**
SHL	**Shillong**	**18.91**	**357**	*e*P	**P**	**13 00 17.7**	**-2.4**
SHL				*e*		13 00 31.2	
	comp=Z,92nm,1.2s						
SHL				*e*S	**S**	**13 03 37.5**	**-8.7**
MNGI	**Mangalore**	**19.12**	**291**	*e*P	**P**	**13 00 23.7**	**+1.3**
MNGI				*e*		13 00 32.1	
	comp=Z,118nm,1.4s						
NGP	**Nagpur**	**19.89**	**318**	*e*	**P**	**13 00 32.2**	**+1.3**
NGP				*e*		13 04 06.4	
LATR	**Latur**	**19.98**	**308**	*e*	**P**	**13 00 34.0**	**+2.1**
QIZ	**Qiongzhong**	**20.43**	**51**	P	**P**	**13 00 36.9**	**+0.3**
QIZ				S	**S**	**13 04 18.5**	**0.0**
QIZ				XS		13 04 32.7	
QIZ				SS	SS	13 04 50.4	+1.6
QIZ				AMB	AMB		
	comp=Z,66nm,1.7s						
QIZ				LR	LR		
	comp=Z,2μm,11.4s,MS4.8						
QIZ	**Qiongzhong**	**20.43**	**51**	*e*P	**P**	**13 00 37.1**	**+0.6**
	comp=Z,92nm,1.0s						
QIZ				LR	LR		
	comp=Z,974nm,19.0s,MS4.2						
GOA	**Goa**	**20.90**	**297**	*e*	**P**	**13 00 51.0**	**+9.4**
GOA				*e*		13 00 53.4	
	comp=Z,107nm,1.2s						
GOA				*e*		13 04 39.5	
KAD	**Karad**	**21.36**	**302**	*e*P	**P**	**13 00 45.2**	**-0.9**
KAD				*i* S	**S**	**13 04 35.4**	**-1.1**
JIRN	**Jiri**	**21.98**	**343**	*e*P	**P**	**13 00 51.8**	**-0.4**
	comp=Z,292nm,0.9s,mb5.7						
PKI	**Pulchoki**	**22.13**	**342**	*e*P	**P**	**13 00 53.4**	**-0.3**
	comp=Z,343nm,1.0s,mb5.7						
POO	**Poona**	**22.23**	**304**	⇑*i*P	**P**	**13 00 54.0**	**-0.8**
POO				*i*		13 03 47.0	
DMN	**Daman**	**22.26**	**341**	*e*P	**P**	**13 00 54.8**	**-0.2**
	comp=Z,215nm,0.9s,mb5.6						
GUN	**Gumba**	**22.30**	**343**	*e*P	**P**	**13 00 54.0**	**-1.4**
	comp=Z,187nm,0.7s,mb5.6						
KKN	**Kakani**	**22.37**	**341**	*e*P	**P**	**13 00 55.5**	**-0.6**
	comp=Z,228nm,0.9s,mb5.6						
BHPL	**Bhopal**	**22.43**	**319**	*e*P	**P**	**13 00 57.0**	**+0.3**
BHPL				*e*		13 01 05.5	
	comp=Z,134nm,1.6s						
GKN	**Gorkha**	**22.78**	**340**	*e*P	**P**	**13 00 58.8**	**-1.4**
	comp=Z,290nm,0.9s,mb5.7						
KOLN	**Koldanda**	**22.93**	**338**	*e*P	**P**	**13 01 01.4**	**-0.4**
	comp=Z,484nm,1.3s,mb5.8						
LSA	**Lhasa**	**23.07**	**356**	*e*P	**P**	**13 01 06.1**	**+3.0**
LSA				*e*S	**S**	**13 05 18.9**	**+11**
LSA				LR	LR		
	comp=N,520nm,17.0s,MS4.2						
LSA				LR	LR		
	comp=E,470nm,12.0s,MS4.2						
LSA				LR	LR		
	comp=Z,1μm,22.0s						
LSA	**Lhasa**	**23.07**	**356**	*e*P	**P**	**13 01 04.7**	**+1.6**
	comp=Z,54nm,0.8s,mb5.0						
LSA				*e*S	**S**	**13 05 12.7**	**+5.1**
LSA				LR	LR		
	comp=Z,1μm,19.0s,MS4.3						
BOM	**Bombay**	**23.26**	**304**	*e*	**P**	**13 01 02.6**	**-2.5**
NDI	**New Delhi**	**26.64**	**327**	*e*	**P**	**13 01 32.3**	**-4.8**
NDI				*e*P		13 01 36.5	
NDI				*e*		13 01 46.4	
	comp=Z,46nm,1.4s						
DDI	**Dehra Dun**	**27.54**	**331**	*e*P	**P**	**13 01 46.3**	**+0.9**
DDI				*e*		13 07 14.2	
ENH	**Enshi**	**28.13**	**31**	*e*P	**P**	**13 01 49.9**	**-0.8**
	comp=Z,20nm,0.7s,mb4.9						
ENH				LR	LR		
	comp=Z,595nm,20.0s,MS4.2						
LZH	**Lanzhou**	**30.96**	**17**	*e*P	**P**	**13 02 16.5**	**+0.7**
LZH				AP	pP	13 02 25.6	+0.2
LZH				XP	sP	13 02 28.5	-1.3
LZH				PP	PP	13 03 19.7	+1.7
LZH				*e*S	**S**	**13 07 19.4**	**+2.6**
LZH				XS		13 07 35.2	
LZH				SS	SS	13 09 05.4	+3.8
LZH				AMB	AMB		
	comp=Z,35nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,174nm,5.2s						
LZH				LR	LR		
	comp=E,2μm,13.0s						
LZH				LR	LR		
	comp=Z,2μm,17.2s,MS4.9						
XAN	**Xi'an**	**30.98**	**26**	P	**P**	**13 02 15.1**	**-0.9**
XAN				AMB	AMB		
	comp=Z,31nm,0.9s,mb5.1						
XAN				LR	LR		
	comp=N,1μm,15.8s,MS4.8						
XAN				LR	LR		
	comp=E,1μm,14.7s,MS4.8						
XAN				LR	LR		
	comp=Z,2μm,18.3s,MS4.8						
WHN	**Wuhan**	**31.06**	**37**	P	**P**	**13 02 16.6**	**-0.1**
WHN				LR	LR		
	comp=Z,2μm,16.1s,MS4.9						
NJ2	**Nanjing**	**34.89**	**40**	*e*P	**P**	**13 02 48.3**	**-1.7**
NJ2				AP	pP	13 02 57.5	-2.2
NJ2				XP	sP	13 03 02.2	-1.8
NJ2				PP	PP	13 04 05.0	-3.2
NJ2				AMB	AMB		
	comp=Z,1μm,8.2s						
NJ2				LR	LR		
	comp=Z,2μm,11.8s,MS5.1						
SSE	**Sheshan**	**35.84**	**44**	*e*P	**P**	**13 02 58.1**	**+0.1**
SSE				XP	sP	13 03 10.7	-1.3
SSE				S	**S**	**13 08 37.7**	**+5.0**
SSE				XS		13 08 52.7	
SSE				AMB	AMB		
	comp=Z,21nm,0.6s,mb5.2						
SSE				AMB	AMB		
	comp=Z,137nm,3.8s						
SSE				LR	LR		
	comp=N,613nm,17.0s,MS4.5						
SSE				LR	LR		
	comp=E,492nm,17.1s,MS4.5						
SSE				LR	LR		
	comp=Z,378nm,20.6s,MS4.1						
WMQ	**Urumqi**	**37.40**	**354**	*e*P	**P**	**13 03 12.3**	**+1.3**
WMQ				AP	pP	13 03 22.0	+1.3
WMQ				XP	sP	13 03 26.0	+1.0
WMQ				PP	PP	13 04 40.5	+1.3
WMQ				S	**S**	**13 08 57.8**	**+1.3**
WMQ				XS		13 09 13.9	
ULHL	**Ulahol**	**38.54**	**340**	P	**P**	**13 03 21.6**	**+1.0**
	SNR=21						
KZA	**Kyzart**	**38.75**	**339**	P	**P**	**13 03 23.0**	**+0.7**
	SNR=27						
UCH	**Uchtor**	**39.15**	**338**	P	**P**	**13 03 26.2**	**+0.6**
	SNR=36						
BJT	**Baijiatuau**	**39.19**	**28**	*e*P	**P**	**13 03 27.4**	**+1.5**
	comp=Z,37nm,0.8s,mb5.2						
BJT				LR	LR		
	comp=Z,840nm,22.0s,MS4.5						
KBK	**Karagaybulak**	**39.36**	**339**	P	**P**	**13 03 27.7**	**+0.3**
	SNR=6.0						
TKM2	**Tokmak 2**	**39.36**	**340**	P	**P**	**13 03 27.4**	**0.0**
	SNR=15						
AML	**Almayashu**	**39.38**	**337**	P	**P**	**13 03 27.4**	**-0.1**
	SNR=70						
AAK	**Ala-Archa**	**39.51**	**338**	P	**P**	**13 03 29.6**	**+1.0**
	SNR=36						
AAK	**Ala-Archa**	**39.51**	**338**	*i* P	**P**	**13 03 29.1**	**+0.5**
AAK				pmax	pmax		
	comp=Z,67nm,1.6s,mb5.1						
AAK	**Ala-Archa**	**39.51**	**338**	*e*P	**P**	**13 03 26.9**	**-1.7**
	comp=Z,59nm,1.2s,mb5.2						
AAK				LR	LR		
	comp=Z,234nm,22.0s,MS4.0						
FRU	**Bishkek**	**39.63**	**339**	⇑*i*P	**P**	**13 03 32.0**	**+2.4**
FRU				pmax	pmax		
	comp=Z,105nm,2.0s,mb5.2						
CHMS	**Chumysh**	**39.73**	**339**	P	**P**	**13 03 32.0**	**+1.6**
	SNR=12						
EKS2	**Erkin-Say**	**39.80**	**338**	P	**P**	**13 03 31.6**	**+0.5**
	SNR=21						
USP	**Ospenovka**	**40.05**	**339**	P	**P**	**13 03 32.5**	**-0.6**
	SNR=45						
FITZ	**Fitzroy Crossi**	**40.38**	**128**	*e*P	**P**	**13 03 36.1**	**0.0**
	comp=Z,14nm,0.7s,mb4.8						
SNY	**Shenyang**	**44.29**	**33**	⇑P	**P**	**13 04 06.6**	**-1.2**
ZAK	**Zakamensk**	**44.47**	**9**	*e*P	**P**	**13 04 08.9**	**-0.3**
ZAK				*e*		13 05 51.8	
MOY	**Mondy**	**45.41**	**7**	*e*P	**P**	**13 04 18.6**	**+1.9**
MOY				*e*		13 15 11.2	
TLY	**Talaya**	**45.79**	**9**	*i* P	**P**	**13 04 17.8**	**-1.9**
IRK	**Irkutsk**	**46.43**	**9**	*e*P	**P**	**13 04 26.0**	**+1.3**
HIA	**Hailar**	**48.09**	**23**	*e*P	**P**	**13 04 37.1**	**-0.7**
	comp=Z,35nm,1.1s,mb5.3						
HIA				LR	LR		
	comp=Z,1μm,19.0s,MS4.8						
WRAB	**Tennant Creek**	**48.35**	**124**	*i* P	**P**	**13 04 37.9**	**-2.3**
WRAB	**Tennant Creek**	**48.35**	**124**	*e*P	**P**	**13 04 39.8**	**-0.4**
	comp=Z,24nm,0.8s,mb5.3						
WRAB				LR	LR		
	comp=Z,196nm,20.0s,MS4.1						
WB2	**Warramunga Arr**	**48.36**	**124**	*e*P	**P**	**13 04 40.2**	**-0.1**
NVS	**Novosibirsk**	**48.77**	**352**	*e*P	**P**	**13 04 41.6**	**-1.4**
NVS				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.2						
NVS				pmax	pmax		
	comp=N,21nm,1.0s						
MDJ	**Mudanjiang**	**49.43**	**34**	P	**P**	**13 04 47.4**	**-0.8**
MDJ				AP	pP	13 04 56.5	-1.6
MDJ				XP	sP	13 05 00.4	-1.8
MDJ				PCP	PcP	13 06 10.0	-0.4
MDJ				PP	PP	13 06 41.4	-1.3
MDJ				SCP		13 10 02.0	
MDJ				PCS		13 10 05.7	
MDJ				S	**S**	**13 11 53.6**	**+1.8**
MDJ				XS		13 12 09.2	
MDJ				SCS	ScS	13 14 36.8	+2.5
MDJ				LR	LR		
	comp=N,286nm,21.1s,MS4.3						
MDJ				LR	LR		
	comp=E,214nm,20.3s,MS4.3						
MDJ				LR	LR		
	comp=Z,352nm,21.8s,MS4.3						
KLR	**Kul'dur**	**53.49**	**31**	*e*P	**P**	**13 05 18.6**	**-0.2**
KLR				MLR	MLR		
	comp=N,900nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s,MS5.4						
BOD	**Bodaibo**	**53.63**	**14**	*e*P	**P**	**13 05 18.1**	**-1.6**
GNI	**Garni**	**54.63**	**315**	*c i*P	**P**	**13 05 28.4**	**+1.1**
GNI				pmax	pmax		
	comp=Z,41nm,1.5s						
GNI	**Garni**	**54.63**	**315**	⇑*e*P	**P**	**13 05 28.6**	**+1.3**
	comp=Z,65nm,1.2s,mb5.5						
GNI				LR	LR		
	comp=Z,146nm,19.0s,MS4.1						
TI2	**Plekhanov**	**55.30**	**317**	*e*P	**P**	**13 05 32.6**	**+0.5**
CLNS	**Chul'man**	**55.98**	**20**	*e*P	**P**	**13 05 36.1**	**-0.7**
CLNS				pmax	pmax		
	comp=Z,29nm,1.4s,mb5.1						
CLNS				pmax	pmax		
	comp=N,16nm,1.1s						
CLNS				pmax	pmax		
	comp=E,16nm,1.4s						
PMG	**Port Moresby**	**56.12**	**106**	P	**P**	**13 05 37.1**	**-1.3**
	comp=E,18nm,0.7s,mb5.2						
SVE	**Sverdlovsk**	**56.24**	**339**	*e*P	**P**	**13 05 38.8**	**+0.2**
SVE				pmax	pmax		
	comp=Z,120nm,2.0s,mb5.6						
KMBO	**Kilima Mbogo**	**56.30**	**264**	*i* P	pP	13 05 50.3	+0.5
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KMBO	**Kilima Mbogo**	**56.30**	**264**	*e*P	**P**	**13 05 39.8**	**+0.1**
	comp=Z,9.7nm,1.1s,mb4.8						
KMBO				LR	LR		
	comp=Z,284nm,20.0s,MS4.4						
ARU	**Arti**	**56.69**	**338**	⇓*i*P	**P**	**13 05 39.4**	**-2.5**
ARU				*e*		13 06 34.5	
ARU				*e*		13 07 43.0	
ARU				*e*S	**S**	**13 13 30.7**	**+0.3**
ARU				*e*SS	SS	13 17 19.3	+0.2
ARU				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.2						
KIV	**Kislovodsk**	**57.61**	**319**	*c e*P	**P**	**13 05 49.1**	**+0.5**
KIV				*e*S	**S**	**13 13 49.7**	**+7.1**
KIV				pmax	pmax		
	comp=Z,22nm,1.4s,mb5.0						
KIV				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.2						
KIV	**Kislovodsk**	**57.61**	**319**	*e*P	**P**	**13 05 47.2**	**-1.5**
	comp=Z,55nm,1.3s,mb5.4						
GOF	**Gofitskoye**	**57.86**	**320**	*e*P	**P**	**13 05 50.0**	**-0.3**
MALT	**Malatya**	**58.55**	**311**	*e*P	**P**	**13 05 54.0**	**-1.2**
	comp=Z,34nm,1.5s,mb5.2						
CTA	**Charters Tower**	**58.56**	**118**	*e*P	**P**	**13 05 55.8**	**+0.3**
	comp=Z,8.0nm,1.2s,mb4.6						
CTAO	**Charters Tower**	**58.56**	**118**	*e*P	**P**	**13 05 51.2**	**-4.3**
	comp=Z,20nm,1.1s,mb5.1						
CTAO				LR	LR		
	comp=Z,513nm,22.0s,MS4.6						
EIL	**Elat**	**59.21**	**301**	*e*P	**P**	**13 05 58.3**	**-1.7**
	comp=Z,55nm,1.2s,mb5.5						
SOC	**Sochi**	**59.44**	**317**	*e*P	**P**	**13 05 59.5**	**-1.8**
SOC				*e*S	**S**	**13 14 10.2**	**+3.7**
SOC				*e*SS	SS	13 18 01.6	-1.5
SOC				*e*SSS	SSS	13 20 36.7	+5.3
SOC				pmax	pmax		
	comp=Z,49nm,1.2s,mb5.4						
SOC				pmax	pmax		
	comp=N,46nm,1.1s						
SOC				pmax	pmax		
	comp=E,25nm,1.1s						
STKA	**Stephens Creek**	**59.95**	**133**	*e*P	**P**	**13 06 04.9**	**-0.2**
	comp=E,6.9nm,0.7s,mb4.8						
YAK	**Yakutsk**	**61.53**	**19**	*e*P	**P**	**13 06 11.9**	**-3.4**
YAK				*e*S	**S**	**13 14 32.1**	**-0.8**
YAK				pmax	pmax		
	comp=N,14nm,1.2s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.1						
YAK				smax			
	comp=N,8.0nm,1.1s						
YAK				smax			
	comp=E,5.0nm,1.2s						
YAK				MLR	MLR		
	comp=Z,175nm,17.0s,MS4.3						
YAK				MLR	MLR		
	comp=N,226nm,18.0s,MS4.6						
YAK				MLR	MLR		
	comp=E,316nm,18.0s,MS4.6						
YAK	**Yakutsk**	**61.53**	**19**	*e*P	**P**	**13 06 13.1**	**-2.2**
	comp=E,43nm,1.0s,mb5.5						
YAK				LR	LR		
	comp=Z,440nm,19.0s,MS4.6						
MOS	**Moscow**	**65.67**	**329**	*e*P	**P**	**13 06 41.8**	**-0.7**
OBN	**Obninsk**	**65.94**	**328**	⇑*e*P	**P**	**13 06 44.0**	**-0.2**
OBN				*e*		13 09 11.0	
OBN				*e*S	S	13 15 32.5	+4.7
OBN				pmax	pmax		
	comp=Z,26nm,1.5s,mb5.0						
OBN				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.4						
LSZ	**Lusaka**	**67.90**	**251**	*e*P	**P**	**13 06 54.6**	**-2.7**
	comp=Z,7.6nm,1.1s,mb4.6						
LSZ				LR	LR		
	comp=Z,324nm,20.0s,MS4.5						
MA2	**Magadan**	**68.36**	**28**	*e*P	**P**	**13 06 55.5**	**-3.9**
MA2				*e*S	S	13 15 47.7	-9.2
MA2				*e*SS	SS	13 20 17.6	-4.4
MA2				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
MA2				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.7						
TIXI	**Tiksi**	**68.69**	**11**	*i* P	**P**	**13 06 59.9**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,44nm,1.4s,mb5.2						
KOLS	**Kolonicke sedl**	**72.52**	**319**	*i* P	**P**	**13 07 26.3**	**+1.5**
KOLS				*e*		13 07 30.3	
APA	**Apatity**	**72.70**	**340**	⇓*i*P	**P**	**13 07 26.3**	**+0.8**
APA				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
SUW	**Suwalki**	**72.97**	**325**	*e*P	**P**	**13 07 23.0**	**-4.4**
SUW	**Suwalki**	**72.97**	**325**	*e*P	**P**	**13 07 22.9**	**-4.4**
CRVS	**Cervenica-Dubn**	**73.04**	**319**	*i* P	**P**	**13 07 29.9**	**+2.0**
FINES	**FINESS Array B**	**73.39**	**332**	*i* P	pP	13 07 39.0	-1.0
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BOSA	**Boshof**	**74.06**	**238**	*e*P	**P**	**13 07 33.3**	**-0.9**
	comp=Z,14nm,1.1s,mb4.8						
OJC	**Ojcow**	**74.32**	**320**	*e*P	**P**	**13 07 35.5**	**+0.2**
VYHS	**Vyhne**	**74.70**	**318**	*e*P	**P**	**13 07 37.8**	**+0.3**
ZST	**Bratislava**	**75.81**	**318**	*e*P	**P**	**13 07 45.9**	**+2.0**
DPC	**Dobruska-Polom**	**76.55**	**320**	*e*P	**P**	**13 07 47.3**	**-0.8**
UPC	**Upice**	**76.76**	**320**	*e*P	**P**	**13 07 51.1**	**+1.8**
BILL	**Bilibino**	**77.65**	**22**	⇓*e*P	**P**	**13 07 53.2**	**-0.7**
BILL				*e*		13 10 43.4	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.5						
BILL				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.8						
BILL	**Bilibino**	**77.65**	**22**	*e*P	**P**	**13 07 52.5**	**-1.4**
	comp=Z,19nm,1.3s,mb4.9						
BILL				LR	LR		
	comp=Z,437nm,21.0s,MS4.8						
PRU	**Pruhonice**	**77.66**	**320**	*e*P	**P**	**13 07 51.2**	**-3.1**
PVCC	**Panska Ves**	**77.68**	**320**	*e*P	**P**	**13 07 56.8**	**+2.4**
BRG	**Berggiesshubel**	**78.11**	**321**	*e*P	**P**	**13 07 58.4**	**+1.7**
BRG				pmax	pmax		
	comp=Z,27nm,1.6s,mb4.9						
BRG	**Berggiesshubel**	**78.11**	**321**	P	**P**	**13 07 58.4**	**+1.7**
	comp=Z,27nm,1.6s,mb4.9						
KHC	**Kasperske Hory**	**78.22**	**319**	*e*P	**P**	**13 07 58.8**	**+1.4**
CLL	**Collm**	**78.73**	**321**	*e*P	**P**	**13 08 02.0**	**+1.9**
CLL	**Collm**	**78.73**	**321**	P	**P**	**13 08 02.0**	**+1.9**
NKC	**Novy Kostel**	**79.02**	**320**	*e*P	**P**	**13 08 04.2**	**+2.5**
MOX	**Moxa**	**79.57**	**320**	*e*P	**P**	**13 08 10.0**	**+5.3**
LPG	**La Plagne**	**82.82**	**315**	*e*P	**P**	**13 08 23.9**	**+2.1**
	comp=Z,20nm,0.9s,mb4.8						
IMA	**Indian Mountai**	**93.19**	**22**	P	**P**	**13 09 13.2**	**+2.0**
	comp=Z,82nm,1.7s,mb5.9						
MSU	**Marysvale**	**129.34**	**26**	*e*PKPdf	PKPdf	13 15 08.3	+3.2
NEN	**Nelson**	**130.43**	**30**	*e*PKPdf	PKPdf	13 15 10.5	+3.2
PV10	**Paradox Valley**	**130.75**	**23**	*e*PKPdf	PKPdf	13 15 11.0	+3.2
GDL2	**Guadalupe Moun**	**137.98**	**22**	PKPdf	PKPdf	13 15 22.1	+0.7
JCT	**Junction City**	**141.12**	**18**	*e*PKPdf	PKPdf	13 15 29.4	+2.2

*NEIC **04** 13:01:33.0, 35.90S×72.36W, h15km, ML3.0(GUC), After GUC.*
NEIC Felt [III] at Chanco and Pelluhue; [II] at Cauquenes.
GUC 04 13:01:33.0±0.6, 35.90S×72.36W, h15km±91km, MD3.9, ML3.0, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCO	**Chanco**	**0.22**	**318**	⇓*i*P	Pb	13 01 38.3	+0.3
CNCO				*i* S	Sb	13 01 41.9	+0.4
CCHI	**Chillan**	**0.74**	**162**	⇑*i*P	Pb	13 01 46.0	-1.0
CCHI				*i* S	Sb	13 01 56.9	+0.3
CCHI				AMP		13 01 57.6	
	comp=N,482nm,0.3s						
TALC	**Talca**	**0.77**	**50**	⇓*i*P	Pb	13 01 46.9	-0.6
TALC				*i* S	Sb	13 01 57.5	0.0
TALC				AMP		13 01 58.2	
	comp=N,4μm,0.1s						
NICH	**Los Niches**	**1.28**	**46**	*e*P	Pb	13 01 55.2	-1.0
NICH				*i* S	Sb	13 02 12.1	-0.2
SFDO	**San Fernando**	**1.69**	**41**	*e*P	Pn	13 02 01.6	-0.6
SFDO				*i* S	Sn	13 02 23.1	-0.5
CACH	**El Canelo**	**2.29**	**40**	*e*P	Pn	13 02 11.7	+0.9

JMA 04 13:08:16.6±0.4, 44.93N×146.97E, h4km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**1.65**	**234**	P	Pn	13 08 46.6	0.0
JRA				*e*S	Sb	13 09 08.2	-0.2
NEM2	**Nemuro 2**	**1.80**	**210**	P	Pn	13 08 47.7	-0.9
NEM2				*e*S	Sn	13 09 11.0	-1.2
JNK	**Nakash**	**2.10**	**231**	P	Pn	13 08 53.5	+0.5
JTKR	**Abashiri--Toko**	**2.39**	**247**	P	Pn	13 08 56.8	-0.4
JTKR				*e*S	Sn	13 09 25.4	-1.9
JAK	**Akkeshi**	**2.54**	**221**	P	Pn	13 08 59.5	+0.3
JAK				*e*S	Sn	13 09 31.9	+0.9
JMP	**Maruseppu**	**2.74**	**252**	P	Pn	13 09 02.1	-0.1
JMP				*e*S	Sn	13 09 34.5	-1.7
JKK2	**Kamakawa 2**	**3.21**	**252**	P	Pn	13 09 08.9	+0.1
JKK2				*e*S	Sn	13 09 47.5	-0.4
JFR	**Furan**	**3.62**	**242**	P	Pn	13 09 15.4	+0.8

MAN 04 13:08:17.8, 19.06N×121.20E, h15km, mb4.9, ML3.8, MS3.9, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.14**	**135**	*e*P	Pb	13 08 38.4	-0.2
CVP	**Callao Caves**	**1.47**	**156**	⇓*i*P	Pn	13 08 43.0	-0.9
ABRA	**Dolores**	**1.48**	**199**	*e*P	Pn	13 08 42.5	-1.5
ABRA				*e*S	Sb	13 09 02.8	0.0
BBP	**Basco**	**1.55**	**27**	*e

4C-11D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
TRBA	**At Turbah**	**1.40**	**25**	⇑*i*P	Pn	13 30 10.2		+0.4
TRBA				*i* S	Sb	13 30 30.0		+2.2
TRBA				AML	AML	13 30 30.4		
	comp=N,7μm,0.2s							
ADEN	**Aden**	**1.65**	**60**	⇓*i*P	Pn	13 30 13.7		+0.2
ADEN				*i* S	Sn	13 30 36.9		+1.8
ADEN				AML	AML	13 30 43.4		
	comp=E,6μm,0.3s							
ADEN	**Aden**	**1.65**	**60**	⇓*i*P	Pn	13 30 13.7		+0.2
ADEN				*i* S	Sn	13 30 36.8		+1.8
	comp=E,3μm,0.3s							
ADEN	**Aden**	**1.65**	**60**	⇓*i*P	Pn	13 30 13.9		+0.4
ADEN				*i* S	Sn	13 30 35.8		+0.8
	comp=E,3μm,0.3s							
UDYN	**Al 'Udayn**	**2.05**	**12**	⇓*i*P	Pn	13 30 20.2		+1.0
UDYN				*i* S	Sn	13 30 48.4		+3.2
UDYN				AML	AML	13 30 57.0		
	comp=N,3μm,0.5s							
UDYN	**Al 'Udayn**	**2.05**	**12**	⇓*i*P	Pn	13 30 20.2		+1.0
UDYN				*i* S	Sn	13 30 48.4		+3.2
	comp=N,2μm,0.5s							
UDYN	**Al 'Udayn**	**2.05**	**12**	⇑*i*P	Pn	13 30 21.3		+2.1
UDYN				*i* S	Sn	13 30 48.4		+3.2
	comp=N,2μm,0.5s							
LBOS		**2.55**	**41**	⇓*i*P	Pn	13 30 28.1		+1.8
LBOS				*i* S	Sn	13 31 02.8		+5.0
DHBB	**Dhamar BB**	**2.74**	**18**	⇓*i*P	Pn	13 30 31.1		+2.1
DHBB				*i* S	Sn	13 31 08.3		+5.7
DHBB	**Dhamar BB**	**2.74**	**18**	⇓*i*P	Pn	13 30 31.1		+2.1
DHBB				*i* S	Sn	13 31 08.3		+5.7
DHBB	**Dhamar BB**	**2.74**	**18**	⇓*i*P	Pn	13 30 31.1		+2.1
DHBB				*i* S	Sn	13 31 05.1		+2.5
BDHA	**Al Bayda'**	**2.84**	**45**	⇑*i*P	Pn	13 30 32.5		+2.1
BDHA				*i* S	Sn	13 31 10.5		+5.4
BDHA	**Al Bayda'**	**2.84**	**45**	⇑*i*P	Pn	13 30 30.7		+0.3
BDHA				*i* S	Sn	13 31 05.6		+0.5
BDHA				*i* S	Sn	13 31 06.8		+1.7
HAJJ	**Hajjah**	**3.73**	**1**	⇓*i*P	Pn	13 30 44.5		+1.5
HAJJ	**Hajjah**	**3.73**	**1**	⇓*i*P	Pn	13 30 44.5		+1.5
HAJJ				*i* S	Sn	13 31 29.0		+1.4

JMA ***04*** *14:03:49.9±0.1, 25.04N×121.71E, h68km, M2.7*
TAP 04 14:03:50.0, 24.72N×121.57E, h57km, ML3.6, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
YOJ	**Yonaguni jima**	**1.34**	**101**	P	P	14 04 12.6		-0.4
YOJ				S	S	14 04 29.2		-0.8
IRIF	**Iriomote-Funau**	**2.00**	**101**	P	P	14 04 21.4		-0.8
IRIF				S	S	14 04 45.2		-0.8
HATJ	**Hateruma jima**	**2.14**	**107**	S	S	14 04 49.6		+0.1
JKRS	**Kuro-shima**	**2.27**	**102**	P	P	14 04 25.5		-0.5
JKRS				S	S	14 04 52.5		-0.4
JIJ	**Ishigaki jima**	**2.37**	**98**	P	P	14 04 26.3		-1.1
JIJ				S	S	14 04 53.7		-1.6

DJA 04 14:56:56.2±1.0, 9.48S×114.28E, h33km, MD6.5/1, ML4.1/1, 3C-3D, Error ellipse: s-maj=24.7km s-min=11.8km az=29.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
SRDI	**Scrawed**	**1.00**	**352**	⇑*i*Pn	Pn	14 57 12.2		-1.9
SRDI				⇑*i*Sn	Sn	14 57 24.5		-2.6
KELI	**Kelakatan**	**1.27**	**10**	⇓*i*Pn	Pn	14 57 17.4		-0.5
	202nm,0.2s							
KELI				⇓*i*Sn	Sn	14 57 31.9		-2.0
RATI	**Rata**	**1.45**	**59**	⇓*i*Pn	Pn	14 57 19.1		-1.4
RATI				⇑*i*Sn	Sn	14 57 34.9		-3.5

BJI ***04*** *15:18:26.7, 4.31N×93.86E, h38km, mB5.2, mb4.9, Ms4.8, Msz4.7*
MOS ***04*** *15:18:28.2±1.1, 4.74N×93.87E, h33km, mb5.3/22, MS4.5/4, Error ellipse: s-maj=15.5km s-min=7.3km az=113.6*
HRVD ***04*** *15:18:28.6±0.4, 4.40N×93.79E, h15km±1km, MW5.0/45, Centroid moment Tensor Solution. LP body waves: s24, c34; Mantle waves: s45, c74; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.75±.17; $M_{\theta\theta}$2.53±.11; $M_{\phi\phi}$0.22±.13; $M_{r\theta}$0.10±.32; $M_{\theta\phi}$-1.45±.09; $M_{\phi r}$-2.52±.48; Best double couple: $M_0$3.88×10^{16} NP1:ϕ_s91°, δ40°, λ-137°. NP2:ϕ_s326°, δ64°, λ-59°. Principal axes: T 3.51, Plg13°, Azm33°; N .746, Plg28°, Azm130°; P -4.25, Plg59°, Azm281°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***04*** *15:18:28.6±0.2, 4.58N×93.78E, mb5.2/37, MS4.3/12 Error ellipse: s-maj=7.3km s-min=5.3km az=222.0*
ISC 04 15:18:27.3±1.5, 4.57N±0.04×93.79E±0.04, h29km±10km, h26km±.7km: pP-P, n158, σ1s04/167, mb5.1/63, MS4.5/22, 4C-14D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
PALK	**Pallekele**	**13.29**	**282**	*e*P	**P**	**15 21 32.0**		**-4.7**
KKTK	**Khon Kaen**	**14.68**	**37**	P	**P**	**15 22 02.0**		**+7.0**
CM31	**Chiang Mai Arr**	**14.69**	**20**	*e*P	**P**	**15 21 55.6**		**+0.4**
CHG	**Chiang Mai**	**15.03**	**19**	⇑P	**P**	**15 21 59.7**		**+0.1**
	22nm,0.9s							
UBT	**Ubonrachathani**	**15.32**	**45**	P	**P**	**15 22 10.0**		**+6.6**
CHRT	**Chiangrai**	**16.29**	**21**	P	**P**	**15 22 16.5**		**+0.6**
	192nm,1.2s							
VIS	**Vishakhapatnam**	**16.60**	**323**	*e*P	**P**	**15 22 19.3**		**-0.5**
VIS				*e*		15 22 21.1		
	comp=Z,84nm,0.6s							
VIS				*e*		15 25 10.5		
KOD	**Kodaikanal**	**17.13**	**290**	*e*P	**P**	**15 22 25.6**		**-0.8**
KOD				*e*		15 22 32.3		
	comp=Z,123nm,1.6s							
TRD	**Trivandrum**	**17.17**	**284**	*e*P	**P**	**15 22 24.7**		**-2.2**
TRD				*e*		15 22 34.1		
	comp=Z,77nm,1.6s							
BWNR	**Bhubaneshwar**	**17.46**	**334**	*e*P	**P**	**15 22 27.0**		**-3.5**
BWNR				*e*		15 25 26.9		
HYB	**Hyderabad**	**19.64**	**312**	*e*P	**P**	**15 22 56.5**		**-0.3**
	comp=Z,100nm,1.2s							
HYB				*e*S	**S**	**15 26 26.0**		**-5.0**
HYB	**Hyderabad**	**19.64**	**312**	*i* P	**P**	**15 22 56.5**		**-0.3**
	comp=Z,100nm,1.2s							
HYB				*e*S	**S**	**15 26 26.0**		**-5.0**
MNGI	**Mangalore**	**20.49**	**295**	*e*P	**P**	**15 23 05.8**		**+0.1**
MNGI				*e*		15 23 10.6		
	comp=Z,150nm,1.4s							
BLSP	**Bilaspur**	**20.79**	**328**	*e*P	**P**	**15 23 08.5**		**-0.3**
BLSP				*e*S	**S**	**15 26 52.1**		**-2.3**
SHL	**Shillong**	**20.96**	**355**	*e*P	**P**	**15 23 08.0**		**-2.5**
QIZ	**Qiongzhong**	**21.26**	**46**	P	**P**	**15 23 14.5**		**+0.9**
QIZ				S	**S**	**15 27 04.8**		**+1.4**
QIZ				XS		15 27 15.8		
QIZ				SS	SS	15 27 34.8		-3.0
QIZ				AMB	AMB			
	comp=Z,28nm,1.2s,mb4.5							
QIZ				LR	LR			
	comp=N,3μm,14.0s							
QIZ				LR	LR			
	comp=Z,2μm,11.5s,MS4.8							
QIZ	**Qiongzhong**	**21.26**	**46**	*e*P	**P**	**15 23 14.6**		**+0.9**
	comp=Z,97nm,1.1s,mb5.0							
QIZ				*e*		15 23 22.6		
QIZ				LR	LR			
	comp=Z,1μm,19.0s,MS4.3							
GOA	**Goa**	**22.43**	**300**	*e*	**P**	**15 23 31.9**		**+6.6**
KAD	**Karad**	**23.00**	**305**	*e*P	**P**	**15 23 31.0**		**0.0**
KAD				*e*		15 23 34.6		
	comp=Z,113nm,0.7s							
KAD				*e*S	**S**	**15 27 41.6**		**+6.3**
POO	**Poona**	**23.92**	**307**	*e*	**P**	**15 23 44.5**		**+4.6**
	comp=Z,74nm,1.4s,mb4.9							
POO				*e*S	**S**	**15 27 54.4**		**+3.2**
JIRN	**Jiri**	**24.08**	**343**	*e*P	**P**	**15 23 42.2**		**+0.8**
	comp=Z,91nm,0.7s,mb5.3							
PKI	**Pulchoki**	**24.23**	**342**	*e*P	**P**	**15 23 43.2**		**+0.3**
	comp=Z,46nm,0.9s,mb4.9							
DMN	**Daman**	**24.36**	**341**	*e*P	**P**	**15 23 44.8**		**+0.6**
	comp=Z,41nm,0.9s,mb4.9							
BHPL	**Bhopal**	**24.38**	**321**	*e*P	**P**	**15 23 45.8**		**+1.4**
BHPL				*e*		15 23 47.6		
	comp=Z,42nm,0.6s							
BHPL				*e*S	**S**	**15 28 05.2**		**+6.2**
GUN	**Gumba**	**24.40**	**343**	*e*P	**P**	**15 23 45.5**		**+0.9**
	comp=Z,66nm,0.6s,mb5.2							
KKN	**Kakani**	**24.47**	**342**	*e*P	**P**	**15 23 46.0**		**+0.8**
	comp=Z,56nm,0.8s,mb5.0							
GKN	**Gorkha**	**24.88**	**340**	*e*P	**P**	**15 23 49.5**		**+0.4**
	comp=Z,190nm,0.9s,mb5.6							
BOM	**Bombay**	**24.94**	**307**	*e*P	**P**	**15 23 46.9**		**-2.9**
BOM				*e*		15 23 55.7		
	comp=Z,90nm,1.4s							
KOLN	**Koldanda**	**25.03**	**338**	*e*P	**P**	**15 23 51.5**		**+0.9**
	comp=Z,249nm,0.9s,mb5.8							
LSA	**Lhasa**	**25.12**	**355**	P	**P**	**15 23 53.4**		**+2.0**
LSA				AMB	AMB			
	comp=Z,130nm,0.8s,mb5.5							
LSA	**Lhasa**	**25.12**	**355**	⇓*i*P	**P**	**15 23 53.4**		**+2.0**
	comp=Z,131nm,0.8s,mb5.5							
LSA				*e*	pP	15 24 01.6		+1.7
LSA				LR	LR			
	comp=Z,518nm,22.0s,MS4.0							
NDI	**New Delhi**	**28.68**	**329**	*e*	**P**	**15 24 22.0**		**-2.0**
NDI				*e*P		15 24 22.7		
NDI				*e*		15 24 26.1		
	comp=Z,33nm,1.1s							
ENH	**Enshi**	**29.55**	**28**	*e*P	**P**	**15 24 30.8**		**-1.1**
	comp=Z,46nm,0.8s,mb5.3							
SMLA	**Simla**	**30.70**	**331**	*e*	**P**	**15 24 53.3**		**+11**
SMLA				*e*		15 24 57.9		
	comp=Z,33nm,1.1s							
WHN	**Wuhan**	**32.30**	**35**	⇑P	**P**	**15 24 56.5**		**+0.4**
WHN				AP	pP	15 25 05.0		+0.2
WHN				S	**S**	**15 30 15.0**		**+8.3**
WHN				LR	LR			
	comp=Z,5μm,12.9s,MS5.4							
XAN	**Xi'an**	**32.52**	**24**	P	**P**	**15 24 56.5**		**-1.5**
XAN				AMB	AMB			
	comp=Z,38nm,0.8s,mb5.4							
NJ2	**Nanjing**	**36.04**	**38**	*e*P	**P**	**15 25 29.2**		**+1.0**
NJ2				AP	pP	15 25 37.6		+0.6
NJ2				XP	sP	15 25 42.6		+1.9
NJ2				PP	PP	15 26 52.0		+1.5
NJ2				S	**S**	**15 31 05.0**		**+0.3**
NJ2				XS		15 31 20.0		
NJ2				AMB	AMB			
	comp=Z,1μm,3.9s							
MBWA	**Marble Bar**	**36.07**	**136**	*e*P	**P**	**15 25 28.0**		**-0.6**
	comp=Z,12nm,0.6s,mb5.0							
MBWA				LR	LR			
	comp=Z,263nm,20.0s,MS4.0							
SSE	**Sheshan**	**36.88**	**41**	P	**P**	**15 25 33.5**		**-1.8**
SSE				XP	sP	15 25 46.3		-1.5
SSE				S	**S**	**15 31 17.3**		**-0.2**
SSE				XS		15 31 32.5		
SSE				AMB	AMB			
	comp=Z,18nm,0.7s,mb5.0							
SSE				AMB	AMB			
	comp=Z,69nm,4.6s							
SSE				LR	LR			
	comp=N,867nm,15.7s,MS4.7							
SSE				LR	LR			
	comp=E,635nm,15.7s,MS4.7							
SSE				LR	LR			
	comp=Z,2μm,13.0s,MS5.0							
FITZ	**Fitzroy Crossi**	**38.65**	**127**	*e*P	**P**	**15 25 49.8**		**-0.5**
	comp=Z,17nm,0.9s,mb4.8							
FITZ				*e*	pP	15 25 56.9		-2.2
WMQ	**Urumqi**	**39.46**	**353**	P	**P**	**15 25 58.3**		**+1.5**
WMQ				AP	pP	15 26 05.7		+0.1
WMQ				XP	sP	15 26 09.1		-0.1
WMQ				AMB	AMB			
	comp=Z,100nm,1.0s,mb5.5							
WMQ				AMB	AMB			
	comp=Z,510nm,5.2s							
WMQ				LR	LR			
	comp=Z,2μm,18.5s,MS5.1							
ULHL	**Ulahol**	**40.65**	**340**	P	**P**	**15 26 07.1**		**+0.6**
	SNR=12							
BJT	**Baijiatuau**	**40.66**	**27**	*e*P	**P**	**15 26 08.4**		**+1.7**
	comp=Z,92nm,1.2s,mb5.3							
BJT				*e*	pP	15 26 16.9		+1.3
BJT				LR	LR			
	comp=Z,456nm,20.0s,MS4.3							
KZA	**Kyzart**	**40.85**	**339**	P	**P**	**15 26 09.9**		**+1.7**
	SNR=16							
UCH	**Uchtor**	**41.25**	**338**	P	**P**	**15 26 10.1**		**-1.4**
	SNR=6.4							
KBK	**Karagaybulak**	**41.46**	**339**	P	**P**	**15 26 14.8**		**+1.5**
	SNR=44							
TKM2	**Tokmak 2**	**41.46**	**340**	P	**P**	**15 26 14.2**		**+0.9**
	SNR=16							
AML	**Almayashu**	**41.47**	**337**	P	**P**	**15 26 14.8**		**+1.5**
	SNR=50							
AAK	**Ala-Archa**	**41.60**	**338**	P	**P**	**15 26 15.7**		**+1.3**
	SNR=21							
AAK	**Ala-Archa**	**41.60**	**338**	*d*iP	**P**	**15 26 14.0**		**-0.4**
AAK				pmax	pmax			
	comp=Z,60nm,2.2s,mb4.8							
AAK	**Ala-Archa**	**41.60**	**338**	*e*P	**P**	**15 26 13.8**		**-0.6**
	comp=Z,32nm,1.1s,mb4.9							
AAK				*e*PcP	PcP	15 28 11.1		-0.7
AAK				LR	LR			
	comp=Z,104nm,21.0s,MS3.7							
FRU	**Bishkek**	**41.73**	**339**	*e*P	**P**	**15 26 16.5**		**+1.0**
FRU				pmax	pmax			
	comp=Z,66nm,4.0s							
CHMS	**Chumysh**	**41.83**	**339**	P	**P**	**15 26 17.2**		**+1.0**
	SNR=10							
EKS2	**Erkin-Say**	**41.90**	**338**	P	**P**	**15 26 18.1**		**+1.2**
	SNR=34							
KAKA	**Kakadu**	**42.07**	**115**	*e*P	**P**	**15 26 18.0**		**-0.6**
	comp=Z,10nm,0.6s,mb4.6							
KAKA				*i*		15 26 30.5		
USP	**Ospenovka**	**42.15**	**339**	P	**P**	**15 26 18.9**		**0.0**
	SNR=44							
MK02	**Makanchi Array**	**43.20**	**348**	P	**P**	**15 26 27.7**		**+0.3**
MK02				pmax	pmax			
	comp=Z,15nm,0.8s,mb4.8							
NWAO	**Narrogin (SRO)**	**43.42**	**151**	*e*P	**P**	**15 26 29.3**		**-0.1**
	comp=Z,3.9nm,0.6s,mb4.3							
SNY	**Shenyang**	**45.64**	**31**	⇓P	**P**	**15 26 45.9**		**-1.2**
SNY				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.8							
ZAK	**Zakamensk**	**46.35**	**8**	*e*P	**P**	**15 26 52.4**		**-0.2**
WRAB	**Tennant Creek**	**46.71**	**123**	*d*iP	**P**	**15 26 56.1**		**+0.3**
WRAB	**Tennant Creek**	**46.71**	**123**	⇓*e*P	**P**	**15 26 56.0**		**+0.1**
	comp=Z,64nm,0.6s,mb5.7							
WRAB				LR	LR			
	comp=Z,100nm,19.0s,MS3.8							
WB2	**Warramunga Arr**	**46.72**	**123**	⇓*i*P	**P**	**15 26 56.1**		**+0.2**
WB2				*e*	pP	15 27 03.1		-1.7
MOY	**Mondy**	**47.32**	**6**	*e*P	**P**	**15 27 00.9**		**+0.6**
TLY	**Talaya**	**47.67**	**8**	*i* P	**P**	**15 27 03.0**		**0.0**
TLY				pmax	pmax			
	comp=Z,10.0nm,1.3s,mb4.7							
HIA	**Hailar**	**49.69**	**22**	*e*P	**P**	**15 27 18.6**		**-0.1**
	comp=Z,16nm,0.8s,mb5.1							
HIA				*e*	pP	15 27 26.9		-0.7
HIA				*e*PcP	PcP	15 28 38.6		-1.2
HIA				LR	LR			
	comp=Z,818nm,20.0s,MS4.7							
MDJ	**Mudanjiang**	**50.74**	**33**	P	**P**	**15 27 27.5**		**+0.8**
MDJ				AP	pP	15 27 36.5		+0.8
MDJ				PCP	PcP	15 28 41.3		-2.5
MDJ				PP	PP	15 29 23.9		+0.2
MDJ				SCP		15 32 38.9		
MDJ				PCS		15 32 41.2		
MDJ				S	**S**	**15 34 43.6**		**+4.7**
MDJ				XS		15 34 54.4		
MDJ				AMB	AMB			
	comp=Z,15nm,1.2s,mb4.8							
MDJ				AMB	AMB			
	comp=Z,96nm,4.1s							
MDJ				LR	LR			
	comp=N,325nm,20.2s							
MDJ				LR	LR			
	comp=E,566nm,14.7s							
MDJ				LR	LR			
	comp=Z,781nm,15.3s,MS4.8							
MDJ	**Mudanjiang**	**50.74**	**33**	*e*P	**P**	**15 27 27.4**		**+0.7**
	comp=Z,75nm,1.4s,mb5.4							
NVS	**Novosibirsk**	**50.84**	**352**	*i* P	**P**	**15 27 26.6**		**-0.7**
NVS				*i*		15 28 41.1		
NVS				*i* S	**S**	**15 34 39.7**		**-0.4**
NVS				pmax	pmax			
	comp=Z,48nm,0.9s,mb5.4							
NVS				pmax	pmax			
	comp=N,29nm,0.7s							
NVS				pmax	pmax			
	comp=E,13nm,0.7s							
NVS				smax				
	comp=E,41nm,1.8s							
NVS				smax				
	comp=N,26nm,1.7s							
BHD	**Baghdad**	**54.08**	**308**	*e*P	**P**	**15 27 44.0**		**-7.8**
BHD				*e*S	S	15 34 58.0		-27
KLR	**Kul'dur**	**54.90**	**30**	*e*P	**P**	**15 27 54.8**		**-2.9**
KLR				MLR	MLR			
	comp=N,700nm,13.0s,MS5.0							
KLR				MLR	MLR			
	comp=E,500nm,13.0s,MS5.0							
KLR				MLR	MLR			
	comp=Z,2μm,13.0s,MS5.3							
PMG	**Port Moresby**	**54.97**	**105**	P	**P**	**15 27 58.3**		**-0.3**
	comp=Z,21nm,0.8s,mb5.2							
MSL	**Mosul**	**56.17**	**311**	*e*P	**P**	**15 27 58.0**		**-9.0**
GNI	**Garni**	**56.52**	**316**	*i* P	**P**	**15 28 09.2**		**-0.2**
GNI				pmax	pmax			
	comp=Z,31nm,1.4s							
GNI	**Garni**	**56.52**	**316**	*e*P	**P**	**15 28 08.2**		**-1.2**
	comp=Z,35nm,1.1s,mb5.3							
KMBO	**Kilima Mbogo**	**56.77**	**266**	*i* P	**P**	**15 28 12.8**		**+1.2**
KMBO				pmax	pmax			
	comp=Z,15nm,1.0s							
KMBO	**Kilima Mbogo**	**56.77**	**266**	⇓*e*P	**P**	**15 28 12.6**		**+1.0**
	comp=Z,26nm,1.1s,mb5.2							
KMBO				*e*	pP	15 28 20.1		-0.6
KMBO				LR	LR			
	comp=Z,316nm,20.0s,MS4.4							
CTA	**Charters Tower**	**57.06**	**117**	*e*P	**P**	**15 28 13.6**		**+0.1**
	comp=Z,10nm,0.9s,mb4.9							
CTA				*e*		15 28 20.5		
CTAO	**Charters Tower**	**57.06**	**117**	*e*P	**P**	**15 28 13.1**		**-0.5**
	comp=Z,30nm,1.1s,mb5.2							
CTAO				*e*		15 28 20.0		
CTAO				LR	LR			
	comp=Z,430nm,22.0s,MS4.5							
TI2	**Plekhanov**	**57.21**	**318**	*i* P	**P**	**15 28 14.2**		**-0.1**
STKA	**Stephens Creek**	**58.13**	**132**	*e*P	**P**	**15 28 20.6**		**-0.3**
	comp=Z,4.6nm,0.6s,mb4.7							
SVE	**Sverdlovsk**	**58.34**	**339**	*e*P	**P**	**15 28 21.4**		**-0.6**
SVE				pmax	pmax			
	comp=Z,140nm,1.5s,mb5.8							
ARU	**Arti**	**58.79**	**338**	⇓*i*P	**P**	**15 28 22.4**		**-2.8**
ARU				*e*		15 29 11.1		
ARU				*e*		15 30 29.2		
ARU				*e*S	**S**	**15 36 25.9**		**-0.8**
ARU				*e*SS	SS	15 40 19.5		-2.2
ARU				pmax	pmax			
	comp=Z,42nm,0.9s,mb5.5							
KIV	**Kislovodsk**	**59.55**	**319**	*d*iP	**P**	**15 28 29.8**		**-0.8**
KIV				*e*S	S	15 36 59.3		+23
KIV				pmax	pmax			
	comp=Z,29nm,1.4s,mb5.1							
KIV				MLR	MLR			
	comp=Z,100nm,17.0s,MS4.0							
KIV	**Kislovodsk**	**59.55**	**319**	*e*P	**P**	**15 28 30.0**		**-0.6**
	comp=Z,21nm,0.8s,mb5.2							
KIV				*e*		15 28 36.9		
YSS	**Yuzh-Sakhalins**	**59.60**	**37**	*e*P	**P**	**15 28 30.0**		**-0.9**
YSS				*e*	pP	15 28 40.0		-0.1
YSS	**Yuzh-Sakhalins**	**59.60**	**37**	*i* P	**P**	**15 28 30.2**		**-0.7**
GOF	**Gofitskoye**	**59.81**	**321**	⇑*i*P	**P**	**15 28 30.5**		**-1.9**
GOF				pmax	pmax			
	comp=Z,30nm,1.3s,mb5.2							
MALT	**Malatya**	**60.36**	**312**	*e*P	**P**	**15 28 36.0**		**-0.2**
	comp=Z,26nm,1.2s,mb5.1							
EIL	**Elat**	**60.80**	**301**	*e*P	**P**	**15 28 39.4**		**+0.1**
	comp=Z,33nm,0.9s,mb5.5							
SOC	**Sochi**	**61.35**	**318**	*i* P	**P**	**15 28 39.1**		**-3.8**
SOC				*e*		15 29 28.4		
SOC				*e*		15 30 54.2		
SOC				*e*S	**S**	**15 36 54.4**		**-5.4**
SOC				*e*SS	SS	15 40 55.0		-6.9
SOC				*e*SSS	SSS	15 43 45.6		+4.4
SOC				pmax	pmax			
	comp=Z,37nm,1.3s,mb5.3							
SOC				pmax	pmax			
	comp=N,36nm,1.0s							
SOC				pmax	pmax			
	comp=E,19nm,1.0s							
SOC				MLR	MLR			
	comp=Z,761nm,23.0s,MS4.8							
SOC				MLR	MLR			
	comp=N,1μm,22.0s,MS5.0							
SOC				MLR	MLR			
	comp=E,478nm,23.0s,MS5.0							
SOKR	**Solikamsk**	**61.74**	**340**	⇓*i*P	**P**	**15 28 44.6**		**-0.7**
SOKR				pmax	pmax			
	comp=Z,40nm,0.9s,mb5.5							
SOKR				MLR	MLR			
	comp=Z,250nm,21.0s,MS4.3							
MBAR	**Mbarara**	**63.20**	**267**	*e*P	**P**	**15 28 55.9**		**+0.3**
	comp=Z,19nm,1.1s,mb5.1							
MBAR				LR	LR			
	comp=Z,74nm,20.0s,MS3.9							
YAK	**Yakutsk**	**63.22**	**18**	*e*P	**P**	**15 28 52.9**		**-2.2**
YAK				*e*S	**S**	**15 37 19.8**		**-3.3**
YAK				pmax	pmax			
	comp=N,13nm,1.0s							
YAK				pmax	pmax			
	comp=Z,40nm,1.0s,mb5.5							
YAK				pmax	pmax			
	comp=E,11nm,1.2s							
YAK				pmax	pmax			
	comp=Z,20nm,0.8s,mb5.3							
YAK				pmax	pmax			
	comp=N,9.0nm,1.2s							
YAK				smax				
	comp=E,8.0nm,1.4s							
YAK				smax				
	comp=N,7.0nm,1.2s							
YAK	**Yakutsk**	**63.22**	**18**	⇓*e*P	**P**	**15 28 53.7**		**-1.4**
	comp=N,103nm,1.0s,mb5.9							
YAK				LR	LR			
	comp=Z,346nm,20.0s,MS4.5							
ANN	**Anapa**	**63.33**	**318**	*e*P	**P**	**15 28 44.8**		**-11**
ANN				pmax	pmax			
	comp=Z,28nm,1.5s,mb5.2							
ISP	**Isparta**	**66.22**	**309**	*i* P	**P**	**15 29 14.5**		**-0.4**
ISP	**Isparta**	**66.22**	**309**	*i* P	**P**	**15 29 14.6**		**-0.3**
MOS	**Moscow**	**67.72**	**329**	*e*P	**P**	**15 29 21.4**		**-2.7**
MOS				pmax	pmax			
	comp=Z,61nm,0.7s,mb5.7							
OBN	**Obninsk**	**67.98**	**329**	⇓*e*P	**P**	**15 29 24.2**		**-1.6**
OBN				*e*		15 31 54.9		
OBN				*e*SS	SS	15 42 37.8		-7.1
OBN				pmax	pmax			
	comp=Z,37nm

comp=Z,0.6nm,0.4s
JOF Joensuu 73.67 335 *e*P **P 15 29 58.8 -1.1**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
APA Apatity 74.80 340⇑*i*P **P 15 30 05.8 -0.5**
APA *i* 15 30 19.2
APA pmax pmax
comp=Z,13nm,1.0s,mb4.8
SUW Suwalki 74.97 325 *e*P **P 15 30 07.0 -0.6**
SUW Suwalki 74.97 325 *e*P **P 15 30 07.0 -0.6**
CRVS Cervenica-Dubn 74.98 319 *i* P **P 15 30 08.9 +1.2**
MAW Mawson 75.25 192 *e*P **P 15 30 10.9 +2.0**
comp=Z,14nm,0.8s,mb4.9
FINES FINESS Array B 75.46 333 *i* P **P 15 30 09.7 -0.5**
FINES pmax pmax
comp=Z,10.0nm,0.8s
KAF Kangasniemi 75.56 333 *e*p **P 15 30 08.2 -2.6**
comp=Z,0.4nm,0.3s
OJC Ojcow 76.28 321 *e*P **P 15 30 15.3 +0.2**
VYHS Vyhne 76.63 319 *i* P **P 15 30 17.3 +0.2**
VYHS *e*pP pP 15 30 24.7 -1.7
OKC Ostrava-Krasne 77.27 320 *e*P **P 15 30 20.8 +0.2**
OKC *e*pP pP 15 30 28.4 -1.5
MORC Moravsky Berou 77.65 320 *e*P **P 15 30 22.9 +0.3**
comp=Z,9.0nm,0.9s,mb4.7
ZST Bratislava 77.74 318 *i* P **P 15 30 23.8 +0.6**
ZST *e*pP pP 15 30 31.5 -1.0
KEV Kevo 77.82 341 *e*p **P 15 30 20.6 -2.6**
DPC Dobruska-Polom 78.50 320 *e*P **P 15 30 28.3 +0.9**
DPC *e*pP pP 15 30 36.0 -0.7
KSP Ksiaz 78.58 321 *e*P **P 15 30 28.2 +0.4**
KSP Ksiaz 78.58 321 *e*P **P 15 30 28.0 +0.2**
UPC Upice 78.72 320 *e*P **P 15 30 29.9 +1.4**
UPC *e*pP pP 15 30 37.0 -0.9
BOJS Bojanci 78.72 315 *e*P **P 15 30 28.9 +0.2**
BOJS *e*PcP PcP 15 30 39.9 +2.1
BILL Bilibino 79.27 21⇓*e*P **P 15 30 31.7 +0.5**
BILL *e*S tx 15 41 39.6
BILL pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
CEY Cerknica 79.32 316 *e*P **P 15 30 32.0 +0.1**
PRU Pruhonice 79.60 320 *e*P **P 15 30 34.1 +0.7**
PRU *e*pP pP 15 30 40.6 -2.1
PVCC Panska Ves 79.63 320 *e*P **P 15 30 34.3 +0.8**
PVCC *e*pP pP 15 30 43.1 +0.2
ROBS Robic 79.99 316 *e*P **P 15 30 35.7 +0.1**
GEC2 GERESS Array S 80.05 319 *e*P **P 15 30 36.4 +0.6**
GEC2 *e**SP sP 15 30 47.6 -0.7
GEC2 pmax pmax
comp=Z,23nm,1.0s,mb5.1
GEC2 GERESS Array S 80.05 319 *e*P **P 15 30 36.4 +0.6**
comp=Z,23nm,1.0s,mb5.1
GEC2 *e*sP sP 15 30 47.6 -0.7
KHC Kasperske Hory 80.15 319 *e*P **P 15 30 37.0 +0.7**
KHC *e*pP pP 15 30 44.6 -1.1
WET Wettzell 80.61 319 *e*P **P 15 30 39.5 +0.7**
CLL Collm 80.69 321 *e*P **P 15 30 39.0 -0.1**
CLL Collm 80.69 321 *e**PP **P 15 30 39.0 -0.1**
MOX Moxa 81.52 320 *e*P **P 15 30 44.2 +0.7**
MOX pmax pmax
comp=Z,40nm,1.8s,mb5.0
MOX Moxa 81.52 320 *e*P **P 15 30 44.2 +0.7**
comp=Z,40nm,1.8s,mb5.0
MOX Moxa 81.52 320 *i* P **P 15 30 44.2 +0.7**
comp=Z,logA/T=1.4,mb5.1
GRA1 Grafenberg Arr 81.72 319 *e*P **P 15 30 45.6 +1.0**
comp=Z,30nm,1.2s,mb5.1
GRF Grafenberg Arr 81.72 319 *e*P **P 15 30 45.6 +1.0**
GRF pmax pmax
comp=Z,30nm,1.2s,mb5.1
GRF Grafenberg Arr 81.72 319 *e*P **P 15 30 45.6 +1.0**
comp=Z,30nm,1.2s,mb5.1
CLZ Clausthal 82.36 322 *e*P **P 15 30 48.2 +0.4**
comp=Z,11nm,0.9s,mb4.8
NB2 NORSAR Subarra 82.42 331 P **P 15 30 47.3 -0.7**
comp=Z,19nm,1.2s,mb4.9,baz=93,slow=5.3
NB2 NORSAR Subarra 82.42 331 P **P 15 30 47.3 -0.7**
baz=93,slow=5.3
BFO Black Forest 83.59 318 *e*P **P 15 30 54.3 0.0**
BFO pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
BFO Black Forest 83.59 318 *e*P **P 15 30 54.3 0.0**
comp=Z,8.0nm,0.8s,mb4.9
LPG La Plagne 84.69 315 *e*P **P 15 31 00.4 +0.5**
comp=Z,25nm,0.9s,mb5.1
IMA Indian Mountai 94.80 22 *e*P **P 15 31 48.7 +1.5**
comp=Z,9.9nm,0.7s,mb5.3
MSU Marysvale 130.85 27 *e*PKP PKPdf 15 37 38.4 -3.2
WVT Waverly 139.49 2 *e*PKP PKPdf 15 37 53.5 -4.1
CPCT Cooper Cave 140.16 358 PKP PKPdf 15 37 56.3 -2.6
JCT Junction City 142.80 20 *e*PKPdf PKPdf 15 37 57.4 -6.3
LPAZ La Paz 158.77 235 *e*PKPdf PKPdf 15 38 25.9 -2.2
LPAZ *e*PKPab PKPab 15 39 01.5 +0.4

*MAN **04** 15:22:19.5,6.04N×127.30E,h141km,mb5.1,ML4.0, MS4.6*
*BJI **04** 15:22:20.7,5.56N×127.18E,h179km,mB5.0,mb4.8*
*NEIC **04** 15:22:22.6±3.8,5.63N×127.07E,h174km±36km,mb4.7/18, Error ellipse: s-maj=17.0km s-min=7.1km az=89.0*
ISC 04 15:22:18.3±0.8,**5.62N**±0.05×**127.11E**±0.07,**h146**km±5km, **n57**,σ0°**88**/66,**mb4.8**/31,**5C-2D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.56**	**327**	*e*P	**P**	**15 22 47.5**	**-1.2**
MATI				*e*S	**S**	**15 23 08.6**	**-3.4**
KCP	**Kidapawan**	**2.43**	**305**	⇑*i*P	**P**	**15 22 59.4**	**+0.4**
KCP				*i* S	**S**	**15 23 30.8**	**+0.7**
BIPH	**Bislig**	**2.65**	**344**	⇓*i*P	**P**	**15 23 00.4**	**-1.4**
BIPH				*i* S	**S**	**15 23 29.7**	**-5.3**
BUKP	**Musuan**	**3.03**	**318**	*e*P	**P**	**15 23 06.6**	**0.0**
BUKP				*e*S	**S**	**15 23 43.9**	**+0.5**
BUTP	**Butuan**	**3.64**	**336**	*e*S	**S**	**15 23 58.9**	**+1.2**
CGP	**Cagayan de Oro**	**3.70**	**320**	⇑*e*P	**P**	**15 23 16.8**	**+1.4**
PAGZ	**Pagadian**	**4.31**	**301**	*e*P	**P**	**15 23 23.2**	**-0.2**
SCPH	**Surigao**	**4.43**	**339**	*e*P	**P**	**15 23 26.0**	**+0.9**
SCPH				*e*S	**S**	**15 24 01.9**	**-15**
SCPH	**Surigao**	**4.43**	**339**	*e*P	**P**	**15 23 26.0**	**+0.9**
SCPH				*e*S	**S**	**15 24 01.9**	**-15**
DCPH	**Dipolog City**	**4.75**	**309**	⇑*e*P	**P**	**15 23 29.5**	**+0.3**
IPIL	**Ipil**	**4.99**	**296**	*e*P	**P**	**15 23 33.0**	**+0.6**
IPIL				*e*S	**S**	**15 24 29.6**	**-0.2**
MSLP	**Maasin**	**5.01**	**334**	*e*P	**P**	**15 23 34.1**	**+1.5**
TBP	**Tagbilaran**	**5.17**	**322**	*e*P	**P**	**15 23 34.1**	**-0.7**
TBP				*e*S	**S**	**15 24 31.8**	**-2.1**
MBWA	**Marble Bar**	**27.58**	**195**	*e*P	**P**	**15 27 52.6**	**-1.4**
	16nm,0.9s,mb4.7						
ENH	**Enshi**	**29.61**	**328**	*e*P	**P**	**15 28 11.8**	**-0.3**
	15nm,0.7s,mb4.8						
CM31	**Chiang Mai Arr**	**30.29**	**297**	⇓*e*P	**P**	**15 28 17.6**	**-0.7**
	6.1nm,0.6s,mb4.5						
XAN	**Xi'an**	**32.92**	**332**	P	**P**	**15 28 40.7**	**-0.3**
XAN				AMB	AMB		
	comp=Z,51nm,0.8s,mb5.3						
BJT	**Baijiatuau**	**35.63**	**346**	*e*P	**P**	**15 29 03.9**	**0.0**
	comp=Z,16nm,0.8s,mb4.7						
LZH	**Lanzhou**	**37.09**	**328**	⇑P	**P**	**15 29 17.2**	**+1.0**
LZH				AMB	AMB		
	comp=Z,39nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,102nm,5.4s						
KLBR	**Kellerberrin**	**38.06**	**193**	*e*P	**P**	**15 29 24.4**	**0.0**
	comp=Z,23nm,0.8s,mb4.8						
MUN	**Mundaring**	**38.80**	**195**	*e*P	**P**	**15 29 30.7**	**+0.2**
	comp=Z,17nm,0.5s,mb4.9						
MDJ	**Mudanjiang**	**38.90**	**3**	*e*P	**P**	**15 29 30.7**	**-0.5**
	comp=Z,15nm,0.9s,mb4.6						
NWAO	**Narrogin (SRO)**	**39.47**	**193**	⇑*e*P	**P**	**15 29 36.3**	**+0.4**
	comp=Z,44nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**39.76**	**161**	*e*P	**P**	**15 29 38.4**	**0.0**
HIA	**Hailar**	**43.94**	**353**	*e*P	**P**	**15 30 12.6**	**+0.4**
	comp=Z,4.3nm,0.9s,mb4.1						
JIRN	**Jiri**	**44.60**	**304**	*e*P	**P**	**15 30 17.9**	**0.0**
	comp=Z,77nm,0.8s,mb5.4						
GUN	**Gumba**	**44.95**	**304**	*e*P	**P**	**15 30 20.8**	**+0.2**
	comp=Z,81nm,0.8s,mb5.4						
PKI	**Pulchoki**	**45.21**	**304**	*e*P	**P**	**15 30 22.3**	**-0.4**
	comp=Z,41nm,1.1s,mb5.0						
KKN	**Kakani**	**45.40**	**304**	*e*P	**P**	**15 30 23.7**	**-0.5**
	comp=Z,56nm,1.0s,mb5.2						
DMN	**Daman**	**45.48**	**304**	*e*P	**P**	**15 30 23.8**	**-1.0**
	comp=Z,44nm,1.0s,mb5.1						
GKN	**Gorkha**	**46.01**	**304**	*e*P	**P**	**15 30 28.4**	**-0.6**
	comp=Z,37nm,1.0s,mb5.0						
KOLN	**Koldanda**	**46.78**	**303**	*e*P	**P**	**15 30 34.8**	**-0.3**
	comp=Z,84nm,0.8s,mb5.4						
WMQ	**Urumqi**	**51.41**	**324**	*e*P	**P**	**15 31 10.8**	**+0.4**
WMQ				AP	pP	15 31 50.3	+6.2
WMQ				S	**S**	**15 38 15.2**	**-1.9**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,40nm,5.9s						
NDI	**New Delhi**	**52.42**	**302**	*e*	**P**	**15 31 13.5**	**-4.6**
YAK	**Yakutsk**	**56.32**	**1**	*e*P	**P**	**15 31 44.3**	**-1.8**
	comp=Z,40nm,0.8s,mb5.3						
YAK				*e*	pP	15 32 21.9	+1.6
ULHL	**Ulahol**	**57.89**	**317**	P	**P**	**15 31 57.3**	**+0.1**
	SNR=8.5						
KZA	**Kyzart**	**58.49**	**317**	P	**P**	**15 32 02.8**	**+1.3**
	SNR=16						
TKM2	**Tokmak 2**	**58.60**	**318**	P	**P**	**15 32 02.6**	**+0.4**
	SNR=12						
KBK	**Karagaybulak**	**58.93**	**317**	P	**P**	**15 32 04.9**	**+0.3**
	SNR=12						
UCH	**Uchtor**	**59.06**	**317**	P	**P**	**15 32 06.8**	**+1.4**
	SNR=13						
CHMS	**Chumysh**	**59.20**	**317**	P	**P**	**15 32 05.9**	**-0.5**
	SNR=7.5						
AAK	**Ala-Archa**	**59.23**	**317**	P	**P**	**15 32 07.1**	**+0.5**
	SNR=5.6						
AAK	**Ala-Archa**	**59.23**	**317**	*e*P	**P**	**15 32 04.8**	**-1.8**
	comp=Z,8.4nm,1.0s,mb4.5						
USP	**Ospenovka**	**59.47**	**318**	P	**P**	**15 32 07.8**	**-0.5**
	SNR=19						
AML	**Almayashu**	**59.58**	**316**	P	**P**	**15 32 09.6**	**+0.6**
	SNR=16						
EKS2	**Erkin-Say**	**59.73**	**317**	P	**P**	**15 32 10.7**	**+0.7**
	SNR=20						
IMA	**Indian Mountai**	**80.51**	**24**	*e*P	**P**	**15 34 16.0**	**+0.8**
	comp=Z,43nm,0.9s,mb5.1						
SPU	**Mount Spurr**	**80.68**	**29**	*e*P	**P**	**15 34 16.5**	**+0.3**
MCK	**McKinley**	**82.31**	**27**	*e*P	**P**	**15 34 24.0**	**-0.7**
	comp=Z,10nm,0.8s,mb4.5						
COLA	**College**	**82.84**	**25**	*e*P	**P**	**15 34 26.8**	**-0.6**
	comp=Z,9.3nm,0.9s,mb4.5						
DIV	**Divide**	**83.72**	**29**	*e*P	**P**	**15 34 32.4**	**+0.5**
	comp=Z,81nm,0.8s,mb5.5						
VNDA	**Vanda**	**85.24**	**173**	*e*P	**P**	**15 34 39.1**	**0.0**
	comp=Z,12nm,1.1s,mb4.5						
MAW	**Mawson**	**85.65**	**200**	*e*P	**P**	**15 34 41.2**	**0.0**
	comp=Z,20nm,1.2s,mb4.7						
JOF	**Joensuu**	**87.68**	**333**	*e*p	**P**	**15 34 49.5**	**-1.6**
	comp=Z,0.7nm,0.5s,mb3.8						
KEV	**Kevo**	**88.25**	**340**	*e*p	**P**	**15 34 54.2**	**+0.4**
	comp=Z,0.3nm,0.3s,mb3.6						
KMBO	**Kilima Mbogo**	**89.96**	**269**	*e*P	**P**	**15 35 04.0**	**+0.9**
	comp=Z,9.9nm,1.2s,mb4.6						
KAF	**Kangasniemi**	**90.11**	**332**	*e*p	**P**	**15 35 04.8**	**+2.2**
	comp=Z,0.7nm,0.4s,mb3.9						

*JMA **04** 15:25:22.8±0.3,25.01N×121.81E,h73km,M2.9*
*TAP **04** 15:25:23.1,24.55N×121.62E,h64km,ML3.8*
TAP Felt I J at Nioudou, II J at Nanau, I J at Nanshan, I J at Sanguang, I J at Hehuanshan, I J at Kuangyinshan, I J at Shilin.
ISC 04 15:25:22.7±0.4,**24.52N**±0.02×**121.68E**±0.02,**h66**km±4km, **n56**,σ0°**85**/103,**5C-11D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.11**	**149**	⇓*i*P	**P**	**15 25 32.6**	**+0.1**
ENA				S	**S**	**15 25 39.8**	**+0.1**
ENTT	**Nioudou**	**0.15**	**319**	⇓*i*P	**P**	**15 25 33.1**	**+0.5**
ENTT				S	**S**	**15 25 39.7**	**-0.2**
TWC	**Suao**	**0.18**	**62**	⇓*i*P	**P**	**15 25 33.4**	**+0.6**
TWC				S	**S**	**15 25 40.7**	**+0.6**
TWE	**Neicheng**	**0.20**	**357**	⇓*i*P	**P**	**15 25 33.5**	**+0.6**
TWE				S	**S**	**15 25 40.7**	**+0.4**
ILA	**Ilan**	**0.25**	**15**	P	**P**	**15 25 33.9**	**+0.7**
ILA				S	**S**	**15 25 41.4**	**+0.5**
NNS	**Nan Shan**	**0.29**	**253**	⇓*i*P	**P**	**15 25 34.0**	**+0.5**
NNS				S	**S**	**15 25 41.4**	**0.0**
NSK	**Sanguang**	**0.33**	**297**	⇓*i*P	**P**	**15 25 33.7**	**0.0**
NSK				S	**S**	**15 25 41.2**	**-0.7**
TWD	**Chiawan**	**0.45**	**190**	*e*P	**P**	**15 25 34.0**	**-0.7**
TWD				S	**S**	**15 25 42.2**	**-1.5**
TWA	**Mucha**	**0.46**	**349**	⇑P	**P**	**15 25 35.0**	**+0.1**
TWA				S	**S**	**15 25 43.6**	**-0.2**
TAP1	**Taipei**	**0.53**	**345**	*e*P	**P**	**15 25 35.5**	**-0.1**
TAP1				S	**S**	**15 25 44.5**	**-0.6**
TWT	**Tachien**	**0.53**	**240**	⇓P	**P**	**15 25 36.5**	**+0.9**
TWT				S	**S**	**15 25 45.6**	**+0.5**
WHF	**Hehuan Shan**	**0.53**	**225**	*i* P	**P**	**15 25 36.3**	**+0.7**
WHF				S	**S**	**15 25 45.4**	**+0.3**
TAP	**Taipei**	**0.54**	**343**	*e*P	**P**	**15 25 35.6**	**-0.1**
TAP				S	**S**	**15 25 44.7**	**-0.4**
HWA	**Hwalien**	**0.55**	**187**	⇑P	**P**	**15 25 35.3**	**-0.6**
HWA				S	**S**	**15 25 44.8**	**-0.6**
NWF	**Wu-fen Shan**	**0.55**	**10**	⇑P	**P**	**15 25 36.3**	**+0.4**
NWF				S	**S**	**15 25 45.5**	**0.0**
TWB1	**Santiao Chiao**	**0.56**	**30**	*i* P	**P**	**15 25 36.6**	**+0.7**
TWB1				S	**S**	**15 25 45.9**	**+0.3**
TWS1	**Kuangyinshan**	**0.62**	**338**	⇓*i*P	**P**	**15 25 36.8**	**+0.2**
TWS1				S	**S**	**15 25 46.9**	**+0.1**
NSTT	**Nanjuang**	**0.62**	**280**	⇓*i*P	**P**	**15 25 36.4**	**-0.2**
NSTT				S	**S**	**15 25 46.3**	**-0.6**
NCU	**National Centr**	**0.63**	**315**	⇓*i*P	**P**	**15 25 36.8**	**+0.1**
NCU				S	**S**	**15 25 46.9**	**-0.1**
HSN	**Hsinchu**	**0.70**	**293**	⇓*i*P	**P**	**15 25 37.3**	**-0.2**
HSN				S	**S**	**15 25 47.6**	**-0.9**
ESL	**Shilin**	**0.74**	**198**	*e*P	**P**	**15 25 36.6**	**-1.3**
ESL				S	**S**	**15 25 47.4**	**-1.9**
TWY	**Chenhua**	**0.75**	**355**	⇑P	**P**	**15 25 38.4**	**+0.3**
TWY				S	**S**	**15 25 49.4**	**-0.1**
NSY	**Sanyi**	**0.84**	**263**	P	**P**	**15 25 39.5**	**+0.3**
NSY				S	**S**	**15 25 51.5**	**+0.1**
TWQ1	**Liyutan**	**0.84**	**258**	P	**P**	**15 25 39.3**	**+0.1**
TWQ1				S	**S**	**15 25 50.9**	**-0.5**
SMLT	**Sun Moon Lake**	**0.95**	**228**	*e*P	**P**	**15 25 41.3**	**+0.6**
SMLT				S	**S**	**15 25 54.7**	**+0.7**
TYC	**Yuchr**	**0.97**	**231**	⇑*i*P	**P**	**15 25 41.2**	**+0.4**
TYC				S	**S**	**15 25 54.6**	**+0.2**
EHY	**Hungye**	**1.06**	**198**	*e*P	**P**	**15 25 40.1**	**-2.0**
WNT	**Mingjian**	**1.11**	**235**	*e*P	**P**	**15 25 42.5**	**-0.2**
WNT				S	**S**	**15 25 57.7**	**0.0**
YOJ	**Yonaguni jima**	**1.22**	**93**	P	**P**	**15 25 44.5**	**+0.3**
YOJ				S	**S**	**15 26 00.6**	**+0.5**
TWF1	**Yuli**	**1.22**	**197**	*e*P	**P**	**15 25 42.1**	**-2.1**
YUS	**Yu-Shan**	**1.23**	**213**	*e*P	**P**	**15 25 45.0**	**+0.7**
YUS				S	**S**	**15 26 01.0**	**+0.6**
ALS	**Alishan**	**1.29**	**219**	*e*P	**P**	**15 25 45.8**	**+0.7**
ALS				S	**S**	**15 26 02.9**	**+1.1**
CHN5	**Tsauling**	**1.30**	**225**	*e*P	**P**	**15 25 45.6**	**+0.2**
CHN5				S	**S**	**15 26 02.4**	**+0.3**
WGK	**Gukeng**	**1.32**	**231**	*e*P	**P**	**15 25 45.8**	**+0.1**
WGK				S	**S**	**15 26 02.8**	**+0.1**
WTCT	**Ta-ch'eng**	**1.44**	**243**	*e*P	**P**	**15 25 46.3**	**-0.9**
WTCT				S	**S**	**15 26 04.2**	**-1.1**
CHKT	**Chengkung**	**1.45**	**191**	*e*P	**P**	**15 25 46.2**	**-1.2**
CHKT				S	**S**	**15 26 04.3**	**-1.3**
ELDTW	**Lidau**	**1.46**	**205**	*e*P	**P**	**15 25 46.4**	**-1.2**
CHN4	**Tsaushan**	**1.53**	**221**	*e*P	**P**	**15 25 48.8**	**+0.3**
CHN4				S	**S**	**15 26 09.3**	**+1.7**
STYT	**Tauyuan**	**1.60**	**212**	*e*P	**P**	**15 25 50.0**	**+0.6**
STYT				S	**S**	**15 26 09.7**	**+0.6**
WSF	**Szhu**	**1.60**	**237**	*e*P	**P**	**15 25 48.9**	**-0.6**
WSF				S	**S**	**15 26 08.6**	**-0.5**
WTP	**Ta-pu**	**1.60**	**218**	*e*P	**P**	**15 25 49.6**	**+0.1**
WTP				S	**S**	**15 26 10.7**	**+1.4**
TWK	**Hsinying**	**1.66**	**221**	*e*P	**P**	**15 25 50.2**	**0.0**
TWK				S	**S**	**15 26 13.9**	**+3.3**
CHN1	**Nanshi**	**1.70**	**219**	*e*P	**P**	**15 25 50.9**	**+0.1**
CHN1				S	**S**	**15 26 13.8**	**+2.2**
SGST	**Jiashian**	**1.75**	**215**	*e*P	**P**	**15 25 51.9**	**+0.4**
SGST				S	**S**	**15 26 15.1**	**+2.3**
TWG	**Pinlang**	**1.78**	**198**	*e*P	**P**	**15 25 49.8**	**-2.2**
TWG				S	**S**	**15 26 10.7**	**-2.9**
IRIF	**Iriomote-Funau**	**1.88**	**95**	P	**P**	**15 25 52.9**	**-0.4**
IRIF				S	**S**	**15 26 15.9**	**+0.1**
HATJ	**Hateruma jima**	**2.00**	**103**	P	**P**	**15 25 56.1**	**+1.2**
HATJ				*e*S	**S**	**15 26 19.9**	**+1.3**
SSD	**Sandimen**	**2.01**	**209**	*e*P	**P**	**15 25 55.6**	**+0.5**
SSD				S	**S**	**15 26 20.2**	**+1.1**
ECL	**Taimali**	**2.03**	**199**	*e*P	**P**	**15 25 53.2**	**-2.2**
JKRS	**Kuro-shima**	**2.15**	**97**	P	**P**	**15 25 57.2**	**+0.2**
JKRS				S	**S**	**15 26 23.1**	**+0.7**
PNG	**Penghu**	**2.16**	**244**	*e*P	**P**	**15 25 56.7**	**-0.5**
JIJ	**Ishigaki jima**	**2.25**	**94**	P	**P**	**15 25 58.3**	**-0.2**
JIJ				S	**S**	**15 26 24.4**	**-0.7**
EAST	**Anshuo**	**2.26**	**200**	*e*P	**P**	**15 25 58.5**	**-0.2**
SCZT	**Fangliau**	**2.35**	**205**	*e*P	**P**	**15 26 00.2**	**+0.3**
JTJ	**Tarama**	**2.76**	**87**	*e*S	**S**	**15 26 36.4**	**-1.4**
KNM	**Kinmen**	**2.96**	**269**	*e*P	**P**	**15 26 07.4**	**-1.1**

DJA 04 16:00:14.8±0.8,**8.68S**×**115.70E,h45**km±7km,**MD5.3**/4, **ML3.8**/2,**5C-3D,Error ellipse: s-maj=31.9km s-min=6.9km az=170.0,Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.17**	**255**	⇓*i*Pn	P	16 00 22.0	-0.3
	1μm,0.2s						
RATI				⇑*i*Sn	S	16 00 27.6	-0.1
KEDI	**Kedomdong**	**0.45**	**65**	⇓*i*Pn	P	16 00 24.8	-0.3
	394nm,0.2s						
KEDI				⇑*i*Sn	S	16 00 30.5	-1.9
KELI	**Kelakatan**	**1.28**	**291**	⇓*i*Pn	P	16 00 35.4	-1.2
	59nm,0.2s						
KELI				⇑*i*Sn	S	16 00 51.3	-1.6
SRDI	**Scrawed**	**1.56**	**277**	⇑*i*Pn	P	16 00 39.3	-1.2
	125nm,0.2s						
SRDI				⇑*i*Sn	S	16 00 57.6	-2.1

TAP 04 16:03:26.9,21.02N×**121.95E,h170**km**,ML3.8,Taiwan region**

DJA 04 16:07:46.2±1.0,**8.83S**×**112.71E,h2**km**,MD5.1**/4,**ML4.1**/4, **3D,Error ellipse: s-maj=40.7km s-min=20.8km az=165.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.46**	**76**	⇓*i*Pn	Pn	16 08 10.8	-2.8
	118nm,0.3s						
SRDI				⇓*i*Sn	Sn	16 08 27.7	-5.8
KELI	**Kelakatan**	**1.86**	**71**	*e*Pn	Pn	16 08 16.2	-3.2
	118nm,0.3s						
KELI				⇓*e*Sn	Sn	16 08 38.9	-4.9
RATI	**Rata**	**2.79**	**88**	*e*Pn	Pn	16 08 28.9	-3.8
	266nm,0.5s						
RATI				*e*Sn	Sn	16 09 01.7	-5.7
KEDI	**Kedomdong**	**3.38**	**85**	*e*Pn	Pn	16 08 38.3	-2.8
	30nm,0.4s						

*CSEM **04** 16:10:27.1±0.5,27.99N×17.42W,h27km±6km,mb3.6/6, Error ellipse: s-maj=5.0km s-min=2.5km az=165.0,After MDD*
MDD 04 16:10:27.2±0.5,**28.00N**×**17.42W,h26**km±6km,**mb3.0**/3, **mbLg2.4**/5,**1D,Error ellipse: s-maj=5.1km s-min=2.6km az=168.0,PRXIMO TT-MODEL: CANARY,Canary Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGOM	**La Gomera**	**0.25**	**49**	⇓P	Pb	16 10 33.1	-0.4
	26nm,0.1s,SNR=18						
EGOM				S	Sb	16 10 36.9	-1.0
EGOM	**La Gomera**	**0.25**	**49**	P	Pb	16 10 33.1	-0.5
	170nm,0.1s,SNR=7.9						
EGOM				S	Sb	16 10 36.9	-1.0
	16nm,0.0s,SNR=18						
EGOM				S	Sb	16 10 36.9	-1.0
	170nm,0.1s,SNR=7.9						
CHIE	**El Hierro**	**0.55**	**241**	P	Pb	16 10 36.5	-1.7
	3.4nm,0.2s,SNR=5.0						
CHIE				S	Sb	16 10 43.7	-2.0
	18nm,0.1s,SNR=7.9						
CHIE	**El Hierro**	**0.55**	**241**	P	Pb	16 10 36.5	-1.7
	3.9nm,0.2s,SNR=7.9						
CHIE				S	Sb	16 10 43.8	-1.9
	16nm,0.1s,SNR=7.9						
CHIO	**Chio**	**0.59**	**66**	P	Pb	16 10 37.8	-1.1
	24nm,0.2s,SNR=7.9						
CHIO				S	Sb	16 10 45.2	-1.6
	33nm,0.1s,SNR=7.9						
CHIO	**Chio**	**0.59**	**66**	P	Pb	16 10 37.0	-1.9
	7.4nm,0.1s,SNR=7.9						
CHIO				S	Sb	16 10 45.2	-1.6
	14nm,0.1s,SNR=7.9						
EHIG	**Higuera**	**0.65**	**329**	P	Pb	16 10 39.6	-0.3
	19nm,0.1s,SNR=7.9						
EHIG				S	Sb	16 10 46.0	-2.7
	84nm,0.1s,SNR=7.9						
EHIG	**Higuera**	**0.65**	**329**	P	Pb	16 10 39.6	-0.3
	19nm,0.1s,SNR=7.9						
EHIG				S	Sb	16 10 46.1	-2.5
	28nm,0.1s,SNR=7.9						
CCAN	**Las Canadas**	**0.76**	**73**	P	Pb	16 10 40.0	-1.7
	1.4nm,0.2s,SNR=7.9						
CCAN				S	Sb	16 10 48.0	-3.6
	1.8nm,0.1s,SNR=7.9						
TBT	**Taburiente**	**0.81**	**328**	P	Pb	16 10 39.8	-2.7
	SNR=7.9						
TBT				S	Sb	16 10 46.7	-6.3
	SNR=7.9						
EBAJ	**Bajamar**	**1.09**	**60**	P	Pn	16 10 44.9	-2.2
	1.3nm,0.1s,SNR=4.0						
EBAJ				S	Sb	16 10 57.4	-4.0
	6.7nm,0.2s,SNR=7.9						
EBAJ	**Bajamar**	**1.09**	**60**	P	Pn	16 10 44.1	-3.0
	1.4nm,0.2s,SNR=4.0						

*NIED **04** 16:43:00,36.10N×139.60E,h101km,Mw3.7 Best double couple: $M_0$3.79×10^14 NP1:ϕ_s12°,δ63°,λ103°. NP2:ϕ_s164°, δ30°,λ66°.*
JMA 04 16:43:33.2±0.1,**36.11N**×**139.68E,h85**km±1km,**M3.7, 5C-3D Broadband fault plane solution: P waves. NP1:**ϕ_s201°,δ38°,λ105°. **NP2:**ϕ_s3°,δ54°,λ79°. **Principal axes:** T Plg78°, Azm232°; N Plg9°, Azm10°; P Plg8°, Azm101°; **Eastern Honshu**

| Code | Station Name | Δ° | AZ° | Phase

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.29**	**321**	P	P	16 47 36.1	-0.5
EMIJ				S	S	16 47 43.8	-0.8
EMIJ	**Mijas**	**0.29**	**321**	⇑P	P	16 47 36.1	-0.5
	73nm,0.1s,SNR=131						
EMIJ				S	S	16 47 43.6	-0.9
	166nm,0.2s						
EMIJ	**Mijas**	**0.29**	**321**	P	P	16 47 36.1	-0.5
	73nm,0.1s,SNR=131						
EMIJ				S	S	16 47 43.8	-0.7
	108nm,0.3s						
EMAL	**Malaga-Limoner**	**0.44**	**12**	⇑P	P	16 47 37.2	-0.5
EMAL				S	S	16 47 45.5	-1.1
EMAL	**Malaga-Limoner**	**0.44**	**12**	⇑P	P	16 47 37.2	-0.5
	41nm,0.1s,SNR=18						
EMAL				S	S	16 47 45.6	-0.9
	68nm,0.2s,SNR=7.9						
EMAL	**Malaga-Limoner**	**0.44**	**12**	P	P	16 47 37.2	-0.5
	41nm,0.1s,SNR=18						
EMAL				S	S	16 47 45.5	-1.1
	68nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.75**	**279**	S	S	16 47 51.3	-1.4
	1.7nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**0.87**	**21**	P	P	16 47 42.2	-0.4
ELOJ				S	S	16 47 55.1	-0.1
ELOJ	**Sierra Loja**	**0.87**	**21**	P	P	16 47 42.3	-0.3
	11nm,0.2s,SNR=9.5						
ELOJ				S	S	16 47 54.9	-0.3
	34nm,0.4s,SNR=10						
ELOJ	**Sierra Loja**	**0.87**	**21**	P	P	16 47 42.2	-0.4
	6.1nm,0.1s,SNR=9.5						
ELOJ				S	S	16 47 55.1	0.0
	26nm,0.3s,SNR=10						
LIJA	**Lijar**	**0.90**	**310**	P	P	16 47 43.6	+0.7
LIJA				S	S	16 47 54.9	-0.8
LIJA	**Lijar**	**0.90**	**310**	*i* P	P	16 47 43.7	+0.8
LIJA				*e*S	S	16 47 54.9	-0.8
ERON	**Agron**	**0.91**	**41**	P	P	16 47 42.8	-0.2
ERON				S	S	16 47 55.2	-0.7
ERON	**Agron**	**0.91**	**41**	P	P	16 47 42.8	-0.3
	6.5nm,0.1s,SNR=10						
ERON				S	S	16 47 55.4	-0.5
	18nm,0.4s						
ERON	**Agron**	**0.91**	**41**	P	P	16 47 42.8	-0.3
	4.5nm,0.1s,SNR=10						
ERON				S	S	16 47 55.2	-0.7
	19nm,0.3s						
ESPR	**Espera**	**1.18**	**297**	P	P	16 47 46.7	0.0
ESPR				S	S	16 48 00.3	-2.1
ESPR	**Espera**	**1.18**	**297**	⇓P	P	16 47 46.7	0.0
	4.6nm,0.1s,SNR=18						
ESPR				S	S	16 48 00.6	-1.8
	151nm,0.2s						
ESPR	**Espera**	**1.18**	**297**	P	P	16 47 46.7	0.0
	2.5nm,0.1s,SNR=16						
ESPR				S	S	16 48 00.3	-2.1
	57nm,0.3s						
CNIL	**Conil**	**1.22**	**272**	*e*S	S	16 48 06.0	+2.8
ELUQ	**Luque**	**1.24**	**10**	P	P	16 47 46.9	-0.7
ELUQ				S	S	16 48 02.4	-1.4
ELUQ	**Luque**	**1.24**	**10**	⇑P	P	16 47 47.0	-0.6
	9.3nm,0.1s,SNR=18						
ELUQ				S	S	16 48 02.2	-1.6
	62nm,0.2s,SNR=16						
ELUQ	**Luque**	**1.24**	**10**	P	P	16 47 46.9	-0.7
	12nm,0.2s,SNR=7.9						
ELUQ				S	S	16 48 02.4	-1.4
	60nm,0.2s,SNR=16						
EBER	**Berja**	**1.45**	**67**	P	P	16 47 48.6	-1.8
EBER				S	S	16 48 06.4	-2.2
EBER	**Berja**	**1.45**	**67**	P	P	16 47 48.5	-1.9
	2.0nm,0.1s,SNR=11						
EBER				S	S	16 48 05.2	-3.4
	26nm,0.4s						
EBER	**Berja**	**1.45**	**67**	P	P	16 47 48.6	-1.8
	1.8nm,0.1s,SNR=11						
EMEL	**Melilla**	**1.65**	**128**	P	P	16 47 51.3	-1.9
	57nm,0.1s,SNR=7.9						
EMEL				S	S	16 48 10.5	-3.0
	94nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**1.83**	**359**	P	P	16 47 54.2	-1.4
EADA				S	S	16 48 14.6	-3.0
EADA	**Adamuz**	**1.83**	**359**	P	P	16 47 54.2	-1.5
	11nm,0.2s,SNR=47						
EADA				S	S	16 48 14.5	-3.2
	48nm,0.1s						
EADA	**Adamuz**	**1.83**	**359**	P	P	16 47 54.2	-1.4
	11nm,0.2s,SNR=47						
EADA				S	S	16 48 14.6	-3.0
	23nm,0.2s						
EQES	**Quesada**	**1.88**	**38**	P	P	16 47 55.3	-1.1
EQES				S	S	16 48 16.6	-2.3
EQES	**Quesada**	**1.88**	**38**	P	P	16 47 55.4	-0.9
	1.6nm,0.1s,SNR=7.9						
EQES				S	S	16 48 16.7	-2.1
	13nm,0.2s,SNR=7.1						
EQES	**Quesada**	**1.88**	**38**	P	P	16 47 55.3	-1.0
	1.6nm,0.1s,SNR=7.9						
EQES				S	S	16 48 16.6	-2.3
	10nm,0.3s,SNR=7.1						
ENIJ	**Nijar**	**1.98**	**71**	S	S	16 48 19.3	-2.1
	9.0nm,0.2s,SNR=7.9						
ZAI	**Zaio**	**2.00**	**132**	*i* P	P	16 48 00.5	+2.5
ZAI				*i* S	S	16 48 28.0	+6.2
EMIN	**Mina Concepcio**	**2.22**	**311**	P	P	16 47 59.0	-2.1
EMIN				S	S	16 48 23.5	-3.8
EMIN	**Mina Concepcio**	**2.22**	**311**	⇑P	P	16 47 59.0	-2.1
	9.1nm,0.1s,SNR=18						
EMIN				S	S	16 48 23.4	-4.0
	32nm,0.2s						
EMIN	**Mina Concepcio**	**2.22**	**311**	P	P	16 47 59.0	-2.1
	1.5nm,0.0s,SNR=32						
EMIN				S	S	16 48 23.5	-3.9
	20nm,0.2s						
PALC	**Alcoutim**	**2.61**	**297**	*e*S	S	16 48 33.5	-3.5
	41nm,0.1s						
PALC	**Alcoutim**	**2.61**	**297**	S	S	16 48 33.5	-3.5
	20nm,0.1s						
EGRO	**El Granado**	**2.64**	**298**	P	P	16 48 05.0	-2.0
EGRO				S	S	16 48 33.6	-4.3
EGRO	**El Granado**	**2.64**	**298**	P	P	16 48 05.0	-2.0
	16nm,0.1s,SNR=7.9						
EGRO				S	S	16 48 33.7	-4.2
	67nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.64**	**298**	P	P	16 48 05.0	-2.0
	3.6nm,0.1s,SNR=7.9						
EGRO				S	S	16 48 33.7	-4.2
EVIA	**Vianos**	**2.82**	**35**	P	P	16 48 08.9	-0.6
EVIA				S	S	16 48 37.3	-5.1
EVIA	**Vianos**	**2.82**	**35**	P	P	16 48 09.0	-0.5
	0.7nm,0.1s,SNR=7.9						
EVIA				S	S	16 48 36.3	-6.0
	5.2nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**2.82**	**35**	P	P	16 48 08.9	-0.6
	0.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.11**	**322**	P	P	16 48 11.5	-2.1
EBAD				S	S	16 48 44.4	-5.4
EBAD	**Badajoz**	**3.11**	**322**	P	P	16 48 11.5	-2.2
	7.4nm,0.1s,SNR=20						
EBAD				S	S	16 48 44.8	-5.0
	60nm,0.3s						
EBAD	**Badajoz**	**3.11**	**322**	P	P	16 48 11.5	-2.2
	6.6nm,0.1s,SNR=20						
EBAD				S	S	16 48 44.4	-5.4
	11nm,0.2s						
PBEJ	**Beja**	**3.14**	**303**	*e*P	P	16 48 12.1	-2.0
PBEJ				*e*S	S	16 48 45.7	-4.9
	16nm,0.1s						
PBEJ	**Beja**	**3.14**	**303**	P	P	16 48 12.0	-2.1
PBEJ				S	S	16 48 45.6	-5.0
PBEJ	**Beja**	**3.14**	**303**	*e*P	P	16 48 12.1	-2.0
PBEJ				*e*S	S	16 48 45.7	-4.9
	16nm,0.1s						
ESDC	**Sonseca Array**	**3.37**	**8**	P	P	16 48 15.4	-1.8
	0.4nm,0.2s,baz=192,slow=12,SNR=4.9						
ESDC				S	S	16 48 50.6	-5.5
	0.9nm,0.3s,baz=192,slow=24,SNR=4.6						
ESDC	**Sonseca Array**	**3.37**	**8**	P	P	16 48 15.4	-1.8
	0.4nm,0.2s,SNR=4.9						
ESDC				S	S	16 48 50.6	-5.6
	0.9nm,0.3s,SNR=4.6						
EVO	**Evora**	**3.52**	**310**	*e*Pn	P	16 48 17.8	-1.6
EVO				*e*Sn	S	16 48 55.9	-4.3
	32nm,0.3s						
PTEO	**Sao Teotonio**	**3.56**	**291**	*e*P	P	16 48 18.1	-1.8
PTEO				*e*S	S	16 48 56.9	-4.1
	18nm,0.2s						
PTEO	**Sao Teotonio**	**3.56**	**291**	P	P	16 48 18.1	-1.8
PTEO				S	S	16 48 56.3	-4.7
PTEO	**Sao Teotonio**	**3.56**	**291**	P	P	16 48 18.1	-1.8
PTEO				*e*S	S	16 48 56.9	-4.1
	18nm,0.2s						
MOE	**Montemor**	**3.73**	**307**	*e*S	S	16 49 00.0	-5.4
PCBR	**Castelo Branco**	**4.20**	**327**	*e*P	P	16 48 26.4	-2.4
PCBR				*e*S	S	16 49 10.1	-6.9
	10nm,0.1s						
PCBR	**Castelo Branco**	**4.20**	**327**	P	P	16 48 26.4	-2.4
PCBR				S	S	16 49 09.8	-7.1
PCBR	**Castelo Branco**	**4.20**	**327**	P	P	16 48 26.4	-2.4
PCBR				*e*S	S	16 49 10.1	-6.9
	10nm,0.1s						
GUD	**Guadarrama**	**4.31**	**4**	P	P	16 48 28.2	-2.2
GUD				S	S	16 49 12.5	-7.4
GUD	**Guadarrama**	**4.31**	**4**	P	P	16 48 28.4	-2.1
	1.3nm,0.2s,SNR=7.9						
GUD				S	S	16 49 12.7	-7.2
	1.7nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**4.31**	**4**	P	P	16 48 28.2	-2.2
	1.0nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**4.69**	**331**	*e*S	S	16 49 23.4	-6.0
	8.3nm,0.3s						
MTE	**Manteigas**	**4.69**	**331**	S	S	16 49 23.4	-6.0
	4.2nm,0.3s						
EMOS	**Mosqueruela**	**5.14**	**37**	P	P	16 48 39.7	-2.2
EMOS				S	S	16 49 32.9	-7.7
EMOS	**Mosqueruela**	**5.14**	**37**	P	P	16 48 39.7	-2.2
	0.6nm,0.2s,SNR=7.9						
EMOS				S	S	16 49 31.8	-8.8
	6.4nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**5.39**	**58**	S	S	16 49 39.8	-6.9
	0.2nm,0.3s,SNR=4.0						
PVRL	**Vila Real**	**5.52**	**334**	S	S	16 49 41.9	-8.2
PBRG	**Braganca**	**5.72**	**343**	*e*P	P	16 48 47.8	-2.2
PBRG				*e*S	S	16 49 46.3	-8.8
	6.7nm,0.1s						
PBRG	**Braganca**	**5.72**	**343**	P	P	16 48 47.8	-2.2
PBRG				S	S	16 49 46.3	-8.8
PBRG	**Braganca**	**5.72**	**343**	P	P	16 48 47.8	-2.2
PBRG				S	S	16 49 46.3	-8.8
	3.3nm,0.1s						
ECAL	**Calabor**	**5.85**	**344**	P	P	16 48 49.8	-1.9
	1.2nm,0.2s,SNR=7.9						
ECAL				S	S	16 49 49.4	-8.9
	4.9nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.85**	**344**	P	P	16 48 49.8	-2.0
	0.3nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**5.99**	**38**	P	P	16 48 52.3	-1.3
ERTA				S	S	16 49 53.2	-8.5
ERTA	**Horta de San J**	**5.99**	**38**	P	P	16 48 52.5	-1.1
	1.7nm,0.2s,SNR=4.0						
ERTA				S	S	16 49 53.2	-8.5
	0.8nm,0.2s,SNR=4.0						
ERTA	**Horta de San J**	**5.99**	**38**	P	P	16 48 52.3	-1.4
	SNR=7.9						
ELOB	**Lobios**	**6.16**	**335**	P	P	16 48 54.6	-1.5
ELOB				S	S	16 49 56.8	-9.2
ELOB	**Lobios**	**6.16**	**335**	P	P	16 48 53.3	-2.8
	0.5nm,0.1s,SNR=7.9						
ELOB				S	S	16 49 56.5	-10
	9.7nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**6.16**	**335**	P	P	16 48 54.6	-1.5
	0.2nm,0.0s,SNR=7.9						
EINC	**Incio**	**6.68**	**342**	S	S	16 50 09.1	-10
	2.7nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**6.94**	**7**	P	P	16 49 05.3	-1.7
ELAN				S	S	16 50 15.2	-10
ELAN	**Lanestosa**	**6.94**	**7**	P	P	16 49 04.7	-2.3
	3.5nm,0.2s,SNR=7.9						
ELAN				S	S	16 50 14.7	-11
	1.4nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**6.94**	**7**	P	P	16 49 05.3	-1.7
	SNR=7.9						
EARI	**Arriondas**	**6.98**	**356**	P	P	16 49 05.0	-2.5
EARI				S	S	16 50 16.3	-10
EARI	**Arriondas**	**6.98**	**356**	P	P	16 49 05.0	-2.5
	0.2nm,0.1s,SNR=7.9						
EARI				S	S	16 50 16.3	-10
	0.7nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**6.98**	**356**	P	P	16 49 05.0	-2.5
	SNR=7.9						
SJPF	**Ste Jean**	**7.24**	**20**	*e*Pn	P	16 49 09.3	-1.8
SJPF				*e*Sn	S	16 50 23.4	-9.1
	1.6nm,0.3s						
ETSF	**Etsaut**	**7.24**	**24**	*e*Pn	P	16 49 08.7	-2.5
ETSF				*e*Sn	S	16 50 23.5	-9.1
	1.2nm,0.2s						
EALK	**Alkurruntz**	**7.26**	**18**	P	P	16 49 09.6	-1.9
EALK				S	S	16 50 23.8	-9.4
EALK	**Alkurruntz**	**7.26**	**18**	P	P	16 49 09.7	-1.7
	2.0nm,0.1s,SNR=8.7						
EALK				S	S	16 50 23.6	-10
	6.7nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**7.26**	**18**	P	P	16 49 09.6	-1.9
	5.3nm,0.6s,SNR=8.7						
EPON	**Pontenova**	**7.26**	**345**	P	P	16 49 09.1	-2.4
EPON				S	S	16 50 22.9	-10
EPON	**Pontenova**	**7.26**	**345**	P	P	16 49 09.4	-2.1
	0.4nm,0.1s,SNR=7.9						
EPON				S	S	16 50 23.0	-10
	6.0nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**7.26**	**345**	P	P	16 49 09.1	-2.4
	SNR=7.9						
EBIE	**Bielsa**	**7.30**	**28**	P	P	16 49 11.1	-1.0
EBIE				S	S	16 50 26.9	-7.3
EBIE	**Bielsa**	**7.30**	**28**	P	P	16 49 11.4	-0.6
	0.1nm,0.1s,SNR=7.9						
EBIE				S	S	16 50 25.6	-8.6
	0.9nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**7.30**	**28**	P	P	16 49 11.1	-0.9
	SNR=7.9						
EMAZ	**Mazaricos**	**7.44**	**334**	S	S	16 50 27.2	-10
	1.5nm,0.1s,SNR=7.9						
EPF	**Esparros**	**7.67**	**28**	*e*Pn	P	16 49 14.0	-3.1
EPF				*e*Sn	S	16 50 33.6	-10
	1.6nm,0.3s						
MTLF	**Montolieu**	**8.72**	**35**	*e*Pn	P	16 49 28.9	-2.5
LASF	**Ste Croix**	**10.05**	**37**	*e*Pn	P	16 49 46.4	-3.1
SMRF	**Simiane la Rot**	**10.87**	**42**	*e*Pn	P	16 49 57.6	-3.0
LMR	**La Mourre**	**11.00**	**47**	*e*Pn	P	16 49 59.1	-3.3

*PRU **04** 16:56:08.6, 50.18N×19.22E*
WAR 04 16:56:09.0, 50.20N×19.31E, h0km, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.31**	**86**	*e*PG	Pg	16 56 15.0	-0.3
OJC				*e*SG	Sg	16 56 20.0	+0.5
OKC	**Ostrava-Krasne**	**0.83**	**245**	*e*PG	Pg	16 56 24.7	-0.9
OKC				*e*SG	Sg	16 56 36.1	-0.6
NIE	**Niedzica**	**1.02**	**140**	*e*PG	Pg	16 56 28.0	-1.3
NIE				*e*SG	Sg	16 56 43.0	+0.1
VYHS	**Vyhne**	**1.74**	**190**	*i* PG	Pg	16 56 38.6	-5.0
VYHS				*i* SG	Sg	16 57 02.3	-4.5
CRVS	**Cervenica-Dubn**	**1.91**	**132**	*e*PG	Pg	16 56 43.7	-3.4
CRVS				*e*SG	Sg	16 57 10.9	-1.7
DPC	**Dobruska-Polom**	**1.92**	**276**	*e*PG	Pg	16 56 41.3	-6.1
DPC				*e*SG	Sg	16 57 06.9	-6.1
KSP	**Ksiaz**	**2.03**	**290**	*e*PG	Pg	16 56 48.0	-1.5
KSP				*e*SN	Sn	16 57 13.0	+1.8
UPC	**Upice**	**2.13**	**280**	*e*SG	Sg	16 57 15.6	-4.5
PVCC	**Panska Ves**	**3.05**	**278**	*e*SG	Sg	16 57 44.6	-6.1
PRU	**Pruhonice**	**3.08**	**268**	*e*SG	Sg	16 57 43.9	-7.6
KHC	**Kasperske Hory**	**3.87**	**256**	*e*SG	Sg	16 58 09.4	-8.6

OTT 04 16:58:22.1±0.1, 52.72N×67.28W, MN3.1/7, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**2.13**	**7**	PN	Pn	16 58 58.1	-1.2
SCHQ				SN	Sn	16 59 25.9	-1.0
SCHQ				Trac		16 59 29.2	
	comp=Z,36nm,0.1s						
MNQ	**Manicouagan**	**2.38**	**204**	PN	Pn	16 59 03.6	+0.6
MNQ				Trac		16 59 40.0	
	comp=Z,33nm,0.2s						
SMQ	**Clarke City**	**2.53**	**172**	PN	Pn	16 59 03.6	-1.4
SMQ				Trac		16 59 41.8	
	comp=Z,30nm,0.2s						
ICQ	**Pointe Anglais**	**3.21**	**180**	PN	Pn	16 59 13.1	-1.6
ICQ				SN	Sn	16 59 51.5	-2.7
ICQ				Trac		17 00 01.7	
	comp=Z,9.9nm,0.1s						
CNQ	**Baie Comeau**	**3.46**	**189**	PN	Pn	16 59 16.4	-1.9
CNQ				SN	Sn	16 59 57.9	-2.8
CNQ				Trac		17 00 15.5	
	comp=Z,15nm,0.2s						
GSQ	**Grosses Roches**	**3.82**	**178**	PN	Pn	16 59 21.7	-1.7
GSQ				Trac		17 00 25.9	
	comp=Z,9.9nm,0.2s						
LG4Q	**La Grande 4**	**4.20**	**285**	PN	Pn	16 59 26.2	-2.7
LG4Q				SN	Sn	17 00 14.9	-4.5
LG4Q				SG	Sg	17 00 27.5	-14
LG4Q				Trac		17 00 32.8	
	comp=Z,10nm,0.2s						
LMQ	**La Malbaie**	**5.54**	**202**	PN	Pn	16 59 44.2	-3.6
LMN	**Caledonia Moun**	**7.07**	**166**	PN	Pn	17 00 05.3	-4.0
DRLN	**Deer Lake**	**7.08**	**115**	PN	Pn	17 00 05.2	-4.3
VLDQ	**Val d'Or**	**7.97**	**239**	PN	Pn	17 00 18.9	-3.0
MALO	**McAlpine Lake**	**8.27**	**256**	PN	P	17 00 20.4	-5.7
VIMO	**Victor Mine**	**9.98**	**277**	PN	P	17 00 43.0	-6.7

*BJI **04** 17:01:44.5, 4.31N×95.18E, h50km, mB5.0, mb4.9, Ms4.9, Msz4.3*
*MOS **04** 17:01:46.3±0.9, 4.99N×95.31E, h36km, mb5.0/15, Error ellipse: s-maj=20.4km s-min=8.9km az=111.6*
*NEIC **04** 17:01:46.3±0.3, 4.67N×95.08E, h30km, mb4.8/28, Error ellipse: s-maj=13.4km s-min=7.3km az=215.0*
*CSEM **04** 17:01:47.0, 5.16N×95.52E, h33km, mb5.6*
ISC 04 17:01:47.0±0.4, 4.78N±0.06×95.30E±0.06, h48km, h48km±3.1km:pP-P, n105, σ1§08/114, mb4.8/51, MS4.3/3, 12C-7D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**5.80**	**65**	P	**P**	**17 03 17.0**	**+4.4**
	280nm,0.8s						
CM31	**Chiang Mai Arr**	**14.06**	**14**	*e*P	**P**	**17 05 11.1**	**+5.7**
CHG	**Chiang Mai**	**14.40**	**14**	⇓P	**P**	**17 05 17.1**	**+7.3**
	33nm,0.8s						
HYB	**Hyderabad**	**20.66**	**309**	*e*P	**P**	**17 06 26.0**	**+0.7**
HYB				*e*S	**S**	**17 10 04.5**	**-3.9**
HYB	**Hyderabad**	**20.66**	**309**	*i* P	**P**	**17 06 29.5**	**+4.2**
HYB				*e*S	**S**	**17 10 04.5**	**-3.9**
HYB				*e*S	**S**	**17 10 18.0**	**+10**
SHL	**Shillong**	**20.93**	**351**	*e*P	**P**	**17 06 25.0**	**-3.0**
JIRN	**Jiri**	**24.36**	**340**	*e*P	**P**	**17 07 01.5**	**-0.3**
	21nm,0.3s,mb5.0						
PKI	**Pulchoki**	**24.55**	**338**	*e*P	**P**	**17 07 04.5**	**+0.8**
	7.1nm,0.3s,mb4.6						
GUN	**Gumba**	**24.69**	**340**	*e*P	**P**	**17 07 03.9**	**-1.2**
	34nm,0.5s,mb5.2						
DMN	**Daman**	**24.70**	**338**	*e*P	**P**	**17 07 05.3**	**+0.2**
	8.1nm,0.4s,mb4.6						
KKN	**Kakani**	**24.80**	**338**	*e*P	**P**	**17 07 06.1**	**0.0**
	11nm,0.5s,mb4.6						
LSA	**Lhasa**	**25.10**	**351**	*e*P	**P**	**17 07 09.6**	**+0.7**
	23nm,0.6s,mb4.9						
GKN	**Gorkha**	**25.23**	**337**	*e*P	**P**	**17 07 09.9**	**-0.3**
	21nm,0.3s,mb5.1						
KOLN	**Koldanda**	**25.44**	**335**	*e*P	**P**	**17 07 12.4**	**+0.3**
	76nm,0.6s,mb5.4						
ENH	**Enshi**	**28.68**	**26**	*e*P	**P**	**17 07 40.9**	**-0.9**
	9.5nm,0.7s,mb4.6						
WHN	**Wuhan**	**31.29**	**33**	*e*P	**P**	**17 08 05.0**	**+0.1**
XAN	**Xi'an**	**31.75**	**22**	P	**P**	**17 08 09.1**	**+0.2**
XAN				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.5						
LZH	**Lanzhou**	**32.14**	**13**	⇑P	**P**	**17 08 12.0**	**-0.3**
LZH				AP	pP	17 08 25.0	0.0
LZH				PP	PP	17 09 20.3	+0.3
LZH				S	**S**	**17 13 23.0**	**+2.7**
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,143nm,5.5s						
LZH				LR	LR		
	comp=E,967nm,13.1s						
LZH				LR	LR		
	comp=Z,2μm,17.0s,MS4.8						
NJ2	**Nanjing**	**34.97**	**36**	*e*P	**P**	**17 08 34.9**	**-1.9**
NJ2				AP	pP	17 08 48.7	-0.9
NJ2				S	**S**	**17 14 01.0**	**-3.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				LR	LR		
	comp=N,970nm,17.0s,MS4.6						
NJ2				LR	LR		
	comp=E,250nm,20.0s,MS4.6						
NJ2				LR	LR		
	comp=Z,370nm,13.0s						
SSE	**Sheshan**	**35.75**	**40**	*e*P	**P**	**17 08 40.5**	**-2.9**
SSE				S	**S**	**17 14 16.2**	**0.0**
SSE				AMB	AMB		
	comp=Z,24nm,0.6s,mb5.3						
SSE				AMB	AMB		
	comp=Z,323nm,5.2s						
WMQ	**Urumqi**	**39.46**	**351**	*e*P	**P**	**17 09 15.0**	**+0.7**
WMQ				AP	pP	17 09 24.8	-2.4
WMQ				XP	sP	17 09 28.8	-4.3
WMQ				PP	PP	17 10 50.5	+1.3
BJT	**Baijiatuau**	**39.82**	**25**	*e*P	**P**	**17 09 19.3**	**+2.1**
	comp=Z,39nm,0.7s,mb5.2						
ULHL	**Ulahol**	**40.99**	**338**	P	**P**	**17 09 28.4**	**+1.4**
	SNR=5.1						
KZA	**Kyzart**	**41.22**	**337**	P	**P**	**17 09 30.6**	**+1.7**
	SNR=17						
UCH	**Uchtor**	**41.63**	**337**	P	**P**	**17 09 34.0**	**+1.7**
	SNR=50						
TKM2	**Tokmak 2**	**41.81**	**338**	P	**P**	**17 09 35.1**	**+1.4**
	SNR=29						
KBK	**Karagaybulak**	**41.83**	**337**	P	**P**	**17 09 35.9**	**+2.0**
	SNR=71						
AML	**Almayashu**	**41.88**	**336**	P	**P**	**17 09 36.1**	**+1.8**
	SNR=52						
AAK	**Ala-Archa**	**41.99**	**337**	P	**P**	**17 09 36.9**	**+1.7**
	SNR=30						
AAK	**Ala-Archa**	**41.99**	**337**	*d* iP	**P**	**17 09 36.0**	**+0.8**
AAK				pmax	pmax		
	comp=Z,27nm,1.2s,mb4.8						
AAK	**Ala-Archa**	**41.99**	**337**	⇓*e*P	**P**	**17 09 35.4**	**+0.3**
	comp=Z,21nm,0.7s,mb4.9						
CHMS	**Chumysh**	**42.20**	**337**	P	**P**	**17 09 38.3**	**+1.4**
	SN

comp=Z,18nm,1.0s,mb5.0
NVS Novosibirsk 50.86 351 *e*P **P 17 10 43.6 -1.4**
PMG Port Moresby 53.57 105 *e*P **P 17 11 05.8 -0.1**
comp=Z,10nm,0.7s,mb4.9
KLR Kul'dur 53.99 29 *e*P **P 17 11 07.4 -1.1**
BOD Bodaibo 54.90 12 *e*P **P 17 11 13.5 -1.5**
CTAO Charters Tower 55.82 118 P **P 17 11 21.1 -1.1**
comp=Z,8.2nm,1.0s,mb4.7
STKA Stephens Creek 57.16 133 *e*P **P 17 11 31.6 0.0**
GNI Garni 57.42 315 *i*P **P 17 11 36.0 +2.7**
SVE Sverdlovsk 58.69 339 *e*P **P 17 11 41.0 -0.9**
ARU Arti 59.17 337⇓*i*P **P 17 11 42.6 -2.7**
ARU *e* 17 12 30.5
ARU *e* 17 13 50.1
ARU *e*S **S 17 19 47.1 -0.4**
ARU *e*SS SS 17 23 38.5 -5.4
ARU pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
KIV Kislovodsk 60.38 319*de*P **P 17 11 53.0 -0.8**
KIV *e*S **S 17 20 09.0 +5.8**
KIV pmax pmax
comp=Z,11nm,1.4s,mb4.7
KIV Kislovodsk 60.38 319 *e*P **P 17 11 52.8 -1.0**
comp=Z,8.3nm,0.6s,mb4.9
MALT Malatya 61.35 311 *e*P **P 17 11 59.1 -1.3**
comp=Z,8.0nm,1.2s,mb4.7
SOC Sochi 62.22 317 *e*P **P 17 12 02.5 -3.6**
SOC *e* 17 12 43.3
SOC *e*S **S 17 20 26.7 +0.1**
SOC *e*SS SS 17 24 26.8 -5.2
SOC pmax pmax
comp=N,38nm,0.8s
SOC pmax pmax
comp=E,37nm,0.8s
SOC pmax pmax
comp=Z,25nm,0.8s,mb5.4
YAK Yakutsk 62.57 17*c i*P **P 17 12 07.2 -1.0**
YAK pmax pmax
comp=Z,13nm,1.0s,mb5.0
OBN Obninsk 68.60 328⇑*i*P **P 17 12 45.6 -1.3**
OBN *e**PP pP 17 13 00.7 0.0
OBN *e* 17 15 24.8
OBN *e*S S 17 21 38.3 -6.1
OBN pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MA2 Magadan 68.98 27 *i*P **P 17 12 48.6 -0.6**
MA2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
TIXI Tiksi 70.03 11 *e*P **P 17 12 54.2 -1.2**
TIXI pmax pmax
comp=Z,11nm,0.7s,mb4.9
JOF Joensuu 74.12 335 *e*p **P 17 13 19.1 -0.7**
comp=Z,1.5nm,0.3s,mb4.4
JOF Joensuu 74.12 335 *e*P **P 17 13 19.1 -0.7**
JOF pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
KWP Kalwaria 75.12 320 *e*P **P 17 13 23.6 -2.3**
KWP *e* 17 13 25.7
KWP Kalwaria 75.12 320 *e*P **P 17 13 23.6 -2.3**
KWP *e* 17 13 25.7
APA Apatity 75.13 339⇑*i*P **P 17 13 25.8 +0.2**
APA pmax pmax
comp=Z,18nm,0.5s,mb5.3
SUW Suwalki 75.68 325 *e*P **P 17 13 27.9 -1.1**
SUW *e* pP 17 13 42.4 -0.5
CRVS Cervenica-Dubn 75.81 319 *i*P **P 17 13 30.5 +0.7**
CRVS *e*pP pP 17 13 38.1 -5.6
FINES FINESS Array B 75.97 332 *i*P **P 17 13 30.1 -0.4**
FINES pmax pmax
comp=Z,5.0nm,0.4s
KAF Kangasniemi 76.06 333 *e*p **P 17 13 30.5 -0.4**
comp=Z,2.4nm,0.3s,mb4.6
KAF Kangasniemi 76.06 333 *e*P **P 17 13 30.5 -0.4**
KAF pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
OJC Ojcow 77.08 320 *e*P **P 17 13 37.0 +0.1**
VYHS Vyhne 77.47 319 *i*P **P 17 13 39.2 0.0**
OKC Ostrava-Krasne 78.08 320 *e*P **P 17 13 43.2 +0.7**
KEV Kevo 78.12 341 *e*p **P 17 13 41.8 -0.5**
comp=Z,1.3nm,0.4s,mb4.2
KEV Kevo 78.12 341 *e*P **P 17 13 41.8 -0.5**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
MORC Moravsky Berou 78.46 320 *e*P **P 17 13 44.9 +0.3**
comp=Z,5.4nm,0.8s,mb4.5
BILL Bilibino 78.53 21⇑*i*P **P 17 13 45.4 +0.8**
BILL *e*S S 17 23 37.9 +2.0
BILL pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
ZST Bratislava 78.59 318 *i*P **P 17 13 45.8 +0.5**
DPC Dobruska-Polom 79.31 320 *e*P **P 17 13 50.1 +0.9**
ARSA Arzberg 79.57 317⇑*i*P **P 17 13 51.0 +0.3**
comp=Z,4.7nm,0.9s,mb4.4
OBKA Obir 80.19 316⇓*i*P **P 17 13 54.8 +0.8**
comp=Z,6.9nm,0.9s,mb4.6
PRU Pruhonice 80.42 320 *e*P **P 17 13 55.3 +0.2**
KHC Kasperske Hory 80.99 319 *e*P **P 17 13 58.4 +0.2**
CLL Collm 81.47 321 *e*P **P 17 14 00.0 -0.7**
CLL Collm 81.47 321 P **P 17 14 00.0 -0.7**
WTTA Wattenberg 82.21 317⇑*i*P **P 17 14 04.2 -0.4**
comp=Z,11nm,1.0s,mb4.7
WATA Walderalm 82.26 317⇓*i*P **P 17 14 04.4 -0.4**
comp=Z,21nm,1.7s,mb4.8
SQTA Sankt Quirin 82.50 317⇑*i*P **P 17 14 05.9 -0.2**
comp=Z,2.8nm,0.6s,mb4.5
MOTA Moosalm 82.58 317⇑*i*P **P 17 14 06.1 -0.3**
comp=Z,2.7nm,0.8s,mb4.3
NB2 NORSAR Subarra 82.98 331 P **P 17 14 08.0 -0.2**
comp=Z,24nm,1.4s,mb5.0,baz=93,slow=5.8
NB2 NORSAR Subarra 82.98 331 P **P 17 14 08.0 -0.2**
baz=93,slow=5.9
PGF Pioggiola 84.07 312 *e*P **P 17 14 13.7 -0.5**
comp=Z,11nm,0.8s,mb4.7
CDF Champ du Feu 85.15 318 *e*P **P 17 14 18.5 -0.9**
LPG La Plagne 85.61 315 *e*P **P 17 14 21.9 +0.2**
comp=Z,9.4nm,0.8s,mb4.8
MBDF Montbardon 85.63 314 *e*P **P 17 14 21.6 -0.2**
comp=Z,7.4nm,0.8s,mb4.7
HAU Haudompre 85.78 318 *e*P **P 17 14 21.9 -0.6**
comp=Z,13nm,0.7s,mb5.0
BAIF Baives 87.08 320 *e*P **P 17 14 29.5 +0.7**
comp=Z,5.2nm,0.6s,mb4.7
SSF Saint Saulge 87.76 317 *e*P **P 17 14 32.2 0.0**
comp=Z,5.3nm,0.7s,mb4.6
BGF Bois d'Agland 88.26 316 *e*P **P 17 14 34.3 -0.2**
RJF Les Rejaudoux 89.30 315 *e*P **P 17 14 38.3 -1.2**
FLN La Foliniere 90.25 319 *e*P **P 17 14 42.8 -1.1**
ETSF Etsaut 91.07 313 *e*P **P 17 14 46.8 -1.1**
comp=Z,9.5nm,1.0s,mb4.8
IMA Indian Mountai 94.03 22 *e*P **P 17 15 02.9 +2.1**
comp=Z,12nm,0.6s,mb5.5
BLA Blacksburg 138.04 355 PKPdf PKPdf 17 21 09.2 +2.0

DJA 04 17:21:19.8±0.9, 9.05S×115.34E, h112km±8km, MD5.3/4, ML4.0/3, 7C-1D, Error ellipse: s-maj=38.1km s-min=8.9km az=5.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.37**	**31⇑***i*Pn		P	17 21 36.1	-0.2
2μm,0.2s							
RATI			⇑*i*Sn		S	17 21 47.4	-1.3
KEDI	**Kedomdong**	**0.94**	**54⇑***i*Pn		P	17 21 40.5	-0.4
623nm,0.2s							
KEDI			⇑*e*Sn		S	17 21 55.0	-1.7
KELI	**Kelakatan**	**1.18**	**314⇑***i*Pn		P	17 21 42.9	-0.5
81nm,0.2s							
KELI			⇑*i*Sn		S	17 22 00.0	-1.1
SRDI	**Scrawed**	**1.31**	**295⇑***i*Pn		P	17 21 44.2	-0.8
152nm,0.3s							
SRDI			⇓*i*Sn		S	17 22 03.0	-0.9

*SKHL **04** 17:35:43.5±2.3, 46.19N×141.72E, h10km, mb4.9/1*
JMA 04 17:35:42.7±0.2, 46.34N×141.75E, h18km±2km, M3.4, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**1.03**	**174**	P	Pb	17 36 01.6	-0.1
JWK2				*e*S	Sb	17 36 15.0	+0.3
JRR	**Rishiri**	**1.24**	**194**	P	Pb	17 36 05.0	-0.3
JRR				*e*S	Sb	17 36 21.0	+0.1
JSE	**Soyaes**	**1.50**	**157**	P	Pn	17 36 09.1	+0.1
JYG	**Yagishiri**	**1.93**	**187**	P	Pn	17 36 14.7	-0.4
JYG				*e*S	Sn	17 36 38.3	-0.8
JSS	**Shosan**	**1.94**	**178**	P	Pn	17 36 15.2	-0.1
JSS				*e*S	Sn	17 36 39.0	-0.4

ISC 04 18:00:02.3±3.0, 8.8N±0.3×93.5E±0.3, h33km, n18, σ0s60/18, mb4.2/2, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**16.70**	**355**	*e*P	P	**18 03 55.5**	**+0.1**
SHL				*e*P		18 12 48.0	
HYB	**Hyderabad**	**16.82**	**302**	*e*P	P	**18 03 57.0**	**0.0**
JIRN	**Jiri**	**19.94**	**341**	*e*P	P	**18 04 34.1**	**-0.2**
34nm,0.7s							
PKI	**Pulchoki**	**20.12**	**339**	*e*P	P	**18 04 36.0**	**-0.3**
16nm,0.7s							
DMN	**Daman**	**20.27**	**338**	*e*P	P	**18 04 37.3**	**-0.5**
26nm,0.9s							
GUN	**Gumba**	**20.27**	**340**	*e*P	P	**18 04 37.7**	**-0.1**
46nm,0.7s							
KKN	**Kakani**	**20.37**	**339**	*e*P	P	**18 04 38.3**	**-0.5**
27nm,0.8s							
GKN	**Gorkha**	**20.80**	**338**	*e*P	P	**18 04 42.9**	**-0.4**
30nm,0.6s							
KOLN	**Koldanda**	**21.00**	**335**	*e*P	P	**18 04 45.5**	**+0.1**
26nm,0.7s,mb4.7							
UCH	**Uchtor**	**37.20**	**336**	P	P	**18 07 12.8**	**+0.5**
SNR=5.4							
TKM2	**Tokmak 2**	**37.39**	**338**	P	P	**18 07 13.1**	**-0.7**
SNR=5.8							
KBK	**Karagaybulak**	**37.40**	**337**	P	P	**18 07 14.6**	**+0.6**
SNR=12							
AML	**Almayashu**	**37.45**	**336**	P	P	**18 07 15.3**	**+0.9**
SNR=11							
AAK	**Ala-Archa**	**37.56**	**337**	P	P	**18 07 16.6**	**+1.3**
SNR=6.4							
CHMS	**Chumysh**	**37.77**	**337**	P	P	**18 07 17.1**	**+0.1**
SNR=5.1							
EKS2	**Erkin-Say**	**37.86**	**336**	P	P	**18 07 18.5**	**+0.7**
SNR=7.8							
USP	**Ospenovka**	**38.09**	**337**	P	P	**18 07 19.6**	**-0.2**
SNR=11							
NB2	**NORSAR Subarra**	**78.56**	**331**	P	P	**18 12 00.6**	**-1.3**
0.9nm,0.7s,mb3.8,baz=93,slow=5.3							

DJA 04 18:10:32.9±0.3, 8.30S×115.00E, h160km, MD4.7/4, ML4.5/2, 2C-5D, Error ellipse: s-maj=50.5km s-min=9.8km az=5.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELI	**Kelakatan**	**0.51**	**279⇓***i*Pn		P	18 10 55.6	-0.3
421nm,0.2s							
KELI			⇓*i*Sn		S	18 11 11.4	-2.1
RATI	**Rata**	**0.67**	**129⇑***i*Pn		P	18 10 56.4	-0.2
2μm,0.2s							
RATI			⇑*i*Sn		S	18 11 10.2	-4.7
SRDI	**Scrawed**	**0.87**	**258⇓***i*Pn		P	18 10 57.3	-0.5
509nm,0.2s							
SRDI			⇓*i*Sn		S	18 11 15.5	-1.5
KEDI	**Kedomdong**	**1.11**	**100**	*e*Pn	P	18 10 59.3	-0.5
1μm,0.2s							
KEDI			⇓*e*Sn		S	18 11 18.2	-2.3

*NEIC **04** 18:20:21.6, 31.75S×71.60W, h38km, MD3.9(GUC), After GUC.*
GUC 04 18:20:21.6±0.9, 31.75S×71.60W, h38km±2km, MD3.9, ML3.9, 18C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.39**	**72⇓***i*P		P	18 20 31.2	+0.5
ILCH				*i*S	S	18 20 37.8	+0.7
ILCH				AMP		18 20 38.1	
comp=N,39μm,0.2s							
PTCH	**Petorca**	**0.76**	**132⇑***i*P		P	18 20 36.2	+0.3
PTCH				*i*S	S	18 20 47.0	+0.6
PTCH				AMP		18 20 48.1	
comp=E,23μm,0.2s							
CMCH	**Combarbala**	**0.77**	**42⇑***i*P		P	18 20 36.6	+0.6
CMCH				*i*S	S	18 20 47.4	+0.8
CMCH				AMP		18 20 48.3	
comp=E,27μm,0.5s							
PACH	**Papudo**	**0.79**	**170⇑***i*P		P	18 20 37.0	+0.7
PACH				*i*S	S	18 20 48.2	+1.0
JACH	**Jahuel**	**1.26**	**138⇑***i*P		P	18 20 44.0	+1.0
JACH				*i*S	S	18 21 00.7	+1.6
IHA	**Instituto Hidr**	**1.27**	**182** *e*P		P	18 20 43.4	+0.2
ROCH	**El Roble**	**1.31**	**158⇑***i*P		P	18 20 44.7	+0.8
ROCH				*i*S	S	18 21 03.1	+2.7
LCCH	**Las Cruces**	**1.72**	**179⇑***i*P		P	18 20 49.8	+0.2
TLL	**Tololo Astrono**	**1.72**	**24⇑***i*P		P	18 20 50.4	+0.7
TLL				*i*S	S	18 21 13.6	+2.9
TLL				AMP		18 21 15.5	
comp=E,1μm,0.4s							
RCDM	**Rinconada Maip**	**1.86**	**159⇑***i*P		P	18 20 52.1	+0.6
RCDM				*i*S	S	18 21 15.9	+1.9
RCDM				AMP		18 21 21.8	
comp=E,1μm,0.1s							
DSCH	**Colegio Aleman**	**1.86**	**152⇑***i*P		P	18 20 52.4	+0.9
DSCH				*i*S	S	18 21 16.0	+2.0
DSCH				AMP		18 21 18.3	
comp=N,2μm,0.5s							
STL	**Santa Lucia**	**1.86**	**154** *e*P		P	18 20 52.3	+0.6
STL				*i*S	S	18 21 15.5	+1.3
STL				AMP		18 21 22.2	
comp=N,356nm,0.6s							
CLCH	**Cerro Calan**	**1.87**	**152⇓***i*P		P	18 20 52.8	+1.0
CLCH				*i*S	S	18 21 16.2	+1.9
CLCH				AMP		18 21 19.1	
comp=E,1μm,0.6s							
FCH	**Farellones**	**1.92**	**145⇑***i*P		P	18 20 53.5	+1.1
FCH				*i*S	S	18 21 17.6	+2.0
FCH				AMP		18 21 20.4	
comp=E,983nm,0.2s							
FSR	**Penalolen**	**1.94**	**153** *i*S		S	18 21 18.0	+1.8
FSR				AMP		18 21 28.1	
comp=E,1μm,0.4s							
TACH	**Talagante**	**1.98**	**164⇑***i*P		P	18 20 53.9	+0.7
ANTU	**Antumapu**	**1.99**	**156⇑***i*P		P	18 20 54.3	+0.9
ANTU				*i*S	S	18 21 18.7	+1.5
ANTU				AMP		18 21 26.2	
comp=E,878nm,0.2s							
PCH	**Pirque**	**2.08**	**154⇑***i*P		P	18 20 55.4	+0.8
PCH				*i*S	S	18 21 20.9	+1.4
LNV	**Longovilo**	**2.20**	**176⇑***i*P		P	18 20 55.9	-0.6
CHCH	**Chadas Angostu**	**2.32**	**160⇑***i*P		P	18 20 58.9	+0.8
CHCH				*i*S	S	18 21 26.7	+1.0
LMEL	**Las Melosas**	**2.40**	**151⇑***i*P		P	18 21 00.1	+0.8
LMEL				AMP		18 21 36.8	
comp=N,936nm,0.3s							
CACH	**El Canelo**	**2.50**	**161⇑***i*P		P	18 21 02.0	+1.2
CICH	**Cipreses**	**2.75**	**159⇑***i*P		P	18 21 05.1	+0.8

*NEIC **04** 18:25:57.5, 37.46S×179.82E, h12km, ML4.1(WEL), After WEL.*
WEL 04 18:25:55.7±0.6, 37.28S×179.91W, h33km, ML3.9/6, Error ellipse: s-maj=6.4km s-min=6.2km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.45**	**258**	P	P	18 26 18.8	-0.9
MXZ				S	S	18 26 35.4	-2.3
MXZ	**Matakaoa Point**	**1.45**	**258**	PN	Pn	18 26 18.7	-1.2
MXZ				SN	Sn	18 26 37.0	-0.9
PUZ	**Puketiti**	**1.65**	**241**	P	P	18 26 21.9	-0.8
PUZ				S	S	18 26 38.1	-4.9
PUZ	**Puketiti**	**1.65**	**241**	PN	Pn	18 26 21.9	-1.0
PUZ				SN	Sn	18 26 41.0	-2.2
MWZ	**Matawai**	**2.28**	**242**	P	P	18 26 30.3	-1.4
MWZ				S	S	18 26 58.1	-0.9
MWZ	**Matawai**	**2.28**	**242**	PN	Pn	18 26 30.3	-1.6
MWZ				SN	Sn	18 26 55.4	-3.8
URZ	**Urewera**	**2.55**	**247**	P	P	18 26 34.5	-1.1
URZ	**Urewera**	**2.55**	**247**	PN	Pn	18 26 34.5	-1.3
URZ				SN	Sn	18 27 02.5	-3.5
KNZ	**Kokohu**	**2.58**	**227**	P	P	18 26 33.8	-2.1
KNZ	**Kokohu**	**2.58**	**227**	PN	Pn	18 26 33.8	-2.3
BKZ	**Black Stump Fm**	**3.40**	**235**	PN	Pn	18 26 45.6	-2.2
KUZ	**Kuaotunu**	**3.54**	**277** *e*P		P	18 26 47.9	-1.7
KUZ	**Kuaotunu**	**3.54**	**277**	PN	Pn	18 26 47.9	-1.8
TSZ	**Takapari Road**	**4.26**	**228**	P	P	18 26 55.8	-4.0
TSZ	**Takapari Road**	**4.26**	**228**	PN	Pn	18 26 55.8	-4.2
BFZ	**Birch Farm**	**4.53**	**220**	P	P	18 26 58.9	-4.8
BFZ				S	S	18 27 48.5	-7.3
BFZ	**Birch Farm**	**4.53**	**220**	PN	Pn	18 26 58.9	-4.9
BFZ				SN	Sn	18 27 48.5	-7.5
MRZ	**Mangatainoka R**	**4.87**	**225**	P	P	18 27 03.7	-4.9
MRZ				S	S	18 27 55.8	-8.7
MRZ	**Mangatainoka R**	**4.87**	**225**	PN	Pn	18 27 03.7	-5.0
MRZ				SN	Sn	18 27 55.8	-8.9
NNZ	**Nelson**	**6.52**	**231**	PN	Pn	18 27 27.1	-4.9
NNZ				SN	Sn	18 28 37.1	-8.8
THZ	**Tophouse**	**7.13**	**229** *e*P		P	18 27 34.0	-6.3
THZ	**Tophouse**	**7.13**	**229**	PN	Pn	18 27 34.0	-6.5
THZ				SN	Sn	18 28 50.6	-11

*BJI **04** 18:26:42.6, 4.82N×94.69E, h52km, mB5.3, mb5.7, Ms5.1, Msz4.9*
*MOS **04** 18:26:42.0±0.9, 5.04N×94.86E, h33km, mb5.8/70, MS4.9/6, Error ellipse: s-maj=9.0km s-min=4.3km az=125.5*
*HRVD **04** 18:26:44.7±0.3, 4.61N×94.69E, h49km±1km, MW5.2/52, Centroid moment Tensor Solution. LP body waves: s45,c77;Mantle waves: s52,c91; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.70±.03; $M_{\theta\theta}$-0.32±.02; $M_{\phi\phi}$-0.38±.02; $M_{r\theta}$0.31±.01; $M_{\theta\phi}$0.36±.01; $M_{\phi r}$-0.36±.02; Best double couple: M_0.855×10^{17} NP1: ϕ_s316°, δ28°, λ88°. NP2:ϕ_s138°, δ62°, λ91°. Principal axes: T.849, Plg73°, Azm50°; N.013, Plg1°, Azm318°; P -.862, Plg17°, Azm228°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 18:26:44.7±0.1, 4.92N×94.79E, mb5.5/100 Error ellipse: s-maj=5.8km s-min=3.5km az=205.0*
NEIC Felt [III] at Banda Aceh.
*DJA **04** 18:26:57.3±4.6, 4.53N×96.43E, h33km, mb5.3/7, Error ellipse: s-maj=170.3km s-min=27.6km az=94.0*
ISC 04 18:26:43.3±0.8, 4.92N±0.04×94.79E±0.03, h46km±7km, h51km±1.8km: pP-P, n455, σ0s97/435, mb5.5/133, MS4.9/18, 90C-34D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.21**	**69**	P	P	**18 28 16.0**	**+1.3**
920nm,1.0s							
NST	**Nakhon Sawan**	**11.90**	**26**	P	P	**18 29 35.8**	**+2.6**
KKTK	**Khon Kaen**	**13.81**	**34**	P	P	**18 30 02.0**	**+3.4**
CM31	**Chiang Mai Arr**	**14.05**	**16** *e*P		P	**18 30 03.0**	**+1.3**
PALK	**Pallekele**	**14.20**	**280** *e*P		P	**18 30 02.6**	**-1.1**
UBT	**Ubonrachathani**	**14.37**	**44 ⇑**P		P	**18 30 13.5**	**+7.7**
556nm,0.5s							
CHG	**Chiang Mai**	**14.39**	**16 ⇑**P		P	**18 30 07.6**	**+1.4**
150nm,0.8s							
PENI	**Pendagan**	**14.69**	**135⇓***i*P		P	**18 30 06.1**	**-4.0**
PENI				pmax	pmax		
comp=Z,82nm,0.4s							
PENI	**Pendagan**	**14.69**	**135⇓***i*P		P	**18 30 06.1**	**-4.0**
comp=Z,165nm,0.5s							
CHRT	**Chiangrai**	**15.63**	**18** ⇓P		P	**18 30 24.0**	**+1.8**
comp=Z,995nm,0.9s							
MDRS	**Chennai**	**16.48**	**300** *e*P		P	**18 30 27.0**	**-6.0**
MDRS				*e*		18 30 35.8	
comp=Z,44nm,0.4s							
MDRS				*e*		18 32 19.0	
MDRS				*e*		18 33 20.6	
VIS	**Vishakhapatnam**	**16.96**	**320** *e*P		P	**18 30 38.7**	**-0.3**
VIS				*e*		18 30 40.5	
comp=Z,44nm,0.5s							
VIS				*e*		18 33 31.8	
BWNR	**Bhubaneshwar**	**17.61**	**331** *e*P		P	**18 30 44.0**	**-3.1**
BWNR				*e*		18 30 46.8	
comp=Z,140nm,0.6s							
KOD	**Kodaikanal**	**17.96**	**288** *e*P		P	**18 30 53.8**	**+2.2**
KOD				*e*		18 31 11.3	
comp=Z,111nm,1.2s							
TRD	**Trivandrum**	**18.07**	**282** *e*P		P	**18 30 49.7**	**-3.2**
TRD				*e*		18 33 54.3	
AGT	**Agartala**	**19.16**	**350** *e*P		P	**18 31 01.0**	**-4.8**
IMP	**Imphal**	**19.77**	**358** *e*P		P	**18 31 08.9**	**-3.5**
HYB	**Hyderabad**	**20.18**	**309** *e*P		P	**18 31 16.5**	**-0.3**
HYB				*e*S	S	**18 34 51.0**	**-4.8**
HYB				pmax	pmax		
comp=Z,164nm,1.2s							
HYB	**Hyderabad**	**20.18**	**309** *e*P		P	**18 31 16.5**	**-0.3**
comp=Z,164nm,1.2s							
HYB				*e*S	S	**18 34 51.0**	**-4.8**
HYB	**Hyderabad**	**20.18**	**309** *i*P		P	**18 31 16.5**	**-0.3**
comp=Z,164nm,1.2s							
HYB				*e*S	S	**18 34 51.0**	**-4.8**
QIZ	**Qiongzhong**	**20.30**	**45** P		P	**18 31 18.9**	**+0.8**
QIZ				XP		18 31 39.6	
QIZ				*e*S	S	**18 34 58.5**	**+0.2**
QIZ				XS		18 35 15.6	
QIZ				LR	LR		
comp=E,2μm,16.9s							
QIZ				LR	LR		
comp=Z,2μm,20.4s,MS4.5							
QIZ	**Qiongzhong**	**20.30**	**45** *e*P		P	**18 31 19.0**	**+0.9**
comp=Z,72nm,0.7s							
SHL	**Shillong**	**20.72**	**353** *e*P		P	**18 31 18.8**	**-3.6**
SHL				*e*S	S	**18 35 13.9**	**+7.7**
BLSP	**Bilaspur**	**21.05**	**326** *e*P		P	**18 31 26.3**	**+0.5**
BLSP				*e*		18 35 14.5	
MNGI	**Mangalore**	**21.26**	**293** *e*		P	**18 31 32.6**	**+4.6**
MNGI				*e*		18 35 22.0	
NGP	**Nagpur**	**22.22**	**318** *e*P		P	**18 31 39.1**	**+1.6**
NGP				*e*S	S	**18 35 43.5**	**+9.3**
LATR	**Latur**	**22.30**	**308** *e*P		P	**18 31 40.2**	**+1.9**
GOA	**Goa**	**23.13**	**299** *e*		P	**18 31 57.7**	**+11**
GOA				*e*		18 36 05.1	
BATP	**Bataraza**	**23.16**	**79** *e*P		P	**18 31 47.8**	**+0.9**
SRDI	**Scrawed**	**23.44**	**125⇓***i*P		P	**18 31 54.1**	**+4.5**
SRDI				pmax	pmax		
comp=Z,86nm,0.8s,mb5.2							
SRDI	**Scrawed**	**23.44**	**125⇓***i*P		P	**18 31 54.1**	**+4.5**
comp=Z,171nm,0.8s,mb5.2							
KELI	**Kelakatan**	**23.59**	**124⇓***e*P		P	**18 31 51.7**	**+0.7**
comp=Z,59nm,0.8s,mb4.8							
KAD	**Karad**	**23.64**	**303** *e*P		P	**18 31 55.3**	**+3.8**
KAD				*i*S	S	**18 36 10.5**	**+11**
ALBI	**Allahabad**	**23.80**	**330** *e*P		P	**18 31 53.0**	**+0.1**
JIRN	**Jiri**	**24.05**	**341** *e*P		P	**18 31 54.7**	**-0.7**
comp=Z,441nm,0.5s,mb6.2							
PPR	**Puerto Princes**	**24.22**	**77** *e*P		P	**18 31 56.7**	**-0.4**
PKI	**Pulchoki**	**24.23**	**339** *e*P		P	**18 31 56.7**	**-0.5**
comp=Z,274nm,0.5s,mb5.9							
DMN	**Daman**	**24.38**	**339** *e*P		P	**18 31 58.3**	**-0.3**
comp=Z,317nm,0.7s,mb5.9							
GUN	**Gumba**	**24.39**	**341** *e*P		P	**18 31 57.9**	**-0.8**
comp=Z,441nm,0.6s,mb6.1							
KKN	**Kakani**	**24.48**	**339** *e*P		P	**18 31 58.7**	**-0.9**
comp=Z,597nm,1.0s,mb6.0							
POO	**Poona**	**24.52**	**305** *e*P		P	**18 32 03.0**	**+2.9**
POO				*e*		18 32 17.6	
comp=Z,82nm,1.3s							
POO				*e*S	S	**18 36 22.2**	**+7.6**
RATI	**Rata**	**24.72**	**123⇓***e*P		P	**18 31 56.2**	**-5.9**
comp=Z,183nm,0.6s,mb5.8							
RATI	**Rata**	**24.72**	**123⇓***e*P		P	**18 32 02.3**	**+0.2**
BHPL	**Bhopal**	**24.75**	**319** *e*P		P	**18 32 04.3**	**+2.0**
BHPL				*e*		18 32 04.9	
comp=Z,94nm,0.6s							
BHPL				*e*		18 36 17.1	
LSA	**Lhasa**	**24.89**	**352** P		P	**18 32 03.8**	**+0.3**
LSA				AP		18 32 12.8	
LSA				XP		18 32 18.6	
LSA				S	S	**18 36 23.0**	**+2.3**
LSA				AMB	AMB		
comp=Z,900nm,0.6s,mb6.5							
LSA				LR	LR		
comp=N,620nm,27.0s,MS4.2							
LSA				LR	LR		
comp=E,690nm,23.0s,MS4.2							
LSA				LR	LR		
comp=Z,1μm,23.0s,MS4.4							
LSA	**Lhasa**	**24.89**	**352** *e*P		P	**18 32 03.8**	**+0.3**
LSA				pmax	pmax		
comp=Z,243nm,0.5s,mb6.0							

LSA	**Lhasa**	**24.89**	**352**	*e*P	**P**	**18 32 03.8**	**+0.3**
	comp=Z,243nm,0.5s,mb6.0						
GKN	**Gorkha**	**24.91**	**338**	*e*P	**P**	**18 32 03.5**	**-0.2**
	comp=Z,322nm,0.5s,mb6.2						
KEDI	**Kedomdong**	**25.09**	**122**⇑	*i*P	**P**	**18 32 01.7**	**-3.8**
KEDI				pmax	pmax		
	comp=Z,93nm,0.9s,mb5.3						
KEDI	**Kedomdong**	**25.09**	**122**⇑	*i*P	**P**	**18 32 01.7**	**-3.8**
	comp=Z,93nm,0.9s,mb5.3						
KEDI	**Kedomdong**	**25.09**	**122**⇑	*i*P	**P**	**18 32 03.2**	**-2.3**
	comp=Z,185nm,0.9s,mb5.3						
KOLN	**Koldanda**	**25.10**	**336**	*e*P	**P**	**18 32 06.0**	**+0.5**
	comp=Z,773nm,0.7s,mb6.3						
ENPP	**El Nido**	**25.16**	**74**	*e*P	**P**	**18 32 07.5**	**+1.3**
BOM	**Bombay**	**25.55**	**305**	*e*S	**S**	**18 36 38.2**	**+6.3**
TANI	**Tanete Lipujan**	**25.93**	**108**⇑	*e*P	**P**	**18 32 12.6**	**-0.8**
TANI				pmax	pmax		
	comp=Z,2μm,0.8s						
TANI	**Tanete Lipujan**	**25.93**	**108**⇑	*e*P	**P**	**18 32 12.6**	**-0.8**
	comp=Z,2μm,0.8s						
TANI				*i*P		18 32 12.8	
LUBP	**Lubang**	**26.57**	**69**	*e*P	**P**	**18 32 17.9**	**-1.5**
NINI	**Niniconang**	**26.61**	**110**⇓	*e*P	**P**	**18 32 19.1**	**-0.6**
NINI				pmax	pmax		
	comp=Z,248nm,0.8s,mb5.8						
NINI	**Niniconang**	**26.61**	**110**⇓	*e*P	**P**	**18 32 19.1**	**-0.6**
	comp=Z,495nm,0.8s,mb5.8						
CUYO	**Cuyo Island**	**26.62**	**76**	*e*P	**P**	**18 32 21.4**	**+1.5**
BUNI	**Buntu Taipa**	**26.89**	**108**⇑	*e*P	**P**	**18 32 21.4**	**-0.9**
	comp=Z,51nm,0.6s,mb5.2						
BUNI	**Buntu Taipa**	**26.89**	**108**⇑	*i*P	**P**	**18 32 21.6**	**-0.7**
	comp=Z,102nm,0.6s,mb5.2						
SCZP	**Santa Cruz**	**26.92**	**64**	*e*P	**P**	**18 32 22.1**	**-0.5**
SJMP	**San Jose**	**27.06**	**72**	*e*P	**P**	**18 32 22.5**	**-1.3**
IPIL	**Ipil**	**27.75**	**83**	*e*P	**P**	**18 32 34.9**	**+4.8**
LQP	**Lukban**	**27.88**	**69**⇑	*e*P	**P**	**18 32 31.7**	**+0.4**
PTH	**Pithoragarh**	**28.11**	**332**	*e*P	**P**	**18 32 33.0**	**-0.2**
PTH				*e*S	**S**	**18 37 20.0**	**+6.5**
ABRA	**Dolores**	**28.34**	**61**	*e*P	**P**	**18 32 36.1**	**+0.7**
BALP	**Baler**	**28.42**	**66**	*e*P	**P**	**18 32 36.7**	**+0.6**
POLP	**Polilio Island**	**28.43**	**68**	*e*P	**P**	**18 32 36.8**	**+0.5**
AUQP	**San Andres**	**28.74**	**71**	*e*P	**P**	**18 32 40.0**	**+1.0**
ENH	**Enshi**	**28.78**	**27**⇑	*i*P	**P**	**18 32 37.9**	**-1.3**
	comp=Z,216nm,0.7s,mb6.0						
APYP	**Conner**	**28.89**	**61**	*e*P	**P**	**18 32 40.0**	**-0.2**
NDI	**New Delhi**	**28.93**	**327**	*e*P	**P**	**18 32 38.8**	**-1.7**
CAUP	**Cauayan**	**29.05**	**64**	*e*P	**P**	**18 32 41.8**	**+0.1**
CVP	**Callao Caves**	**29.33**	**62**	*e*P	**P**	**18 32 45.0**	**+0.8**
DDI	**Dehra Dun**	**29.79**	**330**	*e*P	**P**	**18 32 46.2**	**-2.0**
DDI				*e*		18 37 54.3	
PVCP	**Virac**	**30.20**	**71**	*e*P	**P**	**18 32 52.0**	**0.0**
BUKP	**Musuan**	**30.22**	**83**	*e*P	**P**	**18 32 53.6**	**+1.5**
SMLA	**Simla**	**30.89**	**330**	*e*	**P**	**18 33 09.9**	**+12**
SMLA				*e*	pP	18 33 25.6	+15
	comp=Z,110nm,1.7s						
WHN	**Wuhan**	**31.45**	**34**⇑	P	**P**	**18 33 02.7**	**-0.2**
WHN				AMB	AMB		
	comp=Z,192nm,1.0s,mb5.9						
WHN				LR	LR		
	comp=Z,8μm,14.4s,MS5.5						
XAN	**Xi'an**	**31.81**	**23**	P	**P**	**18 33 04.7**	**-1.3**
XAN				AP	pP	18 33 16.1	-2.1
XAN				S	**S**	**18 38 20.1**	**+8.2**
XAN				AMB	AMB		
	comp=Z,470nm,0.8s,mb6.4						
XAN				LR	LR		
	comp=N,1μm,17.3s,MS4.8						
XAN				LR	LR		
	comp=E,1μm,17.1s,MS4.8						
XAN				LR	LR		
	comp=Z,3μm,16.9s,MS5.0						
LZH	**Lanzhou**	**32.12**	**14**⇑	P	**P**	**18 33 07.4**	**-1.2**
LZH				AP	pP	18 33 20.9	+0.1
LZH				XP	sP	18 33 27.0	+0.4
LZH				PP	PP	18 34 15.5	-0.7
LZH				S	**S**	**18 38 15.4**	**-1.3**
LZH				XS		18 38 38.5	
LZH				SS	SS	18 40 11.6	-0.4
LZH				AMB	AMB		
	comp=Z,119nm,1.3s,mb5.6						
LZH				AMB	AMB		
	comp=Z,364nm,5.3s						
LZH				LR	LR		
	comp=E,4μm,13.3s						
LZH				LR	LR		
	comp=Z,6μm,17.0s,MS5.4						
DLH	**Dalhousie**	**32.63**	**330**	*e*P	**P**	**18 33 13.0**	**-0.2**
DLH				*e*	pP	18 33 27.0	+1.6
NJ2	**Nanjing**	**35.16**	**37**⇑	*i*P	**P**	**18 33 35.4**	**+0.5**
NJ2				AP	pP	18 33 45.1	-2.1
NJ2				XP	sP	18 33 49.1	-3.9
NJ2				PP	PP	18 34 55.1	+0.4
NJ2				S	**S**	**18 39 05.0**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,200nm,1.0s,mb6.0						
NJ2				AMB	AMB		
	comp=Z,1μm,3.8s						
NJ2				LR	LR		
	comp=N,3μm,17.3s,MS5.3						
NJ2				LR	LR		
	comp=E,3μm,14.4s,MS5.3						
NJ2				LR	LR		
	comp=Z,5μm,14.3s,MS5.4						
SSE	**Sheshan**	**35.96**	**40**	P	**P**	**18 33 42.9**	**+1.1**
SSE				XP	sP	18 34 02.1	+2.3
SSE				S	**S**	**18 39 17.6**	**+1.3**
SSE				XS		18 39 40.3	
SSE				PCS		18 39 57.2	
SSE				AMB	AMB		
	comp=Z,48nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,167nm,3.8s						
SSE				LR	LR		
	comp=N,619nm,17.0s,MS4.5						
SSE				LR	LR		
	comp=E,512nm,17.4s,MS4.5						
SSE				LR	LR		
	comp=Z,1μm,14.4s,MS4.8						
TIY	**Taiyuan**	**36.40**	**24**	*e*P	**P**	**18 33 44.2**	**-1.1**
TIY				LR	LR		
	comp=N,4μm,17.0s						
TIA	**Tai'an**	**37.30**	**30**	P	**P**	**18 33 53.2**	**+0.3**
TIA				LR	LR		
	comp=N,870nm,17.9s,MS4.8						
TIA				LR	LR		
	comp=E,1μm,20.4s,MS4.8						
FITZ	**Fitzroy Crossi**	**38.06**	**128**⇑	*i*P	**P**	**18 33 58.6**	**-0.9**
	comp=E,45nm,0.8s,mb5.2						
WMQ	**Urumqi**	**39.24**	**352**⇑	P	**P**	**18 34 09.9**	**+0.9**
WMQ				AP	pP	18 34 22.1	+0.6
WMQ				XP	sP	18 34 27.5	+0.4
WMQ				PP	PP	18 35 44.8	+1.4
WMQ				S	**S**	**18 40 06.8**	**+0.7**
WMQ				XS		18 40 27.3	
WMQ				AMB	AMB		
	comp=Z,70nm,0.7s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,400nm,4.1s						
WMQ				LR	LR		
	comp=N,3μm,19.4s,MS5.2						
WMQ				LR	LR		
	comp=E,2μm,21.4s,MS5.2						
WMQ				LR	LR		
	comp=Z,3μm,18.5s,MS5.1						
BJT	**Baijiatuau**	**39.91**	**26**⇑	*i*P	**P**	**18 34 15.8**	**+1.2**
BJT				*e**PP	pP	18 34 28.0	+1.0
BJT				*e*		18 36 19.9	
BJT				pmax	pmax		
	comp=Z,231nm,0.8s						
BJT	**Baijiatuau**	**39.91**	**26**⇑	*i*P	**P**	**18 34 15.8**	**+1.2**
	comp=Z,231nm,0.8s,mb6.0						
BJT				*e*pP	pP	18 34 28.0	+1.0
BJT				*e*sP	sP	18 34 33.7	+1.1
BJT				*e*PcP	PcP	18 36 19.9	-0.2
ULHL	**Ulahol**	**40.67**	**339**	P	**P**	**18 34 22.1**	**+1.2**
	SNR=14						
KZA	**Kyzart**	**40.90**	**338**	P	**P**	**18 34 24.4**	**+1.6**
	SNR=11						
KAKA	**Kakadu**	**41.30**	**115**	*e*P	**P**	**18 34 26.9**	**+0.5**
	comp=Z,24nm,0.6s,mb5.0						
UCH	**Uchtor**	**41.30**	**337**	P	**P**	**18 34 27.5**	**+1.4**
	SNR=202						
TKM2	**Tokmak 2**	**41.49**	**339**	P	**P**	**18 34 28.6**	**+0.9**
	SNR=74						
KBK	**Karagaybulak**	**41.51**	**338**	P	**P**	**18 34 29.3**	**+1.5**
	SNR=265						
AML	**Almayashu**	**41.55**	**336**	P	**P**	**18 34 29.4**	**+1.2**
	SNR=278						
AAK	**Ala-Archa**	**41.66**	**337**	P	**P**	**18 34 30.1**	**+1.1**
	SNR=92						
AAK	**Ala-Archa**	**41.66**	**337**	*e*P	**P**	**18 34 27.8**	**-1.2**
AAK				*e*	pP	18 34 43.0	+1.5
AAK				pmax	pmax		
	comp=Z,115nm,0.7s,mb5.6						
AAK	**Ala-Archa**	**41.66**	**337**	*e*P	**P**	**18 34 27.8**	**-1.2**
	comp=Z,115nm,0.7s,mb5.6						
AAK				*e*	pP	18 34 43.0	+1.5
FRU	**Bishkek**	**41.78**	**338**⇑	*i*P	**P**	**18 34 31.0**	**+0.9**
FRU				*i*	pP	18 34 44.5	+2.0
FRU				pmax	pmax		
	comp=Z,330nm,2.5s,mb5.5						
CHMS	**Chumysh**	**41.87**	**338**	P	**P**	**18 34 31.2**	**+0.4**
	SNR=42						
EKS2	**Erkin-Say**	**41.96**	**337**	P	**P**	**18 34 32.7**	**+1.2**
	SNR=141						
MUN	**Mundaring**	**41.98**	**152**	*e*P	**P**	**18 34 32.2**	**+0.4**
	comp=Z,11nm,0.7s,mb4.6						
MUN	**Mundaring**	**41.98**	**152**	*e*P	**P**	**18 34 32.2**	**+0.4**
MUN				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.6						
USP	**Ospenovka**	**42.20**	**338**	P	**P**	**18 34 34.0**	**+0.5**
	SNR=177						
INCN	**Inchon**	**43.53**	**38**	*e*P	**P**	**18 34 42.9**	**-1.6**
	comp=Z,99nm,0.7s,mb5.7						
KS15	**Wonju Array Si**	**44.28**	**38**	*e*P	**P**	**18 34 50.2**	**-0.3**
SNY	**Shenyang**	**44.83**	**31**⇑	P	**P**	**18 34 54.4**	**-0.4**
SNY				AMB	AMB		
	comp=Z,90nm,0.7s,mb5.7						
SNY				LR	LR		
	comp=N,1μm,17.3s						
SNY				LR	LR		
	comp=Z,1μm,16.7s,MS5.0						
ZAK	**Zakamensk**	**45.87**	**8**⇓	*i*P	**P**	**18 35 01.9**	**-1.0**
ZAK				*e*		18 36 38.5	
ZAK				*e*		18 36 52.1	
WRAB	**Tennant Creek**	**46.06**	**124**⇑	*i*P	**P**	**18 35 04.9**	**0.0**
WRAB				*e*	pP	18 35 19.6	+2.1
WRAB				pmax	pmax		
	comp=Z,212nm,0.8s,mb6.1						
WRAB	**Tennant Creek**	**46.06**	**124**⇑	*i*P	**P**	**18 35 04.9**	**0.0**
	comp=Z,212nm,0.8s,mb6.1						
WRAB				*e*	pP	18 35 19.6	+2.1
WB2	**Warramunga Arr**	**46.07**	**124**⇑	*i*P	**P**	**18 35 04.9**	**-0.1**
WB2				*e*S	**S**	**18 41 45.2**	**-1.2**
MOY	**Mondy**	**46.88**	**5**	*e*P	**P**	**18 35 10.4**	**-0.5**
TLY	**Talaya**	**47.19**	**8**⇑	*i*P	**P**	**18 35 13.3**	**0.0**
TLY				*e*		18 36 43.0	
IRK	**Irkutsk**	**47.82**	**8**	*e*P	**P**	**18 35 17.0**	**-1.3**
IRK				*e*	pP	18 35 29.3	-1.6
IRK				*e*		18 37 12.3	
IRK				*e*		18 42 03.9	
HIA	**Hailar**	**48.99**	**21**⇑	*i*P	**P**	**18 35 27.0**	**-0.4**
HIA				*e*	pP	18 35 39.0	-1.0
HIA				*e*		18 36 49.9	
HIA				pmax	pmax		
	comp=Z,47nm,0.5s						
HIA	**Hailar**	**48.99**	**21**⇑	*i*P	**P**	**18 35 27.0**	**-0.4**
	comp=Z,47nm,0.5s,mb5.8						
HIA				*e*	pP	18 35 39.0	-1.0
HIA				*e*PcP	PcP	18 36 49.9	-1.3
MDJ	**Mudanjiang**	**49.91**	**32**	P	**P**	**18 35 34.6**	**+0.1**
MDJ				AP	pP	18 35 48.1	+0.9
MDJ				XP	sP	18 35 54.1	+1.5
MDJ				PCP	PcP	18 36 53.5	-1.1
MDJ				PP	PP	18 37 30.1	-0.3
MDJ				SCP		18 40 44.9	
MDJ				PCS		18 40 50.6	
MDJ				S	**S**	**18 42 39.3**	**-0.8**
MDJ				XS		18 43 05.9	
MDJ				SCS	ScS	18 45 19.3	+0.5
MDJ				AMB	AMB		
	comp=Z,76nm,1.4s,mb5.5						
MDJ				AMB	AMB		
	comp=Z,199nm,5.6s						
MDJ				LR	LR		
	comp=N,494nm,24.2s,MS4.6						
MDJ				LR	LR		
	comp=E,489nm,23.7s,MS4.6						
MDJ				LR	LR		
	comp=Z,880nm,25.6s,MS4.7						
MDJ	**Mudanjiang**	**49.91**	**32**	*e*P	**P**	**18 35 34.8**	**+0.2**
	comp=Z,64nm,0.8s,mb5.7						
NVS	**Novosibirsk**	**50.64**	**351**	*i*P	**P**	**18 35 38.4**	**-1.6**
NVS				*i*	pP	18 35 50.1	-2.5
NVS				*e*S	**S**	**18 42 49.5**	**-0.6**
NVS				pmax	pmax		
	comp=N,55nm,0.7s						
NVS				pmax	pmax		
	comp=E,33nm,0.7s						
NVS				pmax	pmax		
	comp=Z,72nm,0.7s,mb5.7						
NVS				smax			
	comp=E,39nm,1.6s						
MAJO	**Matsushiro**	**50.70**	**46**	*e*P	**P**	**18 35 40.4**	**-0.3**
MAJO				*e*		18 36 57.0	
MAJO				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.3						
MAJO	**Matsushiro**	**50.70**	**46**	*e*P	**P**	**18 35 40.4**	**-0.3**
	comp=Z,31nm,0.8s,mb5.3						
MAJO				*e*PcP	PcP	18 36 57.0	-0.6
MAT	**Matsushiro**	**50.70**	**46**	*e*P	**P**	**18 35 40.0**	**-0.7**
MAT				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.2						
MAT	**Matsushiro**	**50.70**	**46**	*e*P	**P**	**18 35 40.0**	**-0.7**
	comp=Z,25nm,0.7s,mb5.2						
MAT	**Matsushiro**	**50.70**	**46**	P	**P**	**18 35 39.5**	**-1.2**
KLR	**Kul'dur**	**54.11**	**29**⇓	*i*P	**P**	**18 36 02.8**	**-3.1**
KLR				pmax	pmax		
	comp=N,80nm,2.0s						
KLR				pmax	pmax		
	comp=E,110nm,2.0s						
KLR				pmax	pmax		
	comp=Z,140nm,2.0s,mb5.5						
BHD	**Baghdad**	**54.66**	**308**	*e*P	**P**	**18 36 03.0**	**-7.2**
BOD	**Bodaibo**	**54.87**	**12**	*e*P	**P**	**18 36 09.4**	**-1.9**
BOD				*e*		18 36 16.6	
CTA	**Charters Tower**	**56.33**	**118**⇑	*i*P	**P**	**18 36 21.6**	**-0.8**
	comp=Z,21nm,0.9s,mb5.2						
CTA	**Charters Tower**	**56.33**	**118**⇑	*i*P	**P**	**18 36 21.6**	**-0.8**
CTA				pmax	pmax		
	comp=Z,21nm,0.9s						
CTAO	**Charters Tower**	**56.33**	**118**⇑	*e*P	**P**	**18 36 21.4**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,56nm,1.0s,mb5.5						
CTAO	**Charters Tower**	**56.33**	**118**⇑	*e*P	**P**	**18 36 21.4**	**-1.0**
	comp=Z,56nm,1.0s,mb5.5						
MSL	**Mosul**	**56.70**	**311**	*e*P	**P**	**18 36 14.5**	**-10**
GNI	**Garni**	**56.97**	**316**	*e*P	**P**	**18 36 26.2**	**-0.5**
GNI				*e*	pP	18 36 40.6	+1.0
GNI				pmax	pmax		
	comp=Z,92nm,0.9s						
GNI	**Garni**	**56.97**	**316**	*e*P	**P**	**18 36 26.2**	**-0.5**
	comp=Z,92nm,0.9s,mb5.8						
GNI				*e*	pP	18 36 40.6	+1.0
CLNS	**Chul'man**	**56.98**	**19**	*e*P	**P**	**18 36 25.9**	**-0.6**
CLNS				*e**PP	pP	18 36 32.5	-7.0
CLNS				*e*		18 37 20.1	
CLNS				*e*		18 38 30.2	
CLNS				*e*S	**S**	**18 44 19.9**	**+4.3**
CLNS				*e*		18 46 09.3	
CLNS				*e*SS	SS	18 48 10.1	+4.4
CLNS				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.5						
CLNS				pmax	pmax		
	comp=N,22nm,0.8s						
CLNS				pmax	pmax		
	comp=E,16nm,0.8s						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
CLNS				pmax	pmax		
	comp=E,14nm,1.4s						
CLNS				smax			
	comp=N,6.0nm,0.8s						
CLNS				smax			
	comp=Z,3.0nm,0.6s						
CLNS				smax			
	comp=E,5.0nm,1.0s						
CLNS				MLR	MLR		
	comp=Z,1μm,15.0s,MS5.2						
CLNS				MLR	MLR		
	comp=N,1μm,17.0s,MS5.1						
CLNS				MLR	MLR		
	comp=E,200nm,17.0s,MS5.1						
STKA	**Stephens Creek**	**57.62**	**133**	*e*P	**P**	**18 36 30.3**	**-1.1**
	comp=E,16nm,0.8s,mb5.1						
TI2	**Plekhanov**	**57.63**	**317**	*e*P	**P**	**18 36 32.2**	**+0.9**
KMBO	**Kilima Mbogo**	**57.79**	**266**	*e*P	**P**	**18 36 34.6**	**+1.7**
KMBO				pmax	pmax		
	comp=Z,13nm,1.0s						
KMBO	**Kilima Mbogo**	**57.79**	**266**	*e*P	**P**	**18 36 34.6**	**+1.8**
	comp=Z,14nm,1.0s,mb4.9						
SVE	**Sverdlovsk**	**58.37**	**339**	*e*P	**P**	**18 36 34.7**	**-1.6**
SVE				pmax	pmax		
	comp=Z,170nm,1.5s,mb5.8						
YSS	**Yuzh-Sakhalins**	**58.73**	**37**⇑	*e*P	**P**	**18 36 38.3**	**-0.6**
YSS				*e**PP	pP	18 36 50.7	-1.2
YSS				pmax	pmax		
	comp=Z,120nm,0.9s,mb5.9						
YSS	**Yuzh-Sakhalins**	**58.73**	**37**⇑	*e*P	**P**	**18 36 38.3**	**-0.6**
	comp=Z,120nm,0.9s,mb5.9						
YSS				*e*pP	pP	18 36 50.7	-1.2
ARU	**Arti**	**58.85**	**337**⇑	*i*P	**P**	**18 36 37.5**	**-2.1**
ARU				*e*		18 37 23.7	
ARU				*e*		18 38 44.0	
ARU				*e*S	**S**	**18 44 42.3**	**+2.2**
ARU				*e*		18 46 23.1	
ARU				*e*SS	SS	18 48 33.3	-2.3
ARU				pmax	pmax		
	comp=Z,144nm,1.2s,mb5.9						
KIV	**Kislovodsk**	**59.94**	**319**	P	**P**	**18 36 46.0**	**-1.3**
	comp=Z,382nm,0.9s,mb6.4,SNR=17						
KIV	**Kislovodsk**	**59.94**	**319**⇑	*i*P	**P**	**18 36 46.2**	**-1.1**
KIV				*e*	pP	18 37 00.3	0.0
KIV				pmax	pmax		
	comp=Z,53nm,0.8s,mb5.6						
KIV	**Kislovodsk**	**59.94**	**319**⇑	*i*P	**P**	**18 36 46.2**	**-1.1**
	comp=Z,53nm,0.8s,mb5.6						
KIV				*e*	pP	18 37 00.3	0.0
GOF	**Gofitskoye**	**60.18**	**320**⇑	*i*P	**P**	**18 36 47.0**	**-2.0**
GOF				pmax	pmax		
	comp=Z,60nm,1.4s,mb5.4						
ELZG	**Elazig**	**60.52**	**312**	*i*P	**P**	**18 36 51.0**	**-0.4**
MALT	**Malatya**	**60.87**	**311**	*e*P	**P**	**18 36 52.8**	**-1.0**
MALT				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.1						
MALT	**Malatya**	**60.87**	**311**	*e*P	**P**	**18 36 52.8**	**-1.0**
	comp=Z,15nm,0.9s,mb5.1						
EIL	**Elat**	**61.47**	**301**⇑	*e*P	**P**	**18 36 57.9**	**0.0**
	comp=Z,35nm,0.8s,mb5.5						
EIL				*e*	pP	18 37 15.2	+4.3
SOC	**Sochi**	**61.77**	**317**	*i*P	**P**	**18 36 56.0**	**-3.7**
SOC				*e*		18 37 39.5	
SOC				*e*		18 39 15.3	
SOC				*e*S	**S**	**18 45 21.6**	**+3.9**
SOC				*e*SSS	SSS	18 52 08.1	+5.2
SOC				pmax	pmax		
	comp=Z,87nm,1.0s,mb5.8						
SOC				pmax	pmax		
	comp=N,46nm,1.2s						
SOC				pmax	pmax		
	comp=E,35nm,1.2s						
SOKR	**Solikamsk**	**61.77**	**339**⇓	*i*P	**P**	**18 36 57.5**	**-2.0**
SOKR				*i*	pP	18 37 11.0	-1.5
SOKR				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.7						
SOKR				MLR	MLR		
	comp=Z,210nm,20.0s,MS4.3						
YAK	**Yakutsk**	**62.58**	**18**⇑	*i*P	**P**	**18 37 02.9**	**-2.0**
YAK				*e*	pP	18 37 14.6	-3.4
YAK				*e*	pP	18 37 20.7	+2.7
YAK				pmax	pmax		
	comp=Z,157nm,0.6s,mb6.3						
YAK	**Yakutsk**	**62.58**	**18**⇑	*i*P	**P**	**18 37 02.9**	**-2.0**
	comp=Z,157nm,0.6s,mb6.3						
YAK				*e*	pP	18 37 14.6	-3.4
YAK				*e*	pP	18 37 20.7	+2.7
TOO	**Toolangi**	**63.27**	**136**	*e*P	**P**	**18 37 10.9**	**+1.0**
	comp=Z,17nm,0.9s,mb5.2						
TOO	**Toolangi**	**63.27**	**136**	*e*P	**P**	**18 37 10.9**	**+1.0**
TOO				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.2						
AVNT	**Avonos**	**63.69**	**311**	*i*P	**P**	**18 37 11.8**	**-0.8**
NIG	**Nigde**	**63.69**	**310**	P	Px	18 36 13.3	
ANN	**Anapa**	**63.74**	**318**	*e*P	**P**	**18 37 06.2**	**-6.6**
ANN				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.2						
CSS	**Prodhromos**	**63.92**	**307**	*e*P	**P**	**18 37 13.4**	**-0.8**
	comp=Z,19nm,0.9s,mb5.1						
MBAR	**Mbarara**	**64.21**	**267**	*i*P	**P**	**18 37 16.8**	**+0.4**
MBAR	**Mbarara**	**64.21**	**267**	*e*P	**P**	**18 37 16.3**	**-0.1**
	comp=Z,11nm,1.2s,mb4.8						
BOYT	**Boyabat**	**64.40**	**314**	*i*P	**P**	**18 37 16.9**	**-0.3**
KAMT	**Kaman**	**64.70**	**311**	*e*P	Px	18 36 18.7	
TOS	**Tosya**	**64.93**	**313**	P	Px	18 36 20.5	
ELDT	**Eldivan**	**65.21**	**312**	*i*P	**P**	**18 37 22.1**	**-0.3**
VOR	**Voronezh**	**65.36**	**326**	*e*P	**P**	**18 37 21.0**	**-2.2**
VOR				pmax	pmax		
	comp=Z,150nm,0.7s,mb6.1						
KONT	**Konya--Tatoy**	**65.37**	**310**	*e*P	Px	18 36 27.0	
BALT	**Daday**	**65.53**	**314**	*i*P	**P**	**18 37 23.9**	**-0.6**
LOD	**Lodumlu**	**65.55**	**312**	P	Px	18 36 23.4	
SAFT	**Safranbolu**	**65.95**	**313**	P	Px	18 36 27.0	
KIZT	**Kizilcal**	**65.96**	**310**	P	Px	18 36 26.6	
SIM	**Simferopol'**	**66.02**	**317**	*e*P	**P**	**18 37 26.6**	**-0.9**
SIM				pmax	pmax		
	comp=Z,46nm,0.9s,mb5.5						
SIM				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.8						
ISP	**Isparta**	**66.78**	**309**	*e*P	**P**	**18 37 31.0**	**-1.4**
ISP				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.5						
ISP	**Isparta**	**66.78**	**309**	*e*P	**P**	**18 37 30.9**	**-1.5**
	comp=Z,54nm,1.0s,mb5.5						
MDU	**Mudurnu**	**66.84**	**312**	P	Px	18 36 32.5	
ESKT	**Eskisehir**	**66.89**	**311**	P	Px	18 36 33.4	
ESKT	**Eskisehir**	**66.89**	**311**	*i*P	**P**	**18 37 33.0**	**-0.1**
ELL	**Elmali**	**67.02**	**308**	*e*P	Px	18 36 34.9	
ALT	**Altintas**	**67.34**	**310**	P	Px	18 36 36.0	
MOS	**Moscow**	**67.93**	**329**	*e*P	**P**	**18 37 38.2**	**-1.1**
MOS				*e*	pP	18 37 54.0	+1.4
MOS				*e*		18 40 06.3	
MOS				*e*S	S	18 46 29.8	-3.4
MOS				pmax	pmax		
	comp=Z,136nm,0.6s,mb6.2						
OBN	**Obninsk**	**68.21**	**328***c*	*i*P	**P**	**18 37 39.6**	**-1.5**
OBN				*i*S	S	18 46 34.6	-2.0
OBN				pmax	pmax		
	comp=Z,193nm,1.6s,mb5.9						
OBN				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.4						
OBN	**Obninsk**	**68.21**

PRD	**Provadia**	**70.23**	**314**	*eP*	**P**	**18 37 53.0**	**-0.7**
PET	**Petropavlovsk**	**70.55**	**35**	*eP*	**P**	**18 37 54.2**	**-1.2**
PET				*eS*	S	18 47 01.8	-2.3
PET				pmax	pmax		
	comp=Z,72nm,0.7s,mb5.7						
PET				pmax	pmax		
	comp=N,28nm,0.7s						
PET				pmax	pmax		
	comp=E,20nm,0.7s						
PET				MLR	MLR		
	comp=N,400nm,22.0s,MS4.7						
PET				MLR	MLR		
	comp=E,300nm,22.0s,MS4.7						
PET				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.7						
PET	**Petropavlovsk**	**70.55**	**35⇑**	*eP*	**P**	**18 37 54.0**	**-1.5**
	comp=Z,73nm,0.7s,mb5.7						
SEY	**Seymchan**	**71.33**	**24**	*eP*	**P**	**18 37 59.3**	**-0.7**
SEY				*e*	pP	18 38 17.5	+4.2
SEY						18 40 39.5	
SEY				*eS*	S	18 47 12.8	-0.3
SEY				*SS		18 47 37.9	
SEY						18 47 58.0	
SEY				SS	SS	18 51 51.9	+2.0
SEY				*e*SSS	SSS	18 54 55.9	-1.2
SEY				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.5						
SEY				pmax	pmax		
	comp=N,10.0nm,0.5s						
SEY				MLR	MLR		
	comp=Z,1µm,15.0s,MS5.3						
SEY				MLR	MLR		
	comp=N,900nm,17.0s,MS5.3						
SEY				MLR	MLR		
	comp=E,1µm,18.0s,MS5.3						
RZN	**Rozhen**	**71.90**	**312**	*eP*	**P**	**18 38 03.0**	**-0.7**
MMB	**Musomiste**	**72.61**	**312**	*eP*	**P**	**18 38 06.0**	**-2.0**
MNK	**Minsk**	**72.74**	**326⇓**	*eP*	**P**	**18 38 05.0**	**-3.5**
MNK				pmax	pmax		
	comp=Z,480nm,1.0s,mb6.4						
PUL	**Pulkovo**	**73.10**	**331⇓**	*eP*	**P**	**18 38 09.0**	**-1.5**
PUL				pmax	pmax		
	comp=Z,59nm,0.6s,mb5.7						
KKB	**Krupnik**	**73.13**	**312**	*eP*	**P**	**18 38 10.0**	**-1.1**
VTS	**Vitosha**	**73.15**	**313**	*eP*	**P**	**18 38 10.0**	**-1.2**
JOF	**Joensuu**	**73.78**	**335**	*ep*	**P**	**18 38 13.5**	**-0.9**
	comp=Z,3.6nm,0.4s,mb4.7						
LVV	**L'vov**	**73.89**	**320⇑**	*iP*	**P**	**18 38 15.0**	**-0.3**
LVV				*e*		18 41 08.0	
BOLS	**Boljevac**	**74.24**	**314⇑**	*iP*	**P**	**18 38 17.0**	**-0.5**
SKO	**Skopje**	**74.36**	**312**	*i* P	**P**	**18 38 17.0**	**-1.2**
LVZ	**Lovozero**	**74.54**	**340⇑**	*eP*	**P**	**18 38 17.7**	**-1.0**
LVZ				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.2						
LVZ				pmax	pmax		
	comp=E,9.0nm,1.0s						
LVZ	**Lovozero**	**74.54**	**340**	*i* P	**P**	**18 38 18.4**	**-0.3**
BOSA	**Boshof**	**74.59**	**239**	*eP*	**P**	**18 38 20.6**	**+0.7**
BOSA				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
BOSA	**Boshof**	**74.59**	**239**	*eP*	**P**	**18 38 20.6**	**+0.7**
	comp=Z,23nm,1.2s,mb5.0						
KWP	**Kalwaria**	**74.69**	**320⇑**	*eP*	**P**	**18 38 19.7**	**-0.3**
KWP				pmax	pmax		
	comp=Z,91nm,0.6s,mb5.9						
KWP	**Kalwaria**	**74.69**	**320**	*eP*	**P**	**18 38 20.1**	**+0.1**
KWP	**Kalwaria**	**74.69**	**320**	*eP*	**P**	**18 38 20.1**	**+0.2**
APA	**Apatity**	**74.82**	**340⇑**	*iP*	**P**	**18 38 20.5**	**+0.1**
APA				*i*	pP	18 38 32.8	-0.9
APA				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.5						
GRUS	**Gruza**	**75.14**	**314⇑**	*iP*	**P**	**18 38 22.6**	**-0.1**
SUW	**Suwalki**	**75.27**	**325**	*eP*	**P**	**18 38 22.2**	**-1.0**
CRVS	**Cervenica-Dubn**	**75.37**	**319**	*i* P	**P**	**18 38 24.5**	**+0.6**
CRVS				*e*		18 38 31.0	
PVY	**Plav**	**75.52**	**313⇓**	*iP*	**P**	**18 38 24.1**	**-0.7**
IVA	**Berane**	**75.60**	**313⇓**	*iP*	**P**	**18 38 25.4**	**+0.1**
KAF	**Kangasniemi**	**75.70**	**333**	*ep*	**P**	**18 38 24.7**	**-0.8**
	comp=Z,5.4nm,0.4s,mb4.8,baz=103,slow=5.3						
KAF	**Kangasniemi**	**75.70**	**333**	*eP*	**P**	**18 38 24.7**	**-0.8**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
NVSS	**Nova Varos 2**	**75.82**	**314⇑**	*iP*	**P**	**18 38 26.3**	**-0.3**
KECS	**Kecovo**	**75.94**	**319**	*eP*	**P**	**18 38 27.5**	**+0.4**
ULC	**Ulcinj**	**75.98**	**312⇓**	*iP*	**P**	**18 38 27.1**	**-0.4**
TTG	**Podgorica**	**76.02**	**312⇓**	*iP*	**P**	**18 38 27.1**	**-0.7**
PLE	**Pljevlja**	**76.02**	**313⇓**	*iP*	**P**	**18 38 27.2**	**-0.5**
NIE	**Niedzica**	**76.19**	**320**	*eP*	**P**	**18 38 29.7**	**+1.1**
PSZ	**Piszkesteto**	**76.25**	**318⇑**	*iP*	**P**	**18 38 28.4**	**-0.5**
PSZ				pmax	pmax		
	comp=Z,64nm,0.8s,mb5.6						
PSZ	**Piszkesteto**	**76.25**	**318⇑**	*iP*	**P**	**18 38 28.4**	**-0.5**
	comp=Z,64nm,0.8s,mb5.6						
PSZ	**Piszkesteto**	**76.25**	**318⇑**	*eP*	**P**	**18 38 29.0**	**+0.1**
NKY	**Niksic**	**76.25**	**313⇓**	*iP*	**P**	**18 38 28.2**	**-0.8**
BUM	**Brajici-Budva**	**76.28**	**312⇓**	*iP*	**P**	**18 38 28.8**	**-0.4**
UPM	**Unac-Piva**	**76.36**	**313⇓**	*iP*	**P**	**18 38 28.4**	**-1.2**
HCY	**Herceg Novi**	**76.58**	**312⇓**	*iP*	**P**	**18 38 30.2**	**-0.7**
BRY	**Bratogost**	**76.60**	**313⇓**	*iP*	**P**	**18 38 29.7**	**-1.3**
OJC	**Ojcow**	**76.64**	**320**	*eP*	**P**	**18 38 31.4**	**+0.3**
VYHS	**Vyhne**	**77.03**	**319**	*eP*	**P**	**18 38 33.3**	**0.0**
TIP	**Timpagrande**	**77.63**	**309**	*eP*	**P**	**18 38 36.9**	**0.0**
OKC	**Ostrava-Krasne**	**77.65**	**320⇓**	*iP*	**P**	**18 38 37.6**	**+0.9**
RAC	**Raciborz**	**77.65**	**320**	*eP*	**P**	**18 38 35.8**	**-0.9**
KEV	**Kevo**	**77.82**	**341**	*ep*	**P**	**18 38 36.6**	**-0.7**
	comp=Z,3.9nm,0.5s,mb4.6						
KEV	**Kevo**	**77.82**	**341**	*eP*	**P**	**18 38 36.6**	**-0.7**
KEV				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
MORC	**Moravsky Berou**	**78.03**	**320⇑**	*eP*	**P**	**18 38 39.3**	**+0.5**
MORC				pmax	pmax		
	comp=Z,59nm,0.7s,mb5.6						
MORC	**Moravsky Berou**	**78.03**	**320⇑**	*eP*	**P**	**18 38 39.2**	**+0.5**
	comp=Z,59nm,0.7s,mb5.6						
ZST	**Bratislava**	**78.14**	**318**	*i* P	**P**	**18 38 40.2**	**+0.7**
ARE0	**ARCESS Array S**	**78.25**	**340**	*eP*	**P**	**18 38 38.9**	**-0.7**
ARE0				*e*	pP	18 38 50.4	-2.6
BILL	**Bilibino**	**78.58**	**21⇓**	*iP*	**P**	**18 38 41.0**	**-0.5**
BILL				*eS*	S	18 48 49.6	+16
BILL				pmax	pmax		
	comp=Z,72nm,1.6s,mb5.3						
BILL	**Bilibino**	**78.58**	**21⇑**	*eP*	**P**	**18 38 40.2**	**-1.3**
	comp=Z,20nm,0.5s,mb5.3						
GKP	**Gorka Klasztor**	**78.64**	**323**	*eP*	**P**	**18 38 42.3**	**+0.2**
VKA	**Vienna**	**78.67**	**318⇑**	*iP*	**P**	**18 38 42.7**	**+0.3**
KTK1	**Kautokeino**	**78.87**	**340**	*eP*	**P**	**18 38 42.6**	**-0.5**
	comp=Z,78nm,1.5s,mb5.4						
KTK1	**Kautokeino**	**78.87**	**340⇓**	*iP*	**P**	**18 38 43.1**	**0.0**
KTK1				AMb	AMB	18 38 44.8	
	comp=Z,78nm,1.5s,mb5.4						
KTK1				*ep*P	pP	18 38 57.9	+1.5
DPC	**Dobruska-Polom**	**78.87**	**320**	*eP*	**P**	**18 38 44.3**	**+0.9**
KSP	**Ksiaz**	**78.94**	**321**	*eP*	**P**	**18 38 44.2**	**+0.4**
KSP				*e*PP	pP	18 39 00.9	+3.7
KSP	**Ksiaz**	**78.94**	**321**	*eP*	**P**	**18 38 44.5**	**+0.7**
FX1	**Attu Island--F**	**79.08**	**37**	*eP*	**P**	**18 38 44.1**	**-0.4**
UPC	**Upice**	**79.09**	**320⇓**	*eP*	**P**	**18 38 45.6**	**+1.0**
ARSA	**Arzberg**	**79.12**	**317⇑**	*iP*	**P**	**18 38 45.1**	**+0.3**
	comp=Z,89nm,1.2s,mb5.6						
BOJS	**Bojanci**	**79.18**	**315**	*i* P	**P**	**18 38 45.3**	**+0.1**
BOJS				*i* PcP	PcP	18 38 59.0	+5.3
LJU	**Ljubljana**	**79.72**	**316**	*i* P	**P**	**18 38 48.7**	**+0.6**
LJU				*e*PcP	PcP	18 39 02.8	+6.7
OBKA	**Obir**	**79.73**	**316⇑**	*iP*	**P**	**18 38 48.6**	**+0.4**
	comp=Z,160nm,1.6s,mb5.7						
CEY	**Cerknica**	**79.77**	**315**	*eP*	**P**	**18 38 48.4**	**0.0**
PRU	**Pruhonice**	**79.98**	**320⇓**	*iP*	**P**	**18 38 50.3**	**+0.9**
PVCC	**Panska Ves**	**80.00**	**320⇓**	*iP*	**P**	**18 38 50.7**	**+1.2**
MOA	**Molln**	**80.01**	**318⇑**	*iP*	**P**	**18 38 49.7**	**+0.1**
	comp=Z,33nm,1.0s,mb5.2						
VOY	**Vojsko**	**80.16**	**316**	*eP*	**P**	**18 38 50.3**	**-0.2**
VOY				*e*	pP	18 39 05.2	+1.3
VOY				*e*		18 39 13.4	
BSD	**Bornholm Skovb**	**80.19**	**325⇑**	*iP*	**P**	**18 38 49.9**	**-0.5**
BSD				pmax	pmax		
	comp=Z,62nm,0.6s,mb5.7						
BSD	**Bornholm Skovb**	**80.19**	**325⇑**	*iP*	**P**	**18 38 49.9**	**-0.5**
	comp=Z,62nm,0.6s,mb5.7						
AQU	**L'Aquila**	**80.34**	**312⇑**	*eP*	**P**	**18 38 51.3**	**-0.2**
AQU				pmax	pmax		
	comp=Z,54nm,0.7s,mb5.6						
AQU	**L'Aquila**	**80.34**	**312⇑**	*eP*	**P**	**18 38 51.3**	**-0.2**
	comp=Z,54nm,0.7s,mb5.6						
BRG	**Berggiesshubel**	**80.43**	**321**	*i* P	**P**	**18 38 52.3**	**+0.5**
BRG				*i*	pP	18 39 09.5	+4.3
BRG				pmax	pmax		
	comp=Z,68nm,1.2s,mb5.5						
BRG	**Berggiesshubel**	**80.43**	**321**	*i* P	**P**	**18 38 52.3**	**+0.5**
	comp=Z,68nm,1.2s,mb5.5						
BRG				*i*	pP	18 39 09.5	+4.3
ROBS	**Robic**	**80.44**	**316**	*i* P	**P**	**18 38 51.6**	**-0.3**
GEC2	**GERESS Array S**	**80.45**	**319**	*i* P	**P**	**18 38 52.4**	**+0.4**
GEC2				pmax	pmax		
	comp=Z,113nm,0.9s,mb5.8						
GEC2	**GERESS Array S**	**80.45**	**319**	*i* P	**P**	**18 38 52.4**	**+0.4**
	comp=Z,113nm,0.9s,mb5.8						
TRO	**Tromso**	**80.50**	**340**	*eP*	**P**	**18 38 50.6**	**-1.2**
TRO				AMb	AMB	18 38 58.3	
	comp=Z,77nm,1.6s,mb5.4						
TRO				*ep*P	pP	18 39 05.1	-0.2
KHC	**Kasperske Hory**	**80.55**	**319⇓**	*iP*	**P**	**18 38 53.2**	**+0.7**
KHC				*ep*P	pP	18 39 07.8	+1.9
KBA	**Koelnbreinsper**	**80.59**	**317⇑**	*iP*	**P**	**18 38 52.7**	**0.0**
	comp=Z,38nm,1.1s,mb5.2						
KBA	**Koelnbreinsper**	**80.59**	**317⇑**	*iP*	**P**	**18 38 52.7**	**0.0**
KBA				pmax	pmax		
	comp=Z,38nm,1.1s,mb5.2						
RUE	**Ruedersdorf**	**80.64**	**322⇑**	*eP*	**P**	**18 38 53.1**	**+0.3**
	comp=Z,147nm,0.6s,mb6.1						
WET	**Wettzell**	**81.01**	**319**	*eP*	**P**	**18 38 55.3**	**+0.4**
CLL	**Collm**	**81.05**	**321⇑**	*iP*	**P**	**18 38 55.1**	**+0.1**
CLL				*e*		18 39 14.0	
CLL				pmax	pmax		
	comp=Z,45nm,1.0s,mb5.3						
CLL	**Collm**	**81.05**	**321⇑**	*iP*	**P**	**18 38 55.1**	**+0.1**
	comp=Z,45nm,1.0s,mb5.3						
CLL				*e*		18 39 14.0	
CLL	**Collm**	**81.05**	**321**	⇑P	**P**	**18 38 55.1**	**+0.1**
	comp=Z,logA/T=1.7,mb5.4						
CLL				*e**SP	sP	18 39 14.0	+0.4
NKC	**Novy Kostel**	**81.34**	**320⇓**	*iP*	**P**	**18 38 57.6**	**+1.0**
MOR8	**Moi Rana**	**81.62**	**336**	*eP*	**P**	**18 38 57.1**	**-0.7**
MOR8	**Moi Rana**	**81.62**	**336⇓**	*iP*	**P**	**18 38 57.3**	**-0.4**
MOR8				*ep*P	pP	18 39 11.5	+0.2
COP	**Copenhagen**	**81.65**	**325⇑**	*eP*	**P**	**18 38 56.8**	**-1.3**
COP				pmax	pmax		
	comp=Z,45nm,0.7s,mb5.5						
COP	**Copenhagen**	**81.65**	**325⇑**	*eP*	**P**	**18 38 56.8**	**-1.3**
	comp=Z,45nm,0.7s,mb5.5						
COP	**Copenhagen**	**81.65**	**325⇑**	*iP*	**P**	**18 38 56.8**	**-1.3**
	comp=Z,45nm,0.7s,mb5.5						
WTTA	**Wattenberg**	**81.77**	**317⇑**	*iP*	**P**	**18 38 58.6**	**-0.3**
	comp=Z,78nm,1.1s,mb5.5						
WTTA	**Wattenberg**	**81.77**	**317⇑**	*iP*	**P**	**18 38 58.6**	**-0.3**
WTTA				pmax	pmax		
	comp=Z,78nm,1.1s,mb5.5						
WATA	**Walderalm**	**81.81**	**317⇑**	*iP*	**P**	**18 38 58.6**	**-0.5**
	comp=Z,50nm,1.2s,mb5.3						
WATA	**Walderalm**	**81.81**	**317⇑**	*iP*	**P**	**18 38 58.6**	**-0.5**
WATA				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.3						
MOX	**Moxa**	**81.89**	**320**	*eP*	**P**	**18 39 00.2**	**+0.8**
MOX				pmax	pmax		
	comp=Z,62nm,1.4s,mb5.3						
MOX	**Moxa**	**81.89**	**320**	*eP*	**P**	**18 39 00.2**	**+0.8**
	comp=Z,62nm,1.4s,mb5.3						
MOX	**Moxa**	**81.89**	**320**	*i* P	**P**	**18 39 00.2**	**+0.8**
	comp=Z,logA/T=1.6,mb5.3						
FUR	**Furstenfeldbru**	**82.03**	**318**	*eP*	**P**	**18 39 00.1**	**-0.1**
SQTA	**Sankt Quirin**	**82.06**	**317⇑**	*iP*	**P**	**18 39 00.2**	**-0.2**
	comp=Z,25nm,0.8s,mb5.2						
SQTA	**Sankt Quirin**	**82.06**	**317⇑**	*iP*	**P**	**18 39 00.2**	**-0.2**
SQTA				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
GRA1	**Grafenberg Arr**	**82.11**	**319**	*eP*	**P**	**18 39 01.3**	**+0.7**
	comp=Z,71nm,0.9s,mb5.6						
GRF	**Grafenberg Arr**	**82.11**	**319**	*eP*	**P**	**18 39 01.3**	**+0.7**
GRF				pmax	pmax		
	comp=Z,71nm,0.9s,mb5.6						
GRF	**Grafenberg Arr**	**82.11**	**319**	*eP*	**P**	**18 39 01.3**	**+0.7**
GRF				pmax	pmax		
	comp=Z,71nm,0.9s,mb5.6						
GRF	**Grafenberg Arr**	**82.11**	**319**	*eP*	**P**	**18 39 01.3**	**+0.7**
	comp=Z,71nm,0.9s,mb5.6						
MOTA	**Moosalm**	**82.13**	**317⇑**	*iP*	**P**	**18 39 00.5**	**-0.2**
	comp=Z,40nm,1.1s,mb5.3						
MOTA	**Moosalm**	**82.13**	**317⇑**	*iP*	**P**	**18 39 00.5**	**-0.2**
MOTA				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3						
LOF	**Lofoten**	**82.20**	**338**	*eP*	**P**	**18 39 02.8**	**+2.1**
MAIM		**82.51**	**314**	P	**P**	**18 39 01.8**	**-1.0**
SARO	**Sassorosso**	**82.58**	**314**	P	**P**	**18 39 02.6**	**-0.5**
VLC	**Villacollemand**	**82.59**	**314**	*eP*	**P**	**18 39 02.6**	**-0.6**
	comp=Z,11nm,0.6s,mb5.0						
NB2	**NORSAR Subarra**	**82.61**	**331**	P	**P**	**18 39 02.5**	**-0.4**
	comp=Z,20nm,0.8s,mb5.2,baz=98,slow=5.3						
NB2	**NORSAR Subarra**	**82.61**	**331**	P	**P**	**18 39 02.5**	**-0.4**
	baz=98,slow=5.3						
VALM		**82.69**	**314**	P	**P**	**18 39 03.8**	**+0.1**
CLZ	**Clausthal**	**82.71**	**322**	*eP*	**P**	**18 39 03.9**	**+0.3**
	comp=Z,64nm,0.9s,mb5.7						
VINC	**Vinca**	**82.75**	**314**	P	**P**	**18 39 03.5**	**-0.5**
BSEG	**Bad Segeberg**	**82.80**	**324**	*eP*	**P**	**18 39 04.5**	**+0.5**
BACM		**82.81**	**314**	P	**P**	**18 39 04.0**	**-0.4**
HSP	**Hornsund**	**82.82**	**347**	*eP*	**P**	**18 39 03.1**	**-0.6**
GRAM		**82.82**	**314**	P	**P**	**18 39 04.6**	**+0.3**
DAVA	**Damuels**	**82.96**	**317⇑**	*iP*	**P**	**18 39 05.5**	**+0.5**
	comp=Z,54nm,0.9s,mb5.6						
CODM		**82.97**	**314**	P	**P**	**18 39 05.0**	**-0.1**
VSL	**Villasalto**	**83.36**	**309**	*eP*	**P**	**18 39 06.7**	**-0.5**
	comp=Z,61nm,1.0s,mb5.6						
VSL				*e*	pP	18 39 23.0	+2.3
STU	**Stuttgart**	**83.43**	**318⇑**	*eP*	**P**	**18 39 07.5**	**+0.2**
STU				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.4						
STU	**Stuttgart**	**83.43**	**318⇑**	*eP*	**P**	**18 39 07.5**	**+0.2**
	comp=Z,23nm,0.6s,mb5.4						
MUD	**Monsted U'grnd**	**83.51**	**326⇑**	*iP*	**P**	**18 39 08.2**	**+0.7**
MUD				pmax	pmax		
	comp=Z,32nm,0.7s,mb5.6						
MUD	**Monsted U'grnd**	**83.51**	**326⇑**	*iP*	**P**	**18 39 08.2**	**+0.7**
	comp=Z,32nm,0.7s,mb5.6						
PGF	**Pioggiola**	**83.60**	**312**	*eP*	**P**	**18 39 08.6**	**+0.2**
	comp=Z,52nm,0.9s,mb5.4						
PGF	**Pioggiola**	**83.60**	**312**	*eP*	**P**	**18 39 08.6**	**+0.2**
PGF				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.4						
TOD	**Tromm**	**83.68**	**319**	*eP*	**P**	**18 39 08.7**	**+0.1**
PCP	**Pian Castagno**	**83.91**	**314**	P	**P**	**18 39 09.1**	**-0.8**
BFO	**Black Forest**	**84.00**	**318**	*eP*	**P**	**18 39 10.1**	**-0.2**
BFO				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.5						
BFO	**Black Forest**	**84.00**	**318**	*eP*	**P**	**18 39 10.1**	**-0.2**
	comp=Z,34nm,0.9s,mb5.5						
FIN	**Finale Ligure**	**84.15**	**314**	P	**P**	**18 39 11.3**	**+0.2**
FELD	**Feldberg**	**84.23**	**318**	*eP*	**P**	**18 39 11.5**	**+0.1**
ORX	**Oropa**	**84.28**	**315**	P	**P**	**18 39 10.6**	**-1.2**
LANF	**Langenberg**	**84.34**	**319**	*eP*	**P**	**18 39 12.4**	**+0.4**
IMI	**Imperia**	**84.39**	**314**	P	**P**	**18 39 11.9**	**-0.4**
ROB	**Roburent**	**84.39**	**314**	P	**P**	**18 39 12.3**	**0.0**
TRAV		**84.45**	**315**	P	**P**	**18 39 11.6**	**-1.0**
MONE	**Monesi**	**84.48**	**314**	P	**P**	**18 39 13.3**	**+0.5**
ABH	**Alteburg**	**84.50**	**320**	*eP*	**P**	**18 39 13.5**	**+0.8**
NEGI	**Negi**	**84.53**	**313**	P	**P**	**18 39 13.2**	**+0.2**
WLS	**Welschbruch**	**84.65**	**318**	*eP*	**P**	**18 39 13.5**	**0.0**
CDF	**Champ du Feu**	**84.70**	**318**	*eP*	**P**	**18 39 13.6**	**-0.2**
	comp=Z,54nm,1.0s,mb5.3						
CDF	**Champ du Feu**	**84.70**	**318**	*eP*	**P**	**18 39 13.6**	**-0.2**
CDF				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.3						
ENR	**Entracque**	**84.72**	**314**	P	**P**	**18 39 13.7**	**-0.3**
SBF	**Sospel**	**84.72**	**313**	*eP*	**P**	**18 39 14.1**	**+0.1**
	comp=Z,81nm,0.6s,mb5.7						
SBF	**Sospel**	**84.72**	**313**	*eP*	**P**	**18 39 14.1**	**+0.1**
SBF				pmax	pmax		
	comp=Z,40nm,0.6s,mb5.7						
AUTN	**L'Aution**	**84.72**	**314**	*eP*	**P**	**18 39 14.9**	**+0.9**
STV	**Sta Anna Valdi**	**84.79**	**314**	P	**P**	**18 39 13.7**	**-0.6**
ECH	**Echery**	**84.79**	**318**	*eP*	**P**	**18 39 14.1**	**-0.1**
RSP	**Reno Superiore**	**84.81**	**315**	P	**P**	**18 39 13.8**	**-0.6**
BHB	**Bricherasio**	**84.81**	**314**	P	**P**	**18 39 13.3**	**-1.1**
RUP	**Ruppelstein**	**84.81**	**319**	*eP*	**P**	**18 39 14.8**	**+0.5**
MOF	**Molkenrain**	**84.81**	**317**	*eP*	**P**	**18 39 14.1**	**-0.2**
TOUF	**Mont Tournerai**	**84.85**	**314**	*eP*	**P**	**18 39 15.4**	**+0.8**
LSD	**Ceresole Reale**	**84.87**	**315**	P	**P**	**18 39 15.5**	**+0.8**
MVIF	**Mont Vial**	**84.92**	**314**	*eP*	**P**	**18 39 15.7**	**+0.7**
PZZ	**Prazzo**	**84.94**	**314**	P	**P**	**18 39 14.0**	**-1.0**
FENE	**Fenestrelle**	**84.95**	**315**	P	**P**	**18 39 14.9**	**-0.2**
LOMF	**Lomont**	**85.04**	**317**	*eP*	**P**	**18 39 14.3**	**-1.2**
CALN	**Calern**	**85.12**	**313**	*eP*	**P**	**18 39 16.8**	**+0.8**
RRL	**Cesana Torines**	**85.15**	**315**	P	**P**	**18 39 15.9**	**-0.2**
LPG	**La Plagne**	**85.15**	**315**	*eP*	**P**	**18 39 16.6**	**+0.5**
	comp=Z,48nm,0.6s,mb5.5						
LPG	**La Plagne**	**85.15**	**315**	*eP*	**P**	**18 39 16.6**	**+0.5**
LPG				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.5						
MBDF	**Montbardon**	**85.17**	**314**	*eP*	**P**	**18 39 15.8**	**-0.4**
	comp=Z,22nm,0.9s,mb5.0						
MBDF	**Montbardon**	**85.17**	**314**	*eP*	**P**	**18 39 15.8**	**-0.4**
MBDF				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0						
BNI	**Bardonecchia**	**85.22**	**315**	*eP*	**P**	**18 39 16.2**	**-0.2**
BNI				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.1						
BNI	**Bardonecchia**	**85.22**	**315**	*eP*	**P**	**18 39 16.2**	**-0.2**
	comp=Z,14nm,0.8s,mb5.1						
RSL	**Roselend**	**85.23**	**315**	*eP*	**P**	**18 39 17.1**	**+0.6**
HAU	**Haudompre**	**85.34**	**318**	*eP*	**P**	**18 39 16.8**	**-0.1**
	comp=Z,65nm,0.7s,mb5.6						
HAU	**Haudompre**	**85.34**	**318**	*eP*	**P**	**18 39 16.8**	**-0.1**
HAU				pmax	pmax		
	comp=Z,33nm,0.7s,mb5.6						
THEF	**They Montfort**	**85.57**	**318**	*eP*	**P**	**18 39 18.0**	**-0.1**
TAVF	**Tavernes**	**85.73**	**313**	*eP*	**P**	**18 39 19.8**	**+0.9**
VILF	**Villemus**	**85.96**	**314**	*eP*	**P**	**18 39 21.1**	**+1.0**
PUYF	**Puyloubier**	**85.99**	**313**	*eP*	**P**	**18 39 19.8**	**-0.4**
BERF	**Bertagne**	**86.01**	**313**	*eP*	**P**	**18 39 21.5**	**+1.2**
BAIF	**Baives**	**86.64**	**320**	*eP*	**P**	**18 39 23.8**	**+0.5**
	comp=Z,78nm,1.0s,mb5.6						
BAIF	**Baives**	**86.64**	**320**	*eP*	**P**	**18 39 23.8**	**+0.5**
BAIF				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.6						
SSF	**Saint Saulge**	**87.31**	**317**	*eP*	**P**	**18 39 26.7**	**+0.1**
SSF				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.3						
SSF	**Saint Saulge**	**87.31**	**317**	*eP*	**P**	**18 39 26.7**	**+0.1**
	comp=Z,18nm,0.9s,mb5.3						
PLDF	**La Plantade**	**87.31**	**316**	*eP*	**P**	**18 39 28.0**	**+1.4**
LBL	**Lubilhac**	**87.63**	**315**	*eP*	**P**	**18 39 30.3**	**+2.1**
AGO	**Saint Agoulin**	**87.65**	**316**	*eP*	**P**	**18 39 30.1**	**+1.8**
PYM	**Petit Puy Mans**	**87.76**	**316**	*eP*	**P**	**18 39 30.4**	**+1.6**
BGF	**Bois d'Agland**	**87.81**	**316**	*eP*	**P**	**18 39 29.5**	**+0.5**
	comp=Z,72nm,1.1s,mb5.5						
BGF	**Bois d'Agland**	**87.81**	**316**	*eP*	**P**	**18 39 29.5**	**+0.5**
BGF				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.5						
RJF	**Les Rejaudoux**	**88.84**	**315**	*eP*	**P**	**18 39 34.6**	**+0.6**
	comp=Z,16nm,0.7s,mb5.2						
RJF	**Les Rejaudoux**	**88.84**	**315**	*eP*	**P**	**18 39 34.6**	**+0.6**
RJF				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb5.2						
EMIR	**Miracle**	**89.18**	**312**	P	**P**	**18 39 37.2**	**+1.6**
	comp=Z,173nm,1.8s,mb6.1						
EPOB	**Poblet**	**89.57**	**311**	P	**P**	**18 39 38.2**	**+0.7**
	comp=Z,58nm,1.7s,mb5.6						
EIBI	**Ibiza**	**89.61**	**309**	P	**P**	**18 39 38.8**	**+1.0**
	comp=Z,45nm,1.1s,mb5.7						
LCP	**Cassop**	**89.64**	**325**	*eP*	**P**	**18 39 38.8**	**+1.3**
ANM	**Nome**	**89.81**	**25**	*eP*	**P**

RATI				⇑*i*Sn	Sn	18 43 29.6	-5.1
KEDI	**Kedomdong**	**3.04**	**92**⇑	*e*Pn	Pn	18 43 08.3	-3.0
	42nm,0.3s						

*NEIC **04** 19:02:13.1,37.30S×179.96E,h12km,ML4.0(WEL),After WEL.*
WEL 04 19:02:12.8±0.6,37.22S×179.85W,h33km,ML4.1/3,Error ellipse: s-maj=5.5km s-min=5.3km az=90.0,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.51**	**256**	P	P	19 02 36.6	-1.1
MXZ				S	S	19 02 54.6	-1.8
MXZ	**Matakaoa Point**	**1.51**	**256**	PN	Pn	19 02 36.6	-1.3
MXZ				SN	Sn	19 02 54.6	-2.0
PUZ	**Puketiti**	**1.73**	**240**	P	P	19 02 40.0	-0.9
PUZ				S	S	19 03 00.4	-1.6
PUZ	**Puketiti**	**1.73**	**240**	PN	Pn	19 02 40.2	-0.8
PUZ				SN	Sn	19 03 00.4	-1.8
MWZ	**Matawai**	**2.36**	**241**	P	P	19 02 48.6	-1.3
MWZ				S	S	19 03 14.4	-3.6
MWZ	**Matawai**	**2.36**	**241**	PN	Pn	19 02 48.8	-1.3
MWZ				SN	Sn	19 03 14.6	-3.6
URZ	**Urewera**	**2.62**	**246**	P	P	19 02 52.8	-0.9
URZ	**Urewera**	**2.62**	**246**	PN	Pn	19 02 52.8	-1.1
URZ				SN	Sn	19 03 22.1	-2.8
KNZ	**Kokohu**	**2.66**	**227**	P	P	19 02 52.4	-1.8
KNZ				S	S	19 03 22.0	-3.5
KNZ	**Kokohu**	**2.66**	**227**	PN	Pn	19 02 52.4	-1.9
KNZ				SN	Sn	19 03 22.0	-3.8
MRZ	**Mangatainoka R**	**4.95**	**225**	*e*P	P	19 03 22.5	-4.3
MRZ	**Mangatainoka R**	**4.95**	**225**	PN	Pn	19 03 22.5	-4.5

*CSEM **04** 19:07:58.7,5.36N×94.73E,h8km,mb5.5*
*BJI **04** 19:08:01.2,4.87N×94.58E,h42km,mB5.3,mb5.4,Ms5.6,Msz5.1*
*MOS **04** 19:08:02.2±0.8,5.30N×94.70E,h33km,mb5.7/27,MS5.3/6,Error ellipse: s-maj=14.2km s-min=6.6km az=116.6*
*NEIC **04** 19:08:03.0±0.2,5.12N×94.60E,mb5.3/65,Error ellipse: s-maj=6.2km s-min=4.2km az=209.0*
NEIC Felt at Banda Aceh.
*HRVD **04** 19:08:03.0±0.5,5.17N×94.29E,h34km±2km,MW5.2/30,Centroid moment Tensor Solution. LP body waves: s30,c41;Mantle waves: s27,c31; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.92±.33; $M_{\theta\theta}$-1.64±.27; $M_{\phi\phi}$-3.28±.36; $M_{r\theta}$1.43±.41; $M_{\theta\phi}$1.47±.20; $M_{\phi r}$-5.53±.62; Best double couple: $M_0$7.277×10^{16} NP1:ϕ_s323°,δ20°,λ73°. NP2:ϕ_s162°,δ71°,λ96°. Principal axes: T 7.746, Plg64°, Azm81°; N -.938, Plg6°, Azm340°; P -6.808, Plg26°, Azm247°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 04 19:08:01.9±0.2,5.12N±0.04×94.61E±0.03,h33km,(h30km±1.6km:pP-P),n236,σ_0=97/239,mb5.4/93,MS5.3/8,55C-13D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.32**	**71**	P	P	19 09 37.0	+1.9
	820nm,1.0s						
NST	**Nakhon Sawan**	**11.81**	**27**	P	P	19 10 56.1	+5.0
KKTK	**Khon Kaen**	**13.76**	**35**	P	P	19 11 21.0	+3.9
	802nm,0.6s						
CM31	**Chiang Mai Arr**	**13.92**	**17**	*e*P	P	19 11 22.9	+3.7
PALK	**Pallekele**	**13.99**	**280**	*e*P	P	19 11 19.5	-0.6
CHG	**Chiang Mai**	**14.26**	**17**	⇓P	P	19 11 27.1	+3.5
	20nm,0.8s						
UBT	**Ubonrachathani**	**14.36**	**45**	P	P	19 11 34.5	+10
CHRT	**Chiangrai**	**15.51**	**19**	⇑P	P	19 11 43.5	+3.6
	658nm,0.8s						
MDRS	**Chennai**	**16.22**	**300**	*e*P	P	19 11 49.1	+0.1
MDRS				*e*		19 14 32.3	
VIS	**Vishakhapatnam**	**16.69**	**320**	*e*P	P	19 11 56.5	+1.6
VIS				*e*		19 11 59.8	
	comp=Z,43nm,0.6s						
VIS				*e*		19 14 43.5	
BWNR	**Bhubaneshwar**	**17.35**	**331**	*e*P	P	19 12 00.6	-2.6
BWNR				*e*		19 12 02.9	
	comp=Z,58nm,0.6s						
BWNR				*e*		19 14 57.8	
KOD	**Kodaikanal**	**17.73**	**288**	*e*P	P	19 12 07.2	-0.7
KOD				*e*		19 12 13.8	
	comp=Z,75nm,1.6s						
HYB	**Hyderabad**	**19.91**	**309**	*e*P	P	19 12 33.0	-0.6
	comp=Z,93nm,1.2s						
HYB				*e*S	S	19 16 04.5	-6.3
HYB	**Hyderabad**	**19.91**	**309**	*i* P	P	19 12 33.0	-0.6
	comp=Z,93nm,1.2s						
HYB				*e*S	S	19 16 04.5	-6.3
QIZ	**Qiongzhong**	**20.30**	**46**	P	P	19 12 38.9	+1.1
QIZ				XP		19 12 55.5	
QIZ				S	S	19 16 17.5	-1.1
QIZ				AMB	AMB		
	comp=Z,53nm,1.2s						
QIZ	**Qiongzhong**	**20.30**	**46**⇑	*e*P	P	19 12 39.2	+1.5
	comp=Z,115nm,1.1s						
SHL	**Shillong**	**20.50**	**353**	*e*P	P	19 12 37.0	-2.8
SHL				*e*		19 12 44.1	
	comp=Z,83nm,0.7s						
SHL				*e*S	S	19 16 20.3	-2.2
BLSP	**Bilaspur**	**20.78**	**326**	*i*	P	19 12 43.4	+0.7
BLSP				*e*S	S	19 16 30.3	+2.5
GOA	**Goa**	**22.87**	**298**	*e*	P	19 13 11.8	+8.1
GOA				*e*		19 13 34.8	
	comp=Z,88nm,1.1s						
GOA				*e*S	S	19 17 12.9	+6.1
KAD	**Karad**	**23.38**	**303**	*e*P	P	19 13 10.5	+1.8
KAD				*e*S	S	19 17 19.1	+3.4
ALBI	**Allahabad**	**23.53**	**330**	*e*P	P	19 13 11.0	+0.9
JIRN	**Jiri**	**23.81**	**341**	*e*P	P	19 13 12.4	-0.4
	comp=Z,467nm,0.9s,mb5.9						
PKI	**Pulchoki**	**23.99**	**340**	*e*P	P	19 13 14.6	+0.1
	comp=Z,119nm,0.7s,mb5.4						
DMN	**Daman**	**24.13**	**339**	*e*P	P	19 13 16.0	+0.1
	comp=Z,164nm,0.7s,mb5.6						
GUN	**Gumba**	**24.14**	**341**	*e*P	P	19 13 15.9	-0.1
	comp=Z,446nm,0.9s,mb5.9						
KKN	**Kakani**	**24.23**	**340**	*e*P	P	19 13 16.8	-0.1
	comp=Z,378nm,0.8s,mb5.8						
POO	**Poona**	**24.26**	**305**	*i* P	P	19 13 21.0	+3.7
POO				*e*		19 17 40.0	
POO				*i*		19 17 45.4	
BHPL	**Bhopal**	**24.48**	**319**	*e*P	P	19 13 21.3	+1.8
BHPL				*e*		19 13 24.9	
	comp=Z,48nm,0.7s						
BHPL				*e*		19 17 54.0	
GKN	**Gorkha**	**24.66**	**338**	*e*P	P	19 13 21.5	+0.4
	comp=Z,492nm,0.9s,mb6.0						
LSA	**Lhasa**	**24.67**	**353**	P	P	19 13 22.3	+1.1
LSA				AMB	AMB		
	comp=Z,1μm,0.9s,mb6.3						
LSA	**Lhasa**	**24.67**	**353**	*e*P	P	19 13 21.0	-0.1
	comp=Z,150nm,0.7s,mb5.6						
KOLN	**Koldanda**	**24.84**	**336**	*e*P	P	19 13 23.6	+0.7
	comp=Z,572nm,1.1s,mb6.0						
LUBP	**Lubang**	**26.68**	**69**	*e*P	P	19 13 41.3	+1.2
LUBP	**Lubang**	**26.68**	**69**	*e*P	P	19 13 41.3	+1.2
QVPH	**Quezon City--P**	**27.70**	**68**⇓	*e*P	P	19 13 45.4	-4.0
LQP	**Lukban**	**27.99**	**69**⇑	*e*P	P	19 13 53.1	+1.1
OTRP	**Odiongan**	**28.02**	**73**	*e*P	P	19 13 53.2	+0.9
BOAC	**Boac**	**28.10**	**71**	*e*P	P	19 13 51.9	-1.2
POLP	**Polilio Island**	**28.53**	**68**	*e*P	P	19 13 57.6	+0.7
AJM	**Ajmer**	**28.55**	**320**	*e*P	P	19 13 56.0	-1.0
NDI	**New Delhi**	**28.66**	**327**	*e*P	P	19 13 55.8	-2.1
NDI				*e*		19 13 57.2	
	comp=Z,15nm,0.0s						
ENH	**Enshi**	**28.69**	**28**⇑	*i*P	P	19 13 57.3	-0.9
	comp=Z,98nm,0.7s,mb5.7						
AUQP	**San Andres**	**28.85**	**72**	*e*P	P	19 14 01.0	+1.2
DDI	**Dehra Dun**	**29.53**	**330**	*e*P	P	19 14 07.3	+1.6
SMLA	**Simla**	**30.63**	**330**	*e*	P	19 14 27.9	+12
SMLA				*e*		19 14 46.3	
	comp=Z,56nm,1.2s						
WHN	**Wuhan**	**31.39**	**34**	⇓P	P	19 14 23.0	+0.8
WHN				AMB	AMB		
	comp=Z,112nm,1.0s,mb5.7						
XAN	**Xi'an**	**31.70**	**23**	P	P	19 14 24.0	-0.9
XAN				AMB	AMB		
	comp=Z,230nm,0.8s,mb6.1						
LZH	**Lanzhou**	**31.97**	**14**	⇑P	P	19 14 26.5	-0.7
LZH				AP	pP	19 14 35.6	-1.3
LZH				XP	sP	19 14 39.5	-1.7
LZH				PP	PP	19 15 33.7	0.0
LZH				S	S	19 19 34.5	-0.7
LZH				AMB	AMB		
	comp=Z,39nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,134nm,5.4s						
LZH				LR	LR		
	comp=E,2μm,13.0s						
LZH				LR	LR		
	comp=Z,2μm,17.0s,MS5.0						
NJ2	**Nanjing**	**35.12**	**37**	*e*P	P	19 14 55.1	+0.7
NJ2				AP	pP	19 15 04.1	0.0
NJ2				XP	sP	19 15 06.3	-2.1
NJ2				PP	PP	19 16 11.0	-2.5
NJ2				S	S	19 20 24.0	-0.1
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,1μm,3.9s						
NJ2				LR	LR		
	comp=N,16μm,22.3s						
NJ2				LR	LR		
	comp=E,14μm,14.9s						
NJ2				LR	LR		
	comp=Z,14μm,14.2s						
MBWA	**Marble Bar**	**35.91**	**137**	*e*P	P	19 14 59.9	-1.3
FITZ	**Fitzroy Crossi**	**38.33**	**128**⇑	*i*P	P	19 15 21.0	-0.6
	comp=Z,47nm,1.0s,mb5.2						
FITZ				*e*PCP	PcP	19 17 35.7	+0.1
WMQ	**Urumqi**	**39.02**	**352**	⇑P	P	19 15 28.0	+0.9
WMQ				AP	pP	19 15 40.0	+3.1
WMQ				XP	sP	19 15 45.6	+4.5
WMQ				PP	PP	19 17 02.4	+1.6
WMQ				S	S	19 21 23.5	-0.3
WMQ				AMB	AMB		
	comp=Z,90nm,0.9s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,550nm,5.6s						
WMQ				LR	LR		
	comp=N,3μm,19.2s,MS5.3						
WMQ				LR	LR		
	comp=E,3μm,21.5s,MS5.3						
WMQ				LR	LR		
	comp=Z,3μm,18.3s,MS5.1						
BJT	**Baijiatuau**	**39.81**	**26**⇑	*i*P	P	19 15 35.1	+1.4
	comp=Z,176nm,0.9s,mb5.8						
BJT				*e*		19 15 47.8	
ULHL	**Ulahol**	**40.42**	**339**	P	P	19 15 39.3	+0.6
	SNR=5.6						
KZA	**Kyzart**	**40.64**	**338**	P	P	19 15 41.6	+1.0
	SNR=10						
UCH	**Uchtor**	**41.05**	**337**	P	P	19 15 45.3	+1.3
	SNR=43						
TKM2	**Tokmak 2**	**41.24**	**339**	P	P	19 15 46.4	+0.9
	SNR=13						
KBK	**Karagaybulak**	**41.26**	**338**	P	P	19 15 47.1	+1.5
	SNR=46						
AML	**Almayashu**	**41.29**	**336**	P	P	19 15 47.3	+1.4
	SNR=34						
AAK	**Ala-Archa**	**41.41**	**337**	P	P	19 15 51.1	+4.3
	SNR=30						
AAK	**Ala-Archa**	**41.41**	**337***c*	*i*P	P	19 15 46.2	-0.6
AAK				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.1						
AAK	**Ala-Archa**	**41.41**	**337**⇑	*e*P	P	19 15 46.2	-0.6
	comp=Z,50nm,0.7s,mb5.2						
FRU	**Bishkek**	**41.53**	**338**	*e*P	P	19 15 48.5	+0.6
FRU				pmax	pmax		
	comp=Z,55nm,1.8s,mb4.9						
KAKA	**Kakadu**	**41.56**	**116**	*e*P	P	19 15 47.4	-1.1
	comp=Z,26nm,0.9s,mb4.9						
KAKA				*e*PCP	PcP	19 17 45.7	-0.3
CHMS	**Chumysh**	**41.62**	**338**	P	P	19 15 48.7	+0.1
	SNR=20						
EKS2	**Erkin-Say**	**41.71**	**337**	P	P	19 15 50.6	+1.2
	SNR=25						
USP	**Ospenovka**	**41.95**	**338**	P	P	19 15 52.0	+0.7
	SNR=38						
MUN	**Mundaring**	**42.24**	**152**⇓	*i*P	P	19 15 54.4	+0.5
	comp=Z,7.9nm,0.6s,mb4.5						
MK02	**Makanchi Array**	**42.84**	**348**	P	P	19 15 58.9	+0.4
MK02				pmax	pmax		
	comp=Z,137nm,0.9s,mb5.7						
INCN	**Inchon**	**43.49**	**38**	*e*P	P	19 16 03.6	-0.4
	comp=Z,61nm,1.0s,mb5.3						
SNY	**Shenyang**	**44.75**	**31**	⇑P	P	19 16 14.1	0.0
SNY				AMB	AMB		
	comp=Z,40nm,1.4s,mb5.1						
ZAK	**Zakamensk**	**45.70**	**8**⇓	*e*P	P	19 16 20.6	-0.9
ZAK				*e*		19 17 59.0	
WRAB	**Tennant Creek**	**46.33**	**124***c*	*i*P	P	19 16 27.2	+0.3
WRAB	**Tennant Creek**	**46.33**	**124**⇑	*i*P	P	19 16 27.1	+0.3
	comp=Z,226nm,0.8s,mb6.2						
WB2	**Warramunga Arr**	**46.33**	**124**⇑	*i*P	P	19 16 27.2	+0.3
MOY	**Mondy**	**46.70**	**5**	*e*P	P	19 16 29.3	-0.1
TLY	**Talaya**	**47.02**	**8**	*e*P	P	19 16 32.4	+0.6
TLY				*e*		19 16 49.5	
TLY				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.1						
TLY	**Talaya**	**47.02**	**8**⇑	*e*P	P	19 16 32.2	+0.4
TLY				*e*PcP	PcP	19 18 04.0	-0.1
IRK	**Irkutsk**	**47.65**	**8**	*e*P	P	19 16 35.2	-1.7
IRK				*e*		19 16 49.0	
HIA	**Hailar**	**48.88**	**22**⇑	*e*P	P	19 16 46.3	-0.1
	comp=Z,25nm,0.5s,mb5.5						
HIA				*e*PcP	PcP	19 18 09.8	-1.1
MDJ	**Mudanjiang**	**49.85**	**32**	P	P	19 16 53.7	-0.2
MDJ				AP	pP	19 17 02.6	-1.2
MDJ				XP	sP	19 17 06.4	-1.5
MDJ				PP	PP	19 18 47.6	-1.9
MDJ				SCP		19 22 06.6	
MDJ				PCS		19 22 10.1	
MDJ				AMB	AMB		
	comp=Z,33nm,1.3s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,349nm,5.0s						
MDJ				LR	LR		
	comp=N,1μm,30.4s,MS5.0						
MDJ				LR	LR		
	comp=E,2μm,34.6s,MS5.0						
MDJ				LR	LR		
	comp=Z,2μm,34.6s,MS4.9						
MDJ	**Mudanjiang**	**49.85**	**32**	*e*P	P	19 16 54.4	+0.5
	comp=Z,43nm,1.0s,mb5.4						
NVS	**Novosibirsk**	**50.42**	**351**	*i* P	P	19 16 56.9	-1.3
NVS				pmax	pmax		
	comp=Z,73nm,0.9s,mb5.7						
NVS				pmax	pmax		
	comp=N,44nm,0.8s						
NVS				pmax	pmax		
	comp=E,24nm,0.8s						
MAT	**Matsushiro**	**50.70**	**46**	*e*P	P	19 17 00.0	-0.5
	comp=E,10nm,0.7s,mb4.9						
MAT	**Matsushiro**	**50.70**	**46**	P	P	19 17 00.4	-0.1
KLR	**Kul'dur**	**54.03**	**29**	*e*P	P	19 17 22.4	-2.9
KLR				*e*		19 17 34.6	
KLR				pmax	pmax		
	comp=N,35nm,1.8s						
KLR				pmax	pmax		
	comp=E,60nm,1.8s						
KLR				pmax	pmax		
	comp=Z,70nm,1.8s,mb5.3						
PMG	**Port Moresby**	**54.32**	**105**	*i* P	P	19 17 27.5	-0.4
PMG	**Port Moresby**	**54.32**	**105**	P	P	19 17 26.9	-1.0
	comp=Z,52nm,0.8s,mb5.5						
BOD	**Bodaibo**	**54.72**	**13**	*e*P	P	19 17 28.8	-1.4
CTA	**Charters Tower**	**56.59**	**118**	*e*P	P	19 17 42.7	-1.5
	comp=Z,17nm,0.9s,mb5.1						
CTAO	**Charters Tower**	**56.59**	**118**	*e*P	P	19 17 42.5	-1.6
	comp=Z,32nm,0.9s,mb5.3						
GNI	**Garni**	**56.70**	**315***d*	*i*P	P	19 17 44.6	-0.1
GNI				pmax	pmax		
	comp=Z,39nm,1.5s						
GNI	**Garni**	**56.70**	**315**	*i* Pr		19 17 44.6	
KMBO	**Kilima Mbogo**	**57.62**	**265**	*i* P	P	19 17 53.2	+1.6
KMBO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMBO	**Kilima Mbogo**	**57.62**	**265**	*e*P	P	19 17 52.8	+1.2
	comp=Z,8.1nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**57.89**	**133**⇑	*i*P	P	19 17 52.6	-0.7
	comp=Z,12nm,1.0s,mb4.9						
SVE	**Sverdlovsk**	**58.12**	**339**	*e*P	P	19 17 53.0	-1.5
SVE				pmax	pmax		
	comp=Z,80nm,1.5s,mb5.5						
ARU	**Arti**	**58.59**	**337**⇓	*i*P	P	19 17 54.4	-3.4
ARU				*e*		19 18 43.7	
ARU				*e*S	S	19 25 54.6	-3.2
ARU				*e*		19 27 38.0	
ARU				*e*SS	SS	19 29 45.5	-6.9
ARU				*e*SSS	SSS	19 32 19.3	+3.7
ARU				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.2						
ARU				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.5						
ARU				MLR	MLR		
	comp=N,2μm,19.0s,MS5.5						
ARU				MLR	MLR		
	comp=E,3μm,18.0s,MS5.5						
YSS	**Yuzh-Sakhalins**	**58.68**	**37**⇓	*i*P	P	19 17 58.5	-0.1
YSS				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.7						
YSS	**Yuzh-Sakhalins**	**58.68**	**37**	*e*P	P	19 17 58.2	-0.4
	comp=Z,50nm,0.8s,mb5.6						
KIV	**Kislovodsk**	**59.67**	**319**	P	P	19 18 04.2	-1.3
	comp=Z,272nm,0.9s,mb6.3,SNR=17						
KIV	**Kislovodsk**	**59.67**	**319***c*	*i*P	P	19 18 04.2	-1.3
KIV				*e*		19 20 11.3	
KIV				*e*S	S	19 26 11.2	-0.8
KIV				pmax	pmax		
	comp=Z,71nm,1.4s,mb5.5						
KIV	**Kislovodsk**	**59.67**	**319**⇑	*i*P	P	19 18 03.8	-1.7
	comp=Z,39nm,0.8s,mb5.5						
GOF	**Gofitskoye**	**59.91**	**320**⇓	*i*P	P	19 18 06.0	-1.1
GOF				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.3						
MALT	**Malatya**	**60.60**	**311**⇑	*e*P	P	19 18 11.5	-0.5
	comp=Z,16nm,1.2s,mb5.0						
MALT				*e*	pP	19 18 20.1	-2.0
EIL	**Elat**	**61.21**	**301**	*e*P	P	19 18 15.9	-0.2
	comp=Z,11nm,0.8s,mb5.0						
SOC	**Sochi**	**61.50**	**317**	*e*P	P	19 18 15.6	-2.3
SOC				pmax	pmax		
	comp=Z,48nm,1.0s,mb5.6						
SOC				pmax	pmax		
	comp=N,40nm,1.2s						
SOC				pmax	pmax		
	comp=E,8.0nm,0.7s						
YAK	**Yakutsk**	**62.45**	**18***c*	*i*P	P	19 18 22.3	-1.7
YAK				pmax	pmax		
	comp=Z,51nm,1.0s,mb5.6						
YAK				pmax	pmax		
	comp=N,18nm,1.2s						
YAK				pmax	pmax		
	comp=E,14nm,1.2s						
YAK	**Yakutsk**	**62.45**	**18**⇑	*i*P	P	19 18 22.2	-1.8
	comp=E,131nm,0.9s,mb6.1						
TOO	**Toolangi**	**63.54**	**136**	*e*P	P	19 18 32.6	+1.0
	comp=E,17nm,0.9s,mb5.1						
MBAR	**Mbarara**	**64.04**	**267**	*e*P	P	19 18 35.5	+0.2
	comp=E,17nm,1.2s,mb4.9						
VOR	**Voronezh**	**65.10**	**326**	*e*P	P	19 18 39.0	-2.4
VOR				pmax	pmax		
	comp=Z,100nm,0.8s,mb5.9						
SIM	**Simferopol'**	**65.75**	**317**	*e*P	P	19 18 46.0	+0.3
SIM				S	S	19 27 27.0	-1.2
SIM				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.5						
MOS	**Moscow**	**67.66**	**329**	*e*P	P	19 18 56.2	-1.4
MOS				pmax	pmax		
	comp=Z,85nm,0.9s,mb5.8						
OBN	**Obninsk**	**67.95**	**328***c*	*i*P	P	19 18 57.8	-1.6
OBN				*e*		19 21 26.1	
OBN				*e*S	S	19 27 55.2	+0.7
OBN				pmax	pmax		
	comp=Z,74nm,1.0s,mb5.7						
OBN	**Obninsk**	**67.95**	**328**	*e*P	P	19 18 57.6	-1.8
	comp=Z,62nm,0.8s,mb5.7						
SKR	**Severo-Kuril's**	**68.25**	**37**	*e*P	P	19 18 57.4	-4.0
SKR				*e*	pP	19 19 09.4	-2.3
SKR				pmax	pmax		
	comp=Z,140nm,0.8s,mb6.0						
SKR				MLR	MLR		
	comp=N,9μm,26.0s,MS6.0						
SKR				MLR	MLR		
	comp=E,8μm,26.0s,MS6.0						
LSZ	**Lusaka**	**68.81**	**252**	*e*P	P	19 19 04.0	-1.5
	comp=E,12nm,1.1s,mb4.7						
MA2	**Magadan**	**68.99**	**27***c*	*i*P	P	19 19 05.1	-0.7
MA2				*e*PPP	PPP	19 23 20.6	+1.9
MA2				*e*S	S	19 28 03.4	-3.5
MA2				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
MA2				pmax	pmax		
	comp=N,9.0nm,0.9s						
MA2				pmax	pmax		
	comp=E,10.0nm,1.2s						
MA2				MLR	MLR		
	comp=Z,7μm,28.1s,MS5.7						
MA2	**Magadan**	**68.99**	**27**⇑	*e*P	P	19 19 05.2	-0.6
	comp=Z,48nm,0.7s,mb5.5						
TIXI	**Tiksi**	**69.83**	**11**⇑	*i*P	P	19 19 09.1	-1.7
TIXI				*e*S	S	19 28 06.5	-10
TIXI				pmax	pmax		
	comp=Z,79nm,0.8s,mb5.7						
TIXI				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.1						
TIXI	**Tiksi**	**69.83**	**11**	*i* P	P	19 19 09.4	-1.4
KIS	**Kishinev**	**69.87**	**318**	*e*P	P	19 19 10.0	-1.4
KIS				*e*		19 19 33.0	
PRD	**Provadia**	**69.96**	**314**	*e*P	P	19 19 11.0	-1.1
PET	**Petropavlovsk**	**70.49**	**35**	*e*P	P	19 19 14.1	-1.0
PET				*e*S	S	19 28 22.6	-2.0
PET				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.4						
PET				pmax	pmax		
	comp=N,17nm,0.8s						
PET				pmax	pmax		
	comp=E,13nm,0.7s						
PET				MLR	MLR		
	comp=Z,900nm,17.0s,MS5.1						
PET	**Petropavlovsk**	**70.49**	**35**	*i* P	P	19 19 14.1	-1.0
RZN	**Rozhen**	**71.63**	**312**	*e*P	P	19 19 21.0	-1.1
MMB	**Musomiste**	**72.34**	**312**	*e*P	P	19 19 25.0	-1.3
MNK	**Minsk**	**72.48**	**326**⇓	*e*P	P	19 19 23.0	-3.9
MNK				pmax	pmax		
	comp=Z,320nm,1.0s,mb6.2						
PUL	**Pulkovo**	**72.84**	**331**⇑	*e*P	P	19 19 28.9	-0.1
PUL				pmax	pmax		
	comp=Z,37nm,0.8s,mb5.4						
PUL				pmax	pmax		
	comp=N,49nm,1.0s						
PUL				pmax	pmax		
	comp=E,83nm,1.1s						
PUL	**Pulkovo**	**72.84**	**331**	*i* P	P	19 19 29.1	+0.1
KKB	**Krupnik**	**72.86**	**312**	*e*P	P	19 19 27.0	-2.5
VTS	**Vitosha**	**72.88**	**313**	*e*P	P	19 19 28.0	-1.6
JOF	**Joensuu**	**73.52**	**335**	*e*p	P	19 19 33.6	+0.6
	comp=E,0.8nm,0.4s						
JOF	**Joensuu**	**73.52**	**335**	*e*P	P	19 19 33.6	+0.6
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
LVV	**L'vov**	**73.62**	**320**⇑	*i*P	P	19 19 33.2	-0.6
SKO	**Skopje**	**74.09**	**312**	*i* P	P	19 19 35.0	-1.7
VSU	**Vasula**	**74.18**	**330**	*i* P	P	19 19 36.5	-0.3
KWP	**Kalwaria**	**74.42**	**320**

OKC	**Ostrava-Krasne**	**77.38**	**320**	*e*P	**P**	**19 19 55.8**	**+0.5**
OKC				*ex*	x	19 20 10.4	
OKC				AMS	AMS	20 09 50.0	
	comp=Z,1μm,16.8s						
KEV	**Kevo**	**77.57**	**341**	*e*p	**P**	**19 19 55.6**	**-0.4**
	comp=Z,0.3nm,0.3s						
MORC	**Moravsky Berou**	**77.76**	**320⇑**	*e*P	**P**	**19 19 57.6**	**+0.3**
	comp=Z,41nm,0.9s,mb5.4						
ZST	**Bratislava**	**77.88**	**318**	*i* P	**P**	**19 19 58.7**	**+0.7**
GKP	**Gorka Klasztor**	**78.37**	**323**	*e*P	**P**	**19 20 00.4**	**-0.2**
BILL	**Bilibino**	**78.47**	**21⇓**	*i*P	**P**	**19 20 00.6**	**-0.3**
BILL				*e*		19 22 55.0	
BILL				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.1						
BILL	**Bilibino**	**78.47**	**21**	*e*P	**P**	**19 19 59.8**	**-1.1**
	comp=Z,11nm,0.8s,mb4.8						
DPC	**Dobruska-Polom**	**78.60**	**320**	*e*P	**P**	**19 20 02.8**	**+0.8**
DPC				*e*pP	pP	19 20 12.2	-0.1
DPC				*ex*	x	19 20 17.3	
DPC				AMS	AMS	20 02 00.0	
	comp=Z,2μm,19.0s						
KSP	**Ksiaz**	**78.67**	**321⇑**	*e*P	**P**	**19 20 02.8**	**+0.5**
KSP				*e*pP	pP	19 20 11.8	-0.9
KSP	**Ksiaz**	**78.67**	**321**	*e*P	**P**	**19 20 02.9**	**+0.6**
UPC	**Upice**	**78.82**	**320**	*e*P	**P**	**19 20 03.9**	**+0.8**
ARSA	**Arzberg**	**78.85**	**317⇓**	*i*P	**P**	**19 20 03.7**	**+0.3**
	comp=Z,46nm,1.2s,mb5.3						
SUR	**Sutherland**	**79.16**	**236**	*e*P	**P**	**19 20 07.8**	**+2.3**
	comp=Z,8.5nm,0.8s,mb4.7						
OBKA	**Obir**	**79.46**	**316⇑**	*i*P	**P**	**19 20 07.2**	**+0.4**
	comp=Z,35nm,1.1s,mb5.2						
PRU	**Pruhonice**	**79.71**	**320**	*e*P	**P**	**19 20 08.5**	**+0.5**
PRU				*e*pP	pP	19 20 18.3	-0.1
PRU				*ex*	x	19 20 23.2	
PRU				AMS	AMS	20 03 30.0	
	comp=Z,1μm,18.9s						
PVCC	**Panska Ves**	**79.74**	**320**	*e*P	**P**	**19 20 08.7**	**+0.6**
PVCC				*e*pP	pP	19 20 17.9	-0.6
PVCC				*ex*	x	19 20 24.1	
PVCC				AMS	AMS	20 05 20.0	
	comp=Z,2μm,20.4s						
MOA	**Molln**	**79.74**	**318⇑**	*i*P	**P**	**19 20 08.0**	**-0.2**
	comp=Z,21nm,1.2s,mb4.9						
VOY	**Vojsko**	**79.89**	**316**	*e*P	**P**	**19 20 08.8**	**-0.3**
VOY				*e*	pP	19 20 17.7	-1.8
VOY				*e*		19 20 23.3	
AQU	**L'Aquila**	**80.08**	**312**	*e*P	**P**	**19 20 10.1**	**0.0**
	comp=Z,26nm,0.8s,mb5.2						
BRG	**Berggiesshubel**	**80.16**	**321**	*i* P	**P**	**19 20 10.8**	**+0.4**
BRG				*i*		19 20 25.7	
BRG				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.2						
BRG	**Berggiesshubel**	**80.16**	**321**	*i* P	**P**	**19 20 10.8**	**+0.4**
	comp=Z,31nm,0.9s,mb5.2						
BRG				*i*		19 20 25.7	
GEC2	**GERESS Array S**	**80.18**	**319**	*i* P	**P**	**19 20 11.1**	**+0.5**
GEC2				pmax	pmax		
	comp=Z,70nm,0.9s,mb5.6						
GEC2	**GERESS Array S**	**80.18**	**319**	*i* P	**P**	**19 20 11.1**	**+0.5**
	comp=Z,70nm,0.9s,mb5.6						
KHC	**Kasperske Hory**	**80.28**	**319**	*e*P	**P**	**19 20 11.3**	**+0.2**
KHC				*e*pP	pP	19 20 20.4	-1.1
KHC				*ex*	x	19 20 25.7	
KHC				AMS	AMS	20 03 20.0	
	comp=Z,1μm,20.4s						
RUE	**Ruedersdorf**	**80.37**	**322⇑**	*e*P	**P**	**19 20 11.7**	**+0.2**
	comp=Z,105nm,0.8s,mb5.8						
WET	**Wettzell**	**80.74**	**319**	*e*P	**P**	**19 20 14.0**	**+0.5**
CLL	**Collm**	**80.78**	**321⇑**	*i*P	**P**	**19 20 13.7**	**0.0**
CLL				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.2						
CLL	**Collm**	**80.78**	**321⇑**	*i*P	**P**	**19 20 13.7**	**0.0**
	comp=Z,26nm,0.9s,mb5.2						
CLL				*i*		19 20 16.3	
CLL	**Collm**	**80.78**	**321**	⇑P	**P**	**19 20 13.7**	**0.0**
	comp=Z,logA/T=1.5,mb5.2						
NKC	**Novy Kostel**	**81.07**	**320**	*e*P	**P**	**19 20 15.9**	**+0.7**
NKC				AMS	AMS	20 03 30.0	
	comp=Z,2μm,21.2s						
WTTA	**Wattenberg**	**81.50**	**317⇑**	*i*P	**P**	**19 20 17.3**	**-0.2**
	comp=Z,59nm,1.0s,mb5.5						
WATA	**Walderalm**	**81.54**	**317⇑**	*i*P	**P**	**19 20 17.3**	**-0.4**
	comp=Z,20nm,0.9s,mb5.0						
MOX	**Moxa**	**81.62**	**320**	*e*P	**P**	**19 20 18.4**	**+0.3**
MOX				pmax	pmax		
	comp=Z,54nm,1.5s,mb5.3						
MOX	**Moxa**	**81.62**	**320**	*e*P	**P**	**19 20 18.4**	**+0.3**
	comp=Z,54nm,1.5s,mb5.3						
MOX	**Moxa**	**81.62**	**320**	*i* P	**P**	**19 20 18.4**	**+0.3**
	comp=Z,logA/T=1.6,mb5.3						
FUR	**Furstenfeldbru**	**81.76**	**318**	*e*P	**P**	**19 20 18.7**	**-0.2**
SQTA	**Sankt Quirin**	**81.78**	**317⇑**	*i*P	**P**	**19 20 18.9**	**-0.1**
	comp=Z,27nm,0.9s,mb5.2						
GRA1	**Grafenberg Arr**	**81.84**	**319**	*e*P	**P**	**19 20 20.1**	**+0.8**
	comp=Z,53nm,0.9s,mb5.5						
GRF	**Grafenberg Arr**	**81.84**	**319**	*e*P	**P**	**19 20 20.1**	**+0.8**
GRF				pmax	pmax		
	comp=Z,53nm,0.9s,mb5.5						
GRF	**Grafenberg Arr**	**81.84**	**319**	*e*P	**P**	**19 20 20.1**	**+0.8**
	comp=Z,53nm,0.9s,mb5.5						
MOTA	**Moosalm**	**81.86**	**317⇑**	*i*P	**P**	**19 20 19.1**	**-0.3**
	comp=Z,25nm,1.0s,mb5.1						
NB2	**NORSAR Subarra**	**82.35**	**331**	P	**P**	**19 20 20.9**	**-0.7**
	comp=Z,3.3nm,0.8s,mb4.3,baz=91,slow=5.8						
BSEG	**Bad Segeberg**	**82.53**	**324**	*e*P	**P**	**19 20 23.2**	**+0.5**
DAVA	**Damuels**	**82.69**	**317⇓**	*i*P	**P**	**19 20 24.2**	**+0.5**
	comp=Z,54nm,1.2s,mb5.5						
PGF	**Pioggiola**	**83.33**	**312⇑**	*i*P	**P**	**19 20 26.5**	**-0.5**
	comp=Z,28nm,0.9s,mb5.0						
TOD	**Tromm**	**83.41**	**319**	*e*P	**P**	**19 20 27.5**	**+0.2**
BFO	**Black Forest**	**83.73**	**318**	*e*P	**P**	**19 20 28.9**	**-0.1**
BFO				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.3						
BFO	**Black Forest**	**83.73**	**318**	*e*P	**P**	**19 20 28.9**	**-0.1**
	comp=Z,25nm,0.9s,mb5.3						
LANF	**Langenberg**	**84.07**	**319**	*e*P	**P**	**19 20 31.0**	**+0.3**
WLS	**Welschbruch**	**84.38**	**318**	*e*P	**P**	**19 20 32.1**	**-0.2**
CDF	**Champ du Feu**	**84.44**	**318⇑**	*i*P	**P**	**19 20 32.3**	**-0.2**
	comp=Z,31nm,0.9s,mb5.1						
SBF	**Sospel**	**84.45**	**313⇑**	*i*P	**P**	**19 20 32.8**	**+0.1**
	comp=Z,86nm,0.8s,mb5.6						
ECH	**Echery**	**84.52**	**318**	*e*P	**P**	**19 20 32.7**	**-0.2**
MVIF	**Mont Vial**	**84.65**	**314**	*e*P	**P**	**19 20 34.1**	**+0.4**
CALN	**Calern**	**84.85**	**313**	*e*P	**P**	**19 20 35.2**	**+0.5**
LPG	**La Plagne**	**84.88**	**315⇑**	*i*P	**P**	**19 20 35.4**	**+0.6**
	comp=Z,62nm,0.9s,mb5.5						
MBDF	**Montbardon**	**84.90**	**314⇑**	*i*P	**P**	**19 20 34.5**	**-0.4**
	comp=Z,18nm,0.8s,mb4.9						
BNI	**Bardonecchia**	**84.95**	**315**	*e*P	**P**	**19 20 34.3**	**-0.9**
	comp=Z,19nm,0.8s,mb5.3						
RSL	**Roselend**	**84.96**	**315**	*e*P	**P**	**19 20 35.5**	**+0.3**
HAU	**Haudompre**	**85.07**	**318⇑**	*i*P	**P**	**19 20 35.4**	**-0.3**
	comp=Z,80nm,0.9s,mb5.6						
THEF	**They Montfort**	**85.30**	**318**	*e*P	**P**	**19 20 36.8**	**0.0**
OG25	**Le Caire**	**85.41**	**314**	*e*P	**P**	**19 20 37.1**	**-0.4**
TAVF	**Tavernes**	**85.46**	**313**	*e*P	**P**	**19 20 38.6**	**+0.9**
OG05	**Jujurieux**	**85.76**	**316**	*e*P	**P**	**19 20 39.7**	**+0.6**
BAIF	**Baives**	**86.37**	**320⇑**	*i*P	**P**	**19 20 42.5**	**+0.5**
	comp=Z,52nm,0.9s,mb5.5						
SSF	**Saint Saulge**	**87.04**	**317⇑**	*i*P	**P**	**19 20 45.6**	**+0.2**
	comp=Z,25nm,0.9s,mb5.1						
PLDF	**La Plantade**	**87.05**	**316**	*e*P	**P**	**19 20 46.0**	**+0.6**
LBL	**Lubilhac**	**87.36**	**315**	*e*P	**P**	**19 20 47.9**	**+0.9**
AGO	**Saint Agoulin**	**87.38**	**316**	*e*P	**P**	**19 20 47.6**	**+0.6**
PYM	**Petit Puy Mans**	**87.49**	**316**	*e*P	**P**	**19 20 48.3**	**+0.7**
BGF	**Bois d'Agland**	**87.53**	**316⇑**	*i*P	**P**	**19 20 48.2**	**+0.4**
	comp=Z,49nm,0.9s,mb5.4						
RJF	**Les Rejaudoux**	**88.58**	**315⇑**	*i*P	**P**	**19 20 53.6**	**+0.8**
FLN	**La Foliniere**	**89.54**	**319⇑**	*i*P	**P**	**19 20 57.6**	**+0.3**
	comp=Z,68nm,0.9s,mb5.7						
ANM	**Nome**	**89.71**	**25**	*e*P	**P**	**19 20 59.0**	**+1.3**
ETSF	**Etsaut**	**90.33**	**313⇑**	*i*P	**P**	**19 21 02.1**	**+1.0**
	comp=Z,33nm,1.0s,mb5.3						
IMA	**Indian Mountai**	**93.98**	**22**	*e*P	**P**	**19 21 19.1**	**+1.8**
	comp=Z,13nm,0.8s,mb5.4						
QLMT	**Earthquake Lak**	**125.07**	**22**	*e*PKPdf	PKPdf	19 27 01.4	+2.1
LAO	**LASA Array**	**125.21**	**17**	*e*PKPdf	PKPdf	19 27 01.8	+2.3
ANMO	**Albuquerque**	**135.48**	**25**	*e*PKP	PKPdf	19 27 21.6	+2.3
BNM	**Barren Site**	**136.09**	**26**	*e*PKP	PKPdf	19 27 22.1	+1.7
MNTX	**Cornudas Mount**	**138.73**	**26**	*e*PKPpre		19 27 23.2	
JCT	**Junction City**	**142.01**	**20**	*e*PKPdf	PKPdf	19 27 26.5	-4.7
SDV	**Santo Domingo**	**159.75**	**313**	PKPdf	PKPdf	19 27 57.9	-0.3
LPAZ	**La Paz**	**159.75**	**235**	*e*PKPdf	PKPdf	19 28 00.7	+2.6

BJI ***04*** *19:14:47.6, 10.47N×91.65E, h18km, mB6.0, mb5.5, Ms5.7, Msz5.5*

HRVD ***04*** *19:14:49.1±0.1, 10.48N×91.56E, h12km, MW5.6/67, Centroid moment Tensor Solution. LP body waves: s46,c88;Mantle waves: s67,c171; Half duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_{rr}2.15±.03; $M_{\theta\theta}$0.28±.03; $M_{\phi\phi}$-2.42±.03; $M_{r\theta}$0.40±.11; $M_{\theta\phi}$0.24±.03; $M_{\phi r}$-2.56±.09; Best double couple: $M_0$3.462×10^{17} NP1:ϕ_s359°,δ21°,λ96°. NP2:ϕ_s172°,δ69°,λ88°. Principal axes: T 3.32, Plg66°, Azm78°; N .291, Plg2°, Azm173°; P -3.605, Plg24°, Azm264°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***04*** *19:14:49.1±0.1, 10.56N×91.73E, h10km, mb5.6/100, ME5.4, MS5.3/27, MW5.7 Error ellipse: s-maj=5.8km s-min=3.6km az=216.0, Moment Tensor Solution. s24 Moment tensor: Scale 10^{17}Nm; M_{rr}4.21; $M_{\theta\theta}$0.02; $M_{\phi\phi}$-4.23; $M_{r\theta}$0.63; $M_{\theta\phi}$0.11; $M_{\phi r}$-2.03; Best double couple: $M_0$4.7×10^{17} NP1:ϕ_s5°,δ32°,λ102°. NP2:ϕ_s171°, δ58°,λ83°. Principal axes: T 4.75, Plg75°, Azm60°; N -.04, Plg6°, Azm175°; P -4.71, Plg13°, Azm267°; Depth from synthetics of broadband displacement seismograms. Energy computed from MT mechanism.*

MOS ***04*** *19:14:50.9±1.1, 10.58N×91.74E, h33km, mb5.8/67, MS5.4/37 Error ellipse: s-maj=8.5km s-min=4.2km az=125.9*

ISC 04 19:14:48.5±0.2,**10.48N**±0.03×**91.72E**±0.02,**h19**km, **h19**km±2.8km:**pP-P,n442,**σ1§**13**/447,**mb5.6**/130,**MS5.4**/61, **68C-28D,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**10.86**	**312⇓**	*i*P	**P**	**19 17 22.1**	**-4.2**
VIS				*e*S	**S**	**19 19 13.5**	**-15**
PALK	**Pallekele**	**11.34**	**255**	*e*P	**P**	**19 17 30.7**	**-2.2**
PALK				*e*S	**S**	**19 19 28.1**	**-12**
MDRS	**Chennai**	**11.52**	**284⇓**	*i*P	**P**	**19 17 31.4**	**-4.0**
MDRS				⇑*e*		19 17 33.0	
MDRS				*e*S	**S**	**19 19 29.2**	**-15**
NANT	**Nan**	**11.99**	**45**	⇑P	**P**	**19 17 37.0**	**-4.7**
	175nm,1.2s						
VJD	**Vijayawada**	**12.32**	**300**	*i* P	**P**	**19 17 43.0**	**-3.1**
VJD				*i* S	**S**	**19 19 47.0**	**-17**
CAL	**Calcutta**	**12.42**	**345**	*e*P	**P**	**19 17 47.2**	**-0.3**
CAL				*e*		19 20 21.8	
CAL				*e*		19 20 28.6	
AGT	**Agartala**	**13.34**	**358⇓**	*i*P	**P**	**19 17 56.0**	**-3.6**
AGT				*i*		19 18 37.0	
KOD	**Kodaikanal**	**14.02**	**270⇓**	*i*P	**P**	**19 18 06.5**	**-2.3**
KOD				*e*		19 20 36.0	
HYB	**Hyderabad**	**14.51**	**300**	*i* P	**P**	**19 18 13.0**	**-2.2**
HYB				*e*		19 20 42.5	
HYB				*e*S	**S**	**19 20 53.5**	**-3.0**
TRD	**Trivandrum**	**14.69**	**264**	*e*P	**P**	**19 18 15.1**	**-2.4**
TRD				*e*		19 18 21.0	
	comp=Z,186nm,1.0s						
BLSP	**Bilaspur**	**14.78**	**323⇓**	*i*P	**P**	**19 18 15.1**	**-3.6**
BLSP				*e*		19 18 16.6	
BLSP				*e*		19 20 47.4	
SHL	**Shillong**	**15.01**	**1**	*e*P	**P**	**19 18 17.7**	**-3.9**
SHL				*e*		19 18 36.3	
	comp=Z,340nm,1.8s						
SHL				*e*		19 21 35.0	
MNGI	**Mangalore**	**16.73**	**280⇓**	*i*P	**P**	**19 18 41.6**	**-2.1**
MNGI				*e*		19 18 50.5	
	comp=Z,303nm,1.4s						
MNGI				*e*		19 21 35.6	
JIRN	**Jiri**	**17.86**	**344**	*e*P	**P**	**19 18 58.2**	**+0.3**
	comp=Z,3μm,2.0s						
PKI	**Pulchoki**	**18.01**	**342**	*e*P	**P**	**19 19 00.3**	**+0.6**
	comp=Z,406nm,0.9s						
GOA	**Goa**	**18.13**	**288⇑**	*i*	**P**	**19 19 04.8**	**+3.5**
GOA				*e*		19 19 15.7	
	comp=Z,546nm,1.4s						
GOA				*i*		19 22 10.1	
GOA				*e*S	**S**	**19 22 24.5**	**+4.3**
DMN	**Daman**	**18.14**	**341**	*e*P	**P**	**19 19 02.1**	**+0.7**
	comp=Z,1μm,1.5s						
GUN	**Gumba**	**18.19**	**343**	*e*P	**P**	**19 19 01.7**	**-0.3**
	comp=Z,2μm,1.6s						
KKN	**Kakani**	**18.25**	**342**	*e*P	**P**	**19 19 03.5**	**+0.7**
	comp=Z,255nm,0.9s						
KAD	**Karad**	**18.32**	**294⇓**	*i*P	**P**	**19 19 01.9**	**-1.8**
KAD				*e*S	**S**	**19 22 22.5**	**-1.9**
MNCY	**Minicoy**	**18.57**	**265⇑**	*i*P	**P**	**19 19 07.0**	**+0.3**
MNCY				*i*		19 21 16.0	
BHPL	**Bhopal**	**18.64**	**315⇓**	*i*P	**P**	**19 19 06.7**	**-0.8**
BHPL				*e*		19 19 13.0	
	comp=Z,404nm,1.8s						
BHPL				*i*		19 22 23.6	
BHPL				*e*S	**S**	**19 22 33.6**	**+2.1**
GKN	**Gorkha**	**18.66**	**340**	*e*P	**P**	**19 19 06.9**	**-0.8**
	comp=Z,1μm,1.3s						
KOLN	**Koldanda**	**18.82**	**337**	*e*P	**P**	**19 19 08.3**	**-1.4**
	comp=Z,441nm,1.1s						
POO	**Poona**	**19.05**	**297⇓**	*i*P	**P**	**19 19 10.3**	**-2.2**
POO				*e*		19 19 20.1	
	comp=Z,408nm,1.2s						
POO				*e*S	**S**	**19 22 42.1**	**+1.1**
LSA	**Lhasa**	**19.13**	**358**	P	**P**	**19 19 13.4**	**0.0**
LSA				S	**S**	**19 22 50.4**	**+7.7**
LSA				AMB	AMB		
	comp=Z,270nm,0.8s						
LSA				AMB	AMB		
	comp=Z,3μm,11.0s						
LSA				LR	LR		
	comp=N,6μm,14.0s						
LSA				LR	LR		
	comp=E,14μm,17.0s						
LSA				LR	LR		
	comp=Z,13μm,16.0s						
QIZ	**Qiongzhong**	**19.46**	**62**	P	**P**	**19 19 17.0**	**-0.3**
QIZ				AP		19 19 20.8	
QIZ				*e*S	**S**	**19 22 50.0**	**-0.2**
QIZ				AMB	AMB		
	comp=Z,3μm,8.9s						
QIZ				LR	LR		
	comp=N,13μm,14.9s						
QIZ				LR	LR		
	comp=Z,13μm,13.4s						
QIZ	**Qiongzhong**	**19.46**	**62**	*e*P	**P**	**19 19 17.8**	**+0.5**
	comp=Z,89nm,0.9s						
BOM	**Bombay**	**20.09**	**297**	*e*P	**P**	**19 19 25.5**	**+1.3**
BOM				*e*		19 19 34.8	
	comp=Z,310nm,1.0s						
BOM				*e*S	**S**	**19 23 08.4**	**+4.6**
PENI	**Pendagan**	**20.82**	**139**	*e*P	**P**	**19 19 27.3**	**-4.5**
PENI				pmax	pmax		
	comp=Z,110nm,0.6s						
PENI	**Pendagan**	**20.82**	**139**	*e*P	**P**	**19 19 27.3**	**-4.5**
	comp=Z,220nm,0.6s						
PTH	**Pithoragarh**	**21.80**	**332**	*e*P	**P**	**19 19 43.0**	**+1.4**
PTH				*e*S	**S**	**19 23 38.0**	**+1.2**
BHV	**Bhavnagar**	**21.86**	**303**	*e*	**P**	**19 19 44.5**	**+2.3**
NDI	**New Delhi**	**22.64**	**325⇑**	*i*P	**P**	**19 19 49.6**	**-0.4**
NDI				*e*		19 19 57.7	
	comp=Z,624nm,1.5s						
NDI				*e*S	**S**	**19 23 55.2**	**+3.0**
AJM	**Ajmer**	**22.66**	**317⇑**	*i*P	**P**	**19 19 50.4**	**+0.2**
COCO	**West Island**	**23.09**	**167**	*e*P	**P**	**19 19 58.5**	**+4.0**
	comp=Z,993nm,1.4s,mb6.0						
HKC	**Hong Kong**	**24.50**	**59**	*i* P	**P**	**19 20 10.0**	**+1.8**
HKC				*i* S	**S**	**19 24 36.0**	**+11**
SMLA	**Simla**	**24.59**	**329⇑**	*i*	**P**	**19 20 23.8**	**+15**
SMLA				*e*		19 20 29.8	
	comp=Z,370nm,0.9s						
BHK	**Bhakra**	**25.20**	**328**	*e*P	**P**	**19 20 17.1**	**+2.3**
BHK				*e*		19 25 21.9	
ENH	**Enshi**	**25.72**	**37⇑**	*i*P	**P**	**19 20 18.7**	**-1.0**
	comp=Z,2.9nm,0.8s						
DGAR	**Diego Garcia**	**26.15**	**228**	*e*P	**P**	**19 20 27.2**	**+3.4**
DGAR				pmax	pmax		
	comp=Z,358nm,1.4s,mb5.7						
DGAR				MLR	MLR		
	comp=Z,3μm,21.0s,MS4.7						
DGAR	**Diego Garcia**	**26.15**	**228**	*e*P	**P**	**19 20 27.2**	**+3.4**
	comp=Z,358nm,1.4s,mb5.7						
DGAR				LR	LR		
	comp=Z,3μm,21.0s,MS4.7						
LZH	**Lanzhou**	**27.76**	**21**	⇑P	**P**	**19 20 38.1**	**-0.3**
LZH				AP	pP	19 20 42.6	-1.2
LZH				PP	PP	19 21 27.0	-0.4
LZH				S	**S**	**19 25 18.0**	**-0.4**
LZH				SS	SS	19 26 36.7	-2.0
LZH				AMB	AMB		
	comp=Z,157nm,1.4s,mb5.5						
LZH				AMB	AMB		
	comp=Z,1μm,8.5s						
LZH				LR	LR		
	comp=E,5μm,12.2s						
LZH				LR	LR		
	comp=Z,8μm,15.1s,MS5.4						
XAN	**Xi'an**	**28.25**	**31**	P	**P**	**19 20 40.9**	**-1.9**
XAN				AP	pP	19 20 48.8	+0.6
XAN				AMB	AMB		
	comp=Z,98nm,1.6s,mb5.2						
XAN				LR	LR		
	comp=N,7μm,24.6s,MS5.3						
XAN				LR	LR		
	comp=E,5μm,22.8s,MS5.3						
XAN				LR	LR		
	comp=Z,5μm,25.2s,MS5.0						
QVPH	**Quezon City--P**	**28.92**	**79⇑**	*i*P	**P**	**19 20 43.9**	**-5.1**
WHN	**Wuhan**	**29.00**	**43**	P	**P**	**19 20 49.0**	**-0.6**
WHN				LR	LR		
	comp=Z,16μm,13.6s,MS5.8						
QZH	**Quanzhou**	**29.28**	**57**	P	**P**	**19 20 51.8**	**-0.4**
QZH				S	**S**	**19 25 33.8**	**-9.1**
QZH				LR	LR		
	comp=N,4μm,12.0s,MS5.6						
QZH				LR	LR		
	comp=E,8μm,11.7s,MS5.6						
QZH				LR	LR		
	comp=Z,13μm,14.1s,MS5.7						
KELI	**Kelakatan**	**29.31**	**128**	*e*P	**P**	**19 20 41.7**	**-11**
LQP	**Lukban**	**29.35**	**80⇑**	*i*P	**P**	**19 20 53.0**	**+0.2**
BOAC	**Boac**	**29.61**	**81**	*e*P	**P**	**19 20 53.1**	**-2.1**
OTRP	**Odiongan**	**29.75**	**83**	*e*P	**P**	**19 20 56.7**	**+0.2**
AUQP	**San Andres**	**30.41**	**82**	*e*P	**P**	**19 21 15.8**	**+13**
KEDI	**Kedomdong**	**30.73**	**127⇑**	*e*P	**P**	**19 21 02.5**	**-2.7**
TANI	**Tanete Lipujan**	**30.82**	**115⇑**	*e*P	**P**	**19 21 04.9**	**-1.0**
TANI				pmax	pmax		
	comp=Z,167nm,0.7s,mb6.0						
TANI	**Tanete Lipujan**	**30.82**	**115⇑**	*e*P	**P**	**19 21 04.9**	**-1.0**
	comp=Z,334nm,0.7s,mb6.0						
TANI	**Tanete Lipujan**	**30.82**	**115⇓**	*e*P	**P**	**19 21 04.9**	**-1.0**
	comp=Z,6μm,0.7s						
TANI	**Tanete Lipujan**	**30.82**	**115⇓**	*e*P	**P**	**19 21 05.5**	**-0.4**
	comp=Z,6μm,0.7s						
NINI	**Niniconang**	**31.60**	**117⇓**	*e*P	**P**	**19 21 11.8**	**-1.0**
	comp=Z,2μm,1.0s,mb6.5						
NINI	**Niniconang**	**31.60**	**117⇓**	*e*P	**P**	**19 21 11.8**	**-1.0**
	comp=Z,1μm,1.1s,mb6.4						
BUNI	**Buntu Taipa**	**31.76**	**115⇑**	*i*P	**P**	**19 21 15.6**	**+1.4**
BUNI	**Buntu Taipa**	**31.76**	**115⇑**	*i*P	**P**	**19 21 14.2**	**0.0**
	comp=Z,237nm,0.7s,mb5.8						
NJ2	**Nanjing**	**33.00**	**45**	*e*P	**P**	**19 21 25.2**	**+0.4**
NJ2				AP	pP	19 21 33.4	+3.1
NJ2				XP	sP	19 21 38.6	+6.0
NJ2				PP	PP	19 22 35.0	-0.5
NJ2				S	**S**	**19 26 42.0**	**+0.9**
NJ2				XS		19 26 58.0	
NJ2				AMB	AMB		
	comp=Z,80nm,0.7s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,2μm,4.2s						
NJ2				LR	LR		
	comp=N,19μm,16.0s,MS5.9						
NJ2				LR	LR		
	comp=E,10μm,19.8s,MS5.9						
NJ2				LR	LR		
	comp=Z,7μm,10.0s						
WMQ	**Urumqi**	**33.40**	**355**	P	**P**	**19 21 28.8**	**+0.6**
WMQ				AP	pP	19 21 31.4	-2.3
WMQ				PP	PP	19 22 40.4	+0.2
WMQ				S	**S**	**19 26 48.4**	**+1.1**
WMQ				XS		19 26 55.0	
WMQ				AMB	AMB		
	comp=Z,160nm,0.8s,mb6.0						
WMQ				AMB	AMB		
	comp=Z,940nm,4.8s						
WMQ				LR	LR		
	comp=N,8μm,18.2s,MS5.5						
WMQ				LR	LR		
	comp=E,7μm,22.1s,MS5.5						
WMQ				LR	LR		
	comp=Z,6μm,17.5s,MS5.4						
DAV	**Davao City (W)**	**33.62**	**93**	*e*P	**P**	**19 21 32.0**	**+1.6**
SSE	**Sheshan**	**34.16**	**49**	P	**P**	**19 21 35.2**	**+0.3**
SSE				AP	pP	19 21 37.9	-2.5
SSE				PP	PP	19 22 52.6	+3.0
SSE				S	**S**	**19 27 01.4**	**+2.2**
SSE				AMB	AMB		
	comp=Z,91nm,0.8s,mb5.8						
SSE				AMB	AMB		
	comp=Z,1μm,4.7s						
SSE				LR	LR		
	comp=N,9μm,17.2s,MS5.6						
SSE				LR	LR		
	comp=E,3μm,17.4s,MS5.6						
SSE				LR	LR		
	comp=Z,7μm,12.6s,MS5.6						
ULHL	**Ulahol**	**34.42**	**339**	P	**P**	**19 21 38.2**	**+1.1**
	SNR=7.7						
TIA	**Tai'an**	**34.43**	**38**	P	**P**	**19 21 35.9**	**-1.3**
TIA				S	**S**	**19 27 05.8**	**+2.5**
TIA				LR	LR		
	comp=N,3μm,12.7s,MS5.4						
TIA				LR	LR		
	comp=E,3μm,13.3s,MS5.4	

KS15	**Wonju Array Si**	42.15	44	*e*P	**P**	**19 22 41.2 -0.5**
TLY	**Talaya**	42.22	11	*e*P	**P**	**19 22 42.9 +0.8**
TLY				*e*		19 24 30.6
TLY				*e*S	**S**	**19 29 05.2 +4.0**
TLY				pmax	pmax	
	comp=Z,52nm,1.3s,mb5.0					
TLY				MLR	MLR	
	comp=Z,3μm,18.0s,MS5.2					
TLY	**Talaya**	42.22	11	*e*P	**P**	**19 22 42.8 +0.7**
	comp=Z,212nm,1.8s,mb5.5					
TLY				LR	LR	
	comp=Z,921nm,19.0s,MS4.7					
IRK	**Irkutsk**	42.88	11	*e*P	**P**	**19 22 47.6 +0.2**
IRK				*e*		19 24 30.9
IRK				*e*		19 29 10.2
FITZ	**Fitzroy Crossi**	43.91	130⇓	*i*P	**P**	**19 22 55.9 -0.4**
	comp=Z,87nm,0.7s,mb5.6					
NVS	**Novosibirsk**	44.76	353	*i* P	**P**	**19 23 00.9 -1.7**
NVS				*i*		19 24 49.8
NVS				pmax	pmax	
	comp=Z,222nm,2.0s,mb5.7					
NVS				pmax	pmax	
	comp=E,56nm,1.5s					
NVS				pmax	pmax	
	comp=N,263nm,2.0s					
HIA	**Hailar**	45.15	26⇑	*i*P	**P**	**19 23 05.3 -0.5**
HIA				pmax	pmax	
	comp=Z,225nm,1.5s					
HIA	**Hailar**	45.15	26⇑	*i*P	**P**	**19 23 05.3 -0.5**
	comp=Z,225nm,1.5s,mb5.8					
KAKA	**Kakadu**	46.54	119	*e*P	**P**	**19 23 14.8 -2.5**
	comp=Z,17nm,0.6s,mb5.2					
MDJ	**Mudanjiang**	47.08	37	P	**P**	**19 23 21.1 -0.1**
MDJ				AP	pP	19 23 25.5 -1.3
MDJ				PCP	PcP	19 24 52.8 -0.7
MDJ				PP	PP	19 25 10.4 -1.2
MDJ				SCP		19 28 46.5
MDJ				PCS		19 28 47.9
MDJ				S	**S**	**19 30 14.1 +2.7**
MDJ				XS		19 30 19.6
MDJ				SCS	ScS	19 33 14.7 +2.6
MDJ				AMB	AMB	
	comp=Z,54nm,1.6s,mb5.2					
MDJ				AMB	AMB	
	comp=Z,1μm,5.8s					
MDJ				LR	LR	
	comp=N,3μm,18.2s,MS5.5					
MDJ				LR	LR	
	comp=E,3μm,18.2s,MS5.5					
MDJ				LR	LR	
	comp=Z,4μm,17.2s,MS5.5					
MDJ	**Mudanjiang**	47.08	37⇑	*i*P	**P**	**19 23 20.6 -0.6**
	comp=Z,234nm,1.7s,mb5.8					
VLA	**Vladivostok**	47.67	40⇓	*i*P	**P**	**19 23 27.0 +1.1**
VLA				*i*		19 25 19.0
VLA				*i* S	**S**	**19 30 25.0 +5.2**
VLA				*i*		19 30 45.0
VLA				*i*		19 33 13.0
VLA				pmax	pmax	
	comp=Z,2μm,12.0s					
VLA				pmax	pmax	
	comp=E,1μm,8.0s					
VLA				pmax	pmax	
	comp=N,1μm,10.0s					
VLA				pmax	pmax	
	comp=Z,2μm,11.0s					
VLA				pmax	pmax	
	comp=E,700nm,12.0s					
VLA				smax		
	comp=E,2μm,14.0s					
VLA				smax		
	comp=N,1μm,15.0s					
MUN	**Mundaring**	48.29	152	*e*P	**P**	**19 23 31.4 +0.6**
	comp=N,48nm,0.7s,mb5.6					
MUN	**Mundaring**	48.29	152	*e*P	**P**	**19 23 31.4 +0.6**
MUN				pmax	pmax	
	comp=Z,48nm,0.7s,mb5.6					
KLBR	**Kellerberrin**	48.70	150	*e*P	**P**	**19 23 34.8 +0.8**
	comp=Z,183nm,1.6s,mb5.9					
BHD	**Baghdad**	48.92	305	*i* P	**P**	**19 23 29.0 -6.7**
BHD				*e*S	**S**	**19 30 31.0 -6.6**
MAT	**Matsushiro**	49.27	50	*e*P	**P**	**19 23 38.0 -0.3**
MAT				pmax	pmax	
	comp=Z,194nm,1.5s,mb5.9					
MAT				MLR	MLR	
	comp=Z,3μm,20.0s,MS5.3					
MAT	**Matsushiro**	49.27	50	*e*P	**P**	**19 23 38.0 -0.3**
	comp=Z,194nm,1.5s,mb5.9					
MAT				*e*S	tx	19 25 44.0
MAT				LR	LR	
	comp=Z,3μm,20.0s,MS5.3					
MAT	**Matsushiro**	49.27	50	P	**P**	**19 23 37.9 -0.4**
MAT				S	**S**	**19 30 51.0 +8.6**
NWAO	**Narrogin (SRO)**	49.55	152	*e*P	**P**	**19 23 40.1 -0.5**
NWAO				pmax	pmax	
	comp=Z,51nm,0.8s					
NWAO				MLR	MLR	
	comp=Z,3μm,20.0s					
NWAO	**Narrogin (SRO)**	49.55	152	*e*P	**P**	**19 23 40.0 -0.5**
	comp=Z,51nm,0.8s,mb5.6					
NWAO				LR	LR	
	comp=Z,3μm,20.0s,MS5.2					
MAK	**Makhachkala**	50.19	318	*i* P	**P**	**19 23 44.0 -1.3**
MAK				*i*		19 25 45.0
MAK				*e*PPP	PPP	19 26 42.0 +4.1
MAK				*i* S	**S**	**19 30 58.0 +3.0**
MAK				*i* PS	PS	19 31 10.0 +4.3
MAK				pmax	pmax	
	comp=Z,7μm,7.0s					
MAK				pmax	pmax	
	comp=N,1μm,6.0s					
MAK				pmax	pmax	
	comp=E,2μm,6.0s					
MAK				pmax	pmax	
	comp=Z,2μm,6.0s					
MAK				smax		
	comp=N,4μm,8.0s					
MAK				MLR	MLR	
	comp=Z,4μm,12.0s,MS5.7					
BOD	**Bodaibo**	50.23	15	*e*P	**P**	**19 23 44.0 -1.4**
MSL	**Mosul**	50.82	309	*e*P	**P**	**19 23 33.0 -17**
MSL				*e*pP	pP	19 23 41.5 -14
MSL				*e*S	**S**	**19 30 54.0 -10**
MSL				*e*ScS	ScS	19 33 27.5 -10
GNI	**Garni**	50.92	314	*e*P	**P**	**19 23 52.2 +1.3**
GNI	**Garni**	50.92	314*c*	*i*P	**P**	**19 23 51.7 +0.8**
GNI				pmax	pmax	
	comp=Z,320nm,1.4s					
GNI	**Garni**	50.92	314	*e*P	**P**	**19 23 50.7 -0.2**
	comp=Z,527nm,1.3s,mb6.3					
GNI				LR	LR	
	comp=Z,2μm,20.0s,MS5.2					
KLR	**Kul'dur**	50.94	33⇓	*i*P	**P**	**19 23 47.0 -3.9**
KLR				*e*S	**S**	**19 31 00.0 -5.2**
KLR				*e*		19 34 41.5
KLR				pmax	pmax	
	comp=N,600nm,11.5s					
KLR				pmax	pmax	
	comp=E,900nm,11.5s					
KLR				pmax	pmax	
	comp=Z,2μm,11.5s					
KLR				smax		
	comp=N,1μm,11.0s					
KLR				smax		
	comp=E,1μm,11.0s					
KLR				MLR	MLR	
	comp=E,7μm,13.0s					
KLR				MLR	MLR	
	comp=Z,20μm,13.0s,MS6.3					
MTA	**Mtatsminda**	51.48	316	P	**P**	**19 23 55.3 +0.2**
MTA				S	**S**	**19 31 14.3 +1.5**
STE	**Stepanavan**	51.48	315	*i* P	**P**	**19 23 56.0 +0.9**
TI2	**Plekhanov**	51.52	316α	*i*P	**P**	**19 23 56.0 +0.6**
TI2				*i*		19 25 58.2
TI2				*i* S	**S**	**19 31 15.4 +2.0**
WRAB	**Tennant Creek**	51.72	126	*i* P	**P**	**19 23 55.3 -1.9**
WRAB	**Tennant Creek**	51.72	126	*e*P	**P**	**19 23 55.9 -1.3**
	comp=Z,220nm,1.1s,mb6.0					
WRAB				LR	LR	
	comp=Z,790nm,20.0s,MS4.7					
WB2	**Warramunga Arr**	51.72	126⇑	*i*P	**P**	**19 23 56.3 -0.9**
SVE	**Sverdlovsk**	52.12	339	*e*P	**P**	**19 24 01.0 +1.3**
SVE				*e*		19 25 11.0
SVE				*e*		19 26 00.0
SVE				*i* S	**S**	**19 31 21.5 +0.1**
SVE				*e*		19 33 43.0
SVE				pmax	pmax	
	comp=Z,440nm,2.0s,mb6.0					
SVE				smax		
	comp=N,1μm,10.0s					
SVE				smax		
	comp=E,2μm,10.0s					
SVE				MLR	MLR	
	comp=Z,5μm,17.0s,MS5.6					
AKH	**Akhalkalaki**	52.27	315	P	**P**	**19 24 01.6 +0.6**
AKH				S	**S**	**19 31 28.4 +4.8**
ARU	**Arti**	52.58	338⇓	*i*P	**P**	**19 24 00.7 -2.5**
ARU				*i*		19 25 11.4
ARU				*e*		19 25 56.2
ARU				*e*S	**S**	**19 31 25.1 -2.5**
ARU				*e*		19 33 43.8
ARU				*e*SS	SS	19 35 08.1 +3.3
ARU				*e*SSS	SSS	19 36 54.0 +4.6
ARU				pmax	pmax	
	comp=Z,86nm,1.1s,mb5.6					
BTMT	**Batman**	52.62	310	*e*P	**P**	**19 24 02.9 -0.9**
ONI	**Oni**	52.74	316	P	**P**	**19 24 05.2 +0.6**
ONI				S	**S**	**19 31 33.5 +3.4**
CLNS	**Chul'man**	52.88	22⇑	*i*P	**P**	**19 24 05.4 -0.1**
CLNS				*e**PP	pP	19 24 11.2 +0.1
CLNS				*e*		19 25 11.2
CLNS				*e*		19 26 04.3
CLNS				*e*S	**S**	**19 31 30.5 -1.3**
CLNS				pmax	pmax	
	comp=N,79nm,1.0s					
CLNS				pmax	pmax	
	comp=E,72nm,1.0s					
CLNS				pmax	pmax	
	comp=Z,157nm,1.0s,mb5.9					
CLNS				pmax	pmax	
	comp=N,14nm,1.0s					
CLNS				pmax	pmax	
	comp=Z,8.0nm,1.0s,mb4.6					
CLNS				pmax	pmax	
	comp=E,12nm,1.3s					
CLNS				smax		
	comp=N,688nm,11.8s					
CLNS				smax		
	comp=Z,523nm,13.0s					
CLNS				smax		
	comp=E,185nm,12.4s					
CLNS				MLR	MLR	
	comp=Z,4μm,16.0s,MS5.6					
CLNS				MLR	MLR	
	comp=N,3μm,14.0s,MS5.5					
CLNS				MLR	MLR	
	comp=E,300nm,14.0s,MS5.5					
VRT	**Varto**	52.89	311	*e*P	**P**	**19 23 58.9 -6.9**
EZM	**Erzurum**	53.26	312	*e*P	**P**	**19 23 58.1 -10**
BINT	**Bingol**	53.58	311	*e*P	**P**	**19 24 10.3 -0.5**
BCA	**Borcka**	53.59	314	*e*P	**P**	**19 24 10.3 -0.6**
KIV	**Kislovodsk**	53.79	317	P	**P**	**19 24 12.2 -0.1**
	comp=E,924nm,1.1s,mb6.6,SNR=47					
KIV	**Kislovodsk**	53.79	317*c*	*i*P	**P**	**19 24 12.2 -0.1**
KIV				*e*		19 26 17.3
KIV				*i* S	**S**	**19 31 47.4 +3.1**
KIV				pmax	pmax	
	comp=Z,210nm,1.1s,mb6.0					
KIV				MLR	MLR	
	comp=Z,2μm,17.0s,MS5.2					
KIV	**Kislovodsk**	53.79	317	*e*P	**P**	**19 24 11.6 -0.7**
	comp=Z,282nm,1.3s,mb6.0					
KIV				LR	LR	
	comp=Z,496nm,20.0s,MS4.6					
GOF	**Gofitskoye**	54.00	319⇓	*i*P	**P**	**19 24 13.0 -0.8**
GOF				pmax	pmax	
	comp=Z,140nm,1.3s,mb5.7					
GOF				pmax	pmax	
	comp=Z,4μm,5.0s					
EZC	**Erzincan**	54.34	312	P	**P**	**19 24 20.7 +4.3**
PTK	**Pertek**	54.40	311	*e*P	**P**	**19 24 20.6 +3.7**
URFA	**Urfa**	54.43	309	*e*P	**P**	**19 24 16.3 -0.8**
GUMT	**Gumushane**	54.80	312	*e*P	**P**	**19 24 21.6 +1.8**
MALT	**Malatya**	54.97	310	*e*P	**P**	**19 24 21.4 +0.3**
MALT	**Malatya**	54.97	310	*e*P	**P**	**19 24 20.1 -1.0**
MALT				pmax	pmax	
	comp=Z,84nm,1.1s,mb5.7					
MALT	**Malatya**	54.97	310	*e*P	**P**	**19 24 20.1 -0.9**
	comp=Z,84nm,1.1s,mb5.7					
KMBO	**Kilima Mbogo**	55.39	261	*e*P	**P**	**19 24 25.1 +0.6**
KMBO				pmax	pmax	
	comp=Z,293nm,2.3s					
KMBO				MLR	MLR	
	comp=Z,4μm,22.0s					
KMBO	**Kilima Mbogo**	55.39	261	*e*P	**P**	**19 24 25.1 +0.6**
	comp=Z,293nm,2.3s,mb5.9					
KMBO				LR	LR	
	comp=Z,4μm,22.0s,MS5.4					
GAZ	**Gaziantep**	55.61	308	*e*P	**P**	**19 24 25.4 -0.3**
SOC	**Sochi**	55.66	316	*i* P	**P**	**19 24 24.2 -1.8**
SOC				*e*		19 26 30.8
SOC				*e*PPP	PPP	19 27 44.5 -1.8
SOC				*i* S	**S**	**19 32 08.6 -0.7**
SOC				*e*SS	SS	19 35 57.3 +2.6
SOC				pmax	pmax	
	comp=Z,117nm,1.2s,mb5.8					
SOC				pmax	pmax	
	comp=N,80nm,1.4s					
SOC				pmax	pmax	
	comp=E,19nm,0.9s					
SOC				MLR	MLR	
	comp=N,3μm,22.0s,MS5.4					
SOC				MLR	MLR	
	comp=Z,3μm,22.0s,MS5.3					
SOC				MLR	MLR	
	comp=E,2μm,20.0s,MS5.4					
SOC	**Sochi**	55.66	316⇑	*i*P	**P**	**19 24 24.3 -1.6**
SOC				*i* S	**S**	**19 32 07.4 -1.9**
MKRJ	**Makawir**	55.76	301	P	**P**	**19 24 27.3 +0.5**
MZDA	**Masada**	55.95	301	P	**P**	**19 24 28.9 +0.6**
DRGI	**Dragot**	55.97	301	P	**P**	**19 24 28.8 +0.4**
ZFRI	**Zfri**	56.00	300	P	**P**	**19 24 28.9 +0.3**
EIL	**Elat**	56.07	299	P	**P**	**19 24 29.4 +0.3**
EIL	**Elat**	56.07	299	*e*P	**P**	**19 24 28.1 -1.1**
	comp=E,59nm,1.1s,mb5.5					
MMLI	**Mount Malkishu**	56.09	302	P	**P**	**19 24 29.8 +0.6**
PRNI	**Paran**	56.12	299	P	**P**	**19 24 29.9 +0.4**
BHL	**Bhannes**	56.15	304	*e*P	**P**	**19 24 30.5 +0.9**
YSS	**Yuzh-Sakhalins**	56.27	40*c*	*i*P	**P**	**19 24 28.0 -2.3**
YSS				*e**SP	sP	19 24 40.0 +1.9
YSS				*e*		19 26 35.0
YSS				*e*PPP	PPP	19 27 54.0 +0.2
YSS				*e*S	**S**	**19 32 14.0 -3.4**
YSS				*e*PS	PS	19 32 22.0 -10
YSS				*e*SS	SS	19 35 58.0 -6.6
YSS				pmax	pmax	
	comp=Z,90nm,1.0s,mb5.8					
YSS				pmax	pmax	
	comp=Z,1μm,7.0s					
YSS				MLR	MLR	
	comp=Z,5μm,15.0s,MS5.7					
YSS				MLR	MLR	
	comp=N,5μm,17.0s,MS5.8					
YSS				MLR	MLR	
	comp=E,5μm,15.0s,MS5.8					
YSS	**Yuzh-Sakhalins**	56.27	40	*e*P	**P**	**19 24 28.4 -1.8**
	comp=E,109nm,1.0s,mb5.8					
KMTI	**Karmit**	56.33	299	P	**P**	**19 24 31.3 +0.4**
SLTI	**Sal'it**	56.37	302	P	**P**	**19 24 31.7 +0.5**
MASH	**Mash'abbe Sade**	56.40	300	P	**P**	**19 24 31.7 +0.2**
HNTI	**Hanita**	56.40	303	P	**P**	**19 24 31.9 +0.5**
HAF	**Haifa**	56.47	302	P	**P**	**19 24 32.2 +0.2**
OFRI	**'Ofer**	56.48	302	P	**P**	**19 24 32.4 +0.4**
KZIT	**Kziot**	56.72	300	P	**P**	**19 24 33.9 +0.2**
ANN	**Anapa**	57.61	317	*e*P	**P**	**19 24 38.3 -1.6**
ANN				*e*S	**S**	**19 32 33.7 -1.5**
ANN				*e*		19 34 27.8
ANN				pmax	pmax	
	comp=Z,27nm,1.7s,mb5.0					
ANN				MLR	MLR	
	comp=N,3μm,21.0s					
CSS	**Prodhromos**	58.23	305	*e*P	**P**	**19 24 41.7 -2.7**
	comp=N,85nm,1.1s,mb5.7					
YAK	**Yakutsk**	58.33	20*c*	*i*P	**P**	**19 24 43.3 -1.4**
YAK				*e**PP	pP	19 24 53.4 +3.0
YAK				*e*		19 26 52.7
YAK				*e*S	**S**	**19 32 44.5 +0.1**
YAK				*e*		19 34 30.4
YAK				*e*SS	SS	19 36 38.4 +0.1
YAK				pmax	pmax	
	comp=Z,76nm,1.0s,mb5.7					
YAK				pmax	pmax	
	comp=N,42nm,1.2s					
YAK				pmax	pmax	
	comp=E,41nm,1.3s					
YAK				pmax	pmax	
	comp=Z,10.0nm,1.0s,mb4.8					
YAK				pmax	pmax	
	comp=E,8.0nm,1.1s					
YAK				smax		
	comp=N,327nm,16.3s					
YAK				smax		
	comp=Z,209nm,16.8s					
YAK				smax		
	comp=E,230nm,17.5s					
YAK				MLR	MLR	
	comp=Z,1μm,19.0s,MS5.0					
YAK				MLR	MLR	
	comp=N,1μm,15.0s,MS5.3					
YAK				MLR	MLR	
	comp=E,1μm,16.0s,MS5.3					
YAK	**Yakutsk**	58.33	20	*e*P	**P**	**19 24 42.7 -1.9**
	comp=E,315nm,1.3s,mb6.2					
YAK				LR	LR	
	comp=Z,2μm,21.0s,MS5.3					
PMG	**Port Moresby**	58.59	108	P	**P**	**19 24 46.7 -0.4**
PMG				MLR	MLR	
	comp=Z,1μm,20.0s					
PECR	**Pechory**	58.71	331	*e*P	**P**	**19 24 46.0 -1.4**
PECR				*e*S	**S**	**19 32 48.6 -0.8**
PECR				pmax	pmax	
	comp=Z,2μm,7.0s					
PECR				smax		
	comp=N,3μm,11.0s					
PECR				smax		
	comp=E,1μm,12.0s					
PECR				MLR	MLR	
	comp=Z,3μm,18.0s,MS5.4					
VOR	**Voronezh**	59.09	325	*e*P	**P**	**19 24 48.5 -1.6**
VOR				pmax	pmax	
	comp=Z,280nm,1.5s,mb6.1					
SIM	**Simferopol'**	59.90	316⇑	*i*P	**P**	**19 24 54.5 -1.3**
SIM				*e*S	**S**	**19 32 53.5 -12**
ISP	**Isparta**	60.96	307	*e*P	**P**	**19 25 01.6 -1.5**
ISP				pmax	pmax	
	comp=Z,102nm,1.0s,mb5.9					
ISP	**Isparta**	60.96	307	*e*P	**P**	**19 25 01.6 -1.5**
	comp=Z,102nm,1.0s,mb5.9					
MOS	**Moscow**	61.62	329	*e*P	**P**	**19 25 06.7 -0.6**
MOS				*e*		19 25 46.8
MOS				*e*S	**S**	**19 33 25.4 -1.4**
MOS				*e*		19 34 56.3
MOS				pmax	pmax	
	comp=Z,377nm,1.6s,mb6.3					
MOS				smax		
	comp=N,3μm,8.2s					
MBAR	**Mbarara**	61.63	264	*e*P	**P**	**19 25 07.5 -0.5**
MBAR				pmax	pmax	
	comp=Z,107nm,1.6s,mb5.7					
MBAR				MLR	MLR	
	comp=Z,1μm,19.0s,MS5.0					
MBAR	**Mbarara**	61.63	264	*e*P	**P**	**19 25 07.5 -0.5**
	comp=Z,108nm,1.6s,mb5.7					
MBAR				LR	LR	
	comp=Z,1μm,19.0s,MS5.0					
CTA	**Charters Tower**	61.66	120⇑	*i*P	**P**	**19 25 08.0 -0.1**
	comp=Z,68nm,1.1s,mb5.7					
CTA	**Charters Tower**	61.66	120⇑	*i*P	**P**	**19 25 08.0 -0.1**
CTA				pmax	pmax	
	comp=Z,69nm,1.1s					
CTAO	**Charters Tower**	61.66	120	*e*P	**P**	**19 25 07.1 -1.0**
CTAO				pmax	pmax	
	comp=Z,177nm,1.2s,mb6.1					
CTAO				MLR	MLR	
	comp=Z,2μm,21.0s,MS5.2					
CTAO	**Charters Tower**	61.66	120	*e*P	**P**	**19 25 07.1 -1.0**
	comp=Z,177nm,1.2s,mb6.1					
CTAO				LR	LR	
	comp=Z,2μm,21.0s,MS5.2					
OBN	**Obninsk**	61.91	328⇑	*e*P	**P**	**19 25 08.2 -1.1**
OBN				*e*		19 27 22.4
OBN				*i* S	**S**	**19 33 31.4 +0.9**
OBN				pmax	pmax	
	comp=Z,307nm,1.6s,mb6.2					
OBN				MLR	MLR	
	comp=Z,3μm,17.0s,MS5.5					
OBN	**Obninsk**	61.91	328	*e*P	**P**	**19 25 07.3 -2.0**
	comp=Z,298nm,1.4s,mb6.2					
ADE	**Adelaide**	63.39	138	*e*P	**P**	**19 25 20.9 +1.5**
STKA	**Stephens Creek**	63.62	133⇑	*i*P	**P**	**19 25 20.5 -0.5**
	comp=Z,60nm,1.5s,mb5.4					
KIS	**Kishinev**	64.00	317	*e*P	**P**	**19 25 22.0 -1.2**
KIS				*e*S	**S**	**19 33 55.0 -1.8**
KIS				MLR	MLR	
	comp=Z,2μm,18.0s,MS5.3					
KIS				MLR	MLR	
	comp=N,1μm,17.0s,MS5.3					
KIS				MLR	MLR	
	comp=E,2μm,17.0s,MS5.3					
KIS				MLR	MLR	
	comp=Z,2μm,16.0s					
TIXI	**Tiksi**	65.18	12⇑	*i*P	**P**	**19 25 29.1 -1.4**
TIXI				*e*		19 27 51.9
TIXI				*e*S	S	19 34 10.3 -0.7
TIXI				*e*SS	SS	19 38 19.8 -5.7
TIXI				pmax	pmax	
	comp=N,36nm,1.5s					
TIXI				pmax	pmax	
	comp=E,34nm,1.5s					
TIXI				pmax	pmax	
	comp=Z,192nm,1.5s,mb5.9					
TIXI				pmax	pmax	
	comp=Z,462nm,1.7s,mb6.2					
TIXI				smax		
	comp=N,669nm,16.6s					
TIXI				smax		
	comp=E,477nm,16.6s					
TIXI				MLR	MLR	
	comp=Z,1μm,14.0s,MS5.3					
TIXI	**Tiksi**	65.18	12⇑	*i*P	**P**	**19 25 28.9 -1.6**
MA2	**Magadan**	65.61	29*c*	*i*P	**P**	**19 25 32.2 -1.2**
MA2				*e*S	S	19 34 12.0 -4.3
MA2				*e*SSS	SSS	19 41 24.4 -1.1
MA2				pmax	pmax	
	comp=Z,100nm,1.6s,mb5.6					
MA2				pmax	pmax	
	comp=E,60nm,1.8s					
MA2				MLR	MLR	
	comp=Z,7μm,26.0s,MS5.8					
MA2	**Magadan**	65.61	29	*e*P	**P**	**19 25 31.9 -1.4**
	comp=Z,237nm,1.4s,mb6.0					
RZN	**Rozhen**	65.95	311	*e*P	**P**	**19 25 34.0 -1.9**
MNK	**Minsk**	66.46	325⇓	*e*P	**P**	**19 25 35.0 -4.0**
MNK				pmax	pmax	
	comp=Z,440nm,1.0s,mb6.4					
MMB	**Musomiste**	66.67	311	*e*P	**P**	**19 25 38.0 -2.5**
PUL	**Pulkovo**	66.79	331⇑	*e*P	**P**	**19 25 41.8 +0.9**
PUL				*e*S	S	19 34 33.1 +2.4
PUL				pmax	pmax	
	comp=Z,97nm,0.9s,mb5.8					
PUL				pmax	pmax	
	comp=N,23nm,0.6s					
PUL				pmax	pmax	
	comp=E,14nm,0.5s					
PUL				smax		
	comp=N,2μm,5.0s					
PUL				MLR	MLR	
	comp=Z,4μm,20.0s,MS5.6					
PUL	**Pulkovo**	66.79	331	*i* P	**P**	**19 25 41.3 +0.4**
VTS	**Vitosha**	67.17	312	*e*P	**P**	**19 25 42.0 -1.7**
KKB	**Krupnik**	67.18	311	*e*P	**P**	**19 25 42.0 -1.8**
JOF	**Joensuu**	67.48	334	*e*p	**P**	**19 25 44.7 -0.6**
	comp=Z,3.9nm,0.4s,mb4.8					
SEY	**Seymchan**	67.59	26	*e*P	**P**	**19 25 45.2 -0.8**
SEY						19 26 11.7
SEY				*e*		19 28 18.9
SEY				*e*PPP	PPP	19 29 53.6 -0.3
SEY				*e*S	S	19 34 38.8 -1.6
SEY				*e*PS	PS	19 35 07.9 +1.3
SEY						19 35 42.0
SEY				SS	SS	19 39 03.5 +0.7
SEY				*e*SSS	SSS	19 42 06.2 +4.6
SEY				pmax	pmax	
	comp=E,60nm,1.0s					
SEY				pmax	pmax	

comp=Z,140nm,1.0s,mb6.0
SEY pmax pmax
comp=N,50nm,1.4s
SEY smax
comp=N,3μm,9.7s
SEY smax
comp=E,1μm,8.5s
SEY MLR MLR
comp=Z,14μm,21.0s,MS6.2
SEY MLR MLR
comp=N,3μm,19.0s,MS5.9
SEY MLR MLR
comp=E,5μm,18.0s,MS5.9
LVV L'vov 67.69 320 *eP* **P 19 25 44.0 -2.8**
LVV *e* 19 26 19.6
LVV *e*PPP PPP 19 29 55.8 +0.8
LVV *e*S S 19 34 33.8 -8.0
LVV *e*PS PS 19 35 07.2 -1.0
LVV MLR MLR
comp=E,900nm,18.0s,MS5.2
LVV MLR MLR
comp=N,800nm,15.0s,MS5.2
PET Petropavlovsk 67.86 37 *eP* **P 19 25 48.5 +0.6**
PET *e* 19 28 21.9
PET *e*PPP PPP 19 29 56.2 -0.3
PET *e*S S 19 34 46.8 +3.0
PET pmax pmax
comp=Z,500nm,12.4s
PET smax
comp=N,900nm,11.3s
PET smax
comp=N,800nm,12.9s
PET MLR MLR
comp=N,3μm,19.0s,MS5.6
PET MLR MLR
comp=Z,3μm,18.0s,MS5.5
PET MLR MLR
comp=E,2μm,18.0s,MS5.6
LSZ Lusaka 67.93 249 *eP* **P 19 25 48.9 0.0**
LSZ pmax pmax
comp=Z,63nm,1.3s,mb5.5
LSZ MLR MLR
comp=Z,4μm,21.0s,MS5.6
LSZ Lusaka 67.93 249 *eP* **P 19 25 48.9 +0.1**
comp=Z,63nm,1.3s,mb5.5
LSZ LR LR
comp=Z,4μm,21.0s,MS5.6
VSU Vasula 68.14 329 *i* P **P 19 25 49.4 -0.1**
BARS Barje 68.21 312⇑ *i*P **P 19 25 48.4 -1.8**
BOLS Boljevac 68.22 313⇓ *i*P **P 19 25 49.4 -0.8**
LVZ Lovozero 68.31 340⇑ *eP* **P 19 25 50.9 +0.5**
LVZ *e*S S 19 34 47.7 -1.1
LVZ pmax pmax
comp=Z,59nm,1.2s,mb5.5
LVZ pmax pmax
comp=N,15nm,1.6s
LVZ pmax pmax
comp=E,28nm,1.5s
LVZ smax
comp=N,1μm,6.0s
LVZ smax
comp=E,502nm,4.1s
LVZ MLR MLR
comp=Z,3μm,16.0s,MS5.6
LVZ MLR MLR
comp=N,4μm,19.0s
LVZ Lovozero 68.31 340 *i* P **P 19 25 49.6 -0.8**
SKO Skopje 68.41 311 *i* P **P 19 25 50.0 -1.5**
KWP Kalwaria 68.51 319 *eP* **P 19 25 50.7 -1.2**
KWP pmax pmax
comp=Z,77nm,1.2s,mb5.5
KWP Kalwaria 68.51 319 *eP* **P 19 25 51.2 -0.7**
KWP Kalwaria 68.51 319 *eP* **P 19 25 51.2 -0.7**
APA Apatity 68.58 339⇑ *i*P **P 19 25 51.8 -0.3**
APA *i*S S 19 34 54.0 +1.9
APA *e*SSS SSS 19 42 24.0 +4.7
APA pmax pmax
comp=Z,120nm,1.2s,mb5.7
APA MLR MLR
comp=Z,6μm,18.0s,MS5.8
KOLS Kolonicke sedl 68.68 318 *i* P **P 19 25 53.8 +0.8**
SUW Suwalki 69.00 324 *eP* **P 19 25 53.4 -1.6**
GRUS Gruza 69.12 313⇑ *i*P **P 19 25 55.0 -0.8**
CRVS Cervenica-Dubn 69.20 318 *i* P **P 19 25 56.3 +0.1**
TOO Toolangi 69.38 137 *eP* **P 19 25 59.7 +2.2**
comp=Z,16nm,0.9s,mb5.0
TOO Toolangi 69.38 137 *eP* **P 19 25 59.7 +2.2**
TOO pmax pmax
comp=Z,16nm,0.9s,mb5.0
KAF Kangasniemi 69.39 333 *ep* **P 19 25 56.9 -0.3**
comp=Z,1.2nm,0.4s
KAF Kangasniemi 69.39 333 *eP* **P 19 25 56.9 -0.3**
KAF pmax pmax
comp=Z,1.0nm,0.4s
BEO Belgrade 69.40 314⇑ *i*P **P 19 25 56.4 -1.1**
DIVS Divcibare 69.66 313⇓ *i*P **P 19 25 57.9 -1.3**
KECS Kecovo 69.79 318 *i* P **P 19 26 00.0 +0.2**
PSZ Piszkesteto 70.12 317 *eP* **P 19 26 00.7 -1.1**
PSZ pmax pmax
comp=Z,27nm,1.3s,mb5.0
PSZ Piszkesteto 70.12 317 *eP* **P 19 26 00.7 -1.1**
comp=Z,27nm,1.3s,mb5.0
OJC Ojcow 70.45 320 *eP* **P 19 26 03.3 -0.5**
VYHS Vyhne 70.88 318 *i* P **P 19 26 05.8 -0.7**
VYHS *i* PP PP 19 28 40.2 -5.6
RAC Raciborz 71.46 319 *eP* **P 19 26 09.9 0.0**
OKC Ostrava-Krasne 71.47 319⇑ *i*P **P 19 26 10.7 +0.7**
OKC *e*S S 19 35 29.7 +3.5
KEV Kevo 71.60 341 *ep* **P 19 26 09.3 -1.1**
comp=Z,0.8nm,0.4s
KEV Kevo 71.60 341 *eP* **P 19 26 09.3 -1.1**
KEV pmax pmax
comp=Z,1.0nm,0.4s
MORC Moravsky Berou 71.85 319⇑ *eP* **P 19 26 11.4 -0.9**
MORC pmax pmax
comp=Z,63nm,1.3s,mb5.4
MORC Moravsky Berou 71.85 319⇑ *eP* **P 19 26 11.4 -0.8**
comp=Z,63nm,1.3s,mb5.4
ZST Bratislava 72.01 317 *i* P **P 19 26 13.9 +0.7**
ARE0 ARCESS Array S 72.02 340 *eP* **P 19 26 12.6 -0.3**
GKP Gorka Klasztor 72.39 323 *eP* **P 19 26 15.7 +0.3**
GKP Gorka Klasztor 72.39 323 *eP* **P 19 26 15.8 +0.4**
KTK1 Kautokeino 72.63 339 *eP* **P 19 26 16.9 +0.4**
comp=Z,138nm,1.7s,mb5.6
KTK1 Kautokeino 72.63 339⇓ *i*P **P 19 26 16.9 +0.4**
KTK1 AMb AMB 19 26 19.0
comp=Z,138nm,1.7s,mb5.6
DPC Dobruska-Polom 72.68 320⇑ *i*P **P 19 26 16.3 -0.9**
DPC *ex* x 19 35 54.6
KSP Ksiaz 72.74 320⇓ *eP* **P 19 26 17.8 +0.3**
KSP *e* 19 26 34.4
KSP *e*S S 19 35 38.0 -2.8
KSP MLR MLR
comp=Z,3μm,19.2s,MS5.6
KSP Ksiaz 72.74 320⇓ *eP* **P 19 26 17.8 +0.3**
KSP *e*pP pP 19 26 20.8 -2.5
KSP *e*PcP PcP 19 26 34.4 -0.6
KSP *e*S S 19 35 38.0 -2.8
KSP LR LR
comp=Z,3μm,19.2s,MS5.6
KSP Ksiaz 72.74 320 *eP* **P 19 26 16.6 -0.9**
UPC Upice 72.89 320⇑ *i*P **P 19 26 19.3 +0.9**
ARSA Arzberg 73.01 316⇑ *i*P **P 19 26 19.1 -0.1**
comp=Z,42nm,1.6s,mb5.1
BOJS Bojanci 73.12 314 *eP* **P 19 26 19.8 0.0**
BOJS *e* 19 26 23.3
LJU Ljubljana 73.65 315 *eP* **P 19 26 22.5 -0.4**
OBKA Obir 73.65 315⇑ *i*P **P 19 26 23.2 +0.3**
comp=Z,49nm,1.1s,mb5.3
CEY Cerknica 73.71 315 *i* P **P 19 26 23.3 +0.1**
PRU Pruhonice 73.80 319⇑ *i*P **P 19 26 24.6 +0.9**
PRU *e*S S 19 35 52.7 0.0
PVCC Panska Ves 73.81 320⇑ *eP* **P 19 26 24.6 +0.8**
PVCC *e*S S 19 35 56.7 +3.9
MOA Molln 73.89 317⇑ *i*P **P 19 26 24.3 0.0**
comp=Z,30nm,1.1s,mb5.1
BSD Bornholm Skovb 73.92 324 *eP* **P 19 26 30.4 +6.1**
BSD *i*S S 19 35 58.8 +4.9
BSD pmax pmax
comp=Z,35nm,0.8s,mb5.3
BSD MLR MLR
comp=Z,2μm,19.0s,MS5.3
BSD Bornholm Skovb 73.92 324 *i* P **P 19 26 30.4 +6.1**
comp=Z,35nm,0.8s,mb5.3
BSD *i*S S 19 35 58.8 +4.9
comp=Z,1μm,19.0s
VOY Vojsko 74.09 315 *eP* **P 19 26 25.2 -0.2**
BRG Berggiesshubel 74.23 320 *i* P **P 19 26 26.8 +0.6**
BRG *i*S S 19 35 59.0 +1.5
BRG *e*SS SS 19 40 46.0 +0.5
BRG pmax pmax
comp=Z,54nm,1.3s,mb5.3
BRG MLR MLR
comp=Z,2μm,17.7s,MS5.5
BRG Berggiesshubel 74.23 320 *i* P **P 19 26 26.8 +0.6**
comp=Z,54nm,1.3s,mb5.3
BRG *i*S S 19 35 59.0 +1.5
BRG *e*SS SS 19 40 46.0 +0.5
BRG LR LR
comp=Z,2μm,17.7s,MS5.5
TRO Tromso 74.27 340 *eP* **P 19 26 25.1 -0.9**
TRO MLR MLR
comp=Z,2598μm,23.3s
TRO Tromso 74.27 340 *eP* **P 19 26 25.1 -1.0**
TRO *e*S S 19 35 58.3 +0.8
TRO AMS AMS 20 02 03.6
comp=Z,3μm,23.3s,MS5.5
GEC2 GERESS Array S 74.30 318 *eP* **P 19 26 26.2 -0.4**
GEC2 pmax pmax
comp=Z,64nm,1.4s,mb5.4
GEC2 GERESS Array S 74.30 318 *eP* **P 19 26 26.2 -0.4**
comp=Z,64nm,1.4s,mb5.4
ROBS Robic 74.36 315 *eP* **P 19 26 26.8 -0.2**
KHC Kasperske Hory 74.39 318⇑ *i*P **P 19 26 27.9 +0.8**
KHC *e*S S 19 36 01.5 +2.2
RUE Ruedersdorf 74.41 322 *eP* **P 19 26 24.6 -2.6**
comp=Z,96nm,1.1s,mb5.6
BILL Bilibino 74.57 22*c i*P **P 19 26 26.8 -1.0**
BILL *e* 19 29 10.7
BILL pmax pmax
comp=Z,115nm,2.2s,mb5.4
BILL Bilibino 74.57 22⇑ *eP* **P 19 26 27.0 -0.8**
comp=Z,45nm,0.9s,mb5.4
BILL LR LR
comp=Z,4μm,19.0s,MS5.8
CLL Collm 74.84 320 *i* P **P 19 26 29.0 -0.7**
CLL *i* pP 19 26 35.8 +0.3
CLL pmax pmax
comp=Z,52nm,1.3s,mb5.3
CLL MLR MLR
comp=Z,2μm,18.0s,MS5.5
CLL Collm 74.84 320 *i* P **P 19 26 29.0 -0.7**
comp=Z,52nm,1.3s,mb5.3
CLL *i* 19 26 32.6
CLL *i* pP 19 26 35.8 +0.3
CLL LR LR
comp=Z,2μm,18.0s,MS5.5
CLL Collm 74.84 320 P **P 19 26 29.0 -0.7**
comp=Z,logA/T=1.6,mb5.3
CLL *i* *PP pP 19 26 32.6 -2.9
CLL *i* *SP sP 19 26 35.8 -1.8
CLL *e* 19 27 02.0
WET Wettzell 74.85 318 *eP* **P 19 26 29.5 -0.3**
BOSA Boshof 74.98 237 *eP* **P 19 26 32.1 +1.1**
BOSA pmax pmax
comp=Z,142nm,1.3s,mb5.7
BOSA MLR MLR
comp=Z,3μm,20.0s,MS5.5
BOSA Boshof 74.98 237 *eP* **P 19 26 32.1 +1.2**
comp=Z,142nm,1.3s,mb5.7
BOSA LR LR
comp=Z,3μm,20.0s,MS5.5
NKC Novy Kostel 75.16 319⇑ *eP* **P 19 26 32.2 +0.6**
NKC *ex* x 19 36 24.2
BJO Bjornoya 75.32 345 *eP* **P 19 26 36.9 +4.9**
BJO *e*S S 19 36 13.3 +4.1
BJO AMS AMS 20 09 18.4
comp=Z,1μm,19.7s,MS5.2
MOR8 Moi Rana 75.34 336 *eP* **P 19 26 32.3 +0.1**
MOR8 Moi Rana 75.34 336⇓ *i*P **P 19 26 32.2 -0.1**
BJO1 Bjornoya 75.37 345 *eP* **P 19 26 36.9 +4.6**
BJO1 LR LR
comp=Z,1231μm,19.7s
COP Copenhagen 75.37 325 *i* P **P 19 26 24.9 -7.8**
COP pmax pmax
comp=Z,33nm,0.6s,mb5.4
COP MLR MLR
comp=Z,2μm,19.0s,MS5.4
COP Copenhagen 75.37 325 *i* P **P 19 26 24.9 -7.8**
comp=Z,33nm,0.6s,mb5.4
comp=Z,2μm,19.0s
WTTA Wattenberg 75.66 316⇑ *i*P **P 19 26 33.3 -1.2**
comp=Z,47nm,1.2s,mb5.3
WTTA Wattenberg 75.66 316⇑ *i*P **P 19 26 33.3 -1.2**
WTTA pmax pmax
comp=Z,47nm,1.2s,mb5.3
WATA Walderalm 75.70 316⇑ *i*P **P 19 26 34.1 -0.6**
comp=Z,39nm,1.3s,mb5.2
WATA Walderalm 75.70 316⇑ *i*P **P 19 26 34.1 -0.6**
WATA pmax pmax
comp=Z,39nm,1.3s,mb5.2
MOX Moxa 75.70 320 *eP* **P 19 26 35.3 +0.7**
MOX pmax pmax
comp=Z,144nm,2.2s,mb5.5
MOX MLR MLR
comp=Z,1μm,17.0s,MS5.3
MOX Moxa 75.70 320 *eP* **P 19 26 35.3 +0.7**
comp=Z,144nm,2.2s,mb5.5
MOX LR LR
comp=Z,1μm,17.0s,MS5.3
MOX Moxa 75.70 320 *i* P **P 19 26 35.3 +0.7**
comp=Z,logA/T=1.8,mb5.5
MOX L 20 09 27.0
FUR Furstenfeldbru 75.90 317 *eP* **P 19 26 35.2 -0.6**
GRA1 Grafenberg Arr 75.94 319 *eP* **P 19 26 36.1 +0.1**
comp=Z,94nm,1.3s,mb5.6
GRF Grafenberg Arr 75.94 319 *eP* **P 19 26 36.1 +0.1**
GRF pmax pmax
comp=Z,94nm,1.3s,mb5.6
GRF Grafenberg Arr 75.94 319 *eP* **P 19 26 36.1 +0.1**
GRF pmax pmax
comp=Z,94nm,1.3s,mb5.6
GRF Grafenberg Arr 75.94 319 *eP* **P 19 26 36.1 +0.1**
comp=Z,94nm,1.3s,mb5.6
SQTA Sankt Quirin 75.95 316⇑ *i*P **P 19 26 35.8 -0.3**
comp=Z,31nm,1.1s,mb5.1
SQTA Sankt Quirin 75.95 316⇑ *i*P **P 19 26 35.8 -0.3**
SQTA pmax pmax
comp=Z,31nm,1.1s,mb5.2
MOTA Moosalm 76.02 316⇓ *i*P **P 19 26 35.6 -0.9**
comp=Z,15nm,0.9s,mb4.9
MOTA Moosalm 76.02 316⇓ *i*P **P 19 26 35.6 -0.9**
MOTA pmax pmax
comp=Z,15nm,0.9s,mb4.9
NSS Namsos 76.19 334 *eP* **P 19 26 36.7 -0.4**
NSS AMS AMS 20 10 02.6
comp=Z,2μm,15.5s,MS5.5
NB2 NORSAR Subarra 76.30 330 P **P 19 26 37.0 -0.8**
comp=Z,78nm,1.2s,mb5.5,baz=94,slow=5.6
NB2 NORSAR Subarra 76.30 330 P **P 19 26 37.0 -0.8**
baz=94,slow=5.9
CLZ Clausthal 76.49 321 *eP* **P 19 26 38.8 -0.3**
comp=Z,58nm,1.1s,mb5.4
BSEG Bad Segeberg 76.54 323 *eP* **P 19 26 39.2 -0.1**
DAVA Damuels 76.85 316⇓ *i*P **P 19 26 41.0 -0.2**
comp=Z,59nm,1.2s,mb5.4
SMY Shemya 77.13 38 PFAKE 19 26 50.0 +7.4
SMY LR LR
comp=Z,9μm,22.0s,MS6.0
MUD Monsted U'grnd 77.22 326 *i* P **P 19 26 44.1 +1.1**
comp=Z,70nm,1.2s,mb5.5
MUD *e*S S 19 36 38.0 +7.7
comp=Z,2μm,17.0s
TOD Tromm 77.52 319 *eP* **P 19 26 45.2 +0.4**
PGF Pioggiola 77.65 311 *eP* **P 19 26 45.1 -0.6**
comp=Z,50nm,1.1s,mb5.1
PGF Pioggiola 77.65 311 *eP* **P 19 26 45.1 -0.6**
PGF pmax pmax
comp=Z,25nm,1.0s,mb5.1
CASY Casey 77.80 172 *eP* **P 19 26 46.1 +0.1**
comp=Z,46nm,1.0s,mb5.4
BFO Black Forest 77.87 317 *eP* **P 19 26 46.1 -0.6**
BFO pmax pmax
comp=Z,25nm,1.1s,mb5.1
BFO Black Forest 77.87 317 *eP* **P 19 26 46.1 -0.6**
comp=Z,25nm,1.1s,mb5.1
FELD Feldberg 78.10 317 *eP* **P 19 26 48.3 +0.2**
LANF Langenberg 78.19 318 *eP* **P 19 26 49.5 +1.0**
ABH Alteburg 78.32 319 *eP* **P 19 26 50.1 +0.9**
LIBD Limburg 78.36 317 *eP* **P 19 26 50.2 +0.7**
WLS Welschbruch 78.52 317 *eP* **P 19 26 50.4 +0.1**
CDF Champ du Feu 78.57 317 *eP* **P 19 26 50.1 -0.5**
comp=Z,72nm,1.3s,mb5.2
CDF Champ du Feu 78.57 317 *eP* **P 19 26 50.1 -0.5**
CDF pmax pmax
comp=Z,36nm,1.3s,mb5.1
SAOF Saorge 78.62 313 *eP* **P 19 26 51.3 +0.3**
RUP Ruppelstein 78.64 319 *eP* **P 19 26 51.9 +0.9**
ECH Echery 78.66 317 *eP* **P 19 26 51.1 0.0**
MOF Molkenrain 78.69 317 *eP* **P 19 26 51.8 +0.5**
AUTN L'Aution 78.71 313 *eP* **P 19 26 52.7 +1.2**
SBF Sospel 78.72 313 *eP* **P 19 26 49.6 -1.9**
comp=Z,108nm,1.3s,mb5.3
SBF Sospel 78.72 313 *eP* **P 19 26 49.6 -1.9**
SBF pmax pmax
comp=Z,54nm,1.3s,mb5.3
TOUF Mont Tournerai 78.84 313 *eP* **P 19 26 53.1 +0.9**
LOMF Lomont 78.93 316 *eP* **P 19 26 52.5 -0.1**
LPG La Plagne 79.10 314 *eP* **P 19 26 53.5 -0.1**
comp=Z,104nm,1.2s,mb5.3
LPG La Plagne 79.10 314 *eP* **P 19 26 53.5 -0.1**
LPG pmax pmax
comp=Z,52nm,1.3s,mb5.3
CALN Calern 79.12 313 *eP* **P 19 26 54.6 +0.9**
MBDF Montbardon 79.14 314 *eP* **P 19 26 52.8 -1.0**
comp=Z,24nm,1.0s,mb4.8
MBDF Montbardon 79.14 314 *eP* **P 19 26 52.8 -1.0**
MBDF pmax pmax
comp=Z,12nm,1.0s,mb4.8
BNI Bardonecchia 79.18 314 *eP* **P 19 26 53.9 -0.1**
BNI pmax pmax
comp=Z,25nm,1.2s,mb5.0
BNI Bardonecchia 79.18 314 *eP* **P 19 26 53.9 -0.1**
comp=Z,25nm,1.2s,mb5.0
HAU Haudompre 79.21 317 *eP* **P 19 26 53.5 -0.6**
comp=Z,138nm,1.3s,mb5.4
HAU *e*R
comp=Z,1μm,19.8s
HAU Haudompre 79.21 317 *eP* **P 19 26 53.5 -0.6**
HAU pmax pmax
comp=Z,69nm,1.3s,mb5.4
HAU MLR MLR
comp=Z,1μm,19.8s,MS5.3
THEF They Montfort 79.44 317 *eP* **P 19 26 55.6 +0.3**
SUR Sutherland 79.87 234 *eP* **P 19 27 01.1 +3.1**
comp=Z,108nm,1.3s,mb5.6
SUR LR LR
comp=Z,739nm,20.0s,MS5.0
NOUC Port Laguerre 79.93 115 *eP* **P 19 26 58.8 +0.3**
DZM Mont Dzumac 80.05 115 *eP* **P 19 26 58.0 -1.2**
DZM Mont Dzumac 80.05 115 *eP* **P 19 26 58.0 -1.2**
BAIF Baives 80.46 319 *eP* **P 19 27 00.7 -0.1**
comp=Z,142nm,1.4s,mb5.4
BAIF Baives 80.46 319 *eP* **P 19 27 00.7 -0.1**
BAIF pmax pmax
comp=Z,71nm,1.4s,mb5.4
MAW Mawson 80.61 191 *eP* **P 19 27 03.5 +2.3**
comp=Z,14nm,1.3s,mb4.7
MAW Mawson 80.61 191 *eP* **P 19 27 03.5 +2.3**
MAW pmax pmax
comp=Z,14nm,1.3s
SSF Saint Saulge 81.21 316 *eP* **P 19 27 04.3 -0.5**
SSF pmax pmax
comp=Z,89nm,1.6s,mb5.5
SSF Saint Saulge 81.21 316 *eP* **P 19 27 04.3 -0.5**
comp=Z,89nm,1.6s,mb5.4
PLDF La Plantade 81.24 315 *eP* **P 19 27 05.9 +0.9**
AGO Saint Agoulin 81.57 315 *eP* **P 19 27 07.7 +1.0**
LBL Lubilhac 81.58 314 *eP* **P 19 27 08.0 +1.2**
PYM Petit Puy Mans 81.69 315 *eP* **P 19 27 08.4 +1.1**
BGF Bois d'Agland 81.71 316 *eP* **P 19 27 07.3 -0.1**
EJON La Jonquera 82.16 312 P **P 19 27 12.2 +2.4**
comp=Z,22nm,1.0s,mb5.0
RJF Les Rejaudoux 82.78 315 *eP* **P 19 27 13.5 +0.5**
comp=Z,215nm,1.5s,mb5.6
RJF *e*R
comp=Z,1μm,20.5s
RJF Les Rejaudoux 82.78 315 *eP* **P 19 27 13.5 +0.5**
RJF pmax pmax
comp=Z,107nm,1.5s,mb5.7
RJF MLR MLR
comp=Z,1μm,20.5s,MS5.3
EMIR Miracle 83.23 311 P **P 19 27 17.1 +1.7**
comp=Z,148nm,1.8s,mb5.7
EPOB Poblet 83.64 311 P **P 19 27 18.2 +0.6**
comp=Z,128nm,1.5s,mb5.8
FLN La Foliniere 83.66 318 *eP* **P 19 27 17.5 +0.1**
comp=Z,182nm,1.5s,mb5.7
FLN *e*R
comp=Z,2μm,21.5s
FLN La Foliniere 83.66 318 *eP* **P 19 27 17.5 +0.1**
FLN pmax pmax
comp=Z,91nm,1.5s,mb5.7
FLN MLR MLR
comp=Z,2μm,21.5s,MS5.5
EIBI Ibiza 83.78 308 P **P 19 27 20.1 +1.8**
comp=Z,108nm,1.4s,mb5.8
EBIE Bielsa 84.14 312 P **P 19 27 21.8 +1.8**
comp=Z,126nm,2.2s,mb5.7
EBR Ebro Roquetas 84.16 310 *eP* **P 19 27 22.0 +1.8**
ERTA Horta de San J 84.26 310 P **P 19 27 20.3 -0.4**
comp=Z,158nm,1.6s,mb5.9
DAG Danmarks Havn 84.43 347⇑ *i*P **P 19 27 21.0 +0.3**
DAG pmax pmax
comp=Z,146nm,1.7s,mb5.8
DAG Danmarks Havn 84.43 347⇑ *i*P **P 19 27 21.0 +0.3**
comp=Z,146nm,1.7s,mb5.8
ETSF Etsaut 84.61 312 *eP* **P 19 27 21.9 -0.5**
comp=Z,56nm,1.3s,mb5.2
ETSF Etsaut 84.61 312 *eP* **P 19 27 21.9 -0.5**
ETSF pmax pmax
comp=Z,28nm,1.3s,mb5.2
ESAC San Caprasio 84.74 311 P **P 19 27 24.4 +1.4**
comp=Z,222nm,2.4s,mb5.9
EMOS Mosqueruela 84.96 310 P **P 19 27 26.6 +2.4**
comp=Z,185nm,1.4s,mb6.0
EBEN Beniarda 85.04 308 P **P 19 27 25.1 +0.5**
comp=Z,150nm,2.4s,mb5.7
EMUR La Murta 85.97 308 P **P 19 27 30.5 +1.2**
comp=Z,89nm,1.8s,mb5.7
ANM Nome 86.09 25 *eP* **P 19 27 30.8 +1.6**
EVIA Vianos 86.81 309 P **P 19 27 34.1 +0.7**
EVIA pmax pmax
comp=Z,19nm,1.0s,mb5.3
EVIA Vianos 86.81 309 P **P 19 27 34.1 +0.8**
comp=Z,19nm,1.0s,mb5.3
EQES Quesada 87.41 308 P **P 19 27 37.5 +1.2**
comp=Z,52nm,1.9s,mb5.4
EBER Berja 87.44 307 P **P 19 27 38.0 +1.5**
comp=Z,103nm,1.6s,mb5.8
GUD Guadarrama 87.67 311 P **P 19 27 38.1 +0.6**
GUD pmax pmax
comp=Z,14nm,1.0s,mb5.2
GUD Guadarrama 87.67 311 P **P 19 27 38.1 +0.7**
comp=Z,14nm,1.0s,mb5.1
ESDC Sonseca Array 87.72 310 P **P 19 27 37.4 -0.4**
comp=Z,2.8nm,0.8s,mb4.5
ESLA Sonseca Array 87.72 310 PFAKE 19 27 50.0 +12
ESLA LR LR
comp=Z,7μm,22.0s,MS6.0
EADA Adamuz 88.50 308 P **P 19 27 41.5 0.0**
comp=Z,83nm,1.9s,mb5.6
PBRG Braganca 89.32 312 *eP* **P 19 27 46.6 +1.3**
comp=Z,42nm,2.0s,mb5.4
ESPR Espera 89.77 307 P **P 19 27 49.3 +1.8**
comp=Z,112nm,2.8s,mb5.7
IMA Indian Mountai 90.12 22 *eP* **P 19 27 49.7 +1.2**
IMA pmax pmax
comp=Z,610nm,1.7s
IMA Indian Mountai 90.12 22 *eP* **P 19 27 50.5 +2.0**
comp=Z,12nm,0.7s,mb5.3
EMIN Mina Concepcio 90.20 308 P **P 19 27 50.9 +1.3**
comp=Z,58nm,1.8s,mb5.6
EBAD Badajoz 90.23 309 P **P 19 27 51.0 +1.4**
comp=Z,63nm,1.5s,mb5.7
MTE Manteigas 90.24 311 *e*SKSac 19 38 25.3
MTE *e*S S 19 38 50.7 +10
MTE *e*SS SS 19 44 53.0 +9.2
MTE Manteigas 90.24 311 *eP* **P 19 27 50.1 +0.5**
ELOB Lobios 90.26 313 P **P 19 27 51.4 +1.7**
comp=Z,36nm,1.8s,mb5.4
PCBR Castelo Branco 90.33 311 *eP* **P 19 27 51.8 +1.7**
comp=Z,52nm,1.5s,mb5.6
PVIS Viseu 90.42 311 *eP* **P 19 27 52.5 +2.0**
comp=Z,67nm,1.6s,mb5.7
EMAZ Mazaricos 90.65 314 P **P 19 27 52.6 +1.1**
comp=Z,102nm,1.4s,mb6.0

PALC	**Alcoutim**	**90.89**	**308**	*eP*	**P**	**19 27 54.5**	**+1.8**
	comp=Z,85nm,1.6s,mb5.8						
PBEJ	**Beja**	**91.06**	**309**	*eP*	**P**	**19 27 55.3**	**+1.8**
	comp=Z,47nm,1.7s,mb5.5						
PTOM	**Tomar**	**91.08**	**310**	*eP*	**P**	**19 27 55.8**	**+2.3**
	comp=Z,98nm,1.5s,mb5.9						
PTEO	**Sao Teotonio**	**91.83**	**309**	*eP*	**P**	**19 27 58.1**	**+1.0**
	comp=Z,86nm,1.4s,mb5.9						
COLA	**College**	**92.82**	**22**	PFAKE		19 28 10.0	+9.1
COLA				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
SPU	**Mount Spurr**	**93.01**	**26**	*eP*	**P**	**19 28 02.3**	**+0.4**
RSO	**Redoubt South**	**93.04**	**27**	*eP*	**P**	**19 28 02.6**	**+0.5**
PWA	**Palmer West**	**93.70**	**25**	*eP*	**P**	**19 28 06.6**	**+1.6**
PWA				pmax	pmax		
	comp=Z,83nm,1.2s,mb6.0						
PWA	**Palmer West**	**93.70**	**25**	*eP*	**P**	**19 28 06.6**	**+1.6**
	comp=Z,83nm,1.2s,mb6.0						
DBIC	**Dimbokro**	**95.22**	**278**	*eP*	**P**	**19 28 12.2**	**-1.0**
DBIC				pmax	pmax		
	comp=Z,100nm,2.0s						
DBIC				MLR	MLR		
	comp=Z,1μm,20.0s						
DBIC	**Dimbokro**	**95.22**	**278**	*eP*	**P**	**19 28 12.2**	**-0.9**
	comp=Z,100nm,2.0s,mb5.9						
DBIC				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
HUMO	**Hull Mountain**	**118.38**	**29**	*e*PKP	PKPdf	19 33 37.4	-1.8
MSO	**Missoula**	**118.51**	**20**	*e*PKP	PKPdf	19 33 36.9	-2.5
CHMT	**Chamberlain Mo**	**118.66**	**19**	*e*PKP	PKPdf	19 33 38.0	-1.7
BMO	**Blue Mountains**	**118.99**	**23**	*e*PKIKP	PKPdf	19 33 37.9	-2.5
TBI	**Tubuai**	**120.46**	**111**	*e*PP	PP	19 35 00.7	-10
TBI				*e*PS	PS	19 45 06.3	+8.7
TBI				*e*SS	SS	19 51 50.6	+15
TBI				*e*LR	LR	20 10 35.7	
	comp=Z,1μm,35.2s						
MCMT	**McKenzie Canyo**	**120.63**	**20**	*e*P	PKPdf	19 33 42.4	-1.2
LAO	**LASA Array**	**120.87**	**14**	*e*PKP	PKPdf	19 33 42.4	-1.6
HLID	**Hailey**	**121.18**	**22**	*e*PKP	PKPdf	19 33 42.5	-2.2
TPAW	**Teton Pass**	**122.45**	**19**	*e*PKPdf	PKPdf	19 33 46.1	-1.0
TPAW				*e*PP	PP	19 35 18.7	-5.5
WCN	**Washoe City**	**122.47**	**29**	*e*PKIKP	PKPdf	19 33 45.1	-2.1
WUWY	**Wally Ulrich**	**122.47**	**19**	*e*PKPdf	PKPdf	19 33 46.9	-0.2
SNOW	**Snow King Moun**	**122.54**	**19**	*e*PKPdf	PKPdf	19 33 46.0	-1.2
MNV	**Mina**	**123.91**	**28**	*e*PKIKP	PKPdf	19 33 49.0	-1.1
DAU	**Daniels Canyon**	**125.08**	**21**	*e*PKIKP	PKPdf	19 33 51.3	-1.0
TMUT	**Trail Mountain**	**126.08**	**22**	*e*PKP	PKPdf	19 33 54.1	-0.1
MVU	**Marysvale**	**126.39**	**23**	*e*PKP	PKPdf	19 33 53.9	-1.0
MSU	**Marysvale**	**126.40**	**23**	*e*P	Pdif	19 30 31.1	+0.4
MSU	**Marysvale**	**126.40**	**23**	*e*PKPdf	PKPdf	19 33 53.9	-1.0
ISCO	**Idaho Springs**	**127.45**	**17**	*e*P	Pdif	19 30 35.6	+0.3
ISCO	**Idaho Springs**	**127.45**	**17**	*e*Pdif	Pdif	19 30 35.5	+0.1
PV10	**Paradox Valley**	**127.67**	**21**	*e*PKPdf	PKPdf	19 33 56.1	-1.3
NEN	**Nelson**	**127.71**	**27**	*e*PKP	PKPdf	19 33 56.0	-1.5
RW3	**Ridgway**	**128.24**	**19**	*e*P	Pdif	19 30 37.2	-1.7
SSPA	**Standing Stone**	**128.24**	**350**	*e*PKP	PKPdf	19 33 55.3	-3.1
ACSO	**Alum Creek Sta**	**129.31**	**355**	*e*PKP	PKPdf	19 33 57.9	-2.6
KSU1	**Kansas State U**	**130.07**	**8**	*e*PKP	PKPdf	19 33 59.9	-2.1
ANMO	**Albuquerque**	**131.65**	**20**	*e*P	Pdif	19 30 49.8	-4.1
ANMO	**Albuquerque**	**131.65**	**20**	*e*PKPdf	PKPdf	19 34 04.1	-1.0
LAZ	**Ladron**	**131.91**	**21**	*e*PKP	PKPdf	19 34 03.3	-2.2
LENM	**Lemitar**	**132.18**	**21**	*e*PKP	PKPdf	19 34 05.3	-0.8
BNM	**Barren Site**	**132.32**	**21**	*e*PKP	PKPdf	19 34 05.2	-1.2
WVT	**Waverly**	**133.64**	**359**	*e*PKIKP	PKPdf	19 34 06.4	-2.3
MIAR	**Mount Ida**	**134.94**	**6**	*e*PKIKP	PKPdf	19 34 07.9	-3.3
MNTX	**Cornudas Mount**	**134.97**	**21**	*e*PKP	PKPdf	19 34 10.1	-1.3
MNTX				*e*PP	PP	19 36 43.1	-3.1
JCT	**Junction City**	**137.80**	**15**	*e*PKIKP	PKPdf	19 34 13.9	-2.7
TRQA	**Tornquist**	**143.80**	**216**	*e*PKPdf	PKPdf	19 34 21.1	-5.8
SDV	**Santo Domingo**	**153.95**	**317**	*e*PKPdf	PKPdf	19 34 41.1	-2.6
SDV				*e*PKPbc	PKPdf	19 34 49.8	+6.1
LPAZ	**La Paz**	**159.57**	**251**	PKPdf	PKPdf	19 34 49.4	-1.5
LPAZ				PKPab	PKPab	19 35 28.1	+0.6
LPAZ	**La Paz**	**159.57**	**251**	*e*PKPdf	PKPdf	19 34 49.7	-1.1
OTAV	**Otavalo**	**165.54**	**317**	*e*PKPdf	PKPdf	19 34 55.3	-1.7
OTAV				*e*PKPab	PKPab	19 35 55.0	+1.4

BJI ***04*** *19:44:09.0, 10.76S×40.90E, h23km, mB5.0, mb4.9, Ms5.1, Msz4.9*
NEIC ***04*** *19:44:12.0±0.6, 10.35S×41.01E, h10km, mb5.0/7, Error ellipse: s-maj=17.3km s-min=13.5km az=108.0*
ISC 04 19:44:10.1±0.6,**10.33S**±0.09×**40.97E**±0.10,**h10km,n20,**
σ1ŝ25/15,mb4.9/11,MS5.0/2,1C-1D,Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**9.86**	**338**	*eP*	**P**	**19 46 34.7**	**-0.3**
LSZ	**Lusaka**	**13.39**	**247**	*eP*	**P**	**19 47 21.8**	**-1.1**
LSZ				*eS*	**S**	**19 49 46.3**	**-6.6**
MBAR	**Mbarara**	**14.03**	**313**	*eP*	**P**	**19 47 31.5**	**+0.2**
BOSA	**Boshof**	**23.41**	**217**	*eP*	**P**	**19 49 20.6**	**+0.4**
	43nm,0.8s,mb4.9						
SUR	**Sutherland**	**28.77**	**217**	*eP*	**P**	**19 50 09.3**	**-0.9**
	22nm,0.8s,mb4.9						
DBIC	**Dimbokro**	**48.65**	**288**	*eP*	**P**	**19 52 58.5**	**+1.8**
	22nm,0.9s,mb5.2						
DBIC				*e*		19 53 08.3	
AAK	**Ala-Archa**	**60.98**	**28**	P	**P**	**19 54 24.9**	**-1.1**
	7.7nm,1.2s,mb4.7						
MORC	**Moravsky Berou**	**63.27**	**343**	*eP*	**P**	**19 54 40.7**	**-0.5**
	11nm,1.3s,mb4.8						
CM31	**Chiang Mai Arr**	**63.95**	**64⇓**	*eP*	**P**	**19 54 43.4**	**-2.7**
	5.8nm,0.5s,mb4.9						
CM31				*e*		19 54 52.2	
WMQ	**Urumqi**	**68.57**	**34**	P	**P**	**19 55 17.3**	**+2.0**
WMQ				AP	pP	19 55 22.0	+3.6
WMQ				XP	sP	19 55 24.3	+4.8
WMQ				PP	PP	19 57 51.0	+2.1
WMQ				S	S	20 04 18.0	+1.9
WMQ				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,110nm,6.2s						
WMQ				LR	LR		
	comp=N,514nm,20.5s,MS4.9						
WMQ				LR	LR		
	comp=E,488nm,19.7s,MS4.9						
WMQ				LR	LR		
	comp=Z,670nm,20.1s,MS4.9						
LZH	**Lanzhou**	**74.99**	**48**	*eP*	**P**	**19 55 54.8**	**+1.0**
LZH				AP	pP	19 55 59.5	+2.6
LZH				PP	PP	19 58 44.6	+0.7
LZH				*e*S	S	20 05 31.2	+1.1
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,124nm,6.2s						
LZH				LR	LR		
	comp=E,439nm,15.0s						
LZH				LR	LR		
	comp=Z,719nm,17.9s,MS5.0						
QSPA	**South Pole Qui**	**79.76**	**180⇑**	*iP*	**P**	**19 56 22.4**	**+3.0**
	comp=Z,21nm,1.1s,mb5.0						
NJ2	**Nanjing**	**85.34**	**56**	*eP*	**P**	**19 56 48.8**	**-0.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
MDJ	**Mudanjiang**	**96.19**	**46**	P	**P**	**19 57 38.8**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.8s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,188nm,5.1s						
MSU	**Marysvale**	**143.05**	**324**	PKP	PKPdf	20 03 47.1	-0.5
BMN	**Battle Mountai**	**144.33**	**331**	*e*PKPdf	PKPdf	20 03 49.0	-0.8
MOD	**Modoc**	**144.50**	**336**	*e*PKPdf	PKPdf	20 03 49.2	-0.9
HUMO	**Hull Mountain**	**144.90**	**339**	*e*PKPdf	PKPdf	20 03 49.8	-0.9
TRCR	**Troy Canyon**	**145.07**	**327**	*e*PKPdf	PKPdf	20 03 51.9	+0.7
NEN	**Nelson**	**146.55**	**323**	*e*PKPdf	PKPdf	20 03 55.2	+1.4

LDG ***04*** *19:58:02.2±0.1, 10.37S×41.59E, h10km, Mb5.3/26, Error ellipse: s-maj=8.3km s-min=3.4km az=50.0*
CSEM ***04*** *19:58:05.4, 10.55S×41.21E, h33km, mb5.5*
BJI ***04*** *19:58:05.1, 10.29S×41.40E, h28km, mB5.4, mb5.0, Ms5.4, Msz5.0*
MOS ***04*** *19:58:05.0±0.9, 10.33S×41.22E, h33km, mb5.2/18, Error ellipse: s-maj=19.1km s-min=8.1km az=97.9*
HRVD ***04*** *19:58:06.9±0.4, 10.35S×41.39E, h17km±1km, MW5.0/47, Centroid moment Tensor Solution. LP body waves: s14,c17;Mantle waves: s47,c73; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.67±.34; Mθθ0.44±.18;*
Mφφ3.23±.24; Mrθ2.00±.58; Mrφ-1.25±.12; Mθφ-0.50±.47; Best double couple: M0 4.197×10^16 NP1:φ177°, δ39°, λ-58° NP2:φ318°, δ58°, λ-113°. Principal axes: T 3.911, Plg10°, Azm65°; N .568, Plg20°, Azm331°; P -4.483, Plg68°, Azm180°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC ***04*** *19:58:06.9±0.3, 10.41S×41.49E, mb5.1/44 Error ellipse: s-maj=14.8km s-min=7.9km az=78.0*
ISC 04 19:58:04.8±0.4,**10.35S**±0.07×**41.47E**±0.06,**h28km,**
h28km±.8km:pP-P,n182,σ0ŝ97/145,mb5.1/73,MS5.0/4,
15C-6D,Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**10.07**	**335**	*eP*	**P**	**20 00 26.2**	**-4.7**
LSZ	**Lusaka**	**13.85**	**248**	*eP*	**P**	**20 01 13.1**	**-8.7**
LSZ				*eS*	**S**	**20 03 38.5**	**-17**
MBAR	**Mbarara**	**14.41**	**312**	*iP*	**P**	**20 01 23.6**	**-5.6**
MBAR	**Mbarara**	**14.41**	**312**	*eP*	**P**	**20 01 22.9**	**-6.3**
BOSA	**Boshof**	**23.70**	**218**	*eP*	**P**	**20 03 11.9**	**-3.4**
	2.0nm,0.5s,mb3.8						
SUR	**Sutherland**	**29.06**	**218**	*eP*	**P**	**20 04 01.4**	**-3.7**
	153nm,1.2s,mb5.6						
EIL	**Elat**	**40.28**	**351**	*eP*	**P**	**20 05 41.8**	**+0.4**
	23nm,1.4s,mb4.7						
HYB	**Hyderabad**	**45.86**	**53**	*eP*	**P**	**20 06 27.0**	**+0.1**
	117nm,1.6s,mb5.6						
HYB	**Hyderabad**	**45.86**	**53**	*iP*	**P**	**20 06 27.0**	**+0.1**
	117nm,1.6s,mb5.6						
MALT	**Malatya**	**48.49**	**357**	*eP*	**P**	**20 06 47.8**	**+0.6**
	7.0nm,0.8s,mb4.7						
DBIC	**Dimbokro**	**49.13**	**288**	*eP*	**P**	**20 06 50.3**	**-2.2**
	72nm,1.3s,mb5.5						
DBIC				*e*	pP	20 06 59.8	-1.3
GNI	**Garni**	**50.33**	**3**	*iP*	**P**	**20 07 00.7**	**-0.6**
GNI				pmax	pmax		
	comp=Z,26nm,1.2s						
GNI	**Garni**	**50.33**	**3**	P	**P**	**20 07 03.2**	**+1.9**
	comp=Z,35nm,1.3s,mb5.2						
DDI	**Dehra Dun**	**53.59**	**40**	*e*	**P**	**20 07 30.3**	**+4.4**
KIV	**Kislovodsk**	**54.05**	**1**	*eP*	**P**	**20 07 27.9**	**-1.2**
KIV				*e*S	**S**	**20 14 51.0**	**-11**
KIV				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.7						
KIV				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.5						
KIV	**Kislovodsk**	**54.05**	**1**	*eP*	**P**	**20 07 26.6**	**-2.5**
	comp=Z,12nm,0.9s,mb4.8						
ANN	**Anapa**	**55.01**	**356**	*eP*	**P**	**20 07 49.9**	**+14**
ANN				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
GOF	**Gofitskoye**	**55.16**	**1⇑**	*iP*	**P**	**20 07 37.0**	**-0.3**
GOF				pmax	pmax		
	comp=Z,70nm,1.7s,mb5.4						
KOLN	**Koldanda**	**55.67**	**46**	*eP*	**P**	**20 07 40.3**	**-0.9**
	comp=Z,85nm,1.3s,mb5.6						
GKN	**Gorkha**	**56.55**	**46**	*eP*	**P**	**20 07 46.2**	**-1.3**
	comp=Z,96nm,1.0s,mb5.8						
DMN	**Daman**	**56.65**	**47**	*eP*	**P**	**20 07 47.6**	**-0.6**
	comp=Z,54nm,0.9s,mb5.6						
PKI	**Pulchoki**	**56.85**	**47**	*eP*	**P**	**20 07 48.9**	**-0.8**
	comp=Z,55nm,0.9s,mb5.6						
KKN	**Kakani**	**56.88**	**47**	*eP*	**P**	**20 07 49.2**	**-0.7**
	comp=Z,60nm,0.9s,mb5.6						
GUN	**Gumba**	**57.38**	**47**	*eP*	**P**	**20 07 53.1**	**-0.3**
	comp=Z,149nm,0.9s,mb6.0						
JIRN	**Jiri**	**57.47**	**48**	*eP*	**P**	**20 07 53.4**	**-0.6**
	comp=Z,40nm,0.8s,mb5.5						
MAW	**Mawson**	**58.94**	**171**	*eP*	**P**	**20 08 02.8**	**-1.0**
	comp=Z,14nm,0.9s,mb5.0						
AML	**Almayashu**	**60.00**	**27**	P	**P**	**20 08 09.0**	**-2.4**
	SNR=6.1						
UCH	**Uchtor**	**60.45**	**28**	P	**P**	**20 08 15.1**	**+0.6**
	SNR=8.4						
EKS2	**Erkin-Say**	**60.46**	**27**	P	**P**	**20 08 15.1**	**+0.6**
	SNR=7.7						
KZA	**Kyzart**	**60.67**	**28**	P	**P**	**20 08 16.6**	**+0.6**
	SNR=7.5						
AAK	**Ala-Archa**	**60.76**	**27**	P	**P**	**20 08 17.5**	**+0.9**
	SNR=7.7						
AAK	**Ala-Archa**	**60.76**	**27**	*iP*	**P**	**20 08 15.9**	**-0.7**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.7						
AAK	**Ala-Archa**	**60.76**	**27**	*eP*	**P**	**20 08 15.7**	**-0.9**
	comp=Z,7.8nm,1.2s,mb4.7						
KBK	**Karagaybulak**	**60.99**	**28**	P	**P**	**20 08 18.9**	**+0.8**
	SNR=16						
PSZ	**Piszkesteto**	**61.09**	**344**	*eP*	**P**	**20 08 17.5**	**-1.2**
	comp=Z,7.3nm,0.8s,mb4.9						
CHMS	**Chumysh**	**61.17**	**27**	P	**P**	**20 08 19.2**	**-0.1**
	SNR=7.4						
USP	**Ospenovka**	**61.27**	**27**	P	**P**	**20 08 20.0**	**0.0**
	SNR=8.9						
KECS	**Kecovo**	**61.44**	**344**	*eP*	**P**	**20 08 19.8**	**-1.3**
TKM2	**Tokmak 2**	**61.49**	**28**	P	**P**	**20 08 21.8**	**+0.3**
	SNR=14						
OBKA	**Obir**	**61.52**	**339⇑**	*iP*	**P**	**20 08 22.2**	**+0.6**
	comp=Z,14nm,0.9s,mb5.1						
CRVS	**Cervenica-Dubn**	**61.58**	**345**	*iP*	**P**	**20 08 21.2**	**-0.8**
CRVS				*epP*	pP	20 08 30.9	+0.1
ARSA	**Arzberg**	**61.83**	**340⇑**	*iP*	**P**	**20 08 23.9**	**+0.2**
	comp=Z,13nm,1.1s,mb5.0						
SBF	**Sospel**	**62.19**	**333**	*eP*	**P**	**20 08 26.9**	**+0.7**
	comp=Z,24nm,0.8s,mb5.1						
LMR	**La Mourre**	**62.20**	**332**	*eP*	**P**	**20 08 26.7**	**+0.4**
LSA	**Lhasa**	**62.22**	**49**	P	**P**	**20 08 27.3**	**+0.7**
FRF	**La Foret Royal**	**62.31**	**332**	*eP*	**P**	**20 08 27.8**	**+0.8**
	comp=Z,42nm,1.1s,mb5.2						
KBA	**Koeberreinsper**	**62.43**	**339⇓**	*iP*	**P**	**20 08 28.4**	**+0.6**
	comp=Z,12nm,1.2s,mb4.9						
MOA	**Molln**	**62.77**	**340⇑**	*iP*	**P**	**20 08 30.0**	**0.0**
	comp=Z,16nm,1.0s,mb5.1						
SMRF	**Simiane la Rot**	**63.13**	**332**	*eP*	**P**	**20 08 33.1**	**+0.7**
	comp=Z,64nm,1.5s,mb5.2						
MBDF	**Montbardon**	**63.16**	**333**	*eP*	**P**	**20 08 34.1**	**+1.5**
	comp=Z,87nm,1.3s,mb5.4						
OJC	**Ojcow**	**63.22**	**345**	*eP*	**P**	**20 08 31.3**	**-1.6**
OKC	**Ostrava-Krasne**	**63.32**	**343**	*eP*	**P**	**20 08 33.1**	**-0.5**
OKC				*epP*	pP	20 08 42.3	0.0
MORC	**Moravsky Berou**	**63.44**	**343**	*eP*	**P**	**20 08 33.3**	**-1.1**
	comp=Z,16nm,1.2s,mb5.0						
MORC				*e*	pP	20 08 42.7	-0.4
CM31	**Chiang Mai Arr**	**63.51**	**63⇑**	*iP*	**P**	**20 08 35.5**	**+0.2**
	comp=Z,68nm,0.9s,mb5.7						
CM31				*epP*	pP	20 08 43.8	-0.3
CMAR	**Chiang Mai Arr**	**63.51**	**63**	*iP*	**P**	**20 08 35.4**	**+0.1**
CMAR				pmax	pmax		
	comp=Z,13nm,0.8s						
NST	**Nakhon Sawan**	**63.57**	**67**	P	**P**	**20 08 36.7**	**+0.9**
CHG	**Chiang Mai**	**63.64**	**63**	⇑P	**P**	**20 08 36.5**	**+0.3**
	comp=Z,29nm,0.8s,mb5.4						
ORIF	**Oris-en-Rattie**	**63.71**	**333**	*eP*	**P**	**20 08 37.2**	**+1.0**
LPG	**La Plagne**	**63.77**	**333**	*eP*	**P**	**20 08 37.7**	**+1.1**
	comp=Z,20nm,1.0s,mb4.8						
LPL	**La Plagne**	**63.79**	**333**	*eP*	**P**	**20 08 37.8**	**+1.0**
	comp=Z,22nm,1.1s,mb4.8						
GEC2	**GERESS Array S**	**63.82**	**340**	*eP*	**P**	**20 08 35.7**	**-1.2**
GEC2				*e*PP	pP	20 08 45.5	-0.2
GEC2				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
GEC2	**GERESS Array S**	**63.82**	**340**	*eP*	**P**	**20 08 35.7**	**-1.2**
	comp=Z,8.0nm,0.9s,mb4.8						
GEC2				*epP*	pP	20 08 45.5	-0.2
DAVA	**Damuels**	**63.90**	**337⇓**	*iP*	**P**	**20 08 37.7**	**+0.2**
	comp=Z,19nm,1.3s,mb5.0						
LASF	**Ste Croix**	**64.02**	**331**	*eP*	**P**	**20 08 39.2**	**+0.9**
	comp=Z,62nm,1.4s,mb5.1						
KHC	**Kasperske Hory**	**64.11**	**340**	*eP*	**P**	**20 08 37.5**	**-1.3**
KHC				*epP*	pP	20 08 46.5	-1.0
VIVF	**Saint-Julien-l**	**64.22**	**332**	*eP*	**P**	**20 08 40.9**	**+1.3**
	comp=Z,134nm,1.4s,mb5.5						
MTLF	**Montolieu**	**64.29**	**329**	*eP*	**P**	**20 08 40.7**	**+0.6**
DPC	**Dobruska-Polom**	**64.30**	**342**	*eP*	**P**	**20 08 39.5**	**-0.5**
DPC				*epP*	pP	20 08 48.0	-0.8
WET	**Wettzell**	**64.36**	**340**	*eP*	**P**	**20 08 39.0**	**-1.4**
PRU	**Pruhonice**	**64.53**	**341**	*eP*	**P**	**20 08 40.5**	**-1.0**
PRU				*epP*	pP	20 08 50.2	-0.1
UPC	**Upice**	**64.54**	**342**	*eP*	**P**	**20 08 41.1**	**-0.4**
UPC				*epP*	pP	20 08 50.4	+0.1
CABF	**La Chapelle**	**64.93**	**334**	*eP*	**P**	**20 08 44.5**	**+0.4**
	comp=Z,110nm,1.5s,mb5.4						
PVCC	**Panska Ves**	**65.00**	**341**	*eP*	**P**	**20 08 48.6**	**+4.1**
PVCC				*epP*	pP	20 08 57.0	+3.7
EPF	**Esparros**	**65.03**	**328**	*eP*	**P**	**20 08 44.5**	**-0.4**
OBN	**Obninsk**	**65.34**	**357⇑**	*eP*	**P**	**20 08 45.6**	**-1.1**
OBN				*i*		20 09 17.3	
OBN				*e*		20 11 05.3	
OBN				pmax	pmax		
	comp=Z,85nm,1.8s,mb5.5						
BFO	**Black Forest**	**65.36**	**336**	*eP*	**P**	**20 08 46.9**	**0.0**
BFO				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BFO	**Black Forest**	**65.36**	**336**	*eP*	**P**	**20 08 46.9**	**0.0**
	comp=Z,4.0nm,0.9s,mb4.5						
GRA1	**Grafenberg Arr**	**65.40**	**339**	*eP*	**P**	**20 08 46.2**	**-0.9**
	comp=Z,9.0nm,0.8s,mb4.8						
GRA1				*epP*	pP	20 08 55.2	-0.7
GRF	**Grafenberg Arr**	**65.40**	**339**	*eP*	**P**	**20 08 46.2**	**-0.9**
GRF				*e*PP	pP	20 08 55.2	-0.7
GRF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
GRF	**Grafenberg Arr**	**65.40**	**339**	*eP*	**P**	**20 08 46.2**	**-0.9**
	comp=Z,9.0nm,0.8s,mb4.8						
GRF				*epP*	pP	20 08 55.2	-0.7
ETSF	**Etsaut**	**65.42**	**327**	*eP*	**P**	**20 08 47.6**	**+0.2**
	comp=Z,30nm,1.1s,mb4.9						
NKC	**Novy Kostel**	**65.43**	**340**	*eP*	**P**	**20 08 47.0**	**-0.3**
NKC				*epP*	pP	20 08 56.3	+0.2
BRG	**Berggiesshubel**	**65.49**	**341**	*eP*	**P**	**20 08 46.8**	**-0.9**
BRG				*e*	pP	20 08 56.2	-0.3
BRG				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.9						
BRG	**Berggiesshubel**	**65.49**	**341**	*eP*	**P**	**20 08 46.8**	**-0.9**
	comp=Z,16nm,1.4s,mb4.9						
BRG				*e*	pP	20 08 56.2	-0.3
CAF	**Calviac**	**65.51**	**330**	*eP*	**P**	**20 08 48.8**	**+0.9**
	comp=Z,94nm,1.4s,mb5.3						
HINF	**Hinterlfeld**	**65.55**	**335**	*eP*	**P**	**20 08 48.3**	**+0.2**
CDF	**Champ du Feu**	**65.85**	**336**	*eP*	**P**	**20 08 51.0**	**+1.0**
HAU	**Haudompre**	**65.91**	**335**	*eP*	**P**	**20 08 50.5**	**+0.1**
MOS	**Moscow**	**65.92**	**358**	*eP*	**P**	**20 08 50.5**	**+0.2**
MOS				pmax	pmax		
	comp=Z,152nm,1.6s,mb5.8						
SJPF	**Ste Jean**	**65.92**	**327**	*eP*	**P**	**20 08 50.9**	**+0.3**
	comp=Z,86nm,1.6s,mb5.2						
SMF	**Signal de Mont**	**65.95**	**333**	*eP*	**P**	**20 08 50.9**	**+0.2**
	comp=Z,148nm,1.8s,mb5.4						
RJF	**Les Rejaudoux**	**66.05**	**330**	*eP*	**P**	**20 08 52.3**	**+0.9**
MOX	**Moxa**	**66.06**	**340**	*eP*	**P**	**20 08 50.8**	**-0.5**
MOX				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.9						
MOX	**Moxa**	**66.06**	**340**	*eP*	**P**	**20 08 50.8**	**-0.5**
	comp=Z,20nm,1.5s,mb4.9						
MOX	**Moxa**	**66.06**	**340**	*iP*	**P**	**20 08 50.8**	**-0.5**
	comp=Z,logA/T=1.1,mb4.9						
CLL	**Collm**	**66.17**	**341**	P	**P**	**20 08 51.1**	**-0.9**
	comp=Z,logA/T=1.3,mb5.1						
CLL				*i* *SP	sP	20 09 00.1	-3.8
CLL				*e*PCP	PcP	20 09 22.0	0.0
LFF	**La Frestale**	**66.17**	**330**	*eP*	**P**	**20 08 53.0**	**+0.8**
AVF	**Avril sur Loir**	**66.28**	**332**	*eP*	**P**	**20 08 53.3**	**+0.5**
	comp=Z,88nm,1.6s,mb5.2						
BGF	**Bois d'Agland**	**66.34**	**332**	*eP*	**P**	**20 08 53.8**	**+0.6**
	comp=Z,32nm,1.2s,mb4.9						
SSF	**Saint Saulge**	**66.41**	**333**	*eP*	**P**	**20 08 53.7**	**0.0**
TCF	**Toulx Ste Croi**	**66.44**	**331**	*eP*	**P**	**20 08 54.9**	**+1.1**
	comp=Z,68nm,1.2s,mb5.3						
MEZF	**Maizieres J'vi**	**66.84**	**335**	*eP*	**P**	**20 08 56.9**	**+0.6**
	comp=Z,57nm,1.3s,mb5.2						
SNAA	**Sanae**	**66.92**	**194⇑**	*i*	**P**	**20 08 56.6**	**+0.1**
SNAA	**Sanae**	**66.92**	**194⇑**	*i*	**P**	**20 09 04.6**	**+8.1**
SNAA	**Sanae**	**66.92**	**194**	*iP*	**P**	**20 08 56.3**	**-0.2**
EVO	**Evora**	**67.01**	**320**	*eP*	**P**	**20 08 58.4**	**+0.8**
	comp=Z,25nm,1.3s,mb4.8						
MK02	**Makanchi Array**	**67.53**	**29**	P	**P**	**20 08 59.9**	**-0.9**
MK02				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
VNA2	**Neumayer--Watz**	**67.58**	**196⇑**	*

SSE	**Sheshan**	**86.62**	**58**	P	**P**	**20 10 44.0**	**-3.5**
SSE				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,476nm,10.0s						
WRA	**Warramunga Arr**	**89.19**	**110**	*i* P	**P**	**20 10 53.4**	**-6.6**
WRAB	**Tennant Creek**	**89.20**	**110**	*i* P	**P**	**20 10 59.8**	**-0.3**
WRAB	**Tennant Creek**	**89.20**	**110**	*e*P	**P**	**20 10 59.5**	**-0.6**
	comp=Z,37nm,1.0s,mb5.7						
WRAB				*e*	pP	20 11 08.3	-0.8
BOD	**Bodaibo**	**89.58**	**31**	*e*P	**P**	**20 10 59.6**	**-1.4**
MDJ	**Mudanjiang**	**95.84**	**46**	P	**P**	**20 11 31.3**	**+1.2**
MDJ				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb4.7						
YAK	**Yakutsk**	**98.21**	**28**	*i* P	**P**	**20 11 40.3**	**-0.1**
YAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb5.1						
TIXI	**Tiksi**	**98.92**	**19**	*e*P	**P**	**20 11 43.2**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.7						
IMA	**Indian Mountai**	**123.39**	**7**	*e*PKP	PKPdf	20 17 01.3	-2.7
WCI	**Wyandotte Cave**	**125.77**	**310**	*e*PKP	PKPdf	20 17 07.9	-1.5
CCM	**Cathedral Cave**	**129.53**	**311**	*e*PKP	PKPdf	20 17 12.8	-3.8
LAO	**LASA Array**	**134.58**	**329**	*e*PKP	PKPdf	20 17 23.4	-2.5
MSO	**Missoula**	**138.08**	**335**	*e*PKPdf	PKPdf	20 17 28.0	-4.3
YMR	**Madison River**	**138.37**	**330**	*e*PKP	PKPdf	20 17 34.0	+1.1
JCT	**Junction City**	**138.83**	**305**	*e*PKP	PKPdf	20 17 30.4	-3.8
IMW	**Indian Meadow**	**138.91**	**329**	*e*PKP	PKPdf	20 17 30.8	-3.1
LOHW	**Long Hollow**	**138.95**	**329**	*e*PKP	PKPdf	20 17 31.8	-2.2
MCMT	**McKenzie Canyo**	**139.15**	**332**	*e*PKP	PKPdf	20 17 33.1	-1.2
RW3	**Ridgway**	**140.82**	**320**	*e*PKP	PKPdf	20 17 31.0	-6.6
HWUT	**Hardware Ranch**	**140.87**	**327**	*e*PKPdf	PKPdf	20 17 36.7	-0.8
CPRX	**Cap Rock**	**140.96**	**311**	PKP	PKPdf	20 17 30.8	-7.2
BMO	**Blue Mountains**	**141.06**	**336**	*e*PKPdf	PKPdf	20 17 34.4	-3.3
PV01	**Paradox Valley**	**141.44**	**321**	*e*PKP	PKPdf	20 17 36.3	-2.4
ANMO	**Albuquerque**	**141.88**	**315**	*i* PKIKP	PKPdf	20 17 32.1	-7.4
SRU	**San Rafael**	**142.00**	**324**	*e*PKP	PKPdf	20 17 28.4	-11
TMUT	**Trail Mountain**	**142.27**	**324**	*e*PKP	PKPdf	20 17 35.5	-4.5
LAZ	**Ladron**	**142.64**	**315**	*e*PKP	PKPdf	20 17 33.8	-7.0
MNTX	**Cornudas Mount**	**142.71**	**315**	*e*PKP	PKPdf	20 17 32.2	-8.8
MSU	**Marysvale**	**143.36**	**324**	*e*PKPdf	PKPdf	20 17 36.7	-5.2
MVU	**Marysvale**	**143.38**	**324**	*e*PKPdf	PKPdf	20 17 37.8	-4.2
WVOR	**Wild Horse Val**	**143.60**	**335**	*e*PKPdf	PKPdf	20 17 37.3	-4.9
BMN	**Battle Mountai**	**144.59**	**331**	*e*PKPdf	PKPdf	20 17 40.9	-3.1
HUMO	**Hull Mountain**	**145.10**	**340**	*e*PKPdf	PKPdf	20 17 41.3	-3.5
HUMO				*e*		20 17 50.6	
TRCR	**Troy Canyon**	**145.36**	**327**	*e*PKPdf	PKPdf	20 17 42.2	-3.2
YBH	**Yreka Blue Hor**	**145.78**	**339**	*e*PKPdf	PKPdf	20 17 43.2	-2.8
TUC	**Tucson**	**146.34**	**315**	*e*PKPdf	PKPdf	20 17 45.9	-1.4
TPH	**Tonopah**	**146.41**	**329**	*e*PKPbc	PKPbc	20 17 46.5	+3.0
RKT	**Rikitea**	**146.56**	**186**	*e*LR	LR	20 16 57.0	
	comp=Z,1μm,36.5s						
MNV	**Mina**	**146.60**	**330**	*e*PKPdf	PKPdf	20 17 46.0	-1.5
WCN	**Washoe City**	**146.66**	**333**	*e*PKP	PKPdf	20 17 46.7	-0.9
NEN	**Nelson**	**146.87**	**323**	*e*PKPbc	PKPbc	20 17 47.3	+2.6
OHCM	**Honcut**	**147.38**	**335**	*e*PKPbc	PKPdf	20 17 49.1	+0.4
OMM	**Old Mammoth Mi**	**147.65**	**330**	*e*PKP	PKPdf	20 17 47.7	-1.6
CMB	**Columbia Colle**	**147.98**	**332**	*e*PKP	PKPdf	20 17 47.4	-2.4
PFO	**Pinyon Flat Ob**	**149.24**	**322**	*e*PKP	PKPdf	20 17 51.1	-0.8
LRV	**Little Rabbit**	**149.58**	**331**	*e*PKPbc	PKPdf	20 17 55.5	+3.1
LRV				*e*PKPab	PKPab	20 18 00.9	+1.6
MWC	**Mount Wilson**	**149.74**	**325**	*e*PKPbc	PKPdf	20 17 55.0	+2.3

DJA 04 20:32:05.2±1.1, 9.00S×112.42E, h33km, MD4.7/4, 3C-4D, Error ellipse: s-maj=33.2km s-min=9.2km az=31.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TRT	**Tretes**	**1.31**	**9**	*e*P		P	20 32 32.0	+4.7
TRT				*e*S		S	20 32 46.5	+2.8
SRDI	**Scrawed**	**1.78**	**73**	⇓*e*P		P	20 32 32.8	-1.2
	4μm,0.5s							
KELI	**Kelakatan**	**2.19**	**69**	⇓*e*P		P	20 32 38.0	-1.9
	2μm,0.3s							
KELI				⇓*e*S		S	20 33 10.6	+4.5
RATI	**Rata**	**3.09**	**85**	⇓*e*P		P	20 32 54.8	+2.1
	1μm,0.3s							
RATI				⇑*i*S		S	20 33 28.8	-0.1
KEDI	**Kedomdong**	**3.69**	**82**	⇑*i*P		P	20 33 00.6	-0.6
	273nm,0.4s							
KEDI				⇑*i*S		S	20 33 46.1	+2.0

*NEIC **04** 20:55:43.7, 35.05S×70.53W, h3km, ML3.2(GUC), After GUC.*

GUC 04 20:55:43.7±0.7, 35.05S×70.53W, h3km, MD3.7, ML3.2, 10C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.58**	**275**	⇓*i*P		Pg	20 55 55.3	+0.1
NICH				*i* S		Sg	20 56 06.2	+3.3
SFDO	**San Fernando**	**0.59**	**318**	⇓*i*P		Pg	20 55 55.2	-0.3
CICH	**Cipreses**	**0.74**	**7**	⇓*i*P		Pg	20 55 56.9	-1.5
CICH				*i* S		Sg	20 56 08.1	-0.1
CACH	**El Canelo**	**0.94**	**356**	⇑*i*P		Pb	20 56 00.6	-1.6
CACH				*i* S		Sb	20 56 14.5	-0.3
TALC	**Talca**	**0.97**	**249**	⇓*i*P		Pb	20 56 02.4	-0.3
TALC				*i* S		Sb	20 56 16.2	+0.5
TALC				AMP			20 56 16.7	
	comp=N,3μm,0.4s							
CHCH	**Chadas Ángostu**	**1.12**	**355**	⇓*i*P		Pb	20 56 04.1	-1.3
CHCH				*i* S		Sb	20 56 19.7	-0.5
LMEL	**Las Melosas**	**1.23**	**13**	⇑*i*P		Pb	20 56 05.7	-1.6
LMEL				*i* S		Sb	20 56 23.4	0.0
LMEL				AMP			20 56 28.0	
	comp=N,479nm,0.2s							
LNV	**Longovilo**	**1.31**	**326**	⇑*i*P		Pb	20 56 07.3	-1.4
SJCH	**San Jose de Ma**	**1.42**	**6**	⇑*i*P		Pn	20 56 09.2	-1.2
SJCH				*i* S		Sb	20 56 29.4	+0.6
SJCH				AMP			20 56 31.9	
	comp=E,350nm,0.3s							
PCH	**Pirque**	**1.43**	**1**	⇑*i*P		Pn	20 56 09.5	-1.0
TACH	**Talagante**	**1.44**	**346**	⇓*i*P		Pn	20 56 09.4	-1.3
TACH				*i* S		Sb	20 56 29.2	-0.1
ANTU	**Antumapu**	**1.48**	**357**	⇓*i*P		Pn	20 56 10.5	-0.8
ANTU				*i* S		Sb	20 56 30.8	+0.1
ANTU				AMP			20 56 31.9	
	comp=E,796nm,0.2s							
RCDM	**Rinconada Maip**	**1.58**	**352**	⇑*i*P		Pn	20 56 11.9	-0.8
RCDM				*i* S		Sb	20 56 33.3	-0.1
RCDM				AMP			20 56 39.2	
	comp=E,986nm,0.2s							
CLCH	**Cerro Calan**	**1.65**	**360**	⇑*i*P		Pn	20 56 13.2	-0.5
CLCH				*i* S		Sb	20 56 35.9	+0.3
CLCH				AMP			20 56 44.3	
	comp=E,518nm,0.5s							
FCH	**Farellones**	**1.73**	**7**	⇑*i*P		Pn	20 56 14.5	-0.4
FCH				*i* S		Sn	20 56 38.8	+1.0
FCH				AMP			20 56 39.9	
	comp=N,539nm,0.3s							
LCCH	**Las Cruces**	**1.79**	**331**	⇑*i*P		Pn	20 56 15.7	-0.1
LCCH				*i* S		Sn	20 56 39.5	+0.1
PEL	**Peldehue**	**1.91**	**356**	*e*P		Pn	20 56 17.2	-0.2
ROCH	**El Roble**	**2.11**	**349**	⇑*i*P		Pn	20 56 20.9	+0.5
JACH	**Jahuel**	**2.37**	**359**	⇓*i*P		Pn	20 56 24.9	+0.9
TLL	**Tololo Astrono**	**4.88**	**357**	*e*P		Sn	20 57 58.6	+1.1

NDI 04 21:13:51.5±3.2, 33.99N×76.44E, h20km±14km, MD3.8, ML3.8, 1D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**1.50**	**195**	*e*PN		Pn	21 14 18.0	+0.4
DLH				*e*SG		Sn	21 14 42.0	+5.3
JMU	**Jammu**	**1.81**	**226**	⇓*i*		Pn	21 14 30.0	+7.9
SDNR	**Sundarnagar**	**2.52**	**170**	*e*P		Pn	21 14 30.8	-1.5
SDNR				*e*S		Sn	21 15 02.2	-0.6
BHK	**Bhakra**	**2.56**	**180**	*e*P		Pn	21 14 33.7	+0.8
BHK				*e*S		Sn	21 15 04.5	+0.6
SMLA	**Simla**	**2.92**	**168**	*e*P		Pn	21 14 52.1	+14
SMLA				*e*S		Sn	21 15 27.3	+15
DDI	**Dehra Dun**	**3.91**	**159**	*e*P		Pn	21 14 51.3	-0.6
DDI				*e*			21 14 56.8	
DDI				*e*S		Sn	21 15 33.3	-4.5
KALG	**Kalgarh**	**4.88**	**156**	*e*P		Pn	21 14 48.4	-17
KALG				*e*S		Sn	21 15 41.1	-21
KALG				*e*			21 15 44.7	
	comp=E,424nm,0.3s							
RTK	**Rohtak**	**4.94**	**180**	*e*P		Pn	21 15 04.8	-1.8
RTK				*e*S		Sn	21 15 56.6	-7.4
RTK				*e*			21 16 15.9	
	comp=Z,175nm,0.6s							
NDI	**New Delhi**	**5.33**	**173**	*e*P		Pn	21 15 10.5	-1.6
NDI				*e*S		Sn	21 16 06.0	-7.7
PTH	**Pithoragarh**	**5.47**	**143**	*e*P		Pn	21 15 12.0	-2.1
PTH				*e*S		Sn	21 16 09.0	-8.3
AYAN	**Aya Nagar**	**5.52**	**174**	*e*P		Pn	21 15 11.9	-2.9
AYAN				*e*S		Sn	21 16 10.7	-7.8
AYAN				*e*			21 16 15.3	
	comp=Z,99nm,0.4s							
KUDL	**Kundal**	**5.83**	**180**	*e*P		Pn	21 15 16.1	-3.0
KUDL				*e*S		Sn	21 16 17.5	-8.7
KHET	**Khetri**	**5.92**	**185**	*e*P		Pn	21 15 18.2	-2.3
KHET				*e*S		Sn	21 16 19.8	-8.7
KHET				*e*			21 16 22.7	
	comp=N,108nm,0.3s							
KHET				*e*			21 16 22.8	
	comp=E,91nm,0.5s							
HYB	**Hyderabad**	**16.61**	**173**	*e*P		P	21 17 40.0	-5.0
HYB				*e*S		S	21 20 28.5	-20
KAD	**Karad**	**16.73**	**188**	*e*P		P	21 17 43.0	-3.6

DJA 04 21:35:21.9±0.9, 8.27S×113.19E, h80km, MD4.9/4, ML4.3/4, 3C-3D, Error ellipse: s-maj=52.5km s-min=20.3km az=2.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**0.97**	**102**	⇓*i*Pn		P	21 35 37.7	-3.1
	387nm,0.2s							
KELI	**Kelakatan**	**1.29**	**88**	⇓*i*Pn		P	21 35 43.3	-1.6
	348nm,0.3s							
KELI				⇑*e*Sn		S	21 36 01.1	-1.1
RATI	**Rata**	**2.36**	**101**	⇑*e*Pn		P	21 36 01.1	+1.6
	371nm,0.3s							
RATI				⇑*i*Sn		S	21 36 23.6	-3.8
KEDI	**Kedomdong**	**2.90**	**94**	*e*Pn		P	21 36 06.7	-0.3
	59nm,0.5s							
KEDI				⇓*i*Sn		S	21 36 36.5	-4.4

DJA 04 21:46:24.0±1.0, 7.96S×112.60E, h33km, MD4.7/4, 3C-2D, Error ellipse: s-maj=75.7km s-min=22.9km az=10.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.62**	**109**	⇑*e*P		P	21 46 48.7	-1.8
	481nm,0.3s							
KELI	**Kelakatan**	**1.89**	**98**	⇓*e*P		P	21 46 54.2	-0.3
	708nm,0.3s							
RATI	**Rata**	**3.00**	**105**	⇓*e*P		P	21 47 13.1	+2.8
	547nm,0.4s							
RATI				⇑*i*S		S	21 47 45.9	+0.3
KEDI	**Kedomdong**	**3.52**	**99**	*e*P		P	21 47 17.0	-0.7
	163nm,0.4s							
KEDI				⇑*e*S		S	21 47 57.6	-1.1

*BJI **04** 21:52:36.9, 51.69N×173.61W, h47km, mB5.1, mb4.6*

NEIC 04 21:52:42.3, 51.49N×174.45W, h22km, ML3.6(AEIC), 1D, After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.73**	**12**	P		Pb	21 52 55.0	-1.3
ATKA				S		Sb	21 53 06.0	+0.2
GSIG	**Igitkin Island**	**1.04**	**299**	P		Pb	21 52 59.5	-2.1
GSMY	**Great Sitkin M**	**1.14**	**300**	P		Pn	21 53 01.1	-2.0
GSTR	**Great Sitkin T**	**1.17**	**302**	P		Pn	21 53 01.9	-1.6
GSTD	**Great Sitkin T**	**1.20**	**299**	P		Pn	21 53 02.1	-1.8
GSTD				S		Sb	21 53 15.9	-3.3
ADAG	**Mount Adagdak**	**1.43**	**291**	P		Pn	21 53 05.4	-1.8
KIWB	**Kanaga Island**	**1.72**	**283**	P		Pn	21 53 09.4	-2.0
KIKV	**Kanaga Island**	**1.74**	**284**	P		Pn	21 53 09.9	-1.7
KIMD	**Kanaga Island**	**1.76**	**280**	P		Pn	21 53 09.7	-2.2
UNV	**Unalaska Valle**	**5.38**	**61**	P		Pn	21 53 58.9	-4.6
IMA	**Indian Mountai**	**18.01**	**28**	*e*P		P	21 56 50.7	-2.0
	48nm,1.4s							
BILL	**Bilibino**	**19.07**	**338**	*e*P		P	21 57 01.9	-3.7
	23nm,1.3s							
SNY	**Shenyang**	**42.43**	**282**	⇓P		P	22 00 33.3	-3.4
SNY				AMB		AMB		
	comp=Z,10.0nm,1.0s							

*BJI **04** 22:05:21.9, 32.39N×101.66E, h32km, mB5.1, mb4.5, ML4.8, Ms5.1, Msz4.8*

*MOS **04** 22:05:22.3±0.8, 32.41N×101.85E, h33km, mb4.9/28, MS4.2/7, Error ellipse: s-maj=13.2km s-min=6.7km az=113.4*

*NEIC **04** 22:05:24.5±2.5, 32.36N×101.70E, h35km±18km, mb4.8/24, Error ellipse: s-maj=9.4km s-min=7.8km az=191.0*

ISC 04 22:05:22.9±0.2, 32.50N±0.04×101.80E±0.04, h33km, n110, σ1§08/118, mb4.7/36, MS4.5/8, 4C-6D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**3.96**	**25**	P		**P**	**22 06 25.2**	**+2.3**
LZH				PG		**P**	**22 06 38.5**	**+16**
LZH				SG		S	22 07 36.0	+27
LZH				Smax				
	comp=N,2μm,1.2s							
LZH				Smax				
	comp=E,3μm,1.3s							
LZH				LR		LR		
	comp=N,11μm,5.9s							
LZH				LR		LR		
	comp=Z,13μm,8.1s							
XAN	**Xi'an**	**6.17**	**74**	P		**P**	**22 06 54.6**	**+0.6**
XAN				SG		S	22 08 44.3	+40
XAN				Smax				
	comp=N,577nm,1.3s							
XAN				Smax				
	comp=E,529nm,1.3s							
ENH	**Enshi**	**6.94**	**107**	⇓*e*P		**P**	**22 07 03.9**	**-1.0**
LSA	**Lhasa**	**9.54**	**256**	P		**P**	**22 07 37.4**	**-3.7**
LSA	**Lhasa**	**9.54**	**256**	*e*P		**P**	**22 07 36.9**	**-4.2**
WHN	**Wuhan**	**10.89**	**97**	⇑P		**P**	**22 07 57.3**	**-2.3**
WHN				S		**S**	**22 10 07.7**	**+6.4**
WHN				LR		LR		
	comp=N,2μm,8.2s							
WHN				LR		LR		
	comp=E,5μm,8.4s							
WHN				LR		LR		
	comp=Z,4μm,8.5s							
AGT	**Agartala**	**12.64**	**230**	*e*P		**P**	**22 08 16.0**	**-7.3**
TIA	**Tai'an**	**13.20**	**69**	*e*P		**P**	**22 08 32.2**	**+1.7**
TIA				LR		LR		
	comp=N,1μm,10.8s							
BJT	**Baijiatuau**	**13.80**	**53**	P		**P**	**22 08 45.3**	**+6.8**
BJT				pmax		pmax		
	comp=Z,9.0nm,0.7s							
BJT	**Baijiatuau**	**13.80**	**53**	P		**P**	**22 08 45.3**	**+6.8**
	comp=Z,9.4nm,0.7s							
CHG	**Chiang Mai**	**13.86**	**191**	⇓P		**P**	**22 08 41.4**	**+2.0**
	comp=Z,25nm,1.0s							
CM31	**Chiang Mai Arr**	**14.21**	**191**	*e*P		**P**	**22 08 43.3**	**-0.6**
	comp=Z,19nm,0.7s							
NJ2	**Nanjing**	**14.44**	**87**	*e*P		**P**	**22 08 47.3**	**+0.4**
NJ2				AP			22 08 54.4	
NJ2				XP			22 08 59.9	
NJ2				S		**S**	**22 11 26.0**	**-0.8**
NJ2				AMB		AMB		
	comp=Z,10.0nm,1.0s							
NJ2				LR		LR		
	comp=N,3μm,11.2s							
NJ2				LR		LR		
	comp=E,4μm,11.2s							
NJ2				LR		LR		
	comp=Z,5μm,10.2s							
QIZ	**Qiongzhong**	**15.23**	**150**	*e*P		**P**	**22 08 58.0**	**+0.7**
QIZ				S		**S**	**22 11 46.0**	**+0.6**
QIZ				LR		LR		
	comp=N,4μm,10.9s							
QIZ				LR		LR		
	comp=E,6μm,11.4s							
QIZ				LR		LR		
	comp=Z,2μm,10.1s							
WMQ	**Urumqi**	**15.81**	**320**	P		**P**	**22 09 03.5**	**-1.1**
WMQ				AP			22 09 11.1	
WMQ				S		**S**	**22 11 57.5**	**-1.2**
WMQ				AMB		AMB		
	comp=Z,27nm,1.4s							
WMQ				AMB		AMB		
	comp=Z,415nm,6.2s							
WMQ				LR		LR		
	comp=N,3μm,19.4s							
WMQ				LR		LR		
	comp=E,2μm,19.2s							
WMQ				LR		LR		
	comp=Z,561nm,15.8s							
KKTK	**Khon Kaen**	**16.11**	**176**	P		**P**	**22 09 09.8**	**+1.2**
	comp=Z,370nm,0.9s							
NST	**Nakhon Sawan**	**16.82**	**186**	P		**P**	**22 09 18.0**	**+0.5**
ZAK	**Zakamensk**	**17.91**	**3**	*e*P		**P**	**22 09 29.5**	**-1.4**
MOY	**Mondy**	**19.17**	**358**	*e*P		**P**	**22 09 47.0**	**+0.8**
TLY	**Talaya**	**19.22**	**3**	*i* P		**P**	**22 09 52.6**	**+5.8**
TLY				pmax		pmax		
	comp=Z,7.0nm,1.1s							
TLY				MLR		MLR		
	comp=Z,1μm,20.0s							
SNY	**Shenyang**	**19.66**	**56**	⇑P		**P**	**22 09 51.7**	**0.0**
SNY				S			22 13 37.4	
SNY				LR		LR		
	comp=N,2μm,11.9s							
SNY				LR		LR		
	comp=E,960nm,11.4s							
SNY				LR		LR		
	comp=Z,1μm,12.7s							
IRK	**Irkutsk**	**19.82**	**4**	*e*P		**P**	**22 09 53.5**	**+0.1**
DDI	**Dehra Dun**	**20.37**	**270**	*e*P		**P**	**22 09 54.8**	**-4.6**
DDI				*e*S		**S**	**22 13 43.4**	**+2.5**
MK02	**Makanchi Array**	**20.62**	**319**	P		**P**	**22 10 00.7**	**-1.2**
MK02				pmax		pmax		
	comp=Z,42nm,1.3s							
HIA	**Hailar**	**21.47**	**33**	*e*P		**P**	**22 10 12.1**	**+1.6**
HIA				pmax		pmax		
	comp=Z,46nm,1.1s							
HIA	**Hailar**	**21.47**	**33**	*e*P		**P**	**22 10 12.1**	**+1.6**
	comp=Z,46nm,1.1s,mb4.7							
NDI	**New Delhi**	**21.48**	**266**	*e*P		**P**	**22 10 06.5**	**-4.2**
DLH	**Dalhousie**	**21.77**	**277**	*e*P		**P**	**22 10 10.0**	**-3.6**
DLH				*e*			22 14 55.0	
DLH				*e*			22 15 11.0	
ULHL	**Ulahol**	**22.45**	**303**	P		**P**	**22 10 24.2**	**+3.9**
	SNR=7.9							
KZA	**Kyzart**	**23.11**	**302**	P		**P**	**22 10 27.9**	**+1.2**
	SNR=35							
TKM2	**Tokmak 2**	**23.11**	**304**	P		**P**	**22 10 30.8**	**+4.1**
	SNR=8.5							
BHPL	**Bhopal**	**23.39**	**253**	*e*P		**P**	**22 10 28.1**	**-1.6**
BHPL				*e*			22 10 42.9	
	comp=Z,43nm,1.1s							
BHPL				*e*S		**S**	**22 14 39.0**	**+2.2**
KBK	**Karagaybulak**	**23.48**	**303**	P		**P**	**22 10 31.5**	**+1.1**
	SNR=37							
UCH	**Uchtor**	**23.67**	**302**	P		**P**	**22 10 33.6**	**+1.4**
	SNR=35							
CHMS	**Chumysh**	**23.72**	**304**	P		**P**	**22 10 32.0**	**-0.7**
	SNR=5.9							
FRU	**Bishkek**	**23.77**	**304**	*e*P		**P**	**22 10 35.0**	**+1.9**
FRU				pmax		pmax		
	comp=Z,70nm,2.0s,mb4.7							
AAK	**Ala-Archa**	**23.80**	**303**	P		**P**	**22 10 36.0**	**+2.6**
	SNR=15							
AAK	**Ala-Archa**	**23.80**	**303**	*d* P		**P**	**22 10 34.7**	**+1.3**
AAK				pmax		pmax		
	comp=Z,21nm,1.6s,mb4.3							
AAK				MLR		MLR		
	comp=Z,1μm,25.0s,MS4.2							
AAK	**Ala-Archa**	**23.80**	**303**	*e*P		**P**	**22 10 34.2**	**+0.8**
	comp=Z,16nm,1.1s,mb4.4							
USP	**Ospenovka**	**23.98**	**304**	P		**P**	**22 10 37.5**	**+2.3**
	SNR=19							
AML	**Almayashu**	**24.24**	**301**	P		**P**	**22 10 38.9**	**+1.1**
	SNR=13							
EKS2	**Erkin-Say**	**24.32**	**303**	P		**P**	**22 10 38.7**	**+0.2**
	SNR=11							
MDJ	**Mudanjiang**	**24.75**	**53**	P		**P**	**22 10 42.8**	**+0.1**
MDJ				AP			22 10 51.1	
MDJ				XP			22 10 55.4	
MDJ				S		**S**	**22 15 03.1**	**+3.1**
MDJ				XS			22 15 18.7	
MDJ				PCS			22 17 58.9	
MDJ				SCS		ScS	22 21 44.2	+2.6
MDJ				AMB		AMB		
	comp=Z,7.0nm,2.0s,mb3.8							
MDJ				AMB		AMB		
	comp=Z,99nm,6.6s							
MDJ				LR		LR		
	comp=N,2μm,17.3s,MS4.7							
MDJ				LR		LR		
	comp=E,881nm,20.3s,MS4.7							
MDJ				LR		LR		
	comp=Z,1μm,13.8s							
MDJ	**Mudanjiang**	**24.75**	**53**	*e*P		**P**	**22 10 47.4**	**+4.7**
	comp=Z,29nm,0.9s,mb4.8							
HYB	**Hyderabad**	**25.79**	**240**	*i* P		**P**	**22 10 52.0**	**-0.8**
NVS	**Novosibirsk**	**25.90**	**335**	*i* P		**P**	**22 10 52.5**	**-1.0**
NVS				pmax		pmax		
	comp=Z,17nm,1.4s,mb4.4							
NVS				pmax		pmax		
	comp=E,11nm,1.5s							
NVS				pmax		pmax		
	comp=N,17nm,1.4s							
BOD	**Bodaibo**	**26.66**	**15**	*e*P		**P**	**22 10 59.8**	**-0.6**
KLR	**Kul'dur**	**27.91**	**44**	*e*P		**P**	**22 11 12.3**	**+0.4**
KLR				MLR		MLR		
	comp=N,3μm,15.0s,MS5.0							
KLR				MLR		MLR		
	comp=E,2μm,15.0s,MS5.0							
KLR				MLR		MLR		
	comp=E,2μm,11.0s							
KLR				MLR		MLR		
	comp=Z,4μm,11.0s,MS5.3							
YAK	**Yakutsk**	**34.55**	**23**	*i* P		**P**	**22 12 08.8**	**-1.3**
YAK				pmax		pmax		
	comp=Z,7.0nm,1.2s,mb4.5							
YAK				MLR		MLR		
	comp=Z,700nm,22.0s,MS4.4							
SVE	**Sverdlovsk**	**37.21**	**323**	*e*P		**P**	**22 12 33.7**	**+1.0**
SVE				pmax		pmax		
	comp=Z,100nm,2.2s,mb5.3							
ARU	**Arti**	**38.13**	**322**	⇑*i*P		**P**	**22 12 39.7**	**-0.7**
ARU				*e*

comp=Z,2.0nm,0.6s,mb4.3
EIL Elat 56.46 286 *e*P **P 22 15 01.4 -2.5**
comp=Z,11nm,0.8s,mb4.9
WRAB Tennant Creek 60.73 145 *e*P **P 22 15 31.6 -2.2**
WRAB pmax pmax
comp=Z,36nm,0.9s,mb5.5
WRAB Tennant Creek 60.73 145 *e*P **P 22 15 31.6 -2.2**
comp=Z,36nm,0.9s,mb5.5
WB2 Warramunga Arr 60.74 145 *e*P **P 22 15 31.6 -2.3**
NB2 NORSAR Subarra 62.43 327 P **P 22 15 43.9 -0.8**
comp=Z,3.4nm,0.8s,mb4.5,baz=74,slow=7.0
NB2 NORSAR Subarra 62.43 327 P **P 22 15 43.9 -0.8**
NB2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
COLA College 69.03 25 *e*P **P 22 16 26.9 +0.2**
COLA pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
COLA College 69.03 25 *e*P **P 22 16 26.9 +0.2**
comp=Z,8.4nm,0.7s,mb4.8
CDF Champ du Feu 69.25 315 *e*P **P 22 16 28.2 -0.2**
KMBO Kilima Mbogo 69.34 255 *i*P **P 22 16 27.5 -2.1**
KMBO pmax pmax
comp=Z,4.0nm,0.8s
KMBO Kilima Mbogo 69.34 255 *e*P **P 22 16 27.3 -2.2**
comp=Z,5.8nm,0.8s,mb4.6
HINF Hinteralfeld 69.76 314 *e*P **P 22 16 31.6 +0.1**
HAU Haudompre 69.98 315 *e*P **P 22 16 33.1 +0.2**
HAU *e*R
comp=Z,443nm,22.3s
PGF Pioggiola 70.75 309 *e*P **P 22 16 38.0 +0.4**
comp=Z,88nm,1.3s,mb5.2
PGF Pioggiola 70.75 309 *e*P **P 22 16 38.0 +0.4**
PGF pmax pmax
comp=Z,45nm,1.3s,mb5.2
LPG La Plagne 70.86 312 *e*P **P 22 16 38.6 +0.3**
comp=Z,15nm,0.8s,mb4.7
LPG La Plagne 70.86 312 *e*P **P 22 16 38.6 +0.3**
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LPL La Plagne 70.87 312 *e*P **P 22 16 38.7 +0.4**
comp=Z,9.9nm,0.7s,mb4.6
LPL La Plagne 70.87 312 *e*P **P 22 16 38.7 +0.4**
LPL pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SBF Sospel 71.17 310 *e*P **P 22 16 40.5 +0.3**
comp=Z,36nm,1.0s,mb5.0
SBF Sospel 71.17 310 *e*P **P 22 16 40.5 +0.3**
SBF pmax pmax
comp=Z,18nm,1.0s,mb5.0
MBDF Montbardon 71.20 311 *e*P **P 22 16 40.7 +0.4**
comp=Z,6.2nm,0.8s,mb4.3
MBDF Montbardon 71.20 311 *e*P **P 22 16 40.7 +0.4**
MBDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
ORIF Oris-en-Rattie 71.68 312 *e*P **P 22 16 43.1 0.0**
ORIF *e*R
comp=Z,469nm,20.6s
FRF La Foret Royal 71.82 310 *e*P **P 22 16 44.0 0.0**
comp=Z,17nm,1.0s,mb4.6
FRF La Foret Royal 71.82 310 *e*P **P 22 16 44.0 0.0**
FRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
SMF Signal de Mont 72.12 314 *e*P **P 22 16 45.9 +0.2**
comp=Z,28nm,1.1s,mb4.8
SMF Signal de Mont 72.12 314 *e*P **P 22 16 45.9 +0.2**
SMF pmax pmax
comp=Z,14nm,1.1s,mb4.8
SSF Saint Saulge 72.13 315 *e*P **P 22 16 45.9 +0.2**
AVF Avril sur Loir 72.35 314 *e*P **P 22 16 46.6 -0.5**
comp=Z,24nm,1.2s,mb4.7
AVF Avril sur Loir 72.35 314 *e*P **P 22 16 46.6 -0.5**
AVF pmax pmax
comp=Z,12nm,1.2s,mb4.7
VIVF Saint-Julien-l 72.46 312 *e*P **P 22 16 47.9 +0.1**
TCF Toulx Ste Croi 73.28 314 *e*P **P 22 16 52.8 +0.2**
LDF La Druitiere 73.50 317 *e*P **P 22 16 53.8 0.0**
comp=Z,28nm,1.1s,mb4.8
LDF La Druitiere 73.50 317 *e*P **P 22 16 53.8 0.0**
LDF pmax pmax
comp=Z,14nm,1.1s,mb4.8
FLN La Foliniere 73.62 318 *e*P **P 22 16 54.8 +0.3**
FLN *e*R
comp=Z,432nm,19.4s
CAF Calviac 74.05 313 *e*P **P 22 16 56.9 -0.2**
comp=Z,43nm,1.4s,mb4.9
CAF Calviac 74.05 313 *e*P **P 22 16 56.9 -0.2**
CAF pmax pmax
comp=Z,22nm,1.4s,mb4.9
MTLF Montolieu 74.75 312 *e*P **P 22 17 01.4 +0.2**
comp=Z,21nm,1.1s,mb4.7
MTLF Montolieu 74.75 312 *e*P **P 22 17 01.4 +0.2**
MTLF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
EPF Esparros 76.09 312 *e*P **P 22 17 08.9 +0.1**
ETSF Etsaut 76.72 312 *e*P **P 22 17 12.7 +0.3**
comp=Z,5.0nm,0.7s,mb4.2
ETSF Etsaut 76.72 312 *e*P **P 22 17 12.7 +0.3**
ETSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
YKA Yellowknife Ar 80.93 16 *i*P **P 22 17 35.3 +0.4**
YKA pmax pmax
comp=Z,1.0nm,0.6s
EVO Evora 83.85 312 *e*P **P 22 17 50.7 +0.2**
comp=Z,11nm,1.0s,mb4.6
LSZ Lusaka 84.83 248 *e*P **P 22 17 55.3 -0.5**
LSZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
LSZ Lusaka 84.83 248 *e*P **P 22 17 55.3 -0.6**
comp=Z,2.5nm,0.7s,mb4.5

DJA 04 22:11:39.3±1.8, 8.45S×112.93E, h100km, MD4.6/4, ML4.2/4, 3C-1D, Error ellipse: s-maj=99.0km s-min=10.2km az=30.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRT	**Tretes**	**0.80**	**339**	*e*Pn	P	22 12 01.0	+3.1
SRDI	**Scrawed**	**1.20**	**91**	⇑*i*Pn	P	22 12 01.4	-1.0
	295nm,0.3s						
KELI	**Kelakatan**	**1.56**	**81**	⇓*i*Pn	P	22 12 06.6	-0.2
	131nm,0.4s						
RATI	**Rata**	**2.59**	**96**	⇑*e*Pn	P	22 12 20.3	-0.1
	320nm,0.4s						
KEDI	**Kedomdong**	**3.15**	**91**	⇑*i*Pn	P	22 12 26.4	-1.7
	57nm,0.4s						

ISC 04 22:22:51.2±1.4, 8.6N±0.2×93.3E±0.1, h33km, n19, σ0§95/20, mb4.3/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**16.09**	**2**	*e*P	**P**	**22 26 37.9**	**+1.3**
HYB	**Hyderabad**	**16.78**	**303**	*e*P	**P**	**22 26 48.5**	**+3.2**
HYB				*e*S	**S**	**22 29 49.0**	**-0.6**
SHL	**Shillong**	**16.91**	**356**	*e*P	**P**	**22 26 46.5**	**-0.4**
SHL				*e*P		22 32 55.0	
JIRN	**Jiri**	**20.08**	**341**	*e*P	**P**	**22 27 24.3**	**-0.5**
	68nm,0.7s						
PKI	**Pulchoki**	**20.26**	**339**	*e*P	**P**	**22 27 26.3**	**-0.3**
	32nm,0.5s						
DMN	**Daman**	**20.40**	**339**	*e*P	**P**	**22 27 27.7**	**-0.4**
	78nm,0.9s						
GUN	**Gumba**	**20.42**	**341**	*e*P	**P**	**22 27 28.0**	**-0.2**
	127nm,0.8s						
KKN	**Kakani**	**20.50**	**339**	*e*P	**P**	**22 27 28.7**	**-0.5**
	41nm,0.7s						
GKN	**Gorkha**	**20.93**	**338**	*e*P	**P**	**22 27 33.3**	**-0.2**
	156nm,0.7s						
BHPL	**Bhopal**	**21.02**	**316**	*e*P	**P**	**22 27 36.7**	**+2.2**
BHPL				*e*		22 27 40.7	
	comp=Z,46nm,0.7s						
KOLN	**Koldanda**	**21.12**	**336**	*e*P	**P**	**22 27 35.5**	**0.0**
	comp=Z,114nm,0.7s,mb5.3						
NDI	**New Delhi**	**25.03**	**325**	*e*P	**P**	**22 28 14.5**	**+0.6**
JOF	**Joensuu**	**69.81**	**335**	*e*p	**P**	**22 33 59.7**	**-0.4**
	comp=Z,0.4nm,0.3s,mb3.8						
KAF	**Kangasniemi**	**71.74**	**333**	*e*p	**P**	**22 34 13.5**	**+1.8**
	comp=Z,0.6nm,0.3s,mb4.0						
OJC	**Ojcow**	**72.85**	**320**	*e*P	**P**	**22 34 17.3**	**-1.2**
KEV	**Kevo**	**73.85**	**341**	*e*p	**P**	**22 34 23.8**	**-0.2**
	comp=Z,0.4nm,0.4s,mb3.7						
KHC	**Kasperske Hory**	**76.79**	**318**	*e*P	**P**	**22 34 40.5**	**-0.8**
NB2	**NORSAR Subarra**	**78.66**	**331**	P	**P**	**22 34 50.3**	**-1.1**
	comp=Z,2.2nm,0.6s,mb4.3,baz=95,slow=5.0						
LPG	**La Plagne**	**81.48**	**315**	*e*P	**P**	**22 35 07.2**	**+0.4**
	comp=Z,8.6nm,0.8s,mb4.4						

DJA 04 22:23:24.1±1.3, 8.35S×113.05E, h33km, MD4.7/4, 2C-4D, Error ellipse: s-maj=83.4km s-min=30.3km az=4.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.09**	**97**	⇑*i*P	P	22 23 42.8	-0.3
	1μm,0.2s						
SRDI				⇓*e*S	S	22 23 56.1	-1.1
KELI	**Kelakatan**	**1.44**	**85**	*e*P	P	22 23 47.9	-0.1
	631nm,0.3s						
RATI	**Rata**	**2.49**	**99**	⇓*e*P	P	22 24 07.6	+4.5
	833nm,0.4s						
RATI				⇓*e*S	S	22 24 42.1	+10
KEDI	**Kedomdong**	**3.04**	**93**	⇓*e*P	P	22 24 10.9	0.0
	208nm,0.4s						
KEDI				⇑*e*S	S	22 24 45.7	-0.9

*THE **04** 22:23:31.8, 39.61N×20.54E, h10km, ML3.0*
*ATH **04** 22:23:31.3, 39.58N×20.50E, h2km, MD3.2/5*
*CSEM **04** 22:23:31.6±0.1, 39.56N×20.54E, h2km, ML3.0, Error ellipse: s-maj=3.2km s-min=2.3km az=150.0*
*NEIC **04** 22:23:31.3, 39.58N×20.50E, h2km, MD3.2(ATH), After ATH.*

ISC 04 22:23:31.0±0.6, 39.54N±0.04×20.57E±0.04, h2km, n17, σ1§05/24, 2D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.18**	**267**	*e*Pg	**Pg**	**22 23 34.9**	**+0.2**
IGT				*e*Sg	**Sg**	**22 23 38.7**	**+1.6**
JAN	**Janina**	**0.25**	**62**	⇓*i*PG	**Pg**	**22 23 36.1**	**+0.2**
LSK	**Leskovik**	**0.61**	**2**	*e*Pg	**Pg**	**22 23 41.9**	**-1.2**
LSK	**Leskovik**	**0.61**	**2**	*i*Sg	**Sg**	**22 23 52.5**	**+1.3**
KEK	**Kerkira**	**0.62**	**286**	*e*PG	**Pg**	**22 23 42.4**	**-0.9**
EVR	**Evrytania**	**1.15**	**123**	⇓*i*PN	**Pn**	**22 23 55.5**	**+1.5**
KZN	**Kozani**	**1.20**	**50**	*e*PG	**Pg**	**22 23 54.0**	**-0.9**
VLS	**Valsamata**	**1.36**	**179**	*e*PG	**Pg**	**22 23 57.1**	**-1.1**
FNA	**Florina**	**1.39**	**26**	*e*Pb	**Pb**	**22 23 56.5**	**-0.7**
FNA				*e*Sb	**Sb**	**22 24 16.4**	**+1.0**
FNA	**Florina**	**1.39**	**26**	*e*Pb	**Pb**	**22 23 56.5**	**-0.8**
AGG	**Agios Georgios**	**1.46**	**110**	*e*Pb	**Pb**	**22 23 58.5**	**0.0**
	comp=Z,2.8nm,0.3s						
AGG				*e*Sb	**Sb**	**22 24 21.3**	**+3.7**
AGG	**Agios Georgios**	**1.46**	**110**	*e*Pb	**Pb**	**22 23 58.5**	**-0.1**
	2.8nm,0.3s						
AGG				*e*Sb	**Sb**	**22 24 21.3**	**+3.7**
LIT	**Litokhoron**	**1.58**	**69**	*e*Pb	**Pb**	**22 23 60.0**	**-0.7**
	comp=Z,7.0nm,0.2s						
LIT				*e*Sb	**Sb**	**22 24 22.9**	**+1.9**
GRG	**Griva**	**1.99**	**44**	*e*Pb	**Pb**	**22 24 06.3**	**-1.3**
GRG				*e*Sb	**Sb**	**22 24 32.6**	**-0.3**
KNT	**Kendrikon**	**2.41**	**47**	*e*Pn	**Pn**	**22 24 11.7**	**-0.3**
SOH	**Sokhos**	**2.49**	**58**	*e*Pn	**Pn**	**22 24 13.1**	**0.0**
SOH				*e*Sn	**Sn**	**22 24 44.5**	**0.0**
OUR	**Ouranopolis**	**2.74**	**72**	*e*Pn	**Pn**	**22 24 16.0**	**-0.8**

*NIED **04** 22:58:00, 41.50N×142.60E, h32km, Mw3.9 Best double couple: M0=7.49×10^14 NP1:φ=290°, δ=78°, λ=48°. NP2:φ=187°, δ=43°, λ=163°.*

JMA 04 22:58:35.6±0.1, 41.51N×142.57E, h37km, M4.0, 1C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.67**	**41**	P	P	22 58 48.4	-0.2
JEM				*e*S	S	22 58 57.4	-0.6
JNBK	**Urakawa-nobuka**	**0.78**	**10**	⇑P	P	22 58 50.1	-0.1
JNBK				*e*S	S	22 59 00.7	-0.1
JOT	**Ohata**	**1.15**	**264**	⇓P	P	22 58 55.6	+0.2
JOT				*e*S	S	22 59 10.6	+0.4
JKB	**Kayabe**	**1.21**	**289**	P	P	22 58 56.0	-0.3
JKB				*e*S	S	22 59 10.7	-1.1
JCH	**Churui**	**1.25**	**28**	⇓P	P	22 58 57.3	+0.5
JCH				*e*S	S	22 59 13.4	+0.6
JBT2	**Biratori 2**	**1.28**	**353**	P	P	22 58 57.3	+0.1
JBT2				*e*S	S	22 59 13.0	-0.4
JTM	**Tenmabayashi**	**1.34**	**238**	⇓P	P	22 58 59.0	+0.7
JTM				*e*S	S	22 59 15.8	+0.6
JANG	**Nango**	**1.39**	**215**	⇓P	P	22 58 58.8	-0.1
JNB	**Noboribetsu**	**1.49**	**311**	⇓P	P	22 58 59.8	-0.5
JNB				*e*S	S	22 59 18.1	-0.7
JEW	**Eniwo**	**1.57**	**328**	P	P	22 59 01.7	+0.2
JEW				*e*S	S	22 59 21.2	+0.4
JSR	**Shiriuchi**	**1.62**	**271**	P	P	22 59 02.7	+0.6
JSR				*e*S	S	22 59 22.1	+0.1
JFR	**Furan**	**1.65**	**1**	P	P	22 59 03.1	+0.5
JOB	**Onbets**	**1.68**	**34**	⇓P	P	22 59 04.1	+1.1
JOB				*e*S	S	22 59 24.3	+0.8
JYM2	**Yakumo 2**	**1.75**	**291**	P	P	22 59 04.4	+0.3
JYM2				*e*S	S	22 59 26.3	+0.9

NEIC 04 23:03:48.0, 51.17N×174.12W, h20km, mb3.5/2, ML3.5(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.04**	**357**	P	Pb	23 04 05.5	-1.6
ATKA				S	Sb	23 04 19.2	-1.0
GSIG	**Igitkin Island**	**1.39**	**307**	P	Pn	23 04 10.0	-2.6
GSMY	**Great Sitkin M**	**1.49**	**307**	P	Pn	23 04 11.7	-2.3
GSTR	**Great Sitkin T**	**1.52**	**308**	P	Pn	23 04 12.5	-2.0
GSTD	**Great Sitkin T**	**1.54**	**306**	P	Pn	23 04 12.8	-2.0
GSTD				S	Sn	23 04 31.7	-2.7
ADAG	**Mount Adagdak**	**1.75**	**299**	P	Pn	23 04 16.0	-1.7
ADAG				S	Sn	23 04 38.4	-1.3
KIWB	**Kanaga Island**	**2.02**	**291**	P	Pn	23 04 19.9	-1.6
KIKV	**Kanaga Island**	**2.04**	**292**	P	Pn	23 04 20.2	-1.6
KIMD	**Kanaga Island**	**2.04**	**288**	P	Pn	23 04 19.7	-2.1
BILL	**Bilibino**	**19.45**	**338**	P	P	23 08 13.5	-2.3
	1.5nm,0.5s						
BW06	**Boulder Array**	**43.55**	**75**	P	P	23 11 49.0	-2.8
	0.5nm,0.7s						
NEN	**Nelson**	**44.54**	**87**	P	P	23 11 52.9	-7.0

KRSC 04 23:05:04.5±1.0, 56.26N×163.04E, h6km±1km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.13**	**247**	*i*P	Pg	23 05 08.1	+0.7
KBG	**Krutoberegovo**	**0.19**	**269**	*i*P	Pg	23 05 09.5	+1.1
KBG				*e*S	Sg	23 05 12.5	+1.5
KBG				Smax			
	16μm,0.7s						
SVLR	**Shiveluch**	**1.06**	**288**	*i*P	Pb	23 05 25.9	+1.0
SVLR				*e*S	Sb	23 05 41.0	+2.2
ZLN	**Zelenaya**	**1.27**	**260**	*i*P	Pb	23 05 29.1	+0.6
ZLN				*e*S	Sb	23 05 46.5	+1.5
CIRR	**Tsirk**	**1.29**	**264**	*e*P	Pb	23 05 29.4	+0.6
CIRR				*e*S	Sb	23 05 46.9	+1.4
LGNR	**Loginova**	**1.33**	**263**	*i*P	Pb	23 05 30.0	+0.6
LGNR				*e*S	Sb	23 05 48.1	+1.6
KLY	**Klyuchi**	**1.33**	**273**	*i*P	Pb	23 05 28.1	-1.4
KLY				*i*S	Sb	23 05 44.8	-1.9
KRSR	**Krestovskiy**	**1.38**	**269**	*e*P	Pb	23 05 30.1	-0.3
KRSR				*e*S	Sb	23 05 49.6	+1.5
KPT	**Kopyto**	**1.61**	**261**	*e*P	Pn	23 05 33.5	-0.1
KPT				*e*S	Sb	23 05 54.5	-0.1
KMNR	**Kamenistaya**	**1.65**	**253**	*e*P	Pn	23 05 35.4	+1.1
KMNR				*e*S	Sb	23 05 57.7	+1.7
KOZ	**Kozyrevsk**	**1.78**	**265**	*e*P	Pn	23 05 37.4	+1.3
KOZ				*e*S	Sn	23 06 01.0	+1.7
SRDR	**Sredinnyy**	**1.85**	**273**	*e*P	Pn	23 05 38.3	+1.2
SRDR				*e*S	Sn	23 06 02.9	+1.8
TUMR	**Tumrok**	**1.91**	**240**	*e*P	Pn	23 05 38.7	+0.8
TUMR				*e*S	Sn	23 06 03.5	+1.1
ESO	**Esso**	**2.46**	**264**	*e*P	Pn	23 05 46.7	+1.0
ESO				*e*S	Sn	23 06 16.7	+0.3
ESO				Smax			
	80nm,1.0s						
OSSR	**Ossora**	**3.00**	**0**	*e*P	Pn	23 05 51.6	-1.9
OSSR				*e*S	Sn	23 06 28.6	-1.6
OSSR				Smax			
	50nm,0.4s						
SPN	**Mys Shipunski**	**3.62**	**210**	*e*P	Pn	23 06 03.3	+1.0
SPN				*e*S	Sn	23 06 45.4	-0.5
SDLR	**Sedlovina**	**3.84**	**221**	*e*P	Pn	23 06 05.7	+0.3
SMAR	**Somma**	**3.88**	**221**	*e*P	Pn	23 06 08.0	+2.0
AVH	**Avacha**	**3.90**	**221**	*e*P	Pn	23 06 07.9	+1.6
GNL	**Ganaly**	**3.90**	**231**	*e*P	Pn	23 06 07.5	+1.2
UGLR	**Uglovaya**	**3.91**	**220**	*e*P	Pn	23 06 07.7	+1.2
KOK	**Koryaka**	**3.92**	**222**	*e*P	Pn	23 06 08.6	+2.1
RUS	**Russkaya**	**4.66**	**217**	*e*P	Pn	23 06 16.5	-0.6
GRL	**Gorelyy**	**4.71**	**220**	*e*P	Pn	23 06 16.9	-1.0

*CSEM **04** 23:22:44.6±1.0, 38.78N×29.52W, h5km, ML2.6, Error ellipse: s-maj=17.5km s-min=9.5km az=13.0, After PDA*
*PDA **04** 23:22:44.6±1.0, 38.78N×29.52W, h5km, MD3.4, ML2.6, Error ellipse: s-maj=17.5km s-min=9.5km az=13.0*

SVSA 04 23:22:44.6±1.0, 38.78N×29.52W, h5km, MD3.4, ML2.6, Error ellipse: s-maj=17.5km s-min=9.5km az=13.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.66**	**103**	*e*P	Pg	23 22 55.4	-2.4
PCED				*e*S	Sg	23 23 03.5	-3.0
	111nm,0.3s						
PCED	**Cedros**	**0.66**	**103**	*e*P	Pg	23 22 55.4	-2.4
PCED				*e*S	Sg	23 23 03.5	-3.0
	111nm,0.3s						
CALA	**Caldeira**	**0.67**	**107**	*e*S	Sg	23 23 04.0	-2.9
HOR	**Horta**	**0.74**	**110**	*e*P	Pg	23 22 56.9	-2.5
HOR				*e*S	Sg	23 23 05.9	-3.4
PICO	**Pico**	**0.90**	**108**	*e*P	Pb	23 22 59.2	-3.1
PICO				*e*S	Sb	23 23 10.5	-3.9
ROSA	**Rosais**	**1.00**	**93**	*e*S	Sb	23 23 12.4	-4.9
PPNO	**Prainha do Nor**	**1.03**	**107**	*e*S	Sb	23 23 13.2	-5.0
	87nm,0.1s						
PPNO	**Prainha do Nor**	**1.03**	**107**	*e*S	Sb	23 23 13.2	-5.0
	87nm,0.1s						

KRSC 04 23:59:34.4±0.9, 48.87N×156.60E, h40km±9km, ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.84**	**350**	*e*P	P	00 00 01.2	-2.9
SKR				*e*S	S	00 00 24.0	-2.4
ALID	**Alaid**	**2.11**	**342**	*e*P	P	00 00 08.7	+0.7
PAU	**Pauzhetka**	**2.60**	**3**	*e*P	P	00 00 15.0	0.0
PAU				*e*S	S	00 00 44.0	-1.7
PAU				Smax			
	300nm,1.0s						
RUS	**Russkaya**	**3.77**	**18**	*e*P	P	00 00 31.5	-0.1
RUS				*e*S	S	00 01 12.7	-2.6
GRL	**Gorelyy**	**3.80**	**14**	*i*P	P	00 00 32.4	+0.3
GRL				*e*S	S	00 01 14.3	-1.9
APC	**Apacha**	**4.08**	**5**	*e*P	P	00 00 37.6	+1.7
PET	**Petropavlovsk**	**4.36**	**17**	*e*P	P	00 00 40.4	+0.5
PET				*e*S	S	00 01 28.0	-2.1
UGLR	**Uglovaya**	**4.57**	**17**	*e*P	P	00 00 43.1	+0.2
AVH	**Avacha**	**4.60**	**16**	*e*P	P	00 00 43.9	+0.5
AVH				*e*S	S	00 01 33.6	-2.7
KOK	**Koryaka**	**4.61**	**15**	*i*P	P	00 00 44.5	+1.0
SMAR	**Somma**	**4.61**	**17**	*e*P	P	00 00 44.8	+1.3
NLC	**Nalytchevo**	**4.64**	**21**	*e*P	P	00 00 44.8	+0.9
NLC				*e*S	S	00 01 35.4	-1.9
SDLR	**Sedlovina**	**4.64**	**17**	*e*P	P	00 00 43.8	-0.2
SDLR				*e*S	S	00 01 33.8	-3.5
SPN	**Mys Shipunski**	**4.75**	**26**	*e*P	P	00 00 45.5	0.0
SPN				*e*S	S	00 01 37.6	-2.5
GNL	**Ganaly**	**4.91**	**9**	*e*P	P	00 00 48.2	+0.6
KMNR	**Kamenistaya**	**7.25**	**17**	*e*P	P	00 01 19.6	-0.9
KBTR	**Krutoberegovo**	**8.27**	**25**	*e*P	P	00 01 33.6	-1.0

*BJI **05** 00:04:02.2, 19.93S×177.33W, h493km, mB5.2, mb4.9*
*NEIC **05** 00:04:03.6±0.2, 20.15S×177.67W, mb4.8/27, Error ellipse: s-maj=9.2km s-min=5.0km az=140.0*

ISC 05 00:04:03.0±0.3, 20.18S±0.07×177.69W±0.06, h491km, h491km±3.5km: pP-P, n174, σ0§94/69, mb4.8/32, 11C-29D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.93**	**260**	*e*P	**P**	**00 07 14.4**	**+1.4**
DZM				*e*S	**S**	**00 09 56.6**	**+10**
DZM	**Mont Dzumac**	**14.93**	**260**	*e*P	**P**	**00 07 14.4**	**+1.4**
DZM				*e*S	**S**	**00 09 56.5**	**+10**
NOUC	**Port Laguerre**	**15.06**	**260**	*e*P	**P**	**00 07 15.5**	**+1.1**
NOUC	**Port Laguerre**	**15.06**	**260**	*e*P	**P**	**00 07 15.5**	**+1.1**
OUZ	**Omahuta**	**16.84**	**205**	*e*P	**P**	**00 07 34.8**	**+2.7**
OUZ	**Omahuta**	**16.84**	**205**	P	**P**	**00 07 34.6**	**+2.5**
PUZ	**Puketiti**	**18.18**	**190**	*e*P	**P**	**00 07 46.8**	**+1.6**
PUZ	**Puketiti**	**18.18**	**190**	P	**P**	**00 07 46.1**	**+0.9**
URZ	**Urewera**	**18.58**	**193**	*e*P	**P**	**00 07 48.0**	**-1.1**
URZ	**Urewera**	**18.58**	**193**	P	**P**	**00 07 47.1**	**-2.0**
THZ	**Tophouse**	**22.95**	**198**	*e*P	**P**	**00 08 28.4**	**-1.5**
THZ	**Tophouse**	**22.95**	**198**	P	**P**	**00 08 29.4**	**-0.5**
FOZ	**Fox Glacier**	**25.60**	**202**	P	**P**	**00 08 52.5**	**-1.1**
TBI	**Tubuai**	**26.39**	**102**	*e*P	**P**	**00 09 00.7**	**-0.1**
	100nm,1.1s,mb5.2						
PAE	**Paea**	**26.70**	**89**	*e*P	**P**	**00 09 01.9**	**-1.7**
	29nm,0.9s,mb4.7						
PPT	**Papeete**	**26.72**	**89**	*e*P	**P**	**00 09 02.2**	**-1.6**
	60nm,1.5s,mb4.8						
PPT				*ep*P		00 10 29.5	
	66nm,1.5s						
TIAR	**Tiarei**	**26.93**	**89**	*e*P	**P**	**00 09 06.8**	**+1.1**
	91nm,0.9s,mb5.2						
ARMA	**Armidale**	**29.47**	**244**	*e*P	**P**	**00 09 28.7**	**+1.0**
CNB	**Canberra Magne**	**32.65**	**236**	⇓*i*P	**P**	**00 09 55.6**	**+0.9**
	107nm,0.7s,mb5.4						
CTA	**Charters Tower**	**33.81**	**264**	⇓*i*P	**P**	**00 10 05.0**	**+0.3**
	78nm,0.6s,mb5.3						
CTAO	**Charters Tower**	**33.81**	**264**	⇓*i*P	**P**	**00 10 04.8**	**+0.1**
	120nm,0.7s,mb5.4						
TOO	**Toolangi**	**36.32**	**234**	⇓*i*P	**P**	**00 10 25.9**	**+0.5**
	47nm,0.7s,mb5.0						
STKA	**Stephens Creek**	**38.19**	**244**	⇓*i*P	**P**	**00 10 41.4**	**+0.6**
	35nm,0.6s,mb5.0						
RKT	**Rikitea**	**39.71**	**102**	*e*P	**P**	**00 10 53.7**	**+0.5**
	79nm,1.2s,mb5.0						
WB2	**Warramunga Arr**	**44.92**	**262**	⇓*i*P	**P**	**00 11 33.7**	**-1.1**
WRAB	**Tennant Creek**	**44.92**	**262**	⇓*i*P	**P**	**00 11 33.5**	**-1.2**
	56nm,0.7s,mb5.1						
KAKA	**Kakadu**	**48.26**	**271**	⇑*i*P	**P**	**00 11 59.5**	**-0.8**
	60nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**53.36**	**262**	⇓*i*P	**P**	**00 12 37.0**	**-0.8**
	36nm,0.5s,mb5.0						
MBWA	**Marble Bar**	**58.21**	**257**	*e*P	**P**	**00 13 10.0**	**-1.4**
	88nm,1.0s,mb5.0						
KLBR	**Kellerberrin**	**58.46**	**245**	⇓*i*P	**P**	**00 13 11.8**	**-1.1**
	165nm,1.0s,mb5.3						
NWAO	**Narrogin (SRO)**	**58.77**	**243**	*e*P	**P**	**00 13 13.8**	**-1.3**

comp=Z,4.1nnm,0.9s,mb4.0
MSU Marysvale 84.67 46 *e*P **P 00 15 45.9 +0.7**
MSU *e*pP pP 00 17 35.1 +0.4
BMO Blue Mountains 84.88 38 *e*P **P 00 15 45.8 -0.3**
comp=Z,4.0nm,0.9s,mb4.0
BMO *e*pP pP 00 17 38.4 +2.8
TMUT Trail Mountain 85.72 46 *e*P **P 00 15 51.1 +0.8**
BJT Baijiatuau 85.86 315 *e*P **P 00 15 50.6 -0.4**
comp=Z,23nm,1.1s,mb4.7
SRU San Rafael 86.09 46 *e*P **P 00 15 52.6 +0.5**
SRU *e*pP pP 00 17 40.8 -1.1
ENH Enshi 86.10 304 *e*P **P 00 15 53.0 +0.7**
comp=Z,32nm,0.9s,mb4.9
MNTX Cornudas Mount 86.33 54 *e*P **P 00 15 53.2 -0.1**
comp=Z,5.7nm,0.8s,mb4.2
MNTX *e*pP pP 00 17 43.5 +0.3
GDL2 Guadalupe Moun 87.32 54 *e*P **P 00 15 58.8 +0.7**
GDL2 *e*pP pP 00 17 47.5 -0.8
COLA College 87.83 12 *e*P **P 00 15 58.2 -1.4**
comp=Z,22nm,0.8s,mb4.9
COLA *e*pP pP 00 17 49.3 -0.6
IMA Indian Mountai 87.88 10 *e*P **P 00 15 58.9 -1.0**
IMA *e*pP pP 00 17 43.3 -6.8
CPRX Cap Rock 88.06 54 *e*P **P 00 16 01.8 +0.3**
SNAA Sanae 88.33 178⇑*i* **P 00 16 00.4 -1.5**
SNAA Sanae 88.33 178 pP 00 17 50.3 -1.9
SNAA Sanae 88.33 178 sP 00 18 40.9 -0.6
SNAA Sanae 88.33 178⇑*i*P **P 00 16 01.6 -0.3**
CHMT Chamberlain Mo 88.38 38 *e*P **P 00 16 02.6 -0.1**
VNA3 Neumayer Olymp 88.44 176⇑*i* **P 00 16 07.6 +5.2**
VNA3 Neumayer Olymp 88.44 176⇑*i* **P 00 16 08.5 +6.1**
HIA Hailar 88.60 324 *e*P **P 00 16 03.6 0.0**
comp=Z,11nm,1.0s,mb4.6
VNA2 Neumayer--Watz 88.89 177⇑*i* **P 00 16 10.0 +5.5**
VNA2 Neumayer--Watz 88.89 177⇑*i* **P 00 16 11.2 +6.7**
VNA2 Neumayer--Watz 88.89 177 sP 00 18 47.5 +3.2
VNA2 Neumayer--Watz 88.89 177 PP 00 19 45.0 +1.2
DAWY Dawson 89.07 16 *e*P **P 00 16 05.4 -0.1**
HRY Holter Researc 89.11 39 *e*P **P 00 16 06.4 +0.3**
CM31 Chiang Mai Arr 90.28 289 *e*P **P 00 16 13.8 +1.6**
comp=Z,33nm,1.0s,mb5.1
JOF Joensuu 132.91 242 *e*p PKPdf 00 22 20.5 -0.7
comp=Z,6.7nm,0.6s
KAF Kangasniemi 134.92 344 *e*p PKPdf 00 22 25.1 +0.2
comp=Z,3.0nm,0.6s,baz=30,slow=2.0
NB2 NORSAR Subarra 138.69 353 PKP PKPdf 00 22 22.4 -9.5
comp=Z,1.6nm,0.6s,baz=20,slow=3.6
KMBO Kilima Mbogo 139.75 242 *e*PKPpre 00 22 26.3
SUW Suwalki 142.64 340 *e*PKP PKPdf 00 22 35.6 -3.3
SUW Suwalki 142.64 340 *e*PKP PKPdf 00 22 35.6 -3.3
MUD Monsted U'grnd 143.41 354 *i* P PKPbc 00 22 37.6 -1.6
comp=Z,38nm,0.9s
ELZG Elazig 143.49 308 *i* P PKPbc 00 22 41.5 +1.6
BSD Bornholm Skovb 143.84 348 *e*P PKPbc 00 22 39.9 -0.6
BSD Bornholm Skovb 143.84 348 *i* P PKPbc 00 22 39.9 -0.6
comp=Z,75nm,1.1s
MALT Malatya 143.96 308 *e*PKPdf PKPdf 00 22 42.5 +0.8
SVST Sivas 144.50 311 *i* P PKPdf 00 22 44.6 +2.0
GZT Gaziantep 144.93 307 *i* P PKPdf 00 22 45.6 +2.2
BOYT Boyabat 145.21 315 *i* P PKPdf 00 22 46.2 +2.4
MBAR Mbarara 145.34 237 *e*PKPdf PKPdf 00 22 46.8 +1.9
KAHT Ahir Dag 145.35 308 *i* P PKPdf 00 22 46.3 +2.1
BSEG Bad Segeberg 145.74 352 *e*PKPbc PKPbc 00 22 46.9 +1.2
AVNT Avonos 146.39 311 *i* P PKPdf 00 22 48.9 +3.1
KWP Kalwaria 146.41 336 *e*PKP PKPdf 00 22 48.6 +3.1
KWP Kalwaria 146.41 336 *e*PKP PKPdf 00 22 48.6 +3.1
ELDT Eldivan 146.63 314 *i* P PKPdf 00 22 50.1 +3.9
OJC Ojcow 146.96 339 *e*PKP PKPdf 00 22 50.0 +3.6
KOLS Kolonicke sedl 147.14 335 *i* PKP PKPdf 00 22 51.4 +4.7
KSP Ksiaz 147.47 343⇓*e*P PKPdf 00 22 51.9 +4.7
KSP *e* 00 22 55.3
KSP Ksiaz 147.47 343 *e*PKP PKPdf 00 22 52.0 +4.8
NIE Niedzica 147.47 338⇓*e*PKP PKPdf 00 22 52.1 +4.9
CRVS Cervenica-Dubn 147.48 336 *i* PKP PKPdf 00 22 51.9 +4.6
CLL Collm 147.81 347 *i* PKP PKPdf 00 22 48.3 +0.6
CLL *i* PKP PKPdf 00 22 52.4 +4.7
CLL *e*pPKP 00 24 48.0
CLL Collm 147.81 347 *i* PKIKP PKPdf 00 22 48.3 +0.6
comp=Z,logA/T=0.9
CLL *i* PKP1 PKPdf 00 22 52.4 +4.7
CLL *i* PKP2 PKPab 00 22 56.1 -1.8
CLL *e**PPKP 00 24 48.0
OKC Ostrava-Krasne 147.83 341 *e*PKPbc PKPdf 00 22 52.5 +4.7
UPC Upice 147.85 343 *e*PKPbc PKPdf 00 22 52.8 +5.0
UPC *e*PKPab PKPab 00 22 56.9 -1.2
DPC Dobruska-Polom 147.90 343 *e*PKPbc PKPdf 00 22 53.0 +5.1
DPC *e*PKPab PKPab 00 22 57.7 -0.6
BRG Berggiesshubel 148.02 346 *e*P PKPdf 00 22 49.8 +1.7
MKRJ Makawir 148.06 298 P PKPdf 00 22 54.2 +5.4
MORC Moravsky Berou 148.07 341 *e*PKPdf PKPdf 00 22 53.1 +4.9
KECS Kecovo 148.19 337 *i* PKP PKPdf 00 22 54.0 +5.6
PVCC Panska Ves 148.19 345 *e*PKPbc PKPdf 00 22 53.8 +5.4
DRGI Dragot 148.26 298 P PKPdf 00 22 54.4 +5.3
MZDA Masada 148.34 297 P PKPdf 00 22 54.7 +5.5
ZFRI Zfri 148.66 296 P PKPdf 00 22 55.6 +5.8
PRU Pruhonice 148.70 345 *e*PKPbc PKPdf 00 22 54.7 +5.5
PRU *e*PKPab PKPab 00 23 00.4 -1.2
MOX Moxa 148.72 349 *e*P PKPdf 00 22 54.8 +5.6
VYHS Vyhne 148.77 339 *i* PKP PKPdf 00 22 55.2 +5.9
KOLL Kolacno 148.84 339 *i* PKP PKPdf 00 22 55.6 +6.1
PRNI Paran 148.84 296 P PKPdf 00 22 56.1 +6.0
PSZ Piszkesteto 148.88 337 *e*PKPbc PKPdf 00 22 55.4 +5.8
PSZ Piszkesteto 148.88 337⇓*e*PKP/F PKPdf 00 22 55.0 +5.5
NKC Novy Kostel 148.94 347 *e*PKPbc PKPdf 00 22 55.5 +5.9
NKC *e*PKPab PKPab 00 23 00.7 -1.9
CSS Prodhromos 148.96 305 *e*PKPbc PKPdf 00 22 55.2 +5.1
EIL Elat 149.01 294 P PKPdf 00 22 56.4 +6.0
EIL Elat 149.01 294 *e*PKPbc PKPdf 00 22 56.2 +5.9
MBH Mount Berech 149.02 294 P PKPdf 00 22 56.5 +6.1
KMTI Karmit 149.13 295 P PKPdf 00 22 56.4 +5.9
SMOL Smolenice 149.22 340 *i* PKP PKPdf 00 22 57.2 +7.1
KZIT Kziot 149.24 297 P PKPdf 00 22 56.9 +6.2
ZST Bratislava 149.60 340 *i* PKP PKPdf 00 22 57.6 +6.9
ULDT Uludag 149.63 317 *i* P PKPdf 00 22 57.1 +6.1
GRA1 Grafenberg Arr 149.70 348 *e*PKPbc PKPdf 00 22 57.2 +6.4
GRA1 *e*PKPab PKPab 00 23 04.1 -1.6
KHC Kasperske Hory 149.73 345 *e*PKPdf PKPdf 00 22 52.0 +1.1
KHC *e*PKPbc PKPdf 00 22 57.4 +6.5
KHC *e*PKPab PKPab 00 23 04.7 -1.1
ISP Isparta 149.87 312 *e*PKPbc PKPdf 00 22 57.2 +5.7
WET Wettzell 149.88 346 *e*PKPbc PKPdf 00 22 57.2 +6.1
GEC2 GERESS Array S 149.97 345 *e*PKPbc PKPdf 00 22 57.6 +6.3
GIVF Givet 150.07 357⇓*i*PKP1 PKPdf 00 22 58.0 +6.6
comp=Z,150nm,1.0s
BAIF Baives 150.14 358⇓*i*PKP1 PKPdf 00 22 58.3 +6.8
comp=Z,110nm,1.0s
WLF Walferdange 150.42 355 *e*PKPbc PKPdf 00 22 59.5 +7.5
MOA Molln 150.74 343⇓*i*P PKPdf 00 22 59.3 +6.8
LANF Langenberg 150.93 353 PKP PKPdf 00 23 00.3 +7.6
ARSA Arzberg 150.93 341⇓*i*P PKPdf 00 22 59.7 +6.9
STU Stuttgart 150.94 351 *e*PKPbc PKPdf 00 23 00.1 +7.3
DNZL Cakiroluk 150.96 313 *i* P PKPdf 00 23 00.9 +7.8
FUR Furstenfeldbru 151.15 348 *e*PKPbc PKPdf 00 23 00.1 +7.0
FUR *e*PKPab PKPab 00 23 10.0 -1.8
STR Strasbourg 151.32 352 PKP PKPdf 00 23 00.7 +7.4
FLN La Foliniere 151.39 4⇓*i*PKP1 PKPdf 00 23 00.7 +7.3
comp=Z,58nm,0.7s
BFO Black Forest 151.50 352 *e*PKPbc PKPdf 00 23 00.8 +7.3
WLS Welschbruch 151.54 353 PKP PKPdf 00 23 01.4 +7.8
CDF Champ du Feu 151.55 353 *e*PKP1 PKPdf 00 23 01.3 +7.7
comp=Z,29nm,0.8s
ROSF Rostrenen 151.55 8 *e*PKP1 PKPdf 00 23 00.6 +7.0
comp=Z,40nm,0.9s
LDF La Druitiere 151.58 3⇓*i*PKP1 PKPdf 00 23 00.9 +7.3
comp=Z,29nm,0.6s
PERS Pernice 151.60 341 *i* PKPbc PKPdf 00 23 00.8 +7.1
MEZF Maizieres J'vi 151.65 356⇓*i*PKP1 PKPdf 00 23 01.8 +8.1
comp=Z,50nm,0.9s
KBA Koelnbreinsper 151.70 344⇑*i*P PKPdf 00 23 01.3 +7.4
SGMF Saint Gilles 151.71 7⇓*i*PKP1 PKPdf 00 23 01.2 +7.4
comp=Z,66nm,0.8s
GRR Gorron 151.74 4⇓*i*PKP1 PKPdf 00 23 01.5 +7.6
comp=Z,38nm,0.6s
ECH Echery 151.75 353 PKP PKPdf 00 23 01.4 +7.5
THEF They Montfort 151.86 355 PKP PKPdf 00 23 02.5 +8.5
WATA Walderalm 151.88 347⇑*i*P PKPdf 00 23 01.7 +7.6
WTTA Wattenberg 151.93 346⇓*i*P PKPdf 00 23 02.2 +8.0
MOTA Moosalm 151.97 347⇓*i*P PKPdf 00 23 01.9 +7.7
HAU Haudompre 152.04 354⇓*i*PKP1 PKPdf 00 23 02.3 +8.0
comp=Z,15nm,0.6s
SQTA Sankt Quirin 152.06 347⇓*i*P PKPdf 00 23 02.3 +7.9
HINF Hinterlafeld 152.18 353⇓*i*PKP1 PKPdf 00 23 02.4 +7.9
comp=Z,17nm,0.9s
DAVA Damuels 152.26 349⇑*i*P PKPdf 00 23 03.2 +8.6
LJU Ljubljana 152.31 342 *i* PKPbc PKPdf 00 23 02.8 +8.0
VOY Vojsko 152.51 342 *e*PKPdf PKPdf 00 22 55.7 +0.7
VOY *e*PKPbc PKPdf 00 23 02.7 +7.7
CEY Cerknica 152.62 341 *i* PKPbc PKPdf 00 23 03.4 +8.2
HYF Humbligny 152.97 360 *e*PKP1 PKPdf 00 23 04.8 +9.2
SSF Saint Saulge 153.16 358⇓*i*PKP1 PKPdf 00 23 04.9 +9.0
comp=Z,24nm,1.0s
CABF La Chapelle 153.45 354 *e*PKP1 PKPdf 00 23 06.0 +10
comp=Z,36nm,1.2s
MFF Saint Martin d 153.56 4 *e*PKP1 PKPdf 00 23 05.5 +9.1
BGF Bois d'Agland 153.68 359 *e*PKP1 PKPdf 00 23 05.8 +9.2
comp=Z,16nm,0.7s
LPL La Plagne 154.47 353 *e*PKP1 PKPdf 00 23 09.1 +11
ORIF Oris-en-Rattie 155.15 354 *e*PKP1 PKPdf 00 23 09.5 +11
MBDF Montbardon 155.24 352⇓*i*PKP1 PKPdf 00 23 09.5 +11
comp=Z,6.7nm,0.7s

ISC 05 00:11:21.9±0.7, 46.39N±0.04×15.07E±0.04, n8, σ0°73/15, 3C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.24**	**7**	*i* Pg	**Pg**	**00 11 27.1**	**+0.3**
PERS				*i* Sg	**Sg**	**00 11 31.0**	**+1.0**
comp=Z,1μm,0.0s							
GROS	**Grobnik**	**0.30**	**77**	*i* Pg	**Pg**	**00 11 28.2**	**+0.2**
GROS				*i* Sg	**Sg**	**00 11 32.6**	**+0.6**
comp=Z,18nm,0.2s							
DOBS	**Dobrina**	**0.37**	**132**	*i* Pg	**Pg**	**00 11 29.2**	**0.0**
OBKA	**Obir**	**0.38**	**288**⇑*i*PG	**Pg**	**00 11 29.4**	**-0.1**
OBKA				*i* SG	**Sg**	**00 11 35.4**	**+0.8**
comp=Z,42nm,0.5s							
VOY	**Vojsko**	**0.90**	**247**	*e*Pg	**Pg**	**00 11 38.4**	**-1.4**
VOY				*e*Sg	**Sg**	**00 11 52.9**	**+1.2**
ARSA	**Arzberg**	**0.91**	**20**⇓*i*PG	**Pg**	**00 11 39.1**	**-1.0**
ARSA				*i* SG	**Sg**	**00 11 52.2**	**0.0**
comp=Z,3.3nm,0.3s							
KBA	**Koelnbreinsper**	**1.37**	**301**⇑*i*PG	**Pg**	**00 11 48.8**	**-0.5**
KBA				*i* SG	**Sg**	**00 12 07.7**	**+0.1**
comp=Z,3.6nm,0.3s							
MOA	**Molln**	**1.56**	**340**⇑*i*PG	**Pg**	**00 11 51.8**	**-1.2**
MOA				*i* SG	**Sg**	**00 12 13.5**	**-0.2**
comp=Z,1.2nm,0.5s							

WEL 05 00:16:16.1±0.4, 45.11S×167.42E, h112km±3km, ML3.5/5, 2C, Error ellipse: s-maj=3.4km s-min=1.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.42**	**207**	PN	P	00 16 32.1	-0.7
DCZ				SN	S	00 16 44.2	-1.1
MSZ	**Milford Sound**	**0.56**	**40**	PN	P	00 16 33.9	+0.1
MSZ				SN	S	00 16 46.5	-0.5
MLZ	**Mavora Lakes**	**0.58**	**115**	⇑PN	P	00 16 33.6	-0.3
MLZ				SN	S	00 16 46.4	-0.9
WHZ	**Wether Hill Ro**	**0.87**	**155**	⇑PN	P	00 16 36.1	-0.3
WHZ				SN	S	00 16 50.9	-0.7
EAZ	**Earnscleugh**	**1.34**	**96**	PN	P	00 16 41.1	-0.5
EAZ				SN	S	00 16 58.5	-2.3
JCZ	**Jackson Bay**	**1.41**	**43**	PN	P	00 16 41.5	-0.9
JCZ				SN	S	00 16 59.9	-2.3
TUZ	**Tuapeka**	**1.77**	**119**	PN	P	00 16 46.1	-0.6
TUZ				SN	S	00 17 06.8	-2.9
LBZ	**Lake Benmore**	**2.10**	**71**	PN	P	00 16 49.1	-1.8
LBZ				SN	S	00 17 13.6	-3.4
FOZ	**Fox Glacier**	**2.24**	**47**	PN	P	00 16 52.0	-0.9
FOZ				SN	S	00 17 18.5	-2.0
ODZ	**Otahua Downs**	**2.28**	**90**	PN	P	00 16 51.9	-1.5
ODZ				SN	S	00 17 17.5	-4.0

GUC 05 00:18:34.0±0.5, 32.66S×71.78W, h20km±11km, MD3.5, ML2.2, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.32**	**67**⇓*i*P	Pb		00 18 41.1	+0.2
PACH				*i* S	Sb	00 18 46.2	+0.6
PTCH	**Petorca**	**0.82**	**61**	*e*P	Pb	00 18 48.9	-0.5
PTCH				*i* S	Sb	00 19 00.3	+0.3
PTCH				AMP		00 19 03.7	
comp=E,186nm,0.4s							
RCDM	**Rinconada Maip**	**1.16**	**136**	*e*P	Pb	00 18 54.6	-0.7
RCDM				*i* S	Sb	00 19 09.6	-0.3
RCDM				AMP		00 19 10.7	
comp=E,71nm,0.8s							
LNV	**Longovilo**	**1.33**	**167**	*e*P	Pn	00 18 56.6	-1.1
LNV				*i* S	Sb	00 19 14.2	-0.5
FCH	**Farellones**	**1.42**	**118**	*e*P	Pn	00 18 59.1	+0.1
FCH				*i* S	Sn	00 19 17.9	+0.8
FCH				AMP		00 19 18.6	
comp=N,72nm,0.2s							

MAN 05 00:26:35.8, 10.32N×121.97E, h1km, mb4.1, ML2.9, MS2.6, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.68**	**64**	*e*P	Pg	00 26 48.4	-0.9
GUIM				*e*S	Sg	00 26 58.0	-0.3
CUYO	**Cuyo Island**	**1.07**	**299**	*e*P	Pb	00 26 58.5	+1.6
CUYO				*e*S	Sb	00 27 13.2	+1.9
RCP	**Roxas**	**1.44**	**32**⇑*e*P	Pn		00 27 03.2	+0.1
SNPH	**Sibulan**	**1.58**	**128**	*e*P	Pn	00 27 06.0	+0.9
OTRP	**Odiongan**	**2.03**	**1**	*e*P	Pn	00 27 11.7	+0.2
DCPH	**Dipolog City**	**2.20**	**142**	*e*P	Pn	00 27 13.8	-0.2
DCPH				*e*S	Sn	00 27 39.1	-3.1
ENPP	**El Nido**	**2.65**	**290**	*e*P	Pn	00 27 20.5	+0.1
PAGZ	**Pagadian**	**2.83**	**150**	*e*P	Pn	00 27 24.6	+1.7

*NEIC **05** 00:50:32.0, 51.26N×174.20W, h10km, mb4.0/2, ML3.6(AEIC), After AEIC.*

ISC 05 00:50:31.0±2.1, 51.22N±0.09×174.19W±0.07, h27km±12km, n44, σ0°68/48, mb4.7/23, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.98**	**360**	P	**Pn**	**00 50 49.0**	**-0.2**
ATKA				S	**Sb**	**00 51 02.2**	**+0.3**
GSIG	**Igitkin Island**	**1.33**	**306**	P	**Pn**	**00 50 53.5**	**-0.6**
GSIG				S	**Sn**	**00 51 12.1**	**+1.0**
GSMY	**Great Sitkin M**	**1.43**	**306**	P	**Pn**	**00 50 55.1**	**-0.5**
GSMY				S	**Sn**	**00 51 13.4**	**-0.2**
GSTR	**Great Sitkin T**	**1.46**	**308**	P	**Pn**	**00 50 56.0**	**0.0**
GSTD	**Great Sitkin T**	**1.48**	**305**	P	**Pn**	**00 50 56.0**	**-0.3**
GSTD				S	**Sn**	**00 51 15.4**	**+0.5**
ADAG	**Mount Adagdak**	**1.69**	**298**	P	**Pn**	**00 50 59.2**	**-0.1**
KIWB	**Kanaga Island**	**1.96**	**290**	P	**Pn**	**00 51 03.0**	**-0.1**
KIKV	**Kanaga Island**	**1.98**	**291**	P	**Pn**	**00 51 03.5**	**+0.1**
KIMD	**Kanaga Island**	**1.98**	**287**	P	**Pn**	**00 51 03.3**	**-0.2**
NIKO	**Nikolski**	**3.73**	**60**	P	**Pn**	**00 51 31.0**	**+2.7**
IMA	**Indian Mountai**	**18.17**	**27**	*e*P	**P**	**00 54 43.5**	**+0.6**
BILL	**Bilibino**	**19.38**	**338**	*e*P	**P**	**00 54 55.8**	**-1.5**
4.4nm,0.8s							
DAWY	**Dawson**	**22.27**	**41**	*e*P	**P**	**00 55 26.8**	**-0.5**
INK	**Inuvik**	**25.96**	**34**	*e*P	**P**	**00 56 01.2**	**-1.3**
6.6nm,1.3s,mb4.0							
KEV	**Kevo**	**58.35**	**351**	*e*p	**P**	**01 00 20.5**	**-5.0**
5.2nm,0.6s,mb4.7							
KAF	**Kangasniemi**	**65.84**	**350**	*e*p	**P**	**01 01 08.2**	**-7.4**
3.1nm,0.9s,mb4.3							
NB2	**NORSAR Subarra**	**68.01**	**357**	P	**P**	**01 01 27.7**	**-1.6**
2.2nm,1.0s,mb4.1,baz=2.0,slow=6.5							
GUN	**Gumba**	**74.57**	**295**	*e*P	**P**	**01 02 09.6**	**+0.4**
22nm,0.6s,mb5.3							
JIRN	**Jiri**	**74.59**	**295**	*e*P	**P**	**01 02 10.0**	**+0.7**
14nm,0.6s,mb5.1							
KKN	**Kakani**	**75.00**	**296**	*e*P	**P**	**01 02 11.9**	**+0.2**
9.1nm,0.5s,mb4.9							
PKI	**Pulchoki**	**75.10**	**295**	*e*P	**P**	**01 02 12.4**	**+0.1**
25nm,1.1s,mb5.1							
GKN	**Gorkha**	**75.21**	**296**	*e*P	**P**	**01 02 12.7**	**-0.2**
9.5nm,0.5s,mb5.0							
DMN	**Daman**	**75.24**	**296**	*e*P	**P**	**01 02 13.7**	**+0.6**
11nm,0.4s,mb5.1							
KOLN	**Koldanda**	**75.97**	**297**	*e*P	**P**	**01 02 17.3**	**+0.1**
14nm,0.9s,mb4.9							
BAIF	**Baives**	**79.09**	**1**	*e*P	**P**	**01 02 33.8**	**-0.2**
FLN	**La Foliniere**	**80.25**	**4**	*e*P	**P**	**01 02 39.4**	**-0.8**
LDF	**La Druitiere**	**80.44**	**4**	*e*P	**P**	**01 02 40.5**	**-0.7**
9.9nm,0.8s,mb4.5							
GRR	**Gorron**	**80.61**	**5**	*e*P	**P**	**01 02 41.5**	**-0.6**
MEZF	**Maizieres J'vi**	**80.66**	**1**	*e*P	**P**	**01 02 41.8**	**-0.6**
CDF	**Champ du Feu**	**80.74**	**359**	*e*P	**P**	**01 02 42.6**	**-0.2**
HAU	**Haudompre**	**81.15**	**360**	*e*P	**P**	**01 02 44.8**	**-0.2**
HINF	**Hinteralfeld**	**81.34**	**359**	*e*P	**P**	**01 02 45.6**	**-0.4**
3.8nm,0.5s,mb4.2							
SSF	**Saint Saulge**	**82.08**	**2**	*e*P	**P**	**01 02 49.8**	**0.0**
10nm,0.7s,mb4.6							
AVF	**Avril sur Loir**	**82.35**	**2**	*e*P	**P**	**01 02 51.1**	**-0.1**
18nm,1.0s,mb4.6							
MFF	**Saint Martin d**	**82.42**	**4**	*e*P	**P**	**01 02 51.6**	**0.0**
7.8nm,0.8s,mb4.4							
SMF	**Signal de Mont**	**82.50**	**1**	*e*P	**P**	**01 02 51.9**	**-0.1**
7.3nm,0.7s,mb4.5							
CABF	**La Chapelle**	**82.55**	**360**	*e*P	**P**	**01 02 52.7**	**+0.4**
31nm,1.2s,mb4.9							
BGF	**Bois d'Agland**	**82.57**	**2**	*e*P	**P**	**01 02 53.2**	**+0.8**
TCF	**Toulx Ste Croi**	**82.82**	**3**	*e*P	**P**	**01 02 53.5**	**-0.2**
5.6nm,0.7s,mb4.4							
ORIF	**Oris-en-Rattie**	**84.24**	**360**	*e*P	**P**	**01 03 01.9**	**+1.0**
MBDF	**Montbardon**	**84.43**	**359**	*e*P	**P**	**01 03 03.1**	**+1.3**
9.9nm,0.9s,mb4.6							
LASF	**Ste Croix**	**85.07**	**1**	*e*P	**P**	**01 03 05.0**	**0.0**
13nm,1.1s,mb4.7							
ETSF	**Etsaut**	**86.10**	**5**	*e*P	**P**	**01 03 11.0**	**+0.8**
7.4nm,0.9s,mb4.6							
PGF	**Pioggiola**	**86.57**	**358**	*e*P	**P**	**01 03 13.3**	**+0.8**
67nm,1.3s,mb5.4							

*NIED **05** 01:23:00, 36.70N×141.70E, h20km, Mw4.3 Best double couple: M0 3.05×10^15 NP1:φs 32°, δ72°, λ107°. NP2:φs 166°, δ25°, λ47°.*
*JMA **05** 01:23:25.6±0.2, 36.73N×141.67E, h49km, M4.1*
*MOS **05** 01:23:27.2±0.7, 37.14N×141.62E, h33km, mb4.8/3, Error ellipse: s-maj=17.0km s-min=14.0km az=101.6*
*BJI **05** 01:23:28.4, 37.10N×141.50E, h48km, mB4.9, mb4.3, Ms4.1*
*NEIC **05** 01:23:30.4±1.7, 37.06N×141.47E, h48km±13km, mb4.6/4, MW4.3(NIED), Error ellipse: s-maj=19.7km s-min=10.9km az=124.0*

ISC 05 01:23:25.9±1.3, 36.77N±0.05×141.7E±0.1, h42km±9km, n35, σ0°92/43, mb4.5/5, 2C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.82**	**294**	⇓P	**P**	**01 23 40.6**	**-0.5**
ONAJ				*e*S	**S**	**01 23 51.7**	**-0.5**
JFK	**Kawauchi**	**0.91**	**311**	⇓P	**P**	**01 23 42.0**	**-0.4**
JHO	**Hitachi**	**0.95**	**261**	⇓P	**P**	**01 23 41.8**	**-1.1**
JMM	**Marumori**	**1.33**	**326**	P	**P**	**01 23 48.3**	**-0.1**
JMM				*e*S	**S**	**01 24 04.9**	**-0.2**
JFT	**Otama**	**1.34**	**304**	⇓P	**P**	**01 23 49.3**	**+0.7**
JFT				*e*S	**S**	**01 24 05.4**	**-0.1**
JIO	**Ouri**	**1.71**	**350**	⇑P	**P**	**01 23 53.8**	**0.0**
JIO				*e*S	**S**	**01 24 14.3**	**-0.3**
JFY	**Yanaizu**	**1.74**	**292**	P	**P**	**01 23 54.8**	**+0.5**
JOU	**Okura**	**1.81**	**332**	P	**P**	**01 23 56.1**	**+0.9**
JOU				*e*S	**S**	**01 24 17.0**	**0.0**
JAG	**Ashikaga**	**1.86**	**260**	⇓P	**P**	**01 23 55.0**	**-1.0**
JYS	**Shirataka**	**1.96**	**318**	⇑P	**P**	**01 23 58.6**	**+1.2**
JYS				*e*S	**S**	**01 24 22.7**	**+1.7**
JKT	**Katashina**	**1.99**	**271**	P	**P**	**01 23 58.2**	**+0.4**
MAJO	**Matsushiro**	**2.84**	**267**	*e*P	**P**	**01 24 10.5**	**+0.5**
MAT	**Matsushiro**	**2.84**	**267**	*e*P	**P**	**01 24 11.0**	**+1.0**
MAT				*e*S	**S**	**01 24 49.0**	**+5.7**
MAT	**Matsushiro**	**2.84**	**267**	P	**P**	**01 24 10.5**	**+0.5**
MAT				S	**S**	**01 24 49.4**	**+6.1**
YUK	**Yuzh-Kuril'sk**	**7.91**	**22**	P	Px	01 25 37.5	
YUK				*e*S	**S**	**01 26 41.8**	**-8.6**
YUK				smax			
comp=N,420nm,0.5s							
YUK				smax			
comp=E,320nm,0.6s							
YUK				smax			
comp=E,1μm,0.6s							
YSS	**Yuzh-Sakhalins**	**10.21**	**4**	*e*P	**P**	**01 25 50.0**	**-2.8**
YSS	**Yuzh-Sakhalins**	**10.21**	**4**	*e*P	**P**	**01 25 50.5**	**-2.3**
BJT	**Baijiatuau**	**20.28**	**287**	P	**P**	**01 27 59.9**	**-0.7**
YAK	**Yakutsk**	**26.38**	**347**	*e*P	**P**	**01 28 59.8**	**-0.2**
YAK				pmax	pmax		
comp=Z,26nm,0.6s,mb4.9							
YAK	**Yakutsk**	**26.38**	**347**	*e*P	**P**	**01 28 59.8**	**-0.1**
comp=Z,26nm,0.6s,mb4.9							
ENH	**Enshi**	**27.57**	**266**	*e*P	**P**	**01 29 09.9**	**-1.2**
comp=Z,18nm,0.7s,mb4.8							
ULN	**Ulaanbaatar**	**27.71**	**305**	*e*P	**P**	**01 29 12.1**	**-0.2**
ULN				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.2							
ULN	**Ulaanbaatar**	**27.71**	**305**	*e*P	**P**	**01 29 12.1**	**-0.2**
comp=Z,4.7nm,0.8s,mb4.2							
ZAK	**Zakamensk**	**30.63**	**309**	*e*P	**P**	**01 29 37.4**	**-0.9**
INK	**Inuvik**	**54.51**	**27**	P	**P**	**01 32 50.9**	**-0.5**
WRAB	**Tennant Creek**	**56.82**	**188**	*e*P	**P**	**01 33 13.9**	**+5.2**
MBWA	**Marble Bar**	**61.24**	**204**	P	**P**	**01 33 40.4**	**+1.1**
RES	**Resolute Bay**	**62.80**	**14**	*e*P	**P**	**01 33 48.6**	**-0.4**
JOF	**Joensuu**	**66.32**	**332**	*e*p	**P**	**01 34 10.4**	**-1.4**
comp=Z,1.8nm,0.7s,mb4.2							
KAF	**Kangasniemi**	**68.66**	**333**	*e*p	**P**	**01 34 25.5**	**-1.0**
NB2	**NORSAR Subarra**	**74.53**	**337**	P	**P**	**01 35 02.0**	**+0.6**
comp=Z,4.2nm,0.8s,m

BIA				⇓*i*Sg	Sg	02 47 24.5	+0.3
FNA	**Florina**	**0.88**	**104**	*e*Pg	**Pg**	**02 47 12.8**	**-1.9**
	comp=Z,4.8nm,0.2s						
FNA				*e*Sg	**Sg**	**02 47 26.0**	**-0.4**
PUK	**Puka**	**1.08**	**346**	*e*Pg	**Pg**	**02 47 17.4**	**-1.3**
PUK				*i* Sg	**Sg**	**02 47 35.5**	**+2.3**
SKO	**Skopje**	**1.32**	**42**	*i* Pn	**Pn**	**02 47 21.5**	**-0.1**
SKO				*i*		02 47 26.5	
SKO				*i* Sg	**Sg**	**02 47 40.5**	**-0.6**
SKO	**Skopje**	**1.32**	**42**	*i* Pn	**Pn**	**02 47 21.5**	**-0.1**
SKO				*i* Sg	**Sg**	**02 47 40.5**	**-0.6**
IGT	**Igoumenitsa**	**1.46**	**178**	*e*Pb	**Pb**	**02 47 24.2**	**+0.2**
IGT				*e*Sb	**Sb**	**02 47 46.0**	**+3.6**
GRG	**Griva**	**1.63**	**91**	*e*Pb	**Pb**	**02 47 25.8**	**-1.0**
GRG				*e*Sb	**Sb**	**02 47 47.9**	**+0.7**
LIT	**Litokhoron**	**1.92**	**117**	*e*Pb	**Pb**	**02 47 31.6**	**-0.2**
LIT				*e*Sb	**Sb**	**02 47 58.9**	**+3.0**
LIT	**Litokhoron**	**1.92**	**117**	*e*Pb	**Pb**	**02 47 31.5**	**-0.3**
LIT				*e*Sb	**Sb**	**02 47 58.8**	**+3.0**
KNT	**Kendrikon**	**2.00**	**84**	*e*Pn	**Pn**	**02 47 31.8**	**+0.4**
KNT				*e*Sn	**Sn**	**02 47 59.7**	**+2.9**

ISC 05 02:53:23.3±4.0, 7.8N±0.2×91.2E±0.1, h11km±28km, n30, σ0ᵉ99/34, mb4.8/5, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDRS	**Chennai**	**11.94**	**297**	*i* P	**P**	**02 56 17.7**	**+1.1**
MDRS				AMb	AMB	02 56 21.6	
	comp=Z,43nm,0.1s						
MDRS				*i* S	**S**	**02 58 14.3**	**-17**
MDRS				*e*		02 59 55.0	
VIS	**Vishakhapatnam**	**12.46**	**323**	*e*P	**P**	**02 56 22.5**	**-1.1**
VIS				AMb	AMB	02 56 24.9	
	comp=Z,32nm,0.3s						
VIS				*e*S	**S**	**02 58 30.8**	**-13**
BWNR	**Bhubaneshwar**	**13.45**	**338**	*e*S	**S**	**02 58 53.5**	**-14**
BWNR				*e*		02 58 55.8	
TRD	**Trivandrum**	**14.08**	**274**	*i* P	**P**	**02 56 44.3**	**-0.9**
TRD				AMb	AMB	02 56 46.9	
	comp=Z,47nm,1.4s						
TRD				*e*		02 59 13.3	
KKTK	**Khon Kaen**	**14.20**	**52**	P	**P**	**02 56 48.0**	**+1.3**
CHRT	**Chiangrai**	**14.61**	**34**	⇓P	**P**	**02 56 44.0**	**-8.1**
	comp=Z,129nm,0.9s						
HYB	**Hyderabad**	**15.57**	**309**	*e*P	**P**	**02 57 10.0**	**+5.4**
HYB				*e*S	**S**	**02 59 44.5**	**-13**
BLSP	**Bilaspur**	**16.68**	**330**	*e*P	**P**	**02 57 20.0**	**+1.1**
BLSP				*e*		02 57 20.6	
	comp=Z,7.1nm,0.3s						
SHL	**Shillong**	**17.67**	**2**	*e*P	**P**	**02 57 30.0**	**-1.2**
	comp=Z,36nm,0.5s						
SHL				*e*S	**S**	**03 00 47.0**	**+1.1**
POO	**Poona**	**19.92**	**304**	*e*P	**P**	**02 58 00.0**	**+1.8**
POO				*e*		03 01 30.0	
JIRN	**Jiri**	**20.30**	**347**	*e*P	**P**	**02 58 01.6**	**-0.5**
	comp=Z,140nm,1.1s						
PKI	**Pulchoki**	**20.39**	**345**	*e*P	**P**	**02 58 02.3**	**-0.8**
	comp=Z,27nm,0.6s						
DMN	**Daman**	**20.51**	**344**	*e*P	**P**	**02 58 04.0**	**-0.3**
	comp=Z,73nm,0.8s						
GUN	**Gumba**	**20.61**	**347**	*e*P	**P**	**02 58 04.7**	**-0.6**
	comp=Z,114nm,0.7s						
KKN	**Kakani**	**20.64**	**345**	*e*P	**P**	**02 58 04.8**	**-0.8**
	comp=Z,40nm,0.8s						
GKN	**Gorkha**	**21.01**	**344**	*e*P	**P**	**02 58 09.0**	**-0.4**
	comp=Z,80nm,0.6s,mb5.2						
KOLN	**Koldanda**	**21.10**	**341**	*e*P	**P**	**02 58 10.1**	**-0.3**
	comp=Z,80nm,0.7s,mb5.2						
AYAN	**Aya Nagar**	**24.46**	**329**	*e*P	**P**	**02 58 44.1**	**+0.5**
AYAN				*e*		02 58 45.0	
	comp=Z,5.9nm,0.5s						
KUDL	**Kundal**	**24.52**	**327**	*e*P	**P**	**02 58 45.6**	**+1.4**
KUDL				*e*		02 58 47.2	
	comp=Z,2.3nm,0.6s						
NDI	**New Delhi**	**24.58**	**329**	*e*P	**P**	**02 58 44.0**	**-0.7**
KHET	**Khetri**	**24.84**	**326**	*e*P	**P**	**02 58 48.4**	**+1.1**
KHET				*e*		02 58 49.7	
	comp=Z,5.0nm,0.4s						
UCH	**Uchtor**	**37.30**	**339**	P	**P**	**03 00 37.7**	**+0.4**
	SNR=6.0						
AML	**Almayashu**	**37.51**	**338**	P	**P**	**03 00 39.3**	**+0.3**
	SNR=17						
TKM2	**Tokmak 2**	**37.55**	**341**	P	**P**	**03 00 39.3**	**-0.1**
	SNR=8.0						
AAK	**Ala-Archa**	**37.66**	**340**	P	**P**	**03 00 40.8**	**+0.4**
	SNR=6.3						
EKS2	**Erkin-Say**	**37.94**	**339**	P	**P**	**03 00 43.2**	**+0.5**
	SNR=6.3						
USP	**Ospenovka**	**38.22**	**340**	P	**P**	**03 00 44.2**	**-0.8**
	SNR=16						
JOF	**Joensuu**	**69.65**	**335**	*e*p	**P**	**03 04 29.2**	**-5.5**
	comp=Z,4.5nm,0.8s,mb4.5						
KAF	**Kangasniemi**	**71.51**	**333**	*e*p	**P**	**03 04 41.4**	**-4.6**
	comp=Z,5.0nm,0.9s,mb4.4						
LPG	**La Plagne**	**80.57**	**315**	*e*P	**P**	**03 05 35.5**	**-2.0**
	comp=Z,7.1nm,0.6s,mb4.5						

NEIC 05 04:00:34.4, 51.27N×174.23W, h4km, ML3.6(AEIC), **After AEIC., Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.93**	**1**	P	Pb	04 00 52.0	-0.9
ATKA				S	Sb	04 01 05.4	0.0
GSIG	**Igitkin Island**	**1.28**	**305**	P	Pb	04 00 56.4	-2.3
GSIG				S	Sb	04 01 14.6	-0.7
GSMY	**Great Sitkin M**	**1.38**	**305**	P	Pb	04 00 58.0	-2.3
GSMY				S	Sb	04 01 16.4	-1.8
GSTR	**Great Sitkin T**	**1.41**	**307**	P	Pn	04 00 58.9	-2.0
GSTD	**Great Sitkin T**	**1.43**	**304**	P	Pn	04 00 58.9	-2.3
GSTD				S	Sb	04 01 17.7	-2.0
GSSP	**Great Sitkin S**	**1.46**	**305**	P	Pn	04 00 59.9	-1.9
ADAG	**Mount Adagdak**	**1.64**	**297**	P	Pn	04 01 02.2	-2.1
KIWB	**Kanaga Island**	**1.91**	**289**	P	Pn	04 01 06.0	-2.1
KIWB				S	Sn	04 01 29.7	-3.3
KIKV	**Kanaga Island**	**1.93**	**289**	P	Pn	04 01 06.9	-1.6
KIMD	**Kanaga Island**	**1.94**	**286**	P	Pn	04 01 06.0	-2.5
KIMD				S	Sn	04 01 33.2	-0.5
NIKO	**Nikolski**	**3.73**	**61**	P	Pn	04 01 30.6	-3.4

MEX 05 04:48:52.9±1.2, 17.01N×95.30W, h106km±10km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.40**	**78**	*i* P	P	04 49 07.4	-1.4
CMIG				*i* S	S	04 49 18.6	-2.1
TUIG	**Tuzandepetl**	**1.32**	**39**	*i* P	P	04 49 15.9	-1.8
TUIG				*i* S	S	04 49 33.9	-2.5
OXX	**Oaxaca**	**1.37**	**273**	*i* P	P	04 49 17.0	-1.3
OXX				*i* S	S	04 49 36.0	-1.4
VHO	**Vista Hermosa**	**1.38**	**273**	*i* P	P	04 49 17.6	-0.8
VHO				*i* S	S	04 49 37.2	-0.3
EVV	**El Vigia**	**1.44**	**358**	*i* P	P	04 49 20.0	+0.8
HUIG	**Huatulco**	**1.46**	**212**	*i* P	P	04 49 16.8	-2.6
HUIG				*i* S	S	04 49 36.7	-2.5
SCX	**San Cristobal**	**2.56**	**96**	*i* P	P	04 49 33.0	-0.8
SCX				*i* S	S	04 50 00.0	-4.5
PNIG	**Pinotepa**	**2.78**	**258**	*i* P	P	04 49 33.2	-3.6
PNIG				*i* S	S	04 50 05.9	-4.0
POHV	**Veracruz**	**2.79**	**318**	*e*P	P	04 49 34.0	-2.9
POHV				*i* S	S	04 50 04.5	-5.5
IISM	**Ciudad Serdan**	**2.79**	**315**	*i* P	P	04 49 32.0	-5.0
IISM				*i* S	S	04 50 07.0	-3.1
CCIG	**Comitan**	**3.11**	**103**	*i* P	P	04 49 40.3	-1.0
CCIG				*i* S	S	04 50 16.3	-1.6
PPM	**Popocatepetl**	**3.77**	**303**	*e*P	P	04 49 51.0	+0.7
PPM				*i* P		04 49 51.1	
PPM				*i* S	S	04 50 32.5	-1.4
YAIG	**Yautepec**	**4.04**	**298**	*i* P	P	04 49 53.2	-0.6
YAIG				*i* S	S	04 50 36.6	-3.8
ACX	**Acapulco**	**4.42**	**269**	*e*P	P	04 49 54.0	-5.2

MAN 05 04:55:37.5, 16.85N×121.55E, h19km, mb4.4, ML3.2, MS3.0, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.28**	**70**	*e*P	Pb	04 55 44.6	+0.8
PALP	**Palanan**	**0.87**	**76**	*e*P	Pb	04 55 54.0	+0.3
CVP	**Callao Caves**	**0.89**	**17**	*e*P	Pb	04 55 53.0	-1.1
CVP				*i* S	Sb	04 56 06.5	+1.0
BCPH	**Baguio City Da**	**1.03**	**243**	⇓*i*P	Pb	04 55 49.6	-6.9
BCPH				*i* S	Sb	04 56 09.1	-0.6
APYP	**Conner**	**1.05**	**344**	*e*P	Pb	04 55 55.6	-1.1
APYP				*e*S	Sb	04 56 10.4	+0.3
BALP	**Baler**	**1.10**	**178**	*e*P	Pb	04 55 56.4	-1.3
BALP				*e*S	Sb	04 56 11.4	-0.1
ABRA	**Dolores**	**1.13**	**315**	*e*P	Pb	04 55 57.9	-0.2
PCPH	**Palayan**	**1.35**	**199**	⇑*e*P	Pn	04 56 00.5	-1.0
PCPH				*e*S	Sb	04 56 19.8	+1.0
LQP	**Lukban**	**2.72**	**180**	*e*P	Pn	04 56 24.7	+3.6

MAN 05 05:00:11.4, 16.86N×121.38E, h13km, mb3.9, ML2.7, MS2.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.44**	**78**	*e*P	Pg	05 00 21.1	+0.7
CVP	**Callao Caves**	**0.94**	**27**	*e*P	Pb	05 00 27.5	-1.6
CVP				*e*S	Sb	05 00 42.0	+0.7
APYP	**Conner**	**1.01**	**353**	*e*P	Pb	05 00 30.3	0.0
APYP				*e*S	Sb	05 00 45.1	+2.0
ABRA	**Dolores**	**1.01**	**321**	*e*P	Pb	05 00 39.9	+10

DJA 05 05:08:46.5±1.3, 7.50S×117.56E, h240km, MD4.7/4, ML4.9/3, 4C-4D, Error ellipse: s-maj=35.9km s-min=34.4km az=69.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.74**	**236**	⇓*e*Pn	P	05 09 26.6	+0.5
	827nm,0.3s						
KEDI	**Kedomdong**	**1.74**	**236**	⇑*i*P	P	05 09 27.3	+1.2
KEDI				⇓*e*Sn	S	05 09 59.1	+2.3
RATI	**Rata**	**2.35**	**239**	⇓*e*Pn	P	05 09 31.9	0.0
	1μm,0.2s						
RATI				⇑*i*Sn	S	05 10 05.5	-1.6
KELI	**Kelakatan**	**3.13**	**257**	⇑*i*Pn	P	05 09 40.6	+0.4
KELI	**Kelakatan**	**3.13**	**257**	*e*Pg	P	05 09 41.7	+1.5
KELI				*e*Sn	S	05 10 06.3	-16
SRDI	**Scrawed**	**3.52**	**254**	⇑*e*Pn	P	05 09 44.9	+0.1
	190nm,0.2s						
SRDI				⇓*i*Sn	S	05 10 27.8	-2.3

BJI ***05*** *05:14:53.8, 7.68N×93.71E, h49km, mB4.9, mb4.3, Ms4.3, Msz4.0*
NEIC ***05*** *05:14:54.1±0.8, 7.93N×94.18E, h30km, mb4.5/7, Error ellipse: s-maj=26.1km s-min=15.2km az=52.0*

ISC 05 05:14:52.6±0.7, 7.9N±0.1×94.3E±0.1, h30km, n20, σ0ᵉ97/20, mb4.5/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**14.44**	**314**	*e*P	**P**	**05 18 19.5**	**+2.3**
SHL	**Shillong**	**17.70**	**353**	*e*P	**P**	**05 18 58.0**	**-0.8**
HYB	**Hyderabad**	**17.99**	**303**	*e*P	**P**	**05 19 02.0**	**-0.4**
HYB	**Hyderabad**	**17.99**	**303**	*i* P	**P**	**05 19 02.0**	**-0.4**
JIRN	**Jiri**	**21.08**	**340**	*e*P	**P**	**05 19 37.3**	**+0.3**
PKI	**Pulchoki**	**21.28**	**338**	*e*P	**P**	**05 19 40.2**	**+1.2**
GUN	**Gumba**	**21.41**	**339**	*e*P	**P**	**05 19 40.1**	**-0.3**
DMN	**Daman**	**21.43**	**337**	*e*P	**P**	**05 19 41.2**	**+0.7**
KKN	**Kakani**	**21.52**	**338**	*e*P	**P**	**05 19 41.8**	**+0.4**
LSA	**Lhasa**	**21.87**	**353**	*e*Pn	**P**	**05 19 45.0**	**+0.1**
LSA	**Lhasa**	**21.87**	**353**	*e*P	**P**	**05 19 45.3**	**+0.3**
	23nm,0.7s,mb4.7						
GKN	**Gorkha**	**21.96**	**337**	*e*P	**P**	**05 19 44.5**	**-1.3**
KOLN	**Koldanda**	**22.18**	**334**	*e*P	**P**	**05 19 47.4**	**-0.6**
ENH	**Enshi**	**26.43**	**31**	*e*P	**P**	**05 20 34.4**	**+5.6**
	4.7nm,0.4s,mb4.4						
MBWA	**Marble Bar**	**38.21**	**140**	*e*P	**P**	**05 22 13.0**	**+1.2**
	7.6nm,1.0s,mb4.4						
HIA	**Hailar**	**46.44**	**23**	*e*P	**P**	**05 23 19.0**	**+0.5**
	2.3nm,0.5s,mb4.4						
WRAB	**Tennant Creek**	**48.19**	**126**	*e*P	**P**	**05 23 32.2**	**-0.5**
	3.8nm,0.5s,mb4.7						
KAF	**Kangasniemi**	**72.81**	**333**	*e*p	**P**	**05 26 17.0**	**-3.1**
	4.1nm,0.8s,mb4.4						
BOSA	**Boshof**	**75.71**	**238**	*e*P	**P**	**05 26 37.1**	**-0.5**
	4.9nm,0.7s,mb4.5						
NB2	**NORSAR Subarra**	**79.76**	**331**	P	**P**	**05 26 58.5**	**-0.7**
	7.1nm,1.2s,mb4.5,baz=92,slow=5.8						

MOS ***05*** *05:27:33.9±1.0, 39.95N×50.99E, h29km, mb5.0/41, Error ellipse: s-maj=8.0km s-min=4.5km az=44.3*
BJI ***05*** *05:27:34.9, 40.20N×50.67E, h47km, mB5.2, mb5.0, Ms5.4, Msz4.9*
CSEM ***05*** *05:27:34.6±0.1, 39.96N×50.97E, h35km, mb4.7/48, Ms4.4, Error ellipse: s-maj=2.9km s-min=2.1km az=62.0*
ZUR_RM ***05*** *05:27:37, 39.99N×50.95E, h12km, Mw4.7/10, Moment Tensor Solution. s10 Moment tensor: Scale 10¹⁶Nm; M_{rr}=0.48; $M_{\theta\theta}$0.65; $M_{\phi\phi}$=-0.18; $M_{r\theta}$=0.94; $M_{\theta\phi}$=-0.48; $M_{\phi r}$0.32; Best double couple: $M_0$1.2×10¹⁶ NP1:φ$_s$108°, δ73°, λ-97°. NP2:φ$_s$309°, δ18°, λ-69°. Principal axes: T 1.3915, Plg28°, Azm203°; N -.3839, Plg6°, Azm109°; P -1.0076, Plg61°, Azm8°;*
NEIC ***05*** *05:27:37.4±1.0, 39.99N×50.95E, h39km±8km, mb4.8/50 Error ellipse: s-maj=11.8km s-min=5.3km az=175.0*
TIF ***05*** *05:27:50.8, 40.23N×49.26E, h19km±59km*
TEH ***05*** *05:27:55.1, 38.57N×51.15E, h24km, Mn4.6*

ISC 05 05:27:34.3±1.3, 39.96N±0.04×50.95E±0.03, h29km±11km, h41km±4.0km: pP-P, n241, σ0ᵉ97/243, mb4.8/64, MS5.1/2, 26C-4D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGZV	**Gazvin**	**3.61**	**189**	Pn	**Pn**	**05 28 28.3**	**-1.5**
IGZV	**Gazvin**	**3.61**	**189**	Lg		05 29 07.2	
IPRN	**Paran-Amol**	**3.85**	**164**	Pn	**Pn**	**05 28 32.5**	**-0.7**
MAK	**Makhachkala**	**3.96**	**320**	*e*PN	**Pn**	**05 28 39.5**	**+4.8**
IAFJ	**Afjeh**	**4.14**	**171**	Pn	**Pn**	**05 28 37.2**	**-0.1**
IAFJ	**Afjeh**	**4.14**	**171**	Lg		05 29 20.8	
IGLO	**Galoogah**	**4.16**	**150**	Pn	**Pn**	**05 28 36.2**	**-1.4**
IMHD	**Mahdasht**	**4.27**	**183**	Pn	**Pn**	**05 28 39.3**	**+0.1**
IMIN	**Minoodasht**	**4.38**	**129**	Pn	**Pn**	**05 28 40.0**	**-0.8**
IDMV	**Damavand**	**4.46**	**169**	Pn	**Pn**	**05 28 42.5**	**+0.7**
IFIR	**Firoozkooh**	**4.54**	**161**	Pn	**Pn**	**05 28 43.2**	**+0.2**
IFIR	**Firoozkooh**	**4.54**	**161**	Sn	**Sn**	**05 29 19.6**	**-16**
ISHM	**Shahmirzad**	**4.54**	**155**	Pn	**Pn**	**05 28 44.7**	**+1.1**
IRAZ	**Razeghan**	**4.62**	**190**	Pn	**Pn**	**05 28 42.8**	**-1.3**
GNI	**Garni**	**4.76**	**274**	*d*iPN	**Pn**	**05 28 47.8**	**+1.7**
GNI				pmax	pmax		
	comp=Z,23nm,1.0s						
GNI	**Garni**	**4.76**	**274**	*e*P	**Pn**	**05 28 47.4**	**+1.3**
GNI	**Garni**	**4.76**	**274**	*e*P	**Pn**	**05 28 47.4**	**+1.3**
ILAS	**Lasjerd**	**4.84**	**160**	Pn	**Pn**	**05 28 48.3**	**+1.1**
MTA	**Mtatsminda**	**4.98**	**292**	P	**Pn**	**05 28 50.0**	**+0.8**
MTA				S	**Sn**	**05 29 41.4**	**-5.1**
IVRN	**Varamin**	**4.99**	**173**	Pn	**Pn**	**05 28 49.1**	**-0.3**
IVRN				Sn	**Sn**	**05 29 28.9**	**-18**
TI2	**Plekhanov**	**5.02**	**293**	*e*PN	**Pn**	**05 28 53.8**	**+4.0**
TI2				*i*		05 30 15.8	
IANJ	**Anjiloo**	**5.07**	**151**	Pn	**Pn**	**05 28 51.7**	**+1.3**
STE	**Stepanavan**	**5.10**	**284**	*e*PN	**Pn**	**05 28 51.0**	**+0.1**
DUS	**Dusheti**	**5.18**	**296**	P	**Pn**	**05 28 50.6**	**-1.4**
DUS				S	**Sn**	**05 29 44.9**	**-6.6**
QAM	**Qamsar**	**6.09**	**173**	Pn	**Pn**	**05 29 06.0**	**+1.2**
ONI	**Oni**	**6.22**	**297**	P	**Pn**	**05 29 07.2**	**+0.4**
ONI				S	**Sn**	**05 30 13.5**	**-4.2**
MSL	**Mosul**	**7.19**	**242**	*e*P	Px	05 29 12.0	
MSL				*e*pP		05 30 36.5	
MSL				*e*S	rx	05 32 37.0	
MSL				*e*PcP	rx	05 33 10.0	
KIV	**Kislovodsk**	**7.33**	**306**	*i* P	**Pn**	**05 29 21.4**	**-0.9**
KIV				pmax	pmax		
	comp=Z,13nm,0.7s						
KIV	**Kislovodsk**	**7.33**	**306**	*e*P	**Pn**	**05 29 21.1**	**-1.3**
	comp=Z,22nm,0.6s						
KIV	**Kislovodsk**	**7.33**	**306**	*e*P	**Pn**	**05 29 21.1**	**-1.2**
	comp=Z,22nm,0.6s						
GOF	**Gofitskoye**	**7.75**	**314**	⇑*i*P	**Pn**	**05 29 41.0**	**+13**
GOF				pmax	pmax		
	comp=Z,40nm,1.0s						
BHD	**Baghdad**	**8.51**	**220**	*e*P	Px	05 28 38.0	
BHD				*e*S	rx	05 31 09.0	
SOC	**Sochi**	**9.14**	**297**	*e*P	**P**	**05 29 41.2**	**-6.2**
SOC				*e*		05 31 25.8	
SOC				pmax	pmax		
	comp=Z,28nm,1.0s						
SOC				pmax	pmax		
	comp=N,37nm,1.1s						
SOC				pmax	pmax		
	comp=E,45nm,1.5s						
MALT	**Malatya**	**9.87**	**264**	*e*P	**P**	**05 29 58.4**	**+1.0**
MALT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MALT	**Malatya**	**9.87**	**264**	*e*P	**P**	**05 29 58.4**	**+1.0**
	comp=Z,6.2nm,0.9s						
MALT	**Malatya**	**9.87**	**264**	*e*P	**P**	**05 29 58.4**	**+1.0**
	comp=Z,6.2nm,0.9s						
ANN	**Anapa**	**11.10**	**300**	*e*P	Px	05 30 33.6	
ANN				pmax	pmax		
	comp=Z,125nm,1.2s						
VOR	**Voronezh**	**14.31**	**329**	*e*P	**P**	**05 31 02.5**	**+5.6**
VOR				pmax	pmax		
	comp=Z,100nm,1.0s						
ARU	**Arti**	**17.23**	**14**	⇑*i*P	**P**	**05 31 30.4**	**-3.9**
ARU				*e*S	**S**	**05 34 34.3**	**-9.0**
ARU				pmax	pmax		
	comp=Z,33nm,0.8s						
AML	**Almayashu**	**17.29**	**75**	P	**P**	**05 31 38.9**	**+3.6**
	SNR=18						
EKS2	**Erkin-Say**	**17.36**	**74**	P	**P**	**05 31 35.4**	**-0.6**
	SNR=25						
KIS	**Kishinev**	**17.50**	**301**	*e*P	**P**	**05 31 37.0**	**-0.8**
AAK	**Ala-Archa**	**17.89**	**74**	P	**P**	**05 31 42.9**	**+0.3**
	SNR=33						
AAK	**Ala-Archa**	**17.89**	**74**	*c i*P	**P**	**05 31 41.6**	**-1.0**
AAK				pmax	pmax		
	comp=Z,39nm,1.5s						
AAK	**Ala-Archa**	**17.89**	**74**	*e*P	**P**	**05 31 41.1**	**-1.4**
	comp=Z,28nm,0.8s						
AAK	**Ala-Archa**	**17.89**	**74**	*e*P	**P**	**05 31 41.1**	**-1.5**
	comp=Z,28nm,0.8s						
UCH	**Uchtor**	**17.90**	**75**	P	**P**	**05 31 44.8**	**+2.1**
	SNR=21						
USP	**Ospenovka**	**17.91**	**72**	P	**P**	**05 31 42.5**	**-0.4**
	SNR=7.7						
OBN	**Obninsk**	**17.94**	**332**	⇓*i*P	**P**	**05 31 43.0**	**-0.2**
OBN				*i* S	**S**	**05 35 03.0**	**+3.4**
OBN				pmax	pmax		
	comp=Z,122nm,1.7s						
OBN				MLR	MLR		
	comp=Z,700nm,20.0s						
OBN	**Obninsk**	**17.94**	**332**	*e*P	**P**	**05 31 43.0**	**-0.2**
	comp=Z,28nm,0.4s						
OBN	**Obninsk**	**17.94**	**332**	*i* P	**P**	**05 31 43.0**	**-0.2**
	comp=Z,61nm,1.7s						
FRU	**Bishkek**	**17.98**	**73**	⇑*e*P	**P**	**05 31 43.0**	**-0.7**
FRU				pmax	pmax		
	comp=Z,100nm,1.6s						
FRU	**Bishkek**	**17.98**	**73**	*e*P	**P**	**05 31 43.0**	**-0.7**
	comp=Z,50nm,1.6s						
SVE	**Sverdlovsk**	**18.03**	**17**	*e*P	**P**	**05 31 44.5**	**+0.1**
SVE				*e*		05 34 56.0	
SVE				pmax	pmax		
	comp=Z,90nm,2.0s						
SVE	**Sverdlovsk**	**18.03**	**17**	*e*P	**P**	**05 31 44.5**	**+0.1**
	comp=Z,45nm,2.0s						
CHMS	**Chumysh**	**18.08**	**73**	P	**P**	**05 31 45.2**	**+0.1**
	SNR=23						
MOS	**Moscow**	**18.09**	**335**	*e*P	**P**	**05 31 46.1**	**+1.0**
MOS				*e*S	**S**	**05 35 07.0**	**+4.1**
MOS				pmax	pmax		
	comp=Z,102nm,1.0s						
MOS				MLR	MLR		
	comp=Z,1μm,9.2s						
MOS	**Moscow**	**18.09**	**335**	*e*P	**P**	**05 31 46.1**	**+1.0**
	comp=Z,500nm,9.2s						
KZA	**Kyzart**	**18.45**	**76**	P	**P**	**05 31 49.5**	**-0.1**
	SNR=26						
TKM2	**Tokmak 2**	**18.70**	**73**	P	**P**	**05 31 52.8**	**+0.1**
	SNR=40						
ULHL	**Ulahol**	**19.18**	**75**	P	**P**	**05 31 58.4**	**+0.1**
	SNR=15						
SOKR	**Solikamsk**	**19.97**	**9**	*e*P	**P**	**05 32 04.1**	**-3.0**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SOKR	**Solikamsk**	**19.97**	**9**	*e*P	**P**	**05 32 04.1**	**-3.0**
	comp=Z,5.0nm,0.9s						
PGB	**Panagyurishte**	**20.27**	**286**	*e*P	**P**	**05 32 20.0**	**+10**
MMB	**Musomiste**	**20.65**	**283**	*e*P	**P**	**05 32 14.0**	**-0.2**
VTS	**Vitosha**	**20.98**	**286**	*e*P	**P**	**05 32 18.0**	**+0.5**
KKB	**Krupnik**	**21.11**	**284**	*e*P	**P**	**05 32 21.0**	**+2.1**
MNK	**Minsk**	**21.26**	**321**	⇑*e*P	**P**	**05 32 15.0**	**-5.3**
MNK				pmax	pmax		
	comp=Z,420nm,1.0s,mb5.7						
LVV	**L'vov**	**21.36**	**306**	*i* P	**P**	**05 32 19.9**	**-1.4**
LVV				*i*		05 32 51.1	
LVV				*e*S	**S**	**05 36 14.9**	**+2.9**
KWP	**Kalwaria**	**22.13**	**305**	*e*P	**P**	**05 32 28.9**	**-0.1**
KOLS	**Kolonicke sedl**	**22.24**	**303**	*i* P	**P**	**05 32 32.6**	**+2.5**
SKO	**Skopje**	**22.32**	**285**	*e*Pn	**P**	**05 32 30.0**	**-1.0**
SKO				*i*		05 32 45.0	
CRVS	**Cervenica-Dubn**	**22.75**	**303**	*i* P	**P**	**05 32 36.4**	**+1.2**
DIVS	**Divcibare**	**23.29**	**290**	⇑*i*P	**P**	**05 32 42.0**	**+1.6**
KECS	**Kecovo**	**23.31**	**302**	*i* P	**P**	**05 32 41.9**	**+1.4**
SUW	**Suwalki**	**23.39**	**316**	*e*P	**P**	**05 32 41.3**	**0.0**
NIE	**Niedzica**	**23.60**	**304**	*e*P	**P**	**05 32 45.0**	**+1.6**
PSZ	**Piszkesteto**	**23.61**	**300**	*e*

WMQ	**Urumqi**	**27.48**	**70**	P		**P**	**05 33 20.5**	**+0.6**
CII	**Carovilli**	**27.65**	**286**	P		**P**	**05 33 24.9**	**+3.4**
	comp=Z,22nm,1.0s,mb4.8							
CII	**Carovilli**	**27.65**	**286**	P		**P**	**05 33 24.9**	**+3.5**
	comp=Z,22nm,1.0s,mb4.8							
GEC2	**GERESS Array S**	**27.82**	**301**	*e*P		**P**	**05 33 22.8**	**-0.1**
GEC2					pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2							
GEC2	**GERESS Array S**	**27.82**	**301**	*e*P		**P**	**05 33 22.8**	**-0.1**
	comp=Z,5.0nm,0.8s,mb4.2							
BRG	**Berggiesshubel**	**27.89**	**305**	P		**P**	**05 33 27.7**	**+4.2**
BRG					pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3							
BRG	**Berggiesshubel**	**27.89**	**305**	P		**P**	**05 33 27.7**	**+4.2**
	comp=Z,8.2nm,0.9s,mb4.4							
BRG	**Berggiesshubel**	**27.89**	**305**	*e*P		**P**	**05 33 24.0**	**+0.5**
KHC	**Kasperske Hory**	**27.92**	**302**	*e*P		**P**	**05 33 23.3**	**-0.5**
KBA	**Koelnbreinsper**	**27.97**	**297**	⇑*i*P		**P**	**05 33 25.2**	**+0.9**
	comp=Z,14nm,0.6s,mb4.8							
KBA	**Koelnbreinsper**	**27.97**	**297**	⇑*i*P		**P**	**05 33 25.2**	**+0.9**
KBA					pmax	pmax		
	comp=Z,14nm,0.6s,mb4.8							
CLL	**Collm**	**28.54**	**306**	⇑*i*P		**P**	**05 33 30.0**	**+0.6**
CLL				*e*			05 33 34.0	
CLL					pmax	pmax		
	comp=Z,19nm,1.0s,mb4.8							
CLL	**Collm**	**28.54**	**306**	⇑*i*P		**P**	**05 33 30.0**	**+0.6**
	comp=Z,19nm,1.0s,mb4.8							
CLL				*e*			05 33 34.0	
CLL	**Collm**	**28.54**	**306**	⇑P		**P**	**05 33 30.0**	**+0.6**
	comp=Z,logA/T=1.3,mb4.8							
CLL				*e*			05 33 34.0	
CLL				*e**PP		pP	05 33 41.0	+3.2
CLL				*i* *SP		sP	05 33 46.7	+5.2
CLL	**Collm**	**28.54**	**306**	*e*P		**P**	**05 33 29.7**	**+0.3**
WTTA	**Wattenberg**	**29.14**	**298**	⇑*i*P		**P**	**05 33 34.6**	**-0.2**
	comp=Z,23nm,0.8s,mb5.0							
WTTA	**Wattenberg**	**29.14**	**298**	⇑*i*P		**P**	**05 33 34.6**	**-0.2**
WTTA					pmax	pmax		
	comp=Z,23nm,0.8s,mb5.0							
WATA	**Walderalm**	**29.18**	**298**	⇑*i*P		**P**	**05 33 34.7**	**-0.5**
	comp=Z,11nm,1.2s,mb4.5							
WATA	**Walderalm**	**29.18**	**298**	⇑*i*P		**P**	**05 33 34.7**	**-0.5**
WATA					pmax	pmax		
	comp=Z,11nm,1.2s,mb4.5							
MOX	**Moxa**	**29.33**	**305**	*i* P		**P**	**05 33 36.9**	**+0.4**
MOX	**Moxa**	**29.33**	**305**	*e*P		**P**	**05 33 36.9**	**+0.4**
FUR	**Furstenfeldbru**	**29.39**	**299**	*e*P		**P**	**05 33 36.2**	**-0.9**
SQTA	**Sankt Quirin**	**29.43**	**298**	⇑*i*P		**P**	**05 33 36.7**	**-0.7**
	comp=Z,14nm,1.2s,mb4.5							
SQTA	**Sankt Quirin**	**29.43**	**298**	⇑*i*P		**P**	**05 33 36.7**	**-0.7**
SQTA					pmax	pmax		
	comp=Z,14nm,1.2s,mb4.6							
GRA1	**Grafenberg Arr**	**29.50**	**303**	*e*P		**P**	**05 33 38.4**	**+0.4**
	comp=Z,25nm,1.6s,mb4.7							
GRF	**Grafenberg Arr**	**29.50**	**303**	*e*P		**P**	**05 33 38.4**	**+0.4**
GRF					pmax	pmax		
	comp=Z,25nm,1.6s,mb4.7							
GRF	**Grafenberg Arr**	**29.50**	**303**	*e*P		**P**	**05 33 38.4**	**+0.4**
GRF					pmax	pmax		
	comp=Z,25nm,1.6s,mb4.7							
GRF	**Grafenberg Arr**	**29.50**	**303**	*e*P		**P**	**05 33 38.4**	**+0.4**
	comp=Z,25nm,1.6s,mb4.7							
MOTA	**Moosalm**	**29.50**	**298**	⇑*i*P		**P**	**05 33 37.1**	**-1.0**
	comp=Z,5.2nm,0.9s,mb4.3							
MOTA	**Moosalm**	**29.50**	**298**	⇑*i*P		**P**	**05 33 37.1**	**-1.0**
MOTA					pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2							
KOLN	**Koldanda**	**29.55**	**104**	*e*P		**P**	**05 33 38.8**	**+0.1**
	comp=Z,53nm,1.2s,mb5.2							
GKN	**Gorkha**	**30.20**	**103**	*e*P		**P**	**05 33 44.5**	**0.0**
	comp=Z,65nm,0.9s,mb5.4							
CLZ	**Clausthal**	**30.24**	**307**	*e*P		**P**	**05 33 45.0**	**+0.4**
	comp=Z,14nm,0.7s,mb4.8							
DAVA	**Damuels**	**30.33**	**298**	⇑*i*P		**P**	**05 33 44.6**	**-0.9**
	comp=Z,13nm,0.8s,mb4.7							
BSEG	**Bad Segeberg**	**30.59**	**311**	*e*P		**P**	**05 33 48.1**	**+0.5**
DMN	**Daman**	**30.76**	**103**	*e*P		**P**	**05 33 49.7**	**+0.3**
	comp=Z,52nm,1.0s,mb5.3							
STU	**Stuttgart**	**30.79**	**301**	*e*P		**P**	**05 33 48.6**	**-0.8**
STU					pmax	pmax		
	comp=Z,26nm,0.8s,mb5.1							
STU	**Stuttgart**	**30.79**	**301**	*e*P		**P**	**05 33 48.6**	**-0.9**
	comp=Z,26nm,0.8s,mb5.1							
STU	**Stuttgart**	**30.79**	**301**	*e*P		**P**	**05 33 48.6**	**-0.8**
	comp=Z,26nm,0.8s,mb5.1							
KKN	**Kakani**	**30.80**	**103**	*e*P		**P**	**05 33 50.1**	**+0.4**
	comp=Z,24nm,0.9s,mb5.0							
PKI	**Pulchoki**	**31.01**	**103**	*e*P		**P**	**05 33 51.7**	**+0.1**
	comp=Z,46nm,1.0s,mb5.2							
GUN	**Gumba**	**31.18**	**102**	*e*P		**P**	**05 33 53.2**	**0.0**
	comp=Z,99nm,1.0s,mb5.6							
JIRN	**Jiri**	**31.55**	**102**	*e*P		**P**	**05 33 56.8**	**+0.4**
	comp=Z,30nm,0.6s,mb5.3							
CDF	**Champ du Feu**	**32.06**	**300**	*e*P		**P**	**05 34 00.0**	**-0.6**
	comp=Z,12nm,0.8s,mb4.5							
CDF	**Champ du Feu**	**32.06**	**300**	*e*P		**P**	**05 34 00.0**	**-0.6**
CDF					pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5							
BUG	**Bochum--Univer**	**32.13**	**306**	*e*P		**P**	**05 34 01.8**	**+0.6**
NB2	**NORSAR Subarra**	**32.16**	**324**	P		**P**	**05 34 00.3**	**-1.1**
	comp=Z,9.8nm,0.5s,mb4.9,baz=115,slow=8.6							
NB2	**NORSAR Subarra**	**32.16**	**324**	P		**P**	**05 34 00.3**	**-1.1**
	baz=115,slow=8.6							
NAO01	**NORSAR Array S**	**32.24**	**324**	*e*P		**P**	**05 34 00.9**	**-1.2**
	comp=Z,6.2nm,0.4s,mb4.8							
NAO01	**NORSAR Array S**	**32.24**	**324**	*e*P		**P**	**05 34 00.9**	**-1.1**
	comp=Z,6.2nm,0.4s,mb4.8							
KEV	**Kevo**	**32.41**	**345**	*e*p		**P**	**05 34 01.7**	**-1.8**
LPG	**La Plagne**	**32.61**	**295**	*e*P		**P**	**05 34 04.5**	**-1.0**
LPL	**La Plagne**	**32.62**	**295**	*e*P		**P**	**05 34 04.7**	**-0.8**
	comp=Z,5.2nm,0.6s,mb4.3							
LPL	**La Plagne**	**32.62**	**295**	*e*P		**P**	**05 34 04.7**	**-0.8**
LPL					pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
KTK1	**Kautokeino**	**32.66**	**342**	*e*P		**P**	**05 34 05.2**	**-0.4**
MBDF	**Montbardon**	**32.69**	**293**	*e*P		**P**	**05 34 05.2**	**-0.9**
	comp=Z,18nm,0.6s,mb4.9							
MBDF	**Montbardon**	**32.69**	**293**	*e*P		**P**	**05 34 05.2**	**-0.9**
MBDF					pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9							
HAU	**Haudompre**	**32.70**	**299**	*e*P		**P**	**05 34 05.0**	**-1.2**
	comp=Z,50nm,0.7s,mb5.2							
HAU	**Haudompre**	**32.70**	**299**	*e*P		**P**	**05 34 05.0**	**-1.2**
HAU					pmax	pmax		
	comp=Z,25nm,0.7s,mb5.2							
FRF	**La Foret Royal**	**32.95**	**291**	*e*P		**P**	**05 34 07.5**	**-0.9**
	comp=Z,20nm,0.8s,mb4.8							
FRF	**La Foret Royal**	**32.95**	**291**	*e*P		**P**	**05 34 07.5**	**-0.9**
FRF					pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8							
CABF	**La Chapelle**	**32.96**	**297**	*e*P		**P**	**05 34 08.6**	**+0.1**
	comp=Z,64nm,1.5s,mb5.0							
CABF	**La Chapelle**	**32.96**	**297**	*e*P		**P**	**05 34 08.6**	**+0.1**
CABF					pmax	pmax		
	comp=Z,32nm,1.5s,mb5.0							
MOR8	**Moi Rana**	**33.33**	**334**	*e*P		**P**	**05 34 10.6**	**-0.8**
	comp=Z,51nm,1.6s,mb5.2							
MOR8	**Moi Rana**	**33.33**	**334**	*e*P		**P**	**05 34 10.6**	**-0.8**
MOR8				AMb		AMB	05 34 16.8	
	comp=Z,51nm,1.6s,mb5.2							
MOR8	**Moi Rana**	**33.33**	**334**	*e*P		**P**	**05 34 10.6**	**-0.9**
	comp=Z,51nm,1.6s,mb5.2							
MEZF	**Maizieres J'vi**	**33.54**	**300**	*e*P		**P**	**05 34 12.7**	**-0.8**
	comp=Z,29nm,0.7s,mb5.0							
GIVF	**Givet**	**33.65**	**303**	*e*P		**P**	**05 34 14.4**	**0.0**
	comp=Z,25nm,0.7s,mb5.0							
GIVF	**Givet**	**33.65**	**303**	*e*P		**P**	**05 34 14.4**	**0.0**
GIVF					pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9							
BAIF	**Baives**	**34.04**	**303**	*e*P		**P**	**05 34 17.9**	**+0.1**
	comp=Z,33nm,0.8s,mb5.0							
BAIF	**Baives**	**34.04**	**303**	*e*P		**P**	**05 34 17.9**	**+0.1**
BAIF					pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0							
TRO	**Tromso**	**34.17**	**341**	*e*P		**P**	**05 34 17.5**	**-1.3**
SMF	**Signal de Mont**	**34.50**	**297**	*e*P		**P**	**05 34 19.9**	**-1.9**
	comp=Z,4.5nm,0.6s,mb4.3							
SMF	**Signal de Mont**	**34.50**	**297**	*e*P		**P**	**05 34 19.9**	**-1.9**
SMF					pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
SSF	**Saint Saulge**	**34.69**	**298**	*e*P		**P**	**05 34 22.6**	**-0.8**
SSF					pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
SSF	**Saint Saulge**	**34.69**	**298**	*e*P		**P**	**05 34 22.6**	**-0.8**
	comp=Z,2.1nm,0.6s,mb4.2							
AVF	**Avril sur Loir**	**34.82**	**297**	*e*P		**P**	**05 34 24.1**	**-0.5**
	comp=Z,12nm,0.7s,mb4.6							
AVF	**Avril sur Loir**	**34.82**	**297**	*e*P		**P**	**05 34 24.1**	**-0.5**
AVF					pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6							
BGF	**Bois d'Agland**	**35.19**	**297**	*e*P		**P**	**05 34 26.0**	**-1.7**
TCF	**Toulx Ste Croi**	**35.66**	**297**	*e*P		**P**	**05 34 30.5**	**-1.2**
MOY	**Mondy**	**36.11**	**54**	*e*P		**P**	**05 34 37.0**	**+1.6**
LDF	**La Druitiere**	**36.96**	**301**	*e*P		**P**	**05 34 42.1**	**-0.5**
	comp=Z,14nm,0.6s,mb4.7							
LDF	**La Druitiere**	**36.96**	**301**	*e*P		**P**	**05 34 42.1**	**-0.5**
LDF					pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7							
FLN	**La Foliniere**	**37.18**	**301**	*e*P		**P**	**05 34 44.1**	**-0.4**
	comp=Z,18nm,0.6s,mb4.8							
FLN	**La Foliniere**	**37.18**	**301**	*e*P		**P**	**05 34 44.1**	**-0.4**
FLN					pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.8							
GRR	**Gorron**	**37.47**	**301**	*e*P		**P**	**05 34 46.5**	**-0.4**
	comp=Z,26nm,0.6s,mb4.9							
GRR	**Gorron**	**37.47**	**301**	*e*P		**P**	**05 34 46.5**	**-0.4**
GRR					pmax	pmax		
	comp=Z,13nm,0.6s,mb4.9							
ZAK	**Zakamensk**	**37.62**	**56**	⇑*i*P		**P**	**05 34 48.8**	**+0.7**
ZAK	**Zakamensk**	**37.62**	**56**	*i* P		**P**	**05 34 48.8**	**+0.7**
SGMF	**Saint Gilles**	**38.61**	**301**	*e*P		**P**	**05 34 56.3**	**-0.2**
	comp=Z,22nm,0.7s,mb4.7							
SGMF	**Saint Gilles**	**38.61**	**301**	*e*P		**P**	**05 34 56.3**	**-0.2**
SGMF					pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7							
QUIF	**Quistinic**	**39.06**	**300**	*e*P		**P**	**05 34 59.7**	**-0.6**
	comp=Z,81nm,1.2s,mb5.0							
QUIF	**Quistinic**	**39.06**	**300**	*e*P		**P**	**05 34 59.7**	**-0.6**
QUIF					pmax	pmax		
	comp=Z,40nm,1.2s,mb5.0							
ROSF	**Rostrenen**	**39.07**	**301**	*e*P		**P**	**05 34 59.7**	**-0.7**
	comp=Z,44nm,0.8s,mb4.9							
ROSF	**Rostrenen**	**39.07**	**301**	*e*P		**P**	**05 34 59.7**	**-0.7**
ROSF					pmax	pmax		
	comp=Z,22nm,0.8s,mb4.9							
ULN	**Ulaanbaatar**	**40.40**	**60**	*e*P		**P**	**05 35 12.1**	**+0.8**
ULN					pmax	pmax		
	comp=Z,35nm,0.8s,mb5.1							
ULN	**Ulaanbaatar**	**40.40**	**60**	*e*P		**P**	**05 35 12.1**	**+0.8**
	comp=Z,35nm,0.8s,mb5.1							
ULN	**Ulaanbaatar**	**40.40**	**60**	*e*P		**P**	**05 35 12.1**	**+0.8**
	comp=Z,35nm,0.8s,mb5.1							
LZH	**Lanzhou**	**41.35**	**78**	⇓P		**P**	**05 35 19.5**	**+0.3**
LZH				XP		sP	05 35 40.1	+8.8
LZH				AMB		AMB		
	comp=Z,31nm,1.2s,mb4.8							
BOD	**Bodaibo**	**43.38**	**44**	⇑*i*P		**P**	**05 35 34.9**	**-0.6**
XAN	**Xi'an**	**45.98**	**78**	P		**P**	**05 35 57.0**	**+0.3**
XAN				AP		pP	05 36 10.7	+5.4
XAN				AMB		AMB		
	comp=Z,26nm,1.1s,mb5.1							
DAG	**Danmarks Havn**	**46.83**	**343**	⇑*e*P		**P**	**05 36 03.4**	**+0.6**
DAG					pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
DAG	**Danmarks Havn**	**46.83**	**343**	⇑*e*P		**P**	**05 36 03.4**	**+0.6**
	comp=Z,4.8nm,0.7s,mb4.5							
DAG	**Danmarks Havn**	**46.83**	**343**	⇑*i*P		**P**	**05 36 03.4**	**+0.6**
	comp=Z,4.8nm,0.7s,mb4.5							
ENH	**Enshi**	**48.10**	**83**	*e*P		**P**	**05 36 13.5**	**+0.1**
	comp=Z,14nm,0.9s,mb5.0							
ENH	**Enshi**	**48.10**	**83**	*e*P		**P**	**05 36 13.5**	**+0.1**
	comp=Z,14nm,0.9s,mb5.0							
HIA	**Hailar**	**48.28**	**55**	*e*P		**P**	**05 36 14.7**	**+0.1**
HIA					pmax	pmax		
	comp=Z,9.0nm,0.8s							
HIA	**Hailar**	**48.28**	**55**	*e*P		**P**	**05 36 14.7**	**+0.2**
	comp=Z,9.3nm,0.8s,mb4.9							
HIA	**Hailar**	**48.28**	**55**	*e*P		**P**	**05 36 14.7**	**+0.1**
	comp=Z,9.3nm,0.8s,mb4.9							
WHN	**Wuhan**	**51.66**	**80**	P		**P**	**05 36 41.0**	**+0.3**
NJ2	**Nanjing**	**54.32**	**76**	*e*P		**P**	**05 36 58.5**	**-1.8**
NJ2				AP		pP	05 37 13.1	+4.0
NJ2				PP		PP	05 39 01.9	-1.9
NJ2				AMB		AMB		
	comp=Z,430nm,5.6s							
NJ2				LR		LR		
	comp=N,3μm,14.5s,MS5.6							
NJ2				LR		LR		
	comp=E,3μm,14.4s,MS5.6							
NJ2				LR		LR		
	comp=Z,2μm,15.6s,MS5.2							
KLR	**Kul'dur**	**55.70**	**52**	*e*P		**P**	**05 37 07.2**	**-3.0**
SSE	**Sheshan**	**56.52**	**75**	P		**P**	**05 37 14.4**	**-1.9**
SSE				AMB		AMB		
	comp=Z,38nm,0.7s,mb5.5							
SSE				AMB		AMB		
	comp=Z,199nm,6.9s							
SSE				LR		LR		
	comp=N,548nm,20.0s,MS4.8							
SSE				LR		LR		
	comp=E,633nm,20.0s,MS4.8							
SSE				LR		LR		
	comp=Z,971nm,19.3s,MS4.9							
DBIC	**Dimbokro**	**59.80**	**252**	*e*P		**P**	**05 37 38.0**	**-1.6**
	comp=Z,1.7nm,0.7s,mb4.2							
DBIC	**Dimbokro**	**59.80**	**252**	*e*P		**P**	**05 37 38.0**	**-1.5**
	comp=Z,1.7nm,0.7s,mb4.2							
MA2	**Magadan**	**61.06**	**35**	*i* P		**P**	**05 37 46.6**	**-0.8**
MA2					pmax	pmax		
	comp=Z,20nm,1.3s,mb5.1							
MA2	**Magadan**	**61.06**	**35**	*e*P		**P**	**05 37 47.6**	**+0.2**
	comp=Z,12nm,1.0s,mb5.0							
MA2	**Magadan**	**61.06**	**35**	*e*P		**P**	**05 37 47.6**	**+0.2**
	comp=Z,12nm,1.0s,mb5.0							
BILL	**Bilibino**	**62.03**	**23**	*i* P		**P**	**05 37 53.5**	**-0.4**
BILL					pmax	pmax		
	comp=Z,14nm,1.2s,mb5.0							
BILL	**Bilibino**	**62.03**	**23**	*e*P		**P**	**05 37 53.9**	**0.0**
	comp=Z,13nm,1.1s,mb5.0							
BILL	**Bilibino**	**62.03**	**23**	*e*P		**P**	**05 37 53.9**	**0.0**
	comp=Z,13nm,1.1s,mb5.0							
INK	**Inuvik**	**72.00**	**2**	*e*P		**P**	**05 38 56.6**	**-0.1**
INK					pmax	pmax		
	comp=Z,7.0nm,1.0s							
INK	**Inuvik**	**72.00**	**2**	*e*P		**P**	**05 38 56.6**	**-0.1**
	comp=Z,6.9nm,1.0s,mb4.5							
COLA	**College**	**74.47**	**8**	*e*P		**P**	**05 39 12.4**	**+1.4**
COLA					pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9							
COLA	**College**	**74.47**	**8**	*e*P		**P**	**05 39 12.4**	**+1.4**
	comp=Z,15nm,0.9s,mb4.9							
DAWY	**Dawson**	**75.99**	**5**	*e*P		**P**	**05 39 20.4**	**+0.6**
DLBC	**Dease Lake**	**81.96**	**1**	*e*P		**P**	**05 39 53.8**	**+1.6**
FFC	**Flin Flon**	**82.87**	**345**	P		**P**	**05 39 57.3**	**+0.3**
	comp=Z,49nm,0.9s,mb5.5,SNR=8.3							
EDM	**Edmonton**	**86.20**	**351**	*e*P		**P**	**05 40 14.9**	**+1.2**
HRY	**Holter Researc**	**92.35**	**348**	*e*P		**P**	**05 40 42.7**	**-0.2**
CHMT	**Chamberlain Mo**	**92.37**	**349**	*e*P		**P**	**05 40 44.3**	**+1.4**

GUC ***05*** *05:32:33.9±0.0,3.52N×93.64E,h1km,mb5.5(NEIC), MS4.3(NEIC),MW5.5(NEIC)*

BJI ***05*** *05:32:36.4,3.36N×93.73E,h37km,mB5.4,mb5.2,Ms5.3, Msz5.1*

MOS ***05*** *05:32:37.2±1.0,3.62N×93.76E,h33km,mb5.7/37, MS4.6/6,Error ellipse: s-maj=12.0km s-min=6.3km az=114.1*

HRVD ***05*** *05:32:38.5±0.3,3.47N×93.58E,h12km,MW5.1/55, Centroid moment Tensor Solution. LP body waves: s34,c54;Mantle waves: s55,c94; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.96±.13; $M_{\theta\theta}$-1.19±.11; $M_{\phi\phi}$-3.78±.14; $M_{r\theta}$-1.01±.35; $M_{r\phi}$2.46±.11; $M_{\theta r}$-0.05±.35; Best double couple: $M_0$5.217×10^{16} NP1:ϕ_s159°,δ43°, λ105°. NP2:ϕ_s319°,δ49°,λ76°. Principal axes: T 5.146, Plg79°, Azm163°; N .132, Plg10°, Azm328°; P -5.287, Plg3°, Azm58°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***05*** *05:32:38.5±0.2,3.53N×93.66E,h30km,mb5.4/66, MS5.0/68,MW5.5 Error ellipse: s-maj=6.1km s-min=4.5km az=50.0,Moment Tensor Solution. s4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.21; $M_{\theta\theta}$-0.50; $M_{\phi\phi}$-0.72; $M_{r\theta}$0.06; $M_{r\phi}$0.78; $M_{\theta r}$-1.39; Best double couple: $M_0$1.9×10^{17} NP1: ϕ_s297°,δ29°,λ46°. NP2:ϕ_s165°,δ70°,λ111°. Principal axes: T 1.98, Plg60°, Azm105°; N -.15, Plg20°, Azm337°; P -1.83, Plg22°, Azm239°;*

ISC 05 05:32:37.2±0.2,3.54N±0.03×93.70E±0.03,h33km,

(h28km±4.7km:pP-P),n336,σ1§01/264,mb5.4/92,MS5.0/80,
28C-15D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.77**	**62**	P	**P**	**05 34 30.0**	**-0.7**
	198nm,1.0s						
NNT	**Nongplab**	**10.79**	**33**	P	**P**	**05 35 13.4**	**+0.9**
PALK	**Pallekele**	**13.46**	**287**	P	**P**	**05 35 45.1**	**-3.2**
	55nm,1.1s						
NST	**Nakhon Sawan**	**13.61**	**27**	P	**P**	**05 35 49.5**	**-1.0**
CM31	**Chiang Mai Arr**	**15.68**	**19**	*e*P	**P**	**05 36 16.3**	**-1.1**
	76nm,0.9s						
CMAR	**Chiang Mai Arr**	**15.68**	**19**	*i* P	**P**	**05 36 16.8**	**-0.7**
CMAR				pmax	pmax		
	comp=Z,15nm,0.8s						
CMAR	**Chiang Mai Arr**	**15.68**	**19**	*i* P	**P**	**05 36 16.8**	**-0.7**
CMAR				pmax	pmax		
	comp=Z,15nm,0.8s						
COCO	**West Island**	**15.94**	**169**	P	**P**	**05 36 20.3**	**-0.5**
CHG	**Chiang Mai**	**16.02**	**18**	⇑P	**P**	**05 36 20.7**	**-1.1**
	comp=Z,64nm,1.3s						
UBT	**Ubonrachathani**	**16.11**	**43**	P	**P**	**05 36 26.0**	**+3.1**
MDRS	**Chennai**	**16.32**	**306**	*i* P	**P**	**05 36 23.4**	**-2.3**
MDRS				*e*		05 36 30.4	
	comp=Z,121nm,0.8s						
MDRS				*e*		05 39 43.0	
NANT	**Nan**	**16.64**	**24**	P	**P**	**05 36 31.0**	**+1.5**
	comp=Z,138nm,1.0s						
CHRT	**Chiangrai**	**17.28**	**20**	⇑P	**P**	**05 36 37.0**	**-0.6**
	comp=Z,305nm,1.0s						
TRD	**Trivandrum**	**17.36**	**287**	*e*	**P**	**05 36 41.1**	**+2.4**
TRD				*i* S	**S**	**05 39 42.1**	**-6.9**
VIS	**Vishakhapatnam**	**17.38**	**325**	⇑*i*P	**P**	**05 36 36.9**	**-1.9**
VIS				*e*		05 36 39.4	
	comp=Z,196nm,1.1s						
VIS				*e*S	**S**	**05 39 38.0**	**-11**
KOD	**Kodaikanal**	**17.43**	**293**	*e*P	**P**	**05 36 36.7**	**-2.8**
BWNR	**Bhubaneshwar**	**18.34**	**336**	*e*P	**P**	**05 36 48.3**	**-2.7**
BWNR				*e*		05 36 49.8	
	comp=Z,175nm,0.6s						
BWNR				*e*S	**S**	**05 40 02.6**	**-8.6**
HYB	**Hyderabad**	**20.27**	**314**	*e*P	**P**	**05 37 11.5**	**-1.3**
	comp=Z,150nm,1.2s						
HYB				*e*S	**S**	**05 40 50.5**	**-2.8**
HYB	**Hyderabad**	**20.27**	**314**	*i* P	**P**	**05 37 11.5**	**-1.3**
	comp=Z,150nm,1.2s						
HYB				*e*S	**S**	**05 40 50.5**	**-2.8**
AGT	**Agartala**	**20.36**	**354**	⇑*i*P	**P**	**05 37 13.0**	**-0.7**
AGT				*i*		05 38 30.0	
MNGI	**Mangalore**	**20.87**	**298**	*e*P	**P**	**05 37 17.7**	**-1.3**
MNGI				*e*		05 37 24.6	
	comp=Z,246nm,1.0s						
MNGI				*e*S	**S**	**05 40 59.6**	**-5.4**
BLSP	**Bilaspur**	**21.62**	**330**	*e*P	**P**	**05 37 26.6**	**+0.1**
BLSP				*e*		05 38 20.2	
SHL	**Shillong**	**21.97**	**356**	*e*P	**P**	**05 37 28.4**	**-1.5**
SHL				*e*		05 37 34.9	
	comp=Z,180nm,1.5s						
SHL				*e*S	**S**	**05 41 32.5**	**+7.0**
QIZ	**Qiongzhong**	**22.04**	**44**	P	**P**	**05 37 31.3**	**+0.6**
QIZ				AP		05 37 38.1	
QIZ				S	**S**	**05 41 28.9**	**+2.0**
QIZ				LR	LR		
	comp=E,6μm,10.4s						
QIZ				LR	LR		
	comp=Z,6μm,10.6s,MS5.3						
QIZ	**Qiongzhong**	**22.04**	**44**	*e*P	**P**	**05 37 31.4**	**+0.7**
	comp=Z,109nm,1.3s,mb5.1						
QIZ				LR	LR		
	comp=Z,3μm,19.0s,MS4.7						
LATR	**Latur**	**22.36**	**313**	*e*P	**P**	**05 37 35.1**	**+1.2**
NGP	**Nagpur**	**22.57**	**322**	*e*P	**P**	**05 37 37.0**	**+0.9**
NGP				*e*		05 41 46.1	
GOA	**Goa**	**22.89**	**303**	*e*P	**P**	**05 37 39.1**	**-0.1**
	comp=Z,263nm,1.7s,mb5.4						
GOA				*i*		05 42 02.1	
GOA				*e*		05 42 02.5	
KAD	**Karad**	**23.53**	**307**	*e*P	**P**	**05 37 48.0**	**+2.5**
DGAR	**Diego Garcia**	**23.83**	**243**	PFAKE		05 38 00.0	+12
DGAR				LR	LR		
	comp=Z,614nm,21.0s,MS4.0					

NJ2 Nanjing 36.91 37 *eP* **P 05 39 46.0 +1.2**
NJ2 AP pP 05 39 57.1 +2.5
NJ2 XP sP 05 40 00.8 +2.0
NJ2 PP PP 05 41 12.3 +1.1
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.1
NJ2 AMB AMB
comp=Z,70nm,6.0s
SSE Sheshan 37.71 40 *eP* **P 05 39 52.4 +0.8**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,184nm,4.9s
FITZ Fitzroy Crossi 38.13 125 *eP* **P 05 39 54.7 -0.5**
comp=Z,25nm,1.1s,mb4.8
TIA Tai'an 39.03 31 *eP* **P 05 40 02.0 -0.5**
TIA S **S 05 45 56.5 -2.8**
TIA LR LR
comp=N,834nm,10.0s,MS5.2
TIA LR LR
comp=E,2μm,11.0s,MS5.2
WMQ Urumqi 40.46 353 P **P 05 40 15.5 +1.2**
WMQ AP pP 05 40 25.3 +1.2
WMQ XP sP 05 40 29.3 +1.0
WMQ PP PP 05 41 52.9 +2.0
WMQ S **S 05 46 21.3 +0.7**
WMQ XS 05 46 37.6
ULHL Ulahol 41.57 340 P **P 05 40 24.4 +0.8**
SNR=10
BJT Baijiatuau 41.61 26 *eP* **P 05 40 25.3 +1.4**
comp=E,153nm,1.2s,mb5.5
BJT LR LR
comp=Z,554nm,19.0s,MS4.5
KZA Kyzart 41.77 339 P **P 05 40 26.4 +1.3**
SNR=9.6
UCH Uchtor 42.16 339 P **P 05 40 29.7 +1.3**
SNR=18
AML Almayashu 42.38 338 P **P 05 40 31.5 +1.3**
SNR=29
KBK Karagaybulak 42.38 339 P **P 05 40 31.8 +1.6**
SNR=6.5
TKM2 Tokmak 2 42.39 340 P **P 05 40 31.1 +0.9**
SNR=15
AAK Ala-Archa 42.52 339 P **P 05 40 33.1 +1.8**
SNR=14
AAK Ala-Archa 42.52 339 *c iP* **P 05 40 30.9 -0.5**
AAK pmax pmax
comp=Z,94nm,2.1s,mb5.2
AAK Ala-Archa 42.52 339 *eP* **P 05 40 30.2 -1.2**
comp=Z,92nm,1.4s,mb5.3
NWAO Narrogin (SRO) 42.57 150 P **P 05 40 31.2 -0.8**
FRU Bishkek 42.65 339 *eP* **P 05 40 33.0 +0.6**
FRU *e* 05 42 23.0
FRU pmax pmax
comp=Z,180nm,2.0s,mb5.5
CHMS Chumysh 42.75 339 P **P 05 40 33.7 +0.5**
SNR=8.4
EKS2 Erkin-Say 42.81 338 P **P 05 40 34.9 +1.2**
SNR=12
USP Ospenovka 43.07 339 P **P 05 40 36.0 +0.2**
SNR=18
MKAR Makanchi Array 44.21 349 *i* P **P 05 40 45.4 +0.5**
MKAR pmax pmax
comp=Z,66nm,0.8s
MKAR Makanchi Array 44.21 349 *i* P **P 05 40 45.5 +0.6**
INCN Inchon 45.28 37 PFAKE 05 41 10.0 +16
INCN LR LR
comp=Z,2μm,20.0s,MS5.0
ULN Ulaanbaatar 45.63 13 *c iP* **P 05 40 56.4 +0.1**
ULN Ulaanbaatar 45.63 13 *eP* **P 05 40 55.0 -1.3**
ULN LR LR
comp=Z,521nm,21.0s,MS4.5
WRA Warramunga Arr 46.23 122 *i* P **P 05 41 01.1 -0.4**
WRA pmax pmax
comp=Z,71nm,0.9s
WRAB Tennant Creek 46.24 122 *eP* **P 05 41 01.0 -0.5**
comp=Z,184nm,1.0s,mb6.0
WRAB LR LR
comp=Z,196nm,19.0s,MS4.1
WB2 Warramunga Arr 46.24 122 ⇑ *iP* **P 05 41 01.0 -0.5**
SNY Shenyang 46.56 31 ⇑P **P 05 41 03.5 -0.2**
SNY AMB AMB
comp=Z,40nm,1.7s,mb5.1
SNY LR LR
comp=N,550nm,9.2s
SNY LR LR
comp=E,1μm,11.2s
SNY LR LR
comp=Z,1μm,11.8s,MS5.1
ZAK Zakamensk 47.37 8 ⇓ *iP* **P 05 41 09.8 -0.2**
ZAK *e* 05 42 40.7
ZAK *e* 05 43 05.0
MOY Mondy 48.34 6 *eP* **P 05 41 18.9 +1.3**
TLY Talaya 48.69 8 *eP* **P 05 41 20.5 +0.3**
TLY *eS* **S 05 48 25.8 +6.5**
TLY pmax pmax
comp=Z,20nm,1.2s,mb5.0
TLY MLR MLR
comp=Z,276nm,11.0s,MS4.5
TLY Talaya 48.69 8 *eP* **P 05 41 20.9 +0.7**
comp=Z,21nm,1.0s,mb5.1
TLY LR LR
comp=Z,110nm,20.0s
IRK Irkutsk 49.33 9 *eP* **P 05 41 25.0 -0.1**
IRK *e* 05 41 41.1
IRK *e* 05 43 26.0
HIA Hailar 50.67 22 *eP* **P 05 41 35.4 0.0**
comp=Z,38nm,0.8s,mb5.4
HIA LR LR
comp=Z,882nm,21.0s,MS4.8
GUMO Guam 51.47 76 PFAKE 05 41 50.0 +8.0
GUMO LR LR
comp=Z,2μm,21.0s,MS5.0
MDJ Mudanjiang 51.65 32 P **P 05 41 43.0 +0.1**
MDJ AMB AMB
comp=Z,32nm,1.5s,mb5.0
MDJ LR LR
comp=N,1μm,10.4s,MS5.3
MDJ LR LR
comp=E,756nm,10.4s,MS5.3
MDJ LR LR
comp=Z,2μm,10.4s,MS5.4
MDJ Mudanjiang 51.65 32 *eP* **P 05 41 43.2 +0.3**
comp=Z,109nm,1.8s,mb5.5
MDJ LR LR
comp=Z,893nm,19.0s,MS4.8
NVS Novosibirsk 51.84 352 *i* P **P 05 41 43.2 -1.0**
NVS *i* S **S 05 49 04.4 +1.5**
NVS pmax pmax
comp=E,38nm,1.5s
NVS pmax pmax
comp=Z,100nm,1.5s,mb5.5
NVS pmax pmax
comp=N,110nm,1.7s
NVS smax
comp=N,30nm,2.1s
NVS smax
comp=E,31nm,1.9s
MAJO Matsushiro 52.44 45 PFAKE 05 42 00.0 +11
MAJO LR LR
comp=Z,1μm,21.0s,MS4.9
MAT Matsushiro 52.44 45 PCP PcP 05 43 00.3 +0.8
BHD Baghdad 54.65 309 *i* P **P 05 41 59.0 -6.3**
KLR Kul'dur 55.83 29 ⇓ *iP* **P 05 42 11.2 -2.5**
KLR *eS* **S 05 49 57.0 +0.1**
KLR *e* 05 51 56.0
KLR pmax pmax
comp=N,50nm,1.8s
KLR pmax pmax
comp=E,85nm,1.8s
KLR pmax pmax
comp=Z,120nm,1.8s,mb5.6
BOD Bodaibo 56.44 13 ⇓ *iP* **P 05 42 17.0 -0.9**
KMBO Kilima Mbogo 56.61 266 *i* P **P 05 42 20.2 +0.5**
KMBO pmax pmax
comp=Z,13nm,1.2s
KMBO Kilima Mbogo 56.61 266 *eP* **P 05 42 19.8 0.0**
comp=Z,28nm,1.3s,mb5.1
KMBO LR LR
comp=Z,511nm,22.0s,MS4.6
CTA Charters Tower 56.67 117 ⇓ *iP* **P 05 42 19.8 -0.3**
comp=Z,21nm,1.2s,mb5.0
CTAO Charters Tower 56.67 117 *eP* **P 05 42 19.1 -1.0**
comp=Z,61nm,1.2s,mb5.5
CTAO LR LR
comp=Z,325nm,19.0s,MS4.4

MSL Mosul 56.78 312 *eP* **P 05 42 12.0 -8.6**
GNI Garni 57.20 317 *c iP* **P 05 42 23.2 -0.4**
GNI pmax pmax
comp=Z,127nm,1.7s
GNI Garni 57.20 317 *eP* **P 05 42 23.2 -0.4**
comp=Z,101nm,1.3s,mb5.7
GNI LR LR
comp=Z,222nm,19.0s,MS4.3
STKA Stephens Creek 57.51 132 ⇓ *iP* **P 05 42 24.8 -1.1**
comp=Z,15nm,0.9s,mb5.0
TI2 Plekhanov 57.91 318 ⇑ *iP* **P 05 42 28.0 -0.5**
TI2 pmax pmax
comp=Z,80nm,0.8s,mb5.8
CLNS Chul'man 58.63 19 *eP* **P 05 42 31.2 -2.2**
CLNS pmax pmax
comp=Z,25nm,1.2s,mb5.1
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=E,11nm,1.0s
BEST Besiri 58.73 313 *i* P **P 05 42 33.5 -0.9**
SVE Sverdlovsk 59.26 340 *eP* **P 05 42 36.6 -1.2**
ERZM Erzurum 59.44 315 *i* P **P 05 42 39.7 +0.5**
ARU Arti 59.70 338 ⇑ *iP* **P 05 42 38.4 -2.4**
ARU *e* 05 43 21.6
ARU *e* 05 44 46.8
ARU *eS* **S 05 50 47.9 +0.4**
ARU *eSS* SS 05 54 44.0 -0.7
ARU pmax pmax
comp=Z,52nm,1.1s,mb5.5
KIV Kislovodsk 60.27 320 P **P 05 42 44.4 -0.5**
comp=Z,304nm,0.9s,mb6.3,SNR=9.8
KIV Kislovodsk 60.27 320 *c iP* **P 05 42 43.9 -1.0**
KIV pmax pmax
comp=Z,88nm,1.4s,mb5.6
KIV Kislovodsk 60.27 320 *eP* **P 05 42 44.3 -0.6**
comp=Z,110nm,1.4s,mb5.7
KIV LR LR
comp=Z,77nm,19.0s,MS3.9
YSS Yuzh-Sakhalins 60.47 36 ⇓ *iP* **P 05 42 46.8 +0.6**
YSS *eS* **S 05 51 08.0 +10**
YSS 05 52 24.0
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.7
YSS MLR MLR
comp=Z,1μm,11.0s,MS5.2
YSS MLR MLR
comp=N,500nm,12.0s,MS5.2
YSS MLR MLR
comp=E,1μm,12.0s,MS5.2
YSS Yuzh-Sakhalins 60.47 36 *eP* **P 05 42 45.9 -0.3**
comp=E,81nm,1.1s,mb5.7
YSS LR LR
comp=Z,431nm,20.0s,MS4.6
GOF Gofitskoye 60.55 321 ⇓ *iP* **P 05 42 45.0 -1.8**
GOF pmax pmax
comp=Z,34nm,1.2s,mb5.3
ELZG Elazig 60.63 313 *i* P **P 05 42 47.6 +0.2**
MALT Malatya 60.98 312 P **P 05 42 50.1 +0.3**
MALT pmax pmax
comp=Z,100nm,1.3s,mb5.8
MALT Malatya 60.98 312 *eP* **P 05 42 49.9 +0.1**
comp=Z,101nm,1.4s,mb5.8
EIL Elat 61.26 302 *eP* **P 05 42 52.2 +0.4**
comp=Z,84nm,1.3s,mb5.7
GZT Gaziantep 61.30 311 *i* P **P 05 42 52.5 +0.6**
KAHT Ahir Dag 61.91 311 *i* P **P 05 42 56.8 +0.8**
COBT Iskenderun 62.03 310 *i* P **P 05 42 57.5 +0.6**
SOC Sochi 62.05 318 *eP* **P 05 42 55.2 -1.7**
SOC *e* 05 43 32.0
SOC *e* 05 45 09.1
SOC *eS* **S 05 51 12.3 -5.4**
SOC pmax pmax
comp=Z,79nm,1.5s,mb5.6
SOC pmax pmax
comp=N,50nm,1.4s
SOC pmax pmax
comp=E,36nm,1.6s
SOKR Solikamsk 62.67 340 ⇓ *iP* **P 05 42 57.3 -3.5**
SOKR pmax pmax
comp=Z,60nm,1.0s,mb5.7
SOKR MLR MLR
comp=Z,210nm,20.0s,MS4.3
MBAR Mbarara 63.06 268 P **P 05 43 03.3 -0.8**
MBAR pmax pmax
comp=Z,47nm,1.6s,mb5.4
MBAR Mbarara 63.06 268 *eP* **P 05 43 03.0 -1.0**
comp=Z,47nm,1.6s,mb5.4
MBAR LR LR
comp=Z,92nm,21.0s,MS3.9
AVNT Avonos 63.77 312 *i* P **P 05 43 07.8 -0.6**
ANN Anapa 64.04 319 *eP* **P 05 43 06.4 -3.6**
ANN *eS* **S 05 51 38.5 -4.1**
ANN pmax pmax
comp=Z,92nm,1.2s,mb5.7
YAK Yakutsk 64.22 18 *eP* **P 05 43 08.1 -2.8**
YAK pmax pmax
comp=Z,26nm,1.0s,mb5.2
YAK pmax pmax
comp=N,13nm,1.3s
YAK pmax pmax
comp=E,11nm,1.2s
YAK MLR MLR
comp=N,229nm,10.0s,MS4.8
YAK MLR MLR
comp=Z,318nm,10.0s,MS4.8
YAK MLR MLR
comp=E,291nm,12.0s,MS4.8
YAK Yakutsk 64.22 18 *eP* **P 05 43 09.9 -1.0**
comp=E,42nm,1.0s,mb5.4
YAK LR LR
comp=Z,673nm,19.0s,MS4.8
CTKT Corum 64.40 314 *i* P **P 05 43 11.5 -0.9**
BOYT Boyabat 64.57 315 *i* P **P 05 43 13.1 -0.5**
ELDT Eldivan 65.34 313 *i* P **P 05 43 18.4 -0.2**
BALT Daday 65.69 314 *i* P **P 05 43 19.8 -0.9**
SIM Simferopol' 66.29 318 *d iP* **P 05 43 24.6 +0.1**
SIM pmax pmax
comp=Z,70nm,0.9s,mb5.7
ESKT Eskisehir 66.97 312 *i* P **P 05 43 28.1 -0.8**
LSZ Lusaka 67.47 252 P **P 05 43 32.2 -0.2**
LSZ pmax pmax
comp=Z,72nm,1.5s,mb5.5
LSZ Lusaka 67.47 252 *eP* **P 05 43 31.9 -0.4**
comp=Z,72nm,1.5s,mb5.5
LSZ LR LR
comp=Z,670nm,20.0s,MS4.9
ULDT Uludag 68.41 312 *i* P **P 05 43 37.2 -0.7**
MOS Moscow 68.55 330 *eP* **P 05 43 37.5 -1.0**
MOS *e* 05 44 06.7
MOS pmax pmax
comp=Z,111nm,1.5s,mb5.6
OBN Obninsk 68.81 329 *i* P **P 05 43 38.7 -1.4**
OBN pmax pmax
comp=Z,115nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,300nm,18.0s,MS4.6
OBN Obninsk 68.81 329 *eP* **P 05 43 38.3 -1.8**
comp=Z,197nm,1.7s,mb5.8
BTOK Tokmak 69.14 311 *i* P **P 05 43 41.6 -0.8**
KDAG Bornova 69.42 310 *i* P **P 05 43 43.3 -0.9**
AYVA Ayvalik 70.05 311 *i* P **P 05 43 47.6 -0.3**
KIS Kishinev 70.44 319 *eP* **P 05 43 49.0 -1.2**
KIS pmax pmax
comp=Z,180nm,1.2s,mb5.9
MA2 Magadan 70.79 27 *c iP* **P 05 43 52.1 0.0**
MA2 *e* 05 48 13.7
MA2 *eS* S 05 53 05.6 +2.3
MA2 pmax pmax
comp=Z,30nm,1.6s,mb5.0
MA2 pmax pmax
comp=E,10.0nm,1.5s
MA2 MLR MLR
comp=Z,600nm,28.0s,MS4.7
MA2 Magadan 70.79 27 *eP* **P 05 43 52.0 -0.1**
comp=Z,65nm,1.5s,mb5.3
MA2 LR LR
comp=Z,221nm,20.0s,MS4.4
TIXI Tiksi 71.54 11 PFAKE 05 44 10.0 +14
TIXI LR LR
comp=Z,447nm,22.0s,MS4.7
PGB Panagyurishte 72.59 313 *eP* **P 05 44 04.0 +0.8**
MMB Musomiste 72.72 312 *eP* **P 05 44 03.0 -1.0**
WAKE Wake Island 72.75 71 PFAKE 05 44 20.0 +15
WAKE LR LR

comp=Z,171μm,19.0s
BOSA Boshof 72.95 239 *eP* **P 05 44 05.3 -0.4**
comp=Z,44nm,1.3s,mb5.2
BOSA LR LR
comp=Z,665nm,21.0s,MS4.9
SEY Seymchan 73.03 24 *eP* **P 05 44 05.2 -0.2**
SEY *e* 05 44 21.1
SEY *e* 05 46 46.7
SEY *e* 05 48 33.0
SEY pmax pmax
comp=Z,40nm,1.1s,mb5.3
KKB Krupnik 73.25 313 *eP* **P 05 44 06.0 -1.1**
VTS Vitosha 73.29 313 *eP* **P 05 44 06.0 -1.4**
MAW Mawson 74.23 192 *eP* **P 05 44 12.9 +0.6**
comp=Z,25nm,1.3s,mb5.0
LVV L'vov 74.25 321 *eP* **P 05 44 12.3 -0.5**
LVV *e* 05 44 34.5
LVV *eS* S 05 53 50.7 +7.8
LVV *eSS* SS 05 58 24.7 -6.4
BOLS Boljevac 74.41 314 ⇓ *iP* **P 05 44 13.4 -0.4**
SKO Skopje 74.47 313 *i* P **P 05 44 12.5 -1.7**
JOF Joensuu 74.55 335 *ep* **P 05 44 12.4 -1.8**
comp=Z,16nm,1.0s,mb4.9
JOF Joensuu 74.55 335 *eP* **P 05 44 12.4 -1.8**
JOF pmax pmax
comp=Z,16nm,1.0s,mb4.9
KWP Kalwaria 75.05 320 *eP* **P 05 44 17.8 +0.4**
KOLS Kolonicke sedl 75.18 320 *i* P **P 05 44 19.4 +1.3**
KOLS *e* 05 44 32.9
KOLS *ePP* PP 05 47 07.3 -1.4
NOUC Port Laguerre 75.30 114 *eP* **P 05 44 20.7 +1.3**
GRUS Gruza 75.31 314 ⇑ *iP* **P 05 44 18.9 -0.1**
DZM Mont Dzumac 75.42 114 *eP* **P 05 44 21.3 +1.3**
DZM Mont Dzumac 75.42 114 *eP* **P 05 44 21.3 +1.3**
CRVS Cervenica-Dubn 75.70 320 *i* P **P 05 44 22.6 +1.5**
CRVS *ePP* PP 05 47 12.5 -0.4
APA Apatity 75.73 340 ⇓ *iP* **P 05 44 20.8 -0.1**
APA pmax pmax
comp=Z,47nm,1.2s,mb5.3
SUW Suwalki 75.76 325 *eP* **P 05 44 20.5 -0.8**
DIVS Divcibare 75.86 315 ⇓ *iP* **P 05 44 21.7 -0.4**
KECS Kecovo 76.25 319 *i* P **P 05 44 25.2 +0.9**
FINES FINESS Array B 76.32 333 *i* P **P 05 44 24.0 -0.4**
FINES pmax pmax
comp=Z,12nm,0.9s
KAF Kangasniemi 76.43 333 *ep* **P 05 44 23.7 -1.3**
baz=106,slow=5.3
NIE Niedzica 76.53 320 *eP* **P 05 44 26.6 +0.7**
PSZ Piszkesteto 76.55 318 P **P 05 44 26.0 +0.1**
PSZ Piszkesteto 76.55 318 *eP* **P 05 44 25.9 0.0**
PSZ Piszkesteto 76.55 318 ⇑ *eP* **P 05 44 25.9 0.0**
OJC Ojcow 77.01 321 *eP* **P 05 44 28.4 -0.1**
VYHS Vyhne 77.34 319 *i* P **P 05 44 30.3 -0.1**
SUR Sutherland 77.54 236 *eP* **P 05 44 32.5 +0.7**
comp=Z,49nm,1.3s,mb5.3
SRO Srobarova 77.58 318 *i* P **P 05 44 33.4 +1.6**
OKC Ostrava-Krasne 77.99 320 *eP* **P 05 44 34.4 +0.4**
RAC Raciborz 78.00 320 *eP* **P 05 44 35.0 +1.0**
MORC Moravsky Berou 78.37 320 *eP* **P 05 44 36.3 +0.2**
comp=Z,79nm,1.6s,mb5.4
ZST Bratislava 78.44 318 *i* P **P 05 44 37.0 +0.6**
ZST *e* 05 44 50.2
DPC Dobruska-Polom 79.23 320 *eP* **P 05 44 41.5 +0.8**
DPC *epP* pP 05 44 47.9 -3.2
KSP Ksiaz 79.31 321 *eP* **P 05 44 41.8 +0.6**
KSP *epP* pP 05 44 49.5 -2.1
KSP Ksiaz 79.31 321 *eP* **P 05 44 41.6 +0.4**
ARSA Arzberg 79.38 317 ⇑ *iP* **P 05 44 42.1 +0.5**
comp=Z,79nm,1.3s,mb5.5
UPC Upice 79.45 321 *eP* **P 05 44 42.7 +0.8**
PERS Pernice 79.59 317 ⇑ *iP* **P 05 44 43.2 +0.4**
LJU Ljubljana 79.94 316 ⇑ *iP* **P 05 44 45.1 +0.5**
OBKA Obir 79.97 316 ⇑ *iP* **P 05 44 45.5 +0.7**
comp=Z,73nm,1.5s,mb5.4
BILL Bilibino 80.25 21 *i* P **P 05 44 45.8 -0.1**
BILL pmax pmax
comp=Z,46nm,1.5s,mb5.2
BILL MLR MLR
comp=Z,400nm,18.0s,MS4.8
BILL Bilibino 80.25 21 *eP* **P 05 44 45.6 -0.3**
comp=Z,84nm,1.5s,mb5.5
BILL LR LR
comp=Z,548nm,20.0s,MS4.9
MOA Molln 80.29 318 ⇑ *iP* **P 05 44 46.5 0.0**
comp=Z,34nm,1.6s,mb5.0
PRU Pruhonice 80.32 320 *eP* **P 05 44 46.8 +0.2**
PVCC Panska Ves 80.36 321 *eP* **P 05 44 47.3 +0.5**
VOY Vojsko 80.38 316 *eP* **P 05 44 46.9 -0.1**
AQU L'Aquila 80.45 312 *eP* **P 05 44 47.0 -0.5**
AQU pmax pmax
comp=Z,100nm,1.2s,mb5.6
AQU L'Aquila 80.45 312 *eP* **P 05 44 47.0 -0.5**
comp=Z,103nm,1.3s,mb5.6
GEC2 GERESS Array S 80.76 319 *eP* **P 05 44 49.5 +0.6**
GEC2 pmax pmax
comp=Z,140nm,1.5s,mb5.7
GEC2 GERESS Array S 80.76 319 *eP* **P 05 44 49.5 +0.6**
comp=Z,140nm,1.5s,mb5.7
BRG Berggiesshubel 80.80 321 *i* P **P 05 44 50.1 +1.0**
BRG pmax pmax
comp=Z,49nm,1.4s,mb5.2
BRG Berggiesshubel 80.80 321 *i* P **P 05 44 50.1 +1.0**
comp=Z,49nm,1.4s,mb5.2
KBA Koelnbreinsper 80.84 317 ⇓ *iP* **P 05 44 49.8 +0.4**
comp=Z,26nm,1.3s,mb5.0
KHC Kasperske Hory 80.86 319 *i* P **P 05 44 49.6 +0.1**
KHC Kasperske Hory 80.86 319 *eP* **P 05 44 49.8 +0.3**
WET Wettzell 81.32 319 *eP* **P 05 44 52.4 +0.5**
SMY Shemya 81.37 37 PFAKE 05 45 00.0 +7.9
SMY LR LR
comp=Z,4μm,21.0s,MS5.8
CLL Collm 81.43 321 ⇑ *eP* **P 05 44 51.0 -1.4**
CLL pmax pmax
comp=Z,27nm,1.2s,mb5.0
CLL Collm 81.43 321 ⇑ *eP* **P 05 44 51.0 -1.4**
comp=Z,27nm,1.2s,mb5.0
CLL Collm 81.43 321 ⇑ P **P 05 44 52.0 -0.4**
comp=Z,logA/T=1.4,mb5.1
NKC Novy Kostel 81.69 320 *eP* **P 05 44 54.5 +0.7**
NKC *epP* pP 05 44 58.4 -5.8
WTTA Wattenberg 82.02 317 ⇑ *iP* **P 05 44 55.5 -0.1**
comp=Z,62nm,1.3s,mb5.4
WATA Walderalm 82.07 317 ⇑ *iP* **P 05 44 55.4 -0.4**
comp=Z,35nm,1.3s,mb5.1
MOX Moxa 82.25 320 *eP* **P 05 44 57.5 +0.8**
MOX pmax pmax
comp=Z,71nm,1.9s,mb5.3
MOX Moxa 82.25 320 *eP* **P 05 44 57.5 +0.8**
comp=Z,71nm,1.9s,mb5.3
MOX Moxa 82.25 320 *i* P **P 05 44 57.5 +0.8**
comp=Z,logA/T=1.6,mb5.3
SQTA Sankt Quirin 82.31 317 ⇑ *iP* **P 05 44 57.0 0.0**
comp=Z,39nm,1.3s,mb5.2
FUR Furstenfeldbru 82.32 318 *eP* **P 05 44 57.0 -0.1**
MOTA Moosalm 82.39 317 ⇑ *iP* **P 05 44 57.2 -0.2**
comp=Z,29nm,1.1s,mb5.1
GRA1 Grafenberg Arr 82.44 319 *eP* **P 05 44 58.5 +0.8**
comp=Z,88nm,1.4s,mb5.5
GRF Grafenberg Arr 82.44 319 *eP* **P 05 44 58.5 +0.8**
GRF pmax pmax
comp=Z,88nm,1.4s,mb5.5
GRF Grafenberg Arr 82.44 319 *eP* **P 05 44 58.5 +0.8**
comp=Z,88nm,1.4s,mb5.5
CLZ Clausthal 83.10 322 *eP* **P 05 45 01.3 +0.3**
comp=Z,70nm,1.5s,mb5.5
DAVA Damuels 83.22 317 ⇑ *iP* **P 05 45 02.3 +0.6**
comp=Z,48nm,1.1s,mb5.4
BSEG Bad Segeberg 83.25 324 *eP* **P 05 45 02.1 +0.4**
BSEG pmax pmax
comp=Z,91nm,1.6s,mb5.5
NB2 NORSAR Subarra 83.27 331 P **P 05 45 01.0 -0.6**
comp=Z,30nm,1.2s,mb5.2,baz=91,slow=5.0
NB2 NORSAR Subarra 83.27 331 P **P 05 45 01.0 -0.6**
baz=91,slow=5.3
VSL Villasalto 83.38 309 *eP* **P 05 45 02.3 -0.3**
comp=Z,83nm,1.4s,mb5.6
BFO Black Forest 84.29 318 *eP* **P 05 45 07.0 -0.1**
BFO pmax pmax
comp=Z,31nm,1.5s,mb5.2
BFO Black Forest 84.29 318 *eP* **P 05 45 07.0 -0.1**
comp=Z,31nm,1.5s,mb5.2
SBF Sospel 84.87 314 *eP* **P 05 45 10.5 +0.4**
comp=Z,48nm,0.7s,mb5.4
CDF Champ du Feu 84.99 318 *eP* **P 05 45 10.5 -0.1**
comp=Z,97nm,1.7s,mb5.3

MBDF	Montbardon	85.34	314	eP		P	05 45 12.3	-0.1
	comp=Z,31nm,1.1s,mb5.0							
LPG	La Plagne	85.35	315	eP		P	05 45 13.2	+0.7
	comp=Z,74nm,1.2s,mb5.4							
HAU	Haudompre	85.61	318	eP		P	05 45 13.6	-0.1
	comp=Z,58nm,1.1s,mb5.4							
BAIF	Baives	86.98	320	eP		P	05 45 20.9	+0.6
SSF	Saint Saulge	87.56	317	eP		P	05 45 23.6	+0.4
	comp=Z,61nm,1.4s,mb5.3							
BGF	Bois d'Agland	88.04	316	eP		P	05 45 26.1	+0.6
	comp=Z,111nm,1.5s,mb5.6							
VNDA	Vanda	88.80	168	eP		P	05 45 29.2	+0.7
VNDA					pmax	pmax		
	comp=Z,47nm,1.4s							
VNDA	Vanda	88.80	168	eP		P	05 45 29.2	+0.7
	comp=Z,47nm,1.4s,mb5.6							
RJF	Les Rejaudoux	89.05	315	eP		P	05 45 31.3	+1.0
	comp=Z,65nm,1.4s,mb5.5							
SBA	Scott Base	89.91	168	P		P	05 45 35.2	+1.5
FLN	La Foliniere	90.12	319	eP		P	05 45 35.7	+0.4
	comp=Z,75nm,1.4s,mb5.5							
RAO	Raoul Island	90.30	119		PFAKE		05 45 50.0	+13
RAO					LR	LR		
	comp=Z,550nm,19.0s,MS5.0							
ETSF	Etsaut	90.74	313	eP		P	05 45 39.6	+1.3
	comp=Z,10nm,0.8s,mb4.9							
ANM	Nome	91.51	25	eP		P	05 45 43.3	+1.9
QSPA	South Pole Qui	93.47	180	⇓iP		P	05 45 52.3	+2.2
	comp=Z,43nm,1.6s,mb5.6							
QSPA					LR	LR		
	comp=Z,283nm,20.0s,MS4.7							
ESLA	Sonseca Array	93.65	310		PFAKE		05 46 00.0	+8.2
ESLA					LR	LR		
	comp=Z,1μm,19.0s,MS5.4							
SNAA	Sanae	95.41	198	eP		P	05 45 57.5	-1.6
	comp=Z,10nm,1.4s,mb5.1							
IMA	Indian Mountai	95.77	22	eP		P	05 46 03.3	+2.5
DBIC	Dimbokro	98.07	277		PFAKE		05 46 20.0	+7.5
DBIC					LR	LR		
	comp=Z,300nm,19.0s,MS4.8							
INK	Inuvik	101.25	16	ePdif		P	05 46 26.5	+0.9
	comp=Z,14nm,1.6s							
RES	Resolute Bay	101.72	2	ePdif		P	05 46 28.6	+1.0
	comp=Z,25nm,2.1s							
EDM	Edmonton	119.04	18		PKIKP	PKPdf	05 51 24.7	+2.0
EDM	Edmonton	119.04	18	ePKPdf		PKPdf	05 51 23.7	+1.0
SCHQ	Schefferville	119.63	347		PFAKE		05 51 40.0	+16
SCHQ					LR	LR		
	comp=Z,682nm,19.0s,MS5.3							
MSO	Missoula	124.23	23	ePKPdf		PKPdf	05 51 34.2	+1.2
MSO					LR	LR		
	comp=Z,212nm,19.0s,MS4.8							
CHMT	Chamberlain Mo	124.42	22	ePKPdf		PKPdf	05 51 34.6	+1.3
BMO	Blue Mountains	124.43	26	PKIKP		PKPdf	05 51 36.0	+2.7
BMO	Blue Mountains	124.43	26	ePKPdf		PKPdf	05 51 35.1	+1.8
BMO					LR	LR		
	comp=Z,304nm,19.0s,MS5.0							
HRY	Holter Researc	125.11	21	ePKPdf		PKPdf	05 51 37.0	+2.3
WVOR	Wild Horse Val	125.67	29		PFAKE		05 51 50.0	+14
WVOR					LR	LR		
	comp=Z,545nm,20.0s,MS5.2							
DGMT	Dagmar	125.89	15		PFAKE		05 51 50.0	+14
DGMT					LR	LR		
	comp=Z,481nm,22.0s,MS5.1							
BOZ	Bozeman (W)	126.09	22		PFAKE		05 51 50.0	+13
BOZ					LR	LR		
	comp=Z,607nm,19.0s,MS5.3							
HLID	Hailey	126.71	25		PFAKE		05 51 50.0	+12
HLID					LR	LR		
	comp=Z,215nm,22.0s,MS4.8							
LAO	LASA Array	126.97	17	ePKPdf		PKPdf	05 51 40.7	+2.4
YFT	Old Faithful	127.41	22	ePKPdf		PKPdf	05 51 43.0	+3.9
PQI	Presque Isle	127.45	344		PFAKE		05 51 50.0	+11
PQI					LR	LR		
	comp=Z,4μm,20.0s,MS6.0							
LKWY	Lake	127.47	22		PFAKE		05 51 50.0	+11
LKWY					LR	LR		
	comp=Z,743nm,20.0s,MS5.4							
BMN	Battle Mountai	127.88	30		PFAKE		05 51 50.0	+10
BMN					LR	LR		
	comp=Z,572nm,22.0s,MS5.2							
TPAW	Teton Pass	128.18	23	ePKPdf		PKPdf	05 51 43.1	+2.5
LOHW	Long Hollow	128.21	22	ePKPdf		PKPdf	05 51 43.5	+2.8
SNOW	Snow King Moun	128.28	23	ePKPdf		PKPdf	05 51 43.9	+3.0
EYMN	Ely	128.52	4		PFAKE		05 51 50.0	+8.8
EYMN					LR	LR		
	comp=Z,555nm,19.0s,MS5.3							
AHID	Auburn Hatcher	128.73	23		PFAKE		05 52 00.0	+18
AHID					LR	LR		
	comp=Z,362nm,20.0s,MS5.1							
MNV	Mina	128.89	32	ePKPdf		PKPdf	05 51 44.3	+2.2
MNV					LR	LR		
	comp=Z,311nm,21.0s,MS5.0							
BW06	Boulder Array	129.33	22		PFAKE		05 52 00.0	+17
BW06					LR	LR		
	comp=Z,266nm,21.0s,MS4.9							
HWUT	Hardware Ranch	129.52	25	ePKPdf		PKPdf	05 51 45.1	+1.9
TPH	Tonopah	129.65	32		PFAKE		05 52 00.0	+16
TPH					LR	LR		
	comp=Z,381nm,19.0s,MS5.1							
WVL	Waterville	129.84	345		PFAKE		05 52 00.0	+16
WVL					LR	LR		
	comp=Z,4μm,22.0s,MS6.0							
NLU	North Lily Min	130.66	26	ePKPdf		PKPdf	05 51 48.5	+3.0
DAC	Darwin (Calif)	130.77	34		PFAKE		05 52 00.0	+14
DAC					LR	LR		
	comp=Z,295nm,20.0s,MS5.0							
NCB	Newcomb	131.47	348		PFAKE		05 52 00.0	+13
NCB					LR	LR		
	comp=Z,558nm,19.0s,MS5.3							
ARUT	Antelope Range	131.78	29	PKIKP		PKPdf	05 51 52.3	+4.6
MVU	Marysvale	131.78	27		PFAKE		05 52 00.0	+12
MVU					LR	LR		
	comp=Z,508nm,19.0s,MS5.2							
MSU	Marysvale	131.79	27	PKIKP		PKPdf	05 51 51.1	+3.4
MSU	Marysvale	131.79	27	ePKPdf		PKPdf	05 51 50.7	+3.0
SRU	San Rafael	132.03	25	PKIKP		PKPdf	05 51 44.6	-3.5
SRU	San Rafael	132.03	25	ePKPdf		PKPdf	05 51 48.9	+0.8
WES	Weston	132.31	345		PFAKE		05 52 00.0	+11
WES					LR	LR		
	comp=Z,995nm,21.0s,MS5.5							
NEN	Nelson	132.72	32	ePKPdf		PKPdf	05 51 52.0	+2.5
ISCO	Idaho Springs	133.36	21		PFAKE		05 52 00.0	+9.4
ISCO					LR	LR		
	comp=Z,297nm,19.0s,MS5.0							
JFWS	Jewell Farm	133.62	4		PFAKE		05 52 00.0	+9.0
JFWS					LR	LR		
	comp=Z,395nm,19.0s,MS5.2							
ERPA	Erie	134.19	353		PFAKE		05 52 10.0	+18
ERPA					LR	LR		
	comp=Z,317nm,19.0s,MS5.0							
AAM	Ann Arbor	134.31	357		PFAKE		05 52 10.0	+18
AAM					LR	LR		
	comp=Z,228nm,20.0s,MS4.9							
ACSO	Alum Creek Sta	136.33	356		PFAKE		05 52 10.0	+14
ACSO					LR	LR		
	comp=Z,600nm,21.0s,MS5.3							
ANMO	Albuquerque	137.28	25	PKIKP		PKPdf	05 52 01.2	+3.2
ANMO	Albuquerque	137.28	25	ePKPdf		PKPdf	05 52 00.7	+2.7
TUC	Tucson	137.44	31	ePKPdf		PKPdf	05 52 02.2	+3.9
LAZ	Ladron	137.46	26	ePKPdf		PKPdf	05 52 00.9	+2.6
CBN	Corbin	137.65	350		PFAKE		05 52 10.0	+11
CBN					LR	LR		
	comp=Z,436nm,19.0s,MS5.2							
LPM	Los Pinos Moun	137.75	25	ePKPdf		PKPdf	05 52 02.3	+3.4
BNM	Barren Site	137.89	25	ePKPdf		PKPdf	05 52 02.5	+3.4
CCM	Cathedral Cave	138.36	6		PFAKE		05 52 10.0	+10
CCM					LR	LR		
	comp=Z,237nm,19.0s,MS5.0							
AMTX	Amarillo	139.13	19		PFAKE		05 52 10.0	+8.7
AMTX					LR	LR		
	comp=Z,285nm,20.0s,MS5.0							
WMOK	Wichita Mounta	140.15	16		PFAKE		05 52 20.0	+17
WMOK					LR	LR		
	comp=Z,445nm,20.0s,MS5.2							
WVT	Waverly	140.51	2	PKIKP		PKPdf	05 51 59.3	-4.5
WVT	Waverly	140.51	2	ePKPdf		PKPdf	05 52 06.1	+2.3
GDL2	Guadalupe Moun	140.53	24	ePKPpre			05 51 59.8	
MNTX	Cornudas Mount	140.53	26	ePKPdf		PKPdf	05 52 04.7	+0.7
MNTX					LR	LR		
	comp=Z,270nm,19.0s,MS5.0							
MIAR	Mount Ida	141.50	10	PKIKP		PKPdf	05 52 02.5	-3.1
MIAR	Mount Ida	141.50	10	ePKPpre			05 52 01.2	
MIAR					LR	LR		
	comp=Z,562nm,20.0s,MS5.3							
OXF	Oxford	142.03	4		PFAKE		05 52 20.0	+13
OXF					LR	LR		
	comp=Z,153nm,19.0s,MS4.8							
NHSC	New Hope	143.09	351		PFAKE		05 52 20.0	+14
NHSC					LR	LR		
	comp=Z,401nm,19.0s,MS5.2							
GOGA	Godfrey	143.15	356		PFAKE		05 52 20.0	+13
GOGA					LR	LR		
	comp=Z,262nm,22.0s,MS5.0							
LTX	Lajitas	143.31	26	PKIKP		PKPdf	05 52 09.1	+0.3
LTX	Lajitas	143.31	26	ePKPpre			05 52 09.0	
LTX					LR	LR		
	comp=Z,353nm,20.0s,MS5.1							
LRAL	Lakeview Retre	143.62	1		PFAKE		05 52 20.0	+12
LRAL					LR	LR		
	comp=Z,431nm,20.0s,MS5.2							
JCT	Junction City	143.79	20	ePKIKP		PKPdf	05 52 08.3	-1.3
JCT	Junction City	143.79	20	ePKPpre			05 52 08.7	
JCT					LR	LR		
	comp=Z,202nm,20.0s,MS4.9							
NATX	Nacogdoches	144.00	12	ePKPpre			05 52 09.9	
HKT	Hockley	145.47	15	ePKIKP		PKPdf	05 52 14.6	+2.0
HKT	Hockley	145.47	15	ePKPdf		PKPdf	05 52 14.7	+2.1
HKT					LR	LR		
	comp=Z,247nm,19.0s,MS5.0							
FCH	Farellones	146.81	205	eP		PKPdf	05 52 15.6	+0.8
LVC	Limon Verde	154.64	220		PFAKE		05 52 40.0	+13
LVC					LR	LR		
	comp=Z,187nm,19.0s,MS4.9							
TEIG	Tepich	156.30	5	ePKPab		PKPab	05 52 58.7	-1.1
TEIG					LR	LR		
	comp=Z,92nm,20.0s,MS4.6							
LPAZ	La Paz	158.11	233	PKIKP		PKPdf	05 52 28.4	-3.2
LPAZ	La Paz	158.11	233	ePKPdf		PKPdf	05 52 34.1	+2.5
LPAZ					LR	LR		
	comp=Z,278nm,20.0s,MS5.1							
SDV	Santo Domingo	160.09	308	ePKPdf		PKPdf	05 52 34.4	+0.4
SDV					LR	LR		
	comp=Z,155nm,20.0s							
JTS	JuntasAbangare	166.19	354		PFAKE		05 52 50.0	+10
JTS					LR	LR		
	comp=Z,84nm,20.0s							
OTAV	Otavalo	171.30	295	ePKPdf		PKPdf	05 52 45.9	+2.8
OTAV					LR	LR		
	comp=Z,310nm,22.0s							

GUC 05 05:58:33.1±0.7, 31.33S×68.93W, h112km±44km, MD3.6, ML3.2, 1C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	1.78	274	⇑iP	P	05 59 04.3	+0.5
CMCH				i S	S	05 59 27.7	+0.7
CMCH				AMP		05 59 29.6	
	comp=E,816nm,0.7s						
PTCH	Petorca	1.94	241	eP	P	05 59 05.7	-0.2
PTCH				i S	S	05 59 30.4	-0.1
PTCH				AMP		05 59 33.0	
	comp=N,208nm,0.2s						
TLL	Tololo Astrono	1.98	305	eP	P	05 59 07.0	+0.6
TLL				i S	S	05 59 32.4	+1.0
TLL				AMP		05 59 35.9	
	comp=N,198nm,0.5s						
FCH	Farellones	2.30	210	eP	P	05 59 11.2	+0.5
FCH				i S	S	05 59 40.5	+1.5
FCH				AMP		05 59 42.5	
	comp=E,45nm,0.3s						
CLCH	Cerro Calan	2.47	213	eP	P	05 59 12.8	-0.1
CLCH				i S	S	05 59 43.1	+0.1
CLCH				AMP		05 59 45.7	
	comp=E,76nm,0.7s						

*BJI **05** 06:03:21.8, 2.77N×95.27E, h32km, mB5.0, mb4.8*
*NEIC **05** 06:03:24.4±0.9, 2.85N×95.39E, h30km, mb4.6/5, Error ellipse: s-maj=35.3km s-min=12.5km az=51.0*

ISC 05 06:03:22.6±1.0, 2.8N±0.2×95.4E±0.2, h30km, n16, σ0$47/16, mb4.6/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYB	Hyderabad	21.98	312	eP	P	06 08 16.5	+0.4
HYB	Hyderabad	21.98	312	i P	P	06 08 16.5	+0.4
JIRN	Jiri	26.21	341	eP	P	06 08 56.8	0.0
PKI	Pulchoki	26.39	340	eP	P	06 08 58.8	+0.3
DMN	Daman	26.53	339	eP	P	06 09 00.2	+0.4
GUN	Gumba	26.54	341	eP	P	06 08 59.6	-0.3
	42nm,0.8s,mb5.0						
KKN	Kakani	26.63	340	eP	P	06 09 00.5	-0.2
LSA	Lhasa	27.03	352	P	P	06 09 04.6	+0.3
LSA	Lhasa	27.03	352	eP	P	06 09 03.8	-0.5
	14nm,0.7s,mb4.6						
GKN	Gorkha	27.06	339	eP	P	06 09 04.0	-0.6
	82nm,1.2s,mb5.1						
KOLN	Koldanda	27.24	337	eP	P	06 09 05.6	-0.6
	34nm,1.0s,mb4.8						
MBWA	Marble Bar	33.72	136	eP	P	06 10 04.3	+0.6
	7.3nm,0.9s,mb4.6						
BJT	Baijiatuau	41.54	24	eP	P	06 11 09.9	+0.7
	6.9nm,0.6s,mb4.5						
WRAB	Tennant Creek	44.44	122	eP	P	06 11 32.2	-0.8
	6.8nm,0.9s,mb4.4						
WB2	Warramunga Arr	44.44	122	eP	P	06 11 33.0	-0.1
NB2	NORSAR Subarra	84.71	331	P	P	06 15 55.0	+0.2
	1.2nm,0.8s,mb4.1,baz=88,slow=5.8						

*BJI **05** 06:10:19.4, 5.01N×94.37E, h55km, mB5.1, mb4.9, Ms4.2, Msz4.0*
*NEIC **05** 06:10:21.5±0.8, 5.43N×94.48E, h30km, mb4.7/9, Error ellipse: s-maj=27.3km s-min=12.2km az=63.0*

ISC 05 06:10:20.1±0.7, 5.4N±0.1×94.5E±0.1, h33km, n27, σ0$83/26, mb4.8/13, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHG	Chiang Mai	13.98	18	⇑iP	P	06 13 47.0	+8.7
	36nm,0.8s						
NANT	Nan	14.59	24	P	P	06 13 55.5	+9.2
CHRT	Chiangrai	15.24	19	⇓iP	P	06 14 02.0	+7.3
	108nm,1.0s						
HYB	Hyderabad	19.62	309	i P	P	06 14 48.5	-0.3
JIRN	Jiri	23.47	341	eP	P	06 15 27.3	-0.5
PKI	Pulchoki	23.65	340	eP	P	06 15 30.6	+1.1
	15nm,0.6s,mb4.6						
GUN	Gumba	23.80	341	eP	P	06 15 30.3	-0.7
KKN	Kakani	23.90	339	eP	P	06 15 31.8	-0.1
GKN	Gorkha	24.32	338	eP	P	06 15 35.7	-0.4
	67nm,0.8s,mb5.2						
LSA	Lhasa	24.34	353	P	P	06 15 37.4	+1.2
LSA	Lhasa	24.34	353	eP	P	06 15 37.1	+0.8
	31nm,1.0s,mb4.7						
KOLN	Koldanda	24.51	336	eP	P	06 15 38.0	+0.1
	88nm,1.0s,mb5.2						
ENH	Enshi	28.45	28	P	P	06 16 13.6	-0.7
	9.5nm,0.3s,mb4.9						
XAN	Xi'an	31.45	23	P	P	06 16 39.9	-1.0
XAN				AMB	AMB		
	comp=Z,24nm,0.7s,mb5.1						
FITZ	Fitzroy Crossi	38.61	128	eP	P	06 17 42.2	0.0
	comp=Z,7.4nm,0.8s,mb4.5						
BJT	Baijiatuau	39.57	26	eP	P	06 17 51.8	+1.8
	comp=Z,10nm,0.7s,mb4.7						
ULN	Ulaanbaatar	43.62	12	eP	P	06 18 22.7	-0.5
	comp=Z,1.5nm,0.4s,mb4.1						
WRAB	Tennant Creek	46.59	124	eP	P	06 18 47.3	+0.1
	comp=Z,16nm,0.7s,mb5.1						
WB2	Warramunga Arr	46.60	124	eP	P	06 18 47.3	0.0
HIA	Hailar	48.62	22	eP	P	06 19 02.6	-0.1
	comp=Z,2.9nm,0.4s,mb4.7						
STKA	Stephens Creek	58.19	133	eP	P	06 20 13.3	-0.3
	comp=Z,4.0nm,0.9s,mb4.5						
STKA				eP		06 20 13.6	
PRU	Pruhonice	79.40	320	eP	P	06 22 26.8	+2.2
KHC	Kasperske Hory	79.97	319	eP	P	06 22 26.5	-1.2
CLL	Collm	80.46	321	eP	P	06 22 26.0	-4.3
CLL	Collm	80.46	321	P	P	06 22 30.0	-0.3
RES	Resolute Bay	99.80	3	eP	P	06 24 02.5	+0.5
	comp=Z,3.4nm,1.2s,mb4.7						
JCT	Junction City	141.75	20	ePKPdf	PKPdf	06 29 50.5	+1.4

MAN 05 06:55:36.1, 8.88N×125.86E, h8km, mb4.6, ML3.5, MS3.4, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.25	292	eP	Pg	06 55 42.8	+1.5
BUTP				eS	Sg	06 55 47.7	+2.8
BIPH	Bislig	0.85	144	⇓eP	Pb	06 55 50.4	-2.2
BIPH				i S	Sb	06 56 02.1	-1.8
SCPH	Surigao	0.97	338	eP	Pb	06 55 53.9	-0.8
SCPH				i S	Sb	06 56 08.0	+0.4
BUKP	Musuan	1.27	219	eP	Pb	06 55 59.2	-0.6
MSLP	Maasin	1.59	322	eP	Pn	06 56 03.6	-1.2
MATI	Mati	1.96	168	eP	Pn	06 56 08.7	-1.3
KCP	Kidapawan	2.00	202	⇑iP	Pn	06 56 10.6	0.0
KCP				i S	Sn	06 56 37.2	+1.0
TBP	Tagbilaran	2.13	293	eP	Pn	06 56 11.6	-0.9
TBP				eS	Sn	06 56 36.6	-2.8
LLP	Lapu-Lapu	2.35	308	eP	Pn	06 56 14.7	-1.0
LLP				eS	Sn	06 56 40.7	-4.3
DCPH	Dipolog City	2.50	264	⇓iP	Pn	06 56 16.8	-0.9
DCPH				eS	Sn	06 56 48.1	-0.6
PAGZ	Pagadian	2.66	248	eP	Pn	06 56 20.1	+0.1
BESP	Borongan	2.74	351	eP	Pn	06 56 21.7	+0.5
GUIM	Jordan	3.66	299	eP	Pn	06 56 33.3	-1.0
CNP	Catarman	3.80	342	eP	Pn	06 56 37.0	+0.8
PVCP	Virac	4.98	341	eP	Pn	06 56 53.8	+0.8

*BJI **05** 07:03:38.1, 6.08N×92.59E, h57km, mB5.0, mb4.7, Ms4.3, Msz4.6*
*NEIC **05** 07:03:40.3±0.7, 6.49N×92.67E, h30km, mb4.5/8, Error ellipse: s-maj=15.6km s-min=13.2km az=199.0*

ISC 05 07:03:38.4±0.6, 6.48N±0.08×92.73E±0.07, h30km, n41, σ1$03/41, mb4.7/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	11.96	274	P	P	07 06 29.4	-0.8
CM31	Chiang Mai Arr	13.36	26	P	P	07 06 49.3	+0.7
MDRS	Chennai	13.93	299	eP	P	07 06 55.7	-0.6
VIS	Vishakhapatnam	14.46	321	eP	P	07 07 00.8	-2.4
VIS				e		07 07 01.9	
	comp=Z,22nm,0.6s						
VIS				eS	S	07 09 27.3	-16
TRD	Trivandrum	15.76	278	e	P	07 07 24.4	+4.2
TRD				e		07 07 25.9	
	comp=Z,23nm,0.6s						
HYB	Hyderabad	17.60	309	eP	P	07 07 44.0	+0.6
HYB	Hyderabad	17.60	309	i P	P	07 07 44.0	+0.6
IMP	Imphal	18.23	4	eP	P	07 07 48.4	-2.8
SHL	Shillong	18.99	358	eP	P	07 07 56.0	-4.4
SHL				i		07 12 26.0	
QIZ	Qiongzhong	20.81	52	eP	P	07 08 23.2	+3.1
QIZ	Qiongzhong	20.81	52	P	P	07 08 22.3	+2.2
	comp=Z,21nm,0.9s						
KAD	Karad	21.07	302	eP	P	07 08 23.0	+0.3
KAD				i		07 12 23.0	
POO	Poona	21.95	305	eP	P	07 08 32.0	+0.5
POO				e		07 12 24.0	
JIRN	Jiri	21.96	344	eP	P	07 08 30.9	-0.7
	comp=Z,55nm,0.9s,mb5.0						
PKI	Pulchoki	22.09	343	eP	P	07 08 32.8	-0.2
	comp=Z,40nm,0.9s,mb4.9						
DMN	Daman	22.22	342	eP	P	07 08 34.5	+0.3
	comp=Z,30nm,0.7s,mb4.8						
BHPL	Bhopal	22.24	320	eP	P	07 08 35.2	+0.8
BHPL				e		07 08 35.8	
	comp=Z,8.2nm,0.5s						
GUN	Gumba	22.28	344	eP	P	07 08 34.6	-0.2
	comp=Z,39nm,0.7s,mb5.0						
KKN	Kakani	22.34	342	eP	P	07 08 35.9	+0.5
GKN	Gorkha	22.74	341	eP	P	07 08 38.7	-0.7
	comp=Z,84nm,1.1s,mb5.1						
KOLN	Koldanda	22.88	339	eP	P	07 08 40.8	0.0
	comp=Z,78nm,1.5s,mb4.9						
LSA	Lhasa	23.14	357	eP	P	07 08 44.8	+1.5
LSA	Lhasa	23.14	357	eP	P	07 08 43.6	+0.2
	comp=Z,15nm,0.9s,mb4.4						
XAN	Xi'an	31.25	27	P	P	07 09 55.7	-2.2
XAN				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.7						
KZA	Kyzart	38.69	339	P	P	07 11 02.2	+0.8
	SNR=8.0						
UCH	Uchtor	39.09	338	P	P	07 11 05.6	+0.9
	SNR=21						
KBK	Karagaybulak	39.31	339	P	P	07 11 07.7	+1.1
	SNR=15						
AML	Almayashu	39.31	337	P	P	07 11 07.7	+1.1
	SNR=26						
TKM2	Tokmak 2	39.32	340	P	P	07 11 07.0	+0.4
	SNR=6.0						
AAK	Ala-Archa	39.45	339	P	P	07 11 08.9	+1.2
	SNR=9.7						
AAK	Ala-Archa	39.45	339	eP	P	07 11 06.5	-1.2
	comp=Z,11nm,0.9s,mb4.6						
EKS2	Erkin-Say	39.74	338	P	P	07 11 11.1	+1.0
	SNR=11						
USP	Ospenovka	40.00	339	P	P	07 11 12.6	+0.3
	SNR=17						
HIA	Hailar	48.34	23	eP	P	07 12 18.2	-1.1
	comp=Z,14nm,1.0s,mb5.0						
WRAB	Tennant Creek	48.64	124	eP	P	07 12 21.6	-0.3
	comp=Z,17nm,1.0s,mb5.0						
WB2	Warramunga Arr	48.64	124	eP	P	07 12 21.7	-0.3
STKA	Stephens Creek	60.19	132	eP	P	07 13 46.1	-0.1
	comp=Z,2.4nm,0.8s,mb4.3						
KAF	Kangasniemi	73.39	333	ep	P	07 15 06.7	-2.6
	comp=Z,5.5nm,0.9s,mb4.5						
BOSA	Boshof	73.66	238	P	P	07 15 12.2	+0.6
	comp=Z,2.5nm,0.8s,mb4.2						
KHC	Kasperske Hory	78.03	319	eP	P	07 15 35.5	-0.3
MNV	Mina	126.90	30	PKPdf	PKPdf	07 22 43.0	-2.1

CASC 05 07:12:47.8±2.3, 11.63N×86.22W, h127km±33km, MD3.9, 9C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TICN	Ticuantepe	0.40	358	⇑eP	P	07 13 06.2	+0.1
MGAN	Managua	0.51	357	⇑eP	P	07 13 06.6	-0.1
MGAN				eS	S	07 13 22.4	+1.3
XAVN	Gruta Xavier	0.52	349	⇑eP	P	07 13 06.8	0.0
WILN	Americas 2	0.53	3	⇑eP	P	07 13 06.6	-0.2
CONN	Concepcion	0.59	97	⇑eP	P	07 13 07.4	+0.2
APYN	Apoyeque	0.61	348	⇓eP	P	07 13 07.1	-0.2
COPN	Copalt

GKN	Gorkha	21.82	336	*eP*	P	07 29 40.6	-0.8
	42nm,0.7s,mb5.0						
KOLN	Koldanda	22.04	334	*eP*	P	07 29 43.6	0.0
	60nm,1.0s,mb5.0						
NDI	New Delhi	26.06	324	*e*	P	07 30 15.0	-7.6
ENH	Enshi	26.26	31	*eP*	P	07 30 29.1	+4.7
	8.7nm,0.9s,mb4.3						
DDI	Dehra Dun	26.85	328	*e*	P	07 30 28.0	-1.8
MBWA	Marble Bar	38.32	140	*eP*	P	07 32 09.8	+0.1
	3.3nm,0.8s,mb4.1						
ULN	Ulaanbaatar	41.10	13	*eP*	P	07 32 32.4	-0.1
	2.5nm,0.9s,mb3.8						
HIA	Hailar	46.27	23	*eP*	P	07 33 15.8	+1.6
	17nm,1.6s,mb4.7						
WRAB	Tennant Creek	48.26	126	*eP*	P	07 33 30.5	+0.3
	4.3nm,0.5s,mb4.7						
WB2	Warramunga Arr	48.26	126	*eP*	P	07 33 26.9	-3.4
KMBO	Kilima Mbogo	57.60	264	P	P	07 34 36.9	-2.8
	1.6nm,0.8s,mb4.1						
STKA	Stephens Creek	60.13	134	*eP*	P	07 34 56.8	-0.2
JOF	Joensuu	70.73	334	*ep*	P	07 35 59.7	-4.9
	3.1nm,0.7s,mb4.3						
BOSA	Boshof	75.83	238	*eP*	P	07 36 35.7	+0.5
	3.6nm,0.7s,mb4.4						
BRG	Berggiesshubel	77.69	320	*eP*	P	07 36 50.3	+5.1
	26nm,1.8s,mb4.8						
NB2	NORSAR Subarra	79.63	331	P	P	07 36 53.8	-1.8
	2.8nm,0.8s,mb4.2,baz=92,slow=5.3						
SUR	Sutherland	80.58	235	*eP*	P	07 37 02.3	+1.0
	2.7nm,0.8s,mb4.2						
IMA	Indian Mountai	91.37	22	*eP*	P	07 37 54.5	+0.8
	8.8nm,0.8s,mb5.1						
RES	Resolute Bay	97.19	2	*eP*	P	07 38 20.4	+0.4
	1.9nm,0.9s,mb4.5						

JMA 05 07:32:40.7±0.4, 33.14N×138.59E, h323km±4km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHMK	Hamakita	1.81	338	P	P	07 33 28.4	-0.1
HMMJ	Hamamatsu 2	1.86	337	P	P	07 33 28.9	+0.1
JOD2	Odawara 2	2.16	11	P	P	07 33 31.4	+0.3
JNY	Yasuok	2.29	345	P	P	07 33 32.7	+0.5
JNY				*eS*	S	07 34 11.5	-0.9
BSO3	Boso 3	2.30	43	P	P	07 33 32.1	-0.1
BSO3				*eS*	S	07 34 12.2	-0.3
BSO4	Boso 4	2.35	38	P	P	07 33 33.1	+0.5
BSO4				*eS*	S	07 34 12.9	-0.3
JYN	Shimob	2.35	359	P	P	07 33 33.4	+0.7
JAO	Obara	2.39	333	P	P	07 33 33.1	+0.1
BSO1	Boso 1	2.50	52	P	P	07 33 33.6	-0.3
BSO1				*eS*	S	07 34 14.1	-1.4
JHU	Hanno	2.77	12	P	P	07 33 36.2	-0.1
JHU				*eS*	S	07 34 16.8	-2.9
JRY	Ryogami san	2.88	5	P	P	07 33 37.9	+0.6
JRY				*eS*	S	07 34 20.8	-0.8
JGM	Miyama	2.98	329	P	P	07 33 38.5	+0.2
JYT	Yasato	3.35	23	P	P	07 33 41.3	-0.6
JYT				*eS*	S	07 34 27.2	-2.6
JAG	Ashikaga	3.35	12	P	P	07 33 41.0	-0.9
JAG				*eS*	S	07 34 27.3	-2.5
JWT	Wachi	3.40	310	P	P	07 33 41.7	-0.7
JWT				*eS*	S	07 34 27.2	-3.4
MAT	Matsushiro	3.41	355	P	P	07 33 42.4	-0.1
MAT				S	S	07 34 28.7	-2.1
MAT	Matsushiro	3.41	355	P	P	07 33 42.5	0.0
MAT				*eS*	S	07 34 29.2	-1.6
JHO	Hitachi	3.83	25	P	P	07 33 46.0	-0.8
JHO				*eS*	S	07 34 35.7	-2.8
JMN	Monobe	3.98	280	P	P	07 33 47.7	-0.7
JFK	Kawauchi	4.61	23	P	P	07 33 54.9	-0.4

DJA 05 07:53:24.7±1.0, 9.50S×113.93E, h15km, MD4.4/1, ML3.4/2, 1C-2D, Error ellipse: s-maj=23.8km s-min=14.4km az=43.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	1.04	12	⇑*i*	Pn	07 53 42.0	-2.7
	36nm,0.2s						
SRDI				*e*Sn	Sn	07 53 54.5	-4.4
KELI	Kelakatan	1.39	24	⇓*e*	Pn	07 53 47.3	-2.4
	51nm,0.2s						
KELI				*e*Sn	Sn	07 54 03.9	-4.0
RATI	Rata	1.76	64	⇓*e*	Pn	07 53 52.3	-2.7
RATI				*e*Sn	Sn	07 54 12.5	-4.8

*NEIC **05** 08:01:33.2, 37.23S×179.94W, h33km, ML4.7(WEL), After WEL.*

WEL 05 08:01:33.0±0.6, 37.24S×179.91W, h33km, ML4.4/6, Error ellipse: s-maj=5.4km s-min=4.9km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.46	257	P	P	08 01 56.1	-1.1
MXZ				S	S	08 02 13.2	-2.2
MXZ	Matakaoa Point	1.46	257	PN	Pn	08 01 56.1	-1.3
MXZ				SN	Sn	08 02 13.2	-2.3
MXZ				SN	Sn	08 02 14.0	-1.5
PUZ	Puketiti	1.68	240	*eP*	P	08 01 59.8	-0.6
PUZ				S	S	08 02 19.5	-1.4
PUZ	Puketiti	1.68	240	PN	Pn	08 01 59.8	-0.8
PUZ				SN	Sn	08 02 19.5	-1.6
PUZ				SN	Sn	08 02 19.7	-1.4
MWZ	Matawai	2.31	241	P	P	08 02 08.2	-1.2
MWZ	Matawai	2.31	241	PN	Pn	08 02 08.2	-1.4
MWZ				SN	Sn	08 02 34.8	-2.3
URZ	Urewera	2.57	246	P	P	08 02 12.2	-1.0
URZ	Urewera	2.57	246	PN	Pn	08 02 12.2	-1.2
URZ				SN	Sn	08 02 41.8	-2.0
KNZ	Kokohu	2.61	226	P	P	08 02 11.9	-1.8
KNZ				S	S	08 02 41.2	-3.3
KNZ	Kokohu	2.61	226	PN	Pn	08 02 11.9	-2.0
KNZ				SN	Sn	08 02 41.2	-3.5
KUZ	Kuaotunu	3.53	277	*eP*	P	08 02 25.4	-1.5
KUZ	Kuaotunu	3.53	277	PN	Pn	08 02 25.4	-1.7
OTVZ	Oturere	3.98	240	PN	Pn	08 02 31.2	-2.1
BFZ	Birch Farm	4.56	220	*eP*	P	08 02 36.9	-4.6
BFZ				S	S	08 03 26.1	-7.9
BFZ	Birch Farm	4.56	220	PN	Pn	08 02 36.9	-4.7
BFZ				SN	Sn	08 03 26.1	-8.1
THZ	Tophouse	7.16	229	PN	Pn	08 03 11.4	-6.8

IGQ 05 08:05:34.7, 0.29N×79.81W, h16km±5km, mb4.4, 7C-6D, Error ellipse: s-maj=10.9km s-min=3.0km az=24.1, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINO	Pino	1.29	110	⇑P	Pb	08 05 59.4	+1.3
TERV	Terraza Guagua	1.30	111	⇑P	Pb	08 05 59.5	+1.3
YANA	Yana	1.31	108	⇑P	Pb	08 05 59.7	+1.2
JUA2	San Juan 2	1.31	113	⇑P	Pb	08 05 59.9	+1.4
COTA	Cotacachi	1.48	88	⇓P	Pn	08 06 02.2	+1.4
NAS1	Nasa	1.62	125	⇓P	Pn	08 06 05.3	+2.3
VC1	Cotopaxi 1	1.69	123	⇓P	Pn	08 06 06.5	+2.6
TAMB	Tambo	1.75	124	⇑P	Pn	08 06 07.0	+2.3
CAYR	Refugio Cayamb	1.83	99	⇓P	Pn	08 06 09.1	+3.2
CAYR				S	Sn	08 06 43.5	+15
CAYA	Cayambe	1.84	97	⇑P	Pn	08 06 08.7	+2.7
CAYA				S	Sn	08 06 44.1	+15
PISA	Pisayambo	1.96	133	P	Pn	08 06 09.6	+1.8
IGUA	Igualata	2.12	146	P	Pn	08 06 11.6	+1.4
JUIV	Juive	2.17	142	⇑P	Pn	08 06 13.6	+2.7
CUSU	Cusua	2.18	142	P	Pn	08 06 13.2	+2.3
CONE	Cono NE Rev Vo	2.20	99	⇓P	Pn	08 06 15.7	+4.5
RETU	Refugio	2.21	142	P	Pn	08 06 14.6	+3.2
LAV3	Lava3-Reventad	2.22	100	⇓P	Pn	08 06 15.9	+4.5
ULBA	Ulba	2.23	141	P	Pn	08 06 13.6	+2.0
ARRY	Arrayan	2.25	143	P	Pn	08 06 13.8	+1.9

*ZUR_RM **05** 08:13:59, 50.97N×29.81W, h12km, Mw4.7/8, Moment Tensor Solution. s8 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.00; $M_{\theta\theta}$=0.05; $M_{\phi\phi}$=1.06; $M_{r\theta}$=0.38; $M_{\theta\phi}$=0.17; $M_{\phi r}$=0.41; Best double couple: M_0=1.19×10^{16} NP1:φs156°, δ59°, λ-107°. NP2:φs7°, δ35°, λ-64°. Principal axes: T 1.187, Plg12°, Azm258°; N .001, Plg15°, Azm165°; P -1.188, Plg71°, Azm27°;*

*NEIC **05** 08:13:59.3±0.4, 50.97N×29.81W, h10km, mb4.6/52 Error ellipse: s-maj=15.0km s-min=5.9km az=16.0*

ISC 05 08:13:57.6±0.4, 50.94N±0.10×29.82W±0.08, h10km, n92, σ1§04/89, mb4.5/39, MS4.5/3, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	Mazaricos	16.28	111	P	P	08 17 46.6	-1.2
	246nm,2.2s						
EMAZ	Mazaricos	16.28	111	P	P	08 17 46.6	-1.2
	246nm,2.2s,SNR=7.9						
EPON	Pontenova	17.16	108	P	P	08 17 58.8	0.0
	250nm,2.5s						
EPON	Pontenova	17.16	108	P	P	08 17 58.8	0.0
	250nm,2.5s,SNR=7.9						
EINC	Incio	17.42	110	P	P	08 18 01.8	-0.3
	148nm,2.1s						
EINC	Incio	17.42	110	P	P	08 18 01.8	-0.3
	148nm,2.1s,SNR=7.9						
ELOB	Lobios	17.48	113	P	P	08 18 03.1	+0.2
	74nm,1.9s,SNR=7.9						
ECAL	Calabor	18.21	111	P	P	08 18 11.6	-0.4
	116nm,2.1s						
ECAL	Calabor	18.21	111	P	P	08 18 11.6	-0.4
	116nm,2.1s,SNR=7.9						
EARI	Arriondas	18.35	105	P	P	08 18 11.7	-1.9
	88nm,2.0s						
EARI	Arriondas	18.35	105	P	P	08 18 11.7	-2.0
	88nm,2.0s,SNR=7.9						
GRR	Gorron	18.87	86	*eP*	P	08 18 16.7	-3.3
	147nm,1.7s						
FLN	La Foliniere	18.99	85	*eP*	P	08 18 21.0	-0.4
FLN				*eR*			
	688nm,22.4s						
ELAN	Lanestosa	19.48	103	P	P	08 18 25.4	-1.8
	63nm,1.7s						
ELAN	Lanestosa	19.48	103	P	P	08 18 25.4	-1.8
	63nm,1.7s,SNR=5.6						
EVO	Evora	19.76	120	*eP*	P	08 18 27.7	-2.7
	36nm,1.1s						
EVO				*eR*			
	476nm,18.8s						
MFF	Saint Martin d	19.96	91	*eP*	P	08 18 32.5	-0.1
	83nm,1.4s						
EBAD	Badajoz	20.15	118	P	P	08 18 34.6	0.0
	159nm,2.7s						
EBAD	Badajoz	20.15	118	P	P	08 18 34.6	0.0
	159nm,2.7s,SNR=7.1						
GUD	Guadarrama	20.55	110	P	P	08 18 39.1	+0.4
	20nm,0.9s,SNR=17						
EALK	Alkurruntz	20.68	101	P	P	08 18 38.7	-1.3
	7.8nm,0.6s						
EALK	Alkurruntz	20.68	101	P	P	08 18 38.7	-1.3
	7.8nm,0.6s,SNR=5.6						
EGRO	El Granado	20.77	122	P	P	08 18 43.5	+2.5
	4.8nm,1.0s						
EGRO	El Granado	20.77	122	P	P	08 18 43.5	+2.5
	4.8nm,1.0s,SNR=7.9						
SJPF	Ste Jean	20.91	101	*eP*	P	08 18 42.3	-0.1
	54nm,1.3s						
EMIN	Mina Concepcio	21.04	120	P	P	08 18 46.1	+2.4
EMIN	Mina Concepcio	21.04	120	P	P	08 18 46.1	+2.3
	SNR=7.9						
ESDC	Sonseca Array	21.27	112	P	P	08 18 46.7	+0.5
	3.0nm,0.7s,mb3.7						
ESDC	Sonseca Array	21.27	112	P	P	08 18 46.7	+0.5
	3.0nm,0.7s,mb3.7,baz=316,slow=42,SNR=17						
ESLA	Sonseca Array	21.27	112	*eP*	P	08 18 46.0	-0.2
	4.0nm,1.0s,mb3.7						
ETSF	Etsaut	21.43	101	*eP*	P	08 18 48.0	+0.2
	44nm,1.2s,mb4.4						
BAIF	Baives	21.56	79	*eP*	P	08 18 49.0	0.0
	53nm,0.9s,mb4.7						
RJF	Les Rejaudoux	21.56	93	*eP*	P	08 18 49.0	0.0
	51nm,0.9s,mb4.6						
RJF				*eR*			
	523nm,17.1s						
TCF	Toulx Ste Croi	21.58	90	*eP*	P	08 18 49.0	-0.2
	38nm,0.9s,mb4.5						
BGF	Bois d'Agland	21.87	89	*eP*	P	08 18 52.3	+0.1
	72nm,1.1s,mb4.7						
GIVF	Givet	21.93	79	*eP*	P	08 18 52.2	-0.5
	76nm,1.2s,mb4.7						
EBIE	Bielsa	21.98	100	P	P	08 18 53.3	0.0
	81nm,2.5s,mb4.7						
EBIE	Bielsa	21.98	100	P	P	08 18 53.3	0.0
	81nm,2.5s,mb4.7,SNR=9.3						
CAF	Calviac	22.08	93	*eP*	P	08 18 52.8	-1.4
	113nm,1.6s,mb4.7						
SSF	Saint Saulge	22.09	87	*eP*	P	08 18 54.7	+0.3
	52nm,1.1s,mb4.6						
AVF	Avril sur Loir	22.10	88	*eP*	P	08 18 54.1	-0.3
	52nm,1.0s,mb4.6						
ESAC	San Caprasio	22.14	103	P	P	08 18 55.7	+0.9
	2.9nm,0.5s,mb4.0						
ESAC	San Caprasio	22.14	103	P	P	08 18 55.7	+0.9
	2.9nm,0.5s,mb4.0,SNR=7.9						
EGRA	Graus	22.36	101	P	P	08 18 57.6	+0.5
	7.4nm,0.9s,mb4.1						
EGRA	Graus	22.36	101	P	P	08 18 57.6	+0.6
	7.4nm,0.9s,mb4.1,SNR=7.9						
SMF	Signal de Mont	22.47	88	*eP*	P	08 18 58.2	+0.1
	47nm,1.1s,mb4.5						
SCHQ	Schefferville	22.49	294	*eP*	P	08 18 55.9	-2.4
	36nm,1.4s,mb4.6						
MEZF	Maizieres J'vi	22.55	83	*eP*	P	08 18 59.2	+0.4
	99nm,1.0s,mb4.9						
EVIA	Vianos	22.81	112	P	P	08 19 03.8	+2.3
	19nm,1.2s,mb4.4						
EVIA	Vianos	22.81	112	P	P	08 19 03.8	+2.3
	19nm,1.2s,mb4.4,SNR=7.9						
EMOS	Mosqueruela	22.93	106	P	P	08 19 03.6	+1.0
	38nm,1.2s,mb4.7						
EMOS	Mosqueruela	22.93	106	P	P	08 19 03.6	+1.0
	38nm,1.2s,mb4.7,SNR=7.9						
MTLF	Montolieu	22.94	97	*eP*	P	08 19 01.2	-1.5
	24nm,1.1s,mb4.2						
EQES	Quesada	23.04	114	P	P	08 19 04.0	+0.3
	81nm,2.3s,mb4.8						
EQES	Quesada	23.04	114	P	P	08 19 04.0	+0.3
	81nm,2.3s,mb4.8,SNR=4.4						
ERTA	Horta de San J	23.07	104	P	P	08 19 05.1	+1.1
	108nm,1.4s,mb5.1						
ERTA	Horta de San J	23.07	104	P	P	08 19 05.1	+1.1
	108nm,1.4s,mb5.1,SNR=28						
EPOB	Poblet	23.30	102	P	P	08 19 07.3	+1.1
	44nm,1.8s,mb4.6						
EPOB	Poblet	23.30	102	P	P	08 19 07.3	+1.1
	44nm,1.8s,mb4.6,SNR=7.9						
HAU	Haudompre	23.54	83	*eP*	P	08 19 07.8	-0.6
	50nm,1.0s,mb4.6						
HAU				*eR*			
	396nm,19.1s						
LASF	Ste Croix	23.61	94	*eP*	P	08 19 07.1	-2.1
	104nm,1.8s,mb4.7						
VIVF	Saint-Julien-l	23.76	91	*eP*	P	08 19 10.3	-0.3
	28nm,1.1s,mb4.3						
CABF	La Chapelle	23.90	86	*eP*	P	08 19 10.9	-1.1
	39nm,1.1s,mb4.4						
HINF	Hinteralfeld	23.92	83	*eP*	P	08 19 11.7	-0.4
	52nm,1.1s,mb4.6						
CDF	Champ du Feu	23.98	81	*eP*	P	08 19 12.3	-0.4
ORIF	Oris-en-Rattie	24.50	90	*eP*	P	08 19 16.8	-1.0
	21nm,0.9s,mb4.3						
ORIF				*eR*			
	473nm,18.2s						
BFO	Black Forest	24.66	81	*eP*	P	08 19 21.3	+1.9
LPL	La Plagne	24.77	88	*eP*	P	08 19 20.9	+0.5
	29nm,1.0s,mb4.5						
LPG	La Plagne	24.79	88	*eP*	P	08 19 20.3	-0.3
	30nm,1.2s,mb4.4						
EIBI	Ibiza	24.86	106	P	P	08 19 23.1	+1.8
	121nm,2.2s,mb5.0						
CLZ	Clausthal	24.88	72	*eP*	P	08 19 24.2	+2.8
GRA1	Grafenberg Arr	26.00	77	*eP*	P	08 19 32.3	+0.3
GRF	Grafenberg Arr	26.00	77	*eP*	P	08 19 32.3	+0.3
CLL	Collm	26.61	72	*eP*	P	08 19 37.0	-0.5
	9.0nm,1.0s,mb4.2						
CLL				*i*		08 19 43.3	
CLL				*i*		08 19 49.4	
CLL	Collm	26.61	72	P	P	08 19 37.0	-0.5
	logA/T=1.0,mb4.3						
CLL				*i* *PP	pP	08 19 43.3	+2.9
CLL				*i* *SP	sP	08 19 49.4	+7.6
BRG	Berggiesshubel	27.30	73	*eP*	P	08 19 48.2	+4.3
	12nm,1.3s,mb4.3						
KHC	Kasperske Hory	27.64	77	*eP*	P	08 19 46.5	-0.5
GEC2	GERESS Array S	27.82	77	*eP*	P	08 19 48.7	+0.1
PSZ	Piszkesteto	31.98	76	*eP*	P	08 20 27.1	+1.3
	14nm,1.1s,mb4.7						
BINY	Binghamton	32.45	273	PFAKE		08 20 40.0	+10
BINY				LR	LR		
	comp=Z,548nm,19.0s,MS4.3						
CRVS	Cervenica-Dubn	32.54	73	*eP*	P	08 20 32.1	+1.6
KOLS	Kolonicke sedl	33.02	73	*eP*	P	08 20 35.9	+1.2
FVM	French Village	43.95	277	P	P	08 22 06.5	+0.4
	comp=Z,11nm,1.0s,mb4.5						
CCM	Cathedral Cave	44.42	278	*eP*	P	08 22 09.6	-0.4
	comp=Z,34nm,1.6s,mb4.8						
DBIC	Dimbokro	48.77	146	*eP*	P	08 22 43.8	-0.7
BOZ	Bozeman (W)	52.04	298	P	P	08 23 09.6	+0.5
	comp=Z,4.1nm,1.1s,mb4.3						
DAWY	Dawson	52.97	329	*eP*	P	08 23 15.9	+0.1
HWUT	Hardware Ranch	54.52	294	*eP*	P	08 23 27.2	-0.4
	comp=Z,8.5nm,0.8s,mb4.8						
PV10	Paradox Valley	55.12	290	*eP*	P	08 23 33.0	+1.0
MSU	Marysvale	56.89	292	*eP*	P	08 23 44.3	-0.4
AAK	Ala-Archa	65.98	52	PFAKE		08 25 00.0	+14
AAK				LR	LR		
	comp=Z,177nm,19.0s,MS4.3						
BJT	Baijiatuau	84.65	26	PFAKE		08 26 40.0	+7.8
BJT				LR	LR		
	comp=Z,514nm,21.0s,MS4.9						

MAN 05 08:25:29.3, 19.69N×122.43E, h1km, mb3.7, ML2.4, MS2.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	Basco	0.87	330	*eP*	Pg	08 25 46.2	-0.5
BBP				*eS*	Sg	08 26 02.1	+3.8
SGCP	Mt. Cagua	1.48	194	*eP*	Pn	08 25 58.9	+1.8
CVP	Callao Caves	2.06	196	*eP*	Pn	08 26 05.7	+0.4
CVP				*i* S	Sn	08 26 34.0	+2.0
APYP	Conner	2.13	212	*eP*	Pn	08 26 07.4	+0.9
APYP				*eS*	Sn	08 26 34.2	+0.2

AUST 05 08:31:02.9, 26.12S×153.41E, ML3.6, Near east coast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	Eidsvold	2.23	289	*eP*	Pn	08 31 38.7	-2.9
EIDS				*eS*	Sn	08 32 06.5	-3.8
	101nm,0.3s						
RMQ	Roma	4.20	264	*eP*	Pn	08 32 19.1	+10
RMQ				*eS*	Sn	08 33 07.5	+7.5
	22nm,0.6s						
ARMA	Armidale	4.56	200	*eP*	Pn	08 32 12.8	-2.0
ARMA				*eS*	Sn	08 33 09.8	+0.5
CMSA	Cobar Meteorol	8.66	230	*eP*	P	08 33 09.0	-3.3
CMSA				*eS*	Sn	08 34 41.4	-10
	3.3nm,0.5s						

*BJI **05** 08:32:55.3, 12.64N×92.52E, h27km, mB4.9, mb4.9, Ms4.4, Msz4.1*

*HRVD **05** 08:32:56.5±0.5, 13.02N×92.62E, h19km±1km, MW4.9/37, Centroid moment Tensor Solution. LP body waves: s23,c29;Mantle waves: s37,c58; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.23±.21; $M_{\theta\theta}$1.24±.14; $M_{\phi\phi}$0.99±.13; $M_{r\theta}$0.52±.27; $M_{\theta\phi}$1.17±.07; $M_{\phi r}$-0.50±.24; Best double couple: $M_0$2.372×10^{16} NP1:φs32°, δ47°, λ-113°. NP2:φs244°, δ48°, λ-67°. Principal axes: T 2.295, Plg1°, Azm318°; N .16, Plg17°, Azm48°; P -2.449, Plg73°, Azm226°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **05** 08:32:56.5±3.0, 13.00N×92.56E, h4km±18km, mb5.2/38 Error ellipse: s-maj=6.7km s-min=5.3km az=207.0*

NEIC Felt in the Andaman and Nicobar Islands.

*MOS **05** 08:33:00.5±1.0, 13.24N×92.53E, h33km, mb5.4/28, Error ellipse: s-maj=15.2km s-min=6.2km az=117.6*

ISC 05 08:32:59.1±0.2, 12.99N±0.04×92.58E±0.03, h33km, (h27km±2.2km:pP-P), n189, σ1§02/188, mb5.1/63, MS4.5/5, 10C-23D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.33	173	*i*	P	08 33 23.0	+1.4
NNT	Nongplab	6.99	92	P	P	08 34 44.0	+2.2
CM31	Chiang Mai Arr	8.19	48	*eP*	P	08 34 58.0	-0.5
CHG	Chiang Mai	8.43	46	⇓P	P	08 35 04.4	+2.6
	12nm,0.8s						
NANT	Nan	9.72	52	P	P	08 35 23.5	+3.8
CHRT	Chiangrai	9.72	44	⇑P	P	08 35 20.5	+0.6
	395nm,0.7s						
VIS	Vishakhapatnam	10.09	299	*eP*	P	08 35 21.1	-3.7
VIS				*eS*	S	08 37 03.7	-14
VIS				*e*		08 37 07.6	
	comp=E,638nm,0.2s						
VIS				*e*		08 37 07.7	
	comp=N,1μm,0.3s						
CAL	Calcutta	10.32	338	*eP*	P	08 35 28.8	+0.7
CAL				*e*		08 36 04.3	
CAL				*eS*	S	08 37 11.4	-12
AGT	Agartala	10.91	354	*eP*	P	08 35 34.0	-2.1
IMP	Imphal	11.80	6	*e*	P	08 35 45.5	-2.7
SHL	Shillong	12.53	357	*eP*	P	08 35 53.0	-5.0
SHL				*e*		08 38 09.0	
PALK	Pallekele	12.99	245	*eP*	P	08 36 01.3	-2.9
	comp=N,29nm,1.2s						
BLSP	Bilaspur	13.48	314	*eP*	P	08 36 08.6	-1.9
BLSP				*e*		08 38 25.7	
HYB	Hyderabad	14.23	290	*eP*	P	08 36 19.0	-1.5
	comp=N,58nm,0.8s						
HYB				*eS*	S	08 38 36.5	-22
HYB	Hyderabad	14.23	290	*i* P	P	08 36 19.0	-1.5
	comp=N,58nm,0.8s						
HYB				*eS*	S	08 38 36.5	-22
NGP	Nagpur	15.26	304	*eP*	P	08 36 33.4	-0.6
NGP				*e*		08 39 11.0	
JIRN	Jiri	15.77	339	*eP*	P	08 36 40.4	-0.1
	comp=N,189nm,0.8s						
ALBI	Allahabad	15.92	322	*eP*	P	08 36 41.0	-1.4
TRD	Trivandrum	15.98	255	*eP*	P	08 36 46.6	+3.4
TRD				*e*		08 36 49.0	
	comp=Z,93nm,0.8s						
TRD				*e*		08 39 29.7	
PKI	Pulchoki	15.98	336	*eP*	P	08 36 43.0	-0.2
	comp=Z,85nm,0.7s						
DMN	Daman	16.14	335	*eP*	P	08 36 45.8	+0.6
	comp=Z,146nm,0.8s						
KKN	Kakani	16.23	336	*eP*	P	08 36 46.6	+0.3
	comp=Z,155nm,1.1s						
LATR	Latur	16.34	291	*e

POO e 08 37 22.4
comp=Z,54nm,1.2s
POO e 08 40 29.3
BOM Bombay 19.89 290 eP **P 08 37 30.7 +0.1**
BOM e 08 40 54.0
PTH Pithoragarh 20.08 327 eP **P 08 37 33.0 +0.4**
PTH e 08 41 03.0
NDI New Delhi 21.18 320 eP **P 08 37 42.0 -2.0**
NDI e 08 41 26.5
AJM Ajmer 21.53 311⇓ iP **P 08 37 48.0 +0.5**
KHET Khetri 21.68 316 eP **P 08 37 49.7 +0.6**
KHET e 08 37 54.7
comp=Z,86nm,1.4s
DDI Dehra Dun 21.86 324 eP **P 08 37 52.2 +1.4**
DDI eS **S 08 41 48.7 +3.2**
ENH Enshi 23.25 40 eP **P 08 38 04.5 -0.1**
comp=Z,107nm,0.9s,mb5.3
LZH Lanzhou 25.14 22⇓ P **P 08 38 23.9 +1.1**
LZH AP pP 08 38 33.0 +0.9
LZH XP sP 08 38 37.1 +1.2
LZH PP PP 08 39 06.2 +5.1
LZH eS **S 08 42 50.0 +7.1**
LZH XS 08 43 04.9
LZH AMB AMB
comp=Z,58nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,197nm,5.4s
LZH LR LR
comp=E,973nm,11.2s
LZH LR LR
comp=Z,2μm,14.5s,MS4.7
XAN Xi'an 25.69 33 P **P 08 38 27.9 -0.2**
XAN AMB AMB
comp=Z,56nm,0.8s,mb5.2
NJ2 Nanjing 30.67 47 eP **P 08 39 13.4 +0.4**
NJ2 AP pP 08 39 22.2 -0.4
NJ2 XP sP 08 39 26.1 -0.9
NJ2 PP PP 08 40 14.5 +0.5
NJ2 S **S 08 44 11.0 -1.0**
NJ2 AMB AMB
comp=Z,40nm,4.8s
NJ2 LR LR
comp=N,1μm,15.6s,MS4.8
NJ2 LR LR
comp=E,900nm,12.9s,MS4.8
NJ2 LR LR
comp=Z,1μm,12.9s,MS4.7
WMQ Urumqi 31.01 353 P **P 08 39 17.0 +1.1**
SSE Sheshan 31.91 51 P **P 08 39 22.6 -1.4**
SSE S **S 08 44 31.6 0.0**
SSE XS 08 44 47.1
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,86nm,5.6s
SSE LR LR
comp=N,153nm,15.5s,MS4.0
SSE LR LR
comp=E,203nm,15.5s,MS4.0
SSE LR LR
comp=Z,235nm,15.5s,MS4.0
ULHL Ulahol 32.42 337 P **P 08 39 28.4 0.0**
SNR=8.0
KZA Kyzart 32.67 336 P **P 08 39 31.5 +1.1**
SNR=26
UCH Uchtor 33.09 335 P **P 08 39 35.2 +1.1**
SNR=25
TKM2 Tokmak 2 33.25 337 P **P 08 39 36.1 +0.7**
SNR=13
KBK Karagaybulak 33.27 336 P **P 08 39 37.4 +1.7**
SNR=12
AML Almayashu 33.35 334 P **P 08 39 37.7 +1.3**
SNR=26
AAK Ala-Archa 33.44 335 P **P 08 39 38.3 +1.2**
SNR=26
AAK Ala-Archa 33.44 335⇑ iP **P 08 39 34.6 -2.5**
AAK pmax pmax
comp=Z,31nm,0.9s,mb5.2
FRU Bishkek 33.56 336⇓ eP **P 08 39 38.5 +0.4**
FRU pmax pmax
comp=Z,40nm,1.8s,mb5.0
CHMS Chumysh 33.64 336 P **P 08 39 39.5 +0.6**
SNR=16
EKS2 Erkin-Say 33.76 335 P **P 08 39 41.2 +1.4**
SNR=27
USP Ospenovka 33.97 336 P **P 08 39 42.1 +0.5**
SNR=54
BJT Baijiatuau 34.00 33 eP **P 08 39 42.7 +0.7**
comp=Z,39nm,1.4s,mb5.2
MK02 Makanchi Array 34.77 348 P **P 08 39 48.7 +0.2**
MK02 pmax pmax
comp=Z,32nm,0.8s,mb5.3
ULN Ulaanbaatar 36.81 16⇑ iP **P 08 40 04.4 -1.4**
ZAK Zakamensk 38.30 11 eP **P 08 40 19.2 +0.9**
MOY Mondy 39.17 8 eP **P 08 40 27.3 +1.8**
SNY Shenyang 39.39 37⇓ P **P 08 40 27.6 +0.2**
SNY AP pP 08 40 35.6 -1.6
SNY AMB AMB
comp=Z,20nm,1.1s,mb4.8
SNY LR LR
comp=N,290nm,17.1s,MS4.6
SNY LR LR
comp=E,610nm,15.7s,MS4.6
SNY LR LR
comp=Z,450nm,18.4s,MS4.3
TLY Talaya 39.62 11⇓ iP **P 08 40 28.3 -0.8**
TLY pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
KS15 Wonju Array Si 39.80 46 eP **P 08 40 30.9 +0.1**
NVS Novosibirsk 42.40 352 iP **P 08 40 50.7 -1.3**
NVS pmax pmax
comp=Z,20nm,1.2s,mb4.6
NVS pmax pmax
comp=N,25nm,1.6s
HIA Hailar 42.54 26 eP **P 08 40 53.9 +0.6**
MBWA Marble Bar 43.16 141 eP **P 08 40 58.1 -0.6**
BVA0 Borovoye Array 43.69 341 P **P 08 41 02.4 -0.2**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s
CHKZ Chkalovo 44.17 341 eP **P 08 41 06.7 +0.2**
comp=Z,49nm,0.8s,mb5.3
FITZ Fitzroy Crossi 44.92 133 eP **P 08 41 11.7 -1.3**
comp=Z,33nm,0.5s,mb5.4
MAJO Matsushiro 47.05 52 eP **P 08 41 29.4 -0.2**
comp=Z,18nm,0.9s,mb5.0
MAT Matsushiro 47.05 52 eP **P 08 41 30.0 +0.4**
comp=Z,35nm,1.4s,mb5.1
MAT Matsushiro 47.05 52 P **P 08 41 30.2 +0.6**
BOD Bodaibo 47.60 15⇑ iP **P 08 41 33.3 -0.4**
BOD e 08 41 40.8
GNI Garni 49.84 312⇓ iP **P 08 41 51.5 +0.3**
GNI pmax pmax
comp=Z,81nm,1.0s
MUN Mundaring 50.11 154 eP **P 08 41 52.7 -0.7**
comp=Z,7.9nm,0.5s,mb5.0
SVE Sverdlovsk 50.12 338 eP **P 08 41 53.0 0.0**
SVE pmax pmax
comp=Z,100nm,1.5s,mb5.6
CLNS Chul'man 50.26 22 eP **P 08 41 53.2 -0.9**
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=Z,24nm,1.0s,mb5.2
CLNS pmax pmax
comp=E,10.0nm,0.9s
TI2 Plekhanov 50.37 314 iP **P 08 41 56.0 +0.8**
TI2 pmax pmax
comp=Z,40nm,0.8s,mb5.5
KLBR Kellerberrin 50.48 152 eP **P 08 41 55.0 -1.1**
comp=Z,9.6nm,0.6s,mb5.0
ARU Arti 50.62 336⇓ iP **P 08 41 54.8 -2.1**
ARU e 08 43 13.0
ARU e 08 43 49.2
ARU eS **S 08 49 04.1 -3.8**
ARU e 08 51 42.2
ARU eSS SS 08 52 40.8 +1.3
ARU pmax pmax
comp=Z,29nm,0.9s,mb5.2
ZEI Tsey 51.32 315 eP **P 08 42 03.5 +1.1**
NWAO Narrogin (SRO) 51.37 153 eP **P 08 42 01.6 -1.3**
WRAB Tennant Creek 52.53 128 eP **P 08 42 10.4 -1.3**
comp=Z,23nm,0.6s,mb5.3
WB2 Warramunga Arr 52.54 128 eP **P 08 42 10.4 -1.4**
KIV Kislovodsk 52.56 316 P **P 08 42 12.4 +0.8**
comp=Z,376nm,0.9s,SNR=9.9

KIV Kislovodsk 52.56 316⇓ iP **P 08 42 12.2 +0.6**
KIV i 08 42 20.1
KIV pmax pmax
comp=Z,66nm,0.9s,mb5.6
KIV Kislovodsk 52.56 316⇓ iP **P 08 42 11.3 -0.3**
GOF Gofitskoye 52.71 317⇓ iP **P 08 42 13.0 +0.2**
GOF pmax pmax
comp=Z,40nm,1.0s,mb5.3
SOKR Solikamsk 53.51 338 iP **P 08 42 17.6 -0.9**
SOKR pmax pmax
comp=Z,40nm,0.9s,mb5.3
YSS Yuzh-Sakhalins 53.82 41⇑ iP **P 08 42 21.0 0.0**
YSS e 08 42 28.5
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.2
MALT Malatya 54.06 308 eP **P 08 42 23.1 +0.3**
comp=Z,25nm,1.1s,mb5.1
SOC Sochi 54.48 315 iP **P 08 42 25.7 -0.1**
SOC pmax pmax
comp=Z,35nm,0.8s,mb5.3
SOC pmax pmax
comp=N,24nm,0.9s
SOC pmax pmax
comp=E,15nm,0.9s
YAK Yakutsk 55.71 20 eP **P 08 42 32.4 -2.1**
YAK e 08 42 40.2
YAK pmax pmax
comp=Z,21nm,0.9s,mb5.2
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.3s
ANN Anapa 56.40 315 eP **P 08 42 32.0 -7.7**
ANN pmax pmax
comp=Z,90nm,1.1s,mb5.7
KMBO Kilima Mbogo 56.63 260 eP **P 08 42 42.6 +0.8**
comp=Z,6.0nm,1.1s,mb4.5
SIM Simferopol' 58.72 315c iP **P 08 42 56.1 0.0**
SIM eS **S 08 50 57.9 +1.1**
SIM ePS PS 08 51 03.0 -12
SIM pmax pmax
comp=Z,50nm,0.8s,mb5.6
MOS Moscow 59.95 328 eP **P 08 43 03.1 -1.4**
MOS pmax pmax
comp=Z,66nm,1.1s,mb5.6
OBN Obninsk 60.27 327⇓ iP **P 08 43 05.0 -1.7**
OBN i 08 43 51.2
OBN pmax pmax
comp=Z,42nm,1.1s,mb5.4
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.5
OBN Obninsk 60.27 327⇓ iP **P 08 43 03.7 -3.0**
CTAO Charters Tower 62.19 121 P **P 08 43 22.2 +2.2**
MBAR Mbarara 62.77 263 eP **P 08 43 24.3 +0.4**
comp=Z,26nm,1.3s,mb5.2
CFR Carcaliu 62.92 314 P **P 08 43 24.3 -0.3**
MA2 Magadan 63.02 29 eP **P 08 43 24.0 -1.0**
MA2 e 08 52 15.6
MA2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
VRI Vrincioaia 64.00 315 P **P 08 43 32.1 +0.5**
MLR Muntele Rosu 64.49 314 P **P 08 43 35.5 +0.7**
STKA Stephens Creek 64.75 135 eP **P 08 43 35.8 -1.0**
comp=Z,4.5nm,0.8s,mb4.5
BURAR Bucovina Array 65.28 317 P **P 08 43 40.2 +0.3**
JOF Joensuu 65.61 334 ep **P 08 43 40.1 -1.6**
comp=Z,25nm,0.7s,mb5.4
JOF Joensuu 65.61 334 eP **P 08 43 40.1 -1.6**
JOF pmax pmax
comp=Z,25nm,0.7s,mb5.3
LVV L'vov 66.36 319 eP **P 08 43 45.1 -1.6**
KWP Kalwaria 67.19 319 eP **P 08 43 52.0 +0.1**
KWP Kalwaria 67.19 319 eP **P 08 43 52.0 0.0**
KOLS Kolonicke sedl 67.39 318 eP **P 08 43 53.0 -0.2**
KOLS e pP 08 44 02.8 -0.8
SUW Suwalki 67.50 323 eP **P 08 43 53.2 -0.6**
KAF Kangasniemi 67.57 332 ep **P 08 43 53.1 -1.1**
comp=Z,23nm,1.0s,mb5.2,baz=103,slow=6.0
KAF Kangasniemi 67.57 332 eP **P 08 43 53.1 -1.1**
KAF pmax pmax
comp=Z,23nm,1.0s,mb5.2
CRVS Cervenica-Dubn 67.92 318 eP **P 08 43 58.0 +1.4**
KECS Kecovo 68.53 317 eP **P 08 43 59.3 -1.1**
NIE Niedzica 68.72 318 eP **P 08 44 01.9 +0.4**
PSZ Piszkesteto 68.88 316 eP **P 08 44 02.5 -0.1**
comp=Z,15nm,1.1s,mb4.8
PSZ Piszkesteto 68.88 316⇑ iP **P 08 44 02.6 +0.1**
OJC Ojcow 69.11 319 eP **P 08 44 03.3 -0.7**
KEV Kevo 69.53 340 ep **P 08 44 04.6 -1.6**
comp=Z,12nm,0.7s,mb4.9
KEV Kevo 69.53 340 eP **P 08 44 04.6 -1.6**
KEV pmax pmax
comp=Z,12nm,0.7s,mb4.9
VYHS Vyhne 69.62 317 iP **P 08 44 06.7 -0.4**
LSZ Lusaka 69.63 248 eP **P 08 44 08.2 +0.6**
comp=Z,64nm,1.8s,mb5.2
SRO Srobarova 69.93 316 eP **P 08 44 09.6 +0.6**
OKC Ostrava-Krasne 70.15 318 eP **P 08 44 10.2 -0.1**
ZST Bratislava 70.76 317 eP **P 08 44 14.3 +0.3**
TIP Timpagrande 70.97 307 P **P 08 44 14.1 -1.4**
ARMA Armidale 71.30 129 eP **P 08 44 19.3 +1.7**
DPC Dobruska-Polom 71.35 319 eP **P 08 44 18.0 +0.5**
DPC epP pP 08 44 25.3 -2.5
KSP Ksiaz 71.39 319 eP **P 08 44 18.0 +0.2**
KSP ePcP PcP 08 44 37.8 +0.3
KSP Ksiaz 71.39 319 eP **P 08 44 18.2 +0.5**
UPC Upice 71.55 319 eP **P 08 44 19.3 +0.6**
UPC epP pP 08 44 27.1 -1.9
ARSA Arzberg 71.81 316⇑ iP **P 08 44 20.6 +0.3**
comp=Z,8.7nm,0.9s,mb4.7
BOJS Bojanci 71.99 314 eP **P 08 44 21.0 -0.4**
PERS Pernice 72.08 315 iP **P 08 44 21.9 0.0**
PVCC Panska Ves 72.47 319 eP **P 08 44 23.2 -1.0**
OBKA Obir 72.48 315⇓ iP **P 08 44 24.5 +0.2**
comp=Z,16nm,0.9s,mb5.0
PRU Pruhonice 72.48 319 eP **P 08 44 24.7 +0.4**
BRG Berggiesshubel 72.88 319 eP **P 08 44 26.9 +0.3**
BRG e 08 44 44.6
BRG pmax pmax
comp=Z,36nm,1.4s,mb5.1
BRG Berggiesshubel 72.88 319 eP **P 08 44 26.9 +0.3**
comp=Z,36nm,1.4s,mb5.1
BRG e 08 44 44.6
VOY Vojsko 72.94 314 eP **P 08 44 26.5 -0.6**
GEC2 GERESS Array S 73.03 317 eP **P 08 44 28.0 +0.4**
GEC2 pmax pmax
comp=Z,27nm,1.0s,mb5.1
GEC2 GERESS Array S 73.03 317 eP **P 08 44 28.0 +0.4**
comp=Z,27nm,1.0s,mb5.1
KHC Kasperske Hory 73.11 318 eP **P 08 44 28.2 +0.2**
KHC epP pP 08 44 39.0 +0.7
CLL Collm 73.47 320⇓ iP **P 08 44 29.7 -0.4**
CLL e 08 44 45.0
CLL pmax pmax
comp=Z,16nm,1.0s,mb4.9
CLL Collm 73.47 320⇓ iP **P 08 44 29.7 -0.4**
comp=Z,16nm,1.0s,mb4.9
CLL e 08 44 45.0
CLL Collm 73.47 320 ⇓ P **P 08 44 29.7 -0.4**
comp=Z,logA/T=1.2,mb4.9
CLL Collm 73.47 320 P PcP 08 44 45.0 -1.4
WET Wettzell 73.57 318 eP **P 08 44 31.2 +0.5**
MOX Moxa 74.36 319 eP **P 08 44 35.6 +0.4**
MOX pmax pmax
comp=Z,37nm,1.7s,mb5.0
MOX Moxa 74.36 319 eP **P 08 44 35.6 +0.4**
comp=Z,37nm,1.7s,mb5.0
MOX Moxa 74.36 319 iP **P 08 44 35.6 +0.4**
comp=Z,logA/T=1.3,mb5.0
WTTA Wettenberg 74.45 316⇓ iP **P 08 44 35.2 -0.7**
comp=Z,17nm,1.0s,mb4.9
WATA Walderalm 74.49 316⇓ iP **P 08 44 34.8 -1.3**
comp=Z,36nm,1.7s,mb5.0
NB2 NORSAR Subarra 74.56 330 P **P 08 44 35.3 -0.9**
comp=Z,15nm,0.8s,mb5.0,baz=90,slow=5.6
NB2 NORSAR Subarra 74.56 330 P **P 08 44 35.3 -0.9**
baz=90,slow=5.9
GRA1 Grafenberg Arr 74.64 318 eP **P 08 44 37.2 +0.3**
comp=Z,22nm,1.0s,mb5.0
GRF Grafenberg Arr 74.64 318 eP **P 08 44 37.2 +0.3**
GRF pmax pmax
comp=Z,22nm,1.0s,mb5.0
GRF Grafenberg Arr 74.64 318 eP **P 08 44 37.2 +0.3**
comp=Z,22nm,1.0s,mb5.0

FUR Furstenfeldbru 74.66 317 eP **P 08 44 36.9 -0.1**
SQTA Sankt Quirin 74.75 316⇓ iP **P 08 44 36.8 -0.8**
comp=Z,9.6nm,1.0s,mb4.7
MOTA Moosalm 74.81 316⇑ iP **P 08 44 37.1 -0.8**
comp=Z,7.0nm,1.0s,mb4.5
BSEG Bad Segeberg 75.07 323 eP **P 08 44 40.1 +0.8**
CLZ Clausthal 75.10 321 eP **P 08 44 40.0 +0.5**
comp=Z,28nm,1.0s,mb5.2
DAVA Damuels 75.65 316⇓ iP **P 08 44 42.6 -0.1**
comp=Z,23nm,1.0s,mb5.1
BFO Black Forest 76.62 317 eP **P 08 44 47.8 -0.4**
BFO pmax pmax
comp=Z,15nm,1.1s,mb4.8
BFO Black Forest 76.62 317 eP **P 08 44 47.8 -0.4**
comp=Z,15nm,1.1s,mb4.8
BOSA Boshof 77.05 236 eP **P 08 44 52.0 +0.9**
comp=Z,9.2nm,0.7s,mb4.8
LPG La Plagne 77.96 314 eP **P 08 44 56.2 +0.4**
comp=Z,44nm,0.8s,mb5.2
BNI Bardonecchia 78.06 314 eP **P 08 44 56.0 -0.4**
comp=Z,15nm,0.8s,mb5.0
SUR Sutherland 82.01 234 eP **P 08 45 19.8 +2.1**
IMA Indian Mountai 87.49 22 eP **P 08 45 45.8 +1.5**
comp=Z,26nm,0.8s,mb5.5
SPU Mount Spurr 90.40 26 eP **P 08 45 59.4 +1.2**
RES Resolute Bay 92.38 2 P **P 08 46 05.4 -1.7**
comp=Z,4.0nm,0.9s,mb4.8
INK Inuvik 92.52 16 eP **P 08 46 08.4 +0.6**
comp=Z,25nm,1.4s,mb5.5
DAWY Dawson 93.64 20 eP **P 08 46 14.3 +1.2**
MNV Mina 121.32 28 ePKPdf PKPdf 08 51 52.2 +2.8
MVU Marysvale 123.77 23 ePKPdf PKPdf 08 51 57.4 +3.3
MSU Marysvale 123.78 23 ePKPdf PKPdf 08 51 57.6 +3.4
ISCO Idaho Springs 124.82 17 PKPdf PKPdf 08 51 57.9 +1.8
ANMO Albuquerque 129.02 20⇑ iPKIKP PKPdf 08 52 07.4 +3.0
TUC Tucson 129.72 26 ePKPdf PKPdf 08 52 09.1 +3.4
GDL2 Guadalupe Moun 132.23 19 ePKPdf PKPdf 08 52 12.2 +1.7
JCT Junction City 135.17 15 ePKPdf PKPdf 08 52 18.0 +1.9
TRQA Tornquist 146.30 218 ePKPdf PKPdf 08 52 37.5 +1.9

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*CSEM **05** 08:41:15.8±0.2, 40.71N×27.44E, h2km, MD2.6, Error ellipse: s-maj=5.7km s-min=2.2km az=26.0*

ISK 05 08:41:16.0, 40.69N×27.43E, h5km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFT	**Murefte**	**0.15**	**311**	i PG	Pg	08 41 19.9	+0.8
MFT				i SG	Sg	08 41 22.1	+1.0
MRMT	**Marmara Adasi**	**0.15**	**124**	i PG	Pg	08 41 19.6	+0.4
MRMT				i SG	Sg	08 41 22.1	+0.7
EDC	**Edincik**	**0.48**	**136**	i PG	Pg	08 41 26.6	+1.0
BNT	**Bandirma**	**0.50**	**132**	i PG	Pg	08 41 26.7	+0.6
LPK	**Lapseki**	**0.60**	**238**	PG	Pg	08 41 28.9	+0.9
LPK				SG	Sg	08 41 37.8	+1.8
KCT	**Karacabey**	**0.83**	**121**	PG	Pg	08 41 32.6	+0.1

CASC 05 08:56:13.8±2.3, 13.14N×89.14W, h45km±39km, MD4.0, ML3.6, 3C-11D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.48**	**9⇓**	iP	P	08 56 24.7	+0.1
LCBS	**La Ceiba**	**0.53**	**17⇓**	iP	P	08 56 25.2	+0.1
SNET	**Serv Nac Est T**	**0.55**	**351⇑**	eP	P	08 56 25.5	+0.1
SNET				eS	S	08 56 34.2	+0.5
SNET				i		08 56 38.4	
comp=Z,6μm,0.2s							
SNVI	**San Vicente**	**0.55**	**32**	eP	P	08 56 25.7	+0.3
SNVI				eS	S	08 56 35.0	+1.2
LBRS	**Las Brisas**	**0.60**	**9⇓**	eP	P	08 56 26.6	+0.5
LFU	**La Fuente**	**0.60**	**3⇓**	iP	P	08 56 26.5	+0.4
BOQS	**Boqueron**	**0.60**	**347⇓**	iP	P	08 56 26.6	+0.4
SBLS	**San Blas**	**0.84**	**326⇓**	eP	P	08 56 29.3	0.0
SBLS				eS	S	08 56 41.4	+0.7
SNJE	**San Jose**	**0.85**	**328⇓**	eP	P	08 56 29.4	-0.1
SNJE				eS	S	08 56 41.8	+0.7
RTR	**El Retiro**	**0.90**	**327⇓**	eP	P	08 56 30.2	+0.1
BLLM	**Bellamira**	**0.93**	**71⇓**	eP	P	08 56 31.0	+0.4
BLLM				eS	S	08 56 43.2	+0.2
CAHU	**Cacacuatique**	**1.10**	**55⇑**	eP	P	08 56 33.1	+0.2
RBDL	**Robledal**	**1.10**	**331⇑**	eP	P	08 56 33.0	0.0
MTO2	**Montecristo 2**	**1.27**	**350⇓**	iP	P	08 56 35.5	+0.1
CNCH	**Conchagua**	**1.28**	**84⇓**	eP	P	08 56 35.0	-0.6
CNCH				eS	S	08 56 52.7	+0.9
LEON	**Leon**	**2.31**	**108**	eP	P	08 56 50.3	+0.1
TEL3	**Telica 3**	**2.31**	**104**	eP	P	08 56 48.7	-1.5
TEL3				eS	S	08 57 16.4	-1.1
MIRN	**Miramar**	**2.47**	**106**	eP	P	08 56 52.4	-0.2
MIRN				eS	S	08 57 20.8	-0.9
MOMJ	**Momotombo**	**2.64**	**106**	eP	P	08 56 56.5	+1.6
COPN	**Copaltepe**	**2.67**	**111**	eP	P	08 56 53.1	-2.2
COPN				eS	S	08 57 27.8	+1.2
APYN	**Apoyeque**	**2.87**	**108**	eP	P	08 56 58.1	-0.1
MGAN	**Managua**	**2.99**	**109**	eP	P	08 56 58.5	-1.5
MGAN				eS	S	08 57 31.4	-3.5
MGAN				i		08 57 45.8	
comp=N,124nm,1.1s							

ISC 05 09:04:57.0±0.8, 12.99N±0.08×92.2E±0.1, h33km, n10, σ1§07/12, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.43**	**158**	i P	**P**	**09 05 20.0**	**-0.9**
PBA				i S	**S**	**09 05 39.5**	**+0.8**
VIS	**Vishakhapatnam**	**9.75**	**300**	eP	**P**	**09 07 16.1**	**-2.0**
VIS				eS	**S**	**09 08 58.5**	**-9.1**
VIS				e		09 09 01.2	
comp=E,84nm,0.2s							
VIS				e		09 09 01.3	
comp=Z,43nm,0.3s							
JIRN	**Jiri**	**15.64**	**340**	eP	**P**	**09 08 33.4**	**-3.2**
comp=Z,12nm,0.4s							
PKI	**Pulchoki**	**15.83**	**337**	eP	**P**	**09 08 38.9**	**-0.2**
comp=Z,16nm,0.5s							
DMN	**Daman**	**15.98**	**337**	eP	**P**	**09 08 41.8**	**+0.7**
comp=Z,13nm,0.5s							
GKN	**Gorkha**	**16.52**	**336**	eP	**P**	**09 08 48.4**	**+0.6**
comp=Z,21nm,0.4s							
KOLN	**Koldanda**	**16.75**	**333**	eP	**P**	**09 08 51.8**	**+1.0**
comp=Z,24nm,0.7s							
BHPL	**Bhopal**	**17.33**	**308**	eP	**P**	**09 08 57.8**	**-0.2**
BHPL				AMb	AMB	09 09 01.4	
comp=Z,7.4nm,0.4s							
POO	**Poona**	**18.48**	**290**	eS	**S**	**09 12 35.0**	**+0.9**
KHC	**Kasperske Hory**	**72.85**	**318**	eP	**P**	**09 16 31.0**	**+6.6**

MAN 05 09:09:59.2, 18.76N×121.33E, h1km, mb3.6, ML2.4, MS1.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.86**	**127**	eP	Pg	09 10 16.5	+0.2
SGCP				eS	Sg	09 10 31.9	+4.1
APYP	**Conner**	**0.90**	**185**	eP	Pg	09 10 16.9	-0.3
APYP				eS	Sg	09 10 32.9	+3.8
CVP	**Callao Caves**	**1.15**	**156**	eP	Pb	09 10 22.0	+0.4
CVP				i S	Sb	09 10 41.0	+4.0

WEL 05 09:18:23.3±0.4, 37.65S×178.10E, h81km±3km, ML3.5/3, 1C-3D, Error ellipse: s-maj=2.9km s-min=1.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.18**	**63**	⇑PN	P	09 18 35.1	-0.1
MXZ				SN	S	09 18 43.0	-1.0
PUZ	**Puketiti**	**0.44**	**164**	⇓PN	P	09 18 36.5	-0.2
PUZ				SN	S	09 18 45.9	-1.0
PUZ				SN	S	09 18 46.2	-0.7
WIZ	**White Island**	**0.73**	**279**	PN	P	09 18 39.5	-0.2
MWZ	**Matawai**	**0.82**	**213**	⇓PN	P	09 18 40.7	+0.1
MWZ				SN	S	09 18 53.2	-0.3
URZ	**Urewera**	**0.99**	**232**	⇓PN	P	09 18 42.2	-0.4
URZ				SN	S	09 18 55.5	-1.6
EDRZ	**Edgecumbe**	**1.17**	**247**	PN	P	09 18 44.5	-0.3
MARZ	**Manawahe**	**1.18**	**253**	PN	P	09 18 43.8	-1.1
KNZ	**Kokohu**	**1.41**	**194**	PN	P	09 18 47.0	-1.0
KNZ				SN	S	09 19 06.0	-0.3

MYRZ	**Mayor Island**	**1.52 283**	PN	P	09 18 48.6	-0.9
KUZ	**Kuaotunu**	**2.10 295**	PN	P	09 18 56.8	-0.4
KUZ			SN	S	09 19 21.1	-1.2
WCZ	**Waipu Caves**	**3.46 298**	PN	P	09 19 16.9	+0.8
TUWZ	**Tuamarina**	**4.96 219**	SN	S	09 20 27.0	-6.5
KHZ	**Kahutara**	**5.91 215**	SN	S	09 20 46.2	-11

*HLW **05** 09:52:01.3, 31.22N×35.52E, h15km, Mb3.2*
*SNSN **05** 09:52:04.7, 30.82N×34.59E, Ml2.3*
*CSEM **05** 09:52:05.3±0.3, 30.86N×35.00E, h2km±1km, ML2.7, Error ellipse: s-maj=2.4km s-min=1.7km az=87.0, Mining explosion.*

ISC 05 09:52:05.2±0.5, 30.87N±0.03×35.05E±0.05, n20, σ0§85/25, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASH	**Mash'abbe Sade**	**0.26**	**299**	Pg	**Pg**	**09 52 10.6**	**+0.1**
ZFRI	**Zfri**	**0.33**	**161**	Pg	**Pg**	**09 52 12.7**	**+0.8**
RTMM	**Retamin**	**0.36**	**300**	Pg	**Pg**	**09 52 12.6**	**+0.1**
MZDA	**Masada**	**0.51**	**31**	Pg	**Pg**	**09 52 16.3**	**+0.8**
PRNI	**Paran**	**0.52**	**184**	Pg	**Pg**	**09 52 15.9**	**+0.3**
PRNI				Sg	**Sg**	**09 52 24.0**	**+1.5**
KZIT	**Kziot**	**0.56**	**274**	Pg	**Pg**	**09 52 15.7**	**-0.8**
KZIT				Sg	**Sg**	**09 52 24.4**	**+0.4**
DRGI	**Dragot**	**0.78**	**22**	Pg	**Pg**	**09 52 21.4**	**+0.6**
KMTI	**Karmit**	**0.81**	**200**	Pg	**Pg**	**09 52 20.5**	**-1.0**
KMTI				Sg	**Sg**	**09 52 32.4**	**+0.1**
EIL	**Elat**	**1.20**	**184**	Pg	**Pg**	**09 52 28.0**	**-1.2**
ALWS	**Ilw as Safayha**	**1.55**	**180**	P	**Pn**	**09 52 34.1**	**-0.2**
ALWS				S	**Sb**	**09 52 55.6**	**+0.8**
MMLI	**Mount Malkishu**	**1.59**	**11**	Pn	**Pn**	**09 52 34.7**	**-0.1**
AMAG	**Maghara**	**1.60**	**262**	P	**Pn**	**09 52 35.0**	**0.0**
HBST	**Basata**	**1.67**	**190**	P	**Pn**	**09 52 36.0**	**+0.1**
JMOS	**Jabal al Moall**	**1.70**	**178**	P	**Pn**	**09 52 35.5**	**-0.8**
OFRI	**'Ofer**	**1.75**	**358**	Pn	**Pn**	**09 52 37.4**	**+0.4**
HAQS	**Haql**	**1.81**	**183**	P	**Pn**	**09 52 36.6**	**-1.4**
HDHB	**Dhahab**	**2.17**	**190**	P	**Pn**	**09 52 42.0**	**-1.1**
SUZ		**2.17**	**242**	P	**Pn**	**09 52 43.6**	**+0.4**
TAYS	**Tayyib Ism**	**2.32**	**184**	P	**Pn**	**09 52 43.8**	**-1.4**
HKAT	**Jabal Katrina**	**2.51**	**202**	P	**Pn**	**09 52 47.6**	**-0.4**
HKAT				S	**Sn**	**09 53 22.0**	**+2.2**

*NAO **05** 09:56:42.1±1.9, 67.70N×34.08E, ML2.1*
*HEL **05** 09:56:42.0±0.3, 67.69N×34.15E, ML2.1, ML2.5(BER), ML2.1(NAO), Explosion*

ISC 05 09:56:38.8±1.0, 67.69N±0.04×34.3E±0.2, n20, σ1§33/35, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.52**	**261**	*i* P	**Pg**	**09 56 50.1**	**+0.9**
APA0				*i* S	**Sg**	**09 56 56.0**	**-0.1**
APA0				*e*RG		09 56 58.1	
APA0	**Apatity Array**	**0.52**	**261**	Pg	**Pg**	**09 56 50.1**	**+0.9**
	baz=93,slow=16						
APA0				Lg		09 56 56.0	
	baz=71,slow=37						
APA0				Rg		09 56 58.1	
	baz=69,slow=37						
KU4	**Oulanka**	**2.29**	**237**	*e*P	**Pn**	**09 57 20.2**	**+1.7**
KU4				*e*S	**Sn**	**09 57 48.9**	**+1.1**
MSF	**Maaselka**	**2.76**	**232**	*e*P	**Pn**	**09 57 27.1**	**+2.1**
MSF				*e*S	**Sn**	**09 57 59.6**	**+0.1**
MSF				*e*SB	**Sb**	**09 58 03.4**	**+0.2**
MSF				MSG		09 58 05.4	
	comp=Z,7.4nm,0.2s						
SGF	**Sodankyl**	**3.01**	**269**	*e*P	**Pn**	**09 57 29.2**	**+0.7**
SGF				*e*S	**Sn**	**09 58 05.4**	**-0.5**
KEV	**Kevo**	**3.38**	**311**	*e*P	**Pn**	**09 57 36.0**	**+2.1**
KEV				*e*S	**Sn**	**09 58 15.0**	**-0.3**
ARA0	**ARCESS Array S**	**3.73**	**304**	Pn	**Pn**	**09 57 39.7**	**+0.9**
	baz=121,slow=16						
ARA0				Sn	**Sn**	**09 58 21.4**	**-2.7**
ARA0				Lg		09 58 33.9	
	baz=113,slow=37						
ARA0	**ARCESS Array S**	**3.73**	**304**	*e*P	**Pn**	**09 57 39.7**	**+0.9**
ARA0				*e*S	**Sn**	**09 58 21.4**	**-2.7**
ARA0				*e*SG	**Sg**	**09 58 33.9**	**-9.0**
OUL	**Oulu**	**4.29**	**236**	*e*P	**Pn**	**09 57 48.8**	**+2.0**
OUL				*e*SB	**Sb**	**09 58 47.6**	**0.0**
KTK1	**Kautokeino**	**4.32**	**293**	*e*P	**Pn**	**09 57 47.3**	**+0.1**
KTK1				AML	AML	09 58 53.4	
	comp=Z,20nm,0.6s						
KJN	**Kajaani**	**4.53**	**220**	*e*P	**Pn**	**09 57 50.6**	**+0.4**
KJN				*e*S	**Sn**	**09 58 41.6**	**-2.7**
SUF	**Sumiainen**	**6.06**	**218**	*e*P	**Pn**	**09 58 11.9**	**0.0**
SUF				*e*S	**Sn**	**09 59 18.5**	**-4.5**
SUF				*e*SB	**Sb**	**09 59 38.5**	**-0.7**
KAF	**Kangasniemi**	**6.56**	**215**	*e*P	**Pn**	**09 58 18.7**	**-0.2**
VAF	**Ylistaro**	**6.74**	**232**	*e*S	**Sn**	**09 59 34.6**	**-5.3**
KEF	**Keuruu**	**6.84**	**220**	*e*P	**Pn**	**09 58 21.8**	**-1.2**
KEF				*e*S	**Sn**	**09 59 36.6**	**-5.9**
FIA0	**FINESS Array S**	**7.21**	**213**	Pn	**Pn**	**09 58 25.9**	**-2.1**
	baz=31,slow=14						
FIA0				Sn	**Sn**	**09 59 44.3**	**-7.2**
	baz=42,slow=22						
FIA0				Lg		10 00 21.1	
	baz=24,slow=28						
FIA0	**FINESS Array S**	**7.21**	**213**	*e*S	**Sn**	**09 59 45.5**	**-6.0**
SPA0	**Spitsbergen Ar**	**11.68**	**342**	Pn	**P**	**09 59 26.8**	**-2.8**
	baz=146,slow=14						
SPA0	**Spitsbergen Ar**	**11.68**	**342**	*e*P	**P**	**09 59 26.8**	**-2.8**
HFS	**Hagfors**	**11.77**	**240**	*e*P	**P**	**09 59 26.9**	**-3.9**

*BEO **05** 09:56:43.7±0.4, 41.92N×20.52E, h11km*
*TIR **05** 09:56:44.4, 42.04N×20.42E, h30km*
*NEIC **05** 09:56:44.6, 41.95N×20.48E, h7km, ML3.0(PDG), After PDG.*
*PDG **05** 09:56:44.6±0.2, 41.95N×20.48E, h7km*
*CSEM **05** 09:56:45.1±0.1, 41.99N×20.40E, h2km, ML3.0, Error ellipse: s-maj=1.7km s-min=1.2km az=39.0*
*THE **05** 09:56:46.9, 42.04N×20.39E, h7km, ML3.2*

ISC 05 09:56:45.9±0.3, 42.01N±0.02×20.45E±0.02, h2km, n33, σ1§35/61, 8C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.41**	**274**	*i* Pg	**Pg**	**09 56 52.7**	**-1.4**
BCI	**Bajram Curri**	**0.45**	**322**	*i* Pg	**Pg**	**09 56 54.1**	**-0.8**
BCI				*i* Sg	**Sg**	**09 57 01.7**	**+0.8**
QSH	**Qafa e Shtames**	**0.64**	**220**	*i* Pg	**Pg**	**09 56 58.0**	**-0.6**
QSH				*i* Sg	**Sg**	**09 57 06.8**	**-0.2**
PVY	**Plav**	**0.68**	**329**	⇑*i*Pg	**Pg**	**09 56 58.1**	**-1.4**
PVY				*e*Sg	**Sg**	**09 57 10.2**	**+1.7**
SKO	**Skopje**	**0.74**	**93**	⇑*i*Pg	**Pg**	**09 57 00.3**	**-0.4**
SKO				*i*		09 57 02.5	
SKO				*i* Sg	**Sg**	**09 57 12.4**	**+1.8**
SKO				Lg		09 57 14.0	
	comp=Z,0.5nm,0.3s						
SKO	**Skopje**	**0.74**	**93**	⇑*i*Pg	**Pg**	**09 57 00.3**	**-0.4**
SKO				*i* Sg	**Sg**	**09 57 12.4**	**+1.8**
TIR	**Tirane**	**0.79**	**213**	*e*Pg	**Pg**	**09 57 02.0**	**+0.3**
TIR				*i* Sg	**Sg**	**09 57 13.0**	**+0.7**
ULC	**Ulcinj**	**0.89**	**267**	⇑*i*Pg	**Pg**	**09 57 01.6**	**-2.1**
ULC				*e*Sg	**Sg**	**09 57 15.8**	**+0.2**
OHR	**Ohrid**	**0.94**	**163**	*i* Pg	**Pg**	**09 57 02.9**	**-1.7**
OHR				*i*		09 57 04.8	
OHR				*i*		09 57 07.2	
OHR				*i* Sg	**Sg**	**09 57 17.6**	**+0.5**
OHR	**Ohrid**	**0.94**	**163**	*i* Pg	**Pg**	**09 57 02.9**	**-1.7**
OHR				*i* Sg	**Sg**	**09 57 17.6**	**+0.5**
IVA	**Berane**	**0.95**	**335**	⇑*i*Pg	**Pg**	**09 57 03.4**	**-1.4**
IVA				*e*Sg	**Sg**	**09 57 19.3**	**+1.8**
TTG	**Podgorica**	**0.97**	**296**	*e*Pg	**Pg**	**09 57 02.7**	**-2.6**
TTG				*e*Sg	**Sg**	**09 57 19.7**	**+1.4**
BUM	**Brajici-Budva**	**1.19**	**285**	*e*Pg	**Pg**	**09 57 07.5**	**-2.0**
BUM				*e*Sg	**Sg**	**09 57 26.2**	**+0.8**
BIA	**Bitola**	**1.19**	**146**	*i* Pg	**Pg**	**09 57 10.5**	**+0.9**
BIA				*i*		09 57 12.6	
BIA				⇑*i*Sg	**Sg**	**09 57 26.6**	**+1.1**
BARS	**Barje**	**1.30**	**51**	⇓*i*Pg	**Pg**	**09 57 11.0**	**-0.8**
BARS				Sg	**Sg**	**09 57 28.0**	**-1.2**
NKY	**Niksic**	**1.34**	**307**	*e*Pg	**Pg**	**09 57 09.8**	**-2.8**
NKY				*e*Sg	**Sg**	**09 57 32.1**	**+1.7**
FNA	**Florina**	**1.41**	**150**	*e*Pb	**Pb**	**09 57 11.7**	**-0.9**
	comp=Z,5.2nm,0.3s						
FNA				*e*Sb	**Sb**	**09 57 33.8**	**+2.8**
HCY	**Herceg Novi**	**1.51**	**287**	⇑*i*Pg	**Pg**	**09 57 12.4**	**-3.6**
HCY				*e*Sg	**Sg**	**09 57 36.5**	**+0.4**
PLE	**Pljevlja**	**1.53**	**330**	*e*Pn	**Pn**	**09 57 14.1**	**-0.2**
PLE				*e*Sn	**Sn**	**09 57 37.3**	**+2.3**
NVSS	**Nova Varos 2**	**1.59**	**340**	⇓*i*Pn	**Pn**	**09 57 13.9**	**-1.3**
NVSS				Sn	**Sn**	**09 57 35.5**	**-1.2**
NVSS	**Nova Varos 2**	**1.59**	**340**	Pn	**Pn**	**09 57 13.9**	**-1.3**
NVSS				Sn	**Sn**	**09 57 35.5**	**-1.1**
UPM	**Unac-Piva**	**1.64**	**317**	⇑*i*Pn	**Pn**	**09 57 15.9**	**-0.1**
UPM				*e*Sn	**Sn**	**09 57 40.8**	**+2.9**
BRY	**Bratogost**	**1.67**	**303**	*e*Pn	**Pn**	**09 57 16.2**	**0.0**
BRY				*e*Sn	**Sn**	**09 57 40.8**	**+2.3**
GRG	**Griva**	**1.81**	**125**	*e*Pb	**Pb**	**09 57 19.0**	**-0.4**
GRG				*e*Sb	**Sb**	**09 57 44.1**	**+1.6**
KKB	**Krupnik**	**1.97**	**93**	P	**Pn**	**09 57 24.0**	**+3.4**
KNT	**Kendrikon**	**2.03**	**114**	*e*Pn	**Pn**	**09 57 22.0**	**+0.6**
KNT				*e*Sn	**Sn**	**09 57 47.1**	**-0.5**
DIVS	**Divcibare**	**2.11**	**351**	*e*Pn	**Pn**	**09 57 21.5**	**-1.2**
DIVS				Sn	**Sn**	**09 57 51.8**	**+2.0**
VTS	**Vitosha**	**2.13**	**73**	*e*P	**Pn**	**09 57 25.5**	**+2.6**
LIT	**Litokhoron**	**2.46**	**140**	*e*Pn	**Pn**	**09 57 27.9**	**+0.4**
LIT				*e*Sn	**Sn**	**09 57 58.1**	**-0.4**
SOH	**Sokhos**	**2.49**	**118**	*e*Pn	**Pn**	**09 57 27.6**	**-0.5**
SOH				*e*Sn	**Sn**	**09 58 00.7**	**+1.3**
MMB	**Musomiste**	**2.49**	**99**	*e*P	**Pg**	**09 57 34.0**	**-1.6**
PGB	**Panagyurishte**	**2.81**	**78**	*e*P	**Pg**	**09 57 40.0**	**-2.0**
VOY	**Vojsko**	**6.20**	**313**	*e*Pn	**Pn**	**09 58 20.3**	**-0.4**
VOY				*e*Sn	**Sn**	**09 59 32.3**	**-0.8**

WEL 05 10:16:54.2±0.4, 38.41S×176.00E, h144km±3km, ML3.6/6, Error ellipse: s-maj=4.8km s-min=2.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.79**	**213**	PN	P	10 17 17.3	+0.2
BKZ	**Black Stump Fm**	**0.85**	**153**	PN	P	10 17 17.6	+0.1
BKZ				SN	S	10 17 35.1	-0.2
URZ	**Urewera**	**0.89**	**81**	PN	P	10 17 17.3	-0.5
URZ				SN	S	10 17 35.2	-0.7
MWZ	**Matawai**	**1.20**	**87**	PN	P	10 17 20.6	0.0
MWZ				SN	S	10 17 40.2	-0.7
KNZ	**Kokohu**	**1.44**	**115**	PN	P	10 17 23.5	+0.4
KNZ				SN	S	10 17 44.5	-0.9
TSZ	**Takapari Road**	**1.65**	**181**	PN	P	10 17 24.6	-0.7
PWZ	**Pawanui**	**1.75**	**158**	PN	P	10 17 25.9	-0.6
PWZ				SN	S	10 17 49.8	-1.4
MRZ	**Mangatainoka R**	**2.27**	**188**	PN	P	10 17 30.7	-2.1
MRZ				SN	S	10 17 59.7	-2.5
BFZ	**Birch Farm**	**2.27**	**175**	PN	P	10 17 31.0	-1.8
KIW	**Kapiti Island**	**2.59**	**199**	PN	P	10 17 34.0	-2.8
CAW	**Cannon Point**	**2.79**	**195**	PN	P	10 17 36.4	-3.0
TUWZ	**Tuamarina**	**3.41**	**207**	PN	P	10 17 43.4	-4.0
NNZ	**Nelson**	**3.45**	**215**	SN	S	10 18 24.7	-4.6
THZ	**Tophouse**	**4.10**	**214**	PN	P	10 17 51.4	-5.2
KHZ	**Kahutara**	**4.42**	**204**	PN	P	10 17 56.0	-4.8
LTZ	**Lake Taylor**	**5.21**	**212**	PN	P	10 18 05.1	-6.2

*MOS **05** 11:15:37.5±2.7, 19.36S×178.38W, h407km, mb4.9/4, Error ellipse: s-maj=33.3km s-min=15.2km az=119.3*
*BJI **05** 11:15:51.8, 20.27S×178.30W, h596km, mB5.0, mb5.0*
*NEIC **05** 11:15:53.2±0.2, 20.56S×178.64W, mb4.8/45, Error ellipse: s-maj=10.1km s-min=4.3km az=153.0*

ISC 05 11:15:52.1±0.2, 20.63S±0.07×178.64W±0.06, h599km, h599km±2.5km: pP-P, n296, σ1§01/122, mb4.8/49, 27C-24D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.36**	**46**	*e*P	**P**	**11 18 01.8**	**-3.0**
AFI				*e*S	**S**	**11 19 45.6**	**-5.6**
DZM	**Mont Dzumac**	**13.97**	**261**	*e*P	**P**	**11 18 52.6**	**+2.3**
OUZ	**Omahuta**	**16.06**	**204**	P	**P**	**11 19 13.8**	**+3.4**
PUZ	**Puketiti**	**17.59**	**188**	P	**P**	**11 19 22.3**	**-2.5**
URZ	**Urewera**	**17.95**	**191**	P	**P**	**11 19 25.9**	**-2.2**
THZ	**Tophouse**	**22.25**	**197**	P	**P**	**11 20 06.1**	**-1.5**
THZ				S	**S**	**11 23 26.2**	**-6.2**
KHZ	**Kahutara**	**22.70**	**195**	P	**P**	**11 20 09.6**	**-2.0**
ARMA	**Armidale**	**28.47**	**244**	⇓*i*P	**P**	**11 21 03.9**	**+1.6**
CNB	**Canberra Magne**	**31.66**	**236**	⇑*i*P	**P**	**11 21 30.5**	**+1.2**
	37nm,0.8s,mb5.1						
CTA	**Charters Tower**	**32.88**	**265**	⇓*i*P	**P**	**11 21 40.7**	**+1.0**
	27nm,0.4s,mb5.2						
CTAO	**Charters Tower**	**32.88**	**265**	*e*P	**P**	**11 21 40.5**	**+0.8**
	38nm,0.6s,mb5.2						
PMG	**Port Moresby**	**34.79**	**284**	*i* P	**P**	**11 21 55.4**	**-0.3**
PMG	**Port Moresby**	**34.79**	**284**	*e*P	**P**	**11 21 56.3**	**+0.7**
	78nm,0.8s,mb5.4						
STKA	**Stephens Creek**	**37.19**	**244**	⇓*i*P	**P**	**11 22 16.5**	**+1.3**
	23nm,0.6s,mb4.9						
WB2	**Warramunga Arr**	**43.98**	**262**	*e*S	**S**	**11 28 56.8**	**-2.6**
WB2				*e*SCS	ScS	11 32 03.1	+2.9
WB2	**Warramunga Arr**	**43.98**	**262**	⇓*i*P	**P**	**11 23 09.0**	**-0.5**
WRAB	**Tennant Creek**	**43.98**	**262**	*e*P	**P**	**11 23 08.9**	**-0.6**
	59nm,0.6s,mb5.3						
KAKA	**Kakadu**	**47.38**	**272**	⇓*i*P	**P**	**11 23 34.9**	**-0.6**
	54nm,0.6s,mb5.2						
KNA	**Kununurra**	**50.03**	**266**	⇓*i*P	**P**	**11 23 53.8**	**-1.3**
	11nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**52.42**	**263**	⇓*i*P	**P**	**11 24 12.1**	**-0.2**
	54nm,0.5s,mb5.1						
MBWA	**Marble Bar**	**57.24**	**258**	*e*P	**P**	**11 24 44.9**	**-0.9**
	73nm,0.7s,mb5.0						
KLBR	**Kellerberrin**	**57.46**	**245**	*e*P	**P**	**11 24 46.5**	**-0.6**
	91nm,1.0s,mb5.0						
NWAO	**Narrogin (SRO)**	**57.77**	**243**	*e*P	**P**	**11 24 49.2**	**-0.1**
MUN	**Mundaring**	**58.73**	**244**	*e*P	**P**	**11 24 55.6**	**-0.1**
	23nm,0.6s,mb4.5						
QSPA	**South Pole Qui**	**69.44**	**180**	⇓*i*P	**P**	**11 26 03.3**	**+1.0**
	6.9nm,0.7s,mb4.2						
MAJO	**Matsushiro**	**69.96**	**324**	*e*P	**P**	**11 26 05.5**	**-0.6**
	9.0nm,0.6s,mb4.4						
MAT	**Matsushiro**	**69.96**	**324**	*e*P	**P**	**11 26 05.0**	**-1.1**
	15nm,0.7s,mb4.5						
MAT	**Matsushiro**	**69.96**	**324**	P	**P**	**11 26 05.0**	**-1.1**
YSS	**Yuzh-Sakhalins**	**75.75**	**334**	⇑*i*P	**P**	**11 26 38.3**	**-0.4**
YSS				pmax	pmax		
	comp=Z,44nm,1.0s,mb4.8						
YSS	**Yuzh-Sakhalins**	**75.75**	**334**	*e*P	**P**	**11 26 38.8**	**+0.1**
	comp=Z,27nm,0.7s,mb4.8						
KS15	**Wonju Array Si**	**76.61**	**319**	*e*P	**P**	**11 26 44.1**	**+0.5**
SAO	**San Andreas Ge**	**78.53**	**44**	*e*P	**P**	**11 26 54.5**	**+0.6**
LRV	**Little Rabbit**	**78.61**	**44**	*e*P	**P**	**11 26 51.1**	**-3.2**
HOPS	**Hopland**	**78.86**	**41**	*e*P	**P**	**11 26 55.3**	**-0.2**
	comp=Z,34nm,1.0s,mb4.6						
CMB	**Columbia Colle**	**79.97**	**43**	*e*P	**P**	**11 27 01.2**	**-0.2**
	comp=Z,28nm,1.3s,mb4.4						
MDJ	**Mudanjiang**	**80.28**	**325**	P	**P**	**11 27 03.9**	**+1.1**
MDJ				AMB	AMB		
	comp=Z,41nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,80nm,3.7s						
MDJ	**Mudanjiang**	**80.28**	**325**	*e*P	**P**	**11 27 03.7**	**+0.9**
	comp=Z,19nm,0.9s,mb4.4						
YBH	**Yreka Blue Hor**	**80.77**	**39**	*e*P	**P**	**11 27 06.0**	**+0.7**
	comp=Z,28nm,0.9s,mb4.7						
LBCM	**Butte Creek Ri**	**81.03**	**40**	P	**P**	**11 27 07.2**	**+0.5**
WCN	**Washoe City**	**81.11**	**42**	*e*P	**P**	**11 27 08.0**	**+0.9**
	comp=Z,39nm,1.1s,mb4.8						
HUMO	**Hull Mountain**	**81.17**	**38**	*e*P	**P**	**11 27 08.0**	**+0.6**
	comp=Z,29nm,1.1s,mb4.6						
MAW	**Mawson**	**81.24**	**200**	*e*P	**P**	**11 27 07.1**	**-0.1**
BUOR	**Burton Butte**	**81.38**	**39**	P	**P**	**11 27 09.1**	**+0.7**
BBOR	**Butler Butte**	**81.50**	**38**	P	**P**	**11 27 09.6**	**+0.5**
MNV	**Mina**	**81.63**	**44**	*e*P	**P**	**11 27 09.9**	**+0.1**
	comp=Z,36nm,1.2s,mb4.8						
LDFC	**Landfair**	**81.83**	**48**	*e*P	**P**	**11 27 11.3**	**+0.4**
LDFC				*e*pP	pP	11 29 10.7	-7.6
TPH	**Tonopah**	**82.04**	**44**	*e*P	**P**	**11 27 12.3**	**+0.5**
	comp=Z,42nm,1.1s,mb4.9						
MOD	**Modoc**	**82.30**	**40**	*e*P	**P**	**11 27 13.4**	**+0.2**
	comp=Z,30nm,0.7s,mb4.9						
MOD				*e*pP	pP	11 29 20.0	-0.7
KLR	**Kul'dur**	**82.34**	**330**	*e*P	**P**	**11 27 10.8**	**-2.3**
BMN	**Battle Mountai**	**83.35**	**42**	*e*P	**P**	**11 27 18.6**	**+0.2**
RSO	**Redoubt South**	**83.50**	**13**	*e*P	**P**	**11 27 17.5**	**-1.1**
TUC	**Tucson**	**83.53**	**52**	*e*P	**P**	**11 27 20.3**	**+0.8**
	comp=Z,33nm,1.3s,mb4.7						
WVOR	**Wild Horse Val**	**83.62**	**40**	*e*P	**P**	**11 27 19.9**	**+0.3**
	comp=Z,26nm,1.0s,mb4.7						
WVOR				*e*pP	pP	11 29 28.3	+0.7
OOW	**Octopus West**	**83.73**	**34**	P	**P**	**11 27 21.3**	**+1.3**
OCWA	**Octopus Mounta**	**83.75**	**34**	*e*P	**P**	**11 27 21.2**	**+1.0**
MA2	**Magadan**	**83.75**	**345**	⇓*i*P	**P**	**11 27 17.7**	**-2.2**
MA2				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.7						
MA2	**Magadan**	**83.75**	**345**	*e*P	**P**	**11 27 18.8**	**-1.1**
	comp=Z,7.9nm,0.8s,mb4.3						
SLKM	**Skilak Lake**	**84.08**	**14**	*e*P	**P**	**11 27 20.3**	**-1.1**
PMR	**Palmer**	**85.29**	**14**	*e*P	**P**	**11 27 26.2**	**-1.1**
KKTK	**Khon Kaen**	**85.37**	**289**	P	**P**	**11 27 30.0**	**+1.2**
BJT	**Baijiatuau**	**85.56**	**316**	*e*P	**P**	**11 27 29.0**	**-0.1**
	comp=Z,15nm,0.7s,mb4.7						
MVU	**Marysvale**	**85.60**	**46**	*e*P	**P**	**11 27 30.4**	**+0.9**
	comp=Z,6.8nm,0.8s,mb4.3						
ENH	**Enshi**	**85.62**	**304**	*e*P	**P**	**11 27 30.5**	**+0.8**
	comp=Z,120nm,1.3s,mb5.4						
MSU	**Marysvale**	**85.63**	**46**	*e*P	**P**	**11 27 30.4**	**+0.9**
BMO	**Blue Mountains**	**85.79**	**39**	*e*P	**P**	**11 27 29.8**	**-0.3**
	comp=Z,16nm,0.8s,mb4.7						
BMO				*e*pP	pP	11 29 39.2	+0.4
SEY	**Seymchan**	**86.37**	**347**	*e*P	**P**	**11 27 42.1**	**+10**
OD2	**Odessa Site #2**	**86.45**	**36**	P	**P**	**11 27 33.6**	**+0.4**
TMUT	**Trail Mountain**	**86.68**	**46**	*e*P	**P**	**11 27 35.4**	**+0.9**
TMUT				pP	pP	11 29 41.0	-2.5
HLID	**Hailey**	**86.82**	**41**	*e*P	**P**	**11 27 35.6**	**+0.6**
	comp=Z,21nm,1.0s,mb4.8						
HLID				*e*pP	pP	11 29 43.9	-0.1
HVU	**Hansel Valley**	**86.91**	**43**	*e*P	**P**	**11 27 36.0**	**+0.4**
SRU	**San Rafael**	**87.05**	**46**	*e*P	**P**	**11 27 36.0**	**-0.2**
DAU	**Daniels Canyon**	**87.20**	**45**	*e*P	**P**	**11 27 37.5**	**+0.6**
LAZ	**Ladron**	**87.21**	**52**	*e*P	**P**	**11 27 37.7**	**+0.6**
LENM	**Lemitar**	**87.22**	**52**	*e*P	**P**	**11 27 37.6**	**+0.5**
MNTX	**Cornudas Mount**	**87.31**	**55**	*e*P	**P**	**11 27 37.6**	**0.0**
	comp=Z,19nm,1.0s,mb4.8						
MNTX				pP	pP	11 29 45.8	-1.0
TCUT	**Toone Canyon**	**87.45**	**44**	*e*P	**P**	**11 27 38.4**	**+0.3**
TCUT				*e*pP	pP	11 29 48.9	+1.6
BNM	**Barren Site**	**87.47**	**52**	*e*P	**P**	**11 27 38.8**	**+0.4**
HWUT	**Hardware Ranch**	**87.60**	**44**	*e*P	**P**	**11 27 38.2**	**-0.5**
	comp=Z,6.5nm,1.1s,mb4.3						
LTX	**Lajitas**	**87.63**	**58**	*e*P	**P**	**11 27 39.5**	**+0.2**
	comp=Z,24nm,1.0s,mb4.9						
LTX				*e*pP	pP	11 29 51.9	+3.4
MENT	**Mentasta**	**87.72**	**15**	*e*P	**P**	**11 27 38.7**	**-0.1**
SNAA	**Sanae**	**87.89**	**179**	⇑*i*	**P**	**11 27 38.4**	**-1.1**
SNAA	**Sanae**	**87.89**	**179**	⇑*i*	pP	11 29 50.7	+1.9
SNAA	**Sanae**	**87.89**	**179**	⇓*i*P	**P**	**11 27 39.7**	**+0.2**
ANMO	**Albuquerque**	**87.95**	**51**	⇑*i*P	**P**	**11 27 38.1**	**-2.5**
ANMO	**Albuquerque**	**87.95**	**51**	*e*P	**P**	**11 27 40.7**	**+0.1**
	comp=Z,18nm,1.1s,mb4.7						
ANMO				pP	pP	11 29 49.1	-0.8
VNA3	**Neumayer Olymp**	**88.05**	**176**	⇑*i*	**P**	**11 27 44.1**	**+3.9**
VNA3	**Neumayer Olymp**	**88.05**	**176**	⇑*i*	pP	11 29 53.6	+4.0
NANT	**Nan**	**88.18**	**291**	P	**P**	**11 27 43.0**	**+1.0**
GDL2	**Guadalupe Moun**	**88.31**	**55**	*e*P	**P**	**11 27 42.6**	**+0.3**
GDL2				*e*pP	pP	11 29 52.5	+0.7
HIA	**Hailar**	**88.45**	**325**	*e*P	**P**	**11 27 42.1**	**-0.4**
	comp=Z,14nm,0.8s,mb4.8						
COLA	**College**	**88.47**	**13**	*e*P	**P**	**11 27 40.7**	**-1.6**
IMA	**Indian Mountai**	**88.48**	**10**	*e*P	**P**	**11 27 41.8**	**-0.5**
VNA2	**Neumayer--Watz**	**88.48**	**177**	⇑*i*	**P**	**11 27 46.4**	**+4.2**
VNA2	**Neumayer--Watz**	**88.48**	**177**	⇑*i*	pP	11

SIM				pmax	pmax		
	comp=Z,150nm,0.8s						
MUD	**Monsted U'grnd**	**143.76**	**353**	⇓*i*PKHKP		11 34 19.1	
MUD				pmax	pmax		
	comp=Z,74nm,0.6s						
MUD	**Monsted U'grnd**	**143.76**	**353**	⇓*i*P	PKPbc	11 34 19.1	+0.4
	comp=Z,74nm,0.6s						
COP	**Copenhagen**	**144.03**	**349**	*e*PKHKP		11 34 20.2	
COP				pmax	pmax		
	comp=Z,42nm,0.6s						
COP	**Copenhagen**	**144.03**	**349**	*i* P	PKPbc	11 34 20.2	+0.7
	comp=Z,42nm,0.6s						
BSD	**Bornholm Skovb**	**144.08**	**347**	⇓*i*PKHKP		11 34 19.9	
BSD				pmax	pmax		
	comp=Z,140nm,0.9s						
BSD	**Bornholm Skovb**	**144.08**	**347**	⇓*i*P	PKPbc	11 34 19.9	+0.2
	comp=Z,142nm,0.9s						
MBAR	**Mbarara**	**144.34**	**237**	*e*PKPdf	PKPdf	11 34 22.2	+0.7
GAZ	**Gaziantep**	**144.80**	**306**	P	PKPdf	11 34 23.8	+2.2
BYBT	**Boyabat**	**144.96**	**314**	*e*P	PKPdf	11 34 24.4	+2.6
GKP	**Gorka Klasztor**	**145.20**	**343**	*e*PKP	PKPdf	11 34 23.9	+2.1
BNN	**Bunyan**	**145.25**	**309**	P	PKPdf	11 34 25.6	+3.2
YOZ	**Yozgat**	**145.33**	**311**	*e*P	PKPdf	11 34 25.1	+2.7
TOS	**Tosya**	**145.65**	**314**	P	PKPdf	11 34 25.8	+2.8
LVV	**L'vov**	**145.76**	**334**	*e*PKIKP	PKPdf	11 34 25.3	+2.4
HTY	**Hatay**	**145.94**	**304**	*e*P	PKPdf	11 34 26.8	+3.2
CEYT	**Ceyhan**	**145.96**	**306**	*e*P	PKPdf	11 34 27.1	+3.5
BSEG	**Bad Segeberg**	**146.06**	**351**	*e*PKIKP	PKPdf	11 34 26.2	+3.0
CANT	**Cankiri**	**146.12**	**313**	*e*P	PKPdf	11 34 27.1	+3.4
NIG	**Nigde**	**146.43**	**309**	*e*P	PKPdf	11 34 28.8	+4.4
KWP	**Kalwaria**	**146.45**	**335**	*e*PKP	PKPdf	11 34 27.7	+3.7
KWP				*e*		11 34 31.1	
SAFT	**Safranbolu**	**146.45**	**315**	P	PKPdf	11 34 26.3	+2.0
KAMT	**Kaman**	**146.58**	**311**	P	PKPdf	11 34 28.2	+3.6
DCN	**Croghan**	**146.68**	**9**	*e*P	PKPdf	11 34 27.3	+3.0
DCN	**Croghan**	**146.68**	**9**	*e*P	PKPdf	11 34 22.8	-1.5
DCN				*e*P		11 34 27.3	
RUE	**Ruedersdorf**	**146.78**	**346**	*e*PKPbc	PKPbc	11 34 28.1	+1.5
DLF	**Lyons Farm**	**146.83**	**9**	*e*P	PKPdf	11 34 23.2	-1.4
DLF	**Lyons Farm**	**146.83**	**9**	*e*P	PKPdf	11 34 27.6	+3.0
DLF	**Lyons Farm**	**146.83**	**9**	*e*P	PKPdf	11 34 27.6	+3.0
LOD	**Lodumlu**	**147.02**	**313**	*e*P	PKPdf	11 34 30.3	+4.9
OJC	**Ojcow**	**147.06**	**338**	*e*PKP	PKPdf	11 34 29.1	+4.1
KOLS	**Kolonicke sedl**	**147.17**	**334**	*e*PKP	PKPdf	11 34 27.2	+1.9
KOLS				*e*		11 34 30.3	
KOLS				*e*		11 34 33.7	
MKRJ	**Makawir**	**147.47**	**297**	P	PKPdf	11 34 31.6	+5.3
MMLI	**Mount Malkishu**	**147.47**	**298**	P	PKPdf	11 34 31.7	+5.4
CRVS	**Cervenica-Dubn**	**147.52**	**335**	*e*PKP	PKPdf	11 34 31.1	+5.3
CRVS				*e*		11 34 34.9	
NIE	**Niedzica**	**147.54**	**337**	*e*PKP	PKPdf	11 34 31.1	+5.2
WIT	**Witteveen**	**147.62**	**354**	*e*P	PKPdf	11 34 30.7	+4.8
	comp=Z,620nm,0.8s						
KSP	**Ksiaz**	**147.64**	**342**	*e*PKP	PKPdf	11 34 30.9	+4.9
KSP				*e*		11 34 35.3	
KSP				*ep*PKP		11 36 50.8	
KSP	**Ksiaz**	**147.64**	**342**	*e*PKP	PKPdf	11 34 31.1	+5.1
KSP				*e*		11 34 35.9	
MZDA	**Masada**	**147.75**	**296**	P	PKPdf	11 34 32.1	+5.3
IKL	**Isikli**	**147.78**	**306**	P	PKPdf	11 34 31.5	+4.8
MDU	**Mudurnu**	**147.80**	**315**	P	PKPdf	11 34 31.8	+5.3
PSN	**Preselentsi**	**147.94**	**322**	*e*P	PKPdf	11 34 32.0	+5.3
OKC	**Ostrava-Krasne**	**147.95**	**339**	*e*PKIKP	PKPdf	11 34 31.5	+5.0
OKC				*e*		11 34 36.5	
OKC	**Ostrava-Krasne**	**147.95**	**339**⇑	*e*PKPB		11 34 31.5	
OKC				*e*PKPAB	PKPab	11 34 36.5	-1.4
UPC	**Upice**	**148.02**	**342**	*e*PKIKP	PKPdf	11 34 31.9	+5.3
UPC				*e*		11 34 36.8	
UPC	**Upice**	**148.02**	**342**⇑	*e*PKPB		11 34 31.9	
UPC				*e*PKPAB	PKPab	11 34 36.8	-1.4
ZFRI	**Zfri**	**148.05**	**295**	P	PKPdf	11 34 32.9	+5.6
CLL	**Collm**	**148.05**	**346**	*i* PKIKP	PKPdf	11 34 31.6	+5.0
CLL				*i*		11 34 36.4	
CLL				*e*		11 36 51.0	
CLL				pmax	pmax		
	comp=Z,125nm,0.8s						
CLL	**Collm**	**148.05**	**346**	⇓*i*PKP1	PKPdf	11 34 31.6	+5.0
CLL				*i* PKP2	PKPab	11 34 36.4	-1.9
CLL				*e**PPKP		11 36 51.0	
CLZ	**Clausthal**	**148.07**	**349**	*e*PKPbc	PKPdf	11 34 31.8	+5.2
DPC	**Dobruska-Polom**	**148.07**	**342**	*e*PKIKP	PKPdf	11 34 32.0	+5.4
DPC				*e*		11 34 36.9	
DPC	**Dobruska-Polom**	**148.07**	**342**⇑	*e*PKPB		11 34 32.0	
DPC				*e*PKPAB	PKPab	11 34 36.9	-1.5
KIZT	**Kizilcal**	**148.08**	**311**	*e*P	PKPdf	11 34 32.3	+5.3
KONT	**Konya--Tatoy**	**148.13**	**310**	P	PKPdf	11 34 32.2	+5.0
MORC	**Moravsky Berou**	**148.20**	**340**	*e*PKPbc	PKPdf	11 34 32.1	+5.3
PRNI	**Paran**	**148.23**	**295**	P	PKPdf	11 34 33.4	+5.9
BRG	**Berggiesshubel**	**148.24**	**345**	*i* PKIKP	PKPdf	11 34 32.3	+5.4
BRG				*i*		11 34 37.8	
BRG				*e*		11 36 54.8	
BRG				pmax	pmax		
	comp=Z,47nm,0.8s						
KECS	**Kecovo**	**148.24**	**336**	*e*PKP	PKPdf	11 34 32.9	+5.9
KECS				*e*		11 34 38.4	
AQBJ	**Aqaba**	**148.29**	**293**	P	PKPdf	11 34 33.5	+5.9
EIL	**Elat**	**148.38**	**293**	P	PKPdf	11 34 33.8	+6.0
EIL	**Elat**	**148.38**	**293**	*e*PKPbc	PKPdf	11 34 32.6	+4.9
PVCC	**Panska Ves**	**148.39**	**344**	*e*PKIKP	PKPdf	11 34 33.0	+5.9
PVCC	**Panska Ves**	**148.39**	**344**⇑	*e*PKPB		11 34 33.0	
WTSB	**Winterswijk**	**148.44**	**354**	*e*P	PKPdf	11 34 32.4	+5.2
	comp=Z,142nm,0.2s						
CSS	**Prodhromos**	**148.48**	**304**	*e*PKPbc	PKPdf	11 34 33.3	+5.5
ESKT	**Eskisehir**	**148.50**	**313**	*e*P	PKPdf	11 34 31.9	+4.2
KMTI	**Karmit**	**148.51**	**294**	P	PKPdf	11 34 33.7	+5.8
KZIT	**Kziot**	**148.64**	**296**	P	PKPdf	11 34 34.3	+6.2
PRD	**Provadia**	**148.69**	**322**	*e*P	PKPdf	11 34 34.0	+6.2
LEF	**Lefka**	**148.77**	**304**	P	PKPdf	11 34 34.3	+6.1
VYHS	**Vyhne**	**148.85**	**337**	*i* PKP	PKPdf	11 34 34.0	+6.1
VYHS				*e*		11 34 41.1	
VYHS				*e*		11 36 55.1	
PRU	**Pruhonice**	**148.89**	**343**	*e*PKIKP	PKPdf	11 34 33.7	+5.8
PRU				*e*		11 34 40.7	
PRU	**Pruhonice**	**148.89**	**343**⇑	*e*PKPB		11 34 33.7	
PRU				*e*PKPAB	PKPab	11 34 40.7	-1.1
PSZ	**Piszkesteto**	**148.93**	**336**	*e*PKPbc	PKPdf	11 34 34.0	+6.0
PSZ	**Piszkesteto**	**148.93**	**336**⇑	*i* P	PKPdf	11 34 34.3	+6.3
KOLL	**Kolacno**	**148.94**	**338**	*e*PKP	PKPdf	11 34 34.4	+6.4
KOLL				*e*		11 34 41.3	
NKC	**Novy Kostel**	**149.18**	**346**	*e*PKIKP	PKPdf	11 34 34.4	+6.1
NKC				*e*		11 34 41.3	
NKC	**Novy Kostel**	**149.18**	**346**⇑	*e*PKPB		11 34 34.4	
NKC				*e*PKPAB	PKPab	11 34 41.3	-1.7
ALT	**Altintas**	**149.23**	**313**	*e*P	PKPdf	11 34 35.1	+6.3
CTT	**Catalca**	**149.26**	**318**	*e*P	PKPdf	11 34 34.5	+5.7
SMOL	**Smolenice**	**149.33**	**339**	*i* PKP	PKPdf	11 34 35.8	+7.2
SMOL				*e*		11 34 43.4	
SZH	**Strazhica**	**149.48**	**323**	*e*P	PKPdf	11 34 35.0	+5.9
ORLT	**Orhaneli**	**149.55**	**316**	*e*P	PKPdf	11 34 35.1	+5.8
BCK	**Bucak**	**149.61**	**310**	*e*P	PKPdf	11 34 34.2	+4.8
JMB	**Yambol**	**149.61**	**321**	*e*P	PKPdf	11 34 36.0	+6.7
ZST	**Bratislava**	**149.71**	**339**	*e*PKP	PKPdf	11 34 36.1	+6.8
ZST				*e*		11 34 44.6	
HGN	**Heimansgroeve**	**149.72**	**354**	*e*P	PKPdf	11 34 36.0	+6.8
	comp=Z,18nm,0.8s						
KHC	**Kasperske Hory**	**149.93**	**344**	*e*PKPDF	PKPdf	11 34 30.5	+0.9
KHC				⇑*e*PKPB		11 34 36.4	
KHC				*e*PKPAB	PKPab	11 34 45.1	-1.0
KHC				*ep*PKP		11 36 57.4	
GRA1	**Grafenberg Arr**	**149.96**	**347**	*e*PKPbc	PKPdf	11 34 36.6	+7.0
GRA1				*e*PKPab	PKPab	11 34 45.1	-1.1
GRF	**Grafenberg Arr**	**149.96**	**347**	*e*PKHKP		11 34 36.6	
BNT	**Bandirma**	**150.02**	**317**	*e*P	PKPdf	11 34 36.2	+6.2
WET	**Wettzell**	**150.10**	**345**	*e*PKPab	PKPab	11 34 45.6	-1.2
GEC2	**GERESS Array S**	**150.16**	**344**	*e*PKP2	PKPab	11 34 45.8	-1.2
GEC2	**GERESS Array S**	**150.16**	**344**	*e*PKPbc	PKPdf	11 34 36.9	+7.0
GEC2				*e*PKPab	PKPab	11 34 45.8	-1.2
KGT	**Karabiga**	**150.36**	**318**	*i* P	PKPdf	11 34 38.4	+7.8
GIVF	**Givet**	**150.47**	**355**	*e*PKP1	PKPdf	11 34 37.3	+6.9
	comp=Z,98nm,0.8s						
DIM	**Dimitrovgrad**	**150.48**	**322**	*e*P	PKPdf	11 34 37.5	+6.8
BAIF	**Baives**	**150.55**	**356**	*e*PKP1	PKPdf	11 34 37.6	+7.1
	comp=Z,60nm,0.8s						
LPK	**Lapseki**	**150.74**	**318**	*i* P	PKPdf	11 34 38.1	+7.0
AKS	**Akhisar**	**150.87**	**314**	*e*P	PKPdf	11 34 38.4	+7.0
MOA	**Molln**	**150.91**	**342**⇑	*i*P	PKPdf	11 34 32.7	+1.6
MOA				*i*		11 34 38.7	
MOA				*i*		11 34 48.6	
STU	**Stuttgart**	**151.23**	**349**	*e*PKPbc	PKPdf	11 34 39.1	+7.6
FUR	**Furstenfeldbru**	**151.39**	**346**	*e*PKPbc	PKPdf	11 34 39.7	+7.9
FUR				*e*PKPab	PKPab	11 34 50.9	-1.3
VTS	**Vitosha**	**151.43**	**325**	*e*P	PKPdf	11 34 39.0	+7.0
PERS	**Pernice**	**151.73**	**340**	*i* PKPbc	PKPdf	11 34 39.7	+7.4
GRUS	**Gruza**	**151.75**	**330**	⇓*i*PKP	PKPdf	11 34 33.4	+0.9
BFO	**Black Forest**	**151.80**	**350**	*e*PKPbc	PKPdf	11 34 40.4	+8.1
BFO				*e*PKPab	PKPab	11 34 52.3	-1.6
MMB	**Musomiste**	**151.81**	**323**	*e*P	PKPdf	11 34 39.0	+6.4
WLS	**Welschbruch**	**151.87**	**352**	PKP	PKPdf	11 34 40.8	+8.4
KBA	**Koelnbreinsper**	**151.87**	**342**⇑	*i*P	PKPdf	11 34 34.6	+2.1
KBA				*i*		11 34 40.3	
KBA				*i*		11 34 57.2	
CDF	**Champ du Feu**	**151.88**	**352**	*e*PKP1	PKPdf	11 34 40.4	+8.0
	comp=Z,53nm,0.9s						
FLN	**La Foliniere**	**151.90**	**3**	*e*PKP1	PKPdf	11 34 40.1	+7.6
	comp=Z,45nm,0.7s						
DIVS	**Divcibare**	**151.93**	**331**⇑	*i*PKP	PKPdf	11 34 40.8	+8.2
KKB	**Krupnik**	**151.99**	**324**	*e*P	PKPdf	11 34 40.5	+7.7
MEZF	**Maizieres J'vi**	**152.04**	**355**	*e*PKP1	PKPdf	11 34 41.0	+8.3
LDF	**La Druitiere**	**152.08**	**2**	*e*PKP1	PKPdf	11 34 40.3	+7.6
	comp=Z,23nm,0.6s						
ECH	**Echery**	**152.09**	**352**	PKP	PKPdf	11 34 40.4	+7.7
WATA	**Walderalm**	**152.10**	**345**	⇓*i*P	PKPdf	11 34 34.1	+1.3
WATA				*i*		11 34 40.7	
ROSF	**Rostrenen**	**152.11**	**7**	*e*PKP1	PKPdf	11 34 40.3	+7.5
	comp=Z,25nm,0.7s						
WTTA	**Wattenberg**	**152.15**	**345**⇑	*i*P	PKPdf	11 34 34.0	+1.1
WTTA				*i*		11 34 41.6	
WTTA				*i*		11 34 54.8	
MOTA	**Moosalm**	**152.20**	**346**⇑	*i*P	PKPdf	11 34 33.7	+0.8
MOTA				*i*		11 34 41.2	
MOTA				*i*		11 34 54.1	
THEF	**They Montfort**	**152.22**	**353**	PKP	PKPdf	11 34 41.5	+8.6
GRR	**Gorron**	**152.25**	**3**	*e*PKP1	PKPdf	11 34 41.0	+8.0
	comp=Z,31nm,0.6s						
SGMF	**Saint Gilles**	**152.26**	**6**	*e*PKP1	PKPdf	11 34 40.7	+7.7
	comp=Z,50nm,0.7s						
SQTA	**Sankt Quirin**	**152.29**	**345**⇑	*i*P	PKPdf	11 34 34.0	+0.9
SQTA				*i*		11 34 41.4	
SQTA				*i*		11 34 55.0	
HAU	**Haudompre**	**152.40**	**353**	*e*PKP1	PKPdf	11 34 41.4	+8.2
	comp=Z,38nm,0.8s						
LJU	**Ljubljana**	**152.45**	**340**	*i* PKPbc	PKPdf	11 34 41.8	+8.4
HINF	**Hinteralfeld**	**152.52**	**352**	*e*PKP1	PKPdf	11 34 41.5	+8.1
	comp=Z,16nm,0.7s						
DAVA	**Damuels**	**152.52**	**347**⇑	*i*P	PKPdf	11 34 36.0	+2.6
DAVA				*i*		11 34 42.4	
DAVA				*i*		11 34 56.0	
QUIF	**Quistinic**	**152.54**	**7**	*e*PKP1	PKPdf	11 34 42.1	+8.7
VISS	**Visnje**	**152.56**	**339**	*e*PKPbc	PKPdf	11 34 42.0	+8.6
VISS				*e*		11 34 47.3	
VISS				*e*		11 34 55.2	
BOJS	**Bojanci**	**152.68**	**338**	*e*PKPdf	PKPdf	11 34 34.7	+1.1
BOJS				*i* PKPbc	PKPdf	11 34 42.6	+8.9
HYF	**Humbligny**	**153.41**	**358**	*e*PKP1	PKPdf	11 34 44.2	+10
SSF	**Saint Saulge**	**153.58**	**357**	*e*PKP1	PKPdf	11 34 44.1	+9.3
	comp=Z,10nm,0.5s						
CABF	**La Chapelle**	**153.80**	**353**	*e*PKP1	PKPdf	11 34 45.1	+10
	comp=Z,31nm,0.9s						
MFF	**Saint Martin d**	**154.07**	**2**	*e*PKP1	PKPdf	11 34 44.9	+9.4
	comp=Z,16nm,0.8s						
BGF	**Bois d'Agland**	**154.11**	**358**	*e*PKP1	PKPdf	11 34 46.6	+11
	comp=Z,24nm,0.9s						
TCF	**Toulx Ste Croi**	**154.40**	**359**	*e*PKP1	PKPdf	11 34 45.6	+10
	comp=Z,20nm,1.1s						
LPL	**La Plagne**	**154.79**	**351**	*e*PKP1	PKPdf	11 34 47.5	+11
LPG	**La Plagne**	**154.81**	**351**	*e*PKP1	PKPdf	11 34 47.6	+11
ORIF	**Oris-en-Rattie**	**155.49**	**352**	*e*PKP1	PKPdf	11 34 48.4	+11
	comp=Z,16nm,0.9s						
MBDF	**Montbardon**	**155.56**	**351**	*e*PKP1	PKPdf	11 34 49.2	+12
	comp=Z,22nm,0.8s						
EVO	**Evora**	**160.41**	**22**	*e*PKP2	PKPab	11 35 29.5	-1.5
	comp=Z,28nm,0.9s						
DBIC	**Dimbokro**	**164.87**	**156**	*e*PKPdf	PKPdf	11 34 49.0	+0.4

DJA 05 11:26:47.3±1.0, 2.69S×119.57E, h33km, MD4.4/3, ML4.1/2, 3C, Error ellipse: s-maj=22.1km s-min=13.2km az=160.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TANI	**Tanete Lipujan**	**0.77**	**194**⇑	*e*Pn	Pn	11 26 59.7	-2.2
	132nm,0.2s						
TANI				*e*Sn	Sn	11 27 08.7	-3.6
BUNI	**Buntu Taipa**	**1.22**	**142**⇑	*e*Pn	Pn	11 27 06.1	-2.3
	111nm,0.2s						
BUNI	**Buntu Taipa**	**1.22**	**142**	*e*Pg	P	11 27 07.1	-1.0
BUNI				*e*Sn	Sn	11 27 20.8	-3.1
NINI	**Niniconang**	**1.73**	**174**⇑	*e*Pn	Pn	11 27 16.0	+0.3
	221nm,0.2s						
NINI				*e*Sn	Sn	11 27 34.5	-2.4

*CSEM **05** 11:42:56.0±0.4, 44.82N×17.98E, h30km, ML3.2, Error ellipse: s-maj=8.4km s-min=6.4km az=99.0*
*BEO **05** 11:42:57.9±0.3, 44.37N×18.05E, h8km*
*PDG **05** 11:42:57.8±0.1, 44.32N×18.13E, h5km*
*NEIC **05** 11:42:58.4±0.4, 44.34N×18.16E, h10km, ML3.2(PDG), Error ellipse: s-maj=12.2km s-min=3.8km az=60.0*
ISC 05 11:42:57.3±0.3, 44.39N±0.02×18.06E±0.03, h5km, n36, σ1§11/67, 14C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.72**	**300**	*e*Pg	**Pg**	**11 43 11.7**	**-0.1**
BLY				Sg	**Sg**	**11 43 21.8**	**+0.4**
BBLS	**Bajina Basta -**	**1.10**	**118**	⇓*i*Pg	**Pg**	**11 43 18.1**	**-1.3**
BBLS				Sg	**Sg**	**11 43 33.9**	**-0.1**
UPM	**Unac-Piva**	**1.34**	**152**⇑	*i*Pg	**Pg**	**11 43 20.9**	**-3.2**
UPM				*e*Sg	**Sg**	**11 43 40.5**	**-1.4**
DIVS	**Divcibare**	**1.42**	**101**	*e*Pn	**Pn**	**11 43 23.4**	**-0.4**
DIVS				Sg	**Sg**	**11 43 45.4**	**+0.9**
PLE	**Pljevlja**	**1.43**	**137**⇑	*i*Pg	**Pg**	**11 43 22.8**	**-3.2**
PLE				*e*Sg	**Sg**	**11 43 44.0**	**-1.0**
NVSS	**Nova Varos 2**	**1.48**	**126**⇑	*i*Pn	**Pn**	**11 43 26.1**	**+1.4**
NVSS				Sn	**Sn**	**11 43 47.5**	**+2.9**
BRY	**Bratogost**	**1.53**	**167**⇑	*i*Pg	**Pg**	**11 43 24.7**	**-3.2**
BRY				*e*Sg	**Sg**	**11 43 47.3**	**-1.0**
TREB	**Trebinje**	**1.69**	**173**	Pn	**Pn**	**11 43 26.7**	**-1.0**
TREB				Sg	**Sg**	**11 43 49.8**	**-3.7**
NKY	**Niksic**	**1.72**	**156**⇑	*i*Pn	**Pn**	**11 43 27.4**	**-0.7**
NKY				*e*Sn	**Sn**	**11 43 52.2**	**+1.5**
HCY	**Herceg Novi**	**1.97**	**171**⇑	*i*Pn	**Pn**	**11 43 31.5**	**-0.2**
HCY				*e*Sn	**Sn**	**11 43 58.6**	**+1.5**
IVA	**Berane**	**2.02**	**138**	*e*Pn	**Pn**	**11 43 32.2**	**-0.2**
IVA				*e*Sn	**Sn**	**11 43 59.6**	**+1.2**
TTG	**Podgorica**	**2.15**	**156**	*e*Pn	**Pn**	**11 43 34.3**	**+0.1**
TTG				*e*Sn	**Sn**	**11 44 02.8**	**+1.2**
BUM	**Brajici-Budva**	**2.18**	**163**⇑	*i*Pn	**Pn**	**11 43 34.9**	**+0.1**
BUM				*e*Sn	**Sn**	**11 44 03.5**	**+1.1**
BUM	**Brajici-Budva**	**2.18**	**163**⇑	*i*Pn	**Pn**	**11 43 34.8**	**+0.1**
BUM				*e*Sn	**Sn**	**11 44 03.5**	**+1.1**
PVY	**Plav**	**2.27**	**142**	*e*Pn	**Pn**	**11 43 35.9**	**-0.2**
PVY				*e*Sn	**Sn**	**11 44 05.7**	**+1.0**
VBY	**Vinica-Bojanci**	**2.28**	**300**	*e*Pg	**Pg**	**11 43 42.5**	**-0.4**
VBY				*e*Sn	**Sn**	**11 44 07.7**	**+2.7**
VBY				*e*Sg	**Sg**	**11 44 12.5**	**-0.8**
BOJS	**Bojanci**	**2.29**	**300**	*i* Pn	**Pn**	**11 43 36.0**	**-0.3**
NVLJ	**Novalja**	**2.29**	**275**	*i* Pn	**Pn**	**11 43 36.2**	**-0.1**
NVLJ				*i* Sn	**Sn**	**11 44 05.7**	**+0.5**
NVLJ	**Novalja**	**2.29**	**275**	*i* Pn	**Pn**	**11 43 36.2**	**-0.1**
NVLJ				*i* Sn	**Sn**	**11 44 05.7**	**+0.5**
NVLJ				*i* Sg	**Sg**	**11 44 11.6**	**-2.0**
ULC	**Ulcinj**	**2.58**	**160**	*e*Pn	**Pn**	**11 43 40.3**	**-0.1**
ULC				*e*Sn	**Sn**	**11 44 13.3**	**+0.7**
KNDS	**Knezji Dol**	**2.85**	**295**	*i* Pn	**Pn**	**11 43 44.8**	**+0.5**
OBKA	**Obir**	**3.25**	**312**⇑	*i*PN	**Pn**	**11 43 50.0**	**-0.1**
OBKA				*i* SN	**Sn**	**11 44 41.0**	**+11**
ARSA	**Arzberg**	**3.37**	**329**⇑	*i*PN	**Pn**	**11 43 51.4**	**-0.2**
ARSA				*i* SN	**Sn**	**11 44 42.6**	**+10**
VOY	**Vojsko**	**3.37**	**301**	*e*Pn	**Pn**	**11 43 51.3**	**-0.4**
VOY				*e*Sn	**Sn**	**11 44 34.8**	**+2.1**
SRO	**Srobarova**	**3.43**	**3**	*e*SG	**Sg**	**11 44 52.9**	**+1.5**
PSZ	**Piszkesteto**	**3.75**	**19**⇓	*e*Pn	**Pn**	**11 43 56.3**	**-0.8**
PSZ				*e*Sg	**Sg**	**11 45 02.3**	**+0.1**
ZST	**Bratislava**	**3.86**	**350**	*e*PN	**Pn**	**11 43 58.6**	**-0.1**
ZST				*e*SN	**Sn**	**11 44 45.6**	**+0.5**
VYHS	**Vyhne**	**4.14**	**7**	*e*	**Sg**	**11 45 11.6**	**-3.5**
VYHS	**Vyhne**	**4.14**	**7**	*e*Pn	**Pn**	**11 44 02.1**	**-0.5**
VYHS				*e*Sn	**Sn**	**11 44 50.1**	**-2.0**
VYHS				*e*Sg	**Sg**	**11 45 11.6**	**-3.5**
KOLL	**Kolacno**	**4.20**	**3**	*e*PN	**Pn**	**11 44 03.2**	**-0.2**
KBA	**Koelnbreinsper**	**4.26**	**311**⇑	*i*PN	**Pn**	**11 44 03.8**	**-0.5**
KBA				*i* SN	**Sn**	**11 45 05.2**	**+10**
MOA	**Molln**	**4.35**	**324**⇑	*i*PN	**Pn**	**11 44 05.7**	**+0.1**
MOA				*i* SN	**Sn**	**11 44 59.1**	**+1.7**
WTTA	**Wattenberg**	**5.33**	**305**⇓	*i*PN	**Pn**	**11 44 20.3**	**+0.8**
WTTA				*i*		11 45 21.6	
WATA	**Walderalm**	**5.40**	**305**⇑	*i*PN	**Pn**	**11 44 21.1**	**+0.6**
WATA				*i*		11 45 21.8	
SQTA	**Sankt Quirin**	**5.56**	**303**⇑	*i*PN	**Pn**	**11 44 23.1**	**+0.3**
SQTA				*i*		11 45 22.4	
KHC	**Kasperske Hory**	**5.65**	**329**	*e*PN	**Pn**	**11 44 23.5**	**-0.6**
KHC				*e*SN	**Sn**	**11 45 27.5**	**-2.7**

*BJI **05** 11:59:28.7, 15.30S×173.50W, h10km, mB5.5, mb4.9, Ms5.3, Msz5.0*
*NEIC **05** 11:59:29.7±0.4, 15.33S×173.50W, h10km, mb4.6/13, Error ellipse: s-maj=23.3km s-min=9.4km az=135.0*
ISC 05 11:59:28.5±0.5, 15.2S±0.2×173.7W±0.1, h10km, n42, σ0§57/37, mb4.6/15, MS4.8/2, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.24**	**57**⇑	*i*P	**Pn**	**12 00 02.8**	**-3.4**
STKA	**Stephens Creek**	**43.91**	**240**	*e*P	**P**	**12 07 36.8**	**-0.5**
WRAB	**Tennant Creek**	**49.61**	**257**	P	**P**	**12 08 20.9**	**-1.4**
	3.1nm,0.7s,mb4.5						
VNDA	**Vanda**	**63.59**	**186**	*e*P	**P**	**12 09 56.9**	**-4.4**
	4.0nm,1.1s,mb4.4						
MNV	**Mina**	**74.44**	**42**	*e*P	**P**	**12 11 08.4**	**-0.5**
	3.1nm,0.8s,mb4.3						
LDFC	**Landfair**	**74.69**	**47**	*e*P	**P**	**12 11 10.3**	**-0.1**
QSPA	**South Pole Qui**	**74.89**	**180**	*e*P	**P**	**12 11 11.2**	**+0.5**
	8.3nm,1.2s,mb4.5						
MOD	**Modoc**	**75.11**	**38**	*e*P	**P**	**12 11 12.6**	**-0.2**
	14nm,1.2s,mb4.8						
NEN	**Nelson**	**75.17**	**46**	*e*P	**P**	**12 11 12.4**	**-0.8**
WVOR	**Wild Horse Val**	**76.43**	**39**	*e*P	**P**	**12 11 19.9**	**-0.3**
	11nm,1.1s,mb4.7						
WVOR				*e*		12 12 52.2	
TUC	**Tucson**	**76.46**	**51**	*e*P	**P**	**12 11 20.4**	**-0.2**
	7.9nm,0.9s,mb4.6						
MSU	**Marysvale**	**78.46**	**45**	*e*P	**P**	**12 11 31.9**	**+0.5**
BMO	**Blue Mountains**	**78.61**	**37**	*e*P	**P**	**12 11 31.3**	**-0.8**
	7.0nm,1.0s,mb4.5						
MDJ	**Mudanjiang**	**78.66**	**322**	P	**P**	**12 11 32.7**	**+0.3**
MDJ

*MOS **05** 12:13:17.6±1.5, 3.86N×94.55E, h33km, mb5.2/15, Error ellipse: s-maj=32.8km s-min=11.7km az=98.3*
*NEIC **05** 12:13:18.8±5.2, 3.59N×94.34E, h32km±36km, mb4.8/15, Error ellipse: s-maj=12.1km s-min=8.2km az=53.0*
ISC 05 12:13:16.8±0.4, 3.58N±0.06×94.42E±0.06, h33km, n82, σ1§15/85, mb5.0/33, MS4.5/3, 4C-3D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKTK	**Khon Kaen**	**15.14**	**33**	P	**P**	**12 16 56.0**	**+6.0**
	278nm,0.8s						
CM31	**Chiang Mai Arr**	**15.44**	**16**	*e*P	**P**	**12 16 54.2**	**+0.3**
	27nm,0.8s						
CMAR	**Chiang Mai Arr**	**15.44**	**16**	*i* P	**P**	**12 16 57.9**	**+4.0**
CMAR				pmax	pmax		
	comp=Z,13nm,0.9s						
CHG	**Chiang Mai**	**15.78**	**16**	⇑P	**P**	**12 16 58.1**	**-0.2**
	comp=Z,10.0nm,1.0s						
NANT	**Nan**	**16.33**	**22**	P	**P**	**12 17 08.0**	**+2.7**
CAL	**Calcutta**	**19.75**	**343**	*e*P	**P**	**12 17 41.4**	**-5.5**
CAL				*e*		12 19 55.2	
HYB	**Hyderabad**	**20.77**	**313**	*e*P	**P**	**12 17 57.0**	**-0.5**
HYB	**Hyderabad**	**20.77**	**313**	*i* P	**P**	**12 17 57.0**	**-0.5**
	comp=Z,167nm,1.6s						
HYB				*e*		12 21 43.5	
MNGI	**Mangalore**	**21.49**	**297**	*e*P	**P**	**12 18 04.8**	**0.0**
SHL	**Shillong**	**22.00**	**354**	*i* P	**P**	**12 18 08.0**	**-1.9**
SHL				*e*S	**S**	**12 22 10.5**	**+4.8**
JIRN	**Jiri**	**25.21**	**343**	*e*P	**P**	**12 18 42.2**	**+1.0**
	comp=Z,200nm,1.6s,mb5.4						
PKI	**Pulchoki**	**25.37**	**341**	*e*P	**P**	**12 18 43.0**	**+0.3**
	comp=Z,63nm,1.2s,mb5.0						
DMN	**Daman**	**25.50**	**341**	*e*P	**P**	**12 18 44.5**	**+0.5**
GUN	**Gumba**	**25.53**	**342**	*e*P	**P**	**12 18 44.9**	**+0.6**
	comp=Z,436nm,1.8s,mb5.7						
KKN	**Kakani**	**25.61**	**341**	*e*P	**P**	**12 18 44.9**	**-0.1**
	comp=Z,94nm,1.2s,mb5.2						
GKN	**Gorkha**	**26.02**	**340**	*e*P	**P**	**12 18 48.9**	**0.0**
	comp=Z,73nm,1.0s,mb5.2						
BOM	**Bombay**	**26.04**	**307**	*e*P	**P**	**12 18 48.6**	**-0.5**
BOM				*e*		12 23 46.0	
LSA	**Lhasa**	**26.17**	**354**	P	**P**	**12 18 52.6**	**+2.4**
LSA				AP	pP	12 19 07.8	+8.2
LSA				S	**S**	**12 23 14.7**	**-2.9**
LSA				XS		12 23 43.5	
LSA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
LSA				LR	LR		
	comp=N,140nm,16.1s,MS3.9						
LSA				LR	LR		
	comp=E,280nm,16.1s,MS3.9						
LSA				LR	LR		
	comp=Z,420nm,19.0s,MS4.0						
LSA	**Lhasa**	**26.17**	**354**	*e*P	**P**	**12 18 52.2**	**+2.0**
	comp=Z,24nm,0.8s,mb4.8						
KOLN	**Koldanda**	**26.18**	**338**	*e*P	**P**	**12 18 50.7**	**+0.4**
	comp=Z,104nm,1.3s,mb5.2						
NDI	**New Delhi**	**29.85**	**329**	*e*P	**P**	**12 19 21.5**	**-1.9**
ENH	**Enshi**	**30.14**	**27**	*e*P	**P**	**12 19 25.3**	**-0.7**
	comp=Z,8.3nm,0.9s,mb4.5						
DDI	**Dehra Dun**	**30.78**	**332**	*e*P	**P**	**12 19 32.1**	**+0.4**
NJ2	**Nanjing**	**36.45**	**36**	*e*P	**P**	**12 20 20.2**	**-0.4**
NJ2				AP	pP	12 20 34.0	+3.6
NJ2				PP	PP	12 21 44.6	-0.3
NJ2				S	**S**	**12 26 01.0**	**+1.4**
NJ2				AMB	AMB		
	comp=Z,280nm,5.4s						
NJ2				LR	LR		
	comp=N,2μm,12.9s,MS5.3						
NJ2				LR	LR		
	comp=E,2μm,12.0s,MS5.3						
NJ2				LR	LR		
	comp=Z,3μm,14.4s,MS5.2						
SSE	**Sheshan**	**37.23**	**40**	*e*P	**P**	**12 20 24.1**	**-3.0**
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,130nm,5.2s						
WMQ	**Urumqi**	**40.52**	**353**	*e*P	**P**	**12 20 55.5**	**+1.1**
BJT	**Baijiatuau**	**41.27**	**26**	*e*P	**P**	**12 21 02.2**	**+1.6**
ULHL	**Ulahol**	**41.79**	**340**	P	**P**	**12 21 06.0**	**+1.0**
	SNR=9.1						
KZA	**Kyzart**	**41.99**	**339**	P	**P**	**12 21 08.1**	**+1.5**
	SNR=10.0						
UCH	**Uchtor**	**42.40**	**338**	P	**P**	**12 21 11.4**	**+1.4**
	SNR=16						
KBK	**Karagaybulak**	**42.61**	**339**	P	**P**	**12 21 13.1**	**+1.5**
	SNR=15						
TKM2	**Tokmak 2**	**42.61**	**340**	P	**P**	**12 21 12.7**	**+1.1**
	SNR=10						
AML	**Almayashu**	**42.63**	**337**	P	**P**	**12 21 13.3**	**+1.5**
	SNR=21						
AAK	**Ala-Archa**	**42.76**	**338**	P	**P**	**12 21 14.1**	**+1.3**
	SNR=8.6						
AAK	**Ala-Archa**	**42.76**	**338**	⇓*i*P	**P**	**12 21 10.7**	**-2.1**
AAK				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.7						
AAK	**Ala-Archa**	**42.76**	**338**	*e*P	**P**	**12 21 12.3**	**-0.5**
	comp=Z,42nm,1.6s,mb4.9						
FRU	**Bishkek**	**42.88**	**339**	*e*P	**P**	**12 21 11.5**	**-2.4**
FRU				pmax	pmax		
	comp=Z,90nm,2.0s,mb5.2						
CHMS	**Chumysh**	**42.98**	**339**	P	**P**	**12 21 15.7**	**+1.0**
	SNR=6.0						
EKS2	**Erkin-Say**	**43.05**	**338**	P	**P**	**12 21 16.6**	**+1.3**
	SNR=9.7						
USP	**Ospenovka**	**43.30**	**339**	P	**P**	**12 21 18.0**	**+0.7**
	SNR=19						
MKAR	**Makanchi Array**	**44.32**	**348**	*i* P	**P**	**12 21 25.9**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ULN	**Ulaanbaatar**	**45.45**	**12**	*e*P	**P**	**12 21 32.6**	**-1.9**
ULN	**Ulaanbaatar**	**45.45**	**12**	*e*P	**P**	**12 21 35.0**	**+0.5**
	comp=Z,6.6nm,1.3s,mb4.3						
WRAB	**Tennant Creek**	**45.65**	**122**	*e*P	**P**	**12 21 37.1**	**+0.7**
	comp=Z,39nm,1.2s,mb5.2						
WB2	**Warramunga Arr**	**45.65**	**122**	*e*P	**P**	**12 21 37.7**	**+1.2**
ZAK	**Zakamensk**	**47.24**	**8**	⇑*i*P	**P**	**12 21 49.3**	**+0.8**
ZAK				*e*		12 23 18.0	
TLY	**Talaya**	**48.56**	**8**	*i* P	**P**	**12 21 56.1**	**-2.7**
TLY	**Talaya**	**48.56**	**8**	*e*P	**P**	**12 21 58.6**	**-0.2**
	comp=Z,13nm,1.1s,mb4.9						
HIA	**Hailar**	**50.37**	**21**	*e*P	**P**	**12 22 12.8**	**0.0**
	comp=Z,4.0nm,0.4s,mb4.8						
NVS	**Novosibirsk**	**51.91**	**352**	*e*P	**P**	**12 22 23.0**	**-1.3**
NVS				pmax	pmax		
	comp=Z,30nm,2.0s,mb4.9						
NVS				pmax	pmax		
	comp=E,11nm,1.5s						
BVA0	**Borovoye Array**	**53.13**	**342**	P	**P**	**12 22 32.7**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb4.0						
CHKZ	**Chkalovo**	**53.62**	**343**	*e*P	**P**	**12 22 36.5**	**-0.6**
	comp=Z,42nm,1.4s,mb5.2						
KLR	**Kul'dur**	**55.46**	**29**	*e*P	**P**	**12 22 48.2**	**-2.4**
CTAO	**Charters Tower**	**56.05**	**117**	*e*P	**P**	**12 22 55.6**	**+0.5**
	comp=Z,14nm,1.3s,mb4.8						
BOD	**Bodaibo**	**56.25**	**12**	*e*P	**P**	**12 22 55.2**	**-0.9**
STKA	**Stephens Creek**	**57.00**	**132**	*e*P	**P**	**12 23 02.6**	**+0.7**
KMBO	**Kilima Mbogo**	**57.33**	**266**	*e*P	**P**	**12 23 05.5**	**+1.0**
	comp=Z,6.7nm,1.3s,mb4.5						
GNI	**Garni**	**57.67**	**316**	*i* P	**P**	**12 23 04.7**	**-1.8**
GNI				pmax	pmax		
	comp=Z,27nm,1.4s						
TI2	**Plekhanov**	**58.36**	**318**	*e*P	**P**	**12 23 11.0**	**-0.3**
SVE	**Sverdlovsk**	**59.48**	**339**	⇑*i*P	**P**	**12 23 18.4**	**-0.5**
SVE				pmax	pmax		
	comp=Z,90nm,2.0s,mb5.5						
ARU	**Arti**	**59.94**	**338**	⇓*i*P	**P**	**12 23 19.1**	**-2.9**
ARU				*e*		12 24 01.4	
ARU				*e*		12 25 28.8	
ARU				*e*S	**S**	**12 31 30.3**	**+0.1**
ARU				*e*SS	SS	12 35 27.0	-0.9
ARU				pmax	pmax		
	comp=Z,25nm,1.9s,mb4.9						
YSS	**Yuzh-Sakhalins**	**60.02**	**36**	*e*P	**P**	**12 23 21.1**	**-1.7**
YSS				pmax	pmax		
	comp=Z,34nm,1.5s,mb5.2						
KIV	**Kislovodsk**	**60.71**	**319**	*e*P	**P**	**12 23 29.9**	**+2.5**
KIV				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.9						
MALT	**Malatya**	**61.48**	**312**	*e*P	**P**	**12 23 32.5**	**-0.2**
	comp=Z,33nm,1.7s,mb5.2						
YAK	**Yakutsk**	**63.97**	**18**	⇓*i*P	**P**	**12 23 45.7**	**-3.2**
YAK				pmax	pmax		
	comp=Z,36nm,1.3s,mb5.2						
YAK	**Yakutsk**	**63.97**	**18**	*e*P	**P**	**12 23 48.4**	**-0.5**
	comp=Z,90nm,1.6s,mb5.5						
MOS	**Moscow**	**68.89**	**330**	*e*P	**P**	**12 24 17.8**	**-2.4**
MOS				pmax	pmax		
	comp=Z,48nm,1.2s,mb5.3						
OBN	**Obninsk**	**69.16**	**329**	*e*P	**P**	**12 24 21.7**	**-0.1**
OBN				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
MA2	**Magadan**	**70.44**	**27**	*e*P	**P**	**12 24 28.0**	**-1.6**
MA2				pmax	pmax		
	comp=Z,23nm,1.8s,mb4.8						
TIXI	**Tiksi**	**71.37**	**11**	*e*P	**P**	**12 24 34.5**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.1						
TIXI				MLR	MLR		
	comp=Z,189nm,16.0s,MS4.5						
LBTB	**Lobatse**	**72.47**	**243**	*e*P	**P**	**12 24 42.1**	**-0.2**
	comp=Z,4.3nm,0.8s,mb4.4						
BOSA	**Boshof**	**73.58**	**239**	*e*P	**P**	**12 24 48.1**	**-0.8**
KOLS	**Kolonicke sedl**	**75.62**	**320**	*e*P	**P**	**12 25 00.5**	**+0.3**
FINES	**FINESS Array B**	**76.62**	**333**	*i* P	**P**	**12 25 05.3**	**-0.4**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PSZ	**Piszkesteto**	**77.00**	**318**	*e*P	**P**	**12 25 07.7**	**-0.4**
	comp=Z,11nm,1.2s,mb4.7						
VYHS	**Vyhne**	**77.79**	**319**	*e*P	**P**	**12 25 12.4**	**0.0**
ZST	**Bratislava**	**78.89**	**318**	*e*P	**P**	**12 25 19.4**	**+0.9**
BOJS	**Bojanci**	**79.86**	**315**	*e*P	**P**	**12 25 23.5**	**-0.4**
BILL	**Bilibino**	**79.96**	**21**	⇑*i*P	**P**	**12 25 23.3**	**-0.6**
BILL				pmax	pmax		
	comp=Z,15nm,1.6s,mb4.7						
PERS	**Pernice**	**80.06**	**317**	*e*P	**P**	**12 25 25.3**	**+0.4**
AQU	**L'Aquila**	**80.96**	**312**	P	**P**	**12 25 29.7**	**0.0**
LAO	**LASA Array**	**126.73**	**18**	*e*PKPdf	PKPdf	12 32 20.1	+2.7

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*BJI **05** 12:31:36.1, 6.64N×93.01E, h33km, mB5.3, mb5.0, Ms5.0, Msz4.8*
*MOS **05** 12:31:37.4±1.2, 6.84N×93.28E, h40km, mb5.2/17, Error ellipse: s-maj=15.8km s-min=8.0km az=114.1*
*CSEM **05** 12:31:38.1, 7.13N×93.53E, h33km, mb5.5*
*NEIC **05** 12:31:38.4±0.3, 6.73N×93.03E, h30km, mb5.1/33, Error ellipse: s-maj=10.1km s-min=8.0km az=206.0*
*HRVD **05** 12:31:38.4±0.3, 6.59N×92.99E, h12km, MW5.0/55, Centroid moment Tensor Solution. LP body waves: s31,c43;Mantle waves: s55,c100; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.98±.10; $M_{\theta\theta}$-1.99±.08; $M_{\phi\phi}$-2.00±.10; $M_{r\theta}$0.78±.33; $M_{\theta\phi}$1.79±.07; $M_{\phi r}$-2.19±.33; Best double couple: $M_0$4.517×10^{16} NP1: ϕ_s305°, δ32°, λ71°. NP2:ϕ_s147°, δ60°, λ101°. Principal axes: T 4.702, Plg72°, Azm84°; N -.38, Plg10°, Azm321°; P -4.332, Plg15°, Azm229°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 05 12:31:34.7±1.3, 6.63N±0.04×93.14E±0.04, h20km±9km, h24km±3.8km; pP-P, n164, σ1§17/158, mb5.1/49, MS4.9/10, 9C-9D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**8.79**	**47**	P	**P**	**12 33 35.0**	**-8.8**
PALK	**Pallekele**	**12.36**	**274**	*e*P	**P**	**12 34 29.1**	**-3.6**
	37nm,0.9s						
CM31	**Chiang Mai Arr**	**13.04**	**25**	*e*P	**P**	**12 34 43.6**	**+1.9**
	92nm,0.7s						
CHG	**Chiang Mai**	**13.36**	**25**	⇑P	**P**	**12 34 48.6**	**+2.7**
	86nm,1.0s						
CHG				S	**S**	**12 37 28.2**	**+13**
KKTK	**Khon Kaen**	**13.52**	**44**	P	**P**	**12 34 59.0**	**+11**
NANT	**Nan**	**14.16**	**31**	P	**P**	**12 35 06.0**	**+9.5**
	78nm,1.0s						
MDRS	**Chennai**	**14.21**	**298**	*e*P	**P**	**12 34 56.0**	**-1.3**
MDRS				*e*		12 37 19.0	
VIS	**Vishakhapatnam**	**14.60**	**320**	*e*P	**P**	**12 35 01.7**	**-0.6**
VIS				*e*		12 35 08.0	
	comp=Z,136nm,1.1s						
VIS				*e*		12 37 30.5	
CHRT	**Chiangrai**	**14.66**	**26**	⇓P	**P**	**12 35 05.5**	**+2.5**
	comp=Z,210nm,1.0s						
BWNR	**Bhubaneshwar**	**15.33**	**333**	*e*P	**P**	**12 35 07.0**	**-4.8**
BWNR				*e*		12 37 45.8	
KOD	**Kodaikanal**	**15.90**	**284**	*e*P	**P**	**12 35 17.9**	**-1.5**
TRD	**Trivandrum**	**16.14**	**278**	*e*P	**P**	**12 35 24.2**	**+1.8**
TRD				*e*		12 35 35.4	
	comp=Z,55nm,1.2s						
TRD				*e*		12 38 08.1	
AGT	**Agartala**	**17.25**	**354**	*e*P	**P**	**12 35 32.0**	**-4.2**
HYB	**Hyderabad**	**17.82**	**308**	*i* P	**P**	**12 35 46.5**	**+3.1**
HYB				*e*S	**S**	**12 38 52.5**	**-6.5**
IMP	**Imphal**	**18.06**	**2**	⇓*i*P	**P**	**12 35 44.9**	**-1.5**
BLSP	**Bilaspur**	**18.71**	**327**	*e*P	**P**	**12 35 54.2**	**-0.1**
BLSP				*e*		12 36 01.2	
	comp=Z,60nm,0.6s						
BLSP				*e*S	**S**	**12 39 22.7**	**+3.5**
SHL	**Shillong**	**18.86**	**356**	*e*P	**P**	**12 35 54.1**	**-2.0**
SHL				*e*		12 35 55.0	
SHL				*e*		12 36 03.2	
	comp=Z,96nm,1.2s						
SHL				*e*S	**S**	**12 39 23.3**	**+0.8**
MNGI	**Mangalore**	**19.10**	**291**	*e*P	**P**	**12 36 00.2**	**+1.2**
NGP	**Nagpur**	**19.85**	**318**	*e*	**P**	**12 36 12.4**	**+4.8**
NGP				*e*		12 40 05.7	
LATR	**Latur**	**19.95**	**307**	*e*	**P**	**12 36 12.0**	**+3.3**
QIZ	**Qiongzhong**	**20.40**	**51**	P	**P**	**12 36 14.0**	**+0.7**
QIZ				S	**S**	**12 39 54.1**	**-1.6**
QIZ				AMB	AMB		
	comp=Z,119nm,1.2s						
QIZ				LR	LR		
	comp=N,2μm,11.9s						
QIZ				LR	LR		
	comp=Z,2μm,11.9s,MS4.7						
QIZ	**Qiongzhong**	**20.40**	**51**	*e*P	**P**	**12 36 14.1**	**+0.8**
	comp=Z,355nm,1.4s						
GOA	**Goa**	**20.88**	**297**	*e*	**P**	**12 36 22.9**	**+4.6**
GOA				*e*		12 36 30.6	
	comp=Z,41nm,0.6s						
GOA				*e*		12 36 33.5	
GOA				*e*S	**S**	**12 40 07.5**	**+2.2**
KAD	**Karad**	**21.34**	**301**	*e*	**P**	**12 36 25.5**	**+2.6**
KAD				*i*		12 40 09.9	
JIRN	**Jiri**	**21.93**	**343**	*e*P	**P**	**12 36 28.9**	**+0.1**
	comp=Z,207nm,1.0s,mb5.5						
PKI	**Pulchoki**	**22.08**	**341**	*e*P	**P**	**12 36 30.3**	**0.0**
POO	**Poona**	**22.20**	**304**	*e*P	**P**	**12 36 32.0**	**+0.5**
POO				*i* S	**S**	**12 40 30.5**	**+0.6**
DMN	**Daman**	**22.21**	**341**	*e*P	**P**	**12 36 31.7**	**+0.1**
	comp=Z,130nm,0.8s,mb5.4						
GUN	**Gumba**	**22.25**	**343**	*e*P	**P**	**12 36 31.7**	**-0.3**
	comp=Z,145nm,0.7s,mb5.5						
KKN	**Kakani**	**22.32**	**341**	*e*P	**P**	**12 36 32.6**	**-0.1**
	comp=Z,127nm,0.7s,mb5.4						
BHPL	**Bhopal**	**22.39**	**319**	*e*P	**P**	**12 36 33.9**	**+0.5**
BHPL				*e*S	**S**	**12 40 36.0**	**+2.7**
GKN	**Gorkha**	**22.73**	**340**	*e*P	**P**	**12 36 37.0**	**+0.2**
	comp=Z,243nm,0.9s,mb5.6						
KOLN	**Koldanda**	**22.89**	**338**	*e*P	**P**	**12 36 38.4**	**0.0**
	comp=Z,329nm,1.4s,mb5.6						
LSA	**Lhasa**	**23.02**	**356**	P	**P**	**12 36 41.4**	**+1.7**
LSA				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.8						
LSA				LR	LR		
	comp=N,600nm,20.0s,MS4.4						
LSA				LR	LR		
	comp=E,1μm,16.0s,MS4.4						
LSA				LR	LR		
	comp=Z,2μm,19.0s,MS4.5						
LSA	**Lhasa**	**23.02**	**356**	*e*P	**P**	**12 36 40.1**	**+0.4**
	comp=Z,68nm,0.9s,mb5.1						
BOM	**Bombay**	**23.23**	**304**	*e*	**P**	**12 37 00.4**	**+19**
BOM				*e*		12 40 57.1	
NDI	**New Delhi**	**26.60**	**327**	*e*P	**P**	**12 37 12.8**	**-1.0**
NDI				*e*	pP	12 37 20.2	+0.5
	comp=Z,38nm,1.1s						
NDI				*e*		12 42 23.0	
DDI	**Dehra Dun**	**27.50**	**331**	*e*P	**P**	**12 37 22.2**	**+0.3**
ENH	**Enshi**	**28.09**	**31**	*e*P	**P**	**12 37 26.4**	**-0.9**
	comp=Z,26nm,0.9s,mb4.9						
SMLA	**Simla**	**28.59**	**330**	*e*	**P**	**12 37 44.7**	**+13**
LZH	**Lanzhou**	**30.91**	**17**	⇑P	**P**	**12 37 52.0**	**-0.4**
LZH				PP	PP	12 38 54.3	0.0
LZH				*e*S	**S**	**12 42 55.0**	**+0.6**
LZH				SS	SS	12 44 39.2	+1.0
LZH				AMB	AMB		
	comp=Z,35nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,159nm,5.3s						
LZH				LR	LR		
	comp=E,2μm,13.2s						
LZH				LR	LR		
	comp=Z,3μm,17.0s,MS5.0						
XAN	**Xi'an**	**30.94**	**26**	P	**P**	**12 37 50.0**	**-2.7**
XAN				AMB	AMB		
	comp=Z,99nm,0.8s,mb5.7						
XAN				LR	LR		
	comp=N,852nm,16.0s,MS4.7						
XAN				LR	LR		
	comp=E,860nm,14.2s,MS4.7						
XAN				LR	LR		
	comp=Z,2μm,17.8s,MS4.9						
WHN	**Wuhan**	**31.02**	**37**	P	**P**	**12 37 54.0**	**+0.6**
WHN				S	**S**	**12 43 01.0**	**+4.9**
WHN				LR	LR		
	comp=Z,3μm,11.2s,MS5.2						
NJ2	**Nanjing**	**34.85**	**40**	*e*P	**P**	**12 38 28.8**	**+2.0**
NJ2				AP	pP	12 38 39.2	+6.4
NJ2				XP	sP	12 38 42.4	+7.0
NJ2				PP	PP	12 39 43.6	-1.0
NJ2				S	**S**	**12 43 50.0**	**-5.7**
NJ2				AMB	AMB		
	comp=Z,70nm,7.0s						
NJ2				LR	LR		
	comp=N,2μm,13.2s,MS5.2						
NJ2				LR	LR		
	comp=E,2μm,14.4s,MS5.2						
NJ2				LR	LR		
	comp=Z,2μm,17.6s,MS5.0						
WMQ	**Urumqi**	**37.34**	**354**	P	**P**	**12 38 49.6**	**+1.9**
WMQ				AP	pP	12 38 54.0	+0.2
WMQ				XP	sP	12 38 56.6	+0.3
WMQ				PP	PP	12 40 16.7	+1.2
WMQ				S	**S**	**12 44 35.5**	**+1.6**
WMQ				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,320nm,4.1s						
WMQ				LR	LR		
	comp=N,2μm,17.5s,MS5.1						
WMQ				LR	LR		
	comp=E,2μm,20.4s,MS5.1						
WMQ				LR	LR		
	comp=Z,2μm,16.5s,MS5.0						
ULHL	**Ulahol**	**38.50**	**340**	P	**P**	**12 38 57.7**	**+0.3**
	SNR=31						
KZA	**Kyzart**	**38.70**	**339**	P	**P**	**12 38 59.8**	**+0.8**
	SNR=31						
UCH	**Uchtor**	**39.10**	**338**	P	**P**	**12 39 02.4**	**0.0**
	SNR=70						
BJT	**Baijiatuau**	**39.14**	**28**	*e*P	**P**	**12 39 03.5**	**+0.7**
	comp=Z,50nm,0.8s,mb5.3						
KBK	**Karagaybulak**	**39.31**	**339**	P	**P**	**12 39 04.2**	**0.0**
	SNR=63						
TKM2	**Tokmak 2**	**39.31**	**340**	P	**P**	**12 39 03.8**	**-0.4**
	SNR=21						
AML	**Almayashu**	**39.33**	**337**	P	**P**	**12 39 04.5**	**+0.2**
	SNR=165						
AAK	**Ala-Archa**	**39.46**	**338**	P	**P**	**12 39 06.1**	**+0.7**
	SNR=41						
AAK	**Ala-Archa**	**39.46**	**338**	*i* P	**P**	**12 39 02.1**	**-3.3**
AAK	**Ala-Archa**	**39.46**	**338**	*e*P	**P**	**12 39 04.5**	**-0.9**
	comp=Z,45nm,1.0s,mb5.2						
FRU	**Bishkek**	**39.59**	**338**	*e*P	**P**	**12 39 06.5**	**0.0**
FRU				*e*		12 39 17.0	
CHMS	**Chumysh**	**39.68**	**339**	P	**P**	**12 39 07.9**	**+0.6**
	SNR=17						
EKS2	**Erkin-Say**	**39.75**	**338**	P	**P**	**12 39 08.1**	**+0.3**
	SNR=52						
USP	**Ospenovka**	**40.01**	**339**	P	**P**	**12 39 09.4**	**-0.5**
	SNR=62						
FITZ	**Fitzroy Crossi**	**40.41**	**128**	⇓*i*P	**P**	**12 39 15.0**	**+1.5**
	comp=Z,25nm,0.9s,mb4.9						
MK02	**Makanchi Array**	**41.06**	**349**	P	**P**	**12 39 18.2**	**-0.3**
MK02				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**42.77**	**14**	⇑*i*P	**P**	**12 39 29.7**	**-2.8**
ULN	**Ulaanbaatar**	**42.77**	**14**	*e*P	**P**	**12 39 32.5**	**-0.1**
	comp=Z,6.0nm,0.8s,mb4.4						
SNY	**Shenyang**	**44.25**	**33**	⇓P	**P**	**12 39 45.8**	**+1.2**
SNY				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
ZAK	**Zakamensk**	**44.42**	**9**	*e*P	**P**	**12 39 45.0**	**-0.9**
HIA	**Hailar**	**48.05**	**23**	*e*P	**P**	**12 40 14.8**	**+0.1**
	comp=Z,22nm,0.9s,mb5.2						
WRA	**Warramunga Arr**	**48.38**	**124**	*i* P	**P**	**12 40 17.2**	**-0.4**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WRAB	**Tennant Creek**	**48.38**	**124**	*e*P	**P**	**12 40 17.8**	**+0.2**
	comp=Z,25nm,0.8s,mb5.3						
WB2	**Warramunga Arr**	**48.39**	**124**	*e*P	**P**	**12 40 17.7**	**+0.1**
NVS	**Novosibirsk**	**48.72**	**352**	*i* P	**P**	**12 40 18.2**	**-1.6**
NVS				*i* S	**S**	**12 47 20.0**	**-0.2**
NVS				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.3						
NVS				pmax	pmax		
	comp=N,13nm,0.8s						
NVS				smax			
	comp=E,27nm,1.9s						
MDJ	**Mudanjiang**	**49.39**	**34**	P	**P**	**12 40 25.4**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,16nm,1.0s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,142nm,5.3s						
MDJ	**Mudanjiang**	**49.39**	**34**	*e*P	**P**	**12 40 25.6**	**+0.6**
	comp=Z,19nm,1.0s,mb5.1						
BVA0	**Borovoye Array**	**49.85**	**342**	P	**P**	**12 40 27.6**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
CHKZ	**Chkalovo**	**50.34**	**343**	*e*P	**P**	**12 40 30.3**	**-1.9**
	comp=Z,34nm,0.9s,mb5.4						
MAT	**Matsushiro**	**50.73**	**47**	PCP	PcP	12 41 55.1	+2.4
KLR	**Kul'dur**	**53.45**	**31**	*e*P	**P**	**12 40 53.2**	**-2.5**
KLR				MLR	MLR		
	comp=E,1μm,13.0s						
KLR				MLR	MLR		
	comp=Z,3μm,13.0s,MS5.5

comp=Z,104nm,1.2s,mb5.8
YAK Yakutsk 61.48 19 *e*P **P 12 41 50.2 -2.0**
YAK pmax pmax
comp=Z,25nm,0.9s,mb5.3
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK Yakutsk 61.48 19 *e*P **P 12 41 50.3 -1.9**
comp=E,56nm,0.8s,mb5.8
MBAR Mbarara 62.67 266 *e*P **P 12 42 00.4 -0.4**
OBN Obninsk 65.90 328⇑*e*P **P 12 42 17.5 -3.7**
OBN *e* 12 42 50.7
OBN pmax pmax
comp=Z,28nm,1.3s,mb5.1
OBN Obninsk 65.90 328⇑*i*P **P 12 42 17.6 -3.6**
MA2 Magadan 68.32 28 *i*P **P 12 42 34.1 -2.4**
MA2 pmax pmax
comp=Z,32nm,1.3s,mb5.2
MA2 Magadan 68.32 28 *e*P **P 12 42 35.7 -0.8**
comp=Z,21nm,0.9s,mb5.2
TIXI Tiksi 68.64 11⇑*i*P **P 12 42 35.0 -3.3**
TIXI pmax pmax
comp=Z,113nm,1.3s,mb5.6
SKO Skopje 71.99 312 *e*P **P 12 42 58.0 -1.2**
KWP Kalwaria 72.33 320 *e*P **P 12 43 00.5 -0.5**
KOLS Kolonicke sedl 72.48 319 *e*P **P 12 43 03.1 +1.2**
APA Apatity 72.65 340⇑*i*P **P 12 43 02.5 -0.1**
APA *i* pP 12 43 09.4 +0.4
APA pmax pmax
comp=Z,22nm,0.9s,mb5.1
CRVS Cervenica-Dubn 73.00 319 *e*P **P 12 43 07.1 +2.1**
FINES FINESS Array B 73.34 332 *i*P **P 12 43 06.2 -0.5**
FINES pmax pmax
comp=Z,14nm,0.8s
NIE Niedzica 73.83 319 *e*P **P 12 43 10.5 +0.7**
BOSA Boshof 74.08 238 *e*P **P 12 43 11.3 -0.4**
comp=Z,12nm,1.1s,mb4.7
OJC Ojcow 74.28 320 *e*P **P 12 43 10.0 -2.4**
VYHS Vyhne 74.66 318 *e*P **P 12 43 14.4 -0.2**
OKC Ostrava-Krasne 75.28 320 *e*P **P 12 43 18.1 -0.1**
ZST Bratislava 75.78 318 *e*P **P 12 43 21.0 0.0**
DPC Dobruska-Polom 76.51 320 *e*P **P 12 43 24.5 -0.6**
KSP Ksiaz 76.58 321 *e*P **P 12 43 25.6 +0.1**
KSP Ksiaz 76.58 321 *e*P **P 12 43 26.1 +0.6**
UPC Upice 76.72 320 *e*P **P 12 43 26.3 0.0**
PERS Pernice 76.98 316 *e*P **P 12 43 27.6 -0.2**
MAW Mawson 77.13 191 P **P 12 43 31.6 +3.4**
BILL Bilibino 77.60 22⇓*i*P **P 12 43 29.1 -1.7**
BILL pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
BILL Bilibino 77.60 22 *e*P **P 12 43 29.8 -1.0**
comp=Z,16nm,1.2s,mb4.8
PRU Pruhonice 77.62 320 *e*P **P 12 43 32.5 +1.3**
PVCC Panska Ves 77.64 320 *e*P **P 12 43 31.3 -0.1**
BRG Berggiesshubel 78.06 320 *e*P **P 12 43 34.9 +1.2**
BRG pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
BRG Berggiesshubel 78.06 320 *e*P **P 12 43 34.9 +1.2**
comp=Z,6.5nm,0.7s,mb4.7
GEC2 GERESS Array S 78.08 318 *e*P **P 12 43 34.1 +0.3**
GEC2 pmax pmax
comp=Z,12nm,0.8s,mb4.9
GEC2 GERESS Array S 78.08 318 *e*P **P 12 43 34.1 +0.3**
comp=Z,12nm,0.8s,mb4.9
KHC Kasperske Hory 78.18 319 *e*P **P 12 43 33.2 -1.1**
KHC Kasperske Hory 78.18 319 *e*P **P 12 43 34.3 0.0**
WET Wettzell 78.64 319 *e*P **P 12 43 37.1 +0.2**
CLL Collm 78.69 321 *e*P **P 12 43 38.0 +0.9**
CLL Collm 78.69 321 P **P 12 43 38.0 +0.9**
MOX Moxa 79.53 320 *i*P **P 12 43 41.6 -0.1**
GRA1 Grafenberg Arr 79.75 319 *e*P **P 12 43 43.5 +0.6**
comp=Z,15nm,0.9s,mb4.9
GRF Grafenberg Arr 79.75 319 *e*P **P 12 43 43.5 +0.6**
GRF pmax pmax
comp=Z,15nm,0.9s,mb4.9
GRF Grafenberg Arr 79.75 319 *e*P **P 12 43 43.5 +0.6**
comp=Z,15nm,0.9s,mb4.9
NB2 NORSAR Subarra 80.32 331 P **P 12 43 44.7 -1.0**
comp=Z,4.3nm,0.8s,mb4.4,baz=95,slow=5.3
CLZ Clausthal 80.35 321 *e*P **P 12 43 46.2 +0.2**
comp=Z,8.0nm,0.8s,mb4.7
BSEG Bad Segeberg 80.45 323 *e*P **P 12 43 46.8 +0.3**
BFO Black Forest 81.64 318 *e*P **P 12 43 52.6 -0.3**
BFO pmax pmax
comp=Z,15nm,1.4s,mb4.7
BFO Black Forest 81.64 318 *e*P **P 12 43 52.6 -0.3**
comp=Z,15nm,1.4s,mb4.7
LPG La Plagne 82.78 315 *e*P **P 12 43 58.2 -0.7**
comp=Z,22nm,0.9s,mb4.9
IMA Indian Mountai 93.14 22 *e*P **P 12 44 50.5 +2.2**
comp=Z,15nm,0.8s,mb5.5
INK Inuvik 98.45 16 *e*P **P 12 45 13.3 +0.9**
comp=Z,16nm,1.4s,mb5.4
RES Resolute Bay 98.67 2 *e*P **P 12 45 14.5 +1.2**
comp=Z,9.7nm,1.0s,mb5.3
MSO Missoula 121.59 22 *e*PKPdf PKPdf 12 50 28.8 -2.7
CHMT Chamberlain Mo 121.77 21 *e*PKPdf PKPdf 12 50 29.5 -2.3
MOD Modoc 122.85 29 *e*PKPdf PKPdf 12 50 32.4 -1.6
BOZ Bozeman (W) 123.43 21 *e*PKPdf PKPdf 12 50 32.9 -2.1
LAO LASA Array 124.19 16 *e*PKPdf PKPdf 12 50 35.3 -1.2
YMR Madison River 124.52 21 *e*PKPdf PKPdf 12 50 36.3 -0.9
WUWY Wally Ulrich 125.58 21 *e*PKPdf PKPdf 12 50 38.0 -1.3
SNOW Snow King Moun 125.64 21 *e*PKPdf PKPdf 12 50 36.2 -3.2
MNV Mina 126.56 31 *e*PKPdf PKPdf 12 50 39.2 -2.0
HWUT Hardware Ranch 126.94 23 *e*PKPdf PKPdf 12 50 40.2 -1.6
DAU Daniels Canyon 128.07 24 *e*PKPdf PKPdf 12 50 44.5 +0.3
TMUT Trail Mountain 129.04 24 PKPdf PKPdf 12 50 45.2 -0.9
MSU Marysvale 129.30 26 *e*PKPdf PKPdf 12 50 46.1 -0.5
ANMO Albuquerque 134.69 23⇓*i*PKIKP PKPdf 12 50 55.3 -1.5
ANMO Albuquerque 134.69 23 *e*PKPdf PKPdf 12 50 57.6 +0.7
LAZ Ladron 134.91 24 *e*PKPdf PKPdf 12 50 57.9 +0.6
LPM Los Pinos Moun 135.19 23 *e*PKPdf PKPdf 12 50 57.8 0.0
MIAR Mount Ida 138.56 8 *e*PKPdf PKPdf 12 51 02.0 -1.9
TEIG Tepich 153.27 3 *e*PKPbc PKPdf 12 51 35.8 +7.1

*WEL **05** 12:58:14.2±0.3,37.67S×176.40E,h203km±2km,ML5.2/13, Error ellipse: s-maj=2.3km s-min=1.6km az=90.0*
*NEIC **05** 12:58:14.3,37.68S×176.43E,h202km, After WEL.*
ISC 05 12:58:11.8±0.6,**37.78S**±0.04×**176.44E**±0.06,**h222**km±4km, **n131**,σ1$**26**/151,**13C-23D,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.15**	**290**	⇑P	**P**	**12 58 40.5**	**-0.5**
TGRZ				S	**S**	**12 59 01.3**	**-2.2**
TGRZ	**Tauranga**	**0.15**	**290**	⇑PN	**P**	**12 58 40.5**	**-0.4**
TGRZ				SN	**S**	**12 59 01.3**	**-2.2**
LIRZ	**Lichensteins R**	**0.23**	**191**	P	**P**	**12 58 40.9**	**-0.2**
LIRZ	**Lichensteins R**	**0.23**	**191**	PN	**P**	**12 58 40.9**	**-0.2**
MARZ	**Manawahe**	**0.28**	**138**	PN	**P**	**12 58 41.3**	**+0.1**
EDRZ	**Edgecumbe**	**0.40**	**144**	P	**P**	**12 58 42.0**	**+0.5**
EDRZ	**Edgecumbe**	**0.40**	**144**	PN	**P**	**12 58 42.0**	**+0.5**
UTU	**Utuhina**	**0.44**	**206**	*e*P	**P**	**12 58 41.9**	**+0.3**
UTU	**Utuhina**	**0.44**	**206**	PN	**P**	**12 58 41.9**	**+0.3**
TAZ	**Tarawera**	**0.46**	**173**	P	**P**	**12 58 42.4**	**+0.8**
TAZ	**Tarawera**	**0.46**	**173**	PN	**P**	**12 58 42.4**	**+0.7**
MYRZ	**Mayor Island**	**0.52**	**342**	⇓PN	**P**	**12 58 41.3**	**-0.5**
WIZ	**White Island**	**0.65**	**67**	*e*P	**P**	**12 58 41.6**	**-0.7**
WIZ	**White Island**	**0.65**	**67**	PN	**P**	**12 58 41.6**	**-0.7**
URZ	**Urewera**	**0.71**	**132**	P	**P**	**12 58 42.7**	**+0.1**
URZ	**Urewera**	**0.71**	**132**	PN	**P**	**12 58 42.7**	**+0.1**
URZ				SN	**S**	**12 59 03.9**	**-2.6**
TOZ	**Tahuroa Road**	**0.74**	**274**	⇓P	**P**	**12 58 42.6**	**-0.1**
TOZ				S	**S**	**12 59 04.2**	**-2.5**
TOZ	**Tahuroa Road**	**0.74**	**274**	⇓PN	**P**	**12 58 42.6**	**-0.1**
TOZ				SN	**S**	**12 59 04.2**	**-2.6**
MWZ	**Matawai**	**1.02**	**123**	P	**P**	**12 58 44.8**	**+0.6**
MWZ				S	**S**	**12 59 08.0**	**-1.3**
MWZ	**Matawai**	**1.02**	**123**	PN	**P**	**12 58 44.8**	**+0.6**
MWZ				SN	**S**	**12 59 08.0**	**-1.3**
WATZ	**Wairara**	**1.08**	**211**	⇓P	**P**	**12 58 46.0**	**+1.4**
WATZ	**Wairara**	**1.08**	**211**	⇓PN	**P**	**12 58 46.0**	**+1.4**
HATZ	**Hinemaiaia**	**1.14**	**194**	P	**P**	**12 58 46.0**	**+0.9**
HATZ	**Hinemaiaia**	**1.14**	**194**	PN	**P**	**12 58 46.0**	**+1.0**
HATZ				SN	**S**	**12 59 09.3**	**-1.6**
KUZ	**Kuaotunu**	**1.18**	**331**	⇓P	**P**	**12 58 44.3**	**-1.0**
KUZ				S	**S**	**12 59 07.7**	**-3.6**
KUZ	**Kuaotunu**	**1.18**	**331**	⇓PN	**P**	**12 58 44.3**	**-1.1**
KUZ				SN	**S**	**12 59 07.7**	**-3.6**
RATZ	**Rangitukua**	**1.21**	**206**	⇑P	**P**	**12 58 46.7**	**+1.2**
RATZ	**Rangitukua**	**1.21**	**206**	⇑PN	**P**	**12 58 46.7**	**+1.2**
MKAZ	**Moumakai**	**1.21**	**303**	⇓P	**P**	**12 58 45.1**	**-0.5**
MKAZ	**Moumakai**	**1.21**	**303**	⇓PN	**P**	**12 58 45.1**	**-0.5**
RITZ	**Rihia Road**	**1.28**	**201**	P	**P**	**12 58 47.5**	**+1.4**
RITZ	**Rihia Road**	**1.28**	**201**	PN	**P**	**12 58 47.5**	**+1.4**
KATZ	**Kakaramea**	**1.33**	**206**	P	**P**	**12 58 47.5**	**+1.0**
KATZ	**Kakaramea**	**1.33**	**206**	PN	**P**	**12 58 47.5**	**+1.0**
BKZ	**Black Stump Fm**	**1.39**	**178**	⇓P	**P**	**12 58 47.9**	**+1.0**
BKZ	**Black Stump Fm**	**1.39**	**178**	⇑PN	**P**	**12 58 47.9**	**+1.0**
BKZ				SN	**S**	**12 59 13.2**	**-0.9**
MGZ	**Maungaku**	**1.41**	**210**	PN	**P**	**12 58 48.4**	**+1.3**
HIZ	**Hauiti**	**1.45**	**239**	⇓P	**P**	**12 58 48.0**	**+0.6**
HIZ	**Hauiti**	**1.45**	**239**	⇑PN	**P**	**12 58 48.0**	**+0.6**
HIZ				SN	**S**	**12 59 15.9**	**+0.9**
OTAZ	**Otara**	**1.46**	**304**	⇓P	**P**	**12 58 47.1**	**-0.5**
OTAZ	**Otara**	**1.46**	**304**	⇓PN	**P**	**12 58 47.1**	**-0.5**
PUZ	**Puketiti**	**1.47**	**102**	P	**P**	**12 58 48.2**	**+0.6**
PUZ	**Puketiti**	**1.47**	**102**	PN	**P**	**12 58 48.2**	**+0.5**
PUZ				SN	**S**	**12 59 24.9**	**+10**
WTVZ	**West Tongariro**	**1.49**	**206**	PN	**P**	**12 58 48.8**	**+1.0**
MXZ	**Matakaoa Point**	**1.50**	**82**	P	**P**	**12 58 48.3**	**+0.4**
MXZ				S	**S**	**12 59 14.2**	**-1.5**
MXZ	**Matakaoa Point**	**1.50**	**82**	PN	**P**	**12 58 48.3**	**+0.4**
MXZ				SN	**S**	**12 59 14.2**	**-1.5**
OTVZ	**Oturere**	**1.51**	**203**	PN	**P**	**12 58 49.0**	**+1.0**
OTVZ				SN	**S**	**12 59 15.9**	**0.0**
TWVZ	**Taurewa**	**1.51**	**211**	PN	**P**	**12 58 49.0**	**+1.0**
NGZ	**Ngauruhoe**	**1.54**	**205**	P	**P**	**12 58 49.8**	**+1.6**
NGZ	**Ngauruhoe**	**1.54**	**205**	PN	**P**	**12 58 49.8**	**+1.6**
NGZ				SN	**S**	**12 59 17.4**	**+1.0**
MTAZ	**Motutapu**	**1.57**	**309**	⇓P	**P**	**12 58 47.9**	**-0.6**
MTAZ	**Motutapu**	**1.57**	**309**	⇓PN	**P**	**12 58 47.9**	**-0.5**
KNZ	**Kokohu**	**1.57**	**142**	⇑P	**P**	**12 58 50.1**	**+1.6**
KNZ	**Kokohu**	**1.57**	**142**	⇑PN	**P**	**12 58 50.1**	**+1.6**
KNZ				SN	**S**	**12 59 16.3**	**-0.5**
CNZ	**Chateau**	**1.58**	**206**	P	**P**	**12 58 49.5**	**+0.9**
CNZ	**Chateau**	**1.58**	**206**	PN	**P**	**12 58 49.5**	**+1.0**
WPVZ	**Whakapapa**	**1.58**	**206**	P	**P**	**12 58 49.7**	**+1.1**
WPVZ	**Whakapapa**	**1.58**	**206**	PN	**P**	**12 58 49.7**	**+1.1**
TUVZ	**Tukino**	**1.61**	**202**	P	**P**	**12 58 50.1**	**+1.3**
TUVZ	**Tukino**	**1.61**	**202**	PN	**P**	**12 58 50.1**	**+1.3**
FWVZ	**Far West T-bar**	**1.63**	**205**	P	**P**	**12 58 50.4**	**+1.4**
FWVZ	**Far West T-bar**	**1.63**	**205**	PN	**P**	**12 58 50.4**	**+1.4**
DRZ	**Dome Shelter**	**1.64**	**204**	PN	**P**	**12 58 50.9**	**+1.8**
WNVZ	**Wahianoa**	**1.68**	**203**	P	**P**	**12 58 50.1**	**+0.7**
WTAZ	**Waiatarua**	**1.71**	**299**	⇓P	**P**	**12 58 49.2**	**-0.5**
WTAZ	**Waiatarua**	**1.71**	**299**	⇓PN	**P**	**12 58 49.2**	**-0.5**
MOVZ	**Moawhango**	**1.71**	**198**	PN	**P**	**12 58 50.4**	**+0.7**
VRZ	**Vera Road**	**1.88**	**224**	⇑P	**P**	**12 58 52.6**	**+1.4**
VRZ	**Vera Road**	**1.88**	**224**	PN	**P**	**12 58 52.6**	**+1.3**
RAEZ	**Rainy Point**	**2.20**	**226**	P	**P**	**12 58 56.6**	**+2.2**
PWZ	**Pawanui**	**2.27**	**172**	⇓P	**P**	**12 58 56.7**	**+1.6**
PWZ	**Pawanui**	**2.27**	**172**	⇓PN	**P**	**12 58 56.7**	**+1.5**
WAZ	**Wanganui**	**2.28**	**209**	P	**P**	**12 58 56.1**	**+0.9**
WAZ	**Wanganui**	**2.28**	**209**	PN	**P**	**12 58 56.1**	**+1.0**
TSZ	**Takapari Road**	**2.31**	**189**	⇑P	**P**	**12 58 56.4**	**+0.9**
TSZ	**Takapari Road**	**2.31**	**189**	⇑PN	**P**	**12 58 56.4**	**+0.9**
NEZ	**North Egmont**	**2.36**	**230**	P	**P**	**12 58 58.0**	**+1.9**
NEZ	**North Egmont**	**2.36**	**230**	PN	**P**	**12 58 58.0**	**+1.9**
DFE	**Dawson Falls**	**2.39**	**229**	P	**P**	**12 58 58.3**	**+1.9**
DFE	**Dawson Falls**	**2.39**	**229**	PN	**P**	**12 58 58.3**	**+1.9**
WCZ	**Waipu Caves**	**2.49**	**317**	⇓P	**P**	**12 58 56.9**	**-0.5**
WCZ	**Waipu Caves**	**2.49**	**317**	⇓PN	**P**	**12 58 56.9**	**-0.6**
NRZ	**Ngariki Road**	**2.50**	**231**	P	**P**	**12 58 59.4**	**+1.8**
NRZ	**Ngariki Road**	**2.50**	**231**	PN	**P**	**12 58 59.4**	**+1.8**
NWEZ	**Newall Road**	**2.51**	**233**	PN	**P**	**12 58 59.3**	**+1.7**
BFZ	**Birch Farm**	**2.90**	**183**	P	**P**	**12 59 02.9**	**+1.0**
BFZ	**Birch Farm**	**2.90**	**183**	PN	**P**	**12 59 02.9**	**+1.0**
BFZ				SN	**S**	**12 59 40.3**	**-0.5**
MRZ	**Mangatainoka R**	**2.95**	**193**	P	**P**	**12 59 02.9**	**+0.4**
MRZ	**Mangatainoka R**	**2.95**	**193**	PN	**P**	**12 59 02.9**	**+0.3**
MRZ				SN	**S**	**12 59 40.1**	**-1.8**
KIW	**Kapiti Island**	**3.30**	**201**	P	**P**	**12 59 06.1**	**-0.5**
KIW	**Kapiti Island**	**3.30**	**201**	PN	**P**	**12 59 06.1**	**-0.4**
OUZ	**Omahuta**	**3.43**	**317**	⇑P	**P**	**12 59 07.5**	**-0.6**
OUZ	**Omahuta**	**3.43**	**317**	⇓PN	**P**	**12 59 07.5**	**-0.6**
CAW	**Cannon Point**	**3.49**	**197**	P	**P**	**12 59 08.4**	**-0.4**
CAW	**Cannon Point**	**3.49**	**197**	PN	**P**	**12 59 08.4**	**-0.4**
MRW	**Makara Radio**	**3.70**	**201**	P	**P**	**12 59 10.6**	**-0.7**
MRW	**Makara Radio**	**3.70**	**201**	PN	**P**	**12 59 10.6**	**-0.7**
WEL	**Wellington**	**3.73**	**200**	P	**P**	**12 59 11.0**	**-0.7**
WEL	**Wellington**	**3.73**	**200**	PN	**P**	**12 59 11.0**	**-0.7**
BHW	**Baring Head**	**3.82**	**198**	P	**P**	**12 59 11.9**	**-0.9**
BHW	**Baring Head**	**3.82**	**198**	PN	**P**	**12 59 11.9**	**-0.8**
TUWZ	**Tuamarina**	**4.12**	**207**	PN	**P**	**12 59 15.4**	**-1.0**
NNZ	**Nelson**	**4.17**	**214**	P	**P**	**12 59 15.6**	**-1.5**
NNZ	**Nelson**	**4.17**	**214**	PN	**P**	**12 59 15.6**	**-1.4**
QRZ	**Quartz Range**	**4.29**	**224**	P	**P**	**12 59 17.3**	**-1.3**
QRZ	**Quartz Range**	**4.29**	**224**	PN	**P**	**12 59 17.3**	**-1.3**
CMWZ	**Cape Campbell**	**4.32**	**203**	P	**P**	**12 59 18.8**	**-0.1**
CMWZ	**Cape Campbell**	**4.32**	**203**	PN	**P**	**12 59 18.8**	**-0.1**
BSWZ	**Blackbirch Sta**	**4.40**	**206**	*e*P	**P**	**12 59 19.1**	**-0.8**
BSWZ	**Blackbirch Sta**	**4.40**	**206**	PN	**P**	**12 59 19.1**	**-0.8**
THZ	**Tophouse**	**4.82**	**213**	PN	**P**	**12 59 23.2**	**-1.9**
KHZ	**Kahutara**	**5.14**	**205**	⇓P	**P**	**12 59 28.1**	**-1.0**
KHZ	**Kahutara**	**5.14**	**205**	⇑PN	**P**	**12 59 28.1**	**-1.0**
DSZ	**Denniston Nort**	**5.33**	**221**	P	**P**	**12 59 29.4**	**-2.2**
DSZ	**Denniston Nort**	**5.33**	**221**	PN	**P**	**12 59 29.4**	**-2.2**
LTZ	**Lake Taylor**	**5.92**	**211**	*e*P	**P**	**12 59 37.3**	**-1.8**
LTZ	**Lake Taylor**	**5.92**	**211**	PN	**P**	**12 59 37.3**	**-1.8**
CRLZ	**Canterbury Las**	**6.47**	**205**	PN	**P**	**12 59 44.0**	**-2.1**
MQZ	**McQueen's Vall**	**6.58**	**205**	P	**P**	**12 59 45.2**	**-2.3**
MQZ	**McQueen's Vall**	**6.58**	**205**	PN	**P**	**12 59 45.2**	**-2.4**
WVZ	**Waitaha Valley**	**6.85**	**218**	*e*P	**P**	**12 59 48.2**	**-2.7**
WVZ	**Waitaha Valley**	**6.87**	**218**	PN	**P**	**12 59 48.2**	**-2.7**
RPZ	**Rata Peaks**	**7.20**	**213**	PN	**P**	**12 59 53.3**	**-2.2**
FOZ	**Fox Glacier**	**7.72**	**219**	PN	**P**	**12 59 57.7**	**-4.6**
LBZ	**Lake Benmore**	**8.11**	**214**	*e*P	**P**	**13 00 04.3**	**-3.0**
LBZ	**Lake Benmore**	**8.11**	**214**	PN	**P**	**13 00 04.3**	**-3.0**
ODZ	**Otahua Downs**	**8.46**	**209**	*e*P	**P**	**13 00 09.6**	**-2.2**
ODZ	**Otahua Downs**	**8.46**	**209**	PN	**P**	**13 00 09.6**	**-2.2**
JCZ	**Jackson Bay**	**8.56**	**220**	*e*P	**P**	**13 00 09.0**	**-4.0**
JCZ	**Jackson Bay**	**8.56**	**220**	PN	**P**	**13 00 09.0**	**-4.0**
WB2	**Warramunga Arr**	**40.53**	**284**	*e*P	**P**	**13 05 32.7**	**+1.8**

*MOS **05** 13:28:41.6±1.0,52.54N×174.02E,h33km,mb4.7/9, Error ellipse: s-maj=18.4km s-min=10.1km az=95.3*
*BJI **05** 13:28:49.0,52.50N×174.10E,h99km,mB5.0,mb4.5*
*NEIC **05** 13:28:50.0±0.6,52.55N×174.11E,h100km±4km,mb4.4/11, Error ellipse: s-maj=12.7km s-min=5.8km az=180.0*
ISC 05 13:28:48.7±0.6,**52.5N**±0.1×**174.15E**±0.07,**h101**km±3km, **n59**,σ1$**03**/61,**mb4.4**/17,**1C-1D,Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**0.21**	**351**	P	**P**	**13 29 03.4**	**+0.3**
SMY				S	**S**	**13 29 12.9**	**-1.0**
FX1	**Attu Island--F**	**0.70**	**301**	P	**P**	**13 29 07.1**	**+0.8**
FX1				S	**S**	**13 29 19.5**	**0.0**
GSTD	**Great Sitkin T**	**5.97**	**91**	P	**P**	**13 30 17.3**	**+1.3**
GSMY	**Great Sitkin M**	**6.03**	**91**	P	**P**	**13 30 16.9**	**+0.1**
GSIG	**Igitkin Island**	**6.12**	**91**	P	**P**	**13 30 17.7**	**-0.3**
MA2	**Magadan**	**14.79**	**308**	*e*P	**P**	**13 32 19.3**	**+5.9**
MA2				pmax	pmax		
MA2	comp=Z,8.0nm,0.8s			pmax	pmax		
MA2	comp=E,5.0nm,0.7s						
ANM	**Nome**	**16.01**	**33**	*e*P	**P**	**13 32 31.8**	**+3.0**
BILL	**Bilibino**	**16.02**	**349**	*e*P	**P**	**13 32 30.0**	**+1.1**
BILL				pmax	pmax		
BILL	comp=Z,7.0nm,1.1s						
RSO	**Redoubt South**	**19.74**	**53**	*e*P	**P**	**13 33 11.2**	**-1.1**
SPU	**Mount Spurr**	**20.20**	**51**	*e*P	**P**	**13 33 16.6**	**-0.5**
IMA	**Indian Mountai**	**20.97**	**37**	*e*P	**P**	**13 33 24.8**	**-0.2**
SLKM	**Skilak Lake**	**20.99**	**54**	*e*P	**P**	**13 33 24.5**	**-0.7**
PMR	**Palmer**	**21.65**	**51**	*e*P	**P**	**13 33 31.4**	**-0.3**
COLA	**College**	**22.86**	**43**⇑*i*P	**P**	**13 33 44.5**	**+1.1**
COLA	**College**	**22.86**	**43**	*e*P	**P**	**13 33 44.1**	**+0.7**
MENT	**Mentasta**	**24.32**	**48**	*e*P	**P**	**13 33 58.1**	**+0.6**
YAK	**Yakutsk**	**25.35**	**310**	*e*P	**P**	**13 34 07.0**	**-0.3**
YAK				pmax	pmax		
YAK	comp=Z,22nm,0.8s,mb4.6						
YAK	**Yakutsk**	**25.35**	**310**	*e*P	**P**	**13 34 07.0**	**-0.3**
YAK	comp=Z,22nm,0.8s,mb4.6						
DAWY	**Dawson**	**26.35**	**46**	*e*P	**P**	**13 34 16.3**	**-0.2**
INK	**Inuvik**	**29.11**	**37**	*e*P	**P**	**13 34 40.4**	**-1.0**
INK				pmax	pmax		
INK	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**29.11**	**37**	*e*P	**P**	**13 34 40.4**	**-1.0**
INK	comp=Z,1.5nm,0.4s,mb4.0						
MDJ	**Mudanjiang**	**30.11**	**273**	P	**P**	**13 34 48.3**	**-2.3**
MDJ				AMB	AMB		
MDJ	comp=Z,7.0nm,1.4s,mb4.1			AMB	AMB		
MDJ	comp=Z,115nm,5.6s						
BOD	**Bodaibo**	**33.75**	**303**	*e*P	**P**	**13 35 21.9**	**-0.2**
ULN	**Ulaanbaatar**	**41.81**	**291**	P	**P**	**13 36 30.0**	**+0.6**
EDM	**Edmonton**	**42.01**	**59**	*e*P	**P**	**13 36 31.2**	**+0.3**
NEW	**Newport**	**42.52**	**67**	*e*P	**P**	**13 36 35.0**	**-0.2**
NEW				pmax	pmax		
NEW	comp=Z,2.0nm,0.5s						
NEW	**Newport**	**42.52**	**67**	*e*P	**P**	**13 36 35.0**	**-0.1**
WALA	**Waterton Lakes**	**43.87**	**64**	*e*P	**P**	**13 36 46.4**	**+0.2**
NJ2	**Nanjing**	**44.48**	**265**	*e*P	**P**	**13 36 51.6**	**+0.3**
NJ2				AMB	AMB		
NJ2	comp=Z,10.0nm,0.8s,mb4.6						
BW06	**Boulder Array**	**50.04**	**69**	*e*P	**P**	**13 37 34.3**	**-0.3**
NVS	**Novosibirsk**	**50.20**	**311**	*e*P	**P**	**13 37 35.0**	**-0.6**
WMQ	**Urumqi**	**55.00**	**298**	*e*P	**P**	**13 38 13.6**	**+2.1**
SDCO	**Great Sand Dun**	**55.68**	**71**	P	**P**	**13 38 16.2**	**-0.3**
KEV	**Kevo**	**55.70**	**347**	*e*p	**P**	**13 38 13.6**	**-2.6**
MK02	**Makanchi Array**	**55.84**	**304**	P	**P**	**13 38 17.3**	**-0.2**
MK02				pmax	pmax		
CHKZ	**Chkalovo**	**56.55**	**316**	*e*P	**P**	**13 38 21.4**	**-1.0**
CHKZ				pmax	pmax		
CHKZ	**Chkalovo**	**56.55**	**316**	*e*P	**P**	**13 38 21.4**	**-1.1**
BVA0	**Borovoye Array**	**57.11**	**316**	P	**P**	**13 38 26.1**	**-0.3**
ARU	**Arti**	**59.23**	**324**	*e*P	**P**	**13 38 39.8**	**-1.2**
MNTX	**Cornudas Mount**	**59.99**	**76**	*e*P	**P**	**13 38 46.1**	**-0.5**
JOF	**Joensuu**	**61.25**	**342**	*e*p	**P**	**13 38 52.8**	**-2.0**
SCHQ	**Schefferville**	**61.69**	**35**	*e*P	**P**	**13 38 56.6**	**-1.2**
AAK	**Ala-Archa**	**62.70**	**305**	*e*P	**P**	**13 39 03.6**	**-1.2**
AAK				pmax	pmax		
AAK	comp=Z,3.0nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**62.70**	**305**	*e*P	**P**	**13 39 03.6**	**-1.2**
KAF	**Kangasniemi**	**62.91**	**344**	*e*p	**P**	**13 39 04.5**	**-1.4**
KAF	**Kangasniemi**	**62.91**	**344**	*e*P	**P**	**13 39 04.5**	**-1.4**
KAF				pmax	pmax		
LSA	**Lhasa**	**62.93**	**284**	P	**P**	**13 39 06.2**	**-0.3**
FINES	**FINESS Array B**	**63.57**	**344**	*i*P	**P**	**13 39 09.5**	**-0.6**
FINES				pmax	pmax		
NB2	**NORSAR Subarra**	**65.97**	**351**	P	**P**	**13 39 25.3**	**-0.2**
GOF	**Gofitskoye**	**74.12**	**326**⇓*i*P	**P**	**13 40 17.0**	**+1.9**
GOF				pmax	pmax		
CLL	**Collm**	**75.33**	**348**	P	**P**	**13 40 22.0**	**+0.2**
OJC	**Ojcow**	**75.35**	**343**	*e*P	**P**	**13 40 23.3**	**+1.3**
KWP	**Kalwaria**	**75.38**	**341**	*e*P	**P**	**13 40 23.6**	**+1.5**
KWP				pmax	pmax		
KWP	**Kalwaria**	**75.38**	**341**	*e*P	**P**	**13 40 23.6**	**+1.5**
DPC	**Dobruska-Polom**	**75.80**	**346**	*e*P	**P**	**13 40 26.1**	**+1.6**
KOLS	**Kolonicke sedl**	**76.13**	**341**	*e*P	**P**	**13 40 28.4**	**+2.0**
KOLS				*e*		13 40 32.5	
VYHS	**Vyhne**	**77.19**	**343**	*e*P	**P**	**13 40 33.6**	**+1.2**
KHC	**Kasperske Hory**	**77.38**	**347**	*e*P	**P**	**13 40 34.6**	**+1.2**
WRAB	**Tennant Creek**	**80.02**	**218**	*e*P	**P**	**13 40 48.9**	**+0.5**

*WAR **05** 13:32:34.1,50.07N×18.46E,h0km,ML2.5,Mining Induced*
*NEIC **05** 13:32:34.2±0.7,50.05N×18.50E,h5km,MG2.6(WAR), Error ellipse: s-maj=10.9km s-min=6.5km az=177.0*
*PRU **05** 13:32:35.1,50.14N×18.36E*
ISC 05 13:32:32.7±0.5,**50.13N**±0.04×**18.45E**±0.03,**n17**,σ1$**06**/31, **Poland**

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

ELDT	**Eldivan**	**0.47**	**269**	*i* P	Pb	13 50 12.0	+0.7
ELDT				*i* S	Sb	13 50 18.5	+0.3
TOS	**Tosya**	**0.53**	**358**	PG	Pb	13 50 12.6	+0.3
TOS				SG	Sb	13 50 21.4	+1.6
CTKT	**Corum**	**0.58**	**78**	*i* P	Pb	13 50 12.1	-1.0
CTKT				*i* S	Sb	13 50 20.2	-0.9
BYBT	**Boyabat**	**1.11**	**29**	*e*PN	Pn	13 50 22.0	+0.9
BYBT				*e*SN	Sn	13 50 36.0	+0.6
BOYT	**Boyabat**	**1.12**	**35**	*i* P	Pn	13 50 22.9	+1.6
BOYT				*i* S	Sn	13 50 37.2	+1.4
KAMT	**Kaman**	**1.16**	**193**	*e*PN	Pn	13 50 21.7	-0.2
KAMT				*e*SN	Sn	13 50 37.6	+0.8
YOZ	**Yozgat**	**1.30**	**131**	*e*PN	Pn	13 50 24.3	+0.4
YOZ				*e*SN	Sn	13 50 39.8	-0.6
AVNT	**Avonos**	**1.83**	**160**	*i* P	Pn	13 50 35.6	+4.2
AVNT				*i* S	Sn	13 50 57.7	+3.8

*TAP **05** 13:52:59.1,24.79N×122.06E,h5km,ML2.6*

JMA 05 13:53:00.0±0.4,25.02N×122.31E,h20km,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.85**	**131**	P	Pb	13 53 15.7	-0.2
YOJ				S	Sb	13 53 26.7	0.0
IRIF	**Iriomote-Funau**	**1.46**	**118**	P	Pn	13 53 25.1	-0.5
IRIF				*e*S	Sn	13 53 44.6	+0.3
HATJ	**Hateruma jima**	**1.67**	**125**	S	Sn	13 53 49.9	+0.4
JKRS	**Kuro-shima**	**1.73**	**116**	P	Pn	13 53 30.0	+0.6
JKRS				*e*S	Sn	13 53 50.4	-0.7
JIJ	**Ishigaki jima**	**1.79**	**111**	*e*S	Sn	13 53 54.4	+1.8

MEX 05 14:00:38.5±0.6,17.83N×102.14W,h6km±11km,MD3.8,1D, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.68**	**109**	⇓*i*P	Pg	14 00 50.3	-1.9
ZIIG				*i* S	Sg	14 01 00.1	-1.3
MOIG	**Morelia**	**2.05**	**26**	*i* P	Pn	14 01 10.4	-3.5
MOIG				*i* S	Sn	14 01 34.7	-5.3
CGX	**Ciudad Guzman**	**2.26**	**325**	*e*P	Pn	14 01 13.0	-3.9
CGX				*i* S	Sn	14 01 40.0	-5.3
ACX	**Acapulco**	**2.33**	**114**	*e*P	Pn	14 01 15.0	-3.0
ACX				*i* S	Sn	14 01 42.0	-5.2
PLIG	**Platanillo**	**2.57**	**77**	*i* P	Pn	14 01 17.7	-3.6
PLIG				*i* S	Sn	14 01 48.9	-4.5
SFJM	**Santa Fe**	**2.77**	**342**	*i* P	Pn	14 01 23.0	-1.3
SFJM				*i* S	Sn	14 01 54.0	-4.4

*BJI **05** 14:01:31.0, 12.80N×93.10E,h28km,mB5.1,mb4.6,Ms4.1, Msz3.9*
*NEIC **05** 14:01:31.0±0.6, 12.77N×93.09E,h30km,mb4.6/12,Error ellipse: s-maj=16.6km s-min=10.0km az=76.0*

ISC 05 14:01:29.8±1.5,12.80N±0.08×93.01E±0.07,h36km±13km, n35,σ1§00/35,mb4.6/13,MS3.9/1,3C,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.17**	**193**	*i*	**P**	**14 01 55.0**	**+5.2**
PBA				*i* P		14 02 08.0	
	303nm,0.8s						
NNT	**Nongplab**	**6.56**	**91**	P	**P**	**14 03 08.9**	**+2.5**
CM31	**Chiang Mai Arr**	**8.02**	**45**	*e*P	**P**	**14 03 26.1**	**-0.5**
CHG	**Chiang Mai**	**8.27**	**43**	⇑P	**P**	**14 03 29.2**	**-0.9**
	15nm,0.8s						
NANT	**Nan**	**9.50**	**50**	P	**P**	**14 03 55.0**	**+7.7**
CHRT	**Chiangrai**	**9.57**	**42**	⇑P	**P**	**14 03 48.5**	**+0.2**
	116nm,1.0s						
KKTK	**Khon Kaen**	**10.13**	**69**	P	**P**	**14 04 02.0**	**+6.1**
BWNR	**Bhubaneshwar**	**10.16**	**318**	*e*P	**P**	**14 03 51.6**	**-4.8**
BWNR				*e*S	**S**	**14 05 33.8**	**-16**
VIS	**Vishakhapatnam**	**10.54**	**299**	*e*P	**P**	**14 03 59.0**	**-2.6**
VIS				AMb	AMB	14 04 03.1	
	comp=Z,46nm,1.5s						
VIS				*e*S	**S**	**14 05 50.0**	**-10**
SHL	**Shillong**	**12.74**	**355**	*e*P	**P**	**14 04 27.0**	**-4.3**
SHL				*e*		14 06 38.0	
HYB	**Hyderabad**	**14.69**	**290**	*e*P		14 05 10.0	
HYB	**Hyderabad**	**14.69**	**290**	*i* P	**P**	**14 04 57.5**	**+0.5**
HYB				*e*		14 07 38.5	
JIRN	**Jiri**	**16.10**	**338**	*e*P	**P**	**14 05 14.9**	**-0.2**
	comp=Z,51nm,0.7s						
PKI	**Pulchoki**	**16.32**	**335**	*e*P	**P**	**14 05 17.6**	**-0.4**
	comp=Z,26nm,0.6s						
GUN	**Gumba**	**16.44**	**337**	*e*P	**P**	**14 05 19.4**	**-0.1**
	comp=Z,34nm,0.6s						
KKN	**Kakani**	**16.57**	**335**	*e*P	**P**	**14 05 21.8**	**+0.7**
	comp=Z,30nm,0.8s						
LSA	**Lhasa**	**16.90**	**354**	*e*P	**P**	**14 05 28.2**	**+2.9**
	comp=Z,6.8nm,0.6s						
GKN	**Gorkha**	**17.03**	**334**	*e*P	**P**	**14 05 27.0**	**+0.2**
	comp=Z,19nm,0.3s						
KOLN	**Koldanda**	**17.30**	**331**	*e*P	**P**	**14 05 30.5**	**+0.3**
	comp=Z,24nm,0.5s						
ENH	**Enshi**	**23.12**	**39**	*e*P	**P**	**14 06 32.9**	**-0.8**
	comp=Z,61nm,0.8s,mb5.1						
LZH	**Lanzhou**	**25.16**	**21**	⇑P	**P**	**14 06 54.0**	**+0.7**
LZH				AP	pP	14 07 02.5	-0.7
LZH				XP	sP	14 07 05.3	-2.0
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.6						
LZH				LR	LR		
	comp=N,206nm,13.0s						
LZH				LR	LR		
	comp=Z,294nm,17.1s,MS3.9						
XAN	**Xi'an**	**25.62**	**32**	P	**P**	**14 06 55.5**	**-2.3**
XAN				AP	pP	14 07 06.3	-1.4
XAN				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.7						
ULN	**Ulaanbaatar**	**36.87**	**16**	*e*P	**P**	**14 08 36.8**	**+0.1**
	comp=Z,2.8nm,1.2s,mb4.0						
KS15	**Wonju Array Si**	**39.62**	**46**	*e*P	**P**	**14 08 59.1**	**-0.6**
CHKZ	**Chkalovo**	**44.48**	**341**	*e*P	**P**	**14 09 39.3**	**0.0**
	comp=Z,8.4nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**44.49**	**133**	*e*P	**P**	**14 09 39.4**	**-0.4**
	comp=Z,8.3nm,0.6s,mb4.6						
NWAO	**Narrogin (SRO)**	**51.02**	**154**	P	**P**	**14 10 30.3**	**-0.3**
	comp=Z,30nm,1.4s,mb5.0						
WRAB	**Tennant Creek**	**52.09**	**128**	*e*P	**P**	**14 10 38.9**	**+0.2**
	comp=Z,3.4nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**52.09**	**128**	*e*P	**P**	**14 10 37.7**	**-1.1**
YSS	**Yuzh-Sakhalins**	**53.69**	**40**	*e*P	**P**	**14 10 49.8**	**-0.5**
	comp=Z,6.9nm,0.6s,mb4.8						
LPG	**La Plagne**	**78.39**	**314**	*e*P	**P**	**14 13 29.2**	**+0.8**
	comp=Z,8.6nm,0.7s,mb4.5						
IMA	**Indian Mountai**	**87.50**	**22**	*e*P	**P**	**14 14 16.2**	**+1.5**
	comp=Z,12nm,0.7s,mb5.2						
RES	**Resolute Bay**	**92.55**	**2**	P	**P**	**14 14 38.9**	**+0.7**
	comp=Z,1.3nm,0.9s,mb4.4						
INK	**Inuvik**	**92.59**	**16**	*e*P	**P**	**14 14 38.9**	**+0.4**
	comp=Z,1.5nm,0.8s,mb4.5						
TEIG	**Tepich**	**147.16**	**2**	*e*PKPbc	PKPdf	14 21 12.4	+4.6

*BJI **05** 14:06:24.9, 14.22S×47.69E,h18km,mB5.3,mb4.7,Ms4.9, Msz4.6*
*NEIC **05** 14:06:26.9±0.4, 14.30S×48.15E,h10km,mb4.7/9,Error ellipse: s-maj=14.2km s-min=11.4km az=110.0*

ISC 05 14:06:26.4±0.6,14.35S±0.10×48.01E±0.10,h10km,n54, σ1§53/30,mb4.7/11,MS4.8/2,8C,Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**16.90**	**320**	*e*P	**P**	**14 10 25.3**	**+0.4**
	42nm,1.8s						
LSZ	**Lusaka**	**19.19**	**265**	*e*P	**P**	**14 10 51.6**	**-1.5**
	39nm,0.9s						
MBAR	**Mbarara**	**21.87**	**307**	*e*P	**P**	**14 11 22.8**	**+1.4**
	143nm,2.6s,mb4.9						
LBTB	**Lobatse**	**23.58**	**240**	*e*P	**P**	**14 11 39.0**	**+0.7**
	46nm,1.3s,mb4.8						
BOSA	**Boshof**	**25.42**	**232**	*e*P	**P**	**14 11 55.8**	**-0.2**
	9.6nm,0.8s,mb4.4						
SUR	**Sutherland**	**30.61**	**229**	*e*P	**P**	**14 12 43.0**	**+0.1**
	12nm,0.8s,mb4.8						
HYB	**Hyderabad**	**43.64**	**45**	*i* P	**P**	**14 14 35.0**	**+1.8**
MALT	**Malatya**	**53.15**	**351**	*e*P	**P**	**14 15 45.6**	**-1.3**
	12nm,1.1s,mb4.7						
DBIC	**Dimbokro**	**56.44**	**288**	*e*P	**P**	**14 16 10.3**	**-0.8**
KIV	**Kislovodsk**	**58.23**	**355**	*e*P	**P**	**14 16 21.2**	**-2.1**

SNAA	**Sanae**	**64.71**	**196**	⇑*i*	**P**	**14 17 10.3**	**+3.7**
SNAA	**Sanae**	**64.71**	**196**	⇑*i*	**P**	**14 17 14.2**	**+7.6**
SNAA	**Sanae**	**64.71**	**196**	*e*P	**P**	**14 17 06.0**	**-0.6**
	3.8nm,0.8s,mb4.5						
VNA2	**Neumayer--Watz**	**65.57**	**197**	⇑*i*	**P**	**14 17 20.7**	**+8.5**
VNA2	**Neumayer--Watz**	**65.57**	**197**	⇑*i*	**P**	**14 17 23.2**	**+11**
VNA1	**Neumayer--Stat**	**65.69**	**198**	⇑*i*	**P**	**14 17 21.2**	**+8.3**
VNA1	**Neumayer--Stat**	**65.69**	**198**		**P**	**14 17 24.2**	**+11**
VNA3	**Neumayer Olymp**	**66.38**	**197**	⇑*i*	**P**	**14 17 25.7**	**+8.4**
VNA3	**Neumayer Olymp**	**66.38**	**197**	⇑*i*	**P**	**14 17 28.9**	**+12**
WMQ	**Urumqi**	**68.29**	**30**	*e*P	**P**	**14 17 29.8**	**0.0**
WMQ				AP	pP	14 17 34.5	+1.5
WMQ				S	S	14 26 28.2	-0.9
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,60nm,6.4s						
WMQ				LR	LR		
	comp=N,215nm,21.2s,MS4.5						
WMQ				LR	LR		
	comp=E,222nm,22.8s,MS4.5						
WMQ				LR	LR		
	comp=Z,300nm,21.7s,MS4.5						
OKC	**Ostrava-Krasne**	**69.11**	**340**	*e*P	**P**	**14 17 39.3**	**+4.5**
KHC	**Kasperske Hory**	**70.16**	**337**	*e*P	**P**	**14 17 44.6**	**+3.4**
DPC	**Dobruska-Polom**	**70.17**	**339**	*e*P	**P**	**14 17 45.4**	**+4.2**
CLL	**Collm**	**72.15**	**338**	*e*P	**P**	**14 17 50.0**	**-3.2**
CLL	**Collm**	**72.15**	**338**	P	**P**	**14 17 50.0**	**-3.2**
LZH	**Lanzhou**	**72.76**	**45**	⇑P	**P**	**14 17 54.5**	**-2.6**
LZH				AP	pP	14 17 59.2	-1.0
LZH				*e*PP	PP	14 20 38.5	-2.5
LZH				AMB	AMB		
	comp=Z,25nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,117nm,6.1s						
LZH				LR	LR		
	comp=N,526nm,15.2s						
LZH				LR	LR		
	comp=Z,759nm,17.9s,MS5.0						
XAN	**Xi'an**	**75.28**	**49**	P	**P**	**14 18 12.6**	**+0.8**
XAN				AMB	AMB		
	comp=Z,13nm,1.4s,mb4.7						
QSPA	**South Pole Qui**	**75.75**	**180**	*e*P	**P**	**14 18 14.2**	**+0.6**
	comp=Z,4.3nm,0.6s,mb4.6						
ULN	**Ulaanbaatar**	**81.17**	**36**	*e*P	**P**	**14 18 41.6**	**-2.1**
MDJ	**Mudanjiang**	**94.08**	**45**	P	**P**	**14 19 44.5**	**-1.9**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,145nm,4.5s						
YFT	**Old Faithful**	**145.01**	**333**	PKPdf	PKPdf	14 26 06.3	-0.9
RWWY	**Rawlins**	**145.31**	**327**	*e*PKPdf	PKPdf	14 26 04.1	-3.6
ISCO	**Idaho Springs**	**145.69**	**323**	*e*PKPdf	PKPdf	14 26 06.1	-2.3
WUWY	**Wally Ulrich**	**145.69**	**332**	*e*PKPdf	PKPdf	14 26 04.8	-3.6
TPAW	**Teton Pass**	**145.82**	**332**	*e*PKPdf	PKPdf	14 26 06.5	-2.1
AHID	**Auburn Hatcher**	**146.45**	**332**	*e*PKPdf	PKPdf	14 26 08.8	-0.9
SDCO	**Great Sand Dun**	**146.91**	**320**	*e*PKPdf	PKPdf	14 26 09.2	-1.4
BMO	**Blue Mountains**	**147.14**	**341**	*e*PKPdf	PKPdf	14 26 08.6	-2.1
HWUT	**Hardware Ranch**	**147.57**	**331**	*e*PKPdf	PKPdf	14 26 11.0	-0.6
TCUT	**Toone Canyon**	**147.87**	**330**	*e*PKPbc	PKPdf	14 26 12.3	+0.2
JLU	**Jordanelle**	**148.29**	**329**	*e*PKPdf	PKPdf	14 26 11.7	-1.0
JLU				*e*PKPbc	PKPdf	14 26 14.0	+1.3
DAU	**Daniels Canyon**	**148.34**	**329**	*e*PKPbc	PKPdf	14 26 13.6	+0.8
CPRX	**Cap Rock**	**148.39**	**311**	*e*PKPdf	PKPdf	14 26 09.9	-3.3
CPRX				*e*PKPbc	PKPdf	14 26 13.9	+0.8
PV10	**Paradox Valley**	**148.62**	**324**	*e*PKPbc	PKPdf	14 26 14.0	+0.7
CLNB	**Carlsbad**	**148.77**	**310**	*e*PKPbc	PKPdf	14 26 13.9	+0.1
GDL2	**Guadalupe Moun**	**149.16**	**310**	*e*PKPbc	PKPdf	14 26 16.9	+2.4
LPM	**Los Pinos Moun**	**149.67**	**315**	*e*PKPbc	PKPdf	14 26 17.9	+2.7
WVOR	**Wild Horse Val**	**149.73**	**340**	*e*PKPab	PKPab	14 26 21.8	-2.4
LTX	**Lajitas**	**149.88**	**304**	*e*PKPdf	PKPdf	14 26 15.0	-0.7
LAZ	**Ladron**	**149.96**	**316**	PKPdf	PKPdf	14 26 14.4	-1.3
MNTX	**Cornudas Mount**	**150.16**	**310**	*e*PKPbc	PKPdf	14 26 17.5	+1.5
MSU	**Marysvale**	**150.24**	**328**	*e*PKPdf	PKPdf	14 26 14.4	-1.6
MVU	**Marysvale**	**150.26**	**328**	*e*PKPbc	PKPdf	14 26 19.3	+3.4
MOD	**Modoc**	**150.74**	**342**	*e*PKPbc	PKPdf	14 26 19.3	+2.8

*BJI **05** 14:28:01.8, 7.74N×93.31E,h30km,mB5.4,mb4.6*
*NEIC **05** 14:28:06.4±0.4, 8.27N×93.94E,h30km,mb4.7/10,Error ellipse: s-maj=16.8km s-min=7.7km az=48.0*

ISC 05 14:28:04.6±0.4,8.12N±0.07×93.79E±0.09,h30km,n29, σ1§00/28,mb4.6/16,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.43**	**25**	*e*P	**P**	**14 30 51.5**	**+2.4**
	13nm,0.8s						
PALK	**Pallekele**	**13.00**	**267**	*e*P	**P**	**14 31 10.7**	**+0.5**
VIS	**Vishakhapatnam**	**13.96**	**314**	*e*P	**P**	**14 31 21.0**	**-1.9**
HYB	**Hyderabad**	**17.48**	**303**	*e*P	**P**	**14 32 10.0**	**+1.9**
HYB	**Hyderabad**	**17.48**	**303**	*i* P	**P**	**14 32 10.0**	**+1.9**
JIRN	**Jiri**	**20.72**	**341**	*e*P	**P**	**14 32 45.6**	**+0.3**
	23nm,0.4s						
PKI	**Pulchoki**	**20.91**	**339**	*e*P	**P**	**14 32 47.3**	**+0.1**
	32nm,0.7s						
DMN	**Daman**	**21.05**	**338**	*e*P	**P**	**14 32 49.0**	**+0.3**
	23nm,0.6s,mb4.7						
GUN	**Gumba**	**21.05**	**340**	*e*P	**P**	**14 32 49.0**	**+0.3**
	66nm,0.7s,mb5.1						
KKN	**Kakani**	**21.15**	**339**	*e*P	**P**	**14 32 49.5**	**-0.2**
	51nm,1.0s,mb4.8						
GKN	**Gorkha**	**21.58**	**338**	*e*P	**P**	**14 32 54.2**	**+0.1**
	25nm,0.3s,mb5.1						
LSA	**Lhasa**	**21.61**	**354**	P	**P**	**14 32 55.3**	**+1.0**
LSA	**Lhasa**	**21.61**	**354**	*e*P	**P**	**14 32 54.2**	**-0.1**
	23nm,0.7s,mb4.7						
KOLN	**Koldanda**	**21.79**	**335**	*e*P	**P**	**14 32 56.8**	**+0.7**
	25nm,0.5s,mb4.9						
NDI	**New Delhi**	**25.73**	**325**	*e*P	**P**	**14 33 34.5**	**+0.1**
AAK	**Ala-Archa**	**38.34**	**337**	*e*P	**P**	**14 35 24.0**	**-0.7**
	4.2nm,0.8s,mb4.2						
MBWA	**Marble Bar**	**38.68**	**139**	*e*P	**P**	**14 35 28.4**	**+0.7**
	4.0nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**40.84**	**130**	*e*P	**P**	**14 35 44.7**	**-0.9**
	7.5nm,1.4s,mb4.1						
MUN	**Mundaring**	**45.26**	**153**	*e*P	**P**	**14 36 22.9**	**+1.4**
	11nm,1.4s,mb4.5						
KLBR	**Kellerberrin**	**45.66**	**151**	*e*P	**P**	**14 36 25.8**	**+1.1**
	6.6nm,0.5s,mb4.8						
NWAO	**Narrogin (SRO)**	**46.53**	**153**	*e*P	**P**	**14 36 31.9**	**+0.4**
	10nm,0.7s,mb4.9						
WRAB	**Tennant Creek**	**48.69**	**125**	*e*P	**P**	**14 36 47.6**	**-0.9**
	11nm,0.6s,mb5.1						
WB2	**Warramunga Arr**	**48.70**	**125**	*e*P	**P**	**14 36 47.7**	**-0.9**
CHKZ	**Chkalovo**	**49.13**	**342**	*e*P	**P**	**14 36 51.1**	**-0.4**
	3.0nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**60.53**	**134**	*e*P	**P**	**14 38 14.2**	**-0.6**
JOF	**Joensuu**	**70.48**	**334**	*e*p	**P**	**14 39 16.7**	**-1.5**
	1.9nm,0.5s,mb4.3						
KAF	**Kangasniemi**	**72.41**	**333**	*e*p	**P**	**14 39 27.3**	**-2.5**
NB2	**NORSAR Subarra**	**79.34**	**331**	P	**P**	**14 40 08.8**	**-0.2**
	1.0nm,0.6s,mb3.9,baz=95,slow=5.3						
IMA	**Indian Mountai**	**91.52**	**22**	P	pP	14 41 17.8	-1.2
	5.9nm,0.8s						

*BJI **05** 14:34:30.6, 5.20N×94.57E,h52km,mB5.3,mb5.6,Ms4.9, Msz4.7*
*MOS **05** 14:34:30.3±1.1, 5.62N×94.77E,h33km,mb5.8/50,Error ellipse: s-maj=10.1km s-min=5.2km az=116.7*
*HRVD **05** 14:34:31.3±0.4, 5.20N×94.63E,h53km±1km,MW5.2/43, Centroid moment Tensor Solution. LP body waves: s43,c67;Mantle waves: s39,c69; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.76±.04; $M_{\theta\theta}$-0.28±.03; $M_{\phi\phi}$-0.47±.03; $M_{r\theta}$0.32±.02; $M_{\theta\phi}$0.41±.02; $M_{\phi r}$-0.23±.03; Best double couple: M_0.872×10^{17} NP1: ϕ_s329°, δ33°, λ103°. NP2:ϕ_s134°, δ58°, λ82°. Principal axes: T.855, Plg75°, Azm21°; N.034, Plg7°, Azm138°; P -.89, Plg13°, Azm230°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 14:34:31.3±0.1, 5.59N×94.76E,h30km,mb5.4/76 Error ellipse: s-maj=5.7km s-min=3.3km az=35.0*
NEIC Felt [III] at Banda Aceh.
*CSEM **05** 14:34:33.5, 6.29N×94.69E,h33km,mb5.5*

ISC 05 14:34:32.7±0.2,5.46N±0.03×94.73E±0.03,h58km, h58km±2.3km:pP-P,n444,σ1§06/394,mb5.5/110,MS4.9/10, 65C-23D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.10**	**73**	P	**P**	**14 36 17.0**	**+15**
	880nm,1.0s						
PPI	**Padang Panjang**	**8.16**	**136**	*e*P	**P**	**14 36 39.0**	**+8.2**
PPI				*e*S	**S**	**14 37 49.0**	**-14**
NNT	**Nongplab**	**8.64**	**35**	P	**P**	**14 36 39.7**	**+2.2**
NST	**Nakhon Sawan**	**11.46**	**27**	P	**P**	**14 37 18.0**	**+2.0**
CM31	**Chiang Mai Arr**	**13.56**	**17**	*e*P	**P**	**14 37 45.6**	**+1.6**
	59nm,0.3s						
CHG	**Chiang Mai**	**13.90**	**17**	⇓P	**P**	**14 37 51.3**	**+2.9**
	50nm,0.8s						
UBT	**Ubonrachathani**	**14.03**	**45**	P	**P**	**14 37 55.0**	**+4.8**
PALK	**Pallekele**	**14.06**	**278**	*e*P	**P**	**14 37 50.7**	**+0.2**
NANT	**Nan**	**14.49**	**23**	P	**P**	**14 38 00.0**	**+3.9**
	169nm,1.0s						
PENI	**Pendagan**	**15.12**	**136**	*e*P	**P**	**14 38 01.5**	**-2.8**
CHRT	**Chiangrai**	**15.15**	**18**	⇑P	**P**	**14 38 07.0**	**+2.3**
	808nm,0.8s						
MDRS	**Chennai**	**16.16**	**299**	*e*P	**P**	**14 38 16.7**	**-0.9**
MDRS				*e*		14 41 00.7	
VIS	**Vishakhapatnam**	**16.52**	**318**	*e*P	**P**	**14 38 21.0**	**-1.1**
VIS				*e*		14 38 27.4	
	comp=Z,167nm,0.9s						
VIS				*e*		14 41 11.4	
BWNR	**Bhubaneshwar**	**17.11**	**330**	*e*P	**P**	**14 38 27.1**	**-2.4**
BWNR				*e*		14 38 29.4	
	comp=Z,96nm,0.7s						
BWNR				*e*		14 41 28.5	
COCO	**West Island**	**17.65**	**173**	*e*P	**P**	**14 38 38.0**	**+1.7**
	comp=Z,189nm,0.8s						
KOD	**Kodaikanal**	**17.74**	**287**	*e*P	**P**	**14 38 38.6**	**+1.2**
KOD				*i*		14 41 43.5	
TRD	**Trivandrum**	**17.90**	**281**	*e*	**P**	**14 38 37.6**	**-1.7**
TRD				*i*		14 41 49.6	
AGT	**Agartala**	**18.63**	**350**	*e*P	**P**	**14 38 42.0**	**-6.1**
IMP	**Imphal**	**19.23**	**358**	⇓*i*P	**P**	**14 38 51.4**	**-3.6**
HYB	**Hyderabad**	**19.79**	**308**	*e*P	**P**	**14 39 01.0**	**-0.1**
	comp=Z,85nm,1.0s						
HYB				*e*S	**S**	**14 42 27.0**	**-8.7**
HYB	**Hyderabad**	**19.79**	**308**	*i* P	**P**	**14 39 01.0**	**-0.1**
	comp=Z,85nm,1.0s						
HYB				*e*S	**S**	**14 42 27.0**	**-8.7**
QIZ	**Qiongzhong**	**19.98**	**46**	P	**P**	**14 39 04.4**	**+1.4**
QIZ				AP		14 39 12.3	
QIZ				PP	PP	14 39 23.4	0.0
QIZ				S	**S**	**14 42 41.7**	**+2.2**
QIZ				AMB	AMB		
	comp=Z,69nm,1.0s						
QIZ				LR	LR		
	comp=N,2μm,17.1s						
QIZ				LR	LR		
	comp=E,2μm,16.7s						
QIZ				LR	LR		
	comp=Z,2μm,18.2s						
QIZ	**Qiongzhong**	**19.98**	**46**	*e*P	**P**	**14 39 03.5**	**+0.4**
	comp=Z,61nm,0.7s						
SHL	**Shillong**	**20.18**	**353**	*e*P	**P**	**14 39 00.7**	**-4.5**
SHL				*e*		14 39 06.7	
	comp=Z,85nm,0.7s						
SHL				*e*S	**S**	**14 42 43.0**	**-0.5**
BLSP	**Bilaspur**	**20.57**	**325**	⇑*i*P	**P**	**14 39 09.6**	**+0.4**
BLSP				*e*S	**S**	**14 42 54.1**	**+3.1**
MNGI	**Mangalore**	**21.00**	**292**	*e*	**P**	**14 39 23.2**	**+10**
MNGI				*e*		14 39 34.0	
	comp=Z,134nm,1.4s						
MNGI				*i*		14 42 56.9	
LATR	**Latur**	**21.92**	**308**	*e*P	**P**	**14 39 24.0**	**+1.2**
GOA	**Goa**	**22.82**	**298**	*e*P	**P**	**14 39 35.4**	**+3.7**
GOA				*e*		14 39 56.8	
	comp=Z,128nm,1.4s						
GOA				*e*S	**S**	**14 43 44.9**	**+12**
KAD	**Karad**	**23.30**	**302**	*e*P	**P**	**14 39 38.8**	**+2.4**
KAD				*i* S	**S**	**14 43 49.4**	**+8.5**
ALBI	**Allahabad**	**23.30**	**329**	⇑*i*P	**P**	**14 39 35.5**	**-0.9**
JIRN	**Jiri**	**23.53**	**341**	*e*P	**P**	**14 39 37.5**	**-1.0**
	comp=Z,341nm,0.6s,mb6.0						
PKI	**Pulchoki**	**23.71**	**339**	*e*P	**P**	**14 39 39.5**	**-0.8**
	comp=Z,128nm,0.5s,mb5.6						
SRDI	**Scrawed**	**23.80**	**125**	⇓*e*P	**P**	**14 39 42.2**	**+1.0**
	comp=Z,74nm,0.3s,mb5.6						
DMN	**Daman**	**23.86**	**338**	*e*P	**P**	**14 39 40.8**	**-0.9**
GUN	**Gumba**	**23.86**	**340**	*e*P	**P**	**14 39 41.0**	**-0.7**
	comp=Z,396nm,0.6s,mb6.0						
KELI	**Kelakatan**	**23.93**	**124**	⇑*e*P	**P**	**14 39 43.2**	**+0.7**
	comp=Z,96nm,0.2s,mb5.9						
KKN	**Kakani**	**23.96**	**339**	*e*P	**P**	**14 39 41.9**	**-0.8**
	comp=Z,130nm,0.6s,mb5.6						
POO	**Poona**	**24.17**	**304**	*e*P	**P**	**14 39 44.6**	**-0.2**
POO				*e*		14 44 07.6	
BHPL	**Bhopal**	**24.31**	**318**	*e*P	**P**	**14 39 47.8**	**+1.6**
BHPL				*e*		14 39 51.0	
	comp=Z,134nm,1.3s

NJ2 S **S** **14 46 52.0 +6.9**
NJ2 XS 14 47 08.0
NJ2 AMB AMB
comp=Z,290nm,5.7s
SSE Sheshan 35.60 41 P **P** **14 41 25.5 -1.3**
SSE S **S** **14 47 02.3 +4.4**
SSE AMB AMB
comp=Z,36nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,91nm,4.3s
SSE LR LR
comp=N,323nm,21.6s,MS4.4
SSE LR LR
comp=E,602nm,22.0s,MS4.4
SSE LR LR
comp=Z,741nm,21.6s,MS4.4
MBWA Marble Bar 36.07 138 *e*P **P** **14 41 30.5 -0.4**
TIA Tai'an 36.88 31 ⇑P **P** **14 41 38.0 +0.5**
TIA AMB AMB
comp=Z,39nm,0.8s,mb5.3
FITZ Fitzroy Crossi 38.44 128⇑*i*P **P** **14 41 50.7 0.0**
comp=Z,61nm,0.6s,mb5.5
FITZ *e*SCP 14 47 45.7
WBK Wadi Bani Khal 38.50 300 ⇑P **P** **14 41 53.8 +2.7**
SNR=12
WMQ Urumqi 38.71 352 P **P** **14 41 53.0 +0.3**
WMQ AP pP 14 42 06.7 -0.8
WMQ PP PP 14 43 25.6 -0.1
WMQ S **S** **14 47 46.7 +1.5**
WMQ AMB AMB
comp=Z,101nm,0.8s,mb5.6
WMQ AMB AMB
comp=Z,710nm,5.8s
WMQ LR LR
comp=N,5μm,18.2s,MS5.4
WMQ LR LR
comp=E,3μm,21.2s,MS5.4
WMQ LR LR
comp=Z,4μm,17.4s,MS5.3
JMDO Jabal Madar 39.17 299 ⇓P **P** **14 41 59.1 +2.3**
SNR=23
SMDO Samad 39.45 300 ⇓P **P** **14 42 01.7 +2.6**
SNR=38
BJT Baijiatuau 39.45 26 *e*P **P** **14 42 00.6 +1.7**
BJT pmax pmax
comp=Z,180nm,0.9s
BJT Baijiatuau 39.45 26 *e*P **P** **14 42 00.6 +1.7**
comp=Z,184nm,0.9s,mb5.8
BIDO Bidbid 39.55 301 ⇓P **P** **14 42 02.7 +2.9**
SNR=35
BSY Bisya 40.08 299 ⇑P **P** **14 42 07.1 +2.8**
SNR=20
ULHL Ulahol 40.16 339 P **P** **14 42 05.9 +1.2**
SNR=37
HOQ Hoqain 40.27 300 ⇑P **P** **14 42 08.4 +2.6**
SNR=15
KZA Kyzart 40.38 337 P **P** **14 42 08.0 +1.5**
SNR=21
UCH Uchtor 40.79 337 P **P** **14 42 11.7 +1.7**
SNR=19
ARQ Araqi 40.87 300 ⇓P **P** **14 42 13.3 +2.5**
SNR=9.1
TKM2 Tokmak 2 40.98 338 P **P** **14 42 12.6 +1.1**
SNR=30
KBK Karagaybulak 40.99 338 P **P** **14 42 13.2 +1.6**
SNR=561
AML Almayashu 41.04 336 P **P** **14 42 13.6 +1.7**
SNR=132
AAK Ala-Archa 41.14 337 P **P** **14 42 14.2 +1.3**
SNR=187
AAK Ala-Archa 41.14 337⇓*i*P **P** **14 42 10.1 -2.7**
AAK pmax pmax
comp=Z,144nm,0.8s,mb5.7
AAK Ala-Archa 41.14 337 *e*P **P** **14 42 12.3 -0.5**
comp=Z,126nm,0.8s,mb5.6
FRU Bishkek 41.27 337⇑*i*P **P** **14 42 14.5 +0.6**
FRU pmax pmax
comp=Z,320nm,2.0s,mb5.6
CHMS Chumysh 41.36 338 P **P** **14 42 15.6 +1.0**
SNR=7.0
EKS2 Erkin-Say 41.45 337 P **P** **14 42 16.8 +1.5**
SNR=214
KAKA Kakadu 41.59 116 *e*P **P** **14 42 15.9 -1.0**
comp=Z,25nm,0.5s,mb5.1
USP Ospenovka 41.68 338 P **P** **14 42 18.2 +0.9**
SNR=337
WHFO Wadi Hawf 41.87 291 ⇓P **P** **14 42 20.7 +1.5**
SNR=18
MUN Mundaring 42.48 153 *e*P **P** **14 42 25.5 +1.5**
comp=Z,13nm,0.5s,mb4.8
MK02 Makanchi Array 42.53 347 P **P** **14 42 24.2 0.0**
MK02 pmax pmax
comp=Z,105nm,0.8s,mb5.6
INCN Inchon 43.15 38 *e*P **P** **14 42 29.3 -0.2**
comp=Z,80nm,0.9s,mb5.5
ULN Ulaanbaatar 43.55 12⇑*i*P **P** **14 42 29.7 -2.9**
ULN Ulaanbaatar 43.55 12 *e*P **P** **14 42 31.9 -0.7**
comp=Z,55nm,0.6s,mb5.5
NWAO Narrogin (SRO) 43.74 152 P **P** **14 42 33.4 -0.9**
KS15 Wonju Array Si 43.90 39 *e*P **P** **14 42 35.7 +0.2**
SNY Shenyang 44.40 31⇑*i*P **P** **14 42 39.9 +0.4**
SNY S **S** **14 49 09.1 -0.2**
SNY AMB AMB
comp=Z,90nm,0.5s,mb5.8
SNY LR LR
comp=N,1μm,13.1s,MS5.1
SNY LR LR
comp=E,1μm,17.3s,MS5.1
SNY LR LR
comp=Z,2μm,20.4s,MS4.9
ZAK Zakamensk 45.35 8⇓*i*P **P** **14 42 46.4 -0.5**
ZAK *e* 14 44 21.5
MOY Mondy 46.35 5 *e*P **P** **14 42 54.7 -0.1**
WRAB Tennant Creek 46.41 124*d i*P **P** **14 42 54.2 -1.5**
WRAB Tennant Creek 46.41 124 *e*P **P** **14 42 56.3 +0.6**
comp=Z,137nm,0.6s,mb6.1
WB2 Warramunga Arr 46.42 124⇑*i*P **P** **14 42 56.3 +0.5**
WB2 *e*SCP 14 48 17.3
WB2 *e*S **S** **14 49 37.3 -1.1**
TLY Talaya 46.67 8 *e*P **P** **14 42 57.6 +0.3**
TLY *e* pP 14 43 10.7 -1.7
TLY *e* 14 44 31.6
TLY pmax pmax
comp=Z,34nm,0.9s,mb5.3
TLY MLR MLR
comp=Z,1μm,21.0s,MS4.9
TLY Talaya 46.67 8 *e*P **P** **14 42 57.4 +0.1**
comp=Z,22nm,0.8s,mb5.1
HIA Hailar 48.52 22 *e*P **P** **14 43 11.4 -0.4**
HIA *e* 14 44 36.3
HIA pmax pmax
comp=Z,63nm,0.6s
HIA Hailar 48.52 22 *e*P **P** **14 43 11.4 -0.4**
comp=Z,63nm,0.6s,mb5.8
HIA *e*PcP PcP 14 44 36.3 -1.1
MDJ Mudanjiang 49.50 32 P **P** **14 43 20.3 +0.9**
MDJ AMB AMB
comp=Z,69nm,0.8s,mb5.7
MDJ AMB AMB
comp=Z,154nm,4.5s
MDJ LR LR
comp=N,2μm,35.0s,MS5.1
MDJ LR LR
comp=E,2μm,33.7s,MS5.1
MDJ LR LR
comp=Z,989nm,30.5s,MS4.6
MDJ Mudanjiang 49.50 32 *e*P **P** **14 43 20.1 +0.7**
comp=Z,75nm,0.9s,mb5.7
NVS Novosibirsk 50.11 351 *i* P **P** **14 43 22.5 -1.4**
NVS *e* pP 14 43 35.9 -3.2
NVS *i* S **S** **14 50 27.4 -2.3**
NVS pmax pmax
comp=Z,111nm,1.0s,mb5.8
NVS pmax pmax
comp=N,86nm,1.0s
NVS pmax pmax
comp=E,40nm,0.6s
NVS smax
comp=N,38nm,1.8s
NVS smax
comp=E,77nm,1.8s
MAJO Matsushiro 50.38 46 *e*P **P** **14 43 25.6 -0.7**
MAJO pmax pmax
comp=Z,27nm,0.9s,mb5.3
MAJO Matsushiro 50.38 46 *e*P **P** **14 43 25.6 -0.7**
comp=Z,27nm,0.8s,mb5.3
MAT Matsushiro 50.38 46 *e*P **P** **14 43 27.0 +0.7**
comp=Z,17nm,0.6s,mb5.2
MAT *e*S **S** **14 50 30.0 -3.7**
MAT LR LR
comp=Z,1μm,20.0s,MS4.8
MAT Matsushiro 50.38 46 P **P** **14 43 26.7 +0.4**
MAT S **S** **14 50 29.0 -4.7**
BVA0 Borovoye Array 51.45 341 P **P** **14 43 33.7 -0.5**
BVA0 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CHKZ Chkalovo 51.94 342⇑*i*P **P** **14 43 37.7 -0.1**
CHKZ pmax pmax
comp=Z,250nm,0.7s,mb6.2
CHKZ Chkalovo 51.94 342⇑*i*P **P** **14 43 37.6 -0.1**
comp=Z,246nm,0.6s,mb6.3
KLR Kul'dur 53.67 29⇓*i*P **P** **14 43 47.8 -3.0**
KLR pmax pmax
comp=N,33nm,1.4s
KLR pmax pmax
comp=E,52nm,1.4s
KLR pmax pmax
comp=Z,72nm,1.4s,mb5.4
BHD Baghdad 54.28 307 *e*P **P** **14 43 48.0 -7.5**
PMG Port Moresby 54.29 106⇓*i*P **P** **14 43 54.9 -0.9**
PMG Port Moresby 54.29 106⇑*e*P **P** **14 43 55.4 -0.4**
comp=Z,46nm,0.7s,mb5.5
BOD Bodaibo 54.36 13⇓*i*P **P** **14 43 54.6 -1.1**
GNI Garni 56.55 315⇓*i*P **P** **14 44 09.4 -2.3**
GNI pmax pmax
comp=Z,78nm,1.7s
GNI Garni 56.55 315 *e*P **P** **14 44 11.1 -0.7**
comp=Z,43nm,1.0s,mb5.4
CTA Charters Tower 56.64 118⇑*i*P **P** **14 44 12.3 -0.3**
comp=Z,24nm,1.2s,mb5.1
CTAO Charters Tower 56.64 118 *e*P **P** **14 44 12.3 -0.3**
CTAO pmax pmax
comp=Z,36nm,1.2s,mb5.3
CTAO Charters Tower 56.64 118 *e*P **P** **14 44 12.2 -0.4**
comp=Z,36nm,1.2s,mb5.3
TI2 Plekhanov 57.20 317 *i* P **P** **14 44 15.0 -1.3**
TI2 pmax pmax
comp=Z,90nm,0.8s,mb5.8
ADE Adelaide 57.69 138 *e*P **P** **14 44 20.5 +0.6**
KMBO Kilima Mbogo 57.77 265 *i* P **P** **14 44 23.0 +2.3**
KMBO pmax pmax
comp=Z,5.0nm,0.9s
KMBO Kilima Mbogo 57.77 265 *e*P **P** **14 44 22.7 +2.0**
comp=Z,5.1nm,0.8s,mb4.6
SVE Sverdlovsk 57.85 339⇑*i*P **P** **14 44 20.4 -0.3**
SVE pmax pmax
comp=Z,270nm,2.2s,mb5.9
STKA Stephens Creek 58.03 133⇑*i*P **P** **14 44 22.2 -0.1**
comp=Z,8.5nm,0.3s,mb5.2
ARU Arti 58.33 337⇓*i*P **P** **14 44 21.6 -2.4**
ARU *e* 14 45 09.0
ARU *e* 14 46 27.6
ARU *e*S **S** **14 52 21.0 +0.7**
ARU *e*SS SS 14 56 11.7 -2.9
ARU pmax pmax
comp=Z,63nm,0.9s,mb5.7
YSS Yuzh-Sakhalins 58.34 37⇑*i*P **P** **14 44 23.5 -0.7**
YSS *e* pP 14 44 40.0 +0.2
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.8
YSS Yuzh-Sakhalins 58.34 37 *e*P **P** **14 44 24.1 -0.1**
comp=Z,85nm,0.9s,mb5.8
VRT Varto 58.45 313 *e*P **P** **14 44 25.0 -0.2**
EZM Erzurum 58.85 314 *e*P **P** **14 44 28.1 +0.2**
KIV Kislovodsk 59.50 319 P **P** **14 44 31.5 -0.8**
comp=Z,474nm,0.8s,SNR=13
KIV Kislovodsk 59.50 319⇑*i*P **P** **14 44 31.4 -0.9**
KIV pmax pmax
comp=Z,58nm,0.8s,mb5.7
KIV Kislovodsk 59.50 319 *e*P **P** **14 44 31.0 -1.3**
comp=Z,35nm,0.7s,mb5.5
URFA Urfa 59.91 310 *e*P **P** **14 44 34.8 -0.4**
PTK Pertek 59.94 312 *e*P **P** **14 44 38.5 +3.1**
GUMT Gumushane 60.40 314 *e*P **P** **14 44 37.8 -0.7**
MALT Malatya 60.48 311 *e*P **P** **14 44 38.5 -0.6**
MALT pmax pmax
comp=Z,27nm,1.2s,mb5.2
MALT Malatya 60.48 311 *e*P **P** **14 44 38.5 -0.6**
comp=Z,26nm,1.2s,mb5.1
GAZ Gaziantep 61.06 310 *i* P **P** **14 44 43.1 0.0**
SOC Sochi 61.34 317 *e*P **P** **14 44 42.7 -2.1**
SOC *e* 14 45 26.9
SOC *e*S **S** **14 53 05.5 +6.3**
SOC *e*SSS SSS 14 59 36.5 -5.4
SOC pmax pmax
comp=N,19nm,1.0s
SOC pmax pmax
comp=Z,53nm,1.0s,mb5.6
SOC pmax pmax
comp=E,19nm,1.3s
YAK Yakutsk 62.10 18⇑*i*P **P** **14 44 46.9 -2.7**
YAK pmax pmax
comp=Z,97nm,0.6s,mb6.1
YAK Yakutsk 62.10 18 *e*P **P** **14 44 47.9 -1.8**
comp=Z,116nm,0.6s,mb6.2
YOZ Yozgat 63.18 312 *e*P **P** **14 44 56.3 -0.9**
NIG Nigde 63.30 310 *e*P **P** **14 44 57.5 -0.5**
CSS Prodhromos 63.56 306 *e*P **P** **14 44 59.5 -0.3**
comp=Z,30nm,0.6s,mb5.5
LEF Lefka 63.95 306 *e*P **P** **14 45 02.5 +0.2**
MBAR Mbarara 64.18 267 *e*P **P** **14 45 05.8 +1.6**
MBAR pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
MBAR Mbarara 64.18 267 *e*P **P** **14 45 05.8 +1.6**
comp=Z,7.4nm,1.1s,mb4.6
KAMT Kaman 64.30 311 *i* P **P** **14 45 03.5 -1.1**
TOS Tosya 64.52 313 P **P** **14 45 05.0 -0.9**
HDMB Hadim 64.67 308 *e*P **P** **14 45 06.6 -0.4**
CANT Cankiri 64.70 312 *e*P **P** **14 45 06.4 -0.7**
BZK Bozkurt 64.79 314 *e*P **P** **14 45 07.4 -0.3**
VOR Voronezh 64.89 326 *e*P **P** **14 45 05.8 -2.3**
VOR pmax pmax
comp=Z,200nm,1.2s,mb6.0
SAFT Safranbolu 65.54 313 *e*P **P** **14 45 11.7 -0.9**
KIZT Kizilcal 65.57 310 *i* P **P** **14 45 11.3 -1.4**
SIM Simferopol' 65.58 317*c i*P **P** **14 45 11.8 -0.9**
SIM pmax pmax
comp=Z,50nm,0.8s,mb5.6
ISP Isparta 66.39 309 *e*P **P** **14 45 16.4 -1.6**
ISP Isparta 66.39 309⇑*i*P **P** **14 45 15.6 -2.4**
MDU Mudurnu 66.44 312 *e*P **P** **14 45 17.0 -1.2**
ESKT Eskisehir 66.49 311 *i* P **P** **14 45 18.1 -0.5**
ELL Elmali 66.64 308 *i* P **P** **14 45 19.4 -0.2**
ALT Altintas 66.95 310 *e*P **P** **14 45 20.9 -0.6**
FETY Fethiye 67.27 307 *e*P **P** **14 45 22.6 -0.9**
MOS Moscow 67.44 329 *e*P **P** **14 45 23.5 -0.7**
MOS *e* pP 14 45 40.9 +0.7
MOS *e* 14 45 49.8
MOS pmax pmax
comp=Z,141nm,0.6s,mb6.2
OBN Obninsk 67.73 328⇑*i*P **P** **14 45 24.3 -1.7**
OBN *i* 14 45 51.1
OBN *i* S S 14 54 14.5 -3.3
OBN pmax pmax
comp=Z,76nm,0.7s,mb5.8
OBN Obninsk 67.73 328 *e*P **P** **14 45 24.3 -1.8**
comp=Z,68nm,0.8s,mb5.7
YLV Yalova 67.83 312 *e*P **P** **14 45 25.4 -1.5**
SKR Severo-Kuril's 67.90 37 *e*P **P** **14 45 23.5 -3.7**
SKR *e* 14 45 33.0
SKR pmax pmax
comp=Z,90nm,0.5s,mb6.1
MA2 Magadan 68.63 27⇑*e*P **P** **14 45 30.1 -1.5**
MA2 pmax pmax
comp=Z,48nm,0.7s,mb5.5
MA2 Magadan 68.63 27 *e*P **P** **14 45 31.1 -0.5**
comp=Z,51nm,0.7s,mb5.6
AKS Akhisar 68.67 310 *i* P **P** **14 45 32.1 -0.1**
BNT Bandirma 68.87 311 *i* P **P** **14 45 33.2 -0.2**
IZM Izmir 69.01 309 *e*P **P** **14 45 34.3 0.0**
LSZ Lusaka 69.04 251 *e*P **P** **14 45 36.0 +1.2**
LSZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LSZ Lusaka 69.04 251 *e*P **P** **14 45 36.0 +1.2**
comp=Z,4.2nm,0.8s,mb4.4
MRMT Marmara Adasi 69.16 311 *e*P **P** **14 45 33.5 -1.7**
PSN Preselentsi 69.36 315 P **P** **14 45 36.0 -0.4**
TIRR Tirgusor 69.37 316 P **P** **14 45 35.7 -0.8**
TIXI Tiksi 69.48 11⇑*i*P **P** **14 45 32.5 -4.1**
TIXI pmax pmax
comp=Z,70nm,0.6s,mb5.8
KIS Kishinev 69.70 318 *e*P **P** **14 45 37.0 -1.4**
KIS *e* pP 14 45 53.0 -1.4
KIS *e* 14 46 05.0
CFR Carcaliu 69.73 316 P **P** **14 45 37.9 -0.7**
CFR Carcaliu 69.73 316⇑*i*P **P** **14 45 36.9 -1.7**
CFR Carcaliu 69.73 316⇑*i*P **P** **14 45 36.9 -1.7**
HARR Harsova 69.76 316⇑*i*P **P** **14 45 38.0 -0.8**
HARR Harsova 69.76 316⇑*i*P **P** **14 45 38.0 -0.8**
PRD Provadia 69.82 314 P **P** **14 45 38.2 -1.0**
PET Petropavlovsk 70.15 35 *e*P **P** **14 45 40.3 -0.7**
PET pmax pmax
comp=Z,45nm,0.8s,mb5.5
PPE Popeni 70.17 317⇓*i*P **P** **14 45 45.9 +4.6**
ISR Istrita 70.82 316⇑*i*P **P** **14 45 39.3 -5.9**
VRI Vrincioaia 70.84 317⇑*i*P **P** **14 45 45.6 +0.2**
VRI Vrincioaia 70.84 317⇑*i*P **P** **14 45 45.6 +0.2**
SEY Seymchan 70.87 24 *e*P **P** **14 45 46.4 +1.2**
SEY pmax pmax
comp=Z,30nm,0.7s,mb5.3
SEY pmax pmax
comp=N,20nm,0.5s
SEY pmax pmax
comp=E,6.0nm,0.5s
DIM Dimitrovgrad 70.95 313 P **P** **14 45 45.5 -0.6**
KDZ Kurdzhali 70.97 312 P **P** **14 45 46.0 -0.2**
PVL Pavlikeni 71.30 314 P **P** **14 45 48.0 -0.2**
MLR Muntele Rosu 71.31 316 P **P** **14 45 48.3 +0.2**
RZN Rozhen 71.49 312 P **P** **14 45 48.5 -0.8**
PGB Panagyurishte 72.04 313 P **P** **14 45 51.5 -1.0**
MMB Musomiste 72.21 312 P **P** **14 45 52.0 -1.6**
MNK Minsk 72.27 326⇓*e*P **P** **14 45 48.0 -5.7**
PUL Pulkovo 72.60 331 *e*P **P** **14 45 54.4 -1.1**
PUL pmax pmax
comp=Z,94nm,0.4s,mb6.1
PUL Pulkovo 72.60 331 *e*P **P** **14 45 53.8 -1.7**
KKB Krupnik 72.73 312 P **P** **14 45 55.0 -1.6**
VTS Vitosha 72.74 313 P **P** **14 45 56.0 -0.7**
JOF Joensuu 73.27 335 *ep* **P** **14 45 57.7 -1.7**
comp=Z,21nm,0.7s,mb5.2
JOF Joensuu 73.27 335 *e*P **P** **14 45 57.7 -1.7**
JOF pmax pmax
comp=Z,21nm,0.7s,mb5.2
LVV L'vov 73.44 320 *e*P **P** **14 46 00.1 -0.5**
LBTB Lobatse 73.62 242 *e*P **P** **14 46 03.7 +1.5**
LBTB pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LBTB Lobatse 73.62 242 *e*P **P** **14 46 03.6 +1.4**
comp=Z,7.2nm,0.8s,mb4.7
BOLS Boljevac 73.83 314⇑*i*P **P** **14 46 02.3 -0.8**
VSU Vasula 73.95 330⇑*i*P **P** **14 46 01.5 -2.0**
SKO Skopje 73.96 312 *e*P **P** **14 46 02.5 -1.4**
LVZ Lovozero 74.02 340⇑*i*P **P** **14 46 00.7 -3.0**
LVZ pmax pmax
comp=Z,57nm,0.6s,mb5.7
KWP Kalwaria 74.24 320 *e*P **P** **14 46 05.1 -0.3**
KWP pmax pmax
comp=Z,47nm,0.7s,mb5.5
KWP Kalwaria 74.24 320 *e*P **P** **14 46 05.5 +0.1**
KWP Kalwaria 74.24 320 *e*P **P** **14 46 05.5 +0.1**
APA Apatity 74.30 340⇑*i*P **P** **14 46 05.0 -0.3**
APA *i* pP 14 46 21.4 -0.1
APA pmax pmax
comp=Z,54nm,0.7s,mb5.6
KOLS Kolonicke sedl 74.40 319 *i* P **P** **14 46 06.8 +0.5**
SUW Suwalki 74.80 325 *e*P **P** **14 46 07.5 -1.0**
SUW pmax pmax
comp=Z,50nm,0.5s,mb5.7
SUW Suwalki 74.80 325 *e*P **P** **14 46 07.8 -0.7**
SUW Suwalki 74.80 325 *e*P **P** **14 46 07.8 -0.7**
BOSA Boshof 74.82 239 *e*P **P** **14 46 10.1 +1.0**
BOSA pmax pmax
comp=Z,15nm,1.0s,mb4.9
BOSA Boshof 74.82 239 *e*P **P** **14 46 10.1 +1.0**
comp=Z,15nm,1.0s,mb4.9
CRVS Cervenica-Dubn 74.93 319 *e*P **P** **14 46 09.8 +0.5**
CRVS *ep*P pP 14 46 19.9 -5.6
FINES FINESS Array B 75.11 332 *i* P **P** **14 46 09.5 -0.6**
FINES pmax pmax
comp=Z,19nm,0.6s
NOUC Port Laguerre 75.14 114 *e*P **P** **14 46 11.8 +0.8**
NOUC Port Laguerre 75.14 114 *e*P **P** **14 46 11.8 +0.8**
KAF Kangasniemi 75.20 333 *ep* **P** **14 46 07.3 -3.3**
comp=Z,14nm,0.5s,mb5.1
KAF Kangasniemi 75.20 333 *e*P **P** **14 46 07.3 -3.3**
KAF pmax pmax
comp=Z,14nm,0.5s,mb5.2
KECS Kecovo 75.50 319 *i* P **P** **14 46 12.6 0.0**
KECS *e* pP 14 46 27.1 -1.7
NIE Niedzica 75.75 320⇑*e*P **P** **14 46 14.6 +0.6**
PSZ Piszkesteto 75.81 318 *e*P **P** **14 46 14.3 -0.1**
PSZ pmax pmax
comp=Z,36nm,0.7s,mb5.4
PSZ Piszkesteto 75.81 318 *e*P **P** **14 46 14.3 -0.1**
comp=Z,36nm,0.7s,mb5.4
PSZ Piszkesteto 75.81 318⇑*e*P **P** **14 46 14.5 +0.1**
OJC Ojcow 76.19 320 *e*P **P** **14 46 16.7 +0.2**
MAW Mawson 76.30 192 P **P** **14 46 19.2 +2.4**
MAW pmax pmax
comp=Z,25nm,1.1s
MAW Mawson 76.30 192 P **P** **14 46 19.2 +2.5**
comp=Z,25nm,1.1s,mb5.0
VYHS Vyhne 76.59 318 *i* P **P** **14 46 19.0 +0.2**
VYHS *e* pP 14 46 35.3 +0.3
SRO2 Moca 76.80 318 *e*P **P** **14 46 20.6 +0.6**
SRO Srobarova 76.86 318 *e*P **P** **14 46 21.4 +1.1**
SRO1 Iza 76.91 318 *e*P **P** **14 46 21.1 +0.5**
OKC Ostrava-Krasne 77.20 320 *e*P **P** **14 46 22.6 +0.4**
OKC *ep*P pP 14 46 40.1 +1.7
TIP Timpagrande 77.25 309 *e*P **P** **14 46 22.3 -0.4**
KEV Kevo 77.30 341 *ep* **P** **14 46 21.3 -1.0**
comp=Z,46nm,0.6s,mb5.6
KEV Kevo 77.30 341 *e*P **P** **14 46 21.3 -1.0**
KEV pmax pmax
comp=Z,46nm,0.6s,mb5.6
SMOL Smolenice 77.52 318 *e*P **P** **14 46 24.3 +0.3**
MORC Moravsky Berou 77.58 320 *e*P **P** **14 46 24.5 +0.2**
MORC pmax pmax
comp=Z,22nm,0.7s,mb5.2
MORC Moravsky Berou 77.58 320 *e*P **P** **14 46 24.5 +0.2**
comp=Z,22nm,0.6s,mb5.3
ZST Bratislava 77.71 318 *i* P **P** **14 46 25.4 +0.4**
ZST *e*S S 14 56 30.6 +19
ARE0 ARCESS Array S 77.72 340 *e*P **P** **14 46 24.8 +0.2**
BILL Bilibino 78.11 21⇑*i*P **P** **14 46 25.4 -1.4**
BILL pmax pmax
comp=Z,19nm,0.7s,mb5.1
BILL Bilibino 78.11 21 *e*P **P** **14 46 25.7 -1.1**
comp=Z,22nm,0.6s,mb5.3
GKP Gorka Klasztor 78.17 323 *e*P **P** **14 46 27.2 -0.2**
VKA Vienna 78.24 318⇑*i*P **P** **14 46 28.2 +0.3**
KTK1 Kautokeino 78.35 340 *e*P **P** **14 46 27.9 -0.2**
comp=Z,100nm,1.0s,mb5.7
KTK1 Kautokeino 78.35 340 *e*P **P** **14 46 27.9 -0.2**
KTK1 AMb AMB 14 46 28.8
comp=Z,100nm,1.0s,mb5.7
DPC Dobruska-Polom 78.42 320 *e*P **P** **14 46 29.7 +0.8**
DPC *ep*P pP 14 46 46.3 +1.2
KSP Ksiaz 78.49 321⇑*e*P **P** **14 46 29.6 +0.4**
KSP Ksiaz 78.49 321 *e*P **P** **14 46 29.9 +0.7**
UPC Upice 78.64 320 *e*P **P** **14 46 30.7 +0.7**
UPC *ep*P pP 14 46 49.3 +3.0
ARSA Arzberg 78.69 317⇑*i*P **P** **14 46 31.0 +0.6**
comp=Z,69nm,1.4s,mb5.4
FX1 Attu Island--F 78.69 37 *e*P **P** **14 46 30.0 -0.3**
BOJS Bojanci 78.76 315⇑*i*P **P** **14 46 31.0 +0.2**
comp=Z,90nm,0.7s,mb5.8
PERS Pernice 78.92 316⇑*i*P **P** **14 46 32.2 +0.5**
comp=Z,63nm,0.6s,mb5.7
LJU Ljubljana 79.30 316⇑*e*P **P** **14 46 34.4 +0.6**
OBKA Obir 79.31 316⇑*i*P **P** **14 46 34.4 +0.6**
comp=Z,412nm,2.7s,mb5.9
SUR Sutherland 79.45 236 *e*P **P** **14 46 37.5 +2.6**
comp=Z,44nm,1.5s,mb5.2
PRU Pruhonice 79.53 320 *e*P **P** **14 46 35.5 +0.5**
PRU *ep*P pP 14 46 54.3 +3.1
PVCC Panska Ves 79.56 320 *e*P **P** **14 46 35.6 +0.5**
MOA Molln 79.58 318⇑*i*P **P** **14 46 35.3 +0.1**
comp=Z,60nm,1.7s,mb5.2
BSD Bornholm Skovb 79.72 325 *i* P **P** **14 46 35.2 -0.7**
BSD pmax pmax
comp=Z,47nm,0.7s,mb5.5
BSD Bornholm Skovb 79.72 325 *i* P **P** **14 46 35.2 -0.7**

comp=Z,47nm,0.7s,mb5.5
VOY Vojsko 79.73 316⇑eP P 14 46 36.2 +0.1
VOY e pP 14 46 57.2 +4.8
AQU L'Aquila 79.94 312 eP P 14 46 38.0 +0.7
AQU pmax pmax
comp=Z,24nm,0.6s,mb5.3
AQU L'Aquila 79.94 312 eP P 14 46 38.0 +0.7
comp=Z,24nm,0.6s,mb5.3
BRG Berggiesshubel 79.98 321 i P P 14 46 37.6 +0.3
BRG pmax pmax
comp=Z,25nm,0.9s,mb5.1
BRG Berggiesshubel 79.98 321 i P P 14 46 37.6 +0.3
comp=Z,25nm,0.9s,mb5.2
TRO Tromso 79.98 340 eP P 14 46 35.4 -1.6
TRO AMb AMB 14 46 41.1
comp=Z,59nm,1.4s,mb5.3
TRO epP pP 14 46 47.0 -6.3
GEC2 GERESS Array S 80.01 319 eP P 14 46 38.0 +0.5
GEC2 pmax pmax
comp=Z,58nm,0.9s,mb5.5
GEC2 GERESS Array S 80.01 319 eP P 14 46 38.0 +0.5
comp=Z,58nm,0.9s,mb5.5
KHC Kasperske Hory 80.11 319 eP P 14 46 38.4 +0.3
KHC e 14 46 46.0
KHC e 14 47 04.3
KBA Koelnbreinsper 80.16 317⇑iP P 14 46 38.3 -0.1
comp=Z,124nm,2.1s,mb5.5
RUE Ruedersdorf 80.18 322 eP P 14 46 38.6 +0.2
comp=Z,76nm,0.3s,mb6.1
WET Wettzell 80.57 319 eP P 14 46 40.9 +0.4
CLL Collm 80.59 321⇑iP P 14 46 40.6 0.0
CLL i 14 46 50.5
CLL e pP 14 46 59.0 +2.1
CLL pmax pmax
comp=Z,23nm,1.2s,mb5.0
CLL Collm 80.59 321⇑iP P 14 46 40.6 0.0
comp=Z,23nm,1.2s,mb5.0
CLL i 14 46 50.5
CLL e pP 14 46 59.0 +2.1
CLL Collm 80.59 321⇑P P 14 46 40.6 0.0
comp=Z,logA/T=1.3,mb5.0
CLL i *PP pP 14 46 50.5 -6.4
CLL e pP 14 46 59.0 +2.1
NKC Novy Kostel 80.89 320 eP P 14 46 42.5 +0.3
MOR8 Moi Rana 81.11 336 eP P 14 46 42.0 -1.0
comp=Z,55nm,1.3s,mb5.3
MOR8 Moi Rana 81.11 336 eP P 14 46 42.0 -1.0
MOR8 AMb AMB 14 46 46.1
comp=Z,55nm,1.3s,mb5.3
WTTA Wattenberg 81.33 317⇑iP P 14 46 44.4 -0.2
comp=Z,60nm,1.6s,mb5.3
WATA Walderalm 81.38 317⇑iP P 14 46 44.4 -0.4
comp=Z,26nm,1.2s,mb5.0
MOX Moxa 81.44 320 eP P 14 46 45.4 +0.3
MOX pmax pmax
comp=Z,34nm,1.6s,mb5.0
MOX Moxa 81.44 320 eP P 14 46 45.4 +0.3
comp=Z,34nm,1.6s,mb5.0
MOX Moxa 81.44 320 i P P 14 46 45.4 +0.3
comp=Z,logA/T=1.3,mb5.0
FUR Furstenfeldbru 81.60 318 eP P 14 46 45.7 -0.2
SQTA Sankt Quirin 81.62 317⇑iP P 14 46 46.0 -0.1
comp=Z,17nm,0.7s,mb5.1
GRA1 Grafenberg Arr 81.67 319 eP P 14 46 47.0 +0.8
comp=Z,42nm,1.0s,mb5.3
GRF Grafenberg Arr 81.67 319 eP P 14 46 47.0 +0.8
GRF pmax pmax
comp=Z,42nm,1.0s,mb5.3
GRF Grafenberg Arr 81.67 319 eP P 14 46 47.0 +0.8
comp=Z,42nm,1.0s,mb5.3
MOTA Moosalm 81.70 317⇑iP P 14 46 46.3 -0.2
comp=Z,28nm,1.2s,mb5.1
NSS Namsos 81.99 334 eP P 14 46 46.2 -1.4
MAIM 82.10 313 P P 14 46 47.7 -0.9
NB2 NORSAR Subarra 82.11 331 P P 14 46 47.6 -0.7
comp=Z,10nm,0.8s,mb4.8,baz=92,slow=5.6
NB2 NORSAR Subarra 82.11 331 P P 14 46 47.6 -0.7
baz=92,slow=5.6
SARO Sassorosso 82.16 314 P P 14 46 48.4 -0.5
CLZ Clausthal 82.25 321 eP P 14 46 49.5 +0.3
comp=Z,66nm,1.5s,mb5.3
HSP Hornsund 82.28 347 eP P 14 46 48.8 -0.1
BSEG Bad Segeberg 82.33 324 eP P 14 46 50.1 +0.5
VINC Vinca 82.34 314 P P 14 46 49.0 -0.8
GRAM 82.40 314 P P 14 46 50.7 +0.6
DAVA Damuels 82.53 317⇑iP P 14 46 51.2 +0.5
CODM 82.56 314 P P 14 46 50.9 -0.1
VSL Villasalto 82.98 309 eP P 14 46 53.0 -0.2
comp=Z,46nm,1.1s,mb5.4
TOD Tromm 83.24 319 eP P 14 46 54.2 -0.1
PCP Pian Castagno 83.49 314 P P 14 46 55.2 -0.4
BFO Black Forest 83.57 318 eP P 14 46 55.9 -0.1
BFO pmax pmax
comp=Z,80nm,1.9s,mb5.5
BFO Black Forest 83.57 318 eP P 14 46 55.9 -0.1
comp=Z,80nm,1.9s,mb5.5
FIN Finale Ligure 83.74 314 P P 14 46 57.0 0.0
FELD Feldberg 83.79 317 eP P 14 46 57.0 -0.1
ORX Oropa 83.86 315 P P 14 46 57.1 -0.4
LANF Langenberg 83.90 319 eP P 14 46 58.3 +0.6
IMI Imperia 83.98 313 P P 14 46 58.1 0.0
ROB Roburent 83.98 314 P P 14 46 58.4 +0.2
TRAV 84.03 315 P P 14 46 57.0 -1.4
MONE Monesi 84.07 314 P P 14 46 59.0 +0.3
NEGI Negi 84.11 313 P P 14 46 59.0 +0.2
SAOF Saorge 84.22 314 eP P 14 47 00.0 +0.6
WLS Welschbruch 84.22 318 eP P 14 46 59.2 0.0
ENR Entracque 84.31 314 P P 14 47 00.6 +0.8
ECH Echery 84.35 318 eP P 14 46 59.6 -0.3
STV Sta Anna Valdi 84.37 314 P P 14 47 00.9 +0.8
RSP Reno Superiore 84.39 315 P P 14 46 59.2 -1.0
BHB Bricherasio 84.39 314 P P 14 47 00.6 +0.4
TOUF Mont Tournerai 84.44 314 eP P 14 47 01.3 +0.8
LSD Ceresole Reale 84.45 315 P P 14 47 01.1 +0.7
MVIF Mont Vial 84.51 313 eP P 14 47 01.6 +0.8
PZZ Prazzo 84.52 314 P P 14 47 00.3 -0.6
FENE Fenestrelle 84.53 315 P P 14 47 00.8 -0.1
KIWB Kanaga Island 84.59 39 eP P 14 47 01.0 0.0
CALN Calern 84.71 313 eP P 14 47 02.9 +1.1
LPG La Plagne 84.73 315⇑iP P 14 47 02.8 +0.9
comp=Z,54nm,0.7s,mb5.5
RRL Cesana Torines 84.73 315 P P 14 47 01.9 0.0
BNI Bardonecchia 84.80 315 eP P 14 47 01.5 -0.8
BNI pmax pmax
comp=Z,27nm,1.0s,mb5.3
BNI Bardonecchia 84.80 315 eP P 14 47 01.5 -0.8
comp=Z,27nm,1.0s,mb5.3
PLDF La Plantade 86.89 316 eP P 14 47 14.3 +1.8
LBL Lubilhac 87.21 315 eP P 14 47 16.4 +2.3
PYM Petit Puy Mams 87.34 316 eP P 14 47 16.5 +1.8
EBR Ebro Roquetas 89.67 311 eP P 14 47 25.5 -0.4
DAG Danmarks Havn 89.95 348⇓iP P 14 47 26.0 -0.4
DAG pmax pmax
comp=Z,13nm,0.5s,mb5.5
DAG Danmarks Havn 89.95 348⇓iP P 14 47 26.0 -0.4
comp=Z,13nm,0.5s,mb5.5
VNDA Vanda 90.46 168 P P 14 47 29.5 +0.7
ESLA Sonseca Array 93.22 310 eP P 14 47 43.3 +1.0
comp=Z,4.1nm,1.1s,mb4.8
IMA Indian Mountai 93.62 22 eP P 14 47 45.1 +1.6
IMA pmax pmax
comp=Z,150nm,0.6s
IMA Indian Mountai 93.62 22 eP P 14 47 44.9 +1.4
COLA College 96.33 22 eP P 14 47 54.6 -1.3
PWA Palmer West 96.94 26 eP P 14 47 58.8 +0.1
PMR Palmer 97.28 26 eP P 14 48 00.5 +0.2
MENT Mentasta 98.88 23 eP P 14 48 09.0 +1.6
INK Inuvik 99.14 16 eP P 14 48 08.5 0.0
INK pmax pmax
comp=Z,15nm,1.1s
INK Inuvik 99.14 16 eP P 14 48 08.5 -0.1
comp=Z,15nm,1.1s,mb5.4
RES Resolute Bay 99.78 3 eP P 14 48 12.4 +1.1
RES pmax pmax
comp=Z,24nm,0.8s,mb5.7
RES Resolute Bay 99.78 3 ePdif P 14 48 12.4 +1.0
comp=Z,24nm,0.8s,mb5.7
FCC Fort Churchill 115.60 5 ePKIKP PKPdf 14 53 08.3 +0.1
RPW Rockport 117.65 26 P PKPdf 14 53 14.0 +1.6
FMW Mount Fremont 118.71 28 P PKPdf 14 53 16.5 +1.9
TBM Table Mountain 119.02 27 P PKPdf 14 53 17.0 +1.9
EBG Ellensburg 119.23 27 P PKPdf 14 53 17.6 +2.0
WRD Warden 119.95 26 P PKPdf 14 53 19.2 +2.2
REDWA Red Mountain 120.20 27 P PKPdf 14 53 20.1 +2.7
WALA Waterton Lakes 120.24 21 ePKPdf PKPdf 14 53 19.0 +1.5
FRIS Frissel Point 120.49 30 P PKPdf 14 53 20.3 +2.3
HUMO Hull Mountain 121.19 32 ePKPdf PKPdf 14 53 21.7 +2.2
MSO Missoula 122.08 23 ePKPdf PKPdf 14 53 22.2 +1.2
BMO Blue Mountains 122.27 27 ePKIKP PKPdf 14 53 22.0 +0.5
CHMT Chamberlain Mo 122.27 22 ePKPdf PKPdf 14 53 22.9 +1.5
LASM Arnica Sink 122.63 32 P PKPdf 14 53 24.9 +2.7
LTIM Timbered Crate 122.98 32 P PKPdf 14 53 25.5 +2.5
MOD Modoc 123.07 31 ePKPdf PKPdf 14 53 25.3 +2.2
LBCM Butte Creek Ri 123.30 32 P PKPdf 14 53 26.0 +2.4
WVOR Wild Horse Val 123.51 29 ePKIKP PKPdf 14 53 26.3 +2.3
DGMT Dagmar 123.80 15 ePKPdf PKPdf 14 53 26.3 +1.9
BOZ Bozeman (W) 123.95 22 ePKIKP PKPdf 14 53 26.8 +2.1
HLID Hailey 124.56 25 ePKPdf PKPdf 14 53 28.6 +2.6
LAO LASA Array 124.86 17 ePKPdf PKPdf 14 53 28.9 +2.4
YMR Madison River 125.03 22 ePKPdf PKPdf 14 53 29.9 +3.1
YFT Old Faithful 125.26 22 ePKPdf PKPdf 14 53 31.6 +4.3
LKWY Lake 125.33 22 ePKIKP PKPdf 14 53 31.3 +3.9
IMW Indian Meadow 125.69 23 ePKPdf PKPdf 14 53 30.4 +2.3
MOOW Moose Ponds 125.89 23 ePKPdf PKPdf 14 53 30.7 +2.2
TPAW Teton Pass 126.03 23 ePKPdf PKPdf 14 53 31.3 +2.5
LOHW Long Hollow 126.06 23 ePKPdf PKPdf 14 53 31.0 +2.2
WUWY Wally Ulrich 126.07 23 ePKPdf PKPdf 14 53 31.0 +2.1
SNOW Snow King Moun 126.13 23 ePKPdf PKPdf 14 53 31.7 +2.7
HVU Hansel Valley 126.71 26 ePKIKP PKPdf 14 53 32.0 +1.8
MNV Mina 126.74 32 ePKIKP PKPdf 14 53 32.8 +2.5
HWUT Hardware Ranch 127.36 25 ePKPdf PKPdf 14 53 33.1 +1.7
TCUT Toone Canyon 127.83 25 ePKPdf PKPdf 14 53 33.5 +1.1
DAU Daniels Canyon 128.49 25 ePKIKP PKPdf 14 53 36.2 +2.6
NLU North Lily Min 128.51 26 ePKPdf PKPdf 14 53 35.7 +2.0
RWWY Rawlins 128.98 21 ePKPdf PKPdf 14 53 35.9 +1.3
TMUT Trail Mountain 129.43 26 ePKPdf PKPdf 14 53 38.0 +2.5
MIV Mineville/With 129.57 349 ePKPdf PKPdf 14 53 38.0 +2.4
MDV Middlebury 129.58 349 ePdif Pdif 14 50 32.0 +8.6
MSU Marysvale 129.63 27 ePKIKP PKPdf 14 53 38.8 +2.9
PHWY Pilot Hill 129.94 20 ePKPdf PKPdf 14 53 38.1 +1.7
PV10 Paradox Valley 131.13 25 ePKPdf PKPdf 14 53 42.3 +3.6
BINY Binghamton 131.82 351 ePKPdf PKPdf 14 53 41.5 +1.6
SSPA Standing Stone 133.64 352 ePKPdf PKPdf 14 53 43.9 +0.5
KSU1 Kansas State U 134.44 12 ePKPdf PKPdf 14 53 46.4 +1.5
ACSO Alum Creek Sta 134.49 358 ePKPdf PKPdf 14 53 38.9 -6.1
ANMO Albuquerque 135.12 25⇓iPKIKP PKPdf 14 53 48.4 +2.1
ANMO Albuquerque 135.12 25 ePKPdf PKPdf 14 53 48.8 +2.5
TUC Tucson 135.28 31 PKIKP PKPdf 14 53 47.7 +1.0
BNM Barren Site 135.74 26 ePKPdf PKPdf 14 53 50.3 +2.8
CCM Cathedral Cave 136.36 7 ePKIKP PKPdf 14 53 50.0 +1.5
WCI Wyandotte Cave 136.53 1 ePKIKP PKPdf 14 53 50.1 +1.3
PWV Princeton 137.25 355 ePKPdf PKPdf 14 53 51.8 +1.6
WMOK Wichita Mounta 138.04 17 ePKHKP 14 53 42.0
MNTX Cornudas Mount 138.37 26 ePKPpre 14 53 46.3
GDL2 Guadalupe Moun 138.38 25 ePKPpre 14 53 43.3
WVT Waverly 138.56 3 ePKHKP 14 53 44.3
CPCT Cooper Cave 139.31 359 ePKPdf PKPdf 14 53 55.2 +1.2
MIAR Mount Ida 139.45 11 ePKHKP 14 53 46.4
JSC Jenkinsville 140.30 355 ePKIKP PKPdf 14 53 57.4 +1.7
LTX Lajitas 141.15 26 PKIKP PKPdf 14 53 55.1 -2.4
JCT Junction City 141.66 20 ePKHKP 14 53 53.9
LRAL Lakeview Retre 141.69 2 ePKPdf PKPdf 14 53 58.6 +0.3
BAO Brasilia Array 142.04 252 P PKPdf 14 54 04.5 +5.2
BAO e 14 54 13.1
BAO e 14 54 20.5
BAO e 14 54 25.7
BAO e 14 54 37.8
DWPF Disney 146.43 354 ePKPdf PKPdf 14 54 08.5 +1.9
BIM Bigot 148.86 310⇓eP PKPdf 14 54 17.5 +6.7
TEIG Tepich 154.31 7 ePKPbc PKPdf 14 54 28.1 +9.4
SDV Santo Domingo 159.61 314 ePKPdf PKPdf 14 54 27.8 +2.1
LPAZ La Paz 160.04 236 ePKIKP PKPdf 14 54 28.9 +2.9
OTAV Otavalo 171.15 309 ePKPdf PKPdf 14 54 38.6 +3.4

NIED ***05*** *14:49:00,34.30N×139.10E,h5km,Mw4.3 Best double couple: M₀2.72×10¹⁵ NP1:φs224°,δ63°,λ-37°. NP2: φs333°,δ57°,λ-148°.*
JMA ***05*** *14:49:14.0,34.26N×139.09E,h11km±1km,M4.4 Broadband fault plane solution: P waves. NP1:φs235°, δ57°,λ-26°. NP2:φs340°,δ68°,λ-144°. Principal axes: T Plg7°, Azm105°; N Plg49°, Azm7°; P Plg40°, Azm201°;*
JMA Felt III J1.
ISC 05 14:49:14.2±0.8,34.27N±0.04×139.11E±0.06,h10km±5km, n9,σ0§75/17,3C-3D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKO	**Kozu shima**	**0.09**	**164**	P	**Pg**	**14 49 16.4**	**-0.3**
JKO				*eS*	**Sg**	**14 49 18.6**	**+0.3**
NJJJ	**Nii jima 2**	**0.20**	**48**	⇓P	**Pg**	**14 49 18.6**	**+0.1**
NJJJ				*eS*	**Sg**	**14 49 21.9**	**+0.5**
JMY	**Miyakejima3**	**0.39**	**120**	⇑P	**Pg**	**14 49 22.1**	**-0.1**
JMY				*eS*	**Sg**	**14 49 27.7**	**+0.2**
JIZS	**Izushimoda**	**0.48**	**337**	⇑P	**Pg**	**14 49 23.7**	**-0.3**
JIZS				*eS*	**Sg**	**14 49 30.7**	**+0.1**
JIM2	**Oshima 3**	**0.52**	**31**	⇓P	**Pg**	**14 49 24.2**	**-0.5**
JIM2				*eS*	**Sg**	**14 49 31.9**	**+0.1**
KTJJ	**Kamata 2**	**0.65**	**357**	⇓P	**Pb**	**14 49 26.3**	**-1.0**
KTJJ				*eS*	**Sb**	**14 49 35.4**	**-0.8**
BSO4	**Boso 4**	**1.24**	**54**	P	**Pb**	**14 49 37.0**	**-0.3**
BSO3	**Boso 3**	**1.27**	**65**	⇑P	**Pb**	**14 49 36.8**	**-1.1**
BSO3				*eS*	**Sb**	**14 49 54.7**	**+0.6**
MAT	**Matsushiro**	**2.38**	**342**	P	**Pn**	**14 49 55.6**	**+1.6**
MAT				S	**Sn**	**14 50 26.7**	**+3.1**

BJI ***05*** *14:49:46.7,4.90N×95.10E,h28km,mB5.0,mb4.9*
NEIC ***05*** *14:49:46.7±0.8,4.90N×95.11E,h30km,mb4.7/14,Error ellipse: s-maj=23.9km s-min=13.8km az=48.0*
ISC 05 14:49:45.4±0.6,4.8N±0.1×95.3E±0.1,h30km,n46, σ0§97/46,mb4.7/20,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**14.03**	**15**	*eP*	**P**	**14 53 09.8**	**+5.3**
HYB	**Hyderabad**	**20.61**	**309**	*i P*	**P**	**14 54 27.0**	**+2.1**
JIRN	**Jiri**	**24.31**	**340**	*eP*	**P**	**14 55 02.1**	**+0.5**
18nm,0.5s,mb4.7							
PKI	**Pulchoki**	**24.50**	**339**	*eP*	**P**	**14 55 04.0**	**+0.5**
GUN	**Gumba**	**24.64**	**340**	*eP*	**P**	**14 55 04.8**	**-0.1**
DMN	**Daman**	**24.65**	**338**	*eP*	**P**	**14 55 04.8**	**-0.1**
KKN	**Kakani**	**24.75**	**338**	*eP*	**P**	**14 55 05.8**	**-0.1**
9.4nm,0.5s,mb4.5							
LSA	**Lhasa**	**25.05**	**352**	*eP*	**P**	**14 55 05.5**	**-3.3**
9.0nm,0.6s,mb4.5							
GKN	**Gorkha**	**25.18**	**337**	*eP*	**P**	**14 55 09.9**	**-0.1**
14nm,0.4s,mb4.9							
KOLN	**Koldanda**	**25.39**	**335**	*eP*	**P**	**14 55 11.6**	**-0.3**
42nm,0.6s,mb5.1							
ENH	**Enshi**	**28.66**	**26**	*eP*	**P**	**14 55 40.0**	**-1.8**
5.4nm,0.6s,mb4.5							
XAN	**Xi'an**	**31.73**	**22**	P	**P**	**14 56 08.4**	**-0.6**
XAN				AMB	AMB		
comp=Z,34nm,0.7s,mb5.3							
BJT	**Baijiatuao**	**39.80**	**25**	*eP*	**P**	**14 57 18.5**	**+1.0**
comp=Z,18nm,0.7s,mb4.9							
ULHL	**Ulahol**	**40.94**	**338**	P	**P**	**14 57 27.3**	**+0.3**
SNR=23							
KZA	**Kyzart**	**41.17**	**337**	P	**P**	**14 57 29.4**	**+0.5**
SNR=8.9							
UCH	**Uchtor**	**41.59**	**337**	P	**P**	**14 57 33.0**	**+0.7**
SNR=15							
TKM2	**Tokmak 2**	**41.76**	**338**	P	**P**	**14 57 34.2**	**+0.5**
SNR=14							
KBK	**Karagaybulak**	**41.78**	**337**	P	**P**	**14 57 35.1**	**+1.2**
SNR=33							
AML	**Almayashu**	**41.83**	**336**	P	**P**	**14 57 35.3**	**+1.0**
SNR=30							
AAK	**Ala-Archa**	**41.94**	**337**	P	**P**	**14 57 36.0**	**+0.8**
SNR=8.6							
AAK	**Ala-Archa**	**41.94**	**337**	*eP*	**P**	**14 57 34.8**	**-0.4**
comp=Z,7.4nm,0.8s,mb4.4							
CHMS	**Chumysh**	**42.15**	**337**	P	**P**	**14 57 37.4**	**+0.5**
SNR=5.6							
EKS2	**Erkin-Say**	**42.24**	**336**	P	**P**	**14 57 38.5**	**+0.8**
SNR=9.6							
USP	**Ospenovka**	**42.47**	**337**	P	**P**	**14 57 40.5**	**+0.9**
SNR=5.3							
ULN	**Ulaanbaatar**	**44.07**	**11**	*eP*	**P**	**14 57 50.6**	**-1.8**
comp=Z,1.4nm,0.7s,mb3.8							
WRAB	**Tennant Creek**	**45.62**	**124**	*eP*	**P**	**14 58 05.8**	**+0.7**
comp=Z,27nm,0.8s,mb5.2							
WB2	**Warramunga Arr**	**45.62**	**124**	⇑*iP*	**P**	**14 58 06.1**	**+0.9**
HIA	**Hailar**	**48.92**	**21**	*eP*	**P**	**14 58 30.9**	**+0.2**
comp=Z,4.8nm,0.6s,mb4.7							
MDJ	**Mudanjiang**	**49.75**	**32**	*eP*	**P**	**14 58 38.2**	**+1.1**
comp=Z,2.4nm,0.4s,mb4.6							
CHKZ	**Chkalovo**	**52.71**	**342**	*eP*	**P**	**14 58 58.2**	**-1.2**
comp=Z,38nm,0.6s,mb5.5							
PMG	**Port Moresby**	**53.61**	**105**	*eP*	**P**	**14 59 06.6**	**0.0**
STKA	**Stephens Creek**	**57.21**	**133**	P	**P**	**14 59 32.1**	**-0.4**
YSS	**Yuzh-Sakhalins**	**58.53**	**36**	*eP*	**P**	**14 59 42.2**	**+0.7**
comp=Z,10nm,0.8s,mb4.9							
YAK	**Yakutsk**	**62.54**	**17**	*eP*	**P**	**15 00 04.5**	**-4.0**
comp=Z,8.1nm,0.8s,mb4.9							
JOF	**Joensuu**	**74.07**	**335**	*ep*	**P**	**15 01 16.8**	**-3.4**
comp=Z,5.5nm,0.6s,mb4.7							
KOLS	**Kolonicke sedl**	**75.23**	**319**	*eP*	**P**	**15 01 27.7**	**+0.5**
KOLS				*e*		15 01 31.8	
KOLS				*e*	pP	15 01 37.5	+0.9
CRVS	**Cervenica-Dubn**	**75.75**	**319**	*eP*	**P**	**15 01 29.2**	**-0.9**
KAF	**Kangasniemi**	**76.01**	**333**	*ep*	**P**	**15 01 28.6**	**-2.7**
comp=Z,5.1nm,0.8s,mb4.5							
KECS	**Kecovo**	**76.33**	**319**	*eP*	**P**	**15 01 32.4**	**-1.0**
PSZ	**Piszkesteto**	**76.64**	**318**	*eP*	**P**	**15 01 34.4**	**-0.7**
VYHS	**Vyhne**	**77.42**	**319**	*eP*	**P**	**15 01 38.5**	**-0.9**
ARE0	**ARCESS Array S**	**78.50**	**340**	*eP*	**P**	**15 01 44.3**	**-0.7**
DPC	**Dobruska-Polom**	**79.25**	**320**	*eP*	**P**	**15 01 49.3**	**-0.2**
KHC	**Kasperske Hory**	**80.94**	**319**	*eP*	**P**	**15 01 58.0**	**-0.5**
LPG	**La Plagne**	**85.56**	**315**	*eP*	**P**	**15 02 18.3**	**-3.9**
comp=Z,9.2nm,0.7s,mb4.8							
INK	**Inuvik**	**99.60**	**16**	*eP*	**P**	**15 03 27.3**	**+0.4**
comp=Z,0.4nm,0.6s,mb4.0							

MOS ***05*** *14:54:01.7±1.0,5.57N×94.43E,h33km,mb5.9/86, MS5.5/72,Error ellipse: s-maj=7.8km s-min=4.0km az=124.0*
BJI ***05*** *14:54:02.8,5.32N×94.25E,h63km,mB5.9,mb5.8,Ms5.9, Msz5.8*
GUC ***05*** *14:54:04.1±0.0,5.50N×94.38E,h42km,mb5.6(NEIC), MS5.8(NEIC),MW5.8(NEIC)*
NEIC ***05*** *14:54:04.8±0.1,5.49N×94.39E,mb5.7/123,ME5.4, MS5.8/114,MW5.8,Error ellipse: s-maj=4.7km s-min=2.8km az=37.0,Moment Tensor Solution. s25 Moment tensor: Scale 10¹⁷Nm; Mrr4.41; Mθθ-2.12; Mφφ-2.29; Mrθ3.37; Mθφ2.18; Mφr-3.04; Best double couple: M₀6.3×10¹⁷ NP1:φs319°,δ22°,λ95°. NP2:φs133°, δ68°,λ88°. Principal axes: T 6.34, Plg67°, Azm39°; N -.03, Plg2°, Azm134°; P -6.3, Plg23°, Azm225°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [III] at Banda Aceh.
HRVD ***05*** *14:54:04.8±0.1,5.32N×94.24E,h33km,MW5.9/64, Centroid moment Tensor Solution. LP body waves: s62,c140;Mantle waves: s64,c206; Half duration: 2s1 Moment tensor: Scale 10¹⁷Nm; Mrr5.36±.09; Mθθ-1.66±.07; Mφφ-3.71±.08; Mrθ4.15±.11; Mθφ3.52±.06; Mφr-5.00±.12; Best double couple: M₀8.748×10¹⁷ NP1: φs326°,δ21°,λ95°. NP2:φs141°,δ69°,λ88°. Principal axes: T 8.257, Plg66°, Azm47°; N .971, Plg2°, Azm142°; P -9.238, Plg24°, Azm232°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISC 05 14:54:02.7±0.6,5.47N±0.03×94.41E±0.02,h44km±5km, h46km±1.2km:pP-P,n733,σ1§06/595,mb5.7/158,MS5.7/152, 175C-46D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**4.58**	**115**	*eP*	**P**	**14 55 13.0**	**+1.7**
PPI	**Padang Panjang**	**8.39**	**134**	*eP*	**P**	**14 56 05.0**	**+0.5**
PPI				*eS*	**S**	**14 57 33.0**	**-5.9**
NNT	**Nongplab**	**8.82**	**36**	P	**P**	**14 56 12.6**	**+2.2**
NST	**Nakhon Sawan**	**11.60**	**29**	P	**P**	**14 56 50.0**	**+1.5**
CM31	**Chiang Mai Arr**	**13.65**	**19**	⇑*iP*	**P**	**14 57 17.0**	**+1.1**
PALK	**Pallekele**	**13.74**	**278**	*eP*	**P**	**14 57 14.7**	**-2.4**
143nm,1.0s							
PALK				*eS*	rx	14 59 18.5	
CHG	**Chiang Mai**	**13.98**	**18**	S	**S**	**15 00 05.4**	**+10**
NANT	**Nan**	**14.61**	**24**	⇑P	**P**	**14 57 32.0**	**+3.6**
525nm,1.0s							
CHRT	**Chiangrai**	**15.24**	**20**	⇑P	**P**	**14 57 39.0**	**+2.3**
145nm,0.8s							
PENI	**Pendagan**	**15.35**	**135**	⇓*eP*	**P**	**14 57 35.1**	**-3.0**
PENI				pmax	pmax		
comp=Z,205nm,0.5s							
PENI	**Pendagan**	**15.35**	**135**	⇓*eP*	**P**	**14 57 35.1**	**-3.0**
comp=Z,205nm,0.5s							
MDRS	**Chennai**	**15.88**	**299**	*eP*	**P**	**14 57 44.0**	**-0.8**
MDRS				*e*		14 57 52.5	
comp=Z,427nm,1.2s							
MDRS				*i*		15 00 22.9	
MDRS				*e*	**S**	**15 00 47.3**	**+8.1**
VIS	**Vishakhapatnam**	**16.30**	**319**	*eP*	**P**	**14 57 47.3**	**-2.8**
VIS				*e*		14 57 59.0	
comp=Z,305nm,1.0s							
VIS				*e*		15 00 32.9	
PULI	**Pulasari**	**16.46**	**135**	⇑*eP*	**P**	**14 57 53.4**	**+1.2**
KOD	**Kodaikanal**	**17.43**	**287**	⇓*iP*	**P**	**14 58 04.1**	**-0.3**
KOD				*eS*	**S**	**15 01 17.3**	**+2.4**
TRD	**Trivandrum**	**17.58**	**281**	⇓*iP*	**P**	**14 58 03.5**	**-2.7**
TRD				*e*		14 58 08.8	
comp=Z,279nm,1.7s							
COCO	**West Island**	**17.71**	**172**	*eP*	**P**	**14 58 05.8**	**-2.0**
CAL	**Calcutta**	**17.96**	**341**	*eP*	**P**	**14 58 10.9**	**0.0**
CAL				*e*	**S**	**15 01 35.6**	**+8.8**
AGT	**Agartala**	**18.56**	**351**	⇓*i*	**P**	**14 58 13.0**	**-5.3**
AGT				*i*		14 59 26.0	
IMP	**Imphal**	**19.21**	**359**	*eP*	**P**	**14 58 22.7**	**-3.2**
HYB	**Hyderabad**	**19.53**	**309**	*eP*	**P**	**14 58 30.0**	**+0.6**
HYB				*eS*	**S**	**15 01 56.0**	**-6.1**
HYB				pmax	pmax		
comp=Z,575nm,1.4s							
HYB	**Hyderabad**	**19.53**	**309**	*eP*	**P**	**14 58 30.0**	**+0.6**
comp=Z,575nm,1.4s							
HYB				*eS*	**S**	**15 01 56.0**	**-6.1**
HYB	**Hyderabad**	**19.53**	**309**	*i P*	**P**	**14 58 30.0**	**+0.6**
comp=Z,575nm,1.4s							
HYB				*eS*	**S**	**15 01 56.0**	**-6.1**
BOK	**Bokaro**	**19.98**	**337**	⇑*iP*	**P**	**14 58 33.3**	**-1.0**
BOK				*e*		14 58 38.3	
comp=Z,584nm,0.7s							
BOK				*eS*	**S**	**15 02 16.9**	**+5.3**
SHL	**Shillong**	**20.13**	**353**	⇑*iP*	**P**	**14 58 31.6**	**-4.2**
SHL				*eS*	**S**	**15 02 18.5**	**+4.0**
QIZ	**Qiongzhong**	**20.20**	**47**	P	**P**	**14 58 37.7**	**+1.1**
QIZ				AP		14 58 47.2	
QIZ				S	**S**	**15 02 20.3**	**+4.4**
QIZ				PCP	PcP	15 02 46.6	-2.9
QIZ				AMB	AMB		
comp=Z,150nm,0.7s							
QIZ				LR	LR		
comp=E,26μm,15.9s							
QIZ				LR	LR		
comp=Z,29μm,18.3s,MS5.7							
QIZ	**Qiongzhong**	**20.20**	**47**	*eP*	**P**	**14 58 37.5**	**+0.9**
comp=Z,186nm,0.8s							
BLSP	**Bilaspur**	**20.38**	**326**	⇑*iP*	**P**	**14 58 37.7**	**-0.7**
BLSP				*e*		14 58 42.7	
comp=Z,616nm,2.2s							
BLSP				*e*	**S**	**15

DMN	**Daman**	**23.73**	**339**	*e*P	**P**	**14 59 11.9**	**+0.1**
	comp=Z,519nm,0.8s,mb6.0						
GUN	**Gumba**	**23.75**	**341**	*e*P	**P**	**14 59 11.8**	**-0.1**
	comp=Z,533nm,0.6s,mb6.1						
KKN	**Kakani**	**23.84**	**340**	*e*P	**P**	**14 59 12.5**	**-0.3**
	comp=Z,365nm,0.7s,mb5.9						
POO	**Poona**	**23.89**	**305**	*e*P	**P**	**14 59 14.0**	**+0.6**
POO				*e*	**S**	**15 03 34.0**	**+10**
VLK	**Valmikinagar**	**23.94**	**336**	*i*P	**P**	**14 59 16.0**	**+2.2**
VLK				*i*		14 59 26.0	
SRDI	**Scrawed**	**24.07**	**125⇓**	*e*P	**P**	**14 59 14.6**	**-0.6**
SRDI				pmax	pmax		
	comp=Z,135nm,0.7s,mb5.5						
SRDI	**Scrawed**	**24.07**	**125⇓**	*e*P	**P**	**14 59 14.6**	**-0.6**
	comp=Z,135nm,0.7s,mb5.5						
BHPL	**Bhopal**	**24.09**	**319⇑**	*i*P	**P**	**14 59 16.4**	**+1.1**
BHPL			⇑	*i*		14 59 17.3	
BHPL				*e*		14 59 31.9	
	comp=Z,266nm,1.0s						
BHPL				*e*S	**S**	**15 03 29.6**	**+2.6**
KELI	**Kelakatan**	**24.21**	**124⇑**	*e*P	**P**	**14 59 17.4**	**+0.8**
GKN	**Gorkha**	**24.26**	**339**	*e*P	**P**	**14 59 17.2**	**+0.3**
	comp=Z,804nm,0.7s,mb6.3						
LSA	**Lhasa**	**24.30**	**353**	P	**P**	**14 59 17.5**	**+0.2**
LSA				AP		14 59 33.3	
LSA				AMB	AMB		
	comp=Z,170nm,0.8s,mb5.5						
LSA				AMB	AMB		
	comp=Z,3μm,10.0s						
LSA				LR	LR		
	comp=N,7μm,30.0s,MS5.2						
LSA				LR	LR		
	comp=E,8μm,28.0s,MS5.2						
LSA				LR	LR		
	comp=Z,12μm,28.0s,MS5.2						
LSA	**Lhasa**	**24.30**	**353**	*e*P	**P**	**14 59 17.5**	**+0.2**
LSA				pmax	pmax		
	comp=Z,303nm,0.6s,mb5.9						
LSA	**Lhasa**	**24.30**	**353**	*e*P	**P**	**14 59 17.5**	**+0.2**
	comp=Z,303nm,0.6s,mb5.9						
KOLN	**Koldanda**	**24.45**	**336**	*e*P	**P**	**14 59 18.9**	**+0.1**
	comp=Z,722nm,0.7s,mb6.2						
BOM	**Bombay**	**24.93**	**304**	*e*P	**P**	**14 59 26.9**	**+3.4**
BOM				*e*S	**S**	**15 03 47.1**	**+5.9**
BOM				*e*		15 13 26.0	
	comp=Z,62nm,0.3s						
RATI	**Rata**	**25.34**	**124⇑**	*e*P	**P**	**14 59 24.1**	**-3.4**
DGAR	**Diego Garcia**	**25.37**	**240**	*e*P	**P**	**14 59 28.2**	**+0.5**
DGAR				pmax	pmax		
	comp=Z,676nm,1.1s,mb6.1						
DGAR				MLR	MLR		
	comp=Z,5μm,21.0s,MS5.0						
DGAR	**Diego Garcia**	**25.37**	**240**	*e*P	**P**	**14 59 28.2**	**+0.5**
	comp=Z,676nm,1.1s,mb6.1						
DGAR				LR	LR		
	comp=Z,5μm,21.0s,MS5.0						
ENPP	**El Nido**	**25.39**	**75**	*e*P	pP	14 59 40.8	+1.5
HKC	**Hong Kong**	**25.40**	**47**	*i*P	**P**	**14 59 30.0**	**+2.0**
HKC				*i*S	**S**	**15 03 52.0**	**+2.9**
KEDI	**Kedomdong**	**25.70**	**122⇑**	*e*P	**P**	**14 59 25.5**	**-5.3**
KEDI				pmax	pmax		
	comp=Z,205nm,0.2s,mb6.3						
KEDI	**Kedomdong**	**25.70**	**122⇑**	*e*P	**P**	**14 59 25.5**	**-5.3**
	comp=Z,204nm,0.2s,mb6.3						
TANI	**Tanete Lipujan**	**26.47**	**109⇑**	*e*P	**P**	**14 59 36.5**	**-1.5**
TANI				pmax	pmax		
	comp=Z,198nm,0.7s,mb5.8						
TANI	**Tanete Lipujan**	**26.47**	**109⇑**	*e*P	**P**	**14 59 36.5**	**-1.5**
	comp=Z,198nm,0.7s,mb5.8						
LUBP	**Lubang**	**26.75**	**70**	*e*P	**P**	**14 59 41.2**	**+0.7**
LUBP	**Lubang**	**26.75**	**70**	*e*P	**P**	**14 59 41.2**	**+0.7**
BHV	**Bhavnagar**	**26.95**	**309**	*e*P	**P**	**14 59 44.5**	**+2.2**
BHV				*e*		15 05 04.5	
SCZP	**Santa Cruz**	**27.05**	**66**	*e*P	**P**	**14 59 36.3**	**-6.9**
NINI	**Niniconang**	**27.16**	**111⇑**	*e*P	**P**	**14 59 43.4**	**-0.9**
NINI				pmax	pmax		
	comp=Z,986nm,0.8s,mb6.4						
NINI	**Niniconang**	**27.16**	**111⇑**	*e*P	**P**	**14 59 43.4**	**-0.9**
	comp=Z,986nm,0.8s,mb6.4						
NBP	**Mount Natib**	**27.18**	**68**	*e*P	**P**	**14 59 43.9**	**-0.6**
SJMP	**San Jose**	**27.27**	**73**	*e*P	**P**	**14 59 45.9**	**+0.6**
BUNI	**Buntu Taipa**	**27.43**	**109⇓**	*e*P	**P**	**14 59 46.2**	**-0.5**
PTH	**Pithoragarh**	**27.45**	**332**	*e*P	**P**	**14 59 47.0**	**+0.2**
PTH				*e*		15 04 38.0	
ARP	**Angono**	**27.81**	**69**	*e*P	**P**	**14 59 49.1**	**-1.1**
LQP	**Lukban**	**28.06**	**70⇑**	*e*P	**P**	**14 59 53.0**	**+0.6**
PCPH	**Palayan**	**28.06**	**67⇓**	*e*P	**P**	**14 59 52.7**	**+0.3**
OTRP	**Odiongan**	**28.11**	**74**	*e*P	**P**	**14 59 53.3**	**+0.5**
AJM	**Ajmer**	**28.15**	**320⇑**	*i*P	**P**	**14 59 53.4**	**+0.2**
AJM				*e*		15 00 11.4	
	comp=Z,147nm,1.9s						
AJM				*e*S	**S**	**15 04 35.5**	**+1.6**
BOAC	**Boac**	**28.18**	**72**	*e*P	**P**	**14 59 52.0**	**-1.5**
NDI	**New Delhi**	**28.26**	**327⇑**	*i*P	**P**	**14 59 52.8**	**-1.3**
NDI				*e*S	**S**	**15 04 36.0**	**+0.5**
ABRA	**Dolores**	**28.42**	**63**	*e*P	**P**	**14 59 56.3**	**+0.7**
ENH	**Enshi**	**28.47**	**28⇑**	*i*P	**P**	**14 59 55.0**	**-1.0**
	comp=Z,205nm,0.7s,mb5.9						
BALP	**Baler**	**28.55**	**67**	*e*P	**P**	**14 59 56.8**	**0.0**
POLP	**Polilio Island**	**28.59**	**69**	*e*P	**P**	**14 59 57.7**	**+0.6**
RCP	**Roxas**	**28.66**	**76⇑**	*e*P	**P**	**14 59 58.8**	**+1.1**
PAGZ	**Pagadian**	**28.87**	**84**	*e*P	**P**	**15 00 00.6**	**+0.9**
AUQP	**San Andres**	**28.94**	**72**	*e*P	**P**	**15 00 01.4**	**+1.1**
APYP	**Conner**	**28.97**	**63**	*e*P	**P**	**15 00 00.7**	**+0.1**
DDI	**Dehra Dun**	**29.13**	**330**	*e*P	**P**	**15 00 02.5**	**+0.7**
CAUP	**Cauayan**	**29.16**	**65**	*e*P	pP	15 00 16.7	+2.8
CVP	**Callao Caves**	**29.43**	**63**	*e*P	pP	15 00 16.0	-0.3
LLP	**Lapu-Lapu**	**29.66**	**79**	*e*P	**P**	**15 00 06.7**	**0.0**
BHJ	**Bhuj**	**29.70**	**309**	*e*P	**P**	**15 00 07.5**	**+0.5**
BHJ				*e*		15 05 04.8	
QZH	**Quanzhou**	**30.22**	**48⇑**	*i*P	**P**	**15 00 12.3**	**+0.7**
QZH				S	**S**	**15 05 12.2**	**+5.5**
QZH				AMB	AMB		
	comp=Z,210nm,0.8s,mb5.9						
QZH				AMB	AMB		
	comp=Z,3μm,3.9s						
QZH				LR	LR		
	comp=N,9μm,13.5s,MS5.9						
QZH				LR	LR		
	comp=E,17μm,12.9s,MS5.9						
QZH				LR	LR		
	comp=Z,41μm,18.0s						
SMLA	**Simla**	**30.23**	**330⇑**	*i*	pP	15 00 24.0	+0.7
OCLP	**Ormoc**	**30.39**	**78**	*e*P	**P**	**15 00 13.8**	**+0.7**
PVCP	**Virac**	**30.40**	**72**	*e*P	**P**	**15 00 12.9**	**-0.3**
MSLP	**Maasin**	**30.51**	**79**	*e*P	**P**	**15 00 15.7**	**+1.5**
BUKP	**Musuan**	**30.54**	**84**	*e*P	**P**	**15 00 15.8**	**+1.3**
BBP	**Basco**	**30.62**	**58**	*e*P	**P**	**15 00 09.2**	**-6.0**
DAV	**Davao City (W)**	**31.02**	**85**	*e*P	**P**	**15 00 20.0**	**+1.2**
WHN	**Wuhan**	**31.22**	**35**	P	**P**	**15 00 20.8**	**+0.4**
WHN				AP	pP	15 00 32.0	-0.1
WHN				S	**S**	**15 05 19.8**	**-2.5**
WHN				LR	LR		
	comp=Z,46μm,15.6s,MS6.2						
BESP	**Borongan**	**31.27**	**77**	*e*P	**P**	**15 00 21.1**	**+0.1**
XAN	**Xi'an**	**31.46**	**24**	P	**P**	**15 00 21.3**	**-1.1**
XAN				S	**S**	**15 05 23.8**	**-2.3**
XAN				AMB	AMB		
	comp=Z,457nm,0.7s,mb6.4						
XAN				LR	LR		
	comp=N,6μm,18.2s,MS5.6						
XAN				LR	LR		
	comp=E,9μm,17.4s,MS5.6						
XAN				LR	LR		
	comp=Z,20μm,19.7s,MS5.8						
MATI	**Mati**	**31.70**	**86**	*e*P	**P**	**15 00 24.9**	**+0.1**
DLH	**Dalhousie**	**31.97**	**330**	*e*P	**P**	**15 00 26.0**	**-0.9**
DLH				*e*		15 00 43.0	
TATO	**Taipei**	**32.42**	**50**	*e*P	**P**	**15 00 32.1**	**+1.2**
	comp=Z,121nm,0.8s,mb5.8						
TATO				LR	LR		
	comp=Z,13μm,20.0s,MS5.6						
NJ2	**Nanjing**	**34.96**	**38**	*e*P	**P**	**15 00 53.3**	**+0.5**
NJ2				AP	pP	15 01 06.1	+1.4
NJ2				PP	PP	15 02 11.2	-0.5
NJ2				S	**S**	**15 06 21.0**	**+0.5**
NJ2				AMB	AMB		
	comp=Z,580nm,9.0s						
NJ2				LR	LR		
	comp=N,43μm,13.9s,MS6.5						
NJ2				LR	LR		
	comp=E,42μm,15.0s,MS6.5						
NJ2				LR	LR		
	comp=Z,65μm,16.6s,MS6.5						
SSE	**Sheshan**	**35.80**	**41**	P	**P**	**15 00 58.9**	**-1.0**
SSE				S	**S**	**15 06 34.8**	**+1.3**
SSE				AMB	AMB		
	comp=Z,143nm,0.7s,mb6.0						
SSE				AMB	AMB		
	comp=Z,978nm,7.2s						
SSE				LR	LR		
	comp=N,5μm,23.2s,MS5.4						
SSE				LR	LR		
	comp=E,7μm,23.2s,MS5.4						
SSE				LR	LR		
	comp=Z,11μm,22.6s,MS5.6						
MBWA	**Marble Bar**	**36.30**	**138**	*e*P	**P**	**15 01 02.9**	**-1.3**
	comp=Z,41nm,0.9s,mb5.4						
MBWA				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
TIA	**Tai'an**	**37.03**	**31**	⇑P	**P**	**15 01 10.6**	**+0.4**
TIA				PP	PP	15 02 40.2	+2.8
TIA				S	**S**	**15 06 58.0**	**+5.7**
TIA				XS		15 07 19.0	
TIA				AMB	AMB		
	comp=Z,146nm,1.0s,mb5.8						
TIA				AMB	AMB		
	comp=Z,820nm,6.0s						
TIA				LR	LR		
	comp=N,6μm,16.0s,MS5.7						
TIA				LR	LR		
	comp=E,7μm,14.0s,MS5.7						
WBK	**Wadi Bani Khal**	**38.22**	**300**	⇓P	**P**	**15 01 22.3**	**+2.1**
	SNR=15						
WMQ	**Urumqi**	**38.65**	**352⇑**	*i*P	**P**	**15 01 24.4**	**+0.7**
WMQ				AP	pP	15 01 36.6	+0.9
WMQ				XP	sP	15 01 42.0	+0.9
WMQ				PP	PP	15 02 57.4	+1.1
WMQ				S	**S**	**15 07 17.2**	**+0.3**
WMQ				XS		15 07 37.7	
WMQ				AMB	AMB		
	comp=Z,220nm,0.9s,mb5.9						
WMQ				AMB	AMB		
	comp=Z,1μm,5.6s						
WMQ				LR	LR		
	comp=N,7μm,18.6s,MS5.6						
WMQ				LR	LR		
	comp=E,7μm,21.5s,MS5.6						
WMQ				LR	LR		
	comp=Z,6μm,17.3s,MS5.5						
FITZ	**Fitzroy Crossi**	**38.70**	**128⇑**	*i*P	**P**	**15 01 23.3**	**-1.0**
	comp=Z,149nm,0.8s,mb5.8						
JMDO	**Jabal Madar**	**38.88**	**299**	⇑P	**P**	**15 01 27.9**	**+2.1**
	SNR=13						
SMDO	**Samad**	**39.17**	**300**	⇑P	**P**	**15 01 30.7**	**+2.6**
	SNR=15						
BIDO	**Bidbid**	**39.27**	**301**	⇓P	**P**	**15 01 31.3**	**+2.4**
	SNR=18						
BJT	**Baijiatuau**	**39.59**	**27**	*e*P	**P**	**15 01 33.0**	**+1.5**
BJT				pmax	pmax		
	comp=Z,144nm,0.8s						
BJT	**Baijiatuau**	**39.59**	**27**	*e*P	**P**	**15 01 33.0**	**+1.6**
	comp=Z,144nm,0.8s,mb5.8						
BSY	**Bisya**	**39.80**	**299**	⇑P	**P**	**15 01 35.5**	**+2.1**
	SNR=27						
SHAO	**Shalim**	**39.87**	**292**	⇓P	**P**	**15 01 36.0**	**+2.0**
HOQ	**Hoqain**	**39.99**	**301**	⇓P	**P**	**15 01 37.2**	**+2.3**
	SNR=12						
ULHL	**Ulahol**	**40.03**	**339**	P	**P**	**15 01 35.6**	**+0.5**
	SNR=102						
KZA	**Kyzart**	**40.25**	**338**	P	**P**	**15 01 37.6**	**+0.7**
	SNR=52						
ARQ	**Araqi**	**40.58**	**300**	⇓P	**P**	**15 01 41.8**	**+2.0**
	SNR=15						
UCH	**Uchtor**	**40.66**	**337**	P	**P**	**15 01 41.2**	**+1.0**
	SNR=122						
AAA	**Alma-Ata**	**40.69**	**340**	*i*P	**P**	**15 01 41.0**	**+0.4**
AAA				*e*		15 03 16.0	
AAA				*i*S	**S**	**15 07 49.0**	**+1.6**
AAA				pmax	pmax		
	comp=Z,3μm,6.0s						
AAA				pmax	pmax		
	comp=Z,2μm,6.0s						
AAA				smax			
	comp=N,2μm,7.0s						
AAA				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.2						
TKM2	**Tokmak 2**	**40.85**	**339**	P	**P**	**15 01 42.5**	**+0.6**
	SNR=66						
KBK	**Karagaybulak**	**40.86**	**338**	P	**P**	**15 01 43.1**	**+1.2**
	SNR=188						
AML	**Almayashu**	**40.90**	**336**	P	**P**	**15 01 43.3**	**+1.0**
	SNR=240						
AAK	**Ala-Archa**	**41.01**	**337**	P	**P**	**15 01 44.1**	**+0.9**
	SNR=59						
AAK	**Ala-Archa**	**41.01**	**337⇑**	*i*P	**P**	**15 01 42.1**	**-1.1**
AAK				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.1						
AAK				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.0						
AAK	**Ala-Archa**	**41.01**	**337⇑**	*i*P	**P**	**15 01 42.1**	**-1.1**
	comp=Z,38nm,0.8s,mb5.1						
AAK				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
RBK	**Rabkut**	**41.07**	**290**	⇑P	**P**	**15 01 45.7**	**+1.7**
	SNR=8.4						
FRU	**Bishkek**	**41.13**	**338⇑**	*e*P	**P**	**15 01 44.0**	**-0.2**
FRU				*e*		15 03 16.0	
FRU				*e*		15 11 40.0	
FRU				pmax	pmax		
	comp=Z,850nm,3.0s						
FRU				MLR	MLR		
	comp=N,7μm,20.0s,MS5.7						
FRU				MLR	MLR		
	comp=E,8μm,20.0s,MS5.7						
FRU				MLR	MLR		
	comp=Z,9μm,20.0s,MS5.6						
CHMS	**Chumysh**	**41.23**	**338**	P	**P**	**15 01 45.1**	**+0.1**
	SNR=32						
EKS2	**Erkin-Say**	**41.31**	**337**	P	**P**	**15 01 46.5**	**+0.9**
	SNR=87						
USP	**Ospenovka**	**41.55**	**338**	P	**P**	**15 01 47.8**	**+0.2**
	SNR=162						
WHFO	**Wadi Hawf**	**41.56**	**291**	P	**P**	**15 01 49.5**	**+1.4**
	SNR=44						
KAKA	**Kakadu**	**41.89**	**116⇑**	*i*P	**P**	**15 01 49.3**	**-1.5**
	comp=Z,88nm,0.6s,mb5.6						
ABTO	**Aybut**	**41.89**	**290**	⇓P	**P**	**15 01 52.5**	**+1.7**
	SNR=20						
MK02	**Makanchi Array**	**42.45**	**348**	P	**P**	**15 01 55.1**	**+0.1**
MK02				pmax	pmax		
	comp=Z,202nm,0.6s,mb5.9						
MUN	**Mundaring**	**42.64**	**152**	*e*P	**P**	**15 01 56.3**	**-0.5**
	comp=Z,38nm,0.8s,mb5.2						
MUN	**Mundaring**	**42.64**	**152**	*e*P	**P**	**15 01 56.3**	**-0.5**
MUN				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.2						
KLBR	**Kellerberrin**	**43.06**	**150**	*e*P	**P**	**15 01 59.9**	**-0.3**
	comp=Z,49nm,0.9s,mb5.2						
INCN	**Inchon**	**43.34**	**38**	*e*P	**P**	**15 02 01.8**	**-0.6**
	comp=Z,74nm,0.8s,mb5.5						
INCN				LR	LR		
	comp=Z,18μm,19.0s,MS6.0						
ULN	**Ulaanbaatar**	**43.61**	**12⇑**	*i*P	**P**	**15 02 04.1**	**-0.4**
ULN				*e**SP	sP	15 02 20.9	-1.0
ULN				pmax	pmax		
	comp=Z,35nm,0.7s,mb5.2						
ULN				MLR	MLR		
	comp=Z,6μm,19.0s,MS5.5						
ULN	**Ulaanbaatar**	**43.61**	**12⇑**	*i*P	**P**	**15 02 04.1**	**-0.4**
	comp=Z,35nm,0.7s,mb5.2						
ULN			⇓	*e*pP	pP	15 02 15.9	-0.7
ULN				*e*sP	sP	15 02 20.9	-1.0
ULN				LR	LR		
	comp=Z,6μm,19.0s,MS5.5						
NWAO	**Narrogin (SRO)**	**43.91**	**152**	*e*P	**P**	**15 02 07.6**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,18nm,0.8s						
NWAO				MLR	MLR		
	comp=Z,3μm,20.0s						
NWAO	**Narrogin (SRO)**	**43.91**	**152**	*e*P	**P**	**15 02 07.5**	**+0.5**
	comp=Z,18nm,0.8s,mb4.8						
NWAO				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
KS15	**Wonju Array Si**	**44.09**	**39**	*e*P	**P**	**15 02 08.3**	**-0.2**
SNY	**Shenyang**	**44.56**	**31⇑**	*i*P	**P**	**15 02 12.1**	**-0.1**
SNY				AP	pP	15 02 24.6	+0.3
SNY				S	**S**	**15 08 45.1**	**+0.9**
SNY				AMB	AMB		
	comp=Z,100nm,0.6s,mb5.8						
SNY				LR	LR		
	comp=N,8μm,17.2s						
SNY				LR	LR		
	comp=E,4μm,22.5s						
SNY				LR	LR		
	comp=Z,10μm,19.6s,MS5.8						
ZAK	**Zakamensk**	**45.38**	**8⇓**	*i*P	**P**	**15 02 18.2**	**-0.4**
ZAK				*e*		15 04 11.1	
MOY	**Mondy**	**46.37**	**6**	*e*P	**P**	**15 02 26.1**	**-0.3**
WRAB	**Tennant Creek**	**46.69**	**124⇑**	*i*P	**P**	**15 02 28.8**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,220nm,0.7s,mb6.2						
WRAB				MLR	MLR		
	comp=Z,2μm,22.0s,MS5.0						
WRAB	**Tennant Creek**	**46.69**	**124⇑**	*i*P	**P**	**15 02 28.8**	**-0.5**
	comp=Z,220nm,0.7s,mb6.2						
WRAB				LR	LR		
	comp=Z,2μm,22.0s,MS5.0						
WB2	**Warramunga Arr**	**46.69**	**124⇑**	*i*P	**P**	**15 02 29.0**	**-0.4**
WB2				*e*S	**S**	**15 09 11.2**	**-3.7**
TLY	**Talaya**	**46.70**	**8**	*e*P	**P**	**15 02 28.2**	**-0.8**
TLY				*e*S	**S**	**15 09 14.2**	**-0.4**
TLY				*e*SS	SS	15 12 37.4	+3.6
TLY				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.6						
TLY				MLR	MLR		
	comp=Z,7μm,19.0s,MS5.6						
TLY	**Talaya**	**46.70**	**8⇑**	*i*P	**P**	**15 02 29.2**	**+0.2**
	comp=Z,34nm,0.8s,mb5.3						
TLY				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
IRK	**Irkutsk**	**47.34**	**8**	*e*P	**P**	**15 02 33.4**	**-0.6**
IRK				*e*	pP	15 02 46.3	+0.1
IRK				*e*		15 04 30.0	
HIA	**Hailar**	**48.63**	**22⇑**	*i*P	**P**	**15 02 43.7**	**-0.4**
HIA				pmax	pmax		
	comp=Z,73nm,0.8s						
HIA	**Hailar**	**48.63**	**22⇑**	*i*P	**P**	**15 02 43.7**	**-0.4**
	comp=Z,73nm,0.8s,mb5.8						
MDJ	**Mudanjiang**	**49.66**	**33**	P	**P**	**15 02 52.7**	**+0.6**
MDJ				AP	pP	15 03 09.3	+5.0
MDJ				PCP	PcP	15 04 14.4	+1.2
MDJ				PP	PP	15 04 46.6	-0.8
MDJ				PCS		15 08 11.0	
MDJ				S	**S**	**15 09 57.1**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,96nm,1.1s,mb5.7						
MDJ				AMB	AMB		
	comp=Z,1μm,9.1s						
MDJ				LR	LR		
	comp=N,6μm,18.3s,MS5.8						
MDJ				LR	LR		
	comp=E,5μm,14.5s,MS5.8						
MDJ				LR	LR		
	comp=Z,8μm,16.4s,MS5.8						
MDJ	**Mudanjiang**	**49.66**	**33⇑**	*i*P	**P**	**15 02 52.4**	**+0.3**
	comp=Z,116nm,1.1s,mb5.8						
VLA	**Vladivostok**	**50.00**	**36⇓**	*i*P	**P**	**15 02 55.0**	**+0.3**
VLA				*e*S	**S**	**15 09 53.0**	**-8.0**
VLA				*e*		15 10 09.0	
VLA				*e*		15 12 33.0	
VLA				*e*		15 13 30.0	
VLA				pmax	pmax		
	comp=Z,2μm,7.0s						
VLA				pmax	pmax		
	comp=N,500nm,11.0s						
VLA				pmax	pmax		
	comp=Z,2μm,12.0s						
VLA				pmax	pmax		
	comp=N,500nm,9.0s						
VLA				smax			
	comp=N,500nm,10.0s						
VLA				MLR	MLR		
	comp=Z,16μm,16.0s,MS6.1						
VLA				MLR	MLR		
	comp=N,8μm,18.0s						
NVS	**Novosibirsk**	**50.05**	**352**	*i*P	**P**	**15 02 53.5**	**-1.5**
NVS				*e*	pP	15 03 07.2	0.0
NVS				*e*S	**S**	**15 10 00.3**	**-1.2**
NVS				pmax	pmax		
	comp=Z,222nm,1.0s,mb6.2						
NVS				pmax	pmax		
	comp=N,147nm,0.9s						
NVS				smax			
	comp=N,352nm,2.2s						
NVS				smax			
	comp=E,253nm,2.0s						
GUMO	**Guam**	**50.34**	**77**	PFAKE		15 03 10.0	+12
GUMO				LR	LR		
	comp=Z,3μm,22.0s,MS5.3						
MAJO	**Matsushiro**	**50.60**	**46⇑**	*i*P	**P**	**15 02 58.6**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.2						
MAJO				MLR	MLR		
	comp=Z,11μm,22.0s,MS5.8						
MAJO	**Matsushiro**	**50.60**	**46⇑**	*i*P	**P**	**15 02 58.6**	**-0.9**
	comp=Z,20nm,0.6s,mb5.2						
MAJO				LR	LR		
	comp=Z,11μm,22.0s,MS5.8						
MAT	**Matsushiro**	**50.60**	**46**	*e*P	**P**	**15 02 59.0**	**-0.4**
MAT				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.3						
MAT				MLR	MLR		
	comp=Z,10μm,20.0s,MS5.8						
MAT	**Matsushiro**	**50.60**	**46**	*e*P	**P**	**15 02 59.0**	**-0.4**
	comp=Z,27nm,0.7s,mb5.3						
MAT				*e*S	tx	15 10 39.0	
MAT				LR	LR		
	comp=Z,10μm,20.0s,MS5.8						
MAT	**Matsushiro**	**50.60**	**46**	P	**P**	**15 02 58.6**	**-0.8**
MAT				S	**S**	**15 10 13.6**	**+4.2**
BVA0	**Borovoye Array**	**51.34**	**342**	P	**P**	**15 03 03.9**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
CHKZ	**Chkalovo**	**51.83**	**342⇑**	*i*P	**P**	**15 03 08.1**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,274nm,0.7s,mb6.3						
CHKZ	**Chkalovo**	**51.83**	**342⇑**	*i*P	**P**	**15 03 08.1**	**-0.4**
	comp=Z,274nm,0.7s,mb6.3						
KLR	**Kul'dur**	**53.82**	**30⇓**	*i*P	**P**	**15 03 20.0**	**-3.4**
KLR				*e*S	**S**	**15 11 10.5**	**+17**
KLR				pmax	pmax		
	comp=E,800nm,9.0s						
KLR				pmax	pmax		
	comp=Z,2μm,9.0s						
KLR				pmax	pmax		
	comp=N,260nm,2.8s						
KLR				pmax	pmax		
	comp=E,370nm,2.8s						
KLR				pmax	pmax		
	comp=Z,560nm,2.8s,mb6.0						
BHD	**Baghdad**	**54.02**	**307**	*i*P	Px	15 03 17.0	
BHD				*e*S	tx	15 10 45.0	
BOD	**Bodaibo**	**54.42**	**13⇓**	*i*P	**P**	**15 03 26.5**	**-1.1**
BOD				*e*		15 11 00.5	
PMG	**Port Moresby**	**54.61**	**106⇑**	*i*P	**P**	**15 03 28.5**	**-1.1**
PMG				pmax	pmax		
	comp=Z,83nm,0.8s						
PMG				MLR	MLR		
	comp=Z,2μm,19.0s						
PMG	**Port Moresby**	**54.61**	**106⇑**	*i*P	**P**	**15 03 28.5**	**-1.1**
	comp=Z,82nm,0.8s,mb5.8						
PMG				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
MSL	**Mosul**	**56.05**	**311**	*e*P	Px	15 03

comp=N,20nm,1.0s
CLNS pmax pmax
comp=E,14nm,1.7s
CLNS MLR MLR
comp=Z,2μm,13.0s,MS5.3
CLNS MLR MLR
comp=N,2μm,14.0s,MS5.4
CLNS MLR MLR
comp=E,1μm,15.0s,MS5.4
MTA Mtatsminda 56.92 317 P **P 15 03 44.6 -1.3**
CTA Charters Tower 56.93 118⇑ *i*P **P 15 03 45.0 -1.2**
comp=E,23nm,0.6s,mb5.4
CTA Charters Tower 56.93 118 *i*P **P 15 03 45.0 -1.2**
CTA pmax pmax
comp=Z,23nm,0.6s
CTAO Charters Tower 56.93 118⇑ *i*P **P 15 03 45.0 -1.2**
CTAO pmax pmax
comp=Z,50nm,1.1s,mb5.5
CTAO MLR MLR
comp=Z,6μm,22.0s,MS5.6
CTAO Charters Tower 56.93 118⇑ *i*P **P 15 03 45.0 -1.3**
comp=Z,50nm,1.1s,mb5.5
CTAO LR LR
comp=Z,6μm,22.0s,MS5.6
TI2 Plekhanov 56.97 317α *i*P **P 15 03 45.0 -1.2**
TI2 *i*S **S 15 11 35.4 0.0**
TI2 15 13 34.2
TI2 pmax pmax
comp=Z,90nm,0.8s,mb5.8
KMBO Kilima Mbogo 57.45 265⇓ *e*P **P 15 03 50.8 +0.8**
KMBO pmax pmax
comp=Z,37nm,1.0s
KMBO MLR MLR
comp=Z,10μm,22.0s
KMBO Kilima Mbogo 57.45 265⇓ *e*P **P 15 03 50.8 +0.8**
comp=Z,37nm,1.0s,mb5.4
KMBO LR LR
comp=Z,10μm,22.0s,MS5.9
SVE Sverdlovsk 57.72 339⇑ *i*P **P 15 03 50.8 -0.5**
SVE *e* 15 04 37.0
SVE *e*S **S 15 11 40.0 -5.1**
SVE pmax pmax
comp=Z,520nm,2.4s,mb6.1
SVE smax
comp=N,2μm,6.5s
SVE smax
comp=E,2μm,6.5s
SVE MLR MLR
comp=Z,6μm,21.5s,MS5.7
ADE Adelaide 57.92 137 *e*P **P 15 03 53.1 +0.1**
ARU Arti 58.20 337⇑ *i*P **P 15 03 52.3 -2.3**
ARU *i* 15 04 41.4
ARU *i* 15 05 58.0
ARU *i*S **S 15 11 52.4 +1.1**
ARU *e* 15 13 35.9
ARU *e*SS SS 15 15 43.8 -1.1
ARU pmax pmax
comp=Z,117nm,1.0s,mb5.9
ARU MLR MLR
comp=Z,5μm,21.0s,MS5.6
ARU MLR MLR
comp=N,3μm,22.0s,MS5.5
ARU MLR MLR
comp=E,3μm,20.0s,MS5.5
ONI Oni 58.20 318 P **P 15 03 53.9 -0.9**
STKA Stephens Creek 58.27 133⇑ *i*P **P 15 03 54.6 -0.9**
comp=E,49nm,0.8s,mb5.6
YSS Yuzh-Sakhalins 58.52 37α *i*P **P 15 03 56.0 -1.0**
YSS *i* pP 15 04 08.7 -0.8
YSS *e*PPP PPP 15 07 24.0 -8.3
YSS *e*S **S 15 11 48.0 -7.7**
YSS *e* 15 12 06.0
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS pmax pmax
comp=Z,190nm,1.0s,mb6.1
YSS MLR MLR
comp=Z,5μm,21.0s,MS5.6
YSS MLR MLR
comp=N,5μm,20.0s,MS5.8
YSS MLR MLR
comp=E,4μm,20.0s,MS5.8
YSS Yuzh-Sakhalins 58.52 37⇑ *i*P **P 15 03 56.5 -0.5**
comp=E,154nm,1.3s,mb5.9
YSS *e*pP pP 15 04 08.4 -1.1
YSS LR LR
comp=Z,6μm,20.0s,MS5.7
ERZM Erzurum 58.61 314 *i*P **P 15 03 55.9 -1.8**
KIV Kislovodsk 59.28 319 P **P 15 04 01.6 -0.7**
comp=Z,589nm,0.7s,mb6.7,SNR=16
KIV Kislovodsk 59.28 319⇑ *i*P **P 15 04 00.8 -1.5**
KIV pmax pmax
comp=Z,66nm,0.7s,mb5.8
KIV MLR MLR
comp=Z,525nm,20.0s,MS4.7
KIV Kislovodsk 59.28 319⇑ *i*P **P 15 04 00.8 -1.5**
comp=Z,66nm,0.7s,mb5.8
KIV LR LR
comp=Z,525nm,20.0s,MS4.7
GOF Gofitskoye 59.52 320⇑ *i*P **P 15 04 01.0 -3.0**
GOF pmax pmax
comp=Z,68nm,1.8s,mb5.4
GOF MLR MLR
comp=Z,3μm,18.0s,MS5.5
ELZG Elazig 59.87 312 *i*P **P 15 04 04.0 -2.5**
MALT Malatya 60.23 311⇑ *i*P **P 15 04 08.2 -0.7**
MALT pmax pmax
comp=Z,20nm,0.9s,mb5.2
MALT Malatya 60.23 311⇑ *i*P **P 15 04 08.2 -0.8**
comp=Z,20nm,0.9s,mb5.2
GZT Gaziantep 60.59 310 *i*P **P 15 04 10.2 -1.3**
EIL Elat 60.86 301⇑ *i*P **P 15 04 13.3 -0.1**
comp=Z,34nm,0.7s,mb5.6
SOC Sochi 61.11 317 *i*P **P 15 04 12.7 -2.1**
SOC *i*S **S 15 12 23.9 -5.2**
SOC *e*SSS SSS 15 19 09.4 0.0
SOC pmax pmax
comp=Z,62nm,0.9s,mb5.7
SOC pmax pmax
comp=N,29nm,1.8s
SOC MLR MLR
comp=Z,956nm,17.0s,MS5.0
SOC MLR MLR
comp=N,2μm,25.0s
SOC MLR MLR
comp=E,2μm,22.0s
SOC Sochi 61.11 317⇑ *i*P **P 15 04 12.6 -2.2**
COBT Iskenderun 61.36 309 *i*P **P 15 04 14.7 -2.0**
YAK Yakutsk 62.19 18⇑ *i*P **P 15 04 20.0 -1.8**
YAK pmax pmax
comp=Z,154nm,0.6s,mb6.3
YAK MLR MLR
comp=Z,6μm,19.0s,MS5.8
YAK Yakutsk 62.19 18 *i*P **P 15 04 20.0 -1.8**
comp=Z,154nm,0.6s,mb6.3
YAK ⇓ *e*pP pP 15 04 31.6 -2.8
YAK LR LR
comp=Z,6μm,19.0s,MS5.8
MEST Erdemli 63.02 308 *i*P **P 15 04 24.6 -3.2**
AVNT Avonos 63.04 311 *i*P **P 15 04 25.6 -2.3**
CSS Prodhromos 63.29 306 *e*P **P 15 04 28.7 -0.9**
comp=Z,126nm,1.1s,mb6.0
CTKT Corum 63.60 313 *i*P **P 15 04 38.2 +6.7**
BOYT Boyabat 63.75 314 *i*P **P 15 04 30.1 -2.4**
MBAR Mbarara 63.86 267⇓ *e*P **P 15 04 33.8 +0.1**
MBAR pmax pmax
comp=Z,36nm,1.1s,mb5.3
MBAR MLR MLR
comp=Z,3μm,20.0s,MS5.5
MBAR Mbarara 63.86 267⇓ *e*P **P 15 04 33.8 +0.1**
comp=Z,36nm,1.1s,mb5.3
MBAR LR LR
comp=Z,3μm,20.0s,MS5.5
PECR Pechory 64.36 332⇑ *i*P **P 15 04 34.0 -2.2**
PECR pmax pmax
comp=Z,2μm,6.8s
PECR MLR MLR
comp=Z,5μm,21.0s,MS5.7
PECR MLR MLR
comp=N,3μm,16.0s,MS5.7
PECR MLR MLR
comp=Z,5μm,21.0s
PECR MLR MLR
comp=N,3μm,16.0s
PECR MLR MLR
comp=E,2μm,16.0s,MS5.7

ELDT Eldivan 64.56 312 *i*P **P 15 04 34.0 -3.7**
VOR Voronezh 64.70 326 *e*P **P 15 04 36.0 -2.4**
VOR pmax pmax
comp=Z,200nm,1.6s,mb5.9
SIM Simferopol' 65.36 317*c* *i*P **P 15 04 41.4 -1.4**
SIM 15 07 03.0
SIM *e*S S 15 13 26.3 +4.3
SIM *e*PS PS 15 13 52.0 +3.2
SIM pmax pmax
comp=Z,80nm,0.8s,mb5.8
SIM MLR MLR
comp=Z,2μm,19.7s,MS5.3
CNB Canberra Magne 65.61 133⇑ *i*P **P 15 04 44.1 -0.5**
comp=Z,47nm,0.9s,mb5.5
ISP Isparta 66.14 309⇑ *i*P **P 15 04 46.5 -1.4**
ISP pmax pmax
comp=Z,56nm,0.6s,mb5.8
ISP Isparta 66.14 309⇑ *i*P **P 15 04 46.5 -1.5**
comp=Z,56nm,0.6s,mb5.8
ESKT Eskisehir 66.24 311 *i*P **P 15 04 45.4 -3.2**
MOS Moscow 67.26 329⇑ *i*P **P 15 04 53.7 -1.0**
OBN Obninsk 67.55 328⇓ *i*P **P 15 04 53.4 -3.1**
OBN *i* 15 05 02.3
OBN *e* pP 15 05 06.2 -3.1
OBN *i*S S 15 13 46.1 -2.3
OBN *e*SS SS 15 18 05.4 -5.6
OBN pmax pmax
comp=Z,127nm,0.9s,mb6.0
OBN MLR MLR
comp=Z,2μm,22.0s,MS5.4
OBN Obninsk 67.55 328 *e*P **P 15 04 54.4 -2.1**
comp=Z,124nm,0.8s,mb6.0
OBN LR LR
comp=Z,800nm,20.0s,MS4.9
ULDT Uludag 67.67 311 *i*P **P 15 04 55.8 -1.7**
MANT Manisa 67.77 309 *i*P **P 15 04 55.9 -2.3**
TAU Tasmania Unive 67.86 141 P **P 15 04 59.3 +0.6**
TAU *e* 15 05 05.8
TAU Tasmania Unive 67.86 141 *e*P **P 15 04 59.0 +0.3**
TAU *e* 15 05 05.5
TAU LR LR
comp=Z,1μm,22.0s,MS5.1
SKR Severo-Kuril's 68.09 37 *e*P **P 15 04 57.5 -2.5**
SKR *e* pP 15 05 08.0 -4.8
SKR pmax pmax
comp=Z,110nm,0.5s,mb6.1
SKR MLR MLR
comp=N,4μm,16.0s,MS5.9
SKR MLR MLR
comp=E,3μm,16.0s,MS5.9
SKR MLR MLR
comp=Z,6μm,16.0s,MS5.9
LSZ Lusaka 68.73 251⇓ *e*P **P 15 05 04.8 +0.3**
LSZ *e* 15 05 13.3
LSZ pmax pmax
comp=Z,57nm,1.2s,mb5.4
LSZ MLR MLR
comp=Z,12μm,20.0s,MS6.1
LSZ Lusaka 68.73 251⇓ *e*P **P 15 05 04.8 +0.3**
comp=Z,57nm,1.2s,mb5.4
LSZ *e* 15 05 13.3
LSZ LR LR
comp=Z,12μm,20.0s,MS6.1
KDAG Bornova 68.75 309 *i*P **P 15 05 03.0 -1.3**
MA2 Magadan 68.77 27⇑ *i*P **P 15 05 03.0 -1.0**
MA2 pmax pmax
comp=Z,76nm,0.7s,mb5.7
MA2 MLR MLR
comp=Z,4μm,19.0s,MS5.7
MA2 Magadan 68.77 27⇑ *i*P **P 15 05 03.0 -1.0**
comp=Z,76nm,0.7s,mb5.7
MA2 LR LR
comp=Z,4μm,19.0s,MS5.7
PSN Preselentsi 69.12 315 P **P 15 05 05.5 -1.0**
KIS Kishinev 69.47 318 *e*P **P 15 05 08.0 -0.6**
KIS *i* 15 05 24.0
KIS *i* 15 05 29.0
KIS *e*S S 15 14 08.0 -3.5
KIS pmax pmax
comp=Z,310nm,2.5s,mb5.8
KIS MLR MLR
comp=N,2μm,20.0s
KIS MLR MLR
comp=Z,2μm,20.0s,MS5.3
KIS MLR MLR
comp=Z,2μm,20.0s
TIXI Tiksi 69.53 11⇑ *i*P **P 15 05 07.0 -1.5**
TIXI *e*S S 15 14 14.9 +3.2
TIXI pmax pmax
comp=N,47nm,0.6s
TIXI pmax pmax
comp=Z,218nm,0.6s,mb6.3
TIXI pmax pmax
comp=E,37nm,0.5s
TIXI pmax pmax
comp=Z,236nm,0.6s,mb6.3
TIXI MLR MLR
comp=N,3μm,18.0s,MS5.9
TIXI MLR MLR
comp=E,5μm,18.0s,MS5.9
TIXI MLR MLR
comp=Z,8μm,18.0s,MS6.0
TIXI Tiksi 69.53 11⇑ *i*P **P 15 05 05.9 -2.6**
TIXI LR LR
comp=Z,9μm,20.0s,MS6.0
PRD Provadia 69.58 314 *e*P **P 15 05 08.3 -1.0**
JMB Yambol 70.02 313 P **P 15 05 11.0 -1.0**
PET Petropavlovsk 70.32 35*c* *i*P **P 15 05 11.7 -1.9**
PET *e*PPP PPP 15 09 27.5 -4.4
PET *e*S S 15 14 22.9 +1.6
PET *e* 15 15 06.1
PET pmax pmax
comp=Z,1μm,25.1s
PET pmax pmax
comp=Z,59nm,0.8s,mb5.6
PET MLR MLR
comp=N,3μm,17.0s,MS5.8
PET MLR MLR
comp=E,3μm,18.0s,MS5.8
PET MLR MLR
comp=Z,3μm,20.0s,MS5.5
PET MLR MLR
comp=Z,4μm,17.0s
PET Petropavlovsk 70.32 35 *e*P **P 15 05 12.1 -1.5**
comp=Z,50nm,1.0s,mb5.4
PET LR LR
comp=Z,5μm,21.0s,MS5.7
SZH Strazhica 70.64 314 *e*P **P 15 05 15.0 -0.7**
DIM Dimitrovgrad 70.71 313 P **P 15 05 15.0 -1.2**
KDZ Kurdzhali 70.72 312 P **P 15 05 15.0 -1.3**
SEY Seymchan 71.00 24 *e*P **P 15 05 18.5 +1.0**
SEY *e*S S 15 14 34.7 +5.8
SEY PS PS 15 14 55.3 -7.6
SEY 15 15 21.5
SEY *e*SS SS 15 19 08.9 +4.3
SEY pmax pmax
comp=N,30nm,0.7s
SEY pmax pmax
comp=Z,70nm,0.7s,mb5.7
SEY pmax pmax
comp=E,10.0nm,0.6s
SEY MLR MLR
comp=N,12μm,19.0s,MS6.4
SEY MLR MLR
comp=Z,23μm,19.0s,MS6.5
SEY MLR MLR
comp=E,18μm,22.0s,MS6.4
PVL Pavlikeni 71.06 314 P **P 15 05 18.0 -0.3**
RZN Rozhen 71.25 312 P **P 15 05 17.5 -1.9**
PLD Plovdiv 71.33 313 P **P 15 05 18.5 -1.4**
WAKE Wake Island 71.47 72 PFAKE 15 05 30.0 +8.9
WAKE LR LR
comp=Z,278μm,21.0s
PGB Panagyurishte 71.79 313 P **P 15 05 21.5 -1.1**
MIR Mirnyy 71.85 181*de*P **P 15 05 25.0 +2.4**
MIR *e*S S 15 14 39.0 +0.3
MIR pmax pmax
comp=Z,600nm,4.5s
MIR MLR MLR
comp=Z,4μm,16.0s,MS5.7
MMB Musomiste 71.96 312 P **P 15 05 22.0 -1.7**
MNK Minsk 72.08 326⇓ *e*P **P 15 05 19.0 -5.1**
MNK pmax pmax
comp=Z,1μm,0.8s
MNK pmax pmax

comp=E,280nm,1.2s
PUL Pulkovo 72.44 331 *e*P **P 15 05 25.3 -0.8**
PUL *e*S S 15 14 44.2 -1.4
PUL pmax pmax
comp=Z,395nm,0.6s,mb6.5
PUL pmax pmax
comp=N,116nm,0.4s
PUL pmax pmax
comp=E,127nm,0.6s
PUL smax
comp=N,379nm,1.5s
PUL smax
comp=E,120nm,0.8s
PUL MLR MLR
comp=Z,4μm,19.0s,MS5.7
PUL MLR MLR
comp=N,6μm,29.0s
PUL MLR MLR
comp=E,5μm,24.0s
PUL Pulkovo 72.44 331⇑ *i*P **P 15 05 24.5 -1.6**
VTS Vitosha 72.50 313 P **P 15 05 26.0 -0.8**
CASY Casey 72.52 173 PFAKE 15 05 40.0 +13
CASY LR LR
comp=Z,7μm,19.0s,MS5.9
JOF Joensuu 73.12 335 *e*p **P 15 05 29.1 -1.0**
comp=Z,55nm,0.8s,mb5.5
LVV L'vov 73.22 320 *e*P **P 15 05 30.1 -0.9**
LVV *e*PPP PPP 15 09 54.7 -5.2
LVV *e*S S 15 14 54.1 -0.5
LVV *e*SSS SSS 15 22 48.7 -1.1
LBTB Lobatse 73.34 242⇓ *e*P **P 15 05 32.6 +0.4**
LBTB pmax pmax
comp=Z,63nm,1.0s,mb5.5
LBTB MLR MLR
comp=Z,9μm,20.0s,MS6.0
LBTB Lobatse 73.34 242⇓ *e*P **P 15 05 32.6 +0.4**
comp=Z,63nm,1.0s,mb5.5
LBTB LR LR
comp=Z,9μm,20.0s,MS6.0
BARS Barje 73.54 313⇑ *i*P **P 15 05 31.4 -1.6**
BOLS Boljevac 73.58 314⇑ *i*P **P 15 05 32.1 -1.2**
VSU Vasula 73.78 330⇓ *i*P **P 15 05 32.5 -1.6**
LVZ Lovozero 73.90 340 *e*P **P 15 05 33.2 -1.4**
LVZ *e*S S 15 14 57.7 -4.1
LVZ pmax pmax
comp=Z,29nm,0.9s,mb5.2
LVZ pmax pmax
comp=N,23nm,1.9s
LVZ pmax pmax
comp=E,36nm,2.1s
LVZ smax
comp=Z,458nm,3.4s
LVZ smax
comp=N,1μm,5.3s
LVZ smax
comp=E,338nm,4.6s
LVZ MLR MLR
comp=Z,6μm,24.0s,MS5.8
LVZ MLR MLR
comp=N,2μm,23.0s,MS5.6
LVZ MLR MLR
comp=E,3μm,19.0s,MS5.6
LVZ Lovozero 73.90 340 *i*P **P 15 05 32.1 -2.5**
KWP Kalwaria 74.03 320 *e*P **P 15 05 35.4 -0.3**
KWP MLR MLR 15 40 08.0
comp=E,2μm,25.2s,MS5.3
APA Apatity 74.18 340⇑ *i*P **P 15 05 35.7 -0.5**
APA *i* pP 15 05 48.0 -1.1
APA *e*S S 15 14 57.0 -8.0
APA pmax pmax
comp=Z,44nm,1.0s,mb5.3
APA MLR MLR
comp=Z,5μm,18.0s,MS5.8
KOLS Kolonicke sedl 74.18 319 *i*P **P 15 05 36.8 +0.2**
KOLS *e* 15 05 45.7
GRUS Gruza 74.48 314⇓ *i*P **P 15 05 37.7 -0.7**
BOSA Boshof 74.55 238 *e*P **P 15 05 39.4 +0.3**
BOSA pmax pmax
comp=Z,69nm,1.0s,mb5.5
BOSA MLR MLR
comp=Z,6μm,22.0s,MS5.9
BOSA Boshof 74.55 238 *e*P **P 15 05 39.4 +0.3**
comp=Z,69nm,1.0s,mb5.5
BOSA LR LR
comp=Z,6μm,22.0s,MS5.9
SUW Suwalki 74.60 325 *e*P **P 15 05 37.8 -1.2**
SUW MLR MLR 15 39 42.6
comp=Z,2μm,25.5s,MS5.3
CRVS Cervenica-Dubn 74.71 319 *i*P **P 15 05 40.1 +0.5**
CRVS *e* pP 15 05 50.3 -2.2
BEO Belgrade 74.79 315⇑ *i*P **P 15 05 40.0 -0.2**
PVY Plav 74.86 313⇓ *i*P **P 15 05 39.3 -1.4**
IVA Berane 74.95 313⇓ *i*P **P 15 05 40.5 -0.6**
DIVS Divcibare 75.03 314⇓ *i*P **P 15 05 40.8 -0.8**
KAF Kangasniemi 75.04 333 *e*p **P 15 05 38.7 -2.6**
baz=106,slow=5.4
KECS Kecovo 75.28 319 *e*P **P 15 05 42.5 -0.4**
KECS *e* pP 15 05 54.1 -1.7
ULC Ulcinj 75.33 312⇓ *i*P **P 15 05 42.1 -1.3**
PLE Pljevlja 75.37 313⇓ *i*P **P 15 05 42.9 -0.7**
TTG Podgorica 75.37 312⇓ *i*P **P 15 05 41.7 -1.9**
NOUC Port Laguerre 75.44 114 *e*P **P 15 05 46.0 +1.6**
NIE Niedzica 75.53 320 *e*P **P 15 05 44.5 +0.2**
DZM Mont Dzumac 75.56 114⇑ *i*P **P 15 05 45.9 +0.9**
DZM Mont Dzumac 75.56 114⇑ *i*P **P 15 05 45.9 +0.9**
PSZ Piszkesteto 75.59 318 P **P 15 05 44.5 -0.2**
PSZ pmax pmax
comp=Z,32nm,0.7s,mb5.4
PSZ Piszkesteto 75.59 318 *e*P **P 15 05 44.3 -0.5**
comp=Z,32nm,0.6s,mb5.4
PSZ Piszkesteto 75.59 318⇑ *i*P **P 15 05 44.5 -0.2**
NKY Niksic 75.60 313⇓ *i*P **P 15 05 43.4 -1.5**
BUM Brajici-Budva 75.62 312⇓ *i*P **P 15 05 43.5 -1.5**
UPM Unac-Piva 75.71 313⇓ *i*P **P 15 05 44.6 -0.9**
HCY Herceg Novi 75.93 312⇓ *i*P **P 15 05 45.7 -1.1**
BRY Bratogost 75.94 313⇓ *i*P **P 15 05 45.7 -1.1**
OJC Ojcow 75.98 320 *e*P **P 15 05 46.7 -0.2**
BUD Budapest 76.12 317 *e*P **P 15 05 48.7 +1.0**
MAW Mawson 76.25 192 *e*P **P 15 05 49.4 +1.3**
comp=Z,42nm,1.7s,mb5.1
MAW Mawson 76.25 192 *e*P **P 15 05 49.4 +1.3**
MAW pmax pmax
comp=Z,42nm,1.7s
LIKS Likavka 76.26 319 *e*P **P 15 05 47.7 -0.8**
VYHS Vyhne 76.37 318 *i*P **P 15 05 49.0 -0.1**
SRO2 Moca 76.57 318 *e*P **P 15 05 50.8 +0.5**
SRO2 *e* pP 15 06 06.1 +2.9
SRO Srobarova 76.63 318 *e*P **P 15 05 52.6 +2.0**
KOLL Kolacno 76.66 319 *e*P **P 15 05 50.5 -0.3**
KOLL *e*pP pP 15 06 04.8 +1.1
SRO1 Iza 76.68 318 *e* pP 15 06 06.5 +2.7
OKC Ostrava-Krasne 76.98 320⇑ *i*P **P 15 05 52.9 +0.3**
OKC *e*pP pP 15 06 07.8 +2.3
OKC *e*S S 15 15 39.5 +3.3
OKC AMS AMS 15 45 50.0
comp=Z,2μm,22.7s
RAC Raciborz 76.98 320 *e*P **P 15 05 53.1 +0.5**
RAC MLR MLR 15 42 05.8
comp=Z,2μm,22.6s,MS5.2
TIP Timpagrande 76.99 309 *e*P **P 15 05 52.6 -0.2**
KEV Kevo 77.18 341 *e*p **P 15 05 52.4 -0.9**
comp=Z,44nm,0.7s,mb5.5
KEV Kevo 77.18 341 *e*P **P 15 05 52.4 -0.9**
KEV pmax pmax
comp=Z,44nm,0.7s,mb5.5
SMOL Smolenice 77.30 318 *e*P **P 15 05 54.5 +0.1**
MORC Moravsky Berou 77.36 320 *e*P **P 15 05 54.4 -0.3**
MORC pmax pmax
comp=Z,72nm,0.6s,mb5.8
MORC Moravsky Berou 77.36 320 *e*P **P 15 05 54.4 -0.3**
comp=Z,72nm,0.6s,mb5.8
ZST Bratislava 77.48 318 *i*P **P 15 05 55.7 +0.3**
ZST *e*pP pP 15 06 08.8 +0.5
ARE0 ARCESS Array S 77.61 340 *e*P **P 15 05 55.1 -0.6**
SOP Sopron 77.80 317 *e*P **P 15 05 57.0 -0.1**
GKP Gorka Klasztor 77.97 323 *e*P **P 15 05 57.4 -0.5**
GKP MLR MLR
comp=Z,2μm,23.7s,MS5.4
GKP Gorka Klasztor 77.97 323 *e*P **P 15 05 57.5 -0.5**
GKP MLR MLR 15 41 21.6
comp=Z,2μm,23.7s,MS5.4
VKA Vienna 78.01 318⇑ *i*P **P 15 05 59.0 +0.7**
comp=Z,1μm,2.5s,mb6.3
VKA Vienna 78.01 318⇑ *i*P **P 15 05 59.0 +0.7**

VKA pmax pmax
comp=Z,1µm,2.5s,mb6.3
DPC Dobruska-Polom 78.21 320⇑ *i*P P 15 06 00.1 +0.8
DPC *e*pP pP 15 06 15.4 +3.2
DPC *e*SKS SKS 15 16 08.8 +3.9
DPC AMS AMS 15 42 40.0
comp=Z,2µm,23.8s
BILL Bilibino 78.22 21⇑ *e*P P 15 05 57.6 -1.4
BILL pmax pmax
comp=Z,38nm,0.7s,mb5.4
BILL MLR MLR
comp=Z,12µm,19.0s,MS6.2
BILL Bilibino 78.22 21⇑ *e*P P 15 05 57.6 -1.4
comp=Z,38nm,0.7s,mb5.4
BILL LR LR
comp=Z,12µm,19.0s,MS6.2
KTK1 Kautokeino 78.23 340 *e*P P 15 05 58.3 -0.7
KTK1 *e*pP pP 15 06 13.2 +1.2
KSP Ksiaz 78.28 321⇑ *e*P P 15 06 00.0 +0.3
KSP *e* 15 06 07.5
KSP *e*PP pP 15 06 13.4 +0.8
KSP *e*S S 15 15 50.0 -0.1
KSP MLR MLR
comp=Z,4µm,20.8s,MS5.7
KSP Ksiaz 78.28 321⇑ *e*P P 15 06 00.0 +0.3
KSP *e*PcP PcP 15 06 07.5 -1.8
KSP *e*pP pP 15 06 13.4 +0.8
KSP *e* 15 06 30.5
KSP *e*S S 15 15 50.0 -0.1
KSP LR LR
comp=Z,4µm,20.8s,MS5.7
KSP Ksiaz 78.28 321 *e*P P 15 06 00.0 +0.4
KSP MLR MLR 15 47 25.4
comp=Z,3µm,20.8s,MS5.6
UPC Upice 78.42 320⇑ *i*P P 15 06 01.0 +0.5
UPC *e*pP pP 15 06 14.6 +1.2
ARSA Arzberg 78.46 317⇑ *i*P P 15 06 01.0 +0.2
comp=Z,1µm,3.0s
BOJS Bojanci 78.52 315⇑ *e*P P 15 06 01.0 -0.2
PERS Pernice 78.69 316⇑ *i*P P 15 06 02.3 +0.3
FX1 Attu Island--F 78.88 37 *e*P P 15 06 02.5 -0.4
DRV Dumont d'Urvil 79.01 163 P pP 15 06 11.0 -5.4
DRV S S 15 16 03.0 +5.4
DRV SS SS 15 21 05.0 -1.5
DRV L 15 27 00.0
LJU Ljubljana 79.06 316⇑ *i*P P 15 06 04.3 +0.2
OBKA Obir 79.08 316⇑ *i*P P 15 06 04.4 +0.2
comp=Z,1µm,2.9s,mb6.3
SUR Sutherland 79.19 236 *e*P P 15 06 06.6 +1.5
comp=Z,68nm,1.0s,mb5.5
SUR LR LR
comp=Z,1µm,19.0s,MS5.3
PRU Pruhonice 79.32 320⇑ *i*P P 15 06 05.8 +0.4
PRU *e*pP pP 15 06 20.8 +2.4
PRU *e*S S 15 16 02.2 +1.1
PRU AMS AMS 15 46 20.0
comp=Z,2µm,10.7s
PVCC Panska Ves 79.34 320⇑ *i*P P 15 06 06.0 +0.5
PVCC *e*pP pP 15 06 21.2 +2.7
PVCC *e*SKS SKS 15 16 23.4 +10
PVCC AMS AMS 15 45 50.0
comp=Z,2µm,23.8s
MOA Molln 79.35 318⇑ *i*P P 15 06 05.3 -0.3
comp=Z,1µm,4.8s
SMY Shemya 79.43 37 PFAKE 15 06 20.0 +14
SMY LR LR
comp=Z,4µm,21.0s,MS5.7
VOY Vojsko 79.50 316⇑ *e*P P 15 06 06.0 -0.5
BSD Bornholm Skovb 79.53 325 *i*P P 15 06 05.5 -0.9
comp=Z,118nm,0.6s,mb6.0
BSD *i* 15 15 57.3
comp=Z,2µm,20.0s
AQU L'Aquila 79.69 312 *e*P P 15 06 07.3 -0.3
AQU pmax pmax
comp=Z,55nm,0.8s,mb5.5
AQU L'Aquila 79.69 312 *e*P P 15 06 07.3 -0.3
comp=Z,55nm,0.8s,mb5.5
BRG Berggiesshubel 79.76 321 *i*P P 15 06 08.1 +0.3
BRG *i* pP 15 06 22.9 +2.1
BRG *e*S S 15 16 09.0 +3.2
BRG pmax pmax
comp=Z,70nm,1.1s,mb5.5
BRG MLR MLR
comp=Z,3µm,22.1s,MS5.5
BRG Berggiesshubel 79.76 321 *i*P P 15 06 08.1 +0.3
comp=Z,70nm,1.1s,mb5.5
BRG *i* pP 15 06 22.9 +2.1
BRG *i* PP PP 15 08 53.6 -17
BRG *e*S S 15 16 09.0 +3.2
BRG LR LR
comp=Z,3µm,22.1s,MS5.5
GEC2 GERESS Array S 79.79 319⇑ *i*P P 15 06 08.3 +0.3
GEC2 pmax pmax
comp=Z,166nm,0.9s,mb6.0
GEC2 GERESS Array S 79.79 319⇑ *i*P P 15 06 08.3 +0.3
comp=Z,166nm,0.9s,mb6.0
KHC Kasperske Hory 79.89 319⇑ *i*P P 15 06 08.7 +0.2
KHC *e*pP pP 15 06 22.9 +1.4
KHC *e*S S 15 16 09.1 +2.0
KHC AMS AMS 15 46 20.0
comp=Z,2µm,15.9s
KBA Koelnbreinsper 79.93 317⇑ *i*P P 15 06 08.5 -0.3
comp=Z,445nm,3.2s
KBA Koelnbreinsper 79.93 317⇑ *i*P P 15 06 08.5 -0.3
KBA pmax pmax
comp=Z,445nm,3.2s
RUE Ruedersdorf 79.98 322 *e*P P 15 06 08.8 -0.1
comp=Z,249nm,0.6s,mb6.3
WET Wettzell 80.35 319 *e*P P 15 06 11.2 +0.2
CLL Collm 80.38 321⇑ *i*P P 15 06 10.9 -0.2
CLL *i* pP 15 06 24.6 +0.5
CLL pmax pmax
comp=Z,74nm,1.1s,mb5.5
CLL Collm 80.38 321⇑ *i*P P 15 06 10.9 -0.2
comp=Z,74nm,1.1s,mb5.5
CLL *i* pP 15 06 24.6 +0.5
CLL Collm 80.38 321 ⇑P P 15 06 10.9 -0.2
comp=Z,logA/T=1.8,mb5.5
CLL *i* *PP pP 15 06 24.6 +0.5
CLL *e* 15 06 38.0
CLL *e* 15 09 56.0
NKC Novy Kostel 80.68 320⇑ *i*P P 15 06 13.1 +0.4
NKC *e*pP pP 15 06 29.5 +3.8
NKC *e*SKS SKS 15 16 24.7 +2.2
NKC AMS AMS 15 46 30.0
comp=Z,2µm,23.1s
MOR8 Moi Rana 80.97 336 *e*P P 15 06 12.7 -1.2
comp=Z,124nm,1.7s,mb5.6
MOR8 Moi Rana 80.97 336 *e*P P 15 06 12.7 -1.2
MOR8 AMb AMB 15 06 27.9
comp=Z,124nm,1.7s,mb5.6
COP Copenhagen 80.98 325 *i*P P 15 06 14.1 -0.1
COP pmax pmax
comp=Z,35nm,0.6s,mb5.5
COP MLR MLR
comp=Z,1µm,20.0s,MS5.3
COP Copenhagen 80.98 325 *i*P P 15 06 14.1 -0.1
comp=Z,35nm,0.6s,mb5.5
COP *e*S ScS 15 16 33.1 -1.8
COP LR LR
comp=Z,1µm,20.0s,MS5.3
COP Copenhagen 80.98 325 *e*S ScS 15 16 33.1 -1.8
comp=Z,1µm,20.0s
WTTA Wattenberg 81.11 317⇑ *i*P P 15 06 14.6 -0.4
comp=Z,334nm,1.7s,mb6.0
WTTA Wattenberg 81.11 317⇑ *i*P P 15 06 14.6 -0.4
WTTA pmax pmax
comp=Z,334nm,1.7s,mb6.0
WATA Walderalm 81.15 317⇑ *i*P P 15 06 14.7 -0.5
comp=Z,31nm,0.8s,mb5.3
WATA Walderalm 81.15 317⇑ *i*P P 15 06 14.7 -0.5
WATA pmax pmax
comp=Z,31nm,0.8s,mb5.3
MOX Moxa 81.23 320 *e*P P 15 06 15.6 0.0
MOX pmax pmax
comp=Z,73nm,0.7s,mb5.7
MOX MLR MLR
comp=Z,2µm,20.0s,MS5.5
MOX Moxa 81.23 320 *e*P P 15 06 15.6 0.0
comp=Z,73nm,0.7s,mb5.7
MOX LR LR
comp=Z,2µm,20.0s,MS5.5
MOX Moxa 81.23 320 *i*P P 15 06 15.6 0.0
comp=Z,logA/T=2.0,mb5.7
MOX S S 15 16 19.0 -2.0
MOX L 15 48 46.0
FUR Furstenfeldbru 81.37 318 *e*P P 15 06 16.0 -0.4
SQTA Sankt Quirin 81.39 317⇑ *i*P P 15 06 16.2 -0.3
comp=Z,41nm,0.8s,mb5.4
SQTA Sankt Quirin 81.39 317⇑ *i*P P 15 06 16.2 -0.3
SQTA pmax pmax
comp=Z,41nm,0.8s,mb5.4
GRA1 Grafenberg Arr 81.45 319 *e*P P 15 06 17.3 +0.6
comp=Z,195nm,1.4s,mb5.8
GRA1 *e* pP 15 06 30.3 +0.5
GRF Grafenberg Arr 81.45 319 *e*P P 15 06 17.3 +0.6
GRF *e* pP 15 06 30.3 +0.5
GRF pmax pmax
comp=Z,195nm,1.4s,mb5.8
GRF Grafenberg Arr 81.45 319 *e*P P 15 06 17.3 +0.6
GRF *e* pP 15 06 30.3 +0.5
GRF pmax pmax
comp=Z,195nm,1.4s,mb5.8
GRF Grafenberg Arr 81.45 319 *e*P P 15 06 17.3 +0.6
comp=Z,195nm,1.4s,mb5.8
GRF *e* pP 15 06 30.3 +0.5
MOTA Moosalm 81.47 317⇑ *i*P P 15 06 16.4 -0.5
comp=Z,70nm,1.1s,mb5.5
MOTA Moosalm 81.47 317⇑ *i*P P 15 06 16.4 -0.5
MOTA pmax pmax
comp=Z,70nm,1.1s,mb5.5
LOF Lofoten 81.55 338 *e*P P 15 06 20.2 +3.4
MAIM 81.86 313 P P **15 06 18.0 -1.0**
SARO Sassorosso 81.92 314 P P **15 06 18.7 -0.6**
NB2 NORSAR Subarra 81.95 331 P P **15 06 18.1 -1.0**
comp=Z,26nm,0.8s,mb5.2,baz=91,slow=5.0
NB2 NORSAR Subarra 81.95 331 P P **15 06 18.1 -1.0**
baz=92,slow=5.6
VALM 82.03 314 P P **15 06 20.1 +0.3**
CLZ Clausthal 82.04 321 *e*P P 15 06 20.0 +0.2
comp=Z,87nm,0.9s,mb5.7
HDH Heidenheim 82.09 318⇑ *e*P P 15 06 19.7 -0.4
NAO01 NORSAR Array S 82.09 331 *e*P P 15 06 19.0 -0.9
comp=Z,23nm,0.8s,mb5.2
VINC Vinca 82.10 314 P P **15 06 19.7 -0.6**
BSEG Bad Segeberg 82.13 324 *e*P P 15 06 20.5 +0.3
UBR Uberruh 82.15 317⇑ *e*P P 15 06 20.2 -0.2
GRAM 82.16 314 P P **15 06 21.2 +0.7**
DAVA Damuels 82.30 317⇑ *i*P P 15 06 21.4 +0.2
comp=Z,241nm,1.6s,mb5.9
CODM 82.32 314 P P **15 06 21.2 -0.1**
SIND Sindeldorf 82.50 319⇑ *e*P P 15 06 22.4 +0.3
BUCH Bad Urach 82.66 318⇑ *e*P P 15 06 23.0 0.0
KONO Kongsberg 82.69 329 PFAKE 15 06 30.0 +7.1
KONO LR LR
comp=Z,4µm,19.0s,MS5.8
VSL Villasalto 82.72 309 *e*P P 15 06 23.3 -0.2
comp=Z,41nm,0.9s,mb5.5
STU Stuttgart 82.76 318 *e*P P 15 06 23.3 -0.2
STU pmax pmax
comp=Z,35nm,0.6s,mb5.6
STU Stuttgart 82.76 318 *e*P P 15 06 23.3 -0.3
comp=Z,35nm,0.6s,mb5.6
GUT Gutenstein 82.82 318⇑ *e*P P 15 06 23.7 -0.1
MUD Monsted U'grnd 82.84 326 *i*P P 15 06 24.9 +1.2
MUD pmax pmax
comp=Z,39nm,0.7s,mb5.5
MUD Monsted U'grnd 82.84 326 *i*P P 15 06 24.9 +1.2
comp=Z,39nm,0.7s,mb5.5
MUD *i* 15 06 52.4
PGF Pioggiola 82.95 312⇑ *i*P P 15 06 24.7 +0.1
comp=Z,52nm,0.8s,mb5.3
PGF Pioggiola 82.95 312⇑ *i*P P 15 06 24.7 +0.1
PGF pmax pmax
comp=Z,26nm,0.8s,mb5.3
TOD Tromm 83.02 319 *e*P P 15 06 24.8 0.0
TOD Tromm 83.02 319 *e*P P 15 06 25.0 +0.2
LBG Lerchenberg 83.03 318 *e*P P 15 06 24.8 -0.1
SPAK Spaichingen 83.04 318⇑ *e*P P 15 06 25.1 +0.2
PCP Pian Castagno 83.25 314 P P **15 06 25.5 -0.6**
BFO Black Forest 83.34 318 *e*P P 15 06 26.2 -0.3
BFO pmax pmax
comp=Z,46nm,0.7s,mb5.6
BFO Black Forest 83.34 318 *e*P P 15 06 26.2 -0.3
comp=Z,46nm,0.7s,mb5.6
FIN Finale Ligure 83.50 314 P P **15 06 27.4 +0.1**
FELD Feldberg 83.57 317⇑ *e*P P 15 06 27.6 0.0
KIZ Kirchzarten 83.62 318 *e*P P 15 06 27.6 -0.3
ORX Oropa 83.63 315 P P **15 06 26.7 -1.3**
LANF Langenberg 83.68 319 *e*P P 15 06 28.5 +0.3
IMI Imperia 83.73 313 P P **15 06 28.7 +0.1**
ROB Roburent 83.74 314 P P **15 06 28.5 -0.1**
TRAV 83.80 315 P P **15 06 27.2 -1.7**
MONE Monesi 83.83 314 P P **15 06 29.3 +0.3**
ABH Alteburg 83.83 319 *e*P P 15 06 29.1 +0.2
ABH Alteburg 83.83 319⇑ *e*P P 15 06 29.5 +0.6
LIBD Limburg 83.83 318 *e*P P 15 06 29.6 +0.6
LIBD Limburg 83.83 318 *e*P P 15 06 29.9 +0.9
NEGI Negi 83.87 313 P P **15 06 29.3 0.0**
BBS Basel-Blauen 83.91 317 *e*P P 15 06 28.5 -0.9
BBS Basel-Blauen 83.91 317⇑ *e*P P 15 06 29.3 -0.1
SAOF Saorge 83.97 314 *e*P P 15 06 30.0 +0.2
WLS Welschbruch 83.99 318 *e*P P 15 06 29.8 0.0
CDF Champ du Feu 84.04 318⇑ *i*P P 15 06 29.6 -0.4
comp=Z,50nm,0.7s,mb5.5
CDF Champ du Feu 84.04 318⇑ *i*P P 15 06 29.6 -0.4
CDF pmax pmax
comp=Z,25nm,0.6s,mb5.5
ENR Entracque 84.06 314 P P **15 06 31.0 +0.8**
SBF Sospel 84.06 313⇑ *i*P P 15 06 30.5 +0.2
comp=Z,150nm,0.6s,mb6.0
SBF Sospel 84.06 313⇑ *i*P P 15 06 30.5 +0.2
SBF pmax pmax
comp=Z,75nm,0.6s,mb6.0
AUTN L'Aution 84.07 314 *e*P P 15 06 30.6 +0.3
REVF Revere 84.12 313 *e*P P 15 06 30.0 -0.5
ECH Echery 84.13 318 *e*P P 15 06 30.9 +0.4
STV Sta Anna Valdi 84.13 314 P P **15 06 30.1 -0.5**
RSP Reno Superiore 84.15 315 P P **15 06 30.0 -0.7**
RUP Ruppelstein 84.15 319 *e*P P 15 06 30.9 +0.4
RUP Ruppelstein 84.15 319⇑ *e*P P 15 06 31.0 +0.5
MOF Molkenrain 84.15 317 *e*P P 15 06 31.1 +0.5
BHB Bricherasio 84.16 314 P P **15 06 29.2 -1.5**
TOUF Mont Tournerai 84.19 314 *e*P P 15 06 31.5 +0.6
LSD Ceresole Reale 84.21 315 P P **15 06 31.6 +0.6**
WTSB Winterswijk 84.26 322 *e*P P 15 06 31.3 +0.3
comp=Z,95nm,1.7s,mb5.7
MVIF Mont Vial 84.27 313 *e*P P 15 06 31.5 +0.2
PZZ Prazzo 84.28 314 P P **15 06 30.1 -1.2**
BLS5 Blasjo 84.29 329 *e*P P 15 06 32.7 +1.7
comp=Z,52nm,2.5s,mb5.2
BLS5 Blasjo 84.29 329 *e*P P 15 06 32.7 +1.7
BLS5 AMb AMB 15 06 41.9
comp=Z,52nm,2.5s,mb5.2
FENE Fenestrelle 84.29 315 P P **15 06 31.3 -0.1**
WIT Witteveen 84.31 322 *ex* x 15 06 32.1
LOMF Lomont 84.38 317 *e*P P 15 06 31.5 -0.2
CALN Calern 84.46 313 *e*P P 15 06 32.8 +0.5
SURF Saint Ours 84.49 314 *e*P P 15 06 33.2 +0.8
RRL Cesana Torines 84.49 315 P P **15 06 32.3 -0.1**
LPG La Plagne 84.50 315⇑ *i*P P 15 06 32.8 +0.4
comp=Z,148nm,0.8s,mb5.9
LPG La Plagne 84.50 315⇑ *i*P P 15 06 32.8 +0.4
LPG pmax pmax
comp=Z,74nm,0.8s,mb5.9
MBDF Montbardon 84.51 314⇑ *i*P P 15 06 32.2 -0.3
comp=Z,66nm,0.6s,mb5.6
MBDF Montbardon 84.51 314⇑ *i*P P 15 06 32.2 -0.3
MBDF pmax pmax
comp=Z,33nm,0.6s,mb5.6
OG01 Vacheresse 84.51 316 *e*P P 15 06 31.0 -1.4
BNI Bardonecchia 84.56 315 P P **15 06 31.9 -0.8**
BNI pmax pmax
comp=Z,58nm,0.8s,mb5.8
BNI Bardonecchia 84.56 315 *e*P P 15 06 31.8 -0.9
comp=Z,58nm,0.8s,mb5.8
HAU Haudompre 84.68 318⇑ *i*P P 15 06 32.9 -0.3
comp=Z,154nm,0.6s,mb6.0
HAU *e*R
comp=Z,2µm,22.5s
HAU Haudompre 84.68 318⇑ *i*P P 15 06 32.9 -0.3
HAU pmax pmax
comp=Z,77nm,0.6s,mb6.0
HAU MLR MLR
comp=Z,2µm,22.5s,MS5.4
WLF Walferdange 84.74 319 P P **15 06 34.5 +1.0**
WLF pmax pmax
comp=Z,32nm,0.7s,mb5.6
WLF Walferdange 84.74 319 *e*P P 15 06 34.1 +0.6
comp=Z,32nm,0.7s,mb5.6
KIWB Kanaga Island 84.78 39 *e*P P 15 06 33.0 -0.6
HGN Heimansgroeve 84.84 320 *e*P P 15 06 36.6 +2.6
comp=Z,24nm,1.6s,mb5.1
HGN Heimansgroeve 84.84 320 *e*S ScS 15 17 12.6 +6.0
THEF They Montfort 84.91 318 *e*P P 15 06 34.3 -0.1
GDM Grand'Maison 84.95 315 *e*P P 15 06 35.0 +0.3
OG25 Le Caire 85.03 314 *e*P P 15 06 34.5 -0.5
TAVF Tavernes 85.07 313 *e*P P 15 06 36.3 +1.0
GRN Grenoble 85.22 315 *e*P P 15 06 36.5 +0.5
VILF Villemus 85.31 313 *e*P P 15 06 37.4 +0.9
PUYF Puyloubier 85.34 313 *e*P P 15 06 37.4 +0.8
BERF Bertagne 85.36 313 *e*P P 15 06 37.1 +0.4
OG05 Jujurieux 85.38 316 *e*P P 15 06 37.1 +0.4
OG05 Jujurieux 85.38 316 *e*P P 15 06 38.5 +1.8
TREF Trevaresse 85.56 313 *e*P P 15 06 38.7 +1.0
OCF Saint Nazaire 85.56 314 *e*P P 15 06 38.6 +0.9
OG26 St.-Nazaire-De 85.56 314 *e*P P 15 06 38.6 +0.9
PRAF Pradon 85.71 313 *e*P P 15 06 39.3 +0.9
MIDW Midway 85.89 62 PFAKE 15 06 50.0 +10
MIDW LR LR
comp=Z,4µm,22.0s,MS5.8
BAIF Baives 85.98 320⇑ *i*P P 15 06 39.8 +0.2
comp=Z,117nm,0.8s,mb5.8
BAIF Baives 85.98 320⇑ *i*P P 15 06 39.8 +0.2
BAIF pmax pmax
comp=Z,58nm,0.8s,mb5.9
SSF Saint Saulge 86.65 317⇑ *i*P P 15 06 42.9 -0.1
SSF pmax pmax
comp=Z,28nm,0.8s,mb5.5
SSF Saint Saulge 86.65 317⇑ *i*P P 15 06 42.9 -0.1
comp=Z,28nm,0.8s,mb5.5
PLDF La Plantade 86.66 316 *e*P P 15 06 44.6 +1.6
LBL Lubilhac 86.98 315 *e*P P 15 06 46.3 +1.7
AGO Saint Agoulin 86.99 316 *e*P P 15 06 46.1 +1.5
BGF Bois d'Agland 87.15 316⇑ *i*P P 15 06 45.7 +0.3
comp=Z,130nm,0.9s,mb5.9
BGF Bois d'Agland 87.15 316⇑ *i*P P 15 06 45.7 +0.3
BGF pmax pmax
comp=Z,65nm,0.9s,mb5.9
MENF Mencas 87.25 320 *e*P P 15 06 46.4 +0.6
VERF Verneugheol 87.47 316 *e*P P 15 06 47.7 +0.8
EJON La Jonquera 87.47 312 P P **15 06 47.5 +0.5**
comp=Z,18nm,1.0s,mb5.3
LRDF Laroque-de-Fa 87.68 313 *e*P P 15 06 48.8 +0.7
FILF Fillols 87.70 312 *e*P P 15 06 48.9 +0.7
VALF Valcebollere 88.12 312 *e*P P 15 06 51.4 +1.3
RJF Les Rejaudoux 88.19 315⇑ *i*P P 15 06 51.0 +0.6
comp=Z,57nm,0.8s,mb5.6
RJF *e*R
comp=Z,2µm,22.2s
RJF Les Rejaudoux 88.19 315⇑ *i*P P 15 06 51.0 +0.6
RJF pmax pmax
comp=Z,28nm,0.8s,mb5.5
RJF MLR MLR
comp=Z,2µm,22.3s,MS5.4
LMK Market Rasen 88.47 323 *e*P P 15 06 52.5 +0.9
EMIR Miracle 88.53 312 P P **15 06 52.6 +0.5**
comp=Z,71nm,0.8s,mb6.0
EPOB Poblet 88.92 311 P P **15 06 55.1 +1.1**
comp=Z,37nm,0.7s,mb5.8
LCP Cassop 88.97 325⇑ *e*P P 15 06 54.6 +0.7
EIBI Ibiza 88.97 309 P P **15 06 55.6 +1.3**
comp=Z,58nm,1.2s,mb5.8
FLN La Foliniere 89.15 319⇑ *i*P P 15 06 55.1 +0.2
comp=Z,145nm,0.9s,mb6.0
FLN *e*R
comp=Z,2µm,22.2s
FLN La Foliniere 89.15 319⇑ *i*P P 15 06 55.1 +0.2
FLN pmax pmax
comp=Z,72nm,0.9s,mb6.0
FLN MLR MLR
comp=Z,2µm,22.3s,MS5.5
HPK Haverah Park 89.17 324⇑ *e*P P 15 06 55.6 +0.8
KBI1 Birley Grange 89.21 323⇑ *e*P P 15 06 53.4 -1.7
LHO Holmfirth 89.36 324⇑ *e*P P 15 06 56.1 +0.3
EGRA Graus 89.39 312 P P **15 06 57.5 +1.3**
comp=Z,17nm,0.6s,mb5.6
EBR Ebro Roquetas 89.42 311 *e*PCP PcP 15 06 57.6 -0.5
KWE Weaver Farm 89.43 323⇑ *e*P P 15 06 54.8 -1.3
ESY Stoneypath 89.44 326 *e*P P 15 06 56.6 +0.5
ESY AMb AMB 15 07 06.8
comp=Z,102nm,1.9s,mb5.8
EBIE Bielsa 89.46 313 P P **15 06 58.0 +1.4**
comp=Z,26nm,0.8s,mb5.6
ERTA Horta de San J 89.53 311 P P **15 06 57.8 +0.9**
comp=Z,84nm,1.5s,mb5.8
VIEF Viey 89.53 313 *e*P P 15 06 58.6 +1.8
EDI Edinburgh 89.76 326 *e*P P 15 06 57.5 -0.1
EDI AMb AMB 15 07 01.3
comp=Z,143nm,1.5s,mb6.1
DAG Danmarks Havn 89.87 348⇑ *i*P P 15 06 57.3 -0.4
DAG pmax pmax
comp=Z,3.0nm,0.5s,mb4.9
DAG Danmarks Havn 89.87 348⇑ *i*P P 15 06 57.3 -0.4
comp=Z,2.8nm,0.5s,mb4.8
ESK Eskdalemuir 89.87 325 *e*P P 15 06 58.5 +0.4
ESK AMb AMB 15 07 07.2
comp=Z,106nm,1.6s,mb5.9
ETSF Etsaut 89.95 313⇑ *i*P P 15 07 00.6 +1.8
comp=Z,60nm,0.8s,mb5.7
ETSF Etsaut 89.95 313⇑ *i*P P 15 07 00.6 +1.8
ETSF pmax pmax
comp=Z,30nm,0.8s,mb5.7
ESAC San Caprasio 90.03 312 P P **15 07 00.9 +1.7**
comp=Z,79nm,0.9s,mb6.0
EMOS Mosqueruela 90.21 310 P P **15 07 02.0 +1.9**
comp=Z,130nm,1.3s,mb6.1
EBEN Beniarda 90.23 309 P P **15 07 00.6 +0.4**
comp=Z,39nm,1.1s,mb5.7
LARF Larrau 90.24 313 *e*P P 15 07 01.3 +1.1
EAB Aberfoyle 90.35 326 *e*P P 15 07 00.8 +0.4
EAB AMb AMB 15 07 08.0
comp=Z,117nm,1.9s,mb5.9
VNDA Vanda 90.53 168 P P **15 07 02.6 +1.8**
VNDA pmax pmax
comp=Z,9.0nm,0.9s
VNDA Vanda 90.53 168 *e*P P 15 07 01.1 +0.3
comp=Z,9.3nm,0.9s,mb5.1
VNDA LR LR
comp=Z,4µm,20.0s,MS5.8
EALK Alkurruntz 90.60 313 P P **15 07 02.8 +1.0**
comp=Z,63nm,1.4s,mb5.8
CART Cartagena 90.98 308 *e*P P 15 07 04.1 +0.3
comp=Z,17nm,0.8s,mb5.4
EMUR La Murta 91.13 308 P P **15 07 06.9 +2.4**
comp=Z,37nm,1.3s,mb5.5
SBA Scott Base 91.64 168 *e*P P 15 07 05.6 -0.3
SBA MLR MLR
comp=Z,2µm,19.0s,MS5.7
ELAN Lanestosa 91.99 314 P P **15 07 09.4 +1.1**
comp=Z,46nm,0.9s,mb5.8
EVIA Vianos 92.00 309 P P **15 07 10.6 +2.1**
EVIA pmax pmax
comp=Z,11nm,0.8s,mb5.2
EVIA Vianos 92.00 309 P P **15 07 10.6 +2.1**
comp=Z,11nm,0.8s,mb5.2
DLF Lyons Farm 92.16 324 *e*P P 15 07 05.0 -3.8
EBER Berja 92.57 307 P P **15 07 11.1 0.0**
comp=Z,71nm,1.5s,mb5.9
EQES Quesada 92.57 308 P P **15 07 12.8 +1.7**
comp=Z,23nm,1.0s,mb5.6
DCN Croghan 92.59 324 *e*P P 15 07 08.0 -2.8
NVL N'lazarevskaya 92.67 199⇑ *e*P pP 15 07 20.0 -4.1
NVL *e*S S 15 18 17.0 +7.7
NVL *e* 15 19 23.0
NVL pmax pmax
comp=Z,331nm,4.8s
NVL MLR MLR
comp=Z,3µm,15.0s,MS5.8
GUD Guadarrama 92.94 311 P P **15 07 14.2 +1.5**
GUD pmax pmax
comp=Z,18nm,0.8s,mb5.5
GUD Guadarrama 92.94 311 P P **15 07 14.2 +1.4**
comp=Z,18nm,0.8s,mb5.6
ESDC Sonseca Array 92.96 310 P P **15 07 13.6 +0.8**
comp=Z,4.8nm,0.6s,mb5.1
ESLA Sonseca Array 92.96 310⇑ *e*P P 15 07 13.5 +0.6
ESLA LR LR
comp=Z,10µm,19.0s,MS6.3
EARI Arriondas 93.25 314 P P **15 07 14.1 +0.1**
comp=Z,59nm,1.5s,mb5.8
EADA Adamuz 93.69 309 P P **15 07 15.8 -0.3**
comp=Z,33nm,1.4s,mb5.6
IMA Indian Mountai 93.74 22 *e*P P 15 07 17.0 +1.3

AFI	**Afiamalu**	**94.99**	**103**	PFAKE			15 07 30.0	+7.4
AFI				LR	LR			
comp=Z,1μm,22.0s,MS5.3								
QSPA	**South Pole Qui**	**95.38**	**180**	*e*P	**P**		**15 07 25.1**	**+2.1**
QSPA	comp=Z,7.7nm,0.9s,mb5.1			LR	LR			
comp=Z,8μm,20.0s,MS6.2								
RSO	**Redoubt South**	**96.27**	**27**	*e*P	**P**		**15 07 27.0**	**-0.3**
COLA	**College**	**96.45**	**22**	P	**P**		**15 07 30.4**	**+2.3**
COLA				*e*	pP		15 07 40.9	-0.4
COLA				pmax	pmax			
comp=Z,6.0nm,0.7s,mb5.1								
COLA	**College**	**96.45**	**22**	*e*P	**P**		**15 07 28.0**	**-0.1**
COLA	comp=Z,5.7nm,0.7s,mb5.1			LR	LR			
comp=Z,4μm,21.0s,MS5.9								
KDAK	**Kodiak Island**	**97.39**	**30**	PFAKE			15 07 40.0	+7.5
KDAK				LR	LR			
comp=Z,1μm,21.0s,MS5.3								
SLKM	**Skilak Lake**	**97.40**	**27**	*e*P	**P**		**15 07 32.8**	**+0.3**
SLKM	**Skilak Lake**	**97.40**	**27**	*e*P	**P**		**15 07 32.4**	**-0.1**
SNAA	**Sanae**	**97.44**	**198**	⇑*i*	pP		15 07 46.6	+0.8
SNAA	**Sanae**	**97.44**	**198**	*e*P	**P**		**15 07 38.7**	**+6.3**
DBIC	**Dimbokro**	**98.53**	**278**	*e*P	**P**		**15 07 39.0**	**+0.3**
DBIC				pmax	pmax			
comp=Z,7.0nm,0.8s								
DBIC				MLR	MLR			
comp=Z,3μm,22.0s								
DBIC	**Dimbokro**	**98.53**	**278**	*e*P	**P**		**15 07 39.0**	**+0.3**
DBIC	comp=Z,7.1nm,0.8s,mb5.2			LR	LR			
comp=Z,3μm,22.0s,MS5.7								
INK	**Inuvik**	**99.22**	**16**	P	**P**		**15 07 40.6**	**0.0**
INK				pmax	pmax			
comp=Z,32nm,1.1s								
INK	**Inuvik**	**99.22**	**16**	*e*P	**P**		**15 07 40.4**	**-0.2**
RES	**Resolute Bay**	**99.78**	**2**	P	**P**		**15 07 43.6**	**+0.6**
RES	comp=Z,32nm,1.1s,mb5.8			pmax	pmax			
comp=Z,17nm,0.7s,mb5.6								
RES	**Resolute Bay**	**99.78**	**2**	*e*Pdif	**P**		**15 07 43.4**	**+0.4**
DAWY	**Dawson**	**100.00**	**21**	*e*Pdif	P		15 07 44.3	+0.1
SIT	**Sitka**	**105.80**	**26**	PFAKE			15 12 30.0	
SIT				LR	LR			
comp=Z,4μm,20.0s,MS6.0								
TRIS	**Tristan da Cun**	**106.61**	**233**	PFAKE			15 12 40.0	
TRIS				LR	LR			
comp=Z,3μm,20.0s,MS5.8								
YKW3	**Yellowknife Ar**	**108.63**	**14**	*e*PKiKP			15 12 27.6	
FCC	**Fort Churchill**	**115.62**	**5**	PKIKP	PKPdf		15 12 41.1	+1.1
FCC	**Fort Churchill**	**115.62**	**5**	*e*PKiKP			15 12 40.4	
TBI	**Tubuai**	**116.12**	**113**	*e*PP	PP		15 13 46.4	-5.7
TBI				*e*PS	PS		15 23 34.3	+4.8
TBI				*e*LR	LR		15 48 12.0	
comp=Z,3μm,23.2s								
EDM	**Edmonton**	**117.01**	**18**	PKIKP	PKPdf		15 12 44.4	+1.6
EDM	**Edmonton**	**117.01**	**18**	*e*PKPdf	PKPdf		15 12 44.1	+1.2
OCWA	**Octopus Mounta**	**117.09**	**28**	PFAKE			15 13 00.0	+17
OCWA				LR	LR			
comp=Z,2μm,19.0s,MS5.8								
SCHQ	**Schefferville**	**117.92**	**348**	*e*PKPdf	PKPdf		15 12 45.5	+1.0
PMSA	**Palmer Station**	**118.84**	**190**	PFAKE			15 13 00.0	+14
PMSA				LR	LR			
comp=Z,3μm,20.0s,MS5.9								
WTV	**Waterville**	**119.04**	**26**	P	PKPdf		15 12 48.2	+1.3
EBG	**Ellensburg**	**119.37**	**27**	P	PKPdf		15 12 49.3	+1.7
COR	**Corvallis**	**119.77**	**30**	PFAKE			15 13 00.0	+12
COR				LR	LR			
comp=Z,505nm,21.0s,MS5.1								
NEW	**Newport**	**119.78**	**24**	PFAKE			15 13 00.0	+12
NEW				LR	LR			
comp=Z,1μm,21.0s,MS5.6								
VLL	**Laurance Lake**	**119.93**	**29**	P	PKPdf		15 12 51.0	+2.3
WRD	**Warden**	**120.08**	**26**	P	PKPdf		15 12 50.8	+1.8
REDWA	**Red Mountain**	**120.34**	**27**	P	PKPdf		15 12 51.8	+2.3
HUMO	**Hull Mountain**	**121.36**	**32**	*e*PKPdf	PKPdf		15 12 53.3	+1.8
HUMO				LR	LR			
comp=Z,2μm,19.0s,MS5.7								
YBH	**Yreka Blue Hor**	**122.10**	**32**	PFAKE			15 13 10.0	+17
YBH				LR	LR			
comp=Z,2μm,20.0s,MS5.7								
MSO	**Missoula**	**122.19**	**23**	*e*PKPdf	PKPdf		15 12 53.8	+0.7
MSO				LR	LR			
comp=Z,2μm,21.0s,MS5.8								
CHMT	**Chamberlain Mo**	**122.38**	**22**	*e*PKPdf	PKPdf		15 12 54.3	+0.8
BMO	**Blue Mountains**	**122.40**	**26**	PKIKP	PKPdf		15 12 54.3	+0.8
BMO	**Blue Mountains**	**122.40**	**26**	*e*PKPdf	PKPdf		15 12 53.9	+0.4
BMO				LR	LR			
comp=Z,2μm,21.0s,MS5.6								
LASM	**Arnica Sink**	**122.79**	**32**	P	PKPdf		15 12 56.6	+2.2
WDC	**Whiskeytown Da**	**123.00**	**33**	PFAKE			15 13 10.0	+15
WDC				LR	LR			
comp=Z,1μm,20.0s,MS5.6								
HRY	**Holter Researc**	**123.08**	**21**	*e*PKPdf	PKPdf		15 12 56.2	+1.4
LTIM	**Timbered Crate**	**123.14**	**32**	P	PKPdf		15 12 57.2	+2.1
MOD	**Modoc**	**123.23**	**31**	*e*PKPdf	PKPdf		15 12 57.0	+1.8
MOD				LR	LR			
comp=Z,2μm,20.0s,MS5.8								
LBCM	**Butte Creek Ri**	**123.46**	**32**	P	PKPdf		15 12 57.2	+1.5
WVOR	**Wild Horse Val**	**123.65**	**29**	*e*PKIKP	PKPdf		15 12 58.1	+2.1
WVOR				MLR	MLR			
comp=Z,2μm,20.0s,MS5.8								
HOPS	**Hopland**	**123.80**	**35**	*e*PKPdf	PKPdf		15 12 56.5	+0.1
HOPS				LR	LR			
comp=Z,2μm,19.0s,MS5.7								
DGMT	**Dagmar**	**123.87**	**15**	*e*PKPdf	PKPdf		15 12 58.1	+1.9
DGMT				LR	LR			
comp=Z,3μm,21.0s,MS5.9								
BOZ	**Bozeman (W)**	**124.06**	**22**	PKIKP	PKPdf		15 12 58.5	+1.8
BOZ	**Bozeman (W)**	**124.06**	**22**	*e*PKPdf	PKPdf		15 12 58.4	+1.7
BOZ				LR	LR			
comp=Z,3μm,20.0s,MS5.9								
HLID	**Hailey**	**124.69**	**25**	*e*PKPdf	PKPdf		15 12 59.9	+1.9
HLID				LR	LR			
comp=Z,3μm,21.0s,MS5.9								
LAO	**LASA Array**	**124.94**	**17**	*e*PKPdf	PKPdf		15 13 00.8	+2.4
LAO				LR	LR			
comp=Z,5μm,22.0s,MS6.1								
YMR	**Madison River**	**125.14**	**22**	*e*P	PKPdf		15 13 01.3	+2.5
YNR	**Norris Junctio**	**125.20**	**22**	*e*PKPdf	PKPdf		15 13 02.2	+3.3
YFT	**Old Faithful**	**125.37**	**22**	*e*P	PKPdf		15 13 02.9	+3.6
WCN	**Washoe City**	**125.41**	**32**	PKIKP	PKPdf		15 13 02.2	+2.7
WCN	**Washoe City**	**125.41**	**32**	*e*PKPdf	PKPdf		15 13 01.5	+2.0
LKWY	**Lake**	**125.44**	**22**	PKIKP	PKPdf		15 13 03.5	+4.1
LKWY	**Lake**	**125.44**	**22**	*e*PKPdf	PKPdf		15 13 02.4	+3.0
LKWY				LR	LR			
comp=Z,5μm,19.0s,MS6.2								
PQI	**Presque Isle**	**125.80**	**345**	PFAKE			15 13 10.0	+10
PQI				LR	LR			
comp=Z,10μm,21.0s,MS6.5								
IMW	**Indian Meadow**	**125.81**	**22**	*e*PKPdf	PKPdf		15 13 02.4	+2.2
BMN	**Battle Mountai**	**125.87**	**30**	PKIKP	PKPdf		15 13 03.0	+2.7
BMN	**Battle Mountai**	**125.87**	**30**	*e*PKPdf	PKPdf		15 13 02.8	+2.5
BMN				LR	LR			
comp=Z,1μm,20.0s,MS5.5								
CMB	**Columbia Colle**	**125.98**	**34**	PKIKP	PKPdf		15 13 02.9	+2.3
CMB	**Columbia Colle**	**125.98**	**34**	*e*PKPdf	PKPdf		15 13 02.7	+2.1
CMB				LR	LR			
comp=Z,1μm,22.0s,MS5.5								
MOOW	**Moose Ponds**	**126.00**	**22**	*e*PKPdf	PKPdf		15 13 02.2	+1.7
TPAW	**Teton Pass**	**126.15**	**23**	*e*PKPdf	PKPdf		15 13 02.8	+2.0
LOHW	**Long Hollow**	**126.17**	**22**	*e*PKPdf	PKPdf		15 13 02.6	+1.8
WUWY	**Wally Ulrich**	**126.18**	**23**	*e*PKPdf	PKPdf		15 13 02.9	+2.0
SNOW	**Snow King Moun**	**126.24**	**23**	*e*PKPdf	PKPdf		15 13 03.7	+2.7
SAO	**San Andreas Ge**	**126.27**	**36**	PFAKE			15 13 10.0	+8.8
SAO				LR	LR			
comp=Z,2μm,21.0s,MS5.6								
AHID	**Auburn Hatcher**	**126.70**	**23**	*e*PKPdf	PKPdf		15 13 03.8	+1.8
AHID				LR	LR			
comp=Z,2μm,20.0s,MS5.8								
HVU	**Hansel Valley**	**126.84**	**25**	PKIKP	PKPdf		15 13 04.3	+2.1
HVU	**Hansel Valley**	**126.84**	**25**	*e*PKPdf	PKPdf		15 13 03.8	+1.6
MNV	**Mina**	**126.90**	**32**	*e*PKIKP	PKPdf		15 13 04.7	+2.3
MNV				MLR	MLR			
comp=Z,2μm,21.0s,MS5.7								
BW06	**Boulder Array**	**127.29**	**22**	PFAKE			15 13 20.0	+17
BW06				LR	LR			
comp=Z,3μm,20.0s,MS5.9								
BGU	**Big Grassy Mou**	**127.43**	**26**	*e*PKPdf	PKPdf		15 13 06.2	+2.8
HWUT	**Hardware Ranch**	**127.49**	**24**	*e*PKPdf	PKPdf		15 13 04.8	+1.3
HWUT				LR	LR			
comp=Z,4μm,22.0s,MS6.1								
TPH	**Tonopah**	**127.65**	**32**	*e*PKIKP	PKPdf		15 13 07.0	+3.1
TPH				MLR	MLR			
comp=Z,2μm,22.0s,MS5.7								
TCUT	**Toone Canyon**	**127.96**	**25**	*e*PKPdf	PKPdf		15 13 06.8	+2.4
WVL	**Waterville**	**128.18**	**346**	PFAKE			15 13 20.0	+15
WVL				LR	LR			
comp=Z,9μm,22.0s,MS6.4								
JLU	**Jordanelle**	**128.37**	**25**	*e*PKPdf	PKPdf		15 13 07.0	+1.8
EFI	**East Falkland**	**128.59**	**202**	PFAKE			15 13 20.0	+15
EFI				LR	LR			
comp=Z,567nm,20.0s,MS5.2								
DAU	**Daniels Canyon**	**128.61**	**25**	PKIKP	PKPdf		15 13 08.0	+2.3
DAU	**Daniels Canyon**	**128.61**	**25**	*e*PKPdf	PKPdf		15 13 07.8	+2.1
NLU	**North Lily Min**	**128.64**	**26**	*e*PKPdf	PKPdf		15 13 07.5	+1.8
MPU	**Maple Canyon**	**128.78**	**26**	*e*PKPdf	PKPdf		15 13 06.7	+0.7
DAC	**Darwin (Calif)**	**128.79**	**33**	PFAKE			15 13 20.0	+14
DAC				LR	LR			
comp=Z,1μm,20.0s,MS5.6								
RWWY	**Rawlins**	**129.09**	**21**	*e*PKPdf	PKPdf		15 13 07.6	+1.1
MIV	**Mineville/With**	**129.50**	**349**	*e*PKPdf	PKPdf		15 13 09.4	+2.2
TMUT	**Trail Mountain**	**129.56**	**26**	*e*PKPdf	PKPdf		15 13 08.8	+1.3
NCB	**Newcomb**	**129.73**	**349**	*e*PKPdf	PKPdf		15 13 09.4	+1.7
NCB				LR	LR			
comp=Z,2μm,21.0s,MS5.8								
MVU	**Marysvale**	**129.76**	**27**	*e*PKPdf	PKPdf		15 13 10.5	+2.6
MVU				LR	LR			
comp=Z,2μm,22.0s,MS5.7								
MSU	**Marysvale**	**129.77**	**27**	PKIKP	PKPdf		15 13 10.9	+3.0
MSU	**Marysvale**	**129.77**	**27**	*e*PKPdf	PKPdf		15 13 10.3	+2.4
PHWY	**Pilot Hill**	**130.03**	**20**	*e*PKPdf	PKPdf		15 13 09.3	+1.0
RCBR	**Riachuelo**	**130.56**	**267**	PFAKE			15 13 20.0	+10
RCBR				LR	LR			
comp=Z,3μm,20.0s,MS5.9								
HRV	**Harvard--Oak R**	**130.58**	**346**	PFAKE			15 13 20.0	+11
HRV				LR	LR			
comp=Z,2μm,20.0s,MS5.7								
NEN	**Nelson**	**130.73**	**32**	*e*PKPdf	PKPdf		15 13 12.2	+2.3
LDFC	**Landfair**	**131.03**	**32**	*e*PKPdf	PKPdf		15 13 11.3	+0.9
PV10	**Paradox Valley**	**131.25**	**25**	*e*PKPdf	PKPdf		15 13 10.7	0.0
ISCO	**Idaho Springs**	**131.32**	**21**	PKIKP	PKPdf		15 13 12.5	+1.7
ISCO	**Idaho Springs**	**131.32**	**21**	*e*PKPdf	PKPdf		15 13 12.1	+1.3
ISCO				LR	LR			
comp=Z,2μm,20.0s,MS5.7								
PFO	**Pinyon Flat Ob**	**131.38**	**35**	PFAKE			15 13 20.0	+8.9
PFO				LR	LR			
comp=Z,670nm,22.0s,MS5.3								
GENY	**Geneseo**	**131.48**	**352**	*e*PKPdf	PKPdf		15 13 12.7	+1.7
JFWS	**Jewell Farm**	**131.66**	**5**	PFAKE			15 13 20.0	+8.6
JFWS				LR	LR			
comp=Z,2μm,21.0s,MS5.8								
BINY	**Binghamton**	**131.76**	**350**	*e*PKPdf	PKPdf		15 13 13.0	+1.4
BINY				LR	LR			
comp=Z,2μm,22.0s,MS5.8								
BAR	**Barrett**	**131.93**	**36**	*e*PKPdf	PKPdf		15 13 14.4	+2.2
ERPA	**Erie**	**132.37**	**354**	PFAKE			15 13 30.0	+17
ERPA				LR	LR			
comp=Z,3μm,22.0s,MS6.0								
AAM	**Ann Arbor**	**132.43**	**358**	PFAKE			15 13 30.0	+17
AAM				LR	LR			
comp=Z,781nm,22.0s,MS5.4								
PTCN	**Pitcairn Islan**	**133.14**	**119**	PFAKE			15 13 30.0	+15
PTCN				LR	LR			
comp=Z,2μm,19.0s,MS5.9								
SDCO	**Great Sand Dun**	**133.18**	**22**	*e*PKPdf	PKPdf		15 13 15.3	+0.9
SDCO				LR	LR			
comp=Z,2μm,19.0s,MS5.9								
SSPA	**Standing Stone**	**133.58**	**352**	*e*PKPdf	PKPdf		15 13 16.4	+1.3
SSPA				LR	LR			
comp=Z,518nm,22.0s,MS5.2								
CBKS	**Cedar Bluff**	**134.03**	**15**	PFAKE			15 13 30.0	+14
CBKS				LR	LR			
comp=Z,6.0nm,22.0s								
ACSO	**Alum Creek Sta**	**134.47**	**357**	PFAKE			15 13 30.0	+13
ACSO				LR	LR			
comp=Z,3μm,21.0s,MS6.0								
ANMO	**Albuquerque**	**135.25**	**25**	*e*PKIKP	PKPdf		15 13 22.4	+4.1
ANMO				MLR	MLR			
comp=Z,1332μm,21.0s								
TUC	**Tucson**	**135.44**	**31**	PKIKP	PKPdf		15 13 23.3	+4.6
TUC	**Tucson**	**135.44**	**31**	*e*PKPdf	PKPdf		15 13 20.6	+1.9
TUC				LR	LR			
comp=Z,1μm,21.0s,MS5.6								
LENM	**Lemitar**	**135.71**	**26**	*e*PKPdf	PKPdf		15 13 22.1	+2.9
LPM	**Los Pinos Moun**	**135.73**	**25**	*e*P	PKPdf		15 13 21.1	+1.9
BNM	**Barren Site**	**135.87**	**25**	*e*P	PKPdf		15 13 21.9	+2.5
CBN	**Corbin**	**135.89**	**351**	PFAKE			15 13 30.0	+11
CBN				LR	LR			
comp=Z,2μm,20.0s,MS5.8								
CCM	**Cathedral Cave**	**136.38**	**6**	PFAKE			15 13 30.0	+10
CCM				LR	LR			
comp=Z,421nm,19.0s,MS5.2								
WCI	**Wyandotte Cave**	**136.52**	**1**	PKIKP	PKPdf		15 13 22.0	+1.5
WCI	**Wyandotte Cave**	**136.52**	**1**	*e*P	PKPdf		15 13 21.4	+0.9
WCI				LR	LR			
comp=Z,383nm,21.0s,MS5.1								
FWV	**Forest Hill**	**136.94**	**354**	*e*PKPdf	PKPdf		15 13 22.6	+1.2
AMTX	**Amarillo**	**137.10**	**20**	PFAKE			15 13 30.0	+8.3
AMTX				LR	LR			
comp=Z,3μm,20.0s,MS6.0								
PWV	**Princeton**	**137.21**	**355**	*e*PKPdf	PKPdf		15 13 23.6	+1.8
BLA	**Blacksburg**	**137.27**	**354**	PFAKE			15 13 40.0	+18
BLA				LR	LR			
comp=Z,2μm,20.0s,MS5.9								
ELN	**Prospectdale**	**137.29**	**354**	*e*PKPdf	PKPdf		15 13 22.8	+0.8
BBSR	**BB Station**	**137.44**	**333**	PFAKE			15 13 40.0	+18
BBSR				LR	LR			
comp=Z,1μm,21.0s,MS5.6								
WMOK	**Wichita Mounta**	**138.12**	**16**	*e*PKHKP			15 13 12.7	
GDL2	**Guadalupe Moun**	**138.50**	**24**	*e*PKPpre			15 13 17.8	
GDL2				*e*PKPdf	PKPdf		15 13 25.8	+1.5
MNTX	**Cornudas Mount**	**138.50**	**26**	*e*PKPpre			15 13 17.3	
MNTX				*e*PKPdf	PKPdf		15 13 26.4	+2.0
MNTX				LR	LR			
comp=Z,2μm,20.0s,MS5.9								
WVT	**Waverly**	**138.57**	**3**	PKHKP			15 13 15.7	
WVT	**Waverly**	**138.57**	**3**	*e*PKPpre			15 13 15.2	
WVT				LR	LR			
comp=Z,3μm,21.0s,MS6.0								
CLNB	**Carlsbad**	**138.64**	**24**	*e*PKPdf	PKPdf		15 13 27.4	+2.8
CPCT	**Cooper Cave**	**139.29**	**359**	*e*PKPdf	PKPdf		15 13 25.0	-0.6
UALR	**University of**	**139.47**	**9**	PKPpre			15 13 18.7	
MIAR	**Mount Ida**	**139.50**	**10**	PKHKP			15 13 18.3	
MIAR	**Mount Ida**	**139.50**	**10**	*e*PKPpre			15 13 17.9	
MIAR				LR	LR			
comp=Z,3μm,20.0s,MS6.0								
OXF	**Oxford**	**140.08**	**5**	PFAKE			15 13 40.0	+13
OXF				LR	LR			
comp=Z,2μm,20.0s,MS5.9								
JSC	**Jenkinsville**	**140.26**	**354**	PKIKP	PKPdf		15 13 29.1	+1.7
JSC	**Jenkinsville**	**140.26**	**354**	*e*PKPdf	PKPdf		15 13 27.9	+0.5
TRQA	**Tornquist**	**141.09**	**210**	*e*PKPpre			15 13 24.6	
TRQA				LR	LR			
comp=Z,3μm,19.0s,MS6.1								
GOGA	**Godfrey**	**141.28**	**357**	*e*PKIKP	PKPdf		15 13 31.6	+2.2
GOGA	**Godfrey**	**141.28**	**357**	*e*PKPdf	PKPdf		15 13 31.0	+1.6
GOGA				LR	LR			
comp=Z,3μm,19.0s,MS6.1								
LTX	**Lajitas**	**141.28**	**26**	*e*PKIKP	PKPdf		15 13 29.6	+0.1
LTX				MLR	MLR			
comp=Z,2μm,22.0s,MS5.8								
NHSC	**New Hope**	**141.30**	**353**	PFAKE			15 13 40.0	+11
NHSC				LR	LR			
comp=Z,2μm,22.0s,MS5.9								
LRAL	**Lakeview Retre**	**141.69**	**2**	*e*PKPpre			15 13 26.3	
LRAL				LR	LR			
comp=Z,3μm,20.0s,MS6.1								
BAO	**Brasilia Array**	**141.74**	**252**	P	PKPdf		15 13 32.1	+1.5
JCT	**Junction City**	**141.76**	**20**	PFAKE			15 13 40.0	+10
JCT				LR	LR			
comp=Z,4μm,22.0s,MS6.1								
NATX	**Nacogdoches**	**141.99**	**13**	PKPpre			15 13 27.1	
NATX				LR	LR			
comp=Z,4μm,21.0s,MS6.2								
HKT	**Hockley**	**143.44**	**15**	PKIKP	PKPdf		15 13 42.4	+9.3
HKT	**Hockley**	**143.44**	**15**	*e*PKPdf	PKPdf		15 13 34.8	+1.7
HKT				LR	LR			
comp=Z,706nm,20.0s,MS5.4								
DWPF	**Disney**	**146.38**	**353**	*e*PKPdf	PKPdf		15 13 40.4	+2.1
DWPF				LR	LR			
comp=Z,659nm,20.0s,MS5.4								
DEG	**La Desirade**	**147.48**	**312**	*e*P	PKPdf		15 13 44.0	+3.6
BBL	**Barber's Block**	**148.28**	**311**	*e*P	PKPdf		15 13 46.8	+5.1
FDF	**Fort de France**	**148.53**	**310**⇑	*e*P	PKPdf		15 13 46.7	+4.6
BIM	**Bigot**	**148.60**	**309**⇑	*e*P	PKPdf		15 13 48.3	+6.1
FCH	**Farellones**	**148.83**	**205**	*e*P	PKPdf		15 13 55.0	+13
SJG	**San Juan**	**149.72**	**321**	PKP2	PKPab		15 13 49.9	-6.3
SJG	**San Juan**	**149.72**	**321**	*e*PKPdf	PKPdf		15 13 45.2	+1.3
SJG				LR	LR			
comp=Z,2μm,21.0s,MS5.9								
TLL	**Tololo Astrono**	**151.75**	**208**	*e*P	PKPdf		15 13 54.9	+8.2
TEIG	**Tepich**	**154.33**	**6**	*e*PKPdf	PKPdf		15 13 52.5	+2.0
TEIG				*e*PKPbc	PKPdf		15 14 00.4	+10
TEIG				LR	LR			
comp=Z,901nm,21.0s,MS5.6								
LVC	**Limon Verde**	**156.54**	**222**	*e*PKPdf	PKPdf		15 13 55.4	+2.0
LVC				LR	LR			
comp=Z,2μm,21.0s,MS6.0								
SDV	**Santo Domingo**	**159.37**	**314**	*e*PKPdf	PKPdf		15 13 58.7	+1.5
SDV				LR	LR			
comp=Z,2μm,22.0s,MS5.9								
LPAZ	**La Paz**	**159.78**	**236**	PKPdf	PKPdf		15 13 59.9	+2.3
LPAZ	**La Paz**	**159.78**	**236**	PKIKP	PKPdf		15 13 59.8	+2.3
LPAZ	**La Paz**	**159.78**	**236**	*e*PKPdf	PKPdf		15 13 59.5	+2.0
LPAZ				LR	LR			
comp=Z,3μm,22.0s,MS6.1								
OTAV	**Otavalo**	**170.89**	**308**	*e*PKPdf	PKPdf		15 14 09.4	+2.6
OTAV				LR	LR			
comp=Z,4μm,20.0s								
PAYG	**Puerto Ayora**	**173.32**	**45**	PFAKE			15 14 20.0	+12
PAYG				LR	LR			
comp=Z,3μm,22.0s								

*SOF **05** 15:24:09.7, 41.26N×22.40E, h12km, MD2.9*
*SKO **05** 15:24:10.5, 41.30N×22.38E, h18km, ML2.5*
*CSEM **05** 15:24:10.5±0.3, 41.31N×22.38E, h10km, ML2.5, Error ellipse: s-maj=8.9km s-min=4.8km az=169.0*

ISC 05 15:24:10.6±0.7, **41.34N**±0.05×**22.35E**±0.04, **h10**km, **n10,**
σ0§**98**/16, **3C, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.16**	**95**	⇑*i*Pg	**Pg**	**15 24 14.6**	**+0.3**
VAY				⇑*i*Sg	**Sg**	**15 24 17.4**	**+0.6**
KKB	**Krupnik**	**0.76**	**46**	Pg	**Pg**	**15 24 26.0**	**+0.1**
KKB				Sg	**Sg**	**15 24 36.0**	**-0.2**
BIA	**Bitola**	**0.84**	**248**	*i* Pg	**Pg**	**15 24 26.9**	**-0.5**
BIA				*i* Sg	**Sg**	**15 24 38.8**	**+0.1**
BIA				*i*		15 24 39.7	
SKO	**Skopje**	**0.93**	**313**	*i* Pg	**Pg**	**15 24 29.5**	**+0.2**
comp=Z,0.1nm,0.4s							
SKO				*i*		15 24 31.4	
SKO				Lg		15 24 50.0	
comp=Z,0.1nm,0.4s							
MMB	**Musomiste**	**1.06**	**76**	Pg	**Pg**	**15 24 30.5**	**-1.4**
MMB				Sg	**Sg**	**15 24 45.0**	**-1.2**
VTS	**Vitosha**	**1.41**	**27**	P	**Pn**	**15 24 38.0**	**+1.6**
VTS				Sg	**Sg**	**15 24 58.0**	**+0.4**
BARS	**Barje**	**1.53**	**345**	⇑*i*Pg	**Pg**	**15 24 39.5**	**-1.8**
RZN	**Rozhen**	**1.81**	**78**	P	**Pn**	**15 24 42.5**	**+0.3**
PGB	**Panagyurishte**	**1.82**	**48**	P	**Pn**	**15 24 45.0**	**+2.7**
PGB				Sg	**Sg**	**15 25 11.0**	**-0.2**
KDZ	**Kurdzhali**	**2.32**	**81**	*e*Sg	**Sg**	**15 25 23.0**	**-5.0**

*OTT **05** 15:32:42.5±0.1, 47.02N×66.57W, h5km, MN3.7/16*
OTT Miramichi region, New Brunswick Felt. 64km east from Plaster Rock, Nb Northern Appalachians Seismic Zone.
*NEIC **05** 15:32:42.0, 47.01N×66.57W, h5km, MN3.7(OTT), After OTT.*
NEIC Felt at Bathurst, Campbellton and Hayesville.

ISC 05 15:32:40.6±0.4, **46.99N**±0.02×**66.62W**±0.03, **h5**km, **n32,**
σ1§**55**/65, **New Brunswick**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQI	**Presque Isle**	**1.01**	**252**	*e*P	**Pb**	**15 33 02.7**	**+2.6**
PQI				*e*S	**Sb**	**15 33 15.7**	**+2.2**
LMN	**Caledonia Moun**	**1.70**	**131**	PN	**Pn**	**15 33 12.8**	**+1.7**
LMN				SG	**Sg**	**15 33 35.0**	**-2.1**
LMN				Trac		15 33 41.2	
comp=Z,194nm,0.2s							
GGN	**Saint George**	**1.88**	**185

ACCN	**Adirondack Com**	**6.14 237**	*e*Lg		15 35 49.9	
BRYW	**Bryant College**	**6.17 217**	*e*Pn	**Pn**	**15 34 12.3**	**-2.3**
PTN	**Potsdam (NY)**	**6.33 251**	*e*Lg		15 35 51.9	
DRLN	**Deer Lake**	**6.51 66**	PN	**Pn**	**15 34 17.5**	**-1.9**
DRLN			SN	**Sn**	**15 35 26.2**	**-8.7**
DRLN			LG		15 36 01.8	
DRLN			Trac		15 36 08.3	
	comp=Z,66nm,0.6s					
VLDQ	**Val d'Or**	**7.42 283**	PN	**Pn**	**15 34 31.6**	**-0.5**
VLDQ			SN	**Sn**	**15 35 55.4**	**-2.2**
VLDQ			LG		15 36 41.6	
VLDQ			Trac		15 36 52.1	
	comp=Z,75nm,1.0s					
SCHQ	**Schefferville**	**7.85 359**	PN	**Pn**	**15 34 34.5**	**-3.7**
SCHQ			SN	**Sn**	**15 35 58.4**	**-10**
SCHQ			LG		15 36 40.7	
SCHQ			Trac		15 36 51.5	
	comp=Z,28nm,0.7s					
LG4Q	**La Grande 4**	**8.18 327**	PN	**P**	**15 34 40.6**	**-2.2**
LG4Q			SN	**Sn**	**15 36 06.0**	**-11**
LG4Q			LG		15 36 53.8	
LG4Q			Trac		15 36 59.7	
	comp=Z,26nm,0.5s					

*CSEM **05** 15:49:26.9±0.1, 66.39N×17.58W, h8km, mb4.4/11, Error ellipse: s-maj=2.5km s-min=1.9km az=152.0*
*MOS **05** 15:49:27.7±1.1, 66.52N×17.28W, h13km, mb4.4/12, Error ellipse: s-maj=26.1km s-min=11.9km az=103.2*
*NEIC **05** 15:49:29.0±0.4, 66.33N×17.57W, h10km, mb4.3/14, Error ellipse: s-maj=10.9km s-min=7.4km az=40.0*

ISC 05 15:49:26.8±0.6, 66.46N±0.03×17.56W±0.07, h10km±4km, n83, σ0§92/87, mb4.3/16, 3D, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**0.20**	**296**	P	**Pg**	**15 49 31.6**	**+0.4**
IFLA	**Flatey**	**0.32**	**201**	P	**Pg**	**15 49 34.5**	**+1.1**
IBRE	**Brettingsstaoi**	**0.36**	**203**	P	**Pg**	**15 49 35.1**	**+0.8**
IHED	**Heoinshofoi**	**0.39**	**165**	P	**Pg**	**15 49 35.2**	**+0.4**
ILEI	**Leirhofn**	**0.43**	**96**	P	**Pg**	**15 49 35.6**	**-0.1**
IGRA	**Granastaoir**	**0.54**	**181**	P	**Pg**	**15 49 37.9**	**+0.1**
IHLA	**Hella**	**0.61**	**213**	P	**Pb**	**15 49 38.9**	**-0.3**
IGIL	**Gilhagi**	**0.62**	**127**	P	**Pb**	**15 49 38.8**	**-0.5**
ISIG	**Siglufjorour**	**0.64**	**240**	P	**Pb**	**15 49 38.7**	**-0.8**
IKVO	**Krokottuvotn**	**0.80**	**159**	P	**Pb**	**15 49 41.7**	**-0.6**
IKVO				S	**Sb**	**15 49 53.0**	**+0.2**
IREN	**Reynihlio**	**0.86**	**161**	P	**Pb**	**15 49 43.0**	**-0.3**
IREN				S	**Sb**	**15 49 54.5**	**-0.1**
IGRS	**Grimsstaoir**	**1.01**	**144**	P	**Pb**	**15 49 45.3**	**-0.6**
IGRS				S	**Sb**	**15 49 59.0**	**-0.1**
ISVA	**Svartarkot**	**1.13**	**173**	P	**Pb**	**15 49 47.3**	**-0.7**
ISVA				S	**Sb**	**15 50 02.7**	**+0.1**
IADA	**Aoalbol**	**1.66**	**149**	P	**Pn**	**15 49 55.8**	**-0.4**
IADA				S	**Sn**	**15 50 17.5**	**-0.2**
IHVA	**Hvannstoosfjol**	**1.66**	**154**	P	**Pn**	**15 49 55.6**	**-0.7**
IBRU	**Bruarjokull**	**1.75**	**159**	P	**Pn**	**15 49 57.1**	**-0.3**
IHVE	**Hveravellir**	**1.80**	**208**	P	**Pn**	**15 49 57.7**	**-0.5**
IHVE				S	**Sn**	**15 50 20.6**	**-0.6**
IVSH	**V-Sauoahnukur**	**1.82**	**154**	P	**Pn**	**15 49 58.3**	**-0.2**
ISKR	**Skrokkalda**	**1.94**	**191**	P	**Pn**	**15 49 59.8**	**-0.3**
IASB	**`sbjarnarst**	**2.32**	**224**	P	**Pn**	**15 50 05.2**	**-0.5**
IASB				S	**Sn**	**15 50 35.0**	**+0.5**
BORG	**Borgarnes**	**2.32**	**224**	*e*P	**Pn**	**15 50 05.1**	**-0.6**
BORG	**Borgarnes**	**2.32**	**224**	*e*P	**Pn**	**15 50 05.1**	**-0.6**
IVAT	**Vatnsfell**	**2.35**	**195**	P	**Pn**	**15 50 05.9**	**-0.2**
IGYG	**Gygjarholskot**	**2.45**	**208**	P	**Pn**	**15 50 07.3**	**-0.2**
IKAL	**Kalfafell**	**2.52**	**181**	P	**Pn**	**15 50 08.0**	**-0.5**
IFAG	**Fagurholsmyri**	**2.62**	**171**	P	**Pn**	**15 50 10.0**	**0.0**
IHAU	**Haukadalur**	**2.70**	**203**	P	**Pn**	**15 50 11.5**	**+0.5**
IHEI	**Heioarbar**	**2.74**	**216**	P	**Pn**	**15 50 10.7**	**-1.0**
ISAU	**Saurbar**	**2.75**	**207**	P	**Pn**	**15 50 11.4**	**-0.4**
IKUD	**Kuludalsa**	**2.80**	**222**	P	**Pn**	**15 50 11.9**	**-0.6**
IKRI	**Krysuvik**	**3.21**	**218**	P	**Pn**	**15 50 18.0**	**-0.4**
SCO	**Scoresbysund**	**4.36**	**340**	*i* P	**Pn**	**15 50 32.2**	**-2.4**
	98nm,0.7s						
DAG	**Danmarks Havn**	**10.38**	**359⇓**	*i*P	**P**	**15 52 00.1**	**+1.6**
	5.0nm,0.9s						
DAG	**Danmarks Havn**	**10.38**	**359⇓**	*e*P	**P**	**15 52 00.1**	**+1.6**
	0.6nm,0.9s						
TRO	**Tromso**	**13.86**	**60**	*e*P	**P**	**15 52 40.1**	**-5.1**
KTK1	**Kautokeino**	**15.46**	**62**	*e*P	**P**	**15 53 04.3**	**-1.8**
KAF	**Kangasniemi**	**19.20**	**82**	*e*p	**P**	**15 53 54.1**	**+1.2**
	6.4nm,0.7s						
KAF	**Kangasniemi**	**19.20**	**82**	*e*P	**P**	**15 53 54.1**	**+1.2**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s						
APA	**Apatity**	**19.48**	**63⇓**	*i*P	**P**	**15 53 54.0**	**-2.2**
APA				pmax	pmax		
	comp=Z,21nm,1.0s						
BAIF	**Baives**	**19.84**	**135**	*e*P	**P**	**15 54 01.7**	**+1.3**
GIVF	**Givet**	**19.98**	**134**	*e*P	**P**	**15 54 02.5**	**+0.6**
JOF	**Joensuu**	**20.75**	**77**	*e*p	**P**	**15 54 07.6**	**-2.1**
	comp=Z,22nm,0.8s						
CLL	**Collm**	**21.57**	**120**	*i* P		15 54 25.8	
CLL				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.1						
CLL	**Collm**	**21.57**	**120**	*i* P		15 54 25.8	
	comp=Z,6.0nm,0.7s						
CLL	**Collm**	**21.57**	**120**	*i* *SP		15 54 25.8	
MOX	**Moxa**	**21.65**	**123**	*i* P	**P**	**15 54 19.3**	**+0.3**
MOX	**Moxa**	**21.65**	**123**	*e*P	**P**	**15 54 19.3**	**+0.3**
MFF	**Saint Martin d**	**21.94**	**146**	*e*P	**P**	**15 54 22.7**	**+0.7**
BRG	**Berggiesshubel**	**22.26**	**119**	*e*P	**P**	**15 54 29.8**	**+4.7**
BRG				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.2						
BRG	**Berggiesshubel**	**22.26**	**119**	*e*P	**P**	**15 54 29.8**	**+4.7**
	comp=Z,13nm,1.4s,mb4.2						
BRG				*e*		15 54 43.4	
HAU	**Haudompre**	**22.31**	**134**	*e*P	**P**	**15 54 26.1**	**+0.5**
SSF	**Saint Saulge**	**22.39**	**140**	*e*P	**P**	**15 54 26.1**	**-0.3**
SSF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
SSF	**Saint Saulge**	**22.39**	**140**	*e*P	**P**	**15 54 26.1**	**-0.3**
	comp=Z,9.6nm,0.9s,mb4.2						
AVF	**Avril sur Loir**	**22.61**	**140**	*e*P	**P**	**15 54 28.3**	**-0.1**
	comp=Z,27nm,1.1s,mb4.3						
AVF	**Avril sur Loir**	**22.61**	**140**	*e*P	**P**	**15 54 28.3**	**-0.1**
AVF				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.3						
BGF	**Bois d'Agland**	**22.69**	**141**	*e*P	**P**	**15 54 28.6**	**-0.6**
	comp=Z,35nm,1.0s,mb4.4						
TCF	**Toulx Ste Croi**	**22.79**	**143**	*e*P	**P**	**15 54 32.9**	**+2.7**
SMF	**Signal de Mont**	**22.86**	**140**	*e*P	**P**	**15 54 31.6**	**+0.7**
	comp=Z,46nm,1.2s,mb4.5						
SMF	**Signal de Mont**	**22.86**	**140**	*e*P	**P**	**15 54 31.6**	**+0.7**
SMF				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.5						
RJF	**Les Rejaudoux**	**23.55**	**145**	*e*P	**P**	**15 54 38.5**	**+0.9**
	comp=Z,49nm,1.2s,mb4.5						
RJF	**Les Rejaudoux**	**23.55**	**145**	*e*P	**P**	**15 54 38.5**	**+0.9**
RJF				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.5						
KHC	**Kasperske Hory**	**23.60**	**122**	*e*P	**P**	**15 54 37.5**	**-0.6**
CAF	**Calviac**	**24.03**	**144**	*e*P	**P**	**15 54 43.4**	**+1.1**
	comp=Z,20nm,1.1s,mb4.2						
LPG	**La Plagne**	**24.71**	**136**	*e*P	**P**	**15 54 50.3**	**+1.4**
	comp=Z,19nm,1.3s,mb4.2						
LPG	**La Plagne**	**24.71**	**136**	*e*P	**P**	**15 54 50.3**	**+1.4**
LPG				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.2						
ORIF	**Oris-en-Rattie**	**25.00**	**138**	*e*P	**P**	**15 54 51.9**	**+0.2**
	comp=Z,22nm,1.2s,mb4.2						
ORIF	**Oris-en-Rattie**	**25.00**	**138**	*e*P	**P**	**15 54 51.9**	**+0.2**
ORIF				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.3						
RES	**Resolute Bay**	**25.01**	**322**	*e*P	**P**	**15 54 54.4**	**+2.9**
RES				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.9						
RES	**Resolute Bay**	**25.01**	**322**	*e*P	**P**	**15 54 54.4**	**+2.9**
	comp=Z,3.7nm,1.1s,mb3.8						
LASF	**Ste Croix**	**25.27**	**142**	*e*P	**P**	**15 54 56.4**	**+2.2**
	comp=Z,34nm,1.3s,mb4.4						
MBDF	**Montbardon**	**25.42**	**137**	*e*P	**P**	**15 54 56.1**	**+0.4**
	comp=Z,32nm,1.3s,mb4.4						
MBDF	**Montbardon**	**25.42**	**137**	*e*P	**P**	**15 54 56.1**	**+0.4**
MBDF				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.4						
AVE	**Averroes**	**33.74**	**165**	S	**S**	**16 01 33.5**	**+1.0**
ARU	**Arti**	**35.42**	**69**	*e*P	**P**	**15 56 22.4**	**-1.9**
CHKZ	**Chkalovo**	**41.96**	**63**	*e*P	**P**	**15 57 18.9**	**+0.2**
BOZ	**Bozeman (W)**	**50.75**	**295**	*e*P	**P**	**15 58 29.0**	**+0.7**
BOZ				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
BOZ	**Bozeman (W)**	**50.75**	**295**	*e*P	**P**	**15 58 29.0**	**+0.7**
	comp=Z,5.8nm,1.0s,mb4.5						
MOY	**Mondy**	**53.35**	**43**	*e*P	**P**	**15 58 49.0**	**+1.2**
BMO	**Blue Mountains**	**53.46**	**299**	*e*P	**P**	**15 58 48.6**	**-0.1**
	comp=Z,3.5nm,1.0s,mb4.2						
ZAK	**Zakamensk**	**55.14**	**42**	*e*P	**P**	**15 58 59.7**	**-1.2**
WMOK	**Wichita Mounta**	**55.25**	**278**	*e*P	**P**	**15 59 01.7**	**-0.3**
WMOK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
WMOK	**Wichita Mounta**	**55.25**	**278**	*e*P	**P**	**15 59 01.7**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.1						
PV10	**Paradox Valley**	**56.08**	**289**	*e*P	**P**	**15 59 09.2**	**+1.3**

CSEM 05 15:50:27.8, 66.49N×17.54W, h10km, ML4.3, After REY, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**0.20**	**286**	P	Pg	15 50 31.8	-0.3
IGRI				S	Sg	15 50 34.7	-0.2
IFLA	**Flatey**	**0.35**	**201**	P	Pg	15 50 34.7	-0.3
IFLA				S	Sg	15 50 39.9	0.0
IBRE	**Brettingsstaoi**	**0.40**	**202**	P	Pg	15 50 35.3	-0.6
IBRE				S	Sg	15 50 41.0	-0.3
IHED	**Heoinshofoi**	**0.42**	**167**	P	Pg	15 50 35.4	-1.0
IHED				S	Sg	15 50 41.2	-0.9
ILEI	**Leirhofn**	**0.43**	**101**	P	Pg	15 50 35.7	-0.9
ILEI				S	Sg	15 50 41.7	-0.7
IGRA	**Granastaoir**	**0.57**	**182**	P	Pg	15 50 38.1	-1.3
IGRA				S	Sg	15 50 45.6	-1.5
IGIL	**Gilhagi**	**0.63**	**130**	P	Pb	15 50 38.9	-1.6
IGIL				S	Sg	15 50 47.6	-1.5
IHLA	**Hella**	**0.65**	**213**	P	Pb	15 50 39.1	-1.6
IHLA				S	Sg	15 50 47.6	-1.9
ISIG	**Siglufjorour**	**0.66**	**238**	P	Pb	15 50 38.9	-2.1
ISIG				S	Sb	15 50 47.0	-3.0
IKVO	**Krokottuvotn**	**0.82**	**161**	P	Pb	15 50 42.0	-1.8
IKVO				S	Sb	15 50 53.2	-1.5
IREN	**Reynihlio**	**0.88**	**163**	P	Pb	15 50 43.0	-1.8
IREN				S	Sb	15 50 54.8	-1.6
IGRS	**Grimsstaoir**	**1.03**	**145**	P	Pb	15 50 45.5	-1.8
ISVA	**Svartarkot**	**1.16**	**174**	P	Pb	15 50 47.5	-2.1

CSEM 05 15:50:41.1, 66.49N×17.55W, h11km, ML3.8, After REY, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**0.19**	**286**	P	Pg	15 50 45.1	-0.3
IGRI				S	Sg	15 50 47.9	-0.3
IFLA	**Flatey**	**0.35**	**200**	P	Pg	15 50 47.9	-0.5
IFLA				S	Sg	15 50 53.2	-0.1
IBRE	**Brettingsstaoi**	**0.40**	**201**	P	Pg	15 50 48.6	-0.7
IBRE				S	Sg	15 50 54.3	-0.4
IHED	**Heoinshofoi**	**0.42**	**167**	P	Pg	15 50 48.8	-1.0
IHED				S	Sg	15 50 55.2	-0.4
ILEI	**Leirhofn**	**0.43**	**101**	P	Pg	15 50 49.2	-0.8
ILEI				S	Sg	15 50 55.3	-0.7
IGRA	**Granastaoir**	**0.58**	**181**	P	Pb	15 50 51.5	-1.2
IGRA				S	Sg	15 50 59.0	-1.6
IGIL	**Gilhagi**	**0.64**	**130**	P	Pb	15 50 52.3	-1.5
IGIL				S	Sb	15 51 01.0	-1.5
IHLA	**Hella**	**0.65**	**212**	P	Pb	15 50 52.4	-1.5
IHLA				S	Sb	15 51 01.1	-1.5
ISIG	**Siglufjorour**	**0.66**	**237**	P	Pb	15 50 52.3	-1.8
IKVO	**Krokottuvotn**	**0.83**	**160**	P	Pb	15 50 55.4	-1.6
IKVO				S	Sb	15 51 06.4	-1.5
IREN	**Reynihlio**	**0.89**	**162**	P	Pb	15 50 56.3	-1.8
IREN				S	Sb	15 51 08.2	-1.5
IGRS	**Grimsstaoir**	**1.04**	**145**	P	Pb	15 50 58.8	-1.8
ISVA	**Svartarkot**	**1.17**	**174**	P	Pb	15 51 00.9	-1.9
ISVA				S	Sb	15 51 16.1	-1.6

JMA 05 16:01:24.2±0.2, 44.06N×147.70E, h96km, M4.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.58**	**245**	P	P	16 01 51.5	-0.2
NEM2				*e*S	S	16 02 12.1	+0.1
JRA	**Rausu**	**1.86**	**267**	P	P	16 01 55.4	+0.1
JRA				*e*S	S	16 02 19.0	+0.7
JNK	**Nakash**	**2.21**	**259**	P	P	16 01 59.8	-0.2
JAK	**Akkeshi**	**2.43**	**245**	P	P	16 02 02.5	-0.5
JAK				*e*S	S	16 02 31.2	-0.7
JTKR	**Abashiri--Toko**	**2.74**	**269**	P	P	16 02 06.8	-0.5
JTKR				*e*S	S	16 02 38.2	-1.3
JAR	**Ashorobuto**	**2.95**	**256**	P	P	16 02 10.4	+0.2
JAR				*e*S	S	16 02 45.7	+0.9
JCH	**Churui**	**3.48**	**247**	P	P	16 02 16.5	-1.0
JCH				*e*S	S	16 02 56.4	-1.4
JKK2	**Kamakawa 2**	**3.58**	**269**	P	P	16 02 18.5	-0.3
JKK2				*e*S	S	16 03 00.5	+0.2
JSE	**Soyaes**	**3.77**	**286**	P	P	16 02 19.6	-1.8
JFR	**Furan**	**3.81**	**258**	P	P	16 02 21.9	-0.2
JFR				*e*S	S	16 03 05.5	-0.5
JNBK	**Urakawa-nobuka**	**4.03**	**246**	P	P	16 02 23.6	-1.4

*CSEM **05** 16:15:13.8±0.2, 38.47N×26.80W, h30km, ML2.5, Error ellipse: s-maj=32.8km s-min=4.4km az=37.0*
*PDA **05** 16:15:15.9±0.8, 38.33N×26.88W, MD2.6, ML2.5, Error ellipse: s-maj=4.4km s-min=1.0km az=47.0*

SVSA 05 16:15:15.9±0.8, 38.33N×26.88W, MD2.6, ML2.5, Error ellipse: s-maj=4.4km s-min=1.0km az=47.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIB2	**Ribeirinha**	**0.41**	**326**	*i* S	Sg	16 15 29.3	-0.3
	125nm,0.1s						
RIB2	**Ribeirinha**	**0.41**	**326**	*i* S	Sg	16 15 29.3	-0.3
	125nm,0.1s						
PFAV	**Pico das Favas**	**0.41**	**337**	*i* S	Sg	16 15 29.3	-0.3
	88nm,0.2s						
PFAV	**Pico das Favas**	**0.41**	**337**	*i* S	Sg	16 15 29.3	-0.3
	88nm,0.2s						
PSCM	**Serra do Cume**	**0.41**	**333**	*e*P	Pg	16 15 23.3	-0.9
PSCM				*e*S	Sg	16 15 29.0	-0.7
	292nm,0.3s						
PSCM	**Serra do Cume**	**0.41**	**333**	*e*P	Pg	16 15 23.3	-0.9
PSCM				*e*S	Sg	16 15 29.0	-0.7
	292nm,0.3s						
ADH	**Angra Heroismo**	**0.43**	**319**	*e*S	Sg	16 15 29.9	-0.2
PVNV	**Vila Nova**	**0.48**	**333**	*e*P	Pg	16 15 24.4	-1.1
PVNV				*i* S	Sg	16 15 31.2	-0.7
	73nm,0.2s						
PVNV	**Vila Nova**	**0.48**	**333**	*e*P	Pg	16 15 24.4	-1.1
PVNV				*i* S	Sg	16 15 31.2	-0.7
	73nm,0.2s						
PPAD	**Pico dos Padre**	**0.49**	**319**	*e*P	Pg	16 15 24.9	-0.8
PPAD				*i* S	Sg	16 15 31.8	-0.4
	110nm,0.1s						
PPAD	**Pico dos Padre**	**0.49**	**319**	*e*P	Pg	16 15 24.9	-0.8
PPAD				*i* S	Sg	16 15 31.8	-0.4
	110nm,0.1s						
PBIS	**Biscoitos**	**0.52**	**326**	*e*P	Pg	16 15 25.3	-1.0
PBIS				*i* S	Sg	16 15 32.2	-1.0
	38nm,0.1s						
PBIS	**Biscoitos**	**0.52**	**326**	*e*P	Pg	16 15 25.3	-1.0
PBIS				*i* S	Sg	16 15 32.2	-1.0
	38nm,0.1s						
ASBA	**Santa Barbara**	**0.52**	**318**	*e*P	Pg	16 15 25.7	-0.6
ASBA				*e*S	Sg	16 15 32.6	-0.7
	116nm,0.1s						
ASBA	**Santa Barbara**	**0.52**	**318**	*e*P	Pg	16 15 25.7	-0.6
ASBA				*e*S	Sg	16 15 32.6	-0.7
	116nm,0.1s						
PSBA	**Serra de Santa**	**0.56**	**321**	*e*P	Pg	16 15 25.8	-1.2
PSBA				*e*S	Sg	16 15 33.4	-1.1
	217nm,0.2s						
PSBA	**Serra de Santa**	**0.56**	**321**	*e*P	Pg	16 15 25.8	-1.2
PSBA				*e*S	Sg	16 15 33.4	-1.1
	217nm,0.2s						
PFET	**Feteiras**	**1.00**	**120**	*e*P	Pb	16 15 32.3	-3.5
PFET				*e*S	Sg	16 15 44.8	-4.5
PSAN	**Santo Antonio**	**1.03**	**117**	*e*S	Sg	16 15 45.5	-4.6
PGRA	**Graciosa**	**1.11**	**309**	*e*P	Pb	16 15 33.5	-4.2
PGRA				*e*S	Sb	16 15 47.2	-5.3
	68nm,0.3s						
PICO	**Pico**	**1.23**	**278**	*e*S	Sb	16 15 49.9	-6.0
LFA	**Lagoa do Fogo**	**1.23**	**116**	*e*S	Sb	16 15 50.3	-5.9
MESC	**Monte Escuro**	**1.25**	**115**	*e*S	Sb	16 15 50.8	-5.9
VIF	**Vila Franca**	**1.28**	**117**	*e*S	Sb	16 15 51.1	-6.3
MIRA	**Miradouro**	**1.38**	**113**	*e*P	Pb	16 15 37.6	-4.6
MIRA				*i* S	Sb	16 15 53.6	-6.6
PSMN	**Pico do Norte,**	**1.96**	**132**	*e*S	Sn	16 16 07.5	-8.8

*SKO **05** 16:24:39.3, 41.31N×22.39E, h18km, ML1.8*
*SOF **05** 16:24:40.2, 41.32N×22.46E, h2km, MD2.6*
*CSEM **05** 16:24:40.1±0.8, 41.34N×22.42E, h5km, MD2.6, Error ellipse: s-maj=17.9km s-min=9.9km az=17.0*

ISC 05 16:24:40.6±1.2, 41.35N±0.05×22.39E±0.07, h2km, n7, σ1§14/12, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.14**	**104⇑**	*i*Pg	**Pg**	**16 24 43.4**	**0.0**
VAY				*i*Sg	**Sg**	**16 24 46.2**	**+0.9**
KKB	**Krupnik**	**0.73**	**45**	Pg	**Pg**	**16 24 54.6**	**-0.6**
KKB				Sg	**Sg**	**16 25 06.0**	**+1.1**
SKO	**Skopje**	**0.94**	**311**	*e*Pg	**Pg**	**16 24 58.3**	**-1.1**
SKO				*i*		16 25 00.5	
SKO				Lg		16 25 19.0	
	comp=Z,0.0nm,0.4s						
MMB	**Musomiste**	**1.03**	**76**	Pg	**Pg**	**16 24 59.5**	**-1.7**
MMB				Sg	**Sg**	**16 25 13.0**	**-2.0**
VTS	**Vitosha**	**1.38**	**26**	P	**Pb**	**16 25 07.7**	**+0.9**
VTS				Sg	**Sg**	**16 25 27.0**	**+0.5**
RZN	**Rozhen**	**1.78**	**78**	P	**Pn**	**16 25 14.0**	**+1.4**
PGB	**Panagyurishte**	**1.78**	**47**	P	**Pn**	**16 25 14.0**	**+1.3**
PGB				Sg	**Sg**	**16 25 39.0**	**-1.0**

JMA 05 16:31:25.3, 37.38N×138.97E, h8km±1km, M3.5, 1C-5D Broadband fault plane solution: P waves. NP1: ϕ_s82°, δ60°, λ155°. **NP2:** ϕ_s185°, δ68°, λ32°. **Principal axes:** T Plg38°, Azm46°; N Plg52°, Azm216°; P Plg5°, Azm312°; **Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.14**	**164**	⇓P	Pg	16 31 28.2	-0.2
JHK				S	Sg	16 31 30.5	+0.1
JIZZ	**Izumozaki**	**0.26**	**306**	⇓P	Pg	16 31 31.0	+0.4
JIZZ				S	Sg	16 31 35.7	+1.5
JNS	**Sasagawa**	**0.52**	**32**	⇑P	Pg	16 31 35.1	-0.6
JNS				S	Sg	16 31 42.4	-0.3
JFY	**Yanaizu**	**0.59**	**87**	⇓P	Pg	16 31 36.7	-0.4
JFY				S	Sg	16 31 44.6	-0.4
JKT	**Katashina**	**0.65**	**160**	⇓P	Pg	16 31 37.5	-0.9
JKT				S	Sg	16 31 46.3	-0.8
JSD	**Sado**	**0.86**	**320**	P	Pb	16 31 40.6	-1.5
JSD				S	Sb	16 31 53.3	-0.3
JAG	**Ashikaga**	**1.03**	**158**	⇓P	Pb	16 31 44.6	-0.3
JAG				S	Sb	16 31 58.2	-0.2
MAT	**Matsushiro**	**1.03**	**216**	P	Pb	16 31 44.2	-0.8
MAT				S	Sb	16 31 57.4	-1.2
MAT	**Matsushiro**	**1.03**	**216**	P	Pb	16 31 43.9	-1.1
MAT				S	Sb	16 31 57.6	-1.0

*GUC **05** 16:32:04.0±0.9, 31.34S×71.75W, h23km±4km, ML4.8*
*NEIC **05** 16:32:04.0, 31.34S×71.75W, h23km, mb4.3/2, ML4.8(GUC), After GUC.*
NEIC Felt [IV] at Canela, Combarbala and Illapel; [III] at Salamanca; [II] at La Ligua, Los Vilos and Papudo.

ISC 05 16:32:02.4±1.5, 31.32S±0.03×71.82W±0.08, h10km±13km, n30, σ0§65/34, mb4.9/1, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.64**	**120⇑**	*i*P	**Pb**	**16 32 15.4**	**+0.2**
ILCH				*i* S	**Sb**	**16 32 23.1**	**-0.9**
ILCH				AMP		16 32 23.4	
	comp=E,137μm,0.1s						
CMCH	**Combarbala**	**0.72**	**78⇑**	*i*P	**Pb**	**16 32 17.0**	**+0.4**
CMCH				*i* S	**Sb**	**16 32 25.8**	**-0.5**
OVCH	**Ovalle**	**0.89**	**37**	*e*P	**Pb**	**16 32 19.8**	**+0.2**
OVCH				*i* S	**Sb**	**16 32 31.8**	**+0.6**
OVCH				AMP		16 32 32.6	
	comp=E,15μm,0.5s						
PACH	**Papudo**	**1.25**	**165**	*e*P	**Pb**	**16 32 25.6**	**-0.2**
TLL	**Tololo Astrono**	**1.45**	**38⇓**	*i*P	**Pn**	**16 32 29.4**	**+0.6**
TLL				*i* S	**Sb**	**16 32 47.9**	**+0.4**
TLL				AMP		16 32 55.2	
	comp=N,15μm,0.6s						
IHA	**Instituto Hidr**	**1.71**	**175**	*e*P	**Pn**	**16 32 32.2**	**-0.4**
JACH	**Jahuel**	**1.71**	**143**	*e*P	**Pn**	**16 32 32.8**	**+0.2**
ROCH	**El Roble**	**1.78**	**158⇑**	*i*P	**Pn**	**16 32 34.0**	**+0.4**
PEL	**Peldehue**	**2.06**	**152**	*e*P	**Pn**	**16 32 37.9**	**+0.3**
PEL				*i* S	**Sn**	**16 33 04.0**	**+0.5**
PEL				AMP		16 33 06.6	
	comp=N,15μm,0.6s						
DSCH	**Colegio Aleman**	**2.33**	**153**	*e*P	**P

GUIM	Jordan	2.46	203	eP	Pn	17 23 31.2 +0.7

*NEIC **05** 17:44:28.4, 31.55S×71.67W, h33km, ML2.8(GUC), After GUC.*

GUC 05 17:44:28.4±0.7, 31.55S×71.67W, h33km±6km, MD3.6, ML2.8, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	Illapel	0.43	101	⇑iP	P	17 44 37.7	-0.3
ILCH				i S	S	17 44 45.0	+0.3
ILCH				AMP		17 44 45.4	
	comp=E,1μm,0.1s						
CMCH	Combarbala	0.69	57	⇑iP	P	17 44 41.6	0.0
CMCH				i S	S	17 44 51.8	+0.6
CMCH				AMP		17 44 52.0	
	comp=N,1μm,0.1s						
JACH	Jahuel	1.45	141	i P	P	17 44 54.0	+1.5
JACH				i S	S	17 45 13.1	+2.5
TLL	Tololo Astrono	1.57	29	⇑iP	P	17 44 56.2	+1.9
TLL				i S	S	17 45 16.7	+3.1
TLL				AMP		17 45 24.2	
	comp=N,165nm,0.6s						
FCH	Farellones	2.12	147	⇓iP	P	17 45 03.2	+1.2
FCH				i S	S	17 45 30.6	+3.1
FCH				AMP		17 45 37.5	
	comp=E,73nm,0.3s						

*NIED **05** 17:47:00, 24.00N×122.40E, h29km, Mw4.1 Best double couple: M0 1.39×10^15 NP1:φs70°, δ83°, λ74°. NP2:φs315°, δ17°, λ154°.*
*JMA **05** 17:47:31.2±0.2, 24.05N×122.44E, h34km, M3.8*

TAP 05 17:47:28.5, 23.95N×122.43E, h4km±1km, ML4.3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.73	46	P	Pg	17 47 44.1	+0.9
YOJ				S	Sg	17 47 52.9	-0.1
IRIF	Iriomote-Funau	1.25	72	P	Pb	17 47 52.4	+0.1
IRIF				eS	Sb	17 48 08.4	-0.2
HATJ	Hateruma jima	1.26	85	P	Pb	17 47 52.7	+0.2
HATJ				S	Sb	17 48 09.2	+0.2
JKRS	Kuro-shima	1.47	78	P	Pn	17 47 55.9	0.0
JKRS				S	Sb	17 48 15.1	0.0
JIJ	Ishigaki jima	1.62	75	P	Pn	17 47 57.3	-0.7
JIJ				S	Sb	17 48 16.9	-2.4
JTJ	Tarama	2.18	71	P	Pn	17 48 05.4	-0.7
JTJ				eS	Sn	17 48 31.2	-2.8
JMJ	Miyako jima 2	2.75	71	S	Sn	17 48 46.6	-1.7
JOGS	Gusukube	2.83	73	eS	Sn	17 48 49.4	-1.0
JKE	Kume jima 2	4.60	58	P	Pn	17 48 38.6	-1.9
JKE				eS	Sn	17 49 31.4	-3.8
JOW	Kunigami	6.01	60	P	Pn	17 48 56.4	-4.1
JTK	Tokunoshima	7.00	56	P	Pn	17 49 09.4	-5.0
JAM	Amami Oshima	7.83	54	P	Pn	17 49 20.8	-5.1

*TAP **05** 18:00:11.3, 23.91N×122.46E, h12km±1km, ML2.6*

JMA 05 18:00:12.7±0.3, 24.04N×122.51E, h21km, M2.2, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.62	47	P	Pb	18 00 24.7	0.0
YOJ				S	Sb	18 00 33.0	0.0
IRIF	Iriomote-Funau	1.15	75	P	Pb	18 00 33.5	-0.3
IRIF				eS	Sb	18 00 48.1	-0.2
HATJ	Hateruma jima	1.18	89	P	Pn	18 00 33.8	-0.4
HATJ				S	Sb	18 00 50.3	+1.1
JKRS	Kuro-shima	1.38	82	P	Pn	18 00 37.3	+0.2
JKRS				S	Sn	18 00 55.8	+0.9
JIJ	Ishigaki jima	1.52	77	P	Pn	18 00 38.4	-0.7
JIJ				S	Sn	18 00 58.9	+0.4
JTJ	Tarama	2.09	73	P	Pn	18 00 48.1	+0.9

DJA 05 18:00:57.2±0.9, 5.70S×113.78E, h150km±26km, ML4.6/4, 3C-3D, Error ellipse: s-maj=25.5km s-min=15.9km az=136.0, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELI	Kelakatan	2.60	164	⇓ePn	P	18 01 39.7	-0.5
	189nm,0.2s						
KELI				eSn	S	18 02 11.3	-1.7
SRDI	Scrawed	2.79	173	⇑ePn	P	18 01 42.3	-0.2
SRDI				eSn	S	18 02 16.4	-0.8
RATI	Rata	3.47	150	⇓ePn	P	18 01 51.4	0.0
	189nm,0.2s						
KEDI	Kedomdong	3.61	140	⇑iPn	P	18 01 52.5	-0.7
KEDI				eSn	S	18 02 32.9	-3.3
TANI	Tanete Lipujan	6.02	68	⇑iPn	P	18 02 25.3	+0.3
	26nm,0.2s						
BUNI	Buntu Taipa	6.83	73	⇓ePn	P	18 02 38.0	+2.1
	74nm,0.2s						

*BJI **05** 18:12:54.0, 2.00N×125.70E, h11km, mB5.2, mb4.7, Ms4.4, Msz4.2*
*MOS **05** 18:12:54.5±1.6, 2.10N×125.93E, h33km, mb5.0/10, Error ellipse: s-maj=26.8km s-min=10.6km az=104.9*
*HRVD **05** 18:12:54.0±0.8, 2.10N×125.73E, h29km±2km, MW4.8/32, Centroid moment Tensor Solution. LP body waves: s9,c13;Mantle waves: s32,c44; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.94±.31; Mθθ-2.43±.18; Mφφ1.50±.27; Mrθ-0.51±.28; Mθφ0.94±.20; Mφr-0.15±.52; Best double couple: M0 2.249×10^16 NP1:φs147°, δ72°, λ172°. NP2:φs240°, δ83°, λ18°. Principal axes: T 1.795, Plg18°, Azm105°; N .913, Plg71°, Azm261°; P -2.702, Plg7°, Azm12°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 18:12:54.0±0.3, 2.05N×125.66E, h10km, mb5.0/22 Error ellipse: s-maj=15.4km s-min=6.5km az=81.0*
*DJA **05** 18:13:42.1±1.3, 0.67S×124.06E, h2km, mb6.0/3, Error ellipse: s-maj=34.7km s-min=11.3km az=48.0*

ISC 05 18:12:55.7±0.3, 2.05N±0.03×125.78E±0.07, h33km, n100, σ19 31/102, mb5.0/38, MS4.2/4, 7C-5D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	4.89	6	eP	P	18 14 09.5	+0.7
MATI				eS	S	18 15 11.5	+6.5
KCP	Kidapawan	4.97	352	⇑eP	P	18 14 13.7	+3.6
KCP				i S	S	18 15 12.5	+5.4
BUKP	Musuan	5.83	353	eP	P	18 14 25.1	+3.1
BIPH	Bislig	6.12	5	⇓iP	P	18 14 32.0	+5.9
BIPH				i S	S	18 15 40.3	+4.4
PAGZ	Pagadian	6.23	338	eP	P	18 14 28.9	+1.1
IPIL	Ipil	6.53	331	eP	P	18 14 33.2	+1.3
IPIL				eS	S	18 15 42.3	-3.9
PCI	Palu	6.62	244	eP	Px	18 14 49.5	
DCPH	Dipolog City	6.92	340	eP	P	18 14 36.8	-0.7
DCPH				eS	S	18 15 56.4	+0.5
TBP	Tagbilaran	7.83	346	eP	P	18 14 53.6	+3.6
BUNI	Buntu Taipa	7.87	224	eP	P	18 14 51.9	+1.4
MSLP	Maasin	8.08	354	eP	P	18 14 53.6	0.0
TANI	Tanete Lipujan	8.40	230	eP	P	18 15 03.7	+5.7
NINI	Niniconang	8.80	223	eP	P	18 15 06.8	+3.2
	706nm,0.6s						
GUIM	Jordan	9.09	340	eP	P	18 15 11.3	+3.8
CUYO	Cuyo Island	9.94	332	eP	P	18 15 22.0	+2.6
BATP	Bataraza	10.39	310	eP	P	18 15 33.8	+8.2
ENPP	El Nido	11.07	326	eP	P	18 15 35.1	+0.3
KUG	Kupang	12.31	190	eP	P	18 16 02.0	+10
KEDI	Kedomdong	14.23	223	eP	P	18 16 25.0	+7.9
	166nm,0.9s						
RATI	Rata	14.79	224	eP	Px	18 16 41.0	
KELI	Kelakatan	15.19	228	eP	P	18 16 39.9	+10
SRDI	Scrawed	15.62	228	eP	Px	18 16 46.4	
	144nm,1.0s						
KAKA	Kakadu	16.09	156	eP	P	18 16 38.9	-2.3
	74nm,0.5s						
FITZ	Fitzroy Crossi	20.02	180	⇑iP	P	18 17 27.4	-1.3
	43nm,0.6s						
FITZ				eS	S	18 21 06.9	-0.1
WRAB	Tennant Creek	23.41	159	⇓iP	P	18 18 01.7	-1.1
WRAB	Tennant Creek	23.41	159	eP	P	18 18 02.5	-0.4
	205nm,0.8s,mb5.6						
WB2	Warramunga Arr	23.42	159	⇑iP	P	18 18 03.0	+0.1
WB2				eS	S	18 22 12.3	+2.0
MBWA	Marble Bar	23.81	194	eP	P	18 18 06.6	-0.1
	25nm,0.6s,mb4.8						
SSE	Sheshan	29.21	352	eP	P	18 18 56.4	-0.3
SSE				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,117nm,4.0s						
SSE				LR	LR		
	comp=N,61nm,22.7s,MS3.6						
SSE				LR	LR		
	comp=E,143nm,22.6s,MS3.6						
SSE				LR	LR		
	comp=Z,196nm,22.6s,MS3.7						
CTA	Charters Tower	29.79	139	eP	P	18 19 02.4	+0.5
	comp=Z,14nm,1.0s,mb4.7						
CTAO	Charters Tower	29.79	139	eP	P	18 19 01.9	0.0
	comp=Z,24nm,0.9s,mb4.9						
NJ2	Nanjing	30.55	348	eP	P	18 19 12.8	+4.3
NJ2				LR	LR		
	comp=N,2μm,20.9s						
NJ2				LR	LR		
	comp=E,680nm,14.2s						
NJ2				LR	LR		
	comp=Z,1μm,18.0s,MS4.6						
CMAR	Chiang Mai Arr	30.95	304	i P	P	18 19 14.4	+2.2
CMAR				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ENH	Enshi	32.04	333	eP	P	18 19 20.4	-1.4
	comp=Z,8.1nm,0.8s,mb4.6						
KLBR	Kellerberrin	34.31	192	eP	P	18 19 40.8	-0.6
	comp=Z,28nm,0.6s,mb5.4						
MUN	Mundaring	35.04	194	eP	P	18 19 47.7	+0.1
	comp=Z,11nm,0.5s,mb5.0						
NWAO	Narrogin (SRO)	35.71	192	eP	P	18 19 54.0	+0.7
	comp=Z,40nm,1.2s,mb5.2						
MAJO	Matsushiro	36.20	17	eP	P	18 19 56.0	-1.4
	comp=Z,14nm,0.9s,mb4.9						
MAT	Matsushiro	36.20	17	eP	P	18 19 57.0	-0.3
MAT	Matsushiro	36.20	17	P	P	18 19 56.8	-0.5
STKA	Stephens Creek	36.93	157	⇑iP	P	18 20 04.0	+0.4
	comp=Z,84nm,0.8s,mb5.6						
STKA				eS	S	18 25 45.8	-0.1
ADE	Adelaide	38.77	163	eP	P	18 20 20.1	+1.2
BJT	Baijiatuau	38.79	348	P	P	18 20 19.5	+0.5
LZH	Lanzhou	39.49	332	eP	P	18 20 23.9	-1.0
LZH				AP	pP	18 20 33.8	-0.9
LZH				XP	sP	18 20 38.1	-0.8
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.8						
LZH				LR	LR		
	comp=N,256nm,15.0s						
LZH				LR	LR		
	comp=Z,432nm,17.6s,MS4.3						
SNY	Shenyang	39.65	357	⇓iP	P	18 20 31.6	+5.5
SNY				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.4						
SNY				LR	LR		
	comp=E,340nm,16.7s						
SNY				LR	LR		
	comp=Z,240nm,17.2s,MS4.1						
MDJ	Mudanjiang	42.52	4	eP	P	18 20 50.2	+0.4
	comp=Z,8.7nm,0.8s,mb4.5						
LSA	Lhasa	42.86	313	P	P	18 20 54.0	+1.2
LSA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
LSA	Lhasa	42.86	313	eP	P	18 20 54.2	+1.4
	comp=Z,8.8nm,0.6s,mb4.7						
CNB	Canberra Magne	43.23	151	⇑iP	P	18 20 57.1	+1.3
	comp=Z,30nm,0.9s,mb5.0						
JIRN	Jiri	45.61	308	eP	P	18 21 14.7	-0.3
	comp=Z,23nm,0.8s,mb5.1						
GUN	Gumba	45.97	308	eP	P	18 21 17.9	+0.1
	comp=Z,29nm,0.7s,mb5.3						
KKN	Kakani	46.39	307	eP	P	18 21 20.6	-0.5
	comp=Z,13nm,0.8s,mb4.9						
DMN	Daman	46.45	307	eP	P	18 21 21.1	-0.5
	comp=Z,31nm,1.1s,mb5.1						
GKN	Gorkha	46.99	307	eP	P	18 21 25.4	-0.4
	comp=Z,11nm,0.7s,mb4.9						
YSS	Yuzh-Sakhalins	47.10	16	eP	P	18 21 27.6	+1.1
YSS				pmax	pmax		
	comp=Z,29nm,1.5s,mb5.0						
KLR	Kul'dur	47.28	5	eP	P	18 21 25.3	-2.5
KOLN	Koldanda	47.72	306	eP	P	18 21 31.2	-0.4
	comp=Z,27nm,0.7s,mb5.4						
HYB	Hyderabad	48.81	291	eP	P	18 21 40.0	-0.1
HYB	Hyderabad	48.81	291	i P	P	18 21 40.0	-0.1
ZAK	Zakamensk	51.80	342	eP	P	18 22 02.7	+0.2
ZAK				e		18 23 15.1	
TLY	Talaya	52.83	343	eP	P	18 22 08.9	-1.3
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
WMQ	Urumqi	53.56	326	eP	P	18 22 15.5	-0.3
CLNS	Chul'man	54.63	359	eP	P	18 22 22.4	-1.0
CLNS				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
CLNS				pmax	pmax		
	comp=N,13nm,0.8s						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.0s						
BOD	Bodaibo	56.39	352	eP	P	18 22 34.8	-1.2
PET	Petropavlovsk	57.63	23	eP	P	18 22 40.7	-4.3
MK02	Makanchi Array	58.37	326	P	P	18 22 48.5	-1.7
MK02				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
YAK	Yakutsk	59.91	2	⇑iP	P	18 22 59.1	-1.6
YAK				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.4						
YAK	Yakutsk	59.91	2	eP	P	18 22 59.8	-0.9
	comp=Z,34nm,0.7s,mb5.5						
MA2	Magadan	60.55	14	eP	P	18 23 05.6	+0.5
MA2				e*PP	pP	18 23 54.1	+39
MA2				eS	S	18 31 05.7	-11
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
MA2	Magadan	60.55	14	eP	P	18 23 06.0	+0.9
	comp=Z,19nm,0.8s,mb5.3						
AAK	Ala-Archa	60.97	319	eP	P	18 23 07.0	-1.2
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
NVS	Novosibirsk	62.94	334	eP	P	18 23 17.4	-3.8
BVA0	Borovoye Array	68.21	328	P	P	18 23 53.2	-1.7
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.2s						
CHKZ	Chkalovo	68.39	328	i P	P	18 23 54.2	-1.9
CHKZ				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
CHKZ	Chkalovo	68.39	328	eP	P	18 23 54.0	-2.1
	comp=Z,3.5nm,0.9s,mb4.4						
TIXI	Tiksi	69.53	1	⇑iP	P	18 24 01.4	-1.4
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
BILL	Bilibino	71.41	15	⇓iP	P	18 24 12.5	-1.7
BILL				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.4						
ARU	Arti	75.84	328	⇓iP	P	18 24 45.1	+4.8
ARU				eS		18 34 53.1	
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
ARU	Arti	75.84	328	eP	P	18 24 37.1	-3.2
	comp=Z,4.0nm,0.6s,mb4.5						
ZEI	Tsey	82.65	313	eP	P	18 25 19.8	+2.4
SBA	Scott Base	82.81	172	P	P	18 25 16.8	-0.8
RSO	Redoubt South	84.01	30	eP	P	18 25 25.5	+1.6
IMA	Indian Mountai	84.30	24	eP	P	18 25 28.1	+2.9
	comp=Z,153nm,1.0s						
SPU	Mount Spurr	84.43	29	eP	P	18 25 27.2	+1.2
SLKM	Skilak Lake	85.27	30	P	P	18 25 31.2	+1.0
MCK	McKinley	86.08	26	eP	P	18 25 34.9	+0.8
	comp=Z,4.0nm,0.8s,mb4.7						
DIV	Divide	87.47	29	eP	P	18 25 42.9	+2.0
	comp=Z,60nm,0.9s,mb5.8						
OBN	Obninsk	87.88	325	eP	P	18 25 41.1	-1.9
OBN				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.1						
JOF	Joensuu	90.23	333	ep	P	18 25 52.7	-1.3
	comp=Z,9.0nm,0.6s,mb5.3						
JOF	Joensuu	90.23	333	eP	P	18 25 52.7	-1.3
JOF				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.3						
DAWY	Dawson	90.29	26	eP	P	18 25 55.7	+1.4
QSPA	South Pole Qui	91.97	180	eP	P	18 26 03.7	+1.9
	comp=Z,8.5nm,0.7s,mb5.2						
KAF	Kangasniemi	92.63	332	ep	P	18 26 02.0	-3.1
FINES	FINESS Array B	92.85	332	i P	P	18 26 05.2	-1.0
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NB2	NORSAR Subarra	99.85	333	P	P	18 26 36.5	-1.5
	comp=Z,3.8nm,0.7s,mb4.9,baz=70,slow=4.5						
NB2	NORSAR Subarra	99.85	333	P	P	18 26 36.5	-1.5
	baz=70,slow=4.4						
JCT	Junction City	125.87	50	ePKPdf	PKPdf	18 31 57.7	+2.6
MIAR	Mount Ida	128.16	42	ePKPdf	PKPdf	18 32 02.7	+3.3
WVT	Waverly	130.77	36	ePKPdf	PKPdf	18 32 06.0	+1.6
JTS	JuntasÀbangare	147.05	68	ePKPbc	PKPdf	18 32 39.2	+5.0

*JMA **05** 18:42:51.1±0.3, 21.11N×120.67E, h48km, M3.5*

TAP 05 18:42:48.8, 21.37N×120.13E, h66km±1km, ML4.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	4.07	40	eS	S	18 44 36.8	0.0
HATJ	Hateruma jima	4.32	51	S	S	18 44 40.1	-3.1
IRIF	Iriomote-Funau	4.44	48	P	P	18 43 55.4	+0.1
IRIF				S	S	18 44 44.8	-1.4
JKRS	Kuro-shima	4.58	51	P	P	18 43 57.2	0.0
JKRS				S	S	18 44 47.1	-2.5
JIJ	Ishigaki jima	4.75	50	P	P	18 43 59.6	0.0
JIJ				eS	S	18 44 50.6	-3.4
JTJ	Tarama	5.32	51	S	S	18 45 05.3	-2.9

*LDG **05** 18:47:45.5±0.1, 48.08N×8.02E, h10km, Md2.8/1, Ml2.6/8, Error ellipse: s-maj=1.2km s-min=0.8km az=147.0*
*CSEM **05** 18:47:45.4±0.0, 48.09N×8.03E, h10km, ML2.5/6, Error ellipse: s-maj=0.7km s-min=0.5km az=16.0*
*ZUR **05** 18:47:45.6, 48.04N×8.05E, h4km, ML1.9/9*
*LEDBW **05** 18:47:45.3±0.1, 48.08N×8.04E, h12km, ML2.3, Error ellipse: s-maj=1.0km s-min=0.6km az=125.0*
*NEIC **05** 18:47:45.0, 48.08N×8.03E, h10km, ML2.6(LDG), ML2.2(LEDBW), ML2.1(STR), After LEDBW.*

BGR 05 18:47:45.5±0.2, 48.09N×8.02E, h10km, ML1.9/1, 11C-8D, Error ellipse: s-maj=1.1km s-min=1.1km az=48.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FBB	Freiburg	0.14	233	⇑iPg	Pg	18 47 48.9	0.0
FBB				Sg	Sg	18 47 51.1	-0.1
KIZ	Kirchzarten	0.15	208	⇑iPg	Pg	18 47 48.8	-0.2
KIZ				i Sg	Sg	18 47 51.2	-0.1
KIZ	Kirchzarten	0.15	208	⇑iP	Pg	18 47 48.8	-0.2
KIZ				S	Sg	18 47 51.1	-0.2
FELD	Feldberg	0.21	184	⇓iPg	Pg	18 47 49.9	-0.2
FELD				eSg	Sg	18 47 53.1	-0.1
	SNR=6.7						
FELD	Feldberg	0.21	184	⇓iP	Pg	18 47 49.9	-0.2
FELD				S	Sg	18 47 53.1	0.0
FELD	Feldberg	0.21	184	Pg	Pg	18 47 49.9	-0.2
FELD				Sg	Sg	18 47 52.9	-0.3
LIBD	Limburg	0.29	283	⇑iPg	Pg	18 47 51.7	+0.2
LIBD				Sg	Sg	18 47 56.1	+0.5
LIBD	Limburg	0.29	283	⇑iP	Pg	18 47 51.8	+0.2
LIBD				S	Sg	18 47 56.1	+0.6
LIBD	Limburg	0.29	283	Pg	Pg	18 47 51.6	+0.1
LIBD				Sg	Sg	18 47 55.9	+0.3
BFO	Black Forest	0.32	40	ePg	Pg	18 47 51.6	-0.5
	SNR=13						
BFO				eSg	Sg	18 47 55.9	-0.6
	SNR=19						
BFO	Black Forest	0.32	40	⇑iP	Pg	18 47 51.7	-0.4
BFO				S	Sg	18 47 56.1	-0.4
SLE	Schleitheim	0.45	135	ePg	Pg	18 47 54.0	-0.7
	SNR=24						
SLE				eSg	Sg	18 47 59.9	-0.9
	SNR=18						
SLE	Schleitheim	0.45	135	⇓iPg	Pg	18 47 54.0	-0.7
SLE				i Sg	Sg	18 47 59.9	-0.9
SPAK	Spaichingen	0.51	88	⇑iPg	Pg	18 47 55.3	-0.6
WLS	Welschbruch	0.55	306	Pg	Pg	18 47 56.4	-0.3
WLS				eSg	Sg	18 48 03.6	-0.6
	SNR=8.1						
WLS	Welschbruch	0.55	306	P	Pg	18 47 56.4	-0.3
WLS				S	Sg	18 48 03.7	-0.5
WLS	Welschbruch	0.55	306	Pg	Pg	18 47 56.2	-0.5
SULZ	Sulz-Cheisache	0.56	174	ePg	Pg	18 47 56.1	-0.8
	SNR=11						
SULZ				eSg	Sg	18 48 03.6	-0.9
	SNR=3.9						
SULZ	Sulz-Cheisache	0.56	174	⇓iPg	Pg	18 47 56.1	-0.8
SULZ				eSg	Sg	18 48 03.6	-0.9
ECH	Echery	0.59	283	Pg	Pg	18 47 56.9	-0.6
ECH				eSg	Sg	18 48 04.5	-1.0
	SNR=6.0						
ECH	Echery	0.59	283	Pg	Pg	18 47 56.7	-0.8
ECH				Sg	Sg	18 48 04.5	-1.0
ECH	Echery	0.59	283	Pg	Pg	18 47 56.8	-0.7
CDF	Champ du Feu	0.60	303	ePg	Pg	18 47 57.0	-0.5
CDF				eSg	Sg	18 48 04.2	-1.4
	26nm,0.2s						
CDF	Champ du Feu	0.60	303	ePg	Pg	18 47 57.0	-0.6
	SNR=7.6						
CDF				eSg	Sg	18 48 04.7	-0.8
	SNR=7.7						
TRULL	Truellikon	0.62	135	⇓iPg	Pg	18 47 57.1	-1.0
TRULL				i Sg	Sg	18 48 05.3	-1.2
MOF	Molkenrain	0.64	249	Pg	Pg	18 47 57.9	-0.6
MOF				eSg	Sg	18 48 06.4	-0.7
	SNR=3.4						
MOF	Molkenrain	0.64	249	Pg	Pg	18 47 58.0	-0.5
STEIN	Stein am Rhein	0.71	126	⇑iPg	Pg	18 47 59.1	-0.6
STEIN				i Sg	Sg	18 48 08.3	-0.9
BBS	Basel-Blauen	0.71	209	Pg	Pg	18 47 59.0	-0.8
BBS				eSg	Sg	18 48 08.2	-1.2
	SNR=11						
BBS	Basel-Blauen	0.71	209	P	Pb	18 47 59.0	-0.5
BBS				S	Sb	18 48 08.7	-0.5
BBS	Basel-Blauen	0.71	209	Pg	Pg	18 47 58.9	-1.0
GUT	Gutenstein	0.73	91	⇑iPg	Pg	18 47 59.3	-0.9
GUT				PmP		18 48 00.1	
GUT				Sg	Sg	18 48 08.8	-1.2
GUT	Gutenstein	0.73	91	⇑iP	Pb	18 47 59.3	-0.6
GUT				P		18 48 00.1	
GUT				S	Sb	18 48 09.0	-0.7
GUT				S	Sb	18 48 10.5	+0.8
GUT	Gutenstein	0.73	91	⇑iP	Pb	18 47 59.3	-0.6
GUT				S	Sb	18 48 08.9	-0.8
SISB	Singen-Sch Ber	0.75	122	Sg	Sg	18 48 09.7	-1.0
SISB	Singen-Sch Ber	0.75	122	P	Pb	18 47 59.8	-0.3
SISB				S	Sb	18 48 09.7	-0.5
SISB				S	Sb	18 48 10.7	+0.5
LBG	Lerchenberg	0.77	41	⇑ePg	Pg	18 47 59.9	-1.1
LBG				Sg	Sg	18 48 09.9	-1.6
LBG	Lerchenberg	0.77	41	⇑eP	Pb	18 47 59.9	-0.6
LBG				S	Sb	18 48 10.0	-0.9
LBG				S	Sb	18 48 10.6	-0.3
BALST	Balsthal	0.79	197	⇓iPg	Pg	18 48 00.3	-1.0
ZUR	Zurich	0.81	152	ePg	Pg	18 48 00.8	-0.9
	SNR=3.5						
ZUR				eSg	Sg	18 48 11.6	-1.1
	SNR=5.3						
ZUR	Zurich	0.81	152	⇓iPg	Pg	18 48 00.8	-1.0
ZUR				eSg	Sg	18 48 11.6	-1.1
HINF	Hinteralfeld	0.83	251	ePg	Pg	18 48 00.4

BUCH	**Bad Urach**	**0.96**	**67⇑**	*e*Pg	Pg	18 48 03.5	-1.2
BUCH				Sg	Sg	18 48 16.5	-1.0
BUCH	**Bad Urach**	**0.96**	**67⇑**	*e*P	Pb	18 48 03.5	-0.2
BUCH				S	Sb	18 48 16.4	+0.2
STU	**Stuttgart**	**1.04**	**48**	*e*Pg	Pg	18 48 05.3	-0.9
	SNR=1.1						
STU				*e*Sg	Sg	18 48 18.1	-2.1
	SNR=3.2						
LOMF	**Lomont**	**1.09**	**228**	Pn	Pn	18 48 06.1	-0.7
LOMF				*e*Pg	Pg	18 48 06.1	-1.3
	SNR=6.6						
LOMF				*e*Sg	Sg	18 48 20.4	-1.6
	SNR=5.4						
LOMF	**Lomont**	**1.09**	**228**	Pg	Pg	18 48 06.0	-1.4
LOMF				Sg	Sg	18 48 20.2	-1.8
HAU	**Haudompre**	**1.13**	**266**	*e*Pn	Pn	18 48 06.0	-1.3
HAU				*e*Pg	Pg	18 48 06.6	-1.5
HAU				*e*Sn	Sn	18 48 20.6	-2.3
HAU				*e*Sg	Sg	18 48 21.3	-1.8
	21nm,0.3s						
HAU	**Haudompre**	**1.13**	**266**	*e*Pn	Pn	18 48 06.1	-1.2
	SNR=10						
HAU				*e*Sg	Sg	18 48 21.5	-1.7
	SNR=3.9						
HAU	**Haudompre**	**1.13**	**266**	*e*Pg	Pg	18 48 06.6	-1.5
HAU				*e*Sn	Sn	18 48 20.6	-2.3
HAU				*e*Sg	Sg	18 48 21.3	-1.8
	10nm,0.3s						
THEF	**They Montfort**	**1.37**	**277**	*e*Sg	Sg	18 48 28.6	-2.6
	SNR=2.6						
UBR	**Uberruh**	**1.46**	**105**	Sg	Sg	18 48 31.8	-2.4
UBR	**Uberruh**	**1.46**	**105**	S	Sb	18 48 31.8	+0.9
SWS	**Schriesheim**	**1.47**	**18**	Sg	Sg	18 48 31.1	-3.3
HDH	**Heidenheim**	**1.54**	**70**	Pg	Pg	18 48 14.2	-2.1
HDH	**Heidenheim**	**1.54**	**70**	P	Pn	18 48 14.1	+0.9
HDH				S	Sb	18 48 34.4	+1.3
SIND	**Sindeldorf**	**1.64**	**39**	Pg	Pg	18 48 16.2	-2.0
SIND				Sg	Sg	18 48 35.6	-4.5
SIND	**Sindeldorf**	**1.64**	**39**	P	Pn	18 48 16.2	+1.5
RUP	**Ruppelstein**	**1.74**	**339**	*e*Pg	Pg	18 48 18.2	-2.0
	SNR=3.6						
RFYF	**Reffroy**	**1.79**	**289**	*e*Pn	Pn	18 48 14.7	-2.0
RFYF				*e*Pg	Pg	18 48 18.6	-2.6
	baz=108						
RFYF				*e*Sg	Sg	18 48 41.6	-3.4
	11nm,0.2s						
RFYF	**Reffroy**	**1.79**	**289**	*e*Sg	Sg	18 48 42.3	-2.6
	SNR=2.2						
RFYF	**Reffroy**	**1.79**	**289**	*e*Pg	Pg	18 48 18.6	-2.6
RFYF				*e*Sg	Sg	18 48 41.6	-3.4
	5.4nm,0.2s						
ABH	**Alteburg**	**1.82**	**350**	*e*Pg	Pg	18 48 19.7	-2.3
	SNR=2.4						
CABF	**La Chapelle**	**1.98**	**222**	*e*Pg	Pg	18 48 22.3	-2.7
SFTF	**Sexfontaines**	**2.00**	**274**	*e*Pn	Pn	18 48 17.7	-2.1
SFTF				*e*Pg	Pg	18 48 23.0	-2.5
SFTF				*e*Sn	Sn	18 48 41.4	-3.7
SFTF				*e*Sg	Sg	18 48 48.7	-3.5
	4.8nm,0.2s						
WLF	**Walferdange**	**2.00**	**323**	*e*Sg	Sg	18 48 48.6	-3.7
	SNR=1.3						
MEZF	**Maizieres J'vi**	**2.03**	**283**	*e*Pn	Pn	18 48 18.1	-2.1
	baz=113						
MEZF				*e*Pg	Pg	18 48 23.2	-2.8
MEZF				*e*Sg	Sg	18 48 49.3	-3.8
	3.4nm,0.2s						
SMF	**Signal de Mont**	**3.19**	**245**	*e*Pg	Pg	18 48 44.9	-4.3
SMF				*e*Sg	Sg	18 49 25.6	-6.1
	1.2nm,0.2s						
SSF	**Saint Saulge**	**3.23**	**253**	*e*Pg	Pg	18 48 45.5	-4.4
SSF				*e*Sg	Sg	18 49 26.6	-6.3
AVF	**Avril sur Loir**	**3.43**	**249**	*e*Pg	Pg	18 48 49.1	-4.8

NEIC ***05*** *18:55:05.8, 45.57N×26.65E, h127km, After BUC.*
NEIC Felt at Sfantu-Gheorghe.

BUC 05 18:55:04.3±0.7, 45.64N×26.65E, h136km±6km, MD3.5/3, 16C, Error ellipse: s-maj=5.9km s-min=3.6km az=10.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.23**	**13⇑**	*i*P	P	18 55 22.9	-0.5
VRI				*i*S	S	18 55 37.3	-0.7
VRI	**Vrincioaia**	**0.23**	**13⇑**	*i*P	P	18 55 22.9	-0.5
VRI				*i*S	S	18 55 37.3	-0.6
BRD	**Bordesti**	**0.28**	**108⇑**	*i*P	P	18 55 24.5	+0.9
BRD	**Bordesti**	**0.28**	**108⇑**	*i*P	P	18 55 24.5	+0.9
MLR	**Muntele Rosu**	**0.52**	**253⇑**	*i*P	P	18 55 24.3	-0.4
MLR				*i*S	S	18 55 39.3	-0.9
MLR	**Muntele Rosu**	**0.52**	**253⇑**	*i*P	P	18 55 24.3	-0.4
MLR				*i*S	S	18 55 39.3	-0.9
ISR	**Istrita**	**0.53**	**188**	*i*S	S	18 55 40.1	-0.2
SNX	**Sinaia**	**0.85**	**251⇑**	*i*P	P	18 55 27.0	+0.3
SNX				*i*S	S	18 55 43.7	-0.2
SNX	**Sinaia**	**0.85**	**251⇑**	*i*P	P	18 55 27.0	+0.3
SNX				*i*S	S	18 55 43.7	-0.2
CFR	**Carcaliu**	**1.14**	**113⇑**	*i*P	P	18 55 29.4	0.0
CFR				*i*S	S	18 55 48.1	-0.5
CFR	**Carcaliu**	**1.14**	**113⇑**	*i*P	P	18 55 29.4	0.0
CFR				*i*S	S	18 55 48.1	-0.5
HARR	**Harsova**	**1.31**	**136⇑**	*i*P	P	18 55 31.2	+0.1
HARR				*i*S	S	18 55 51.0	-0.7
HARR	**Harsova**	**1.31**	**136⇑**	*i*P	P	18 55 31.2	+0.1
HARR				*i*S	S	18 55 51.0	-0.7
BUC1	**Bucharest**	**1.36**	**199**	*i*S	S	18 55 52.4	-0.3
TLCR		**1.59**	**106⇑**	*i*P	P	18 55 34.2	0.0
TLCR				*i*S	S	18 55 56.5	-0.6
TLCR		**1.59**	**106⇑**	*i*P	P	18 55 34.2	0.0
TLCR				*i*S	S	18 55 56.5	-0.6
TIRR	**Tirgusor**	**1.72**	**133⇑**	*i*P	P	18 55 35.6	-0.1
TIRR				*i*S	S	18 55 58.3	-1.4
TIRR	**Tirgusor**	**1.72**	**133⇑**	*i*P	P	18 55 35.6	-0.1
TIRR				S	S	18 55 58.3	-1.3

BJI ***05*** *19:01:56.3, 4.60N×94.80E, h30km, mb4.8*
NEIC ***05*** *19:01:58.4±1.8, 4.61N×94.84E, h30km, mb4.6/6, Error ellipse: s-maj=61.7km s-min=21.3km az=53.0*

ISC 05 19:01:58.3±1.6, 4.8N±0.3×95.2E±0.3, h30km, n19, σ0:92/19, mb4.6/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**24.31**	**340**	*e*P	**P**	**19 07 14.2**	**-0.4**
	7.4nm,0.4s,mb4.4						
PKI	**Pulchoki**	**24.50**	**339**	*e*P	**P**	**19 07 16.5**	**+0.1**
	6.4nm,0.6s,mb4.3						
GUN	**Gumba**	**24.65**	**340**	*e*P	**P**	**19 07 16.7**	**-1.1**
	9.6nm,0.5s,mb4.6						
KKN	**Kakani**	**24.75**	**339**	*e*P	**P**	**19 07 18.4**	**-0.4**
	7.6nm,0.7s,mb4.4						
LSA	**Lhasa**	**25.08**	**352**	P	**P**	**19 07 21.8**	**-0.2**
	3.6nm,0.4s,mb4.2						
GKN	**Gorkha**	**25.18**	**338**	*e*P	**P**	**19 07 21.3**	**-1.6**
	7.4nm,0.3s,mb4.7						
KOLN	**Koldanda**	**25.38**	**336**	*e*P	**P**	**19 07 24.3**	**-0.5**
	18nm,0.6s,mb4.8						
BJT	**Baijiatuau**	**39.89**	**25**	*e*P	**P**	**19 09 32.0**	**+0.7**
	7.1nm,0.5s,mb4.7						
UCH	**Uchtor**	**41.58**	**337**	P	**P**	**19 09 46.4**	**+1.3**
	SNR=16						
TKM2	**Tokmak 2**	**41.76**	**338**	P	**P**	**19 09 47.1**	**+0.5**
	SNR=8.3						
KBK	**Karagaybulak**	**41.78**	**338**	P	**P**	**19 09 47.9**	**+1.1**
	SNR=22						
AML	**Almayashu**	**41.83**	**336**	P	**P**	**19 09 48.2**	**+1.0**
	SNR=12						
AAK	**Ala-Archa**	**41.93**	**337**	P	**P**	**19 09 49.9**	**+1.8**
	SNR=9.5						
AAK	**Ala-Archa**	**41.93**	**337**	*e*P	**P**	**19 09 48.0**	**0.0**
	6.5nm,0.8s,mb4.3						
EKS2	**Erkin-Say**	**42.24**	**336**	P	**P**	**19 09 51.4**	**+0.9**
	SNR=11						
USP	**Ospenovka**	**42.47**	**338**	P	**P**	**19 09 52.6**	**+0.1**
	SNR=20						
WRAB	**Tennant Creek**	**45.69**	**124**	*e*P	**P**	**19 10 18.3**	**-0.4**
	14nm,0.6s,mb5.1						
BRVK	**Borovoye**	**52.29**	**341**	*e*P	**P**	**19 11 05.7**	**-3.5**
	3.0nm,0.5s,mb4.5						
CHKZ	**Chkalovo**	**52.72**	**342**	*e*P	**P**	**19 11 11.1**	**-1.3**
	11nm,0.7s,mb4.9						

MEX 05 19:26:48.9±0.8, 16.21N×99.39W, h16km±23km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.82**	**322**	*i*P	Pb	19 27 01.5	-2.9
ACX				*i*S	Sb	19 27 12.0	-3.0
PNIG	**Pinotepa**	**1.23**	**81**	*e*P	Pb	19 27 08.6	-2.6
PNIG				*i*S	Sb	19 27 21.6	-5.1
PLIG	**Platanillo**	**2.17**	**357**	*i*P	Pn	19 27 22.1	-2.9
PLIG				*i*S	Sn	19 27 46.4	-5.3
PPM	**Popocatepetl**	**2.93**	**14**	*e*P	Pn	19 27 32.6	-3.3
PPM				*i*S	Sn	19 28 07.9	-3.1

CSEM ***05*** *19:27:17.2±0.1, 37.76N×25.43W, h1km, ML3.1, Error ellipse: s-maj=4.7km s-min=2.2km az=5.0, After PDA*
PDA ***05*** *19:27:17.2±1.0, 37.76N×25.43W, h1km±1km, MD2.7, ML3.1, Error ellipse: s-maj=1.9km s-min=1.4km az=52.0*

SVSA 05 19:27:17.2±1.0, 37.76N×25.43W, h1km±1km, MD2.7, ML3.1, Error ellipse: s-maj=1.9km s-min=1.4km az=52.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**200**	*i*P	Pg	19 27 18.5	+0.9
PCNG	**Congro**	**0.03**	**80**	*i*P	Pg	19 27 18.7	+0.9
MESC	**Monte Escuro**	**0.03**	**341**	*i*P	Pg	19 27 18.5	+0.6
LFA	**Lagoa do Fogo**	**0.04**	**285**	*i*P	Pg	19 27 18.8	+0.8
PRCH	**Ribeira Ch**	**0.05**	**228**	*i*P	Pg	19 27 18.8	+0.6
PMAT	**Coroa da Mata**	**0.06**	**330**	*i*P	Pg	19 27 18.9	+0.5
FRA1	**Furnas**	**0.06**	**108**	*i*P	Pg	19 27 19.4	+0.9
PVER	**Pico Vermelho**	**0.07**	**298**	*i*P	Pg	19 27 19.0	+0.3
CML	**Cha da Macela**	**0.09**	**276**	*i*P	Pg	19 27 19.6	+0.6
PFAD	**Fenais da Ajud**	**0.12**	**48**	*i*P	Pg	19 27 20.3	+0.8
MIRA	**Miradouro**	**0.12**	**79**	*i*P	Pg	19 27 20.6	+0.9
FAC	**Faja de Cima**	**0.17**	**274**	*e*P	Pg	19 27 21.5	+0.8
PDA	**Ponta Delgada**	**0.18**	**265**	*e*P	Pg	19 27 21.4	+0.5
PDA				*e*S	Sg	19 27 25.4	+2.1
PSAN	**Santo Antonio**	**0.25**	**291**	*e*P	Pg	19 27 23.0	+0.8
PFET	**Feteiras**	**0.29**	**281**	*i*P	Pg	19 27 23.5	+0.6
SET2	**Ginetes**	**0.31**	**285**	*i*P	Pg	19 27 24.1	+0.8
SET4	**Mosteiros**	**0.31**	**291**	*e*P	Pg	19 27 24.0	+0.6
PSMN	**Pico do Norte,**	**0.81**	**159**	*i*P	Pg	19 27 31.4	-2.0
PSMN				*e*S	Sg	19 27 41.9	-2.3
PSCM	**Serra do Cume**	**1.62**	**306**	*e*P	Pn	19 27 43.3	-3.9
PSCM				*e*S	Sb	19 28 03.0	-5.7
	101nm,0.5s						
RIB2	**Ribeirinha**	**1.65**	**304**	*e*P	Pn	19 27 43.9	-3.6
ADH	**Angra Heroismo**	**1.68**	**303**	*e*S	Sb	19 28 03.8	-6.4
PVNV	**Vila Nova**	**1.69**	**307**	*e*P	Pn	19 27 44.5	-3.5
PVNV				*e*S	Sb	19 28 03.4	-7.0
	31nm,0.4s						
PPAD	**Pico dos Padre**	**1.74**	**303**	*e*P	Pn	19 27 45.0	-3.8
PPAD				*e*S	Sn	19 28 05.7	-6.2
ASBA	**Santa Barbara**	**1.77**	**303**	*e*P	Pn	19 27 45.5	-3.8
PSBA	**Serra de Santa**	**1.80**	**305**	*erx*		19 27 45.5	
PMAN	**Manadas**	**2.27**	**293**	*erx*		19 28 00.4	
PGRA	**Graciosa**	**2.37**	**303**	*erx*		19 27 52.9	
ROSA	**Rosais**	**2.41**	**294**	*erx*		19 27 55.5	
PICO	**Pico**	**2.47**	**288**	*erx*		19 27 56.0	
CALA	**Caldeira**	**2.70**	**289**	*erx*		19 27 57.7	

MAN 05 19:28:43.0, 13.85N×120.47E, h91km, mb3.8, ML2.6, MS2.2, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.25**	**242**	*e*P	P	19 28 58.0	+1.7
LUBP				*e*S	S	19 29 08.4	+2.0
BOAC	**Boac**	**1.39**	**106**	*e*P	P	19 29 08.2	+0.2
SJMP	**San Jose**	**1.52**	**155**	*e*P	P	19 29 10.2	+0.7
SJMP				*e*S	S	19 29 30.0	+0.9
ENPP	**El Nido**	**2.82**	**201**	*e*P	P	19 29 26.5	-0.6

CSEM ***05*** *19:29:06.7±0.3, 37.76N×25.44W, h2km, ML2.5, Error ellipse: s-maj=15.1km s-min=6.9km az=177.0, After PDA*
PDA ***05*** *19:29:06.7±0.6, 37.76N×25.44W, h2km, MD1.7, ML2.5, Error ellipse: s-maj=0.8km s-min=0.7km az=165.0*

SVSA 05 19:29:06.7±0.6, 37.76N×25.44W, h2km, MD1.7, ML2.5, Error ellipse: s-maj=0.8km s-min=0.7km az=165.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**179**	*i*P	Pg	19 29 07.7	+0.5
VIF				*i*S	Sg	19 29 08.7	+1.1
	2μm,0.1s						
MESC	**Monte Escuro**	**0.03**	**352**	*i*P	Pg	19 29 08.0	+0.5
MESC				*i*S	Sg	19 29 09.3	+1.3
PCNG	**Congro**	**0.04**	**80**	*i*P	Pg	19 29 08.0	+0.5
PCNG				*i*S	Sg	19 29 09.4	+1.4
	3μm,0.2s						
LFA	**Lagoa do Fogo**	**0.04**	**289**	*i*P	Pg	19 29 08.2	+0.7
PRCH	**Ribeira Ch**	**0.05**	**224**	*e*P	Pg	19 29 08.1	+0.4
PRCH				*i*S	Sg	19 29 09.3	+0.9
	7μm,0.2s						
PMAT	**Coroa da Mata**	**0.06**	**336**	*i*P	Pg	19 29 08.3	+0.3
PMAT				*i*S	Sg	19 29 09.8	+1.0
	1μm,0.1s						
FRA1	**Furnas**	**0.07**	**105**	*erx*	rx	19 28 57.9	
FRA1	**Furnas**	**0.07**	**105**	*i*P	Pg	19 29 08.8	+0.7
FRA1				*i*S	Sg	19 29 10.3	+1.2
PVER	**Pico Vermelho**	**0.07**	**302**	*e*P	Pg	19 29 08.5	+0.4
CML	**Cha da Macela**	**0.08**	**277**	*i*P	Pg	19 29 09.0	+0.6
CML				*i*S	Sg	19 29 10.9	+1.3
PFAD	**Fenais da Ajud**	**0.12**	**50**	*i*P	Pg	19 29 09.8	+0.7
PFAD				*i*S	Sg	19 29 12.3	+1.5
MIRA	**Miradouro**	**0.13**	**79**	*i*P	Pg	19 29 09.9	+0.6
MIRA				*i*S	Sg	19 29 12.5	+1.4
FAC	**Faja de Cima**	**0.17**	**274**	*e*P	Pg	19 29 10.8	+0.7
FAC				*i*S	Sg	19 29 13.5	+1.2
PDA	**Ponta Delgada**	**0.18**	**265**	*erx*		19 29 11.9	
PSAN	**Santo Antonio**	**0.24**	**292**	*e*P	Pg	19 29 12.4	+0.8
PFET	**Feteiras**	**0.28**	**282**	*e*P	Pg	19 29 12.7	+0.4
SET2	**Ginetes**	**0.30**	**286**	*e*P	Pg	19 29 13.3	+0.6
SET4	**Mosteiros**	**0.31**	**292**	*e*P	Pg	19 29 13.0	+0.2

CSEM ***05*** *19:29:43.1±0.3, 37.76N×25.42W, h0km, ML3.1, Error ellipse: s-maj=12.1km s-min=5.9km az=178.0, After PDA*
PDA ***05*** *19:29:43.1±0.8, 37.76N×25.42W, h0km±1km, MD2.6, ML3.1, Error ellipse: s-maj=1.8km s-min=1.1km az=167.0*

SVSA 05 19:29:43.1±0.8, 37.76N×25.42W, h0km±1km, MD2.6, ML3.1, Error ellipse: s-maj=1.8km s-min=1.1km az=167.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**73**	*e*P	Pg	19 29 44.6	+1.1
VIF	**Vila Franca**	**0.02**	**224**	*i*P	Pg	19 29 44.4	+0.8
MESC	**Monte Escuro**	**0.04**	**328**	*i*P	Pg	19 29 44.6	+0.7
LFA	**Lagoa do Fogo**	**0.05**	**283**	*i*P	Pg	19 29 44.9	+0.8
FRA1	**Furnas**	**0.05**	**110**	*i*P	Pg	19 29 44.7	+0.5
PRCH	**Ribeira Ch**	**0.06**	**235**	*i*P	Pg	19 29 45.0	+0.7
PMAT	**Coroa da Mata**	**0.07**	**324**	*i*P	Pg	19 29 45.0	+0.5
PVER	**Pico Vermelho**	**0.08**	**296**	*e*P	Pg	19 29 45.3	+0.5
PVER				*e*S	Sg	19 29 47.7	+1.8
	9μm,0.3s						
CML	**Cha da Macela**	**0.10**	**276**	*i*P	Pg	19 29 45.8	+0.7
PFAD	**Fenais da Ajud**	**0.11**	**45**	*i*P	Pg	19 29 46.4	+1.1
PFAD				*e*S	Sg	19 29 48.8	+2.1
MIRA	**Miradouro**	**0.12**	**78**	*i*P	Pg	19 29 46.6	+1.2
MIRA				*e*S	Sg	19 29 49.0	+2.1
FAC	**Faja de Cima**	**0.18**	**274**	*i*P	Pg	19 29 47.7	+0.9
PDA	**Ponta Delgada**	**0.19**	**266**	*e*P	Pg	19 29 48.2	+1.2
PDA				*e*S	Sg	19 29 52.0	+2.5
PSAN	**Santo Antonio**	**0.26**	**290**	*i*P	Pg	19 29 49.1	+0.8
PFET	**Feteiras**	**0.30**	**281**	*i*P	Pg	19 29 49.5	+0.5
SET2	**Ginetes**	**0.32**	**285**	*i*P	Pg	19 29 50.0	+0.6
SET4	**Mosteiros**	**0.32**	**291**	*e*P	Pg	19 29 50.0	+0.5
PSCM	**Serra do Cume**	**1.63**	**306**	*e*P	Pn	19 30 09.5	-3.7
PSCM				*e*S	Sb	19 30 29.1	-5.8
	75nm,0.5s						
ADH	**Angra Heroismo**	**1.69**	**303**	*e*S	Sb	19 30 30.2	-6.2
PSBA	**Serra de Santa**	**1.81**	**304**	*erx*		19 30 08.1	
ROSA	**Rosais**	**2.42**	**294**	*erx*		19 30 18.7	
PICO	**Pico**	**2.48**	**288**	*erx*		19 30 22.2	
CALA	**Caldeira**	**2.71**	**289**	*erx*		19 30 22.3	

CSEM ***05*** *19:35:26.3±0.2, 37.77N×25.44W, h0km, ML2.9, Error ellipse: s-maj=8.6km s-min=3.6km az=28.0, After PDA*
PDA ***05*** *19:35:26.3±1.0, 37.77N×25.44W, h0km±1km, MD2.8, ML2.9, Error ellipse: s-maj=1.8km s-min=1.4km az=71.0*

SVSA 05 19:35:26.3±1.0, 37.77N×25.44W, h0km±1km, MD2.8, ML2.9, Error ellipse: s-maj=1.8km s-min=1.4km az=71.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**188**	*i*P	Pg	19 35 27.6	+0.9
MESC	**Monte Escuro**	**0.03**	**344**	*i*P	Pg	19 35 27.8	+0.9
PCNG	**Congro**	**0.03**	**88**	*i*P	Pg	19 35 27.9	+1.0
LFA	**Lagoa do Fogo**	**0.04**	**280**	*i*P	Pg	19 35 27.9	+0.8
PRCH	**Ribeira Ch**	**0.05**	**223**	*i*P	Pg	19 35 27.9	+0.6
PMAT	**Coroa da Mata**	**0.06**	**331**	*i*P	Pg	19 35 28.1	+0.7
FRA1	**Furnas**	**0.07**	**110**	*i*P	Pg	19 35 28.6	+1.0
PVER	**Pico Vermelho**	**0.07**	**297**	*i*P	Pg	19 35 28.3	+0.6
CML	**Cha da Macela**	**0.09**	**273**	*i*P	Pg	19 35 28.8	+0.8
PFAD	**Fenais da Ajud**	**0.12**	**51**	*i*P	Pg	19 35 29.6	+1.0
MIRA	**Miradouro**	**0.13**	**81**	*i*P	Pg	19 35 29.8	+1.0
FAC	**Faja de Cima**	**0.17**	**272**	*i*P	Pg	19 35 30.7	+1.0
PSAN	**Santo Antonio**	**0.24**	**290**	*e*P	Pg	19 35 32.2	+1.0
PFET	**Feteiras**	**0.28**	**281**	*i*P	Pg	19 35 32.5	+0.5
SET2	**Ginetes**	**0.30**	**285**	*i*P	Pg	19 35 33.2	+0.8
SET4	**Mosteiros**	**0.31**	**291**	*i*P	Pg	19 35 33.0	+0.6
PSMN	**Pico do Norte,**	**0.82**	**159**	*e*P	Pg	19 35 40.5	-2.1
PFAV	**Pico das Favas**	**1.60**	**307**	*e*S	Sb	19 36 11.5	-5.8
PSCM	**Serra do Cume**	**1.62**	**306**	*e*P	Pn	19 35 52.8	-3.5
PSCM				*e*S	Sb	19 36 11.7	-6.0
	98nm,0.4s						
PSCM	**Serra do Cume**	**1.62**	**306**	*e*P	Pn	19 35 52.8	-3.5
PSCM				*e*S	Sb	19 36 11.7	-6.0
	98nm,0.4s						
RIB2	**Ribeirinha**	**1.64**	**304**	*e*S	Sb	19 36 12.6	-5.7
	37nm,0.3s						
RIB2	**Ribeirinha**	**1.64**	**304**	*e*S	Sb	19 36 12.6	-5.7
	37nm,0.3s						
PVNV	**Vila Nova**	**1.68**	**307**	*e*S	Sb	19 36 12.9	-6.5
	13nm,0.2s						
PVNV	**Vila Nova**	**1.68**	**307**	*e*S	Sb	19 36 12.9	-6.5
	13nm,0.2s						
PPAD	**Pico dos Padre**	**1.73**	**303**	*e*S	Sb	19 36 15.1	-5.8
	29nm,0.3s						
PPAD	**Pico dos Padre**	**1.73**	**303**	*e*S	Sb	19 36 15.1	-5.8
	29nm,0.3s						
ASBA	**Santa Barbara**	**1.77**	**303**	*e*S	Sn	19 36 16.1	-5.8
	22nm,0.3s						
ROSA	**Rosais**	**2.41**	**294**	*erx*		19 36 04.7	
ROSA				*e*S	Sn	19 36 32.0	-6.1
PICO	**Pico**	**2.47**	**288**	*erx*		19 36 05.7	
PICO				*e*S	Sn	19 36 33.9	-5.8
CALA	**Caldeira**	**2.70**	**289**	*erx*		19 36 09.4	

MAN 05 19:47:27.6, 13.77N×120.51E, h88km, mb3.5, ML2.2, MS1.6, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.26**	**263**	*e*P	P	19 47 42.3	+1.6
LUBP				*e*S	S	19 47 52.4	+1.8
SJMP	**San Jose**	**1.42**	**155**	*e*P	P	19 47 53.5	+0.7
SJMP				*e*S	S	19 48 11.9	+0.5
ENPP	**El Nido**	**2.76**	**203**	*e*P	P	19 48 10.4	-0.4

PRU ***05*** *19:47:47.5, 50.26N×19.20E*

WAR 05 19:47:46.7, 50.16N×19.31E, h0km, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.32**	**80**	*e*PG	Pg	19 47 53.0	-0.1
OJC				*e*SG	Sg	19 47 58.0	+0.7
OKC	**Ostrava-Krasne**	**0.82**	**247**	*e*PG	Pg	19 48 02.8	-0.3
OKC				*e*SG	Sg	19 48 15.2	+1.2
NIE	**Niedzica**	**0.99**	**139**	*e*PG	Pg	19 48 06.0	-0.4
NIE				*e*(SG)	Sg	19 48 21.0	+1.4
LIKS	**Likavka**	**1.12**	**187**	*e*SN	Sn	19 48 24.6	-1.2
KOLL	**Kolacno**	**1.69**	**201**	*e*SN	Sn	19 48 41.9	+1.6
VYHS	**Vyhne**	**1.70**	**191**	*e*PN	Pn	19 48 16.6	-1.2
VYHS				*e*SN	Sn	19 48 40.3	-0.2
CRVS	**Cervenica-Dubn**	**1.89**	**131**	*e*PN	Pn	19 48 23.0	+2.6
CRVS				*e*SN	Sn	19 48 48.7	+3.5
DPC	**Dobruska-Polom**	**1.93**	**277**	*e*PG	Pn	19 48 19.7	-1.3
DPC				*e*SG	Sn	19 48 46.7	+0.4
	13nm,0.2s						
KSP	**Ksiaz**	**2.04**	**291**	*e*PG	Pg	19 48 25.0	-2.5
KSP				*e*SN	Sn	19 48 50.0	+0.8
KSP				*e*SG	Sg	19 48 53.0	-1.7
UPC	**Upice**	**2.14**	**281**	*e*SG	Sg	19 48 53.9	-4.1
KOLS	**Kolonicke sedl**	**2.29**	**121**	*e*PG	Pg	19 48 31.5	-0.9
PVCC	**Panska Ves**	**3.06**	**279**	*e*SG	Sg	19 49 23.3	-5.3
PRU	**Pruhonice**	**3.08**	**269**	*e*SG	Sg

SET4	Mosteiros	0.32 291	*i* P		Pg	20 00 37.8 +0.2
PSMN	Pico do Norte,	0.81 159	*e*P		Pg	20 00 45.0 -2.4
PFAV	Pico das Favas	1.61 307	*e*P		Pn	20 00 57.2 -3.8
PSCM	Serra do Cume	1.63 306	*e*P		Pn	20 00 57.3 -3.9
PSCM			*e*S		Sb	20 01 16.4 -6.3
	191nm,0.3s					
RIB2	Ribeirinha	1.65 304	*e*P		Pn	20 00 57.9 -3.6
RIB2			*e*S		Sb	20 01 16.6 -6.7
	59nm,0.2s					
ADH	Angra Heroismo	1.68 303	*e*P		Pn	20 00 58.1 -3.9
ADH			*e*S		Sb	20 01 17.6 -6.7
PVNV	Vila Nova	1.69 307	*e*P		Pn	20 00 58.4 -3.7
PVNV			*e*S		Sb	20 01 18.1 -6.4
	37nm,0.2s					
PPAD	Pico dos Padre	1.74 303	*e*P		Pn	20 00 59.2 -3.6
PPAD			*e*S		Sn	20 01 18.9 -7.0
	35nm,0.4s					
PBIS	Biscoitos	1.75 305	*e*P		Pn	20 00 59.3 -3.6
PBIS			*e*rx			20 01 00.0
ASBA	Santa Barbara	1.78 303	*e*P		Pn	20 00 59.3 -4.0
PSBA	Serra de Santa	1.80 305	*e*P		Pn	20 00 59.0 -4.7
PMAN	Manadas	2.27 293	*e*rx			20 01 22.1
PPNO	Prainha do Nor	2.35 288	*e*rx			20 01 07.9
ROSA	Rosais	2.41 294	*e*P		Pn	20 01 08.8 -3.6
ROSA			*e*S		Sn	20 01 37.2 -5.8
PICO	Pico	2.48 288	*e*P		Pn	20 01 09.6 -3.8
PICO			*e*S		Sn	20 01 37.7 -6.9
CALA	Caldeira	2.71 289	*e*P		Pn	20 01 12.7 -3.9
CALA			*e*S		Sn	20 01 43.7 -6.8
PCED	Cedros	2.72 290	*e*rx			20 01 30.3

*CSEM **05** 20:05:15.5±0.3, 37.76N×25.42W, h3km, ML2.9, Error ellipse: s-maj=13.2km s-min=6.5km az=175.0, After PDA*
*PDA **05** 20:05:15.5±0.7, 37.76N×25.42W, h3km±1km, MD2.4, ML2.9, Error ellipse: s-maj=1.1km s-min=0.8km az=175.0*

SVSA 05 20:05:15.5±0.7, 37.76N×25.42W, h3km±1km, MD2.4, ML2.9, Error ellipse: s-maj=1.1km s-min=0.8km az=175.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	Vila Franca	0.02	216	*i* P	Pg	20 05 16.6	+0.4
VIF				*i* S	Sg	20 05 17.9	+1.3
	7μm,0.2s						
PCNG	Congro	0.02	77	*i* P	Pg	20 05 16.7	+0.5
PCNG				*i* S	Sg	20 05 17.9	+1.2
	5μm,0.2s						
MESC	Monte Escuro	0.04	331	*i* P	Pg	20 05 16.8	+0.4
MESC				*i* S	Sg	20 05 18.4	+1.4
LFA	Lagoa do Fogo	0.05	283	*i* P	Pg	20 05 17.1	+0.5
PRCH	Ribeira Ch	0.06	233	*e*P	Pg	20 05 17.1	+0.4
PRCH				*i* S	Sg	20 05 18.4	+0.8
FRA1	Furnas	0.06	110	*i* P	Pg	20 05 17.4	+0.6
FRA1				*i* S	Sg	20 05 18.9	+1.3
PMAT	Coroa da Mata	0.07	325	*i* P	Pg	20 05 17.2	+0.3
PMAT				*i* S	Sg	20 05 18.8	+0.9
	3μm,0.2s						
PVER	Pico Vermelho	0.08	296	*i* P	Pg	20 05 17.9	+0.7
CML	Cha da Macela	0.10	275	*i* P	Pg	20 05 17.9	+0.4
CML				*i* S	Sg	20 05 20.2	+1.3
PFAD	Fenais da Ajud	0.11	46	*i* P	Pg	20 05 18.4	+0.6
PFAD				*i* S	Sg	20 05 20.6	+1.3
MIRA	Miradouro	0.12	78	*i* P	Pg	20 05 18.5	+0.6
MIRA				*i* S	Sg	20 05 21.1	+1.6
FAC	Faja de Cima	0.18	274	*e*P	Pg	20 05 19.9	+0.8
FAC				*i* S	Sg	20 05 22.7	+1.1
PDA	Ponta Delgada	0.19	265	*e*P	Pg	20 05 20.3	+1.0
PSAN	Santo Antonio	0.26	291	*e*P	Pg	20 05 21.4	+0.8
PSAN				*i* S	Sg	20 05 25.1	+1.1
PFET	Feteiras	0.29	281	*e*P	Pg	20 05 21.6	+0.2
SET2	Ginetes	0.31	285	*e*P	Pg	20 05 21.8	0.0
SET4	Mosteiros	0.32	291	*e*P	Pg	20 05 21.9	0.0
PSMN	Pico do Norte,	0.81	159	*e*S	Sg	20 05 39.7	-2.8

*NIED **05** 20:36:00, 33.10N×137.10E, h14km, Mw3.8 Best double couple: M0 5.02×10^14 NP1:φ=91°, δ=53°, λ=117°. NP2:φ=231°, δ=45°, λ=59°.*
*JMA **05** 20:36:36.3±0.1, 33.15N×137.06E, h42km±2km, M3.8*

ISC 05 20:36:36.6±0.9, 33.17N±0.06×137.06E±0.03, h42km, n15, σ0=53/29, 9D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	Tokai 1	0.74	37	P	P	20 36 50.5	-0.1
TK01				*e*S	S	20 37 00.7	-0.2
TK02	Tokai 2	0.96	37	||P	P	20 36 53.9	0.0
TK02				*e*S	S	20 37 06.8	+0.2
JWZ	Kozaga	1.18	288	||P	P	20 36 56.8	-0.1
JWZ				*e*S	S	20 37 11.2	-0.9
TK03	Tokai 3	1.24	37	P	P	20 36 57.9	+0.1
TK03				*e*S	S	20 37 13.7	0.0
JIE	Ise	1.25	346	||P	P	20 36 58.4	+0.5
JIE				*e*S	S	20 37 14.5	+0.6
TK04	Tokai 4	1.39	29	||P	P	20 37 00.1	+0.2
TK04				*e*S	S	20 37 17.4	+0.1
JWM	Minabe	1.58	296	||P	P	20 37 02.7	+0.1
JWM				*e*S	S	20 37 21.5	-0.5
JWY	Kouya	1.61	311	||P	P	20 37 03.8	+0.7
JWY				*e*S	S	20 37 22.9	+0.1
TSUJ	Tsu 2	1.62	341	P	P	20 37 03.7	+0.4
TSUJ				*e*S	S	20 37 23.3	+0.2
JHE	Heguri	1.87	323	||P	P	20 37 07.3	+0.6
JHE				*e*S	S	20 37 29.5	+0.3
SHZ3	Shizuoka 3	2.11	26	P	P	20 37 10.1	-0.2
SHZ3				*e*S	S	20 37 34.1	-1.4
JAJ2	Tsuna	2.20	305	||P	P	20 37 12.2	+0.8
JAJ2				*e*S	S	20 37 37.8	+0.2
JAI	Aioi	2.27	287	||P	P	20 37 12.6	+0.2
JAI				*e*S	S	20 37 38.0	-1.3
JHJ2	Mitsune	2.31	91	P	P	20 37 12.9	-0.2
MAT	Matsushiro	3.49	15	P	P	20 37 30.3	+0.5
MAT				S	S	20 38 09.6	-0.8

*CSEM **05** 21:16:50.1±0.0, 36.42N×10.76E, h10km, MD3.6, After SBS*

TUN 05 21:16:50.1, 36.42N×10.76E, h10km, MD3.6, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBZ	Menzel Bouzelf	0.27	344	*i* P	Pg	21 16 55.3	-0.4
ZGN	Zaghouan	0.54	264	*i* P	Pg	21 17 00.0	-0.9
TROT	Trozza	1.27	228	*i* P	Pb	21 17 13.2	-0.5

MAN 05 21:20:38.0, 17.95N×122.37E, mb4.1, ML2.9, MS2.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	0.42	314	*e*P	Pg	21 20 46.3	0.0
SGCP				*e*S	Sg	21 20 51.9	-0.1
CVP	Callao Caves	0.57	245	||*i*P	Pg	21 20 51.0	+1.6
CVP				*i* S	Sg	21 21 00.0	+3.0
PALP	Palanan	0.88	176	*e*P	Pg	21 20 55.1	-0.4
APYP	Conner	1.07	266	*e*P	Pb	21 20 58.4	-0.7
APYP				*e*S	Sb	21 21 16.6	+3.2
CAUP	Cauayan	1.12	207	*e*P	Pb	21 21 01.5	+1.5
ABRA	Dolores	1.60	260	*e*P	Pn	21 21 06.9	-0.8
BALP	Baler	2.32	199	*e*P	Pn	21 21 18.1	+0.1
BALP				*e*S	Sn	21 21 50.3	+2.7

MAN 05 21:22:20.8, 17.85N×120.56E, h6km, mb4.1, ML2.9, MS2.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	0.25	144	*e*P	Pg	21 22 27.1	+1.3
ABRA				*e*S	Sg	21 22 29.7	+0.4
APYP	Conner	0.65	89	*e*P	Pg	21 22 32.4	-1.4
APYP				*e*S	Sg	21 22 39.0	-3.5
BCPH	Baguio City Da	1.46	179	||*i*P	Pn	21 22 47.1	-0.8
BCPH				*e*S	Sb	21 23 06.0	-0.8
SGCP	Mt. Cagua	1.47	74	*e*P	Pn	21 22 47.7	-0.1
CAUP	Cauayan	1.51	127	*e*P	Pn	21 22 48.6	+0.2
PALP	Palanan	1.94	114	*e*P	Pn	21 22 54.2	-0.5
BALP	Baler	2.31	155	*e*P	Pn	21 23 01.5	+1.4

*CSEM **05** 21:33:20.6±0.1, 67.78N×20.14E, h2km, ML1.7, Error ellipse: s-maj=3.0km s-min=2.7km az=51.0, Suspected Mining explosion.*
*UPP **05** 21:33:21.5, 67.82N×20.20E, h0km, ML2.7, Suspected Mining explosion.*

HEL 05 21:33:22.0±0.1, 67.82N×20.18E, ML1.7, ML2.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.15	23	*i* P	Pg	21 33 24.5	-0.5
KUA				*i* S	Sg	21 33 26.6	-0.3
NIKU	Nikkaluokta	0.44	277	*i* P	Pg	21 33 30.0	-0.8
NIKU	Nikkaluokta	0.44	277	P	Pg	21 33 29.9	-0.9
DUNU	Dundret	0.72	168	*i* P	Pg	21 33 34.9	-1.5
LANU	Lannavaara	0.72	70	*i* P	Pg	21 33 34.9	-1.5
LANU	Lannavaara	0.72	70	P	Pg	21 33 34.8	-1.6
MASU	Masugnsbyn	0.78	117	*i* P	Pg	21 33 36.0	-1.6
PAJU	Pajala	1.39	124	*e*P	Pb	21 33 46.8	-1.7
ERTU	Ertsjaerv	1.49	147	*e*P	Pn	21 33 48.9	-1.2
KTK1	Kautokeino	1.65	42	*e*P	Pn	21 33 51.8	-0.5
TRO	Tromso	1.88	346	*e*S	Sn	21 34 19.4	-1.0
SGF	Sodankyl	2.46	96	*e*P	Pn	21 34 03.4	-0.6
SGF				*e*S	Sn	21 34 34.3	-0.8
SGF				*e*SG	Sg	21 34 38.1	-5.7
SGF				MSG		21 34 40.2	
	comp=Z,3.0nm,0.2s						
SGF	Sodankyl	2.46	96	P	Pn	21 34 03.3	-0.6
SGF				S	Sn	21 34 34.3	-0.8
MOR8	Moi Rana	2.80	236	*e*SG	Sg	21 34 44.8	-10
MOR8	Moi Rana	2.80	236	Sg	Sg	21 34 44.7	-10
KEV	Kevo	3.15	49	*e*P	Pn	21 34 12.6	-1.2
KEV				*e*S	Sn	21 34 51.9	-0.8
OUL	Oulu	3.58	137	*e*SB	Sb	21 35 08.5	-1.7
KU4	Oulanka	3.95	107	*e*SG	Sg	21 35 24.6	-9.0
MSF	Maaselka	3.98	115	*e*P	Pn	21 34 24.2	-1.5
MSF				*e*SG	Sg	21 35 24.6	-10
MSF	Maaselka	3.98	115	P	Pn	21 34 24.1	-1.6

CASC 05 21:44:09.9±2.1, 13.15N×89.55W, h47km±35km, MD4.1, ML4.0, 12C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	Serv Nac Est T	0.62	30	*e*P	P	21 44 22.4	-0.1
SNET				*e*S	S	21 44 32.5	+0.8
SNET				*i*		21 44 35.3	
	comp=Z,10μm,0.2s						
BOQS	Boqueron	0.64	24	||*i*P	P	21 44 22.9	+0.1
LFRS	El Faro	0.67	45	||*i*P	P	21 44 23.2	0.0
SBLS	San Blas	0.69	354	||*e*P	P	21 44 23.3	-0.2
SNJE	San Jose	0.72	356	||*e*P	P	21 44 23.6	-0.2
LFU	La Fuente	0.74	36	||*i*P	P	21 44 24.3	+0.2
RTR	El Retiro	0.75	353	||*e*P	P	21 44 24.1	-0.1
LCBS	La Ceiba	0.75	48	||*i*P	P	21 44 24.3	0.0
LBRS	Las Brisas	0.77	40	||*i*P	P	21 44 24.8	+0.3
LBRS				*e*S	S	21 44 36.3	+1.0
SNVI	San Vicente	0.84	56	||*e*P	P	21 44 25.5	+0.1
SNVI				*e*S	S	21 44 38.8	+1.9
RBDL	Robledal	0.97	352	||*e*P	P	21 44 27.2	-0.1
MTO2	Montecristo 2	1.26	9	||*e*P	P	21 44 31.4	0.0
MTO2				*e*S	S	21 44 48.4	+0.9
VSM	San Miguel	1.28	77	||*e*P	P	21 44 31.9	+0.3
VSM				*e*S	S	21 44 49.7	+1.7
BLLM	Bellamira	1.31	77	||*e*P	P	21 44 32.5	+0.2
BLLM				*e*S	S	21 44 50.0	+1.1
CAHU	Cacacuatique	1.45	64	||*e*P	P	21 44 34.0	-0.1
CNCH	Conchagua	1.68	85	||*e*P	P	21 44 37.1	-0.3
CNCH				*e*S	S	21 44 59.1	+1.3
TEL3	Telica 3	2.70	102	*e*P	P	21 44 50.4	-1.6
CNGN	Cerro Negro	2.86	103	*e*P	P	21 44 52.5	-1.7
CNGN				*e*S	S	21 45 25.6	-2.0
MIRN	Miramar	2.86	104	*e*P	P	21 44 53.5	-0.7
MOMJ	Momotombo	3.03	104	*e*P	P	21 44 54.3	-2.3
MOMJ				*e*S	S	21 45 30.1	-1.9
COPN	Copaltepe	3.05	108	*e*P	P	21 44 55.5	-1.3
APYN	Apoyeque	3.26	106	*e*P	P	21 44 58.1	-1.7
MGAN	Managua	3.38	107	*e*S	S	21 45 39.1	-1.6
MGAN				*i*		21 45 42.9	
	comp=N,314nm,0.5s						
WILN	Americas 2	3.43	106	*e*S	S	21 45 40.6	-1.4
JCR	Jicaral	5.45	127	*e*P	P	21 45 30.6	-0.1
JCR				*e*S	S	21 46 30.5	-2.4
VPS2	Volcan Poas 2	5.98	119	*e*P	P	21 45 39.1	+1.0
PRS1	Puriscal	6.02	121	*e*P	P	21 45 39.5	+0.9
LAJ	Bijagual	6.24	121	*e*P	P	21 45 37.6	-4.2
LCR2	La Lucha 2	6.41	121	*e*P	P	21 45 44.5	+0.4
URSC	Urasca	6.55	120	*e*P	P	21 45 46.7	+0.7
BUS	Buena Vista	6.71	122	*e*P	P	21 45 49.0	+0.7
BUS				*e*S	S	21 47 03.0	-1.3

*CSEM **05** 21:45:18.8±0.1, 34.75N×57.43E, h10km, ML3.5, Error ellipse: s-maj=5.8km s-min=3.1km az=153.0*
*TEH **05** 21:45:22.5, 34.74N×57.44E, h19km, Mn3.5*
*THR **05** 21:45:34.2±0.3, 34.58N×56.03E, h15km, ML3.2*

ISC 05 21:45:20.1±0.7, 34.80N±0.08×57.31E±0.06, h10km, n15, σ0=75/15, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOG	Moghan	2.11	51	Pn	Pn	21 45 55.4	-0.6
IPAY	Payeh	2.14	39	Pn	Pn	21 45 56.8	+0.3
IKRD	Kardeh	2.20	26	Pn	Pg	21 46 04.2	+0.1
IMYA	Miamay	2.75	55	Pn	Pn	21 46 04.6	-0.5
ICHK	Chekchek	3.52	224	Pn	Pn	21 46 16.5	+0.4
IFIR	Firoozkooh	3.83	284	Lg	Sg	21 47 25.4	-2.2
IFIR	Firoozkooh	3.83	284	Pn	Pn	21 46 21.2	+0.8
IMEH	Mehriz	4.08	214	Pn	Pn	21 46 23.3	-0.8
NASN	Na'in	4.25	243	*e*PN	Pn	21 46 26.6	+0.2
NASN				AML	AML	21 47 43.6	
	comp=E,54nm,0.4s						
NASN				AML	AML	21 47 48.3	
	comp=N,55nm,0.5s						
IDMV	Damavand	4.39	282	Pn	Pn	21 46 29.2	+0.7
DAMV	Damavand	4.45	282	*e*PN	Pn	21 46 30.3	+0.9
DAMV				AML	AML	21 47 55.2	
	comp=N,46nm,0.6s						
DAMV				AML	AML	21 48 01.2	
	comp=E,48nm,0.6s						
IAFJ	Afjeh	4.70	285	Pn	Pn	21 46 33.5	+0.7
ZHSF	Zahedan	5.95	149	*e*PN	Pg	21 47 10.1	-8.8
ASAO	Ashtian	6.01	270	*e*PN	Pn	21 46 50.6	-0.7
ASAO				AML	AML	21 48 40.5	
	comp=N,11nm,0.6s						
ASAO				AML	AML	21 48 48.9	
	comp=E,15nm,0.7s						
IRAZ	Razeghan	6.08	278	Pn	Pn	21 46 52.0	-0.4

*CSEM **05** 22:01:57.5, 37.67N×20.75E, h7km, MD3.4/8, After ATH*
*NEIC **05** 22:01:57.5, 37.67N×20.75E, h7km, MD3.5(ATH), After ATH.*

ATH 05 22:01:57.5, 37.67N×20.75E, h7km, MD3.5/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.52	346	*e*PB	Pb	22 02 06.5	-2.1
ITM	Ithomi	1.06	117	*e*PN	Pn	22 02 18.0	-0.6
EVR	Evrytania	1.50	33	*e*PB	Pb	22 02 26.5	+1.2
JAN	Janina	1.98	2	*e*PG	Pg	22 02 35.0	-2.2
MGER	Gerania Oros	2.01	80	*e*PN	Pn	22 02 34.0	+1.7
NSAL	Nisos Salamina	2.16	83	*e*PB	Pb	22 02 35.0	-1.6
KEK	Kerkira	2.17	340	*e*PN	Pn	22 02 37.0	+2.4
PTL	Penteli	2.49	80	*e*PB	Pb	22 02 39.0	-3.3

*BJI **05** 22:11:12.5, 4.73N×94.67E, h22km, mB4.6, mb4.8*
*NEIC **05** 22:11:15.1±1.4, 4.64N×94.68E, h30km, mb4.5/7, Error ellipse: s-maj=36.2km s-min=22.0km az=50.0*

ISC 05 22:11:13.8±1.4, 4.7N±0.2×94.9E±0.2, h30km, n16, σ0=94/16, mb4.6/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	Jiri	24.30	341	*e*P	P	22 16 30.7	+0.7
	17nm,0.5s,mb4.7						
PKI	Pulchoki	24.48	339	*e*P	P	22 16 32.1	+0.4
	12nm,0.5s,mb4.6						
DMN	Daman	24.62	339	*e*P	P	22 16 34.5	+1.4
	10nm,0.5s,mb4.6						
GUN	Gumba	24.63	341	*e*P	P	22 16 33.0	-0.2
	21nm,0.5s,mb4.9						
KKN	Kakani	24.73	339	*e*P	P	22 16 34.1	0.0
	17nm,0.8s,mb4.6						
GKN	Gorkha	25.15	338	*e*P	P	22 16 38.3	+0.2
	18nm,0.6s,mb4.8						
KOLN	Koldanda	25.34	336	*e*P	P	22 16 40.3	+0.4
	23nm,0.6s,mb4.9						
ENH	Enshi	28.96	27	*e*P	P	22 17 11.5	-1.5
	9.9nm,0.6s,mb4.7						
XAN	Xi'an	32.01	22	P	P	22 17 38.7	-1.2
XAN				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.0						
BJT	Baijiatuau	40.10	26	*e*P	P	22 18 50.4	+1.9
	comp=Z,4.6nm,0.6s,mb4.4						
WRAB	Tennant Creek	45.88	124	*e*P	P	22 19 36.3	+0.6
	comp=Z,4.7nm,0.7s,mb4.5						
HIA	Hailar	49.20	21	P	P	22 20 01.8	+0.5
	comp=Z,4.5nm,0.8s,mb4.5						
MAT	Matsushiro	50.83	45	*e*P	P	22 20 14.0	+0.1
BRVK	Borovoye	52.28	342	*e*P	P	22 20 24.0	-0.7
	comp=Z,2.3nm,0.7s,mb4.2						
CHKZ	Chkalovo	52.71	342	*e*P	P	22 20 27.0	-0.8
	comp=Z,7.0nm,0.7s,mb4.7						
KAF	Kangasniemi	75.94	333	*e*p	P	22 22 57.7	-1.6
	comp=Z,1.4nm,0.5s,mb4.2						

*CSEM **05** 22:13:06.5±0.1, 37.76N×25.42W, h2km, ML2.9, Error ellipse: s-maj=4.7km s-min=2.6km az=3.0, After PDA*
*PDA **05** 22:13:06.5±0.7, 37.76N×25.42W, h2km±1km, MD2.5, ML2.9, Error ellipse: s-maj=1.2km s-min=1.1km az=122.0*

SVSA 05 22:13:06.5±0.7, 37.76N×25.42W, h2km±1km, MD2.5, ML2.9, Error ellipse: s-maj=1.2km s-min=1.1km az=122.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	Congro	0.02	74	*i* P	Pg	22 13 07.7	+0.6
PCNG				*i* S	Sg	22 13 08.9	+1.4
VIF	Vila Franca	0.02	221	*i* P	Pg	22 13 07.6	+0.5
VIF				*i* S	Sg	22 13 08.8	+1.3
MESC	Monte Escuro	0.04	330	*i* P	Pg	22 13 07.8	+0.4
MESC				*i* S	Sg	22 13 09.3	+1.4
LFA	Lagoa do Fogo	0.05	283	*i* P	Pg	22 13 08.1	+0.5
FRA1	Furnas	0.06	109	*i* P	Pg	22 13 08.3	+0.6
PRCH	Ribeira Ch	0.06	234	*i* P	Pg	22 13 08.1	+0.4
PRCH				*i* S	Sg	22 13 09.6	+1.1
PMAT	Coroa da Mata	0.07	325	*i* P	Pg	22 13 08.2	+0.3
PMAT				*i* S	Sg	22 13 09.8	+0.9
	3μm,0.2s						
PVER	Pico Vermelho	0.08	296	*i* P	Pg	22 13 08.5	+0.3
CML	Cha da Macela	0.10	276	*i* P	Pg	22 13 08.9	+0.4
PFAD	Fenais da Ajud	0.11	45	*i* P	Pg	22 13 09.4	+0.7
MIRA	Miradouro	0.12	78	*i* P	Pg	22 13 09.5	+0.6
FAC	Faja de Cima	0.18	274	*e*P	Pg	22 13 10.9	+0.7
PDA	Ponta Delgada	0.19	266	*e*P	Pg	22 13 11.2	+0.8
PDA				*e*S	Sg	22 13 14.3	+1.4
PSAN	Santo Antonio	0.26	291	*i* P	Pg	22 13 12.3	+0.7
PFET	Feteiras	0.30	281	*i* P	Pg	22 13 12.7	+0.3
SET2	Ginetes	0.32	285	*i* P	Pg	22 13 13.4	+0.6
SET4	Mosteiros	0.32	291	*i* P	Pg	22 13 13.3	+0.4
PSMN	Pico do Norte,	0.81	159	*e*P	Pg	22 13 20.7	-1.9
PSMN				*i* S	Sg	22 13 30.4	-3.0
ROSA	Rosais	2.42	294	*e*rx		22 13 40.5	
PICO	Pico	2.48	288	*e*P	Pn	22 13 44.9	-3.6
CALA	Caldeira	2.71	289	*e*rx		22 13 49.3	

*CNRM **05** 22:30:08.0, 35.07N×2.68W, h13km, MD2.7*
*CSEM **05** 22:30:10.1±0.4, 35.11N×3.08W, h15km, MD2.7, Error ellipse: s-maj=10.0km s-min=5.6km az=123.0*
*NEIC **05** 22:30:11.5, 35.10N×3.19W, MG3.2(MDD), After MDD.*

MDD 05 22:30:09.2±0.5, 35.00N×2.78W, h11km±3km, mb3.1/7, Error ellipse: s-maj=6.7km s-min=5.5km az=98.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	Zaio	0.04	133	P	Pg	22 30 11.0	-0.4
ZAI				S	Sg	22 30 13.0	+0.2
EMLI	Melilla	0.33	335	P	Pg	22 30 16.9	+0.7
	43nm,0.1s,SNR=6.6						
EMLI				S	Sg	22 30 20.5	-0.3
	50nm,0.1s,SNR=7.9						
EMEL	Melilla	0.34	335	P	Pg	22 30 16.0	-0.3
	28nm,0.1s,SNR=4.0						
EMEL				S	Sg	22 30 20.2	-0.7
	159nm,0.2s,SNR=7.9						
TOU	Touzarine	0.80	268	*i* P	Pb	22 30 23.5	-1.1
TOU				*i* S	Sb	22 30 36.0	+0.8
TZK	Tazeka	1.47	232	*i* P	Pn	22 30 34.5	-1.3
TZK				*i* S	Sb	22 30 53.5	-1.1
EBER	Berja	1.90	357	P	Pn	22 30 42.6	+0.7
EBER				S	Sn	22 31 05.0	-1.0
EBER	Berja	1.90	357	P	Pn	22 30 39.6	-2.3
	0.5nm,0.2s,SNR=4.0						
EBER				S	Sn	22 31 02.9	-3.0
	6.7nm,0.5s,SNR=5.4						
EBER	Berja	1.90	357	P	Pn	22 30 42.6	+0.7
	0.4nm,0.2s,SNR=7.9						
EBER				S	Sn	22 31 05.0	-1.0
	4.7nm,0.4s,SNR=5.4						
ENIJ	Nijar	2.03	13	P	Pn	22 30 42.6	-1.2
ENIJ				S	Sn	22 31 07.6	-1.6
ENIJ	Nijar	2.03	13	P	Pn	22 30 42.7	-1.0
	2.7nm,0.3s,SNR=4.0						
ENIJ				S	Sn	22 31 07.9	-1.3
	2.6nm,0.3s,SNR=7.9						
ENIJ	Nijar	2.03	13	P	Pn	22 30 42.6	-1.1
	1.7nm,0.2s,SNR=4.0						
ENIJ				S	Sn	22 31 07.6	-1.6
	2.1nm,0.3s,SNR=7.9						
EMIJ	Mijas	2.25	315	P	Pn	22 30 44.2	-2.7
EMIJ				S	Sn	22 31 09.2	-5.8
EMIJ	Mijas	2.25	315	P	Pn	22 30 44.2	-2.8
	0.9nm,0.1s,SNR=5.9						
EMIJ				S	Sn	22 31 06.9	-8.1
	2.4nm,0.3s,SNR=5.0						
EMIJ	Mijas	2.25	315	P	Pn	22 30 44.2	-2.8
	0.9nm,0.1s,SNR=5.9						
EMIJ				S	Sn	22 31 09.2	-5.8
	3.1nm,0.3s,SNR=5.0						
EQES	Quesada	2.81	355	P	P

0.2nm,0.1s,SNR=4.0
EGRO **El Granado** **4.57 305** P Pn 22 31 16.2 -3.7
EGRO S Sn 22 32 06.0 -7.6
EBAD **Badajoz** **5.06 319** P Pn 22 31 24.0 -2.8
0.3nm,0.1s,SNR=4.0
EBAD S Sn 22 32 18.6 -7.4
0.4nm,0.2s,SNR=4.0

DJA 05 22:48:11.1±0.9, 9.02S×113.92E, h85km±7km, MD4.8/4, ML4.2/3, 3C-1D, Error ellipse: s-maj=24.6km s-min=12.8km az=22.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**0.58**	**23⇑**	*e*Pn	P	22 48 25.6	-0.7
	624nm,0.2s						
SRDI				*e*Sn	S	22 48 36.4	-1.1
KELI	**Kelakatan**	**0.98**	**35⇑**	*e*Pn	P	22 48 30.1	-0.4
	592nm,0.2s						
KELI	**Kelakatan**	**0.98**	**35**	*e*P	P	22 48 31.0	+0.5
KELI				*e*Sn	S	22 48 44.6	-0.5
RATI	**Rata**	**1.62**	**80⇑**	*e*Pn	P	22 48 38.6	-0.1
	206nm,0.2s						
RATI				*e*Sn	S	22 48 58.1	-1.0
KEDI	**Kedomdong**	**2.24**	**76⇓**	*i*Pn	P	22 48 45.5	-1.5
	59nm,0.2s						
KEDI				*e*Sn	S	22 49 10.4	-3.2

CSEM 05 23:03:07.8, 66.51N×17.54W, h13km, ML3.8, After REY, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**0.19**	**281**	P	Pg	23 03 11.8	-0.5
IGRI				S	Sg	23 03 14.9	-0.4
IFLA	**Flatey**	**0.37**	**200**	P	Pg	23 03 14.9	-0.6
IFLA				S	Sg	23 03 20.4	-0.3
IBRE	**Brettingsstaoi**	**0.41**	**201**	P	Pg	23 03 15.5	-0.9
IBRE				S	Sg	23 03 21.6	-0.5
ILEI	**Leirhofn**	**0.43**	**103**	P	Pg	23 03 15.7	-1.1
ILEI				S	Sg	23 03 22.2	-0.5
IHED	**Heoinshofoi**	**0.44**	**168**	P	Pg	23 03 15.7	-1.1
IHED				S	Sg	23 03 21.7	-1.2
IGRA	**Granastaoir**	**0.59**	**182**	P	Pb	23 03 18.1	-1.4
IGRA				S	Sb	23 03 26.1	-1.4
IGIL	**Gilhagi**	**0.65**	**131**	P	Pb	23 03 19.0	-1.4
IGIL				S	Sb	23 03 27.8	-1.3
IHLA	**Hella**	**0.66**	**212**	P	Pb	23 03 19.2	-1.5
IHLA				S	Sb	23 03 28.2	-1.3
ISIG	**Siglufjorour**	**0.67**	**236**	P	Pb	23 03 19.0	-1.9
ISIG				S	Sb	23 03 27.5	-2.3
IKVO	**Krokottuvotn**	**0.84**	**161**	P	Pb	23 03 22.1	-1.7
IKVO				S	Sb	23 03 32.8	-1.9
IREN	**Reynihlio**	**0.90**	**163**	P	Pb	23 03 23.1	-1.7
IREN				S	Sb	23 03 34.9	-1.6
IGRS	**Grimsstaoir**	**1.05**	**146**	P	Pb	23 03 25.5	-1.8
IGRS				S	Sb	23 03 39.1	-1.6
IHRN	**Hraun**	**1.12**	**250**	P	Pb	23 03 25.7	-2.8
IHRN				S	Sb	23 03 39.4	-3.4
ISVA	**Svartarkot**	**1.18**	**174**	P	Pb	23 03 27.6	-2.0
ISVA				S	Sb	23 03 43.3	-1.3
IADA	**Aoalbol**	**1.70**	**151**	P	Pn	23 03 36.4	-1.1
IADA				S	Sn	23 03 58.3	-0.9
IHVA	**Hvannstoosfjol**	**1.71**	**155**	P	Pn	23 03 36.5	-1.0
IBRU	**Bruarjokull**	**1.79**	**160**	P	Pn	23 03 37.8	-0.9
IBRU				S	Sn	23 04 01.2	-0.3
IHVE	**Hveravellir**	**1.85**	**208**	P	Pn	23 03 38.4	-1.1
IHVE				S	Sn	23 04 01.9	-1.0
IVSH	**V-Sauoahnukur**	**1.86**	**155**	P	Pn	23 03 38.8	-1.0
IVSH				S	Sn	23 04 02.1	-1.3
ISKR	**Skrokkalda**	**1.99**	**191**	P	Pn	23 03 40.0	-1.6
ISKR				S	Sn	23 04 05.1	-1.4
IASB	**`sbjarnarst**	**2.36**	**223**	P	Pn	23 03 45.9	-1.1
IASB				S	Sn	23 04 14.7	-1.3
IVAT	**Vatnsfell**	**2.40**	**195**	P	Pn	23 03 46.2	-1.3
IVAT				S	Sn	23 04 16.7	-0.3
IGYG	**Gygjarholskot**	**2.50**	**208**	P	Pn	23 03 49.0	+0.1
IKAL	**Kalfafell**	**2.57**	**181**	P	Pn	23 03 48.5	-1.4

CSEM 05 23:21:37.6, 66.51N×17.54W, h13km, ML4.1, After REY, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**0.19**	**281**	P	Pg	23 21 41.6	-0.5
IGRI				S	Sg	23 21 44.7	-0.4
IFLA	**Flatey**	**0.37**	**200**	P	Pg	23 21 44.8	-0.5
IFLA				S	Sg	23 21 50.2	-0.3
IBRE	**Brettingsstaoi**	**0.41**	**202**	P	Pg	23 21 45.3	-0.9
IBRE				S	Sg	23 21 51.3	-0.6
ILEI	**Leirhofn**	**0.43**	**103**	P	Pg	23 21 45.5	-1.0
ILEI				S	Sg	23 21 51.7	-0.8
IHED	**Heoinshofoi**	**0.44**	**168**	P	Pg	23 21 45.4	-1.2
IHED				S	Sg	23 21 51.4	-1.2
IGRA	**Granastaoir**	**0.59**	**182**	P	Pb	23 21 48.0	-1.3
IGRA				S	Sb	23 21 55.9	-1.4
IGIL	**Gilhagi**	**0.65**	**131**	P	Pb	23 21 48.8	-1.4
IGIL				S	Sb	23 21 57.6	-1.2
IHLA	**Hella**	**0.66**	**212**	P	Pb	23 21 49.0	-1.5
IHLA				S	Sb	23 21 57.7	-1.6
ISIG	**Siglufjorour**	**0.67**	**237**	P	Pb	23 21 48.8	-1.9
ISIG				S	Sb	23 21 56.9	-2.7
IKVO	**Krokottuvotn**	**0.84**	**161**	P	Pb	23 21 51.9	-1.7
IREN	**Reynihlio**	**0.90**	**163**	P	Pb	23 21 52.9	-1.7
IREN				S	Sb	23 22 04.8	-1.5
IGRS	**Grimsstaoir**	**1.04**	**146**	P	Pb	23 21 55.0	-2.1
IGRS				S	Sb	23 22 09.2	-1.3
IHRN	**Hraun**	**1.12**	**250**	P	Pb	23 21 55.3	-3.0
IHRN				S	Sb	23 22 08.6	-4.0
ISVA	**Svartarkot**	**1.18**	**174**	P	Pb	23 21 57.3	-2.1
ISVA				S	Sb	23 22 12.8	-1.6
IBRU	**Bruarjokull**	**1.79**	**160**	P	Pn	23 22 06.1	-2.4
IHVE	**Hveravellir**	**1.85**	**208**	P	Pn	23 22 07.9	-1.4
IHVE				S	Sn	23 22 30.9	-1.8
IVSH	**V-Sauoahnukur**	**1.86**	**155**	P	Pn	23 22 08.4	-1.2
ISKR	**Skrokkalda**	**1.99**	**191**	P	Pn	23 22 09.7	-1.7
IGRF	**Grimsfjall**	**2.11**	**177**	P	Pn	23 22 11.5	-1.7
IASB	**`sbjarnarst**	**2.36**	**223**	P	Pn	23 22 15.1	-1.7
IASB				S	Sn	23 22 44.4	-1.5
IVAT	**Vatnsfell**	**2.40**	**195**	P	Pn	23 22 15.7	-1.6
IVAT				S	Sn	23 22 45.7	-1.1
IGYG	**Gygjarholskot**	**2.50**	**208**	P	Pn	23 22 17.6	-1.1
IKAL	**Kalfafell**	**2.57**	**181**	P	Pn	23 22 18.1	-1.6
IFAG	**Fagurholsmyri**	**2.67**	**172**	P	Pn	23 22 19.8	-1.3
IKUD	**Kuludalsa**	**2.85**	**222**	P	Pn	23 22 21.8	-1.9

*NAO **05** 23:28:03.2±3.2, 67.56N×34.01E, ML2.2*
*CSEM **05** 23:28:09.7±0.5, 67.75N×33.64E, h15km, ML2.6, Error ellipse: s-maj=10.2km s-min=4.4km az=90.0*

HEL 05 23:28:09.1±0.8, 67.69N×33.54E, ML2.6, ML2.2(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.23**	**247**	*i*P	Pg	23 28 10.9	-2.7
APA0				*i*S		23 28 15.8	
APA0				*e*RG		23 28 18.8	
APA0	**Apatity Array**	**0.23**	**247**	Pg	Pg	23 28 10.9	-2.7
	baz=83,slow=18						
APA0				Lg		23 28 15.8	
	baz=80,slow=37						
APA0				Rg		23 28 18.8	
	baz=81,slow=37						
APA0	**Apatity Array**	**0.23**	**247**	Pg	Pg	23 28 10.9	-2.7
	baz=83,slow=17,SNR=462						
APA0				Lg		23 28 15.8	
	baz=80,slow=35,SNR=6.9						
KU4	**Oulanka**	**2.05**	**231**	*e*P	Pn	23 28 43.6	-1.6
KU4				*e*S	Sn	23 29 11.1	-0.7
MSF	**Maaselka**	**2.52**	**227**	*e*P	Pn	23 28 52.0	0.0
MSF				*e*S	Sn	23 29 24.4	+0.4
MSF	**Maaselka**	**2.52**	**227**	P	Pn	23 28 52.0	0.0
MSF				S	Sn	23 29 24.3	+0.4
SGF	**Sodankyl**	**2.70**	**268**	*e*PG	Pg	23 28 57.0	-6.0
SGF				*e*S	Sn	23 29 27.8	-0.6
KEV	**Kevo**	**3.16**	**314**	*e*P	Pn	23 28 59.4	-1.7
KEV				*e*S	Sn	23 29 38.2	-1.7
KEV	**Kevo**	**3.16**	**314**	P	Pn	23 28 59.3	-1.7
KEV				S	Sn	23 29 38.2	-1.7
ARA0	**ARCESS Array S**	**3.48**	**306**	Pn	Pn	23 29 01.5	-4.1
	baz=121,slow=16						
ARA0				Sn	Sn	23 29 45.2	-2.8
	baz=119,slow=28						
ARA0				Lg		23 29 56.2	
	baz=111,slow=28						
ARA0	**ARCESS Array S**	**3.48**	**306**	*e*P	Pn	23 29 01.5	-4.1
ARA0				*e*S	Sn	23 29 45.2	-2.8
ARA0				*e*SG		23 29 56.2	
ARA0	**ARCESS Array S**	**3.48**	**306**	Pn	Pn	23 29 01.5	-4.0
	baz=121,slow=14,SNR=9.4						
ARA0				S	Sn	23 29 45.2	-2.8
OUL	**Oulu**	**4.04**	**233**	*e*P	Pn	23 29 13.5	-0.1
OUL				*e*SB	Sb	23 30 08.5	-2.2
OUL	**Oulu**	**4.04**	**233**	P	Pn	23 29 13.4	-0.1
OUL				Sb	Sb	23 30 08.4	-2.3
KJN	**Kajaani**	**4.34**	**216**	*e*S	Sn	23 30 05.9	-4.0
KJN				*e*SG	Sg	23 30 21.8	-12
KJN				MSG		23 30 25.7	
	comp=Z,10nm,0.6s						
SUF	**Sumiainen**	**5.88**	**215**	*e*S	Sn	23 30 44.4	-4.3
KAF	**Kangasniemi**	**6.39**	**212**	*e*SG	Sg	23 31 25.0	-17
FIA0	**FINESS Array S**	**7.04**	**211**	*e*	Sn	23 31 06.2	-12
FIA0				*e*		23 31 40.5	
FIA0	**FINESS Array S**	**7.04**	**211**	Sn	Sn	23 31 06.2	-12
	baz=35,slow=18						
FIA0				Lg		23 31 40.5	
	baz=24,slow=28						

*MEX **06** 00:02:19.6±0.9, 19.43N×109.15W, h10km*
*BJI **06** 00:02:21.8, 20.06N×108.20W, h22km, mB5.9, mb5.5, Ms5.6, Msz5.5*
*HRVD **06** 00:02:21.1±0.2, 19.80N×109.09W, h17km±1km, MW5.6/65, Centroid moment Tensor Solution. LP body waves: s46,c76;Mantle waves: s65,c135; Half duration: 1#6 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.51±.07; $M_{\theta\theta}$-2.85±.07; $M_{\phi\phi}$3.36±.08; $M_{r\theta}$0.47±.18; $M_{\theta\phi}$-0.50±.06; $M_{\phi r}$0.05±.19; Best double couple: M_o3.19×10^{17} NP1: ϕ_s311°,δ82°,λ-172°. NP2:ϕ_s220°,δ83°,λ-8°. Principal axes: T 3.4, Plg0°, Azm265°; N -.418, Plg79°, Azm356°; P -2.979, Plg11°, Azm175°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 00:02:21.1±0.4, 19.57N×109.11W, h10km, mb5.3/74, MS5.2/6, MW5.7 Error ellipse: s-maj=7.5km s-min=4.3km az=30.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.09; $M_{\theta\theta}$-3.99; $M_{\phi\phi}$4.09; $M_{r\theta}$-0.57; $M_{\theta\phi}$0.76; $M_{\phi r}$-0.63; Best double couple: M_o4.2×10^{17} NP1: ϕ_s140°,δ78°,λ179°. NP2:ϕ_s230°,δ89°,λ12°. Principal axes: T 4.27, Plg9°, Azm96°; N -.14, Plg78°, Azm236°; P -4.13, Plg7°, Azm5°;*
*GUC **06** 00:02:25.3±0.0, 19.61N×109.11W, h40km, mb5.3(NEIC), MS4.9(NEIC), MW5.7(NEIC)*

ISC 06 00:02:21.6±1.6, 19.68N±0.05×109.04W±0.04, h19km±10km, h20km±.9km; pP-P, n194, σ1903/183, mb5.3/63, MS5.1/6, 14C-4D, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**3.77**	**92**	*i*P	**Pn**	**00 03 16.5**	**-3.8**
CJM				*i*S	**Sn**	**00 03 59.0**	**-5.6**
MAIG	**Mazatlaan**	**4.25**	**34**	*i*S	**Sn**	**00 04 15.7**	**-1.1**
LPIG	**La Paz**	**4.55**	**345⇓**	*i*P	**Pn**	**00 03 29.1**	**-2.2**
COLM	**Colima**	**5.07**	**95**	*i*P	**Pn**	**00 03 36.6**	**-2.1**
COLM				*i*S	**Sn**	**00 04 33.1**	**-4.3**
SFJM	**Santa Fe**	**5.70**	**81**	*e*P	**Pn**	**00 03 47.0**	**-0.5**
MOIG	**Morelia**	**7.40**	**89**	*e*P	**Pn**	**00 04 10.1**	**-1.3**
ZIIG	**Zihuatanejo**	**7.47**	**105**	*i*P	**Pn**	**00 04 06.0**	**-6.4**
CAIG	**El Cayaco**	**8.73**	**106⇑**	*i*P	**P**	**00 04 28.9**	**-1.1**
ACX	**Acapulco**	**9.11**	**106**	*i*P	**P**	**00 04 36.0**	**+0.8**
PLIG	**Platanillo**	**9.11**	**97⇑**	*i*P	**P**	**00 04 35.0**	**-0.2**
UNM	**Universidad Na**	**9.31**	**91**	*e*P	**P**	**00 04 40.0**	**+2.1**
YAIG	**Yautepec**	**9.46**	**93⇑**	*i*P	**P**	**00 04 38.4**	**-1.6**
PPM	**Popocatepetl**	**9.85**	**92⇑**	*i*P	**P**	**00 04 45.5**	**0.0**
PPM				*e*P		00 04 47.0	
LTX	**Lajitas**	**10.78**	**26**	*e*P	**P**	**00 04 58.8**	**+0.5**
POHV	**Veracruz**	**11.12**	**91**	*e*P	**P**	**00 05 04.0**	**+1.2**
VHO	**Vista Hermosa**	**11.97**	**101⇑**	*i*P	**P**	**00 05 14.1**	**-0.3**
OXX	**Oaxaca**	**11.97**	**100**	*e*P	**P**	**00 05 15.0**	**+0.5**
GDL2	**Guadalupe Moun**	**13.15**	**18**	*e*P	**P**	**00 05 33.3**	**+3.2**
JCT	**Junction City**	**13.62**	**36⇑**	*e*P	**P**	**00 05 37.2**	**+0.9**
CMIG	**Matias Romero**	**13.68**	**99⇑**	*i*P	**P**	**00 05 35.9**	**-1.4**
CPRX	**Cap Rock**	**14.07**	**18**	P	**P**	**00 05 46.6**	**+4.2**
LENM	**Lemitar**	**14.54**	**7**	*e*P	**P**	**00 05 50.4**	**+1.9**
ANMO	**Albuquerque**	**15.38**	**8**	*e*P	**P**	**00 06 01.4**	**+2.0**
	124nm,1.3s						
CCIG	**Comitan**	**16.43**	**99⇑**	*i*P	**P**	**00 06 13.9**	**+0.9**
AMTX	**Amarillo**	**16.48**	**22**	*e*P	**P**	**00 06 14.2**	**+0.7**
	238nm,1.4s						
WMOK	**Wichita Mounta**	**17.53**	**29⇑**	*e*P	**P**	**00 06 26.5**	**-0.3**
	142nm,1.2s						
NATX	**Nacogdoches**	**17.65**	**44**	*e*P	**P**	**00 06 26.9**	**-1.3**
	696nm,1.5s						
DAC	**Darwin (Calif)**	**18.16**	**337⇑**	*e*P	**P**	**00 06 35.0**	**+0.4**
	614nm,2.1s						
DAC				*e*		00 08 22.1	
ARUT	**Antelope Range**	**18.44**	**349**	*e*P	**P**	**00 06 39.1**	**+1.0**
MVU	**Marysvale**	**18.96**	**352**	*e*P	**P**	**00 06 44.2**	**0.0**
	195nm,1.7s						
TRCR	**Troy Canyon**	**19.45**	**344**	*e*P	**P**	**00 06 49.7**	**-0.3**
MTUM	**Tungsten Hills**	**19.47**	**337**	*e*P	**P**	**00 06 49.6**	**-0.6**
TEIG	**Tepich**	**19.53**	**85**	*e*P	**P**	**00 06 49.0**	**-2.0**
	64nm,1.6s						
TMUT	**Trail Mountain**	**19.64**	**355**	*e*P	**P**	**00 06 53.0**	**+0.9**
TPH	**Tonopah**	**19.66**	**340**	*e*P	**P**	**00 06 52.3**	**0.0**
LRV	**Little Rabbit**	**19.72**	**330**	*e*P	**P**	**00 06 53.1**	**+0.1**
OMM	**Old Mammoth Mi**	**19.87**	**336**	*e*P	**P**	**00 06 54.2**	**-0.4**
MIAR	**Mount Ida**	**20.18**	**40⇓**	*e*P	**P**	**00 06 56.3**	**-1.6**
	137nm,1.4s						
SAO	**San Andreas Ge**	**20.19**	**330⇑**	*e*P	**P**	**00 06 56.4**	**-1.6**
	899nm,2.1s						
ISCO	**Idaho Springs**	**20.27**	**8**	*e*P	**P**	**00 06 59.7**	**+0.9**
	80nm,1.3s						
ISCO				LR	LR		
	comp=Z,15μm,21.0s,MS5.3						
MNV	**Mina**	**20.29**	**339**	*e*P	**P**	**00 06 59.0**	**0.0**
	comp=Z,382nm,1.6s						
NLU	**North Lily Min**	**20.37**	**353**	*e*P	**P**	**00 07 00.3**	**+0.3**
MPU	**Maple Canyon**	**20.39**	**354**	*e*P	**P**	**00 07 00.6**	**+0.5**
DAU	**Daniels Canyon**	**20.75**	**355**	*e*P	**P**	**00 07 03.9**	**+0.1**
CMB	**Columbia Colle**	**20.78**	**334**	*e*P	**P**	**00 07 02.9**	**-1.2**
	comp=Z,69nm,1.2s						
JLU	**Jordanelle**	**20.95**	**355**	*e*P	**P**	**00 07 06.2**	**+0.2**
NOQ	**North Oquirrh**	**21.07**	**353**	P	**P**	**00 07 08.2**	**+1.1**
CTU	**Camp Tracy**	**21.07**	**354**	P	**P**	**00 07 09.5**	**+2.4**
UALR	**University of**	**21.08**	**41**	*e*P	**P**	**00 07 07.0**	**-0.3**
	comp=Z,125nm,1.1s,mb5.2						
BGU	**Big Grassy Mou**	**21.45**	**352⇓**	*e*P	**P**	**00 07 11.2**	**+0.3**
TCUT	**Toone Canyon**	**21.46**	**355**	*e*P	**P**	**00 07 11.1**	**+0.1**
WCN	**Washoe City**	**21.63**	**337**	*e*P	**P**	**00 07 13.2**	**+0.4**
	comp=Z,177nm,1.2s,mb5.4						
SPUT	**South Promonto**	**21.75**	**353**	*e*P	**P**	**00 07 14.6**	**+0.6**
PHWY	**Pilot Hill**	**21.77**	**7**	*e*P	**P**	**00 07 14.8**	**+0.7**
BMN	**Battle Mountai**	**21.84**	**343**	*e*P	**P**	**00 07 14.9**	**+0.1**
	comp=Z,225nm,1.6s,mb5.3						
PAHR	**Pah Rah Range**	**21.85**	**338**	*e*P	**P**	**00 07 14.2**	**-0.9**
	comp=Z,256nm,2.1s,mb5.3						
HWUT	**Hardware Ranch**	**21.96**	**355**	*e*P	**P**	**00 07 16.5**	**+0.4**
	comp=Z,254nm,1.5s,mb5.4						
RWWY	**Rawlins**	**21.99**	**4**	*e*P	**P**	**00 07 17.1**	**+0.8**
KSU1	**Kansas State U**	**22.13**	**26**	P	**P**	**00 07 17.9**	**+0.1**
HVU	**Hansel Valley**	**22.25**	**353**	*e*P	**P**	**00 07 19.6**	**+0.6**
OHCM	**Honcut**	**22.34**	**334**	*e*P	**P**	**00 07 20.0**	**+0.2**
HBAR	**Harrisburg**	**22.64**	**42**	*e*P	**P**	**00 07 23.9**	**+1.0**
HOPS	**Hopland**	**22.75**	**331**	P	**P**	**00 07 25.0**	**+1.1**
	comp=Z,107nm,1.3s,mb5.1						
MET	**Memphis--Engin**	**22.83**	**44**	P	**P**	**00 07 25.7**	**+0.9**
BW06	**Boulder Array**	**23.02**	**359**	*e*P	**P**	**00 07 25.6**	**-0.9**
	comp=Z,151nm,1.7s,mb5.2						
AHID	**Auburn Hatcher**	**23.08**	**356**	*e*P	**P**	**00 07 27.7**	**+0.6**
	comp=Z,18nm,0.9s,mb4.5						
HALT	**Halls**	**23.70**	**43**	P	**P**	**00 07 33.5**	**+0.3**
LRAL	**Lakeview Retre**	**23.75**	**52**	*e*P	**P**	**00 07 34.0**	**+0.3**
	comp=Z,417nm,2.4s,mb5.4						
SNOW	**Snow King Moun**	**23.75**	**357**	*e*P	**P**	**00 07 35.1**	**+1.4**
TPAW	**Teton Pass**	**23.79**	**357**	*e*P	**P**	**00 07 34.5**	**+0.5**
WDC	**Whiskeytown Da**	**23.82**	**334**	*e*P	**P**	**00 07 32.6**	**-1.7**
	comp=Z,16nm,1.1s,mb4.4						
WUWY	**Wally Ulrich**	**23.83**	**357**	*e*P	**P**	**00 07 35.6**	**+1.2**
LOHW	**Long Hollow**	**23.89**	**357**	*e*P	**P**	**00 07 36.0**	**+0.9**
GLAT	**Glass**	**23.95**	**42**	*e*P	**P**	**00 07 36.0**	**+0.4**
MOOW	**Moose Ponds**	**24.04**	**357**	*e*P	**P**	**00 07 37.5**	**+1.1**
WVOR	**Wild Horse Val**	**24.09**	**342**	*e*P	**P**	**00 07 37.1**	**+0.1**
	comp=Z,276nm,1.7s,mb5.4						
MOD	**Modoc**	**24.12**	**339**	*e*P	**P**	**00 07 36.8**	**-0.5**
	comp=Z,261nm,1.3s,mb5.5						
IMW	**Indian Meadow**	**24.20**	**357**	*e*P	**P**	**00 07 39.0**	**+1.1**
HLID	**Hailey**	**24.23**	**350**	*e*P	**P**	**00 07 38.8**	**+0.4**
	comp=Z,35nm,0.8s,mb4.8						
UTMT	**University of**	**24.27**	**43**	*e*P	**P**	**00 07 38.7**	**-0.1**
	comp=Z,384nm,1.8s,mb5.5						
KHMM	**Horse Mountain**	**24.57**	**332**	*e*P	**P**	**00 07 41.4**	**-0.2**
YFT	**Old Faithful**	**24.74**	**357**	*e*P	**P**	**00 07 45.2**	**+2.0**
LKWY	**Lake**	**24.84**	**358**	*e*P	**P**	**00 07 43.9**	**-0.3**
	comp=Z,139nm,1.4s,mb5.3						
YBH	**Yreka Blue Hor**	**24.86**	**335**	*e*P	**P**	**00 07 42.4**	**-2.0**
	comp=Z,15nm,1.1s,mb4.5						
SLM	**Saint Louis**	**24.94**	**37**	*e*P	**P**	**00 07 46.2**	**+1.1**
	comp=Z,112nm,1.0s,mb5.3						
YMR	**Madison River**	**24.97**	**357**	*e*P	**P**	**00 07 45.6**	**+0.2**
YNR	**Norris Junctio**	**25.00**	**357**	*e*P	**P**	**00 07 47.9**	**+2.2**
JTS	**JuntasAbangare**	**25.04**	**108**	*e*P	**P**	**00 07 48.8**	**+2.4**
	comp=Z,56nm,1.3s,mb4.9						
KRMB	**Red Mountain**	**25.18**	**333**	*e*P	**P**	**00 07 49.5**	**+2.1**
MCMT	**McKenzie Canyo**	**25.27**	**354**	*e*P	**P**	**00 07 49.7**	**+1.4**
BOZ	**Bozeman (W)**	**25.98**	**356**	*e*P	**P**	**00 07 55.0**	**0.0**
	comp=Z,64nm,1.4s,mb5.0						
USIN	**University of**	**26.02**	**41**	*e*P	**P**	**00 07 56.0**	**+0.7**
	comp=Z,528nm,1.3s,mb5.9						
GCMT	**Greycliff**	**26.04**	**359**	*e*P	**P**	**00 07 56.7**	**+1.2**
HBO	**Huckleberry Mo**	**26.53**	**338**	P	**P**	**00 07 59.6**	**-0.5**
DWPF	**Disney**	**26.55**	**66**	P	**P**	**00 08 01.3**	**+0.9**
DWPF						00 09 52.7	
GOGA	**Godfrey**	**26.56**	**54**	*e*P	**P**	**00 08 00.4**	**0.0**
	comp=Z,114nm,1.6s,mb5.2						
VIPM	**Ingram Point**	**26.57**	**341**	P	**P**	**00 08 00.5**	**+0.2**
CPCT	**Cooper Cave**	**26.71**	**49**	*e*P	**P**	**00 08 01.8**	**+0.1**
MYNC	**Murphy**	**26.81**	**50**	*e*P	**P**	**00 08 02.6**	**0.0**
	comp=Z,59nm,1.0s,mb5.1						
LAO	**LASA Array**	**27.03**	**4**	*e*P	**P**	**00 08 04.0**	**-0.6**
	comp=Z,279nm,1.8s,mb5.5						
WCI	**Wyandotte Cave**	**27.04**	**42**	*e*P	**P**	**00 08 04.9**	**+0.2**
	comp=Z,194nm,1.4s,mb5.4						
HRY	**Holter Researc**	**27.05**	**356**	*e*P	**P**	**00 08 05.0**	**+0.3**
MSO	**Missoula**	**27.37**	**353**	*e*P	**P**	**00 08 06.1**	**-1.5**
	comp=Z,62nm,1.5s,mb4.9						
CHMT	**Chamberlain Mo**	**27.38**	**354**	*e*P	**P**	**00 08 07.3**	**-0.4**
BLO	**Bloomington**	**27.47**	**40**	P	**P**	**00 08 06.4**	**-2.2**
	comp=Z,96nm,1.5s,mb5.1						
SSOR	**Sweet Springs**	**27.47**	**339**	P	**P**	**00 08 07.7**	**-0.8**
HBF	**Harts Bluff**	**28.78**	**57**	P	**P**	**00 08 13.0**	**-7.5**
LON	**Longmire**	**28.95**	**342**	P	**P**	**00 08 21.5**	**-0.4**
DGMT	**Dagmar**	**28.98**	**7**	*e*P	**P**	**00 08 21.6**	**-0.5**
	comp=Z,125nm,1.5s,mb5.4						
NHSC	**New Hope**	**29.00**	**57**	*e*P	**P**	**00 08 23.0**	**+0.6**
	comp=Z,117nm,1.2s,mb5.5						
CSU	**Charleston Sou**	**29.04**	**57**	*e*P	**P**	**00 08 22.0**	**-0.9**
NEW	**Newport**	**29.25**	**349**	*e*P	**P**	**00 08 22.7**	**-1.9**
	comp=Z,39nm,0.9s,mb5.1						
WTV	**Waterville**	**29.32**	**345**	P	**P**	**00 08 25.1**	**-0.1**
PWV	**Princeton**	**30.07**	**48**	*e*P	**P**	**00 08 31.6**	**-0.5**
ELN	**Prospectdale**	**30.23**	**49**	P	**P**	**00 08 33.3**	**-0.2**
ACSO	**Alum Creek Sta**	**30.29**	**42**	*e*P	**P**	**00 08 32.4**	**-1.6**
	comp=Z,136nm,1.4s,mb5.5						
FWV	**Forest Hill**	**30.35**	**48**	*e*P	**P**	**00 08 33.4**	**-1.1**
BLA	**Blacksburg**	**30.46**	**49**	*e*P	**P**	**00 08 37.0**	**+1.5**
	comp=Z,32nm,1.2s,mb4.9						
AAM	**Ann Arbor**	**31.12**	**38**	*e*P	**P**	**00 08 42.1**	**+0.9**
	comp=Z,83nm,1.2s,mb5.4						
PGC	**Sidney**	**31.15**	**341**	*e*P	**P**	**00 08 40.5**	**-0.9**
	comp=Z,75nm,1.1s,mb5.4						
MCWV	**Mont Chateau**	**32.02**	**45**	*e*P	**P**	**00 08 48.7**	**-0.5**
	comp=Z,92nm,1.2s,mb5.5						
ALLY	**Alegheny Colle**	**32.87**	**42**	*e*P	**P**	**00 08 56.2**	**-0.3**
ALL

DLF	**Lyons Farm**	**81.65**	**36**	*eP*	pP		00 14 46.0	+0.1
ARE0	**ARCESS Array S**	**85.36**	**15**	*eP*	**P**		**00 14 56.0**	**-2.4**
EVO	**Evora**	**86.19**	**50**	*eP*	**P**		**00 15 02.8**	**-0.4**
	comp=Z,23nm,0.9s,mb5.1							
EVO				*eR*				
	comp=Z,952nm,20.0s							
NB2	**NORSAR Subarra**	**86.48**	**25**	P	pP		00 15 11.1	+0.8
	comp=Z,7.4nm,1.1s,baz=305,slow=4.8							
GRR	**Gorron**	**86.93**	**39**	*eP*	**P**		**00 15 06.8**	**+0.2**
FLN	**La Foliniere**	**86.98**	**39**	*eP*	**P**		**00 15 07.3**	**+0.5**
	comp=Z,77nm,1.0s,mb5.6							
FLN				*eR*				
	comp=Z,1μm,19.2s							
LDF	**La Druitiere**	**87.27**	**39**	*eP*	**P**		**00 15 06.9**	**-1.3**
	comp=Z,175nm,1.6s,mb5.7							
YSS	**Yuzh-Sakhalins**	**87.58**	**319**	P	**P**		**00 15 10.5**	**+0.8**
	comp=Z,35nm,1.1s,mb5.5							
LFF	**La Frestale**	**89.47**	**42**	*eP*	**P**		**00 15 18.6**	**-0.2**
	comp=Z,73nm,1.3s,mb5.5							
TCF	**Toulx Ste Croi**	**89.75**	**40**	*eP*	**P**		**00 15 19.5**	**-0.6**
	comp=Z,23nm,1.0s,mb5.2							
RJF	**Les Rejaudoux**	**89.79**	**41**	*eP*	**P**		**00 15 19.8**	**-0.5**
	comp=Z,36nm,1.1s,mb5.3							
RJF				*eR*				
	comp=Z,1μm,22.5s							
SSF	**Saint Saulge**	**90.15**	**39**	*eP*	**P**		**00 15 21.5**	**-0.5**
	comp=Z,42nm,1.1s,mb5.4							
AVF	**Avril sur Loir**	**90.19**	**39**	*eP*	**P**		**00 15 21.3**	**-0.9**
SMF	**Signal de Mont**	**90.56**	**39**	*eP*	**P**		**00 15 23.2**	**-0.6**
	comp=Z,47nm,1.3s,mb5.3							
HAU	**Haudompre**	**91.33**	**37**	*eP*	**P**		**00 15 26.7**	**-0.6**
HAU				*eR*				
	comp=Z,1μm,19.2s							
CABF	**La Chapelle**	**91.91**	**39**	*eP*	**P**		**00 15 29.9**	**-0.1**
	comp=Z,28nm,0.9s,mb5.3							
LPL	**La Plagne**	**92.86**	**39**	*eP*	**P**		**00 15 35.2**	**+0.7**
	comp=Z,16nm,1.0s,mb5.1							
LPG	**La Plagne**	**92.89**	**39**	*eP*	**P**		**00 15 35.4**	**+0.8**
	comp=Z,50nm,1.4s,mb5.5							
CLL	**Collm**	**93.05**	**32**	*eP*	**P**		**00 15 35.0**	**-0.2**
CLL	**Collm**	**93.05**	**32**	P	**P**		**00 15 35.0**	**-0.2**
MAT	**Matsushiro**	**95.45**	**312**	P	**P**		**00 15 50.1**	**+3.5**
NJ2	**Nanjing**	**111.08**	**318**	*e*PKP	PKPdf		00 20 58.3	+0.1
NJ2				PP	PP		00 21 41.0	+3.3
NJ2				PP	PP			
	comp=Z,560nm,7.2s							
NJ2				LR	LR			
	comp=Z,3μm,24.0s,MS5.8							
WMQ	**Urumqi**	**114.97**	**347**	PKP	PKPdf		00 21 02.7	-2.8
WMQ				PP	PP		00 22 07.0	+1.4
WMQ				LR	LR			
	comp=N,511nm,22.4s,MS5.2							
WMQ				LR	LR			
	comp=E,442nm,24.8s,MS5.2							
WMQ				LR	LR			
	comp=Z,501nm,24.2s,MS5.0							
ENH	**Enshi**	**118.02**	**322**	*eP*	PKPdf		00 21 07.8	-3.9
ADE	**Adelaide**	**118.95**	**240**	⇓*i*P	PKPdf		00 21 14.1	+0.6
MAW	**Mawson**	**131.82**	**176**	PKPdf	PKPdf		00 21 33.6	-3.8
MBAR	**Mbarara**	**136.30**	**69**	*e*PKPdf	PKPdf		00 21 40.3	-6.8
LSZ	**Lusaka**	**139.04**	**91**	PKP	PKPdf		00 21 42.0	-10

*BJI **06** 00:04:08.5, 19.18N×109.97W, h18km, mB6.0, mb5.2, Ms5.8, Msz5.4*
*HRVD **06** 00:04:09.6±0.7, 19.76N×109.08W, h12km±3km, MW5.4/50, Centroid moment Tensor Solution. LP body waves: s21,c26;Mantle waves: s50,c76; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.33±.11; $M_{\theta\theta}$-1.54±.10; $M_{\phi\phi}$1.87±.13; $M_{r\theta}$-0.38±.29; $M_{\theta\phi}$-0.25±.09; $M_{\phi r}$0.13±.26; Best double couple: $M_0$1.78×10^{17} NP1:ϕ_s40°, δ76°,λ-8°. NP2:ϕ_s132°, δ82°,λ-166°. Principal axes: T 1.899, Plg4°, Azm265°; N -.243, Plg74°, Azm161°; P -1.661, Plg16°, Azm357°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 00:04:09.6±0.7, 19.64N×109.11W, h10km, mb5.2/36 Error ellipse: s-maj=11.8km s-min=7.2km az=20.0*
ISC 06 00:04:06.2±0.9,**19.42N**±0.10×**109.12W**±0.06,**h10**km,**n86,** σ1§**14**/83,**mb5.2**/30,**MS5.3**/3,**Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTX	**Lajitas**	**11.05**	**26**	*eP*	**P**	**00 06 46.1**	**-1.3**
GDL2	**Guadalupe Moun**	**13.43**	**18**	P	**P**	**00 07 21.1**	**+1.7**
JCT	**Junction City**	**13.87**	**36**	*eP*	**P**	**00 07 23.6**	**-1.8**
CPRX	**Cap Rock**	**14.35**	**18**	*eP*	**P**	**00 07 33.1**	**+1.6**
LENM	**Lemitar**	**14.81**	**7**	P	**P**	**00 07 39.4**	**+1.8**
ANMO	**Albuquerque**	**15.65**	**8**	P	**P**	**00 07 49.9**	**+1.4**
	154nm,1.4s						
AMTX	**Amarillo**	**16.76**	**22**	P	**P**	**00 08 02.8**	**+0.1**
	91nm,1.2s						
WMOK	**Wichita Mounta**	**17.80**	**29**	*eP*	**P**	**00 08 14.7**	**-1.0**
NATX	**Nacogdoches**	**17.90**	**44**	*eP*	**P**	**00 08 16.3**	**-0.6**
	548nm,1.6s						
MVU	**Marysvale**	**19.21**	**353**	*eP*	**P**	**00 08 34.1**	**+1.2**
MTUM	**Tungsten Hills**	**19.68**	**337**	*eP*	**P**	**00 08 40.3**	**+1.9**
TPH	**Tonopah**	**19.88**	**341**	*eP*	**P**	**00 08 40.3**	**-0.3**
	393nm,1.8s						
TMUT	**Trail Mountain**	**19.89**	**355**	P	**P**	**00 08 42.0**	**+1.3**
LRV	**Little Rabbit**	**19.91**	**331**	*eP*	**P**	**00 08 41.1**	**+0.2**
OMM	**Old Mammoth Mi**	**20.08**	**337**	*eP*	**P**	**00 08 45.9**	**+3.2**
MIAR	**Mount Ida**	**20.43**	**39**	*eP*	**P**	**00 08 47.7**	**+1.3**
	99nm,1.4s						
MNV	**Mina**	**20.51**	**339**	*eP*	**P**	**00 08 46.7**	**-0.4**
	185nm,1.6s						
ISCO	**Idaho Springs**	**20.54**	**8**	*eP*	**P**	**00 08 47.2**	**-0.3**
	47nm,1.1s						
MPU	**Maple Canyon**	**20.64**	**355**	*eP*	**P**	**00 08 47.4**	**-1.2**
CMB	**Columbia Colle**	**20.98**	**334**	*eP*	**P**	**00 08 50.5**	**-1.6**
	29nm,1.4s						
JLU	**Jordanelle**	**21.21**	**355**	*eP*	**P**	**00 08 53.6**	**-0.7**
UALR	**University of**	**21.33**	**41**	*eP*	**P**	**00 08 54.4**	**-1.2**
	143nm,1.3s,mb5.1						
BGU	**Big Grassy Mou**	**21.70**	**352**	*eP*	**P**	**00 08 58.6**	**-0.7**
TCUT	**Toone Canyon**	**21.72**	**355**	*eP*	**P**	**00 08 59.7**	**+0.3**
WCN	**Washoe City**	**21.84**	**337**	*eP*	**P**	**00 09 01.6**	**+0.8**
	177nm,1.5s,mb5.3						
PHWY	**Pilot Hill**	**22.04**	**7**	*eP*	**P**	**00 09 02.8**	**+0.2**
BMN	**Battle Mountai**	**22.07**	**343**	*eP*	**P**	**00 09 01.5**	**-1.4**
	158nm,1.8s,mb5.1						
RWWY	**Rawlins**	**22.26**	**4**	*eP*	**P**	**00 09 03.0**	**-1.9**
HALT	**Halls**	**23.94**	**43**	*eP*	**P**	**00 09 22.3**	**+0.9**
SNOW	**Snow King Moun**	**24.01**	**357**	*eP*	**P**	**00 09 23.1**	**+1.1**
WDC	**Whiskeytown Da**	**24.02**	**334**	P	**P**	**00 09 28.2**	**+6.1**
TPAW	**Teton Pass**	**24.05**	**357**	*eP*	**P**	**00 09 23.4**	**+1.0**
WUWY	**Wally Ulrich**	**24.09**	**357**	*eP*	**P**	**00 09 23.8**	**+1.1**
WVOR	**Wild Horse Val**	**24.32**	**343**	*eP*	**P**	**00 09 25.8**	**+0.8**
	72nm,1.3s,mb4.9						
MOD	**Modoc**	**24.34**	**339**	*eP*	**P**	**00 09 26.2**	**+0.9**
	193nm,1.6s,mb5.3						
YMR	**Madison River**	**25.23**	**357**	*eP*	**P**	**00 09 34.1**	**+0.5**
YNR	**Norris Junctio**	**25.26**	**357**	*eP*	**P**	**00 09 35.4**	**+1.4**
KRMB	**Red Mountain**	**25.38**	**333**	P	**P**	**00 09 33.5**	**-1.6**
USIN	**University of**	**26.27**	**41**	*eP*	**P**	**00 09 44.0**	**+0.5**
	185nm,1.0s,mb5.6						
USIN				*e*		00 09 50.8	
GCMT	**Greycliff**	**26.30**	**359**	*eP*	**P**	**00 09 43.1**	**-0.7**
MYNC	**Murphy**	**27.04**	**50**	*eP*	**P**	**00 09 49.8**	**-0.8**
	55nm,1.0s,mb5.0						
WCI	**Wyandotte Cave**	**27.28**	**42**	*eP*	**P**	**00 09 52.5**	**-0.3**
	69nm,1.1s,mb5.1						
LAO	**LASA Array**	**27.30**	**4**	P	**P**	**00 09 52.4**	**-0.5**
	375nm,2.1s,mb5.5						
HRY	**Holter Researc**	**27.31**	**356**	*eP*	**P**	**00 09 52.8**	**-0.2**
NEW	**Newport**	**29.50**	**349**	*eP*	**P**	**00 10 10.8**	**-2.0**
	74nm,1.5s,mb5.2						
FWV	**Forest Hill**	**30.59**	**48**	*eP*	**P**	**00 10 22.8**	**+0.4**
MCWV	**Mont Chateau**	**32.26**	**45**	*eP*	**P**	**00 10 36.7**	**-0.4**
	56nm,1.0s,mb5.3						
CBN	**Corbin**	**33.30**	**49**	*eP*	**P**	**00 10 46.5**	**+0.3**
	117nm,1.2s,mb5.7						
EDM	**Edmonton**	**33.90**	**355**	*eP*	**P**	**00 10 50.1**	**-1.1**
OTAV	**Otavalo**	**35.59**	**119**	*eP*	**P**	**00 11 11.6**	**+5.4**
	72nm,1.3s,mb5.5						
NCB	**Newcomb**	**38.04**	**42**	P	**P**	**00 11 26.0**	**-0.5**
MSNY	**Massena**	**38.16**	**40**	*eP*	**P**	**00 11 27.4**	**0.0**
MSNY				*e*		00 11 34.2	
MIV	**Mineville/With**	**38.53**	**42**	P	**P**	**00 11 29.7**	**-0.9**
MIV				*e*		00 11 37.2	
SDV	**Santo Domingo**	**38.67**	**100**	P	**P**	**00 11 34.1**	**+2.0**
	13nm,0.9s,mb4.7						
MDV	**Middlebury**	**38.72**	**43**	*eP*	**P**	**00 11 32.3**	**+0.1**
DLBC	**Dease Lake**	**41.86**	**344**	*eP*	**P**	**00 11 58.8**	**+1.0**
DLBC				*e*		00 12 06.1	
YKW3	**Yellowknife Ar**	**43.27**	**356**	*eP*	**P**	**00 12 08.1**	**-1.2**
YKW3				*e*		00 12 15.0	
EYAK	**Cordova Ski Ar**	**48.58**	**337**	*eP*	**P**	**00 12 49.2**	**-2.4**
SLKM	**Skilak Lake**	**50.27**	**335**	*eP*	**P**	**00 13 04.9**	**+0.3**
SLKM				*e*		00 13 12.2	
SML	**Sawmill**	**50.35**	**337**	*eP*	**P**	**00 13 05.3**	**+0.2**
SML				*e*		00 13 12.5	
MCK	**McKinley**	**51.79**	**339**	*eP*	**P**	**00 13 15.8**	**-0.2**
	17nm,0.9s,mb5.0						
MCK				*e*		00 13 22.9	
COLA	**College**	**52.18**	**340**	P	**P**	**00 13 17.7**	**-1.3**
	9.2nm,0.8s,mb4.8						
IMA	**Indian Mountai**	**54.83**	**340**	*eP*	**P**	**00 13 35.4**	**-3.1**
IMA				*e*		00 13 44.8	
BILL	**Bilibino**	**70.15**	**337**	P	**P**	**00 15 20.5**	**-0.1**
	33nm,1.3s,mb5.1						
BILL				*e*		00 15 27.5	
MA2	**Magadan**	**78.45**	**329**	P	**P**	**00 16 09.5**	**+0.9**
	37nm,1.2s,mb5.2						
EVO	**Evora**	**86.42**	**50**	*eP*	**P**	**00 16 58.1**	**+7.7**
	33nm,1.0s,mb5.2						
YAK	**Yakutsk**	**86.51**	**336**	P	**P**	**00 16 52.6**	**+2.4**
	52nm,0.8s,mb5.8						
GRR	**Gorron**	**87.18**	**39**	*eP*	**P**	**00 17 01.4**	**+7.6**
FLN	**La Foliniere**	**87.24**	**39**	*eP*	**P**	**00 17 01.9**	**+7.8**
	76nm,1.2s,mb5.5						
LDF	**La Druitiere**	**87.53**	**39**	*eP*	**P**	**00 17 01.0**	**+5.5**
BAIF	**Baives**	**89.33**	**36**	*eP*	**P**	**00 17 11.0**	**+7.0**
LFF	**La Frestale**	**89.72**	**42**	*eP*	**P**	**00 17 13.3**	**+7.3**
	105nm,1.6s,mb5.6						
TCF	**Toulx Ste Croi**	**90.00**	**40**	*eP*	**P**	**00 17 14.4**	**+7.1**
RJF	**Les Rejaudoux**	**90.04**	**41**	*eP*	**P**	**00 17 14.7**	**+7.2**
	18nm,0.8s,mb5.1						
SSF	**Saint Saulge**	**90.41**	**39**	*eP*	**P**	**00 17 16.3**	**+7.1**
	37nm,1.1s,mb5.3						
AVF	**Avril sur Loir**	**90.45**	**39**	*eP*	**P**	**00 17 16.1**	**+6.7**
SMF	**Signal de Mont**	**90.81**	**39**	*eP*	**P**	**00 17 17.9**	**+6.9**
	64nm,1.4s,mb5.5						
HINF	**Hinteralfeld**	**91.97**	**37**	*eP*	**P**	**00 17 23.1**	**+6.8**
	8.2nm,0.9s,mb4.8						
CABF	**La Chapelle**	**92.16**	**39**	*eP*	**P**	**00 17 24.7**	**+7.5**
	54nm,1.2s,mb5.5						
LPL	**La Plagne**	**93.12**	**39**	*eP*	**P**	**00 17 29.9**	**+8.2**
	15nm,1.1s,mb5.0						
LPG	**La Plagne**	**93.14**	**39**	*eP*	**P**	**00 17 30.3**	**+8.5**
	25nm,1.2s,mb5.2						
CLL	**Collm**	**93.31**	**32**	P	**P**	**00 17 29.0**	**+6.6**
CLL	**Collm**	**93.31**	**32**	*e**PP	pP	00 17 29.0	+3.4
MDJ	**Mudanjiang**	**96.82**	**322**	P	**P**	**00 17 37.7**	**-0.9**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.8s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,157nm,4.8s						
MDJ				LR	LR		
	comp=N,386nm,19.9s,MS5.4						
MDJ				LR	LR		
	comp=E,997nm,17.1s,MS5.4						
MDJ				LR	LR		
	comp=Z,921nm,17.1s,MS5.3						
NJ2	**Nanjing**	**111.22**	**317**	*e*PKP	PKPdf		00 22 43.4	-0.1
NJ2				PP	PP		00 23 26.0	+1.3
NJ2				PKS	PKS		00 26 20.0	+3.8
NJ2				SKS	SKS		00 29 51.0	+25
NJ2				PP	PP			
	comp=Z,560nm,5.8s							
NJ2				LR	LR			
	comp=N,2μm,20.0s,MS5.8							
NJ2				LR	LR			
	comp=E,2μm,23.7s,MS5.8							
NJ2				LR	LR			
	comp=Z,1μm,24.0s,MS5.5							
WMQ	**Urumqi**	**115.21**	**347**	PKP	PKPdf		00 22 52.7	+1.7
WMQ				PP	PP		00 23 57.0	+3.7
WMQ				LR	LR			
	comp=N,334nm,22.5s,MS4.9							
WMQ				LR	LR			
	comp=E,211nm,24.9s,MS4.9							
WMQ				LR	LR			
	comp=Z,451nm,24.5s,MS5.0							

*MAN **06** 00:09:12.0, 5.70N×122.15E, h37km, mb5.0, ML3.9, MS4.0*
MAN ZAMBOANGA CITY INTENSITY II.
*BJI **06** 00:09:18.2, 5.70N×122.00E, h81km, mB5.2, mb4.7, Ms5.3, Msz4.9*
*NEIC **06** 00:09:18.2±4.0, 5.66N×121.97E, h81km±39km, mb4.8/23, Error ellipse: s-maj=22.5km s-min=8.1km az=79.0*
NEIC Felt [III PIVS] on Jolo and [II PIVS] at Zamboanga, Mindanao.
ISC 06 00:09:12.3±0.9,**5.73N**±0.04×**122.12E**±0.05,**h42**km±9km, **n49**, σ0§**91**/59,**mb4.8**/25,**MS4.6**/1,**3C-7D**,**Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**2.10**	**12**	*eP*	**P**	**00 09 46.1**	**+0.3**
IPIL				*eS*	**S**	**00 10 11.2**	**+0.4**
PAGZ	**Pagadian**	**2.46**	**31**	*eP*	**P**	**00 09 50.4**	**-0.4**
PAGZ				*eS*	**S**	**00 10 19.7**	**-0.2**
DCPH	**Dipolog City**	**3.09**	**23**	⇑*i*P	**P**	**00 09 59.8**	**-0.1**
KCP	**Kidapawan**	**3.22**	**67**	⇓*i*P	**P**	**00 10 00.4**	**-1.3**
KCP				*i* S	**S**	**00 10 39.6**	**+0.4**
BUKP	**Musuan**	**3.62**	**54**	*eP*	**P**	**00 10 07.4**	**0.0**
BUKP				*eS*	**S**	**00 10 49.3**	**-0.2**
DAV	**Davao City (W)**	**3.69**	**69**	*eP*	**P**	**00 10 09.5**	**+1.1**
CGP	**Cagayan de Oro**	**3.73**	**43**	⇓*i*P	**P**	**00 10 18.1**	**+9.2**
CGP				*eS*	**S**	**00 10 51.3**	**-0.9**
SNPH	**Sibulan**	**3.76**	**17**	⇓*eP*	**P**	**00 10 10.0**	**+0.6**
SNPH				*i* S	**S**	**00 10 54.0**	**+1.0**
MATI	**Mati**	**4.29**	**73**	*eP*	**P**	**00 10 15.9**	**-1.0**
TBP	**Tagbilaran**	**4.30**	**24**	*eP*	**P**	**00 10 18.4**	**+1.3**
BIPH	**Bislig**	**4.87**	**60**	⇑*eP*	**P**	**00 10 24.8**	**-0.3**
	97μm,1.2s						
BIPH				*eS*	**S**	**00 11 20.3**	**-0.6**
GUIM	**Jordan**	**4.89**	**5**	*eP*	**P**	**00 10 25.6**	**+0.2**
GUIM				*eS*	**S**	**00 11 17.4**	**-4.0**
LLP	**Lapu-Lapu**	**4.92**	**22**	*eP*	**P**	**00 10 25.2**	**-0.5**
LLP				*eS*	**S**	**00 11 13.1**	**-9.0**
MSLP	**Maasin**	**5.15**	**32**	*eP*	**P**	**00 10 30.2**	**+1.1**
CUYO	**Cuyo Island**	**5.21**	**348**	*eP*	**P**	**00 10 30.1**	**+0.3**
CUYO				*eS*	**S**	**00 11 26.5**	**-2.9**
PPR	**Puerto Princes**	**5.24**	**320**	⇓*eP*	**P**	**00 10 22.7**	**-7.6**
RCP	**Roxas**	**5.83**	**6**	⇓*eP*	**P**	**00 10 39.2**	**+0.7**
SJMP	**San Jose**	**6.76**	**352**	*eP*	**P**	**00 10 51.5**	**-0.2**
LUBP	**Lubang**	**8.17**	**347**	*eP*	**P**	**00 11 10.9**	**-0.3**
LUBP	**Lubang**	**8.17**	**347**	*eP*	**P**	**00 11 11.0**	**-0.1**
KAKA	**Kakadu**	**20.99**	**151**	*eP*	**P**	**00 13 54.2**	**-0.5**
	33nm,1.0s						
FITZ	**Fitzroy Crossi**	**23.93**	**172**	*eP*	**P**	**00 14 25.4**	**+1.7**
	33nm,1.1s,mb4.7						
CHG	**Chiang Mai**	**26.07**	**302**	⇓P	**P**	**00 14 38.9**	**-5.2**
	145nm,0.9s,mb5.5						
MBWA	**Marble Bar**	**26.82**	**185**	*eP*	**P**	**00 14 50.6**	**-0.4**
	17nm,0.9s,mb4.6						
ENH	**Enshi**	**27.16**	**336**	*eP*	**P**	**00 14 53.5**	**-0.5**
	14nm,1.0s,mb4.4						
WRAB	**Tennant Creek**	**28.20**	**155**	*eP*	**P**	**00 15 02.4**	**-1.1**
	11nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**28.20**	**155**	⇓*i*P	**P**	**00 15 02.6**	**-1.0**
KS15	**Wonju Array Si**	**32.00**	**9**	*eP*	**P**	**00 15 38.2**	**+1.1**
BJT	**Baijiatuau**	**34.56**	**352**	P	**P**	**00 15 57.6**	**-1.5**
	8.6nm,0.9s,mb4.7						
NWAO	**Narrogin (SRO)**	**38.72**	**187**	*eP*	**P**	**00 16 34.7**	**+0.5**
	13nm,1.0s,mb4.6						
MDJ	**Mudanjiang**	**39.29**	**8**	P	**P**	**00 16 40.8**	**+2.0**
MDJ				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,165nm,5.0s						
MDJ	**Mudanjiang**	**39.29**	**8**	*eP*	**P**	**00 16 40.6**	**+1.8**
	comp=Z,29nm,1.2s,mb4.9						
STKA	**Stephens Creek**	**41.75**	**155**	⇑*i*P	**P**	**00 17 00.7**	**+1.3**
	comp=Z,11nm,0.8s,mb4.5						
HIA	**Hailar**	**43.44**	**358**	*eP*	**P**	**00 17 15.4**	**+2.5**
	comp=Z,5.1nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**43.92**	**345**	*eP*	**P**	**00 17 17.6**	**+0.7**
	comp=Z,7.9nm,0.9s,mb4.4						
YSS	**Yuzh-Sakhalins**	**44.76**	**20**	P	**P**	**00 17 17.5**	**-6.1**
	comp=Z,87nm,1.6s,mb5.3						
TLY	**Talaya**	**48.30**	**345**	*eP*	**P**	**00 17 50.0**	**-1.5**
	comp=Z,7.2nm,0.8s,mb4.8						
WMQ	**Urumqi**	**48.51**	**327**	*eP*	**P**	**00 17 53.8**	**+0.6**
WMQ				AP	pP	00 18 12.8	+7.9
WMQ				XP	sP	00 18 21.7	+12
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,47nm,5.2s						
WMQ				LR	LR		
	comp=N,546nm,20.7s,MS4.7						
WMQ				LR	LR		
	comp=E,687nm,22.7s,MS4.7						
WMQ				LR	LR		
	comp=Z,620nm,20.5s,MS4.6						
YAK	**Yakutsk**	**56.46**	**4**	*eP*	**P**	**00 18 52.1**	**-0.2**
	comp=Z,46nm,1.0s,mb5.5						
MA2	**Magadan**	**58.01**	**17**	*eP*	**P**	**00 19 03.6**	**+0.4**
	comp=Z,14nm,0.8s,mb5.0						
BRVK	**Borovoye**	**63.25**	**328**	*eP*	**P**	**00 19 38.9**	**-0.1**
	comp=Z,21nm,1.0s,mb5.2						
CHKZ	**Chkalovo**	**63.37**	**329**	*eP*	**P**	**00 19 39.2**	**-0.5**
	comp=Z,17nm,1.1s,mb5.1						
ARU	**Arti**	**70.82**	**328**	*eP*	**P**	**00 20 25.0**	**-1.5**
	comp=Z,12nm,0.7s,mb4.9						
ARU				*e*	pP	00 20 36.0	-2.9
OBN	**Obninsk**	**82.79**	**325**	*eP*	**P**	**00 21 33.0**	**-0.5**
	comp=Z,16nm,0.7s,mb5.2						
MCK	**McKinley**	**84.44**	**27**	*eP*	**P**	**00 21 42.3**	**+0.7**
	comp=Z,11nm,0.8s,mb5.0						
COLA	**College**	**84.87**	**25**	*eP*	**P**	**00 21 44.1**	**+0.3**
	comp=Z,6.6nm,0.9s,mb4.8						
JOF	**Joensuu**	**85.31**	**333**	*ep*	**P**	**00 21 45.4**	**-0.6**
	comp=Z,6.4nm,0.7s,mb4.9						
KAF	**Kangasniemi**	**87.70**	**332**	*ep*	**P**	**00 21 57.0**	**-0.6**
	comp=Z,3.9nm,0.7s,mb4.8						
INK	**Inuvik**	**89.99**	**21**	*eP*	**P**	**00 22 08.4**	**+0.1**
	comp=Z,11nm,1.2s,mb5.1						
INK				*e*	pP	00 22 19.9	-1.2

*BJI **06** 00:11:15.6, 5.47N×93.18E, h37km, mB5.5, mb5.4, Ms5.6, Msz5.4*
*MOS **06** 00:11:15.8±0.8, 5.61N×93.31E, h33km, mb5.7/83, MS5.2/11, Error ellipse: s-maj=9.9km s-min=4.3km az=125.1*
*HRVD **06** 00:11:17.1±0.2, 5.53N×93.09E, h12km, MW5.5/64, Centroid moment Tensor Solution. LP body waves: s46,c89;Mantle waves: s64,c126; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.68±.03; $M_{\theta\theta}$0.13±.03; $M_{\phi\phi}$1.55±.03; $M_{r\theta}$0.07±.08; $M_{\theta\phi}$-0.76±.02; $M_{\phi r}$0.51±.07; Best double couple: $M_0$1.856×10^{17} NP1: ϕ_s327°, δ39°,λ-105°. NP2:ϕ_s166°, δ53°,λ-78°. Principal axes: T 1.935, Plg7°, Azm247°; N -.154, Plg9°, Azm338°; P -1.777, Plg78°, Azm121°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 00:11:17.1±0.1, 5.60N×93.25E, h30km, mb5.5/117, MS4.9/3, MW5.5 Error ellipse: s-maj=6.0km s-min=3.8km az=220.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.35; $M_{\theta\theta}$-0.24; $M_{\phi\phi}$1.59; $M_{r\theta}$0.86; $M_{\theta\phi}$-1.15; $M_{\phi r}$0.52; Best double couple: $M_0$2.1×10^{17} NP1: ϕ_s303°, δ54°,λ-138°. NP2:ϕ_s185°, δ57°,λ-44°. Principal axes: T 2.15, Plg2°, Azm245°; N -.03, Plg37°, Azm336°; P -2.12, Plg53°, Azm153°;*
ISC 06 00:11:15.1±0.2,**5.55N**±0.03×**93.26E**±0.03,**h28**km, **h28**km±.7km:**pP-P**,**n464**, σ0§**98**/451,**mb5.5**/154,**MS5.3**/23, **36C-60D**,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.49**	**77**	P	**Pn**	**00 13 05.0**	**-0.3**
	2μm,1.0s						
NNT	**Nongplab**	**9.47**	**42**	P	**P**	**00 13 33.5**	**+0.7**
NST	**Nakhon Sawan**	**12.11**	**33**	P	**P**	**00 14 08.2**	**-0.7**
PALK	**Pallekele**	**12.60**	**278**	*e*Pn	**P**	**00 14 12.2**	**-3.2**
	15nm,0.6s						
PALK				*e*Sn	**S**	**00 16 18.2**	**-18**
MDRS	**Chennai**	**14.85**	**301**	*eP*	**P**	**00 14 51.7**	**+6.4**
MDRS				*e*		00 20 36.0	
NANT	**Nan**	**15.03**	**28**	P	**P**	**00 14 50.5**	**+2.9**
UBT	**Ubonrachathani**	**15.04**	**49**	⇑P	**P**	**00 14 55.5**	**+7.8**
VIS	**Vishakhapatnam**	**15.51**	**322**	*eP*	**P**	**00 14 52.8**	**-1.0**
VIS				*e*		00 14 55.8	
	comp=Z,368nm,0.4s						
KOD	**Kodaikanal**	**16.32**	**288**	*eP*	**P**	**00 15 09.1**	**+4.9**
KOD				*e*		00 15 20.4	
	comp=Z,443nm,1.5s				

BOM				*e*		00 16 42.7
	comp=Z,307nm,2.2s					
BOM				*e*S	**S**	**00 20 48.7 +8.9**
LSA	**Lhasa**	**24.10**	**355**	P	**P**	**00 16 32.7 +3.1**
LSA				AP		00 16 45.0
LSA				AMB	AMB	
	comp=Z,110nm,1.6s,mb5.0					
LSA				LR	LR	
	comp=N,2μm,18.4s,MS4.9					
LSA				LR	LR	
	comp=E,3μm,18.4s,MS4.9					
LSA				LR	LR	
	comp=Z,4μm,18.4s,MS4.9					
LSA	**Lhasa**	**24.10**	**355**	*e*P	**P**	**00 16 28.6 -1.0**
LSA				pmax	pmax	
	comp=Z,157nm,1.0s,mb5.4					
LSA	**Lhasa**	**24.10**	**355**	*e*P	**P**	**00 16 28.6 -1.0**
	comp=Z,157nm,1.0s,mb5.4					
DGAR	**Diego Garcia**	**24.43**	**238**	P	**P**	**00 16 28.3 -4.7**
DGAR				pmax	pmax	
	comp=Z,1μm,1.9s,mb6.0					
DGAR	**Diego Garcia**	**24.43**	**238**	P	**P**	**00 16 28.2 -4.7**
	comp=Z,1μm,1.9s,mb6.0					
BATP	**Bataraza**	**24.55**	**81**	*e*P	**P**	**00 16 35.4 +1.3**
PPR	**Puerto Princes**	**25.58**	**79**	*e*P	**P**	**00 16 45.1 +1.3**
PTH	**Pithoragarh**	**26.86**	**334**	*e*P	**P**	**00 16 57.0 +1.5**
PTH				*e*		00 20 47.0
AJM	**Ajmer**	**27.37**	**322**	*i*P	**P**	**00 17 01.0 +0.8**
NDI	**New Delhi**	**27.58**	**328**	*e*P	**P**	**00 17 02.3 +0.3**
NDI				*e*		00 17 13.1
	comp=Z,247nm,1.5s					
NDI				*i*		00 21 56.8
LUBP	**Lubang**	**27.79**	**71**	*e*P	**P**	**00 17 05.0 +0.9**
LUBP	**Lubang**	**27.79**	**71**	*e*P	**P**	**00 17 05.0 +0.9**
SJMP	**San Jose**	**28.34**	**74**	*e*P	**P**	**00 17 09.7 +0.7**
DDI	**Dehra Dun**	**28.50**	**332**	*e*P	**P**	**00 17 10.3 -0.1**
DDI				*e*		00 20 57.4
ENH	**Enshi**	**28.95**	**30**	*e*P	**P**	**00 17 13.2 -1.2**
	comp=Z,183nm,1.5s,mb5.6					
LQP	**Lukban**	**29.10**	**71⇑**	*e*P	**P**	**00 17 17.0 +1.1**
RCP	**Roxas**	**29.74**	**76⇑**	*e*P	**P**	**00 17 22.9 +1.2**
BHK	**Bhakra**	**30.19**	**330**	*e*P	**P**	**00 17 25.1 -0.4**
QZH	**Quanzhou**	**31.01**	**49⇑**	*i*P	**P**	**00 17 33.8 +1.0**
QZH				S	**S**	**00 22 40.7 +6.0**
QZH				AMB	AMB	
	comp=Z,310nm,1.7s,mb5.9					
QZH				LR	LR	
	comp=N,11μm,12.7s,MS6.0					
QZH				LR	LR	
	comp=E,17μm,11.9s,MS6.0					
QZH				LR	LR	
	comp=Z,35μm,12.4s,MS6.2					
XAN	**Xi'an**	**31.85**	**25**	P	**P**	**00 17 39.0 -1.1**
XAN				AP	pP	00 17 46.9 -1.4
XAN				S	**S**	**00 22 45.3 -2.4**
XAN				AMB	AMB	
	comp=Z,95nm,0.8s,mb5.7					
XAN				LR	LR	
	comp=N,2μm,13.4s,MS5.3					
XAN				LR	LR	
	comp=E,3μm,13.6s,MS5.3					
XAN				LR	LR	
	comp=Z,6μm,11.6s,MS5.5					
LZH	**Lanzhou**	**31.91**	**16**	⇓P	**P**	**00 17 40.2 -0.3**
LZH				AP	pP	00 17 50.6 +1.8
LZH				XP	sP	00 17 55.0 +2.6
LZH				S	**S**	**00 22 48.1 -0.5**
LZH				XS		00 23 07.4
LZH				SS	SS	00 24 45.0 +4.1
LZH				AMB	AMB	
	comp=Z,570nm,1.5s,mb6.2					
LZH				AMB	AMB	
	comp=Z,1μm,4.1s					
LZH				LR	LR	
	comp=E,10μm,13.8s					
LZH				LR	LR	
	comp=Z,8μm,14.1s,MS5.5					
NJ2	**Nanjing**	**35.60**	**39**	*e*P	**P**	**00 18 12.9 +0.4**
NJ2				AP	pP	00 18 24.9 +4.1
NJ2				XP	sP	00 18 32.5 +8.1
NJ2				PP	PP	00 19 36.8 +3.7
NJ2				AMB	AMB	
	comp=Z,250nm,1.1s,mb6.1					
NJ2				AMB	AMB	
	comp=Z,800nm,5.3s					
NJ2				LR	LR	
	comp=N,13μm,18.8s,MS5.9					
NJ2				LR	LR	
	comp=E,15μm,18.0s,MS5.9					
NJ2				LR	LR	
	comp=Z,16μm,19.4s,MS5.8					
SSE	**Sheshan**	**36.50**	**42**	P	**P**	**00 18 21.5 +1.4**
SSE				S	**S**	**00 24 03.9 +4.1**
SSE				XS		00 24 16.5
SSE				AMB	AMB	
	comp=Z,50nm,0.7s,mb5.5					
SSE				AMB	AMB	
	comp=Z,125nm,4.5s					
SSE				LR	LR	
	comp=N,1μm,13.8s,MS5.2					
SSE				LR	LR	
	comp=E,3μm,13.8s,MS5.2					
SSE				LR	LR	
	comp=Z,3μm,13.0s,MS5.3					
WBK	**Wadi Bani Khal**	**37.19**	**301**	⇑P	**P**	**00 18 27.5 +1.6**
	SNR=7.7					
JMDO	**Jabal Madar**	**37.85**	**300**	⇑P	**P**	**00 18 32.8 +1.3**
	SNR=7.0					
SMDO	**Samad**	**38.15**	**301**	⇑P	**P**	**00 18 35.6 +1.6**
	SNR=9.5					
BIDO	**Bidbid**	**38.25**	**301**	⇑P	**P**	**00 18 36.6 +1.8**
	SNR=8.3					
WMQ	**Urumqi**	**38.43**	**354**	P	**P**	**00 18 37.3 +1.2**
WMQ				AP	pP	00 18 44.7 +0.2
WMQ				XP	sP	00 18 48.0 0.0
WMQ				PP	PP	00 20 09.0 +1.3
WMQ				AMB	AMB	
	comp=Z,224nm,0.9s,mb5.9					
WMQ				AMB	AMB	
	comp=Z,1μm,5.6s					
WMQ				LR	LR	
	comp=N,7μm,18.6s,MS5.6					
WMQ				LR	LR	
	comp=E,7μm,21.5s,MS5.6					
WMQ				LR	LR	
	comp=Z,6μm,17.3s,MS5.5					
BSY	**Bisya**	**38.76**	**300**	⇑P	**P**	**00 18 40.9 +1.7**
	SNR=22					
HOQ	**Hoqain**	**38.97**	**301**	⇑P	**P**	**00 18 42.5 +1.7**
	SNR=6.1					
ULHL	**Ulahol**	**39.55**	**340**	P	**P**	**00 18 46.6 +1.1**
	SNR=10					
ARQ	**Araqi**	**39.56**	**300**	⇑P	**P**	**00 18 47.5 +1.8**
	SNR=6.1					
FITZ	**Fitzroy Crossi**	**39.66**	**127⇓**	*i*P	**P**	**00 18 46.1 -0.5**
	comp=Z,59nm,0.6s,mb5.5					
KZA	**Kyzart**	**39.75**	**339**	P	**P**	**00 18 48.4 +1.3**
	SNR=44					
RBK	**Rabkut**	**39.98**	**291**	⇓P	**P**	**00 18 51.0 +1.7**
BJT	**Baijiatuau**	**40.03**	**28**	*e*P	**P**	**00 18 49.8 +0.3**
BJT				pmax	pmax	
	comp=Z,110nm,1.5s					
BJT	**Baijiatuau**	**40.03**	**28**	*e*P	**P**	**00 18 49.8 +0.3**
	comp=Z,110nm,1.5s,mb5.4					
UCH	**Uchtor**	**40.15**	**338**	P	**P**	**00 18 51.9 +1.5**
	SNR=86					
KBK	**Karagaybulak**	**40.36**	**339**	P	**P**	**00 18 53.4 +1.2**
	SNR=64					
TKM2	**Tokmak 2**	**40.37**	**340**	P	**P**	**00 18 53.2 +1.0**
	SNR=5.1					
AML	**Almayashu**	**40.37**	**337**	P	**P**	**00 18 53.8 +1.5**
	SNR=8.5					
WHFO	**Wadi Hawf**	**40.47**	**291**	⇑P	**P**	**00 18 54.3 +1.0**
	SNR=9.4					
AAK	**Ala-Archa**	**40.51**	**339**	P	**P**	**00 18 54.2 +0.9**
	SNR=40					
AAK	**Ala-Archa**	**40.51**	**339**	*e*P	**P**	**00 18 52.2 -1.1**
AAK				pmax	pmax	
	comp=Z,175nm,1.4s,mb5.5					
AAK	**Ala-Archa**	**40.51**	**339**	*e*P	**P**	**00 18 52.2 -1.1**
	comp=Z,175nm,1.4s,mb5.5					
FRU	**Bishkek**	**40.63**	**339⇓**	*e*P	**P**	**00 18 55.0 +0.6**
FRU				*i*	pP	00 19 03.5 +0.7
FRU				pmax	pmax	
	comp=Z,250nm,2.0s,mb5.5					
FRU				MLR	MLR	
	comp=N,3μm,18.0s					
FRU				MLR	MLR	
	comp=Z,4μm,18.0s,MS5.3					
CHMS	**Chumysh**	**40.73**	**339**	P	**P**	**00 18 56.0 +0.8**
	SNR=28					
EKS2	**Erkin-Say**	**40.79**	**338**	P	**P**	**00 18 56.8 +1.1**
	SNR=42					
USP	**Ospenovka**	**41.05**	**339**	P	**P**	**00 18 58.8 +0.9**
	SNR=7.6					
MK02	**Makanchi Array**	**42.14**	**349**	P	**P**	**00 19 06.9 +0.2**
MK02				pmax	pmax	
	comp=Z,53nm,0.8s,mb5.2					
KAKA	**Kakadu**	**42.95**	**115**	*e*P	**P**	**00 19 12.4 -1.4**
	comp=Z,20nm,0.6s,mb5.0					
MUN	**Mundaring**	**43.25**	**151**	*e*P	**P**	**00 19 16.8 +0.8**
	comp=Z,18nm,0.6s,mb5.0					
MUN	**Mundaring**	**43.25**	**151**	*e*P	**P**	**00 19 16.8 +0.8**
MUN				pmax	pmax	
	comp=Z,18nm,0.6s,mb5.0					
KLBR	**Kellerberrin**	**43.70**	**149**	*e*P	**P**	**00 19 20.4 +0.7**
	comp=Z,37nm,1.1s,mb5.0					
ULN	**Ulaanbaatar**	**43.78**	**13⇓**	*i*P	**P**	**00 19 19.7 -0.4**
ULN				pmax	pmax	
	comp=Z,77nm,1.3s,mb5.3					
ULN				MLR	MLR	
	comp=Z,2μm,22.0s,MS5.0					
ULN	**Ulaanbaatar**	**43.78**	**13⇓**	*i*P	**P**	**00 19 19.7 -0.4**
	comp=Z,77nm,1.3s,mb5.3					
ULN				LR	LR	
	comp=Z,2μm,22.0s,MS5.0					
INCN	**Inchon**	**43.98**	**39**	P	**P**	**00 19 19.2 -2.7**
	comp=Z,121nm,1.9s,mb5.3					
INCN				*e*		00 19 42.8
NWAO	**Narrogin (SRO)**	**44.52**	**151**	*e*P	**P**	**00 19 26.4 +0.1**
NWAO				pmax	pmax	
	comp=Z,17nm,0.8s					
NWAO	**Narrogin (SRO)**	**44.52**	**151**	*e*P	**P**	**00 19 26.4 0.0**
	comp=Z,17nm,0.8s,mb4.9					
KS15	**Wonju Array Si**	**44.75**	**40**	P	**P**	**00 19 23.2 -4.9**
ZAK	**Zakamensk**	**45.46**	**9**	*e*P	**P**	**00 19 33.6 0.0**
TLY	**Talaya**	**46.78**	**9**	*e*P	**P**	**00 19 45.1 +1.2**
TLY				*e*S	**S**	**00 26 47.7 +16**
TLY				*e*SS	SS	00 29 48.8 -1.8
TLY				pmax	pmax	
	comp=Z,48nm,1.2s,mb5.3					
TLY				MLR	MLR	
	comp=Z,878nm,14.0s,MS4.9					
TLY	**Talaya**	**46.78**	**9**	*e*P	**P**	**00 19 44.7 +0.8**
	comp=Z,24nm,1.0s,mb5.1					
IRK	**Irkutsk**	**47.42**	**9**	*e*P	**P**	**00 19 49.4 +0.4**
IRK				*e*	pP	00 19 59.8 +2.3
WRAB	**Tennant Creek**	**47.68**	**123⇑**	*i*P	pP	00 19 58.5 -1.5
WRAB	**Tennant Creek**	**47.68**	**123**	*e*P	**P**	**00 19 51.0 -0.5**
	comp=Z,261nm,0.8s,mb6.3					
WRAB				LR	LR	
	comp=Z,525nm,21.0s,MS4.5					
WB2	**Warramunga Arr**	**47.69**	**123**	*e*P	**P**	**00 19 51.3 -0.2**
WB2				*e*S	**S**	**00 26 43.4 -1.2**
HIA	**Hailar**	**48.99**	**23**	*e*P	**P**	**00 20 00.9 -0.3**
HIA				pmax	pmax	
	comp=Z,136nm,1.3s					
HIA	**Hailar**	**48.99**	**23**	*e*P	**P**	**00 20 00.9 -0.2**
	comp=Z,136nm,1.3s,mb5.8					
ASPA	**Alice Springs**	**49.14**	**128**	*e*P	**P**	**00 20 02.7 0.0**
NVS	**Novosibirsk**	**49.81**	**352**	*i*P	**P**	**00 20 06.4 -1.0**
NVS				*e*	pP	00 20 15.3 -0.7
NVS				*e*S	**S**	**00 27 13.3 -0.6**
NVS				pmax	pmax	
	comp=Z,159nm,1.3s,mb5.9					
NVS				pmax	pmax	
	comp=N,207nm,1.5s					
NVS				smax		
	comp=E,202nm,2.0s					
MDJ	**Mudanjiang**	**50.21**	**33**	P	**P**	**00 20 11.0 +0.3**
MDJ				AP	pP	00 20 22.6 +3.4
MDJ				XP	sP	00 20 27.4 +4.9
MDJ				PP	PP	00 22 06.2 -0.7
MDJ				SCP		00 25 20.8
MDJ				S	**S**	**00 27 20.9 +1.3**
MDJ				XS		00 27 41.1
MDJ				AMB	AMB	
	comp=Z,34nm,1.8s,mb5.1					
MDJ				AMB	AMB	
	comp=Z,317nm,6.9s					
MDJ				LR	LR	
	comp=N,2μm,13.6s,MS5.4					
MDJ				LR	LR	
	comp=E,2μm,13.6s,MS5.4					
MDJ				LR	LR	
	comp=Z,3μm,12.9s,MS5.5					
MDJ	**Mudanjiang**	**50.21**	**33**	*e*P	**P**	**00 20 11.2 +0.5**
	comp=Z,67nm,1.3s,mb5.5					
BVA0	**Borovoye Array**	**50.91**	**342**	P	**P**	**00 20 14.8 -1.0**
BVA0				pmax	pmax	
	comp=Z,15nm,1.4s,mb4.7					
MAJO	**Matsushiro**	**51.37**	**47**	P	**P**	**00 20 18.7 -0.8**
MAJO				pmax	pmax	
	comp=Z,12nm,0.7s,mb4.9					
MAJO	**Matsushiro**	**51.37**	**47**	*e*P	**P**	**00 20 17.9 -1.7**
	comp=Z,18nm,0.8s,mb5.0					
MAT	**Matsushiro**	**51.37**	**47**	*e*P	**P**	**00 20 18.0 -1.5**
MAT				*e*S	**S**	**00 27 39.0 +3.3**
MAT				pmax	pmax	
	comp=Z,67nm,1.6s,mb5.3					
MAT	**Matsushiro**	**51.37**	**47**	*e*P	**P**	**00 20 18.0 -1.5**
	comp=Z,67nm,1.6s,mb5.3					
MAT				*e*S	**S**	**00 27 39.0 +3.3**
MAT	**Matsushiro**	**51.37**	**47**	P	**P**	**00 20 18.4 -1.1**
MAT				S	**S**	**00 27 39.0 +3.3**
CHKZ	**Chkalovo**	**51.41**	**343⇓**	*i*P	**P**	**00 20 19.4 -0.2**
CHKZ				*e*	pP	00 20 28.7 +0.5
CHKZ				*e*		00 21 34.2
CHKZ				pmax	pmax	
	comp=Z,244nm,1.1s,mb6.0					
CHKZ	**Chkalovo**	**51.41**	**343⇓**	*i*P	**P**	**00 20 19.4 -0.2**
	comp=Z,244nm,1.1s,mb6.0					
CHKZ				*e*	pP	00 20 28.7 +0.5
CHKZ				*e*PcP	PcP	00 21 34.2 +0.1
KLR	**Kul'dur**	**54.31**	**30**	*e*P	**P**	**00 20 38.0 -3.3**
KLR				pmax	pmax	
	comp=N,72nm,2.0s					
KLR				pmax	pmax	
	comp=E,100nm,2.0s					
KLR				pmax	pmax	
	comp=Z,140nm,2.0s,mb5.5					
KLR				MLR	MLR	
	comp=N,3μm,13.0s					
KLR				MLR	MLR	
	comp=Z,15μm,13.0s,MS6.2					
BOD	**Bodaibo**	**54.59**	**13**	*e*P	**P**	**00 20 41.4 -1.8**
BOD				*e*	pP	00 20 49.8 -2.0
GNI	**Garni**	**55.45**	**316**	*e*P	**P**	**00 20 49.4 -0.4**
GNI				pmax	pmax	
	comp=Z,311nm,1.7s					
GNI	**Garni**	**55.45**	**316**	*e*P	**P**	**00 20 49.4 -0.4**
	comp=Z,311nm,1.7s,mb6.1					
PMG	**Port Moresby**	**55.73**	**105**	*e*P	**P**	**00 20 50.8 -1.2**
PMG				pmax	pmax	
	comp=Z,37nm,0.8s					
PMG	**Port Moresby**	**55.73**	**105**	*e*P	**P**	**00 20 50.8 -1.2**
	comp=Z,37nm,0.8s,mb5.5					
TI2	**Plekhanov**	**56.13**	**318⇑**	*i*P	**P**	**00 20 54.0 -0.6**
TI2				*i*	pP	00 21 03.4 +0.2
TI2				pmax	pmax	
	comp=Z,30nm,1.0s,mb5.3					
KMBO	**Kilima Mbogo**	**56.33**	**265**	P	**P**	**00 20 57.3 +0.9**
KMBO				sP	sP	00 21 04.2 -4.1
KMBO	**Kilima Mbogo**	**56.33**	**265⇓**	*e*P	**P**	**00 20 57.2 +0.8**
KMBO				*e**PP	pP	00 21 04.6 -0.4
KMBO				pmax	pmax	
	comp=Z,109nm,1.6s					
KMBO	**Kilima Mbogo**	**56.33**	**265⇓**	*e*P	**P**	**00 20 57.2 +0.8**
	comp=Z,109nm,1.6s,mb5.6					
KMBO				*e*pP	pP	00 21 04.5 -0.5
CLNS	**Chul'man**	**56.90**	**20**	*e*P	**P**	**00 21 00.1 +0.2**
CLNS				*e*		00 21 56.5
CLNS				*e*S	**S**	**00 28 54.8 +4.9**
CLNS				*e*SS	SS	00 32 37.3 -2.3
CLNS				pmax	pmax	
	comp=N,66nm,1.4s					
CLNS				pmax	pmax	
	comp=Z,121nm,1.4s,mb5.7					
CLNS				pmax	pmax	
	comp=E,55nm,1.3s					
CLNS				pmax	pmax	
	comp=N,20nm,1.2s					
CLNS				pmax	pmax	
	comp=Z,11nm,1.2s,mb4.8					
CLNS				pmax	pmax	
	comp=E,10.0nm,0.9s					
CLNS				smax		
	comp=Z,5.0nm,0.9s					
CLNS				smax		
	comp=N,22nm,1.7s					
CLNS				smax		
	comp=E,17nm,2.2s					
CLNS				MLR	MLR	
	comp=Z,3μm,13.0s,MS5.6					
CLNS				MLR	MLR	
	comp=N,2μm,14.0s,MS5.5					
CLNS				MLR	MLR	
	comp=E,400nm,12.0s,MS5.5					
SVE	**Sverdlovsk**	**57.24**	**339**	*e*P	**P**	**00 21 01.0 -1.3**
SVE				*e*		00 22 00.0
SVE				pmax	pmax	
	comp=Z,420nm,1.8s,mb6.2					
SVE				MLR	MLR	
	comp=Z,3μm,17.0s,MS5.5					
ARU	**Arti**	**57.69**	**338⇑**	*i*P	**P**	**00 21 02.4 -3.0**
ARU				*e*		00 21 54.9
ARU				*e*S	**S**	**00 28 57.7 -2.6**
ARU				*e*		00 30 51.9
ARU				*e*SS	SS	00 32 45.6 -6.7
ARU				*e*SSS	SSS	00 35 15.9 +5.8
ARU				pmax	pmax	
	comp=Z,101nm,1.2s,mb5.7					
ARU				MLR	MLR	
	comp=N,1μm,18.0s,MS5.2					
ARU				MLR	MLR	
	comp=E,600nm,18.0s,MS5.2					
ARU				MLR	MLR	
	comp=Z,2μm,18.0s,MS5.3					
ERZM	**Erzurum**	**57.73**	**314**	*i*P	**P**	**00 21 04.5 -1.5**
CTA	**Charters Tower**	**57.97**	**118**	*e*P	**P**	**00 21 07.7 -0.2**
	comp=Z,26nm,0.9s,mb5.3					
CTA	**Charters Tower**	**57.97**	**118**	*e*P	**P**	**00 21 07.7 -0.2**
CTA				pmax	pmax	
	comp=Z,26nm,0.9s					
CTAO	**Charters Tower**	**57.97**	**118⇓**	*e*P	**P**	**00 21 07.1 -0.8**
CTAO				pmax	pmax	
	comp=Z,58nm,1.1s,mb5.5					
CTAO	**Charters Tower**	**57.97**	**118⇓**	*e*P	**P**	**00 21 07.1 -0.8**
	comp=Z,58nm,1.1s,mb5.5					
KIV	**Kislovodsk**	**58.47**	**319**	P	**P**	**00 21 10.4 -0.7**
	comp=Z,319nm,1.5s,mb6.1,SNR=14					
KIV	**Kislovodsk**	**58.47**	**319⇓**	*i*P	**P**	**00 21 07.0 -4.1**
KIV				*i*		00 21 18.1
KIV				*i*		00 22 08.2
KIV				pmax	pmax	
	comp=Z,55nm,0.9s,mb5.6					
KIV				MLR	MLR	
	comp=Z,800nm,19.0s,MS4.9					
KIV	**Kislovodsk**	**58.47**	**319**	*e*P	**P**	**00 21 09.6 -1.4**
	comp=Z,79nm,1.2s,mb5.6					
KIV				*e*	pP	00 21 19.1 -0.6
GOF	**Gofitskoye**	**58.73**	**320⇓**	*i*P	**P**	**00 21 12.0 -0.9**
GOF				pmax	pmax	
	comp=Z,54nm,1.1s,mb5.5					
ELZG	**Elazig**	**58.96**	**312**	*i*P	**P**	**00 21 12.6 -2.0**
YSS	**Yuzh-Sakhalins**	**59.14**	**37**	*e*P	**P**	**00 21 15.2 -0.5**
YSS				*e*		00 22 01.1
YSS				pmax	pmax	
	comp=Z,70nm,1.4s,mb5.5					
YSS	**Yuzh-Sakhalins**	**59.14**	**37**	P	**P**	**00 21 15.5 -0.2**
STKA	**Stephens Creek**	**59.17**	**132⇓**	*i*P	**P**	**00 21 16.0 -0.1**
	comp=Z,41nm,0.9s,mb5.5					
MALT	**Malatya**	**59.32**	**312**	*e*P	**P**	**00 21 16.2 -0.9**
MALT				*e*	pP	00 21 24.2 -1.6
MALT				pmax	pmax	
	comp=Z,82nm,1.6s,mb5.5					
MALT	**Malatya**	**59.32**	**312**	*e*P	**P**	**00 21 16.2 -0.9**
	comp=Z,82nm,1.6s,mb5.5					
MALT				*e*	pP	00 21 24.1 -1.6
MKRJ	**Makawir**	**59.66**	**303**	P	**P**	**00 21 19.9 +0.4**
GZT	**Gaziantep**	**59.67**	**310**	*i*P	**P**	**00 21 18.6 -0.9**
ZFRI	**Zfri**	**59.83**	**302**	P	**P**	**00 21 20.6 -0.1**
MZDA	**Masada**	**59.84**	**303**	P	**P**	**00 21 20.1 -0.7**
EIL	**Elat**	**59.84**	**301**	P	**P**	**00 21 20.0 -0.8**
EIL	**Elat**	**59.84**	**301**	*e*P	**P**	**00 21 20.3 -0.5**
	comp=Z,31nm,0.9s,mb5.3					
EIL				*e*	pP	00 21 30.4 +0.9
PRNI	**Paran**	**59.94**	**302**	P	**P**	**00 21 20.9 -0.5**
MMLI	**Mount Malkishu**	**60.05**	**304**	P	**P**	**00 21 22.4 +0.2**
KMTI	**Karmit**	**60.12**	**302**	P	**P**	**00 21 21.0 -1.7**
SOC	**Sochi**	**60.28**	**318**	*e*P	**P**	**00 21 17.1 -6.5**
SOC				*e*S	**S**	**00 29 26.8 -7.4**
SOC				*e*		00 31 04.8
SOC				*e*SS	SS	00 33 37.3 +4.4
SOC				pmax	pmax	
	comp=Z,34nm,1.0s,mb5.3					
SOC				pmax	pmax	
	comp=N,46nm,0.9s					
SOC				pmax	pmax	
	comp=E,23nm,0.8s					
SOKR	**Solikamsk**	**60.65**	**340⇑**	*i*P	**P**	**00 21 22.5 -3.4**
SOKR				pmax	pmax	
	comp=Z,70nm,1.3s,mb5.6					
SOKR				MLR	MLR	
	comp=Z,1μm,19.0s,MS5.2					
CSS	**Prodhromos**	**62.33**	**307⇓**	*e*P	**P**	**00 21 37.1 -0.5**
	comp=Z,134nm,1.2s,mb6.0					
YAK	**Yakutsk**	**62.46**	**18**	*e*P	**P**	**00 21 37.1 -0.9**
YAK				*e*		00 22 15.5
YAK				*e*		00 24 00.7
YAK				*e*PPP	PPP	00 25 30.8 +3.5
YAK				*e*S	**S**	**00 29 57.7 -3.9**
YAK				*e*		00 31 19.6
YAK				*e*SS	SS	00 34 03.3 -4.2
YAK				pmax	pmax	
	comp=Z,48nm,1.3s,mb5.5					
YAK				pmax	pmax	
	comp=N,24nm,1.2s					
YAK				pmax	pmax	
	comp=E,22nm,1.2s					
YAK				pmax	pmax	
	comp=Z,8.0nm,1.1s,mb4.8					
YAK				pmax	pmax	
	comp=E,3.0nm,1.0s					
YAK				smax		
	comp=N,11nm,1.2s					
YAK				smax		
	comp=E,9.0nm,1.3s					
YAK	**Yakutsk**	**62.46**	**18⇓**	*e*P	**P**	**00 21 36.9 -1.2**
	comp=E,107nm,0.9s,mb6.0					
YAK				⇓*e*pP	pP	00 21 44.6 -2.1
YAK				LR	LR	
	comp=Z,1μm,20.0s,MS5.0					
MBAR	**Mbarara**	**62.73**	**266**	*e*P	**P**	**00 21 41.7 +1.2**
ELDT	**Eldivan**	**63.67**	**313**	*i*P	**P**	**00 21 43.0 -3.4**
VOR	**Voronezh**	**63.99**	**326**	*e*P	**P**	**00 21 45.0 -3.3**
VOR				pmax	pmax	
	comp=Z,180nm,1.5s,mb5.9					
SIM	**Simferopol'**	**64.52**	**318***c*	*i*P	**P**	**00 21 51.4 -0.5**
SIM				pmax	pmax	
	comp=Z,40nm,1.8s,mb5.2					
ISP	**Isparta**	**65.20**	**309⇓**	*i*P	**P**	**00 21 54.2 -2.2**
ISP	**Isparta**	**65.20**	**309**	*e*P	**P**	**00 21 55.1 -1.2**
	comp=Z,231nm,1.4s,mb6.0					
ESKT	**Eskisehir**	**65.33**	**311**	*i*P	**P**	**00 21 54.6 -2.5**
MOS	**Moscow**	**66.61**	**329**κ	*i*P	**P**	**00 22 03.6 -1.5**
MOS				*e*		00 22 10.2
MOS				*e*		00 24 30.9
MOS				*e*S	S	00 30 47.7 -5.2
MOS				pmax	pmax	
	comp=Z,215nm,1.5s,mb6.0					
MOS				pmax	pmax	
	comp=N,35nm,1.1s					
MOS				pmax	pmax	
	comp=E,88nm,1.1s					
ULDT	**Uludag**	**66.75**	**311**	*i*P	**P**	**00 22 03.9 -2.4**
OBN	**Obninsk**	**66.88**	**329**κ	*i*P	**P**	**00 22 04.3 -2.5**
OBN				*i*		00 22 15.6
OBN				*e*		00 22 34.7
OBN				pmax	pmax	
	comp=Z,170nm,1.6s,mb5.8					
OBN	**Obninsk**	**66.88**	**329⇓**	*e*P	**P**	**00 22 04.3 -2.5**
	comp=Z,235nm,1.4s,mb6.0					
OBN				*e*	pP	00 22 12.3 -3.2
LSZ	**Lusaka**	**67.69**	**251**	*e*P	**P**	**00 22 11.4 -1.1**
LSZ				pmax	pmax	

comp=Z,57nm,1.7s,mb5.3
LSZ Lusaka 67.69 251 eP P **00 22 11.4 -1.2**
comp=Z,57nm,1.7s,mb5.3
KDAG Bornova 67.82 309 i P P **00 22 10.6 -2.4**
TAU Tasmania Unive 68.65 140 eP P **00 22 18.6 +0.5**
TAU pmax pmax
comp=Z,49nm,1.0s,mb5.4
TAU Tasmania Unive 68.65 140 eP P **00 22 18.6 +0.5**
comp=Z,49nm,1.0s,mb5.4
CFR Carcaliu 68.65 316⇓iP P **00 22 17.0 -1.1**
CFR ⇓iP 00 22 17.1
CFR Carcaliu 68.65 316⇓iP P **00 22 17.1 -1.0**
KIS Kishinev 68.66 318 eP P **00 22 17.0 -1.1**
KIS e pP 00 22 24.0 -2.8
KIS e 00 22 36.0
KIS pmax pmax
comp=Z,180nm,1.6s,mb5.8
HARR Harsova 68.67 316⇓iP P **00 22 17.1 -1.1**
HARR ⇓iP 00 22 17.5
HARR Harsova 68.67 316⇓iP P **00 22 17.5 -0.7**
PRD Provadia 68.70 314 eP P **00 22 18.0 -0.4**
SANT Santorini 68.89 307 eP P **00 22 18.2 -1.5**
comp=Z,198nm,1.4s,mb5.8
JMB Yambol 69.13 313 eP P **00 22 21.0 -0.1**
MA2 Magadan 69.21 27 eP P **00 22 20.6 -0.7**
MA2 ePPP PPP 00 26 33.6 -1.3
MA2 eS S 00 31 19.4 -4.6
MA2 e 00 32 21.8
MA2 eSSS SSS 00 38 49.7 -5.3
MA2 pmax pmax
comp=Z,50nm,1.7s,mb5.2
MA2 Magadan 69.21 27 eP P **00 22 20.7 -0.6**
comp=Z,38nm,0.8s,mb5.4
TIXI Tiksi 69.67 11⇓iP P **00 22 23.0 -0.9**
TIXI eS S 00 31 34.2 +5.1
TIXI pmax pmax
comp=Z,52nm,1.2s,mb5.3
TIXI MLR MLR
comp=Z,2µm,14.0s,MS5.5
TIXI Tiksi 69.67 11⇑iP P **00 22 19.9 -4.0**
ISR Istrita 69.73 316⇓iP P **00 22 25.3 +0.6**
VRI Vrincioaia 69.78 317⇓iP P **00 22 24.8 -0.1**
DIM Dimitrovgrad 69.81 313 eP P **00 22 24.5 -0.7**
RZN Rozhen 70.35 312 P P **00 22 27.0 -1.5**
PET Petropavlovsk 70.91 36 eP pP 00 22 40.1 -0.4
PET e 00 31 49.0
PET MLR MLR
comp=Z,1µm,16.1s,MS5.2
MNK Minsk 71.37 326⇓eP P **00 22 30.0 -4.5**
MNK pmax pmax
comp=Z,910nm,1.8s,mb6.4
KKB Krupnik 71.58 312 P P **00 22 34.0 -2.0**
PUL Pulkovo 71.82 332 eP P **00 22 32.6 -4.5**
PUL pmax pmax
comp=Z,65nm,0.4s,mb5.9
PUL Pulkovo 71.82 332 eP P **00 22 32.2 -4.9**
VAY Valandovo 71.88 312⇓iPKP P **00 22 36.4 -1.3**
JOF Joensuu 72.56 335 ep P **00 22 40.0 -1.4**
comp=Z,22nm,0.6s,mb5.2
BOLS Boljevac 72.71 314⇑iP P **00 22 42.0 -0.6**
CASY Casey 72.74 173 eP P **00 22 42.7 +0.3**
comp=Z,43nm,1.1s,mb5.3
SKO Skopje 72.81 312 ePKP P **00 22 41.8 -1.5**
VSU Vasula 73.13 330⇓iP P **00 22 41.5 -3.3**
KWP Kalwaria 73.23 320 eP P **00 22 45.4 -0.2**
KWP e pP 00 22 52.2 -2.2
SVIS Svilajnac 73.31 315 eP P **00 22 45.1 -1.0**
KOLS Kolonicke sedl 73.38 319 eP P **00 22 46.7 +0.3**
KOLS epP pP 00 22 56.3 +1.0
KOLS e 00 25 05.2
LVZ Lovozero 73.43 340⇓iP P **00 22 44.6 -1.8**
GRUS Gruza 73.61 314⇑iP P **00 22 47.2 -0.7**
APA Apatity 73.71 340⇑iP P **00 22 46.5 -1.5**
APA i pP 00 22 56.6 -0.2
APA pmax pmax
comp=Z,73nm,1.3s,mb5.5
APA MLR MLR
comp=Z,2µm,18.0s,MS5.5
SUW Suwalki 73.88 325 eP P **00 22 47.9 -1.3**
SUW e pP 00 22 57.9 -0.1
CRVS Cervenica-Dubn 73.90 319 eP P **00 22 50.4 +0.9**
DIVS Divcibare 74.15 314⇑iP P **00 22 50.1 -0.9**
KAF Kangasniemi 74.45 333 ep P **00 22 50.8 -1.6**
comp=Z,30nm,0.7s,mb5.3,baz=106,slow=5.5
KAF Kangasniemi 74.45 333 eP P **00 22 50.8 -1.6**
KAF pmax pmax
comp=Z,30nm,0.7s,mb5.3
KECS Kecovo 74.47 319 i P P **00 22 52.7 0.0**
KECS epP pP 00 23 02.7 +1.1
NIE Niedzica 74.73 320⇓eP P **00 22 54.5 +0.2**
PSZ Piszkesteto 74.77 318 eP P **00 22 53.9 -0.6**
PSZ e pP 00 23 03.8 +0.5
PSZ pmax pmax
comp=Z,117nm,1.6s,mb5.6
PSZ Piszkesteto 74.77 318 eP P **00 22 53.9 -0.6**
comp=Z,116nm,1.6s,mb5.6
PSZ e pP 00 23 03.8 +0.4
PSZ Piszkesteto 74.77 318⇓iP P **00 22 54.3 -0.2**
OJC Ojcow 75.19 320⇓iP P **00 22 56.6 -0.3**
OJC i pP 00 23 05.4 -0.3
OJC Ojcow 75.19 320⇓iP P **00 22 56.6 -0.3**
OJC e pP 00 23 05.4 -0.3
VYHS Vyhne 75.55 319 i P P **00 22 58.9 -0.1**
VYHS epP pP 00 23 08.8 +1.0
SRO Srobarova 75.81 318 eP P **00 23 01.6 +1.1**
SRO epP pP 00 23 11.3 +2.0
SRO1 Iza 75.85 318 eP P **00 23 01.4 +0.7**
MAW Mawson 76.10 192⇓iP P **00 23 03.4 +1.7**
comp=Z,20nm,0.9s,mb5.0
MAW eS S 00 32 44.8 +2.7
OKC Ostrava-Krasne 76.19 320⇓iP P **00 23 02.6 0.0**
OKC epP pP 00 23 11.1 -0.3
RAC Raciborz 76.19 320 eP P **00 23 03.2 +0.6**
SMOL Smolenice 76.48 318 i P P **00 23 04.5 +0.3**
SMOL epP pP 00 23 14.0 +0.9
MORC Moravsky Berou 76.57 320 eP P **00 23 04.5 -0.2**
MORC e pP 00 23 13.9 +0.4
MORC pmax pmax
comp=Z,121nm,1.5s,mb5.6
MORC Moravsky Berou 76.57 320 eP P **00 23 04.5 -0.2**
comp=Z,120nm,1.5s,mb5.6
MORC e pP 00 23 13.9 +0.3
ZST Bratislava 76.66 318 i P P **00 23 05.4 +0.2**
ZST e pP 00 23 12.7 -1.4
KEV Kevo 76.73 341 ep P **00 23 02.9 -2.3**
comp=Z,19nm,0.6s,mb5.2
KEV Kevo 76.73 341 eP P **00 23 02.9 -2.3**
KEV pmax pmax
comp=Z,19nm,0.6s,mb5.2
VKA Vienna 77.19 318⇓iP P **00 23 08.4 +0.2**
GKP Gorka Klasztor 77.22 323 eP P **00 23 07.8 -0.5**
GKP e pP 00 23 16.2 -0.9
DPC Dobruska-Polom 77.42 320⇓iP P **00 23 09.8 +0.4**
DPC epP pP 00 23 17.5 -0.8
KSP Ksiaz 77.49 321 eP P **00 23 10.1 +0.3**
KSP epP pP 00 23 16.9 -1.8
KSP Ksiaz 77.49 321 eP P **00 23 09.7 0.0**
KSP e pP 00 23 19.2 +0.5
ARSA Arzberg 77.62 317⇓iP P **00 23 11.1 +0.5**
comp=Z,90nm,1.5s,mb5.5
UPC Upice 77.63 320⇓eP P **00 23 11.0 +0.4**
UPC epP pP 00 23 19.7 +0.3
KTK1 Kautokeino 77.75 340 eP P **00 23 10.6 -0.3**
comp=Z,110nm,1.5s,mb5.6
KTK1 epP pP 00 23 18.5 -1.3
KTK1 esP sP 00 23 21.3 -1.4
KTK1 Kautokeino 77.75 340 eP P **00 23 10.6 -0.3**
KTK1 AMb AMB 00 23 14.0
comp=Z,110nm,1.6s,mb5.5
KTK1 epP pP 00 23 18.5 -1.3
KTK1 esP sP 00 23 21.3 -1.4
OBKA Obir 78.23 316⇑iP P **00 23 14.4 +0.5**
comp=Z,86nm,1.6s,mb5.4
PRU Pruhonice 78.52 320⇓iP P **00 23 15.7 +0.3**
PRU epP pP 00 23 22.8 -1.5
MOA Molln 78.52 318⇑iP P **00 23 15.4 -0.1**
comp=Z,44nm,1.4s,mb5.2
PVCC Panska Ves 78.55 320⇓eP P **00 23 16.1 +0.5**
PVCC epP pP 00 23 23.1 -1.4
BILL Bilibino 78.55 22⇓iP P **00 23 13.3 -2.0**
VOY Vojsko 78.65 316 e(P) P **00 23 15.9 -0.3**
VOY e pP 00 23 24.7 -0.4
AQU L'Aquila 78.79 312 P P **00 23 17.4 +0.3**
AQU pmax pmax
comp=Z,160nm,1.9s,mb5.6
AQU L'Aquila 78.79 312 eP P **00 23 16.9 -0.2**
comp=Z,95nm,1.5s,mb5.5
BSD Bornholm Skovb 78.81 325⇓iP P **00 23 16.1 -0.8**
BSD pmax pmax
comp=Z,23nm,0.6s,mb5.3
BSD Bornholm Skovb 78.81 325⇓iP P **00 23 16.1 -0.8**
comp=Z,22nm,0.6s,mb5.3
GEC2 GERESS Array S 78.97 319 eP P **00 23 18.0 0.0**
GEC2 pmax pmax
comp=Z,117nm,1.3s,mb5.7
GEC2 GERESS Array S 78.97 319 eP P **00 23 18.0 0.0**
comp=Z,117nm,1.3s,mb5.7
BRG Berggiesshubel 78.98 321 i P P **00 23 18.3 +0.4**
BRG i pP 00 23 28.7 +1.9
BRG pmax pmax
comp=Z,154nm,1.9s,mb5.6
BRG Berggiesshubel 78.98 321 i P P **00 23 18.3 +0.4**
comp=Z,154nm,1.9s,mb5.6
BRG i pP 00 23 28.7 +1.9
BRG i 00 23 46.7
KHC Kasperske Hory 79.08 319⇓iP P **00 23 18.3 -0.2**
KHC epP pP 00 23 26.1 -1.3
KBA Koelnbreinsper 79.09 317⇑iP P **00 23 18.4 -0.3**
comp=Z,45nm,1.6s,mb5.2
KBA Koelnbreinsper 79.09 317⇑iP P **00 23 18.4 -0.3**
KBA pmax pmax
comp=Z,45nm,1.6s,mb5.2
RUE Ruedersdorf 79.21 322 eP P **00 23 19.3 +0.1**
comp=Z,85nm,1.1s,mb5.6
TRO Tromso 79.39 340 eP P **00 23 18.6 -1.2**
TRO epP pP 00 23 27.2 -1.6
WET Wettzell 79.53 319 eP P **00 23 21.1 +0.1**
CLL Collm 79.60 321⇓iP P **00 23 21.1 -0.2**
CLL i pP 00 23 28.6 -1.6
CLL pmax pmax
comp=Z,54nm,1.4s,mb5.3
CLL Collm 79.60 321⇓iP P **00 23 21.1 -0.2**
comp=Z,54nm,1.4s,mb5.3
CLL i pP 00 23 28.6 -1.6
CLL Collm 79.60 321 ⇓P P **00 23 21.1 -0.2**
comp=Z,logA/T=1.6,mb5.3
CLL i *PP pP 00 23 28.6 -1.6
CLL e 00 24 08.0
NKC Novy Kostel 79.88 320⇓eP P **00 23 23.1 +0.3**
WTTA Wattenberg 80.27 317⇑iP P **00 23 24.6 -0.4**
comp=Z,81nm,1.5s,mb5.4
WTTA Wattenberg 80.27 317⇑iP P **00 23 24.6 -0.4**
WTTA pmax pmax
comp=Z,81nm,1.5s,mb5.4
WATA Walderalm 80.31 317⇑iP P **00 23 24.7 -0.5**
comp=Z,125nm,1.8s,mb5.5
WATA Walderalm 80.31 317⇑iP P **00 23 24.7 -0.5**
WATA pmax pmax
comp=Z,125nm,1.8s,mb5.5
MOR8 Moi Rana 80.43 336 eP P **00 23 24.6 -0.8**
comp=Z,84nm,1.9s,mb5.3
MOR8 Moi Rana 80.43 336 eP P **00 23 24.6 -0.8**
MOR8 AMb AMB 00 23 28.1
comp=Z,84nm,1.9s,mb5.3
MOX Moxa 80.44 320 eP P **00 23 26.1 +0.3**
MOX pmax pmax
comp=Z,44nm,0.9s,mb5.4
MOX Moxa 80.44 320 eP P **00 23 26.1 +0.3**
comp=Z,44nm,0.9s,mb5.4
MOX Moxa 80.44 320 i P P **00 23 26.1 +0.3**
comp=Z,logA/T=1.7,mb5.4
FUR Furstenfeldbru 80.55 318 eP P **00 23 25.9 -0.5**
SQTA Sankt Quirin 80.56 317⇓iP P **00 23 26.4 -0.1**
comp=Z,95nm,1.6s,mb5.5
SQTA Sankt Quirin 80.56 317⇓iP P **00 23 26.4 -0.1**
SQTA pmax pmax
comp=Z,95nm,1.6s,mb5.5
MOTA Moosalm 80.63 317⇑iP P **00 23 26.6 -0.3**
comp=Z,83nm,1.7s,mb5.4
MOTA Moosalm 80.63 317⇑iP P **00 23 26.6 -0.3**
MOTA pmax pmax
comp=Z,83nm,1.7s,mb5.4
GRA1 Grafenberg Arr 80.64 319 eP P **00 23 27.3 +0.4**
comp=Z,127nm,1.4s,mb5.7
GRA1 epP pP 00 23 35.2 -0.6
GRF Grafenberg Arr 80.64 319 eP P **00 23 27.3 +0.4**
GRF e*PP pP 00 23 35.2 -0.6
GRF pmax pmax
comp=Z,127nm,1.4s,mb5.7
GRF Grafenberg Arr 80.64 319 eP P **00 23 27.3 +0.4**
GRF e*PP pP 00 23 35.2 -0.6
GRF pmax pmax
comp=Z,127nm,1.4s,mb5.7
GRF Grafenberg Arr 80.64 319 eP P **00 23 27.3 +0.4**
comp=Z,127nm,1.4s,mb5.7
GRF epP pP 00 23 35.2 -0.6
CLZ Clausthal 81.27 321 eP P **00 23 30.0 -0.1**
comp=Z,58nm,1.2s,mb5.4
NSS Namsos 81.27 334 eP P **00 23 29.0 -0.8**
NSS epP pP 00 23 38.0 -0.8
NSS Namsos 81.27 334 eP P **00 23 29.0 -0.8**
NSS AMb AMB 00 23 31.6
comp=Z,168nm,1.5s,mb5.7
NSS epP pP 00 23 38.0 -0.8
UBR Uberruh 81.31 317 eP P **00 23 30.4 -0.1**
NB2 NORSAR Subarra 81.32 331 P P **00 23 29.7 -0.5**
comp=Z,0.6nm,0.6s,baz=95,slow=5.8
NB2 NORSAR Subarra 81.32 331 P P **00 23 29.7 -0.5**
baz=95,slow=5.9
BSEG Bad Segeberg 81.39 324 eP P **00 23 30.7 0.0**
DAVA Damuels 81.46 317⇓iP P **00 23 31.8 +0.6**
comp=Z,67nm,0.9s,mb5.6
SIND Sindeldorf 81.69 319 eP P **00 23 32.4 0.0**
BUCH Bad Urach 81.84 318 eP P **00 23 33.4 +0.2**
STU Stuttgart 81.95 318 eP P **00 23 33.6 -0.1**
STU e pP 00 23 43.1 +0.4
STU pmax pmax
comp=Z,27nm,1.0s,mb5.1
STU Stuttgart 81.95 318 eP P **00 23 33.6 -0.1**
comp=Z,27nm,1.0s,mb5.1
STU e pP 00 23 43.1 +0.4
GUT Gutenstein 81.99 318 eP P **00 23 34.0 0.0**
PGF Pioggiola 82.05 312 eP P **00 23 34.2 -0.2**
comp=Z,150nm,1.4s,mb5.4
PGF Pioggiola 82.05 312 eP P **00 23 34.2 -0.2**
PGF pmax pmax
comp=Z,75nm,1.4s,mb5.4
MUD Monsted U'grnd 82.14 326 i P P **00 23 35.7 +1.2**
MUD pmax pmax
comp=Z,72nm,1.5s,mb5.4
MUD Monsted U'grnd 82.14 326 i P P **00 23 35.7 +1.2**
comp=Z,72nm,1.5s,mb5.4
LBG Lerchenberg 82.21 318 eP P **00 23 35.2 +0.1**
SPAK Spaichingen 82.21 318 eP P **00 23 35.2 +0.1**
TOD Tromm 82.21 319 eP P **00 23 35.1 0.0**
TOD Tromm 82.21 319 eP P **00 23 34.9 -0.2**
BFO Black Forest 82.52 318 eP P **00 23 36.2 -0.5**
BFO pmax pmax
comp=Z,63nm,1.7s,mb5.4
BFO Black Forest 82.52 318 eP P **00 23 36.2 -0.5**
comp=Z,63nm,1.7s,mb5.4
KTD Kalmit 82.68 319 eP P **00 23 38.0 +0.5**
FELD Feldberg 82.74 317 eP P **00 23 37.9 +0.1**
LANF Langenberg 82.86 319 eP P **00 23 38.4 -0.1**
SYO Syowa Base 82.94 197⇑P P **00 23 39.9 +1.4**
SYO Syowa Base 82.94 197⇑pP pP 00 23 49.7 +2.2
LIBD Limburg 83.00 318 eP P **00 23 39.3 +0.1**
ABH Alteburg 83.03 319 eP P **00 23 40.1 +0.8**
ABH Alteburg 83.03 319 eP P **00 23 39.3 0.0**
BBS Basel-Blauen 83.07 317 eP P **00 23 39.7 +0.1**
BBS Basel-Blauen 83.07 317 eP P **00 23 39.5 -0.1**
WLS Welschbruch 83.17 318 eP P **00 23 39.9 -0.2**
SBF Sospel 83.18 313 eP P **00 23 39.9 -0.3**
comp=Z,93nm,0.9s,mb5.5
SBF Sospel 83.18 313 eP P **00 23 39.9 -0.3**
SBF pmax pmax
comp=Z,46nm,0.9s,mb5.5
AUTN L'Aution 83.18 314 eP P **00 23 41.9 +1.7**
CDF Champ du Feu 83.22 318 eP P **00 23 39.6 -0.7**
comp=Z,48nm,1.2s,mb5.1
CDF Champ du Feu 83.22 318 eP P **00 23 39.6 -0.7**
CDF pmax pmax
comp=Z,24nm,1.2s,mb5.1
ECH Echery 83.30 318 eP P **00 23 40.5 -0.2**
TOUF Mont Tournerai 83.31 314 eP P **00 23 42.8 +1.9**
RUP Ruppelstein 83.35 319 eP P **00 23 41.4 +0.5**
RUP Ruppelstein 83.35 319 eP P **00 23 40.7 -0.2**
MVIF Mont Vial 83.39 313 eP P **00 23 41.7 +0.4**
WTSB Winterswijk 83.48 322 eP P **00 23 42.1 +0.5**
comp=Z,45nm,1.3s,mb5.3
HINF Hinteralfeld 83.51 317 eP P **00 23 41.1 -0.8**
LOMF Lomont 83.54 317 eP P **00 23 41.8 -0.2**
CALN Calern 83.58 313 eP P **00 23 42.8 +0.5**
LPG La Plagne 83.63 315 eP P **00 23 42.6 +0.1**
comp=Z,80nm,1.1s,mb5.5
LPG La Plagne 83.63 315 eP P **00 23 42.6 +0.1**
LPG pmax pmax
comp=Z,40nm,1.1s,mb5.5
MBDF Montbardon 83.64 314 eP P **00 23 41.8 -0.8**
comp=Z,33nm,0.9s,mb5.2
MBDF Montbardon 83.64 314 eP P **00 23 41.8 -0.8**
MBDF pmax pmax
comp=Z,17nm,0.9s,mb5.2
LPL La Plagne 83.65 315 eP P **00 23 42.5 -0.1**
comp=Z,47nm,0.8s,mb5.3
LPL La Plagne 83.65 315 eP P **00 23 42.5 -0.1**
LPL pmax pmax
comp=Z,24nm,0.8s,mb5.4
BNI Bardonecchia 83.69 315 P P **00 23 43.2 +0.3**
BNI pmax pmax
comp=Z,24nm,1.0s,mb5.3
BNI Bardonecchia 83.69 315 eP P **00 23 42.5 -0.3**
comp=Z,36nm,1.1s,mb5.4
FRF La Foret Royal 83.76 313 eP P **00 23 43.1 -0.1**
comp=Z,159nm,1.2s,mb5.7
FRF La Foret Royal 83.76 313 eP P **00 23 43.1 -0.1**
FRF pmax pmax
comp=Z,80nm,1.2s,mb5.7
HAU Haudompre 83.85 318 eP P **00 23 42.9 -0.7**
LMR La Mourre 83.87 313 eP P **00 23 43.6 -0.2**
comp=Z,160nm,1.4s,mb5.6
LMR La Mourre 83.87 313 eP P **00 23 43.6 -0.2**
LMR pmax pmax
comp=Z,80nm,1.4s,mb5.7
WLF Walferdange 83.94 319 P P **00 23 45.0 +1.0**
WLF Walferdange 83.94 319 eP P **00 23 44.4 +0.4**
comp=Z,125nm,1.6s,mb5.8
HGN Heimansgroeve 84.05 320 eP P **00 23 44.4 -0.1**
comp=Z,45nm,2.2s,mb5.2
CABF La Chapelle 84.06 316 eP P **00 23 44.7 0.0**
comp=Z,128nm,1.4s,mb5.6
CABF La Chapelle 84.06 316 eP P **00 23 44.7 0.0**
CABF pmax pmax
comp=Z,64nm,1.4s,mb5.6
ORIF Oris-en-Rattie 84.27 314 eP P **00 23 45.6 -0.1**
comp=Z,58nm,1.1s,mb5.3
ORIF Oris-en-Rattie 84.27 314 eP P **00 23 45.6 -0.1**
ORIF pmax pmax
comp=Z,29nm,1.1s,mb5.3
SMRF Simiane la Rot 84.52 314 eP P **00 23 47.5 +0.5**
comp=Z,133nm,1.3s,mb5.6
MEZF Maizieres J'vi 84.70 318 eP P **00 23 47.5 -0.3**
comp=Z,95nm,1.5s,mb5.4
GIVF Givet 84.78 320 eP P **00 23 48.0 -0.2**
VIVF Saint-Julien-l 85.13 314 eP P **00 23 50.0 0.0**
comp=Z,59nm,1.1s,mb5.3
VIVF Saint-Julien-l 85.13 314 eP P **00 23 50.0 0.0**
VIVF pmax pmax
comp=Z,29nm,1.1s,mb5.3
BAIF Baives 85.18 320 eP P **00 23 50.1 -0.1**
comp=Z,118nm,1.4s,mb5.5
BAIF Baives 85.18 320 eP P **00 23 50.1 -0.1**
BAIF pmax pmax
comp=Z,59nm,1.4s,mb5.5
SMF Signal de Mont 85.61 316 eP P **00 23 51.8 -0.6**
comp=Z,40nm,1.0s,mb5.3
SMF Signal de Mont 85.61 316 eP P **00 23 51.8 -0.6**
SMF pmax pmax
comp=Z,20nm,1.0s,mb5.3
LASF Ste Croix 85.75 314 eP P **00 23 53.4 +0.2**
comp=Z,221nm,1.8s,mb5.8
PLDF La Plantade 85.80 316 eP P **00 23 54.1 +0.7**
SSF Saint Saulge 85.81 317 eP P **00 23 53.2 -0.2**
SSF pmax pmax
comp=Z,71nm,1.6s,mb5.7
SSF Saint Saulge 85.81 317 eP P **00 23 53.2 -0.2**
comp=Z,71nm,1.6s,mb5.7
AVF Avril sur Loir 85.94 316 eP P **00 23 53.5 -0.5**
comp=Z,107nm,1.5s,mb5.5
AVF Avril sur Loir 85.94 316 eP P **00 23 53.5 -0.5**
AVF pmax pmax
comp=Z,54nm,1.5s,mb5.6
LBL Lubilhac 86.11 315 eP P **00 23 56.2 +1.3**
AGO Saint Agoulin 86.14 316 eP P **00 23 55.3 +0.3**
PYM Petit Puy Mans 86.25 315 eP P **00 23 55.3 -0.3**
BGF Bois d'Agland 86.30 316 eP P **00 23 55.7 -0.1**
comp=Z,116nm,1.3s,mb5.7
BGF Bois d'Agland 86.30 316 eP P **00 23 55.7 -0.1**
BGF pmax pmax
comp=Z,58nm,1.3s,mb5.7
HYF Humbligny 86.39 317 eP P **00 23 56.3 +0.1**
TCF Toulx Ste Croi 86.76 316 eP P **00 23 57.9 -0.2**
CAF Calviac 86.97 315 eP P **00 23 59.3 +0.1**
comp=Z,83nm,1.5s,mb5.4
CAF Calviac 86.97 315 eP P **00 23 59.3 +0.1**
CAF pmax pmax
comp=Z,42nm,1.5s,mb5.5
MTLF Montolieu 86.99 313 eP P **00 23 59.5 +0.2**
comp=Z,68nm,1.3s,mb5.4
MTLF Montolieu 86.99 313 eP P **00 23 59.5 +0.2**
MTLF pmax pmax
comp=Z,34nm,1.3s,mb5.4
RJF Les Rejaudoux 87.33 315 eP P **00 24 01.1 +0.2**
comp=Z,101nm,1.4s,mb5.5
RJF Les Rejaudoux 87.33 315 eP P **00 24 01.1 +0.2**
RJF pmax pmax
comp=Z,51nm,1.4s,mb5.6
EMIR Miracle 87.63 312 P P **00 24 02.9 +0.5**
comp=Z,68nm,2.0s,mb5.5
LFF La Frestale 87.91 315 eP P **00 24 04.1 +0.5**
comp=Z,260nm,1.7s,mb5.9
LFF La Frestale 87.91 315 eP P **00 24 04.1 +0.5**
LFF pmax pmax
comp=Z,130nm,1.7s,mb5.9
EPOB Poblet 88.01 311 P P **00 24 05.3 +1.0**
comp=Z,45nm,2.0s,mb5.3
EIBI Ibiza 88.03 309 P P **00 24 04.3 -0.1**
comp=Z,27nm,1.2s,mb5.3
LDF La Druitiere 88.12 318 eP P **00 24 04.2 -0.4**
FLN La Foliniere 88.34 319 eP P **00 24 05.3 -0.3**
comp=Z,186nm,1.5s,mb5.8
FLN La Foliniere 88.34 319 eP P **00 24 05.3 -0.3**
FLN pmax pmax
comp=Z,93nm,1.5s,mb5.8
MFF Saint Martin d 88.35 316 eP P **00 24 05.5 -0.2**
EPF Esparros 88.39 313 eP P **00 24 05.7 -0.3**
comp=Z,26nm,1.3s,mb5.0
EPF Esparros 88.39 313 eP P **00 24 05.7 -0.3**
EPF pmax pmax
comp=Z,13nm,1.3s,mb5.0
EBIE Bielsa 88.57 313 P P **00 24 08.1 +1.2**
comp=Z,14nm,1.4s,mb5.1
ERTA Horta de San J 88.61 311 P P **00 24 08.3 +1.2**
comp=Z,50nm,1.6s,mb5.6
GRR Gorron 88.63 318 eP P **00 24 07.1 +0.1**
TNA Tin City 88.63 24 eP P **00 24 07.4 +0.8**
comp=Z,12nm,0.8s,mb5.3
ETSF Etsaut 89.06 313 eP P **00 24 09.7 +0.5**
EMOS Mosqueruela 89.29 310 P P **00 24 12.3 +1.9**
comp=Z,63nm,1.3s,mb5.8
SJPF Ste Jean 89.52 313 eP P **00 24 10.4 -1.0**
SGMF Saint Gilles 89.77 318 eP P **00 24 12.2 -0.2**
comp=Z,295nm,1.8s,mb6.0
SGMF Saint Gilles 89.77 318 eP P **00 24 12.2 -0.2**
SGMF pmax pmax
comp=Z,147nm,1.8s,mb6.0
ANM Nome 89.89 25 eP P **00 24 14.1 +1.5**
EMUR La Murta 90.18 308 P P **00 24 15.3 +0.7**
comp=Z,24nm,1.5s,mb5.3
QUIF Quistinic 90.22 318 eP P **00 24 14.9 +0.4**
comp=Z,375nm,1.7s,mb6.1
QUIF Quistinic 90.22 318 eP P **00 24 14.9 +0.4**
QUIF pmax pmax
comp=Z,187nm,1.7s,mb6.1
ROSF Rostrenen 90.23 318 eP P **00 24 14.3 -0.3**
comp=Z,177nm,1.5s,mb5.9
ROSF Rostrenen 90.23 318 eP P **00 24 14.3 -0.3**
ROSF pmax pmax
comp=Z,88nm,1.5s,mb5.9
ENIJ Nijar 91.06 307 P P **00 24 21.3 +2.7**
ENIJ pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
ENIJ Nijar 91.06 307 P P **00 24 21.3 +2.7**

	comp=Z,9.6nm,0.9s,mb5.1						
EVIA	**Vianos**	**91.06**	**309**	P	**P**	**00 24 20.3**	**+1.7**
EVIA				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.3						
EVIA	**Vianos**	**91.06**	**309**	P	**P**	**00 24 20.3**	**+1.7**
	comp=Z,16nm,0.9s,mb5.3						
ELAN	**Lanestosa**	**91.10**	**313**	P	**P**	**00 24 18.9**	**+0.2**
	comp=Z,48nm,2.0s,mb5.5						
EBER	**Berja**	**91.61**	**307**	P	**P**	**00 24 22.4**	**+1.2**
	comp=Z,57nm,1.2s,mb5.8						
EQES	**Quesada**	**91.62**	**308**	P	**P**	**00 24 22.0**	**+0.8**
	comp=Z,18nm,1.3s,mb5.2						
GUD	**Guadarrama**	**92.03**	**311**	P	**P**	**00 24 24.6**	**+1.6**
GUD				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.4						
GUD	**Guadarrama**	**92.03**	**311**	P	**P**	**00 24 24.6**	**+1.6**
	comp=Z,26nm,1.2s,mb5.4						
ESDC	**Sonseca Array**	**92.04**	**310**	P	**P**	**00 24 24.0**	**+0.9**
	comp=Z,8.3nm,1.1s,mb5.0						
ESDC				pP	pP	00 24 33.6	+1.5
NVL	**N'lazarevskaya**	**92.38**	**199**	⇑*e*P	**P**	**00 24 18.0**	**-5.9**
NVL				*e*S	S	00 35 27.0	+4.3
NVL				pmax	pmax		
	comp=Z,200nm,2.4s,mb6.0						
ELOJ	**Sierra Loja**	**92.57**	**308**	P	**P**	**00 24 25.6**	**0.0**
ELOJ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.4						
ELOJ	**Sierra Loja**	**92.57**	**308**	P	**P**	**00 24 25.6**	**0.0**
	comp=Z,1.1nm,0.6s,mb4.5						
ELUQ	**Luque**	**92.60**	**308**	P	**P**	**00 24 25.7**	**0.0**
ELUQ				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb5.0						
ELUQ	**Luque**	**92.60**	**308**	P	**P**	**00 24 25.7**	**-0.1**
	comp=Z,3.7nm,0.7s,mb4.9						
EADA	**Adamuz**	**92.75**	**309**	P	**P**	**00 24 27.6**	**+1.2**
	comp=Z,32nm,1.5s,mb5.5						
ESPR	**Espera**	**93.96**	**307**	P	**P**	**00 24 32.3**	**+0.3**
	comp=Z,17nm,1.8s,mb5.2						
IMA	**Indian Mountai**	**94.09**	**22**	*e*P	**P**	**00 24 33.5**	**+1.6**
IMA	**Indian Mountai**	**94.09**	**22**	*e*P	**P**	**00 24 33.4**	**+1.5**
MCK	**McKinley**	**96.92**	**23**	*e*P	**P**	**00 24 47.9**	**+3.0**
MCK				pmax	pmax		
	comp=Z,28nm,1.8s,mb5.4						
MCK	**McKinley**	**96.92**	**23**	*e*P	**P**	**00 24 44.7**	**-0.1**
	comp=Z,25nm,1.7s,mb5.4						
SNAA	**Sanae**	**97.16**	**198**	*e*P	**P**	**00 24 43.9**	**-1.9**
SNAA				pmax	pmax		
	comp=Z,19nm,1.5s						
SNAA	**Sanae**	**97.16**	**198**	*e*P	**P**	**00 24 43.9**	**-1.8**
	comp=Z,19nm,1.5s,mb5.3						
TBI	**Tubuai**	**117.20**	**113**	*e*LR	LR	01 05 49.3	
	comp=Z,375nm,22.5s						
PPT	**Papeete**	**117.53**	**107**	*e*LR	LR	01 06 04.5	
	comp=Z,510nm,26.0s						
PMSA	**Palmer Station**	**118.71**	**191**	*e*PKPdf	PKPdf	00 30 02.7	-2.7
CHMT	**Chamberlain Mo**	**122.73**	**21**	*e*PKPdf	PKPdf	00 30 10.2	-3.3
CHMT				*e*PP	PP	00 31 44.3	-6.8
BMO	**Blue Mountains**	**122.82**	**25**	PKIKP	PKPdf	00 30 11.3	-2.5
BMO	**Blue Mountains**	**122.82**	**25**	*e*PKPdf	PKPdf	00 30 10.0	-3.8
GCMT	**Greycliff**	**124.94**	**19**	*e*PKPdf	PKPdf	00 30 12.3	-5.7
LAO	**LASA Array**	**125.19**	**16**	*e*PKPdf	PKPdf	00 30 16.6	-1.8
SNOW	**Snow King Moun**	**126.59**	**22**	*e*PKPdf	PKPdf	00 30 19.2	-1.9
TAOE	**Nuku Hiva Isla**	**126.94**	**97**	*e*LR	LR	01 10 27.1	
AHID	**Auburn Hatcher**	**127.06**	**22**	*e*PKPdf	PKPdf	00 30 19.4	-2.7
MTUM	**Tungsten Hills**	**128.01**	**32**	*e*PKPdf	PKPdf	00 30 22.4	-1.7
TRCR	**Troy Canyon**	**128.76**	**29**	*e*PKPdf	PKPdf	00 30 22.8	-2.7
DAU	**Daniels Canyon**	**129.01**	**24**	PKIKP	PKPdf	00 30 24.9	-1.0
DAU	**Daniels Canyon**	**129.01**	**24**	*e*PKPdf	PKPdf	00 30 24.1	-1.8
MSU	**Marysvale**	**130.21**	**26**	PKIKP	PKPdf	00 30 26.8	-1.4
MSU	**Marysvale**	**130.21**	**26**	*e*PKPdf	PKPdf	00 30 25.9	-2.3
RKT	**Rikitea**	**130.38**	**116**	*e*SS	SS	00 49 52.1	-13
RKT				*e*LR	LR	01 11 51.8	
	comp=Z,1μm,40.2s						
NEN	**Nelson**	**131.25**	**31**	*e*PKPdf	PKPdf	00 30 28.6	-1.7
PV10	**Paradox Valley**	**131.64**	**24**	*e*PKPdf	PKPdf	00 30 28.9	-2.1
ANMO	**Albuquerque**	**135.63**	**23**	PKPdf	PKPdf	00 30 38.5	0.0
LAZ	**Ladron**	**135.84**	**24**	*e*PKPdf	PKPdf	00 30 36.9	-1.9
LENM	**Lemitar**	**136.11**	**24**	*e*PKPdf	PKPdf	00 30 36.4	-3.0
LPM	**Los Pinos Moun**	**136.12**	**24**	*e*PKPdf	PKPdf	00 30 36.0	-3.4
BNM	**Barren Site**	**136.26**	**24**	*e*PKPdf	PKPdf	00 30 37.9	-1.7
CPRX	**Cap Rock**	**138.32**	**22**	*e*PKPdf	PKPdf	00 30 40.7	-2.8
GDL2	**Guadalupe Moun**	**138.88**	**23**	*e*PKPdf	PKPdf	00 30 42.1	-2.4
BAO	**Brasilia Array**	**140.69**	**252**	P	PKPdf	00 30 45.7	-2.5
JCT	**Junction City**	**142.05**	**19**	PKHKP		00 30 41.3	
JCT	**Junction City**	**142.05**	**19**	*e*PKPpre		00 30 41.0	
CPUP	**Villa Florida**	**145.14**	**230**	PKPbc	PKPbc	00 30 51.8	+0.7
CPUP				sPKPdf		00 31 01.3	
DWPF	**Disney**	**146.15**	**352**	*e*PKPdf	PKPdf	00 30 54.9	-2.5
DWPF				*e*		00 31 05.0	
TEIG	**Tepich**	**154.34**	**3**	*e*PKPbc	PKPdf	00 31 15.9	+5.8
TEIG				*e*PKPab	PKPab	00 31 29.4	-0.6
LVC	**Limon Verde**	**155.83**	**224**	*e*PKPdf	PKPdf	00 31 11.0	-1.0

BJI ***06*** *00:26:00.5, 6.54N×91.76E, h47km, mB5.4, mb4.6, Ms4.9, Msz4.7*
NEIC ***06*** *00:26:01.7±3.1, 6.82N×91.91E, h32km±21km, mb4.8/22, Error ellipse: s-maj=11.1km s-min=9.1km az=176.0*
MOS ***06*** *00:26:04.5±0.9, 7.80N×91.90E, h33km, mb5.1/14, Error ellipse: s-maj=22.2km s-min=9.6km az=115.6*
ISC 06 00:26:00.2±0.5, 6.85N±0.08×91.90E±0.07, h33km, n83, σ1§12/85, mb4.8/33, MS4.7/1, 4C-4D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.12**	**273**	*e*P	**P**	**00 28 37.2**	**-2.9**
MDRS	**Chennai**	**13.03**	**299**	*e*P	**P**	**00 29 03.0**	**-2.7**
MDRS				*e*		00 31 02.8	
MDRS				*i* S	**S**	**00 31 11.6**	**-19**
MDRS				*e*		00 34 22.0	
VIS	**Vishakhapatnam**	**13.66**	**323**	*i* P	**P**	**00 29 19.1**	**+5.0**
VIS				AMb	AMB	00 29 22.4	
	comp=Z,101nm,0.6s						
VIS				*e*		00 30 20.0	
VIS				*i*		00 31 34.8	
BWNR	**Bhubaneshwar**	**14.61**	**337**	*i* P	**P**	**00 29 18.5**	**-8.1**
BWNR				AMb	AMB	00 29 39.7	
	comp=Z,81nm,1.5s						
BWNR				*e*		00 31 09.1	
TRD	**Trivandrum**	**14.90**	**277**	*e*P	**P**	**00 29 27.4**	**-2.9**
TRD				*e*		00 31 55.8	
HYB	**Hyderabad**	**16.73**	**310**	*e*P	**P**	**00 29 57.0**	**+3.2**
HYB	**Hyderabad**	**16.73**	**310**	*i* P	**P**	**00 29 55.5**	**+1.7**
BLSP	**Bilaspur**	**17.88**	**329**	*e*P	**P**	**00 30 09.5**	**+1.4**
BLSP				*e*		00 32 39.7	
SHL	**Shillong**	**18.61**	**360**	*e*P	**P**	**00 30 16.0**	**-1.3**
KAD	**Karad**	**20.18**	**303**	*e*P	**P**	**00 30 36.0**	**+1.1**
KAD				*i*		00 33 46.0	
POO	**Poona**	**21.06**	**305**	*e*P	**P**	**00 30 41.0**	**-3.0**
POO				*e*		00 33 22.0	
BHPL	**Bhopal**	**21.43**	**321**	*e*P	**P**	**00 30 47.8**	**+0.1**
BHPL				AMb	AMB	00 30 51.2	
	comp=Z,25nm,1.1s,mb4.5						
BHPL				*e*		00 31 57.6	
BHPL				*e*		00 32 16.5	
LSA	**Lhasa**	**22.74**	**358**	P	**P**	**00 31 04.4**	**+3.7**
LSA	**Lhasa**	**22.74**	**358**	*e*P	**P**	**00 31 02.6**	**+1.9**
	comp=Z,46nm,0.9s,mb4.9						
ENH	**Enshi**	**28.56**	**33**	P	**P**	**00 31 54.2**	**-1.2**
	comp=Z,5.8nm,0.7s,mb4.4						
WMQ	**Urumqi**	**37.01**	**355**	*e*P	**P**	**00 33 10.0**	**+1.4**
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,44nm,4.8s						
WMQ				LR	LR		
	comp=N,1μm,19.8s,MS4.8						
WMQ				LR	LR		
	comp=E,886nm,20.8s,MS4.8						
WMQ				LR	LR		
	comp=Z,1μm,19.5s,MS4.7						
UCH	**Uchtor**	**38.45**	**339**	P	**P**	**00 33 22.3**	**+1.6**
	SNR=6.2						
AML	**Almayashu**	**38.66**	**338**	P	**P**	**00 33 23.9**	**+1.5**
	SNR=14						
KBK	**Karagaybulak**	**38.68**	**340**	P	**P**	**00 33 23.8**	**+1.2**
	SNR=11						
AAK	**Ala-Archa**	**38.81**	**339**	P	**P**	**00 33 25.8**	**+2.1**
	SNR=7.1						
AAK	**Ala-Archa**	**38.81**	**339**	*e*P	**P**	**00 33 20.3**	**-3.4**
AAK				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.5						
EKS2	**Erkin-Say**	**39.09**	**339**	P	**P**	**00 33 27.7**	**+1.6**
	SNR=6.2						
USP	**Ospenovka**	**39.37**	**340**	P	**P**	**00 33 29.2**	**+0.9**
	SNR=11						
BJT	**Baijiatuau**	**39.55**	**30**	P	**P**	**00 33 29.7**	**-0.1**
	comp=Z,15nm,1.3s,mb4.6						
MK02	**Makanchi Array**	**40.62**	**350**	P	**P**	**00 33 38.6**	**0.0**
MK02				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**42.87**	**15**	⇑*i*P	**P**	**00 33 50.1**	**-7.0**
ULN	**Ulaanbaatar**	**42.87**	**15**	*e*P	**P**	**00 33 57.7**	**+0.6**
	comp=Z,3.5nm,0.8s,mb4.1						
ZAK	**Zakamensk**	**44.42**	**10**	*e*P	**P**	**00 34 05.5**	**-4.1**
TLY	**Talaya**	**45.73**	**10**	*e*P	**P**	**00 34 11.2**	**-8.9**
NVS	**Novosibirsk**	**48.36**	**353**	*e*P	**P**	**00 34 39.2**	**-1.5**
NVS				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
NVS				pmax	pmax		
	comp=N,13nm,1.6s						
BRVK	**Borovoye**	**49.33**	**343**	*e*P	**P**	**00 34 47.0**	**-1.2**
	comp=N,9.5nm,1.1s,mb4.7						
WRAB	**Tennant Creek**	**49.52**	**123**	*e*P	pP	00 34 58.8	-1.2
WRAB	**Tennant Creek**	**49.52**	**123**	*e*P	**P**	**00 34 49.2**	**-0.9**
	comp=N,21nm,0.9s,mb5.2						
CHKZ	**Chkalovo**	**49.78**	**344**	*e*P	**P**	**00 34 51.1**	**-0.6**
	comp=N,16nm,1.0s,mb5.0						
GNI	**Garni**	**53.58**	**316**	*e*P	**P**	**00 35 19.8**	**-0.6**
GNI				pmax	pmax		
	comp=Z,15nm,1.3s						
GNI	**Garni**	**53.58**	**316**	*e*P	**P**	**00 35 19.6**	**-0.8**
	comp=Z,16nm,1.1s,mb4.9						
BOD	**Bodaibo**	**53.67**	**14**	*e*P	**P**	**00 35 20.7**	**-0.1**
TI2	**Plekhanov**	**54.27**	**317**	*e*P	**P**	**00 35 25.4**	**0.0**
KMBO	**Kilima Mbogo**	**55.10**	**264**	*e*P	**P**	**00 35 32.7**	**+0.8**
	comp=Z,14nm,0.9s,mb5.0						
SVE	**Sverdlovsk**	**55.56**	**340**	*e*P	**P**	**00 35 34.5**	**-0.1**
SVE				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4						
ARU	**Arti**	**55.99**	**338**	⇓*i*P	**P**	**00 35 35.0**	**-2.7**
ARU				*e*		00 36 33.1	
ARU				*e*		00 37 36.1	
ARU				*e*S	**S**	**00 43 17.0**	**-4.9**
ARU				*e*		00 45 23.1	
ARU				*e*SS	SS	00 47 02.1	-5.9
ARU				*e*SSS	SSS	00 49 05.8	-10
ARU				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**56.60**	**319**	⇑*i*P	**P**	**00 35 41.1**	**-1.2**
KIV				pmax	pmax		
	comp=Z,21nm,1.3s,mb5.0						
KIV	**Kislovodsk**	**56.60**	**319**	*e*P	**P**	**00 35 40.7**	**-1.6**
	comp=Z,19nm,1.0s,mb5.1						
MALT	**Malatya**	**57.45**	**311**	*e*P	**P**	**00 35 47.6**	**-0.8**
	comp=Z,4.8nm,1.0s,mb4.5						
EIL	**Elat**	**58.02**	**301**	*e*P	**P**	**00 35 52.2**	**-0.3**
	comp=Z,11nm,1.0s,mb4.8						
SOC	**Sochi**	**58.41**	**318**	*e*P	**P**	**00 35 51.4**	**-3.6**
SOC				*e*		00 36 46.3	
SOC				*e*		00 37 57.4	
SOC				*e*S	**S**	**00 43 48.2**	**-5.7**
SOC				*e*		00 45 31.0	
SOC				pmax	pmax		
	comp=Z,43nm,1.1s,mb5.4						
SOC				pmax	pmax		
	comp=N,40nm,1.2s						
SOC				pmax	pmax		
	comp=E,17nm,1.0s						
STKA	**Stephens Creek**	**61.04**	**132**	*e*P	**P**	**00 36 13.4**	**+0.1**
YAK	**Yakutsk**	**61.67**	**19**	*e*P	**P**	**00 36 11.7**	**-5.4**
YAK				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
OBN	**Obninsk**	**65.07**	**329**	⇓*i*P	**P**	**00 36 37.6**	**-1.9**
OBN				*e*	pP	00 36 47.7	-2.1
OBN						00 37 16.0	
OBN				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
LSZ	**Lusaka**	**66.83**	**250**	*e*P	**P**	**00 36 51.6**	**+0.3**
	comp=Z,12nm,1.0s,mb4.9						
LSZ				*e*PcP	PcP	00 37 19.7	-0.3
TIXI	**Tiksi**	**68.67**	**12**	⇑*i*P	**P**	**00 37 01.2**	**-0.8**
TIXI				*e*	pP	00 37 10.4	-2.0
TIXI				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
MA2	**Magadan**	**68.70**	**28**	*e*P	**P**	**00 37 00.2**	**-2.2**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
MA2	**Magadan**	**68.70**	**28**	*e*P	**P**	**00 37 03.0**	**+0.6**
	comp=Z,8.2nm,0.8s,mb4.7						
KWP	**Kalwaria**	**71.37**	**320**	*e*P	**P**	**00 37 18.5**	**-0.3**
KOLS	**Kolonicke sedl**	**71.52**	**319**	*i* P	**P**	**00 37 20.6**	**+0.9**
SUW	**Suwalki**	**72.04**	**325**	*e*P	**P**	**00 37 21.7**	**-1.0**
OJC	**Ojcow**	**73.33**	**320**	*e*P	**P**	**00 37 30.1**	**-0.3**
VYHS	**Vyhne**	**73.69**	**318**	*e*P	**P**	**00 37 32.1**	**-0.4**
OKC	**Ostrava-Krasne**	**74.32**	**320**	*e*P	**P**	**00 37 36.5**	**+0.3**
ZST	**Bratislava**	**74.79**	**318**	*e*P	**P**	**00 37 39.2**	**+0.3**
DPC	**Dobruska-Polom**	**75.56**	**320**	*e*P	**P**	**00 37 44.0**	**+0.7**
UPC	**Upice**	**75.77**	**320**	*e*P	**P**	**00 37 45.0**	**+0.5**
PRU	**Pruhonice**	**76.66**	**320**	*e*P	**P**	**00 37 49.9**	**+0.4**
GEC2	**GERESS Array S**	**77.11**	**318**	*e*P	**P**	**00 37 52.6**	**+0.5**
GEC2				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
GEC2	**GERESS Array S**	**77.11**	**318**	*e*P	**P**	**00 37 52.6**	**+0.5**
	comp=Z,7.0nm,0.9s,mb4.6						
BRG	**Berggiesshubel**	**77.12**	**321**	*e*P	**P**	**00 37 52.4**	**+0.3**
BRG				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
BRG	**Berggiesshubel**	**77.12**	**321**	P	**P**	**00 37 52.4**	**+0.3**
	comp=Z,7.2nm,1.0s,mb4.6						
KHC	**Kasperske Hory**	**77.21**	**319**	⇓*e*P	**P**	**00 37 52.0**	**-0.7**
KHC	**Kasperske Hory**	**77.21**	**319**	*e*P	**P**	**00 37 52.7**	**0.0**
WET	**Wettzell**	**77.67**	**319**	*e*P	**P**	**00 37 55.5**	**+0.3**
CLL	**Collm**	**77.74**	**321**	*e*P	**P**	**00 37 56.0**	**+0.4**
CLL	**Collm**	**77.74**	**321**	P	**P**	**00 37 56.0**	**+0.4**
BILL	**Bilibino**	**77.86**	**22**	*e*P	**P**	**00 37 55.2**	**-0.7**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
NKC	**Novy Kostel**	**78.02**	**320**	*e*P	**P**	**00 37 57.5**	**+0.4**
MOX	**Moxa**	**78.58**	**320**	*i* P	**P**	**00 38 00.5**	**+0.3**
GRA1	**Grafenberg Arr**	**78.78**	**319**	*e*P	**P**	**00 38 02.4**	**+1.1**
	comp=Z,15nm,0.9s,mb4.9						
GRF	**Grafenberg Arr**	**78.78**	**319**	*e*P	**P**	**00 38 02.4**	**+1.1**
	comp=Z,15nm,0.9s,mb4.9						
CLZ	**Clausthal**	**79.41**	**321**	*e*P	**P**	**00 38 04.6**	**-0.1**
	comp=Z,10.0nm,0.9s,mb4.8						
BSEG	**Bad Segeberg**	**79.54**	**324**	*e*P	**P**	**00 38 05.8**	**+0.4**
BFO	**Black Forest**	**80.65**	**318**	*e*P	**P**	**00 38 11.4**	**0.0**
	comp=Z,11nm,1.2s,mb4.7						
LPG	**La Plagne**	**81.76**	**315**	⇑*i*P	**P**	**00 38 18.0**	**+0.7**
	comp=Z,19nm,0.7s,mb4.8						
SYO	**Syowa Base**	**83.78**	**197**	⇓P	**P**	**00 38 28.9**	**+1.8**
ESLA	**Sonseca Array**	**90.17**	**310**	*e*P	**P**	**00 38 59.7**	**+0.9**
	comp=Z,2.4nm,1.1s,mb4.4						

BJI ***06*** *00:29:07.2, 6.66N×91.98E, h17km, mB5.4, mb5.3, Ms5.3, Msz5.0*
HRVD ***06*** *00:29:08.8±0.3, 6.87N×91.80E, h17km±1km, MW5.4/61, Centroid moment Tensor Solution. LP body waves: s24,c35;Mantle waves: s61,c116; Half duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.24±.06; $M_{\theta\theta}$-0.69±.04; $M_{\phi\phi}$0.93±.05; $M_{r\theta}$-0.31±.12; $M_{\theta\phi}$-1.37±.04; $M_{\phi r}$0.05±.12; Best double couple: $M_0$1.625×10^{17} NP1: ϕ_s15°, δ78°, λ-4°. NP2:ϕ_s106°, δ86°, λ-168°. Principal axes: T 1.734, Plg6°, Azm240°; N -.217, Plg78°, Azm123°; P -1.517, Plg11°, Azm331°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***06*** *00:29:08.8±4.1, 6.94N×91.91E, h7km±25km, mb5.2/62 Error ellipse: s-maj=7.5km s-min=5.1km az=208.0*
MOS ***06*** *00:29:10.6±1.1, 6.91N×91.95E, h33km, mb5.3/28, MS5.2/4, Error ellipse: s-maj=13.3km s-min=6.8km az=110.4*
ISC 06 00:29:09.8±0.3, 6.83N±0.04×91.88E±0.04, h28km, h28km±.6km: pP-P, n179, σ1§10/186, mb5.2/81, MS5.2/10, 18C-17D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.10**	**273**	P	**P**	**00 31 48.1**	**-2.0**
MDRS	**Chennai**	**13.03**	**299**	*e*P	**P**	**00 32 13.5**	**-2.4**
MDRS				*e*		00 32 15.0	
MDRS				*e*S	**S**	**00 34 21.6**	**-19**
VIS	**Vishakhapatnam**	**13.67**	**323**	*e*P	**P**	**00 32 20.8**	**-3.7**
VIS				AMb	AMB	00 32 31.6	
	comp=Z,517nm,0.0s						
VIS				*e*S	S	00 34 35.8	-21
CHG	**Chiang Mai**	**13.76**	**29**	⇓P	**P**	**00 32 24.4**	**-1.3**
	comp=Z,101nm,0.9s						
BWNR	**Bhubaneshwar**	**14.63**	**337**	*e*P	**P**	**00 32 30.2**	**-6.8**
BWNR				*e*		00 34 57.7	
KOD	**Kodaikanal**	**14.65**	**284**	*e*P	**P**	**00 32 34.8**	**-2.5**
KOD				*i*		00 34 59.9	
NANT	**Nan**	**14.68**	**35**	⇑P	**P**	**00 32 38.0**	**+0.3**
	comp=Z,950nm,1.0s						
TRD	**Trivandrum**	**14.88**	**277**	*e*P	**P**	**00 32 37.9**	**-2.5**
TRD				AMb	AMB	00 32 50.0	
	comp=Z,136nm,1.1s						
TRD				*e*		00 35 12.7	
MNGI	**Mangalore**	**17.86**	**291**	*e*P	**P**	**00 33 17.2**	**-1.0**
MNGI				*e*		00 36 20.1	
SHL	**Shillong**	**18.64**	**0**	*e*P	**P**	**00 33 26.4**	**-1.4**
SHL				*e*		00 33 38.8	
	comp=Z,257nm,1.3s						
SHL				*e*S	**S**	**00 36 52.6**	**+1.2**
COCO	**West Island**	**19.52**	**165**	P	**P**	**00 33 32.4**	**-5.8**
	comp=Z,80nm,0.5s						
GOA	**Goa**	**19.68**	**297**	*e*	**P**	**00 33 44.2**	**+4.3**
GOA				*e*		00 34 04.3	
	comp=Z,178nm,1.7s						
QIZ	**Qiongzhong**	**21.27**	**54**	⇑*i*P	**P**	**00 33 56.4**	**-0.1**
QIZ				S	**S**	**00 37 46.4**	**0.0**
QIZ				AMB	AMB		
	comp=Z,203nm,1.7s,mb5.2						
QIZ				LR	LR		
	comp=N,7μm,13.2s,MS5.2						
QIZ				LR	LR		
	comp=E,2μm,14.3s,MS5.2						
QIZ				LR	LR		
	comp=Z,5μm,13.6s,MS5.1						
QIZ	**Qiongzhong**	**21.27**	**54**	*e*P	**P**	**00 33 57.0**	**+0.5**
	comp=Z,428nm,1.4s,mb5.6						
JIRN	**Jiri**	**21.41**	**346**	*e*P	**P**	**00 33 59.2**	**+1.3**
	comp=Z,806nm,1.0s,mb6.0						
BHPL	**Bhopal**	**21.44**	**321**	*e*P	**P**	**00 33 57.9**	**-0.3**
BHPL				*e*		00 34 00.4	
	comp=Z,109nm,1.5s						
BHPL				*e*S	**S**	**00 37 51.1**	**+1.6**
PKI	**Pulchoki**	**21.53**	**344**	*e*P	**P**	**00 34 00.0**	**+1.0**
	comp=Z,1μm,1.6s,mb6.0						
DMN	**Daman**	**21.65**	**344**	*e*P	**P**	**00 34 01.2**	**+1.0**
GUN	**Gumba**	**21.73**	**346**	*e*P	**P**	**00 34 01.9**	**+0.9**
	comp=Z,539nm,0.9s,mb6.0						
KKN	**Kakani**	**21.77**	**344**	*e*P	**P**	**00 34 02.3**	**+0.9**
BOM	**Bombay**	**22.09**	**305**	*e*P	**P**	**00 34 03.5**	**-1.2**
BOM				*e*S	**S**	**00 38 07.5**	**+5.8**
GKN	**Gorkha**	**22.15**	**343**	*e*P	**P**	**00 34 05.8**	**+0.5**
	comp=Z,1μm,1.6s,mb6.0						
KOLN	**Koldanda**	**22.26**	**340**	*e*P	**P**	**00 34 06.5**	**+0.2**
	comp=Z,1μm,1.8s,mb6.1						
LSA	**Lhasa**	**22.76**	**358**	P	**P**	**00 34 14.3**	**+2.9**
LSA				S	**S**	**00 38 18.7**	**+4.8**
LSA				PCS		00 41 36.7	
LSA				SCS	ScS	00 45 17.6	-5.0
LSA				AMB	AMB		
	comp=Z,170nm,0.9s,mb5.5						
LSA				LR	LR		
	comp=N,2μm,26.5s,MS4.7						
LSA				LR	LR		
	comp=E,3μm,21.5s,MS4.7						
LSA				LR	LR		
	comp=Z,4μm,24.8s,MS4.8						
LSA	**Lhasa**	**22.76**	**358**	*e*P	**P**	**00 34 11.0**	**-0.3**
	comp=Z,207nm,0.9s,mb5.6						
PTH	**Pithoragarh**	**25.13**	**336**	*e*	**P**	**00 34 47.0**	**+13**
PTH				*e*		00 39 18.0	
NDI	**New Delhi**	**25.78**	**329**	*e*P	**P**	**00 34 40.0**	**-0.4**
NDI				*e*		00 39 30.0	
BHK	**Bhakra**	**28.42**	**331**	*e*	**P**	**00 35 14.3**	**+10**
ENH	**Enshi**	**28.59**	**33**	*e*P	**P**	**00 35 03.7**	**-2.3**
	comp=Z,52nm,0.9s,mb5.3						
LZH	**Lanzhou**	**31.12**	**19**	⇓P	**P**	**00 35 28.3**	**-0.1**
LZH				AP	pP	00 35 37.0	+0.5
LZH				XP	sP	00 35 41.4	+1.3
LZH				AMB	AMB		
	comp=Z,180nm,1.2s,mb5.8						
LZH				LR	LR		
	comp=E,2μm,11.6s						
LZH				LR	LR		
	comp=Z,6μm,16.1s,MS5.3						
XAN	**Xi'an**	**31.33**	**28**	P	**P**	**00 35 29.7**	**-0.6**
XAN				AMB	AMB		
	comp=Z,33nm,1.0s,mb5.1						
XAN				LR	LR		
	comp=N,748nm,21.6s,MS4.7						
XAN				LR	LR		
	comp=E,2μm,21.2s,MS4.7						
XAN				LR	LR		
	comp=Z,2μm,16.9s,MS4.9						
WHN	**Wuhan**	**31.64**	**39**	⇑P	**P**	**00 35 33.1**	**0.0**
NJ2	**Nanjing**	**35.53**	**42**

comp=Z,18nm,0.8s,mb5.0
IRK Irkutsk 46.41 10 *e*P **P 00 37 35.8 0.0**
IRK *e* pP 00 37 44.7 +0.6
IRK *e* 00 44 34.0
HIA Hailar 48.37 24 *e*P **P 00 37 51.4 +0.1**
comp=Z,102nm,1.3s,mb5.7
NVS Novosibirsk 48.38 353 *i* P **P 00 37 50.1 -1.1**
NVS *e* pP 00 37 58.7 -0.9
NVS *i* S **S 00 44 47.5 -1.3**
NVS pmax pmax
comp=Z,40nm,1.0s,mb5.4
NVS pmax pmax
comp=N,32nm,1.2s
NVS smax
comp=N,85nm,1.9s
NVS smax
comp=N,49nm,1.7s
BVA0 Borovoye Array 49.29 343 P **P 00 37 57.8 -0.5**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
BRVK Borovoye 49.35 343 *e*P **P 00 37 58.0 -0.7**
comp=Z,25nm,0.9s,mb5.2
WRAB Tennant Creek 49.53 123 ⇓*i*P **P 00 38 00.2 -0.4**
WRAB Tennant Creek 49.53 123 *e*P **P 00 37 59.8 -0.8**
comp=Z,88nm,1.1s,mb5.7
WB2 Warramunga Arr 49.53 123 *e*P **P 00 38 00.9 +0.3**
WB2 *e*S **S 00 45 13.6 +8.2**
CHKZ Chkalovo 49.80 344 *i* P **P 00 38 02.0 -0.2**
CHKZ pmax pmax
comp=Z,34nm,1.1s,mb5.3
CHKZ Chkalovo 49.80 344 *e*P **P 00 38 01.7 -0.5**
comp=Z,53nm,0.9s,mb5.6
CHKZ *e* pP 00 38 10.9 +0.3
MDJ Mudanjiang 49.93 35 P **P 00 38 03.7 +0.3**
MDJ AMB AMB
comp=Z,61nm,1.4s,mb5.4
MDJ Mudanjiang 49.93 35 *e*P **P 00 38 02.9 -0.4**
comp=Z,122nm,1.3s,mb5.8
ASPA Alice Springs 51.01 128 *e*P **P 00 38 12.6 +0.8**
MAJO Matsushiro 51.52 48 *e*P **P 00 38 13.4 -2.2**
comp=Z,93nm,1.5s,mb5.5
MAT Matsushiro 51.52 48 *e*P **P 00 38 15.0 -0.6**
comp=Z,67nm,1.5s,mb5.3
MAT Matsushiro 51.52 48 P **P 00 38 14.5 -1.1**
GNI Garni 53.59 316 ⇓*i*P **P 00 38 30.1 -0.8**
GNI pmax pmax
comp=Z,16nm,1.3s
GNI Garni 53.59 316 *e*P **P 00 38 30.6 -0.3**
comp=Z,59nm,1.3s,mb5.4
BOD Bodaibo 53.70 14 *e*P **P 00 38 31.2 -0.3**
KLR Kulyin 53.93 31 *e*P **P 00 38 30.2 -3.1**
KMBO Kilima Mbogo 55.08 264 *i* P **P 00 38 44.1 +1.9**
KMBO pmax pmax
comp=Z,10.0nm,0.8s
KMBO Kilima Mbogo 55.08 264 *e*P **P 00 38 43.1 +0.8**
comp=Z,12nm,0.8s,mb5.0
SVE Sverdlovsk 55.57 340 ⇓*e*P **P 00 38 45.0 -0.2**
SVE pmax pmax
comp=Z,80nm,1.3s,mb5.6
SVE MLR MLR
comp=Z,4μm,21.0s,MS5.5
ARU Arti 56.00 338 ⇓*i*P **P 00 38 46.5 -1.8**
ARU *e* 00 39 42.7
ARU *e*S **S 00 46 34.0 +1.0**
ARU *e* 00 48 32.1
ARU pmax pmax
comp=Z,46nm,1.1s,mb5.4
CLNS Chul'man 56.20 21 *e*P **P 00 38 49.8 +0.1**
CLNS pmax pmax
comp=N,18nm,1.0s
CLNS pmax pmax
comp=Z,38nm,1.0s,mb5.4
CLNS pmax pmax
comp=E,18nm,1.1s
KIV Kislovodsk 56.61 319 ⇓*i*P **P 00 38 50.9 -1.9**
KIV pmax pmax
comp=Z,17nm,1.3s,mb4.9
KIV Kislovodsk 56.61 319 *e*P **P 00 38 52.7 -0.1**
comp=Z,32nm,1.1s,mb5.3
PMG Port Moresby 57.39 106 *e*P **P 00 38 58.4 -0.4**
comp=Z,24nm,0.9s,mb5.2
MALT Malatya 57.45 311 *e*P **P 00 38 59.4 +0.6**
comp=Z,9.3nm,1.0s,mb4.8
MALT *e* pP 00 39 07.5 +0.1
MALT *e* 00 39 18.9
EIL Elat 58.01 301 *e*P **P 00 39 05.2 +2.4**
comp=Z,26nm,1.2s,mb5.1
SOC Sochi 58.41 318 *e*P **P 00 39 05.3 -0.2**
SOC *e* 00 41 13.2
SOC *i* S **S 00 47 00.6 -4.3**
SOC *e*SS SS 00 51 01.9 +3.0
SOC *e*SSS SSS 00 53 22.0 +1.1
SOC pmax pmax
comp=N,22nm,0.8s
SOC pmax pmax
comp=Z,21nm,0.8s,mb5.2
SOC pmax pmax
comp=E,33nm,0.9s
SOC MLR MLR
comp=Z,2μm,19.0s,MS5.2
SOC MLR MLR
comp=N,1μm,18.0s,MS5.1
SOC MLR MLR
comp=E,715nm,21.0s,MS5.1
YSS Yuzh-Sakhalins 58.99 38 *e*P **P 00 39 09.0 -0.5**
YSS *e* pP 00 39 18.9 +0.9
YSS *e* 00 39 56.0
YSS Yuzh-Sakhalins 58.99 38 *e*P **P 00 39 08.1 -1.4**
comp=E,34nm,0.9s,mb5.4
CTA Charters Tower 59.78 118 *e*P **P 00 39 16.1 +0.8**
comp=E,13nm,1.1s,mb4.9
CTAO Charters Tower 59.78 118 *e*P **P 00 39 15.2 0.0**
comp=E,35nm,1.2s,mb5.3
STKA Stephens Creek 61.04 132 *e*P **P 00 39 24.0 +0.3**
comp=E,12nm,0.6s,mb5.2
MBAR Mbarara 61.44 266 ⇓*i*P **P 00 39 26.1 -0.6**
YAK Yakutsk 61.70 19 ⇑*i*P **P 00 39 25.2 -2.6**
YAK pmax pmax
comp=Z,121nm,1.0s,mb6.0
YAK Yakutsk 61.70 19 *e*P **P 00 39 26.7 -1.1**
comp=Z,107nm,0.9s,mb6.0
MOS Moscow 64.82 330 *e*P **P 00 39 45.8 -2.6**
MOS *e* pP 00 39 53.9 -3.1
MOS pmax pmax
comp=Z,58nm,1.5s,mb5.4
OBN Obninsk 65.08 329 ⇓*e*P **P 00 39 48.1 -2.0**
OBN *e* pP 00 39 57.2 -1.5
OBN 00 40 20.0
OBN *e* 00 42 17.4
OBN PPP PPP 00 43 55.0 +5.6
OBN *i* 00 49 07.5
OBN pmax pmax
comp=Z,27nm,1.2s,mb5.2
OBN Obninsk 65.08 329 *e*P **P 00 39 48.3 -1.8**
comp=Z,78nm,1.5s,mb5.5
LSZ Lusaka 66.81 250 *e*P **P 00 40 01.6 -0.2**
comp=Z,33nm,1.2s,mb5.2
ARMA Armidale 68.12 126 *e*P **P 00 40 12.4 +2.5**
TIXI Tiksi 68.70 12 *e*P **P 00 40 11.5 -1.3**
TIXI *e*S tx 00 49 53.0
TIXI pmax pmax
comp=Z,107nm,1.0s,mb5.7
TIXI MLR MLR
comp=Z,749nm,18.0s,MS5.0
TIXI Tiksi 68.70 12 ⇓*i*P **P 00 40 09.8 -3.0**
MA2 Magadan 68.73 28*c i*P **P 00 40 12.7 -0.4**
MA2 *e*S S 00 49 11.4 -1.7
MA2 pmax pmax
comp=N,10.0nm,0.9s
MA2 pmax pmax
comp=E,10.0nm,0.9s
MA2 pmax pmax
comp=Z,40nm,0.9s,mb5.3
MA2 Magadan 68.73 28 *e*P **P 00 40 12.3 -0.9**
comp=Z,81nm,0.9s,mb5.7
TAU Tasmania Unive 70.50 140 P **P 00 40 23.8 -0.4**
comp=Z,214nm,2.0s,mb5.7
PET Petropavlovsk 70.69 36 *e*P **P 00 40 23.4 -1.8**
PET pmax pmax
comp=Z,125nm,2.5s,mb5.4
PET Petropavlovsk 70.69 36 *e*P **P 00 40 23.5 -1.7**
JOF Joensuu 70.83 335 *e*p **P 00 40 24.5 -1.4**
comp=Z,13nm,0.7s,mb5.0
JOF Joensuu 70.83 335 *e*P **P 00 40 24.5 -1.4**
JOF pmax pmax
comp=Z,13nm,0.7s,mb5.0
SKO Skopje 70.94 312 *e*P **P 00 40 25.8 -1.1**
VSU Vasula 71.35 330 *i* P **P 00 40 27.1 -2.0**
VSU Vasula 71.35 330 *i* P **P 00 40 27.2 -1.9**
KWP Kalwaria 71.38 320 *e*P **P 00 40 28.7 -0.7**
KOLS Kolonicke sedl 71.52 319 *e*P **P 00 40 30.7 +0.4**
CRVS Cervenica-Dubn 72.04 319 *e*P **P 00 40 36.0 +2.6**
APA Apatity 72.04 340 ⇑*i*P **P 00 40 31.4 -1.7**
APA *i* pP 00 40 41.0 -0.7
APA pmax pmax
comp=Z,18nm,1.0s,mb5.0
SUW Suwalki 72.05 325 *e*P **P 00 40 32.3 -1.0**
SUW *e* pP 00 40 40.7 -1.2
FINES FINESS Array B 72.59 333 *i* P **P 00 40 35.5 -0.9**
FINES pmax pmax
comp=Z,24nm,1.1s
KAF Kangasniemi 72.71 333 *e*p **P 00 40 34.9 -2.2**
comp=Z,14nm,1.0s,mb4.9
KAF Kangasniemi 72.71 333 *e*P **P 00 40 34.9 -2.2**
KAF pmax pmax
comp=Z,14nm,1.0s,mb4.8
NIE Niedzica 72.87 320 *e*P **P 00 40 39.0 +0.7**
VYHS Vyhne 73.69 318 *e*P **P 00 40 43.1 0.0**
OKC Ostrava-Krasne 74.33 320 *e*P **P 00 40 46.9 +0.2**
OKC *e*pP pP 00 40 55.5 +0.1
SMOL Smolenice 74.62 318 *e*P **P 00 40 48.8 +0.3**
MORC Moravsky Berou 74.71 320 *e*P **P 00 40 47.9 -1.1**
comp=Z,15nm,1.2s,mb4.8
ZST Bratislava 74.80 318 *e*P **P 00 40 50.0 +0.5**
ZST *e* pP 00 40 59.0 +0.8
GKP Gorka Klasztor 75.38 323 *e*P **P 00 40 59.0 +6.2**
DPC Dobruska-Polom 75.56 320 *e*P **P 00 40 54.9 +1.1**
DPC *e*pP pP 00 41 03.4 +0.9
KSP Ksiaz 75.64 321 *e*P **P 00 40 54.6 +0.3**
ARSA Arzberg 75.76 317 ⇓*i*P **P 00 40 55.8 +0.8**
comp=Z,25nm,1.4s,mb5.0
UPC Upice 75.78 320 *e*P **P 00 40 55.5 +0.5**
UPC *e*pP pP 00 41 04.5 +0.8
OBKA Obir 76.36 316 ⇑*i*P **P 00 40 57.9 -0.5**
comp=Z,19nm,1.1s,mb4.9
MOA Molln 76.66 317 ⇓*i*P **P 00 41 00.2 +0.1**
comp=Z,14nm,1.1s,mb4.8
PRU Pruhonice 76.66 320 *e*P **P 00 41 00.8 +0.8**
PRU *e*pP pP 00 41 09.6 +0.9
PVCC Panska Ves 76.70 320 *e*P **P 00 41 01.0 +0.8**
PVCC *e*pP pP 00 41 09.5 +0.6
BSD Bornholm Skovb 76.98 325 *e*P **P 00 41 02.1 +0.4**
BSD pmax pmax
comp=Z,36nm,0.9s,mb5.3
BSD Bornholm Skovb 76.98 325 *e*P **P 00 41 02.1 +0.4**
comp=Z,36nm,0.9s,mb5.3
BSD Bornholm Skovb 76.98 325 *i* P **P 00 41 02.1 +0.4**
comp=Z,36nm,0.9s,mb5.3
GEC2 GERESS Array S 77.11 318 *e*P **P 00 41 03.0 +0.4**
GEC2 pmax pmax
comp=Z,17nm,1.1s,mb4.9
GEC2 GERESS Array S 77.11 318 *e*P **P 00 41 03.0 +0.4**
comp=Z,17nm,1.1s,mb4.9
BRG Berggiesshubel 77.12 321 *e*P **P 00 41 03.0 +0.4**
BRG *e* 00 41 06.7
BRG pmax pmax
comp=Z,19nm,1.3s,mb4.9
BRG MLR MLR
comp=N,1μm,22.2s,MS5.3
BRG MLR MLR
comp=E,1μm,22.2s,MS5.3
BRG MLR MLR
comp=Z,2μm,22.2s,MS5.3
BRG Berggiesshubel 77.12 321 *e*P **P 00 41 03.0 +0.4**
comp=Z,19nm,1.3s,mb4.9
BRG *e* 00 41 06.7
KHC Kasperske Hory 77.22 319 *e*P **P 00 41 03.6 +0.5**
KHC *e*pP pP 00 41 12.6 +0.8
WET Wettzell 77.67 319 *e*P **P 00 41 06.1 +0.5**
CLL Collm 77.75 321 ⇓*i*P **P 00 41 06.2 +0.2**
CLL *i* pP 00 41 14.9 +0.2
CLL pmax pmax
comp=Z,15nm,1.2s,mb4.8
CLL Collm 77.75 321 ⇓*i*P **P 00 41 06.2 +0.2**
comp=Z,15nm,1.2s,mb4.8
CLL *i* pP 00 41 14.9 +0.2
CLL Collm 77.75 321 ⇓P **P 00 41 06.2 +0.2**
comp=Z,logA/T=1.1,mb4.8
CLL *i* *PP pP 00 41 09.4 -5.3
CLL *i* *SP sP 00 41 14.9 -2.8
BILL Bilibino 77.89 22 ⇑*i*P **P 00 41 05.2 -1.2**
BILL pmax pmax
comp=Z,33nm,1.7s,mb5.0
BILL Bilibino 77.89 22 *e*P **P 00 41 07.1 +0.6**
comp=Z,14nm,1.0s,mb4.9
NKC Novy Kostel 78.03 320 *e*P **P 00 41 08.3 +0.8**
NKC *e*pP pP 00 41 16.4 +0.1
WTTA Wattenberg 78.40 317 ⇑*i*P **P 00 41 09.7 0.0**
comp=Z,23nm,0.9s,mb5.1
WATA Walderalm 78.44 317 ⇓*i*P **P 00 41 09.8 -0.1**
comp=Z,14nm,1.1s,mb4.8
MOX Moxa 78.58 320 *e*P **P 00 41 11.0 +0.4**
MOX pmax pmax
comp=Z,21nm,1.3s,mb4.9
MOX Moxa 78.58 320 *e*P **P 00 41 11.0 +0.4**
comp=Z,21nm,1.3s,mb4.9
MOX Moxa 78.58 320 *i* P **P 00 41 11.0 +0.4**
comp=Z,logA/T=1.2,mb4.9
FUR Furstenfeldbru 78.68 318 *e*P **P 00 41 11.1 -0.1**
SQTA Sankt Quirin 78.69 317 ⇑*i*P **P 00 41 11.5 +0.2**
comp=Z,14nm,0.9s,mb4.9
MOTA Moosalm 78.77 317 ⇑*i*P **P 00 41 11.5 -0.2**
comp=Z,14nm,1.0s,mb4.9
GRA1 Grafenberg Arr 78.79 319 *e*P **P 00 41 12.6 +0.9**
comp=Z,24nm,1.0s,mb5.1
GRF Grafenberg Arr 78.79 319 *e*P **P 00 41 12.6 +0.9**
GRF pmax pmax
comp=Z,24nm,1.0s,mb5.1
GRF Grafenberg Arr 78.79 319 *e*P **P 00 41 12.6 +0.9**
comp=Z,24nm,1.0s,mb5.1
CLZ Clausthal 79.42 321 *e*P **P 00 41 15.4 +0.3**
comp=Z,21nm,1.0s,mb5.0
NB2 NORSAR Subarra 79.54 331 P **P 00 41 14.5 -1.1**
comp=Z,12nm,1.1s,mb4.8,baz=91,slow=5.0
BSEG Bad Segeberg 79.55 324 *e*P **P 00 41 16.1 +0.3**
DAVA Damuels 79.60 317 ⇑*i*P **P 00 41 16.8 +0.6**
comp=Z,44nm,1.0s,mb5.3
MUD Monsted U'grnd 80.32 326 *e*P pP 00 41 30.6 +2.0
MUD pmax pmax
comp=Z,27nm,0.9s,mb5.2
MUD Monsted U'grnd 80.32 326 *i* P pP 00 41 30.6 +2.0
comp=Z,27nm,0.9s
BFO Black Forest 80.66 318 *e*P **P 00 41 21.8 0.0**
BFO pmax pmax
comp=Z,23nm,1.5s,mb4.9
BFO Black Forest 80.66 318 *e*P **P 00 41 21.8 0.0**
comp=Z,23nm,1.5s,mb4.9
LPG La Plagne 81.76 315 ⇑*i*P **P 00 41 28.6 +0.9**
comp=Z,67nm,1.1s,mb5.2
SYO Syowa Base 83.76 197 ⇑P **P 00 41 36.5 -0.9**
SYO Syowa Base 83.76 197 ⇑PcP PcP 00 41 42.9 +1.0
SYO Syowa Base 83.76 197 ⇑pP pP 00 41 48.1 +1.9
EMIR Miracle 85.76 312 P **P 00 41 49.8 +1.7**
comp=Z,12nm,0.7s,mb5.2
EMOS Mosqueruela 87.42 310 P **P 00 41 58.9 +2.7**
comp=Z,15nm,1.0s,mb5.2
EBER Berja 89.75 307 P **P 00 42 09.2 +1.8**
comp=Z,4.5nm,0.6s,mb5.0
EQES Quesada 89.76 308 P **P 00 42 08.6 +1.1**
comp=Z,5.8nm,1.0s,mb4.9
GUD Guadarrama 90.16 311 P **P 00 42 11.3 +2.0**
comp=Z,13nm,1.2s,mb5.1
GUD pP pP 00 42 19.9 +1.8
ESDC Sonseca Array 90.17 310 P **P 00 42 10.5 +1.2**
comp=Z,3.1nm,1.0s,mb4.6
ESDC pP pP 00 42 19.2 +1.0
EADA Adamuz 90.88 308 P **P 00 42 14.1 +1.5**
comp=Z,9.5nm,1.1s,mb5.0
EADA pP pP 00 42 22.9 +1.5
ESPR Espera 92.10 307 P **P 00 42 18.9 +0.6**
comp=Z,5.4nm,0.9s,mb4.9
CPUP Villa Florida 144.85 233 PKPbc PKPbc 00 48 46.1 +1.0

*CSEM **06** 00:29:15.2±0.2, 67.82N×20.18E, ML1.9, Error ellipse: s-maj=8.2km s-min=3.1km az=69.0, Mining explosion.*
*UPP **06** 00:29:16.2, 67.84N×20.20E, h0^{km}, ML2.7, Mining explosion.*
HEL 06 00:29:16.4±0.1, 67.85N×20.12E, ML1.9, ML2.7(UPP),

Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**40**	*i* P	Pg	00 29 18.8	-0.2
KUA				*i* S	Sg	00 29 20.6	-0.2
NIKU	**Nikkaluokta**	**0.41**	**272**	*i* P	Pg	00 29 24.7	+0.1
NIKU	**Nikkaluokta**	**0.41**	**272**	P	Pg	00 29 24.6	0.0
LANU	**Lannavaara**	**0.73**	**74**	*i* P	Pg	00 29 29.5	-1.6
DUNU	**Dundret**	**0.76**	**166**	*i* P	Pg	00 29 30.1	-1.4
MASU	**Masugnsbyn**	**0.82**	**118**	*i* P	Pg	00 29 31.1	-1.7
PAJU	**Pajala**	**1.43**	**124**	*e*P	Pb	00 29 41.7	-1.9
ERTU	**Ertsjaerv**	**1.54**	**147**	*e*P	Pn	00 29 43.9	-1.3
ERTU	**Ertsjaerv**	**1.54**	**147**	P	Pn	00 29 43.8	-1.4
KTK1	**Kautokeino**	**1.64**	**43**	*e*P	Pn	00 29 45.8	-0.8
TRO	**Tromso**	**1.84**	**347**	*e*P	Pn	00 29 48.7	-0.8
SGF	**Sodankyl**	**2.48**	**97**	*e*P	Pn	00 29 57.8	-0.9
SGF				*e*S	Sn	00 30 28.5	-1.7
SGF				MSG		00 30 34.6	
	comp=Z,5.0nm,0.2s						
SGF	**Sodankyl**	**2.48**	**97**	P	Pn	00 29 57.8	-1.0
SGF				S	Sn	00 30 28.5	-1.7
	comp=Z,5.0nm,0.2s						
LOF	**Lofoten**	**2.49**	**279**	*e*	Sg	00 30 38.8	-0.5
LOF	**Lofoten**	**2.49**	**279**	*e*	Sg	00 30 38.8	-0.5
MOR8	**Moi Rana**	**2.80**	**235**	*e*SG	Sn	00 30 38.8	+0.7
KEV	**Kevo**	**3.15**	**49**	*e*P	Pn	00 30 07.1	-1.1
KEV				*e*S	Sn	00 30 44.4	-2.7
KEV				MSG		00 30 54.1	
	comp=Z,4.6nm,0.3s						
KEV	**Kevo**	**3.15**	**49**	P	Pn	00 30 07.1	-1.1
KEV				S	Sn	00 30 44.3	-2.8
	comp=Z,4.6nm,0.3s						
KU4	**Oulanka**	**3.99**	**108**	*e*P	Pn	00 30 18.5	-1.7
KU4				*e*S	Sn	00 31 04.5	-3.8
MSF	**Maaselka**	**4.02**	**115**	*e*P	Pn	00 30 19.3	-1.3
MSF				*e*S	Sn	00 31 05.8	-3.4
MSF				MSG		00 31 25.9	
	comp=Z,1.7nm,0.2s						
MSF	**Maaselka**	**4.02**	**115**	P	Pn	00 30 19.3	-1.3
MSF				S	Sn	00 31 05.7	-3.5
	comp=Z,1.7nm,0.2s						
KJN	**Kajaani**	**4.89**	**137**	*e*P	Pn	00 30 31.3	-1.7
KJN				*e*S	Sn	00 31 26.3	-4.9
KJN				MSG		00 31 53.0	
	comp=Z,1.3nm,0.3s						

*CNRM **06** 00:35:37.0, 35.03N×3.61W, h15^{km}, MD2.8*
*CSEM **06** 00:35:38.9±0.1, 35.03N×4.04W, h20^{km}, MD2.8, Error ellipse: s-maj=2.8km s-min=2.6km az=113.0*
*MDD **06** 00:35:39.5±0.5, 34.95N×3.93W, mb3.4/7, Error ellipse: s-maj=4.1km s-min=3.6km az=14.0, PRXIMO*
*NEIC **06** 00:35:40.6, 35.13N×4.05W, MG3.2(MDD), After MDD.*
ISC 06 00:35:39.4±0.7, 35.04N±0.03×4.08W±0.04, h12^{km}±4^{km}, n45, σ1°40/81, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.22**	**32**	P	**Pg**	**00 35 44.5**	**+0.3**
MPAL				S	**Sg**	**00 35 48.0**	**+0.5**
MPAL	**Palemas**	**0.22**	**32**	*i* P	**Pg**	**00 35 44.5**	**+0.3**
TOU	**Touzarine**	**0.28**	**106**	P	**Pg**	**00 35 42.0**	**-3.4**
TOU				S	**Sg**	**00 35 43.5**	**-5.9**
TZK	**Tazeka**	**0.95**	**185**	*i* P	**Pb**	**00 35 56.0**	**-1.3**
TZK				*i* S	**Sb**	**00 36 10.5**	**+0.9**
EMEL	**Melilla**	**0.96**	**74**	P	**Pb**	**00 35 57.1**	**-0.3**
	99nm,0.2s,SNR=11						
EMEL				S	**Sb**	**00 36 12.0**	**+2.1**
	65nm,0.1s						
EMLI	**Melilla**	**0.96**	**74**	P	**Pb**	**00 35 57.1**	**-0.4**
	99nm,0.2s,SNR=11						
EMLI				S	**Sb**	**00 36 10.0**	**0.0**
	3.0nm,0.0s						
DKH	**Dar Kharkhour**	**1.14**	**294**	P	**Pb**	**00 36 02.5**	**+2.0**
DKH				S	**Sb**	**00 36 22.0**	**+7.0**
DKH	**Dar Kharkhour**	**1.14**	**294**	*i* P	**Pb**	**00 36 02.5**	**+2.0**
TGT	**Taghat**	**1.26**	**220**	P	**Pb**	**00 36 02.0**	**-0.5**
TGT				S	**Sb**	**00 36 21.5**	**+3.1**
TGT	**Taghat**	**1.26**	**220**	*i* P	**Pb**	**00 36 02.0**	**-0.5**
EMIJ	**Mijas**	**1.62**	**340**	P	**Pn**	**00 36 07.0**	**-0.9**
EMIJ				S	**Sn**	**00 36 28.2**	**-0.7**
EMIJ	**Mijas**	**1.62**	**340**	P	**Pn**	**00 36 07.1**	**-0.9**
	2.5nm,0.2s,SNR=7.7						
EMIJ				S	**Sn**	**00 36 29.6**	**+0.8**
	8.2nm,0.3s						
EMIJ	**Mijas**	**1.62**	**340**	P	**Pn**	**00 36 07.1**	**-0.9**
	1.0nm,0.1s,SNR=7.7						
EMIJ				S	**Sn**	**00 36 28.2**	**-0.7**
	3.0nm,0.2s						
ERON	**Agron**	**1.99**	**6**	P	**Pn**	**00 36 15.4**	**+2.1**
	2.1nm,0.3s,SNR=7.9						
ERON				S	**Sn**	**00 36 41.0**	**+2.8**
	5.5nm,0.4s,SNR=7.9						
ERON	**Agron**	**1.99**	**6**	S	**Sn**	**00 36 35.6**	**-2.6**
	5.5nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.09**	**27**	P	**Pn**	**00 36 13.9**	**-0.8**
EBER				S	**Sn**	**00 36 39.8**	**-1.1**
EBER	**Berja**	**2.09**	**27**	P	**Pn**	**00 36 14.0**	**-0.7**
	0.4nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**00 36 41.2**	**+0.3**
	8.4nm,0.3s,SNR=6.3						
EBER	**Berja**	**2.09**	**27**	P	**Pn**	**00 36 13.9**	**-0.8**
	1.1nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**00 36 39.7**	**-1.2**
	8.6nm,0.3s,SNR=6.3						
ELOJ	**Sierra Loja**	**2.10**	**359**	P	**Pn**	**00 36 16.8**	**+1.9**
	1.3nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**00 36 42.8**	**+1.7**
	3.0nm,0.4s,SNR=7.9						
ESPR	**Espera**	**2.32**	**322**	P	**Pn**	**00 36 17.8**	**-0.3**
ESPR				S	**Sn**	**00 36 46.7**	**-0.1**
ESPR	**Espera**	**2.32**	**322**	P	**Pn**	**00 36 19.0**	**+0.9**
	1.3nm,0.3s,SNR=7.9						
ESPR				S	**Sn**	**00 36 48.6**	**+1.9**
	6.5nm,0.4s,SNR=7.9						
ESPR	**Espera**	**2.32**	**322**	P	**Pn**	**00 36 17.8**	**-0.2**
	0.1nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**00 36 46.7**	**0.0**
	3.1nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**2.46**	**38**	P	**Pn**	**00 36 19.0**	**-1.0**
	2.8nm,0.5s,SNR=4.0						
ENIJ				S	**Sn**	**00 36 50.3**	**+0.1**
	3.0nm,0.3s,SNR=7.9						
ELUQ	**Luque**	**2.52**	**357**	P	**Pn**	**00 36 21.5**	**+0.6**
ELUQ	**Luque**	**2.52**	**357**	P	**Pn**	**00 36 23.2**	**+2.4**
	1.8nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**00 36 53.9**	**+2.2**
	2.1nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.52**	**357**	P	**Pn**	**00 36 21.5**	**+0.7**
	0.6nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.88**	**16**	P	**Pn**	**00 36 27.2**	**+1.3**
EQES				S	**Sn**	**00 36 58.8**	**-2.0**
EQES	**Quesada**	**2.88**	**16**	P	**Pn**	**00 36 27.2**	**+1.3**
	3.0nm,0.3s,SNR=13						
EQES				S	**Sn**	**00 37 02.0**	**+1.2**
	11nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.88**	**16**	P	**Pn**	**00 36 27.2**	**+1.3**
	2.0nm,0.4s,SNR=13						
EQES				S	**Sn**	**00 36 58.8**	**-2.0**
	5.6nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.15**	**353**	P	**Pn**	**00 36 29.9**	**+0.2**
EADA				S	**Sn**	**00 37 05.3**	**-2.3**
EADA	**Adamuz**	**3.15**	**353**	P	**Pn**	**00 36 30.4**	**+0.6**
	0.7nm,0.2s,SNR=8.7						
EADA				S	**Sn**	**00 37 09.0**	**+1.4**
	0.4nm,0.2s						
EADA	**Adamuz**	**3.15**	**353**	P	**Pn**	**00 36 29.9**	**+0.1**
	0.4nm,0.1s,SNR=8.7						
EADA				S	**Sn**	**00 37 05.3**	**-2.3**
	2.0nm,0.3s						
EMIN	**Mina Concepcio**	**3.43**	**323**	P	**Pn**	**00 36 33.4**	**-0.4**
EMIN				S	**Sn**	**00 37 12.0**	**-2.8**
EMIN	**Mina Concepcio**	**3.43**	**323**	P	**Pn**	**00 36 33.3**	**-0.5**
	0.8nm,0.2s,SNR=8.0						
EMIN				S	**Sn**	**00 37 13.7**	**-1.1**
	1.1nm,0.3s						
EMIN	**Mina Concepcio**	**3.43**	**323**	P	**Pn**	**00 36 33.4**	**-0.4**
	0.4nm,0.1s,SNR=8.0						
EMIN				S	**Sn**	**00 37 12.0**	**-2.8**
	0.3nm,0.2s						
EMUR	**La Murta**	**3.62**	**39**	S	**Sn**	**00 37 17.9**	**-1.6**
	4.8nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**3.62**	**39**	S	**Sn**	**00 37 15.7**	**-3.8**
	2.0nm,0.7s,SNR=7.9						

EGRO	**El Granado**	**3.71**	**313**	P	**Pn**	**00 36 37.2**	**-0.5**
EGRO				S	**Sn**	**00 37 18.9**	**-2.9**
EGRO	**El Granado**	**3.71**	**313**	P	**Pn**	**00 36 36.7**	**-1.0**
	0.7nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**00 37 19.9**	**-1.9**
	2.1nm,0.3s,SNR=4.0						
EGRO	**El Granado**	**3.71**	**313**	P	**Pn**	**00 36 37.2**	**-0.5**
	0.5nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**00 37 18.9**	**-2.9**
	1.2nm,0.3s,SNR=4.0						
EBAD	**Badajoz**	**4.39**	**329**	P	**Pn**	**00 36 46.3**	**-1.1**
EBAD				S	**Sn**	**00 37 35.0**	**-4.1**
EBAD	**Badajoz**	**4.39**	**329**	P	**Pn**	**00 36 46.5**	**-0.9**
	0.9nm,0.3s,SNR=7.9						
EBAD				S	**Sn**	**00 37 35.1**	**-4.0**
	1.1nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**4.39**	**329**	P	**Pn**	**00 36 46.3**	**-1.1**
	0.3nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**00 37 35.0**	**-4.1**
	1.0nm,0.2s						
ESDC	**Sonseca Array**	**4.63**	**1**	P	**Pn**	**00 36 49.2**	**-1.6**
	0.5nm,0.2s,baz=177,slow=14						
ESDC				S	**Sn**	**00 37 40.1**	**-5.0**
	0.2nm,0.2s,baz=181,slow=24						
ESDC	**Sonseca Array**	**4.63**	**1**	P	**Pn**	**00 36 49.2**	**-1.6**
	0.5nm,0.2s						

*BJI **06** 00:54:01.6, 16.20N×47.20W, h10km, mB4.6, Ms4.8, Msz4.6*

*NEIC **06** 00:54:01.6±1.0, 16.24N×47.20W, h10km, mb4.7/15, Error ellipse: s-maj=26.7km s-min=9.8km az=168.0*

ISC 06 00:54:00.3±1.3, 16.4N±0.2×47.2W±0.1, h10km, n33, σ0°74/30, mb4.6/15, MS4.6/1, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**24.03**	**255**	*e*P	**P**	**00 59 16.5**	**-0.1**
	39nm,1.5s,mb4.6						
WVT	**Waverly**	**41.05**	**307**	*e*P	**P**	**01 01 46.5**	**+0.9**
	5.8nm,0.8s,mb4.3						
SCHQ	**Schefferville**	**41.28**	**343**	*e*P	**P**	**01 01 48.5**	**+1.3**
	24nm,1.3s,mb4.7						
MIAR	**Mount Ida**	**45.19**	**303**	P	**P**	**01 02 15.1**	**-4.2**
	5.1nm,0.9s,mb4.3						
DCN	**Croghan**	**48.28**	**31**	*e*P	**P**	**01 02 43.0**	**-0.4**
KSU1	**Kansas State U**	**48.56**	**308**	*e*P	**P**	**01 02 45.3**	**-0.5**
DLF	**Lyons Farm**	**48.62**	**31**	*e*P	**P**	**01 02 41.0**	**-5.0**
DMUB	**Kingscourt**	**48.77**	**31**	*e*P	**P**	**01 02 40.6**	**-6.6**
WMOK	**Wichita Mounta**	**49.46**	**302**	*e*P	**P**	**01 02 52.2**	**-0.5**
	5.0nm,1.0s,mb4.5						
JCT	**Junction City**	**49.87**	**296**	*e*P	**P**	**01 02 57.0**	**+1.0**
	9.6nm,1.3s,mb4.7						
FCC	**Fort Churchill**	**54.49**	**332**	*e*P	**P**	**01 03 30.1**	**-0.1**
	14nm,1.1s,mb4.8						
ISCO	**Idaho Springs**	**55.54**	**307**	*e*P	**P**	**01 03 38.8**	**+0.6**
	7.1nm,1.1s,mb4.6						
STU	**Stuttgart**	**55.84**	**42**	P	**P**	**01 03 39.9**	**-0.3**
RW3	**Ridgway**	**56.98**	**305**	*e*P	**P**	**01 03 49.5**	**+0.9**
PV10	**Paradox Valley**	**58.05**	**305**	*e*P	**P**	**01 03 54.5**	**-1.5**
CLL	**Collm**	**58.84**	**40**	*i* P	**P**	**01 04 02.1**	**+0.8**
	16nm,1.0s,mb5.0						
CLL				*e*		01 04 10.0	
CLL	**Collm**	**58.84**	**40**	P	**P**	**01 04 02.1**	**+0.8**
	logA/T=1.2,mb5.0						
CLL				*e**SP	sP	01 04 10.0	+4.4
DAU	**Daniels Canyon**	**59.91**	**307**	*e*P	**P**	**01 04 09.4**	**+0.5**
JLU	**Jordanelle**	**60.07**	**308**	*e*P	**P**	**01 04 10.3**	**+0.4**
MORC	**Moravsky Berou**	**61.39**	**42**	*e*P	**P**	**01 04 19.4**	**+0.5**
	4.7nm,1.0s,mb4.6						
ARUT	**Antelope Range**	**61.50**	**304**	*e*P	**P**	**01 04 19.9**	**+0.2**
WALA	**Waterton Lakes**	**62.58**	**317**	*e*P	**P**	**01 04 26.0**	**-0.9**
	7.7nm,1.0s,mb4.8						
EDM	**Edmonton**	**62.80**	**322**	*e*P	**P**	**01 04 27.9**	**-0.3**
RES	**Resolute Bay**	**63.80**	**347**	*e*P	**P**	**01 04 34.7**	**+0.2**
	3.5nm,1.1s,mb4.3						
NEW	**Newport**	**64.63**	**316**	*e*P	**P**	**01 04 39.6**	**-0.7**
	5.0nm,1.0s,mb4.5						
LRV	**Little Rabbit**	**67.59**	**303**	P	**P**	**01 05 06.0**	**+6.6**
ARE0	**ARCESS Array S**	**68.75**	**21**	P	**P**	**01 05 04.8**	**-1.3**
DLBC	**Dease Lake**	**72.48**	**327**	P	**P**	**01 05 28.4**	**-0.4**
INK	**Inuvik**	**73.58**	**337**	*e*P	**P**	**01 05 34.2**	**-0.9**
	12nm,1.3s,mb4.7						
MALT	**Malatya**	**76.67**	**54**	P	**P**	**01 05 54.0**	**+0.7**
	5.1nm,1.0s,mb4.4						
WMQ	**Urumqi**	**107.29**	**32**	PDIF	Pdif	01 08 20.6	+1.1
WMQ				PP	PP	01 12 51.5	+1.5
WMQ				LR	LR		
	comp=N,198nm,26.2s,MS4.6						
WMQ				LR	LR		
	comp=E,98nm,25.7s,MS4.6						
WMQ				LR	LR		
	comp=Z,251nm,28.4s,MS4.6						
LSA	**Lhasa**	**119.08**	**41**	PKP	PKPdf	01 12 46.4	-6.6
NJ2	**Nanjing**	**130.04**	**16**	*e*PKP	PKPdf	01 13 13.1	-1.1

*MOS **06** 00:56:26.7±0.8, 5.38N×94.85E, h33km, mb6.4/104, MS5.3/58, Error ellipse: s-maj=7.7km s-min=3.6km az=126.6*

*BJI **06** 00:56:28.3, 5.12N×94.65E, h64km, mB5.9, mb6.1, Ms5.6, Msz5.4*

*HRVD **06** 00:56:29.9±0.2, 5.02N×94.60E, h54km, MW5.7/64, Centroid moment Tensor Solution. LP body waves: s59,c110;Mantle waves: s64,c170; Half duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_{rr}2.96±.07; $M_{\theta\theta}$-1.21±.05; $M_{\phi\phi}$-1.75±.06; $M_{r\theta}$1.59±.04; $M_{\theta\phi}$1.76±.04; $M_{\phi r}$-1.25±.05; Best double couple: $M_0$3.712×10^{17} NP1: ϕ_s327°, δ29°, λ102°. NP2:ϕ_s133°, δ62°, λ83°. Principal axes: T 3.582, Plg73°, Azm27°; N .26, Plg6°, Azm136°; P -3.842, Plg16°, Azm228°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **06** 00:56:29.9±0.7, 5.32N×94.84E, h50km±5km, mb6.1/175, MS5.5/101 Error ellipse: s-maj=4.2km s-min=2.3km az=214.0*

NEIC Felt at Phuket and Surat Thani, Thailand.

ISC 06 00:56:28.9±0.7, 5.27N±0.03×94.81E±0.02, h53km±5km, h53km±1.8km: pP-P, n918, σ0°94/756, mb6.1/236, MS5.4/121, 178C-45D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**4.13**	**115**	*e*P	**P**	**00 57 32.6**	**+1.5**
SNG	**Songkhla**	**6.07**	**72**	P	**P**	**00 58 02.0**	**+3.8**
	284nm,1.0s						
NNT	**Nongplab**	**8.75**	**33**	P	**P**	**00 58 38.0**	**+2.7**
NST	**Nakhon Sawan**	**11.58**	**26**	P	**P**	**00 59 17.1**	**+3.0**
	516nm,0.6s						
CM31	**Chiang Mai Arr**	**13.71**	**17**	*e*P	**P**	**00 59 44.3**	**+1.8**
	89nm,0.3s						
CHG	**Chiang Mai**	**14.05**	**16**	⇑P	**P**	**00 59 49.0**	**+2.1**
	150nm,0.9s						
PALK	**Pallekele**	**14.17**	**279**	*e*P	**P**	**00 59 47.3**	**-1.1**
	164nm,0.9s						
PALK				*e*		00 59 57.4	
PALK				*e*S	**S**	**01 02 07.4**	**-17**
PULI	**Pulasari**	**16.04**	**136**	⇑*e*P	**P**	**01 00 12.1**	**-0.5**
MDRS	**Chennai**	**16.33**	**299**	⇓*e*P	**P**	**01 00 14.8**	**-1.4**
MDRS				*i*		01 03 00.6	
MDRS				*e*		01 03 20.0	
VIS	**Vishakhapatnam**	**16.71**	**319**	*e*P	**P**	**01 00 20.3**	**-0.7**
VIS				*e*		01 00 27.3	
	comp=Z,410nm,1.0s						
VIS				*e*		01 03 11.4	
BWNR	**Bhubaneshwar**	**17.32**	**330**	⇑*e*P	**P**	**01 00 23.9**	**-4.7**
BWNR				*e*		01 03 06.0	
	comp=Z,526nm,0.7s						
COCO	**West Island**	**17.46**	**173**	*e*P	**P**	**01 00 28.5**	**-2.0**
	comp=Z,897nm,1.4s						
VJD	**Vijayawada**	**17.83**	**310**	*i* P	**P**	**01 00 36.0**	**+1.0**
KOD	**Kodaikanal**	**17.88**	**287**	⇓*e*P	**P**	**01 00 36.7**	**+1.1**
KOD				*i*		01 03 35.0	
KOD				*e*S	**S**	**01 03 58.3**	**+8.1**
TRD	**Trivandrum**	**18.01**	**281**	*e*P	**P**	**01 00 37.1**	**-0.2**
TRD				*e*		01 03 43.3	
AGT	**Agartala**	**18.82**	**350**	⇓*i*P	**P**	**01 00 42.0**	**-5.0**
AGT				*i*		01 02 34.0	
HYB	**Hyderabad**	**19.97**	**308**	*e*P	**P**	**01 00 59.0**	**-0.6**
HYB				*e*S	**S**	**01 04 32.0**	**-4.3**
HYB				pmax	pmax		
	comp=Z,450nm,1.2s						
HYB	**Hyderabad**	**19.97**	**308**	*e*P	**P**	**01 00 59.0**	**-0.6**
	comp=Z,450nm,1.2s						
HYB				*e*S	**S**	**01 04 32.0**	**-4.3**
HYB	**Hyderabad**	**19.97**	**308**	*i* P	**P**	**01 00 59.0**	**-0.6**
	comp=Z,450nm,1.2s						
HYB				*e*S	**S**	**01 04 32.0**	**-4.3**
HYB				LR	LR	01 08 12.0	
	comp=Z,6.0nm,20.0s						
QIZ	**Qiongzhong**	**20.05**	**46**	⇑*i*P	**P**	**01 01 01.8**	**+1.4**
QIZ				XP		01 01 20.0	
QIZ				S	**S**	**01 04 40.1**	**+2.4**
QIZ				SS	SS	01 05 13.7	+5.4
QIZ				AMB	AMB		
	comp=Z,248nm,1.2s						
QIZ				LR	LR		
	comp=N,10μm,17.7s,MS5.3						
QIZ				LR	LR		
	comp=E,7μm,16.9s,MS5.3						
QIZ				LR	LR		
	comp=Z,13μm,19.1s,MS5.3						
QIZ	**Qiongzhong**	**20.05**	**46**	*e*P	**P**	**01 01 01.6**	**+1.2**
	comp=Z,763nm,1.3s						
QIZ				*e*		01 01 14.1	
BOK	**Bokaro**	**20.33**	**336**	⇑*i*P	**P**	**01 01 02.2**	**-1.1**
BOK				*e*		01 01 08.2	
	comp=Z,2μm,1.3s						
BOK				*e*S	**S**	**01 04 45.5**	**+2.3**
SHL	**Shillong**	**20.38**	**352**	*e*P	**P**	**01 01 00.5**	**-3.4**
SHL				*e*		01 01 08.2	
	comp=Z,448nm,0.8s						
SHL				*e*S	**S**	**01 04 40.5**	**-3.7**
BLSP	**Bilaspur**	**20.77**	**325**	⇑*i*P	**P**	**01 01 07.7**	**-0.2**
BLSP				*e*		01 01 13.7	
	comp=Z,1μm,1.4s						
BLSP				*e*S	**S**	**01 04 52.6**	**+0.9**
MNGI	**Mangalore**	**21.15**	**292**	⇑*e*P	**P**	**01 01 12.8**	**+1.1**
MNGI				*i*		01 04 52.6	
NGP	**Nagpur**	**21.98**	**317**	*e*P	**P**	**01 01 21.1**	**+1.1**
NGP				*e*		01 05 22.9	
LATR	**Latur**	**22.10**	**308**	*e*P	**P**	**01 01 22.5**	**+1.3**
LATR				⇑*e*		01 06 05.1	
GOA	**Goa**	**22.98**	**298**	*i*	**P**	**01 01 37.8**	**+7.8**
	comp=Z,480nm,1.3s,mb5.8						
GOA				⇓*e*		01 01 38.9	
GOA				*e*		01 01 56.5	
GOA				*e*S	**S**	**01 05 43.2**	**+11**
BATP	**Bataraza**	**23.08**	**80**	*e*P	**P**	**01 01 32.3**	**+1.3**
KAD	**Karad**	**23.47**	**302**	⇑*e*P	**P**	**01 01 36.8**	**+2.1**
KAD				*e*S	**S**	**01 05 44.9**	**+4.0**
SRDI	**Scrawed**	**23.62**	**125**	⇑*i*P	**P**	**01 01 37.3**	**+1.1**
JIRN	**Jiri**	**23.73**	**341**	*e*P	**P**	**01 01 36.2**	**-0.9**
	comp=Z,1μm,0.9s,mb6.4						
KELI	**Kelakatan**	**23.76**	**124**	⇑*i*P	**P**	**01 01 38.7**	**+1.2**
PKI	**Pulchoki**	**23.92**	**339**	*e*P	**P**	**01 01 37.9**	**-1.0**
	comp=Z,420nm,0.7s,mb6.0						
DMN	**Daman**	**24.06**	**338**	*e*P	**P**	**01 01 39.7**	**-0.6**
	comp=Z,700nm,0.8s,mb6.2						
GUN	**Gumba**	**24.07**	**340**	*e*P	**P**	**01 01 39.5**	**-0.9**
	comp=Z,1μm,0.8s,mb6.3						
KKN	**Kakani**	**24.16**	**339**	*e*P	**P**	**01 01 40.3**	**-1.0**
	comp=Z,1μm,1.0s,mb6.3						
POO	**Poona**	**24.34**	**305**	⇑*i*P	**P**	**01 01 44.7**	**+1.5**
POO				*e*S	**S**	**01 05 59.7**	**+3.9**
BHPL	**Bhopal**	**24.51**	**318**	⇑*i*P	**P**	**01 01 45.1**	**+0.3**
BHPL				⇑*i*		01 01 46.1	
BHPL				*i*		01 06 25.3	
	comp=Z,698nm,1.1s						
LSA	**Lhasa**	**24.55**	**352**	P	**P**	**01 01 45.2**	**+0.1**
LSA				AP		01 01 57.8	
LSA				XP		01 02 04.8	
LSA				S	**S**	**01 05 58.5**	**-0.7**
LSA				XS		01 06 26.6	
LSA				SCP		01 08 54.4	
LSA				LR	LR		
	comp=N,3μm,30.5s,MS4.8						
LSA				LR	LR		
	comp=E,4μm,25.6s,MS4.8						
LSA				LR	LR		
	comp=Z,6μm,29.3s,MS4.9						
LSA	**Lhasa**	**24.55**	**352**	*e*P	**P**	**01 01 45.3**	**+0.2**
LSA				pmax	pmax		
	comp=Z,805nm,0.6s,mb6.4						
LSA	**Lhasa**	**24.55**	**352**	*e*P	**P**	**01 01 45.3**	**+0.2**
	comp=Z,805nm,0.6s,mb6.4						
GKN	**Gorkha**	**24.59**	**338**	*e*P	**P**	**01 01 45.2**	**-0.3**
	comp=Z,1μm,0.9s,mb6.4						
KOLN	**Koldanda**	**24.79**	**336**	*e*P	**P**	**01 01 48.1**	**+0.7**
	comp=Z,2μm,0.8s,mb6.6						
RATI	**Rata**	**24.90**	**124**	⇑*i*P	**P**	**01 01 48.4**	**-0.2**
ENPP	**El Nido**	**25.05**	**75**	*e*P	**P**	**01 01 50.1**	**+0.1**
KEDI	**Kedomdong**	**25.26**	**123**	*e*P	**P**	**01 01 49.8**	**-2.2**
BOM	**Bombay**	**25.37**	**304**	⇑*e*P	**P**	**01 01 52.2**	**-0.8**
	comp=Z,338nm,1.9s,mb5.5						
BOM				*e*		01 06 13.0	
JHNI	**Jhansi**	**25.43**	**324**	⇑*i*P	**P**	**01 01 53.0**	**-0.5**
JHNI				*e*		01 02 12.0	
DGAR	**Diego Garcia**	**25.62**	**241**	*e*P	**P**	**01 01 54.4**	**-1.0**
DGAR				pmax	pmax		
	comp=Z,812nm,1.3s,mb6.1						
DGAR				MLR	MLR		
	comp=Z,2μm,22.0s,MS4.5						
DGAR	**Diego Garcia**	**25.62**	**241**	*e*P	**P**	**01 01 54.4**	**-1.0**
	comp=Z,812nm,1.3s,mb6.1						
DGAR				LR	LR		
	comp=Z,2μm,22.0s,MS4.5						
TANI	**Tanete Lipujan**	**26.02**	**109**	*e*P	**P**	**01 01 58.0**	**-1.1**
TANI				pmax	pmax		
	comp=Z,182nm,0.8s,mb5.7						
TANI	**Tanete Lipujan**	**26.02**	**109**	*e*P	**P**	**01 01 58.0**	**-1.1**
	comp=Z,182nm,0.8s,mb5.7						
LUBP	**Lubang**	**26.43**	**70**	*e*P	**P**	**01 02 03.4**	**+0.5**
LUBP	**Lubang**	**26.43**	**70**	*e*P	**P**	**01 02 03.4**	**+0.5**
CUYO	**Cuyo Island**	**26.52**	**76**	*e*P	**P**	**01 02 03.9**	**+0.2**
NINI	**Niniconang**	**26.71**	**111**	⇑*i*P	**P**	**01 02 04.9**	**-0.6**
NINI				*e*pP	pP	01 02 09.1	-10
SCZP	**Santa Cruz**	**26.76**	**65**	*e*P	**P**	**01 02 06.5**	**+0.7**
SJMP	**San Jose**	**26.94**	**73**	*e*P	**P**	**01 02 08.5**	**+1.0**
BUNI	**Buntu Taipa**	**26.98**	**109**	⇑*i*P	**P**	**01 02 07.2**	**-0.8**
BHV	**Bhavnagar**	**27.39**	**309**	⇑*e*P	**P**	**01 02 13.5**	**+1.8**
IPIL	**Ipil**	**27.69**	**83**	*e*P	**P**	**01 02 13.9**	**-0.5**
LQP	**Lukban**	**27.74**	**70**	⇑*i*P	**P**	**01 02 15.6**	**+0.7**
PCPH	**Palayan**	**27.76**	**66**	⇓*e*P	**P**	**01 02 14.8**	**-0.3**
OTRP	**Odiongan**	**27.77**	**73**	*e*P	**P**	**01 02 14.9**	**-0.3**
PTH	**Pithoragarh**	**27.81**	**332**	*e*P	**P**	**01 02 15.0**	**-0.4**
PTH				*e*		01 07 19.0	
BOAC	**Boac**	**27.86**	**71**	*e*P	**P**	**01 02 15.7**	**-0.2**
GUIM	**Jordan**	**28.01**	**77**	*e*P	**P**	**01 02 17.5**	**+0.2**
ABRA	**Dolores**	**28.16**	**62**	*e*P	**P**	**01 02 19.7**	**+1.1**
BALP	**Baler**	**28.26**	**66**	*e*P	**P**	**01 02 20.1**	**+0.6**
POLP	**Polillo Island**	**28.29**	**69**	*e*P	**P**	**01 02 20.2**	**+0.4**
RCP	**Roxas**	**28.31**	**75**	⇑*e*P	**P**	**01 02 20.9**	**+0.9**
ENH	**Enshi**	**28.46**	**27**	*e*P	**P**	**01 02 20.4**	**-0.8**
	comp=Z,324nm,0.7s,mb6.1						
SNPH	**Sibulan**	**28.47**	**80**	⇓*i*P	**P**	**01 02 22.5**	**+1.1**
PAGZ	**Pagadian**	**28.49**	**83**	*e*P	**P**	**01 02 21.7**	**0.0**
GQP	**Guinayangan**	**28.54**	**71**	*e*P	**P**	**01 02 22.0**	**0.0**
AJM	**Ajmer**	**28.57**	**320**	⇑*i*P	**P**	**01 02 21.8**	**-0.4**
AJM				*e*		01 02 25.8	
	comp=Z,234nm,2.0s						
AJM				*e*S	**S**	**01 07 06.1**	**+1.0**
AUQP	**San Andres**	**28.61**	**72**	*e*P	**P**	**01 02 23.9**	**+1.2**
NDI	**New Delhi**	**28.65**	**326**	⇑*e*P	**P**	**01 02 21.7**	**-1.1**
NDI				*e*		01 02 22.6	
	comp=Z,177nm,0.7s						
NDI				*e*		01 06 53.0	
APYP	**Conner**	**28.70**	**62**	*e*P	**P**	**01 02 23.8**	**+0.4**
TBP	**Tagbilaran**	**29.12**	**80**	*e*P	**P**	**01 02 29.8**	**+2.6**
CVP	**Callao Caves**	**29.16**	**63**	*e*P	**P**	**01 02 27.8**	**+0.3**
LLP	**Lapu-Lapu**	**29.30**	**78**	*i* P	**P**	**01 02 29.4**	**+0.5**
PALP	**Palanan**	**29.46**	**64**	*e*P	**P**	**01 02 24.1**	**-6.1**
SGCP	**Mt. Cagua**	**29.55**	**62**	*e*P	**P**	**01 02 30.7**	**-0.3**
OCLP	**Ormoc**	**30.03**	**77**	*e*P	**P**	**01 02 35.3**	**0.0**
QZH	**Quanzhou**	**30.05**	**47**	⇑*i*P	**P**	**01 02 36.2**	**+0.8**
QZH				S	**S**	**01 07 34.3**	**+5.6**
QZH				AMB	AMB		
	comp=Z,340nm,1.0s,mb6.0						
QZH				AMB	AMB		
	comp=Z,2μm,4.6s						
QZH				LR	LR		
	comp=N,5μm,16.6s,MS5.5						
QZH				LR	LR		
	comp=E,10μm,19.4s,MS5.5						
QZH				LR	LR		
	comp=Z,16μm,21.4s,MS5.6						
PVCP	**Virac**	**30.07**	**72**	*e*P	**P**	**01 02 35.3**	**-0.4**
BHJ	**Bhuj**	**30.14**	**309**	⇑*e*P	**P**	**01 02 33.2**	**-3.0**
BHJ				*e*S	**S**	**01 07 30.3**	**+0.3**
MSLP	**Maasin**	**30.15**	**79**	*e*P	**P**	**01 02 34.8**	**-1.6**
BUKP	**Musuan**	**30.16**	**83**	*e*P	**P**	**01 02 37.0**	**+0.6**
BBP	**Basco**	**30.38**	**58**	*e*P	**P**	**01 02 38.3**	**-0.1**
SMLA	**Simla**	**30.60**	**329**	⇑*i*	**P**	**01 02 53.0**	**+13**
BESP	**Borongan**	**30.92**	**76**	*e*P	**P**	**01 02 43.3**	**+0.1**
WHN	**Wuhan**	**31.15**	**34**	⇑*i*P	**P**	**01 02 45.6**	**+0.5**
WHN				LR	LR		
	comp=N,3μm,11.4s,MS5.8						
WHN				LR	LR		
	comp=E,11μm,13.9s,MS5.8						
WHN				LR	LR		
	comp=Z,27μm,15.0s,MS6.0						
BHK	**Bhakra**	**31.22**	**329**	*e*P	**P**	**01 02 43.6**	**-2.1**
XAN	**Xi'an**	**31.48**	**23**	P	**P**	**01 02 47.0**	**-0.9**
XAN				S	**S**	**01 07 47.7**	**-3.3**
XAN				AMB	AMB		
	comp=Z,995nm,1.0s,mb6.6						
XAN				LR	LR		
	comp=N,4μm,17.3s,MS5.3						
XAN				LR	LR		
	comp=E,4μm,15.8s,MS5.3						
XAN				LR	LR		
	comp=Z,8μm,17.0s,MS5.5						
LZH	**Lanzhou**	**31.77**	**14**	⇑P	**P**	**01 02 49.7**	**-0.8**
LZH				AP	pP	01 03 03.0	-1.1
LZH				PP	PP	01 03 53.0	-3.9
LZH				PCP	PcP	01 05 41.4	+0.6
LZH				SCP		01 09 19.5	
LZH				PCS		01 09 25.7	
LZH				SCS	ScS	01 13 17.1	+1.9
LZH				AMB	AMB		
	comp=Z,780nm,1.1s,mb6.5						
LZH				AMB	AMB		
	comp=Z,1μm,4.1s						
LZH				LR	LR		
	comp=E,7μm,16.0s						
LZH				LR	LR		
	comp=Z,10μm,20.6s,MS5.5						
TATO	**Taipei**	**32.23**	**50**	*e*P	**P**	**01 02 55.8**	**+1.2**
	comp=Z,151nm,0.9s,mb5.8						
TATO				LR	LR		
	comp=Z,6μm,21.0s,MS5.2						
DLH	**Dalhousie**	**32.34**	**329**	*e*P	**P**	**01 02 54.0**	**-1.5**
DLH				*e*		01 03 02.0	
NJ2	**Nanjing**	**34.87**	**37**	*e*P	**P**	**01 03 18.2**	**+0.9**
NJ2				AP	pP	01 03 30.1	-1.0
NJ2				PP	PP	01 04 37.3	+1.1
NJ2				S	**S**	**01 08 45.0**	**+1.3**
NJ2				XS		01 09 08.0	
NJ2				AMB	AMB		
	comp=Z,1μm,0.9s,mb6.9						
NJ2				AMB	AMB		
	comp=Z,3μm,3.8s						
NJ2				LR	LR		
	comp=N,12μm,22.5s,MS5.7						
NJ2				LR	LR		
	comp=E,11μm,24.9s,MS5.7						
NJ2				LR	LR		
	comp=Z,20μm,24.2s,MS5.8						
SSE	**Sheshan**	**35.69**	**41**	P	**P**	**01 03 25.2**	**+1.0**
SSE				S	**S**	**01 09 00.5**	**+4.2**
SSE				AMB	AMB		
	comp=Z,130nm,0.9s,mb5.9						
SSE				AMB	AMB		
	comp=Z,463nm,5.7s						
SSE				LR	LR		
	comp=N,4μm,20.7s,MS5.3						
SSE				LR	LR		
	comp=E,3μm,20.5s,MS5.3						
SSE				LR	LR		
	comp=Z,6μm,19.0s,MS5.4						
MBWA	**Marble Bar**	**35.88**	**138**	*e*P	**P**	**01 03 24.1**	**-1.9**
	comp=Z,112nm,1.2s,mb5.7						
MBWA				*e*	pP	01 03 37.8	-2.0
MBWA				LR	LR		
	comp=Z,2μm,21.0s,MS4.9						
TIY	**Taiyuan**	**36.07**	**24**	⇑P	**P**	**01 03 25.0**	**-2.4**
TIY				LR	LR		
	comp=N,12μm,16.0s						
TIY				LR	LR		
	comp=Z,7μm,14.0s,MS5.6						
TIA	**Tai'an**	**36.99**	**31**	⇑P	**P**	**01 03 35.4**	**+0.2**
TIA				S	**S**	**01 09 20.0**	**+3.8**
TIA				AMB	AMB		
	comp=Z,29nm,1.0s,mb5.1						
TIA				LR	LR		
	comp=N,7μm,18.0s,MS5.6						
TIA				LR	LR		
	comp=E,5μm,16.0s,MS5.6						
FITZ	**Fitzroy Crossi**	**38.26**	**128**	⇑*i*P	**P**	**01 03 44.8**	**-1.1**
	comp=E,114nm,0.7s,mb5.7						
FITZ				*i* PCP	PcP	01 06 00.2	+0.3
FITZ				*i* SCS	ScS	01 13 51.6	+1.4
WBK	**Wadi Bani Khal**	**38.67**	**300**	⇓P	**P**	**01 03 51.5**	**+2.3**
	SNR=34						
WMQ	**Urumqi**	**38.90**	**352**	⇑*i*P	**P**	**01 03 52.0**	**+1.0**
WMQ				PP	PP	01 05 25.3	+0.7
WMQ				AMB	AMB		
	comp=Z,212nm,1.0s,mb5.8						
WMQ				AMB	AMB		
	comp=Z,1μm,5.2s						
WMQ				LR	LR		
	comp=N,2μm,19.5s						
WMQ				LR	LR		
	comp=E,2μm,26.0s						
WMQ				LR	LR		
	comp=Z,1μm,19.4s,MS4.8						
JMDO	**Jabal Madar**	**39.33**	**299**	⇓P	**P**	**01 03 56.5**	**+1.7**
	SNR=33						
BJT	**Baijiatuau**	**39.58**	**26**	*e*P	**P**	**01 03 58.3**	**+1.6**
BJT				pmax	pmax		
	comp=Z,1μm,0.9s						
BJT	**Baijiatuau**	**39.58**	**26**	*e*P	**P**	**01 03 58.3**	**+1.6**
	comp=Z,1μm,0.9s,mb6.6						
SMDO	**Samad**	**39.62**	**300**	⇓P	**P**	**01 03 59.2**	**+2.1**
	SNR=76				

SNR=80
WHFO Wadi Hawf 42.01 291 ⇓P P 01 04 18.4 +1.3
SNR=21
MUN Mundaring 42.28 153 eP P 01 04 19.7 +0.6
comp=Z,29nm,0.7s,mb5.0
MUN Mundaring 42.28 153 eP P 01 04 19.7 +0.6
MUN pmax pmax
comp=Z,29nm,0.7s,mb5.0
ABTO Aybut 42.34 290 ⇓P P 01 04 21.0 +1.3
SNR=10
KLBR Kellerberrin 42.69 151 eP P 01 04 22.6 +0.1
comp=Z,28nm,0.6s,mb5.2
MK02 Makanchi Array 42.73 347 P P 01 04 22.4 -0.2
MK02 pmax pmax
comp=Z,569nm,0.8s,mb6.3
INCN Inchon 43.25 38⇑iP P 01 04 26.8 -0.2
comp=Z,368nm,0.9s,mb6.1
INCN LR LR
comp=Z,7μm,19.0s,MS5.6
NWAO Narrogin (SRO) 43.54 152 eP P 01 04 29.0 -0.4
NWAO pmax pmax
comp=Z,110nm,1.1s
NWAO Narrogin (SRO) 43.54 152 eP P 01 04 28.4 -1.0
comp=Z,204nm,1.4s,mb5.7
NWAO LR LR
comp=Z,2μm,22.0s,MS5.0
ULN Ulaanbaatar 43.72 12⇑iP P 01 04 30.0 -0.6
ULN e 01 06 16.5
ULN pmax pmax
comp=Z,182nm,0.7s,mb5.9
ULN MLR MLR
comp=Z,4μm,19.0s,MS5.3
ULN Ulaanbaatar 43.72 12⇑iP P 01 04 30.0 -0.6
comp=Z,182nm,0.7s,mb5.9
ULN ePcP PcP 01 06 16.5 -0.8
ULN e 01 06 31.8
ULN eScP 01 10 00.8
ULN LR LR
comp=Z,4μm,19.0s,MS5.3
SNY Shenyang 44.52 31 ⇑P P 01 04 37.1 0.0
SNY AMB AMB
comp=Z,310nm,1.2s,mb6.0
SNY LR LR
comp=N,5μm,17.6s,MS5.5
SNY LR LR
comp=E,2μm,18.6s,MS5.5
SNY LR LR
comp=Z,5μm,18.6s,MS5.5
ZAK Zakamensk 45.52 8⇓iP P 01 04 44.3 -0.7
ZAK e 01 06 23.4
WRAB Tennant Creek 46.24 124⇑iP P 01 04 50.7 -0.4
WRAB pmax pmax
comp=Z,729nm,0.8s,mb6.7
WRAB MLR MLR
comp=Z,747nm,22.0s,MS4.6
WRAB Tennant Creek 46.24 124⇑iP P 01 04 50.7 -0.4
comp=Z,729nm,0.8s,mb6.7
WRAB LR LR
comp=Z,747nm,22.0s,MS4.6
WB2 Warramunga Arr 46.24 124⇑iP P 01 04 50.8 -0.3
WB2 iS S 01 11 31.6 -1.5
MOY Mondy 46.53 5 eP P 01 04 52.3 -0.6
TLY Talaya 46.84 8 eP P 01 04 55.6 +0.2
TLY eS S 01 11 52.8 +12
TLY eSS SS 01 15 07.3 +6.4
TLY pmax pmax
comp=Z,179nm,0.8s,mb6.0
TLY MLR MLR
comp=Z,4μm,28.0s,MS5.3
TLY Talaya 46.84 8⇑iP P 01 04 55.4 +0.1
comp=Z,207nm,0.8s,mb6.1
TLY ePcP PcP 01 06 27.7 -0.4
TLY eScP 01 10 16.0
TLY LR LR
comp=Z,1μm,27.9s,MS4.8
IRK Irkutsk 47.47 8 eP P 01 04 59.5 -0.8
IRK e 01 05 06.1
IRK e 01 06 30.1
ASPA Alice Springs 47.76 129⇑iP P 01 05 02.5 -0.5
ASPA iS S 01 11 52.5 -1.9
HIA Hailar 48.66 22 eP P 01 05 09.4 -0.2
HIA pmax pmax
comp=Z,273nm,0.7s
HIA Hailar 48.66 22 eP P 01 05 09.4 -0.2
comp=Z,273nm,0.7s,mb6.4
HIA eScP 01 10 19.7
MDJ Mudanjiang 49.61 32 P P 01 05 17.5 +0.5
MDJ PP PP 01 07 13.4 +1.2
MDJ AMB AMB
comp=Z,345nm,1.5s,mb6.2
MDJ LR LR
comp=N,1μm,26.5s,MS5.3
MDJ LR LR
comp=E,3μm,21.5s,MS5.3
MDJ LR LR
comp=Z,3μm,23.2s,MS5.3
MDJ Mudanjiang 49.61 32 eP P 01 05 17.3 +0.3
comp=Z,648nm,1.3s,mb6.5
MDJ e pP 01 05 31.3 +0.1
GUMO Guam 49.98 77 P P 01 05 17.4 -2.8
GUMO pmax pmax
comp=Z,391nm,1.3s,mb6.3
GUMO Guam 49.98 77 P P 01 05 17.4 -2.9
comp=Z,391nm,1.3s,mb6.3
NVS Novosibirsk 50.30 351 iP **P 01 05 20.6 -1.6**
NVS e pP 01 05 33.7 -2.7
NVS iS **S 01 12 28.3 -1.2**
NVS pmax pmax
comp=Z,412nm,0.7s,mb6.6
NVS pmax pmax
comp=N,307nm,0.6s
NVS pmax pmax
comp=E,216nm,0.6s
NVS smax
comp=E,223nm,1.8s
NVS smax
comp=N,234nm,2.2s
MAJO Matsushiro 50.44 46⇑eP P 01 05 22.8 -0.7
MAJO e 01 06 40.6
MAJO pmax pmax
comp=Z,150nm,0.9s,mb6.0
MAJO MLR MLR
comp=Z,5μm,24.2s,MS5.4
MAJO Matsushiro 50.44 46⇑eP P 01 05 22.8 -0.7
comp=Z,150nm,0.9s,mb6.0
MAJO ePcP PcP 01 06 40.6 -0.7
MAJO LR LR
comp=Z,5μm,24.2s,MS5.4
MAT Matsushiro 50.44 46 eP P 01 05 23.0 -0.5
MAT eS **S 01 12 39.0 +7.3**
MAT pmax pmax
comp=Z,160nm,1.0s,mb6.0
MAT MLR MLR
comp=Z,4μm,20.0s,MS5.4
MAT Matsushiro 50.44 46 eP P 01 05 23.0 -0.5
comp=Z,160nm,1.0s,mb6.0
MAT eS **S 01 12 39.0 +7.3**
MAT LR LR
comp=Z,4μm,20.0s,MS5.4
MAT Matsushiro 50.44 46 P **P 01 05 22.9 -0.6**
MAT S **S 01 12 38.0 +6.3**
BVA0 Borovoye Array 51.66 341 P **P 01 05 31.7 -0.7**
BVA0 pmax pmax
comp=Z,85nm,1.0s,mb5.6
BRVK Borovoye 51.72 341 eP P 01 05 31.8 -1.1
BRVK e pP 01 05 45.3 -1.9
BRVK pmax pmax
comp=Z,715nm,1.0s,mb6.5
BRVK Borovoye 51.72 341 eP P 01 05 31.8 -1.0
comp=Z,715nm,1.0s,mb6.5
BRVK e pP 01 05 45.3 -1.8
CHKZ Chkalovo 52.14 342 eP P 01 05 35.6 -0.4
CHKZ e pP 01 05 50.1 -0.2
CHKZ pmax pmax
comp=Z,2μm,1.0s,mb7.0
CHKZ Chkalovo 52.14 342 eP P 01 05 35.6 -0.4
comp=Z,2μm,1.0s,mb7.0
CHKZ e pP 01 05 50.1 -0.3
KLR Kul'dur 53.79 29⇓iP P 01 05 45.4 -3.0
KLR ePP PP 01 07 46.8 -4.4
PMG Port Moresby 54.16 106 eP P 01 05 50.4 -1.2
PMG pmax pmax
comp=Z,110nm,0.5s
PMG MLR MLR
comp=Z,933nm,21.0s
PMG Port Moresby 54.16 106 eP P 01 05 50.4 -1.2
comp=Z,110nm,0.5s,mb6.0
PMG LR LR
comp=Z,933nm,21.0s,MS4.8
BOD Bodaibo 54.52 12⇓iP P 01 05 52.1 -1.5
MAK Makhachkala 56.11 319 eP P 01 06 07.0 +1.7
HKR Hakkari 56.46 312 P Px 01 05 06.6
CTA Charters Tower 56.48 118⇑iP P 01 06 07.3 -0.9
comp=Z,78nm,0.9s,mb5.7
CTA Charters Tower 56.48 118⇑iP P 01 06 07.3 -0.9
CTA pmax pmax
comp=Z,78nm,0.9s
CTAO Charters Tower 56.48 118⇑iP P 01 06 07.0 -1.2
CTAO pmax pmax
comp=Z,242nm,1.2s,mb6.1
CTAO MLR MLR
comp=Z,3μm,24.5s,MS5.3
CTAO Charters Tower 56.48 118⇑iP P 01 06 07.0 -1.2
comp=Z,242nm,1.2s,mb6.1
CTAO LR LR
comp=Z,3μm,24.5s,MS5.3
CLNS Chul'man 56.65 19⇑iP P 01 06 08.5 -0.4
CLNS e 01 07 03.3
CLNS eS **S 01 13 56.9 +1.6**
CLNS eSS SS 01 17 47.9 +3.6
CLNS pmax pmax
comp=N,87nm,0.8s
CLNS pmax pmax
comp=E,71nm,0.8s
CLNS pmax pmax
comp=Z,162nm,0.8s,mb6.1
CLNS pmax pmax
comp=N,28nm,0.7s
CLNS pmax pmax
comp=Z,17nm,0.7s,mb5.2
CLNS pmax pmax
comp=E,21nm,0.8s
CLNS smax
comp=N,17nm,0.9s
CLNS smax
comp=E,7.0nm,0.6s
CLNS smax
comp=Z,15nm,0.6s
CLNS MLR MLR
comp=Z,7μm,22.0s,MS5.7
CLNS MLR MLR
comp=N,4μm,20.0s,MS5.5
CLNS MLR MLR
comp=E,400nm,19.0s,MS5.5
GNI Garni 56.73 315⇑iP P 01 06 08.8 -1.0
GNI pmax pmax
comp=Z,241nm,1.0s
GNI MLR MLR
comp=Z,559nm,20.0s
GNI Garni 56.73 315⇑iP P 01 06 08.8 -1.0
comp=Z,241nm,1.0s,mb6.2
GNI LR LR
comp=Z,559nm,20.0s,MS4.7
MTA Mtatsminda 57.34 317 P **P 01 06 12.8 -1.2**
TI2 Plekhanov 57.39 317⇑iP P 01 06 13.8 -0.6
TI2 iS ScS 01 15 58.8 +3.5
TI2 pmax pmax
comp=Z,480nm,1.0s,mb6.5
TI2 pmax pmax
comp=Z,2μm,3.0s
ADE Adelaide 57.50 138 P **P 01 06 14.1 -1.2**
DUS Dusheti 57.57 317 P **P 01 06 14.1 -1.5**
KMBO Kilima Mbogo 57.84 265 eP P 01 06 18.5 +0.5
KMBO pmax pmax
comp=Z,54nm,1.1s
KMBO MLR MLR
comp=Z,3μm,21.0s
KMBO Kilima Mbogo 57.84 265 eP P 01 06 18.5 +0.5
comp=Z,54nm,1.1s,mb5.5
KMBO LR LR
comp=Z,3μm,21.0s,MS5.3
STKA Stephens Creek 57.84 133⇑iP P 01 06 16.7 -1.0
comp=Z,74nm,0.9s,mb5.7
SVE Sverdlovsk 58.05 339⇑iP P 01 06 18.0 -0.8
SVE e 01 07 10.0
SVE e 01 08 28.0
SVE eS **S 01 14 10.0 -3.8**
SVE pmax pmax
comp=Z,890nm,1.5s,mb6.6
AKH Akhalkalaki 58.11 316 P **P 01 06 18.8 -0.7**
BEST Besiri 58.40 312 iP **P 01 06 15.7 -5.8**
YSS Yuzh-Sakhalins 58.44 37α**iP P 01 06 21.1 -0.5**
YSS e*SP sP 01 06 32.7 -10
YSS e 01 07 09.9
YSS e 01 08 30.0
YSS eS **S 01 14 22.0 +3.1**
YSS ePPS PPS 01 14 46.0 -3.3
YSS pmax pmax
comp=Z,410nm,1.1s,mb6.4
YSS pmax pmax
comp=N,100nm,1.0s
YSS pmax pmax
comp=E,60nm,1.0s
YSS pmax pmax
comp=Z,120nm,1.0s,mb5.9
YSS pmax pmax
comp=N,70nm,1.1s
YSS MLR MLR
comp=E,2μm,19.0s
YSS MLR MLR
comp=Z,3μm,19.0s,MS5.4
YSS Yuzh-Sakhalins 58.44 37 eP P 01 06 20.8 -0.9
comp=Z,648nm,1.2s,mb6.5
YSS LR LR
comp=Z,3μm,20.0s,MS5.3
ARU Arti 58.53 337⇑iP P 01 06 19.9 -2.3
ARU e 01 07 09.2
ARU iS **S 01 14 19.3 -0.8**
ARU e 01 16 03.8
ARU eSS SS 01 18 11.8 -3.1
ARU eSSS SSS 01 20 40.4 +1.4
ARU pmax pmax
comp=Z,274nm,1.0s,mb6.2
ARU Arti 58.53 337 eP P 01 06 19.5 -2.6
comp=Z,285nm,0.9s,mb6.3
ONI Oni 58.62 317 P **P 01 06 22.3 -0.6**
ERZM Erzurum 59.04 314 iP **P 01 06 23.7 -2.2**
KIV Kislovodsk 59.69 319 P **P 01 06 29.6 -0.8**
comp=Z,2μm,0.8s,SNR=78
KIV Kislovodsk 59.69 319c iP **P 01 06 28.8 -1.6**
KIV e pP 01 06 45.1 +0.1
KIV e 01 07 13.0
KIV pmax pmax
comp=Z,316nm,0.9s,mb6.3
KIV Kislovodsk 59.69 319 eP P 01 06 28.4 -2.0
comp=Z,293nm,0.8s
KIV LR LR
comp=Z,196nm,20.0s
GOF Gofitskoye 59.93 320⇑iP P 01 06 29.0 -3.0
GOF pmax pmax
comp=Z,220nm,1.2s,mb6.1
ELZG Elazig 60.30 312 iP **P 01 06 33.2 -1.4**
MALT Malatya 60.66 311 eP P 01 06 36.3 -0.8
MALT pmax pmax
comp=Z,194nm,1.3s,mb6.1
MALT Malatya 60.66 311 eP P 01 06 36.3 -0.8
comp=Z,194nm,1.3s,mb6.1
MALT eScP 01 11 16.4
GZT Gaziantep 61.03 310 iP **P 01 06 35.8 -3.7**
FKH Fakeheh 61.10 306 eP P 01 06 40.6 +0.5
MKRJ Makawir 61.11 303 P **P 01 06 40.4 +0.2**
AQBJ Aqaba 61.24 301 P **P 01 06 40.8 -0.3**
MZDA Masada 61.29 303 P **P 01 06 41.8 +0.4**
ZFRI Zfri 61.29 302 P **P 01 06 41.3 -0.1**
EIL Elat 61.31 301 P **P 01 06 41.4 -0.2**
EIL Elat 61.31 301 eP P 01 06 41.2 -0.4
comp=Z,88nm,0.8s,mb5.9
DRGI Dragot 61.32 303 P **P 01 06 41.7 0.0**
MBH Mount Berech 61.36 301 P **P 01 06 42.0 0.0**
PRNI Paran 61.40 302 P **P 01 06 42.2 0.0**
HRI Mount Hermon 61.41 305 P **P 01 06 42.6 +0.4**
SOKR Solikamsk 61.45 339 iP **P 01 06 40.5 -1.6**
SOKR i pP 01 06 55.9 -0.9
MMLI Mount Malkishu 61.48 304 P **P 01 06 43.2 +0.5**
SOC Sochi 61.53 317 iP **P 01 06 40.1 -2.8**
SOC e 01 07 17.9
SOC iS **S 01 14 54.6 -4.2**
SOC e 01 16 30.1
SOC eSS SS 01 18 57.5 -4.5
SOC eSSS SSS 01 21 42.5 -0.1
SOC pmax pmax
comp=Z,192nm,0.7s,mb6.3
SOC pmax pmax
comp=N,46nm,0.8s
SOC pmax pmax
comp=E,46nm,1.0s
SOC MLR MLR
comp=Z,1μm,22.0s,MS5.0
SOC MLR MLR
comp=N,475nm,16.0s
SOC MLR MLR
comp=E,539nm,19.0s
KMTI Karmit 61.59 301 P **P 01 06 43.3 -0.1**
BHL Bhannes 61.63 306 eP P 01 06 44.2 +0.5
MASH Mash'abbe Sade 61.71 302 P **P 01 06 44.0 -0.2**
SLTI Sal'it 61.75 304 P **P 01 06 44.6 +0.1**
COBT Iskenderun 61.80 309 iP **P 01 06 43.2 -1.6**
RTMM Retamin 61.80 302 P **P 01 06 44.6 -0.3**
HNTI Hanita 61.83 305 P **P 01 06 45.5 +0.5**
OFRI 'Ofer 61.88 304 P **P 01 06 45.4 0.0**
HAF Haifa 61.88 304 P **P 01 06 45.5 +0.1**
KZIT Kziot 62.02 302 P **P 01 06 46.2 -0.1**
YAK Yakutsk 62.25 18c iP **P 01 06 45.6 -1.8**
YAK e*PP pP 01 06 55.7 -6.4
YAK e 01 07 23.9
YAK e 01 09 00.3
YAK eS **S 01 15 02.8 -4.8**
YAK e 01 16 27.7
YAK eSSS SSS 01 21 52.3 -4.0
YAK pmax pmax
comp=Z,190nm,0.8s,mb6.3
YAK pmax pmax
comp=N,77nm,1.2s
YAK pmax pmax
comp=E,65nm,1.4s
YAK pmax pmax
comp=N,10.0nm,0.9s
YAK pmax pmax
comp=Z,16nm,0.9s,mb5.2
YAK pmax pmax
comp=E,12nm,1.4s
YAK smax
comp=E,16nm,1.2s
YAK smax
comp=N,15nm,1.0s
YAK MLR MLR
comp=Z,2μm,20.0s,MS5.3
YAK MLR MLR
comp=N,2μm,23.0s
YAK MLR MLR
comp=E,923nm,17.0s
YAK Yakutsk 62.25 18 eP P 01 06 45.2 -2.2
comp=E,561nm,0.6s,mb6.9
YAK LR LR
comp=Z,4μm,21.0s,MS5.5
PHNC Paralimni 63.18 307 P **P 01 06 53.3 -0.7**
MEST Erdemli 63.46 308 iP **P 01 06 52.1 -3.7**
AVNT Avonos 63.48 311 iP **P 01 06 51.2 -4.7**
ANN Anapa 63.50 318 eP P 01 06 49.5 -6.5
ANN e 01 09 21.9
ANN eS **S 01 15 19.4 -4.1**
ANN pmax pmax
comp=Z,188nm,2.0s,mb5.9
CSS Prodhromos 63.73 306 eP P 01 06 56.8 -0.9
comp=Z,330nm,1.2s,mb6.2
MAMC Mammari 63.87 307 P **P 01 06 59.0 +0.4**
CTKT Corum 64.03 313 iP **P 01 06 56.0 -3.5**
SZAC Souni-Zanaja 64.05 306 ⇑P **P 01 06 59.4 -0.3**
comp=Z,3.8nm,0.7s
SZAC Souni-Zanaja 64.05 306⇑**eP P 01 06 59.4 -0.3**
MBAR Mbarara 64.25 267 eP P 01 07 01.4 0.0
MBAR pmax pmax
comp=Z,63nm,1.2s,mb5.5
MBAR MLR MLR
comp=Z,780nm,20.0s,MS4.9
MBAR Mbarara 64.25 267 eP P 01 07 01.4 0.0
comp=Z,63nm,1.2s,mb5.5
MBAR LR LR
comp=Z,780nm,20.0s,MS4.9
ALFC Alevga 64.36 306 P **P 01 07 01.2 -0.6**
comp=Z,3.3nm,0.6s
AKMC Akamas 64.55 306 ⇑P **P 01 07 02.3 -0.7**
AKMC Akamas 64.55 306⇑iP **P 01 07 02.3 -0.7**
ARMA Armidale 64.86 127 eP P 01 07 05.9 +0.8
ELDT Eldivan 64.99 312 iP **P 01 07 02.9 -2.9**
VOR Voronezh 65.09 326 eP P 01 07 03.5 -2.7
VOR pmax pmax
comp=Z,650nm,1.2s,mb6.5
CNB Canberra Magne 65.17 133 eP P 01 07 06.5 -0.5
comp=Z,204nm,1.5s,mb5.9
ANTO Ankara 65.30 312 P **P 01 07 06.4 -1.4**
BALT Daday 65.30 313 iP **P 01 07 04.9 -2.9**
SIM Simferopol' 65.78 317c iP **P 01 07 09.2 -1.5**
SIM pmax pmax
comp=Z,180nm,0.8s,mb6.2
ISP Isparta 66.57 309 P **P 01 07 14.7 -1.2**
ISP pmax pmax
comp=Z,540nm,1.2s,mb6.5
ISP Isparta 66.57 309 eP P 01 07 14.3 -1.6
comp=Z,528nm,1.2s,mb6.4
ESKT Eskisehir 66.68 311 iP **P 01 07 12.3 -4.2**
ELL Elmali 66.82 308 P Px 01 06 17.3
ALT Altintas 67.14 310 P Px 01 06 19.2
GPA Golpazari 67.25 312 P Px 01 06 19.7
KHL Karahalli 67.43 309 P Px 01 06 20.2
TAU Tasmania Unive 67.45 141 eP P 01 07 21.3 0.0
comp=Z,153nm,1.3s,mb5.9
TAU LR LR
comp=Z,311nm,19.0s,MS4.5
FETY Fethiye 67.45 307 P Px 01 06 20.5
MOS Moscow 67.64 329α**iP P 01 07 21.0 -1.2**
MOS e pP 01 07 33.7 -3.5
MOS e 01 09 48.7
MOS e 01 11 34.2
MOS eS S 01 16 10.8 -3.1
MOS e 01 17 14.9
MOS pmax pmax
comp=Z,689nm,1.3s,mb6.5
MOS MLR MLR
comp=Z,2μm,26.2s,MS5.3
MOS MLR MLR
comp=E,2μm,22.8s
DENT Denizli 67.70 309 P Px 01 06 23.3
DALT Dalyan (Mudla) 67.83 308 P Px 01 06 24.1
HRT Hereke 67.85 312 P Px 01 06 22.6
OBN Obninsk 67.93 328α**iP P 01 07 22.0 -2.1**
OBN i pP 01 07 35.8 -3.2
OBN e 01 07 46.5
OBN e 01 09 50.9
OBN iS S 01 16 13.7 -3.6
OBN i 01 16 39.7
OBN i 01 17 12.2
OBN pmax pmax
comp=Z,100nm,1.7s,mb5.6
OBN pmax pmax
comp=Z,741nm,1.7s,mb6.4
OBN MLR MLR
comp=Z,800nm,21.0s,MS4.9
OBN Obninsk 67.93 328 eP P 01 07 21.7 -2.4
comp=Z,445nm,1.1s,mb6.4
OBN e pP 01 07 37.1 -1.9
SKR Severo-Kuril's 68.00 37 eP P 01 07 21.0 -3.6
SKR e 01 07 30.9
SKR e 01 16 42.0
SKR pmax pmax
comp=Z,230nm,0.5s,mb6.5
SKR pmax pmax
comp=E,160nm,0.9s
SKR MLR MLR
comp=E,3μm,16.0s
SKR MLR MLR
comp=Z,3μm,16.0s,MS5.6
YLV Yalova 68.01 312 P Px 01 06 22.9
ORLT Orhaneli 68.26 311 P Px 01 06 26.3
BADT Buyukada 68.26 312 P Px 01 06 25.6
ISK Istanbul-Kandi 68.35 312 P Px 01 06 24.3
DST Dursunbey 68.37 311 P Px 01 06 26.3
MA2 Magadan 68.76 27c iP **P 01 07 28.5 -0.7**
MA2 eS S 01 16 23.3 -3.9
MA2 e 01 17 11.7
MA2 eSS SS 01 20 59.6 +5.1
MA2 pmax pmax
comp=N,30nm,0.9s
MA2 pmax pmax

comp=Z,100nm,0.9s,mb5.8
MA2 pmax pmax
comp=E,50nm,1.1s
MA2 MLR MLR
comp=Z,3µm,24.0s,MS5.5
MA2 Magadan 68.76 27 *e*P **P 01 07 28.3 -0.9**
comp=Z,206nm,0.8s,mb6.1
MA2 *e* 01 07 51.6
MA2 LR LR
comp=Z,734nm,19.0s,MS4.9
AKS Akhisar 68.86 310 P Px 01 06 29.7
BALB Balikesir 68.95 310 P Px 01 06 29.2
BNT Bandirma 69.05 311 P Px 01 06 30.8
LSZ Lusaka 69.06 252 P **P 01 07 32.1 +0.4**
LSZ pmax pmax
comp=Z,44nm,1.2s,mb5.3
LSZ Lusaka 69.06 252 *e*P **P 01 07 31.9 +0.1**
comp=Z,121nm,1.3s,mb5.7
LSZ LR LR
comp=Z,3µm,20.0s,MS5.6
EDC Edincik 69.09 311 P Px 01 06 30.8
IZM Izmir 69.19 309 P Px 01 06 32.0
MRMT Marmara Adasi 69.34 311 P Px 01 06 31.6
PSN Preselentsi 69.55 315 P **P 01 07 33.0 -1.3**
TIXI Tiksi 69.64 11⇑*i*P **P 01 07 32.6 -1.8**
TIXI pmax pmax
comp=N,62nm,0.9s
TIXI pmax pmax
comp=Z,328nm,0.9s,mb6.3
TIXI pmax pmax
comp=E,37nm,0.7s
TIXI pmax pmax
comp=Z,339nm,0.7s,mb6.4
TIXI MLR MLR
comp=Z,2µm,18.0s,MS5.5
TIXI Tiksi 69.64 11⇓*i*P **P 01 07 29.9 -4.5**
TIXI LR LR
comp=Z,4µm,20.0s,MS5.7
KIS Kishinev 69.89 318α*i*P **P 01 07 35.0 -1.3**
KIS *i* 01 07 44.0
KIS *i* pP 01 07 53.0 +1.7
KIS *i* 01 07 57.0
KIS *e*S S 01 16 38.0 -2.7
KIS *e*PS PS 01 17 05.0 -10
KIS *e**SS 01 17 32.0
KIS pmax pmax
comp=Z,440nm,1.8s,mb6.1
KIS pmax pmax
comp=N,180nm,2.0s
KIS pmax pmax
comp=E,390nm,2.0s
CFR Carcaliu 69.92 316⇑*i*P **P 01 07 35.5 -1.0**
HARR Harsova 69.95 316⇓*i*P **P 01 07 36.3 -0.4**
PRD Provadia 70.01 314 P **P 01 07 36.0 -1.1**
EDBB Edirne 70.21 314 P Px 01 06 38.4
PET Petropavlovsk 70.25 35⇑*i*P **P 01 07 37.2 -1.2**
PET *e* 01 16 41.4
PET pmax pmax
comp=E,65nm,1.3s
PET pmax pmax
comp=N,80nm,0.8s
PET pmax pmax
comp=Z,185nm,0.8s,mb6.1
PET MLR MLR
comp=Z,2µm,20.0s,MS5.3
PET Petropavlovsk 70.25 35 *e*P **P 01 07 36.8 -1.6**
comp=Z,206nm,1.0s,mb6.0
PET LR LR
comp=Z,2µm,20.0s,MS5.3
SANT Santorini 70.29 307 *e*P **P 01 07 37.5 -1.4**
comp=Z,293nm,0.6s,mb6.4
JMB Yambol 70.45 313 P **P 01 07 39.0 -0.8**
ISR Istrita 71.01 316⇑*i*P **P 01 07 43.8 +0.7**
VRI Vrincioaia 71.04 317⇑*i*P **P 01 07 43.2 -0.1**
SZH Strazhica 71.07 314 P **P 01 07 42.0 -1.5**
DIM Dimitrovgrad 71.14 313 P **P 01 07 43.0 -0.9**
KDZ Kurdzhali 71.16 312 P **P 01 07 44.5 +0.5**
GVD Gavdhos 71.20 305 *e*P **P 01 07 43.5 -0.9**
comp=Z,198nm,0.8s,mb6.1
PVL Pavlikeni 71.49 314 P **P 01 07 46.0 0.0**
CASY Casey 72.28 173 *e*P **P 01 07 50.1 -0.2**
comp=Z,114nm,1.3s,mb5.6
CASY LR LR
comp=Z,2µm,20.0s,MS5.5
MNK Minsk 72.47 326⇑*e*P **P 01 07 46.0 -5.6**
MNK pmax pmax
comp=Z,1µm,1.2s,mb6.7
MNK pmax pmax
comp=E,560nm,1.2s
PUL Pulkovo 72.80 331 *e*P **P 01 07 53.0 -0.5**
PUL *e*S S 01 17 10.7 -3.3
PUL pmax pmax
comp=Z,357nm,1.0s,mb6.2
PUL pmax pmax
comp=N,110nm,0.6s
PUL pmax pmax
comp=E,609nm,1.5s
PUL smax
comp=N,890nm,1.7s
PUL smax
comp=E,303nm,1.0s
PUL Pulkovo 72.80 331⇓*i*P **P 01 07 50.6 -2.9**
KKB Krupnik 72.91 312 P **P 01 07 53.0 -1.5**
VTS Vitosha 72.93 313 P **P 01 07 53.0 -1.6**
VAY Valandovo 73.22 311⇑*i*P **P 01 07 54.8 -1.5**
JOF Joensuu 73.47 335 *e*p **P 01 07 55.4 -1.9**
comp=E,194nm,1.0s,mb6.0
LBTB Lobatse 73.61 242 *e*P **P 01 07 59.2 +0.3**
LBTB pmax pmax
comp=Z,365nm,1.7s,mb6.0
LBTB Lobatse 73.61 242 *e*P **P 01 07 59.2 +0.3**
comp=Z,365nm,1.7s,mb6.0
LVV L'vov 73.63 320 *i*P **P 01 07 52.9 -5.6**
LVV *e* pP 01 08 09.9 -3.7
LVV *e*S S 01 17 24.2 +0.7
BARS Barje 73.97 313⇑*i*P **P 01 07 59.1 -1.5**
BOLS Boljevac 74.01 314⇑*i*P **P 01 07 60.0 -1.0**
BIA Bitola 74.11 311⇑*i*P **P 01 08 01.0 -0.5**
SKO Skopje 74.14 312⇑*i*P **P 01 08 00.0 -1.7**
SKO *i* pP 01 08 14.8 -2.0
SKO pmax pmax
comp=Z,62nm,0.8s,mb5.6
SKO Skopje 74.14 312⇑*i*P **P 01 08 00.0 -1.7**
comp=Z,0.1nm,0.8s
SKO *i* pP 01 08 14.8 -2.0
VSU Vasula 74.16 330⇑*i*P **P 01 07 57.9 -3.5**
LVZ Lovozero 74.22 340 *e*P **P 01 08 00.7 -0.9**
LVZ pmax pmax
comp=Z,228nm,0.6s,mb6.3
LVZ pmax pmax
comp=E,61nm,0.7s
LVZ Lovozero 74.22 340⇓*i*P **P 01 07 57.6 -4.0**
KWP Kalwaria 74.44 320⇑*i*P **P 01 08 03.0 -0.2**
comp=E,1µm,1.5s,mb6.6
KWP epP pP 01 08 12.4 -6.0
APA Apatity 74.51 340⇓*i*P **P 01 08 02.6 -0.7**
APA *i* pP 01 08 20.8 +2.4
APA pmax pmax
comp=Z,390nm,1.0s,mb6.3
OHR Ohrid 74.52 311⇑*i*P **P 01 08 01.8 -2.1**
KOLS Kolonicke sedl 74.60 319 *e*P **P 01 08 04.3 +0.1**
KOLS *e* pP 01 08 20.0 +0.7
SVIS Svilajnac 74.61 314 *e*P **P 01 08 03.2 -1.1**
GRUS Gruza 74.91 314⇓*i*P **P 01 08 05.3 -0.8**
NOUC Port Laguerre 74.98 114⇑*e*P **P 01 08 07.2 +0.3**
SUW Suwalki 75.00 325⇑*e*P **P 01 08 05.2 -1.1**
comp=Z,1µm,1.3s,mb6.6
SUW epP pP 01 08 16.2 -5.3
DZM Mont Dzumac 75.11 114⇑*e*P **P 01 08 08.6 +1.0**
CRVS Cervenica-Dubn 75.12 319 *e*P **P 01 08 07.7 +0.5**
QSH Qafa e Shtames 75.23 311 *i*p **P 01 08 07.0 -1.0**
TIR Tirane 75.24 311 *i*p **P 01 08 07.0 -1.0**
PVY Plav 75.30 313⇓*i*P **P 01 08 07.3 -1.0**
FINES FINESS Array B 75.31 332 *i*P **P 01 08 07.0 -1.0**
FINES pmax pmax
comp=Z,38nm,0.5s
IVA Berane 75.38 313⇓*i*P **P 01 08 07.8 -1.0**
KAF Kangasniemi 75.40 333 *e*p **P 01 08 06.6 -1.9**
baz=104,slow=5.4
DIVS Divcibare 75.46 314⇓*i*P **P 01 08 08.4 -0.8**
KECS Kecovo 75.69 319 *e*P **P 01 08 10.4 -0.1**
KECS epP pP 01 08 26.9 +1.3
ULC Ulcinj 75.76 312⇓*i*P **P 01 08 09.7 -1.3**
PLE Pljevlja 75.80 313⇓*i*P **P 01 08 11.1 -0.1**

TTG Podgorica 75.80 312⇓*i*P **P 01 08 08.9 -2.3**
NIE Niedzica 75.94 320⇑*i*P **P 01 08 12.0 +0.1**
WAR Warsaw 75.94 323⇑*e*P **P 01 08 11.5 -0.3**
WAR *e**PP pP 01 08 21.9 -5.0
WAR pmax pmax
comp=Z,1.0nm,2.2s
WAR Warsaw 75.94 323⇑*e*P **P 01 08 11.5 -0.3**
comp=Z,0.9nm,2.2s
WAR epP pP 01 08 21.9 -5.0
WAR Warsaw 75.94 323⇑*e*P **P 01 08 11.5 -0.3**
comp=Z,900nm,2.2s,mb6.3
WAR epP pP 01 08 21.9 -5.1
PSZ Piszkesteto 76.01 318 P **P 01 08 11.9 -0.4**
PSZ pmax pmax
comp=Z,210nm,1.0s,mb6.0
PSZ Piszkesteto 76.01 318 *e*P **P 01 08 11.8 -0.5**
comp=Z,203nm,0.9s,mb6.0
PSZ Piszkesteto 76.01 318⇑*i*P **P 01 08 12.1 -0.2**
NKY Niksic 76.03 313⇓*i*P **P 01 08 11.5 -1.0**
BUM Brajici-Budva 76.06 312⇓*i*P **P 01 08 11.1 -1.6**
MAW Mawson 76.14 192 *e*P **P 01 08 13.9 +1.3**
comp=Z,7.9nm,0.8s
MAW Mawson 76.14 192 *e*P **P 01 08 13.9 +1.3**
MAW pmax pmax
comp=Z,8.0nm,0.8s
UPM Unac-Piva 76.14 313⇓*i*P **P 01 08 11.5 -1.6**
HCY Herceg Novi 76.37 312⇓*i*P **P 01 08 13.2 -1.2**
BRY Bratogost 76.38 313⇓*i*P **P 01 08 13.4 -1.1**
OJC Ojcow 76.39 320⇑*i*P **P 01 08 14.1 -0.3**
BUD Budapest 76.54 317 *i*Pc 01 08 14.8
LIKS Likavka 76.68 319 *e*P **P 01 08 15.8 -0.2**
VYHS Vyhne 76.78 318 *e*P **P 01 08 16.5 -0.1**
SRO2 Moca 76.99 318 *e*P **P 01 08 18.1 +0.3**
SRO2 *e* 01 08 26.7
SRO Srobarova 77.05 318 *e*P **P 01 08 18.9 +0.7**
KOLL Kolacno 77.08 319 *e*P **P 01 08 18.2 -0.1**
RAC Raciborz 77.39 320 *e*P **P 01 08 20.3 +0.3**
OKC Ostrava-Krasne 77.40 320⇑*i*P **P 01 08 20.0 0.0**
TIP Timpagrande 77.43 309 *e*P **P 01 08 20.1 -0.3**
KEV Kevo 77.50 341 *e*p **P 01 08 19.3 -0.9**
comp=Z,201nm,0.7s,mb6.2
KEV Kevo 77.50 341 *e*P **P 01 08 19.3 -0.9**
KEV pmax pmax
comp=Z,201nm,0.7s,mb6.2
SMOL Smolenice 77.72 318 *e*P **P 01 08 22.0 +0.2**
SMOL epP pP 01 08 35.3 -1.7
MORC Moravsky Berou 77.78 320 P **P 01 08 22.3 +0.2**
MORC pmax pmax
comp=Z,280nm,1.2s,mb6.1
MORC Moravsky Berou 77.78 320 *e*P **P 01 08 21.8 -0.3**
comp=Z,359nm,1.2s,mb6.2
ZST Bratislava 77.90 318 *e*P **P 01 08 23.0 +0.2**
ARE0 ARCESS Array S 77.93 340 *e*P **P 01 08 22.3 -0.2**
ARE0 *e*PP PP 01 11 17.8 -3.0
SOP Sopron 78.22 317⇑*e*P **P 01 08 24.6 0.0**
BILL Bilibino 78.25 21 P **P 01 08 23.2 -1.1**
BILL pmax pmax
comp=Z,220nm,1.2s,mb6.0
BILL Bilibino 78.25 21 *e*P **P 01 08 23.0 -1.3**
comp=Z,164nm,1.1s,mb5.9
BILL LR LR
comp=Z,5µm,19.0s,MS5.9
GKP Gorka Klasztor 78.37 323⇑*e*P **P 01 08 24.9 -0.4**
GKP *e**PP pP 01 08 33.5 -7.0
GKP pmax pmax
comp=Z,1.0nm,2.3s
GKP Gorka Klasztor 78.37 323⇑*e*P **P 01 08 24.9 -0.4**
comp=Z,1.0nm,2.3s
GKP epP pP 01 08 33.5 -7.0
GKP Gorka Klasztor 78.37 323⇑*e*P **P 01 08 24.9 -0.4**
comp=Z,1µm,2.3s,mb6.3
GKP epP pP 01 08 33.5 -6.9
VKA Vienna 78.43 318⇑*i*P **P 01 08 26.8 +1.1**
comp=Z,1µm,2.0s,mb6.5
VKA Vienna 78.43 318⇑*i*P **P 01 08 26.8 +1.1**
VKA pmax pmax
comp=Z,1µm,2.0s,mb6.5
KTK1 Kautokeino 78.55 340⇑*i*P **P 01 08 25.4 -0.5**
comp=Z,421nm,0.8s,mb6.4
KTK1 Kautokeino 78.55 340⇑*i*P **P 01 08 25.4 -0.5**
KTK1 AMb AMB 01 08 27.5
comp=Z,421nm,0.8s,mb6.4
KTK1 epP pP 01 08 38.9 -2.3
KTK1 ePP PP 01 11 24.1 -1.8
DPC Dobruska-Polom 78.62 320⇑*i*P **P 01 08 27.2 +0.5**
KSP Ksiaz 78.69 321⇑*e*P **P 01 08 27.4 +0.3**
KSP *e**PP pP 01 08 32.4 -10
KSP *e*S S 01 18 16.0 -2.7
KSP Ksiaz 78.69 321⇑*i*P **P 01 08 27.4 +0.4**
comp=Z,1µm,1.7s,mb6.5
KSP epP pP 01 08 34.4 -7.9
DRV Dumont d'Urvil 78.70 163 S S 01 18 20.0 +1.4
DRV SS SS 01 23 28.0 +1.6
DRV L 01 29 00.0
FX1 Attu Island--F 78.79 37 *e*P **P 01 08 27.2 -0.4**
UPC Upice 78.83 320⇑*e*P **P 01 08 28.2 +0.3**
ARSA Arzberg 78.88 317⇑*i*P **P 01 08 28.4 +0.2**
comp=Z,909nm,1.9s,mb6.4
BOJS Bojanci 78.95 315 *i*P **P 01 08 28.5 -0.1**
BOJS *e* pP 01 08 44.6 +0.8
SUR Sutherland 79.42 236 *e*P **P 01 08 32.8 +1.3**
comp=Z,111nm,1.1s,mb5.7
SUR LR LR
comp=Z,498nm,19.0s,MS4.9
CII Carovilli 79.43 311 *e*P **P 01 08 30.1 -1.2**
comp=Z,92nm,1.1s,mb5.6
LJU Ljubljana 79.49 316 *i*P **P 01 08 31.8 +0.2**
LJU *e* pP 01 08 47.8 +1.0
OBKA Obir 79.50 316⇑*i*P **P 01 08 31.8 +0.2**
comp=Z,1µm,2.0s,mb6.4
MCQ Macquarie Isla 79.67 148 *e*P **P 01 08 33.2 +0.8**
PRU Pruhonice 79.73 320⇑*i*P **P 01 08 32.7 -0.1**
PRU epP pP 01 08 45.9 -2.1
PVCC Panska Ves 79.75 320⇑*i*P **P 01 08 33.2 +0.3**
MOA Molln 79.77 318⇑*i*P **P 01 08 32.7 -0.3**
comp=Z,354nm,2.0s,mb6.0
BSD Bornholm Skovb 79.92 325⇑*i*P **P 01 08 32.5 -1.2**
BSD pmax pmax
comp=Z,85nm,0.6s,mb5.8
BSD Bornholm Skovb 79.92 325⇑*i*P **P 01 08 32.5 -1.2**
comp=Z,85nm,0.6s,mb5.8
VOY Vojsko 79.93 316 *e*P **P 01 08 33.5 -0.4**
VOY *e* pP 01 08 49.9 +0.8
VOY *e* 01 09 18.5
AQU L'Aquila 80.13 312 P **P 01 08 35.0 -0.1**
AQU pmax pmax
comp=Z,290nm,1.0s,mb6.2
AQU L'Aquila 80.13 312 *e*P **P 01 08 34.8 -0.2**
comp=Z,201nm,0.7s,mb6.2
BRG Berggiesshubel 80.17 321⇑*i*P **P 01 08 35.2 +0.1**
BRG *i* 01 08 43.5
BRG *e*S S 01 18 35.1 +0.7
BRG pmax pmax
comp=Z,402nm,1.7s,mb6.1
BRG Berggiesshubel 80.17 321⇑*i*P **P 01 08 35.2 +0.1**
comp=Z,402nm,1.7s,mb6.1
BRG *i* 01 08 43.5
BRG *e*S S 01 18 35.1 +0.7
TRO Tromso 80.19 340 *e*P **P 01 08 32.9 -1.9**
comp=Z,193nm,1.1s,mb5.9
TRO Tromso 80.19 340 *e*P **P 01 08 32.9 -1.9**
TRO AMb AMB 01 08 35.2
comp=Z,193nm,1.1s,mb5.9
TRO epP pP 01 08 48.9 -1.2
ROBS Robic 80.20 316 *e*P **P 01 08 35.0 -0.4**
GEC2 GERESS Array S 80.20 319⇑*i*P **P 01 08 35.5 +0.2**
GEC2 pmax pmax
comp=Z,315nm,0.9s,mb6.2
GEC2 GERESS Array S 80.20 319⇑*i*P **P 01 08 35.5 +0.2**
comp=Z,315nm,0.9s,mb6.2
KHC Kasperske Hory 80.30 319⇑*i*P **P 01 08 35.6 -0.3**
KHC epP pP 01 08 52.5 +1.4
KBA Koelnbreinsper 80.35 317⇑*i*P **P 01 08 35.9 -0.3**
comp=Z,544nm,2.3s,mb6.1
KBA Koelnbreinsper 80.35 317⇑*i*P **P 01 08 35.9 -0.3**
KBA pmax pmax
comp=Z,544nm,2.3s,mb6.1
RUE Ruedersdorf 80.38 322 *e*P **P 01 08 35.9 -0.3**
comp=Z,1µm,1.5s,mb6.6
WET Wettzell 80.76 319 *e*P **P 01 08 38.4 +0.1**
CLL Collm 80.79 321⇑*i*P **P 01 08 37.9 -0.5**
CLL *e* 01 08 46.0
CLL pmax pmax
comp=Z,137nm,1.3s,mb5.7

CLL Collm 80.79 321⇑*i*P **P 01 08 37.9 -0.5**
comp=Z,137nm,1.3s,mb5.7
CLL *e* 01 08 46.0
CLL Collm 80.79 321 ⇑P **P 01 08 37.9 -0.5**
comp=Z,logA/T=2.0,mb5.7
CLL *e* 01 08 46.0
NKC Novy Kostel 81.09 320⇑*i*P **P 01 08 40.0 0.0**
BJO Bjornoya 81.12 345 *e*P **P 01 08 40.9 +1.2**
BJO1 Bjornoya 81.17 345 *e*P **P 01 08 40.9 +1.0**
MOR8 Moi Rana 81.31 336⇑*i*P **P 01 08 39.8 -1.1**
comp=Z,137nm,0.9s,mb5.9
MOR8 Moi Rana 81.31 336⇑*i*P **P 01 08 39.8 -1.1**
MOR8 AMb AMB 01 08 40.9
comp=Z,137nm,0.9s,mb5.9
MOR8 *e*PP PP 01 11 47.1 -1.9
COP Copenhagen 81.38 325 *e*P **P 01 08 41.3 -0.1**
COP Copenhagen 81.38 325 *i*P **P 01 08 41.3 -0.1**
WTTA Wattenberg 81.53 317⇑*i*P **P 01 08 41.9 -0.4**
comp=Z,490nm,1.4s,mb6.2
WTTA Wattenberg 81.53 317⇑*i*P **P 01 08 41.9 -0.4**
WTTA pmax pmax
comp=Z,490nm,1.4s,mb6.2
WATA Walderalm 81.57 317⇑*i*P **P 01 08 41.9 -0.7**
comp=Z,196nm,1.2s,mb5.9
WATA Walderalm 81.57 317⇑*i*P **P 01 08 41.9 -0.7**
WATA pmax pmax
comp=Z,196nm,1.2s,mb5.9
MOX Moxa 81.64 320 *e*P **P 01 08 42.6 -0.2**
MOX pmax pmax
comp=Z,203nm,1.6s,mb5.8
MOX Moxa 81.64 320 *e*P **P 01 08 42.6 -0.2**
comp=Z,203nm,1.6s,mb5.8
MOX Moxa 81.64 320 *i*P **P 01 08 42.6 -0.2**
comp=Z,logA/T=2.1,mb5.8
FUR Furstenfeldbru 81.79 318 *e*P **P 01 08 43.2 -0.5**
SQTA Sankt Quirin 81.82 317⇑*i*P **P 01 08 43.4 -0.4**
comp=Z,101nm,0.8s,mb5.8
SQTA Sankt Quirin 81.82 317⇑*i*P **P 01 08 43.4 -0.4**
SQTA pmax pmax
comp=Z,101nm,0.8s,mb5.8
GRA1 Grafenberg Arr 81.86 319 *e*P **P 01 08 44.4 +0.4**
comp=Z,357nm,1.4s,mb6.1
GRF Grafenberg Arr 81.86 319 *e*P **P 01 08 44.4 +0.4**
GRF pmax pmax
comp=Z,357nm,1.4s,mb6.1
GRF Grafenberg Arr 81.86 319 *e*P **P 01 08 44.4 +0.4**
GRF pmax pmax
comp=Z,357nm,1.4s,mb6.1
GRF Grafenberg Arr 81.86 319 *e*P **P 01 08 44.4 +0.4**
comp=Z,357nm,1.4s,mb6.1
LOF Lofoten 81.88 338⇓*i*P **P 01 08 45.6 +1.8**
comp=Z,215nm,1.5s,mb5.9
LOF Lofoten 81.88 338⇓*i*P **P 01 08 45.6 +1.8**
LOF AMb AMB 01 08 49.5
comp=Z,215nm,1.5s,mb5.9
MOTA Moosalm 81.89 317⇑*i*P **P 01 08 43.7 -0.5**
comp=Z,133nm,1.0s,mb5.8
MOTA Moosalm 81.89 317⇑*i*P **P 01 08 43.7 -0.5**
MOTA pmax pmax
comp=Z,133nm,1.0s,mb5.8
NSS Namsos 82.19 334 *e*P **P 01 08 44.1 -1.3**
NSS AMb AMB 01 08 46.0
comp=Z,307nm,1.3s,mb6.1
MAIM 82.28 313 P **P 01 08 45.2 -1.1**
NB2 NORSAR Subarra 82.31 331 P **P 01 08 44.8 -1.3**
comp=Z,136nm,1.2s,mb5.8,baz=91,slow=5.0
NB2 NORSAR Subarra 82.31 331 P **P 01 08 44.8 -1.3**
baz=91,slow=5.3
SARO Sassorosso 82.35 314 P **P 01 08 46.1 -0.6**
VLC Villacollemand 82.36 314 *e*P **P 01 08 45.9 -0.8**
comp=Z,42nm,0.5s,mb5.6
CLZ Clausthal 82.45 321 *e*P **P 01 08 47.0 0.0**
comp=Z,312nm,1.5s,mb6.0
VALM 82.46 314 P **P 01 08 47.6 +0.4**
NAO01 NORSAR Array S 82.47 331 *e*P **P 01 08 45.6 -1.2**
comp=Z,134nm,1.2s,mb5.8
HSP Hornsund 82.48 347 *e*P **P 01 08 46.5 -0.2**
OSL Oslo 82.50 330 *e*P **P 01 08 47.0 -0.1**
HDH Heidenheim 82.51 318⇑*e*P **P 01 08 46.9 -0.5**
BSEG Bad Segeberg 82.53 324 *e*P **P 01 08 47.5 +0.2**
VINC Vinca 82.53 314 P **P 01 08 46.5 -1.0**
UBR Uberruh 82.57 317⇑*e*P **P 01 08 47.4 -0.3**
BACM 82.59 314 P **P 01 08 47.8 -0.1**
GRAM 82.59 314 P **P 01 08 48.8 +0.9**
DAVA Damuels 82.72 317⇑*i*P **P 01 08 48.6 +0.1**
comp=Z,458nm,1.4s,mb6.3
CODM 82.75 314 P **P 01 08 48.7 0.0**
SIND Sindeldorf 82.91 319⇑*e*P **P 01 08 49.6 +0.2**
BUCH Bad Urach 83.08 318⇑*e*P **P 01 08 50.2 -0.1**
VSL Villasalto 83.16 309 *e*P **P 01 08 50.5 -0.3**
comp=Z,283nm,1.2s,mb6.2
STU Stuttgart 83.18 318 *e*P **P 01 08 50.6 -0.2**
STU pmax pmax
comp=Z,155nm,1.0s,mb6.0
STU Stuttgart 83.18 318 *e*P **P 01 08 50.6 -0.2**
comp=Z,155nm,1.0s,mb6.0
MUD Monsted U'grnd 83.23 326⇑*i*P **P 01 08 51.4 +0.6**
MUD pmax pmax
comp=Z,105nm,1.2s,mb5.7
MUD Monsted U'grnd 83.23 326⇑*i*P **P 01 08 51.4 +0.6**
comp=Z,105nm,1.2s,mb5.7
GUT Gutenstein 83.24 318⇑*e*P **P 01 08 50.9 -0.2**
DOMB Dombas 83.38 332 *e*P **P 01 08 51.7 +0.2**
comp=Z,182nm,1.2s,mb6.0
DOMB Dombas 83.38 332 *e*P **P 01 08 51.7 +0.2**
DOMB AMb AMB 01 08 53.6
comp=Z,182nm,1.2s,mb6.0
PGF Pioggiola 83.39 312 *e*P **P 01 08 52.2 +0.2**
comp=Z,227nm,0.8s,mb6.0
PGF Pioggiola 83.39 312 *e*P **P 01 08 52.2 +0.2**
PGF pmax pmax
comp=Z,113nm,0.8s,mb6.0
TOD Tromm 83.43 319⇑*e*P **P 01 08 52.1 +0.1**
LBG Lerchenberg 83.45 318⇑*e*P **P 01 08 52.0 -0.1**
SPAK Spaichingen 83.46 318⇑*e*P **P 01 08 52.3 +0.1**
SWS Schriesheim 83.50 319⇑*e*P **P 01 08 52.3 -0.1**
PCP Pian Castagno 83.68 314 P **P 01 08 53.4 0.0**
BFO Black Forest 83.76 318 *e*P **P 01 08 53.3 -0.4**
BFO pmax pmax
comp=Z,112nm,0.8s,mb6.0
BFO Black Forest 83.76 318 *e*P **P 01 08 53.3 -0.4**
comp=Z,112nm,0.8s,mb6.0
KTD Kalmit 83.91 319 *e*P **P 01 08 54.0 -0.4**
KTD Kalmit 83.91 319 *e*P **P 01 08 54.6 +0.2**
FIN Finale Ligure 83.93 314 P **P 01 08 55.0 +0.3**
FELD Feldberg 83.99 317⇑*e*P **P 01 08 54.7 -0.2**
KIZ Kirchzarten 84.04 318⇑*e*P **P 01 08 55.1 -0.1**
ORX Oropa 84.05 315 P **P 01 08 54.7 -0.6**
LANF Langenberg 84.10 319 *e*P **P 01 08 55.7 +0.3**
STR Strasbourg 84.13 318 *e*P **P 01 08 56.0 +0.4**
IMI Imperia 84.17 313 P **P 01 08 56.6 +0.7**
ROB Roburent 84.17 314 P **P 01 08 56.5 +0.6**
TRAV 84.22 315 P **P 01 08 54.9 -1.3**
ABH Alteburg 84.24 320 *e*P **P 01 08 56.4 +0.3**
ABH Alteburg 84.24 320⇑*e*P **P 01 08 56.5 +0.4**
LIBD Limburg 84.25 318 *e*P **P 01 08 56.4 +0.2**
LIBD Limburg 84.25 318 *e*P **P 01 08 56.3 +0.1**
MONE Monesi 84.26 314 P **P 01 08 56.5 +0.2**
NEGI Negi 84.30 313 P **P 01 08 56.2 -0.3**
BBS Basel-Blauen 84.33 317 *e*P **P 01 08 56.4 -0.2**
BBS Basel-Blauen 84.33 317⇑*e*P **P 01 08 56.2 -0.4**
SAOF Saorge 84.40 314 *e*P **P 01 08 57.5 +0.4**
WLS Welschbruch 84.41 318 *e*P **P 01 08 56.8 -0.2**
CDF Champ du Feu 84.46 318 *e*P **P 01 08 57.0 -0.3**
comp=Z,121nm,0.8s,mb5.8
CDF Champ du Feu 84.46 318 *e*P **P 01 08 57.0 -0.3**
CDF pmax pmax
comp=Z,61nm,0.8s,mb5.8
ENR Entracque 84.49 314 P **P 01 08 57.3 -0.2**
SBF Sospel 84.50 313 *e*P **P 01 08 57.7 +0.2**
comp=Z,739nm,0.8s,mb6.6
SBF Sospel 84.50 313 *e*P **P 01 08 57.7 +0.2**
SBF pmax pmax
comp=Z,370nm,0.8s,mb6.6
AUTN L'Aution 84.50 314 *e*P **P 01 08 58.3 +0.8**
ECH Echery 84.55 318 *e*P **P 01 08 57.5 -0.2**
REVF Revere 84.55 313 *e*P **P 01 08 58.1 +0.3**
STV Sta Anna Valdi 84.56 314 P **P 01 09 01.4 +3.5**
RUP Ruppelstein 84.56 319⇑*e*P **P 01 08 58.1 +0.4**
MOF Molkenrain 84.57 317 *e*P **P 01 08 57.5 -0.3**
RSP Reno Superiore 84.58 315 P **P 01 08 57.9 0.0**
BHB Bricherasio 84.58 314 P **P 01 08 57.0 -1.0**
TOUF Mont Tournerai 84.62 314 *e*P **P 01 08 58.9 +0.7**
LSD Ceresole Reale 84.64 315 P **P 01 08 59.4 +1.2**

WTSB	Winterswijk	84.66	322⇑	iP	P	01 08 58.5	+0.3
	comp=Z,197nm,0.9s,mb6.2						
BLS5	Blasjo	84.66	329	eP	P	01 08 58.6	+0.7
	comp=Z,70nm,1.4s,mb5.6						
BLS5	Blasjo	84.66	329	eP	P	01 08 58.6	+0.7
BLS5				AMb	AMB	01 09 01.1	
	comp=Z,70nm,1.4s,mb5.6						
KIWB	Kanaga Island	84.68	39	eP	P	01 08 57.8	-0.5
MVIF	Mont Vial	84.70	313	eP	P	01 08 59.1	+0.5
PZZ	Prazzo	84.71	314	P	P	01 08 57.9	-0.7
WIT	Witteveen	84.72	322⇑	iP	P	01 08 59.4	+1.0
	comp=Z,626nm,0.9s,mb6.7						
FENE	Fenestrelle	84.72	315	P	P	01 08 58.2	-0.4
HINF	Hinteralfeld	84.76	317	eP	P	01 08 58.2	-0.6
	comp=Z,41nm,0.6s,mb5.5						
HINF	Hinteralfeld	84.76	317	eP	P	01 08 58.2	-0.6
HINF				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.4						
LOMF	Lomont	84.80	317	eP	P	01 08 58.8	-0.2
CALN	Calern	84.89	313	eP	P	01 09 00.2	+0.7
SURF	Saint Ours	84.92	314	eP	P	01 09 00.4	+0.8
LPG	La Plagne	84.92	315	eP	P	01 08 59.8	+0.2
	comp=Z,454nm,0.8s,mb6.3						
LPG	La Plagne	84.92	315	eP	P	01 08 59.8	+0.2
LPG				pmax	pmax		
	comp=Z,227nm,0.8s,mb6.3						
RRL	Cesana Torines	84.92	315	P	P	01 09 00.0	+0.4
LPL	La Plagne	84.93	315	eP	P	01 08 59.8	+0.1
	comp=Z,552nm,0.8s,mb6.4						
LPL	La Plagne	84.93	315	eP	P	01 08 59.8	+0.1
LPL				pmax	pmax		
	comp=Z,276nm,0.8s,mb6.4						
MBDF	Montbardon	84.94	314	eP	P	01 08 59.3	-0.4
	comp=Z,111nm,0.6s,mb5.8						
MBDF	Montbardon	84.94	314	eP	P	01 08 59.3	-0.4
MBDF				pmax	pmax		
	comp=Z,55nm,0.6s,mb5.9						
ADK	Adak	84.97	38	P	P	01 08 59.3	-0.4
ADK				pmax	pmax		
	comp=Z,320nm,1.0s,mb6.4						
ADK	Adak	84.97	38	eP	P	01 08 59.2	-0.5
BNI	Bardonecchia	84.99	315	P	P	01 08 59.9	-0.1
BNI				pmax	pmax		
	comp=Z,160nm,1.0s,mb6.1						
BNI	Bardonecchia	84.99	315	eP	P	01 08 59.7	-0.3
	comp=Z,267nm,1.2s,mb6.2						
FRF	La Foret Royal	85.08	313	eP	P	01 09 00.8	+0.3
	comp=Z,448nm,0.7s,mb6.4						
FRF	La Foret Royal	85.08	313	eP	P	01 09 00.8	+0.3
FRF				pmax	pmax		
	comp=Z,224nm,0.7s,mb6.4						
HAU	Haudompre	85.09	318	eP	P	01 09 00.3	-0.1
	comp=Z,404nm,0.8s,mb6.3						
HAU				eR			
	comp=Z,711nm,19.5s						
HAU	Haudompre	85.09	318	eP	P	01 09 00.3	-0.1
HAU				pmax	pmax		
	comp=Z,202nm,0.8s,mb6.3						
HAU				MLR	MLR		
	comp=Z,710nm,19.5s,MS5.1						
WLF	Walferdange	85.16	319	P	P	01 09 01.4	+0.7
WLF				pmax	pmax		
	comp=Z,370nm,1.6s,mb6.3						
WLF	Walferdange	85.16	319	eP	P	01 09 01.1	+0.4
	comp=Z,172nm,1.2s,mb6.1						
LMR	La Mourre	85.19	313	eP	P	01 09 01.3	+0.3
	comp=Z,199nm,0.7s,mb6.1						
LMR	La Mourre	85.19	313	eP	P	01 09 01.3	+0.3
LMR				pmax	pmax		
	comp=Z,99nm,0.7s,mb6.0						
HGN	Heimansgroeve	85.25	320⇑	iP	P	01 09 00.9	-0.2
	comp=Z,72nm,1.5s,mb5.6						
THEF	They Montfort	85.33	318	eP	P	01 09 01.4	-0.2
CABF	La Chapelle	85.33	316	eP	P	01 09 02.0	+0.4
	comp=Z,226nm,0.7s,mb6.1						
CABF	La Chapelle	85.33	316	eP	P	01 09 02.0	+0.4
CABF				pmax	pmax		
	comp=Z,113nm,0.7s,mb6.1						
GSTR	Great Sitkin T	85.34	38	eP	P	01 09 01.2	-0.3
GDM	Grand'Maison	85.38	315	eP	P	01 09 02.3	+0.4
TAVF	Tavernes	85.50	313	eP	P	01 09 03.5	+1.0
ORIF	Oris-en-Rattie	85.56	315	eP	P	01 09 02.9	+0.1
	comp=Z,198nm,0.8s,mb6.1						
ORIF				eR			
	comp=Z,772nm,23.0s						
MIDW	Midway	85.62	62	eP	P	01 09 04.2	+0.7
	comp=Z,194nm,0.9s,mb6.3						
GRN	Grenoble	85.64	315	eP	P	01 09 04.1	+0.9
VILF	Villemus	85.74	314	eP	P	01 09 04.8	+1.1
PUYF	Puyloubier	85.77	313	eP	P	01 09 04.6	+0.8
BERF	Bertagne	85.79	313	eP	P	01 09 04.8	+0.9
SMRF	Simiane la Rot	85.83	314	eP	P	01 09 05.0	+0.9
	comp=Z,83nm,0.5s,mb5.9						
MEZF	Maizieres J'vi	85.94	318	eP	P	01 09 04.5	0.0
	comp=Z,73nm,0.6s,mb5.8						
TREF	Trevaresse	85.99	313	eP	P	01 09 05.9	+1.0
GIVF	Givet	85.99	320	eP	P	01 09 04.9	+0.1
	comp=Z,109nm,0.9s,mb5.8						
GIVF	Givet	85.99	320	eP	P	01 09 04.9	+0.1
GIVF				pmax	pmax		
	comp=Z,55nm,0.9s,mb5.8						
PRAF	Pradon	86.14	313	eP	P	01 09 06.8	+1.2
BAIF	Baives	86.39	320	eP	P	01 09 07.2	+0.5
	comp=Z,181nm,0.7s,mb6.1						
BAIF	Baives	86.39	320	eP	P	01 09 07.2	+0.5
BAIF				pmax	pmax		
	comp=Z,90nm,0.7s,mb6.1						
VIVF	Saint-Julien-l	86.42	315	eP	P	01 09 07.2	+0.2
	comp=Z,230nm,0.8s,mb6.1						
VIVF	Saint-Julien-l	86.42	315	eP	P	01 09 07.2	+0.2
VIVF				pmax	pmax		
	comp=Z,115nm,0.8s,mb6.2						
SMF	Signal de Mont	86.88	316	eP	P	01 09 09.2	0.0
	comp=Z,412nm,0.9s,mb6.3						
SMF	Signal de Mont	86.88	316	eP	P	01 09 09.2	0.0
SMF				pmax	pmax		
	comp=Z,206nm,0.9s,mb6.4						
LASF	Ste Croix	87.06	314	eP	P	01 09 10.7	+0.5
	comp=Z,175nm,0.9s,mb6.0						
SSF	Saint Saulge	87.08	317	eP	P	01 09 10.3	+0.1
SSF				pmax	pmax		
	comp=Z,68nm,0.8s,mb5.9						
SSF	Saint Saulge	87.08	317	eP	P	01 09 10.3	+0.1
	comp=Z,68nm,0.8s,mb5.9						
PLDF	La Plantade	87.08	316	eP	P	01 09 10.6	+0.4
AVF	Avril sur Loir	87.20	317	eP	P	01 09 10.7	-0.1
	comp=Z,278nm,1.0s,mb6.1						
AVF	Avril sur Loir	87.20	317	eP	P	01 09 10.7	-0.1
AVF				pmax	pmax		
	comp=Z,139nm,1.0s,mb6.1						
LBL	Lubilhac	87.40	315	eP	P	01 09 12.6	+0.8
AGO	Saint Agoulin	87.42	316	eP	P	01 09 12.2	+0.4
PYM	Petit Puy Mans	87.53	316	eP	P	01 09 13.1	+0.7
BGF	Bois d'Agland	87.57	316	eP	P	01 09 13.0	+0.5
	comp=Z,374nm,1.1s,mb6.2						
BGF	Bois d'Agland	87.57	316	eP	P	01 09 13.0	+0.5
BGF				pmax	pmax		
	comp=Z,187nm,1.1s,mb6.2						
HYF	Humbligny	87.65	317	eP	P	01 09 13.5	+0.6
MENF	Mencas	87.66	320	eP	P	01 09 13.7	+0.8
EJON	La Jonquera	87.90	312	P	P	01 09 14.8	+0.6
	comp=Z,52nm,0.8s,mb5.8						
TCF	Toulx Ste Croi	88.03	316	eP	P	01 09 15.0	+0.2
	comp=Z,101nm,0.8s,mb5.8						
TCF	Toulx Ste Croi	88.03	316	eP	P	01 09 15.0	+0.2
TCF				pmax	pmax		
	comp=Z,51nm,0.8s,mb5.8						
LRDF	Laroque-de-Fa	88.12	313	eP	P	01 09 15.9	+0.7
FILF	Fillols	88.14	312	eP	P	01 09 16.2	+0.8
TNA	Tin City	88.25	24	PFAKE		01 09 30.0	+15
TNA				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
CAF	Calviac	88.27	315	eP	P	01 09 16.6	+0.7
	comp=Z,223nm,1.1s,mb6.0						
CAF	Calviac	88.27	315	eP	P	01 09 16.6	+0.7
CAF				pmax	pmax		
	comp=Z,112nm,1.1s,mb6.0						
MTLF	Montolieu	88.31	313	eP	P	01 09 16.7	+0.5
	comp=Z,170nm,0.8s,mb6.0						
MTLF	Montolieu	88.31	313	eP	P	01 09 16.7	+0.5
MTLF				pmax	pmax		
	comp=Z,85nm,0.8s,mb6.0						
CARF	Carcanieres	88.45	313	eP	P	01 09 17.1	+0.2
VALF	Valcebollere	88.55	312	eP	P	01 09 18.5	+1.2
LPEF	Le Peyrat	88.58	313	eP	P	01 09 18.0	+0.6
RJF	Les Rejaudoux	88.61	315	eP	P	01 09 18.4	+0.8
	comp=Z,188nm,0.8s,mb6.2						
RJF				eR			
	comp=Z,695nm,21.8s						
RJF	Les Rejaudoux	88.61	315	eP	P	01 09 18.4	+0.8
RJF				pmax	pmax		
	comp=Z,94nm,0.8s,mb6.2						
RJF				MLR	MLR		
	comp=Z,690nm,21.8s,MS5.0						
LMK	Market Rasen	88.87	323⇑	eP	P	01 09 19.3	+0.8
EMIR	Miracle	88.96	312	P	P	01 09 20.2	+0.9
	comp=Z,274nm,0.8s,mb6.6						
MLS	Moulis	89.17	313	eP	P	01 09 20.2	0.0
LFF	La Frestale	89.20	315	eP	P	01 09 21.2	+0.9
	comp=Z,97nm,0.6s,mb6.0						
LFF	La Frestale	89.20	315	eP	P	01 09 21.2	+0.9
LFF				pmax	pmax		
	comp=Z,48nm,0.6s,mb6.0						
LDF	La Druitiere	89.35	319	eP	P	01 09 21.3	+0.3
	comp=Z,292nm,0.9s,mb6.3						
LDF	La Druitiere	89.35	319	eP	P	01 09 21.3	+0.3
LDF				pmax	pmax		
	comp=Z,146nm,0.9s,mb6.3						
EPOB	Poblet	89.36	311	P	P	01 09 21.8	+0.6
	comp=Z,246nm,0.9s,mb6.5						
LCP	Cassop	89.37	325⇑	eP	P	01 09 21.4	+0.6
EIBI	Ibiza	89.41	309	P	P	01 09 22.9	+1.4
	comp=Z,377nm,1.2s,mb6.6						
MELF	Melles	89.42	313	eP	P	01 09 21.3	-0.1
ANM	Nome	89.49	25	eP	P	01 09 21.9	+0.7
HPK	Haverah Park	89.56	324⇑	eP	P	01 09 21.8	0.0
FLN	La Foliniere	89.57	319	eP	P	01 09 22.3	+0.3
	comp=Z,284nm,0.8s,mb6.4						
FLN				eR			
	comp=Z,973nm,18.0s						
FLN	La Foliniere	89.57	319	eP	P	01 09 22.3	+0.3
FLN				pmax	pmax		
	comp=Z,142nm,0.8s,mb6.3						
FLN				MLR	MLR		
	comp=Z,970nm,18.0s,MS5.3						
KBI1	Birley Grange	89.61	323⇑	eP	P	01 09 17.5	-4.6
MFF	Saint Martin d	89.62	317	eP	P	01 09 22.6	+0.3
	comp=Z,379nm,1.2s,mb6.3						
MFF	Saint Martin d	89.62	317	eP	P	01 09 22.6	+0.3
MFF				pmax	pmax		
	comp=Z,190nm,1.2s,mb6.3						
NIKO	Nikolski	89.64	37	eP	P	01 09 21.5	-0.7
EPF	Esparros	89.71	313	eP	P	01 09 22.7	-0.1
	comp=Z,25nm,0.7s,mb5.4						
EPF	Esparros	89.71	313	eP	P	01 09 22.7	-0.1
EPF				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.3						
RESF	Ens	89.74	313	eP	P	01 09 24.2	+1.3
LHO	Holmfirth	89.76	324⇑	eP	P	01 09 22.9	+0.2
KWE	Weaver Farm	89.83	323⇑	eP	P	01 09 18.9	-4.2
ESY	Stoneypath	89.83	326⇑	eP	P	01 09 23.2	+0.2
ESY				AMb	AMB	01 09 26.4	
	comp=Z,84nm,2.1s,mb5.7						
EBR	Ebro Roquetas	89.86	311	ePCP	PcP	01 09 25.0	-0.1
GRR	Gorron	89.86	318	eP	P	01 09 23.8	+0.4
	comp=Z,236nm,1.0s,mb6.2						
GRR	Gorron	89.86	318	eP	P	01 09 23.8	+0.4
GRR				pmax	pmax		
	comp=Z,118nm,1.0s,mb6.2						
EBIE	Bielsa	89.89	313	P	P	01 09 24.8	+1.2
	comp=Z,553nm,2.7s,mb6.4						
LABF	Labassere	89.90	313	eP	P	01 09 24.2	+0.5
VIEF	Viey	89.96	313	eP	P	01 09 24.9	+0.9
ERTA	Horta de San J	89.96	311	P	P	01 09 24.9	+0.9
	comp=Z,583nm,1.7s,mb6.6						
DAG	Danmarks Havn	90.15	348⇓	iP	P	01 09 23.8	-0.3
DAG				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.8						
DAG	Danmarks Havn	90.15	348⇓	iP	P	01 09 23.8	-0.3
	comp=Z,39nm,0.8s,mb5.8						
EDI	Edinburgh	90.15	326⇑	eP	P	01 09 24.3	-0.2
EDI				AMb	AMB	01 09 26.5	
	comp=Z,171nm,1.8s,mb6.1						
REYF	Montagne du Re	90.24	313	eP	P	01 09 26.1	+0.8
VNDA	Vanda	90.26	168	eP	P	01 09 25.4	+0.8
VNDA				pmax	pmax		
	comp=Z,15nm,1.0s						
VNDA	Vanda	90.26	168	eP	P	01 09 25.4	+0.7
	comp=Z,14nm,1.0s,mb5.3						
ESK	Eskdalemuir	90.26	326	P	P	01 09 25.6	+0.5
ESK				pmax	pmax		
	comp=Z,40nm,0.6s,mb5.9						
ESK	Eskdalemuir	90.26	326	eP	P	01 09 25.4	+0.3
	comp=Z,67nm,0.6s,mb6.2						
ESK	Eskdalemuir	90.26	326⇑	eP	P	01 09 22.9	-2.1
ESK				AMb	AMB	01 09 27.6	
	comp=Z,128nm,1.8s,mb6.0						
EAU	Auchinoon	90.31	326⇑	eP	P	01 09 25.7	+0.4
EAU				AMb	AMB	01 09 27.6	
	comp=Z,180nm,1.5s,mb6.2						
ETSF	Etsaut	90.38	313	eP	P	01 09 26.9	+1.0
	comp=Z,179nm,0.8s,mb6.2						
ETSF	Etsaut	90.38	313	eP	P	01 09 26.9	+1.0
ETSF				pmax	pmax		
	comp=Z,90nm,0.8s,mb6.2						
FDAF	Les Forges d'A	90.40	313	eP	P	01 09 25.1	-0.9
HAE	Alders End	90.41	322⇑	eP	P	01 09 25.8	0.0
HAE				AMb	AMB	01 09 27.7	
	comp=Z,190nm,1.9s,mb6.1						
ESAC	San Caprasio	90.47	312	P	P	01 09 27.2	+0.8
	comp=Z,236nm,0.7s,mb6.6						
JQE	Queens East	90.52	319⇑	eP	P	01 09 26.2	-0.2
HLM1	Long Mynd	90.53	323⇑	eP	P	01 09 27.0	+0.6
HLM1				AMb	AMB	01 09 28.5	
	comp=Z,151nm,1.5s,mb6.1						
JLP	Les Platons	90.56	319⇑	eP	P	01 09 25.7	-0.9
JRS	Jersey	90.56	319	eP	P	01 09 25.9	-0.7
JSA	Saint Aubin	90.61	319⇑	eP	P	01 09 27.2	+0.4
HGH	Gray Hill	90.63	322⇑	eP	P	01 09 27.1	+0.2
HGH				AMb	AMB	01 09 28.2	
	comp=Z,303nm,0.8s,mb6.7						
EMOS	Mosqueruela	90.64	310	P	P	01 09 28.9	+1.7
	comp=Z,506nm,1.0s,mb6.8						
EBEN	Beniarda	90.67	309	P	P	01 09 28.7	+1.3
	comp=Z,629nm,2.7s,mb6.5						
LARF	Larrau	90.67	313	eP	P	01 09 28.5	+1.2
MCH1	Michaelchurch	90.69	322	eP	P	01 09 27.4	+0.3
SSP1	Stoney Pound	90.69	323⇑	eP	P	01 09 27.6	+0.4
SBD1	Bryn Du	90.69	323⇑	eP	P	01 09 27.4	+0.3
EAB	Aberfoyle	90.74	326	eP	P	01 09 27.9	+0.6
EAB				AMb	AMB	01 09 36.7	
	comp=Z,115nm,1.6s,mb6.0						
SJPF	Ste Jean	90.84	313	eP	P	01 09 29.1	+1.0
	comp=Z,203nm,0.9s,mb6.1						
SJPF	Ste Jean	90.84	313	eP	P	01 09 29.1	+1.0
SJPF				pmax	pmax		
	comp=Z,101nm,0.9s,mb6.2						
OSSF	Osses	90.84	313	eP	P	01 09 28.5	+0.4
UNV	Unalaska Valle	90.89	36	eP	P	01 09 26.8	-1.3
	comp=Z,208nm,0.9s,mb6.5						
SGMF	Saint Gilles	91.00	318	eP	P	01 09 29.1	+0.4
	comp=Z,288nm,1.0s,mb6.2						
SGMF	Saint Gilles	91.00	318	eP	P	01 09 29.1	+0.4
SGMF				pmax	pmax		
	comp=Z,144nm,1.0s,mb6.3						
EALK	Alkurruntz	91.03	313	P	P	01 09 29.8	+0.8
	comp=Z,362nm,2.2s,mb6.3						
SBA	Scott Base	91.36	168	eP	P	01 09 31.0	+1.2
SBA				pmax	pmax		
	comp=Z,46nm,1.1s,mb5.7						
SBA				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.3						
SBA	Scott Base	91.36	168	eP	P	01 09 30.9	+1.2
	comp=Z,46nm,1.1s,mb5.7						
SBA				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
CART	Cartagena	91.42	308	eP	P	01 09 31.2	+0.3
	comp=Z,205nm,1.3s,mb6.3						
CART				e	pP	01 09 47.9	+1.4
QUIF	Quistinic	91.46	318	eP	P	01 09 31.0	+1.1
	comp=Z,138nm,0.8s,mb6.1						
QUIF	Quistinic	91.46	318	eP	P	01 09 31.0	+0.1
QUIF				pmax	pmax		
	comp=Z,69nm,0.8s,mb6.0						
ROSF	Rostrenen	91.46	319	eP	P	01 09 31.2	+0.3
	comp=Z,316nm,1.1s,mb6.3						
ROSF	Rostrenen	91.46	319	eP	P	01 09 31.2	+0.3
ROSF				pmax	pmax		
	comp=Z,158nm,1.1s,mb6.3						
EMUR	La Murta	91.57	308	P	P	01 09 32.0	+0.4
	comp=Z,248nm,1.7s,mb6.3						
ELAN	Lanestosa	92.42	314	P	P	01 09 36.4	+1.0
	comp=Z,660nm,2.5s,mb6.5						
EVIA	Vianos	92.44	309	P	P	01 09 36.6	+1.0
EVIA				pmax	pmax		
	comp=Z,125nm,1.1s,mb6.2						
EVIA	Vianos	92.44	309	P	P	01 09 36.6	+1.0
	comp=Z,125nm,1.1s,mb6.2						
ENIJ	Nijar	92.46	307	P	P	01 09 36.4	+0.7
ENIJ				pmax	pmax		
	comp=Z,118nm,1.2s,mb6.1						
ENIJ	Nijar	92.46	307	P	P	01 09 36.4	+0.6
	comp=Z,118nm,1.2s,mb6.1						
DLF	Lyons Farm	92.56	324	eP	P	01 09 34.5	-1.3
DLF	Lyons Farm	92.56	324⇓	iP	P	01 09 36.7	+0.9
DMUB	Kingscourt	92.65	325	eP	P	01 09 34.8	-1.3
DMUB	Kingscourt	92.65	325⇓	iP	P	01 09 37.3	+1.2
DCN	Croghan	92.98	324	eP	P	01 09 36.6	-1.1
DCN	Croghan	92.98	324⇓	iP	P	01 09 38.9	+1.2
EBER	Berja	93.01	307	P	P	01 09 39.3	+1.0
	comp=Z,575nm,1.7s,mb6.7						
EQES	Quesada	93.01	308	P	P	01 09 38.7	+0.5
	comp=Z,43nm,1.0s,mb5.8						
GUD	Guadarrama	93.38	311	P	P	01 09 41.2	+1.4
GUD				pmax	pmax		
	comp=Z,83nm,0.7s,mb6.3						
GUD	Guadarrama	93.38	311	P	P	01 09 41.2	+1.4
	comp=Z,83nm,0.7s,mb6.3						
ESDC	Sonseca Array	93.40	310	P	P	01 09 40.6	+0.7
	comp=Z,60nm,0.8s,mb6.1						
ESLA	Sonseca Array	93.40	310	eP	P	01 09 40.3	+0.3
	comp=Z,37nm,1.3s,mb5.7						
EARI	Arriondas	93.68	314	P	P	01 09 42.4	+1.3
	comp=Z,74nm,1.0s,mb6.1						
ERON	Agron	93.71	308	P	P	01 09 41.6	+0.1
	comp=Z,6.0nm,0.7s,mb5.1						
IMA	Indian Mountai	93.76	22	eP	P	01 09 41.9	+1.0
IMA				pmax	pmax		
	comp=Z,790nm,1.0s,mb7.1						
IMA	Indian Mountai	93.76	22	eP	P	01 09 41.8	+0.9
ELOJ	Sierra Loja	93.97	308	P	P	01 09 42.6	+0.1
ELOJ				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.3						
ELOJ	Sierra Loja	93.97	308	P	P	01 09 42.6	+0.1
	comp=Z,11nm,0.8s,mb5.3						
ELUQ	Luque	93.99	308	P	P	01 09 43.0	+0.4
ELUQ				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.5						
ELUQ	Luque	93.99	308	P	P	01 09 43.0	+0.3
	comp=Z,15nm,0.8s,mb5.5						
EADA	Adamuz	94.13	309	P	P	01 09 43.9	+0.7
	comp=Z,349nm,1.9s,mb6.5						
EMIJ	Mijas	94.56	307	P	P	01 09 45.1	-0.1
	comp=Z,28nm,0.9s,mb5.7						
ECAL	Calabor	95.05	313	P	P	01 09 48.1	+0.7
	comp=Z,57nm,1.2s,mb5.9						
EPON	Pontenova	95.06	314	P	P	01 09 48.7	+1.3
	comp=Z,53nm,1.0s,mb5.9						
PBRG	Braganca	95.08	313	eP	P	01 09 48.6	+1.1
	comp=Z,51nm,1.3s,mb5.8						
EINC	Incio	95.35	314	P	P	01 09 49.4	+0.6
	comp=Z,43nm,1.4s,mb5.7						
ESPR	Espera	95.36	308	P	P	01 09 49.0	+0.1
	comp=Z,33nm,1.1s,mb5.7						
EMIN	Mina Concepcio	95.83	309	P	P	01 09 51.5	+0.4
	comp=Z,19nm,1.4s,mb5.3						
EBAD	Badajoz	95.90	310	P	P	01 09 52.1	+0.8
	comp=Z,28nm,1.4s,mb5.5						
PVRL	Vila Real	95.91	312	eP	P	01 09 52.5	+1.2
	comp=Z,44nm,1.6s,mb5.6						
MTE	Manteigas	95.96	311	eP	P	01 09 52.8	+1.2
	comp=Z,29nm,1.4s,mb5.5						
PCBR	Castelo Branco	96.03	311	eP	P	01 09 53.1	+1.2
	comp=Z,36nm,1.3s,mb5.6						
PVIS	Viseu	96.16	312	eP	P	01 09 53.5	+1.1
STS	Santiago	96.16	314	P	P	01 09 53.5	+1.1
STS				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.5						
STS	Santiago	96.16	314	P	P	01 09 53.5	+1.1
	comp=Z,13nm,0.7s,mb5.5						
RSO	Redoubt South	96.26	27	eP	P	01 09 51.6	-0.8
COLA	College	96.47	22	eP	P	01 09 53.1	-0.2
COLA				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.5						
COLA				MLR	MLR		
	comp=Z,794nm,20.0s,MS5.2						
COLA	College	96.47	22	eP	P	01 09 53.1	-0.2
	comp=Z,19nm,0.9s,mb5.5						
COLA				LR	LR		
	comp=Z,794nm,20.0s,MS5.2						
EGRO	El Granado	96.50	309	P	P	01 09 55.1	+1.1
	comp=Z,22nm,1.0s,mb5.5						
PALC	Alcoutim	96.51	309	eP	P	01 09 55.4	+1.3
MCK	McKinley	96.56	24	eP	P	01 09 53.3	-0.4
MCK				pmax	pmax		
	comp=Z,147nm,1.6s,mb6.2						
MCK				MLR	MLR		
	comp=Z,893nm,20.0s,MS5.2						
MCK	McKinley	96.56	24	eP	P	01 09 53.3	-0.4
	comp=Z,147nm,1.6s,mb6.2						
MCK				LR	LR		
	comp=Z,893nm,20.0s,MS5.2						
PBEJ	Beja	96.70	309	eP	P	01 09 56.2	+1.2
	comp=Z,33nm,1.3s,mb5.6						
EVO	Evora	96.71	310	eP	P	01 09 56.1	+1.1
	comp=Z,24nm,1.1s,mb5.2						
EVO				eR			
	comp=Z,970nm,21.5s						
PTOM	Tomar	96.78	311	eP	P	01 09 57.3	+2.0
	comp=Z,52nm,1.6s,mb5.7						
SUMG	Summit	96.81	347	eP	P	01 09 55.4	+0.7
	comp=Z,11nm,0.8s,mb5.3						
PWA	Palmer West	97.07	26	eP	P	01 09 56.0	-0.1
FIB	Fire Island	97.14	26	PFAKE		01 10 10.0	+14
FIB				LR	LR		
	comp=Z,2μm,21.0s,MS5.5						
KDAK	Kodiak Island	97.35	30	eP	P	01 09 57.4	-0.1
	comp=Z,253nm,1.6s,mb6.4						
KDAK				LR	LR		
	comp=Z,513nm,21.0s,

PGC	Sidney	116.76	27	ePKPdf	PKPdf	01 15 08.3	+0.7
EDM	Edmonton	117.07	19	ePKIKP	PKPdf	01 15 09.0	+1.0
OCWA	Octopus Mounta	117.07	28	PFAKE		01 15 20.0	+12
OCWA				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
FFC	Flin Flon	118.60	11	ePKIKP	PKPdf	01 15 10.4	-0.5
FFC				e		01 15 25.5	
PMSA	Palmer Station	118.72	190	PFAKE		01 15 20.0	+9.1
PMSA				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
TBM	Table Mountain	119.15	27	P	PKPdf	01 15 13.9	+1.7
EPH	Ephrata	119.45	26	P	PKPdf	01 15 14.2	+1.4
COR	Corvallis	119.74	31	PFAKE		01 15 30.0	+17
COR				LR	LR		
	comp=Z,208nm,21.0s,MS4.8						
NEW	Newport	119.79	24	ePKIKP	PKPdf	01 15 14.2	+0.8
NEW				MLR	MLR		
	comp=Z,2µm,22.0s						
WRD	Warden	120.07	26	P	PKPdf	01 15 15.8	+1.7
WALA	Waterton Lakes	120.38	21	ePKPdf	PKPdf	01 15 15.4	+0.9
WALA				ePP	PP	01 16 40.5	-4.9
BBOR	Butler Butte	121.26	32	P	PKPdf	01 15 17.8	+1.4
HUMO	Hull Mountain	121.31	32	ePKPdf	PKPdf	01 15 18.2	+1.7
HUMO				e		01 15 33.8	
HUMO				eSKP		01 18 48.3	
HUMO				LR	LR		
	comp=Z,961nm,20.0s,MS5.4						
YBH	Yreka Blue Hor	122.05	33	PFAKE		01 15 30.0	+12
YBH				LR	LR		
	comp=Z,967nm,19.0s,MS5.5						
KHMM	Horse Mountain	122.08	34	ePKPdf	PKPdf	01 15 18.8	+0.8
KHMM				e		01 15 34.2	
MSO	Missoula	122.22	23	ePKPdf	PKPdf	01 15 18.7	+0.6
MSO				ePP	PP	01 16 53.6	-4.8
MSO				eSKP		01 18 49.1	
MSO				LR	LR		
	comp=Z,1µm,22.0s,MS5.4						
BMO	Blue Mountains	122.40	27	ePKIKP	PKPdf	01 15 18.5	-0.1
BMO				MLR	MLR		
	comp=Z,813nm,20.0s,MS5.4						
CHMT	Chamberlain Mo	122.41	22	ePKPdf	PKPdf	01 15 19.2	+0.7
CHMT				e		01 15 35.0	
CHMT				ePP	PP	01 16 55.2	-4.5
CHMT				eSKP		01 18 49.7	
WDC	Whiskeytown Da	122.94	33	ePKIKP	PKPdf	01 15 20.4	+0.7
WDC				MLR	MLR		
	comp=Z,1µm,22.0s,MS5.4						
HRY	Holter Researc	123.11	22	ePKPdf	PKPdf	01 15 20.5	+0.6
MOD	Modoc	123.19	31	ePKPdf	PKPdf	01 15 21.4	+1.3
MOD				e		01 15 37.3	
MOD				ePP	PP	01 17 02.2	-3.1
MOD				LR	LR		
	comp=Z,840nm,20.0s,MS5.4						
WVOR	Wild Horse Val	123.63	29	ePKIKP	PKPdf	01 15 22.7	+1.7
WVOR				MLR	MLR		
	comp=Z,948nm,22.0s,MS5.4						
WVOR	Wild Horse Val	123.63	29	ePKPdf	PKPdf	01 15 22.7	+1.7
WVOR				eSKP		01 18 53.4	
WVOR				LR	LR		
	comp=Z,948nm,22.0s,MS5.4						
HOPS	Hopland	123.73	35	ePKPdf	PKPdf	01 15 23.1	+1.8
HOPS				LR	LR		
	comp=Z,726nm,20.0s,MS5.3						
DGMT	Dagmar	123.95	15	ePKPdf	PKPdf	01 15 22.6	+1.1
DGMT				ePP	PP	01 17 01.6	-8.9
DGMT				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
OHCM	Honcut	124.39	34	ePKPdf	PKPdf	01 15 23.7	+1.1
OHCM				ePP	PP	01 17 08.9	-4.5
HLID	Hailey	124.69	26	ePKPdf	PKPdf	01 15 24.7	+1.7
HLID				LR	LR		
	comp=Z,2µm,22.0s,MS5.6						
LAO	LASA Array	125.01	18	ePKPdf	PKPdf	01 15 25.4	+1.9
LAO				e		01 15 41.5	
LAO				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
YMR	Madison River	125.17	22	ePKPdf	PKPdf	01 15 26.0	+2.0
YMR				e		01 15 41.6	
YNR	Norris Junctio	125.23	22	ePKPdf	PKPdf	01 15 26.8	+2.7
YNR				e		01 15 42.8	
WCN	Washoe City	125.36	33	ePKIKP	PKPdf	01 15 26.2	+1.8
WCN				e		01 17 14.8	
YFT	Old Faithful	125.40	22	ePKPdf	PKPdf	01 15 27.9	+3.6
LKWY	Lake	125.47	22	ePKIKP	PKPdf	01 15 27.9	+3.4
LKWY				e		01 17 17.7	
LKWY				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.8						
IMW	Indian Meadow	125.83	23	ePKPdf	PKPdf	01 15 27.0	+1.8
BMN	Battle Mountai	125.84	30	ePKIKP	PKPdf	01 15 26.8	+1.5
BMN				MLR	MLR		
	comp=Z,761nm,22.0s,MS5.3						
CMB	Columbia Colle	125.92	34	ePKIKP	PKPdf	01 15 26.5	+1.0
CMB				MLR	MLR		
	comp=Z,602nm,19.0s,MS5.3						
CMB	Columbia Colle	125.92	34	ePKPdf	PKPdf	01 15 26.5	+0.9
CMB				eSKP		01 18 58.9	
CMB				LR	LR		
	comp=Z,602nm,19.0s,MS5.3						
MOOW	Moose Ponds	126.03	23	ePKPdf	PKPdf	01 15 27.2	+1.6
MOOW				e		01 15 43.1	
MOOW				ePP	PP	01 17 12.9	-11
TPAW	Teton Pass	126.17	23	ePKPdf	PKPdf	01 15 27.6	+1.7
TPAW				e		01 15 43.3	
TPAW				ePP	PP	01 17 15.6	-9.4
SAO	San Andreas Ge	126.19	36	PFAKE		01 15 40.0	+14
SAO				LR	LR		
	comp=Z,696nm,19.0s,MS5.3						
LOHW	Long Hollow	126.20	23	ePKPdf	PKPdf	01 15 27.6	+1.6
LOHW				e		01 15 43.1	
LOHW				ePP	PP	01 17 23.6	-1.6
WUWY	Wally Ulrich	126.21	23	ePKPdf	PKPdf	01 15 27.6	+1.7
SNOW	Snow King Moun	126.27	23	ePKPdf	PKPdf	01 15 28.1	+2.0
SNOW				e		01 15 44.0	
LRV	Little Rabbit	126.67	36	ePKPdf	PKPdf	01 15 29.3	+2.3
LRV				e		01 15 44.1	
AHID	Auburn Hatcher	126.72	24	ePKPdf	PKPdf	01 15 28.6	+1.6
AHID				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
HVU	Hansel Valley	126.84	26	ePKPdf	PKPdf	01 15 28.6	+1.4
HVU				ePP	PP	01 17 23.6	-5.5
HVU				eSKP		01 19 01.6	
MNV	Mina	126.85	32	ePKIKP	PKPdf	01 15 29.2	+1.8
MNV				MLR	MLR		
	comp=Z,972nm,20.0s,MS5.5						
OMM	Old Mammoth Mi	126.99	34	ePKPdf	PKPdf	01 15 29.4	+1.8
BW06	Boulder Array	127.32	22	PFAKE		01 15 40.0	+12
BW06				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
SPUT	South Promonto	127.37	26	ePKPdf	PKPdf	01 15 29.4	+1.1
SPUT				ePP	PP	01 17 28.3	-4.3
MTUM	Tungsten Hills	127.41	34	ePKPdf	PKPdf	01 15 30.8	+2.3
BGU	Big Grassy Mou	127.42	26	ePKPdf	PKPdf	01 15 29.9	+1.5
HWUT	Hardware Ranch	127.50	25	ePKPdf	PKPdf	01 15 29.5	+1.0
HWUT				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
TPH	Tonopah	127.61	32	ePKIKP	PKPdf	01 15 31.1	+2.3
TPH				MLR	MLR		
	comp=Z,801nm,21.0s,MS5.4						
TCUT	Toone Canyon	127.97	25	ePKPdf	PKPdf	01 15 30.9	+1.4
RSSD	Black Hills	127.99	17	PFAKE		01 15 40.0	+11
RSSD				LR	LR		
	comp=Z,1.0nm,19.0s						
NOQ	North Oquirrh	128.05	26	ePKPdf	PKPdf	01 15 31.5	+1.9
JLU	Jordanelle	128.38	25	ePKPdf	PKPdf	01 15 31.4	+1.2
JLU				ePP	PP	01 17 34.0	-5.7
WVL	Waterville	128.47	346	PFAKE		01 15 40.0	+10
WVL				LR	LR		
	comp=Z,4µm,22.0s,MS6.1						
EFI	East Falkland	128.56	201	PFAKE		01 15 40.0	+10
EFI				LR	LR		
	comp=Z,308nm,19.0s,MS5.0						
DAU	Daniels Canyon	128.62	25	ePKIKP	PKPdf	01 15 32.8	+2.1
NLU	North Lily Min	128.64	26	ePKPdf	PKPdf	01 15 32.4	+1.6
DAC	Darwin (Calif)	128.73	34	ePKIKP	PKPdf	01 15 33.1	+2.1
DAC				MLR	MLR		
	comp=Z,789nm,19.0s,MS5.4						
MPU	Maple Canyon	128.78	26	ePKPdf	PKPdf	01 15 32.2	+1.2
MPU				ePP	PP	01 17 37.8	-4.8
MSNY	Massena	129.11	351	ePKPdf	PKPdf	01 15 32.4	+0.8
MSNY				e		01 15 47.8	
MSNY				eSKP		01 18 48.3	
RWWY	Rawlins	129.12	21	ePKPdf	PKPdf	01 15 33.0	+1.3
TMUT	Trail Mountain	129.56	26	ePKPdf	PKPdf	01 15 34.0	+1.5
TMUT				eSKP		01 18 49.0	
ARUT	Antelope Range	129.74	29	ePKPdf	PKPdf	01 15 33.8	+0.8
ARUT				ePP	PP	01 17 43.4	-5.2
ARUT				eSKP		01 18 51.3	
MVU	Marysvale	129.75	28	ePKPdf	PKPdf	01 15 35.5	+2.5
MVU				ePP	PP	01 17 43.5	-5.2
MVU				eSKP		01 18 50.5	
MVU				LR	LR		
	comp=Z,817nm,19.0s,MS5.4						
MSU	Marysvale	129.76	28	ePKIKP	PKPdf	01 15 34.5	+1.6
MSU				e		01 17 44.4	
MSU	Marysvale	129.76	28	ePKPdf	PKPdf	01 15 34.5	+1.6
MSU				e		01 15 51.7	
MSU				ePP	PP	01 17 44.4	-4.3
MSU				eSKP		01 18 51.4	
MIV	Mineville/With	129.77	349	ePKPdf	PKPdf	01 15 33.5	+0.7
MIV				ePP	PP	01 17 39.9	-8.7
MIV				eSKP		01 18 51.1	
MDV	Middlebury	129.78	349	ePKPdf	PKPdf	01 15 34.2	+1.4
MDV				eSKP		01 18 50.5	
NCB	Newcomb	130.00	350	ePKPdf	PKPdf	01 15 34.5	+1.3
NCB				eSKP		01 18 51.9	
NCB				LR	LR		
	comp=Z,746nm,20.0s,MS5.4						
SRU	San Rafael	130.01	26	ePKPpre		01 15 28.9	
SRU				ePKPdf	PKPdf	01 15 35.6	+2.2
SRU				eSKP		01 18 46.3	
PHWY	Pilot Hill	130.08	20	ePKPdf	PKPdf	01 15 34.4	+0.9
PHWY				e		01 15 50.4	
PHWY				ePP	PP	01 17 44.5	-6.1
PHWY				eSKP		01 18 51.6	
NEN	Nelson	130.68	32	ePKPdf	PKPdf	01 15 36.7	+1.9
NEN				e		01 15 52.7	
HRV	Harvard--Oak R	130.86	347	PFAKE		01 15 50.0	+15
HRV				LR	LR		
	comp=Z,950nm,20.0s,MS5.5						
WES	Weston	130.92	346	PFAKE		01 15 50.0	+15
WES				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
RCBR	Riachuelo	130.96	267	PFAKE		01 15 50.0	+14
RCBR				LR	LR		
	comp=Z,701nm,21.0s,MS5.3						
PV10	Paradox Valley	131.26	25	ePKPdf	PKPdf	01 15 37.2	+1.4
PFO	Pinyon Flat Ob	131.31	35	ePKIKP	PKPdf	01 15 38.1	+2.1
PFO				MLR	MLR		
	comp=Z,308nm,21.0s,MS5.0						
PFO	Pinyon Flat Ob	131.31	35	ePKPdf	PKPdf	01 15 38.1	+2.1
PFO				eSKP		01 18 56.2	
PFO				e		01 19 21.8	
PFO				LR	LR		
	comp=Z,308nm,21.0s,MS5.0						
ISCO	Idaho Springs	131.36	21	ePKIKP	PKPdf	01 15 37.1	+1.2
ISCO				e		01 17 54.3	
ISCO				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.7						
ISCO	Idaho Springs	131.36	21	ePKPdf	PKPdf	01 15 37.0	+1.1
ISCO				ePP	PP	01 17 54.3	-4.9
ISCO				eSKP		01 18 55.8	
ISCO				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
GENY	Geneseo	131.72	353	ePKPdf	PKPdf	01 15 36.6	+0.1
GENY				ePP	PP	01 17 49.8	-12
GENY				eSKP		01 18 57.6	
JFWS	Jewell Farm	131.82	5	ePKIKP	PKPdf	01 15 36.6	-0.1
JFWS				MLR	MLR		
	comp=Z,939nm,21.0s,MS5.5						
JFWS	Jewell Farm	131.82	5	ePKPdf	PKPdf	01 15 36.6	-0.1
JFWS				ePP	PP	01 17 50.2	-12
JFWS				eSKP		01 18 58.0	
JFWS				LR	LR		
	comp=Z,939nm,21.0s,MS5.5						
RW3	Ridgway	131.92	24	P	Pdif	01 12 42.2	+12
LSCT	Lakeside	132.02	348	PFAKE		01 15 50.0	+13
LSCT				LR	LR		
	comp=Z,5.0nm,19.0s						
BINY	Binghamton	132.02	351	ePKPdf	PKPdf	01 15 38.6	+1.5
BINY				e		01 15 53.3	
BINY				ePP	PP	01 17 54.8	-8.3
BINY				eSKP		01 18 57.7	
BINY				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
ERPA	Erie	132.60	355	PFAKE		01 15 50.0	+12
ERPA				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
AAM	Ann Arbor	132.64	358	PFAKE		01 15 50.0	+12
AAM				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
SDCO	Great Sand Dun	133.21	22	ePKPpre		01 15 32.8	
SDCO				ePKPdf	PKPdf	01 15 41.0	+1.5
SDCO				ePP	PP	01 17 59.7	-11
SDCO				eSKP		01 19 01.5	
SDCO				e		01 21 21.1	
SDCO				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
SSPA	Standing Stone	133.83	352	ePKPdf	PKPdf	01 15 40.9	+0.3
SSPA				ePP	PP	01 18 04.1	-11
SSPA				eSKP		01 19 05.5	
SSPA				LR	LR		
	comp=Z,184nm,22.0s,MS4.8						
KSU1	Kansas State U	134.60	13	ePKPdf	PKPdf	01 15 42.6	+0.5
KSU1				eSKP		01 19 07.8	
ACSO	Alum Creek Sta	134.68	358	ePKPdf	PKPdf	01 15 42.5	+0.4
ACSO				eSKP		01 19 06.7	
ACSO				LR	LR		
	comp=Z,854nm,20.0s,MS5.5						
ANMO	Albuquerque	135.26	25	ePKHKP		01 15 30.1	
ANMO				e		01 15 45.4	
ANMO				e		01 18 17.9	
ANMO				MLR	MLR		
	comp=Z,1µm,19.0s						
ANMO	Albuquerque	135.26	25	ePKPpre		01 15 30.1	
ANMO				ePKPdf	PKPdf	01 15 45.4	+2.0
ANMO				ePP	PP	01 18 17.9	-5.8
ANMO				eSKP		01 19 09.7	
ANMO				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
TUC	Tucson	135.40	31	ePKIKP	PKPdf	01 15 45.2	+1.5
TUC				MLR	MLR		
	comp=Z,776nm,21.0s,MS5.4						
TUC	Tucson	135.40	31	ePKPdf	PKPdf	01 15 45.1	+1.5
TUC				eSKP		01 19 09.0	
TUC				LR	LR		
	comp=Z,776nm,21.0s,MS5.4						
LAZ	Ladron	135.43	26	ePKPdf	PKPdf	01 15 45.5	+1.8
LAZ				eSKP		01 19 11.4	
LENM	Lemitar	135.70	26	ePKPdf	PKPdf	01 15 46.3	+2.1
LENM				e		01 16 01.9	
LENM				eSKP		01 19 11.5	
LPM	Los Pinos Moun	135.73	26	ePKPdf	PKPdf	01 15 46.1	+1.9
LPM				eSKP		01 19 12.3	
BLO	Bloomington	135.77	1	ePKPdf	PKPdf	01 15 44.6	+0.5
BLO				ePP	PP	01 18 15.8	-11
BLO				eSKP		01 19 11.6	
BNM	Barren Site	135.87	26	ePKPdf	PKPdf	01 15 46.4	+1.9
BNM				eSKP		01 19 11.6	
CBN	Corbin	136.14	351	ePKPdf	PKPdf	01 15 46.5	+1.6
CBN				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
CCM	Cathedral Cave	136.53	7	ePKHKP		01 15 33.2	
CCM				e		01 15 45.4	
CCM				MLR	MLR		
	comp=Z,451nm,20.0s,MS5.2						
CCM	Cathedral Cave	136.53	7	ePKPpre		01 15 33.2	
CCM				ePKPdf	PKPdf	01 15 45.4	-0.2
CCM				ePP	PP	01 18 15.4	-16
CCM				eSKP		01 19 12.0	
CCM				LR	LR		
	comp=Z,451nm,20.0s,MS5.2						
FVM	French Village	136.69	6	ePKPpre		01 15 35.8	
FVM				ePKPdf	PKPdf	01 15 46.7	+0.8
FVM				eSKP		01 19 12.9	
WCI	Wyandotte Cave	136.71	1	ePKHKP		01 15 34.6	
WCI				e		01 15 46.9	
WCI				e		01 16 03.5	
WCI				MLR	MLR		
	comp=Z,325nm,22.0s,MS5.0						
WCI	Wyandotte Cave	136.71	1	ePKPpre		01 15 34.6	
WCI				ePKPdf	PKPdf	01 15 46.9	+0.9
WCI				e		01 16 03.5	
WCI				ePP	PP	01 18 15.2	-17
WCI				eSKP		01 19 13.4	
WCI				LR	LR		
	comp=Z,325nm,22.0s,MS5.0						
USIN	University of	136.93	3	ePKPdf	PKPdf	01 15 46.5	+0.2
USIN				eSKP		01 19 13.7	
AMTX	Amarillo	137.14	20	ePKPpre		01 15 38.1	
AMTX				ePKPdf	PKPdf	01 15 48.1	+1.3
AMTX				ePP	PP	01 18 22.3	-13
AMTX				eSKP		01 19 15.4	
AMTX				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
FWV	Forest Hill	137.18	355	ePKPpre		01 15 37.9	
FWV				ePKPdf	PKPdf	01 15 47.5	+0.7
FWV				eSKP		01 19 15.5	
PWV	Princeton	137.44	355	ePKPdf	PKPdf	01 15 48.4	+1.1
PWV				eSKP		01 19 15.6	
BLA	Blacksburg	137.51	354	PFAKE		01 16 00.0	+13
BLA				LR	LR		
	comp=Z,1µm,22.0s,MS5.6						
BBSR	BB Station	137.80	334	PFAKE		01 16 00.0	+12
BBSR				LR	LR		
	comp=Z,820nm,20.0s,MS5.5						
CPRX	Cap Rock	137.99	24	ePKPpre		01 15 38.5	
CPRX				ePKPdf	PKPdf	01 15 52.1	+3.6
CPRX				eSKP		01 19 18.6	
WMOK	Wichita Mounta	138.19	17	ePKHKP		01 15 37.8	
WMOK				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.6						
UTMT	University of	138.47	4	ePKPdf	PKPdf	01 15 51.0	+1.8
MNTX	Cornudas Mount	138.50	26	ePKPpre		01 15 40.7	
MNTX				ePP	PP	01 18 34.9	-9.2
MNTX				eSKP		01 19 19.5	
MNTX				LR	LR		
	comp=Z,905nm,20.0s,MS5.5						
GDL2	Guadalupe Moun	138.51	25	ePKPpre		01 15 40.4	
GDL2				ePKPdf	PKPdf	01 15 50.8	+1.4
GDL2				eSKP		01 19 20.0	
CLNB	Carlsbad	138.65	24	ePKPdf	PKPdf	01 15 49.3	-0.4
CLNB				e		01 16 05.9	
CLNB				ePP	PP	01 18 32.6	-12
CLNB				eSKP		01 19 20.2	
WVT	Waverly	138.75	3	ePKHKP		01 15 41.6	
WVT				e		01 15 50.8	
WVT				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.6						
WVT	Waverly	138.75	3	ePKPpre		01 15 41.6	
WVT				ePKPdf	PKPdf	01 15 50.8	+1.1
WVT				eSKP		01 19 20.1	
WVT				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
CPCT	Cooper Cave	139.49	359	ePKPdf	PKPdf	01 15 41.5	-10
CPCT				eSKP		01 15 52.7	
CPCT				eSKP		01 19 22.6	
UALR	University of	139.60	9	ePKPpre		01 15 42.8	
UALR				ePKPdf	PKPdf	01 15 52.6	+1.3
UALR				eSKP		01 19 22.3	
MIAR	Mount Ida	139.62	11	ePKHKP		01 15 42.5	
MIAR				e		01 15 53.1	
MIAR				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.6						
MIAR	Mount Ida	139.62	11	ePKPpre		01 15 42.5	
MIAR				ePKPdf	PKPdf	01 15 53.1	+1.8
MIAR				eSKP		01 19 22.7	
MIAR				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
MYNC	Murphy	139.86	359	PFAKE		01 16 00.0	+8.3
MYNC				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
JSC	Jenkinsville	140.49	355	ePKPpre		01 15 45.2	
JSC				ePKPdf	PKPdf	01 15 54.8	+1.9
JSC				ePP	PP	01 18 48.2	-7.7
JSC				eSKP		01 19 25.2	
TRQA	Tornquist	141.12	210	ePKPpre		01 15 47.9	
TRQA				ePKPdf	PKPdf	01 15 55.5	+1.5
TRQA				eSKP		01 19 25.9	
TRQA				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
LTX	Lajitas	141.28	26	ePKHKP		01 15 49.0	
LTX				e		01 15 56.6	
LTX				e		01 18 57.8	
LTX				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.7						
LTX	Lajitas	141.28	26	ePKPpre		01 15 49.0	
LTX				ePKPdf	PKPdf	01 15 56.5	+2.0
LTX				ePP	PP	01 18 57.8	-3.0
LTX				eSKP		01 19 27.8	
LTX				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
COW	Cow Castle Cre	141.33	354	ePKPpre		01 15 48.2	
COW				ePKPdf	PKPdf	01 15 56.1	+1.6
COW				ePP	PP	01 18 52.9	-8.2
COW				eSKP		01 19 26.1	
GOGA	Godfrey	141.50	358	ePKHKP		01 15 48.8	
GOGA				e		01 15 56.5	
GOGA				e		01 18 56.3	
GOGA				MLR	MLR		
	comp=Z,1µm,19.0s,MS5.6						
GOGA	Godfrey	141.50	358	ePKPpre		01 15 48.8	
GOGA				ePKPdf	PKPdf	01 15 56.5	+1.7
GOGA				ePP	PP	01 18 56.3	-5.7
GOGA				eSKP		01 19 25.4	
GOGA				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
NHSC	New Hope	141.54	353	PFAKE		01 16 10.0	+15
NHSC				LR	LR		
	comp=Z,1µm,21.0s,MS5.6						
HBF	Harts Bluff	141.74	353	ePKPpre		01 15 49.1	
HBF				ePKPdf	PKPdf	01 15 57.5	+2.3
HBF				ePP	PP	01 18 58.4	-5.0
HBF				eSKP		01 19 29.1	
JCT	Junction City	141.80	21	ePKHKP		01 15 50.5	
JCT				e		01 15 57.2	
JCT				MLR	MLR		
	comp=Z,1µm,21.0s,MS5.7						
JCT	Junction City	141.80	21	ePKPpre		01 15 50.5	
JCT				ePKPdf	PKPdf	01 15 57.2	+1.9
JCT				eSKP		01 19 27.7	
JCT				LR	LR		
	comp=Z,1µm,21.0s,MS5.7						
LRAL	Lakeview Retre	141.87	2	ePKPpre		01 15 49.7	
LRAL				ePKPdf	PKPdf	01 15 55.9	+0.4
LRAL				ePP	PP	01 18 54.1	-10
LRAL				eSKP		01 19 27.2	
LRAL				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
BAO	Brasilia Array	142.07	251	P	PKPdf	01 15 53.8	-2.4
BAO				i		01 15 58.9	
BAO				i		01 16 06.9	
BAO				e		01 16 11.4	
BAO				e		01 19 29.4	
NATX	Nacogdoches	142.09	13	ePKPpre		01 15 52.2	
NATX				eSKP		01 19 29.0	
NATX				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
HKT	Hockley	143.52	16	ePKIKP	PKPdf	01 15 55.9	-2.4
HKT				e		01 19 09.5	
HKT				MLR	MLR		
	comp=Z,295nm,19.0s,MS5.1						
HKT	Hockley	143.52	16	ePKPpre		01 15 55.9	
HKT				ePP	PP	01 19 09.5	-4.8
HKT				eSKP		01 19 32.3	
HKT				e		01 20 04.0	
HKT				LR	LR		
	comp=Z,295nm,19.0s,MS5.1						
CPUP	Villa Florida	146.14	229	PKPbc	PKPbc	01 16 05.1	+1.0
DWPF	Disney	146.62	354	ePKPbc	PKPbc	01 16 06.9	+1.7
DWPF				LR	LR		
	comp=Z,354nm,19.0s,MS5.2						
FCH	Farellones	148.83	205	i P	PKPdf	01 16 13.1	+5.9
CLCH	Cerro Calan	148.87	204	eP	PKPdf	01 16 12.2	+5.0
MVM	Montagne Vaucl	148.88	310	eP

TEIG				LR	LR		
	comp=Z,362nm,20.0s,MS5.2						
LVC	**Limon Verde**	**156.66**	**221**	*e*PKPdf	PKPdf	01 16 21.4	+2.7
LVC				LR	LR		
	comp=Z,993nm,22.0s,MS5.6						
SDV	**Santo Domingo**	**159.79**	**314**	*e*PKPdf	PKPdf	01 16 23.7	+1.0
SDV				LR	LR		
	comp=Z,717nm,22.0s,MS5.5						
ARE	**Arequipa**	**162.56**	**229**	*e*P	PKPdf	01 16 29.0	+3.6
JTS	**JuntasAbangare**	**164.54**	**359**	*e*PKIKP	PKPdf	01 16 27.1	-0.3
JTS				*e*		01 17 20.8	
JTS				MLR	MLR		
	comp=Z,189nm,21.0s						
OTAV	**Otavalo**	**171.33**	**309**	*e*PKPdf	PKPdf	01 16 34.2	+2.1
OTAV				*e*PKPab	PKPab	01 17 55.5	+0.8
OTAV				LR	LR		
	comp=Z,1μm,22.0s						

BER ***06*** *01:01:23.9±3.9, 73.19N×6.11E, h23km±58km, MD3.2, ML2.5, ML2.7(NAO)*
CSEM ***06*** *01:01:23.4±0.9, 73.09N×6.13E, h35km, ML2.5, Error ellipse: s-maj=29.3km s-min=10.4km az=78.0*
NAO ***06*** *01:01:24.0±7.8, 73.34N×7.27E, ML2.7*
ISC 06 01:01:18.2±1.5, 73.02N±0.07×6.5E±0.4, h10km, n11, σ1§42/16, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRO	**Tromso**	**5.24**	**124**	*e*P	**Pn**	**01 02 40.0**	**+1.4**
TRO				*e*S	**Sn**	**01 03 36.2**	**-3.7**
TRO				AML	AML	01 03 40.9	
	comp=Z,9.8nm,0.4s						
LOF	**Lofoten**	**5.44**	**151**	*e*P	**Pn**	**01 02 45.4**	**+3.9**
LOF				*e*S	**Sn**	**01 03 43.9**	**-0.9**
LOF	**Lofoten**	**5.44**	**151**	*e*Pn	**Pn**	**01 02 45.3**	**+3.9**
	SNR=53						
LOF				*e*Sn	**Sn**	**01 03 43.9**	**-1.0**
	SNR=53						
SPA0	**Spitsbergen Ar**	**5.74**	**21**	Pn	**Pn**	**01 02 44.4**	**-1.2**
	baz=209,slow=16						
KTK1	**Kautokeino**	**6.77**	**118**	*e*P	**Pn**	**01 03 02.5**	**+2.4**
ARA0	**ARCESS Array S**	**7.03**	**110**	Pn	**Pn**	**01 03 05.5**	**+1.7**
	baz=310,slow=12						
ARA0				Sn	**Sn**	**01 04 23.9**	**-0.7**
	baz=308,slow=22						
ARA0	**ARCESS Array S**	**7.03**	**110**	Sn	**Sn**	**01 04 23.9**	**-0.7**
	SNR=1.8						
ARA0	**ARCESS Array S**	**7.03**	**110**	Pn	**Pn**	**01 03 05.4**	**+1.6**
	SNR=6.7						
MOR8	**Moi Rana**	**7.41**	**154**	*e*P	**Pn**	**01 03 09.8**	**+0.7**
MOR8				*e*S	**Sn**	**01 04 27.9**	**-6.2**
MOR8				AML	AML	01 04 32.5	
	comp=Z,7.2nm,0.3s						
NSS	**Namsos**	**8.75**	**164**	*e*P	**P**	**01 03 26.5**	**-1.3**
NSS				AML	AML	01 05 04.4	
	comp=Z,5.1nm,0.8s						
APA0	**Apatity Array**	**10.38**	**108**	Pn	**P**	**01 03 49.1**	**-0.9**
	baz=332,slow=10						

BJI ***06*** *01:04:14.8, 0.52N×125.98E, h35km, mB5.5, mb4.9, Ms5.3, Msz4.9*
HRVD ***06*** *01:04:22.4±0.9, 1.43N×125.87E, h27km±2km, MW5.5/27, Centroid moment Tensor Solution. LP body waves: s8,c11;Mantle waves: s27,c33; Half duration: 1§2 Moment tensor: Scale 10^17^Nm; Mrr0.29±.13; Mθθ-0.22±.08; Mφφ-0.07±.12; Mrθ1.25±.21; Mθφ0.08±.10; Mφr-1.54±.25; Best double couple: M0 2.001×10^17^ NP1: φs285°, δ4°, λ55°. NP2:φs141°, δ86°, λ93°. Principal axes: T 2.044, Plg49°, Azm53°; N -.086, Plg3°, Azm320°; P -1.958, Plg41°, Azm228°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***06*** *01:04:22.4±0.4, 1.41N×125.77E, h35km, mb5.0/15 Error ellipse: s-maj=15.9km s-min=7.6km az=75.0*
ISC 06 01:04:29.8±1.1, 1.35N±0.06×125.8E±0.1, h121km±11km, n38, σ1§19/41, mb4.9/18, 2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**5.58**	**4**	*e*P	**P**	**01 05 52.9**	**+1.3**
KCP	**Kidapawan**	**5.67**	**353⇓**	*e*P	**P**	**01 05 51.7**	**-1.1**
BUKP	**Musuan**	**6.53**	**353**	*e*P	**P**	**01 06 04.3**	**-0.3**
BUKP				*e*S	**S**	**01 07 19.4**	**+1.3**
PAGZ	**Pagadian**	**6.90**	**339**	*e*P	**P**	**01 06 04.8**	**-4.8**
IPIL	**Ipil**	**7.17**	**333**	*e*P	**P**	**01 06 09.1**	**-4.2**
BUTP	**Butuan**	**7.57**	**359**	*e*P	**P**	**01 06 22.7**	**+3.9**
MSLP	**Maasin**	**8.78**	**354**	*e*P	**P**	**01 06 34.2**	**-0.8**
CUYO	**Cuyo Island**	**10.57**	**333**	*e*P	**P**	**01 06 57.3**	**-1.8**
RCP	**Roxas**	**10.59**	**343⇓**	*e*P	**P**	**01 07 01.3**	**+2.0**
BATP	**Bataraza**	**10.88**	**313**	*e*P	**P**	**01 07 03.3**	**+0.2**
WRAB	**Tennant Creek**	**22.75**	**159**	*e*P	**P**	**01 09 22.0**	**-0.4**
	113nm,0.9s,mb5.2						
WB2	**Warramunga Arr**	**22.76**	**159**	*e*P	**P**	**01 09 22.8**	**+0.3**
WB2				*e*S	**S**	**01 13 24.5**	**+6.3**
MBWA	**Marble Bar**	**23.15**	**195**	*e*P	**P**	**01 09 26.0**	**-0.3**
	22nm,1.0s,mb4.5						
PMG	**Port Moresby**	**23.79**	**117**	*e*P	**P**	**01 09 32.5**	**0.0**
	46nm,1.2s,mb4.7						
ASPA	**Alice Springs**	**26.08**	**163**	*e*P	**P**	**01 09 53.8**	**-0.2**
NJ2	**Nanjing**	**31.24**	**349**	*e*P	**P**	**01 10 41.1**	**+0.9**
NJ2				AP	pP	01 10 50.5	-16
NJ2				XP	sP	01 10 54.5	-26
NJ2				PP	PP	01 11 43.2	-4.1
NJ2				AMB	AMB		
	comp=Z,60nm,1.4s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,910nm,10.0s						
NJ2				LR	LR		
	comp=N,4μm,14.0s						
NJ2				LR	LR		
	comp=E,4μm,15.4s						
NJ2				LR	LR		
	comp=Z,6μm,17.0s						
KS15	**Wonju Array Si**	**35.97**	**3**	P	**P**	**01 11 23.1**	**+2.5**
STKA	**Stephens Creek**	**36.27**	**157**	*e*P	**P**	**01 11 23.0**	**-0.2**
MAJO	**Matsushiro**	**36.85**	**17**	*e*P	**P**	**01 11 26.7**	**-1.3**
	comp=Z,13nm,0.9s,mb4.8						
MAT	**Matsushiro**	**36.85**	**17**	*e*P	**P**	**01 11 27.0**	**-1.0**
MAT	**Matsushiro**	**36.85**	**17**	P	**P**	**01 11 26.8**	**-1.2**
BJT	**Baijiatuau**	**39.48**	**348**	*e*P	**P**	**01 11 48.8**	**-1.1**
	comp=Z,22nm,1.2s,mb4.9						
MDJ	**Mudanjiang**	**43.21**	**4**	P	**P**	**01 12 21.6**	**+1.2**
MDJ				AMB	AMB		
	comp=Z,19nm,1.8s,mb4.5						
MDJ	**Mudanjiang**	**43.21**	**4**	*e*P	**P**	**01 12 20.6**	**+0.1**
	comp=Z,22nm,1.1s,mb4.8						
LSA	**Lhasa**	**43.37**	**314**	P	**P**	**01 12 22.0**	**+0.1**
	comp=Z,35nm,1.3s,mb4.9						
HIA	**Hailar**	**48.02**	**355**	*e*P	**P**	**01 12 58.5**	**+0.1**
	comp=Z,48nm,1.2s,mb5.2						
ULN	**Ulaanbaatar**	**49.10**	**343**	*e*P	**P**	**01 13 04.7**	**-2.1**
	comp=Z,8.7nm,1.0s,mb4.6						
HYB	**Hyderabad**	**49.11**	**292**	*e*P	**P**	**01 13 07.0**	**-0.2**
	comp=Z,7.1nm,1.2s,mb5.5						
HYB	**Hyderabad**	**49.11**	**292**	*i* P	**P**	**01 13 07.0**	**-0.2**
	comp=Z,7.1nm,1.2s,mb5.5						
WMQ	**Urumqi**	**54.17**	**327**	*e*P	**P**	**01 13 45.8**	**+1.0**
WMQ				AP	pP	01 13 55.9	-18
WMQ				XP	sP	01 13 59.8	-27
WMQ				PP	PP	01 15 48.8	-0.3
WMQ				S	**S**	**01 21 18.4**	**+8.0**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,71nm,6.2s						
WMQ				LR	LR		
	comp=N,958nm,21.2s						
WMQ				LR	LR		
	comp=E,875nm,23.4s						
WMQ				LR	LR		
	comp=Z,1μm,22.4s						
MA2	**Magadan**	**61.22**	**14**	*e*P	**P**	**01 14 34.8**	**+0.7**
	comp=Z,28nm,1.1s,mb5.2						
BRVK	**Borovoye**	**68.89**	**328**	P	**P**	**01 15 22.6**	**-0.8**
CHKZ	**Chkalovo**	**69.01**	**328**	P	**P**	**01 15 23.1**	**-1.0**
ARU	**Arti**	**76.46**	**328**	P	**P**	**01 16 05.4**	**-2.2**
	comp=Z,27nm,1.3s,mb4.8						
MAW	**Mawson**	**81.22**	**200**	*e*P	**P**	**01 16 35.4**	**+2.1**
	comp=Z,10nm,1.1s,mb4.6						
MALT	**Malatya**	**87.12**	**308**	*e*P	**P**	**01 17 04.3**	**+0.8**
	comp=Z,12nm,1.0s,mb4.8						
KMBO	**Kilima Mbogo**	**88.59**	**269**	*e*P	**P**	**01 17 14.1**	**+3.0**
	comp=Z,23nm,1.2s,mb5.1						
KAF	**Kangasniemi**	**93.27**	**332**	*e*p	**P**	**01 17 25.6**	**-6.0**
	comp=Z,5.5nm,0.8s,mb4.9						

NEIC ***06*** *01:10:02.9±1.0, 5.19N×94.76E, h30km, mb4.7/12, Error ellipse: s-maj=29.9km s-min=13.0km az=53.0*
ISC 06 01:10:01.0±1.1, 5.2N±0.2×94.8E±0.2, h30km, n20, σ0§89/20, mb4.7/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**23.80**	**341**	*e*P	**P**	**01 15 12.0**	**-0.3**
	16nm,0.3s,mb4.9						
PKI	**Pulchoki**	**23.99**	**339**	*e*P	**P**	**01 15 13.0**	**-1.1**
	16nm,0.7s,mb4.5						
GUN	**Gumba**	**24.14**	**340**	*e*P	**P**	**01 15 15.4**	**-0.2**
	51nm,1.0s,mb4.9						
KKN	**Kakani**	**24.23**	**339**	*e*P	**P**	**01 15 16.2**	**-0.3**
LSA	**Lhasa**	**24.62**	**352**	*e*P	**P**	**01 15 22.3**	**+2.0**
	20nm,0.5s,mb4.9						
GKN	**Gorkha**	**24.66**	**338**	*e*P	**P**	**01 15 21.3**	**+0.7**
	21nm,0.3s,mb5.1						
KOLN	**Koldanda**	**24.86**	**336**	*e*P	**P**	**01 15 23.4**	**+0.9**
	47nm,0.7s,mb5.1						
ENH	**Enshi**	**28.54**	**27**	*e*P	**P**	**01 15 55.4**	**-1.0**
	29nm,1.2s,mb4.9						
BJT	**Baijiatuau**	**39.67**	**26**	*e*P	**P**	**01 17 34.1**	**+2.0**
	11nm,0.7s,mb4.7						
AAK	**Ala-Archa**	**41.41**	**337**	*e*P	**P**	**01 17 46.6**	**+0.2**
	5.4nm,0.8s,mb4.2						
ULN	**Ulaanbaatar**	**43.80**	**12**	*e*P	**P**	**01 18 05.4**	**-0.4**
	3.9nm,0.6s,mb4.3						
KS15	**Wonju Array Si**	**44.07**	**39**	P	**P**	**01 18 00.6**	**-7.7**
WRAB	**Tennant Creek**	**46.21**	**124**	*e*P	**P**	**01 18 26.4**	**+0.9**
	20nm,0.6s,mb5.2						
CHKZ	**Chkalovo**	**52.21**	**342**	*e*P	**P**	**01 19 11.1**	**-0.3**
	14nm,0.5s,mb5.2						
PMG	**Port Moresby**	**54.16**	**105**	P	**P**	**01 19 26.2**	**0.0**
	4.8nm,0.6s,mb4.6						
CTAO	**Charters Tower**	**56.45**	**118**	*e*P	**P**	**01 19 42.3**	**-0.5**
	6.3nm,0.9s,mb4.7						
ARU	**Arti**	**58.60**	**337**	*e*P	**P**	**01 19 56.9**	**-0.5**
	5.8nm,1.0s,mb4.6						
MA2	**Magadan**	**68.84**	**27**	P	**P**	**01 21 03.2**	**-1.4**
	5.2nm,0.9s,mb4.5						
KAF	**Kangasniemi**	**75.46**	**333**	*e*p	**P**	**01 21 38.3**	**-5.5**
	3.4nm,0.9s,mb4.3						
KHC	**Kasperske Hory**	**80.35**	**319**	*e*P	**P**	**01 22 11.0**	**0.0**

WEL 06 01:12:10.5±0.6, 37.31S×179.99W, h33km, ML3.7/2, Error ellipse: s-maj=5.9km s-min=5.2km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.38**	**259**	PN	Pn	01 12 32.8	-1.0
MXZ				*e*SN	Sn	01 12 49.1	-2.0
MXZ				SN	Sn	01 12 49.2	-1.9
PUZ	**Puketiti**	**1.59**	**241**	PN	Pn	01 12 35.9	-0.8
PUZ				*e*SN	Sn	01 12 55.4	-1.0
PUZ				*e*SN	Sn	01 12 55.4	-1.0
URZ	**Urewera**	**2.49**	**247**	PN	Pn	01 12 48.6	-1.1
URZ				*e*SN	Sn	01 13 16.4	-2.9
KNZ	**Kokohu**	**2.52**	**226**	PN	Pn	01 12 48.0	-2.1

MAN 06 01:27:14.6, 10.41N×126.60E, h4km, mb4.3, ML3.1, MS2.9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.26**	**240**	*e*P	Pb	01 27 36.9	-1.7
SCPH				*e*S	Sb	01 27 52.3	-2.7
BESP	**Borongan**	**1.64**	**316**	*e*P	Pn	01 27 43.7	-0.7
BUTP	**Butuan**	**1.73**	**214**	*e*P	Pn	01 27 45.2	-0.4
MSLP	**Maasin**	**1.73**	**261**	*e*P	Pn	01 27 45.6	-0.2
MSLP				*e*S	Sn	01 28 08.8	+0.2
TBP	**Tagbilaran**	**2.79**	**255**	*e*P	Pn	01 28 01.8	+1.0
BUKP	**Musuan**	**2.94**	**211**	*e*P	Pn	01 28 03.1	+0.1

DJA 06 01:38:09.0±0.9, 9.65S×114.09E, h15km, MD4.5/2, ML4.2/4, 3C-1D, Error ellipse: s-maj=19.4km s-min=10.4km az=32.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.17**	**3⇑**	*e*Pn	Pn	01 38 28.0	-2.8
	158nm,0.1s						
SRDI				*e*Sn	Sn	01 38 41.9	-4.5
KELI	**Kelakatan**	**1.48**	**16⇑**	*e*Pn	Pn	01 38 33.2	-2.1
	254nm,0.2s						
KELI				*e*Sn	Sn	01 38 50.2	-4.2
RATI	**Rata**	**1.70**	**57⇓**	*e*Pn	Pn	01 38 35.5	-2.9
	405nm,0.2s						
RATI				*e*Sn	Sn	01 38 54.9	-5.0
KEDI	**Kedomdong**	**2.31**	**60⇑**	*e*Pn	Pn	01 38 44.3	-2.9
	64nm,0.2s						
KEDI				*e*Sn	Sn	01 39 10.6	-4.9

BJI ***06*** *01:50:14.5, 11.63N×92.75E, h42km, mB4.7, mb4.4, Ms4.5, Msz4.2*
NEIC ***06*** *01:50:20.9±2.6, 12.16N×92.96E, h42km±27km, mb4.6/14, Error ellipse: s-maj=20.1km s-min=17.2km az=221.0*
ISC 06 01:50:18.9±1.9, 12.08N±0.08×92.93E±0.09, h44km±18km, n32, σ1§31/35, mb4.6/15, MS4.5/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BWNR	**Bhubaneshwar**	**10.65**	**321**	*e*P	**P**	**01 52 46.4**	**-5.5**
BWNR				*e*S	**S**	**01 54 34.6**	**-16**
BWNR				*e*		01 54 40.7	
	comp=E,614nm,0.4s						
BWNR				*e*		01 54 40.7	
	comp=N,352nm,0.4s						
VIS	**Vishakhapatnam**	**10.84**	**302**	*e*P	**P**	**01 52 51.3**	**-3.1**
VIS				*e*S	**S**	**01 54 41.7**	**-14**
VIS				*e*		01 54 47.8	
	comp=N,123nm,0.5s						
VIS				*e*		01 54 47.9	
	comp=E,58nm,0.3s						
PALK	**Pallekele**	**12.96**	**249**	P	**P**	**01 53 23.0**	**0.0**
	comp=E,22nm,1.0s						
HYB	**Hyderabad**	**14.88**	**293**	*e*P	**P**	**01 53 49.0**	**+0.9**
HYB	**Hyderabad**	**14.88**	**293**	*i* P	**P**	**01 53 49.0**	**+0.9**
NGP	**Nagpur**	**16.06**	**306**	*e*P	**P**	**01 54 04.5**	**+1.2**
NGP				*e*		01 56 45.4	
JIRN	**Jiri**	**16.74**	**339**	*e*P	**P**	**01 54 11.5**	**-0.3**
	comp=E,9.3nm,0.4s						
PKI	**Pulchoki**	**16.95**	**337**	*e*P	**P**	**01 54 14.8**	**+0.4**
	comp=E,3.6nm,0.2s						
GUN	**Gumba**	**17.08**	**338**	*e*P	**P**	**01 54 16.3**	**+0.3**
	comp=E,14nm,0.5s						
DMN	**Daman**	**17.10**	**336**	*e*P	**P**	**01 54 16.9**	**+0.6**
	comp=E,31nm,0.8s						
LSA	**Lhasa**	**17.61**	**355**	P	**P**	**01 54 23.3**	**+0.6**
	comp=E,20nm,1.6s						
GKN	**Gorkha**	**17.64**	**335**	*e*P	**P**	**01 54 23.1**	**0.0**
	comp=E,14nm,0.3s						
KOLN	**Koldanda**	**17.89**	**332**	*e*P	**P**	**01 54 26.1**	**-0.1**
	comp=E,29nm,0.8s						
BHPL	**Bhopal**	**18.46**	**309**	*e*P	**P**	**01 54 30.8**	**-2.5**
BHPL				*e*		01 54 31.4	
	comp=Z,4.7nm,0.2s						
BHPL				*e*		01 58 04.2	
POO	**Poona**	**19.48**	**292**	*e*P	**P**	**01 54 47.0**	**+2.0**
DDI	**Dehra Dun**	**22.80**	**325**	*e*	**P**	**01 55 30.4**	**+12**
ENH	**Enshi**	**23.74**	**38**	*e*P	**P**	**01 55 27.1**	**-0.9**
	comp=Z,24nm,1.0s,mb4.6						
LZH	**Lanzhou**	**25.86**	**21**	*e*P	**P**	**01 55 52.5**	**+4.3**
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
WMQ	**Urumqi**	**31.95**	**353**	*e*P	**P**	**01 56 43.9**	**+1.1**
WMQ				AP	pP	01 56 54.9	+0.2
WMQ				XP	sP	01 57 00.3	0.0
WMQ				PP	PP	01 57 50.7	+1.1
WMQ				S	**S**	**02 01 50.5**	**+0.7**
WMQ				XS		02 02 10.8	
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,21nm,4.6s						
WMQ				LR	LR		
	comp=N,812nm,18.1s,MS4.6						
WMQ				LR	LR		
	comp=E,711nm,19.5s,MS4.6						
WMQ				LR	LR		
	comp=Z,845nm,18.2s,MS4.5						
AAK	**Ala-Archa**	**34.40**	**336**	P	**P**	**01 57 01.7**	**-2.3**
	comp=Z,9.1nm,1.1s,mb4.6						
HIA	**Hailar**	**43.20**	**26**	P	**P**	**01 58 18.9**	**+1.6**
BRVK	**Borovoye**	**44.71**	**341**	*e*P	**P**	**01 58 28.5**	**-0.9**
	comp=Z,3.9nm,0.9s,mb4.2						
CHKZ	**Chkalovo**	**45.13**	**341**	*e*P	**P**	**01 58 32.1**	**-0.7**
	comp=Z,8.3nm,0.7s,mb4.7						
MAJO	**Matsushiro**	**47.35**	**51**	P	**P**	**01 58 51.2**	**+0.7**
	comp=Z,6.3nm,0.8s,mb4.6						
GNI	**Garni**	**50.70**	**312**	*e*P	**P**	**01 59 18.5**	**+2.2**
	comp=Z,31nm,1.3s,mb5.1						
ARU	**Arti**	**51.58**	**336**	*e*P	**P**	**01 59 20.2**	**-2.5**
	comp=Z,6.6nm,1.2s,mb4.4						
WRAB	**Tennant Creek**	**51.71**	**128**	*e*P	**P**	**01 59 23.1**	**-1.1**
	comp=Z,6.1nm,0.7s,mb4.6						
KIV	**Kislovodsk**	**53.44**	**316**	*e*P	**P**	**01 59 36.9**	**+0.1**
	comp=Z,20nm,1.2s,mb4.9						
MALT	**Malatya**	**54.89**	**308**	P	**P**	**01 59 44.0**	**-3.5**
	comp=Z,4.1nm,1.1s,mb4.4						
PMG	**Port Moresby**	**57.97**	**109**	*e*P	**P**	**02 00 11.0**	**+1.3**
	comp=Z,11nm,0.9s,mb4.9						
MA2	**Magadan**	**63.64**	**29**	*e*P	**P**	**02 00 46.2**	**-1.4**
	comp=Z,5.3nm,0.7s,mb4.7						
BRG	**Berggiesshubel**	**73.78**	**320**	P	**P**	**02 01 51.5**	**+1.1**
	comp=Z,5.0nm,1.0s,mb4.4						

NEIC ***06*** *01:56:55.4, 27.94S×72.00W, h107km, After GUC.*
GUC 06 01:56:55.4±0.9, 27.94S×72.00W, h107km±41km, ML4.3, 3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**1.27**	**121⇓**	*i* P	P	01 57 19.6	0.0
VACH				*i* S	S	01 57 37.7	-0.2
VACH				AMP		01 57 37.8	
	comp=E,4μm,0.1s						
CPCH	**Copiapo**	**1.57**	**69⇓**	*i* P	P	01 57 23.5	+0.2
CPCH				*i* S	S	01 57 44.2	0.0
CPCH				AMP		01 57 47.6	
	comp=E,9μm,0.1s						
TLL	**Tololo Astrono**	**2.46**	**155⇓**	*i* P	P	01 57 35.7	+0.8
TLL				AMP		01 58 11.9	
	comp=N,488nm,0.3s						
CMCH	**Combarbala**	**3.34**	**165**	*i* P	P	01 57 46.6	-0.3
CMCH				AMP		01 58 23.7	
	comp=N,750nm,0.5s						
CPN1	**Cerro Paranal**	**3.59**	**24**	*i* P	P	01 57 50.2	-0.1
CPN1				*i* S	S	01 58 32.3	+0.2
ILCH	**Illapel**	**3.76**	**169**	AMP		01 58 41.0	
	comp=N,232nm,0.7s						
PTCH	**Petorca**	**4.41**	**168**	*i* S	S	01 58 50.1	-2.0

BJI ***06*** *02:07:04.4, 5.60N×93.30E, h30km, mb4.4*
NEIC ***06*** *02:07:04.5±0.7, 5.62N×93.32E, h30km, mb4.5/8, Error ellipse: s-maj=26.4km s-min=13.7km az=48.0*
ISC 06 02:07:02.8±0.7, 5.5N±0.1×93.2E±0.1, h30km, n28, σ1§13/28, mb4.5/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDRS	**Chennai**	**14.81**	**302**	*i* P	**P**	**02 10 30.7**	**-1.5**
MDRS				AMb	AMB	02 10 31.4	
	comp=Z,28nm,0.1s						
VIS	**Vishakhapatnam**	**15.53**	**323**	*e*P	**P**	**02 10 39.7**	**-1.8**
VIS				*e*		02 13 15.9	
VIS				*i*		02 13 21.3	
BWNR	**Bhubaneshwar**	**16.39**	**335**	*e*	**P**	**02 10 47.1**	**-5.4**
BWNR				*i* P		02 10 49.7	
HYB	**Hyderabad**	**18.59**	**311**	*e*P	**P**	**02 11 19.5**	**-0.5**
HYB	**Hyderabad**	**18.59**	**311**	*i* P	**P**	**02 11 19.5**	**-0.5**
SHL	**Shillong**	**20.04**	**357**	*e*P	**P**	**02 11 34.0**	**-2.4**
POO	**Poona**	**22.89**	**306**	*e*S	**S**	**02 16 15.9**	**+7.2**
JIRN	**Jiri**	**23.06**	**344**	*e*P	**P**	**02 12 08.3**	**+1.4**
	comp=Z,8.2nm,0.6s,mb4.3						
PKI	**Pulchoki**	**23.20**	**342**	*e*P	**P**	**02 12 08.2**	**-0.1**
DMN	**Daman**	**23.33**	**342**	*e*P	**P**	**02 12 09.3**	**-0.2**
GUN	**Gumba**	**23.38**	**344**	*e*P	**P**	**02 12 11.1**	**+1.1**
KKN	**Kakani**	**23.45**	**342**	*e*P	**P**	**02 12 10.9**	**+0.3**
	comp=Z,15nm,0.7s,mb4.5						
GKN	**Gorkha**	**23.84**	**341**	*e*P	**P**	**02 12 15.4**	**+0.9**
	comp=Z,47nm,1.0s,mb4.9						
KOLN	**Koldanda**	**23.98**	**339**	*e*P	**P**	**02 12 17.0**	**+1.1**
	comp=Z,25nm,0.7s,mb4.8						
MBWA	**Marble Bar**	**37.13**	**136**	P	**P**	**02 14 12.8**	**-0.1**
	comp=Z,10.0nm,1.1s,mb4.6						
UCH	**Uchtor**	**40.20**	**338**	P	**P**	**02 14 39.3**	**+1.0**
	SNR=8.0						
KBK	**Karagaybulak**	**40.42**	**339**	P	**P**	**02 14 41.3**	**+1.2**
	SNR=10						
AML	**Almayashu**	**40.42**	**338**	P	**P**	**02 14 41.3**	**+1.2**
	SNR=12						
EKS2	**Erkin-Say**	**40.85**	**338**	P	**P**	**02 14 44.2**	**+0.7**
	SNR=5.6						
USP	**Ospenovka**	**41.11**	**339**	P	**P**	**02 14 46.1**	**+0.4**
	SNR=8.8						
ULN	**Ulaanbaatar**	**43.90**	**13**	*e*P	**P**	**02 15 07.8**	**-0.6**
	comp=Z,1.9nm,0.7s,mb3.9						
WRAB	**Tennant Creek**	**47.71**	**123**	*e*P	**P**	**02 15 38.5**	**-0.7**
	comp=Z,14nm,0.9s,mb5.0						
BRVK	**Borovoye**	**51.03**	**342**	*e*P	**P**	**02 16 03.2**	**-0.9**
	comp=Z,4.9nm,0.9s,mb4.4						
CHKZ	**Chkalovo**	**51.47**	**343**	*e*P	**P**	**02 16 06.7**	**-0.8**
	comp=Z,5.2nm,0.5s,mb4.7						
CHKZ				*e*	pP	02 16 15.5	-1.2
CHKZ				*e*PcP	PcP	02 17 21.7	0.0
KMBO	**Kilima Mbogo**	**56.21**	**265**	*e*P	**P**	**02 16 44.8**	**+1.8**
	comp=Z,5.3nm,1.2s,mb4.5						
ARU	**Arti**	**57.74**	**338**	P	**P**	**02 16 50.1**	**-3.1**
	comp=Z,9.3nm,1.3s,mb4.7						
KAF	**Kangasniemi**	**74.50**	**333**	*e*p	**P**	**02 18 33.3**	**-6.7**
	comp=Z,3.5nm,0.9s,mb4.3						
KHC	**Kasperske Hory**	**79.08**	**319**	*e*P	**P**	**02 19 05.0**	**-0.9**

**DJA 06 02:23:55.8±0.9, 9.92S×117.27E, h33km, MD4.5/1, ML3.9/3, 1C-3D, Error

LCBS	La Ceiba	7.05	316	*e*P	Pn	03 00 04.4	-2.1
LFRS	El Faro	7.08	316	*e*P	Pn	03 00 05.0	-2.0
LFU	La Fuente	7.21	316	*e*P	Pn	03 00 07.2	-1.6
BOQS	Boqueron	7.31	315	*e*P	Pn	03 00 08.2	-2.0
SBLS	San Blas	7.63	314	*e*P	Pn	03 00 13.1	-1.5
SNJE	San Jose	7.63	314	*e*P	Pn	03 00 13.0	-1.7
RTR	El Retiro	7.68	314	*e*P	Pn	03 00 13.2	-2.2
RBDL	Robledal	7.86	315	*e*P	Pn	03 00 16.2	-1.6

JMA 06 03:15:49.1±0.1, 42.35N×143.11E, h49km±1km, M3.5, 3C-2D Broadband fault plane solution: P waves. NP1:φ=279°, δ41°, λ162°. NP2:φ=23°, δ78°, λ51°. Principal axes: T Plg43°, Azm255°; N Plg38°, Azm32°; P Plg23°, Azm142°; **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.27**	**255**	⇓P	P	03 15 57.8	-0.1
JNBK				*e*S	S	03 16 05.0	+0.8
JCH	**Churui**	**0.32**	**35**	⇑P	P	03 15 58.3	-0.1
JCH				S	S	03 16 05.7	+0.7
JEM	**Erimo**	**0.34**	**174**	P	P	03 15 58.6	+0.1
JBT2	**Biratori 2**	**0.70**	**308**	⇓P	P	03 16 03.0	+0.2
JOB	**Onbets**	**0.77**	**44**	⇑P	P	03 16 04.4	+0.6
JOB				*e*S	S	03 16 16.2	+1.6
JFR	**Furan**	**0.90**	**335**	P	P	03 16 04.6	-0.9
JFR				*e*S	S	03 16 16.6	-1.2
JAR	**Ashorobuto**	**1.06**	**27**	⇑P	P	03 16 07.5	-0.4
JAR				*e*S	S	03 16 21.4	-0.4
JEW	**Eniwo**	**1.32**	**292**	P	P	03 16 12.0	+0.4
JEW				*e*S	S	03 16 29.6	+1.3
JAB	**Ashibetsu**	**1.32**	**331**	P	P	03 16 11.9	+0.2
JAK	**Akkeshi**	**1.34**	**61**	P	P	03 16 11.0	-0.9

*BJI **06** 03:28:51.0, 52.60S×27.60E, h10km, mB5.7, mb5.7, Ms5.6, Msz5.2*
*HRVD **06** 03:28:51.0±0.2, 52.57S×28.05E, h22km±1km, MW5.6/60, Centroid moment Tensor Solution. LP body waves: s51,c93;Mantle waves: s60,c124; Half duration: 1±5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.19±.06; $M_{\theta\theta}$2.06±.06; $M_{\phi\phi}$-1.86±.06; $M_{r\theta}$-0.61±.10; $M_{\theta\phi}$1.68±.05; $M_{\phi r}$0.02±.10; Best double couple: $M_0$2.647×10^{17} NP1: φ=204°, δ78°, λ177°. NP2:φ=295°, δ87°, λ12°. Principal axes: T 2.789, Plg11°, Azm160°; N -.277, Plg78°, Azm311°; P -2.506, Plg6°, Azm69°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 03:28:51.0±0.3, 52.57S×27.61E, h10km, mb5.2/23 Error ellipse: s-maj=13.5km s-min=11.2km az=57.0*

ISC 06 03:28:51.4±4.3, 52.66S±0.06×27.8E±0.1, h16km±30km, n98, σ1§04/47, mb5.1/22, MS5.6/2, 12C-2D, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**17.32**	**166**	⇓Pn	**P**	**03 32 51.4**	**-2.2**
SYO	**Syowa Base**	**17.32**	**166**	⇓P	**P**	**03 32 52.7**	**-0.9**
SYO	**Syowa Base**	**17.32**	**166**	⇑Pn	**P**	**03 32 53.9**	**+0.3**
SUR	**Sutherland**	**20.90**	**343**	*e*P	**P**	**03 33 33.6**	**-1.7**
	517nm,1.3s						
MAW	**Mawson**	**22.54**	**145**	*e*P	**P**	**03 33 51.5**	**+0.1**
	164nm,1.2s,mb5.3						
MAW				*e*S	**S**	**03 37 51.0**	**-1.8**
SNAA	**Sanae**	**23.35**	**204**	*e*P	**P**	**03 34 00.5**	**+1.3**
	63nm,0.8s,mb5.1						
VNA2	**Neumayer--Watz**	**24.13**	**208**	⇑*i*P	**P**	**03 34 14.8**	**+7.9**
VNA1	**Neumayer--Stat**	**24.25**	**209**	⇑*i*P	**P**	**03 34 16.2**	**+8.2**
VNA1	**Neumayer--Stat**	**24.25**	**209**	⇑*i*	**P**	**03 34 22.5**	**+15**
VNA3	**Neumayer Olymp**	**24.94**	**208**	⇑*i*P	**P**	**03 34 20.8**	**+6.2**
VNA3	**Neumayer Olymp**	**24.94**	**208**	⇑*i*	**P**	**03 34 25.2**	**+11**
LSZ	**Lusaka**	**37.30**	**1**	*e*P	**P**	**03 36 00.9**	**-3.4**
	27nm,0.8s,mb5.1						
QSPA	**South Pole Qui**	**37.56**	**180**	⇑*i*P	**P**	**03 36 06.0**	**0.0**
	69nm,0.9s,mb5.4						
VNDA	**Vanda**	**47.00**	**168**	*e*P	**P**	**03 37 22.8**	**0.0**
	15nm,0.9s,mb4.9						
SBA	**Scott Base**	**47.33**	**169**	*e*P	**P**	**03 37 26.4**	**+1.0**
	39nm,0.9s,mb5.3						
EFI	**East Falkland**	**49.63**	**235**	P	**P**	**03 37 39.9**	**-3.6**
	79nm,1.2s,mb5.6						
MBAR	**Mbarara**	**51.93**	**4**	P	**P**	**03 37 55.9**	**-5.7**
	22nm,1.3s,mb4.9						
MBAR				*e*		03 38 05.8	
MBAR				*e*		03 38 16.0	
MBAR				*e*		03 40 01.6	
KMBO	**Kilima Mbogo**	**51.96**	**12**	*e*P	**P**	**03 38 03.1**	**+1.4**
	16nm,1.1s,mb4.8						
KMBO				*e*		03 40 02.4	
TRQA	**Tornquist**	**60.76**	**245**	*e*P	**P**	**03 39 03.2**	**-1.2**
	16nm,1.1s,mb5.1						
NWAO	**Narrogin (SRO)**	**64.25**	**111**	P	**P**	**03 39 27.0**	**-0.7**
CPUP	**Villa Florida**	**66.67**	**257**	P	**P**	**03 39 43.1**	**-0.2**
BAO	**Brasilia Array**	**69.14**	**271**	P	**P**	**03 39 59.8**	**+0.9**
BAO				*i*	pP	03 40 03.3	-0.7
BAO				*e*		03 40 09.9	
BAO				*e*		03 40 29.4	
RCBR	**Riachuelo**	**69.62**	**288**	*e*P	**P**	**03 40 01.0**	**-0.9**
	30nm,1.0s,mb5.2						
WHFO	**Wadi Hawf**	**73.80**	**26**	⇑P	**P**	**03 40 27.6**	**+0.9**
	SNR=7.6						
MBWA	**Marble Bar**	**74.59**	**105**	*e*P	**P**	**03 40 29.6**	**-1.6**
	8.6nm,0.8s,mb4.7						
PALK	**Pallekele**	**74.63**	**55**	*e*P	**P**	**03 40 30.7**	**-0.9**
	58nm,1.7s,mb5.2						
LVC	**Limon Verde**	**76.28**	**251**	*e*P	**P**	**03 40 37.3**	**-3.6**
	16nm,1.2s,mb4.8						
STKA	**Stephens Creek**	**78.00**	**127**	*e*P	**P**	**03 40 50.5**	**+0.3**
	8.2nm,0.7s,mb4.8						
WBK	**Wadi Bani Khal**	**79.71**	**29**	⇑P	**P**	**03 41 00.9**	**+1.1**
	SNR=6.2						
SMDO	**Samad**	**79.87**	**28**	⇑P	**P**	**03 41 00.8**	**+0.2**
	SNR=7.2						
HOQ	**Hoqain**	**80.16**	**27**	⇑P	**P**	**03 41 02.4**	**+0.3**
	SNR=7.2						
BIDO	**Bidbid**	**80.33**	**28**	⇑P	**P**	**03 41 04.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**80.43**	**107**	*e*P	**P**	**03 41 04.5**	**+0.8**
	11nm,0.8s,mb4.8						
FITZ				*e*		03 41 16.3	
ASPA	**Alice Springs**	**80.68**	**117**	*e*P	**P**	**03 41 05.1**	**+0.2**
POO	**Poona**	**81.33**	**44**	*e*P	**P**	**03 41 08.5**	**+0.2**
EIL	**Elat**	**82.22**	**6**	*e*P	**P**	**03 41 11.9**	**-0.9**
	16nm,0.9s,mb5.0						
HYB	**Hyderabad**	**82.40**	**48**	*i* P	**P**	**03 41 14.0**	**+0.1**
ARE	**Arequipa**	**82.61**	**253**	*e*P	**P**	**03 41 18.0**	**+3.0**
WB2	**Warramunga Arr**	**83.92**	**115**	*e*P	**P**	**03 41 21.6**	**-0.1**
WRAB	**Tennant Creek**	**83.93**	**115**	*e*P	**P**	**03 41 22.0**	**+0.2**
	15nm,0.9s,mb5.1						
KAKA	**Kakadu**	**88.66**	**109**	*e*P	**P**	**03 41 43.7**	**-1.3**
	9.3nm,0.5s,mb5.4						
CTAO	**Charters Tower**	**90.10**	**124**	*e*P	**P**	**03 41 53.4**	**+1.7**
	11nm,1.0s,mb5.1						
MALT	**Malatya**	**91.07**	**8**	P	**P**	**03 41 55.3**	**-0.5**
	19nm,1.3s,mb5.3						
DDI	**Dehra Dun**	**93.52**	**42**	*e*	**P**	**03 42 07.1**	**-0.2**
GNI	**Garni**	**93.59**	**13**	P	**P**	**03 42 02.7**	**-4.6**
	8.4nm,1.1s,mb5.1						
SHL	**Shillong**	**95.72**	**55**	*e*P	**P**	**03 42 17.8**	**+0.3**
OJC	**Ojcow**	**102.73**	**355**	*e*P		03 47 17.1	
TBI	**Tubuai**	**104.28**	**183**	*e*PP	PP	03 47 00.0	-17
TBI				*e*LR	LR	04 18 02.5	
	814nm,24.5s						
WMQ	**Urumqi**	**109.02**	**41**	PDIF	Pdif	03 43 17.6	+1.2
WMQ				PP	PP	03 47 53.7	+1.3
WMQ				SS	SS	04 03 06.7	-0.3
WMQ				LR	LR		
	comp=N,1μm,26.4s,MS5.4						
WMQ				LR	LR		
	comp=E,957nm,25.8s,MS5.4						
WMQ				LR	LR		
	comp=Z,1μm,26.3s,MS5.3						
NJ2	**Nanjing**	**115.35**	**70**	*e*PKP	PKPdf	03 47 29.9	-5.8
NJ2				XPKP		03 47 34.2	
NJ2				PP	PP	03 48 37.0	-1.0
NJ2				PKS	PKS	03 51 06.0	-1.6
NJ2				PP	PP		
	comp=Z,560nm,4.2s						
NJ2				LR	LR		
	comp=N,2μm,30.0s,MS5.8						
NJ2				LR	LR		
	comp=E,3μm,26.7s,MS5.8						
NJ2				LR	LR		
	comp=Z,3μm,28.0s,MS5.8						
HIA	**Hailar**	**127.77**	**56**	*e*PKPdf	PKPdf	03 48 03.2	+4.0
CPRX	**Cap Rock**	**140.41**	**260**	*e*PKPdf	PKPdf	03 48 16.6	-6.6
CPRX				*e*PP	PP	03 51 20.6	-1.3
BNM	**Barren Site**	**142.84**	**259**	PKPdf	PKPdf	03 48 24.4	-2.9
TUC	**Tucson**	**143.98**	**252**	*e*PKPdf	PKPdf	03 48 26.4	-2.9
TUC				*e*SKP		03 51 60.0	
TUC				*e*		03 52 09.4	
SDCO	**Great Sand Dun**	**144.57**	**264**	*e*PKPdf	PKPdf	03 48 27.6	-2.6
ISCO	**Idaho Springs**	**145.93**	**267**	*e*PKPdf	PKPdf	03 48 30.8	-1.6
PHWY	**Pilot Hill**	**146.73**	**269**	*e*PKPbc	PKPbc	03 48 31.7	+0.2
PV10	**Paradox Valley**	**147.11**	**262**	*e*PKPbc	PKPdf	03 48 35.4	+0.9
FCC	**Fort Churchill**	**147.64**	**304**	*e*PKPbc	PKPdf	03 48 34.5	-0.2
MA2	**Magadan**	**148.35**	**54**	*e*PKPbc	PKPdf	03 48 35.8	0.0
RES	**Resolute Bay**	**148.44**	**335**	*e*PKPbc	PKPdf	03 48 34.5	-1.0
SRU	**San Rafael**	**148.47**	**261**	*e*PKPbc	PKPdf	03 48 35.7	-0.9
NEN	**Nelson**	**148.72**	**252**	*e*PKPbc	PKPdf	03 48 38.7	+1.6
TMUT	**Trail Mountain**	**149.00**	**261**	*e*PKPdf	PKPdf	03 48 36.9	-0.6
TMUT				*e*PKPbc	PKPdf	03 48 39.7	+2.2
MSU	**Marysvale**	**149.08**	**259**	*e*PKPbc	PKPdf	03 48 37.8	+0.2
MVU	**Marysvale**	**149.10**	**259**	*e*PKPbc	PKPdf	03 48 37.3	-0.4
ARUT	**Antelope Range**	**149.36**	**257**	*e*PKPbc	PKPdf	03 48 42.6	+4.5
DGMT	**Dagmar**	**149.69**	**282**	*e*PKPbc	PKPdf	03 48 38.9	+0.6
MPU	**Maple Canyon**	**149.71**	**262**	*e*PKPbc	PKPdf	03 48 39.1	+0.6
DAU	**Daniels Canyon**	**149.72**	**263**	*e*PKPbc	PKPdf	03 48 39.2	+0.6
DAU				*e*PKPab	PKPab	03 48 45.6	-1.5
NLU	**North Lily Min**	**149.93**	**261**	*e*PKPbc	PKPdf	03 48 45.0	+6.1
JLU	**Jordanelle**	**149.96**	**263**	*e*PKPdf	PKPdf	03 48 37.5	-1.5
JLU				*e*PKPbc	PKPdf	03 48 42.5	+3.6
LAO	**LASA Array**	**150.09**	**277**	*e*PKPbc	PKPdf	03 48 42.9	+3.9
TCUT	**Toone Canyon**	**150.24**	**264**	*e*PKPbc	PKPdf	03 48 42.8	+3.4
HWUT	**Hardware Ranch**	**150.63**	**264**	*e*PKPbc	PKPdf	03 48 39.6	-0.3
FFC	**Flin Flon**	**150.72**	**294**	*e*PKPbc	PKPdf	03 48 45.6	+6.0
PET	**Petropavlovsk**	**150.76**	**69**	*e*PKP	PKPdf	03 48 38.0	-1.8
AHID	**Auburn Hatcher**	**151.01**	**267**	*e*PKPbc	PKPdf	03 48 43.7	+3.2
BGU	**Big Grassy Mou**	**151.10**	**262**	*e*PKPbc	PKPdf	03 48 45.0	+4.3
LOHW	**Long Hollow**	**151.18**	**269**	*e*PKPbc	PKPdf	03 48 41.7	+1.0
SNOW	**Snow King Moun**	**151.19**	**268**	*e*PKPbc	PKPdf	03 48 46.2	+5.5
WUWY	**Wally Ulrich**	**151.22**	**268**	*e*PKPbc	PKPdf	03 48 47.1	+6.3
TPAW	**Teton Pass**	**151.32**	**268**	*e*PKPbc	PKPdf	03 48 41.5	+0.6
MOOW	**Moose Ponds**	**151.34**	**269**	*e*PKPdf	PKPdf	03 48 39.2	-1.7
IMW	**Indian Meadow**	**151.54**	**269**	*e*PKPbc	PKPdf	03 48 45.2	+3.9
GCMT	**Greycliff**	**151.74**	**273**	*e*PKPbc	PKPdf	03 48 47.7	+6.3
YFT	**Old Faithful**	**151.77**	**270**	*e*PKPbc	PKPdf	03 48 50.8	+9.3
TPH	**Tonopah**	**151.77**	**253**	*e*PKPbc	PKPdf	03 48 49.6	+7.9
YMR	**Madison River**	**151.96**	**270**	*e*PKPbc	PKPdf	03 48 50.0	+8.2
MTUM	**Tungsten Hills**	**152.05**	**250**	*e*PKPbc	PKPdf	03 48 46.2	+3.9
OMM	**Old Mammoth Mi**	**152.48**	**250**	*e*PKPbc	PKPdf	03 48 49.9	+7.0
MNV	**Mina**	**152.56**	**252**	*e*PKPdf	PKPdf	03 48 41.9	-1.0
HRY	**Holter Researc**	**153.50**	**273**	*e*PKP	PKPdf	03 48 39.5	-4.4
WALA	**Waterton Lakes**	**155.78**	**277**	*e*PKPbc	PKPdf	03 48 50.8	+4.0
BMO	**Blue Mountains**	**155.91**	**265**	*e*PKPbc	PKPdf	03 48 49.5	+2.3
YKW3	**Yellowknife Ar**	**157.90**	**311**	*e*PKPdf	PKPdf	03 48 47.6	-1.7
DLBC	**Dease Lake**	**166.23**	**304**	*e*PKP	PKPdf	03 48 56.3	-1.6
IMA	**Indian Mountai**	**166.53**	**3**	*e*PKP	PKPdf	03 49 00.5	+2.6

*MEX **06** 03:46:38.1±0.6, 13.58N×93.06W, h15km±80km, MD4.5*
*CASC **06** 03:46:42.4±2.3, 14.14N×92.88W, h80km±46km, MD4.3, ML4.5*

ISC 06 03:46:39.7±0.9, 13.79N±0.07×93.05W±0.05, h66km±34km, n21, σ1§07/34, 3C-1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.47**	**69**	⇑*e*P	**P**	**03 47 04.1**	**-0.5**
JAT				*e*S	**S**	**03 47 22.4**	**-0.6**
JAT				AML	AML	03 47 25.9	
	comp=N,18μm,0.3s						
FUG	**Fuego 3**	**2.24**	**73**	*e*P	**P**	**03 47 13.9**	**-1.3**
PCG	**Pacaya**	**2.44**	**75**	*e*S	**S**	**03 47 47.8**	**+1.0**
IXG	**Ixpaco**	**2.54**	**81**	*e*P	**P**	**03 47 19.2**	**-0.3**
IXG				*e*S	**S**	**03 47 48.0**	**-1.4**
IXG				*e*S	**S**	**03 47 48.7**	**-0.7**
IXG				AML	AML	03 48 10.8	
	comp=N,9μm,0.6s						
CCIG	**Comitan**	**2.63**	**19**	*i* P	**P**	**03 47 20.3**	**-0.5**
CCIG				*i* S	**S**	**03 47 52.5**	**+0.9**
NBG	**Las Nubes**	**2.73**	**73**	⇓*e*P	**P**	**03 47 22.8**	**+0.5**
NBG				*e*S	**S**	**03 47 53.5**	**-0.7**
NBG				AML	AML	03 48 04.0	
	comp=E,3μm,0.4s						
SCX	**San Cristobal**	**2.96**	**8**	*i* P	**P**	**03 47 25.0**	**-0.4**
SCX				*i* S	**S**	**03 48 02.0**	**+2.1**
RBDL	**Robledal**	**3.28**	**84**	⇑*e*P	**P**	**03 47 30.4**	**+0.5**
RTR	**El Retiro**	**3.30**	**88**	*e*P	**P**	**03 47 31.1**	**+0.8**
SBLS	**San Blas**	**3.32**	**89**	⇑*e*P	**P**	**03 47 31.4**	**+0.8**
SBLS				*e*S	**S**	**03 48 08.3**	**-0.7**
SNJE	**San Jose**	**3.34**	**88**	*e*P	**P**	**03 47 30.9**	**+0.2**
SNJE				*e*S	**S**	**03 48 08.9**	**-0.6**
BOQS	**Boqueron**	**3.66**	**90**	*e*P	**P**	**03 47 36.2**	**+1.0**
CMIG	**Matias Romero**	**3.73**	**332**	*i* P	**P**	**03 47 35.0**	**-1.2**
CMIG				*i* S	**S**	**03 48 20.4**	**+1.1**
LFRS	**El Faro**	**3.87**	**92**	*e*P	**P**	**03 47 38.4**	**+0.2**
LFRS				*e*S	**S**	**03 48 21.1**	**-1.7**
LCBS	**La Ceiba**	**3.95**	**91**	*e*P	**P**	**03 47 39.6**	**+0.2**
SNVI	**San Vicente**	**4.09**	**92**	*e*P	**P**	**03 47 42.1**	**+0.8**
TUIG	**Tuzandepetl**	**4.43**	**343**	*i* P	**P**	**03 47 47.0**	**+1.0**
TUIG				*i* S	**S**	**03 48 35.6**	**-1.1**
OXX	**Oaxaca**	**4.83**	**313**	*e*P	**P**	**03 47 49.0**	**-2.6**
VHO	**Vista Hermosa**	**4.83**	**313**	*e*P	**P**	**03 47 53.7**	**+2.2**
VHO				*i* S	**S**	**03 48 45.9**	**-0.8**
CNCH	**Conchagua**	**5.09**	**95**	*e*P	**P**	**03 47 56.6**	**+1.4**
PPM	**Popocatepetl**	**7.50**	**315**	*e*P	**P**	**03 48 29.5**	**+0.8**
PPM				*e*P		03 48 33.0	
PPM				*i* S	**S**	**03 49 51.0**	**-1.9**

*NEIC **06** 04:00:01.2, 31.91S×68.62W, h150km, MD3.7(GUC), After GUC.*

GUC 06 04:00:01.2±0.7, 31.91S×68.62W, h150km, MD3.7, ML4.0, 6C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**0.99**	**191**	*i* P	P	04 00 21.6	-4.4
MDZ				*i*		04 00 38.9	
MDZ				S	S	04 00 50.0	+4.9
JACH	**Jahuel**	**1.84**	**245**	⇑*i*P	P	04 00 35.3	+0.5
JACH				*i* S	S	04 01 00.8	+0.1
PTCH	**Petorca**	**1.99**	**259**	⇑*i*P	P	04 00 36.5	0.0
PTCH				*i* S	S	04 01 03.4	-0.3
PTCH				AMP		04 01 04.8	
	comp=N,2μm,0.4s						
PEL	**Peldehue**	**2.13**	**234**	*i* S	S	04 01 07.2	+0.4
CMCH	**Combarbala**	**2.17**	**289**	⇓*i*P	P	04 00 39.0	+0.3
CMCH				*i* S	S	04 01 07.6	+0.2
CMCH				AMP		04 01 13.5	
	comp=N,1μm,0.7s						
ILCH	**Illapel**	**2.19**	**277**	⇑*i*P	P	04 00 38.8	-0.2
ILCH				*i* S	S	04 01 07.5	-0.5
ILCH				AMP		04 01 09.8	
	comp=N,459nm,0.2s						
DSCH	**Colegio Aleman**	**2.21**	**228**	*e*P	P	04 00 39.3	0.0
DSCH				*e*S	S	04 01 08.5	0.0
DSCH				AMP		04 01 10.9	
	comp=E,827nm,0.4s						
FSR	**Penalolen**	**2.24**	**225**	AMP		04 01 13.6	
	comp=E,468nm,0.4s						
ROCH	**El Roble**	**2.28**	**242**	⇑*i*P	P	04 00 40.0	-0.2
ROCH				*i* S	S	04 01 09.8	-0.2
STL	**Santa Lucia**	**2.28**	**228**	AMP		04 01 13.6	
	comp=N,217nm,0.3s						
PCH	**Pirque**	**2.33**	**223**	⇓*i*P	P	04 00 41.2	+0.4
PCH				*i* S	S	04 01 11.0	-0.1
ANTU	**Antumapu**	**2.37**	**225**	AMP		04 01 15.0	
	comp=E,467nm,0.3s						
RCDM	**Rinconada Maip**	**2.42**	**229**	⇑*i*P	P	04 00 42.1	+0.2
RCDM				*i* S	S	04 01 13.1	0.0
RCDM				AMP		04 01 16.4	
	comp=E,805nm,0.2s						
TLL	**Tololo Astrono**	**2.56**	**312**	⇑*i*P	P	04 00 43.9	+0.3
TLL				*i* S	S	04 01 17.2	+1.1
TLL				AMP		04 01 18.6	
	comp=E,438nm,0.3s						
TACH	**Talagante**	**2.61**	**228**	⇓*i*P	P	04 00 44.0	-0.3
TACH				*i* S	S	04 01 17.0	-0.3
LNV	**Longovilo**	**3.11**	**228**	*i* P	P	04 00 49.3	-1.4
LNV				*i* S	S	04 01 26.8	-1.7
TRQA	**Tornquist**	**8.20**	**140**	*e*Pn	P	04 01 54.7	-3.5
LVC	**Limon Verde**	**9.27**	**358**	*e*Pn	P	04 02 09.7	-2.7

*IGIL **06** 04:09:05.9, 37.20N×16.30W, h2km, ML3.8*
*CNRM **06** 04:09:06.0, 38.33N×15.49W, h30km, MD4.2*
*NEIC **06** 04:09:06.9, 37.69N×16.21W, mb4.5/3, After MDD.*
*MDD **06** 04:09:08.9±1.4, 37.69N×16.04W, mb4.7/19, Error ellipse: s-maj=14.1km s-min=10.9km az=101.0, PRXIMO*
*LDG **06** 04:09:11.1±0.3, 37.60N×16.18W, h30km, Md4.2/1, Ml3.9/7, Error ellipse: s-maj=7.3km s-min=5.9km az=112.0*
*CSEM **06** 04:09:11.7±0.1, 37.78N×15.77W, h10km, ML4.0/24, Error ellipse: s-maj=3.1km s-min=2.1km az=121.0*
*INMG **06** 04:09:11.4±2.1, 37.45N×16.31W, h5km, ML3.4, Error ellipse: s-maj=11.5km s-min=8.7km az=124.0*

ISC 06 04:09:12.0±0.7, 37.61N±0.04×15.38W±0.05, h10km, n151, σ1§44/270, mb5.2/1, 1C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIS	**Lisbon**	**5.03**	**75**	*e*P	**Pn**	**04 10 31.5**	**+2.1**
LIS				*e*S	**Sn**	**04 11 33.7**	**+5.3**
LIS				*e*S	**Sn**	**04 11 33.7**	**+5.3**
LIS				AML	AML	04 11 36.4	
	comp=E,122nm,0.2s						
LIS	**Lisbon**	**5.03**	**75**	Pn	**Pn**	**04 10 31.5**	**+2.1**
LIS				Sn	**Sn**	**04 11 33.7**	**+5.3**
	comp=E,112nm,0.2s						
PLOU	**Loures**	**5.07**	**74**	*e*Pn	**Pn**	**04 10 32.4**	**+2.5**
	comp=E,61nm,0.4s						
PLOU	**Loures**	**5.07**	**74**	Pn	**Pn**	**04 10 32.3**	**+2.5**
PLOU				Sn	**Sn**	**04 11 33.1**	**+3.9**
PLOU	**Loures**	**5.07**	**74**	*e*P	**Pn**	**04 10 32.4**	**+2.5**
	comp=E,61nm,0.4s						
PTEO	**Sao Teotonio**	**5.29**	**89**	*e*Pn	**Pn**	**04 10 34.3**	**+1.3**
PTEO				*e*Sn	**Sn**	**04 11 36.1**	**+1.4**
	comp=E,36nm,0.2s						
PTEO	**Sao Teotonio**	**5.29**	**89**	Pn	**Pn**	**04 10 34.3**	**+1.3**
PTEO				Sn	**Sn**	**04 11 36.1**	**+1.3**
PTEO	**Sao Teotonio**	**5.29**	**89**	Pn	**Pn**	**04 10 34.3**	**+1.3**
PTEO				Sn	**Sn**	**04 11 36.1**	**+1.4**
	comp=E,18nm,0.2s						
ALMR	**Almeirim**	**5.56**	**72**	*e*P	**Pn**	**04 10 38.6**	**+1.7**
ALMR				*e*S	**Sn**	**04 11 45.9**	**+4.2**
ALMR				*e*S	**Sn**	**04 11 45.9**	**+4.3**
ALMR				AML	AML	04 11 47.6	
	comp=E,89nm,0.3s						
ALMR	**Almeirim**	**5.56**	**72**	Pn	**Pn**	**04 10 38.6**	**+1.7**
ALMR				Sn	**Sn**	**04 11 45.9**	**+4.3**
	comp=E,44nm,0.3s						
MOE	**Montemor**	**5.62**	**79**	*e*Pn	**Pn**	**04 10 39.2**	**+1.5**
MOE				*e*Sn	**Sn**	**04 11 46.8**	**+3.7**
MOE	**Montemor**	**5.62**	**79**	Pn	**Pn**	**04 10 39.1**	**+1.4**
MOE				Sn	**Sn**	**04 11 45.8**	**+2.7**
PTOM	**Tomar**	**5.82**	**68**	*e*Pn	**Pn**	**04 10 42.1**	**+1.7**
	comp=E,29nm,0.3s						
PTOM	**Tomar**	**5.82**	**68**	Pn	**Pn**	**04 10 42.9**	**+2.5**
PTOM				Sn	**Sn**	**04 11 50.5**	**+2.6**
EVO	**Evora**	**5.89**	**79**	*e*Pn	**Pn**	**04 10 40.8**	**-0.6**
EVO				*e*Sn	**Sn**	**04 11 49.2**	**-0.5**
	comp=E,54nm,0.4s						
PBEJ	**Beja**	**5.96**	**84**	*e*Pn	**Pn**	**04 10 44.3**	**+1.8**
PBEJ				*e*Sn	**Sn**	**04 11 53.5**	**+1.8**
	comp=E,21nm,0.3s						
PBEJ	**Beja**	**5.96**	**84**	Pn	**Pn**	**04 10 44.0**	**+1.5**
PBEJ				Sn	**Sn**	**04 11 53.1**	**+1.4**
PBEJ	**Beja**	**5.96**	**84**	Pn	**Pn**	**04 10 44.3**	**+1.8**
PBEJ				Sn	**Sn**	**04 11 53.5**	**+1.8**
	comp=E,11nm,0.3s						
EGRO	**El Granado**	**6.27**	**88**	P	**Pn**	**04 10 47.9**	**+1.0**
EGRO				S	**Sn**	**04 11 59.2**	**-0.2**
EGRO	**El Granado**	**6.27**	**88**	⇑Pn	**Pn**	**04 10 47.9**	**+1.0**
	comp=E,4.2nm,0.2s,SNR=18						
EGRO				Sn	**Sn**	**04 11 59.9**	**+0.5**
	comp=E,20nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**6.27**	**88**	Pn	**Pn**	**04 10 47.9**	**+1.0**
	comp=E,6.4nm,0.1s,SNR=18						
EGRO				Sn	**Sn**	**04 12 00.3**	**+0.9**
	comp=E,18nm,0.2s,SNR=7.9						
PALC	**Alcoutim**	**6.28**	**89**	*e*Pn	**Pn**

STS	**Santiago**	**7.42**	**43**	P		**Pn**	**04 11 02.3**	**-0.7**
STS				S		**Sn**	**04 12 20.8**	**-7.3**
STS	**Santiago**	**7.42**	**43**	Pn		**Pn**	**04 11 01.5**	**-1.5**
	comp=E,8.1nm,0.2s,SNR=9.4							
STS				Sn		**Sn**	**04 12 22.3**	**-5.7**
	comp=E,9.2nm,0.1s,SNR=7.9							
STS	**Santiago**	**7.42**	**43**	Pn		**Pn**	**04 11 02.0**	**-1.0**
	comp=E,8.1nm,0.2s,SNR=9.4							
STS				Sn		**Sn**	**04 12 23.0**	**-5.1**
	comp=E,6.3nm,0.2s,SNR=7.9							
SFS	**San Fernando**	**7.43**	**96**	*e*Pn		**Pn**	**04 11 07.8**	**+4.7**
	comp=E,143nm,1.1s							
SFS				*e*			04 11 23.6	
ESPR	**Espera**	**7.63**	**93**	P		**Pn**	**04 11 07.1**	**+1.1**
ESPR				S		**Sn**	**04 12 35.0**	**+1.5**
ESPR	**Espera**	**7.63**	**93**	Pn		**Pn**	**04 11 06.4**	**+0.4**
	comp=E,4.9nm,0.2s,SNR=19							
ESPR				Sn		**Sn**	**04 12 34.8**	**+1.3**
	comp=E,30nm,0.3s,SNR=7.9							
ESPR	**Espera**	**7.63**	**93**	Pn		**Pn**	**04 11 06.8**	**+0.8**
	comp=E,1.4nm,0.1s,SNR=19							
ESPR				Sn		**Sn**	**04 12 34.4**	**+1.0**
	comp=E,21nm,0.3s,SNR=7.9							
PBRG	**Braganca**	**7.87**	**55**	*e*Pn		**Pn**	**04 11 09.9**	**+0.7**
PBRG				*e*Sn		**Sn**	**04 12 35.1**	**-4.2**
	comp=E,6.2nm,0.3s							
PBRG	**Braganca**	**7.87**	**55**	Pn		**Pn**	**04 11 09.8**	**+0.5**
PBRG	**Braganca**	**7.87**	**55**	Pn		**Pn**	**04 11 09.9**	**+0.7**
PBRG				Sn		**Sn**	**04 12 35.1**	**-4.2**
	comp=E,3.1nm,0.3s							
ERUA	**La Rua**	**7.92**	**50**	P		**Pn**	**04 11 08.6**	**-1.4**
ERUA				S		**Sn**	**04 12 36.9**	**-3.8**
ERUA	**La Rua**	**7.92**	**50**	Pn		**Pn**	**04 11 08.5**	**-1.5**
	comp=E,3.9nm,0.4s,SNR=7.9							
ERUA				Sn		**Sn**	**04 12 36.7**	**-4.0**
	comp=E,6.1nm,0.2s,SNR=7.9							
ERUA	**La Rua**	**7.92**	**50**	Pn		**Pn**	**04 11 08.6**	**-1.4**
	comp=E,2.1nm,0.2s,SNR=7.9							
ERUA				Sn		**Sn**	**04 12 35.9**	**-4.8**
	comp=E,6.1nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**7.94**	**54**	P		**Pn**	**04 11 09.7**	**-0.5**
ECAL				S		**Sn**	**04 12 36.1**	**-4.9**
ECAL	**Calabor**	**7.94**	**54**	Pn		**Pn**	**04 11 09.6**	**-0.6**
	comp=E,5.9nm,0.2s,SNR=18							
ECAL				Sn		**Sn**	**04 12 37.3**	**-3.7**
	comp=E,19nm,0.3s,SNR=6.3							
ECAL	**Calabor**	**7.94**	**54**	Pn		**Pn**	**04 11 09.7**	**-0.5**
	comp=E,2.5nm,0.2s,SNR=18							
ECAL				Sn		**Sn**	**04 12 37.0**	**-4.0**
	comp=E,11nm,0.2s,SNR=6.3							
EINC	**Incio**	**7.95**	**48**	P		**Pn**	**04 11 09.3**	**-1.2**
EINC				S		**Sn**	**04 12 35.5**	**-5.9**
EINC	**Incio**	**7.95**	**48**	Pn		**Pn**	**04 11 08.9**	**-1.6**
	comp=E,9.0nm,0.3s,SNR=12							
EINC				Sn		**Sn**	**04 12 35.4**	**-6.0**
	comp=E,9.2nm,0.2s,SNR=7.9							
EINC	**Incio**	**7.95**	**48**	Pn		**Pn**	**04 11 09.2**	**-1.3**
	comp=E,1.5nm,0.1s,SNR=12							
EINC				Sn		**Sn**	**04 12 36.3**	**-5.1**
	comp=E,7.2nm,0.3s,SNR=7.9							
CIA	**Chichaoua**	**8.13**	**136**	*i* P		**P**	**04 11 11.0**	**-1.9**
CIA				*i* S		**Sn**	**04 12 43.0**	**-2.9**
EPON	**Pontenova**	**8.48**	**45**	P		**P**	**04 11 15.4**	**-2.4**
EPON				S		**Sn**	**04 12 46.1**	**-8.5**
EPON	**Pontenova**	**8.48**	**45**	Pn		**P**	**04 11 16.2**	**-1.6**
	comp=E,2.7nm,0.2s,SNR=7.9							
EPON				Sn		**Sn**	**04 12 47.4**	**-7.1**
	comp=E,7.0nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**8.48**	**45**	Pn		**P**	**04 11 15.5**	**-2.3**
	comp=E,2.5nm,0.2s,SNR=7.9							
EPON				Sn		**Sn**	**04 12 48.3**	**-6.3**
	comp=E,1.4nm,0.6s,SNR=7.9							
EMIJ	**Mijas**	**8.54**	**94**	Pn		**P**	**04 11 20.1**	**+1.4**
EMIJ				Sn		**Sn**	**04 12 55.9**	**-0.2**
EMIJ	**Mijas**	**8.54**	**94**	Pn		**P**	**04 11 19.6**	**+1.0**
	comp=E,1.8nm,0.3s,SNR=7.9							
EMIJ				Sn		**Sn**	**04 12 56.1**	**0.0**
	comp=E,4.8nm,0.3s,SNR=7.9							
EMIJ	**Mijas**	**8.54**	**94**	Pn		**P**	**04 11 20.0**	**+1.4**
	comp=E,0.8nm,0.2s,SNR=7.9							
EMIJ				Sn		**Sn**	**04 12 55.9**	**-0.2**
	comp=E,2.0nm,0.5s,SNR=7.9							
EADA	**Adamuz**	**8.56**	**83**	P		**P**	**04 11 19.8**	**+0.9**
EADA				S		**Sn**	**04 12 54.6**	**-2.0**
EADA	**Adamuz**	**8.56**	**83**	Pn		**P**	**04 11 19.3**	**+0.3**
	comp=E,4.4nm,0.1s,SNR=67							
EADA				Sn		**Sn**	**04 12 54.9**	**-1.6**
	comp=E,11nm,0.3s,SNR=7.9							
EADA	**Adamuz**	**8.56**	**83**	Pn		**P**	**04 11 19.8**	**+0.9**
	comp=E,4.9nm,0.1s,SNR=67							
EADA				Sn		**Sn**	**04 12 55.1**	**-1.5**
	comp=E,3.2nm,0.3s,SNR=7.9							
EFAM	**Famara**	**8.60**	**169**	Pn		**P**	**04 11 10.0**	**-9.4**
EFAM				Sn		**Sn**	**04 12 37.3**	**-20**
EFAM	**Famara**	**8.60**	**169**	Pn		**P**	**04 11 10.4**	**-9.0**
	comp=E,9.0nm,0.3s,SNR=7.9							
EFAM				Sn		**Sn**	**04 12 37.7**	**-20**
	comp=E,7.5nm,0.3s,SNR=7.9							
ELUQ	**Luque**	**8.82**	**87**	P		**P**	**04 11 23.1**	**+0.5**
ELUQ				S		**Sn**	**04 13 04.0**	**+0.9**
ELUQ	**Luque**	**8.82**	**87**	Pn		**P**	**04 11 25.1**	**+2.6**
	comp=E,1.8nm,0.2s,SNR=4.0							
ELUQ				Sn		**Sn**	**04 13 02.6**	**-0.5**
	comp=E,3.9nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**8.82**	**87**	Pn		**P**	**04 11 23.1**	**+0.5**
	comp=E,0.6nm,0.2s,SNR=7.9							
ELUQ				Sn		**Sn**	**04 13 02.0**	**-1.1**
	comp=E,1.9nm,0.2s,SNR=7.9							
OUK	**Oukaimeden**	**8.90**	**134**	*i* P		**P**	**04 11 22.0**	**-1.6**
OUK				*i* S		**Sn**	**04 13 01.0**	**-4.0**
ELOJ	**Sierra Loja**	**8.95**	**90**	Pn		**P**	**04 11 25.8**	**+1.5**
ELOJ				Sn		**Sn**	**04 13 05.6**	**-0.7**
ELOJ	**Sierra Loja**	**8.95**	**90**	Pn		**P**	**04 11 25.4**	**+1.0**
	comp=E,0.7nm,0.2s,SNR=7.9							
ELOJ				Sn		**Sn**	**04 13 06.8**	**+0.6**
	comp=E,1.7nm,0.2s,SNR=7.9							
ELOJ	**Sierra Loja**	**8.95**	**90**	Pn		**P**	**04 11 25.8**	**+1.5**
	comp=E,0.6nm,0.2s,SNR=7.9							
ELOJ				Sn		**Sn**	**04 13 05.6**	**-0.7**
	comp=E,1.6nm,0.2s,SNR=7.9							
CFUE	**Fuerteventura**	**9.02**	**172**	Pn		**P**	**04 11 14.0**	**-11**
	comp=E,10nm,0.3s,SNR=7.9							
CFUE				Sn		Sn	04 12 44.5	-23
	comp=E,19nm,0.3s,SNR=7.9							
ESDC	**Sonseca Array**	**9.17**	**73**	P		**P**	**04 11 27.0**	**-0.3**
ESDC				S		**Sn**	**04 13 12.7**	**+1.0**
ESDC	**Sonseca Array**	**9.17**	**73**	Pn		**P**	**04 11 27.0**	**-0.3**
	comp=E,1.3nm,0.2s,baz=261,slow=12,SNR=75							
ESDC				Sn		**Sn**	**04 13 09.1**	**-2.5**
	comp=E,1.9nm,0.2s,baz=263,slow=23,SNR=6.1							
ESDC	**Sonseca Array**	**9.17**	**73**	Pn		**P**	**04 11 27.0**	**-0.3**
	comp=E,1.3nm,0.2s,SNR=75							
ESDC	**Sonseca Array**	**9.17**	**73**	Sn		**Sn**	**04 13 09.1**	**-2.6**
	comp=E,1.9nm,0.2s,SNR=6.1							
ESLA	**Sonseca Array**	**9.17**	**73**	*e*Pn		**P**	**04 11 27.1**	**-0.3**
	comp=E,0.3nm,0.4s							
ESLA	**Sonseca Array**	**9.17**	**73**	*e*Pn		**P**	**04 11 27.1**	**-0.2**
	comp=E,0.3nm,0.4s							
GUD	**Guadarrama**	**9.23**	**67**	P		**P**	**04 11 28.2**	**-0.1**
GUD	**Guadarrama**	**9.23**	**67**	Pn		**P**	**04 11 27.7**	**-0.5**
	comp=E,1.4nm,0.2s,SNR=7.3							
GUD				Sn		**Sn**	**04 13 11.3**	**-2.0**
	comp=E,1.0nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**9.23**	**67**	Pn		**P**	**04 11 27.9**	**-0.3**
	comp=E,0.6nm,0.2s,SNR=7.3							
GUD				Sn		**Sn**	**04 13 10.1**	**-3.2**
	comp=E,1.3nm,0.4s,SNR=7.9							
MIF	**Mishlifen**	**9.28**	**114**	*i* P		**P**	**04 11 24.5**	**-4.3**
MIF				*i* S		**Sn**	**04 13 04.0**	**-10**
CCAN	**Las Canadas**	**9.42**	**187**	P		**P**	**04 11 21.9**	**-8.8**
CZD	**Col de Zad**	**9.60**	**115**	*i* P		**P**	**04 11 29.0**	**-4.3**
CZD				*i* S		**Sn**	**04 13 16.0**	**-6.3**
EARI	**Arriondas**	**9.61**	**51**	Pn		**P**	**04 11 32.2**	**-1.2**
EARI				Sn		**Sn**	**04 13 16.8**	**-5.7**
EARI	**Arriondas**	**9.61**	**51**	Pn		**P**	**04 11 33.7**	**+0.4**
	comp=E,4.1nm,0.3s,SNR=7.9							
EARI				Sn		**Sn**	**04 13 17.7**	**-4.8**
	comp=E,1.7nm,0.3s,SNR=7.9							
EARI	**Arriondas**	**9.61**	**51**	Pn		**P**	**04 11 32.2**	**-1.2**
	comp=E,1.4nm,0.3s,SNR=7.9							
EARI				Sn		**Sn**	**04 13 16.8**	**-5.7**
	comp=E,2.0nm,0.2s,SNR=7.9							
EQES	**Quesada**	**9.76**	**85**	P		**P**	**04 11 36.4**	**+0.9**
	comp=E,0.9nm,0.2s							
EQES				S		**Sn**	**04 13 26.9**	**+0.7**
EQES	**Quesada**	**9.76**	**85**	Pn		**P**	**04 11 36.1**	**+0.6**
	comp=E,1.4nm,0.2s,SNR=8.1							
EQES				Sn		**Sn**	**04 13 24.7**	**-1.5**
	comp=E,5.7nm,0.3s,SNR=7.4							
EQES	**Quesada**	**9.76**	**85**	Pn		**P**	**04 11 36.4**	**+1.0**
	comp=E,0.9nm,0.2s,SNR=8.1							
EQES				Sn		**Sn**	**04 13 24.7**	**-1.5**
	comp=E,3.4nm,0.2s,SNR=7.4							
EBER	**Berja**	**9.98**	**90**	Pn		**P**	**04 11 39.9**	**+1.3**
	comp=E,3.2nm,0.5s							
EBER				Sn		**S**	**04 13 30.5**	**-1.3**
EBER	**Berja**	**9.98**	**90**	Pn		**P**	**04 11 41.8**	**+3.2**
	comp=E,0.8nm,0.2s,SNR=4.8							
EBER				Sn		**S**	**04 13 30.8**	**-1.0**
	comp=E,4.2nm,0.4s,SNR=7.9							
EBER	**Berja**	**9.98**	**90**	Pn		**P**	**04 11 39.9**	**+1.3**
	comp=E,3.2nm,0.5s,SNR=4.8							
EBER				Sn		**S**	**04 13 30.5**	**-1.3**
	comp=E,7.1nm,0.7s,SNR=7.9							
CHIE	**El Hierro**	**10.09**	**193**	Pn		**P**	**04 11 35.4**	**-4.6**
	comp=E,21nm,0.2s							
CHIE	**El Hierro**	**10.09**	**193**	Pn		**P**	**04 11 35.0**	**-5.1**
	comp=E,21nm,0.2s,SNR=7.9							
CHIE	**El Hierro**	**10.09**	**193**	Pn		**P**	**04 11 35.4**	**-4.6**
	comp=E,21nm,0.2s,SNR=7.9							
EVIA	**Vianos**	**10.20**	**80**	Pn		**P**	**04 11 42.3**	**+0.8**
	comp=E,1.6nm,0.2s							
EVIA				Sn		**S**	**04 13 34.2**	**-2.8**
EVIA	**Vianos**	**10.20**	**80**	Pn		**P**	**04 11 42.3**	**+0.8**
	comp=E,2.0nm,0.4s,SNR=7.9							
EVIA				Sn		**S**	**04 13 34.6**	**-2.4**
	comp=E,4.4nm,0.4s,SNR=7.9							
EVIA	**Vianos**	**10.20**	**80**	Pn		**P**	**04 11 42.3**	**+0.8**
	comp=E,1.6nm,0.2s,SNR=7.9							
EVIA				Sn		**S**	**04 13 34.2**	**-2.8**
	comp=E,1.1nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**10.52**	**89**	Sn		**S**	**04 13 43.0**	**-1.8**
	comp=E,1.7nm,0.3s,SNR=4.0							
ELAN	**Lanestosa**	**10.70**	**55**	Pn		**P**	**04 11 46.9**	**-1.4**
	comp=E,1.3nm,0.5s							
ELAN				Sn		**S**	**04 13 43.6**	**-5.6**
ELAN	**Lanestosa**	**10.70**	**55**	Pn		**P**	**04 11 48.5**	**+0.2**
	comp=E,0.2nm,0.2s,SNR=7.9							
ELAN				Sn		**S**	**04 13 43.8**	**-5.4**
	comp=E,2.2nm,0.3s,SNR=7.9							
ELAN	**Lanestosa**	**10.70**	**55**	Pn		**P**	**04 11 46.9**	**-1.4**
	comp=E,1.3nm,0.5s,SNR=7.9							
ELAN				Sn		**S**	**04 13 43.6**	**-5.6**
EMUR	**La Murta**	**11.20**	**84**	Pn		**P**	**04 11 56.2**	**+1.0**
	comp=E,1.4nm,0.4s							
EMUR				Sn		**S**	**04 13 58.1**	**-3.5**
EMUR	**La Murta**	**11.20**	**84**	Pn		**P**	**04 11 56.3**	**+1.0**
	comp=E,1.1nm,0.3s,SNR=7.9							
EMUR				Sn		**S**	**04 13 59.2**	**-2.4**
	comp=E,2.7nm,0.4s,SNR=7.9							
EMUR	**La Murta**	**11.20**	**84**	Pn		**P**	**04 11 56.2**	**+0.9**
	comp=E,1.4nm,0.4s							
EMUR				Sn		**S**	**04 13 58.1**	**-3.5**
EMOS	**Mosqueruela**	**11.93**	**72**	Pn		**P**	**04 12 05.1**	**+0.1**
	comp=E,1.1nm,0.3s							
EMOS				Sn		**S**	**04 14 14.0**	**-5.2**
EMOS	**Mosqueruela**	**11.93**	**72**	Pn		**P**	**04 12 05.9**	**+0.9**
	comp=E,1.7nm,0.4s,SNR=8.9							
EMOS				Sn		**S**	**04 14 16.0**	**-3.2**
	comp=E,0.9nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**11.93**	**72**	Pn		**P**	**04 12 05.1**	**+0.1**
	comp=E,1.1nm,0.3s							
EMOS				Sn		**S**	**04 14 14.0**	**-5.2**
EALK	**Alkurruntz**	**11.96**	**58**	Pn		**P**	**04 12 05.4**	**-0.1**
	comp=E,5.9nm,0.6s							
EALK				Sn		**S**	**04 14 14.0**	**-6.1**
EALK	**Alkurruntz**	**11.96**	**58**	Pn		**P**	**04 12 05.0**	**-0.6**
	comp=E,1.5nm,0.3s,SNR=7.9							
EALK				Sn		**S**	**04 14 15.4**	**-4.7**
	comp=E,6.4nm,0.6s,SNR=7.9							
EALK	**Alkurruntz**	**11.96**	**58**	Pn		**P**	**04 12 05.4**	**-0.1**
	comp=E,5.9nm,0.6s							
EBEN	**Beniarda**	**11.98**	**80**	Pn		**P**	**04 12 07.0**	**+1.2**
	comp=E,3.1nm,0.8s							
EBEN	**Beniarda**	**11.98**	**80**	Pn		**P**	**04 12 07.9**	**+2.0**
	comp=E,0.2nm,0.2s,SNR=7.9							
EBEN	**Beniarda**	**11.98**	**80**	Pn		**P**	**04 12 07.0**	**+1.2**
	comp=E,3.1nm,0.8s							
SJPF	**Ste Jean**	**12.11**	**59**	*e*Pn		**P**	**04 12 07.7**	**+0.2**
SJPF				*e*Sn		**S**	**04 14 20.4**	**-3.3**
	comp=E,1.8nm,0.3s							
ESAC	**San Caprasio**	**12.20**	**66**	Sn		**S**	**04 14 21.8**	**-4.0**
	comp=E,10nm,0.3s,SNR=7.9							
ETSF	**Etsaut**	**12.49**	**60**	*e*Pn		**P**	**04 12 13.7**	**+1.1**
ETSF				*e*Sn		**S**	**04 14 28.6**	**-4.3**
	comp=E,1.9nm,0.3s							
ERTA	**Horta de San J**	**12.63**	**70**	Sn		**S**	**04 14 31.8**	**-4.4**
	comp=E,1.2nm,0.2s,SNR=7.9							
EBIE	**Bielsa**	**12.91**	**62**	Pn		**P**	**04 12 18.2**	**0.0**
	comp=E,0.5nm,0.2s							
EBIE	**Bielsa**	**12.91**	**62**	Pn		**P**	**04 12 18.7**	**+0.4**
	comp=E,0.7nm,0.2s,SNR=7.9							
EBIE				Sn		**S**	**04 14 38.7**	**-4.2**
	comp=E,1.1nm,0.4s,SNR=4.0							
EBIE	**Bielsa**	**12.91**	**62**	Pn		**P**	**04 12 18.2**	**0.0**
	comp=E,0.5nm,0.2s							
EPF	**Esparros**	**13.16**	**61**	*e*Pn		**P**	**04 12 22.2**	**+0.7**
EPF				*e*Sn		**S**	**04 14 41.9**	**-7.0**
	comp=E,1.3nm,0.3s							
EPOB	**Poblet**	**13.25**	**69**	Pn		**P**	**04 12 23.9**	**+1.1**
	comp=E,0.6nm,0.3s,SNR=4.0							
QUIF	**Quistinic**	**13.64**	**37**	*e*Pn		**P**	**04 12 24.0**	**-3.8**
QUIF				*e*Sn		**S**	**04 14 48.9**	**-12**
	comp=E,1.8nm,0.2s							
ROSF	**Rostrenen**	**13.89**	**36**	*e*Pn		**P**	**04 12 27.4**	**-3.7**
ROSF				*e*Sn		**S**	**04 14 54.2**	**-12**
	comp=E,1.9nm,0.3s							
MFF	**Saint Martin d**	**14.42**	**47**	*e*Pn		**P**	**04 12 36.2**	**-1.9**
MFF				*e*Sn		**S**	**04 15 10.5**	**-8.5**
	comp=E,1.0nm,0.3s							
CAF	**Calviac**	**15.00**	**55**	*e*Pn		**P**	**04 12 47.2**	**+1.5**
BGF	**Bois d'Agland**	**16.19**	**51**	*e*Pn		**P**	**04 13 01.4**	**+0.4**
VSL	**Villasalto**	**19.44**	**77**	*e*P		**P**	**04 13 38.7**	**-2.6**
	comp=E,14nm,1.1s							
VSL	**Villasalto**	**19.44**	**77**	*e*P		**P**	**04 13 38.7**	**-2.6**
	comp=E,14nm,1.1s							
ESK	**Eskdalemuir**	**19.55**	**21**	P		**P**	**04 13 34.5**	**-7.9**
	comp=E,25nm,1.1s							
ESK	**Eskdalemuir**	**19.55**	**21**	P		**P**	**04 13 34.5**	**-7.8**
	comp=E,25nm,1.1s							
SUW	**Suwalki**	**31.01**	**46**	P		**P**	**04 15 25.9**	**-5.8**
	comp=E,60nm,1.5s,mb5.2							

*INMG **06** 04:09:59.5±0.8, 37.34N×16.27W, h10km, ML3.0, Error ellipse: s-maj=15.1km s-min=11.2km az=145.0*

MDD 06 04:09:56.3±2.8, 37.60N×16.01W, mb4.6/9, Error ellipse: s-maj=24.4km s-min=21.2km az=37.0, PRXIMO SOLUCIN POBRE: SEAL MEZCLADA CON SISMO PRINCIPAL, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**5.55**	**75**	*e*Pn	Pn	04 11 19.7	-2.4
PLOU				*e*Sn	Sn	04 12 19.8	-7.7
	17nm,0.2s						
	17nm,0.2s						
PTEO	**Sao Teotonio**	**5.79**	**88**	*e*Pn	Pn	04 11 21.7	-3.8
PTEO				*e*Sn	Sn	04 12 23.1	-10
	14nm,0.2s						
PTEO	**Sao Teotonio**	**5.79**	**88**	*e*Pn	Pn	04 11 21.7	-3.8
PTEO				*e*Sn	Sn	04 12 23.1	-10
	14nm,0.2s						
MOE	**Montemor**	**6.11**	**79**	*e*Pn	Pn	04 11 27.5	-2.6
MOE				*e*Sn	Sn	04 12 33.1	-8.6
PTOM	**Tomar**	**6.28**	**69**	*e*Sn	Sn	04 12 38.9	-7.0
	8.0nm,0.2s						
PTOM	**Tomar**	**6.28**	**69**	*e*Sn	Sn	04 12 38.9	-7.0
	8.0nm,0.2s						
PBEJ	**Beja**	**6.46**	**84**	*e*Sn	Sn	04 12 40.7	-10
	8.9nm,0.3s						
PBEJ	**Beja**	**6.46**	**84**	Sn	Sn	04 12 40.7	-10
	4.4nm,0.3s						
EGRO	**El Granado**	**6.77**	**88**	Pn	Pn	04 11 35.0	-4.4
	2.9nm,0.2s,SNR=7.9						
EGRO				Sn	Sn	04 12 48.7	-9.5
	9.2nm,0.1s,SNR=7.9						
PALC	**Alcoutim**	**6.78**	**89**	*e*Sn	Sn	04 12 47.8	-11
	12nm,0.2s						
PALC	**Alcoutim**	**6.78**	**89**	Sn	Sn	04 12 47.8	-11
	5.8nm,0.2s						
PCBR	**Castelo Branco**	**7.04**	**69**	*e*Sn	Sn	04 12 55.2	-10
	2.9nm,0.2s						
PCBR	**Castelo Branco**	**7.04**	**69**	Sn	Sn	04 12 55.2	-10
	1.4nm,0.2s						
EBAD	**Badajoz**	**7.18**	**78**	Pn	Pn	04 11 40.7	-4.4
	2.4nm,0.1s,SNR=4.0						
EBAD				Sn	Sn	04 12 57.6	-11
	13nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**7.23**	**49**	Sn	Sn	04 12 57.4	-12
	2.9nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**7.39**	**58**	*e*Sn	Sn	04 13 06.8	-6.9
	6.8nm,0.1s						
PVRL	**Vila Real**	**7.39**	**58**	Sn	Sn	04 13 06.8	-6.9
	3.4nm,0.1s						
EMIN	**Mina Concepcio**	**7.41**	**86**	Pn	Pn	04 11 44.4	-3.9
	0.8nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	04 13 04.6	-9.5
	2.6nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**7.46**	**53**	Pn	Pn	04 11 45.3	-3.7
	3.4nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	04 13 03.9	-11
	6.1nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**7.58**	**43**	Pn	Pn	04 11 46.9	-3.7
	4.1nm,0.1s,SNR=7.9						
EMAZ				Sn	Sn	04 13 05.1	-13
	4.5nm,0.1s,SNR=7.9						
STS	**Santiago**	**7.77**	**45**	Pn	Pn	04 11 49.8	-3.5
	4.3nm,0.1s,SNR=4.0						
STS				Sn	Sn	04 13 11.5	-12
	4.6nm,0.2s,SNR=7.9						
ESPR	**Espera**	**8.13**	**92**	Pn	P	04 11 51.3	-7.1
	1.7nm,0.2s,SNR=4.0						
ESPR				Sn	Sn	04 13 21.5	-11
	9.7nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**8.28**	**57**	*e*Sn	Sn	04 13 26.2	-10
	2.6nm,0.1s						
PBRG	**Braganca**	**8.28**	**57**	Sn	Sn	04 13 26.2	-10
	1.3nm,0.1s						
ERUA	**La Rua**	**8.32**	**52**	Sn	Sn	04 13 26.7	-10
	1.8nm,0.2s,SNR=7.9						
EINC	**Incio**	**8.34**	**50**	Pn	P	04 11 56.9	-4.4
	3.1nm,0.2s,SNR=4.0						
EINC				Sn	Sn	04 13 24.3	-13
	2.6nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**8.35**	**56**	Sn	Sn	04 13 26.9	-11
	7.9nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**8.85**	**47**	Pn	P	04 12 03.1	-5.2
	3.4nm,0.3s,SNR=7.9						
EPON				Sn	Sn	04 13 36.2	-14
	2.8nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**9.06**	**83**	Pn	P	04 12 07.4	-3.9
	2.5nm,0.2s,SNR=7.9						
EADA				Sn	Sn	04 13 44.8	-10
	2.1nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**9.32**	**87**	Sn	Sn	04 13 52.6	-9.1
	1.5nm,0.2s,SNR=7.9						

*CASC **06** 04:14:46.4±2.0, 13.18N×88.96W, h73km±10km, MD4.7, ML4.9, mb4.4(NEIC)*
*NEIC **06** 04:14:47.9±1.4, 13.18N×88.88W, h123km±13km, mb4.4/21, MD5.1(SNET), Error ellipse: s-maj=18.1km s-min=10.7km az=52.0*
NEIC Felt [III] at San Salvador. Also felt at Antiguo Cuscatlan.

ISC 06 04:14:45.2±0.4, 13.27N±0.05×88.94W±0.05, h98km±2km, n73, σ1°03/85, mb4.4/14, 10C-16D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.35**	**17**	*e*P	**P**	**04 14 59.7**	**-0.2**
LFRS	**El Faro**	**0.37**	**342**	‖ *i*P	**P**	**04 14 59.4**	**-0.6**
LCBS	**La Ceiba**	**0.38**	**355**	‖ *i*P	**P**	**04 14 59.5**	**-0.6**
LBRS	**Las Brisas**	**0.47**	**348**	‖ *i*P	**P**	**04 15 00.4**	**-0.3**
SNET	**Serv Nac Est T**	**0.50**	**326**	*e*P	**P**	**04 15 00.4**	**-0.5**
SNET				*e*S	**S**	**04 15 11.2**	**-1.4**
SNET				*e*		04 15 12.8	
	comp=Z,64μm,0.5s						
LFU	**La Fuente**	**0.50**	**341**	‖ *e*P	**P**	**04 15 00.6**	**-0.3**

CCM				e			04 20 29.1	
CBN	**Corbin**	**26.88**	**20**	eP		**P**	**04 20 17.2**	**-1.6**
comp=N,86nm,1.3s,mb5.1								
CBN				e		pP	04 20 38.8	-1.6
SDCO	**Great Sand Dun**	**28.49**	**332**	eP		**P**	**04 20 34.0**	**+0.6**
comp=N,5.8nm,1.3s,mb4.0								
PV10	**Paradox Valley**	**30.72**	**328**	eP		**P**	**04 20 53.0**	**-0.2**
HWUT	**Hardware Ranch**	**34.42**	**329**	P		**P**	**04 21 26.1**	**+0.9**
comp=N,6.0nm,1.2s,mb4.3								
SNOW	**Snow King Moun**	**35.46**	**332**	eP		**P**	**04 21 34.8**	**+0.9**
DGMT	**Dagmar**	**37.31**	**343**	eP		**P**	**04 21 48.9**	**-0.6**
comp=N,15nm,0.5s,mb5.2								
LVC	**Limon Verde**	**40.71**	**151**	P		**P**	**04 22 21.0**	**+3.1**
comp=N,2.8nm,0.9s,mb4.1								
FFC	**Flin Flon**	**42.60**	**349**	eP		**P**	**04 22 30.9**	**-2.2**
comp=N,3.9nm,0.6s,mb4.3								
EDM	**Edmonton**	**44.32**	**339**	eP		**P**	**04 22 46.0**	**-1.0**
FCC	**Fort Churchill**	**45.57**	**356**	eP		**P**	**04 22 54.8**	**-2.0**
comp=N,9.3nm,0.9s,mb4.5								
YKW3	**Yellowknife Ar**	**52.51**	**345**	eP		**P**	**04 23 48.5**	**-1.7**
RES	**Resolute Bay**	**61.49**	**358**	eP		**P**	**04 24 50.8**	**-2.8**
comp=N,2.1nm,0.6s,mb4.3								
RES				e		pP	04 25 13.5	-4.6
INK	**Inuvik**	**61.99**	**343**	eP		**P**	**04 24 55.3**	**-1.7**
comp=N,9.1nm,1.1s,mb4.7								

*CSEM **06** 04:19:48.6±0.3, 37.77N×25.42W, h2km±2km, ML2.8, Error ellipse: s-maj=3.5km s-min=2.4km az=173.0, After PDA*
*PDA **06** 04:19:48.6±0.9, 37.77N×25.42W, h2km±1km, MD2.3, ML2.8, Error ellipse: s-maj=1.0km s-min=0.9km az=172.0*

SVSA 06 04:19:48.6±0.9, 37.77N×25.42W, h2km±1km, MD2.3, ML2.8, Error ellipse: s-maj=1.0km s-min=0.9km az=172.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**87**	i P		Pg	04 19 49.7 +0.5
PCNG				i S		Sg	04 19 50.8 +1.2
VIF	**Vila Franca**	**0.03**	**216**	i P		Pg	04 19 49.6 +0.3
VIF				i S		Sg	04 19 50.9 +1.2
6μm,0.2s							
MESC	**Monte Escuro**	**0.03**	**323**	i P		Pg	04 19 49.8 +0.4
MESC				i S		Sg	04 19 51.4 +1.5
LFA	**Lagoa do Fogo**	**0.05**	**278**	i P		Pg	04 19 50.0 +0.3
FRA1	**Furnas**	**0.06**	**115**	i P		Pg	04 19 50.4 +0.6
FRA1				i S		Sg	04 19 51.7 +1.1
PRCH	**Ribeira Ch**	**0.06**	**231**	eP		Pg	04 19 50.1 +0.2
PRCH				i S		Sg	04 19 51.8 +1.1
13μm,0.4s							
PMAT	**Coroa da Mata**	**0.06**	**321**	eP		Pg	04 19 50.1 +0.1
PMAT				i S		Sg	04 19 51.8 +0.9
1μm,0.2s							
PVER	**Pico Vermelho**	**0.08**	**293**	i P		Pg	04 19 51.0 +0.7
663nm,0.4s							
CML	**Cha da Macela**	**0.10**	**273**	i P		Pg	04 19 50.9 +0.3
PFAD	**Fenais da Ajud**	**0.11**	**47**	i P		Pg	04 19 51.4 +0.6
PFAD				i S		Sg	04 19 53.4 +1.2
MIRA	**Miradouro**	**0.11**	**80**	i P		Pg	04 19 51.5 +0.6
MIRA				i S		Sg	04 19 54.3 +1.8
FAC	**Faja de Cima**	**0.18**	**272**	i P		Pg	04 19 53.0 +0.7
PDA	**Ponta Delgada**	**0.19**	**264**	eP		Pg	04 19 53.5 +1.0
PDA				eS		Sg	04 19 57.3 +2.2
PSAN	**Santo Antonio**	**0.26**	**289**	i P		Pg	04 19 54.5 +0.8
PFET	**Feteiras**	**0.30**	**280**	i P		Pg	04 19 54.8 +0.3
SET2	**Ginetes**	**0.32**	**284**	i P		Pg	04 19 55.3 +0.4
SET4	**Mosteiros**	**0.32**	**290**	eP		Pg	04 19 55.7 +0.7

*CSEM **06** 04:21:09.9±0.4, 37.76N×25.42W, h3km, ML2.9, Error ellipse: s-maj=18.9km s-min=7.0km az=166.0, After PDA*
*PDA **06** 04:21:09.9±0.6, 37.76N×25.42W, h3km±1km, MD2.4, ML2.9, Error ellipse: s-maj=1.2km s-min=0.9km az=141.0*

SVSA 06 04:21:09.9±0.6, 37.76N×25.42W, h3km±1km, MD2.4, ML2.9, Error ellipse: s-maj=1.2km s-min=0.9km az=141.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**232**	i P		Pg	04 21 10.9 +0.3
VIF				i S		Sg	04 21 12.2 +1.2
PCNG	**Congro**	**0.02**	**62**	i P		Pg	04 21 11.0 +0.4
PCNG				i S		Sg	04 21 12.3 +1.3
9μm,0.3s							
MESC	**Monte Escuro**	**0.04**	**331**	i P		Pg	04 21 11.2 +0.3
MESC				i S		Sg	04 21 12.9 +1.4
LFA	**Lagoa do Fogo**	**0.05**	**287**	i P		Pg	04 21 11.5 +0.4
PRCH	**Ribeira Ch**	**0.06**	**239**	eP		Pg	04 21 11.5 +0.4
PMAT	**Coroa da Mata**	**0.07**	**326**	i P		Pg	04 21 11.6 +0.2
PMAT				i S		Sg	04 21 13.2 +0.8
4μm,0.2s							
PVER	**Pico Vermelho**	**0.09**	**298**	eP		Pg	04 21 12.1 +0.4
3μm,0.3s							
CML	**Cha da Macela**	**0.10**	**278**	i P		Pg	04 21 12.3 +0.3
PFAD	**Fenais da Ajud**	**0.11**	**43**	i P		Pg	04 21 12.8 +0.6
PFAD				i S		Sg	04 21 15.0 +1.3
MIRA	**Miradouro**	**0.12**	**76**	i P		Pg	04 21 12.8 +0.5
MIRA				i S		Sg	04 21 15.3 +1.4
FAC	**Faja de Cima**	**0.18**	**275**	eP		Pg	04 21 14.0 +0.4
FAC				i S		Sg	04 21 17.1 +1.0
PDA	**Ponta Delgada**	**0.19**	**267**	eP		Pg	04 21 14.5 +0.7
PDA				eS		Sg	04 21 17.7 +1.3
PSAN	**Santo Antonio**	**0.26**	**291**	i P		Pg	04 21 15.8 +0.7
PSAN				i S		Sg	04 21 19.7 +1.1
PFET	**Feteiras**	**0.30**	**282**	i P		Pg	04 21 16.2 +0.3
SET2	**Ginetes**	**0.32**	**286**	eP		Pg	04 21 16.4 +0.1
SET4	**Mosteiros**	**0.32**	**292**	eP		Pg	04 21 16.4 0.0
PSMN	**Pico do Norte,**	**0.80**	**159**	eS		Sg	04 21 33.8 -2.9

*NEIC **06** 04:21:41.8±0.7, 8.98N×92.38E, h30km, mb4.6/12, Error ellipse: s-maj=23.1km s-min=13.7km az=223.0*
*BJI **06** 04:21:42.4, 8.66N×92.03E, h56km, mB4.9, mb4.4, Ms4.3, Msz4.0*

ISC 06 04:21:39.8±0.8, 8.89N±0.10×92.3E±0.1, h30km, n25, σ1§04/28, mb4.5/13, MS4.4/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**12.36**	**316**	eP		**P**	**04 24 29.5**	**-7.4**
VIS				eS		**S**	**04 26 37.0**	**-18**
HYB	**Hyderabad**	**15.82**	**304**	i P		**P**	**04 25 24.0**	**+1.7**
71nm,1.2s								
HYB				eS		**S**	**04 27 56.5**	**-20**
JIRN	**Jiri**	**19.54**	**344**	eP		**P**	**04 26 07.3**	**-0.8**
13nm,0.4s								
PKI	**Pulchoki**	**19.69**	**342**	eP		**P**	**04 26 09.9**	**+0.2**
DMN	**Daman**	**19.82**	**341**	eP		**P**	**04 26 11.7**	**+0.5**
GUN	**Gumba**	**19.86**	**343**	eP		**P**	**04 26 12.1**	**+0.4**
87nm,1.2s								
KKN	**Kakani**	**19.93**	**342**	eP		**P**	**04 26 13.3**	**+0.9**
POO	**Poona**	**20.29**	**300**	e		**P**	**04 26 10.0**	**-6.1**
GKN	**Gorkha**	**20.34**	**340**	eP		**P**	**04 26 16.6**	**0.0**
27nm,0.3s								
KOLN	**Koldanda**	**20.49**	**338**	eP		**P**	**04 26 18.5**	**+0.3**
LSA	**Lhasa**	**20.73**	**357**	P		**P**	**04 26 21.0**	**+0.3**
NDI	**New Delhi**	**24.26**	**326**	e		**P**	**04 26 55.0**	**-0.7**
LZH	**Lanzhou**	**29.05**	**20**	eP		**P**	**04 27 40.0**	**+0.2**
LZH				AMB		AMB		
comp=Z,20nm,1.2s,mb4.7								
WMQ	**Urumqi**	**35.03**	**354**	eP		**P**	**04 28 31.9**	**-0.1**
WMQ				AP		pP	04 28 43.8	+2.9
WMQ				XP		sP	04 28 48.9	+4.2
WMQ				PP		PP	04 29 50.7	0.0
WMQ				S		**S**	**04 33 59.2**	**-2.1**
WMQ				AMB		AMB		
comp=Z,2.0nm,0.9s,mb4.0								
WMQ				AMB		AMB		
comp=Z,24nm,5.2s								
WMQ				LR		LR		
comp=N,621nm,19.2s,MS4.5								
WMQ				LR		LR		
comp=E,524nm,20.8s,MS4.5								
WMQ				LR		LR		
comp=Z,617nm,19.5s,MS4.4								
AAK	**Ala-Archa**	**37.07**	**338**	eP		**P**	**04 28 48.2**	**-1.0**
comp=Z,23nm,1.3s,mb4.8								
MBWA	**Marble Bar**	**40.23**	**138**	eP		**P**	**04 29 15.8**	**-0.1**
comp=Z,11nm,1.2s,mb4.5								
ULN	**Ulaanbaatar**	**40.81**	**15**	eP		**P**	**04 29 20.7**	**+0.4**
comp=Z,7.7nm,1.2s,mb4.2								
TLY	**Talaya**	**43.68**	**10**	P		**P**	**04 29 45.8**	**+2.1**
comp=Z,4.2nm,0.8s,mb4.2								
CHKZ	**Chkalovo**	**47.95**	**343**	eP		**P**	**04 30 16.2**	**-1.4**
comp=Z,7.6nm,1.0s,mb4.7								
WRAB	**Tennant Creek**	**50.35**	**125**	eP		**P**	**04 30 36.1**	**-0.4**
comp=Z,4.3nm,0.6s,mb4.7								
ARU	**Arti**	**54.25**	**338**	P		**P**	**04 31 03.0**	**-2.2**
comp=Z,21nm,1.1s,mb5.0								
KMBO	**Kilima Mbogo**	**55.72**	**263**	eP		**P**	**04 31 17.8**	**+1.4**
comp=Z,2.8nm,1.0s,mb4.2								
MALT	**Malatya**	**56.41**	**310**	P		**P**	**04 31 20.4**	**-0.7**
comp=Z,1.8nm,0.8s,mb4.2								
MA2	**Magadan**	**66.74**	**28**	P		**P**	**04 32 30.7**	**+0.4**
comp=Z,5.3nm,0.9s,mb4.6								
BRG	**Berggiesshubel**	**75.80**	**320**	eP		**P**	**04 33 28.1**	**+3.3**
comp=Z,11nm,1.5s,mb4.6								

MEX 06 04:35:45.9±0.7, 15.10N×92.23W, h138km±22km, MD4.1, 1D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.18**	**4**	⇓i P		P	04 36 10.2	-1.4
CCIG				i S		S	04 36 29.2	-2.1
SCX	**San Cristobal**	**1.67**	**347**	i P		P	04 36 15.0	-1.9
SCX				i S		S	04 36 39.0	-1.6
CMIG	**Matias Romero**	**3.23**	**308**	i P		P	04 36 34.5	-2.0
CMIG				i S		S	04 37 12.7	-2.6
HUIG	**Huatulco**	**3.80**	**281**	i P		P	04 36 42.4	-1.7
HUIG				i S		S	04 37 24.9	-3.8
OXX	**Oaxaca**	**4.75**	**295**	i P		P	04 36 57.0	+0.3
VHO	**Vista Hermosa**	**4.75**	**295**	i P		P	04 36 56.7	-0.1
VHO				i S		S	04 37 48.0	-3.4
POHV	**Veracruz**	**6.24**	**310**	eP		P	04 37 15.0	-1.7
PPM	**Popocatepetl**	**7.28**	**304**	i P		P	04 37 30.1	-0.7
PPM				i S		S	04 38 52.3	0.0

DJA 06 04:43:26.2±1.0, 8.96S×113.24E, h136km±13km, MD4.7/3, ML4.9/3, 2C-5D, Error ellipse: s-maj=74.5km s-min=19.6km az=8.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.01**	**62**	⇑i Pg		P	04 43 49.4	-0.5
SRDI	891nm,0.2s							
				⇓i Sg		S	04 44 06.4	-1.7
KELI	**Kelakatan**	**1.44**	**59**	⇓i Pn		P	04 43 54.4	0.0
RATI	**Rata**	**2.28**	**84**	⇓e Pn		P	04 44 04.2	-0.2
RATI	2μm,0.3s							
				⇓i Sn		S	04 44 32.3	-1.2
KEDI	**Kedomdong**	**2.88**	**81**	⇓e Pn		P	04 44 11.1	-1.1
KEDI	300nm,0.3s							
				⇓i Sn		S	04 44 44.1	-3.2

*BJI **06** 04:52:41.6, 6.90N×92.00E, h35km, mB5.3, mb4.8, Ms5.2, Msz4.9*
*HRVD **06** 04:52:42.9±0.2, 6.91N×91.85E, h12km, MW5.3/66, Centroid moment Tensor Solution. LP body waves: s38,c63;Mantle waves: s66,c137; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.30±.02; $M_{\theta\theta}$-0.46±.02; $M_{\phi\phi}$0.75±.02; $M_{r\theta}$-0.01±.05; $M_{\theta\phi}$-0.81±.01; $M_{\phi r}$-0.15±.05; Best double couple: $M_0$1.022×10^{17} NP1: ϕ_s108°,δ81°,λ-178°. NP2:ϕ_s18°,δ88°,λ-9°. Principal axes: T 1.171, Plg5°, Azm64°; N -.3, Plg80°, Azm185°; P -.872, Plg8°, Azm333°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 04:52:42.9±0.2, 6.97N×91.96E, h30km, mb5.0/53, MS4.4/1 Error ellipse: s-maj=7.7km s-min=5.6km az=204.0*
*MOS **06** 04:52:44.6±1.1, 7.46N×91.71E, h33km, mb5.3/19, MS4.9/7, Error ellipse: s-maj=16.3km s-min=7.6km az=109.1*
*CSEM **06** 04:52:46.1, 8.02N×92.11E, h33km, mb5.7*

ISC 06 04:52:40.1±0.3, 6.90N±0.04×91.91E±0.03, h24km, h24km±1.0km: pP-P, n180, σ1§23/192, mb5.1/75, MS4.9/16, 12C-11D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.79**	**10**	eP		**Pn**	**04 54 00.0**	**+7.2**
PBA				e			04 54 15.0	
SNG	**Songkhla**	**8.64**	**88**	P		**P**	**04 55 07.0**	**+20**
560nm,1.0s								
NNT	**Nongplab**	**9.56**	**53**	P		**P**	**04 55 00.0**	**+0.5**
PALK	**Pallekele**	**11.13**	**273**	eP		**P**	**04 55 18.6**	**-2.5**
63nm,0.6s								
PALK				eS		S	04 57 01.3	-25
NST	**Nakhon Sawan**	**11.87**	**42**	P		**P**	**04 55 25.5**	**-5.6**
MDRS	**Chennai**	**13.02**	**299**	i		**P**	**04 55 44.0**	**-2.4**
MDRS				e			04 57 59.0	
VIS	**Vishakhapatnam**	**13.63**	**323**	eP		**P**	**04 55 52.4**	**-2.2**
comp=Z,130nm,1.2s								
VIS				eS		**S**	**04 58 07.1**	**-19**
CHG	**Chiang Mai**	**13.68**	**29**	⇓P		**P**	**04 55 54.6**	**-0.6**
comp=Z,60nm,1.2s								
KKTK	**Khon Kaen**	**14.21**	**48**	P		**P**	**04 56 09.7**	**+7.5**
comp=Z,2μm,0.6s								
BWNR	**Bhubaneshwar**	**14.57**	**337**	eP		**P**	**04 56 03.8**	**-3.1**
BWNR				e			04 56 20.9	
comp=Z,185nm,1.3s								
BWNR				i			04 58 30.0	
NANT	**Nan**	**14.59**	**35**	⇑P		**P**	**04 56 08.0**	**+0.8**
comp=Z,94nm,1.0s								
KOD	**Kodaikanal**	**14.66**	**284**	eP		**P**	**04 56 07.3**	**-0.9**
KOD				e			04 56 09.1	
comp=Z,35nm,4.7s								
TRD	**Trivandrum**	**14.90**	**277**	eP		**P**	**04 56 08.5**	**-2.9**
TRD				e			04 56 12.2	
comp=Z,101nm,1.2s								
CHRT	**Chiangrai**	**14.98**	**30**	PG		**P**	**04 56 08.0**	**-4.3**
CHRT				SG		rx	04 56 15.0	
CAL	**Calcutta**	**15.93**	**348**	e		**P**	**04 56 31.1**	**+6.5**
CAL				e			04 57 01.6	
CAL				e			04 57 44.2	
CAL				e			04 59 40.4	
HYB	**Hyderabad**	**16.71**	**310**	eP		**P**	**04 56 38.0**	**+3.5**
comp=Z,175nm,1.4s								
HYB				eS		**S**	**04 59 29.5**	**-9.0**
HYB	**Hyderabad**	**16.71**	**310**	i P		**P**	**04 56 38.0**	**+3.5**
comp=Z,175nm,1.4s								
HYB				eS		**S**	**04 59 29.5**	**-9.0**
HYB				LR		LR	05 03 00.0	
comp=Z,4.8nm,18.0s								
BLSP	**Bilaspur**	**17.84**	**329**	eP		**P**	**04 56 49.3**	**+0.7**
BLSP				eS		**S**	**05 00 00.6**	**-3.6**
MNGI	**Mangalore**	**17.86**	**291**	i P		**P**	**04 56 47.9**	**-1.1**
MNGI				e			05 00 05.8	
IMP	**Imphal**	**17.89**	**6**	⇓i		**P**	**04 56 45.6**	**-3.6**
SHL	**Shillong**	**18.56**	**360**	eP		**P**	**04 56 57.0**	**-0.5**
SHL				e			04 57 08.4	
comp=Z,264nm,1.5s								
SHL				eS		**S**	**05 00 27.8**	**+7.3**
NGP	**Nagpur**	**18.85**	**320**	eP		**P**	**04 57 01.6**	**+0.5**
NGP				e			05 00 40.6	
GOA	**Goa**	**19.68**	**297**	eP		**P**	**04 57 07.6**	**-3.0**
GOA				eS		**S**	**05 00 44.5**	**-1.0**
KAD	**Karad**	**20.16**	**302**	eP		**P**	**04 57 16.5**	**+0.7**
KAD				i			05 00 49.4	
POO	**Poona**	**21.05**	**305**	eP		**P**	**04 57 23.0**	**-1.9**
POO				e			04 57 39.9	
comp=Z,59nm,1.1s								
QIZ	**Qiongzhong**	**21.20**	**54**	P		**P**	**04 57 25.5**	**-1.0**
QIZ				PP		PP	04 57 47.0	-3.0
QIZ				S		**S**	**05 01 14.4**	**-1.6**
QIZ				AMB		AMB		
comp=Z,87nm,1.7s,mb4.8								
QIZ				LR		LR		
comp=N,8μm,13.0s,MS5.3								
QIZ				LR		LR		
comp=E,2μm,13.4s,MS5.3								
QIZ				LR		LR		
comp=Z,5μm,13.3s,MS5.0								
QIZ	**Qiongzhong**	**21.20**	**54**	eP		**P**	**04 57 25.9**	**-0.5**
comp=Z,103nm,1.0s,mb5.1								
JIRN	**Jiri**	**21.35**	**346**	eP		**P**	**04 57 28.4**	**+0.5**
comp=Z,640nm,1.0s,mb5.9								
BHPL	**Bhopal**	**21.40**	**321**	eP		**P**	**04 57 29.1**	**+0.7**
BHPL				e			04 57 34.5	
comp=Z,69nm,0.8s								
PKI	**Pulchoki**	**21.46**	**344**	eP		**P**	**04 57 29.4**	**+0.3**
comp=Z,674nm,1.5s,mb5.8								
DMN	**Daman**	**21.58**	**343**	eP		**P**	**04 57 30.4**	**+0.1**
comp=Z,823nm,1.5s,mb6.0								
GUN	**Gumba**	**21.66**	**345**	eP		**P**	**04 57 31.7**	**+0.6**
comp=Z,1μm,1.3s,mb6.1								
KKN	**Kakani**	**21.70**	**344**	eP		**P**	**04 57 32.3**	**+0.8**
comp=Z,626nm,1.5s,mb5.8								
BOM	**Bombay**	**22.08**	**304**	e		Px	05 01 11.3	
BOM				e		**S**	**05 01 40.1**	**+7.7**
GKN	**Gorkha**	**22.09**	**343**	eP		**P**	**04 57 36.1**	**+0.8**
comp=Z,523nm,1.3s,mb5.8								
KOLN	**Koldanda**	**22.20**	**340**	eP		**P**	**04 57 37.0**	**+0.5**
comp=Z,1μm,1.8s,mb6.0								
LSA	**Lhasa**	**22.69**	**358**	P		**P**	**04 57 42.4**	**+1.0**
LSA				AP			04 57 53.2	
LSA				S		**S**	**05 01 44.4**	**+0.9**
LSA				AMB		AMB		
comp=Z,60nm,0.7s,mb5.1								
LSA				LR		LR		
comp=N,1μm,20.4s,MS4.7								
LSA				LR		LR		
comp=E,2μm,20.4s,MS4.7								
LSA				LR		LR		
comp=Z,3μm,21.7s,MS4.7								
LSA	**Lhasa**	**22.69**	**358**	eP		**P**	**04 57 42.5**	**+1.2**
comp=Z,191nm,1.1s,mb5.4								
DGAR	**Diego Garcia**	**24.06**	**234**	P		**P**	**04 57 56.2**	**+1.4**
comp=Z,356nm,1.5s,mb5.6								
PTH	**Pithoragarh**	**25.08**	**335**	e		**P**	**04 58 17.0**	**+12**
NDI	**New Delhi**	**25.73**	**329**	eP		**P**	**04 58 12.1**	**+1.4**
NDI				e			04 58 23.5	
comp=Z,223nm,1.7s								
NDI				e			05 02 46.5	
DDI	**Dehra Dun**	**26.69**	**333**	eP		**P**	**04 58 21.5**	**+2.1**
SMLA	**Simla**	**27.77**	**332**	e		**P**	**04 58 44.2**	**+15**
ENH	**Enshi**	**28.51**	**33**	eP		**P**	**04 58 33.2**	**-2.8**
comp=Z,17nm,0.6s,mb5.0								
LZH	**Lanzhou**	**31.04**	**19**	P		**P**	**04 58 58.3**	**-0.1**
LZH				AP		pP	04 59 05.2	-0.2
LZH				XP		sP	04 59 09.1	+0.6
LZH				AMB		AMB		
comp=Z,50nm,1.1s,mb5.3								
LZH				AMB		AMB		
comp=Z,350nm,4.0s								
LZH				LR		LR		
comp=N,2μm,12.2s								
LZH				LR		LR		
comp=Z,5μm,20.0s								
XAN	**Xi'an**	**31.25**	**28**	P		**P**	**04 58 57.9**	**-2.4**
NJ2	**Nanjing**	**35.45**	**42**	eP		**P**	**04 59 37.4**	**+0.7**
NJ2				AP		pP	04 59 41.5	-2.3
NJ2				PP		PP	05 00 57.0	+0.2
NJ2				S		**S**	**05 05 11.0**	**+1.5**
NJ2				AMB		AMB		
comp=Z,800nm,5.3s								
NJ2				LR		LR		
comp=N,3μm,24.8s								
NJ2				LR		LR		
comp=E,5μm,19.0s								
NJ2				LR		LR		
comp=Z,6μm,18.4s								
SSE	**Sheshan**	**36.46**	**45**	P		**P**	**04 59 42.4**	**-2.9**
SSE				S		**S**	**05 05 19.9**	**-5.2**
SSE				XS			05 05 35.9	
SSE				AMB		AMB		
comp=Z,25nm,0.8s,mb5.2								
SSE				AMB		AMB		
comp=Z,123nm,6.2s								
SSE				LR		LR		
comp=N,983nm,26.5s,MS4.5								
SSE				LR		LR		
comp=E,358nm,26.3s,MS4.5								
SSE				LR		LR		
comp=Z,640nm,25.2s,MS4.3								
WMQ	**Urumqi**	**36.96**	**355**	P		**P**	**04 59 50.0**	**+0.7**
WMQ				PP		PP	05 01 15.9	+0.2
WMQ				S		**S**	**05 05 33.9**	**+1.3**
WMQ				AMB		AMB		
comp=Z,8.0nm,0.9s,mb4.5								
WMQ				AMB		AMB		
comp=Z,66nm,4.6s								
WMQ				LR		LR		
comp=N,2μm,20.2s,MS5.0								
WMQ				LR		LR		
comp=E,1μm,21.0s,MS5.0								
WMQ				LR		LR		
comp=Z,2μm,18.7s,MS4.9								
TIA	**Tai'an**	**37.19**	**35**	eP		**P**	**04 59 53.0**	**+1.7**
KZA	**Kyzart**	**38.02**	**340**	P		**P**	**05 00 00.2**	**+1.9**
SNR=7.7								
UCH	**Uchtor**	**38.41**	**339**	P		**P**	**05 00 03.1**	**+1.6**
SNR=15								
AML	**Almayashu**	**38.62**	**338**	P		**P**	**05 00 05.4**	**+2.1**
SNR=35								
TKM2	**Tokmak 2**	**38.65**	**341**	P		**P**	**05 00 05.1**	**+1.5**
SNR=14								
AAK	**Ala-Archa**	**38.77**	**339**	P		**P**	**05 00 06.0**	**+1.4**
SNR=9.5								
AAK	**Ala-Archa**	**38.77**	**339**	⇑i P		**P**	**05 00 01.2**	**-3.4**
AAK				pmax		pmax		
comp=Z,24nm,1.9s,mb4.6								
AAK	**Ala-Archa**	**38.77**	**339**	eP		**P**	**05 00 04.0**	**-0.5**
comp=Z,84nm,1.4s,mb5.3								
FRU	**Bishkek**	**38.90**	**340**	eP		**P**	**05 00 07.5**	**+1.8**
FRU				e			05 00 25.5	
FRU				pmax		pmax		
comp=Z,60nm,2.2s,mb4.9								
FRU				MLR		MLR		
comp=E,2μm,17.0s								
MBWA	**Marble Bar**	**39.03**	**136**	eP		**P**	**05 00 07.2**	**+0.3**
comp=E,5.8nm,0.8s,mb4.4								
EKS2	**Erkin-Say**	**39.05**	**339**	P		**P**	**05 00 08.5**	**+1.6**
SNR=9.4								
USP	**Ospenovka**	**39.33**	**340**	P		**P**	**05 00 11.2**	**+2.0**
SNR=17								
BJT	**Baijiatuau**	**39.50**	**30**	eP		**P**	**05 00 09.4**	**-1.3**
comp=E,31nm,1.4s,mb4.8								
FITZ	**Fitzroy Crossi**	**41.54**	**127**	eP		**P**	**05 00 28.2**	**+0.5**
comp=E,23nm,1.7s,mb4.5								
ULN	**Ulaanbaatar**	**42.81**	**15**	⇓i P		**P**	**05 00 35.0**	**-2.8**
ULN	**Ulaanbaatar**	**42.81**	**15**	eP		**P**	**05 00 37.2**	**-0.6**
comp=E,23nm,1.0s,mb4.8								
ZAK	**Zakamensk**	**44.37**	**10**	⇓eP		**P**	**05 00 50.9**	**+0.5**
SNY	**Shenyang**	**44.69**	**34**	⇑P		**P**	**05 00 52.9**	**-0.2**
SNY				S		**S**	**05 07 22.3**	**-5.4**
SNY				SS		SS	05 10 41.9	+2.2
SNY				AMB		AMB		
comp=Z,20nm,1.4s,mb4.8			

MDJ XS 05 08 52.6
MDJ AMB AMB
comp=Z,34nm,1.9s,mb5.0
MDJ AMB AMB
comp=Z,201nm,5.8s
MDJ LR LR
comp=N,300nm,13.4s,MS4.9
MDJ LR LR
comp=E,868nm,15.7s,MS4.9
MDJ LR LR
comp=Z,913nm,15.9s,MS4.9
ASPA Alice Springs 51.03 128 *eP* **P 05 01 42.4 -0.3**
MAJO Matsushiro 51.45 48 *eP* **P 05 01 45.2 -0.5**
comp=Z,6.9nm,0.8s,mb4.6
MAT Matsushiro 51.45 48 *eP* **P 05 01 43.0 -2.7**
comp=Z,33nm,1.5s,mb5.0
MAT *eS* **S 05 09 15.0 +12**
MAT LR LR
comp=Z,350nm,20.0s,MS4.4
MAT Matsushiro 51.45 48 P **P 05 01 43.0 -2.7**
MAT S **S 05 09 01.8 -1.0**
GNI Garni 53.55 316⇑ *iP* **P 05 01 58.5 -2.9**
GNI pmax pmax
comp=Z,24nm,1.9s
GNI Garni 53.55 316 *eP* **P 05 02 02.4 +0.9**
comp=Z,19nm,1.0s,mb5.0
BOD Bodaibo 53.62 14⇓ *iP* **P 05 02 00.7 -0.9**
BOD *e* pP 05 02 08.8 -0.1
KLR Kul'dur 53.85 31 *eP* **P 05 02 00.0 -3.4**
KLR *e* 05 13 08.5
KLR MLR MLR
comp=N,800nm,13.0s,MS5.3
KLR MLR MLR
comp=E,2μm,13.0s,MS5.3
KLR MLR MLR
comp=Z,3μm,13.0s,MS5.5
TI2 Plekhanov 54.24 317 *eP* **P 05 02 06.0 -0.4**
TI2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
KMBO Kilima Mbogo 55.12 264 *eP* **P 05 02 14.1 +0.8**
comp=Z,8.3nm,1.0s,mb4.7
SVE Sverdlovsk 55.51 340 *eP* **P 05 02 14.0 -1.5**
SVE pmax pmax
comp=Z,100μm,1.5s
SVE MLR MLR
comp=Z,2μm,19.0s,MS5.2
ARU Arti 55.94 338⇑ *iP* **P 05 02 16.7 -1.9**
ARU *e* 05 03 12.2
ARU *e* 05 04 18.1
ARU *e*PPP PPP 05 05 30.2 -10
ARU *eS* **S 05 09 58.7 -4.6**
ARU *e*SS SS 05 13 43.4 -6.0
ARU pmax pmax
comp=Z,47nm,1.2s,mb5.4
ARU Arti 55.94 338 *eP* **P 05 02 17.1 -1.5**
comp=Z,40nm,1.0s,mb5.4
CLNS Chul'man 56.12 21 *eP* **P 05 02 20.0 +0.1**
CLNS *e* 05 03 18.9
CLNS *e* 05 04 20.3
CLNS *eS* **S 05 10 05.8 +0.2**
CLNS *e*SS SS 05 13 50.0 -2.3
CLNS pmax pmax
comp=Z,18nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,14nm,1.4s
CLNS pmax pmax
comp=E,8.0nm,1.1s
CLNS pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
CLNS pmax pmax
comp=N,6.0nm,0.7s
CLNS pmax pmax
comp=E,10.0nm,1.1s
CLNS smax
comp=N,3.0nm,1.0s
CLNS smax
comp=Z,2.0nm,0.9s
CLNS smax
comp=E,3.0nm,1.1s
CLNS MLR MLR
comp=Z,500nm,13.0s,MS4.8
CLNS MLR MLR
comp=N,700nm,15.0s,MS4.9
CLNS MLR MLR
comp=E,100nm,14.0s,MS4.9
KIV Kislovodsk 56.57 319 *eP* **P 05 02 20.6 -2.7**
KIV *e* 05 02 30.5
KIV *e* 05 03 21.0
KIV *e* 05 04 29.1
KIV pmax pmax
comp=Z,26nm,1.7s,mb5.0
KIV MLR MLR
comp=Z,500nm,20.0s,MS4.6
KIV Kislovodsk 56.57 319 *eP* **P 05 02 23.4 +0.1**
comp=Z,37nm,1.3s,mb5.3
PMG Port Moresby 57.38 106 *eP* **P 05 02 30.3 +0.9**
comp=Z,13nm,0.9s,mb5.0
MALT Malatya 57.42 311 *eP* **P 05 02 28.9 -0.6**
comp=Z,14nm,1.3s,mb4.8
EIL Elat 58.00 301 *eP* **P 05 02 36.4 +2.8**
comp=Z,18nm,1.2s,mb5.0
YSS Yuzh-Sakhalins 58.91 38 *eP* **P 05 02 39.2 -0.5**
YSS *e* 05 03 25.8
YSS S **S 05 10 50.0 +7.6**
YSS pmax pmax
comp=Z,60nm,1.5s,mb5.4
YSS MLR MLR
comp=Z,700nm,17.0s,MS4.8
YSS MLR MLR
comp=N,500nm,18.0s
YSS Yuzh-Sakhalins 58.91 38 *eP* **P 05 02 39.2 -0.5**
SOKR Solikamsk 58.93 340⇓ *iP* **P 05 02 38.4 -1.2**
SOKR pmax pmax
comp=Z,40nm,1.0s,mb5.4
SOKR MLR MLR
comp=Z,950nm,18.7s,MS4.9
CTAO Charters Tower 59.78 118 *eP* **P 05 02 44.1 -2.0**
comp=Z,54nm,1.7s,mb5.3
STKA Stephens Creek 61.07 132 *eP* **P 05 02 54.8 +0.1**
comp=Z,10.0nm,0.9s,mb5.0
MBAR Mbarara 61.48 266 *eP* **P 05 03 03.6 +5.8**
YAK Yakutsk 61.62 19 *eP* **P 05 02 58.0 0.0**
YAK *e* 05 03 36.6
YAK *e* 05 05 13.1
YAK *e*PPP PPP 05 06 44.4 -0.2
YAK *eS* **S 05 11 17.6 +0.6**
YAK *e* 05 12 40.5
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=Z,26nm,1.1s,mb5.3
YAK pmax pmax
comp=E,13nm,1.2s
YAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.2s
YAK smax
comp=E,3.0nm,1.2s
YAK smax
comp=N,3.0nm,0.9s
YAK Yakutsk 61.62 19 *eP* **P 05 02 57.0 -1.0**
comp=N,99nm,1.3s,mb5.8
ISP Isparta 63.31 309 *eP* **P 05 03 10.5 +0.9**
MOS Moscow 64.77 329 *eP* **P 05 03 18.2 -0.7**
MOS *e* pP 05 03 25.3 -1.0
MOS pmax pmax
comp=Z,52nm,1.2s,mb5.4
OBN Obninsk 65.03 329⇑ *eP* **P 05 03 18.9 -1.7**
OBN *i* pP 05 03 27.2 -0.8
OBN *e* 05 03 33.2
OBN 05 03 56.0
OBN pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
OBN MLR MLR
comp=Z,800nm,17.0s,MS5.0
LSZ Lusaka 66.86 250 *eP* **P 05 03 32.2 -0.7**
comp=Z,17nm,1.2s,mb5.0
SANT Santorini 67.01 307 P **P 05 03 35.7 +2.2**
comp=Z,40nm,1.1s,mb5.4
KDZ Kurdzhali 67.93 312 *eP* **P 05 03 40.0 +0.8**
RZN Rozhen 68.45 312 *eP* **P 05 03 42.0 -0.5**
TIXI Tiksi 68.62 12⇑ *iP* **P 05 03 41.0 -2.1**
TIXI *eS* S 05 12 29.6 -13
TIXI pmax pmax
comp=Z,112nm,1.2s,mb5.7
MA2 Magadan 68.65 28 *eP* **P 05 03 43.0 -0.4**
MA2 *eS* S 05 12 36.3 -7.0
MA2 pmax pmax
comp=Z,20nm,1.2s,mb4.9
MA2 MLR MLR
comp=Z,1μm,24.0s,MS5.1
MA2 Magadan 68.65 28 *eP* **P 05 03 42.5 -0.9**
comp=Z,26nm,1.0s,mb5.1
MMB Musomiste 69.16 312 *eP* **P 05 03 46.0 -0.9**
KKB Krupnik 69.68 312 *eP* **P 05 03 49.0 -1.1**
VTS Vitosha 69.71 313 *eP* **P 05 03 48.0 -2.2**
SEY Seymchan 70.73 25 *eP* **P 05 03 56.1 0.0**
SEY *eS* S 05 13 03.7 -4.0
SEY SS SS 05 17 33.4 -8.4
SEY *e*SSS SSS 05 20 41.4 -6.2
SEY pmax pmax
comp=Z,60nm,1.3s,mb5.4
SEY MLR MLR
comp=E,3μm,24.0s,MS5.5
SEY MLR MLR
comp=Z,6μm,24.0s,MS5.8
SEY MLR MLR
comp=N,3μm,27.0s,MS5.5
JOF Joensuu 70.78 335 *ep* **P 05 03 54.6 -1.8**
comp=N,9.6nm,0.9s,mb4.7
JOF Joensuu 70.78 335 *eP* **P 05 03 54.6 -1.8**
JOF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VSU Vasula 71.30 330 *eP* **P 05 03 57.3 -2.3**
KWP Kalwaria 71.34 320 *eP* **P 05 04 00.2 +0.2**
comp=Z,42nm,1.2s,mb5.2
KOLS Kolonicke sedl 71.48 319 *eP* **P 05 04 01.9 +1.0**
KOLS *ep*P pP 05 04 09.6 +1.3
APA Apatity 71.98 340⇓ *iP* **P 05 04 02.1 -1.4**
APA *i* 05 04 20.8
APA pmax pmax
comp=Z,77nm,1.6s,mb5.4
SUW Suwalki 72.00 325 *eP* **P 05 04 03.2 -0.7**
CRVS Cervenica-Dubn 72.01 319 *eP* pP 05 04 10.5 -0.9
CRVS *e* 05 04 55.8
CRVS Cervenica-Dubn 72.01 319 *e* pP 05 04 10.5 -0.9
CRVS *e* 05 04 55.8
KAF Kangasniemi 72.65 333 *ep* **P 05 04 05.9 -1.6**
comp=Z,11nm,0.9s,mb4.8
KAF Kangasniemi 72.65 333 *eP* **P 05 04 05.9 -1.6**
KAF pmax pmax
comp=Z,11nm,0.9s,mb4.8
OJC Ojcow 73.30 320 *eP* **P 05 04 11.2 -0.4**
VYHS Vyhne 73.66 318 *eP* **P 05 04 13.5 -0.2**
SRO Srobarova 73.91 318 *eP* **P 05 04 16.4 +1.2**
OKC Ostrava-Krasne 74.29 320 *eP* **P 05 04 17.3 0.0**
MORC Moravsky Berou 74.67 320 *eP* **P 05 04 14.9 -4.7**
comp=Z,9.4nm,1.1s,mb4.6
ZST Bratislava 74.77 318 *eP* **P 05 04 20.9 +0.8**
ZST *ep*P pP 05 04 28.2 +0.6
DPC Dobruska-Polom 75.53 320 *eP* **P 05 04 24.6 +0.2**
KSP Ksiaz 75.60 321 *eP* **P 05 04 26.2 +1.4**
KSP *ep*P pP 05 04 33.3 +1.0
KSP *e*PcP PcP 05 04 39.4 +1.4
ARSA Arzberg 75.73 317⇓ *iP* **P 05 04 26.4 +0.8**
comp=Z,19nm,1.4s,mb4.8
PRU Pruhonice 76.63 320 *eP* **P 05 04 30.9 +0.3**
PVCC Panska Ves 76.66 320 *eP* **P 05 04 31.8 +1.0**
GEC2 GERESS Array S 77.08 318 *eP* **P 05 04 34.0 +0.8**
GEC2 pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
GEC2 GERESS Array S 77.08 318 *eP* **P 05 04 34.0 +0.8**
comp=Z,5.0nm,1.0s,mb4.4
BRG Berggiesshubel 77.09 321 *eP* **P 05 04 33.9 +0.7**
BRG *e* pP 05 04 42.2 +1.5
BRG pmax pmax
comp=Z,48nm,1.9s,mb5.1
BRG Berggiesshubel 77.09 321 *eP* **P 05 04 33.9 +0.7**
comp=Z,48nm,1.9s,mb5.1
BRG *e* pP 05 04 42.2 +1.5
BRG *e* 05 05 21.0
KHC Kasperske Hory 77.18 319 *eP* **P 05 04 33.4 -0.3**
KHC *e* pP 05 04 41.5 +0.3
KHC Kasperske Hory 77.18 319 *eP* **P 05 04 33.4 -0.3**
KHC pP pP 05 04 41.5 +0.3
WET Wettzell 77.64 319 *eP* **P 05 04 37.1 +0.8**
CLL Collm 77.71 321 *eP* **P 05 04 37.0 +0.4**
CLL *i* pP 05 04 45.0 +0.9
CLL Collm 77.71 321 P **P 05 04 37.0 +0.4**
CLL *i* *PP pP 05 04 45.0 +0.9
CLL *e* 05 04 58.0
CLL *e* 05 05 42.0
WTTA Wattenberg 78.37 317⇑ *iP* **P 05 04 40.4 +0.1**
comp=Z,22nm,1.1s,mb5.0
WATA Walderalm 78.41 317⇑ *iP* **P 05 04 40.3 -0.2**
comp=Z,29nm,1.5s,mb5.0
MOX Moxa 78.55 320 *eP* pP 05 04 48.0 -0.7
SQTA Sankt Quirin 78.66 317⇓ *iP* **P 05 04 42.1 +0.2**
comp=Z,27nm,1.5s,mb5.0
MOTA Moosalm 78.73 317⇑ *iP* **P 05 04 42.0 -0.3**
comp=Z,13nm,1.2s,mb4.7
GRA1 Grafenberg Arr 78.75 319 *eP* **P 05 04 43.4 +1.1**
comp=Z,8.0nm,0.8s,mb4.7
GRF Grafenberg Arr 78.75 319 *eP* **P 05 04 43.4 +1.1**
GRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
GRF Grafenberg Arr 78.75 319 *eP* **P 05 04 43.4 +1.1**
comp=Z,8.0nm,0.8s,mb4.7
CLZ Clausthal 79.38 321 *eP* **P 05 04 46.5 +0.8**
comp=Z,5.0nm,0.8s,mb4.5
NB2 NORSAR Subarra 79.49 331 P **P 05 04 44.1 -2.0**
comp=Z,4.9nm,0.9s,mb4.4,baz=93,slow=5.8
DAVA Damuels 79.56 317⇑ *iP* **P 05 04 47.3 +0.5**
comp=Z,29nm,1.2s,mb5.1
BFO Black Forest 80.62 318 *eP* **P 05 04 53.0 +0.6**
BFO pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BFO Black Forest 80.62 318 *eP* **P 05 04 53.0 +0.6**
comp=Z,2.0nm,0.9s,mb4.0
SBF Sospel 81.28 313 *eP* **P 05 04 56.6 +0.6**
comp=Z,57nm,0.9s,mb5.2
CDF Champ du Feu 81.32 318 *eP* **P 05 04 56.5 +0.4**
LPG La Plagne 81.73 315 *eP* **P 05 04 59.5 +1.2**
comp=Z,26nm,0.8s,mb4.9
MBDF Montbardon 81.74 314 *eP* **P 05 04 58.6 +0.2**
comp=Z,33nm,1.2s,mb4.8
LPL La Plagne 81.75 315 *eP* **P 05 04 59.4 +1.0**
comp=Z,26nm,0.8s,mb4.9
BNI Bardonecchia 81.80 314 *eP* **P 05 04 54.9 -3.7**
comp=Z,26nm,1.2s,mb5.0
HAU Haudompre 81.95 317 *eP* **P 05 04 59.9 +0.5**
comp=Z,56nm,1.4s,mb5.0
HAU *e*R
comp=Z,529nm,17.0s
BAIF Baives 83.29 320 *eP* **P 05 05 07.0 +0.8**
SYO Syowa Base 83.84 197⇓ P **P 05 05 10.8 +2.1**
SYO Syowa Base 83.84 197⇑ pP pP 05 05 13.7 -2.6
BGF Bois d'Agland 84.40 316 *eP* **P 05 05 13.1 +1.1**
comp=Z,38nm,1.2s,mb5.1
MCK McKinley 96.22 23 P **P 05 06 10.8 +3.5**
comp=Z,3.5nm,1.0s,mb4.7
HLID Hailey 124.39 23 *e*PKPdf PKPdf 05 11 40.2 -2.0
MVU Marysvale 129.56 25 *e*PKPdf PKPdf 05 11 51.0 -1.2
MSU Marysvale 129.57 25 *e*PKPdf PKPdf 05 11 50.8 -1.4
JCT Junction City 141.17 16 *e*PKPdf PKPdf 05 12 12.4 -1.6
CPUP Villa Florida 144.92 233 PKPbc PKPbc 05 12 16.6 +0.4

*DJA **06** 06:21:48.8±1.3, 6.88S×105.13E, h100km, mb5.6/3, MD4.7/1, Error ellipse: s-maj=44.0km s-min=9.2km az=49.0*
*NEIC **06** 06:21:48.3±0.8, 6.98S×105.08E, h30km, mb4.5/5, Error ellipse: s-maj=13.2km s-min=11.1km az=179.0*
NEIC Felt [III] at Serpong.
ISC 06 06:21:47.1±0.6, 7.18S±0.08×105.14E±0.06, h33km, n25, σ1§32/25, mb4.6/8, 2C-3D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PASI	**Pasiripis**	**0.66**	**43**	*e*Pn	**Sn**	**06 22 16.4**	**+7.1**
PULI	**Pulasari**	**1.17**	**45**⇓	*i*Pn	**Pn**	**06 22 04.9**	**-2.5**
KALI	**Kaliastana**	**1.51**	**87**	*e*Pn	**Pn**	**06 22 10.0**	**-2.3**
PENI	**Pendagan**	**1.60**	**1**⇓	*i*Pn	**Pn**	**06 22 12.6**	**-0.9**
DJA	**Jakarta**	**1.95**	**60**	*e*Pn	**Pn**	**06 22 19.0**	**+0.4**
LEM	**Lembang**	**2.49**	**82**	*e*Pn	**Pn**	**06 22 27.7**	**+1.5**
SRDI	**Scrawed** 205nm,0.2s	**9.01**	**99**	*e*P	**P**	**06 23 59.1**	**+1.2**
KELI	**Kelakatan** 131nm,0.2s	**9.33**	**97**⇑	*e*P	**P**	**06 24 03.5**	**+1.3**
COCO	**West Island** 96nm,0.8s	**9.58**	**238**	P	**P**	**06 24 04.5**	**-1.3**
RATI	**Rata** 811nm,0.3s	**10.41**	**99**⇑	*e*P	**P**	**06 24 16.4**	**-0.8**
KEDI	**Kedomdong**	**10.95**	**98**⇓	*i*P	**P**	**06 24 23.1**	**-1.5**
MBWA	**Marble Bar** 17nm,1.2s	**19.81**	**136**	*e*P	**P**	**06 26 17.0**	**-0.7**
FITZ	**Fitzroy Crossi** 8.7nm,0.7s,mb4.3	**22.73**	**120**	*e*P	**P**	**06 26 49.9**	**+2.3**
PALK	**Pallekele** 26nm,1.2s,mb4.7	**28.28**	**300**	P	**P**	**06 27 29.9**	**-10**
WRAB	**Tennant Creek**	**31.03**	**117**	P	**P**	**06 28 01.2**	**-3.1**
JIRN	**Jiri** 9.5nm,0.7s,mb4.7	**39.18**	**333**	*e*P	**P**	**06 29 14.6**	**+0.8**
PKI	**Pulchoki**	**39.47**	**332**	*e*P	**P**	**06 29 15.9**	**-0.2**
GUN	**Gumba** 7.7nm,0.4s,mb4.8	**39.54**	**333**	*e*P	**P**	**06 29 17.6**	**+0.9**
KKN	**Kakani**	**39.71**	**332**	*e*P	**P**	**06 29 17.8**	**-0.4**
GKN	**Gorkha**	**40.19**	**331**	*e*P	**P**	**06 29 22.6**	**+0.4**
KOLN	**Koldanda** 13nm,0.6s,mb4.8	**40.51**	**330**	*e*P	**P**	**06 29 26.2**	**+1.4**
PMG	**Port Moresby** 22nm,1.1s,mb4.7	**41.62**	**96**	P	**P**	**06 29 34.1**	**-0.1**
STKA	**Stephens Creek** 4.3nm,0.4s,mb4.4	**41.91**	**131**	*e*P	**P**	**06 29 39.3**	**+3.0**
STKA	**Stephens Creek**	**41.91**	**131**	*e*P	**P**	**06 29 38.5**	**+2.2**
CHKZ	**Chkalovo** 2.6nm,0.7s,mb4.4	**67.25**	**339**	*e*P	**P**	**06 32 39.8**	**-0.5**

*NEIC **06** 07:30:27.3, 36.96N×10.92W, MG3.7(MDD), After MDD.*
*INMG **06** 07:30:28.4±0.7, 36.91N×10.99W, h10km, ML2.1, Error ellipse: s-maj=4.7km s-min=2.6km az=62.0*
*CSEM **06** 07:30:28.8±0.8, 37.22N×10.73W, h10km, mb3.7/8, Error ellipse: s-maj=13.8km s-min=8.6km az=52.0*
MDD 06 07:30:27.1±2.0, 36.95N×10.94W, mbLg2.5/13, Error ellipse: s-maj=17.4km s-min=10.2km az=56.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.87**	**71**	*e*Pn	Pn	07 30 59.1	-1.5
PTEO	12nm,0.3s			*e*Sn	Sn	07 31 22.4	-2.8
PTEO	**Sao Teotonio**	**1.87**	**71**	P	Pn	07 30 58.6	-2.0
PTEO				S	Sn	07 31 21.7	-3.5
PTEO	**Sao Teotonio**	**1.87**	**71**	P	Pn	07 30 59.1	-1.5
PTEO	5.9nm,0.3s			S	Sn	07 31 22.4	-2.8
PTEO	**Sao Teotonio**	**1.87**	**71**	P	Pn	07 30 58.6	-2.0
PTEO				S	Sn	07 31 21.7	-3.5
MOE	**Montemor**	**2.59**	**52**	*e*Pn	Pn	07 31 09.4	-1.5
MOE				*e*Sn	Sn	07 31 40.2	-3.3
PBEJ	**Beja** 3.5nm,0.3s	**2.67**	**65**	*e*Sn	Sn	07 31 41.5	-4.2
PBEJ	**Beja**	**2.67**	**65**	P	Pn	07 31 10.7	-1.4
PBEJ				S	Sn	07 31 41.4	-4.3
PBEJ	**Beja** SNR=4.0	**2.67**	**65**	P	Pn	07 31 10.7	-1.4
PBEJ	1.8nm,0.3s			S	Sn	07 31 41.5	-4.2
PBEJ	**Beja**	**2.67**	**65**	P	Pn	07 31 10.7	-1.4
PBEJ				S	Sn	07 31 41.3	-4.4
PALC	**Alcoutim** 5.1nm,0.2s	**2.82**	**78**	*e*Sn	Sn	07 31 44.8	-4.5
PALC	**Alcoutim** 2.5nm,0.2s	**2.82**	**78**	S	Sn	07 31 44.8	-4.5
EGRO	**El Granado**	**2.82**	**77**	P	Pn	07 31 12.1	-2.1
EGRO				S	Sn	07 31 44.6	-4.8
EGRO	**El Granado** 1.2nm,0.1s,SNR=7.9	**2.82**	**77**	P	Pn	07 31 12.1	-2.1
EGRO	6.4nm,0.2s,SNR=7.9			S	Sn	07 31 44.6	-4.9
EGRO	**El Granado** 1.2nm,0.1s,SNR=7.9	**2.82**	**77**	P	Pn	07 31 12.1	-2.1
EGRO	1.1nm,0.1s,SNR=7.9			S	Sn	07 31 44.6	-4.8
PTOM	**Tomar**	**3.33**	**36**	S	Sn	07 31 59.6	-2.7
EMIN	**Mina Concepcio**	**3.50**	**75**	P	Pn	07 31 21.3	-2.6
EMIN				S	Sn	07 32 01.2	-5.3
EMIN	**Mina Concepcio** 0.8nm,0.1s,SNR=11	**3.50**	**75**	P	Pn	07 31 21.2	-2.6
EMIN	1.8nm,0.2s,SNR=7.9			S	Sn	07 32 01.4	-5.2
EMIN	**Mina Concepcio** 0.8nm,0.1s,SNR=11	**3.50**	**75**	P	Pn	07 31 21.3	-2.5
EMIN	0.7nm,0.1s,SNR=7.9			S	Sn	07 32 01.2	-5.4
EBAD	**Badajoz**	**3.60**	**59**	P	Pn	07 31 23.0	-2.2
EBAD				S	Sn	07 32 04.1	-5.0
EBAD	**Badajoz** 0.9nm,0.1s,SNR=6.5	**3.60**	**59**	P	Pn	07 31 22.9	-2.3
EBAD	6.7nm,0.2s,SNR=7.9			S	Sn	07 32 03.9	-5.1
EBAD	**Badajoz** 0.9nm,0.1s,SNR=6.5	**3.60**	**59**	P	Pn	07 31 23.0	-2.2
EBAD	5.2nm,0.1s,SNR=7.9			S	Sn	07 32 04.1	-4.9
PCBR	**Castelo Branco**	**3.97**	**42**	*e*Sn	Sn	07 32 13.4	-5.1
PCBR	**Castelo Branco**	**3.97**	**42**	S	Sn	07 32 13.2	-5.3
ESPR	**Espera**	**4.08**	**90**	P	Pn	07 31 29.5	-2.5
ESPR				S	Sn	07 32 15.0	-6.2
ESPR	**Espera** 1.3nm,0.1s,SNR=5.6	**4.08**	**90**	P	Pn	07 31 29.4	-2.6
ESPR	7.5nm,0.2s,SNR=7.9			S	Sn	07 32 14.7	-6.5
ESPR	**Espera** 1.3nm,0.1s,SNR=5.6	**4.08**	**90**	P	Pn	07 31 29.5	-2.6
ESPR	12nm,0.3s,SNR=7.9			S	Sn	07 32 15.0	-6.2
EADA	**Adamuz**	**5.20**	**75**	P	Pn	07 31 45.0	-3.0
EADA				S	Sn	07 32 41.9	-7.7
EADA	**Adamuz** 0.3nm,0.1s,SNR=7.9	**5.20**	**75**	P	Pn	07 31 44.1	-3.9
EADA	2.8nm,0.2s,SNR=7.9			S	Sn	07 32 42.7	-7.0
EADA	**Adamuz** 0.3nm,0.1s,SNR=7.9	**5.20**	**75**	P	Pn	07 31 45.0	-3.0
EADA	1.9nm,0.1s,SNR=7.9			S	Sn	07 32 41.9	-7.7
ELOB	**Lobios**	**5.40**	**24**	P	Pn	07 31 47.1	-3.6
ELOB				S	Sn	07 32 46.4	-8.1
ELOB	**Lobios** 1.7nm,0.8s,SNR=4.0	**5.40**	**24**	P	Pn	07 31 46.8	-3.9
ELOB	1.2nm,0.1s,SNR=7.9			S	Sn	07 32 46.6	-7.9
ELOB	**Lobios** 1.7nm,0.8s,SNR=7.9	**5.40**	**24**	P	Pn	07 31 47.2	-3.5
ELOB	1.3nm,0.1s,SNR=7.9			S	Sn	07 32 46.4	-8.1
EZAM	**Zamans**	**5.48**	**18**	P	Pn	07 31 47.9	-4.0
EZAM				S	Sn	07 32 48.5	-8.0
EZAM	**Zamans** 0.6nm,0.3s,SNR=4.0	**5.48**	**18**	P	Pn	07 31 47.6	-4.2
EZAM	4.1nm,0.4s,SNR=7.9			S	Sn	07 32 48.7	-7.8
EZAM	**Zamans** 0.6nm,0.3s,SNR=7.9	**5.48**	**18**	P	Pn	07 31 47.9	-4.0
EZAM	0.8nm,0.2s,SNR=7.9			S	Sn	07 32 48.5	-8.0
EBAN	**Banos Encina** 2.2nm,0.3s,SNR=4.0	**5.81**	**76**	P	Pn	07 31 52.9	-3.7
EBAN	**Banos Encina** 2.2nm,0.3s,SNR=7.9	**5.81**	**76**	P	Pn	07 31 53.5	-3.1
ECAL	**Calabor**	**5.95**	**32**	P	Pn	07 31 56.1	-2.5
ECAL				S	Sn	07 33 00.2	-8.3
ECAL	**Calabor** 2.2nm,0.6s,SNR=7.9	**5.95**	**32**	P	Pn	07 31 57.0	-1.6
ECAL	4.4nm,0.3s,SNR=7.9			S	Sn	07 33 01.1	-7.4
ECAL	**Calabor** 2.2nm,0.6s,SNR=7.9	**5.95**	**32**	P	Pn	07 31 56.1	-2.5
ECAL	5.1nm,0.4s,SNR=7.9			S	Sn	07 33 00.2	-8.3
ESDC	**Sonseca Array** 1.4nm,0.2s,baz=246,slow=13,SNR=5.7	**6.13**	**62**	P	Pn	07 31 57.0	-4.0
ESDC	0.8nm,0.5s,baz=247,slow=23,SNR=4.9			S	Sn	07 33 03.3	-9.5
ESDC	**Sonseca Array** 1.4nm,0.2s,SNR=5.7	**6.13**	**62**	P	Pn	07 31 57.0	-4.0
ESDC	0.8nm,0.5s,SNR=4.9			S	Sn	07 33 03.3	-10
EMAZ	**Mazaricos**	**6.18**	**14**	S	Sn	07 33 04.5	-10

	3.3nm,0.2s,SNR=7.9						
EMAZ	Mazaricos	6.18	14	S	Sn	07 33 04.6	-10
	32nm,0.8s,SNR=7.9						
EQES	Quesada	6.33	80	S	Sn	07 33 09.9	-7.9
	2.1nm,0.2s,SNR=7.9						
EQES	Quesada	6.33	80	S	Sn	07 33 09.2	-8.6
	3.0nm,0.4s,SNR=7.9						
EINC	Incio	6.34	25	P	Pn	07 32 00.9	-3.2
EINC				S	Sn	07 33 08.6	-10
EINC	Incio	6.34	25	P	Pn	07 32 00.4	-3.7
	0.9nm,0.6s,SNR=7.9						
EINC				S	Sn	07 33 08.9	-9.3
	0.6nm,0.2s,SNR=7.9						
EINC	Incio	6.34	25	P	Pn	07 32 00.9	-3.1
	0.9nm,0.6s,SNR=7.9						
EINC				S	Sn	07 33 08.6	-10
	9.4nm,0.6s,SNR=7.9						
GUD	Guadarrama	6.46	53	S	Sn	07 33 13.6	-7.5
	0.6nm,0.2s,SNR=7.9						
GUD	Guadarrama	6.46	53	S	Sn	07 33 12.8	-8.3
	0.9nm,0.3s,SNR=7.9						

NEIC 06 07:42:28.7,61.91N×151.98W,h114km,mb3.4/1,After AEIC.,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKT	Skwentna	0.23	70	P	P	07 42 44.7	0.0
STLK	Strandline Lak	0.41	170	P	P	07 42 44.8	-0.8
CGLM	Capps Glacier	0.60	181	P	P	07 42 45.9	-0.8
CRP	Crater Peak	0.65	188	P	P	07 42 46.5	-0.6
CRP				S	S	07 43 00.8	-0.3
BGL	Barrier Glacie	0.67	197	P	P	07 42 46.7	-0.6
CKN	Chakachatna No	0.69	188	P	P	07 42 46.8	-0.7
CKT	Bend	0.71	189	P	P	07 42 46.8	-0.9
SPU	Mount Spurr	0.73	183	P	P	07 42 46.8	-1.0
CKL	Chakachamna La	0.73	194	P	P	07 42 47.0	-0.8
CUT	Chulitna	0.95	57	P	P	07 42 49.3	-0.7
PWA	Palmer West	1.03	103	P	P	07 42 49.9	-0.9
FIB	Fire Island	1.14	130	P	P	07 42 52.2	+0.2
FIB				S	S	07 43 08.2	-1.3
VOGL	Vogel Lake	1.18	140	P	P	07 42 52.5	0.0
VOGL				S	S	07 43 08.2	-2.1
NKA	Nikishka	1.22	163	P	P	07 42 53.2	+0.3
RC01	Rabbit Creek A	1.35	126	P	P	07 42 53.4	-1.1
RC01				S	S	07 43 12.9	-1.0
RDT	Redoubt	1.35	189	P	P	07 42 53.3	-1.2
DFR	Drift River	1.36	195	P	P	07 42 53.4	-1.2
PMR	Palmer	1.39	102	P	P	07 42 52.9	-2.0
PMR				S	S	07 43 13.3	-1.4
NCT	North Crescent	1.42	199	P	P	07 42 54.3	-1.0
RDN	Redoubt North	1.45	196	P	P	07 42 54.5	-1.0
GHO	Glory Hole Cre	1.46	94	P	P	07 42 54.1	-1.6
GHO				S	S	07 43 15.4	-0.6
REF	Redoubt East F	1.46	194	P	P	07 42 54.7	-1.0
RSO	Redoubt South	1.50	195	P	P	07 42 55.3	-0.9
HUR	Hurricane	1.53	44	P	P	07 42 55.4	-1.2
HUR				S	S	07 43 16.3	-1.3
SLKM	Skilak Lake	1.64	148	P	P	07 42 56.5	-1.4
SLKM				S	S	07 43 17.6	-2.2
SML	Sawmill	1.73	92	P	P	07 42 57.1	-1.8
SML				S	S	07 43 20.7	-1.0
TRF	Thorofare Moun	1.74	26	P	P	07 42 58.1	-1.0
TRF				S	S	07 43 21.1	-0.8
KNK	Knik Glacier	1.75	105	P	P	07 42 57.5	-1.7
ILIM	Iliamna	1.89	195	P	P	07 42 59.5	-1.4
MPA	Moose Pass	1.90	137	P	P	07 42 59.8	-1.3
MPA				S	S	07 43 23.5	-1.9
INE	Iliamna NE	1.93	196	P	P	07 42 59.9	-1.5
ILW	Iliamna West	1.94	197	P	P	07 43 00.3	-1.2
RND	Reindeer	2.09	42	P	P	07 43 02.0	-1.5
TT01	Tatalina	2.13	300	P	P	07 43 01.7	-2.4
SEW	Seward	2.19	145	P	P	07 43 02.5	-2.4
SEW				S	S	07 43 30.9	-1.1
SCM	Sheep Creek Mo	2.21	90	P	P	07 43 03.2	-1.8
BRLK	Bradley Lake	2.21	166	P	P	07 43 02.9	-2.3
HOM	Homer	2.26	176	P	P	07 43 04.3	-1.5
MCK	McKinley	2.31	36	P	P	07 43 04.6	-1.8
OPT	Oil Point	2.34	196	P	P	07 43 06.0	-0.9
CNPM	China Poot	2.42	171	P	P	07 43 05.2	-2.7
DHY	Denali Highway	2.44	59	P	P	07 43 06.6	-1.7
BWN	Browne	2.55	26	P	P	07 43 08.1	-1.6
AUW	Augustine West	2.65	197	P	P	07 43 09.5	-1.5
AUI	Augustine Isla	2.68	196	P	P	07 43 09.6	-1.8
MCNL	McNeil River	2.97	204	P	P	07 43 13.6	-1.7
HIN	Hinchinbrook I	3.06	117	P	P	07 43 13.5	-3.0
TZL	Tazlina	3.10	85	P	P	07 43 15.7	-1.4
MLY	Manley	3.19	10	P	P	07 43 15.9	-2.4
PAX	Paxson	3.21	68	P	P	07 43 16.9	-1.7
THY	Trims Highway	3.25	59	P	P	07 43 17.6	-1.5
EYAK	Cordova Ski Ar	3.31	112	P	P	07 43 16.6	-3.3
SYI	Shuyak Island	3.31	184	P	P	07 43 17.0	-3.0
CCB	Clear Creek Bu	3.34	33	P	P	07 43 17.6	-2.7
DDM	Donnelly Dome	3.38	53	P	P	07 43 18.9	-2.0
HDA	Harding Lake	3.39	40	P	P	07 43 18.6	-2.4
MDM	Murphy Dome	3.50	27	P	P	07 43 20.0	-2.5
COLA	College	3.51	30	P	P	07 43 20.1	-2.6
KAPH	Katmai Pasha	3.52	201	P	P	07 43 21.0	-1.8
KAHC	Katmai Hardscr	3.60	206	P	P	07 43 21.8	-2.0
GCSA	Galena City Sc	3.61	324	P	P	07 43 21.4	-2.6
IL1	Eielson Array	3.68	36	P	P	07 43 22.0	-2.9
GLM	Gilmore Dome	3.72	32	P	P	07 43 23.6	-1.8
KAIC	Katmai Ikaglui	3.76	205	P	P	07 43 24.0	-1.9
KAWH	Katmai	3.80	203	P	P	07 43 24.4	-2.2
GLB	Gilahina Butte	3.92	93	P	P	07 43 25.1	-3.1
MENT	Mentasta	3.98	71	P	P	07 43 26.2	-2.8
DOT	Dot Lake	4.04	61	P	P	07 43 27.4	-2.3
KDAK	Kodiak Island	4.15	184	P	P	07 43 27.6	-3.7
IMA	Indian Mountai	4.25	351	P	P	07 43 30.3	-2.3
TGL	Tana Glacier	4.56	101	P	P	07 43 34.6	-2.2
BALM	Baldy	4.70	96	P	P	07 43 36.1	-2.7
BCA3	Beaver Creek A	4.87	72	P	P	07 43 38.5	-2.6
YAH	Yahtse	5.20	103	P	P	07 43 43.3	-2.1
COLD	Coldfoot	5.40	7	P	P	07 43 45.4	-2.8
DAWY	Dawson	6.13	64	P	P	07 43 55.4	-2.7
BM3	Burnt Mountain	6.37	27	P	P	07 43 57.5	-4.0
INK	Inuvik	10.05	42	eP	P	07 44 47.6	-3.3
RES	Resolute Bay	23.43	34	eP	P	07 47 25.3	-2.3
	1.0nm,0.6s						

*CSEM **06** 07:54:15.6,10.76N×93.60E,h33km,mb5.5*
*MOS **06** 07:54:15.6±1.0,10.72N×93.56E,h40km,mb5.5/24,Error ellipse: s-maj=15.4km s-min=6.6km az=115.8*
*BJI **06** 07:54:24.3,10.56N×93.54E,h133km,mB5.2,mb5.2*
*HRVD **06** 07:54:25.2±0.3,10.85N×93.74E,h124km±1km,MW5.2/61, Centroid moment Tensor Solution. LP body waves: s41,c59;Mantle waves: s61,c124; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.24±.02; $M_{\theta\theta}$-0.75±.02; $M_{\phi\phi}$0.51±.02; $M_{r\theta}$-0.32±.02; $M_{r\phi}$0.25±.02; $M_{\theta\phi}$-0.35±.02; Best double couple: M_0.856×10^{17} NP1: ϕ_s141°,δ55°,λ163°. NP2:ϕ_s241°,δ76°,λ37°. Principal axes: T.85, Plg35°, Azm107°; N.011, Plg51°, Azm258°; P -.861, Plg14°, Azm7°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 07:54:25.2±0.1,10.80N×93.61E,mb5.0/65 Error ellipse: s-maj=6.0km s-min=3.4km az=225.0*

ISC 06 07:54:24.8±0.2,**10.76N**±0.03×**93.63E**±0.03,**h117**km, **h117**km±2.3km:**pP-P,n276,**σ1**9**/273,**mb5.1**/83,**30C-31D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.25	316	eP	P	07 54 49.5	-0.1
PBA				e		07 54 51.0	
NNT	Nongplab	6.25	72	P	P	07 55 58.3	+2.4
SNG	Songkhla	7.76	117	P	P	07 56 19.0	+2.5
	740nm,1.0s						
CHG	Chiang Mai	9.52	32	⇓P	P	07 56 41.6	+1.5
KKTK	Khon Kaen	10.52	57	P	P	07 56 56.0	+2.5
	617nm,0.8s						
CHRT	Chiangrai	10.83	32	⇑P	P	07 56 59.0	+1.4
	921nm,1.0s						
VIS	Vishakhapatnam	12.15	306	eP	P	07 57 16.1	+1.1
VIS				eS	S	07 59 17.4	-11
CAL	Calcutta	12.77	337	eP	P	07 57 23.6	+0.4
CAL				e		07 59 34.6	
PALK	Pallekele	13.23	256	eP	P	07 57 29.6	+0.5
	42nm,0.5s						
PALK				eS	S	07 59 35.5	-18
MDRS	Chennai	13.30	281	eP	P	07 57 31.9	+1.9
MDRS				eS	S	07 59 45.5	-10
IMP	Imphal	13.96	1	e	P	07 57 37.8	-0.7
SHL	Shillong	14.82	354	eP	P	07 57 46.5	-3.2
SHL				e		08 00 17.5	
BOK	Bokaro	14.92	331	⇓iP	P	07 57 51.0	+0.1
BOK				i		07 57 56.7	
BLSP	Bilaspur	15.78	317	eP	P	07 58 02.8	+1.0
BLSP				e		08 00 50.2	
KOD	Kodaikanal	15.90	270	eP	P	07 58 05.0	+1.7
KOD				e		07 58 11.1	
	comp=Z,220nm,1.2s						
HYB	Hyderabad	16.05	296	eP	P	07 58 08.0	+2.9
	comp=Z,120nm,1.0s						
HYB				eS	S	08 00 44.5	-15
HYB	Hyderabad	16.05	296	⇓iP	P	07 58 08.0	+2.9
	comp=Z,120nm,1.0s						
HYB				eS	S	08 00 44.5	-15
TRD	Trivandrum	16.59	264	eP	P	07 58 18.0	+6.1
TRD				e		07 58 19.5	
	comp=Z,180nm,0.7s						
NGP	Nagpur	17.40	308	eP	P	07 58 23.0	+1.1
NGP				e		08 01 25.6	
QIZ	Qiongzhong	17.68	60	P	P	07 58 27.0	+1.7
QIZ				XP		07 59 03.0	
QIZ				eS	S	08 01 36.9	+1.1
QIZ				AMB	AMB		
	comp=Z,52nm,1.2s						
QIZ				AMB	AMB		
	comp=Z,227nm,5.6s						
QIZ	Qiongzhong	17.68	60	eP	P	07 58 25.7	+0.5
	comp=Z,84nm,1.2s						
LATR	Latur	18.18	297	eP	P	07 58 31.6	+0.6
JIRN	Jiri	18.21	338	eP	P	07 58 32.3	+1.0
	comp=Z,604nm,0.6s						
ALBI	Allahabad	18.31	324	eP	P	07 58 31.0	-1.4
PKI	Pulchoki	18.43	336	eP	P	07 58 34.4	+0.7
	comp=Z,2μm,1.1s						
MNGI	Mangalore	18.54	279	eP	P	07 58 35.5	+0.6
MNGI				e		07 58 44.8	
	comp=Z,203nm,1.6s						
GUN	Gumba	18.55	338	eP	P	07 58 35.8	+0.7
	comp=Z,763nm,0.6s						
DMN	Daman	18.58	336	eP	P	07 58 36.0	+0.6
	comp=Z,592nm,0.8s						
KKN	Kakani	18.68	336	eP	P	07 58 36.7	+0.3
	comp=Z,891nm,0.9s						
LSA	Lhasa	18.99	353	P	P	07 58 39.8	0.0
LSA				S	S	08 02 01.8	-2.1
LSA				AMB	AMB		
	comp=Z,280nm,0.7s						
LSA	Lhasa	18.99	353	eP	P	07 58 39.6	-0.2
	comp=Z,623nm,0.7s						
LSA				e		07 58 46.1	
LSA				eS	S	08 01 52.6	-11
GKN	Gorkha	19.12	335	eP	P	07 58 41.9	+0.7
	comp=Z,1μm,0.7s						
KOLN	Koldanda	19.38	332	eP	P	07 58 44.8	+0.9
	comp=Z,2μm,0.8s						
BHPL	Bhopal	19.83	311	⇓iP	P	07 58 50.1	+1.4
BHPL				i S	S	08 02 25.1	+4.7
	comp=Z,299nm,0.9s						
GOA	Goa	19.85	286	e	P	07 59 06.5	+18
	comp=Z,76nm,0.6s						
GOA				e		08 02 23.0	
KAD	Karad	19.95	291	eP	P	07 58 51.4	+1.4
KAD				i		08 02 22.6	
JHNI	Jhansi	20.46	318	e	S	08 02 35.0	+2.6
JHNI				e		08 03 56.0	
MNCY	Minicoy	20.46	265	i	P	07 59 10.0	+15
MNCY				i		08 00 11.0	
POO	Poona	20.63	294	eP	P	07 58 59.0	+2.2
POO				e		07 58 59.9	
	comp=Z,72nm,1.2s						
POO				eS	S	08 02 43.8	+8.2
BOM	Bombay	21.67	294	eP	P	07 59 10.4	+3.2
BOM				e		07 59 24.5	
BOM				eS	S	08 03 04.8	+10
PTH	Pithoragarh	22.50	328	eP	P	07 59 17.0	+1.6
PTH				e		08 03 13.0	
BHV	Bhavnagar	23.31	301	eP	P	07 59 27.0	+3.7
NDI	New Delhi	23.55	322	⇓iP	P	07 59 26.7	+1.3
NDI				e		08 03 29.0	
AJM	Ajmer	23.79	314	⇓iP	P	07 59 30.0	+2.2
AJM				i		08 04 01.0	
BATP	Bataraza	23.90	93	eP	P	07 59 30.6	+1.6
DDI	Dehra Dun	24.27	326	e	P	07 59 39.4	+7.0
DDI				e		08 03 35.6	
DDI				e		08 05 21.9	
ENH	Enshi	24.39	35	eP	P	07 59 32.7	-0.8
	comp=Z,107nm,0.9s,mb5.2						
ENH				epP		07 59 58.1	
ENH				eS	S	08 03 42.5	+0.8
ENH				eScP		08 06 35.5	
PPR	Puerto Princes	24.71	90	⇓eP	P	07 59 39.0	+2.1
SMLA	Simla	25.38	325	e	P	07 59 57.0	+14
SMLA				e		08 00 00.4	
	comp=Z,343nm,1.0s						
BHK	Bhakra	26.02	325	eP	P	07 59 48.0	-0.8
BHK				e		08 04 42.6	
LUBP	Lubang	26.17	81	eP	P	07 59 51.2	+0.8
LUBP	Lubang	26.17	81	eP	P	07 59 51.1	+0.7
LZH	Lanzhou	26.86	19	⇓P	P	07 59 56.5	0.0
LZH				AP	pP	08 00 24.4	+2.7
LZH				XP	sP	08 00 41.1	+5.7
LZH				PCP	PcP	08 03 17.0	+0.6
LZH				eS	S	08 04 18.0	-4.6
LZH				SCP		08 06 44.3	
LZH				PCS		08 06 58.0	
LZH				SCS	ScS	08 10 35.0	+1.1
LZH				AMB	AMB		
	comp=Z,440nm,1.6s,mb5.7						
LZH				AMB	AMB		
	comp=Z,980nm,4.0s						
XAN	Xi'an	27.07	29	P	P	07 59 57.0	-1.5
XAN				AMB	AMB		
	comp=Z,59nm,0.9s,mb5.1						
DLH	Dalhousie	27.11	326	eP	P	07 59 59.0	+0.2
DLH				e		08 05 22.0	
WHN	Wuhan	27.54	41	eP	P	08 00 02.5	-0.3
BALP	Baler	27.64	77	eP	P	08 00 04.8	+1.0
OTRP	Odiongan	27.86	84	eP	P	08 00 06.2	+0.4
GUIM	Jordan	28.45	88	eP	P	08 00 13.1	+2.0
RCP	Roxas	28.57	86	⇑eP	P	08 00 13.6	+1.4
RATI	Rata	29.14	131	⇓eP	P	08 00 15.2	-2.1
	comp=Z,360nm,0.7s						
TANI	Tanete Lipujan	29.25	117	⇓eP	P	08 00 18.7	+0.4
	comp=Z,91nm,0.9s,mb5.4						
KEDI	Kedomdong	29.43	130	⇓eP	P	08 00 17.8	-2.0
	comp=Z,208nm,0.6s,mb5.9						
PAGZ	Pagadian	29.50	93	eP	P	08 00 21.6	+1.2
NINI	Niniconang	30.06	119	⇑P	P	08 00 25.7	+0.2
	comp=Z,252nm,0.9s,mb5.8						
BUNI	Buntu Taipa	30.18	117	⇑eP	P	08 00 27.5	+1.0
	comp=Z,38nm,0.5s,mb5.3						
NJ2	Nanjing	31.48	44	eP	P	08 00 38.3	+0.5
NJ2				AP	pP	08 01 03.1	-0.5
NJ2				PP	PP	08 01 46.5	+0.9
NJ2				S	S	08 05 36.0	+0.1
NJ2				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,390nm,6.7s						
TIA	Tai'an	33.08	36	eP	P	08 00 51.5	-0.1
WMQ	Urumqi	33.34	352	⇓iP	P	08 00 54.6	+0.9
WMQ				AP	pP	08 01 22.2	+2.3
WMQ				XP	sP	08 01 36.9	+3.3
WMQ				PP	PP	08 02 10.5	+1.4
WMQ				S	S	08 06 04.8	+0.1
WMQ				XS		08 06 53.0	
WMQ				AMB	AMB		
	comp=Z,21nm,0.9s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,119nm,4.1s						
ULHL	Ulahol	34.87	337	P	P	08 01 07.2	+0.5
	SNR=68						
KZA	Kyzart	35.11	336	P	P	08 01 09.7	+0.9
	SNR=54						
WBK	Wadi Bani Khal	35.14	294	⇑P	P	08 01 12.5	+3.2
	SNR=11						
BJT	Baijiatuao	35.34	31	eP	P	08 01 09.4	-1.3
	comp=Z,24nm,0.7s,mb5.1						
UCH	Uchtor	35.54	335	P	P	08 01 13.4	+1.0
	SNR=86						
TKM2	Tokmak 2	35.69	337	P	P	08 01 14.3	+0.6
	SNR=57						
KBK	Karagaybulak	35.72	336	P	P	08 01 15.7	+1.8
	SNR=14						
AML	Almayashu	35.80	334	P	P	08 01 16.0	+1.3
	SNR=191						
JMDO	Jabal Madar	35.86	293	⇑P	P	08 01 18.3	+2.9
	SNR=16						
AAK	Ala-Archa	35.88	336	P	P	08 01 16.4	+1.1
	SNR=120						
AAK	Ala-Archa	35.88	336	d iP	P	08 01 14.6	-0.7
AAK				pmax	pmax		
	comp=Z,138nm,1.0s,mb5.8						
AAK	Ala-Archa	35.88	336	eP	P	08 01 14.3	-1.0
	comp=Z,141nm,1.0s,mb5.8						
AAK				epP	pP	08 01 39.0	-2.8
AAK				eScP		08 07 12.9	
FRU	Bishkek	36.00	336	⇓iP	P	08 01 17.2	+0.9
FRU				e		08 02 38.0	
FRU				e		08 06 46.0	
FRU				pmax	pmax		
	comp=Z,160nm,1.8s,mb5.7						
SMDO	Samad	36.07	294	⇑P	P	08 01 20.2	+3.1
	SNR=21						
CHMS	Chumysh	36.09	336	P	P	08 01 17.4	+0.4
	SNR=68						
BIDO	Bidbid	36.11	295	⇑P	P	08 01 20.5	+3.1
	SNR=11						
EKS2	Erkin-Say	36.20	335	P	P	08 01 19.3	+1.3
	SNR=213						
USP	Ospenovka	36.41	336	P	P	08 01 20.2	+0.5
	SNR=8.1						
BSY	Bisya	36.76	294	⇑P	P	08 01 26.2	+3.3
	SNR=40						
HOQ	Hoqain	36.85	295	⇑P	P	08 01 26.6	+2.9
	SNR=12						
MK02	Makanchi Array	37.16	347	P	P	08 01 25.8	-0.2
MK02				pmax	pmax		
	comp=Z,63nm,0.8s,mb5.6						
ARQ	Araqi	37.50	294	⇑P	P	08 01 32.1	+3.0
	SNR=8.2						
ULN	Ulaanbaatar	38.68	14	d iP	P	08 01 38.4	-0.2
ULN	Ulaanbaatar	38.68	14	eP	P	08 01 38.0	-0.6
ULN				ePP	PP	08 03 10.7	-1.5
ULN				eScP		08 07 24.1	
WHFO	Wadi Hawf	39.21	285	⇓P	P	08 01 46.0	+2.7
	SNR=28						
ZAK	Zakamensk	40.30	10	eP	P	08 01 52.1	+0.1
ZAK				e		08 03 54.4	
MBWA	Marble Bar	40.79	141	eP	P	08 01 55.1	-1.2
	comp=Z,38nm,1.1s,mb5.1						
MBWA				pP	pP	08 02 22.6	-0.4
MOY	Mondy	41.23	7	eP	P	08 02 00.4	+0.8
TLY	Talaya	41.62	9	eP	P	08 02 02.7	-0.1
TLY				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.8						
TLY				MLR	MLR		
	comp=Z,160nm,19.0s						
TLY	Talaya	41.62	9	eP	P	08 02 02.1	-0.7
	comp=Z,21nm,1.1s,mb4.8						
FITZ	Fitzroy Crossi	42.67	132	eP	P	08 02 11.3	-0.5
	comp=Z,50nm,0.8s,mb5.3						
FITZ				ePCP	PcP	08 04 02.8	+0.6
FITZ				eSCP		08 07 39.2	
FITZ				eS	S	08 08 25.5	-0.3
HIA	Hailar	44.10	24	eP	P	08 02 22.8	-0.3
	comp=Z,7.8nm,0.6s,mb4.6						
NVS	Novosibirsk	44.74	351	i P	P	08 02 26.8	-1.2
NVS				pmax	pmax		
	comp=Z,89nm,1.0s,mb5.5						
NVS				pmax	pmax		
	comp=N,83nm,1.3s						
KAKA	Kakadu	45.03	120	⇑iP	P	08 02 30.1	-0.8
	comp=N,30nm,0.7s,mb5.1						
MDJ	Mudanjiang	45.75	36	P	P	08 02 36.1	-0.1
MDJ				AP	pP	08 03 01.7	-1.6
MDJ				S	S	08 09 10.4	+0.6
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.7s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,134nm,5.0s						
BVA0	Borovoye Array	46.12	341	P	P	08 02 38.2	-0.8
BVA0				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
BRVK	Borovoye	46.18	341	eP	P	08 02 38.4	-1.1
	comp=Z,74nm,0.9s,mb5.4						
MAT	Matsushiro	47.65	50	P	P	08 02 45.0	-6.3
MAT				eS	S	08 09 35.0	-1.8
MAT	Matsushiro	47.65	50	P	P	08 02 52.0	+0.7
MAT				S	S	08 09 35.0	-1.8
MUN	Mundaring	47.67	154	eP	P	08 02 50.8	-0.6
	comp=Z,24nm,0.7s,mb5.1						
MUN				i PCP	PcP	08 04 19.0	-0.5
KLBR	Kellerberrin	48.03	152	eP	P	08 02 53.0	-1.3
	comp=Z,14nm,0.6s,mb5.0						
KLBR				i PCP	PcP	08 04 19.7	-1.1
NWAO	Narrogin (SRO)	48.93	153	eP	P	08 02 59.6	-1.6
	comp=Z,25nm,0.8s,mb5.2						
NWAO				epP	pP	08 03 28.9	+0.3
BOD	Bodaibo	49.49	14	eP	P	08 03 02.7	-2.4
WRAB	Tennant Creek	50.37	127	c iP	P	08 03 11.6	-0.7
WRAB	Tennant Creek	50.37	127	eP	P	08 03 11.4	-0.9
	comp=Z,101nm,0.6s,mb5.9						
WRAB				eScP		08 08 11.7	
WRAB				eS	S	08 10 16.2	+1.4
WB2	Warramunga Arr	50.37	127	eP	P	08 03 11.7	-0.7
WB2				i SCP		08 08 11.2	
WB2				eS	S	08 10 16.3	+1.4
CLNS	Chul'man	51.94	21	eP	P	08 03 22.3	-1.4
CLNS				pmax	pmax		
	comp=N,13nm,0.9s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
ASPA	Alice Springs	52.16	131	eP	P	08 03 24.6	-1.2
ASPA				i SCP		08 08 18.9	
ASPA				eS	S	08 10 38.3	-1.1
ASPA				i SCS	ScS	08 12 59.7	-0.8
SVE	Sverdlovsk	52.56	338	⇓iP	P	08 03 27.5	-0.8
SVE				pmax	pmax		
	comp=Z,120nm,1.5s,mb5.7						
STE	Stepanavan	52.64	314	eP	P	08 03 27.0	-2.1
STE				eS	S	08 10 42.0	-3.6
TI2	Plekhanov	52.65	315	i P	P	08 03 30.8	+1.6
TI2				S	S	08 10 48.0	+2.2
TI2				pmax	pmax		
	comp=Z,120nm,1.0s,mb5.9						
ARU	Arti	53.06	336	⇓iP	P	08 03 28.8	-3.2
ARU				e		08 04 34.7	
ARU				e		08 05 27.3	
ARU				eS	S	08 10 56.6	+5.4
ARU				eSS	SS	08 14 32.4	+1.0
ARU				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.5						
ERZM	Erzurum	54.47	312	i P	P	08 03 43.3	+0.7
YSS	Yuzh-Sakhalins	54.86	39	eP	P	08 03 44.8	-0.5
YSS	Yuzh-Sakhalins	54.86	39	eP	P	08 03 45.2	-0.1
	comp=Z,58nm,1.4s,mb5.4	

SOC				*e*S	**S**	08 11 44.0	+3.1
SOC				*e*SSS	SSS	08 17 54.5	+4.5
SOC				pmax	pmax		
	comp=N,38nm,0.9s						
SOC				pmax	pmax		
	comp=E,41nm,0.9s						
SOC				pmax	pmax		
	comp=Z,65nm,0.9s,mb5.7						
PMG	**Port Moresby**	**56.89**	**109***c*	*i*P	**P**	**08 04 00.3**	**0.0**
PMG	**Port Moresby**	**56.89**	**109**	*e*P	**P**	**08 03 59.4**	**-0.9**
	comp=Z,36nm,0.7s,mb5.5						
KMBO	**Kilima Mbogo**	**57.29**	**262**	*i* P	**P**	**08 04 05.8**	**+2.7**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KMBO	**Kilima Mbogo**	**57.29**	**262**	*e*P	**P**	**08 04 05.0**	**+1.9**
	comp=Z,7.6nm,0.9s,mb4.7						
KMBO				*e*pP	pP	08 04 34.5	+3.1
KMBO				*e*		08 05 09.5	
KMBO				*e*ScP		08 08 43.4	
YAK	**Yakutsk**	**57.45**	**19**	*e*P	**P**	**08 04 01.0**	**-2.5**
YAK				*e*S	**S**	**08 11 46.6**	**-2.9**
YAK				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
YAK				smax			
	comp=N,4.0nm,1.0s						
YAK				smax			
	comp=E,5.0nm,1.3s						
YAK	**Yakutsk**	**57.45**	**19**	*e*P	**P**	**08 04 01.9**	**-1.6**
	comp=E,36nm,0.7s,mb5.5						
YAK				*e*pP	pP	08 04 28.9	-2.9
COBT	**Iskenderun**	**57.55**	**306**	*i* P	**P**	**08 04 04.2**	**-0.4**
EIL	**Elat**	**57.60**	**298**	*e*P	**P**	**08 04 04.5**	**-0.6**
	comp=E,13nm,0.6s,mb5.1						
EIL				*e*pP	pP	08 04 34.6	+1.4
BOYT	**Boyabat**	**59.61**	**312**	*i* P	**P**	**08 04 17.9**	**-0.9**
VOR	**Voronezh**	**59.95**	**324**	*e*P	**P**	**08 04 19.5**	**-1.5**
VOR				*e*S	**S**	**08 12 19.5**	**-2.6**
VOR				pmax	pmax		
	comp=Z,200nm,1.0s,mb6.1						
VOR				smax			
	comp=N,300nm,2.0s						
CTA	**Charters Tower**	**60.17**	**121**	*e*P	**P**	**08 04 22.6**	**-0.4**
	comp=N,20nm,0.8s,mb5.2						
CTA				*e*SCP		08 08 55.1	
CTAO	**Charters Tower**	**60.17**	**121**	*e*P	**P**	**08 04 22.7**	**-0.3**
	comp=N,33nm,0.9s,mb5.4						
CTAO				*e*pP	pP	08 04 52.0	+0.6
CTAO				*e*PcP	PcP	08 05 08.4	+1.3
CTAO				*e*ScP		08 08 54.6	
ELDT	**Eldivan**	**60.51**	**311**	*i* P	**P**	**08 04 23.9**	**-1.1**
BALT	**Daday**	**60.75**	**312**	*i* P	**P**	**08 04 25.8**	**-0.8**
SIM	**Simferopol'**	**61.02**	**316***c*	*i*P	**P**	**08 04 28.0**	**-0.4**
SIM				pmax	pmax		
	comp=Z,50nm,0.6s,mb5.7						
ISP	**Isparta**	**62.29**	**307***c*	*i*P	**P**	**08 04 35.6**	**-1.4**
ISP	**Isparta**	**62.29**	**307**⇑	*i*P	**P**	**08 04 35.6**	**-1.4**
MOS	**Moscow**	**62.38**	**328**	*e*P	**P**	**08 04 36.4**	**-0.9**
MOS				*e*		08 05 16.9	
MOS				pmax	pmax		
	comp=Z,70nm,0.7s,mb5.8						
STKA	**Stephens Creek**	**62.46**	**135**	*e*P	**P**	**08 04 37.3**	**-0.9**
	comp=Z,24nm,0.7s,mb5.3						
OBN	**Obninsk**	**62.70**	**327**κ	*i*P	**P**	**08 04 37.6**	**-1.8**
OBN				*e*		08 05 21.7	
OBN				*e*		08 06 51.3	
OBN				PPP	PPP	08 08 28.0	-3.5
OBN				*e*S	**S**	**08 12 53.2**	**-3.6**
OBN				pmax	pmax		
	comp=Z,62nm,1.1s,mb5.5						
OBN	**Obninsk**	**62.70**	**327**	*e*P	**P**	**08 04 37.1**	**-2.3**
	comp=Z,58nm,1.1s,mb5.4						
OBN				*e*pP	pP	08 05 07.3	-0.8
OBN				*e*PP	PP	08 06 50.7	-10
MA2	**Magadan**	**64.47**	**28**	*e*P	**P**	**08 04 50.1**	**-0.8**
MA2				*e*S	**S**	**08 13 26.7**	**+8.0**
MA2				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
MA2				MLR	MLR		
	comp=Z,100nm,27.0s						
MA2	**Magadan**	**64.47**	**28**	*e*P	**P**	**08 04 50.1**	**-0.9**
	comp=Z,8.4nm,0.8s,mb4.6						
MA2				*e*PcP	PcP	08 05 26.3	+2.3
TIXI	**Tiksi**	**64.53**	**12**⇓	*i*P	**P**	**08 04 49.7**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.9						
TIXI	**Tiksi**	**64.53**	**12**⇓	*i*P	**P**	**08 04 49.8**	**-1.3**
CFR	**Carcaliu**	**65.21**	**315**⇓	*i*P	**P**	**08 04 54.5**	**-1.5**
CFR	**Carcaliu**	**65.21**	**315**⇓	*i*P	**P**	**08 04 54.5**	**-1.5**
HARR	**Harsova**	**65.27**	**314**⇑	*i*P	**P**	**08 04 53.5**	**-2.9**
HARR	**Harsova**	**65.27**	**314**⇑	*i*P	**P**	**08 04 53.5**	**-2.9**
VRI	**Vrincioaia**	**66.30**	**315**⇑	*i*P	**P**	**08 05 03.1**	**+0.2**
VRI	**Vrincioaia**	**66.30**	**315**⇑	*i*P	**P**	**08 05 03.1**	**+0.2**
SEY	**Seymchan**	**66.54**	**25**	*e*P	**P**	**08 05 05.5**	**+1.3**
SEY				*e*		08 13 48.5	
SEY				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
KDZ	**Kurdzhali**	**66.67**	**311**	*e*P	**P**	**08 05 05.0**	**-0.3**
RZN	**Rozhen**	**67.19**	**311**	*e*P	**P**	**08 05 07.0**	**-1.6**
MNK	**Minsk**	**67.32**	**325**	*e*P	**P**	**08 05 08.0**	**-1.2**
PGB	**Panagyurishte**	**67.69**	**312**	*e*P	**P**	**08 05 10.0**	**-1.7**
MMB	**Musomiste**	**67.92**	**311**	*e*P	**P**	**08 05 11.0**	**-2.1**
JOF	**Joensuu**	**68.05**	**334**	*e*p	**P**	**08 05 11.9**	**-1.7**
	comp=Z,24nm,0.6s,mb5.2						
JOF	**Joensuu**	**68.05**	**334**	*e*P	**P**	**08 05 11.9**	**-1.7**
JOF				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.2						
TOO	**Toolangi**	**68.31**	**138**	*e*P	**P**	**08 05 15.8**	**+0.2**
	comp=Z,13nm,0.7s,mb4.9						
VTS	**Vitosha**	**68.40**	**312**	*e*P	**P**	**08 05 14.0**	**-2.0**
KKB	**Krupnik**	**68.43**	**311**	*e*P	**P**	**08 05 14.0**	**-2.2**
VSU	**Vasula**	**68.88**	**329**	*i* P	**P**	**08 05 17.5**	**-1.2**
VSU	**Vasula**	**68.88**	**329**	*i* P	**P**	**08 05 17.6**	**-1.1**
APA	**Apatity**	**68.99**	**339**⇓	*i*P	**P**	**08 05 19.3**	**0.0**
APA				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.2						
ARMA	**Armidale**	**69.12**	**128**	*e*P	**P**	**08 05 22.1**	**+1.4**
KOLS	**Kolonicke sedl**	**69.72**	**318**	*e*P	**P**	**08 05 21.3**	**-2.8**
KOLS				*e*		08 05 37.2	
KOLS				*e*		08 07 54.4	
KOLS	**Kolonicke sedl**	**69.72**	**318**	*e*P	**P**	**08 05 21.3**	**-2.8**
KOLS				*e*		08 05 23.9	
KOLS				*e*		08 05 37.2	
KOLS				*e*PP	PP	08 07 54.4	-7.0
LSZ	**Lusaka**	**69.78**	**249**	*e*P	**P**	**08 05 25.5**	**+0.5**
	comp=Z,13nm,0.6s,mb5.0						
SUW	**Suwalki**	**69.89**	**324**	*e*P	**P**	**08 05 24.1**	**-0.9**
KAF	**Kangasniemi**	**70.02**	**333**	*e*p	**P**	**08 05 24.0**	**-1.6**
	comp=Z,8.9nm,0.6s,mb4.8,baz=104,slow=5.8						
KAF	**Kangasniemi**	**70.02**	**333**	*e*P	**P**	**08 05 24.0**	**-1.6**
KAF				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.8						
CRVS	**Cervenica-Dubn**	**70.25**	**318**	*e*P	**P**	**08 05 27.1**	**-0.2**
NIE	**Niedzica**	**71.06**	**319**	*e*P	**P**	**08 05 32.2**	**+0.1**
OJC	**Ojcow**	**71.47**	**319**	*e*P	**P**	**08 05 34.0**	**-0.5**
VYHS	**Vyhne**	**71.95**	**318**	*i* P	**P**	**08 05 36.0**	**-1.4**
KEV	**Kevo**	**71.97**	**340**	*e*p	**P**	**08 05 35.5**	**-1.7**
	comp=Z,24nm,0.6s,mb5.2						
KEV	**Kevo**	**71.97**	**340**	*e*P	**P**	**08 05 35.5**	**-1.7**
KEV				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.2						
SRO2	**Moca**	**72.19**	**317**	*e*	PcP	08 05 53.2	-3.4
TAU	**Tasmania Unive**	**72.44**	**142**	P	**P**	**08 05 40.9**	**+0.5**
OKC	**Ostrava-Krasne**	**72.50**	**319**	*e*P	**P**	**08 05 40.2**	**-0.4**
MORC	**Moravsky Berou**	**72.88**	**319**	*e*P	**P**	**08 05 42.4**	**-0.5**
	comp=Z,12nm,0.8s,mb4.8						
MORC				*e*pP	pP	08 06 09.1	-3.3
ZST	**Bratislava**	**73.08**	**317**	*e*P	**P**	**08 05 43.9**	**-0.2**
ZST				*e*pP	pP	08 06 10.1	-3.5
DPC	**Dobruska-Polom**	**73.70**	**319**	*e*P	**P**	**08 05 47.8**	**+0.2**
DPC				*e*pP	pP	08 06 15.1	-2.1
KSP	**Ksiaz**	**73.74**	**320**	*e*P	**P**	**08 05 47.8**	**0.0**
KSP				*e*pP	pP	08 06 21.7	+4.3
UPC	**Upice**	**73.91**	**320**	*e*P	**P**	**08 05 48.7**	**-0.1**
UPC				*e*pP	pP	08 06 16.7	-1.7
ARSA	**Arzberg**	**74.12**	**316**⇑	*i*P	**P**	**08 05 49.7**	**-0.4**
	comp=Z,5.4nm,1.0s,mb4.2						
PERS	**Pernice**	**74.38**	**315**	*i* P	**P**	**08 05 51.5**	**-0.2**
OBKA	**Obir**	**74.77**	**315**⇑	*i*P	**P**	**08 05 53.8**	**-0.1**
	comp=Z,11nm,1.2s,mb4.5						
LJU	**Ljubljana**	**74.79**	**315**	*e*P	**P**	**08 05 53.7**	**-0.2**
PVCC	**Panska Ves**	**74.83**	**320**	*e*P	**P**	**08 05 54.0**	**-0.1**
PRU	**Pruhonice**	**74.83**	**319**	*e*P	**P**	**08 05 54.2**	**+0.1**
PRU				*e*pP	pP	08 06 21.8	-2.0
VOY	**Vojsko**	**75.23**	**315**	*e*P	**P**	**08 05 56.0**	**-0.5**
VOY				*e*	pP	08 06 22.3	-3.9
BRG	**Berggiesshubel**	**75.23**	**320**⇑	*i*P	**P**	**08 05 56.4**	**0.0**
BRG				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.6						
BRG	**Berggiesshubel**	**75.23**	**320**⇑	*i*P	**P**	**08 05 56.4**	**0.0**
	comp=Z,16nm,1.2s,mb4.6						
BRG				*e*	pP	08 06 23.8	-2.3
BRG				*e*	pP	08 06 29.3	+3.2
GEC2	**GERESS Array S**	**75.36**	**318**	*e*P	**P**	**08 05 57.1**	**-0.1**
GEC2				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.7						
GEC2	**GERESS Array S**	**75.36**	**318**	*e*P	**P**	**08 05 57.1**	**-0.1**
	comp=Z,14nm,0.9s,mb4.7						
KHC	**Kasperske Hory**	**75.45**	**318**	*e*P	**P**	**08 05 57.5**	**-0.1**
KHC				*e*pP	pP	08 06 31.3	+3.9
CLL	**Collm**	**75.83**	**320**	*e*P	**P**	**08 05 59.0**	**-0.8**
CLL				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.6						
CLL	**Collm**	**75.83**	**320**	*e*P	**P**	**08 05 59.0**	**-0.8**
	comp=Z,19nm,1.5s,mb4.6						
CLL	**Collm**	**75.83**	**320**	P	**P**	**08 05 59.0**	**-0.8**
	comp=Z,logA/T=1.1,mb4.6						
CLL				*e*	pP	08 06 33.0	+3.5
WET	**Wettzell**	**75.91**	**318**	*e*P	**P**	**08 06 00.2**	**0.0**
WTTA	**Wattenberg**	**76.76**	**316**⇑	*i*P	**P**	**08 06 04.4**	**-0.7**
	comp=Z,13nm,0.5s,mb4.9						
WATA	**Walderalm**	**76.80**	**316**⇑	*i*P	**P**	**08 06 04.3**	**-1.0**
	comp=Z,2.8nm,0.7s,mb4.1						
GRA1	**Grafenberg Arr**	**76.98**	**319**	*e*P	**P**	**08 06 07.2**	**+1.0**
	comp=Z,18nm,1.4s,mb4.6						
GRA1				*e*	pP	08 06 39.6	+3.5
GRF	**Grafenberg Arr**	**76.98**	**319**	*e*P	**P**	**08 06 07.2**	**+1.0**
GRF				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.6						
GRF	**Grafenberg Arr**	**76.98**	**319**	*e*P	**P**	**08 06 07.2**	**+1.0**
	comp=Z,18nm,1.4s,mb4.6						
GRF				*e*	pP	08 06 39.6	+3.5
FUR	**Furstenfeldbru**	**76.98**	**317**	*e*P	**P**	**08 06 06.1**	**-0.2**
NB2	**NORSAR Subarra**	**76.99**	**330**	P	**P**	**08 06 05.2**	**-0.9**
	comp=Z,3.1nm,0.6s,mb4.2,baz=91,slow=5.6						
SQTA	**Sankt Quirin**	**77.06**	**316**⇓	*i*P	**P**	**08 06 06.0**	**-0.7**
	comp=Z,4.3nm,0.6s,mb4.4						
MOTA	**Moosalm**	**77.12**	**316**⇓	*i*P	**P**	**08 06 06.2**	**-0.9**
	comp=Z,8.1nm,1.2s,mb4.3						
CLZ	**Clausthal**	**77.47**	**321**	*e*P	**P**	**08 06 08.8**	**-0.1**
	comp=Z,12nm,0.8s,mb4.7						
DAVA	**Damuels**	**77.96**	**316**⇓	*i*P	**P**	**08 06 11.7**	**0.0**
	comp=Z,14nm,0.6s,mb4.9						
CDF	**Champ du Feu**	**79.64**	**317**	*e*P	**P**	**08 06 20.0**	**-0.8**
	comp=Z,5.4nm,0.6s,mb4.3						
SBF	**Sospel**	**79.91**	**313**	*e*P	**P**	**08 06 21.9**	**-0.5**
	comp=Z,51nm,0.8s,mb5.1						
LPG	**La Plagne**	**80.25**	**315**	*e*P	**P**	**08 06 24.3**	**+0.2**
	comp=Z,28nm,0.7s,mb4.9						
HAU	**Haudompre**	**80.29**	**317**	*e*P	**P**	**08 06 23.6**	**-0.7**
	comp=Z,15nm,0.6s,mb4.7						
BNI	**Bardonecchia**	**80.34**	**314**	*e*P	**P**	**08 06 24.1**	**-0.5**
	comp=Z,15nm,0.7s,mb4.9						
MAW	**Mawson**	**81.24**	**191**⇑	*i*P	**P**	**08 06 29.6**	**+0.7**
	comp=Z,12nm,1.0s,mb4.7						
BAIF	**Baives**	**81.48**	**319**	*e*P	**P**	**08 06 30.4**	**-0.1**
SUR	**Sutherland**	**81.56**	**235**	*e*P	**P**	**08 06 33.0**	**+1.7**
	comp=Z,68nm,0.9s,mb5.5						
SUR				*e*pP	pP	08 07 01.2	-0.2
SSF	**Saint Saulge**	**82.31**	**316**	*e*P	**P**	**08 06 34.4**	**-0.5**
	comp=Z,4.8nm,0.5s,mb4.3						
BGF	**Bois d'Agland**	**82.83**	**316**	*e*P	**P**	**08 06 37.3**	**-0.2**
	comp=Z,18nm,0.7s,mb4.7						
RJF	**Les Rejaudoux**	**83.93**	**315**	*e*P	**P**	**08 06 43.3**	**+0.2**
FLN	**La Foliniere**	**84.70**	**318**	*e*P	**P**	**08 06 46.7**	**-0.1**
	comp=Z,21nm,0.8s,mb4.8						
SYO	**Syowa Base**	**88.00**	**197**	⇓P	**P**	**08 07 03.5**	**+1.1**
SYO	**Syowa Base**	**88.00**	**197**	⇑PcP	PcP	08 07 04.3	-0.1
SPU	**Mount Spurr**	**91.94**	**26**	*e*P	**P**	**08 07 21.8**	**+0.7**
SPU				*e*pP	pP	08 07 51.2	-0.6
MCK	**McKinley**	**92.03**	**23**	*e*P	**P**	**08 07 22.3**	**+0.9**
	comp=Z,4.8nm,1.0s,mb4.7						
MCK				*e*		08 07 36.8	
MCK				*e*		08 08 00.4	
INK	**Inuvik**	**94.38**	**16**	*e*P	**P**	**08 07 32.9**	**+0.9**
	comp=Z,7.4nm,1.3s,mb4.9						
RES	**Resolute Bay**	**94.56**	**2**	*e*P	**P**	**08 07 34.0**	**+1.3**
	comp=Z,6.8nm,0.9s,mb5.1						
RES				*e*		08 07 47.8	
SBA	**Scott Base**	**96.94**	**168**	P	**P**	**08 07 45.0**	**+1.5**
	comp=Z,11nm,0.9s,mb5.3						
SNAA	**Sanae**	**102.17**	**199**	*e*P	Pdif	08 08 09.8	+2.6
	comp=Z,6.2nm,1.1s						
MSO	**Missoula**	**117.60**	**21**	*e*PKPdf	PKPdf	08 12 58.1	+1.0
MOD	**Modoc**	**119.03**	**28**	*e*PKPdf	PKPdf	08 13 02.4	+2.4
LAO	**LASA Array**	**120.12**	**16**	*e*PKPdf	PKPdf	08 13 04.3	+2.3
YMR	**Mansion River**	**120.51**	**20**	*e*PKPdf	PKPdf	08 13 05.5	+2.7
YFT	**Old Faithful**	**120.74**	**20**	*e*PKPdf	PKPdf	08 13 07.1	+3.8
LOHW	**Long Hollow**	**121.56**	**20**	*e*PKPdf	PKPdf	08 13 06.6	+1.7
MNV	**Mina**	**122.77**	**29**	*e*PKPdf	PKPdf	08 13 09.6	+2.3
HWUT	**Hardware Ranch**	**122.97**	**22**	*e*PKPdf	PKPdf	08 13 09.1	+1.5
JLU	**Jordanelle**	**123.88**	**23**	*e*PKPdf	PKPdf	08 13 11.2	+1.8
DAU	**Daniels Canyon**	**124.12**	**23**	*e*PKPdf	PKPdf	08 13 12.3	+2.3
NLU	**North Lily Min**	**124.19**	**24**	*e*PKPdf	PKPdf	08 13 12.2	+2.1
MVU	**Marysvale**	**125.38**	**25**	*e*PKPdf	PKPdf	08 13 15.5	+3.1
MVU				*e*SKP		08 16 38.2	
MSU	**Marysvale**	**125.38**	**25**	*e*PKPdf	PKPdf	08 13 15.2	+2.8
PV10	**Paradox Valley**	**126.73**	**22**	*e*PKPdf	PKPdf	08 13 17.5	+2.5
PV10				*e*SKP		08 16 22.6	
SDCO	**Great Sand Dun**	**128.53**	**19**	*e*PKPdf	PKPdf	08 13 20.3	+1.8
KSU1	**Kansas State U**	**129.49**	**10**	*e*PKPdf	PKPdf	08 13 21.8	+1.4
ANMO	**Albuquerque**	**130.72**	**22**	*e*PKPdf	PKPdf	08 13 24.9	+2.2
ANMO				*e*SKP		08 16 36.6	
LAZ	**Ladron**	**130.95**	**23**	*e*PKPdf	PKPdf	08 13 25.4	+2.2
LAZ				*e*SKP		08 16 37.9	
TUC	**Tucson**	**131.23**	**28**	*e*PKPdf	PKPdf	08 13 26.3	+2.4
TUC				*e*SKP		08 16 38.0	
WCI	**Wyandotte Cave**	**131.27**	**360**	*e*PKPdf	PKPdf	08 13 24.3	+0.6
BNM	**Barren Site**	**131.37**	**22**	*e*PKPdf	PKPdf	08 13 26.6	+2.6
BNM				*e*SKP		08 16 39.0	
WVT	**Waverly**	**133.35**	**2**	*e*PKPdf	PKPdf	08 13 28.6	+0.9
WVT				*e*SKP		08 16 44.4	
CPRX	**Cap Rock**	**133.37**	**20**	*e*PKPdf	PKPdf	08 13 29.6	+1.8
CPRX				*e*SKP		08 16 44.8	
GDL2	**Guadalupe Moun**	**133.95**	**21**	*e*PKPdf	PKPdf	08 13 30.0	+1.1
GDL2				*e*SKP		08 16 47.1	
MNTX	**Cornudas Mount**	**134.03**	**23**	*e*PKPdf	PKPdf	08 13 30.6	+1.5
MNTX				*e*SKP		08 16 48.0	
JSC	**Jenkinsville**	**134.95**	**354**	*e*PKPdf	PKPdf	08 13 28.4	-2.3
JCT	**Junction City**	**137.02**	**17**	*e*PKPdf	PKPdf	08 13 36.1	+1.6
JCT				*e*SKP		08 16 56.1	
BAO	**Brasilia Array**	**142.36**	**258**	P	PKPdf	08 13 42.5	-2.0
BAO				*i*		08 13 47.0	
BAO				*i*		08 13 50.2	
BAO				*e*		08 17 12.5	
TRQA	**Tornquist**	**145.12**	**215**	*e*PKPdf	PKPdf	08 13 49.8	+1.0
OTAV	**Otavalo**	**166.54**	**324**	*e*PKPdf	PKPdf	08 14 19.5	+2.5

CASC 06 08:08:10.5±2.1, 11.41N×86.21W, h60km±26km, MD3.9, 6C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APON	**Apoyo**	**0.53**	**16**⇓	*e*P	P	08 08 22.7	-0.1
APON				*e*S	S	08 08 32.5	+0.7
CONN	**Concepcion**	**0.60**	**75**⇓	*e*P	P	08 08 22.8	-0.8
CONN				*e*S	S	08 08 32.9	-0.3
TICN	**Ticuantepe**	**0.62**	**358**⇑	*e*P	P	08 08 24.1	+0.2
TICN				*e*S	S	08 08 34.7	+0.9
MGAN	**Managua**	**0.74**	**357**⇑	*e*P	P	08 08 25.2	0.0
MGAN				*e*S	S	08 08 37.6	+1.4
XAVN	**Gruta Xavier**	**0.75**	**351**⇓	*e*P	P	08 08 25.5	+0.1
WILN	**Americas 2**	**0.75**	**2**⇓	*e*P	P	08 08 25.4	0.0
WILN				*e*S	S	08 08 36.9	+0.4
APYN	**Apoyeque**	**0.83**	**351**⇑	*e*P	P	08 08 26.5	0.0
APYN				*e*S	S	08 08 39.7	+1.3
COPN	**Copaltepe**	**0.85**	**334**⇑	*e*P	P	08 08 26.1	-0.6
COPN				*e*S	S	08 08 38.8	-0.1
MOMJ	**Momotombo**	**1.05**	**342**⇓	*e*P	P	08 08 29.2	-0.2
MOMJ				*e*S	S	08 08 43.6	+0.3
MIRN	**Miramar**	**1.14**	**335**⇓	*e*P	P	08 08 30.2	-0.4
MIRN				*e*S	S	08 08 45.4	-0.1
CNGN	**Cerro Negro**	**1.19**	**336**	*e*S	S	08 08 47.6	+0.8
LEON	**Leon**	**1.20**	**326**⇑	*e*P	P	08 08 30.9	-0.6
LEON				*e*S	S	08 08 46.8	-0.3
TEL3	**Telica 3**	**1.31**	**332**	*e*P	P	08 08 32.9	-0.4
TEL3				*e*S	S	08 08 49.4	-0.6
JCR	**Jicaral**	**1.89**	**145**	*e*P	P	08 08 40.1	-0.9
CGA2	**Cerro Gallo 2**	**2.20**	**129**	*e*P	P	08 08 47.0	+1.5
CGA2				*e*S	S	08 09 12.3	+0.7
PRS1	**Puriscal**	**2.34**	**127**⇑	*e*P	P	08 08 47.0	-0.6
TRTC	**Tortuguero**	**2.59**	**108**	*e*P	P	08 08 51.9	+0.9
LCR2	**La Lucha 2**	**2.73**	**127**	*e*P	P	08 08 53.6	+0.6
LCR2				*e*S	S	08 09 26.8	+1.9
BUS	**Buena Vista**	**3.04**	**127**	*e*S	S	08 09 32.5	0.0

MEX 06 08:16:28.0±1.3, 17.23N×93.74W, h212km±21km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.10**	**263**	*i* P	P	08 16 58.9	-1.0
CMIG				*i* S	S	08 17 21.3	-3.3
HUIG	**Huatulco**	**2.69**	**238**	*i* P	P	08 17 12.7	-2.6
HUIG				*i* S	S	08 17 49.9	-1.8
OXX	**Oaxaca**	**2.85**	**268**	*i* P	P	08 17 17.0	0.0
OXX				*i* S	S	08 17 52.5	-2.5
VHO	**Vista Hermosa**	**2.86**	**267**	*i* P	P	08 17 15.9	-1.2
VHO				*i* S	S	08 17 53.0	-2.2

*BJI **06** 08:33:43.4, 4.30N×95.12E, h58km, mB4.8, mb4.9, Ms4.8, Msz3.9*

*NEIC **06** 08:33:44.5±0.4, 4.76N×95.19E, h30km, mb4.9/18, Error ellipse: s-maj=11.6km s-min=8.2km az=52.0*

ISC 06 08:33:42.8±0.4, 4.69N±0.06×95.27E±0.07, h30km, n61, σ1§06/57, mb4.9/25, MS4.8/1, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.71**	**281**	P	**P**	**08 37 11.8**	**+0.8**
	14nm,1.0s						
COCO	**West Island**	**16.84**	**175**	P	**P**	**08 37 40.5**	**+2.1**
	220nm,1.1s						
VJD	**Vijayawada**	**18.54**	**310**	*i* P	**P**	**08 37 49.5**	**-10**
HYB	**Hyderabad**	**20.69**	**309**	*i* P	**P**	**08 38 24.0**	**+0.8**
JIRN	**Jiri**	**24.42**	**340**	*e*P	**P**	**08 39 00.3**	**+0.1**
	24nm,0.5s,mb4.9						
PKI	**Pulchoki**	**24.62**	**339**	*e*P	**P**	**08 39 02.1**	**0.0**
	9.8nm,0.5s,mb4.6						
GUN	**Gumba**	**24.76**	**340**	*e*P	**P**	**08 39 03.1**	**-0.4**
	38nm,0.6s,mb5.1						
DMN	**Daman**	**24.76**	**338**	*e*P	**P**	**08 39 04.8**	**+1.3**
KKN	**Kakani**	**24.86**	**339**	*e*P	**P**	**08 39 04.8**	**+0.4**
LSA	**Lhasa**	**25.18**	**352**	P	**P**	**08 39 08.6**	**+1.2**
LSA	**Lhasa**	**25.18**	**352**	*e*P	**P**	**08 39 07.3**	**0.0**
	13nm,0.5s,mb4.7						
GKN	**Gorkha**	**25.29**	**338**	*e*P	**P**	**08 39 08.6**	**+0.1**
	13nm,0.3s,mb4.9						
KOLN	**Koldanda**	**25.50**	**335**	*e*P	**P**	**08 39 10.5**	**0.0**
	52nm,0.7s,mb5.2						
ENH	**Enshi**	**28.76**	**26**	*e*P	**P**	**08 39 39.4**	**-0.9**
	10nm,0.8s,mb4.6						
XAN	**Xi'an**	**31.84**	**22**	P	**P**	**08 40 06.6**	**-0.8**
XAN				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.5						
MBWA	**Marble Bar**	**35.15**	**138**	P	**P**	**08 40 35.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**37.55**	**128**	*e*P	**P**	**08 40 56.3**	**-0.2**
	comp=Z,6.5nm,0.7s,mb4.5						
WMQ	**Urumqi**	**39.54**	**351**	*e*P	**P**	**08 41 13.0**	**+0.1**
WMQ				AP	pP	08 41 22.8	+0.9
WMQ				PP	PP	08 42 48.6	+1.1
WMQ				S	**S**	**08 47 12.8**	**-0.3**
WMQ				AMB	A

comp=E,717nm,0.2s
TLL Tololo Astrono 1.15 48⇑ *i*P Pb 09 06 27.6 -0.9
TLL *i* S Sb 09 06 44.7 +1.2
TLL AMP 09 06 49.2
comp=N,1μm,0.8s
PTCH Petorca 1.51 151 *e*P Pn 09 06 33.5 -0.8
PTCH *i* S Sb 09 06 53.5 -0.3
PTCH AMP 09 06 57.7
comp=E,1μm,0.2s
JACH Jahuel 2.01 150 *e*P Pn 09 06 41.2 -0.2
ROCH El Roble 2.13 162 *i* S Sn 09 07 11.9 +1.7
CLCH Cerro Calan 2.67 157 *e*P Pn 09 06 51.3 +0.5
CLCH *i* S Sn 09 07 25.1 +1.2
CLCH AMP 09 07 35.0
comp=E,160nm,0.7s
FCH Farellones 2.70 152 *e*P Pn 09 06 52.7 +1.4
FCH AMP 09 07 34.1
comp=E,62nm,0.2s

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*BJI **06** 10:14:41.2,51.61N×174.42W,h33km,mB5.0,mb5.2, Ms4.9,Msz4.7*
*MOS **06** 10:14:41.2±1.2,51.39N×174.22W,h33km,mb5.4/59, MS4.1/6,Error ellipse: s-maj=8.8km s-min=4.6km az=86.4*
*HRVD **06** 10:14:43.7±0.4,51.33N×174.16W,h19km±1km,MW5.0/51, Centroid moment Tensor Solution. LP body waves: s30,c42;Mantle waves: s51,c77; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.33±.19; Mθθ-1.35±.14; Mφφ-0.98±.11; Mrθ2.07±.34; Mθφ-1.35±.09; Mφr1.29±.26; Best double couple: M0 3.445×10^16 NP1:φs221°,δ23°,λ77°. NP2:φs56°,δ68°,λ96°. Principal axes: T 3.362, Plg67°, Azm336°; N .158, Plg5°, Azm233°; P -3.527, Plg22°, Azm141°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 10:14:43.7±0.2,51.42N×174.27W,mb5.1/93,MS4.4/3, ML4.5(AEIC) Error ellipse: s-maj=6.3km s-min=2.9km az=182.0*

ISC 06 10:14:42.2±0.2,51.40N±0.04×174.20W±0.03,h41km, h41km±.7km:pP-P,n336,σ1°16/346,mb5.0/103,MS4.5/13, 6C-6D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.80**	**0**		P		**P**	**10 14 57.6**	**+0.5**
ATKA					S		**S**	**10 15 07.8**	**-0.2**
GSIG	**Igitkin Island**	**1.22**	**299**		P		**P**	**10 15 01.9**	**-1.2**
GSMY	**Great Sitkin M**	**1.32**	**300**		P		**P**	**10 15 03.7**	**-0.9**
GSTR	**Great Sitkin T**	**1.35**	**302**		P		**P**	**10 15 04.2**	**-0.7**
GSTD	**Great Sitkin T**	**1.37**	**299**		P		**P**	**10 15 05.4**	**0.0**
GSTD					S		**S**	**10 15 22.9**	**+0.4**
GSSP	**Great Sitkin S**	**1.41**	**300**		P		**P**	**10 15 05.3**	**-0.6**
ADAG	**Mount Adagdak**	**1.60**	**292**		P		**P**	**10 15 08.0**	**-0.6**
KIWB	**Kanaga Island**	**1.89**	**285**		P		**P**	**10 15 12.3**	**-0.3**
KIWB					S		**S**	**10 15 36.2**	**+0.8**
KIKV	**Kanaga Island**	**1.91**	**286**		P		**P**	**10 15 12.7**	**-0.2**
KIMD	**Kanaga Island**	**1.93**	**282**		P		**P**	**10 15 12.0**	**-1.1**
OKCE	**Okmok Cone E**	**4.21**	**59**		P		**P**	**10 15 44.6**	**-1.0**
OKCD	**Okmok Cone D**	**4.24**	**59**		P		**P**	**10 15 45.7**	**-0.4**
MSW	**Makushin Switc**	**5.17**	**58**		P		**P**	**10 15 58.0**	**-1.1**
UNV	**Unalaska Valle**	**5.29**	**59**		P		**P**	**10 15 59.7**	**-1.0**
UNV					S		**S**	**10 16 58.9**	**-2.4**
LVA	**Lava Point**	**5.67**	**58**		P		**P**	**10 16 05.5**	**-0.7**
SPIA	**Saint Paul Isl**	**6.23**	**20**		P		**P**	**10 16 10.8**	**-3.2**
WESN	**West Dahl Nort**	**6.62**	**58**		P		**P**	**10 16 17.6**	**-1.8**
FX1	**Attu Island–F**	**7.92**	**286**		*e*P		**P**	**10 16 33.7**	**-3.8**
KDAK	**Kodiak Island** 6.1nm,0.6s	**14.03**	**55**		*e*P		**P**	**10 18 01.3**	**+1.3**
TNA	**Tin City** 13nm,0.9s	**14.56**	**10**		*e*P		**P**	**10 18 08.5**	**+1.6**
RSO	**Redoubt South**	**14.99**	**44**		*e*P		**P**	**10 18 13.3**	**+0.7**
SPU	**Mount Spurr**	**15.63**	**43**		*e*P		**P**	**10 18 22.3**	**+1.5**
SLKM	**Skilak Lake**	**16.14**	**46**		*e*P		**P**	**10 18 26.5**	**-0.8**
FIB	**Fire Island**	**16.44**	**44**		*e*P		**P**	**10 18 31.9**	**+0.9**
PET	**Petropavlovsk**	**16.68**	**286**		*e*P		**P**	**10 18 36.4**	**+2.2**
PET					*e*S		**S**	**10 21 36.0**	**-1.2**
PET					pmax		pmax		
	comp=Z,56nm,1.3s								
PET					smax				
	comp=E,100nm,12.3s								
PET					MLR		MLR		
	comp=Z,700nm,22.0s								
PWA	**Palmer West**	**16.78**	**43**		*e*P		**P**	**10 18 37.0**	**+1.7**
SML	**Sawmill**	**17.51**	**44**		*e*P		**P**	**10 18 43.2**	**-1.3**
IMA	**Indian Mountai**	**18.01**	**28**		*e*P		**P**	**10 18 50.6**	**-0.1**
MCK	**McKinley**	**18.17**	**38**		*e*P		**P**	**10 18 51.0**	**-1.7**
MCK					pmax		pmax		
	comp=Z,26nm,1.0s								
MCK	**McKinley**	**18.17**	**38**		*e*P		**P**	**10 18 51.0**	**-1.7**
	comp=Z,26nm,1.0s								
DIV	**Divide**	**18.40**	**47**		*e*P		**P**	**10 18 54.0**	**-1.5**
	comp=Z,57nm,0.9s								
COLA	**College**	**19.17**	**35**		*i* P		**P**	**10 19 03.8**	**-0.9**
COLA	**College**	**19.17**	**35**		*e*P		**P**	**10 19 01.8**	**-2.8**
	comp=Z,22nm,0.9s								
BILL	**Bilibino**	**19.21**	**338**		*d* iP		**P**	**10 19 03.2**	**-1.9**
BILL					pmax		pmax		
	comp=Z,36nm,0.9s								
BILL					MLR		MLR		
	comp=Z,500nm,19.0s								
BILL	**Bilibino**	**19.21**	**338**		*e*P		**P**	**10 19 03.1**	**-2.0**
	comp=Z,39nm,0.9s								
THY	**Trims Highway**	**19.27**	**40**		*e*P		**P**	**10 19 04.9**	**-0.9**
SEY	**Seymchan**	**21.20**	**316**		*e*P		**P**	**10 19 27.6**	**+1.5**
SEY					*e*			10 19 39.2	
SEY					*e*			10 23 37.4	
SEY					pmax		pmax		
	comp=N,20nm,0.9s								
SEY					pmax		pmax		
	comp=E,40nm,0.9s								
SEY					pmax		pmax		
	comp=Z,50nm,0.9s,mb4.8								
MA2	**Magadan**	**21.25**	**306**		*e*P		**P**	**10 19 25.5**	**-1.0**
MA2					pmax		pmax		
	comp=Z,11nm,0.9s,mb4.2								
MA2	**Magadan**	**21.25**	**306**		*e*P		**P**	**10 19 25.5**	**-1.1**
	comp=Z,11nm,0.9s,mb4.2								
DAWY	**Dawson**	**22.14**	**42**		*e*P		**P**	**10 19 34.2**	**-1.2**
INK	**Inuvik**	**25.81**	**34**		*e*P		**P**	**10 20 08.5**	**-2.2**
INK					pmax		pmax		
	comp=Z,19nm,0.8s								
INK	**Inuvik**	**25.81**	**34**		*e*P		**P**	**10 20 08.5**	**-2.2**
	comp=Z,19nm,0.8s,mb4.7								
DLBC	**Dease Lake**	**25.94**	**57**		*e*P		**P**	**10 20 12.9**	**+0.9**
YSS	**Yuzh-Sakhalins**	**28.18**	**278**		⇓*e*P		**P**	**10 20 33.0**	**+0.4**
YSS					*e*		pP	10 20 43.3	-0.4
YSS					MLR		MLR		
	comp=N,500nm,19.0s,MS4.5								
YSS					MLR		MLR		
	comp=E,1μm,19.0s,MS4.5								
YSS					MLR		MLR		
	comp=Z,1μm,19.0s,MS4.4								
YSS	**Yuzh-Sakhalins**	**28.18**	**278**		*e*P		**P**	**10 20 32.5**	**-0.1**
	comp=Z,12nm,0.8s,mb4.6								
YSS					*e*pP		pP	10 20 43.1	-0.6
YAK	**Yakutsk**	**31.56**	**312**		*e*P		**P**	**10 21 01.1**	**-1.4**
YAK					pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.7								
YAK					pmax		pmax		
	comp=E,7.0nm,1.2s								
YAK					MLR		MLR		
	comp=Z,483nm,18.0s,MS4.2								
YAK					MLR		MLR		
	comp=N,338nm,19.0s,MS4.2								
YAK					MLR		MLR		
	comp=E,420nm,18.0s,MS4.2								
TIXI	**Tiksi**	**32.05**	**330**		*e*P		**P**	**10 21 04.4**	**-2.2**
TIXI					pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.2								
TIXI					MLR		MLR		
	comp=Z,313nm,17.0s,MS4.1								
YKW3	**Yellowknife Ar**	**33.10**	**47**		*e*P		**P**	**10 21 14.1**	**-1.8**
YKA	**Yellowknife Ar**	**33.11**	**47**		*i* P		**P**	**10 21 15.1**	**-0.9**
YKA					pmax		pmax		
	comp=Z,1.0nm,0.5s								
KLR	**Kul'dur**	**33.93**	**288**		*e*P		**P**	**10 21 19.2**	**-4.0**
NEW	**Newport**	**36.16**	**72**		*e*P		**P**	**10 21 41.8**	**-0.4**
NEW					pmax		pmax		
	comp=Z,12nm,1.1s								
NEW	**Newport**	**36.16**	**72**		*e*P		**P**	**10 21 41.8**	**-0.4**
	comp=Z,12nm,1.1s,mb4.7								
EDM	**Edmonton**	**36.26**	**63**		*e*P		**P**	**10 21 43.4**	**+0.4**
MAJO	**Matsushiro**	**36.65**	**265**		*e*P		**P**	**10 21 45.6**	**-0.8**
MAJO					pmax		pmax		
	comp=Z,29nm,1.0s,mb5.1								
MAJO	**Matsushiro**	**36.65**	**265**		*e*P		**P**	**10 21 45.6**	**-0.9**
	comp=Z,29nm,1.0s,mb5.1								
MAT	**Matsushiro**	**36.65**	**265**		*e*P		**P**	**10 21 46.0**	**-0.4**
MAT					*e*S		**S**	**10 27 27.0**	**+0.8**
MAT					pmax		pmax		
	comp=Z,29nm,1.0s,mb5.1								
MAT	**Matsushiro**	**36.65**	**265**		*e*P		**P**	**10 21 46.0**	**-0.4**
	comp=Z,29nm,1.0s,mb5.1								
MAT					*e*S		**S**	**10 27 27.0**	**+0.8**
MAT	**Matsushiro**	**36.65**	**265**		P		**P**	**10 21 45.9**	**-0.5**
MAT					S		**S**	**10 27 27.2**	**+1.0**
MDJ	**Mudanjiang**	**37.40**	**282**		P		**P**	**10 21 51.2**	**-1.5**
MDJ					XP		sP	10 22 03.6	-5.6
MDJ					PCP		PcP	10 24 11.3	-0.1
MDJ					S		**S**	**10 27 37.7**	**+0.2**
MDJ					XS			10 27 53.1	
MDJ					AMB		AMB		
	comp=Z,29nm,1.0s,mb5.1								
MDJ					AMB		AMB		
	comp=Z,113nm,5.8s								
MDJ					LR		LR		
	comp=N,284nm,19.6s,MS4.4								
MDJ					LR		LR		
	comp=E,504nm,18.9s,MS4.4								
MDJ					LR		LR		
	comp=Z,786nm,17.5s,MS4.6								
MDJ	**Mudanjiang**	**37.40**	**282**		*e*P		**P**	**10 21 50.8**	**-1.9**
	comp=Z,26nm,1.0s,mb5.0								
MOD	**Modoc**	**37.42**	**83**		*e*P		**P**	**10 21 53.9**	**+1.0**
	comp=Z,5.6nm,1.1s,mb4.3								
BMO	**Blue Mountains**	**37.70**	**77**		*e*P		**P**	**10 21 54.7**	**-0.4**
	comp=Z,8.3nm,1.4s,mb4.3								
WVOR	**Wild Horse Val**	**38.16**	**81**		*e*P		**P**	**10 21 59.9**	**+0.8**
WVOR					pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.3								
WVOR	**Wild Horse Val**	**38.16**	**81**		*e*P		**P**	**10 21 59.9**	**+0.8**
	comp=Z,6.3nm,1.0s,mb4.3								
MSO	**Missoula**	**38.73**	**72**		*e*P		**P**	**10 22 04.9**	**+1.1**
	comp=Z,13nm,1.5s,mb4.4								
CHMT	**Chamberlain Mo**	**39.10**	**72**		*e*P		**P**	**10 22 06.8**	**0.0**
WCN	**Washoe City**	**39.25**	**86**		*e*P		**P**	**10 22 09.8**	**+1.7**
WCN					pmax		pmax		
	comp=Z,15nm,1.2s,mb4.6								
WCN	**Washoe City**	**39.25**	**86**		*e*P		**P**	**10 22 09.8**	**+1.6**
	comp=Z,15nm,1.2s,mb4.6								
CMB	**Columbia Colle**	**39.62**	**88**		*e*P		**P**	**10 22 11.1**	**-0.1**
CMB					pmax		pmax		
	comp=Z,12nm,1.3s,mb4.5								
CMB	**Columbia Colle**	**39.62**	**88**		*e*P		**P**	**10 22 11.1**	**-0.1**
	comp=Z,12nm,1.3s,mb4.5								
HRY	**Holter Researc**	**40.05**	**71**		*e*P		**P**	**10 22 15.3**	**+0.6**
HLID	**Hailey**	**40.14**	**77**		*e*P		**P**	**10 22 16.4**	**+0.9**
	comp=Z,8.0nm,1.2s,mb4.3								
BOD	**Bodaibo**	**40.25**	**308**		*e*P		**P**	**10 22 13.9**	**-2.3**
BOD					*e*		pP	10 22 25.7	-2.0
HIA	**Hailar**	**40.93**	**294**		*e*P		**P**	**10 22 20.6**	**-1.4**
HIA					pmax		pmax		
	comp=Z,27nm,1.2s								
HIA	**Hailar**	**40.93**	**294**		*e*P		**P**	**10 22 20.6**	**-1.3**
	comp=Z,27nm,1.2s,mb4.8								
MTUM	**Tungsten Hills**	**41.18**	**88**		*e*P		**P**	**10 22 25.4**	**+1.3**
YMR	**Madison River**	**41.63**	**74**		*e*P		**P**	**10 22 27.8**	**+0.1**
FFC	**Flin Flon**	**41.77**	**56**		P		**P**	**10 22 29.9**	**+1.3**
	comp=Z,147nm,0.8s,mb5.7,SNR=19								
FFC	**Flin Flon**	**41.77**	**56**		*e*P		**P**	**10 22 27.3**	**-1.3**
FFC					pmax		pmax		
	comp=Z,20nm,0.8s,mb4.8								
FFC	**Flin Flon**	**41.77**	**56**		*e*P		**P**	**10 22 27.3**	**-1.3**
	comp=Z,20nm,0.8s,mb4.8								
YNR	**Norris Junctio**	**41.78**	**73**		*e*P		**P**	**10 22 29.5**	**+0.6**
YFT	**Old Faithful**	**41.83**	**74**		P		**P**	**10 22 32.2**	**+3.0**
SNY	**Shenyang**	**42.60**	**282**		⇑P		**P**	**10 22 35.9**	**+0.2**
SNY					AMB		AMB		
	comp=Z,90nm,1.2s,mb5.4								
SNY					LR		LR		
	comp=N,510nm,18.9s								
SNY					LR		LR		
	comp=Z,460nm,16.7s,MS4.4								
AHID	**Auburn Hatcher**	**42.60**	**76**		*e*P		**P**	**10 22 35.8**	**+0.1**
HWUT	**Hardware Ranch**	**42.98**	**78**		*e*P		**P**	**10 22 37.8**	**-1.0**
	comp=Z,3.6nm,1.0s,mb4.1								
NOQ	**North Oquirrh**	**43.20**	**79**		*e*P		**P**	**10 22 41.8**	**+1.3**
BW06	**Boulder Array**	**43.54**	**75**		*e*P		**P**	**10 22 43.9**	**+0.6**
	comp=Z,12nm,1.0s,mb4.6								
NLU	**North Lily Min**	**43.64**	**80**		*e*P		**P**	**10 22 44.5**	**+0.4**
JLU	**Jordanelle**	**43.64**	**79**		*e*P		**P**	**10 22 44.6**	**+0.5**
FCC	**Fort Churchill**	**43.84**	**48**		*e*P		**P**	**10 22 44.2**	**-1.3**
FCC					pmax		pmax		
	comp=Z,21nm,1.2s,mb4.7								
FCC	**Fort Churchill**	**43.84**	**48**		*e*P		**P**	**10 22 44.2**	**-1.3**
	comp=Z,21nm,1.2s,mb4.7								
DAU	**Daniels Canyon**	**43.87**	**79**		*e*P		**P**	**10 22 47.1**	**+1.1**
MPU	**Maple Canyon**	**43.87**	**80**		*e*P		**P**	**10 22 45.4**	**-0.6**
ARUT	**Antelope Range**	**44.11**	**83**		*e*P		**P**	**10 22 48.0**	**0.0**
MVU	**Marysvale**	**44.43**	**82**		*e*P		**P**	**10 22 51.7**	**+1.1**
	comp=Z,4.4nm,1.0s,mb4.1								
MSU	**Marysvale**	**44.45**	**82**		*e*P		**P**	**10 22 51.0**	**+0.3**
TMUT	**Trail Mountain**	**44.57**	**80**		*e*P		**P**	**10 22 52.0**	**+0.4**
NEN	**Nelson**	**44.58**	**87**		*e*P		**P**	**10 22 51.8**	**+0.1**
SRU	**San Rafael**	**45.10**	**80**		*e*P		**P**	**10 22 56.7**	**+0.8**
PV10	**Paradox Valley**	**46.47**	**80**		*e*P		**P**	**10 23 07.3**	**+0.6**
TLY	**Talaya**	**48.45**	**305**		⇓*i*P		**P**	**10 23 21.9**	**-0.2**
TLY					pmax		pmax		
	comp=Z,28nm,1.0s,mb5.2								
TLY					MLR		MLR		
	comp=Z,300nm,16.0s,MS4.4								
TLY	**Talaya**	**48.45**	**305**		*e*P		**P**	**10 23 21.6**	**-0.5**
	comp=Z,32nm,1.1s,mb5.3								
ULN	**Ulaanbaatar**	**48.81**	**299**		*i* P		**P**	**10 23 24.4**	**-0.4**
ULN	**Ulaanbaatar**	**48.81**	**299**		*e*P		**P**	**10 23 23.9**	**-0.9**
	comp=Z,18nm,1.0s,mb5.0								
SDCO	**Great Sand Dun**	**49.04**	**78**		*e*P		**P**	**10 23 26.3**	**-0.5**
	comp=Z,4.8nm,1.0s,mb4.5								
SDCO					*e*pP		pP	10 23 37.0	-1.3
SDCO					LR		LR		
	comp=Z,311nm,19.0s,MS4.3								
ZAK	**Zakamensk**	**49.38**	**303**		⇑*i*P		**P**	**10 23 28.5**	**-0.7**
MOY	**Mondy**	**49.82**	**306**		*e*P		**P**	**10 23 32.6**	**0.0**
LAZ	**Ladron**	**50.19**	**82**		*e*P		**P**	**10 23 36.3**	**+0.6**
ANMO	**Albuquerque**	**50.25**	**81**		*i* P		**P**	**10 23 36.5**	**+0.4**
ANMO	**Albuquerque**	**50.25**	**81**		*e*P		**P**	**10 23 35.6**	**-0.6**
	comp=Z,5.3nm,1.3s,mb4.4								
LPM	**Los Pinos Moun**	**50.56**	**82**		*e*P		**P**	**10 23 36.8**	**-1.8**
BNM	**Barren Site**	**50.67**	**82**		*e*P		**P**	**10 23 39.8**	**+0.5**
NJ2	**Nanjing**	**51.69**	**275**		*e*P		**P**	**10 23 46.4**	**-0.6**
NJ2					AP		pP	10 23 56.2	-2.5
NJ2					XP		sP	10 24 00.5	-3.0
NJ2					PP		PP	10 25 45.1	-0.3
NJ2					S		**S**	**10 31 03.0**	**-1.0**
NJ2					XS			10 31 18.0	
NJ2					AMB		AMB		
	comp=Z,70nm,1.1s,mb5.5								
NJ2					LR		LR		
	comp=N,390nm,20.3s,MS4.6								
NJ2					LR		LR		
	comp=E,470nm,20.8s,MS4.6								
NJ2					LR		LR		
	comp=Z,630nm,18.5s,MS4.7								
MNTX	**Cornudas Mount**	**53.09**	**84**		*e*P		**P**	**10 23 55.7**	**-1.9**
	comp=Z,3.3nm,1.1s,mb4.2								
AMTX	**Amarillo**	**53.24**	**78**		P		**P**	**10 23 58.6**	**0.0**
GDL2	**Guadalupe Moun**	**53.38**	**83**		*e*P		**P**	**10 23 59.7**	**0.0**
KSU1	**Kansas State U**	**53.53**	**71**		*e*P		**P**	**10 23 59.0**	**-1.7**
WMOK	**Wichita Mounta**	**55.11**	**76**		*e*P		**P**	**10 24 10.8**	**-1.5**
WMOK					pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.5								
WMOK	**Wichita Mounta**	**55.11**	**76**		*e*P		**P**	**10 24 10.8**	**-1.5**
	comp=Z,4.7nm,0.9s,mb4.5								
WHN	**Wuhan**	**55.52**	**277**		*e*P		**P**	**10 24 14.0**	**-1.3**
LTX	**Lajitas**	**55.79**	**85**		*e*P		**P**	**10 24 16.8**	**-0.5**
LTX					pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.8								
LTX	**Lajitas**	**55.79**	**85**		*e*P		**P**	**10 24 16.8**	**-0.5**
	comp=Z,10.0nm,1.0s,mb4.8								
NVS	**Novosibirsk**	**56.15**	**317**		*e*P		**P**	**10 24 16.9**	**-2.6**
XAN	**Xi'an**	**56.47**	**284**		P		**P**	**10 24 20.9**	**-1.2**
XAN					AMB		AMB		
	comp=Z,37nm,1.3s,mb5.2								
XAN					LR		LR		
	comp=N,587nm,25.1s,MS4.8								
XAN					LR		LR		
	comp=E,747nm,29.6s,MS4.8								
CCM	**Cathedral Cave**	**57.38**	**68**		*e*P		**P**	**10 24 25.8**	**-2.7**
CCM					pmax		pmax		
	comp=Z,21nm,1.5s,mb5.0								
CCM	**Cathedral Cave**	**57.38**	**68**		*e*P		**P**	**10 24 25.8**	**-2.7**
	comp=Z,21nm,1.5s,mb5.0								
JCT	**Junction City**	**57.40**	**81**		P		**P**	**10 24 28.8**	**+0.1**
JCT					pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.8								
JCT	**Junction City**	**57.40**	**81**		P		**P**	**10 24 28.8**	**0.0**
	comp=Z,9.7nm,1.0s,mb4.8								
LZH	**Lanzhou**	**58.12**	**289**		⇓P		**P**	**10 24 34.0**	**+0.3**
LZH					AP		pP	10 24 46.8	+1.2
LZH					PP		PP	10 26 44.0	-0.3
LZH					*e*S		**S**	**10 32 29.0**	**-1.2**
LZH					*e*SS		SS	10 36 21.0	-2.5
LZH					AMB		AMB		
	comp=Z,140nm,1.4s,mb5.8								
LZH					AMB		AMB		
	comp=Z,450nm,5.2s								
LZH					LR		LR		
	comp=E,2μm,14.2s								
LZH					LR		LR		
	comp=Z,3μm,21.1s								
KEV	**Kevo**	**58.16**	**351**		*e*p		**P**	**10 24 30.7**	**-2.9**
	comp=Z,8.5nm,0.6s,mb5.0								
KEV	**Kevo**	**58.16**	**351**		*e*P		**P**	**10 24 30.7**	**-2.9**
KEV					pmax		pmax		
	comp=Z,9.0nm,0.6s,mb5.0								
ENH	**Enshi**	**58.72**	**280**		*e*P		**P**	**10 24 36.0**	**-2.0**
	comp=Z,18nm,1.2s,mb5.0								
BLO	**Bloomington**	**59.33**	**65**		*e*P		**P**	**10 24 41.2**	**-0.9**
BLO					pmax		pmax		
	comp=Z,43nm,1.1s,mb5.4								
BLO	**Bloomington**	**59.33**	**65**		*e*P		**P**	**10 24 41.2**	**-0.9**
	comp=Z,43nm,1.1s,mb5.4								
USIN	**University of**	**59.51**	**66**		*e*P		**P**	**10 24 41.4**	**-1.9**
	comp=Z,23nm,0.7s,mb5.3								
APA	**Apatity**	**59.55**	**348**		*e*P		**P**	**10 24 38.5**	**-4.7**
WCI	**Wyandotte Cave**	**60.11**	**65**		*e*P		**P**	**10 24 45.0**	**-2.5**
WCI					pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8								
WCI	**Wyandotte Cave**	**60.11**	**65**		*e*P		**P**	**10 24 45.0**	**-2.5**
	comp=Z,9.2nm,0.8s,mb4.9								
WVT	**Waverly**	**60.68**	**68**		*e*P		**P**	**10 24 49.6**	**-1.8**
WVT					pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.6								
WVT	**Waverly**	**60.68**	**68**		*e*P		**P**	**10 24 49.6**	**-1.8**
	comp=Z,3.7nm,0.8s,mb4.6								
ALLY	**Alegheny Colle**	**61.13**	**59**		*e*P		**P**	**10 24 53.6**	**-0.8**
MSNY	**Massena**	**61.50**	**53**		*e*P		**P**	**10 24 55.6**	**-1.1**
WMQ	**Urumqi**	**61.71**	**306**		P		**P**	**10 24 58.3**	**+0.1**
WMQ					AP		pP	10 25 08.5	-1.7
WMQ					XP		sP	10 25 12.4	-2.5
WMQ					PP		PP	10 27 16.2	-0.3
WMQ					S		**S**	**10 33 16.4**	**+0.1**
WMQ					XS			10 33 33.3	
WMQ					AMB		AMB		
	comp=Z,7.0nm,1.2s,mb4.7								
WMQ					AMB		AMB		
	comp=Z,56nm,6.1s								
WMQ					LR		LR		
	comp=N,548nm,21.3s,MS4.8								
WMQ					LR		LR		
	comp=E,422nm,22.8s,MS4.8								
WMQ					LR		LR		
	comp=Z,559nm,21.7s,MS4.7								
CHKZ	**Chkalovo**	**62.10**	**322**		*e*P		**P**	**10 24 58.5**	**-2.2**
CHKZ					pmax		pmax		
	comp=Z,5.0nm,1.1s,mb4.6								
CHKZ	**Chkalovo**	**62.10**	**322**		*e*P		**P**	**10 24 58.5**	**-2.2**
	comp=Z,5.3nm,1.1s,mb4.6								
MKAR	**Makanchi Array**	**62.24**	**311**		*i* P		**P**	**10 25 00.1**	**-1.6**
MKAR					pmax		pmax		
	comp=Z,3.0nm,0.5s								
NCB	**Newcomb**	**62.55**	**53**		*e*P		**P**	**10 25 01.4**	**-2.5**
	comp=Z,16nm,0.7s,mb5.3								
MCWV	**Mont Chateau**	**62.69**	**60**		*e*P		**P**	**10 25 04.0**	**-0.8**
	comp=Z,25nm,1.0s,mb5.3								
BINY	**Binghamton**	**62.92**	**56**		*e*P		**P**	**10 25 05.9**	**-0.5**
	comp=Z,73nm,1.4s,mb5.6								
BINY					LR		LR		
	comp=Z,405nm,20.0s,MS4.6								
SSPA	**Standing Stone**	**63.05**	**58**		*e*P		**P**	**10 25 06.2**	**-1.0**
	comp=Z,16nm,1.1s,mb5.1								
SSPA					LR		LR		
	comp=Z,233nm,19.0s,MS4.4								
MDV	**Middlebury**	**63.05**	**53**		*e*P		**P**	**10 25 05.2**	**-2.0**
FWV	**Forest Hill**	**63.64**	**62**		*e*P		**P**	**10 25 10.3**	**-0.8**
PWV	**Princeton**	**63.69**	**63**		*e*P		**P**	**10 25 10.7**	**-0.7**
ELN	**Prospectdale**	**63.93**	**62**		*e*P		**P**	**10 25 11.8**	**-1.2**
ARU	**Arti**	**64.05**	**331**		⇓*i*P		**P**	**10 25 10.4**	**-3.0**
ARU					*e*			10 25 47.0	
ARU					*

SHL				*e*			10 35 53.5
SUW	**Suwalki**	**73.95**	**349**	*e*P	**P**		**10 26 14.1**	**-0.2**
BSEG	**Bad Segeberg**	**74.97**	**357**	*e*P	**P**		**10 26 20.6**	**+0.5**
DDI	**Dehra Dun**	**76.91**	**302**	*e*P	**P**		**10 26 31.5**	**-0.2**
CLZ	**Clausthal**	**77.06**	**357**	*e*P	**P**		**10 26 32.7**	**+0.6**
	comp=Z,46nm,0.9s,mb5.4						
CLL	**Collm**	**77.48**	**355**	⇑*i*P	**P**		**10 26 34.4**	**0.0**
CLL				*i*	pP		10 26 46.8	+0.1
CLL				pmax	pmax			
	comp=Z,23nm,0.9s,mb5.1						
CLL	**Collm**	**77.48**	**355**	⇑*i*P	**P**		**10 26 34.4**	**0.0**
	comp=Z,23nm,0.9s,mb5.1						
CLL				*i*			10 26 37.5	
CLL				*i*	pP		10 26 46.8	+0.1
CLL	**Collm**	**77.48**	**355**	⇑P	**P**		**10 26 34.4**	**0.0**
	comp=Z,logA/T=1.4,mb5.1						
CLL				*i*			10 26 37.5	
CLL				*i* *PP	pP		10 26 46.8	+0.1
KSP	**Ksiaz**	**77.74**	**353**	*e*P	**P**		**10 26 35.2**	**-0.7**
KSP	**Ksiaz**	**77.74**	**353**	*e*P	**P**		**10 26 35.7**	**-0.1**
BRG	**Berggiesshubel**	**77.87**	**355**	*i* P	**P**		**10 26 36.5**	**0.0**
BRG				*i*			10 26 42.6	
BRG				*i*	pP		10 26 48.9	+0.1
BRG				pmax	pmax			
	comp=Z,25nm,0.9s,mb5.1						
BRG	**Berggiesshubel**	**77.87**	**355**	*i* P	**P**		**10 26 36.5**	**0.0**
	comp=Z,24nm,0.9s,mb5.1						
BRG				*i*			10 26 42.6	
BRG				*i*	pP		10 26 48.9	+0.1
UPC	**Upice**	**78.10**	**353**	*e*P	**P**		**10 26 38.2**	**+0.4**
UPC				*e*pP	pP		10 26 50.0	0.0
PVCC	**Panska Ves**	**78.17**	**354**	*e*P	**P**		**10 26 38.7**	**+0.5**
PVCC				*e*pP	pP		10 26 51.4	+0.9
MOX	**Moxa**	**78.21**	**356**	*e*P	**P**		**10 26 38.8**	**+0.4**
MOX				pmax	pmax			
	comp=Z,39nm,1.3s,mb5.2						
MOX	**Moxa**	**78.21**	**356**	*e*P	**P**		**10 26 38.8**	**+0.4**
	comp=Z,39nm,1.3s,mb5.2						
MOX	**Moxa**	**78.21**	**356**	*i* P	**P**		**10 26 38.8**	**+0.4**
	comp=Z,logA/T=1.5,mb5.2						
DPC	**Dobruska-Polom**	**78.23**	**353**	*e*P	**P**		**10 26 39.0**	**+0.5**
DPC				*e*pP	pP		10 26 50.6	-0.2
KWP	**Kalwaria**	**78.32**	**349**	*e*P	**P**		**10 26 39.6**	**+0.6**
NKC	**Novy Kostel**	**78.58**	**356**	*e*P	**P**		**10 26 41.1**	**+0.6**
NKC				*e*pP	pP		10 26 52.1	-0.6
OKC	**Ostrava-Krasne**	**78.59**	**352**	*e*P	**P**		**10 26 41.0**	**+0.5**
NDI	**New Delhi**	**78.65**	**302**	*e*P	**P**		**10 26 39.5**	**-1.8**
GOF	**Gofitskoye**	**78.67**	**334**	⇑*i*P	**P**		**10 26 41.5**	**+0.4**
GOF				pmax	pmax			
	comp=Z,35nm,1.3s,mb5.1						
PRU	**Pruhonice**	**78.71**	**354**	*e*P	**P**		**10 26 41.5**	**+0.3**
PRU				*e*pP	pP		10 26 53.1	-0.4
GIVF	**Givet**	**78.87**	**1**	*e*P	**P**		**10 26 42.7**	**+0.6**
	comp=Z,37nm,1.0s,mb5.0						
GIVF	**Givet**	**78.87**	**1**	*e*P	**P**		**10 26 42.7**	**+0.6**
GIVF				pmax	pmax			
	comp=Z,18nm,1.0s,mb5.0						
BAIF	**Baives**	**78.91**	**1**	*e*P	**P**		**10 26 42.9**	**+0.6**
	comp=Z,53nm,1.0s,mb5.1						
BAIF	**Baives**	**78.91**	**1**	*e*P	**P**		**10 26 42.9**	**+0.6**
BAIF				pmax	pmax			
	comp=Z,27nm,1.0s,mb5.1						
KOLS	**Kolonicke sedl**	**79.06**	**349**	*e*P	**P**		**10 26 43.0**	**-0.1**
ABH	**Alteburg**	**79.08**	**359**	*e*P	**P**		**10 26 44.3**	**+1.1**
GRA1	**Grafenberg Arr**	**79.18**	**356**	*e*P	**P**		**10 26 44.6**	**+0.8**
	comp=Z,44nm,0.8s,mb5.4						
GRF	**Grafenberg Arr**	**79.18**	**356**	*e*P	**P**		**10 26 44.6**	**+0.8**
GRF				pmax	pmax			
	comp=Z,44nm,0.8s,mb5.4						
GRF	**Grafenberg Arr**	**79.18**	**356**	*e*P	**P**		**10 26 44.6**	**+0.8**
GRF				pmax	pmax			
	comp=Z,44nm,0.8s,mb5.4						
GRF	**Grafenberg Arr**	**79.18**	**356**	*e*P	**P**		**10 26 44.6**	**+0.8**
	comp=Z,44nm,0.8s,mb5.4						
RUP	**Ruppelstein**	**79.27**	**359**	*e*P	**P**		**10 26 45.1**	**+0.8**
WLF	**Walferdange**	**79.31**	**360**	*e*P	**P**		**10 26 42.0**	**-2.5**
TOD	**Tromm**	**79.34**	**358**	*e*P	**P**		**10 26 45.6**	**+1.0**
KHC	**Kasperske Hory**	**79.62**	**355**	*e*P	**P**		**10 26 46.6**	**+0.4**
KHC				*e*pP	pP		10 26 59.1	+0.6
WET	**Wettzell**	**79.65**	**355**	*e*P	**P**		**10 26 46.5**	**+0.2**
VYHS	**Vyhne**	**79.86**	**351**	*e*P	**P**		**10 26 47.8**	**+0.3**
VYHS				*e*			10 26 52.8	
GEC2	**GERESS Array S**	**79.90**	**355**	*e*P	**P**		**10 26 47.9**	**+0.2**
GEC2				pmax	pmax			
	comp=Z,13nm,1.0s,mb4.8						
GEC2	**GERESS Array S**	**79.90**	**355**	*e*P	**P**		**10 26 47.9**	**+0.2**
	comp=Z,13nm,1.0s,mb4.8						
FLN	**La Foliniere**	**80.07**	**4**	*e*P	**P**		**10 26 48.6**	**0.0**
	comp=Z,114nm,1.2s,mb5.4						
FLN	**La Foliniere**	**80.07**	**4**	*e*P	**P**		**10 26 48.6**	**0.0**
FLN				pmax	pmax			
	comp=Z,57nm,1.2s,mb5.4						
STU	**Stuttgart**	**80.16**	**358**	*e*P	**P**		**10 26 47.0**	**-2.1**
STU				pmax	pmax			
	comp=Z,8.0nm,0.4s,mb5.0						
STU	**Stuttgart**	**80.16**	**358**	*e*P	**P**		**10 26 47.0**	**-2.0**
	comp=Z,8.3nm,0.4s,mb5.0						
LDF	**La Druitiere**	**80.25**	**4**	*e*P	**P**		**10 26 50.1**	**+0.5**
	comp=Z,56nm,0.9s,mb5.2						
LDF				*e*pP	pP		10 27 02.7	+0.8
LDF	**La Druitiere**	**80.25**	**4**	*e*P	**P**		**10 26 50.1**	**+0.5**
LDF				*e*PP	pP		10 27 02.7	+0.8
LDF				pmax	pmax			
	comp=Z,28nm,0.9s,mb5.2						
ZST	**Bratislava**	**80.31**	**352**	*e*P	**P**		**10 26 51.0**	**+1.1**
ROSF	**Rostrenen**	**80.34**	**6**	*e*P	**P**		**10 26 50.5**	**+0.5**
GRR	**Gorron**	**80.42**	**4**	*e*P	**P**		**10 26 51.1**	**+0.6**
	comp=Z,47nm,0.9s,mb5.1						
GRR	**Gorron**	**80.42**	**4**	*e*P	**P**		**10 26 51.1**	**+0.6**
GRR				pmax	pmax			
	comp=Z,24nm,0.9s,mb5.1						
SGMF	**Saint Gilles**	**80.47**	**6**	*e*P	**P**		**10 26 51.6**	**+0.9**
	comp=Z,20nm,0.8s,mb4.8						
SGMF				*e*pP	pP		10 27 04.1	+1.1
SGMF	**Saint Gilles**	**80.47**	**6**	*e*P	**P**		**10 26 51.6**	**+0.9**
SGMF				*e*PP	pP		10 27 04.1	+1.1
SGMF				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.8						
MEZF	**Maizieres J'vi**	**80.47**	**1**	*e*P	**P**		**10 26 51.8**	**+1.1**
	comp=Z,88nm,1.1s,mb5.3						
WLS	**Welschbruch**	**80.56**	**359**	*e*P	**P**		**10 26 52.3**	**+1.1**
CDF	**Champ du Feu**	**80.56**	**359**	*e*P	**P**		**10 26 51.9**	**+0.7**
	comp=Z,63nm,1.0s,mb5.2						
CDF	**Champ du Feu**	**80.56**	**359**	*e*P	**P**		**10 26 51.9**	**+0.7**
CDF				pmax	pmax			
	comp=Z,31nm,1.0s,mb5.2						
BFO	**Black Forest**	**80.62**	**358**	*e*P	**P**		**10 26 52.0**	**+0.5**
BFO				pmax	pmax			
	comp=Z,28nm,1.1s,mb5.1						
BFO	**Black Forest**	**80.62**	**358**	*e*P	**P**		**10 26 52.0**	**+0.5**
	comp=Z,28nm,1.1s,mb5.1						
FUR	**Furstenfeldbru**	**80.70**	**356**	*e*P	**P**		**10 26 52.4**	**+0.4**
THEF	**They Montfort**	**80.75**	**360**	*e*P	**P**		**10 26 53.4**	**+1.2**
ECH	**Echery**	**80.75**	**359**	*e*P	**P**		**10 26 53.1**	**+0.9**
SOC	**Sochi**	**80.92**	**336**	*e*P	**P**		**10 26 51.1**	**-2.1**
SOC				*e*			10 29 58.9	
SOC				*e*PPP	PPP		10 31 52.3	+1.1
SOC				*e*S	S		10 36 58.2	+0.8
SOC				*e*SSS	SSS		10 45 37.9	+0.8
SOC				MLR	MLR			
	comp=Z,524nm,19.0s,MS4.9						
SOC				MLR	MLR			
	comp=N,314nm,17.0s,MS4.8						
SOC				MLR	MLR			
	comp=E,251nm,18.0s,MS4.8						
HAU	**Haudompre**	**80.97**	**360**	*e*P	**P**		**10 26 54.3**	**+0.9**
	comp=E,75nm,0.9s,mb5.3						
HAU				*e*pP	pP		10 27 07.0	+1.3
HAU	**Haudompre**	**80.97**	**360**	*e*P	**P**		**10 26 54.3**	**+0.9**
HAU				*e*PP	pP		10 27 07.0	+1.3
HAU				pmax	pmax			
	comp=Z,38nm,0.9s,mb5.3						
FELD	**Feldberg**	**81.08**	**358**	*e*P	**P**		**10 26 54.9**	**+0.9**
MOF	**Molkenrain**	**81.12**	**359**	*e*P	**P**		**10 26 55.1**	**+0.9**
HINF	**Hinteralfeld**	**81.16**	**359**	*e*P	**P**		**10 26 54.8**	**+0.4**
	comp=Z,38nm,0.9s,mb5.0						
HINF	**Hinteralfeld**	**81.16**	**359**	*e*P	**P**		**10 26 54.8**	**+0.4**
HINF				pmax	pmax			
	comp=Z,19nm,0.9s,mb5.0						
LOMF	**Lomont**	**81.62**	**359**	*e*P	**P**		**10 26 58.3**	**+1.5**
SSF	**Saint Saulge**	**81.90**	**2**	*e*P	**P**		**10 26 59.0**	**+0.8**
SSF				*e*PP	pP		10 27 12.0	+1.4
SSF				pmax	pmax			
	comp=Z,40nm,1.0s,mb5.3						
SSF	**Saint Saulge**	**81.90**	**2**	*e*P	**P**		**10 26 59.0**	**+0.8**
	comp=Z,40nm,1.0s,mb5.3						
SSF				*e*pP	pP		10 27 12.0	+1.4
AVF	**Avril sur Loir**	**82.16**	**2**	*e*P	**P**		**10 27 00.3**	**+0.7**
	comp=Z,65nm,0.9s,mb5.2						
AVF	**Avril sur Loir**	**82.16**	**2**	*e*P	**P**		**10 27 00.3**	**+0.7**
AVF				pmax	pmax			
	comp=Z,33nm,0.9s,mb5.3						
MFF	**Saint Martin d**	**82.24**	**4**	*e*P	**P**		**10 27 00.9**	**+0.9**
	comp=Z,63nm,0.9s,mb5.2						
MFF				*e*pP	pP		10 27 13.8	+1.4
MFF	**Saint Martin d**	**82.24**	**4**	*e*P	**P**		**10 27 00.9**	**+0.9**
MFF				*e*PP	pP		10 27 13.8	+1.4
MFF				pmax	pmax			
	comp=Z,32nm,0.9s,mb5.2						
SMF	**Signal de Mont**	**82.32**	**1**	*e*P	**P**		**10 27 01.2**	**+0.8**
	comp=Z,109nm,1.0s,mb5.4						
SMF	**Signal de Mont**	**82.32**	**1**	*e*P	**P**		**10 27 01.2**	**+0.8**
SMF				pmax	pmax			
	comp=Z,54nm,1.0s,mb5.4						
CABF	**La Chapelle**	**82.37**	**360**	*e*P	**P**		**10 27 01.8**	**+1.2**
	comp=Z,142nm,1.2s,mb5.5						
CABF				*e*pP	pP		10 27 14.5	+1.5
CABF	**La Chapelle**	**82.37**	**360**	*e*P	**P**		**10 27 01.8**	**+1.2**
CABF				*e*PP	pP		10 27 14.5	+1.5
CABF				pmax	pmax			
	comp=Z,71nm,1.2s,mb5.5						
BGF	**Bois d'Agland**	**82.39**	**2**	*e*P	**P**		**10 27 01.6**	**+0.8**
	comp=Z,99nm,1.2s,mb5.3						
BGF	**Bois d'Agland**	**82.39**	**2**	*e*P	**P**		**10 27 01.6**	**+0.8**
BGF				pmax	pmax			
	comp=Z,50nm,1.2s,mb5.3						
TCF	**Toulx Ste Croi**	**82.64**	**3**	*e*P	**P**		**10 27 02.8**	**+0.7**
BHPL	**Bhopal**	**82.86**	**298**	*e*P	**P**		**10 27 03.3**	**-0.4**
BHPL				*e*			10 27 05.5	
	comp=Z,98nm,1.5s						
AGO	**Saint Agoulin**	**82.90**	**2**	*e*P	**P**		**10 27 06.2**	**+2.8**
OG05	**Jujurieux**	**82.94**	**0**	*e*P	**P**		**10 27 05.3**	**+1.7**
PLDF	**La Plantade**	**82.99**	**2**	*e*P	**P**		**10 27 06.7**	**+2.9**
BOJS	**Bojanci**	**83.13**	**353**	*i* P	**P**		**10 27 05.2**	**+0.7**
PYM	**Petit Puy Mans**	**83.20**	**2**	*e*P	**P**		**10 27 07.6**	**+2.7**
LPL	**La Plagne**	**83.46**	**359**	*e*P	**P**		**10 27 07.4**	**+1.2**
LPG	**La Plagne**	**83.48**	**359**	*e*P	**P**		**10 27 07.6**	**+1.3**
RJF	**Les Rejaudoux**	**83.60**	**3**	*e*P	**P**		**10 27 08.0**	**+1.1**
	comp=Z,37nm,1.1s,mb5.1						
RJF	**Les Rejaudoux**	**83.60**	**3**	*e*P	**P**		**10 27 08.0**	**+1.1**
RJF				pmax	pmax			
	comp=Z,19nm,1.1s,mb5.1						
LBL	**Lubilhac**	**83.72**	**2**	*e*P	**P**		**10 27 10.6**	**+3.1**
BNI	**Bardonecchia**	**83.92**	**359**	*e*P	**P**		**10 27 08.1**	**-0.4**
BNI				pmax	pmax			
	comp=Z,56nm,1.4s,mb5.5						
BNI	**Bardonecchia**	**83.92**	**359**	*e*P	**P**		**10 27 08.1**	**-0.4**
	comp=Z,56nm,1.4s,mb5.5						
LFF	**La Frestale**	**83.94**	**4**	*e*P	**P**		**10 27 09.9**	**+1.3**
	comp=Z,122nm,1.2s,mb5.6						
LFF	**La Frestale**	**83.94**	**4**	*e*P	**P**		**10 27 09.9**	**+1.3**
LFF				pmax	pmax			
	comp=Z,61nm,1.2s,mb5.6						
CAF	**Calviac**	**84.00**	**3**	*e*P	**P**		**10 27 10.1**	**+1.2**
	comp=Z,84nm,1.2s,mb5.5						
CAF				*e*pP	pP		10 27 23.2	+1.9
CAF	**Calviac**	**84.00**	**3**	*e*P	**P**		**10 27 10.1**	**+1.2**
CAF				*e*PP	pP		10 27 23.2	+1.9
CAF				pmax	pmax			
	comp=Z,42nm,1.2s,mb5.4						
ORIF	**Oris-en-Rattie**	**84.06**	**360**	*e*P	**P**		**10 27 10.3**	**+1.1**
	comp=Z,51nm,1.2s,mb5.2						
ORIF	**Oris-en-Rattie**	**84.06**	**360**	*e*P	**P**		**10 27 10.3**	**+1.1**
ORIF				pmax	pmax			
	comp=Z,26nm,1.2s,mb5.2						
WRAB	**Tennant Creek**	**84.08**	**228**	*e*P	**P**		**10 27 08.9**	**-1.0**
WB2	**Warramunga Arr**	**84.09**	**228**	*e*P	**P**		**10 27 09.5**	**-0.4**
WRA	**Warramunga Arr**	**84.10**	**228**	*i* P	**P**		**10 27 09.4**	**-0.5**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.8s						
VIVF	**Saint-Julien-l**	**84.12**	**1**	*e*P	**P**		**10 27 11.0**	**+1.5**
	comp=Z,82nm,1.3s,mb5.4						
VIVF	**Saint-Julien-l**	**84.12**	**1**	*e*P	**P**		**10 27 11.0**	**+1.5**
VIVF				pmax	pmax			
	comp=Z,41nm,1.3s,mb5.4						
MBDF	**Montbardon**	**84.25**	**359**	*e*P	**P**		**10 27 11.8**	**+1.7**
	comp=Z,53nm,1.2s,mb5.2						
MBDF	**Montbardon**	**84.25**	**359**	*e*P	**P**		**10 27 11.8**	**+1.7**
MBDF				pmax	pmax			
	comp=Z,27nm,1.2s,mb5.2						
OG25	**Le Caire**	**84.61**	**360**	*e*P	**P**		**10 27 13.3**	**+1.3**
LASF	**Ste Croix**	**84.89**	**1**	*e*P	**P**		**10 27 15.0**	**+1.6**
	comp=Z,51nm,1.1s,mb5.3						
TOUF	**Mont Tournerai**	**84.96**	**359**	*e*P	**P**		**10 27 15.8**	**+2.1**
SAOF	**Saorge**	**84.98**	**359**	*e*P	**P**		**10 27 15.1**	**+1.3**
SMRF	**Simiane la Rot**	**85.00**	**0**	*e*P	**P**		**10 27 15.8**	**+1.9**
	comp=Z,159nm,1.2s,mb5.7						
SMRF				*e*pP	pP		10 27 29.1	+2.8
MVIF	**Mont Vial**	**85.07**	**359**	*e*P	**P**		**10 27 16.0**	**+1.7**
SBF	**Sospel**	**85.10**	**359**	*e*P	**P**		**10 27 15.5**	**+1.1**
	comp=Z,128nm,1.0s,mb5.7						
SBF	**Sospel**	**85.10**	**359**	*e*P	**P**		**10 27 15.5**	**+1.1**
SBF				pmax	pmax			
	comp=Z,64nm,1.0s,mb5.7						
VILF	**Villemus**	**85.12**	**0**	*e*P	**P**		**10 27 17.2**	**+2.7**
PRAF	**Pradon**	**85.17**	**0**	*e*P	**P**		**10 27 17.4**	**+2.6**
REVF	**Revere**	**85.23**	**359**	*e*P	**P**		**10 27 16.7**	**+1.7**
TAVF	**Tavernes**	**85.36**	**360**	*e*P	**P**		**10 27 18.0**	**+2.3**
FRF	**La Foret Royal**	**85.41**	**359**	*e*P	**P**		**10 27 17.2**	**+1.2**
	comp=Z,74nm,1.1s,mb5.4						
FRF	**La Foret Royal**	**85.41**	**359**	*e*P	**P**		**10 27 17.2**	**+1.2**
FRF				pmax	pmax			
	comp=Z,37nm,1.1s,mb5.4						
PUYF	**Puyloubier**	**85.44**	**0**	*e*P	**P**		**10 27 17.2**	**+1.1**
MTLF	**Montolieu**	**85.58**	**3**	*e*P	**P**		**10 27 18.3**	**+1.5**
	comp=Z,72nm,1.1s,mb5.5						
MTLF	**Montolieu**	**85.58**	**3**	*e*P	**P**		**10 27 18.3**	**+1.5**
MTLF				pmax	pmax			
	comp=Z,36nm,1.1s,mb5.5						
LMR	**La Mourre**	**85.64**	**359**	*e*P	**P**		**10 27 18.3**	**+1.2**
	comp=Z,161nm,1.4s,mb5.8						
LMR	**La Mourre**	**85.64**	**359**	*e*P	**P**		**10 27 18.3**	**+1.2**
LMR				pmax	pmax			
	comp=Z,81nm,1.4s,mb5.8						
SJPF	**Ste Jean**	**85.67**	**5**	*e*P	**P**		**10 27 18.9**	**+1.7**
	comp=Z,14nm,0.7s,mb5.0						
SJPF	**Ste Jean**	**85.67**	**5**	*e*P	**P**		**10 27 18.9**	**+1.7**
SJPF				pmax	pmax			
	comp=Z,7.0nm,0.7s,mb5.0						
EPF	**Esparros**	**85.83**	**4**	*e*P	**P**		**10 27 19.0**	**+1.0**
	comp=Z,25nm,0.9s,mb5.1						
EPF	**Esparros**	**85.83**	**4**	*e*P	**P**		**10 27 19.0**	**+1.0**
EPF				pmax	pmax			
	comp=Z,12nm,0.9s,mb5.1						
ETSF	**Etsaut**	**85.92**	**5**	*e*P	**P**		**10 27 20.4**	**+2.0**
	comp=Z,65nm,1.3s,mb5.4						
ETSF				*e*pP	pP		10 27 33.2	+2.3
ETSF	**Etsaut**	**85.92**	**5**	*e*P	**P**		**10 27 20.4**	**+2.0**
ETSF				*e*PP	pP		10 27 33.2	+2.3
ETSF				pmax	pmax			
	comp=Z,33nm,1.3s,mb5.4						
SKO	**Skopje**	**86.01**	**348**	*i* P	**P**		**10 27 20.5**	**+1.6**
PGF	**Pioggiola**	**86.39**	**358**	*e*P	**P**		**10 27 21.9**	**+1.1**
	comp=Z,83nm,1.1s,mb5.6						
PGF				*e*pP	pP		10 27 34.8	+1.6
PGF	**Pioggiola**	**86.39**	**358**	*e*P	**P**		**10 27 21.9**	**+1.1**
PGF				*e*PP	pP		10 27 34.8	+1.6
PGF				pmax	pmax			
	comp=Z,42nm,1.1s,mb5.6						
AQU	**L'Aquila**	**86.39**	**354**	*e*P	**P**		**10 27 19.3**	**-1.5**
AQU				pmax	pmax			
	comp=Z,36nm,1.1s,mb5.5						
AQU	**L'Aquila**	**86.39**	**354**	*e*P	**P**		**10 27 19.3**	**-1.5**
	comp=Z,36nm,1.1s,mb5.5						
FITZ	**Fitzroy Crossi**	**86.81**	**236**	⇓*i*P	**P**		**10 27 23.9**	**+0.6**
	comp=Z,11nm,0.6s,mb5.3						
HYB	**Hyderabad**	**86.87**	**294**	*e*P	**P**		**10 27 23.0**	**-0.7**
HYB	**Hyderabad**	**86.87**	**294**	*i* P	**P**		**10 27 23.0**	**-0.7**
ASPA	**Alice Springs**	**87.52**	**226**	*e*P	**P**		**10 27 26.3**	**-0.4**
POO	**Poona**	**88.62**	**298**	*e*P	**P**		**10 27 31.7**	**-0.4**
POO				*e*			10 27 33.8	
	comp=Z,49nm,1.6s						
KAD	**Karad**	**89.42**	**297**	*e*P	**P**		**10 27 34.9**	**-1.0**
KAD				*e*			10 27 37.3	
	comp=Z,26nm,1.7s						
KMBO	**Kilima Mbogo**	**123.33**	**321**	*e*PKIKP	PKPdf		10 33 36.2	+1.1
MAW	**Mawson**	**148.26**	**218**	*e*P	PKPdf		10 34 24.4	+5.5
	comp=Z,16nm,0.9s						

LDG ***06*** *10:31:26.8±0.1, 49.39N×6.91E, h1km, Md2.9/2, Ml3.0/10, Error ellipse: s-maj=1.4km s-min=1.0km az=84.0, Suspected Mining induced.*

CSEM ***06*** *10:31:26.8±0.1, 49.37N×6.91E, h2km, ML3.0/12, Error ellipse: s-maj=1.1km s-min=0.8km az=79.0*

NEIC ***06*** *10:31:26.3, 49.36N×6.88E, h1km, ML3.0(LDG), ML2.4(STR), After STR.*

UCC ***06*** *10:31:28.5, 49.47N×6.89E, h1km, ML2.1*

BNS ***06*** *10:31:28.5±1.5, 49.47N×6.89E, h1km, ML2.0*

BGR 06 10:31:27.0±0.4, 49.40N×6.92E, h1km, ML2.2/1, Error ellipse: s-maj=4.4km s-min=3.3km az=24.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.31**	**17**	Pg	Pg	10 31 33.2	-0.1
RUP				Sg	Sg	10 31 37.9	+0.4
WLF	**Walferdange**	**0.57**	**298**	*e*Pg	Pg	10 31 37.9	-0.4
	SNR=5.5						
WLF				*e*Sg	Sg	10 31 45.1	-0.8
	SNR=9.6						
WLF	**Walferdange**	**0.57**	**298**	*e*Pg	Pg	10 31 37.8	-0.5
WLF	**Walferdange**	**0.57**	**298**	*e*Pg	Pg	10 31 37.8	-0.5
WLF				Sg	Sg	10 31 45.1	-0.8
	SNR=9.6						
ABH	**Alteburg**	**0.63**	**40**	Pg	Pg	10 31 38.7	-0.9
ABH				Sg	Sg	10 31 47.7	-0.3
KTD	**Kalmit**	**0.76**	**96**	Pg	Pg	10 31 41.8	-0.5
BGG	**Burgeitz**	**0.85**	**18**	*e*Pg	Pg	10 31 43.1	-0.9
BGG				*e*Sg	Sg	10 31 54.6	-0.7
	69nm,0.3s						
CDF	**Champ du Feu**	**1.02**	**167**	*e*Pg	Pg	10 31 45.3	-2.0
CDF				*e*Sg	Sg	10 31 58.8	-2.1
	33nm,0.3s						
WLS	**Welschbruch**	**1.03**	**164**	Pg	Pg	10 31 46.1	-1.5
WLS				Sg	Sg	10 31 58.5	-2.8
ECH	**Echery**	**1.20**	**172**	Pg	Pg	10 31 49.0	-1.9
STB	**Steinbach**	**1.20**	**357**	*e*Pg	Pg	10 31 50.1	-0.7
STB				*e*Sg	Sg	10 32 06.3	-0.5
	52nm,0.7s						
RFYF	**Reffroy**	**1.23**	**232**	*e*Pg	Pg	10 31 49.3	-2.2
RFYF				*e*Sg	Sg	10 32 05.3	-2.6
	46nm,0.3s						
KLL	**Kalltalsperre**	**1.31**	**343**	*e*Pg	Pg	10 31 51.3	-1.8
KLL				*e*Sg	Sg	10 32 07.2	-3.4
	22nm,0.8s						
THEF	**They Montfort**	**1.33**	**208**	Pg	Pg	10 31 50.8	-2.7
THEF				Sg	Sg	10 32 07.0	-4.2
LIBD	**Limburg**	**1.33**	**160**	Pg	Pg	10 31 51.7	-1.9
MEM	**Membach**	**1.35**	**334**	P	Pb	10 31 53.1	+0.4
MEM				S	Sb	10 32 09.7	-0.7
BFO	**Black Forest**	**1.42**	**139**	*e*Pg	Pg	10 31 53.3	-2.0
	SNR=6.0						
BFO				*e*Sg	Sg	10 32 11.8	-2.4
	SNR=7.0						
HAU	**Haudompre**	**1.45**	**195**	*e*Pg	Pg	10 31 53.1	-2.8
HAU				*e*Sg	Sg	10 32 12.1	-3.1
	26nm,0.3s						
HGN	**Heimansgroeve**	**1.51**	**335**	*e*Pg	Pg	10 31 55.3	-1.8
	SNR=5.2						
HGN				*e*Sg	Sg	10 32 14.7	-2.5
	SNR=4.2						
HGN	**Heimansgroeve**	**1.51**	**335**	*e*Pg	Pg	10 31 55.7	-1.4
	17nm,0.3s						
HGN				*e*Sg	Sg	10 32 14.6	-2.6
MEZF	**Maizieres J'vi**	**1.53**	**235**	*e*Pg	Pg	10 31 54.8	-2.7
MEZF				*e*Sg	Sg	10 32 14.5	-3.3
	34nm,0.4s						
GIVF	**Givet**	**1.53**	**298**	*e*Pn	Pn	10 31 53.4	-2.2
GIVF				*e*Pg	Pg	10 31 55.5	-2.1
GIVF				*e*Sg	Sg	10 32 15.1	-2.9
	28nm,0.3s						
MOF	**Molkenrain**	**1.56**	**175**	Pg	Pg	10 31 55.4	-2.7
MOF				Sg	Sg	10 32 15.4	-3.5
HINF	**Hinteralfeld**	**1.59**	**182**	*e*Pg	Pg	10 31 55.8	-2.9
HINF				*e

HYB			eS	S	10 44 33.0	-13
HYB	**Hyderabad**	**14.37 285**	*i* P	**P**	**10 42 07.0**	**+0.8**
HYB			eS	S	10 44 33.0	-13
JIRN	**Jiri**	**14.98 336**	eP	**P**	**10 42 14.1**	**+0.1**
	comp=Z,169nm,0.9s					
NGP	**Nagpur**	**15.11 300**	e	**P**	**10 42 24.2**	**+8.5**
NGP			e		10 45 29.5	
PKI	**Pulchoki**	**15.23 333**	eP	**P**	**10 42 16.2**	**-1.1**
	comp=Z,24nm,0.2s					
GUN	**Gumba**	**15.32 335**	eP	**P**	**10 42 18.2**	**-0.3**
	comp=Z,101nm,0.8s					
DMN	**Daman**	**15.39 332**	eP	**P**	**10 42 18.3**	**-1.1**
	comp=Z,191nm,0.9s					
ALBI	**Allahabad**	**15.41 318**	e	**S**	**10 45 14.0**	**+3.6**
KKN	**Kakani**	**15.47 333**	eP	**P**	**10 42 20.6**	**+0.1**
LSA	**Lhasa**	**15.67 354**	P	**P**	**10 42 28.7**	**+5.7**
LSA			PCS		10 50 51.7	
LSA			AMB	AMB		
	comp=Z,40nm,1.3s					
LSA			LR	LR		
	comp=N,640nm,15.8s					
LSA			LR	LR		
	comp=E,2μm,15.8s					
LSA			LR	LR		
	comp=Z,1μm,15.0s					
LSA	**Lhasa**	**15.67 354**	eP	**P**	**10 42 22.6**	**-0.4**
	comp=Z,39nm,0.8s					
KOD	**Kodaikanal**	**15.73 258**	eP	**P**	**10 42 25.6**	**+1.8**
KOD			e		10 42 36.6	
	comp=Z,69nm,1.5s					
GKN	**Gorkha**	**15.94 332**	eP	**P**	**10 42 26.0**	**-0.5**
	comp=Z,41nm,0.3s					
KOLN	**Koldanda**	**16.25 329**	eP	**P**	**10 42 29.1**	**-1.3**
	comp=Z,82nm,0.6s					
TRD	**Trivandrum**	**16.74 252**	eP	**P**	**10 42 37.4**	**+0.7**
QIZ	**Qiongzhong**	**16.81 71**	eP	**P**	**10 42 40.0**	**+2.4**
QIZ			S	S	10 45 47.6	+4.6
QIZ			LR	LR		
	comp=N,1μm,18.2s					
QIZ			LR	LR		
	comp=E,1μm,19.5s					
QIZ			LR	LR		
	comp=Z,1μm,18.4s					
QIZ	**Qiongzhong**	**16.81 71**	P	**P**	**10 42 41.6**	**+4.0**
MNGI	**Mangalore**	**17.79 269**	eP	**P**	**10 42 49.2**	**-0.6**
MNGI			e		10 42 53.2	
	comp=Z,101nm,1.7s					
MNGI			*i*		10 44 02.0	
KAD	**Karad**	**18.47 283**	eP	**P**	**10 43 00.3**	**+1.9**
KAD			*i* S	S	10 46 20.2	-0.7
GOA	**Goa**	**18.67 277**	eP	**P**	**10 42 59.9**	**-0.9**
GOA			e		10 43 14.3	
	comp=Z,96nm,1.5s					
POO	**Poona**	**18.98 286**	*i*	**S**	**10 46 32.0**	**-0.2**
PTH	**Pithoragarh**	**19.47 324**	e	**P**	**10 43 01.0**	**-9.1**
PTH			eS	S	10 46 45.0	+1.8
NDI	**New Delhi**	**20.70 317**	eP	**P**	**10 43 21.3**	**-1.9**
NDI			e		10 43 32.6	
	comp=Z,38nm,1.1s					
NDI			eS	S	10 47 12.7	+3.9
AJM	**Ajmer**	**21.22 308**	⇑*i* P	**P**	**10 43 30.0**	**+1.4**
DDI	**Dehra Dun**	**21.30 322**	eP	**P**	**10 43 29.6**	**+0.2**
DDI			e		10 47 03.6	
ENH	**Enshi**	**22.12 40**	eP	**P**	**10 43 36.4**	**-1.2**
	comp=Z,100nm,1.1s,mb5.2					
SMLA	**Simla**	**22.41 322**	e	**P**	**10 43 57.5**	**+17**
SMLA			e		10 44 12.2	
	comp=Z,108nm,1.3s					
BHK	**Bhakra**	**23.07 321**	eP	**P**	**10 43 47.9**	**+0.9**
LZH	**Lanzhou**	**23.97 22**	⇑P	**P**	**10 43 57.1**	**+1.4**
LZH			AP		10 44 02.6	
LZH			XP		10 44 05.1	
LZH			AMB	AMB		
	comp=Z,1μm,4.0s					
LZH			LR	LR		
	comp=E,2μm,14.2s					
LZH			LR	LR		
	comp=Z,3μm,20.1s					
XAN	**Xi'an**	**24.53 33**	P	**P**	**10 44 00.7**	**-0.5**
XAN			AMB	AMB		
	comp=Z,22nm,0.8s,mb4.7					
NJ2	**Nanjing**	**29.59 48**	eP	**P**	**10 44 50.1**	**+2.4**
NJ2			AP	pP	10 44 59.9	+7.2
NJ2			XP	sP	10 45 03.7	+8.8
NJ2			PP	PP	10 45 44.4	+0.3
NJ2			S	S	10 49 32.0	-8.8
NJ2			XS		10 49 55.0	
NJ2			AMB	AMB		
	comp=Z,50nm,0.9s,mb5.2					
NJ2			AMB	AMB		
	comp=Z,370nm,3.1s					
NJ2			LR	LR		
	comp=N,2μm,21.9s					
NJ2			LR	LR		
	comp=E,2μm,16.1s					
NJ2			LR	LR		
	comp=Z,2μm,15.5s					
WMQ	**Urumqi**	**30.02 352**	eP	**P**	**10 44 51.5**	**+0.1**
WMQ			S	S	10 49 47.7	+0.4
WMQ			AMB	AMB		
	comp=Z,14nm,0.7s,mb4.8					
WMQ			LR	LR		
	comp=N,3μm,18.2s,MS5.1					
WMQ			LR	LR		
	comp=E,2μm,20.1s,MS5.1					
WMQ			LR	LR		
	comp=Z,3μm,18.0s,MS5.0					
SSE	**Sheshan**	**30.87 52**	P	**P**	**10 44 55.6**	**-3.4**
SSE			AP	pP	10 45 04.0	0.0
SSE			S	S	10 49 57.6	-3.4
SSE			XS		10 50 13.7	
SSE			AMB	AMB		
	comp=Z,31nm,0.8s,mb5.2					
SSE			AMB	AMB		
	comp=Z,130nm,6.9s					
SSE			LR	LR		
	comp=N,917nm,23.8s,MS4.4					
SSE			LR	LR		
	comp=E,467nm,23.7s,MS4.4					
SSE			LR	LR		
	comp=Z,410nm,19.6s,MS4.1					
AAK	**Ala-Archa**	**32.68 334**	*i* P	**P**	**10 45 13.5**	**-1.2**
AAK			pmax	pmax		
	comp=Z,11nm,1.4s,mb4.6					
AAK	**Ala-Archa**	**32.68 334**	eP	**P**	**10 45 11.7**	**-3.0**
	comp=Z,13nm,1.1s,mb4.8					
FRU	**Bishkek**	**32.79 335**	eP	**P**	**10 45 16.0**	**+0.3**
MKAR	**Makanchi Array**	**33.86 347**	*i* P	**P**	**10 45 24.5**	**-0.5**
ULN	**Ulaanbaatar**	**35.65 16**	*i* P	**P**	**10 45 40.0**	**-0.3**
ULN	**Ulaanbaatar**	**35.65 16**	eP	**P**	**10 45 39.9**	**-0.4**
	comp=Z,14nm,1.1s,mb4.8					
ZAK	**Zakamensk**	**37.16 11**	eP	**P**	**10 45 53.8**	**+0.8**
ZAK			e		10 47 21.5	
HIA	**Hailar**	**41.37 26**	eP	**P**	**10 46 27.8**	**-0.1**
	comp=Z,4.5nm,0.7s,mb4.2					
NVS	**Novosibirsk**	**41.41 351**	eP	**P**	**10 46 26.8**	**-1.4**
NVS			pmax	pmax		
	comp=Z,22nm,1.9s,mb4.5					
BRVK	**Borovoye**	**42.91 340**	eP	**P**	**10 46 36.3**	**-4.2**
	comp=Z,11nm,1.1s,mb4.5					
CHKZ	**Chkalovo**	**43.32 341**	*i* P	**P**	**10 46 43.1**	**-0.7**
CHKZ			pmax	pmax		
	comp=Z,15nm,1.3s,mb4.6					
CHKZ	**Chkalovo**	**43.32 341**	eP	**P**	**10 46 43.4**	**-0.4**
	comp=Z,20nm,1.1s,mb4.8					
MDJ	**Mudanjiang**	**43.45 38**	P	**P**	**10 46 46.0**	**+1.0**
MDJ			AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2					
MDJ			AMB	AMB		
	comp=Z,95nm,8.1s					
MDJ			LR	LR		
	comp=N,317nm,31.7s,MS4.1					
MDJ			LR	LR		
	comp=E,140nm,30.2s,MS4.1					
MDJ			LR	LR		
	comp=Z,225nm,27.4s,MS3.9					
MBWA	**Marble Bar**	**43.70 143**	eP	**P**	**10 46 46.3**	**-1.1**
	comp=Z,49nm,1.1s,mb5.2					
FITZ	**Fitzroy Crossi**	**45.30 134**	eP	**P**	**10 47 00.1**	**-0.2**
	comp=Z,35nm,0.8s,mb5.2					
MAJO	**Matsushiro**	**46.02 52**	eP	**P**	**10 47 05.1**	**-0.6**
	comp=Z,14nm,0.8s,mb5.0					
MAT	**Matsushiro**	**46.02 52**	eP	**P**	**10 47 09.0**	**+3.3**
MAT	**Matsushiro**	**46.02 52**	P	**P**	**10 47 08.9**	**+3.2**
BOD	**Bodaibo**	**46.45 15**	⇑*i* P	**P**	**10 47 08.0**	**-0.8**
CLNS	**Chul'man**	**49.09 23**	eP	**P**	**10 47 29.6**	**+0.1**
CLNS			e		10 48 49.3	
CLNS			e		10 49 21.4	
CLNS			ePPP	PPP	10 50 13.3	-3.8
CLNS			eS	S	10 54 35.9	+3.4
CLNS			pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1					
CLNS			pmax	pmax		
	comp=N,11nm,1.0s					
CLNS			pmax	pmax		
	comp=E,9.0nm,0.9s					
CLNS			pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4					
CLNS			pmax	pmax		
	comp=N,9.0nm,1.2s					
CLNS			pmax	pmax		
	comp=E,5.0nm,1.1s					
CLNS			smax			
	comp=N,3.0nm,1.1s					
CLNS			smax			
	comp=E,4.0nm,0.8s					
CLNS			smax			
	comp=Z,3.0nm,0.8s					
CLNS			MLR	MLR		
	comp=N,300nm,16.0s,MS4.5					
CLNS			MLR	MLR		
	comp=Z,200nm,16.0s,MS4.2					
CLNS			MLR	MLR		
	comp=E,100nm,12.0s,MS4.5					
SVE	**Sverdlovsk**	**49.32 337**	eP	**P**	**10 47 31.0**	**-0.2**
SVE			pmax	pmax		
	comp=Z,50nm,1.5s,mb5.3					
ARU	**Arti**	**49.84 336**	⇓*i* P	**P**	**10 47 33.4**	**-1.9**
ARU			e		10 49 26.4	
ARU			ePPP	PPP	10 50 23.7	-2.4
ARU			eS	S	10 54 43.6	+0.6
ARU			eSS	SS	10 58 16.4	+4.1
ARU			pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0					
TI2	**Plekhanov**	**49.98 313**	*i* P	**P**	**10 47 42.0**	**+5.4**
TI2			pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4					
MUN	**Mundaring**	**50.86 155**	eP	**P**	**10 47 42.7**	**-0.7**
	comp=Z,47nm,0.9s,mb5.4					
KLBR	**Kellerberrin**	**51.20 153**	eP	**P**	**10 47 44.8**	**-1.1**
	comp=Z,36nm,0.7s,mb5.4					
NWAO	**Narrogin (SRO)**	**52.11 154**	eP	**P**	**10 47 51.3**	**-1.6**
	comp=Z,52nm,0.8s,mb5.5					
KIV	**Kislovodsk**	**52.13 315**	eP	**P**	**10 47 56.1**	**+3.2**
KIV			e		10 48 08.4	
KIV			pmax	pmax		
	comp=Z,57nm,1.2s,mb5.4					
KIV			MLR	MLR		
	comp=Z,200nm,14.0s,MS4.3					
KIV	**Kislovodsk**	**52.13 315**	eP	**P**	**10 47 52.9**	**0.0**
	comp=Z,63nm,1.1s,mb5.5					
YSS	**Yuzh-Sakhalins**	**52.70 41**	*i* P	**P**	**10 47 56.7**	**-0.4**
YSS			pmax	pmax		
	comp=Z,66nm,2.1s,mb5.2					
YSS	**Yuzh-Sakhalins**	**52.70 41**	P	**P**	**10 47 56.3**	**-0.8**
	comp=Z,39nm,1.1s,mb5.2					
SOKR	**Solikamsk**	**52.70 338**	⇓*i* P	pP	10 48 02.9	+0.9
SOKR			pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0					
SOKR			MLR	MLR		
	comp=Z,280nm,18.0s,MS4.3					
WRAB	**Tennant Creek**	**52.82 129**	*i* P	**P**	**10 47 57.9**	**-0.4**
WRAB	**Tennant Creek**	**52.82 129**	eP	**P**	**10 47 53.6**	**-4.7**
	comp=Z,68nm,0.9s,mb5.6					
WB2	**Warramunga Arr**	**52.82 129**	eP	**P**	**10 47 53.3**	**-5.0**
WB2			e	pP	10 47 58.8	-4.7
MALT	**Malatya**	**53.79 307**	eP	**P**	**10 48 04.7**	**-0.6**
	comp=Z,15nm,1.1s,mb4.8					
YAK	**Yakutsk**	**54.54 20**	*i* P	**P**	**10 48 08.5**	**-1.9**
YAK			pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0					
YAK	**Yakutsk**	**54.54 20**	P	**P**	**10 48 08.4**	**-1.9**
	comp=Z,26nm,1.0s,mb5.2					
ASPA	**Alice Springs**	**54.76 133**	eP	**P**	**10 48 07.6**	**-5.0**
ASPA			*i*	pP	10 48 12.5	-5.2
EIL	**Elat**	**55.61 296**	eP	**P**	**10 48 17.2**	**-1.4**
	comp=Z,13nm,1.1s,mb4.9					
KMBO	**Kilima Mbogo**	**57.30 259**	eP	**P**	**10 48 33.6**	**+2.7**
	comp=Z,3.0nm,1.0s,mb4.3					
PMG	**Port Moresby**	**58.50 110**	*i* P	**P**	**10 48 38.5**	**-0.8**
PMG	**Port Moresby**	**58.50 110**	eP	**P**	**10 48 40.8**	**+1.5**
	comp=Z,25nm,1.0s,mb5.2					
MOS	**Moscow**	**59.31 327**	eP	pP	10 48 50.2	+0.5
MOS			pmax	pmax		
	comp=Z,51nm,1.0s,mb5.5					
OBN	**Obninsk**	**59.65 326**	P	**P**	**10 48 45.0**	**-1.8**
OBN			e		10 48 52.6	
OBN			e		10 49 01.0	
OBN			e		10 49 38.7	
OBN			pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1					
OBN	**Obninsk**	**59.65 326**	eP	pP	10 48 50.7	-1.3
	comp=Z,34nm,1.2s					
ISP	**Isparta**	**59.91 306**	P	**P**	**10 48 47.5**	**-1.3**
	comp=Z,52nm,1.6s,mb5.3					
TIXI	**Tiksi**	**61.42 12**	⇓*i* P	**P**	**10 48 56.8**	**-1.8**
TIXI			pmax	pmax		
	comp=Z,24nm,1.5s,mb5.1					
TIXI			MLR	MLR		
	comp=Z,310nm,19.0s,MS4.5					
MA2	**Magadan**	**61.85 29**	eP	**P**	**10 49 04.9**	**+3.2**
MA2			eS	S	10 57 27.6	+4.9
MA2			ePS	PS	10 57 45.6	+4.3
MA2			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7					
MA2	**Magadan**	**61.85 29**	eP	**P**	**10 49 04.9**	**+3.2**
	comp=Z,10nm,1.0s,mb4.9					
CTA	**Charters Tower**	**62.34 122**	eP	**P**	**10 49 07.0**	**+1.5**
	comp=Z,8.2nm,1.0s,mb4.8					
CTAO	**Charters Tower**	**62.34 122**	eP	**P**	**10 49 06.2**	**+0.7**
	comp=Z,25nm,1.2s,mb5.2					
CTAO			e		10 49 25.2	
CTAO			e		10 49 40.3	
CFR	**Carcaliu**	**62.52 314**	⇓*i* P	**P**	**10 49 09.7**	**+3.3**
CFR	**Carcaliu**	**62.52 314**	⇓*i* P	**P**	**10 49 09.7**	**+3.3**
MBAR	**Mbarara**	**63.39 262**	*i* P	**P**	**10 49 10.4**	**-2.1**
VRI	**Vrincioaia**	**63.59 314**	⇓*i* P	**P**	**10 49 16.8**	**+3.4**
VRI	**Vrincioaia**	**63.59 314**	⇓*i* P	**P**	**10 49 16.8**	**+3.4**
ISR	**Istrita**	**63.64 314**	⇓*i* P	pP	10 49 18.4	-0.5
SANT	**Santorini**	**63.85 304**	eP	**P**	**10 49 16.3**	**+1.0**
	comp=Z,20nm,0.7s,mb5.3					
RZN	**Rozhen**	**64.66 310**	eP	**P**	**10 49 23.0**	**+2.5**
JOF	**Joensuu**	**64.86 334**	ep	**P**	**10 49 18.7**	**-2.7**
	comp=Z,11nm,0.9s,mb4.9					
JOF	**Joensuu**	**64.86 334**	eP	**P**	**10 49 18.7**	**-2.7**
JOF			pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9					
PGB	**Panagyurishte**	**65.12 311**	eP	**P**	**10 49 25.0**	**+1.6**
STKA	**Stephens Creek**	**65.17 135**	eP	**P**	**10 49 20.0**	**-3.9**
	comp=Z,7.5nm,1.8s,mb4.4					
STKA			e	pP	10 49 24.6	-4.5
MMB	**Musomiste**	**65.39 309**	eP	**P**	**10 49 27.0**	**+1.8**
APA	**Apatity**	**65.73 339**	eP	**P**	**10 49 30.5**	**+3.6**
APA			pmax	pmax		
	comp=Z,32nm,1.2s,mb5.2					
VTS	**Vitosha**	**65.83 311**	eP	**P**	**10 49 31.0**	**+3.0**
LVV	**L'vov**	**65.88 318**	eP	**P**	**10 49 31.7**	**+3.6**
KKB	**Krupnik**	**65.89 310**	eP	**P**	**10 49 30.0**	**+1.6**
KWP	**Kalwaria**	**66.71 318**	eP	**P**	**10 49 36.8**	**+3.4**
KOLS	**Kolonicke sedl**	**66.93 317**	eP	**P**	**10 49 38.2**	**+3.3**
KOLS			e	pP	10 49 44.0	+3.9
KOLS			e		10 51 57.4	
KOLS	**Kolonicke sedl**	**66.93 317**	e	**P**	**10 49 38.2**	**+3.3**
KOLS			epP	pP	10 49 44.0	+3.9
KOLS			ePP	PP	10 51 57.4	-6.7
SUW	**Suwalki**	**66.94 323**	eP	**P**	**10 49 37.5**	**+2.7**
SKO	**Skopje**	**67.12 310**	eP	**P**	**10 49 38.0**	**+1.8**
CRVS	**Cervenica-Dubn**	**67.46 317**	eP	**P**	**10 49 39.5**	**+1.3**
CRVS			e		10 49 56.8	
CRVS	**Cervenica-Dubn**	**67.46 317**	eP	**P**	**10 49 39.5**	**+1.3**
CRVS			e	pP	10 49 44.2	+0.7
CRVS			e		10 49 56.8	
NIE	**Niedzica**	**68.25 318**	eP	**P**	**10 49 42.8**	**-0.4**
OJC	**Ojcow**	**68.63 319**	eP	**P**	**10 49 44.5**	**-1.0**
VYHS	**Vyhne**	**69.17 317**	eP	**P**	**10 49 47.7**	**-1.2**
VYHS			e		10 50 17.5	
VYHS	**Vyhne**	**69.17 317**	eP	**P**	**10 49 47.7**	**-1.2**
VYHS			e	pP	10 49 52.4	-1.7
VYHS			e		10 50 17.5	
OKC	**Ostrava-Krasne**	**69.68 318**	eP	**P**	**10 49 51.0**	**-0.9**
OKC			epP	pP	10 49 55.9	-1.3
MORC	**Moravsky Berou**	**70.06 318**	eP	**P**	**10 49 51.4**	**-2.9**
	comp=Z,21nm,0.9s,mb5.1					
ZST	**Bratislava**	**70.32 316**	eP	**P**	**10 49 59.5**	**+3.6**
ZST	**Bratislava**	**70.32 316**	e	**P**	**10 49 59.5**	**+3.6**
BILL	**Bilibino**	**70.78 22**	*i* P	**P**	**10 49 51.5**	**-6.9**
BILL	**Bilibino**	**70.78 22**	eP	pP	10 50 02.1	-1.5
	comp=Z,14nm,1.2s					
DPC	**Dobruska-Polom**	**70.86 319**	eP	**P**	**10 49 58.4**	**-0.8**
DPC			epP	pP	10 50 03.1	-1.3
KSP	**Ksiaz**	**70.89 319**	eP	pP	10 50 03.3	-1.3
UPC	**Upice**	**71.07 319**	eP	**P**	**10 50 00.3**	**-0.1**
UPC			epP	pP	10 50 05.0	-0.6
PVCC	**Panska Ves**	**71.99 319**	eP	**P**	**10 50 07.8**	**+1.9**
PRU	**Pruhonice**	**72.01 318**	eP	**P**	**10 50 05.2**	**-0.8**
PRU			epP	pP	10 50 09.7	-1.6
BRG	**Berggiesshubel**	**72.38 319**	eP	**P**	**10 50 07.5**	**-0.7**
BRG			pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9					
BRG	**Berggiesshubel**	**72.38 319**	eP	**P**	**10 50 07.5**	**-0.7**
	comp=Z,18nm,1.0s,mb5.0					
BRG			e	pP	10 50 11.3	-2.2
VOY	**Vojsko**	**72.54 314**	eP	**P**	**10 50 07.2**	**-2.1**
VOY			e	pP	10 50 12.6	-1.9
KHC	**Kasperske Hory**	**72.65 317**	eP	**P**	**10 50 08.3**	**-1.6**
KHC			epP	pP	10 50 12.8	-2.3
CLL	**Collm**	**72.97 320**	*i* P	**P**	**10 50 15.2**	**+3.5**
CLL			e		10 50 32.0	
CLL			pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8					
CLL	**Collm**	**72.97 320**	*i* P	**P**	**10 50 15.2**	**+3.5**
	comp=Z,15nm,1.2s,mb4.8					
CLL			e		10 50 32.0	
CLL	**Collm**	**72.97 320**	P	**P**	**10 50 15.2**	**+3.5**
	comp=Z,logA/T=1.1,mb4.8					
MOX	**Moxa**	**73.87 319**	eP	pP	10 50 20.9	-1.3
MOX			pmax	pmax		
	comp=Z,40nm,1.8s,mb5.0					
MOX	**Moxa**	**73.87 319**	eP	pP	10 50 20.9	-1.3
	comp=Z,40nm,1.8s					
MOX	**Moxa**	**73.87 319**	*i* P	pP	10 50 20.9	-1.3
	comp=Z,logA/T=1.4					
NB2	**NORSAR Subarra**	**73.88 330**	P	**P**	**10 50 14.9**	**-1.8**
	comp=Z,2.7nm,0.6s,mb4.3,baz=90,slow=5.6					
LPG	**La Plagne**	**77.56 314**	eP	**P**	**10 50 37.5**	**-0.5**
	comp=Z,59nm,1.0s,mb5.2					
BNI	**Bardonecchia**	**77.67 314**	eP	**P**	**10 50 37.6**	**-1.0**
	comp=Z,32nm,1.0s,mb5.2					
EPOB	**Poblet**	**82.33 311**	P	**P**	**10 51 06.7**	**+3.1**
	comp=Z,22nm,1.0s,mb5.0					
EBIE	**Bielsa**	**82.74 312**	P	pP	10 51 12.9	+1.9
	comp=Z,19nm,1.1s					
EBR	**Ebro Roquetas**	**82.88 310**	eP	**P**	**10 51 08.5**	**+2.1**
ERTA	**Horta de San J**	**82.97 310**	P	**P**	**10 51 05.4**	**-1.5**
	comp=Z,36nm,1.7s,mb5.1					
ESAC	**San Caprasio**	**83.39 311**	P	pP	10 51 13.9	-0.5
	comp=Z,19nm,0.8s					
EMOS	**Mosqueruela**	**83.69 310**	P	pP	10 51 15.8	-0.2
MAW	**Mawson**	**84.35 191**	eP	**P**	**10 51 14.3**	**+1.0**
	comp=Z,14nm,0.9s,mb5.1					
IMA	**Indian Mountai**	**86.32 22**	eP	**P**	**10 51 18.8**	**-4.3**
	comp=Z,58nm,1.1s,mb5.7					
GUD	**Guadarrama**	**86.35 311**	P	pP	10 51 28.5	-0.8
ESDC	**Sonseca Array**	**86.46 310**	P	**P**	**10 51 27.8**	**+3.3**
MCK	**McKinley**	**89.22 23**	P	**P**	**10 51 37.0**	**-0.2**
	comp=Z,12nm,1.2s,mb5.1					
MCK			e	pP	10 51 43.3	+0.8
SYO	**Syowa Base**	**90.98 197**	⇑P	**P**	**10 51 45.7**	**+0.5**
SYO	**Syowa Base**	**90.98 197**	⇑pP	pP	10 51 48.4	-2.2
DAWY	**Dawson**	**92.47 20**	eP	**P**	**10 51 55.0**	**+2.8**
HWUT	**Hardware Ranch**	**120.12 21**	eP	PKPdf	10 57 36.2	+0.9
MVU	**Marysvale**	**122.60 23**	eP	PKPdf	10 57 37.6	-2.5
MSU	**Marysvale**	**122.61 23**	eP	PKPdf	10 57 37.2	-3.0
PV10	**Paradox Valley**	**123.88 21**	P	PKPdf	10 57 39.7	-3.0
NEN	**Nelson**	**123.94 27**	P	PKPdf	10 57 40.3	-2.6
LAZ	**Ladron**	**128.11 21**	eP	PKPdf	10 57 47.4	-3.6
JCT	**Junction City**	**134.02 16**	eP	PKPdf	10 58 04.2	+2.0
TEIG	**Tepich**	**145.90 2**	eP	PKPbc	10 58 20.9	0.0
TRQA	**Tornquist**	**147.44 218**	eP	PKPdf	10 58 26.3	+0.4

NDI 06 11:27:21.4±0.3, 23.39N×72.26E, h3km±20km, MD3.4, ML2.9, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHV	**Bhavnagar**	**1.63**	**184**	eP	Pn	11 27 51.5	+0.3
BHV				eS	Sb	11 28 13.5	+0.7
BHJ	**Bhuj**	**2.40**	**267**	eP	Pn	11 28 01.9	-0.3
BHJ				eS	Sn	11 28 31.4	-0.9
BHJ				e		11 29 08.7	
	comp=E,70nm,1.1s						
BHJ				e		11 29 10.1	
	comp=N,78nm,0.6s						
BOM	**Bombay**	**4.50**	**173**	eP	Pn	11 28 30.5	-1.6
BOM				e		11 28 49.3	

*MOS **06** 11:39:51.3±1.0, 56.19N×162.82E, h5km, mb4.4/1, Error ellipse: s-maj=33.8km s-min=16.3km az=69.0*

KRSC 06 11:39:51.2±0.8, 56.21N×162.84E, h7km±1km, ML4.3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.01**	**261**	*i* P	Pg	11 39 53.0	+0.5
KBG	**Krutoberegovo**	**0.09**	**301**	P	Pg	11 39 54.1	+0.7
KBG				eS	Sg	11 39 55.1	+0.3
SVLR	**Shiveluch**	**0.97**	**293**	eP	Pb	11 40 10.5	+0.5
SVLR				eS	Sb	11 40 24.1	+1.3
ZLN	**Zelenaya**	**1.16**	**261**	*i* P	Pb	11 40 14.1	+1.0
ZLN				eS	Sb	11 40 29.9	+1.7
CIRR	**Tsirk**	**1.17**	**266**	*i* P	Pb	11 40 14.3	+0.9
CIRR				eS	Sb	11 40 30.3	+1.6
LGNR	**Loginova**	**1.21**	**265**	eP	Pb	11 40 14.9	+0.9
LGNR				eS	Sb	11 40 31.8	+2.1
KLY	**Klyuchi**	**1.23**	**276**	P	Pb	11 40 13.0	-1.3
KLY				S	Sb	11 40 28.8	-1.3
KLY	**Klyuchi**	**1.23**	**276**	*i* P	Pb	11 40 12.9	-1.4
KLY				eS	Sb	11 40 28.8	-1.3
KRSR	**Krestovskiy**	**1.27**	**271**	eP	Pb	11 40 14.8	-0.3
KRSR				*i* S	Sb	11 40 32.5	+1.0
KPT	**Kopyto**	**1.49**	**262**	*i* P	Pn	11 40 18.9	+0.4
KPT				eS	Sb	11 40 38.8	+1.0
KMNR	**Kamenistaya**	**1.53**	**254**	eP	Pn	11 40 20.2	+1.1
KMNR				eS	Sb	11 40 41.6	+2.6
KOZR	**Kozyr**	**1.65**	**266**	PN	Pn	11 40 22.1	+1.2
KOZR				S	Sn	11 40 43.9	+1.3
KOZ	**Kozyrevsk**	**1.67**	**266**	P	Pn	11 40 22.1	+1.0
KOZ				S	Sn	11 40 43.9	+1.0
KOZ	**Kozyrevsk**	**1.67**	**266**	*i* P	Pn	11 40 22.0	+0.9
KOZ				eS	Sn	11 40 43.9	+1.0
SRDR	**Sredinnyy**	**1.75**	**275**	eP	Pn	11 40 23.2	+1.0

comp=E,139nm,0.9s
PET smax
comp=N,98nm,0.6s
PET Petropavlovsk 4.01 219 *e*P Pn 11 40 55.9 +1.4
PET *e*S Sn 11 41 42.9 +0.5
KRMR Karymshinskiy 4.36 221 *e*P Pn 11 41 00.9 +1.5
KRMR *e*S Sn 11 41 51.6 +0.5
RUS Russkaya 4.55 216 P Pn 11 41 01.2 -1.0
RUS S Sn 11 41 54.1 -2.0
RUS Russkaya 4.55 216 *e*P Pn 11 41 02.1 -0.1
RUS *e*S Sn 11 41 54.1 -2.0
GRL Gorelyy 4.60 219 *e*P Pn 11 41 03.1 +0.2
APC Apacha 4.67 227 *e*P Pn 11 41 06.0 +2.2

PGC 06 11:55:17.1,66.73N×135.68W,h20km,ML3.0/2,
Richardson Mountains, Yukon Territory,Northern
Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**1.79**	**27**	Pn	Pn	11 55 47.0	-0.3
INK				Sn	Sn	11 56 10.6	+0.9
INK				Sg	Sn	11 56 13.4	+3.7
INK				Trac		11 56 15.9	
	comp=Z,125nm,0.1s						
DAWY	**Dawson**	**3.09**	**212**	Pn	Pn	11 56 03.8	-2.2
DAWY				Sn	Sn	11 56 40.0	-2.7
DAWY				Sg	Sn	11 56 47.6	+4.8
DAWY				Trac		11 56 53.4	
	comp=Z,20nm,0.1s						
HYT	**Haines Junctio**	**5.98**	**189**	Pn	Pn	11 56 44.0	-2.9
HYT				Sg	Sn	11 58 22.4	+27
HYT				Trac		11 58 34.0	
	comp=Z,7.0nm,0.4s						
WHY	**Whitehorse**	**6.10**	**176**	Pn	Pn	11 56 45.1	-3.5
WHY				Sg	Sn	11 58 27.6	+29
WHY				Trac		11 58 35.1	
	comp=Z,6.0nm,0.5s						
DLBC	**Dease Lake**	**8.71**	**160**	Pn	P	11 57 19.1	-6.0
DLBC				Sn	Sn	11 58 54.5	-9.4
DLBC				Sg	Sn	11 59 48.5	+45
DLBC				Trac		11 59 56.0	
	comp=Z,6.0nm,0.8s						
YKW3	**Yellowknife Ar**	**9.92**	**105**	P	P	11 57 33.4	-8.2
YKW3				P		11 57 35.1	
YKW3				Sn	Sn	11 59 19.4	-14
YKW3				Sn	Sn	11 59 20.3	-13
YKW3				Sg	Sn	12 00 28.6	+55
YKW3				Trac		12 00 34.5	
	comp=Z,4.0nm,0.4s						
YKW3				Trac		12 00 34.6	
	comp=Z,4.0nm,0.4s						
RES	**Resolute Bay**	**15.28**	**41**	P	P	11 58 45.4	-7.6

*BJI **06** 11:55:42.6,10.91N×91.72E,h12km,mB5.4,mb4.8,Ms5.6, Msz5.3*
*HRVD **06** 11:55:43.7±0.2,11.01N×91.99E,h13km,MW5.4/65, Centroid moment Tensor Solution. LP body waves: s54,c101;Mantle waves: s65,c132; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.05±.02; $M_{\theta\theta}$-0.04±.02; $M_{\phi\phi}$1.08±.02; $M_{r\theta}$0.47±.04; $M_{r\phi}$0.25±.01; $M_{\theta\phi}$-1.15±.04; Best double couple: $M_0$1.651×10^{17} NP1: ϕ_s211°,δ26°,λ-50°. NP2:ϕ_s348°,δ70°,λ-108°. Principal axes: T 1.583, Plg23°, Azm92°; N .129, Plg17°, Azm354°; P -1.718, Plg61°, Azm232°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 11:55:43.7±2.7,10.91N×91.80E,h10km±16km,mb5.4/80, MS5.3/40 Error ellipse: s-maj=5.8km s-min=4.0km az=215.0*
*MOS **06** 11:55:44.7±0.9,10.88N×91.90E,h31km,mb5.6/32, MS5.1/17,Error ellipse: s-maj=13.8km s-min=6.2km az=115.5*

ISC 06 11:55:44.1±0.2,10.88N±0.03×91.80E±0.02,h24km,
h24km±.7km:pP-P,n308,σ1s13/308,mb5.3/95,MS5.2/66,
21C-17D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.21**	**50**	*e*	**Pn**	**11 56 08.0**	**+2.3**
PBA				*e*		11 56 08.0	
NNT	**Nongplab**	**7.95**	**77**	P	**Pn**	**11 57 42.0**	**+0.8**
NST	**Nakhon Sawan**	**9.41**	**59**	P	**P**	**11 58 01.8**	**+0.5**
	83nm,0.6s						
SNG	**Songkhla**	**9.45**	**112**	P	**P**	**11 58 07.0**	**+5.1**
	394nm,0.9s						
CHG	**Chiang Mai**	**10.48**	**40**	PG	**P**	**11 58 15.8**	**-0.4**
CHG				SG	rx	11 58 30.0	
VIS	**Vishakhapatnam**	**10.66**	**311**	*e*P	**P**	**11 58 14.0**	**-4.6**
	comp=Z,544nm,1.4s						
VIS				*e*S	**S**	**12 00 01.8**	**-16**
MDRS	**Chennai**	**11.51**	**282**	⇓*e*P	**P**	**11 58 26.0**	**-4.2**
PALK	**Pallekele**	**11.53**	**253**	*e*P	**P**	**11 58 28.9**	**-1.6**
PALK				*e*S	S	12 00 18.2	-21
NANT	**Nan**	**11.66**	**46**	P	**P**	**11 58 34.5**	**+2.3**
CHRT	**Chiangrai**	**11.79**	**40**	⇑P	**P**	**11 58 32.5**	**-1.5**
	comp=Z,205nm,1.2s						
CAL	**Calcutta**	**12.06**	**344**	*e*P	**P**	**11 58 35.9**	**-1.7**
CAL				*e*S	**S**	**12 00 39.3**	**-13**
AGT	**Agartala**	**12.94**	**358**	⇑*i*P	**P**	**11 58 47.0**	**-2.4**
AGT				*i*		11 59 21.0	
UBT	**Ubonrachathani**	**13.59**	**70**	P	**P**	**11 59 05.0**	**+6.9**
IMP	**Imphal**	**13.98**	**8**	*e*	**P**	**11 59 09.5**	**+6.4**
KOD	**Kodaikanal**	**14.11**	**269**	*e*P	**P**	**11 59 04.2**	**-0.7**
KOD				*e*		11 59 15.5	
	comp=Z,209nm,1.3s						
HYB	**Hyderabad**	**14.39**	**298**	*e*P	**P**	**11 59 06.5**	**-2.1**
HYB				*e*S	**S**	**12 01 40.0**	**-8.3**
HYB	**Hyderabad**	**14.39**	**298**	*i*P	**P**	**11 59 06.5**	**-2.1**
HYB				*e*S	**S**	**12 01 40.0**	**-8.3**
BLSP	**Bilaspur**	**14.52**	**322**	⇑*i*P	**P**	**11 59 07.9**	**-2.4**
BLSP				*i*		12 01 35.6	
SHL	**Shillong**	**14.61**	**0**	*e*P	**P**	**11 59 11.3**	**-0.2**
SHL				*e*		11 59 23.2	
	comp=Z,106nm,1.5s						
NGP	**Nagpur**	**15.94**	**311**	*e*	**P**	**11 59 30.1**	**+1.4**
NGP				*e*		12 02 13.0	
LATR	**Latur**	**16.53**	**299**	*e*P	**P**	**11 59 34.0**	**-2.2**
MNGI	**Mangalore**	**16.74**	**279**	*e*P	**P**	**11 59 38.2**	**-0.7**
MNGI				*e*		11 59 48.9	
	comp=Z,193nm,1.3s						
MNGI				*i*		12 02 37.6	
ALBI	**Allahabad**	**17.20**	**328**	*e*P	**P**	**11 59 44.0**	**-0.6**
JIRN	**Jiri**	**17.51**	**343**	*e*P	**P**	**11 59 47.7**	**-0.7**
	comp=Z,150nm,0.6s						
PKI	**Pulchoki**	**17.66**	**341**	*e*P	**P**	**11 59 50.3**	**0.0**
	comp=Z,169nm,0.6s						
DMN	**Daman**	**17.79**	**340**	*e*P	**P**	**11 59 50.7**	**-1.3**
GUN	**Gumba**	**17.83**	**343**	*e*P	**P**	**11 59 51.9**	**-0.6**
	comp=Z,269nm,1.0s						
KKN	**Kakani**	**17.91**	**341**	*e*P	**P**	**11 59 52.7**	**-0.7**
GOA	**Goa**	**18.09**	**287**	*e*P	**P**	**12 00 04.1**	**+8.3**
GOA				*e*		12 00 10.0	
	comp=Z,82nm,1.6s						
GOA				*e*S	**S**	**12 03 27.0**	**+13**
KAD	**Karad**	**18.23**	**292**	*e*P	**P**	**11 59 58.9**	**+1.3**
KAD				*i*		12 03 07.7	
GKN	**Gorkha**	**18.32**	**339**	*e*P	**P**	**11 59 57.0**	**-1.5**
BHPL	**Bhopal**	**18.42**	**314**	⇑*i*P	**P**	**11 59 56.4**	**-3.4**
BHPL				*i*		12 03 12.0	
	comp=Z,110nm,1.3s						
KOLN	**Koldanda**	**18.49**	**337**	*e*P	**P**	**11 59 59.6**	**-1.0**
	comp=Z,272nm,0.6s						
LSA	**Lhasa**	**18.74**	**358**	P	**P**	**12 00 04.2**	**+0.6**
LSA				AP		12 00 12.6	
LSA				XP		12 00 17.2	
LSA				S	**S**	**12 03 26.8**	**-1.6**
LSA				PCS		12 08 08.8	
LSA				AMB	AMB		
	comp=Z,80nm,1.1s						
LSA				LR	LR		
	comp=N,3μm,16.2s						
LSA				LR	LR		
	comp=E,9μm,15.0s						
LSA				LR	LR		
	comp=Z,7μm,17.3s						
LSA	**Lhasa**	**18.74**	**358**	*e*P	**P**	**12 00 02.8**	**-0.9**
	comp=Z,279nm,1.2s						
LSA				*e*S	**S**	**12 03 21.8**	**-6.7**
QIZ	**Qiongzhong**	**19.21**	**63**	⇑P	**P**	**12 00 08.9**	**-0.4**

QIZ				PP	PP	12 00 30.5	+4.2
QIZ				S	**S**	**12 03 40.0**	**+0.7**
QIZ				SS	SS	12 04 06.3	+1.1
QIZ				AMB	AMB		
	comp=Z,2μm,12.4s						
QIZ				LR	LR		
	comp=N,9μm,16.2s						
QIZ				LR	LR		
	comp=Z,8μm,12.4s						
QIZ	**Qiongzhong**	**19.21**	**63**	P	**P**	**12 00 08.0**	**-1.3**
	comp=Z,104nm,1.5s						
BOM	**Bombay**	**19.99**	**296**	*e*P	**P**	**12 00 10.4**	**-7.6**
BOM				*e*		12 00 22.6	
	comp=Z,146nm,1.3s						
BOM				*e*S	**S**	**12 03 57.5**	**+1.3**
ASOR	**Ausora**	**22.11**	**326**	*e*P	**P**	**12 00 38.9**	**-0.6**
SONA	**Sohna**	**22.12**	**323**	*e*P	**P**	**12 00 39.5**	**-0.1**
SONA				*e*S	**S**	**12 04 40.5**	**+3.5**
BISR	**Bishrakh**	**22.15**	**325**	*e*P	**P**	**12 00 41.2**	**+1.2**
AYAN	**Aya Nagar**	**22.27**	**324**	*e*P	**P**	**12 00 41.5**	**+0.5**
AYAN				*e*S	**S**	**12 04 41.9**	**+2.2**
NDI	**New Delhi**	**22.36**	**324**	*e*P	**P**	**12 00 43.0**	**+1.0**
NDI				*e*		12 00 47.6	
	comp=Z,173nm,1.2s						
NDI				*e*S	**S**	**12 04 45.0**	**+3.5**
KUDL	**Kundal**	**22.39**	**322**	*e*P	**P**	**12 00 42.0**	**-0.3**
BHGR	**Bahadurgarh**	**22.53**	**324**	*e*P	**P**	**12 00 45.0**	**+1.3**
KHET	**Khetri**	**22.76**	**321**	*e*P	**P**	**12 00 45.5**	**-0.5**
KHET				*e*S	**S**	**12 04 56.3**	**+7.6**
RTK	**Rohtak**	**23.09**	**324**	*e*P	**P**	**12 00 51.4**	**+2.2**
COCO	**West Island**	**23.46**	**168**	P	**P**	**12 00 54.8**	**+1.9**
	comp=Z,341nm,1.3s,mb5.6						
KLP	**Kalpa**	**24.08**	**331**	*e*P	**P**	**12 00 59.5**	**+0.6**
BHK	**Bhakra**	**24.91**	**327**	*e*P	**P**	**12 01 09.5**	**+2.6**
BHK				*e*		12 05 38.7	
JASL	**Jaisalmer**	**25.34**	**312**	*e*P	**P**	**12 01 11.7**	**+0.7**
ENH	**Enshi**	**25.36**	**38**	*e*P	**P**	**12 01 10.2**	**-0.9**
	comp=Z,249nm,0.8s,mb5.8						
ENH				LR	LR		
	comp=Z,7μm,19.0s,MS5.2						
DLH	**Dalhousie**	**26.03**	**328**	*e*P	**P**	**12 01 19.0**	**+1.6**
DGAR	**Diego Garcia**	**26.48**	**227**	PFAKE		12 01 30.0	+8.4
DGAR				LR	LR		
	comp=Z,743nm,19.0s,MS4.2						
LZH	**Lanzhou**	**27.37**	**22**	⇑P	**P**	**12 01 30.1**	**+0.5**
LZH				AP	pP	12 01 34.9	-1.7
LZH				XP	sP	12 01 39.0	-0.8
LZH				PP	PP	12 02 18.0	+0.9
LZH				S	**S**	**12 06 08.0**	**+1.7**
LZH				XS		12 06 19.0	
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,260nm,4.2s						
LZH				LR	LR		
	comp=E,10μm,16.3s						
LZH				LR	LR		
	comp=Z,14μm,20.8s,MS5.5						
XAN	**Xi'an**	**27.87**	**32**	P	**P**	**12 01 32.7**	**-1.5**
XAN				S	**S**	**12 06 11.8**	**-2.7**
XAN				LR	LR		
	comp=N,3μm,19.0s,MS5.1						
XAN				LR	LR		
	comp=E,4μm,16.5s,MS5.1						
XAN				LR	LR		
	comp=Z,5μm,13.3s,MS5.2						
WHN	**Wuhan**	**28.66**	**44**	*e*P	**P**	**12 01 42.0**	**+0.7**
WHN				S	**S**	**12 06 21.8**	**-5.5**
WHN				LR	LR		
	comp=N,2μm,11.0s,MS5.5						
WHN				LR	LR		
	comp=E,7μm,11.7s,MS5.5						
WHN				LR	LR		
	comp=Z,12μm,14.6s,MS5.7						
QZH	**Quanzhou**	**29.00**	**58**	⇑*i*P	**P**	**12 01 43.0**	**-1.4**
QZH				AMB	AMB		
	comp=Z,1μm,16.1s						
QZH				LR	LR		
	comp=N,3μm,15.7s,MS5.5						
QZH				LR	LR		
	comp=E,10μm,19.4s,MS5.5						
QZH				LR	LR		
	comp=Z,8μm,16.2s,MS5.4						
NJ2	**Nanjing**	**32.66**	**46**	*e*P	**P**	**12 02 16.8**	**+0.1**
NJ2				AP	pP	12 02 26.3	+2.5
NJ2				XP	sP	12 02 30.1	+3.2
NJ2				S	**S**	**12 07 27.0**	**-3.3**
NJ2				XS		12 07 43.0	
NJ2				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,1μm,7.0s						
NJ2				LR	LR		
	comp=N,11μm,18.1s,MS5.8						
NJ2				LR	LR		
	comp=E,11μm,18.7s,MS5.8						
NJ2				LR	LR		
	comp=Z,10μm,19.2s,MS5.5						
WMQ	**Urumqi**	**33.01**	**355**	P	**P**	**12 02 20.5**	**+0.9**
WMQ				AP	pP	12 02 27.5	+0.8
WMQ				XP	sP	12 02 30.8	+1.0
WMQ				PP	PP	12 03 31.2	+0.8
WMQ				S	**S**	**12 07 36.4**	**+0.8**
WMQ				XS		12 07 48.5	
WMQ				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,153nm,5.3s						
WMQ				LR	LR		
	comp=N,6μm,17.8s,MS5.4						
WMQ				LR	LR		
	comp=E,4μm,21.2s,MS5.4						
WMQ				LR	LR		
	comp=Z,5μm,20.4s,MS5.2						
SSE	**Sheshan**	**33.84**	**49**	P	**P**	**12 02 24.4**	**-2.6**
SSE				AP	pP	12 02 33.0	-1.1
SSE				S	**S**	**12 07 48.9**	**+0.3**
SSE				XS		12 08 04.1	
SSE				AMB	AMB		
	comp=Z,51nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,439nm,6.9s						
SSE				LR	LR		
	comp=N,3μm,21.3s,MS5.1						
SSE				LR	LR		
	comp=E,2μm,21.4s,MS5.1						
SSE				LR	LR		
	comp=Z,2μm,19.8s,MS4.9						
TIA	**Tai'an**	**34.07**	**38**	*e*P	**P**	**12 02 28.5**	**-0.4**
TIA				S	**S**	**12 07 51.5**	**-0.6**
TIA				LR	LR		
	comp=N,3μm,14.0s,MS5.5						
TIA				LR	LR		
	comp=E,5μm,14.0s,MS5.5						
ULHL	**Ulahol**	**34.08**	**339**	P	**P**	**12 02 29.7**	**+0.8**
	SNR=11						
KZA	**Kyzart**	**34.29**	**338**	P	**P**	**12 02 32.1**	**+1.4**
	SNR=24						
UCH	**Uchtor**	**34.70**	**337**	P	**P**	**12 02 35.2**	**+1.0**
	SNR=22						
TKM2	**Tokmak 2**	**34.90**	**339**	P	**P**	**12 02 38.1**	**+2.1**
	SNR=23						
KBK	**Karagaybulak**	**34.91**	**338**	P	**P**	**12 02 37.6**	**+1.6**
	SNR=17						
AML	**Almayashu**	**34.94**	**336**	P	**P**	**12 02 37.4**	**+1.1**
	SNR=71						
AAK	**Ala-Archa**	**35.05**	**338**	P	**P**	**12 02 38.3**	**+1.0**
	SNR=32						
AAK	**Ala-Archa**	**35.05**	**338**	*d*P	**P**	**12 02 36.9**	**-0.4**
AAK				pmax	pmax		
	comp=Z,59nm,1.5s,mb5.3						
AAK	**Ala-Archa**	**35.05**	**338**	*e*P	**P**	**12 02 36.3**	**-1.0**
	comp=Z,88nm,1.2s,mb5.6						
FRU	**Bishkek**	**35.18**	**338**	⇓*e*P	**P**	**12 02 39.5**	**+1.2**
FRU				*e*SS	SS	12 10 50.0	+24
FRU				pmax	pmax		
	comp=Z,310nm,2.7s,mb5.8						
FRU				MLR	MLR		
	comp=E,6μm,16.0s						
CHMS	**Chumysh**	**35.27**	**338**	P	**P**	**12 02 39.4**	**+0.3**
	SNR=16						
EKS2	**Erkin-Say**	**35.35**	**337**	P	**P**	**12 02 41.5**	**+1.7**
	SNR=34						
USP	**Ospenovka**	**35.60**	**338**	P	**P**	**12 02 43.8**	**+2.0**
	SNR=5.3						

BJT	**Baijiatuau**	**36.17**	**32**	*e*P	**P**	**12 02 45.8**	**-1.0**
	comp=E,71nm,0.9s,mb5.6						
BJT				LR	LR		
	comp=Z,8μm,19.0s,MS5.5						
MKAR	**Makanchi Array**	**36.69**	**349**	*i*P	**P**	**12 02 51.0**	**0.0**
MKAR				pmax	pmax		
	comp=Z,197nm,1.2s						
ULN	**Ulaanbaatar**	**39.04**	**16**	*d*P	**P**	**12 03 11.7**	**+1.0**
ULN	**Ulaanbaatar**	**39.04**	**16**	*e*P	**P**	**12 03 10.4**	**-0.3**
	comp=Z,23nm,0.9s,mb4.9						
ULN				LR	LR		
	comp=Z,3μm,19.0s,MS5.2						
ZAK	**Zakamensk**	**40.51**	**11**	*e*P	**P**	**12 03 22.1**	**-0.7**
ZAK				*e*		12 05 23.1	
MOY	**Mondy**	**41.36**	**9**	*e*P	**P**	**12 03 30.8**	**+1.0**
SNY	**Shenyang**	**41.53**	**36**	⇑P	**P**	**12 03 30.3**	**-1.0**
SNY				AP	pP	12 03 40.3	+1.8
SNY				XP	sP	12 03 43.6	+2.1
SNY				S	**S**	**12 09 42.1**	**-3.3**
SNY				SS	SS	12 12 46.3	+0.9
SNY				LR	LR		
	comp=N,3μm,15.8s,MS5.5						
SNY				LR	LR		
	comp=E,3μm,14.0s,MS5.5						
SNY				LR	LR		
	comp=Z,3μm,14.7s,MS5.3						
KS15	**Wonju Array Si**	**41.81**	**45**	*e*P	**P**	**12 03 33.8**	**+0.1**
TLY	**Talaya**	**41.82**	**11**	*e*P	**P**	**12 03 36.4**	**+2.9**
TLY				*e*		12 05 33.8	
TLY				*e*S	**S**	**12 09 51.3**	**+1.8**
TLY				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.7						
TLY				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.0						
TLY	**Talaya**	**41.82**	**11**	*e*P	**P**	**12 03 35.4**	**+1.8**
	comp=Z,20nm,0.9s,mb4.7						
TLY				LR	LR		
	comp=Z,592nm,19.0s,MS4.5						
MBWA	**Marble Bar**	**42.03**	**139**	*e*P	**P**	**12 03 34.3**	**-1.5**
	comp=Z,49nm,1.1s,mb5.0						
IRK	**Irkutsk**	**42.47**	**11**	*e*P	**P**	**12 03 40.5**	**+1.6**
IRK				*e*		12 05 45.7	
FITZ	**Fitzroy Crossi**	**44.10**	**130**	*e*P	**P**	**12 03 51.8**	**-0.8**
	comp=Z,101nm,0.9s,mb5.5						
NVS	**Novosibirsk**	**44.37**	**353**	*e*P	**P**	**12 03 52.5**	**-1.8**
NVS				*e*S	**S**	**12 10 25.2**	**-1.6**
NVS				pmax	pmax		
	comp=N,270nm,1.3s						
NVS				pmax	pmax		
	comp=E,270nm,1.3s						
NVS				pmax	pmax		
	comp=Z,560nm,1.3s,mb6.1						
NVS				smax			
	comp=N,41nm,2.5s						
NVS				smax			
	comp=E,109nm,2.5s						
HIA	**Hailar**	**44.76**	**26**	*e*P	**P**	**12 03 56.5**	**-1.0**
	comp=E,35nm,1.2s,mb5.1						
HIA				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
BVA0	**Borovoye Array**	**45.43**	**342**	*i*P	**P**	**12 04 02.4**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.4						
BRVK	**Borovoye**	**45.49**	**342**	*e*P	**P**	**12 04 03.0**	**-0.3**
	comp=Z,43nm,1.1s,mb5.2						
BRVK				LR	LR		
	comp=Z,552nm,20.0s,MS4.5						
CHKZ	**Chkalovo**	**45.92**	**343**	P	**P**	**12 04 06.5**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,75nm,1.0s,mb5.6						
CHKZ	**Chkalovo**	**45.92**	**343**	*e*P	**P**	**12 04 06.3**	**-0.4**
	comp=Z,103nm,1.0s,mb5.7						
CHKZ				*e*	pP	12 04 13.3	-0.6
KAKA	**Kakadu**	**46.66**	**119**	*e*P	**P**	**12 04 13.9**	**+0.9**
	comp=Z,17nm,0.6s,mb5.2						
MDJ	**Mudanjiang**	**46.72**	**37**	P	**P**	**12 04 12.7**	**-0.4**
MDJ				AP	pP	12 04 18.8	-1.5
MDJ				XP	sP	12 04 21.5	-1.8
MDJ				PP	PP	12 06 03.1	+0.4
MDJ				PCS		12 09 39.7	
MDJ				S	**S**	**12 11 01.8**	**+1.3**
MDJ				XS		12 11 12.9	
MDJ				LR	LR		
	comp=N,964nm,16.8s,MS5.3						
MDJ				LR	LR		
	comp=E,3μm,18.2s,MS5.3						
MDJ				LR	LR		
	comp=Z,4μm,18.8s,MS5.3						
MDJ	**Mudanjiang**	**46.72**	**37**	P	**P**	**12 04 12.7**	**-0.4**
	comp=Z,31nm,1.2s,mb5.1						
MDJ				LR	LR		
	comp=Z,4μm,19.0s,MS5.4						
MUN	**Mundaring**	**48.60**	**152**	*e*P	**P**	**12 04 28.7**	**+0.7**
	comp=Z,20nm,0.6s,mb5.3						
MAJO	**Matsushiro**	**48.96**	**51**	*e*P	**P**	**12 04 28.8**	**-1.9**
	comp=Z,24nm,0.9s,mb5.2						
MAJO				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
MAT	**Matsushiro**	**48.96**	**51**	*e*P	**P**	**12 04 30.0**	**-0.7**
MAT				*e*S	**S**	**12 11 34.0**	**+1.7**
MAT				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
MAT	**Matsushiro**	**48.96**	**51**	P	**P**	**12 04 29.8**	**-0.9**
MAT				S	**S**	**12 11 34.0**	**+1.7**
KLBR	**Kellerberrin**	**49.01**	**150**	*e*P	**P**	**12 04 30.8**	**-0.4**
	comp=Z,35nm,0.8s,mb5.4						
BOD	**Bodaibo**	**49.83**	**15**	*e*P	**P**	**12 04 36.7**	**-0.4**
NWAO	**Narrogin (SRO)**	**49.86**	**152**	*e*P	**P**	**12 04 37.1**	**-0.7**
	comp=Z,83nm,1.0s,mb5.7						
MAK	**Makhachkala**	**49.95**	**318**	*e*P	**P**	**12 04 38.0**	**-0.3**
MAK				*e*		12 05 58.0	
MAK				*e*S	**S**	**12 11 52.0**	**+6.0**
MAK				*e*PS	PS	12 12 04.0	+6.6
MAK				pmax	pmax		
	comp=Z,1μm,8.0s						
MAK				smax			
	comp=N,800nm,8.0s						
MAK				smax			
	comp=E,1μm,8.0s						
KLR	**Kul'dur**	**50.56**	**33**	*e*P	**P**	**12 04 41.3**	**-1.5**
KLR				MLR	MLR		
	comp=N,3μm,14.0s						
KLR				MLR	MLR		
	comp=Z,9μm,14.0s,MS5.9						
GNI	**Garni**	**50.70**	**314**	*d*P	**P**	**12 04 45.0**	**+1.0**
GNI				pmax	pmax		
	comp=Z,62nm,1.3s						
GNI	**Garni**	**50.70**	**314**	*e*P	**P**	**12 04 44.7**	**+0.7**
	comp=Z,101nm,1.0s,mb5.7						
TI2	**Plekhanov**	**51.30**	**315**	⇓*i*P	**P**	**12 04 49.2**	**+0.7**
TI2				*e*S	**S**	**12 12 09.6**	**+5.0**
TI2				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.4						
SVE	**Sverdlovsk**	**51.78**	**339**	⇓*i*P	**P**	**12 04 52.4**	**+0.5**
SVE				*e*		12 05 58.0	
SVE				*e*S	**S**	**12 12 06.0**	**-5.0**
SVE				*e*		12 14 30.0	
SVE				pmax	pmax		
	comp=Z,180nm,2.6s,mb5.5						
SVE				smax			
	comp=N,1μm,8.3s						
SVE				smax			
	comp=E,2μm,8.3s						
SVE				MLR	MLR		
	comp=Z,3μm,18.6s,MS5.3						
GUMO	**Guam**	**51.85**	**81**	PFAKE		12 05 00.0	+6.9
GUMO				LR	LR		
	comp=Z,979nm,22.0s,MS4.8						
WRAB	**Tennant Creek**	**51.88**	**126**	*i*P	**P**	**12 04 51.9**	**-1.3**
WRAB	**Tennant Creek**	**51.88**	**126**	*e*P	**P**	**12 04 52.8**	**-0.4**
	comp=Z,61nm,0.6s,mb5.7						
WRAB				LR	LR		
	comp=Z,648nm,21.0s,MS4.6						
WB2	**Warramunga Arr**	**51.89**	**126**	*e*P	**P**	**12 04 52.5**	**-0.8**
WB2				*e*S	**S**	**12 12 12.6**	**-0.4**
ARU	**Arti**	**52.24**	**337**	⇓*i*P	**P**	**12 04 53.7**	**-1.7**
ARU				*e*		12 06 01.9	
ARU				*e*PPP	PPP	12 07 54.3	-4.7
ARU				*e*S	**S**	**12 12 17.8**	**+0.5**
ARU				*e*		12 14 39.5	
ARU				*e*SS	SS	12 15 54.9	+1.6
ARU				pmax	pmax		
	comp=Z,48nm,1.0s,mb5.4

ARU				MLR	MLR		
	comp=N,2μm,18.5s,MS5.3						
ARU				MLR	MLR		
	comp=E,2μm,18.0s,MS5.3						
ARU	**Arti**	**52.24**	**337**	*e*P	**P**	**12 04 53.3**	**-2.1**
	comp=E,46nm,0.9s,mb5.4						
CLNS	**Chul'man**	**52.49**	**22**	*e*P	**P**	**12 05 00.4**	**+3.1**
CLNS				*e*		12 06 12.6	
CLNS				*e*		12 06 55.3	
CLNS				*e*S	**S**	**12 12 23.0**	**+2.3**
CLNS				*e*SS	SS	12 15 57.1	-0.4
CLNS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
CLNS				pmax	pmax		
	comp=N,22nm,1.1s						
CLNS				pmax	pmax		
	comp=E,19nm,0.9s						
CLNS				pmax	pmax		
	comp=N,11nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.8s						
CLNS				smax			
	comp=N,12nm,1.7s						
CLNS				smax			
	comp=E,6.0nm,0.8s						
CLNS				smax			
	comp=E,10.0nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,3μm,14.0s,MS5.5						
CLNS				MLR	MLR		
	comp=N,2μm,13.0s,MS5.4						
CLNS				MLR	MLR		
	comp=E,300nm,15.0s,MS5.4						
KIV	**Kislovodsk**	**53.56**	**317**	P	**P**	**12 05 06.4**	**+1.0**
	comp=E,345nm,0.8s,mb6.3,SNR=8.8						
KIV	**Kislovodsk**	**53.56**	**317**	*d*/*i*P	**P**	**12 05 05.2**	**-0.2**
KIV				*i* S	**S**	**12 12 37.4**	**+2.0**
KIV				pmax	pmax		
	comp=Z,52nm,0.9s,mb5.5						
KIV	**Kislovodsk**	**53.56**	**317**	*e*P	**P**	**12 05 05.6**	**+0.2**
	comp=Z,106nm,0.9s,mb5.8						
KIV				LR	LR		
	comp=Z,227nm,21.0s,MS4.2						
ASPA	**Alice Springs**	**53.60**	**130**	*e*P	**P**	**12 05 05.8**	**-0.2**
ASPA				*e*S	**S**	**12 12 32.2**	**-4.1**
MALT	**Malatya**	**54.78**	**309**	*e*P	**P**	**12 05 13.8**	**-0.6**
	comp=Z,19nm,0.9s,mb5.1						
MALT				*e*PcP	PcP	12 06 23.6	+7.0
SOKR	**Solikamsk**	**55.19**	**339**	⇑*i*P	**P**	**12 05 15.7**	**-1.4**
SOKR				*i*	pP	12 05 22.3	-2.2
SOKR				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
SOKR				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.2						
SOC	**Sochi**	**55.43**	**316**	*e*P	**P**	**12 05 12.2**	**-6.9**
SOC				*e*		12 06 21.4	
SOC				*e*		12 07 18.5	
SOC				*e*PPP	PPP	12 08 33.7	-4.7
SOC				*e*S	**S**	**12 12 56.1**	**-4.4**
SOC				*e*		12 14 57.1	
SOC				*e*SS	SS	12 16 49.9	+4.7
SOC				pmax	pmax		
	comp=Z,105nm,1.4s,mb5.7						
SOC				pmax	pmax		
	comp=N,81nm,1.1s						
SOC				pmax	pmax		
	comp=E,97nm,1.5s						
SOC				MLR	MLR		
	comp=Z,935nm,20.0s,MS4.9						
SOC				MLR	MLR		
	comp=N,899nm,22.0s,MS4.9						
SOC				MLR	MLR		
	comp=E,520nm,20.0s,MS4.9						
KMBO	**Kilima Mbogo**	**55.53**	**261**	*i* P	**P**	**12 05 22.3**	**+2.1**
KMBO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KMBO	**Kilima Mbogo**	**55.53**	**261**	*e*P	**P**	**12 05 20.9**	**+0.7**
	comp=Z,13nm,1.1s,mb4.9						
KMBO				LR	LR		
	comp=Z,1μm,20.0s,MS5.0						
YSS	**Yuzh-Sakhalins**	**55.91**	**40**	*e*P	**P**	**12 05 23.6**	**+1.1**
YSS				*e*		12 05 28.6	
YSS				*e**SP	sP	12 05 38.7	+6.0
YSS				*e*		12 06 18.0	
YSS				*e*PPP	PPP	12 08 37.0	-7.2
YSS				*e*S	**S**	**12 13 10.0**	**+3.0**
YSS				*e*SS	SS	12 16 55.0	+2.1
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
YSS				smax			
	comp=N,1μm,13.0s						
YSS				MLR	MLR		
	comp=Z,2μm,15.0s,MS5.4						
YSS				MLR	MLR		
	comp=N,2μm,17.0s,MS5.6						
YSS				MLR	MLR		
	comp=E,3μm,15.0s,MS5.6						
YSS	**Yuzh-Sakhalins**	**55.91**	**40**	*e*P	**P**	**12 05 22.5**	**0.0**
	comp=E,70nm,1.0s,mb5.6						
YSS				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
EIL	**Elat**	**55.96**	**298**	*e*P	**P**	**12 05 23.0**	**-0.1**
	comp=Z,28nm,1.2s,mb5.2						
YAK	**Yakutsk**	**57.94**	**20**	*e*P	**P**	**12 05 33.7**	**-2.9**
YAK				*e**PP	pP	12 05 43.9	-0.2
YAK				*e*		12 06 25.3	
YAK				*e*		12 07 42.4	
YAK				*e*S	**S**	**12 13 33.4**	**-0.1**
YAK				*e*		12 15 20.6	
YAK				*e*SS	SS	12 17 25.6	-0.5
YAK				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.4						
YAK				pmax	pmax		
	comp=N,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
YAK				pmax	pmax		
	comp=N,4.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
YAK				smax			
	comp=E,8.0nm,1.1s						
YAK				smax			
	comp=N,5.0nm,1.4s						
YAK				MLR	MLR		
	comp=N,657nm,15.0s,MS5.0						
YAK				MLR	MLR		
	comp=Z,839nm,15.0s,MS5.0						
YAK				MLR	MLR		
	comp=E,449nm,12.0s,MS5.0						
YAK	**Yakutsk**	**57.94**	**20**	*e*P	**P**	**12 05 35.9**	**-0.7**
	comp=E,62nm,0.8s,mb5.7						
YAK				LR	LR		
	comp=Z,1μm,19.0s,MS5.1						
PMG	**Port Moresby**	**58.63**	**108**	*i* P	**P**	**12 05 40.0**	**-2.2**
PMG	**Port Moresby**	**58.63**	**108**	*e*P	**P**	**12 05 42.6**	**+0.4**
	comp=Z,50nm,0.9s,mb5.5						
SIM	**Simferopol'**	**59.67**	**316**	*e*P	**P**	**12 05 49.2**	**+0.2**
SIM				*e*S	**S**	**12 13 57.2**	**+0.9**
SIM				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
SIM				MLR	MLR		
	comp=Z,540nm,16.0s,MS4.8						
ISP	**Isparta**	**60.78**	**307**	P	**P**	**12 05 54.5**	**-2.2**
	comp=Z,25nm,0.9s,mb5.3						
MOS	**Moscow**	**61.33**	**328**	*e*P	**P**	**12 05 58.4**	**-1.7**
MOS				*e*S	**S**	**12 14 17.7**	**+0.4**
MOS				*e*SS	SS	12 18 20.7	+1.2
MOS				pmax	pmax		
	comp=Z,124nm,1.4s,mb5.8						
OBN	**Obninsk**	**61.62**	**328**	*j*/*i*P	**P**	**12 06 01.6**	**-0.5**
OBN				*e*	pP	12 06 10.5	+0.9
OBN				*i*		12 06 50.5	
OBN				*i* S	**S**	**12 14 22.3**	**+1.2**
OBN				*e*SSS	SSS	12 21 10.0	+5.6
OBN				pmax	pmax		
	comp=Z,86nm,1.4s,mb5.7						
OBN	**Obninsk**	**61.62**	**328**	*e*P	**P**	**12 06 01.0**	**-1.1**
	comp=Z,70nm,0.9s,mb5.8						
OBN				LR	LR		
	comp=Z,336nm,20.0s,MS4.5						
MBAR	**Mbarara**	**61.75**	**263**	*e*P	**P**	**12 06 03.2**	**-0.4**
	comp=Z,26nm,1.3s,mb5.2						
CTA	**Charters Tower**	**61.79**	**120**	*e*P	**P**	**12 06 04.9**	**+1.2**
	comp=Z,29nm,1.1s,mb5.3						
CTAO	**Charters Tower**	**61.79**	**120**	*e*P	**P**	**12 06 03.2**	**-0.5**
	comp=Z,72nm,1.2s,mb5.7						
CTAO				LR	LR		
	comp=Z,2μm,21.0s,MS5.1						
KIS	**Kishinev**	**63.76**	**317**	*e*P	**P**	**12 06 13.5**	**-2.9**
KIS				*e*	pP	12 06 22.0	-1.9
STKA	**Stephens Creek**	**63.84**	**134**	*e*P	**P**	**12 06 17.2**	**0.0**
	comp=Z,22nm,0.9s,mb5.2						
STKA	**Stephens Creek**	**63.84**	**134**	*e*P	**P**	**12 06 16.1**	**-1.1**
SANT	**Santorini**	**64.61**	**305**	*e*P	**P**	**12 06 20.1**	**-2.0**
	comp=Z,29nm,0.8s,mb5.3						
SANT				*e*	pP	12 06 27.9	-1.8
TIXI	**Tiksi**	**64.78**	**12**	*e*P	**P**	**12 06 21.5**	**-1.2**
TIXI				*e*		12 08 42.3	
TIXI				*e*S	**S**	**12 14 58.3**	**-1.9**
TIXI				*e*SS	SS	12 19 11.0	-2.4
TIXI				*e*SSS	SSS	12 22 10.3	+6.1
TIXI				pmax	pmax		
	comp=Z,57nm,1.2s,mb5.5						
TIXI				smax			
	comp=N,688nm,16.1s						
TIXI				smax			
	comp=E,624nm,17.5s						
TIXI				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.3						
TIXI	**Tiksi**	**64.78**	**12**	⇑*i*P	**P**	**12 06 22.1**	**-0.6**
MA2	**Magadan**	**65.22**	**29**	*e*P	**P**	**12 06 24.9**	**-0.8**
MA2				*e*S	S	12 15 05.4	-0.4
MA2				*e*		12 16 20.3	
MA2				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
MA2				MLR	MLR		
	comp=Z,3μm,24.0s,MS5.4						
MA2	**Magadan**	**65.22**	**29**	*e*P	**P**	**12 06 24.4**	**-1.3**
	comp=Z,46nm,0.9s,mb5.5						
MA2				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
MMB	**Musomiste**	**66.47**	**311**	*e*P	**P**	**12 06 34.0**	**0.0**
PUL	**Pulkovo**	**66.48**	**331**	*e*P	**P**	**12 06 33.6**	**-0.1**
PUL				*e*S	S	12 15 30.6	+9.3
PUL	**Pulkovo**	**66.48**	**331**	*i* P	**P**	**12 06 33.6**	**-0.1**
VTS	**Vitosha**	**66.97**	**312**	*e*P	**P**	**12 06 36.0**	**-1.2**
KKB	**Krupnik**	**66.98**	**311**	*e*P	**P**	**12 06 35.0**	**-2.3**
JOF	**Joensuu**	**67.16**	**334**	*e*p	**P**	**12 06 37.3**	**-0.7**
	comp=Z,62nm,0.8s,mb5.7						
JOF	**Joensuu**	**67.16**	**334**	*e*P	**P**	**12 06 37.3**	**-0.7**
JOF				pmax	pmax		
	comp=Z,62nm,0.8s,mb5.7						
SEY	**Seymchan**	**67.20**	**26**	*e*P	**P**	**12 06 39.5**	**+1.2**
SEY				*e*		12 07 06.2	
SEY						12 09 08.0	
SEY				*e*S	S	12 15 34.7	+4.8
SEY						12 16 34.0	
SEY				SS	SS	12 19 53.5	+2.4
SEY				pmax	pmax		
	comp=E,60nm,1.1s						
SEY				pmax	pmax		
	comp=Z,110nm,1.1s,mb5.8						
SEY				smax			
	comp=N,2μm,16.5s						
SEY				smax			
	comp=E,320nm,20.1s						
SEY				MLR	MLR		
	comp=E,6μm,19.0s,MS5.9						
SEY				MLR	MLR		
	comp=Z,11μm,19.0s,MS6.1						
SEY				MLR	MLR		
	comp=N,3μm,16.0s,MS5.9						
LVV	**L'vov**	**67.44**	**320**	*e*P	**P**	**12 06 39.5**	**-0.5**
LVV				*e*		12 06 56.5	
LVV				*e*S	S	12 15 35.3	+2.3
PET	**Petropavlovsk**	**67.50**	**37**	*e*P	**P**	**12 06 43.2**	**+2.9**
PET				*e*		12 09 15.1	
PET				*e*PPP	PPP	12 10 50.1	+2.2
PET				*e*S	S	12 15 36.0	+2.4
PET				pmax	pmax		
	comp=Z,200nm,11.5s						
PET				pmax	pmax		
	comp=Z,200nm,19.1s						
PET				pmax	pmax		
	comp=Z,200nm,14.9s						
PET				smax			
	comp=N,700nm,17.1s						
PET				MLR	MLR		
	comp=Z,1μm,21.0s,MS5.0						
PET				MLR	MLR		
	comp=Z,1μm,17.8s						
VSU	**Vasula**	**67.84**	**329**	*i* P	**P**	**12 06 42.0**	**-0.4**
VSU	**Vasula**	**67.84**	**329**	*i* P	**P**	**12 06 42.1**	**-0.3**
LVZ	**Lovozero**	**67.96**	**340**	*e*P	**P**	**12 06 42.6**	**-0.4**
LVZ				pmax	pmax		
	comp=Z,62nm,1.1s,mb5.5						
LVZ				pmax	pmax		
	comp=N,11nm,0.9s						
LVZ				pmax	pmax		
	comp=E,32nm,1.2s						
LVZ	**Lovozero**	**67.96**	**340**	*i* P	**P**	**12 06 42.7**	**-0.3**
BOLS	**Boljevac**	**68.01**	**313**	⇑*i*P	**P**	**12 06 42.9**	**-0.9**
LSZ	**Lusaka**	**68.15**	**249**	PFAKE		12 07 00.0	+15
LSZ				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
SKO	**Skopje**	**68.22**	**311**	*e*P	**P**	**12 06 43.0**	**-2.0**
APA	**Apatity**	**68.24**	**339**	⇑*i*P	**P**	**12 06 45.5**	**+0.8**
APA				*i*	pP	12 06 52.9	+0.7
APA				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.3						
APA				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.5						
KWP	**Kalwaria**	**68.26**	**319**	*e*P	**P**	**12 06 44.2**	**-1.0**
KOLS	**Kolonicke sedl**	**68.44**	**318**	*e*P	**P**	**12 06 46.0**	**-0.2**
KOLS				*e*	pP	12 06 53.4	-0.4
SUW	**Suwalki**	**68.73**	**324**	*e*P	**P**	**12 06 47.0**	**-1.0**
SUW	**Suwalki**	**68.73**	**324**	*e*P	**P**	**12 06 47.0**	**-0.9**
GRUS	**Gruza**	**68.92**	**313**	⇓*i*P	**P**	**12 06 48.5**	**-0.8**
CRVS	**Cervenica-Dubn**	**68.96**	**318**	*e*P	**P**	**12 06 51.1**	**+1.6**
KAF	**Kangasniemi**	**69.08**	**333**	*e*p	**P**	**12 06 48.8**	**-1.2**
	comp=Z,44nm,0.9s,mb5.4,baz=105,slow=5.7						
KAF	**Kangasniemi**	**69.08**	**333**	*e*P	**P**	**12 06 48.8**	**-1.2**
KAF				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.4						
DIVS	**Divcibare**	**69.45**	**313**	⇑*i*P	**P**	**12 06 51.4**	**-1.1**
KECS	**Kecovo**	**69.55**	**318**	*e*P	**P**	**12 06 52.5**	**-0.6**
KECS				*e*	pP	12 06 59.6	-1.0
TOO	**Toolangi**	**69.62**	**137**	*e*P	**P**	**12 06 56.7**	**+3.0**
	comp=Z,7.9nm,0.6s,mb4.8						
NIE	**Niedzica**	**69.78**	**319**	*e*P	**P**	**12 06 54.7**	**+0.3**
PSZ	**Piszkesteto**	**69.88**	**317**	*e*P	**P**	**12 06 54.5**	**-0.7**
	comp=Z,18nm,0.9s,mb5.0						
PSZ	**Piszkesteto**	**69.88**	**317**	⇓*e*P	**P**	**12 06 55.4**	**+0.3**
OJC	**Ojcow**	**70.20**	**320**	*e*P	**P**	**12 06 56.9**	**-0.1**
VYHS	**Vyhne**	**70.64**	**318**	*e*P	**P**	**12 06 59.0**	**-0.7**
VYHS				*e*sP	sP	12 07 06.0	-4.0
OKC	**Ostrava-Krasne**	**71.22**	**319**	*e*P	**P**	**12 07 02.7**	**-0.5**
OKC				*e*pP	pP	12 07 10.3	-0.5
KEV	**Kevo**	**71.25**	**341**	*e*p	**P**	**12 07 02.4**	**-0.7**
MORC	**Moravsky Berou**	**71.61**	**319**	*e*P	**P**	**12 07 05.0**	**-0.5**
	comp=Z,32nm,0.9s,mb5.2						
MORC				*e*	pP	12 07 12.7	-0.4
ARE0	**ARCESS Array S**	**71.67**	**340**	*e*P	**P**	**12 07 05.9**	**+0.3**
ZST	**Bratislava**	**71.77**	**317**	*e*P	**P**	**12 07 06.1**	**-0.5**
ZST				*e*	pP	12 07 13.6	-0.5
DPC	**Dobruska-Polom**	**72.44**	**319**	*e*P	**P**	**12 07 10.6**	**+0.1**
DPC				*e*pP	pP	12 07 17.8	-0.2
KSP	**Ksiaz**	**72.49**	**320**	*e*P	**P**	**12 07 11.0**	**+0.2**
KSP				*e*pP	pP	12 07 18.0	-0.3
KSP				*e*S	S	12 16 33.0	+0.9
KSP				LR	LR		
	comp=Z,2μm,19.8s,MS5.4						
KSP	**Ksiaz**	**72.49**	**320**	*e*P	**P**	**12 07 12.6**	**+1.9**
UPC	**Upice**	**72.64**	**320**	*e*P	**P**	**12 07 11.9**	**+0.2**
UPC				*e*pP	pP	12 07 18.8	-0.4
ARSA	**Arzberg**	**72.78**	**316**	⇑*i*P	**P**	**12 07 12.5**	**-0.1**
	comp=Z,21nm,1.0s,mb5.0						
OBKA	**Obir**	**73.42**	**315**	⇑*i*P	**P**	**12 07 16.2**	**-0.1**
	comp=Z,27nm,1.2s,mb5.0						
PRU	**Pruhonice**	**73.56**	**319**	*e*P	**P**	**12 07 17.1**	**+0.1**
PRU				*e*pP	pP	12 07 24.4	-0.2
PVCC	**Panska Ves**	**73.57**	**320**	*e*P	**P**	**12 07 17.3**	**+0.2**
BSD	**Bornholm Skovb**	**73.65**	**324**	⇓*i*P	pP	12 07 23.9	-1.1
BSD				pmax	pmax		
	comp=Z,53nm,0.9s,mb5.5						
BSD				MLR	MLR		
	comp=Z,580nm,16.0s,MS5.0						
BSD	**Bornholm Skovb**	**73.65**	**324**	⇓*i*P	pP	12 07 23.9	-1.1
	comp=Z,53nm,0.9s						
	comp=Z,570nm,16.0s						
VOY	**Vojsko**	**73.87**	**315**	*e*P	**P**	**12 07 18.2**	**-0.7**
VOY				*e*	pP	12 07 25.2	-1.3
BRG	**Berggiesshubel**	**73.98**	**320**	*i* P	**P**	**12 07 19.5**	**+0.1**
BRG				*i*	pP	12 07 26.8	-0.2
BRG				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2						
BRG				MLR	MLR		
	comp=N,930nm,23.5s,MS5.1						
BRG				MLR	MLR		
	comp=E,850nm,23.5s,MS5.1						
BRG				MLR	MLR		
	comp=Z,990nm,23.5s,MS5.0						
BRG	**Berggiesshubel**	**73.98**	**320**	*i* P	**P**	**12 07 19.5**	**+0.1**
	comp=Z,30nm,0.8s,mb5.3						
BRG				*i*	pP	12 07 26.8	-0.2
BRG				LR	LR		
	comp=Z,990nm,23.5s,MS5.0						
GEC2	**GERESS Array S**	**74.06**	**318**	*e*P	**P**	**12 07 19.9**	**-0.1**
GEC2				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
GEC2	**GERESS Array S**	**74.06**	**318**	*e*P	**P**	**12 07 19.9**	**-0.1**
	comp=Z,24nm,1.2s,mb5.0						
KHC	**Kasperske Hory**	**74.15**	**318**	*e*P	**P**	**12 07 20.2**	**-0.3**
KHC				*e*pP	pP	12 07 27.5	-0.6
RUE	**Ruedersdorf**	**74.16**	**322**	*e*P	**P**	**12 07 19.9**	**-0.5**
	comp=Z,115nm,1.0s,mb5.8						
BILL	**Bilibino**	**74.18**	**22**	*i* P	**P**	**12 07 20.4**	**+0.1**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.5						
BILL	**Bilibino**	**74.18**	**22**	*e*P	**P**	**12 07 20.0**	**-0.3**
	comp=Z,22nm,1.1s,mb5.0						
BILL				LR	LR		
	comp=Z,2μm,21.0s,MS5.5						
CLL	**Collm**	**74.59**	**320**	⇑*i*P	**P**	**12 07 22.7**	**-0.3**
CLL				*i*	pP	12 07 29.9	-0.6
CLL				pmax	pmax		
	comp=Z,57nm,1.8s,mb5.2						
CLL				MLR	MLR		
	comp=Z,2μm,16.2s,MS5.4						
CLL	**Collm**	**74.59**	**320**	⇑*i*P	**P**	**12 07 22.7**	**-0.3**
	comp=Z,57nm,1.8s,mb5.2						
CLL				*i*	pP	12 07 29.9	-0.6
CLL				*i*		12 07 45.7	
CLL				LR	LR		
	comp=Z,2μm,16.2s,MS5.4						
CLL	**Collm**	**74.59**	**320**	⇑P	**P**	**12 07 22.7**	**-0.3**
	comp=Z,logA/T=1.5,mb5.2						
CLL				*i **SP	sP	12 07 29.9	-3.3
CLL				*i*		12 07 45.7	
WET	**Wettzell**	**74.61**	**318**	*e*P	**P**	**12 07 23.1**	**0.0**
NKC	**Novy Kostel**	**74.91**	**319**	*e*P	**P**	**12 07 24.8**	**-0.1**
NKC				*e*pP	pP	12 07 32.0	-0.5
WTTA	**Wattenberg**	**75.43**	**316**	⇓*i*P	**P**	**12 07 26.9**	**-1.0**
	comp=Z,32nm,0.9s,mb5.2						
MOX	**Moxa**	**75.45**	**320**	*e*P	**P**	**12 07 27.8**	**-0.1**
MOX				pmax	pmax		
	comp=Z,28nm,1.5s,mb5.0						
MOX				MLR	MLR		
	comp=Z,900nm,19.0s,MS5.1						
MOX	**Moxa**	**75.45**	**320**	*e*P	**P**	**12 07 27.8**	**-0.1**
	comp=Z,28nm,1.5s,mb5.0						
MOX				LR	LR		
	comp=Z,900nm,19.0s,MS5.1						
MOX	**Moxa**	**75.45**	**320**	*i* P	**P**	**12 07 27.8**	**-0.1**
	comp=Z,logA/T=1.3,mb5.0						
MOX				L		12 47 15.0	
GRA1	**Grafenberg Arr**	**75.70**	**319**	*e*P	**P**	**12 07 29.8**	**+0.4**
	comp=Z,32nm,1.0s,mb5.2						
GRA1				*e*pP	pP	12 07 36.6	-0.4
GRF	**Grafenberg Arr**	**75.70**	**319**	*e*P	**P**	**12 07 29.8**	**+0.4**
GRF				*e**PP	pP	12 07 36.6	-0.4
GRF				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.2						
GRF	**Grafenberg Arr**	**75.70**	**319**	*e*P	**P**	**12 07 29.8**	**+0.4**
	comp=Z,32nm,1.0s,mb5.2						
GRF				*e*pP	pP	12 07 36.6	-0.4
SQTA	**Sankt Quirin**	**75.72**	**316**	⇑*i*P	**P**	**12 07 28.2**	**-1.4**
	comp=Z,14nm,0.9s,mb4.9						
MOTA	**Moosalm**	**75.79**	**316**	⇓*i*P	**P**	**12 07 29.0**	**-0.9**
	comp=Z,18nm,1.0s,mb5.0						
NB2	**NORSAR Subarra**	**76.00**	**330**	P	**P**	**12 07 30.4**	**-0.4**
	comp=Z,10nm,0.7s,mb4.9,baz=96,slow=5.3						
NB2	**NORSAR Subarra**	**76.00**	**330**	P	**P**	**12 07 30.4**	**-0.4**
	baz=96,slow=5.6						
NAO01	**NORSAR Array S**	**76.15**	**330**	P	**P**	**12 07 31.7**	**0.0**
	comp=Z,32nm,0.9s,mb5.2						
CLZ	**Clausthal**	**76.24**	**321**	*e*P	**P**	**12 07 32.4**	**0.0**
	comp=Z,22nm,0.8s,mb5.1						
BSEG	**Bad Segeberg**	**76.28**	**323**	*e*P	**P**	**12 07 32.9**	**+0.4**
DAVA	**Damuels**	**76.62**	**316**	⇑*i*P	**P**	**12 07 34.8**	**+0.2**
	comp=Z,43nm,0.9s,mb5.4						
MUD	**Monsted U'grnd**	**76.94**	**326**	*i* P	pP	12 07 44.6	+0.8
MUD				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.4						
MUD				MLR	MLR		
	comp=Z,420nm,20.0s,MS4.8						
MUD	**Monsted U'grnd**	**76.94**	**326**	*i* P	pP	12 07 44.6	+0.8
	comp=Z,46nm,1.0s						
	comp=Z,410nm,20.0s						
STU	**Stuttgart**	**77.04**	**318**	*e*P	**P**	**12 07 36.6**	**-0.3**
	comp=Z,29nm,0.8s,mb5.2						
BFO	**Black Forest**	**77.63**	**317**	*e*P	**P**	**12 07 39.8**	**-0.4**
BFO				pmax	pmax		
	comp=Z,31nm,1.5s,mb5.0						
BFO	**Black Forest**	**77.63**	**317**	*e*P	**P**	**12 07 39.8**	**-0.4**
	comp=Z,31nm,1.5s,mb5.0						
FELD	**Feldberg**	**77.87**	**317**	*e*P	**P**	**12 07 41.5**	**0.0**
LANF	**Langenberg**	**77.95**	**318**	*e*P	**P**	**12 07 42.3**	**+0.4**
WLS	**Welschbruch**	**78.28**	**317**	*e*P	**P**	**12 07 43.6**	**-0.1**
RUP	**Ruppelstein**	**78.40**	**319**	*e*P	**P**	**12 07 44.9**	**+0.5**
LPG	**La Plagne**	**78.88**	**314**	⇑*i*P	**P**	**12 07 47.4**	**+0.3**
	comp=Z,63nm,0.8s,mb5.3						
BNI	**Bardonecchia**	**78.96**	**314**	*e*P	**P**	**12 07 46.2**	**-1.4**
	comp=Z,25nm,0.9s,mb5.2						
MAW	**Mawson**	**81.01**	**191**	*e*P	**P**	**12 07 57.4**	**-0.6**
	comp=Z,22nm,1.1s,mb5.0						
PLDF	**La Plantade**	**81.02**	**315**	*e*P	**P**	**12 07 59.0**	**+0.5**
AGO	**Saint Agoulin**	**81.35**	**315**	*e*P	**P**	**12 08 00.6**	**+0.4**
LBL	**Lubilhac**	**81.36**	**314**	*e*P	**P**	**12 08 00.8**	**+0.5**
PYM	**Petit Puy Mans**	**81.47**	**315**	*e*P	**P**	**12 08 02.2**	**+1.3**
VALF	**Valcebollere**	**82.60**	**312**	*e*P	**P**	**12 08 06.6**	**-0.2**
LPEF	**Le Peyrat**	**82.61**	**312**	*e*P	**P**	**12 08 07.6**	**+0.7**
EMIR	**Miracle**	**83.03**	**311**	P	**P**	**12 08 10.1**	**+1.0**
	comp=Z,64nm,0.8s,mb5.7						
EPOB	**Poblet**	**83.45**	**311**	P	**P**	**12 08 12.1**	**+0.8**
	comp=Z,46nm,0.9s,mb5.5						
EGRA	**Graus**	**83.88**	**312**	P	**P**	**12 08 15.6**	**+2.2**
	comp=Z,27nm,0.8s,mb5.4						
EBIE

comp=Z,59nm,1.2s,mb5.8
COLA College 92.43 22 PFAKE 12 09 10.0 +16
COLA LR LR
comp=Z,1μm,20.0s,MS5.4
SPU Mount Spurr 92.62 26 *eP* **P 12 08 55.4 +0.6**
MCK McKinley 92.62 23 *eP* **P 12 08 54.1 -0.6**
comp=Z,12nm,1.0s,mb5.3
MCK LR LR
comp=Z,672nm,20.0s,MS5.1
RSO Redoubt South 92.65 27 P **P 12 08 57.7 +2.8**
SML Sawmill 93.86 24 *eP* **P 12 09 01.3 +0.8**
RES Resolute Bay 94.50 2 *eP* **P 12 09 03.9 +0.7**
comp=Z,14nm,0.9s,mb5.4
INK Inuvik 94.75 15 *eP* **P 12 09 04.7 +0.2**
comp=Z,16nm,1.2s,mb5.3
SBA Scott Base 97.43 168 PFAKE 12 09 30.0 +14
SBA LR LR
comp=Z,1μm,19.0s,MS5.3
QSPA South Pole Qui 100.76 180 PFAKE 12 09 40.0 +8.5
QSPA LR LR
comp=Z,2μm,19.0s,MS5.7
MOD Modoc 119.76 27 *e*PKPdf PKPdf 12 14 34.2 -2.9
PPT Papeete 120.34 104 *e*PP PP 12 15 56.6 -8.0
PPT *e*PS PS 12 25 49.9 -1.4
PPT *e*SS SS 12 32 22.4 -6.1
PPT *e*LR LR 12 51 46.9
comp=Z,510nm,21.2s
TBI Tubuai 120.53 111 *e*PP PP 12 15 49.3 -17
TBI *e*PS PS 12 25 51.3 -1.6
TBI *e*SS SS 12 32 33.2 +2.4
TBI *e*LR LR 12 51 45.1
comp=Z,623nm,23.8s
HLID Hailey 120.79 22 PFAKE 12 14 50.0 +11
HLID LR LR
comp=Z,1μm,20.0s,MS5.5
OHCM Honcut 121.23 30 *e*PKPdf PKPdf 12 14 36.3 -3.8
HWUT Hardware Ranch 123.52 21 *e*PKPdf PKPdf 12 14 41.8 -2.7
HWUT LR LR
comp=Z,890nm,20.0s,MS5.4
PMSA Palmer Station 123.61 192 PFAKE 12 14 50.0 +5.9
PMSA LR LR
comp=Z,1μm,20.0s,MS5.5
TPH Tonopah 124.25 28 PFAKE 12 14 50.0 +4.0
TPH LR LR
comp=Z,554nm,21.0s,MS5.2
RCBR Riachuelo 128.06 271 PFAKE 12 15 00.0 +6.0
RCBR LR LR
comp=Z,505nm,19.0s,MS5.2
TAOE Nuku Hiva Isla 128.83 93 *e*LR LR 12 55 45.2
ACSO Alum Creek Sta 128.92 355 PFAKE 12 15 00.0 +5.0
ACSO LR LR
comp=Z,964nm,19.0s,MS5.5
SDCO Great Sand Dun 128.99 18 PFAKE 12 15 00.0 +4.8
SDCO LR LR
comp=Z,881nm,19.0s,MS5.5
KSU1 Kansas State U 129.67 9 *e*PKPdf PKPdf 12 14 58.6 +2.2
ANMO Albuquerque 131.25 20 PFAKE 12 15 10.0 +10
ANMO LR LR
comp=Z,989nm,20.0s,MS5.5
AMTX Amarillo 132.73 15 *e*PKPdf PKPdf 12 14 60.0 -2.4
WVT Waverly 133.25 360 PFAKE 12 15 10.0 +6.8
WVT LR LR
comp=Z,907nm,20.0s,MS5.5
WMOK Wichita Mounta 133.54 12 PFAKE 12 15 10.0 +6.2
WMOK LR LR
comp=Z,972nm,21.0s,MS5.5
RKT Rikitea 133.83 112 *e*SS SS 12 35 10.7 -6.1
RKT *e*LR LR 12 57 52.6
comp=Z,778nm,24.8s
GDL2 Guadalupe Moun 134.46 19 *e*PKPdf PKPdf 12 15 04.0 -1.6
MIAR Mount Ida 134.54 6 PFAKE 12 15 10.0 +4.3
MIAR LR LR
comp=Z,1μm,21.0s,MS5.5
MNTX Cornudas Mount 134.58 21 *e*PKPdf PKPdf 12 15 05.4 -0.5
LTX Lajitas 137.33 20 PFAKE 12 15 20.0 +9.1
LTX LR LR
comp=Z,875nm,19.0s,MS5.5
JCT Junction City 137.40 15 *e*PKPdf PKPdf 12 15 09.2 -1.8
TRQA Tornquist 144.17 217 *e*PKPdf PKPdf 12 15 18.1 -4.7
TRQA LR LR
comp=Z,1μm,19.0s,MS5.7
TEIG Tepich 149.09 0 *e*PKPbc PKPdf 12 15 33.2 +1.6
SDV Santo Domingo 153.71 318 PKPdf PKPdf 12 15 35.0 -3.6
SDV *e*PKPbc PKPdf 12 15 43.4 +4.8
SDV LR LR
comp=Z,530nm,19.0s,MS5.4
LVC Limon Verde 158.18 235 PFAKE 12 15 50.0 +5.7
LVC LR LR
comp=Z,1μm,21.0s,MS5.6
OTAV Otavalo 165.31 318 *e*PKPdf PKPdf 12 15 48.6 -3.3
OTAV *e*PKPab PKPab 12 16 44.2 -2.9

NEIC 06 12:11:29.8,34.12N×117.44W,h5km,ML3.6(PAS),**After PAS.,Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flat Ob**	**0.96**	**122**	*e*P	Pb	12 11 47.0	-1.6
DAC	**Darwin (Calif)**	**2.16**	**357**	Pn	Pn	12 12 05.8	-1.1
NEN	**Nelson**	**2.62**	**54**	*e*Pn	Pn	12 12 12.6	-1.0
OMM	**Old Mammoth Mi**	**3.71**	**341**	*e*Pn	Pn	12 12 27.9	-1.2
LRV	**Little Rabbit**	**3.73**	**309**	*e*Pn	Pn	12 12 27.6	-1.6
TPH	**Tonopah**	**3.95**	**2**	Pn	Pn	12 12 31.1	-1.4
SAO	**San Andreas Ge**	**4.21**	**310**	*e*Pn	Pn	12 12 32.4	-3.7
MNV	**Mina**	**4.34**	**353**	Pn	Pn	12 12 37.5	-0.6
TRCR	**Troy Canyon**	**4.48**	**19**	Pn	Pn	12 12 37.8	-2.2
CMB	**Columbia Colle**	**4.58**	**329**	*e*Pn	Pn	12 12 38.6	-2.8
MVU	**Marysvale**	**6.08**	**42**	*e*Pn	Pn	12 12 59.1	-3.4
MSU	**Marysvale**	**6.10**	**43**	*e*Pn	Pn	12 13 00.0	-2.9
PV10	**Paradox Valley**	**8.00**	**56**	Pn	P	12 13 26.6	-3.0

*MOS **06** 12:37:25.1±1.3,2.79N×94.07E,h33km,mb5.1/12,Error ellipse: s-maj=27.2km s-min=11.3km az=98.3*
*BJI **06** 12:37:26.3,2.63N×94.45E,h48km,mB5.2,mb4.8,Ms4.8,Msz4.4*
*NEIC **06** 12:37:28.5±0.6,3.00N×94.30E,h30km,mb4.9/20,Error ellipse: s-maj=17.2km s-min=11.5km az=47.0*
ISC 06 12:37:26.4±0.5,2.92N±0.07×94.32E±0.06,h30km,(h32km±1.0km:pP-P),n72,σ1§18/76,mb4.9/37,MS4.5/3,1C-3D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKTK	**Khon Kaen**	**15.74**	**32**	P	**P**	**12 41 11.0**	**+3.1**
	432nm,0.9s						
UBT	**Ubonrachathani**	**16.16**	**40**	P	**P**	**12 41 15.5**	**+2.3**
CHG	**Chiang Mai**	**16.43**	**16**	⇑P	**P**	**12 41 17.0**	**+0.3**
	28nm,1.1s						
NANT	**Nan**	**16.98**	**21**	P	**P**	**12 41 22.5**	**-1.0**
HYB	**Hyderabad**	**21.15**	**314**	*i* P	**P**	**12 42 12.5**	**+1.0**
QIZ	**Qiongzhong**	**22.07**	**42**	*e*P	**P**	**12 42 22.4**	**+1.7**
	28nm,1.2s,mb4.6						
SHL	**Shillong**	**22.64**	**354**	*e*P	**P**	**12 42 24.0**	**-2.5**
JIRN	**Jiri**	**25.80**	**343**	*e*P	**P**	**12 42 57.1**	**+0.3**
	19nm,0.6s,mb4.8						
PKI	**Pulchoki**	**25.95**	**342**	*e*P	**P**	**12 42 58.6**	**+0.4**
	43nm,1.0s,mb4.9						
DMN	**Daman**	**26.09**	**341**	*e*P	**P**	**12 43 00.0**	**+0.5**
GUN	**Gumba**	**26.13**	**343**	*e*P	**P**	**12 43 00.5**	**+0.7**
	70nm,0.9s,mb5.2						
KKN	**Kakani**	**26.20**	**342**	*e*P	**P**	**12 43 00.9**	**+0.4**
	44nm,0.9s,mb5.0						
GKN	**Gorkha**	**26.61**	**341**	*e*P	**P**	**12 43 04.6**	**+0.4**
	40nm,0.7s,mb5.1						
KOLN	**Koldanda**	**26.75**	**339**	*e*P	**P**	**12 43 06.2**	**+0.6**
	27nm,0.8s,mb4.8						
LSA	**Lhasa**	**26.81**	**354**	P	**P**	**12 43 09.2**	**+3.1**
LSA	**Lhasa**	**26.81**	**354**	*e*P	**P**	**12 43 07.5**	**+1.4**
	70nm,0.8s,mb5.2						
ENH	**Enshi**	**30.76**	**26**	P	**P**	**12 43 39.6**	**-2.0**
	12nm,0.9s,mb4.7						
DDI	**Dehra Dun**	**31.31**	**332**	*e*	**P**	**12 43 46.3**	**-0.1**
XAN	**Xi'an**	**33.83**	**22**	P	**P**	**12 44 06.1**	**-2.2**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.6						
NJ2	**Nanjing**	**37.04**	**36**	*e*P	**P**	**12 44 35.6**	**0.0**
NJ2				AP	pP	12 44 45.5	+1.0
NJ2				XP	sP	12 44 49.4	+1.1
NJ2				PP	PP	12 46 03.2	+0.8
NJ2				S	**S**	**12 50 20.0**	**+1.1**
NJ2				XS		12 50 35.0	
NJ2				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,190nm,7.0s						
NJ2				LR	LR		
	comp=N,1μm,19.1s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,17.7s,MS4.9						
NJ2				LR	LR		
	comp=Z,540nm,18.2s,MS4.4						
SSE	**Sheshan**	**37.79**	**39**	P	**P**	**12 44 41.3**	**-0.6**
SSE				AP	pP	12 44 50.1	-0.8
SSE				S	**S**	**12 50 31.0**	**+0.6**
SSE				XS		12 50 45.2	
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,439nm,10.7s						
SSE				LR	LR		
	comp=N,212nm,17.3s,MS4.1						
SSE				LR	LR		
	comp=E,192nm,17.3s,MS4.1						
SSE				LR	LR		
	comp=Z,255nm,15.1s,MS4.2						
WMQ	**Urumqi**	**41.15**	**353**	*e*P	**P**	**12 45 10.3**	**+0.6**
WMQ				AP	pP	12 45 20.1	+1.4
WMQ				XP	sP	12 45 24.1	+1.7
WMQ				S	**S**	**12 51 20.7**	**0.0**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,56nm,6.1s						
WMQ				LR	LR		
	comp=N,945nm,21.5s,MS4.8						
WMQ				LR	LR		
	comp=E,912nm,21.7s,MS4.8						
WMQ				LR	LR		
	comp=Z,1μm,21.6s,MS4.7						
ULHL	**Ulahol**	**42.37**	**340**	P	**P**	**12 45 20.2**	**+0.4**
	SNR=7.4						
KZA	**Kyzart**	**42.57**	**339**	P	**P**	**12 45 22.5**	**+1.1**
	SNR=8.5						
UCH	**Uchtor**	**42.97**	**338**	P	**P**	**12 45 25.4**	**+0.8**
	SNR=16						
KBK	**Karagaybulak**	**43.19**	**339**	P	**P**	**12 45 28.1**	**+1.8**
	SNR=15						
TKM2	**Tokmak 2**	**43.19**	**340**	P	**P**	**12 45 27.1**	**+0.7**
	SNR=10						
AML	**Almayashu**	**43.19**	**337**	P	**P**	**12 45 28.5**	**+2.0**
	SNR=19						
AAK	**Ala-Archa**	**43.33**	**339**	P	**P**	**12 45 28.7**	**+1.2**
	SNR=6.5						
AAK	**Ala-Archa**	**43.33**	**339**	*i* P	**P**	**12 45 26.8**	**-0.7**
AAK				pmax	pmax		
	comp=Z,18nm,1.9s,mb4.5						
AAK	**Ala-Archa**	**43.33**	**339**	*e*P	**P**	**12 45 26.9**	**-0.6**
	comp=Z,9.2nm,1.1s,mb4.4						
FRU	**Bishkek**	**43.46**	**339**	*e*P	**P**	**12 45 28.5**	**-0.1**
FRU				pmax	pmax		
	comp=Z,70nm,2.2s,mb5.0						
EKS2	**Erkin-Say**	**43.62**	**338**	P	**P**	**12 45 31.4**	**+1.5**
	SNR=9.2						
USP	**Ospenovka**	**43.88**	**339**	P	**P**	**12 45 33.3**	**+1.3**
	SNR=10						
MKAR	**Makanchi Array**	**44.94**	**348**	P	**P**	**12 45 40.2**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
WRAB	**Tennant Creek**	**45.38**	**122**	*i* P	**P**	**12 45 44.1**	**-0.2**
WRAB	**Tennant Creek**	**45.38**	**122**	*e*P	**P**	**12 45 44.8**	**+0.5**
	comp=Z,34nm,1.0s,mb5.1						
WB2	**Warramunga Arr**	**45.39**	**122**	*e*P	**P**	**12 45 44.6**	**+0.2**
ULN	**Ulaanbaatar**	**46.10**	**12**	*i* P	**P**	**12 45 49.2**	**-0.5**
ULN	**Ulaanbaatar**	**46.10**	**12**	*e*P	**P**	**12 45 49.4**	**-0.3**
	comp=Z,4.0nm,1.0s,mb4.3						
ASPA	**Alice Springs**	**46.72**	**127**	*e*P	**P**	**12 45 55.7**	**+0.9**
ZAK	**Zakamensk**	**47.90**	**8**	*e*P	**P**	**12 46 02.1**	**-1.7**
TLY	**Talaya**	**49.22**	**8**	*e*P	**P**	**12 46 14.2**	**+0.2**
	comp=Z,5.8nm,0.7s,mb4.7						
HIA	**Hailar**	**51.02**	**21**	*e*P	**P**	**12 46 26.5**	**-1.2**
	comp=Z,15nm,1.2s,mb4.8						
MAJO	**Matsushiro**	**52.44**	**45**	P	**P**	**12 46 39.5**	**+0.8**
	comp=Z,42nm,1.6s,mb5.1						
NVS	**Novosibirsk**	**52.54**	**352**	*e*P	**P**	**12 46 37.6**	**-1.6**
NVS				pmax	pmax		
	comp=N,5.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.0						
BVA0	**Borovoye Array**	**53.72**	**342**	*i* P	**P**	**12 46 46.3**	**-1.6**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
BRVK	**Borovoye**	**53.78**	**342**	*e*P	**P**	**12 46 46.9**	**-1.4**
	comp=Z,22nm,0.9s,mb5.1						
PMG	**Port Moresby**	**54.05**	**104**	*e*P	**P**	**12 46 50.6**	**-0.1**
	comp=Z,7.4nm,0.9s,mb4.6						
CHKZ	**Chkalovo**	**54.22**	**343**	P	**P**	**12 46 50.7**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,48nm,1.2s,mb5.3						
CHKZ	**Chkalovo**	**54.22**	**343**	*e*P	**P**	**12 46 50.4**	**-1.1**
	comp=Z,28nm,0.8s,mb5.2						
KLR	**Kul'dur**	**56.08**	**29**	*e*P	**P**	**12 47 00.0**	**-5.1**
STKA	**Stephens Creek**	**56.63**	**132**	*e*P	**P**	**12 47 09.5**	**+0.1**
BOD	**Bodaibo**	**56.91**	**12**	*e*P	**P**	**12 47 08.4**	**-2.6**
KMBO	**Kilima Mbogo**	**57.19**	**267**	*e*P	**P**	**12 47 16.5**	**+2.9**
	comp=Z,4.2nm,1.0s,mb4.4						
GNI	**Garni**	**58.08**	**317**	*e*P	**P**	**12 47 19.7**	**+0.3**
	comp=Z,13nm,1.2s,mb4.8						
SVE	**Sverdlovsk**	**60.06**	**339**	*i* P	**P**	**12 47 33.0**	**+0.1**
ARU	**Arti**	**60.51**	**338**	⇓*i* P	**P**	**12 47 32.4**	**-3.6**
ARU				*e*		12 48 15.9	
ARU				*e*S	**S**	**12 55 43.2**	**-4.6**
ARU				*e*SS	SS	12 59 40.6	-6.7
ARU				*e*SSS	SSS	13 02 23.2	+1.0
ARU				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.0						
ARU	**Arti**	**60.51**	**338**	*e*P	**P**	**12 47 32.9**	**-3.1**
	comp=Z,18nm,0.9s,mb5.2						
YSS	**Yuzh-Sakhalins**	**60.61**	**36**	*i* P	**P**	**12 47 36.3**	**-0.5**
YSS				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.4						
YSS	**Yuzh-Sakhalins**	**60.61**	**36**	*e*P	**P**	**12 47 37.0**	**+0.2**
	comp=Z,30nm,1.1s,mb5.3						
MALT	**Malatya**	**61.85**	**312**	*e*P	**P**	**12 47 44.6**	**-0.8**
	comp=Z,7.2nm,1.0s,mb4.8						
SOC	**Sochi**	**62.93**	**318**	*e*P	**P**	**12 47 48.3**	**-4.1**
SOC				*e*		12 48 24.9	
SOC				*e*S	**S**	**12 56 15.4**	**-3.2**
SOC				*e*		12 57 33.8	
SOC				*e*SS	SS	13 00 21.4	-4.7
SOC				pmax	pmax		
	comp=Z,88nm,1.6s,mb5.6						
SOC				pmax	pmax		
	comp=N,20nm,0.9s						
SOC				pmax	pmax		
	comp=E,67nm,1.4s						
YAK	**Yakutsk**	**64.62**	**18**	*i* P	**P**	**12 48 02.0**	**-1.2**
YAK				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
YAK	**Yakutsk**	**64.62**	**18**	*e*P	**P**	**12 48 02.0**	**-1.2**
	comp=Z,21nm,0.9s,mb5.2						
OBN	**Obninsk**	**69.67**	**329**	*e*P	**P**	**12 48 34.2**	**-0.9**
OBN				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.0						
MA2	**Magadan**	**71.07**	**27**	*i* P	**P**	**12 48 43.6**	**0.0**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5						
MA2	**Magadan**	**71.07**	**27**	*e*P	**P**	**12 48 43.8**	**+0.2**
	comp=Z,6.6nm,0.9s,mb4.6						
SANT	**Santorini**	**71.31**	**307**	P	**P**	**12 48 43.2**	**-2.3**
	comp=Z,43nm,1.3s,mb5.2						
TIXI	**Tiksi**	**72.03**	**11**	*d i* P	**P**	**12 48 48.1**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,23nm,1.7s,mb4.8						
BILL	**Bilibino**	**80.61**	**21**	*i* P	**P**	**12 49 37.6**	**+0.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
SYO	**Syowa Base**	**80.75**	**197**	⇓PcP	PcP	12 49 46.8	+1.7

MAN 06 12:45:32.9,11.33N×125.84E,h21km,mb4.0,ML2.8,MS2.5,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.48**	**304**	*e*P	Pb	12 45 42.8	+0.3
MSLP	**Maasin**	**1.53**	**219**	*e*P	Pn	12 45 59.4	0.0
MSLP				*e*S	Sn	12 46 19.7	+0.8
SCPH	**Surigao**	**1.58**	**193**	*e*P	Pn	12 45 59.4	-0.7
SCPH				*e*S	Sn	12 46 18.3	-1.8
PVCP	**Virac**	**2.79**	**324**	*e*P	Pn	12 46 17.1	-0.2
PVCP				*e*S	Sn	12 47 00.8	+10

*NIED **06** 13:00:00,41.40N×142.10E,h56km,Mw5.3 Best double couple: M0 1.06×10^17 NP1:φs23°,δ72°,λ95°. NP2:φs188°,δ18°,λ75°.*
*MOS **06** 13:00:34.7±0.9,41.39N×142.09E,h33km,mb5.5/88,MS4.7/17,Error ellipse: s-maj=7.8km s-min=4.0km az=106.6*
*BJI **06** 13:00:37.9,41.42N×142.20E,h78km,mB5.3,mb5.3,Ms4.7,Msz4.7*
*JMA **06** 13:00:38.9±0.1,41.46N×142.10E,h61km±2km,M5.3 Broadband fault plane solution: P waves. NP1:φs188°,δ23°,λ83°. NP2:φs15°,δ67°,λ93°. Principal axes: T Plg68°, Azm291°; N Plg3°, Azm194°; P Plg22°, Azm103°; JMA Felt III J1.*
*CSEM **06** 13:00:39.3,42.48N×142.25E,h33km,mb5.5*
*HRVD **06** 13:00:40.2±0.2,41.49N×142.28E,h57km,MW5.3/63,Centroid moment Tensor Solution. LP body waves: s57,c107;Mantle waves: s63,c126; Half duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr1.07±.03; Mθθ-0.07±.03; Mφφ-0.99±.03; Mrθ0.40±.02; Mrφ-0.35±.02; Mθφ0.58±.02; Best double couple: M0 1.299×10^17 NP1: φs190°,δ30°,λ75°. NP2:φs27°,δ61°,λ99°. Principal axes: T 1.291, Plg72°, Azm317°; N .015, Plg8°, Azm203°; P -1.307, Plg16°, Azm111°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 13:00:40.2±0.1,41.46N×142.07E,mb5.2/127,MW5.3(NIED) Error ellipse: s-maj=4.4km s-min=3.1km az=162.0*
NEIC Felt at Goshogawara, Hachinohe and Misawa, Honshu. Recorded [3 JMA] in Aomori and Iwate; [1 JMA] in Akita and Miyagi Prefectures, Honshu. Also recorded [2 JMA] in south-central and southwestern Hokkaido; [1 JMA] in the Obihiro area.
ISC 06 13:00:38.5±0.3,41.47N±0.02×142.09E±0.03,h62km±2km,h66km±.8km:pP-P,n533,σ0§94/551,mb5.2/147,108C-24D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.79**	**264**	⇓P	**P**	**13 00 54.6**	**+0.5**
JOT				S	**S**	**13 01 06.4**	**+0.7**
JKB	**Kayabe**	**0.90**	**298**	⇓P	**P**	**13 00 55.7**	**+0.2**
JKB				*e*S	**S**	**13 01 08.9**	**+0.7**
JNBK	**Urakawa-nobuka**	**0.95**	**31**	P	**P**	**13 00 56.2**	**-0.1**
JEM	**Erimo**	**0.97**	**55**	P	**P**	**13 00 56.5**	**0.0**
JEM				*e*S	**S**	**13 01 09.5**	**-0.4**
JTM	**Tenmabayashi**	**1.03**	**229**	⇓P	**P**	**13 00 57.8**	**+0.5**
JTM				*e*S	**S**	**13 01 10.8**	**-0.4**
JANG	**Nango**	**1.17**	**202**	⇓P	**P**	**13 00 59.3**	**+0.1**
JANG				*e*S	**S**	**13 01 13.5**	**-1.2**
JSR	**Shiriuchi**	**1.26**	**273**	⇓P	**P**	**13 01 01.0**	**+0.6**
JNB	**Noboribetsu**	**1.27**	**322**	⇓P	**P**	**13 01 00.4**	**-0.3**
JNB				*e*S	**S**	**13 01 16.9**	**-0.2**
JBT2	**Biratori 2**	**1.33**	**9**	⇓P	**P**	**13 01 01.9**	**+0.4**
JBT2				*e*S	**S**	**13 01 18.1**	**-0.4**
JEW	**Eniwo**	**1.45**	**341**	⇓P	**P**	**13 01 03.7**	**+0.5**
JEW				*e*S	**S**	**13 01 22.0**	**+0.5**
JCH	**Churui**	**1.49**	**39**	⇓P	**P**	**13 01 04.2**	**+0.5**
JCH				*e*S	**S**	**13 01 22.3**	**0.0**
JKZ	**Kuzumaki**	**1.59**	**202**	⇓P	**P**	**13 01 05.3**	**+0.3**
JFR	**Furan**	**1.74**	**12**	⇓P	**P**	**13 01 07.3**	**+0.2**
JSH	**Shimam**	**1.93**	**308**	⇓P	**P**	**13 01 09.7**	**+0.1**
JOSM	**Okushiri--Mats**	**2.05**	**288**	P	**P**	**13 01 11.1**	**-0.3**
JOSM				*e*S	**S**	**13 01 36.6**	**+0.8**
JOM	**Ohasama**	**2.08**	**197**	P	**P**	**13 01 12.0**	**+0.2**
JOM				*e*S	**S**	**13 01 37.2**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**3.78**	**46**	⇓*i* P	**P**	**13 01 33.2**	**-2.6**
YUK				*i* S	**S**	**13 02 13.4**	**-6.0**
YUK				pmax	pmax		
	comp=Z,6μm,1.0s						
YUK				pmax	pmax		
	comp=N,6μm,1.4s						
YUK				pmax	pmax		
	comp=E,980nm,0.4s						
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
YUK				pmax	pmax		
	comp=N,2μm,0.6s						
YUK				smax			
	comp=N,16μm,0.5s						
YUK				smax			
	comp=E,4μm,5.0s						
YUK				smax			
	comp=N,30μm,1.2s						
YUK				smax			
	comp=E,12μm,0.9s						
YUK				MLR	MLR		
	comp=E,13μm,23.0s						
YUK				MLR	MLR		
	comp=Z,8μm,23.0s						
JNS	**Sasagawa**	**4.22**	**211**	P	**P**	**13 01 43.0**	**+1.0**
JAG	**Ashikaga**	**5.44**	**203**	P	**P**	**13 01 58.3**	**-0.5**
YSS	**Yuzh-Sakhalins**	**5.51**	**5**	⇑*e*P	**P**	**13 01 59.5**	**-0.3**
YSS				*i* S	**S**	**13 02 55.0**	**-7.6**
YSS				pmax	pmax		
	comp=E,140nm,0.9s						
YSS				pmax	pmax		
	comp=Z,160nm,0.9s						
YSS				pmax	pmax		
	comp=N,180nm,0.8s						
YSS				smax			
	comp=N,220nm,1.0s						
YSS				smax			
	comp=E,170nm,1.0s						
YSS				smax			
	comp=N,2μm,3.5s						
YSS				smax			
	comp=E,2μm,4.0s						
YSS				MLR	MLR		
	comp=N,5μm,17.0s						
YSS				MLR	MLR		
	comp=Z,4μm,17.0s						
YSS	**Yuzh-Sakhalins**	**5.51**	**5**	*e*Pn	**P**	**13 01 59.9**	**+0.1**
	comp=Z,139nm,0.7s						
JGK	**Kuni**	**5.58**	**210**	P	**P**	**13 02 03.2**	**+2.3**
KUR	**Kuril'sk**	**5.65**	**46**	*e*P	**P**	**13 01 57.6**	**-4.2**
KUR				*e*S	**S**	**13 02 59.0**	**-7.2**
KUR				pmax	pmax		
	comp=N,540nm,1.1s						
KUR				pmax	pmax		
	comp=E,740nm,1.1s						
KUR				pmax	pmax		
	comp=Z,2μm,1.1s						
KUR				pmax	pmax		
	comp=Z,4μm,1.2s						
KUR				smax			
	comp=N,690nm,0.7s						
KUR				smax			
	comp=E,1μm,0.7s						
KUR				smax			
	comp=N,5μm,2.5s						
KUR				smax			
	comp=E,10μm,2.5s						
MAJO	**Matsushiro**	**5.77**	**213**	*e*P	**P**	**13 02 04.4**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAJO	**Matsushiro**	**5.77**	**213**	*e*Pn	**P**	**13 02 04.4**	**+1.0**
	comp=Z,1.0nm,0.3s						
MAT	**Matsushiro**	**5.77**	**213**	*e*P	**P**	**13 02 04.0**	**+0.5**
MAT				S	**S**	**13 03 09.0**	**-0.2**
MAT				pmax	pmax		
	comp=Z,127nm,0.8s						
MAT	**Matsushiro**	**5.77**	**213**	*e*P	**P**	**13 02 04.0**	**+0.5**
	comp=Z,127nm,0.8s						
MAT				S	**S**	**13 03 09.0**	**-0.2**
MAT	**Matsushiro**	**5.77**	**213**	P	**P**	**13 02 04.1**	**+0.6**
MAT				*e*S	**S**	**13 03 09.0**	**-0.2**
MAT	**Matsushiro**	**5.77**	**213**	P	**P**	**13 02 04.2**	**+0.7**
JNG	**Nsakai**	**5.93**	**213**	P	**P**	**13 02 06.7**	**+1.0**
JTT	**Ttatey**	**6.10**	**219**	P	**P**	**13 02 10.3**	**+2.2**
JNY	**Yasuok**	**6.94**	**210**	P	**P**	**13 02 19.7**	**-0.2**
UGL	**Uglegorsk**	**7.61**	**360**	*e*P	**P**	**13 02 26.0**	**-3.2**
UGL				pmax	pmax		
	comp=Z,46nm,0.7s						

UGL				MLR	MLR	
	comp=N,4μm,20.0s					
UGL				MLR	MLR	
	comp=Z,4μm,20.0s					
UGL				MLR	MLR	
	comp=E,4μm,18.0s					
VLA	**Vladivostok**	**7.74**	**286**	*e*P	**P**	**13 02 36.0 +5.1**
VLA				*i* S	**S**	**13 04 02.0 +4.1**
VLA				pmax	pmax	
	comp=E,1μm,6.0s					
VLA				pmax	pmax	
	comp=Z,500nm,6.0s					
VLA				pmax	pmax	
	comp=N,500nm,4.0s					
VLA				smax		
	comp=Z,3μm,7.0s					
VLA				smax		
	comp=E,2μm,8.0s					
VLA				smax		
	comp=N,1μm,6.0s					
VLA				MLR	MLR	
	comp=Z,8μm,17.0s					
VLA				MLR	MLR	
	comp=N,3μm,14.0s					
VLA				MLR	MLR	
	comp=E,11μm,19.0s					
JEG	**Eigenji**	**7.75**	**217**	P	**P**	**13 02 34.0 +3.0**
MDJ	**Mudanjiang**	**9.68**	**293**	P	**P**	**13 03 00.4 +3.0**
MDJ				XP		13 03 17.9
MDJ				S	**S**	**13 04 51.5 +6.0**
MDJ				PCP	PcP	13 09 04.8 -3.3
MDJ				SCP		13 12 33.7
MDJ				PCS		13 12 39.6
MDJ				SCS	ScS	13 16 07.4 +0.7
MDJ				AMB	AMB	
	comp=Z,117nm,0.9s					
MDJ				AMB	AMB	
	comp=Z,126nm,4.1s					
MDJ				LR	LR	
	comp=N,2μm,19.3s					
MDJ				LR	LR	
	comp=E,4μm,21.0s					
MDJ				LR	LR	
	comp=Z,5μm,22.8s					
MDJ	**Mudanjiang**	**9.68**	**293**	*e*Pn	**P**	**13 02 58.8 +1.4**
JHM	**Kurahashi**	**10.52**	**229**	P	**P**	**13 03 09.3 +0.5**
KLR	**Kul'dur**	**10.63**	**320**	*e*P	**P**	**13 03 09.7 -0.7**
KLR				MLR	MLR	
	comp=N,2μm,19.0s					
KLR				MLR	MLR	
	comp=Z,4μm,19.0s					
KS15	**Wonju Array Si**	**11.69**	**255**	*e*P	**P**	**13 03 25.9 +1.2**
KS15				*e*S	**S**	**13 05 39.1 +4.8**
JFA	**Akaike**	**11.83**	**233**	P	**P**	**13 03 27.2 +0.7**
JNU	**Nakatsue**	**12.20**	**231**	P	**P**	**13 03 31.6 +0.1**
INCN	**Inchon**	**12.59**	**257**	*e*P	**P**	**13 03 37.1 +0.5**
INCN				*e*S	**S**	**13 05 58.9 +3.1**
SNY	**Shenyang**	**13.85**	**278**	⇑P	**P**	**13 03 53.4 +0.3**
SNY				PP	PP	13 04 04.6 0.0
SNY				S	**S**	**13 06 24.0 -1.8**
SNY				SS	SS	13 06 42.6 -1.0
SNY				LR	LR	
	comp=N,1μm,11.8s					
SNY				LR	LR	
	comp=Z,950nm,13.7s					
PET	**Petropavlovsk**	**16.08**	**38**	*e*P	**P**	**13 04 28.2 +6.4**
PET				*e*S	**S**	**13 07 26.8 +9.0**
PET				pmax	pmax	
	comp=Z,38nm,1.8s					
PET				smax		
	comp=E,200nm,14.4s					
PET				MLR	MLR	
	comp=Z,2μm,17.0s					
PET	**Petropavlovsk**	**16.08**	**38**	*e*P	**P**	**13 04 17.6 -4.2**
	comp=Z,46nm,1.2s					
HIA	**Hailar**	**17.49**	**304**	*e*P	**P**	**13 04 37.2 -2.3**
HIA				pmax	pmax	
	comp=Z,40nm,0.8s					
HIA	**Hailar**	**17.49**	**304**	*e*P	**P**	**13 04 37.2 -2.3**
	comp=Z,40nm,0.8s					
MA2	**Magadan**	**18.92**	**14**	*i* P	**P**	**13 04 54.0 -2.6**
MA2				MLR	MLR	
	comp=Z,700nm,18.0s					
MA2	**Magadan**	**18.92**	**14**	*e*P	**P**	**13 04 52.5 -4.1**
	comp=Z,24nm,0.6s					
CLNS	**Chul'man**	**18.97**	**330**	*e*P	**P**	**13 04 56.7 -0.5**
CLNS				*e*S	**S**	**13 08 29.2 +6.3**
CLNS				pmax	pmax	
	comp=N,38nm,0.6s					
CLNS				pmax	pmax	
	comp=Z,80nm,0.6s					
CLNS				pmax	pmax	
	comp=E,43nm,0.8s					
CLNS				smax		
	comp=N,15nm,0.9s					
CLNS				smax		
	comp=Z,9.0nm,1.1s					
CLNS				smax		
	comp=E,8.0nm,0.8s					
CLNS				MLR	MLR	
	comp=N,1μm,15.0s					
CLNS				MLR	MLR	
	comp=Z,2μm,15.0s					
CLNS				MLR	MLR	
	comp=E,400nm,13.0s					
BJT	**Baijiatuau**	**19.68**	**274**	*e*P	**P**	**13 05 02.5 -2.5**
BJT				pmax	pmax	
	comp=Z,147nm,1.0s					
BJT	**Baijiatuau**	**19.68**	**274**	*e*P	**P**	**13 05 02.5 -2.5**
	comp=Z,147nm,1.0s					
SSE	**Sheshan**	**19.73**	**245**	P	**P**	**13 05 03.1 -2.5**
SSE				S	**S**	**13 08 39.7 +0.3**
SSE				XS		13 08 57.9
SSE				AMB	AMB	
	comp=Z,84nm,0.7s					
SSE				AMB	AMB	
	comp=Z,595nm,12.0s					
SSE				LR	LR	
	comp=N,727nm,23.7s					
SSE				LR	LR	
	comp=E,1μm,23.7s					
SSE				LR	LR	
	comp=Z,1μm,20.0s					
TIA	**Tai'an**	**20.11**	**263**	*e*P	**P**	**13 05 06.7 -2.9**
NJ2	**Nanjing**	**20.80**	**251**	*e*P	**P**	**13 05 14.5 -2.3**
NJ2				AP		13 05 28.0
NJ2				PP	PP	13 05 38.7 -1.6
NJ2				S	**S**	**13 09 02.0 +1.7**
NJ2				XS		13 09 23.0
NJ2				AMB	AMB	
	comp=Z,130nm,0.6s					
NJ2				AMB	AMB	
	comp=Z,140nm,4.8s					
NJ2				LR	LR	
	comp=N,4μm,17.4s					
NJ2				LR	LR	
	comp=E,4μm,20.8s					
NJ2				LR	LR	
	comp=Z,4μm,17.8s					
YAK	**Yakutsk**	**21.91**	**344**	*e*P	**P**	**13 05 23.4 -4.2**
YAK				*e**PP		13 05 32.2
YAK				*e*S	**S**	**13 09 15.3 -5.3**
YAK				*e*		13 09 29.0
YAK				*e*		13 16 47.6
YAK				pmax	pmax	
	comp=N,10.0nm,0.9s					
YAK				pmax	pmax	
	comp=E,7.0nm,0.9s					
YAK				pmax	pmax	
	comp=Z,43nm,0.9s,mb4.9					
YAK				smax		
	comp=N,17nm,1.0s					
YAK				smax		
	comp=E,14nm,0.9s					
YAK				MLR	MLR	
	comp=Z,621nm,16.0s					
YAK				MLR	MLR	
	comp=N,412nm,13.0s					
YAK				MLR	MLR	
	comp=E,369nm,13.0s					
YAK	**Yakutsk**	**21.91**	**344**	*e*P	**P**	**13 05 23.3 -4.3**
	comp=E,102nm,0.6s,mb5.4					
SEY	**Seymchan**	**22.35**	**12**	*e*P	**P**	**13 05 31.7 -0.3**
SEY				*e*		13 05 47.8
SEY				*e*		13 06 10.2
SEY				*e*		13 09 24.7
SEY				*e*S	**S**	**13 09 32.8 +4.2**
SEY				*e*SS	SS	13 10 34.2 +21
SEY				pmax	pmax	
	comp=N,20nm,0.8s					
SEY				pmax	pmax	
	comp=Z,40nm,0.8s,mb4.9					
SEY				pmax	pmax	
	comp=E,20nm,0.9s					
SEY				smax		
	comp=N,1μm,7.5s					
SEY				smax		
	comp=E,510nm,5.9s					
TATO	**Taipei**	**23.73**	**233**	*e*P	**P**	**13 05 45.6 0.0**
	comp=E,90nm,0.6s,mb5.4					
BOD	**Bodaibo**	**24.20**	**322**	*e*P	**P**	**13 05 47.9 -2.0**
WHN	**Wuhan**	**24.85**	**253**	P	**P**	**13 05 56.0 -0.4**
WHN				LR	LR	
	comp=Z,4μm,18.1s					
QZH	**Quanzhou**	**25.53**	**237**	P	**P**	**13 06 02.8 -0.1**
QZH				S	**S**	**13 10 27.1 +3.6**
QZH				AMB	AMB	
	comp=Z,90nm,0.6s,mb5.5					
QZH				LR	LR	
	comp=N,1μm,12.3s					
QZH				LR	LR	
	comp=E,1μm,11.6s					
QZH				LR	LR	
	comp=Z,2μm,21.4s					
ULN	**Ulaanbaatar**	**25.57**	**296**	*i* P	**P**	**13 06 02.4 -0.7**
ULN	**Ulaanbaatar**	**25.57**	**296**	*e*P	**P**	**13 06 01.4 -1.7**
	comp=Z,24nm,0.7s,mb4.8					
XAN	**Xi'an**	**27.13**	**265**	P	**P**	**13 06 15.2 -2.4**
XAN				AMB	AMB	
	comp=Z,31nm,0.7s,mb5.0					
IRK	**Irkutsk**	**27.71**	**306**	*e*P	**P**	**13 06 21.4 -1.4**
IRK				*e*	pP	13 06 37.8 -0.1
TLY	**Talaya**	**28.03**	**305**	*e*P	**P**	**13 06 25.0 -0.6**
TLY				*e*S	**S**	**13 11 06.1 +2.1**
TLY				pmax	pmax	
	comp=Z,16nm,0.7s,mb4.8					
TLY				MLR	MLR	
	comp=Z,1μm,17.0s					
TLY	**Talaya**	**28.03**	**305**	*e*P	**P**	**13 06 24.2 -1.4**
	comp=Z,27nm,0.8s,mb4.9					
ZAK	**Zakamensk**	**28.15**	**302**	⇑*i*P	**P**	**13 06 25.5 -1.2**
ENH	**Enshi**	**28.53**	**257**	*e*P	**P**	**13 06 27.3 -2.9**
	comp=Z,128nm,0.9s,mb5.7					
BILL	**Bilibino**	**29.64**	**18**	*e*P	**P**	**13 06 38.0 -1.8**
BILL				pmax	pmax	
	comp=Z,16nm,0.8s,mb4.8					
BILL	**Bilibino**	**29.64**	**18**	*e*P	**P**	**13 06 38.0 -1.8**
	comp=Z,16nm,0.8s,mb4.8					
MOY	**Mondy**	**29.68**	**304**	*e*P	**P**	**13 06 39.8 -0.5**
LZH	**Lanzhou**	**30.12**	**272**	*e*P	**P**	**13 06 43.4 -1.0**
LZH				*e*S	**S**	**13 11 45.0 +7.6**
LZH				XS		13 12 12.0
LZH				AMB	AMB	
	comp=Z,50nm,1.2s,mb5.1					
LZH				AMB	AMB	
	comp=Z,130nm,4.0s					
LZH				LR	LR	
	comp=E,2μm,12.9s					
LZH				LR	LR	
	comp=Z,2μm,15.4s					
TIXI	**Tiksi**	**30.97**	**352**	*e*P	**P**	**13 06 47.9 -3.6**
TIXI				pmax	pmax	
	comp=Z,5.0nm,0.9s,mb4.3					
TIXI				MLR	MLR	
	comp=Z,653nm,13.0s					
QIZ	**Qiongzhong**	**35.40**	**241**	P	**P**	**13 07 31.8 +1.5**
QIZ				S	**S**	**13 13 04.3 +4.6**
QIZ				AMB	AMB	
	comp=Z,29nm,2.0s,mb4.9					
QIZ				AMB	AMB	
	comp=Z,504nm,4.8s					
QIZ				LR	LR	
	comp=N,640nm,20.6s					
QIZ				LR	LR	
	comp=E,615nm,20.1s					
QIZ				LR	LR	
	comp=Z,803nm,20.3s					
QIZ	**Qiongzhong**	**35.40**	**241**	P	**P**	**13 07 26.5 -3.9**
TNA	**Tin City**	**36.78**	**32**	*e*P	**P**	**13 07 41.3 -0.3**
	comp=Z,12nm,0.7s,mb4.8					
WMQ	**Urumqi**	**39.48**	**292**	P	**P**	**13 08 05.0 +0.8**
WMQ				AP	pP	13 08 20.3 +0.3
WMQ				XP	sP	13 08 27.5 0.0
WMQ				PP	PP	13 09 40.8 +1.3
WMQ				S	**S**	**13 14 02.6 +1.1**
WMQ				XS		13 14 28.7
WMQ				AMB	AMB	
	comp=Z,31nm,0.9s,mb5.0					
WMQ				AMB	AMB	
	comp=Z,211nm,4.4s					
WMQ				LR	LR	
	comp=N,2μm,19.1s					
WMQ				LR	LR	
	comp=E,1μm,20.4s					
WMQ				LR	LR	
	comp=Z,2μm,18.6s					
NVS	**Novosibirsk**	**40.28**	**310**	*e*P	**P**	**13 08 09.5 -1.2**
NVS				*e*PPP	PPP	13 10 09.9 -5.4
NVS				pmax	pmax	
	comp=N,8.0nm,1.0s					
NVS				pmax	pmax	
	comp=E,39nm,1.0s					
NVS				pmax	pmax	
	comp=Z,66nm,1.0s,mb5.3					
CHRT	**Chiangrai**	**41.75**	**252**	⇑P	**P**	**13 08 24.0 +0.8**
	comp=Z,316nm,0.8s,mb6.0					
NANT	**Nan**	**41.80**	**250**	⇑P	**P**	**13 08 23.5 -0.1**
	comp=Z,172nm,0.5s,mb5.9					
KKTK	**Khon Kaen**	**42.01**	**245**	P	**P**	**13 08 25.2 -0.1**
	comp=Z,1μm,0.6s					
MKAR	**Makanchi Array**	**42.35**	**298**	*i* P	**P**	**13 08 27.4 -0.4**
MKAR				pmax	pmax	
	comp=Z,23nm,0.5s					
LSA	**Lhasa**	**42.51**	**271**	P	**P**	**13 08 30.6 +1.3**
LSA				AMB	AMB	
	comp=Z,40nm,0.7s,mb5.3					
LSA				AMB	AMB	
	comp=Z,250nm,5.6s					
LSA				LR	LR	
	comp=N,370nm,29.8s					
LSA				LR	LR	
	comp=E,1μm,30.0s					
LSA				LR	LR	
	comp=Z,1μm,31.2s					
LSA	**Lhasa**	**42.51**	**271**	*e*P	**P**	**13 08 30.4 +1.1**
LSA				*e*		13 10 22.9
LSA				pmax	pmax	
	comp=Z,29nm,0.7s,mb5.1					
LSA	**Lhasa**	**42.51**	**271**	*e*P	**P**	**13 08 30.4 +1.1**
	comp=Z,29nm,0.7s,mb5.1					
LSA				*e*PcP	PcP	13 10 22.9 +1.3
CHG	**Chiang Mai**	**43.04**	**252**	⇑P	**P**	**13 08 33.8 0.0**
	comp=Z,44nm,0.7s,mb5.3					
IMP	**Imphal**	**43.05**	**263**	*e*P	**P**	**13 08 33.6 -0.2**
RSO	**Redoubt South**	**43.16**	**41**	*e*P	**P**	**13 08 34.4 +0.2**
SPU	**Mount Spurr**	**43.45**	**40**	*e*P	**P**	**13 08 37.0 +0.5**
KDAK	**Kodiak Island**	**43.52**	**45**	*e*P	**P**	**13 08 36.8 -0.4**
	comp=Z,46nm,1.0s,mb5.2					
NST	**Nakhon Sawan**	**44.32**	**247**	P	**P**	**13 08 38.3 -5.8**
FIB	**Fire Island**	**44.36**	**40**	*e*P	**P**	**13 08 44.4 +0.5**
MCK	**McKinley**	**44.71**	**36**	*e*P	**P**	**13 08 45.9 -0.7**
MCK				pmax	pmax	
	comp=Z,8.0nm,0.8s,mb4.6					
MCK	**McKinley**	**44.71**	**36**	*e*P	**P**	**13 08 45.9 -0.7**
	comp=Z,8.0nm,0.8s,mb4.6					
PMR	**Palmer**	**44.81**	**39**	*e*P	**P**	**13 08 48.6 +1.1**
COLA	**College**	**45.09**	**35**	*e*P	**P**	**13 08 50.1 +0.4**
SML	**Sawmill**	**45.16**	**39**	*e*P	**P**	**13 08 50.3 0.0**
THY	**Trims Highway**	**46.15**	**36**	*e*P	**P**	**13 08 58.5 +0.4**
DIV	**Divide**	**46.48**	**40**	*e*P	**P**	**13 09 01.0 +0.3**
	comp=Z,306nm,1.3s,mb6.1					
EYAK	**Cordova Ski Ar**	**46.59**	**40**	*e*P	**P**	**13 09 01.7 +0.1**
MENT	**Mentasta**	**47.14**	**37**	*e*P	**P**	**13 09 06.8 +0.9**
JIRN	**Jiri**	**47.28**	**271**	*e*P	**P**	**13 09 07.8 +0.3**
	comp=Z,105nm,0.4s,mb6.2					
GUN	**Gumba**	**47.39**	**272**	*e*P	**P**	**13 09 08.3 0.0**
	comp=Z,241nm,0.3s					
CHKZ	**Chkalovo**	**47.76**	**310**	*i* P	**P**	**13 09 10.1 -0.8**
CHKZ				pmax	pmax	
	comp=Z,57nm,0.8s,mb5.7					
CHKZ	**Chkalovo**	**47.76**	**310**	*e*P	**P**	**13 09 09.7 -1.2**
	comp=Z,88nm,0.9s,mb5.8					
KKN	**Kakani**	**47.90**	**272**	*e*P	**P**	**13 09 11.9 -0.4**
	comp=Z,219nm,0.7s,mb6.3					
PKI	**Pulchoki**	**47.92**	**272**	*e*P	**P**	**13 09 12.1 -0.4**
	comp=Z,126nm,0.7s,mb6.1					
ULHL	**Ulahol**	**47.92**	**294**	P	**P**	**13 09 12.2 -0.1**
	SNR=16					
BVA0	**Borovoye Array**	**48.07**	**310**	*i* P	**P**	**13 09 12.8 -0.5**
TKM2	**Tokmak 2**	**48.10**	**295**	P	**P**	**13 09 14.0 +0.3**
	SNR=152					
BRVK	**Borovoye**	**48.12**	**310**	*e*P	**P**	**13 09 13.0 -0.7**
BRVK				pmax	pmax	
	comp=Z,52nm,1.0s,mb5.5					
BRVK	**Borovoye**	**48.12**	**310**	*e*P	**P**	**13 09 13.0 -0.7**
	comp=Z,52nm,1.0s,mb5.5					
DMN	**Daman**	**48.13**	**272**	*e*P	**P**	**13 09 13.9 -0.2**
	comp=Z,148nm,0.7s,mb6.1					
GKN	**Gorkha**	**48.27**	**273**	*e*P	**P**	**13 09 14.6 -0.6**
	comp=Z,190nm,0.6s,mb6.3					
KBK	**Karagaybulak**	**48.65**	**295**	P	**P**	**13 09 18.0 +0.1**
	SNR=113					
CHMS	**Chumysh**	**48.65**	**296**	P	**P**	**13 09 17.9 0.0**
	SNR=8.8					
KZA	**Kyzart**	**48.66**	**294**	P	**P**	**13 09 19.1 +1.1**
	SNR=34					
USP	**Ospenovka**	**48.72**	**296**	P	**P**	**13 09 17.9 -0.5**
	SNR=24					
FRU	**Bishkek**	**48.80**	**295**	⇑*e*P	**P**	**13 09 19.0 -0.1**
FRU				*e*	pP	13 09 34.0 -1.2
FRU				pmax	pmax	
	comp=Z,130nm,2.2s,mb5.6					
DAWY	**Dawson**	**48.84**	**35**	*e*P	**P**	**13 09 18.8 -0.2**
AAK	**Ala-Archa**	**48.96**	**295**	P	**P**	**13 09 20.1 -0.2**
	SNR=18					
AAK	**Ala-Archa**	**48.96**	**295**	*c i*P	**P**	**13 09 18.4 -1.9**
AAK				pmax	pmax	
	comp=Z,7.0nm,0.5s,mb5.0					
AAK				MLR	MLR	
	comp=Z,1μm,17.0s					
AAK	**Ala-Archa**	**48.96**	**295**	*e*P	**P**	**13 09 18.0 -2.3**
	comp=Z,40nm,0.7s,mb5.5					
UCH	**Uchtor**	**49.11**	**295**	P	**P**	**13 09 21.8 +0.4**
	SNR=12					
KOLN	**Koldanda**	**49.17**	**273**	*e*P	**P**	**13 09 21.8 -0.3**
	comp=Z,141nm,0.7s,mb6.1					
EKS2	**Erkin-Say**	**49.44**	**296**	P	**P**	**13 09 24.0 0.0**
	SNR=7.9					
AML	**Almayashu**	**49.71**	**295**	P	**P**	**13 09 26.5 +0.4**
	SNR=36					
INK	**Inuvik**	**50.23**	**29**	*e*P	**P**	**13 09 29.1 -0.6**
INK				pmax	pmax	
	comp=Z,43nm,0.9s					
INK	**Inuvik**	**50.23**	**29**	*e*P	**P**	**13 09 29.1 -0.7**
	comp=Z,43nm,0.9s,mb5.5					
PTH	**Pithoragarh**	**50.77**	**277**	*e*P	**P**	**13 09 34.0 -0.4**
PMG	**Port Moresby**	**50.83**	**174**	*e*P	**P**	**13 09 32.2 -2.8**
KLP	**Kalpa**	**51.23**	**281**	*e*P	**P**	**13 09 37.9 +0.1**
KLP				*e*		13 09 47.6
	comp=Z,163nm,0.6s					
KLP				*e*S	**S**	**13 16 53.3 +3.2**
SVE	**Sverdlovsk**	**52.23**	**317**	⇑*i*P	**P**	**13 09 44.6 -0.4**
SVE				*e*		13 10 54.3
SVE				pmax	pmax	
	comp=Z,140nm,2.0s,mb5.5					
SVE				MLR	MLR	
	comp=Z,3μm,19.0s					
DLH	**Dalhousie**	**52.40**	**283**	*e*P	**P**	**13 09 47.0 +0.4**
DLH				*e*		13 09 50.0
KKR	**Kurukshetra**	**53.08**	**280**	*e*P	**P**	**13 09 50.4 -1.4**
SOKR	**Solikamsk**	**53.19**	**321**	*i* P	**P**	**13 09 49.2 -2.9**
SOKR				pmax	pmax	
	comp=Z,20nm,0.8s,mb5.1					
SOKR				MLR	MLR	
	comp=Z,550nm,19.0s					
BISR	**Bishrakh**	**53.35**	**278**	*e*P	**P**	**13 09 52.9 -0.9**
ARU	**Arti**	**53.45**	**317**	⇑*i*P	**P**	**13 09 52.0 -2.0**
ARU				*i*		13 10 58.0
ARU				*e*		13 11 49.0
ARU				*e*PPP	PPP	13 12 59.6 -5.5
ARU				*e*S	**S**	**13 17 22.2 +2.2**
ARU				*e*		13 19 35.0
ARU				*e*SS	SS	13 21 04.4 +4.2
ARU				pmax	pmax	
	comp=Z,17nm,0.7s,mb5.1					
ARU				MLR	MLR	
	comp=N,700nm,18.0s					
ARU				MLR	MLR	
	comp=E,2μm,18.0s					
ARU				MLR	MLR	
	comp=Z,2μm,18.0s					
ARU	**Arti**	**53.45**	**317**	*e*P	**P**	**13 09 51.0 -3.1**
	comp=Z,22nm,0.7s,mb5.2					
NDI	**New Delhi**	**53.46**	**278**	*e*P	**P**	**13 09 51.5 -3.0**
AYAN	**Aya Nagar**	**53.63**	**278**	*e*P	**P**	**13 09 54.1 -1.7**
AYAN				*e*		13 09 55.8
	comp=Z,42nm,0.9s					
BHGR	**Bahadurgarh**	**53.66**	**278**	*e*P	**P**	**13 09 55.6 -0.5**
RTK	**Rohtak**	**53.87**	**279**	*e*P	**P**	**13 09 56.4 -1.2**
KUDL	**Kundal**	**54.29**	**278**	*e*P	**P**	**13 09 59.2 -1.4**
KUDL				*e*		13 10 03.8
	comp=Z,37nm,0.6s					
KAKA	**Kakadu**	**54.63**	**192**	⇑*i*P	**P**	**13 10 01.5 -1.8**
	comp=Z,9.8nm,0.5s,mb5.1					
KHET	**Khetri**	**54.84**	**278**	*e*P	**P**	**13 10 02.4 -2.2**
KHET				*e*		13 10 04.4
	comp=Z,16nm,0.4s					
DLBC	**Dease Lake**	**54.86**	**40**	*e*P	**P**	**13 10 05.4 +1.1**
BHPL	**Bhopal**	**56.31**	**272**	*e*P	**P**	**13 10 14.0 -1.3**
RES	**Resolute Bay**	**58.19**	**15**	*e*P	**P**	**13 10 26.1 -1.7**
RES				pmax	pmax	
	comp=Z,29nm,0.8s,mb5.4					
RES	**Resolute Bay**	**58.19**	**15**	*e*P	**P**	**13 10 26.1 -1.7**
	comp=Z,29nm,0.8s,mb5.4					
APA	**Apatity**	**58.89**	**335**	⇑*i*P	**P**	**13 10 31.5 -1.2**
APA				pmax	pmax	
	comp=Z,22nm,0.9s,mb5.2					
HYB	**Hyderabad**	**58.94**	**266**	*e*P	**P**	**13 10 32.0 -1.7**
HYB				pmax	pmax	
	comp=Z,60nm,1.0s,mb5.6					
HYB	**Hyderabad**	**58.94**	**266**	*e*P	**P**	**13 10 32.0 -1.7**
	comp=Z,60nm,1.0s,mb5.6					
HYB	**Hyderabad**	**58.94**	**266**	*i* P	**P**	**13 10 32.0 -1.7**
	comp=Z,60nm,1.0s,mb5.6					
JASL	**Jaisalmer**	**59.10**	**280**	*e*P	**P**	**13 10 33.5 -1.3**
KEV	**Kevo**	**59.50**	**339**	*ep*	**P**	**13 10 35.1 -1.9**
	comp=Z,10.0nm,0.7s,mb5.0					
KEV	**Kevo**	**59.50**	**339**	*e*P	**P**	**13 10 35.1 -1.9**
KEV				pmax	pmax	
	comp=Z,10.0nm,0.7s,mb5.0					
YKW3	**Yellowknife Ar**	**59.70**	**31**	*e*P	**P**	**13 10 37.2 -1.2**
KTK1	**Kautokeino**	**61.01**	**339**	*e*P	**P**	**13 10 47.5 +0.2**
FITZ	**Fitzroy Crossi**	**61.19**	**198**	*e*P	**P**	**13 10 48.6 -0.6**
	comp=Z,14nm,1.2s,mb5.0					
CTA	**Charters Tower**	**61.36**	**176**	*e*P	**P**	**13 10 48.7 -1.6**
	comp=Z,2.4nm,0.6s,mb4.5					
CTAO	**Charters Tower**	**61.36**	**176**	*e*P	**P**	**13 10 48.6 -1.7**
CTAO				pmax	pmax	
	comp=Z,10.0nm,1.0s,mb4.9					
CTAO	**Charters Tower**	**61.36**	**176**	*e*P	**P**	**13 10 48.5 -1.7**
	comp=Z,10nm,1.0s,mb4.9					
DAG	**Danmarks Havn**	**61.41**	**355**	⇑*i*P	**P**	**13 10 48.9 -1.0**
DAG				pmax	pmax	
	comp=Z,12nm,0.7s,mb5.1					
DAG	**Danmarks Havn**	**61.41**	**355**	⇑*i*P	**P**	**13 10 48.9 -1.0**
	comp=Z,12nm,0.7s,mb5.1					
WRAB	**Tennant Creek**	**61.50**	**188**	*e*P	**P**	**13 10 49.1 -2.2**
WRAB				pmax	pmax	
	comp=Z,43nm,1.0s,mb5.5					
WRAB	**Tennant Creek**	**61.50**	**188**	*e*P	**P**	**13 10 49.1 -2.2**
	comp=Z,43nm,1.0s,mb5.5					
WB2	**Warramunga Arr**	**61.51**	**188**	⇑*i*P	**P**	**13 10 49.1 -2.2**
TRO	**Tromso**	**61.71**	**341**	*e*P	**P**	**13 10 49.6 -2.4**
TRO				*ep*P	pP	13 11 08.6 -0.1
POO	**Poona**	**61.79**	**270**	⇑*i*P	**P**	**13 10 52.0 -1.2**
	comp=Z,30nm,1.0s,mb5.4					
KAD	**Karad**	**62.28**	**269**	*i* P	**P**	**13 10 54.9 -1.6**
JOF	**Joensuu**	**62.32**	**331**	*ep*	**P**	**13 10 54.1 -2.1**
	comp=Z,26nm,0.7s,mb5.5					
RPW	**Rockport**	**64.12**	**47**	P	**P**	**13 11 07.9 -0.2**
KAF	**Kangasniemi**	**64.63**	**332**	*ep*	**P**	**13 11 09.0 -2.2**
	comp=Z,15nm,0.6s,mb5.2,baz=47,slow=6.2					
KAF	**Kangasniemi**	**64.63**	**332**	*e*P	**P**	**13 11 09.0 -2.2**
KAF				pmax	pmax	
	comp=Z,15nm,0.6s,mb5.2					
OBN	**Obninsk**	**64.89**	**322**	⇑*i*P	**P**	**13 11 11.3 -1.7**
OBN				*e*		13 11 45.1

OBN e 13 13 32.3
OBN i PS PS 13 20 13.1 -3.9
OBN pmax pmax
comp=Z,37nm,0.9s,mb5.4
OBN MLR MLR
comp=Z,1µm,20.0s
OBN Obninsk 64.89 322 eP **P 13 11 11.0 -2.0**
comp=Z,40nm,0.9s,mb5.5
ASPA Alice Springs 65.24 188⇑iP **P 13 11 14.2 -1.6**
MOR8 Moi Rana 65.40 339 eP **P 13 11 13.8 -2.3**
MOR8 epP pP 13 11 32.6 -0.5
EBG Ellensburg 65.52 48 P **P 13 11 17.6 +0.4**
EDM Edmonton 65.58 40 eP **P 13 11 16.0 -1.4**
EDM e*PP pP 13 11 34.7 +0.3
MBWA Marble Bar 65.67 203 eP **P 13 11 17.0 -1.6**
comp=Z,17nm,1.0s,mb5.0
MBWA epP pP 13 11 37.0 +1.5
SUMG Summit 66.26 0 eP **P 13 11 21.7 +0.2**
comp=Z,54nm,0.7s,mb5.7
HUMO Hull Mountain 66.61 53 eP **P 13 11 24.8 +0.6**
comp=Z,53nm,1.6s,mb5.3
HUMO epP pP 13 11 42.6 +1.4
NEW Newport 66.62 46 eP **P 13 11 22.4 -1.8**
NEW e*PP pP 13 11 41.2 +0.1
VSU Vasula 66.92 329 i P **P 13 11 25.0 -0.9**
KHMM Horse Mountain 67.14 55 eP **P 13 11 28.0 +0.5**
KHMM epP pP 13 11 45.6 +1.1
YBH Yreka Blue Hor 67.27 54 eP **P 13 11 28.8 +0.5**
YBH e*PP pP 13 11 46.7 +1.4
YBH pmax pmax
comp=Z,4.0nm,0.8s
YBH Yreka Blue Hor 67.27 54 eP **P 13 11 28.8 +0.5**
comp=Z,3.8nm,0.8s,mb4.5
YBH epP pP 13 11 46.7 +1.4
GOF Gofitskoye 67.57 311⇓iP **P 13 11 29.5 -0.7**
GOF pmax pmax
comp=Z,80nm,1.0s,mb5.7
LHEM Herd Peak 67.62 54 P **P 13 11 31.4 +0.8**
WALA Waterton Lakes 67.84 44 P **P 13 11 31.1 -0.6**
comp=Z,48nm,1.4s,mb5.3
WALA epP pP 13 11 49.6 +0.8
WDC Whiskeytown Da 68.05 55 eP **P 13 11 32.9 -0.3**
WDC e*PP pP 13 11 49.6 -0.6
WDC pmax pmax
comp=Z,107nm,1.8s,mb5.6
WDC Whiskeytown Da 68.05 55 eP **P 13 11 32.9 -0.3**
comp=Z,107nm,1.8s,mb5.6
WDC epP pP 13 11 49.6 -0.6
KIV Kislovodsk 68.43 310 P **P 13 11 36.8 +1.2**
comp=Z,597nm,0.7s,SNR=9.6
KIV Kislovodsk 68.43 310c iP **P 13 11 35.7 +0.1**
KIV pmax pmax
comp=Z,76nm,0.8s,mb5.8
KIV Kislovodsk 68.43 310 eP **P 13 11 36.4 +0.9**
comp=Z,77nm,0.7s,mb5.8
TI2 Plekhanov 68.56 307⇓iP **P 13 11 36.2 -0.2**
BMO Blue Mountains 68.58 49 eP **P 13 11 36.4 0.0**
comp=Z,38nm,1.4s,mb5.1
BMO epP pP 13 11 53.5 0.0
BMO esP sP 13 12 03.7 +3.5
MOD Modoc 68.61 53 eP **P 13 11 36.5 -0.3**
comp=Z,31nm,1.4s,mb5.0
MOD epP pP 13 11 54.1 +0.4
LBCM Butte Creek Ri 68.62 54 P **P 13 11 36.9 +0.1**
MNK Minsk 69.16 325 eP **P 13 11 35.0 -4.9**
MSO Missoula 69.21 45 eP **P 13 11 39.5 -0.8**
comp=Z,36nm,1.6s,mb5.0
MSO epP pP 13 11 58.0 +0.6
WVOR Wild Horse Val 69.28 51 eP **P 13 11 39.9 -0.9**
WVOR e*PP pP 13 11 58.6 +0.7
WVOR pmax pmax
comp=Z,157nm,2.0s,mb5.6
WVOR Wild Horse Val 69.28 51 eP **P 13 11 39.9 -0.9**
comp=Z,157nm,2.0s,mb5.6
WVOR epP pP 13 11 58.5 +0.6
OHCM Honcut 69.44 55 eP **P 13 11 39.1 -2.7**
GNI Garni 69.51 306 i P **P 13 11 42.4 +0.1**
GNI pmax pmax
comp=Z,16nm,1.0s
GNI MLR MLR
comp=Z,400nm,20.0s
GNI Garni 69.51 306 P **P 13 11 41.1 -1.2**
FFC Flin Flon 69.72 34 eP **P 13 11 40.6 -2.7**
FFC e*PP pP 13 11 59.9 -0.5
FFC pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
FFC Flin Flon 69.72 34 eP **P 13 11 40.6 -2.7**
comp=Z,5.4nm,0.7s,mb4.6
FFC epP pP 13 11 59.9 -0.5
FCC Fort Churchill 69.82 27 eP **P 13 11 42.5 -1.3**
FCC e*PP pP 13 12 02.5 +1.6
FCC pmax pmax
comp=Z,57nm,1.3s,mb5.3
FCC Fort Churchill 69.82 27 eP **P 13 11 42.5 -1.4**
comp=Z,57nm,1.3s,mb5.3
FCC epP pP 13 12 02.5 +1.6
NB2 NORSAR Subarra 70.31 337 P **P 13 11 45.8 -1.0**
comp=Z,22nm,0.7s,mb5.2,baz=37,slow=6.2
NB2 NORSAR Subarra 70.31 337 P **P 13 11 45.8 -1.0**
baz=37,slow=6.2
SOC Sochi 70.36 311 i P **P 13 11 46.4 -0.9**
SOC e pP 13 12 05.2 +0.7
SOC e 13 14 19.0
SOC ePPP PPP 13 16 00.4 -5.7
SOC e 13 21 47.4
SOC eSSS SSS 13 28 39.7 +7.0
SOC pmax pmax
comp=Z,695nm,22.0s
SOC MLR MLR
comp=Z,357nm,16.0s
SOC MLR MLR
comp=N,599nm,17.0s
SOC MLR MLR
comp=E,185nm,14.0s
HRY Holter Researc 70.40 45 eP **P 13 11 47.1 -0.4**
HRY epP pP 13 12 06.0 +1.3
WBK Wadi Bani Khal 70.41 283⇑⇑P **P 13 11 48.6 +0.6**
SNR=15
BIDO Bidbid 70.47 284⇓P **P 13 11 49.2 +0.8**
SNR=10.0
PAHR Pah Rah Range 70.50 54 eP **P 13 11 46.0 -2.3**
comp=E,17nm,0.8s,mb5.0
WCN Washoe City 70.52 55 eP **P 13 11 49.1 +0.7**
WCN e*PP pP 13 12 05.2 -0.4
WCN pmax pmax
comp=Z,129nm,1.6s,mb5.6
WCN Washoe City 70.52 55 eP **P 13 11 49.1 +0.7**
comp=Z,129nm,1.6s,mb5.6
WCN epP pP 13 12 05.2 -0.3
SMDO Samad 70.81 284⇑⇑P **P 13 11 50.5 +0.1**
CMB Columbia Colle 70.91 56 eP **P 13 11 50.6 -0.2**
CMB e*PP pP 13 12 08.1 +0.2
CMB pmax pmax
comp=Z,79nm,1.6s,mb5.4
CMB Columbia Colle 70.91 56 eP **P 13 11 50.6 -0.2**
comp=Z,79nm,1.6s,mb5.4
CMB epP pP 13 12 08.1 +0.1
HLID Hailey 71.01 48 eP **P 13 11 51.1 -0.1**
comp=Z,29nm,1.5s,mb5.0
HLID epP pP 13 12 09.2 +0.8
HOQ Hoqain 71.03 285⇑⇑P **P 13 11 51.6 -0.1**
SNR=14
JMDO Jabal Madar 71.19 283⇓P **P 13 11 52.4 -0.2**
SNR=26
BMN Battle Mountai 71.35 52 eP **P 13 11 52.6 -0.8**
BMN pmax pmax
comp=Z,77nm,1.7s,mb5.4
BMN Battle Mountai 71.35 52 eP **P 13 11 52.6 -0.8**
comp=Z,77nm,1.7s,mb5.3
LRV Little Rabbit 71.50 58 eP **P 13 11 56.4 +2.0**
LRV epP pP 13 12 13.5 +2.0
BSY Bisya 71.62 284⇑⇑P **P 13 11 54.9 -0.3**
SNR=12
EZM Erzurum 71.71 307 eP **P 13 11 54.5 -1.1**
ARQ Araqi 71.75 285⇓P **P 13 11 55.2 -0.8**
SNR=13
OMM Old Mammoth Mi 72.03 56 eP **P 13 11 58.9 +1.4**
OMM epP pP 13 12 15.8 +1.1
MNV Mina 72.04 54 eP **P 13 11 57.7 +0.2**
MNV e*PP pP 13 12 15.2 +0.5
MNV pmax pmax
comp=Z,60nm,1.6s,mb5.3
MNV Mina 72.04 54 eP **P 13 11 57.6 +0.1**
comp=Z,60nm,1.6s,mb5.3
MNV epP pP 13 12 15.2 +0.5
VRT Varto 72.09 307 eP **P 13 11 59.9 +2.1**
YNR Norris Junctio 72.31 46 eP **P 13 11 59.2 +0.2**
YNR epP pP 13 12 18.8 +2.6
GUMT Gumushane 72.47 309 i P **P 13 12 00.8 +0.8**
SIM Simferopol' 72.56 315d iP **P 13 12 01.3 +0.9**
SIM pmax pmax
comp=Z,70nm,0.8s,mb5.6
SIM MLR MLR
comp=Z,860nm,17.7s
TPH Tonopah 72.84 54 eP **P 13 12 02.3 +0.1**
TPH e*PP pP 13 12 20.0 +0.6
TPH pmax pmax
comp=Z,77nm,1.5s,mb5.4
TPH Tonopah 72.84 54 eP **P 13 12 02.2 +0.1**
comp=Z,78nm,1.5s,mb5.4
TPH epP pP 13 12 20.0 +0.6
BINT Bingol 72.88 307 eP **P 13 12 03.6 +1.2**
MOOW Moose Ponds 72.92 46 eP **P 13 12 02.9 +0.4**
MOOW epP pP 13 12 21.1 +1.4
TPAW Teton Pass 72.97 47 eP **P 13 12 03.5 +0.6**
TPAW epP pP 13 12 22.2 +2.2
STKA Stephens Creek 72.98 180 eP **P 13 12 03.2 +0.1**
comp=Z,5.0nm,0.8s,mb4.5
HVU Hansel Valley 73.08 49 eP **P 13 12 03.7 +0.2**
LOHW Long Hollow 73.08 46 eP **P 13 12 04.5 +1.1**
LOHW epP pP 13 12 22.9 +2.2
LAO LASA Array 73.31 42 P **P 13 12 04.2 -0.5**
comp=Z,38nm,1.1s,mb5.2
BGU Big Grassy Mou 73.49 50 eP **P 13 12 03.6 -2.3**
BGU epP pP 13 12 24.0 +0.8
PTK Pertek 73.53 307 P **P 13 12 07.6 +1.4**
SPUT South Promonto 73.57 49 P **P 13 12 05.8 -0.6**
TRCR Troy Canyon 73.65 53 eP **P 13 12 07.4 +0.4**
TRCR epP pP 13 12 24.9 +0.7
LVV L'vov 74.12 324 eP **P 13 12 08.7 -0.7**
LVV e pP 13 12 21.7 -5.0
LVV MLR MLR
comp=N,420nm,18.2s
LVV MLR MLR
comp=Z,650nm,18.2s
NOQ North Oquirrh 74.19 50 P **P 13 12 10.7 +0.7**
NOQ epP pP 13 12 28.4 +1.1
TCUT Toone Canyon 74.29 49 eP **P 13 12 11.8 +1.2**
TCUT epP pP 13 12 30.2 +2.3
MALT Malatya 74.48 308 eP **P 13 12 12.6 +0.8**
MALT pmax pmax
comp=Z,14nm,0.6s,mb5.1
MALT Malatya 74.48 308 eP **P 13 12 12.6 +0.8**
comp=Z,14nm,0.6s,mb5.1
BYBT Boyabat 74.52 312 eP **P 13 12 12.7 +0.8**
BZK Bozkurt 74.61 313 eP **P 13 12 12.2 -0.2**
NLU North Lily Min 74.67 50 eP **P 13 12 12.5 -0.3**
URFA Urfa 74.81 307 eP **P 13 12 13.3 -0.4**
DAU Daniels Canyon 74.84 49 eP **P 13 12 08.9 -4.9**
KWP Kalwaria 74.85 324 eP **P 13 12 14.2 +0.6**
MPU Maple Canyon 74.89 50 eP **P 13 12 14.4 +0.3**
MPU epP pP 13 12 32.1 +0.8
TOS Tosya 75.22 312 P **P 13 12 17.1 +1.2**
CFR Carcaliu 75.49 318⇑iP **P 13 12 17.1 -0.3**
KOLS Kolonicke sedl 75.56 324 eP **P 13 12 17.9 +0.2**
KOLS e pP 13 12 33.2 -1.8
KOLS ePP PP 13 15 02.3 -7.2
MVU Marysvale 75.56 51 eP **P 13 12 18.3 +0.4**
comp=Z,58nm,1.9s,mb5.2
MVU epP pP 13 12 35.5 +0.3
MSU Marysvale 75.57 51 eP **P 13 12 18.3 +0.3**
MSU e*PP pP 13 12 36.7 +1.4
TMUT Trail Mountain 75.61 50 eP **P 13 12 19.4 +1.2**
TMUT epP pP 13 12 35.4 -0.1
BNN Bunyan 75.64 309 i P **P 13 12 19.2 +0.8**
OJC Ojcow 75.66 326 eP **P 13 12 18.6 +0.3**
VRI Vrincioaia 75.70 319⇑iP **P 13 12 18.1 -0.5**
SAFT Safranbolu 75.82 313 eP **P 13 12 20.2 +0.9**
NEN Nelson 75.86 55 eP **P 13 12 19.6 -0.1**
NEN epP pP 13 12 37.7 +0.7
CRVS Cervenica-Dubn 75.94 324 eP **P 13 12 20.2 +0.4**
GAZ Gaziantep 75.95 307 P **P 13 12 21.1 +0.9**
NIE Niedzica 76.05 325 eP **P 13 12 21.5 +1.0**
SRU San Rafael 76.13 50 eP **P 13 12 20.5 -0.7**
PFO Pinyon Flat Ob 76.18 57 eP **P 13 12 21.1 -0.5**
PFO e*PP pP 13 12 39.9 +1.0
PFO pmax pmax
comp=Z,92nm,1.9s,mb5.4
PFO Pinyon Flat Ob 76.18 57 eP **P 13 12 21.1 -0.5**
comp=Z,92nm,1.9s,mb5.4
PFO epP pP 13 12 39.9 +1.0
ISR Istrita 76.33 319⇑iP **P 13 12 22.4 +0.2**
BSEG Bad Segeberg 76.35 333 eP **P 13 12 22.0 -0.1**
KAMT Kaman 76.52 311 i P **P 13 12 23.7 +0.3**
KSP Ksiaz 76.62 328 eP **P 13 12 24.2 +0.5**
KSP e 13 12 35.4
KSP Ksiaz 76.62 328 eP **P 13 12 24.6 +1.0**
OKC Ostrava-Krasne 76.64 326 eP **P 13 12 24.7 +0.9**
OKC AMS AMS 13 48 40.0
comp=Z,1µm,20.6s
KECS Kecovo 76.68 324 eP **P 13 12 24.5 +0.4**
ANTO Ankara 76.70 312 eP **P 13 12 22.0 -2.4**
NIG Nigde 76.86 309 P **P 13 12 26.5 +1.2**
MORC Moravsky Berou 76.94 327 eP **P 13 12 25.4 -0.1**
MORC pmax pmax
comp=Z,21nm,0.7s,mb5.2
MORC Moravsky Berou 76.94 327 eP **P 13 12 25.4 -0.1**
comp=Z,21nm,0.7s,mb5.2
DPC Dobruska-Polom 76.99 328 eP **P 13 12 26.4 +0.6**
DPC AMS AMS 13 48 50.0
comp=Z,800nm,20.1s
UPC Upice 76.99 328 eP **P 13 12 26.5 +0.7**
WHFO Wadi Hawf 77.13 283⇑⇑P **P 13 12 25.7 -1.5**
SNR=10
MDU Mudurnu 77.17 313 P **P 13 12 27.7 +0.7**
HTY Hatay 77.30 307 eP **P 13 12 27.2 -0.5**
PSZ Piszkesteto 77.36 324 eP **P 13 12 28.1 +0.2**
PSZ pmax pmax
comp=Z,21nm,0.8s,mb5.1
PSZ Piszkesteto 77.36 324 eP **P 13 12 28.1 +0.2**
comp=Z,21nm,0.8s,mb5.1
PSZ Piszkesteto 77.36 324 eP **P 13 12 28.8 +0.9**
VYHS Vyhne 77.39 325 i P **P 13 12 28.5 +0.5**
PV10 Paradox Valley 77.48 50 eP **P 13 12 29.3 +0.6**
NWAO Narrogin (SRO) 77.49 201 eP **P 13 12 28.2 -0.7**
NWAO e*PP pP 13 12 45.8 -0.4
NWAO pmax pmax
comp=Z,73nm,1.6s
NWAO Narrogin (SRO) 77.49 201 eP **P 13 12 28.2 -0.7**
comp=Z,73nm,1.6s,mb5.4
NWAO epP pP 13 12 45.8 -0.4
BRG Berggiesshubel 77.51 329 eP **P 13 12 28.6 0.0**
BRG pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BRG Berggiesshubel 77.51 329 eP **P 13 12 28.6 0.0**
comp=Z,7.0nm,0.8s,mb4.6
CLL Collm 77.52 330⇑iP **P 13 12 28.3 -0.4**
CLL pmax pmax
comp=Z,23nm,0.8s,mb5.2
CLL Collm 77.52 330⇑iP **P 13 12 28.3 -0.4**
comp=Z,23nm,0.8s,mb5.2
CLL i pP 13 12 49.3 +3.3
CLL i 13 12 59.2
CLL Collm 77.52 330⇑⇑P **P 13 12 28.3 -0.4**
comp=Z,logA/T=1.5,mb5.2
CLL i *PP pP 13 12 49.3 +3.3
CLL i *SP sP 13 12 53.3 +0.4
CLL i 13 12 59.2
PVCC Panska Ves 77.55 329 eP **P 13 12 29.2 +0.4**
PVCC AMS AMS 13 49 00.0
ABTO Aybut 77.84 282⇓P **P 13 12 29.9 -1.1**
SNR=8.8
KIZT Kizilcal 77.89 311 P **P 13 12 31.1 +0.1**
SMOL Smolenice 77.97 326 eP **P 13 12 32.7 +1.5**
PRU Pruhonice 77.98 328 eP **P 13 12 31.5 +0.3**
PRU AMS AMS 13 49 50.0
comp=Z,1µm,11.0s
ESKT Eskisehir 78.03 313 P **P 13 12 31.7 0.0**
CLZ Clausthal 78.05 332 eP **P 13 12 31.8 +0.2**
comp=Z,24nm,0.9s,mb5.1
ISCO Idaho Springs 78.41 47 eP **P 13 12 34.9 +1.1**
ISCO e*PP pP 13 12 53.6 +2.4
ISCO pmax pmax
comp=Z,20nm,1.2s,mb4.9
ISCO Idaho Springs 78.41 47 eP **P 13 12 34.9 +1.1**
comp=Z,20nm,1.2s,mb4.9
ISCO epP pP 13 12 53.5 +2.4
MOX Moxa 78.58 330 eP **P 13 12 34.5 0.0**
MOX Moxa 78.58 330 i P **P 13 12 34.5 0.0**
NKC Novy Kostel 78.60 330 eP **P 13 12 35.1 +0.5**
NKC AMS AMS 13 49 40.0
comp=Z,1µm,22.0s
IKL Isikli 78.67 309 P **P 13 12 36.0 +0.6**
BNT Bandirma 79.03 315 eP **P 13 12 37.5 +0.3**
KHC Kasperske Hory 79.05 328 eP **P 13 12 37.5 +0.4**
KHC AMS AMS 13 47 30.0
comp=Z,800nm,21.2s
GEC2 GERESS Array S 79.23 328 eP **P 13 12 37.9 -0.2**
GEC2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
GEC2 GERESS Array S 79.23 328 eP **P 13 12 37.9 -0.2**
comp=Z,10.0nm,0.8s,mb4.8
WET Wettzell 79.31 329 eP **P 13 12 38.9 +0.4**
WET pmax pmax
comp=Z,12nm,1.0s,mb4.8
WET Wettzell 79.31 329 eP **P 13 12 38.9 +0.4**
comp=Z,12nm,1.0s,mb4.8
PGB Panagyurishte 79.38 318 eP **P 13 12 40.0 +1.0**
GRA1 Grafenberg Arr 79.50 330 eP **P 13 12 39.9 +0.3**
comp=Z,43nm,0.8s,mb5.4
GRF Grafenberg Arr 79.50 330 eP **P 13 12 39.9 +0.3**
GRF pmax pmax
comp=Z,43nm,0.8s,mb5.4
GRF Grafenberg Arr 79.50 330 eP **P 13 12 39.9 +0.3**
GRF pmax pmax
comp=Z,43nm,0.8s,mb5.4
GRF Grafenberg Arr 79.50 330 eP **P 13 12 39.9 +0.3**
comp=Z,43nm,0.8s,mb5.4
KSHT Keshet 79.61 305 P **P 13 12 40.8 +0.3**
ARSA Arzberg 79.75 326⇑iP **P 13 12 41.6 +0.6**
comp=Z,12nm,1.1s,mb4.7
CSS Prodhromos 79.76 308 eP **P 13 12 41.2 -0.1**
comp=Z,57nm,0.7s,mb5.6
MOA Molln 79.80 327⇑iP **P 13 12 41.5 +0.3**
comp=Z,6.5nm,0.7s,mb4.7
VTS Vitosha 79.82 319 eP **P 13 12 42.0 +0.6**
SDCO Great Sand Dun 79.92 48 eP **P 13 12 42.7 +0.6**
comp=Z,22nm,1.4s,mb4.9
SDCO epP pP 13 12 59.0 -0.4
HNTI Hanita 79.94 305 P **P 13 12 42.5 +0.2**
GRUS Gruza 80.05 321⇓iP **P 13 12 42.6 0.0**
AKS Akhisar 80.14 314 P **P 13 12 43.2 0.0**
HMDT Nahal Hemdat 80.28 305 P **P 13 12 44.5 +0.4**
MMB Musomiste 80.31 318 eP **P 13 12 45.0 +0.9**
OFRI 'Ofer 80.37 305 P **P 13 12 44.6 0.0**
KKB Krupnik 80.42 319 eP **P 13 12 45.0 +0.3**
TOD Tromm 80.46 331 eP **P 13 12 45.4 +0.7**
ELL Elmali 80.50 311 P **P 13 12 45.4 +0.2**
SLTI Sal'it 80.59 305 P **P 13 12 46.1 +0.3**
TUC Tucson 80.59 55 P **P 13 12 45.9 +0.1**
TUC e*PP pP 13 13 04.1 +0.9
TUC pmax pmax
comp=Z,15nm,1.3s,mb4.8
TUC Tucson 80.59 55 P **P 13 12 45.9 +0.1**
comp=Z,15nm,1.3s,mb4.8
TUC epP pP 13 13 04.1 +0.9
ABH Alteburg 80.68 332 eP **P 13 12 45.6 -0.2**
MKRJ Makawir 80.69 304 P **P 13 12 46.8 +0.5**
FUR Furstenfeldbru 80.73 329 eP **P 13 12 46.3 +0.2**
OBKA Obir 80.75 326⇑iP **P 13 12 46.6 +0.3**
comp=Z,28nm,0.7s,mb5.3
KBA Koelnbreinsper 80.79 327⇑iP **P 13 12 47.0 +0.5**
comp=Z,25nm,0.8s,mb5.2
KBA Koelnbreinsper 80.79 327⇑iP **P 13 12 47.0 +0.5**
KBA pmax pmax
comp=Z,25nm,0.8s,mb5.2
DRGI Dragot 80.82 304 P **P 13 12 47.2 +0.2**
STU Stuttgart 81.01 331 eP **P 13 12 48.1 +0.5**
STU pmax pmax
comp=Z,29nm,0.7s,mb5.3
STU Stuttgart 81.01 331 eP **P 13 12 48.0 +0.4**
comp=Z,29nm,0.7s,mb5.3
PLE Pljevlja 81.10 322⇑iP **P 13 12 48.7 +0.5**
SKO Skopje 81.15 320 ePn **P 13 12 49.5 +1.0**
IVA Berane 81.21 321⇑iP **P 13 12 48.7 -0.1**
BOJS Bojanci 81.25 325 eP **P 13 12 49.1 +0.2**
WATA Walderalm 81.29 328⇑iP **P 13 12 49.5 +0.4**
comp=Z,10.0nm,1.0s,mb4.7
WATA Walderalm 81.29 328⇑iP **P 13 12 49.5 +0.4**
WATA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
WTTA Wattenberg 81.32 328⇓iP **P 13 12 50.0 +0.7**
comp=Z,26nm,0.7s,mb5.3
WTTA Wattenberg 81.32 328⇓iP **P 13 12 50.0 +0.7**
WTTA pmax pmax
comp=Z,26nm,0.7s,mb5.3
LAZ Ladron 81.34 51 eP **P 13 12 50.6 +0.9**
LAZ epP pP 13 13 08.4 +1.3
ANMO Albuquerque 81.35 51 eP **P 13 12 49.3 -0.4**
ANMO e*PP pP 13 13 07.4 +0.3
ANMO pmax pmax
comp=Z,12nm,1.1s
ANMO Albuquerque 81.35 51 eP **P 13 12 49.3 -0.4**
comp=Z,12nm,1.1s,mb4.7
ANMO epP pP 13 13 07.4 +0.2
PVY Plav 81.39 321⇑iP **P 13 12 48.7 -1.0**
ROBS Robic 81.39 327 eP **P 13 12 48.7 -1.0**
UPM Unac-Piva 81.42 322⇑iP **P 13 12 49.6 -0.3**
GIVF Givet 81.42 334 eP **P 13 12 49.2 -0.5**
MOTA Moosalm 81.47 329⇑iP **P 13 12 50.3 +0.3**
comp=Z,13nm,0.9s,mb4.8
MOTA Moosalm 81.47 329⇑iP **P 13 12 50.3 +0.3**
MOTA pmax pmax
comp=Z,13nm,0.9s,mb4.9
SQTA Sankt Quirin 81.53 329⇑iP **P 13 12 50.7 +0.4**
comp=Z,8.6nm,0.9s,mb4.7
SQTA Sankt Quirin 81.53 329⇑iP **P 13 12 50.7 +0.4**
SQTA pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ZFRI Zfri 81.66 303 P **P 13 12 51.8 +0.4**
NKY Niksic 81.68 321⇑iP **P 13 12 50.8 -0.4**
BFO Black Forest 81.70 331 eP **P 13 12 51.5 +0.3**
BFO pmax pmax
comp=Z,20nm,0.9s,mb5.0
BFO Black Forest 81.70 331 eP **P 13 12 51.5 +0.3**
comp=Z,20nm,0.9s,mb5.0
LPM Los Pinos Moun 81.70 51 eP **P 13 12 52.2 +0.7**
BNM Barren Site 81.81 51 eP **P 13 12 52.8 +0.7**
BRY Bratogost 81.82 322⇑iP **P 13 12 51.5 -0.5**
TTG Podgorica 81.85 321⇑iP **P 13 12 51.8 -0.3**
KZIT Kziot 81.91 304 P **P 13 12 52.9 +0.2**
PRNI Paran 81.91 303 P **P 13 12 53.2 +0.5**
DAVA Damuels 81.99 329⇑iP **P 13 12 53.4 +0.7**
comp=Z,24nm,0.7s,mb5.2
CDF Champ du Feu 82.01 331⇑iP **P 13 12 52.7 -0.1**
comp=Z,21nm,0.8s,mb4.7
CDF Champ du Feu 82.01 331⇑iP **P 13 12 52.7 -0.1**
CDF pmax pmax
comp=Z,11nm,0.8s,mb4.8
BUM Brajici-Budva 82.12 321 eP **P 13 12 52.6 -0.9**
HCY Herceg Novi 82.19 322⇑iP **P 13 12 53.3 -0.6**
FELD Feldberg 82.20 331 eP **P 13 12 52.9 -0.9**
ULC Ulcinj 82.22 321⇑iP **P 13 12 54.0 0.0**
ECH Echery 82.22 331 eP **P 13 12 55.1 +1.2**
AQBJ Aqaba 82.31 303 P **P 13 12 55.2 +0.5**
MBH Mount Berech 82.35 303 P **P 13 12 55.4 +0.4**
EIL Elat 82.41 303 P **P 13 12 55.6 +0.3**
EIL Elat 82.41 303 eP **P 13 12 55.8 +0.5**
comp=Z,25nm,0.9s,mb5.1
HINF Hinteralfeld 82.67 331⇑iP **P 13 12 55.7 -0.5**
comp=Z,12nm,0.7s,mb4.7
HINF Hinteralfeld 82.67 331⇑iP **P 13 12 55.7 -0.5**
HINF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
HAU Haudompre 82.69 332⇑iP **P 13 12 56.0 -0.3**
comp=Z,23nm,0.8s,mb4.9
HAU eR
comp=Z,649nm,21.2s
HAU Haudompre 82.69 332⇑iP **P 13 12 56.0 -0.3**
HAU pmax pmax
comp=Z,12nm,0.8s,mb5.0
HAU MLR MLR
comp=Z,650nm,21.3s
CABF La Chapelle 83.97 331 eP **P 13 13 02.9 +0.2**
ORX Oropa 84.09 330 P **P 13 13 03.6 +0.2**
AMTX Amarillo 84.12 48 eP **P 13 13 04.9 +1.1**
comp=Z,15nm,1.0s,mb5.1
AMTX epP pP 13 13 21.1 -0.3
GRAM 84.23 328 P **P 13 13 04.0 -0.1**
FLN La Foliniere 84.28 336⇑iP **P 13 13 04.1 -0.1**
comp=Z,24nm,0.6s,mb5.2

FLN eR
comp=Z,822nm,21.5s
FLN La Foliniere 84.28 336⇑iP P 13 13 04.1 -0.1
FLN pmax pmax
comp=Z,12nm,0.6s,mb5.2
FLN MLR MLR
comp=Z,820nm,21.5s
TRAV 84.28 330 P **P 13 13 03.9 -0.5**
MNTX Cornudas Mount 84.29 52 eP **P 13 13 05.1 +0.4**
comp=Z,18nm,1.1s,mb5.1
MNTX epP pP 13 13 22.2 -0.1
LDF La Druitiere 84.32 336⇑iP P 13 13 04.8 +0.4
comp=Z,26nm,0.6s,mb5.2
LDF La Druitiere 84.32 336⇑iP P 13 13 04.8 +0.4
LDF pmax pmax
comp=Z,13nm,0.6s,mb5.2
SARO Sassorosso 84.34 327 P **P 13 13 05.6 +0.9**
CODM 84.40 328 P **P 13 13 05.6 +0.6**
BACM 84.40 328 P **P 13 13 04.9 0.0**
VINC Vinca 84.48 327 P **P 13 13 05.5 +0.1**
SSF Saint Saulge 84.49 333⇑iP P 13 13 05.5 +0.2
SSF pmax pmax
comp=Z,11nm,0.7s,mb5.1
SSF Saint Saulge 84.49 333⇑iP P 13 13 05.5 +0.2
comp=Z,11nm,0.7s,mb5.1
MAIM 84.53 327 P **P 13 13 04.8 -0.8**
GDL2 Guadalupe Moun 84.53 51 eP **P 13 13 06.2 +0.3**
GDL2 epP pP 13 13 24.5 +1.0
LSD Ceresole Reale 84.55 330 P **P 13 13 06.8 +1.1**
AQU L'Aquila 84.58 324 eP **P 13 13 06.4 +0.5**
AQU pmax pmax
comp=Z,20nm,0.7s,mb5.4
AQU L'Aquila 84.58 324 eP **P 13 13 06.4 +0.5**
comp=Z,20nm,0.7s,mb5.4
HYF Humbligny 84.60 334 eP **P 13 13 06.4 +0.5**
LPL La Plagne 84.66 330⇑iP P 13 13 07.1 +0.9
comp=Z,55nm,0.7s,mb5.5
LPL La Plagne 84.66 330⇑iP P 13 13 07.1 +0.9
LPL pmax pmax
comp=Z,28nm,0.7s,mb5.5
LPG La Plagne 84.67 330⇑iP P 13 13 07.2 +0.9
comp=Z,75nm,0.6s,mb5.7
LPG La Plagne 84.67 330⇑iP P 13 13 07.2 +0.9
LPG pmax pmax
comp=Z,38nm,0.6s,mb5.7
CII Carovilli 84.68 324 eP **P 13 13 07.4 +0.9**
comp=Z,20nm,0.9s,mb5.2
GRR Gorron 84.73 336⇑iP P 13 13 06.7 +0.2
comp=Z,32nm,0.7s,mb5.3
GRR Gorron 84.73 336⇑iP P 13 13 06.7 +0.2
GRR pmax pmax
comp=Z,16nm,0.7s,mb5.3
SMF Signal de Mont 84.73 333⇑iP P 13 13 06.8 +0.2
comp=Z,50nm,0.9s,mb5.4
SMF Signal de Mont 84.73 333⇑iP P 13 13 06.8 +0.2
SMF pmax pmax
comp=Z,25nm,0.9s,mb5.3
RSP Reno Superiore 84.77 330 P **P 13 13 06.7 -0.1**
CLNB Carlsbad 84.77 51 eP **P 13 13 08.1 +0.9**
CLNB epP pP 13 13 25.5 +0.8
AVF Avril sur Loir 84.77 333⇑iP P 13 13 07.1 +0.3
comp=Z,48nm,0.6s,mb5.5
AVF Avril sur Loir 84.77 333⇑iP P 13 13 07.1 +0.3
AVF pmax pmax
comp=Z,24nm,0.6s,mb5.5
PCP Pian Castagno 84.79 329 P **P 13 13 07.4 +0.5**
FENE Fenestrelle 84.95 330 P **P 13 13 08.4 +0.7**
BHB Bricherasio 85.03 330 P **P 13 13 07.2 -0.9**
BNI Bardonecchia 85.07 330 eP **P 13 13 08.3 0.0**
BNI pmax pmax
comp=Z,17nm,0.8s,mb5.2
BNI Bardonecchia 85.07 330 eP **P 13 13 08.3 0.0**
comp=Z,18nm,0.8s,mb5.2
RRL Cesana Torines 85.14 330 P **P 13 13 09.2 +0.6**
BGF Bois d'Agland 85.15 333 eP **P 13 13 09.6 +1.0**
comp=Z,13nm,0.5s,mb5.0
BGF Bois d'Agland 85.15 333 eP **P 13 13 09.6 +1.0**
BGF pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
FIN Finale Ligure 85.20 329 P **P 13 13 08.4 -0.5**
ROB Roburent 85.26 329 P **P 13 13 08.6 -0.6**
MBDF Montbardon 85.31 330⇑iP P 13 13 09.6 +0.1
comp=Z,54nm,0.6s,mb5.5
MBDF Montbardon 85.31 330⇑iP P 13 13 09.6 +0.1
MBDF pmax pmax
comp=Z,27nm,0.6s,mb5.5
SGMF Saint Gilles 85.35 337⇑iP P 13 13 10.1 +0.5
comp=Z,9.7nm,0.4s,mb5.0
SGMF Saint Gilles 85.35 337⇑iP P 13 13 10.1 +0.5
SGMF pmax pmax
comp=Z,5.0nm,0.4s,mb5.0
PZZ Prazzo 85.38 329 P **P 13 13 08.2 -1.6**
PLDF La Plantade 85.39 332 eP **P 13 13 12.5 +2.7**
ORIF Oris-en-Rattie 85.48 330⇑iP P 13 13 10.9 +0.6
comp=Z,59nm,0.7s,mb5.5
ORIF eR
comp=Z,514nm,21.0s
ROSF Rostrenen 85.48 338⇑iP P 13 13 10.8 +0.6
comp=Z,32nm,0.6s,mb5.3
ROSF Rostrenen 85.48 338⇑iP P 13 13 10.8 +0.6
ROSF pmax pmax
comp=Z,16nm,0.6s,mb5.3
ENR Entracque 85.49 329 P **P 13 13 10.3 -0.1**
AGO Saint Agoulin 85.49 333 eP **P 13 13 13.4 +3.1**
IMI Imperia 85.57 329 P **P 13 13 10.4 -0.4**
TCF Toulx Ste Croi 85.60 333⇑iP P 13 13 11.4 +0.6
comp=Z,30nm,0.9s,mb5.2
TCF Toulx Ste Croi 85.60 333⇑iP P 13 13 11.4 +0.6
TCF pmax pmax
comp=Z,15nm,0.9s,mb5.2
TOUF Mont Tournerai 85.73 329 eP **P 13 13 11.4 -0.2**
SBF Sospel 85.79 329 eP **P 13 13 11.5 -0.3**
comp=Z,61nm,0.7s,mb5.6
SBF Sospel 85.79 329 eP **P 13 13 11.5 -0.3**
SBF pmax pmax
comp=Z,30nm,0.7s,mb5.6
PYM Petit Puy Mans 85.80 333 eP **P 13 13 14.1 +2.3**
WMOK Wichita Mounta 85.82 46 eP **P 13 13 12.2 0.0**
WMOK e*PP pP 13 13 30.4 +0.5
WMOK pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
WMOK Wichita Mounta 85.82 46 eP **P 13 13 12.2 0.0**
comp=Z,2.6nm,0.7s,mb4.6
WMOK epP pP 13 13 30.4 +0.5
QUIF Quistinic 85.83 337⇑iP P 13 13 12.2 +0.3
comp=Z,40nm,0.7s,mb5.5
QUIF Quistinic 85.83 337⇑iP P 13 13 12.2 +0.3
QUIF pmax pmax
comp=Z,20nm,0.7s,mb5.5
MVIF Mont Vial 85.87 329 eP **P 13 13 11.6 -0.6**
VIVF Saint-Julien-l 85.98 331⇑iP P 13 13 13.4 +0.7
comp=Z,40nm,0.7s,mb5.4
VIVF Saint-Julien-l 85.98 331⇑iP P 13 13 13.4 +0.7
VIVF pmax pmax
comp=Z,20nm,0.7s,mb5.5
MFF Saint Martin d 86.09 335⇑iP P 13 13 14.1 +0.8
comp=Z,43nm,0.8s,mb5.4
MFF Saint Martin d 86.09 335⇑iP P 13 13 14.1 +0.8
MFF pmax pmax
comp=Z,22nm,0.8s,mb5.4
LBL Lubilhac 86.16 332 eP **P 13 13 15.3 +1.7**
FRF La Foret Royal 86.35 329 eP **P 13 13 15.4 +0.8**
SMRF Simiane la Rot 86.40 330 eP **P 13 13 16.1 +1.3**
comp=Z,28nm,1.0s,mb5.1
LMR La Mourre 86.60 329 eP **P 13 13 16.2 +0.4**
comp=Z,29nm,0.8s,mb5.3
LMR La Mourre 86.60 329 eP **P 13 13 16.2 +0.4**
LMR pmax pmax
comp=Z,15nm,0.8s,mb5.3
RJF Les Rejaudoux 86.70 333⇑iP P 13 13 17.0 +0.8
comp=Z,45nm,0.7s,mb5.5
RJF eR
comp=Z,1μm,21.0s
RJF Les Rejaudoux 86.70 333⇑iP P 13 13 17.0 +0.8
RJF pmax pmax
comp=Z,22nm,0.7s,mb5.5
RJF MLR MLR
comp=Z,1μm,21.0s
CAF Calviac 86.84 333⇑iP P 13 13 18.2 +1.2
comp=Z,87nm,0.7s,mb5.8
CAF Calviac 86.84 333⇑iP P 13 13 18.2 +1.2
CAF pmax pmax
comp=Z,44nm,0.7s,mb5.8
LASF Ste Croix 86.95 331 eP **P 13 13 18.4 +0.9**
comp=Z,20nm,0.9s,mb5.0

LTX Lajitas 87.02 53 eP **P 13 13 19.0 +0.8**
LTX e*PP pP 13 13 36.7 +0.8
LTX pmax pmax
comp=Z,26nm,1.3s,mb5.3
LTX Lajitas 87.02 53 eP **P 13 13 19.0 +0.8**
comp=Z,26nm,1.3s,mb5.3
LTX epP pP 13 13 36.7 +0.8
LFF La Frestale 87.28 334⇑iP P 13 13 20.2 +1.1
comp=Z,67nm,0.7s,mb5.7
LFF La Frestale 87.28 334⇑iP P 13 13 20.2 +1.1
LFF pmax pmax
comp=Z,33nm,0.7s,mb5.7
MTLF Montolieu 88.17 332 eP **P 13 13 24.2 +0.8**
comp=Z,9.0nm,0.7s,mb4.8
MTLF Montolieu 88.17 332 eP **P 13 13 24.2 +0.8**
MTLF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
JCT Junction City 88.44 50 eP **P 13 13 25.4 +0.4**
JCT e*PP pP 13 13 44.1 +1.4
JCT pmax pmax
comp=Z,58nm,1.7s,mb5.5
JCT Junction City 88.44 50 eP **P 13 13 25.4 +0.4**
comp=Z,58nm,1.7s,mb5.5
JCT epP pP 13 13 44.1 +1.4
EPF Esparros 89.10 333 eP **P 13 13 28.0 +0.2**
comp=Z,9.2nm,0.8s,mb4.9
EPF Esparros 89.10 333 eP **P 13 13 28.0 +0.2**
EPF pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
EBIE Bielsa 89.47 333 P **P 13 13 30.7 +1.1**
ETSF Etsaut 89.52 334⇑iP P 13 13 31.0 +1.2
comp=Z,35nm,0.7s,mb5.5
ETSF Etsaut 89.52 334⇑iP P 13 13 31.0 +1.2
ETSF pmax pmax
comp=Z,17nm,0.7s,mb5.5
SJPF Ste Jean 89.55 334 eP **P 13 13 31.8 +1.9**
comp=Z,12nm,0.8s,mb5.0
SJPF Ste Jean 89.55 334 eP **P 13 13 31.8 +1.9**
SJPF pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
EGRA Graus 89.85 333 P **P 13 13 32.2 +0.9**
ELAN Lanestosa 90.15 336 P **P 13 13 30.5 -2.2**
EPOB Poblet 90.32 332 P **P 13 13 34.4 +0.8**
comp=Z,9.5nm,0.6s,mb5.3
ERTA Horta de San J 90.94 332 P **P 13 13 36.3 -0.2**
comp=Z,9.4nm,0.8s,mb5.2
EBR Ebro Roquetas 91.00 332 eP **P 13 13 36.0 -0.8**
EMOS Mosqueruela 91.74 332 P **P 13 13 41.0 +0.8**
comp=Z,9.2nm,0.7s,mb5.2
GUD Guadarrama 92.72 335 P **P 13 13 45.5 +0.8**
GUD pmax pmax
comp=Z,7.0nm,0.6s,mb5.3
GUD Guadarrama 92.72 335 P **P 13 13 45.5 +0.8**
comp=Z,6.9nm,0.6s,mb5.3
ESDC Sonseca Array 93.54 334 P **P 13 13 48.4 -0.1**
comp=Z,3.0nm,0.6s,mb4.9
EVIA Vianos 93.99 333 P **P 13 13 51.7 +1.2**
KMBO Kilima Mbogo 101.85 279 i P P 13 14 27.2 +0.5
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO Kilima Mbogo 101.85 279 eP P 13 14 27.1 +0.4
comp=Z,1.8nm,0.8s
QSPA South Pole Qui 131.20 180 ePKPdf PKPdf 13 19 43.8 +1.5
SYO Syowa Base 132.37 208 ⇓PKiKP 13 19 51.6
SNAA Sanae 145.12 199⇑iP PKPdf 13 20 07.2 -0.3
SNAA Sanae 145.12 199⇑i PKPdf 13 20 11.6 +4.1
SNAA Sanae 145.12 199⇑i PKPdf 13 20 26.3 +19
SNAA Sanae 145.12 199⇑i PKPdf 13 20 33.1 +26
SNAA Sanae 145.12 199⇑iP PKPdf 13 20 11.6 +4.1
VNA2 Neumayer--Watz 146.70 198⇑iP PKPdf 13 20 17.7 +7.5
VNA2 Neumayer--Watz 146.70 198⇑i PKPdf 13 20 35.2 +25
VNA2 Neumayer--Watz 146.70 198⇑i PKPdf 13 20 42.7 +32
VNA3 Neumayer Olymp 146.97 196⇑iP PKPdf 13 20 17.9 +7.2
VNA3 Neumayer Olymp 146.97 196⇑i PKPdf 13 20 34.4 +24
VNA3 Neumayer Olymp 146.97 196⇑i PKPdf 13 20 42.1 +31
VNA1 Neumayer--Stat 147.10 198⇑iP PKPdf 13 20 19.0 +8.1
VNA1 Neumayer--Stat 147.10 198 PKPdf 13 20 44.4 +33

*NNC **06** 13:14:55.7±8.8, 39.23N×71.33E, mpv4.3, Error ellipse: s-maj=119.8km s-min=74.8km az=144.0*
ISC 06 13:14:53.9±2.6, 39.0N±0.2×71.2E±0.2, h33km, n14, σ0 81/15, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=32	**3.67**	**31**	P	**P**	**13 15 50.7**	**+0.9**
UCH	**Uchtor** SNR=32	**4.11**	**37**	P	**P**	**13 15 56.5**	**+0.6**
EKS2	**Erkin-Say** SNR=17	**4.16**	**28**	P	**P**	**13 15 57.6**	**+0.9**
KZA	**Kyzart** SNR=60	**4.37**	**44**	P	**P**	**13 15 59.7**	**-0.1**
AAK	**Ala-Archa** 35nm,0.5s	**4.42**	**34**	⇑Pn	**Pn**	**13 16 01.4**	**+0.9**
AAK	123nm,1.0s			⇓Sn	**Sn**	**13 16 50.9**	**-0.6**
AAK	**Ala-Archa** SNR=51	**4.42**	**34**	P	**P**	**13 16 01.4**	**+1.1**
KBK	**Karagaybulak** SNR=69	**4.64**	**37**	P	**P**	**13 16 03.9**	**+0.3**
CHMS	**Chumysh** SNR=43	**4.83**	**33**	P	**P**	**13 16 06.4**	**+0.3**
USP	**Ospenovka** SNR=11	**4.95**	**29**	P	**P**	**13 16 08.0**	**+0.1**
ULHL	**Ulahol** SNR=28	**5.04**	**48**	P	**P**	**13 16 08.1**	**-1.1**
TKM2	**Tokmak 2** SNR=25	**5.15**	**39**	P	**P**	**13 16 10.4**	**-0.3**
MK31	**Makanchi Array** 5.7nm,1.1s,baz=225,slow=11,SNR=12	**11.27**	**43**	⇑P	**P**	**13 17 33.7**	**-1.9**
BVA0	**Borovoye Array** 1.0nm,1.1s,baz=158,slow=14,SNR=6.9	**14.04**	**358**	⇑P	**P**	**13 18 11.7**	**-0.7**
CHKZ	**Chkalovo** 11nm,1.9s	**14.69**	**359**	⇓P	**P**	**13 18 20.3**	**-0.5**

*BJI **06** 13:35:14.6, 22.70S×69.26W, h124km, mB5.5*
*GUC **06** 13:35:15.8±1.0, 21.97S×68.84W, h130km±8km, ML5.3*
*HRVD **06** 13:35:16.5±0.2, 21.68S×68.57W, h145km±1km, MW5.4/62, Centroid moment Tensor Solution. LP body waves: s47,c81;Mantle waves: s62,c107; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.19±.04; $M_{\theta\theta}$-0.73±.04; $M_{\phi\phi}$0.53±.04; $M_{r\theta}$-0.20±.03; $M_{\theta\phi}$-0.47±.04; $M_{\phi r}$-1.15±.03; Best double couple: $M_0$1.393×10^{17} NP1: ϕ_s108°, δ36°, λ172°. NP2:ϕ_s204°, δ85°, λ54°. Principal axes: T 1.551, Plg39°, Azm82°; N -.316, Plg35°, Azm208°; P -1.235, Plg31°, Azm323°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 13:35:16.5±0.2, 21.85S×68.45W, mb5.1/84 Error ellipse: s-maj=7.5km s-min=5.6km az=54.0*
NEIC Felt [IV] at Calama and Tocopilla; [III] at Iquique and Maria Elena; [II] at Antofagasta, Huara, Huatacondo, Loa, Mamina and Quillagua.
ISC 06 13:35:15.1±0.2, 21.86S±0.03×68.60W±0.05, h125km, h125km±4km: pP-P, n187, σ1 19/175, mb5.2/87, 8C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.81**	**201**	ePn	**P**	**13 35 36.3**	**+0.4**
LVC				eSn	**S**	**13 35 50.2**	**-1.6**
LVC	**Limon Verde**	**0.81**	**201**	eP	**P**	**13 35 36.8**	**+0.8**
LVC				i S	**S**	**13 35 52.2**	**+0.4**
LVC				AMP		13 35 54.7	
	comp=E,64μm,0.4s						
SPCH	**San Pedro de A**	**1.11**	**161**	⇓iP	**P**	**13 35 40.4**	**+1.5**
SPCH				i S	**S**	**13 35 60.0**	**+3.0**
SPCH				AMP		13 36 15.3	
	comp=N,46μm,0.7s						
ANCH	**Antofagasta**	**2.47**	**222**	eP	**P**	**13 35 55.0**	**-0.3**
ANCH				i S	**S**	**13 36 24.1**	**-1.8**
CPN1	**Cerro Paranal**	**3.22**	**211**	eP	**P**	**13 36 04.5**	**-0.8**
CPN1				i S	**S**	**13 36 41.7**	**-1.8**
CPN1				AMP		13 36 55.2	
	comp=E,10μm,0.6s						
CPCH	**Copiapo**	**5.71**	**196**	eP	**P**	**13 36 35.7**	**-2.9**
CPCH				i S	**S**	**13 37 38.3**	**-5.2**
ARE	**Arequipa**	**6.02**	**333**	⇓iP	**P**	**13 36 39.9**	**-3.0**
ARE				e		13 37 13.0	
ARE				eS	**S**	**13 37 43.0**	**-8.0**

TLL Tololo Astrono 8.51 193 eP **P 13 37 12.4 -4.2**
TLL i S **S 13 38 45.5 -6.0**
NNA Nana 12.58 320 Pn **P 13 38 11.4 +0.8**
comp=E,2μm,0.9s,SNR=9.7
TRQA Tornquist 17.13 162 eP **P 13 39 06.5 -1.6**
comp=E,238nm,1.3s
TRQA eS **S 13 42 17.5 +4.8**
BAO Brasilia Array 20.46 76 eP **P 13 39 41.5 -3.2**
BAO e 13 39 43.1
OTAV Otavalo 23.97 335 eP **P 13 40 21.0 +1.9**
comp=E,112nm,1.0s,mb5.2
PAYG Puerto Ayora 29.83 312 eP **P 13 41 14.0 +1.2**
comp=E,49nm,0.9s,mb5.1
SDV Santo Domingo 30.61 356 eP **P 13 41 16.3 -3.4**
comp=E,45nm,0.9s,mb5.2
EFI East Falkland 30.87 167 P **P 13 41 19.4 -2.2**
comp=E,5.2nm,0.4s,mb4.6
RCBR Riachuelo 35.40 68 eP **P 13 41 58.5 -2.4**
comp=E,136nm,1.0s,mb5.7
JTS JuntasAbangare 35.75 332 eP **P 13 42 05.3 +1.5**
comp=E,56nm,1.1s,mb5.4
SJG San Juan 39.79 4 eP **P 13 42 31.8 -5.7**
comp=E,116nm,0.9s,mb5.7
SJG epP pP 13 43 04.1 -1.8
PMSA Palmer Station 43.01 177 eP **P 13 43 03.4 +0.1**
comp=E,34nm,1.1s,mb5.0
PMSA esP sP 13 43 48.5 +2.0
TEIG Tepich 46.03 334 eP **P 13 43 27.1 -0.9**
comp=E,48nm,1.2s,mb5.1
DWPF Disney 51.20 345 eP **P 13 44 07.2 -0.5**
comp=E,206nm,1.0s,mb6.1
DWPF epP pP 13 44 36.9 -0.3
CSU Charleston Sou 55.62 348 eP **P 13 44 39.6 -0.7**
CSU epP pP 13 45 10.4 +0.3
NHSC New Hope 55.76 348 eP **P 13 44 40.4 -0.9**
comp=E,479nm,1.0s
NHSC epP pP 13 45 11.4 +0.3
NHSC esP sP 13 45 24.8 -0.1
COW Cow Castle Cre 56.13 348 eP **P 13 44 42.8 -1.1**
COW epP pP 13 45 13.7 -0.1
COW esP sP 13 45 27.5 -0.2
GOGA Godfrey 56.76 345 eP **P 13 44 46.4 -1.9**
comp=E,18nm,0.8s,mb5.2
GOGA epP pP 13 45 16.3 -2.0
LRAL Lakeview Retre 57.34 342 eP **P 13 44 50.3 -2.1**
comp=E,31nm,1.0s,mb5.3
LRAL e 13 45 02.7
LRAL epP pP 13 45 20.3 -2.1
LRAL esP sP 13 45 35.8 -0.5
NATX Nacogdoches 58.87 334 eP **P 13 45 02.6 -0.4**
comp=E,93nm,1.0s,mb5.8
NATX e 13 45 07.7
NATX epP pP 13 45 32.1 -1.1
NATX esP sP 13 45 47.0 -0.1
CPCT Cooper Cave 58.95 345 eP **P 13 45 01.8 -1.9**
CPCT epP pP 13 45 31.7 -2.2
CPCT esP sP 13 45 45.9 -1.8
VNA3 Neumayer Olymp 59.65 161⇑i P 13 45 12.1 +4.2
VNA3 Neumayer Olymp 59.65 161⇑i P 13 45 21.5 +14
BLA Blacksburg 59.80 349 eP **P 13 45 08.4 -1.0**
comp=E,51nm,0.8s,mb5.6
BLA epP pP 13 45 39.4 -0.3
VNA1 Neumayer--Stat 59.86 160⇑i P 13 45 13.7 +4.3
VNA1 Neumayer--Stat 59.86 160⇑i P 13 45 24.2 +15
ELN Prospectdale 59.87 349 eP **P 13 45 08.9 -1.0**
ELN epP pP 13 45 39.6 -0.6
PWV Princeton 60.03 349 eP **P 13 45 09.9 -1.1**
PWV epP pP 13 45 40.7 -0.6
PWV esP sP 13 45 54.6 -0.5
JCT Junction City 60.05 329 eP **P 13 45 10.2 -1.0**
comp=E,43nm,0.8s,mb5.5
JCT epP pP 13 45 39.8 -1.8
VNA2 Neumayer--Watz 60.22 161⇑i P 13 45 16.0 +4.1
VNA2 Neumayer--Watz 60.22 161⇑i P 13 45 25.3 +13
FWV Forest Hill 60.23 349 eP **P 13 45 10.8 -1.5**
FWV epP pP 13 45 41.8 -0.9
WVT Waverly 60.47 342 eP **P 13 45 11.5 -2.5**
comp=E,63nm,0.9s,mb5.7
WVT epP pP 13 45 41.2 -3.1
UALR University of 60.67 338 eP **P 13 45 13.2 -2.1**
comp=E,47nm,1.0s,mb5.5
RKT Rikitea 60.84 255 eLR LR 13 46 04.6
comp=E,763nm,31.2s
MIAR Mount Ida 60.91 336 eP **P 13 45 15.5 -1.5**
comp=E,65nm,1.1s,mb5.6
MIAR epP pP 13 45 45.3 -2.1
LTX Lajitas 61.08 325 eP **P 13 45 16.9 -1.3**
comp=E,11nm,1.0s,mb4.8
LTX epP pP 13 45 47.3 -1.4
SNAA Sanae 61.85 161⇑i P 13 45 21.9 -1.0
WCI Wyandotte Cave 62.03 344 eP **P 13 45 21.9 -2.6**
comp=E,56nm,0.9s,mb5.6
WCI epP pP 13 45 52.6 -2.3
MCWV Mont Chateau 62.09 350 eP **P 13 45 24.1 -0.8**
comp=E,188nm,0.8s,mb6.2
MCWV epP pP 13 45 55.0 -0.3
SSPA Standing Stone 62.77 352 eP **P 13 45 27.5 -1.9**
comp=E,54nm,1.1s,mb5.4
SSPA epP pP 13 45 59.3 -0.6
FVM French Village 62.96 341 eP **P 13 45 28.4 -2.3**
comp=E,75nm,0.9s,mb5.6
FVM epP pP 13 45 59.2 -2.0
BLO Bloomington 62.98 344 eP **P 13 45 27.9 -2.9**
comp=E,54nm,0.8s,mb5.5
BLO epP pP 13 45 59.3 -2.1
WMOK Wichita Mounta 63.16 332 eP **P 13 45 29.8 -2.3**
comp=E,5.3nm,0.8s,mb4.5
ACSO Alum Creek Sta 63.20 348 eP **P 13 45 30.2 -2.0**
comp=E,144nm,1.0s,mb5.9
ACSO epP pP 13 46 01.5 -1.3
ACSO esP sP 13 46 14.6 -2.0
CCM Cathedral Cave 63.28 340 eP **P 13 45 30.6 -2.1**
comp=E,50nm,0.9s,mb5.4
CCM epP pP 13 46 01.6 -1.7
CLNB Carlsbad 63.52 327 eP **P 13 45 34.1 -0.3**
CLNB epP pP 13 46 04.3 -0.7
CLNB esP sP 13 46 21.1 +2.3
GDL2 Guadalupe Moun 63.72 326 eP **P 13 45 35.3 -0.4**
GDL2 epP pP 13 46 05.4 -0.9
MNTX Cornudas Mount 63.85 325 eP **P 13 45 34.8 -1.8**
comp=E,33nm,1.1s,mb5.1
MNTX epP pP 13 46 05.3 -1.9
MNTX esP sP 13 46 21.6 +0.6
ALLY Alegheny Colle 64.08 350 eP **P 13 45 36.6 -1.3**
ALLY epP pP 13 46 07.8 -0.8
ALLY esP sP 13 46 23.0 +0.7
BINY Binghamton 64.09 354 eP **P 13 45 36.8 -1.2**
comp=E,122nm,0.9s,mb5.7
BINY epP pP 13 46 08.5 -0.1
CPRX Cap Rock 64.12 327 eP **P 13 45 37.4 -1.0**
CPRX epP pP 13 46 08.5 -0.5
ERPA Erie 64.51 351 eP **P 13 45 39.2 -1.6**
comp=E,214nm,0.9s,mb6.0
ERPA epP pP 13 46 10.3 -1.1
AMTX Amarillo 64.58 330 eP **P 13 45 39.8 -1.5**
comp=E,10nm,0.8s,mb4.7
AMTX epP pP 13 46 10.0 -2.0
MDV Middlebury 65.66 356 eP **P 13 45 45.2 -2.9**
MDV epP pP 13 46 18.4 -0.4
NCB Newcomb 65.70 356 eP **P 13 45 45.1 -3.3**
comp=E,51nm,1.2s,mb5.2
NCB epP pP 13 46 18.6 -0.5
BNM Barren Site 66.42 326 eP **P 13 45 53.2 +0.1**
BNM epP pP 13 46 23.7 -0.2
LPM Los Pinos Moun 66.54 326 eP **P 13 45 54.2 +0.3**
LPM epP pP 13 46 24.7 0.0
LPM esP sP 13 46 38.8 +0.4
LENM Lemitar 66.61 326 eP **P 13 45 55.0 +0.7**
LENM epP pP 13 46 23.5 -1.6
MSNY Massena 66.77 355 eP **P 13 45 53.8 -1.4**
MSNY epP pP 13 46 25.8 -0.2
LAZ Ladron 66.88 326 eP **P 13 45 56.9 +0.9**
LAZ epP pP 13 46 27.1 +0.3
LAZ esP sP 13 46 42.5 +2.0
ANMO Albuquerque 66.95 327 eP **P 13 45 56.3 -0.1**
comp=E,36nm,1.1s,mb5.1
ANMO epP pP 13 46 26.9 -0.4
TUC Tucson 67.29 322 eP **P 13 45 58.2 -0.4**
comp=E,61nm,1.5s,mb5.2
TUC epP pP 13 46 29.3 -0.1
QSPA South Pole Qui 68.34 180⇑iP P 13 46 05.3 +1.0
comp=E,61nm,1.1s,mb5.3
SDCO Great Sand Dun 68.70 329 eP **P 13 46 07.5 +0.3**
comp=E,45nm,1.0s,mb5.3

SDCO epP pP 13 46 38.0 -0.1
SDCO esP sP 13 46 52.9 +1.1
ISCO Idaho Springs 70.39 331 *e*P **P 13 46 17.6 +0.2**
comp=E,22nm,1.0s,mb5.0
ISCO epP pP 13 46 48.9 +0.3
PV01 Paradox Valley 70.50 327 *e*P **P 13 46 20.4 +2.3**
PV10 Paradox Valley 70.92 327 *e*P **P 13 46 20.5 -0.1**
PFO Pinyon Flat Ob 71.56 319 *e*P **P 13 46 25.7 +1.2**
comp=E,32nm,1.0s,mb5.1
PFO epP pP 13 46 56.3 +0.6
PFO esP sP 13 47 10.2 +0.8
NEN Nelson 72.03 322 *e*P **P 13 46 28.0 +0.7**
NEN epP pP 13 46 58.2 -0.3
SRU San Rafael 72.23 327 *e*P **P 13 46 28.9 +0.6**
SRU *e* 13 46 40.0
SRU epP pP 13 46 60.0 +0.3
RWWY Rawlins 72.63 331 *e*P **P 13 46 30.2 -0.5**
RWWY epP pP 13 47 02.4 +0.3
RWWY esP sP 13 47 19.0 +3.3
MSU Marysvale 72.63 325 *e*P **P 13 46 32.1 +1.3**
MSU epP pP 13 47 03.1 +1.0
MVU Marysvale 72.64 325 *e*P **P 13 46 32.0 +1.1**
comp=E,77nm,1.0s,mb5.5
MVU epP pP 13 47 03.1 +0.9
TMUT Trail Mountain 72.72 327 *e*P **P 13 46 32.3 +1.0**
TMUT epP pP 13 47 02.9 +0.3
MPU Maple Canyon 73.47 327 *e*P **P 13 46 36.6 +1.0**
MPU epP pP 13 47 07.7 +0.7
DAU Daniels Canyon 73.58 327 *e*P **P 13 46 37.5 +1.2**
DAU epP pP 13 47 07.9 +0.2
DAU esP sP 13 47 24.2 +2.9
NLU North Lily Min 73.65 327 *e*P **P 13 46 37.7 +1.0**
NLU epP pP 13 47 09.0 +0.9
JLU Jordanelle 73.82 327 *e*P **P 13 46 38.5 +0.8**
JLU epP pP 13 47 08.2 -0.9
DAC Darwin (Calif) 74.06 321 *e*P **P 13 46 40.5 +1.3**
comp=E,56nm,1.1s,mb5.2
DAC epP pP 13 47 11.3 +0.6
TCUT Toone Canyon 74.19 328 *e*P **P 13 46 40.5 +0.8**
TRCR Troy Canyon 74.36 323 *e*P **P 13 46 42.5 +1.6**
HWUT Hardware Ranch 74.63 328 *e*P **P 13 46 42.9 +0.6**
comp=E,34nm,0.9s,mb5.1
HWUT epP pP 13 47 13.5 -0.4
SPUT South Promonto 74.85 327 *e*P **P 13 46 44.2 +0.6**
SPUT epP pP 13 47 15.4 +0.3
BGU Big Grassy Mou 74.86 327 *e*P **P 13 46 44.1 +0.4**
BGU epP pP 13 47 15.4 +0.2
TPH Tonopah 75.09 322 *e*P **P 13 46 46.3 +1.4**
comp=E,36nm,1.0s,mb5.1
TPH epP pP 13 47 17.1 +0.6
AHID Auburn Hatcher 75.28 329 *e*P **P 13 46 46.5 +0.5**
comp=E,68nm,0.9s,mb5.4
AHID epP pP 13 47 17.0 -0.6
HVU Hansel Valley 75.36 327 *e*P **P 13 46 47.0 +0.5**
HVU epP pP 13 47 18.1 0.0
HVU esP sP 13 47 32.6 +0.9
LOHW Long Hollow 75.70 330 *e*P **P 13 46 48.9 +0.6**
LOHW epP pP 13 47 20.6 +0.7
WUWY Wally Ulrich 75.71 330 *e*P **P 13 46 49.0 +0.6**
WUWY epP pP 13 47 20.5 +0.5
TPAW Teton Pass 75.77 330 *e*P **P 13 46 50.0 +1.3**
TPAW epP pP 13 47 21.0 +0.7
OMM Old Mammoth Mi 75.80 321 *e*P **P 13 46 50.2 +1.2**
OMM epP pP 13 47 21.3 +0.7
MNV Mina 75.86 322 *e*P **P 13 46 50.4 +1.1**
comp=E,28nm,1.2s,mb4.9
SYO Syowa Base 76.07 159 ||P **P 13 46 50.0 +0.1**
SYO Syowa Base 76.07 159 ||PcP PcP 13 47 01.7 -0.2
LRV Little Rabbit 76.22 319 *e*P **P 13 46 53.5 +2.1**
LRV epP pP 13 47 24.5 +1.4
LAO LASA Array 76.22 334 *e*P **P 13 46 51.6 +0.4**
comp=E,38nm,1.0s,mb5.1
LAO epP pP 13 47 23.0 +0.1
YFT Old Faithful 76.45 330 *e*P **P 13 46 55.2 +2.7**
YFT epP pP 13 47 26.1 +1.9
YFT esP sP 13 47 40.0 +2.2
YNR Norris Junctio 76.58 331 *e*P **P 13 46 55.0 +1.8**
YNR epP pP 13 47 26.5 +1.6
YMR Madison River 76.67 330 *e*P **P 13 46 55.8 +2.0**
YMR epP pP 13 47 26.4 +0.9
YMR esP sP 13 47 38.9 -0.3
CMB Columbia Colle 76.90 320 *e*P **P 13 46 55.4 +0.3**
comp=E,11nm,1.1s,mb4.5
CMB epP pP 13 47 28.3 +1.5
DGMT Dagmar 76.91 337 *e*P **P 13 46 55.7 +0.7**
comp=E,73nm,1.0s,mb5.4
DGMT epP pP 13 47 27.4 +0.7
WCN Washoe City 77.37 322 *e*P **P 13 46 59.1 +1.3**
comp=E,31nm,1.2s,mb4.9
PAHR Pah Rah Range 77.43 322 *e*P **P 13 46 58.8 +0.7**
comp=E,61nm,0.9s,mb5.3
PAHR epP pP 13 47 31.2 +1.3
HLID Hailey 77.49 328 *e*P **P 13 46 59.5 +1.2**
comp=E,81nm,1.1s,mb5.4
HLID epP pP 13 47 31.3 +1.2
SUR Sutherland 78.15 120 *e*P **P 13 47 03.0 +0.8**
comp=E,66nm,1.1s,mb5.3
OHCM Honcut 78.40 321 *e*P **P 13 47 04.0 +0.6**
OHCM epP pP 13 47 36.1 +1.0
HRY Holter Researc 78.62 331 *e*P **P 13 47 05.4 +1.0**
HRY epP pP 13 47 37.1 +0.9
WVOR Wild Horse Val 78.88 325 *e*P **P 13 47 06.8 +0.9**
comp=E,11nm,0.9s,mb4.7
WVOR epP pP 13 47 37.1 -0.6
LBCM Butte Creek Ri 79.30 322 P **P 13 47 09.0 +0.8**
CHMT Chamberlain Mo 79.42 331 *e*P **P 13 47 09.8 +1.1**
CHMT epP pP 13 47 41.6 +1.0
CHMT esP sP 13 47 57.5 +3.1
MOD Modoc 79.42 323 *e*P **P 13 47 09.8 +0.9**
comp=E,42nm,0.8s,mb5.3
MOD epP pP 13 47 41.4 +0.7
MSO Missoula 79.67 330 *e*P **P 13 47 11.0 +0.9**
comp=E,16nm,1.4s,mb4.7
MSO epP pP 13 47 42.9 +1.0
WDC Whiskeytown Da 79.82 321 *e*P **P 13 47 10.1 -1.0**
comp=E,29nm,0.9s,mb5.1
BMO Blue Mountains 79.87 327 *e*P **P 13 47 11.6 +0.4**
comp=E,65nm,1.2s,mb5.3
BMO epP pP 13 47 43.8 +0.7
LHEM Herd Peak 80.32 322 P **P 13 47 14.7 +1.0**
YBH Yreka Blue Hor 80.67 322 *e*P **P 13 47 15.3 -0.2**
comp=E,18nm,1.1s,mb4.8
KHMM Horse Mountain 80.71 321 *e*P **P 13 47 17.3 +1.5**
KHMM epP pP 13 47 48.8 +1.2
KHMM esP sP 13 48 02.0 +0.5
WALA Waterton Lakes 81.31 332 *e*P **P 13 47 18.9 +0.1**
comp=E,23nm,1.0s,mb5.0
WALA epP pP 13 47 51.4 +0.7
WALA esP sP 13 48 07.2 +2.6
HUMO Hull Mountain 81.37 323 *e*P **P 13 47 18.5 -0.7**
comp=E,16nm,1.2s,mb4.7
HUMO *e* 13 47 25.9
BBOR Butler Butte 81.39 323 P **P 13 47 19.8 +0.4**
FFC Flin Flon 81.46 341 *e*P **P 13 47 17.6 -1.8**
comp=E,19nm,1.0s,mb4.9
FFC epP pP 13 47 49.8 -1.6
FFC esP sP 13 48 05.0 -0.3
PTEO Sao Teotonio 81.61 44 *e*P **P 13 47 21.4 +0.8**
comp=E,56nm,1.2s,mb5.3
NEW Newport 82.19 330 *e*P **P 13 47 22.5 -0.9**
comp=E,9.1nm,1.0s,mb4.6
NEW epP pP 13 47 54.8 -0.6
OD2 Odessa Site #2 82.34 328 P **P 13 47 25.1 +1.0**
PALC Alcoutim 82.37 45 *e*P **P 13 47 25.3 +0.8**
comp=E,60nm,1.0s,mb5.4
EGRO El Granado 82.40 45 P **P 13 47 24.7 0.0**
comp=E,36nm,2.0s,mb4.8
PBEJ Beja 82.44 44 *e*P **P 13 47 25.4 +0.6**
EVO Evora 82.63 44 *e*P **P 13 47 25.4 -0.4**
comp=E,24nm,1.0s,mb4.7
EBG Ellensburg 82.94 327 P **P 13 47 28.9 +1.7**
PTOM Tomar 83.01 42 *e*P **P 13 47 28.8 +1.1**
FCC Fort Churchill 83.04 347 *e*P **P 13 47 27.0 -0.5**
comp=E,22nm,1.0s,mb5.0
FCC epP pP 13 47 59.3 -0.2
EMIN Mina Concepcio 83.07 45 P **P 13 47 28.2 +0.1**
comp=E,25nm,0.8s,mb5.1
ESPR Espera 83.10 46 P **P 13 47 28.8 +0.6**
comp=E,22nm,0.9s,mb5.0
EBAD Badajoz 83.40 44 P **P 13 47 30.4 +0.7**
comp=E,11nm,0.9s,mb4.7
EMIJ Mijas 83.66 47 P **P 13 47 30.9 -0.2**
comp=E,9.5nm,0.7s,mb4.7

PCBR Castelo Branco 83.73 43 *e*P **P 13 47 31.5 +0.2**
PVIS Viseu 83.97 42 *e*P **P 13 47 32.7 +0.2**
comp=E,43nm,1.3s,mb5.1
MTE Manteigas 84.01 42 *e*P **P 13 47 32.8 +0.1**
MTE Manteigas 84.01 42 *e*P **P 13 47 32.0 -0.7**
comp=E,32nm,1.1s,mb5.1
EDM Edmonton 84.20 335 *e*P **P 13 47 32.8 -0.6**
EDM *e*pP pP 13 48 04.8 -0.7
ELOJ Sierra Loja 84.40 46 P **P 13 47 35.4 +0.6**
comp=E,13nm,0.8s,mb4.8
PVRL Vila Real 84.41 41 *e*P **P 13 47 34.5 -0.2**
RPW Rockport 84.44 328 P **P 13 47 34.7 0.0**
ELOB Lobios 84.54 41 P **P 13 47 34.9 -0.4**
comp=E,12nm,0.8s,mb4.9
ELUQ Luque 84.54 46 P **P 13 47 36.2 +0.8**
comp=E,18nm,0.8s,mb5.0
ERON Agron 84.56 47 P **P 13 47 35.8 +0.2**
comp=E,6.3nm,0.9s,mb4.5
EADA Adamuz 84.67 45 P **P 13 47 36.3 +0.2**
comp=E,13nm,0.9s,mb4.9
EBAN Banos Encina 85.19 46 P **P 13 47 38.5 -0.1**
comp=E,30nm,0.8s,mb5.3
PBRG Braganca 85.31 41 *e*P **P 13 47 39.3 +0.2**
ECAL Calabor 85.39 41 P **P 13 47 39.2 -0.3**
comp=E,7.9nm,0.8s,mb4.7
ERUA La Rua 85.40 41 P **P 13 47 39.9 +0.3**
comp=E,12nm,0.8s,mb4.9
EINC Incio 85.43 40 P **P 13 47 39.4 -0.3**
comp=E,4.3nm,0.6s,mb4.6
EQES Quesada 85.47 46 P **P 13 47 39.2 -0.9**
comp=E,20nm,0.9s,mb5.0
ESDC Sonseca Array 85.88 44 P **P 13 47 42.0 0.0**
comp=E,6.5nm,0.9s,mb4.6
SJPF Ste Jean 89.45 43 *e*P **P 13 47 59.8 +0.9**
comp=E,26nm,1.2s,mb4.8
ETSF Etsaut 89.76 43 *e*P **P 13 48 02.5 +2.1**
comp=E,15nm,0.9s,mb4.8
YKW3 Yellowknife Ar 91.67 341 *e*P **P 13 48 08.6 -0.2**
YKW3 *e*pP pP 13 48 41.5 -0.1
YKW3 *e*sP sP 13 48 56.2 +1.0
MFF Saint Martin d 91.88 40 *e*P **P 13 48 09.5 -0.7**
comp=E,22nm,0.9s,mb5.1
LASF Ste Croix 93.14 43 *e*P **P 13 48 20.3 +4.3**
comp=E,34nm,1.2s,mb5.2
DLBC Dease Lake 94.65 332 *e*P **P 13 48 23.4 +0.9**
DLBC *e*pP pP 13 48 56.0 +0.7
INK Inuvik 101.37 340 *e*P P 13 48 52.7 -0.1
comp=E,7.7nm,1.1s
INK *e*pP 13 49 25.4
CHKZ Chkalovo 135.72 34 *e*PKPdf PKPdf 13 54 22.3 +1.8
CHKZ *e*pPKPdf 13 54 57.5
BRVK Borovoye 135.85 35 *e*PKPdf PKPdf 13 54 21.8 +1.0
BRVK *e*pPKPdf 13 54 58.2
AAK Ala-Archa 142.94 47 *e*PKPpre 13 54 30.1
AAK *e*pPKPdf 13 55 07.8
POO Poona 144.66 89 *e*PKP PKPdf 13 54 38.0 +0.5
PALK Pallekele 147.04 111 *e*PKPbc PKPdf 13 54 45.9 +4.2
KHET Khetri 147.22 72 *e*PKP PKPdf 13 54 43.0 +1.4
RTK Rohtak 147.70 70 *e*PKP PKPdf 13 54 44.2 +1.9
KUDL Kundal 147.82 72 *e*PKP PKPdf 13 54 44.1 +1.5
AYAN Aya Nagar 148.36 71 *e*PKP PKPdf 13 54 45.1 +1.6
AYAN *e* 13 54 50.0
comp=Z,24nm,1.0s
NDI New Delhi 148.43 71 *e*PKP PKPdf 13 54 45.0 +1.4
HYB Hyderabad 148.79 92 *e*P PKPdf 13 54 46.0 +1.6
HYB Hyderabad 148.79 92 *i* PKP PKPdf 13 54 46.0 +1.6
HYB *e* 13 55 04.5
HYB *e* 13 55 22.5
ASOR Ausora 148.91 70 *e*PKP PKPdf 13 54 45.2 +0.8
KLP Kalpa 148.96 65 *e*PKP PKPdf 13 54 47.0 +2.7
DDI Dehra Dun 148.98 67 *e*PKP PKPdf 13 54 45.7 +1.3
WMQ Urumqi 150.58 36 PKP PKPdf 13 54 47.0 +0.6
HIA Hailar 151.85 348 *e*PKPdf PKPdf 13 54 49.8 +1.7
HIA *e*PKPbc PKPdf 13 54 56.2 +8.1
HIA *e*pPKPbc 13 55 30.4
ULN Ulaanbaatar 153.81 7 *e*PKPdf PKPdf 13 54 53.6 +2.8

NIED ***06*** *13:39:00,42.90N×145.50E,h32km,Mw3.8 Best double couple: M0 6.6×10^14 NP1:φ0=29°,δ62°,λ62°. NP2:φ0=258°, δ39°,λ132°.*
JMA ***06*** *13:39:31.6±0.1,42.87N×145.52E,h44km±1km,M4.3*
ISC 06 13:39:31.4±1.6,42.9N±0.1×145.5E±0.1,h49km±11km,n7, σ0=38/11,mb4.0/1,1C-4D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.50**	**20**	⇑P	**P**	**13 39 42.7**	**+0.1**
NEM2				S	**S**	**13 39 50.3**	**-0.4**
JAK	**Akkeshi**	**0.61**	**280**	||P	**P**	**13 39 44.1**	**+0.2**
JAK				*e*S	**S**	**13 39 53.1**	**0.0**
JNK	**Nakash**	**0.90**	**320**	||P	**P**	**13 39 48.2**	**+0.3**
JNK				*e*S	**S**	**13 39 59.4**	**-0.8**
JRA	**Rausu**	**1.08**	**345**	||P	**P**	**13 39 50.9**	**+0.4**
JRA				*e*S	**S**	**13 40 05.2**	**+0.6**
JOB	**Onbets**	**1.23**	**271**	P	**P**	**13 39 52.5**	**-0.1**
JAR	**Ashorobuto**	**1.34**	**288**	||P	**P**	**13 39 54.2**	**0.0**
NB2	**NORSAR Subarra**	**69.96**	**338**	P	**P**	**13 50 38.6**	**-0.4**
	1.8nm,0.8s,mb4.0,baz=33,slow=6.2						

CSEM ***06*** *14:19:45.6,25.46N×96.64E,h33km,mb5.6*
MOS ***06*** *14:19:45.0±0.8,25.32N×96.57E,h33km,mb4.8/15,Error ellipse: s-maj=15.8km s-min=7.7km az=110.1*
BJI ***06*** *14:19:46.0,25.46N×96.52E,h37km,mB4.9,mb4.6,ML4.4, Ms4.7,Msz4.5*
LDG ***06*** *14:19:47.0±0.4,25.56N×96.31E,h33km,Mb4.8/18, Ms3.9/1,Error ellipse: s-maj=20.6km s-min=6.1km az=173.0*
NEIC ***06*** *14:19:48.4±0.8,25.43N×96.60E,h44km±7km,mb4.7/35, Error ellipse: s-maj=6.8km s-min=4.4km az=190.0*
ISC 06 14:19:46.0±0.7,25.31N±0.04×96.54E±0.03,h41km±6km, n154,σ1=16/164,mb4.7/46,MS4.1/7,10C-1D,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**2.06**	**348**	*e*	**P**	**14 20 21.0**	**+2.1**
IMP	**Imphal**	**2.42**	**258**	||*i*P	**P**	**14 20 27.8**	**+3.7**
SHL	**Shillong**	**4.22**	**274**	*e*P	**P**	**14 20 50.5**	**+0.9**
SHL				*e*		14 21 45.0	
AGT	**Agartala**	**5.02**	**255**	⇑*i*P	**P**	**14 21 00.0**	**-0.9**
AGT				*i*		14 21 15.0	
CHRT	**Chiangrai**	**6.18**	**150**	⇑PN	**P**	**14 21 17.5**	**+0.3**
CHRT				PG	P	14 21 41.0	+24
CHRT				SG	S	14 22 51.5	+24
LSA	**Lhasa**	**6.49**	**314**	P	**P**	**14 21 22.2**	**+0.8**
LSA				S	**S**	**14 22 36.0**	**+1.0**
LSA				Smax			
	comp=N,110nm,0.8s						
LSA				Smax			
	comp=E,150nm,1.0s						
LSA	**Lhasa**	**6.49**	**314**	*e*P	**P**	**14 21 22.1**	**+0.7**
	comp=E,54nm,0.5s						
CHG	**Chiang Mai**	**6.83**	**161**	⇑P	**P**	**14 21 22.8**	**-3.5**
	comp=E,58nm,0.6s						
NANT	**Nan**	**7.54**	**148**	PN	**P**	**14 21 37.0**	**+0.9**
NANT				PG	P	14 22 12.0	+36
NANT				SG	S	14 23 43.5	+42
JIRN	**Jiri**	**9.57**	**286**	*e*P	**P**	**14 22 02.8**	**-1.4**
	comp=E,86nm,0.4s						
JIRN				*e*S	**S**	**14 23 49.0**	**-2.6**
GUN	**Gumba**	**9.89**	**288**	*e*P	**P**	**14 22 07.1**	**-1.5**
	comp=E,285nm,0.7s						
PKI	**Pulchoki**	**10.23**	**285**	*e*P	**P**	**14 22 10.0**	**-3.3**
	comp=E,94nm,0.7s						
PKI				*e*S	**S**	**14 24 05.4**	**-2.4**
KKN	**Kakani**	**10.38**	**286**	*e*P	**P**	**14 22 13.4**	**-2.0**
	comp=E,89nm,0.5s						
KKN				*e*S	**S**	**14 24 08.9**	**-2.6**
DMN	**Daman**	**10.50**	**285**	*e*P	**P**	**14 22 14.5**	**-2.5**
	comp=E,57nm,0.5s						
GKN	**Gorkha**	**10.98**	**287**	*e*P	**P**	**14 22 21.0**	**-2.6**
	comp=E,117nm,0.5s						
BWNR	**Bhubaneshwar**	**11.09**	**245**	*e*P	**P**	**14 22 22.4**	**-2.7**
BWNR				*e*		14 24 09.6	
KOLN	**Koldanda**	**11.85**	**285**	*e*P	**P**	**14 22 32.1**	**-3.1**
	comp=E,22nm,0.3s						
LZH	**Lanzhou**	**12.44**	**29**	*e*P	**P**	**14 22 41.1**	**-2.1**
LZH				AP		14 22 50.3	
LZH				XP		14 22 54.7	
LZH				*e*S	**S**	**14 25 02.0**	**+0.6**
LZH				AMB	AMB		
	comp=Z,30nm,1.0s						
LZH				AMB	AMB		
	comp=Z,120nm,4.1s						
LZH				LR	LR		
	comp=N,4μm,9.3s						
LZH				LR	LR		
	comp=Z,4μm,10.3s						
ENH	**Enshi**	**12.48**	**64**	*e*P	**P**	**14 22 40.5**	**-3.2**
	comp=Z,28nm,0.8s						
XAN	**Xi'an**	**13.83**	**48**	P	**P**	**14 22 57.2**	**-4.3**
XAN				LG2		14 27 12.9	
XAN				AMB	AMB		
	comp=Z,9.0nm,1.0s						
XAN				LR	LR		
	comp=N,913nm,12.5s						
XAN				LR	LR		
	comp=E,1μm,12.4s						
XAN				LR	LR		
	comp=Z,2μm,11.6s						
VIS	**Vishakhapatnam**	**14.42**	**241**	*e*P	**P**	**14 23 09.1**	**-0.3**
VIS				AMb	AMB	14 23 10.6	
	comp=Z,26nm,1.6s						
PTH	**Pithoragarh**	**15.10**	**290**	*e*P	**P**	**14 23 18.0**	**-0.2**
WHN	**Wuhan**	**16.57**	**68**	⇑P	**P**	**14 23 41.5**	**+4.5**
ASOR	**Ausora**	**17.07**	**286**	*e*P	**P**	**14 23 47.3**	**+4.1**
DDI	**Dehra Dun**	**17.10**	**291**	*e*P	**P**	**14 23 42.7**	**-0.8**
KLP	**Kalpa**	**17.24**	**295**	*e*P	**P**	**14 23 46.5**	**+1.2**
BISR	**Bishrakh**	**17.34**	**285**	*e*P	**P**	**14 23 50.1**	**+3.5**
BISR				*e*		14 26 50.0	
NDI	**New Delhi**	**17.55**	**285**	*e*P	**P**	**14 23 47.0**	**-2.2**
NDI				*e*		14 26 52.0	
BHPL	**Bhopal**	**17.55**	**267**	*e*P	**P**	**14 23 49.0**	**-0.3**
BHPL				*e*		14 23 54.4	
	comp=Z,53nm,0.6s						
BHPL				*e*		14 26 53.1	
AYAN	**Aya Nagar**	**17.61**	**285**	*e*P	**P**	**14 23 51.9**	**+2.0**
AYAN				*e*		14 23 56.5	
	comp=Z,28nm,0.7s						
AYAN				*e*		14 26 56.9	
BHGR	**Bahadurgarh**	**17.79**	**285**	*e*P	**P**	**14 23 55.0**	**+2.8**
KKR	**Kurukshetra**	**18.07**	**289**	*e*P	**P**	**14 23 57.3**	**+1.5**
KUDL	**Kundal**	**18.14**	**283**	*e*P	**P**	**14 23 58.5**	**+1.9**
KUDL				*e*		14 24 04.3	
	comp=Z,12nm,1.0s						
RTK	**Rohtak**	**18.29**	**286**	*e*P	**P**	**14 23 59.3**	**+0.9**
HYB	**Hyderabad**	**18.49**	**248**	*e*P	**P**	**14 24 02.0**	**+1.0**
	comp=Z,100nm,1.0s						
HYB	**Hyderabad**	**18.49**	**248**	*i* P	**P**	**14 24 02.0**	**+1.0**
	comp=Z,100nm,1.0s						
HYB				*e*S	S	14 27 43.0	+21
KHET	**Khetri**	**18.73**	**283**	*e*P	**P**	**14 24 03.8**	**0.0**
KHET				*e*		14 24 08.9	
	comp=Z,18nm,0.8s						
KHET				*e*		14 27 21.0	
AJM	**Ajmer**	**19.74**	**278**	*i* P	**P**	**14 24 15.0**	**-0.1**
WMQ	**Urumqi**	**19.83**	**341**	P	**P**	**14 24 16.3**	**+0.3**
WMQ				AP		14 24 26.7	
WMQ				S	**S**	**14 27 51.6**	**-0.3**
WMQ				AMB	AMB		
	comp=Z,57nm,0.9s						
WMQ				AMB	AMB		
	comp=Z,370nm,6.6s						
WMQ				LR	LR		
	comp=N,902nm,10.0s						
WMQ				LR	LR		
	comp=E,519nm,12.0s						
WMQ				LR	LR		
	comp=Z,841nm,10.8s						
NJ2	**Nanjing**	**20.68**	**66**	*e*P	**P**	**14 24 25.7**	**+0.7**
NJ2				AP		14 24 34.6	
NJ2				XP		14 24 38.8	
NJ2				PP	PP	14 24 47.4	+0.2
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,250nm,4.6s						
NJ2				LR	LR		
	comp=N,1μm,11.6s,MS4.8						
NJ2				LR	LR		
	comp=E,2μm,12.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,2μm,15.0s,MS4.6						
TIA	**Tai'an**	**20.72**	**53**	*e*P	**P**	**14 24 24.6**	**-0.7**
BJT	**Baijiatuau**	**22.02**	**43**	*e*P	**P**	**14 24 38.2**	**-0.2**
	comp=Z,22nm,1.0s,mb4.5						
SSE	**Sheshan**	**22.45**	**70**	P	**P**	**14 24 40.3**	**-2.4**
SSE				S	**S**	**14 28 45.0**	**+3.3**
SSE				XS		14 28 57.5	
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,74nm,4.6s						
SSE				LR	LR		
	comp=N,255nm,21.6s,MS3.6						
SSE				LR	LR		
	comp=E,51nm,21.6s,MS3.6						
SSE				LR	LR		
	comp=Z,183nm,17.4s,MS3.6						
JASL	**Jaisalmer**	**23.07**	**280**	*e*P	**P**	**14 24 50.2**	**+1.3**
ULHL	**Ulahol**	**23.78**	**320**	P	**P**	**14 24 58.2**	**+2.6**
	SNR=14						
ULN	**Ulaanbaatar**	**24.00**	**18**	*c i*P	**P**	**14 24 57.5**	**-0.2**
ULN	**Ulaanbaatar**	**24.00**	**18**	*e*P	**P**	**14 24 57.2**	**-0.4**
	comp=Z,8.4nm,0.8s,mb4.2						
KZA	**Kyzart**	**24.26**	**319**	P	**P**	**14 25 03.2**	**+2.9**
	SNR=12						
MKAR	**Makanchi Array**	**24.27**	**336**	*e*P	**P**	**14 25 01.5**	**+1.2**
MKAR				pmax	pmax		
	comp=Z,15nm,0.6s						
TKM2	**Tokmak 2**	**24.58**	**321**	P	**P**	**14 25 05.4**	**+2.0**
	SNR=10						
KBK	**Karagaybulak**	**24.79**	**320**	P	**P**	**14 25 07.9**	**+2.5**
	SNR=15						
UCH	**Uchtor**	**24.79**	**318**	P	**P**	**14 25 08.6**	**+3.1**
	SNR=11						
AAK	**Ala-Archa**	**25.04**	**319**	P	**P**	**14 25 10.3**	**+2.4**
	SNR=15						
AAK	**Ala-Archa**	**25.04**	**319**	*c i*P	**P**	**14 25 08.0**	**+0.2**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
AAK				MLR	MLR		
	comp=Z,200nm,15.0s,MS3.8						
AAK	**Ala-Archa**	**25.04**	**319**	*e*P	**P**	**14 25 07.5**	**-0.3**
	comp=Z,13nm,0.8s,mb4.5						
FRU	**Bishkek**	**25.09**	**320**	*e*P	**P**	**14 25 10.0**	**+1.7**
CHMS	**Chumysh**	**25.11**	**320**	P	**P**	**14 25 09.9**	**+1.4**
	SNR=7.5						
AML	**Almayashu**	**25.23**	**317**	P	**P**	**14 25 12.2**	**+2.5**
	SNR=10						
USP	**Ospenovka**	**25.42**	**320**	P	**P**	**14 25 12.5**	**+1.1**
	SNR=15						
EKS2	**Erkin-Say**	**25.49**	**318**	P	**P**	**14 25 14.0**	**+2.0**
	SNR=24						
ZAK	**Zakamensk**	**25.57**	**10**	⇑*i*P	**P**	**14 25 12.9**	**+0.2**
MOY	**Mondy**	**26.54**	**6**	*e*P	**P**	**14 25 22.5**	**+0.8**
IRK	**Irkutsk**	**27.53**	**10**	*e*P	**P**	**14 25 30.8**	**0.0**
HIA	**Hailar**	**29.98**	**31**	*e*P	**P**	**14 25 51.8**	**-0.9**
	comp=Z,12nm,0.9s,mb4.6						
NVS	**Novosibirsk**	**31.10**	**345**	*e*P	**P**	**14 26 01.3**	**-1.2**
NVS				*e*		14 30 59.9	
NVS				pmax	pmax		
	comp=N,11nm,0.7s						
NVS				pmax	pmax		
	comp=E,14nm,0.7s						
NVS				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.2						
MDJ	**Mudanjiang**	**32.92**	**46**	P	**P**	**14 26 17.8**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,92nm,6.0s						
MDJ				LR	LR		
	comp=N,193nm,11.4s,MS4.2						
MDJ				LR	LR		
	comp=E,260nm,12.5s,MS4.2						
MDJ				LR	LR		
	comp=Z,407nm,11.4s,MS4.4						
BVA0	**Borovoye Array**	**33.95**	**332**	*i* P	**P**	**14 26 27.3**	**0.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**34.01**	**331**	*e*P	**P**	**14 26 28.0**	**+0.1**
	comp=Z,12nm,0.6s,mb5.0						
CHKZ	**Chkalovo**	**34.31**	**333**	P	**P**	**14 26 30.8**	**+0.3**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
CHKZ	**Chkalovo**	**34.31**	**333**	*e*P	**P**	**14 26 30.6**	**+0.2**

comp=Z,12nm,0.6s,mb5.0
BOD Bodaibo 34.79 16 *e*P **P 14 26 33.6 -1.0**
MAJO Matsushiro 37.20 62 *e*P **P 14 26 54.9 -0.2**
comp=Z,9.9nm,0.8s,mb4.7
MAT Matsushiro 37.20 62 *e*P **P 14 26 55.0 -0.1**
comp=Z,7.5nm,0.8s,mb4.6
MAT *e*S **S 14 32 37.0 -1.5**
MAT Matsushiro 37.20 62 P **P 14 26 54.6 -0.5**
MAT S **S 14 32 36.6 -1.9**
CLNS Chul'man 37.54 25 *e*P **P 14 26 58.4 +0.7**
CLNS pmax pmax
comp=N,17nm,0.9s
CLNS pmax pmax
comp=Z,31nm,0.9s,mb5.0
CLNS pmax pmax
comp=E,23nm,1.0s
SVE Sverdlovsk 40.70 330 *e*P **P 14 27 25.0 +1.0**
ARU Arti 41.42 329⇑*i*P **P 14 27 27.0 -3.0**
ARU *e* 14 29 24.0
ARU *e*S **S 14 33 39.1 -2.8**
ARU *e*SS SS 14 36 45.5 +3.3
ARU *e* 14 37 28.6
ARU pmax pmax
comp=Z,15nm,1.6s,mb4.4
ARU Arti 41.42 329 *e*P **P 14 27 28.8 -1.2**
comp=Z,7.2nm,0.8s,mb4.3
YSS Yuzh-Sakhalins 42.37 47⇑*e*P **P 14 27 37.4 -0.5**
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.0
YSS Yuzh-Sakhalins 42.37 47 *e*P **P 14 27 37.7 -0.1**
comp=Z,42nm,1.0s,mb5.0
YAK Yakutsk 42.92 22 *i*P **P 14 27 41.6 -0.6**
YAK pmax pmax
comp=Z,14nm,0.9s,mb4.7
YAK MLR MLR
comp=Z,100nm,14.0s,MS3.9
GNI Garni 45.41 302 *i*P **P 14 28 02.9 +0.4**
GNI pmax pmax
comp=Z,17nm,1.2s
GNI MLR MLR
comp=Z,100nm,21.0s
GNI Garni 45.41 302 *e*P **P 14 28 02.8 +0.3**
comp=Z,8.6nm,0.8s,mb4.6
GOF Gofitskoye 47.05 309 *e*P **P 14 28 15.0 -0.3**
KIV Kislovodsk 47.19 307 *e*P **P 14 28 23.7 +7.2**
KIV pmax pmax
comp=Z,13nm,1.0s,mb4.8
SOC Sochi 49.31 307 *e*P **P 14 28 30.5 -2.5**
SOC *e*PPP PPP 14 31 19.1 -3.2
SOC *e*S **S 14 35 35.1 -0.1**
SOC *e* 14 38 14.2
SOC *e*SS SS 14 39 09.5 +6.6
SOC pmax pmax
comp=Z,78nm,1.5s,mb5.5
SOC pmax pmax
comp=N,40nm,1.1s
SOC pmax pmax
comp=E,52nm,1.2s
TIXI Tiksi 49.80 13 *e*P **P 14 28 34.4 -1.9**
TIXI pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
MALT Malatya 50.31 300 *e*P **P 14 28 41.5 +0.7**
comp=Z,3.9nm,0.8s,mb4.5
MA2 Magadan 50.56 32 *i*P **P 14 28 41.4 -0.9**
MA2 pmax pmax
comp=Z,19nm,0.9s,mb5.0
MA2 MLR MLR
comp=Z,200nm,15.0s,MS4.2
MA2 Magadan 50.56 32 *e*P **P 14 28 41.1 -1.2**
comp=Z,18nm,0.9s,mb5.0
ANN Anapa 51.00 308 *e*P **P 14 28 40.5 -5.3**
ANN pmax pmax
comp=Z,62nm,0.9s,mb5.5
FITZ Fitzroy Crossi 51.61 144 *e*P **P 14 28 51.5 +0.7**
comp=Z,7.4nm,0.9s,mb4.6
OBN Obninsk 52.54 321 P **P 14 29 03.0 +5.7**
OBN *e*S **S 14 36 15.3 -4.3**
OBN MLR MLR
comp=Z,100nm,12.0s,MS4.1
JOF Joensuu 56.53 330 *e*p **P 14 29 24.9 -1.4**
comp=Z,3.5nm,0.7s,mb4.5
JOF Joensuu 56.53 330 *e*P **P 14 29 24.9 -1.4**
JOF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
WRA Warramunga Arr 58.08 137 *i*P **P 14 29 38.6 +0.8**
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRAB Tennant Creek 58.08 137 *e*P **P 14 29 37.1 -0.7**
WB2 Warramunga Arr 58.09 137 *e*P **P 14 29 38.3 +0.4**
VSU Vasula 58.27 325 *i*P **P 14 29 38.0 -0.6**
SUW Suwalki 60.26 319 *e*P **P 14 29 51.4 -1.0**
ASPA Alice Springs 60.66 140 *e*P **P 14 29 57.1 +1.5**
KWP Kalwaria 60.87 314 *e*P **P 14 29 56.5 -0.1**
KMBO Kilima Mbogo 63.01 255 P **P 14 30 10.6 -0.9**
NB2 NORSAR Subarra 65.97 328 P **P 14 30 29.0 -0.9**
comp=Z,2.0nm,0.6s,mb4.3,baz=82,slow=6.5
PRU Pruhonice 66.05 316 *e*P **P 14 30 30.7 +0.1**
CLL Collm 66.74 317 *e*P **P 14 30 35.0 0.0**
CLL Collm 66.74 317 P **P 14 30 35.0 0.0**
GEC2 GERESS Array S 66.82 315 *e*P **P 14 30 35.5 0.0**
GEC2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
KHC Kasperske Hory 66.83 315 *i*P **P 14 30 35.2 -0.4**
KHC Kasperske Hory 66.83 315 *e*P **P 14 30 35.0 -0.6**
WET Wettzell 67.28 315 *e*P **P 14 30 38.5 +0.1**
MOX Moxa 67.74 317 *i*P **P 14 30 40.9 -0.4**
GRA1 Grafenberg Arr 68.21 316 *e*P **P 14 30 43.9 -0.3**
comp=Z,4.0nm,0.8s,mb4.5
GRF Grafenberg Arr 68.21 316 *e*P **P 14 30 43.9 -0.3**
GRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
GRF Grafenberg Arr 68.21 316 *e*P **P 14 30 43.9 -0.3**
comp=Z,4.0nm,0.8s,mb4.5
CLZ Clausthal 68.23 318 *e*P **P 14 30 44.2 -0.1**
comp=Z,7.0nm,0.8s,mb4.7
FUR Furstenfeldbru 68.54 314 *e*P **P 14 30 46.6 +0.3**
BFO Black Forest 70.40 315 *e*P **P 14 30 57.4 -0.3**
BFO pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BFO Black Forest 70.40 315 *e*P **P 14 30 57.4 -0.3**
comp=Z,2.0nm,0.8s,mb4.1
CDF Champ du Feu 71.05 315 *e*P **P 14 31 00.6 -1.0**
WLF Walferdange 71.39 317 *e*P **P 14 31 03.6 0.0**
HINF Hinteralfeld 71.50 315 *e*P **P 14 31 04.6 +0.3**
PGF Pioggiola 71.63 309 *e*P **P 14 31 05.0 -0.2**
GIVF Givet 72.08 317 *e*P **P 14 31 07.8 +0.2**
LPG La Plagne 72.27 312 *e*P **P 14 31 09.5 +0.6**
comp=Z,22nm,0.8s,mb4.9
LPL La Plagne 72.28 312 *e*P **P 14 31 09.5 +0.6**
comp=Z,22nm,0.7s,mb4.9
SBF Sospel 72.32 311 *e*P **P 14 31 09.0 -0.2**
comp=Z,29nm,0.8s,mb5.0
CABF La Chapelle 72.36 314 *e*P **P 14 31 09.4 0.0**
MEZF Maizieres J'vi 72.43 316 *e*P **P 14 31 10.0 +0.2**
MBDF Montbardon 72.50 312 *e*P **P 14 31 11.3 +1.0**
comp=Z,15nm,0.8s,mb4.7
ORIF Oris-en-Rattie 73.04 312 *e*P **P 14 31 13.3 -0.2**
comp=Z,11nm,0.8s,mb4.5
SMRF Simiane la Rot 73.55 311 *e*P **P 14 31 16.6 +0.1**
comp=Z,41nm,1.1s,mb5.0
SMF Signal de Mont 73.81 314 *e*P **P 14 31 17.1 -0.9**
comp=Z,19nm,0.9s,mb4.7
VIVF Saint-Julien-l 73.87 312 *e*P **P 14 31 18.3 0.0**
comp=Z,29nm,1.1s,mb4.8
SSF Saint Saulge 73.89 315 *e*P **P 14 31 18.3 -0.1**
comp=Z,13nm,0.7s,mb4.7
AVF Avril sur Loir 74.08 314 *e*P **P 14 31 18.5 -1.0**
comp=Z,11nm,0.8s,mb4.6
LASF Ste Croix 74.69 312 *e*P **P 14 31 23.4 +0.3**
comp=Z,15nm,0.9s,mb4.6
TCF Toulx Ste Croi 75.00 314 *e*P **P 14 31 24.4 -0.4**
CAF Calviac 75.58 313 *e*P **P 14 31 28.8 +0.6**
comp=Z,21nm,1.1s,mb4.7
RJF Les Rejaudoux 75.81 314 *e*P **P 14 31 30.1 +0.7**
comp=Z,26nm,1.1s,mb4.8
MTLF Montolieu 76.06 311 *e*P **P 14 31 31.2 +0.3**
comp=Z,24nm,1.1s,mb4.7
COLA College 77.44 23 *i*P **P 14 31 38.0 -0.3**
COLA College 77.44 23 *e*P **P 14 31 37.8 -0.5**
comp=Z,6.2nm,0.9s,mb4.5
EPF Esparros 77.45 312 *e*P **P 14 31 39.0 +0.2**
SPU Mount Spurr 77.77 27 *e*P **P 14 31 39.6 -0.5**
ETSF Etsaut 78.11 312 *e*P **P 14 31 42.9 +0.5**
BORG Borgarnes 78.31 337 P **P 14 31 43.8 +0.8**
SML Sawmill 78.95 26 *e*P **P 14 31 45.9 -0.8**
SML *e*pP pP 14 31 58.7 -0.3
INK Inuvik 79.71 17 *e*P **P 14 31 50.3 -0.3**
comp=Z,10nm,1.0s,mb4.7
DAWY Dawson 80.86 22 *e*P **P 14 31 56.5 -0.3**
YKA Yellowknife Ar 89.03 14 *i*P **P 14 32 37.3 -0.1**
YKA pmax pmax
comp=Z,1.0nm,0.7s
EDM Edmonton 97.59 18 P **P 14 33 18.3 +1.4**
VNA2 Neumayer--Watz 118.24 201 P PKPdf 14 38 35.4 +7.2
VNA3 Neumayer Olymp 118.95 201⇑*i*P PKPdf 14 38 36.1 +6.4

*BJI **06** 14:35:24.0, 33.85N×117.36W, h13km, mB4.8, mb4.1, Ms4.6, Msz4.4*
*NEIC **06** 14:35:27.7, 34.13N×117.44W, h4km, ML4.4(PAS), After PAS.*
NEIC Felt [V] at Bloomington, Fontana, Rancho Cucamonga and Rialto; [IV] at Colton, Corona, Grand Terrace, Mira Loma, Moreno Valley, Riverside and San Bernardino; [III] at Anaheim, Big Bear City, Chino, Foothill Ranch, Irvine, Lake Forest, Loma Linda, Lytle Creek, Mentone, Norco, Ontario, Perris, Redlands, Santa Ana, San Jacinto, Upland, Wrightwood and Yorba Linda. Felt as far as Los Angeles, Long Beach, Santa Monica and San Diego.

ISC 06 14:35:24.6±0.7, 34.14N±0.06×117.39W±0.05, h4km, n45, σ1§15/45, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flat Ob**	**0.94**	**124**	*e*P	**Pb**	**14 35 44.9**	**+1.9**
DAC	**Darwin (Calif)**	**2.14**	**356**	*e*Pn	**Pn**	**14 36 03.1**	**+1.6**
NEN	**Nelson**	**2.58**	**54**	*e*Pn	**Pn**	**14 36 09.6**	**+1.8**
OMM	**Old Mammoth Mi**	**3.71**	**340**	*e*Pn	**Pn**	**14 36 26.7**	**+2.9**
LRV	**Little Rabbit**	**3.74**	**309**	*e*Pn	**Pn**	**14 36 24.2**	**-0.1**
TPH	**Tonopah**	**3.93**	**2**	*e*Pn	**Pn**	**14 36 27.6**	**+0.6**
SAO	**San Andreas Ge**	**4.22**	**309**	*e*Pn	**Pn**	**14 36 30.6**	**-0.6**
MNV	**Mina**	**4.33**	**352**	*e*Pn	**Pn**	**14 36 34.5**	**+1.8**
TRCR	**Troy Canyon**	**4.45**	**19**	Pn	**Pn**	**14 36 34.6**	**+0.3**
CMB	**Columbia Colle**	**4.58**	**329**	*e*Pn	**Pn**	**14 36 37.0**	**+0.7**
WCN	**Washoe City**	**5.49**	**340**	*e*Pn	**Pn**	**14 36 48.4**	**-0.8**
TUC	**Tucson**	**5.83**	**106**	*e*Pn	**Pn**	**14 36 53.1**	**-0.8**
MVU	**Marysvale**	**6.04**	**42**	*e*Pn	**Pn**	**14 36 58.3**	**+1.5**
MSU	**Marysvale**	**6.06**	**42**	*e*Pn	**Pn**	**14 36 59.6**	**+2.5**
OHCM	**Honcut**	**6.14**	**329**	*e*Pn	**Pn**	**14 36 59.2**	**+1.0**
BMN	**Battle Mountai**	**6.28**	**1**	*e*Pn	**Pn**	**14 37 01.0**	**+0.7**
HOPS	**Hopland**	**6.66**	**318**	Pn	**Pn**	**14 37 04.6**	**-1.0**
TMUT	**Trail Mountain**	**7.15**	**42**	Pn	**Pn**	**14 37 11.1**	**-1.3**
NLU	**North Lily Min**	**7.19**	**35**	Pn	**Pn**	**14 37 15.3**	**+2.2**
SRU	**San Rafael**	**7.42**	**46**	*e*Pn	**Pn**	**14 37 15.8**	**-0.5**
MPU	**Maple Canyon**	**7.45**	**36**	Pn	**Pn**	**14 37 18.3**	**+1.5**
BGU	**Big Grassy Mou**	**7.61**	**26**	*e*Pn	**Pn**	**14 37 17.4**	**-1.5**
NOQ	**North Oquirrh**	**7.74**	**31**	Pn	**Pn**	**14 37 19.8**	**-0.9**
DAU	**Daniels Canyon**	**7.94**	**36**	*e*Pn	**Pn**	**14 37 23.9**	**+0.3**
PV10	**Paradox Valley**	**7.96**	**56**	*e*Pn	**Pn**	**14 37 23.5**	**-0.4**
JLU	**Jordanelle**	**8.00**	**35**	*e*Pn	**P**	**14 37 22.5**	**-1.8**
MOD	**Modoc**	**8.08**	**344**	Pn	**P**	**14 37 24.7**	**-0.8**
SPUT	**South Promonto**	**8.16**	**27**	*e*Pn	**P**	**14 37 24.8**	**-1.8**
WVOR	**Wild Horse Val**	**8.34**	**354**	Pn	**P**	**14 37 27.0**	**-2.1**
TCUT	**Toone Canyon**	**8.43**	**32**	Pn	**P**	**14 37 30.3**	**0.0**
HVU	**Hansel Valley**	**8.45**	**24**	*e*Pn	**P**	**14 37 35.8**	**+5.1**
LAZ	**Ladron**	**8.49**	**85**	*e*Pn	**P**	**14 37 30.4**	**-0.8**
LENM	**Lemitar**	**8.63**	**87**	Pn	**P**	**14 37 32.4**	**-0.8**
HWUT	**Hardware Ranch**	**8.76**	**30**	Pn	**P**	**14 37 34.4**	**-0.5**
LPM	**Los Pinos Moun**	**8.91**	**86**	*e*Pn	**P**	**14 37 36.5**	**-0.5**
BNM	**Barren Site**	**8.92**	**87**	*e*Pn	**P**	**14 37 36.5**	**-0.6**
ANMO	**Albuquerque**	**9.05**	**82**	*e*Pn	**P**	**14 37 40.0**	**+1.0**
HLID	**Hailey**	**9.69**	**13**	*e*Pn	**P**	**14 37 46.4**	**-1.4**
SDCO	**Great Sand Dun**	**10.29**	**66**	*e*Pn	**P**	**14 37 55.0**	**-1.1**
MNTX	**Cornudas Mount**	**10.38**	**100**	*e*Pn	**P**	**14 37 57.3**	**0.0**
LOHW	**Long Hollow**	**10.83**	**27**	*e*Pn	**P**	**14 38 03.5**	**0.0**
GDL2	**Guadalupe Moun**	**11.09**	**96**	*e*Pn	**P**	**14 38 07.6**	**+0.7**
HRY	**Holter Researc**	**13.25**	**17**	Pn	**P**	**14 38 36.1**	**+0.1**
MDJ	**Mudanjiang**	**80.83**	**318**	P	**P**	**14 47 41.2**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,175nm,5.6s						
NJ2	**Nanjing**	**95.53**	**315**	*e*P	**P**	**14 48 51.2**	**-0.9**

CASC 06 15:10:50.8±2.3, 11.73N×86.62W, h48km±25km, MD4.3, ML4.7, 9C-16D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.40**	**51**⇑*e*P		P	15 11 01.7	+1.0
COPN	**Copaltepe**	**0.45**	**3**⇑*i*P		P	15 11 01.7	+0.4
TICN	**Ticuantepe**	**0.48**	**51**⇓*i*P		P	15 11 02.0	+0.3
XAVN	**Gruta Xavier**	**0.50**	**34**⇓*i*P		P	15 11 02.0	+0.1
MASN	**Masaya**	**0.52**	**61**⇓*e*P		P	15 11 01.6	-0.6
MASN			⇓*e*P			15 11 01.8	
MASN			*e*S		S	15 11 11.8	+1.4
MASN			*i*			15 11 17.0	
	comp=N,23μm,0.7s						
MGAN	**Managua**	**0.55**	**41**⇓*i*P		P	15 11 02.3	-0.2
MGAN			*e*S		S	15 11 12.0	+1.0
MGAN			*e*S		S	15 11 12.2	+1.3
MGAN			*i*			15 11 12.8	
	comp=E,73μm,0.6s						
APYN	**Apoyeque**	**0.56**	**27**⇑*i*P		P	15 11 02.7	0.0
APON	**Apoyo**	**0.57**	**71**⇓*i*P		P	15 11 02.3	-0.5
WILN	**Americas 2**	**0.60**	**44**⇓*i*P		P	15 11 02.6	-0.5
WILN			*e*S		S	15 11 12.7	+0.6
MOMJ	**Momotombo**	**0.68**	**6**⇓*i*P		P	15 11 03.8	-0.3
MOMJ			*e*S		S	15 11 14.3	+0.3
MIRN	**Miramar**	**0.71**	**352**⇑*e*P		P	15 11 04.5	-0.1
LEON	**Leon**	**0.73**	**338**⇑*e*P		P	15 11 05.1	+0.1
CNGN	**Cerro Negro**	**0.77**	**354**⇓*e*P		P	15 11 05.1	-0.3
TEL3	**Telica 3**	**0.86**	**345**⇓*e*P		P	15 11 06.7	0.0
TELN	**Telica**	**0.89**	**346**⇓*e*P		P	15 11 06.9	-0.3
PYTN	**Playitas**	**0.97**	**34**⇓*i*P		P	15 11 06.8	-1.4
CONN	**Concepcion**	**0.98**	**100**⇓*i*P		P	15 11 06.8	-1.6
CRIN	**San Cristobal**	**1.05**	**336**⇓*e*P		P	15 11 09.1	-0.3
CRIN			*e*S		S	15 11 23.6	+0.5
VCR	**Vista de Mar**	**1.86**	**149**	*e*P	P	15 11 20.6	-0.3
VCR			*e*S		S	15 11 41.4	-1.9
CNCH	**Conchagua**	**1.94**	**322**⇑*e*P		P	15 11 21.3	-0.7
BLLM	**Bellamira**	**2.32**	**317**⇓*e*P		P	15 11 28.0	+0.5
BLLM			*e*S		S	15 11 54.4	-0.5
JCR	**Jicaral**	**2.38**	**142**	*e*P	P	15 11 27.3	-1.0
CAHU	**Cacacuatique**	**2.56**	**323**⇓*e*P		P	15 11 30.3	-0.4
VPS2	**Volcan Poas 2**	**2.79**	**123**	*e*P	P	15 11 36.1	+2.0
PRS1	**Puriscal**	**2.85**	**127**	*e*P	P	15 11 34.8	-0.2
SNVI	**San Vicente**	**2.86**	**311**	*e*P	P	15 11 35.3	+0.1
LCBS	**La Ceiba**	**3.00**	**310**⇑*e*P		P	15 11 36.8	-0.2
LCBS			*e*S		S	15 12 10.6	-1.3
LFRS	**El Faro**	**3.04**	**308**⇑*e*P		P	15 11 36.8	-0.9
LFRS			*e*S		S	15 12 11.6	-1.5
LAJ	**Bijagual**	**3.07**	**127**	*e*P	P	15 11 35.8	-2.3
SJS	**Escuela Geolog**	**3.08**	**125**	*e*S	S	15 12 15.0	+0.8
LFU	**La Fuente**	**3.16**	**310**	*e*P	P	15 11 38.7	-0.6
LCR2	**La Lucha 2**	**3.24**	**127**	*e*P	P	15 11 40.6	+0.2
ICR	**Volcan Irazu**	**3.24**	**122**⇑*e*P		P	15 11 41.0	+0.5
BOQS	**Boqueron**	**3.27**	**308**	*e*P	P	15 11 40.7	-0.2
BOQS			*e*S		S	15 12 18.8	-0.2
BUS	**Buena Vista**	**3.54**	**127**	*e*P	P	15 11 44.7	-0.1
BUS			*e*S		S	15 12 27.2	+1.3
SBLS	**San Blas**	**3.60**	**306**	*e*P	P	15 11 45.1	-0.5
SBLS			*e*S		S	15 12 27.0	-0.4
SNJE	**San Jose**	**3.61**	**306**	*e*P	P	15 11 45.2	-0.4
RTR	**El Retiro**	**3.66**	**306**	*e*P	P	15 11 45.5	-0.8
RBDL	**Robledal**	**3.82**	**309**	*e*P	P	15 11 47.6	-1.0
ACR	**Cerro Adams**	**4.57**	**132**	*e*P	P	15 11 58.9	-0.3
ACR			*e*S		S	15 12 47.8	-3.9

*MAN **06** 16:03:50.5, 13.05N×120.19E, h33km, mb4.7, ML3.6, MS3.6*

ISC 06 16:03:50.3±0.5, 13.02N±0.02×120.17E±0.04, h35km±8km, n38, σ0§90/51, mb4.8/6, 2C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.71**	**6**	*e*P	**P**	**16 04 03.9**	**0.0**
LUBP				*e*S	**S**	**16 04 13.1**	**-0.7**
LUBP	**Lubang**	**0.71**	**6**	*e*P	**P**	**16 04 03.9**	**0.0**
SJMP	**San Jose**	**1.08**	**121**	*e*P	**P**	**16 04 09.5**	**+0.3**
SJMP				*e*S	**S**	**16 04 22.9**	**-0.3**
TGY	**Tagaytay City**	**1.31**	**35**⇑*e*P		**P**	**16 04 13.1**	**+0.7**
TGY				*i*S	**S**	**16 04 29.9**	**+0.9**
BOAC	**Boac**	**1.69**	**75**	*e*P	**P**	**16 04 18.5**	**+0.6**
BOAC				*e*S	**S**	**16 04 40.0**	**+1.5**
LQP	**Lukban**	**1.72**	**51**⇑*e*P		**P**	**16 04 18.2**	**-0.1**
LQP				*i*S	**S**	**16 04 38.8**	**-0.5**
QVPH	**Quezon City--P**	**1.84**	**28**⇓*e*P		**P**	**16 04 18.4**	**-1.6**
OTRP	**Odiongan**	**1.92**	**110**	*e*P	**P**	**16 04 20.6**	**-0.6**
ENPP	**El Nido**	**1.95**	**202**	*e*P	**P**	**16 04 23.1**	**+1.5**
ENPP				*e*S	**S**	**16 04 45.1**	**+0.1**
CUYO	**Cuyo Island**	**2.31**	**159**	*e*P	**P**	**16 04 26.9**	**0.0**
CUYO				*e*S	**S**	**16 04 53.0**	**-1.4**
GQP	**Guinayangan**	**2.38**	**68**	*e*P	**P**	**16 04 28.4**	**+0.6**
GQP				*e*S	**S**	**16 04 55.2**	**-0.9**
POLP	**Polilio Island**	**2.42**	**45**	*e*P	**P**	**16 04 27.7**	**-0.5**
AUQP	**San Andres**	**2.46**	**83**	*e*P	**P**	**16 04 29.8**	**+0.8**
KALP	**Kalibo**	**2.51**	**122**	*e*P	**P**	**16 04 32.0**	**+2.4**
KALP				*e*S	**S**	**16 04 45.0**	**-14**
PCPH	**Palayan**	**2.68**	**19**⇓*e*P		**P**	**16 04 31.3**	**-0.8**
PCPH				*e*S	**S**	**16 05 01.4**	**-2.2**
SCZP	**Santa Cruz**	**2.75**	**355**	*e*P	**P**	**16 04 33.3**	**+0.3**
BALP	**Baler**	**3.03**	**27**	*e*P	**P**	**16 04 37.7**	**+0.7**
GUIM	**Jordan**	**3.36**	**135**	*e*P	**P**	**16 04 41.8**	**0.0**
GUIM				*e*S	**S**	**16 05 20.4**	**-0.5**
PVCP	**Virac**	**3.92**	**81**	*e*P	**P**	**16 04 49.7**	**0.0**
CAUP	**Cauayan**	**4.21**	**22**	*e*P	**P**	**16 04 53.8**	**-0.1**
PALP	**Palanan**	**4.57**	**28**	*e*P	**P**	**16 04 58.1**	**-0.8**
ABRA	**Dolores**	**4.63**	**6**	*e*P	**P**	**16 04 59.2**	**-0.6**
ABRA				*e*S	**S**	**16 05 54.5**	**+1.4**
OCLP	**Ormoc**	**4.77**	**114**	*e*P	**P**	**16 05 01.7**	**0.0**
BATP	**Bataraza**	**4.80**	**209**	*e*P	**P**	**16 05 01.9**	**-0.3**
BATP				*e*S	**S**	**16 05 54.6**	**-2.7**
APYP	**Conner**	**4.92**	**12**	*e*P	**P**	**16 05 03.2**	**-0.7**
MSLP	**Maasin**	**5.42**	**122**	*e*P	**P**	**16 05 11.4**	**+0.6**
PAGZ	**Pagadian**	**6.04**	**148**	*e*P	**P**	**16 05 20.6**	**+1.1**
JIRN	**Jiri**	**34.89**	**300**	*e*P	**P**	**16 10 41.7**	**+0.9**
	15nm,0.7s,mb5.0						
GUN	**Gumba**	**35.23**	**300**	*e*P	**P**	**16 10 43.9**	**+0.2**
	16nm,0.7s,mb5.1						
PKI	**Pulchoki**	**35.52**	**299**	*e*P	**P**	**16 10 46.5**	**+0.3**
WB2	**Warramunga Arr**	**35.61**	**157**	*e*P	**P**	**16 10 45.5**	**-1.5**
KKN	**Kakani**	**35.70**	**300**	*e*P	**P**	**16 10 48.2**	**+0.5**
	16nm,0.9s,mb5.0						
DMN	**Daman**	**35.79**	**299**	*e*P	**P**	**16 10 49.0**	**+0.5**
GKN	**Gorkha**	**36.30**	**300**	*e*P	**P**	**16 10 53.0**	**+0.2**
	7.8nm,0.8s,mb4.7						
KOLN	**Koldanda**	**37.12**	**299**	*e*P	**P**	**16 11 00.1**	**+0.5**
	8.4nm,0.7s,mb4.7						
ASPA	**Alice Springs**	**38.86**	**160**	*e*P	**P**	**16 11 14.4**	**+0.2**
NB2	**NORSAR Subarra**	**87.62**	**333**	P	**P**	**16 16 34.9**	**-1.1**
	1.9nm,0.7s,mb4.4,baz=69,slow=4.5						
NB2	**NORSAR Subarra**	**87.62**	**333**	P	**P**	**16 16 34.9**	**-1.1**
	baz=69,slow=4.4						

JMA 06 17:22:47.8, 34.93N×138.37E, h25km±1km, M1.5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHZ3	**Shizuoka 3**	**0.19**	**316**	P	Pb	17 22 53.3	0.0
SHZ3				S	Sb	17 22 57.1	0.0
JIZS	**Izushimoda**	**0.47**	**117**	S	Sb	17 23 04.4	+0.4
JYN	**Shimob**	**0.58**	**14**	P	Pb	17 22 58.9	-0.4
JNY	**Yasuok**	**0.60**	**316**	P	Pb	17 22 59.3	-0.3
JRY	**Ryogami san**	**1.17**	**22**	P	Pn	17 23 08.8	0.0

*NIED **06** 17:23:00, 34.90N×138.40E, h23km, Mw3.5 Best double couple: M0 1.71×10^14 NP1:φs285°, δ60°, λ143°. NP2:φs35°, δ59°, λ35°.*
*JMA **06** 17:23:20.6±0.1, 34.96N×138.38E, h24km±1km, M3.2 Broadband fault plane solution: P waves. NP1:φs34°, δ64°, λ27°. NP2:φs291°, δ66°, λ151°. Principal axes: T Plg37°, Azm252°; N Plg53°, Azm74°; P Plg1°, Azm343°;*
JMA Felt I J1.

ISC 06 17:23:20.7±0.7, 34.95N±0.04×138.41E±0.07, h24km, n9, σ0§71/12, 2C-5D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHZ3	**Shizuoka 3**	**0.20**	**304**	⇓P	**Pb**	**17 23 25.6**	**-0.7**
SHZ3				S	**Sb**	**17 23 29.7**	**-0.3**
JSG	**Sagara**	**0.34**	**214**	⇓P	**Pb**	**17 23 28.2**	**+0.1**
JSG				S	**Sb**	**17 23 34.3**	**+1.1**
JIZS	**Izushimoda**	**0.45**	**121**	⇑P	**Pb**	**17 23 29.8**	**-0.1**
JYN	**Shimob**	**0.56**	**11**	⇓P	**Pb**	**17 23 31.3**	**-0.4**
JNY	**Yasuok**	**0.61**	**312**	⇓P	**Pb**	**17 23 31.7**	**-0.9**
JOD2	**Odawara 2**	**0.63**	**60**	⇑P	**Pb**	**17 23 32.9**	**-0.1**
TK04	**Tokai 4**	**0.72**	**218**	P	**Pb**	**17 23 34.1**	**-0.4**
JRY	**Ryogami san**	**1.13**	**20**	⇓P	**Pn**	**17 23 41.0**	**-0.3**
MAT	**Matsushiro**	**1.60**	**354**	P	**Pn**	**17 23 48.3**	**+0.4**
MAT				S	**Sn**	**17 24 09.7**	**+1.8**

NEIC 06 18:33:34.4, 53.45N×165.26W, h23km, ML3.6(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHB	**Akutan Harbor**	**0.75**	**334**	P	Pb	18 33 47.6	-1.0
AKA	**Akutan**	**0.75**	**336**	P	Pb	18 33 47.6	-1.1
AKA				S	Sb	18 33 58.2	-0.3
AKLV	**Akutan Long Va**	**0.83**	**300**	P	Pb	18 33 48.5	-1.5
AKLV				S	Sb	18 33 59.5	-1.1
UNV	**Unalaska Valle**	**0.84**	**299**	P	Pb	18 33 48.7	-1.5
UNV				S	Sb	18 33 59.9	-1.2
LVA	**Lava Point**	**0.85**	**327**	P	Pb	18 33 48.9	-1.5
AKGG	**Akutan Green G**	**0.87**	**330**	P	Pb	18 33 49.2	-1.4
AKGG				S	Sb	18 34 01.0	-0.8
MNAT	**Makushin Natee**	**0.95**	**298**	P	Pb	18 33 50.6	-1.5
MTBL	**Makushin Table**	**0.99**	**302**	P	Pb	18 33 51.3	-1.5
MSW	**Makushin Switc**	**1.02**	**298**	P	Pb	18 33 51.6	-1.6
WFAR	**Faris Peak**	**1.13**	**14**	P	Pn	18 33 52.9	-2.0
WESN	**West Dahl Nort**	**1.19**	**19**	P	Pn	18 33 54.4	-1.5
WTUG	**Tugumak**	**1.49**	**20**	P	Pn	18 33 58.3	-1.9
SSLN	**Shishaldin Nor**	**1.56**	**28**	P	Pn	18 33 58.9	-2.1
OKCD	**Okmok Cone D**	**1.71**	**271**	P	Pn	18 34 01.4	-1.9
FALS	**False Pass**	**1.78**	**37**	P	Pn	18 34 01.5	-2.8
BALA	**Baldy Mountain**	**2.27**	**39**	P	Pn	18 34 10.2	-

VOY	**Vojsko**	**0.88**	**100**	*e*Pg	**Pg**	**18 46 36.2 +0.3**
VOY				*e*Sg	**Sg**	**18 46 47.7 0.0**
JAVS	**Javornik**	**1.03**	**106**	*e*Pg	**Pg**	**18 46 38.4 -0.5**
JAVS				*i* Sg	**Sg**	**18 46 53.4 +0.7**

MAN 06 19:05:21.8, 13.69N×120.54E, h101km, mb4.6, ML3.5, MS3.5, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.29**	**279**	*e*P	P	19 05 37.8	+1.2
LQP	**Lukban**	**1.06**	**66**	⇓*i*P	P	19 05 43.6	+0.4
BOAC	**Boac**	**1.29**	**100**	*e*P	P	19 05 45.9	-0.1
BOAC				*e*S	S	19 06 04.5	+0.3
SJMP	**San Jose**	**1.34**	**155**	*e*P	P	19 05 46.9	+0.3
SJMP				*e*S	S	19 06 05.7	+0.5
POLP	**Polilio Island**	**1.71**	**53**	*e*P	P	19 05 51.4	+0.3
ENPP	**El Nido**	**2.70**	**204**	*e*P	P	19 06 04.5	+0.1

*BJI **06** 19:10:55.2, 8.03N×93.66E, h45km, mB4.9, mb4.6, Ms4.4, Msz4.1*
*NEIC **06** 19:10:55.9±0.6, 8.20N×93.99E, h30km, mb4.7/22, Error ellipse: s-maj=15.3km s-min=14.8km az=217.0*
*MOS **06** 19:11:02.3±2.3, 9.22N×94.00E, h33km, mb4.9/8, Error ellipse: s-maj=31.3km s-min=16.1km az=95.9*
ISC 06 19:10:53.3±2.2, 8.24N±0.07×93.94E±0.06, h25km±16km, n60, σ1§31/61, mb4.8/33, MS4.1/3, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.70**	**99**	P	**Pn**	**19 12 33.0**	**+0.2**
	640nm,0.9s						
NNT	**Nongplab**	**7.15**	**52**	P	**Pn**	**19 12 38.8**	**-0.3**
CHG	**Chiang Mai**	**11.58**	**24**	⇓P	**P**	**19 13 43.8**	**+3.5**
	17nm,0.6s						
PALK	**Pallekele**	**13.15**	**267**	*e*P	**P**	**19 14 03.7**	**+2.4**
	29nm,1.3s						
PALK				*e*S	**S**	**19 16 17.4**	**-10**
VIS	**Vishakhapatnam**	**13.98**	**313**	*e*P	**P**	**19 14 12.2**	**-0.2**
VIS				*e*		19 14 17.0	
	comp=Z,37nm,1.1s						
VIS				*e*		19 16 34.4	
VIS				*e*		19 16 38.2	
BWNR	**Bhubaneshwar**	**14.34**	**328**	*e*P	**P**	**19 14 13.0**	**-4.0**
BWNR				*e*		19 14 15.8	
	comp=Z,64nm,1.6s						
BWNR				*i*		19 16 42.7	
IMP	**Imphal**	**16.45**	**360**	*e*P	**P**	**19 14 44.0**	**-0.3**
SHL	**Shillong**	**17.34**	**354**	*e*P	**P**	**19 14 53.0**	**-2.5**
HYB	**Hyderabad**	**17.55**	**303**	*i* P	**P**	**19 15 04.0**	**+5.9**
JIRN	**Jiri**	**20.66**	**340**	*e*P	**P**	**19 15 33.6**	**-0.4**
	comp=Z,94nm,1.0s						
PKI	**Pulchoki**	**20.85**	**338**	*e*P	**P**	**19 15 35.4**	**-0.6**
	comp=Z,144nm,1.3s						
GUN	**Gumba**	**21.00**	**340**	*e*P	**P**	**19 15 37.0**	**-0.5**
	comp=Z,87nm,0.9s						
DMN	**Daman**	**21.00**	**338**	*e*P	**P**	**19 15 37.0**	**-0.5**
	comp=Z,53nm,0.8s						
KKN	**Kakani**	**21.10**	**338**	*e*P	**P**	**19 15 37.6**	**-0.9**
	comp=Z,59nm,0.8s,mb5.0						
LSA	**Lhasa**	**21.51**	**353**	P	**P**	**19 15 41.8**	**-0.8**
LSA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
LSA	**Lhasa**	**21.51**	**353**	*e*P	**P**	**19 15 41.8**	**-0.8**
	comp=Z,22nm,0.9s,mb4.6						
LSA				*e*S	S	19 19 55.4	+21
GKN	**Gorkha**	**21.53**	**337**	*e*P	**P**	**19 15 42.5**	**-0.4**
	comp=Z,40nm,0.6s,mb5.0						
KOLN	**Koldanda**	**21.75**	**335**	*e*P	**P**	**19 15 45.0**	**0.0**
	comp=Z,59nm,1.0s,mb5.0						
BHPL	**Bhopal**	**21.76**	**315**	*e*P	**P**	**19 15 42.4**	**-2.8**
BHPL				AMb	AMB	19 15 55.0	
	comp=Z,17nm,1.0s,mb4.4						
PTH	**Pithoragarh**	**24.81**	**330**	*e*P	**P**	**19 16 16.0**	**+0.9**
NDI	**New Delhi**	**25.73**	**324**	*e*P	**P**	**19 16 25.0**	**+1.3**
ENH	**Enshi**	**26.31**	**32**	*e*P	**P**	**19 16 31.0**	**+1.9**
	comp=Z,11nm,1.0s,mb4.3						
NJ2	**Nanjing**	**33.12**	**41**	*e*P	**P**	**19 17 31.0**	**+1.2**
NJ2				AP	pP	19 17 40.5	+3.3
NJ2				S	**S**	**19 22 42.0**	**-4.4**
NJ2				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,190nm,7.0s						
NJ2				LR	LR		
	comp=N,1μm,18.1s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,18.7s,MS4.8						
NJ2				LR	LR		
	comp=Z,540nm,14.2s,MS4.4						
SSE	**Sheshan**	**34.10**	**44**	P	**P**	**19 17 37.3**	**-1.0**
SSE				S	**S**	**19 22 55.4**	**-6.2**
SSE				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,126nm,10.6s						
SSE				LR	LR		
	comp=N,193nm,22.8s,MS3.8						
SSE				LR	LR		
	comp=E,98nm,22.8s,MS3.8						
SSE				LR	LR		
	comp=Z,95nm,23.8s,MS3.5						
WMQ	**Urumqi**	**35.86**	**352**	*e*P	**P**	**19 17 53.9**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,47nm,1.8s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,32nm,5.1s						
WMQ				LR	LR		
	comp=N,115nm,17.2s,MS3.9						
WMQ				LR	LR		
	comp=E,158nm,20.8s,MS3.9						
WMQ				LR	LR		
	comp=Z,705nm,18.0s,MS4.5						
AAK	**Ala-Archa**	**38.29**	**337**	*i* P	**P**	**19 18 15.0**	**+1.4**
AAK				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.5						
AAK	**Ala-Archa**	**38.29**	**337**	*e*P	**P**	**19 18 12.4**	**-1.3**
	comp=Z,11nm,1.0s,mb4.5						
MBWA	**Marble Bar**	**38.67**	**139**	*e*P	**P**	**19 18 16.7**	**-0.3**
	comp=Z,22nm,1.3s,mb4.7						
ULN	**Ulaanbaatar**	**41.03**	**13**	*i* P	**P**	**19 18 37.6**	**+1.4**
ULN	**Ulaanbaatar**	**41.03**	**13**	*e*P	**P**	**19 18 38.1**	**+1.9**
	comp=Z,2.3nm,0.9s,mb3.8						
KS15	**Wonju Array Si**	**42.29**	**41**	*e*P	**P**	**19 18 45.1**	**-1.7**
HIA	**Hailar**	**46.26**	**23**	*e*P	**P**	**19 19 20.4**	**+1.9**
	comp=Z,7.1nm,1.0s,mb4.5						
NWAO	**Narrogin (SRO)**	**46.56**	**153**	P	**P**	**19 19 19.9**	**-1.3**
NVS	**Novosibirsk**	**47.26**	**352**	*e*P	**P**	**19 19 25.2**	**-1.1**
NVS				pmax	pmax		
	comp=N,11nm,1.0s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
WRAB	**Tennant Creek**	**48.64**	**126**	*e*P	**P**	**19 19 36.4**	**-1.2**
	comp=Z,6.0nm,0.9s,mb4.6						
BRVK	**Borovoye**	**48.64**	**341**	*e*P	**P**	**19 19 36.4**	**-0.7**
	comp=Z,3.3nm,0.9s,mb4.4						
CHKZ	**Chkalovo**	**49.06**	**342**	*e*P	**P**	**19 19 39.0**	**-1.4**
	comp=Z,8.1nm,0.9s,mb4.8						
BOD	**Bodaibo**	**51.84**	**14**	*e*P	**P**	**19 19 59.1**	**-2.4**
GNI	**Garni**	**54.04**	**314**	P	**P**	**19 20 21.7**	**+3.6**
	comp=Z,6.6nm,0.9s,mb4.6						
ARU	**Arti**	**55.48**	**337**	*e*P	**P**	**19 20 30.8**	**+2.4**
ARU	**Arti**	**55.48**	**337**	*e*P	**P**	**19 20 30.3**	**+1.9**
	comp=Z,10.0nm,1.2s,mb4.7						
KMBO	**Kilima Mbogo**	**57.27**	**263**	*i* P	pP	19 20 51.9	+2.4
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KMBO	**Kilima Mbogo**	**57.27**	**263**	P	**P**	**19 20 42.1**	**+0.3**
	comp=Z,7.6nm,1.1s,mb4.6						
MALT	**Malatya**	**58.08**	**310**	*e*P	**P**	**19 20 47.4**	**+0.3**
	comp=Z,5.5nm,1.1s,mb4.5						
SOC	**Sochi**	**58.78**	**316**	*e*P	**P**	**19 20 53.6**	**+1.7**
SOC				*e*		19 21 40.9	
SOC				*e*		19 23 09.6	
SOC				*e*PPP	PPP	19 24 21.8	-5.9
SOC				*e*S	**S**	**19 28 52.7**	**-1.1**
SOC				*e*SS	SS	19 32 49.1	+0.2
SOC				pmax	pmax		
	comp=Z,45nm,1.1s,mb5.4						
SOC				pmax	pmax		
	comp=N,47nm,1.0s						
SOC				pmax	pmax		
	comp=E,34nm,1.0s						
YAK	**Yakutsk**	**59.71**	**19**	*i* P	**P**	**19 20 58.7**	**+0.6**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
YAK	**Yakutsk**	**59.71**	**19**	*e*P	**P**	**19 20 57.8**	**-0.3**
	comp=Z,11nm,0.7s,mb5.0						
MBAR	**Mbarara**	**63.59**	**265**	P	**P**	**19 21 23.5**	**-1.5**
	comp=Z,13nm,1.4s,mb4.8						
OBN	**Obninsk**	**64.97**	**328**	*e*P	**P**	**19 21 37.9**	**+4.7**
OBN				*e*	pP	19 21 45.4	+4.4
OBN						19 22 06.0	
OBN				*e*		19 25 37.4	
OBN				pmax	pmax		
	comp=Z,41nm,2.4s,mb5.0						
MA2	**Magadan**	**66.53**	**28**	*i* P	**P**	**19 21 45.0**	**+1.8**
MA2				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
MA2	**Magadan**	**66.53**	**28**	*e*P	**P**	**19 21 44.6**	**+1.4**
	comp=Z,11nm,1.1s,mb4.8						
TIXI	**Tiksi**	**66.91**	**11**	*i* P	**P**	**19 21 47.9**	**+2.5**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
KAF	**Kangasniemi**	**72.38**	**333**	*e*p	**P**	**19 22 18.0**	**-1.0**
	comp=Z,4.6nm,0.9s,mb4.4						
KAF	**Kangasniemi**	**72.38**	**333**	*e*P	**P**	**19 22 18.0**	**-1.0**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
BILL	**Bilibino**	**75.82**	**22**	P	**P**	**19 22 40.3**	**+1.4**
	comp=Z,16nm,1.5s,mb4.7						
BRG	**Berggiesshubel**	**77.34**	**320**	*e*P	pP	19 22 56.3	+0.7
BRG				pmax	pmax		
	comp=Z,14nm,1.8s,mb4.6						
BRG	**Berggiesshubel**	**77.34**	**320**	*e*P	pP	19 22 56.3	+0.7
	comp=Z,14nm,1.8s						
NB2	**NORSAR Subarra**	**79.32**	**331**	P	**P**	**19 22 57.4**	**-0.9**
	comp=Z,8.4nm,1.2s,mb4.5,baz=92,slow=5.6						
LPG	**La Plagne**	**82.22**	**315**	*e*P	**P**	**19 23 15.5**	**+1.6**
	comp=Z,32nm,1.2s,mb4.8						
MCK	**McKinley**	**94.20**	**23**	P	**P**	**19 24 15.9**	**+4.8**
	comp=Z,10nm,1.6s,mb5.0						

*THE **06** 19:11:02.7, 38.99N×23.39E, h7km, ML3.1*
*ATH **06** 19:11:02.9, 38.98N×23.36E, h11km±3km, MD3.0/12, ML3.2*
*CSEM **06** 19:11:02.9±0.1, 38.97N×23.42E, h10km, ML3.2, Error ellipse: s-maj=2.3km s-min=1.5km az=77.0*
*NEIC **06** 19:11:02.9, 38.98N×23.36E, h11km, ML3.2(ATH), After ATH.*
ISC 06 19:11:02.0±0.5, 38.98N±0.02×23.39E±0.04, h9km±4km, n23, σ0§92/36, 3C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.35**	**339**	⇑*i*PB	**Pb**	**19 11 09.8**	**-0.3**
NEO				*e*SB	**Sb**	**19 11 15.0**	**-0.4**
XOR	**Xorichti**	**0.42**	**339**	*e*Pg	**Pg**	**19 11 10.9**	**+0.4**
XOR				*e*Sg	**Sg**	**19 11 16.6**	**+0.4**
AOS	**Alonnisos**	**0.43**	**63**	*e*Pg	**Pg**	**19 11 10.4**	**-0.4**
AOS				*e*Sg	**Sg**	**19 11 17.0**	**+0.5**
LKR	**Lokris**	**0.44**	**223**	⇑*i*PG	**Pg**	**19 11 11.0**	**0.0**
LKR				*e*SB	**Sb**	**19 11 17.3**	**-0.7**
AGG	**Agios Georgios**	**0.82**	**274**	*e*Pg	**Pg**	**19 11 17.6**	**-1.0**
AGG				*e*Sg	**Sg**	**19 11 30.1**	**+0.5**
MPAR	**Parnis Oros**	**0.87**	**162**	*e*PB	**Pb**	**19 11 20.0**	**+1.2**
MPAR				*e*SB	**Sb**	**19 11 31.5**	**+1.2**
MGER	**Gerania Oros**	**0.99**	**186**	*e*PB	**Pb**	**19 11 20.7**	**-0.2**
PTL	**Penteli**	**1.00**	**158**	*e*PB	**Pb**	**19 11 21.0**	**0.0**
ATH	**Athens Observa**	**1.03**	**165**	*e*PB	**Pb**	**19 11 22.7**	**+1.0**
ATH				*e*SN	**Sn**	**19 11 35.8**	**-1.5**
NSAL	**Nisos Salamina**	**1.07**	**177**	*e*PG	**Pg**	**19 11 22.5**	**-0.9**
NAIG	**Nisos Aigina**	**1.22**	**176**	*e*PG	**Pg**	**19 11 25.9**	**-0.5**
EVR	**Evrytania**	**1.23**	**268**	*e*PB	**Pb**	**19 11 26.7**	**+1.6**
LIT	**Litokhoron**	**1.32**	**329**	*e*Pb	**Pb**	**19 11 26.8**	**+0.2**
LIT				*e*Sb	**Sb**	**19 11 45.8**	**+2.3**
PLG	**Polygyros**	**1.40**	**2**	⇑*i*PN	**Pn**	**19 11 27.5**	**-0.3**
PLG				*e*SG	**Sg**	**19 11 45.2**	**-3.4**
OUR	**Ouranopolis**	**1.43**	**18**	*e*Pb	**Pb**	**19 11 28.0**	**-0.5**
	comp=Z,7.5nm,0.1s						
LIA	**Limnos Island**	**1.67**	**56**	*e*PB	**Pb**	**19 11 35.1**	**+2.6**
RLS	**Riolos of Patr**	**1.76**	**239**	*e*PG	**Pg**	**19 11 36.6**	**-0.6**
GRG	**Griva**	**2.12**	**339**	*e*Pn	**Pn**	**19 11 38.2**	**+0.1**
GRG				*e*Sn	**Sn**	**19 12 05.4**	**+0.5**
SRS	**Serrai**	**2.15**	**4**	*e*Pn	**Pn**	**19 11 38.2**	**-0.3**
SRS				*e*Sn	**Sn**	**19 12 04.5**	**-1.1**
SRS	**Serrai**	**2.15**	**4**	*e*Pn	**Pn**	**19 11 38.2**	**-0.3**
SRS				*e*Sn	**Sn**	**19 12 04.4**	**-1.1**
KNT	**Kendrikon**	**2.22**	**350**	*e*Pn	**Pn**	**19 11 40.0**	**+0.4**
KNT				*e*Sn	**Sn**	**19 12 06.8**	**-0.6**
MMB	**Musomiste**	**2.62**	**6**	*i* P	**Pn**	**19 11 44.0**	**-1.4**
KKB	**Krupnik**	**2.90**	**356**	*i* P	**Pn**	**19 11 49.0**	**-0.3**

*MOS **06** 19:17:43.7±1.2, 4.47N×93.50E, h33km, mb5.3/7, Error ellipse: s-maj=44.1km s-min=17.4km az=89.3*
*BJI **06** 19:17:44.4, 4.36N×93.88E, h41km, mB5.1, mb4.7, Ms4.6, Msz4.1*
*NEIC **06** 19:17:46.6±0.4, 4.63N×93.85E, h30km, mb4.8/26, Error ellipse: s-maj=12.7km s-min=7.5km az=63.0*
ISC 06 19:17:45.2±0.4, 4.63N±0.06×93.97E±0.07, h31km, h31km±1.3km: pP-P, n69, σ1§04/71, mb4.8/41, MS4.5/2, 2C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**13.45**	**282**	P	**P**	**19 20 58.0**	**+1.5**
	31nm,1.3s						
KKTK	**Khon Kaen**	**14.52**	**36**	P	**P**	**19 21 19.0**	**+8.3**
	494nm,0.8s						
CHG	**Chiang Mai**	**14.91**	**19**	⇓P	**P**	**19 21 21.8**	**+6.0**
	31nm,1.2s						
NANT	**Nan**	**15.54**	**24**	P	**P**	**19 21 27.4**	**+3.4**
QIZ	**Qiongzhong**	**21.09**	**46**	*e*P	**P**	**19 22 28.7**	**-0.9**
	35nm,1.1s,mb4.6						
JIRN	**Jiri**	**24.07**	**343**	*e*P	**P**	**19 23 00.2**	**+1.2**
	32nm,0.7s,mb4.9						
PKI	**Pulchoki**	**24.23**	**341**	*e*P	**P**	**19 23 01.0**	**+0.4**
	14nm,0.7s,mb4.5						
DMN	**Daman**	**24.36**	**341**	*e*P	**P**	**19 23 03.2**	**+1.3**
	19nm,0.8s,mb4.6						
GUN	**Gumba**	**24.40**	**342**	*e*P	**P**	**19 23 02.5**	**+0.3**
	28nm,0.6s,mb4.9						
KKN	**Kakani**	**24.47**	**341**	*e*P	**P**	**19 23 02.8**	**-0.1**
	18nm,0.8s,mb4.5						
GKN	**Gorkha**	**24.88**	**340**	*e*P	**P**	**19 23 06.8**	**0.0**
	46nm,0.8s,mb5.1						
KOLN	**Koldanda**	**25.04**	**338**	*e*P	**P**	**19 23 08.3**	**0.0**
	67nm,0.8s,mb5.2						
LSA	**Lhasa**	**25.07**	**354**	P	**P**	**19 23 10.4**	**+1.7**
LSA				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.1						
LSA	**Lhasa**	**25.07**	**354**	*e*P	**P**	**19 23 10.5**	**+1.8**
	comp=Z,34nm,0.8s,mb4.9						
ENH	**Enshi**	**29.41**	**28**	*e*P	**P**	**19 23 47.5**	**-0.8**
	comp=Z,15nm,0.7s,mb4.8						
XAN	**Xi'an**	**32.39**	**24**	P	**P**	**19 24 13.5**	**-1.0**
XAN				AP	pP	19 24 23.3	-0.4
XAN				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.9						
NJ2	**Nanjing**	**35.88**	**38**	*e*P	**P**	**19 24 46.0**	**+1.4**
NJ2				AP	pP	19 24 55.6	+1.7
NJ2				XP	sP	19 24 59.5	+1.6
NJ2				PP	PP	19 26 09.0	+2.7
NJ2				S	**S**	**19 30 23.0**	**+3.2**
NJ2				XS		19 30 39.0	
NJ2				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,190nm,6.3s						
NJ2				LR	LR		
	comp=N,1μm,14.1s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,16.7s,MS4.9						
NJ2				LR	LR		
	comp=Z,540nm,15.2s,MS4.4						
MBWA	**Marble Bar**	**35.99**	**136**	*e*P	**P**	**19 24 45.6**	**0.0**
	comp=Z,8.9nm,1.0s,mb4.7						
SSE	**Sheshan**	**36.72**	**41**	*e*P	**P**	**19 24 50.8**	**-0.8**
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,114nm,4.7s						
FITZ	**Fitzroy Crossi**	**38.55**	**127**	*e*P	**P**	**19 25 06.6**	**-0.5**
	comp=Z,12nm,0.9s,mb4.6						
WMQ	**Urumqi**	**39.42**	**353**	*e*P	**P**	**19 25 14.2**	**+0.1**
WMQ				AP	pP	19 25 24.0	+0.5
WMQ				XP	sP	19 25 28.0	+0.6
WMQ				PP	PP	19 26 49.4	+0.9
WMQ				S	**S**	**19 31 13.4**	**0.0**
WMQ				XS		19 31 29.6	
WMQ				AMB	AMB		
	comp=Z,47nm,1.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,32nm,5.1s						
WMQ				LR	LR		
	comp=N,115nm,17.2s,MS4.0						
WMQ				LR	LR		
	comp=E,158nm,20.8s,MS4.0						
WMQ				LR	LR		
	comp=Z,612nm,18.0s,MS4.5						
BJT	**Baijiatuau**	**40.52**	**27**	*e*P	**P**	**19 25 25.4**	**+2.2**
	comp=Z,8.7nm,0.7s,mb4.5						
UCH	**Uchtor**	**41.25**	**338**	P	**P**	**19 25 30.3**	**+1.1**
	SNR=10						
KBK	**Karagaybulak**	**41.47**	**339**	P	**P**	**19 25 31.7**	**+0.8**
	SNR=13						
AML	**Almayashu**	**41.48**	**337**	P	**P**	**19 25 31.9**	**+0.8**
	SNR=18						
AAK	**Ala-Archa**	**41.61**	**338**	*i* P	**P**	**19 25 31.3**	**-0.9**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.1						
AAK	**Ala-Archa**	**41.61**	**338**	*e*P	**P**	**19 25 31.0**	**-1.2**
	comp=Z,9.7nm,1.2s,mb4.3						
EKS2	**Erkin-Say**	**41.90**	**338**	P	**P**	**19 25 35.2**	**+0.7**
	SNR=8.7						
USP	**Ospenovka**	**42.16**	**339**	P	**P**	**19 25 36.8**	**+0.1**
	SNR=13						
MKAR	**Makanchi Array**	**43.20**	**348**	*i* P	**P**	**19 25 45.0**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ULN	**Ulaanbaatar**	**44.51**	**13**	*i* P	**P**	**19 25 56.3**	**+0.5**
ULN	**Ulaanbaatar**	**44.51**	**13**	*e*P	**P**	**19 25 55.8**	**0.0**
	comp=Z,5.5nm,1.1s,mb4.3						
ZAK	**Zakamensk**	**46.26**	**8**	*e*P	**P**	**19 26 08.5**	**-1.1**
ZAK				*e*		19 27 39.2	
WRAB	**Tennant Creek**	**46.59**	**123**	*i* P	**P**	**19 26 13.5**	**+0.9**
WRAB	**Tennant Creek**	**46.59**	**123**	*e*P	**P**	**19 26 13.1**	**+0.5**
	comp=Z,24nm,0.6s,mb5.3						
WRAB				*e*		19 26 20.1	
WB2	**Warramunga Arr**	**46.60**	**123**	*e*P	**P**	**19 26 13.2**	**+0.5**
TLY	**Talaya**	**47.58**	**8**	P	**P**	**19 26 19.9**	**-0.1**
	comp=Z,7.6nm,0.9s,mb4.7						
HIA	**Hailar**	**49.56**	**22**	*e*P	**P**	**19 26 35.7**	**+0.4**
	comp=Z,10nm,1.1s,mb4.8						
MDJ	**Mudanjiang**	**50.59**	**33**	P	**P**	**19 26 43.6**	**+0.4**
	comp=Z,4.9nm,0.5s,mb4.7						
NVS	**Novosibirsk**	**50.80**	**352**	*e*P	**P**	**19 26 43.3**	**-1.4**
NVS				pmax	pmax		
	comp=N,10.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
BVA0	**Borovoye Array**	**51.99**	**342**	P	**P**	**19 26 52.4**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
BRVK	**Borovoye**	**52.05**	**342**	*e*P	**P**	**19 26 53.1**	**-1.1**
	comp=Z,13nm,1.0s,mb4.8						
CHKZ	**Chkalovo**	**52.49**	**343**	P	**P**	**19 26 56.8**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
CHKZ	**Chkalovo**	**52.49**	**343**	*e*P	**P**	**19 26 56.7**	**-0.7**
	comp=Z,31nm,1.1s,mb5.2						
CHKZ				*e*PcP	PcP	19 28 06.9	-0.9
HILS	**Ha'il**	**54.53**	**300**	D		19 27 13.3	
PMG	**Port Moresby**	**54.81**	**105**	*e*P	**P**	**19 27 14.7**	**-0.4**
	comp=Z,7.9nm,0.8s,mb4.8						
BOD	**Bodaibo**	**55.32**	**13**	*e*P	**P**	**19 27 17.3**	**-1.0**
GNI	**Garni**	**56.60**	**316**	P	**P**	**19 27 29.2**	**+1.5**
	comp=Z,8.8nm,0.9s,mb4.8						
CTA	**Charters Tower**	**56.93**	**117**	*e*P	**P**	**19 27 30.7**	**+0.4**
	comp=Z,4.7nm,0.8s,mb4.6						
CTAO	**Charters Tower**	**56.93**	**117**	*e*P	**P**	**19 27 30.4**	**+0.1**
	comp=Z,11nm,1.0s,mb4.9						
CTAO				*e*		19 27 37.5	
KMBO	**Kilima Mbogo**	**56.95**	**266**	*e*P	**P**	**19 27 30.0**	**-0.5**
	comp=Z,4.0nm,1.0s,mb4.4						
STKA	**Stephens Creek**	**58.04**	**132**	*e*P	**P**	**19 27 37.8**	**-0.2**
ARU	**Arti**	**58.80**	**338**	⇓*i*P	**P**	**19 27 38.6**	**-4.3**
ARU				*e*		19 28 26.1	
ARU				*e*		19 29 45.6	
ARU				*e*S	**S**	**19 35 41.8**	**-2.5**
ARU				*e*		19 37 25.5	
ARU				*e*SS	SS	19 39 35.1	-4.3
ARU				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
ARU	**Arti**	**58.80**	**338**	*e*P	**P**	**19 27 39.6**	**-3.2**
	comp=Z,13nm,1.0s,mb4.9						
MALT	**Malatya**	**60.45**	**312**	*e*P	**P**	**19 27 52.2**	**-2.3**
	comp=Z,9.6nm,1.5s,mb4.6						
EIL	**Elat**	**60.91**	**301**	*e*P	**P**	**19 27 53.5**	**-4.3**
	comp=Z,19nm,1.3s,mb5.1						
SOC	**Sochi**	**61.42**	**318**	*e*P	**P**	**19 27 57.1**	**-4.0**
SOC				*e*		19 28 38.6	
SOC				*e*PPP	PPP	19 31 36.2	-11
SOC				*e*S	**S**	**19 36 12.9**	**-5.3**
SOC				*e*SS	SS	19 40 12.8	-7.8
SOC				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.3						
SOC				pmax	pmax		
	comp=N,12nm,0.7s						
SOC				pmax	pmax		
	comp=E,22nm,1.0s						
YAK	**Yakutsk**	**63.11**	**18**	*i* P	**P**	**19 28 11.2**	**-0.8**
YAK				pmax	pmax		
	comp=Z,36nm,1.2s,mb5.4						
YAK	**Yakutsk**	**63.11**	**18**	*e*P	**P**	**19 28 11.0**	**-1.0**
	comp=Z,49nm,1.0s,mb5.6						
OBN	**Obninsk**	**68.02**	**329**	*e*P	**P**	**19 28 41.2**	**-2.5**
OBN				*e*	pP	19 28 49.

SHL	**Shillong**	**17.51**	**354**	*eP*	**P**	**19 46 15.0 +1.0**
HYB	**Hyderabad**	**17.65**	**303**	*eP*	**P**	**19 46 17.0 +1.2**
HYB	**Hyderabad**	**17.65**	**303**	*i P*	**P**	**19 46 17.0 +1.2**
HYB				*eS*	**S**	**19 49 29.0 -0.2**
JIRN	**Jiri**	**20.82**	**340**	*eP*	**P**	**19 46 51.2 -0.8**
	comp=Z,67nm,0.9s					
PKI	**Pulchoki**	**21.01**	**338**	*eP*	**P**	**19 46 52.9 -1.1**
	comp=Z,39nm,0.8s,mb4.8					
GUN	**Gumba**	**21.16**	**340**	*eP*	**P**	**19 46 54.2 -1.3**
	comp=Z,70nm,0.7s,mb5.1					
DMN	**Daman**	**21.16**	**338**	*eP*	**P**	**19 46 54.2 -1.3**
	comp=Z,56nm,0.9s,mb4.9					
KKN	**Kakani**	**21.26**	**338**	*eP*	**P**	**19 46 54.9 -1.6**
	comp=Z,37nm,0.7s,mb4.8					
LSA	**Lhasa**	**21.67**	**353**	P	**P**	**19 47 00.0 -0.7**
LSA	**Lhasa**	**21.67**	**353**	*eP*	**P**	**19 46 59.2 -1.4**
	comp=Z,21nm,0.6s,mb4.7					
GKN	**Gorkha**	**21.69**	**337**	*eP*	**P**	**19 46 59.5 -1.3**
	comp=Z,56nm,0.8s,mb5.1					
BHPL	**Bhopal**	**21.89**	**315**	*i P*	**P**	**19 47 06.0 +3.2**
BHPL				*e*		19 47 07.3
	comp=Z,7.2nm,0.3s					
KOLN	**Koldanda**	**21.90**	**335**	*eP*	**P**	**19 47 02.4 -0.6**
	comp=Z,55nm,0.9s,mb5.0					
PTH	**Pithoragarh**	**24.96**	**331**	*eP*	**P**	**19 47 33.0 +0.1**
NDI	**New Delhi**	**25.87**	**325**	*eP*	**P**	**19 47 45.0 +3.6**
DGAR	**Diego Garcia**	**26.39**	**235**	*eP*	**P**	**19 47 44.4 -1.9**
	comp=Z,104nm,0.5s,mb5.6					
ENH	**Enshi**	**26.45**	**31**	*eP*	**P**	**19 47 50.9 +4.2**
	comp=Z,17nm,1.1s,mb4.5					
DDI	**Dehra Dun**	**26.68**	**328**	*eP*	**P**	**19 47 50.7 +1.9**
NJ2	**Nanjing**	**33.24**	**41**	*eP*	**P**	**19 48 47.0 -0.2**
NJ2				PP	PP	19 50 01.2 +2.4
NJ2				S	**S**	**19 54 10.0 +5.6**
NJ2				AMB	AMB	
	comp=Z,50nm,0.6s,mb5.6					
NJ2				AMB	AMB	
	comp=Z,190nm,5.9s					
NJ2				LR	LR	
	comp=N,1μm,15.1s,MS4.9					
NJ2				LR	LR	
	comp=E,1μm,17.7s,MS4.9					
NJ2				LR	LR	
	comp=Z,640nm,14.2s,MS4.5					
SSE	**Sheshan**	**34.21**	**44**	P	**P**	**19 48 51.1 -4.5**
SSE				S	**S**	**19 54 16.2 -3.2**
SSE				AMB	AMB	
	comp=Z,22nm,0.7s,mb5.2					
SSE				AMB	AMB	
	comp=Z,104nm,4.8s					
SSE				LR	LR	
	comp=N,89nm,20.2s,MS3.6					
SSE				LR	LR	
	comp=E,57nm,20.2s,MS3.6					
SSE				LR	LR	
	comp=Z,66nm,18.2s,MS3.4					
WMQ	**Urumqi**	**36.02**	**352**	*eP*	**P**	**19 49 12.1 +1.1**
WMQ				AP	pP	19 49 21.8 +2.8
WMQ				PP	PP	19 50 34.7 +1.6
WMQ				S	**S**	**19 54 48.6 +1.1**
WMQ				AMB	AMB	
	comp=Z,21nm,1.0s,mb5.0					
WMQ				AMB	AMB	
	comp=Z,26nm,5.1s					
WMQ				LR	LR	
	comp=N,115nm,16.8s,MS3.9					
WMQ				LR	LR	
	comp=E,158nm,19.7s,MS3.9					
WMQ				LR	LR	
	comp=Z,733nm,19.2s,MS4.5					
AAK	**Ala-Archa**	**38.45**	**337**	*i P*	**P**	**19 49 37.5 +6.2**
AAK				pmax	pmax	
	comp=Z,14nm,1.4s,mb4.5					
AAK	**Ala-Archa**	**38.45**	**337**	*eP*	**P**	**19 49 32.6 +1.3**
	comp=Z,14nm,1.2s,mb4.5					
ULN	**Ulaanbaatar**	**41.18**	**13**	*i P*	**P**	**19 49 58.4 +4.5**
KS15	**Wonju Array Si**	**42.40**	**41**	*eP*	**P**	**19 50 07.7 +3.6**
ZAK	**Zakamensk**	**42.88**	**9**	*eP*	**P**	**19 50 08.8 +1.0**
HIA	**Hailar**	**46.41**	**23**	*eP*	**P**	**19 50 38.5 +2.4**
	comp=Z,6.3nm,0.8s,mb4.6					
NVS	**Novosibirsk**	**47.42**	**352**	*eP*	**P**	**19 50 42.1 -1.9**
NVS				pmax	pmax	
	comp=N,4.0nm,0.6s					
NVS				pmax	pmax	
	comp=E,3.0nm,0.6s					
NVS				pmax	pmax	
	comp=Z,10.0nm,0.6s,mb4.9					
WRAB	**Tennant Creek**	**48.53**	**126**	*eP*	**P**	**19 50 52.6 -0.4**
	comp=Z,6.0nm,1.0s,mb4.6					
BRVK	**Borovoye**	**48.80**	**341**	P	**P**	**19 50 56.3 +1.6**
CHKZ	**Chkalovo**	**49.23**	**342**	*eP*	**P**	**19 50 56.3 -1.7**
	comp=Z,6.0nm,0.9s,mb4.6					
BOD	**Bodaibo**	**52.00**	**13**	*eP*	**P**	**19 51 18.9 -0.2**
GNI	**Garni**	**54.17**	**314**	P	**P**	**19 51 37.6 +2.3**
	comp=Z,11nm,1.1s,mb4.7					
ARU	**Arti**	**55.63**	**337**	*eP*	**P**	**19 51 44.0 -1.8**
ARU	**Arti**	**55.63**	**337**	P	**P**	**19 51 44.2 -1.6**
	comp=Z,9.5nm,1.2s,mb4.7					
KMBO	**Kilima Mbogo**	**57.26**	**263**	P	**P**	**19 52 00.4 +2.3**
	comp=Z,5.1nm,1.1s,mb4.5					
MALT	**Malatya**	**58.19**	**310**	*eP*	**P**	**19 52 03.0 -1.3**
	comp=Z,4.1nm,0.9s,mb4.5					
SOC	**Sochi**	**58.91**	**316**	*eP*	**P**	**19 52 10.6 +1.4**
SOC				*e*		19 52 55.9
SOC				*e*		19 54 28.9
SOC				*e*PPP	PPP	19 55 47.8 +2.3
SOC				*e*S	**S**	**20 00 24.8 +13**
SOC				pmax	pmax	
	comp=Z,22nm,0.8s,mb5.2					
SOC				pmax	pmax	
	comp=N,18nm,0.7s					
SOC				pmax	pmax	
	comp=E,26nm,0.8s					
YAK	**Yakutsk**	**59.86**	**19**	*i P*	**P**	**19 52 16.3 +0.8**
YAK				pmax	pmax	
	comp=Z,5.0nm,0.8s,mb4.6					
YAK	**Yakutsk**	**59.86**	**19**	*eP*	**P**	**19 52 15.3 -0.2**
	comp=Z,12nm,0.7s,mb5.0					
OBN	**Obninsk**	**65.11**	**328**	*eP*	**P**	**19 52 55.4 +4.9**
OBN						19 53 22.0
OBN				pmax	pmax	
	comp=Z,41nm,2.5s,mb5.0					
MA2	**Magadan**	**66.67**	**28**	*i P*	**P**	**19 53 02.2 +1.8**
MA2				pmax	pmax	
	comp=Z,11nm,1.2s,mb4.8					
MA2	**Magadan**	**66.67**	**28**	*eP*	**P**	**19 53 01.7 +1.3**
	comp=Z,8.0nm,0.9s,mb4.8					
TIXI	**Tiksi**	**67.07**	**11**	*i P*	**P**	**19 53 02.5 -0.3**
TIXI				pmax	pmax	
	comp=Z,10.0nm,1.1s,mb4.8					
BILL	**Biiibino**	**75.97**	**22**	*i P*	**P**	**19 53 54.2 -1.8**
NB2	**NORSAR Subarra**	**79.47**	**331**	P	**P**	**19 54 14.5 -0.9**
	comp=Z,3.6nm,0.8s,mb4.3,baz=96,slow=5.0					
LPG	**La Plagne**	**82.35**	**315**	*eP*	**P**	**19 54 31.1 +0.2**
	comp=Z,7.2nm,0.7s,mb4.4					

ISC 06 19:48:59.7±1.7, 8.1N±0.2×91.6E±0.1, h33km, n22, σ1§04/24, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VIS	**Vishakhapatnam**	**12.45**	**321**	*eP*	**P**	**19 51 58.7**	**+1.2**
VIS				AMb	AMB	19 52 02.7	
	comp=Z,41nm,0.2s						
VIS				*i* S	**S**	**19 54 15.7**	**-0.3**
BWNR	**Bhubaneshwar**	**13.32**	**336**	*eP*	**P**	**19 52 06.9**	**-2.1**
BWNR				*e*		19 52 07.7	
	comp=Z,32nm,0.4s						
BWNR				*e*		19 54 36.5	
HYB	**Hyderabad**	**15.67**	**307**	*eP*	**P**	**19 52 40.0**	**+0.1**
HYB				*e*S	**S**	**19 55 32.0**	**-0.5**
LATR	**Latur**	**17.80**	**307**	*eP*	**P**	**19 53 08.6**	**+1.9**
JIRN	**Jiri**	**20.08**	**346**	*eP*	**P**	**19 53 34.3**	**+1.0**
	comp=Z,110nm,0.4s						
PKI	**Pulchoki**	**20.20**	**344**	*eP*	**P**	**19 53 35.3**	**+0.8**
	comp=Z,111nm,0.4s						
BHPL	**Bhopal**	**20.24**	**320**	*eP*	**P**	**19 53 35.4**	**+0.4**
BHPL				*e*		19 53 37.6	
	comp=Z,32nm,1.6s						
DMN	**Daman**	**20.32**	**343**	*eP*	**P**	**19 53 36.6**	**+0.8**
	comp=Z,58nm,0.4s						
GUN	**Gumba**	**20.40**	**345**	*eP*	**P**	**19 53 37.5**	**+0.9**
	comp=Z,75nm,0.6s						
KKN	**Kakani**	**20.44**	**344**	*eP*	**P**	**19 53 37.6**	**+0.6**
	comp=Z,58nm,0.5s						
GKN	**Gorkha**	**20.82**	**343**	*eP*	**P**	**19 53 41.8**	**+0.8**
	comp=Z,92nm,0.3s						
KOLN	**Koldanda**	**20.94**	**340**	*eP*	**P**	**19 53 43.2**	**+1.0**
	comp=Z,49nm,0.6s						
NDI	**New Delhi**	**24.51**	**328**	*eP*	**P**	**19 54 15.0**	**-2.5**
KZA	**Kyzart**	**36.76**	**340**	P	**P**	**19 56 04.9**	**-1.1**
	SNR=5.6						
UCH	**Uchtor**	**37.15**	**339**	P	**P**	**19 56 08.9**	**-0.4**
	SNR=13						
AML	**Almayashu**	**37.36**	**338**	P	**P**	**19 56 10.8**	**-0.2**
	SNR=29						
KBK	**Karagaybulak**	**37.37**	**340**	P	**P**	**19 56 10.8**	**-0.3**
	SNR=22						
AAK	**Ala-Archa**	**37.51**	**339**	P	**P**	**19 56 11.1**	**-1.2**
	SNR=6.5						
EKS2	**Erkin-Say**	**37.79**	**338**	P	**P**	**19 56 14.2**	**-0.5**
	SNR=8.6						
USP	**Ospenovka**	**38.06**	**340**	P	**P**	**19 56 15.7**	**-1.2**
	SNR=16						
KAF	**Kangasniemi**	**71.41**	**333**	*ep*	**P**	**20 00 10.3**	**-8.0**
KHC	**Kasperske Hory**	**76.03**	**319**	*eP*	**P**	**20 00 40.0**	**-5.5**

*NEIC **06** 19:56:32.8, 34.13S×70.03W, h5km, ML2.5(GUC), After GUC.*

GUC 06 19:56:32.8±0.8, 34.13S×70.03W, h5km±2km, MD3.8, ML2.5, 4C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LMEL	**Las Melosas**	**0.31**	**333**	*eP*	Pg	19 56 39.9	+0.7
LMEL				*i* S	Sg	19 56 45.1	+1.8
LMEL				AMP		19 56 45.3	
	comp=E,1μm,0.2s						
CICH	**Cipreses**	**0.37**	**239**	⇑*i*P	Pg	19 56 40.6	+0.3
CICH				*i* S	Sg	19 56 46.0	+0.7
CACH	**El Canelo**	**0.47**	**271**	⇓*i*P	Pg	19 56 42.3	+0.1
CACH				*i* S	Sg	19 56 48.9	+0.4
CHCH	**Chadas Angostu**	**0.55**	**291**	⇑*i*P	Pg	19 56 44.1	+0.3
CHCH				*i* S	Sg	19 56 51.5	+0.3
PCH	**Pirque**	**0.65**	**322**	⇑*i*P	Pg	19 56 45.9	+0.2
PCH				*i* S	Sg	19 56 55.6	+1.3
FCH	**Farellones**	**0.83**	**345**	*eP*	Pb	19 56 49.3	+0.1
FCH				*i* S	Sg	19 57 01.9	+1.5
FCH				AMP		19 57 03.1	
	comp=E,343nm,0.2s						
CLCH	**Cerro Calan**	**0.84**	**330**	*eP*	Pb	19 56 49.2	-0.3
CLCH				*i* S	Sg	19 57 01.7	+0.8
CLCH				AMP		19 57 04.5	
	comp=E,411nm,0.4s						
TACH	**Talagante**	**0.89**	**302**	⇓*i*P	Pb	19 56 50.2	-0.1
RCDM	**Rinconada Maip**	**0.91**	**315**	⇓*i*P	Pb	19 56 50.5	-0.1
RCDM				*i* S	Sb	19 57 03.7	+0.9
RCDM				AMP		19 57 06.9	
	comp=E,217nm,0.2s						
SFDO	**San Fernando**	**0.94**	**239**	⇑*i*P	Pb	19 56 50.9	-0.4
LNV	**Longovilo**	**1.16**	**278**	⇓*i*P	Pb	19 56 54.3	-0.6
LCCH	**Las Cruces**	**1.44**	**297**	*eP*	Pn	19 56 58.2	-1.4
LCCH				*i* S	Sb	19 57 18.4	+0.3

*JMA **06** 20:07:06.0±0.2, 24.78N×122.23E, h71km*

TAP 06 20:07:07.0, 24.29N×122.12E, h45km, ML3.1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.83**	**78**	P	P	20 07 21.9	-0.5
YOJ				*e*S	S	20 07 33.7	0.0
IRIF	**Iriomote-Funau**	**1.47**	**88**	P	P	20 07 30.2	-1.3
IRIF				*e*S	S	20 07 48.4	-1.3
JKRS	**Kuro-shima**	**1.73**	**91**	P	P	20 07 34.4	-0.7
JKRS				*e*S	S	20 07 55.3	-0.7
JIJ	**Ishigaki jima**	**1.85**	**87**	P	P	20 07 35.5	-1.3
JIJ				*e*S	S	20 07 56.5	-2.6

*NEIC **06** 20:08:06.7±1.1, 4.99N×94.77E, h30km, mb4.4/7, Error ellipse: s-maj=29.8km s-min=18.0km az=54.0*

ISC 06 20:08:04.8±1.4, 5.0N±0.2×94.8E±0.2, h30km, n13, σ0§53/13, mb4.4/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIRN	**Jiri**	**24.02**	**341**	*eP*	**P**	**20 13 18.1**	**-0.2**
	8.0nm,0.3s,mb4.6						
PKI	**Pulchoki**	**24.20**	**339**	*eP*	**P**	**20 13 20.6**	**+0.5**
	5.5nm,0.6s,mb4.2						
GUN	**Gumba**	**24.35**	**341**	*eP*	**P**	**20 13 21.2**	**-0.3**
	19nm,0.8s,mb4.6						
KKN	**Kakani**	**24.45**	**339**	*eP*	**P**	**20 13 22.4**	**-0.1**
	3.5nm,0.4s,mb4.1						
LSA	**Lhasa**	**24.85**	**352**	*eP*	**P**	**20 13 26.8**	**+0.6**
	9.9nm,0.8s,mb4.4						
GKN	**Gorkha**	**24.87**	**338**	*eP*	**P**	**20 13 27.3**	**+0.8**
	6.5nm,0.3s,mb4.6						
KOLN	**Koldanda**	**25.07**	**336**	*eP*	**P**	**20 13 28.9**	**+0.5**
	18nm,0.8s,mb4.7						
ENH	**Enshi**	**28.73**	**27**	*eP*	**P**	**20 14 01.4**	**-0.5**
	3.4nm,0.5s,mb4.3						
ULN	**Ulaanbaatar**	**44.02**	**12**	*eP*	**P**	**20 16 10.7**	**-0.8**
	1.0nm,0.7s,mb3.6						
WRAB	**Tennant Creek**	**46.07**	**124**	*eP*	**P**	**20 16 28.6**	**+0.4**
	6.8nm,0.8s,mb4.6						
HIA	**Hailar**	**48.95**	**21**	*eP*	**P**	**20 16 50.8**	**+0.4**
	2.3nm,0.5s,mb4.5						
CHKZ	**Chkalovo**	**52.43**	**342**	*eP*	**P**	**20 17 16.3**	**-0.5**
	4.2nm,0.7s,mb4.5						
CHKZ				*e*		20 17 29.6	
MALT	**Malatya**	**60.86**	**311**	P	**P**	**20 18 16.2**	**-0.8**
	1.8nm,0.9s,mb4.2						

*ISK **06** 20:11:21.4, 38.66N×26.73E, h31km, MD3.2*
*NEIC **06** 20:11:21.4, 38.66N×26.73E, h31km, MD3.2(ATH), MD3.0(ISK), After ISK.*
*CSEM **06** 20:11:22.2±0.1, 38.74N×26.86E, h24km, MD3.2, Error ellipse: s-maj=2.0km s-min=1.5km az=61.0*
*ATH **06** 20:11:23.5, 38.67N×26.40E, h23km±8km, MD3.2/5*

ISC 06 20:11:22.3±0.7, 38.78N±0.03×26.77E±0.05, h18km±8km, n37, σ0§91/50, 1C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.45**	**152**	PG	**Pb**	**20 11 30.9**	**-0.5**
BLCB				SG	**Sb**	**20 11 36.6**	**-0.9**
BLCB	**Balcova**	**0.45**	**152**	Pg	**Pb**	**20 11 31.0**	**-0.4**
BLCB				Sg	**Sb**	**20 11 37.0**	**-0.6**
BLCB	**Balcova**	**0.45**	**152**	*e*Pg	**Pb**	**20 11 30.9**	**-0.5**
BLCB				Sg	**Sb**	**20 11 37.0**	**-0.5**
AYVA	**Ayvalik**	**0.53**	**353**	*i* P	**Pb**	**20 11 33.1**	**+0.3**
AYVA				*i* S	**Sb**	**20 11 40.5**	**+0.6**
KDAG	**Bornova**	**0.54**	**134**	*i* P	**Pb**	**20 11 32.4**	**-0.6**
KDAG				*i* S	**Sb**	**20 11 39.9**	**-0.4**
IZM	**Izmir**	**0.54**	**135**	PG	**Pb**	**20 11 32.4**	**-0.6**
IZM				SG	**Sb**	**20 11 41.0**	**+0.7**
PRK	**Paraskevi**	**0.61**	**320**	⇓*i*PN	**Pn**	**20 11 34.7**	**-1.2**
PRK				*e*SN	**Sn**	**20 11 44.3**	**-0.9**
AKS	**Akhisar**	**0.82**	**83**	PG	**Pb**	**20 11 37.5**	**-0.2**
AKS				SG	**Sb**	**20 11 48.9**	**+0.6**
AKS	**Akhisar**	**0.82**	**83**	Pg	**Pb**	**20 11 37.5**	**-0.2**
AKS				Sg	**Sb**	**20 11 48.5**	**+0.2**
SMG	**Samos**	**1.07**	**177**	⇑*i*PB	**Pb**	**20 11 42.2**	**+0.2**
SMG				*e*SN	**Sn**	**20 11 58.7**	**+1.7**
EZN	**Ezine**	**1.10**	**342**	PN	**Pn**	**20 11 42.3**	**-0.6**
EZN	**Ezine**	**1.10**	**342**	Pn	**Pn**	**20 11 42.4**	**-0.6**
EZN	**Ezine**	**1.10**	**342**	Pn	**Pn**	**20 11 42.4**	**-0.5**
BALB	**Balikesir**	**1.22**	**45**	PN	**Pn**	**20 11 45.0**	**+0.4**
BTOK	**Tokmak**	**1.39**	**45**	*i* P	**Pn**	**20 11 46.9**	**-0.1**
BTOK				*i* S	**Sb**	**20 12 05.2**	**+0.6**
AYDN	**Tasoluk**	**1.42**	**142**	*i* P	**Pn**	**20 11 46.6**	**-0.9**
AYDN				*i* S	**Sb**	**20 12 06.2**	**+0.6**
DST	**Dursunbey**	**1.66**	**60**	*e*PN	**Pn**	**20 11 50.1**	**-0.9**
DST	**Dursunbey**	**1.66**	**60**	Pn	**Pn**	**20 11 50.1**	**-0.8**
LIA	**Limnos Island**	**1.66**	**313**	*e*PN	**Pn**	**20 11 52.2**	**+1.2**
MLSB	**Milas**	**1.68**	**152**	*e*PN	**Pn**	**20 11 48.2**	**-3.1**
MLSB	**Milas**	**1.68**	**152**	Pn	**Pn**	**20 11 48.2**	**-3.0**
EDC	**Edincik**	**1.78**	**28**	*e*PN	**Pn**	**20 11 52.1**	**-0.5**
EDC	**Edincik**	**1.78**	**28**	Pn	**Pn**	**20 11 52.2**	**-0.5**
EDC	**Edincik**	**1.78**	**28**	Pn	**Pn**	**20 11 52.2**	**-0.4**
BDRM	**Kayabasi**	**1.79**	**163**	*i* P	**Pn**	**20 11 55.6**	**+2.7**
BDRM				*i* S	**Sn**	**20 12 19.5**	**+4.2**
BNT	**Bandirma**	**1.81**	**29**	PN	**Pn**	**20 11 52.7**	**-0.4**
BNT	**Bandirma**	**1.81**	**29**	Pn	**Pn**	**20 11 52.8**	**-0.3**
KCT	**Karacabey**	**1.93**	**39**	*e*PN	**Pn**	**20 11 55.1**	**+0.4**
KCT	**Karacabey**	**1.93**	**39**	Pn	**Pn**	**20 11 55.1**	**+0.4**
MRMT	**Marmara Adasi**	**1.93**	**19**	*e*PN	**Pn**	**20 11 54.0**	**-0.8**
APE	**Apeiranthos**	**1.97**	**210**	*e*PN	**Pn**	**20 11 51.3**	**-4.1**
APE	**Apeiranthos**	**1.97**	**210**	Pn	**Pn**	**20 11 51.4**	**-4.0**
APE	**Apeiranthos**	**1.97**	**210**	*e*Pn	**Pn**	**20 11 54.6**	**-0.8**
MFT	**Murefte**	**2.04**	**11**	*e*PN	**Pn**	**20 11 56.8**	**+0.4**
ORLT	**Orhaneli**	**2.08**	**52**	*e*PN	**Pn**	**20 11 57.1**	**+0.2**
ORLT	**Orhaneli**	**2.08**	**52**	Pn	**Pn**	**20 11 57.1**	**+0.2**
RDO	**Rodhopi**	**2.55**	**339**	*e*PN	**Pn**	**20 12 05.4**	**+1.8**

*NEIC **06** 21:00:25.8, 18.23N×64.57W, h154km, MD3.8(RSPR), After RSPR.*

RSPR 06 21:00:25.8, 18.23N×64.57W, h154km±1km, MD3.8/14, MD3.8/14, 11C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTP	**Monte Pirata**	**0.95**	**262**	⇑*e*P	P	21 00 49.9	-0.7
MTP				*e*S	S	21 01 09.0	-0.8
HUMP	**Col San Antoni**	**1.22**	**266**	⇓*e*P	P	21 00 52.8	-0.3
HUMP				*e*S	S	21 01 13.8	-0.4
CBYP	**Canovanas**	**1.23**	**272**	⇑*e*P	P	21 00 52.7	-0.5
CBYP				*e*S	S	21 01 13.9	-0.4
CPD	**Cerro la Pandu**	**1.30**	**262**	⇑*e*P	P	21 00 53.5	-0.4
CPD				*e*S	S	21 01 15.1	-0.4
SJG	**San Juan**	**1.51**	**266**	⇓*e*P	P	21 00 55.9	-0.1
SJG				*e*S	S	21 01 19.3	-0.1
SJG	**San Juan**	**1.51**	**266**	⇑*e*P	P	21 00 55.7	-0.3
SJG				*e*S	S	21 01 19.3	-0.1
CSB	**Colonia Sabana**	**1.51**	**273**	⇓*e*P	P	21 00 55.5	-0.5
CSB				*e*S	S	21 01 18.7	-0.7
CELP	**Cerrillos**	**1.92**	**266**	⇑*e*P	P	21 01 00.2	-0.2
CELP				*e*S	S	21 01 27.1	-0.2
PORP	**Portuguez**	**1.98**	**265**	⇑*i*P	P	21 01 00.9	-0.2
PORP				*e*S	S	21 01 27.5	-0.9
PORP	**Portuguez**	**1.98**	**265**	*i* Pu		21 01 00.9	
PORP				*e*S	S	21 01 27.5	-0.9
AOPR	**Arecibo Observ**	**2.08**	**274**	⇑*e*P	P	21 01 02.1	-0.3
AOPR				*e*S	S	21 01 30.8	+0.3
LRS	**Lares**	**2.17**	**272**	⇑*e*P	P	21 01 03.5	+0.1
LSP	**Las Mesas**	**2.40**	**269**	⇑*e*P	P	21 01 06.4	+0.1
LSP				*e*S	S	21 01 37.8	+0.4
MGP	**Maguayo**	**2.41**	**265**	⇑*e*P	P	21 01 05.7	-0.8
MGP				*e*S	S	21 01 37.0	-0.7
MGP	**Maguayo**	**2.41**	**265**	⇑*e*P	P	21 01 05.7	-0.8
MGP	**Maguayo**	**2.41**	**265**	⇑*e*P	P	21 01 05.7	-0.8
MGP				*e*S	S	21 01 37.4	-0.4

KNET 06 21:14:33.4±1.0, 40.99N×73.11E, h9km±5km, ml3.7, 13C-2D, Error ellipse: s-maj=7.4km s-min=6.2km az=168.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**1.22**	**21**	⇑P	Pb	21 14 57.0	+1.0
	160nm,0.1s,SNR=526						
AML				⇓S	Sb	21 15 14.9	+3.2
	821nm,0.2s						
UCH	**Uchtor**	**1.62**	**40**	⇑P	Pn	21 15 04.7	+2.5
	229nm,0.2s,SNR=676						
UCH				⇑S	Sn	21 15 28.6	+5.3
	905nm,0.3s						
EKS2	**Erkin-Say**	**1.74**	**16**	P	Pn	21 15 05.7	+1.7
	67nm,0.2s,SNR=349						
EKS2				⇓S	Sn	21 15 30.7	+4.3
	250nm,0.2s						
KZA	**Kyzart**	**1.94**	**55**	P	Pn	21 15 09.6	+2.8
	62nm,0.2s,SNR=164						
KZA				⇑S	Sn	21 15 36.7	+5.3
	121nm,0.2s						
AAK	**Ala-Archa**	**1.94**	**32**	P	Pn	21 15 09.2	+2.4
	232nm,0.4s,SNR=236						
AAK				⇑S	Sn	21 15 37.2	+5.7
	483nm,0.3s						
KBK	**Karagaybulak**	**2.15**	**39**	⇑P	Pn	21 15 12.8	+2.9
	59nm,0.2s,SNR=106						
KBK				⇑S	Sn	21 15 44.6	+7.6
	2μm,0.6s						
CHMS	**Chumysh**	**2.35**	**31**	⇑P	Pn	21 15 14.7	+2.0
	34nm,0.2s,SNR=34						
CHMS				⇑S	Sn	21 15 47.1	+5.3
	148nm,0.2s						
USP	**Ospenovka**	**2.50**	**24**	⇑P	Pn	21 15 16.1	+1.3
	35nm,0.2s,SNR=66						
USP				⇑S	Sn	21 15 49.6	+4.0
	304nm,0.3s						
ULHL	**Ulahol**	**2.66**	**61**	⇑P	Pn	21 15 18.9	+1.7
	16nm,0.2s,SNR=13						
TKM2	**Tokmak 2**	**2.67**	**43**	⇑P	Pn	21 15 19.6	+2.3
	57nm,0.2s,SNR=94						

ISC 06 21:45:39.1±1.1, 11.33N±0.10×92.16E±0.07, h33km, n11, σ1§32/14, mb4.5/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**0.66**	**60**	*eP*	**P**	**21 45 58.5**	**+6.6**
PBA				*e*S	**S**	**21 46 01.0**	**-0.1**
	303nm,0.8s						
VIS	**Vishakhapatnam**	**10.66**	**308**	*eP*	**P**	**21 48 08.5**	**-4.2**
VIS				*e*S	**S**	**21 49 57.3**	**-15**
VIS				*e*S	**S**	**21 50 11.8**	**0.0**
	comp=E,30nm,0.7s						
VIS				*e*		21 50 11.9	
	comp=N,32nm,0.7s						
JIRN	**Jiri**	**17.19**	**342**	*eP*	**P**	**21 49 39.3**	**+0.9**
	comp=N,18nm,0.9s						
PKI	**Pulchoki**	**17.36**	**340**	*eP*	**P**	**21 49 44.2**	**+3.7**
	comp=N,32nm,1.2s						
DMN	**Daman**	**17.50**	**339**	*eP*	**P**

JOD2			*e*S	Sn	21 56 33.8	-1.0
JHU	**Hanno**	**6.46 331**	P	Pn	21 55 29.1	-0.4
JHU			*e*S	Sn	21 56 46.0	+1.1
JHO	**Hitachi**	**6.70 342**	P	Pn	21 55 33.5	+0.6
JRY	**Ryogami san**	**6.76 330**	P	Pn	21 55 33.6	-0.2
JRY			*e*S	Sn	21 56 53.7	+1.2
JAG	**Ashikaga**	**6.89 334**	P	Pn	21 55 35.6	0.0
JAG			*e*S	Sn	21 56 55.1	-0.6
JFT	**Otama**	**7.62 343**	*e*S	Sn	21 57 13.7	-0.2
JMM	**Marumori**	**7.85 346**	P	Pn	21 55 50.1	+1.1
JMM			*e*S	Sn	21 57 17.4	-2.2
JMK	**Ichinoseki**	**8.83 350**	*e*S	Sn	21 57 43.7	-0.4

WEL 06 22:23:12.1±0.4, 38.61S×175.90E, h156km±3km, ML3.6/6, 2D, Error ellipse: s-maj=2.8km s-min=2.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGZ	**Maungaku**	**0.48**	**215**	PN	P	22 23 34.3	-0.1
TWVZ	**Taurewa**	**0.58**	**218**	PN	P	22 23 34.4	-0.4
TWVZ				SN	S	22 23 52.0	-0.4
NGZ	**Ngauruhoe**	**0.61**	**202**	PN	P	22 23 34.8	-0.2
CNZ	**Chateau**	**0.65**	**205**	PN	P	22 23 34.7	-0.5
TUVZ	**Tukino**	**0.69**	**196**	PN	P	22 23 35.3	-0.1
BKZ	**Black Stump Fm**	**0.73**	**140**	⇓PN	P	22 23 35.7	0.0
BKZ				SN	S	22 23 53.6	-0.2
MOVZ	**Moawhango**	**0.81**	**188**	PN	P	22 23 35.6	-0.5
MOVZ				SN	S	22 23 53.3	-1.4
URZ	**Urewera**	**1.02**	**70**	PN	P	22 23 37.2	-0.4
URZ				SN	S	22 23 56.7	-0.6
MWZ	**Matawai**	**1.31**	**78**	⇓PN	P	22 23 40.1	-0.3
MWZ				SN	S	22 24 01.6	-0.8
KNZ	**Kokohu**	**1.45**	**107**	PN	P	22 23 41.9	0.0
TSZ	**Takapari Road**	**1.45**	**178**	PN	P	22 23 40.9	-1.0
TSZ				SN	S	22 24 02.9	-1.9
PWZ	**Pawanui**	**1.60**	**152**	PN	P	22 23 43.0	-0.5
PWZ				SN	S	22 24 06.7	-1.0
PUZ	**Puketiti**	**1.93**	**75**	*e*PN	P	22 23 45.9	-1.1
MRZ	**Mangatainoka R**	**2.06**	**187**	PN	P	22 23 46.5	-2.2
KIW	**Kapiti Island**	**2.38**	**198**	PN	P	22 23 49.5	-3.0
MTW	**Mount Morrison**	**2.56**	**187**	PN	P	22 23 51.6	-3.2
NNZ	**Nelson**	**3.25**	**216**	PN	P	22 23 57.3	-6.2
KHZ	**Kahutara**	**4.21**	**205**	PN	P	22 24 11.3	-4.7
MQZ	**McQueen's Vall**	**5.65**	**205**	SN	S	22 25 28.0	-11

*JMA **06** 22:42:50.1±0.3, 23.49N×121.70E, h50km, M2.8*

TAP 06 22:42:50.3, 23.58N×121.65E, h33km, ML3.3, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.52**	**55**	P	Pn	22 43 15.8	+0.2
YOJ				*e*S	Sn	22 43 34.7	+0.2
HATJ	**Hateruma jima**	**2.03**	**76**	P	Pn	22 43 22.5	-0.4
HATJ				*e*S	Sn	22 43 46.5	-0.9
IRIF	**Iriomote-Funau**	**2.05**	**68**	P	Pn	22 43 23.0	-0.1
IRIF				*e*S	Sn	22 43 47.6	-0.2
JKRS	**Kuro-shima**	**2.26**	**73**	P	Pn	22 43 26.0	-0.1
JIJ	**Ishigaki jima**	**2.41**	**71**	P	Pn	22 43 27.4	-0.9
JIJ				*e*S	Sn	22 43 55.2	-1.8
JTJ	**Tarama**	**2.98**	**69**	*e*S	Sn	22 44 10.1	-1.4

*NEIC **06** 23:10:41.1±0.4, 50.93N×171.74W, h10km, mb4.2/6, ML3.6(AEIC), Error ellipse: s-maj=9.9km s-min=3.5km az=186.0*

ISC 06 23:10:42.4±2.1, 51.07N±0.08×171.74W±0.05, h27km±16km, n29, σ0§77/34, mb4.0/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.91**	**307**	P	**Pn**	**23 11 14.6**	**+0.9**
ATKA				S	**Sn**	**23 11 38.1**	**+1.0**
GSIG	**Igitkin Island**	**2.77**	**291**	P	**Pn**	**23 11 26.2**	**+0.1**
GSIG				S	**Sn**	**23 11 58.0**	**-1.0**
GSMY	**Great Sitkin M**	**2.87**	**292**	P	**Pn**	**23 11 27.8**	**+0.4**
GSMY				S	**Sn**	**23 12 01.2**	**-0.2**
GSTR	**Great Sitkin T**	**2.89**	**293**	P	**Pn**	**23 11 28.3**	**+0.6**
GSTD	**Great Sitkin T**	**2.92**	**291**	P	**Pn**	**23 11 28.6**	**+0.4**
GSTD				S	**Sn**	**23 12 02.0**	**-0.9**
GSSP	**Great Sitkin S**	**2.95**	**292**	P	**Pn**	**23 11 28.4**	**-0.3**
OKFG	**Magazine Ridge**	**3.32**	**44**	P	**Pn**	**23 11 34.3**	**+0.4**
OKFG				S	**Sn**	**23 12 11.8**	**-1.1**
KIWB	**Kanaga Island**	**3.48**	**285**	*e*P	**Pn**	**23 11 35.4**	**-0.7**
KIMD	**Kanaga Island**	**3.51**	**284**	P	**Pn**	**23 11 36.0**	**-0.6**
MSW	**Makushin Switc**	**4.16**	**45**	P	**Pn**	**23 11 46.4**	**+0.6**
UNV	**Unalaska Valle**	**4.24**	**47**	P	**Pn**	**23 11 45.8**	**-1.1**
DOL	**Dolgoi Island**	**7.21**	**52**	P	**Pn**	**23 12 28.3**	**-0.6**
BILL	**Bilibino**	**20.13**	**336**	*e*P	**P**	**23 15 16.8**	**0.0**
	3.5nm,0.8s						
DAWY	**Dawson**	**21.38**	**40**	*e*P	**P**	**23 15 29.7**	**+0.1**
INK	**Inuvik**	**25.24**	**33**	*e*P	**P**	**23 16 08.3**	**+1.2**
	5.0nm,0.8s,mb4.1						
WVOR	**Wild Horse Val**	**36.68**	**82**	*e*P	**P**	**23 17 49.1**	**+0.6**
	3.1nm,0.6s,mb4.3						
HLID	**Hailey**	**38.70**	**78**	*e*P	**P**	**23 18 05.7**	**+0.2**
BW06	**Boulder Array**	**42.12**	**76**	*e*P	**P**	**23 18 33.5**	**-0.1**
	1.6nm,0.7s,mb3.8						
DAU	**Daniels Canyon**	**42.41**	**80**	*e*P	**P**	**23 18 37.3**	**+1.4**
MSU	**Marysvale**	**42.95**	**83**	*e*P	**P**	**23 18 41.2**	**+0.7**
SRU	**San Rafael**	**43.63**	**81**	*e*P	**P**	**23 18 46.1**	**+0.2**
PV10	**Paradox Valley**	**45.00**	**81**	*e*P	**P**	**23 18 57.2**	**+0.2**
PV01	**Paradox Valley**	**45.44**	**81**	*e*P	**P**	**23 19 00.3**	**-0.2**
RW3	**Ridgway**	**45.92**	**80**	*e*P	**P**	**23 19 04.4**	**+0.1**
SDCO	**Great Sand Dun**	**47.59**	**79**	*e*P	**P**	**23 19 17.3**	**-0.2**
	3.0nm,0.8s,mb4.4						
ANMO	**Albuquerque**	**48.76**	**83**	P	**P**	**23 19 26.0**	**-0.6**
MNTX	**Cornudas Mount**	**51.58**	**85**	P	**P**	**23 19 46.7**	**-1.5**
WMOK	**Wichita Mounta**	**53.67**	**78**	*e*P	**P**	**23 20 02.0**	**-1.7**
	3.3nm,0.7s,mb4.4						
NB2	**NORSAR Subarra**	**68.22**	**358**	P	**P**	**23 21 43.4**	**+1.5**
	0.2nm,0.6s,mb3.3,baz=6.0,slow=6.2						

MEX 06 23:21:28.8±0.9, 17.21N×101.21W, h16km±12km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.47**	**329**	*i* P	Pb	23 21 36.5	-1.6
ZIIG				*i* S	Sb	23 21 42.7	-1.8
CAIG	**El Cayaco**	**0.92**	**100**	*i* P	Pb	23 21 42.9	-2.9
CAIG				*i* S	Sb	23 21 54.3	-3.2
ACX	**Acapulco**	**1.28**	**105**	*i* P	Pb	23 21 49.0	-3.1
ACX				*i* S	Sb	23 22 07.0	-1.2
PLIG	**Platanillo**	**2.01**	**54**	*i* P	Pn	23 21 59.7	-2.9
PLIG				*i* S	Sn	23 22 21.6	-5.9
MOIG	**Morelia**	**2.46**	**0**	*i* P	Pn	23 22 06.3	-2.7
MOIG				*i* S	Sn	23 22 34.9	-4.0
YAIG	**Yautepec**	**2.62**	**51**	*e*P	Pn	23 22 08.0	-3.3
YAIG				*i* S	Sn	23 22 36.9	-6.1
CRX	**Cerrillo**	**2.63**	**33**	*e*P	Pn	23 22 13.0	+1.6
PPM	**Popocatepetl**	**3.08**	**53**	*e*P	Pn	23 22 13.6	-4.1
PPM				*i* S	Sn	23 22 50.3	-4.2
SFJM	**Santa Fe**	**3.69**	**332**	*i* P	Pn	23 22 26.0	-0.6
POHV	**Veracruz**	**4.17**	**63**	*e*P	Pn	23 22 30.0	-3.3
CMIG	**Matias Romero**	**6.05**	**90**	*e*P	Pn	23 22 56.0	-3.9
CMIG				*i* S	Sn	23 24 03.7	-5.8

*NEIC **06** 23:30:16.5, 18.89N×64.51W, h36km, MD3.6(RSPR), After RSPR.*

RSPR 06 23:30:16.5, 18.89N×64.51W, h36km±22km, MD3.6/13, MD3.6/13, 11C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**1.27**	**232**	⇑*e*P	P	23 30 36.8	-1.1
MTP				*e*S	S	23 30 52.1	-2.0
CBYP	**Canovanas**	**1.41**	**245**	⇑*e*P	P	23 30 38.0	-2.2
HUMP	**Col San Antoni**	**1.47**	**240**	⇑*e*P	P	23 30 39.0	-1.9
HUMP				*e*S	S	23 30 56.7	-2.4
CPD	**Cerro la Pandu**	**1.58**	**238**	⇑*e*P	P	23 30 41.1	-1.4
CSB	**Colonia Sabana**	**1.67**	**249**	⇑*e*P	P	23 30 42.5	-1.3
CSB				*e*S	S	23 31 01.2	-3.0
SJG	**San Juan**	**1.73**	**244**	⇑*e*P	P	23 30 43.0	-1.7
SJG				*e*S	S	23 31 04.5	-1.3
SJG	**San Juan**	**1.73**	**244**	⇓*e*P	P	23 30 43.4	-1.4
SJG				*e*S	S	23 31 03.7	-2.1
CELP	**Cerrillos**	**2.12**	**248**	⇑*e*P	P	23 30 48.3	-1.9
CELP				*e*S	S	23 31 12.9	-2.7
PORP	**Portuguez**	**2.18**	**248**	⇑*e*P	P	23 30 49.1	-2.0
PORP				*e*S	S	23 31 15.2	-2.0
AOPR	**Arecibo Observ**	**2.19**	**256**	⇓*e*P	P	23 30 49.4	-1.8
AOPR				*e*S	S	23 31 15.2	-2.2
LSP	**Las Mesas**	**2.54**	**254**	⇓*e*P	P	23 30 54.8	-1.5
LSP				*e*S	S	23 31 24.5	-1.8
MGP	**Maguayo**	**2.60**	**251**	⇑*e*P	P	23 30 55.4	-1.7
MGP	**Maguayo**	**2.60**	**251**	⇑*e*P	P	23 30 55.4	-1.6
MGP	**Maguayo**	**2.60**	**251**	*e*S	S	23 31 25.4	-2.4
MGP	**Maguayo**	**2.60**	**251**	⇑*e*P	P	23 30 55.4	-1.6
MGP				*e*S	S	23 31 25.4	-2.4

DJA 07 00:06:17.5±0.9, 8.71S×116.04E, h129km±6km, ML3.9/2, 4C-4D, Error ellipse: s-maj=41.9km s-min=13.9km az=2.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.23**	**17**	⇓*e*Pn	P	00 06 35.3	-0.1
KEDI				⇑*e*Sn	S	00 06 47.5	-1.6
RATI	**Rata**	**0.51**	**268**	⇓*e*Pn	P	00 06 36.4	-0.3
RATI				⇑*i*Sn	S	00 06 50.4	-0.8
KELI	**Kelakatan**	**1.61**	**288**	⇓*i*Pn	P	00 06 46.9	-0.3
	60nm,61.2s						
KELI				⇑*i*Sn	S	00 07 08.5	-1.4
SRDI	**Scrawed**	**1.90**	**277**	⇑*i*Pn	P	00 06 49.9	-0.7
	149nm,40.0s						
SRDI				⇓*e*Sn	S	00 07 13.9	-1.8

*IDC **07** 00:14:37.7±10.0, 8.79S×132.00E, h78km±73km, mb3.4/1, mb1 3.8/3, mb1mx3.5/10, mbtmp3.8/3, ML3.8/2, MS2.7/1, Ms1 2.7/1, ms1mx2.6/14, Error ellipse: s-maj=91.4km s-min=73.6km az=89.0*

ISC 07 00:14:35.3±2.3, 8.6S±0.1×133.0E±0.1, h74km±31km, n8, σ1§19/12, mb3.4/1, Arafura Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**4.17**	**188**	*e*P	**P**	**00 15 40.9**	**+3.0**
	22nm,0.1s						
WRA	**Warramunga Arr**	**11.39**	**174**	P	**P**	**00 17 16.3**	**-0.8**
	0.9nm,0.3s,baz=345,slow=14,SNR=6.3						
WRA				S	**S**	**00 19 22.2**	**-1.1**
	2.1nm,0.3s,baz=360,slow=23,SNR=8.4						
WB2	**Warramunga Arr**	**11.40**	**174**	*e*P	**P**	**00 17 16.2**	**-0.9**
WB2				*e*S	**S**	**00 19 25.0**	**+1.6**
FITZ	**Fitzroy Crossi**	**11.89**	**216**	*e*P	**P**	**00 17 22.8**	**-0.9**
	6.4nm,0.3s						
FITZ				*e*S	**S**	**00 19 35.6**	**+0.4**
PMG	**Port Moresby**	**14.01**	**95**	LR	LR	00 23 15.6	
	comp=Z,32nm,20.4s,baz=315,slow=35						
ASAR	**Alice Springs**	**15.05**	**177**	P	**P**	**00 18 04.8**	**-0.3**
	0.8nm,0.3s,baz=353,slow=14,SNR=26						
ASAR				S	**S**	**00 20 48.8**	**-1.4**
	0.2nm,0.3s,baz=356,slow=25,SNR=2.9						
ASPA	**Alice Springs**	**15.05**	**177**	*e*P	**P**	**00 18 04.7**	**-0.5**
ASPA				*e*S	**S**	**00 20 51.1**	**+0.8**
STKA	**Stephens Creek**	**24.54**	**162**	P	**P**	**00 19 51.0**	**+1.6**
	1.0nm,0.6s,mb3.4,baz=326,slow=15,SNR=2.9						

*IDC **07** 00:29:55.0±8.7, 15.21N×93.63E, mb3.5/2, mb1 3.8/3, mb1mx3.4/17, mbtmp3.5/3, ML3.9/1, Error ellipse: s-maj=177.1km s-min=48.6km az=113.0*

ISC 07 00:29:44.8±1.2, 16.3N±0.2×92.2E±0.2, h33km, n9, σ0§77/9, mb3.6/2, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.82**	**71**	Pn	**Pn**	**00 31 25.5**	**+0.2**
	0.7nm,0.3s,baz=243,slow=15,SNR=9.4						
JIRN	**Jiri**	**12.57**	**335**	*e*P	**P**	**00 32 43.5**	**-0.6**
	10nm,0.4s						
PKI	**Pulchoki**	**12.82**	**332**	*e*P	**P**	**00 32 47.6**	**0.0**
	11nm,0.4s						
GUN	**Gumba**	**12.91**	**334**	*e*P	**P**	**00 32 47.4**	**-1.4**
	12nm,0.6s						
KKN	**Kakani**	**13.07**	**332**	*e*P	**P**	**00 32 50.7**	**-0.1**
	5.9nm,0.5s						
GKN	**Gorkha**	**13.55**	**330**	*e*P	**P**	**00 32 58.3**	**+1.1**
	8.3nm,0.4s						
KOLN	**Koldanda**	**13.88**	**327**	*e*P	**P**	**00 33 02.3**	**+0.8**
	7.8nm,0.5s						
WRA	**Warramunga Arr**	**54.92**	**129**	P	**P**	**00 39 14.2**	**-0.8**
	0.7nm,0.9s,mb3.7,baz=310,slow=7.5,SNR=2.3						
WRA				pP	pP	00 39 22.2	-2.9
	0.7nm,0.5s,baz=317,slow=7.3,SNR=3.9						
ASAR	**Alice Springs**	**56.95**	**133**	P	**P**	**00 39 30.2**	**+0.6**
	0.6nm,0.9s,mb3.6,baz=304,slow=7.4,SNR=3.7						
ASAR				pP	pP	00 39 37.6	-2.1
	0.3nm,0.5s,baz=309,slow=7.0,SNR=3.1						

*NIED **07** 00:39:00.43.00N×145.30E, h50km, Mw3.6 Best double couple: M0:2.92×10^14 NP1:φs26°, δ64°, λ73°. NP2:φs241°, δ30°, λ121°.*

JMA 07 00:39:19.4±0.1, 43.00N×145.31E, h48km±1km, M3.7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.45**	**270**	P	P	00 39 29.9	-0.1
JAK				*e*S	S	00 39 37.6	+0.1
NEM2	**Nemuro 2**	**0.48**	**41**	P	P	00 39 30.0	-0.3
NEM2				S	S	00 39 37.4	-0.8
JNK	**Nakash**	**0.73**	**324**	P	P	00 39 33.3	-0.2
JNK				S	S	00 39 43.0	-0.8
JRA	**Rausu**	**0.95**	**352**	P	P	00 39 36.5	0.0
JRA				*e*S	S	00 39 48.7	-0.5
JOB	**Onbets**	**1.09**	**265**	P	P	00 39 38.2	-0.3
JOB				*e*S	S	00 39 51.6	-1.1
JAR	**Ashorobuto**	**1.17**	**285**	P	P	00 39 39.6	0.0
JAR				*e*S	S	00 39 54.4	-0.2
JTKR	**Abashiri--Toko**	**1.41**	**314**	P	P	00 39 43.3	+0.2
JCH	**Churui**	**1.48**	**256**	P	P	00 39 43.1	-1.1

*IDC **07** 01:00:17.2±1.1, 7.47N×91.38E, mb3.8/5, mb1 4.0/6, mb1mx3.8/18, mbtmp3.8/6, ML3.6/1, MS3.6/3, Ms1 3.6/3, ms1mx3.3/25, Error ellipse: s-maj=30.4km s-min=24.1km az=54.0*

*BJI **07** 01:00:21.6, 7.50N×91.40E, h30km, mb4.1*

*NEIC **07** 01:00:21.6±0.6, 7.51N×91.44E, h30km, mb4.1/3, Error ellipse: s-maj=13.2km s-min=11.5km az=168.0*

ISC 07 01:00:18.0±3.9, 7.45N±0.09×91.49E±0.08, h20km±29km, n22, σ0§81/21, mb4.2/12, MS3.9/2, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.70**	**270**	*e*Pn	**P**	**01 02 53.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**13.13**	**33**	Pn	**P**	**01 03 26.3**	**+0.1**
	0.1nm,0.3s,baz=230,slow=14,SNR=12						
CMAR				LR	LR	01 08 53.2	
	comp=Z,98nm,19.6s,baz=358,slow=39						
HYB	**Hyderabad**	**16.04**	**309**	*i* P	**P**	**01 04 05.5**	**+1.1**
HYB				*e*S	**S**	**01 07 02.5**	**+0.9**
JIRN	**Jiri**	**20.71**	**347**	*e*P	**P**	**01 05 00.5**	**+0.5**
	22nm,0.8s						
PKI	**Pulchoki**	**20.82**	**345**	*e*P	**P**	**01 05 00.7**	**-0.4**
	11nm,0.6s						
DMN	**Daman**	**20.94**	**344**	*e*P	**P**	**01 05 01.3**	**-1.0**
GUN	**Gumba**	**21.03**	**346**	*e*P	**P**	**01 05 03.4**	**+0.2**
	33nm,0.7s,mb4.8						
KKN	**Kakani**	**21.06**	**345**	*e*P	**P**	**01 05 02.8**	**-0.7**
	7.7nm,0.5s,mb4.3						
GKN	**Gorkha**	**21.44**	**343**	*e*P	**P**	**01 05 07.2**	**-0.2**
	24nm,0.7s,mb4.6						
KOLN	**Koldanda**	**21.54**	**341**	*e*P	**P**	**01 05 08.4**	**0.0**
	27nm,0.9s,mb4.7						
LSA	**Lhasa**	**22.13**	**359**	P	**P**	**01 05 17.4**	**+3.1**
AAK	**Ala-Archa**	**38.11**	**340**	P	**P**	**01 07 37.5**	**-0.1**
	3.0nm,1.1s,mb3.9						
JOW	**Kunigami**	**39.87**	**57**	LR	LR	01 24 54.7	
	comp=Z,98nm,18.7s,MS3.7,baz=300,slow=37						
SONM	**Songino Array**	**42.20**	**15**	P	**P**	**01 08 12.1**	**+0.8**
	2.4nm,0.8s,mb3.9,baz=196,slow=8.7,SNR=16						
BVAR	**Borovoye Array**	**48.58**	**343**	P	**P**	**01 09 01.6**	**-0.6**
	0.6nm,0.7s,mb3.8,baz=149,slow=8.4,SNR=3.5						
BRVK	**Borovoye**	**48.64**	**343**	*e*P	**P**	**01 09 00.9**	**-1.7**
	0.9nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**49.09**	**344**	*e*P	**P**	**01 09 05.4**	**-0.7**
	5.9nm,1.3s,mb4.5						
CHKZ				*e*pP	pP	01 09 13.7	+1.6
WRA	**Warramunga Arr**	**50.19**	**124**	P	**P**	**01 09 15.2**	**+0.2**
	1.2nm,0.9s,mb3.9,baz=304,slow=8.4,SNR=3.3						
ASAR	**Alice Springs**	**51.70**	**128**	P	**P**	**01 09 27.2**	**+0.8**
	1.3nm,1.0s,mb3.8,baz=312,slow=8.5,SNR=6.9						
KMBO	**Kilima Mbogo**	**54.76**	**263**	P	**P**	**01 09 49.0**	**-0.2**
	0.9nm,0.9s,mb3.8,baz=94,slow=12,SNR=3.5						
KMBO	**Kilima Mbogo**	**54.76**	**263**	P	**P**	**01 09 49.0**	**-0.2**
MAW	**Mawson**	**77.61**	**191**	LR	LR	01 42 32.7	
	comp=Z,72nm,18.1s,MS4.0,baz=64,slow=33						

MEX 07 01:20:25.0±1.0, 16.02N×100.70W, h15km±99km, MD3.8, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**1.10**	**22**	⇑*i* P	Pb	01 20 42.3	-2.9
CAIG				*i* S	Sb	01 20 54.6	-4.6
ACX	**Acapulco**	**1.13**	**42**	*i* P	Pb	01 20 42.0	-3.7
ACX				*i* S	Sb	01 20 57.0	-2.9
PLIG	**Platanillo**	**2.62**	**26**	*i* P	Pn	01 21 05.2	-2.4
PLIG				*i* S	Sn	01 21 34.4	-4.9
YAIG	**Yautepec**	**3.23**	**29**	*i* P	Pn	01 21 12.8	-3.4
YAIG				*i* S	Sn	01 21 50.0	-4.7
PPM	**Popocatepetl**	**3.62**	**33**	*e*P	Pn	01 21 18.0	-3.7
PPM				*i* P		01 21 18.4	
PPM				*i* S	Sn	01 21 59.4	-5.2
VHO	**Vista Hermosa**	**3.95**	**74**	*i* P	Pn	01 21 23.3	-3.2
VHO				*i* S	Sn	01 22 05.4	-7.6
OXX	**Oaxaca**	**3.96**	**74**	*e*P	Pn	01 21 23.0	-3.6
POHV	**Veracruz**	**4.45**	**47**	*i* P	Pn	01 21 30.5	-3.1

*ATH **07** 01:21:07.8, 34.23N×26.55E, h27km, MD3.2/3*

*CSEM **07** 01:21:07.9±0.1, 34.29N×26.60E, h5km, ML3.3, Error ellipse: s-maj=6.0km s-min=2.9km az=65.0*

*HLW **07** 01:21:11.0, 34.48N×26.59E, h30km, Mb3.3*

ISC 07 01:21:08.4±0.7, 34.30N±0.05×26.54E±0.09, h10km, n11, σ0§74/13, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.91**	**310**	*e*PN	**Pn**	**01 21 26.3**	**-0.7**
XRY				*e*SN	**Sn**	**01 21 39.8**	**-0.4**
NPS	**Neapolis**	**1.23**	**322**	*e*PN	**Pn**	**01 21 32.5**	**+0.8**
KARP	**Karpathos**	**1.35**	**22**	*e*PN	**Pn**	**01 21 33.5**	**+0.1**
SLUM		**3.01**	**202**	⇓P	**Pn**	**01 21 58.3**	**+1.1**
SLUM				S	**Sn**	**01 22 32.8**	**-0.9**
HMAT	**Matruh**	**3.23**	**171**	P	**Pn**	**01 22 01.7**	**+1.5**
SWA1		**5.07**	**188**	P	**Pn**	**01 22 26.8**	**+0.4**
SWA2		**5.12**	**191**	P	**Pn**	**01 22 27.3**	**+0.2**
AWBH		**6.29**	**161**	P	**Pn**	**01 22 43.3**	**-0.3**
GLL	**Jalalah**	**6.44**	**136**	P	**Pn**	**01 22 44.8**	**-0.9**
HFRF	**Wahat Farafira**	**7.29**	**167**	P	**Pn**	**01 22 57.1**	**-0.4**
AKRG	**Al Kharijah**	**9.41**	**158**	P	**P**	**01 23 26.7**	**-0.5**

*IDC **07** 01:43:40.9±0.9, 13.64N×93.02E, mb3.9/7, mb1 4.1/8, mb1mx3.9/17, mbtmp3.9/8, ML4.0/1, MS3.2/2, Ms1 3.4/2, ms1mx2.8/22, Error ellipse: s-maj=36.2km s-min=17.9km az=51.0*

*NEIC **07** 01:43:45.4±0.8, 13.60N×93.03E, h30km, mb4.1/2, Error ellipse: s-maj=21.6km s-min=14.4km az=60.0*

*BJI **07** 01:43:53.5, 14.43N×93.52E, h30km, mB4.8, mb4.1, Ms4.0, Msz3.8*

ISC 07 01:43:43.9±1.1, 13.74N±0.07×92.88E±0.07, h37km±12km, n32, σ1§14/33, mb4.0/10, MS3.1/1, 1C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.08**	**184**	*e*P	**P**	**01 44 17.5**	**+0.5**
PBA				*e*		01 44 27.5	
NNT	**Nongplab**	**6.77**	**99**	P	**P**	**01 45 25.0**	**+1.6**
NST	**Nakhon Sawan**	**7.28**	**74**	P	**P**	**01 45 25.0**	**-5.4**
CMAR	**Chiang Mai Arr**	**7.48**	**50**	Pn	**P**	**01 45 31.9**	**-1.3**
	0.7nm,0.3s,baz=244,slow=15,SNR=5.6						
CMAR				Sn	**S**	**01 46 51.8**	**-5.9**
	1.5nm,0.3s,baz=240,slow=28,SNR=6.3						
CMAR				LR	LR	01 49 06.1	
	comp=Z,316nm,21.2s,baz=233,slow=44						
CHG	**Chiang Mai**	**7.70**	**48**	⇓P	**P**	**01 45 47.5**	**+11**
	22nm,1.0s						
CHRT	**Chiangrai**	**8.99**	**46**	⇑P	**P**	**01 45 57.5**	**+3.3**
	124nm,0.8s						
VIS	**Vishakhapatnam**	**10.01**	**295**	*e*P	**P**	**01 46 07.5**	**-0.9**
VIS				*e*S	**S**	**01 47 46.5**	**-14**
VIS				*e*		01 47 54.8	
	comp=N,91nm,0.6s						
VIS				*e*		01 47 54.9	
	comp=E,56nm,0.5s						
AGT	**Agartala**	**10.20**	**352**	*e*	**P**	**01 46 27.0**	**+16**
SHL	**Shillong**	**11.80**	**356**	*e*	**P**	**01 46 23.0**	**-10**
HYB	**Hyderabad**	**14.28**	**287**	*e*P	**P**	**01 47 02.0**	**-3.7**
HYB	**Hyderabad**	**14.28**	**287**	*i* P	**P**	**01 47 08.0**	**+2.3**
JIRN	**Jiri**	**15.19**	**337**	*e*P	**P**	**01 47 17.7**	**+0.2**
	comp=E,11nm,0.3s						
PKI	**Pulchoki**	**15.42**	**334**	*e*P	**P**	**01 47 20.6**	**+0.1**
	comp=E,28nm,0.8s						
GUN	**Gumba**	**15.53**	**336**	*e*P	**P**	**01 47 21.0**	**-0

3.0nm,1.0s,mb4.3
DBIC Dimbokro 66.44 23 P **P 01 56 03.0 +0.8**
2.5nm,0.9s,mb4.0,baz=195,slow=6.7,SNR=5.5
YKA Yellowknife Ar 137.98 316 PKP PKPdf 02 04 35.7 +2.1
1.2nm,1.1s,baz=136,slow=2.1,SNR=11
YKA Yellowknife Ar 137.98 316 PKP PKPdf 02 04 35.7 +2.1
INK Inuvik 147.64 319 PKPbc PKPdf 02 04 56.2 +6.2
1.3nm,0.6s,baz=117,slow=4.1,SNR=5.4
SONM Songino Array 150.01 88 PKPbc PKPdf 02 05 01.4 +6.9
0.6nm,0.5s,baz=233,slow=2.0,SNR=4.7
ILAR Eielson Array 151.85 309 PKPbc PKPdf 02 05 06.5 +10
0.8nm,0.5s,baz=145,slow=2.9,SNR=16

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*BJI **07** 01:59:35.0, 5.18N×94.49E, h44km, mB4.9, mb4.9, Ms4.1, Msz4.5*
*NEIC **07** 01:59:36.6±0.3, 5.38N×94.54E, h30km, mb4.7/17, Error ellipse: s-maj=10.7km s-min=6.0km az=49.0*
*IDC **07** 01:59:37.5±4.3, 5.46N×94.61E, h35km±32km, mb4.2/15, mb1 4.4/16, mb1mx4.2/21, mbtmp4.4/16, ML4.8/1, MS3.4/2, Ms1 3.5/2, ms1mx2.9/22, Error ellipse: s-maj=41.1km s-min=13.3km az=46.0*
ISC 07 01:59:35.4±0.4, 5.33N±0.07×94.64E±0.08, h33km, n66, σ1§00/61, mb4.6/38, MS4.0/2, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.70**	**17**	Pn	**P**	**02 02 53.7**	**+3.8**
	1.4nm,0.3s,baz=209,slow=14,SNR=28						
CMAR				LR	LR	02 08 14.4	
	comp=Z,81nm,18.6s,baz=217,slow=38						
HYB	**Hyderabad**	**19.80**	**309**	*i* P	**P**	**02 04 09.0**	**+2.9**
QIZ	**Qiongzhong**	**20.12**	**46**	*e*P	**P**	**02 04 11.2**	**+1.7**
QIZ	**Qiongzhong**	**20.12**	**46**	P	**P**	**02 04 10.4**	**+0.9**
	18nm,0.8s						
JIRN	**Jiri**	**23.62**	**341**	*e*P	**P**	**02 04 45.5**	**+1.0**
	18nm,0.3s,mb4.9						
PKI	**Pulchoki**	**23.80**	**339**	*e*P	**P**	**02 04 47.0**	**+0.7**
	10nm,0.5s,mb4.5						
DMN	**Daman**	**23.94**	**339**	*e*P	**P**	**02 04 48.1**	**+0.4**
GUN	**Gumba**	**23.95**	**341**	*e*P	**P**	**02 04 48.4**	**+0.7**
	36nm,0.6s,mb5.0						
KKN	**Kakani**	**24.04**	**339**	*e*P	**P**	**02 04 49.3**	**+0.6**
	18nm,0.7s,mb4.6						
LSA	**Lhasa**	**24.46**	**353**	P	**P**	**02 04 49.8**	**-2.9**
LSA	**Lhasa**	**24.46**	**353**	*e*P	**P**	**02 04 53.8**	**+1.1**
	14nm,0.6s,mb4.6						
GKN	**Gorkha**	**24.47**	**338**	*e*P	**P**	**02 04 52.7**	**-0.1**
	13nm,0.2s,mb4.9						
KOLN	**Koldanda**	**24.66**	**336**	*e*P	**P**	**02 04 55.1**	**+0.4**
	13nm,0.3s,mb5.0						
ENH	**Enshi**	**28.48**	**28**	*e*P	**P**	**02 05 28.1**	**-1.8**
	6.3nm,0.7s,mb4.3						
XAN	**Xi'an**	**31.49**	**23**	P	**P**	**02 05 55.0**	**-1.6**
XAN				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.1						
WMQ	**Urumqi**	**38.82**	**352**	*e*P	**P**	**02 06 59.2**	**+0.3**
WMQ				AP	pP	02 07 09.0	+0.3
WMQ				XP	sP	02 07 13.0	+0.1
WMQ				PP	PP	02 08 32.6	+0.6
WMQ				S	**S**	**02 12 54.3**	**+0.1**
WMQ				XS		02 13 10.5	
WMQ				AMB	AMB		
	comp=Z,29nm,0.9s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,41nm,5.1s						
WMQ				LR	LR		
	comp=N,115nm,17.0s,MS4.0						
WMQ				LR	LR		
	comp=E,158nm,19.9s,MS4.0						
WMQ				LR	LR		
	comp=Z,666nm,19.5s,MS4.5						
BJT	**Baijiatuau**	**39.60**	**26**	*e*P	**P**	**02 07 06.2**	**+0.7**
	comp=Z,12nm,0.8s,mb4.7						
UCH	**Uchtor**	**40.87**	**337**	P	**P**	**02 07 17.3**	**+1.3**
	SNR=16						
TKM2	**Tokmak 2**	**41.06**	**339**	P	**P**	**02 07 18.2**	**+0.7**
	SNR=14						
KBK	**Karagaybulak**	**41.07**	**338**	P	**P**	**02 07 19.1**	**+1.4**
	SNR=34						
AML	**Almayashu**	**41.11**	**336**	P	**P**	**02 07 19.3**	**+1.3**
	SNR=20						
AAK	**Ala-Archa**	**41.22**	**337**	P	**P**	**02 07 21.0**	**+2.1**
	SNR=11						
AAK	**Ala-Archa**	**41.22**	**337**	*e*P	**P**	**02 07 18.5**	**-0.4**
	comp=Z,9.1nm,0.8s,mb4.5						
CHMS	**Chumysh**	**41.44**	**338**	P	**P**	**02 07 21.5**	**+0.8**
	SNR=6.9						
EKS2	**Erkin-Say**	**41.53**	**337**	P	**P**	**02 07 22.6**	**+1.2**
	SNR=9.7						
USP	**Ospenovka**	**41.76**	**338**	P	**P**	**02 07 23.8**	**+0.5**
	SNR=25						
SONM	**Songino Array**	**43.53**	**11**	P	**P**	**02 07 36.9**	**-0.9**
	comp=Z,4.9nm,0.6s,mb4.4,baz=191,slow=7.9,SNR=50						
SONM				PcP	PcP	02 09 25.0	-0.8
	comp=Z,1.5nm,0.6s,baz=194,slow=4.0,SNR=12						
ULN	**Ulaanbaatar**	**43.69**	**12**	*e*P	**P**	**02 07 38.0**	**-1.1**
	comp=Z,3.8nm,0.6s,mb4.3						
ULN				*e*PcP	PcP	02 09 25.1	-1.2
WRA	**Warramunga Arr**	**46.41**	**124**	P	**P**	**02 08 01.8**	**+0.7**
	comp=Z,9.2nm,0.6s,mb4.9,baz=302,slow=9.7,SNR=38						
WRA				ScP		02 13 26.5	
	comp=Z,1.0nm,0.8s,baz=310,slow=3.9,SNR=3.3						
WRA	**Warramunga Arr**	**46.41**	**124**	P	**P**	**02 08 01.8**	**+0.7**
WRA				ScP		02 13 26.4	
WRAB	**Tennant Creek**	**46.42**	**124**	*e*P	**P**	**02 08 01.9**	**+0.8**
	comp=Z,10nm,0.5s,mb5.0						
WB2	**Warramunga Arr**	**46.42**	**124**	↑*i*P	**P**	**02 08 02.0**	**+0.8**
ASPA	**Alice Springs**	**47.93**	**129**	↑*i*P	**P**	**02 08 13.7**	**+0.7**
ASAR	**Alice Springs**	**47.93**	**129**	P	**P**	**02 08 13.8**	**+0.8**
	comp=Z,4.9nm,0.6s,mb4.7,baz=300,slow=7.6,SNR=66						
BVAR	**Borovoye Array**	**51.54**	**342**	P	**P**	**02 08 39.4**	**-0.8**
	comp=Z,8.5nm,0.8s,mb4.8,baz=142,slow=10,SNR=54						
BRVK	**Borovoye**	**51.60**	**341**	*e*P	**P**	**02 08 39.6**	**-1.1**
	comp=Z,6.2nm,0.5s,mb4.8						
CHKZ	**Chkalovo**	**52.03**	**342**	*e*P	**P**	**02 08 43.4**	**-0.5**
	comp=Z,21nm,0.6s,mb5.2						
CHKZ				*e*		02 09 00.4	
PMG	**Port Moresby**	**54.34**	**105**	P	**P**	**02 09 01.9**	**+0.3**
	comp=Z,4.5nm,0.4s,mb4.7,baz=173,slow=15,SNR=3.5						
PMG	**Port Moresby**	**54.34**	**105**	P	**P**	**02 09 01.5**	**-0.1**
	comp=Z,6.2nm,0.6s,mb4.7						
CTA	**Charters Tower**	**56.66**	**118**	P	**P**	**02 09 17.6**	**-0.6**
	comp=Z,2.4nm,0.8s,mb4.2,baz=349,slow=6.5,SNR=3.5						
KMBO	**Kilima Mbogo**	**57.68**	**265**	LR	LR	02 30 10.5	
	comp=Z,56nm,18.9s,MS3.7,baz=86,slow=32						
STKA	**Stephens Creek**	**58.01**	**133**	P	**P**	**02 09 27.9**	**+0.3**
	comp=Z,1.6nm,0.4s,mb4.4,baz=318,slow=11,SNR=6.2						
STKA	**Stephens Creek**	**58.01**	**133**	P	**P**	**02 09 27.9**	**+0.3**
MBAR	**Mbarara**	**64.09**	**267**	P	**P**	**02 10 07.7**	**-1.4**
	comp=Z,6.5nm,0.9s,mb4.7						
MBAR				*e*pP	pP	02 10 25.1	+5.7
BRTR	**Keskin Array B**	**64.47**	**312**	P	**P**	**02 10 09.9**	**-1.2**
	comp=Z,1.3nm,0.5s,mb4.2,baz=131,slow=7.5,SNR=11						
MA2	**Magadan**	**68.78**	**27**	*e*P	**P**	**02 10 37.2**	**-0.9**
	comp=Z,4.7nm,0.3s,mb4.9						
AKASG	**Malin Array Be**	**70.45**	**322**	P	**P**	**02 10 46.5**	**-1.9**
	comp=Z,1.2nm,0.4s,mb4.2,baz=82,slow=5.9,SNR=14						
JOF	**Joensuu**	**73.34**	**335**	*e*p	**P**	**02 11 05.0**	**-0.5**
FINES	**FINESS Array B**	**75.18**	**332**	P	**P**	**02 11 15.6**	**-0.6**
	comp=Z,2.5nm,0.7s,mb4.2,baz=104,slow=6.2,SNR=25						
FINES	**FINESS Array B**	**75.18**	**332**	P	**P**	**02 11 15.6**	**-0.6**
KAF	**Kangasniemi**	**75.27**	**333**	*e*p	**P**	**02 11 15.4**	**-1.2**
	comp=Z,2.1nm,0.5s,mb4.3						
KEV	**Kevo**	**77.38**	**341**	*e*p	**P**	**02 11 27.2**	**-1.3**
	comp=Z,5.3nm,0.6s,mb4.7						
MORC	**Moravsky Berou**	**77.62**	**320**	P	**P**	**02 11 29.9**	**-0.2**
	comp=Z,1.6nm,0.5s,mb4.2						
ARCES	**ARCESS Array B**	**77.81**	**340**	P	**P**	**02 11 30.6**	**-0.2**
	comp=Z,3.1nm,0.4s,mb4.6,baz=102,slow=6.5,SNR=36						
GERES	**GERESS Array B**	**80.05**	**319**	P	**P**	**02 11 43.8**	**+0.4**
	comp=Z,2.8nm,0.6s,mb4.3,baz=99,slow=5.1,SNR=9.3						
KHC	**Kasperske Hory**	**80.14**	**319**	*e*P	**P**	**02 11 42.5**	**-1.4**
LPG	**La Plagne**	**84.76**	**315**	*e*P	**P**	**02 12 08.4**	**+0.6**
	comp=Z,6.2nm,0.8s,mb4.5						
TNA	**Tin City**	**88.26**	**24**	P	**P**	**02 12 23.8**	**-0.5**
	comp=Z,2.4nm,0.6s,mb4.6						
ESDC	**Sonseca Array**	**93.23**	**310**	P	**P**	**02 12 48.8**	**+0.7**
	comp=Z,0.6nm,0.5s,mb4.2,baz=61,slow=3.9,SNR=8.8						
ILAR	**Eielson Array**	**96.89**	**22**	P	**P**	**02 13 03.4**	**-0.8**
	comp=Z,0.3nm,0.5s,mb4.0,baz=293,slow=4.5,SNR=6.4						
INK	**Inuvik**	**99.28**	**16**	P	**P**	**02 13 13.7**	**-1.2**
	comp=Z,0.7nm,0.8s,mb4.3,baz=133,slow=7.6,SNR=4.0						
SCHQ	**Schefferville**	**118.10**	**348**	PKP	PKPdf	02 18 20.3	+1.3
	comp=Z,3.0nm,0.8s,baz=2.5,slow=1.7,SNR=5.8						
NVAR	**Mina Array Bea**	**126.81**	**32**	PKP	PKPdf	02 18 39.0	+2.6
	comp=Z,0.8nm,0.6s,baz=295,slow=2.4,SNR=6.5						
PDAR	**Pinedale Array**	**127.33**	**22**	PKP	PKPdf	02 18 38.9	+1.5
	comp=Z,0.8nm,0.5s,baz=103,slow=3.0,SNR=15						
TXAR	**Lajitas Array**	**141.30**	**26**	PKhKP		02 18 58.8	
	comp=Z,0.2nm,0.4s,baz=208,slow=1.1,SNR=6.8						
TXAR				PKP	PKPdf	02 19 05.5	+1.8
	comp=Z,0.6nm,0.4s,baz=231,slow=0.8,SNR=14						
TXAR	**Lajitas Array**	**141.30**	**26**	PKP	PKPdf	02 19 05.5	+1.8

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*BGR **07** 02:19:01.8±0.8, 51.57N×16.19E, h1km, ML3.0/6, Error ellipse: s-maj=15.6km s-min=6.7km az=171.0*
*NEIC **07** 02:19:01.9±2.2, 51.55N×16.16E, h5km, ML3.1(VIE), ML3.0(SZGRF), ML2.4(BRG), Error ellipse: s-maj=24.7km s-min=6.8km az=215.0*
*IPEC **07** 02:19:02.6±0.3, 51.50N×16.22E, h6km±1km, ML2.1/3, Error ellipse: s-maj=1.8km s-min=0.7km az=42.0*
*PRU **07** 02:19:03.4, 51.48N×16.13E*
*WAR **07** 02:19:03.2, 51.51N×16.12E, h1km, ML2.9, Mining Induced*
*CSEM **07** 02:19:03.3±0.2, 51.49N×16.15E, h0km, ML3.0/4, Error ellipse: s-maj=2.7km s-min=1.6km az=25.0*
ISC 07 02:19:01.7±0.6, 51.44N±0.03×16.09E±0.03, n42, σ1§31/75, 2C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**168**	*e*PG	**Pg**	**02 19 16.0**	**+2.0**
KSP				*e*SG	**Sg**	**02 19 25.0**	**+2.8**
KSP	**Ksiaz**	**0.61**	**168**	*e*Pg	**Pg**	**02 19 15.6**	**+1.6**
KSP				*e*Sg	**Sg**	**02 19 24.8**	**+2.6**
UPC	**Upice**	**0.94**	**183**	*e*PG	**Pg**	**02 19 21.7**	**+1.3**
DPC	**Dobruska-Polom**	**1.10**	**172**	*e*PG	**Pg**	**02 19 24.2**	**+0.5**
DPC				*e*SG	**Sg**	**02 19 40.7**	**+2.3**
	34nm,0.4s						
DPC	**Dobruska-Polom**	**1.10**	**172**	*e*Pg	**Pg**	**02 19 24.3**	**+0.6**
DPC				*e*Sg	**Sg**	**02 19 39.8**	**+1.4**
PVCC	**Panska Ves**	**1.33**	**227**	*e*Pg	**Pg**	**02 19 28.9**	**+0.8**
PVCC				*e*Sg	**Sg**	**02 19 47.0**	**+1.2**
BRG	**Berggiesshubel**	**1.47**	**248**	*e*Pn	**Pn**	**02 19 30.9**	**+1.5**
BRG				*e*Sg	**Sg**	**02 19 51.7**	**+1.2**
BRG	**Berggiesshubel**	**1.47**	**248**	*e*Pn	**Pn**	**02 19 30.2**	**+0.8**
BRG				*i* Pg	**Pg**	**02 19 31.0**	**+0.1**
BRG				*i* Sg	**Sg**	**02 19 51.6**	**+1.2**
BRG	**Berggiesshubel**	**1.47**	**248**	*e*Pn	**Pn**	**02 19 30.8**	**+1.4**
BRG	**Berggiesshubel**	**1.47**	**248**	*i* Pg	**Pg**	**02 19 31.0**	**+0.1**
BRG				*e*Sg	**Sg**	**02 19 51.4**	**+1.0**
PRU	**Pruhonice**	**1.76**	**215**	*e*Pn	**Pn**	**02 19 34.1**	**+0.5**
PRU				*e*Pg	**Pg**	**02 19 36.2**	**-0.5**
PRU				*e*Sg	**Sg**	**02 20 01.2**	**+1.1**
PRU	**Pruhonice**	**1.76**	**215**	*e*Pg	**Pg**	**02 19 36.2**	**-0.5**
PRU				*e*Sg	**Sg**	**02 20 01.2**	**+1.1**
RUE	**Ruedersdorf**	**1.76**	**307**	*e*Sg	**Sg**	**02 19 58.8**	**-1.6**
MORC	**Moravsky Berou**	**1.91**	**150**	*e*Pn	**Pn**	**02 19 35.9**	**+0.1**
MORC				*e*Sn	**Sn**	**02 20 03.9**	**+3.1**
MORC	**Moravsky Berou**	**1.91**	**150**	*e*Pn	**Pn**	**02 19 35.8**	**0.0**
MORC				*e*Sg	**Sg**	**02 20 02.6**	**-2.6**
	24nm,0.5s						
CLL	**Collm**	**1.94**	**267**	*e*Pn	**Pn**	**02 19 35.6**	**-0.6**
CLL				*e*Sg	**Sg**	**02 20 05.7**	**-0.5**
CLL	**Collm**	**1.94**	**267**	*e*Pg	**Pg**	**02 19 39.0**	**-1.3**
CLL				*i* Sg	**Sg**	**02 20 05.4**	**-0.8**
CLL	**Collm**	**1.94**	**267**	*e*PG	**Pg**	**02 19 39.0**	**-1.3**
CLL				*i*		02 19 42.9	
CLL				*i* SG	**Sg**	**02 20 05.4**	**-0.8**
CLL	**Collm**	**1.94**	**267**	*e*Pg	**Pg**	**02 19 39.0**	**-1.3**
CLL				Sg	**Sg**	**02 20 05.7**	**-0.5**
OKC	**Ostrava-Krasne**	**2.08**	**140**	*e*PG	**Pg**	**02 19 42.5**	**-0.6**
OKC				*e*SG	**Sg**	**02 20 09.1**	**-1.7**
VRAC	**Vranov**	**2.16**	**171**	*e*Pn	**Pn**	**02 19 40.7**	**+1.3**
VRAC				*e*Sg	**Sg**	**02 20 10.8**	**-2.9**
	6.8nm,0.3s						
KRUC	**Moravsky**	**2.39**	**175**	*e*Pn	**Pn**	**02 19 44.2**	**+1.5**
KRUC				*e*Sg	**Sg**	**02 20 19.7**	**-1.6**
	7.2nm,0.3s						
TANN	**Tannenbergstha**	**2.51**	**247**	*e*Pn	**Pn**	**02 19 45.4**	**+1.0**
WERD	**Werda**	**2.59**	**249**	*e*Pn	**Pn**	**02 19 46.5**	**+1.0**
NKC	**Novy Kostel**	**2.60**	**244**	*e*PN	**Pn**	**02 19 46.4**	**+0.7**
NKC				*e*PG	**Pg**	**02 19 52.5**	**-1.2**
NKC				*e*SG	**Sg**	**02 20 28.0**	**-0.4**
NKC	**Novy Kostel**	**2.60**	**244**	*e*Pg	**Pg**	**02 19 52.5**	**-1.2**
NKC				*e*Sg	**Sg**	**02 20 28.0**	**-0.4**
OJC	**Ojcow**	**2.65**	**116**	*e*PG	**Pg**	**02 19 54.0**	**-0.7**
OJC				*e*SG	**Sg**	**02 20 29.0**	**-1.0**
OJC	**Ojcow**	**2.65**	**116**	*e*Sg	**Sg**	**02 20 28.9**	**-1.1**
KHC	**Kasperske Hory**	**2.82**	**216**	*e*PN	**Pn**	**02 19 49.2**	**+0.4**
KHC				*e*PG	**Pg**	**02 19 55.3**	**-2.6**
KHC				*e*SN	**Sn**	**02 20 25.5**	**+1.5**
KHC				*e*SG	**Sg**	**02 20 34.4**	**-1.1**
KHC	**Kasperske Hory**	**2.82**	**216**	*e*Sn	**Sn**	**02 20 25.5**	**+1.5**
KHC	**Kasperske Hory**	**2.82**	**216**	*e*Pn	**Pn**	**02 19 49.0**	**+0.2**
KHC	**Kasperske Hory**	**2.82**	**216**	*e*Pg	**Pg**	**02 19 55.4**	**-2.5**
KHC				*e*Sg	**Sg**	**02 20 34.4**	**-1.1**
MOX	**Moxa**	**2.93**	**256**	*e*Pn	**Pn**	**02 19 51.7**	**+1.3**
MOX				*e*Sg	**Sg**	**02 20 38.9**	**-0.4**
MOX	**Moxa**	**2.93**	**256**	*e*Pg	**Pg**	**02 19 58.2**	**-2.0**
MOX				Sg	**Sg**	**02 20 38.9**	**-0.4**
GEC2	**GERESS Array S**	**3.02**	**211**	*e*Pn	**Pn**	**02 19 53.0**	**+1.3**
GEC2	**GERESS Array S**	**3.02**	**211**	*e*Pn	**Pn**	**02 19 53.0**	**+1.4**
WET	**Wettzell**	**3.09**	**223**	*e*Pn	**Pn**	**02 19 53.1**	**+0.5**
WET	**Wettzell**	**3.09**	**223**	*e*Pn	**Pn**	**02 19 53.1**	**+0.5**
GRA1	**Grafenberg Arr**	**3.56**	**242**	Sg	**Sg**	**02 20 58.4**	**-1.9**
GRF	**Grafenberg Arr**	**3.56**	**242**	*e*Sg	**Sg**	**02 20 58.4**	**-1.9**
MOA	**Mollnr**	**3.79**	**199**	↑*i*PN	**Pn**	**02 20 03.0**	**+0.5**
MOA				*i* SG	**Sg**	**02 21 06.1**	**-1.6**
	11nm,0.4s						
ARSA	**Arzberg**	**4.21**	**185**	↑*i*PN	**Pn**	**02 20 08.5**	**-0.1**
ARSA				*i* SG	**Sg**	**02 21 19.8**	**-2.1**
	8.7nm,0.6s						

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*JMA **07** 02:20:44.9±0.5, 46.78N×145.68E, h421km, M3.5*
*MOS **07** 02:20:44.7±1.3, 47.04N×145.26E, h423km, mb3.2/1, Error ellipse: s-maj=28.4km s-min=17.5km az=104.4*
*NEIC **07** 02:20:46.7±0.8, 47.09N×145.15E, h420km±9km, mb4.1/3, Error ellipse: s-maj=15.1km s-min=12.8km az=159.0*
*IDC **07** 02:20:50.0±5.4, 47.16N×145.25E, h458km±63km, mb2.9/11, mb1 3.2/11, mb1mx3.0/20, mbtmp3.7/11, Error ellipse: s-maj=20.0km s-min=14.5km az=123.0*
ISC 07 02:20:44.6±0.4, 46.85N±0.05×145.2E±0.1, h421km±5km, n34, σ1§43/43, mb3.2/12, 1C, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**1.64**	**275**	↑*i*PN	**P**	**02 21 41.7**	**+0.7**
YSS				*i* S	**S**	**02 22 25.2**	**-0.1**
YSS				pmax	pmax		
	comp=Z,80nm,0.5s						
YSS				pmax	pmax		
	comp=E,30nm,0.8s						
YSS				smax			
	comp=E,130nm,1.2s						
YSS	**Yuzh-Sakhalins**	**1.64**	**275**	*e*P	**P**	**02 21 41.5**	**+0.5**
JWK2	**Keihoku**	**2.73**	**237**	P	**P**	**02 21 49.9**	**+2.1**
JTKR	**Abashiri--Toko**	**3.01**	**197**	P	**P**	**02 21 51.3**	**+1.4**
JTKR				*e*S	**S**	**02 22 43.6**	**+2.2**
JMP	**Maruseppu**	**3.11**	**205**	P	**P**	**02 21 52.0**	**+1.2**
NEM2	**Nemuro 2**	**3.51**	**173**	P	**P**	**02 21 53.0**	**-1.1**
NEM2				*e*S	**S**	**02 22 46.1**	**-2.8**
JAR	**Ashorobuto**	**3.68**	**196**	P	**P**	**02 21 56.7**	**+1.0**
JAK	**Akkeshi**	**3.87**	**185**	P	**P**	**02 21 56.8**	**-0.5**
JAK				*e*S	**S**	**02 22 53.7**	**-0.8**
JCH	**Churui**	**4.42**	**197**	P	**P**	**02 22 02.1**	**-0.5**
JCH				*e*S	**S**	**02 23 01.7**	**-2.1**
JNBK	**Urakawa-nobuka**	**4.88**	**201**	P	**P**	**02 22 08.0**	**+0.9**
JNBK				*e*S	**S**	**02 23 10.2**	**-1.6**
JKB	**Kayabe**	**5.77**	**212**	P	**P**	**02 22 17.8**	**+1.6**
JKB				*e*S	**S**	**02 23 27.0**	**-1.3**
JOT	**Ohata**	**6.21**	**210**	P	**P**	**02 22 22.2**	**+1.3**
JOT				*e*S	**S**	**02 23 34.7**	**-2.1**
JANG	**Nango**	**6.99**	**203**	P	**P**	**02 22 30.2**	**+0.7**
JANG				*e*S	**S**	**02 23 51.6**	**-0.7**
JOM	**Ohasama**	**7.89**	**202**	*e*S	**S**	**02 24 11.0**	**+0.6**
KLR	**Kul'dur**	**9.29**	**290**	*e*PN	**P**	**02 22 54.0**	**-1.4**
HIA	**Hailar**	**17.13**	**287**	*e*P	**P**	**02 24 21.4**	**+1.8**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HIA	**Hailar**	**17.13**	**287**	*e*P	**P**	**02 24 21.4**	**+1.8**
	comp=Z,8.3nm,0.8s						
YAK	**Yakutsk**	**17.59**	**335**	*e*P	**P**	**02 24 24.9**	**+0.7**
YAK				pmax	pmax		
	comp=Z,13nm,0.5s						
YAK	**Yakutsk**	**17.59**	**335**	*e*P	**P**	**02 24 24.9**	**+0.7**
	comp=Z,13nm,0.5s						
FX1	**Attu Island--F**	**18.97**	**61**	*e*P	**P**	**02 24 40.4**	**+2.6**
SONM	**Songino Array**	**26.10**	**287**	P	**P**	**02 25 47.4**	**+3.6**
	comp=Z,0.2nm,0.3s,mb3.0,baz=76,slow=9.7,SNR=4.8						
ILAR	**Eielson Array**	**39.88**	**38**	P	**P**	**02 27 39.5**	**-1.2**
	comp=Z,0.4nm,0.8s,mb2.8,baz=276,slow=9.1,SNR=3.8						
INK	**Inuvik**	**44.47**	**32**	P	**P**	**02 28 15.6**	**-1.7**
	comp=Z,0.5nm,0.5s,mb3.1,baz=268,slow=13,SNR=3.7						
CHKZ	**Chkalovo**	**46.09**	**307**	P	**P**	**02 28 29.5**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.3						
CHKZ	**Chkalovo**	**46.09**	**307**	P	**P**	**02 28 29.5**	**-0.6**
	comp=Z,0.5nm,0.6s,mb3.0						
YKA	**Yellowknife Ar**	**54.03**	**34**	P	**P**	**02 29 27.3**	**-1.8**
YKA						02 30 27.3	
YKA	**Yellowknife Ar**	**54.03**	**34**	P	**P**	**02 29 27.2**	**-1.8**
YKA				PcP	PcP	02 30 27.3	-0.4
	comp=Z,0.2nm,0.6s,mb2.5,baz=305,slow=6.8,SNR=6.5						
ARCES	**ARCESS Array B**	**55.85**	**338**	P	**P**	**02 29 39.8**	**-2.0**
	comp=Z,4.6nm,0.9s,mb3.8,baz=45,slow=6.4,SNR=2.7						
FINES	**FINESS Array B**	**61.47**	**331**	P	**P**	**02 30 18.4**	**-1.4**
	comp=Z,0.9nm,0.5s,mb3.4,baz=45,slow=5.4,SNR=12						
NOA	**NORSAR Array B**	**66.20**	**337**	P	**P**	**02 30 48.7**	**-1.3**
	comp=Z,1.5nm,1.1s,mb3.5,baz=46,slow=5.5,SNR=2.3						
WRA	**Warramunga Arr**	**67.19**	**191**	P	**P**	**02 30 58.4**	**+1.6**
	comp=Z,0.7nm,0.5s,mb3.5,baz=7.1,slow=6.7,SNR=6.0						
PDAR	**Pinedale Array**	**68.98**	**50**	P	**P**	**02 31 07.9**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.2,baz=317,slow=2.1,SNR=5.1						
ASAR	**Alice Springs**	**70.92**	**191**	P	**P**	**02 31 21.9**	**+2.8**
	comp=Z,0.5nm,0.4s,mb3.4,baz=7.7,slow=6.3,SNR=7.7						
TXAR	**Lajitas Array**	**82.08**	**55**	P	**P**	**02 32 21.6**	**+1.3**
	comp=Z,0.4nm,0.5s,mb3.4,baz=301,slow=3.9,SNR=7.1						

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*NEIC **07** 02:22:16.2, 62.89N×150.72W, h100km, After AEIC.*
*IDC **07** 02:22:19.3±6.9, 63.04N×150.30W, h111km±62km, mb2.5/1, mb1 2.9/4, mb1mx2.8/18, mbtmp3.0/4, Error ellipse: s-maj=70.4km s-min=21.1km az=38.0*
ISC 07 02:22:15.1±0.4, 62.88N±0.03×150.66W±0.08, h110km±5km, n55, σ0§62/62, mb2.9/1, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUR	**Hurricane**	**0.48**	**78**	P	**P**	**02 22 32.2**	**+0.2**
CUT	**Chulitna**	**0.51**	**159**	P	**P**	**02 22 32.4**	**+0.1**
TRF	**Thorofare Moun**	**0.60**	**16**	P	**P**	**02 22 33.1**	**+0.2**
TRF				S	**S**	**02 22 45.8**	**-0.4**
KTH	**Kantishna Hill**	**0.69**	**350**	P	**P**	**02 22 33.5**	**0.0**
RND	**Reindeer**	**0.98**	**56**	P	**P**	**02 22 36.9**	**+0.5**
RND				S	**S**	**02 22 52.5**	**+0.1**
PWA	**Palmer West**	**1.29**	**163**	P	**P**	**02 22 40.5**	**+0.6**
GHO	**Glory Hole Cre**	**1.38**	**143**	P	**P**	**02 22 41.5**	**+0.6**
BWN	**Browne**	**1.40**	**22**	P	**P**	**02 22 42.0**	**+0.7**
PMR	**Palmer**	**1.48**	**150**	P	**P**	**02 22 42.2**	**+0.1**
PMR				S	**S**	**02 23 02.5**	**0.0**
STLK	**Strandline Lak**	**1.49**	**202**	P	**P**	**02 22 42.3**	**0.0**
STLK				S	**S**	**02 23 02.5**	**-0.2**
SML	**Sawmill**	**1.53**	**134**	P	**P**	**02 22 43.1**	**+0.3**
SML				S	**S**	**02 23 04.2**	**+0.7**
FIB	**Fire Island**	**1.73**	**172**	P	**P**	**02 22 46.1**	**+0.9**
KNK	**Knik Glacier**	**1.80**	**144**	P	**P**	**02 22 46.6**	**+0.5**
CKN	**Chakachatna No**	**1.81**

ISC 07 02:43:55.0±1.6, 7.41S±0.07×128.7E±0.1, h138km±16km, n29, σ1°05/31, mb4.2/15, 4D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.43	145	⇓iP	P	02 45 31.0	+2.6
	308nm,0.2s						
KAKA				eS	S	02 46 40.5	-0.4
FITZ	Fitzroy Crossi	11.04	195	eP	P	02 46 28.2	-1.7
	23nm,0.6s						
FITZ				eS	S	02 48 23.2	-8.1
WRAB	Tennant Creek	13.60	157	ePn	P	02 47 02.0	-1.3
	30nm,0.6s						
WRAB				eSn	S	02 49 27.0	-4.4
WRA	Warramunga Arr	13.61	157	P	P	02 47 02.5	-0.9
	3.8nm,0.3s,baz=329,slow=13,SNR=31						
WRA				S	S	02 49 24.9	-6.7
	4.4nm,0.3s,baz=327,slow=23,SNR=11						
WB2	Warramunga Arr	13.61	157	⇓iP	P	02 47 03.1	-0.4
WB2				eS	S	02 49 26.3	-5.4
MBWA	Marble Bar	16.19	211	eP	P	02 47 36.8	+0.8
	4.0nm,0.5s						
ASAR	Alice Springs	16.92	163	P	P	02 47 45.8	+0.8
	1.6nm,0.3s,baz=342,slow=11,SNR=99						
ASAR				S	S	02 50 45.7	-1.3
	1.6nm,0.3s,baz=343,slow=26,SNR=6.8						
ASPA	Alice Springs	16.92	163	⇓iP	P	02 47 47.7	+2.8
ASPA				eS	S	02 50 46.7	-0.3
KLBR	Kellerberrin	26.14	202	eP	P	02 49 18.8	+0.6
	5.4nm,0.5s,mb4.4						
STKA	Stephens Creek	27.15	155	eP	P	02 49 28.8	+1.4
	4.8nm,0.6s,mb4.3						
STKA	Stephens Creek	27.15	155	P	P	02 49 28.7	+1.3
	7.2nm,0.6s,mb4.5,baz=324,slow=8.3,SNR=20						
NWAO	Narrogin (SRO)	27.53	201	eP	P	02 49 30.9	0.0
	6.3nm,0.6s,mb4.5						
CMAR	Chiang Mai Arr	39.02	312	P	P	02 51 10.8	+0.8
	1.0nm,0.5s,mb3.7,baz=145,slow=6.9,SNR=9.2						
LZH	Lanzhou	49.17	333	eP	P	02 52 31.0	0.0
LZH				AMB	AMB		
	comp=Z,28nm,1.4s,mb4.7						
RPZ	Rata Peaks	51.71	142	P	P	02 52 51.4	+1.3
	comp=Z,6.1nm,0.7s,mb4.3,baz=292,slow=8.0,SNR=4.1						
ULN	Ulaanbaatar	58.26	343	eP	P	02 53 37.4	0.0
	comp=Z,2.5nm,0.6s,mb4.2						
SONM	Songino Array	58.43	343	P	P	02 53 38.8	+0.3
	comp=Z,2.1nm,0.7s,mb4.0,baz=158,slow=6.7,SNR=18						
YAK	Yakutsk	69.23	0	eP	P	02 54 47.7	-1.0
	comp=Z,13nm,0.6s,mb4.8						
AAK	Ala-Archa	70.03	320	eP	P	02 54 52.4	-1.5
	comp=Z,3.4nm,0.9s,mb4.1						
BVAR	Borovoye Array	77.72	328	P	P	02 55 37.9	-0.2
	comp=Z,2.0nm,0.8s,mb3.8,baz=117,slow=6.4,SNR=10						
BRVK	Borovoye	77.80	328	eP	P	02 55 38.1	-0.3
	comp=Z,4.1nm,1.0s,mb4.0						
CHKZ	Chkalovo	77.94	329	eP	P	02 55 39.0	-0.3
	comp=Z,7.3nm,1.3s,mb4.2						
QSPA	South Pole Qui	82.57	180	⇓iP	P	02 56 04.8	+1.4
	comp=Z,4.7nm,0.7s,mb4.3						
ILAR	Eielson Array	94.26	25	P	P	02 56 58.6	-0.7
	comp=Z,1.2nm,1.2s,mb3.9,baz=274,slow=5.1,SNR=4.5						
PDAR	Pinedale Array	118.09	45	PKP	PKPdf	03 02 28.7	+3.0
	comp=Z,0.3nm,0.7s,baz=309,slow=5.8,SNR=2.8						
TXAR	Lajitas Array	126.24	59	PKP	PKPdf	03 02 44.3	+2.4
	comp=Z,0.2nm,0.6s,baz=180,slow=3.8,SNR=3.4						
DBIC	Dimbokro	133.92	272	PKP	PKPdf	03 02 59.4	+2.5
	comp=Z,1.3nm,0.7s,baz=307,slow=5.9,SNR=2.9						
LPAZ	La Paz	151.16	145	PKPbc	PKPdf	03 03 36.9	+10
	comp=Z,1.5nm,0.6s,baz=146,slow=4.8,SNR=6.6						
LPAZ				PKPab	PKPab	03 03 46.0	+2.6
	comp=Z,2.4nm,0.7s,baz=172,slow=4.8,SNR=8.6						
LPAZ	La Paz	151.16	145	PKPbc	PKPdf	03 03 36.9	+10
LPAZ				PKPab	PKPab	03 03 46.0	+2.6

IDC 07 03:13:25.8±2.0, 23.24S×174.44W, mb3.9/3, mb1 4.1/4, mb1mx3.9/16, mbtmp4.1/4, ML4.4/1, Error ellipse: s-maj=135.8km s-min=31.7km az=166.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	13.73	84	Pn	P	03 16 40.3	-4.1
	1.8nm,0.3s,baz=260,slow=15,SNR=5.9						
CTA	Charters Tower	36.59	267	P	P	03 20 33.8	-1.9
	1.2nm,0.6s,baz=82,slow=14,SNR=3.3						
ASAR	Alice Springs	47.17	259	P	P	03 22 00.9	-1.3
	1.1nm,0.8s,baz=94,slow=8.3,SNR=8.9						
WRA	Warramunga Arr	47.55	264	P	P	03 22 02.2	-3.1
	0.4nm,0.3s,baz=100,slow=8.2,SNR=5.9						
AKASG	Malin Array Be	146.99	332	PKPbc	PKPbc	03 33 09.7	-0.1
	0.9nm,0.6s,baz=43,slow=3.8,SNR=6.4						
BRTR	Keskin Array B	151.13	311	PKPbc	PKPdf	03 33 21.9	+5.0
	0.6nm,0.7s,baz=41,slow=2.0,SNR=4.3						

*LDG **07** 03:53:06.2±0.9, 22.94N×94.93E, h10km, Mb4.6/20, Error ellipse: s-maj=44.3km s-min=9.9km az=136.0*
*BJI **07** 03:53:24.9, 23.74N×94.80E, h112km, mb4.5*
*IDC **07** 03:53:25.1±2.4, 23.70N×95.00E, h124km±22km, mb4.0/17, mb1 4.1/18, mb1mx4.1/19, mbtmp4.3/18, Error ellipse: s-maj=22.2km s-min=10.3km az=53.0*
*NEIC **07** 03:53:25.5±0.8, 23.58N×94.80E, h129km±7km, mb4.4/33, Error ellipse: s-maj=8.3km s-min=4.6km az=48.0*

ISC 07 03:53:22.6±0.6, 23.60N±0.04×94.76E±0.04, h118km±5km, n101, σ0°89/113, mb4.4/49, 2C-3D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGT	Agartala	3.23	276	⇓iP	P	03 54 11.0	-1.9
AGT				i		03 55 55.0	
SHL	Shillong	3.27	307	eP	P	03 54 15.8	+2.4
SHL				eS	S	03 54 50.8	-1.2
CHRT	Chiangrai	5.96	128	⇓P	P	03 54 51.0	+1.3
	124nm,0.8s						
CHG	Chiang Mai	6.15	140	PG	P	03 54 52.7	+0.3
CHG				SG	rx	03 55 12.1	
CMAR	Chiang Mai Arr	6.43	142	P	P	03 54 56.5	+0.2
	2.6nm,0.3s,baz=315,slow=14,SNR=41						
LSA	Lhasa	6.88	333	P	P	03 55 04.8	+2.4
LSA				S	S	03 56 18.2	-1.5
LSA	Lhasa	6.88	333	ePn	P	03 55 04.2	+1.8
	120nm,0.4s						
LSA				Sn	S	03 56 10.0	-10
BOK	Bokaro	8.14	273	eP	P	03 55 19.6	+0.3
BOK				eS	S	03 56 43.5	-6.7
BOK				e		03 56 50.1	
	comp=E,170nm,0.9s						
BOK				e		03 56 50.1	
	comp=N,135nm,0.7s						
JIRN	Jiri	8.73	299	eP	P	03 55 27.4	+0.2
	comp=N,219nm,0.3s						
BWNR	Bhubaneshwar	8.94	250	eP	P	03 55 29.6	-0.5
BWNR				eS	S	03 57 00.7	-8.9
BWNR				e		03 57 04.8	
	comp=N,426nm,0.3s						
BWNR				e		03 57 04.9	
	comp=E,272nm,0.2s						
GUN	Gumba	9.09	300	eP	P	03 55 31.9	-0.1
	comp=E,184nm,0.3s						
GUN				eS	S	03 57 07.9	-5.2
PKI	Pulchoki	9.32	297	eP	P	03 55 35.0	-0.2
	comp=E,110nm,0.2s						
KKN	Kakani	9.52	298	eP	P	03 55 37.6	-0.2
	comp=E,162nm,0.2s						
KKN				eS	S	03 57 19.4	-4.0
DMN	Daman	9.59	297	eP	P	03 55 38.8	0.0
	comp=E,79nm,0.3s						
GKN	Gorkha	10.12	298	eP	P	03 55 45.2	-0.7
	comp=E,227nm,0.3s						
GKN				eS	S	03 57 33.4	-4.5
KOLN	Koldanda	10.89	295	eP	P	03 55 55.3	-0.8
KOLN				eS	S	03 57 51.1	-5.1
BLSP	Bilaspur	11.74	265	eP	P	03 56 07.7	+0.4
BLSP				eS	S	03 58 07.5	-8.9
BLSP				e		03 58 12.2	
	comp=N,68nm,0.2s						
BLSP				e		03 58 12.4	
	comp=E,50nm,0.2s						
VIS	Vishakhapatnam	12.19	243	eP	P	03 56 14.5	+1.1
VIS				eS	S	03 58 17.1	-10
VIS				e		03 58 21.4	
	comp=N,56nm,0.5s						
VIS				e		03 58 22.1	
	comp=E,53nm,0.5s						
ENH	Enshi	14.71	60	eP	P	03 56 49.3	+3.3
	comp=E,50nm,0.8s						
QIZ	Qiongzhong	14.77	105	⇓P	P	03 56 52.0	+5.3
BHPL	Bhopal	15.92	272	eP	P	03 57 03.8	+2.6
BHPL				e		03 57 05.7	
	comp=Z,14nm,0.4s						
BHPL				e		03 59 49.0	
XAN	Xi'an	16.17	47	P	P	03 57 03.1	-1.2
XAN				AMB	AMB		
	comp=Z,11nm,0.8s						
DDI	Dehra Dun	16.32	298	eP	P	03 57 12.5	+6.3
DDI				e		03 59 55.6	
HYB	Hyderabad	16.38	251	eP	P	03 57 07.0	+0.1
HYB				eS	S	03 59 56.5	-7.7
HYB	Hyderabad	16.38	251	iP	P	03 57 07.0	+0.1
HYB				eS	S	03 59 56.5	-7.7
NDI	New Delhi	16.55	292	eP	P	03 57 15.0	+6.1
NDI				e		03 59 58.0	
AYAN	Aya Nagar	16.57	291	eP	P	03 57 07.6	-1.7
AYAN				e		03 57 15.5	
	comp=Z,12nm,1.0s						
AYAN				e		04 00 02.1	
KUDL	Kundal	17.05	289	eP	P	03 57 14.2	-1.0
KUDL				e		03 57 19.6	
	comp=Z,5.9nm,0.9s						
KUDL				e		04 00 10.6	
KHET	Khetri	17.63	289	eP	P	03 57 21.5	-0.8
KHET				e		03 57 27.0	
	comp=Z,19nm,0.7s						
KHET				e		04 00 22.6	
POO	Poona	20.15	259	eP	P	03 57 54.0	+4.3
POO				iS	S	04 01 36.0	+12
WMQ	Urumqi	20.99	346	eP	P	03 57 59.2	+1.2
WMQ				AP		03 58 25.8	
WMQ				S	S	04 01 39.2	-0.7
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.6s						
NJ2	Nanjing	22.87	63	eP	P	03 58 17.1	+0.5
NJ2				AMB	AMB		
	comp=Z,60nm,1.1s,mb4.8						
SONM	Songino Array	25.90	18	P	P	03 58 45.2	-0.1
	comp=Z,0.5nm,0.6s,mb3.1,baz=196,slow=8.5,SNR=4.5						
BVAR	Borovoye Array	34.72	334	P	P	04 00 03.7	+0.7
	comp=Z,2.0nm,0.7s,mb4.1,baz=141,slow=9.5,SNR=10						
BVAR				PcP	PcP	04 02 34.0	-0.5
	comp=Z,0.6nm,0.5s,baz=155,slow=3.9,SNR=4.3						
BVAR				ScP		04 06 08.4	
	comp=Z,0.5nm,0.7s,baz=135,slow=6.1,SNR=4.0						
BRVK	Borovoye	34.78	334	eP	P	04 00 04.2	+0.6
	comp=Z,1.8nm,0.4s,mb4.2						
CHKZ	Chkalovo	35.12	335	eP	P	04 00 07.6	+1.2
	comp=Z,3.0nm,0.5s,mb4.4						
ARU	Arti	42.08	331	eP	P	04 01 03.9	-0.2
	comp=Z,4.5nm,0.5s,mb4.5						
MALT	Malatya	49.77	301	eP	P	04 02 06.7	+1.5
	comp=Z,1.8nm,0.8s,mb4.0						
MBWA	Marble Bar	50.70	149	eP	P	04 02 12.0	-0.5
	comp=Z,9.6nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	51.25	141	eP	P	04 02 16.2	-0.5
	comp=Z,8.0nm,1.0s,mb4.7						
ASF	Jabal al Asfar	51.34	293	P	P	04 02 19.5	+2.3
	comp=Z,3.3nm,0.6s,mb4.5,baz=310,slow=18,SNR=6.1						
BRTR	Keskin Array B	53.48	303	P	P	04 02 33.5	+0.5
	comp=Z,0.9nm,0.5s,mb4.1,baz=126,slow=9.6,SNR=9.2						
AKASG	Malin Array Be	56.72	316	P	P	04 02 55.2	-1.0
	comp=Z,2.1nm,0.5s,mb4.5,baz=82,slow=6.4,SNR=9.5						
AKASG				PcP	PcP	04 03 50.1	-0.5
	comp=Z,4.1nm,0.9s,baz=62,slow=3.8,SNR=5.2						
JOF	Joensuu	57.21	331	ep	P	04 02 59.0	-0.5
WRA	Warramunga Arr	57.98	135	P	P	04 03 04.7	-0.7
	comp=Z,13nm,0.5s,mb5.2,baz=323,slow=7.5,SNR=58						
WRAB	Tennant Creek	57.98	135	eP	P	04 03 04.9	-0.6
	comp=Z,17nm,0.6s,mb5.3						
WB2	Warramunga Arr	57.99	135	⇑iP	P	04 03 04.8	-0.7
KAF	Kangasniemi	59.36	329	ep	P	04 03 13.8	-0.6
	comp=Z,0.6nm,0.4s,mb4.0,baz=97,slow=6.8						
FINES	FINESS Array B	59.38	329	P	P	04 03 14.3	-0.3
	comp=Z,2.8nm,0.6s,mb4.5,baz=107,slow=7.1,SNR=27						
FINES	FINESS Array B	59.38	329	P	P	04 03 14.3	-0.3
NWAO	Narrogin (SRO)	60.16	158	P	P	04 03 18.9	-1.4
	comp=Z,5.2nm,0.3s,mb5.0,baz=355,slow=3.0,SNR=8.1						
NWAO	Narrogin (SRO)	60.16	158	eP	P	04 03 18.6	-1.7
	comp=Z,3.7nm,0.5s,mb4.7						
ASPA	Alice Springs	60.43	138	⇑iP	P	04 03 22.0	-0.3
ASAR	Alice Springs	60.43	138	P	P	04 03 22.1	-0.3
	comp=Z,10.0nm,0.5s,mb5.1,baz=321,slow=6.9,SNR=184						
PMG	Port Moresby	60.81	116	eP	P	04 03 24.6	-0.4
	comp=Z,9.1nm,0.7s,mb4.9						
ARCES	ARCESS Array B	60.86	338	P	P	04 03 24.6	0.0
	comp=Z,10nm,1.0s,mb4.8,baz=90,slow=7.3,SNR=14						
KMBO	Kilima Mbogo	60.99	255	P	P	04 03 27.5	+1.2
	comp=Z,1.5nm,0.6s,mb4.2,baz=46,slow=14,SNR=5.9						
KMBO	Kilima Mbogo	60.99	255	P	P	04 03 27.5	+1.2
CTAO	Charters Tower	66.36	127	eP	P	04 04 00.6	-0.8
	comp=Z,3.5nm,0.7s,mb4.3						
NB2	NORSAR Subarra	66.55	328	P	P	04 04 01.1	-0.8
	comp=Z,2.1nm,0.7s,mb4.1,baz=83,slow=6.5						
NOA	NORSAR Array B	66.55	328	P	P	04 04 01.1	-0.7
	comp=Z,2.6nm,0.7s,mb4.2,baz=85,slow=6.2,SNR=5.8						
GERES	GERESS Array B	66.86	315	P	P	04 04 04.2	+0.2
	comp=Z,2.8nm,0.4s,mb4.4,baz=71,slow=3.9,SNR=13						
STKA	Stephens Creek	71.05	139	eP	P	04 04 29.3	-0.6
	comp=Z,1.9nm,0.4s,mb4.3						
STKA	Stephens Creek	71.05	139	P	P	04 04 29.4	-0.6
	comp=Z,2.7nm,0.5s,mb4.3,baz=323,slow=4.4,SNR=9.1						
CDF	Champ du Feu	71.12	315	eP	P	04 04 29.8	-0.2
	comp=Z,5.2nm,0.6s,mb4.2						
PGF	Pioggiola	71.44	309	eP	P	04 04 32.0	-0.1
	comp=Z,6.4nm,0.6s,mb4.3						
SBF	Sospel	72.19	311	eP	P	04 04 36.2	-0.3
	comp=Z,13nm,0.7s,mb4.5						
LPG	La Plagne	72.22	312	eP	P	04 04 37.2	+0.6
	comp=Z,7.1nm,0.5s,mb4.5						
LPL	La Plagne	72.23	312	eP	P	04 04 37.1	+0.4
	comp=Z,13nm,0.5s,mb4.7						
CABF	La Chapelle	72.36	314	eP	P	04 04 37.5	0.0
MBDF	Montbardon	72.42	312	eP	P	04 04 37.7	-0.1
	comp=Z,9.0nm,0.6s,mb4.5						
MEZF	Maizieres J'vi	72.52	316	eP	P	04 04 38.5	+0.2
	comp=Z,15nm,0.7s,mb4.6						
FRF	La Foret Royal	72.83	310	eP	P	04 04 39.9	-0.3
	comp=Z,33nm,1.2s,mb4.7						
ORIF	Oris-en-Rattie	72.97	312	eP	P	04 04 41.2	+0.2
	comp=Z,4.5nm,0.5s,mb4.2						
VIVF	Saint-Julien-l	73.81	312	eP	P	04 04 45.8	-0.2
	comp=Z,9.0nm,0.7s,mb4.3						
SMF	Signal de Mont	73.84	314	eP	P	04 04 45.9	-0.2
	comp=Z,13nm,0.7s,mb4.5						
SSF	Saint Saulge	73.93	315	eP	P	04 04 46.5	-0.1
	comp=Z,8.2nm,0.7s,mb4.3						
AVF	Avril sur Loir	74.11	314	eP	P	04 04 47.4	-0.3
HYF	Humbligny	74.44	315	eP	P	04 04 49.9	+0.4
LASF	Ste Croix	74.60	312	eP	P	04 04 50.8	+0.3
	comp=Z,6.9nm,0.8s,mb4.2						
TCF	Toulx Ste Croi	75.02	314	eP	P	04 04 53.2	+0.4
CAF	Calviac	75.55	313	eP	P	04 04 56.4	+0.5
LSZ	Lusaka	75.66	246	eP	P	04 04 57.4	+0.4
	comp=Z,2.7nm,0.6s,mb4.2						
LSZ				epP	pP	04 05 29.8	+2.8
RJF	Les Rejaudoux	75.80	313	eP	P	04 04 57.9	+0.6
	comp=Z,6.9nm,0.6s,mb4.2						
MTLF	Montolieu	75.97	311	eP	P	04 04 58.4	+0.1
	comp=Z,4.3nm,0.6s,mb4.1						
GRR	Gorron	76.30	317	eP	P	04 05 00.1	+0.1
LFF	La Frestale	76.44	313	eP	P	04 05 01.5	+0.6
	comp=Z,6.5nm,0.5s,mb4.3						
SGMF	Saint Gilles	77.41	317	eP	P	04 05 06.6	+0.4
ETSF	Etsaut	78.03	312	eP	P	04 05 10.4	+0.7
	comp=Z,9.5nm,0.6s,mb4.4						
SJPF	Ste Jean	78.41	312	eP	P	04 05 12.2	+0.4
SUMG	Summit	79.03	347	eP	P	04 05 15.0	+0.4
	comp=Z,6.7nm,0.7s,mb4.6						
ILAR	Eielson Array	80.04	23	P	P	04 05 18.1	-2.1
	comp=Z,0.6nm,0.7s,mb3.5,baz=299,slow=4.4,SNR=7.0						
ESDC	Sonseca Array	81.62	310	P	P	04 05 29.5	+0.5
	comp=Z,0.4nm,0.5s,mb3.5,baz=44,slow=4.0,SNR=6.0						
INK	Inuvik	81.80	16	eP	P	04 05 28.3	-1.1
	comp=Z,2.3nm,0.8s,mb4.1						
YKA	Yellowknife Ar	91.07	13	P	P	04 06 13.6	-1.0
	comp=Z,0.1nm,0.4s,mb3.3,baz=327,slow=4.1,SNR=5.2						
DBIC	Dimbokro	96.10	280	P	P	04 06 40.2	+1.5
	comp=Z,0.8nm,0.9s,mb4.1,baz=31,slow=5.9,SNR=3.0						
DBIC	Dimbokro	96.10	280	P	P	04 06 40.2	+1.5
EDM	Edmonton	99.70	17	P	P	04 06 53.6	-0.5
TXAR	Lajitas Array	124.47	20	PKP	PKPdf	04 12 08.9	+0.5
	comp=Z,0.1nm,0.5s,baz=135,slow=1.8,SNR=4.5						
BDFB	Brasilia	144.14	276	PKP	PKPdf	04 12 46.0	+0.9
	comp=Z,9.7nm,0.7s,baz=148,slow=3.4,SNR=20						
ROSC	El Rosal	149.78	338	PKPbc	PKPdf	04 13 02.8	+8.2
	comp=Z,14nm,0.8s,baz=114,slow=23,SNR=9.7						

*CSEM **07** 04:14:02.8±0.1, 32.91N×35.64E, h2km, Mw2.9, Error ellipse: s-maj=3.6km s-min=1.8km az=112.0*
*GRAL **07** 04:14:03.6±1.1, 32.90N×35.66E, h14km±24km, MD3.5*

GII 07 04:14:03.4±0.2, 32.92N×35.65E, h8km±2km, ML2.7/10, Mw2.9/7, 1D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSDI	Kefar Szold	0.27	1	Pg	Pg	04 14 09.4	+0.3
KSDI				Sg	Sg	04 14 13.6	+0.8
KSDI	Kefar Szold	0.27	1	Sg	Sg	04 14 13.6	+0.8
HRI	Mount Hermon	0.35	11	Pg	Pg	04 14 10.6	0.0
HRI				Sg	Sg	04 14 15.9	+0.5
HNTI	Hanita	0.43	292	Pg	Pg	04 14 12.0	-0.2
HNTI				Sg	Sg	04 14 17.9	-0.1
HNTI	Hanita	0.43	292	⇓Pg	Pg	04 14 12.0	-0.2
HNTI				Sg	Sg	04 14 17.9	-0.2
MMLI	Mount Malkishu	0.52	202	Pg	Pg	04 14 13.5	-0.3
MMLI				Sg	Sg	04 14 21.2	+0.4
MMLI	Mount Malkishu	0.52	202	Sg	Sg	04 14 21.2	+0.4
HAF	Haifa	0.55	256	Pg	Pg	04 14 14.1	-0.4
HAF				Sg	Sg	04 14 20.7	-1.1
MATL	Matirih	0.63	335	iPG	Pg	04 14 15.2	-0.9
OFRI	'Ofer	0.64	242	Pg	Pg	04 14 15.3	-0.8
OFRI				Sg	Sg	04 14 24.2	-0.5
OFRI	'Ofer	0.64	242	Sg	Sg	04 14 24.2	-0.5
SLTI	Sal'it	0.85	218	Pg	Pg	04 14 19.2	-1.3
SLTI				Sg	Sg	04 14 31.2	-0.6
BHL	Bhannes	0.98	0	iPG	Pg	04 14 21.3	-1.8
BHL				iSG	Sg	04 14 34.9	-1.3
DRGI	Dragot	1.34	190	Pn	Pn	04 14 26.9	-1.5
MKRJ	Makawir	1.36	180	Pn	Pn	04 14 27.6	-1.2
MKRJ				Sn	Sn	04 14 46.2	-1.0
HWQ	Hawqa	1.38	10	iPG	Pg	04 14 28.4	-2.5
HWQ				iSG	Sg	04 14 48.5	-0.8
FKH	Fakeheh	1.46	25	iPG	Pg	04 14 29.8	-2.7
FKH				iSG	Sg	04 14 50.1	-1.8
MZDA	Masada	1.62	189	Pn	Pn	04 14 31.5	-1.0
MZDA				Sn	Sn	04 14 53.3	-0.5
RTMM	Retamin	2.04	204	Pn	Pn	04 14 37.7	-0.7
KZIT	Kziot	2.27	208	Pn	Pn	04 14 40.4	-1.4

*MOS **07** 04:30:09.8±1.1, 51.71N×16.11E, h10km, mb4.2/1, Error ellipse: s-maj=6.9km s-min=3.7km az=80.1*
*BGR **07** 04:30:10.6±0.5, 51.59N×16.29E, h1km, ML3.9/10, Error ellipse: s-maj=5.6km s-min=4.4km az=136.0*
*NEIC **07** 04:30:12.0±0.3, 51.60N×16.09E, h5km, ML4.4(STR), ML3.9(SZGRF), ML3.9(VIE), ML3.8(FUR), ML3.5(CLL), ML3.4(BRG), Error ellipse: s-maj=4.2km s-min=3.4km az=214.0*
*LDG **07** 04:30:12.6±0.2, 51.46N×16.07E, h1km, Ml4.3/12, Error ellipse: s-maj=4.4km s-min=2.1km az=2.0, Suspected Mining induced.*
*IDC **07** 04:30:12.4±0.5, 51.55N×15.98E, mb3.8/4, mb1 3.9/14, mb1mx3.8/24, mbtmp3.8/14, ML3.7/8, Error ellipse: s-maj=9.4km s-min=5.5km az=105.0*
*IPEC **07** 04:30:12.9±0.2, 51.55N×16.15E, h9km±1km, ML3.3/3, Error ellipse: s-maj=1.4km s-min=0.6km az=43.0*
*PRU **07** 04:30:13.1, 51.53N×16.11E, Felt In Harrachov*
*CSEM **07** 04:30:13.0±0.1, 51.55N×16.05E, h2km, ML4.2/11, Error ellipse: s-maj=2.5km s-min=1.6km az=21.0*
*WAR **07** 04:30:13.4, 51.56N×16.10E, h1km, ML3.7, Mining Induced*
*UPP **07** 04:30:18.4, 52.01N×15.46E, h0km, ML3.2, Mining explosion.*

ISC 07 04:30:10.0±0.2, 51.55N±0.01×16.11E±0.02, n158, σ1°37/259, mb3.9/4, 11C-7D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.71	170	⇓iP	Pg	04 30 26.6	+2.4
KSP				e		04 30 43.2	
KSP	Ksiaz	0.71	170	⇓iPg	Pg	04 30 26.6	+2.4
KSP				iSg	Sg	04 30 36.3	+2.6
KSP				e		04 30 43.2	
KSP	Ksiaz	0.71	170	ePg	Pg	04 30 26.6	+2.4
KSP				eSg	Sg	04 30 36.5	+2.8
KSP	Ksiaz	0.71	170	⇓iPg	Pg	04 30 26.6	+2.4
KSP				iSg	Sg	04 30 36.3	+2.6
UPC	Upice	1.04	183	ePg	Pg	04 30 32.5	+1.8
UPC				eSg	Sg	04 30 46.0	+1.4
DPC	Dobruska-Polom	1.20	173	ePG	Pg	04 30 35.4	+1.4
DPC				eSG	Sg	04 30 51.1	+1.1
	473nm,0.5s						
PVCC	Panska Ves	1.41	224	ePG	Pg	04 30 38.8	+0.7
PVCC	Panska Ves	1.41	224	ePn	Pn	04 30 39.4	+2.5
PVCC				eSg	Sg	04 30 58.0	+1.2
BRG	Berggiesshubel	1.52	245	ePn	Pn	04 30 39.6	+1.1
BRG				eSg	Sg	04 31 01.7	+1.2
BRG	Berggiesshubel	1.52	245	iP	Pn	04 30 39.3	+0.8
BRG				i		04 31 01.7	
BRG	Berggiesshubel	1.52	245

17nm,0.3s,baz=348,slow=16,SNR=34
VRAC Lg 04 31 24.6
25nm,0.3s,baz=279,slow=22,SNR=4.1
VRAC Vranov 2.26 172 Pg **Pg 04 30 54.7 -0.4**
VRAC eSg **Sg 04 31 24.0 -1.2**
181nm,0.5s
KRUC Moravsky 2.49 176 ePn **Pn 04 30 54.5 +2.1**
KRUC Moravsky 2.49 176 ePg **Pg 04 30 58.6 -1.1**
KRUC eSg **Sg 04 31 30.3 -2.7**
109nm,0.5s
WERD Werda 2.64 247 ePn **Pn 04 30 55.7 +1.2**
WERD eSg **Sg 04 31 39.5 +1.6**
NKC Novy Kostel 2.66 242 eP **Pn 04 30 56.2 +1.3**
NKC e 04 31 38.5
NKC Novy Kostel 2.66 242 ePN **Pn 04 30 56.2 +1.3**
NKC ePG **Pg 04 31 03.4 +0.3**
NKC eSG **Sg 04 31 38.5 -0.1**
NKC Novy Kostel 2.66 242 ePg **Pg 04 31 03.4 +0.3**
NKC eSg **Sg 04 31 38.5 -0.1**
OJC Ojcow 2.69 118 eP **Pn 04 30 56.3 +1.1**
OJC e 04 31 28.1
OJC Ojcow 2.69 118 ePn **Pn 04 30 56.3 +1.1**
OJC i Pg **Pg 04 31 04.3 +0.7**
OJC eSn **Sn 04 31 28.1 -0.9**
OJC i Sg **Sg 04 31 39.0 -0.5**
KHC Kasperske Hory 2.91 215 eP **Pn 04 30 59.2 +0.8**
KHC e 04 31 44.9
KHC Kasperske Hory 2.91 215 ePN **Pn 04 30 59.2 +0.8**
KHC ePG **Pg 04 31 05.9 -2.2**
KHC eSG **Sg 04 31 44.9 -1.9**
147nm,0.6s
MOX Moxa 2.97 254 ePn **Pn 04 31 00.1 +0.8**
MOX eSg **Sg 04 31 48.7 -0.2**
MOX Moxa 2.97 254 ePn **Pn 04 31 00.0 +0.7**
MOX ePg **Pg 04 31 09.1 -0.2**
MOX eSg **Sg 04 31 48.8 -0.1**
MOX Moxa 2.97 254 i P **Pn 04 31 00.0 +0.7**
MOX Pg **Pg 04 31 09.0 -0.3**
MOX Sg **Sg 04 31 49.0 +0.1**
MOX Moxa 2.97 254 ePg **Pg 04 31 08.5 -0.8**
MOX eSg **Sg 04 31 47.6 -1.3**
NOTT Nottersdorf 3.07 237 ePn **Pn 04 31 01.9 +1.2**
NOTT eSg **Sg 04 31 52.2 -0.1**
GEC2 GERESS Array S 3.11 211 ePn **Pn 04 31 02.5 +1.2**
GEC2 GERESS Array S 3.11 211 ePn **Pn 04 31 02.5 +1.2**
GERES GERESS Array B 3.11 211 P **Pn 04 31 01.9 +0.6**
GERES 04 31 40.8
GERES GERESS Array B 3.11 211 Pn **Pn 04 31 01.9 +0.6**
8.0nm,0.3s,baz=30,slow=12,SNR=120
GERES Pg **Pg 04 31 09.1 -3.0**
15nm,0.3s,baz=35,slow=16,SNR=42
GERES Sn **Sn 04 31 40.8 +1.1**
8.9nm,0.3s,baz=24,slow=29,SNR=7.2
GERES Lg 04 31 49.5
20nm,0.3s,baz=37,slow=27,SNR=7.7
SMOL Smolenice 3.15 164 ePN **Pn 04 31 04.4 +2.6**
SMOL ePG **Pg 04 31 12.1 -0.8**
SMOL eSG **Sg 04 31 54.4 -0.5**
SMOL Smolenice 3.15 164 ePg **Pg 04 31 12.1 -0.8**
SMOL eSg **Sg 04 31 54.4 -0.5**
LIKS Likavka 3.15 141 ePG **Pg 04 31 13.7 +0.8**
LIKS eSG **Sg 04 31 54.3 -0.6**
WET Wettzell 3.17 222 ePn **Pn 04 31 03.0 +0.9**
WET Wettzell 3.17 222 ePn **Pn 04 31 03.0 +0.9**
VKA Vienna 3.29 178⇑i PN **Pn 04 31 05.6 +1.9**
VKA i PG **Pg 04 31 14.1 -1.5**
VKA i SG **Sg 04 31 57.6 -1.8**
VKA Vienna 3.29 178 i Pg **Pg 04 31 14.1 -1.5**
VKA i Sg **Sg 04 31 57.6 -1.8**
KOLL Kolacno 3.32 153 i Pn **Pn 04 31 05.3 +1.1**
KOLL ePg **Pg 04 31 15.5 -0.7**
KOLL eSg **Sg 04 31 57.5 -2.9**
KOLL Kolacno 3.32 153 eSB **Sg 04 31 57.5 -2.9**
ZST Bratislava 3.41 169 ePn **Pn 04 31 06.5 +1.0**
ZST ePB **Pg 04 31 15.9 -2.2**
ZST eSG **Sg 04 32 01.4 -2.2**
ZST Bratislava 3.41 169 ePg **Pg 04 31 15.9 -2.2**
ZST eSg **Sg 04 32 01.4 -2.2**
NIE Niedzica 3.43 127 ePn **Pn 04 31 06.6 +0.9**
NIE ePg **Pg 04 31 16.4 -2.0**
NIE e 04 31 19.2
NIE eSg **Sg 04 32 02.3 -1.8**
VYHS Vyhne 3.52 149 i PN **Pn 04 31 07.8 +0.7**
VYHS ePG **Pg 04 31 20.4 +0.1**
CLZ Clausthal 3.58 277 ePn **Pn 04 31 09.1 +1.2**
CLZ eSg **Sg 04 32 07.5 -1.7**
CLZ Clausthal 3.58 277 ePn **Pn 04 31 09.1 +1.2**
CLZ eSg **Sg 04 32 07.5 -1.7**
CLZ Clausthal 3.58 277 ePn **Pn 04 31 09.0 +1.1**
CLZ Sg **Sg 04 32 07.5 -1.7**
GRA1 Grafenberg Arr 3.62 241 ePn **Pn 04 31 09.9 +1.4**
GRA1 Grafenberg Arr 3.62 241 Pn **Pn 04 31 09.9 +1.4**
GRF Grafenberg Arr 3.62 241 ePn **Pn 04 31 09.9 +1.4**
BSD Bornholm Skovb 3.65 349 i P **Pn 04 31 08.2 -0.7**
BSD i S **Sn 04 31 49.3 -3.9**
BSD i S **Sn 04 31 52.1 -1.1**
BSD Bornholm Skovb 3.65 349 i P **Pn 04 31 08.2 -0.7**
BSD i S **Sn 04 31 52.1 -1.1**
NRDL Niedersach Rie 3.83 287 ePn **Pn 04 31 12.9 +1.5**
SOP Sopron 3.88 175 ePn **Pn 04 31 14.7 +2.6**
SOP eSB **Sb 04 32 13.8 +6.9**
MOA Molln 3.89 199⇑i PN **Pn 04 31 13.3 +1.0**
MOA i SG **Sg 04 32 16.7 -2.7**
67nm,0.6s
BSEG Bad Segeberg 4.26 307 ePn **Pn 04 31 16.4 -1.1**
BSEG Bad Segeberg 4.26 307 ePn **Pn 04 31 16.4 -1.1**
ARSA Arzberg 4.32 185⇓i PN **Pn 04 31 20.0 +1.6**
ARSA i SG **Sg 04 32 28.0 -5.6**
117nm,0.7s
CRVS Cervenica-Dubn 4.34 125 ePN **Pn 04 31 19.9 +1.2**
CRVS ePG **Pg 04 31 37.6 +1.0**
CRVS e 04 32 29.1
PSZ Piszkesteto 4.38 144⇓ePn **Pn 04 31 20.8 +1.5**
PSZ Piszkesteto 4.38 144 ePn **Pn 04 31 19.9 +0.6**
FUR Furstenfeldbru 4.61 225 ePn **Pn 04 31 23.2 +0.8**
FUR Furstenfeldbru 4.61 225 ePn **Pn 04 31 23.2 +0.7**
KWP Kalwaria 4.62 112 ePn **Pn 04 31 22.9 +0.2**
KWP e 04 31 37.3
KWP Kalwaria 4.62 112 ePn **Pn 04 31 22.9 +0.2**
KWP e 04 31 37.3
KWP ePg **Pg 04 31 41.8 -0.4**
KWP eSn **Sn 04 32 20.6 +2.8**
KWP eS* **Sg 04 32 42.2 -1.6**
KWP eSg rx 04 32 49.6
KOLS Kolonicke sedl 4.74 121 i PN **Pn 04 31 24.4 0.0**
KOLS ePG **Pg 04 31 43.9 -0.7**
BLEU Blekinge 4.77 358 P **Pn 04 31 24.0 -0.8**
KBA Koelnbreinsper 4.82 203⇑i PN **Pn 04 31 26.9 +1.4**
KBA i SG **Sg 04 32 46.3 -4.2**
62nm,0.6s
UZH Uzhgorod 4.94 124 eP **Pn 04 31 25.0 -2.2**
SUW Suwalki 4.95 57 ePG **Pg 04 31 49.0 +0.1**
SUW Suwalki 4.95 57 eSg **Sg 04 32 47.5 -7.4**
TOD Tromm 5.04 250 P **Pn 04 31 28.6 -0.1**
TOD S **Sn 04 32 34.8 +6.3**
GROS Grobnik 5.10 185 ePn **Pn 04 31 30.7 +1.2**
WATA Walderalm 5.14 217⇑i PN **Pn 04 31 31.4 +1.3**
WATA i SG **Sg 04 32 56.6 -4.7**
58nm,0.7s
WATA Walderalm 5.14 217⇑i Pn **Pn 04 31 31.4 +1.3**
58nm,0.7s
WATA i Sg **Sg 04 32 56.6 -4.7**
WTTA Wattenberg 5.18 216⇑i PN **Pn 04 31 32.2 +1.5**
WTTA i SG **Sg 04 32 59.6 -2.9**
51nm,0.7s
WTTA Wattenberg 5.18 216⇑i Pn **Pn 04 31 32.2 +1.5**
51nm,0.7s
WTTA i Sg **Sg 04 32 59.6 -2.9**
STU Stuttgart 5.24 241 eP **Pn 04 31 28.3 -3.1**
STU pmax pmax
comp=Z,11nm,0.6s
STU Stuttgart 5.24 241 ePn **Pn 04 31 28.3 -3.2**
comp=Z,11nm,0.6s
STU Pg **Pg 04 31 51.4 -3.2**
STU eSg **Sg 04 32 60.0 -4.4**
STU Stuttgart 5.24 241 ePn **Pn 04 31 28.3 -3.1**
comp=Z,11nm,0.6s
STU Stuttgart 5.24 241 Pg **Pg 04 31 51.4 -3.1**
STU Sg **Sg 04 33 01.2 -3.2**
MOTA Moosalm 5.32 220⇑i PN **Pn 04 31 32.7 +0.1**
MOTA i SG **Sg 04 33 02.7 -4.4**
comp=Z,46nm,0.8s
MOTA Moosalm 5.32 220⇑i Pn **Pn 04 31 32.7 +0.1**
comp=Z,46nm,0.8s
MOTA i Sg **Sg 04 33 02.7 -4.4**
LVV L'vov 5.33 106 eP **Pn 04 31 25.1 -7.6**
LVV MLR MLR
comp=Z,400nm,4.0s
SQTA Sankt Quirin 5.38 218⇑i PN **Pn 04 31 34.4 +1.0**
SQTA i SG **Sg 04 33 03.5 -5.6**
comp=Z,22nm,0.5s
SQTA Sankt Quirin 5.38 218⇑i Pn **Pn 04 31 34.4 +1.0**
comp=Z,22nm,0.5s
SQTA i Sg **Sg 04 33 03.5 -5.6**
VXJU Vaexsjoe 5.43 353 P **Pn 04 31 33.2 -1.0**
CADS Cadrg 5.55 197 i Pn **Pn 04 31 36.3 +0.6**
ABH Alteburg 5.69 256 P **Pn 04 31 38.3 +0.5**
VOY Vojsko 5.71 196 ePn **Pn 04 31 38.0 -0.1**
VOY e 04 33 02.7
VOY e 04 33 19.0
BYXU Byxelkrok 5.78 5 P **Pn 04 31 38.2 -0.9**
VISS Visnje 5.81 189 i Pn **Pn 04 31 40.0 +0.6**
DAVA Damuels 5.89 226⇓i PN **Pn 04 31 40.4 -0.2**
DAVA i SG **Sg 04 33 22.3 -3.7**
comp=Z,76nm,0.8s
DAVA Damuels 5.89 226⇓i Pn **Pn 04 31 40.4 -0.2**
comp=Z,76nm,0.8s
DAVA i Sg **Sg 04 33 22.3 -3.7**
LANF Langenberg 5.91 248 P **Pn 04 31 39.6 -1.3**
BFO Black Forest 5.96 240 ePn **Pn 04 31 39.8 -1.8**
BFO Black Forest 5.96 240 ePn **Pn 04 31 39.8 -1.8**
RUP Ruppelstein 6.05 256 P **Pn 04 31 43.1 +0.3**
BOJS Bojanci 6.07 186 i Pn **Pn 04 31 43.9 +0.7**
VSTU Vaestervik 6.13 2 P **Pn 04 31 43.2 -0.9**
DAVOX Davos 6.28 223 Pn **Pn 04 31 46.5 +0.4**
comp=Z,1.2nm,0.3s,baz=35,slow=17,SNR=22
DAVOX Lg 04 33 31.2
comp=Z,3.0nm,0.3s,baz=210,slow=15,SNR=6.7
MEM Membach 6.43 266 P **Pn 04 31 47.5 -0.8**
WLS Welschbruch 6.46 244 P **Pn 04 31 47.7 -0.9**
CDF Champ du Feu 6.50 245 ePn **Pn 04 31 48.5 -0.7**
CDF eSg **Sg 04 33 33.4 -13**
comp=Z,147nm,0.9s
LNKU Linkoeping 6.70 357 P **Pn 04 31 50.3 -1.8**
VIKU Vikbolandet 6.98 3 P **Pn 04 31 54.2 -1.8**
HINF Hinteralfeld 7.07 242 ePn **Pn 04 31 54.0 -3.2**
HINF eSg **Sg 04 33 51.2 -14**
comp=Z,70nm,0.9s
HAU Haudompre 7.24 245 ePn **Pn 04 31 57.1 -2.6**
HAU eSg **Sg 04 33 57.2 -14**
comp=Z,80nm,0.9s
GIVF Givet 7.29 263 eSg **Sg 04 33 59.6 -13**
comp=Z,109nm,1.3s
RFYF Reffroy 7.44 251 eSg **Sg 04 34 02.7 -15**
comp=Z,85nm,1.1s
NYNU Nynaeshamn 7.55 7 P **Pn 04 32 02.4 -1.7**
BAIF Baives 7.69 264 eSg **Sg 04 34 11.3 -15**
comp=Z,103nm,1.3s
MEZF Maizieres J'vi 7.74 251 eSg **Sg 04 34 12.9 -15**
comp=Z,140nm,1.4s
SFTF Sexfontaines 7.89 249 eSg **Sg 04 34 17.9 -15**
comp=Z,90nm,1.2s
CABF La Chapelle 8.22 237 eSg **Sg 04 34 26.4 -17**
comp=Z,69nm,0.9s
AKASG Malin Array Be 8.30 91 Pn **P 04 32 11.2 -3.2**
comp=Z,3.1nm,0.3s,baz=279,slow=12,SNR=19
AKASG Sn **Sn 04 33 44.5 -5.5**
comp=Z,1.5nm,0.3s,baz=272,slow=23,SNR=4.6
AKASG Lg 04 34 40.2
comp=Z,0.6nm,0.3s,baz=208,slow=24,SNR=4.1
LPL La Plagne 8.66 230 ePn **P 04 32 13.9 -5.6**
HFS Hagfors 8.71 352 Pn **P 04 32 17.2 -3.1**
comp=Z,0.1nm,0.3s,baz=164,slow=14,SNR=5.6
HFS Sn **Sn 04 33 53.4 -7.0**
comp=Z,0.1nm,0.3s,baz=180,slow=23,SNR=3.2
HFS Lg 04 34 51.4
comp=Z,0.1nm,0.3s,baz=174,slow=27,SNR=3.5
SSF Saint Saulge 9.37 246 ePn **P 04 32 26.5 -2.8**
SSF eSg **Sg 04 35 03.4 -19**
comp=Z,62nm,1.4s
AVF Avril sur Loir 9.61 245 ePn **P 04 32 28.5 -4.0**
SBF Sospel 9.65 221 ePn **P 04 32 31.5 -1.6**
NOA NORSAR Array B 9.90 346 Pn **P 04 32 32.1 -4.3**
comp=Z,0.2nm,0.3s,baz=163,slow=14,SNR=3.3
FINES FINESS Array B 11.33 25 P **P 04 32 52.3 -3.8**
FINES 04 34 51.7
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 11.33 25 Pn **P 04 32 52.3 -3.8**
comp=Z,0.5nm,0.3s,baz=209,slow=12,SNR=16
FINES Sn **S 04 34 51.7 -13**
comp=Z,0.9nm,0.3s,baz=215,slow=21,SNR=6.5
KAF Kangasniemi 11.96 24 ep **P 04 33 00.3 -4.2**
EKA Eskdalemuir Ar 12.09 296 Pn **P 04 32 59.4 -6.9**
comp=Z,0.4nm,0.3s,baz=95,slow=7.8,SNR=3.5
JOF Joensuu 14.01 30 ep **P 04 33 26.9 -4.8**
BRTR Keskin Array B 16.98 127 Pn **P 04 34 10.8 +0.5**
comp=Z,0.0nm,0.3s,baz=324,slow=12,SNR=3.5
ARCES ARCESS Array B 18.59 10 Pn **P 04 34 25.2 -5.0**
comp=Z,0.2nm,0.3s,baz=191,slow=12,SNR=8.9
BVAR Bovoye Array 32.58 66 P **P 04 36 45.4 +0.7**
comp=Z,0.8nm,0.6s,mb3.9,baz=281,slow=7.6,SNR=8.7
SONM Songino Array 54.90 55 P **P 04 39 44.1 -0.1**
comp=Z,0.7nm,0.8s,mb3.7,baz=288,slow=6.4,SNR=6.1
YKA Yellowknife Ar 59.83 336 P **P 04 40 18.3 -0.6**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 59.83 336 P **P 04 40 18.3 -0.6**
comp=Z,1.1nm,0.7s,mb4.0,baz=29,slow=6.6,SNR=25
PDAR Pinedale Array 74.91 322 P **P 04 41 54.5 +0.6**
comp=Z,0.9nm,0.8s,mb3.9,baz=51,slow=5.4,SNR=7.6

IDC 07 04:54:04.4±13.0, 19.77S×175.86W, h243km±138km, mb3.3/6, mb1 3.6/7, mb1mx3.4/15, mbtmp3.9/7, Error ellipse: s-maj=67.2km s-min=22.3km az=178.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.41**	**197**	P		P	04 58 12.3	-1.6
	0.3nm,0.3s,baz=45,slow=10.0,SNR=5.8							
CTA	**Charters Tower**	**35.57**	**263**	P		P	05 00 39.9	-0.6
	3.8nm,0.4s,baz=100,slow=10.0,SNR=11							
ASAR	**Alice Springs**	**46.64**	**256**	P		P	05 02 08.6	-1.9
	1.7nm,0.6s,baz=95,slow=8.4,SNR=43							
WRA	**Warramunga Arr**	**46.69**	**261**	P		P	05 02 08.4	-2.5
	0.5nm,0.3s,baz=96,slow=9.6,SNR=5.8							
NVAR	**Mina Array Bea**	**79.13**	**42**	P		P	05 05 42.4	-1.2
	0.8nm,0.7s,baz=225,slow=8.3,SNR=5.7							
TXAR	**Lajitas Array**	**84.98**	**57**	P		P	05 06 13.9	0.0
	0.2nm,0.8s,baz=230,slow=9.8,SNR=4.0							
ILAR	**Eielson Array**	**87.18**	**12**	P		P	05 06 21.4	-2.3
	0.1nm,0.4s,baz=214,slow=5.5,SNR=5.8							
BRTR	**Keskin Array B**	**147.80**	**315**	PKPbc		PKPdf	05 13 20.8	+3.5
	0.7nm,0.9s,baz=135,slow=3.5,SNR=3.6							

*BJI **07** 05:21:46.4, 3.42N×94.06E, h12km, mb4.8*
*IDC **07** 05:21:47.5±0.8, 3.14N×93.90E, h24km±4km, mb4.1/11, mb1 4.2/12, mb1mx4.1/21, mbtmp4.2/12, ML4.5/1, Error ellipse: s-maj=36.2km s-min=12.9km az=51.0*
*NEIC **07** 05:21:47.5±0.5, 3.12N×93.90E, mb4.6/9, Error ellipse: s-maj=13.7km s-min=8.6km az=43.0*
ISC 07 05:21:44.6±5.0, 3.08N±0.10×93.90E±0.10, h20km±35km, h26km±.5km: pP-P, n30, σ0$90/30, mb4.4/24, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PALK	**Pallekele**	**13.78**	**288**	ePn		**P**	**05 25 01.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**16.06**	**18**	Pn		**P**	**05 25 31.6**	**+0.3**
	0.6nm,0.3s,baz=212,slow=12,SNR=7.8							
SHL	**Shillong**	**22.44**	**355**	eP		**P**	**05 26 43.0**	**-0.9**
JIRN	**Jiri**	**25.52**	**344**	eP		**P**	**05 27 15.0**	**+1.1**
	14nm,0.7s,mb4.6							
PKI	**Pulchoki**	**25.66**	**342**	eP		**P**	**05 27 16.4**	**+1.2**
GUN	**Gumba**	**25.85**	**344**	eP		**P**	**05 27 17.8**	**+0.9**
	31nm,1.0s,mb4.8							
GKN	**Gorkha**	**26.31**	**341**	eP		**P**	**05 27 21.5**	**+0.3**
	21nm,0.7s,mb4.7							
KOLN	**Koldanda**	**26.45**	**339**	eP		**P**	**05 27 22.6**	**+0.2**
	10nm,0.8s,mb4.4							
LSA	**Lhasa**	**26.60**	**355**	P		**P**	**05 27 26.2**	**+2.4**
LSA	**Lhasa**	**26.60**	**355**	eP		**P**	**05 27 24.8**	**+0.9**
	15nm,0.6s,mb4.7							
XAN	**Xi'an**	**33.84**	**23**	P		**P**	**05 28 27.1**	**-1.0**
XAN				AMB		AMB		
	comp=Z,7.0nm,0.9s,mb4.6							
AAK	**Ala-Archa**	**43.02**	**339**	eP		**P**	**05 29 43.1**	**-1.6**
	comp=Z,1.9nm,0.8s,mb3.9							
WRA	**Warramunga Arr**	**45.83**	**122**	P		**P**	**05 30 07.7**	**+0.1**
	comp=Z,5.5nm,0.7s,mb4.6,baz=299,slow=8.9,SNR=24							
WRA				pP		pP	05 30 15.8	+2.3
	comp=Z,2.9nm,0.5s,baz=299,slow=9.0,SNR=11							
WRAB	**Tennant Creek**	**45.83**	**122**	eP		**P**	**05 30 07.9**	**+0.3**
	comp=Z,8.2nm,0.7s,mb4.8							
WRAB				epP		pP	05 30 15.2	+1.7
SONM	**Songino Array**	**45.87**	**12**	P		**P**	**05 30 07.5**	**-0.1**
	comp=Z,2.6nm,0.7s,mb4.3,baz=192,slow=8.7,SNR=28							
SONM				pP		pP	05 30 15.7	+2.3
	comp=Z,2.0nm,0.8s,baz=192,slow=7.7,SNR=8.6							
SONM				PcP		PcP	05 31 45.2	0.0
	comp=Z,0.8nm,0.7s,baz=206,slow=4.2,SNR=3.4							
ULN	**Ulaanbaatar**	**46.03**	**12**	eP		**P**	**05 30 08.6**	**-0.3**
	comp=Z,1.2nm,0.7s,mb3.9							
ASAR	**Alice Springs**	**47.16**	**126**	P		**P**	**05 30 18.1**	**0.0**
	comp=Z,3.2nm,0.8s,mb4.3,baz=304,slow=8.0,SNR=21							
ASAR				pP		pP	05 30 25.8	+1.7
	comp=Z,2.0nm,0.6s,baz=293,slow=8.1,SNR=9.6							
ASAR				PcP		PcP	05 31 50.7	+0.7
	comp=Z,0.8nm,0.7s,baz=307,slow=3.1,SNR=4.0							
ASAR				pPcP			05 31 58.0	
	comp=Z,0.6nm,0.6s,baz=291,slow=2.7,SNR=4.1							
HIA	**Hailar**	**51.02**	**22**	eP		**P**	**05 30 47.4**	**-0.1**
	comp=Z,5.4nm,0.6s,mb4.7							
BVAR	**Borovoye Array**	**53.44**	**343**	P		**P**	**05 31 03.6**	**-1.9**
	comp=Z,3.2nm,0.7s,mb4.3,baz=146,slow=11,SNR=17							
BRVK	**Borovoye**	**53.50**	**342**	eP		**P**	**05 31 05.2**	**-0.8**
	comp=Z,3.0nm,0.6s,mb4.4							
CHKZ	**Chkalovo**	**53.94**	**343**	eP		**P**	**05 31 08.8**	**-0.4**
	comp=Z,9.2nm,1.2s,mb4.6							
STKA	**Stephens Creek**	**57.06**	**131**	P		**P**	**05 31 32.0**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.3,baz=302,slow=9.8,SNR=8.0							
STKA				pP		pP	05 31 40.1	+1.9
	comp=Z,2.9nm,0.9s,baz=297,slow=7.4,SNR=3.2							
GNI	**Garni**	**57.66**	**317**	P		**P**	**05 31 37.5**	**+1.2**
	comp=Z,2.6nm,0.5s,mb4.5,baz=145,slow=18,SNR=4.0							
GNI	**Garni**	**57.66**	**317**	eP		**P**	**05 31 38.0**	**+1.7**
	comp=Z,3.4nm,0.5s,mb4.6							
MALT	**Malatya**	**61.43**	**312**	eP		**P**	**05 32 01.9**	**-0.3**
	comp=Z,3.4nm,1.0s,mb4.4							
BRTR	**Keskin Array B**	**65.41**	**313**	P		**P**	**05 32 27.4**	**-1.1**
	comp=Z,1.4nm,0.8s,mb4.1,baz=130,slow=7.5,SNR=7.4							
MLR	**Muntele Rosu**	**72.44**	**317**	P		**P**	**05 33 12.2**	**+0.3**
	comp=Z,1.4nm,0.5s,mb4.2,baz=125,slow=19,SNR=3.3							
FINES	**FINESS Array B**	**76.82**	**333**	P		**P**	**05 33 35.8**	**-0.9**
	comp=Z,2.0nm,0.9s,mb4.0,baz=90,slow=9.7,SNR=4.7							
FINES				pP		pP	05 33 43.9	+1.0
	comp=Z,5.0nm,1.1s,baz=90,slow=3.8,SNR=2.9							
GERES	**GERESS Array B**	**81.23**	**319**	P		**P**	**05 34 02.0**	**+1.1**
	comp=Z,1.8nm,0.7s,mb4.1,baz=51,slow=8.5,SNR=5.9							
DAVOX	**Davos**	**83.66**	**317**	P		**P**	**05 34 14.7**	**+1.2**
	comp=Z,6.7nm,0.9s,mb4.8,baz=136,slow=5.6,SNR=13							

*BJI **07** 05:27:32.0, 31.16S×177.86W, h13km, mB5.6, mb5.4, Ms4.6, Msz4.6*
*NEIC **07** 05:27:33.0±3.6, 30.94S×177.65W, h18km±22km, mb5.1/17, Error ellipse: s-maj=12.6km s-min=8.1km az=143.0*
*HRVD **07** 05:27:33.0±0.3, 30.56S×177.51W, h31km±1km, MW5.2/54, Centroid moment Tensor Solution. LP body waves: s46,c77;Mantle waves: s54,c95; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.70±.04; $M_{\theta\theta}$-0.03±.03; $M_{\phi\phi}$-0.67±.02; $M_{r\theta}$0.14±.04; $M_{\theta\phi}$-0.22±.02; $M_{\phi r}$0.50±.04; Best double couple: M_o.887×10^{17} NP1: ϕ_s198°, δ27°, λ92°. NP2:ϕ_s16°, δ63°, λ89°. Principal axes: T .867, Plg72°, Azm284°; N .039, Plg1°, Azm16°; P -.906, Plg18°, Azm107°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **07** 05:27:35.3±3.4, 30.56S×177.62W, h26km±21km, mb4.3/9, mb1 4.5/12, mb1mx4.4/15, mbtmp4.5/12, ML4.4/3, MS4.6/13, Ms1 4.6/13, ms1mx4.2/19 Error ellipse: s-maj=22.9km s-min=17.4km az=161.0*
ISC 07 05:27:34.3±0.3, 31.19S±0.04×177.61W±0.06, h33km, n175, σ1$45/100, mb4.9/26, MS4.6/12, 7C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**7.20**	**207**	eP		**P**	**05 29 21.1**	**+1.2**
MXZ				S		**S**	**05 30 47.6**	**+6.2**
MXZ	**Matakaoa Point**	**7.20**	**207**	P		**P**	**05 29 21.3**	**+1.4**
MXZ				S		**S**	**05 30 47.6**	**+6.2**
PUZ	**Puketiti**	**7.67**	**205**	eP		**P**	**05 29 26.9**	**+0.5**
PUZ				S		**S**	**05 30 58.0**	**+5.0**
PUZ	**Puketiti**	**7.67**	**205**	P		**P**	**05 29 27.0**	**+0.6**
PUZ				S		**S**	**05 30 57.5**	**+4.5**
MWZ	**Matawai**	**8.18**	**208**	eP		**P**	**05 29 32.4**	**-1.0**
MWZ				S		**S**	**05 31 11.5**	**+5.8**
MWZ	**Matawai**	**8.18**	**208**	eP		**P**	**05 29 32.6**	**-0.8**
MWZ				S		**S**	**05 31 11.7**	**+6.0**
WCZ	**Waipu Caves**	**8.22**	**233**	eP		**P**	**05 29 42.0**	**+8.0**
WCZ	**Waipu Caves**	**8.22**	**233**	P		**P**	**05 29 42.1**	**+8.1**
URZ	**Urewera**	**8.29**	**210**	Pn		**P**	**05 29 36.6**	**+1.6**
	5.6nm,0.3s,baz=303,slow=2.9,SNR=21							
URZ				Sn		**Sn**	**05 31 14.0**	**+5.3**
	19nm,0.3s,baz=10,slow=12,SNR=6.8							
KNZ	**Kokohu**	**8.72**	**205**	eP		**P**	**05 29 41.9**	**+0.9**
KNZ				S		**S**	**05 31 23.4**	**+4.2**
KNZ	**Kokohu**	**8.72**	**205**	eP		**P**	**05 29 42.8**	**+1.8**
KNZ				S		**S**	**05 31 23.6**	**+4.4**
BKZ	**Black Stump Fm**	**9.31**	**210**	eP		**P**	**05 29 48.9**	**-0.3**
BKZ				S		**S**	**05 31 37.4**	**+3.5**
BKZ	**Black Stump Fm**	**9.31**	**210**	eP		**P**	**05 29 49.0**	**-0.2**
BKZ				S		**S**	**05 31 37.7**	**+3.8**
BFZ	**Birch Farm**	**10.70**	**206**	eP		**P**	**05 30 06.6**	**-1.7**
BFZ				S		**S**	**05 32 08.2**	**+0.2**
BFZ	**Birch Farm**	**10.70**	**206**	eP		**P**	**05 30 07.6**	**-0.7**
BFZ				S		**S**	**05 32 10.0**	**+2.0**
MRZ	**Mangatainoka R**	**10.95**	**208**	eP		**P**	**05 30 08.8**	**-2.8**
MRZ				S		**S**	**05 32 12.9**	**-1.0**
MRZ	**Mangatainoka R**	**10.95**	**208**	P		**P**	**05 30 09.8**	**-1.8**
MRZ				S		**S**	**05 32 13.5**	**-0.4**
KIW	**Kapiti Island**	**11.39**	**210**	S		**S**	**05 32 24.1**	**-0.7**
MTW	**Mount Morrison**	**11.40**	**207**	S		**S**	**05 32 23.2**	**-1.8**
MRW	**Makara Radio**	**11.79**	**210**	S		**S**	**05 32 31.8**	**-2.6**
NNZ	**Nelson**	**12.37**	**213**	S		**S**	**05 32 45.9**	**-2.6**
QRZ	**Quartz Range**	**12.49**	**217**	S		**S**	**05 32 52.2**	**+0.7**
THZ	**Tophouse**	**13.02**	**213**	eP		**P**	**05 30 37.4**	**-2.1**
THZ				S		**S**	**05 33 02.8**	**-1.3**
KHZ	**Kahutara**	**13.25**	**210**	eP		**P**	**05 30 41.0**	**-1.6**
KHZ	**Kahutara**	**13.25**	**210**	eP		**P**	**05 30 41.1**	**-1.5**
KHZ				S		**S**	**05 33 05.1**	**-4.7**
MQZ	**McQueen's Vall**	**14.68**	**209**	S		**S**	**05 33 38.2**	**-5.5**
WVZ	**Waitaha Valley**	**15.05**	**215**	eP		**P**	**05 31 07.0**	**+0.8**
WVZ	**Waitaha Valley**	**15.05**	**215**	P		**P**	**05 31 07.3**	**+1.1**
RPZ	**Rata Peaks**	**15.39**	**212**	Pn		**P**	**05 31 13.5**	**+3.0**
	1.6nm,0.3s,baz=19,slow=11,SNR=5.4							
RPZ				Sn		**S**	**05 33 54.3**	**-6.0**
	2.5nm,0.3s,baz=358,slow=18,SNR=4.9							
FOZ	**Fox Glacier**	**15.93**	**216**	P		**P**	**05 31 18.0**	**+0.5**
JCZ	**Jackson Bay**	**16.77**	**216**	eP		**

	10nm,0.7s,mb4.8						
CTA	**Charters Tower**	**34.26**	**280**⇑	iP	**P**	**05 34 19.3**	**-0.1**
	50nm,0.6s,mb5.6						
CTA	**Charters Tower**	**34.26**	**280**	P	**P**	**05 34 19.5**	**+0.1**
	53nm,0.5s,mb5.7,baz=104,slow=10,SNR=68						
CTA				LR	LR	05 47 12.2	
	comp=Z,2µm,18.1s,MS4.9,baz=84,slow=34						
CTAO	**Charters Tower**	**34.26**	**280**	eP	**P**	**05 34 19.2**	**-0.2**
	62nm,0.6s,mb5.7						
STKA	**Stephens Creek**	**34.63**	**258**	eP	**P**	**05 34 24.8**	**+2.3**
	60nm,0.6s,mb5.7						
STKA	**Stephens Creek**	**34.63**	**258**	P	**P**	**05 34 24.6**	**+2.0**
	67nm,0.6s,mb5.8,baz=100,slow=9.6,SNR=178						
STKA				LR	LR	05 47 23.7	
	comp=Z,2µm,19.0s,MS4.8,baz=65,slow=34						
RKT	**Rikitea**	**38.59**	**89**	eS	**S**	**05 40 50.1**	**+0.4**
RKT				eLR	LR	05 45 15.8	
	2µm,28.2s,baz=252						
PMG	**Port Moresby**	**39.25**	**296**	P	**P**	**05 34 60.0**	**-1.5**
	24nm,1.1s,mb4.8,baz=79,slow=11,SNR=5.1						
PMG				LR	LR	05 48 29.8	
	comp=Z,975nm,19.5s,MS4.7,baz=321,slow=32						
TAOE	**Nuku Hiva Isla**	**41.32**	**66**	eS	**S**	**05 41 21.6**	**-8.9**
TAOE				eLR	LR	05 46 19.0	
	baz=247						
ASAR	**Alice Springs**	**43.41**	**268**	P	**P**	**05 35 35.1**	**-0.5**
	18nm,0.4s,mb5.1,baz=105,slow=7.2,SNR=134						
ASAR				PP	PP	05 37 18.3	-0.2
	5.0nm,1.0s,baz=126,slow=7.8,SNR=2.7						
ASAR				ScP		05 41 13.9	
	1.7nm,0.6s,baz=119,slow=4.5,SNR=5.3						
ASAR				S	**S**	**05 42 02.1**	**+1.0**
	0.4nm,0.6s,baz=243,slow=38,SNR=2.0						
ASAR				LR	LR	05 53 23.6	
	comp=Z,1µm,18.5s,MS4.8,baz=100,slow=36						
ASPA	**Alice Springs**	**43.41**	**268**	eP	**P**	**05 35 35.5**	**-0.2**
DRV	**Dumont d'Urvil**	**43.55**	**203**	P	**P**	**05 35 42.0**	**+5.7**
DRV				S	**S**	**05 42 05.0**	**+2.4**
DRV				L		05 45 00.0	
WB2	**Warramunga Arr**	**44.45**	**273**	eP	**P**	**05 35 42.7**	**-1.5**
WRAB	**Tennant Creek**	**44.46**	**273**	eP	**P**	**05 35 43.1**	**-1.1**
	56nm,0.4s,mb5.6						
WRA	**Warramunga Arr**	**44.47**	**273**	P	**P**	**05 35 42.8**	**-1.4**
	43nm,0.4s,mb5.5,baz=111,slow=8.0,SNR=42						
WRA				ScP		05 41 17.9	
	1.7nm,0.8s,baz=118,slow=3.9,SNR=4.1						
WRA				S	**S**	**05 42 15.2**	**-1.4**
	1.0nm,0.8s,baz=110,slow=15,SNR=2.6						
VNDA	**Vanda**	**47.35**	**186**	P	**P**	**05 36 11.6**	**+5.2**
	3.4nm,1.0s,mb4.2,baz=94,slow=23,SNR=2.1						
VNDA				LR	LR	05 51 17.6	
	comp=Z,283nm,21.2s,MS4.2,baz=39,slow=30						
KAKA	**Kakadu**	**49.40**	**280**	eP	**P**	**05 36 21.9**	**-1.2**
	11nm,0.5s,mb5.2						
FITZ	**Fitzroy Crossi**	**52.70**	**270**	eP	**P**	**05 36 47.4**	**-0.6**
	24nm,0.8s,mb5.2						
KLBR	**Kellerberrin**	**54.41**	**251**	eP	**P**	**05 37 00.4**	**-0.1**
	48nm,1.2s,mb5.3						
MBWA	**Marble Bar**	**56.47**	**264**	eP	**P**	**05 37 13.5**	**-2.0**
	31nm,1.5s,mb5.1						
QSPA	**South Pole Qui**	**58.93**	**180**⇑	iP	sP	05 37 46.0	-0.1
MAW	**Mawson**	**71.69**	**201**	P	**P**	**05 38 57.9**	**+3.7**
	6.0nm,0.8s,mb4.5,baz=119,slow=8.7,SNR=4.1						
MAW				LR	LR	06 10 05.3	
	comp=Z,451nm,19.0s,MS4.8,baz=103,slow=35						
USHA	**Ushuaia**	**75.08**	**146**	LR	LR	06 04 16.7	
	comp=Z,353nm,20.1s,MS4.7,baz=207,slow=29						
SNAA	**Sanae**	**77.36**	**178**	P	**P**	**05 39 30.6**	**+3.8**
	0.9nm,0.6s,mb3.9,baz=180,slow=8.1,SNR=6.8						
SNAA				LR	LR	06 13 40.0	
	comp=Z,112nm,18.4s,MS4.2,baz=196,slow=36						
VNA3	**Neumayer Olymp**	**77.50**	**176**⇑	i	PcP	05 39 36.2	-2.0
VNA3	**Neumayer Olymp**	**77.50**	**176**⇑	i	sP	05 39 45.5	+3.9
VNA2	**Neumayer--Watz**	**77.94**	**177**		PcP	05 39 38.1	-2.0
VNA2	**Neumayer--Watz**	**77.94**	**177**⇑	i	sP	05 39 48.4	+4.4
VNA1	**Neumayer--Stat**	**78.17**	**176**⇑	i	PcP	05 39 39.5	-1.6
VNA1	**Neumayer--Stat**	**78.17**	**176**⇑	i	sP	05 39 48.9	+3.6
SSE	**Sheshan**	**84.87**	**311**	P	**P**	**05 40 10.4**	**+3.2**
SSE				AP	pP	05 40 19.8	+2.1
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,149nm,11.2s						
SSE				LR	LR		
	comp=N,146nm,23.8s,MS4.4						
SSE				LR	LR		
	comp=E,121nm,23.8s,MS4.4						
SSE				LR	LR		
	comp=Z,259nm,22.3s,MS4.6						
CMB	**Columbia Colle**	**87.12**	**42**	P	**P**	**05 40 18.2**	**+0.2**
	comp=Z,6.8nm,1.1s,mb4.8						
NVAR	**Mina Array Bea**	**88.59**	**42**	P	**P**	**05 40 24.8**	**-0.3**
	comp=Z,1.2nm,0.8s,mb4.3,baz=210,slow=6.2,SNR=8.8						
NVAR				LR	LR	06 13 13.5	
	comp=Z,347nm,21.1s,MS4.8,baz=170,slow=31						
NVAR	**Mina Array Bea**	**88.59**	**42**	P	**P**	**05 40 24.8**	**-0.3**
NVAR				LR	LR	06 13 13.5	
MNV	**Mina**	**88.68**	**43**	eP	**P**	**05 40 25.9**	**+0.4**
	comp=Z,5.5nm,1.1s,mb4.8						
NEN	**Nelson**	**88.83**	**46**	eP	**P**	**05 40 27.4**	**+1.1**
TUC	**Tucson**	**89.34**	**51**	eP	**P**	**05 40 29.9**	**+1.1**
	comp=Z,12nm,1.2s,mb5.1						
WVOR	**Wild Horse Val**	**91.11**	**39**	eP	**P**	**05 40 37.4**	**+0.6**
MVU	**Marysvale**	**92.26**	**46**	P	**P**	**05 40 43.3**	**+1.1**
	comp=Z,8.1nm,1.4s,mb4.9						
ENH	**Enshi**	**92.32**	**304**	eP	**P**	**05 40 42.2**	**-0.4**
	comp=Z,6.2nm,0.7s,mb5.0						
ENH				e	pP	05 40 54.2	+0.9
TXAR	**Lajitas Array**	**92.53**	**57**	P	**P**	**05 40 43.0**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=207,slow=6.0,SNR=2.9						
TXAR				LR	LR	06 17 58.1	
	comp=Z,283nm,18.3s,baz=160,slow=33						
TXAR	**Lajitas Array**	**92.53**	**57**	P	**P**	**05 40 43.0**	**-0.7**
TXAR				LR	LR	06 17 58.1	
MNTX	**Cornudas Mount**	**92.66**	**54**	eP	**P**	**05 40 43.1**	**-1.1**
	comp=Z,4.9nm,1.2s,mb4.8						
ANMO	**Albuquerque**	**93.81**	**51**	eP	**P**	**05 40 49.9**	**+0.6**
	comp=Z,4.1nm,1.1s,mb4.8						
CMAR	**Chiang Mai Arr**	**93.97**	**289**	P	**P**	**05 40 50.8**	**+0.4**
	comp=Z,1.1nm,0.7s,mb4.4,baz=150,slow=2.8,SNR=4.2						
PDAR	**Pinedale Array**	**96.47**	**43**	PKKPbc		05 57 48.2	
	comp=Z,0.8nm,0.6s,baz=86,slow=3.2,SNR=7.0						
PDAR				LR	LR	06 18 09.1	
	comp=Z,246nm,18.4s,MS4.7,baz=247,slow=32						
LPAZ	**La Paz**	**97.52**	**114**	LR	LR	06 16 32.3	
	comp=Z,108nm,21.0s,MS4.3,baz=211,slow=30						
ILAR	**Eielson Array**	**98.61**	**13**	P	**P**	**05 41 07.8**	**-2.6**
	comp=Z,0.3nm,0.7s,mb4.0,baz=227,slow=5.3,SNR=4.6						
ILAR				PKKPbc		05 57 43.2	
	comp=Z,0.4nm,0.7s,baz=10,slow=1.7,SNR=4.5						
YKA	**Yellowknife Ar**	**106.00**	**25**	PKiKP		05 45 55.1	
	comp=Z,0.1nm,0.6s,baz=251,slow=1.6,SNR=5.7						
YKA				PKKPbc		05 57 19.4	
	comp=Z,0.3nm,0.7s,baz=33,slow=2.7,SNR=5.7						
TKM2	**Tokmak 2**	**122.11**	**304**	P	PKPdf	05 46 26.3	+0.7
	SNR=9.2						
KZA	**Kyzart**	**122.14**	**303**	P	PKPdf	05 46 27.8	+2.1
	SNR=8.2						
UCH	**Uchtor**	**122.71**	**303**	P	PKPdf	05 46 28.7	+1.9
	SNR=12						
CHMS	**Chumysh**	**122.73**	**304**	P	PKPdf	05 46 27.8	+1.0
	SNR=11						
AAK	**Ala-Archa**	**122.82**	**303**	P	PKPdf	05 46 28.0	+1.0
	SNR=7.0						
AAK	**Ala-Archa**	**122.82**	**303**	ePKPdf	PKPdf	05 46 26.2	-0.9
AAK				epPKPdf		05 46 41.1	
USP	**Ospenovka**	**122.97**	**304**	P	PKPdf	05 46 28.0	+0.7
	SNR=7.0						
AML	**Almayashu**	**123.28**	**303**	P	PKPdf	05 46 29.4	+1.5
	SNR=11						
EKS2	**Erkin-Say**	**123.34**	**303**	P	PKPdf	05 46 29.5	+1.4
	SNR=9.0						
CHKZ	**Chkalovo**	**127.11**	**316**	ePKPdf	PKPdf	05 46 34.3	-0.7
BVAR	**Borovoye Array**	**127.20**	**315**	PKP	PKPdf	05 46 35.3	+0.2
	comp=Z,4.2nm,0.5s,baz=90,slow=1.5,SNR=32						
BRVK	**Borovoye**	**127.26**	**315**	ePKPdf	PKPdf	05 46 35.7	+0.4
ARCES	**ARCESS Array B**	**139.43**	**348**	PKP	PKPdf	05 46 57.2	-0.3
	comp=Z,2.4nm,0.4s,baz=80,slow=2.7,SNR=27						
KTK1	**Kautokeino**	**140.28**	**348**	eP	PKPdf	05 47 00.3	+1.2
JOF	**Joensuu**	**143.27**	**338**	epkp	PKPdf	05 47 00.8	-3.5
GNI	**Garni**	**144.72**	**297**	PKP	PKPdf	05 47 08.9	+1.4
	comp=Z,4.5nm,0.5s,baz=233,slow=10.0,SNR=4.5						
KAF	**Kangasniemi**	**145.40**	**340**	epkp	PKPdf	05 47 06.8	-1.2
	baz=39,slow=3.2						
FINES	**FINESS Array B**	**146.00**	**340**	PKPbc	PKPbc	05 47 09.6	-0.5
	comp=Z,67nm,0.6s,baz=71,slow=3.7,SNR=303						
FINES	**FINESS Array B**	**146.00**	**340**	PKPbc	PKPbc	05 47 09.6	-0.5
OBN	**Obninsk**	**146.00**	**325**	ePKPbc	PKPbc	05 47 09.3	-0.9
NSS	**Namsos**	**146.10**	**353**	eP	PKPdf	05 47 09.1	-0.1
ERZM	**Erzurum**	**147.32**	**296**	iP	PKPdf	05 47 14.1	+2.1
BEST	**Besiri**	**147.46**	**293**	iP	PKPdf	05 47 16.1	+3.9
DOMB	**Dombas**	**148.83**	**354**	eP	PKPdf	05 47 18.1	+4.4
ELZG	**Elazig**	**149.24**	**294**	iP	PKPdf	05 47 21.7	+6.6
NB2	**NORSAR Subarra**	**149.57**	**352**	PKP	PKPdf	05 47 20.0	+5.1
	comp=Z,16nm,1.1s,baz=15,slow=2.9						
NB2	**NORSAR Subarra**	**149.57**	**352**	PKPa	PKPdf	05 47 20.0	+5.1
	baz=15,slow=2.9						
NOA	**NORSAR Array B**	**149.57**	**352**	PKPbc	PKPdf	05 47 19.6	+4.7
	comp=Z,4.2nm,0.6s,baz=15,slow=4.2,SNR=16						
MALT	**Malatya**	**149.69**	**294**	eP	PKPdf	05 47 22.4	+6.6
HFS	**Hagfors**	**150.08**	**349**	PKPbc	PKPdf	05 47 20.8	+5.0
	comp=Z,14nm,0.8s,baz=90,slow=4.4,SNR=18						
GZT	**Gaziantep**	**150.40**	**292**	iP	PKPdf	05 47 23.8	+6.9
ASF	**Jabal al Asfar**	**150.69**	**281**	PKPbc	PKPdf	05 47 23.9	+6.4
	comp=Z,9.2nm,0.8s,baz=5.7,slow=3.0,SNR=9.4						
GAZ	**Gaziantep**	**150.69**	**291**	eP	PKPdf	05 47 24.6	+7.2
SVST	**Sivas**	**150.72**	**297**	iP	PKPdf	05 47 25.4	+8.1
KAHT	**Ahir Dag**	**150.94**	**292**	iP	PKPdf	05 47 23.1	+5.4
COBT	**Iskenderun**	**151.47**	**290**	iP	PKPdf	05 47 26.9	+8.3
HTY	**Hatay**	**151.57**	**289**	eP	PKPdf	05 47 26.0	+7.2
EIL	**Elat**	**151.93**	**275**	PKPbc	PKPdf	05 47 28.4	+8.9
	comp=Z,22nm,0.7s,baz=68,slow=2.4,SNR=17						
YOZ	**Yozgat**	**151.99**	**297**	eP	PKPdf	05 47 28.1	+8.9
BOYT	**Boyabat**	**152.02**	**300**	iP	PKPdf	05 47 25.4	+6.1
AKASG	**Malin Array Be**	**152.12**	**322**	PKPbc	PKPdf	05 47 25.9	+6.9
	comp=Z,17nm,0.6s,baz=50,slow=2.9,SNR=60						
CTKT	**Corum**	**152.25**	**299**	iP	PKPdf	05 47 28.0	+8.4
NIG	**Nigde**	**152.70**	**293**	eP	PKPdf	05 47 27.4	+7.1
TOS	**Tosya**	**152.75**	**300**	eP	PKPdf	05 47 29.7	+9.4
BALT	**Daday**	**153.12**	**301**	iP	PKPdf	05 47 29.7	+8.9
MEST	**Erdemli**	**153.17**	**290**	iP	PKPdf	05 47 29.8	+8.8
KAMT	**Kaman**	**153.26**	**296**	eP	PKPdf	05 47 30.1	+9.1
BRTR	**Keskin Array B**	**153.26**	**297**	PKPbc	PKPdf	05 47 29.9	+8.8
	comp=Z,3.4nm,0.6s,baz=136,slow=4.8,SNR=22						
ELDT	**Eldivan**	**153.29**	**299**	iP	PKPdf	05 47 30.1	+9.0
SAFT	**Safranbolu**	**153.69**	**301**	eP	PKPdf	05 47 30.7	+9.1
CSS	**Prodhromos**	**153.85**	**287**	ePKPbc	PKPdf	05 47 31.0	+9.0
DBIC	**Dimbokro**	**154.68**	**163**	PKP	PKPdf	05 47 25.6	+1.8
	comp=Z,1.2nm,0.4s,baz=256,slow=5.3,SNR=13						
DBIC				PKPbc	PKPdf	05 47 36.1	+12
	comp=Z,1.5nm,0.5s,baz=215,slow=2.5,SNR=6.0						
KIZT	**Kizilcal**	**154.74**	**296**	eP	PKPdf	05 47 32.2	+9.2
MDU	**Mudurnu**	**154.95**	**300**	eP	PKPdf	05 47 31.5	+8.3
ESKT	**Eskisehir**	**155.42**	**298**	iP	PKPdf	05 47 30.1	+6.2
KWP	**Kalwaria**	**156.07**	**326**	ePKPab	PKPab	05 47 52.1	-2.3
KSP	**Ksiaz**	**157.81**	**336**	eP	PKPab	05 47 59.5	-2.4
UPC	**Upice**	**158.19**	**336**	ePKPab	PKPab	05 48 02.1	-1.4
DPC	**Dobruska-Polom**	**158.21**	**335**	ePKPab	PKPab	05 48 01.6	-2.0
CLL	**Collm**	**158.41**	**342**	iPKP2	PKPab	05 48 01.9	-2.6
CLL				i*PPKP2		05 48 08.0	
CLL				i		05 48 15.9	
BRG	**Berggiesshubel**	**158.54**	**340**	iP	PKPab	05 48 03.1	-1.9
BRG				e		05 48 16.8	
PVCC	**Panska Ves**	**158.65**	**338**	ePKPab	PKPab	05 48 03.1	-2.4
PRU	**Pruhonice**	**159.12**	**338**	ePKPab	PKPab	05 48 05.4	-2.2
MOX	**Moxa**	**159.38**	**343**	iP	PKPab	05 48 06.4	-2.2
	comp=Z,logA/T=1.4						
NKC	**Novy Kostel**	**159.54**	**341**	ePKPab	PKPab	05 48 08.0	-1.3
KHC	**Kasperske Hory**	**160.18**	**338**	epPKP		05 47 41.5	
KHC	**Kasperske Hory**	**160.18**	**338**	ePKPab	PKPab	05 48 09.8	-2.3
GRA1	**Grafenberg Arr**	**160.36**	**343**	ePKPab	PKPab	05 48 10.9	-2.0
GRF	**Grafenberg Arr**	**160.36**	**343**	ePKP	PKPab	05 48 10.9	-2.0
GEC2	**GERESS Array S**	**160.39**	**337**	ePKPab	PKPab	05 48 10.9	-2.1
GERES	**GERESS Array B**	**160.39**	**337**	PKPab	PKPab	05 48 08.9	-4.1
	comp=Z,2.1nm,0.6s,baz=90,slow=1.3,SNR=4.9						
WET	**Wettzell**	**160.39**	**339**	ePKPab	PKPab	05 48 10.9	-2.1
BAIF	**Baives**	**161.10**	**356**	ePKP2	PKPab	05 48 14.7	-1.3
FUR	**Furstenfeldbru**	**161.74**	**341**	ePKPab	PKPab	05 48 17.6	-1.3
CDF	**Champ du Feu**	**162.40**	**349**	ePKP2	PKPab	05 48 18.8	-3.0
DAVOX	**Davos**	**163.39**	**342**	PKPab	PKPab	05 48 23.4	-2.7
	comp=Z,8.6nm,0.6s,baz=23,slow=2.9,SNR=18						
DAVOX	**Davos**	**163.39**	**342**	PKPab	PKPab	05 48 23.4	-2.7
SSF	**Saint Saulge**	**164.12**	**357**	ePKP2	PKPab	05 48 27.7	-1.7
	comp=Z,15nm,0.9s						
AVF	**Avril sur Loir**	**164.40**	**358**	ePKP2	PKPab	05 48 28.8	-1.8
SMF	**Signal de Mont**	**164.52**	**356**	ePKP2	PKPab	05 48 29.3	-1.8
	comp=Z,6.3nm,0.6s						
LPL	**La Plagne**	**165.29**	**348**	ePKP2	PKPab	05 48 32.1	-2.4
LPG	**La Plagne**	**165.31**	**348**	ePKP2	PKPab	05 48 32.4	-2.1
ORIF	**Oris-en-Rattie**	**166.02**	**350**	ePKP2	PKPab	05 48 34.9	-2.8
ORIF				eR			
	comp=Z,312nm,20.5s						
MBDF	**Montbardon**	**166.05**	**347**	ePKP2	PKPab	05 48 35.4	-2.4
	comp=Z,17nm,0.9s						
SBF	**Sospel**	**166.73**	**344**	ePKP2	PKPab	05 48 37.2	-3.6
	comp=Z,43nm,0.9s						

*JMA **07** 05:36:46.6±0.2, 23.08N×121.92E, h54^{km}, M3.3*

TAP 07 05:36:46.4, 23.14N×121.83E, h13^{km}, ML3.8, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.70**	**39**	P	Pn	05 37 14.5	-1.6
YOJ				eS	Sn	05 37 35.8	-2.0
HATJ	**Hateruma jima**	**2.03**	**63**	P	Pn	05 37 18.6	-2.2
HATJ				S	Sn	05 37 42.0	-4.1
IRIF	**Iriomote-Funau**	**2.11**	**55**	P	Pn	05 37 20.1	-1.8
IRIF				eS	Sn	05 37 44.6	-3.6
JKRS	**Kuro-shima**	**2.28**	**61**	eS	Sn	05 37 48.5	-3.9
JIJ	**Ishigaki jima**	**2.44**	**60**	P	Pn	05 37 24.6	-2.1
JIJ				eS	Sn	05 37 52.2	-4.5
JTJ	**Tarama**	**3.02**	**60**	P	Pn	05 37 32.6	-2.4
JTJ				eS	Sn	05 38 06.5	-4.9

*IDC **07** 05:37:31.5±2.8, 6.56S×154.75E, h26^{km}±17^{km}, mb4.7/13, mb1 4.9/15, mb1mx4.9/16, mbtmp4.8/15, ML4.3/2, MS3.9/1, Ms1 3.9/1, ms1mx2.4/16, Error ellipse: s-maj=18.1km s-min=13.2km az=125.0*

*BJI **07** 05:37:32.2, 6.02S×154.75E, h20^{km}, mB5.3, mb4.9, Ms5.1, Msz4.4*

*HRVD **07** 05:37:33.7±1.1, 6.63S×154.65E, h36^{km}±1^{km}, MW5.0/22, Centroid moment Tensor Solution. LP body waves: s14,c17; Mantle waves: s22,c24; Half duration: 1^{s}2 Moment tensor: Scale 10^{16}Nm; M_{rr}3.57±.46; $M_{\theta\theta}$-0.43±.27; $M_{\phi\phi}$-3.13±.34; $M_{r\theta}$0.29±.34; $M_{\theta\phi}$-0.12±.29; $M_{\phi r}$0.03±.27; Best double couple: $M_0$3.363×10^{16} NP1: ϕ_s178°, δ45°, λ84°. NP2: ϕ_s7°, δ46°, λ96°. Principal axes: T 3.592, Plg86°, Azm357°; N -.451, Plg4°, Azm183°; P -3.135, Plg0°, Azm93°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **07** 05:37:33.7±1.9, 6.58S×154.67E, h44^{km}±16^{km}, mb4.9/24 Error ellipse: s-maj=10.4km s-min=7.8km az=108.0*

ISC 07 05:37:31.5±3.0, **6.60S**±0.07×**154.67E**±0.08, **h37**^{km}±25^{km}, **n90**, σ**0^{s}96**/69, **mb4.9**/42, **MS4.2**/2, **1C-5D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.94**	**249**	Pn	**P**	**05 39 28.5**	**+1.2**
	20nm,0.3s,baz=50,slow=9.5,SNR=29						
PMG				Sn	**S**	**05 40 57.9**	**+0.9**
	5.3nm,0.3s,baz=52,slow=17,SNR=7.4						
PMG	**Port Moresby**	**7.94**	**249**	ePn	**P**	**05 39 26.4**	**-0.9**
	145nm,0.8s						
PMG				Sn	**S**	**05 40 54.6**	**-2.4**
CTA	**Charters Tower**	**15.70**	**211**⇓	iP	**P**	**05 41 17.7**	**+5.9**
	17nm,0.7s						
CTA	**Charters Tower**	**15.70**	**211**	Pn	**P**	**05 41 17.4**	**+5.5**
	1.0nm,0.3s,baz=34,slow=12,SNR=28						
CTAO	**Charters Tower**	**15.70**	**211**	eP	**P**	**05 41 17.5**	**+5.7**
	19nm,0.7s						
KAKA	**Kakadu**	**22.73**	**253**	eP	**P**	**05 42 32.3**	**+0.6**
	49nm,0.5s,mb5.2						
WRAB	**Tennant Creek**	**23.77**	**234**	eP	**P**	**05 42 42.6**	**+0.9**
	85nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**23.77**	**234**⇓	iP	**P**	**05 42 42.8**	**+1.1**
WB2				ePCP	PcP	05 46 26.7	+0.3
WRA	**Warramunga Arr**	**23.78**	**234**	P	**P**	**05 42 42.8**	**+1.0**
	29nm,0.4s,mb5.0,baz=57,slow=9.7,SNR=72						
WRA				PcP	PcP	05 46 25.8	-0.6
	8.7nm,0.6s,baz=59,slow=2.2,SNR=16						
WRA				S	**S**	**05 46 58.8**	**+7.1**
	1.6nm,1.0s,baz=56,slow=16,SNR=3.2						
WRA				ScP		05 50 02.0	
	0.8nm,0.8s,baz=66,slow=3.4,SNR=4.9						
ASAR	**Alice Springs**	**26.20**	**227**	P	**P**	**05 43 04.2**	**-0.7**
	10nm,0.7s,mb4.5,baz=59,slow=8.5,SNR=48						
ASAR				PcP	PcP	05 46 31.5	-0.1
	3.4nm,0.8s,baz=62,slow=2.1,SNR=8.0						
ASAR				ScP		05 50 09.3	
	1.3nm,0.8s,baz=49,slow=2.9,SNR=8.6						
ASPA	**Alice Springs**	**26.20**	**227**	eP	**P**	**05 43 05.0**	**+0.1**
STKA	**Stephens Creek**	**27.96**	**204**⇓	iP	**P**	**05 43 19.9**	**-1.0**
	9.6nm,0.5s,mb4.7						
STKA				ePCP	PcP	05 46 35.6	-0.1
STKA	**Stephens Creek**	**27.96**	**204**	P	**P**	**05 43 19.4**	**-1.4**
	11nm,0.5s,mb4.8,baz=16,slow=11,SNR=26						
STKA				PcP	PcP	05 46 34.8	-0.9
	4.4nm,0.7s,baz=38,slow=2.7,SNR=5.1						
FITZ	**Fitzroy Crossi**	**30.52**	**245**⇓	iP	**P**	**05 43 43.4**	**-0.4**
	21nm,0.5s,mb5.2						
FITZ				ePCP	PcP	05 46 42.9	+0.6
MBWA	**Marble Bar**	**36.76**	**243**	eP	**P**	**05 44 37.6**	**0.0**
	9.8nm,0.6s,mb4.8						
TGY	**Tagaytay City**	**39.29**	**302**	LR	LR	05 58 47.1	
	comp=Z,170nm,19.5s,MS3.9,baz=154,slow=32						
RPZ	**Rata Peaks**	**39.67**	**161**	P	**P**	**05 45 01.7**	**0.0**
	23nm,0.9s,mb4.9,baz=22,slow=3.7,SNR=9.6						
KLBR	**Kellerberrin**	**42.50**	**229**	eP	**P**	**05 45 24.5**	**-0.7**
	22nm,0.6s,mb5.0						
MUN	**Mundaring**	**43.84**	**230**	eP	**P**	**05 45 35.3**	**-0.8**
	7.6nm,0.5s,mb4.7						
NJ2	**Nanjing**	**51.40**	**321**	eP	**P**	**05 46 32.2**	**-2.9**
NJ2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1						
MDJ	**Mudanjiang**	**55.75**	**339**	P	**P**	**05 47 09.3**	**+2.3**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,85nm,3.5s						
ENH	**Enshi**	**56.73**	**313**	eP	**P**	**05 47 14.2**	**-0.1**
	comp=Z,13nm,0.8s,mb5.0						
XAN	**Xi'an**	**59.20**	**316**	P	**P**	**05 47 31.0**	**-0.5**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.8						
CMAR	**Chiang Mai Arr**	**60.32**	**295**	P	**P**	**05 47 40.0**	**+0.6**
	comp=Z,6.1nm,0.6s,mb4.8,baz=125,slow=4.5,SNR=22						
HIA	**Hailar**	**63.43**	**335**	eP	**P**	**05 47 58.6**	**-1.2**
	comp=Z,6.7nm,0.6s,mb5.0						
PBA	**Port Blair**	**64.21**	**286**	eP	**P**	**05 48 06.2**	**+0.8**
PBA				eS	tx	05 48 47.0	
PBA				i		05 48 47.7	
	comp=N,92nm,0.7s						
PBA				i		05 48 48.3	
	comp=E,79nm,0.4s						
IMP	**Imphal**	**66.81**	**300**	e	**P**	**05 48 21.0**	**-1.0**
ULN	**Ulaanbaatar**	**68.50**	**328**	eP	**P**	**05 48 32.1**	**0.0**
	comp=E,1.6nm,0.5s,mb4.3						
SHL	**Shillong**	**68.82**	**301**⇑	iP	**P**	**05 48 35.0**	**+0.5**
SHL	**Shillong**	**68.82**	**301**	eP	**P**	**05 48 35.0**	**+0.5**
SONM	**Songino Array**	**68.83**	**327**	P	**P**	**05 48 34.1**	**-0.1**
	comp=E,1.8nm,0.5s,mb4.3,baz=143,slow=4.9,SNR=18						
LSA	**Lhasa**	**70.78**	**304**	P	**P**	**05 48 48.2**	**+1.7**
LSA	**Lhasa**	**70.78**	**304**	eP	**P**	**05 48 48.4**	**+1.9**
	comp=E,31nm,0.6s,mb5.4						
VNDA	**Vanda**	**70.99**	**178**	P	**P**	**05 48 46.8**	**-0.1**
	comp=E,8.1nm,0.7s,mb4.8,baz=334,slow=6.8,SNR=18						
YAK	**Yakutsk**	**71.10**	**348**	P	**P**	**05 48 47.3**	**-0.5**
	comp=E,14nm,0.7s,mb5.0						
JIRN	**Jiri**	**74.30**	**301**	eP	**P**	**05 49 08.6**	**+1.2**
	comp=E,72nm,0.5s,mb5.8						
GUN	**Gumba**	**74.64**	**301**	eP	**P**	**05 49 10.6**	**+1.3**
	comp=E,187nm,0.6s						
BILL	**Bilibino**	**74.91**	**4**	eP	**P**	**05 49 09.5**	**-0.6**
	comp=E,11nm,0.9s,mb4.8						
PKI	**Pulchoki**	**74.94**	**301**	eP	**P**	**05 49 11.8**	**+0.7**
	comp=E,122nm,1.0s,mb5.8						
PALK	**Pallekele**	**75.06**	**279**	eP	**P**	**05 49 11.5**	**-0.5**
	comp=E,17nm,0.9s,mb5.0						
KKN	**Kakani**	**75.11**	**301**	eP	**P**	**05 49 12.9**	**+0.8**
	comp=E,114nm,0.7s,mb5.9						
DMN	**Daman**	**75.21**	**301**	eP	**P**	**05 49 13.9**	**+1.3**
	comp=E,231nm,0.7s						
GKN	**Gorkha**	**75.72**	**301**	eP	**P**	**05 49 16.2**	**+0.7**
	comp=E,166nm,0.7s						
KOLN	**Koldanda**	**76.54**	**300**	eP	**P**	**05 49 20.7**	**+0.5**
	comp=E,124nm,0.8s,mb5.9						
WMQ	**Urumqi**	**78.31**	**317**	eP	**P**	**05 49 30.0**	**+0.3**
WMQ				AP	pP	05 49 43.2	+2.1
WMQ				PP	PP	05 52 29.4	+0.6
WMQ				S	S	05 59 20.4	-0.5
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,37nm,6.5s						
WMQ				LR	LR		
	comp=N,245nm,20.8s,MS4.7						
WMQ				LR	LR		
	comp=E,267nm,22.6s,MS4.7						
WMQ				LR	LR		
	comp=Z,283nm,21.2s,MS4.6						
HYB	**Hyderabad**	**78.83**	**289**	iP	**P**	**05 49 32.5**	**-0.5**
BHPL	**Bhopal**	**80.97**	**295**	eP	**P**	**05 49 44.5**	**+0.1**
BHPL				e		05 49 45.8	
	comp=Z,44nm,0.9s						
MCK	**McKinley**	**81.81**	**22**	eP	**P**	**05 49 46.8**	**-1.1**
	comp=Z,5.3nm,1.0s,mb4.4						
NDI	**New Delhi**	**82.23**	**300**	eP	**P**	**05 49 50.0**	**-0.9**
KAD	**Karad**	**82.93**	**288**	eP	**P**	**05 49 53.0**	**-1.6**
KAD	**Karad**	**82.93**	**288**	eP	**P**	**05 49 54.9**	**+0.3**
KAD				e		05 49 56.9	
	comp=Z,35nm,1.1s						
ILAR	**Eielson Array**	**83.12**	**22**	P	**P**	**05 49 53.2**	**-1.4**
	comp=Z,1.2nm,0.6s,mb4.1,baz=242,slow=5.2,SNR=23						
QSPA	**South Pole Qui**	**83.38**	**180**	eP	**P**	**05 49 55.1**	**-0.6**
	comp=Z,30nm,0.9s,mb5.3						
MAW	**Mawson**	**84.64**	**203**	P	**P**	**05 50 02.7**	**+0.4**
	comp=Z,12nm,0.5s,mb5.3,baz=92,slow=7.0,SNR=35						
AAK	**Ala-Archa**	**87.24**	**313**	eP	**P**	**05 50 13.9**	**-1.7**
	comp=Z,1.8nm,0.6s,mb4.5						
MTUM	**Tungsten Hills**	**91.39**	**53**	eP	**P**	**05 50 36.9**	**+1.5**
NVAR	**Mina Array Bea**	**91.73**	**52**	P	**P**	**05 50 37.6**	**+0.7**
	comp=Z,4.9nm,0.7s,mb4.9,baz=255,slow=7.1,SNR=33						
CHKZ	**Chkalovo**	**91.75**	**324**	eP	**P**	**05 50 35.1**	**-1.4**
	comp=Z,2.6nm,0.4s,mb4.9						
BVAR	**Borovoye Array**	**91.78**	**323**	P	**P**	**05 50 35.2**	**-1.5**
	comp=Z,2.9nm,0.6s,mb4.8,baz=90,slow=4.4,SNR=9.7						
BRVK	**Borovoye**	**91.85**	**323**	P	**P**	**05 50 35.8**	**-1.2**
	comp=Z,3.7nm,0.9s,mb4.7						
NEW	**Newport**	**93.68**	**42**	eP	**P**	**05 50 45.4**	**-0.1**
	comp=Z,2.0nm,0.6s,mb4.7						
NEN	**Nelson**	**94.19**	**55**	eP	**P**	**05 50 49.4**	**+1.3**
HLID	**Hailey**	**95.16**	**47**	P	**P**	**05 50 53.4**	**+1.0**
	comp=Z,1.0nm,0.7s,mb4.3						
YKA	**Yellowknife Ar**	**96.14**	**28**	P	**P**	**05 50 56.6**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.6,baz=265,slow=4.6,SNR=66						
YKA				PKiKP		05 55 34.2	
	comp=Z,0.2nm,0.6s,baz=264,slow=1.3,SNR=4.2						
YKA				PKKPbc		06 07 42.9	
	comp=Z,0.3nm,0.5s,baz=84,slow=2.7,SNR=26						
EDM	**Edmonton**	**96.42**	**37**	eP	**P**	**05 50 57.8**	**0.0**
HWUT	**Hardware Ranch**	**97.15**	**49**	eP	**P**	**05 51 01.8**	**+0.3**
	comp=Z,1.9nm,0.7s,mb4.6						
PDAR	**Pinedale Array**	**98.67**	**48**	P	**P**	**05 51 08.1**	**-0.3**
	comp=Z,0.7nm,0.7s,mb4.3,baz=258,slow=2.8,SNR=5.9						
PDAR				PKKPbc		06 07 34.6	
	comp=Z,0.7nm,0.7s,baz=333,slow=40,SNR=7.7						
TXAR	**Lajitas Array**	**103.36**	**62**	PKKPbc		06 07 22.7	
	comp=Z,0.3nm,0.7s,baz=97,slow=4.4,SNR=5.3						
ARCES	**ARCESS Array B**	**109.12**	**343**	PKiKP		05 55 58.3	
	comp=Z,6.2nm,1.1s,baz=52,slow=1.4,SNR=9.7						
FINES	**FINESS Array B**	**113.44**	**336**	PKiKP		05 56 05.8	
	comp=Z,0.9nm,0.5s,baz=18,slow=0.7,SNR=6.6						
FINES				PKKPbc		06 06 50.9	
	comp=Z,0.6nm,0.6s,baz=219,slow=1.8,SNR=5.5						
AKASG	**Malin Array Be**	**117.03**	**324**	PKKPbc		06 06 38.4	
	comp=Z,1.0nm,0.6s,baz=256,slow=4.7,SNR=6.9						
KMBO	**Kilima Mbogo**	**117.07**	**265**	PKP	PKPdf	05 56 15.8	+2.1
	comp=Z,0.7nm,0.4s,baz=61,slow=2.7,SNR=5.4						
BRTR	**Keskin Array B**	**117.88**	**312**	PKP	PKPdf	05 56 14.8	+0.3
	comp=Z,0.9nm,0.8s,baz=180,slow=2.5,SNR=4.6						
BRTR				PKKPbc		06 06 36.3	
	comp=Z,0.3nm,0.3s,baz=180,slow=4.9,SNR=3.8						
HFS	**Hagfors**	**119.02**	**339**	PKP	PKPdf	05 56 16.8	+0.5
	comp=Z,1.6nm,0.5s,baz=27,slow=3.3,SNR=6.9						
NB2	**NORSAR Subarra**	**119.22**	**341**	PKPdf	PKPdf	05 56 17.8	+1.1
	comp=Z,1.8nm,0.7s,baz=43,slow=1.9						
NB2	**NORSAR Subarra**	**119.22**	**341**	⇓PKP	PKPdf	05 56 17.8	+1.1
NOA	**NORSAR Array B**	**119.22**	**341**	PKP	PKPdf	05 56 16.7	0.0
	comp=Z,1.3nm,0.7s,baz=44,slow=2.0,SNR=4.5						
LSZ	**Lusaka**	**122.70**	**247**	ePKPdf	PKPdf	05 56 26.4	+2.0
CLL	**Collm**	**125.31**	**332**	ePKIKP	PKPdf	05 56 29.0	+0.4
EKA	**Eskdalemuir Ar**	**128.27**	**344**	PKP	PKPdf	05 56 35.8	+1.5
	comp=Z,6.0nm,1.1s,baz=26,slow=3.0,SNR=5.4						

LVC	**Limon Verde**	**128.42**	**126**	PKP	PKPdf	05 56 37.4	+1.9	
	comp=Z,2.4nm,0.8s,baz=264,slow=7.2,SNR=4.4							
LVC	**Limon Verde**	**128.42**	**126**	*e*PKPdf	PKPdf	05 56 38.0	+2.5	
DAVOX	**Davos**	**129.85**	**329**	PKP	PKPdf	05 56 39.8	+2.3	
	comp=Z,1.5nm,0.5s,baz=257,slow=4.7,SNR=6.6							
ROSC	**El Rosal**	**131.23**	**89**	PKP	PKPdf	05 56 42.8	+1.8	
	comp=Z,4.7nm,0.5s,baz=80,slow=1.5,SNR=6.0							
LPAZ	**La Paz**	**131.93**	**119**	PKP	PKPdf	05 56 43.5	+1.3	
	comp=Z,1.2nm,0.6s,baz=323,slow=3.3,SNR=4.5							
SDV	**Santo Domingo**	**135.07**	**84**	PKP	PKPdf	05 56 49.6	+1.4	
	comp=Z,8.3nm,0.7s,baz=283,slow=0.4,SNR=14							
SDV	**Santo Domingo**	**135.07**	**84**	*e*PKPdf	PKPdf	05 56 49.6	+1.4	
ESDC	**Sonseca Array**	**141.87**	**333**	PKP	PKPdf	05 57 01.5	+1.7	
	comp=Z,0.4nm,0.5s,baz=277,slow=37,SNR=3.7							
BDFB	**Brasilia**	**148.49**	**135**	PKP	PKPdf	05 57 12.8	+1.1	
	comp=Z,18nm,0.7s,baz=275,slow=1.3,SNR=14							
BDFB				PKPbc	PKPdf	05 57 16.7	+5.0	
	comp=Z,18nm,0.7s,baz=255,slow=3.6,SNR=14							
BDFB				PKPab	PKPab	05 57 20.3	-0.6	
	comp=Z,28nm,1.0s,baz=256,slow=2.3,SNR=22							
DBIC	**Dimbokro**	**159.66**	**271**	PKP	PKPdf	05 57 28.9	+1.7	
	comp=Z,4.3nm,1.1s,baz=179,slow=3.3,SNR=3.5							
DBIC				PKPab	PKPab	05 58 07.8	-0.4	
	comp=Z,12nm,1.2s,baz=88,slow=5.4,SNR=7.0							

IDC 07 05:43:22.2±5.7, 4.34N×92.41E, mb3.6/3, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=169.3km s-min=30.5km az=73.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.42**	**24**	Pn	P	05 47 01.8	-1.2
	0.2nm,0.3s,baz=216,slow=19,SNR=4.1						
SONM	**Songino Array**	**44.98**	**13**	P	P	05 51 39.3	-1.8
	0.6nm,0.7s,baz=207,slow=7.0,SNR=4.6						
WRA	**Warramunga Arr**	**47.75**	**122**	P	P	05 52 00.8	-2.5
	1.0nm,0.6s,baz=302,slow=9.1,SNR=5.0						
ASAR	**Alice Springs**	**49.09**	**127**	P	P	05 52 12.2	-1.5
	0.5nm,0.8s,baz=298,slow=7.5,SNR=4.1						

ISC 07 06:00:31.0±1.0, 46.42N±0.06×15.07E±0.07, n5, σ0$34/7, 2C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.22**	**8**	⇓*i*Pg	**Pg**	**06 00 35.9**	**+0.6**
GROS	**Grobnik**	**0.30**	**82**	*i* Pg	**Pg**	**06 00 37.0**	**0.0**
OBKA	**Obir**	**0.37**	**284**	⇑*i*PG	**Pg**	**06 00 38.3**	**-0.1**
OBKA				*i* SG	**Sg**	**06 00 43.4**	**0.0**
	31nm,0.6s						
DOBS	**Dobrina**	**0.39**	**134**	⇓*i*Pg	**Pg**	**06 00 38.8**	**+0.1**
ARSA	**Arzberg**	**0.89**	**20**	⇑*i*PG	**Pg**	**06 00 48.0**	**-0.7**
ARSA				*i* SG	**Sg**	**06 01 00.5**	**0.0**
	2.9nm,0.3s						

*NEIC **07** 06:22:32.5, 32.55S×71.80W, h17km, ML3.7(GUC), After GUC.*

GUC 07 06:22:32.5±1.0, 32.55S×71.80W, h17km±15km, MD4.0, ML3.7, 10C-12D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.30**	**87**	⇓*i*P	Pb	06 22 39.2	+0.1
PACH				*i* S	Sb	06 22 44.0	+0.4
IHA	**Instituto Hidr**	**0.49**	**164**	⇓*i*P	Pb	06 22 41.8	-0.4
IHA				*i* S	Sb	06 22 48.5	-0.4
ROCH	**El Roble**	**0.78**	**122**	⇓*i*P	Pb	06 22 47.0	-0.2
PTCH	**Petorca**	**0.79**	**69**	⇑*i*P	Pb	06 22 47.3	-0.1
PTCH				*i* S	Sb	06 22 58.0	+0.5
PTCH				AMP		06 22 59.9	
	comp=N,5μm,0.1s						
LCCH	**Las Cruces**	**0.94**	**168**	⇓*i*P	Pb	06 22 49.1	-0.8
LCCH				*i* S	Sb	06 23 01.2	-0.7
JACH	**Jahuel**	**1.02**	**97**	⇓*i*P	Pb	06 22 50.8	-0.6
JACH				*i* S	Sb	06 23 04.5	+0.1
ILCH	**Illapel**	**1.06**	**30**	⇓*i*P	Pb	06 22 51.3	-0.7
ILCH				*i* S	Sb	06 23 05.3	-0.1
ILCH				AMP		06 23 06.6	
	comp=E,2μm,0.3s						
PEL	**Peldehue**	**1.11**	**122**	⇓*i*P	Pb	06 22 52.4	-0.3
PEL				*i* S	Sb	06 23 06.9	+0.1
PEL				AMP		06 23 07.7	
	comp=N,5μm,0.2s						
PUEX	**Pudahuel**	**1.24**	**136**	⇑*i*P	Pb	06 22 55.5	+0.4
PUEX				*i* S	Sb	06 23 11.8	+1.1
PUEX				AMP		06 23 17.1	
	comp=N,3μm,0.4s						
RCDM	**Rinconada Maip**	**1.25**	**138**	*e*P	Pb	06 22 54.9	-0.4
RCDM				*i* S	Sb	06 23 11.2	+0.3
RCDM				AMP		06 23 11.6	
	comp=E,3μm,0.1s						
SAN	**Santiago**	**1.31**	**134**	⇑*i*P	Pn	06 22 55.6	-0.6
SAN				*i* S	Sb	06 23 12.8	+0.2
SAN				AMP		06 23 13.4	
	comp=E,3μm,0.4s						
STL	**Santa Lucia**	**1.31**	**132**	⇑*i*P	Pn	06 22 55.3	-0.9
STL				*i* S	Sb	06 23 12.8	+0.1
STL				AMP		06 23 13.0	
	comp=N,1μm,0.2s						
TACH	**Talagante**	**1.31**	**147**	⇑*i*P	Pn	06 22 55.4	-0.8
TACH				*i* S	Sb	06 23 11.5	-1.2
DSCH	**Colegio Aleman**	**1.33**	**130**	⇓*i*P	Pn	06 22 55.9	-0.6
DSCH				*i* S	Sb	06 23 13.1	-0.2
DSCH				AMP		06 23 13.8	
	comp=N,3μm,0.6s						
CLCH	**Cerro Calan**	**1.35**	**129**	⇑*i*P	Pn	06 22 56.1	-0.6
CLCH				*i* S	Sb	06 23 13.9	0.0
CLCH				AMP		06 23 14.5	
	comp=N,2μm,0.4s						
CLCH				AMP		06 23 15.0	
	comp=N,2μm,0.4s						
ANTU	**Antumapu**	**1.41**	**136**	*e*P	Pn	06 22 57.0	-0.6
ANTU				*i* S	Sb	06 23 15.3	-0.1
ANTU				AMP		06 23 16.3	
	comp=N,1μm,0.3s						
FSR	**Penalolen**	**1.41**	**131**	⇑*i*P	Pn	06 22 57.1	-0.5
FSR				*i* S	Sb	06 23 15.7	+0.1
FSR				AMP		06 23 16.1	
	comp=N,3μm,0.4s						
LNV	**Longovilo**	**1.44**	**167**	⇓*i*P	Pn	06 22 57.0	-1.0
LNV				*i* S	Sb	06 23 15.2	-1.1
FCH	**Farellones**	**1.48**	**122**	⇑*i*P	Pn	06 22 58.2	-0.5
FCH				*i* S	Sb	06 23 17.4	-0.2
FCH				AMP		06 23 18.1	
	comp=E,3μm,0.2s						
PCH	**Pirque**	**1.52**	**135**	⇑*i*P	Pn	06 22 58.7	-0.4
PCH				*i* S	Sn	06 23 18.2	-0.3
CMCH	**Combarbala**	**1.53**	**26**	⇑*i*P	Pn	06 22 59.0	-0.4
CMCH				*i* S	Sn	06 23 18.7	-0.3
CMCH				AMP		06 23 25.4	
	comp=E,2μm,0.5s						
SJCH	**San Jose de Ma**	**1.63**	**132**	⇓*i*P	Pn	06 23 00.0	-0.7
SJCH				*i* S	Sn	06 23 21.0	-0.3
SJCH				AMP		06 23 21.5	
	comp=E,594nm,0.2s						
CHCH	**Chadas Angostu**	**1.68**	**145**	*e*P	Pn	06 23 01.4	0.0
CACH	**El Canelo**	**1.85**	**148**	*e*P	Pn	06 23 05.0	+1.1
CACH				*i* S	Sn	06 23 29.6	+2.5
LMEL	**Las Melosas**	**1.86**	**134**	*i* P	Pn	06 23 04.4	+0.4
LMEL				*i* S	Sn	06 23 28.5	+1.2
LMEL				AMP		06 23 33.2	
	comp=N,736nm,0.2s						
SFDO	**San Fernando**	**2.16**	**163**	⇓*i*P	Pn	06 23 08.6	+0.3
SFDO				*i* S	Sn	06 23 36.2	+1.4
TLL	**Tololo Astrono**	**2.53**	**20**	*e*P	Pn	06 23 13.9	+0.4
TLL				AMP		06 23 58.9	
	comp=N,503nm,0.6s						

DJA 07 06:41:01.6±1.0, 9.45S×113.13E, h15km, ML3.8/3, 3C-2D, Error ellipse: s-maj=23.9km s-min=21.2km az=123.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.39**	**46**	⇓*e*Pn	Pn	06 41 23.7	-2.8
	79nm,0.2s						
SRDI				*e*Sn	Sn	06 41 39.4	-5.2
KELI	**Kelakatan**	**1.82**	**48**	⇑*e*Pn	Pn	06 41 31.2	-1.5
	58nm,0.2s						
KELI	**Kelakatan**	**1.82**	**48**	*e*Pg	Pg	06 41 31.8	-6.2
KELI				⇑*e*Sn	Sn	06 41 52.7	-2.9
RATI	**Rata**	**2.48**	**73**	⇓*e*Pn	Pn	06 41 39.2	-3.0
	44nm,0.2s						
RATI				⇑*e*Sn	Sn	06 42 07.0	-5.4

*IDC **07** 06:43:47.7±2.4, 22.28N×143.66E, h120km±22km, mb3.7/12, mb1 3.9/13, mb1mx3.8/22, mbtmp4.1/13, Error ellipse: s-maj=26.2km s-min=11.6km az=93.0*
*NEIC **07** 06:43:54.5±2.5, 22.20N×143.64E, h185km±24km, mb4.3/3, Error ellipse: s-maj=19.5km s-min=8.3km az=88.0*

ISC 07 06:43:46.9±1.9, 22.27N±0.08×143.6E±0.2, h129km±17km, n21, σ0$91/22, mb3.9/14, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.98**	**345**	P	**P**	**06 45 02.0**	**+1.2**
	38nm,0.3s,baz=174,slow=2.2,SNR=20						
CBIJ				S	**S**	**06 45 56.6**	**-1.1**
	40nm,0.3s,baz=310,slow=22,SNR=11						
MAT	**Matsushiro**	**14.98**	**343**	P	**P**	**06 47 18.0**	**+4.9**
	47nm,1.6s						
MAT	**Matsushiro**	**14.98**	**343**	P	**P**	**06 47 18.1**	**+5.0**
SONM	**Songino Array**	**39.16**	**320**	P	**P**	**06 51 04.4**	**+0.9**
	0.5nm,0.5s,mb3.4,baz=135,slow=7.3,SNR=6.9						
CTA	**Charters Tower**	**42.17**	**176**	P	**P**	**06 51 28.9**	**+0.3**
	7.6nm,1.0s,mb4.3,baz=348,slow=6.0,SNR=7.4						
CTA	**Charters Tower**	**42.17**	**176**	P	**P**	**06 51 28.9**	**+0.3**
WB2	**Warramunga Arr**	**42.92**	**193**	*e*P	**P**	**06 51 35.1**	**+0.4**
WRA	**Warramunga Arr**	**42.92**	**193**	P	**P**	**06 51 34.9**	**+0.3**
	0.9nm,0.3s,mb3.8,baz=15,slow=8.2,SNR=14						
ASAR	**Alice Springs**	**46.62**	**192**	P	**P**	**06 52 03.8**	**-0.4**
	0.7nm,0.5s,mb3.5,baz=15,slow=11,SNR=11						
STKA	**Stephens Creek**	**53.87**	**182**	P	**P**	**06 52 57.0**	**-2.1**
	1.6nm,0.5s,mb4.0,baz=19,slow=7.9,SNR=3.2						
STKA	**Stephens Creek**	**53.87**	**182**	P	**P**	**06 52 57.0**	**-2.1**
ILAR	**Eielson Array**	**61.35**	**27**	P	**P**	**06 53 49.1**	**-1.9**
	0.9nm,0.7s,mb3.7,baz=259,slow=5.4,SNR=14						
CHKZ	**Chkalovo**	**62.36**	**320**	*e*P	**P**	**06 53 57.5**	**-0.4**
	1.5nm,0.6s,mb4.0						
BVAR	**Borovoye Array**	**62.50**	**319**	P	**P**	**06 53 58.8**	**-0.1**
	2.9nm,0.7s,mb4.2,baz=90,slow=7.4,SNR=11						
BVAR				pP	pP	06 54 28.4	-1.7
	0.9nm,0.4s,baz=79,slow=7.6,SNR=3.8						
BRVK	**Borovoye**	**62.56**	**319**	*e*P	**P**	**06 53 59.5**	**+0.2**
	3.4nm,0.8s,mb4.2						
INK	**Inuvik**	**66.89**	**24**	P	**P**	**06 54 26.8**	**-0.2**
	1.0nm,0.6s,mb3.8,baz=292,slow=4.8,SNR=9.9						
INK	**Inuvik**	**66.89**	**24**	*e*P	**P**	**06 54 26.9**	**-0.1**
YKA	**Yellowknife Ar**	**75.77**	**28**	P	**P**	**06 55 20.1**	**+0.4**
	0.7nm,0.4s,mb3.6,baz=292,slow=5.8,SNR=22						
ARCES	**ARCESS Array B**	**78.51**	**342**	P	**P**	**06 55 35.3**	**+0.4**
	2.9nm,0.8s,mb4.0,baz=37,slow=6.1,SNR=3.7						
NVAR	**Mina Array Bea**	**82.48**	**52**	P	**P**	**06 55 58.1**	**+1.6**
	0.5nm,0.2s,mb3.7,baz=270,slow=5.4,SNR=8.1						
FINES	**FINESS Array B**	**82.84**	**335**	P	**P**	**06 55 57.9**	**+0.1**
	1.7nm,0.7s,mb3.9,baz=96,slow=4.7,SNR=9.2						

*IDC **07** 06:44:41.4±14.0, 10.57N×92.27E, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=475.8km s-min=34.1km az=74.0*

ISC 07 06:44:48.9±1.2, 10.8N±0.2×93.3E±0.2, h33km, n5, σ1$35/6, mb3.6/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.02**	**331**	*i* P	**P**	**06 45 10.0**	**+3.2**
PBA				*e*S	**S**	**06 45 20.0**	**-0.1**
VIS	**Vishakhapatnam**	**11.85**	**307**	*e*P	**P**	**06 47 38.0**	**-0.5**
SONM	**Songino Array**	**38.57**	**14**	P	**P**	**06 52 09.6**	**-0.7**
	0.5nm,0.6s,mb3.4,baz=199,slow=9.4,SNR=3.7						
WRA	**Warramunga Arr**	**50.66**	**127**	P	**P**	**06 53 48.2**	**+0.7**
	1.0nm,0.6s,mb3.9,baz=305,slow=8.4,SNR=6.6						
ASAR	**Alice Springs**	**52.45**	**131**	P	**P**	**06 54 00.3**	**-0.5**
	0.6nm,0.9s,mb3.5,baz=312,slow=8.4,SNR=4.0						

*IDC **07** 06:50:12.7±1.2, 6.23N×93.82E, mb4.1/7, mb1 4.2/8, mb1mx4.0/18, mbtmp4.0/8, ML3.7/1, MS3.0/1, Ms1 3.2/1, ms1mx2.8/23, Error ellipse: s-maj=49.5km s-min=19.5km az=53.0*
*NEIC **07** 06:50:17.9±0.8, 6.31N×93.94E, h30km, mb4.4/1, Error ellipse: s-maj=25.6km s-min=15.1km az=63.0*

ISC 07 06:50:15.9±0.9, 6.3N±0.1×94.0E±0.2, h30km, n16, σ0$74/15, mb4.3/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.01**	**21**	Pn	**P**	**06 53 20.8**	**-0.8**
	0.1nm,0.3s,baz=242,slow=28,SNR=2.9						
CMAR				LR	LR	06 58 24.4	
	comp=Z,61nm,18.4s,baz=190,slow=37						
JIRN	**Jiri**	**22.53**	**342**	*e*P	**P**	**06 55 14.9**	**+0.1**
	18nm,0.5s,mb4.7						
PKI	**Pulchoki**	**22.70**	**340**	*e*P	**P**	**06 55 16.8**	**+0.3**
	11nm,0.6s,mb4.5						
GUN	**Gumba**	**22.86**	**341**	*e*P	**P**	**06 55 18.4**	**+0.3**
	19nm,0.7s,mb4.7						
GKN	**Gorkha**	**23.37**	**339**	*e*P	**P**	**06 55 23.9**	**+0.9**
	21nm,0.6s,mb4.8						
KOLN	**Koldanda**	**23.55**	**336**	*e*P	**P**	**06 55 26.4**	**+1.6**
	16nm,0.7s,mb4.6						
SONM	**Songino Array**	**42.73**	**12**	P	**P**	**06 58 12.3**	**+0.2**
	0.5nm,0.3s,mb3.7,baz=191,slow=9.1,SNR=12						
WRA	**Warramunga Arr**	**47.45**	**124**	P	**P**	**06 58 50.5**	**+0.3**
	2.0nm,0.4s,mb4.4,baz=303,slow=9.6,SNR=21						
ASAR	**Alice Springs**	**49.00**	**129**	P	**P**	**06 59 02.5**	**+0.3**
	1.3nm,0.6s,mb4.1,baz=302,slow=7.7,SNR=17						
BVAR	**Borovoye Array**	**50.45**	**342**	P	**P**	**06 59 12.2**	**-0.7**
	0.9nm,0.5s,mb4.1,baz=129,slow=9.5,SNR=5.0						
CHKZ	**Chkalovo**	**50.94**	**342**	*e*P	**P**	**06 59 16.5**	**-0.2**
	2.4nm,0.6s,mb4.3						
BRTR	**Keskin Array B**	**63.38**	**311**	P	**P**	**07 00 43.6**	**-1.4**
	0.5nm,0.5s,mb4.0,baz=129,slow=11,SNR=2.7						
FINES	**FINESS Array B**	**74.06**	**332**	P	**P**	**07 01 49.8**	**-0.9**
	2.8nm,1.0s,mb4.2,baz=99,slow=5.5,SNR=9.5						
ARCES	**ARCESS Array B**	**76.72**	**340**	P	**P**	**07 02 05.7**	**+0.1**
	7.6nm,1.1s,mb4.5,baz=97,slow=7.0,SNR=7.2						
ARCES	**ARCESS Array B**	**76.72**	**340**	P	**P**	**07 02 05.7**	**+0.1**
TXAR	**Lajitas Array**	**140.71**	**25**	PKP	PKPdf	07 09 48.0	-0.6
	0.1nm,0.4s,baz=164,slow=1.3,SNR=3.6						

*IDC **07** 07:05:47.6±61.0, 38.23N×71.39E, h408km±195km, mb3.2/5, mb1 3.2/6, mb1mx2.8/20, mbtmp3.9/6, Error ellipse: s-maj=813.6km s-min=71.0km az=146.0*

ISC 07 07:05:22.1±3.4, 37.5N±0.2×72.2E±0.5, h223km±41km, n23, σ0$60/23, mb3.6/5, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.79**	**13**	P	**P**	**07 06 35.1**	**0.0**
	SNR=403						
UCH	**Uchtor**	**5.07**	**20**	P	**P**	**07 06 38.6**	**0.0**
	SNR=60						
KZA	**Kyzart**	**5.16**	**26**	P	**P**	**07 06 39.1**	**-0.7**
	SNR=23						
EKS2	**Erkin-Say**	**5.32**	**13**	P	**P**	**07 06 41.6**	**-0.2**
	SNR=63						
AAK	**Ala-Archa**	**5.45**	**18**	P	**P**	**07 06 43.5**	**+0.2**
	SNR=68						
KBK	**Karagaybulak**	**5.59**	**21**	P	**P**	**07 06 46.0**	**+0.8**
	SNR=10						
ULHL	**Ulahol**	**5.69**	**32**	P	**P**	**07 06 45.9**	**-0.5**
	SNR=16						
CHMS	**Chumysh**	**5.85**	**19**	P	**P**	**07 06 48.7**	**+0.1**
	SNR=14						
TKM2	**Tokmak 2**	**6.03**	**24**	P	**P**	**07 06 50.7**	**0.0**
	SNR=16						
USP	**Ospenovka**	**6.05**	**16**	P	**P**	**07 06 51.1**	**+0.1**
	SNR=15						
KOLN	**Koldanda**	**13.62**	**132**	*e*P	**P**	**07 08 27.7**	**+0.3**
	5.7nm,0.2s						
GKN	**Gorkha**	**14.08**	**129**	*e*P	**P**	**07 08 31.5**	**-1.6**
	23nm,0.4s						
KKN	**Kakani**	**14.63**	**128**	*e*P	**P**	**07 08 38.9**	**-1.0**
	10nm,0.4s						
DMN	**Daman**	**14.65**	**128**	*e*P	**P**	**07 08 40.5**	**+0.4**
	11nm,0.4s						
PKI	**Pulchoki**	**14.86**	**128**	*e*P	**P**	**07 08 44.2**	**+1.4**
	5.5nm,0.2s						
GUN	**Gumba**	**14.93**	**126**	*e*P	**P**	**07 08 43.9**	**+0.3**
	8.3nm,0.3s						
JIRN	**Jiri**	**15.30**	**126**	*e*P	**P**	**07 08 48.4**	**+0.3**
	11nm,0.3s						
BVAR	**Borovoye Array**	**15.61**	**356**	P	**P**	**07 08 57.4**	**+5.7**
	0.2nm,0.3s,baz=173,slow=10,SNR=3.1						
AKASG	**Malin Array Be**	**33.11**	**307**	P	**P**	**07 11 39.0**	**+0.2**
	0.2nm,0.3s,mb3.1,baz=111,slow=7.9,SNR=6.8						
FINES	**FINESS Array B**	**37.23**	**325**	P	**P**	**07 12 13.5**	**0.0**
	7.7nm,1.2s,mb4.1,baz=120,slow=11,SNR=4.0						
ARCES	**ARCESS Array B**	**40.63**	**337**	P	**P**	**07 12 41.8**	**+0.4**
	3.6nm,1.0s,mb3.8,baz=119,slow=8.9,SNR=6.2						
HFS	**Hagfors**	**42.91**	**321**	P	**P**	**07 12 59.9**	**0.0**
	1.9nm,0.5s,mb3.8,baz=90,slow=12,SNR=5.7						
NOA	**NORSAR Array B**	**44.20**	**322**	P	**P**	**07 13 09.5**	**-0.7**
	0.5nm,0.5s,mb3.1,baz=96,slow=8.2,SNR=2.8						

IDC 07 07:45:28.3±9.2, 26.56S×179.66W, h450km±153km, mb3.1/4, mb1 3.3/5, mb1mx3.2/14, mbtmp4.1/5, Error ellipse: s-maj=225.2km s-min=60.0km az=83.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**11.98**	**192**	P	P	07 48 07.1	-1.6
	1.4nm,0.3s,baz=11,slow=3.4,SNR=9.9						
URZ				S	S	07 50 16.1	-1.1
	1.9nm,0.3s,baz=108,slow=22,SNR=10.0						
CTA	**Charters Tower**	**31.89**	**274**	P	P	07 51 15.5	-1.0
	4.3nm,0.5s,baz=96,slow=11,SNR=16						
STKA	**Stephens Creek**	**34.10**	**252**	P	P	07 51 33.6	-1.4
	0.6nm,0.4s,baz=103,slow=13,SNR=6.0						
ASAR	**Alice Springs**	**41.97**	**263**	P	P	07 52 39.0	-0.8
	0.4nm,0.4s,baz=98,slow=9.1,SNR=6.3						
WRA	**Warramunga Arr**	**42.60**	**269**	P	P	07 52 42.8	-2.0
	0.9nm,0.5s,baz=104,slow=7.9,SNR=5.7						

*IDC **07** 07:46:55.6±2.1, 9.90N×92.94E, mb3.8/4, mb1 4.0/5, mb1mx3.8/17, mbtmp3.8/5, ML4.5/1, Error ellipse: s-maj=66.7km s-min=23.3km az=68.0*
*NEIC **07** 07:47:00.6±0.8, 9.98N×93.12E, h30km, mb4.3/4, Error ellipse: s-maj=19.6km s-min=12.1km az=62.0*
*BJI **07** 07:47:05.2, 10.70N×92.86E, h30km, mb4.4*

ISC 07 07:47:00.2±2.9, 10.0N±0.2×93.2E±0.2, h40km±22km, n11, σ0$45/11, mb4.1/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.68**	**344**	*i* P	**P**	**07 47 28.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**10.04**	**33**	Pn	**P**	**07 49 24.6**	**-0.5**
	1.2nm,0.3s,baz=230,slow=14,SNR=9.1						
ENH	**Enshi**	**25.21**	**35**	*e*P	**P**	**07 52 24.0**	**0.0**
	9.2nm,0.6s,mb4.5						
XAN	**Xi'an**	**27.90**	**29**	P	**P**	**07 52 52.9**	**+4.2**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.3						
AAK	**Ala-Archa**	**36.38**	**336**	P	**P**	**07 54 02.1**	**-0.5**
	comp=Z,5.1nm,1.1s,mb4.4						
SONM	**Songino Array**	**39.28**	**14**	P	**P**	**07 54 27.6**	**+0.8**
	comp=Z,1.8nm,1.1s,mb3.7,baz=199,slow=7.1,SNR=6.3						
BVAR	**Borovoye Array**	**46.67**	**341**	P	**P**	**07 55 26.3**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=152,slow=9.7,SNR=4.3						
BRVK	**Borovoye**	**46.73**	**341**	*e*P	**P**	**07 55 26.9**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.1						
CHKZ	**Chkalovo**	**47.15**	**342**	*e*P	**P**	**07 55 30.8**	**+0.3**
	comp=Z,1.9nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**50.25**	**126**	P	**P**	**07 55 55.1**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.1,baz=304,slow=8.7,SNR=12						
ASAR	**Alice Springs**	**51.99**	**131**	P	**P**	**07 56 07.9**	**-0.1**
	comp=Z,1.4nm,0.9s,mb3.9,baz=302,slow=6.8,SNR=16						

IGQ 07 07:48:47.6, 0.54N×77.62W, h12km±3km, mb4.2, 5C-8D, Error ellipse: s-maj=4.8km s-min=2.8km az=113.3, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAYA	**Cayambe**	**0.59**	**218**	⇓P	Pb	07 48 59.4	-0.1
CONE	**Cono NE Rev Vo**	**0.61**	**182**	⇑P	Pb	07 48 59.3	-0.3
LAV3	**Lava3-Reventad**	**0.64**	**181**	⇓P	Pb	07 48 59.7	-0.4
CAYR	**Refugio Cayamb**	**0.65**	**216**	⇓P	Pb	07 49 00.3	0.0
COTA	**Cotacachi**	**0.74**	**254**	⇓P	Pb	07 49 03.5	+1.5
ANTI	**Antisana**	**1.12**	**209**	⇓P	Pb	07 49 08.6	+0.1
YANA	**Yana**	**1.15**	**235**	⇓P	Pb	07 49 09.6	+0.7
YANA				S	Sb	07 49 24.8	+1.1
GGP	**Refugio Guagua**	**1.21**	**234**	⇑P	Pb	07 49 10.9	+1.0
PINO	**Pino**	**1.21**	**235**	⇓P	Pb	07 49 10.8	+0.9
TERV	**Terraza Guagua**	**1.21**	**234**	⇓P	Pb	07 49 10.8	+0.8
TERV				S	Sb	07 49 27.0	+1.6
VC1	**Cotopaxi 1**	**1.41**	**214**	⇑P	Pn	07 49 14.5	+1.3
TAMB	**Tambo**	**1.44**	**211**	⇑P	Pn	07 49 15.3	+1.7
NAS1	**Nasa**	**1.45**	**216**	P	Pn	07 49 16.0	+2.3
NAS1				S	Sb	07 49 36.5	+4.3
MARY	**Rancho Maria**	**1.53**	**214**	P	Pn	07 49 17.5	+2.5
PISA	**Pisayambo**	**1.76**	**206**	⇑P	Pn	07 49 21.3	+3.1
ARRY	**Arrayan**	**2.20**	**202**	P	Pn	07 49 27.8	+3.3
ARRY				S	Sn	07 49 55.8	+4.0

*BJI **07** 07:59:27.8, 5.56N×93.34E, h36km, mB5.1, mb5.1, Ms4.6, Msz4.4*
*MOS **07** 07:59:28.6±0.9, 5.80N×93.40E, h33km, mb5.4/30, MS4.3/5, Error ellipse: s-maj=16.1km s-min=7.0km az=113.9*
*IDC **07** 07:59:29.4±0.8, 5.78N×93.38E, h26km±5km, mb4.7/16, mb1

comp=Z,229nm,0.5s
BLSP *e*S **S** **08 07 20.9 -11**
SHL Shillong 19.86 356 *i* P **P** **08 03 56.0 -3.7**
SHL *e*S **S** **08 07 27.5 -8.5**
LATR Latur 20.75 309 *e*S **S** **08 07 48.4 -5.5**
NGP Nagpur 20.75 319 *e*P **P** **08 04 09.7 +0.8**
NGP *e* 08 07 53.1
QIZ Qiongzhong 20.84 49 ⇓P **P** **08 04 11.2 +1.4**
QIZ AP 08 04 21.2
QIZ S **S** **08 07 55.3 -0.5**
QIZ XS 08 08 13.8
QIZ AMB AMB
comp=Z,85nm,0.9s
QIZ LR LR
comp=N,674nm,14.2s,MS4.2
QIZ LR LR
comp=E,376nm,17.8s,MS4.2
QIZ LR LR
comp=Z,805nm,13.5s,MS4.3
QIZ Qiongzhong 20.84 49 *e*P **P** **08 04 11.1 +1.2**
comp=Z,62nm,0.8s
KAD Karad 22.07 303⇑*i*P **P** **08 04 22.0 -0.2**
JIRN Jiri 22.94 343 *e*P **P** **08 04 31.4 +0.6**
comp=Z,74nm,0.4s,mb5.4
POO Poona 22.96 306⇑*i*P **P** **08 04 32.0 +1.0**
POO *i* S **S** **08 08 33.0 -1.8**
PKI Pulchoki 23.09 342 *e*P **P** **08 04 32.7 +0.5**
comp=Z,193nm,0.5s,mb5.8
DMN Daman 23.22 341 *e*P **P** **08 04 33.7 +0.2**
comp=Z,215nm,0.6s,mb5.7
GUN Gumba 23.26 343 *e*P **P** **08 04 34.3 +0.4**
comp=Z,160nm,0.8s,mb5.5
BHPL Bhopal 23.29 320 *e*P **P** **08 04 35.4 +1.1**
BHPL AMb AMB 08 04 37.6
comp=Z,39nm,1.2s,mb4.7
BHPL *e* 08 08 52.6
KKN Kakani 23.33 342 *e*P **P** **08 04 35.0 +0.4**
comp=Z,123nm,0.5s,mb5.6
GKN Gorkha 23.73 340 *e*P **P** **08 04 39.4 +0.9**
comp=Z,143nm,0.3s,mb5.9
KOLN Koldanda 23.89 338 *e*P **P** **08 04 41.4 +1.4**
comp=Z,243nm,1.0s,mb5.6
LSA Lhasa 24.02 355 P **P** **08 04 41.9 +0.6**
LSA AP 08 04 54.9
LSA S **S** **08 08 46.2 -7.0**
LSA XS 08 09 14.8
LSA SCP 08 12 01.2
LSA AMB AMB
comp=Z,20nm,0.5s,mb4.8
LSA LR LR
comp=N,170nm,20.5s
LSA LR LR
comp=E,380nm,27.3s
LSA LR LR
comp=Z,410nm,19.1s,MS3.9
LSA Lhasa 24.02 355 *e*P **P** **08 04 42.1 +0.8**
comp=Z,59nm,0.6s,mb5.2
DDI Dehra Dun 28.47 331 *e*P **P** **08 05 21.9 -0.7**
ENH Enshi 28.82 30 *e*P **P** **08 05 24.4 -1.3**
comp=Z,32nm,0.8s,mb5.1
WHN Wuhan 31.66 36 P **P** **08 05 51.2 +0.2**
XAN Xi'an 31.72 25 P **P** **08 05 50.1 -1.3**
XAN AMB AMB
comp=Z,89nm,0.7s,mb5.7
XAN LR LR
comp=N,396nm,15.2s,MS4.3
XAN LR LR
comp=E,162nm,12.2s,MS4.3
XAN LR LR
comp=Z,594nm,16.5s,MS4.3
LZH Lanzhou 31.79 16 P **P** **08 05 50.9 -1.1**
LZH AP *p*P 08 06 00.8 -0.4
LZH XP *s*P 08 06 03.5 -1.8
LZH PP PP 08 06 56.0 -1.6
LZH *e*S **S** **08 10 56.3 -2.6**
LZH XS 08 11 16.0
LZH *e*SS SS 08 12 48.0 -2.4
LZH AMB AMB
comp=Z,30nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,270nm,4.0s
LZH LR LR
comp=E,730nm,12.8s
LZH LR LR
comp=Z,980nm,17.0s,MS4.5
NJ2 Nanjing 35.46 39 *e*P **P** **08 06 24.4 +0.6**
NJ2 AP *p*P 08 06 36.9 +3.8
NJ2 XP *s*P 08 06 41.6 +4.6
NJ2 S **S** **08 11 54.0 -2.0**
NJ2 AMB AMB
comp=Z,100nm,0.8s,mb5.8
NJ2 AMB AMB
comp=Z,230nm,5.7s
NJ2 LR LR
comp=N,900nm,13.0s,MS4.8
NJ2 LR LR
comp=E,1μm,16.3s,MS4.8
NJ2 LR LR
comp=Z,1μm,13.0s,MS4.8
SSE Sheshan 36.36 42 P **P** **08 06 29.7 -1.6**
SSE XP *s*P 08 06 41.8 -2.8
SSE S **S** **08 12 11.0 +1.3**
SSE XS 08 12 27.8
SSE AMB AMB
comp=Z,27nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,34nm,3.7s
SSE LR LR
comp=N,134nm,20.6s,MS3.8
SSE LR LR
comp=E,96nm,20.5s,MS3.8
SSE LR LR
comp=Z,261nm,14.1s
BIDO Bidbid 38.30 301 ⇓P **P** **08 06 50.0 +2.2**
SNR=6.9
WMQ Urumqi 38.35 353 ⇑P **P** **08 06 48.0 +0.1**
WMQ PP PP 08 08 18.7 -0.6
WMQ S **S** **08 12 40.8 +0.8**
WMQ AMB AMB
comp=Z,6.0nm,0.9s,mb4.3
WMQ AMB AMB
comp=Z,54nm,4.7s
WMQ LR LR
comp=N,2μm,19.5s,MS5.0
WMQ LR LR
comp=E,1μm,21.4s,MS5.0
WMQ LR LR
comp=Z,2μm,20.2s,MS4.9
BSY Bisya 38.82 300 ⇑P **P** **08 06 54.2 +2.2**
SNR=8.1
HOQ Hoqain 39.02 301 ⇑P **P** **08 06 56.1 +2.4**
FITZ Fitzroy Crossi 39.62 127 *e*P **P** **08 06 58.5 -0.3**
comp=Z,6.0nm,0.6s,mb4.5
FITZ *e* *p*P 08 07 08.1 -0.1
KZA Kyzart 39.70 339 P **P** **08 07 00.3 +1.0**
SNR=16
BJT Baijiatuau 39.90 28 *e*P **P** **08 07 02.0 +1.1**
comp=Z,11nm,0.6s,mb4.8
UCH Uchtor 40.10 338 P **P** **08 07 03.7 +1.1**
SNR=44
KBK Karagaybulak 40.32 339 P **P** **08 07 05.7 +1.4**
SNR=13
TKM2 Tokmak 2 40.32 340 P **P** **08 07 05.1 +0.8**
SNR=18
AML Almayashu 40.33 337 P **P** **08 07 05.8 +1.4**
SNR=81
AAK Ala-Archa 40.46 338 P **P** **08 07 06.6 +1.1**
SNR=23
AAK Ala-Archa 40.46 338*d i*P **P** **08 07 04.5 -1.0**
AAK pmax pmax
comp=Z,43μm,1.3s
AAK MLR MLR
comp=Z,300nm,11.0s
AAK Ala-Archa 40.46 338 *e*P **P** **08 07 04.4 -1.1**
comp=Z,27nm,0.9s,mb5.0
AAK *e*PcP PcP 08 09 07.5 -1.0
WHFO Wadi Hawf 40.55 291 ⇓P **P** **08 07 07.7 +1.3**
SNR=8.9
FRU Bishkek 40.59 339 *e*P **P** **08 07 07.0 +0.5**
FRU *e* *p*P 08 07 17.0 +1.1
FRU pmax pmax
comp=Z,60nm,1.8s,mb4.9
CHMS Chumysh 40.69 339 P **P** **08 07 08.0 +0.7**
SNR=11
EKS2 Erkin-Say 40.75 338 P **P** **08 07 09.1 +1.2**
SNR=29

USP Ospenovka 41.01 339 P **P** **08 07 10.7 +0.7**
SNR=5.3
MK02 Makanchi Array 42.07 349 P **P** **08 07 18.9 +0.3**
MK02 pmax pmax
comp=Z,11nm,0.6s,mb4.7
KAKA Kakadu 42.89 115 *e*P **P** **08 07 24.4 -1.4**
comp=Z,3.9nm,0.5s,mb4.4
SONM Songino Array 43.49 13 P **P** **08 07 30.4 +0.2**
comp=Z,26nm,0.7s,mb5.1,baz=195,slow=8.4,SNR=216
SONM PcP PcP 08 09 18.4 0.0
comp=Z,6.4nm,0.5s,baz=199,slow=3.9,SNR=18
ULN Ulaanbaatar 43.67 13*d i*P **P** **08 07 31.6 0.0**
ULN Ulaanbaatar 43.67 13 *e*P **P** **08 07 31.3 -0.3**
comp=Z,15nm,0.8s,mb4.8
SNY Shenyang 44.95 32 ⇑P **P** **08 07 42.2 +0.1**
SNY AMB AMB
comp=Z,10.0nm,0.4s,mb5.0
SNY LR LR
comp=N,360nm,16.8s
SNY LR LR
comp=Z,320nm,14.2s,MS4.4
ZAK Zakamensk 45.35 9⇑*i*P **P** **08 07 44.9 -0.3**
ZAK *e* 08 09 23.5
MOY Mondy 46.31 7 *e*P **P** **08 07 53.2 +0.5**
TLY Talaya 46.67 9 *e*P **P** **08 07 56.5 +0.9**
TLY pmax pmax
comp=Z,19nm,0.8s,mb5.1
TLY MLR MLR
comp=Z,167nm,17.0s,MS4.1
TLY Talaya 46.67 9 *e*P **P** **08 07 56.3 +0.8**
comp=Z,14nm,0.7s,mb5.0
WRA Warramunga Arr 47.63 123 P **P** **08 08 03.7 +0.1**
comp=Z,23nm,0.7s,mb5.3,baz=302,slow=9.1,SNR=120
WRA pP pP 08 08 12.6 -0.5
comp=Z,21nm,0.7s,baz=302,slow=9.2,SNR=21
WRAB Tennant Creek 47.64 123*d i*P **P** **08 08 03.7 +0.1**
WRAB Tennant Creek 47.64 123 *e*P **P** **08 08 03.8 +0.2**
comp=Z,38nm,0.6s,mb5.6
WB2 Warramunga Arr 47.64 123⇓*i*P **P** **08 08 03.7 0.0**
WB2 *e* pP 08 08 13.5 +0.3
HIA Hailar 48.86 23 *e*P **P** **08 08 12.2 -0.4**
comp=Z,10nm,0.8s,mb4.9
ASPA Alice Springs 49.11 128 *e*P **P** **08 08 15.0 0.0**
ASAR Alice Springs 49.11 128 P **P** **08 08 14.9 0.0**
comp=Z,5.3nm,0.5s,mb4.8,baz=299,slow=7.6,SNR=100
ASAR pP pP 08 08 23.9 -0.6
comp=Z,4.7nm,0.5s,baz=304,slow=7.9,SNR=11
ASAR PcP PcP 08 09 39.0 +0.5
comp=Z,4.2nm,0.7s,baz=305,slow=3.3,SNR=8.8
ASAR LR LR 08 31 01.7
comp=Z,89nm,19.5s,MS3.8,baz=300,slow=38
NVS Novosibirsk 49.73 352 *e*P **P** **08 08 17.8 -1.5**
NVS *e*S **S** **08 15 42.2 +17**
NVS pmax pmax
comp=N,29nm,1.0s
NVS pmax pmax
comp=E,22nm,1.0s
NVS pmax pmax
comp=Z,68nm,1.0s,mb5.6
NVS smax
comp=N,10.0nm,2.0s
NVS smax
comp=E,29nm,2.0s
MDJ Mudanjiang 50.07 33 P **P** **08 08 22.5 +0.4**
MDJ AP *p*P 08 08 34.7 +3.1
MDJ XP *s*P 08 08 41.8 +6.5
MDJ PP PP 08 10 15.2 -2.8
MDJ S **S** **08 15 22.4 -7.4**
MDJ SS SS 08 18 58.0 -1.7
MDJ AMB AMB
comp=Z,6.0nm,0.8s,mb4.7
MDJ LR LR
comp=E,102nm,16.1s
MDJ LR LR
comp=Z,150nm,19.5s,MS4.0
BVA0 Borovoye Array 50.85 342 P **P** **08 08 27.0 -0.9**
BVA0 pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BRVK Borovoye 50.92 342 *e*P **P** **08 08 26.9 -1.5**
comp=Z,34nm,0.8s,mb5.3
MAT Matsushiro 51.22 47 *e*P **P** **08 08 31.0 +0.1**
comp=Z,11nm,0.8s,mb4.8
MAT Matsushiro 51.22 47 P **P** **08 08 31.1 +0.2**
CHKZ Chkalovo 51.35 343 *e*P **P** **08 08 31.2 -0.5**
comp=Z,72nm,0.8s,mb5.7
KLR Kul'dur 54.18 30 *e*P **P** **08 08 51.0 -1.7**
KLR MLR MLR
comp=N,500nm,13.0s
KLR MLR MLR
comp=Z,1μm,13.0s,MS5.1
BOD Bodaibo 54.48 13⇓*i*P **P** **08 08 54.5 -0.3**
GNI Garni 55.47 316⇓*e*P **P** **08 09 01.9 -0.4**
GNI pmax pmax
comp=Z,14nm,0.8s
GNI Garni 55.47 316 *e*P **P** **08 09 01.3 -1.1**
comp=Z,15nm,0.8s,mb5.1
PMG Port Moresby 55.64 105 *e*P **P** **08 09 03.5 -0.4**
comp=Z,26nm,0.7s,mb5.4
TI2 Plekhanov 56.14 317 *i* P **P** **08 09 06.4 -0.7**
KMBO Kilima Mbogo 56.45 265 *i* P **P** **08 09 11.2 +1.5**
KMBO pmax pmax
comp=Z,5.0nm,1.1s
KMBO Kilima Mbogo 56.45 265 P **P** **08 09 10.4 +0.7**
comp=Z,5.3nm,1.1s,mb4.5,baz=52,slow=12,SNR=9.1
KMBO LR LR 08 30 08.2
comp=Z,104nm,18.8s,MS4.0,baz=84,slow=33
KMBO Kilima Mbogo 56.45 265 *e*P **P** **08 09 10.8 +1.1**
comp=Z,3.9nm,1.0s,mb4.4
CLNS Chul'man 56.77 20 *e*P **P** **08 09 10.7 -0.8**
CLNS *e* 08 10 04.8
CLNS *e* 08 11 11.3
CLNS *e*S **S** **08 17 02.8 +2.4**
CLNS pmax pmax
comp=N,18nm,0.9s
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS pmax pmax
comp=Z,29nm,0.9s,mb5.3
CLNS pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS smax
comp=N,6.0nm,0.9s
CLNS smax
comp=Z,4.0nm,0.9s
CLNS smax
comp=E,4.0nm,0.8s
CLNS MLR MLR
comp=N,200nm,14.0s,MS4.5
CLNS MLR MLR
comp=Z,300nm,14.0s,MS4.5
CLNS MLR MLR
comp=E,100nm,12.0s,MS4.5
SVE Sverdlovsk 57.19 339⇓*i*P **P** **08 09 14.0 -0.4**
SVE pmax pmax
comp=Z,160nm,1.3s,mb5.9
ARU Arti 57.65 338⇓*i*P **P** **08 09 14.9 -2.7**
ARU *e* 08 10 05.8
ARU *e* 08 11 22.8
ARU *e*S **S** **08 17 12.3 +0.4**
ARU *e* 08 19 00.0
ARU *e*SS SS 08 21 03.8 +0.1
ARU pmax pmax
comp=Z,43nm,0.9s,mb5.5
CTA Charters Tower 57.91 118 *e*P **P** **08 09 20.0 0.0**
comp=Z,3.7nm,0.8s,mb4.5
CTAO Charters Tower 57.91 118 *e*P **P** **08 09 19.7 -0.2**
comp=Z,4.7nm,0.8s,mb4.6
KIV Kislovodsk 58.47 319*c i*P **P** **08 09 21.9 -1.7**
KIV *e* 08 10 13.7
KIV *e* 08 11 29.6
KIV *e*SS SS 08 21 17.5 +0.4
KIV pmax pmax
comp=Z,36nm,1.6s,mb5.2
KIV Kislovodsk 58.47 319 *e*P **P** **08 09 22.4 -1.2**
comp=Z,24nm,1.0s,mb5.2
GOF Gofitskoye 58.73 320 *e*P **P** **08 09 23.5 -1.8**
GOF pmax pmax
comp=Z,30nm,1.1s,mb5.2
STKA Stephens Creek 59.15 132 *e*P **P** **08 09 28.2 -0.2**
comp=Z,4.8nm,0.8s,mb4.6
STKA Stephens Creek 59.15 132 P **P** **08 09 28.2 -0.3**
comp=Z,5.4nm,0.7s,mb4.7,baz=320,slow=9.3,SNR=11

STKA pP pP 08 09 36.6 -1.6
comp=Z,3.2nm,0.4s,baz=307,slow=3.6,SNR=4.7
MALT Malatya 59.34 312 *e*P **P** **08 09 29.2 -0.5**
comp=Z,6.4nm,1.0s,mb4.6
EIL Elat 59.89 301 *e*P **P** **08 09 33.8 +0.2**
comp=Z,17nm,0.9s,mb5.1
SOC Sochi 60.29 318 *e*P **P** **08 09 32.9 -3.2**
SOC *e* 08 10 15.1
SOC *e*PPP PPP 08 13 10.4 -7.2
SOC *e*S **S** **08 17 45.6 -0.8**
SOC *e* 08 19 20.0
SOC *e*SS SS 08 21 37.8 -7.3
SOC pmax pmax
comp=Z,32nm,1.0s,mb5.3
SOC pmax pmax
comp=N,59nm,1.4s
SOKR Solikamsk 60.60 340⇑*i*P **P** **08 09 36.4 -1.6**
SOKR pmax pmax
comp=Z,40nm,0.8s,mb5.6
ANN Anapa 62.26 318 *e*P **P** **08 09 48.8 -0.7**
ANN *e* *p*P 08 09 58.5 -0.7
ANN *e*S **S** **08 18 20.2 +8.7**
ANN pmax pmax
comp=Z,38nm,1.3s,mb5.4
YAK Yakutsk 62.34 18*d i*P **P** **08 09 48.4 -1.3**
YAK pmax pmax
comp=Z,46nm,0.6s,mb5.8
YAK Yakutsk 62.34 18 *e*P **P** **08 09 48.2 -1.5**
comp=Z,16nm,0.6s,mb5.3
CSS Prodhromos 62.36 307 *e*P **P** **08 09 49.2 -1.1**
comp=Z,7.5nm,0.5s,mb5.1
BRTR Keskin Array B 63.32 312 P **P** **08 09 54.7 -1.8**
comp=Z,6.7nm,0.8s,mb4.8,baz=121,slow=7.2,SNR=33
BRTR PcP PcP 08 10 33.0 -0.1
comp=Z,5.6nm,1.1s,baz=135,slow=5.2,SNR=4.4
MOS Moscow 66.59 329 *e*P **P** **08 10 15.1 -2.3**
MOS pmax pmax
comp=Z,73nm,1.6s,mb5.5
OBN Obninsk 66.86 328*d i*P **P** **08 10 16.8 -2.3**
OBN *e* 08 10 47.2
OBN *e* 08 12 45.0
OBN *i* S S 08 19 07.8 -0.3
OBN *e*SS SS 08 23 21.5 -6.6
OBN pmax pmax
comp=Z,47nm,1.3s,mb5.4
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
OBN Obninsk 66.86 328 *i* Pr 08 10 16.9
LSZ Lusaka 67.82 251 *e*P **P** **08 10 25.5 -0.3**
comp=Z,1.7nm,0.6s,mb4.2
MA2 Magadan 69.08 27*d i*P **P** **08 10 32.3 -0.6**
MA2 pmax pmax
comp=Z,22nm,0.9s,mb5.1
MA2 Magadan 69.08 27 *e*P **P** **08 10 32.2 -0.7**
comp=Z,17nm,0.9s,mb5.0
IDI Anoyia 69.22 306 P **P** **08 10 34.0 -0.2**
comp=Z,15nm,0.9s,mb4.9,baz=103,slow=2.7,SNR=4.3
TIXI Tiksi 69.55 11⇓*e*P **P** **08 10 34.6 -1.0**
TIXI pmax pmax
comp=Z,28nm,0.9s,mb5.2
JOF Joensuu 72.53 335 *e*p **P** **08 10 51.7 -1.9**
KOLS Kolonicke sedl 73.38 319 *e*P **P** **08 10 58.9 0.0**
KOLS *e*pP *p*P 08 11 07.1 -1.7
KOLS *e* 08 11 15.8
LVZ Lovozero 73.38 340⇑*e*P **P** **08 10 58.1 -0.4**
LVZ pmax pmax
comp=Z,33nm,0.9s,mb5.3
LVZ Lovozero 73.38 340⇑*e*P **P** **08 10 58.2 -0.3**
APA Apatity 73.66 340⇓*i*P **P** **08 11 02.2 +2.1**
APA pmax pmax
comp=Z,40nm,0.8s,mb5.4
SUW Suwalki 73.87 325 *e*P **P** **08 11 00.3 -1.3**
CRVS Cervenica-Dubn 73.90 319 *e*P **P** **08 11 02.0 +0.1**
FINES FINESS Array B 74.32 333 *i* P **P** **08 11 03.4 -0.7**
FINES pmax pmax
comp=Z,20nm,0.8s
FINES FINESS Array B 74.32 333 P **P** **08 11 03.0 -1.1**
comp=Z,20nm,0.8s,mb5.1,baz=106,slow=7.4,SNR=48
KAF Kangasniemi 74.42 333 *e*p **P** **08 11 03.5 -1.2**
comp=Z,14nm,0.6s,mb5.1,baz=106,slow=5.5
KAF Kangasniemi 74.42 333 *e*P **P** **08 11 03.5 -1.2**
KAF pmax pmax
comp=Z,14nm,0.6s,mb5.1
PSZ Piszkesteto 74.77 318 *e*P **P** **08 11 06.4 -0.6**
comp=Z,7.5nm,0.7s,mb4.7
OJC Ojcow 75.19 320 *e*P **P** **08 11 09.0 -0.3**
VYHS Vyhne 75.56 319 *i* P **P** **08 11 11.2 -0.3**
OKC Ostrava-Krasne 76.19 320 *e*P **P** **08 11 15.2 +0.2**
MAW Mawson 76.21 192 LR LR 08 39 19.0
comp=Z,69nm,19.7s,MS4.0,baz=242,slow=31
ZST Bratislava 76.67 318 *e*P **P** **08 11 19.0 +1.3**
KEV Kevo 76.68 341 *e*p **P** **08 11 16.7 -0.7**
comp=Z,19nm,0.7s,mb5.1
KEV Kevo 76.68 341 *e*P **P** **08 11 16.7 -0.7**
KEV pmax pmax
comp=Z,19nm,0.7s,mb5.1
ARCES ARCESS Array B 77.10 340 P **P** **08 11 19.6 -0.1**
comp=Z,16nm,0.5s,mb5.2,baz=97,slow=6.0,SNR=121
DPC Dobruska-Polom 77.42 320 *e*P **P** **08 11 21.9 +0.1**
KSP Ksiaz 77.49 321 *e*P **P** **08 11 22.7 +0.5**
KSP *e* *e*pP *p*P 08 11 31.9 -0.2
KSP Ksiaz 77.49 321 *e*P **P** **08 11 22.9 +0.7**
UPC Upice 77.63 320 *e*P **P** **08 11 23.7 +0.7**
ARSA Arzberg 77.63 317⇓*i*P **P** **08 11 23.5 +0.4**
comp=Z,18nm,1.0s,mb5.0
BOJS Bojanci 77.67 315 *e*P **P** **08 11 23.1 -0.3**
PERS Pernice 77.86 316 *i* P **P** **08 11 24.6 +0.3**
OBKA Obir 78.24 316⇓*i*P **P** **08 11 26.9 +0.5**
comp=Z,14nm,1.1s,mb4.8
BILL Bilibino 78.42 22*c i*P **P** **08 11 27.2 +0.2**
BILL *e* *p*P 08 11 36.2 -0.8
BILL pmax pmax
comp=Z,21nm,1.3s,mb4.9
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.5
BILL Bilibino 78.42 22 *e*P **P** **08 11 26.3 -0.7**
comp=Z,8.2nm,0.6s,mb4.8
SUR Sutherland 78.45 235 *e*P **P** **08 11 28.7 +0.8**
comp=Z,48nm,1.4s,mb5.2
PRU Pruhonice 78.52 320 *e*P **P** **08 11 28.0 +0.1**
MOA Molln 78.53 318⇓*i*P **P** **08 11 28.0 0.0**
comp=Z,8.6nm,1.2s,mb4.6
PVCC Panska Ves 78.55 320 *e*P **P** **08 11 28.8 +0.8**
BRG Berggiesshubel 78.98 321 *i* P **P** **08 11 30.8 +0.4**
BRG pmax pmax
comp=Z,11nm,0.8s,mb4.8
BRG Berggiesshubel 78.98 321 *i* P **P** **08 11 30.8 +0.4**
comp=Z,11nm,0.8s,mb4.8
GEC2 GERESS Array S 78.98 319 *e*P **P** **08 11 30.7 +0.3**
GEC2 pmax pmax
comp=Z,23nm,0.9s,mb5.1
GEC2 GERESS Array S 78.98 319 *e*P **P** **08 11 30.7 +0.3**
comp=Z,23nm,0.9s,mb5.1
GERES GERESS Array B 78.98 319 P **P** **08 11 30.6 +0.2**
comp=Z,36nm,1.1s,mb5.2,baz=90,slow=5.3,SNR=41
KHC Kasperske Hory 79.08 319 *e*P **P** **08 11 30.9 -0.1**
KHC *e*pP *p*P 08 11 40.1 -0.8
WET Wettzell 79.54 319 *e*P **P** **08 11 33.7 +0.2**
WET pmax pmax
comp=Z,15nm,1.0s,mb4.9
WET Wettzell 79.54 319 *e*P **P** **08 11 33.7 +0.2**
comp=Z,15nm,1.0s,mb4.9
CLL Collm 79.60 321⇓*i*P **P** **08 11 33.5 -0.2**
CLL *e* 08 11 47.0
CLL pmax pmax
comp=Z,12nm,1.1s,mb4.7
CLL Collm 79.60 321⇓*i*P **P** **08 11 33.5 -0.2**
comp=Z,12nm,1.1s,mb4.7
CLL *e* 08 11 47.0
CLL Collm 79.60 321 ⇓P **P** **08 11 33.5 -0.2**
comp=Z,logA/T=1.0,mb4.7
CLL *e**SP *s*P 08 11 47.0 0.0
CLL *e* 08 11 56.0
NKC Novy Kostel 79.88 320 *e*P **P** **08 11 35.9 +0.6**
WTTA Wattenberg 80.28 317⇓*i*P **P** **08 11 37.0 -0.4**
comp=Z,23nm,0.8s,mb5.2
WATA Walderalm 80.32 317⇓*i*P **P** **08 11 37.1 -0.6**
comp=Z,11nm,1.0s,mb4.7
MOX Moxa 80.44 320 *i* P **P** **08 11 38.5 +0.3**
SQTA Sankt Quirin 80.56 317⇑*i*P **P** **08 11 38.8 -0.2**
comp=Z,9.7nm,0.8s,mb4.8
MOTA Moosalm 80.64 317⇑*i*P **P** **08 11 39.1 -0.3**
comp=Z,13nm,1.0s,mb4.8
GRA1 Grafenberg Arr 80.65 319 *e*P **P** **08 11 40.0 +0.6**
comp=Z,19nm,0.8s,mb5.1

GRF Grafenberg Arr 80.65 319 *eP* **P 08 11 40.0 +0.6**
GRF pmax pmax
comp=Z,19nm,0.8s,mb5.1
GRF Grafenberg Arr 80.65 319 *eP* **P 08 11 40.0 +0.6**
comp=Z,19nm,0.8s,mb5.1
NB2 NORSAR Subarra 81.29 331 P **P 08 11 41.7 -0.8**
comp=Z,4.8nm,0.6s,mb4.6,baz=94,slow=5.6
NOA NORSAR Array B 81.29 331 P **P 08 11 41.8 -0.7**
comp=Z,3.5nm,0.6s,mb4.5,baz=94,slow=5.5,SNR=11
BSEG Bad Segeberg 81.38 324 *eP* **P 08 11 43.9 +0.8**
BSEG pmax pmax
comp=Z,34nm,1.1s,mb5.2
DAVOX Davos 81.46 316 P **P 08 11 44.2 +0.5**
comp=Z,26nm,0.7s,mb5.3,baz=120,slow=5.7,SNR=54
DAVOX Davos 81.46 316 P **P 08 11 44.2 +0.5**
DAVA Damuels 81.47 317 ⇓*iP* **P 08 11 44.3 +0.6**
comp=Z,16nm,1.0s,mb4.9
BFO Black Forest 82.53 318 *eP* **P 08 11 49.1 -0.1**
BFO pmax pmax
comp=Z,12nm,0.9s,mb4.9
BFO Black Forest 82.53 318 *eP* **P 08 11 49.1 -0.1**
comp=Z,12nm,0.9s,mb4.9
SYO Syowa Base 83.07 197 ⇑P **P 08 11 51.1 -0.5**
LPG La Plagne 83.65 315 *eP* **P 08 11 55.7 +0.7**
comp=Z,25nm,0.8s,mb5.1
BNI Bardonecchia 83.71 315 *eP* **P 08 11 55.2 -0.2**
comp=Z,7.2nm,0.8s,mb4.8
TNA Tin City 88.50 24 *eP* **P 08 12 18.5 +0.1**
comp=Z,5.2nm,0.7s,mb4.9
DAG Danmarks Havn 89.48 348 ⇓*iP* **P 08 12 23.1 +0.2**
comp=Z,2.7nm,0.6s,mb4.8
ANM Nome 89.75 25 *eP* **P 08 12 24.7 +0.3**
ESDC Sonseca Array 92.06 310 P **P 08 12 36.3 +0.7**
comp=Z,3.9nm,0.8s,mb4.8,baz=56,slow=4.5,SNR=9.0
MCK McKinley 96.79 23 *eP* **P 08 12 58.7 +2.0**
comp=Z,2.5nm,0.9s,mb4.6
ILAR Eielson Array 97.08 22 P **P 08 12 57.1 -0.8**
comp=Z,0.7nm,0.7s,mb4.2,baz=274,slow=3.6,SNR=12
ILAR PP PP 08 16 50.3 -6.4
comp=Z,0.4nm,0.8s,baz=299,slow=6.9,SNR=4.1
DBIC Dimbokro 97.49 277 P **P 08 13 02.0 +1.0**
comp=Z,1.1nm,0.7s,mb4.4,baz=63,slow=4.1,SNR=5.8
SML Sawmill 97.93 25 *eP* **P 08 13 03.1 +1.2**
INK Inuvik 99.33 16 P **P 08 13 08.1 0.0**
comp=Z,0.7nm,0.5s,mb4.4,baz=346,slow=4.3,SNR=12
INK Inuvik 99.33 16 *eP* **P 08 13 09.1 +1.0**
comp=Z,1.0nm,0.5s,mb4.6
YKA Yellowknife Ar 108.75 13 PKiKP 08 17 54.6
comp=Z,0.4nm,0.8s,baz=330,slow=2.0,SNR=5.1
YKA PP PP 08 18 17.3 -7.8
comp=Z,0.5nm,0.7s,baz=327,slow=7.1,SNR=7.8
YKA PKKPbc 08 29 03.6
comp=Z,0.4nm,0.5s,baz=151,slow=3.6,SNR=23
YKA Yellowknife Ar 108.75 13 PKPdf 08 17 54.6
YKA PP PP 08 18 17.3 -7.8
YKA PKKPbc 08 29 03.6
SCHQ Schefferville 117.52 347 PKP PKPdf 08 18 12.6 -3.3
comp=Z,1.2nm,0.5s,baz=98,slow=4.2,SNR=4.6
MSO Missoula 122.42 22 *e*PKPdf PKPdf 08 18 22.0 -3.7
MOD Modoc 123.59 30 *e*PKPdf PKPdf 08 18 25.8 -2.3
BOZ Bozeman (W) 124.27 21 *e*PKPdf PKPdf 08 18 26.3 -3.1
HLID Hailey 124.95 24 *e*PKPdf PKPdf 08 18 28.4 -2.3
YFT Old Faithful 125.58 21 *e*PKPdf PKPdf 08 18 31.1 -0.8
LOHW Long Hollow 126.39 22 *e*PKPdf PKPdf 08 18 31.0 -2.4
NVAR Mina Array Bea 127.21 31 PKP PKPdf 08 18 33.0 -2.1
comp=Z,4.4nm,0.7s,baz=281,slow=2.7,SNR=33
PDAR Pinedale Array 127.51 21 PKP PKPdf 08 18 32.5 -3.2
comp=Z,4.3nm,0.7s,baz=35,slow=1.3,SNR=38
MVU Marysvale 130.07 26 *e*PKPdf PKPdf 08 18 39.0 -1.7
MSU Marysvale 130.07 26 *e*PKPdf PKPdf 08 18 39.1 -1.6
NEN Nelson 131.11 31 *e*PKPdf PKPdf 08 18 41.3 -1.5
KSU1 Kansas State U 134.53 11 *e*PKPdf PKPdf 08 18 46.1 -3.0
ANMO Albuquerque 135.50 23 PKP PKPdf 08 18 48.8 -2.2
comp=Z,4.9nm,0.9s,baz=296,slow=0.8,SNR=21
ANMO Albuquerque 135.50 23 *e*PKPdf PKPdf 08 18 48.9 -2.0
BNM Barren Site 136.13 24 *e*PKPdf PKPdf 08 18 51.0 -1.1
MNTX Cornudas Mount 138.78 25 *e*PKPdf PKPdf 08 18 54.4 -2.7
TXAR Lajitas Array 141.56 24 PKhKP 08 18 53.5
comp=Z,0.3nm,0.4s,baz=183,slow=1.0,SNR=14
JCT Junction City 141.93 19 *e*PKPpre 08 18 53.2
JCT *e*PKPdf PKPdf 08 19 00.1 -2.7
LVC Limon Verde 155.98 224 *e*PKPab PKPab 08 19 50.9 +1.6
LPAZ La Paz 159.01 238 PKP PKPdf 08 19 27.4 -1.5
comp=Z,1.6nm,0.8s,baz=82,slow=7.0,SNR=4.4
ROSC El Rosal 163.89 310 PKP PKPdf 08 19 32.4 -1.7
comp=Z,3.0nm,0.3s,baz=107,slow=18,SNR=3.9
OTAV Otavalo 169.96 305 *e*PKPab PKPab 08 20 50.8 +0.5

ISC 07 08:21:37.3±0.7, 37.56N±0.05×38.57E±0.05, h10km, n6, σ1§10/10, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.23**	**121**	*i* PG	**Pg**	**08 21 42.2**	**-0.1**
URFA				*i* SG	**Sg**	**08 21 45.8**	**+0.2**
MYA	**Malataya**	**0.77**	**352**	PG	**Pg**	**08 21 52.6**	**-0.2**
GZT	**Gaziantep**	**0.83**	**256**	*i* P	**Pb**	**08 21 54.4**	**+1.1**
GZT				*i* S	**Sb**	**08 22 07.9**	**+3.6**
ELZG	**Elazig**	**0.99**	**19**	*i* P	**Pb**	**08 21 56.9**	**+0.7**
ELZG				*i* S	**Sb**	**08 22 10.0**	**+0.9**
KAHT	**Ahir Dag**	**1.35**	**274**	*i* P	**Pb**	**08 22 00.4**	**-1.8**
KAHT				*i* S	**Sb**	**08 22 19.3**	**-0.1**
PTK	**Pertek**	**1.48**	**26**	*e*PN	**Pn**	**08 22 02.5**	**-1.7**

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*IDC **07** 08:39:34.5±2.6, 11.60N×92.54E, mb3.8/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=82.7km s-min=27.3km az=84.0*

ISC 07 08:39:33.7±0.9, 12.0N±0.1×92.1E±0.1, h33km, n15, σ1§29/19, mb3.8/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**0.68**	**117**	*i* P	**P**	**08 39 51.0**	**+4.1**
PBA				*e*S	**S**	**08 39 52.0**	**-4.4**
PBA				*e*		08 40 12.0	
	comp=E,7μm,0.4s						
PBA				*e*		08 40 12.1	
	comp=N,4μm,0.5s						
PBA	**Port Blair**	**0.68**	**117**	*e*P	**P**	**08 39 51.0**	**+4.1**
PBA				*e*		08 39 52.0	
PBA				*i*		08 43 56.5	
CMAR	**Chiang Mai Arr**	**9.22**	**45**	Pn	**P**	**08 41 47.6**	**+0.3**
	comp=N,0.2nm,0.3s,baz=243,slow=16,SNR=4.1						
VIS	**Vishakhapatnam**	**10.24**	**305**	*e*P	**P**	**08 42 03.6**	**+2.0**
VIS				*e*S	**S**	**08 43 48.8**	**-7.5**
VIS				*e*		08 43 55.3	
	comp=E,31nm,0.3s						
VIS				*e*		08 43 55.3	
	comp=N,31nm,0.4s						
BWNR	**Bhubaneshwar**	**10.26**	**325**	*e*P	**P**	**08 41 58.7**	**-3.1**
BWNR				*e*S	**S**	**08 43 43.3**	**-14**
BWNR				*e*		08 43 48.3	
	comp=N,71nm,0.3s						
BWNR				*e*		08 43 48.6	
	comp=E,139nm,0.5s						
JIRN	**Jiri**	**16.57**	**341**	*e*P	**P**	**08 43 25.7**	**+0.5**
	comp=E,7.0nm,0.3s						
PKI	**Pulchoki**	**16.75**	**339**	*e*P	**P**	**08 43 26.9**	**-0.6**
	comp=E,5.6nm,0.3s						
DMN	**Daman**	**16.89**	**338**	*e*P	**P**	**08 43 28.0**	**-1.3**
	comp=E,9.1nm,0.3s						
GKN	**Gorkha**	**17.43**	**337**	*e*P	**P**	**08 43 36.5**	**+0.6**
	comp=E,11nm,0.3s						
KOLN	**Koldanda**	**17.63**	**334**	*e*P	**P**	**08 43 40.1**	**+1.6**
	comp=E,4.7nm,0.2s						
BHPL	**Bhopal**	**17.92**	**311**	*i*	**P**	**08 43 38.1**	**-4.0**
BHPL				AMb	AMB	08 43 42.1	
	comp=Z,4.2nm,0.2s						
BHPL				*i* S	**S**	**08 47 02.6**	**+4.4**
SONM	**Songino Array**	**37.70**	**16**	P	**P**	**08 46 54.0**	**+6.1**
	comp=Z,0.5nm,0.5s,mb3.5,baz=197,slow=9.5,SNR=6.1						
WRA	**Warramunga Arr**	**52.27**	**127**	P	**P**	**08 48 43.6**	**-0.8**
	comp=Z,0.6nm,0.6s,mb3.7,baz=300,slow=9.8,SNR=5.8						
WRA				PcP	PcP	08 49 56.7	+1.2
	comp=Z,1.1nm,0.6s,baz=317,slow=3.1,SNR=15						
ASAR	**Alice Springs**	**54.07**	**131**	P	**P**	**08 48 57.6**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=308,slow=6.8,SNR=14						
ASAR				PcP	PcP	08 50 03.9	+1.6
	comp=Z,0.6nm,0.5s,baz=314,slow=3.3,SNR=7.5						
STKA	**Stephens Creek**	**64.36**	**134**	P	**P**	**08 50 09.2**	**+0.4**
	comp=Z,1.3nm,0.8s,mb4.0,baz=338,slow=5.4,SNR=3.1						

IDC 07 08:56:32.9±5.5, 5.93N×92.41E, mb3.6/3, mb1 3.9/4, mb1mx3.7/16, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=158.0km s-min=30.2km az=76.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**13.99**	**27**	Pn	P	08 59 54.8	-0.2
	0.1nm,0.3s,baz=219,slow=9.2,SNR=4.7						
SONM	**Songino Array**	**43.44**	**14**	P	P	09 04 37.0	-2.2
	0.3nm,0.6s,baz=194,slow=8.6,SNR=4.1						
WRA	**Warramunga Arr**	**48.59**	**123**	P	P	09 05 17.9	-2.6
	1.0nm,0.4s,baz=300,slow=9.9,SNR=14						
ASAR	**Alice Springs**	**50.04**	**128**	P	P	09 05 30.4	-1.3
	1.0nm,0.9s,baz=308,slow=7.1,SNR=11						

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*NEIC **07** 09:11:24.0±2.7, 7.64S×128.47E, h153km±25km, mb4.2/5, Error ellipse: s-maj=23.2km s-min=20.1km az=164.0*
*IDC **07** 09:11:28.1±11.0, 7.61S×129.81E, h150km±91km, mb3.8/1, mb1 3.7/3, mb1mx3.4/11, mbtmp4.0/3, Error ellipse: s-maj=87.4km s-min=74.2km az=93.0*

ISC 07 09:11:26.1±2.0, 7.86S±0.09×128.6E±0.1, h183km±20km, n11, σ0§98/17, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.15**	**142**	*e*P	**P**	**09 12 55.8**	**-0.1**
KAKA	4.1nm,0.1s			*e*S	**S**	**09 14 04.5**	**-1.3**
FITZ	**Fitzroy Crossi**	**10.57**	**195**	*e*P	**P**	**09 13 54.4**	**+0.5**
FITZ	3.3nm,0.7s			*e*S	**S**	**09 15 48.7**	**-1.0**
WRAB	**Tennant Creek**	**13.25**	**156**	Pn	**P**	**09 14 28.8**	**+0.5**
WRA	**Warramunga Arr**	**13.26**	**156**	P	**P**	**09 14 27.6**	**-0.6**
	0.5nm,0.3s,baz=341,slow=12,SNR=22						
WRA				S	**S**	**09 16 51.8**	**0.0**
	1.7nm,0.3s,baz=336,slow=22,SNR=13						
WB2	**Warramunga Arr**	**13.26**	**156**	*e*P	**P**	**09 14 29.0**	**+0.7**
WB2				*e*		09 14 34.0	
WB2				*e*S	**S**	**09 16 51.2**	**-0.8**
ASPA	**Alice Springs**	**16.53**	**163**	*e*P	**P**	**09 15 11.2**	**+2.1**
ASPA				*e*S	**S**	**09 18 12.1**	**+6.1**
ASAR	**Alice Springs**	**16.54**	**163**	P	**P**	**09 15 10.4**	**+1.3**
	0.6nm,0.3s,baz=343,slow=11,SNR=36						
ASAR				S	**S**	**09 18 13.7**	**+7.7**
	0.6nm,0.3s,baz=346,slow=25,SNR=8.1						
PMG	**Port Moresby**	**18.46**	**96**	*e*P	**P**	**09 15 30.2**	**-0.3**
	11nm,0.8s						
CTAO	**Charters Tower**	**21.01**	**127**	P	**P**	**09 15 57.1**	**+0.7**
	1.9nm,0.6s,mb3.6						
STKA	**Stephens Creek**	**26.81**	**155**	P	**P**	**09 16 51.6**	**+0.3**
	6.0nm,1.3s,mb4.1,baz=354,slow=10,SNR=4.1						
BRVK	**Borovoye**	**78.10**	**328**	*e*P	**P**	**09 23 04.2**	**-2.0**
	3.5nm,0.8s,mb4.0						

IDC 07 09:44:24.0±4.7, 1.33S×136.10E, mb3.7/2, mb1 3.9/3, mb1mx3.7/11, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=124.4km s-min=30.1km az=67.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.58**	**185**	P	P	09 48 41.7	-3.0
	0.1nm,0.3s,baz=7.1,slow=12,SNR=5.7						
ASAR	**Alice Springs**	**22.31**	**185**	P	P	09 49 24.1	-0.7
	0.9nm,0.5s,baz=7.3,slow=11,SNR=9.0						
CMAR	**Chiang Mai Arr**	**41.49**	**300**	P	P	09 52 12.9	-1.7
	0.9nm,0.3s,baz=100,slow=7.3,SNR=4.6						

IDC 07 09:50:28.4±4.6, 18.66S×175.74W, mb3.9/4, mb1 4.2/4, mb1mx3.8/13, mbtmp3.9/4, Error ellipse: s-maj=196.7km s-min=36.9km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.52**	**243**	P	P	09 58 09.5	-1.4
	1.5nm,0.8s,baz=82,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**46.99**	**260**	P	P	09 59 01.7	-1.8
	0.7nm,0.3s,baz=97,slow=7.9,SNR=35						
ASAR	**Alice Springs**	**47.04**	**255**	P	P	09 59 01.8	-2.0
	1.1nm,0.5s,baz=93,slow=7.4,SNR=26						
ILAR	**Eielson Array**	**86.07**	**12**	P	P	10 03 10.5	-1.4
	0.8nm,1.1s,baz=210,slow=3.9,SNR=4.1						

IDC 07 10:07:18.2±5.0, 13.45N×92.68E, mb3.7/2, mb1 3.9/3, mb1mx3.5/16, mbtmp3.6/3, ML3.5/1, MS2.6/1, Ms1 2.8/1, ms1mx2.5/22, Error ellipse: s-maj=114.9km s-min=47.0km az=109.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.81**	**50**	Pn	Pn	10 09 12.3	-3.7
	0.2nm,0.3s,baz=238,slow=14,SNR=3.9						
CMAR				Sn	Sn	10 10 38.2	-8.0
	0.2nm,0.3s,baz=238,slow=27,SNR=9.1						
CMAR				LR	LR	10 12 55.6	
	comp=Z,41nm,18.3s,baz=220,slow=43						
WRA	**Warramunga Arr**	**52.73**	**128**	P	P	10 16 35.1	-2.3
	0.8nm,0.8s,baz=301,slow=9.9,SNR=15						
WRA				PcP	PcP	10 17 44.8	-2.3
	0.2nm,0.5s,baz=316,slow=2.9,SNR=6.1						
ASAR	**Alice Springs**	**54.64**	**132**	P	P	10 16 49.4	-2.0
	0.4nm,0.4s,baz=306,slow=6.7,SNR=20						

IDC 07 10:12:41.7±18.0, 15.27S×177.03W, mb3.8/3, mb1 4.1/3, mb1mx3.6/13, mbtmp3.8/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/20, Error ellipse: s-maj=460.5km s-min=50.6km az=33.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**35.43**	**275**	LR	LR	10 30 32.7	
	comp=Z,34nm,21.6s,baz=36,slow=30						
WRA	**Warramunga Arr**	**46.46**	**257**	P	P	10 21 11.4	-1.1
	0.7nm,0.9s,baz=92,slow=6.9,SNR=7.5						
ASAR	**Alice Springs**	**46.82**	**252**	P	P	10 21 12.9	-2.5
	0.6nm,0.6s,baz=87,slow=8.1,SNR=14						
VNDA	**Vanda**	**63.17**	**185**	P	P	10 23 11.2	-2.2
	3.8nm,1.1s,baz=34,slow=7.3,SNR=3.7						

DJA 07 10:17:15.1±0.9, 8.82S×116.03E, h124km±6km, ML3.9/2, 4C-4D, Error ellipse: s-maj=40.9km s-min=13.6km az=1.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**0.34**	**13**	⇑*e*Pn	P	10 17 32.5	-0.3
KEDI				⇑*e*Sn	S	10 17 45.4	-0.9
RATI	**Rata**	**0.51**	**280**	⇑*e*Pn	P	10 17 33.6	-0.1
RATI				⇓*e*Sn	S	10 17 46.5	-1.3
KELI	**Kelakatan**	**1.64**	**291**	⇑*e*Pn	P	10 17 44.5	-0.3
	69nm,0.2s						
KELI				⇓*e*Sn	S	10 18 06.1	-1.3
SRDI	**Scrawed**	**1.90**	**280**	⇓*e*Pn	P	10 17 47.5	-0.5
	107nm,0.2s						
SRDI				⇓*e*Sn	S	10 18 11.5	-1.4

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*NEIC **07** 10:29:33.8±2.1, 18.00S×178.09W, h571km±24km, mb4.6/12, Error ellipse: s-maj=13.5km s-min=11.6km az=195.0*
*IDC **07** 10:29:34.5±1.6, 18.04S×178.13W, h577km±18km, mb3.6/15, mb1 3.8/15, mb1mx3.8/16, mbtmp4.5/15, Error ellipse: s-maj=16.6km s-min=10.4km az=149.0*

ISC 07 10:29:34.4±1.8, 18.1S±0.1×178.18W±0.09, h590km±23km, n64, σ0§96/37, mb4.2/24, 1C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.52**	**191**	P	**P**	**10 33 32.6**	**-1.9**
	6.2nm,0.4s,baz=287,slow=2.4,SNR=17						
RPZ	**Rata Peaks**	**27.12**	**197**	P	**P**	**10 34 32.2**	**-1.0**
	2.1nm,0.4s,mb4.1,baz=44,slow=13,SNR=5.5						
CNB	**Canberra Magne**	**33.50**	**233**	*e*P	**P**	**10 35 28.8**	**+1.4**
	18nm,0.5s,mb5.0						
CTA	**Charters Tower**	**33.63**	**261**	*e*P	**P**	**10 35 29.1**	**+0.3**
	7.0nm,0.8s,mb4.3						
CTAO	**Charters Tower**	**33.63**	**261**	*e*P	**P**	**10 35 28.7**	**-0.1**
	7.3nm,0.7s,mb4.4						
PMG	**Port Moresby**	**34.70**	**280**	P	**P**	**10 35 38.7**	**+1.0**
	26nm,0.8s,mb4.9,baz=81,slow=5.9,SNR=10						
PMG	**Port Moresby**	**34.70**	**280**	*e*P	**P**	**10 35 38.4**	**+0.7**
	33nm,0.9s,mb5.0						
TOO	**Toolangi**	**37.23**	**231**	*e*P	**P**	**10 35 59.3**	**+1.1**
	9.7nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**38.74**	**241**	*e*P	**P**	**10 36 11.8**	**+1.2**
	11nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**38.74**	**241**	P	**P**	**10 36 11.9**	**+1.3**
	16nm,0.6s,mb4.8,baz=92,slow=9.7,SNR=54						
STKA				PcP	PcP	10 38 07.9	+0.6
	4.1nm,0.8s,baz=13,slow=9.2,SNR=3.5						
WB2	**Warramunga Arr**	**44.81**	**260**	*e*P	**P**	**10 36 58.1**	**-0.6**
WB2				*i* PCP	PcP	10 38 28.0	0.0
WB2				*e*S	**S**	**10 42 54.3**	**0.0**
WRAB	**Tennant Creek**	**44.81**	**260**	*e*P	**P**	**10 36 58.2**	**-0.5**
	13nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**44.82**	**260**	P	**P**	**10 36 58.1**	**-0.7**
	7.7nm,0.5s,mb4.5,baz=96,slow=7.4,SNR=331						
WRA				PcP	PcP	10 38 28.0	0.0
	2.2nm,0.3s,baz=90,slow=3.8,SNR=12						
WRA				ScP		10 41 26.4	
	0.3nm,0.6s,baz=88,slow=4.1,SNR=2.2						
WRA				S	**S**	**10 42 53.4**	**-1.0**
	0.6nm,1.0s,baz=75,slow=13,SNR=3.3						
ASAR	**Alice Springs**	**44.96**	**254**	P	**P**	**10 36 59.9**	**+0.1**
	51nm,0.6s,mb5.2,baz=87,slow=8.6,SNR=746						
ASAR				PcP	PcP	10 38 28.2	-0.2
	4.8nm,0.4s,baz=103,slow=3.8,SNR=11						
ASAR				ScP		10 41 27.8	
	0.6nm,0.6s,baz=100,slow=4.2,SNR=4.7						
ASAR				S	**S**	**10 42 56.5**	**+0.1**
	2.0nm,0.9s,baz=89,slow=15,SNR=7.9						
ASPA	**Alice Springs**	**44.96**	**254**	⇓*i*P	**P**	**10 36 59.8**	**0.0**
ASPA				*i* PCP	PcP	10 38 28.3	-0.2
ASPA				*e*S	**S**	**10 42 54.3**	**-2.1**
KAKA	**Kakadu**	**47.80**	**269**	*e*P	**P**	**10 37 20.8**	**-0.7**
	20nm,0.4s,mb5.0						
MBWA	**Marble Bar**	**58.24**	**256**	*e*P	**P**	**10 38 34.7**	**-0.8**
	9.4nm,0.6s,mb4.1						
KLBR	**Kellerberrin**	**58.95**	**244**	*e*P	**P**	**10 38 39.4**	**-0.7**
	24nm,0.7s,mb4.4						
MUN	**Mundaring**	**60.24**	**243**	*e*P	**P**	**10 38 48.7**	**+0.1**
	7.9nm,0.7s,mb4.0						
VNDA	**Vanda**	**60.29**	**185**	P	**P**	**10 38 49.0**	**+0.7**
	3.6nm,0.9s,mb3.6,baz=322,slow=2.8,SNR=6.6						
QSPA	**South Pole Qui**	**71.97**	**180**	*e*P	**P**	**10 40 00.5**	**+0.4**
NVAR	**Mina Array Bea**	**79.40**	**44**	P	**P**	**10 40 41.5**	**+0.1**
	1.6nm,0.8s,mb3.4,baz=226,slow=9.4,SNR=6.1						
NVAR	**Mina Array Bea**	**79.40**	**44**	P	**P**	**10 40 41.5**	**+0.1**
TUC	**Tucson**	**81.63**	**52**	*e*P	**P**	**10 40 53.2**	**+0.2**
	1.4nm,0.8s,mb3.5						
MAW	**Mawson**	**83.77**	**200**	P	**P**	**10 41 04.0**	**+1.2**
	3.1nm,0.5s,mb4.1,baz=139,slow=6.1,SNR=5.2						
ENH	**Enshi**	**84.55**	**304**	*e*P	**P**	**10 41 08.6**	**+1.0**
	10nm,0.7s,mb4.6						
TXAR	**Lajitas Array**	**85.90**	**58**	P	**P**	**10 41 15.2**	**+1.1**
	1.3nm,0.7s,mb3.7,baz=222,slow=6.2,SNR=21						
ILAR	**Eielson Array**	**86.01**	**13**	P	**P**	**10 41 12.3**	**-1.5**
	0.6nm,0.4s,mb3.5,baz=220,slow=5.4,SNR=22						
PDAR	**Pinedale Array**	**87.33**	**43**	P	**P**	**10 41 19.6**	**-1.0**
	0.5nm,0.7s,mb3.4,baz=243,slow=3.3,SNR=5.6						
CMAR	**Chiang Mai Arr**	**89.15**	**290**	P	**P**	**10 41 31.5**	**+1.9**
	13nm,1.2s,mb4.6,baz=118,slow=2.7,SNR=16						
SONM	**Songino Array**	**93.83**	**319**	P	**P**	**10 41 51.0**	**+0.7**
	0.8nm,0.9s,mb3.8,baz=128,slow=5.6,SNR=3.6						
YKA	**Yellowknife Ar**	**94.40**	**25**	P	**P**	**10 41 50.9**	**-1.5**
	0.2nm,0.5s,mb3.5,baz=240,slow=4.5,SNR=6.6						
YKA	**Yellowknife Ar**	**94.40**	**25**	P	**P**	**10 41 50.9**	**-1.6**
BVAR	**Borovoye Array**	**117.12**	**321**	PKP	PKPdf	10 47 13.5	+0.7
	1.8nm,0.4s,baz=123,slow=2.9,SNR=11						
ARCES	**ARCESS Array B**	**126.53**	**350**	PKP	PKPdf	10 47 31.2	+0.7
	3.0nm,0.8s,baz=110,slow=1.3,SNR=15						
FINES	**FINESS Array B**	**133.41**	**344**	PKP	PKPdf	10 47 44.4	+0.5
	1.5nm,0.8s,baz=90,slow=5.7,SNR=3.6						
MALT	**Malatya**	**142.29**	**310**	*e*PKPdf	PKPdf	10 48 01.1	+0.6
EKA	**Eskdalemuir Ar**	**142.62**	**5**	PKP	PKPdf	10 48 02.7	+2.2
	2.6nm,0.8s,baz=315,slow=3.5,SNR=3.5						
KOLS	**Kolonicke sedl**	**145.05**	**336**	*i* PKP	PKPdf	10 48 07.8	+2.9
KOLS				*e*		10 48 18.2	
BRTR	**Keskin Array B**	**145.06**	**315**	PKPbc	PKPbc	10 48 07.2	+1.0
	7.1nm,0.7s,baz=126,slow=3.3,SNR=26						
ASF	**Jabal al Asfar**	**145.46**	**301**	PKPbc	PKPbc	10 48 07.9	+0.5
	7.5nm,0.7s,baz=92,slow=1.7,SNR=12						
CLL	**Collm**	**145.68**	**348**	⇓*i*PKP1	PKPbc	10 48 08.9	+1.6
UPC	**Upice**	**145.72**	**344**	*e*PKP	PKPdf	10 48 09.5	+3.6
DPC	**Dobruska-Polom**	**145.78**	**343**	*e*PKP	PKPdf	10 48 09.8	+3.7
BRG	**Berggiesshubel**	**145.89**	**346**	*e*P	PKPdf	10 48 09.9	+3.7
PVCC	**Panska Ves**	**146.06**	**345**	*e*PKP	PKPdf	10 48 10.7	+4.2
KECS	**Kecovo**	**146.09**	**338**	*e*PKP	PKPdf	10 48 10.7	+4.1
MLR	**Muntele Rosu**	**146.09**	**329**	PKPbc	PKPbc	10 48 10.3	+1.8
	3.8nm,0.6s,baz=357,slow=8.6,SNR=8.9						
PRU	**Prunonice**	**146.57**	**345**	*e*PKP	PKPdf	10 48 11.6	+4.2
VYHS	**Vyhne**	**146.66**	**339**	*e*PKP	PKPdf	10 48 12.4	+4.8
NKC	**Novy Kostel**	**146.81**	**348**	*e*PKP	PKPdf	10 48 12.5	+4.7
GRA1	**Grafenberg Arr**	**147.57**	**349**	*e*PKP	PKPdf	10 48 14.9	+5.8
GRF	**Grafenberg Arr**	**147.57**	**349**	*e*PKP	PKPdf	10 48 14.9	+5.8
KHC	**Kasperske Hory**	**147.60**	**346**	*e*PKP	PKPdf	10 48 14.4	+5.3
EIL	**Elat**	**147.70**	**297**	*e*PKPbc	PKPdf	10 48 15.6	+5.7
GERES	**GERESS Array B**	**147.84**	**345**	PKPbc	PKPdf	10 48 15.0	+5.5

baz=168,slow=16,SNR=50
FIA0 S Sn 10 39 34.5 -1.5
FIA0 Sg Sg 10 39 37.4 -5.4
comp=Z,2.9nm,0.2s
FINES FINESS Array B 2.21 347 Pn Pn 10 39 06.8 -0.9
comp=Z,1.8nm,0.3s,baz=163,slow=16,SNR=48
FINES Pg Pg 10 39 07.9 -5.4
comp=Z,1.8nm,0.3s,baz=164,slow=16,SNR=48
FINES Lg 10 39 36.9
comp=Z,2.3nm,0.3s,baz=165,slow=28,SNR=10
SUF Sumiainen 3.46 353 MSG 10 40 21.9
comp=Z,2.6nm,0.3s
HFS Hagfors 6.83 283 Pn Pn 10 40 06.8 -6.3
comp=Z,0.0nm,0.3s,baz=265,slow=18,SNR=2.5
HFS Lg 10 42 00.4
comp=Z,0.2nm,0.3s,baz=93,slow=30,SNR=7.0
NOA NORSAR Array B 8.11 289 Pn P 10 40 25.7 -5.3
comp=Z,0.1nm,0.3s,baz=74,slow=10,SNR=2.7
ARA0 ARCESS Array S 10.30 357 Pn P 10 40 55.2 -5.9
baz=183,slow=12
ARA0 Sn S 10 42 44.4 -14
baz=184,slow=22
ARA0 ARCESS Array S 10.30 357 *e*P P 10 40 55.2 -5.9
ARA0 *e*S S 10 42 44.4 -14
ARA0 ARCESS Array S 10.30 357 Pn P 10 40 55.2 -5.9
baz=183,slow=12,SNR=50
ARA0 Sn S 10 42 44.4 -14
baz=184,slow=21,SNR=50
ARCES ARCESS Array B 10.30 357 Pn P 10 40 55.3 -5.8
comp=Z,0.1nm,0.3s,baz=180,slow=12,SNR=5.0

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*IDC **07** 10:41:48.4±1.4,5.53N×93.36E,h30km±7km,mb3.9/6, mb1 4.1/7,mb1mx3.8/16,mbtmp4.0/7,Error ellipse: s-maj=50.6km s-min=18.2km az=58.0*
*NEIC **07** 10:41:48.6±0.7,5.50N×93.36E,mb4.5/1,Error ellipse: s-maj=23.4km s-min=13.7km az=66.0*
ISC 07 10:41:46.5±1.0,5.5N±0.1×93.4E±0.2,h30km, h30km±.7km:pP-P,n10,σ0$34/8,mb4.1/7,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.96**	**22**	Pn	**P**	**10 45 04.8**	**+0.1**
	baz=200,slow=31,SNR=2.7						
SONM	**Songino Array**	**43.61**	**13**	P	**P**	**10 49 49.8**	**-0.1**
	0.9nm,1.0s,mb3.5,baz=186,slow=8.8,SNR=5.6						
SONM				pP	pP	10 49 58.7	-0.2
	0.5nm,0.8s,baz=187,slow=10.0,SNR=3.3						
WRA	**Warramunga Arr**	**47.55**	**123**	P	**P**	**10 50 21.5**	**-0.1**
	1.7nm,0.6s,mb4.2,baz=301,slow=9.2,SNR=13						
WRA				pP	pP	10 50 30.4	-0.4
	4.0nm,1.1s,baz=301,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**49.02**	**128**	P	**P**	**10 50 33.0**	**0.0**
	0.8nm,0.7s,mb3.8,baz=304,slow=6.8,SNR=7.1						
ASAR				pP	pP	10 50 42.7	+0.5
	1.5nm,1.1s,baz=302,slow=8.0,SNR=4.2						
CHKZ	**Chkalovo**	**51.48**	**343**	*e*P	**P**	**10 50 51.1**	**-0.2**
	2.6nm,0.4s,mb4.5						
FINES	**FINESS Array B**	**74.44**	**333**	P	**P**	**10 53 22.8**	**-0.7**
	16nm,1.4s,mb4.8,baz=124,slow=6.9,SNR=6.5						
ARCES	**ARCESS Array B**	**77.22**	**340**	P	**P**	**10 53 39.4**	**+0.3**
	5.4nm,1.1s,mb4.4,baz=97,slow=5.9,SNR=7.9						
GERES	**GERESS Array B**	**79.09**	**319**	P	**P**	**10 53 50.3**	**+0.6**
	0.7nm,0.7s,mb3.7,baz=63,slow=3.0,SNR=3.9						
TXAR	**Lajitas Array**	**141.67**	**24**	PKP	PKPdf	11 01 19.4	-1.5
	0.1nm,0.5s,baz=349,slow=1.0,SNR=4.9						
TXAR	**Lajitas Array**	**141.67**	**24**	PKP	PKPdf	11 01 19.4	-1.5

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*IDC **07** 10:49:11.8±2.0,8.92N×93.82E,h13km±12km,mb5.1/25, mb1 5.2/26,mb1mx5.2/27,mbtmp5.2/26,ML4.7/1,MS4.7/23, Ms1 4.7/23,ms1mx4.5/27,Error ellipse: s-maj=19.9km s-min=10.0km az=45.0*
*BJI **07** 10:49:12.9,8.67N×93.25E,h42km,mB5.4,mb5.2,Ms5.1, Msz4.8*
*GUC **07** 10:49:14.5±0.0,8.81N×93.52E,h30km,mb5.6(NEIC), MS4.9(NEIC),MW5.3(NEIC)*
*HRVD **07** 10:49:14.3±0.2,8.89N×93.61E,h12km,MW5.2/60, Centroid moment Tensor Solution. LP body waves: s44,c69;Mantle waves: s60,c114; Half duration: 1±0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.79±.02; $M_{\theta\theta}$0.07±.01; $M_{\phi\phi}$0.71±.02; $M_{r\theta}$0.34±.05; $M_{\theta\phi}$0.24±.01; $M_{\phi r}$-0.14±.04; Best double couple: M_0.863×10^{17} NP1: ϕ_s218°,δ48°,λ-61°. NP2:ϕ_s358°,δ50°,λ-119°. Principal axes: T.797, Plg1°, Azm108°; N.133, Plg21°, Azm17°; P -.929, Plg69°, Azm200°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 10:49:14.3±0.1,8.77N×93.56E,h30km,mb5.5/115, MS4.9/90,MW5.3 Error ellipse: s-maj=5.6km s-min=3.8km az=214.0,Moment Tensor Solution. s12 Moment tensor: Scale 10^{16}Nm; M_{rr}-8.31; $M_{\theta\theta}$2.99; $M_{\phi\phi}$5.32; $M_{r\theta}$1.15; $M_{\theta\phi}$-4.79; $M_{\phi r}$2.44; Best double couple: $M_0$9.1×10^{16} NP1: ϕ_s306°,δ43°,λ-114°. NP2:ϕ_s157°,δ51°,λ-69°. Principal axes: T 9.18, Plg4°, Azm233°; N -.09, Plg16°, Azm324°; P -9.09, Plg73°, Azm129°;*
*MOS **07** 10:49:15.1±0.9,9.09N×93.37E,h33km,mb5.7/81, MS4.9/49 Error ellipse: s-maj=8.2km s-min=3.9km az=121.6*
ISC 07 10:49:11.3±0.8,8.76N±0.03×93.61E±0.03,h21km±5km, h21km±2.0km:pP-P,n604,σ1$07/529,mb5.5/163,MS4.9/129, 73C-43D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.00**	**344**	*e*P	**Pn**	**10 50 01.9**	**+3.1**
PBA				*e*		10 50 06.0	
PBA				*e*S	**Sn**	**10 50 34.4**	**-0.2**
SNG	**Songkhla**	**7.12**	**102**	P	**Pn**	**10 51 02.0**	**+5.0**
	724nm,1.0s						
NNT	**Nongplab**	**7.12**	**57**	P	**Pn**	**10 50 57.8**	**+0.7**
NST	**Nakhon Sawan**	**9.37**	**42**	P	**P**	**10 51 29.0**	**+0.6**
	217nm,0.6s						
CMAR	**Chiang Mai Arr**	**10.95**	**28**	Pn	**P**	**10 51 51.0**	**+1.0**
	1.6nm,0.3s,baz=216,slow=12,SNR=81						
CMAR				LR	LR	10 56 04.9	
	comp=Z,1μm,20.6s,baz=220,slow=39						
CHG	**Chiang Mai**	**11.26**	**27**	⇓P	**P**	**10 51 56.8**	**+2.5**
	77nm,1.2s						
NANT	**Nan**	**12.12**	**34**	⇑P	**P**	**10 52 08.0**	**+2.0**
	88nm,0.7s						
PALK	**Pallekele**	**12.87**	**264**	*e*P	**P**	**10 52 14.8**	**-1.2**
	125nm,1.1s						
VIS	**Vishakhapatnam**	**13.39**	**313**	*e*P	**P**	**10 52 20.1**	**-2.8**
MDRS	**Chennai**	**13.80**	**289**	⇑*e*P	**P**	**10 52 25.0**	**-3.4**
MDRS				*e*		10 54 46.0	
CAL	**Calcutta**	**14.61**	**340**	*e*P	**P**	**10 52 42.2**	**+3.3**
CAL				*e*		10 52 51.5	
CAL				*e*		10 55 16.9	
AGT	**Agartala**	**15.21**	**352**	⇑*i*P	**P**	**10 52 46.0**	**-0.8**
AGT				*i*		10 53 45.0	
IMP	**Imphal**	**15.94**	**1**	*e*P	**P**	**10 52 54.7**	**-1.5**
KOD	**Kodaikanal**	**15.99**	**277**	⇑*i*P	**P**	**10 52 56.0**	**-0.9**
KOD				*e*		10 53 08.8	
	comp=Z,273nm,1.2s						
TRD	**Trivandrum**	**16.46**	**270**	*e*P	**P**	**10 53 04.6**	**+1.7**
TRD				*i*		10 56 00.6	
BOK	**Bokaro**	**16.68**	**335**	⇑*i*P	**P**	**10 53 08.2**	**+2.6**
BOK				*i*S	**S**	**10 56 15.4**	**+6.0**
SHL	**Shillong**	**16.80**	**355**	⇑*i*P	**P**	**10 53 04.9**	**-2.2**
SHL				*e*		10 53 12.2	
	comp=Z,407nm,1.7s						
SHL				*i*		10 56 06.0	
SHL				*e*S	**S**	**10 56 18.0**	**+5.9**
HYB	**Hyderabad**	**16.99**	**302**	⇓*e*P	**P**	**10 53 09.5**	**-0.1**
HYB				*e*S	**S**	**10 56 12.5**	**-4.1**
HYB				pmax	pmax		
	comp=Z,388nm,1.4s						
HYB	**Hyderabad**	**16.99**	**302**	⇓*e*P	**P**	**10 53 09.5**	**-0.1**
	comp=Z,388nm,1.4s						
HYB				*e*S	**S**	**10 56 12.5**	**-4.1**
HYB	**Hyderabad**	**16.99**	**302**	⇓*i*P	**P**	**10 53 09.5**	**-0.1**
	comp=Z,388nm,1.4s						
HYB				*e*S	**S**	**10 56 12.5**	**-4.1**
HYB				LR	LR	10 58 38.0	
	comp=Z,4.9nm,20.0s						
BLSP	**Bilaspur**	**17.28**	**322**	*e*	**P**	**10 53 11.9**	**-1.2**
	comp=Z,297nm,0.9s						
BLSP				*e*		10 56 13.6	
QIZ	**Qiongzhong**	**18.76**	**55**	⇓*i*P	**P**	**10 53 34.2**	**+2.7**
QIZ				AP		10 53 42.0	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIZ				XP		10 53 49.0	
QIZ				S	**S**	**10 56 57.6**	**+0.9**
QIZ				AMB	AMB		
	comp=Z,1μm,4.2s						
QIZ				LR	LR		
	comp=N,11μm,11.8s						
QIZ				LR	LR		
	comp=E,5μm,12.9s						
QIZ				LR	LR		
	comp=Z,4μm,10.8s						
QIZ	**Qiongzhong**	**18.76**	**55**	P	**P**	**10 53 31.3**	**-0.2**
	comp=Z,491nm,1.6s						
MNGI	**Mangalore**	**18.91**	**284**	⇑*i*P	**P**	**10 53 35.6**	**+2.3**
MNGI				*e*		10 53 43.1	
	comp=Z,224nm,1.3s						
MNGI				*e*		10 56 56.9	
MNGI				*e*S	**S**	**10 57 06.1**	**+6.1**
LATR	**Latur**	**19.13**	**302**	*e*P	**P**	**10 53 36.2**	**+0.2**
ALBI	**Allahabad**	**19.93**	**327**	*e*P	**P**	**10 53 45.0**	**+0.1**
JIRN	**Jiri**	**20.07**	**341**	*e*P	**P**	**10 53 45.8**	**-0.5**
	comp=Z,2μm,1.3s						
PKI	**Pulchoki**	**20.25**	**339**	*e*P	**P**	**10 53 47.3**	**-1.0**
	comp=Z,3μm,1.3s						
MNCY	**Minicoy**	**20.35**	**270**	*i*	**P**	**10 53 54.0**	**+4.6**
MNCY				*i*		10 54 28.0	
DMN	**Daman**	**20.40**	**338**	*e*P	**P**	**10 53 49.2**	**-0.6**
	comp=Z,970nm,1.1s						
GUN	**Gumba**	**20.40**	**340**	*e*P	**P**	**10 53 49.2**	**-0.6**
	comp=Z,1μm,0.9s						
GOA	**Goa**	**20.46**	**291**	⇑*i*	**P**	**10 53 57.5**	**+7.0**
GOA				*e*		10 54 10.3	
	comp=Z,320nm,1.7s						
GOA				*e*S	**S**	**10 57 41.6**	**+8.2**
KKN	**Kakani**	**20.50**	**339**	*e*P	**P**	**10 53 50.0**	**-0.8**
	comp=Z,1μm,1.1s						
KAD	**Karad**	**20.73**	**296**	*e*P	**P**	**10 53 53.8**	**+0.5**
KAD				*e*		10 54 01.5	
	comp=Z,413nm,1.2s						
GKN	**Gorkha**	**20.93**	**337**	*e*P	**P**	**10 53 54.8**	**-0.5**
	comp=Z,1μm,0.8s						
LSA	**Lhasa**	**20.96**	**354**	P	**P**	**10 53 55.2**	**-0.4**
LSA				AP		10 54 10.1	
LSA				S	**S**	**10 57 42.8**	**-0.5**
LSA				AMB	AMB		
	comp=Z,60nm,0.8s						
LSA				AMB	AMB		
	comp=Z,460nm,3.8s						
LSA				LR	LR		
	comp=N,860nm,21.0s,MS4.5						
LSA				LR	LR		
	comp=E,2μm,21.0s,MS4.5						
LSA				LR	LR		
	comp=Z,2μm,21.1s,MS4.5						
LSA	**Lhasa**	**20.96**	**354**	*e*P	**P**	**10 53 54.4**	**-1.2**
LSA				pmax	pmax		
	comp=Z,163nm,0.8s						
LSA	**Lhasa**	**20.96**	**354**	*e*P	**P**	**10 53 54.4**	**-1.2**
	comp=Z,164nm,0.8s						
COCO	**West Island**	**21.06**	**171**	*e*P	**P**	**10 53 55.8**	**-0.8**
	comp=Z,246nm,1.2s,mb5.4						
KOLN	**Koldanda**	**21.14**	**335**	*e*P	**P**	**10 53 57.0**	**-0.4**
	comp=Z,2μm,1.3s,mb6.3						
BHPL	**Bhopal**	**21.16**	**315**	⇑*i*P	**P**	**10 53 58.7**	**+1.0**
BHPL				*i*		10 57 47.9	
	comp=Z,498nm,1.3s						
POO	**Poona**	**21.50**	**299**	*e*P	**P**	**10 54 01.5**	**+0.4**
POO				*e*		10 54 10.6	
	comp=Z,171nm,1.3s						
POO				*e*		10 57 52.3	
JHNI	**Jhansi**	**21.95**	**321**	⇑*i*P	**P**	**10 54 05.0**	**-0.5**
JHNI				*e*		10 54 31.0	
BOM	**Bombay**	**22.54**	**299**	*e*P	**P**	**10 54 12.2**	**+0.6**
BOM				*e*		10 54 29.0	
	comp=Z,238nm,1.3s						
BOM				*e*S	**S**	**10 58 17.9**	**+5.1**
NDI	**New Delhi**	**25.11**	**324**	⇑*i*P	**P**	**10 54 37.4**	**+0.9**
NDI				*e*		10 54 41.2	
	comp=Z,233nm,1.4s						
NDI				*e*S	**S**	**10 59 02.0**	**+4.9**
AJM	**Ajmer**	**25.18**	**317**	⇑*i*P	**P**	**10 54 39.0**	**+1.9**
DDI	**Dehra Dun**	**25.92**	**328**	*e*P	**P**	**10 54 42.9**	**-1.1**
DDI				*e*		10 58 06.1	
ENH	**Enshi**	**26.05**	**33**	*e*P	**P**	**10 54 45.0**	**-0.2**
	comp=Z,32nm,0.7s,mb5.0						
DGAR	**Diego Garcia**	**26.50**	**233**	PFAKE		10 55 00.0	+10
DGAR				LR	LR		
	comp=Z,548nm,19.0s,MS4.1						
SMLA	**Simla**	**27.02**	**328**	⇓*i*	sP	10 55 07.1	+4.0
SMLA				*e*		10 59 42.1	
TGY	**Tagaytay City**	**27.30**	**76**	LR	LR	11 05 06.6	
	comp=Z,2μm,20.0s,MS4.8,baz=270,slow=35						
BHK	**Bhakra**	**27.65**	**327**	*e*	**P**	**10 55 04.9**	**+5.1**
LZH	**Lanzhou**	**28.76**	**17**	⇑P	**P**	**10 55 10.1**	**+0.3**
LZH				AP	pP	10 55 18.1	+2.1
LZH				XP	sP	10 55 23.2	+4.4
LZH				S	**S**	**10 59 57.0**	**+0.4**
LZH				XS		11 00 18.2	
LZH				SS	SS	11 01 27.3	+3.2
LZH				AMB	AMB		
	comp=Z,140nm,1.2s,mb5.6						
LZH				AMB	AMB		
	comp=Z,870nm,4.9s						
LZH				LR	LR		
	comp=E,2μm,13.5s						
LZH				LR	LR		
	comp=Z,3μm,17.8s,MS5.0						
DLH	**Dalhousie**	**28.76**	**328**	*e*P	**P**	**10 55 11.0**	**+1.2**
XAN	**Xi'an**	**28.84**	**27**	P	**P**	**10 55 09.0**	**-1.5**
XAN				PP	PP	10 56 04.5	+0.6
XAN				S	**S**	**10 59 55.1**	**-2.9**
XAN				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.0						
XAN				AMB	AMB		
	comp=Z,186nm,7.4s						
XAN				LR	LR		
	comp=N,1μm,15.0s,MS4.8						
XAN				LR	LR		
	comp=E,1μm,15.3s,MS4.8						
XAN				LR	LR		
	comp=Z,2μm,15.6s,MS4.8						
WHN	**Wuhan**	**29.07**	**39**	*e*P	**P**	**10 55 13.7**	**+1.1**
WHN				LR	LR		
	comp=N,880nm,10.3s,MS5.2						
WHN				LR	LR		
	comp=E,3μm,12.6s,MS5.2						
WHN				LR	LR		
	comp=Z,4μm,10.0s,MS5.3						
TATO	**Taipei**	**31.07**	**55**	PFAKE		10 55 40.0	+10
TATO				LR	LR		
	comp=Z,2μm,21.0s,MS4.8						
DAV	**Davao City (W)**	**31.71**	**91**	*e*P	**P**	**10 55 40.0**	**+3.9**
NJ2	**Nanjing**	**32.95**	**42**	*e*P	**P**	**10 55 49.6**	**+2.8**
NJ2				AP	pP	10 55 59.3	+6.2
NJ2				XP	sP	10 56 04.1	+8.3
NJ2				PP	PP	10 56 59.1	+1.7
NJ2				S	**S**	**11 01 03.0**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,320nm,8.2s						
NJ2				LR	LR		
	comp=N,3μm,23.1s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,20.1s,MS5.0						
NJ2				LR	LR		
	comp=Z,3μm,19.8s,MS5.1						
SSE	**Sheshan**	**33.97**	**45**	P	**P**	**10 55 56.0**	**+0.3**
SSE				XP	sP	10 56 08.8	+4.1
SSE				S	**S**	**11 01 19.8**	**+1.4**
SSE				XS		11 01 36.3	
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,96nm,5.8s						
SSE				LR	LR		
	comp=N,565nm,21.4s,MS4.4						
SSE				LR	LR		
	comp=E,526nm,21.4s,MS4.4						
SSE				LR	LR		
	comp=Z,400nm,18.9s,MS4.2						
WMQ	**Urumqi**	**35.31**	**353**	*e*P	**P**	**10 56 08.0**	**+1.0**
WMQ				AP	pP	10 56 17.7	+4.4
WMQ				XP	sP	10 56 21.6	+5.6
WMQ				PP	PP	10 57 27.4	+0.9
WMQ				S	**S**	**11 01 38.3**	**-0.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ				XS		11 01 54.3	
WMQ				AMB	AMB		
	comp=Z,233nm,0.9s,mb6.1						
WMQ				AMB	AMB		
	comp=Z,329nm,5.2s						
WMQ				LR	LR		
	comp=N,2μm,18.0s,MS5.0						
WMQ				LR	LR		
	comp=E,1μm,20.3s,MS5.0						
WMQ				LR	LR		
	comp=Z,8μm,19.7s,MS5.5						
WBK	**Wadi Bani Khal**	**35.97**	**297**	⇑P	**P**	**10 56 15.6**	**+2.7**
JMDO	**Jabal Madar**	**36.67**	**296**	⇑P	**P**	**10 56 20.8**	**+2.1**
	SNR=8.5						
ULHL	**Ulahol**	**36.69**	**338**	P	**P**	**10 56 19.5**	**+0.8**
	SNR=23						
KZA	**Kyzart**	**36.92**	**337**	P	**P**	**10 56 20.8**	**+0.1**
	SNR=31						
BIDO	**Bidbid**	**36.98**	**298**	⇓P	**P**	**10 56 24.2**	**+2.9**
	SNR=14						
BJT	**Baijiatuau**	**37.07**	**29**	*e*P	**P**	**10 56 23.2**	**+1.3**
BJT				pmax	pmax		
	comp=Z,36nm,0.8s						
BJT	**Baijiatuau**	**37.07**	**29**	*e*P	**P**	**10 56 23.2**	**+1.3**
	comp=Z,36nm,0.8s,mb5.3						
UCH	**Uchtor**	**37.34**	**336**	P	**P**	**10 56 25.4**	**+1.2**
	SNR=45						
AAA	**Alma-Ata**	**37.34**	**340**	*d*i P	**P**	**10 56 24.0**	**-0.2**
AAA				MLR	MLR		
	comp=Z,700nm,16.0s,MS4.5						
JOW	**Kunigami**	**37.40**	**57**	LR	LR	11 11 38.8	
	comp=Z,1μm,21.9s,MS4.6,baz=281,slow=36						
TKM2	**Tokmak 2**	**37.52**	**338**	P	**P**	**10 56 26.2**	**+0.6**
	SNR=39						
KBK	**Karagaybulak**	**37.53**	**337**	P	**P**	**10 56 26.4**	**+0.6**
	SNR=37						
BSY	**Bisya**	**37.57**	**296**	⇓P	**P**	**10 56 29.3**	**+3.0**
	SNR=26						
AML	**Almayashu**	**37.59**	**335**	P	**P**	**10 56 26.8**	**+0.5**
	SNR=93						
AAK	**Ala-Archa**	**37.69**	**337**	P	**P**	**10 56 28.6**	**+1.5**
	SNR=52						
AAK	**Ala-Archa**	**37.69**	**337**	*d*i P	**P**	**10 56 25.8**	**-1.3**
AAK				pmax	pmax		
	comp=Z,176nm,1.9s,mb5.5						
AAK				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.0						
AAK	**Ala-Archa**	**37.69**	**337**	*e*P	**P**	**10 56 25.6**	**-1.5**
	comp=Z,161nm,1.3s,mb5.6						
AAK				LR	LR		
	comp=Z,536nm,20.0s,MS4.3						
HOQ	**Hoqain**	**37.71**	**297**	⇓P	**P**	**10 56 30.3**	**+2.9**
	SNR=23						
FRU	**Bishkek**	**37.81**	**337**	*i* P	**P**	**10 56 29.0**	**+0.9**
FRU				*e*		10 56 47.0	
FRU				pmax	pmax		
	comp=Z,360nm,2.0s,mb5.8						
FRU				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.1						
CHMS	**Chumysh**	**37.90**	**337**	P	**P**	**10 56 29.4**	**+0.6**
	SNR=31						
EKS2	**Erkin-Say**	**38.00**	**336**	P	**P**	**10 56 31.0**	**+1.4**
	SNR=36						
USP	**Ospenovka**	**38.23**	**337**	P	**P**	**10 56 31.1**	**-0.5**
	SNR=87						
ARQ	**Araqi**	**38.34**	**297**	⇓P	**P**	**10 56 35.5**	**+2.8**
	SNR=9.6						
MK02	**Makanchi Array**	**39.09**	**348**	P	**P**	**10 56 37.5**	**-1.3**
MK02				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.1						
MBWA	**Marble Bar**	**39.27**	**140**	*e*P	**P**	**10 56 39.5**	**-1.1**
	comp=Z,142nm,2.0s,mb5.3						
MBWA				LR	LR		
	comp=Z,896nm,20.0s,MS4.6						
RBK	**Rabkut**	**39.28**	**287**	⇑P	**P**	**10 56 41.9**	**+1.3**
	SNR=10						
WHFO	**Wadi Hawf**	**39.74**	**287**	⇑P	**P**	**10 56 45.9**	**+1.4**
	SNR=70						
ABTO	**Aybut**	**40.12**	**286**	⇑P	**P**	**10 56 49.8**	**+2.2**
	SNR=16						
SONM	**Songino Array**	**40.42**	**13**	P	**P**	**10 56 50.1**	**+0.3**
	comp=Z,29nm,0.7s,mb5.1,baz=197,slow=6.9,SNR=87						
SONM				PcP	PcP	10 58 53.1	-0.1
	comp=Z,4.3nm,0.6s,baz=202,slow=3.6,SNR=8.3						
SONM				ScP		11 02 41.0	
	comp=Z,2.3nm,0.8s,baz=189,slow=3.6,SNR=7.1						
ULN	**Ulaanbaatar**	**40.61**	**14**	*d*i P	**P**	**10 56 51.0**	**-0.3**
ULN	**Ulaanbaatar**	**40.61**	**14**	⇓*e*P	**P**	**10 56 50.6**	**-0.7**
	comp=Z,34nm,0.8s,mb5.0						
ULN				LR	LR		
	comp=Z,652nm,20.0s,MS4.5						
INCN	**Inchon**	**41.33**	**41**	PFAKE		10 57 10.0	+13
INCN				LR	LR		
	comp=Z,380nm,20.0s,MS4.3						
FITZ	**Fitzroy Crossi**	**41.38**	**130**	*e*P	**P**	**10 56 56.7**	**-1.2**
	comp=Z,13nm,1.0s,mb4.5						
SNY	**Shenyang**	**42.23**	**34**	⇑P	**P**	**10 57 04.7**	**0.0**
SNY				AP	pP	10 57 15.3	+4.2
SNY				XP	sP	10 57 19.4	+5.7
SNY				S	**S**	**11 03 26.8**	**+3.2**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
SNY				AMB	AMB		
	comp=Z,270nm,8.0s						
SNY				LR	LR		
	comp=N,750nm,15.6s,MS5.0						
SNY				LR	LR		
	comp=E,1μm,12.7s,MS5.0						
SNY				LR	LR		
	comp=Z,790nm,13.1s,MS4.8						
ZAK	**Zakamensk**	**42.26**	**9**	⇓*i*P	**P**	**10 57 05.2**	**+0.3**
ZAK				*e*		10 58 57.2	
MOY	**Mondy**	**43.21**	**7**	*e*P	**P**	**10 57 13.6**	**+1.0**
TLY	**Talaya**	**43.58**	**9**	*e*P	**P**	**10 57 15.7**	**+0.1**
TLY				*e*		10 58 55.2	
TLY				*e*S	**S**	**11 03 30.6**	**-13**
TLY				pmax	pmax		
	comp=Z,53nm,1.9s,mb5.0						
TLY				MLR	MLR		
	comp=Z,481nm,16.0s,MS4.5						
TLY	**Talaya**	**43.58**	**9**	*e*P	**P**	**10 57 15.9**	**+0.4**
	comp=Z,11nm,0.7s,mb4.7						
TLY				LR	LR		
	comp=Z,160nm,19.0s,MS4.0						
IRK	**Irkutsk**	**44.23**	**9**	*e*P	**P**	**10 57 21.1**	**+0.3**
IRK				*e*		10 59 06.5	
MUN	**Mundaring**	**45.91**	**153**	*e*P	**P**	**10 57 35.0**	**+0.5**
	comp=Z,80nm,1.0s,mb5.6						
MUN	**Mundaring**	**45.91**	**153**	*e*P	**P**	**10 57 35.0**	**+0.5**
MUN				pmax	pmax		
	comp=Z,80nm,1.0s,mb5.6						
HIA	**Hailar**	**45.92**	**24**	*e*P	**P**	**10 57 34.8**	**+0.4**
HIA				pmax	pmax		
	comp=Z,124nm,1.3s						
HIA	**Hailar**	**45.92**	**24**	*e*P	**P**	**10 57 34.8**	**+0.4**
	comp=Z,124nm,1.3s,mb5.7						
KLBR	**Kellerberrin**	**46.30**	**151**	*e*P	**P**	**10 57 37.1**	**-0.5**
	comp=Z,110nm,1.0s,mb5.7						
NVS	**Novosibirsk**	**46.70**	**352**	*e*P	**P**	**10 57 38.8**	**-1.6**
NVS				*e*		10 59 29.0	
NVS				*e*		11 07 31.1	
NVS				pmax	pmax		
	comp=N,231nm,1.7s						
NVS				pmax	pmax		
	comp=E,147nm,1.7s						
NVS				pmax	pmax		
	comp=Z,361nm,1.7s,mb6.0						
NWAO	**Narrogin (SRO)**	**47.17**	**153**	*e*P	**P**	**10 57 43.7**	**-0.8**
NWAO				pmax	pmax		
	comp=Z,121nm,1.1s						
NWA

MDJ AMB AMB
comp=Z,16nm,1.1s,mb4.9
MDJ AMB AMB
comp=Z,212nm,3.8s
MDJ LR LR
comp=N,664nm,14.6s,MS5.0
MDJ LR LR
comp=E,814nm,12.6s,MS5.0
MDJ LR LR
comp=Z,707nm,13.6s,MS4.8
BVA0 Borovoye Array 47.99 341 P **P** **10 57 49.8 -0.8**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s
BVAR Borovoye Array 47.99 341 P **P** **10 57 49.2 -1.5**
comp=Z,11nm,0.7s,mb5.0,baz=143,slow=7.4,SNR=61
BVAR ScP 11 03 11.8
comp=Z,5.6nm,0.9s,baz=149,slow=8.6,SNR=7.4
BRVK Borovoye 48.05 341 *e*P **P** **10 57 49.9 -1.2**
BRVK pmax pmax
comp=Z,43nm,1.0s,mb5.4
BRVK MLR MLR
comp=Z,245nm,20.0s,MS4.2
BRVK Borovoye 48.05 341 *e*P **P** **10 57 49.9 -1.2**
comp=Z,43nm,1.0s,mb5.4
BRVK LR LR
comp=Z,245nm,20.0s,MS4.2
CHKZ Chkalovo 48.47 342 *i* P **P** **10 57 53.0 -1.4**
CHKZ pmax pmax
comp=Z,80nm,1.2s,mb5.6
CHKZ Chkalovo 48.47 342 *e*P **P** **10 57 52.9 -1.4**
comp=Z,75nm,0.9s,mb5.7
MAJO Matsushiro 48.97 49 PFAKE 10 58 10.0 +12
MAJO LR LR
comp=Z,1μm,20.0s,MS4.8
MAT Matsushiro 48.97 49 P **P** **10 58 01.0 +2.6**
MAT S S 11 05 21.0 +21
MAT pmax pmax
comp=Z,44nm,1.4s,mb5.3
MAT MLR MLR
comp=Z,720nm,21.0s,MS4.6
MAT Matsushiro 48.97 49 P **P** **10 58 01.0 +2.6**
comp=Z,44nm,1.4s,mb5.3
MAT S S 11 05 21.0 +21
MAT LR LR
comp=Z,720nm,21.0s,MS4.6
MAT Matsushiro 48.97 49 P **P** **10 58 01.1 +2.7**
WRA Warramunga Arr 49.20 126 P **P** **10 57 58.5 -1.9**
comp=Z,6.6nm,0.5s,mb4.9,baz=305,slow=8.5,SNR=111
WRA PcP PcP 10 59 24.2 +0.4
comp=Z,13nm,1.1s,baz=307,slow=3.5,SNR=7.3
WRA ScP 11 03 15.4
comp=Z,2.1nm,0.9s,baz=312,slow=3.7,SNR=5.6
WRAB Tennant Creek 49.20 126 *i* P **P** **10 57 59.8 -0.7**
WRAB Tennant Creek 49.20 126 *e*P **P** **10 57 58.5 -2.0**
comp=Z,11nm,0.5s,mb5.1
WRAB LR LR
comp=Z,341nm,20.0s,MS4.3
WB2 Warramunga Arr 49.21 126 *e*P **P** **10 57 58.5 -2.0**
CBIJ Chichi jima 49.34 62 LR LR 11 16 20.3
comp=Z,301nm,21.1s,MS4.3,baz=256,slow=33
GUMO Guam 50.45 80 PFAKE 10 58 20.0 +10
GUMO LR LR
comp=Z,908nm,19.0s,MS4.8
ASPA Alice Springs 50.88 130 *e*P **P** **10 58 11.3 -1.9**
ASAR Alice Springs 50.88 130 P **P** **10 58 11.2 -2.1**
comp=Z,6.5nm,0.6s,mb4.7,baz=302,slow=7.3,SNR=72
ASAR PcP PcP 10 59 27.0 -2.9
comp=Z,9.5nm,0.9s,baz=308,slow=4.4,SNR=7.2
ASAR LR LR 11 22 39.4
comp=Z,416nm,19.5s,MS4.5,baz=298,slow=40
KLR Kul'dur 51.40 31 *e*P **P** **10 58 13.7 -3.1**
KLR *e*S **S** **11 05 29.5 -4.3**
KLR *e* 11 09 10.5
KLR pmax pmax
comp=Z,82nm,2.2s,mb5.3
BOD Bodaibo 51.42 14⇓ *i*P **P** **10 58 16.3 -0.5**
BHD Baghdad 51.43 306 *e*P **P** **10 58 09.0 -8.3**
BHD *e*S **S** **11 05 27.0 -7.5**
MAK Makhachkala 52.71 318 *d*P **P** **10 58 27.0 +0.2**
MAK *e* 10 59 31.8
MAK *e*S **S** **11 05 52.0 +0.2**
MAK *e*PS PS 11 06 09.0 +4.5
MAK *e* 11 08 08.0
MAK pmax pmax
comp=Z,1μm,4.0s
MAK smax
comp=N,600nm,6.0s
MAK smax
comp=E,1μm,6.0s
GNI Garni 53.45 314 *d*P **P** **10 58 31.9 -0.4**
GNI pmax pmax
comp=Z,141nm,1.7s
GNI MLR MLR
comp=Z,700nm,19.0s
GNI Garni 53.45 314 P **P** **10 58 32.8 +0.5**
comp=Z,279nm,1.4s,mb6.0,baz=42,slow=1.9,SNR=18
GNI LR LR 11 25 48.1
comp=Z,558nm,18.2s,MS4.7,baz=286,slow=41
GNI Garni 53.45 314⇓ *e*P **P** **10 58 31.8 -0.4**
comp=Z,323nm,1.5s,mb6.0
GNI LR LR
comp=Z,416nm,20.0s,MS4.5
CLNS Chul'man 53.80 21 *e*P **P** **10 58 34.1 -0.5**
CLNS *e**PP pP 10 58 40.9 -0.2
CLNS *e* 10 59 39.0
CLNS *e* 11 00 30.6
CLNS *e*S **S** **11 06 04.9 -1.5**
CLNS *e*SSS SSS 11 11 37.9 -1.8
CLNS pmax pmax
comp=Z,41nm,0.7s,mb5.5
CLNS pmax pmax
comp=N,17nm,0.9s
CLNS pmax pmax
comp=E,11nm,0.8s
CLNS pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS smax
comp=E,47nm,11.8s
CLNS smax
comp=Z,28nm,12.7s
CLNS smax
comp=N,130nm,12.0s
CLNS MLR MLR
comp=N,700nm,13.0s,MS4.9
CLNS MLR MLR
comp=E,100nm,13.0s,MS4.9
CLNS MLR MLR
comp=Z,1μm,13.0s,MS5.1
MTA Mtatsminda 54.00 316 P **P** **10 58 35.4 -0.9**
TI2 Plekhanov 54.05 316⇓ *i*P **P** **10 58 37.0 +0.4**
TI2 *e*S **S** **11 06 11.0 +1.0**
TI2 pmax pmax
comp=Z,110nm,0.8s,mb5.8
SVE Sverdlovsk 54.39 338 *e*P **P** **10 58 38.8 -0.1**
SVE *e* 11 00 40.7
SVE pmax pmax
comp=Z,210nm,2.0s,mb5.7
SVE MLR MLR
comp=Z,3μm,18.6s,MS5.3
AKH Akhalkalaki 54.80 315 P **P** **10 58 42.7 +0.6**
ARU Arti 54.88 337⇓ *i*P **P** **10 58 39.8 -2.7**
ARU *e* 10 59 39.5
ARU *e* 11 00 41.6
ARU *e*S **S** **11 06 19.4 -1.4**
ARU *e* 11 08 23.1
ARU *e*SS SS 11 10 03.7 -0.4
ARU pmax pmax
comp=Z,75nm,1.1s,mb5.6
ARU MLR MLR
comp=Z,2μm,20.5s,MS5.1
ARU MLR MLR
comp=N,1μm,20.0s,MS5.0
ARU MLR MLR
comp=E,900nm,19.0s,MS5.0
ONI Oni 55.27 316 P **P** **10 58 45.1 -0.4**
PMG Port Moresby 56.30 107 *d*P **P** **10 58 53.1 -0.2**
PMG Port Moresby 56.30 107 P **P** **10 58 52.1 -1.2**
comp=E,27nm,0.8s,mb5.3,baz=273,slow=5.8,SNR=8.6
PMG Port Moresby 56.30 107 *e*P **P** **10 58 53.7 +0.4**
comp=E,60nm,0.9s,mb5.6
PMG LR LR
comp=Z,325nm,21.0s,MS4.4

KIV Kislovodsk 56.31 318 P **P** **10 58 52.0 -1.1**
comp=Z,546nm,0.9s,SNR=25
KIV Kislovodsk 56.31 318 *d*P **P** **10 58 52.4 -0.7**
KIV *e* 10 59 45.9
KIV *e*S **S** **11 06 38.7 -1.5**
KIV pmax pmax
comp=Z,131nm,1.2s,mb5.8
KIV MLR MLR
comp=Z,500nm,22.0s,MS4.6
KIV Kislovodsk 56.31 318 *e*P **P** **10 58 52.1 -0.9**
comp=Z,90nm,0.9s,mb5.8
KIV LR LR
comp=Z,164nm,22.0s,MS4.1
YSS Yuzh-Sakhalins 56.42 38⇑ *i*P **P** **10 58 55.6 +1.8**
YSS S **S** **11 06 50.0 +8.4**
YSS pmax pmax
comp=E,40nm,0.9s
YSS pmax pmax
comp=Z,50nm,0.9s,mb5.5
YSS MLR MLR
comp=Z,400nm,14.0s,MS4.7
YSS MLR MLR
comp=N,1μm,16.0s
YSS Yuzh-Sakhalins 56.42 38 P **P** **10 58 52.9 -0.9**
comp=N,42nm,0.7s,mb5.6
GOF Gofitskoye 56.52 319⇓ *i*P **P** **10 58 53.5 -1.0**
GOF pmax pmax
comp=Z,60nm,1.3s,mb5.5
GOF MLR MLR
comp=Z,2μm,17.0s,MS5.3
KMBO Kilima Mbogo 57.00 263 *i* P **P** **10 59 00.8 +2.4**
KMBO pmax pmax
comp=Z,7.0nm,0.8s
KMBO Kilima Mbogo 57.00 263 P **P** **10 59 00.8 +2.3**
comp=Z,7.0nm,0.8s,mb4.7,baz=55,slow=9.8,SNR=24
KMBO PcP PcP 10 59 55.4 +2.2
comp=Z,7.3nm,0.9s,baz=40,slow=3.8,SNR=3.8
KMBO LR LR 11 21 51.4
comp=Z,1μm,18.2s,MS5.1,baz=95,slow=34
KMBO Kilima Mbogo 57.00 263 *e*P **P** **10 58 59.8 +1.3**
comp=Z,200nm,2.1s,mb5.8
KMBO LR LR
comp=Z,1μm,19.0s,MS5.0
ASF Jabal al Asfar 57.30 303 P **P** **10 58 59.8 -0.5**
comp=Z,22nm,0.8s,mb5.2,baz=340,slow=3.8,SNR=28
ASF PcP PcP 10 59 55.0 +0.9
comp=Z,15nm,1.0s,baz=276,slow=2.1,SNR=3.2
ASF LR LR 11 26 16.4
comp=Z,926nm,19.8s,MS4.9,baz=318,slow=39
MALT Malatya 57.49 310 *e*P **P** **10 59 00.3 -1.3**
MALT pmax pmax
comp=Z,94nm,1.3s,mb5.7
MALT Malatya 57.49 310 *e*P **P** **10 59 00.3 -1.3**
comp=Z,94nm,1.3s,mb5.7
SOKR Solikamsk 57.79 339⇓ *i*P **P** **10 59 01.5 -1.8**
SOKR pmax pmax
comp=Z,80nm,1.1s,mb5.7
SOKR MLR MLR
comp=Z,2μm,21.0s,MS5.2
SOC Sochi 58.18 316 *i* P **P** **10 59 02.9 -3.4**
SOC *e* 10 59 51.2
SOC *e* 11 01 14.9
SOC *e*S **S** **11 07 06.4 +1.6**
SOC *e*SS SS 11 10 47.4 -11
SOC pmax pmax
comp=Z,64nm,1.0s,mb5.6
SOC pmax pmax
comp=N,26nm,1.3s
SOC pmax pmax
comp=E,31nm,1.3s
SOC MLR MLR
comp=Z,852nm,22.0s,MS4.8
SOC MLR MLR
comp=N,660nm,23.0s,MS4.8
SOC MLR MLR
comp=E,491nm,20.0s,MS4.8
MKRJ Makawir 58.24 302 P **P** **10 59 07.3 +0.5**
KSHT Keshet 58.35 303 P **P** **10 59 08.1 +0.5**
MZDA Masada 58.43 301 P **P** **10 59 08.7 +0.5**
DRGI Dragot 58.45 302 P **P** **10 59 08.8 +0.4**
AQBJ Aqaba 58.46 299 P **P** **10 59 08.8 +0.4**
EIL Elat 58.53 299 P **P** **10 59 09.4 +0.5**
EIL Elat 58.53 299 *e*P **P** **10 59 08.4 -0.6**
comp=E,153nm,1.4s,mb5.8
MMLI Mount Malkishu 58.57 303 P **P** **10 59 09.9 +0.7**
MBH Mount Berech 58.58 300 P **P** **10 59 10.0 +0.7**
SLTI Sal'it 58.86 302 P **P** **10 59 12.9 +1.7**
HNTI Hanita 58.89 303 P **P** **10 59 12.1 +0.7**
OFRI 'Ofer 58.97 303 P **P** **10 59 12.4 +0.5**
CTA Charters Tower 59.20 120 *e*P **P** **10 59 13.7 0.0**
comp=E,12nm,1.1s,mb4.8
CTA *e* pP 10 59 18.6 -1.7
CTA Charters Tower 59.20 120 *e*P **P** **10 59 13.7 0.0**
CTA pmax pmax
comp=Z,12nm,1.1s
CTA Charters Tower 59.20 120 P **P** **10 59 12.6 -1.1**
comp=Z,14nm,1.1s,mb4.9,baz=299,slow=6.8,SNR=11
CTA LR LR 11 26 23.8
comp=Z,456nm,21.4s,MS4.6,baz=285,slow=38
CTAO Charters Tower 59.20 120 *e*P **P** **10 59 13.5 -0.2**
CTAO pmax pmax
comp=Z,33nm,1.1s,mb5.3
CTAO MLR MLR
comp=Z,709nm,22.0s,MS4.8
CTAO Charters Tower 59.20 120 *e*P **P** **10 59 13.5 -0.2**
comp=Z,33nm,1.1s,mb5.3
CTAO LR LR
comp=Z,709nm,22.0s,MS4.8
YAK Yakutsk 59.33 19 *e*P **P** **10 59 12.7 -1.3**
YAK *e**PP pP 10 59 25.2 +4.6
YAK *e* 11 00 01.1
YAK *e* 11 01 26.0
YAK *e*S **S** **11 07 18.5 -1.1**
YAK *e* 11 09 00.2
YAK *e*SS SS 11 11 11.7 -4.3
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK pmax pmax
comp=Z,34nm,0.9s,mb5.4
YAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK smax
comp=E,5.0nm,1.2s
YAK smax
comp=N,3.0nm,1.1s
YAK MLR MLR
comp=Z,338nm,12.0s,MS4.7
YAK MLR MLR
comp=N,203nm,11.0s,MS4.6
YAK MLR MLR
comp=E,164nm,14.0s,MS4.6
YAK Yakutsk 59.33 19 *e*P **P** **10 59 12.3 -1.7**
comp=E,63nm,0.8s,mb5.7
YAK LR LR
comp=Z,749nm,20.0s,MS4.8
ANN Anapa 60.13 317 *e*P **P** **10 59 22.0 +2.2**
ANN *e*S **S** **11 07 32.6 +2.5**
ANN pmax pmax
comp=Z,50nm,1.1s,mb5.5
CSS Prodhromos 60.74 305 *e*P **P** **10 59 23.3 -0.7**
comp=Z,188nm,1.6s,mb6.0
STKA Stephens Creek 61.09 134 *e*P **P** **10 59 24.7 -1.8**
comp=Z,8.9nm,0.9s,mb4.9
STKA Stephens Creek 61.09 134 P **P** **10 59 25.1 -1.4**
comp=Z,6.3nm,0.9s,mb4.8,baz=349,slow=8.0,SNR=6.7
STKA LR LR 11 29 15.3
comp=Z,961nm,20.1s,MS5.0,baz=294,slow=39
BRTR Keskin Array B 61.46 311 P **P** **10 59 27.1 -1.7**
BRTR 11 00 09.9
BRTR Keskin Array B 61.46 311 P **P** **10 59 27.1 -1.8**
comp=Z,43nm,0.8s,mb5.6,baz=123,slow=6.1,SNR=157
BRTR PcP PcP 11 00 09.8 -0.7
comp=Z,18nm,1.1s,baz=91,slow=3.0,SNR=3.1
SIM Simferopol' 62.43 316 *e*P **P** **10 59 34.4 -0.9**
SIM pmax pmax
comp=Z,50nm,0.9s,mb5.6
SIM Simferopol' 62.43 316⇑ *i*P **P** **10 59 34.5 -0.8**
MBAR Mbarara 63.31 265 *d*P **P** **10 59 41.7 +0.2**
MBAR Mbarara 63.31 265 *e*P **P** **10 59 41.8 +0.3**
comp=Z,96nm,1.7s,mb5.7

MBAR LR LR
comp=Z,333nm,21.0s,MS4.5
ISP Isparta 63.48 308 *e*P **P** **10 59 40.9 -1.4**
ISP Isparta 63.48 308 *e*P **P** **10 59 40.6 -1.7**
comp=Z,161nm,1.4s,mb6.0
MOS Moscow 64.06 329 *e*P **P** **10 59 44.2 -1.6**
MOS *e* 11 00 02.1
MOS *e* 11 00 17.0
MOS *e* 11 02 08.0
MOS *e*S **S** **11 08 20.0 +0.5**
MOS pmax pmax
comp=Z,800nm,2.1s,mb6.4
MOS pmax pmax
comp=Z,269nm,1.9s,mb6.0
MOS MLR MLR
comp=Z,1μm,19.0s,MS5.1
OBN Obninsk 64.35 328 *d*P **P** **10 59 46.0 -1.8**
OBN *e* 11 00 19.8
OBN *e* 11 02 07.2
OBN *i* S **S** **11 08 22.9 -0.3**
OBN pmax pmax
comp=Z,124nm,1.1s,mb5.8
OBN MLR MLR
comp=Z,1μm,22.0s,MS5.0
OBN Obninsk 64.35 328 *e*P **P** **10 59 46.0 -1.8**
comp=Z,158nm,1.3s,mb5.9
OBN LR LR
comp=Z,364nm,19.0s,MS4.6
MA2 Magadan 66.23 28 *d*P **P** **10 59 59.2 -0.6**
MA2 pmax pmax
comp=Z,74nm,1.6s,mb5.5
MA2 Magadan 66.23 28 *e*P **P** **10 59 59.5 -0.2**
comp=Z,123nm,1.4s,mb5.7
MA2 LR LR
comp=Z,359nm,20.0s,MS4.6
TIRR Tirgusor 66.26 315 P **P** **10 59 59.0 -1.2**
TIXI Tiksi 66.47 12⇓ *i*P **P** **10 59 58.0 -3.2**
TIXI *e*S S 11 08 43.7 -5.2
TIXI pmax pmax
comp=Z,57nm,0.8s,mb5.7
TIXI MLR MLR
comp=Z,376nm,15.0s,MS4.7
TIXI Tiksi 66.47 12 *i* Pr 10 59 59.5
TIXI LR LR
comp=Z,263nm,20.0s,MS4.4
KIS Kishinev 66.52 318 *e*P **P** **11 00 00.0 -1.8**
KIS *e* 11 02 31.0
CFR Carcaliu 66.60 315⇓ *i*P **P** **11 00 01.2 -1.2**
HARR Harsova 66.64 315⇓ *i*P **P** **11 00 01.5 -1.2**
PRD Provadia 66.75 313 P **P** **11 00 02.5 -0.9**
IDI Anoyia 67.63 304 P **P** **11 00 09.2 0.0**
comp=Z,56nm,0.8s,mb5.7,baz=82,slow=6.7,SNR=14
VRI Vrincioaia 67.70 316⇓ *i*P **P** **11 00 09.2 -0.2**
KDZ Kurdzhali 67.95 311 *i* P **P** **11 00 10.3 -0.7**
PET Petropavlovsk 68.13 36 *e*P **P** **11 00 11.9 0.0**
PET pmax pmax
comp=Z,17nm,0.8s,mb5.1
PET Petropavlovsk 68.13 36 *e*P **P** **11 00 11.8 -0.1**
comp=Z,18nm,0.8s,mb5.1
MLR Muntele Rosu 68.17 316 P **P** **11 00 12.5 +0.2**
MLR Muntele Rosu 68.17 316 P **P** **11 00 12.3 0.0**
comp=Z,67nm,0.9s,mb5.7,baz=104,slow=2.1,SNR=67
MLR LR LR 11 35 55.8
comp=Z,507nm,19.2s,MS4.8,baz=292,slow=41
PVL Pavlikeni 68.24 313 *i* P **P** **11 00 13.0 +0.2**
SEY Seymchan 68.35 25 *e*P **P** **11 00 13.9 +0.8**
SEY *e* 11 00 39.3
SEY *e* 11 02 46.2
SEY *e*S S 11 09 11.9 +0.4
SEY *e*PS PS 11 09 40.5 +1.3
SEY 11 10 09.1
SEY *e*SS SS 11 13 33.9 -2.7
SEY pmax pmax
comp=Z,60nm,1.3s,mb5.5
SEY pmax pmax
comp=E,20nm,1.2s
SEY MLR MLR
comp=Z,2μm,21.0s,MS5.4
SEY MLR MLR
comp=N,3μm,22.0s,MS5.5
SEY MLR MLR
comp=E,540nm,17.0s,MS5.5
RZN Rozhen 68.48 311 *i* P **P** **11 00 13.0 -1.3**
MNK Minsk 68.93 325⇑ *e*P **P** **11 00 12.0 -4.9**
MNK pmax pmax
comp=Z,550nm,1.0s,mb6.4
PGB Panagyurishte 69.00 312 *i* P **P** **11 00 16.0 -1.5**
LSZ Lusaka 69.07 250 *e*P **P** **11 00 18.8 +0.5**
LSZ pmax pmax
comp=Z,79nm,1.5s,mb5.4
LSZ MLR MLR
comp=Z,1μm,21.0s,MS5.0
LSZ Lusaka 69.07 250 *e*P **P** **11 00 18.8 +0.4**
comp=Z,79nm,1.5s,mb5.4
LSZ LR LR
comp=Z,1μm,21.0s,MS5.0
MMB Musomiste 69.20 311 *i* P **P** **11 00 17.5 -1.2**
VTS Vitosha 69.70 312 *i* P **P** **11 00 20.7 -1.1**
KKB Krupnik 69.71 311 *i* P **P** **11 00 20.2 -1.7**
IDID Didziasalis 69.75 326 *i* P **P** **11 00 21.0 -0.8**
IDID AMPb AMB 11 00 24.8
comp=Z,37nm,0.9s,mb5.3
JOF Joensuu 69.83 334 *e*p **P** **11 00 20.8 -1.4**
IIGN Ignalina 70.05 326 *e*P **P** **11 00 22.6 -1.0**
IIGN AMPb AMB 11 00 25.4
comp=Z,30nm,1.0s,mb5.2
IZAR Zarasai 70.13 326 *e*P **P** **11 00 23.0 -1.2**
IZAR AMPb AMB 11 00 30.9
comp=Z,33nm,1.7s,mb5.0
ISAL Salakas 70.15 326 *e*P **P** **11 00 23.0 -1.2**
ISAL AMPb AMB 11 00 26.0
comp=Z,25nm,1.0s,mb5.1
LVV L'vov 70.20 320 *e*P **P** **11 00 23.9 -0.8**
LVZ Lovozero 70.55 340⇑ *e*P **P** **11 00 26.1 -0.4**
VSU Vasula 70.56 329⇓ *e*P **P** **11 00 24.4 -2.3**
BOLS Boljevac 70.75 313⇓ *i*P **P** **11 00 27.3 -0.9**
APA Apatity 70.84 339⇓ *i*P **P** **11 00 27.9 -0.4**
APA pmax pmax
comp=Z,62nm,1.0s,mb5.5
APA MLR MLR
comp=Z,2μm,20.0s,MS5.4
SKO Skopje 70.94 311 *i* P **P** **11 00 27.6 -1.7**
SKO *i* pP 11 00 33.0 -3.0
KWP Kalwaria 71.02 319 *e*P **P** **11 00 29.3 -0.3**
KOLS Kolonicke sedl 71.20 319 *e*P **P** **11 00 30.2 -0.5**
KOLS *e*sP sP 11 00 45.7 +5.9
SVIS Svilajnac 71.33 314⇑ *i*P **P** **11 00 30.2 -1.5**
OHR Ohrid 71.35 310 *i* P **P** **11 00 29.6 -2.2**
SUW Suwalki 71.48 324 *e*P **P** **11 00 31.4 -1.0**
SUW Suwalki 71.48 324 *e*P **P** **11 00 31.4 -0.9**
GRUS Gruza 71.66 313⇓ *i*P **P** **11 00 32.8 -0.8**
FINES FINESS Array B 71.69 332 P **P** **11 00 32.6 -0.9**
comp=Z,22nm,0.8s,mb5.1,baz=103,slow=5.9,SNR=32
FINES LR LR 11 34 42.0
comp=Z,636nm,19.5s,MS4.9,baz=138,slow=38
CRVS Cervenica-Dubn 71.72 319 *e*P **P** **11 00 35.3 +1.4**
KAF Kangasniemi 71.77 333 *e*p **P** **11 00 32.5 -1.5**
comp=Z,20nm,0.7s,mb5.2,baz=104,slow=5.7
KAF Kangasniemi 71.77 333 *e*P **P** **11 00 32.5 -1.5**
KAF pmax pmax
comp=Z,20nm,0.7s,mb5.2
BEO Belgrade 71.93 314⇓ *i*P **P** **11 00 34.1 -1.1**
PVY Plav 72.08 312⇑ *i*P **P** **11 00 34.6 -1.5**
IVA Berane 72.16 312⇑ *i*P **P** **11 00 35.7 -0.9**
DIVS Divcibare 72.19 313⇑ *i*P **P** **11 00 34.9 -2.0**
KECS Kecovo 72.31 318 *e*P **P** **11 00 37.0 -0.4**
NIE Niedzica 72.53 319⇑ *i*P **P** **11 00 39.0 +0.3**
PLE Pljevlja 72.56 313⇑ *i*P **P** **11 00 39.0 0.0**
ULC Ulcinj 72.57 311⇑ *i*P **P** **11 00 37.9 -1.2**
TTG Podgorica 72.59 312⇑ *i*P **P** **11 00 37.7 -1.5**
PSZ Piszkesteto 72.64 317 *e*P **P** **11 00 38.4 -1.0**
PSZ pmax pmax
comp=Z,174nm,1.6s,mb5.7
PSZ Piszkesteto 72.64 317 *e*P **P** **11 00 38.4 -1.0**
comp=Z,174nm,1.6s,mb5.7
PSZ Piszkesteto 72.64 317⇑ *i* **P** **11 00 39.1 -0.3**
NKY Niksic 72.81 312⇑ *i*P **P** **11 00 39.0 -1.5**
BUM Brajici-Budva 72.85 312⇑ *i*P **P** **11 00 39.1 -1.7**
UPM Unac-Piva 72.91 312⇑ *i*P **P** **11 00 40.5 -0.6**
OJC Ojcow 72.96 320 *e*P **P** **11 00 40.6 -0.6**
BRY Bratogost 73.15 312⇑ *i*P **P** **11 00 41.4 -1.1**
HCY Herceg Novi 73.16 312⇑ *i*P **P** **11 00 41.4 -1.2**
VYHS Vyhne 73.40 318 *e*P **P** **11 00 43.1 -0.7**
VYHS *e* pP 11 00 48.9 -1.6

VYHS *e*PP PP 11 03 26.7 -2.7
SRO Srobarova 73.69 317 *e*P **P 11 00 45.7 +0.2**
SRO1 Iza 73.74 317 *e*P **P 11 00 46.1 +0.3**
KEV Kevo 73.83 341 *e*p **P 11 00 45.7 -0.2**
comp=Z,25nm,0.6s,mb5.3
KEV Kevo 73.83 341 *e*P **P 11 00 45.7 -0.2**
KEV pmax pmax
comp=Z,25nm,0.6s,mb5.3
RAC Raciborz 73.97 320 *e*P **P 11 00 47.9 +0.8**
OKC Ostrava-Krasne 73.98 319 *e*P **P 11 00 47.3 +0.2**
ARCES ARCESS Array B 74.26 340 P **P 11 00 48.1 -0.3**
comp=Z,45nm,1.0s,mb5.3,baz=94,slow=6.6,SNR=40
ARCES LR LR 11 36 31.6
comp=Z,2μm,19.8s,MS5.3,baz=99,slow=38
SMOL Smolenice 74.34 318 *e*P **P 11 00 49.5 +0.3**
TIP Timpagrande 74.34 308 *e*P **P 11 00 48.8 -0.6**
MORC Moravsky Berou 74.37 319 *e*P **P 11 00 48.9 -0.5**
MORC pmax pmax
comp=Z,81nm,1.1s,mb5.6
MORC Moravsky Berou 74.37 319 *e*P **P 11 00 48.9 -0.5**
comp=Z,81nm,1.1s,mb5.6
ZST Bratislava 74.53 318 *e*P **P 11 00 50.2 -0.1**
ZST *e* pP 11 00 54.9 -2.1
GKP Gorka Klasztor 74.88 323 *e*P **P 11 00 52.0 -0.2**
VRAC Vranov 74.94 319 P **P 11 00 52.9 +0.2**
VKA Vienna 75.06 318⇑ *i*P **P 11 00 53.4 0.0**
comp=Z,933nm,2.5s,mb6.3
VKA Vienna 75.06 318⇑ *i*P **P 11 00 53.4 0.0**
VKA pmax pmax
comp=Z,933nm,2.5s,mb6.3
DPC Dobruska-Polom 75.19 320 *e*P **P 11 00 54.4 +0.2**
KSP Ksiaz 75.25 320⇑ *e*P **P 11 00 54.4 -0.1**
KSP *e**PP pP 11 00 59.6 -1.5
KSP Ksiaz 75.25 320 *e*P **P 11 00 54.6 +0.2**
UPC Upice 75.40 320 *e*P **P 11 00 55.7 +0.4**
BILL Bilibino 75.47 22 *d*P **P 11 00 54.1 -1.3**
BILL *i* pP 11 01 00.3 -1.7
BILL *e*S S 11 10 31.7 -1.3
BILL pmax pmax
comp=Z,35nm,1.4s,mb5.1
BILL Bilibino 75.47 22 *e*P **P 11 00 53.6 -1.7**
comp=Z,62nm,1.5s,mb5.3
BILL LR LR
comp=Z,619nm,22.0s,MS4.9
GROS Grobnik 75.51 316 *e*P **P 11 00 55.7 -0.4**
GROS *e* 11 01 00.2
ARSA Arzberg 75.54 316⇑ *i*P **P 11 00 55.9 -0.3**
comp=Z,78nm,1.5s,mb5.4
BOJS Bojanci 75.65 315 *i*P **P 11 00 56.4 -0.5**
PERS Pernice 75.79 316 *e*P **P 11 00 57.4 -0.2**
VAE Valguarnera 76.17 306 P **P 11 01 01.2 +1.2**
comp=Z,19nm,0.3s,mb5.4,baz=130,slow=2.0,SNR=6.3
VAE LR LR 11 39 52.8
comp=Z,433nm,18.4s,MS4.8,baz=325,slow=40
LJU Ljubljana 76.17 315 *e*P **P 11 00 59.8 0.0**
LJU *e* 11 01 04.1
OBKA Obir 76.17 316⇑ *i*P **P 11 00 59.7 -0.1**
comp=Z,73nm,1.4s,mb5.4
PRU Pruhonice 76.32 319 *e*P **P 11 01 00.8 +0.3**
PVCC Panska Ves 76.33 320 *e*P **P 11 01 00.8 +0.2**
BSD Bornholm Skovb 76.40 325 *i*P **P 11 01 01.0 +0.1**
BSD pmax pmax
comp=Z,64nm,0.9s,mb5.5
BSD Bornholm Skovb 76.40 325 *i*P **P 11 01 01.0 +0.1**
comp=Z,64nm,0.9s,mb5.5
MOA Molln 76.41 317⇑ *i*P **P 11 01 00.8 -0.3**
comp=Z,47nm,1.2s,mb5.3
VOY Vojsko 76.62 315 *e*P **P 11 01 01.5 -0.8**
VOY *e* pP 11 01 10.2 +1.2
BRG Berggiesshubel 76.74 320⇑ *i*P **P 11 01 03.3 +0.4**
BRG pmax pmax
comp=Z,79nm,1.3s,mb5.5
BRG MLR MLR
comp=Z,680nm,18.4s,MS5.0
BRG Berggiesshubel 76.74 320⇑ *i*P **P 11 01 03.3 +0.4**
comp=Z,79nm,1.3s,mb5.5
BRG LR LR
comp=Z,680nm,18.4s,MS5.0
FX1 Attu Island--F 76.77 38 *e*P **P 11 01 02.2 -0.8**
GEC2 GERESS Array S 76.82 318 *e*P **P 11 01 03.8 +0.4**
GEC2 pmax pmax
comp=Z,90nm,1.1s,mb5.6
GEC2 GERESS Array S 76.82 318 *e*P **P 11 01 03.8 +0.4**
comp=Z,90nm,1.1s,mb5.6
GERES GERESS Array B 76.82 318 P **P 11 01 03.2 -0.2**
comp=Z,40nm,0.9s,mb5.3,baz=90,slow=5.3,SNR=114
KHC Kasperske Hory 76.91 318 *e*P **P 11 01 03.6 -0.2**
KHC *e* 11 01 07.0
KHC Kasperske Hory 76.91 318 *e*P **P 11 01 03.6 -0.2**
KHC x x 11 01 07.0
RUE Ruedersdorf 76.91 322 *e*P **P 11 01 03.7 -0.1**
comp=Z,213nm,1.3s,mb5.9
KBA Koelnbreinsper 77.02 316⇑ *i*P **P 11 01 03.6 -0.9**
comp=Z,39nm,0.9s,mb5.3
KBA Koelnbreinsper 77.02 316⇑ *i*P **P 11 01 03.6 -0.9**
KBA pmax pmax
comp=Z,39nm,0.9s,mb5.3
CLL Collm 77.35 321⇑ *i*P **P 11 01 06.2 0.0**
CLL *i* pP 11 01 11.1 -1.8
CLL pmax pmax
comp=Z,81nm,1.4s,mb5.5
CLL Collm 77.35 321⇑ *i*P **P 11 01 06.2 0.0**
comp=Z,81nm,1.4s,mb5.5
CLL *i* pP 11 01 11.1 -1.8
CLL Collm 77.35 321 ⇑P **P 11 01 06.2 0.0**
comp=Z,logA/T=1.8,mb5.5
CLL *i* *PP pP 11 01 11.1 -1.8
CLL *e*PP PP 11 03 46.0 -16
WET Wettzell 77.37 318 *e*P **P 11 01 06.9 +0.5**
WET pmax pmax
comp=Z,66nm,1.1s,mb5.5
WET Wettzell 77.37 318 *e*P **P 11 01 06.9 +0.5**
comp=Z,66nm,1.1s,mb5.5
NKC Novy Kostel 77.67 319 *e*P **P 11 01 08.5 +0.5**
COP Copenhagen 77.84 325 *i*P **P 11 01 10.1 +1.2**
COP pmax pmax
comp=Z,95nm,1.2s,mb5.6
COP Copenhagen 77.84 325 *i*P **P 11 01 10.1 +1.2**
comp=Z,95nm,1.2s,mb5.6
WTTA Wattenberg 78.18 316⇑ *i*P **P 11 01 10.1 -0.8**
comp=Z,81nm,1.1s,mb5.6
WTTA Wattenberg 78.18 316⇑ *i*P **P 11 01 10.1 -0.8**
WTTA pmax pmax
comp=Z,81nm,1.1s,mb5.6
MOX Moxa 78.21 320 *e*P **P 11 01 11.3 +0.3**
MOX pmax pmax
comp=Z,132nm,1.9s,mb5.5
MOX MLR MLR
comp=Z,500nm,18.0s,MS4.9
MOX Moxa 78.21 320 *e*P **P 11 01 11.3 +0.3**
comp=Z,132nm,1.9s,mb5.5
MOX LR LR
comp=Z,500nm,18.0s,MS4.9
MOX Moxa 78.21 320 *i*P **P 11 01 11.3 +0.3**
comp=Z,logA/T=1.8,mb5.5
MOX L 11 41 54.0
WATA Walderalm 78.22 317⇓ *i*P **P 11 01 09.7 -1.4**
comp=Z,40nm,1.1s,mb5.3
WATA Walderalm 78.22 317⇓ *i*P **P 11 01 09.7 -1.4**
WATA pmax pmax
comp=Z,40nm,1.1s,mb5.3
FUR Furstenfeldbru 78.42 317 *e*P **P 11 01 12.2 0.0**
FUR pmax pmax
comp=Z,59nm,1.0s,mb5.5
FUR Furstenfeldbru 78.42 317 *e*P **P 11 01 12.2 0.0**
comp=Z,59nm,1.0s,mb5.5
GRA1 Grafenberg Arr 78.46 319 *e*P **P 11 01 13.3 +1.0**
comp=Z,82nm,1.5s,mb5.4
GRA1 *e*pP pP 11 01 18.1 -1.0
GRF Grafenberg Arr 78.46 319 *e*P **P 11 01 13.3 +1.0**
GRF *e**PP pP 11 01 18.1 -1.0
GRF pmax pmax
comp=Z,82nm,1.5s,mb5.4
GRF Grafenberg Arr 78.46 319 *e*P **P 11 01 13.3 +1.0**
GRF *e**PP pP 11 01 18.1 -1.0
GRF pmax pmax
comp=Z,82nm,1.5s,mb5.4
GRF Grafenberg Arr 78.46 319 *e*P **P 11 01 13.3 +1.0**
comp=Z,82nm,1.5s,mb5.4
GRF *e*pP pP 11 01 18.1 -1.0
SQTA Sankt Quirin 78.47 316⇓ *i*P **P 11 01 11.6 -0.9**
comp=Z,41nm,1.0s,mb5.3
SQTA Sankt Quirin 78.47 316⇓ *i*P **P 11 01 11.6 -0.9**
SQTA pmax pmax
comp=Z,41nm,1.0s,mb5.3
MOTA Moosalm 78.55 317⇑ *i*P **P 11 01 12.1 -0.8**
comp=Z,40nm,1.1s,mb5.3
MOTA Moosalm 78.55 317⇑ *i*P **P 11 01 12.1 -0.8**
MOTA pmax pmax
comp=Z,40nm,1.1s,mb5.3
NB2 NORSAR Subarra 78.71 331 P **P 11 01 12.9 -0.6**
comp=Z,41nm,0.8s,mb5.4,baz=96,slow=5.0
NB2 NORSAR Subarra 78.71 331 P **P 11 01 12.9 -0.6**
baz=96,slow=5.3
NOA NORSAR Array B 78.71 331 P **P 11 01 13.0 -0.5**
comp=Z,39nm,0.8s,mb5.4,baz=93,slow=5.6,SNR=42
NOA LR LR 11 43 26.6
comp=Z,288nm,18.5s,MS4.6,baz=100,slow=41
CLZ Clausthal 79.00 321 *e*P **P 11 01 15.8 +0.5**
comp=Z,74nm,1.1s,mb5.5
BSEG Bad Segeberg 79.03 323 *e*P **P 11 01 16.1 +0.7**
MAIM 79.04 313 P **P 11 01 14.5 -1.1**
SARO Sassorosso 79.09 313 P **P 11 01 14.9 -1.0**
HDH Heidenheim 79.13 318⇑ *e*P **P 11 01 15.9 -0.2**
VALM 79.20 313 P **P 11 01 16.1 -0.4**
UBR Uberruh 79.22 317⇑ *e*P **P 11 01 16.5 0.0**
VINC Vinca 79.28 313 P **P 11 01 15.6 -1.3**
MAW Mawson 79.29 191 P **P 11 01 18.4 +1.9**
comp=Z,10nm,1.0s,mb4.7,baz=49,slow=13,SNR=4.0
MAW LR LR 11 32 33.6
comp=Z,222nm,18.6s,MS4.5,baz=172,slow=33
GRAM 79.33 314 P **P 11 01 16.8 -0.4**
BACM 79.33 313 P **P 11 01 15.7 -1.5**
DAVA Damuels 79.38 316⇑ *i*P **P 11 01 17.3 -0.1**
comp=Z,86nm,1.1s,mb5.6
CODM 79.48 314 P **P 11 01 17.9 -0.2**
SIND Sindeldorf 79.51 319⇑ *e*P **P 11 01 18.5 +0.4**
MUD Monsted U'grnd 79.69 326 *i*P **P 11 01 20.2 +1.3**
MUD pmax pmax
comp=Z,85nm,0.9s,mb5.7
MUD Monsted U'grnd 79.69 326 *i*P **P 11 01 20.2 +1.3**
comp=Z,85nm,0.9s,mb5.7
BUCH Bad Urach 79.70 318⇑ *e*P **P 11 01 19.4 +0.2**
STU Stuttgart 79.80 318 *e*P **P 11 01 19.6 -0.1**
STU pmax pmax
comp=Z,51nm,1.0s,mb5.4
STU Stuttgart 79.80 318 *e*P **P 11 01 19.6 -0.1**
comp=Z,51nm,1.0s,mb5.4
GUT Gutenstein 79.87 317⇑ *e*P **P 11 01 20.1 0.0**
TOD Tromm 80.03 319⇑ *e*P **P 11 01 21.3 +0.4**
LBG Lerchenberg 80.07 318⇑ *e*P **P 11 01 21.2 +0.1**
SPAK Spaichingen 80.09 317⇑ *e*P **P 11 01 21.6 +0.3**
SWS Schriesheim 80.10 319 *e*P **P 11 01 21.6 +0.3**
PGF Pioggiola 80.18 312 *e*P **P 11 01 21.5 -0.3**
comp=Z,120nm,1.3s,mb5.4
PGF Pioggiola 80.18 312 *e*P **P 11 01 21.5 -0.3**
PGF pmax pmax
comp=Z,60nm,1.3s,mb5.4
BFO Black Forest 80.39 318 *e*P **P 11 01 22.9 +0.1**
BFO pmax pmax
comp=Z,45nm,1.2s,mb5.3
BFO Black Forest 80.39 318 *e*P **P 11 01 22.9 +0.1**
comp=Z,45nm,1.2s,mb5.3
SUR Sutherland 80.40 235 *e*P **P 11 01 25.4 +2.2**
comp=Z,61nm,1.0s,mb5.5
PCP Pian Castagno 80.41 314 P **P 11 01 21.8 -1.2**
FELD Feldberg 80.63 317⇑ *e*P **P 11 01 24.3 +0.2**
FIN Finale Ligure 80.67 313 P **P 11 01 23.9 -0.5**
KIZ Kirchzarten 80.68 317⇑ *e*P **P 11 01 24.6 +0.2**
LANF Langenberg 80.71 318 *e*P **P 11 01 25.2 +0.7**
ORX Oropa 80.75 315 P **P 11 01 23.3 -1.5**
ABH Alteburg 80.83 319⇑ *e*P **P 11 01 25.9 +0.8**
LIBD Limburg 80.88 317 *e*P **P 11 01 25.9 +0.5**
LIBD Limburg 80.88 317 *e*P **P 11 01 26.2 +0.8**
ROB Rodeurent 80.91 314 P **P 11 01 24.9 -0.7**
IMI Imperia 80.92 313 P **P 11 01 25.4 -0.3**
TRAV 80.92 315 P **P 11 01 23.9 -1.8**
BBS Basel-Blauen 80.98 317 *e*P **P 11 01 26.3 +0.3**
MONE Monesi 81.00 313 P **P 11 01 26.3 +0.2**
WLS Welschbruch 81.03 318 *e*P **P 11 01 26.4 +0.2**
NEGI Negi 81.05 313 P **P 11 01 25.8 -0.6**
CDF Champ du Feu 81.09 318 *e*P **P 11 01 25.6 -0.9**
comp=Z,59nm,1.1s,mb5.1
CDF Champ du Feu 81.09 318 *e*P **P 11 01 25.6 -0.9**
CDF pmax pmax
comp=Z,30nm,1.1s,mb5.1
SAOF Saorge 81.15 313 *e*P **P 11 01 27.5 +0.6**
RUP Ruppelstein 81.16 319 *e*P **P 11 01 27.5 +0.7**
RUP Ruppelstein 81.16 319⇑ *e*P **P 11 01 27.6 +0.8**
ECH Echery 81.18 318 *e*P **P 11 01 27.1 +0.1**
MOF Molkenrain 81.21 317 *e*P **P 11 01 27.4 +0.2**
ENR Entracque 81.23 313 P **P 11 01 26.3 -1.1**
AUTN L'Aution 81.24 313 *e*P **P 11 01 28.1 +0.7**
SBF Sospel 81.25 313 *e*P **P 11 01 27.4 0.0**
comp=Z,149nm,1.1s,mb5.5
SBF Sospel 81.25 313 *e*P **P 11 01 27.4 0.0**
SBF pmax pmax
comp=Z,75nm,1.1s,mb5.5
RSP Reno Superiore 81.29 314 P **P 11 01 25.9 -1.7**
STV Sta Anna Valdi 81.30 313 P **P 11 01 26.3 -1.4**
BHB Bricherasio 81.31 314 P **P 11 01 25.9 -1.8**
LSD Ceresole Reale 81.34 315 P **P 11 01 27.9 0.0**
TOUF Mont Tournerai 81.37 313 *e*P **P 11 01 28.8 +0.7**
FENE Fenestrelle 81.44 314 P **P 11 01 27.4 -1.0**
PZZ Prazzo 81.44 314 P **P 11 01 27.4 -1.1**
LOMF Lomont 81.45 317 *e*P **P 11 01 28.7 +0.3**
OG01 Vacheresse 81.62 316 *e*P **P 11 01 28.0 -1.3**
LPG La Plagne 81.62 315 *e*P **P 11 01 29.2 -0.2**
comp=Z,141nm,1.0s,mb5.6
LPG La Plagne 81.62 315 *e*P **P 11 01 29.2 -0.2**
LPG pmax pmax
comp=Z,71nm,1.0s,mb5.5
RRL Cesana Torines 81.64 314 P **P 11 01 28.8 -0.7**
CALN Calern 81.65 313 *e*P **P 11 01 30.3 +0.8**
SURF Saint Ours 81.65 314 *e*P **P 11 01 30.4 +0.9**
MBDF Montbardon 81.66 314 *e*P **P 11 01 29.3 -0.3**
comp=Z,83nm,1.1s,mb5.3
MBDF Montbardon 81.66 314 *e*P **P 11 01 29.3 -0.3**
MBDF pmax pmax
comp=Z,41nm,1.1s,mb5.3
RSL Roselend 81.70 315 *e*P **P 11 01 30.4 +0.7**
HAU Haudompre 81.73 317 *e*P **P 11 01 29.5 -0.4**
comp=Z,153nm,1.1s,mb5.5
HAU *e*R
comp=Z,308nm,18.1s
HAU Haudompre 81.73 317 *e*P **P 11 01 29.5 -0.4**
HAU pmax pmax
comp=Z,76nm,1.1s,mb5.5
HAU MLR MLR
comp=Z,310nm,18.1s,MS4.7
WLF Walferdange 81.75 319 *e*P **P 11 01 30.7 +0.8**
WLF pmax pmax
comp=Z,166nm,1.7s,mb5.7
WLF Walferdange 81.75 319 *e*P **P 11 01 30.7 +0.7**
comp=Z,166nm,1.7s,mb5.7
THEF They Montfort 81.96 318 *e*P **P 11 01 31.2 +0.2**
GDM Grand'Maison 82.09 315 *e*P **P 11 01 32.5 +0.7**
OG25 Le Caire 82.19 314 *e*P **P 11 01 32.0 -0.3**
TAVF Tavernes 82.26 313 *e*P **P 11 01 33.7 +1.0**
OG05 Jujurieux 82.49 315 *e*P **P 11 01 34.5 +0.7**
PUYF Puyloubier 82.53 313 *e*P **P 11 01 34.7 +0.6**
BAIF Baives 82.97 320 *e*P **P 11 01 35.8 -0.5**
comp=Z,141nm,1.3s,mb5.5
BAIF Baives 82.97 320 *e*P **P 11 01 35.8 -0.5**
BAIF pmax pmax
comp=Z,70nm,1.3s,mb5.5
SSF Saint Saulge 83.73 317 *e*P **P 11 01 40.0 -0.2**
SSF pmax pmax
comp=Z,101nm,1.8s,mb5.7
SSF Saint Saulge 83.73 317 *e*P **P 11 01 40.0 -0.2**
comp=Z,101nm,1.8s,mb5.7
BGF Bois d'Agland 84.24 316 *e*P **P 11 01 42.4 -0.4**
comp=Z,259nm,1.5s,mb5.8
BGF Bois d'Agland 84.24 316 *e*P **P 11 01 42.4 -0.4**
BGF pmax pmax
comp=Z,130nm,1.5s,mb5.8
LRDF Laroque-de-Fa 84.89 313 *e*P **P 11 01 46.9 +0.8**
FILF Fillols 84.92 312 *e*P **P 11 01 47.5 +1.2**
RJF Les Rejaudoux 85.31 315 *e*P **P 11 01 47.8 -0.4**
comp=Z,100nm,1.2s,mb5.5
RJF *e*R
comp=Z,559nm,22.3s
RJF Les Rejaudoux 85.31 315 *e*P **P 11 01 47.8 -0.4**
RJF pmax pmax
comp=Z,50nm,1.2s,mb5.5
RJF MLR MLR
comp=Z,560nm,22.3s,MS4.9
VALF Valcebollere 85.34 312 *e*P **P 11 01 49.8 +1.4**
TNA Tin City 85.58 24 *e*P **P 11 01 49.5 +0.5**
comp=Z,14nm,1.1s,mb5.1
TNA LR LR
comp=Z,298nm,22.0s,MS4.6
JMIC Jan Mayen 85.71 341 LR LR 11 41 52.9
comp=Z,590nm,19.1s,MS5.0,baz=69,slow=37
EMIR Miracle 85.76 312 P **P 11 01 51.8 +1.3**
comp=Z,34nm,0.8s,mb5.6
SYO Syowa Base 86.09 197 ⇑P **P 11 01 53.0 +1.5**
SYO Syowa Base 86.09 197 ⇓pP pP 11 02 04.2 +5.9
FLN La Foliniere 86.17 319 *e*P **P 11 01 52.0 -0.4**
comp=Z,99nm,1.1s,mb5.7
FLN *e*R
comp=Z,389nm,20.8s
FLN La Foliniere 86.17 319 *e*P **P 11 01 52.0 -0.4**
FLN pmax pmax
comp=Z,50nm,1.1s,mb5.7
FLN MLR MLR
comp=Z,390nm,20.8s,MS4.8
EPOB Poblet 86.17 311 P **P 11 01 52.6 0.0**
comp=Z,29nm,0.9s,mb5.5
EIBI Ibiza 86.31 309 P **P 11 01 53.4 +0.1**
comp=Z,22nm,0.9s,mb5.4
DAG Danmarks Havn 86.51 348⇑ *e*P **P 11 01 52.4 -1.0**
DAG pmax pmax
comp=Z,30nm,1.6s,mb5.3
DAG Danmarks Havn 86.51 348⇑ *e*P **P 11 01 52.4 -1.0**
comp=Z,30nm,1.6s,mb5.3
DAG Danmarks Havn 86.51 348⇑ *i*P **P 11 01 52.4 -1.0**
comp=Z,30nm,1.6s,mb5.3
EGRA Graus 86.61 312 P **P 11 01 55.1 +0.4**
comp=Z,14nm,0.8s,mb5.2
EBIE Bielsa 86.67 313 P **P 11 01 55.1 +0.1**
comp=Z,10nm,0.9s,mb5.1
EBR Ebro Roquetas 86.69 311 *e*P **P 11 01 56.5 +1.4**
ESK Eskdalemuir 86.73 325 *e*P **P 11 01 55.4 +0.5**
ESK pmax pmax
comp=Z,47nm,0.8s,mb5.8
ESK Eskdalemuir 86.73 325 *e*P **P 11 01 55.4 +0.4**
comp=Z,47nm,0.8s,mb5.8
ERTA Horta de San J 86.79 311 P **P 11 01 56.8 +1.2**
comp=Z,21nm,0.9s,mb5.4
ANM Nome 86.86 25 *e*P **P 11 01 57.0 +1.6**
RPZ Rata Peaks 87.04 135 P **P 11 01 58.1 +1.4**
comp=Z,6.6nm,0.8s,mb4.9,baz=85,slow=9.2,SNR=4.5
ETSF Etsaut 87.14 313 *e*P **P 11 01 56.8 -0.5**
comp=Z,43nm,1.0s,mb5.3
ETSF Etsaut 87.14 313 *e*P **P 11 01 56.8 -0.5**
ETSF pmax pmax
comp=Z,22nm,1.0s,mb5.3
ESAC San Caprasio 87.27 312 P **P 11 01 58.6 +0.7**
comp=Z,28nm,0.9s,mb5.5
EMOS Mosqueruela 87.49 310 P **P 11 02 01.1 +2.1**
comp=Z,42nm,1.0s,mb5.6
EBEN Beniarda 87.56 309 P **P 11 02 01.0 +1.5**
comp=Z,11nm,0.8s,mb5.1
EALK Alkurruntz 87.78 313 P **P 11 02 02.1 +1.8**
comp=Z,22nm,0.9s,mb5.4
DLF Lyons Farm 89.05 324 *e*P **P 11 02 06.0 -0.2**
DMUB Kingscourt 89.13 324 *e*P **P 11 02 06.0 -0.5**
EVIA Vianos 89.33 309 P **P 11 02 09.2 +1.3**
EVIA pmax pmax
comp=Z,12nm,0.7s,mb5.3
EVIA Vianos 89.33 309 P **P 11 02 09.2 +1.3**
comp=Z,12nm,0.7s,mb5.3
DCN Croghan 89.48 324 *e*P **P 11 02 07.0 -1.2**
EQES Quesada 89.93 308 P **P 11 02 10.5 -0.2**
comp=Z,17nm,0.8s,mb5.4
EBER Berja 89.96 307 P **P 11 02 12.2 +1.4**
comp=Z,35nm,1.0s,mb5.7
GUD Guadarrama 90.20 311 P **P 11 02 13.4 +1.6**
GUD pmax pmax
comp=Z,22nm,0.9s,mb5.5
GUD Guadarrama 90.20 311 P **P 11 02 13.4 +1.6**
comp=Z,22nm,0.9s,mb5.5
ESDC Sonseca Array 90.25 310 P **P 11 02 13.1 +1.0**
comp=Z,17nm,0.9s,mb5.4,baz=59,slow=4.5,SNR=53
URZ Urewera 90.30 129 P **P 11 02 11.4 -0.9**
comp=Z,9.1nm,0.8s,mb5.2,baz=328,slow=4.0,SNR=4.0
URZ LR LR 11 44 13.5
comp=Z,498nm,20.6s,MS4.9,baz=324,slow=37
ERON Agron 90.65 307 P **P 11 02 16.1 +2.0**
EADA Adamuz 91.02 309 P **P 11 02 16.4 +0.7**
comp=Z,29nm,1.0s,mb5.6
EMIJ Mijas 91.50 307 P **P 11 02 18.1 +0.2**
EPON Pontenova 91.79 314 P **P 11 02 20.4 +1.3**
comp=Z,21nm,1.0s,mb5.4
ECAL Calabor 91.82 313 P **P 11 02 20.4 +1.2**
comp=Z,15nm,0.9s,mb5.3
PBRG Braganca 91.85 313 *e*P **P 11 02 20.5 +1.1**
comp=Z,35nm,1.4s,mb5.5
ERUA La Rua 92.00 313 P **P 11 02 21.8 +1.7**
ERUA pmax pmax
comp=Z,13nm,0.8s,mb5.3
ERUA La Rua 92.00 313 P **P 11 02 21.8 +1.7**
comp=Z,13nm,0.8s,mb5.3
EINC Incio 92.09 314 P **P 11 02 21.4 +0.9**
comp=Z,15nm,0.9s,mb5.3
ESPR Espera 92.29 308 P **P 11 02 22.0 +0.5**
comp=Z,29nm,1.1s,mb5.5
BORG Borgarnes 92.41 337 LR LR 11 49 34.0
comp=Z,414nm,18.9s,MS4.9,baz=218,slow=39
PVRL Vila Real 92.69 312 *e*P **P 11 02 24.5 +1.2**
comp=Z,54nm,1.7s,mb5.7
EMIN Mina Concepcio 92.72 309 P **P 11 02 24.6 +1.0**
comp=Z,13nm,0.8s,mb5.4
EBAD Badajoz 92.76 310 P **P 11 02 24.9 +1.2**
comp=Z,12nm,0.8s,mb5.4
MTE Manteigas 92.77 311 *e*P **P 11 02 25.6 +1.9**
comp=Z,69nm,1.5s,mb5.9
MTE Manteigas 92.77 311 *e*P **P 11 02 25.0 +1.3**
comp=Z,37nm,1.0s,mb5.8
ELOB Lobios 92.79 313 P **P 11 02 25.2 +1.4**
comp=Z,21nm,0.9s,mb5.6
PCBR Castelo Branco 92.86 311 *e*P **P 11 02 25.3 +1.2**
comp=Z,53nm,1.4s,mb5.8
STS Santiago 92.89 314 P **P 11 02 25.2 +1.0**
RAO Raoul Island 92.90 119 PFAKE 11 02 40.0 +15
RAO LR LR
comp=Z,592nm,22.0s,MS5.0
PVIS Viseu 92.95 312 *e*P **P 11 02 25.9 +1.4**
comp=Z,47nm,1.7s,mb5.7
SUMG Summit 93.17 347 *e*P **P 11 02 26.2 +1.4**
comp=Z,251nm,2.1s,mb6.3
EMAZ Mazaricos 93.18 314 P **P 11 02 25.7 +0.2**
EVO Evora 93.57 310 *e*P **P 11 02 27.3 -0.1**
comp=Z,121nm,1.8s,mb5.7
EVO *e*R
comp=Z,452nm,19.0s
PBEJ Beja 93.58 309 *e*P **P 11 02 28.8 +1.3**
PTOM Tomar 93.61 311 *e*P **P 11 02 30.3 +2.8**
comp=Z,70nm,1.6s,mb5.8
COLA College 93.72 22 *e*P **P 11 02 27.7 +0.3**
COLA pmax pmax
comp=Z,19nm,1.5s,mb5.3
COLA MLR MLR
comp=Z,232nm,20.0s,MS4.6
COLA College 93.72 22 *e*P **P 11 02 27.7 +0.2**
comp=Z,19nm,1.5s,mb5.3
COLA LR LR
comp=Z,232nm,20.0s,MS4.6
RSO Redoubt South 93.73 27 *e*P **P 11 02 29.3 +1.8**
SPU Mount Spurr 93.73 26 *e*P **P 11 02 28.2 +0.6**
MCK McKinley 93.86 23 *e*P **P 11 02 28.8 +0.7**
MCK pmax pmax
comp=Z,31nm,1.5s,mb5.5
MCK MLR MLR
comp=Z,294nm,20.0s,MS4.7
MCK McKinley 93.86 23 *e*P **P 11 02 28.8 +0.7**
comp=Z,32nm,1.5s,mb5.5
MCK LR LR
comp=Z,294nm,20.0s,MS4.7
VNDA Vanda 93.90 168 LR LR 11 41 36.2
comp=Z,433nm,19.1s,MS4.9,baz=304,slow=33
ILAR Eielson Array 94.13 22 P **P 11 02 28.5 -0.8**
comp=Z,2.8nm,0.7s,mb4.8,baz=292,slow=3.8,SNR=27
ILAR PP PP 11 06 14.4 -4.3
comp=Z,0.9nm,0.8s,baz=290,slow=4.9,SNR=4.1
ILAR PKKPbc 11 19 31.4
comp=Z,0.4nm,0.8s,baz=137,slow=1.8,SNR=4.2
ILAR LR LR 11 49 11.5
comp=Z,223nm,19.8s,MS4.6,baz=143,slow=38
PTEO Sao Teotonio 94.36 309 *e*P **P 11 02 33.3 +2.2**
FIB Fire Island 94.55 26 PFAKE 11 02 40.0 +8.6
FIB LR LR
comp=Z,1μm,22.0s,MS5.3
PMR Palmer 94.80 25 *e*P **P 11 02 33.3 +0.8**
SLKM Skilak Lake 94.83 26 *e*P **P 11 02 33.2 +0.5**

KDAK	**Kodiak Island**	**94.94**	**29**	*e*P	**P**		**11 02 33.8 +0.6**
	comp=Z,41nm,1.1s,mb5.8						
SML	**Sawmill**	**95.03**	**25**	*e*P	**P**		**11 02 34.3 +0.8**
MENT	**Mentasta**	**96.29**	**23**	*e*P	**P**		**11 02 41.0 +1.7**
INK	**Inuvik**	**96.29**	**16**	*e*P	**P**		**11 02 39.4 +0.2**
INK				pmax	pmax		
	comp=Z,55nm,1.4s						
INK	**Inuvik**	**96.29**	**16**	LR	LR		11 53 02.1
	comp=Z,259nm,21.8s,MS4.7,baz=181,slow=40						
INK	**Inuvik**	**96.29**	**16**	*e*P	**P**		**11 02 39.4 +0.2**
	comp=Z,54nm,1.4s,mb5.8						
DIV	**Divide**	**96.44**	**25**	PFAKE			11 02 50.0 +10
DIV				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
RES	**Resolute Bay**	**96.55**	**2**	*e*P	**P**		**11 02 41.2 +1.0**
RES				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.4						
RES	**Resolute Bay**	**96.55**	**2**	*e*P	**P**		**11 02 41.2 +1.0**
	comp=Z,13nm,0.9s,mb5.4						
DAWY	**Dawson**	**97.22**	**21**	*e*P	**P**		**11 02 43.7 +0.2**
DBIC	**Dimbokro**	**97.30**	**278**	P	**P**		**11 02 46.8 +1.8**
	comp=Z,14nm,1.0s,mb5.4,baz=70,slow=5.6,SNR=20						
DBIC				LR	LR		11 46 20.8
	comp=Z,613nm,19.6s,MS5.1,baz=58,slow=35						
QSPA	**South Pole Qui**	**98.66**	**180**	PFAKE			11 03 00.0 +10
QSPA				LR	LR		
	comp=Z,471nm,19.0s,MS5.0						
YKA	**Yellowknife Ar**	**105.69**	**13**	Pdiff	Pdif		11 03 22.3 +1.0
	comp=Z,1.1nm,1.0s,baz=326,slow=4.6,SNR=10						
YKA				PP	PP		11 07 41.0 -5.7
	comp=Z,1.2nm,0.8s,baz=332,slow=7.5,SNR=11						
YKA				PKKPbc			11 18 58.2
	comp=Z,0.4nm,0.8s,baz=151,slow=3.4,SNR=9.7						
YKA	**Yellowknife Ar**	**105.69**	**13**	Pdif	Pdif		11 03 22.3 +1.0
YKA				PP	PP		11 07 41.0 -5.7
YKA				PKKPbc			11 18 58.2
TRIS	**Tristan da Cun**	**107.92**	**234**	PFAKE			11 07 50.0
TRIS				LR	LR		
	comp=Z,750nm,19.0s,MS5.3						
PPT	**Papeete**	**118.08**	**105**	*e*PP	PP		11 08 47.1 -30
PPT				*e*PS	PS		11 19 04.0 +5.3
PPT				*e*LR	LR		11 43 41.8
	comp=Z,364nm,25.8s						
TBI	**Tubuai**	**118.11**	**112**	*e*LR	LR		11 43 59.7
	comp=Z,297nm,23.2s						
MSO	**Missoula**	**119.46**	**21**	*e*PKPdf	PKPdf		11 08 00.5 -3.3
MSO				LR	LR		
	comp=Z,246nm,19.0s,MS4.9						
CHMT	**Chamberlain Mo**	**119.63**	**21**	*e*PKPdf	PKPdf		11 08 01.9 -2.3
BMO	**Blue Mountains**	**119.80**	**25**	PFAKE			11 08 10.0 +5.5
BMO				LR	LR		
	comp=Z,366nm,22.0s,MS5.0						
WDC	**Whiskeytown Da**	**120.66**	**31**	PFAKE			11 08 20.0 +14
WDC				LR	LR		
	comp=Z,236nm,22.0s,MS4.8						
MOD	**Modoc**	**120.78**	**29**	*e*PKPdf	PKPdf		11 08 06.4 -0.2
MOD				LR	LR		
	comp=Z,330nm,19.0s,MS5.0						
DGMT	**Dagmar**	**120.89**	**14**	PFAKE			11 08 20.0 +13
DGMT				LR	LR		
	comp=Z,382nm,21.0s,MS5.0						
WVOR	**Wild Horse Val**	**121.15**	**27**	PFAKE			11 08 20.0 +13
WVOR				LR	LR		
	comp=Z,311nm,20.0s,MS5.0						
BOZ	**Bozeman (W)**	**121.29**	**20**	*e*PKIKP	PKPdf		11 08 05.3 -2.2
BOZ				MLR	MLR		
	comp=Z,305nm,20.0s,MS4.9						
LAO	**LASA Array**	**122.03**	**16**	*e*PKPdf	PKPdf		11 08 07.7 -1.1
LAO				LR	LR		
	comp=Z,440nm,20.0s,MS5.1						
HLID	**Hailey**	**122.04**	**24**	*e*PKPdf	PKPdf		11 08 07.1 -1.8
HLID				LR	LR		
	comp=Z,296nm,20.0s,MS4.9						
LKWY	**Lake**	**122.66**	**20**	PFAKE			11 08 20.0 +10
LKWY				LR	LR		
	comp=Z,427nm,19.0s,MS5.1						
MOOW	**Moose Ponds**	**123.26**	**21**	*e*PKPdf	PKPdf		11 08 09.3 -2.0
BMN	**Battle Mountai**	**123.38**	**28**	PFAKE			11 08 20.0 +8.4
BMN				LR	LR		
	comp=Z,322nm,19.0s,MS5.0						
LOHW	**Long Hollow**	**123.43**	**21**	*e*PKPdf	PKPdf		11 08 09.6 -2.1
WUWY	**Waliy Ulrich**	**123.44**	**21**	*e*PKPdf	PKPdf		11 08 09.5 -2.1
AHID	**Auburn Hatcher**	**123.98**	**22**	PFAKE			11 08 20.0 +7.2
AHID				LR	LR		
	comp=Z,335nm,21.0s,MS5.0						
NVAR	**Mina Array Bea**	**124.43**	**30**	PKP	PKPdf		11 08 12.3 -1.5
	comp=Z,2.1nm,0.7s,baz=8,9,slow=1.5,SNR=9.9						
NVAR	**Mina Array Bea**	**124.43**	**30**	PKP	PKPdf		11 08 12.3 -1.5
MNV	**Mina**	**124.50**	**30**	*e*PKIKP	PKPdf		11 08 12.2 -1.7
MNV				MLR	MLR		
	comp=Z,222nm,21.0s,MS4.8						
BW06	**Boulder Array**	**124.53**	**21**	*e*PKPdf	PKPdf		11 08 11.2 -2.7
BW06				LR	LR		
	comp=Z,506nm,19.0s,MS5.2						
PDAR	**Pinedale Array**	**124.53**	**21**	PKP	PKPdf		11 08 11.2 -2.7
	comp=Z,3.9nm,1.0s,slow=1.5,SNR=18						
PDAR				PKKPbc			11 17 53.2
	comp=Z,0.4nm,0.6s,baz=146,slow=5.3,SNR=4.0						
HWUT	**Hardware Ranch**	**124.81**	**23**	*e*PKPdf	PKPdf		11 08 12.0 -2.4
HWUT				LR	LR		
	comp=Z,246nm,19.0s,MS4.9						
WVL	**Waterville**	**124.81**	**345**	PFAKE			11 08 20.0 +5.7
WVL				LR	LR		
	comp=Z,6μm,21.0s						
TPH	**Tonopah**	**125.24**	**30**	PFAKE			11 08 20.0 +4.6
TPH				LR	LR		
	comp=Z,307nm,21.0s,MS5.0						
TRCR	**Troy Canyon**	**125.81**	**28**	PKPdf	PKPdf		11 08 15.0 -1.4
DAU	**Daniels Canyon**	**125.95**	**23**	*e*PKIKP	PKPdf		11 08 15.4 -1.2
NLU	**North Lily Min**	**126.02**	**24**	*e*PKPdf	PKPdf		11 08 15.0 -1.8
NCB	**Newcomb**	**126.37**	**349**	PFAKE			11 08 30.0 +13
NCB				LR	LR		
	comp=Z,608nm,20.0s,MS5.3						
DAC	**Darwin (Calif)**	**126.45**	**31**	PFAKE			11 08 30.0 +12
DAC				LR	LR		
	comp=Z,261nm,20.0s,MS4.9						
TAOE	**Nuku Hiva Isla**	**126.92**	**95**	*e*PP	PP		11 10 16.1 -0.6
TAOE				*e*LR	LR		11 47 47.0
MVU	**Marysvale**	**127.18**	**25**	*e*PKPdf	PKPdf		11 08 18.1 -0.9
MVU				LR	LR		
	comp=Z,356nm,19.0s,MS5.1						
MSU	**Marysvale**	**127.19**	**25**	*e*PKIKP	PKPdf		11 08 18.0 -1.0
HRV	**Harvard--Oak R**	**127.21**	**346**	PFAKE			11 08 30.0 +11
HRV				LR	LR		
	comp=Z,369nm,19.0s,MS5.1						
WES	**Weston**	**127.27**	**346**	PFAKE			11 08 30.0 +11
WES				LR	LR		
	comp=Z,1μm,22.0s,MS5.5						
SRU	**San Rafael**	**127.36**	**24**	*e*PKIKP	PKPdf		11 08 17.4 -2.0
BINY	**Binghamton**	**128.40**	**350**	PFAKE			11 08 30.0 +8.7
BINY				LR	LR		
	comp=Z,541nm,21.0s,MS5.2						
JFWS	**Jewell Farm**	**128.46**	**4**	PFAKE			11 08 30.0 +8.6
JFWS				LR	LR		
	comp=Z,458nm,20.0s,MS5.2						
ISCO	**Idaho Springs**	**128.51**	**19**	*e*PKIKP	PKPdf		11 08 20.0 -1.6
ISCO				MLR	MLR		
	comp=Z,310nm,20.0s,MS5.0						
PV10	**Paradox Valley**	**128.57**	**23**	*e*PKPdf	PKPdf		11 08 20.5 -1.2
ERPA	**Erie**	**129.03**	**354**	PFAKE			11 08 30.0 +7.5
ERPA				LR	LR		
	comp=Z,471nm,20.0s,MS5.2						
AAM	**Ann Arbor**	**129.13**	**357**	PFAKE			11 08 30.0 +7.3
AAM				LR	LR		
	comp=Z,466nm,20.0s,MS5.2						
RCBR	**Riachuelo**	**129.86**	**270**	PFAKE			11 08 30.0 +5.1
RCBR				LR	LR		
	comp=Z,327nm,20.0s,MS5.0						
SSPA	**Standing Stone**	**130.23**	**352**	PFAKE			11 08 30.0 +5.1
SSPA				LR	LR		
	comp=Z,118nm,22.0s,MS4.5						
SDCO	**Great Sand Dun**	**130.41**	**20**	PFAKE			11 08 30.0 +4.7
SDCO				LR	LR		
	comp=Z,565nm,19.0s,MS5.3						
ACSO	**Alum Creek Sta**	**131.16**	**357**	PFAKE			11 08 40.0 +13
ACSO				LR	LR		
	comp=Z,445nm,19.0s,MS5.2						
CBN	**Corbin**	**132.53**	**350**	PFAKE			11 08 40.0 +11
CBN				LR	LR		
	comp=Z,536nm,19.0s,MS5.3						
ANMO	**Albuquerque**	**132.57**	**23**	*e*PKIKP	PKPdf		11 08 28.2 -1.3
ANMO				MLR	MLR		
	comp=Z,336nm,19.0s						
LAZ	**Ladron**	**132.79**	**24**	*e*PKPdf	PKPdf		11 08 29.4 -0.5
TUC	**Tucson**	**132.99**	**29**	*e*PKIKP	PKPdf		11 08 29.1 -1.2
TUC				MLR	MLR		
	comp=Z,185nm,20.0s,MS4.8						
LENM	**Lemitar**	**133.06**	**24**	*e*PKPdf	PKPdf		11 08 29.5 -0.9
LPM	**Los Pinos Moun**	**133.06**	**23**	*e*PKPdf	PKPdf		11 08 29.6 -0.8
BNM	**Barren Site**	**133.21**	**23**	*e*PKPdf	PKPdf		11 08 29.3 -1.4
CCM	**Cathedral Cave**	**133.21**	**5**	PFAKE			11 08 40.0 +9.5
CCM				LR	LR		
	comp=Z,107nm,20.0s,MS4.6						
WCI	**Wyandotte Cave**	**133.26**	**360**	*e*PKIKP	PKPdf		11 08 27.4 -3.2
WCI				MLR	MLR		
	comp=Z,130nm,21.0s,MS4.6						
BLA	**Blacksburg**	**133.93**	**353**	PFAKE			11 08 40.0 +8.1
BLA				LR	LR		
	comp=Z,706nm,21.0s,MS5.4						
AMTX	**Amarillo**	**134.25**	**18**	PFAKE			11 08 40.0 +7.5
AMTX				LR	LR		
	comp=Z,632nm,20.0s,MS5.3						
WMOK	**Wichita Mounta**	**135.18**	**15**	PFAKE			11 08 40.0 +5.7
WMOK				LR	LR		
	comp=Z,390nm,20.0s,MS5.1						
WVT	**Waverly**	**135.33**	**2**	*e*PKIKP	PKPdf		11 08 32.0 -2.6
WVT				MLR	MLR		
	comp=Z,560nm,21.0s,MS5.3						
WVT	**Waverly**	**135.33**	**2**	*e*PKPdf	PKPdf		11 08 32.0 -2.6
WVT				*e*SKP			11 12 03.5
WVT				LR	LR		
	comp=Z,560nm,21.0s,MS5.3						
GDL2	**Guadalupe Moun**	**135.80**	**22**	*e*PKPdf	PKPdf		11 08 33.8 -1.7
MNTX	**Cornudas Mount**	**135.86**	**23**	*e*PKPdf	PKPdf		11 08 33.9 -1.7
MNTX				LR	LR		
	comp=Z,328nm,21.0s,MS5.0						
MIAR	**Mount Ida**	**136.40**	**9**	*e*PKIKP	PKPdf		11 08 34.1 -2.4
MIAR				MLR	MLR		
	comp=Z,476nm,20.0s,MS5.2						
NHSC	**New Hope**	**137.95**	**352**	PFAKE			11 08 50.0 +11
NHSC				LR	LR		
	comp=Z,471nm,22.0s,MS5.2						
GOGA	**Godfrey**	**137.97**	**356**	PFAKE			11 08 50.0 +11
GOGA				LR	LR		
	comp=Z,515nm,21.0s,MS5.2						
LRAL	**Lakeview Retre**	**138.44**	**1**	PFAKE			11 08 50.0 +10
LRAL				LR	LR		
	comp=Z,392nm,21.0s,MS5.1						
LTX	**Lajitas**	**138.63**	**23**	*e*PKIKP	PKPdf		11 08 38.4 -2.4
LTX				MLR	MLR		
	comp=Z,599nm,20.0s,MS5.3						
TXAR	**Lajitas Array**	**138.63**	**23**	PKhKP			11 08 29.0
	comp=Z,0.3nm,0.4s,baz=40,slow=1.5,SNR=13						
TXAR				PKP	PKPdf		11 08 38.3 -2.4
	comp=Z,1.7nm,0.6s,baz=274,slow=0.6,SNR=21						
TXAR				PP	PP		11 11 26.9 -4.7
	comp=Z,1.2nm,1.0s,baz=8.5,slow=5.2,SNR=3.6						
TXAR				SKPbc			11 12 12.9
	comp=Z,2.4nm,0.8s,baz=281,slow=2.6,SNR=7.7						
TXAR	**Lajitas Array**	**138.63**	**23**	PKP	PKPdf		11 08 38.3 -2.4
TXAR				PP	PP		11 11 26.9 -4.7
TXAR				SKPbc			11 12 12.9
JCT	**Junction City**	**138.92**	**18**	*e*PKHKP			11 08 30.9
JCT				*e*			11 08 39.0
JCT				MLR	MLR		
	comp=Z,471nm,20.0s,MS5.2						
NATX	**Nacogdoches**	**138.94**	**11**	PFAKE			11 08 50.0 +8.7
NATX				LR	LR		
	comp=Z,490nm,22.0s,MS5.2						
HKT	**Hockley**	**140.46**	**13**	*e*PKIKP	PKPdf		11 08 40.3 -3.8
HKT				MLR	MLR		
	comp=Z,105nm,19.0s,MS4.6						
BDFB	**Brasilia**	**141.91**	**256**	PKhKP			11 08 39.9
	comp=Z,8.5nm,0.9s,baz=132,slow=3.2,SNR=8.1						
DWPF	**Disney**	**143.04**	**353**	PFAKE			11 09 00.0 +18
DWPF				LR	LR		
	comp=Z,92nm,20.0s,MS4.5						
TRQA	**Tornquist**	**143.46**	**213**	*e*PKPdf	PKPdf		11 08 44.7 -4.3
TRQA				LR	LR		
	comp=Z,276nm,19.0s,MS5.0						
SJG	**San Juan**	**146.65**	**323**	*e*PKP2	PKPab		11 08 55.4 -0.3
SJG				MLR	MLR		
	comp=Z,525nm,20.0s						
TEIG	**Tepich**	**151.14**	**4**	*e*PKPbc	PKPdf		11 09 05.8 +3.7
TEIG				LR	LR		
	comp=Z,195nm,22.0s,MS4.9						
FCH	**Farellones**	**151.38**	**209**	*e*P	PKPdf		11 09 06.9 +4.7
SDV	**Santo Domingo**	**156.47**	**318**	*e*PKPdf	PKPdf		11 09 08.2 -1.5
SDV				*e*PKPab	PKPab		11 09 36.2 -0.5
SDV				LR	LR		
	comp=Z,215nm,20.0s,MS5.0						
LVC	**Limon Verde**	**158.29**	**229**	PKP	PKPdf		11 09 11.5 -0.4
	comp=Z,6.2nm,0.9s,baz=29,slow=9.1,SNR=4.3						
LVC				PKPab	PKPab		11 09 45.9 +1.7
	comp=Z,25nm,0.9s,baz=135,slow=3.1,SNR=16						
LVC	**Limon Verde**	**158.29**	**229**	*e*PKPdf	PKPdf		11 09 10.5 -1.3
LPAZ	**La Paz**	**160.68**	**245**	PKP	PKPdf		11 09 14.4 -0.2
	comp=Z,4.9nm,0.9s,baz=46,slow=3.6,SNR=18						
LPAZ				PKPab	PKPab		11 09 55.6 +1.0
	comp=Z,16nm,0.9s,baz=85,slow=4.6,SNR=17						
JTS	**JuntasAbangare**	**161.02**	**356**	PFAKE			11 09 20.0 +5.0
JTS				LR	LR		
	comp=Z,84nm,19.0s						
ROSC	**El Rosal**	**161.90**	**318**	PKP	PKPdf		11 09 15.7 -0.3
	comp=Z,13nm,0.8s,baz=271,slow=24,SNR=11						
ROSC				PKPab	PKPab		11 09 58.1 -2.0
	comp=Z,5.1nm,0.4s,baz=282,slow=23,SNR=2.3						
OTAV	**Otavalo**	**168.06**	**318**	*e*PKPdf	PKPdf		11 09 20.3 -1.0
OTAV				LR	LR		
	comp=Z,328nm,21.0s						

IDC 07 10:55:54.8±1.4, 6.76N×72.98W, h157km±36km, mb2.9/2, mb1 3.3/4, mb1mx3.0/19, mbtmp3.4/4, MS3.2/1, Ms1 3.2/1, ms1mx2.1/6, Error ellipse: s-maj=101.0km s-min=7.7km az=134.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.31**	**215**	P	P	10 56 36.3	+1.8
	15nm,0.3s,baz=96,slow=21,SNR=16						
ROSC				S	S	10 57 05.1	+0.2
	32nm,0.3s,baz=106,slow=17,SNR=13						
SDV	**Santo Domingo**	**3.15**	**48**	P	P	10 56 46.0	+1.0
	6.1nm,0.3s,baz=249,slow=4.4,SNR=74						
SDV				S	S	10 57 22.9	-0.5
	11nm,0.3s,baz=51,slow=21,SNR=27						
LVC	**Limon Verde**	**29.46**	**172**	LR	LR	11 15 44.2	
	comp=Z,47nm,20.4s,baz=214,slow=40						
TXAR	**Lajitas Array**	**36.61**	**312**	P	P	11 02 46.4	-1.3
	0.1nm,0.5s,baz=125,slow=11,SNR=2.8						
YKA	**Yellowknife Ar**	**63.37**	**340**	P	P	11 06 06.7	-2.7
	0.4nm,0.7s,baz=134,slow=6.5,SNR=18						

*IDC **07** 11:05:59.3±1.6, 6.87N×91.39E, mb3.8/5, mb1 4.0/6, mb1mx3.7/18, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=56.7km s-min=22.6km az=58.0*

ISC 07 11:06:03.5±1.1, 6.9N±0.1×91.7E±0.2, h33km, n11, σ0:71/11, mb4.1/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.48**	**31**	Pn	**P**	**11 09 14.6**	**-0.3**
	0.1nm,0.3s,baz=232,slow=14,SNR=21						
JIRN	**Jiri**	**21.31**	**346**	*e*P	**P**	**11 10 50.5**	**+0.8**
	50nm,0.8s,mb4.9						
PKI	**Pulchoki**	**21.42**	**345**	*e*P	**P**	**11 10 50.9**	**+0.1**
GUN	**Gumba**	**21.62**	**346**	*e*P	**P**	**11 10 53.2**	**+0.4**
	25nm,0.8s,mb4.7						
GKN	**Gorkha**	**22.04**	**343**	*e*P	**P**	**11 10 57.7**	**+0.7**
KOLN	**Koldanda**	**22.14**	**341**	*e*P	**P**	**11 10 58.5**	**+0.5**
	14nm,0.7s,mb4.5						
SONM	**Songino Array**	**42.67**	**15**	P	**P**	**11 13 58.4**	**-0.4**
	1.3nm,0.7s,mb3.8,baz=195,slow=8.6,SNR=13						
BVAR	**Borovoye Array**	**49.18**	**343**	P	**P**	**11 14 49.3**	**-0.9**
	1.1nm,0.7s,mb4.0,baz=146,slow=11,SNR=8.1						
WRA	**Warramunga Arr**	**49.70**	**123**	P	**P**	**11 14 55.0**	**+0.2**
	1.0nm,1.0s,mb3.8,baz=305,slow=8.5,SNR=9.4						
ASAR	**Alice Springs**	**51.18**	**128**	P	**P**	**11 15 06.4**	**+0.4**
	0.4nm,0.8s,mb3.4,baz=302,slow=8.0,SNR=4.5						
FINES	**FINESS Array B**	**72.46**	**333**	P	**P**	**11 17 26.6**	**-1.7**
	1.3nm,0.7s,mb4.0,baz=101,slow=7.1,SNR=5.8						

IDC 07 11:07:58.0±5.5, 5.39N×68.09E, mb4.1/3, mb1 4.2/3, mb1mx3.6/17, mbtmp4.1/3, Error ellipse: s-maj=407.2km s-min=32.9km az=44.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**68.23**	**334**	P	P	11 19 00.4	-2.2
	5.8nm,0.9s,baz=135,slow=12,SNR=5.3						
WRA	**Warramunga Arr**	**69.78**	**113**	P	P	11 19 11.5	-1.2
	1.3nm,0.8s,baz=290,slow=5.6,SNR=4.6						
ASAR	**Alice Springs**	**70.32**	**117**	P	P	11 19 13.4	-2.5
	0.6nm,0.8s,baz=291,slow=6.1,SNR=5.4						
TXAR	**Lajitas Array**	**144.58**	**348**	PKP	PKPdf	11 27 37.1	-2.0
	0.5nm,0.6s,baz=38,slow=3.1,SNR=6.7						

*IDC **07** 11:22:48.9±13.0, 52.46N×163.97W, mb3.4/4, mb1 3.7/5, mb1mx3.5/21, mbtmp3.4/5, ML3.5/1, Error ellipse: s-maj=237.3km s-min=38.0km az=79.0*
*NEIC **07** 11:23:03.4, 53.06N×162.06W, h26km, ML3.5(AEIC), After AEIC.*

ISC 07 11:23:02.2±1.0, 53.04N±0.06×162.07W±0.09, h34km±13km, n35, σ0:61/40, mb3.3/3, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRIA	**Deer Island**	**1.94**	**357**	P	**P**	**11 23 33.3**	**0.0**
FALS	**False Pass**	**1.99**	**337**	P	**P**	**11 23 33.7**	**-0.4**
FALS				S	**S**	**11 23 58.1**	**+0.1**
SSLS	**Shishaldin Sou**	**2.03**	**327**	P	**P**	**11 23 35.0**	**+0.4**
SSLS				S	**S**	**11 24 00.2**	**+1.2**
WESE	**West Dahl East**	**2.07**	**315**	P	**P**	**11 23 35.2**	**-0.1**
DT1	**Dutton Round H**	**2.08**	**357**	P	**P**	**11 23 34.7**	**-0.6**
DT1				S	**S**	**11 23 59.7**	**-0.6**
SSLN	**Shishaldin Nor**	**2.11**	**328**	P	**P**	**11 23 36.5**	**+0.7**
DOL	**Dolgoi Island**	**2.12**	**3**	P	**P**	**11 23 35.5**	**-0.4**
DOL				S	**S**	**11 24 00.6**	**-0.7**
DTNA	**Dutton South F**	**2.12**	**357**	P	**P**	**11 23 35.7**	**-0.2**
SSLW	**Shishaldin Wes**	**2.12**	**326**	P	**P**	**11 23 36.0**	**+0.1**
WESS	**West Dahl Sout**	**2.14**	**314**	P	**P**	**11 23 35.9**	**-0.3**
WESS				S	**S**	**11 24 01.1**	**-0.7**
WESN	**West Dahl Nort**	**2.14**	**317**	P	**P**	**11 23 36.4**	**+0.2**
BALA	**Baldy Mountain**	**2.20**	**349**	P	**P**	**11 23 37.7**	**+0.6**
WPOG	**Pogromni**	**2.23**	**316**	P	**P**	**11 23 38.0**	**+0.5**
WTUG	**Tugumak**	**2.27**	**324**	P	**P**	**11 23 38.0**	**-0.1**
HAG	**Hague Volcano**	**2.29**	**2**	P	**P**	**11 23 38.6**	**+0.3**
PVV	**Pavlof Volcano**	**2.35**	**4**	P	**P**	**11 23 39.3**	**+0.2**
PS1A	**Pavlof South-1**	**2.40**	**4**	P	**P**	**11 23 40.5**	**+0.6**
PN6	**Pavlof North-6**	**2.42**	**2**	P	**P**	**11 23 41.5**	**+1.2**
AHB	**Akutan Harbor**	**2.48**	**297**	P	**P**	**11 23 41.0**	**-0.1**
AKGG	**Akutan Green G**	**2.61**	**298**	P	**P**	**11 23 42.9**	**-0.1**
UNV	**Unalaska Valle**	**2.77**	**289**	P	**P**	**11 23 44.4**	**-0.8**
MTBL	**Makushin Table**	**2.91**	**291**	P	**P**	**11 23 47.4**	**+0.2**
MSW	**Makushin Switc**	**2.95**	**289**	P	**P**	**11 23 47.7**	**-0.1**
OKFG	**Magazine Ridge**	**3.53**	**278**	P	**P**	**11 23 55.5**	**-0.5**
ANPK	**Aniakchak Peak**	**4.44**	**29**	P	**P**	**11 24 07.7**	**-1.3**
KDAK	**Kodiak Island**	**7.19**	**45**	P	**P**	**11 24 43.6**	**-4.0**
ILAR	**Eielson Array**	**14.08**	**27**	Pn	**P**	**11 26 24.7**	**+3.7**
	0.1nm,0.3s,baz=222,slow=13,SNR=5.6						
DAWY	**Dawson**	**16.08**	**38**	*e*P	**P**	**11 26 47.1**	**+0.2**
INK	**Inuvik**	**20.42**	**31**	P	**P**	**11 27 37.8**	**-0.9**
	1.2nm,0.5s,baz=228,slow=11,SNR=18						
YKA	**Yellowknife Ar**	**26.43**	**50**	P	**P**	**11 28 37.3**	**+0.1**
	0.2nm,0.5s,mb3.0,baz=264,slow=8.5,SNR=15						
YKA	**Yellowknife Ar**	**26.43**	**50**	P	**P**	**11 28 37.3**	**+0.1**
BW06	**Boulder Array**	**35.91**	**85**	P	**P**	**11 30 01.7**	**+0.8**
PDAR	**Pinedale Array**	**35.91**	**85**	P	**P**	**11 30 00.2**	**-0.6**
	0.5nm,0.7s,mb3.5,baz=304,slow=5.3,SNR=5.2						
MNTX	**Cornudas Mount**	**45.61**	**95**	P	**P**	**11 31 21.2**	**+0.4**
TXAR	**Lajitas Array**	**48.34**	**95**	P	**P**	**11 31 42.2**	**0.0**
	0.2nm,0.7s,mb3.3,baz=291,slow=5.2,SNR=4.0						

IDC 07 11:40:20.5±7.7, 3.28N×94.74E, mb3.2/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.6/1, Error ellipse: s-maj=230.6km s-min=34.2km az=70.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**8.55**	**347**	*e*P	P	11 42 18.7	-10
PBA				*e*S		11 42 31.8	
PBA				*e*		11 42 33.0	
	comp=E,572nm,0.5s						
PBA				*e*		11 42 33.1	
	comp=N,543nm,0.3s						
CMAR	**Chiang Mai Arr**	**15.64**	**15**	Pn	P	11 44 04.7	+0.6
	comp=N,0.1nm,0.3s,baz=211,slow=12,SNR=5.8						
WRA	**Warramunga Arr**	**45.22**	**122**	P	P	11 48 39.7	-1.9
	comp=N,0.2nm,0.7s,baz=316,slow=12,SNR=2.8						
SONM	**Songino Array**	**45.51**	**11**	P	P	11 48 41.5	-2.1
	comp=N,0.5nm,0.7s,baz=190,slow=8.4,SNR=4.9						

IDC 07 11:51:25.1±2.7, 10.76N×91.01E, mb3.7/4, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, ML3.6/1, MS3.1/1, Ms1 3.3/1, ms1mx3.0/16, Error ellipse: s-maj=102.5km s-min=24.9km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.84**	**44**	Pn	P	11 54 05.3	+0.7
	0.1nm

ISC 07 11:56:01.3±1.0, 7.2N±0.1×93.8E±0.2, h30km, n8, σ0§59/8, mb3.9/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.31	24	P	P	11 58 58.3	+0.7
	0.1nm,0.3s,baz=216,slow=14,SNR=9.8						
SONM	Songino Array	41.93	13	P	P	12 03 50.0	-1.0
	0.3nm,0.5s,mb3.2,baz=200,slow=8.0,SNR=4.3						
WRA	Warramunga Arr	48.17	125	P	P	12 04 41.0	-0.2
	1.7nm,0.5s,mb4.3,baz=305,slow=8.6,SNR=12						
ASAR	Alice Springs	49.76	129	P	P	12 04 53.6	+0.2
	0.8nm,0.5s,mb4.0,baz=302,slow=8.0,SNR=13						
CHKZ	Chkalovo	50.02	342	eP	P	12 04 54.5	-0.5
	0.6nm,0.4s,mb4.0						
FINES	FINESS Array B	73.15	332	P	P	12 07 30.7	-0.1
	2.0nm,0.8s,mb4.1,baz=117,slow=9.3,SNR=3.4						
ARCES	ARCESS Array B	75.80	340	P	P	12 07 45.8	-0.1
	2.8nm,0.8s,mb4.2,baz=96,slow=8.2,SNR=3.5						
GERES	GERESS Array B	78.09	318	P	P	12 08 00.0	+1.0
	0.4nm,0.7s,mb3.5,baz=72,slow=3.1,SNR=3.4						

WEL 07 12:05:46.0±0.1, 42.82S×173.23E, h33km, ML3.5/13, 7C-1D, Error ellipse: s-maj=1.6km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.46	30	⇑PN	Pn	12 05 55.6	-0.5
KHZ				SN	Sn	12 06 02.3	-0.8
KHZ				SN	Sn	12 06 02.4	-0.8
LTZ	Lake Taylor	0.71	272	⇓PN	Pn	12 05 59.6	-0.1
LTZ				SN	Sn	12 06 08.6	-0.9
CRLZ	Canterbury Las	0.88	210	PN	Pn	12 06 01.8	-0.4
CRLZ				SN	Sn	12 06 12.3	-1.6
MQZ	McQueen's Vall	0.99	205	⇑PN	Pn	12 06 02.9	-0.8
MQZ				SN	Sn	12 06 15.0	-1.6
THZ	Tophouse	1.08	347	⇑PN	Pn	12 06 04.1	-0.9
THZ				SN	Sn	12 06 16.9	-2.0
BSWZ	Blackbirch Sta	1.20	24	⇑PN	Pn	12 06 06.4	-0.3
BSWZ				SN	Sn	12 06 21.3	-0.7
TUWZ	Tuamarina	1.48	21	PN	Pn	12 06 09.8	-0.9
TUWZ				SN	Sn	12 06 27.1	-2.1
DSZ	Denniston Nort	1.50	315	⇑PN	Pn	12 06 10.4	-0.6
DSZ				SN	Sn	12 06 27.7	-2.0
NNZ	Nelson	1.60	4	⇑PN	Pn	12 06 11.7	-0.7
NNZ				SN	Sn	12 06 31.4	-0.8
RPZ	Rata Peaks	1.83	240	⇑PN	Pn	12 06 14.9	-0.8
RPZ				SN	Sn	12 06 35.0	-2.9
WVZ	Waitaha Valley	1.85	261	PN	Pn	12 06 15.5	-0.5
WVZ				SN	Sn	12 06 35.1	-3.4
BHW	Baring Head	1.86	42	PN	Pn	12 06 14.4	-1.8
BHW				SN	Sn	12 06 35.0	-3.8
WEL	Wellington	1.91	37	PN	Pn	12 06 15.4	-1.5
WEL				SN	Sn	12 06 36.9	-3.2
MRW	Makara Radio	1.93	35	ePN	Pn	12 06 15.7	-1.4
MRW				SN	Sn	12 06 36.9	-3.5
MSWZ	Moikau Station	2.05	48	SN	Sn	12 06 39.7	-4.0
QRZ	Quartz Range	2.05	345	PN	Pn	12 06 18.2	-0.8
QRZ				SN	Sn	12 06 41.2	-2.5
CAW	Cannon Point	2.19	39	PN	Pn	12 06 18.9	-2.0
CAW				SN	Sn	12 06 42.9	-4.2
KIW	Kapiti Island	2.32	33	ePN	Pn	12 06 21.0	-1.8
KIW				SN	Sn	12 06 46.5	-4.0
MTW	Mount Morrison	2.37	46	ePN	Pn	12 06 20.8	-2.7
MTW				SN	Sn	12 06 46.6	-5.1
FOZ	Fox Glacier	2.70	253	ePN	Pn	12 06 26.6	-1.6
FOZ				SN	Sn	12 06 54.7	-5.3
LBZ	Lake Benmore	2.71	234	ePN	Pn	12 06 27.2	-1.2
LBZ				SN	Sn	12 06 56.6	-3.9
MRZ	Mangatainoka R	2.78	40	ePN	Pn	12 06 26.5	-2.8
MRZ				SN	Sn	12 06 56.7	-5.4
ODZ	Otahua Downs	2.91	219	ePN	Pn	12 06 29.5	-1.6
ODZ				SN	Sn	12 07 00.6	-4.8
WAZ	Wanganui	3.33	24	ePN	Pn	12 06 36.1	-1.0
WAZ				eSN	Sn	12 07 12.4	-3.6
JCZ	Jackson Bay	3.49	247	ePN	Pn	12 06 38.0	-1.4
JCZ				eSN	Sn	12 07 17.5	-2.6
EAZ	Earnscleugh	3.72	228	ePN	Pn	12 06 41.1	-1.6
EAZ				eSN	Sn	12 07 21.0	-4.9
VRZ	Vera Road	3.86	18	ePN	Pn	12 06 43.8	-0.9
VRZ				SN	Sn	12 07 25.3	-4.2
TUVZ	Tukino	3.99	28	ePN	Pn	12 06 44.6	-1.9
TUVZ				eSN	Sn	12 07 30.2	-2.4
WPVZ	Whakapapa	4.01	27	SN	Sn	12 07 38.2	-5.0
NGZ	Ngauruhoe	4.05	27	ePN	Pn	12 06 45.4	-2.0
NGZ				eSN	Sn	12 07 29.9	-4.5
TUZ	Tuapeka	4.06	218	PN	Pn	12 06 45.4	-2.1
TUZ				SN	Sn	12 07 28.5	-6.1
BKZ	Black Stump Fm	4.40	35	ePN	Pn	12 06 48.5	-3.9
BKZ				eSN	Sn	12 07 36.6	-6.5
HIZ	Hauiti	4.47	17	ePN	Pn	12 06 51.6	-1.8
HIZ				eSN	Sn	12 07 37.4	-7.5

IDC 07 12:27:46.8±3.9, 10.72N×92.91E, mb3.9/3, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=109.7km s-min=27.2km az=80.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	9.66	37	Pn	P	12 30 07.0	-3.3
	0.2nm,0.3s,baz=222,slow=15,SNR=4.1						
SONM	Songino Array	38.70	15	P	P	12 35 12.3	-1.8
	0.5nm,1.0s,baz=191,slow=7.3,SNR=3.2						
WRA	Warramunga Arr	50.91	127	P	P	12 36 50.1	-2.1
	2.8nm,0.7s,baz=305,slow=9.2,SNR=13						
ASAR	Alice Springs	52.67	131	P	P	12 37 03.5	-2.0
	2.6nm,0.6s,baz=301,slow=7.6,SNR=20						

*IDC **07** 12:29:52.2±3.2, 12.71N×93.51E, mb3.7/3, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=86.4km s-min=28.0km az=81.0*

ISC 07 12:29:52.1±1.6, 13.1N±0.1×93.3E±0.2, h33km, n9, σ1§00/9, mb3.6/3, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	Nongplab	6.26	94	P	P	12 31 30.0	+5.5
CMAR	Chiang Mai Arr	7.59	45	Pn	Pn	12 31 44.5	+1.2
	0.4nm,0.3s,baz=237,slow=15,SNR=26						
CHG	Chiang Mai	7.84	43	PG	P	12 31 47.0	+0.5
CHG				SG	rx	12 32 11.0	
CHRT	Chiangrai	9.14	42	⇓P	P	12 32 02.5	-2.2
	174nm,1.0s						
IMP	Imphal	11.64	3	e	P	12 32 38.1	-0.8
SHL	Shillong	12.48	354	e	P	12 32 51.0	+0.8
SHL				e		12 34 56.0	
SONM	Songino Array	36.31	15	P	P	12 37 01.2	+6.7
	1.2nm,1.2s,mb3.7,baz=201,slow=6.6,SNR=3.4						
WRA	Warramunga Arr	52.02	128	P	P	12 39 00.6	-0.3
	0.5nm,0.5s,mb3.7,baz=302,slow=9.9,SNR=5.8						
ASAR	Alice Springs	53.93	132	P	P	12 39 15.3	+0.2
	0.5nm,0.7s,mb3.5,baz=316,slow=6.5,SNR=4.7						

*IDC **07** 12:30:27.6±0.8, 14.34N×93.35E, mb3.9/12, mb1 4.1/13, mb1mx4.0/21, mbtmp4.0/13, ML4.4/1, Error ellipse: s-maj=44.5km s-min=15.9km az=50.0*
*NEIC **07** 12:30:32.4±0.5, 14.47N×93.46E, h30km, mb4.4/6, Error ellipse: s-maj=14.3km s-min=10.5km az=63.0*
*BJI **07** 12:30:33.1, 14.19N×93.35E, h57km, mB4.8, mb4.5, Ms4.0, Msz3.9*

ISC 07 12:30:31.5±1.2, 14.43N±0.07×93.27E±0.06, h38km±11km, n46, σ1§15/50, mb4.2/19, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	Nakhon Sawan	6.74	79	P	P	12 32 10.0	-0.5
CMAR	Chiang Mai Arr	6.75	53	Pn	P	12 32 12.4	+1.7
	1.8nm,0.3s,baz=240,slow=15,SNR=15						
CMAR				Sn	S	12 33 20.9	-6.4
	2.8nm,0.3s,baz=239,slow=16,SNR=5.2						
NANT	Nan	8.34	58	P	P	12 32 37.0	+4.3
BWNR	Bhubaneshwar	9.21	310	e	P	12 33 00.0	+15
KKTK	Khon Kaen	9.40	77	P	P	12 32 49.0	+1.5
	340nm,0.8s						
VIS	Vishakhapatnam	10.10	290	eP	P	12 32 56.0	-1.2
VIS				eS	S	12 34 41.0	-9.4
VIS				e		12 34 48.3	
	comp=N,281nm,0.7s						
VIS				e		12 34 48.3	
	comp=E,144nm,0.6s						
BLSP	Bilaspur	13.05	308	eP	P	12 33 38.0	+1.0
BLSP				eS	S	12 35 53.6	-8.3
PALK	Pallekele	14.24	241	ePn	P	12 33 54.1	+1.3
HYB	Hyderabad	14.46	284	eP	P	12 34 01.5	+5.8
HYB				eS	S	12 36 27.5	-8.1
HYB	Hyderabad	14.46	284	i P	P	12 34 01.5	+5.8
HYB				eS	S	12 36 27.5	-8.1
JIRN	Jiri	14.72	335	eP	P	12 33 58.7	-0.2
	comp=E,56nm,0.8s						
PKI	Pulchoki	14.98	332	eP	P	12 34 02.4	0.0
GUN	Gumba	15.07	334	eP	P	12 34 02.5	-1.0
	comp=E,83nm,0.9s						
DMN	Daman	15.16	331	eP	P	12 34 03.8	-0.8
	comp=E,52nm,0.6s						
KKN	Kakani	15.23	332	eP	P	12 34 05.5	-0.1
	comp=E,36nm,0.7s						
LSA	Lhasa	15.32	353	eP	P	12 34 12.0	+5.3
LSA	Lhasa	15.32	353	eP	P	12 34 04.6	-2.1
	comp=E,19nm,0.8s						
GKN	Gorkha	15.71	331	eP	P	12 34 11.3	-0.4
	comp=E,47nm,0.5s						
KOLN	Koldanda	16.04	327	eP	P	12 34 15.5	-0.4
	comp=E,94nm,0.9s						
BHPL	Bhopal	17.36	303	eP	P	12 34 36.2	+3.6
BHPL				e		12 34 40.1	
	comp=Z,8.3nm,0.2s						
KAD	Karad	18.58	281	eP	P	12 34 54.0	+6.1
KAD				e		12 38 03.5	
POO	Poona	19.06	285	e	P	12 35 02.0	+8.5
POO				i		12 38 15.0	
NDI	New Delhi	20.56	316	eP	P	12 35 09.0	-0.6
DDI	Dehra Dun	21.13	321	eP	P	12 35 12.8	-2.6
LZH	Lanzhou	23.55	22	⇓P	P	12 35 40.1	+0.8
LZH				AMB	AMB		
	comp=Z,40nm,1.0s,mb4.8						
LZH				LR	LR		
	comp=N,630nm,13.0s						
LZH				LR	LR		
	comp=Z,920nm,18.8s						
XAN	Xi'an	24.12	33	P	P	12 35 43.8	-1.1
XAN				AP		12 35 56.2	
XAN				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.3						
AAK	Ala-Archa	32.43	334	eP	P	12 37 00.2	0.0
	comp=Z,1.8nm,0.7s,mb4.0						
SONM	Songino Array	35.04	15	P	P	12 37 23.1	+0.4
	comp=Z,3.7nm,0.9s,mb4.3,baz=203,slow=9.4,SNR=17						
ULN	Ulaanbaatar	35.24	16	eP	P	12 37 23.7	-0.7
	comp=Z,4.9nm,1.0s,mb4.4						
BVAR	Borovoye Array	42.56	340	P	P	12 38 26.6	+1.4
	comp=Z,0.6nm,0.7s,mb3.5,baz=166,slow=6.1,SNR=2.8						
CHKZ	Chkalovo	43.03	340	eP	P	12 38 29.4	+0.3
	comp=Z,2.1nm,0.4s,mb4.2						
GNI	Garni	49.39	311	P	P	12 39 24.1	+4.5
	comp=Z,1.4nm,0.3s,mb4.4,baz=339,slow=8.8,SNR=3.4						
KIV	Kislovodsk	52.01	315	eP	P	12 39 41.5	+2.1
	comp=Z,5.3nm,0.5s,mb4.7						
WRA	Warramunga Arr	52.90	129	P	P	12 39 45.2	-1.1
	comp=Z,1.4nm,0.9s,mb3.9,baz=315,slow=8.1,SNR=5.6						
ASAR	Alice Springs	54.88	133	P	P	12 39 59.8	-1.1
	comp=Z,0.7nm,0.5s,mb4.0,baz=308,slow=6.9,SNR=7.1						
BRTR	Keskin Array B	57.63	308	P	P	12 40 20.7	+0.3
	comp=Z,1.5nm,0.9s,mb4.0,baz=101,slow=6.3,SNR=5.5						
CTA	Charters Tower	62.37	122	P	P	12 40 50.7	-2.3
	comp=Z,0.5nm,0.3s,mb4.1,baz=83,slow=5.1,SNR=11						
CTA	Charters Tower	62.37	122	P	P	12 40 50.7	-2.4
AKASG	Malin Array Be	62.56	320	P	P	12 40 53.0	-0.9
	comp=Z,0.3nm,0.3s,mb3.9,baz=77,slow=5.8,SNR=4.2						
STKA	Stephens Creek	65.30	136	P	P	12 41 11.9	-0.2
	comp=Z,6.4nm,1.3s,mb4.5,baz=340,slow=19,SNR=2.8						
FINES	FINESS Array B	66.57	331	P	P	12 41 19.1	-0.5
	comp=Z,2.2nm,0.8s,mb4.3,baz=112,slow=10,SNR=4.3						
GERES	GERESS Array B	72.43	317	P	P	12 41 57.6	+1.8
	comp=Z,2.0nm,0.7s,mb4.2,baz=90,slow=4.0,SNR=8.6						
LPG	La Plagne	77.44	314	eP	P	12 42 26.7	+2.0
	comp=Z,6.2nm,0.6s,mb4.4						
INK	Inuvik	90.95	16	P	P	12 43 33.2	+0.8
	comp=Z,0.5nm,0.7s,mb4.0,baz=304,slow=7.2,SNR=5.3						
INK	Inuvik	90.95	16	P	P	12 43 33.2	+0.8
TXAR	Lajitas Array	133.51	21	PKP	PKPdf	12 49 45.2	+0.4
	comp=Z,0.3nm,0.8s,baz=180,slow=2.5,SNR=2.4						

*IDC **07** 12:31:19.8±1.1, 13.42N×92.72E, mb4.0/10, mb1 4.2/10, mb1mx4.0/18, mbtmp4.0/10, MS3.6/1, Ms1 3.6/1, ms1mx2.8/20, Error ellipse: s-maj=51.1km s-min=20.9km az=50.0*
*NEIC **07** 12:31:24.7±0.9, 13.53N×92.90E, h30km, mb4.5/2, Error ellipse: s-maj=27.2km s-min=16.8km az=49.0*
*BJI **07** 12:31:25.3, 13.80N×93.08E, h11km, mB4.9, mb4.6, Ms4.1, Msz3.8*

ISC 07 12:31:22.5±0.9, 13.4N±0.1×92.8E±0.2, h30km, n15, σ0§97/15, mb4.1/12, MS3.6/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYB	Hyderabad	14.32	288	i P	P	12 34 52.0	+6.5
LSA	Lhasa	16.29	355	eP	P	12 35 12.0	+1.1
ENH	Enshi	22.77	40	eP	P	12 36 21.8	-2.0
	28nm,0.8s,mb4.8						
SONM	Songino Array	36.14	16	P	P	12 38 25.1	+1.2
	0.7nm,0.5s,mb3.9,baz=194,slow=8.4,SNR=3.3						
BVAR	Borovoye Array	43.37	340	P	P	12 39 25.0	+1.2
	0.5nm,0.5s,mb3.5,baz=169,slow=7.3,SNR=3.0						
CHKZ	Chkalovo	43.85	341	eP	P	12 39 27.6	-0.1
	2.5nm,0.5s,mb4.2						
WRA	Warramunga Arr	52.60	128	P	P	12 40 37.5	+1.3
	1.4nm,0.9s,mb3.9,baz=313,slow=7.9,SNR=5.4						
ASAR	Alice Springs	54.51	132	P	P	12 40 50.0	-0.2
	0.6nm,0.4s,mb4.0,baz=306,slow=6.7,SNR=5.6						
ASAR				LR	LR	13 06 10.8	
	comp=Z,56nm,20.4s,MS3.6,baz=293,slow=38						
BRTR	Keskin Array B	57.92	309	P	P	12 41 13.4	-1.0
	3.4nm,1.1s,mb4.3,baz=121,slow=7.7,SNR=4.5						
FINES	FINESS Array B	67.25	331	P	P	12 42 15.2	-0.9
	1.9nm,0.8s,mb4.2,baz=112,slow=7.5,SNR=2.7						
ARCES	ARCESS Array B	69.66	340	P	P	12 42 30.6	-0.4
	2.9nm,0.8s,mb4.3,baz=80,slow=7.4,SNR=3.5						
GERES	GERESS Array B	72.89	317	P	P	12 42 51.0	+0.3
	1.0nm,0.5s,mb4.0,baz=76,slow=5.5,SNR=3.7						
ILAR	Eielson Array	90.12	22	P	P	12 44 20.6	-0.1
	0.4nm,0.5s,mb4.0,baz=283,slow=4.4,SNR=5.6						
INK	Inuvik	92.06	16	P	P	12 44 28.9	-0.6
	0.7nm,0.6s,mb4.2,baz=269,slow=2.7,SNR=8.1						
INK	Inuvik	92.06	16	P	P	12 44 28.9	-0.6

IDC 07 12:38:40.0±1.9, 33.34N×89.62E, mb3.7/3, mb1 3.8/5, mb1mx3.5/18, mbtmp3.7/5, ML4.1/2, MS3.2/1, Ms1 3.4/1, ms1mx2.9/15, Error ellipse: s-maj=41.2km s-min=33.9km az=18.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.01	148	P	P	12 42 38.4	-2.6
	0.3nm,0.3s,baz=333,slow=17,SNR=5.6						
CMAR				LR	LR	12 50 19.9	
	comp=Z,81nm,19.5s,baz=340,slow=41						
SONM	Songino Array	19.23	36	P	P	12 43 07.0	-1.1
	0.1nm,0.3s,baz=218,slow=12,SNR=14						
BVAR	Borovoye Array	24.02	331	P	P	12 43 55.0	-2.1
	0.9nm,0.6s,baz=146,slow=11,SNR=6.6						
BRTR	Keskin Array B	44.81	295	P	P	12 46 56.6	-0.7
	1.6nm,1.0s,baz=108,slow=9.1,SNR=4.9						
ILAR	Eielson Array	72.77	22	P	P	12 50 09.8	-1.7
	1.0nm,0.9s,baz=300,slow=5.4,SNR=9.5						

IDC 07 12:40:31.4±14.0, 13.61S×168.63E, mb3.9/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.9/4, Error ellipse: s-maj=231.5km s-min=112.0km az=57.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	22.35	250	P	P	12 45 31.8	-0.7
	3.3nm,0.8s,baz=64,slow=11,SNR=6.2						
STKA	Stephens Creek	30.72	229	P	P	12 46 48.1	-2.3
	1.5nm,0.5s,baz=48,slow=8.9,SNR=5.2						
WRA	Warramunga Arr	33.38	254	P	P	12 47 11.9	-1.9
	0.4nm,0.6s,baz=85,slow=9.4,SNR=8.4						
ASAR	Alice Springs	34.30	248	P	P	12 47 19.4	-2.4
	0.8nm,0.4s,baz=78,slow=9.2,SNR=32						

*BJI **07** 13:10:08.8, 10.50N×92.30E, h21km, mb4.2, Msz3.6*
*IDC **07** 13:10:08.3±0.9, 10.51N×92.12E, h20km±4km, mb4.1/8, mb1 4.2/9, mb1mx3.9/19, mbtmp4.1/9, ML3.5/1, MS3.5/6, Ms1 3.5/6, ms1mx3.3/26, Error ellipse: s-maj=36.9km s-min=14.2km az=54.0*
*NEIC **07** 13:10:08.8±0.6, 10.50N×92.27E, mb4.4/3, Error ellipse: s-maj=21.2km s-min=10.9km az=46.0*

ISC 07 13:10:05.6±0.7, 10.31N±0.09×91.9E±0.1, h21km, h21km±.4km: pP-P, n21, σ0§99/18, mb4.3/9, MS3.6/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.57	39	Pn	P	13 12 39.7	+0.4
	0.1nm,0.3s,baz=236,slow=14,SNR=6.6						
CMAR				LR	LR	13 17 15.0	
	comp=Z,94nm,19.4s,baz=220,slow=41						
VIS	Vishakhapatnam	11.12	312	eP	P	13 12 36.0	-11
HYB	Hyderabad	14.77	300	eP	P	13 13 41.0	+5.6
HYB	Hyderabad	14.77	300	i P	P	13 13 41.0	+5.6
SHL	Shillong	15.18	360	eP	P	13 13 43.0	+2.4
POO	Poona	19.30	297	eP	P	13 14 31.0	-1.2
LSA	Lhasa	19.31	358	eP	P	13 14 30.9	-1.3
	4.6nm,0.3s						
ENH	Enshi	25.73	37	eP	P	13 15 35.7	-0.9
	5.5nm,0.6s,mb4.3						
TGY	Tagaytay City	28.60	79	LR	LR	13 27 25.0	
	comp=Z,91nm,20.0s,MS3.4,baz=229,slow=36						
SONM	Songino Array	39.34	15	P	P	13 17 34.8	-0.4
	1.8nm,0.6s,mb4.0,baz=203,slow=8.9,SNR=21						
SONM				pP	pP	13 17 41.1	-0.4
	1.3nm,0.8s,baz=197,slow=8.7,SNR=6.5						
GNI	Garni	51.18	314	P	P	13 19 10.3	+0.8
	1.7nm,0.3s,mb4.4,baz=31,slow=12,SNR=4.1						
GNI				pP	pP	13 19 16.1	+0.1
	1.8nm,0.3s,baz=13,slow=15,SNR=1.8						
GNI				LR	LR	13 41 15.7	
	comp=Z,40nm,18.9s,MS3.5,baz=154,slow=36						
WRA	Warramunga Arr	51.45	126	P	P	13 19 12.0	+0.1
	6.1nm,0.8s,mb4.6,baz=304,slow=8.5,SNR=42						
WRA				pP	pP	13 19 18.6	+0.3
	7.3nm,0.8s,baz=306,slow=8.2,SNR=22						
WB2	Warramunga Arr	51.46	126	eP	P	13 19 11.6	-0.4
ASAR	Alice Springs	53.15	130	P	P	13 19 24.6	+0.1
	3.5nm,0.8s,mb4.3,baz=311,slow=7.3,SNR=24						
ASAR				pP	pP	13 19 31.2	+0.2
	4.4nm,0.8s,baz=311,slow=7.4,SNR=16						
ASAR				LR	LR	13 42 36.8	
	comp=Z,48nm,19.8s,MS3.5,baz=136,slow=37						
KMBO	Kilima Mbogo	55.56	261	LR	LR	13 41 39.8	
	comp=Z,66nm,18.1s,MS3.8,baz=89,slow=34						
EIL	Elat	56.33	299	LR	LR	13 45 26.4	
	comp=Z,49nm,18.1s,MS3.6,baz=265,slow=38						
BRTR	Keskin Array B	59.19	310	P	P	13 20 09.2	+1.6
	1.5nm,0.8s,mb4.1,baz=108,slow=7.8,SNR=5.4						
CTA	Charters Tower	61.41	120	P	P	13 20 23.4	+0.3
	3.6nm,0.8s,mb4.5,baz=256,slow=8.5,SNR=4.1						
CTA				pP	pP	13 20 29.9	+0.3
	3.1nm,0.8s,baz=296,slow=8.8,SNR=2.5						
STKA	Stephens Creek	63.36	133	eP	P	13 20 35.9	0.0
	2.7nm,0.6s,mb4.5						
STKA	Stephens Creek	63.36	133	P	P	13 20 36.8	+0.8
	3.7nm,0.9s,mb4.5,baz=306,slow=4.3,SNR=5.1						
STKA				pP	pP	13 20 43.5	+1.0
	3.7nm,0.8s,baz=308,slow=6.6,SNR=3.9						
ILAR	Eielson Array	93.31	22	P	P	13 23 18.6	-1.3
	0.4nm,0.9s,mb3.9,baz=295,slow=4.9,SNR=4.7						
ILAR				pP	pP	13 23 25.6	-1.0
	0.1nm,0.8s,baz=141,slow=24,SNR=2.6						

IDC 07 13:15:49.8±1.3, 13.21N×93.22E, mb3.6/5, mb1 3.8/6, mb1mx3.6/17, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=44.0km s-min=23.8km az=56.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.59	46	Pn	Pn	13 17 41.6	-2.7
	0.2nm,0.3s,baz=236,slow=15,SNR=7.6						
SONM	Songino Array	36.23	15	P	P	13 22 54.7	-1.7
	0.1nm,0.3s,baz=187,slow=9.4,SNR=3.5						
WRA	Warramunga Arr	52.17	128	P	P	13 25 02.6	-2.1
	0.3nm,0.5s,baz=296,slow=9.5,SNR=14						
ASAR	Alice Springs	54.09	132	P	P	13 25 16.6	-2.3
	0.2nm,0.5s,baz=314,slow=6.3,SNR=5.0						
FINES	FINESS Array B	67.61	331	P	P	13 26 48.0	-2.3
	9.3nm,1.2s,baz=135,slow=11,SNR=3.4						
GERES	GERESS Array B	73.30	317	P	P	13 27 23.5	-1.5
	1.0nm,0.9s,baz=90,slow=5.9,SNR=4.0						

IDC 07 13:28:34.2±2.0, 4.98N×92.99E, h30km±6km, mb3.2/4, mb1 3.5/5, mb1mx3.4/18, mbtmp3.4/5, ML4.1/1, Error ellipse: s-maj=69.6km s-min=19.3km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.60	23	Pn	P	13 32 01.0	+0.1
	0.3nm,0.3s,baz=216,slow=12,SNR=14						
SONM	Songino Array	44.22	13	P	P	13 36 40.8	-1.7
	0.4nm,0.7s,baz=190,slow=7.5,SNR=5.0						
SONM				sP	sP	13 36 53.3	-1.9
	0.7nm,0.9s,baz=180,slow=8.6,SNR=3.8						
WRA	Warramunga Arr	47.59	123	P	P	13 37 06.0	-3.7
	1.0nm,0.8s,baz=306,slow=8.4,SNR=11						
WRA				pP	pP	13 37 18.2	-0.5
	1.3nm,0.7s,baz=302,slow=9.3,SNR=7.4						
ASAR	Alice Springs	49.01

(h34km±1.0km:pP-P),n24,σ1$20/14,mb4.0/6,MS3.6/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**5.28**	**358**	*e*P	**P**	**13 36 25.9**	**-5.3**
CMAR	**Chiang Mai Arr**	**13.40**	**26**	Pn	**P**	**13 38 26.9**	**+3.9**
	0.5nm,0.3s,baz=230,slow=14,SNR=23						
CMAR				LR	LR	13 43 48.1	
	comp=Z,156nm,18.0s,baz=216,slow=39						
MDRS	**Chennai**	**14.15**	**299**	*e*S	**S**	**13 40 56.4**	**-13**
VIS	**Vishakhapatnam**	**14.67**	**321**	*i* P	**P**	**13 38 40.1**	**+0.4**
VIS				*e*S	S	13 40 49.8	-32
VIS				*e*		13 41 15.4	
	comp=N,45nm,0.2s						
VIS				*e*		13 41 16.2	
	comp=E,56nm,0.4s						
HYB	**Hyderabad**	**17.82**	**309**	*e*P		13 39 32.5	
IMP	**Imphal**	**18.36**	**3**	*e*	**P**	**13 39 20.0**	**-6.6**
BLSP	**Bilaspur**	**18.83**	**328**	*e*P	**P**	**13 39 30.9**	**-1.4**
JIRN	**Jiri**	**22.13**	**344**	*e*P		13 40 18.2	
	comp=E,29nm,0.8s						
POO	**Poona**	**22.17**	**305**	*e*	Px	13 40 45.0	
POO				*i* S	**S**	**13 44 03.0**	**-1.7**
PKI	**Pulchoki**	**22.28**	**342**	*e*P		13 40 19.7	
	comp=E,20nm,0.6s						
BHPL	**Bhopal**	**22.46**	**320**	*i* P	**P**	**13 40 18.5**	**+8.2**
GUN	**Gumba**	**22.46**	**344**	*e*P		13 40 22.3	
	comp=E,25nm,0.6s						
KKN	**Kakani**	**22.52**	**342**	*e*P		13 40 23.5	
	comp=E,17nm,0.6s						
GKN	**Gorkha**	**22.92**	**341**	*e*P		13 40 28.0	
	comp=E,40nm,0.6s						
KOLN	**Koldanda**	**23.06**	**339**	*e*P		13 40 32.5	
	comp=E,25nm,0.7s						
SONM	**Songino Array**	**42.91**	**13**	P	**P**	**13 43 10.5**	**+0.5**
	comp=E,0.5nm,0.7s,mb3.4,baz=195,slow=8.0,SNR=3.9						
SONM				sP	sP	13 43 23.6	-0.3
	comp=E,0.8nm,0.8s,baz=195,slow=9.2,SNR=5.5						
WRA	**Warramunga Arr**	**48.41**	**124**	P	**P**	**13 43 53.2**	**-0.8**
	comp=E,2.1nm,0.8s,mb4.2,baz=302,slow=9.1,SNR=9.3						
WRA				pP	pP	13 44 03.3	-0.5
	comp=E,1.9nm,0.7s,baz=306,slow=8.6,SNR=7.5						
ASAR	**Alice Springs**	**49.91**	**128**	P	**P**	**13 44 05.2**	**-0.3**
	comp=E,6.5nm,1.2s,mb4.5,baz=300,slow=7.6,SNR=14						
ASAR				pP	pP	13 44 14.8	-0.6
	comp=E,2.2nm,0.7s,baz=302,slow=7.2,SNR=12						
KMBO	**Kilima Mbogo**	**56.05**	**264**	LR	LR	14 04 00.9	
	comp=E,54nm,20.5s,MS3.6,baz=95,slow=31						
BRTR	**Keskin Array B**	**62.51**	**312**	P	**P**	**13 45 37.2**	**+1.8**
	comp=E,0.5nm,0.4s,mb4.0,baz=314,slow=37,SNR=2.5						
BRTR				pP	pP	13 45 47.0	+1.4
	comp=E,0.6nm,0.5s,baz=116,slow=7.6,SNR=3.0						
AKASG	**Malin Array Be**	**68.59**	**322**	pP	pP	13 46 24.9	+0.3
	comp=E,0.3nm,0.2s,baz=90,slow=5.7,SNR=4.3						
FINES	**FINESS Array B**	**73.49**	**333**	P	**P**	**13 46 42.5**	**-1.0**
	comp=E,3.0nm,0.8s,mb4.2,baz=156,slow=33,SNR=2.7						
FINES				pP	pP	13 46 52.8	-1.0
	comp=E,1.4nm,0.8s,baz=90,slow=5.7,SNR=3.5						
GERES	**GERESS Array B**	**78.14**	**318**	P	**P**	**13 47 12.1**	**+1.9**
	comp=E,0.2nm,0.2s,mb3.6,baz=108,slow=4.2,SNR=2.9						
GERES				pP	pP	13 47 23.6	+3.0
	comp=E,1.1nm,0.8s,baz=111,slow=11,SNR=4.0						
PDAR	**Pinedale Array**	**127.02**	**21**	pPKP		13 54 26.9	
	comp=E,1.0nm,0.8s,baz=30,slow=1.9,SNR=7.9						

DJA 07 13:37:37.5±0.9,9.37S×117.42E,h33km,MD5.1/2, ML4.6/4,1C-5D,Error ellipse: s-maj=35.7km s-min=17.5km az=20.0,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.56**	**304**	⇓*e*Pn	Pn	13 38 02.9	-0.5
	425nm,0.2s						
KEDI				*e*Sn	Sn	13 38 18.9	-3.8
RATI	**Rata**	**1.97**	**289**	⇓*e*Pn	Pn	13 38 07.8	-1.5
	607nm,0.2s						
RATI				⇑*e*Sn	Sn	13 38 31.4	-1.7
KELI	**Kelakatan**	**3.11**	**291**	⇓*e*Pn	Pn	13 38 25.0	-0.6
	126nm,0.2s						
KELI	**Kelakatan**	**3.11**	**291**	*e*Pg	P	13 38 28.0	+2.6
KELI				*e*Sn	Sn	13 38 58.5	-3.5
SRDI	**Scrawed**	**3.36**	**285**	⇓*e*Pn	Pn	13 38 26.4	-2.6
	169nm,0.1s						
SRDI				⇓*e*Sn	Sn	13 39 04.7	-3.5

IDC 07 13:41:19.8±1.4,8.46N×93.40E,mb3.8/5,mb1 3.9/6, mb1mx3.7/17,mbtmp3.7/6,ML3.6/1,Error ellipse: s-maj=44.7km s-min=29.7km az=46.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.30**	**28**	Pn	P	13 44 03.7	-2.1
	0.1nm,0.3s,baz=211,slow=16,SNR=3.6						
SONM	**Songino Array**	**40.76**	**13**	P	P	13 49 02.2	-2.0
	0.6nm,0.8s,baz=199,slow=8.5,SNR=4.4						
WRA	**Warramunga Arr**	**49.19**	**125**	P	P	13 50 10.1	-2.0
	0.2nm,0.5s,baz=304,slow=8.7,SNR=5.6						
BRTR	**Keskin Array B**	**61.50**	**311**	P	P	13 51 38.9	-2.0
	0.8nm,0.7s,baz=108,slow=7.8,SNR=3.6						
ARCES	**ARCESS Array B**	**74.47**	**340**	P	P	13 52 59.6	-1.8
	5.7nm,1.0s,baz=101,slow=6.2,SNR=4.9						
GERES	**GERESS Array B**	**76.91**	**318**	P	P	13 53 14.4	-1.2
	0.6nm,0.6s,baz=79,slow=5.0,SNR=3.6						

IDC 07 13:47:47.5±5.8,5.02N×93.23E,mb3.4/3,mb1 3.6/4, mb1mx3.5/17,mbtmp3.4/4,ML3.5/1,Error ellipse: s-maj=170.5km s-min=31.4km az=74.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.48**	**22**	Pn	P	13 51 15.8	0.0
	0.1nm,0.3s,baz=216,slow=12,SNR=4.8						
SONM	**Songino Array**	**44.13**	**13**	P	P	13 55 57.3	-2.1
	0.6nm,1.0s,baz=200,slow=7.8,SNR=3.6						
WRA	**Warramunga Arr**	**47.42**	**123**	P	P	13 56 23.6	-2.4
	0.5nm,0.9s,baz=304,slow=8.8,SNR=6.6						
ASAR	**Alice Springs**	**48.85**	**127**	P	P	13 56 35.5	-1.5
	0.4nm,0.8s,baz=303,slow=7.3,SNR=4.5						

OTT 07 13:50:14.2±0.4,64.25N×85.70W,h18km,MN2.5/5, 124km west from Coral Harbour, Nu Boothia Ungava Seismic Zone.,Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YRTN	**Rankin Inlet**	**3.21**	**246**	PN	Pn	13 51 03.8	-1.2
YRTN				SN	Sn	13 51 40.3	-2.9
YRTN				SG	Sn	13 51 50.0	+6.8
YRTN				Trac		13 51 56.0	
	comp=Z,5.5nm,0.1s						
IGL	**Igloolik**	**5.38**	**15**	PN	Pn	13 51 34.4	-1.3
IGL				SN	Sn	13 52 31.0	-6.9
IGL				LG		13 52 58.8	
IGL				Trac		13 53 01.7	
	comp=Z,1.9nm,0.1s						
FCC	**Fort Churchill**	**6.80**	**220**	PN	Pn	13 51 55.1	-0.6
FCC				SN	Sn	13 53 04.2	-9.3
FCC				LG		13 53 40.6	
FCC				Trac		13 53 50.7	
	comp=Z,3.6nm,0.3s						
FRB	**Frobisher Bay**	**7.55**	**86**	SN	Sn	13 53 24.6	-7.7
FRB				LG		13 54 04.9	
PINU	**Pond Inlet**	**8.94**	**15**	SN	Sn	13 53 54.4	-12
PINU				LG		13 54 49.0	
SILO	**Sutton Inlier**	**9.80**	**177**	PN	P	13 52 34.1	-3.2
SILO				SN	Sn	13 54 18.2	-10
SILO				LG		13 55 14.9	
SILO				Trac		13 55 25.8	
	comp=Z,0.7nm,0.3s						
KUQ	**Kuujjuuaa**	**10.34**	**119**	LG		13 55 39.1	
RES	**Resolute Bay**	**10.96**	**347**	SN	S	13 54 43.7	-12
RES				LG		13 55 45.2	
VIMO	**Victor Mine**	**11.51**	**174**	PN	P	13 52 55.7	-4.9
VIMO				SN	S	13 54 56.6	-13
VIMO				LG		13 56 15.8	
YKW3	**Yellowknife Ar**	**13.01**	**276**	PN	P	13 53 17.2	-3.6
YKW3				SN	S	13 55 25.6	-20
YKW3				Trac		13 56 58.0	
	comp=Z,0.6nm,0.5s						

MOS ***07*** *13:53:37.5±1.8, 10.02S×161.11E,h33km,mb5.6/5,Error ellipse: s-maj=18.1km s-min=14.6km az=154.0*
NEIC ***07*** *13:53:43.5±1.2, 10.13S×160.93E,h70km±12km,mb5.0/25, Error ellipse: s-maj=8.8km s-min=7.1km az=157.0*
BJI ***07*** *13:53:44.2, 10.10S×160.90E,h69km,mB5.3,mb4.9, Ms5.1,Msz4.6*
IDC ***07*** *13:53:48.2±6.3, 10.24S×160.86E,h111km±54km, mb4.2/14,mb1 4.4/16,mb1mx4.4/18,mbtmp4.6/16,MS3.9/8, Ms1 3.9/8,ms1mx3.5/23,Error ellipse: s-maj=29.9km s-min=17.2km az=113.0*

ISC 07 13:53:38.2±0.3,10.03S±0.05×160.82E±0.07,h33km,n83, σ0$87/78,mb4.8/40,MS4.1/9,9C-3D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOUC	**Port Laguerre**	**13.11**	**157**	*e*P	**P**	**13 56 44.0**	**-0.7**
NOUC	**Port Laguerre**	**13.11**	**157**	*e*P	**P**	**13 56 44.0**	**-0.7**
DZM	**Mont Dzumac**	**13.14**	**156**	*e*P	**P**	**13 56 44.6**	**-0.4**
DZM				*e*S	**S**	**13 59 00.9**	**-10**
DZM	**Mont Dzumac**	**13.14**	**156**	*e*P	**P**	**13 56 44.6**	**-0.4**
DZM				*e*S	**S**	**13 59 00.8**	**-10**
PMG	**Port Moresby**	**13.48**	**271**	*d i*P	**P**	**13 56 55.7**	**+6.2**
PMG	**Port Moresby**	**13.48**	**271**	P	**P**	**13 56 56.6**	**+7.1**
	1.0nm,0.3s,baz=51,slow=8.1,SNR=12						
PMG	**Port Moresby**	**13.48**	**271**	*e*P	**P**	**13 56 55.4**	**+5.8**
	49nm,1.1s						
CTA	**Charters Tower**	**17.24**	**233**	*e*P	**P**	**13 57 41.3**	**+3.2**
	77nm,0.6s						
CTA	**Charters Tower**	**17.24**	**233**	P	**P**	**13 57 41.4**	**+3.3**
	5.9nm,0.3s,baz=62,slow=13,SNR=57						
CTA				LR	LR	14 03 33.8	
	comp=Z,318nm,19.3s,baz=56,slow=34						
CTAO	**Charters Tower**	**17.24**	**233**	*e*P	**P**	**13 57 40.3**	**+2.2**
	110nm,0.8s						
WRAB	**Tennant Creek**	**27.36**	**246**	*d i*P	**P**	**13 59 22.5**	**-0.1**
WRAB	**Tennant Creek**	**27.36**	**246**	*e*P	**P**	**13 59 22.0**	**-0.5**
	11nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**27.36**	**246**	*e*P	**P**	**13 59 22.6**	**0.0**
WRA	**Warramunga Arr**	**27.37**	**246**	P	**P**	**13 59 22.7**	**0.0**
	4.6nm,0.5s,mb4.3,baz=76,slow=9.0,SNR=25						
WRA				PcP	PcP	14 02 40.2	-1.4
	2.2nm,0.7s,baz=75,slow=3.3,SNR=7.0						
KAKA	**Kakadu**	**27.94**	**262**	*e*P	**P**	**13 59 28.5**	**+0.6**
	11nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**28.10**	**216**	*e*P	**P**	**13 59 29.2**	**0.0**
	5.6nm,1.2s,mb4.1						
STKA				*e*		13 59 34.3	
STKA	**Stephens Creek**	**28.10**	**216**	P	**P**	**13 59 28.0**	**-1.2**
	4.8nm,0.6s,mb4.3,baz=46,slow=12,SNR=8.1						
STKA				LR	LR	14 10 13.4	
	comp=Z,338nm,20.0s,MS3.9,baz=34,slow=35						
ASAR	**Alice Springs**	**29.04**	**239**	P	**P**	**13 59 36.8**	**-0.8**
	5.5nm,1.0s,mb4.2,baz=69,slow=9.4,SNR=23						
ASAR				PcP	PcP	14 02 43.9	-1.7
	1.6nm,0.8s,baz=86,slow=2.5,SNR=4.5						
ASAR				LR	LR	14 10 51.2	
	comp=Z,228nm,19.3s,MS3.8,baz=67,slow=35						
ASPA	**Alice Springs**	**29.04**	**239**	*e*P	**P**	**13 59 37.1**	**-0.5**
URZ	**Urewera**	**31.69**	**155**	LR	LR	14 11 35.9	
	comp=Z,114nm,18.2s,MS3.6,baz=285,slow=34						
RPZ	**Rata Peaks**	**34.72**	**167**	LR	LR	14 12 40.6	
	comp=Z,122nm,20.2s,MS3.6,baz=322,slow=33						
FITZ	**Fitzroy Crossi**	**35.00**	**253**	⇑*i*P	**P**	**14 00 29.9**	**+0.1**
	20nm,0.8s,mb5.1						
MBWA	**Marble Bar**	**40.98**	**249**	*e*P	**P**	**14 01 19.6**	**-0.1**
	13nm,0.7s,mb4.7						
CBIJ	**Chichi jima**	**41.09**	**334**	P	**P**	**14 01 18.9**	**-1.7**
	67nm,0.8s,mb5.3,baz=296,slow=10,SNR=4.2						
CBIJ				LR	LR	14 17 21.9	
	comp=Z,92nm,19.5s,MS3.6,baz=188,slow=34						
MAJO	**Matsushiro**	**50.97**	**337**	*e*P	**P**	**14 02 37.9**	**-1.0**
	17nm,0.6s,mb5.1						
MAT	**Matsushiro**	**50.97**	**337**	*e*P	**P**	**14 02 38.0**	**-0.9**
	18nm,0.6s,mb5.2						
MAT	**Matsushiro**	**50.97**	**337**	P	**P**	**14 02 38.4**	**-0.5**
SSE	**Sheshan**	**55.82**	**319**	*e*P	**P**	**14 03 15.6**	**+0.8**
SSE				AMB	AMB		
	comp=Z,12nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,167nm,4.4s						
ASAJ	**Asahikawa**	**56.37**	**344**	P	**P**	**14 03 19.6**	**+1.1**
ASAJ	**Asahikawa**	**56.37**	**344**	P	**P**	**14 03 19.6**	**+1.1**
	comp=Z,25nm,0.6s,mb5.5,baz=220,slow=9.6,SNR=22						
NJ2	**Nanjing**	**57.96**	**318**	*e*P	**P**	**14 03 32.6**	**+2.6**
NJ2				PCP	PcP	14 04 22.1	+0.4
NJ2				S	**S**	**14 11 23.0**	**-3.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,480nm,6.4s						
NJ2				LR	LR		
	comp=N,1μm,16.3s,MS5.2						
NJ2				LR	LR		
	comp=E,1μm,18.4s,MS5.2						
NJ2				LR	LR		
	comp=Z,510nm,20.3s,MS4.6						
YSS	**Yuzh-Sakhalins**	**58.97**	**346**	⇑*i*P	**P**	**14 03 37.0**	**+0.1**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
YSS	**Yuzh-Sakhalins**	**58.97**	**346**	*e*P	**P**	**14 03 36.8**	**0.0**
	comp=Z,11nm,0.4s,mb5.2						
MDJ	**Mudanjiang**	**61.29**	**335**	P	**P**	**14 03 52.9**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,144nm,3.6s						
MDJ	**Mudanjiang**	**61.29**	**335**	*e*P	**P**	**14 03 52.6**	**-0.1**
	comp=Z,24nm,1.0s,mb5.3						
PET	**Petropavlovsk**	**62.83**	**359**	*e*P	**P**	**14 04 02.3**	**-0.6**
	comp=Z,6.1nm,0.5s,mb5.0						
ENH	**Enshi**	**63.54**	**311**	*e*P	**P**	**14 04 07.4**	**-0.6**
	comp=Z,2.7nm,0.4s,mb4.6						
KLR	**Kul'dur**	**64.30**	**339**	*e*P	**P**	**14 04 10.2**	**-2.4**
KIWB	**Kanaga Island**	**64.50**	**15**	*e*P	**P**	**14 04 13.8**	**+0.1**
XAN	**Xi'an**	**65.90**	**314**	P	**P**	**14 04 22.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**67.28**	**295**	P	**P**	**14 04 32.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**67.28**	**295**	P	**P**	**14 04 32.8**	**+0.7**
	comp=Z,3.3nm,0.8s,mb4.4,baz=120,slow=5.1,SNR=19						
VNDA	**Vanda**	**67.48**	**180**	P	**P**	**14 04 33.5**	**+1.1**
	comp=Z,4.3nm,1.0s,mb4.4,baz=357,slow=5.4,SNR=4.0						
HIA	**Hailar**	**69.17**	**333**	*e*P	**P**	**14 04 43.6**	**+0.3**
	comp=Z,34nm,1.0s,mb5.2						
MA2	**Magadan**	**69.84**	**355**	*c i*P	**P**	**14 04 46.6**	**-0.7**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
MA2	**Magadan**	**69.84**	**355**	*e*P	**P**	**14 04 46.5**	**-0.8**
	comp=Z,17nm,0.9s,mb5.0						
ULN	**Ulaanbaatar**	**74.68**	**326**	*c i*P	**P**	**14 05 17.2**	**+1.0**
ULN	**Ulaanbaatar**	**74.68**	**326**	*e*P	**P**	**14 05 17.0**	**+0.8**
	comp=Z,11nm,0.8s,mb4.8						
SONM	**Songino Array**	**75.03**	**325**	P	**P**	**14 05 19.0**	**+0.7**
	comp=Z,4.4nm,0.8s,mb4.4,baz=136,slow=5.0,SNR=25						
YAK	**Yakutsk**	**75.82**	**345**	*c i*P	**P**	**14 05 22.6**	**+0.1**
YAK				pmax	pmax		
	comp=Z,72nm,1.0s,mb5.6						
YAK	**Yakutsk**	**75.82**	**345**	*e*P	**P**	**14 05 22.2**	**-0.3**
	comp=Z,77nm,0.9s,mb5.6						
BOD	**Bodaibo**	**77.61**	**336**	*e*P	**P**	**14 05 32.2**	**-0.4**
BILL	**Bilibino**	**77.97**	**2**	*c i*P	**P**	**14 05 34.7**	**+0.3**
BILL				*e*		14 05 41.3	
BILL				*e*		14 08 28.7	
BILL				pmax	pmax		
	comp=Z,57nm,1.3s,mb5.3						
BILL	**Bilibino**	**77.97**	**2**	*e*P	**P**	**14 05 34.1**	**-0.2**
	comp=Z,40nm,0.9s,mb5.3						
ZAK	**Zakamensk**	**78.14**	**326**	⇑*i*P	**P**	**14 05 35.9**	**+0.2**
TNA	**Tin City**	**78.87**	**13**	*e*P	**P**	**14 05 39.4**	**0.0**
RSO	**Redoubt South**	**79.27**	**21**	P	**P**	**14 05 41.1**	**-0.6**
QSPA	**South Pole Qui**	**79.97**	**180**	*e*P	**P**	**14 05 44.7**	**-0.4**
	comp=Z,10.0nm,1.0s,mb4.7						
SML	**Sawmill**	**81.78**	**22**	*e*P	**P**	**14 05 54.7**	**-0.2**
MCK	**McKinley**	**82.80**	**20**	*e*P	**P**	**14 06 00.0**	**-0.1**
	comp=Z,14nm,0.9s,mb5.0						
MAW	**Mawson**	**83.82**	**202**	P	**P**	**14 06 04.5**	**-0.7**
	comp=Z,6.0nm,0.6s,mb4.9,baz=104,slow=7.4,SNR=12						
COLA	**College**	**83.90**	**20**	⇑*e*P	**P**	**14 06 05.1**	**-0.6**
COLA	**College**	**83.90**	**20**	*e*P	**P**	**14 06 04.6**	**-1.1**
	comp=Z,12nm,0.8s,mb5.1						
ILAR	**Eielson Array**	**84.15**	**20**	P	**P**	**14 06 06.3**	**-0.7**
	comp=Z,2.8nm,0.5s,mb4.6,baz=246,slow=5.0,SNR=77						
TIXI	**Tiksi**	**84.22**	**350**	⇓*i*P	**P**	**14 06 07.2**	**0.0**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.7						
TIXI	**Tiksi**	**84.22**	**350**	⇑*e*P	**P**	**14 06 06.9**	**-0.3**
WMQ	**Urumqi**	**84.97**	**316**	*e*P	**P**	**14 06 13.1**	**+1.5**
WMQ				AP	pP	14 06 33.6	+12
WMQ				XP	sP	14 06 42.0	+16
WMQ				PP	PP	14 09 33.1	+2.9
WMQ				S	S	14 16 35.4	-1.2
WMQ				AMB	AMB		
	comp=Z,12nm,1.8s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,86nm,7.5s						
WMQ				LR	LR		
	comp=N,511nm,22.1s,MS4.9						
WMQ				LR	LR		
	comp=E,226nm,24.6s,MS4.9						
WMQ				LR	LR		
	comp=Z,549nm,23.2s,MS4.9						
DAWY	**Dawson**	**86.41**	**22**	*e*P	**P**	**14 06 19.3**	**+1.1**
YBH	**Yreka Blue Hor**	**86.69**	**47**	P	**P**	**14 06 21.8**	**+1.8**
	comp=Z,3.9nm,0.9s,mb4.6,baz=264,slow=1.7,SNR=5.2						
NVAR	**Mina Array Bea**	**89.11**	**51**	P	**P**	**14 06 32.8**	**+1.0**
	comp=Z,1.3nm,0.4s,mb4.6,baz=243,slow=3.3,SNR=5.1						
WVOR	**Wild Horse Val**	**89.80**	**47**	*e*P	**P**	**14 06 35.9**	**+1.0**
	comp=Z,8.3nm,1.1s,mb5.0						
INK	**Inuvik**	**90.56**	**20**	P	**P**	**14 06 37.9**	**+0.1**
	comp=Z,0.8nm,0.6s,mb4.2,baz=226,slow=2.2,SNR=9.2						
INK	**Inuvik**	**90.56**	**20**	*e*P	**P**	**14 06 37.5**	**-0.3**
	comp=Z,1.3nm,0.6s,mb4.4						
NEW	**Newport**	**92.17**	**41**	*e*P	**P**	**14 06 45.1**	**-0.6**
	comp=Z,4.2nm,0.8s,mb4.8						
HLID	**Hailey**	**93.07**	**46**	*e*P	**P**	**14 06 50.3**	**+0.3**
	comp=Z,3.9nm,1.0s,mb4.8						
YKA	**Yellowknife Ar**	**96.32**	**28**	P	**P**	**14 07 03.6**	**-0.7**
	comp=Z,1.3nm,0.7s,mb4.5,baz=260,slow=4.7,SNR=38						
PDAR	**Pinedale Array**	**96.45**	**48**	P	**P**	**14 07 06.2**	**+0.9**
	comp=Z,0.5nm,0.7s,mb4.0,baz=270,slow=1.5,SNR=5.9						
ANMO	**Albuquerque**	**97.88**	**56**	LR	LR	14 42 32.0	
	comp=Z,70nm,19.9s,MS4.2,slow=30						
TXAR	**Lajitas Array**	**99.61**	**62**	LR	LR	14 45 05.2	
	comp=Z,74nm,18.8s,MS4.2,baz=65,slow=31						
ARCES	**ARCESS Array B**	**114.09**	**344**	PKP	PKPdf	14 12 12.9	-0.8
	comp=Z,3.0nm,0.9s,baz=69,slow=10,SNR=3.8						
OBN	**Obninsk**	**117.39**	**328**	*e*PKIKP	PKPdf	14 12 17.3	-3.0
OBN				*e*		14 13 31.4	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SOC	**Sochi**	**119.25**	**315**	*i* PKIKP	PKPdf	14 12 21.4	-2.9
SOC				*e*		14 13 48.3	
SOC				*e*PPP	PPP	14 16 20.2	-1.2
SOC				*e*		14 19 26.4	
SOC				*e*SS	SS	14 30 08.2	+2.6
SOC				*e*SSS	SSS	14 34 33.4	+1.3
SOC				pmax	pmax		
	comp=Z,23nm,1.1s						
SOC				pmax	pmax		
	comp=N,27nm,1.3s						
SOC				pmax	pmax		
	comp=E,33nm,1.5s						
LSZ	**Lusaka**	**126.76**	**242**	*e*PKPdf	PKPdf	14 12 39.9	+0.3

IDC 07 14:01:26.3±0.8,8.57N×136.75E,mb3.8/9,mb1 4.0/9, mb1mx4.0/19,mbtmp3.8/9,Error ellipse: s-maj=35.7km s-min=17.6km az=86.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.43**	**185**	P	P	14 07 22.2	-2.9
	0.8nm,0.7s,baz=4.4,slow=9.8,SNR=9.0						
ASAR	**Alice Springs**	**32.16**	**185**	P	P	14 07 56.2	-2.0
	1.3nm,0.5s,baz=14,slow=13,SNR=18						
ASAR				PcP	PcP	14 10 45.5	-1.8
	0.4nm,0.9s,baz=22,slow=4.0,SNR=3.8						
CMAR	**Chiang Mai Arr**	**37.98**	**289**	P	P	14 08 45.7	-2.2
	0.8nm,0.9s,baz=233,slow=13,SNR=4.1						
STKA	**Stephens Creek**	**40.49**	**174**	P	P	14 09 07.4	-1.3
	2.9nm,0.6s,baz=356,slow=8.7,SNR=6.5						
SONM	**Songino Array**	**46.81**	**332**	P	P	14 09 59.0	-0.6
	1.1nm,0.9s,baz=137,slow=6.9,SNR=4.4						
BVAR	**Borovoye Array**	**69.05**	**324**	P	P	14 12 33.8	-2.2
	1.0nm,0.6s,baz=129,slow=9.5,SNR=5.9						
ILAR	**Eielson Array**	**76.48**	**25**	P	P	14 13 17.4	-2.2
	0.3nm,0.6s,baz=244,slow=6.0,SNR=7.8						
INK	**Inuvik**	**82.00**	**22**	P	P	14 13 47.2	-2.0
	1.2nm,1.0s,baz=117,slow=6.9,SNR=3.7						
YKA	**Yellowknife Ar**	**90.89**	**26**	P	P	14 14 32.4	-0.5
	0.6nm,0.7s,baz=294,slow=4.8,SNR=15						

MOS ***07*** *14:17:03.3±1.4, 7.45S×127.88E,h37km,mb5.5/7,Error ellipse: s-maj=18.5km s-min=9.1km az=111.7*
BJI ***07*** *14:17:06.5, 8.02S×128.45E,h105km,mB5.3,mb5.1*
DJA ***07*** *14:17:12.0±0.2, 7.50S×128.17E,h100km,mb4.9/4,Error ellipse: s-maj=10.4km s-min=5.8km az=174.0*
HRVD ***07*** *14:17:12.7±0.3, 7.65S×128.04E,h140km±2km,MW5.2/64, Centroid moment Tensor Solution. LP body waves: s34,c42;Mantle waves: s64,c114; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.20±.25; $M_{\theta\theta}$=-6.57±.22; $M_{\phi\phi}$=2.37±.28; $M

CTA	**Charters Tower**	**21.48**	**127**	*eP*	**P**	**14 21 55.8 +4.1**
	41nm,0.9s,mb4.8					
CTA	**Charters Tower**	**21.48**	**127**	P	**P**	**14 21 55.7 +4.0**
	15nm,0.7s,mb4.4,baz=309,slow=12,SNR=23					
CTA				LR	LR	14 31 16.7
	comp=Z,1μm,18.6s,baz=307,slow=39					
CTAO	**Charters Tower**	**21.48**	**127**	*eP*	**P**	**14 21 54.7 +2.9**
	88nm,1.0s,mb5.0					
TGY	**Tagaytay City**	**22.72**	**342**	P	**P**	**14 22 07.8 +3.8**
	356nm,0.6s,mb5.9,baz=176,slow=7.3,SNR=8.3					
KLBR	**Kellerberrin**	**25.77**	**201**	*eP*	**P**	**14 22 34.2 +1.1**
	21nm,0.5s,mb4.8					
KLBR				*eS*	Sx	14 27 26.8
MUN	**Mundaring**	**26.69**	**203**	*eP*	**P**	**14 22 42.2 +0.6**
	28nm,1.2s,mb4.7					
MUN				*e*		14 23 13.5
MUN				*eS*		14 27 43.9
NWAO	**Narrogin (SRO)**	**27.17**	**200**	P	**P**	**14 22 46.8 +0.8**
	21nm,0.4s,mb5.0,baz=32,slow=8.8,SNR=52					
NWAO	**Narrogin (SRO)**	**27.17**	**200**	*eP*	**P**	**14 22 46.3 +0.4**
	33nm,0.9s,mb4.9					
STKA	**Stephens Creek**	**27.21**	**154**	*eP*	**P**	**14 22 48.0 +1.7**
	20nm,0.6s,mb4.8					
STKA				*e*		14 22 51.9
STKA				*eS*		14 28 04.2
STKA	**Stephens Creek**	**27.21**	**154**	P	**P**	**14 22 47.9 +1.6**
	40nm,0.5s,mb5.2,baz=324,slow=9.0,SNR=75					
STKA				LR	LR	14 35 02.3
	comp=Z,407nm,19.5s,baz=90,slow=39					
QZH	**Quanzhou**	**33.66**	**344**	P	**P**	**14 23 43.0 -0.2**
QZH				AMB	AMB	
	comp=Z,50nm,0.6s,mb5.5					
TOO	**Toolangi**	**33.73**	**155**	*eP*	**P**	**14 23 47.0 +3.3**
	comp=Z,11nm,1.1s,mb4.6					
JOW	**Kunigami**	**34.22**	**0**	LR	LR	14 37 28.7
	comp=Z,158nm,19.4s,baz=151,slow=35					
CMAR	**Chiang Mai Arr**	**38.75**	**312**	P	**P**	**14 24 28.1 +1.9**
	comp=Z,9.0nm,0.8s,mb4.6,baz=139,slow=6.7,SNR=51					
CMAR				PcP	PcP	14 26 37.6 +1.2
	comp=Z,3.5nm,0.8s,baz=175,slow=3.7,SNR=7.1					
SSE	**Sheshan**	**39.05**	**350**	P	**P**	**14 24 27.1 -1.4**
SSE				S	**S**	**14 30 21.1 +1.1**
SSE				SS	SS	14 33 18.7 +10
SSE				AMB	AMB	
	comp=Z,29nm,0.8s,mb5.2					
WHN	**Wuhan**	**40.17**	**341**	P	**P**	**14 24 40.0 +2.2**
NJ2	**Nanjing**	**40.41**	**348**	*eP*	**P**	**14 24 41.0 +1.2**
NJ2				AP	pP	14 24 59.1 -3.8
NJ2				PP	PP	14 26 17.4 -0.4
NJ2				S	**S**	**14 30 42.0 +1.5**
NJ2				AMB	AMB	
	comp=Z,90nm,1.2s,mb5.5					
NJ2				AMB	AMB	
	comp=Z,300nm,10.0s					
ENH	**Enshi**	**41.70**	**335**	*eP*	**P**	**14 24 49.9 -0.6**
	comp=Z,20nm,1.0s,mb4.8					
MAT	**Matsushiro**	**44.91**	**11**	P	**P**	**14 25 18.0 +1.7**
MAT				*eS*	**S**	**14 31 46.0 -0.1**
MAT	**Matsushiro**	**44.91**	**11**	P	**P**	**14 25 18.0 +1.7**
MAT				S	**S**	**14 31 46.2 +0.1**
XAN	**Xi'an**	**45.25**	**337**	P	**P**	**14 25 18.6 -0.5**
XAN				AMB	AMB	
	comp=Z,32nm,1.0s,mb5.0					
BJT	**Baijiatuau**	**48.66**	**348**	*eP*	**P**	**14 25 45.3 -0.4**
	comp=Z,28nm,0.9s,mb5.2					
LZH	**Lanzhou**	**49.10**	**334**	⇑P	**P**	**14 25 49.0 -0.2**
LZH				AMB	AMB	
	comp=Z,60nm,1.5s,mb5.3					
LSA	**Lhasa**	**51.39**	**318**	*eP*	**P**	**14 26 07.5 +0.8**
	comp=Z,20nm,0.6s,mb5.3					
RPZ	**Rata Peaks**	**51.89**	**141**	P	**P**	**14 26 12.6 +2.3**
	comp=Z,44nm,0.9s,mb5.5,baz=274,slow=2.8,SNR=15					
RPZ				LR	LR	14 49 03.8
	comp=Z,539nm,19.4s,baz=3.9,slow=37					
MDJ	**Mudanjiang**	**51.99**	**1**	P	**P**	**14 26 11.3 +0.3**
MDJ				XP	sP	14 26 43.2 -2.6
MDJ				PP	PP	14 28 11.4 +0.9
MDJ				S	**S**	**14 33 29.0 +4.0**
MDJ				SS	SS	14 37 04.7 +3.5
MDJ				AMB	AMB	
	comp=Z,14nm,1.0s,mb5.0					
URZ	**Urewera**	**53.59**	**132**	P	**P**	**14 26 24.1 +1.1**
	comp=Z,2.3nm,0.4s,mb4.6,baz=306,slow=12,SNR=3.8					
URZ				LR	LR	14 51 05.1
	comp=Z,238nm,18.1s,baz=146,slow=38					
JIRN	**Jiri**	**53.63**	**313**	*eP*	**P**	**14 26 22.4 -1.0**
	comp=Z,163nm,1.4s,mb5.9					
GUN	**Gumba**	**53.99**	**313**	*eP*	**P**	**14 26 24.8 -1.2**
	comp=Z,130nm,1.0s,mb5.9					
PKI	**Pulchoki**	**54.15**	**312**	*eP*	**P**	**14 26 26.0 -1.2**
	comp=Z,42nm,0.7s,mb5.6					
KKN	**Kakani**	**54.37**	**312**	*eP*	**P**	**14 26 27.2 -1.6**
	comp=Z,188nm,1.3s,mb6.0					
DMN	**Daman**	**54.39**	**312**	*eP*	**P**	**14 26 27.9 -1.1**
	comp=Z,153nm,1.3s,mb5.9					
GKN	**Gorkha**	**54.96**	**312**	*eP*	**P**	**14 26 31.6 -1.5**
	comp=Z,48nm,0.4s,mb5.8					
HYB	**Hyderabad**	**54.96**	**297**	⇓*eP*	**P**	**14 26 30.5 -2.7**
	comp=Z,125nm,1.4s,mb5.8					
HYB	**Hyderabad**	**54.96**	**297**	⇓*iP*	**P**	**14 26 30.5 -2.7**
	comp=Z,125nm,1.4s,mb5.8					
KOLN	**Koldanda**	**55.60**	**311**	*eP*	**P**	**14 26 36.4 -1.3**
	comp=Z,243nm,1.3s,mb6.1					
YSS	**Yuzh-Sakhalins**	**55.84**	**12**	*eP*	**P**	**14 26 39.0 -0.2**
KLR	**Kul'dur**	**56.67**	**3**	*eP*	**P**	**14 26 42.0 -3.1**
ULN	**Ulaanbaatar**	**58.29**	**343**	*c iP*	**P**	**14 26 56.1 -0.3**
ULN	**Ulaanbaatar**	**58.29**	**343**	*eP*	**P**	**14 26 56.5 +0.1**
	comp=Z,26nm,1.1s,mb5.2					
SONM	**Songino Array**	**58.45**	**343**	P	**P**	**14 26 58.0 +0.4**
	comp=Z,9.9nm,0.8s,mb4.9,baz=163,slow=6.6,SNR=54					
SONM				PKiKP		14 34 11.1
	comp=Z,0.4nm,0.9s,baz=173,slow=10.0,SNR=3.0					
SONM				PKP2bc		14 56 46.1
	comp=Z,1.4nm,1.0s,baz=270,slow=1.2,SNR=7.1					
ZAK	**Zakamensk**	**61.65**	**342**	⇑*iP*	**P**	**14 27 18.7 -0.6**
WMQ	**Urumqi**	**62.92**	**328**	P	**P**	**14 27 28.0 +0.1**
WMQ				PP	PP	14 29 48.5 -0.4
WMQ				S	**S**	**14 35 49.5 +1.4**
WMQ				AMB	AMB	
	comp=Z,10.0nm,1.5s,mb4.5					
WMQ				AMB	AMB	
	comp=Z,77nm,6.7s					
MOY	**Mondy**	**63.48**	**341**	*eP*	**P**	**14 27 32.0 +0.5**
BOD	**Bodaibo**	**66.20**	**352**	*eP*	**P**	**14 27 47.6 -1.3**
MK02	**Makanchi Array**	**67.72**	**328**	P	**P**	**14 27 57.8 -0.8**
MK02				pmax	pmax	
	comp=Z,1.0nm,0.4s,mb4.0					
KZA	**Kyzart**	**69.06**	**321**	P	**P**	**14 28 07.5 +0.5**
	SNR=16					
TKM2	**Tokmak 2**	**69.30**	**321**	P	**P**	**14 28 08.7 +0.2**
	SNR=10					
MA2	**Magadan**	**69.34**	**12**	*eP*	**P**	**14 28 09.3 +0.9**
MA2				*eS*	S	14 37 13.6 +7.7
MA2				*eSS*	SS	14 41 35.6 -0.8
MA2				pmax	pmax	
	comp=Z,6.0nm,1.3s,mb4.3					
YAK	**Yakutsk**	**69.43**	**1**	*eP*	**P**	**14 28 08.6 -0.3**
YAK				*e*	pP	14 28 30.9 -3.2
YAK				*eS*	S	14 37 02.0 -4.8
YAK				*eSS*	Sx	14 37 42.3
YAK				*e*		14 37 56.2
YAK				pmax	pmax	
	comp=Z,10.0nm,0.8s,mb4.7					
YAK				pmax	pmax	
	comp=N,4.0nm,1.1s					
YAK				pmax	pmax	
	comp=N,3.0nm,1.0s					
YAK				smax		
	comp=E,3.0nm,1.0s					
YAK				smax		
	comp=N,4.0nm,1.2s					
YAK	**Yakutsk**	**69.43**	**1**	*eP*	**P**	**14 28 08.6 -0.3**
	comp=N,26nm,0.6s,mb5.2					
KBK	**Karagaybulak**	**69.56**	**321**	P	**P**	**14 28 09.1 -0.9**
	SNR=10					
UCH	**Uchtor**	**69.61**	**320**	P	**P**	**14 28 11.2 +0.8**
	SNR=10					
AAK	**Ala-Archa**	**69.83**	**321**	P	**P**	**14 28 12.2 +0.5**
	SNR=13					
AAK	**Ala-Archa**	**69.83**	**321**	*c iP*	**P**	**14 28 09.8 -1.9**
AAK				pmax	pmax	
	comp=Z,36nm,1.7s,mb4.9					
AAK	**Ala-Archa**	**69.83**	**321**	*eP*	**P**	**14 28 09.7 -2.0**
	comp=Z,26nm,1.3s,mb4.9					
FRU	**Bishkek**	**69.86**	**321**	*eP*	**P**	**14 28 11.0 -0.9**
FRU				pmax	pmax	
	comp=Z,40nm,1.6s,mb5.0					
AML	**Almayashu**	**70.08**	**320**	P	**P**	**14 28 13.3 +0.1**
	SNR=14					
USP	**Ospenovka**	**70.16**	**321**	P	**P**	**14 28 13.3 -0.4**
	SNR=17					
EKS2	**Erkin-Say**	**70.30**	**320**	P	**P**	**14 28 14.2 -0.3**
	SNR=17					
VNDA	**Vanda**	**72.08**	**173**	P	**P**	**14 28 25.4 +0.7**
	comp=Z,2.7nm,0.3s,mb4.5,baz=312,slow=8.0,SNR=33					
VNDA				LR	LR	14 59 59.7
	comp=Z,152nm,18.5s,baz=354,slow=36					
NVS	**Novosibirsk**	**72.61**	**335**	*i* P	**P**	**14 28 25.2 -2.9**
NVS				*i* *SS		14 38 12.1
NVS				pmax	pmax	
	comp=N,28nm,1.2s					
NVS				pmax	pmax	
	comp=E,22nm,1.2s					
NVS				pmax	pmax	
	comp=Z,34nm,1.2s,mb5.0					
MAW	**Mawson**	**73.73**	**201**	P	**P**	**14 28 35.8 +1.4**
	comp=Z,4.7nm,0.3s,mb4.7,baz=43,slow=6.7,SNR=15					
MAW				LR	LR	15 01 10.0
	comp=Z,102nm,18.5s,baz=246,slow=36					
BIDO	**Bidbid**	**75.02**	**297**	⇑P	**P**	**14 28 43.2 +0.5**
	SNR=13					
HOQ	**Hoqain**	**75.76**	**297**	⇑P	**P**	**14 28 46.9 0.0**
	SNR=6.1					
RBK	**Rabkut**	**77.17**	**290**	⇓P	**P**	**14 28 52.2 -2.6**
BVAR	**Borovoye Array**	**77.61**	**328**	P	**P**	**14 28 56.4 -0.2**
	comp=Z,52nm,1.2s,mb5.1,baz=135,slow=4.2,SNR=36					
WHFO	**Wadi Hawf**	**77.66**	**290**	⇑P	**P**	**14 28 56.1 -1.4**
	SNR=6.8					
BRVK	**Borovoye**	**77.68**	**328**	*eP*	**P**	**14 28 56.3 -0.7**
	comp=Z,28nm,1.2s,mb4.9					
CHKZ	**Chkalovo**	**77.83**	**329**	*eP*	**P**	**14 28 57.1 -0.7**
	comp=Z,26nm,1.1s,mb4.9					
TIXI	**Tiksi**	**79.08**	**0**	*d iP*	**P**	**14 29 03.4 -0.9**
TIXI				pmax	pmax	
	comp=Z,9.0nm,0.7s,mb4.7					
QSPA	**South Pole Qui**	**82.38**	**180**	⇑*iP*	**P**	**14 29 23.1 +1.5**
	comp=Z,13nm,0.7s,mb4.9					
SYO	**Syowa Base**	**82.45**	**201**	⇑P	**P**	**14 29 21.8 -0.3**
ARU	**Arti**	**85.25**	**328**	⇓*iP*	**P**	**14 29 34.0 -2.4**
ARU				*e*		14 32 51.7
ARU				*eS*	S	14 39 50.3 -6.5
ARU				pmax	pmax	
	comp=Z,32nm,1.2s,mb5.1					
GNI	**Garni**	**89.85**	**310**	P	**P**	**14 30 00.7 +1.8**
	comp=Z,1.8nm,0.4s,mb4.6,baz=134,slow=6.4,SNR=3.1					
KMBO	**Kilima Mbogo**	**90.76**	**269**	P	**P**	**14 30 04.6 +0.9**
	comp=Z,0.5nm,0.5s,mb4.0,baz=215,slow=20,SNR=4.1					
SOC	**Sochi**	**94.06**	**313**	*eP*	**P**	**14 30 15.1 -3.0**
SOC				*e*		14 34 08.5
SOC				*e*PPP	PPP	14 36 09.1 -3.1
SOC				*eS*		14 40 41.9
SOC				*e*SS	SS	14 47 46.9 +3.6
SOC				*e*SSS	SSS	14 51 19.4 -6.0
SOC				pmax	pmax	
	comp=Z,25nm,1.2s,mb5.4					
SOC				pmax	pmax	
	comp=N,26nm,1.0s					
SOC				pmax	pmax	
	comp=E,14nm,0.9s					
MALT	**Malatya**	**94.45**	**308**	*eP*	**P**	**14 30 20.2 +0.2**
	comp=E,5.2nm,1.1s,mb4.8					
SNAA	**Sanae**	**94.66**	**194**	P	**P**	**14 30 22.4 +2.2**
SNAA	**Sanae**	**94.66**	**194**	P	**P**	**14 30 22.3 +2.1**
	comp=E,4.9nm,0.9s,mb4.9,baz=197,slow=3.6,SNR=16					
ILAR	**Eielson Array**	**94.66**	**25**	P	**P**	**14 30 22.6 +2.2**
	comp=E,0.3nm,0.8s,baz=260,slow=4.2,SNR=6.1					
ILAR				PKKPbc		14 47 19.2
	comp=E,0.8nm,0.9s,baz=42,slow=2.3,SNR=7.8					
EIL	**Elat**	**96.49**	**299**	*eP*	**P**	**14 30 28.9 -0.7**
	comp=E,11nm,0.8s,mb5.3					
BRTR	**Keskin Array B**	**98.28**	**309**	P	**P**	**14 30 36.8 -0.7**
	comp=E,1.9nm,1.1s,mb4.5,baz=76,slow=5.1,SNR=5.1					
ARCES	**ARCESS Array B**	**101.50**	**340**	P	P	14 30 50.4 -0.9
	comp=E,8.8nm,0.9s,slow=7.3,SNR=5.0					
ARCES				PKiKP		14 35 15.0
	comp=E,4.1nm,0.9s,baz=99,slow=1.3,SNR=7.5					
FINES	**FINESS Array B**	**102.41**	**331**	PKiKP		14 35 17.1
	comp=E,4.4nm,1.0s,baz=153,slow=4.3,SNR=6.6					
MLR	**Muntele Rosu**	**103.94**	**315**	Pdiff	Pdif	14 31 06.0 +3.4
	comp=E,1.6nm,0.5s,baz=140,slow=3.2,SNR=3.5					
MLR				PKiKP		14 35 23.3
	comp=E,2.5nm,0.8s,baz=222,slow=6.8,SNR=4.0					
YKA	**Yellowknife Ar**	**109.08**	**26**	PKiKP		14 35 28.3
	comp=E,1.0nm,0.8s,baz=298,slow=1.7,SNR=15					
YKA				PKKPbc		14 46 36.1
	comp=E,0.8nm,0.8s,baz=108,slow=3.2,SNR=15					
YKA				PKKPab		14 46 48.2
	comp=E,0.4nm,0.6s,baz=107,slow=5.4,SNR=6.5					
YKA	**Yellowknife Ar**	**109.08**	**26**	PKPdf		14 35 28.3
YKA				PKKPbc		14 46 36.1
YKA				PKKPab		14 46 48.2
CLL	**Collm**	**111.52**	**322**	P	PKPdf	14 35 46.0 +14
CLL				*e*		14 35 57.0
CLL	**Collm**	**111.52**	**322**	*e*PPKP		14 35 57.0
GERES	**GERESS Array B**	**111.70**	**320**	PKiKP		14 35 35.5
	comp=E,0.5nm,0.5s,baz=180,slow=1.3,SNR=5.0					
DAVOX	**Davos**	**114.72**	**318**	PKP	PKPdf	14 35 41.3 +2.6
	comp=E,2.3nm,0.5s,baz=324,slow=20,SNR=4.5					
HLID	**Hailey**	**114.96**	**45**	*e*PKP	PKPdf	14 35 42.0 +2.7
HINF	**Hinteralfeld**	**116.38**	**320**	*e*PKIKP	PKPdf	14 35 41.9 0.0
	comp=E,2.6nm,0.4s					
HAU	**Haudompre**	**116.64**	**320**	*e*PKIKP	PKPdf	14 35 42.5 +0.2
LPG	**La Plagne**	**117.18**	**318**	*e*PKIKP	PKPdf	14 35 42.9 -0.5
LPL	**La Plagne**	**117.19**	**318**	*e*PKIKP	PKPdf	14 35 43.1 -0.3
CABF	**La Chapelle**	**117.26**	**319**	*e*PKIKP	PKPdf	14 35 43.9 +0.3
	comp=E,6.0nm,0.5s					
BNI	**Bardonecchia**	**117.37**	**317**	PKPdf	PKPdf	14 35 45.6 +1.8
MBDF	**Montbardon**	**117.40**	**317**	*e*PKIKP	PKPdf	14 35 43.7 -0.2
	comp=E,10nm,0.9s					
MOOW	**Moose Ponds**	**117.48**	**44**	*e*PKPdf	PKPdf	14 35 47.4 +3.4
HWUT	**Hardware Ranch**	**117.49**	**47**	*e*PKPdf	PKPdf	14 35 47.0 +2.9
LOHW	**Long Hollow**	**117.62**	**45**	*e*PKPdf	PKPdf	14 35 47.1 +2.8
ORIF	**Oris-en-Rattie**	**117.95**	**317**	*e*PKIKP	PKPdf	14 35 43.3 -1.6
	comp=E,3.6nm,0.5s					
BW06	**Boulder Array**	**118.60**	**45**	*e*PKPdf	PKPdf	14 35 48.4 +2.2
PDAR	**Pinedale Array**	**118.60**	**45**	PKP	PKPdf	14 35 48.2 +2.0
	comp=E,1.3nm,0.7s,baz=131,slow=0.2,SNR=12					
PDAR				PKKPbc		14 46 05.3
	comp=E,1.0nm,1.0s,baz=125,slow=7.3,SNR=5.6					
SMF	**Signal de Mont**	**118.71**	**320**	*e*PKIKP	PKPdf	14 35 46.6 +0.2
SSF	**Saint Saulge**	**118.77**	**320**	*e*PKIKP	PKPdf	14 35 46.2 -0.3
EKA	**Eskdalemuir Ar**	**118.81**	**331**	PKP	PKPdf	14 35 47.8 +1.4
	comp=E,3.2nm,1.1s,baz=45,slow=3.5,SNR=4.9					
AVF	**Avril sur Loir**	**118.97**	**320**	*e*PKIKP	PKPdf	14 35 47.1 +0.2
	comp=E,6.9nm,0.7s					
BGF	**Bois d'Agland**	**119.38**	**320**	*e*PKIKP	PKPdf	14 35 47.9 +0.2
	comp=E,27nm,0.9s					
TCF	**Toulx Ste Croi**	**119.89**	**320**	*e*PKIKP	PKPdf	14 35 48.7 0.0
	comp=E,14nm,0.9s					
PV10	**Paradox Valley**	**120.21**	**50**	*e*PKPdf	PKPdf	14 35 52.8 +3.3
MTLF	**Montolieu**	**120.96**	**316**	*e*PKIKP	PKPdf	14 35 50.4 -0.5
	comp=E,11nm,0.9s					
MFF	**Saint Martin d**	**121.26**	**321**	*e*PKIKP	PKPdf	14 35 51.1 -0.3
ISCO	**Idaho Springs**	**122.34**	**47**	*e*PKPdf	PKPdf	14 35 56.3 +2.7
ETSF	**Etsaut**	**123.01**	**317**	*e*PKIKP	PKPdf	14 35 54.6 -0.2
	comp=E,7.2nm,0.8s					
SDCO	**Great Sand Dun**	**123.07**	**50**	*e*PKPdf	PKPdf	14 35 58.1 +3.1
ANMO	**Albuquerque**	**123.11**	**53**	*e*PKPdf	PKPdf	14 35 56.9 +1.7
SJPF	**Ste Jean**	**123.38**	**317**	*e*PKIKP	PKPdf	14 35 56.4 +0.9
ESDC	**Sonseca Array**	**126.64**	**314**	PKP	PKPdf	14 36 03.4 +1.5
	comp=E,0.5nm,0.5s,baz=21,slow=3.7,SNR=6.0					
TXAR	**Lajitas Array**	**126.79**	**59**	PKP	PKPdf	14 36 05.3 +2.8
	comp=E,0.5nm,0.5s,baz=225,slow=1.8,SNR=8.2					
WMOK	**Wichita Mounta**	**129.19**	**51**	*e*PKPdf	PKPdf	14 36 08.8 +1.8
JCT	**Junction City**	**129.74**	**57**	*e*PKPdf	PKPdf	14 36 10.5 +2.4
DBIC	**Dimbokro**	**133.39**	**272**	PKP	PKPdf	14 36 17.9 +2.4
	comp=E,2.9nm,0.9s,baz=50,slow=0.9,SNR=4.9					
DBIC				SKPbc		14 39 31.2
	comp=E,2.1nm,0.6s,baz=114,slow=7.1,SNR=3.9					
DBIC	**Dimbokro**	**133.39**	**272**	PKP	PKPdf	14 36 17.9 +2.4
DBIC				SKPbc		14 39 31.2
LVC	**Limon Verde**	**145.63**	**151**	*e*PKPbc	PKPbc	14 36 41.5 +3.4
LPAZ	**La Paz**	**151.31**	**146**	PKP	PKPdf	14 36 50.5 +4.1
	comp=E,2.2nm,1.0s,baz=295,slow=2.1,SNR=7.7					
LPAZ				PKPbc	PKPdf	14 36 56.2 +10
	comp=E,12nm,0.5s,baz=195,slow=8.2,SNR=47					
LPAZ	**La Paz**	**151.31**	**146**	PKP	PKPdf	14 36 50.5 +4.1
LPAZ				PKPbc	PKPdf	14 36 56.2 +10
OTAV	**Otavalo**	**152.47**	**104**	*e*PKPbc	PKPdf	14 36 58.8 +10
SDV	**Santo Domingo**	**161.35**	**85**	*e*PKPdf	PKPdf	14 37 01.4 +2.1

MAN 07 14:20:30.4, 6.93N×125.75E, h2^{km}, mb4.3, ML3.1, MS2.9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.50**	**88**	*eP*	Pg	14 20 40.5	0.0
KCP	**Kidapawan**	**0.66**	**277**	⇓*eP*	Pg	14 20 43.5	-0.1
BUKP	**Musuan**	**1.16**	**324**	*eP*	Pb	14 20 52.8	-0.1
BUTP	**Butuan**	**2.03**	**356**	*eP*	Pn	14 21 05.9	-0.1

PLV 07 14:25:23.8±1.5, 19.02N×105.33E, h6^{km}±8^{km}, MD4.7, 1D, Vietnam

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSV	**Doi Son**	**1.68**	**21**	*e*Pn	Pn	14 25 53.2	-0.8
DSV				*e*Pg	Pg	14 25 55.8	-1.5
DSV				*e*Sg	Sg	14 26 18.4	-1.1
HBVN	**Hoa-Binh**	**1.80**	**1**	*e*PG	Pg	14 25 58.5	-1.2
HBVN				*e*SG	Sg	14 26 20.9	-2.8
HBVN				*e*SG	Sg	14 26 23.1	-0.6
TLV	**Tu Ly**	**1.85**	**358**	*e*PG	Pg	14 25 59.9	-0.9
TLV				*e*SG	Sg	14 26 23.4	-2.2
HNV	**Hanoi**	**2.07**	**12**	*e*Pn	Pn	14 25 56.9	-2.7
HNV				*e*Pg	Pg	14 26 01.3	-3.8
HNV				*e*Sg	Sg	14 26 26.6	-6.1
PLV	**Phu-Lien**	**2.16**	**34**	*e*Pn	Pn	14 25 59.9	-1.0
PLV				*e*Pg	Pg	14 26 05.0	-1.9
PLV				*e*Sg	Sg	14 26 33.7	-2.0
YTV	**Yen Tu**	**2.50**	**31**	*e*Pn	Pn	14 26 04.9	-0.8
YTV				*e*Pn	Pn	14 26 12.5	+6.9
YTV				*e*Pn	Pn	14 26 44.0	+38
DHV	**Doan Hung**	**2.60**	**357**	*e*Pn	Pn	14 26 06.7	-0.5
DHV				*e*Pn	Pn	14 26 11.9	+4.7
DHV				*e*Pn	Pn	14 26 48.6	+41
MTZV	**Met**	**2.69**	**20**	*e*PN	Pn	14 26 07.6	-0.9
MTZV				*e*PG	Pg	14 26 14.7	-2.8
MTZV				*e*SG	Sg	14 26 49.6	-3.8
KKTK	**Khon Kaen**	**3.58**	**222**	PG	Pg	14 26 29.0	-6.3
KKTK				SG	Sg	14 27 06.0	-17
UBT	**Ubonrachathani**	**3.76**	**185**	P	Pn	14 26 24.0	+0.3
CHRT	**Chiangrai**	**5.31**	**280**	⇓PN	Pn	14 26 48.0	+2.4
CHRT				PG	Pg	14 27 01.0	-8.7
CHRT				SG	Sg	14 28 19.5	-1.0
NST	**Nakhon Sawan**	**5.98**	**237**	PN	Pn	14 26 55.0	0.0
NST				PG	Pg	14 27 14.0	-9.1
NST				SG	Sg	14 28 25.0	-18

*NEIC **07** 14:32:54.0±0.9, 17.46S×178.85W, h600^{km}, mb4.0/5, Error ellipse: s-maj=50.6km s-min=13.4km az=154.0*
*IDC **07** 14:32:56.0±7.3, 17.40S×178.92W, h621^{km}±90^{km}, mb3.2/8, mb1 3.4/8, mb1mx3.2/15, mbtmp4.3/8, Error ellipse: s-maj=58.6km s-min=31.4km az=137.0*

ISC 07 14:32:52.9±1.1, 17.5S±0.4×178.9W±0.2, h600^{km}, n17, σ0^{s}84/17, mb3.9/11, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.06**	**260**	P	**P**	**14 38 43.3**	**+1.3**
	1.3nm,0.5s,mb3.8,baz=92,slow=10,SNR=5.8						
CTAO	**Charters Tower**	**33.06**	**260**	*eP*	**P**	**14 38 41.8**	**-0.2**
	2.5nm,0.7s,mb4.0						
PMG	**Port Moresby**	**33.93**	**279**	P	**P**	**14 38 50.6**	**+1.4**
	8.4nm,0.8s,mb4.5,baz=73,slow=5.5,SNR=5.7						
PMG	**Port Moresby**	**33.93**	**279**	*eP*	**P**	**14 38 50.9**	**+1.7**
STKA	**Stephens Creek**	**38.43**	**241**	*eP*	**P**	**14 39 26.4**	**+0.3**
	2.1nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**38.43**	**241**	P	**P**	**14 39 26.5**	**+0.4**
	3.7nm,0.6s,mb4.1,baz=97,slow=12,SNR=13						
WB2	**Warramunga Arr**	**44.24**	**259**	*eP*	**P**	**14 40 11.6**	**-0.7**
WRAB	**Tennant Creek**	**44.24**	**259**	*eP*	**P**	**14 40 11.8**	**-0.5**
	3.4nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**44.25**	**259**	P	**P**	**14 40 11.9**	**-0.5**
	1.6nm,0.5s,mb3.9,baz=92,slow=6.9,SNR=54						
ASAR	**Alice Springs**	**44.46**	**254**	P	**P**	**14 40 13.9**	**0.0**
	17nm,0.5s,mb4.8,baz=89,slow=7.8,SNR=460						
ASAR				PcP	PcP	14 41 44.6	+0.3
	0.6nm,0.4s,baz=101,slow=4.1,SNR=4.5						
ASPA	**Alice Springs**	**44.46**	**254**	*eP*	**P**	**14 40 13.9**	**-0.1**
KAKA	**Kakadu**	**47.13**	**269**	⇑*iP*	**P**	**14 40 34.6**	**+0.3**
	5.2nm,1.2s,mb3.9						
MBWA	**

BACM				S		Sg	14 34 33.3	+0.1
BACM		0.65	5	P		Pg	14 34 24.5	-0.1
BACM				S		Sg	14 34 33.3	0.0
VALM		0.74	14	P		Pg	14 34 26.2	-0.3
VALM				S		Sg	14 34 36.0	-0.2
VALM		0.74	14	P		Pg	14 34 26.2	-0.2
CODM		0.76	352	P		Pg	14 34 26.5	-0.5
CODM				S		Sg	14 34 36.7	-0.5
CODM		0.76	352	P		Pg	14 34 26.5	-0.5
CODM				S		Sg	14 34 36.7	-0.5
GSCL	**Gusciola**	0.83	31	⇑*i*PG		Pg	14 34 27.9	-0.4
GSCL				SG		Sg	14 34 40.9	+1.4
31nm,0.5s								
ERBM	**Eremo**	0.84	21	*e*PG		Pg	14 34 28.5	0.0
ERBM				SG		Sg	14 34 39.6	-0.1
27nm,0.5s								
GRAM		0.86	3	P		Pb	14 34 28.3	-0.4
GRAM				S		Sb	14 34 39.9	-0.4
GRAM		0.86	3	P		Pb	14 34 28.3	-0.4
GRAM				S		Sb	14 34 39.8	-0.5
ZCCA	**Zocca**	1.01	44	⇑*i*PG		Pg	14 34 32.6	+0.8
17nm,0.3s								
SEI	**Scarperia**	1.07	66	*e*PG		Pg	14 34 32.9	-0.2
43nm,0.4s								
FIN	**Finale Ligure**	1.41	295	*e*PN		Pn	14 34 40.2	+2.1

NIED ***07*** *14:38:00, 35.70N×138.20E, h20km, Mw3.7 Best double couple: M0 4.56×10^14 NP1:φs265°, δ60°, λ-124°. NP2: φs138°, δ44°, λ-46°.*

JMA 07 14:38:01.3, 35.73N×138.17E, h22km±1km, M3.9, 4C-2D Broadband fault plane solution: P waves. NP1:φs145°, δ55°, λ-17°. NP2:φs245°, δ76°, λ-144°. Principal axes: T Plg14°, Azm11°; N Plg52°, Azm263°; P Plg35°, Azm111°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNT	**Takato**	**0.15**	**350**	⇓P		Pb	14 38 05.9	-0.1
JNT				S		Sb	14 38 09.2	0.0
JYN	**Shimob**	**0.38**	**127**	⇑P		Pb	14 38 09.3	-0.1
JYN				S		Sb	14 38 15.4	+0.5
JNY	**Yasuok**	**0.45**	**214**	⇑P		Pb	14 38 10.1	-0.4
JNY				S		Sb	14 38 16.7	0.0
JRY	**Ryogami san**	**0.66**	**64**	⇑P		Pb	14 38 13.6	-0.4
JRY				S		Sb	14 38 22.3	-0.5
SHZ3	**Shizuoka 3**	**0.66**	**177**	⇑P		Pb	14 38 13.4	-0.7
MAT	**Matsushiro**	**0.81**	**2**	P		Pb	14 38 16.2	-0.4
MAT				S		Sb	14 38 27.7	+0.6
MAT	**Matsushiro**	**0.81**	**2**	P		Pb	14 38 16.1	-0.5
MAT				S		Sb	14 38 27.7	+0.6
JOD2	**Odawara 2**	**0.88**	**122**	⇓P		Pb	14 38 17.6	-0.2
JOD2				S		Sb	14 38 29.6	+0.4
JTT	**Ttatey**	**1.10**	**322**	P		Pb	14 38 22.1	+0.5
JTT				S		Sb	14 38 37.6	+2.0

BJI ***07*** *14:53:04.8, 24.50S×67.00W, h154km, mB5.3*
NEIC ***07*** *14:53:04.9±0.6, 24.48S×66.96W, h155km±5km, mb4.6/21, Error ellipse: s-maj=8.2km s-min=5.0km az=72.0*
GUC ***07*** *14:53:05.8±0.9, 24.49S×67.50W, h213km, ML4.9*
IDC ***07*** *14:53:06.2±1.1, 24.41S×66.93W, h168km±9km, mb4.1/14, mb1 4.3/17, mb1mx4.3/19, mbtmp4.6/17, Error ellipse: s-maj=15.8km s-min=10.8km az=71.0*

ISC 07 14:53:04.7±0.7, 24.54S±0.04×67.03W±0.07, h168km±6km, n97, σ1§01/77, mb4.4/34, 3C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.95**	**326**	*i* P		**P**	**14 53 44.0**	**+3.4**
SPCH				*i* S		**S**	**14 54 12.5**	**+4.1**
SPCH				AMP			14 54 13.9	
comp=N,4μm,0.6s								
LVC	**Limon Verde**	**2.58**	**318**	P		**P**	**14 53 50.3**	**+2.1**
comp=N,65nm,0.3s,baz=138,slow=11,SNR=86								
LVC				S		**S**	**14 54 22.2**	**+0.5**
comp=N,261nm,0.3s,baz=20,slow=22,SNR=70								
LVC	**Limon Verde**	**2.58**	**318**	*e*Pn		**P**	**14 53 46.3**	**-1.9**
LVC				*e*Sn		**S**	**14 54 17.0**	**-4.7**
LVC	**Limon Verde**	**2.58**	**318**	*e*P		**P**	**14 53 50.0**	**+1.8**
LVC				*i* S		**S**	**14 54 22.1**	**+0.4**
LVC				AMP			14 54 24.7	
comp=E,2μm,0.9s								
CPN1	**Cerro Paranal**	**3.07**	**268**	⇑*i*P		**P**	**14 53 55.2**	**+0.9**
CPN1				*i* S		**S**	**14 54 31.6**	**-0.8**
CPN1				AMP			14 54 38.1	
comp=N,2μm,0.9s								
ANCH	**Antofagasta**	**3.20**	**285**	⇑*i*P		**P**	**14 53 56.9**	**+1.0**
ANCH				*i* S		**S**	**14 54 34.5**	**-0.9**
ANCH				AMP			14 54 36.7	
comp=E,3μm,0.4s								
CPCH	**Copiapo**	**4.10**	**226**	*i* P		**P**	**14 54 07.2**	**-0.3**
CPCH				*i* S		**S**	**14 54 54.1**	**-1.7**
LPAZ	**La Paz**	**8.28**	**353**	P		**P**	**14 55 03.3**	**+0.7**
comp=E,6.0nm,0.3s,baz=153,slow=6.8,SNR=66								
LPAZ				S		**S**	**14 56 34.8**	**+0.1**
comp=E,0.3nm,0.3s,baz=346,slow=19,SNR=6.4								
ARE	**Arequipa**	**9.06**	**332**	P		**P**	**14 55 19.0**	**+6.2**
ARE				*e*S		**S**	**14 56 47.0**	**-6.1**
TRQA	**Tornquist**	**14.14**	**163**	*e*Pn		**P**	**14 56 17.2**	**-1.3**
comp=E,85nm,0.6s								
BDFB	**Brasilia**	**19.92**	**67**	P		**P**	**14 57 24.7**	**-0.6**
comp=E,6.9nm,0.3s,baz=244,slow=10,SNR=45								
BAO	**Brasilia Array**	**19.94**	**67**	*e*P		**P**	**14 57 25.0**	**-0.5**
USHA	**Ushuaia**	**30.27**	**182**	P		**P**	**14 59 02.7**	**+0.8**
comp=E,10.0nm,0.7s,mb4.7,baz=5.2,slow=3.2,SNR=7.1								
SDV	**Santo Domingo**	**33.41**	**354**	P		**P**	**14 59 27.3**	**-2.2**
comp=E,1.5nm,0.4s,mb4.1,baz=164,slow=3.9,SNR=3.4								
SDV	**Santo Domingo**	**33.41**	**354**	*e*P		**P**	**14 59 26.6**	**-2.9**
PMSA	**Palmer Station**	**40.27**	**178**	*e*P		**P**	**15 00 27.5**	**+1.1**
comp=E,9.2nm,0.7s,mb4.5								
VNA2	**Neumayer--Watz**	**57.22**	**160**	⇓*i*P		**P**	**15 02 40.8**	**+4.7**
SNAA	**Sanae**	**58.85**	**161**	P		**P**	**15 02 47.6**	**+0.1**
comp=E,5.1nm,0.5s,mb4.6,baz=285,slow=8.3,SNR=56								
ELN	**Prospectdale**	**62.78**	**348**	*e*P		**P**	**15 03 13.5**	**-1.0**
PWV	**Princeton**	**62.95**	**347**	*e*P		**P**	**15 03 14.2**	**-1.4**
JCT	**Junction City**	**63.09**	**328**	*e*P		**P**	**15 03 15.7**	**-0.9**
comp=E,9.1nm,0.8s,mb4.7								
WVT	**Waverly**	**63.46**	**341**	*e*P		**P**	**15 03 16.4**	**-2.6**
comp=E,20nm,1.0s,mb4.9								
MIAR	**Mount Ida**	**63.94**	**336**	*e*P		**P**	**15 03 20.6**	**-1.5**
comp=E,13nm,1.2s,mb4.7								
TXAR	**Lajitas Array**	**64.10**	**325**	P		**P**	**15 03 22.6**	**-0.6**
comp=E,1.7nm,0.5s,mb4.1,baz=150,slow=8.2,SNR=20								
QSPA	**South Pole Qui**	**65.66**	**180**	⇓*i*P		**P**	**15 03 33.5**	**+1.0**
comp=E,32nm,0.4s,mb5.5								
WMOK	**Wichita Mounta**	**66.20**	**332**	*e*P		**P**	**15 03 35.1**	**-1.6**
comp=E,2.4nm,0.7s,mb4.1								
CCM	**Cathedral Cave**	**66.29**	**339**	*e*P		**P**	**15 03 34.4**	**-2.8**
comp=E,7.0nm,0.5s,mb4.8								
CLNB	**Carlsbad**	**66.55**	**326**	*e*P		**P**	**15 03 38.5**	**-0.3**
GDL2	**Guadalupe Moun**	**66.74**	**326**	*e*P		**P**	**15 03 39.6**	**-0.5**
MNTX	**Cornudas Mount**	**66.87**	**325**	*e*P		**P**	**15 03 39.2**	**-1.7**
comp=E,6.7nm,0.8s,mb4.5								
DBIC	**Dimbokro**	**68.00**	**71**	P		**P**	**15 03 46.5**	**-1.7**
comp=E,3.6nm,0.3s,mb4.6,baz=217,slow=6.1,SNR=23								
DBIC	**Dimbokro**	**68.00**	**71**	P		**P**	**15 03 46.5**	**-1.8**
BNM	**Barren Site**	**69.44**	**326**	*e*P		**P**	**15 03 57.1**	**+0.4**
LPM	**Los Pinos Moun**	**69.57**	**326**	*e*P		**P**	**15 03 57.7**	**+0.2**
ANMO	**Albuquerque**	**69.98**	**326**	*e*P		**P**	**15 04 00.2**	**+0.3**
comp=E,5.5nm,0.8s,mb4.3								
TUC	**Tucson**	**70.28**	**322**	*e*P		**P**	**15 04 01.5**	**-0.4**
comp=E,5.0nm,1.2s,mb4.1								
SDCO	**Great Sand Dun**	**71.73**	**329**	*e*P		**P**	**15 04 10.8**	**+0.4**
comp=E,6.1nm,0.6s,mb4.5								
SYO	**Syowa Base**	**73.06**	**159**	⇓P		**P**	**15 04 17.8**	**+0.2**
SYO	**Syowa Base**	**73.06**	**159**	⇓PcP		PcP	15 04 30.4	-3.1
RW3	**Ridgway**	**73.18**	**328**	*e*P		**P**	**15 04 19.8**	**+0.9**
ISCO	**Idaho Springs**	**73.43**	**330**	*e*P		**P**	**15 04 20.9**	**+0.5**
comp=E,8.1nm,1.1s,mb4.4								
PV01	**Paradox Valley**	**73.53**	**327**	*e*P		**P**	**15 04 20.9**	**0.0**
PV10	**Paradox Valley**	**73.95**	**327**	*e*P		**P**	**15 04 23.5**	**+0.1**
VNDA	**Vanda**	**74.16**	**190**	P		**P**	**15 04 24.9**	**+1.1**
comp=E,5.8nm,1.2s,mb4.2,baz=166,slow=5.3,SNR=3.4								
SRU	**San Rafael**	**75.25**	**326**	*e*P		**P**	**15 04 31.2**	**+0.4**
MSU	**Marysvale**	**75.65**	**325**	*e*P		**P**	**15 04 34.1**	**+1.1**
MVU	**Marysvale**	**75.67**	**325**	*e*P		**P**	**15 04 34.1**	**+1.0**
comp=E,8.6nm,0.8s,mb4.4								
RWWY	**Rawlins**	**75.67**	**330**	*e*P		**P**	**15 04 33.8**	**+0.7**
TMUT	**Trail Mountain**	**75.74**	**326**	*e*P		**P**	**15 04 34.4**	**+0.9**
BW06	**Boulder Array**	**77.60**	**329**	*e*P		**P**	**15 04 43.7**	**-0.1**
comp=E,2.8nm,0.7s,mb4.0								
PDAR	**Pinedale Array**	**77.60**	**329**	P		**P**	**15 04 44.0**	**+0.3**
comp=E,2.2nm,0.5s,mb4.0,baz=127,slow=8.3,SNR=32								
HWUT	**Hardware Ranch**	**77.67**	**327**	*e*P		**P**	**15 04 44.4**	**+0.3**
comp=E,8.3nm,0.6s,mb4.5								
LOHW	**Long Hollow**	**78.73**	**329**	*e*P		**P**	**15 04 50.7**	**+0.8**
MOOW	**Moose Ponds**	**78.91**	**329**	*e*P		**P**	**15 04 51.5**	**+0.6**
NVAR	**Mina Array Bea**	**78.94**	**321**	P		**P**	**15 04 52.3**	**+1.2**
comp=E,3.3nm,0.8s,mb4.0,baz=156,slow=7.7,SNR=7.4								
SCHQ	**Scheefferville**	**79.05**	**0**	P		**P**	**15 04 50.3**	**-1.0**
comp=E,1.4nm,0.5s,mb3.9,baz=177,slow=4.3,SNR=11								
LAO	**LASA Array**	**79.26**	**344**	*e*P		**P**	**15 04 52.5**	**-0.1**
comp=E,6.6nm,0.6s,mb4.4								
YMR	**Madison River**	**79.71**	**330**	*e*P		**P**	**15 04 56.4**	**+1.3**
HLID	**Hailey**	**80.52**	**327**	*e*P		**P**	**15 05 00.8**	**+1.3**
comp=E,14nm,0.8s,mb4.6								
BOZ	**Bozeman (W)**	**80.76**	**330**	*e*P		**P**	**15 05 00.8**	**+0.1**
comp=E,2.7nm,0.8s,mb3.9								
MAW	**Mawson**	**80.93**	**163**	P		**P**	**15 05 01.1**	**0.0**
comp=E,8.9nm,0.4s,mb4.8,baz=196,slow=6.6,SNR=19								
YBH	**Yreka Blue Hor**	**83.66**	**322**	P		**P**	**15 05 15.2**	**-0.4**
comp=E,3.8nm,1.0s,mb4.1,baz=291,slow=4.5,SNR=3.8								
FCC	**Fort Churchill**	**85.98**	**346**	*e*P		**P**	**15 05 26.8**	**+0.1**
comp=E,17nm,0.6s,mb5.0								
ESDC	**Sonseca Array**	**86.81**	**44**	P		**P**	**15 05 30.2**	**-1.0**
comp=E,0.4nm,0.3s,mb3.7,baz=294,slow=36,SNR=5.5								
LSZ	**Lusaka**	**88.39**	**106**	*e*P		**P**	**15 05 41.2**	**+2.0**
comp=E,5.4nm,0.8s,mb4.4								
YKA	**Yellowknife Ar**	**94.62**	**340**	P		**P**	**15 06 07.0**	**0.0**
comp=E,2.9nm,0.6s,mb4.7,baz=131,slow=4.6,SNR=106								
YKA	**Yellowknife Ar**	**94.62**	**340**	P		**P**	**15 06 07.0**	**0.0**
YKW3	**Yellowknife Ar**	**94.67**	**340**	*e*P		**P**	**15 06 07.2**	**0.0**
DLBC	**Dease Lake**	**97.69**	**332**	P		**P**	**15 06 22.1**	**+1.1**
comp=E,2.3nm,0.8s,mb4.7,baz=136,slow=6.7,SNR=6.3								
AKASG	**Malin Array Be**	**112.45**	**43**	PKiKP			15 11 20.8	
comp=E,0.6nm,0.4s,baz=259,slow=2.9,SNR=10								
CTA	**Charters Tower**	**125.06**	**219**	PKP		PKPdf	15 11 47.6	+1.9
comp=E,0.8nm,0.4s,baz=61,slow=1.7,SNR=4.6								
ASAR	**Alice Springs**	**127.95**	**205**	PKP		PKPdf	15 11 52.4	+1.2
comp=E,5.1nm,0.5s,baz=136,slow=2.0,SNR=85								
ASAR				PP		PP	15 13 55.8	-4.3
comp=E,0.3nm,0.5s,baz=86,slow=8.3,SNR=9.0								
ASPA	**Alice Springs**	**127.95**	**205**	⇑*i*P		PKPdf	15 11 52.4	+1.2
WB2	**Warramunga Arr**	**131.13**	**207**	⇓*i*P		PKPdf	15 11 58.7	+1.4
WRA	**Warramunga Arr**	**131.13**	**207**	PKP		PKPdf	15 11 58.6	+1.3
comp=E,4.0nm,0.4s,baz=158,slow=1.8,SNR=97								
WRA				SKPbc			15 15 05.6	
comp=E,1.0nm,0.7s,baz=148,slow=3.6,SNR=5.0								
WRAB	**Tennant Creek**	**131.14**	**207**	*e*PKPdf		PKPdf	15 11 58.8	+1.4
FITZ	**Fitzroy Crossi**	**135.85**	**197**	*e*P		PKPdf	15 12 08.0	+1.9
comp=E,4.2nm,0.4s								
CHKZ	**Chkalovo**	**137.09**	**36**	*e*PKPdf		PKPdf	15 12 09.1	+1.7
BRVK	**Borovoye**	**137.17**	**37**	*e*PKPdf		PKPdf	15 12 09.8	+2.2
BVAR	**Borovoye Array**	**137.25**	**37**	PKP		PKPdf	15 12 10.1	+2.3
comp=E,1.7nm,0.5s,baz=278,slow=2.3,SNR=10								
AAK	**Ala-Archa**	**143.60**	**51**	*e*PKPdf		PKPdf	15 12 17.2	-2.1
DLH	**Dalhousie**	**146.66**	**68**	*e*P		PKPdf	15 12 29.0	+4.1
HYB	**Hyderabad**	**147.16**	**96**	*e*P		PKPdf	15 12 30.0	+3.9
HYB	**Hyderabad**	**147.16**	**96**	*i* PKP		PKPdf	15 12 30.0	+3.9
NDI	**New Delhi**	**147.85**	**75**	*e*P		PKPdf	15 12 28.0	+1.0
WMQ	**Urumqi**	**151.78**	**41**	PKP		PKPdf	15 12 32.4	-0.1
KOLN	**Koldanda**	**153.47**	**77**	*e*P		PKPdf	15 12 44.7	+9.3
comp=E,3.6nm,0.3s								
GKN	**Gorkha**	**154.39**	**76**	*e*P		PKPdf	15 12 46.6	+10
comp=E,7.7nm,0.4s								
DMN	**Daman**	**154.81**	**77**	*e*P		PKPdf	15 12 47.4	+10
comp=E,4.4nm,0.3s								
KKN	**Kakani**	**154.96**	**77**	*e*P		PKPdf	15 12 48.0	+11
comp=E,7.7nm,0.5s								
PKI	**Pulchoki**	**155.08**	**77**	*e*P		PKPdf	15 12 48.5	+11
MAT	**Matsushiro**	**155.27**	**305**	*e*PKP		PKPdf	15 12 49.0	+11
GUN	**Gumba**	**155.49**	**76**	*e*P		PKPdf	15 12 48.5	+10
comp=E,5.9nm,0.4s								
JIRN	**Jiri**	**155.77**	**77**	*e*P		PKPdf	15 12 49.7	+11
comp=E,3.6nm,0.6s								
SONM	**Songino Array**	**156.18**	**11**	PKP		PKPdf	15 12 40.9	+2.6
comp=E,1.0nm,0.9s,baz=226,slow=1.3,SNR=7.5								
SONM				PKPab		PKPab	15 13 07.9	-1.6
comp=E,1.3nm,0.6s,baz=322,slow=4.2,SNR=9.7								
CMAR	**Chiang Mai Arr**	**165.62**	**112**	PKP		PKPdf	15 12 51.4	+1.9
comp=E,0.4nm,0.6s,baz=333,slow=3.2,SNR=4.5								
CMAR				PKPab		PKPab	15 13 49.9	-1.3
comp=E,0.9nm,0.7s,baz=258,slow=5.8,SNR=4.5								
NJ2	**Nanjing**	**170.90**	**327**	*e*PKP		PKPdf	15 12 51.0	-1.5

NEIC ***07*** *15:00:37.7±0.9, 50.06N×18.48E, h5km, MG2.5(WAR), Error ellipse: s-maj=13.7km s-min=8.2km az=176.0*
PRU ***07*** *15:00:38.0, 50.15N×18.39E*

WAR 07 15:00:37.4, 50.07N×18.46E, h0km, ML2.4, 2D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.17**	**276**	⇓*i*PG		Pg	15 00 41.8	+0.9
RAC				⇓*i*SG		Sg	15 00 45.2	+2.0
OKC	**Ostrava-Krasne**	**0.31**	**222**	*e*PG		Pg	15 00 43.8	+0.3
OKC				*e*SG		Sg	15 00 50.1	+2.5
OJC	**Ojcow**	**0.87**	**79**	*e*PG		Pg	15 00 54.0	-0.8
OJC				*e*SG		Sg	15 01 06.0	-0.5
LIKS	**Likavka**	**1.10**	**157**	*e*SN		Sn	15 01 16.2	+0.3
NIE	**Niedzica**	**1.36**	**118**	*e*PG		Pg	15 01 04.0	-0.6
NIE				*e*SG		Sg	15 01 23.0	+0.2
DPC	**Dobruska-Polom**	**1.40**	**283**	*e*PG		Pg	15 01 03.5	-1.9
DPC				*e*SG		Sg	15 01 22.0	-2.1
23nm,0.3s								
KSP	**Ksiaz**	**1.59**	**300**	*e*PG		Pg	15 01 07.0	-2.1
KSP				*e*SG		Sg	15 01 28.0	-2.3
VYHS	**Vyhne**	**1.59**	**171**	*e*PN		Pn	15 01 06.1	-0.8
VYHS				*e*SN		Sn	15 01 28.8	+0.3
UPC	**Upice**	**1.63**	**287**	*e*SG		Sg	15 01 28.5	-3.2
SMOL	**Smolenice**	**1.69**	**204**	*e*SN		Sn	15 01 31.5	+0.5
CRVS	**Cervenica-Dubn**	**2.28**	**120**	*e*PB		Pb	15 01 19.8	+0.7
PRU	**Pruhonice**	**2.53**	**270**	*e*SG		Sg	15 01 55.0	-6.6
KHC	**Kasperske Hory**	**3.31**	**255**	*e*PG		Pg	15 01 39.4	-4.1
KHC				*e*SG		Sg	15 02 22.1	-5.6
MOA	**Molln**	**3.54**	**233**	*i* SG		Sg	15 02 30.4	-5.0
2.1nm,0.3s								
MOA	**Molln**	**3.54**	**233**	*i* P		Pn	15 01 37.0	+2.2
MOA				*i* Sg		Sg	15 02 30.4	-5.0

CSEM ***07*** *15:10:53.1, 43.50N×45.14E, h10km, mb4.9*
TIF ***07*** *15:10:54.5, 43.41N×44.85E, h15km±2km*
BJI ***07*** *15:10:54.1, 43.50N×45.00E, h23km, mB5.0, mb4.7, Ms4.6, Msz4.3*
MOS ***07*** *15:10:55.1±1.3, 43.48N×45.01E, h28km, mb4.6/23, MS4.0/15, Error ellipse: s-maj=6.1km s-min=4.5km az=119.8*
MOS Felt (III-IV) at Vladikavkaz.
IDC ***07*** *15:10:56.0±0.6, 43.41N×44.96E, h23km±3km, mb3.9/16, mb1 4.1/23, mb1mx4.0/26, mbtmp4.0/23, ML3.9/6, MS3.6/7, Ms1 3.6/7, ms1mx3.4/27, Error ellipse: s-maj=12.7km s-min=10.8km az=53.0*
ZUR_RM ***07*** *15:10:56, 43.47N×45.03E, h18km, Mw4.7/13, Moment Tensor Solution. s13 Moment tensor: Scale 10^16Nm; Mrr1.20; Mθθ-1.13; Mφφ-0.06; Mrθ-0.03; Mφr0.08; Mθr0.09; Best double couple: M0 1.17×10^16 NP1:φs278°, δ46°, λ.96°. NP2:φs90°, δ44°, λ.84°. Principal axes: T 1.205, Plg86°, Azm261°; N -.065, Plg4°, Azm94°; P -1.14, Plg1°, Azm4°;*
NEIC ***07*** *15:10:56.1±0.3, 43.47N×45.03E, mb4.4/30 Error ellipse: s-maj=5.2km s-min=4.4km az=149.0*
NEIC Felt [IV] at Vladikavkaz. Felt at Malgobek, Nazran and Sunzha.

ISC 07 15:10:54.8±1.0, 43.50N±0.02×44.97E±0.03, h25km±8km, h24km±1.1km: pP-P, n216, σ1§15/229, mb4.4/52, MS4.0/14, 17C-5D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**1.07**	**228**	Pg		**Pn**	**15 11 13.6**	**-0.8**
ZEI				Sg		**Sb**	**15 11 26.3**	**-1.8**
DUS	**Dusheti**	**1.42**	**188**	P		**Pn**	**15 11 18.9**	**-0.4**
DUS				S		**Sn**	**15 11 38.7**	**+1.3**
DBC	**Dubki**	**1.44**	**109**	*i* PG		**Pn**	**15 11 21.5**	**+1.9**
DBC				*i* S		**Sn**	**15 11 44.5**	**+6.6**
ONI	**Oni**	**1.45**	**231**	P		**Pn**	**15 11 19.4**	**-0.3**
ONI				S		**Sn**	**15 11 38.3**	**+0.3**
UNCR	**Uncukul**	**1.55**	**120**	⇑*i*PG		**Pn**	**15 11 22.7**	**+1.5**
UNCR				*e*S		**Sn**	**15 11 45.7**	**+5.1**
UNCR	**Uncukul**	**1.55**	**120**	*i* Pg		**Pn**	**15 11 22.7**	**+1.5**
UNCR				*e*Sg		**Sn**	**15 11 45.7**	**+5.1**
SHAR	**Shatzhatmas**	**1.69**	**279**	PN		**Pn**	**15 11 23.5**	**+0.3**
KIV	**Kislovodsk**	**1.72**	**286**	Pn		**Pn**	**15 11 24.4**	**+0.8**
9μm,0.5s								
KIV	**Kislovodsk**	**1.72**	**286**	⇑*i*PN		**Pn**	**15 11 23.9**	**+0.3**
KIV				*e*			15 11 27.1	
KIV				*e*			15 11 50.5	
KIV				pmax		pmax		
comp=Z,161nm,0.8s								
KIV				pmax		pmax		
comp=Z,337nm,1.0s								
KIV	**Kislovodsk**	**1.72**	**286**	⇑*i*Pn		**Pn**	**15 11 24.0**	**+0.4**
KIV	**Kislovodsk**	**1.72**	**286**	⇑*i*Pn		**Pn**	**15 11 24.0**	**+0.4**
TI2	**Plekhanov**	**1.77**	**185**	*e*PN		**Pn**	**15 11 24.6**	**+0.2**
TI2	**Plekhanov**	**1.77**	**185**	⇑*i*P		**Pn**	**15 11 24.8**	**+0.4**
TI2				*i* S		**Sn**	**15 11 47.8**	**+1.5**
comp=Z,1μm,1.0s								
MTA	**Mtatsminda**	**1.81**	**184**	P		**Pn**	**15 11 25.5**	**+0.6**
MTA				S		**Sn**	**15 11 48.3**	**+1.0**
NAGR	**Nagutskaya**	**1.86**	**301**	PN		**Pn**	**15 11 27.3**	**+1.7**
MAK	**Makhachkala**	**1.93**	**105**	*d* PN		**Pn**	**15 11 29.0**	**+2.4**
MAK				*e*			15 11 32.0	
MAK				*e*			15 11 34.0	
MAK				*i* S		**Sn**	**15 11 56.6**	**+6.3**
MAK				pmax		pmax		
comp=Z,3μm,1.0s								
MAK				pmax		pmax		
comp=N,1μm,0.7s								
MAK				pmax		pmax		
comp=E,1μm,0.7s								
MAK				pmax		pmax		
comp=N,2μm,1.2s								
MAK				pmax		pmax		
comp=Z,2μm,1.2s								
MAK				pmax		pmax		
comp=E,2μm,0.7s								
MAK				smax				
comp=N,12μm,1.0s								
MAK				smax				
comp=E,9μm,1.0s								
MAK				smax				
comp=Z,9μm,1.0s								
KMKR	**Kumukh**	**2.08**	**130**	⇑*i*PN		**Pn**	**15 11 30.0**	**+1.2**
KMKR				pmax		pmax		
comp=Z,2μm,0.3s								
GOF	**Gofitskoye**	**2.09**	**319**	⇑*i*PN		**Pn**	**15 11 31.5**	**+2.6**
GOF				*i* S		**Sn**	**15 12 01.5**	**+7.1**
GOF				pmax		pmax		
comp=Z,50nm,1.5s								
GOF				pmax		pmax		
comp=Z,4μm,1.0s								
GOF				smax				
comp=Z,14μm,2.0s								
GOF				MLR		MLR		
comp=Z,23μm,13.0s								
AKH	**Akhalkalaki**	**2.36**	**208**	P		**Pn**	**15 11 32.8**	**+0.1**
AKH				S		**Sn**	**15 12 02.8**	**+1.6**
STE	**Stepanavan**	**2.53**	**190**	*i* PN		**Pn**	**15 11 34.0**	**-1.3**
STE				*e*			15 12 12.0	
KARS	**Kars**	**3.21**	**207**	P		**Pn**	**15 11 46.1**	**+1.2**
BCA	**Borcka**	**3.22**	**231**	P		**Pn**	**15 11 43.8**	**-1.2**
BCA	**Borcka**	**3.22**	**231**	Pn		**Pn**	**15 11 43.0**	**-2.0**
GNI	**Garni**	**3.35**	**183**	P		**Pn**	**15 11 50.9**	**+4.0**
GNI	**Garni**	**3.35**	**183**	*c* PN		**Pn**	**15 11 47.1**	**+0.2**
GNI	**Garni**	**3.35**	**183**	Pn		**Pn**	**15 11 48.8**	**+1.9**
comp=Z,1.5nm,0.3s,baz=0.7,slow=6.7,SNR=24								
GNI				Lg			15 12 36.2	
comp=Z,37nm,0.3s,baz=356,slow=22,SNR=6.0								
GNI				LR

KOLS e 15 15 54.6
SVE Sverdlovsk 16.64 31 eP **P 15 14 45.6 -2.1**
SVE MLR MLR
comp=Z,2μm,12.4s
CRVS Cervenica-Dubn 17.12 297 eP **P 15 14 55.8 +1.9**
SOKR Solikamsk 17.64 20⇑iP **P 15 14 58.3 -2.0**
SOKR pmax pmax
comp=Z,20nm,1.0s
SOKR MLR MLR
comp=Z,400nm,17.0s
PSZ Piszkesteto 18.03 293 eP **P 15 15 06.6 +1.3**
PSZ pmax pmax
comp=Z,22nm,1.3s
PSZ Piszkesteto 18.03 293 eP **P 15 15 06.6 +1.3**
comp=Z,22nm,1.3s
PSZ Piszkesteto 18.03 293 eP **P 15 15 06.6 +1.3**
comp=Z,22nm,1.3s
OJC Ojcow 18.43 300 eP **P 15 15 13.3 +3.2**
VYHS Vyhne 18.79 295 eP **P 15 15 14.4 -0.1**
BRVK Borovoye 19.28 51 eP **P 15 15 18.1 -2.2**
BRVK pmax pmax
comp=Z,18nm,0.8s
BRVK Borovoye 19.28 51 eP **P 15 15 18.1 -2.1**
comp=Z,18nm,0.8s
BRVK Borovoye 19.28 51 eP **P 15 15 18.1 -2.2**
comp=Z,18nm,0.8s
BVAR Borovoye Array 19.33 52 P **P 15 15 19.7 -1.1**
comp=Z,1.0nm,0.3s,baz=261,slow=12,SNR=20
OKC Ostrava-Krasne 19.41 298 eP **P 15 15 23.3 +1.5**
CHKZ Chkalovo 19.68 50 eP **P 15 15 23.9 -0.9**
CHKZ pmax pmax
comp=Z,8.0nm,0.6s
CHKZ Chkalovo 19.68 50 eP **P 15 15 23.9 -0.9**
comp=Z,8.4nm,0.6s
CHKZ Chkalovo 19.68 50 eP **P 15 15 23.9 -0.9**
comp=Z,8.4nm,0.6s
MORC Moravsky Berou 19.79 298 eP **P 15 15 25.4 -0.6**
MORC pmax pmax
comp=Z,12nm,1.1s
MORC Moravsky Berou 19.79 298 eP **P 15 15 25.4 -0.7**
comp=Z,12nm,1.1s
MORC Moravsky Berou 19.79 298 eP **P 15 15 25.4 -0.6**
comp=Z,12nm,1.1s
ZST Bratislava 19.92 293 eP **P 15 15 28.1 +0.6**
ZST e 15 16 31.7
VRAC Vranov 20.34 297 P **P 15 15 31.8 0.0**
comp=Z,3.0nm,0.8s,baz=136,slow=19,SNR=2.8
DPC Dobruska-Polom 20.65 299 eP **P 15 15 39.0 +4.0**
KSP Ksiaz 20.74 301 eP **P 15 15 38.4 +2.4**
KSP e 15 16 38.1
UPC Upice 20.86 300 eP **P 15 15 40.2 +3.0**
GOLS Golise 20.94 287 eP **P 15 15 38.0 0.0**
GOLS Golise 20.94 287 eP **P 15 15 38.0 0.0**
JOF Joensuu 21.02 342 ep **P 15 15 37.9 -0.8**
EKS2 Erkin-Say 21.02 82 P **P 15 15 38.9 +0.1**
SNR=9.5
AML Almayashu 21.07 84 P **P 15 15 39.7 +0.3**
SNR=13
FINES FINESS Array B 21.20 335 P **P 15 15 39.7 -0.8**
comp=Z,6.6nm,0.8s,mb4.0,baz=138,slow=14,SNR=20
FINES pP 15 15 47.6
comp=Z,5.8nm,0.7s,baz=140,slow=12,SNR=3.8
FINES LR LR 15 25 38.4
comp=Z,374nm,18.6s,MS3.8,baz=320,slow=42
FINES FINESS Array B 21.20 335 P **P 15 15 39.7 -0.8**
FINES pP 15 15 47.6
FINES LR LR 15 25 38.4
AAK Ala-Archa 21.54 82 P **P 15 15 44.2 +0.1**
SNR=16
AAK Ala-Archa 21.54 82 eP **P 15 15 42.3 -1.8**
AAK pmax pmax
comp=Z,10.0nm,0.7s,mb4.3
AAK Ala-Archa 21.54 82 eP **P 15 15 42.3 -1.9**
comp=Z,10nm,0.7s,mb4.4
AAK Ala-Archa 21.54 82 eP **P 15 15 42.3 -1.8**
comp=Z,10nm,0.7s,mb4.4
TIP Timpagrande 21.57 268 eP **P 15 15 44.6 +0.1**
FRU Bishkek 21.59 81 eP **P 15 15 44.0 -0.6**
FRU e 15 15 57.0
KAF Kangasniemi 21.64 336 ep **P 15 15 43.6 -1.4**
comp=Z,2.5nm,0.5s,mb3.9,baz=147,slow=13
KAF Kangasniemi 21.64 336 eP **P 15 15 43.6 -1.4**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.0
UCH Uchtor 21.64 83 P **P 15 15 45.8 +0.6**
SNR=6.1
PRU Pruhonice 21.74 298 eP **P 15 15 46.7 +0.6**
PVCC Panska Ves 21.78 299 eP **P 15 15 47.2 +0.7**
KBK Karagaybulak 21.86 82 P **P 15 15 47.8 +0.4**
SNR=19
VOY Vojsko 22.14 287 e(P) **P 15 15 50.2 +0.1**
GERES GERESS Array B 22.21 295 P **P 15 15 51.8 +1.0**
comp=Z,2.7nm,0.8s,mb3.7,baz=100,slow=8.1,SNR=13
GERES pP 15 15 58.1
comp=Z,2.6nm,0.7s,baz=93,slow=7.4,SNR=9.3
GERES GERESS Array B 22.21 295 P **P 15 15 51.8 +1.0**
GERES pP 15 15 58.1
GERES GERESS Array B 22.21 295 pP 15 15 58.1
KZA Kyzart 22.21 83 P **P 15 15 52.0 +1.1**
SNR=16
BRG Berggiesshubel 22.22 300 eP **P 15 15 52.1 +1.2**
BRG pmax pmax
comp=Z,27nm,1.4s,mb4.5
BRG Berggiesshubel 22.22 300 eP **P 15 15 52.1 +1.2**
comp=Z,27nm,1.4s,mb4.5
BRG e 15 16 52.1
BRG e 15 24 03.9
ARQ Araqi 22.26 151⇑iP **P 15 15 50.8 -0.7**
SNR=11
TKM2 Tokmak 2 22.27 81 P **P 15 15 51.5 0.0**
SNR=14
KHC Kasperske Hory 22.30 296 eP **P 15 15 52.8 +1.1**
KHC e 15 16 52.5
KHC e 15 17 21.0
KHC Kasperske Hory 22.30 296 eP **P 15 15 52.8 +1.1**
KHC ex x 15 16 52.5
KHC x x 15 17 21.0
RUE Ruedersdorf 22.57 304 eP **P 15 15 54.2 -0.1**
comp=Z,125nm,1.4s,mb5.2
CLL Collm 22.86 301 eP **P 15 15 59.0 +1.9**
CLL e 15 16 03.0
CLL pmax pmax
comp=Z,17nm,1.5s,mb4.2
CLL Collm 22.86 301 eP **P 15 15 59.0 +1.9**
comp=Z,17nm,1.5s,mb4.2
CLL e 15 16 03.0
CLL Collm 22.86 301 P **P 15 15 59.0 +1.9**
comp=Z,logA/T=1.1,mb4.3
CLL e*PP 15 16 03.0
CLL e 15 17 05.0
ULHL Ulahol 22.89 82 P **P 15 15 59.3 +1.8**
SNR=15
MOX Moxa 23.66 299 eP **P 15 16 07.3 +2.4**
MOX pmax pmax
comp=Z,27nm,1.6s,mb4.4
MOX Moxa 23.66 299 eP **P 15 16 07.3 +2.4**
comp=Z,27nm,1.6s,mb4.4
MOX Moxa 23.66 299 iP **P 15 16 07.3 +2.4**
comp=Z,logA/T=1.2,mb4.4
GRA1 Grafenberg Arr 23.86 297 eP **P 15 16 08.9 +2.1**
comp=Z,18nm,2.1s,mb4.1
GRF Grafenberg Arr 23.86 297 eP **P 15 16 08.9 +2.1**
GRF pmax pmax
comp=Z,18nm,2.1s,mb4.1
GRF Grafenberg Arr 23.86 297 eP **P 15 16 08.9 +2.1**
GRF pmax pmax
comp=Z,18nm,2.1s,mb4.1
GRF Grafenberg Arr 23.86 297 eP **P 15 16 08.9 +2.1**
comp=Z,18nm,2.1s,mb4.1
DAVOX Davos 24.84 290 P **P 15 16 18.1 +1.7**
comp=Z,9.2nm,0.9s,mb4.3,baz=109,slow=8.4,SNR=15
DAVOX pP 15 16 24.1
comp=Z,11nm,0.8s,baz=107,slow=9.0,SNR=9.7
DAVOX Davos 24.84 290 P **P 15 16 18.1 +1.7**
DAVOX pP 15 16 24.1
APA Apatity 24.91 349⇓iP **P 15 16 27.9 +11**
APA pmax pmax
comp=Z,30nm,0.8s,mb4.9
APA MLR MLR
comp=Z,3μm,8.0s
HFS Hagfors 25.16 322 P **P 15 16 19.6 +0.3**
comp=Z,8.2nm,0.6s,mb4.4,baz=117,slow=9.9,SNR=22
HFS pP pP 15 16 26.4 -0.1
comp=Z,10nm,0.8s,baz=121,slow=9.8,SNR=4.3
HFS Hagfors 25.16 322 P **P 15 16 19.6 +0.3**
HFS pP pP 15 16 26.4 -0.1
WHFO Wadi Hawf 26.56 161⇓P **P 15 16 29.0 -3.7**
NB2 NORSAR Subarra 26.67 323 P **P 15 16 32.4 -0.8**
comp=Z,26nm,1.7s,mb4.5,baz=116,slow=8.6
NB2 NORSAR Subarra 26.67 323 P **P 15 16 32.4 -0.8**
NB2 pmax pmax
comp=Z,26nm,1.7s,mb4.5
NOA NORSAR Array B 26.67 323 P **P 15 16 32.9 -0.4**
comp=Z,2.2nm,0.6s,mb3.9,baz=118,slow=8.4,SNR=7.0
NOA pP pP 15 16 39.7 -0.7
comp=Z,5.4nm,0.9s,baz=118,slow=9.3,SNR=6.3
NOA LR LR 15 26 38.4
comp=Z,110nm,18.1s,MS3.5,baz=290,slow=35
NOA NORSAR Array B 26.67 323 P **P 15 16 32.9 -0.4**
NOA pP pP 15 16 39.7 -0.7
NOA LR LR 15 26 38.4
NOA NORSAR Array B 26.67 323 P **P 15 16 32.8 -0.4**
NOA pP pP 15 16 39.7 -0.7
SBF Sospel 27.00 284 eP **P 15 16 35.7 -0.7**
comp=Z,21nm,0.9s,mb4.4
SBF Sospel 27.00 284 eP **P 15 16 35.7 -0.7**
SBF pmax pmax
comp=Z,11nm,0.9s,mb4.4
ABTO Aybut 27.00 162⇑P **P 15 16 35.0 -1.7**
SNR=8.3
RBK Rabkut 27.07 160⇑P **P 15 16 35.6 -1.7**
SNR=11
HAU Haudompre 27.12 293 eP **P 15 16 37.2 -0.3**
HAU eR
comp=Z,196nm,17.4s
NVS Novosibirsk 27.13 52 iP **P 15 16 37.6 +0.1**
NVS i 15 17 19.3
NVS i 15 22 21.7
NVS pmax pmax
comp=Z,50nm,2.5s,mb4.6
NVS pmax pmax
comp=N,17nm,1.7s
NVS pmax pmax
comp=E,10.0nm,1.7s
NVS pmax pmax
comp=N,11nm,1.1s
NVS pmax pmax
comp=E,11nm,1.1s
NVS pmax pmax
comp=Z,11nm,1.1s,mb4.3
LPG La Plagne 27.17 288 eP **P 15 16 37.5 -0.5**
comp=Z,8.6nm,0.9s,mb4.0
LPG La Plagne 27.17 288 eP **P 15 16 37.5 -0.5**
LPG pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
LPL La Plagne 27.18 288 eP **P 15 16 37.4 -0.6**
MBDF Montbardon 27.29 286 eP **P 15 16 39.0 -0.1**
comp=Z,18nm,1.1s,mb4.2
MBDF Montbardon 27.29 286 eP **P 15 16 39.0 -0.1**
MBDF pmax pmax
comp=Z,9.0nm,1.1s,mb4.2
LMR La Mourre 27.77 283 eP **P 15 16 42.0 -1.5**
ARCES ARCESS Array B 27.95 346 P **P 15 16 43.4 -1.4**
comp=Z,2.8nm,0.8s,mb3.9,baz=328,slow=11,SNR=3.0
ARCES pP pP 15 16 50.4 -1.7
comp=Z,7.6nm,1.0s,baz=7.1,slow=9.8,SNR=2.5
ARCES LR LR 15 27 37.6
comp=Z,275nm,18.4s,MS3.9,baz=19,slow=36
ARCES ARCESS Array B 27.95 346 P **P 15 16 43.4 -1.4**
ARCES pP pP 15 16 50.3 -1.8
SMRF Simiane la Rot 28.29 285 eP **P 15 16 47.0 -1.1**
comp=Z,21nm,1.0s,mb4.4
SSF Saint Saulge 29.15 292 eP **P 15 16 55.4 -0.4**
BGF Bois d'Agland 29.67 291 eP **P 15 16 59.8 -0.8**
comp=Z,4.6nm,0.4s,mb4.3
BGF Bois d'Agland 29.67 291 eP **P 15 16 59.8 -0.8**
BGF pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
WMQ Urumqi 30.66 74 eP **P 15 17 09.8 +0.5**
WMQ PP PP 15 18 10.2 0.0
WMQ S **S 15 22 10.2 +1.1**
WMQ AMB AMB
comp=Z,2.0nm,0.8s,mb4.0
WMQ AMB AMB
comp=Z,16nm,4.3s
WMQ LR LR
comp=N,522nm,18.7s,MS4.3
WMQ LR LR
comp=E,411nm,20.8s,MS4.3
WMQ LR LR
comp=Z,573nm,18.6s,MS4.3
FLN La Foliniere 31.57 296 eP **P 15 17 16.2 -1.0**
comp=Z,32nm,1.0s,mb4.8
FLN eR
comp=Z,300nm,19.2s
FLN La Foliniere 31.57 296 eP **P 15 17 16.2 -1.0**
FLN pmax pmax
comp=Z,16nm,1.0s,mb4.8
FLN MLR MLR
comp=Z,300nm,19.3s,MS4.0
EKA Eskdalemuir Ar 32.82 308 P **P 15 17 27.9 -0.2**
EKA *PP pP 15 17 33.6 -1.8
EKA Eskdalemuir Ar 32.82 308 P **P 15 17 27.9 -0.2**
comp=Z,1.9nm,0.6s,mb4.2,baz=98,slow=9.7,SNR=4.9
EKA pP pP 15 17 33.5 -1.8
comp=Z,9.3nm,1.1s,baz=96,slow=8.4,SNR=3.3
EKA Eskdalemuir Ar 32.82 308 P **P 15 17 27.9 -0.2**
EKA pP pP 15 17 33.5 -1.9
ETSF Etsaut 32.88 285 eP **P 15 17 25.8 -3.0**
comp=Z,2.9nm,0.5s,mb4.1
ETSF Etsaut 32.88 285 eP **P 15 17 25.8 -3.0**
ETSF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
KOLN Koldanda 34.75 104 eP **P 15 17 44.7 -0.4**
comp=Z,8.6nm,0.9s,mb4.7
GKN Gorkha 35.35 103 eP **P 15 17 49.6 -0.6**
comp=Z,20nm,1.1s,mb5.0
DMN Daman 35.91 103 eP **P 15 17 54.8 -0.2**
comp=Z,16nm,0.9s,mb5.0
KKN Kakani 35.93 102 eP **P 15 17 54.6 -0.5**
comp=Z,7.1nm,0.7s,mb4.7
PKI Pulchoki 36.15 103 eP **P 15 17 56.5 -0.5**
comp=Z,15nm,0.9s,mb4.9
GUN Gumba 36.28 102 eP **P 15 17 58.0 -0.1**
comp=Z,26nm,1.1s,mb5.1
ESDC Sonseca Array 36.38 281 P **P 15 17 57.6 -1.2**
comp=Z,0.5nm,0.6s,mb3.6,baz=59,slow=8.6,SNR=4.2
JIRN Jiri 36.66 102 eP **P 15 18 01.5 +0.3**
comp=Z,15nm,0.6s,mb5.0
TLY Talaya 39.44 57 eP **P 15 18 29.8 +5.5**
TLY pmax pmax
comp=Z,11nm,1.4s,mb4.4
TLY MLR MLR
comp=Z,177nm,16.0s,MS4.0
ZAK Zakamensk 39.50 59 eP **P 15 18 26.3 +1.5**
ZAK e 15 24 23.4
SONM Songino Array 42.15 62 P **P 15 18 47.7 +1.1**
comp=Z,0.4nm,0.8s,baz=282,slow=11,SNR=4.3
SONM pP pP 15 18 54.6 +0.6
comp=Z,0.6nm,0.6s,baz=293,slow=9.4,SNR=7.3
ULN Ulaanbaatar 42.56 62c iP **P 15 18 51.1 +1.1**
ULN Ulaanbaatar 42.56 62 eP **P 15 18 50.6 +0.7**
comp=Z,6.1nm,1.1s,mb4.2
ULN Ulaanbaatar 42.56 62 eP **P 15 18 50.6 +0.6**
comp=Z,6.1nm,1.1s,mb4.2
BOD Bodaibo 44.05 46 eP **P 15 19 01.9 0.0**
LZH Lanzhou 45.02 79⇓P **P 15 19 10.5 +0.5**
LZH AP pP 15 19 18.5 +1.1
LZH XP sP 15 19 22.0 +1.5
LZH AMB AMB
comp=Z,29nm,1.2s,mb5.0
LZH LR LR
comp=N,800nm,14.4s
LZH LR LR
comp=Z,750nm,17.0s,MS4.7
TIXI Tiksi 47.54 25⇑iP **P 15 19 30.4 +0.9**
TIXI pmax pmax
comp=Z,12nm,1.2s,mb4.8
TIXI MLR MLR
comp=Z,283nm,17.0s,MS4.3
XAN Xi'an 49.64 78 P **P 15 19 46.4 +0.2**
XAN AP pP 15 19 53.1 -0.7
XAN AMB AMB
comp=Z,11nm,1.2s,mb4.8
YAK Yakutsk 50.47 37⇓eP **P 15 19 52.1 0.0**
YAK pmax pmax
comp=Z,11nm,0.9s,mb4.9
YAK MLR MLR
comp=Z,400nm,19.0s,MS4.5
YAK Yakutsk 50.47 37 P **P 15 19 51.3 -0.8**
comp=Z,6.8nm,0.6s,mb4.8
YAK Yakutsk 50.47 37 P **P 15 19 51.3 -0.8**
comp=Z,6.8nm,0.6s,mb4.8
CMAR Chiang Mai Arr 51.53 101 P **P 15 19 59.4 -1.4**
CMAR Chiang Mai Arr 51.53 101 P **P 15 19 59.4 -1.4**
comp=Z,5.2nm,1.2s,mb4.3,baz=302,slow=7.7,SNR=17
ENH Enshi 52.06 82 eP **P 15 20 04.0 -0.6**
comp=Z,12nm,1.2s,mb4.7
DBIC Dimbokro 56.95 245 P **P 15 20 38.0 -2.6**
comp=Z,8.4nm,0.9s,mb4.8,baz=23,slow=6.9,SNR=15
RES Resolute Bay 59.11 348 P **P 15 20 54.8 -0.1**
RES pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
RES Resolute Bay 59.11 348 P **P 15 20 54.8 -0.1**
comp=Z,1.3nm,0.7s,mb4.1
SEY Seymchan 59.32 31 eP **P 15 20 59.8 +3.3**
SEY e pP 15 21 05.9 +1.7
SEY e 15 23 10.9
SEY e 15 30 48.6
SEY pmax pmax
comp=Z,20nm,1.4s,mb5.0
SSE Sheshan 59.92 74 P **P 15 20 57.9 -3.2**
SSE AP pP 15 21 07.0 -1.8
SSE S **S 15 29 07.0 -2.8**
SSE XS 15 29 22.9
SSE AMB AMB
comp=Z,27nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,95nm,4.4s
SSE LR LR
comp=N,54nm,20.6s,MS3.9
SSE LR LR
comp=E,84nm,20.6s,MS3.9
SSE LR LR
comp=Z,105nm,21.7s,MS3.9
BILL Bilibino 60.44 22 eP **P 15 21 04.1 0.0**
BILL e*PP pP 15 21 11.5 -0.4
BILL e*SP sP 15 21 15.0 +0.4
BILL pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
BILL MLR MLR
comp=Z,100nm,17.0s,MS4.0
BILL Bilibino 60.44 22 eP **P 15 21 04.0 -0.1**
comp=Z,4.6nm,0.9s,mb4.5
LSZ Lusaka 60.47 199 eP **P 15 21 03.8 -1.2**
LSZ pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
LSZ Lusaka 60.47 199 eP **P 15 21 03.8 -1.2**
comp=Z,1.5nm,0.3s,mb4.5
MA2 Magadan 60.69 34 iP **P 15 21 06.6 +0.7**
MA2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
MA2 MLR MLR
comp=Z,200nm,17.0s,MS4.3
SCHQ Schefferville 66.23 324 P **P 15 21 41.8 -0.6**
comp=Z,2.2nm,0.8s,mb4.2,baz=359,slow=8.5,SNR=3.5
INK Inuvik 68.51 359 P **P 15 21 57.8 +1.3**
INK pmax pmax
comp=Z,1.0nm,0.9s
INK Inuvik 68.51 359 P **P 15 21 57.8 +1.2**
comp=Z,1.2nm,0.9s,mb3.8,baz=356,slow=10,SNR=3.4
INK Inuvik 68.51 359 P **P 15 21 56.4 -0.2**
comp=Z,6.5nm,1.3s,mb4.4
COLA College 71.50 6 eP **P 15 22 15.0 +0.2**
COLA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
COLA College 71.50 6 eP **P 15 22 15.0 +0.2**
comp=Z,3.3nm,0.8s,mb4.3
ILAR Eielson Array 71.67 5 P **P 15 22 16.5 +0.7**
comp=Z,0.6nm,1.0s,mb3.5,baz=287,slow=2.0,SNR=4.9
DAWY Dawson 72.72 2 eP **P 15 22 22.2 +0.4**
YKW3 Yellowknife Ar 73.03 350 eP **P 15 22 22.7 -1.0**
YKA Yellowknife Ar 73.09 350 P **P 15 22 24.2 +0.1**
comp=Z,1.1nm,0.7s,mb3.9,baz=15,slow=6.3,SNR=30
YKA pP pP 15 22 32.2 +0.3
comp=Z,1.0nm,0.7s,baz=15,slow=6.5,SNR=11
YKA LR LR 15 56 24.9
comp=Z,59nm,19.0s,MS3.9,baz=30,slow=37
FX1 Attu Island--F 74.16 30 LR LR 16 03 07.4
comp=Z,10nm,19.2s,MS3.1,baz=267,slow=42

*IDC **07** 15:11:56.5±0.7, 43.75N×45.14E, h20km±4km, mb4.1/12, mb1 4.2/15, mb1mx4.1/22, mbtmp4.2/15, ML4.0/3, Error ellipse: s-maj=17.3km s-min=10.8km az=77.0*

ISC 07 15:11:54.8±0.6, 43.88N±0.06×45.3E±0.1, h20km, h20km±1.0km: pP-P, n20, σ1s 05/17, mb4.2/10, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	**3.75**	**187**	Pn	**Pn**	**15 12 54.8**	**+1.8**
	70nm,0.3s,baz=307,slow=14,SNR=5.3						
GNI				Sn	**Sn**	**15 13 36.3**	**-0.8**
	52nm,0.3s,baz=180,slow=23,SNR=4.3						
AKASG	**Malin Array Be**	**12.88**	**308**	Pn	**P**	**15 14 58.1**	**-1.3**
	1.6nm,0.3s,baz=110,slow=13,SNR=4.6						
EIL	**Elat**	**16.42**	**214**	Pn	**P**	**15 15 41.7**	**-4.0**
	0.3nm,0.3s,baz=2.0,slow=16,SNR=6.7						
BVAR	**Borovoye Array**	**18.88**	**52**	Pn	**P**	**15 16 15.6**	**-0.5**
	0.7nm,0.3s,baz=270,slow=12,SNR=3.6						
VRAC	**Vranov**	**20.42**	**296**	P	**P**	**15 16 35.3**	**+2.1**
	4.5nm,0.9s,baz=80,slow=15,SNR=2.2						
FINES	**FINESS Array B**	**20.97**	**334**	P	**P**	**15 16 38.7**	**-0.1**
	5.8nm,0.7s,baz=135,slow=14,SNR=2.4						
FINES				pP		15 16 45.5	
	4.9nm,0.6s,baz=140,slow=13,SNR=2.1						
GERES	**GERESS Array B**	**22.30**	**294**	P	**P**	**15 16 52.2**	**0.0**
	2.7nm,0.5s,mb3.9,baz=95,slow=8.8,SNR=12						
GERES				pP		15 16 58.2	
	3.4nm,0.6s,baz=97,slow=8.1,SNR=4.3						
DAVOX	**Davos**	**24.97**	**289**	P	**P**	**15 17 17.9**	**-0.3**
	7.4nm,0.7s,mb4.3,baz=107,slow=9.4,SNR=6.2						
DAVOX				pP		15 17 23.1	
	12nm,0.8s,baz=122,slow=10,SNR=4.0						
HFS	**Hagfors**	**25.03**	**322**	P	**P**	**15 17 19.6**	**+1.0**
	9.3nm,0.6s,mb4.5,baz=121,slow=8.6,SNR=4.5						
HFS				pP	pP	15 17 24.9	+0.3
	17nm,0.7s,baz=113,slow=11,SNR=3.8						
HFS	**Hagfors**	**25.03**	**322**	pP	pP	15 17 24.9	+0.3
NOA	**NORSAR Array B**	**26.53**	**322**	P	**P**	**15 17 32.6**	**+0.1**
	2.9nm,0.6s,mb4.0,baz=120,slow=8.7,SNR=4.4						
NOA				pP	pP	15 17 38.8	+0.3
	7.9nm,0.8s,baz=118,slow=9.4,SNR=3.3						
NOA	**NORSAR Array B**	**26.53**	**322**	pP	pP	15 17 38.8	+0.3
EKA	**Eskdalemuir Ar**	**32.79**	**308**	P	**P**	**15 18 27.7**	**-0.8**
	3.2nm,0.6s,mb4.4,baz=99,slow=10.0,SNR=8.2						
EKA				pP	pP	15 18 33.4	-1.2
	4.9nm,0.8s,baz=105,slow=9.5,SNR=4.0						
EKA	**Eskdalemuir Ar**	**32.79**	**308**	*PP	pP	15 18 33.4	-1.1
CMAR	**Chiang Mai Arr**	**51.34**	**102**	P	**P**	**15 20 59.6**	**-0.3**
	1.1nm,0.5s,mb4.0,baz=305,slow=8.9,SNR=4.3						
CMAR				pP	pP	15 21 07.0	+0.8
	0.6nm,0.4s,baz=54,slow=25,SNR=2.0						
CMAR	**Chiang Mai Arr**	**51.34**	**102**	*PP	pP	15 21 07.1	+0.9
DBIC	**Dimbokro**	**57.35**	**245**	P	**P**	**15 21 38.1**	**-6.0**
	5.6nm,0.5s,mb4.8,baz=24,slow=6.4,SNR=14						
SCHQ	**Schefferville**	**66.08**	**324**	P	**P**	**15 22 40.3**	**-1.7**
	2.2nm,0.8s,mb4.2,baz=62,slow=5.8,SNR=4.9						
INK	**Inuvik**	**68.14**	**360**	P	**P**	**15 22 55.4**	**+0.6**
	0.7nm,0.5s,mb3.9,baz=2.9,slow=11,SNR=4.7						
YKA	**Yellowknife Ar**	**72.76**	**350**	P	**P**	**15 23 23.9**	**+1.1**
	0.8nm,0.6s,mb3.8,baz=10,slow=5.4,SNR=6.6						
YKA				pP	pP	15 23 30.0	+0.8
	1.1nm,0.7s,baz=13,slow=6.4,SNR=3.8						

*JMA **07** 15:15:44.8±0.2, 24.71N×122.36E, M3.0*

TAP 07 15:15:44.2, 24.89N×122.39E, h6km, ML3.5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.71**	**127**	P	Pg	15 15 57.7	-0.7
YOJ				S	Sg	15 16 06.9	-1.0
IRIF	**Iriomote-Funau**	**1.34**	**114**	P	Pb	15 16 09.5	+0.1
IRIF				eS	Sb	15 16 26.3	-0.3
HATJ	**Hateruma jima**	**1.53**	**122**	P	Pn	15 16 12.7	+0.4
HATJ				eS	Sb	15 16 32.0	-0.2
JKRS	**Kuro-shima**	**1.61**	**113**	P	Pn	15 16 14.4	+1.0
JKRS				eS	Sb	15 16 33.5	-1.0
JIJ	**Ishigaki jima**	**1.68**	**108**	P	Pn	15 16 15.6	+1.2
JIJ				eS	Sn	15 16 37.0	+0.6

*IDC **07** 15:20:25.1±6.7, 34.70N×81.22E, h55km±64km, mb3.5/9,*

mb1 3.7/10, mb1mx3.5/20, mbtmp3.7/10, ML3.7/1, Error ellipse: s-maj=57.1km s-min=15.5km az=45.0

ISC 07 15:20:18.8±4.6, 34.5N±0.1×81.0E±0.1, h20km±36km, n19, σ0§98/19, mb3.7/9, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**4.62**	**247**	*eP*	**Pn**	**15 21 30.0**	**+0.6**
DDI	**Dehra Dun**	**4.84**	**212**	*eP*	**Pn**	**15 21 32.1**	**-0.4**
KOLN	**Koldanda** 5.5nm,0.3s	**7.06**	**161**	*eP*	**Pn**	**15 22 02.3**	**-1.5**
GKN	**Gorkha** 9.4nm,0.5s	**7.18**	**153**	*eP*	**Pn**	**15 22 03.9**	**-1.6**
KKN	**Kakani** 9.8nm,0.6s	**7.62**	**150**	*eP*	**Pn**	**15 22 11.0**	**-0.7**
DMN	**Daman**	**7.71**	**152**	*eP*	**Pn**	**15 22 12.0**	**-0.9**
GUN	**Gumba** 8.5nm,0.5s	**7.78**	**146**	*eP*	**Pn**	**15 22 15.2**	**+1.3**
PKI	**Pulchoki** 15nm,0.6s	**7.87**	**150**	*eP*	**Pn**	**15 22 16.3**	**+1.2**
JIRN	**Jiri** 12nm,0.4s	**8.14**	**145**	*eP*	**P**	**15 22 20.3**	**+1.5**
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=156,slow=12,SNR=4.5	**20.01**	**341**	P	**P**	**15 24 53.4**	**+0.3**
CMAR	**Chiang Mai Arr** 1.1nm,0.7s,mb3.4,baz=315,slow=9.7,SNR=6.4	**22.59**	**130**	P	**P**	**15 25 20.1**	**+0.5**
AKASG	**Malin Array Be** 0.4nm,0.5s,mb3.4,baz=78,slow=8.7,SNR=4.0	**40.53**	**310**	P	**P**	**15 27 57.2**	**-0.9**
MLR	**Muntele Rosu** 3.7nm,0.8s,mb4.2,baz=122,slow=8.9,SNR=3.4	**42.82**	**302**	P	**P**	**15 28 18.6**	**+1.7**
FINES	**FINESS Array B** 0.6nm,0.5s,mb3.6,baz=90,slow=9.5,SNR=4.2	**43.74**	**325**	P	**P**	**15 28 23.6**	**-0.5**
HFS	**Hagfors** 4.7nm,0.9s,mb4.5,baz=80,slow=8.8,SNR=2.3	**49.64**	**323**	P	**P**	**15 29 10.2**	**-0.5**
GERES	**GERESS Array B** 0.6nm,0.8s,mb3.6,baz=100,slow=6.0,SNR=3.1	**50.67**	**308**	P	**P**	**15 29 19.1**	**+0.4**
WRA	**Warramunga Arr** 0.6nm,0.8s,mb3.6,baz=327,slow=5.5,SNR=5.8	**74.17**	**128**	P	**P**	**15 31 56.2**	**+0.1**
ASAR	**Alice Springs** 0.4nm,0.7s,mb3.5,baz=320,slow=5.8,SNR=7.5	**76.60**	**131**	P	**P**	**15 32 10.6**	**+0.6**
YKA	**Yellowknife Ar** 0.2nm,0.6s,mb3.3,baz=343,slow=5.2,SNR=7.6	**82.54**	**7**	P	**P**	**15 32 39.7**	**-1.3**

IDC 07 15:33:21.6±1.3, 5.53N×93.63E, h31km±6km, mb3.6/4, mb1 3.9/4, mb1mx3.5/16, mbtmp3.8/4, Error ellipse: s-maj=53.7km s-min=19.3km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array** 0.5nm,0.8s,baz=193,slow=9.0,SNR=4.6	**43.55**	**12**	P	P	15 41 23.3	-1.1
SONM	0.2nm,0.6s,baz=180,slow=6.2,SNR=2.1			pP	pP	15 41 30.6	-3.1
WRA	**Warramunga Arr** 3.2nm,0.8s,baz=301,slow=9.2,SNR=24	**47.36**	**123**	P	P	15 41 53.4	-1.8
WRA	0.9nm,0.6s,baz=301,slow=9.2,SNR=4.7			pP	pP	15 42 02.0	-2.4
ASAR	**Alice Springs** 0.7nm,0.7s,baz=298,slow=7.9,SNR=14	**48.84**	**128**	P	P	15 42 04.4	-2.2
ASAR	0.2nm,0.8s,baz=300,slow=7.0,SNR=1.5			pP	pP	15 42 14.2	-1.8
GERES	**GERESS Array B** 0.5nm,0.6s,slow=2.7,SNR=4.4	**79.23**	**319**	P	P	15 45 23.3	-2.2
GERES	0.2nm,0.3s,baz=133,slow=26,SNR=2.0			pP	pP	15 45 34.9	-0.4

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*MOS **07** 15:34:57.4±1.3, 5.17N×94.43E, h33km, mb5.0/10, Error ellipse: s-maj=28.6km s-min=11.3km az=97.2*
*BJI **07** 15:35:02.1, 5.13N×94.43E, h86km, mB5.0, mb4.9, Ms4.8, Msz4.3*
*IDC **07** 15:35:04.6±0.6, 5.60N×94.37E, h55km±4km, mb4.2/15, mb1 4.4/16, mb1mx4.2/22, mbtmp4.5/16, MS3.2/1, Ms1 3.4/1, ms1mx3.1/18, Error ellipse: s-maj=27.3km s-min=11.4km az=45.0*
*NEIC **07** 15:35:04.3±0.4, 5.51N×94.46E, mb4.7/18, Error ellipse: s-maj=11.7km s-min=6.9km az=46.0*

ISC 07 15:35:02.2±0.4, 5.47N±0.06×94.42E±0.06, h56km, h56km±1.4km: pP-P, n84, σ1§06/77, mb4.7/48, MS4.2/1, 5C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla** 194nm,1.0s	**6.39**	**74**	P	**P**	**15 36 35.0**	**-0.9**
NNT	**Nongplab**	**8.80**	**36**	P	**P**	**15 37 11.0**	**+1.7**
NST	**Nakhon Sawan**	**11.58**	**29**	P	**P**	**15 37 49.0**	**+1.7**
KKTK	**Khon Kaen** 617nm,0.8s	**13.58**	**37**	P	**P**	**15 38 24.0**	**+10**
CMAR	**Chiang Mai Arr**	**13.64**	**19**	P	**P**	**15 38 17.0**	**+2.4**
CMAR	**Chiang Mai Arr** 3.6nm,0.3s,baz=208,slow=13,SNR=45	**13.64**	**19**	P	**P**	**15 38 17.1**	**+2.4**
CMAR	comp=Z,108nm,20.0s,baz=210,slow=36			LR	LR	15 43 16.2	
CMAR	0.0nm,0.3s,baz=226,slow=3.7,SNR=7.0			ScP		15 47 07.8	
CHG	**Chiang Mai** 47nm,0.8s	**13.97**	**18**	⇓P	**P**	**15 38 22.7**	**+3.7**
CHRT	**Chiangrai**	**15.23**	**20**	⇑P	**P**	**15 38 41.5**	**+6.2**
HYB	**Hyderabad**	**19.54**	**309**	*e*P	**P**	**15 39 29.5**	**+1.5**
HYB	**Hyderabad**	**19.54**	**309**	*i* P	**P**	**15 39 29.5**	**+1.5**
QIZ	**Qiongzhong**	**20.19**	**47**	P	**P**	**15 39 36.4**	**+1.5**
QIZ	**Qiongzhong** 23nm,1.0s	**20.19**	**47**	P	**P**	**15 39 35.1**	**+0.2**
JIRN	**Jiri** 46nm,0.6s,mb5.1	**23.41**	**341**	*e*P	**P**	**15 40 08.1**	**+1.1**
PKI	**Pulchoki** 17nm,0.6s,mb4.7	**23.59**	**340**	*e*P	**P**	**15 40 08.6**	**-0.1**
DMN	**Daman** 48nm,0.7s,mb5.0	**23.73**	**339**	*e*P	**P**	**15 40 10.1**	**0.0**
GUN	**Gumba** 48nm,0.7s,mb5.0	**23.74**	**341**	*e*P	**P**	**15 40 10.1**	**-0.1**
KKN	**Kakani** 13nm,0.5s,mb4.6	**23.83**	**340**	*e*P	**P**	**15 40 10.9**	**-0.2**
GKN	**Gorkha** 35nm,0.5s,mb5.1	**24.26**	**339**	*e*P	**P**	**15 40 15.2**	**0.0**
LSA	**Lhasa**	**24.29**	**353**	P	**P**	**15 40 17.2**	**+1.6**
LSA	comp=Z,20nm,1.0s,mb4.5			AMB	AMB		
LSA	**Lhasa** comp=Z,13nm,0.6s,mb4.5	**24.29**	**353**	*e*P	**P**	**15 40 16.7**	**+1.1**
KOLN	**Koldanda** comp=Z,36nm,0.6s,mb5.0	**24.44**	**336**	*e*P	**P**	**15 40 18.0**	**+0.9**
ENH	**Enshi** comp=Z,16nm,0.6s,mb4.8	**28.46**	**28**	*e*P	**P**	**15 40 52.7**	**-1.5**
XAN	**Xi'an**	**31.45**	**23**	P	**P**	**15 41 19.1**	**-1.5**
XAN	comp=Z,30nm,0.8s,mb5.2			AMB	AMB		
NJ2	**Nanjing**	**34.95**	**38**	*e*P	**P**	**15 41 51.3**	**+0.4**
NJ2	comp=Z,50nm,1.0s,mb5.4			AMB	AMB		
NJ2	comp=Z,440nm,3.8s			AMB	AMB		
NJ2	comp=N,510nm,21.6s,MS4.3			LR	LR		
NJ2	comp=E,300nm,18.4s,MS4.3			LR	LR		
NJ2	comp=Z,290nm,21.4s,MS4.0			LR	LR		
JOW	**Kunigami** comp=Z,16nm,0.5s,mb5.0,baz=192,slow=1.9,SNR=8.8	**38.62**	**53**	P	**P**	**15 42 23.1**	**+1.3**
FITZ	**Fitzroy Crossi** comp=Z,8.2nm,0.7s,mb4.6	**38.70**	**128**	*e*P	**P**	**15 42 22.4**	**-0.1**
BJT	**Baijiatuan** comp=Z,11nm,0.8s,mb4.6	**39.58**	**27**	*e*P	**P**	**15 42 29.3**	**-0.3**
AAK	**Ala-Archa**	**41.01**	**337**	*i* P	**P**	**15 42 41.0**	**-0.4**
AAK	comp=Z,8.0nm,1.5s,mb4.1			pmax	pmax		
AAK	**Ala-Archa** comp=Z,3.2nm,0.7s,mb4.1	**41.01**	**337**	*e*P	**P**	**15 42 40.2**	**-1.2**
KAKA	**Kakadu** comp=Z,6.0nm,0.5s,mb4.5	**41.88**	**116**	*e*P	**P**	**15 42 48.7**	**-0.2**
MK02	**Makanchi Array**	**42.45**	**348**	P	**P**	**15 42 53.6**	**+0.4**
MK02	comp=Z,10.0nm,0.6s,mb4.6			pmax	pmax		
SONM	**Songino Array** comp=Z,6.0nm,0.8s,mb4.4,baz=194,slow=8.5,SNR=46	**43.44**	**12**	P	**P**	**15 43 01.0**	**-0.3**
SONM	comp=Z,6.9nm,1.1s,baz=198,slow=6.9,SNR=8.0			pP	pP	15 43 14.8	-1.1
SONM	comp=Z,1.3nm,0.5s,baz=191,slow=3.9,SNR=8.9			PcP	PcP	15 44 49.8	+0.5
SONM	comp=Z,0.4nm,0.5s,baz=236,slow=4.5,SNR=3.7			ScP		15 48 38.9	
ULN	**Ulaanbaatar** comp=Z,3.3nm,0.6s,mb4.2	**43.60**	**12**	*e*P	**P**	**15 43 01.5**	**-1.1**
ZAK	**Zakamensk**	**45.37**	**8**	*e*P	**P**	**15 43 15.5**	**-1.2**
ZAK				*e*		15 44 55.4	
WRA	**Warramunga Arr** comp=Z,6.4nm,0.6s,mb4.8,baz=305,slow=8.6,SNR=46	**46.67**	**124**	P	**P**	**15 43 27.9**	**+0.4**
WRA	comp=Z,6.7nm,0.8s,baz=301,slow=9.5,SNR=6.2			pP	pP	15 43 44.7	+2.5
WRAB	**Tennant Creek** comp=Z,16nm,0.5s,mb5.2	**46.68**	**124**	*e*P	**P**	**15 43 26.6**	**-0.8**
WB2	**Warramunga Arr**	**46.69**	**124**	⇑*i*P	**P**	**15 43 27.8**	**+0.3**
ASPA	**Alice Springs**	**48.19**	**129**	⇑*i*P	**P**	**15 43 39.6**	**+0.3**
ASAR	**Alice Springs** comp=Z,4.1nm,0.6s,mb4.6,baz=299,slow=7.7,SNR=33	**48.19**	**129**	P	**P**	**15 43 39.6**	**+0.4**
ASAR	comp=Z,4.9nm,0.6s,baz=310,slow=7.7,SNR=7.4			pP	pP	15 43 55.2	+1.1
HIA	**Hailar** comp=Z,5.2nm,0.6s,mb4.7	**48.62**	**22**	*e*P	**P**	**15 43 41.5**	**-0.7**
NVS	**Novosibirsk**	**50.04**	**352**	*i* P	**P**	**15 43 51.6**	**-1.5**
NVS				*e*	pP	15 44 07.2	-0.8
NVS	comp=Z,11nm,0.8s,mb4.9			pmax	pmax		
NVS	comp=N,11nm,1.1s			pmax	pmax		
NVS	comp=E,6.0nm,1.1s			pmax	pmax		
BVA0	**Borovoye Array**	**51.34**	**342**	P	**P**	**15 44 02.5**	**-0.5**
BVA0	comp=Z,1.0nm,0.6s,mb3.9			pmax	pmax		
BVAR	**Borovoye Array** comp=Z,7.0nm,0.5s,mb4.8,baz=142,slow=12,SNR=6.5	**51.34**	**342**	P	**P**	**15 44 02.6**	**-0.3**
BVAR	comp=Z,1.1nm,0.4s,baz=49,slow=45,SNR=4.5			pP	pP	15 44 18.1	+0.2
BRVK	**Borovoye** comp=Z,11nm,0.6s,mb5.0	**51.40**	**342**	*e*P	**P**	**15 44 02.7**	**-0.7**
CHKZ	**Chkalovo**	**51.83**	**342**	*i* P	**P**	**15 44 06.7**	**+0.1**
CHKZ	comp=Z,14nm,0.6s,mb5.1			pmax	pmax		
CHKZ	**Chkalovo** comp=Z,19nm,0.5s,mb5.3	**51.83**	**342**	*e*P	**P**	**15 44 06.4**	**-0.2**
PMG	**Port Moresby** comp=Z,7.1nm,0.8s,mb4.8	**54.60**	**106**	*e*P	**P**	**15 44 26.3**	**-1.4**
GNI	**Garni**	**56.31**	**315**	*i* P	pP	15 44 54.8	-0.1
GNI	comp=Z,12nm,1.8s			pmax	pmax		
CTA	**Charters Tower** comp=Z,1.1nm,0.4s,mb4.3,baz=277,slow=8.1,SNR=3.0	**56.92**	**118**	P	**P**	**15 44 45.6**	**+1.3**
ARU	**Arti**	**58.20**	**337**	⇑*i*P	**P**	**15 44 50.4**	**-2.4**
ARU	comp=Z,11nm,1.0s,mb4.8			pmax	pmax		
STKA	**Stephens Creek** comp=Z,2.8nm,0.6s,mb4.5	**58.27**	**133**	*e*P	**P**	**15 44 57.0**	**+3.4**
STKA	**Stephens Creek** comp=Z,2.3nm,0.5s,mb4.5,baz=338,slow=4.1,SNR=5.1	**58.27**	**133**	P	**P**	**15 44 55.6**	**+1.9**
KIV	**Kislovodsk**	**59.28**	**319**	*i* P	pP	15 45 14.8	-0.9
KIV				*i* S	**S**	**15 53 01.9**	**-0.8**
KIV	comp=Z,18nm,1.6s,mb4.8			pmax	pmax		
KIV	**Kislovodsk** comp=Z,12nm,0.9s,mb4.9	**59.28**	**319**	*e*P	**P**	**15 44 59.6**	**-0.9**
KIV				*e*pP	pP	15 45 14.7	-1.0
SOC	**Sochi**	**61.11**	**317**	*e*P	pP	15 45 26.9	-1.4
SOC				*e*		15 47 32.1	
SOC				*e*PPP	PPP	15 48 54.6	-4.0
SOC				*e*S	**S**	**15 53 26.4**	**+0.2**
SOC	comp=Z,12nm,0.7s,mb5.1			pmax	pmax		
SOC	comp=N,10.0nm,0.5s			pmax	pmax		
SOC	comp=E,15nm,0.7s			pmax	pmax		
YAK	**Yakutsk**	**62.17**	**18**	⇑*i*P	**P**	**15 45 17.9**	**-1.9**
YAK	comp=Z,12nm,0.9s,mb5.0			pmax	pmax		
YAK	**Yakutsk** comp=Z,5.5nm,0.6s,mb4.9	**62.17**	**18**	*e*P	**P**	**15 45 18.1**	**-1.8**
BRTR	**Keskin Array B**	**64.21**	**312**	P	**P**	**15 45 33.1**	**-0.5**
BRTR				PP	pP	15 45 48.2	-0.9
BRTR	**Keskin Array B** comp=Z,2.9nm,1.0s,mb4.3,baz=122,slow=7.7,SNR=14	**64.21**	**312**	P	**P**	**15 45 33.1**	**-0.5**
BRTR	comp=Z,5.8nm,1.2s,baz=127,slow=6.2,SNR=5.6			pP	pP	15 45 48.2	-0.8
OBN	**Obninsk**	**67.55**	**328**	*i* P	pP	15 46 08.8	-1.4
OBN	comp=Z,13nm,1.7s,mb4.7			pmax	pmax		
MA2	**Magadan** comp=Z,5.4nm,0.6s,mb4.7	**68.76**	**27**	*e*P	**P**	**15 46 00.9**	**-1.2**
TIXI	**Tiksi** comp=Z,12nm,0.6s,mb5.0	**69.52**	**11**	*e*P	**P**	**15 46 04.5**	**-2.1**
TIXI				pmax	pmax		
AKASG	**Malin Array Be** comp=Z,1.3nm,0.5s,mb4.1,baz=89,slow=5.0,SNR=6.9	**70.20**	**322**	P	**P**	**15 46 09.4**	**-1.6**
AKASG	comp=Z,1.4nm,0.6s,baz=88,slow=5.3,SNR=4.5			pP	pP	15 46 25.4	-1.4
MLR	**Muntele Rosu** comp=Z,2.5nm,0.5s,mb4.4,baz=109,slow=5.4,SNR=3.7	**71.08**	**316**	P	**P**	**15 46 16.8**	**+0.3**
FINES	**FINESS Array B** comp=Z,2.3nm,0.6s,mb4.3,baz=100,slow=6.0,SNR=10	**74.95**	**332**	P	**P**	**15 46 38.6**	**-0.2**
FINES	comp=Z,2.3nm,0.7s,baz=101,slow=6.1,SNR=2.0			pP	pP	15 46 53.8	-0.8
KAF	**Kangasniemi**	**75.04**	**333**	*e*p	**P**	**15 46 38.9**	**-0.4**
ARCES	**ARCESS Array B** comp=Z,1.7nm,0.6s,mb4.2,baz=98,slow=6.4,SNR=12	**77.60**	**340**	P	**P**	**15 46 54.8**	**+1.1**
ARCES	comp=Z,5.8nm,0.9s,baz=101,slow=6.2,SNR=2.3			pP	pP	15 47 08.8	-0.8
BILL	**Bilibino**	**78.20**	**21**	*e*P	**P**	**15 46 56.7**	**-0.3**
BILL	comp=Z,3.0nm,1.0s,mb4.2			pmax	pmax		
KSP	**Ksiaz**	**78.28**	**321**	*e*P	pP	15 47 14.5	+0.9
GEC2	**GERESS Array S**	**79.79**	**319**	*e*P	**P**	**15 47 07.1**	**+1.1**
GERES	**GERESS Array B**	**79.79**	**319**	P	**P**	**15 47 07.4**	**+1.4**
GERES				PP	pP	15 47 23.1	+1.1
GERES	**GERESS Array B** comp=Z,5.1nm,0.7s,mb4.6,baz=95,slow=5.3,SNR=38	**79.79**	**319**	P	**P**	**15 47 07.3**	**+1.3**
GERES	comp=Z,4.6nm,0.9s,baz=90,slow=5.3,SNR=5.5			pP	pP	15 47 23.1	+1.1
KHC	**Kasperske Hory**	**79.89**	**319**	*e*P	**P**	**15 47 07.0**	**+0.4**
WET	**Wettzell**	**80.35**	**319**	*e*P	**P**	**15 47 10.0**	**+1.0**
GRA1	**Grafenberg Arr**	**81.45**	**319**	*e*P	**P**	**15 47 16.6**	**+1.8**
GRF	**Grafenberg Arr**	**81.45**	**319**	*e*P	**P**	**15 47 16.6**	**+1.8**
BFO	**Black Forest**	**83.35**	**318**	*e*P	**P**	**15 47 25.1**	**+0.6**
LPG	**La Plagne** comp=Z,16nm,0.9s,mb4.8	**84.50**	**315**	*e*P	**P**	**15 47 31.8**	**+1.4**
ILAR	**Eielson Array** comp=Z,0.4nm,0.6s,mb4.0,baz=325,slow=5.7,SNR=12	**96.85**	**22**	P	**P**	**15 48 28.1**	**+0.2**
INK	**Inuvik** comp=Z,1.1nm,0.6s,mb4.6,baz=324,slow=7.2,SNR=9.4	**99.21**	**16**	P	**P**	**15 48 38.0**	**-0.5**
YKA	**Yellowknife Ar** comp=Z,0.5nm,0.7s,baz=335,slow=7.5,SNR=8.7	**108.68**	**14**	PP	PP	15 53 50.4	-5.4
NVAR	**Mina Array Bea** comp=Z,0.7nm,0.3s,baz=342,slow=2.9,SNR=2.4	**126.81**	**32**	PKP	PKPdf	15 54 04.2	+4.0
PDAR	**Pinedale Array** comp=Z,0.9nm,0.7s,baz=63,slow=3.3,SNR=8.9	**127.28**	**22**	PKP	PKPdf	15 54 03.4	+2.4
PDAR	comp=Z,0.6nm,0.9s,SNR=3.1			pPKP		15 54 19.0	
TXAR	**Lajitas Array** comp=Z,0.7nm,0.5s,baz=315,slow=1.8,SNR=5.4	**141.27**	**26**	PKP	PKPdf	15 54 31.0	+3.6
TXAR	comp=Z,0.3nm,0.3s,baz=90,slow=1.3,SNR=2.0			pPKP		15 54 45.8	

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*MOS **07** 15:45:13.2±1.4, 56.84N×117.79E, h14km, mb3.9/1, Error ellipse: s-maj=14.1km s-min=9.1km az=60.9*
*IDC **07** 15:45:13.9±1.2, 56.82N×117.62E, mb3.6/6, mb1 3.7/7, mb1mx3.6/19, mbtmp3.5/7, ML3.6/1, Error ellipse: s-maj=36.2km s-min=17.7km az=131.0*
*NEIC **07** 15:45:13.0±0.8, 56.55N×117.90E, h10km, mb3.7/1, Error ellipse: s-maj=19.0km s-min=15.8km az=125.0*
*BYKL **07** 15:45:14.7±0.3, 56.68N×118.00E, h17km±5km*
*BJI **07** 15:45:21.0, 55.68N×118.08E, h5km, mb4.7, ML4.5, Ms5.6*

ISC 07 15:45:12.3±0.4, 56.60N±0.03×117.78E±0.04, h10km, n57, σ1§79/92, mb3.8/8, 9C-4D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**0.41**	**41**	*e*PG	**Pg**	**15 45 21.0**	**+0.4**
CRS				*e*		15 45 25.3	
CRS	comp=Z,650nm,0.2s			pmax	pmax		
CRS	comp=N,7μm,0.4s			smax			
CRS	**Chara** comp=N,713nm,0.5s	**0.41**	**41**	⇑*i*Pg	**Pg**	**15 45 21.0**	**+0.4**
CRS	comp=N,499nm,0.5s			⇑*i*Pg	**Pg**	**15 45 21.0**	**+0.4**
CRS	comp=N,1μm,0.5s			⇑*i*Pg	**Pg**	**15 45 21.0**	**+0.4**
CRS	comp=N,2μm,0.6s			Pmax		15 45 21.6	
CRS	comp=N,7μm,0.6s			*i* Sg	**Sg**	**15 45 25.3**	**-0.9**
CRS				Smax		15 45 25.8	
NLYR	**Nelyaty**	**1.16**	**266**	*e*PG	**Pg**	**15 45 36.0**	**+0.5**
NLYR				*e*		15 45 52.9	
NLYR	comp=Z,142nm,0.2s			pmax	pmax		
NLYR	comp=N,4μm,0.7s			smax			
NLYR	**Nelyaty**	**1.16**	**266**	⇑*i*Pg	**Pg**	**15 45 36.9**	**+1.4**
NLYR	comp=N,542nm,0.5s			Pmax		15 45 41.4	
NLYR				*e*Sg	**Sg**	**15 45 53.6**	**+2.7**
NLYR				*e*Sb	**Sb**	**15 45 56.1**	**+7.3**
NLYR	comp=N,4μm,0.7s			max		15 45 57.5	
BOD	**Bodaibo**	**2.39**	**302**	*e*PN	**Pn**	**15 45 57.5**	**+5.3**
BOD				*e*		15 46 28.5	
BOD	comp=Z,357nm,0.4s			pmax	pmax		
BOD	comp=N,3μm,0.3s			smax			
BOD	**Bodaibo**	**2.39**	**302**	⇑*i*Pn	**Pn**	**15 45 54.4**	**+2.2**
BOD				⇑*i*Pg	**Pg**	**15 45 57.8**	**-2.3**
BOD	comp=N,287nm,0.6s			Pmax		15 45 58.6	
BOD				*e*		15 46 04.7	
BOD				*i* Sg	**Sg**	**15 46 29.1**	**-3.0**
BOD	comp=N,3μm,0.3s			Smax		15 46 30.0	
SVKR	**Severomuysk**	**2.40**	**260**	*e*PN	**Pg**	**15 45 59.5**	**-0.7**
SVKR				*e*		15 46 31.4	
SVKR	comp=Z,446nm,0.4s			pmax	pmax		
SVKR	comp=E,524nm,0.2s			smax			
SVKR	**Severomuysk**	**2.40**	**260**	*e*Pn	**Pn**	**15 45 56.4**	**+4.1**
SVKR				*e*Pg	**Pg**	**15 45 59.2**	**-1.0**
SVKR	comp=E,527nm,0.4s			Pmax		15 46 08.0	
SVKR				*i* Sg	**Sg**	**15 46 31.6**	**-0.6**
SVKR	comp=E,3μm,0.5s			Smax		15 46 36.6	
TUP	**Tupik**	**2.50**	**150**	*e*PN	**Pn**	**15 45 55.9**	**+2.1**
TUP				*e*		15 45 59.8	
TUP				*e*		15 46 33.4	
TUP	comp=Z,519nm,0.3s			pmax	pmax		
TUP	comp=E,2μm,0.6s			smax			
TUP	**Tupik**	**2.50**	**150**	⇑*i*Pn	**Pn**	**15 45 55.8**	**+2.0**
TUP				⇑*i*Pg	**Pg**	**15 45 59.4**	**-2.9**
TUP	comp=E,80nm,0.5s			⇓*i*Pg	**Pg**	**15 45 59.4**	**-2.9**
TUP	comp=E,20nm,0.5s			⇓*i*Pg	**Pg**	**15 45 59.4**	**-2.9**
TUP	comp=E,171nm,0.5s			Pmax		15 46 04.9	
TUP	comp=E,737nm,0.6s			*e*		15 46 28.5	
TUP				*e*Sg	**Sg**	**15 46 33.4**	**-2.2**
TUP	comp=E,2μm,0.6s			Smax		15 46 42.9	
UKT	**Uakit**	**2.58**	**246**	*e*PN	**Pg**	**15 46 02.9**	**-1.0**
UKT				*e*		15 46 37.6	
UKT	comp=Z,114nm,0.2s			pmax	pmax		
UKT	comp=E,886nm,0.4s			smax			
UKT	**Uakit**	**2.58**	**246**	*e*Pn	**Pn**	**15 45 58.1**	**+3.2**
UKT				Pg	**Pg**	**15 46 02.6**	**-1.3**
UKT	comp=E,139nm,0.7s			Pmax		15 46 04.4	
UKT				*e*Sg	**Sg**	**15 46 37.3**	**-1.0**
UKT	comp=E,914nm,0.3s			Smax		15 46 38.2	
YOA	**Uoyan**	**3.40**	**265**	⇓*i*PN	**Pg**	**15 46 17.8**	**-2.4**
YOA				*i*		15 47 03.1	
YOA	comp=Z,212nm,0.6s			pmax	pmax		
YOA	comp=E,3μm,1.0s			smax			
YOA	**Uoyan**	**3.40**	**265**	*e*Pn	**Pn**	**15 46 09.9**	**+3.3**
YOA				*e*Pg	**Pg**	**15 46 17.7**	**-2.5**
YOA	comp=E,229nm,0.6s			Pmax		15 46 22.3	
YOA				*e*Sg	**Sg**	**15 47 03.9**	**-1.7**
YOA	comp=E,3μm,0.8s			Smax		15 47 09.3	
KMO	**Kumora**	**3.74**	**262**	*e*PN	**Pn**	**15 46 14.4**	**+3.0**
KMO				*e*		15 46 24.2	
KMO				*e*		15 47 14.3	
KMO	comp=Z,106nm,0.5s			pmax	pmax		
KMO	comp=E,922nm,0.9s			smax			
KMO	**Kumora**	**3.74**	**262**	*e*Pn	**Pn**	**15 46 14.3**	**+2.9**
KMO				*e*		15 46 17.2	
KMO				*e*Pg	**Pg**	**15 46 23.6**	**-3.4**
KMO	comp=E,107nm,0.5s			Pmax		15 46 31.2	
KMO				*i* Sg	**Sg**	**15 47 13.4**	**-3.5**
KMO	comp=E,874nm,0.9s			Smax		15 47 15.2	
CLNS	**Chul'man**	**3.93**	**83**	*e*PN	**Pn**	**15 46 15.6**	**+1.6**
CLNS				*e*		15 46 23.3	
CLNS				*e*		15 47 17.6	
CLNS	comp=N,11nm,0.9s			pmax	pmax		
CLNS	comp=E,20nm,0.9s			pmax	pmax		
CLNS	comp=Z,19nm,0.9s			pmax	pmax		
CLNS	comp=Z,83nm,0.9s			pmax	pmax		
CLNS	comp=N,31nm,0.7s			pmax	pmax		
CLNS	comp=E,54nm,0.7s			smax			
CLNS	comp=N,554nm,0.8s			smax			
CLNS	comp=Z,286nm,0.9s			smax			
CLNS	comp=E,330nm,0.7s			MLR	MLR		
CLNS	comp=Z,100nm,10.0s						
CLNS	**Chul'man**	**3.93**	**83**	*e*	**Pn**	**15 46 16.1**	**+2.1**
CLNS				*e*Pg	**Pg**	**15 46 23.0**	**-7.7**
CLNS				*e*Sg	**Sg**	**15 47 13.9**	**-9.2**
YLYR	**Ulyunkhan**	**4.12**	**248**	*e*PN	**Pn**	**15 46 19.6**	**+2.8**
YLYR				*e*		15 46 29.1	
YLYR				*e*		15 47 23.3	
YLYR	comp=Z,43nm,0.6s			pmax	pmax		
YLYR	comp=E,466nm,0.9s			smax			
YLYR	**Ulyunkhan**	**4.12**	**248**	*e*Pn	**Pn**	**15 46 19.5**	**+2.7**
YLYR				⇑*i*		15 46 19.7	
YLYR				*e*Pg	**Pg**	**15 46 30.2**	**-4.4**
YLYR	comp=E,37nm,0.5s			Pmax		15 46 46.0	
YLYR				*e*Sg	**Sg**	**15 47 25.2**	**-4.3**
YLYR	comp=E,459nm,1.1s			Smax		15 47 34.3	
TNDR	**Tynda**	**4.17**	**107**	*e*	**Pn**	**15 46 18.1**	**+0.6**
TNDR				*e*Pg	**Pg**	**15 46 27.7**	**-7.9**
TNDR				*e*Sg	**Sg**	**15 47 21.9**	**-9.3**
NIZ	**Nizh Angarsk**	**4.68**	**263**	*e*Pn	**Pn**	**15 46 28.3**	**+3.6**
NIZ				*e*Pg	**Pg**	**15 46 41.4**	**-4.3**
NIZ	comp=E,59nm,0.8s			Pmax		15 46 49.2	
NIZ				*e*Sg	**Sg**	**15 47 44.4**	**-3.6**
NIZ	comp=E,410nm,0.6s			Smax		15 47 49.8	
CIT	**Chita**	**5.21**	**210**	*e*PN	**Pg**	**15 46 50.4**	**-5.9**
CIT				*e*S	**Sn**	**15 47 32.8**	**-0.3**
CIT				*e

CIT	**Chita**	**5.21 210**	*e*Pn	**Pn**	**15 46 34.4**	**+2.2**
CIT			*e*Pg	**Pg**	**15 46 50.1**	**-6.2**
CIT			Pmax		15 46 54.1	
	comp=N,35nm,0.8s					
CIT			*e*Sg	**Sg**	**15 47 59.3**	**-6.4**
CIT			Smax		15 48 03.2	
	comp=N,703nm,0.9s					
SYVR	**Suvo**	**5.35 240**	*e*PN	**Pn**	**15 46 36.1**	**+1.9**
SYVR			*e*		15 46 54.5	
SYVR			*e*		15 48 03.7	
SYVR			pmax	pmax		
	comp=Z,32nm,0.6s					
SYVR			smax			
	comp=N,292nm,0.5s					
SYVR	**Suvo**	**5.35 240**	*e*Pn	**Pn**	**15 46 36.2**	**+2.0**
SYVR			Pg	**Pg**	**15 46 53.3**	**-5.8**
SYVR			Pmax		15 47 03.5	
	comp=N,33nm,0.5s					
SYVR			*e*Sn	**Sn**	**15 47 39.2**	**+2.6**
SYVR			*e*Sg	**Sg**	**15 48 04.3**	**-6.1**
SYVR			Smax		15 48 10.3	
	comp=N,395nm,0.9s					
ZEA	**Zeya**	**6.13 114**	*e*Pn	**Pn**	**15 46 42.2**	**-3.1**
ZEA			*e*Pg	**Pg**	**15 47 02.2**	**-13**
ZEA			*e*Sg	**Sg**	**15 48 20.3**	**-16**
OGRR	**Ongureny**	**6.55 247**	*e*PN	**Pn**	**15 46 52.9**	**+1.8**
OGRR			*e*		15 47 13.0	
OGRR			*e*		15 48 39.2	
OGRR			pmax	pmax		
	comp=Z,8.0nm,0.7s					
OGRR			smax			
	comp=E,45nm,0.7s					
OGRR	**Ongureny**	**6.55 247**	*e*Pn	**Pn**	**15 46 53.0**	**+1.9**
OGRR			*e*Pg	**Pg**	**15 47 16.5**	**-6.6**
OGRR			Pmax		15 47 20.9	
	comp=E,9.0nm,0.8s					
OGRR			*e*		15 48 35.0	
OGRR			*e*Sg	**Sg**	**15 48 44.0**	**-6.3**
OGRR			Smax		15 49 03.1	
	comp=E,86nm,1.5s					
TRTB	**Turuntaevo**	**7.36 238**	*e*Pn	**Pn**	**15 47 05.7**	**+3.2**
TRTB			*e*Pg	Px	15 47 29.1	
TRTB			Pmax		15 47 41.8	
	comp=E,7.0nm,0.6s					
TRTB			*e*		15 48 51.3	
TRTB			*e*Sg	Sx	15 49 06.1	
TRTB			Smax		15 49 13.5	
	comp=E,194nm,1.2s					
HIA	**Hailar**	**7.44 170**	PN	**Pn**	**15 47 00.5**	**-3.1**
HIA			*e*		15 47 29.1	
HIA			pmax	pmax		
	comp=Z,9.0nm,0.4s					
HIA	**Hailar**	**7.44 170**	Pn	**Pn**	**15 47 00.5**	**-3.1**
	comp=Z,9.1nm,0.4s					
HIA			*e*Pg	Px	15 47 29.1	
HIA			*e*Sg	Sx	15 49 05.2	
KPC	**Khapcheranga**	**7.63 207**	*e*Pn	**Pn**	**15 47 06.4**	**+0.2**
KPC			*e*Pg	Px	15 47 35.2	
KPC			Pmax		15 47 41.4	
	comp=Z,7.0nm,0.6s					
KPC			*e*Sg	Sx	15 49 15.9	
KPC			Smax		15 49 25.4	
	comp=Z,336nm,1.5s					
TRG	**Tyrgan**	**7.66 245**	*e*PN	**Pn**	**15 47 08.3**	**+1.6**
TRG			*e*		15 47 34.5	
TRG			*e*		15 49 16.6	
TRG			pmax	pmax		
	comp=Z,4.0nm,0.4s					
TRG			smax			
	comp=E,67nm,1.2s					
TRG	**Tyrgan**	**7.66 245**	*e*Pg	Px	15 47 34.8	
TRG			*e*Sg	Sx	15 49 15.9	
TRG			Smax		15 49 31.0	
	comp=E,68nm,1.3s					
FFNB	**Fofonovo**	**7.89 239**	*e*	Sx	15 48 59.3	
FFNB			*e*Sg	Sx	15 49 25.6	
FFNB			Smax		15 49 44.8	
	comp=E,230nm,0.8s					
YAK	**Yakutsk**	**8.16 43**	*e*PN	**P**	**15 47 09.7**	**-4.0**
YAK			*e*		15 47 41.0	
YAK			*e*S	**Sn**	**15 48 41.2**	**-5.8**
YAK			pmax	pmax		
	comp=Z,3.0nm,0.9s					
YAK			pmax	pmax		
	comp=N,1.0nm,0.7s					
YAK			pmax	pmax		
	comp=E,1.0nm,0.8s					
YAK			pmax	pmax		
	comp=N,3.0nm,0.9s					
YAK			pmax	pmax		
	comp=E,2.0nm,0.9s					
YAK			pmax	pmax		
	comp=Z,4.0nm,0.9s					
YAK			smax			
	comp=N,11nm,1.0s					
YAK			smax			
	comp=Z,5.0nm,0.9s					
YAK			smax			
	comp=E,5.0nm,0.8s					
YAK			smax			
	comp=E,98nm,0.9s					
YAK			smax			
	comp=Z,51nm,0.8s					
YAK			smax			
	comp=N,164nm,1.1s					
YAK			MLR	MLR		
	comp=Z,114nm,9.0s					
YAK	**Yakutsk**	**8.16 43**	*e*Pn	**P**	**15 47 09.0**	**-4.7**
LSTR	**Listvyanka**	**8.94 243**	*e*	Sx	15 49 23.8	
LSTR			*e*Sg	Sx	15 49 57.0	
LSTR			Smax		15 50 08.2	
	comp=Z,54nm,1.4s					
TLY	**Talaya**	**9.64 245**	*i* P	**P**	**15 47 52.5**	**+18**
ARS	**Arshan**	**10.12 249**	*e*	rx	15 48 34.6	
ARS			*e*Sg	Sx	15 50 33.7	
ARS			Smax		15 50 48.9	
	comp=Z,132nm,0.8s					
ZAK	**Zakamensk**	**10.63 240**	*e*Sg	Sx	15 50 49.9	
ZAK			Smax		15 51 11.5	
	comp=Z,41nm,1.2s					
ULN	**Ulaanbaatar**	**10.93 221**	*i* P	**P**	**15 47 56.4**	**+4.7**
KLR	**Kul'dur**	**11.19 125**	*e*P	**P**	**15 47 58.4**	**+3.1**
KLR			MLR	MLR		
	comp=E,500nm,13.0s					
KLR			MLR	MLR		
	comp=Z,2μm,13.0s					
SONM	**Songino Array**	**11.20 223**	Pn	**P**	**15 47 56.8**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=333,slow=18,SNR=5.7					
SONM			Sn	**S**	**15 50 07.1**	**+5.4**
	comp=Z,0.5nm,0.3s,baz=34,slow=16,SNR=4.2					
SONM			Lg		15 51 11.0	
	comp=Z,2.2nm,0.3s,baz=38,slow=28,SNR=11					
SONM	**Songino Array**	**11.20 223**	Pn	**P**	**15 47 56.8**	**+1.4**
SONM			Sn	**S**	**15 50 07.1**	**+5.4**
SONM			Lg		15 51 11.0	
TIXI	**Tiksi**	**15.82 13**	‖*e*P	**P**	**15 48 50.7**	**-5.6**
NJ2	**Nanjing**	**24.55 178**	*e*P	**P**	**15 50 37.1**	**+4.0**
NJ2			AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8					
CHKZ	**Chkalovo**	**26.70 284**	P	**P**	**15 50 53.1**	**0.0**
CHKZ			pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.6					
CHKZ	**Chkalovo**	**26.70 284**	P	**P**	**15 50 53.1**	**0.0**
	comp=Z,1.7nm,1.0s,mb3.5					
CMAR	**Chiang Mai Arr**	**40.62 208**	P	**P**	**15 52 56.6**	**+2.8**
	comp=Z,50nm,0.7s,baz=0.2,slow=17,SNR=4.5					
ILAR	**Eielson Array**	**43.06 39**	P	**P**	**15 53 14.0**	**+0.8**
	comp=Z,0.5nm,0.6s,mb3.4,baz=297,slow=5.0,SNR=13					
FINES	**FINESS Array B**	**43.72 316**	P	**P**	**15 53 18.6**	**0.0**
	comp=Z,2.3nm,0.8s,mb3.9,baz=121,slow=11,SNR=5.9					
INK	**Inuvik**	**44.97 30**	P	**P**	**15 53 29.2**	**+0.5**
	comp=Z,1.2nm,0.9s,mb3.7,baz=327,slow=11,SNR=3.4					
AKASG	**Malin Array Be**	**49.32 303**	P	**P**	**15 54 03.0**	**-0.1**
	comp=Z,0.4nm,0.3s,mb3.9,baz=40,slow=8.8,SNR=5.6					
YKA	**Yellowknife Ar**	**54.47 27**	P	**P**	**15 54 40.5**	**-1.0**
	comp=Z,0.4nm,0.7s,mb3.4,baz=328,slow=7.0,SNR=5.5					
BRTR	**Keskin Array B**	**54.98 290**	P	**P**	**15 54 44.9**	**-0.8**
	comp=Z,0.9nm,1.1s,mb3.7,baz=254,slow=9.0,SNR=3.5					

CSEM ***07*** *15:50:00.8,23.60N×99.76E,h33km,mb5.6*
MOS ***07*** *15:50:05.2±1.4,24.25N×98.90E,h33km,mb4.8/11,Error ellipse: s-maj=22.2km s-min=10.1km az=109.3*
BJI ***07*** *15:50:10.3,25.07N×98.83E,h32km,mB4.7,mb4.5,ML4.9,Ms4.6,Msz4.0*
NEIC ***07*** *15:50:12.7±0.7,25.12N×98.86E,h36km±6km,mb4.7/35, Error ellipse: s-maj=6.0km s-min=4.7km az=47.0*
IDC ***07*** *15:50:14.4±3.3,25.06N×98.80E,h50km±33km,mb4.1/16, mb1 4.2/17,mb1mx4.2/21,mbtmp4.3/17,ML4.6/1,MS3.9/9, Ms1 3.9/9,ms1mx3.7/19,Error ellipse: s-maj=22.2km s-min=13.2km az=49.0*
ISC 07 15:50:11.8±0.8,24.99N±0.04×98.76E±0.04,h46km±7km, n139,σ0§96/140,mb4.6/61,MS4.0/13,1C-4D, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IMP	**Imphal**	**4.39**	**268**	*e*P		**P**	**15 51 18.9**	**+1.2**
CHRT	**Chiangrai**	**5.18**	**169**	‖PN		**P**	**15 51 29.0**	**+0.1**
CHRT				PG		**P**	**15 51 48.5**	**+20**
CHRT				SG		S	15 52 55.5	+27
CHG	**Chiang Mai**	**6.15**	**178**	PG		**P**	**15 51 43.1**	**+0.7**
CHG				SG		rx	15 52 05.4	
SHL	**Shillong**	**6.25**	**277**	*e*P		**P**	**15 51 42.4**	**-1.4**
SHL				*e*SG		S	15 53 20.0	+25
NANT	**Nan**	**6.42**	**163**	PG		**P**	**15 51 44.0**	**-2.2**
NANT				SG		rx	15 52 17.0	
CMAR	**Chiang Mai Arr**	**6.50**	**178**	P		**P**	**15 51 48.1**	**+0.8**
	3.0nm,0.3s,baz=354,slow=13,SNR=114							
CMAR				Pg		P	15 52 13.3	+26
	8.3nm,0.3s,baz=351,slow=17,SNR=54							
CMAR				Lg			15 53 40.1	
	15nm,0.3s,baz=38,slow=31,SNR=6.1							
CMAR				LR		LR	15 54 28.8	
	comp=Z,74nm,18.2s,baz=335,slow=39							
LSA	**Lhasa**	**8.23**	**306**	P		**P**	**15 52 10.4**	**-1.0**
LSA				XP			15 52 22.5	
LSA				S		**S**	**15 53 46.0**	**+2.0**
LSA				AMB		AMB		
	comp=Z,30nm,0.5s							
LSA				LR		LR		
	comp=Z,130nm,6.8s							
LSA	**Lhasa**	**8.23**	**306**	*e*Pn		**P**	**15 52 09.2**	**-2.1**
	comp=Z,60nm,0.5s							
ENH	**Enshi**	**10.87**	**59**	*e*Pn		**P**	**15 52 42.7**	**-4.9**
	comp=Z,31nm,0.8s							
JIRN	**Jiri**	**11.59**	**286**	*e*P		**P**	**15 52 54.4**	**-2.9**
	comp=Z,62nm,0.6s							
LZH	**Lanzhou**	**11.89**	**20**	*e*P		**P**	**15 53 04.6**	**+3.2**
LZH				S		**S**	**15 55 13.3**	**-0.3**
LZH				XS			15 55 20.0	
LZH				*e*SS		SS	15 55 28.0	-0.6
LZH				AMB		AMB		
	comp=Z,20nm,1.0s							
LZH				LR		LR		
	comp=E,2μm,11.0s							
LZH				LR		LR		
	comp=Z,1μm,17.2s							
GUN	**Gumba**	**11.90**	**287**	*e*P		**P**	**15 52 58.4**	**-3.2**
	comp=Z,50nm,0.5s							
PKI	**Pulchoki**	**12.25**	**285**	*e*P		**P**	**15 53 02.4**	**-3.9**
	comp=Z,27nm,0.6s							
KKN	**Kakani**	**12.40**	**286**	*e*P		**P**	**15 53 04.7**	**-3.6**
	comp=Z,78nm,0.8s							
DMN	**Daman**	**12.53**	**285**	*e*P		**P**	**15 53 06.3**	**-3.6**
	comp=Z,48nm,0.7s							
GKN	**Gorkha**	**13.00**	**286**	*e*P		**P**	**15 53 11.8**	**-4.4**
	comp=Z,55nm,0.6s							
KOLN	**Koldanda**	**13.87**	**285**	*e*P		**P**	**15 53 23.7**	**-4.0**
	comp=Z,47nm,0.8s							
WHN	**Wuhan**	**14.86**	**65**	*e*P		**P**	**15 53 42.3**	**+1.7**
DDI	**Dehra Dun**	**19.09**	**291**	*e*P		**P**	**15 54 31.1**	**-2.3**
NDI	**New Delhi**	**19.57**	**286**	*e*P		**P**	**15 54 36.0**	**-2.7**
NDI				*e*			15 58 33.0	
HYB	**Hyderabad**	**20.28**	**252**	*e*P		**P**	**15 54 47.0**	**+0.7**
	comp=Z,43nm,1.2s							
HYB	**Hyderabad**	**20.28**	**252**	*i* P		**P**	**15 54 47.0**	**+0.7**
	comp=Z,43nm,1.2s							
SSE	**Sheshan**	**20.69**	**68**	P		**P**	**15 54 45.0**	**-5.5**
SSE				S		**S**	**15 58 31.1**	**-3.0**
SSE				XS			15 58 44.5	
SSE				AMB		AMB		
	comp=Z,22nm,0.7s							
SSE				AMB		AMB		
	comp=Z,117nm,4.4s							
SSE				LR		LR		
	comp=N,1μm,15.6s,MS4.5							
SSE				LR		LR		
	comp=E,333nm,15.6s,MS4.5							
SSE				LR		LR		
	comp=Z,847nm,9.9s							
WMQ	**Urumqi**	**20.85**	**337**	‖P		**P**	**15 54 53.0**	**+1.0**
WMQ				S		**S**	**15 58 36.7**	**-0.3**
WMQ				AMB		AMB		
	comp=Z,21nm,0.8s							
WMQ				LR		LR		
	comp=N,681nm,10.0s							
WMQ				LR		LR		
	comp=E,503nm,9.0s							
WMQ				LR		LR		
	comp=Z,619nm,14.0s,MS4.1							
AJM	**Ajmer**	**21.77**	**279**	*e*P		**P**	**15 55 01.7**	**+0.3**
TGY	**Tagaytay City**	**23.50**	**113**	LR		LR	16 05 01.9	
	comp=Z,145nm,21.8s,MS3.4,baz=233,slow=38							
SONM	**Songino Array**	**23.59**	**13**	P		**P**	**15 55 20.2**	**+1.2**
	comp=Z,3.5nm,1.1s,mb3.7,baz=195,slow=12,SNR=6.2							
ULN	**Ulaanbaatar**	**23.75**	**14**	*i* P		**P**	**15 55 21.3**	**+0.7**
POO	**Poona**	**23.99**	**259**	*e*P		**P**	**15 55 25.2**	**+1.9**
POO				AMb		AMB	15 55 26.3	
	comp=Z,9.7nm,0.4s,mb4.6							
KAD	**Karad**	**24.14**	**256**	*e*P		**P**	**15 55 25.0**	**+0.3**
KAD				AMb		AMB	15 55 27.8	
	comp=Z,16nm,0.8s,mb4.5							
PALK	**Pallekele**	**24.67**	**227**	P		**P**	**15 55 31.7**	**+1.8**
ULHL	**Ulahol**	**25.33**	**318**	P		**P**	**15 55 37.1**	**+1.2**
	SNR=17							
MK02	**Makanchi Array**	**25.39**	**333**	P		**P**	**15 55 37.2**	**+0.7**
MK02				pmax		pmax		
	comp=Z,23nm,0.6s,mb4.9							
ZAK	**Zakamensk**	**25.59**	**7**	*e*P		**P**	**15 55 39.5**	**+1.3**
KZA	**Kyzart**	**25.84**	**317**	P		**P**	**15 55 42.1**	**+1.4**
	SNR=5.5							
KBK	**Karagaybulak**	**26.35**	**318**	P		**P**	**15 55 46.9**	**+1.5**
	SNR=8.0							
JOW	**Kunigami**	**26.59**	**80**	LR		LR	16 06 59.0	
	comp=Z,424nm,18.6s,MS4.0,baz=250,slow=38							
AAK	**Ala-Archa**	**26.61**	**317**	P		**P**	**15 55 50.1**	**+2.2**
	SNR=6.1							
AAK	**Ala-Archa**	**26.61**	**317**	*i* P		**P**	**15 55 47.1**	**-0.7**
AAK				pmax		pmax		
	comp=Z,5.0nm,1.1s,mb4.0							
AAK	**Ala-Archa**	**26.61**	**317**	*e*P		**P**	**15 55 46.8**	**-1.1**
	comp=Z,16nm,1.4s,mb4.3							
AML	**Almayashu**	**26.84**	**316**	P		**P**	**15 55 50.8**	**+0.9**
	SNR=11							
TLY	**Talaya**	**26.91**	**7**	*e*P		**P**	**15 55 52.4**	**+2.0**
TLY				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.2							
TLY				MLR		MLR		
	comp=Z,169nm,21.0s,MS3.6							
EKS2	**Erkin-Say**	**27.07**	**317**	P		**P**	**15 55 53.2**	**+1.2**
	SNR=6.2							
MDJ	**Mudanjiang**	**31.72**	**44**	P		**P**	**15 56 32.5**	**-1.0**
MDJ				S		**S**	**16 01 34.9**	**-3.9**
MDJ				AMB		AMB		
	comp=Z,10.0nm,1.3s,mb4.5							
MDJ				LR		LR		
	comp=N,317nm,16.4s,MS4.1							
MDJ				LR		LR		
	comp=E,144nm,20.2s,MS4.1							
MDJ				LR		LR		
	comp=Z,106nm,15.8s,MS3.6							
BVA0	**Borovoye Array**	**35.20**	**330**	P		**P**	**15 57 03.3**	**-0.1**
BVA0				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.9							
BVAR	**Borovoye Array**	**35.20**	**330**	P		**P**	**15 57 03.3**	**-0.1**
	comp=Z,6.5nm,0.6s,mb4.8,baz=135,slow=10,SNR=26							
BVAR				PcP		PcP	15 59 33.5	-0.5
	comp=Z,3.8nm,0.9s,baz=135,slow=2.1,SNR=6.5							
BRVK	**Borovoye**	**35.27**	**330**	*e*P		**P**	**15 57 03.8**	**-0.2**
	comp=Z,23nm,1.1s,mb5.0							
CHKZ	**Chkalovo**	**35.54**	**331**	*i* P		**P**	**15 57 06.1**	**-0.2**
CHKZ				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.7							
CHKZ	**Chkalovo**	**35.54**	**331**	*e*P		**P**	**15 57 06.0**	**-0.3**
	comp=Z,7.9nm,0.6s,mb4.8							
MAJO	**Matsushiro**	**35.57**	**62**	P		**P**	**15 57 06.2**	**-0.5**
JHJ	**Hachijo jima 2**	**36.58**	**68**	LR		LR	16 11 43.5	
	comp=Z,350nm,18.8s,MS4.2,baz=104,slow=35							
ASAJ	**Asahikawa**	**40.28**	**51**	P		**P**	**15 57 47.1**	**+1.1**
	comp=Z,12nm,0.8s,mb4.7,baz=131,slow=29,SNR=4.9							
YAK	**Yakutsk**	**42.48**	**21**	*i* P		**P**	**15 58 02.6**	**-1.2**
YAK				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.3							
ARU	**Arti**	**42.74**	**328**	‖*i* P		**P**	**15 58 04.2**	**-1.9**
ARU				*e*			15 59 54.3	
ARU				*e*S		**S**	**16 04 27.1**	**+0.9**
ARU				*e*SS		SS	16 07 35.3	+3.7
ARU				*e*			16 08 02.6	
ARU				pmax		pmax		
	comp=Z,15nm,1.2s,mb4.6							
GNI	**Garni**	**47.27**	**302**	*c i* P		**P**	**15 58 44.0**	**+1.5**
GNI				pmax		pmax		
	comp=Z,29nm,1.4s							
GNI	**Garni**	**47.27**	**302**	*e*P		**P**	**15 58 43.3**	**+0.8**
	comp=Z,29nm,0.9s,mb5.2							
GOF	**Gofitskoye**	**48.81**	**309**	‖*i* P		**P**	**15 58 54.0**	**-0.3**
GOF				pmax		pmax		
	comp=Z,40nm,1.1s,mb5.4							
KIV	**Kislovodsk**	**48.98**	**307**	*i* P		**P**	**15 58 55.9**	**+0.2**
KIV				pmax		pmax		
	comp=Z,28nm,1.2s,mb5.2							
KIV	**Kislovodsk**	**48.98**	**307**	*e*P		**P**	**15 58 55.1**	**-0.6**
	comp=Z,44nm,1.3s,mb5.3							
TIXI	**Tiksi**	**49.67**	**12**	*i* P		**P**	**15 58 59.5**	**-1.2**
TIXI				pmax		pmax		
	comp=Z,3.0nm,1.1s,mb4.2							
MBWA	**Marble Bar**	**50.20**	**154**	P		**P**	**15 59 06.5**	**+1.1**
SOC	**Sochi**	**51.11**	**307**	*e*P		**P**	**15 59 09.2**	**-2.8**
SOC				*e*			16 00 24.0	
SOC				*e*			16 01 05.2	
SOC				*e*PPP		PPP	16 02 04.6	-5.8
SOC				*e*S		**S**	**16 06 24.9**	**-0.1**
SOC				*e*SS		SS	16 09 59.3	+0.9
SOC				pmax		pmax		
	comp=Z,49nm,1.4s,mb5.2							
SOC				pmax		pmax		
	comp=N,21nm,1.2s							
SOC				pmax		pmax		
	comp=E,23nm,0.8s							
MALT	**Malatya**	**52.21**	**300**	*e*P		**P**	**15 59 20.3**	**0.0**
	comp=E,3.4nm,0.8s,mb4.3							
OBN	**Obninsk**	**54.05**	**321**	*i* P		**P**	**15 59 33.0**	**-0.7**
OBN				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.3							
ASF	**Jabal al Asfar**	**54.16**	**293**	P		**P**	**15 59 35.7**	**+0.8**
SIM	**Simferopol'**	**55.13**	**309**	*e*P		**P**	**15 59 41.6**	**-0.1**
SIM				pmax		pmax		
	comp=Z,20nm,0.6s,mb5.3							
BRTR	**Keskin Array B**	**55.81**	**302**	P		**P**	**15 59 46.2**	**-0.6**
	comp=Z,6.1nm,1.0s,mb4.6,baz=111,slow=7.9,SNR=22							
EIL	**Elat**	**56.26**	**290**	*e*P		**P**	**15 59 49.4**	**-0.7**
	comp=Z,8.9nm,0.8s,mb4.8							
WRA	**Warramunga Arr**	**56.50**	**139**	P		**P**	**15 59 51.8**	**-0.1**
	comp=Z,3.1nm,0.8s,mb4.4,baz=329,slow=7.6,SNR=15							
WRAB	**Tennant Creek**	**56.50**	**139**	*e*P		**P**	**15 59 51.3**	**-0.7**
	comp=Z,12nm,1.0s,mb4.9							
AKASG	**Malin Array Be**	**58.27**	**316**	P		**P**	**16 00 03.2**	**-0.8**
	comp=Z,11nm,0.9s,mb4.9,baz=78,slow=7.0,SNR=21							
BILL	**Bilibino**	**58.68**	**24**	*i* P		**P**	**16 00 05.3**	**-1.3**
BILL				*e*			16 00 54.8	
BILL				pmax		pmax		
	comp=Z,5.0nm,1.2s,mb4.4							
BILL	**Bilibino**	**58.68**	**24**	*e*P		**P**	**16 00 04.5**	**-2.1**
	comp=Z,4.3nm,1.0s,mb4.4							
ASAR	**Alice Springs**	**59.16**	**142**	P		**P**	**16 00 10.5**	**0.0**
	comp=Z,1.4nm,0.8s,mb4.0,baz=326,slow=6.1,SNR=12							
ASAR				LR		LR	16 28 32.0	
	comp=Z,44nm,20.7s,MS3.6,baz=311,slow=39							
FINES	**FINESS Array B**	**60.12**	**328**	*i* P		**P**	**16 00 23.6**	**+7.0**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.9s							
FINES	**FINESS Array B**	**60.12**	**328**	P		**P**	**16 00 16.0**	**-0.6**
	comp=Z,4.0nm,0.7s,mb4.5,baz=108,slow=12,SNR=10							
FINES	**FINESS Array B**	**60.12**	**328**	P		**P**	**16 00 16.0**	**-0.6**
MLR	**Muntele Rosu**	**60.84**	**310**	P		**P**	**16 00 22.4**	**+0.6**
	comp=Z,17nm,0.8s,mb5.3,baz=140,slow=0.9,SNR=18							
MLR	**Muntele Rosu**	**60.84**	**310**	P		**P**	**16 00 22.4**	**+0.6**
ARCES	**ARCESS Array B**	**60.97**	**337**	P		**P**	**16 00 21.5**	**-0.8**
	comp=Z,2.8nm,0.7s,mb4.5,baz=56,slow=4.4,SNR=7.5							
ARCES				LR		LR	16 29 19.5	
	comp=Z,200nm,19.8s,MS4.3,baz=10,slow=38							
KWP	**Kalwaria**	**62.52**	**315**	*e*P		**P**	**16 00 33.0**	**0.0**
KWP	**Kalwaria**	**62.52**	**315**	*e*P		**P**	**16 00 33.0**	**0.0**
OJC	**Ojcow**	**64.30**	**316**	*e*P		**P**	**16 00 44.7**	**0.0**
VYHS	**Vyhne**	**65.21**	**314**	*e*P		**P**	**16 00 50.1**	**-0.5**
OKC	**Ostrava-Krasne**	**65.42**	**315**	*e*P		**P**	**16 00 52.0**	**+0.1**
MORC	**Moravsky Berou**	**65.81**	**315**	*e*P		**P**	**16 00 54.2**	**-0.2**
	comp=Z,5.2nm,0.8s,mb4.6							
DPC	**Dobruska-Polom**	**66.48**	**316**	*e*P		**P**	**16 00 58.8**	**+0.2**
UPC	**Upice**	**66.64**	**316**	*e*P		**P**	**16 00 59.6**	**0.0**
NB2	**NORSAR Subarra**	**67.30**	**328**	P		**P**	**16 01 02.6**	**-1.0**
	comp=Z,2.6nm,0.7s,mb4.4,baz=79,slow=6.5							
NOA	**NORSAR Array B**	**67.30**	**328**	P		**P**	**16 01 03.0**	**-0.6**
	comp=Z,3.8nm,0.7s,mb4.5,baz=79,slow=6.5,SNR=7.9							
NOA	**NORSAR Array B**	**67.30**	**328**	P		**P**	**16 01 03.0**	**-0.6**
PRU	**Pruhonice**	**67.67**	**316**	*e*P		**P**	**16 01 06.6**	**+0.5**
BRG	**Bergqiesshubel**	**67.85**	**317**	*i* P		**P**	**16 01 07.3**	**+0.1**
	comp=Z,5.6nm,0.7s,mb4.7							
CLL	**Collm**	**68.33**	**318**	*e*P		**P**	**16 01 10.0**	**-0.2**
CLL	**Collm**	**68.33**	**318**	P		**P**	**16 01 10.0**	**-0.2**
VISS	**Visnje**	**68.44**	**312**	*e*P		**P**	**16 01 10.9**	**-0.1**
GERES	**GERESS Array B**	**68.47**	**315**	P		**P**	**16 01 11.4**	**+0.4**
	comp=Z,5.1nm,0.7s,mb4.7,baz=64,slow=5.4,SNR=26							
KHC	**Kasperske Hory**	**68.48**	**315**	*e*P		**P**	**16 01 11.2**	**+0.1**
CEY	**Cerknica**	**68.74**	**312**	*e*P		**P**	**16 01 12.8**	**0.0**
STKA	**Stephens Creek**	**69.80**	**142**	P		**P**	**16 01 19.6**	**0.0**
	comp=Z,3.7nm,1.0s,mb4.3,baz=304,slow=16,SNR=2.9							
STKA				LR		LR	16 32 24.0	
	comp=Z,55nm,20.0s,MS3.8,baz=201,slow=36							
GRA1	**Grafenberg Arr**	**69.83**	**316**	*e*P		**P**	**16 01 20.1**	**+0.7**
	comp=Z,11nm,1.2s,mb4.7							
GRF	**Grafenberg Arr**	**69.83**	**316**	*e*P		**P**	**16 01 20.1**	**+0.7**
	comp=Z,11nm,1.2s,mb4.7							
CDF	**Champ du Feu**	**72.68**	**316**	*e*P		**P**	**16 01 36.4**	**-0.1**
	comp=Z,22nm,1.1s,mb4.7

comp=Z,8.8nm,0.8s,mb4.5
SJPF Ste Jean 80.16 313 *e*P **P 16 02 18.7 -0.1**
ESDC Sonseca Array 83.52 311 P **P 16 02 36.9 +0.6**
comp=Z,1.6nm,0.7s,mb4.2,baz=47,slow=6.8,SNR=4.6
YKA Yellowknife Ar 88.84 15 P **P 16 03 01.6 -0.2**
comp=Z,0.7nm,1.1s,mb3.9,baz=324,slow=4.4,SNR=7.1
YKA LR LR 16 45 45.7
comp=Z,62nm,19.7s,MS4.0,baz=60,slow=38
RPZ Rata Peaks 95.12 136 LR LR 16 49 13.4
comp=Z,100nm,21.0s,MS4.3,baz=317,slow=37
MAW Mawson 96.11 193 LR LR 16 43 13.3
comp=Z,45nm,19.0s,MS4.0,baz=244,slow=33
SDV Santo Domingo 144.78 342 *e*PKP PKPdf 16 09 44.1 -0.4
BDFB Brasilia 147.56 280 PKPbc PKPdf 16 09 54.5 +5.4
comp=Z,2.2nm,0.6s,baz=95,slow=5.1,SNR=3.3

IDC 07 15:54:21.8±2.8, 2.50N×95.57E, mb3.7/3, mb1 4.0/4, mb1mx3.6/17, mbtmp3.8/4, ML4.2/1, Error ellipse: s-maj=94.3km s-min=28.6km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.20**	**12**	Pn	P	15 58 12.5	-0.1
	0.3nm,0.3s,baz=200,slow=11,SNR=8.2						
WRA	**Warramunga Arr**	**44.10**	**122**	P	P	16 02 32.2	-1.7
	0.6nm,0.9s,baz=300,slow=9.1,SNR=3.1						
SONM	**Songino Array**	**46.12**	**10**	P	P	16 02 47.4	-2.2
	1.0nm,0.7s,baz=190,slow=9.5,SNR=10						
BVAR	**Borovoye Array**	**54.50**	**342**	P	P	16 03 51.2	-2.3
	1.1nm,0.5s,baz=141,slow=9.2,SNR=8.0						

*BJI **07** 16:00:15.2, 4.26N×94.79E, h30km, mB5.1, mb4.7, Ms4.4, Msz4.0*
*MOS **07** 16:00:22.0±1.0, 5.12N×94.85E, h33km, mb4.7/10, Error ellipse: s-maj=23.8km s-min=10.9km az=109.5*
*NEIC **07** 16:00:23.3±0.2, 5.04N×94.80E, h30km, mb4.5/9, Error ellipse: s-maj=9.2km s-min=5.2km az=46.0*
*IDC **07** 16:00:29.1±6.4, 5.01N×94.77E, h83km±58km, mb4.1/15, mb1 4.2/16, mb1mx4.1/22, mbtmp4.4/16, ML4.3/1, MS3.3/1, Ms1 3.5/1, ms1mx3.1/19, Error ellipse: s-maj=23.8km s-min=13.5km az=44.0*

ISC 07 16:00:21.3±0.4, 5.02N±0.06×94.85E±0.07, h30km, n77, σ0§94/79, mb4.6/40, MS4.1/3, 1C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.94**	**16**	P	P	**16 03 44.4**	**+5.0**
	0.5nm,0.3s,baz=206,slow=13,SNR=15						
CMAR				LR	LR	16 08 42.4	
	comp=Z,133nm,21.4s,baz=205,slow=35						
JIRN	**Jiri**	**23.98**	**341**	*e*P	P	**16 05 34.1**	**-0.2**
	18nm,0.3s,mb5.0						
PKI	**Pulchoki**	**24.16**	**339**	*e*P	P	**16 05 36.0**	**-0.2**
	6.0nm,0.3s,mb4.5						
DMN	**Daman**	**24.30**	**339**	*e*P	P	**16 05 37.6**	**0.0**
	15nm,0.7s,mb4.6						
GUN	**Gumba**	**24.31**	**340**	*e*P	P	**16 05 37.3**	**-0.3**
	12nm,0.2s,mb4.9						
KKN	**Kakani**	**24.41**	**339**	*e*P	P	**16 05 38.1**	**-0.5**
LSA	**Lhasa**	**24.80**	**352**	P	P	**16 05 43.8**	**+1.5**
LSA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
LSA	**Lhasa**	**24.80**	**352**	*e*P	P	**16 05 43.9**	**+1.6**
	comp=Z,9.0nm,0.5s,mb4.6						
GKN	**Gorkha**	**24.83**	**338**	*e*P	P	**16 05 42.9**	**+0.2**
	comp=Z,18nm,0.2s,mb5.2						
KOLN	**Koldanda**	**25.03**	**336**	*e*P	P	**16 05 45.3**	**+0.8**
	comp=Z,53nm,0.8s,mb5.1						
ENH	**Enshi**	**28.66**	**27**	*e*P	P	**16 06 17.6**	**-0.2**
	comp=Z,4.4nm,0.5s,mb4.4						
PLP	**Palo**	**30.43**	**77**	*e*P	P	**16 06 38.5**	**+4.8**
NJ2	**Nanjing**	**35.05**	**37**	*e*P	P	**16 07 14.6**	**+0.8**
NJ2				AP	pP	16 07 23.9	+1.2
NJ2				XP	sP	16 07 27.6	+1.1
NJ2				PP	PP	16 08 33.2	+0.7
NJ2				S	S	**16 12 43.0**	**-0.2**
NJ2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,380nm,10.9s						
NJ2				LR	LR		
	comp=N,400nm,15.6s,MS4.5						
NJ2				LR	LR		
	comp=E,700nm,19.0s,MS4.5						
NJ2				LR	LR		
	comp=Z,520nm,14.4s,MS4.4						
SSE	**Sheshan**	**35.85**	**41**	P	P	**16 07 18.3**	**-2.3**
SSE				AP	pP	16 07 26.8	-2.7
SSE				S	S	**16 12 55.1**	**-0.6**
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,158nm,6.7s						
SSE				LR	LR		
	comp=N,47nm,19.0s,MS3.4						
SSE				LR	LR		
	comp=E,41nm,19.0s,MS3.4						
SSE				LR	LR		
	comp=Z,68nm,19.6s,MS3.4						
JOW	**Kunigami**	**38.56**	**52**	P	P	**16 07 45.1**	**+1.7**
	comp=Z,14nm,0.9s,mb4.7,baz=246,slow=28,SNR=3.1						
WMQ	**Urumqi**	**39.15**	**352**	*e*P	P	**16 07 48.7**	**+0.5**
BJT	**Baijiatuau**	**39.79**	**26**	P	P	**16 07 53.3**	**-0.2**
KZA	**Kyzart**	**40.82**	**338**	P	P	**16 08 03.4**	**+1.5**
	SNR=5.5						
UCH	**Uchtor**	**41.23**	**337**	P	P	**16 08 06.5**	**+1.2**
	SNR=10						
TKM2	**Tokmak 2**	**41.42**	**339**	P	P	**16 08 07.9**	**+1.1**
	SNR=5.1						
KBK	**Karagaybulak**	**41.44**	**338**	P	P	**16 08 08.6**	**+1.7**
	SNR=12						
AML	**Almayashu**	**41.48**	**336**	P	P	**16 08 08.9**	**+1.6**
	SNR=15						
AAK	**Ala-Archa**	**41.59**	**337**	P	P	**16 08 10.6**	**+2.4**
	SNR=6.4						
AAK	**Ala-Archa**	**41.59**	**337**	*d*P	P	**16 08 08.2**	**0.0**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1						
AAK	**Ala-Archa**	**41.59**	**337**	*e*P	P	**16 08 07.8**	**-0.4**
	comp=Z,4.7nm,0.9s,mb4.1						
EKS2	**Erkin-Say**	**41.89**	**337**	P	P	**16 08 12.0**	**+1.2**
	SNR=8.3						
USP	**Ospenovka**	**42.13**	**338**	P	P	**16 08 13.6**	**+0.9**
	SNR=6.2						
MK02	**Makanchi Array**	**42.98**	**347**	P	P	**16 08 20.0**	**+0.4**
MK02				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
SONM	**Songino Array**	**43.79**	**11**	P	P	**16 08 26.3**	**+0.1**
	comp=Z,4.0nm,0.8s,mb4.2,baz=191,slow=8.3,SNR=38						
SONM				PcP	PcP	16 10 12.7	-0.3
	comp=Z,2.0nm,0.8s,baz=196,slow=2.9,SNR=7.0						
ULN	**Ulaanbaatar**	**43.95**	**12**	*i*P	P	**16 08 26.4**	**-1.1**
ULN	**Ulaanbaatar**	**43.95**	**12**	*e*P	P	**16 08 26.8**	**-0.7**
	comp=Z,1.6nm,0.6s,mb3.9						
ZAK	**Zakamensk**	**45.76**	**8**	*e*P	P	**16 08 41.0**	**-0.9**
ZAK				*e*		16 10 17.9	
WRA	**Warramunga Arr**	**46.07**	**124**	*i*P	P	**16 08 45.3**	**+0.6**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WRA	**Warramunga Arr**	**46.07**	**124**	P	P	**16 08 45.3**	**+0.6**
	comp=Z,7.9nm,0.7s,mb4.7,baz=303,slow=9.1,SNR=47						
WRAB	**Tennant Creek**	**46.08**	**124**	*i*P	P	**16 08 45.5**	**+0.7**
WRAB	**Tennant Creek**	**46.08**	**124**	*e*P	P	**16 08 44.9**	**+0.2**
	comp=Z,28nm,1.3s,mb5.0						
WB2	**Warramunga Arr**	**46.08**	**124**	⇑*i*P	P	**16 08 45.3**	**+0.5**
WB2	**Warramunga Arr**	**46.08**	**124**	*e*P	P	**16 08 48.4**	**+3.6**
ASPA	**Alice Springs**	**47.58**	**128**	*e*P	P	**16 08 56.9**	**+0.3**
ASAR	**Alice Springs**	**47.58**	**128**	P	P	**16 08 56.9**	**+0.2**
	comp=Z,3.3nm,0.8s,mb4.4,baz=298,slow=7.7,SNR=32						
HIA	**Hailar**	**48.88**	**21**	*e*P	P	**16 09 06.0**	**-0.4**
	comp=Z,3.3nm,0.6s,mb4.5						
NVS	**Novosibirsk**	**50.55**	**351**	*i*P	P	**16 09 16.7**	**-2.4**
BVA0	**Borovoye Array**	**51.90**	**341**	P	P	**16 09 28.7**	**-0.6**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
BVAR	**Borovoye Array**	**51.90**	**341**	P	P	**16 09 29.0**	**-0.4**
	comp=Z,16nm,1.1s,mb4.8,baz=135,slow=8.4,SNR=40						
BRVK	**Borovoye**	**51.96**	**341**	*e*P	P	**16 09 28.6**	**-1.2**
	comp=Z,8.2nm,1.0s,mb4.6						
CHKZ	**Chkalovo**	**52.39**	**342**	*i*P	P	**16 09 32.8**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
CHKZ	**Chkalovo**	**52.39**	**342**	*e*P	P	**16 09 32.5**	**-0.5**
	comp=Z,18nm,0.8s,mb5.0						
PMG	**Port Moresby**	**54.07**	**105**	P	P	**16 09 45.7**	**-0.1**
	comp=Z,4.1nm,0.8s,mb4.4,baz=208,slow=8.9,SNR=3.5						
BOD	**Bodaibo**	**54.76**	**12**	*e*P	P	**16 09 39.9**	**-10**
STKA	**Stephens Creek**	**57.65**	**133**	P	P	**16 10 11.5**	**0.0**
	comp=Z,1.7nm,0.8s,mb4.1,baz=302,slow=9.5,SNR=2.9						
KMBO	**Kilima Mbogo**	**57.85**	**266**	P	P	**16 10 12.8**	**-0.3**
	comp=Z,0.3nm,0.3s,mb3.7,baz=52,slow=23,SNR=2.3						
YSS	**Yuzh-Sakhalins**	**58.62**	**37**	P	P	**16 10 18.4**	**+0.4**
ARU	**Arti**	**58.78**	**337**	*e*P	pP	16 10 30.5	+2.2
KIV	**Kislovodsk**	**59.90**	**319**	*i*P	P	**16 10 25.8**	**-1.2**
KIV				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.7						
SOC	**Sochi**	**61.73**	**317**	*i*P	P	**16 10 32.2**	**-7.2**
SOC				*e*		16 11 27.3	
SOC				*e*		16 12 51.0	
SOC				*e*S	S	**16 18 54.4**	**-4.1**
SOC				*e*SS	SS	16 22 58.3	-3.6
SOC				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.2						
SOC				pmax	pmax		
	comp=N,16nm,0.8s						
SOC				pmax	pmax		
	comp=E,17nm,0.8s						
SOC				MLR	MLR		
	comp=Z,160nm,14.0s,MS4.3						
SOC				MLR	MLR		
	comp=N,157nm,13.0s						
YAK	**Yakutsk**	**62.47**	**18**	⇓*i*P	P	**16 10 42.7**	**-1.4**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
BRTR	**Keskin Array B**	**64.83**	**312**	P	P	**16 10 58.6**	**-1.3**
	comp=Z,2.4nm,0.9s,mb4.2,baz=129,slow=7.9,SNR=8.6						
OBN	**Obninsk**	**68.16**	**328**	*i*P	P	**16 11 19.2**	**-1.6**
OBN				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.6						
TIXI	**Tiksi**	**69.88**	**11**	*i*P	P	**16 11 29.5**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
AKASG	**Malin Array Be**	**70.82**	**322**	P	P	**16 11 35.4**	**-1.8**
	comp=Z,0.9nm,0.4s,mb4.0,baz=83,slow=5.9,SNR=6.8						
MLR	**Muntele Rosu**	**71.70**	**316**	P	P	**16 11 42.3**	**-0.2**
	comp=Z,7.7nm,1.0s,mb4.6,baz=139,slow=23,SNR=4.2						
FINES	**FINESS Array B**	**75.55**	**332**	*i*P	P	**16 12 03.1**	**-1.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES	**FINESS Array B**	**75.55**	**332**	P	P	**16 12 04.0**	**-0.6**
	comp=Z,3.3nm,0.9s,mb4.2,baz=122,slow=7.4,SNR=14						
KAF	**Kangasniemi**	**75.64**	**333**	*e*p	P	**16 12 04.9**	**-0.2**
OJC	**Ojcow**	**76.60**	**320**	*e*P	P	**16 12 10.8**	**0.0**
OKC	**Ostrava-Krasne**	**77.61**	**320**	*e*P	P	**16 12 17.2**	**+0.8**
ARCES	**ARCESS Array B**	**78.17**	**340**	P	P	**16 12 19.3**	**+0.2**
	comp=Z,16nm,1.2s,mb4.8,baz=102,slow=6.9,SNR=24						
BILL	**Bilibino**	**78.47**	**21**	*i*P	P	**16 12 20.9**	**+0.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
FX1	**Attu Island--F**	**78.97**	**37**	P	P	**16 12 23.8**	**0.0**
	comp=Z,8.7nm,0.4s,mb5.1,baz=47,slow=23,SNR=6.3						
GEC2	**GERESS Array S**	**80.41**	**319**	*e*P	P	**16 12 32.2**	**+0.6**
GERES	**GERESS Array B**	**80.41**	**319**	P	P	**16 12 32.4**	**+0.8**
	comp=Z,4.4nm,0.7s,mb4.5,baz=90,slow=5.3,SNR=20						
KHC	**Kasperske Hory**	**80.51**	**319**	*e*P	P	**16 12 32.1**	**-0.1**
WET	**Wettzell**	**80.97**	**319**	*e*P	P	**16 12 35.4**	**+0.8**
GRA1	**Grafenberg Arr**	**82.07**	**319**	*e*P	P	**16 12 41.3**	**+1.0**
GRF	**Grafenberg Arr**	**82.07**	**319**	*e*P	P	**16 12 41.3**	**+1.0**
SYO	**Syowa Base**	**82.90**	**197**	⇓P	P	**16 12 43.1**	**-1.2**
LPG	**La Plagne**	**85.12**	**315**	*e*P	P	**16 12 56.5**	**+0.6**
	comp=Z,3.9nm,0.8s,mb4.3						

IDC 07 16:08:05.7±10.0, 4.29N×95.93E, mb3.3/3, mb1 3.5/4, mb1mx3.4/16, mbtmp3.3/4, ML3.8/1, Error ellipse: s-maj=349.2km s-min=32.5km az=69.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.39**	**12**	Pn	P	16 11 41.1	+8.2
	0.1nm,0.3s,baz=211,slow=11,SNR=5.1						
SONM	**Songino Array**	**44.31**	**10**	P	P	16 16 17.4	-1.8
	0.1nm,0.3s,baz=190,slow=9.7,SNR=4.4						
WRA	**Warramunga Arr**	**44.77**	**124**	P	P	16 16 21.7	-1.6
	0.5nm,0.5s,baz=302,slow=9.2,SNR=9.0						
ASAR	**Alice Springs**	**46.28**	**129**	P	P	16 16 33.1	-2.1
	0.1nm,0.4s,baz=299,slow=7.3,SNR=4.5						

*NEIC **07** 16:15:43.0±0.7, 21.32S×66.68W, h205km±6km, mb4.8/25, Error ellipse: s-maj=11.8km s-min=5.9km az=74.0*
*IDC **07** 16:15:43.5±0.9, 21.35S×66.77W, h211km±7km, mb4.1/10, mb1 4.2/13, mb1mx4.1/18, mbtmp4.6/13, Error ellipse: s-maj=14.9km s-min=9.7km az=99.0*
*BJI **07** 16:15:44.9, 21.30S×66.70W, h205km, mB5.4*
*GUC **07** 16:15:45.8±0.7, 21.63S×67.20W, h242km, ML4.2*

ISC 07 16:15:43.2±0.7, 21.36S±0.04×66.84W±0.08, h220km±5km, n96, σ1§19/94, mb4.6/34, 7C-1D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.99**	**219**	*e*P	P	**16 16 26.0**	**+2.5**
SPCH				AMP		16 17 03.9	
	comp=E,803nm,0.3s						
LVC	**Limon Verde**	**2.29**	**237**	P	P	**16 16 27.9**	**+1.3**
	comp=E,23nm,0.3s,baz=37,slow=7.4,SNR=322						
LVC				S	S	**16 17 00.1**	**0.0**
	comp=E,228nm,0.3s,baz=224,slow=20,SNR=38						
LVC	**Limon Verde**	**2.29**	**237**	*e*Pn	P	**16 16 27.1**	**+0.5**
LVC				*e*S	S	**16 16 59.9**	**-0.3**
LVC	**Limon Verde**	**2.29**	**237**	⇑*i*P	P	**16 16 27.9**	**+1.3**
LVC				*i*S	S	**16 17 00.9**	**+0.8**
LVC				AMP		16 17 02.2	
	comp=N,1μm,0.2s						
ANCH	**Antofagasta**	**4.03**	**234**	⇓*i*P	P	**16 16 47.2**	**+0.6**
ANCH				*i*S	S	**16 17 33.5**	**-2.3**
CPN1	**Cerro Paranal**	**4.62**	**225**	⇑*i*P	P	**16 16 53.8**	**-0.2**
CPN1				*i*S	S	**16 17 46.1**	**-2.8**
LPAZ	**La Paz**	**5.19**	**346**	P	P	**16 17 02.9**	**+1.9**
	comp=N,41nm,0.3s,baz=157,slow=9.3,SNR=431						
LPAZ				S	S	**16 18 02.8**	**+1.1**
	comp=N,3.2nm,0.3s,baz=303,slow=23,SNR=8.2						
LPAZ	**La Paz**	**5.19**	**346**	P	P	**16 17 02.9**	**+1.8**
LPAZ				S	S	**16 18 02.8**	**+1.1**
ARE	**Arequipa**	**6.56**	**317**	⇑*i*P	P	**16 17 18.0**	**-0.6**
ARE				*i*S	S	**16 18 30.6**	**-2.6**
MDZ	**Mendoza**	**11.62**	**188**	*e*P	P	**16 18 22.3**	**-1.3**
NNA	**Nana**	**13.36**	**313**	P	P	**16 18 48.6**	**+3.2**
	comp=N,933nm,0.8s,SNR=21						
TRQA	**Tornquist**	**17.16**	**167**	*e*P	P	**16 19 26.7**	**-4.4**
	comp=N,10nm,0.6s						
BDFB	**Brasilia**	**18.73**	**75**	P	P	**16 19 47.2**	**-0.3**
	comp=N,0.9nm,0.3s,baz=235,slow=16,SNR=3.7						
OTAV	**Otavalo**	**24.27**	**331**	*e*P	P	**16 20 41.3**	**-0.6**
	comp=N,9.6nm,0.8s,mb4.5						
SDV	**Santo Domingo**	**30.28**	**353**	P	P	**16 21 34.4**	**-1.7**
	comp=N,8.3nm,1.0s,mb4.3,baz=207,slow=11,SNR=5.7						
SDV	**Santo Domingo**	**30.28**	**353**	*e*P	P	**16 21 33.4**	**-2.7**
	comp=N,8.3nm,0.8s,mb4.4						
USHA	**Ushuaia**	**33.45**	**182**	P	P	**16 22 02.5**	**-0.6**
	comp=N,12nm,0.9s,mb4.4,baz=275,slow=5.2,SNR=3.9						
JTS	**JuntasAbangare**	**36.13**	**329**	P	P	**16 22 27.9**	**+1.7**
	comp=N,8.5nm,0.6s,mb4.5						
SJG	**San Juan**	**39.23**	**1**	P	P	**16 22 48.5**	**-3.4**
	comp=N,40nm,0.2s,mb5.6,baz=353,slow=20,SNR=3.8						
SJG	**San Juan**	**39.23**	**1**	P	P	**16 22 48.5**	**-3.4**
PMSA	**Palmer Station**	**43.44**	**178**	*e*P	P	**16 23 26.2**	**+0.6**
	comp=N,8.3nm,0.8s,mb4.2						
NHSC	**New Hope**	**55.63**	**346**	*e*P	P	**16 24 56.6**	**-1.8**
LRAL	**Lakeview Retre**	**57.41**	**340**	*e*P	P	**16 25 09.0**	**-2.0**
	comp=N,7.6nm,0.6s,mb4.5						
NATX	**Nacogdoches**	**59.16**	**332**	*e*P	P	**16 25 22.9**	**-0.2**
	comp=N,62nm,0.8s,mb5.3						
ELN	**Prospectdale**	**59.73**	**347**	*e*P	P	**16 25 25.8**	**-1.1**
PWV	**Princeton**	**59.89**	**347**	*e*P	P	**16 25 27.1**	**-0.9**
VNA2	**Neumayer--Watz**	**60.15**	**161**	⇑*i*P	P	**16 25 30.4**	**+1.1**
JCT	**Junction City**	**60.50**	**327**	*e*P	P	**16 25 31.2**	**-1.0**
	comp=N,28nm,0.9s,mb4.9						
WVT	**Waverly**	**60.53**	**341**	*e*P	P	**16 25 30.3**	**-1.9**
	comp=N,42nm,0.7s,mb5.2						
UALR	**University of**	**60.86**	**336**	*e*P	P	**16 25 33.0**	**-1.5**
MIAR	**Mount Ida**	**61.13**	**335**	*e*P	P	**16 25 35.0**	**-1.3**
	comp=N,30nm,0.9s,mb4.9						
TXAR	**Lajitas Array**	**61.64**	**324**	P	P	**16 25 39.2**	**-0.6**
	comp=N,1.4nm,0.4s,mb3.9,baz=146,slow=9.0,SNR=18						
TXAR	**Lajitas Array**	**61.64**	**324**	P	P	**16 25 39.2**	**-0.6**
SNAA	**Sanae**	**61.79**	**161**	P	P	**16 25 39.7**	**-0.5**
	comp=N,2.2nm,0.9s,mb3.8,baz=300,slow=13,SNR=4.8						
FVM	**French Village**	**63.05**	**339**	*e*P	P	**16 25 47.5**	**-1.6**
	comp=N,52nm,1.1s,mb5.1						
ACSO	**Alum Creek Sta**	**63.09**	**339**	*e*P	P	**16 25 47.5**	**-1.8**
CCM	**Cathedral Cave**	**63.39**	**339**	*e*P	P	**16 25 49.4**	**-1.9**
	comp=N,43nm,0.7s,mb5.2						
WMOK	**Wichita Mounta**	**63.51**	**331**	*e*P	P	**16 25 50.4**	**-1.7**
	comp=N,22nm,1.4s,mb4.6						
CLNB	**Carlsbad**	**64.02**	**325**	*e*P	P	**16 25 55.1**	**-0.3**
MNTX	**Cornudas Mount**	**64.40**	**324**	*e*P	P	**16 25 56.5**	**-1.4**
	comp=N,15nm,1.0s,mb4.6						
AMTX	**Amarillo**	**64.99**	**329**	*e*P	P	**16 26 00.5**	**-1.1**
KSU1	**Kansas State U**	**66.28**	**335**	*e*P	P	**16 26 08.1**	**-1.8**
DBIC	**Dimbokro**	**66.85**	**72**	P	P	**16 26 11.5**	**-2.3**
	comp=N,2.3nm,0.4s,mb4.1,baz=247,slow=5.0,SNR=10						
BNM	**Barren Site**	**66.94**	**325**	*e*P	P	**16 26 14.4**	**+0.4**
LPM	**Los Pinos Moun**	**67.06**	**325**	*e*P	P	**16 26 14.8**	**0.0**
LAZ	**Ladron**	**67.41**	**325**	*e*P	P	**16 26 17.6**	**+0.7**
ANMO	**Albuquerque**	**67.46**	**325**	*e*P	P	**16 26 17.3**	**+0.1**
	comp=N,32nm,1.5s,mb4.7						
TUC	**Tucson**	**67.93**	**321**	*e*P	P	**16 26 20.7**	**+0.5**
	comp=N,16nm,1.1s,mb4.6						
QSPA	**South Pole Qui**	**68.83**	**180**	⇑*i*P	P	**16 26 26.1**	**+1.1**
	comp=N,9.5nm,0.5s,mb4.7						
SDCO	**Great Sand Dun**	**69.13**	**328**	*e*P	P	**16 26 28.3**	**+0.9**
	comp=N,29nm,0.8s,mb5.0						
RW3	**Ridgway**	**70.61**	**327**	*e*P	P	**16 26 37.4**	**+1.0**
ISCO	**Idaho Springs**	**70.79**	**329**	*e*P	P	**16 26 37.9**	**+0.4**
	comp=N,15nm,1.2s,mb4.5						
PV01	**Paradox Valley**	**70.98**	**326**	*e*P	P	**16 26 39.6**	**+1.0**
PV10	**Paradox Valley**	**71.40**	**326**	*e*P	P	**16 26 41.3**	**+0.2**
NEN	**Nelson**	**72.67**	**321**	*e*P	P	**16 26 49.4**	**+0.6**
SRU	**San Rafael**	**72.72**	**326**	*e*P	P	**16 26 49.9**	**+0.9**
RWWY	**Rawlins**	**73.02**	**330**	*e*P	P	**16 26 51.5**	**+0.8**
TMUT	**Trail Mountain**	**73.22**	**325**	*e*P	P	**16 26 52.9**	**+1.0**
MPU	**Maple Canyon**	**73.97**	**326**	*e*P	P	**16 26 57.5**	**+1.3**
NLU	**North Lily Min**	**74.16**	**325**	*e*P	P	**16 26 58.2**	**+0.9**
JLU	**Jordanelle**	**74.30**	**326**	*e*P	P	**16 26 59.2**	**+1.1**
TRCR	**Troy Canyon**	**74.95**	**322**	*e*P	P	**16 27 03.4**	**+1.5**
PDAR	**Pinedale Array**	**74.97**	**329**	P	P	**16 27 02.2**	**+0.4**
	comp=N,3.7nm,0.6s,mb4.2,baz=127,slow=8.1,SNR=34						
HWUT	**Hardware Ranch**	**75.10**	**327**	*e*P	P	**16 27 03.0**	**+0.3**
	comp=N,11nm,0.9s,mb4.5						
BGU	**Big Grassy Mou**	**75.36**	**326**	*e*P	P	**16 27 04.9**	**+0.8**
TPH	**Tonopah**	**75.71**	**321**	*e*P	P	**16 27 07.5**	**+1.3**
AHID	**Auburn Hatcher**	**75.72**	**328**	*e*P	P	**16 27 06.5**	**+0.5**
	comp=N,29nm,0.9s,mb4.9						
HVU	**Hansel Valley**	**75.84**	**326**	*e*P	P	**16 27 07.7**	**+0.8**
SCHQ	**Schefferville**	**75.88**	**0**	P	P	**16 27 05.1**	**-1.6**
	comp=N,6.8nm,0.7s,mb4.4,baz=163,slow=3.6,SNR=13						
SCHQ	**Schefferville**	**75.88**	**0**	P	P	**16 27 05.1**	**-1.6**
SYO	**Syowa Base**	**75.95**	**159**	⇑P	P	**16 27 07.3**	**+0.4**
SYO	**Syowa Base**	**75.95**	**159**	⇑PcP	PcP	16 27 17.7	-0.8
LOHW	**Long Hollow**	**76.11**	**329**	*e*P	P	**16 27 09.1**	**+0.8**
WUWY	**Wally Ulrich**	**76.12**	**329**	*e*P	P	**16 27 09.1**	**+0.8**
MOOW	**Moose Ponds**	**76.28**	**329**	*e*P	P	**16 27 09.8**	**+0.6**
OMM	**Old Mammoth Mi**	**76.46**	**320**	*e*P	P	**16 27 11.2**	**+0.9**
NVAR	**Mina Array Bea**	**76.58**	**321**	P	P	**16 27 12.3**	**+1.3**
	comp=N,8.0nm,0.8s,mb4.4,baz=156,slow=6.9,SNR=17						
NVAR	**Mina Array Bea**	**76.58**	**321**	P	P	**16 27 12.3**	**+1.3**
YMR	**Madison River**	**77.07**	**329**	*e*P	P	**16 27 15.4**	**+1.9**
DGMT	**Dagmar**	**77.12**	**336**	*e*P	P	**16 27 12.6**	**-1.1**
	comp=N,22nm,0.8s,mb4.8						
HLID	**Hailey**	**77.96**	**327**	*e*P	P	**16 27 20.1**	**+1.6**
	comp=N,18nm,1.0s,mb4.7						
OHCM	**Honcut**	**79.06**	**320**	*e*P	P	**16 27 25.4**	**+0.9**
BMO	**Blue Mountains**	**80.35**	**326**	*e*P	P	**16 27 32.0**	**+0.8**
	comp=N,24nm,1.2s,mb4.7						
FCC	**Fort Churchill**	**82.94**	**346**	*e*P	P	**16 27 44.0**	**-0.3**
	comp=N,15nm,0.8s,mb4.8						
ESDC	**Sonseca Array**	**84.39**	**44**	P	P	**16 27 52.0**	**0.0**
	comp=N,1.9nm,0.7s,mb3.9,baz=239,slow=4.4,SNR=12						
YKA	**Yellowknife Ar**	**91.70**	**340**	P	P	**16 28 26.3**	**+0.1**
	comp=N,11nm,0.9s,mb4.8,baz=128,slow=4.5,SNR=172						
YKW3	**Yellowknife Ar**	**91.76**	**340**	*e*P	P	**16

VIMO				SN	S	16 32 43.2	-15
VIMO				LG		16 33 44.0	
SILO	**Sutton Inlier**	**10.80**	**286**	PN	P	16 31 03.9	-6.7
SILO				SN	S	16 32 51.8	-22

IDC 07 16:38:17.2±2.5, 4.76N×94.14E, mb3.4/3, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=98.3km s-min=27.8km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.41**	**19**	Pn	P	16 41 43.0	-1.7
	0.1nm,0.3s,baz=213,slow=11,SNR=10						
WRA	**Warramunga Arr**	**46.52**	**123**	P	P	16 46 46.4	-2.1
	0.5nm,0.6s,baz=304,slow=9.2,SNR=9.7						
ASAR	**Alice Springs**	**47.97**	**128**	P	P	16 46 58.3	-1.7
	0.3nm,0.5s,baz=302,slow=8.1,SNR=8.3						
BVAR	**Borovoye Array**	**51.93**	**342**	P	P	16 47 27.6	-2.3
	0.5nm,0.8s,baz=149,slow=8.4,SNR=4.3						

IDC 07 16:39:27.1±5.5, 9.73N×92.74E, mb3.6/2, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=122.1km s-min=43.7km az=92.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.56**	**34**	Pn	P	16 41 59.9	-3.0
	0.2nm,0.3s,baz=226,slow=15,SNR=9.1						
WRA	**Warramunga Arr**	**50.46**	**126**	P	P	16 48 26.7	-2.4
	0.4nm,0.4s,baz=300,slow=10.0,SNR=8.9						
ASAR	**Alice Springs**	**52.16**	**130**	P	P	16 48 40.0	-1.9
	1.1nm,0.8s,baz=318,slow=6.9,SNR=9.7						

*IDC **07** 16:41:25.3±1.2, 11.65N×125.83E, mb3.8/7, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, Error ellipse: s-maj=63.8km s-min=20.1km az=66.0*
*MAN **07** 16:41:31.1, 11.50N×125.61E, h13km, mb4.8, ML3.7, MS3.7*
ISC 07 16:41:28.9±1.1, 11.58N±0.06×125.80E±0.07, h38km±9km, n19, σ1§13/26, mb3.7/7, 2C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.36**	**273**	*e*P	**P**	**16 41 37.2**	**-0.5**
BESP				*e*S	**S**	**16 41 43.6**	**-0.2**
PLP	**Palo**	**0.91**	**243**	*i* P	**P**	**16 41 44.4**	**-0.9**
PLP				*i* S	**S**	**16 41 54.7**	**-2.7**
OCLP	**Ormoc**	**1.28**	**246**	*e*P	**P**	**16 41 51.1**	**+0.5**
OCLP				*e*S	**S**	**16 42 07.0**	**+0.1**
MSLP	**Maasin**	**1.71**	**213**	*e*P	**P**	**16 41 58.7**	**+1.9**
MSLP				*e*S	**S**	**16 42 22.3**	**+4.6**
LLP	**Lapu-Lapu**	**2.20**	**235**	*e*P	**P**	**16 42 04.3**	**+0.5**
LLP				*i* S	**S**	**16 42 31.0**	**+1.1**
BUTP	**Butuan**	**2.60**	**184**	*e*P	**P**	**16 42 07.8**	**-1.8**
TBP	**Tagbilaran**	**2.68**	**226**	*e*P	**P**	**16 42 09.2**	**-1.4**
TBP				*i* S	**S**	**16 42 40.7**	**-1.4**
RCP	**Roxas**	**3.00**	**270**	⇑*i*P	**P**	**16 42 16.9**	**+1.7**
GUIM	**Jordan**	**3.29**	**254**	*e*P	**P**	**16 42 18.6**	**-0.7**
GUIM				*e*S	**S**	**16 42 58.7**	**+0.9**
BUKP	**Musuan**	**3.75**	**191**	*e*P	**P**	**16 42 28.8**	**+2.9**
OTRP	**Odiongan**	**3.78**	**282**	*e*P	**P**	**16 42 26.7**	**+0.4**
DCPH	**Dipolog City**	**3.83**	**219**	⇑*e*P	**P**	**16 42 27.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**26.80**	**288**	P	**P**	**16 47 07.5**	**-0.3**
	0.3nm,0.3s,mb3.3,baz=99,slow=7.7,SNR=4.5						
ASAR	**Alice Springs**	**35.92**	**167**	P	**P**	**16 48 28.8**	**+0.9**
	0.5nm,0.6s,mb3.6,baz=343,slow=6.8,SNR=8.8						
SONM	**Songino Array**	**39.64**	**339**	P	**P**	**16 48 59.9**	**+1.2**
	0.5nm,0.8s,mb3.3,baz=155,slow=9.7,SNR=4.8						
STKA	**Stephens Creek**	**45.78**	**161**	P	**P**	**16 49 48.4**	**-0.6**
	1.2nm,0.7s,mb3.9,baz=330,slow=23,SNR=3.7						
ZAL	**Zalesovo**	**53.27**	**331**	P	**P**	**16 50 44.8**	**-1.3**
	0.5nm,0.3s,mb3.9,baz=357,slow=8.3,SNR=3.6						
BVAR	**Borovoye Array**	**60.33**	**325**	P	**P**	**16 51 35.8**	**-0.6**
	0.2nm,0.4s,mb3.5,baz=106,slow=10,SNR=3.8						
ARCES	**ARCESS Array B**	**82.81**	**340**	P	**P**	**16 53 50.1**	**-0.2**
	3.6nm,1.0s,mb4.3,baz=90,slow=7.3,SNR=5.7						

IDC 07 16:49:27.8±6.1, 4.90N×93.57E, mb3.4/3, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.9/1, Error ellipse: s-maj=184.8km s-min=29.3km az=73.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.46**	**21**	Pn	P	16 52 54.5	-1.4
	0.2nm,0.3s,baz=170,slow=10,SNR=4.6						
SONM	**Songino Array**	**44.16**	**12**	P	P	16 57 38.1	-1.9
	0.3nm,0.8s,baz=194,slow=7.3,SNR=2.8						
WRA	**Warramunga Arr**	**47.07**	**123**	P	P	16 58 01.6	-1.9
	1.1nm,0.7s,baz=301,slow=9.3,SNR=6.5						
ASAR	**Alice Springs**	**48.51**	**128**	P	P	16 58 12.8	-1.9
	0.2nm,0.5s,baz=299,slow=7.9,SNR=4.3						

IDC 07 16:53:43.0±5.2, 6.41N×91.54E, mb3.6/2, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, ML4.2/1, Error ellipse: s-maj=152.9km s-min=33.6km az=77.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.98**	**30**	Pn	P	16 57 02.5	-2.3
	0.4nm,0.3s,baz=231,slow=14,SNR=45						
SONM	**Songino Array**	**43.18**	**15**	P	P	17 01 45.6	-1.6
	0.4nm,0.7s,baz=191,slow=7.3,SNR=3.2						
ASAR	**Alice Springs**	**51.02**	**127**	P	P	17 02 47.1	-2.0
	0.9nm,0.7s,baz=301,slow=7.0,SNR=8.2						

*IDC **07** 16:57:05.8±2.6, 2.61N×95.62E, mb3.8/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.8/1, MS2.9/1, Ms1 3.1/1, ms1mx2.9/19, Error ellipse: s-maj=92.2km s-min=29.2km az=59.0*
ISC 07 16:57:09.0±1.5, 2.6N±0.2×95.7E±0.3, h33km, n10, σ0§76/10, mb4.1/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.14**	**11**	Pn	**P**	**17 00 55.6**	**+0.6**
	0.1nm,0.3s,baz=199,slow=11,SNR=21						
CMAR				LR	LR	17 06 54.1	
	comp=Z,42nm,19.1s,baz=220,slow=37						
JIRN	**Jiri**	**26.57**	**341**	*e*P	**P**	**17 02 46.3**	**+0.2**
	7.9nm,0.7s,mb4.4						
GUN	**Gumba**	**26.90**	**341**	*e*P	**P**	**17 02 49.8**	**+0.7**
	11nm,0.7s,mb4.5						
KKN	**Kakani**	**26.99**	**339**	*e*P	**P**	**17 02 49.6**	**-0.4**
GKN	**Gorkha**	**27.42**	**338**	*e*P	**P**	**17 02 54.7**	**+0.8**
	3.5nm,0.4s,mb4.2						
KOLN	**Koldanda**	**27.61**	**336**	*e*P	**P**	**17 02 56.4**	**+0.8**
	6.1nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**44.04**	**122**	P	**P**	**17 05 16.3**	**+0.5**
	0.8nm,0.8s,mb3.5,baz=307,slow=8.6,SNR=4.6						
SONM	**Songino Array**	**46.06**	**10**	P	**P**	**17 05 30.5**	**-1.0**
	0.7nm,0.5s,mb3.8,baz=190,slow=8.7,SNR=12						
ZAL	**Zalesovo**	**52.00**	**352**	P	**P**	**17 06 16.2**	**-1.0**
	1.2nm,0.6s,mb4.0,baz=316,slow=5.7,SNR=7.2						
BVAR	**Borovoye Array**	**54.49**	**342**	P	**P**	**17 06 34.5**	**-1.2**
	1.9nm,0.9s,mb4.0,baz=135,slow=8.4,SNR=9.5						

WEL 07 17:09:29.6±0.2, 43.51S×170.72E, h6km±1km, ML3.5/6, 4C-4D, Error ellipse: s-maj=1.3km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**0.32**	**131**	⇓PG	Pg	17 09 36.4	+0.3
RPZ				SG	Sg	17 09 40.6	+0.1
RPZ				SG	Sg	17 09 40.8	+0.3
WVZ	**Waitaha Valley**	**0.43**	**2**	⇑PG	Pg	17 09 38.2	0.0
WVZ				SG	Sg	17 09 43.3	-0.7
FOZ	**Fox Glacier**	**0.75**	**265**	P*	Pb	17 09 42.6	-2.0
FOZ				S*	Sb	17 09 51.0	-3.8
LBZ	**Lake Benmore**	**0.96**	**203**	⇑P*	Pb	17 09 47.5	-0.7
LBZ				*e*S*	Sb	17 09 60.0	-1.0
LTZ	**Lake Taylor**	**1.34**	**58**	⇓PN	Pn	17 09 54.8	-0.1
LTZ				S*	Sb	17 10 12.9	+0.8
CRLZ	**Canterbury Las**	**1.39**	**94**	⇓PN	Pn	17 09 54.8	-0.6
CRLZ				*e*SN	Sn	17 10 12.1	-2.2
MQZ	**McQueen's Vall**	**1.42**	**99**	⇓PN	Pn	17 09 55.0	-1.0
MQZ				*e*SN	Sn	17 10 12.6	-2.5
JCZ	**Jackson Bay**	**1.53**	**247**	PN	Pn	17 09 57.3	-0.2
JCZ				SN	Sn	17 10 16.2	-1.7
ODZ	**Otahua Downs**	**1.54**	**182**	PN	Pn	17 09 56.8	-0.9
ODZ				SN	Sn	17 10 16.2	-2.0
WKZ	**Wanaka**	**1.80**	**222**	⇑PN	Pn	17 10 00.7	-0.7
DSZ	**Denniston Nort**	**1.93**	**25**	⇑PN	Pn	17 10 02.6	-0.6
DSZ				SN	Sn	17 10 25.9	-2.2
EAZ	**Earnscleugh**	**2.00**	**210**	PN	Pn	17 10 02.7	-1.6
EAZ				SN	Sn	17 10 28.2	-1.7
MSZ	**Milford Sound**	**2.33**	**239**	*e*PN	Pn	17 10 08.3	-0.6
MSZ				SN	Sn	17 10 38.1	0.0
KHZ	**Kahutara**	**2.34**	**63**	*e*PN	Pn	17 10 09.4	+0.3
THZ	**Tophouse**	**2.37**	**44**	*e*PN	Pn	17 10 09.3	-0.3
TUZ	**Tuapeka**	**2.57**	**197**	PN	Pn	17 10 10.4	-2.0
TUZ				SN	Sn	17 10 41.7	-2.6
MLZ	**Mavora Lakes**	**2.59**	**224**	PN	Pn	17 10 11.8	-1.0
QRZ	**Quartz Range**	**3.00**	**27**	*e*PN	Pn	17 10 18.0	-0.5
NNZ	**Nelson**	**3.02**	**42**	*e*PN	Pn	17 10 18.9	+0.1
WHZ	**Wether Hill Ro**	**3.10**	**219**	*e*PN	Pn	17 10 17.0	-2.9

*IDC **07** 17:19:49.0±1.0, 8.64N×94.28E, mb3.6/7, mb1 3.8/8, mb1mx3.7/18, mbtmp3.6/8, ML3.4/1, MS2.9/1, Ms1 3.1/1, ms1mx2.8/22, Error ellipse: s-maj=36.0km s-min=22.8km az=51.0*
ISC 07 17:19:53.0±1.0, 8.9N±0.1×94.1E±0.1, h33km, n15, σ1§33/15, mb3.9/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.66**	**26**	Pn	**P**	**17 22 27.9**	**+1.3**
	0.1nm,0.3s,baz=212,slow=13,SNR=4.9						
CMAR				LR	LR	17 26 38.8	
	comp=Z,64nm,18.7s,baz=200,slow=38						
JIRN	**Jiri**	**20.14**	**339**	*e*P	**P**	**17 24 27.1**	**-0.1**
	24nm,1.1s						
PKI	**Pulchoki**	**20.34**	**337**	*e*P	**P**	**17 24 26.8**	**-2.5**
GUN	**Gumba**	**20.48**	**339**	*e*P	**P**	**17 24 30.0**	**-0.7**
	18nm,1.0s						
KKN	**Kakani**	**20.59**	**337**	*e*P	**P**	**17 24 30.7**	**-1.2**
GKN	**Gorkha**	**21.03**	**336**	*e*P	**P**	**17 24 34.2**	**-2.2**
	9.3nm,0.6s,mb4.3						
KOLN	**Koldanda**	**21.26**	**334**	*e*P	**P**	**17 24 39.0**	**+0.3**
	12nm,0.8s,mb4.3						
SONM	**Songino Array**	**40.24**	**13**	P	**P**	**17 27 28.7**	**+0.5**
	0.5nm,1.0s,mb3.2,baz=180,slow=4.3,SNR=2.7						
ZAL	**Zalesovo**	**45.58**	**352**	P	**P**	**17 28 12.5**	**+0.8**
	1.2nm,0.8s,mb3.9,baz=313,slow=9.3,SNR=7.7						
WRA	**Warramunga Arr**	**48.89**	**126**	P	**P**	**17 28 36.4**	**-1.7**
	0.4nm,0.6s,mb3.6,baz=305,slow=8.6,SNR=4.9						
ASAR	**Alice Springs**	**50.60**	**131**	P	**P**	**17 28 46.0**	**-5.1**
	0.5nm,0.8s,mb3.5,baz=301,slow=8.3,SNR=4.3						
KMBO	**Kilima Mbogo**	**57.46**	**263**	P	**P**	**17 29 42.0**	**+0.4**
	0.6nm,0.4s,mb4.0,baz=53,slow=10,SNR=4.4						
AKASG	**Malin Array Be**	**67.35**	**321**	P	**P**	**17 30 47.2**	**+0.4**
	0.7nm,0.7s,mb3.8,baz=90,slow=5.1,SNR=4.7						
GERES	**GERESS Array B**	**77.06**	**318**	P	**P**	**17 31 46.6**	**+1.9**
	1.1nm,0.8s,mb3.8,baz=117,slow=6.0,SNR=4.2						
LPG	**La Plagne**	**81.88**	**315**	*e*P	**P**	**17 32 13.1**	**+2.4**
	8.7nm,0.9s,mb4.4						

*BJI **07** 17:33:26.2, 4.50N×95.00E, h55km, mb4.6*
*IDC **07** 17:33:26.1±0.9, 4.50N×94.94E, h55km±6km, mb3.8/10, mb1 4.0/11, mb1mx3.8/19, mbtmp4.1/11, MS3.0/1, Ms1 3.2/1, ms1mx2.5/25, Error ellipse: s-maj=44.9km s-min=16.5km az=49.0*
*NEIC **07** 17:33:26.2±0.7, 4.48N×94.98E, mb4.4/5, Error ellipse: s-maj=25.9km s-min=10.8km az=53.0*
ISC 07 17:33:24.5±0.9, 4.5N±0.2×95.1E±0.2, h55km, h55km±1.2km: pP-P, n31, σ0§99/31, mb4.3/21, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.43**	**15**	P	**P**	**17 36 52.5**	**+5.1**
	0.7nm,0.3s,baz=208,slow=11,SNR=65						
CMAR				LR	LR	17 41 54.1	
	comp=Z,67nm,22.0s,baz=195,slow=35						
JIRN	**Jiri**	**24.58**	**341**	*e*P	**P**	**17 38 41.3**	**+0.5**
	5.4nm,0.4s,mb4.5						
PKI	**Pulchoki**	**24.76**	**339**	*e*P	**P**	**17 38 43.7**	**+1.1**
	3.9nm,0.5s,mb4.2						
GUN	**Gumba**	**24.91**	**340**	*e*P	**P**	**17 38 43.0**	**-1.1**
	12nm,0.7s,mb4.5						
KKN	**Kakani**	**25.01**	**339**	*e*P	**P**	**17 38 44.8**	**-0.2**
	7.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**25.38**	**352**	P	**P**	**17 38 48.9**	**+0.4**
LSA	**Lhasa**	**25.38**	**352**	*e*P	**P**	**17 38 48.9**	**+0.4**
	2.7nm,0.5s,mb4.0						
GKN	**Gorkha**	**25.43**	**338**	*e*P	**P**	**17 38 48.5**	**-0.5**
	6.0nm,0.3s,mb4.6						
KOLN	**Koldanda**	**25.63**	**336**	*e*P	**P**	**17 38 50.8**	**0.0**
	12nm,0.6s,mb4.6						
UCH	**Uchtor**	**41.84**	**337**	P	**P**	**17 41 12.1**	**+1.4**
	SNR=9.9						
TKM2	**Tokmak 2**	**42.02**	**339**	P	**P**	**17 41 13.6**	**+1.4**
	SNR=7.5						
KBK	**Karagaybulak**	**42.04**	**338**	P	**P**	**17 41 13.8**	**+1.5**
	SNR=15						
AML	**Almayashu**	**42.08**	**336**	P	**P**	**17 41 13.9**	**+1.2**
	SNR=8.3						
AAK	**Ala-Archa**	**42.19**	**337**	*e*P	**P**	**17 41 13.5**	**-0.1**
	3.3nm,0.8s,mb4.0						
EKS2	**Erkin-Say**	**42.49**	**337**	P	**P**	**17 41 17.5**	**+1.4**
	SNR=6.8						
USP	**Ospenovka**	**42.73**	**338**	P	**P**	**17 41 18.9**	**+0.8**
	SNR=9.7						
SONM	**Songino Array**	**44.31**	**11**	P	**P**	**17 41 29.7**	**-1.1**
	1.0nm,0.6s,mb3.7,baz=193,slow=8.4,SNR=13						
WRA	**Warramunga Arr**	**45.58**	**123**	P	**P**	**17 41 41.6**	**+0.3**
	1.0nm,0.5s,mb4.0,baz=302,slow=9.4,SNR=18						
ASAR	**Alice Springs**	**47.06**	**128**	P	**P**	**17 41 53.6**	**+0.7**
	0.7nm,0.6s,mb3.8,baz=301,slow=7.9,SNR=17						
HIA	**Hailar**	**49.33**	**21**	*e*P	**P**	**17 42 09.5**	**-0.7**
	2.9nm,0.6s,mb4.5						
ZAL	**Zalesovo**	**50.04**	**352**	P	**P**	**17 42 14.9**	**-0.7**
	2.8nm,0.8s,mb4.3,baz=298,slow=4.9,SNR=12						
BVAR	**Borovoye Array**	**52.50**	**341**	P	**P**	**17 42 33.4**	**-0.7**
	4.0nm,0.6s,mb4.5,baz=135,slow=8.4,SNR=32						
BRVK	**Borovoye**	**52.56**	**341**	*e*P	**P**	**17 42 33.5**	**-1.1**
	3.9nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**52.99**	**342**	*e*P	**P**	**17 42 37.0**	**-0.8**
	11nm,0.6s,mb5.0						
BRTR	**Keskin Array B**	**65.36**	**312**	P	**P**	**17 44 01.3**	**-2.3**
	0.7nm,0.7s,mb3.8,baz=121,slow=7.2,SNR=4.1						
BRTR				pP	pP	17 44 17.3	-1.5
	1.0nm,0.5s,baz=136,slow=7.0,SNR=4.3						
AKASG	**Malin Array Be**	**71.39**	**322**	P	**P**	**17 44 38.9**	**-1.8**
	0.5nm,0.4s,mb3.8,baz=89,slow=5.4,SNR=7.0						
AKASG				pP	pP	17 44 54.1	-2.1
	0.4nm,0.4s,baz=86,slow=5.5,SNR=3.5						
FINES	**FINESS Array B**	**76.14**	**332**	P	**P**	**17 45 07.8**	**-0.4**
	3.6nm,0.9s,mb4.3,baz=95,slow=6.3,SNR=8.1						
FINES				pP	pP	17 45 22.7	-1.1
	4.6nm,1.0s,baz=114,slow=6.0,SNR=2.1						
FINES	**FINESS Array B**	**76.14**	**332**	P	**P**	**17 45 07.8**	**-0.4**
FINES				pP	pP	17 45 22.7	-1.1
ARCES	**ARCESS Array B**	**78.77**	**340**	P	**P**	**17 45 22.2**	**-0.4**
	3.8nm,0.9s,mb4.3,baz=92,slow=6.3,SNR=10						
ARCES				pP	pP	17 45 37.7	-0.5
	5.1nm,0.9s,baz=90,slow=4.9,SNR=2.2						
ARCES	**ARCESS Array B**	**78.77**	**340**	P	**P**	**17 45 22.2**	**-0.4**
ARCES				pP	pP	17 45 37.7	-0.5
GERES	**GERESS Array B**	**80.97**	**319**	P	**P**	**17 45 35.6**	**+0.8**
	3.0nm,1.2s,mb4.1,baz=117,slow=6.0,SNR=4.0						
GERES				pP	pP	17 45 51.7	+1.2
	0.8nm,0.6s,baz=117,slow=6.0,SNR=4.2						

*CSEM **07** 17:59:11.9±99.0, 43.04N×44.85E, h13km, mb3.9, After OBN*
MOS 07 17:59:11.9±2.5, 43.04N×44.85E, h13km, mb3.9/1, Error ellipse: s-maj=17.8km s-min=11.0km az=33.8, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.75**	**249**	*i* PG	Pg	17 59 30.5	+3.5
ZEI				*i* Sg	Sg	17 59 42.6	+5.4
BTLR	**Botlikh**	**1.08**	**110**	*e*PG	Pg	17 59 33.2	-0.3
BTLR				*i* S	Sb	17 59 49.3	+3.6
BTLR				pmax	pmax		
	comp=Z,48nm,0.2s						
BTLR	**Botlikh**	**1.08**	**110**	*e*Pg	Pg	17 59 33.2	-0.3
	comp=Z,24nm,0.2s						
BTLR				*i* Sg	Sg	17 59 49.3	+1.3
TI2	**Plekhanov**	**1.31**	**183**	*e*Pg	Pg	17 59 35.8	-2.3
DBC	**Dubki**	**1.45**	**90**	*e*PG	Pg	17 59 41.0	0.0
DBC				*i* S	Sb	18 00 02.5	+6.0
UNCR	**Uncukul**	**1.47**	**102**	*e*PG	Pg	17 59 41.0	-0.3
UNCR				*i* S	Sb	18 00 03.5	+6.5
UNCR				pmax	pmax		
	comp=Z,23nm,0.2s						
UNCR	**Uncukul**	**1.47**	**102**	*e*Pg	Pg	17 59 41.0	-0.3
	comp=Z,12nm,0.2s						
SHAR	**Shatzhatmas**	**1.74**	**295**	*i* PN	Pn	17 59 41.0	-1.1
KIV	**Kislovodsk**	**1.82**	**301**	*i* PN	Pn	17 59 41.8	-1.5
NAGR	**Nagutskaya**	**2.07**	**314**	*i* Pn	Pn	17 59 46.8	0.0
GOF	**Gofitskoye**	**2.41**	**328**	*e*PN	Pn	17 59 50.0	-1.6
GOF				*i* S	Sn	18 00 21.0	-0.2
GOF				pmax	pmax		
	comp=Z,20nm,1.0s						
GOF				smax			
	comp=Z,80nm,1.0s						
GOF	**Gofitskoye**	**2.41**	**328**	*e*Pn	Pn	17 59 50.0	-1.6
	comp=Z,10.0nm,1.0s						

*IDC **07** 18:00:46.0±0.8, 27.63N×101.24E, mb3.9/10, mb1 4.1/11, mb1mx3.9/20, mbtmp3.9/11, ML3.1/1, MS2.9/1, Ms1 3.1/1, ms1mx2.6/25, Error ellipse: s-maj=41.3km s-min=16.6km az=61.0*
*BJI **07** 18:00:52.3, 27.60N×101.37E, h43km, mB4.4, mb4.3, ML3.7, Ms3.8, Msz4.2*
*NEIC **07** 18:00:52.1±0.9, 27.63N×101.20E, h42km±8km, mb4.3/11, Error ellipse: s-maj=8.8km s-min=5.8km az=212.0*
ISC 07 18:00:48.8±0.5, 27.49N±0.08×101.05E±0.05, h33km, n37, σ1§02/38, mb4.1/19, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**7.90**	**67**	*e*Pn	**Pn**	**18 02 42.4**	**-1.9**
	23nm,0.6s						
SHL	**Shillong**	**8.43**	**259**	*e*P	**P**	**18 03 00.0**	**+8.5**
SHL				*e*S	**S**	**18 04 25.0**	**-1.5**
LSA	**Lhasa**	**8.97**	**287**	*e*Pn	**P**	**18 03 00.5**	**+1.4**
	3.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**9.20**	**193**	Pn	**P**	**18 03 10.1**	**+7.9**
	0.1nm,0.3s,baz=9.5,slow=11,SNR=7.9						
CMAR				Lg		18 05 46.2	
	0.2nm,0.3s,baz=26,slow=31,SNR=6.5						
CMAR				LR	LR	18 07 09.0	
	comp=Z,78nm,21.2s,baz=25,slow=41						
JIRN	**Jiri**	**13.18**	**274**	*e*P	**P**	**18 03 55.5**	**-0.7**
	19nm,0.8s						
GUN	**Gumba**	**13.45**	**275**	*e*P	**P**	**18 03 59.6**	**-0.1**
	17nm,0.7s						
PKI	**Pulchoki**	**13.88**	**274**	*e*P	**P**	**18 04 04.3**	**-1.1**
	12nm,0.7s						
KKN	**Kakani**	**13.98**	**275**	*e*P	**P**	**18 04 06.0**	**-0.8**
	22nm,0.8s						
GKN	**Gorkha**	**14.54**	**276**	*e*P	**P**	**18 04 12.4**	**-1.7**
	5.7nm,0.5s						
KOLN	**Koldanda**	**15.47**	**275**	*e*P	**P**	**18 04 22.8**	**-3.4**
SONM	**Songino Array**	**20.73**	**10**	P	**P**	**18 05 27.2**	**-1.7**
	2.1nm,0.9s,baz=189,slow=11,SNR=12						
SONM				ScP		18 13 17.1	
	0.3nm,0.7s,baz=180,slow=2.5,SNR=3.6						
ULN	**Ulaanbaatar**	**20.87**	**11**	*e*P	**P**	**18 05 28.2**	**-2.1**
	2.2nm,0.8s						
AAK	**Ala-Archa**	**26.33**	**312**	*e*P	**P**	**18 06 24.0**	**+0.6**
	5.6nm,1.3s,mb3.9						
ZAL	**Zalesovo**	**29.00**	**340**	P	**P**	**18 06 45.6**	**-1.9**
	0.4nm,0.5s,mb3.4,baz=258,slow=4.8,SNR=2.8						
BVAR	**Borovoye Array**	**34.15**	**327**	P	**P**	**18 07 33.5**	**+0.8**
	0.6nm,0.7s,mb3.6,baz=117,slow=9.9,SNR=6.0						
BRVK	**Borovoye**	**34.23**	**327**	*e*P	**P**	**18 07 34.0**	**+0.7**
	3.7nm,1.1s,mb4.2						
CHKZ	**Chkalovo**	**34.44**	**328**	*e*P	**P**	**18 07 35.4**	**+0.3**
	2.0nm,0.9s,mb4.0						
MALT	**Malatya**	**52.78**	**299**	*e*P	**P**	**18 10 04.3**	**+1.4**
	1.1nm,0.4s,mb4.1						
BRTR	**Keskin Array B**	**56.26**	**301**	P	**P**	**18 10 28.7**	**+0.4**
	1.0nm,0.8s,mb3.9,baz=127,slow=6.2,SNR=5.1						
WRAB	**Tennant Creek**	**57.12**	**142**	*e*P	**P**	**18 10 34.7**	**0.0**
	8.7nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**57.12**	**142**	P	**P**	**18 10 34.4**	**-0.3**
	4.1nm,0.6s,mb4.6,baz=330,slow=7.8,SNR=28						
ASAR	**Alice Springs**	**59.94**	**145**	P	**P**	**18 10 54.6**	**+0.3**
	1.9nm,0.7s,mb4.2,baz=325,slow=6.7,SNR=18						
GERES	**GERESS Array B**	**68.17**	**315**	P	**P**	**18 11 48.4**	**+0.7**
	0.8nm,0.6s,mb3.9,baz=68,slow=7.2,SNR=5.1						
STKA	**Stephens Creek**	**70.55**	**144**	P	**P**	**18 12 02.7**	**+0.2**
	1.6nm,0.7s,mb4.1,baz=256,slow=4.2,SNR=3.7						
STKA	**Stephens Creek**	**70.55**	**144**	P	**P**	**18 12 02.7**	**+0.1**
CDF	**Champ du Feu**	**72.33**	**316**	*e*P	**P**	**18 12 13.2**	**+

0.4nm,0.7s,baz=304,slow=9.0,SNR=5.1
ASAR Alice Springs 48.29 128 P P 18 17 33.8 -1.4
0.9nm,1.1s,baz=299,slow=8.1,SNR=5.8

KRSC 07 18:09:07.1±1.0, 49.49N×155.40E, h98km±16km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.28**	**21**	*e*P	P	18 09 30.4	-0.6
SKR				*e*S	S	18 09 48.5	-0.4
ALID	**Alaid**	**1.38**	**4**	*e*P	P	18 09 32.6	+0.4
PAU	**Pauzhetka**	**2.17**	**24**	*e*P	P	18 09 44.7	+2.2
PAU				*e*S	S	18 10 11.2	+2.5
PAU				Smax			
	180nm,0.2s						
GRL	**Gorelyy**	**3.50**	**28**	*e*P	P	18 10 01.7	+1.0
GRL				*e*S	S	18 10 41.5	+0.3
RUS	**Russkaya**	**3.54**	**33**	*e*P	P	18 10 01.4	+0.1
RUS				*e*S	S	18 10 41.0	-1.3
KRMR	**Karymshinskiy**	**3.76**	**26**	*e*S	S	18 10 48.1	+0.5
UGLR	**Uglovaya**	**4.30**	**29**	*e*P	P	18 10 11.9	+0.3
KOK	**Koryaka**	**4.31**	**27**	*e*P	P	18 10 13.8	+2.0
AVH	**Avacha**	**4.32**	**28**	*e*P	P	18 10 13.9	+2.0
SMAR	**Somma**	**4.34**	**28**	*e*P	P	18 10 13.9	+1.8
SDLR	**Sedlovina**	**4.38**	**29**	*e*P	P	18 10 13.8	+1.1
GNL	**Ganaly**	**4.50**	**20**	*e*P	P	18 10 15.0	+0.6
SPN	**Mys Shipunski**	**4.63**	**37**	*e*P	P	18 10 16.7	+0.5
SPN				*e*S	S	18 11 07.4	-1.8
KMNR	**Kamenistaya**	**6.93**	**23**	*e*P	P	18 10 47.0	-0.7
KBTR	**Krutoberegovo**	**8.09**	**31**	*e*P	P	18 11 02.8	-0.6

DJA 07 18:11:40.9±1.6, 10.12S×113.72E, h80km, MD4.5/3, ML3.7/1, 1D, Error ellipse: s-maj=42.4km s-min=17.8km az=18.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.68**	**14**	*e*Pn	P	18 12 07.8	-1.3
	59nm,0.2s						
SRDI				*e*Sn	S	18 12 09.6	-20
KELI	**Kelakatan**	**2.04**	**22**	⇓*e*Pn	P	18 12 13.6	-0.3
RATI	**Rata**	**2.27**	**52**	*e*Pn	P	18 12 16.0	-1.1
RATI				*e*Sn	S	18 12 45.9	+2.0
KEDI	**Kedomdong**	**2.87**	**56**	*e*Pn	P	18 12 24.1	-1.4
KEDI				*e*Sn	S	18 12 55.7	-3.3

*NEIC **07** 18:16:32.2±0.8, 54.99N×160.38W, h60km±5km, ML3.7(AEIC), Error ellipse: s-maj=17.6km s-min=4.1km az=153.0*
*IDC **07** 18:16:34.1±7.3, 55.07N×160.13W, h74km±54km, mb3.6/8, mb1 3.7/10, mb1mx3.5/23, mbtmp3.8/10, ML3.5/2, Error ellipse: s-maj=72.1km s-min=30.8km az=163.0*
ISC 07 18:16:31.1±0.9, 55.0N±0.1×160.4W±0.1, h68km±7km, n32, σ0§79/36, mb3.8/8, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOL	**Dolgoi Island**	**0.89**	**281**	P	**P**	**18 16 47.4**	**-0.8**
PVV	**Pavlof Volcano**	**0.91**	**296**	P	**P**	**18 16 48.5**	**-0.1**
PVV				S	**S**	**18 17 01.7**	**+0.1**
HAG	**Hague Volcano**	**0.95**	**291**	P	**P**	**18 16 49.1**	**0.0**
DTNA	**Dutton South F**	**1.10**	**279**	P	**P**	**18 16 50.8**	**-0.3**
DTNA				S	**S**	**18 17 05.7**	**-0.3**
DT1	**Dutton Round H**	**1.12**	**277**	P	**P**	**18 16 50.7**	**-0.5**
DT1				S	**S**	**18 17 05.4**	**-0.8**
BALA	**Baldy Mountain**	**1.42**	**279**	P	**P**	**18 16 56.4**	**+1.0**
FALS	**False Pass**	**1.77**	**267**	P	**P**	**18 17 00.3**	**+0.1**
FALS				S	**S**	**18 17 23.3**	**+1.6**
SSLN	**Shishaldin Nor**	**2.11**	**267**	P	**P**	**18 17 05.9**	**+1.0**
ANPB	**Aniakchak Plen**	**2.16**	**32**	P	**P**	**18 17 06.7**	**+1.1**
ANPK	**Aniakchak Peak**	**2.24**	**33**	P	**P**	**18 17 07.8**	**+1.0**
WESN	**West Dahl Nort**	**2.49**	**262**	P	**P**	**18 17 10.8**	**+0.5**
WFAR	**Faris Peak**	**2.60**	**262**	P	**P**	**18 17 11.9**	**0.0**
AKGG	**Akutan Green G**	**3.38**	**259**	P	**P**	**18 17 22.7**	**0.0**
UNV	**Unalaska Valle**	**3.77**	**255**	P	**P**	**18 17 27.4**	**-0.8**
MSW	**Makushin Switc**	**3.91**	**257**	P	**P**	**18 17 29.1**	**-1.0**
KAHC	**Katmai Hardscr**	**4.70**	**36**	P	**P**	**18 17 42.0**	**+0.8**
KDAK	**Kodiak Island**	**5.14**	**54**	P	**P**	**18 17 46.2**	**-1.2**
SPIA	**Saint Paul Isl**	**5.96**	**296**	P	**P**	**18 17 57.9**	**-0.6**
ILAR	**Eielson Array**	**11.88**	**29**	P	**P**	**18 19 18.4**	**-1.0**
	0.1nm,0.3s,baz=222,slow=12,SNR=5.0						
DAWY	**Dawson**	**13.92**	**41**	*e*P	**P**	**18 19 47.0**	**+0.9**
INK	**Inuvik**	**18.23**	**32**	P	**P**	**18 20 39.4**	**-1.0**
	0.2nm,0.3s,baz=233,slow=11,SNR=3.6						
INK	**Inuvik**	**18.23**	**32**	P	**P**	**18 20 39.4**	**-1.1**
YKA	**Yellowknife Ar**	**24.42**	**54**	P	**P**	**18 21 44.1**	**+0.2**
	0.2nm,0.4s,mb2.8,baz=266,slow=8.0,SNR=6.5						
SONM	**Songino Array**	**54.42**	**304**	P	**P**	**18 25 53.2**	**+0.2**
	0.4nm,0.6s,mb3.6,baz=46,slow=5.3,SNR=4.8						
ARCES	**ARCESS Array B**	**55.71**	**358**	P	**P**	**18 26 01.6**	**-0.5**
	4.1nm,0.9s,mb4.4,baz=14,slow=5.0,SNR=3.7						
KAF	**Kangasniemi**	**63.12**	**356**	*ep*	**P**	**18 26 52.5**	**-0.8**
FINES	**FINESS Array B**	**63.80**	**357**	P	**P**	**18 26 57.7**	**+0.1**
	1.3nm,0.6s,mb4.0,baz=21,slow=7.5,SNR=16						
FINES	**FINESS Array B**	**63.80**	**357**	P	**P**	**18 26 57.7**	**+0.1**
NOA	**NORSAR Array B**	**64.12**	**5**	P	**P**	**18 26 58.2**	**-1.4**
	1.9nm,0.9s,mb3.9,baz=350,slow=13,SNR=2.5						
BVAR	**Borovoye Array**	**64.47**	**329**	P	**P**	**18 27 02.9**	**+0.8**
	1.0nm,0.6s,mb3.8,baz=8.1,slow=5.8,SNR=6.1						
AKASG	**Malin Array Be**	**74.38**	**354**	P	**P**	**18 28 03.0**	**+0.4**
	1.0nm,0.6s,mb3.8,baz=8.1,slow=5.8,SNR=6.1						
CMAR	**Chiang Mai Arr**	**81.05**	**289**	P	**P**	**18 28 41.5**	**+1.4**
	1.3nm,0.8s,mb3.8,baz=18,slow=5.8,SNR=10						

*IDC **07** 18:21:31.2±13.0, 36.19N×70.49E, h138km±115km, mb3.4/5, mb1 3.5/6, mb1mx3.1/19, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=76.3km s-min=31.6km az=37.0*
ISC 07 18:21:37.3±4.8, 36.4N±0.3×70.5E±0.4, h202km±34km, n15, σ0§49/15, mb3.4/4, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.20**	**22**	P	**P**	**18 23 08.1**	**+0.1**
	SNR=60						
UCH	**Uchtor**	**6.56**	**27**	P	**P**	**18 23 13.0**	**+0.3**
	SNR=50						
EKS2	**Erkin-Say**	**6.71**	**21**	P	**P**	**18 23 14.4**	**-0.2**
	SNR=23						
KZA	**Kyzart**	**6.73**	**31**	P	**P**	**18 23 14.5**	**-0.2**
	SNR=13						
AAK	**Ala-Archa**	**6.91**	**25**	P	**P**	**18 23 17.4**	**+0.2**
	SNR=16						
KBK	**Karagaybulak**	**7.09**	**27**	P	**P**	**18 23 20.0**	**+0.4**
	SNR=12						
CHMS	**Chumysh**	**7.33**	**25**	P	**P**	**18 23 22.5**	**0.0**
	SNR=13						
USP	**Ospenovka**	**7.48**	**23**	P	**P**	**18 23 24.2**	**-0.5**
	SNR=6.0						
TKM2	**Tokmak 2**	**7.57**	**29**	P	**P**	**18 23 26.1**	**+0.3**
	SNR=16						
BVAR	**Borovoye Array**	**16.60**	**360**	P	**P**	**18 25 19.3**	**-0.5**
	0.2nm,0.3s,baz=180,slow=10,SNR=6.1						
ZAL	**Zalesovo**	**20.12**	**25**	P	**P**	**18 25 56.3**	**-0.7**
	0.8nm,0.3s,baz=288,slow=11,SNR=2.9						
FINES	**FINESS Array B**	**37.34**	**326**	P	**P**	**18 28 31.2**	**-0.2**
	3.6nm,1.0s,mb3.9,baz=130,slow=11,SNR=4.4						
ARCES	**ARCESS Array B**	**41.07**	**338**	P	**P**	**18 29 02.1**	**-0.1**
	5.2nm,0.9s,mb4.0,baz=96,slow=9.1,SNR=3.6						
YKA	**Yellowknife Ar**	**81.34**	**2**	P	**P**	**18 33 33.3**	**+1.5**
	0.2nm,0.6s,mb2.9,baz=354,slow=4.8,SNR=5.8						
WRA	**Warramunga Arr**	**82.27**	**122**	P	**P**	**18 33 37.1**	**-0.4**
	0.1nm,0.4s,mb2.8,baz=326,slow=4.8,SNR=5.9						

*CSEM **07** 18:29:11.3±0.2, 45.57N×10.70E, h10km, ML2.7/21, Error ellipse: s-maj=4.0km s-min=2.4km az=154.0*
*ROM **07** 18:29:11.5±0.2, 45.69N×10.54E, h3km±1km, MD2.9/9, ML2.1/9, Error ellipse: s-maj=1.8km s-min=1.0km az=90.0*
*ZUR **07** 18:29:11.2, 45.64N×10.54E, h10km, ML2.3/6*
*NEIC **07** 18:29:11.6±0.5, 45.62N×10.53E, h10km, ML2.6(LDG), ML2.6(VIE), Error ellipse: s-maj=7.1km s-min=3.6km az=131.0*
*LDG **07** 18:29:13.2±0.5, 45.56N×10.64E, h10km, Ml2.6/16, Error ellipse: s-maj=9.4km s-min=5.0km az=91.0*
ISC 07 18:29:11.0±0.3, 45.64N±0.02×10.52E±0.02, h13km±2km, n62, σ1§21/106, 8C-10D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAL	**Salo**	**0.04**	**171**	⇑*i*PG	**Pg**	**18 29 13.3**	**-0.2**
SAL				SG	**Sg**	**18 29 15.7**	**+0.6**
MABI	**Malga Bissina**	**0.41**	**360**	⇓*i*PG	**Pg**	**18 29 19.8**	**+0.3**
MABI				SG	**Sg**	**18 29 26.5**	**+1.3**
MDI	**Monti di Nese**	**0.58**	**284**	*e*PG	**Pg**	**18 29 22.7**	**-0.1**
MDI				SG	**Sg**	**18 29 32.8**	**+2.1**
BRMO	**Bormio**	**0.84**	**353**	*e*PG	**Pg**	**18 29 27.9**	**0.0**
BRMO				SG	**Sg**	**18 29 40.4**	**+1.2**
	32nm,0.3s						
BERNI	**Berninapass**	**0.84**	**336**	⇑*i*Pg	**Pg**	**18 29 28.0**	**0.0**
BERNI				*e*Sg	**Sg**	**18 29 40.7**	**+1.4**
TEOL	**Teolo**	**0.86**	**109**	⇑*i*Pg	**Pg**	**18 29 27.5**	**-0.8**
TEOL				*e*Sg	**Sg**	**18 29 39.3**	**-0.6**
CTI	**Castel Tesino**	**0.89**	**63**	*e*PG	**Pg**	**18 29 28.5**	**-0.4**
CTI				SG	**Sg**	**18 29 41.4**	**+0.6**
	107nm,0.1s						
CTI	**Castel Tesino**	**0.89**	**63**	*e*Pg	**Pg**	**18 29 28.5**	**-0.4**
	107nm,0.1s						
CTI				Sg	**Sg**	**18 29 41.4**	**+0.6**
CGRP	**Cima Grappa**	**0.93**	**75**	⇑*i*Pg	**Pg**	**18 29 29.5**	**-0.2**
CGRP				*e*Sg	**Sg**	**18 29 41.7**	**-0.4**
APPI	**Appiano**	**0.97**	**30**	*e*PG	**Pg**	**18 29 30.9**	**+0.4**
APPI				SG	**Sg**	**18 29 44.1**	**+0.6**
FUORN	**Ofenpass**	**0.99**	**350**	⇓*i*P	**Pg**	**18 29 30.4**	**-0.6**
FUORN	**Ofenpass**	**0.99**	**350**	⇓*i*Pg	**Pg**	**18 29 30.4**	**-0.6**
FUORN				*e*Sg	**Sg**	**18 29 44.2**	**-0.1**
MUGIO	**Muggio**	**1.07**	**286**	⇓*i*P	**Pg**	**18 29 32.3**	**-0.2**
MUGIO	**Muggio**	**1.07**	**286**	*e*Pg	**Pg**	**18 29 32.3**	**-0.2**
VDL	**Val di Lei**	**1.11**	**319**	*i* P	**Pb**	**18 29 33.0**	**+1.4**
VDL	**Val di Lei**	**1.11**	**319**	⇑*i*Pg	**Pg**	**18 29 32.9**	**-0.5**
VDL				*e*Sg	**Sg**	**18 29 48.2**	**-0.1**
FAU	**Forcella Aurin**	**1.18**	**60**	*e*Pg	**Pg**	**18 29 34.1**	**-0.5**
DAVOX	**Davos**	**1.22**	**339**	*e*P	**Pb**	**18 29 34.9**	**+1.5**
DAVOX	**Davos**	**1.22**	**339**	*e*Pg	**Pg**	**18 29 35.0**	**-0.5**
ERBM	**Eremo**	**1.23**	**184**	*e*PN	**Pn**	**18 29 36.2**	**+2.3**
	20nm,0.2s						
VAI	**Varese**	**1.25**	**281**	*e*PN	**Pn**	**18 29 35.5**	**+1.4**
VAI				SN	**Sn**	**18 29 53.4**	**+2.6**
	46nm,0.2s						
ZCCA	**Zocca**	**1.33**	**166**	*e*PN	**Pn**	**18 29 38.0**	**+2.6**
	23nm,0.3s						
BRES	**Bressanone**	**1.35**	**38**	*e*PN	**Pn**	**18 29 37.2**	**+1.5**
BRES				SN	**Sn**	**18 29 55.1**	**+1.6**
CAE	**Caneva**	**1.39**	**74**	⇑*i*PG	**Pg**	**18 29 37.8**	**-1.1**
CAE				*i* Sg	**Sg**	**18 29 56.5**	**-0.9**
CAE	**Caneva**	**1.39**	**74**	⇑*i*PG	**Pg**	**18 29 37.8**	**-1.1**
CAE				*i* Sg	**Sg**	**18 29 56.5**	**-0.9**
FUSIO	**Fusio**	**1.52**	**303**	*e*P	**Pb**	**18 29 40.2**	**+1.5**
FUSIO	**Fusio**	**1.52**	**303**	*e*P*	**Pb**	**18 29 40.2**	**+1.5**
MLNI	**Malnisio**	**1.55**	**70**	⇓*i*Pg	**Pg**	**18 29 40.7**	**-1.2**
MLNI				*e*Sg	**Sg**	**18 30 02.4**	**-0.3**
BDI	**Bagni Di Lucca**	**1.58**	**178**	*e*PN	**Pn**	**18 29 41.5**	**+2.5**
	14nm,0.3s						
SQTA	**Sankt Quirin**	**1.65**	**17**	⇓*i*PG	**Pg**	**18 29 43.4**	**-0.6**
SQTA				*i* SG	**Sg**	**18 30 04.8**	**-1.2**
	10.0nm,0.2s						
DAVA	**Damuels**	**1.70**	**345**	⇑*i*PG	**Pg**	**18 29 44.8**	**-0.2**
DAVA				*i* SG	**Sg**	**18 30 07.6**	**-0.2**
	16nm,0.4s						
MOTA	**Moosalm**	**1.75**	**13**	⇓*i*PG	**Pg**	**18 29 45.4**	**-0.6**
MOTA				*i* SG	**Sg**	**18 30 08.3**	**-1.1**
	3.9nm,0.2s						
ORO	**Oropa**	**1.78**	**270**	*e*PN	**Pn**	**18 29 44.9**	**+3.1**
	47nm,0.3s						
ORO	**Oropa**	**1.78**	**270**	*e*Pn	**Pn**	**18 29 44.9**	**+3.1**
	47nm,0.3s						
WTTA	**Wattenberg**	**1.79**	**25**	⇓*i*PG	**Pg**	**18 29 45.5**	**-1.4**
WTTA				*i* SG	**Sg**	**18 30 09.5**	**-1.4**
	9.9nm,0.2s						
MCGN	**Macugnaga**	**1.80**	**281**	*e*PN	**Pn**	**18 29 45.1**	**+3.1**
	12nm,0.2s						
MCGN	**Macugnaga**	**1.80**	**281**	*e*Pn	**Pn**	**18 29 45.1**	**+3.1**
	12nm,0.2s						
LIENZ	**Alp Oberkamor**	**1.80**	**337**	*e*P	**Pn**	**18 29 46.3**	**+4.3**
WATA	**Walderalm**	**1.84**	**23**	⇓*i*PG	**Pg**	**18 29 46.3**	**-1.6**
WATA				*i* SG	**Sg**	**18 30 11.2**	**-1.3**
	4.3nm,0.1s						
BNALP	**Bannalp**	**1.90**	**311**	*e*P	**Pn**	**18 29 47.2**	**+3.7**
SFI	**Santa Sofia**	**1.98**	**151**	*e*PN	**Pn**	**18 29 46.3**	**+1.7**
	10.0nm,0.6s						
HASLI	**Hasliberg**	**1.98**	**305**	⇓*i*P	**Pn**	**18 29 47.9**	**+3.2**
VOY	**Vojsko**	**2.39**	**79**	*e*(Pn)	**Pn**	**18 29 52.7**	**+2.2**
VOY				*e*		18 29 56.0	
VOY				*e*(Sn)	**Sn**	**18 30 21.5**	**+1.6**
VOY				*e*		18 30 27.0	
LPG	**La Plagne**	**2.65**	**268**	*e*Pn	**Pn**	**18 29 54.2**	**0.0**
LPG				*e*Sn	**Sn**	**18 30 27.5**	**+1.0**
	9.7nm,0.5s						
LPL	**La Plagne**	**2.66**	**269**	*e*Pn	**Pn**	**18 29 55.0**	**+0.6**
LPL				*e*Sn	**Sn**	**18 30 27.6**	**+0.8**
	4.5nm,0.3s						
MBDF	**Montbardon**	**2.80**	**252**	*e*Pn	**Pn**	**18 29 55.3**	**-1.1**
MBDF				*e*Sn	**Sn**	**18 30 30.1**	**-0.3**
	2.9nm,0.2s						
SBF	**Sospel**	**2.83**	**232**	*e*Pn	**Pn**	**18 29 56.9**	**+0.1**
SBF				*e*Sn	**Sn**	**18 30 29.6**	**-1.4**
	19nm,0.5s						
CABF	**La Chapelle**	**3.23**	**289**	*e*Pn	**Pn**	**18 30 03.4**	**+0.9**
CABF				*e*Sn	**Sn**	**18 30 41.3**	**+0.1**
	1.2nm,0.3s						
PGF	**Pioggiola**	**3.28**	**200**	*e*Pn	**Pn**	**18 30 02.4**	**-0.8**
PGF				*e*Sn	**Sn**	**18 30 38.6**	**-3.9**
	2.5nm,0.3s						
HINF	**Hinteralfeld**	**3.33**	**312**	*e*Pn	**Pn**	**18 30 04.5**	**+0.6**
HINF				*e*Sn	**Sn**	**18 30 42.6**	**-1.1**
	14nm,0.8s						
ORIF	**Oris-en-Rattie**	**3.35**	**259**	*e*Pn	**Pn**	**18 30 04.9**	**+0.7**
ORIF				*e*Sn	**Sn**	**18 30 43.7**	**-0.6**
	5.2nm,0.5s						
FRF	**La Foret Royal**	**3.46**	**234**	*e*Pn	**Pn**	**18 30 05.1**	**-0.7**
FRF				*e*Sn	**Sn**	**18 30 44.9**	**-2.1**
	2.1nm,0.2s						
CDF	**Champ du Feu**	**3.55**	**322**	*e*Pn	**Pn**	**18 30 07.9**	**+0.9**
CDF				*e*Sn	**Sn**	**18 30 49.1**	**-0.1**
	7.1nm,0.7s						
LMR	**La Mourre**	**3.68**	**233**	*e*Pn	**Pn**	**18 30 08.1**	**-0.8**
LMR				*e*Sn	**Sn**	**18 30 49.8**	**-2.8**
	2.4nm,0.4s						
HAU	**Haudompre**	**3.71**	**311**	*e*Pn	**Pn**	**18 30 09.8**	**+0.5**
HAU				*e*Sn	**Sn**	**18 30 53.1**	**-0.3**
	6.8nm,0.4s						
KHC	**Kasperske Hory**	**4.06**	**30**	*e*PN	**Pn**	**18 30 14.0**	**-0.3**
KHC				*e*PG	**Pg**	**18 30 34.0**	**+1.9**
KHC				*e*SN	**Sn**	**18 31 01.4**	**-0.8**
KHC				*e*SG	**Sg**	**18 31 20.8**	**-5.5**
KHC	**Kasperske Hory**	**4.06**	**30**	*e*Pn	**Pn**	**18 30 14.0**	**-0.3**
KHC				*e*Sn	**Sn**	**18 31 01.4**	**-0.8**
KHC				*e*Sg	**Sg**	**18 31 20.8**	**-5.5**
VIVF	**Saint-Julien-l**	**4.20**	**261**	*e*Pn	**Pn**	**18 30 16.3**	**0.0**
VIVF				*e*Sn	**Sn**	**18 31 03.8**	**-2.0**
	1.5nm,0.2s						
SMF	**Signal de Mont**	**4.75**	**285**	*e*Pn	**Pn**	**18 30 23.5**	**-0.5**
SMF				*e*Sn	**Sn**	**18 31 17.4**	**-2.2**
	2.6nm,0.3s						
SSF	**Saint Saulge**	**5.06**	**289**	*e*Pn	**Pn**	**18 30 28.0**	**-0.4**
SSF				*e*Sn	**Sn**	**18 31 24.7**	**-2.7**
	1.0nm,0.2s						
AVF	**Avril sur Loir**	**5.10**	**286**	*e*Pn	**Pn**	**18 30 28.1**	**-1.0**
AVF				*e*Sn	**Sn**	**18 31 25.9**	**-2.6**
	0.5nm,0.2s						
LFF	**La Frestale**	**6.93**	**268**	*e*Pn	**Pn**	**18 30 52.6**	**-2.3**

ISC 07 18:39:05.1±1.0, 36.25N±0.07×74.9E±0.2, h33km, n15, σ1§06/16, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**3.81**	**166**	*e*PG	**P**	**18 40 03.0**	**+0.1**
DLH				*e*SG	**S**	**18 40 48.0**	**+0.8**
KZA	**Kyzart**	**5.83**	**3**	P	**P**	**18 40 33.3**	**+1.9**
	SNR=22						
AML	**Almayashu**	**5.94**	**352**	P	**P**	**18 40 31.2**	**-1.8**
	SNR=35						
UCH	**Uchtor**	**5.98**	**358**	P	**P**	**18 40 33.7**	**+0.2**
	SNR=26						
ULHL	**Ulahol**	**6.09**	**10**	P	**P**	**18 40 39.4**	**+4.3**
	SNR=7.5						
AAK	**Ala-Archa**	**6.38**	**358**	P	**P**	**18 40 39.4**	**+0.1**
	SNR=7.5						
EKS2	**Erkin-Say**	**6.46**	**353**	P	**P**	**18 40 38.5**	**-1.8**
	SNR=28						
DDI	**Dehra Dun**	**6.49**	**155**	*e*	**S**	**18 42 02.1**	**+7.6**
TKM2	**Tokmak 2**	**6.69**	**5**	P	**P**	**18 40 45.4**	**+1.8**
	SNR=10						
KOLN	**Koldanda**	**11.25**	**136**	*e*P	**P**	**18 41 45.5**	**-1.0**
	1.6nm,0.2s						
GKN	**Gorkha**	**11.67**	**132**	*e*P	**P**	**18 41 53.1**	**+0.8**
	4.1nm,0.2s						
KKN	**Kakani**	**12.22**	**131**	*e*P	**P**	**18 41 59.4**	**-0.3**
	5.8nm,0.6s						
PKI	**Pulchoki**	**12.46**	**131**	*e*P	**P**	**18 42 02.1**	**-0.7**
GUN	**Gumba**	**12.51**	**129**	*e*P	**P**	**18 42 03.3**	**-0.2**
JIRN	**Jiri**	**12.88**	**128**	*e*P	**P**	**18 42 08.4**	**-0.1**
	6.9nm,0.4s						

MEX 07 18:40:48.7±1.2, 18.11N×95.74W, h77km±35km, MD3.8, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.30**	**141**	*e*P	P	18 41 10.9	-1.0
CMIG				*e*S	S	18 41 26.1	-2.9
OXX	**Oaxaca**	**1.39**	**223**	*i* P	P	18 41 11.5	-1.5
OXX				*e*S	S	18 41 28.5	-2.5
VHO	**Vista Hermosa**	**1.40**	**223**	*e*P	P	18 41 11.4	-1.8
VHO				*e*S	S	18 41 30.3	-0.9
POHV	**Veracruz**	**1.75**	**303**	*i* P	P	18 41 15.5	-2.2
POHV				*i* S	S	18 41 38.5	-0.5
PPM	**Popocatepetl**	**2.90**	**290**	*e*P	P	18 41 34.2	+0.5
PPM				*i* S	S	18 42 06.5	-1.0

*IDC **07** 18:44:29.4±2.5, 8.82S×108.49E, mb3.9/6, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, Error ellipse: s-maj=120.4km s-min=19.9km az=52.0*
*DJA **07** 18:44:30.6±0.8, 11.21S×108.82E, h33km, MD4.7/2, ML5.3/2, Error ellipse: s-maj=60.1km s-min=16.5km az=156.0*
ISC 07 18:44:39.9±2.9, 8.6S±0.2×108.9E±0.1, h96km±25km, n12, σ1§26/16, mb3.7/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**5.20**	**89**	*e*Pn	**P**	**18 45 55.6**	**-1.1**
	242nm,0.1s						
SRDI	**Scrawed**	**5.20**	**89**	*e*Pg	**P**	**18 45 57.4**	**+0.7**
SRDI				*e*Sn	**S**	**18 46 58.1**	**+2.1**
KELI	**Kelakatan**	**5.56**	**86**	*e*Pn	**P**	**18 46 03.7**	**+2.1**
KELI				*e*Sn	**S**	**18 47 13.1**	**+8.2**
RATI	**Rata**	**6.58**	**91**	*e*Pn	**P**	**18 46 15.1**	**-0.5**
RATI				*e*Sn	**S**	**18 47 28.2**	**-1.5**
KEDI	**Kedomdong**	**7.15**	**89**	*e*Pn	**P**	**18 46 20.6**	**-3.0**
	125nm,0.2s						
KEDI	**Kedomdong**	**7.15**	**89**	*e*Pg	**P**	**18 46 21.4**	**-2.2**
KEDI				*e*Sn	**S**	**18 47 43.6**	**-0.2**
WRA	**Warramunga Arr**	**27.07**	**117**	P	**P**	**18 50 14.9**	**-0.8**
	0.3nm,0.6s,mb3.0,baz=288,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**28.24**	**125**	P	**P**	**18 50 28.1**	**+1.9**
	0.5nm,0.8s,mb3.1,baz=298,slow=9.4,SNR=8.1						
STKA	**Stephens Creek**	**38.18**	**132**	P	**P**	**18 51 51.5**	**-0.3**
	3.4nm,0.8s,mb4.2,baz=275,slow=7.0,SNR=4.3						
SONM	**Songino Array**	**56.25**	**358**	P	**P**	**18 54 13.3**	**+0.7**
	0.4nm,0.8s,mb3.5,baz=174,slow=8.5,SNR=9.1						
SONM				pP	pP	18 54 28.0	-8.3
	0.5nm,0.5s,baz=174,slow=8.5,SNR=4.4						
ZAL	**Zalesovo**	**65.56**	**345**	P	**P**	**18 55 15.0**	**-0.5**
	1.1nm,0.3s,mb4.2,baz=301,slow=1.9,SNR=3.1						
BVAR	**Borovoye Array**	**69.58**	**336**	P	**P**	**18 55 40.3**	**-0.3**
	1.8nm,0.7s,mb4.0,baz=143,slow=7.4,SNR=7.8						

*TIF **07** 18:49:07.6, 43.39N×44.82E, h10km±2km*
*CSEM **07** 18:49:09.8±0.2, 43.32N×44.77E, h25km, mb4.1, Error ellipse: s-maj=7.1km s-min=3.8km az=44.0, After OBN*
*MOS **07** 18:49:09.8±1.9, 43.32N×44.77E, h25km, mb4.1/1, Error ellipse: s-maj=12.9km s-min=9.1km az=126.4*
ISC 07 18:49:08.1±0.6, 43.37N±0.03×44.89E±0.04, h10km, n24, σ1§32/41, 3C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.94**	**231**	*i* Pg	**Pg**	**18 49 26.0**	**-1.0**
ZEI				*i* Sg	**Sg**	**18 49 36.8**	**-2.8**
BTLR	**Botlikh**	**1.20**	**125**	⇑*i*PG	**Pg**	**18 49 28.9**	**-3.3**
BTLR				*e*S	**Sb**	**18 49 46.9**	**+0.9**
BTLR				pmax	pmax		
	comp=Z,405nm,0.4s						
BTLR	**Botlikh**	**1.20**	**125**	*i* Pg	**Pg**	**18 49 28.9**	**-3.3**
	comp=Z,202nm,0.4s						
BTLR				*e*S

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.10**	**78**	P	**Pn**	**18 52 16.0**	**+12**
PALK	**Pallekele**	**12.92**	**277**	Pn	**P**	**18 53 21.3**	**-2.2**
CMAR	**Chiang Mai Arr**	**13.65**	**22**	Pn	**P**	**18 53 34.6**	**+1.4**
	0.1nm,0.3s,baz=219,slow=13,SNR=32						
KKTK	**Khon Kaen**	**13.86**	**40**	P	**P**	**18 53 46.0**	**+10**
	1μm,0.5s						
CHG	**Chiang Mai**	**13.98**	**21**	⇑P	**P**	**18 53 43.6**	**+6.0**
	30nm,1.1s						
VIS	**Vishakhapatnam**	**15.57**	**321**	*e*P	**P**	**18 53 57.8**	**-0.5**
VIS				*i*		18 56 36.9	
BWNR	**Bhubaneshwar**	**16.32**	**333**	*e*P	**P**	**18 54 11.7**	**+3.7**
BWNR				*e*		18 54 16.6	
	comp=Z,37nm,0.4s						
BWNR				*e*		18 56 48.8	
BWNR				*i*		18 56 49.6	
BWNR				*e*		18 57 23.4	
KOD	**Kodaikanal**	**16.59**	**287**	*e*P	**P**	**18 54 16.2**	**+4.7**
KOD				*e*		18 54 27.8	
	comp=Z,33nm,1.8s						
TRD	**Trivandrum**	**16.75**	**280**	*e*P	**P**	**18 54 16.9**	**+3.4**
TRD				*e*		18 54 18.4	
	comp=Z,42nm,1.4s						
HYB	**Hyderabad**	**18.74**	**309**	*e*P	**P**	**18 54 46.0**	**+7.9**
HYB				*e*S	**S**	**18 57 53.0**	**-10**
HYB	**Hyderabad**	**18.74**	**309**	*i* P	**P**	**18 54 46.0**	**+7.9**
HYB				*e*S	**S**	**18 57 53.0**	**-10**
BLSP	**Bilaspur**	**19.70**	**327**	*e*P	**P**	**18 54 51.4**	**+2.3**
BLSP				*e*		18 55 02.2	
	comp=Z,21nm,0.4s						
SHL	**Shillong**	**19.77**	**355**	*e*P	**P**	**18 54 53.5**	**+3.6**
SHL				*e*S	**S**	**18 58 31.9**	**+6.6**
MNGI	**Mangalore**	**19.86**	**292**	*e*	**P**	**18 54 47.3**	**-3.6**
QIZ	**Qiongzhong**	**20.59**	**49**	*e*P	**P**	**18 54 57.3**	**-1.2**
QIZ				LR	LR		
	comp=N,353nm,15.4s						
QIZ				LR	LR		
	comp=Z,362nm,14.6s,MS3.9						
QIZ	**Qiongzhong**	**20.59**	**49**	P	**P**	**18 54 58.1**	**-0.3**
	comp=Z,22nm,0.9s						
JIRN	**Jiri**	**22.90**	**343**	*e*P	**P**	**18 55 23.0**	**+1.4**
PKI	**Pulchoki**	**23.05**	**341**	*e*P	**P**	**18 55 24.6**	**+1.5**
	comp=Z,16nm,0.6s,mb4.7						
POO	**Poona**	**23.08**	**305**	*e*	**P**	**18 55 37.0**	**+14**
POO				*i*		18 59 32.0	
DMN	**Daman**	**23.19**	**341**	*e*P	**P**	**18 55 26.1**	**+1.7**
	comp=Z,43nm,0.9s,mb4.9						
GUN	**Gumba**	**23.22**	**342**	*e*P	**P**	**18 55 25.6**	**+0.8**
KKN	**Kakani**	**23.30**	**341**	*e*P	**P**	**18 55 27.5**	**+2.0**
	comp=Z,33nm,0.8s,mb4.8						
BHPL	**Bhopal**	**23.36**	**320**	*e*P	**P**	**18 55 29.1**	**+2.9**
BHPL				*e*		18 55 39.8	
	comp=Z,22nm,1.1s						
BHPL				*e*S	**S**	**18 59 44.7**	**+12**
GKN	**Gorkha**	**23.71**	**340**	*e*P	**P**	**18 55 31.1**	**+1.6**
	comp=Z,21nm,0.4s,mb4.9						
KOLN	**Koldanda**	**23.87**	**338**	*e*P	**P**	**18 55 32.6**	**+1.5**
	comp=Z,47nm,0.8s,mb5.0						
LSA	**Lhasa**	**23.93**	**355**	*e*P	**P**	**18 55 22.9**	**-8.6**
	comp=Z,24nm,0.7s,mb4.7						
NDI	**New Delhi**	**27.59**	**328**	*e*P	**P**	**18 56 05.5**	**-0.4**
NDI				*e*S	**S**	**19 00 53.6**	**+10**
DDI	**Dehra Dun**	**28.49**	**331**	*e*	**P**	**18 56 22.1**	**+8.1**
DDI				*e*		18 56 22.1	
ENH	**Enshi**	**28.60**	**30**	*e*P	**P**	**18 56 13.8**	**-1.2**
	comp=Z,9.0nm,0.9s,mb4.5						
SMLA	**Simla**	**29.58**	**331**	*e*	**P**	**18 56 36.5**	**+13**
XAN	**Xi'an**	**31.52**	**25**	P	**P**	**18 56 39.6**	**-1.3**
XAN				AMB	AMB		
	comp=Z,31nm,0.8s,mb5.2						
LZH	**Lanzhou**	**31.61**	**16**	*e*P	**P**	**18 56 40.5**	**-1.2**
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
NJ2	**Nanjing**	**35.22**	**39**	*e*P	**P**	**18 57 14.1**	**+1.1**
NJ2				AP	pP	18 57 23.8	+1.8
NJ2				XP	sP	18 57 27.3	+1.4
NJ2				PP	PP	18 58 33.8	+1.5
NJ2				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,600nm,4.0s						
NJ2				LR	LR		
	comp=N,330nm,20.5s,MS4.4						
NJ2				LR	LR		
	comp=E,720nm,23.2s,MS4.4						
NJ2				LR	LR		
	comp=Z,490nm,26.4s,MS4.1						
SSE	**Sheshan**	**36.11**	**42**	P	**P**	**18 57 17.9**	**-2.6**
SSE				S	**S**	**19 02 55.6**	**-1.7**
SSE				AMB	AMB		
	comp=Z,19nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,32nm,4.0s						
SSE				LR	LR		
	comp=N,93nm,20.5s,MS3.6						
SSE				LR	LR		
	comp=E,61nm,20.5s,MS3.6						
SSE				LR	LR		
	comp=Z,87nm,14.4s						
WMQ	**Urumqi**	**38.26**	**353**	⇑P	**P**	**18 57 39.7**	**+1.2**
WMQ				AP	pP	18 57 49.5	+1.9
WMQ				XP	sP	18 57 53.4	+2.0
WMQ				PP	PP	18 59 10.8	+1.2
WMQ				S	**S**	**19 03 30.7**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,33nm,4.5s						
WMQ				LR	LR		
	comp=N,742nm,18.7s,MS4.6						
WMQ				LR	LR		
	comp=E,698nm,20.8s,MS4.6						
WMQ				LR	LR		
	comp=Z,829nm,18.6s,MS4.6						
FITZ	**Fitzroy Crossi**	**39.50**	**128**	*e*P	**P**	**18 57 49.4**	**+0.3**
	comp=Z,5.5nm,0.6s,mb4.5						
BJT	**Baijiatuau**	**39.69**	**27**	*e*P	**P**	**18 57 51.4**	**+1.1**
	comp=Z,6.4nm,0.6s,mb4.5						
UCH	**Uchtor**	**40.09**	**338**	P	**P**	**18 57 54.9**	**+1.3**
	SNR=9.6						
KBK	**Karagaybulak**	**40.30**	**339**	P	**P**	**18 57 56.1**	**+0.8**
	SNR=10						
AML	**Almayashu**	**40.32**	**337**	P	**P**	**18 57 56.6**	**+1.1**
	SNR=17						
AAK	**Ala-Archa**	**40.44**	**338**	P	**P**	**18 57 57.9**	**+1.3**
	SNR=6.6						
AAK	**Ala-Archa**	**40.44**	**338**	⇑*e*P	**P**	**18 57 55.9**	**-0.7**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.3						
AAK	**Ala-Archa**	**40.44**	**338**	*e*P	**P**	**18 57 55.6**	**-1.0**
	comp=Z,5.4nm,1.1s,mb4.2						
EKS2	**Erkin-Say**	**40.74**	**337**	P	**P**	**18 58 00.0**	**+1.1**
	SNR=6.4						
USP	**Ospenovka**	**40.99**	**339**	P	**P**	**18 58 01.3**	**+0.3**
	SNR=8.4						
MK02	**Makanchi Array**	**42.01**	**348**	P	**P**	**18 58 09.3**	**-0.1**
MK02				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
SONM	**Songino Array**	**43.33**	**13**	P	**P**	**18 58 20.1**	**0.0**
	comp=Z,2.1nm,0.6s,mb4.0,baz=191,slow=8.7,SNR=17						
SONM				PcP	PcP	19 00 09.5	+0.4
	comp=Z,1.2nm,0.6s,baz=201,slow=3.5,SNR=4.2						
NWAO	**Narrogin (SRO)**	**44.54**	**151**	P	**P**	**18 58 29.9**	**-0.2**
	comp=Z,3.5nm,0.8s,mb4.2,baz=71,slow=16,SNR=4.6						
ZAK	**Zakamensk**	**45.21**	**9**	*e*P	**P**	**18 58 32.7**	**-2.5**
WRA	**Warramunga Arr**	**47.50**	**124**	*i* P	**P**	**18 58 54.3**	**+0.5**
WRA				pmax	pmax		
	comp=Z,13nm,0.6s						
WRA	**Warramunga Arr**	**47.50**	**124**	P	**P**	**18 58 54.3**	**+0.6**
	comp=Z,13nm,0.6s,mb5.1,baz=302,slow=9.1,SNR=159						
WRA				pP	pP	18 59 02.0	-1.0
	comp=Z,10nm,0.5s,baz=302,slow=9.1,SNR=15						
WRAB	**Tennant Creek**	**47.50**	**124**	*d i*P	**P**	**18 58 54.4**	**+0.6**
WRAB	**Tennant Creek**	**47.50**	**124**	*e*P	**P**	**18 58 54.4**	**+0.5**
	comp=Z,28nm,0.6s,mb5.5						
WB2	**Warramunga Arr**	**47.51**	**124**	⇓*i*P	**P**	**18 58 54.4**	**+0.5**
ZAL	**Zalesovo**	**48.57**	**353**	P	**P**	**18 59 01.9**	**+0.3**
	comp=Z,4.2nm,0.6s,mb4.7,baz=298,slow=6.1,SNR=27						
ZAL				pP	pP	18 59 09.4	-1.4
	comp=Z,5.6nm,0.4s,baz=343,slow=3.8,SNR=9.3						
ZAL	**Zalesovo**	**48.57**	**353**	P	**P**	**18 59 01.9**	**+0.3**
ZAL				pP	pP	18 59 09.4	-1.4
HIA	**Hailar**	**48.66**	**23**	*e*P	**P**	**18 59 01.8**	**-0.6**
	comp=Z,6.0nm,0.7s,mb4.7						
HIA				*e*	pP	18 59 12.0	+0.3
ASPA	**Alice Springs**	**48.99**	**128**	*e*P	**P**	**18 59 05.9**	**+0.6**
ASAR	**Alice Springs**	**48.99**	**128**	P	**P**	**18 59 06.0**	**+0.6**
	comp=Z,5.6nm,0.6s,mb4.8,baz=300,slow=7.6,SNR=94						
ASAR				pP	pP	18 59 12.8	-1.8
	comp=Z,4.5nm,0.5s,baz=297,slow=7.1,SNR=17						
NVS	**Novosibirsk**	**49.65**	**352**	*i* P	**P**	**18 59 08.8**	**-1.1**
NVS				*e*	pP	18 59 19.3	0.0
NVS				pmax	pmax		
	comp=N,6.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.8s						
BVA0	**Borovoye Array**	**50.82**	**342**	P	**P**	**18 59 18.0**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
BVAR	**Borovoye Array**	**50.82**	**342**	P	**P**	**18 59 18.2**	**-0.6**
	comp=Z,4.4nm,0.6s,mb4.5,baz=141,slow=9.5,SNR=30						
BVAR				pP	pP	18 59 26.6	-1.6
	comp=Z,2.3nm,0.5s,baz=135,slow=8.4,SNR=11						
BRVK	**Borovoye**	**50.88**	**342**	*e*P	**P**	**18 59 18.3**	**-1.0**
	comp=Z,3.7nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**51.31**	**343**	*i* P	**P**	**18 59 22.1**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
CHKZ	**Chkalovo**	**51.31**	**343**	*e*P	**P**	**18 59 22.0**	**-0.6**
	comp=Z,6.4nm,0.4s,mb4.9						
CHKZ				*e*pP	pP	18 59 32.3	+0.3
BOD	**Bodaibo**	**54.31**	**13**	*e*P	**P**	**18 59 44.1**	**-0.8**
BOD				*e*	pP	18 59 52.5	-1.7
PMG	**Port Moresby**	**55.44**	**105**	*e*P	**P**	**18 59 53.0**	**-0.7**
	comp=Z,13nm,0.7s,mb5.1						
GNI	**Garni**	**55.55**	**316**	*i* P	**P**	**18 59 53.8**	**-0.4**
GNI				pmax	pmax		
	comp=Z,16nm,1.5s						
GNI	**Garni**	**55.55**	**316**	P	**P**	**18 59 53.2**	**-1.0**
	comp=Z,7.0nm,0.9s,mb4.7,baz=2.4,slow=7.0,SNR=4.1						
GNI	**Garni**	**55.55**	**316**	*e*P	**P**	**18 59 54.2**	**+0.1**
	comp=Z,16nm,0.9s,mb5.0						
TI2	**Plekhanov**	**56.22**	**317**	*e*P	pP	19 00 06.4	-1.9
KMBO	**Kilima Mbogo**	**56.69**	**265**	LR	LR	19 22 28.8	
	comp=Z,77nm,18.0s,MS3.8,baz=90,slow=34						
KMBO	**Kilima Mbogo**	**56.69**	**265**	P	**P**	**19 00 03.5**	**+0.7**
	comp=Z,2.4nm,0.9s,mb4.2						
ARU	**Arti**	**57.63**	**338**	⇓*i*P	**P**	**19 00 02.4**	**-6.3**
ARU				*e*		19 00 55.0	
ARU				*e*S	**S**	**19 07 56.1**	**-6.9**
ARU				*e*		19 09 48.4	
ARU				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
CTA	**Charters Tower**	**57.76**	**118**	LR	LR	19 27 42.7	
	comp=Z,85nm,19.6s,MS3.9,baz=284,slow=39						
KIV	**Kislovodsk**	**58.54**	**319**	⇑*e*P	**P**	**19 00 14.5**	**-0.8**
KIV				*e*	pP	19 00 24.2	-0.6
KIV				*e*		19 02 22.8	
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
KIV	**Kislovodsk**	**58.54**	**319**	*e*P	**P**	**19 00 14.1**	**-1.2**
	comp=Z,10nm,0.8s,mb4.9						
KIV				*e*pP	pP	19 00 23.6	-1.2
ASF	**Jabal al Asfar**	**58.94**	**304**	P	**P**	**19 00 17.0**	**-1.3**
	comp=Z,3.2nm,1.0s,mb4.3,baz=68,slow=19,SNR=3.4						
STKA	**Stephens Creek**	**59.05**	**133**	*e*P	**P**	**19 00 19.9**	**+0.9**
	comp=Z,6.1nm,0.8s,mb4.7						
STKA				*e*		19 00 31.4	
STKA	**Stephens Creek**	**59.05**	**133**	P	**P**	**19 00 19.9**	**+0.9**
	comp=Z,7.1nm,0.8s,mb4.8,baz=310,slow=9.1,SNR=12						
MALT	**Malatya**	**59.44**	**311**	*e*P	**P**	**19 00 21.3**	**-0.3**
	comp=Z,6.3nm,1.1s,mb4.6						
MALT				*e*pP	pP	19 00 30.7	-0.4
EIL	**Elat**	**60.04**	**301**	*e*P	**P**	**19 00 25.6**	**-0.3**
	comp=Z,11nm,1.0s,mb4.8						
EIL				*e*pP	pP	19 00 36.4	+1.0
SOC	**Sochi**	**60.36**	**318**	*e*P	**P**	**19 00 23.8**	**-4.0**
SOC				*e*		19 01 08.8	
SOC				*e*S	**S**	**19 08 37.2**	**-1.5**
SOC				*e*SS	SS	19 12 38.3	+0.6
SOC				*e*SSS	SSS	19 15 08.5	-3.3
SOC				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
SOC				pmax	pmax		
	comp=N,14nm,0.9s						
SOC				pmax	pmax		
	comp=E,21nm,0.9s						
YAK	**Yakutsk**	**62.15**	**18**	⇓*e*P	**P**	**19 00 38.4**	**-1.3**
YAK				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.3						
YAK	**Yakutsk**	**62.15**	**18**	*e*P	**P**	**19 00 38.3**	**-1.5**
	comp=Z,16nm,0.7s,mb5.3						
YAK				*e*pP	pP	19 00 48.3	-1.0
YAK				*e*sP	sP	19 00 51.9	-0.8
BRTR	**Keskin Array B**	**63.42**	**312**	P	**P**	**19 00 47.4**	**-1.0**
	comp=Z,8.0nm,1.1s,mb4.8,baz=126,slow=7.1,SNR=20						
BRTR				pP	pP	19 00 55.6	-2.3
	comp=Z,3.7nm,0.8s,baz=126,slow=5.5,SNR=10						
OBN	**Obninsk**	**66.89**	**328**	⇑*e*P	**P**	**19 01 08.1**	**-2.4**
OBN				*e*		19 03 39.1	
OBN				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
LSZ	**Lusaka**	**68.08**	**251**	P	**P**	**19 01 19.2**	**+0.5**
	comp=Z,2.5nm,0.8s,mb4.3						
MA2	**Magadan**	**68.87**	**27**	*i* P	pP	19 01 34.4	+2.0
MA2	**Magadan**	**68.87**	**27**	*e*P	**P**	**19 01 22.0**	**-0.8**
	comp=Z,2.7nm,0.5s,mb4.4						
AKASG	**Malin Array Be**	**69.49**	**322**	P	**P**	**19 01 24.9**	**-1.9**
	comp=Z,2.4nm,0.6s,mb4.3,baz=89,slow=5.4,SNR=16						
AKASG				pP	pP	19 01 35.1	-1.2
	comp=Z,1.3nm,0.5s,baz=87,slow=4.9,SNR=7.0						
MLR	**Muntele Rosu**	**70.32**	**316**	P	**P**	**19 01 31.9**	**0.0**
	comp=Z,13nm,1.1s,mb4.8,baz=32,slow=1.8,SNR=8.9						
MLR				pP	pP	19 01 40.1	-1.3
	comp=Z,10nm,0.9s,baz=35,slow=3.3,SNR=7.6						
JOF	**Joensuu**	**72.52**	**335**	*e*p	**P**	**19 01 42.4**	**-2.5**
FINES	**FINESS Array B**	**74.33**	**333**	P	**P**	**19 01 55.0**	**-0.4**
	comp=Z,12nm,1.0s,mb4.8,baz=99,slow=7.4,SNR=24						
FINES				pP	pP	19 02 04.9	-0.1
	comp=Z,11nm,1.1s,baz=101,slow=5.8,SNR=3.8						
KAF	**Kangasniemi**	**74.43**	**333**	*e*p	**P**	**19 01 54.7**	**-1.2**
	comp=Z,6.9nm,0.7s,mb4.7,baz=106,slow=5.5						
KAF	**Kangasniemi**	**74.43**	**333**	*e*P	**P**	**19 01 54.7**	**-1.2**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
OJC	**Ojcow**	**75.25**	**320**	*e*P	**P**	**19 02 01.0**	**0.0**
VYHS	**Vyhne**	**75.63**	**319**	*e*P	**P**	**19 02 03.0**	**-0.1**
MORC	**Moravsky Berou**	**76.64**	**320**	*e*P	**P**	**19 02 08.9**	**+0.1**
MORC				*e*pP	pP	19 02 17.2	-1.2
ZST	**Bratislava**	**76.74**	**318**	*e*P	**P**	**19 02 09.4**	**0.0**
ZST				*e*pP	pP	19 02 17.8	-1.2
ARCES	**ARCESS Array B**	**77.07**	**340**	P	**P**	**19 02 11.1**	**+0.3**
	comp=Z,5.0nm,0.7s,mb4.6,baz=93,slow=6.0,SNR=19						
BILL	**Bilibino**	**78.23**	**22**	⇑*e*P	**P**	**19 02 17.5**	**+0.3**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
BILL	**Bilibino**	**78.23**	**22**	*e*P	**P**	**19 02 16.3**	**-0.9**
	comp=Z,2.4nm,0.6s,mb4.3						
PRU	**Pruhonice**	**78.59**	**320**	*e*P	pP	19 02 31.0	+1.8
GEC2	**GERESS Array S**	**79.05**	**319**	*e*P	**P**	**19 02 22.5**	**+0.4**
GERES	**GERESS Array B**	**79.05**	**319**	P	**P**	**19 02 22.8**	**+0.7**
	comp=Z,15nm,1.1s,mb4.8,baz=90,slow=5.3,SNR=25						
GERES				pP	pP	19 02 33.0	+1.2
	comp=Z,4.5nm,0.8s,baz=90,slow=5.3,SNR=12						
KHC	**Kasperske Hory**	**79.15**	**319**	*e*P	**P**	**19 02 20.5**	**-2.1**
KHC				*e*		19 02 33.0	
KHC	**Kasperske Hory**	**79.15**	**319**	*e*P	**P**	**19 02 20.5**	**-2.1**
KHC				pP	pP	19 02 33.0	+0.7
HFS	**Hagfors**	**80.01**	**330**	P	**P**	**19 02 27.0**	**0.0**
	comp=Z,1.3nm,0.5s,mb4.1,baz=90,slow=7.4,SNR=7.6						
GRA1	**Grafenberg Arr**	**80.72**	**319**	*e*P	**P**	**19 02 31.3**	**+0.3**
	comp=Z,9.0nm,1.2s,mb4.6						
GRA1				*e*pP	pP	19 02 41.8	+1.1
GRF	**Grafenberg Arr**	**80.72**	**319**	*e*P	**P**	**19 02 31.3**	**+0.3**
GRF				*e**PP	pP	19 02 41.8	+1.1
GRF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
GRF	**Grafenberg Arr**	**80.72**	**319**	*e*P	**P**	**19 02 31.3**	**+0.3**
	comp=Z,9.0nm,1.2s,mb4.6						
GRF				*e*pP	pP	19 02 41.8	+1.1
NOA	**NORSAR Array B**	**81.31**	**331**	P	**P**	**19 02 33.2**	**-0.6**
	comp=Z,16nm,1.4s,mb4.8,baz=103,slow=5.0,SNR=2.5						
DAVOX	**Davos**	**81.55**	**316**	P	**P**	**19 02 36.2**	**+0.8**
	comp=Z,7.8nm,0.6s,mb4.8,baz=116,slow=5.0,SNR=17						
SYO	**Syowa Base**	**83.24**	**197**	⇑P	**P**	**19 02 43.1**	**-0.6**
SYO	**Syowa Base**	**83.24**	**197**	⇑PcP	PcP	19 02 50.0	+1.4
LPG	**La Plagne**	**83.73**	**315**	*e*P	**P**	**19 02 46.4**	**-0.3**
	comp=Z,14nm,0.9s,mb4.8						
TNA	**Tin City**	**88.30**	**24**	*e*P	**P**	**19 03 09.3**	**+0.6**
	comp=Z,5.1nm,0.8s,mb4.8						
EKA	**Eskdalemuir Ar**	**89.16**	**325**	P	**P**	**19 03 13.9**	**+0.9**
	comp=Z,5.6nm,1.0s,mb4.9,baz=101,slow=4.3,SNR=7.6						
EKA				pP	pP	19 03 23.6	+0.8
	comp=Z,2.0nm,0.6s,baz=99,slow=5.0,SNR=3.2						
VNDA	**Vanda**	**90.98**	**168**	P	**P**	**19 03 23.1**	**+2.0**
	comp=Z,3.3nm,1.1s,mb4.6,baz=34,slow=7.3,SNR=2.1						
ESDC	**Sonseca Array**	**92.17**	**310**	P	**P**	**19 03 28.2**	**+0.9**
	comp=Z,0.4nm,0.5s,mb4.0,baz=63,slow=5.2,SNR=5.1						
PDAR	**Pinedale Array**	**127.31**	**21**	PKP	PKPdf	19 09 24.1	-2.4
	comp=Z,1.3nm,0.8s,baz=315,slow=2.1,SNR=5.3						
TXAR	**Lajitas Array**	**141.35**	**25**	PKP	PKPdf	19 09 51.5	-1.4
	comp=Z,0.5nm,0.6s,baz=346,slow=5.2,SNR=3.6						

*CSEM **07** 18:50:46.0±0.1,34.54N×23.71E,h2km,MD3.3,Error ellipse: s-maj=5.3km s-min=2.5km az=85.0*
*ATH **07** 18:50:50.6,34.84N×23.96E,h23km±2km,MD3.3/10*
*HLW **07** 18:50:50.3,34.61N×23.90E,h19km,Mb3.6*
*NEIC **07** 18:50:50.6,34.84N×23.96E,h23km,MD3.3(ATH),After ATH.*

ISC 07 18:50:47.7±2.1,34.57N±0.06×23.8E±0.1,h17km±21km, n14,σ1°29/15,1C,Crete

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.35**	**41**	*e*PB	**Pb**	**18 50 55.0**	**-0.2**
VAM	**Vamos**	**0.89**	**21**	*e*PN	**Pn**	**18 51 02.8**	**-2.7**
XRY	**Khrisi**	**1.59**	**79**	*e*PN	**Pn**	**18 51 17.5**	**+2.1**
NPS	**Neapolis**	**1.64**	**65**	*e*PN	**Pn**	**18 51 17.2**	**+1.1**
KYTH	**Kithira**	**1.82**	**340**	*e*PN	**Pn**	**18 51 20.0**	**+1.3**
VLI	**Veliai**	**2.25**	**342**	*e*PN	**Pn**	**18 51 27.0**	**+2.1**
KARP	**Karpathos**	**2.92**	**70**	*e*PN	**Pn**	**18 51 34.5**	**0.0**
SLUM		**3.29**	**159**	P	**Pn**	**18 51 40.6**	**+0.9**
NSAL	**Nisos Salamina**	**3.34**	**355**	*e*PN	**Pn**	**18 51 39.8**	**-0.6**
PTL	**Penteli**	**3.47**	**1**	*e*PN	**Pn**	**18 51 41.5**	**-0.7**
MPAR	**Parnis Oros**	**3.57**	**359**	*e*PN	**Pn**	**18 51 42.0**	**-1.7**
SWA2		**5.50**	**165**	P	**Pn**	**18 52 10.6**	**-0.3**
SWA1		**5.54**	**162**	⇑P	**Pn**	**18 52 11.4**	**-0.1**
SWA1				S	**Sn**	**18 53 11.4**	**-4.1**
HBRG	**Burj al 'Arab**	**6.47**	**126**	P	**Pn**	**18 52 23.2**	**-1.5**

*MAN **07** 19:05:22.4,6.22N×126.99E,h35km,mb4.9,ML3.8,MS3.9*
*IDC **07** 19:05:26.1±6.7,6.55N×126.98E,h66km±62km,mb3.8/10, mb1 3.9/10,mb1mx3.8/19,mbtmp4.1/10,Error ellipse: s-maj=29.6km s-min=14.8km az=77.0*
*NEIC **07** 19:05:34.4±7.9,6.47N×126.93E,h148km±74km,mb4.2/2, Error ellipse: s-maj=37.7km s-min=13.6km az=63.0*

ISC 07 19:05:25.2±1.0,6.38N±0.06×126.90E±0.08,h79km±8km, n29,σ1°02/39,mb4.1/13,1C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MATI	**Mati**	**0.85**	**312**	*e*P	**P**	**19 05 40.6**	**-2.1**
MATI				*e*S	**S**	**19 05 51.8**	**-3.9**
DMPH	**Davao City--Mi**	**1.55**	**297**	⇓*i*P	**P**	**19 05 51.9**	**+0.3**
DMPH				*i* S	**S**	**19 06 11.1**	**0.0**
BIPH	**Bislig**	**1.87**	**343**	⇓*e*P	**P**	**19 05 55.5**	**-0.4**
BIPH				*e*S	**S**	**19 06 10.7**	**-7.9**
KCP	**Kidapawan**	**1.90**	**289**	⇓*i*P	**P**	**19 05 56.1**	**-0.2**
KCP				*i* S	**S**	**19 06 18.6**	**-0.6**
BUKP	**Musuan**	**2.35**	**309**	*e*P	**P**	**19 06 02.1**	**-0.5**
BUKP				*e*S	**S**	**19 06 30.1**	**-0.4**
BUTP	**Butuan**	**2.87**	**334**	*e*P	**P**	**19 06 11.9**	**+2.1**
BUTP				*e*S	**S**	**19 06 47.8**	**+4.5**
CGP	**Cagayan de Oro**	**3.00**	**313**	*e*P	**P**	**19 06 12.2**	**+0.4**
CGP				*e*S	**S**	**19 06 48.4**	**+1.7**
SCPH	**Surigao**	**3.66**	**338**	*e*P	**P**	**19 06 21.8**	**+1.0**
SCPH				*e*S	**S**	**19 07 04.4**	**+1.5**
PAGZ	**Pagadian**	**3.78**	**293**	*e*P	**P**	**19 06 21.4**	**-1.1**
MSLP	**Maasin**	**4.24**	**332**	*e*P	**P**	**19 06 27.8**	**-1.1**
TBP	**Tagbilaran**	**4.46**	**318**	*e*P	**P**	**19 06 31.6**	**-0.3**
TBP				*e*S	**S**	**19 07 24.1**	**+1.2**
LLP	**Lapu-Lapu**	**4.87**	**324**	⇑*e*P	**P**	**19 06 38.5**	**+0.9**
LLP				*e*S	**S**	**19 07 32.9**	**-0.3**
GUIM	**Jordan**	**6.00**	**315**	*e*P	**P**	**19 06 52.9**	**-0.1**
CBIJ	**Chichi jima**	**25.22**	**33**	P	**P**	**19 10 44.9**	**-0.5**
	48nm,0.6s,mb5.1,baz=272,slow=20,SNR=5.0						
WRA	**Warramun

JKRS				*e*S		Sn	19 18 52.3	-2.6
JIJ	**Ishigaki jima**	**2.78**	**69**	P		Pn	19 18 22.0	-2.6
JIJ				*e*S		Sn	19 18 54.4	-4.5
JTJ	**Tarama**	**3.35**	**68**	P		Pn	19 18 30.7	-2.1
JTJ				*e*S		Sn	19 19 09.2	-4.2
JMJ	**Miyako jima 2**	**3.92**	**68**	*e*S		Sn	19 19 24.0	-3.7

IDC 07 19:21:00.5±4.3, 7.25N×93.59E, mb3.3/3, mb1 3.5/4, mb1mx3.4/18, mbtmp3.2/4, ML3.4/1, Error ellipse: s-maj=127.3km s-min=27.3km az=76.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.30**	**25**	Pn	P	19 23 58.9	-1.0
	0.1nm,0.3s,baz=211,slow=14,SNR=2.9						
SONM	**Songino Array**	**41.89**	**13**	P	P	19 28 51.8	-2.3
	0.2nm,0.9s,baz=202,slow=7.8,SNR=2.5						
SONM				pP	pP	19 28 59.8	+5.7
	0.6nm,1.1s,baz=206,slow=9.7,SNR=2.2						
WRA	**Warramunga Arr**	**48.35**	**125**	P	P	19 29 45.0	-1.2
	0.3nm,0.4s,baz=305,slow=8.7,SNR=8.8						
ASAR	**Alice Springs**	**49.94**	**129**	P	P	19 29 55.9	-2.5
	0.4nm,0.5s,baz=300,slow=7.5,SNR=9.3						

PLV 07 19:38:36.1±1.2, 20.36N×105.36E, h6km±6km, MD3.9, Vietnam

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HBVN	**Hoa-Binh**	**0.46**	**359**	*e*PG	Pg	19 38 45.0	-0.3
HBVN				*e*SG	Sg	19 38 51.0	-0.6
TLV	**Tu Ly**	**0.52**	**349**	*e*PG	Pg	19 38 46.2	-0.4
TLV				*e*SG	Sg	19 38 53.1	-0.5
DSV	**Doi Son**	**0.61**	**69**	*e*Pn	Pn	19 38 47.7	-3.3
DSV				*e*Sg	Sg	19 38 56.3	-0.4
HNV	**Hanoi**	**0.79**	**31**	*e*Pn	Pn	19 38 48.8	-4.8
HNV				*e*Pg	Pg	19 38 49.6	-2.4
HNV				*e*Sg	Sg	19 38 57.3	-5.3
TDV	**Tam Dao**	**1.13**	**13**	*e*Pn	Pn	19 38 58.0	-0.3
TDV				*e*Sg	Sg	19 39 12.8	-0.9
PLV	**Phu-Lien**	**1.27**	**69**	*e*Pn	Pn	19 38 59.9	-0.4
PLV				*e*Pg	Pg	19 39 00.7	-0.7
PLV				*e*Sg	Sg	19 39 16.3	-2.0
DHV	**Doan Hung**	**1.27**	**352**	*e*Pn	Pn	19 38 59.7	-0.7
DHV				*e*Pg	Pg	19 39 00.3	-1.2
DHV				*e*Sg	Sg	19 39 17.3	-1.1
MTZV	**Met**	**1.49**	**38**	*e*Pn	Pn	19 39 03.3	-0.3
MTZV				*e*Pg	Pg	19 39 04.2	-1.7
MTZV				*e*Sg	Sg	19 39 23.2	-2.6
YTV	**Yen Tu**	**1.49**	**58**	*e*Pn	Pn	19 39 03.2	-0.3
YTV				*e*Pg	Pg	19 39 04.2	-1.7
YTV				*e*Sg	Sg	19 39 24.7	-1.1

IDC 07 19:50:04.2±8.0, 5.77N×95.43E, mb4.0/3, mb1 4.0/4, mb1mx3.6/18, mbtmp3.8/4, ML2.9/1, MS2.7/1, Ms1 2.9/1, ms1mx2.7/23, Error ellipse: s-maj=212.6km s-min=44.0km az=82.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.07**	**15**	Pn	P	19 53 11.6	-2.3
	0.0nm,0.3s,baz=206,slow=14,SNR=4.2						
CMAR				LR	LR	19 58 49.1	
	comp=Z,33nm,18.2s,baz=175,slow=40						
WRA	**Warramunga Arr**	**46.01**	**125**	P	P	19 58 29.4	-2.2
	0.9nm,0.4s,baz=306,slow=8.6,SNR=19						
ASAR	**Alice Springs**	**47.60**	**129**	P	P	19 58 42.2	-1.9
	1.5nm,0.6s,baz=302,slow=7.7,SNR=21						
STKA	**Stephens Creek**	**57.74**	**133**	P	P	19 59 57.4	-2.1
	2.3nm,0.9s,baz=307,slow=5.1,SNR=2.9						

*BJI **07** 20:10:43.9, 8.11N×94.24E, h10km, mB4.9, mb4.5, Ms4.5, Msz4.0*
*NEIC **07** 20:10:44.3±4.9, 8.58N×94.29E, h2km±30km, mb4.7/16, Error ellipse: s-maj=10.5km s-min=10.3km az=206.0*
*CSEM **07** 20:10:50.7, 8.79N×93.92E, h33km, mb5.5*
*MOS **07** 20:10:51.0±1.2, 8.90N×93.74E, h33km, mb5.0/8, Error ellipse: s-maj=24.9km s-min=10.6km az=115.2*
*IDC **07** 20:10:57.1±4.3, 8.86N×93.73E, h73km±39km, mb4.0/19, mb1 4.2/20, mb1mx4.1/23, mbtmp4.3/20, ML4.1/1, MS3.6/4, Ms1 3.7/4, ms1mx3.3/20, Error ellipse: s-maj=24.2km s-min=12.7km az=51.0*

ISC 07 20:10:50.1±2.0, 8.80N±0.05×93.74E±0.06, h30km±13km, n112, σ1§21/117, mb4.6/42, MS3.9/6, 2C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.01**	**341**	*e*P	**Pn**	**20 11 39.7**	**+2.8**
PBA				*e*		20 12 17.8	
CMAR	**Chiang Mai Arr**	**10.85**	**27**	P	**P**	**20 13 30.2**	**+3.5**
	0.4nm,0.3s,baz=214,slow=13,SNR=26						
CMAR				LR	LR	20 18 15.3	
	comp=Z,126nm,18.4s,baz=210,slow=41						
PALK	**Pallekele**	**13.00**	**264**	P	**P**	**20 13 57.7**	**+2.0**
VIS	**Vishakhapatnam**	**13.46**	**312**	*e*P	**P**	**20 13 58.1**	**-3.7**
VIS				AMb	AMB	20 14 05.2	
	comp=Z,38nm,0.5s						
VIS				*e*S	**S**	**20 16 15.9**	**-15**
IMP	**Imphal**	**15.90**	**1**	*e*P	**P**	**20 14 33.0**	**-0.7**
IMP				*e*		20 17 42.3	
SHL	**Shillong**	**16.77**	**354**	*e*P	**P**	**20 14 45.0**	**+0.3**
SHL				*e*S	**S**	**20 17 48.0**	**-1.0**
HYB	**Hyderabad**	**17.09**	**302**	*e*P	**P**	**20 14 46.5**	**-2.2**
HYB				*e*S	**S**	**20 17 37.5**	**-19**
HYB	**Hyderabad**	**17.09**	**302**	*i* P	**P**	**20 14 46.5**	**-2.2**
HYB				*e*S	**S**	**20 17 37.5**	**-19**
BLSP	**Bilaspur**	**17.33**	**321**	*e*P	**P**	**20 14 51.1**	**-0.7**
BLSP				AMb	AMB	20 14 56.0	
	comp=Z,42nm,0.8s						
BLSP				*e*		20 17 55.1	
JIRN	**Jiri**	**20.07**	**340**	*e*P	**P**	**20 15 24.5**	**+0.3**
	comp=Z,102nm,0.8s						
PKI	**Pulchoki**	**20.27**	**338**	*e*P	**P**	**20 15 26.4**	**+0.2**
	comp=Z,129nm,1.0s						
GUN	**Gumba**	**20.41**	**340**	*e*P	**P**	**20 15 28.1**	**+0.4**
	comp=Z,236nm,0.9s						
DMN	**Daman**	**20.41**	**338**	*e*P	**P**	**20 15 28.1**	**+0.4**
	comp=Z,131nm,1.0s						
KKN	**Kakani**	**20.51**	**338**	*e*P	**P**	**20 15 28.7**	**0.0**
	comp=Z,82nm,0.7s						
LSA	**Lhasa**	**20.94**	**354**	P	**P**	**20 15 33.2**	**+0.1**
LSA				AMB	AMB		
	comp=Z,20nm,0.8s						
LSA	**Lhasa**	**20.94**	**354**	*e*P	**P**	**20 15 33.2**	**+0.1**
	comp=Z,18nm,0.7s						
GKN	**Gorkha**	**20.95**	**337**	*e*P	**P**	**20 15 33.5**	**+0.3**
	comp=Z,175nm,0.7s						
KOLN	**Koldanda**	**21.16**	**334**	*e*P	**P**	**20 15 35.8**	**+0.4**
	comp=Z,165nm,1.0s,mb5.3						
BHPL	**Bhopal**	**21.23**	**314**	*e*P	**P**	**20 15 35.1**	**-1.0**
BHPL				*e*		20 15 46.1	
	comp=Z,37nm,1.3s						
BHPL				*e*		20 19 19.6	
POO	**Poona**	**21.59**	**299**	*e*P	**P**	**20 15 41.0**	**+1.2**
NDI	**New Delhi**	**25.16**	**324**	*e*P	**P**	**20 16 14.0**	**-0.6**
DDI	**Dehra Dun**	**25.96**	**328**	*e*P	**P**	**20 16 24.1**	**+2.1**
LZH	**Lanzhou**	**28.68**	**17**	*e*P	**P**	**20 16 49.5**	**+2.7**
LZH				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.5						
NJ2	**Nanjing**	**32.84**	**42**	*e*P	**P**	**20 17 21.8**	**-1.7**
NJ2				AP	pP	20 17 31.1	-1.2
NJ2				XP	sP	20 17 35.8	-0.3
NJ2				PP	PP	20 18 33.1	-0.6
NJ2				S	**S**	**20 22 38.0**	**+0.2**
NJ2				XS		20 22 51.0	
NJ2				AMB	AMB		
	comp=Z,100nm,1.4s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,420nm,4.5s						
NJ2				LR	LR		
	comp=N,550nm,24.2s,MS4.3						
NJ2				LR	LR		
	comp=E,430nm,22.4s,MS4.3						
NJ2				LR	LR		
	comp=Z,590nm,25.4s,MS4.2						
SSE	**Sheshan**	**33.85**	**45**	P	**P**	**20 17 32.3**	**0.0**
SSE				S	**S**	**20 22 56.4**	**+2.9**
SSE				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,88nm,6.3s						
SSE				LR	LR		
	comp=Z,40nm,19.8s,MS3.1						
WMQ	**Urumqi**	**35.29**	**352**	*e*P	**P**	**20 17 44.0**	**-0.5**
WMQ				PP	PP	20 19 04.4	+0.3
WMQ				S	**S**	**20 23 18.8**	**+3.1**
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,26nm,4.5s						
WMQ				LR	LR		
	comp=N,755nm,18.1s,MS4.6						
WMQ				LR	LR		
	comp=E,691nm,20.1s,MS4.6						
WMQ				LR	LR		
	comp=Z,731nm,18.4s,MS4.5						
KZA	**Kyzart**	**36.94**	**337**	P	**P**	**20 18 00.1**	**+1.6**
	SNR=6.9						
JOW	**Kunigami**	**37.27**	**57**	LR	LR	20 35 40.1	
	comp=Z,133nm,18.5s,MS3.8,baz=84,slow=40						
UCH	**Uchtor**	**37.36**	**336**	P	**P**	**20 18 03.1**	**+1.2**
	SNR=7.8						
KBK	**Karagaybulak**	**37.55**	**337**	P	**P**	**20 18 05.1**	**+1.6**
	SNR=9.0						
AML	**Almayashu**	**37.61**	**335**	P	**P**	**20 18 05.8**	**+1.7**
	SNR=12						
AAK	**Ala-Archa**	**37.71**	**337**	P	**P**	**20 18 06.8**	**+1.9**
	SNR=8.8						
AAK	**Ala-Archa**	**37.71**	**337**	*d i* P	**P**	**20 18 04.2**	**-0.7**
AAK				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.5						
AAK	**Ala-Archa**	**37.71**	**337**	*e*P	**P**	**20 18 04.0**	**-0.9**
	comp=Z,17nm,0.9s,mb4.8						
EKS2	**Erkin-Say**	**38.02**	**336**	P	**P**	**20 18 08.6**	**+1.1**
	SNR=13						
USP	**Ospenovka**	**38.24**	**337**	P	**P**	**20 18 10.1**	**+0.7**
	SNR=8.4						
MBWA	**Marble Bar**	**39.22**	**140**	*e*P	**P**	**20 18 10.9**	**-6.8**
SONM	**Songino Array**	**40.36**	**13**	P	**P**	**20 18 28.0**	**+1.1**
	comp=Z,1.5nm,0.7s,mb3.9,baz=206,slow=7.8,SNR=11						
SONM				PcP	PcP	20 20 30.4	-0.1
	comp=Z,1.3nm,0.7s,baz=201,slow=3.0,SNR=5.9						
ULN	**Ulaanbaatar**	**40.54**	**14**	*i* P	**P**	**20 18 29.4**	**+1.0**
ULN	**Ulaanbaatar**	**40.54**	**14**	*e*P	**P**	**20 18 25.2**	**-3.2**
ZAK	**Zakamensk**	**42.21**	**9**	⇑*i*P	**P**	**20 18 40.5**	**-1.6**
ZAK				*e*		20 20 36.2	
ZAL	**Zalesovo**	**45.59**	**353**	P	**P**	**20 19 09.3**	**0.0**
	comp=Z,2.7nm,0.6s,mb4.4,baz=298,slow=7.9,SNR=20						
ZAL	**Zalesovo**	**45.59**	**353**	P	**P**	**20 19 09.3**	**0.0**
HIA	**Hailar**	**45.84**	**24**	*e*P	**P**	**20 19 07.5**	**-3.9**
	comp=Z,6.7nm,0.9s,mb4.6						
NVS	**Novosibirsk**	**46.68**	**352**	*i* P	**P**	**20 19 17.4**	**-0.5**
NVS				*i*		20 21 01.1	
NVS				*i*		20 21 56.6	
NVS				*i* S	Sx	20 29 13.7	
NVS				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
NVS				pmax	pmax		
	comp=N,14nm,1.5s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.5s						
NVS				pmax	pmax		
	comp=Z,9.0nm,2.2s,mb4.3						
NVS				pmax	pmax		
	comp=N,8.0nm,2.0s						
NVS				pmax	pmax		
	comp=E,3.0nm,2.0s						
NVS				smax			
	comp=N,8.0nm,1.1s						
NVS				smax			
	comp=E,6.0nm,1.4s						
NWAO	**Narrogin (SRO)**	**47.14**	**153**	P	**P**	**20 19 23.9**	**+2.0**
	comp=E,13nm,0.8s,mb4.9,baz=334,slow=6.9,SNR=7.5						
NWAO	**Narrogin (SRO)**	**47.14**	**153**	P	**P**	**20 19 23.9**	**+2.0**
BVAR	**Borovoye Array**	**48.00**	**341**	P	**P**	**20 19 27.4**	**-0.9**
	comp=E,3.2nm,0.7s,mb4.5,baz=135,slow=10,SNR=12						
BRVK	**Borovoye**	**48.06**	**341**	*e*P	**P**	**20 19 27.3**	**-1.5**
	comp=E,3.7nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**48.48**	**342**	*e*P	**P**	**20 19 30.9**	**-1.2**
	comp=E,4.5nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**49.12**	**126**	P	**P**	**20 19 36.8**	**-0.6**
	comp=E,1.0nm,0.4s,mb4.2,baz=304,slow=8.8,SNR=22						
WRAB	**Tennant Creek**	**49.12**	**126**	⇓*e*P	**P**	**20 19 36.9**	**-0.5**
WRAB	**Tennant Creek**	**49.12**	**126**	P	**P**	**20 19 28.3**	**-9.2**
	comp=E,4.6nm,0.8s,mb4.6						
CBIJ	**Chichi jima**	**49.21**	**62**	LR	LR	20 37 45.9	
	comp=E,78nm,21.9s,MS3.7,baz=302,slow=33						
ASAR	**Alice Springs**	**50.81**	**130**	P	**P**	**20 19 49.5**	**-0.7**
	comp=E,0.7nm,0.5s,mb3.9,baz=303,slow=7.7,SNR=14						
ASAR				PcP	PcP	20 21 07.5	+0.4
	comp=E,1.2nm,0.8s,baz=304,slow=3.0,SNR=6.7						
BOD	**Bodaibo**	**51.35**	**14**	*e*P	**P**	**20 19 52.1**	**-1.8**
ARU	**Arti**	**54.89**	**337**	⇓*i*P	**P**	**20 20 18.6**	**-1.7**
ARU				*e*		20 21 18.5	
ARU				*e*		20 22 19.9	
ARU				*e*S	**S**	**20 28 00.3**	**+2.4**
ARU				*e*SS	SS	20 31 47.0	+5.8
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
YSS	**Yuzh-Sakhalins**	**56.31**	**38**	*e*P	pP	20 20 39.8	+0.1
KMBO	**Kilima Mbogo**	**57.14**	**263**	P	**P**	**20 20 38.4**	**+1.4**
	comp=Z,2.5nm,1.1s,mb4.2,baz=56,slow=23,SNR=4.6						
KMBO				LR	LR	20 41 21.6	
	comp=Z,80nm,18.8s,MS3.9,baz=92,slow=32						
KMBO	**Kilima Mbogo**	**57.14**	**263**	P	**P**	**20 20 36.7**	**-0.3**
ASF	**Jabal al Asfar**	**57.39**	**303**	P	**P**	**20 20 39.0**	**+0.5**
	comp=Z,2.4nm,0.5s,mb4.5,baz=239,slow=2.0,SNR=5.3						
MALT	**Malatya**	**57.57**	**310**	*e*P	**P**	**20 20 38.0**	**-1.7**
	comp=Z,5.2nm,0.9s,mb4.6						
SOC	**Sochi**	**58.25**	**316**	*e*P	**P**	**20 20 39.6**	**-4.7**
SOC				*e*		20 21 31.2	
SOC				*e*S	**S**	**20 28 35.3**	**-7.2**
SOC				*e*SS	SS	20 32 30.3	-5.7
SOC				*e*SSS	SSS	20 34 58.4	+1.2
SOC				pmax	pmax		
	comp=N,21nm,1.0s						
SOC				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
SOC				pmax	pmax		
	comp=E,16nm,0.8s						
EIL	**Elat**	**58.63**	**299**	P	**P**	**20 20 47.4**	**+0.2**
	comp=E,6.9nm,1.0s,mb4.7,baz=348,slow=11,SNR=4.4						
EIL	**Elat**	**58.63**	**299**	*e*P	**P**	**20 20 47.1**	**-0.1**
	comp=E,9.8nm,1.1s,mb4.8						
YAK	**Yakutsk**	**59.25**	**19**	*i* P	**P**	**20 20 50.9**	**-0.2**
YAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
BRTR	**Keskin Array B**	**61.53**	**310**	P	**P**	**20 21 04.9**	**-2.1**
	comp=Z,5.3nm,0.8s,mb4.7,baz=121,slow=7.2,SNR=26						
OBN	**Obninsk**	**64.39**	**328**	⇑*e*P	**P**	**20 21 23.7**	**-2.0**
OBN				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
MA2	**Magadan**	**66.14**	**28**	*i* P	**P**	**20 21 39.1**	**+2.3**
MA2	**Magadan**	**66.14**	**28**	*e*P	**P**	**20 21 33.0**	**-3.8**
	comp=Z,8.2nm,1.0s,mb4.7						
AKASG	**Malin Array Be**	**67.19**	**321**	P	**P**	**20 21 41.8**	**-1.9**
	comp=Z,4.3nm,0.8s,mb4.5,baz=88,slow=5.4,SNR=13						
MLR	**Muntele Rosu**	**68.24**	**315**	P	**P**	**20 21 49.6**	**-0.8**
	comp=Z,9.6nm,0.8s,mb4.9,baz=74,slow=5.4,SNR=6.5						
LSZ	**Lusaka**	**69.21**	**250**	*e*P	**P**	**20 21 55.7**	**-1.0**
JOF	**Joensuu**	**69.85**	**334**	*e*p	**P**	**20 21 57.6**	**-2.3**
KOLS	**Kolonicke sedl**	**71.26**	**319**	*e*P	**P**	**20 22 08.5**	**-0.2**
FINES	**FINESS Array B**	**71.72**	**332**	P	**P**	**20 22 10.4**	**-0.9**
	comp=Z,8.9nm,1.1s,mb4.6,baz=141,slow=12,SNR=5.1						
CRVS	**Cervenica-Dubn**	**71.78**	**319**	*e*P	**P**	**20 22 14.8**	**+3.0**
KAF	**Kangasniemi**	**71.80**	**333**	*e*p	**P**	**20 22 09.8**	**-1.9**
KECS	**Kecovo**	**72.37**	**318**	*e*P	**P**	**20 22 19.4**	**+4.1**
NIE	**Niedzica**	**72.59**	**319**	*e*P	**P**	**20 22 17.0**	**+0.3**
OJC	**Ojcow**	**73.02**	**320**	*e*P	**P**	**20 22 18.8**	**-0.3**
VYHS	**Vyhne**	**73.46**	**318**	*e*P	**P**	**20 22 21.4**	**-0.4**
SRO	**Srobarova**	**73.75**	**317**	*e*P	**P**	**20 22 23.4**	**0.0**
OKC	**Ostrava-Krasne**	**74.04**	**319**	*e*P	**P**	**20 22 25.3**	**+0.2**
ARCES	**ARCESS Array B**	**74.27**	**340**	P	**P**	**20 22 26.5**	**+0.5**
	comp=Z,4.0nm,0.9s,mb4.3,baz=93,slow=7.0,SNR=10						
ARCES	**ARCESS Array B**	**74.27**	**340**	P	**P**	**20 22 26.5**	**+0.5**
MORC	**Moravsky Berou**	**74.42**	**319**	*e*P	**P**	**20 22 25.9**	**-1.4**
	comp=Z,15nm,1.3s,mb4.8						
ZST	**Bratislava**	**74.59**	**318**	*e*P	**P**	**20 22 28.6**	**+0.3**
DPC	**Dobruska-Polom**	**75.25**	**320**	*e*P	**P**	**20 22 32.7**	**+0.6**
KSP	**Ksiaz**	**75.31**	**320**	*e*P	**P**	**20 22 32.6**	**+0.2**
KSP				*e*pP	pP	20 22 42.1	+0.4
BILL	**Bilibino**	**75.38**	**22**	*e*P	**P**	**20 22 34.7**	**+2.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
UPC	**Upice**	**75.46**	**320**	*e*P	**P**	**20 22 34.5**	**+1.3**
PRU	**Pruhonice**	**76.38**	**319**	*e*P	**P**	**20 22 38.8**	**+0.4**
PVCC	**Panska Ves**	**76.38**	**320**	*e*P	**P**	**20 22 44.2**	**+5.8**
BRG	**Berggiesshubel**	**76.80**	**320**	*e*P	**P**	**20 22 41.1**	**+0.4**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
BRG	**Berggiesshubel**	**76.80**	**320**	*e*P	**P**	**20 22 41.1**	**+0.4**
	comp=Z,5.9nm,1.1s,mb4.4						
GERES	**GERESS Array B**	**76.88**	**318**	P	**P**	**20 22 41.7**	**+0.4**
	comp=Z,3.8nm,0.8s,mb4.4,baz=87,slow=5.9,SNR=22						
KHC	**Kasperske Hory**	**76.97**	**318**	*e*P	**P**	**20 22 42.0**	**+0.2**
CLL	**Collm**	**77.40**	**321**	*e*P	**P**	**20 22 44.0**	**-0.1**
CLL	**Collm**	**77.40**	**321**	P	**P**	**20 22 44.0**	**-0.1**
GRA1	**Grafenberg Arr**	**78.52**	**319**	*e*P	**P**	**20 22 50.8**	**+0.6**
	comp=Z,10.0nm,1.1s,mb4.7						
GRF	**Grafenberg Arr**	**78.52**	**319**	*e*P	**P**	**20 22 50.8**	**+0.6**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
GRF	**Grafenberg Arr**	**78.52**	**319**	*e*P	**P**	**20 22 50.8**	**+0.6**
	comp=Z,10.0nm,1.1s,mb4.7						
NB2	**NORSAR Subarra**	**78.74**	**331**	P	**P**	**20 22 50.9**	**-0.3**
	comp=Z,1.8nm,0.7s,mb4.1,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**78.74**	**331**	P	**P**	**20 22 50.9**	**-0.3**
	comp=Z,3.0nm,0.8s,mb4.3,baz=95,slow=5.2,SNR=6.0						
NOA	**NORSAR Array B**	**78.74**	**331**	P	**P**	**20 22 50.9**	**-0.3**
LPG	**La Plagne**	**81.69**	**315**	*e*P	**P**	**20 23 07.1**	**-0.2**
	comp=Z,15nm,0.8s,mb4.7						
ESDC	**Sonseca Array**	**90.33**	**310**	P	**P**	**20 23 50.5**	**+0.5**
	comp=Z,2.4nm,0.9s,mb4.5,baz=54,slow=4.4,SNR=8.4						
ILAR	**Eielson Array**	**94.05**	**22**	P	**P**	**20 24 07.5**	**+1.0**
	comp=Z,0.4nm,0.5s,mb4.1,baz=306,slow=4.7,SNR=7.0						
INK	**Inuvik**	**96.22**	**16**	P	**P**	**20 24 13.4**	**-3.0**
	comp=Z,6.1nm,1.2s,mb4.9						
DBIC	**Dimbokro**	**97.43**	**278**	P	**P**	**20 24 23.9**	**+0.8**
	comp=Z,1.0nm,0.6s,mb4.4,baz=140,slow=8.9,SNR=3.6						
PDAR	**Pinedale Array**	**124.45**	**21**	PKP	PKPdf	20 29 49.0	-2.9
	comp=Z,0.7nm,0.7s,baz=86,slow=1.3,SNR=7.1						

*TIF **07** 20:17:31.4, 43.42N×44.87E, h15km±1km*
*CSEM **07** 20:17:32.4±0.2, 43.33N×44.80E, h17km, mb4.0, Error ellipse: s-maj=7.1km s-min=3.8km az=44.0, After OBN*
*MOS **07** 20:17:32.4±2.2, 43.33N×44.80E, h17km, mb4.0/1, Error ellipse: s-maj=12.8km s-min=8.3km az=131.0*

ISC 07 20:17:32.7±0.6, 43.45N±0.04×44.85E±0.04, h17km, n28, σ1§02/47, 2C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.97**	**226**	*i* Pg	**Pb**	**20 17 49.9**	**-0.8**
ZEI				*i* Sg	**Sb**	**20 18 03.5**	**+0.4**
BTLR	**Botlikh**	**1.28**	**127**	⇓*i*PG	**Pb**	**20 17 51.5**	**-4.3**
BTLR				*e*S	**Sb**	**20 18 10.0**	**-1.9**
BTLR				pmax	pmax		
	comp=Z,297nm,0.3s						
BTLR	**Botlikh**	**1.28**	**127**	*i* Pg	**Pb**	**20 17 51.5**	**-4.3**
	comp=Z,148nm,0.3s						
BTLR				*e*Sg	**Sb**	**20 18 10.0**	**-1.9**
ONI	**Oni**	**1.34**	**230**	P	**Pn**	**20 17 56.0**	**-0.8**
ONI				S	**Sb**	**20 18 15.6**	**+1.8**
DUS	**Dusheti**	**1.36**	**185**	P	**Pn**	**20 17 56.6**	**-0.5**
DUS				S	**Sb**	**20 18 14.0**	**-0.3**
DBC	**Dubki**	**1.51**	**106**	*i* PG	**Pn**	**20 17 58.0**	**-1.2**
DBC				*i* S	**Sn**	**20 18 19.5**	**+0.9**
DBC				pmax	pmax		
	comp=Z,119nm,0.3s						
DBC	**Dubki**	**1.51**	**106**	*i* Pg	**Pn**	**20 17 58.0**	**-1.2**
	comp=Z,60nm,0.3s						
DBC				*i* Sg	**Sn**	**20 18 19.5**	**+0.9**
UNCR	**Uncukul**	**1.60**	**117**	*i* PG	**Pn**	**20 17 59.8**	**-0.7**
UNCR				*e*S	**Sn**	**20 18 22.3**	**+1.4**
UNCR				pmax	pmax		
	comp=Z,108nm,0.3s						
UNCR	**Uncukul**	**1.60**	**117**	*i* Pg	**Pn**	**20 17 59.8**	**-0.7**
	comp=Z,54nm,0.3s						
UNCR				*e*Sg	**Sn**	**20 18 22.3**	**+1.4**
SHAR	**Shatzhatmas**	**1.61**	**281**	*i* PG	**Pn**	**20 18 00.2**	**-0.4**
KRNR	**Karanay**	**1.63**	**112**	⇑*i*PN	**Pn**	**20 18 00.5**	**-0.4**
KRNR				*i* S	**Sn**	**20 18 22.3**	**+0.7**
KRNR				pmax	pmax		
	comp=Z,30nm,0.3s						
KRNR	**Karanay**	**1.63**	**112**	*i* Pn	**Pn**	**20 18 00.5**	**-0.4**
	comp=Z,15nm,0.3s						
KRNR				*i* Sg	**Sn**	**20 18 22.3**	**+0.7**
XNZR	**Khunzakh**	**1.64**	**123**	*e*PG	**Pn**	**20 18 01.5**	**+0.5**
XNZR				*i* S	**Sn**	**20 18 23.5**	**+1.7**
XNZR				pmax	pmax		
	comp=Z,63nm,0.7s						
XNZR	**Khunzakh**	**1.64**	**123**	*e*Pg	**Pn**	**20 18 01.5**	**+0.5**
	comp=Z,32nm,0.7s						
XNZR	**Khunzakh**	**1.64**	**123**	*i* Sg	**Sn**	**20 18 23.5**	**+1.7**
KIV	**Kislovodsk**	**1.65**	**289**	*i* PN	**Pn**	**20 18 00.8**	**-0.4**
TI2	**Plekhanov**

BLSP	Bilaspur	17.31	321	eP	P	20 24 46.8 -0.3
BLSP				e		20 24 50.3
	comp=Z,22nm,1.0s					
BLSP				e		20 27 29.9
JIRN	Jiri	20.09	340	eP	P	20 25 19.1 -0.6
	comp=Z,150nm,1.2s					
PKI	Pulchoki	20.28	338	eP	P	20 25 21.9 +0.2
	comp=Z,105nm,1.2s					
GUN	Gumba	20.42	340	eP	P	20 25 23.1 -0.1
	comp=Z,189nm,0.8s					
DMN	Daman	20.42	338	eP	P	20 25 22.8 -0.4
	comp=Z,49nm,0.7s					
KKN	Kakani	20.52	338	eP	P	20 25 24.0 -0.3
	comp=Z,52nm,0.7s					
GKN	Gorkha	20.95	337	eP	P	20 25 28.5 -0.2
	comp=Z,154nm,0.8s					
LSA	Lhasa	20.97	354	P	P	20 25 28.6 -0.3
LSA				AP		20 25 37.6
LSA				XP		20 25 40.4
LSA				S	S	20 29 23.7 +8.4
LSA				AMB	AMB	
	comp=Z,20nm,1.0s					
LSA				LR	LR	
	comp=N,60nm,8.9s					
LSA				LR	LR	
	comp=E,120nm,14.9s					
LSA				LR	LR	
	comp=Z,180nm,16.3s,MS3.5					
LSA	Lhasa	20.97	354	eP	P	20 25 28.2 -0.6
	comp=Z,19nm,0.8s					
KOLN	Koldanda	21.17	335	eP	P	20 25 30.9 +0.1
	comp=Z,83nm,0.8s,mb5.1					
BHPL	Bhopal	21.20	315	e	P	20 25 33.8 +2.5
BHPL				AMb	AMB	20 25 36.9
	comp=Z,21nm,0.7s,mb4.6					
NDI	New Delhi	25.15	324	e	P	20 26 10.0 +0.1
DDI	Dehra Dun	25.95	328	e	P	20 26 18.2 +0.8
LZH	Lanzhou	28.75	17	eP	P	20 26 44.5 +1.7
LZH				AP	pP	20 26 56.0 +2.4
LZH				AMB	AMB	
	comp=Z,20nm,1.2s,mb4.7					
SSE	Sheshan	33.94	45	P	P	20 27 28.8 +0.4
SSE				AMB	AMB	
	comp=Z,26nm,0.7s,mb5.3					
WMQ	Urumqi	35.32	353	eP	P	20 27 40.0 -0.1
WMQ				AP	pP	20 27 49.7 -1.4
WMQ				XP	sP	20 27 53.6 -2.6
WMQ				PP	PP	20 28 59.4 -0.8
WMQ				S	S	20 33 10.3 -0.4
WMQ				XS		20 33 26.3
WMQ				AMB	AMB	
	comp=Z,3.0nm,0.9s,mb4.2					
WMQ				AMB	AMB	
	comp=Z,26nm,4.5s					
WMQ				LR	LR	
	comp=N,742nm,17.5s,MS4.6					
WMQ				LR	LR	
	comp=E,698nm,21.2s,MS4.6					
WMQ				LR	LR	
	comp=Z,768nm,19.5s,MS4.5					
UCH	Uchtor	37.36	336	P	P	20 27 58.5 +1.1
	SNR=6.3					
TKM2	Tokmak 2	37.54	338	P	P	20 27 57.4 -1.5
	SNR=8.2					
KBK	Karagaybulak	37.56	337	P	P	20 28 00.2 +1.2
	SNR=14					
AML	Almayashu	37.61	335	P	P	20 28 00.8 +1.3
	SNR=18					
AAK	Ala-Archa	37.71	337	P	P	20 28 02.8 +2.5
	SNR=7.1					
AAK	Ala-Archa	37.71	337⇑	eP	P	20 27 59.7 -0.6
AAK				pmax	pmax	
	comp=Z,10.0nm,1.1s,mb4.5					
AAK	Ala-Archa	37.71	337	eP	P	20 27 59.3 -1.0
	comp=Z,19nm,1.4s,mb4.6					
CHMS	Chumysh	37.92	337	P	P	20 28 02.6 +0.5
	SNR=5.6					
EKS2	Erkin-Say	38.02	336	P	P	20 28 04.3 +1.4
	SNR=12					
USP	Ospenovka	38.25	337	P	P	20 28 05.2 +0.5
	SNR=10.0					
SONM	Songino Array	40.42	13	P	P	20 28 23.5 +0.8
	comp=Z,1.6nm,0.8s,mb3.8,baz=196,slow=7.6,SNR=16					
ULN	Ulaanbaatar	40.60	14⇑	eP	P	20 28 26.1 +1.9
INCN	Inchon	41.30	41	P	P	20 28 26.5 -3.6
	comp=Z,9.1nm,0.4s,mb4.8					
ZAK	Zakamensk	42.26	9	eP	P	20 28 37.7 -0.2
ZAK				e		20 30 53.2
ZAL	Zalesovo	45.62	353	P	P	20 29 04.1 -0.8
	comp=Z,3.6nm,1.0s,mb4.2,baz=284,slow=9.5,SNR=14					
ZAL				LR	LR	20 51 16.8
	comp=Z,178nm,18.3s,MS4.0,baz=76,slow=40					
MUN	Mundaring	45.88	153	eP	P	20 29 09.1 +1.8
	comp=Z,111nm,1.2s,mb4.7					
HIA	Hailar	45.91	24	P	P	20 29 07.5 +0.2
	comp=Z,4.0nm,0.8s,mb4.4					
NWAO	Narrogin (SRO)	47.14	153	P	P	20 29 17.1 -0.1
	comp=Z,7.3nm,0.8s,mb4.7,baz=332,slow=4.1,SNR=7.2					
MDJ	Mudanjiang	47.36	35	P	P	20 29 16.3 -2.5
MDJ				PP	PP	20 31 07.2 -2.2
MDJ				S	S	20 36 06.6 -2.3
MDJ				SS	SS	20 39 36.3 +6.1
MDJ				AMB	AMB	
	comp=Z,6.0nm,1.1s,mb4.4					
MDJ				AMB	AMB	
	comp=Z,132nm,3.7s					
MDJ				LR	LR	
	comp=N,62nm,17.9s					
MDJ				LR	LR	
	comp=Z,42nm,19.7s,MS3.4					
BVAR	Borovoye Array	48.01	341	P	P	20 29 22.4 -1.3
	comp=Z,1.6nm,0.7s,mb4.1,baz=141,slow=9.5,SNR=7.1					
BRVK	Borovoye	48.07	341	eP	P	20 29 23.8 -0.5
	comp=Z,2.2nm,0.7s,mb4.3					
CHKZ	Chkalovo	48.49	342	eP	P	20 29 26.5 -0.9
	comp=Z,8.3nm,0.9s,mb4.8					
WRA	Warramunga Arr	49.16	126	i P	P	20 29 31.4 -1.7
WRA				pmax	pmax	
	comp=Z,1.0nm,0.5s					
WRA	Warramunga Arr	49.16	126	P	P	20 29 31.4 -1.7
	comp=Z,0.8nm,0.5s,mb4.0,baz=303,slow=8.9,SNR=29					
WRAB	Tennant Creek	49.16	126⇑	eP	P	20 29 35.3 +2.2
WRAB	Tennant Creek	49.16	126	eP	P	20 29 32.5 -0.5
GUMO	Guam	50.40	80	P	P	20 29 37.2 -5.5
	comp=Z,273nm,0.5s					
ASAR	Alice Springs	50.84	130	P	P	20 29 44.3 -1.6
	comp=Z,0.5nm,0.4s,mb3.8,baz=304,slow=7.8,SNR=13					
ASAR				LR	LR	20 55 59.0
	comp=Z,57nm,18.5s,MS3.6,baz=242,slow=41					
ASAR	Alice Springs	50.84	130	P	P	20 29 44.3 -1.6
ASAR				LR	LR	20 55 59.0
BOD	Bodaibo	51.41	14	eP	P	20 29 47.4 -2.3
GNI	Garni	53.48	314	c i P	P	20 30 06.3 +0.8
GNI				pmax	pmax	
	comp=Z,16nm,1.4s					
GNI	Garni	53.48	314	eP	P	20 30 06.6 +1.1
	comp=Z,9.4nm,0.8s,mb4.8					
TI2	Plekhanov	54.09	316	eP	P	20 30 10.0 +0.1
ARU	Arti	54.90	337	i, i P	P	20 30 12.8 -2.8
ARU				e		20 31 11.3
ARU				e		20 32 14.2
ARU				eS	S	20 37 52.4 -0.1
ARU				eSS	SS	20 41 37.1 +1.2
ARU				pmax	pmax	
	comp=Z,9.0nm,1.5s,mb4.6					
KIV	Kislovodsk	56.35	318	P	P	20 30 27.3 +1.1
	comp=Z,152nm,0.8s,SNR=8.8					
KIV	Kislovodsk	56.35	318⇓	eP	P	20 30 25.6 -0.6
KIV				pmax	pmax	
	comp=Z,27nm,1.0s,mb5.2					
KIV	Kislovodsk	56.35	318	eP	P	20 30 25.6 -0.7
	comp=Z,19nm,0.8s,mb5.2					
GOF	Gofitskoye	56.55	319	eP	P	20 30 27.5 -0.2
KMBO	Kilima Mbogo	57.05	263	P	P	20 30 32.0 +0.4
	comp=Z,0.4nm,0.6s,mb3.7,baz=241,slow=23,SNR=3.9					
ASF	Jabal al Asfar	57.34	303	P	P	20 30 32.9 -0.6
	comp=Z,4.0nm,0.9s,mb4.4,baz=137,slow=2.1,SNR=5.3					
ASF				LR	LR	20 58 01.0
	comp=Z,72nm,19.1s,MS3.8,baz=160,slow=39					
MALT	Malatya	57.53	310	eP	P	20 30 33.9 -0.8
	comp=Z,6.4nm,1.1s,mb4.6					
SOC	Sochi	58.22	316	eP	P	20 30 37.4 -2.0
SOC				e		20 31 30.7
SOC				e		20 32 44.8
SOC				ePPP	PPP	20 34 07.5 -6.0
SOC				eS	S	20 38 37.6 +1.0
SOC				eSS	SS	20 42 36.1 +5.9
SOC				pmax	pmax	
	comp=N,17nm,1.1s					
SOC				pmax	pmax	
	comp=Z,28nm,1.1s,mb5.2					
SOC				pmax	pmax	
	comp=E,12nm,1.2s					
EIL	Elat	58.58	299	eP	P	20 30 43.2 +1.1
	comp=E,8.2nm,1.1s,mb4.7					
YAK	Yakutsk	59.32	19	d i P	P	20 30 46.6 -0.2
YAK				pmax	pmax	
	comp=Z,9.0nm,1.3s,mb4.6					
YAK	Yakutsk	59.32	19	P	P	20 30 44.3 -2.5
	comp=Z,9.0nm,0.8s,mb4.8					
STKA	Stephens Creek	61.05	134	LR	LR	20 58 08.6
	comp=Z,101nm,18.3s,MS4.0,baz=298,slow=37					
BRTR	Keskin Array B	61.50	311	P	P	20 31 00.2 -1.7
	comp=Z,7.4nm,0.8s,mb4.9,baz=122,slow=7.5,SNR=31					
SIM	Simferopol'	62.47	316	eP	P	20 31 08.7 +0.3
SIM				pmax	pmax	
	comp=Z,20nm,0.9s,mb5.2					
OBN	Obninsk	64.39	328⇑	eP	P	20 31 20.8 0.0
OBN				pmax	pmax	
	comp=Z,22nm,1.1s,mb5.1					
MA2	Magadan	66.21	28	i P	P	20 31 36.0 +3.5
AKASG	Malin Array Be	67.17	322	P	P	20 31 36.5 -2.2
	comp=Z,5.0nm,0.7s,mb4.7,baz=87,slow=5.4,SNR=27					
MLR	Muntele Rosu	68.21	315	P	P	20 31 44.7 -0.7
	comp=Z,13nm,0.9s,mb5.0,baz=182,slow=6.1,SNR=9.4					
KOLS	Kolonicke sedl	71.23	319	eP	P	20 32 04.3 +0.6
FINES	FINESS Array B	71.72	332	P	P	20 32 04.9 -1.5
	comp=Z,6.8nm,0.9s,mb4.6,baz=117,slow=17,SNR=6.5					
CRVS	Cervenica-Dubn	71.76	319	eP	P	20 32 07.9 +1.1
KAF	Kangasniemi	71.80	333	ep	P	20 32 06.2 -0.6
PSZ	Piszkesteto	72.67	317	eP	P	20 32 12.8 +0.5
	comp=Z,4.4nm,0.7s,mb4.5					
OJC	Ojcow	73.00	320	eP	P	20 32 13.7 -0.5
VYHS	Vyhne	73.44	318	eP	P	20 32 16.5 -0.3
OKC	Ostrava-Krasne	74.02	319	eP	P	20 32 20.8 +0.7
ARCES	ARCESS Array B	74.28	340	P	P	20 32 20.7 -0.6
	comp=Z,9.2nm,1.1s,mb4.6,baz=100,slow=6.4,SNR=18					
ARCES				LR	LR	21 07 54.4
	comp=Z,272nm,18.8s,MS4.6,baz=196,slow=38					
TIP	Timpagrande	74.38	308	eP	P	20 32 22.4 0.0
MORC	Moravsky Berou	74.40	319	eP	P	20 32 21.9 -0.5
	comp=Z,6.4nm,0.8s,mb4.6					
ZST	Bratislava	74.56	318	eP	P	20 32 23.8 +0.5
DPC	Dobruska-Polom	75.23	320	eP	P	20 32 27.8 +0.7
KSP	Ksiaz	75.28	320	eP	P	20 32 27.9 +0.5
PRU	Pruhonice	76.35	319	eP	P	20 32 34.1 +0.6
GEC2	GERESS Array S	76.86	318	eP	P	20 32 36.6 +0.2
GEC2				pmax	pmax	
	comp=Z,5.0nm,0.9s,mb4.4					
GEC2	GERESS Array S	76.86	318	eP	P	20 32 36.6 +0.2
	comp=Z,5.0nm,0.9s,mb4.4					
GERES	GERESS Array B	76.86	318	P	P	20 32 36.2 -0.2
	comp=Z,4.9nm,0.8s,mb4.5,baz=90,slow=5.3,SNR=32					
KHC	Kasperske Hory	76.95	318⇑	eP	P	20 32 37.8 +0.9
KHC	Kasperske Hory	76.95	318	eP	P	20 32 36.6 -0.3
CLL	Collm	77.38	321	eP	P	20 32 40.0 +0.7
CLL	Collm	77.38	321	P	P	20 32 40.0 +0.7
WET	Wettzell	77.41	318	eP	P	20 32 39.6 +0.1
WET				pmax	pmax	
	comp=Z,3.0nm,0.8s,mb4.3					
WET	Wettzell	77.41	318	eP	P	20 32 39.6 +0.1
	comp=Z,3.0nm,0.8s,mb4.3					
NKC	Novy Kostel	77.71	319	eP	P	20 32 45.3 +4.2
GRA1	Grafenberg Arr	78.49	319	eP	P	20 32 46.8 +1.4
	comp=Z,6.0nm,0.8s,mb4.6					
GRF	Grafenberg Arr	78.49	319	eP	P	20 32 46.8 +1.4
GRF				pmax	pmax	
	comp=Z,6.0nm,0.8s,mb4.6					
GRF	Grafenberg Arr	78.49	319	eP	P	20 32 46.8 +1.4
	comp=Z,6.0nm,0.8s,mb4.6					
NB2	NORSAR Subarra	78.73	331	P	P	20 32 45.9 -0.6
	comp=Z,3.3nm,0.8s,mb4.3,baz=93,slow=5.6					
NOA	NORSAR Array B	78.73	331	P	P	20 32 45.4 -1.1
	comp=Z,5.7nm,0.8s,mb4.5,baz=93,slow=5.5,SNR=9.3					
NOA				LR	LR	21 16 00.4
	comp=Z,116nm,19.4s,MS4.2,baz=220,slow=42					
NOA	NORSAR Array B	78.73	331	P	P	20 32 45.4 -1.1
NOA				LR	LR	21 16 00.4
LPG	La Plagne	81.66	315	eP	P	20 33 02.7 +0.2
	comp=Z,21nm,0.7s,mb4.8					
SYO	Syowa Base	86.10	197	⇓P	P	20 33 24.7 +0.4
SYO	Syowa Base	86.10	197	⇓pP	pP	20 33 37.0 +0.7
RPZ	Rata Peaks	87.00	135	LR	LR	21 09 29.1
	comp=Z,114nm,20.7s,MS4.3,baz=103,slow=34					
ESDC	Sonseca Array	90.29	310	P	P	20 33 44.7 -0.3
	comp=Z,0.9nm,0.6s,mb4.3,baz=61,slow=4.6,SNR=5.7					
ILAR	Eielson Array	94.11	22	P	P	20 34 03.5 +1.6
	comp=Z,0.8nm,0.7s,mb4.2,baz=295,slow=3.8,SNR=11					
INK	Inuvik	96.28	16	P	P	20 34 11.7 -0.1
	comp=Z,1.4nm,0.7s,mb4.5,baz=37,slow=6.8,SNR=5.0					
RES	Resolute Bay	96.55	2	eP	P	20 34 14.7 +1.8
	comp=Z,2.8nm,0.9s,mb4.7					
PDAR	Pinedale Array	124.52	21	PKP	PKPdf	20 39 43.2 +1.0
	comp=Z,0.7nm,0.8s,baz=349,slow=0.8,SNR=4.7					

*CASC **07** 20:25:42.3±1.6, 12.76N×90.03W, h18km±5km, MD4.4, ML4.0, mb4.4(NEIC)*
*NEIC **07** 20:25:49.2±1.3, 13.13N×89.58W, h75km±12km, mb4.4/18, Error ellipse: s-maj=15.7km s-min=7.1km az=220.0*
*IDC **07** 20:25:52.4±4.3, 13.51N×89.37W, h86km±36km, mb4.1/15, mb1 4.2/17, mb1mx4.0/23, mbtmp4.4/17, MS3.8/5, Ms1 3.8/5, ms1mx3.0/25, Error ellipse: s-maj=30.7km s-min=14.4km az=39.0*

ISC 07 20:25:43.1±0.7, 12.70N±0.04×90.01W±0.04, h54km±6km, n89, σ1°s24/96, mb4.4/27, MS3.8/5, 6C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	1.19	18⇑	eP	P	20 26 03.4	-0.4
SBLS				eS	S	20 26 19.5	+0.3
SNJE	San Jose	1.23	19⇑	eP	P	20 26 03.9	-0.4
SNET	Serv Nac Est T	1.24	38	eP	P	20 26 04.0	-0.4
SNET				eS	S	20 26 19.9	-0.5
SNET				i		20 26 26.2	
	comp=Z,6μm,0.3s						
RTR	El Retiro	1.24	17⇑	eP	P	20 26 04.2	-0.3
BOQS	Boqueron	1.25	35⇑	eP	P	20 26 04.2	-0.4
BOQS				eS	S	20 26 21.0	+0.3
LFRS	El Faro	1.30	45	eP	P	20 26 04.7	-0.8
LFU	La Fuente	1.36	40	eP	P	20 26 06.0	-0.3
LCBS	La Ceiba	1.38	47⇑	eP	P	20 26 05.9	-0.7
LBRS	Las Brisas	1.40	42	eP	P	20 26 06.3	-0.5
LBRS				eS	S	20 26 24.7	+0.4
RBDL	Robledal	1.44	13⇓	eP	P	20 26 07.3	0.0
SNVI	San Vicente	1.46	51	eP	P	20 26 06.9	-0.8
SNVI				eS	S	20 26 27.5	+1.7
IXG	Ixpaco	1.53	344	eP	P	20 26 07.1	-1.4
MTO2	Montecristo 2	1.80	20	eP	P	20 26 12.3	-0.1
MTO2				eS	S	20 26 35.9	+1.8
VSM	San Miguel	1.84	67	eP	P	20 26 12.7	-0.3
VSM				eS	S	20 26 37.3	+2.3
BLLM	Bellamira	1.88	67	eP	P	20 26 13.8	+0.4
BLLM				eS	S	20 26 37.5	+1.5
NBG	Las Nubes	1.90	350	eP	P	20 26 14.0	+0.2
GCG	Guatemala City	1.94	345	eP	P	20 26 13.8	-0.5
CAHU	Cacacuatique	2.05	59	eP	P	20 26 15.9	0.0
CNCH	Conchagua	2.20	75	eP	P	20 26 17.6	-0.4
CNCH				eS	S	20 26 45.8	+1.8
TP2	Tecpan 2	2.29	335⇑	eP	P	20 26 18.7	-0.6
LEON	Leon	3.06	95	eP	P	20 26 29.6	-0.6
TEL3	Telica 3	3.09	92	eP	P	20 26 30.1	-0.6
TELN	Telica	3.11	91	eP	P	20 26 29.9	-0.9
MIRN	Miramar	3.23	94	eP	P	20 26 31.7	-0.9
COPN	Copaltepe	3.38	98	eP	P	20 26 33.8	-1.0
COPN				eS	S	20 27 12.2	-1.7
MOMJ	Momotombo	3.40	95	eP	P	20 26 34.4	-0.6
MOMJ				eS	S	20 27 16.0	+1.5
APYN	Apoyeque	3.61	97	eP	P	20 26 37.0	-0.9
MGAN	Managua	3.72	98	eP	P	20 26 39.7	+0.2
MGAN				i		20 27 41.6	
	comp=E,333nm,0.5s						
TICN	Ticuantepe	3.75	100	eP	P	20 26 41.2	+1.2
CONN	Concepcion	4.43	104	eP	P	20 26 48.8	-0.8
JTS	JuntasAbangare	5.51	115	ePn	P	20 27 05.2	+0.7
	comp=E,29nm,0.8s						
JTS				eSn	S	20 27 59.8	-7.6
LAJ	Bijagual	6.43	115	eP	P	20 27 16.0	-1.4
LCR2	La Lucha 2	6.59	116	eP	P	20 27 22.8	+3.1
ICR	Volcan Irazu	6.64	113	eP	P	20 27 21.4	+1.0
URSC	Urasca	6.75	114	eP	P	20 27 23.0	+1.2
BUS	Buena Vista	6.89	116	eP	P	20 27 26.9	+3.0
TEIG	Tepich	7.67	12	ePn	P	20 27 33.6	-1.0
	comp=E,38nm,0.8s						
ACR	Cerro Adams	7.84	120	eP	P	20 27 39.8	+2.8
ROSC	El Rosal	17.34	115	P	P	20 29 47.6	+4.5
	comp=E,1.6nm,0.3s,baz=112,slow=22,SNR=7.1						
SDV	Santo Domingo	19.41	99	P	P	20 30 06.2	-1.5
	comp=E,1.0nm,0.3s,baz=316,slow=7.2,SNR=14						
SDV	Santo Domingo	19.41	99	eP	P	20 30 06.1	-1.6
	comp=E,16nm,0.6s						
JCT	Junction City	19.88	334	eP	P	20 30 12.1	-0.6
	comp=E,6.9nm,0.6s						
LTX	Lajitas	20.86	325	eP	P	20 30 24.6	+1.7
	comp=E,17nm,0.8s						
TXAR	Lajitas Array	20.86	325	P	P	20 30 23.9	+1.1
	comp=E,14nm,0.8s,baz=148,slow=11,SNR=53						
TXAR				PcP	PcP	20 34 32.8	+2.9
	comp=E,0.2nm,0.4s,baz=153,slow=2.0,SNR=3.5						
TXAR	Lajitas Array	20.86	325	P	P	20 30 23.9	+1.1
TXAR				PcP	PcP	20 34 32.8	+2.9
MIAR	Mount Ida	21.99	352	eP	P	20 30 34.3	+0.2
	comp=E,6.7nm,0.6s,mb4.2						
UALR	University of	22.08	355	eP	P	20 30 36.4	+1.4
	comp=E,14nm,0.6s,mb4.5						
JSC	Jenkinsville	22.91	19	eP	P	20 30 42.5	-0.8
CPCT	Cooper Cave	23.19	11	eP	P	20 30 44.5	-1.4
CPCT				epP		20 31 01.6	
WMOK	Wichita Mounta	23.34	342	eP	P	20 30 46.4	-0.9
	comp=E,12nm,1.1s,mb4.2						
WVT	Waverly	23.41	4	eP	P	20 30 47.8	-0.3
	comp=E,4.5nm,0.5s,mb4.2						
GDL2	Guadalupe Moun	23.46	328	eP	P	20 30 50.8	+2.3
MNTX	Cornudas Mount	23.61	326	eP	P	20 30 51.5	+1.5
	comp=E,6.7nm,0.6s,mb4.2						
CPRX	Cap Rock	23.88	330	eP	P	20 30 54.1	+1.5
AMTX	Amarillo	24.49	336	eP	P	20 30 59.0	+0.5
	comp=E,11nm,0.6s,mb4.5						
CCM	Cathedral Cave	25.27	358	eP	P	20 31 04.8	-1.3
	comp=E,16nm,0.9s,mb4.5						
WCI	Wyandotte Cave	25.64	7	eP	P	20 31 07.4	-2.1
	comp=E,13nm,0.8s,mb4.5						
BNM	Barren Site	26.16	327	eP	P	20 31 16.0	+1.6
ANMO	Albuquerque	26.70	329	P	P	20 31 20.9	+1.6
	comp=E,1.5nm,0.6s,mb3.7,baz=139,slow=9.7,SNR=3.8						
ANMO	Albuquerque	26.70	329	eP	P	20 31 20.8	+1.5
	comp=E,1.5nm,0.6s,mb3.7						
SDCO	Great Sand Dun	28.52	334	eP	P	20 31 36.7	+1.0
	comp=E,1.1nm,0.5s,mb3.8						
SDCO				epP	pP	20 31 53.8	+4.5
NEN	Nelson	32.00	320	eP	P	20 32 08.4	+1.8
SADO	Sadowa	33.28	14	P	P	20 32 14.4	-3.2
	comp=E,5.7nm,0.7s,mb4.6,baz=206,slow=9.4,SNR=5.0						
SADO				LR	LR	20 46 29.2	
	comp=E,155nm,19.0s,MS3.7,baz=234,slow=38						
PDAR	Pinedale Array	34.41	334	PcP	PcP	20 35 04.1	+1.9
	comp=E,0.7nm,0.7s,baz=141,slow=5.8,SNR=3.1						
MNV	Mina	35.80	321	eP	P	20 32 42.2	+2.9
	comp=E,4.9nm,0.8s,mb4.5						
NVAR	Mina Array Bea	35.89	321	P	P	20 32 43.1	+3.0
	comp=E,5.4nm,0.8s,mb4.6,baz=134,slow=7.9,SNR=11						
NVAR				PcP	PcP	20 35 10.3	+3.7
	comp=E,1.7nm,0.5s,baz=173,slow=2.0,SNR=3.8						
NVAR				LR	LR	20 49 00.9	
	comp=E,140nm,18.3s,MS3.8,baz=265,slow=39						
MCMT	McKenzie Canyo	37.49	333	eP	P	20 32 55.2	+1.9
WVOR	Wild Horse Val	38.65	325	eP	P	20 33 04.2	+1.2
	comp=E,1.8nm,0.5s,mb4.1						
SCHQ	Schefferville	45.80	19	P	P	20 33 59.3	-2.0
	comp=E,13nm,0.6s,mb5.0,baz=218,slow=7.3,SNR=42						
SCHQ				PcP	PcP	20 35 37.8	-0.7
	comp=E,2.2nm,0.6s,baz=235,slow=4.1,SNR=5.4						
SCHQ				LR	LR	20 55 43.8	
	comp=E,95nm,18.9s,MS3.8,baz=253,slow=40						
FCC	Fort Churchill	46.07	357	eP	P	20 34 01.6	-1.8
	comp=E,9.8nm,1.1s,mb4.7						
BDFB	Brasilia	50.20	123	P	P	20 34 39.5	+3.5
	comp=E,2.7nm,0.6s,mb4.5,baz=287,slow=10,SNR=4.4						
YKA	Yellowknife Ar	52.74	346	P	P	20 34 53.2	-1.3
	comp=E,4.1nm,0.7s,mb4.5,baz=145,slow=7.9,SNR=65						
YKA				PcP	PcP	20 36 04.4	+0.8
	comp=E,0.4nm,0.6s,baz=150,slow=3.5,SNR=4.1						
YKA				LR	LR	21 00 43.2	
	comp=E,80nm,20.8s,MS3.7,baz=100,slow=40						
YKA	Yellowknife Ar	52.74	346	P	P	20 34 53.2	-1.3
YKA				PcP	PcP	20 36 04.4	+0.8
YKA				LR	LR	21 00 43.2	
YKW3	Yellowknife Ar	52.80	346	eP	P	20 34 53.4	-1.6
FRB	Frobisher Bay	53.16	12	P	P	20 34 54.2	-3.4
	comp=E,5.0nm,0.6s,mb4.6,baz=210,slow=7.8,SNR=14						
FRB				LR	LR	20 58 19.6	
	comp=E,138nm,19.3s,MS4.0,baz=235,slow=37						
DLBC	Dease Lake	54.63	335	P	P	20 35 08.8	+0.4
	comp=E,3.8nm,0.8s,mb4.5,baz=129,slow=7.3,SNR=8.6						
RES	Resolute Bay	62.03	359	eP	P	20 35 57.8	-2.1
	comp=E,4.1nm,0.7s,mb4.7						
INK	Inuvik	62.23	343	P	P	20 36 00.2	-1.1
	comp=E,2.4nm,0.6s,mb4.5,baz=134,slow=7.3,SNR=8.9						
INK	Inuvik	62.23	343	eP	P	20 36 00.1	-1.3
	comp=E,4.2nm,0.9s,mb4.6						
ILAR	Eielson Array	64.79	337	P	P	20 36 17.8	-0.3
	comp=E,2.4nm,0.9s,mb4.2,baz=135,slow=4.7,SNR=18						
ESDC	Sonseca Array	79.00	52	P	P	20 37 41.4	-1.7
	comp=E,0.6nm,0.7s,mb3.6,baz=287,slow=4.8,SNR=5.0						
DBIC	Dimbokro	83.85	85	P	P	20 38 09.8	+0.7
	comp=E,2.8nm,0.7s,mb4.5,baz=274,slow=6.8,SNR=7.8						

comp=N,18nm,1.4s,baz=72,slow=6.0,SNR=3.6

*IDC **07** 21:18:33.6±0.9, 10.06N×93.48E, mb3.9/10, mb1 4.0/11, mb1mx3.9/19, mbtmp3.9/11, ML3.3/1, MS3.8/3, Ms1 3.8/3, ms1mx3.4/13, Error ellipse: s-maj=36.4km s-min=19.0km az=52.0*

*BJI **07** 21:18:34.2, 9.53N×93.38E, h56km, mb4.3*

*NEIC **07** 21:18:41.5±1.6, 10.20N×93.68E, h56km±13km, mb4.5/7, Error ellipse: s-maj=13.7km s-min=9.1km az=211.0*

ISC 07 21:18:36.6±4.2, 10.1N±0.1×93.66E±0.09, h30km±28km, n40, σ0°90/40, mb4.1/16, MS3.9/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.74**	**31**	Pn	**P**	**21 20 58.0**	**-0.1**
	0.1nm,0.3s,baz=229,slow=14,SNR=25						
VIS	**Vishakhapatnam**	**12.55**	**308**	*eP*	**P**	**21 21 34.5**	**-1.7**
VIS				*eS*	**S**	**21 23 47.5**	**-8.5**
HYB	**Hyderabad**	**16.36**	**298**	*eP*	**P**	**21 22 27.5**	**+1.5**
HYB				*eS*	**S**	**21 25 18.0**	**-8.0**
HYB	**Hyderabad**	**16.36**	**298**	*i* P	**P**	**21 22 27.5**	**+1.5**
HYB				*eS*	**S**	**21 25 18.0**	**-8.0**
JIRN	**Jiri**	**18.82**	**339**	*eP*	**P**	**21 22 56.8**	**+0.3**
	11nm,0.6s						
PKI	**Pulchoki**	**19.02**	**337**	*eP*	**P**	**21 22 58.8**	**-0.1**
	35nm,1.1s						
GUN	**Gumba**	**19.16**	**339**	*eP*	**P**	**21 23 01.1**	**+0.6**
	50nm,1.2s						
DMN	**Daman**	**19.18**	**336**	*eP*	**P**	**21 22 59.0**	**-1.7**
	35nm,1.1s						
KKN	**Kakani**	**19.27**	**337**	*eP*	**P**	**21 23 01.5**	**-0.3**
	28nm,1.2s						
LSA	**Lhasa**	**19.62**	**353**	P	**P**	**21 23 05.2**	**-0.6**
LSA	**Lhasa**	**19.62**	**353**	*eP*	**P**	**21 23 05.0**	**-0.8**
	31nm,1.5s						
GKN	**Gorkha**	**19.71**	**336**	*eP*	**P**	**21 23 07.3**	**+0.5**
	17nm,0.6s						
KOLN	**Koldanda**	**19.95**	**333**	*eP*	**P**	**21 23 10.7**	**+1.3**
	14nm,0.8s						
DDI	**Dehra Dun**	**24.81**	**326**	*e*	**P**	**21 24 07.4**	**+10**
ENH	**Enshi**	**24.90**	**34**	*eP*	**P**	**21 23 58.8**	**+0.3**
	18nm,1.2s,mb4.5						
WMQ	**Urumqi**	**33.98**	**352**	*eP*	**P**	**21 25 20.6**	**+0.9**
AML	**Almayashu**	**36.38**	**335**	P	**P**	**21 25 41.4**	**+1.2**
	SNR=9.8						
AAK	**Ala-Archa**	**36.47**	**336**	P	**P**	**21 25 42.5**	**+1.6**
	SNR=6.8						
AAK	**Ala-Archa**	**36.47**	**336**	*eP*	**P**	**21 25 40.2**	**-0.7**
	9.1nm,1.3s,mb4.5						
CHMS	**Chumysh**	**36.68**	**337**	P	**P**	**21 25 43.1**	**+0.4**
	SNR=5.2						
EKS2	**Erkin-Say**	**36.79**	**335**	P	**P**	**21 25 44.8**	**+1.2**
	SNR=7.2						
USP	**Ospenovka**	**37.00**	**337**	P	**P**	**21 25 46.3**	**+0.9**
	SNR=6.4						
SONM	**Songino Array**	**39.10**	**14**	P	**P**	**21 26 02.8**	**-0.1**
	1.8nm,1.0s,mb3.7,baz=191,slow=5.5,SNR=11						
SONM				PcP	PcP	21 28 13.3	+0.5
	1.1nm,1.0s,baz=216,slow=2.7,SNR=5.2						
ZAL	**Zalesovo**	**44.28**	**353**	P	**P**	**21 26 44.9**	**-0.4**
	2.3nm,0.5s,mb4.2,baz=292,slow=7.5,SNR=17						
BVAR	**Borovoye Array**	**46.73**	**341**	P	**P**	**21 27 04.3**	**-0.5**
	1.3nm,0.7s,mb4.0,baz=135,slow=8.4,SNR=11						
BVAR				PcP	PcP	21 28 37.9	-0.4
	1.1nm,0.9s,baz=135,slow=4.1,SNR=3.3						
BRVK	**Borovoye**	**46.79**	**341**	*eP*	**P**	**21 27 03.6**	**-1.7**
	2.0nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**47.21**	**341**	*eP*	**P**	**21 27 08.1**	**-0.5**
	9.1nm,1.1s,mb4.6						
WRA	**Warramunga Arr**	**49.96**	**127**	P	**P**	**21 27 30.7**	**+0.4**
	0.5nm,0.5s,mb3.8,baz=306,slow=8.4,SNR=8.1						
ASAR	**Alice Springs**	**51.72**	**131**	P	**P**	**21 27 43.4**	**-0.3**
	0.9nm,0.9s,mb3.7,baz=309,slow=7.1,SNR=6.0						
GNI	**Garni**	**52.55**	**313**	*eP*	**P**	**21 27 50.7**	**+1.0**
	6.0nm,1.0s,mb4.5						
KMBO	**Kilima Mbogo**	**57.23**	**262**	LR	LR	21 49 41.6	
	comp=Z,53nm,18.2s,MS3.7,baz=90,slow=33						
BRTR	**Keskin Array B**	**60.62**	**310**	P	**P**	**21 28 46.1**	**-1.1**
	4.2nm,1.1s,mb4.5,baz=121,slow=7.2,SNR=8.2						
STKA	**Stephens Creek**	**62.00**	**134**	LR	LR	21 59 11.0	
	comp=Z,54nm,18.4s,MS3.7,baz=314,slow=39						
AKASG	**Malin Array Be**	**66.12**	**321**	P	**P**	**21 29 21.3**	**-1.9**
	0.9nm,0.7s,mb3.9,baz=96,slow=4.1,SNR=4.5						
FINES	**FINESS Array B**	**70.52**	**332**	P	**P**	**21 29 50.2**	**-0.2**
	2.2nm,1.0s,mb4.0,baz=146,slow=6.9,SNR=3.6						
FINES	**FINESS Array B**	**70.52**	**332**	P	**P**	**21 29 50.2**	**-0.2**
ARCES	**ARCESS Array B**	**73.01**	**340**	P	**P**	**21 30 05.1**	**0.0**
	1.6nm,0.8s,mb4.0,baz=92,slow=6.0,SNR=6.4						
ARCES				LR	LR	22 04 35.7	
	comp=Z,117nm,19.8s,MS4.2,baz=20,slow=38						
GERES	**GERESS Array B**	**75.85**	**318**	P	**P**	**21 30 21.7**	**-0.2**
	0.5nm,0.5s,mb3.7,baz=117,slow=6.0,SNR=5.5						
LPG	**La Plagne**	**80.71**	**315**	*eP*	**P**	**21 30 48.9**	**+0.3**
	8.5nm,0.8s,mb4.4						
PDAR	**Pinedale Array**	**123.25**	**20**	PKP	PKPdf	21 37 32.4	-3.7
	0.3nm,0.8s,slow=1.5,SNR=4.8						

ISC 07 21:44:52.1±1.0, 46.37N±0.08×15.07E±0.08, n5, σ0°76/6, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.27**	**7**	*e*Pg	**Pg**	**21 44 57.2**	**-0.1**
GROS	**Grobnik**	**0.31**	**73**	*e*Pg	**Pg**	**21 44 58.4**	**+0.1**
	comp=Z,5.0nm,0.2s						
PDKS	**Podkum**	**0.31**	**189**	*i* Pg	**Pg**	**21 44 58.8**	**+0.5**
OBKA	**Obir**	**0.39**	**291**	⇑*i*PG	**Pg**	**21 44 59.7**	**0.0**
OBKA				*i* SG	**Sg**	**21 45 05.5**	**+0.6**
	comp=Z,6.2nm,0.4s						
CADS	**Cadrg**	**0.93**	**262**	*i* Pg	**Pg**	**21 45 09.7**	**-1.1**

IDC 07 22:16:21.8±6.8, 9.73N×92.34E, mb3.6/2, mb1 3.7/3, mb1mx3.4/18, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=149.3km s-min=45.3km az=95.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.78**	**36**	Pn	P	22 18 57.0	-3.6
	0.1nm,0.3s,baz=230,slow=15,SNR=7.1						
WRA	**Warramunga Arr**	**50.78**	**126**	P	P	22 25 24.0	-2.2
	0.5nm,0.3s,baz=301,slow=9.7,SNR=3.3						
ASAR	**Alice Springs**	**52.46**	**130**	P	P	22 25 37.0	-1.9
	0.3nm,0.4s,baz=303,slow=7.0,SNR=6.8						

*IDC **07** 22:27:48.9±1.0, 5.01N×94.93E, mb4.1/11, mb1 4.2/12, mb1mx4.1/19, mbtmp4.1/12, ML4.4/1, MS3.1/1, Ms1 3.3/1, ms1mx2.8/24, Error ellipse: s-maj=46.6km s-min=18.4km az=49.0*

*NEIC **07** 22:27:52.8±0.6, 4.56N×94.48E, h30km, mb4.4/5, Error ellipse: s-maj=18.1km s-min=11.1km az=58.0*

ISC 07 22:27:50.7±0.8, 4.6N±0.1×94.5E±0.1, h30km, n18, σ0°85/18, mb4.2/16, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.48**	**17**	Pn	**P**	**22 31 16.8**	**+0.9**
	0.5nm,0.3s,baz=210,slow=12,SNR=35						
CMAR				LR	LR	22 36 16.8	
	comp=Z,79nm,21.3s,baz=210,slow=36						
LSA	**Lhasa**	**25.20**	**353**	P	**P**	**22 33 16.6**	**+1.0**
	6.3nm,0.6s,mb4.3						
BJT	**Baijiatuan**	**40.36**	**26**	*eP*	**P**	**22 35 27.6**	**0.0**
	4.2nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**41.87**	**338**	*eP*	**P**	**22 35 40.2**	**+0.2**
	3.4nm,0.9s,mb4.0						
AAK				*ep*P	pP	22 35 54.5	+5.5
SONM	**Songino Array**	**44.31**	**11**	P	**P**	**22 35 55.7**	**-4.1**
	1.7nm,0.8s,mb3.9,baz=193,slow=8.2,SNR=15						
SONM				PcP	PcP	22 37 43.3	-0.8
	0.5nm,0.4s,baz=201,slow=3.7,SNR=7.1						
WRA	**Warramunga Arr**	**46.12**	**123**	P	**P**	**22 36 14.7**	**+0.2**
	2.0nm,0.6s,mb4.2,baz=303,slow=9.2,SNR=13						
ASAR	**Alice Springs**	**47.58**	**128**	P	**P**	**22 36 26.4**	**+0.3**
	0.9nm,0.6s,mb4.0,baz=298,slow=7.8,SNR=11						
ZAL	**Zalesovo**	**49.86**	**353**	P	**P**	**22 36 42.5**	**-0.7**
	2.2nm,0.4s,mb4.6,baz=312,slow=5.8,SNR=13						
BVAR	**Borovoye Array**	**52.22**	**342**	P	**P**	**22 37 00.6**	**-0.6**
	2.6nm,0.7s,mb4.3,baz=141,slow=9.5,SNR=13						
BRVK	**Borovoye**	**52.28**	**342**	*eP*	**P**	**22 37 01.1**	**-0.5**
CHKZ	**Chkalovo**	**52.71**	**342**	*eP*	**P**	**22 37 04.7**	**-0.2**
	5.4nm,0.7s,mb4.6						
KIV	**Kislovodsk**	**60.01**	**319**	*eP*	**P**	**22 37 56.9**	**-0.2**
	2.8nm,0.8s,mb4.3						
BRTR	**Keskin Array B**	**64.86**	**312**	P	**P**	**22 38 30.7**	**+1.2**
	1.0nm,0.6s,mb4.0,baz=129,slow=7.0,SNR=8.2						
AKASG	**Malin Array Be**	**70.96**	**322**	P	**P**	**22 39 07.2**	**-0.3**
	1.2nm,0.6s,mb4.0,baz=86,slow=5.5,SNR=6.7						
FINES	**FINESS Array B**	**75.79**	**333**	P	**P**	**22 39 35.6**	**+0.1**
	2.0nm,0.7s,mb4.1,baz=108,slow=6.0,SNR=6.5						
ARCES	**ARCESS Array B**	**78.48**	**340**	P	**P**	**22 39 49.1**	**-1.1**
	1.6nm,0.6s,mb4.1,baz=100,slow=7.2,SNR=13						
GERES	**GERESS Array B**	**80.52**	**319**	P	**P**	**22 40 02.9**	**+1.3**
	0.9nm,0.7s,mb3.8,baz=90,slow=6.7,SNR=10						
ILAR	**Eielson Array**	**97.67**	**22**	P	**P**	**22 41 20.6**	**-2.9**
	0.3nm,0.5s,mb4.1,baz=301,slow=5.3,SNR=4.8						

IDC 07 22:33:49.5±1.1, 15.03N×91.93E, mb3.8/7, mb1 3.9/8, mb1mx3.8/18, mbtmp3.7/8, ML3.0/1, Error ellipse: s-maj=31.4km s-min=20.2km az=45.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.54**	**62**	Pn	Pn	22 35 39.6	-3.7
	0.1nm,0.3s,baz=245,slow=15,SNR=3.9						
CMAR				Sn	Sn	22 37 08.1	-2.4
	0.3nm,0.3s,baz=245,slow=30,SNR=4.9						
SONM	**Songino Array**	**34.84**	**17**	P	P	22 40 42.4	-1.9
	0.4nm,0.7s,baz=213,slow=9.3,SNR=3.4						
ZAL	**Zalesovo**	**39.22**	**353**	P	P	22 41 20.6	-0.6
	0.7nm,0.6s,baz=324,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**54.28**	**129**	P	P	22 43 17.8	-2.2
	1.6nm,0.8s,baz=310,slow=7.8,SNR=5.9						
ASAR	**Alice Springs**	**56.24**	**132**	P	P	22 43 32.0	-2.1
	0.6nm,0.4s,baz=309,slow=6.9,SNR=8.6						
BRTR	**Keskin Array B**	**56.24**	**308**	P	P	22 43 31.8	-2.2
	0.4nm,0.7s,baz=122,slow=12,SNR=4.1						
FINES	**FINESS Array B**	**65.42**	**331**	P	P	22 44 32.9	-3.2
	2.6nm,0.8s,baz=146,slow=6.9,SNR=5.1						
GERES	**GERESS Array B**	**71.11**	**317**	P	P	22 45 10.1	-1.6
	0.5nm,0.6s,baz=76,slow=5.5,SNR=5.5						

*PRU **07** 22:38:55.9, 50.13N×19.15E*

WAR 07 22:38:55.6, 50.16N×19.31E, h0km, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.32**	**79**	*e*PG	Pg	22 39 01.0	-1.0
OJC				*e*SG	Sg	22 39 06.0	-0.2
OKC	**Ostrava-Krasne**	**0.82**	**247**	*e*PG	Pg	22 39 10.1	-1.8
NIE	**Niedzica**	**0.99**	**138**	*e*PG	Pg	22 39 14.0	-1.3
NIE				*e*SG	Sg	22 39 29.0	+0.5
LIKS	**Likavka**	**1.12**	**187**	*e*PG	Pg	22 39 16.5	-1.5
LIKS				*e*SN	Sn	22 39 34.6	-0.1
VYHS	**Vyhne**	**1.70**	**191**	*e*PN	Pn	22 39 24.5	-2.1
VYHS				*e*SN	Sn	22 39 46.8	-2.5
CRVS	**Cervenica-Dubn**	**1.89**	**131**	*e*PN	Pn	22 39 28.0	-1.3
CRVS				*e*SN	Sn	22 39 54.7	+0.6
DPC	**Dobruska-Polom**	**1.93**	**277**	*e*PG	Pg	22 39 27.4	-6.7
DPC				*e*SG	Sg	22 39 53.0	-6.8
KSP	**Ksiaz**	**2.04**	**291**	*e*PN	Pn	22 39 32.0	+0.4
KSP				*e*PG	Pg	22 39 35.0	-1.4
KSP				*e*SN	Sn	22 39 55.0	-3.1
UPC	**Upice**	**2.14**	**281**	*e*SG	Sg	22 40 00.5	-6.4
KOLS	**Kolonicke sedl**	**2.29**	**121**	*e*PN	Pn	22 39 33.4	-1.7
PRU	**Pruhonice**	**3.08**	**269**	*e*SG	Sg	22 40 29.0	-9.1
KHC	**Kasperske Hory**	**3.87**	**257**	*e*PG	Pg	22 40 05.0	-7.8
KHC				*ex*	x	22 40 30.0	
KHC				*ex*	x	22 40 43.5	
KHC				*e*SG	Sg	22 40 56.4	-7.9
CLL	**Collm**	**4.17**	**288**	*e*SG	Sg	22 41 09.0	-5.4

*NEIC **07** 22:47:13.6±0.7, 50.04N×18.48E, h5km, MG2.5(WAR), Error ellipse: s-maj=9.4km s-min=6.3km az=183.0*

*PRU **07** 22:47:14.2, 50.10N×18.38E*

WAR 07 22:47:13.5, 50.07N×18.47E, h0km, ML2.4, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.18**	**276**	*e*PG	Pg	22 47 18.0	+1.0
RAC				*i* SG	Sg	22 47 21.4	+2.0
OKC	**Ostrava-Krasne**	**0.31**	**222**	*e*PG	Pg	22 47 20.0	+0.4
OKC				*e*SG	Sg	22 47 23.0	+0.2
MORC	**Moravsky Berou**	**0.66**	**244**	*e*Pg	Pg	22 47 26.0	-0.8
MORC				*e*Sg	Sg	22 47 35.1	-0.5
OJC	**Ojcow**	**0.87**	**79**	*e*PG	Pg	22 47 30.0	-0.9
OJC				*e*SG	Sg	22 47 42.0	-0.5
LIKS	**Likavka**	**1.10**	**157**	*e*SN	Sn	22 47 51.7	-0.3
NIE	**Niedzica**	**1.36**	**118**	*e*PG	Pg	22 47 40.0	-0.7
NIE				*e*SG	Sg	22 47 59.0	+0.1
DPC	**Dobruska-Polom**	**1.41**	**282**	*e*PG	Pg	22 47 39.7	-1.9
DPC				*e*SG	Sg	22 47 57.8	-2.5
	32nm,0.3s						
KOLL	**Kolacno**	**1.49**	**182**	*e*PN	Pn	22 47 40.8	-0.7
KOLL				*e*SN	Sn	22 48 01.8	-0.1
KSP	**Ksiaz**	**1.59**	**300**	*e*PG	Pg	22 47 43.0	-2.3
KSP				*e*SG	Sg	22 48 04.0	-2.5
VYHS	**Vyhne**	**1.59**	**171**	*e*PN	Pn	22 47 41.9	-1.1
VYHS				*e*SN	Sn	22 48 05.3	+0.8
UPC	**Upice**	**1.64**	**287**	*e*PG	Pg	22 47 43.7	-2.4
UPC				*e*SG	Sg	22 48 05.0	-2.9
SMOL	**Smolenice**	**1.70**	**204**	*e*SN	Sn	22 48 07.6	+0.4
CRVS	**Cervenica-Dubn**	**2.27**	**120**	*e*PB	Pb	22 47 55.8	+0.7
CRVS				*e*SG	Sg	22 48 29.3	+0.1
PRU	**Pruhonice**	**2.53**	**270**	*e*SG	Sg	22 48 31.1	-6.7
KHC	**Kasperske Hory**	**3.31**	**255**	*e*PN	Pn	22 48 05.5	-2.1
KHC				*e*PG	Pg	22 48 14.6	-5.1
KHC				*e*SN	Sn	22 48 42.0	-6.3
KHC				*e*SG	Sg	22 48 58.0	-5.8
CLL	**Collm**	**3.69**	**292**	*e*SG	Sg	22 49 10.0	-6.3
NKC	**Novy Kostel**	**3.87**	**275**	*e*SG	Sg	22 49 16.0	-6.5

*BJI **07** 22:58:26.9, 4.80S×153.60E, h42km, mB5.2, mb4.7, Ms4.6, Msz4.2*

*NEIC **07** 22:58:26.9±0.4, 4.83S×153.65E, mb4.6/12, Error ellipse: s-maj=14.7km s-min=7.9km az=113.0*

*IDC **07** 22:58:27.4±0.6, 4.83S×153.59E, h46km±4km, mb4.1/12, mb1 4.2/14, mb1mx4.2/17, mbtmp4.3/14, MS3.7/6, Ms1 3.7/6, ms1mx3.3/24, Error ellipse: s-maj=20.6km s-min=13.7km az=109.0*

ISC 07 22:58:25.5±0.5, 4.85S±0.07×153.58E±0.09, h41km, h41km±1.6km: pP-P, n35, σ0°79/33, mb4.4/24, MS3.9/4, 1C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.81**	**234**	P	**P**	**23 00 20.8**	**+1.3**
	8.9nm,0.3s,baz=78,slow=7.4,SNR=20						
PMG				S	**S**	**23 01 46.9**	**-0.7**
	6.0nm,0.3s,baz=317,slow=23,SNR=3.2						
PMG				LR	LR	23 03 15.3	
	comp=Z,360nm,21.9s,baz=154,slow=37						
PMG	**Port Moresby**	**7.81**	**234**	P	**P**	**23 00 20.8**	**+1.3**
PMG				S	**S**	**23 01 46.9**	**-0.7**
PMG				LR	LR	23 03 15.3	
CTA	**Charters Tower**	**16.74**	**205**	P	**P**	**23 02 20.1**	**+1.4**
	0.3nm,0.3s,baz=32,slow=13,SNR=9.9						
CTA				LR	LR	23 08 04.4	
	comp=Z,157nm,18.5s,baz=43,slow=34						
CTAO	**Charters Tower**	**16.74**	**205**	*eP*	**P**	**23 02 20.2**	**+1.4**
	3.5nm,0.6s						
KAKA	**Kakadu**	**22.29**	**248**	*eP*	**P**	**23 03 20.5**	**-0.3**
	42nm,0.5s,mb5.1						
WRAB	**Tennant Creek**	**23.98**	**230**	*eP*	**P**	**23 03 37.8**	**+0.3**
	13nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**23.99**	**230**	*eP*	**P**	**23 03 37.8**	**+0.3**
WRA	**Warramunga Arr**	**24.00**	**230**	P	**P**	**23 03 37.8**	**+0.1**
	4.9nm,0.6s,mb4.1,baz=54,slow=10,SNR=5.0						
WRA				PcP	PcP	23 07 19.7	-0.8
	2.1nm,0.6s,baz=59,slow=2.3,SNR=7.9						
ASAR	**Alice Springs**	**26.64**	**224**	P	**P**	**23 04 01.9**	**-0.8**
	1.2nm,0.5s,mb3.7,baz=59,slow=9.3,SNR=13						
ASAR				PcP	PcP	23 07 25.9	-0.3
	2.8nm,0.7s,baz=64,slow=2.5,SNR=13						
ASAR				ScP		23 10 59.8	
	0.5nm,0.6s,baz=18,slow=2.9,SNR=5.1						
ASAR				LR	LR	23 13 57.2	
	comp=Z,100nm,19.5s,MS3.4,baz=38,slow=35						
ASPA	**Alice Springs**	**26.64**	**224**	*eP*	**P**	**23 04 02.8**	**+0.2**
STKA	**Stephens Creek**	**29.14**	**201**	P	**P**	**23 04 24.5**	**-0.6**
	1.8nm,0.7s,mb3.9,baz=34,slow=15,SNR=3.3						
FITZ	**Fitzroy Crossi**	**30.32**	**242**	*eP*	**P**	**23 04 34.4**	**-1.3**
	8.3nm,0.6s,mb4.6						
MBWA	**Marble Bar**	**36.62**	**241**	*eP*	**P**	**23 05 30.0**	**-0.1**
	8.3nm,0.8s,mb4.6						
RPZ	**Rata Peaks**	**41.67**	**161**	P	**P**	**23 06 11.8**	**0.0**
	22nm,0.7s,mb4.9,baz=302,slow=3.1,SNR=12						
CMAR	**Chiang Mai Arr**	**58.60**	**295**	P	**P**	**23 08 21.1**	**0.0**
	1.0nm,0.8s,mb3.9,baz=111,slow=4.9,SNR=5.0						
CMAR				sP	sP	23 08 38.1	+0.4
	2.0nm,0.9s,baz=116,slow=5.4,SNR=4.0						
LZH	**Lanzhou**	**61.80**	**315**	*eP*	**P**	**23 08 44.5**	**+1.7**
LZH				AP	pP	23 08 55.0	+0.3
LZH				XP	sP	23 09 02.0	+2.5
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb5.0						
ULN	**Ulaanbaatar**	**66.44**	**328**	*eP*	**P**	**23 09 14.0**	**+1.1**
	comp=Z,3.6nm,0.8s,mb4.5						
ULN				*es*P	sP	23 09 29.7	+0.2
SONM	**Songino Array**	**66.78**	**327**	P	**P**	**23 09 15.4**	**+0.4**
	comp=Z,1.3nm,0.6s,mb4.1,baz=148,slow=6.7,SNR=12						
SONM				sP	sP	23 09 31.8	+0.2
	comp=Z,1.3nm,0.7s,baz=153,slow=8.7,SNR=6.6						
VNDA	**Vanda**	**72.76**	**178**	P	**P**	**23 09 50.5**	**-0.5**
	comp=Z,5.5nm,0.7s,mb4.6,baz=312,slow=5.8,SNR=13						
BILL	**Bilibino**	**73.27**	**5**	*eP*	**P**	**23 09 55.8**	**+1.6**
	comp=Z,3.8nm,0.7s,mb4.4						
MCK	**McKinley**	**80.61**	**22**	*eP*	**P**	**23 10 34.5**	**-0.8**
	comp=Z,2.9nm,1.0s,mb4.2						
ZAL	**Zalesovo**	**81.63**	**326**	P	**P**	**23 10 40.9**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=355,slow=5.1,SNR=6.2						
ILAR	**Eielson Array**	**81.91**	**22**	P	**P**	**23 10 41.1**	**-1.0**
	comp=Z,0.8nm,0.7s,mb3.8,baz=242,slow=5.2,SNR=12						
ILAR				sP	sP	23 11 02.0	+3.2
	comp=Z,2.2nm,0.8s,baz=254,slow=5.3,SNR=10						
ILAR				LR	LR	23 45 32.7	
	comp=Z,41nm,18.0s,MS3.8,baz=181,slow=34						
QSPA	**South Pole Qui**	**85.11**	**180**	⇑*i*P	**P**	**23 10 58.7**	**+0.7**
	comp=Z,17nm,0.7s,mb5.3						
AAK	**Ala-Archa**	**85.26**	**313**	*eP*	**P**	**23 10 58.8**	**-0.7**
	comp=Z,5.7nm,1.0s,mb4.7						
AAK				*ep*P	pP	23 11 11.8	-0.1
MAW	**Mawson**	**85.83**	**203**	P	**P**	**23 11 01.7**	**+0.1**
	comp=Z,4.6nm,0.6s,mb4.9,baz=65,slow=5.3,SNR=11						
DLBC	**Dease Lake**	**87.03**	**31**	LR	LR	23 41 59.5	
	comp=Z,66nm,21.3s,MS4.0,baz=145,slow=30						
CHKZ	**Chkalovo**	**89.70**	**324**	*eP*	**P**	**23 11 19.8**	**-0.8**
	comp=Z,4.4nm,1.1s,mb4.7						
CHKZ				*ep*P	pP	23 11 32.0	-1.2
BVAR	**Borovoye Array**	**89.74**	**323**	P	**P**	**23 11 19.8**	**-1.1**
	comp=Z,3.2nm,0.7s,mb4.8,baz=104,slow=6.1,SNR=29						
BVAR				pP	pP	23 11 33.3	0.0
	comp=Z,2.4nm,0.8s,baz=104,slow=6.1,SNR=8.4						
BVAR				sP	sP	23 11 40.0	+2.5
	comp=Z,2.2nm,0.8s,baz=90,slow=7.4,SNR=5.1						
BRVK	**Borovoye**	**89.81**	**323**	*eP*	**P**	**23 11 20.9**	**-0.3**
	comp=Z,5.1nm,1.1s,mb4.8						
BRVK				*ep*P	pP	23 11 33.5	-0.2
YKA	**Yellowknife Ar**	**95.11**	**28**	P	**P**	**23 11 45.2**	**0.0**
	comp=Z,0.3nm,0.8s,mb3.8,baz=272,slow=4.1,SNR=5.5						
YKA				sP	sP	23 12 06.1	+4.1
	comp=Z,0.6nm,0.9s,baz=272,slow=5.0,SNR=3.4						
YKA	**Yellowknife Ar**	**95.11**	**28**	P	**P**	**23 11 45.2**	**0.0**
YKA				sP	sP	23 12 06.0	+4.1
PDAR	**Pinedale Array**	**98.31**	**48**	LR	LR	23 48 50.9	
	comp=Z,69nm,19.3s,MS4.2,baz=140,slow=31						
GERES	**GERESS Array B**	**124.50**	**329**	PKP	PKPdf	23 17 20.8	+0.1
	comp=Z,0.2nm,0.4s,slow=2.7,SNR=4.2						
BDFB	**Brasilia**	**150.48**	**134**	PKPbc	PKPdf	23 18 13.4	+5.0
	comp=Z,2.0nm,0.6s,baz=237,slow=2.4,SNR=4.7						

*MAN **07** 23:01:38.5, 10.28N×126.47E, h23km, mb5.2, ML4.1, MS4.3*

*BJI **07** 23:01:38.5, 10.30N×126.40E, h36km, mB4.9, mb4.6*

*IDC **07** 23:01:39.2±0.9, 10.35N×126.42E, h36km±6km, mb3.9/10, mb1 4.0/10, mb1mx3.8/20, mbtmp4.1/10, Error ellipse: s-maj=38.1km s-min=16.8km az=71.0*

*NEIC **07** 23:01:39.2±0.5, 10.35N×126.43E, mb4.5/2, Error ellipse: s-maj=24.0km s-min=9.7km az=74.0*

**ISC 07 23:01:38.8±1.2, 10.31N±0.05×126.45E±0.09, h50km±10km, h37km±.7km: pP-P, n27, σ1°06/35, mb4.2/12,

DZM	Mont Dzumac	13.86	260	eP	P	23 23 58.4	+1.2
DZM	Mont Dzumac	13.86	260	eP	P	23 23 58.4	+1.2
NOUC	Port Laguerre	14.00	260	eP	P	23 23 59.7	+1.2
URZ	Urewera	18.20	190	P	P	23 24 32.9	-4.4
	5.6nm,0.3s,baz=5.9,slow=2.5,SNR=26						
URZ				S	S	23 27 30.4	-0.7
	0.5nm,0.3s,baz=118,slow=12,SNR=5.0						
CTA	Charters Tower	32.75	264	⇓iP	P	23 26 44.2	+0.1
	27nm,0.6s,mb5.0						
CTA	Charters Tower	32.75	264	ScP		23 31 59.3	
	6.2nm,0.9s,baz=14,slow=3.0,SNR=6.3						
CTAO	Charters Tower	32.75	264	eP	P	23 26 43.8	-0.3
	43nm,0.8s,mb5.0						
CTAO				e		23 29 58.8	
PMG	Port Moresby	34.57	283	diP	P	23 26 59.0	-0.2
PMG	Port Moresby	34.57	283	P	P	23 26 59.3	+0.1
	67nm,0.7s,mb5.3,baz=85,slow=5.7,SNR=16						
PMG	Port Moresby	34.57	283	eP	P	23 26 59.0	-0.2
	80nm,0.9s,mb5.2						
TOO	Toolangi	35.38	233	eP	P	23 27 05.9	+0.3
	6.7nm,0.9s,mb4.2						
STKA	Stephens Creek	37.17	244	⇓iP	P	23 27 20.8	+0.4
	5.7nm,0.5s,mb4.4						
STKA	Stephens Creek	37.17	244	P	P	23 27 20.8	+0.4
	7.4nm,0.5s,mb4.5,baz=90,slow=9.6,SNR=30						
ASAR	Alice Springs	43.82	257	P	P	23 28 12.8	-0.3
	36nm,0.8s,mb4.8,baz=95,slow=7.4,SNR=368						
ASAR				PcP	PcP	23 29 44.2	-0.1
	5.8nm,0.9s,baz=102,slow=3.7,SNR=9.9						
ASAR				ScP		23 32 40.6	
	2.4nm,1.0s,baz=106,slow=4.3,SNR=6.2						
ASAR				S	S	23 34 00.4	+1.3
	2.0nm,0.7s,baz=93,slow=16,SNR=9.1						
ASPA	Alice Springs	43.82	257	⇓iP	P	23 28 12.8	-0.4
ASPA				i PCP	PcP	23 29 44.7	+0.4
ASPA				eS	S	23 33 59.7	+0.6
ASPA				i SCS	ScS	23 37 05.6	+8.2
WB2	Warramunga Arr	43.86	262	⇓iP	P	23 28 12.6	-0.9
WB2				eS	S	23 33 59.6	-0.1
WB2				i SCS	ScS	23 37 05.8	+8.1
WRAB	Tennant Creek	43.86	262	diP	P	23 28 12.6	-0.9
WRAB	Tennant Creek	43.86	262	eP	P	23 28 12.1	-1.5
	57nm,0.9s,mb4.9						
WRA	Warramunga Arr	43.87	262	P	P	23 28 12.7	-0.9
	14nm,0.3s,mb4.7,baz=97,slow=7.4,SNR=143						
KAKA	Kakadu	47.22	271	⇓iP	P	23 28 38.1	-0.8
	28nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	52.30	262	⇓iP	P	23 29 15.5	-0.3
	18nm,0.4s,mb4.7						
MBWA	Marble Bar	57.15	257	eP	P	23 29 48.5	-0.9
	17nm,0.7s,mb4.3						
KLBR	Kellerberrin	57.44	245	eP	P	23 29 50.5	-0.6
	26nm,1.0s,mb4.3						
VNDA	Vanda	57.99	185	P	P	23 29 54.4	+0.1
	4.5nm,0.6s,mb3.8,baz=19,slow=7.5,SNR=15						
JHJ	Hachijo jima 2	66.26	323	P	P	23 30 47.1	-0.6
	191nm,0.3s,baz=56,slow=22,SNR=5.9						
MAJO	Matsushiro	69.64	324	eP	P	23 31 07.1	-0.8
	13nm,0.6s,mb4.5						
MAT	Matsushiro	69.64	324	eP	P	23 31 07.0	-0.9
	11nm,0.6s,mb4.5						
MAT	Matsushiro	69.64	324	P	P	23 31 07.4	-0.5
QSPA	South Pole Qui	69.72	180	⇑iP	P	23 31 08.5	+0.9
	27nm,0.6s,mb4.8						
FX1	Attu Island--F	73.25	355	P	P	23 31 26.6	-1.7
	51nm,1.0s,mb4.9,baz=235,slow=7.3,SNR=8.2						
YSS	Yuzh-Sakhalins	75.42	334	i P	P	23 31 41.5	+1.1
YSS				pmax	pmax		
	comp=Z,36nm,1.0s,mb4.9						
SSE	Sheshan	77.01	310	P	P	23 31 49.1	-0.2
SSE				AMB	AMB		
	comp=Z,41nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,87nm,3.6s						
NJ2	Nanjing	79.20	310	eP	P	23 32 02.0	+1.1
NJ2				PCP	PcP	23 32 09.2	+2.2
NJ2				AMB	AMB		
	comp=Z,50nm,1.2s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,350nm,11.4s						
MDJ	Mudanjiang	79.96	325	P	P	23 32 05.8	+1.2
MDJ				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.5						
MDJ	Mudanjiang	79.96	325	eP	P	23 32 05.6	+1.0
	comp=Z,18nm,0.9s,mb4.5						
YBH	Yreka Blue Hor	80.64	39	P	P	23 32 09.1	+1.0
	comp=Z,8.1nm,0.7s,mb4.3,baz=227,slow=1.8,SNR=14						
NVAR	Mina Array Bea	81.44	44	P	P	23 32 12.4	+0.2
	comp=Z,4.7nm,0.7s,mb4.0,baz=223,slow=8.5,SNR=6.6						
MA2	Magadan	83.44	345	diP	P	23 32 21.1	-0.6
MA2				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.4						
MA2	Magadan	83.44	345	i Pr	P	23 32 21.1	-0.6
TUC	Tucson	83.48	52	eP	P	23 32 23.2	+0.6
	comp=Z,2.4nm,0.8s,mb3.8						
WVOR	Wild Horse Val	83.50	40	eP	P	23 32 22.3	-0.1
	comp=Z,3.8nm,0.6s,mb4.1						
SLKM	Skilak Lake	83.84	14	eP	P	23 32 23.1	-0.6
BJT	Baijiatuau	85.25	316	eP	P	23 32 31.4	+0.4
	comp=Z,8.6nm,0.6s,mb4.6						
ENH	Enshi	85.33	304	eP	P	23 32 32.7	+1.1
	comp=Z,23nm,0.9s,mb4.8						
HLID	Hailey	86.71	41	eP	P	23 32 38.8	+1.0
	comp=Z,5.6nm,0.9s,mb4.2						
SYO	Syowa Base	86.71	193	⇑P	P	23 32 36.5	-0.7
SYO	Syowa Base	86.71	193	⇑PcP	PcP	23 32 37.4	-1.4
MCK	McKinley	86.99	13	eP	P	23 32 37.8	-0.8
	comp=Z,6.0nm,0.7s,mb4.3						
XAN	Xi'an	87.44	308	P	P	23 32 43.1	+1.7
XAN				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.6						
TXAR	Lajitas Array	87.61	58	P	P	23 32 43.3	+0.9
	comp=Z,0.9nm,0.7s,mb3.5,baz=217,slow=6.3,SNR=7.7						
TXAR				pP	pP	23 34 56.0	-5.9
	comp=Z,0.9nm,1.0s,baz=207,slow=2.8,SNR=4.3						
ANMO	Albuquerque	87.90	52	eP	P	23 32 43.7	+0.1
	comp=Z,0.9nm,0.6s,mb3.6						
HIA	Hailar	88.13	325	eP	P	23 32 44.7	+0.4
	comp=Z,8.1nm,0.7s,mb4.5						
DLBC	Dease Lake	88.21	23	P	P	23 32 44.9	+0.5
	comp=Z,2.6nm,0.8s,mb3.9,baz=348,slow=27,SNR=5.1						
COLA	College	88.22	13	diP	P	23 32 43.4	-0.9
COLA	College	88.22	13	i Pr	P	23 32 43.4	-0.9
ILAR	Eielson Array	88.33	13	P	P	23 32 43.9	-1.0
	comp=Z,7.4nm,0.7s,mb4.4,baz=216,slow=5.4,SNR=93						
ILAR				pP	pP	23 34 56.9	-7.9
	comp=Z,1.9nm,1.0s,baz=231,slow=6.7,SNR=6.4						
VNA2	Neumayer--Watz	88.77	177	⇑iP	P	23 32 51.2	+4.4
BILL	Bilibino	88.81	354	⇓eP	P	23 32 46.9	-0.1
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
BILL	Bilibino	88.81	354	⇓eP	P	23 32 46.0	-1.0
MOOW	Moose Ponds	89.09	42	eP	P	23 32 49.1	+0.2
LOHW	Long Hollow	89.11	42	eP	P	23 32 49.2	+0.2
CHMT	Chamberlain Mo	89.17	39	P	P	23 32 49.1	0.0
CMAR	Chiang Mai Arr	89.35	290	P	P	23 32 52.6	+2.0
	comp=Z,8.8nm,0.8s,mb4.5,baz=122,slow=3.0,SNR=46						
BW06	Boulder Array	89.37	44	eP	P	23 32 49.8	-0.4
	comp=Z,2.9nm,0.7s,mb4.1						
PDAR	Pinedale Array	89.37	44	P	P	23 32 50.3	+0.1
	comp=Z,3.0nm,0.6s,mb4.2,baz=212,slow=3.0,SNR=28						
BOZ	Bozeman (W)	89.48	40	eP	P	23 32 51.2	+0.6
	comp=Z,3.9nm,0.9s,mb4.1						
DAWY	Dawson	89.52	16	eP	P	23 32 50.2	-0.1
YAK	Yakutsk	91.69	338	diP	P	23 32 59.8	-0.6
YAK				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.1						
YAK	Yakutsk	91.69	338	eP	P	23 32 59.6	-0.7
	comp=Z,22nm,0.7s,mb5.2						
INK	Inuvik	94.33	15	P	P	23 33 11.5	-0.8
	comp=Z,2.1nm,0.7s,mb4.3,baz=227,slow=4.6,SNR=8.9						
INK	Inuvik	94.33	15	eP	P	23 33 10.8	-1.5
	comp=Z,1.9nm,0.7s,mb4.2						
ULN	Ulaanbaatar	94.75	319	eP	P	23 33 15.3	+0.6
ULN	Ulaanbaatar	94.75	319	eP	P	23 33 14.9	+0.2
	comp=Z,1.4nm,0.6s,mb4.3						
SONM	Songino Array	95.14	319	P	P	23 33 16.7	+0.3
	comp=Z,0.6nm,0.6s,mb3.9,baz=143,slow=6.2,SNR=6.4						
YKA	Yellowknife Ar	96.69	25	P	P	23 33 22.2	-0.9
	comp=Z,1.2nm,0.9s,mb4.1,baz=244,slow=4.4,SNR=15						
WMQ	Urumqi	106.26	311	PDIF	Pdif	23 34 06.9	+0.9
WMQ				PP	PP	23 38 44.4	+2.5
WMQ				PP	PP		
	comp=Z,37nm,11.2s						
CHKZ	Chkalovo	118.30	321	ePKPdf	PKPdf	23 38 35.2	+0.6
BRVK	Borovoye	118.54	320	i PKPr	PKPdf	23 38 36.0	+0.9
ARU	Arti	124.65	325	ePKIKP	PKPdf	23 38 33.3	-13
ARCES	ARCESS Array B	128.63	349	PKP	PKPdf	23 38 54.6	+0.5
	comp=Z,4.9nm,0.7s,baz=77,slow=1.5,SNR=19						
JOF	Joensuu	132.75	342	ep	PKPdf	23 39 03.3	+1.2
KAF	Kangasniemi	134.80	344	ep	PKPdf	23 39 05.7	-0.1
MOS	Moscow	135.40	331	ePKIKP	tx	23 39 28.2	
MOS				e		23 40 59.0	
FINES	FINESS Array B	135.41	343	PKhKP		23 38 59.0	
	comp=Z,11nm,1.3s,baz=135,slow=5.4,SNR=4.5						
FINES				PKP	PKPdf	23 39 08.1	+1.1
	comp=Z,1.1nm,0.4s,baz=63,slow=4.3,SNR=10						
FINES				SKPbc		23 41 44.5	
	comp=Z,1.6nm,0.5s,baz=64,slow=4.0,SNR=11						
OBN	Obninsk	136.26	331	⇓iPKIKP	PKPdf	23 39 09.7	+1.0
OBN				pmax	pmax		
	comp=Z,9.0nm,1.5s						
OBN	Obninsk	136.26	331	⇓ePKP	PKPdf	23 39 09.8	+1.1
NB2	NORSAR Subarra	138.74	353	PKP	PKPdf	23 39 06.0	-7.0
	comp=Z,12nm,1.4s,baz=10.0,slow=3.1						
NOA	NORSAR Array B	138.74	353	PKhKP		23 39 07.9	
	comp=Z,2.1nm,0.6s,baz=12,slow=2.3,SNR=5.4						
NOA				SKPbc		23 41 54.5	
	comp=Z,3.0nm,0.8s,baz=14,slow=4.4,SNR=3.9						
AKASG	Malin Array Be	142.51	331	PKhKP		23 39 18.0	
	comp=Z,17nm,0.5s,baz=42,slow=4.1,SNR=143						
AKASG				SKPbc		23 42 03.7	
	comp=Z,1.9nm,0.6s,baz=30,slow=3.1,SNR=7.5						
MALT	Malatya	143.24	307	ePKPdf	PKPdf	23 39 23.0	+1.5
SIM	Simferopol'	143.39	320	diPKIKP	PKPdf	23 39 22.9	+1.3
SIM				pmax	pmax		
	comp=Z,40nm,0.6s						
MBAR	Mbarara	144.36	238	ePKPdf	PKPdf	23 39 26.3	+2.1
GKP	Gorka Klasztor	144.89	343	ePKP	PKPdf	23 39 27.2	+3.3
KIS	Kishinev	145.19	326	ePKP2	PKPab	23 39 38.0	+7.3
LVV	L'vov	145.44	334	ePKHKP		23 39 28.3	
BSEG	Bad Segeberg	145.75	350	ePKIKP	PKPdf	23 39 29.5	+4.2
KWP	Kalwaria	146.12	335	ePKP	PKPdf	23 39 30.6	+4.5
BRTR	Keskin Array B	146.18	312	PKPbc	PKPbc	23 39 30.6	+2.3
	comp=Z,5.2nm,0.5s,baz=142,slow=3.7,SNR=35						
OJC	Ojcow	146.74	338	ePKP	PKPdf	23 39 32.1	+5.0
KOLS	Kolonicke sedl	146.85	334	i PKP	PKPdf	23 39 32.7	+5.4
CRVS	Cervenica-Dubn	147.20	335	ePKP	PKPdf	23 39 34.3	+6.4
NIE	Niedzica	147.22	337	ePKP	PKPdf	23 39 34.0	+6.1
KSP	Ksiaz	147.32	342	ePKPdf	PKPdf	23 39 34.1	+6.1
KSP	Ksiaz	147.32	342	ePKP	PKPdf	23 39 34.1	+6.1
UPC	Upice	147.70	342	ePKP	PKPdf	23 39 34.9	+6.3
UPC				e		23 39 39.9	
UPC	Upice	147.70	342	⇑ePKPB	PKPdf	23 39 34.9	+6.3
UPC				ePKPAB	PKPab	23 39 39.9	-0.4
CLL	Collm	147.74	346	i PKIKP	PKPdf	23 39 34.7	+6.1
CLL				i		23 39 39.2	
CLL				pmax	pmax		
	comp=Z,34nm,0.8s						
CLL	Collm	147.74	346	P	PKPdf	23 39 25.0	-3.6
CLL	Collm	147.74	346	⇓iPKP1	PKPdf	23 39 34.7	+6.1
CLL				i PKP2	PKPab	23 39 39.2	-1.2
DPC	Dobruska-Polom	147.75	342	ePKP	PKPdf	23 39 35.1	+6.4
DPC				e		23 39 40.1	
DPC	Dobruska-Polom	147.75	342	⇑ePKPB	PKPdf	23 39 35.1	+6.4
DPC				ePKPAB	PKPab	23 39 40.1	-0.4
MORC	Moravsky Berou	147.88	340	ePKPbc	PKPdf	23 39 35.1	+6.2
BRG	Berggiesshubel	147.92	345	i PKIKP	PKPdf	23 39 35.3	+6.4
BRG				i		23 39 40.1	
BRG				pmax	pmax		
	comp=Z,17nm,0.8s						
KECS	Kecovo	147.92	336	ePKP	PKPdf	23 39 35.3	+6.3
KECS				e		23 39 40.8	
PVCC	Panska Ves	148.08	344	ePKIKP	PKPdf	23 39 35.7	+6.5
PVCC	Panska Ves	148.08	344	⇑ePKPB	PKPdf	23 39 35.7	+6.5
EIL	Elat	148.13	294	ePKPbc	PKPdf	23 39 36.1	+6.1
CSS	Prodhromos	148.19	304	ePKPbc	PKPdf	23 39 36.1	+6.2
VYHS	Vyhne	148.53	337	ePKP	PKPdf	23 39 36.9	+6.9
VYHS				e		23 39 43.2	
PRU	Pruhonice	148.58	343	ePKIKP	PKPdf	23 39 36.7	+6.7
PRU				e		23 39 43.2	
PRU	Pruhonice	148.58	343	⇑ePKPB	PKPdf	23 39 36.7	+6.7
PRU				ePKPAB	PKPab	23 39 43.2	-0.6
PSZ	Piszkesteto	148.61	336	ePKPbc	PKPdf	23 39 37.1	+7.0
MOX	Moxa	148.66	347	ePKIKP	PKPdf	23 39 37.1	+7.0
MOX				pmax	pmax		
	comp=Z,19nm,1.1s						
MOX	Moxa	148.66	347	PP2		23 39 37.0	
NKC	Novy Kostel	148.87	346	ePKIKP	PKPdf	23 39 37.7	+7.2
NKC				e		23 39 44.1	
NKC	Novy Kostel	148.87	346	⇑ePKPB	PKPdf	23 39 37.7	+7.2
NKC				ePKPAB	PKPab	23 39 44.1	-0.9
SMOL	Smolenice	149.01	339	ePKP	PKPdf	23 39 39.0	+8.2
SMOL				e		23 39 45.5	
ZST	Bratislava	149.39	339	ePKP	PKPdf	23 39 39.3	+8.0
ZST				e		23 39 47.6	
KHC	Kasperske Hory	149.62	344	ePKPDF	PKPdf	23 39 34.6	+3.0
KHC				⇑ePKPB		23 39 39.3	
KHC				ePKPAB	PKPab	23 39 47.5	-0.6
KHC				epPKP		23 42 03.8	
GRF	Grafenberg Arr	149.65	347	ePKHKP		23 39 39.4	
GRF				e		23 39 47.6	
WET	Wettzell	149.78	345	ePKP2	PKPab	23 39 48.3	-0.5
GEC2	GERESS Array S	149.85	343	ePKHKP	PKPdf	23 39 39.7	+7.7
GERES	GERESS Array B	149.85	343	PKP	PKPdf	23 39 34.6	+2.6
	comp=Z,4.8nm,0.7s,baz=45,slow=1.9,SNR=3.9						
GERES				PKPbc	PKPdf	23 39 39.8	+7.8
	comp=Z,9.0nm,0.9s,baz=36,slow=2.2,SNR=37						
GIVF	Givet	150.17	355	ePKP1	PKPdf	23 39 40.5	+8.1
	comp=Z,33nm,0.8s						
BAIF	Baives	150.26	356	ePKP1	PKPdf	23 39 40.7	+8.1
	comp=Z,17nm,0.8s						
WLF	Walferdange	150.48	353	ePKPbc	PKPdf	23 39 41.6	+8.6
STU	Stuttgart	150.92	349	ePKPbc	PKPdf	23 39 41.3	+7.7
STU				ePKPab	PKPab	23 39 52.0	-1.5
FUR	Furstenfeldbru	151.08	346	ePKIKP	PKPdf	23 39 42.5	+8.6
FUR				e		23 39 53.6	
BFO	Black Forest	151.50	350	ePKIKP	PKPab	23 39 54.9	-1.1
CDF	Champ du Feu	151.57	351	ePKP1	PKPdf	23 39 43.5	+8.9
	comp=Z,10nm,0.7s						
FLN	La Foliniere	151.62	2	ePKP1	PKPdf	23 39 43.2	+8.6
MEZF	Maizieres J'vi	151.74	355	ePKP1	PKPdf	23 39 44.1	+9.3
LDF	La Druitiere	151.80	2	ePKP1	PKPdf	23 39 43.5	+8.6
	comp=Z,24nm,0.9s						
GRR	Gorron	151.98	3	ePKP1	PKPdf	23 39 44.1	+9.0
CRES	Cresnjev	152.01	338	eP	PKPdf	23 39 44.5	+9.2
HAU	Haudompre	152.09	353	ePKP1	PKPdf	23 39 44.5	+9.2
	comp=Z,7.0nm,0.6s						
LJU	Ljubljana	152.13	340	eP	PKPdf	23 39 44.7	+9.2
HINF	Hinteralfeld	152.22	352	ePKP1	PKPdf	23 39 44.6	+9.1
	comp=Z,12nm,0.8s						
BOJS	Bojanci	152.36	338	i P	PKPdf	23 39 45.6	+10
SSF	Saint Saulge	153.29	356	ePKP1	PKPdf	23 39 47.2	+10
	comp=Z,4.2nm,0.6s						
TCF	Toulx Ste Croi	154.11	358	ePKP1	PKPdf	23 39 50.3	+12
	comp=Z,2.8nm,0.5s						
LPL	La Plagne	154.49	351	ePKP1	PKPdf	23 39 50.4	+12
LPG	La Plagne	154.50	351	ePKP1	PKPdf	23 39 49.9	+11
	comp=Z,16nm,1.1s						
BNI	Bardonecchia	154.95	351	ePKPab	PKPab	23 40 10.0	-0.6
ORIF	Oris-en-Rattie	155.19	352	ePKP1	PKPdf	23 39 51.6	+12
MBDF	Montbardon	155.25	350	ePKP1	PKPdf	23 39 51.7	+12
	comp=Z,4.1nm,0.7s						
AQU	L'Aquila	155.76	338	ePKPab	PKPab	23 40 13.8	-0.4
ESDC	Sonseca Array	160.24	12	PKPab	PKPab	23 40 32.6	-0.9
	comp=Z,1.5nm,0.8s,baz=339,slow=5.1,SNR=7.3						
DBIC	Dimbokro	165.19	156	PKPab	PKPab	23 40 55.4	-0.4
	comp=Z,4.3nm,0.8s,baz=173,slow=5.4,SNR=9.2						

*NEIC **07** 23:24:11.1±1.9,20.19S×178.56W,h600km,mb4.3/4, Error ellipse: s-maj=82.0km s-min=18.3km az=145.0*
*IDC **07** 23:24:13.6±10.0,20.34S×178.55W,h634km±104km, mb3.3/5,mb1 3.5/5,mb1mx3.2/14,mbtmp4.4/5,Error ellipse: s-maj=128.2km s-min=51.8km az=135.0*

ISC 07 23:24:10.5±3.1,20.1S±0.7×178.7W±0.6,h600km,n14, σ0§59/11,mb4.0/7,1C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	32.87	264	⇓iP	P	23 29 59.1	+1.1
	2.9nm,0.4s,mb4.3						
CTA	Charters Tower	32.87	264	P	P	23 29 58.8	+0.8
	4.1nm,0.4s,mb4.4,baz=94,slow=12						
CTAO	Charters Tower	32.87	264	eP	P	23 29 58.7	+0.7
	6.7nm,0.8s,mb4.3						
STKA	Stephens Creek	37.38	244	P	P	23 30 35.6	+0.5
	2.9nm,0.8s,mb3.9,baz=116,slow=9.1,SNR=3.5						
ASAR	Alice Springs	43.97	256	P	P	23 31 27.9	+0.1
	6.7nm,0.9s,mb4.2,baz=90,slow=7.4,SNR=14						
ASPA	Alice Springs	43.97	256	eP	P	23 31 28.0	+0.3
WB2	Warramunga Arr	43.99	262	⇑iP	P	23 31 27.9	0.0
WRAB	Tennant Creek	43.99	262	eP	P	23 31 27.1	-0.8
	4.4nm,0.4s,mb4.3						
WRA	Warramunga Arr	44.00	262	P	P	23 31 28.1	+0.1
	2.8nm,0.3s,mb4.3,baz=97,slow=7.4,SNR=21						
MBWA	Marble Bar	57.30	257	eP	P	23 33 03.3	-1.1
	2.7nm,0.6s,mb3.6						
ILAR	Eielson Array	88.05	13	P	P	23 35 58.8	+0.2
	0.6nm,0.6s,mb3.5,baz=215,slow=5.6,SNR=7.7						
AKASG	Malin Array Be	142.32	331	PKP	PKPdf	23 42 33.3	-1.9
	2.5nm,0.5s,baz=43,slow=4.2,SNR=10						
BRTR	Keskin Array B	146.06	312	PKPbc	PKPbc	23 42 45.5	+1.7
	0.7nm,0.5s,baz=137,slow=3.3,SNR=4.0						
CLL	Collm	147.50	346	ePKP1	PKPdf	23 42 50.0	+6.0

*IDC **07** 23:38:57.8±2.8, 10.08S×116.53E,mb3.8/4,mb1 3.9/5, mb1mx3.8/14,mbtmp3.7/5,ML3.6/1,Error ellipse: s-maj=149.9km s-min=21.6km az=55.0*
*DJA **07** 23:39:07.6±0.9,9.76S×117.50E,h79km±17km,mb4.3/2, ML5.4/3,Error ellipse: s-maj=26.9km s-min=13.2km az=148.0*
*NEIC **07** 23:39:10.1±0.7,9.66S×117.35E,h83km±10km,mb3.9/1, Error ellipse: s-maj=10.1km s-min=8.5km az=194.0*

ISC 07 23:39:09.0±1.0,9.64S±0.09×117.38E±0.07,h96km±14km, n13,σ0§49/17,mb3.7/4,6C-5D,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.70	312	⇓ePn	P	23 39 37.9	-0.1
	2μm,0.2s						
KEDI				⇓eSn	S	23 39 59.8	+0.4
RATI	Rata	2.04	296	⇓ePn	P	23 39 42.0	-0.5
	4μm,0.2s						
RATI				⇑eSn	S	23 40 08.4	+1.1
KELI	Kelakatan	3.19	296	⇓ePn	P	23 39 58.4	+0.1
	438nm,0.2s						
KELI				⇑eSn	S	23 40 34.6	-0.9
SRDI	Scrawed	3.40	290	⇑ePn	P	23 40 00.7	-0.6
SRDI				⇓eSn	S	23 40 40.9	+0.2
NINI	Niniconang	5.69	251	⇑eP	P	23 40 32.7	+0.2
TANI	Tanete Lipujan	6.48	18	⇑eP	P	23 40 42.5	-0.9
	31nm,0.2s						
BUNI	Buntu Taipa	6.62	26	⇑eP	P	23 40 45.9	+0.5
	26nm,0.3s						
WRA	Warramunga Arr	19.31	124	P	P	23 43 29.4	+0.3
	0.2nm,0.3s,baz=300,slow=12,SNR=6.6						
WRAB	Tennant Creek	19.32	124	P	P	23 43 29.1	-0.1
	4.9nm,0.7s						
ASAR	Alice Springs	21.06	133	P	P	23 43 47.1	-0.1
	1.5nm,0.6s,mb3.5,baz=304,slow=9.9,SNR=13						
STKA	Stephens Creek	31.51	138	P	P	23 45 24.3	+0.2
	0.8nm,0.4s,mb3.8,baz=324,slow=15,SNR=3.9						
SONM	Songino Array	58.05	351	P	P	23 48 54.7	+0.3
	0.3nm,0.5s,mb3.6,baz=168,slow=7.4,SNR=9.4						
ZAL	Zalesovo	69.08	340	P	P	23 50 06.5	-0.1
	0.9nm,0.4s,mb3.9,baz=67,slow=4.1,SNR=4.2						

MAN 07 23:46:10.5,10.36N×126.24E,h31km,mb4.3,ML3.1, MS2.9,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.93	232	i P	Pn	23 46 27.1	-0.6
SCPH				eS	Sn	23 46 38.0	-2.0
MSLP	Maasin	1.38	261	eP	Pn	23 46 34.3	+0.3
MSLP				eS	Sn	23 46 50.9	-0.3
BESP	Borongan	1.47	328	eP	Pn	23 46 34.6	-0.6
PLP	Palo	1.48	303	eP	Pn	23 46 35.3	-0.1
PLP				eS	Sn	23 46 54.1	+0.4
BUTP	Butuan	1.51	204	eP	Pn	23 46 36.4	+0.6
TBP	Tagbilaran	2.43	254	eP	Pn	23 46 48.6	-0.5
TBP				eS	Sn	23 47 18.2	+0.2
PVCP	Virac	3.81	328	eP	Pn	23 47 14.8	+6.1
IPIL

KMKR pmax pmax
comp=Z,64nm,0.2s
KMKR Kumukh 2.15 128 *e*Pn **Pn 00 01 54.0 -3.5**
comp=Z,32nm,0.2s
AKH Akhalkalaki 2.28 206 P **Pn 00 01 59.4 +0.1**
AKH S **Sn 00 02 29.3 +1.3**

*IDC **08** 00:16:03.0±1.4, 13.42N×93.12E, mb3.5/4, mb1 3.7/5, mb1mx3.5/18, mbtmp3.5/5, ML3.9/1, Error ellipse: s-maj=41.6km s-min=24.8km az=58.0*
*NEIC **08** 00:16:07.6±0.8, 13.55N×93.27E, h30km, mb4.2/2, Error ellipse: s-maj=20.2km s-min=12.2km az=65.0*
ISC 08 00:16:05.6±1.0, 13.5N±0.1×93.3E±0.2, h30km, n8, σ0§51/8, mb3.8/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.29**	**47**	Pn	**Pn**	**00 17 52.6**	**-0.2**
	0.5nm,0.3s,baz=240,slow=15,SNR=9.5						
LSA	**Lhasa**	**16.21**	**353**	P	**P**	**00 19 52.3**	**-0.6**
SONM	**Songino Array**	**35.88**	**15**	P	**P**	**00 23 05.9**	**+0.9**
	0.7nm,0.9s,mb3.6,baz=198,slow=8.2,SNR=4.1						
CHKZ	**Chkalovo**	**43.88**	**341**	*e*P	**P**	**00 24 11.4**	**+0.4**
	1.3nm,0.8s,mb3.7						
WRA	**Warramunga Arr**	**52.31**	**129**	P	**P**	**00 25 17.6**	**+0.5**
	0.4nm,0.6s,mb3.6,baz=296,slow=9.7,SNR=3.4						
WRAB	**Tennant Creek**	**52.31**	**129**	*e*P	**P**	**00 25 16.5**	**-0.6**
	5.0nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**54.24**	**133**	P	**P**	**00 25 31.2**	**-0.1**
	0.4nm,0.5s,mb3.6,baz=310,slow=6.9,SNR=12						
BRTR	**Keskin Array B**	**58.22**	**308**	P	**P**	**00 25 59.3**	**-0.3**
	0.4nm,0.7s,mb3.6,baz=90,slow=7.2,SNR=4.0						

*IDC **08** 00:17:15.2±1.6, 2.15N×95.48E, mb3.7/5, mb1 3.9/6, mb1mx3.7/17, mbtmp3.7/6, ML4.0/1, Error ellipse: s-maj=60.7km s-min=22.2km az=56.0*
*NEIC **08** 00:17:19.8±1.0, 2.20N×95.55E, h30km, mb4.0/2, Error ellipse: s-maj=33.0km s-min=14.2km az=62.0*
ISC 08 00:17:17.8±1.2, 2.2N±0.2×95.5E±0.2, h30km, n10, σ0§69/10, mb3.8/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.50**	**11**	Pn	**P**	**00 21 08.9**	**0.0**
	0.2nm,0.3s,baz=206,slow=11,SNR=4.4						
LSA	**Lhasa**	**27.66**	**352**	*e*P	**P**	**00 23 04.7**	**-0.6**
	5.8nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**43.98**	**122**	P	**P**	**00 25 23.3**	**-1.2**
	0.9nm,0.6s,mb3.7,baz=300,slow=10.0,SNR=7.3						
WRA	**Warramunga Arr**	**43.98**	**122**	P	**P**	**00 25 23.3**	**-1.2**
AAK	**Ala-Archa**	**44.44**	**338**	P	**P**	**00 25 28.4**	**+0.3**
	0.7nm,0.5s,mb3.6						
ASAR	**Alice Springs**	**45.33**	**127**	P	**P**	**00 25 36.5**	**+1.1**
	0.7nm,0.5s,mb3.8,baz=309,slow=6.6,SNR=13						
ASAR	**Alice Springs**	**45.33**	**127**	P	**P**	**00 25 36.5**	**+1.1**
SONM	**Songino Array**	**46.42**	**10**	P	**P**	**00 25 44.3**	**+0.7**
	0.8nm,1.0s,mb3.6,baz=196,slow=7.9,SNR=4.4						
ZAL	**Zalesovo**	**52.32**	**352**	P	**P**	**00 26 28.8**	**-0.3**
	0.6nm,0.5s,mb3.8,baz=290,slow=9.2,SNR=4.5						
BRTR	**Keskin Array B**	**67.21**	**312**	P	**P**	**00 28 11.6**	**-0.1**
	1.0nm,1.0s,mb3.8,baz=127,slow=7.2,SNR=3.6						

IDC 08 00:44:25.1±1.3, 4.76N×92.53E, mb3.8/7, mb1 4.0/8, mb1mx3.8/20, mbtmp3.8/8, ML4.2/1, Error ellipse: s-maj=49.3km s-min=26.9km az=45.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.99**	**24**	Pn	P	00 48 03.1	+2.9
	0.4nm,0.3s,baz=222,slow=14,SNR=6.2						
SONM	**Songino Array**	**44.54**	**13**	P	P	00 52 38.9	-1.5
	0.4nm,0.7s,baz=202,slow=7.8,SNR=3.4						
WRA	**Warramunga Arr**	**47.86**	**122**	P	P	00 53 05.0	-2.1
	2.0nm,0.9s,baz=306,slow=8.8,SNR=3.6						
ZAL	**Zalesovo**	**49.43**	**354**	P	P	00 53 16.6	-2.1
	1.1nm,0.5s,baz=314,slow=8.1,SNR=6.6						
BVAR	**Borovoye Array**	**51.45**	**343**	P	P	00 53 31.8	-2.3
	0.3nm,0.6s,baz=146,slow=11,SNR=3.8						
BRTR	**Keskin Array B**	**63.29**	**312**	P	P	00 54 55.9	-2.3
	0.6nm,0.9s,baz=135,slow=8.2,SNR=3.5						
GERES	**GERESS Array B**	**79.08**	**319**	P	P	00 56 31.8	-1.2
	0.8nm,0.7s,baz=108,slow=4.2,SNR=7.9						
DAVOX	**Davos**	**81.52**	**316**	P	P	00 56 45.2	-0.8
	1.7nm,0.7s,baz=96,slow=9.2,SNR=6.1						

*IDC **08** 00:46:05.2±0.8, 5.58N×94.35E, mb4.2/13, mb1 4.3/14, mb1mx4.1/21, mbtmp4.2/14, ML4.6/1, MS3.3/4, Ms1 3.4/4, ms1mx3.2/17, Error ellipse: s-maj=35.2km s-min=16.2km az=49.0*
*BJI **08** 00:46:07.6, 5.60N×94.40E, h30km*
*NEIC **08** 00:46:09.7±0.3, 5.55N×94.38E, h30km, mb4.6/4, Error ellipse: s-maj=12.3km s-min=6.7km az=52.0*
ISC 08 00:46:07.6±0.5, 5.45N±0.09×94.3E±0.1, h30km, n27, σ0§87/26, mb4.2/17, MS3.5/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.70**	**19**	Pn	**P**	**00 49 24.3**	**+1.9**
	1.0nm,0.3s,baz=205,slow=14,SNR=8.7						
CMAR				LR	LR	00 54 28.7	
	comp=Z,50nm,19.2s,baz=210,slow=37						
LSA	**Lhasa**	**24.30**	**353**	*e*P	**P**	**00 51 25.5**	**+1.7**
LSA	**Lhasa**	**24.30**	**353**	P	**P**	**00 51 24.3**	**+0.5**
TGY	**Tagaytay City**	**27.59**	**70**	LR	LR	01 00 44.8	
	comp=Z,70nm,20.8s,MS3.2,baz=164,slow=32						
AAK	**Ala-Archa**	**40.98**	**338**	P	**P**	**00 53 50.1**	**+0.5**
SONM	**Songino Array**	**43.48**	**12**	P	**P**	**00 54 09.9**	**0.0**
	1.1nm,0.6s,mb3.7,baz=197,slow=7.8,SNR=7.6						
ULN	**Ulaanbaatar**	**43.65**	**12**	*e*P	**P**	**00 54 10.5**	**-0.8**
WRA	**Warramunga Arr**	**46.76**	**124**	P	**P**	**00 54 37.1**	**+0.6**
	5.8nm,0.7s,mb4.6,baz=302,slow=9.3,SNR=15						
WRAB	**Tennant Creek**	**46.76**	**124**	*e*P	**P**	**00 54 36.3**	**-0.1**
	7.9nm,0.5s,mb4.9						
ASAR	**Alice Springs**	**48.27**	**128**	P	**P**	**00 54 48.6**	**+0.4**
	2.7nm,0.6s,mb4.4,baz=300,slow=7.8,SNR=17						
ASAR				LR	LR	01 15 20.0	
	comp=Z,56nm,18.3s,MS3.6,baz=56,slow=36						
ZAL	**Zalesovo**	**48.95**	**353**	P	**P**	**00 54 52.7**	**-0.4**
	2.8nm,0.4s,mb4.6,baz=306,slow=5.4,SNR=12						
ZAL				LR	LR	01 17 50.6	
	comp=Z,53nm,18.4s,MS3.6,baz=202,slow=39						
ZAL	**Zalesovo**	**48.95**	**353**	P	**P**	**00 54 52.7**	**-0.4**
ZAL				LR	LR	01 17 50.6	
BVAR	**Borovoye Array**	**51.32**	**342**	P	**P**	**00 55 10.6**	**-0.6**
	0.8nm,0.5s,mb3.9,baz=141,slow=11,SNR=12						
BRVK	**Borovoye**	**51.38**	**342**	*e*P	**P**	**00 55 10.5**	**-1.1**
CHKZ	**Chkalovo**	**51.81**	**342**	*e*P	**P**	**00 55 14.3**	**-0.7**
	4.5nm,0.6s,mb4.6						
PMG	**Port Moresby**	**54.70**	**105**	P	**P**	**00 55 36.0**	**-0.9**
KMBO	**Kilima Mbogo**	**57.35**	**265**	P	**P**	**00 55 57.5**	**+1.6**
	0.6nm,0.6s,mb3.8,baz=31,slow=7.8,SNR=3.9						
KMBO	**Kilima Mbogo**	**57.35**	**265**	P	**P**	**00 55 57.5**	**+1.6**
STKA	**Stephens Creek**	**58.34**	**133**	P	**P**	**00 56 02.4**	**-0.2**
	1.5nm,0.7s,mb4.1,baz=346,slow=20,SNR=4.8						
BRTR	**Keskin Array B**	**64.14**	**312**	P	**P**	**00 56 41.2**	**-0.5**
	0.4nm,0.5s,mb3.7,baz=138,slow=7.1,SNR=3.3						
LSZ	**Lusaka**	**68.63**	**251**	*e*P	**P**	**00 57 10.8**	**+0.2**
	1.7nm,0.7s,mb4.1						
FINES	**FINESS Array B**	**74.92**	**332**	P	**P**	**00 57 46.8**	**-0.5**
	0.8nm,0.3s,mb4.1,baz=102,slow=5.8,SNR=18						
ARCES	**ARCESS Array B**	**77.59**	**340**	P	**P**	**00 58 02.3**	**+0.1**
	6.3nm,1.0s,mb4.5,baz=108,slow=3.8,SNR=3.7						
GERES	**GERESS Array B**	**79.73**	**319**	P	**P**	**00 58 15.3**	**+1.0**
	1.2nm,0.8s,mb3.9,baz=90,slow=5.3,SNR=7.3						
HFS	**Hagfors**	**80.62**	**330**	P	**P**	**00 58 18.2**	**-0.6**
	2.5nm,0.9s,mb4.2,baz=135,slow=8.4,SNR=6.1						
DAVOX	**Davos**	**82.24**	**316**	P	**P**	**00 58 28.6**	**+1.1**
	1.2nm,0.4s,mb4.1,baz=141,slow=14,SNR=5.9						
LPG	**La Plagne**	**84.43**	**315**	*e*P	**P**	**00 58 37.1**	**-1.7**
	10nm,1.1s,mb4.6						

DJA 08 00:58:10.4±0.9, 8.36S×114.70E, h116km±7km, ML4.2/1, 7D, Error ellipse: s-maj=35.8km s-min=11.0km az=10.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELI	**Kelakatan**	**0.24**	**304**	⇓*e*Pg	P	00 58 27.0	+0.3
KELI				⇓*e*Sg	S	00 58 37.5	-1.6
SRDI	**Scrawed**	**0.56**	**257**	⇓*e*Pg	P	00 58 27.8	-0.6
SRDI				⇓*e*Sg	S	00 58 41.2	-0.9
RATI	**Rata**	**0.90**	**114**	⇓*e*Pn	P	00 58 31.2	-0.2
	363nm,0.2s						
RATI				⇓*e*Sn	S	00 58 46.2	-0.9
KEDI	**Kedomdong**	**1.41**	**95**	⇓*e*Pn	P	00 58 35.8	-1.1

*IDC **08** 01:04:47.5±1.4, 17.14N×93.34E, mb3.7/4, mb1 4.0/5, mb1mx3.6/18, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=50.4km s-min=23.9km az=50.0*
ISC 08 01:04:50.2±1.0, 17.2N±0.2×93.4E±0.1, h33km, n10, σ0§67/10, mb3.7/4, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.41**	**76**	Pn	**Pn**	**01 06 10.5**	**-0.3**
	0.7nm,0.3s,baz=257,slow=15,SNR=6.4						
JIRN	**Jiri**	**12.34**	**329**	*e*P	**P**	**01 07 46.8**	**+0.3**
	15nm,0.3s						
PKI	**Pulchoki**	**12.67**	**326**	*e*P	**P**	**01 07 51.1**	**+0.1**
	13nm,0.3s						
GUN	**Gumba**	**12.70**	**328**	*e*P	**P**	**01 07 51.7**	**+0.4**
	9.2nm,0.4s						
KKN	**Kakani**	**12.92**	**326**	*e*P	**P**	**01 07 54.1**	**-0.1**
	4.8nm,0.2s						
KOLN	**Koldanda**	**13.86**	**321**	*e*P	**P**	**01 08 04.8**	**-1.8**
	9.0nm,0.3s						
ZAL	**Zalesovo**	**37.24**	**352**	P	**P**	**01 12 01.2**	**+0.8**
	0.7nm,0.5s,mb3.8,baz=284,slow=7.3,SNR=5.6						
WRA	**Warramunga Arr**	**54.58**	**131**	P	**P**	**01 14 17.8**	**-0.2**
	0.8nm,0.6s,mb3.9,baz=316,slow=7.4,SNR=4.8						
ASAR	**Alice Springs**	**56.71**	**135**	P	**P**	**01 14 33.4**	**+0.1**
	0.3nm,0.6s,mb3.5,baz=323,slow=9.0,SNR=4.9						
GERES	**GERESS Array B**	**70.50**	**316**	P	**P**	**01 16 04.2**	**+0.7**
	0.5nm,0.8s,mb3.5,baz=82,slow=6.9,SNR=5.4						

IDC 08 01:07:06.8±1.7, 6.54N×92.46E, mb3.7/3, mb1 4.1/4, mb1mx3.7/18, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=54.9km s-min=31.1km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.42**	**27**	Pn	P	01 10 20.9	-0.3
	0.3nm,0.3s,baz=231,slow=14,SNR=26						
SONM	**Songino Array**	**42.83**	**14**	P	P	01 15 05.6	-2.6
	0.4nm,0.8s,baz=196,slow=6.9,SNR=4.2						
ASAR	**Alice Springs**	**50.38**	**128**	P	P	01 16 06.1	-2.0
	1.4nm,0.8s,baz=306,slow=7.2,SNR=9.5						
GERES	**GERESS Array B**	**77.71**	**318**	P	P	01 19 06.0	-1.1
	0.6nm,0.8s,baz=108,slow=6.2,SNR=5.1						

*IDC **08** 01:21:51.9±1.5, 3.56N×95.10E, mb3.8/6, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=72.6km s-min=22.6km az=52.0*
*NEIC **08** 01:21:56.3±1.1, 3.45N×95.03E, h30km, mb4.3/2, Error ellipse: s-maj=50.8km s-min=13.1km az=54.0*
ISC 08 01:21:54.3±1.0, 3.4N±0.1×95.0E±0.2, h30km, n11, σ1§04/11, mb3.9/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.51**	**14**	Pn	**P**	**01 25 33.4**	**+0.6**
	baz=225,slow=7.7,SNR=5.3						
LSA	**Lhasa**	**26.44**	**353**	*e*P	**P**	**01 27 31.8**	**+1.2**
	11nm,0.9s,mb4.4						
AAK	**Ala-Archa**	**43.15**	**338**	P	**P**	**01 29 53.3**	**-0.7**
WRA	**Warramunga Arr**	**45.09**	**123**	P	**P**	**01 30 10.5**	**+0.5**
	1.0nm,0.5s,mb3.9,baz=300,slow=9.0,SNR=5.1						
WRAB	**Tennant Creek**	**45.09**	**123**	*e*P	**P**	**01 30 10.0**	**0.0**
	1.6nm,0.5s,mb4.1						
SONM	**Songino Array**	**45.39**	**11**	P	**P**	**01 30 10.9**	**-1.0**
	0.8nm,0.7s,mb3.6,baz=194,slow=7.0,SNR=6.1						
ASAR	**Alice Springs**	**46.49**	**127**	P	**P**	**01 30 20.4**	**-0.5**
	0.5nm,0.6s,mb3.6,baz=291,slow=8.1,SNR=6.6						
BVAR	**Borovoye Array**	**53.49**	**342**	P	**P**	**01 31 11.9**	**-2.3**
	0.7nm,0.7s,mb3.7,baz=135,slow=8.4,SNR=5.4						
FINES	**FINESS Array B**	**77.06**	**333**	P	**P**	**01 33 46.2**	**+0.1**
	4.7nm,1.1s,mb4.3,baz=135,slow=8.1,SNR=6.1						
FINES	**FINESS Array B**	**77.06**	**333**	P	**P**	**01 33 46.2**	**+0.1**
GERES	**GERESS Array B**	**81.71**	**319**	P	**P**	**01 34 13.1**	**+1.7**
	0.4nm,0.8s,mb3.4,baz=104,slow=5.5,SNR=4.2						

IDC 08 01:28:35.5±3.5, 4.87N×78.57W, mb3.5/1, mb1 3.6/2, mb1mx3.1/18, mbtmp3.4/2, ML1.8/1, MS3.2/2, Ms1 3.2/2, ms1mx2.2/19, Error ellipse: s-maj=101.4km s-min=33.1km az=17.0, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**4.23**	**90**	Pn	Pn	01 29 42.3	-0.4
	1.1nm,0.3s,baz=288,slow=20,SNR=2.3						
ROSC				Sn	Sn	01 30 32.1	-1.4
	1.2nm,0.3s,baz=98,slow=21,SNR=3.0						
LPAZ	**La Paz**	**23.42**	**154**	LR	LR	01 44 22.5	
	comp=Z,39nm,21.3s,baz=284,slow=40						
BDFB	**Brasilia**	**36.48**	**125**	LR	LR	01 52 13.6	
	comp=Z,43nm,18.6s,baz=179,slow=39						
YKA	**Yellowknife Ar**	**63.33**	**342**	P	P	01 39 06.1	-2.3
	0.6nm,0.9s,baz=136,slow=6.9,SNR=9.1						
ASAR	**Alice Springs**	**143.55**	**236**	PKP	PKPdf	01 48 12.4	-2.5
	1.3nm,0.5s,baz=117,slow=3.6,SNR=14						

*IDC **08** 02:41:58.6±6.7, 5.57S×152.08E, h67km±59km, mb3.9/4, mb1 4.1/5, mb1mx3.8/14, mbtmp4.2/5, ML3.3/1, MS2.9/2, Ms1 2.9/2, ms1mx2.8/17, Error ellipse: s-maj=74.8km s-min=31.0km az=119.0*
*NEIC **08** 02:42:00.1±3.0, 5.62S×152.04E, h79km±23km, mb4.6/3, Error ellipse: s-maj=39.2km s-min=21.1km az=124.0*
ISC 08 02:41:58.6±4.3, 5.6S±0.3×152.0E±0.3, h77km±34km, n12, σ0§78/13, mb4.2/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.12**	**231**	P	**P**	**02 43 28.3**	**+0.1**
	4.4nm,0.3s,baz=40,slow=13,SNR=11						
PMG				S	**S**	**02 44 37.3**	**-0.1**
	8.7nm,0.3s,baz=168,slow=22,SNR=9.7						
PMG				LR	LR	02 45 54.5	
	comp=Z,97nm,19.8s,baz=243,slow=38						
PMG	**Port Moresby**	**6.12**	**231**	P	**P**	**02 43 28.3**	**+0.1**
PMG				S	**S**	**02 44 37.3**	**-0.1**
PMG				LR	LR	02 45 54.5	
CTA	**Charters Tower**	**15.48**	**201**	LR	LR	02 50 58.5	
	comp=Z,50nm,19.7s,baz=226,slow=35						
KAKA	**Kakadu**	**20.54**	**248**	*e*P	**P**	**02 46 32.2**	**-1.0**
	14nm,0.5s						
WRAB	**Tennant Creek**	**22.32**	**229**	*e*P	**P**	**02 46 51.1**	**+0.2**
	72nm,1.4s,mb4.8						
WB2	**Warramunga Arr**	**22.32**	**229**	*e*P	**P**	**02 46 51.5**	**+0.6**
WRA	**Warramunga Arr**	**22.33**	**229**	P	**P**	**02 46 51.7**	**+0.7**
	8.4nm,0.7s,mb4.2,baz=52,slow=10.0,SNR=29						
ASAR	**Alice Springs**	**25.04**	**222**	P	**P**	**02 47 17.9**	**+0.5**
	14nm,0.6s,mb4.5,baz=57,slow=8.4,SNR=88						
ASPA	**Alice Springs**	**25.04**	**222**	*e*P	**P**	**02 47 18.1**	**+0.7**
STKA	**Stephens Creek**	**27.94**	**199**	P	**P**	**02 47 41.5**	**-2.5**
	1.4nm,0.7s,mb3.6,baz=16,slow=12,SNR=4.8						
FITZ	**Fitzroy Crossi**	**28.57**	**242**	*e*P	**P**	**02 47 49.2**	**-0.6**
	7.0nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**83.16**	**22**	P	**P**	**02 54 17.4**	**+0.1**
	0.3nm,0.7s,mb3.3,baz=247,slow=5.0,SNR=5.4						

ISC 08 02:42:04.0±2.4, 40.8N±0.1×20.19E±0.08, h7km±17km, n6, σ0§88/9, 1C-2D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.56**	**56**	⇓*i*Pg	**Pg**	**02 42 15.0**	**-0.2**
OHR				*e*Sg	**Sg**	**02 42 21.5**	**-1.1**
TIR	**Tirane**	**0.60**	**336**	*i* Pg	**Pg**	**02 42 16.0**	**-0.1**
QSH	**Qafa e Shtames**	**0.75**	**343**	*i* Pg	**Pg**	**02 42 19.4**	**+0.3**
QSH				*i* Sg	**Sg**	**02 42 30.4**	**+1.2**
BIA	**Bitola**	**0.89**	**75**	⇑*i*Pg	**Pg**	**02 42 22.4**	**+0.6**
BIA				*i*		02 42 23.6	
BIA				⇓*i*Sg	**Sg**	**02 42 34.5**	**+0.9**
PUK	**Puka**	**1.26**	**350**	*i* Pg	**Pg**	**02 42 27.5**	**-1.8**
SKO	**Skopje**	**1.50**	**38**	*e*Pn	**Pn**	**02 42 31.5**	**0.0**

*IDC **08** 02:47:48.9±0.8, 7.60N×94.18E, mb4.4/11, mb1 4.5/11, mb1mx4.4/20, mbtmp4.4/11, MS3.9/4, Ms1 3.9/4, ms1mx3.7/16, Error ellipse: s-maj=34.0km s-min=18.9km az=46.0*
*BJI **08** 02:47:52.4, 7.36N×94.50E, h50km, mB4.8, mb5.0, Ms4.6, Msz4.2*
*CSEM **08** 02:47:53.8, 8.14N×94.43E, h33km, mb5.7*
*MOS **08** 02:47:53.6±1.1, 8.05N×94.38E, h33km, mb4.9/13, Error ellipse: s-maj=26.0km s-min=11.4km az=120.8*
*NEIC **08** 02:47:54.2±4.4, 7.78N×94.33E, h32km±31km, mb4.8/19, Error ellipse: s-maj=12.5km s-min=9.2km az=214.0*
ISC 08 02:47:52.0±0.4, 7.80N±0.07×94.32E±0.05, h33km, n99, σ1§47/92, mb4.7/39, MS4.2/8, 3C-5D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.14**	**338**	*e*P	Px	02 48 50.5	
PBA				*e*		02 49 08.0	
PBA				*e*		02 49 11.9	
PBA	**Port Blair**	**4.14**	**338**	*e*P	Px	02 48 48.0	
PBA				*e*S	Sx	02 49 08.0	
PBA	**Port Blair**	**4.14**	**338**	*e*	Px	02 48 48.0	
SNG	**Songkhla**	**6.27**	**95**	P	**P**	**02 49 30.0**	**+5.4**
	194nm,0.9s						
NNT	**Nongplab**	**7.14**	**48**	P	**P**	**02 49 42.6**	**+5.8**
NST	**Nakhon Sawan**	**9.67**	**35**	P	**P**	**02 50 11.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**11.51**	**23**	LR	LR	02 54 57.3	
	comp=Z,335nm,20.4s,baz=205,slow=36						
PALK	**Pallekele**	**13.51**	**269**	*e*P	**P**	**02 51 04.1**	**+0.1**
VIS	**Vishakhapatnam**	**14.56**	**314**	*e*P	**P**	**02 51 27.6**	**+10**
VIS				*e*S	S	02 54 21.5	+23
MDRS	**Chennai**	**14.80**	**292**	*e*P	**P**	**02 51 30.9**	**+10**
MDRS				*e*S	S	02 54 27.8	+23
HYB	**Hyderabad**	**18.10**	**303**	*i* P	**P**	**02 52 03.0**	**+0.2**
	100nm,1.4s						
BLSP	**Bilaspur**	**18.46**	**322**	*e*P	**P**	**02 52 12.7**	**+5.4**
BLSP				*e*		02 52 15.6	
	comp=Z,32nm,1.4s						
QIZ	**Qiongzhong**	**18.76**	**52**	*e*P	**P**	**02 52 09.0**	**-1.9**
QIZ				S	**S**	**02 55 36.0**	**+0.7**
QIZ				LR	LR		
	comp=N,1μm,12.6s						
QIZ				LR	LR		
	comp=E,652nm,13.2s						
QIZ				LR	LR		
	comp=Z,731nm,10.7s						
BHPL	**Bhopal**	**22.34**	**315**	*e*P	**P**	**02 52 47.6**	**-0.9**
BHPL				*e*		02 53 00.1	
	comp=Z,32nm,1.4s						
DDI	**Dehra Dun**	**27.10**	**328**	*e*P	**P**	**02 53 32.1**	**-1.9**
SSE	**Sheshan**	**34.15**	**44**	P	**P**	**02 54 32.8**	**-3.5**
SSE				PP	PP	02 55 49.7	-1.6
SSE				S	**S**	**02 59 55.7**	**-3.6**
SSE				AMB	AMB		
	comp=Z,37nm,0.8s,mb5.4						
SSE				LR	LR		
	comp=N,81nm,21.5s,MS3.6						
SSE				LR	LR		
	comp=E,85nm,21.5s,MS3.6						
SSE				LR	LR		
	comp=Z,128nm,15.2s						
WMQ	**Urumqi**	**36.35**	**352**	*e*P	**P**	**02 54 55.7**	**+0.9**
WMQ				PP	PP	02 56 19.2	+0.6
WMQ				S	**S**	**03 00 33.6**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,37nm,5.1s						
WMQ				LR	LR		
	comp=N,842nm,18.2s,MS4.6						
WMQ				LR	LR		
	comp=E,758nm,22.5s,MS4.6						
WMQ				LR	LR		
	comp=Z,950nm,20.3s,MS4.6						
MBWA	**Marble Bar**	**38.09**	**140**	P	**P**	**02 55 11.1**	**+1.4**
AAK	**Ala-Archa**	**38.84**	**336**	⇓*e*P	**P**	**02 55 15.6**	**-0.1**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.3						
AAK	**Ala-Archa**	**38.84**	**336**	*e*P	**P**	**02 55 16.1**	**+0.3**
	comp=Z,12nm,1.3s,mb4.5						
SONM	**Songino Array**	**41.20**	**12**	P	**P**	**02 55 37.1**	**+1.9**
	comp=Z,4.4nm,1.0s,mb4.0,baz=199,slow=8.1,SNR=8.1						
ULN	**Ulaanbaatar**	**41.37**	**13**	⇓*e*P	**P**	**02 55 39.9**	**+3.3**
ULN	**Ulaanbaatar**	**41.37**	**13**	P	**P**	**02 55 38.6**	**+2.0**
	comp=Z,3.9nm,0.8s,mb4.1						
ZAK	**Zakamensk**	**43.10**	**8**	⇑*i*P	**P**	**02 55 40.5**	**-10**
ZAK				*e*		02 57 43.2	
ZAL	**Zalesovo**	**46.65**	**352**	P	**P**	**02 56 19.6**	**+0.6**
	comp=Z,2.5nm,0.4s,mb4.5,baz=331,slow=6.3,SNR=3.1						
NVS	**Novosibirsk**	**47.74**	**351**	*e*P	**P**	**02 56 29.4**	**+1.7**
NVS				pmax	pmax		
	comp=N,11nm,1.1s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
MDJ	**Mudanjiang**	**47.77**	**34**	P	**P**	**02 56 24.9**	**-3.2**
MDJ				PP	PP	02 58 13.6	-5.5
MDJ				SCP		03 01 48.5	
MDJ				S	**S**	**03 03 10.5**	**-11**
MDJ				SCS	ScS	03 06 15.1	-1.0
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,127nm,5.4s						
MDJ				LR	LR		
	comp=N,95nm,25.9s						
MDJ				LR	LR		
	comp=E,73nm,16.2s						
MDJ

comp=Z,5.2nm,1.0s,mb4.5
MALT Malatya 58.65 310 eP P 02 57 47.9 -0.7
SOC Sochi 59.36 316 eP P 02 57 50.7 -2.8
SOC e 02 58 41.5
SOC e 03 00 07.5
SOC eS S 03 05 53.7 -4.4
SOC eSS SS 03 09 58.2 +3.7
SOC pmax pmax
comp=Z,17nm,0.8s,mb5.1
SOC pmax pmax
comp=N,15nm,0.9s
SOC pmax pmax
comp=E,9.0nm,0.7s
YAK Yakutsk 60.01 18 eP P 02 57 57.6 -0.1
BRTR Keskin Array B 62.61 311 P P 02 58 12.2 -3.3
comp=E,2.4nm,0.7s,mb4.5,baz=121,slow=7.0,SNR=14
MBAR Mbarara 63.93 266 P P 02 58 25.8 +1.1
OBN Obninsk 65.54 328⇓eP P 02 58 34.5 +0.1
OBN pmax pmax
comp=Z,14nm,1.2s,mb4.9
OBN pmax pmax
comp=Z,200nm,15.0s,MS4.4
MA2 Magadan 66.75 27 eP P 02 58 43.3 +1.4
MA2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
MA2 pmax pmax
comp=E,4.0nm,0.9s
MA2 Magadan 66.75 27 eP P 02 58 43.3 +1.3
comp=E,13nm,0.8s,mb5.0
TIXI Tiksi 67.27 11⇑eP P 02 58 43.2 -1.9
TIXI pmax pmax
comp=Z,11nm,1.4s,mb4.7
TIXI MLR MLR
comp=Z,100nm,17.0s,MS4.1
IDI Anoyia 68.76 305 P P 02 58 56.1 +1.1
comp=Z,29nm,0.8s,mb5.2,baz=79,slow=5.2,SNR=3.0
LSZ Lusaka 69.41 251 eP P 02 58 59.9 +0.7
comp=Z,5.1nm,0.8s,mb4.5
JOF Joensuu 70.99 334 ep P 02 59 06.6 -1.5
comp=Z,17nm,1.1s,mb4.9
JOF Joensuu 70.99 334 eP P 02 59 06.6 -1.5
JOF pmax pmax
comp=Z,17nm,1.1s,mb4.9
FINES FINESS Array B 72.86 332 i P P 02 59 18.5 -0.7
FINES pmax pmax
comp=Z,8.0nm,0.7s
FINES FINESS Array B 72.86 332 LR LR 03 34 39.4
comp=Z,192nm,18.2s,MS4.4,baz=208,slow=38
KAF Kangasniemi 72.94 333 ep P 02 59 18.6 -1.1
comp=Z,12nm,0.9s,mb4.8,baz=123,slow=6.3
KAF Kangasniemi 72.94 333 eP P 02 59 18.6 -1.1
KAF pmax pmax
comp=Z,12nm,0.9s,mb4.8
OJC Ojcow 74.15 320 eP P 02 59 27.8 +0.8
OKC Ostrava-Krasne 75.16 319 eP P 02 59 34.0 +1.2
BILL Bilibino 76.09 22 i P P 02 59 42.4 +4.6
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
BILL MLR MLR
comp=Z,100nm,14.0s,MS4.3
DPC Dobruska-Polom 76.38 320 eP P 02 59 40.6 +0.8
UPC Upice 76.59 320 eP pP 02 59 47.2 -4.1
UPC Upice 76.59 320 epP pP 02 59 47.2 -4.1
PRU Pruhonice 77.50 319 eP P 02 59 45.9 -0.2
GEC2 GERESS Array S 78.00 318 eP P 02 59 50.5 +1.7
GERES GERESS Array B 78.00 318 P P 02 59 47.9 -0.9
comp=Z,4.5nm,0.8s,mb4.4,baz=90,slow=5.3,SNR=23
KHC Kasperske Hory 78.09 319 eP P 02 59 45.5 -3.8
KHC e 02 59 50.2
KHC Kasperske Hory 78.09 319 eP P 02 59 45.5 -3.8
KHC x x 02 59 50.2
MAW Mawson 78.50 192 LR LR 03 27 25.5
comp=Z,64nm,18.1s,MS4.0,baz=232,slow=30
WET Wettzell 78.55 319 eP P 02 59 53.5 +1.6
GRA1 Grafenberg Arr 79.64 319 eP P 03 00 00.2 +2.4
GRF Grafenberg Arr 79.64 319 eP P 03 00 00.2 +2.4
PGF Pioggiola 81.34 312 eP P 03 00 02.6 -4.4
comp=Z,17nm,1.1s,mb4.6
CDF Champ du Feu 82.27 318 eP P 03 00 08.3 -3.3
SBF Sospel 82.41 313 eP P 03 00 08.8 -3.7
comp=Z,7.1nm,0.8s,mb4.4
LPG La Plagne 82.80 315 eP P 03 00 11.2 -3.2
comp=Z,13nm,0.9s,mb4.7
MBDF Montbardon 82.83 314 eP P 03 00 11.4 -3.2
HAU Haudompre 82.91 317 eP P 03 00 11.5 -3.4
comp=Z,20nm,1.0s,mb4.8
BAIF Baives 84.16 320 eP P 03 00 17.9 -3.3
comp=Z,93nm,1.6s,mb5.3
SSF Saint Saulge 84.91 317 eP P 03 00 21.8 -3.2
comp=Z,55nm,1.7s,mb5.1
BGF Bois d'Agland 85.41 316 eP P 03 00 23.1 -4.4
RJF Les Rejaudoux 86.49 315 eP P 03 00 29.2 -3.6
comp=Z,56nm,1.6s,mb5.2
FLN La Foliniere 87.35 319 eP P 03 00 33.8 -3.2
ETSF Etsaut 88.31 313 eP P 03 00 38.4 -3.3
comp=Z,29nm,1.4s,mb5.0
ESDC Sonseca Array 91.40 310 P P 03 00 56.2 -0.1
comp=Z,1.4nm,0.7s,mb4.4,baz=69,slow=4.0,SNR=8.0
IMA Indian Mountai 91.62 22 eP P 03 00 57.5 +0.8
comp=Z,21nm,0.9s,mb5.5
SPU Mount Spurr 94.27 26 eP P 03 01 11.6 +2.7
PDAR Pinedale Array 125.17 21 PKP PKPdf 03 06 53.5 +3.8
comp=Z,0.8nm,0.9s,slow=1.5,SNR=5.3
ANMO Albuquerque 133.17 24 SKP 03 10 46.6
comp=Z,0.7nm,0.5s,baz=18,slow=3.3,SNR=5.2
TXAR Lajitas Array 139.22 24 PKP PKPdf 03 07 20.0 +3.6
comp=Z,0.1nm,0.5s,baz=323,slow=4.5,SNR=2.7
TXAR SKPab 03 11 07.4
comp=Z,0.9nm,0.8s,baz=315,slow=1.3,SNR=8.0
JCT Junction City 139.60 19 ePKP PKPdf 03 07 19.2 +2.2
SDV Santo Domingo 157.65 318 ePKP PKPdf 03 07 52.3 +6.4

*IDC **08** 02:48:11.9±3.8, 11.89N×93.37E, mb4.3/8, mb1 4.5/9, mb1mx4.3/19, mbtmp4.3/9, ML5.3/1, MS3.9/1, Ms1 4.0/1, ms1mx3.3/16, Error ellipse: s-maj=85.4km s-min=37.9km az=159.0*
*BJI **08** 02:48:13.8, 11.52N×93.20E, h52km, mB5.2, mb4.8, Ms4.5, Msz4.2*
*NEIC **08** 02:48:15.6±1.4, 11.89N×93.19E, h30km, mb4.7/4, Error ellipse: s-maj=32.3km s-min=12.6km az=145.0*
ISC 08 02:48:18.8±1.2, 12.4N±0.1×93.26E±0.06, h33km, n38, σ§80/40, mb4.5/14, MS4.2/4, 1C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.11	42	Pn	P	02 50 17.4	+0.3
	9.9nm,0.3s,baz=234,slow=16,SNR=55						
CHG	Chiang Mai	8.38	40	⇑P	P	02 50 20.8	+0.1
	12nm,0.8s						
NANT	Nan	9.56	48	P	P	02 50 38.0	+0.8
CHRT	Chiangrai	9.69	39	⇓P	P	02 50 39.0	0.0
	224nm,1.2s						
VIS	Vishakhapatnam	10.93	300	eP	P	02 50 54.9	-1.2
VIS				eS	S	02 52 42.4	-16
VIS				e		02 52 48.6	
	comp=N,124nm,0.2s						
VIS				e		02 52 48.8	
	comp=E,114nm,0.2s						
IMP	Imphal	12.29	3	e	P	02 51 11.0	-3.5
MDRS	Chennai	12.71	274	e	P	02 51 08.3	-12
MDRS				e		02 52 58.4	
MDRS				e		02 53 01.0	
	comp=E,152nm,0.3s						
MDRS				e		02 53 01.1	
	comp=N,254nm,0.2s						
PALK	Pallekele	13.39	249	P	P	02 51 19.7	-9.3
BLSP	Bilaspur	14.33	314	eP	P	02 51 40.7	-0.8
BLSP				e		02 51 42.6	
	comp=Z,12nm,0.3s						
BLSP				e		02 53 59.6	
TRD	Trivandrum	16.49	258	e	P	02 52 23.6	+14
TRD				i S	S	02 55 17.6	+6.9
JIRN	Jiri	16.52	337	eP	P	02 52 09.1	-0.6
	comp=Z,21nm,0.3s						
PKI	Pulchoki	16.75	335	eP	P	02 52 12.0	-0.6
	comp=Z,22nm,0.4s						
GUN	Gumba	16.87	337	eP	P	02 52 14.0	0.0
	comp=Z,25nm,0.4s						
DMN	Daman	16.91	334	eP	P	02 52 14.4	-0.2
	comp=Z,16nm,0.3s						
KKN	Kakani	17.00	335	eP	P	02 52 16.0	+0.3
LSA	Lhasa	17.29	354	eP	P	02 52 20.5	+1.2
	comp=Z,8.4nm,0.6s						
GKN	Gorkha	17.45	334	eP	P	02 52 21.5	+0.1
	comp=Z,34nm,0.3s						
KOLN	Koldanda	17.73	331	eP	P	02 52 26.1	+1.3
BHPL	Bhopal	18.49	308	eP	P	02 52 34.0	-0.4
BHPL				e		02 52 36.3	
	comp=Z,5.5nm,0.3s						
BHPL				e		02 55 50.2	
KAD	Karad	19.05	287	eP	P	02 52 44.0	+2.8
POO	Poona	19.65	290	eP	P	02 52 49.0	+1.2
POO				i		02 56 35.0	
ENH	Enshi	23.26	38	eP	P	02 53 23.9	-0.4
	comp=Z,80nm,0.7s,mb5.3						
LZH	Lanzhou	25.41	20	eP	P	02 53 45.0	0.0
LZH				AP	pP	02 53 58.5	+4.1
LZH				XP	sP	02 54 04.5	+6.3
LZH				AMB	AMB		
	comp=Z,42nm,1.2s,mb4.8						
LZH				LR	LR		
	comp=E,660nm,12.0s						
LZH				LR	LR		
	comp=Z,730nm,15.2s,MS4.3						
XAN	Xi'an	25.80	31	P	P	02 53 47.7	-1.1
XAN				AMB	AMB		
	comp=Z,27nm,0.8s,mb4.8						
XAN				LR	LR		
	comp=N,220nm,14.2s,MS4.1						
XAN				LR	LR		
	comp=E,385nm,14.1s,MS4.1						
XAN				LR	LR		
	comp=Z,529nm,15.6s,MS4.2						
WHN	Wuhan	26.55	44	eP	P	02 53 55.8	0.0
NJ2	Nanjing	30.56	46	eP	P	02 54 27.3	-4.4
NJ2				PP	PP	02 55 38.3	+6.0
NJ2				S	S	02 59 42.0	+12
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,402nm,3.6s						
NJ2				LR	LR		
	comp=N,402nm,14.6s,MS4.5						
NJ2				LR	LR		
	comp=E,800nm,16.0s,MS4.5						
NJ2				LR	LR		
	comp=Z,600nm,15.6s,MS4.3						
SONM	Songino Array	36.96	15	P	P	02 55 26.8	+0.1
	comp=Z,1.4nm,0.7s,mb3.9,baz=200,slow=6.8,SNR=12						
ZAL	Zalesovo	41.93	353	P	P	02 56 08.2	+0.2
	comp=Z,1.6nm,0.3s,mb4.1,baz=314,slow=10.0,SNR=7.0						
HIA	Hailar	42.74	25	eP	P	02 56 15.5	+0.8
	comp=Z,17nm,0.8s,mb4.8						
BVAR	Borovoye Array	44.42	340	P	P	02 56 28.2	0.0
	comp=Z,0.5nm,0.4s,mb3.6,baz=145,slow=9.7,SNR=8.7						
CHKZ	Chkalovo	44.89	341	eP	P	02 56 32.1	+0.2
	comp=Z,3.3nm,0.5s,mb4.4						
AKASG	Malin Array Be	64.08	321	P	P	02 58 51.1	-0.7
	comp=Z,4.7nm,0.9s,mb4.5,baz=88,slow=5.3,SNR=11						
FINES	FINESS Array B	68.30	332	P	P	02 59 18.2	-0.2
	comp=Z,7.9nm,0.7s,mb4.8,baz=100,slow=6.5,SNR=21						
ARCES	ARCESS Array B	70.70	340	P	P	02 59 33.7	+0.7
	comp=Z,4.2nm,0.8s,mb4.5,baz=100,slow=7.4,SNR=4.9						
NB2	NORSAR Subarra	75.36	330	P	P	02 59 59.7	-0.8
	comp=Z,12nm,1.1s,mb4.8,baz=92,slow=5.8						
NOA	NORSAR Array B	75.36	330	P	P	02 59 59.9	-0.6
	comp=Z,5.2nm,1.0s,mb4.4,baz=92,slow=5.5,SNR=5.2						
ILAR	Eielson Array	90.86	22	P	P	03 01 18.8	-1.2
	comp=Z,0.6nm,0.6s,mb4.1,baz=299,slow=4.6,SNR=12						
VNDA	Vanda	97.55	168	LR	LR	03 41 18.3	
	comp=Z,57nm,19.2s,MS4.1,baz=223,slow=33						

*CASC **08** 02:52:49.8±2.1, 13.48N×90.49W, h33km±6km, MD4.2, ML4.1, mb3.9(NEIC)*
*MEX **08** 02:52:51.5±0.6, 13.41N×90.42W, h13km±999km, MD4.5*
*NEIC **08** 02:52:52.9±1.0, 13.76N×90.12W, h74km±9km, mb3.9/4, MD4.5(MEX), Error ellipse: s-maj=17.8km s-min=8.9km az=211.0*
*IDC **08** 02:52:56.7±6.4, 13.92N×89.87W, h101km±52km, mb3.4/6, mb1 3.7/8, mb1mx3.4/18, mbtmp3.7/8, MS3.2/2, Ms1 3.2/2, ms1mx2.2/14, Error ellipse: s-maj=50.2km s-min=21.7km az=28.0*
ISC 08 02:52:49.3±0.6, 13.47N±0.05×90.47W±0.04, h72km±5km, n57, σ§11/68, mb3.7/9, 3C-11D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.70	1	⇓eP	P	02 53 03.6	-1.0
IXG				eS	S	02 53 13.3	-2.6
SBLS	San Blas	0.90	66	⇓iP	P	02 53 06.6	-0.3
RTR	El Retiro	0.91	62	⇓iP	P	02 53 07.0	0.0
SNJE	San Jose	0.93	65	⇓iP	P	02 53 07.1	-0.1
SNJE				eS	S	02 53 19.7	-0.9
PCG	Pacaya	0.93	352	⇓eP	P	02 53 06.8	-0.4
PCG				eS	S	02 53 19.2	-1.4
RBDL	Robledal	0.99	50	⇑iP	P	02 53 08.3	+0.2
RBDL				eS	S	02 53 21.9	-0.2
FUG	Fuego 3	1.04	340	⇓eP	P	02 53 07.9	-0.8
GCG	Guatemala City	1.11	357	eS	S	02 53 25.1	+0.4
NBG	Las Nubes	1.12	6	⇓eP	P	02 53 10.7	+1.0
NBG				eS	S	02 53 26.4	+1.5
BOQS	Boqueron	1.19	77	⇓eP	P	02 53 10.8	+0.2
BOQS				eS	S	02 53 26.8	+0.3
SNET	Serv Nac Est T	1.22	80	⇑eP	P	02 53 11.1	+0.1
SNET				eS	S	02 53 26.6	-0.7
SNET				i		02 53 28.5	
	comp=Z,7μm,0.3s						
LFU	La Fuente	1.35	78	eP	P	02 53 13.3	+0.5
LFRS	El Faro	1.38	83	eP	P	02 53 13.2	-0.1
LBRS	Las Brisas	1.41	79	⇓eP	P	02 53 14.2	+0.5
JAT	Jato	1.41	307	eP	P	02 53 13.4	-0.4
JAT				eS	S	02 53 31.3	-0.5
MTO2	Montecristo 2	1.42	49	⇓eP	P	02 53 14.2	+0.4
LCBS	La Ceiba	1.46	83	eP	P	02 53 14.4	0.0
SNVI	San Vicente	1.59	85	eP	P	02 53 16.8	+0.7
SNVI				eS	S	02 53 37.2	+1.4
BLLM	Bellamira	2.17	90	eP	P	02 53 24.8	+0.8
BLLM				eS	S	02 53 50.4	+0.7
CAHU	Cacacuatique	2.21	82	eP	P	02 53 25.1	+0.5
CNCH	Conchagua	2.57	94	eP	P	02 53 29.6	0.0
CNCH				eS	S	02 54 01.6	+1.8
CCIG	Comitan	3.23	330	eP	P	02 53 40.6	+1.7
CCIG				i S	S	02 54 18.5	+2.2
CRIN	San Cristobal	3.42	103	eP	P	02 53 43.2	+1.6
TEL3	Telica 3	3.64	104	⇓eP	P	02 53 43.7	-1.0
TELN	Telica	3.65	103	eP	P	02 53 45.8	+1.1
CNGN	Cerro Negro	3.80	104	eP	P	02 53 45.7	-1.1
MIRN	Miramar	3.80	105	eP	P	02 53 45.7	-1.2
MOMJ	Momotombo	3.97	105	eP	P	02 53 48.0	-1.3
COPN	Copaltepe	3.99	108	eP	P	02 53 48.8	-0.7
APYN	Apoyeque	4.20	107	eP	P	02 53 51.5	-0.9
XAVN	Gruta Xavier	4.25	108	eP	P	02 53 52.4	-0.7
TICN	Ticuantepe	4.37	109	eP	P	02 53 54.5	-0.3
APON	Apoyo	4.56	109	⇑eP	P	02 53 59.0	+1.5
CMIG	Matias Romero	5.58	311	i P	P	02 54 11.5	+0.1
CMIG				eS	S	02 55 12.0	-2.9
JTS	JuntasAbangare	6.25	120	eP	P	02 54 21.8	+0.9
OXX	Oaxaca	7.02	302	eP	P	02 54 36.0	+4.4
OXX				eS	S	02 55 55.0	+4.4
VHO	Vista Hermosa	7.03	301	i S	S	02 55 51.4	+0.6
TEIG	Tepich	7.04	17	eP	P	02 54 28.3	-3.5
	comp=Z,29nm,0.4s						
PPM	Popocatepetl	9.61	306	eP	P	02 55 11.0	+3.9
PPM				eP		02 55 11.1	
LRAL	Lakeview Retre	19.73	9	P	P	02 57 13.6	-2.1
	comp=Z,6.5nm,0.6s						
TXAR	Lajitas Array	19.98	324	P	P	02 57 20.7	+2.4
	comp=Z,0.2nm,0.3s,baz=146,slow=11,SNR=16						
TXAR				PcP	PcP	03 01 33.2	+1.1
	comp=Z,0.1nm,0.3s,baz=148,slow=2.6,SNR=5.1						
SDV	Santo Domingo	19.98	101	P	P	02 57 16.2	-2.3
	comp=Z,0.4nm,0.3s,baz=325,slow=8.7,SNR=4.3						
WMOK	Wichita Mounta	22.47	342	eP	P	02 57 43.8	+0.4
CPCT	Cooper Cave	22.53	13	eP	P	02 57 43.4	-0.7
MNTX	Cornudas Mount	22.73	325	eP	P	02 57 47.8	+1.8
	comp=Z,4.0nm,1.0s,mb3.7						
MNTX				epP		02 58 02.1	
SJG	San Juan	23.84	76	LR	LR	03 06 21.7	
	comp=Z,70nm,21.2s,baz=77,slow=35						
WCI	Wyandotte Cave	24.94	8	eP	P	02 58 05.7	-1.6
	comp=Z,12nm,0.7s,mb4.4						
ANMO	Albuquerque	25.81	329	LR	LR	03 11 04.2	
	comp=Z,42nm,21.3s,slow=42						
SDCO	Great Sand Dun	27.64	334	P	P	02 58 32.8	+0.5
	comp=Z,0.5nm,0.6s,mb3.2						
PDAR	Pinedale Array	33.53	334	P	P	02 59 25.2	+1.1
	comp=Z,0.4nm,0.6s,mb3.4,baz=143,slow=7.4,SNR=3.5						
PDAR				PcP	PcP	03 02 05.0	+1.4
	comp=Z,0.3nm,0.5s,baz=143,slow=4.5,SNR=3.7						
NVAR	Mina Array Bea	35.02	320	P	P	02 59 40.9	+4.0
	comp=Z,2.6nm,0.6s,mb4.3,baz=134,slow=8.4,SNR=11						
NVAR				PcP	PcP	03 02 10.8	+2.9
	comp=Z,0.8nm,0.5s,baz=143,slow=3.4,SNR=4.7						
NVAR	Mina Array Bea	35.02	320	P	P	02 59 40.9	+4.0
NVAR				PcP	PcP	03 02 10.8	+2.9
SCHQ	Schefferville	45.22	19	P	P	03 00 59.6	-1.3
	comp=Z,2.2nm,0.6s,mb4.0,baz=239,slow=13,SNR=8.3						
YKA	Yellowknife Ar	51.89	346	P	P	03 01 51.8	-0.5
	comp=Z,0.5nm,0.7s,mb3.7,baz=151,slow=7.2,SNR=15						
ILAR	Eielson Array	63.91	337	P	P	03 03 16.8	+0.2
	comp=Z,0.4nm,0.6s,mb3.4,baz=174,slow=5.5,SNR=9.2						
ESDC	Sonseca Array	78.88	52	P	P	03 04 44.7	-1.8
	comp=Z,0.2nm,0.4s,mb3.3,baz=275,slow=4.5,SNR=5.0						
CMAR	Chiang Mai Arr	146.95	343	PKPbc	PKPbc	03 12 26.6	+2.5
	comp=Z,2.6nm,0.5s,baz=353,slow=4.1,SNR=10						

IDC 08 02:52:58.9±5.0, 5.22S×151.77E, h150km±42km, mb3.4/4, mb1 3.6/5, mb1mx3.5/14, mbtmp3.8/5, MS3.2/1, Ms1 3.2/1, ms1mx2.5/9, Error ellipse: s-maj=68.7km s-min=27.3km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.18	227	P	P	02 54 29.3	+0.4
	2.9nm,0.3s,baz=31,slow=5.9,SNR=6.2						
PMG				S	S	02 55 37.2	-1.7
	5.5nm,0.3s,baz=16,slow=2.2,SNR=9.9						
WRA	Warramunga Arr	22.40	228	P	P	02 57 45.4	-0.2
	1.6nm,0.7s,baz=54,slow=9.9,SNR=5.3						
ASAR	Alice Springs	25.16	221	P	P	02 58 10.8	-1.2
	1.6nm,0.4s,baz=54,slow=9.0,SNR=18						
URZ	Urewera	40.15	149	LR	LR	03 14 07.7	
	comp=Z,29nm,18.6s,baz=42,slow=32						
SONM	Songino Array	66.14	328	P	P	03 03 30.4	-2.0
	0.5nm,0.7s,baz=148,slow=4.9,SNR=3.5						
ILAR	Eielson Array	82.93	22	P	P	03 05 06.4	-1.6
	0.5nm,0.7s,baz=250,slow=5.0,SNR=9.7						

*IDC **08** 03:13:56.3±1.3, 7.11N×93.86E, mb4.0/7, mb1 4.1/8, mb1mx3.9/18, mbtmp4.0/8, ML4.1/1, Error ellipse: s-maj=41.5km s-min=26.6km az=54.0*
*NEIC **08** 03:14:00.9±1.0, 7.18N×93.83E, h30km, mb3.9/1, Error ellipse: s-maj=24.8km s-min=19.7km az=75.0*
ISC 08 03:13:59.1±1.0, 7.3N±0.1×93.8E±0.2, h30km, n18, σ§05/18, mb4.1/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.21	24	Pn	P	03 16 54.8	+0.8
	0.3nm,0.3s,baz=210,slow=12,SNR=5.0						
JIRN	Jiri	21.56	341	eP	P	03 18 46.1	-2.2
	5.8nm,0.4s,mb4.4						
PKI	Pulchoki	21.74	339	eP	P	03 18 49.9	-0.1
GUN	Gumba	21.89	341	eP	P	03 18 49.6	-2.0
	18nm,0.8s,mb4.5						
GKN	Gorkha	22.41	338	eP	P	03 18 56.5	-0.2
LSA	Lhasa	22.48	354	eP	P	03 18 57.1	-0.3
KOLN	Koldanda	22.60	336	eP	P	03 18 59.2	+0.5
	13nm,0.8s,mb4.4						
AAK	Ala-Archa	39.16	337	eP	P	03 21 25.2	-0.7
	1.8nm,0.8s,mb3.9						
SONM	Songino Array	41.84	13	P	P	03 21 48.4	+0.4
	1.2nm,0.8s,mb3.5,baz=196,slow=9.0,SNR=9.0						
ZAL	Zalesovo	47.13	353	P	P	03 22 30.5	+0.1
	1.5nm,0.3s,mb4.4,baz=296,slow=5.1,SNR=11						
ASAR	Alice Springs	49.75	129	P	P	03 22 49.9	-1.3
	0.5nm,0.5s,mb3.8,baz=300,slow=7.3,SNR=3.5						
CHKZ	Chkalovo	49.97	342	eP	P	03 22 52.2	-0.2
BRTR	Keskin Array B	62.61	311	P	P	03 24 22.6	-0.4
	0.9nm,1.0s,mb3.9,baz=108,slow=4.6,SNR=3.4						
FINES	FINESS Array B	73.12	332	P	P	03 25 29.3	+0.9
	1.2nm,0.6s,mb4.0,baz=90,slow=5.7,SNR=7.8						
FINES	FINESS Array B	73.12	332	P	P	03 25 29.3	+0.9
KAF	Kangasniemi	73.21	333	ep	P	03 25 29.6	+0.7
ARCES	ARCESS Array B	75.75	340	P	P	03 25 45.0	+1.6
	16nm,1.2s,mb4.6,baz=90,slow=6.3,SNR=3.8						
GERES	GERESS Array B	78.09	318	P	P	03 25 59.0	+2.2
	0.5nm,0.6s,mb3.7,baz=108,slow=4.2,SNR=6.0						

*NIED **08** 03:27:00.22, 80N×121.00E, h65km, Mw4.4 Best double couple: $M_0$4.17×10^{15} NP1:ϕ_s61°, δ51°, λ75°. NP2:ϕ_s264°, δ42°, λ108°.*
TAP 08 03:27:51.3, 22.95N×120.99E, h8km±1km, ML4.1, 13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	Pinlang	0.15	150	⇓iP	Pg	03 27 54.2	-0.4
TWG				S	Sg	03 27 56.2	-0.7
ELDTW	Lidau	0.24	6	⇓iP	Pg	03 27 56.6	+0.2
ELDTW				S	Sg	03 28 00.1	+0.4
TTN	Taitung	0.24	143	i P	Pg	03 27 56.9	+0.5
TTN				S	Sg	03 28 01.2	+1.5
STYT	Tauyuan	0.30	315	⇓iP	Pg	03 27 57.9	+0.4
STYT				S	Sg	03 28 02.6	+0.9
ECL	Taimali	0.35	185	⇓iP	Pg	03 27 57.4	-1.1
ECL				S	Sg	03 28 01.3	-2.0
CHKT	Chengkung	0.38	67	P	Pg	03 27 59.8	+0.9
CHKT				S	Sg	03 28 06.3	+2.2
SSD	Sandimen	0.39	238	⇓iP	Pg	03 27 58.2	-1.0
SSD				S	Sg	03 28 02.8	-1.7
SGST	Jiashian	0.40	289	⇓iP	Pg	03 28 00.1	+0.7
SGST				S	Sg	03 28 06.1	+1.3
WTP	Ta-pu	0.46	310	⇓iP	Pg	03 28 01.6	+1.0
WTP				S	Sg	03 28 08.3	+1.7
TWF1	Yuli	0.49	35	⇓iP	Pg	03 28 01.0	-0.2
TWF1				S	Sg	03 28 07.5	-0.3
SGLT	Jiouru	0.51	244	eP	Pg	03 28 01.6	-0.1
TWM1	Shoushan	0.54	257	⇓iP	Pg	03 28 03.1	+1.0
YUS	Yu-Shan	0.54	356	P	Pg	03 28 02.3	+0.1
YUS				S	Sg	03 28 10.1	+0.7
CHN4	Tsaushan	0.54	318	⇓P	Pg	03 28 03.4	+1.1
CHN4				S	Sg	03 28 11.7	+2.2
TWK	Hsinying	0.56	304	eP	Pg	03 28 04.0	+1.4
TWK				S	Sg	03 28 13.3	+3.2
EAST	Anshuo	0.58	193	⇓iP	Pg	03 28 01.9	-1.1
EAST				S	Sg	03 28 11.2	+0.4
ALS	Alishan	0.58	343	⇓iP	Pg	03 28 03.6	+0.5
ALS				S	Sg	03 28 12.4	+1.5
CHN3	Shinhua	0.59	282	eP	Pg	03 28 06.0	+2.8
TAW	Tawu	0.60	188	eP	Pg	03 28 02.2	-1.1
TAW				S	Sg	03 28 09.4	-1.9
EHY	Hungye	0.63	29	P	Pg	03 28 03.3	-0.7
EHY				S	Sg	03 28 11.5	-1.0
SCZT	Fangliau	0.67	211	⇓P	Pg	03 28 03.5	-1.2
SCZT				S	Sg	03 28 11.7	-2.1
CHN5	Tsauling	0.70	336	eP	Pb	03 28 06.2	+0.8
CHN5				S	Sg	03 28 16.9	+1.9
KAU	Kaohsiung	0.73	239	eP	Pb	03 28 07.1	+1.1
CHN2	Minshiung	0.75	321	eP	Pb	03 28 07.0	+0.9
CHN2				S	Sb	03 28 20.2	+3.9
CHY	Chiayi	0.75	316	eP	Pb	03 28 07.0	+0.8
CHY				S	Sb

WHF	**Hehuan Shan**	**1.22**	**12**	*eP*	Pb	03 28 14.2	+0.1
WHF				S	Sb	03 28 32.4	+2.6
TCU	**Taichung**	**1.23**	**346**	*eP*	Pb	03 28 16.3	+2.0
TCU				S	Sb	03 28 34.1	+4.0
TWD	**Chiawan**	**1.25**	**26**	*eP*	Pb	03 28 14.9	+0.1
TWD				S	Sb	03 28 31.7	+0.8
WDGT	**Dungji**	**1.26**	**284**	*eP*	Pb	03 28 15.1	+0.2
WDGT				S	Sb	03 28 32.6	+1.5
TWT	**Tachien**	**1.31**	**7**	*eP*	Pb	03 28 16.4	+0.7
TWQ1	**Liyutan**	**1.41**	**352**	*eP*	Pn	03 28 19.7	+2.4
TWQ1				S	Sb	03 28 40.0	+4.7
PNG	**Penghu**	**1.46**	**295**	*eP*	Pn	03 28 18.4	+0.4
PNG				S	Sb	03 28 36.9	+0.2
NSY	**Sanyi**	**1.47**	**352**	*eP*	Pn	03 28 19.9	+1.6
NSY				S	Sb	03 28 41.8	+4.5
NNS	**Nan Shan**	**1.52**	**13**	*eP*	Pn	03 28 20.1	+1.2
NSTT	**Nanjuang**	**1.67**	**0**	*eP*	Pn	03 28 22.9	+1.8
NSTT				S	Sn	03 28 46.6	+3.7
NSK	**Sanguang**	**1.75**	**11**	*eP*	Pn	03 28 22.9	+0.7
NSK				S	Sn	03 28 47.8	+2.9
ENTT	**Nioudou**	**1.76**	**17**	*eP*	Pn	03 28 24.4	+2.0
TWC	**Suao**	**1.83**	**25**	*eP*	Pn	03 28 25.4	+2.1
TWC				S	Sn	03 28 50.6	+3.7
TWE	**Neicheng**	**1.87**	**19**	*eP*	Pn	03 28 26.3	+2.4
TWA	**Mucha**	**2.09**	**15**	*eP*	Pn	03 28 30.3	+3.2
TAP1	**Taipei**	**2.14**	**13**	*eP*	Pn	03 28 31.7	+3.9
TWS1	**Kuangyinshan**	**2.18**	**10**	*eP*	Pn	03 28 30.3	+2.0
NWF	**Wu-fen Shan**	**2.23**	**19**	*eP*	Pn	03 28 31.2	+2.1
NWF				S	Sn	03 29 02.0	+4.9

*IDC **08** 04:01:23.0±4.8, 28.11S×26.78E, mb4.0/4, mb1 4.1/4, mb1mx3.6/19, mbtmp4.0/4, Error ellipse: s-maj=134.0km s-min=50.2km az=107.0*
*PRE **08** 04:01:24.1±2.0, 28.05S×26.75E, h2km, ML4.2*
ISC 08 04:01:22.1±0.6, 28.04S±0.06×26.77E±0.04, h2km, n13, σ0:82/14, mb4.0/4, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEK	**Senekal**	**0.81**	**111**	*eP*	**Pg**	**04 01 39.2**	**+0.9**
SEK				*eS*	**Sg**	**04 01 49.2**	**+0.1**
SEK				*e*		04 01 54.6	
	comp=Z,2µm,0.3s						
BOSA	**Boshof**	**1.45**	**246**	*eP*	**Pn**	**04 01 50.7**	**+1.3**
BOSA				*eS*	**Sb**	**04 02 07.7**	**-0.6**
KSR	**Koster**	**2.18**	**3**	*eP*	Px	03 57 48.6	
KSR				*eS*	Sx	03 58 14.6	
KSR				*e*		03 58 19.6	
	comp=Z,2µm,0.2s						
SLR	**Silverton**	**2.66**	**31**	*eP*	**Pn**	**04 02 06.9**	**+0.1**
SLR				*eS*	**Sn**	**04 02 40.0**	**-0.1**
SLR				*e*		04 02 54.2	
	comp=Z,2µm,0.3s						
NWL	**Newcastle**	**2.84**	**84**	*eP*	**Pn**	**04 02 10.5**	**+1.2**
NWL				*eS*	**Sn**	**04 02 43.0**	**-1.5**
GRM	**Grahamstown**	**5.26**	**182**	*eP*	**Pn**	**04 02 42.7**	**-1.0**
GRM				*eS*	Sn	04 03 12.0	-34
GRM				*e*		04 03 14.7	
	comp=Z,450nm,0.6s						
MSNA	**Messina**	**6.39**	**28**	*eS*	Sx	04 03 27.8	
MSNA				*e*		04 03 54.4	
	comp=Z,28nm,0.3s						
CVNA	**Calvinia**	**6.99**	**239**	*eS*	**Sn**	**04 04 20.6**	**-8.5**
DBIC	**Dimbokro**	**46.08**	**314**	P	**P**	**04 09 49.4**	**-0.2**
	comp=Z,2.1nm,0.8s,mb4.1,baz=134,slow=7.0,SNR=5.4						
BDFB	**Brasilia**	**69.58**	**263**	P	**P**	**04 12 34.5**	**-0.6**
	comp=Z,1.4nm,0.5s,mb4.1,baz=119,slow=7.4,SNR=4.9						
ESDC	**Sonseca Array**	**73.19**	**336**	P	**P**	**04 12 56.1**	**-0.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=154,slow=5.8,SNR=6.7						
LPAZ	**La Paz**	**86.68**	**253**	P	**P**	**04 14 10.1**	**+0.8**
	comp=Z,0.7nm,0.6s,mb4.1,baz=119,slow=1.0,SNR=3.8						
YKA	**Yellowknife Ar**	**137.29**	**335**	PKhKP		04 20 41.7	
	comp=Z,0.1nm,0.5s,baz=54,slow=4.1,SNR=6.2						

IDC 08 04:07:52.0±5.9, 15.79S×173.24W, mb3.6/4, mb1 3.9/4, mb1mx3.7/15, mbtmp3.6/4, MS3.7/2, Ms1 3.7/2, ms1mx3.1/16, Error ellipse: s-maj=285.7km s-min=30.1km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.91**	**257**	P	P	04 16 47.7	-2.1
	0.3nm,0.4s,baz=95,slow=6.9,SNR=5.6						
ASAR	**Alice Springs**	**50.14**	**252**	P	P	04 16 49.6	-1.9
	0.8nm,0.6s,baz=87,slow=8.0,SNR=19						
ASAR				LR	LR	04 37 11.8	
	comp=Z,64nm,19.3s,baz=70,slow=35						
PDAR	**Pinedale Array**	**82.44**	**42**	LR	LR	04 51 24.3	
	comp=Z,48nm,19.5s,baz=242,slow=32						
ILAR	**Eielson Array**	**82.79**	**11**	P	P	04 20 17.4	-1.6
	0.5nm,0.8s,baz=215,slow=6.0,SNR=4.2						
YKA	**Yellowknife Ar**	**90.39**	**23**	P	P	04 20 55.1	-1.1
	0.2nm,0.8s,baz=230,slow=4.4,SNR=4.0						

IDC 08 04:12:57.1±6.5, 15.61S×173.37W, mb3.8/3, mb1 4.1/3, mb1mx3.8/15, mbtmp3.8/3, Error ellipse: s-maj=331.2km s-min=35.0km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**50.08**	**252**	P	P	04 21 53.8	-2.3
	3.1nm,0.7s,baz=85,slow=8.1,SNR=32						
ILAR	**Eielson Array**	**82.64**	**11**	P	P	04 25 21.1	-2.2
	0.3nm,0.6s,baz=217,slow=5.1,SNR=5.7						
YKA	**Yellowknife Ar**	**90.27**	**23**	P	P	04 25 59.5	-1.3
	0.1nm,0.9s,baz=230,slow=4.2,SNR=6.2						
BRTR	**Keskin Array B**	**146.34**	**321**	PKPbc	PKPbc	04 32 41.0	+1.0
	1.2nm,1.0s,baz=118,slow=3.3,SNR=5.4						

*BJI **08** 04:40:35.7, 2.42N×95.59E, h48km, mB5.1, mb4.9, Ms4.5, Msz3.9*
*IDC **08** 04:40:36.9±0.9, 2.79N×95.63E, h22km±3km, mb4.2/9, mb1 4.4/10, mb1mx4.1/19, mbtmp4.4/10, ML4.6/1, MS3.6/2, Ms1 3.7/2, ms1mx3.7/18, Error ellipse: s-maj=33.4km s-min=14.2km az=54.0*
*NEIC **08** 04:40:37.0±0.6, 2.76N×95.63E, mb4.8/6, Error ellipse: s-maj=14.9km s-min=10.3km az=62.0*
ISC 08 04:40:35.1±0.7, 2.77N±0.09×95.7E±0.1, h23km, h23km±.5km: pP-P, n43, σ0:90/36, mb4.7/24, MS3.7/2, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.91**	**11**	Pn	**P**	**04 44 21.7**	**+2.1**
	0.9nm,0.3s,baz=202,slow=11,SNR=58						
CMAR				sP		04 44 29.2	
	0.5nm,0.3s,baz=199,slow=11,SNR=6.7						
CMAR				LR	LR	04 51 27.6	
	comp=Z,149nm,19.1s,baz=205,slow=41						
QIZ	**Qiongzhong**	**21.29**	**40**	*eP*	**P**	**04 45 23.0**	**+0.5**
QIZ				LR	LR		
	comp=N,307nm,18.2s						
QIZ				LR	LR		
	comp=Z,262nm,22.4s,MS3.6						
QIZ	**Qiongzhong**	**21.29**	**40**	P	**P**	**04 45 21.9**	**-0.6**
HYB	**Hyderabad**	**22.24**	**312**	*i* P	**P**	**04 45 42.0**	**+10**
SHL	**Shillong**	**22.96**	**351**	*eP*	**P**	**04 45 36.5**	**-2.7**
JIRN	**Jiri**	**26.36**	**341**	*eP*	**P**	**04 46 12.3**	**+0.6**
	comp=Z,21nm,0.6s,mb4.9						
PKI	**Pulchoki**	**26.54**	**339**	*eP*	**P**	**04 46 13.5**	**+0.1**
	comp=Z,19nm,0.9s,mb4.6						
DMN	**Daman**	**26.69**	**339**	*eP*	**P**	**04 46 15.5**	**+0.8**
	comp=Z,32nm,0.7s,mb5.0						
GUN	**Gumba**	**26.69**	**340**	*eP*	**P**	**04 46 15.8**	**+1.1**
	comp=Z,35nm,0.6s,mb5.1						
KKN	**Kakani**	**26.79**	**339**	*eP*	**P**	**04 46 15.7**	**+0.1**
	comp=Z,43nm,0.9s,mb5.0						
LSA	**Lhasa**	**27.12**	**351**	*eP*	**P**	**04 46 19.6**	**+1.0**
LSA	**Lhasa**	**27.12**	**351**	*eP*	**P**	**04 46 19.5**	**+0.9**
	comp=Z,17nm,0.6s,mb4.7						
GKN	**Gorkha**	**27.22**	**338**	*eP*	**P**	**04 46 19.8**	**+0.3**
	comp=Z,71nm,1.0s,mb5.2						
KOLN	**Koldanda**	**27.41**	**336**	*eP*	**P**	**04 46 21.4**	**+0.1**
	comp=Z,33nm,0.9s,mb4.9						
ENH	**Enshi**	**30.32**	**24**	*eP*	**P**	**04 46 45.9**	**-1.4**
	comp=Z,12nm,0.8s,mb4.7						
XAN	**Xi'an**	**33.47**	**20**	P	**P**	**04 47 14.1**	**-0.8**
XAN				AMB	AMB		
	comp=Z,52nm,0.8s,mb5.5						

LZH	**Lanzhou**	**34.00**	**12**	*eP*	**P**	**04 47 18.5**	**-1.0**
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb5.0						
BJT	**Baijiatuau**	**41.47**	**24**	*eP*	**P**	**04 48 23.4**	**+1.3**
	comp=Z,20nm,0.8s,mb4.8						
WMQ	**Urumqi**	**41.48**	**351**	P	**P**	**04 48 23.0**	**+0.9**
AAK	**Ala-Archa**	**43.97**	**337**	*eP*	**P**	**04 48 42.8**	**+0.3**
	comp=Z,2.9nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**44.15**	**122**	P	**P**	**04 48 44.3**	**+0.1**
	comp=Z,3.6nm,0.7s,mb4.2,baz=301,slow=9.0,SNR=18						
WRA				pP	pP	04 48 51.5	+0.4
	comp=Z,1.8nm,0.8s,baz=302,slow=9.0,SNR=6.9						
ASAR	**Alice Springs**	**45.55**	**127**	P	**P**	**04 48 55.4**	**+0.1**
	comp=Z,1.4nm,0.6s,mb4.1,baz=301,slow=7.7,SNR=19						
ASAR				PcP	PcP	04 50 34.5	+0.3
	comp=Z,1.1nm,1.0s,baz=314,slow=3.1,SNR=3.9						
SONM	**Songino Array**	**45.83**	**10**	P	**P**	**04 48 57.5**	**+0.2**
	comp=Z,4.4nm,0.8s,mb4.5,baz=191,slow=9.0,SNR=34						
SONM				pP	pP	04 49 04.1	-0.1
	comp=Z,6.7nm,0.7s,baz=188,slow=8.7,SNR=27						
SONM				PcP	PcP	04 50 35.0	+0.1
	comp=Z,1.8nm,0.7s,baz=195,slow=3.0,SNR=4.9						
SONM				pPcP		04 50 42.3	
	comp=Z,5.8nm,1.1s,baz=199,slow=3.8,SNR=5.5						
ULN	**Ulaanbaatar**	**45.98**	**11**	*eP*	**P**	**04 48 58.1**	**-0.3**
ULN				*e*	pP	04 49 04.5	-0.8
ZAL	**Zalesovo**	**51.78**	**352**	P	**P**	**04 49 42.7**	**-0.5**
	comp=Z,8.2nm,0.6s,mb4.8,baz=305,slow=6.5,SNR=41						
ZAL				pP	pP	04 49 49.8	-0.4
	comp=Z,6.8nm,0.5s,baz=302,slow=6.1,SNR=11						
ZAL	**Zalesovo**	**51.78**	**352**	P	**P**	**04 49 42.7**	**-0.5**
ZAL				pP	pP	04 49 49.8	-0.4
BVAR	**Borovoye Array**	**54.28**	**341**	P	**P**	**04 50 00.7**	**-1.0**
	comp=Z,6.0nm,0.7s,mb4.6,baz=143,slow=7.4,SNR=40						
BVAR				pP	pP	04 50 08.0	-0.8
	comp=Z,5.8nm,0.6s,baz=149,slow=8.6,SNR=18						
BRVK	**Borovoye**	**54.34**	**341**	*eP*	**P**	**04 50 00.8**	**-1.4**
	comp=Z,6.6nm,0.6s,mb4.7						
BRVK				*e*	pP	04 50 07.7	-1.6
CTA	**Charters Tower**	**54.56**	**117**	P	**P**	**04 50 04.9**	**+0.7**
	comp=Z,1.0nm,0.5s,mb4.1,baz=279,slow=12,SNR=3.9						
CHKZ	**Chkalovo**	**54.77**	**342**	*eP*	**P**	**04 50 04.5**	**-0.9**
	comp=Z,12nm,0.8s,mb5.0						
CHKZ				*e*pP	pP	04 50 11.4	-1.0
ASAJ	**Asahikawa**	**58.35**	**38**	LR	LR	05 15 01.3	
	comp=Z,65nm,18.1s,MS3.8,baz=268,slow=35						
KMBO	**Kilima Mbogo**	**58.54**	**267**	P	**P**	**04 50 33.2**	**+0.5**
	comp=Z,1.5nm,0.9s,mb4.0,baz=57,slow=13,SNR=3.1						
KMBO	**Kilima Mbogo**	**58.54**	**267**	P	**P**	**04 50 33.2**	**+0.5**
BRTR	**Keskin Array B**	**66.94**	**312**	pP	pP	04 51 33.5	-1.9
	comp=Z,0.8nm,0.7s,baz=129,slow=6.6,SNR=5.1						
AKASG	**Malin Array Be**	**73.09**	**322**	pP	pP	04 52 11.1	-1.7
	comp=Z,0.5nm,0.5s,baz=89,slow=5.3,SNR=7.5						
FINES	**FINESS Array B**	**77.91**	**333**	P	**P**	**04 52 32.2**	**-0.5**
	comp=Z,2.0nm,0.8s,mb4.1,baz=225,slow=2.7,SNR=4.9						
FINES				pP	pP	04 52 39.2	-0.8
	comp=Z,2.2nm,0.6s,baz=106,slow=8.3,SNR=3.0						
FINES	**FINESS Array B**	**77.91**	**333**	P	**P**	**04 52 32.2**	**-0.5**
FINES				pP	pP	04 52 39.2	-0.8
ARCES	**ARCESS Array B**	**80.56**	**340**	P	**P**	**04 52 46.4**	**-0.5**
	comp=Z,5.8nm,1.0s,mb4.5,baz=104,slow=3.7,SNR=3.3						
ARCES				pP	pP	04 52 54.5	+0.3
	comp=Z,2.1nm,0.6s,baz=87,slow=4.6,SNR=1.9						
ARCES	**ARCESS Array B**	**80.56**	**340**	P	**P**	**04 52 46.4**	**-0.5**
ARCES				pP	pP	04 52 54.5	+0.3
GERES	**GERESS Array B**	**82.64**	**319**	pP	pP	04 53 06.0	+0.5
	comp=Z,1.6nm,0.8s,baz=90,slow=6.7,SNR=8.4						
HFS	**Hagfors**	**83.61**	**330**	pP	pP	04 53 10.4	+0.2
	comp=Z,3.1nm,0.8s,baz=117,slow=3.3,SNR=2.7						
DAVOX	**Davos**	**85.12**	**317**	pP	pP	04 53 18.7	+0.6
	comp=Z,2.8nm,0.7s,baz=95,slow=9.2,SNR=5.1						
YKA	**Yellowknife Ar**	**110.97**	**15**	PP	PP	04 59 46.6	-2.7
	comp=Z,0.2nm,0.8s,baz=328,slow=7.8,SNR=6.6						

CASC 08 05:00:20.9±1.8, 13.29N×89.72W, h42km±27km, MD3.8, ML3.6, 3C-11D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.56**	**10**	⇓*eP*	P	05 00 32.8	+0.4
SBLS				*eS*	S	05 00 42.2	+1.5
SNJE	**San Jose**	**0.59**	**11**	⇓*eP*	P	05 00 33.2	+0.3
SNJE				*eS*	S	05 00 42.4	+0.9
RTR	**El Retiro**	**0.61**	**7**	⇓*eP*	P	05 00 33.7	+0.5
RTR				*eS*	S	05 00 43.5	+1.5
BOQS	**Boqueron**	**0.62**	**44**	⇓*eP*	P	05 00 33.6	+0.3
BOQS				*eS*	S	05 00 43.6	+1.3
SNET	**Serv Nac Est T**	**0.62**	**50**	⇓*eP*	P	05 00 33.4	0.0
SNET				*eS*	S	05 00 43.1	+0.8
SNET				*i*		05 00 45.1	
	comp=Z,2µm,0.2s						
LFRS	**El Faro**	**0.72**	**63**	⇓*iP*	P	05 00 34.8	+0.1
LFU	**La Fuente**	**0.75**	**52**	⇓*eP*	P	05 00 35.4	+0.3
LBRS	**Las Brisas**	**0.80**	**56**	⇓*eP*	P	05 00 36.1	+0.3
LBRS				*eS*	S	05 00 47.1	+0.4
LCBS	**La Ceiba**	**0.81**	**63**	⇓*iP*	P	05 00 36.0	+0.1
LCBS				*eS*	S	05 00 47.3	+0.3
RBDL	**Robledal**	**0.82**	**2**	⇑*eP*	P	05 00 36.5	+0.4
RBDL				*eS*	S	05 00 48.6	+1.4
SNVI	**San Vicente**	**0.92**	**69**	⇑*eP*	P	05 00 37.6	+0.1
SNVI				*eP*		05 00 37.7	
SNVI				*eS*	S	05 00 50.3	+0.6
IXG	**Ixpaco**	**1.13**	**321**	*eP*	P	05 00 39.8	-0.7
IXG				*eS*	S	05 00 53.6	-1.5
MTO2	**Montecristo 2**	**1.16**	**18**	⇓*eP*	P	05 00 40.8	0.0
MTO2				*eS*	S	05 00 56.3	+0.6
BLLM	**Bellamira**	**1.45**	**84**	⇓*eP*	P	05 00 45.0	-0.2
BLLM				*eS*	S	05 01 03.6	+0.3
CAHU	**Cacacuatique**	**1.55**	**72**	⇑*eP*	P	05 00 46.1	-0.4
CNCH	**Conchagua**	**1.84**	**90**	*eP*	P	05 00 50.1	-0.5
CNCH				*eS*	S	05 01 13.2	+0.4
TP2	**Tecpan 2**	**1.95**	**320**	*eP*	P	05 00 52.5	+0.3
TP2				*eS*	S	05 01 19.5	+4.0

*THE **08** 05:02:00.6, 41.22N×22.38E, h3km, ML2.5*
*SKO **08** 05:02:00.3, 41.30N×22.39E, h18km, ML1.8*
*CSEM **08** 05:02:00.2±0.1, 41.27N×22.37E, h10km, ML2.5, Error ellipse: s-maj=2.6km s-min=2.3km az=160.0*
ISC 08 05:01:59.7±0.4, 41.25N±0.02×22.39E±0.03, h8km±6km, n20, σ0:94/37, 1C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.15**	**63**	⇑*iPg*	**Pg**	**05 02 04.4**	**+1.3**
VAY				⇓*iSg*	**Sg**	**05 02 07.2**	**+1.9**
GRG	**Griva**	**0.30**	**178**	*ePg*	**Pg**	**05 02 06.2**	**+0.4**
GRG				*eSg*	**Sg**	**05 02 09.4**	**-0.5**
KNT	**Kendrikon**	**0.40**	**103**	*ePg*	**Pg**	**05 02 08.7**	**+1.0**
	comp=Z,50nm,0.1s						
KNT				*eSg*	**Sg**	**05 02 14.4**	**+1.4**
THE	**Thessaloniki**	**0.76**	**145**	*ePg*	**Pg**	**05 02 14.1**	**-0.8**
	comp=Z,2.3nm,0.1s						
THE				*eSg*	**Sg**	**05 02 24.9**	**-0.2**
KKB	**Krupnik**	**0.81**	**40**	*i* Pg	**Pg**	**05 02 16.0**	**+0.2**
KKB				*i* Sg	**Sg**	**05 02 27.5**	**+0.9**
BIA	**Bitola**	**0.84**	**254**	*i* Pg	**Pg**	**05 02 17.2**	**+0.7**
BIA				*i* Sg	**Sg**	**05 02 28.5**	**+0.8**
SOH	**Sokhos**	**0.85**	**120**	*ePg*	**Pg**	**05 02 16.4**	**-0.3**
SOH				*eSg*	**Sg**	**05 02 27.5**	**-0.5**
FNA	**Florina**	**0.90**	**239**	*ePg*	**Pg**	**05 02 17.0**	**-0.7**
	comp=Z,3.5nm,0.1s						
FNA				*eSg*	**Sg**	**05 02 29.0**	**-0.8**
SRS	**Serrai**	**0.92**	**98**	*ePg*	**Pg**	**05 02 18.0**	**-0.1**
SRS				*eSg*	**Sg**	**05 02 30.5**	**+0.2**
SKO	**Skopje**	**1.01**	**316**	*i* Pg	**Pg**	**05 02 19.6**	**-0.4**
SKO				*i*		05 02 21.2	
SKO				*i* Sg	**Sg**	**05 02 33.8**	**+0.3**
SKO				Lg		05 02 37.5	
	comp=Z,0.0nm,0.4s						
SKO	**Skopje**	**1.01**	**316**	*i* Pg	**Pg**	**05 02 19.6**	**-0.4**
SKO				*i* Sg	**Sg**	**05 02 33.8**	**+0.3**
MMB	**Musomiste**	**1.06**	**71**	*i* Pg	**Pg**	**05 02 20.5**	**-0.4**
MMB				Sg	**Sg**	**05 02 35.0**	**-0.1**
LIT	**Litokhoron**	**1.15**	**176**	*ePg*	**Pg**	**05 02 21.1**	**-1.7**
	comp=Z,3.7nm,0.2s						
LIT				*eSg*	**Sg**	**05 02 38.7**	**+0.6**
LIT	**Litokhoron**	**1.15**	**176**	*ePg*	**Pg**	**05 02 21.0**	**-1.8**
	comp=Z,3.7nm,0.2s						
LIT				*eSg*	**Sg**	**05 02 38.7**	**+0.5**
VTS	**Vitosha**	**1.47**	**24**	*i* P	**Pn**	**05 02 28.0**	**+1.4**
VTS				Sg	**Sg**	**05 02 47.5**	**-1.2**
OUR	**Ouranopolis**	**1.52**	**127**	*ePb*	**Pb**	**05 02 27.6**	**0.0**
OUR				*e*Sb	**Sb**	**05 02 48.3**	**+1.3**
PGB	**Panagyurishte**	**1.85**	**45**	Sg	**Sg**	**05 02 59.5**	**-2.0**
AGG	**Agios Georgios**	**2.23**	**181**	*e*Pn	**Pn**	**05 02 37.7**	**+0.2**
KDZ	**Kurdzhali**	**2.31**	**79**	Pg	**Pg**	**05 02 45.0**	**-0.8**
KDZ				Sg	**Sg**	**05 03 14.5**	**-2.1**
AOS	**Alonnisos**	**2.37**	**151**	*e*Pn	**Pn**	**05 02 39.2**	**-0.3**

*THE **08** 05:08:28.6, 38.98N×25.99E, h10km, ML3.3*
*ATH **08** 05:08:28.4, 39.05N×26.11E, h24km±2km, MD3.3/3*
*CSEM **08** 05:08:28.6±0.1, 39.05N×26.18E, h15km, MD3.3, Error ellipse: s-maj=2.4km s-min=1.7km az=29.0*
*NEIC **08** 05:08:28.4, 39.05N×26.11E, h24km, MD3.3(ATH), After ATH.*
*ISK **08** 05:08:28.6, 39.03N×25.97E, h32km, MD3.4*
ISC 08 05:08:27.7±0.7, 39.02N±0.03×26.08E±0.04, h9km±5km, n35, σ0:78/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.27**	**32**	*e*PB	**Pb**	**05 08 34.1**	**-0.2**
PRK				*e*SB	**Sb**	**05 08 39.0**	**+0.3**
AYVA	**Ayvalik**	**0.55**	**58**	*i* P	**Pg**	**05 08 39.2**	**+0.3**
AYVA				*i* S	**Sg**	**05 08 46.6**	**+0.3**
BOZC	**Bozcaada**	**0.82**	**358**	*i* P	**Pb**	**05 08 43.8**	**0.0**
BOZC				*i* S	**Sb**	**05 08 54.2**	**-0.5**
EZN	**Ezine**	**0.83**	**13**	*i* PG	**Pg**	**05 08 44.3**	**0.0**
EZN				*i* SG	**Sg**	**05 08 55.5**	**+0.1**
BLCB	**Balcova**	**0.98**	**130**	PG	**Pg**	**05 08 47.5**	**+0.2**
BLCB				SG	**Sg**	**05 09 00.4**	**0.0**
IZM	**Izmir**	**1.11**	**123**	*i* PN	**Pn**	**05 08 49.4**	**0.0**
KDAG	**Bornova**	**1.11**	**123**	*i* P	**Pb**	**05 08 48.1**	**-0.6**
KDAG				*i* S	**Sb**	**05 09 03.8**	**+0.7**
LIA	**Limnos Island**	**1.12**	**322**	*e*PN	**Pn**	**05 08 49.8**	**+0.2**
LOS	**Limnos**	**1.20**	**320**	*e*Pb	**Pb**	**05 08 51.5**	**+1.4**
	comp=Z,13nm,0.2s						
LOS				*e*Sb	**Sb**	**05 09 07.8**	**+2.1**
LOS	**Limnos**	**1.20**	**320**	*e*Pb	**Pb**	**05 08 51.5**	**+1.3**
	13nm,0.2s						
LOS				*e*Sb	**Sb**	**05 09 07.8**	**+2.1**
AKS	**Akhisar**	**1.35**	**95**	*i* PN	**Pn**	**05 08 53.9**	**+1.0**
SMG	**Samos**	**1.43**	**155**	*e*PN	**Pn**	**05 08 55.2**	**+1.2**
BALB	**Balikesir**	**1.52**	**65**	*i* PN	**Pn**	**05 08 55.9**	**+0.6**
BALB				*i* SN	**Sn**	**05 09 14.6**	**-0.9**
AOS	**Alonnisos**	**1.72**	**276**	*e*Pb	**Pb**	**05 08 58.2**	**-0.9**
ALN	**Alexandroupoli**	**1.88**	**359**	*e*Pb	**Pb**	**05 09 00.4**	**-1.4**
	comp=Z,3.4nm,0.2s						
ALN				*e*Sb	**Sb**	**05 09 27.8**	**+2.4**
EDC	**Edincik**	**1.91**	**45**	PN	**Pn**	**05 09 00.8**	**0.0**
BNT	**Bandirma**	**1.95**	**46**	PN	**Pn**	**05 09 00.8**	**-0.6**
MRMT	**Marmara Adasi**	**1.97**	**36**	PN	**Pn**	**05 09 01.2**	**-0.4**
MFT	**Murefte**	**1.99**	**27**	PN	**Pn**	**05 09 01.2**	**-0.8**
PAIG	**Paliouri**	**2.07**	**297**	*e*Pn	**Pn**	**05 09 02.5**	**-0.6**
OUR	**Ouranopolis**	**2.09**	**310**	*e*Pn	**Pn**	**05 09 03.2**	**-0.2**
	comp=Z,3.6nm,0.2s						
KCT	**Karacabey**	**2.15**	**54**	PN	**Pn**	**05 09 03.9**	**-0.4**
RDO	**Rodhopi**	**2.17**	**349**	*e*PB	**Pb**	**05 09 05.0**	**-1.7**
ORLT	**Orhaneli**	**2.41**	**64**	*e*PN	**Pn**	**05 09 08.3**	**+0.4**
YER	**Yerkesik**	**2.56**	**137**	*e*PN	**Pn**	**05 09 09.2**	**-0.9**
SRS	**Serrai**	**2.84**	**318**	*e*Pn	**Pn**	**05 09 14.0**	**-0.1**
EDRB	**Edirne**	**2.87**	**10**	*e*PN	**Pn**	**05 09 13.2**	**-1.4**
NVR	**Nevrokopi**	**2.89**	**325**	*e*PN	**Pn**	**05 09 14.8**	**0.0**
YLV	**Yalova**	**2.97**	**58**	*e*PN	**Pn**	**05 09 15.5**	**-0.5**
LIT	**Litokhoron**	**2.98**	**292**	*e*Pn	**Pn**	**05 09 15.9**	**-0.2**
ISK	**Istanbul-Kandi**	**3.07**	**47**	*e*PN	**Pn**	**05 09 17.7**	**+0.4**
KNT	**Kendrikon**	**3.25**	**312**	*e*Pn	**Pn**	**05 09 20.2**	**+0.2**
HRT	**Hereke**	**3.29**	**56**	*e*PN	**Pn**	**05 09 21.2**	**+0.6**
GRG	**Griva**	**3.43**	**306**	*e*Pn	**Pn**	**05 09 22.8**	**+0.4**
ESKT	**Eskisehir**	**3.73**	**81**	*e*PN	**Pn**	**05 09 27.0**	**+0.2**

*IDC **08** 05:09:48.4±1.1, 4.47N×93

*IDC **08** 05:20:15.2±0.8, 14.56N×92.22E, mb3.9/10, mb1 4.0/11, mb1mx3.9/19, mbtmp3.9/11, ML3.8/1, Error ellipse: s-maj=44.3km s-min=15.8km az=54.0*

*NEIC **08** 05:20:19.6±0.5, 14.40N×92.00E, h30km, mb4.3/3, Error ellipse: s-maj=16.9km s-min=10.3km az=46.0*

ISC 08 05:20:16.1±2.6, 14.39N±0.07×91.79E±0.05, h23km±20km, n27, σ1§14/30, mb4.0/13, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.88**	**161**	*eP*			**Pn**	**05 21 03.3**	**+1.6**
PBA				*e*				05 21 28.3	
CMAR	**Chiang Mai Arr**	**7.97**	**59**	Pn			**Pn**	**05 22 12.4**	**-1.1**
	0.4nm,0.3s,baz=248,slow=15,SNR=3.1								
CMAR				Sn			**Sn**	**05 23 26.9**	**-17**
	0.4nm,0.3s,baz=245,slow=28,SNR=6.8								
VIS	**Vishakhapatnam**	**8.78**	**293**	*eP*			**P**	**05 22 28.5**	**+3.7**
VIS				AMb			AMB	05 22 38.7	
	comp=Z,10nm,0.4s								
VIS				*eS*			**Sn**	**05 24 03.2**	**-0.9**
MDRS	**Chennai**	**11.29**	**265**	*i*			**P**	**05 22 52.7**	**-6.7**
MDRS				AMb			AMB	05 22 54.1	
	comp=Z,31nm,0.1s								
MDRS				*eS*			**S**	**05 25 05.2**	**-0.7**
BLSP	**Bilaspur**	**11.97**	**311**	*i* P			**P**	**05 23 08.4**	**-0.1**
BLSP				*e*				05 23 19.8	
BLSP				AMb			AMB	05 23 22.0	
	comp=Z,6.4nm,0.4s								
BLSP				*i* S			**S**	**05 25 14.4**	**-7.9**
HYB	**Hyderabad**	**13.08**	**285**	*eP*			Px	05 23 38.5	
HYB	**Hyderabad**	**13.08**	**285**	*i* P			Px	05 23 38.5	
HYB				*eS*			**S**	**05 25 48.0**	**-1.2**
JIRN	**Jiri**	**14.19**	**339**	*eP*			**P**	**05 23 38.6**	**+0.5**
PKI	**Pulchoki**	**14.40**	**337**	*eP*			**P**	**05 23 40.3**	**-0.4**
	comp=Z,8.7nm,0.3s								
GUN	**Gumba**	**14.53**	**339**	*eP*			**P**	**05 23 42.3**	**-0.2**
DMN	**Daman**	**14.55**	**336**	*eP*			**P**	**05 23 42.6**	**-0.1**
GKN	**Gorkha**	**15.09**	**335**	*eP*			**P**	**05 23 49.4**	**-0.4**
	comp=Z,9.3nm,0.3s								
KOLN	**Koldanda**	**15.34**	**332**	*eP*			**P**	**05 23 53.0**	**0.0**
	comp=Z,18nm,0.6s								
POO	**Poona**	**17.69**	**286**	*e*			**S**	**05 27 42.0**	**+5.1**
SONM	**Songino Array**	**35.48**	**17**	P			**P**	**05 27 11.3**	**-1.7**
	comp=Z,1.1nm,0.7s,mb3.9,baz=202,slow=7.0,SNR=9.5								
ZAL	**Zalesovo**	**39.84**	**354**	P			**P**	**05 27 49.4**	**-0.1**
	comp=Z,1.1nm,0.5s,mb3.8,baz=299,slow=7.3,SNR=6.2								
BVAR	**Borovoye Array**	**42.11**	**341**	P			**P**	**05 28 08.7**	**+0.6**
	comp=Z,1.3nm,1.0s,mb3.5,baz=149,slow=8.6,SNR=5.4								
CHKZ	**Chkalovo**	**42.60**	**341**	*eP*			**P**	**05 28 13.7**	**+1.6**
	comp=Z,3.0nm,0.7s,mb4.1								
WRA	**Warramunga Arr**	**54.00**	**128**	P			**P**	**05 29 39.8**	**-1.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=309,slow=7.7,SNR=4.7								
WRA				PcP			PcP	05 30 45.9	-0.2
	comp=Z,0.4nm,0.4s,baz=322,slow=3.1,SNR=6.4								
WRAB	**Tennant Creek**	**54.00**	**128**	P			**P**	**05 29 40.2**	**-0.8**
	comp=Z,2.5nm,0.6s,mb4.3								
ASAR	**Alice Springs**	**55.91**	**132**	P			**P**	**05 29 53.7**	**-1.3**
	comp=Z,0.5nm,0.4s,mb3.9,baz=308,slow=6.7,SNR=9.3								
ASAR				PcP			PcP	05 30 53.0	-0.4
	comp=Z,0.7nm,0.8s,baz=326,slow=4.2,SNR=4.8								
BRTR	**Keskin Array B**	**56.52**	**308**	P			**P**	**05 30 01.6**	**+2.4**
	comp=Z,1.7nm,0.8s,mb4.1,baz=116,slow=7.0,SNR=8.3								
FINES	**FINESS Array B**	**65.91**	**331**	P			**P**	**05 31 03.0**	**+0.7**
	comp=Z,1.5nm,0.9s,mb4.0,baz=124,slow=6.9,SNR=7.3								
STKA	**Stephens Creek**	**66.28**	**135**	P			**P**	**05 31 04.3**	**-0.8**
	comp=Z,2.7nm,1.1s,mb4.2,baz=339,slow=8.6,SNR=3.1								
GERES	**GERESS Array B**	**71.48**	**317**	P			**P**	**05 31 39.3**	**+2.3**
	comp=Z,1.0nm,0.7s,mb3.9,baz=76,slow=5.5,SNR=8.6								
NOA	**NORSAR Array B**	**72.96**	**330**	P			**P**	**05 31 46.2**	**+0.7**
	comp=Z,1.6nm,0.9s,mb4.0,baz=99,slow=6.6,SNR=2.3								
LPG	**La Plagne**	**76.44**	**314**	*eP*			**P**	**05 32 08.6**	**+2.8**
	comp=Z,6.4nm,0.8s,mb4.3								

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*IDC **08** 05:30:42.2±0.5, 10.67N×91.96E, mb4.8/21, mb1 4.9/22, mb1mx4.9/24, mbtmp4.8/22, ML4.3/1, MS4.2/1, Ms1 4.3/1, ms1mx3.4/15, Error ellipse: s-maj=19.6km s-min=12.0km az=45.0*

*BJI **08** 05:30:44.1, 10.53N×92.01E, h32km, mB5.1, mb5.1, Ms4.7, Msz4.3*

*MOS **08** 05:30:45.1±1.1, 10.68N×92.02E, h33km, mb5.4/25, MS4.2/5, Error ellipse: s-maj=15.0km s-min=7.0km az=111.9*

*HRVD **08** 05:30:46.6±0.5, 10.41N×92.03E, h12km, MW4.8/36, Centroid moment Tensor Solution. LP body waves: s10,c11;Mantle waves: s36,c55; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.68±.10; $M_{\theta\theta}$-0.01±.08; $M_{\phi\phi}$-1.67±.09; $M_{r\theta}$1.25±.39; $M_{\theta\phi}$0.07±.08; $M_{\phi r}$-1.04±.27; Best double couple: $M_0$2.3×10^{16} NP1:ϕ_s15°, δ31°, λ131°. NP2:ϕ_s150°, δ67°, λ68°. Principal axes: T2.536, Plg62°, Azm26°; N -.467, Plg20°, Azm158°; P -2.064, Plg19°, Azm256°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 05:30:46.6±0.2, 10.63N×91.91E, h30km, mb5.2/47 Error ellipse: s-maj=6.6km s-min=4.5km az=37.0*

ISC 08 05:30:43.3±1.1, 10.61N±0.04×91.92E±0.03, h21km±7km, h30km±4.3km; pP-P, n208, σ1§18/209, mb5.1/79, MS4.2/19, 18C-6D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.31**	**38**	⇑*iP*			**Pn**	**05 31 08.3**	**+1.7**
PBA				*eS*			**Sb**	**05 31 27.9**	**+4.4**
PBA				*e*				05 31 33.2	
	comp=N,56μm,0.6s								
PBA				*e*				05 31 33.9	
	comp=E,61μm,0.8s								
NNT	**Nongplab**	**7.90**	**75**	P			**Pn**	**05 32 42.0**	**+2.0**
NST	**Nakhon Sawan**	**9.45**	**57**	P			**P**	**05 33 15.0**	**+14**
CMAR	**Chiang Mai Arr**	**10.34**	**40**	Pn			**P**	**05 33 12.6**	**-1.2**
	comp=E,0.8nm,0.3s,baz=234,slow=16,SNR=36								
CMAR				Sn			**S**	**05 35 13.6**	**+3.5**
	comp=E,1.4nm,0.3s,baz=236,slow=26,SNR=4.1								
CHG	**Chiang Mai**	**10.61**	**39**	P			**P**	**05 33 15.6**	**-1.8**
VIS	**Vishakhapatnam**	**10.92**	**311**	*eP*			**P**	**05 33 18.7**	**-3.0**
VIS				*eS*			**S**	**05 35 11.0**	**-13**
VIS				*e*				05 35 57.1	
	comp=E,164nm,0.7s								
VIS				*e*				05 35 57.2	
	comp=N,145nm,0.6s								
PALK	**Pallekele**	**11.57**	**254**	*eP*			**P**	**05 33 28.2**	**-2.3**
	comp=N,16nm,0.8s								
MDRS	**Chennai**	**11.68**	**283**	*eP*			**P**	**05 33 30.0**	**-2.1**
MDRS				*e*				05 36 14.0	
NANT	**Nan**	**11.76**	**45**	P			**P**	**05 33 35.0**	**+1.9**
CHRT	**Chiangrai**	**11.92**	**39**	⇓P			**P**	**05 33 33.0**	**-2.3**
	comp=N,232nm,0.8s								
KKTK	**Khon Kaen**	**12.03**	**61**	P			**P**	**05 33 40.7**	**+4.0**
	comp=N,617nm,1.0s								
AGT	**Agartala**	**13.21**	**357**	⇑*iP*			**P**	**05 33 50.0**	**-2.5**
AGT				*i*				05 35 58.0	
KOD	**Kodaikanal**	**14.22**	**270**	*eP*			**P**	**05 34 05.4**	**-0.5**
KOD				*e*				05 34 09.0	
HYB	**Hyderabad**	**14.62**	**299**	*eP*			**P**	**05 34 09.0**	**-2.1**
HYB				*eS*			**S**	**05 36 48.5**	**-4.9**
HYB	**Hyderabad**	**14.62**	**299**	*i* P			**P**	**05 34 09.0**	**-2.1**
HYB				*eS*			**S**	**05 36 48.5**	**-4.9**
BLSP	**Bilaspur**	**14.80**	**322**	*eP*			**P**	**05 34 11.6**	**-1.9**
BLSP				*e*				05 34 13.4	
	comp=Z,45nm,0.6s								
BLSP				*eS*			**S**	**05 36 56.4**	**-1.2**
SHL	**Shillong**	**14.87**	**360**	*e*			**P**	**05 34 07.5**	**-6.9**
SHL				*e*				05 36 46.0	
TRD	**Trivandrum**	**14.90**	**263**	*eP*			**P**	**05 34 15.4**	**+0.6**
TRD				*e*				05 34 18.4	
	comp=Z,29nm,0.4s								
NGP	**Nagpur**	**16.20**	**312**	*e*			**P**	**05 34 36.4**	**+4.8**
NGP				*e*				05 37 17.2	
LATR	**Latur**	**16.76**	**299**	*eP*			**P**	**05 34 37.0**	**-1.7**
MNGI	**Mangalore**	**16.90**	**280**	*eP*			**P**	**05 34 43.1**	**+2.7**
JIRN	**Jiri**	**17.79**	**343**	*e*			**P**	**05 34 51.1**	**-0.4**
	comp=Z,295nm,1.4s								
PKI	**Pulchoki**	**17.95**	**341**	*e*			**P**	**05 34 53.8**	**+0.4**
	comp=Z,71nm,0.8s								
DMN	**Daman**	**18.08**	**340**	*e*			**P**	**05 34 53.9**	**-1.3**
	comp=Z,89nm,0.6s								
GUN	**Gumba**	**18.12**	**343**	*e*			**P**	**05 34 56.5**	**+0.9**
KKN	**Kakani**	**18.19**	**341**	*e*			**P**	**05 34 55.9**	**-0.6**
GOA	**Goa**	**18.28**	**287**	*eP*			**P**	**05 35 02.3**	**+4.6**
GOA				*eS*			**S**	**05 38 23.2**	**+5.2**
KAD	**Karad**	**18.45**	**293**	*eP*			**P**	**05 35 02.4**	**+2.7**
KAD				*i*				05 38 06.8	
GKN	**Gorkha**	**18.60**	**339**	*e*			**P**	**05 35 00.7**	**-0.9**
BHPL	**Bhopal**	**18.68**	**314**	*eP*			**P**	**05 35 03.6**	**+1.0**
BHPL				*e*				05 35 05.9	
	comp=Z,34nm,0.8s								
BHPL				*eS*			**S**	**05 38 31.2**	**+4.1**
KOLN	**Koldanda**	**18.77**	**337**	*e*			**P**	**05 35 02.7**	**-0.9**
	comp=Z,60nm,0.6s								
LSA	**Lhasa**	**19.00**	**358**	P			**P**	**05 35 06.4**	**0.0**
LSA				AP				05 35 14.4	
LSA				XP				05 35 18.5	
LSA				S			**S**	**05 38 40.6**	**+6.3**
LSA				AMB			AMB		
	comp=Z,70nm,1.1s								
LSA				AMB			AMB		
	comp=Z,350nm,5.7s								
LSA				LR			LR		
	comp=N,450nm,13.7s								
LSA				LR			LR		
	comp=E,830nm,14.3s								
LSA				LR			LR		
	comp=Z,760nm,16.5s								
LSA	**Lhasa**	**19.00**	**358**	*eP*			**P**	**05 35 06.1**	**-0.3**
	comp=Z,115nm,1.3s								
POO	**Poona**	**19.16**	**296**	⇑*iP*			**P**	**05 35 09.0**	**+0.7**
POO				*i*				05 38 25.0	
QIZ	**Qiongzhong**	**19.23**	**62**	*eP*			**P**	**05 35 10.0**	**+1.0**
QIZ				S			**S**	**05 38 39.7**	**+0.3**
QIZ				XS				05 38 47.3	
QIZ				SS			SS	05 39 03.7	-1.8
QIZ				AMB			AMB		
	comp=Z,32nm,0.9s								
QIZ				LR			LR		
	comp=N,645nm,15.2s								
QIZ				LR			LR		
	comp=E,672nm,12.5s								
QIZ				LR			LR		
	comp=Z,752nm,13.2s								
QIZ	**Qiongzhong**	**19.23**	**62**	*eP*			**P**	**05 35 09.7**	**+0.7**
	comp=Z,47nm,1.1s								
BOM	**Bombay**	**20.21**	**296**	*eP*			**P**	**05 35 19.8**	**-0.1**
BOM				*e*				05 39 50.5	
PTH	**Pithoragarh**	**21.78**	**332**	*eP*			**P**	**05 35 37.0**	**+1.2**
PTH				*e*				05 39 33.0	
NDI	**New Delhi**	**22.65**	**325**	*eP*			**P**	**05 35 45.6**	**+1.0**
NDI				*e*				05 35 48.3	
	comp=Z,171nm,1.4s								
AJM	**Ajmer**	**22.70**	**316**	*i* P			**P**	**05 35 47.0**	**+1.9**
DDI	**Dehra Dun**	**23.48**	**329**	*eP*			**P**	**05 35 54.6**	**+2.0**
DDI				*e*				05 40 24.6	
SMLA	**Simla**	**24.58**	**328**	⇑*i*				05 36 18.3	
BHK	**Bhakra**	**25.20**	**328**	*eP*			**P**	**05 36 11.6**	**+2.4**
BHK				*e*				05 36 11.6	
ENH	**Enshi**	**25.49**	**37**	*eP*			**P**	**05 36 11.2**	**-0.8**
	comp=Z,184nm,0.7s,mb5.7								
ENH				LR			LR		
	comp=Z,455nm,21.0s,MS4.0								
LZH	**Lanzhou**	**27.57**	**21**	⇑P			**P**	**05 36 31.3**	**+0.3**
LZH				AP			pP	05 36 42.8	+5.7
LZH				XP			sP	05 36 46.2	+6.4
LZH				AMB			AMB		
	comp=Z,90nm,1.0s,mb5.3								
LZH				AMB			AMB		
	comp=Z,280nm,4.0s								
LZH				LR			LR		
	comp=E,900nm,14.0s								
LZH				LR			LR		
	comp=Z,1μm,15.2s,MS4.6								
XAN	**Xi'an**	**28.04**	**31**	P			**P**	**05 36 33.6**	**-1.7**
XAN				AMB			AMB		
	comp=Z,32nm,0.9s,mb5.0								
XAN				LR			LR		
	comp=N,342nm,18.4s,MS4.1								
XAN				LR			LR		
	comp=E,247nm,14.7s,MS4.1								
XAN				LR			LR		
	comp=Z,423nm,23.2s								
WHN	**Wuhan**	**28.77**	**43**	P			**P**	**05 36 41.5**	**-0.5**
NJ2	**Nanjing**	**32.76**	**45**	*eP*			**P**	**05 37 17.2**	**0.0**
NJ2				AP			pP	05 37 26.1	+2.8
NJ2				XP			sP	05 37 30.4	+4.5
NJ2				PP			PP	05 38 27.7	+0.8
NJ2				PPP			PPP	05 38 42.7	0.0
NJ2				S			**S**	**05 42 32.0**	**+0.2**
NJ2				XS				05 42 48.0	
NJ2				AMB			AMB		
	comp=Z,70nm,0.8s,mb5.6								
NJ2				AMB			AMB		
	comp=Z,640nm,3.8s								
NJ2				LR			LR		
	comp=N,600nm,19.6s								
NJ2				LR			LR		
	comp=E,950nm,14.1s								
NJ2				LR			LR		
	comp=Z,5μm,13.5s								
WMQ	**Urumqi**	**33.29**	**354**	P			**P**	**05 37 23.3**	**+1.7**
WMQ				PP			PP	05 38 34.5	+1.2
WMQ				S			**S**	**05 42 43.8**	**+4.0**
WMQ				AMB			AMB		
	comp=Z,8.0nm,0.7s,mb4.8								
WMQ				AMB			AMB		
	comp=Z,73nm,4.0s								
WMQ				LR			LR		
	comp=N,3μm,17.6s,MS5.1								
WMQ				LR			LR		
	comp=E,2μm,19.8s,MS5.1								
WMQ				LR			LR		
	comp=Z,3μm,18.4s,MS5.0								
SSE	**Sheshan**	**33.93**	**49**	P			**P**	**05 37 25.0**	**-2.3**
SSE				XP			sP	05 37 37.6	+1.5
SSE				S			**S**	**05 42 46.9**	**-2.9**
SSE				XS				05 43 01.1	
SSE				AMB			AMB		
	comp=Z,32nm,1.0s,mb5.2								
SSE				AMB			AMB		
	comp=Z,152nm,5.4s								
SSE				LR			LR		
	comp=N,151nm,18.1s,MS3.8								
SSE				LR			LR		
	comp=E,103nm,18.1s,MS3.8								
SSE				LR			LR		
	comp=Z,156nm,19.3s,MS3.8								
KZA	**Kyzart**	**34.58**	**338**	P			**P**	**05 37 34.8**	**+1.9**
	SNR=9.2								
UCH	**Uchtor**	**34.99**	**337**	P			**P**	**05 37 37.8**	**+1.4**
	SNR=12								
TKM2	**Tokmak 2**	**35.19**	**339**	P			**P**	**05 37 39.0**	**+0.9**
	SNR=7.3								
KBK	**Karagaybulak**	**35.19**	**338**	P			**P**	**05 37 39.9**	**+1.8**
	SNR=16								
AML	**Almayashu**	**35.22**	**336**	P			**P**	**05 37 40.0**	**+1.7**
	SNR=39								
AAK	**Ala-Archa**	**35.34**	**338**	P			**P**	**05 37 41.0**	**+1.7**
	SNR=23								
AAK	**Ala-Archa**	**35.34**	**338**	*c iP*			**P**	**05 37 38.8**	**-0.5**
AAK				pmax			pmax		
	comp=Z,52nm,1.2s,mb5.3								
AAK				MLR			MLR		
	comp=Z,300nm,19.0s,MS4.1								
AAK	**Ala-Archa**	**35.34**	**338**	*eP*			**P**	**05 37 38.9**	**-0.4**
	comp=Z,54nm,1.2s,mb5.3								
AAK				LR			LR		
	comp=Z,99nm,20.0s,MS3.6								
FRU	**Bishkek**	**35.47**	**338**	*eP*			**P**	**05 37 42.0**	**+1.6**
FRU				pmax			pmax		
	comp=Z,90nm,1.9s,mb5.4								
CHMS	**Chumysh**	**35.56**	**338**	P			**P**	**05 37 42.0**	**+0.8**
	SNR=14								
EKS2	**Erkin-Say**	**35.64**	**337**	P			**P**	**05 37 43.7**	**+1.8**
	SNR=15								
USP	**Ospenovka**	**35.89**	**338**	P			**P**	**05 37 44.9**	**+1.0**
	SNR=28								
BJT	**Baijiatuau**	**36.33**	**32**	*eP*			**P**	**05 37 48.0**	**+0.3**
	comp=Z,52nm,0.9s,mb5.5								
BJT				LR			LR		
	comp=Z,615nm,20.0s,MS4.4								
MK02	**Makanchi Array**	**36.95**	**349**	P			**P**	**05 37 53.1**	**+0.3**
MK02				pmax			pmax		
	comp=Z,32nm,0.8s,mb5.2								
JOW	**Kunigami**	**37.85**	**60**	P			**P**	**05 38 01.4**	**+0.8**
	comp=Z,30nm,0.7s,mb5.1,baz=262,slow=5.0								
SONM	**Songino Array**	**39.05**	**16**	P			**P**	**05 38 11.1**	**+0.6**
	comp=Z,24nm,0.9s,mb4.9,baz=199,slow=6.8,SNR=150								
SONM				PcP			PcP	05 40 21.2	+0.3
	comp=Z,7.0nm,1.0s,baz=178,slow=3.4,SNR=5.4								
ULN	**Ulaanbaatar**	**39.26**	**16**	*c iP*			**P**	**05 38 12.6**	**+0.4**
ULN	**Ulaanbaatar**	**39.26**	**16**	*eP*			**P**	**05 38 12.1**	**0.0**
	comp=Z,19nm,1.0s,mb4.8								
ULN				LR			LR		
	comp=Z,264nm,22.0s,MS4.0								
ZAK	**Zakamensk**	**40.74**	**11**	⇓*iP*			**P**	**05 38 24.7**	**+0.3**
ZAK				*e*				05 40 26.2	
MOY	**Mondy**	**41.60**	**9**	*eP*			**P**	**05 38 32.6**	**+1.2**
MBWA	**Marble Bar**	**41.76**	**139**	*eP*			**P**	**05 38 30.7**	**-2.4**
	comp=Z,13nm,0.9s,mb4.6								
MBWA				LR			LR		
	comp=Z,269nm,19.0s,MS4.1								
TLY	**Talaya**	**42.05**	**11**	*c iP*			**P**	**05 38 36.6**	**+1.5**
TLY				pmax			pmax		
	comp=Z,26nm,1.5s,mb4.6								
TLY	**Talaya**	**42.05**	**11**	*eP*			**P**	**05 38 36.6**	**+1.5**
	comp=Z,15nm,1.1s,mb4.5								
ZAL	**Zalesovo**	**43.58**	**354**	P			**P**	**05 38 47.3**	**-0.3**
	comp=Z,11nm,1.0s,mb4.6,baz=300,slow=10,SNR=44								
FITZ	**Fitzroy Crossi**	**43.84**	**130**	*eP*			**P**	**05 38 49.9**	**-0.3**
	comp=Z,39nm,0.8s,mb5.2								
NVS	**Novosibirsk**	**44.65**	**353**	*i* P			**P**	**05 38 54.4**	**-1.8**
NVS				pmax			pmax		
	comp=Z,57nm,2.3s,mb5.0								
NVS				pmax			pmax		
	comp=E,11nm,1.4s								
NVS				pmax			pmax		
	comp=N,42nm,1.9s								
HIA	**Hailar**	**44.94**	**26**	*eP*			**P**	**05 38 58.0**	**-0.6**
	comp=N,16nm,0.8s,mb4.9								
HIA				LR			LR		
	comp=Z,199nm,19.0s,MS4.1								
BVA0	**Borovoye Array**	**45.71**	**342**	P			**P**	**05 39 04.5**	**-0.2**
BVA0				pmax			pmax		
	comp=Z,2.0nm,1.1s,mb4.0								
BVAR	**Borovoye Array**	**45.71**	**342**	P			**P**	**05 39 04.5**	**-0.2**
	comp=Z,13nm,1.1s,mb4.8,baz=146,slow=9.5,SNR=30								
BVAR				PcP			PcP	05 40 43.1	+0.1
	comp=Z,5.1nm,0.9s,baz=135,slow=6.3,SNR=3.6								
BRVK	**Borovoye**	**45.77**	**342**	*eP*			**P**	**05 39 05.1**	**0.0**
	comp=Z,16nm,1.2s,mb4.8								
BRVK				LR			LR		
	comp=Z,62nm,19.0s,MS3.6								
CHKZ	**Chkalovo**	**46.21**	**343**	*i* P			**P**	**05 39 09.1**	**+0.5**
CHKZ				pmax			pmax		
	comp=Z,34nm,1.1s,mb5.2								
CHKZ	**Chkalovo**	**46.21**	**343**	*eP*			**P**	**05 39 08.7**	**+0.1**
	comp=Z,38nm,1.1s,mb5.2								
KAKA	**Kakadu**	**46.43**	**119**	*eP*			**P**	**05 39 09.7**	**-1.1**
	comp=Z,11nm,0.6s,mb5.0								
MDJ	**Mudanjiang**	**46.86**	**37**	P			**P**	**05 39 11.1**	**-2.7**
MDJ				XP			sP	05 39 24.0	+1.4
MDJ				PP			PP	05 41 05.8	+2.0
MDJ				SCS			ScS	05 48 58.0	-6.8
MDJ				AMB			AMB		
	comp=Z,14nm,1.6s,mb4.6								
MDJ				AMB			AMB		
	comp=Z,125nm,4.0s								
MDJ				LR			LR		
	comp=N,134nm,19.6s								
MDJ				LR			LR		
	comp=E,67nm,25.6s								
MDJ				LR			LR		
	comp=Z,161nm,17.9s,MS4.0								
MUN	**Mundaring**	**48.31**	**152**	*eP*			**P**	**05 39 26.3**	**+0.9**
	comp=Z,28nm,0.9s,mb5.3								
KLBR	**Kellerberrin**	**48.72**	**150**	*eP*			**P**	**05 39 28.7**	**+0.1**
	comp=Z,32nm,0.8s,mb5.4								
MAJO	**Matsushiro**	**49.03**	**50**	*eP*			**P**	**05 39 31.6**	**+0.6**
	comp=Z,19nm,0.9s,mb5.1								
MAT	**Matsushiro**	**49.03**	**50**	*eP*			**P**	**05 39 31.0**	**+0.1**
	comp=Z,19nm,1.0s,mb5.1								
MAT	**Matsushiro**	**49.03**	**50**	P			**P**	**05 39 30.2**	**-0.7**
NWAO	**Narrogin (SRO)**	**49.58**	**152**	P			**P**	**05 39 35.2**	**0.0**
	comp=Z,26nm,0.8s,mb5.3,baz=316,slow=10,SNR=7.2								
NWAO	**Narrogin (SRO)**	**49.58**	**152**	*eP*			**P**	**05 39 34.8**	**-0.4**
	comp=Z,34nm,1.0s,mb5.3								
BOD	**Bodaibo**	**50.05**	**15**	⇑*iP*			**P**	**05 39 38.4**	**0.0**
KLR	**Kul'dur**	**50.72**	**33**	*eP*			**P**	**05 39 40.8**	**-2.9**
GNI	**Garni**	**50.97**	**314**	*c iP*			**P**	**05 39 46.9**	**+1.2**
GNI				pmax			pmax		
	comp=Z,114nm,1.5s								
GNI	**Garni**	**50.97**	**314**	P			**P**	**05 39 46.8**	**+1.2**
	comp=Z,50nm,1.0s,mb5.4,baz=12,slow=1.2,SNR=36								
GNI	**Garni**	**50.97**	**314**	*eP*			**P**	**05 39 47.0**	**+1.3**
	comp=Z,100nm,1.2s,mb5.6								
GNI				LR			LR		
	comp=Z,222nm,19.0s,MS4.2								
TI2	**Plekhanov**	**51.57**	**316**	*i* P			**P**	**05 39 50.8**	**+0.6**
TI2				pmax			pmax		
	comp=Z,50nm,0.8s,mb5.5								
WRA	**Warramunga Arr**	**51.63**	**126**	P			**P**	**05 39 50.4**	**-0.6**
	comp=Z,21nm,0.7s,mb5.2,baz=305,slow=8.6,SNR=100								
WRAB	**Tennant Creek**	**51.63**	**126**	*c iP*			**P**	**05 39 50.5**	**-0.5**
WRAB	**Tennant Creek**	**51.63**	**126**	*eP*			**P**	**05 39 49.7**	**-1.3**
	comp=Z,42nm,0.8s,mb5.4								
WB2	**Warramunga Arr**	**51.64**	**126**	*eP*			**P**	**05 39 50.6**	**-0.4**
SVE	**Sverdlovsk**	**52.07**	**339**	*eP*			**P**	**05 39 53.2**	**-0.6**
SVE				pmax			pmax		
	comp=Z,90nm,1.7s,mb5.4								
ARU	**Arti**	**52.

YAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
YAK smax
comp=N,3.0nm,1.0s
YAK smax
comp=E,4.0nm,1.1s
YAK Yakutsk 58.14 20 *eP* **P 05 40 35.4 -2.3**
comp=E,57nm,0.9s,mb5.6
PMG Port Moresby 58.44 108 P **P 05 40 39.4 -1.1**
comp=E,20nm,0.9s,mb5.2,baz=262,slow=12,SNR=4.5
BRTR Keskin Array B 58.99 310 P **P 05 40 42.5 -1.5**
comp=E,5.7nm,0.9s,mb4.6,baz=121,slow=7.2,SNR=26
SIM Simferopol' 59.95 316 *eP* **P 05 40 50.5 0.0**
SIM pmax pmax
comp=Z,27nm,1.3s,mb5.1
CTA Charters Tower 61.56 120 *eP* **P 05 41 02.2 +0.4**
comp=Z,8.3nm,1.2s,mb4.7
CTAO Charters Tower 61.56 120 *eP* **P 05 41 01.9 +0.1**
comp=Z,35nm,1.5s,mb5.3
CTAO LR LR
comp=Z,128nm,21.0s,MS4.1
MOS Moscow 61.61 329 *eP* **P 05 41 00.7 -1.0**
MOS *e* 05 41 45.0
MOS *eS* **S 05 49 20.8 -0.1**
MOS pmax pmax
comp=Z,102nm,1.4s,mb5.8
OBN Obninsk 61.91 328 *c i P* **P 05 41 02.2 -1.5**
OBN *i* 05 41 47.7
OBN *e* 05 43 17.8
OBN pmax pmax
comp=Z,83nm,1.2s,mb5.7
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.3
OBN Obninsk 61.91 328 *eP* **P 05 41 02.2 -1.5**
comp=Z,104nm,1.4s,mb5.8
STKA Stephens Creek 63.57 134⇑ *i P* **P 05 41 15.3 +0.2**
comp=Z,21nm,0.8s,mb5.2
STKA Stephens Creek 63.57 134 P **P 05 41 15.4 +0.3**
comp=Z,27nm,0.8s,mb5.3,baz=320,slow=7.8,SNR=41
AKASG Malin Array Be 64.66 321 P **P 05 41 20.1 -1.7**
comp=Z,7.4nm,0.9s,mb4.7,baz=89,slow=5.3,SNR=28
MA2 Magadan 65.39 29 *d i P* **P 05 41 26.3 -0.2**
MA2 pmax pmax
comp=Z,35nm,1.0s,mb5.3
MA2 Magadan 65.39 29 *eP* **P 05 41 24.4 -2.1**
comp=Z,28nm,1.0s,mb5.2
SEY Seymchan 67.39 26 *eP* **P 05 41 38.1 -1.0**
SEY *e* 05 42 04.5
SEY *e* 05 51 04.2
SEY pmax pmax
comp=Z,40nm,1.4s,mb5.3
SEY pmax pmax
comp=E,30nm,1.0s
KWP Kalwaria 68.54 319 *eP* **P 05 41 46.0 -0.5**
comp=E,31nm,1.3s,mb5.1
KOLS Kolonicke sedl 68.71 318 *eP* **P 05 41 47.8 +0.2**
KOLS *e* 05 42 13.4
CRVS Cervenica-Dubn 69.24 318 *eP* **P 05 41 53.4 +2.6**
FINES FINESS Array B 69.28 332 P **P 05 41 50.8 -0.1**
comp=E,9.1nm,0.8s,mb4.8,baz=101,slow=9.7,SNR=17
NIE Niedzica 70.05 319 *eP* **P 05 41 56.2 +0.4**
PSZ Piszkesteto 70.15 317 *eP* **P 05 41 54.2 -2.2**
comp=E,20nm,1.4s,mb4.9
ARMA Armidale 70.36 128 *eP* **P 05 42 00.6 +2.6**
OJC Ojcow 70.48 320 *eP* **P 05 41 58.2 -0.2**
CNB Canberra Magne 70.89 133 *eP* **P 05 42 01.8 +0.6**
comp=E,111nm,2.0s,mb5.5
VYHS Vyhne 70.92 318 *eP* **P 05 42 00.9 -0.2**
OKC Ostrava-Krasne 71.50 319 *eP* **P 05 42 04.7 +0.1**
MORC Moravsky Berou 71.88 319 *eP* **P 05 42 06.0 -0.8**
comp=E,14nm,1.2s,mb4.8
ARCES ARCESS Array B 71.96 340 P **P 05 42 07.4 +0.4**
comp=E,20nm,0.9s,mb5.0,baz=80,slow=7.4,SNR=14
ZST Bratislava 72.05 317 *eP* **P 05 42 07.8 -0.1**
DPC Dobruska-Polom 72.71 319 *eP* **P 05 42 11.7 -0.1**
KSP Ksiaz 72.77 320 *eP* **P 05 42 12.2 +0.1**
KSP Ksiaz 72.77 320 *eP* **P 05 42 12.2 +0.2**
UPC Upice 72.92 320 *eP* **P 05 42 13.5 +0.5**
BOJS Bojanci 73.17 314 *i P* **P 05 42 14.5 0.0**
LJU Ljubljana 73.69 315 *eP* **P 05 42 17.7 +0.1**
PRU Pruhonice 73.83 319 *eP* **P 05 42 18.6 +0.3**
PVCC Panska Ves 73.84 320 *eP* **P 05 42 19.1 +0.8**
BRG Berggiesshubel 74.26 320 *eP* **P 05 42 21.1 +0.4**
BRG pmax pmax
comp=Z,27nm,1.4s,mb5.0
BRG Berggiesshubel 74.26 320 *eP* **P 05 42 21.1 +0.4**
comp=Z,27nm,1.4s,mb5.0
GEC2 GERESS Array S 74.34 318 *eP* **P 05 42 21.2 0.0**
GEC2 pmax pmax
comp=Z,14nm,1.2s,mb4.8
GEC2 GERESS Array S 74.34 318 *eP* **P 05 42 21.2 0.0**
comp=Z,14nm,1.2s,mb4.8
GERES GERESS Array B 74.34 318 P **P 05 42 21.4 +0.1**
comp=Z,6.0nm,1.0s,mb4.5,baz=90,slow=5.3,SNR=25
BILL Bilibino 74.38 22 *c i P* **P 05 42 20.9 -0.2**
BILL pmax pmax
comp=Z,27nm,1.8s,mb4.9
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.5
BILL Bilibino 74.38 22 *eP* **P 05 42 21.1 0.0**
comp=Z,23nm,1.4s,mb4.9
BILL LR LR
comp=Z,281nm,20.0s,MS4.5
ROBS Robic 74.41 315 *eP* **P 05 42 21.2 -0.5**
KHC Kasperske Hory 74.43 318⇑ *eP* **P 05 42 20.4 -1.4**
KHC Kasperske Hory 74.43 318 *eP* **P 05 42 21.5 -0.3**
KHC Kasperske Hory 74.43 318 *eP* **P 05 42 21.5 -0.3**
CLL Collm 74.87 320 *eP* **P 05 42 24.0 -0.3**
CLL Collm 74.87 320 *eP* **P 05 42 24.0 -0.3**
WET Wettzell 74.89 318 *eP* **P 05 42 24.6 +0.2**
WET pmax pmax
comp=Z,16nm,1.4s,mb4.8
WET Wettzell 74.89 318 *eP* **P 05 42 24.6 +0.2**
comp=Z,16nm,1.4s,mb4.8
NKC Novy Kostel 75.19 319 *eP* **P 05 42 26.7 +0.6**
MOX Moxa 75.73 320 *eP* **P 05 42 29.4 +0.2**
MOX Moxa 75.73 320 *i P* **P 05 42 29.4 +0.2**
GRA1 Grafenberg Arr 75.97 319 *eP* **P 05 42 31.1 +0.5**
comp=Z,29nm,1.4s,mb5.0
GRF Grafenberg Arr 75.97 319 *eP* **P 05 42 31.1 +0.5**
GRF pmax pmax
comp=Z,29nm,1.4s,mb5.0
GRF Grafenberg Arr 75.97 319 *eP* **P 05 42 31.1 +0.5**
comp=Z,29nm,1.4s,mb5.0
NB2 NORSAR Subarra 76.28 330 P **P 05 42 31.3 -0.8**
comp=Z,20nm,1.2s,mb4.9,baz=93,slow=5.8
NB2 NORSAR Subarra 76.28 330 P **P 05 42 31.3 -0.8**
baz=93,slow=5.9
NOA NORSAR Array B 76.28 330 P **P 05 42 32.0 -0.1**
comp=Z,6.5nm,0.9s,mb4.6,baz=94,slow=5.5,SNR=8.7
NOA LR LR 06 19 21.5
comp=Z,147nm,19.8s,MS4.3,baz=100,slow=38
CLZ Clausthal 76.52 321 *eP* **P 05 42 33.8 +0.2**
comp=Z,32nm,1.2s,mb5.1
BSEG Bad Segeberg 76.56 323 *eP* **P 05 42 34.1 +0.3**
BSEG pmax pmax
comp=Z,26nm,1.1s,mb5.1
LPG La Plagne 79.14 314 *eP* **P 05 42 48.4 +0.2**
comp=Z,43nm,1.3s,mb4.9
ESDC Sonseca Array 87.79 310 P **P 05 43 33.8 +1.3**
comp=Z,1.9nm,0.8s,mb4.3,baz=45,slow=6.3,SNR=4.2
IMA Indian Mountai 89.92 22 *eP* **P 05 43 43.3 +1.3**
comp=Z,38nm,0.8s,mb5.8
COLA College 92.63 22⇓ *eP* **P 05 43 55.3 +0.9**
COLA College 92.63 22 *eP* **P 05 43 55.3 +0.9**
comp=Z,7.3nm,1.0s,mb5.1
SPU Mount Spurr 92.81 26 *eP* **P 05 43 56.5 +1.2**
MCK McKinley 92.82 23 *eP* **P 05 43 55.6 +0.2**
comp=Z,12nm,1.0s,mb5.3
RSO Redoubt South 92.83 27 *eP* **P 05 43 55.8 +0.3**
ILAR Eielson Array 93.03 22 P **P 05 43 56.3 0.0**
comp=Z,5.0nm,0.8s,mb5.0,baz=300,slow=4.6,SNR=48
ILAR PP PP 05 47 39.5 -2.7
comp=Z,1.6nm,1.1s,baz=295,slow=9.6,SNR=4.2
RES Resolute Bay 94.76 2 *eP* **P 05 44 04.9 +0.8**
comp=Z,8.2nm,1.0s,mb5.1
INK Inuvik 94.97 15 *eP* **P 05 44 05.1 0.0**
comp=Z,14nm,1.4s,mb5.2
DBIC Dimbokro 95.40 278 P **P 05 44 10.2 +1.8**
comp=Z,2.9nm,0.9s,mb4.7,baz=23,slow=8.3,SNR=3.5
YKA Yellowknife Ar 104.26 12 Pdiff Pdif 05 44 47.3 +0.2
comp=Z,0.4nm,0.9s,baz=330,slow=4.4,SNR=7.6
YKA PP PP 05 49 03.3 -4.7
comp=Z,1.1nm,1.0s,baz=332,slow=7.2,SNR=7.0
YKA PKKPbc 06 00 34.7
comp=Z,0.3nm,0.9s,baz=173,slow=2.3,SNR=4.9
YKA Yellowknife Ar 104.26 12 Pdif Pdif 05 44 47.3 +0.2
YKA PP PP 05 49 03.3 -4.7
YKA PKKPbc 06 00 34.7
PDAR Pinedale Array 123.36 19 PKP PKPdf 05 49 41.5 -2.0
comp=Z,2.4nm,0.8s,baz=25,slow=2.0,SNR=18
NVAR Mina Array Bea 123.64 28 PKP PKPdf 05 49 43.4 -0.8
comp=Z,8.3nm,0.9s,baz=292,slow=1.1,SNR=8.6
MNV Mina 123.70 28 *e* PKPdf PKPdf 05 49 43.1 -1.2
TUC Tucson 132.12 26 *e* PKPdf PKPdf 05 50 00.2 -0.4
GDL2 Guadalupe Moun 134.67 20 *e* PKPdf PKPdf 05 50 02.9 -2.5
MNTX Cornudas Mount 134.78 21 *e* PKPdf PKPdf 05 50 04.3 -1.3
MIAR Mount Ida 134.79 6 *e* PKPdf PKPdf 05 50 03.4 -2.2
TXAR Lajitas Array 137.53 20 PKhKP 05 50 02.8
comp=Z,0.4nm,0.8s,baz=252,slow=4.0,SNR=4.0
TXAR PKP PKPdf 05 50 08.5 -2.2
comp=Z,1.0nm,0.6s,baz=269,slow=0.4,SNR=9.9
TXAR PP PP 05 52 52.6 -3.9
comp=Z,0.9nm,1.0s,slow=6.3,SNR=4.4
TXAR Lajitas Array 137.53 20 PKP PKPdf 05 50 02.8 -8.0
TXAR PKP PKPdf 05 50 08.5 -2.2
TXAR PP PP 05 52 52.6 -3.9
JCT Junction City 137.62 15 *e* PKPdf PKPdf 05 50 08.9 -1.9
BDFB Brasilia 140.71 258 PKhKP 05 50 09.2
comp=Z,2.3nm,1.0s,baz=341,slow=22,SNR=2.4
BDFB PKP PKPdf 05 50 15.4 -1.4
comp=Z,3.0nm,1.0s,baz=142,slow=7.4,SNR=3.4
LPAZ La Paz 159.80 252 PKP PKPdf 05 50 45.0 -0.7
comp=Z,1.9nm,1.0s,baz=96,slow=6.4,SNR=5.6
LPAZ PKPab PKPab 05 51 24.0 +1.2
comp=Z,2.8nm,0.8s,baz=83,slow=6.0,SNR=9.1
LPAZ La Paz 159.80 252 PKP PKPdf 05 50 45.0 -0.7
LPAZ PKPab PKPab 05 51 24.0 +1.1

*IDC **08** 05:31:27.0±0.6, 10.70N×91.90E, mb4.7/14, mb1 4.8/14, mb1mx4.7/20, mbtmp4.7/14, Error ellipse: s-maj=35.2km s-min=14.2km az=55.0*
*NEIC **08** 05:31:31.4±0.3, 10.64N×91.93E, h30km, mb5.1/11, Error ellipse: s-maj=14.4km s-min=6.3km az=57.0*
ISC 08 05:31:29.8±0.4, 10.64N±0.09×91.9E±0.1, h33km, n33, σ0°65/27, mb4.9/22, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**25.47**	**37**	*eP*	**P**	**05 36 56.4**	**-0.4**
	63nm,0.6s,mb5.3						
SONM	**Songino Array**	**39.03**	**16**	P	**P**	**05 38 54.3**	**-0.7**
	9.2nm,0.8s,mb4.6,baz=204,slow=7.8,SNR=7.2						
SONM				PcP	PcP	05 41 05.0	-0.4
	3.7nm,0.9s,baz=204,slow=4.9,SNR=4.3						
MBWA	**Marble Bar**	**41.77**	**139**	*eP*	**P**	**05 39 17.3**	**-0.8**
	8.0nm,0.9s,mb4.3						
ZAL	**Zalesovo**	**43.56**	**354**	P	**P**	**05 39 32.9**	**+0.6**
	5.8nm,0.5s,mb4.6,baz=310,slow=6.6,SNR=5.7						
FITZ	**Fitzroy Crossi**	**43.85**	**130**	*eP*	**P**	**05 39 35.2**	**+0.1**
	29nm,0.6s,mb5.2						
BVAR	**Borovoye Array**	**45.69**	**342**	P	**P**	**05 39 49.7**	**+0.3**
	2.7nm,0.5s,mb4.4,baz=146,slow=10,SNR=5.5						
BVAR				PcP	PcP	05 41 27.1	-0.4
	2.9nm,0.7s,baz=180,slow=1.5,SNR=4.2						
MUN	**Mundaring**	**48.33**	**152**	*eP*	**P**	**05 40 11.6**	**+1.2**
	13nm,0.5s,mb5.2						
KLBR	**Kellerberrin**	**48.74**	**150**	*eP*	**P**	**05 40 13.6**	**+0.1**
	18nm,0.7s,mb5.2						
NWAO	**Narrogin (SRO)**	**49.59**	**152**	P	**P**	**05 40 20.3**	**+0.2**
	13nm,0.6s,mb5.2,baz=341,slow=9.2,SNR=7.9						
NWAO	**Narrogin (SRO)**	**49.59**	**152**	*eP*	**P**	**05 40 19.8**	**-0.3**
	9.2nm,0.7s,mb4.9						
GNI	**Garni**	**50.95**	**314**	P	**P**	**05 40 30.8**	**+0.4**
	19nm,0.8s,mb5.0,baz=360,slow=14,SNR=3.7						
WRA	**Warramunga Arr**	**51.64**	**126**	P	**P**	**05 40 36.0**	**+0.2**
	16nm,0.7s,mb5.1,baz=305,slow=8.5,SNR=4.2						
WRAB	**Tennant Creek**	**51.64**	**126**	*eP*	**P**	**05 40 35.3**	**-0.5**
	30nm,0.8s,mb5.3						
WB2	**Warramunga Arr**	**51.65**	**126**	*eP*	**P**	**05 40 35.8**	**-0.1**
ASAR	**Alice Springs**	**53.36**	**130**	P	**P**	**05 40 48.2**	**-0.3**
	10nm,0.8s,mb4.8,baz=303,slow=7.0,SNR=6.3						
ASAR				PcP	PcP	05 41 56.4	+0.7
	6.7nm,0.6s,baz=308,slow=3.6,SNR=5.9						
KIV	**Kislovodsk**	**53.81**	**317**	*eP*	**P**	**05 40 52.7**	**+1.0**
	22nm,0.8s,mb5.1						
BRTR	**Keskin Array B**	**58.98**	**310**	P	**P**	**05 41 27.8**	**-1.0**
	4.1nm,0.8s,mb4.5,baz=120,slow=8.2,SNR=7.6						
STKA	**Stephens Creek**	**63.58**	**134**	*eP*	**P**	**05 42 00.4**	**+0.5**
	12nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**63.58**	**134**	P	**P**	**05 42 00.5**	**+0.6**
	23nm,0.8s,mb5.2,baz=292,slow=5.9,SNR=8.4						
AKASG	**Malin Array Be**	**64.64**	**321**	P	**P**	**05 42 05.0**	**-1.4**
	4.3nm,0.6s,mb4.6,baz=85,slow=6.1,SNR=7.7						
FINES	**FINESS Array B**	**69.26**	**332**	P	**P**	**05 42 34.8**	**-0.6**
	7.3nm,0.7s,mb4.8,baz=90,slow=9.5,SNR=7.7						
ARCES	**ARCESS Array B**	**71.94**	**340**	P	**P**	**05 42 52.3**	**+0.9**
	8.7nm,0.8s,mb4.8,baz=84,slow=5.6,SNR=10						
CLL	**Collm**	**74.85**	**320**	P	**P**	**05 43 09.0**	**+0.2**
NB2	**NORSAR Subarra**	**76.26**	**330**	P	**P**	**05 43 16.8**	**+0.1**
	2.6nm,0.7s,mb4.3,baz=96,slow=5.3						
NOA	**NORSAR Array B**	**76.26**	**330**	P	**P**	**05 43 16.6**	**-0.1**
	5.3nm,0.8s,mb4.5,baz=95,slow=5.4,SNR=4.8						
SUR	**Sutherland**	**80.12**	**234**	P	**P**	**05 43 38.0**	**-0.5**
	13nm,1.0s,mb4.8						
ILAR	**Eielson Array**	**93.01**	**22**	P	**P**	**05 44 41.6**	**+0.8**
	2.5nm,0.8s,mb4.7,baz=309,slow=5.1,SNR=5.8						
YKA	**Yellowknife Ar**	**104.24**	**12**	PKKPbc		06 01 19.4	
	1.1nm,0.7s,baz=157,slow=2.9,SNR=4.2						
PDAR	**Pinedale Array**	**123.34**	**19**	PKP	PKPdf	05 50 26.2	+2.3
	5.3nm,1.2s,baz=36,slow=1.7,SNR=6.4						
NVAR	**Mina Array Bea**	**123.61**	**28**	PKP	PKPdf	05 50 28.4	+3.9
	2.3nm,0.7s,baz=324,slow=0.9,SNR=4.0						
TXAR	**Lajitas Array**	**137.51**	**20**	PKP	PKPdf	05 50 53.8	+2.6
	1.1nm,0.6s,baz=170,slow=0.8,SNR=7.9						
BDFB	**Brasilia**	**140.71**	**258**	PKP	PKPdf	05 50 59.0	+1.7
	2.0nm,0.6s,baz=172,slow=9.5,SNR=3.7						
LPAZ	**La Paz**	**159.81**	**252**	PKPab	PKPab	05 52 09.2	+1.8
	3.9nm,1.0s,baz=54,slow=3.9,SNR=4.9						

IGQ 08 05:32:36.5, 1.09S×80.40W, h12km±9km, mb4.1, 4C, Error ellipse: s-maj=9.3km s-min=3.9km az=151.3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.80**	**103**	P	Pn	05 33 09.4	+1.6
IGUA				S	Sn	05 33 34.5	+3.8
JUIV	**Juive**	**1.96**	**100**	P	Pn	05 33 12.3	+2.2
NAS1	**Nasa**	**1.97**	**77**	⇑P	Pn	05 33 12.9	+2.7
ARRY	**Arrayan**	**1.99**	**102**	⇑P	Pn	05 33 12.1	+1.7
ARRY				S	Sn	05 33 38.4	+3.0
JUA2	**San Juan 2**	**1.99**	**64**	⇑P	Pn	05 33 12.3	+1.8
PATA	**Patacocha**	**2.01**	**102**	P	Pn	05 33 13.3	+2.6
PATA				S	Sn	05 33 38.9	+2.9
TERV	**Terraza Guagua**	**2.01**	**63**	P	Pn	05 33 12.2	+1.5
RUN2	**Runtun**	**2.01**	**100**	P	Pn	05 33 13.1	+2.3
PISA	**Pisayambo**	**2.01**	**89**	P	Pn	05 33 13.2	+2.5
PINO	**Pino**	**2.01**	**63**	P	Pn	05 33 12.2	+1.4
ULBA	**Ulba**	**2.02**	**100**	P	Pn	05 33 13.2	+2.3
VC1	**Cotopaxi 1**	**2.04**	**78**	P	Pn	05 33 14.2	+3.0
YANA	**Yana**	**2.06**	**62**	⇑P	Pn	05 33 13.5	+2.0
TAMB	**Tambo**	**2.07**	**79**	P	Pn	05 33 14.0	+2.5
ANTI	**Antisana**	**2.33**	**74**	P	Pn	05 33 18.8	+3.6
COTA	**Cotacachi**	**2.50**	**56**	P	Pn	05 33 21.7	+4.0
CAYR	**Refugio Cayamb**	**2.63**	**65**	P	Pn	05 33 24.6	+5.0
CAYA	**Cayambe**	**2.67**	**64**	P	Pn	05 33 24.8	+4.6
CAYA				S	Sn	05 34 04.6	+12

*IDC **08** 05:39:20.4±0.8, 19.44N×146.59E, mb4.0/11, mb1 4.2/11, mb1mx4.1/21, mbtmp4.0/11, MS4.1/1, Ms1 4.0/1, ms1mx3.2/28, Error ellipse: s-maj=32.9km s-min=16.7km az=93.0*
*NEIC **08** 05:39:28.8±2.1, 19.34N×146.61E, h64km±19km, mb4.0/1, Error ellipse: s-maj=26.5km s-min=10.6km az=87.0*
ISC 08 05:39:26.3±2.8, 19.37N±0.08×146.6E±0.2, h58km±25km, n17, σ0°87/16, mb4.0/12, MS4.1/1, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.98**	**196**	P	**P**	**05 40 53.9**	**-0.3**
MAT	**Matsushiro**	**18.63**	**338**	P	**P**	**05 43 43.0**	**+1.3**
MAT	**Matsushiro**	**18.63**	**338**	P	**P**	**05 43 42.9**	**+1.2**
CTA	**Charters Tower**	**39.22**	**181**	P	**P**	**05 46 50.6**	**-0.1**
	1.8nm,0.9s,mb3.8,baz=331,slow=10,SNR=3.1						
WRAB	**Tennant Creek**	**40.86**	**198**	*eP*	**P**	**05 47 04.3**	**-0.1**
WRA	**Warramunga Arr**	**40.88**	**198**	P	**P**	**05 47 05.2**	**+0.8**
	1.1nm,0.6s,mb3.6,baz=20,slow=8.3,SNR=5.3						
SONM	**Songino Array**	**43.16**	**321**	P	**P**	**05 47 22.1**	**-0.9**
	1.4nm,0.6s,mb3.9,baz=132,slow=8.6,SNR=11						
ASAR	**Alice Springs**	**44.53**	**197**	P	**P**	**05 47 34.6**	**+0.2**
	0.5nm,0.7s,mb3.5,baz=26,slow=7.4,SNR=6.7						
STKA	**Stephens Creek**	**51.18**	**185**	LR	LR	06 10 58.8	
	comp=Z,197nm,20.4s,MS4.1,baz=21,slow=37						
ZAL	**Zalesovo**	**58.02**	**322**	P	**P**	**05 49 14.4**	**-1.1**
	1.3nm,0.6s,mb4.1,baz=354,slow=7.4,SNR=8.3						
ILAR	**Eielson Array**	**62.67**	**26**	P	**P**	**05 49 45.5**	**-1.6**
	0.9nm,0.9s,mb3.9,baz=259,slow=4.6,SNR=4.5						
CHKZ	**Chkalovo**	**66.36**	**321**	*eP*	**P**	**05 50 10.7**	**-0.3**
	1.4nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**66.50**	**320**	P	**P**	**05 50 12.0**	**0.0**
	2.2nm,0.5s,mb4.5,baz=91,slow=8.0,SNR=14						
INK	**Inuvik**	**68.42**	**23**	P	**P**	**05 50 23.8**	**0.0**
	1.1nm,0.7s,mb4.0,baz=288,slow=5.1,SNR=4.0						
YKA	**Yellowknife Ar**	**77.00**	**28**	P	**P**	**05 51 15.1**	**+0.8**
	0.9nm,0.6s,mb3.9,baz=287,slow=5.5,SNR=15						
ARCES	**ARCESS Array B**	**82.12**	**342**	P	**P**	**05 51 43.7**	**+2.0**
	5.5nm,1.0s,mb4.5,baz=56,slow=6.5,SNR=3.3						
FINES	**FINESS Array B**	**86.63**	**336**	P	**P**	**05 52 03.8**	**-0.6**
	0.9nm,0.4s,mb4.3,baz=72,slow=6.0,SNR=16						

*IDC **08** 05:41:47.7±0.7, 9.86N×91.82E, mb4.3/16, mb1 4.4/17, mb1mx4.3/22, mbtmp4.3/17, ML4.2/1, MS3.3/1, Ms1 3.5/1, ms1mx2.9/24, Error ellipse: s-maj=32.7km s-min=13.7km az=51.0*
*MOS **08** 05:41:50.3±1.4, 9.92N×91.92E, h33km, mb4.7/9, Error ellipse: s-maj=16.5km s-min=10.0km az=101.0*
*BJI **08** 05:41:51.1, 9.73N×91.87E, h44km, mB4.6, mb4.7, Ms4.4, Msz3.8*
*NEIC **08** 05:41:52.9±5.8, 9.92N×91.96E, h32km±39km, mb4.7/17, Error ellipse: s-maj=20.4km s-min=8.4km az=60.0*
ISC 08 05:41:50.9±0.4, 9.94N±0.06×91.97E±0.08, h33km, n77, σ1°24/69, mb4.5/33, MS4.0/1, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.87**	**24**	*eP*	**P**	**05 42 31.1**	**+10**
PBA				*eS*	S	05 43 04.9	+21
PBA				*e*		05 43 20.6	
	comp=N,4μm,1.1s						
PBA				*e*		05 43 23.5	
	comp=E,5μm,1.3s						
CMAR	**Chiang Mai Arr**	**10.83**	**38**	Pn	**P**	**05 44 27.2**	**+0.4**
	comp=E,0.5nm,0.3s,baz=231,slow=15,SNR=34						
CMAR				LR	LR	05 48 37.9	
	comp=E,177nm,20.9s,baz=220,slow=37						
HYB	**Hyderabad**	**15.00**	**301**	*i P*	**P**	**05 45 25.5**	**+3.2**
	comp=E,40nm,1.0s						
HYB				*e*		05 45 29.0	
BLSP	**Bilaspur**	**15.37**	**323**	*eP*	**P**	**05 45 20.6**	**-6.4**
BLSP				AMb	AMB	05 45 27.0	
	comp=Z,16nm,0.7s						
BLSP				*e*		05 46 02.0	
SHL	**Shillong**	**15.55**	**360**	*eP*	**P**	**05 45 32.0**	**+2.7**
SHL				*eS*	**S**	**05 48 13.0**	**-7.7**
MNGI	**Mangalore**	**17.07**	**282**	*i*	Px	05 46 04.8	
JIRN	**Jiri**	**18.45**	**344**	*eP*	**P**	**05 46 06.8**	**+0.8**
	comp=Z,28nm,0.7s						
PKI	**Pulchoki**	**18.60**	**341**	*eP*	**P**	**05 46 07.9**	**+0.1**
	comp=Z,25nm,0.6s						
DMN	**Daman**	**18.73**	**341**	*eP*	**P**	**05 46 09.8**	**+0.4**
	comp=Z,49nm,0.7s						
KAD	**Karad**	**18.77**	**295**	*eP*	**P**	**05 46 19.0**	**+9.2**
KAD				*i* S	rx	05 48 49.0	
GUN	**Gumba**	**18.78**	**343**	*eP*	**P**	**05 46 08.5**	**-1.4**
	comp=Z,45nm,0.7s						
KKN	**Kakani**	**18.84**	**341**	*eP*	**P**	**05 46 10.2**	**-0.5**
GKN	**Gorkha**	**19.25**	**340**	*eP*	**P**	**05 46 13.0**	**-2.4**
	comp=Z,53nm,0.8s						
KOLN	**Koldanda**	**19.41**	**337**	*eP*	**P**	**05 46 16.1**	**-1.1**
	comp=Z,32nm,0.6s						
POO	**Poona**	**19.52**	**298**	*e*	**P**	**05 46 20.0**	**+1.6**
POO				*i*		05 49 06.0	
LSA	**Lhasa**	**19.68**	**358**	*eP*	**P**	**05 46 21.2**	**+1.1**
	comp=Z,42nm,0.8s						
ENH	**Enshi**	**26.00**	**36**	*eP*	**P**	**05 47 22.3**	**-0.4**
	comp=Z,41nm,0.7s,mb5.1						
LZH	**Lanzhou**	**28.18**	**21**	*eP*	**P**	**05 47 43.0**	**+0.5**
LZH				AP	pP	05 47 54.0	+2.0
LZH				XP	sP	05 48 01.5	+5.2
LZH				AMB	AMB		
	comp=Z,40nm,1.5s,mb4.8						
WHN	**Wuhan**	**29.23**	**42**	*eP*	**P**	**05 47 56.0**	**+4.0**
AAK	**Ala-Archa**	**35.98**	**338**	*i P*	pP	05 49 02.3	+1.9
AAK				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.3						
BJT	**Baijiatuau**	**36.88**	**32**	*eP*	**P**	**05 48 58.8**	**+0.6**
	comp=Z,9.3nm,0.8s,mb4.7						
SONM	**Songino Array**	**39.69**	**15**	P	**P**	**05 49 22.7**	**+1.2**
	comp=Z,7.2nm,0.7s,mb4.5,baz=200,slow=7.9,SNR=38						
SONM				PcP	PcP	05 51 29.1	+0.6
	comp=Z,1.1nm,0.6s,baz=199,slow=4.0,SNR=3.6						
ULN	**Ulaanbaatar**	**39.89**	**16**	*i P*	**P**	**05 49 20.7**	**-2.5**
ULN	**Ulaanbaatar**	**39.89**	**16**	*eP*	**P**	**05 49 24.1**	**+0.9**
	comp=Z,2.9nm,0.6s,mb4.2						
ZAK	**Zakamensk**	**41.39**	**11**	*eP*	**P**	**05 49 36.9**	**+1.3**
ZAK				*e*		05 51 32.8	
ZAL	**Zalesovo**	**44.26**	**354**	*i P*	**P**	**05 49 57.1**	**-1.8**
ZAL				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ZAL	**Zalesovo**	**44.26**	**354**	P	**P**	**05 49 57.0**	**-1.9**
	comp=Z,9.2nm,1.1s,mb4.4,baz=152,slow=16,SNR=15						
NVS	**Novosibirsk**	**45.32**	**353**	*eP*	**P**	**05 50 06.0**	**-1.4**
BRVK	**Borovoye**	**46.43**	**342**	*eP*	**P**	**05 50 12.0**	**-4.2**
	comp=Z,3.1nm,0.6s,mb4.4						
MUN	**Mundaring**	**47.69**	**152**	*eP*	**P**	**05 50 27.7**	**+1.3**
	comp=Z,6.5nm,0.7s,mb4.8						
KLBR	**Kellerberrin**	**48.11**	**150**	*eP*	**P**	**05 50 30.1**	**+0.4**
	comp=Z,11nm,0.8s,mb4.9						
NWAO	**Narrogin (SRO)**	**48.96**	**152**	P	**P**	**05 50 36.5**	**+0.3**
NWAO	**Narrogin (SRO)**	**48.96**	**152**	P	**P**	**05 50 36.5**	**+0.3**
	comp=Z,15nm,1.0s,mb5.0,baz=270,slow=5.9,SNR=4.1						
NWAO	**Narrogin (SRO)**	**48.96**	**152**	*eP*	**P**	**05 50 36.0**	**-0.2**
	comp=Z,14nm,1.0s,mb4.

OBN	**Obninsk**	**62.50**	**328**	*e*P	**P**		**05 52 06.0**	**-7.4**
OBN				*e*S	tx		06 01 08.4	
OBN				pmax	pmax			
	comp=Z,7.0nm,1.6s,mb4.5							
OBN				MLR	MLR			
	comp=Z,100nm,19.0s,MS4.0							
STKA	**Stephens Creek**	**63.07**	**133**	*e*P	**P**		**05 52 18.2**	**+0.7**
	comp=Z,4.1nm,0.6s,mb4.7							
STKA	**Stephens Creek**	**63.07**	**133**	P	**P**		**05 52 17.6**	**0.0**
	comp=Z,6.1nm,0.7s,mb4.8,baz=297,slow=5.6,SNR=12							
AKASG	**Malin Array Be**	**65.22**	**321**	P	**P**		**05 52 29.7**	**-1.5**
	comp=Z,0.5nm,0.5s,mb3.8,baz=98,slow=5.1,SNR=6.2							
FINES	**FINESS Array B**	**69.90**	**332**	P	**P**		**05 53 00.4**	**+0.1**
	comp=Z,3.6nm,0.7s,mb4.4,baz=112,slow=10,SNR=6.1							
ARMA	**Armidale**	**69.91**	**127**	*e*P	**P**		**05 53 04.1**	**+3.2**
ARCES	**ARCESS Array B**	**72.61**	**340**	P	**P**		**05 53 16.7**	**+0.3**
	comp=Z,3.0nm,0.7s,mb4.3,baz=90,slow=4.9,SNR=5.0							
GERES	**GERESS Array B**	**74.87**	**318**	P	**P**		**05 53 30.7**	**+0.7**
	comp=Z,3.1nm,1.0s,mb4.2,baz=104,slow=5.5,SNR=11							
BILL	**Bilibino**	**74.98**	**22**	*i* P	**P**		**05 53 31.3**	**+1.0**
BILL				pmax	pmax			
	comp=Z,3.0nm,1.5s,mb4.0							
NOA	**NORSAR Array B**	**76.89**	**330**	P	**P**		**05 53 41.3**	**0.0**
NOA	**NORSAR Array B**	**76.89**	**330**	P	**P**		**05 53 41.2**	**0.0**
	comp=Z,0.9nm,1.0s,mb3.7,baz=109,slow=10.0,SNR=3.0							
LPG	**La Plagne**	**79.65**	**315**	*e*P	**P**		**05 53 57.8**	**+1.0**
	comp=Z,8.4nm,0.8s,mb4.4							
ILAR	**Eielson Array**	**93.64**	**22**	P	**P**		**05 55 05.3**	**+0.6**
	comp=Z,0.6nm,0.7s,mb4.1,baz=296,slow=4.5,SNR=10							
RES	**Resolute Bay**	**95.43**	**2**	*e*P	**P**		**05 55 13.8**	**+1.0**
	comp=Z,1.8nm,0.8s,mb4.5							
INK	**Inuvik**	**95.60**	**15**	P	**P**		**05 55 15.2**	**+1.6**
	comp=Z,0.9nm,0.7s,mb4.3,baz=336,slow=5.5,SNR=10							
INK	**Inuvik**	**95.60**	**15**	*e*P	**P**		**05 55 15.0**	**+1.4**
	comp=Z,1.2nm,0.7s,mb4.4							
YKA	**Yellowknife Ar**	**104.91**	**12**	PP	PP		06 00 14.2	-4.7
	comp=Z,4.0nm,1.5s,baz=331,slow=7.2,SNR=4.1							
PDAR	**Pinedale Array**	**123.98**	**19**	PKP	PKPdf		06 00 48.8	+2.6
	comp=Z,1.0nm,0.9s,baz=356,slow=1.8,SNR=6.6							
NVAR	**Mina Array Bea**	**124.20**	**29**	PKP	PKPdf		06 00 50.5	+3.8
	comp=Z,1.5nm,0.6s,baz=97,slow=1.2,SNR=4.3							
TUC	**Tucson**	**132.70**	**26**	P	PKPdf		06 01 08.1	+4.9
TXAR	**Lajitas Array**	**138.15**	**21**	PKP	PKPdf		06 01 15.6	+2.3
	comp=Z,0.6nm,0.6s,baz=90,slow=1.3,SNR=10							
TXAR	**Lajitas Array**	**138.15**	**21**	PKP	PKPdf		06 01 15.6	+2.3
JCT	**Junction City**	**138.25**	**15**	PKPdf	PKPdf		06 01 16.4	+2.9

*IDC **08** 05:46:01.7±3.7, 9.79N×91.75E, mb4.0/4, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, ML3.9/1, MS4.1/1, Ms1 4.1/1, ms1mx3.1/24, Error ellipse: s-maj=106.5km s-min=27.3km az=81.0*

*NEIC **08** 05:46:07.0±0.9, 9.86N×92.01E, h30km, mb4.3/4, Error ellipse: s-maj=26.4km s-min=12.1km az=76.0*

ISC 08 05:46:05.2±1.2, 9.9N±0.1×92.1E±0.2, h30km, n12, σ0§61/11, mb4.1/7, MS4.1/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.87**	**20**	*e*P	**Pn**	**05 46 47.4**	**+12**
PBA				*e*S	**Sn**	**05 47 18.7**	**+20**
PBA				*e*		05 47 26.0	
	comp=E,1μm,0.8s						
PBA				*e*		05 47 27.7	
	comp=N,742nm,1.4s						
CMAR	**Chiang Mai Arr**	**10.80**	**37**	Pn	**P**	**05 48 41.7**	**+0.6**
	comp=N,0.3nm,0.3s,baz=231,slow=14,SNR=4.0						
LSA	**Lhasa**	**19.73**	**358**	*e*P	**P**	**05 50 35.3**	**-0.2**
	comp=N,5.9nm,0.5s						
ENH	**Enshi**	**25.97**	**36**	*e*P	**P**	**05 51 36.0**	**-1.2**
	comp=N,11nm,0.6s,mb4.5						
SONM	**Songino Array**	**39.70**	**15**	P	**P**	**05 53 37.4**	**+0.8**
	comp=N,1.5nm,0.7s,mb3.8,baz=200,slow=8.9,SNR=8.0						
ZAL	**Zalesovo**	**44.31**	**354**	LR	LR		06 13 16.5
	comp=N,206nm,18.6s,MS4.1,baz=294,slow=37						
CHKZ	**Chkalovo**	**46.94**	**343**	*e*P	**P**	**05 54 34.9**	**-0.1**
	comp=N,0.7nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**51.08**	**126**	P	**P**	**05 55 07.4**	**0.0**
	comp=N,1.2nm,0.5s,mb4.0,baz=305,slow=8.5,SNR=6.1						
WRAB	**Tennant Creek**	**51.08**	**126**	*e*P	**P**	**05 55 07.0**	**-0.5**
	comp=N,2.1nm,0.5s,mb4.3						
ASAR	**Alice Springs**	**52.76**	**130**	P	**P**	**05 55 19.9**	**-0.2**
	comp=N,1.5nm,0.7s,mb4.0,baz=309,slow=7.2,SNR=8.4						
STKA	**Stephens Creek**	**62.96**	**133**	P	**P**	**05 56 32.4**	**+0.8**
	comp=N,1.8nm,0.8s,mb4.2,baz=323,slow=10,SNR=2.7						
LRAL	**Lakeview Retre**	**137.31**	**359**	*e*P	PKPdf	06 05 28.1	-3.4

IDC 08 05:55:39.2±5.4, 5.41N×92.88E, mb3.6/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.6/4, ML4.1/1, Error ellipse: s-maj=159.2km s-min=29.1km az=74.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.26**	**24**	Pn	P	05 59 04.0	-0.7
	0.3nm,0.3s,baz=213,slow=14,SNR=4.6						
SONM	**Songino Array**	**43.83**	**13**	P	P	06 03 46.8	-2.0
	0.4nm,0.8s,baz=190,slow=8.8,SNR=3.3						
WRA	**Warramunga Arr**	**47.91**	**123**	P	P	06 04 19.6	-2.0
	0.3nm,0.3s,baz=302,slow=9.0,SNR=5.8						
ASAR	**Alice Springs**	**49.35**	**128**	P	P	06 04 30.8	-1.9
	0.5nm,0.7s,baz=303,slow=7.7,SNR=8.0						

*BJI **08** 05:58:20.4, 4.62N×94.84E, h45km, mB5.1, mb5.1, Ms4.8, Msz4.5*

*MOS **08** 05:58:20.8±0.9, 5.05N×94.94E, h33km, mb5.1/22, Error ellipse: s-maj=15.6km s-min=7.6km az=113.1*

*HRVD **08** 05:58:21.9±0.3, 4.69N×94.76E, h22km±3km, MW5.1/47, Centroid moment Tensor Solution. LP body waves: s21,c27;Mantle waves: s47,c74; Half duration: 1±0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.50±.19; $M_{\theta\theta}$0.89±.13; $M_{\phi\phi}$-1.39±.14; $M_{r\theta}$0.46±.23; $M_{\theta\phi}$-0.56±.10; $M_{\phi r}$-5.77±1.06; Best double couple: $M_0$5.903×10^{16} NP1:ϕ_s55°, δ_s9°, λ150°. NP2:ϕ_s175°, δ86°, λ83°. Principal axes: T 5.509, Plg49°, Azm77°; N .784, Plg7°, Azm175°; P -6.296, Plg40°, Azm271°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 05:58:21.9±0.2, 4.87N×94.78E, h30km, mb4.9/47 Error ellipse: s-maj=6.8km s-min=4.0km az=214.0*

*IDC **08** 05:58:26.5±2.1, 4.84N×94.78E, h72km±18km, mb4.5/23, mb1 4.5/24, mb1mx4.5/27, mbtmp4.7/24, MS4.2/5, Ms1 4.2/5, ms1mx3.9/17, Error ellipse: s-maj=17.1km s-min=8.6km az=41.0*

ISC 08 05:58:20.8±0.2, 4.88N±0.04×94.85E±0.03, h34km, h34km±2.9km: pP-P, n222, σ1§03/228, mb4.9/90, MS4.5/17, 26C-18D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**7.05**	**343**	*e*P	**P**	**05 59 59.9**	**-4.4**
PBA				*e*S	**S**	**06 01 16.9**	**-7.2**
NNT	**Nongplab**	**9.06**	**32**	P	**P**	**06 00 37.0**	**+4.8**
KKTK	**Khon Kaen**	**13.82**	**34**	P	**P**	**06 01 46.7**	**+10**
	617nm,0.6s						
CMAR	**Chiang Mai Arr**	**14.08**	**16**	P	**P**	**06 01 43.4**	**+3.2**
	3.0nm,0.3s,baz=209,slow=12,SNR=23						
CMAR				LR	LR	06 07 08.2	
	comp=Z,379nm,18.2s,baz=210,slow=37						
PALK	**Pallekele**	**14.26**	**280**	*e*P	**P**	**06 01 41.1**	**-1.5**
	24nm,0.6s						
UBT	**Ubonrachathani**	**14.36**	**43**	P	**P**	**06 01 51.0**	**+7.2**
CHG	**Chiang Mai**	**14.42**	**16**	⇓P	**P**	**06 01 51.7**	**+7.1**
	45nm,0.8s						
NANT	**Nan**	**14.97**	**22**	P	**P**	**06 01 54.0**	**+2.2**
CHRT	**Chiangrai**	**15.66**	**17**	⇑P	**P**	**06 02 03.0**	**+2.3**
	118nm,0.9s						
VIS	**Vishakhapatnam**	**17.03**	**319**	*e*P	**P**	**06 02 17.7**	**-0.3**
VIS				*e*		06 02 20.6	
	comp=Z,43nm,0.5s						
VIS				*e*		06 05 13.4	
KOD	**Kodaikanal**	**18.02**	**288**	*e*P	**P**	**06 02 30.5**	**0.0**
KOD				*e*		06 02 33.6	
	comp=Z,58nm,1.1s						
HYB	**Hyderabad**	**20.24**	**309**	*e*P	**P**	**06 02 56.0**	**0.0**
HYB	**Hyderabad**	**20.24**	**309**	*i* P	**P**	**06 02 56.0**	**0.0**
QIZ	**Qiongzhong**	**20.30**	**45**	P	**P**	**06 02 58.4**	**+1.8**
QIZ				XP		06 03 13.1	
QIZ				S	**S**	**06 06 39.9**	**+2.6**
QIZ				XS		06 06 53.5	
QIZ				SS	SS	06 07 04.5	-2.6
QIZ				LR	LR		
	comp=N,517nm,18.1s,MS4.2						
QIZ				LR	LR		
	comp=E,893nm,18.5s,MS4.2						
QIZ				LR	LR		
	comp=Z,936nm,17.1s,MS4.2						
QIZ	**Qiongzhong**	**20.30**	**45**	*e*P	**P**	**06 02 57.6**	**+1.1**
BLSP	**Bilaspur**	**21.11**	**325**	*e*P	**P**	**06 03 04.6**	**-0.3**
BLSP				*e*		06 03 06.9	
	comp=Z,59nm,0.8s						
BLSP				*e*		06 06 52.1	
NGP	**Nagpur**	**22.29**	**318**	*e*P	**P**	**06 03 17.0**	**+0.3**
NGP				*e*		06 03 21.0	
	comp=Z,63nm,1.6s						
NGP				*e*		06 07 18.6	
GOA	**Goa**	**23.20**	**299**	*e*	**P**	**06 03 33.2**	**+7.4**
SRDI	**Scrawed**	**23.37**	**125**⇓	*e*P	**P**	**06 03 33.7**	**+6.2**
SRDI	**Scrawed**	**23.37**	**125**⇓	*i*P	**P**	**06 03 29.5**	**+2.0**
SRDI				*e*S	rx	06 06 27.5	
AKL	**Akola**	**23.40**	**314**	*e*	**P**	**06 03 19.4**	**-8.3**
AKL				*e*		06 03 30.6	
	comp=Z,72nm,1.4s						
KELI	**Kelakatan**	**23.52**	**123**	*e*P	**P**	**06 03 33.8**	**+4.9**
	comp=Z,65nm,0.3s,mb5.2						
JIRN	**Jiri**	**24.11**	**341**	*e*P	**P**	**06 03 34.2**	**-0.3**
	comp=Z,83nm,0.8s,mb5.2						
PKI	**Pulchoki**	**24.29**	**339**	*e*P	**P**	**06 03 36.4**	**+0.1**
	comp=Z,28nm,0.5s,mb4.9						
DMN	**Daman**	**24.44**	**339**	*e*P	**P**	**06 03 38.2**	**+0.5**
	comp=Z,36nm,0.7s,mb4.9						
GUN	**Gumba**	**24.45**	**341**	*e*P	**P**	**06 03 37.1**	**-0.7**
	comp=Z,78nm,0.6s,mb5.3						
KKN	**Kakani**	**24.54**	**339**	*e*P	**P**	**06 03 39.1**	**+0.4**
	comp=Z,145nm,1.2s,mb5.4						
POO	**Poona**	**24.59**	**305**	*e*P	**P**	**06 03 40.9**	**+1.6**
POO				*e*		06 03 43.3	
	comp=Z,26nm,0.8s						
RATI	**Rata**	**24.66**	**123**⇓	*e*P	**P**	**06 03 42.4**	**+2.4**
	comp=Z,196nm,0.2s,mb6.0						
BHPL	**Bhopal**	**24.82**	**319**	*e*P	**P**	**06 03 42.9**	**+1.4**
BHPL				*e*		06 03 43.6	
	comp=Z,34nm,0.6s						
LSA	**Lhasa**	**24.94**	**352**	P	**P**	**06 03 44.4**	**+1.9**
LSA				AP		06 03 52.1	
LSA				XP		06 03 56.4	
LSA				PCP	PcP	06 07 18.1	-0.3
LSA				S	**S**	**06 08 00.4**	**-0.6**
LSA				XS		06 08 19.9	
LSA				SCP		06 10 54.4	
LSA				PCS		06 10 59.7	
LSA				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.1						
LSA				LR	LR		
	comp=N,170nm,19.7s						
LSA				LR	LR		
	comp=E,440nm,26.7s						
LSA				LR	LR		
	comp=Z,540nm,20.9s,MS4.0						
LSA	**Lhasa**	**24.94**	**352**	*e*P	**P**	**06 03 44.2**	**+1.6**
	comp=Z,25nm,0.5s,mb5.0						
GKN	**Gorkha**	**24.97**	**338**	*e*P	**P**	**06 03 43.4**	**+0.6**
	comp=Z,83nm,0.8s,mb5.3						
KEDI	**Kedomdong**	**25.02**	**122**⇑	*e*P	**P**	**06 03 43.2**	**-0.3**
	comp=Z,42nm,0.5s,mb5.2						
KEDI	**Kedomdong**	**25.02**	**122**⇓	*i*P	**P**	**06 03 44.9**	**+1.4**
	comp=Z,84nm,0.5s,mb5.2						
KOLN	**Koldanda**	**25.16**	**336**	*e*P	**P**	**06 03 45.1**	**+0.5**
	comp=Z,112nm,0.8s,mb5.5						
NINI	**Niniconang**	**26.54**	**110**⇑	*e*P	**P**	**06 03 57.9**	**+0.2**
	comp=Z,271nm,0.5s,mb5.8						
BUNI	**Buntu Taipa**	**26.83**	**108**⇑	*e*P	**P**	**06 04 00.0**	**-0.3**
	comp=Z,86nm,0.4s,mb5.3						
TGY	**Tagaytay City**	**27.29**	**69**	P	**P**	**06 04 06.2**	**+1.7**
	comp=Z,116nm,0.3s,mb5.9,baz=183,slow=18,SNR=5.7						
PTH	**Pithoragarh**	**28.17**	**332**	*e*P	**P**	**06 04 14.0**	**+1.6**
ENH	**Enshi**	**28.79**	**27**	*e*P	**P**	**06 04 16.5**	**-1.3**
	comp=Z,32nm,0.6s,mb5.2						
NDI	**New Delhi**	**28.99**	**327**	*e*P	**P**	**06 04 17.6**	**-2.0**
SMLA	**Simla**	**30.96**	**330**	*e*	**P**	**06 04 47.3**	**+10**
WHN	**Wuhan**	**31.46**	**34**	⇓P	**P**	**06 04 42.5**	**+0.9**
WHN				LR	LR		
	comp=Z,3μm,14.4s,MS5.1						
XAN	**Xi'an**	**31.83**	**23**	P	**P**	**06 04 44.0**	**-0.8**
XAN				AMB	AMB		
	comp=Z,51nm,0.7s,mb5.5						
XAN				LR	LR		
	comp=N,465nm,24.0s,MS4.3						
XAN				LR	LR		
	comp=E,624nm,21.2s,MS4.3						
XAN				LR	LR		
	comp=Z,422nm,22.2s,MS4.1						
LZH	**Lanzhou**	**32.15**	**14**	*e*P	**P**	**06 04 46.7**	**-0.8**
LZH				AP	pP	06 04 57.6	+0.1
LZH				XP	sP	06 05 00.7	-1.3
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,160nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,17.5s						
LZH				LR	LR		
	comp=Z,890nm,18.4s,MS4.5						
NJ2	**Nanjing**	**35.16**	**37**	*e*P	**P**	**06 05 13.8**	**+0.2**
NJ2				AP	pP	06 05 23.4	-0.2
NJ2				XP	sP	06 05 27.9	-0.2
NJ2				PP	PP	06 06 34.2	+1.3
NJ2				PPP	PPP	06 06 53.0	+1.8
NJ2				S	**S**	**06 10 42.0**	**-1.5**
NJ2				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,400nm,3.8s						
NJ2				LR	LR		
	comp=N,1μm,12.6s,MS5.1						
NJ2				LR	LR		
	comp=E,2μm,15.7s,MS5.1						
MBWA	**Marble Bar**	**35.57**	**138**	P	**P**	**06 05 16.6**	**-0.5**
	comp=E,7.7nm,1.1s,mb4.5						
SSE	**Sheshan**	**35.96**	**40**	P	**P**	**06 05 17.8**	**-2.6**
SSE				S	**S**	**06 10 54.0**	**-1.8**
SSE				AMB	AMB		
	comp=Z,35nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,92nm,8.1s						
SSE				LR	LR		
	comp=N,200nm,22.0s,MS4.0						
SSE				LR	LR		
	comp=E,211nm,22.0s,MS4.0						
SSE				LR	LR		
	comp=Z,341nm,20.7s,MS4.1						
TIA	**Tai'an**	**37.31**	**30**	*e*P	**P**	**06 05 31.7**	**0.0**
FITZ	**Fitzroy Crossi**	**38.00**	**128**	*e*P	**P**	**06 05 36.4**	**-1.2**
	comp=Z,18nm,0.7s,mb4.9						
JOW	**Kunigami**	**38.65**	**52**	P	**P**	**06 05 44.8**	**+1.9**
	comp=Z,43nm,0.4s,mb5.5,baz=245,slow=5.6						
WBK	**Wadi Bani Khal**	**38.89**	**300**	⇑P	**P**	**06 05 46.6**	**+1.7**
WMQ	**Urumqi**	**39.30**	**352**	P	**P**	**06 05 49.2**	**+1.1**
WMQ				AP	pP	06 05 59.2	+1.0
WMQ				XP	sP	06 06 03.2	+0.6
WMQ				PP	PP	06 07 24.1	+1.7
WMQ				S	**S**	**06 11 47.6**	**+1.1**
WMQ				XS		06 12 03.9	
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,60nm,5.2s						
WMQ				LR	LR		
	comp=N,2μm,19.6s,MS4.9						
WMQ				LR	LR		
	comp=E,1μm,22.8s,MS4.9						
WMQ				LR	LR		
	comp=Z,1μm,17.2s						
SMDO	**Samad**	**39.84**	**301**	⇓P	**P**	**06 05 55.0**	**+2.1**
	SNR=8.4						
BJT	**Baijiatuau**	**39.92**	**26**	*e*P	**P**	**06 05 54.7**	**+1.4**
	comp=Z,45nm,0.8s,mb5.2						
BIDO	**Bidbid**	**39.95**	**301**	⇑P	**P**	**06 05 55.7**	**+2.0**
BSY	**Bisya**	**40.46**	**300**	⇑P	**P**	**06 05 59.8**	**+1.8**
	SNR=8.8						
HOQ	**Hoqain**	**40.66**	**301**	⇑P	**P**	**06 06 01.4**	**+1.7**
KAKA	**Kakadu**	**41.24**	**115**	*e*P	**P**	**06 06 04.8**	**+0.3**
	comp=Z,9.6nm,0.5s,mb4.7						
UCH	**Uchtor**	**41.37**	**337**	P	**P**	**06 06 06.5**	**+1.2**
	SNR=9.1						
TKM2	**Tokmak 2**	**41.55**	**339**	P	**P**	**06 06 07.7**	**+0.9**
	SNR=7.4						
KBK	**Karagaybulak**	**41.57**	**338**	P	**P**	**06 06 08.5**	**+1.5**
	SNR=22						
AML	**Almayashu**	**41.61**	**336**	P	**P**	**06 06 08.7**	**+1.4**
	SNR=18						
AAK	**Ala-Archa**	**41.72**	**337**	P	**P**	**06 06 10.1**	**+1.9**
	SNR=9.0						
AAK	**Ala-Archa**	**41.72**	**337***c*	*i*P	**P**	**06 06 08.0**	**-0.2**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**41.72**	**337**	*e*P	**P**	**06 06 07.0**	**-1.2**
	comp=Z,7.9nm,0.6s,mb4.5						
FRU	**Bishkek**	**41.84**	**338**	*e*P	**P**	**06 06 13.0**	**+3.8**
EKS2	**Erkin-Say**	**42.02**	**337**	P	**P**	**06 06 11.9**	**+1.2**
	SNR=8.5						
WHFO	**Wadi Hawf**	**42.18**	**291**	⇑P	**P**	**06 06 13.1**	**+0.8**
	SNR=26						
USP	**Ospenovka**	**42.26**	**338**	P	**P**	**06 06 13.3**	**+0.7**
	SNR=16						
ABTO	**Aybut**	**42.50**	**290**	⇑P	**P**	**06 06 15.8**	**+0.9**
	SNR=7.2						
MK02	**Makanchi Array**	**43.12**	**347**	P	**P**	**06 06 19.8**	**+0.2**
MK02				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.8						
NWAO	**Narrogin (SRO)**	**43.18**	**152**	P	**P**	**06 06 20.1**	**-0.2**
	comp=Z,28nm,1.2s,mb4.9						
SONM	**Songino Array**	**43.93**	**11**	P	**P**	**06 06 26.0**	**-0.2**
	comp=Z,5.8nm,0.7s,mb4.4,baz=191,slow=8.1,SNR=58						
SONM				PcP	PcP	06 08 12.0	-0.3
	comp=Z,3.7nm,0.8s,baz=198,slow=3.8,SNR=5.7						
ULN	**Ulaanbaatar**	**44.09**	**12***c*	*i*P	**P**	**06 06 27.2**	**-0.3**
ULN	**Ulaanbaatar**	**44.09**	**12**	*e*P	**P**	**06 06 26.9**	**-0.5**
	comp=Z,5.9nm,0.6s,mb4.5						
SNY	**Shenyang**	**44.84**	**31**	⇓P	**P**	**06 06 33.9**	**+0.4**
SNY				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
SNY				LR	LR		
	comp=N,570nm,15.4s						
SNY				LR	LR		
	comp=Z,520nm,16.7s,MS4.5						
ZAK	**Zakamensk**	**45.90**	**8**	*e*P	**P**	**06 06 40.6**	**-1.3**
WRA	**Warramunga Arr**	**45.99**	**124**	P	**P**	**06 06 42.7**	**-0.3**
	comp=Z,36nm,0.6s,mb5.5,baz=301,slow=9.5,SNR=210						
WRA				S	**S**	**06 13 23.5**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=294,slow=16,SNR=4.9						
WRAB	**Tennant Creek**	**46.00**	**124***c*	*i*P	**P**	**06 06 43.6**	**+0.5**
WRAB	**Tennant Creek**	**46.00**	**124**	*e*P	**P**	**06 06 43.5**	**+0.5**
	comp=Z,97nm,0.9s,mb5.7						
WB2	**Warramunga Arr**	**46.00**	**124**⇑	*i*P	**P**	**06 06 43.5**	**+0.4**
WB2				*e*S	**S**	**06 13 30.9**	**+5.9**
MOY	**Mondy**	**46.92**	**5**	*e*P	**P**	**06 06 49.8**	**0.0**
TLY	**Talaya**	**47.22**	**7**	*e*P	**P**	**06 06 51.3**	**-0.9**
TLY				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.8						
ASPA	**Alice Springs**	**47.49**	**128**⇑	*i*P	**P**	**06 06 54.9**	**+0.2**
ASAR	**Alice Springs**	**47.49**	**128**	P	**P**	**06 06 55.0**	**+0.2**
	comp=Z,15nm,0.8s,mb5.0,baz=298,slow=7.3,SNR=125						
ASAR				S	**S**	**06 13 45.2**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=294,slow=11,SNR=3.4						
HIA	**Hailar**	**49.02**	**21**	*e*P	**P**	**06 07 06.2**	**-0.1**
	comp=Z,10nm,0.6s,mb5.0						
ZAL	**Zalesovo**	**49.59**	**352**	P	**P**	**06 07 10.3**	**-0.3**
	comp=Z,9.2nm,0.3s,mb5.2,baz=303,slow=5.8,SNR=35						
ZAL	**Zalesovo**	**49.59**	**352**	P	**P**	**06 07 10.3**	**-0.3**
MDJ	**Mudanjiang**	**49.92**	**32**	P	**P**	**06 07 14.1**	**+0.8**
MDJ				AP	pP	06 07 23.3	-0.2
MDJ				XP	sP	06 07 27.0	-0.8
MDJ				PP	PP	06 09 12.6	+3.6
MDJ				SCS	ScS	06 17 01.8	+3.0
MDJ				AMB	AMB		
	comp=Z,24nm,1.6s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,199nm,4.8s						
MDJ				LR	LR		
	comp=N,206nm,27.6s,MS4.1						
MDJ				LR	LR		
	comp=E,163nm,23.2s,MS4.1						
MDJ				LR	LR		
	comp=Z,346nm,25.4s,MS4.2						
MDJ	**Mudanjiang**	**49.92**	**32**	*e*P	**P**	**06 07 13.7**	**+0.5**
	comp=Z,18nm,0.9s,mb5.1						
NVS	**Novosibirsk**	**50.69**	**351**	*i* P	**P**	**06 07 17.3**	**-1.7**
NVS				*i*		06 08 33.2	
NVS				*i* PPP	PPP	06 10 12.0	-2.7
NVS				*i* S	**S**	**06 14 27.8**	**-2.6**
NVS				*i*		06 17 00.8	
NVS				pmax	pmax		
	comp=N,20nm,1.3s						
NVS				pmax	pmax		
	comp=E,13nm,1.3s						
NVS				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
NVS				smax			
	comp=E,3.0nm,1.1s						
NVS				smax			
	comp=N,23nm,1.8s						
MAT	**Matsushiro**	**50.70**	**46**	P	**P**	**06 07 19.1**	**-0.2**
BVA0	**Borovoye Array**	**52.03**	**342**	P	**P**	**06 07 28.5**	**-0.6**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
BVAR	**Borovoye Array**	**52.03**	**342**	P	**P**	**06 07 28.6**	**-0.5**
	comp=Z,6.1nm,0.6s,mb4.7,baz=136,slow=9.9,SNR=26						
BVAR				S	**S**	**06 14 48.5**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=145,slow=18,SNR=3.9						
BRVK	**Borovoye**	**52.10**	**341**	*e*P	**P**	**06 07 29.1**	**-0.5**
	comp=Z,8.7nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**52.52**	**342**	*i* P	**P**	**06 07 32.5**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1						
CHKZ	**

KIV pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
KIV Kislovodsk 60.01 319 *eP* **P 06 08 25.6 -1.0**
comp=Z,13nm,0.8s,mb5.0
ASF Jabal al Asfar 60.45 304 P **P 06 08 29.0 -0.7**
comp=Z,1.9nm,0.5s,mb4.4,baz=27,slow=2.3,SNR=2.7
ELZG Elazig 60.59 312 *i* P **P 06 08 30.1 -0.5**
MALT Malatya 60.94 311 *eP* **P 06 08 31.8 -1.2**
comp=Z,19nm,1.5s,mb5.0
GZT Gaziantep 61.30 310 *i* P **P 06 08 35.2 -0.2**
SOC Sochi 61.84 317 *eP* **P 06 08 35.0 -3.9**
SOC *e* 06 09 22.3
SOC *e* 06 10 58.1
SOC *e*PPP PPP 06 12 23.1 -3.1
SOC *e*S **S 06 16 55.4 -2.9**
SOC *e*SS SS 06 21 04.8 +2.7
SOC pmax pmax
comp=Z,16nm,0.9s,mb5.2
SOC pmax pmax
comp=N,10.0nm,0.8s
SOC pmax pmax
comp=E,14nm,0.9s
KAHT Ahir Dag 61.91 310 *i* P **P 06 08 39.0 -0.5**
YAK Yakutsk 62.61 18 *eP* **P 06 08 41.9 -1.9**
YAK *e*S **S 06 17 05.8 -1.9**
YAK pmax pmax
comp=Z,11nm,0.9s,mb5.0
YAK smax
comp=N,7.0nm,1.2s
YAK smax
comp=E,4.0nm,1.1s
YAK Yakutsk 62.61 18 *eP* **P 06 08 42.2 -1.6**
comp=E,18nm,0.5s,mb5.5
AVNT Avonos 63.76 311 *i* P **P 06 08 51.3 -0.5**
MBAR Mbarara 64.26 267 *d iP* **P 06 08 54.6 -0.8**
BOYT Boyabat 64.47 314 *i* P **P 06 08 55.7 -0.6**
BRTR Keskin Array B 64.92 312 P **P 06 08 57.8 -1.5**
comp=E,12nm,0.5s,mb5.2,baz=133,slow=7.4,SNR=75
ELDT Eldivan 65.28 312 *i* P **P 06 09 00.9 -0.7**
BALT Daday 65.59 314 *i* P **P 06 09 02.8 -0.8**
ESKT Eskisehir 66.96 311 *i* P **P 06 09 11.1 -1.1**
MOS Moscow 67.99 329 *eP* **P 06 09 19.3 +0.8**
MOS *e* 06 09 39.6
OBN Obninsk 68.28 328⇓*eP* **P 06 09 19.0 -1.2**
OBN *e* 06 11 45.3
OBN *e*S S 06 18 18.3 +1.2
OBN pmax pmax
comp=Z,24nm,1.3s,mb5.1
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.4
OBN Obninsk 68.28 328 *eP* **P 06 09 18.4 -1.8**
comp=Z,13nm,0.5s,mb5.2
ULDT Uludag 68.38 311 *i* P **P 06 09 20.3 -0.8**
LSZ Lusaka 68.96 252 *eP* **P 06 09 25.0 -0.1**
comp=Z,11nm,0.9s,mb4.8
MA2 Magadan 69.09 27⇑*eP* **P 06 09 24.9 -0.3**
MA2 pmax pmax
comp=Z,21nm,0.9s,mb5.1
TIXI Tiksi 70.02 11⇑*iP* **P 06 09 29.2 -1.5**
TIXI pmax pmax
comp=Z,23nm,0.8s,mb5.2
TIXI MLR MLR
comp=Z,288nm,15.0s,MS4.7
IDI Anoyia 70.86 306 P **P 06 09 36.1 -0.3**
comp=Z,17nm,0.7s,mb5.1,baz=168,slow=23,SNR=6.9
AKASG Malin Array Be 70.93 322 P **P 06 09 34.7 -1.9**
comp=Z,4.4nm,0.5s,mb4.7,baz=84,slow=5.9,SNR=34
JOF Joensuu 73.84 335 *ep* **P 06 09 53.9 +0.4**
comp=Z,4.0nm,0.6s,mb4.5
JOF Joensuu 73.84 335 *eP* **P 06 09 53.9 +0.4**
JOF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
KWP Kalwaria 74.76 320 *eP* **P 06 09 59.1 0.0**
APA Apatity 74.88 340 *eP* pP 06 10 12.5 +2.3
KOLS Kolonicke sedl 74.91 319 *eP* **P 06 10 00.6 +0.6**
KOLS *e* 06 10 06.0
CRVS Cervenica-Dubn 75.44 319 *eP* **P 06 10 05.6 +2.6**
FINES FINESS Array B 75.67 332 *i* P **P 06 10 03.5 -0.6**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 75.67 332 P **P 06 10 03.5 -0.6**
comp=Z,3.0nm,0.5s,mb4.5,baz=97,slow=6.2,SNR=38
FINES LR LR 06 47 34.3
comp=Z,211nm,20.0s,MS4.4,baz=140,slow=39
KAF Kangasniemi 75.76 333 *ep* **P 06 10 03.0 -1.6**
KECS Kecovo 76.01 319 *eP* **P 06 10 06.4 +0.1**
KECS *e* 06 10 10.2
NIE Niedzica 76.26 320 *eP* **P 06 10 08.5 +0.8**
PSZ Piszkesteto 76.32 318 *eP* **P 06 10 07.1 -1.0**
OJC Ojcow 76.71 320⇑*iP* **P 06 10 10.5 +0.2**
VYHS Vyhne 77.10 319 *eP* **P 06 10 12.1 -0.4**
TIP Timpagrande 77.70 309 *eP* **P 06 10 15.7 -0.4**
OKC Ostrava-Krasne 77.71 320 *eP* **P 06 10 16.2 +0.3**
MORC Moravsky Berou 78.10 320 *eP* **P 06 10 18.4 +0.4**
comp=Z,7.8nm,0.8s,mb4.7
ZST Bratislava 78.21 318 *eP* **P 06 10 18.9 +0.3**
ZST *e* 06 10 35.9
ARCES ARCESS Array B 78.31 340 P **P 06 10 18.8 +0.1**
comp=Z,3.3nm,0.5s,mb4.5,baz=92,slow=5.6,SNR=36
ARCES ARCESS Array B 78.31 340 P **P 06 10 18.8 0.0**
BILL Bilibino 78.60 21⇓*eP* **P 06 10 20.2 -0.2**
BILL *e* pP 06 10 29.9 -1.2
BILL pmax pmax
comp=Z,18nm,1.6s,mb4.8
BILL Bilibino 78.60 21 *eP* **P 06 10 20.1 -0.2**
comp=Z,8.1nm,0.9s,mb4.7
DPC Dobruska-Polom 78.94 320 *eP* **P 06 10 23.4 +0.8**
KSP Ksiaz 79.01 321 *eP* **P 06 10 23.1 +0.2**
FX1 Attu Island--F 79.08 37 P **P 06 10 23.1 -0.1**
comp=Z,28nm,0.5s,mb5.5,baz=14,slow=0.3,SNR=20
FX1 Attu Island--F 79.08 37 *eP* **P 06 10 23.3 0.0**
UPC Upice 79.15 320 *eP* **P 06 10 24.2 +0.5**
ARSA Arzberg 79.19 317⇑*iP* **P 06 10 24.6 +0.6**
comp=Z,20nm,1.4s,mb4.9
SUR Sutherland 79.23 236 *eP* **P 06 10 25.8 +1.3**
OBKA Obir 79.80 316⇑*iP* **P 06 10 27.3 0.0**
comp=Z,25nm,1.8s,mb4.8
PRU Pruhonice 80.05 320 *eP* **P 06 10 28.5 -0.1**
PVCC Panska Ves 80.07 320 *eP* **P 06 10 29.1 +0.4**
AQU L'Aquila 80.41 312 *eP* **P 06 10 30.6 -0.1**
comp=Z,11nm,0.8s,mb4.8
BRG Berggiesshubel 80.49 321 *eP* **P 06 10 31.4 +0.5**
BRG *e* pP 06 10 41.3 -0.4
BRG *e* 06 10 46.6
BRG pmax pmax
comp=Z,14nm,1.3s,mb4.7
BRG Berggiesshubel 80.49 321 *eP* **P 06 10 31.4 +0.5**
comp=Z,14nm,1.3s,mb4.7
BRG *e* pP 06 10 41.3 -0.4
BRG *e* 06 10 46.6
GEC2 GERESS Array S 80.52 319 *eP* **P 06 10 31.6 +0.5**
GEC2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
GEC2 GERESS Array S 80.52 319 *eP* **P 06 10 31.6 +0.5**
comp=Z,7.0nm,0.7s,mb4.7
GERES GERESS Array B 80.52 319 P **P 06 10 31.4 +0.3**
comp=Z,4.4nm,0.5s,mb4.7,baz=116,slow=5.3,SNR=47
KHC Kasperske Hory 80.62 319 *eP* **P 06 10 31.5 -0.1**
KHC *e* pP 06 10 45.0 +2.6
KHC Kasperske Hory 80.62 319 *eP* **P 06 10 31.5 -0.1**
KHC pP pP 06 10 45.0 +2.6
KBA Koelnbreinsper 80.66 317⇑*iP* **P 06 10 31.7 -0.2**
comp=Z,6.3nm,0.6s,mb4.7
WET Wettzell 81.08 319 *eP* **P 06 10 34.3 +0.3**
WET pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
WET Wettzell 81.08 319 *eP* **P 06 10 34.3 +0.3**
comp=Z,2.0nm,0.7s,mb4.2
CLL Collm 81.11 321 *eP* **P 06 10 34.0 -0.2**
CLL Collm 81.11 321 P **P 06 10 34.0 -0.2**
NKC Novy Kostel 81.41 320 *eP* **P 06 10 36.0 +0.3**
WTTA Wattenberg 81.83 317⇓*iP* **P 06 10 37.7 -0.3**
comp=Z,9.0nm,0.5s,mb5.0
WATA Walderalm 81.88 317⇓*iP* **P 06 10 37.6 -0.6**
comp=Z,16nm,1.4s,mb4.8
MOX Moxa 81.96 320 *eP* **P 06 10 38.9 +0.3**
MOX Moxa 81.96 320 *i* P **P 06 10 38.9 +0.3**
SQTA Sankt Quirin 82.12 317⇓*iP* **P 06 10 39.2 -0.3**
comp=Z,2.2nm,0.5s,mb4.3
GRA1 Grafenberg Arr 82.18 319 *eP* **P 06 10 39.8 +0.1**
comp=Z,14nm,1.2s,mb4.8
GRF Grafenberg Arr 82.18 319 *eP* **P 06 10 39.8 +0.1**
GRF pmax pmax
comp=Z,14nm,1.2s,mb4.8
GRF Grafenberg Arr 82.18 319 *eP* **P 06 10 39.8 +0.1**
comp=Z,14nm,1.2s,mb4.8
MOTA Moosalm 82.20 317⇑*iP* **P 06 10 39.4 -0.5**
comp=Z,19nm,1.5s,mb4.8
NB2 NORSAR Subarra 82.67 331 P **P 06 10 39.6 -2.4**
comp=Z,27nm,2.0s,mb4.9,baz=91,slow=5.3
NB2 NORSAR Subarra 82.67 331 P **P 06 10 39.6 -2.4**
baz=91,slow=5.3
NOA NORSAR Array B 82.67 331 P **P 06 10 41.5 -0.5**
comp=Z,1.5nm,0.7s,mb4.2,baz=96,slow=5.5,SNR=3.9
NOA LR LR 06 53 54.1
comp=Z,92nm,18.4s,MS4.2,baz=5.0,slow=40
SYO Syowa Base 82.77 197⇓⇓P **P 06 10 48.9 +6.5**
SYO Syowa Base 82.77 197⇓⇓sP sP 06 11 00.5 +3.6
BSEG Bad Segeberg 82.86 324 *eP* **P 06 10 43.9 +0.8**
BSEG pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
DAVA Damuels 83.03 317⇑*iP* **P 06 10 44.7 +0.6**
comp=Z,6.5nm,0.7s,mb4.8
BFO Black Forest 84.07 318 *eP* **P 06 10 49.4 0.0**
BFO pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
BFO Black Forest 84.07 318 *eP* **P 06 10 49.4 0.0**
comp=Z,4.0nm,0.7s,mb4.7
LPG La Plagne 85.22 315 *eP* **P 06 10 55.3 +0.1**
comp=Z,10.0nm,0.6s,mb4.8
ESDC Sonseca Array 93.67 310 P **P 06 11 35.7 +0.3**
comp=Z,0.5nm,0.5s,mb4.2,baz=62,slow=4.0,SNR=8.1
IMA Indian Mountai 94.11 22 *eP* **P 06 11 38.0 +1.3**
comp=Z,12nm,0.6s,mb5.5
ILAR Eielson Array 97.24 22 P **P 06 11 51.4 +0.4**
comp=Z,0.5nm,0.5s,mb4.2,baz=287,slow=4.5,SNR=6.8
INK Inuvik 99.66 16 P **P 06 12 01.9 +0.1**
comp=Z,0.7nm,0.5s,mb4.4,baz=299,slow=2.4,SNR=8.1
INK Inuvik 99.66 16 *e*Pdif **P 06 12 00.9 -0.9**
RES Resolute Bay 100.35 3 *e*Pdif P 06 12 05.2 +0.3
YKA Yellowknife Ar 109.15 14 PKiKP 06 16 48.2
comp=Z,0.1nm,0.6s,baz=336,slow=1.9,SNR=4.6
YKA PP PP 06 17 10.8 -10
comp=Z,0.3nm,0.8s,baz=338,slow=7.4,SNR=4.7
YKA PKKPbc 06 27 54.0
comp=Z,0.1nm,0.6s,baz=147,slow=3.1,SNR=4.7
YKA Yellowknife Ar 109.15 14 PKPdf 06 16 48.2
YKA PP PP 06 17 10.8 -10
YKA PKKPbc 06 27 54.0
PDAR Pinedale Array 127.67 23 PKP PKPdf 06 17 23.9 +0.8
comp=Z,0.7nm,0.6s,baz=128,slow=3.7,SNR=6.0
TXAR Lajitas Array 141.62 27 PKhKP 06 17 45.5
comp=Z,0.4nm,0.6s,baz=339,slow=0.3,SNR=8.6
BDFB Brasilia 141.99 251 PKP PKPdf 06 17 52.3 +2.0
comp=Z,1.0nm,0.5s,baz=94,slow=3.1,SNR=2.0

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*IDC **08** 06:21:29.4±5.4, 41.95S×88.89W, mb4.1/5, mb1 4.4/5, mb1mx4.0/14, mbtmp4.1/5, MS4.6/15, Ms1 4.6/15, ms1mx4.2/21, Error ellipse: s-maj=139.7km s-min=38.1km az=2.0*
*NEIC **08** 06:21:33.8±2.6, 41.42S×88.96W, h10km, mb4.6/3, Error ellipse: s-maj=66.1km s-min=22.9km az=197.0*
ISC 08 06:21:32.4±2.4, 41.3S±0.4×88.9W±0.3, h10km, n22, σ1§34/10, mb4.2/7, MS4.6/14, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**19.16 142**		LR	LR	06 31 59.5	
	comp=Z,4μm,19.9s,baz=282,slow=34						
TRQA	**Tornquist**	**20.96**	**90**	*eP*	**P**	**06 26 18.1**	**+0.1**
	14nm,1.0s						
LVC	**Limon Verde**	**25.11**	**48**	P	**P**	**06 26 59.8**	**+1.0**
	2.8nm,0.6s,mb4.0,baz=237,slow=10,SNR=5.6						
LVC				LR	LR	06 34 26.3	
	comp=Z,2μm,19.1s,MS4.6,baz=211,slow=30						
LPAZ	**La Paz**	**30.72**	**42**	P	**P**	**06 27 51.5**	**+1.6**
	2.1nm,1.1s,mb3.9,baz=208,slow=8.8,SNR=3.9						
LPAZ				LR	LR	06 37 33.8	
	comp=Z,2μm,18.8s,MS4.7,baz=26,slow=31						
RKT	**Rikitea**	**42.42**	**281**	*eS*	**S**	**06 35 33.7**	**-17**
RKT				*e*LQ		06 38 50.9	
RKT				*e*LR	LR	06 40 36.5	
	945nm,26.0s						
OTAV	**Otavalo**	**42.43**	**16**	P	**P**	**06 29 26.9**	**-2.2**
	18nm,1.5s,mb4.5						
BDFB	**Brasilia**	**43.56**	**66**	P	**P**	**06 29 36.6**	**-1.7**
	2.9nm,0.8s,mb4.0,baz=226,slow=7.6,SNR=4.6						
BDFB				LR	LR	06 47 30.1	
	comp=Z,2μm,18.4s,MS5.0,baz=231,slow=36						
ROSC	**El Rosal**	**47.84**	**20**	LR	LR	06 48 38.4	
	comp=Z,670nm,18.5s,MS4.7,baz=0.8,slow=34						
SNAA	**Sanae**	**50.21**	**156**	LR	LR	06 49 26.9	
	comp=Z,132nm,18.1s,MS4.0,baz=198,slow=34						
VNDA	**Vanda**	**53.99**	**195**	LR	LR	06 49 07.5	
	comp=Z,484nm,19.9s,MS4.6,baz=125,slow=31						
PPT	**Papeete**	**56.66**	**276**	*eS*	**S**	**06 38 45.8**	**-23**
PPT				*e*LR	LR	06 47 28.8	
	604nm,26.8s,baz=143						
RAR	**Rarotonga**	**62.15**	**265**	LR	LR	06 51 12.5	
	comp=Z,214nm,21.7s,MS4.3,baz=152,slow=29						
URZ	**Urewera**	**68.62**	**238**	LR	LR	06 56 42.2	
	comp=Z,411nm,18.5s,MS4.7,baz=156,slow=31						
RPZ	**Rata Peaks**	**69.03**	**230**	LR	LR	06 55 14.7	
	comp=Z,603nm,20.7s,MS4.8,baz=167,slow=30						
MAW	**Mawson**	**69.33**	**169**	LR	LR	07 01 32.1	
	comp=Z,368nm,19.3s,MS4.6,baz=335,slow=35						
TXAR	**Lajitas Array**	**71.60**	**346**	P	**P**	**06 32 55.7**	**-0.2**
	1.5nm,0.9s,mb3.9,baz=168,slow=7.8,SNR=10						
CCM	**Cathedral Cave**	**79.01**	**358**	*eP*	**P**	**06 33 37.9**	**0.0**
	10.0nm,0.9s,mb4.8						
PDAR	**Pinedale Array**	**85.73**	**345**	P	**P**	**06 34 14.0**	**+1.4**
	4.4nm,1.2s,mb4.5,baz=153,slow=6.6,SNR=7.8						
DBIC	**Dimbokro**	**89.92**	**81**	LR	LR	07 13 28.6	
	comp=Z,243nm,20.4s,MS4.6,baz=206,slow=35						
STKA	**Stephens Creek**	**93.55**	**221**	LR	LR	07 09 51.9	
	comp=Z,236nm,18.7s,MS4.7,baz=207,slow=31						
SCHQ	**Schefferville**	**97.61**	**13**	LR	LR	07 16 15.5	
	comp=Z,204nm,21.6s,MS4.6,baz=186,slow=34						
CTA	**Charters Tower**	**100.36**	**232**	LR	LR	07 13 59.8	
	comp=Z,202nm,19.6s,MS4.6,baz=223,slow=32						

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*GUC **08** 06:35:01.7±1.1, 23.84S×67.38W, h238km±18km, ML3.8*
*NEIC **08** 06:35:01.7, 23.84S×67.38W, h238km, After GUC.*
*IDC **08** 06:35:02.2±2.3, 23.83S×66.84W, h195km±19km, mb3.3/1, mb1 3.6/4, mb1mx3.3/14, mbtmp3.9/4, Error ellipse: s-maj=35.2km s-min=26.9km az=178.0*
ISC 08 06:35:00.9±0.8, 24.00S±0.07×67.0W±0.1, h220km±12km, n11, σ1§00/18, mb3.4/1, 4C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.55 314**		⇑*iP*	**P**	**06 35 37.9**	**+0.7**
SPCH				*i* S	**S**	**06 36 06.5**	**+1.3**
SPCH				AMP		06 36 15.3	
	comp=N,116nm,0.4s						
LVC	**Limon Verde**	**2.24 308**		P	**P**	**06 35 44.1**	**+0.4**
	comp=N,29nm,0.3s,baz=125,slow=6.9,SNR=313						
LVC				S	**S**	**06 36 15.7**	**-1.1**
	comp=N,23nm,0.3s,baz=272,slow=20,SNR=26						
LVC	**Limon Verde**	**2.24 308**		⇑*iP*	**P**	**06 35 44.2**	**+0.4**
LVC				*i* S	**S**	**06 36 15.9**	**-1.0**
LVC				AMP		06 36 17.4	
	comp=E,162nm,0.3s						
ANCH	**Antofagasta**	**3.15 275**		⇑*iP*	**P**	**06 35 54.5**	**+0.7**
ANCH				*i* S	**S**	**06 36 32.9**	**-1.9**
ANCH				AMP		06 36 36.2	
	comp=N,624nm,0.1s						
CPN1	**Cerro Paranal**	**3.18 258**		⇑*iP*	**P**	**06 35 54.8**	**+0.7**
CPN1				*i* S	**S**	**06 36 35.3**	**-0.1**
CPN1				AMP		06 36 38.5	
	comp=N,339nm,0.2s						
LPAZ	**La Paz**	**7.75 352**		P	**P**	**06 36 52.2**	**+0.5**
	comp=N,0.6nm,0.3s,baz=171,slow=5.8,SNR=4.0						
LPAZ				S	**S**	**06 38 17.2**	**-1.0**
	comp=N,0.2nm,0.3s,baz=335,slow=20,SNR=3.6						
LPAZ	**La Paz**	**7.75 352**		P	**P**	**06 36 52.2**	**+0.5**
LPAZ				S	**S**	**06 38 17.2**	**-1.0**
TRQA	**Tornquist**	**14.65 164**		P	**P**	**06 38 18.3**	**-0.8**
BDFB	**Brasilia**	**19.68 68**		P	**P**	**06 39 14.3**	**-0.7**
	comp=N,0.8nm,0.3s,baz=245,slow=11,SNR=21						
BAO	**Brasilia Array**	**19.70 69**		*eP*	**P**	**06 39 14.7**	**-0.6**
YKA	**Yellowknife Ar**	**94.12 340**		P	**P**	**06 47 57.3**	**+2.2**
	comp=N,0.2nm,0.5s,mb3.4,baz=135,slow=4.5,SNR=14						

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*IDC **08** 06:38:01.7±1.1, 1.70S×122.71E, mb4.2/8, mb1 4.3/8, mb1mx4.1/17, mbtmp4.2/8, MS4.2/4, Ms1 4.2/4, ms1mx3.4/25, Error ellipse: s-maj=64.2km s-min=17.4km az=62.0*
*BJI **08** 06:38:12.5, 1.90S×122.80E, h97km, mB5.4, mb4.8*
*NEIC **08** 06:38:13.6±3.1, 1.86S×122.77E, h98km±32km, mb4.6/6, Error ellipse: s-maj=32.8km s-min=12.6km az=62.0*
ISC 08 06:38:13.8±3.6, 1.9S±0.1×122.7E±0.2, h119km±37km, n24, σ1§12/21, mb4.3/12, 1C-2D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**14.44 139**		⇑*iP*	**P**	**06 41 34.1**	**+0.3**
	77nm,0.9s						
FITZ	**Fitzroy Crossi**	**16.37 170**		*eP*	**P**	**06 41 58.3**	**+0.3**
	17nm,0.8s						
MBWA	**Marble Bar**	**19.38 188**		*eP*	**P**	**06 42 38.4**	**+5.6**
	16nm,0.7s						
WRAB	**Tennant Creek**	**21.24 148**		*eP*	**P**	**06 42 50.1**	**-1.7**
	57nm,0.9s,mb4.9						
WRA	**Warramunga Arr**	**21.25 148**		P	**P**	**06 42 50.5**	**-1.3**
	11nm,0.8s,mb4.2,baz=329,slow=11,SNR=33						
WB2	**Warramunga Arr**	**21.25 148**		⇓*iP*	**P**	**06 42 50.4**	**-1.5**
ASPA	**Alice Springs**	**24.22 154**		⇓*iP*	**P**	**06 43 22.4**	**+1.6**
ASAR	**Alice Springs**	**24.22 154**		P	**P**	**06 43 22.4**	**+1.6**
	4.0nm,0.7s,mb3.9,baz=327,slow=8.5,SNR=60						
ASAR				LR	LR	06 54 46.7	
	comp=Z,75nm,19.4s,baz=218,slow=41						
PMG	**Port Moresby**	**25.43 108**		P	**P**	**06 43 32.1**	**-0.3**
	11nm,0.8s,mb4.3,baz=292,slow=13,SNR=2.7						
PMG	**Port Moresby**	**25.43 108**		P	**P**	**06 43 32.1**	**-0.3**
ENH	**Enshi**	**34.38 339**		*eP*	**P**	**06 44 52.3**	**+0.8**
	12nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**34.74 151**		*eP*	**P**	**06 44 55.1**	**+0.5**
	4.7nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**34.74 151**		P	**P**	**06 44 55.0**	**+0.4**
	7.2nm,1.2s,mb4.4,baz=319,slow=11,SNR=3.8						
XAN	**Xi'an**	**38.02 341**		P	**P**	**06 45 22.7**	**+0.6**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.5						
ULN	**Ulaanbaatar**	**51.40 347**		*eP*	**P**	**06 47 08.6**	**0.0**
	comp=Z,8.5nm,1.0s,mb4.7						
SONM	**Songino Array**	**51.53 346**		P	**P**	**06 47 07.8**	**-1.7**
	comp=Z,4.4nm,0.7s,mb4.6,baz=164,slow=7.7,SNR=25						
ZAL	**Zalesovo**	**63.90 336**		P	**P**	**06 48 35.0**	**-1.1**
	comp=Z,0.6nm,0.3s,mb3.9,baz=266,slow=11,SNR=3.4						
BVAR	**Borovoye Array**	**69.94 329**		P	**P**	**06 49 14.1**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.5,baz=135,slow=13,SNR=4.6						
CHKZ	**Chkalovo**	**70.18 330**		P	**P**	**06 49 11.9**	**-3.6**
IMA	**Indian Mountai**	**89.11 24**		P	**P**	**06 50 57.1**	**+0.5**
ILAR	**Eielson Array**	**91.86 25**		P	**P**	**06 51 11.0**	**+1.6**
	comp=Z,0.3nm,0.9s,mb3.5,baz=243,slow=6.0,SNR=3.6						
ILAR				LR	LR	07 28 05.4	
	comp=Z,84nm,21.3s,baz=140,slow=33						
ARCES	**ARCESS Array B**	**94.28 340**		LR	LR	07 34 38.2	
	comp=Z,246nm,18.2s,baz=206,slow=36						
FINES	**FINESS Array B**	**94.83 331**		LR	LR	07 34 33.2	
	comp=Z,318nm,18.6s,baz=333,slow=36						
LAZ	**Ladron**	**123.45 49**		*e*PKPdf	PKPdf	06 57 01.2	+3.6

IDC 08 06:48:05.8±51.0, 18.63S×173.99W, mb4.0/3, mb1 4.1/3, mb1mx3.8/14, mbtmp4.0/3, MS3.4/2, Ms1 3.4/2, ms1mx3.0/25, Error ellipse: s-maj=976.0km s-min=165.3km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.00 243**		P	P	06 55 58.8	-1.7
	0.7nm,0.5s,baz=94,slow=13,SNR=2.8						
WRA	**Warramunga Arr**	**48.63 260**		P	P	06 56 51.7	-1.9
	0.8nm,0.3s,baz=97,slow=7.1,SNR=13						
ASAR	**Alice Springs**	**48.64 255**		P	P	06 56 51.8	-1.9
	1.1nm,0.5s,baz=94,slow=7.7,SNR=24						
ASAR				LR	LR	07 13 37.6	
	comp=Z,195nm,19.8s,baz=150,slow=32						
FX1	**Attu Island--F**	**72.08 352**		LR	LR	07 23 32.8	
	comp=Z,6.6nm,20.6s,baz=173,slow=30						

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*BJI **08** 06:50:59.5, 3.51N×93.51E, h20km, mB5.0, mb4.8, Ms4.9, Msz4.5*
*IDC **08** 06:50:59.0±0.6, 3.28N×93.68E, h26km±3km, mb4.4/19, mb1 4.5/20, mb1mx4.4/25, mbtmp4.5/20, ML4.4/1, MS4.1/3, Ms1 4.1/3, ms1mx3.4/28, Error ellipse: s-maj=26.1km s-min=10.4km az=49.0*
*NEIC **08** 06:50:59.5±0.3, 3.28N×93.74E, h30km, mb4.8/10, Error ellipse: s-maj=11.2km s-min=6.1km az=49.0*
ISC 08 06:50:57.3±3.1, 3.25N±0.07×93.71E±0.08, h28km±21km, h27km±7km: pP-P, n60, σ0§87/58, mb4.6/36, MS4.5/5, 1C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.91**	**60**	P	**Pn**	**06 52 54.0**	**+0.5**
	596nm,1.0s						
KKTK	**Khon Kaen**	**15.80**	**34**	P	**P**	**06 54 43.5**	**+3.8**
	556nm,0.4s						
CMAR	**Chiang Mai Arr**	**15.96**	**18**	Pn	**P**	**06 54 39.9**	**-2.0**
	0.5nm,0.3s,baz=210,slow=13,SNR=26						
CMAR				sP		06 54 52.2	
	1.0nm,0.3s,baz=212,slow=12,SNR=14						
CMAR				LR	LR	07 01 37.4	
	comp=Z,288nm,18.0s,baz=180,slow=40						
CHG	**Chiang Mai**	**16.30**	**18**	⇓P	**P**	**06 54 47.7**	**+1.6**
	14nm,1.1s						
HYB	**Hyderabad**	**20.48 314**		*eP*	**P**	**06 55 36.0**	**+0.2**
HYB	**Hyderabad**	**20.48 314**		*i* P	**P**	**06 55 36.0**	**+0.2**
IMP	**Imphal**	**21.41**	**1**	*e*	**P**	**06 55 44.6**	**-0.7**
SHL	**Shillong**	**22.26 356**		*eP*	**P**	**06 55 52.0**	**-1.8**
JIRN	**Jiri**	**25.32 344**		*eP*	**P**	**06 56 24.0**	**+0.5**
	30nm,0.8s,mb4.9						
PKI	**Pulchoki**	**25.45 343**		*eP*	**P**	**06 56 24.7**	**-0.1**
	21nm,1.1s,mb4.6						
DMN	**Daman**	**25.58 342**		*eP*	**P**	**06 56 26.8**	**+0.9**
GUN	**Gumba**	**25.64 344**		*eP*	**P**	**06 56 26.3**	**-0.2**
	31nm,0.8s,mb4.9						
KKN	**Kakani**	**25.70 343**		*eP*	**P**	**06 56 26.8**	**-0.2**
GKN	**Gorkha**	**26.09 342**		*eP*	**P**	**06 56 30.9**	**+0.2**
	34nm,0.9s,mb4.9						
KOLN	**Koldanda**	**26.23 339**		*eP*	**P**	**06 56 32.4**	**+0.5**
	22nm,0.9s,mb4.7						
LSA	**Lhasa**	**26.42 355**		P	**P**	**06 56 35.6**	**+1.9**
LSA	**Lhasa**	**26.42 355**		*eP*	**P**	**06 56 35.6**	**+1.9**
	69nm,0.6s,mb5.4						
ENH	**Enshi**	**30.75**	**27**	*eP*	**P**	**06 57 10.8**	**-1.8**
XAN	**Xi'an**	**33.76**	**23**	P	**P**	**06 57 37.1**	**-1.8**
XAN				AP	pP	06 57 45.3	-2.0
XAN				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
XAN				LR	LR		
	comp=E,490nm,12.4s						
XAN				LR	LR		
	comp=Z,480nm,10.5s,MS4.5						
LZH	**Lanzhou**	**33.99**	**15**	*eP*	**P**	**06 57 41.5**	**+0.6**
LZH				AP	pP	06 57 47.5	-1.8
LZH				XP	sP	06 57 52.5	-0.5
LZH				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.8						
LZH				LR	LR		
	comp=E,1μm,12.0s						
LZH				LR	LR		
	comp=Z,610nm,12.8s,MS4.5						
FITZ	**Fitzroy Crossi**	**37.95 125**		*eP*	**P**	**06 58 14.2**	**-0.4**
	comp=Z,6.2nm,0.7s,mb4.5						
JOW	**Kunigami**	**40.55**	**51**	LR	LR	07 14 34.0	
	comp=Z,346nm,21.4s,MS4.2,baz=74,slow=35						
WMQ	**Urumqi**	**40.75 353**		P	**P**	**06 58 39.0**

comp=Z,9.0nm,0.7s,baz=191,slow=7.5,SNR=20
SONM pCP pCP 07 00 55.7 -0.3
comp=Z,1.8nm,0.7s,baz=197,slow=2.7,SNR=4.3
SONM Songino Array 45.75 12 P P 06 59 18.1 0.0
SONM pP pP 06 59 26.0 -0.6
SONM pCP pCP 07 00 55.7 -0.3
ULN Ulaanbaatar 45.91 12 *e*P P 06 59 19.1 -0.3
comp=Z,5.3nm,0.8s,mb4.5
WRA Warramunga Arr 46.07 122 P P 06 59 21.2 +0.2
comp=Z,14nm,0.7s,mb5.0,baz=299,slow=8.9,SNR=12
WRA pP pP 06 59 29.2 -0.4
comp=Z,9.2nm,0.8s,baz=300,slow=8.7,SNR=14
WRAB Tennant Creek 46.08 122 *e*P P 06 59 21.3 +0.3
comp=Z,20nm,0.8s,mb5.1
WB2 Warramunga Arr 46.08 122⇑*i*P P 06 59 21.0 -0.1
ASPA Alice Springs 47.41 127 *e*P P 06 59 31.7 +0.2
ASAR Alice Springs 47.41 127 P P 06 59 31.6 +0.1
comp=Z,5.4nm,0.8s,mb4.6,baz=294,slow=8.1,SNR=47
ASAR pP pP 06 59 39.8 -0.4
comp=Z,2.7nm,0.7s,baz=298,slow=8.0,SNR=8.7
ASAR PcP PcP 07 01 02.6 +0.4
comp=Z,3.3nm,0.7s,baz=301,slow=3.1,SNR=11
ASAR pPcP 07 01 11.1
comp=Z,2.6nm,0.9s,baz=303,slow=2.9,SNR=4.1
HIA Hailar 50.94 22 *e*P P 06 59 58.1 -0.2
comp=Z,11nm,0.9s,mb4.8
HIA *e* pP 07 00 06.0 -1.0
ZAL Zalesovo 51.05 353 P P 06 59 59.1 0.0
comp=Z,7.7nm,0.5s,mb4.9,baz=304,slow=6.0,SNR=36
ZAL pP pP 07 00 07.2 -0.6
comp=Z,6.0nm,0.6s,baz=304,slow=6.5,SNR=9.5
ZAL Zalesovo 51.05 353 P P 06 59 59.1 0.0
ZAL pP pP 07 00 07.2 -0.6
BVAR Borovoye Array 53.22 343 P P 07 00 14.6 -0.9
comp=Z,5.9nm,0.7s,mb4.6,baz=141,slow=9.5,SNR=42
BVAR pP pP 07 00 22.7 -1.4
comp=Z,1.1nm,0.7s,baz=16,slow=32,SNR=5.1
BRVK Borovoye 53.28 343 *e*P P 07 00 14.9 -1.0
comp=Z,8.2nm,1.0s,mb4.6
CHKZ Chkalovo 53.73 343 *e*P P 07 00 18.6 -0.5
comp=Z,13nm,0.8s,mb4.9
CTA Charters Tower 56.53 117 P P 07 00 40.2 +0.3
comp=Z,3.2nm,0.8s,mb4.4,baz=266,slow=8.9,SNR=4.1
KMBO Kilima Mbogo 56.60 267 P P 07 00 40.2 -0.4
comp=Z,1.2nm,0.6s,mb4.1,baz=46,slow=12,SNR=4.3
KMBO LR LR 07 21 55.9
comp=Z,224nm,20.4s,MS4.2,baz=281,slow=33
KMBO Kilima Mbogo 56.60 267 P P 07 00 40.2 -0.4
KMBO LR LR 07 21 55.9
STKA Stephens Creek 57.31 131 *e*P P 07 00 45.0 -0.4
comp=Z,3.7nm,0.6s,mb4.6
STKA Stephens Creek 57.31 131 P P 07 00 45.2 -0.2
comp=Z,4.3nm,0.6s,mb4.7,baz=313,slow=8.0,SNR=15
STKA pP pP 07 00 53.5 -0.7
comp=Z,4.0nm,0.7s,baz=321,slow=9.6,SNR=5.0
GNI Garni 57.41 317 P P 07 00 45.9 -0.1
comp=Z,1.4nm,0.3s,mb4.4,baz=6.3,slow=9.2,SNR=3.0
MALT Malatya 61.18 312 *e*P P 07 01 12.8 +0.8
BRTR Keskin Array B 65.16 313 P P 07 01 37.5 -0.9
comp=Z,2.2nm,0.8s,mb4.2,baz=129,slow=6.6,SNR=11
AKASG Malin Array Be 71.52 323 P P 07 02 16.4 -1.3
comp=Z,1.6nm,0.6s,mb4.2,baz=93,slow=5.2,SNR=10
MLR Muntele Rosu 72.19 317 P P 07 02 22.2 +0.4
comp=Z,3.2nm,0.5s,mb4.5,baz=121,slow=3.1,SNR=5.1
FINES FINESS Array B 76.59 333 P P 07 02 46.0 -0.7
comp=Z,1.9nm,0.6s,mb4.2,baz=105,slow=6.1,SNR=12
FINES pP pP 07 02 54.6 -1.1
comp=Z,3.0nm,0.9s,baz=90,slow=5.7,SNR=2.2
ARCES ARCESS Array B 79.45 341 P P 07 03 02.2 -0.1
comp=Z,4.7nm,0.9s,mb4.4,baz=74,slow=8.8,SNR=5.4
SYO Syowa Base 80.89 197 ⇓pP pP 07 03 20.4 +1.3
GERES GERESS Array B 80.98 319 P P 07 03 11.9 +0.9
comp=Z,4.6nm,0.7s,mb4.5,baz=99,slow=5.2,SNR=44
GERES pP pP 07 03 20.3 +0.3
comp=Z,1.9nm,0.7s,baz=90,slow=5.3,SNR=6.6
BRG Berggiesshubel 81.03 321 P P 07 03 12.2 +1.1
comp=Z,5.6nm,1.0s,mb4.5
KHC Kasperske Hory 81.09 319 *e*P P 07 03 10.5 -1.0
HFS Hagfors 82.22 330 P P 07 03 16.6 -0.5
comp=Z,4.2nm,0.9s,mb4.4,baz=90,slow=7.2,SNR=3.3
DAVOX Davos 83.42 317 P P 07 03 25.0 +1.4
comp=Z,12nm,0.6s,mb5.1,baz=128,slow=6.5,SNR=26
NOA NORSAR Array B 83.53 331 P P 07 03 23.6 -0.2
comp=Z,0.8nm,0.8s,mb3.9,baz=145,slow=3.5,SNR=3.5
LPG La Plagne 85.57 315 *e*P P 07 03 35.2 +0.7
comp=Z,19nm,1.1s,mb5.0
URZ Urewera 86.81 128 P P 07 03 40.9 +0.1
comp=Z,6.0nm,0.7s,mb5.0,baz=82,slow=7.1,SNR=3.4
TXAR Lajitas Array 143.57 26 PKP PKPdf 07 10 30.7 -4.5
comp=Z,0.7nm,0.6s,baz=188,slow=1.1,SNR=10

DJA 08 07:13:42.1±1.0,7.57S×112.93E,h115km±16km,MD4.7/4, ML3.7/4,6C-3D,Error ellipse: s-maj=61.9km s-min=21.6km az=2.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.50**	**127**	⇓*i*Pn	P	07 14 09.7	0.0
	36nm,0.2s						
SRDI	**Scrawed**	**1.50**	**127**	⇓*i*P	P	07 14 10.0	+0.3
SRDI				⇑*i*Sn	S	07 14 28.9	-1.6
KELI	**Kelakatan**	**1.68**	**113**	⇓*e*Pn	P	07 14 10.9	-0.9
	46nm,1.0s						
KELI				⇑*i*Sn	S	07 14 33.4	-0.7
RATI	**Rata**	**2.82**	**114**	⇑*i*Pn	P	07 14 25.9	-0.9
	42nm,0.2s						
RATI				⇑*i*Sn	S	07 14 51.2	-9.3
KEDI	**Kedomdong**	**3.28**	**106**	⇑*i*Pn	P	07 14 32.6	-0.4
	39nm,1.1s						
KEDI				⇑*i*Sn	S	07 15 08.6	-3.0

*IDC **08** 07:14:34.9±3.3,55.35S×28.10W,h24km±20km,mb4.6/10, mb1 4.6/11,mb1mx4.3/15,mbtmp4.8/11,ML4.9/1,MS4.1/8, Ms1 4.1/8,ms1mx3.7/17,Error ellipse: s-maj=24.2km s-min=15.5km az=57.0*
*HRVD **08** 07:14:35.9±0.5,55.29S×28.10W,h28km±1km,MW5.0/38, Centroid moment Tensor Solution. LP body waves: s15,c18;Mantle waves: s38,c50; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.51±.35; $M_{\theta\theta}$-2.09±.27; $M_{\phi\phi}$-1.42±.22; $M_{r\theta}$-0.41±.42; $M_{\theta\phi}$1.94±.13; $M_{\phi r}$1.99±.31; Best double couple: $M_0$4.15×10^{16} NP1:ϕ_s114°,δ35°,λ62°. NP2:ϕ_s327°,δ59°,λ109°. Principal axes: T 4.225, Plg70°, Azm278°; N -.15, Plg16°, Azm137°; P -4.075, Plg12°, Azm44°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 07:14:35.9±3.6,55.33S×28.10W,h33km±24km,mb4.9/6 Error ellipse: s-maj=12.3km s-min=7.4km az=48.0*
*BJI **08** 07:14:38.9,55.30S×28.10W,h33km,mB5.4,Ms4.7, Msz4.7*
ISC 08 07:14:30.7±0.5,55.35S±0.08×28.1W±0.1,h10km,n61, σ0:91/24,mb4.7/14,MS4.2/7,1C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.97**	**279**	Pn	**Pn**	**07 15 45.5**	**-1.8**
	3μm,0.3s						
EFI	**East Falkland**	**18.13**	**269**	*e*P	**P**	**07 18 44.5**	**+0.5**
SNAA	**Sanae**	**19.59**	**156**	P	**P**	**07 19 00.5**	**-0.9**
	3.2nm,0.3s,baz=310,slow=11,SNR=102						
SNAA				PcP	PcP	07 23 19.8	-1.1
	0.1nm,0.3s,baz=246,slow=1.9,SNR=3.8						
SNAA				LR	LR	07 25 18.1	
	comp=Z,199nm,18.1s,baz=208,slow=33						
PMSA	**Palmer Station**	**19.99**	**227**	*e*P	**P**	**07 19 05.7**	**-0.1**
	44nm,0.9s						
USHA	**Ushuaia**	**22.88**	**254**	P	**P**	**07 19 36.0**	**+1.1**
	19nm,0.9s,mb4.5,baz=94,slow=5.3,SNR=5.9						
USHA				LR	LR	07 26 15.7	
	comp=Z,893nm,18.4s,MS4.2,baz=82,slow=31						
TRQA	**Tornquist**	**28.58**	**293**	*e*P	**P**	**07 20 28.1**	**-0.6**
	23nm,1.5s,mb4.7						
SYO	**Syowa Base**	**32.45**	**142**	⇓P	**P**	**07 20 59.8**	**-2.8**
SYO	**Syowa Base**	**32.45**	**142**	⇑pP	pP	07 21 06.0	+0.4
QSPA	**South Pole Qui**	**34.90**	**180**	P	**P**	**07 21 25.0**	**+1.2**
	21nm,0.6s,mb5.2						
SUR	**Sutherland**	**40.96**	**77**	*e*P	**P**	**07 22 15.5**	**+0.6**
MAW	**Mawson**	**41.02**	**144**	P	**P**	**07 22 15.2**	**+0.2**
	4.4nm,0.7s,mb4.2,baz=211,slow=8.9,SNR=4.6						
MAW				LR	LR	07 39 59.0	
	comp=Z,326nm,18.3s,MS4.2,baz=248,slow=37						
BAO	**Brasilia Array**	**42.50**	**331**	P	**P**	**07 22 28.1**	**+0.4**
BDFB	**Brasilia**	**42.50**	**331**	P	**P**	**07 22 27.6**	**-0.1**
	8.1nm,1.0s,mb4.4,baz=158,slow=1.9,SNR=11						
BDFB				PcP	PcP	07 24 21.0	-0.1
	2.7nm,0.7s,baz=138,slow=4.6,SNR=2.5						
BDFB				LR	LR	07 38 50.2	
	comp=Z,318nm,19.3s,MS4.2,baz=36,slow=34						
LVC	**Limon Verde**	**44.51**	**300**	P	**P**	**07 22 44.5**	**+0.5**
	12nm,0.6s,mb4.9,baz=149,slow=7.3						
LVC				PcP	PcP	07 24 28.0	+0.2
	2.6nm,0.6s,baz=140,slow=7.9,SNR=3.3						
LVC				LR	LR	07 40 01.3	
	comp=Z,210nm,20.2s,MS4.0,baz=144,slow=34						
LVC	**Limon Verde**	**44.51**	**300**	*e*P	**P**	**07 22 44.4**	**+0.4**
	19nm,0.8s,mb5.0						
VNDA	**Vanda**	**47.25**	**183**	P	**P**	**07 23 05.7**	**+0.6**
	12nm,0.7s,mb5.0,baz=192,slow=6.2,SNR=20						
LPAZ	**La Paz**	**49.55**	**306**	P	**P**	**07 23 24.1**	**+0.5**
	14nm,0.6s,mb5.1,baz=141,slow=5.2,SNR=52						
LPAZ				PcP	PcP	07 24 46.6	+0.9
	4.0nm,0.8s,baz=191,slow=5.2,SNR=2.1						
LPAZ				LR	LR	07 43 10.0	
	comp=Z,177nm,21.1s,MS4.0,baz=119,slow=35						
ARE	**Arequipa**	**51.00**	**302**	*e*P	**P**	**07 23 34.0**	**-0.6**
DBIC	**Dimbokro**	**64.75**	**26**	P	**P**	**07 25 11.4**	**0.0**
	20nm,0.9s,mb5.2,baz=167,slow=7.7,SNR=34						
DBIC				LR	LR	07 47 06.1	
	comp=Z,81nm,19.6s,MS3.9,baz=128,slow=30						
OTAV	**Otavalo**	**68.84**	**304**	P	**P**	**07 25 38.6**	**+1.2**
	3.0nm,0.8s,mb4.3						
ROSC	**El Rosal**	**71.06**	**310**	P	**P**	**07 25 51.1**	**+0.2**
	3.6nm,0.6s,mb4.5,baz=181,slow=6.8,SNR=4.6						
SDV	**Santo Domingo**	**73.15**	**316**	*e*P	**P**	**07 26 01.9**	**-1.4**
	18nm,0.8s,mb5.1						
KMBO	**Kilima Mbogo**	**75.27**	**70**	LR	LR	07 58 42.7	
	comp=Z,349nm,18.0s,MS4.7,baz=286,slow=35						
STKA	**Stephens Creek**	**92.68**	**171**	P	**P**	**07 27 44.5**	**+0.9**
	1.4nm,0.7s,mb4.5,baz=193,slow=11,SNR=3.1						
STKA	**Stephens Creek**	**92.68**	**171**	P	**P**	**07 27 44.5**	**+0.8**
ASAR	**Alice Springs**	**99.81**	**163**	P	**P**	**07 28 15.3**	**-1.0**
	1.2nm,0.7s,mb4.4,baz=189,slow=3.5,SNR=14						
ASAR				PP	PP	07 32 20.6	-2.8
	0.8nm,0.8s,baz=194,slow=6.0,SNR=4.4						
ASAR				PKKPbc		07 44 36.4	
	0.8nm,0.8s,baz=23,slow=1.7,SNR=8.8						
WRA	**Warramunga Arr**	**103.53**	**163**	PP	PP	07 32 48.3	-3.4
	0.9nm,0.9s,baz=198,slow=6.6,SNR=3.8						
PDAR	**Pinedale Array**	**119.53**	**303**	PKP	PKPdf	07 33 20.6	-2.4
	1.1nm,1.1s,baz=120,slow=5.0,SNR=4.6						
HFS	**Hagfors**	**119.83**	**23**	PKP	PKPdf	07 33 21.2	-2.0
	4.3nm,1.0s,baz=229,slow=2.2,SNR=3.2						
NOA	**NORSAR Array B**	**120.13**	**21**	PKP	PKPdf	07 33 21.7	-2.0
	0.9nm,0.9s,baz=245,slow=2.3,SNR=2.7						
FINES	**FINESS Array B**	**124.00**	**28**	PKP	PKPdf	07 33 28.2	-3.1
	2.3nm,0.5s,baz=148,slow=3.1,SNR=23						
CHMT	**Chamberlain Mo**	**124.37**	**304**	*e*PKPdf	PKPdf	07 33 31.2	-1.2
KAF	**Kangasniemi**	**124.62**	**28**	*e*pkp	PKPdf	07 33 29.6	-2.7
MSO	**Missoula**	**124.64**	**304**	*e*PKPdf	PKPdf	07 33 31.4	-1.4
CMAR	**Chiang Mai Arr**	**125.79**	**111**	PKP	PKPdf	07 33 33.8	-2.0
	1.3nm,0.5s,baz=231,slow=3.6,SNR=7.5						
JOF	**Joensuu**	**126.64**	**29**	*e*pkp	PKPdf	07 33 33.8	-2.3
ARCES	**ARCESS Array B**	**130.48**	**22**	PKP	PKPdf	07 33 41.2	-2.2
	6.9nm,0.8s,baz=281,slow=2.5,SNR=16						
ARCES	**ARCESS Array B**	**130.48**	**22**	PKP	PKPdf	07 33 41.2	-2.2
BVAR	**Borovoye Array**	**134.83**	**57**	PKP	PKPdf	07 33 51.0	-0.9
	3.0nm,0.6s,baz=207,slow=3.3,SNR=19						
YKA	**Yellowknife Ar**	**135.31**	**319**	PKhKP		07 33 34.4	
	0.1nm,0.5s,baz=120,slow=3.3,SNR=7.0						
YKA				PKP	PKPdf	07 33 51.0	-1.6
	2.7nm,0.7s,baz=132,slow=2.0,SNR=29						
YKA				PP	PP	07 36 26.7	-3.0
	0.8nm,0.9s,baz=121,slow=6.2,SNR=6.5						
YKA				SKPbc		07 37 18.8	
	1.1nm,1.0s,baz=125,slow=2.3,SNR=7.7						
YKA	**Yellowknife Ar**	**135.31**	**319**	PKP	PKPdf	07 33 51.0	-1.6
YKA				PP	PP	07 36 26.7	-3.0
YKA				SKPbc		07 37 18.8	
YKW3	**Yellowknife Ar**	**135.35**	**319**	*e*PKPdf	PKPdf	07 33 48.4	-4.2
RES	**Resolute Bay**	**137.02**	**339**	*e*PKPdf	PKPdf	07 33 54.4	-1.0
ZAL	**Zalesovo**	**142.50**	**63**	PKhKP		07 34 00.4	
	1.3nm,0.7s,baz=222,slow=1.4,SNR=5.3						
INK	**Inuvik**	**144.94**	**321**	PKP	PKPdf	07 34 06.9	-2.5
	38nm,0.8s,baz=99,slow=3.9,SNR=95						
INK	**Inuvik**	**144.94**	**321**	*e*PKPdf	PKPdf	07 34 06.6	-2.9
DAWY	**Dawson**	**145.94**	**313**	*e*PKPdf	PKPdf	07 34 09.7	-1.5
DIV	**Divide**	**147.83**	**306**	*e*PKPbc	PKPdf	07 34 16.4	+2.0
SML	**Sawmill**	**149.20**	**307**	*e*PKPbc	PKPdf	07 34 19.7	+3.0
ILAR	**Eielson Array**	**149.27**	**313**	PKPbc	PKPdf	07 34 19.4	+2.8
	37nm,0.8s,baz=127,slow=1.8,SNR=161						
COLA	**College**	**149.69**	**313**	*e*P	PKPdf	07 34 20.3	+3.0
PWA	**Palmer West**	**149.87**	**306**	*e*P	PKPdf	07 34 21.1	+3.4
FIB	**Fire Island**	**149.88**	**305**	*e*PKPbc	PKPdf	07 34 22.3	+4.6
MCK	**McKinley**	**149.93**	**310**	*e*PKPbc	PKPdf	07 34 21.5	+3.8
KDAK	**Kodiak Island**	**150.04**	**298**	*e*PKPbc	PKPdf	07 34 21.4	+3.3
SPU	**Mount Spurr**	**150.77**	**305**	*e*PKPbc	PKPdf	07 34 21.0	+1.9
RSO	**Redoubt South**	**150.92**	**303**	*e*PKPbc	PKPdf	07 34 25.4	+6.1
SONM	**Songino Array**	**151.19**	**86**	PKPbc	PKPdf	07 34 25.0	+4.9
	9.0nm,0.6s,baz=226,slow=2.6,SNR=64						
ULN	**Ulaanbaatar**	**151.58**	**86**	*e*PKPbc	PKPdf	07 34 25.8	+5.1
BJT	**Baijiatuau**	**151.85**	**108**	*e*PKPbc	PKPdf	07 34 26.9	+5.5
IMA	**Indian Mountai**	**152.26**	**315**	*e*P	PKPdf	07 34 27.7	+6.5

*NIED **08** 07:14:00,42.90N×145.50E,h35km,Mw4.1 Best double couple: $M_0$1.37×10^{15} NP1:ϕ_s27°,δ68°,λ82°. NP2:ϕ_s228°, δ23°,λ109°.*
*BJI **08** 07:14:53.1,42.75N×145.47E,h11km,mB5.2,mb4.5*
*NEIC **08** 07:14:53.1±0.9,42.91N×145.47E,h10km,mb4.5/4, MW4.1(NIED),Error ellipse: s-maj=23.1km s-min=13.1km az=149.0*
*MOS **08** 07:14:53.1±1.1,42.66N×145.69E,h33km,mb4.7/4,Error ellipse: s-maj=23.9km s-min=12.6km az=90.2*
*SKHL **08** 07:14:57.3±0.1,42.95N×145.45E,h50km±3km,mb4.9/2*
*JMA **08** 07:14:57.0±0.1,42.89N×145.49E,h43km±1km,M4.0*
JMA Felt I J1.
*IDC **08** 07:15:00.3±5.3,42.85N×145.49E,h69km±31km,mb3.6/11, mb1 3.8/12,mb1mx3.6/24,mbtmp4.0/12,ML4.1/1,MS3.1/1, Ms1 3.1/1,ms1mx2.5/26,Error ellipse: s-maj=64.3km s-min=19.3km az=179.0*
ISC 08 07:14:56.7±1.1,42.93N±0.08×145.51E±0.08,h50km±6km, n35,σ0:86/43,mb4.0/14,1C-4D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.46**	**21**	⇑P	**P**	**07 15 07.8**	**+0.2**
NEM2				S	**S**	**07 15 15.4**	**+0.1**
JAK	**Akkeshi**	**0.60**	**276**	⇓P	**P**	**07 15 09.1**	**-0.1**
JAK				*e*S	**S**	**07 15 17.9**	**-0.5**
JNK	**Nakash**	**0.87**	**319**	⇓P	**P**	**07 15 13.1**	**+0.3**
JNK				*e*S	**S**	**07 15 24.4**	**-0.4**
JRA	**Rausu**	**1.04**	**344**	P	**P**	**07 15 15.9**	**+0.7**
JRA				*e*S	**S**	**07 15 30.1**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**1.13**	**13**	*e*PN	**P**	**07 15 16.0**	**-0.4**
YUK				*e*S	**S**	**07 15 30.1**	**-1.0**
YUK				pmax	pmax		
	comp=Z,450nm,0.3s						
YUK				smax			
	comp=E,12μm,1.0s						
YUK				smax			
	comp=N,6μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.13**	**13**	*e*P	**P**	**07 15 16.0**	**-0.4**
YUK				AMB	AMB	07 15 17.5	
	comp=E,450nm,0.2s						
YUK				*e*S	**S**	**07 15 30.1**	**-1.0**
YUK				A		07 15 32.0	
	comp=E,12μm,1.0s						
YUK				A		07 15 34.5	
	comp=E,6μm,0.5s						
YUK				A		07 15 34.5	
	comp=E,2μm,0.5s						
JOB	**Onbets**	**1.23**	**269**	⇓P	**P**	**07 15 17.5**	**-0.4**
JAR	**Ashorobuto**	**1.33**	**286**	⇓P	**P**	**07 15 19.2**	**-0.2**
ASAJ	**Asahikawa**	**2.43**	**300**	PN	**P**	**07 15 36.5**	**+1.6**
ASAJ				S	**S**	**07 16 08.0**	**+4.5**
ASAJ				pmax	pmax		
	comp=Z,25nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,376nm,19.1s						
ASAJ	**Asahikawa**	**2.43**	**300**	P	**P**	**07 15 36.5**	**+1.6**
	comp=Z,25nm,0.3s,baz=124,slow=10,SNR=66						
ASAJ				S	**S**	**07 16 08.0**	**+4.5**
	comp=Z,11nm,0.3s,baz=36,slow=32,SNR=7.9						
ASAJ				LR	LR	07 16 48.7	
	comp=Z,376nm,19.1s,baz=353,slow=44						
KUR	**Kuril'sk**	**2.86**	**36**	*e*P	**P**	**07 15 57.0**	**+16**
KUR				AMB	AMB	07 15 58.2	
	comp=Z,120nm,0.5s						
KUR				*i*S	**S**	**07 16 13.8**	**-0.5**
KUR				A		07 16 14.2	
	comp=Z,150nm,0.5s						
KUR				A		07 16 14.2	
	comp=Z,210nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.47**	**335**	*e*rx	rx	07 16 28.2	
MAJO	**Matsushiro**	**8.51**	**224**	PN	**P**	**07 16 55.6**	**-4.3**
ULN	**Ulaanbaatar**	**27.25**	**294**	*e*P	**P**	**07 20 36.8**	**-1.2**
	comp=Z,2.0nm,0.6s,mb3.8						
SONM	**Songino Array**	**27.70**	**294**	P	**P**	**07 20 42.5**	**+0.5**
	comp=Z,1.8nm,0.5s,mb3.9,baz=87,slow=8.1,SNR=12						
ILAR	**Eielson Array**	**42.85**	**36**	P	**P**	**07 22 51.6**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.4,baz=268,slow=8.1,SNR=10						
INK	**Inuvik**	**47.71**	**30**	P	**P**	**07 23 29.9**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.9,baz=284,slow=8.5,SNR=8.6						
CHKZ	**Chkalovo**	**48.75**	**310**	P	**P**	**07 23 34.7**	**-3.3**
BVAR	**Borovoye Array**	**49.10**	**309**	P	**P**	**07 23 40.7**	**0.0**
	comp=Z,0.8nm,0.5s,mb4.0,baz=82,slow=8.2,SNR=9.3						
BRVK	**Borovoye**	**49.15**	**310**	P	**P**	**07 23 43.4**	**+2.3**
RES	**Resolute Bay**	**56.09**	**16**	*e*P	**P**	**07 24 31.8**	**-0.7**
RES				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
RES	**Resolute Bay**	**56.09**	**16**	*e*P	**P**	**07 24 31.8**	**-0.8**
	comp=Z,5.5nm,0.8s,mb4.6						
YKA	**Yellowknife Ar**	**57.14**	**33**	P	**P**	**07 24 39.9**	**-0.3**
YKA	**Yellowknife Ar**	**57.14**	**33**	P	**P**	**07 24 39.8**	**-0.3**
	comp=Z,0.2nm,0.7s,mb3.3,baz=303,slow=7.6,SNR=7.8						
KAF	**Kangasniemi**	**64.50**	**333**	*e*p	**P**	**07 25 28.7**	**-1.2**
	comp=Z,11nm,1.3s,mb4.7						
KAF	**Kangasniemi**	**64.50**	**333**	*e*P	**P**	**07 25 28.7**	**-1.2**
KAF				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.7						
FINES	**FINESS Array B**	**65.06**	**333**	P	**P**	**07 25 33.0**	**-0.5**
	comp=Z,3.5nm,0.5s,mb4.6,baz=54,slow=7.5,SNR=43						
NB2	**NORSAR Subarra**	**69.93**	**338**	P	**P**	**07 26 03.9**	**-0.1**
	comp=Z,1.8nm,0.7s,mb4.1,baz=37,slow=6.2						
NB2	**NORSAR Subarra**	**69.93**	**338**	P	**P**	**07 26 03.9**	**-0.1**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
NOA	**NORSAR Array B**	**69.93**	**338**	P	**P**	**07 26 03.9**	**-0.1**
	comp=Z,2.6nm,0.8s,mb4.2,baz=35,slow=6.1,SNR=6.9						
HFS	**Hagfors**	**69.97**	**337**	P	**P**	**07 26 04.0**	**-0.3**
	comp=Z,2.7nm,0.5s,mb4.4,baz=34,slow=5.3,SNR=9.7						
PDAR	**Pinedale Array**	**71.35**	**49**	P	**P**	**07 26 13.2**	**+0.4**
	comp=Z,0.2nm,0.6s,mb3.2,baz=270,slow=0.9,SNR=2.5						
AKASG	**Malin Array Be**	**71.52**	**323**	P	**P**	**07 26 13.5**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**71.52**	**323**	P	**P**	**07 26 13.4**	**-0.3**
	comp=Z,1.8nm,0.4s,mb4.3,baz=43,slow=6.4,SNR=16						
TXAR	**Lajitas Array**	**84.10**	**55**	P	**P**	**07 27 25.2**	**+1.8**
	comp=Z,0.3nm,0.8s,mb3.5,baz=288,slow=4.0,SNR=3.8						

*MOS **08** 07:18:52.8±1.2,53.47N×108.39E,h15km,mb4.3/1,Error ellipse: s-maj=16.6km s-min=9.1km az=55.7*
MOS Felt (II) at Onguryeny.
BYKL 08 07:18:54.1±0.2,53.59N×108.26E,h14km±5km,7C-4D, FELT I=II MSK at Onguren),Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGRR	**Ongureny**	**0.40**	**278**	*e*PG	Pg	07 19 02.5	0.0
OGRR				*e*		07 19 07.3	
OGRR				pmax	pmax		
	comp=Z,158nm,0.1s						
OGRR				smax			
	comp=N,2μm,0.3s						
OGRR	**Ongureny**	**0.40**	**278**	⇑*i*Pg	Pg	07 19 02.5	0.0
	comp=N,89nm,0.3s						
OGRR				⇓*i*Pg	Pg	07 19 02.5	0.0
	comp=N,205nm,0.3s						
OGRR				⇑*i*Pg	Pg	07 19 02.5	0.0
	comp=N,277nm,0.3s						
OGRR				*i*Sg	Sg	07 19 08.0	-0.1
OGRR				Pmax			
	comp=N,250nm,0.3s						
OGRR				Smax			
	comp=N,3μm,0.5s						
MXMB	**Maximikha**	**0.44**	**138**	⇓*i*Pg	Pg	07 19 03.5	+0.3
	comp=N,542nm,0.3s						
MXMB				⇑*i*Pg	Pg	07 19 03.5	+0.3
	comp=N,542nm,0.3s						
MXMB				⇑*i*Pg	Pg	07 19 03.5	+0.3
	comp=N,2μm,0.3s						
MXMB				*e*Sg	Sg	07 19 09.9	+0.6
MXMB				Pmax			
	comp=N,2μm,0.2s						
MXMB				Smax			
	comp=N,6μm,0.3s						
SYVR	**Suvo**	**1.04**	**86**	*e*PG	Pg	07 19 12.5	-2.5
SYVR				*e*		07 19 26.1	
SYVR				pmax	pmax		
	comp=Z,99nm,0.2s						
SYVR				smax			
	comp=E,422nm,0.3s						
SYVR	**Suvo**	**1.04**	**86**	⇑*i*Pg	Pg	07 19 13.0	-2.

NIZ				*e*S	Sn	07 20 01.1	+0.3
NIZ				*e*		07 20 05.4	
NIZ				pmax	pmax		
	comp=Z,25nm,0.3s						
NIZ				smax			
	comp=N,269nm,0.5s						
NIZ	**Nizh Angarsk**	**2.31**	**18**⇑	*i*Pn	Pn	07 19 32.9	+0.5
NIZ				*e*Pg	Pg	07 19 35.8	-4.5
NIZ				*e*Sn	Sn	07 20 01.4	+0.6
NIZ				*e*Sg	Sg	07 20 05.2	-6.0
NIZ				Pmax			
	comp=N,26nm,0.3s						
NIZ				Smax			
	comp=N,277nm,0.4s						
BTMB	**Babushkin**	**2.40**	**219**	*e*Pn	Pn	07 19 34.5	+0.8
BTMB				*e*Pg	Pg	07 19 37.5	-4.6
BTMB				*e*Sg	Sg	07 20 08.2	-6.0
BTMB				Pmax			
	comp=N,26nm,0.4s						
BTMB				Smax			
	comp=N,211nm,0.5s						
LSTR	**Listvyanka**	**2.71**	**232**	*e*Pn	Pn	07 19 37.8	-0.2
LSTR				*e*Pg	Pg	07 19 41.5	-6.7
LSTR				*e*Sn	Sn	07 20 10.6	-0.2
LSTR				*e*Sg	Sg	07 20 16.7	-7.6
LSTR				Pmax			
	comp=N,13nm,0.3s						
LSTR				Smax			
	comp=N,151nm,0.7s						
IRK	**Irkutsk**	**2.77**	**242**	*e*PN	Pn	07 19 44.1	+5.2
IRK				*e*		07 20 18.7	
IRK				pmax	pmax		
	comp=Z,103nm,0.3s						
IRK				smax			
	comp=N,865nm,0.4s						
IRK	**Irkutsk**	**2.77**	**242**	*e*	Sn	07 20 11.0	-1.4
IRK				*e*Sg	Sg	07 20 18.1	-8.2
IRK				Smax			
	comp=N,865nm,0.4s						
KMO	**Kumora**	**2.86**	**35**	*e*PN	Pn	07 19 39.7	-0.6
KMO				*e*		07 19 44.7	
KMO				*e*S	Sn	07 20 14.5	-0.3
KMO				*e*		07 20 22.0	
KMO				pmax	pmax		
	comp=Z,26nm,0.3s						
KMO				smax			
	comp=E,161nm,1.1s						
KMO	**Kumora**	**2.86**	**35**	*e*Pn	Pn	07 19 40.1	-0.2
KMO				*e*Pg	Pg	07 19 44.6	-6.7
KMO				*e*		07 19 49.9	
KMO				*e*Sg	Sg	07 20 21.9	-7.6
KMO				max			
	comp=E,42nm,0.9s						
KMO				Smax			
	comp=E,111nm,0.6s						
TLY	**Talaya**	**3.40**	**238**	*e*PN	Pn	07 19 47.5	-0.4
TLY				*e*		07 19 53.7	
TLY				*e*		07 20 37.0	
TLY				pmax	pmax		
	comp=Z,14nm,0.5s						
TLY				smax			
	comp=E,191nm,0.6s						
TLY	**Talaya**	**3.40**	**238**	*e*Pg	Pg	07 19 53.8	-8.2
TLY				*e*PgPg		07 19 55.8	
TLY				*e*Sn	Sn	07 20 25.9	-2.5
TLY				*e*Sg	Sg	07 20 37.6	-10
TLY				max			
	comp=E,20nm,0.4s						
TLY				Smax			
	comp=E,190nm,1.1s						
CIT	**Chita**	**3.58**	**114**	*e*PN	Pn	07 19 48.5	-1.9
CIT				*e*		07 19 56.8	
CIT				*e*		07 20 42.8	
CIT				pmax	pmax		
	comp=Z,27nm,0.3s						
CIT				smax			
	comp=E,211nm,0.4s						
CIT	**Chita**	**3.58**	**114**	*e*Pn	Pn	07 19 48.7	-1.7
CIT				*e*Pg	Pg	07 19 57.8	-7.7
CIT				*e*Sg	Sg	07 20 43.5	-10
CIT				Pmax			
	comp=E,34nm,1.0s						
CIT				Smax			
	comp=E,213nm,0.7s						
UKT	**Uakit**	**3.66**	**57**	*e*Pn	Pn	07 19 50.7	-0.9
UKT				*e*Pg	Pg	07 19 59.1	-8.1
UKT				*e*Sg	Sg	07 20 46.3	-10
UKT				Pmax			
	comp=E,18nm,0.5s						
UKT				Smax			
	comp=E,66nm,1.0s						
ARS	**Arshan**	**3.92**	**247**	*e*PN	Pn	07 19 52.8	-2.5
ARS				*e*		07 20 02.6	
ARS	**Arshan**	**3.92**	**247**	*e*	Pn	07 19 56.4	+1.1
ARS				*e*Pg	Pg	07 20 03.0	-9.4
ARS				*e*		07 20 42.7	
ARS				*e*Sg	Sg	07 20 53.9	-11
ARS				Pmax			
	comp=E,31nm,0.5s						
ARS				Smax			
	comp=E,477nm,0.6s						
ZAK	**Zakamensk**	**4.45**	**226**	*e*	Pn	07 20 07.4	+4.6
ZAK				*e*Pg	Pg	07 20 14.7	-8.2
ZAK				*e*Sg	Sg	07 21 13.0	-9.3
ZAK				Pmax			
	comp=E,5.0nm,0.5s						
ZAK				Smax			
	comp=E,36nm,0.8s						
KPC	**Khapcheranga**	**4.66**	**145**⇑	*i*	Pn	07 20 02.8	-3.0
KPC				*e*Pg	Pg	07 20 17.1	-10
KPC				*e*Sg	Sg	07 21 16.8	-13
KPC				Pmax			
	comp=E,6.0nm,0.4s						
KPC				Smax			
	comp=E,72nm,0.6s						
MOY	**Mondy**	**4.83**	**249**	*e*PN	Pn	07 20 08.6	+0.4
MOY	**Mondy**	**4.83**	**249**	*e*Pn	Pn	07 20 08.9	+0.7
MOY				*e*		07 20 15.7	
MOY				*e*		07 20 24.0	
MOY				*e*		07 21 04.3	
MOY				*e*Sg	Sg	07 21 22.4	-12
MOY				Smax			
	comp=E,406nm,0.9s						
NLYR	**Nelyaty**	**5.17**	**53**	*e*PN	Pn	07 20 26.8	+14
NLYR				*e*		07 21 34.3	
NLYR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NLYR				smax			
	comp=E,85nm,1.1s						
NLYR	**Nelyaty**	**5.17**	**53**	*e*Sg	Sg	07 21 34.8	-12
NLYR				Smax			
	comp=E,86nm,1.3s						
ORL	**Orlik**	**5.20**	**262**	*e*PN	Pn	07 20 13.9	+0.4
ORL				*e*S	Sn	07 21 11.1	-2.9
ORL				*e*S	Sn	07 21 36.3	+22
ORL				smax			
	comp=N,91nm,1.3s						
ORL	**Orlik**	**5.20**	**262**	*e*Pn	Pn	07 20 13.0	-0.5
ORL				*e*Pg	Pg	07 20 28.2	-10
ORL				*e*Sn	Sn	07 21 11.1	-2.9
ORL				*e*Sg	Sg	07 21 36.0	-11
ORL				Pmax			
	comp=N,14nm,0.4s						
ORL				Smax			
	comp=N,93nm,1.7s						
BOD	**Bodaibo**	**5.34**	**35**	*e*Sg	Sg	07 21 38.3	-14
BOD				Smax			
	comp=N,23nm,0.6s						
ULN	**Ulaanbaatar**	**5.78**	**188**	*i* PN	Pn	07 20 20.9	-0.7
CRS	**Chara**	**6.61**	**56**	*e*Sg	Sg	07 22 18.5	-16
CRS				Smax			
	comp=N,54nm,1.4s						
TUP	**Tupik**	**6.95**	**78**	*e*PN	Pn	07 20 35.0	-3.0
TUP				*e*		07 20 58.1	
TUP				*e*S	Sn	07 21 52.6	-4.9
TUP				*e*		07 22 27.9	
TUP				pmax	pmax		
	comp=Z,3.0nm,0.3s						
TUP				smax			
	comp=N,78nm,1.0s						
TUP	**Tupik**	**6.95**	**78**	*e*	Pn	07 20 42.7	+4.7
TUP				*e*Pg	Pg	07 20 59.9	-13
TUP				*e*Sn	Sn	07 22 00.8	+3.3
TUP				*e*Sg	Sg	07 22 29.6	-16
TUP				Pmax			
	comp=N,2.0nm,0.7s						
TUP				Smax			
	comp=N,50nm,0.8s						
TDJR	**Todzha**	**7.44**	**266**	*e*Sg	Sg	07 22 43.6	-18
YAK	**Yakutsk**	**14.14**	**45**	*i* P	P	07 22 14.9	-0.9
YAK				pmax	pmax		
	comp=Z,10.0nm,0.5s						
YAK				MLR	MLR		
	comp=Z,100nm,18.0s						

IDC 08 07:31:03.8±4.4, 16.85S×73.26W, h93km±37km, mb3.6/3, mb1 3.7/5, mb1mx3.4/15, mbtmp3.9/5, MS2.7/1, Ms1 2.8/1, ms1mx2.6/17, Error ellipse: s-maj=43.6km s-min=32.5km az=70.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.95**	**84**	P	P	07 32 16.6	-0.6
	3.3nm,0.3s,baz=271,slow=13,SNR=41						
LPAZ				S	S	07 33 19.4	+5.8
	baz=164,slow=20,SNR=2.8						
LPAZ				LR	LR	07 34 18.2	
	comp=Z,81nm,20.1s,baz=303,slow=39						
LVC	**Limon Verde**	**7.04**	**145**	P	P	07 32 45.2	-0.9
	2.3nm,0.3s,baz=327,slow=9.2,SNR=34						
LVC				S	S	07 34 03.2	-2.0
	7.6nm,0.3s,baz=93,slow=19,SNR=14						
BDFB	**Brasilia**	**24.26**	**91**	P	P	07 36 12.3	-1.2
	1.7nm,0.5s,baz=284,slow=6.8,SNR=3.5						
DBIC	**Dimbokro**	**71.52**	**77**	P	P	07 42 15.3	-1.7
	1.7nm,0.7s,baz=207,slow=6.9,SNR=6.5						
YKA	**Yellowknife Ar**	**85.49**	**342**	P	P	07 43 30.0	-2.1
	0.2nm,0.6s,baz=143,slow=5.3,SNR=7.5						
SONM	**Songino Array**	**149.10**	**0**	PKPbc	PKPdf	07 50 42.1	+5.2
	0.3nm,0.7s,baz=310,slow=0.4,SNR=5.9						

DJA 08 07:35:05.8±0.8, 8.89S×115.34E, h99km±6km, MD4.7/4, ML3.2/2, 6C-3D, Error ellipse: s-maj=26.6km s-min=7.3km az=0.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.25**	**49**⇓	*i*Pn	P	07 35 19.7	-0.4
	242nm,0.2s						
RATI	**Rata**	**0.25**	**49**⇓	*i*P	P	07 35 20.0	-0.1
RATI				⇓*i*Sn	S	07 35 30.6	-0.3
KEDI	**Kedomdong**	**0.86**	**63**⇑	*i*Pn	P	07 35 24.5	-0.4
	31nm,0.2s						
KEDI				⇑*i*Sn	S	07 35 39.3	+0.1
KELI	**Kelakatan**	**1.07**	**308**⇑	*i*Pn	P	07 35 28.1	+0.9
	27nm,1.1s						
KELI				⇑*i*Sn	S	07 35 41.8	-1.5
SRDI	**Scrawed**	**1.25**	**289**⇓	*i*Pn	P	07 35 27.9	-1.5
	32nm,0.2s						
SRDI				⇑*i*Sn	S	07 35 45.0	-2.1

*IDC **08** 07:56:00.2±2.6, 4.72N×96.07E, h8km±14km, mb4.4/18, mb1 4.5/19, mb1mx4.4/24, mbtmp4.4/19, ML4.3/1, MS4.0/6, Ms1 4.0/6, ms1mx3.8/19, Error ellipse: s-maj=34.6km s-min=12.5km az=48.0*

*BJI **08** 07:56:01.3, 4.49N×96.07E, h37km, mB5.0, mb4.7, Ms4.6, Msz4.5*

*NEIC **08** 07:56:03.7±0.3, 4.65N×96.08E, h30km, mb4.6/16, Error ellipse: s-maj=13.5km s-min=6.8km az=54.0*

ISC 08 07:56:02.3±0.3, 4.61N±0.04×96.09E±0.05, h33km, n72, σ1§11/68, mb4.6/38, MS4.2/8, 2C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**5.17**	**60**	P	P	07 57 17.0	-2.4
	174nm,0.9s						
NNT	**Nongplab**	**8.70**	**24**	P	P	07 58 10.0	+1.2
CMAR	**Chiang Mai Arr**	**14.04**	**11**	Pn	P	07 59 21.9	+0.7
	0.5nm,0.3s,baz=201,slow=13,SNR=25						
CMAR				LR	LR	08 05 18.6	
	comp=Z,1μm,18.6s,baz=200,slow=40						
CMAR				ScP		08 08 13.9	
	0.7nm,0.3s,baz=186,slow=3.7,SNR=5.7						
CHG	**Chiang Mai**	**14.38**	**11**	⇑P	P	07 59 27.4	+1.7
	10nm,1.2s						
PALK	**Pallekele**	**15.53**	**281**	*e*P	P	07 59 49.6	+8.9
	54nm,1.3s						
CHRT	**Chiangrai**	**15.59**	**13**	⇓P	P	07 59 43.0	+1.7
QIZ	**Qiongzhong**	**19.63**	**42**	P	P	08 00 31.6	+0.5
QIZ				S	S	08 04 05.4	+0.1
QIZ				AMB	AMB		
	comp=Z,31nm,1.6s						
QIZ				LR	LR		
	comp=N,1μm,16.9s						
QIZ				LR	LR		
	comp=E,852nm,17.6s						
QIZ				LR	LR		
	comp=Z,517nm,16.3s						
QIZ	**Qiongzhong**	**19.63**	**42**	P	P	08 00 30.1	-1.0
HYB	**Hyderabad**	**21.38**	**308**	*e*P	P	08 00 51.5	+2.3
HYB	**Hyderabad**	**21.38**	**308**	*i* P	P	08 00 51.5	+2.3
JIRN	**Jiri**	**24.78**	**339**	*e*P	P	08 01 22.9	+0.2
	comp=Z,17nm,0.6s,mb4.8						
PKI	**Pulchoki**	**25.00**	**337**	*e*P	P	08 01 24.8	0.0
	comp=Z,10nm,0.6s,mb4.5						
GUN	**Gumba**	**25.12**	**338**	*e*P	P	08 01 26.0	0.0
	comp=Z,32nm,0.7s,mb5.0						
DMN	**Daman**	**25.15**	**337**	*e*P	P	08 01 26.2	0.0
KKN	**Kakani**	**25.24**	**337**	*e*P	P	08 01 26.8	-0.3
	comp=Z,23nm,0.7s,mb4.8						
LSA	**Lhasa**	**25.39**	**350**	P	P	08 01 29.6	+1.2
LSA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
LSA	**Lhasa**	**25.39**	**350**	*e*P	P	08 01 29.6	+1.2
	comp=Z,9.0nm,0.5s,mb4.6						
GKN	**Gorkha**	**25.69**	**336**	*e*P	P	08 01 31.1	-0.2
	comp=Z,33nm,0.9s,mb4.9						
KOLN	**Koldanda**	**25.92**	**334**	*e*P	P	08 01 33.1	-0.4
	comp=Z,37nm,0.7s,mb5.0						
TGY	**Tagaytay City**	**26.24**	**67**	LR	LR	08 10 14.5	
	comp=Z,188nm,21.6s,MS3.6,baz=185,slow=33						
ENH	**Enshi**	**28.48**	**25**	P	P	08 01 56.7	-0.1
	comp=Z,20nm,1.2s,mb4.6						
WHN	**Wuhan**	**31.01**	**32**	P	P	08 02 20.8	+1.5
WHN				S	S	08 07 26.0	+5.4
WHN				LR	LR		
	comp=Z,2μm,13.5s,MS4.9						
XAN	**Xi'an**	**31.61**	**21**	P	P	08 02 23.9	-0.7
XAN				S	S	08 07 31.9	+1.8
XAN				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.7						
XAN				LR	LR		
	comp=N,174nm,15.0s,MS4.2						
XAN				LR	LR		
	comp=E,348nm,13.8s,MS4.2						
XAN				LR	LR		
	comp=Z,560nm,13.3s,MS4.4						
LZH	**Lanzhou**	**32.12**	**12**	*e*P	P	08 02 28.5	-0.5
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**36.86**	**129**⇓	*i*P	P	08 03 09.1	-0.6
	comp=Z,16nm,0.6s,mb5.0						
BJT	**Baijiatuao**	**39.63**	**24**	*e*P	P	08 03 34.2	+1.6
	comp=Z,12nm,0.8s,mb4.7						
WMQ	**Urumqi**	**39.74**	**350**	*e*P	P	08 03 33.9	+0.4
WMQ				AP	pP	08 03 43.5	+0.2
WMQ				XP	sP	08 03 47.4	-0.1
WMQ				PP	PP	08 05 09.6	+0.9
WMQ				S	S	08 09 34.4	-0.6
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb3.9						
WMQ				AMB	AMB		
	comp=Z,20nm,4.3s						
WMQ				LR	LR		
	comp=N,433nm,19.8s,MS4.4						
WMQ				LR	LR		
	comp=E,401nm,22.8s,MS4.4						
WMQ				LR	LR		
	comp=Z,513nm,19.5s,MS4.4						
KAKA	**Kakadu**	**40.01**	**116**	*e*P	P	08 03 36.1	+0.1
	comp=Z,6.8nm,0.6s,mb4.5						
MUN	**Mundaring**	**41.12**	**154**	*e*P	P	08 03 47.5	+2.5
	comp=Z,9.6nm,0.9s,mb4.4						
NWAO	**Narrogin (SRO)**	**42.38**	**153**	*e*P	P	08 03 57.7	+2.3
SONM	**Songino Array**	**43.96**	**10**	P	P	08 04 07.9	-0.2
	comp=Z,4.4nm,0.7s,mb4.3,baz=191,slow=9.1,SNR=41						
SONM				PcP	PcP	08 05 53.6	-0.5
	comp=Z,2.6nm,0.7s,baz=198,slow=2.7,SNR=5.3						
SONM				ScP		08 09 44.9	
	comp=Z,1.2nm,0.9s,baz=198,slow=3.9,SNR=5.3						
ULN	**Ulaanbaatar**	**44.11**	**11**	*e*P	P	08 04 09.0	-0.2
	comp=Z,1.5nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**44.82**	**124**	P	P	08 04 15.1	-0.2
	comp=Z,5.6nm,0.5s,mb4.7,baz=302,slow=9.3,SNR=29						
WRA				ScP		08 09 49.9	
	comp=Z,1.9nm,0.6s,baz=314,slow=3.7,SNR=20						
WRA				S	S	08 10 49.1	-0.8
	comp=Z,0.4nm,0.8s,baz=274,slow=16,SNR=2.4						
WRAB	**Tennant Creek**	**44.82**	**124**	*e*P	P	08 04 15.2	-0.2
	comp=Z,9.1nm,0.4s,mb5.0						
WB2	**Warramunga Arr**	**44.83**	**124**⇓	*i*P	P	08 04 14.9	-0.5
ASPA	**Alice Springs**	**46.36**	**129**	*e*P	P	08 04 27.8	+0.3
ASAR	**Alice Springs**	**46.36**	**129**	P	P	08 04 27.8	+0.3
	comp=Z,7.8nm,0.5s,mb4.9,baz=300,slow=7.9,SNR=127						
ASAR				PcP	PcP	08 06 02.8	0.0
	comp=Z,1.0nm,0.8s,baz=297,slow=4.0,SNR=2.4						
ASAR				ScP		08 09 56.5	
	comp=Z,1.5nm,0.6s,baz=305,slow=4.7,SNR=10						
ASAR				S	S	08 11 11.7	-0.2
	comp=Z,1.2nm,0.9s,baz=293,slow=12,SNR=4.5						
ZAL	**Zalesovo**	**50.03**	**351**	P	P	08 04 53.8	-1.8
	comp=Z,1.9nm,0.6s,mb4.3,baz=282,slow=5.2,SNR=13						
ZAL				ScP		08 10 10.2	
	comp=Z,1.7nm,0.6s,baz=307,slow=16,SNR=4.2						
BVAR	**Borovoye Array**	**52.68**	**341**	P	P	08 05 13.4	-2.2
	comp=Z,1.3nm,0.6s,mb4.0,baz=135,slow=8.4,SNR=8.8						
BVAR				PcP	PcP	08 06 25.3	0.0
	comp=Z,1.9nm,0.6s,baz=146,slow=5.2,SNR=3.0						
BRVK	**Borovoye**	**52.75**	**341**	*e*P	P	08 05 13.9	-2.2
	comp=Z,2.5nm,0.7s,mb4.2						
PMG	**Port Moresby**	**52.76**	**105**	P	P	08 05 15.9	-0.9
	comp=Z,12nm,0.7s,mb4.9,baz=326,slow=7.3,SNR=4.3						
CHKZ	**Chkalovo**	**53.16**	**341**	*e*P	P	08 05 17.3	-1.9
	comp=Z,6.3nm,0.9s,mb4.5						
CTA	**Charters Tower**	**55.05**	**118**	*e*P	P	08 05 32.5	-1.0
	comp=Z,4.0nm,0.8s,mb4.5						
CTA	**Charters Tower**	**55.05**	**118**	P	P	08 05 32.8	-0.8
	comp=Z,6.1nm,1.0s,mb4.6,baz=292,slow=11,SNR=5.5						
CTAO	**Charters Tower**	**55.05**	**118**	*e*P	P	08 05 33.2	-0.3
	comp=Z,6.1nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**56.47**	**133**	*e*P	P	08 05 43.7	+0.1
	comp=Z,6.9nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**56.47**	**133**	P	P	08 05 43.4	-0.3
	comp=Z,7.8nm,0.8s,mb4.8,baz=316,slow=6.4,SNR=23						
KMBO	**Kilima Mbogo**	**59.06**	**266**	P	P	08 06 05.5	+3.4
	comp=Z,1.6nm,0.5s,mb4.3,baz=48,slow=13,SNR=5.2						
KMBO				LR	LR	08 27 35.1	
	comp=Z,141nm,19.0s,MS4.1,baz=93,slow=32						
KMBO	**Kilima Mbogo**	**59.06**	**266**	*e*P	P	08 06 05.5	+3.4
	comp=Z,4.6nm,1.0s,mb4.5						
EIL	**Elat**	**62.74**	**301**	P	P	08 06 28.1	+1.3
	comp=Z,4.2nm,0.7s,mb4.7,baz=1,0,slow=11,SNR=3.2						
BRTR	**Keskin Array B**	**66.02**	**312**	P	P	08 06 46.5	-1.5
	comp=Z,2.6nm,0.6s,mb4.4,baz=128,slow=7.6,SNR=13						
AKASG	**Malin Array Be**	**71.90**	**322**	P	P	08 07 22.5	-1.5
	comp=Z,1.7nm,0.6s,mb4.2,baz=90,slow=5.3,SNR=5.0						
MLR	**Muntele Rosu**	**72.85**	**316**	P	P	08 07 29.5	-0.3
	comp=Z,3.4nm,0.8s,mb4.3,baz=107,slow=12,SNR=4.4						
MAW	**Mawson**	**75.77**	**193**	LR	LR	08 36 02.6	
	comp=Z,26nm,18.9s,MS3.6,baz=65,slow=32						
FINES	**FINESS Array B**	**76.48**	**332**	P	P	08 07 49.2	-1.2
	comp=Z,1.1nm,0.7s,mb3.9,baz=76,slow=7.9,SNR=15						
KAF	**Kangasniemi**	**76.56**	**333**	*e*p	P	08 07 48.6	-2.2
PSZ	**Piszkesteto**	**77.34**	**318**	*e*P	P	08 07 55.8	+0.2
ARCES	**ARCESS Array B**	**78.97**	**340**	P	P	08 08 03.5	-0.6
	comp=Z,4.3nm,1.0s,mb4.3,baz=67,slow=9.2,SNR=8.8						
ARCES				LR	LR	08 47 21.0	
	comp=Z,107nm,18.2s,MS4.2,baz=113,slow=39						
GERES	**GERESS Array B**	**81.54**	**319**	P	P	08 08 18.3	+0.2
	comp=Z,1.0nm,0.5s,mb4.0,baz=120,slow=4.9,SNR=15						
HFS	**Hagfors**	**82.23**	**330**	P	P	08 08 21.4	-0.1
	comp=Z,5.6nm,1.0s,mb4.4,baz=146,slow=5.3,SNR=6.0						
RPZ	**Rata Peaks**	**82.39**	**135**	LR	LR	08 42 29.0	
	comp=Z,146nm,20.9s,MS4.3,baz=97,slow=34						
SYO	**Syowa Base**	**82.89**	**198**	⇑P	P	08 08 25.6	+0.9
SYO	**Syowa Base**	**82.89**	**198**	⇓pP	pP	08 08 34.5	-0.7
DAVOX	**Davos**	**84.07**	**316**	P	P	08 08 32.0	+0.8
	comp=Z,4.9nm,0.5s,mb4.9,baz=186,slow=9.2						
LPG	**La Plagne**	**86.28**	**315**	*e*P	P	08 08 43.0	+0.9
	comp=Z,18nm,0.9s,mb5.0						
IMA	**Indian Mountai**	**93.88**	**23**	*e*P	P	08 09 17.9	+0.6
NVAR	**Mina Array Bea**	**126.62**	**34**	PKP	PKPdf	08 15 05.5	+2.5
	comp=Z,2.1nm,0.7s,baz=328,slow=0.9,SNR=5.3						
MNV	**Mina**	**126.70**	**33**	*e*P	PKPdf	08 15 05.3	+2.2
PDAR	**Pinedale Array**	**127.42**	**24**	PKP	PKPdf	08 15 06.2	+1.8
	comp=Z,0.9nm,0.7s,baz=109,slow=2.4,SNR=7.0						
TXAR	**Lajitas Array**	**141.28**	**28**	PKhKP		08 15 25.5	
	comp=Z,1.1nm,0.7s,baz=58,slow=1.0,SNR=5.5						
TXAR				PKP	PKPdf	08 15 32.4	+1.9
	comp=Z,1.5nm,0.7s,baz=196,slow=0.8,SNR=16						
BDFB	**Brasilia**	**143.07**	**250**	PKP	PKPdf	08 15 34.7	+0.8
	comp=Z,2.6nm,0.9s,baz=96,slow=1.7,SNR=3.7						
LPAZ	**La Paz**	**160.65**	**232**	PKPab	PKPab	08 16 44.8	+1.2
	comp=Z,1.9nm,1.1s,baz=130,slow=5.4,SNR=3.7						

*JMA **08** 08:00:44.8±0.4, 32.42N×137.94E, h378km±4km, M3.8*

*IDC **08** 08:00:45.5±0.7, 32.36N×137.72E, h357km±6km, mb3.3/18, mb1 3.5/21, mb1mx3.4/28, mbtmp4.1/21, Error ellipse: s-maj=15.3km s-min=10.0km az=94.0*

*NEIC **08** 08:00:45.1±0.6, 32.29N×137.78E, h356km±6km, mb3.9/2, Error ellipse: s-maj=10.6km s-min=8.0km az=111.0*

ISC 08 08:00:44.5±0.3, 32.28N±0.04×137.98E±0.06, h366km±3km, n61, σ1§07/72, mb3.6/20, 8C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**1.51**	**348**	P	P	08 01 36.5	+1.8
TK02	**Tokai 2**	**1.67**	**354**	P	P	08 01 36.5	+1.0
JHJ	**Hachijo jima 2**	**1.73**	**61**	P	P	08 01 36.4	+0.5
	26nm,0.3s,baz=219,slow=18,SNR=7.5						
JHJ				S	S	08 02 18.6	+2.3
	52nm,0.3s,baz=91,slow=23,SNR=9.0						
JHJ2	**Mitsune**	**1.75**	**61**	P	P	08 01 37.8	+1.7
TK04	**Tokai 4**	**2.10**	**358**	P	P	08 01 39.6	+1.3
JWZ	**Kozaga**	**2.27**	**304**	⇑P	P	08 01 39.6	0.0
JIE	**Ise**	**2.36**	**333**	⇑P	P	08 01 40.7	+0.5
JIE				*e*S	S	08 02 24.1	+0.2
JHMK	**Hamakita**	**2.53**	**356**	P	P	08 01 41.8	+0.3
HMMJ	**Hamamatsu 2**	**2.57**	**355**	⇑P	P	08 01 42.4	+0.5
HMMJ				*e*S	S	08 02 26.8	-0.1
JIM2	**Oshima 3**	**2.71**	**26**	P	P	08 01 42.9	-0.1
JAO	**Obara**	**3.04**	**349**	P	P	08 01 46.4	+0.7
JNY	**Yasuok**	**3.07**	**358**	⇑P	P	08 01 46.7	+0.7
JOD2	**Odawara 2**	**3.11**	**17**	P	P	08 01 47.0	+0.6
JOD2				*e*S	S	08 02 35.1	+0.1
JEG	**Eigenji**	**3.14**	**335**

ULN	Ulaanbaatar	28.09 313	*eP*	P	08 06 04.9	-0.6
SONM	Songino Array	28.48 312	P	P	08 06 08.2	-0.8
	1.5nm,0.5s,mb3.4,baz=117,slow=7.5,SNR=7.5					
BILL	Bilibino	39.37 16	*eP*	P	08 07 41.5	+0.6
	3.8nm,0.6s,mb3.8					
ZAL	Zalesovo	43.21 316	P	P	08 08 10.7	-1.3
	0.9nm,0.4s,mb3.3,baz=10,slow=8.9,SNR=2.6					
BVAR	Borovoye Array	51.78 315	P	P	08 09 15.8	-1.8
	0.7nm,0.4s,mb3.4,baz=97,slow=7.1,SNR=6.2					
WRA	Warrumunga Arr	52.05 184	P	P	08 09 20.0	-0.1
	1.3nm,0.3s,mb3.7,slow=7.7,SNR=16					
CTA	Charters Tower	52.67 170	P	P	08 09 24.6	-0.1
	0.8nm,0.3s,mb3.5,baz=28,slow=23,SNR=2.6					
ILAR	Eielson Array	55.01 30	P	P	08 09 40.5	-0.4
	1.1nm,0.6s,mb3.3,baz=275,slow=6.0,SNR=17					
HYB	Hyderabad	55.29 270	*eP*	P	08 09 35.0	-8.4
HYB	Hyderabad	55.29 270	*i P*	P	08 09 32.5	-11
ASAR	Alice Springs	55.77 185	P	P	08 09 48.1	+1.4
	1.3nm,0.9s,mb3.3,baz=13,slow=12,SNR=9.9					
INK	Inuvik	59.89 25	P	P	08 10 14.5	+0.2
	0.8nm,0.4s,mb3.5,baz=289,slow=6.6,SNR=10					
INK	Inuvik	59.89 25	P	P	08 10 14.5	+0.2
STKA	Stephens Creek	63.91 177	P	P	08 10 41.3	+0.2
	2.0nm,0.7s,mb3.9,baz=334,slow=2.3,SNR=6.2					
ARCES	ARCESS Array B	67.44 339	P	P	08 11 02.1	-0.6
	4.1nm,0.9s,mb4.2,baz=45,slow=6.9,SNR=3.8					
YKA	Yellowknife Ar	69.33 28	P	P	08 11 14.7	+0.4
	0.7nm,0.7s,mb3.5,baz=303,slow=6.3,SNR=4.8					
YKA	Yellowknife Ar	69.33 28	P	P	08 11 14.7	+0.4
FINES	FINESS Array B	71.68 332	P	P	08 11 27.9	-0.5
	1.0nm,0.6s,mb3.7,baz=90,slow=3.8,SNR=6.0					
FINES	FINESS Array B	71.68 332	P	P	08 11 27.9	-0.5
YBH	Yreka Blue Hor	75.53 50	P	P	08 11 53.4	+2.5
	1.4nm,0.7s,mb3.8,baz=294,slow=0.7,SNR=2.4					
AKASG	Malin Array Be	76.29 322	P	P	08 11 54.6	-0.3
	0.3nm,0.3s,mb3.5,baz=44,slow=5.4,SNR=4.2					
HFS	Hagfors	77.21 335	P	P	08 11 59.5	-0.3
	4.4nm,1.0s,mb4.1,baz=180,slow=1.5,SNR=3.8					
NOA	NORSAR Array B	77.43 336	P	P	08 12 00.4	-0.5
	1.3nm,0.8s,mb3.7,baz=277,slow=15,SNR=2.9					
PDAR	Pinedale Array	83.03 43	P	P	08 12 32.4	+1.8
	0.4nm,0.7s,mb3.4,baz=292,slow=3.5,SNR=3.7					
TXAR	Lajitas Array	95.29 51	P	P	08 13 30.9	+2.2
	0.7nm,0.7s,mb3.8,baz=278,slow=2.9,SNR=10					
TXAR	Lajitas Array	95.29 51	P	P	08 13 30.9	+2.2

*IDC **08** 08:01:37.1±2.8,21.98N×143.22E,h192km±24km,mb3.7/7, mb1 3.9/8,mb1mx3.6/22,mbtmp4.2/8,Error ellipse: s-maj=43.0km s-min=18.1km az=103.0*

ISC 08 08:01:36.6±2.8,22.0N±0.2×143.2E±0.4,h201km±24km,n8, σ0°79/9,mb3.8/7,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima		5.18 350	P		P	08 02 54.7	+0.7
	9.1nm,0.3s,baz=82,slow=23,SNR=3.7							
CBIJ				S		S	08 03 53.7	-0.5
	20nm,0.3s,baz=317,slow=23,SNR=3.1							
WRA	Warrumunga Arr		42.55 192	P		P	08 09 13.8	-0.6
	0.2nm,0.3s,mb3.0,baz=12,slow=8.8,SNR=7.3							
ILAR	Eielson Array		61.78 27	P		P	08 11 34.1	-1.6
	1.3nm,0.8s,mb3.6,baz=255,slow=5.8,SNR=8.8							
INK	Inuvik		67.30 24	P		P	08 12 10.9	-0.3
	1.5nm,0.8s,mb3.7,baz=308,slow=6.3,SNR=8.8							
YKA	Yellowknife Ar		76.20 28	P		P	08 13 04.0	+0.1
	1.5nm,0.5s,mb3.9,baz=292,slow=5.8,SNR=62							
ARCES	ARCESS Array B		78.67 341	P		P	08 13 18.1	+0.8
	1.8nm,0.8s,mb3.8,baz=74,slow=8.8,SNR=4.2							
FINES	FINESS Array B		82.94 334	P		P	08 13 39.9	0.0
	15nm,1.4s,mb4.5,baz=64,slow=3.2,SNR=6.8							
NVAR	Mina Array Bea		82.95 52	P		P	08 13 41.6	+1.2
	1.5nm,0.5s,mb4.0,baz=90,slow=1.5,SNR=4.2							

*NIED **08** 08:02:00,29.20N×130.00E,h35km,Mw4.1 Best double couple: M0:1.66×10^15 NP1:φs47°,δ68°,λ87°. NP2:φs234°, δ22°,λ97°.*
*IDC **08** 08:02:51.0±0.8,29.31N×130.06E,mb3.9/14,mb1 4.1/17, mb1mx4.0/27,mbtmp4.1/17,ML3.7/3,Error ellipse: s-maj=22.6km s-min=18.5km az=108.0*
*JMA **08** 08:02:56.1±0.2,29.16N×129.96E,h66km±4km,M3.5*
*NEIC **08** 08:02:56.9±2.7,29.22N×130.03E,h42km±27km,mb4.5/1, MW4.1(NIED),Error ellipse: s-maj=25.2km s-min=17.2km az=61.0*

ISC 08 08:02:56.8±0.5,29.17N±0.04×130.0E±0.1,h57km±5km, n25,σ0°83/31,mb4.0/15,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima		0.67 354	P		P	08 03 10.6	0.0
JAM	Amami Oshima		0.81 202	P		P	08 03 11.8	-0.6
JAM				S		S	08 03 23.3	-0.7
JZK	Kikaishima		0.85 179	P		P	08 03 12.4	-0.5
JZK				eS		S	08 03 26.1	+1.1
JKC	Kuchinoerabu		1.31 9	P		P	08 03 19.2	-0.2
JKC				eS		S	08 03 36.7	+0.6
JTK	Tokunoshima		1.64 213	P		P	08 03 24.6	+0.7
JTN	Tanegashima 3		1.73 31	P		P	08 03 24.4	-0.8
JTN				eS		S	08 03 46.6	+0.5
JOW	Kunigami		2.76 213	Pn		P	08 03 39.6	-0.1
	9.0nm,0.3s,baz=98,slow=18,SNR=11							
JOW				Sn		S	08 04 16.8	+4.8
	14nm,0.3s,baz=88,slow=26,SNR=4.6							
JOW	Kunigami		2.76 213	P		P	08 03 39.5	-0.2
JOW				eS		S	08 04 12.4	+0.5
CBIJ	Chichi jima		10.99 98	Pn		P	08 05 28.1	-5.7
	14nm,0.3s,baz=290,slow=20,SNR=4.4							
ASAJ	Asahikawa		18.01 31	P		P	08 06 59.3	-5.3
	0.2nm,0.3s,baz=335,slow=25,SNR=2.4							
SONM	Songino Array		26.04 322	P		P	08 08 25.9	-0.5
	1.2nm,0.7s,mb3.5,baz=141,slow=9.6,SNR=5.3							
BVAR	Borovoye Array		49.15 316	P		P	08 11 41.4	+0.8
	3.0nm,0.3s,mb4.7,baz=90,slow=8.9,SNR=19							
BVAR				PcP		PcP	08 13 03.0	-0.6
	1.5nm,0.7s,baz=90,slow=2.9,SNR=4.6							
BRVK	Borovoye		49.22 317	*eP*		P	08 11 41.8	+0.6
	3.0nm,0.6s,mb4.5							
ASAR	Alice Springs		52.67 175	P		P	08 12 07.6	-0.1
	0.4nm,0.5s,mb3.6,baz=9.3,slow=13,SNR=7.3							
ILAR	Eielson Array		61.14 29	P		P	08 13 05.7	-1.5
	0.4nm,0.7s,mb3.7,baz=289,slow=7.8,SNR=6.5							
INK	Inuvik		65.60 24	P		P	08 13 36.2	-0.2
	0.6nm,0.7s,mb3.8,baz=322,slow=4.6,SNR=5.0							
ARCES	ARCESS Array B		67.84 338	P		P	08 13 50.4	-0.1
	5.1nm,0.9s,mb4.5,baz=59,slow=5.3,SNR=2.9							
FINES	FINESS Array B		71.07 330	P		P	08 14 08.9	-1.5
	0.6nm,0.4s,mb3.9,baz=60,slow=5.5,SNR=6.9							
YKA	Yellowknife Ar		75.23 26	P		P	08 14 35.0	+0.4
	0.8nm,0.7s,mb3.8,baz=302,slow=5.7,SNR=15							
BRTR	Keskin Array B		76.44 308	P		P	08 14 42.5	+0.5
	0.3nm,0.5s,mb3.5,baz=72,slow=4.6,SNR=3.1							
HFS	Hagfors		76.93 333	P		P	08 14 43.0	-1.4
	4.8nm,1.1s,mb4.4,baz=90,slow=3.0,SNR=3.4							
NOA	NORSAR Array B		77.35 334	P		P	08 14 45.7	-1.0
	0.8nm,0.8s,mb3.7,baz=57,slow=5.3,SNR=2.8							
GERES	GERESS Array B		83.77 323	P		P	08 15 22.5	+1.6
	0.1nm,0.3s,mb3.4,baz=34,slow=7.1,SNR=2.4							
EKA	Eskdalemuir Ar		86.77 335	P		P	08 15 36.9	+1.4
	9.4nm,1.2s,mb4.9,baz=27,slow=1.9,SNR=3.4							
PDAR	Pinedale Array		89.93 39	P		P	08 15 51.9	+0.9
	0.5nm,0.9s,mb3.9,slow=1.8,SNR=2.6							

IDC 08 08:05:18.6±3.3,3.18N×92.19E,mb3.8/5,mb1 4.0/6, mb1mx3.8/18,mbtmp3.8/6,ML4.4/1,Error ellipse: s-maj=114.1km s-min=23.9km az=69.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr		16.56 23	Pn		P	08 09 10.7	-3.3
	0.5nm,0.3s,baz=202,slow=9.7,SNR=3.8							
KAD	Karad		22.57 310	*eP*		P	08 10 21.0	-1.1
SONM	Songino Array		46.14 13	P		P	08 13 46.1	-0.5
	0.4nm,0.6s,baz=187,slow=7.3,SNR=5.3							
WRA	Warrumunga Arr		47.33 121	P		P	08 13 53.5	-2.9
	0.3nm,0.4s,baz=302,slow=9.5,SNR=4.9							
ASAR	Alice Springs		48.59 126	P		P	08 14 05.3	-0.8
	0.3nm,0.5s,baz=302,slow=8.3,SNR=5.0							
ZAL	Zalesovo		50.95 354	P		P	08 14 20.8	-3.1
	2.4nm,0.3s,baz=248,slow=20,SNR=3.3							
STKA	Stephens Creek		58.41 131	P		P	08 15 16.0	-2.6
	1.1nm,0.8s,baz=347,slow=20,SNR=2.5							

*NEIC **08** 08:11:54.0±0.6,4.61N×96.16E,h30km,mb4.5/2,Error ellipse: s-maj=22.3km s-min=10.1km az=55.0*
*IDC **08** 08:11:58.8±6.1,4.80N×96.28E,h70km±55km,mb3.9/13, mb1 4.0/14,mb1mx3.9/20,mbtmp4.1/14,Error ellipse: s-maj=29.7km s-min=13.2km az=49.0*

ISC 08 08:11:52.5±0.5,4.6N±0.1×96.2E±0.1,h33km,n23, σ1°10/19,mb4.2/15,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr		14.03 11	P		P	08 15 12.7	+1.5
	baz=197,slow=13,SNR=6.0							
LSA	Lhasa		25.40 350	*eP*		P	08 17 20.8	+2.0
	11nm,0.6s,mb4.6							
FITZ	Fitzroy Crossi		36.79 129	*eP*		P	08 18 59.0	-0.3
	4.7nm,0.8s,mb4.4							
SONM	Songino Array		43.95 10	P		P	08 19 58.3	+0.1
	1.5nm,0.5s,mb4.0,baz=189,slow=9.5,SNR=16							
SONM				PcP	PcP		08 21 43.6	-0.6
	0.8nm,0.5s,baz=200,slow=3.1,SNR=5.5							
WRA	Warrumunga Arr		44.74 124	P		P	08 20 05.2	+0.3
	2.4nm,0.6s,mb4.2,baz=302,slow=9.2,SNR=24							
WRA				PcP	PcP		08 21 47.5	+0.2
	0.3nm,0.5s,baz=315,slow=2.7,SNR=4.6							
WRAB	Tennant Creek		44.75 124	*eP*		P	08 20 03.6	-1.3
WB2	Warrumunga Arr		44.75 124	*eP*		P	08 20 05.2	+0.2
ASPA	Alice Springs		46.29 129	*eP*		P	08 20 17.8	+0.6
ASAR	Alice Springs		46.29 129	P		P	08 20 17.9	+0.7
	3.2nm,0.7s,mb4.4,baz=299,slow=8.0,SNR=49							
ZAL	Zalesovo		50.04 351	P		P	08 20 44.4	-1.6
	1.6nm,0.3s,mb4.5,baz=40,slow=5.7,SNR=4.2							
BVAR	Borovoye Array		52.71 341	P		P	08 21 03.7	-2.4
	0.3nm,0.5s,mb3.5,baz=141,slow=9.2,SNR=3.4							
CTA	Charters Tower		54.97 118	P		P	08 21 23.2	+0.1
	2.9nm,0.9s,mb4.3,baz=280,slow=5.0,SNR=3.1							
STKA	Stephens Creek		56.41 133	P		P	08 21 33.3	-0.1
	2.0nm,0.7s,mb4.3,baz=304,slow=9.6,SNR=8.1							
KMBO	Kilima Mbogo		59.15 266	P		P	08 21 55.0	+2.1
	0.4nm,0.4s,mb3.8,baz=53,slow=23,SNR=2.1							
BRTR	Keskin Array B		66.09 312	P		P	08 22 37.5	-1.1
	0.6nm,0.4s,mb4.0,baz=109,slow=6.0,SNR=4.8							
IDI	Anoyia		72.09 305	P		P	08 23 16.4	+0.8
	22nm,0.9s,mb5.1,baz=133,slow=9.9,SNR=2.8							
FINES	FINESS Array B		76.52 332	P		P	08 23 39.4	-1.4
	4.4nm,1.1s,mb4.3,baz=146,slow=6.9,SNR=3.9							
ARCES	ARCESS Array B		79.00 340	P		P	08 23 54.2	-0.2
	5.8nm,1.1s,mb4.4,baz=53,slow=6.1,SNR=5.6							
GERES	GERESS Array B		81.59 319	P		P	08 24 08.6	0.0
	0.5nm,0.4s,mb3.8,baz=108,slow=4.2,SNR=7.7							
PDAR	Pinedale Array		127.39 24	PKP	PKPdf		08 30 56.2	+1.7
	0.3nm,0.6s,baz=270,slow=1.8,SNR=3.7							
TXAR	Lajitas Array		141.24 28	PKP	PKPdf		08 31 21.9	+1.3
	0.4nm,0.7s,baz=259,slow=0.7,SNR=5.6							
JCT	Junction City		141.91 23	*e*PKPdf	PKPdf		08 31 25.9	+4.2
BDFB	Brasilia		143.15 250	PKP	PKPdf		08 31 25.3	+1.1
	1.3nm,0.6s,baz=30,slow=1.7,SNR=2.7							

IDC 08 08:15:30.9±6.2,15.28S×172.21W,mb3.5/4,mb1 3.8/4, mb1mx3.7/15,mbtmp3.5/4,Error ellipse: s-maj=302.1km s-min=31.9km az=142.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	Warrumunga Arr		50.98 257	P		P	08 24 34.8	-2.0
	0.4nm,0.5s,baz=95,slow=7.4,SNR=4.1							
ASAR	Alice Springs		51.23 252	P		P	08 24 36.8	-1.9
	0.3nm,0.5s,baz=89,slow=8.2,SNR=6.1							
ILAR	Eielson Array		82.11 11	P		P	08 27 52.4	-2.0
	0.3nm,0.7s,baz=214,slow=5.1,SNR=4.7							
YKA	Yellowknife Ar		89.54 23	P		P	08 28 30.4	-0.7
	0.1nm,0.6s,baz=237,slow=4.6,SNR=3.6							

IDC 08 08:37:03.6±8.9,2.67N×124.03E,h455km±118km,mb3.0/7, mb1 3.1/7,mb1mx3.0/18,mbtmp3.8/7,Error ellipse: s-maj=64.5km s-min=24.6km az=58.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	Warrumunga Arr		24.65 156	P		P	08 41 45.3	-2.9
	2.5nm,0.3s,baz=336,slow=10,SNR=37							
ASAR	Alice Springs		27.89 160	P		P	08 42 14.7	-2.2
	0.3nm,0.4s,baz=334,slow=7.1,SNR=5.0							
CTA	Charters Tower		31.43 137	P		P	08 42 48.0	+0.3
	1.7nm,0.8s,baz=330,slow=8.1,SNR=3.5							
STKA	Stephens Creek		38.20 155	P		P	08 43 43.8	-0.3
	1.4nm,0.5s,baz=325,slow=9.9,SNR=4.4							
SONM	Songino Array		47.50 344	P		P	08 44 55.6	-2.1
	0.8nm,0.8s,baz=159,slow=7.4,SNR=4.4							
BVAR	Borovoye Array		66.75 328	P		P	08 47 09.2	-0.8
	0.3nm,0.4s,baz=121,slow=8.4,SNR=3.3							
ILAR	Eielson Array		87.21 25	P		P	08 48 58.8	-2.3
	0.3nm,0.8s,baz=263,slow=4.6,SNR=5.2							

*IDC **08** 08:37:09.7±6.7,11.81N×94.34E,h44km±60km,mb3.7/10, mb1 3.8/11,mb1mx3.7/19,mbtmp3.9/11,ML4.0/1,MS4.0/1, Ms1 4.0/1,ms1mx2.8/17,Error ellipse: s-maj=55.9km s-min=15.8km az=54.0*
*NEIC **08** 08:37:09.2±3.3,11.80N×94.34E,h41km±27km,mb4.6/3, Error ellipse: s-maj=30.8km s-min=8.7km az=54.0*

ISC 08 08:37:06.4±0.7,11.8N±0.1×94.4E±0.1,h33km,n14, σ0°43/14,mb4.1/13,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr		7.98 33	P		P	08 39 02.4	-0.3
	0.5nm,0.3s,baz=220,slow=14,SNR=4.1							
SONM	Songino Array		37.33 13	P		P	08 44 17.8	+0.4
	0.8nm,0.8s,mb3.6,baz=193,slow=12,SNR=2.5							
ZAL	Zalesovo		42.73 352	P		P	08 45 02.6	+0.6
	1.1nm,0.8s,mb3.6,baz=285,slow=7.8,SNR=5.4							
BVAR	Borovoye Array		45.39 340	P		P	08 45 23.8	+0.2
	2.0nm,0.8s,mb4.0,baz=135,slow=8.4,SNR=12							
BRVK	Borovoye		45.46 340	*eP*		P	08 45 24.4	+0.3
	2.7nm,0.8s,mb4.1							
CHKZ	Chkalovo		45.86 341	*eP*		P	08 45 27.1	-0.2
	9.8nm,0.7s,mb4.8							
WRA	Warrumunga Arr		50.43 128	P		P	08 46 03.2	0.0
	2.4nm,0.7s,mb4.3,baz=306,slow=8.3,SNR=14							
WRAB	Tennant Creek		50.43 128	*eP*		P	08 46 03.1	-0.1
	4.6nm,0.7s,mb4.6							
ASAR	Alice Springs		52.32 132	P		P	08 46 17.4	-0.1
	2.6nm,1.1s,mb4.1,baz=309,slow=6.5,SNR=10							
BRTR	Keskin Array B		60.09 309	P		P	08 47 12.0	-0.9
	1.2nm,0.8s,mb4.0,baz=117,slow=5.5,SNR=4.2							
STKA	Stephens Creek		62.68 135	P		P	08 47 30.9	+0.4
	2.2nm,1.1s,mb4.2,baz=339,slow=12,SNR=2.3							
FINES	FINESS Array B		69.38 332	P		P	08 48 12.3	-0.4
	2.6nm,1.0s,mb4.1,baz=188,slow=29,SNR=2.7							
GERES	GERESS Array B		75.08 318	P		P	08 48 47.4	+0.6
	0.6nm,0.6s,mb3.7,baz=90,slow=6.7,SNR=3.9							
ILAR	Eielson Array		91.06 22	P		P	08 50 08.1	-0.4
	0.4nm,1.0s,mb3.7,baz=301,slow=5.3,SNR=3.0							

*NIED **08** 08:57:00,41.70N×144.30E,h11km,Mw4.0 Best double couple: M0:1.24×10^15 NP1:φs13°,δ72°,λ55°. NP2:φs259°, δ39°,λ150°.*
*JMA **08** 08:57:40.7±0.2,41.72N×144.30E,h25km±2km,M4.1*
*NEIC **08** 08:57:48.6±7.9,42.02N×143.14E,h31km±57km,mb4.1/3, Error ellipse: s-maj=27.4km s-min=17.9km az=67.0*
*IDC **08** 08:57:54.6±2.8,42.31N×143.02E,h78km±24km,mb3.6/12, mb1 3.7/12,mb1mx3.6/23,mbtmp3.9/12,Error ellipse: s-maj=20.4km s-min=19.4km az=67.0*

ISC 08 08:57:40.0±1.2,41.66N±0.07×144.4E±0.2,h33km,n22, σ0°98/20,mb4.1/10,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JEM	Erimo		0.99 292	P		P	08 57 58.1	+0.6
JCH	Churui		1.22 322	P		P	08 58 00.8	0.0
JOB	Onbets		1.31 342	P		P	08 58 02.1	0.0
JOB				eS		S	08 58 18.5	-0.1
JAK	Akkeshi		1.35 10	P		P	08 58 02.6	-0.1
JAK				eS		S	08 58 20.0	+0.3
JNBK	Urakawa-nobuka		1.37 297	P		P	08 58 03.7	+0.8
ASAJ	Asahikawa		2.79 332	P		P	08 58 23.1	-0.1
	5.3nm,0.3s,baz=208,slow=5.0,SNR=17							
MAJO	Matsushiro		7.01 225	*eP*		P	08 59 23.3	+0.4
	4.9nm,0.6s							
HIA	Hailar		18.83 302	P		P	09 01 55.5	-3.9
	12nm,0.9s							
FX1	Attu Island--F		22.36 50	P		P	09 02 50.7	+14
	22nm,1.1s,mb4.5,baz=97,slow=21,SNR=1.9							
ULN	Ulaanbaatar		27.03 296	*eP*		P	09 03 21.4	+0.6
	2.8nm,0.8s,mb3.8							
SONM	Songino Array		27.48 296	P		P	09 03 24.1	-0.8
	2.5nm,0.9s,mb3.7,baz=97,slow=7.4,SNR=13							
ZAL	Zalesovo		40.68 309	P		P	09 05 17.9	-0.7
	1.5nm,0.6s,mb3.8,baz=30,slow=9.7,SNR=7.8							
ILAR	Eielson Array		44.37 35	P		pP	09 05 58.6	+0.3
	0.6nm,0.7s,baz=278,slow=7.6,SNR=5.9							
CHKZ	Chkalovo		48.94 311	*eP*		P	09 06 22.9	-1.7
	2.2nm,0.6s,mb4.4							
BVAR	Borovoye Array		49.27 310	P		P	09 06 26.3	-0.8
	1.4nm,0.4s,mb4.4,baz=82,slow=9.4,SNR=6.5							
WRA	Warrumunga Arr		61.99 191	P		pP	09 08 08.7	-0.7
	0.3nm,0.7s,baz=7.5,slow=6.8,SNR=3.3							
ASAR	Alice Springs		65.72 191	P		pP	09 08 34.8	+0.9
	0.3nm,0.8s,baz=360,slow=4.5,SNR=4.3							
FINES	FINESS Array B		65.80 332	P		P	09 08 22.4	-1.1
	2.0nm,0.8s,mb4.2,baz=27,slow=4.3,SNR=9.4							
NOA	NORSAR Array B		70.80 338	P		P	09 08 56.6	+2.2
	1.3nm,0.9s,mb3.9,baz=217,slow=17,SNR=2.6							
HFS	Hagfors		70.81 336	P		P	09 08 57.1	+2.5
	1.9nm,0.6s,mb4.2,baz=153,slow=6.4,SNR=4.6							
AKASG	Malin Array Be		72.03 323	P		P	09 09 01.3	-0.7
	0.7nm,0.4s,mb3.9,baz=41,slow=6.2,SNR=6.6							
TXAR	Lajitas Array		85.51 54	P		pP	09 10 25.5	-0.8
	0.3nm,0.6s,baz=314,slow=2.8,SNR=5.6							

MAN 08 09:40:56.0,8.93N×125.69E,h13km,mb4.2,ML3.0,MS2.8, 2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BUTP	Butuan		0.08 301	*eP*		Pg	09 40 59.5	+0.6
BUTP				eS		Sg	09 41 03.8	+3.0
BIPH	Bislig		0.99 138	*eP*		Pb	09 41 13.0	-1.6
BIPH				*i* S		Sb	09 41 26.9	-0.4
CGP	Cagayan de Oro		1.09 245	*eP*		Pb	09 41 15.3	-1.0
CGP				eS		Sb	09 41 31.6	+1.4
BUKP	Musuan		1.21 211	*eP*		Pb	09 41 18.3	-0.1
BUKP				eS		Sb	09 41 37.7	+4.0
TBP	Tagbilaran		1.96 293	*eP*		Pn	09 41 28.6	-0.8
TBP				eS		Sn	09 41 54.9	+1.0
MATI	Mati		2.05 164	*eP*		Pn	09 41 30.6	-0.1
DCPH	Dipolog City		2.34 262	*eP*		Pn	09 41 34.4	-0.5
DCPH				eS		Sn	09 42 04.4	+0.8
PAGZ	Pagadian		2.52 245	*eP*		Pn	09 41 37.6	+0.1

IDC 08 09:59:29.7±11.0,3.33N×95.41E,mb3.4/2,mb1 3.8/3, mb1mx3.4/18,mbtmp3.5/3,ML4.1/1,Error ellipse: s-maj=306.6km s-min=48.8km az=79.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr		15.43 13	Pn		P	10 03 09.0	-1.5
	0.3nm,0.3s,baz=208,slow=11,SNR=6.8							
WRA	Warrumunga Arr		44.68 123	P		P	10 07 44.5	-2.0
	0.6nm,0.5s,baz=301,slow=9.3,SNR=12							
ASAR	Alice Springs		46.10 128	P		P	10 07 56.0	-1.7
	0.3nm,0.5s,baz=298,slow=7.3,SNR=6.8							

*IDC **08** 10:13:08.7±1.4,7.01N×92.88E,mb3.9/7,mb1 4.1/8, mb1mx3.9/18,mbtmp3.9/8,ML4.4/1,Error ellipse: s-maj=60.7km s-min=19.0km az=60.0*

ISC 08 10:13:12.7±0.9,7.1N±0.1×93.2E±0.2,h33km,n15, σ0°98/15,mb4.1/7,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr		12.65 26	Pn		P	10 16 13.1	-0.2
	0.6nm,0.3s,baz=19,slow=30,SNR=4.4							
JIRN	Jiri		21.54 343	*eP*		P	10 18 03.0	+1.7
	16nm,0.8s							
PKI	Pulchoki		21.70 341	*eP*		P	10 18 03.1	+0.3
	18nm,0.9s							
DMN	Daman		21.84 340	*eP*		P	10 18 04.3	+0.1
	13nm,0.4s							
GUN	Gumba		21.87 342	*eP*		P	10 18 05.9	+1.4
	31nm,1.1s							
KKN	Kakani		21.95 341	*eP*		P	10 18 06.1	+0.8
	17nm,0.8s							
GKN	Gorkha		22.36 340	*eP*		P	10 18 09.3	0.0
	29nm,0.8s							
KOLN	Koldanda		22.52 337	*eP*		P	10 18 09.8	-1.3
	23nm,1.2s,mb4.5							
SONM	Songino

POO	Poona	23.85	311	e		P	10 27 23.0 +16
POO				e			10 31 32.0
JIRN	Jiri	25.00	346	eP		P	10 27 19.1 +0.9
comp=Z,164nm,1.4s,mb5.4							
PKI	Pulchoki	25.11	345	eP		P	10 27 20.1 +0.9
comp=Z,79nm,1.3s,mb5.1							
DMN	Daman	25.23	344	eP		P	10 27 21.5 +1.2
GUN	Gumba	25.31	346	eP		P	10 27 22.1 +1.0
comp=Z,211nm,1.5s,mb5.5							
KKN	Kakani	25.35	345	eP		P	10 27 22.1 +0.6
comp=Z,100nm,1.3s,mb5.2							
GKN	Gorkha	25.73	343	eP		P	10 27 25.5 +0.5
comp=Z,114nm,1.3s,mb5.2							
KOLN	Koldanda	25.83	341	eP		P	10 27 26.8 +0.9
comp=Z,73nm,1.3s,mb5.0							
LSA	Lhasa	26.29	357	P		P	10 27 32.2 +2.0
LSA				AP		pP	10 27 39.4 +0.6
LSA				XP		sP	10 27 44.5 +1.7
LSA				AMB		AMB	
comp=Z,30nm,0.6s,mb5.0							
LSA				AMB		AMB	
comp=Z,90nm,5.8s							
LSA				LR		LR	
comp=N,170nm,20.0s,MS3.8							
LSA				LR		LR	
comp=E,190nm,18.4s,MS3.8							
LSA				LR		LR	
comp=Z,380nm,16.9s,MS4.0							
LSA	Lhasa	26.29	357	eP		P	10 27 31.9 +1.7
comp=Z,26nm,0.6s,mb4.9							
TGY	Tagaytay City	29.87	67	LR		LR	10 38 55.1
comp=Z,140nm,21.8s,MS3.6,baz=68,slow=34							
XAN	Xi'an	34.12	24	P		P	10 28 38.9 -0.8
XAN				AMB		AMB	
comp=Z,14nm,1.0s,mb4.8							
XAN				LR		LR	
comp=N,267nm,15.8s,MS4.3							
XAN				LR		LR	
comp=E,348nm,18.2s,MS4.3							
XAN				LR		LR	
comp=Z,395nm,12.0s							
LZH	Lanzhou	34.21	16	eP		P	10 28 39.5 -1.0
LZH				AP		pP	10 28 48.5 -0.8
LZH				XP		sP	10 28 52.0 -1.1
LZH				AMB		AMB	
comp=Z,20nm,1.5s,mb4.8							
NJ2	Nanjing	37.71	38	eP		P	10 29 12.3 +2.2
NJ2				AP		pP	10 29 21.6 +2.6
NJ2				PP		PP	10 30 41.6 +2.3
NJ2				PPP		PPP	10 31 03.3 +2.5
NJ2				S		S	10 35 02.0 +4.0
NJ2				AMB		AMB	
comp=Z,20nm,0.8s,mb4.9							
NJ2				AMB		AMB	
comp=Z,400nm,4.2s							
NJ2				LR		LR	
comp=N,760nm,16.5s,MS4.7							
NJ2				LR		LR	
comp=E,460nm,16.7s,MS4.7							
NJ2				LR		LR	
comp=Z,2μm,18.4s,MS4.9							
SSE	Sheshan	38.55	41	P		P	10 29 17.1 -0.1
SSE				XP		sP	10 29 29.1 -0.7
SSE				S		S	10 35 14.7 +4.0
SSE				XS			10 35 28.9
SSE				AMB		AMB	
comp=Z,19nm,0.7s,mb4.9							
SSE				AMB		AMB	
comp=Z,152nm,4.8s							
SSE				LR		LR	
comp=N,285nm,19.9s,MS4.1							
SSE				LR		LR	
comp=E,89nm,19.9s,MS4.1							
SSE				LR		LR	
comp=Z,184nm,18.8s,MS3.9							
WMQ	Urumqi	40.58	354	eP		P	10 29 35.4 +1.5
WMQ				AP		pP	10 29 45.1 +2.3
WMQ				XP		sP	10 29 49.1 +2.6
WMQ				PP		PP	10 31 13.5 +2.8
WMQ				S		S	10 35 44.5 +3.3
WMQ				AMB		AMB	
comp=Z,5.0nm,1.2s,mb4.0							
WMQ				AMB		AMB	
comp=Z,48nm,6.7s							
WMQ				LR		LR	
comp=N,851nm,20.4s,MS4.7							
WMQ				LR		LR	
comp=E,742nm,23.1s,MS4.7							
WMQ				LR		LR	
comp=Z,1μm,20.6s,MS4.7							
BJT	Baijiatuau	42.28	27	P		P	10 29 50.3 +2.4
comp=Z,11nm,0.9s,mb4.5							
AAK	Ala-Archa	42.39	340	i P		P	10 29 48.2 -0.6
AAK				pmax		pmax	
comp=Z,5.0nm,1.4s,mb4.0							
MK02	Makanchi Array	44.22	350	P		P	10 30 03.9 +0.3
MK02				pmax		pmax	
comp=Z,4.0nm,0.5s,mb4.4							
SONM	Songino Array	45.91	13	P		P	10 30 17.5 +0.5
comp=Z,1.4nm,0.6s,mb4.1,baz=193,slow=8.1,SNR=13							
ULN	Ulaanbaatar	46.08	13	i P		P	10 30 20.0 +1.6
WRA	Warramunga Arr	46.97	121	P		P	10 30 26.6 +0.7
comp=Z,1.9nm,0.6s,mb4.2,baz=298,slow=8.8,SNR=18							
WRAB	Tennant Creek	46.98	121	i P		P	10 30 24.4 -1.5
WRAB	Tennant Creek	46.98	121	eP		P	10 30 23.7 -2.1
comp=Z,4.8nm,0.6s,mb4.6							
ZAK	Zakamensk	47.76	9	eP		P	10 30 32.0 +0.4
ZAK				e			10 33 07.2
ASAR	Alice Springs	48.27	126	P		P	10 30 36.6 +0.7
comp=Z,0.9nm,0.7s,mb3.9,baz=298,slow=7.3,SNR=10.0							
TLY	Talaya	49.07	9	i P		P	10 30 40.7 -1.0
TLY				pmax		pmax	
comp=Z,2.0nm,1.0s,mb4.1							
ZAL	Zalesovo	50.88	354	P		P	10 30 55.7 +0.2
comp=Z,4.6nm,0.4s,mb4.8,baz=306,slow=4.7,SNR=18							
ZAL				LR		LR	10 54 48.7
comp=Z,163nm,18.7s,MS4.1,baz=293,slow=39							
ZAL	Zalesovo	50.88	354	P		P	10 30 55.7 +0.2
ZAL				LR		LR	10 54 48.7
HIA	Hailar	51.27	22	eP		P	10 30 57.5 -1.0
comp=Z,7.5nm,0.9s,mb4.6							
NVS	Novosibirsk	51.95	353	i P		P	10 31 03.0 -0.6
BVA0	Borovoye Array	52.87	343	i P		P	10 31 09.1 -1.4
BVA0				pmax		pmax	
comp=Z,1.0nm,1.1s,mb3.7							
BVAR	Borovoye Array	52.87	343	P		P	10 31 10.0 -0.6
comp=Z,2.6nm,0.8s,mb4.2,baz=143,slow=7.4,SNR=11							
BRVK	Borovoye	52.93	343	eP		P	10 31 10.2 -0.8
comp=Z,4.4nm,1.0s,mb4.3							
CHKZ	Chkalovo	53.38	344	i P		P	10 31 13.8 -0.5
CHKZ				pmax		pmax	
comp=Z,16nm,1.5s,mb4.7							
CHKZ	Chkalovo	53.38	344	eP		P	10 31 13.7 -0.6
comp=Z,15nm,1.1s,mb4.8							
KMBO	Kilima Mbogo	55.58	266	P		P	10 31 32.9 +1.9
comp=Z,1.0nm,0.8s,mb3.9,baz=56,slow=24,SNR=2.6							
KMBO				LR		LR	10 53 13.9
comp=Z,145nm,18.1s,MS4.1,baz=92,slow=34							
GNI	Garni	56.67	317	i P		P	10 31 37.2 -1.2
GNI				pmax		pmax	
comp=Z,6.0nm,1.3s							
GNI	Garni	56.67	317	P		P	10 31 39.8 +1.4
comp=Z,1.7nm,0.4s,mb4.4,baz=60,slow=18,SNR=3.1							
GNI				LR		LR	10 57 20.1
comp=Z,92nm,18.1s,MS3.9,baz=314,slow=38							
BOD	Bodaibo	56.90	13	eP		P	10 31 37.4 -2.4
STKA	Stephens Creek	58.12	131	P		P	10 31 50.8 +2.0
comp=Z,2.1nm,0.6s,mb4.4,baz=310,slow=10,SNR=6.2							
STKA				LR		LR	10 58 57.2
comp=Z,186nm,18.2s,MS4.2,baz=181,slow=38							
ASF	Jabal al Asfar	59.58	306	P		P	10 31 57.6 -1.2
comp=Z,3.3nm,0.8s,mb4.4,baz=67,slow=2.3,SNR=3.2							
ASF				LR		LR	10 57 19.2
comp=Z,87nm,18.3s,MS3.9,baz=141,slow=36							
KIV	Kislovodsk	59.79	320	i P		P	10 31 57.7 -2.5
KIV				pmax		pmax	
comp=Z,6.0nm,1.4s,mb4.4							
BRTR	Keskin Array B	64.37	313	P		P	10 32 30.9 -0.1
comp=Z,0.6nm,0.6s,mb3.8,baz=159,slow=11,SNR=3.9							
YAK	Yakutsk	64.76	18	i P		P	10 32 33.5 +0.5
YAK				pmax		pmax	
comp=Z,5.0nm,1.0s,mb4.5							
OBN	Obninsk	68.49	329	eP		P	10 32 55.4 -1.4
OBN				pmax		pmax	
comp=Z,9.0nm,1.4s,mb4.6							
OBN				MLR		MLR	
comp=Z,100nm,18.0s,MS4.1							
AKASG	Malin Array Be	70.86	323	P		P	10 33 10.7 -0.7
comp=Z,1.0nm,0.6s,mb3.9,baz=96,slow=3.9,SNR=6.9							
MLR	Muntele Rosu	71.45	317	LR		LR	11 09 15.3
comp=Z,186nm,18.2s,MS4.4,baz=255,slow=40							
TIXI	Tiksi	71.96	11	eP		P	10 33 17.2 -0.5
TIXI				e		pP	10 33 26.5 -0.5
TIXI				pmax		pmax	
comp=Z,5.0nm,1.3s,mb4.3							
FINES	FINESS Array B	76.07	333	P		P	10 33 40.2 -1.4
FINES	FINESS Array B	76.07	333	P		P	10 33 40.2 -1.3
comp=Z,4.3nm,1.1s,mb4.3,baz=176,slow=29,SNR=3.8							
FINES				LR		LR	11 11 41.0
comp=Z,159nm,18.2s,MS4.4,baz=150,slow=39							
ARCES	ARCESS Array B	79.06	341	LR		LR	11 13 01.9
comp=Z,180nm,18.3s,MS4.4,baz=18,slow=39							
GERES	GERESS Array B	80.27	319	P		P	10 34 06.8 +2.0
comp=Z,2.5nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=11							
KHC	Kasperske Hory	80.38	319	eP		P	10 34 06.0 +0.6
SYO	Syowa Base	80.64	197	⇓P		P	10 34 04.9 -1.5
NOA	NORSAR Array B	82.98	331	LR		LR	11 15 11.8
comp=Z,114nm,18.5s,MS4.3,baz=225,slow=39							
VNDA	Vanda	88.78	168	LR		LR	11 10 54.4
comp=Z,135nm,18.1s,MS4.4,baz=327,slow=33							
DBIC	Dimbokro	97.10	277	LR		LR	11 19 26.3
comp=Z,67nm,19.0s,MS4.2,baz=73,slow=36							
ANMO	Albuquerque	137.91	24	PKP		PKPdf	10 41 20.8 -1.9
comp=Z,0.4nm,0.6s,baz=348,slow=7.2,SNR=2.4							
CPUP	Villa Florida	143.26	229	PKP		PKPdf	10 41 31.2 -1.3
comp=Z,0.0nm,0.3s,baz=180,slow=9.0,SNR=1.7							
TXAR	Lajitas Array	143.96	25	PKP		PKPdf	10 41 30.8 -2.8
comp=Z,0.5nm,0.8s,baz=270,slow=1.3,SNR=4.4							

*NEIC **08** 10:28:38.0±1.3, 18.06S×178.27W, h600km, mb4.0/2, Error ellipse: s-maj=54.9km s-min=16.9km az=146.0*
*IDC **08** 10:28:40.9±3.4, 17.98S×178.47W, h624km±36km, mb3.3/6, mb1 3.5/6, mb1mx3.2/14, mbtmp4.3/6, Error ellipse: s-maj=56.8km s-min=21.2km az=148.0*

ISC 08 10:28:38.6±3.6, 18.2S±0.5×178.3W±0.4, h630km±44km, n14, σ0§73/13, mb4.0/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTAO	Charters Tower	33.52	261	P		P	10 34 30.1	+0.2
1.6nm,0.5s,mb3.9								
PMG	Port Moresby	34.62	280	P		P	10 34 39.6	+0.5
12nm,0.8s,mb4.6,baz=97,slow=9.8,SNR=4.6								
PMG	Port Moresby	34.62	280	P		P	10 34 39.6	+0.5
STKA	Stephens Creek	38.60	241	P		P	10 35 12.3	+0.8
2.0nm,0.8s,mb3.7,baz=111,slow=8.6,SNR=3.2								
STKA	Stephens Creek	38.60	241	P		P	10 35 12.3	+0.8
WB2	Warramunga Arr	44.68	260	eP		P	10 35 58.7	-0.9
WRAB	Tennant Creek	44.69	260	eP		P	10 35 58.9	-0.8
3.8nm,0.6s,mb4.1								
WRA	Warramunga Arr	44.70	260	P		P	10 35 59.3	-0.4
2.1nm,0.5s,mb3.9,baz=96,slow=7.4,SNR=60								
WRA				PcP		PcP	10 37 28.8	+0.5
0.3nm,0.4s,baz=93,slow=3.5,SNR=4.1								
ASAR	Alice Springs	44.83	254	P		P	10 36 00.8	+0.1
10.0nm,0.6s,mb4.5,baz=87,slow=8.7,SNR=143								
ASAR				PcP		PcP	10 37 29.4	+0.7
0.6nm,0.6s,baz=107,slow=4.0,SNR=5.5								
ASAR				S		S	10 41 53.9	-0.5
0.4nm,0.7s,baz=88,slow=17,SNR=4.8								
ASPA	Alice Springs	44.83	254	eP		P	10 36 00.7	0.0
ILAR	Eielson Array	86.12	13	P		P	10 40 14.4	-0.7
0.3nm,0.5s,mb3.2,baz=240,slow=4.5,SNR=5.2								
CMAR	Chiang Mai Arr	89.08	290	P		P	10 40 31.7	+1.6
0.6nm,0.4s,mb3.8,baz=112,slow=4.9,SNR=4.3								
BRTR	Keskin Array B	145.05	315	PKP		PKPdf	10 47 09.2	+3.5
0.9nm,0.7s,baz=90,slow=3.7,SNR=3.8								
GERES	GERESS Array B	147.90	345	PKPbc		PKPdf	10 47 16.6	+6.6
0.3nm,0.3s,baz=45,slow=3.8,SNR=4.2								

*IDC **08** 10:40:34.7±0.6, 3.72S×136.39E, mb4.4/9, mb1 4.5/13, mb1mx4.5/17, mbtmp4.4/13, ML4.6/3, MS3.6/3, Ms1 3.6/3, ms1mx3.1/20, Error ellipse: s-maj=33.3km s-min=15.3km az=65.0*
*MOS **08** 10:40:37.9±1.7, 3.99S×136.17E, h33km, mb4.4/4, Error ellipse: s-maj=20.5km s-min=10.2km az=105.8*
*BJI **08** 10:40:38.2, 3.87S×136.73E, h41km, mB5.2, mb4.8, Ms4.8, Msz4.0*
*NEIC **08** 10:40:39.7±1.8, 3.91S×136.41E, h38km±18km, mb4.7/12, Error ellipse: s-maj=12.3km s-min=11.2km az=78.0*

ISC 08 10:40:37.0±1.9, 3.94S±0.03×136.30E±0.07, h29km±13km, h28km±2.0km: pP-P, n76, σ1§19/79, mb4.8/33, MS4.2/4, 1C-2D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAKA	Kakadu	9.51	203	eP		P	10 42 54.4	-0.9
87nm,0.6s								
KAKA				eS		Sn	10 44 41.1	-1.1
PMG	Port Moresby	12.07	117	d i P		P	10 43 34.2	+4.0
PMG	Port Moresby	12.07	117	Pn		P	10 43 30.5	+0.2
0.2nm,0.3s,baz=266,slow=22,SNR=2.0								
PMG	Port Moresby	12.07	117	eP		P	10 43 29.6	-0.6
47nm,0.8s								
WRAB	Tennant Creek	16.01	187	i P		P	10 44 21.8	-0.1
WRAB	Tennant Creek	16.01	187	eP		P	10 44 21.1	-0.9
14nm,0.9s								
WB2	Warramunga Arr	16.02	187	eP		P	10 44 21.2	-0.8
WB2				eS		S	10 47 08.8	-10
WRA	Warramunga Arr	16.02	187	i P		P	10 44 20.3	-1.8
WRA				pmax		pmax		
comp=Z,8.0nm,0.8s								
WRA	Warramunga Arr	16.02	187	Pn		P	10 44 18.6	-3.4
comp=Z,1.0nm,0.3s,baz=4.9,slow=13,SNR=45								
WRA				Sn		S	10 47 13.0	-5.6
comp=Z,0.7nm,0.3s,baz=11,slow=22,SNR=5.5								
FITZ	Fitzroy Crossi	17.52	216	⇑i P		P	10 44 41.5	+0.5
comp=Z,18nm,0.4s								
FITZ				eS		S	10 47 48.3	-4.6
CTA	Charters Tower	18.75	150	eP		P	10 44 55.9	-0.3
comp=Z,14nm,0.6s								
CTA	Charters Tower	18.75	150	P		P	10 44 55.8	-0.4
CTA	Charters Tower	18.75	150	P		P	10 44 55.9	-0.4
comp=Z,2.2nm,0.3s,baz=325,slow=12,SNR=19								
CTA				LR		LR	10 52 24.4	
comp=Z,90nm,21.4s,baz=331,slow=38								
CTAO	Charters Tower	18.75	150	eP		P	10 44 55.5	-0.7
comp=Z,19nm,0.7s								
ASAR	Alice Springs	19.74	187	P		P	10 45 08.3	+0.7
comp=Z,5.1nm,0.3s,baz=11,slow=10.0,SNR=92								
ASAR				S		S	10 48 44.0	+1.1
comp=Z,0.3nm,0.3s,baz=5.9,slow=31,SNR=2.9								
ASAR				LR		LR	10 52 53.7	
comp=Z,151nm,19.6s,baz=5.0,slow=37								
ASPA	Alice Springs	19.74	187	eP		P	10 45 08.2	+0.6
ASPA				eS		S	10 48 43.5	+0.6
MBWA	Marble Bar	23.50	222	eP		P	10 45 48.4	+2.9
comp=Z,80nm,1.6s,mb4.9								
STKA	Stephens Creek	28.23	170	eP		P	10 46 33.6	+4.0
comp=Z,3.8nm,0.8s,mb4.1								
STKA	Stephens Creek	28.23	170	P		P	10 46 29.6	0.0
comp=Z,1.1nm,0.7s,mb3.6,baz=337,slow=7.7,SNR=2.6								
STKA	Stephens Creek	28.23	170	P		P	10 46 29.6	0.0
STKA				eP			10 46 33.6	
SSE	Sheshan	37.71	339	P		P	10 47 54.1	+2.1
SSE				S		S	10 53 37.7	-2.2
SSE				AMB		AMB		
comp=Z,28nm,0.8s,mb5.0								
SSE				AMB		AMB		
comp=Z,142nm,6.5s								
SSE				LR		LR		
comp=Z,54nm,21.5s,MS3.3								
NJ2	Nanjing	39.45	336	eP		P	10 48 10.4	+3.9
NJ2				S		S	10 54 06.0	-0.3
NJ2				AMB		AMB		
comp=Z,20nm,0.6s,mb5.0								
NJ2				AMB		AMB		
comp=Z,706nm,4.6s								
NJ2				LR		LR		
comp=N,460nm,18.4s,MS4.6								
NJ2				LR		LR		
comp=E,702nm,17.2s,MS4.6								
NJ2				LR		LR		
comp=Z,1μm,18.2s,MS4.7								
WHN	Wuhan	40.20	330	P		P	10 48 17.0	+4.3
ENH	Enshi	42.60	325	eP		P	10 48 34.0	+1.5
comp=Z,6.0nm,0.7s,mb4.4								
CMAR	Chiang Mai Arr	43.01	302	P		P	10 48 35.9	-0.1
comp=Z,4.2nm,0.8s,mb4.2,baz=122,slow=6.3,SNR=22								
XAN	Xi'an	45.76	328	P		P	10 48 59.1	+1.2
XAN				AP		pP	10 49 06.8	+0.1
XAN				AMB		AMB		
comp=Z,16nm,1.3s,mb4.8								
ASAJ	Asahikawa	48.17	6	P		P	10 49 15.2	-1.6
comp=Z,13nm,1.0s,mb4.9,baz=171,slow=30,SNR=2.7								
LZH	Lanzhou	50.07	325	eP		P	10 49 34.0	+2.5
LZH				AP		pP	10 49 42.0	+1.6
LZH				XP		sP	10 49 48.5	+4.6
LZH				AMB		AMB		
comp=Z,42nm,1.5s,mb5.2								
RPZ	Rata Peaks	50.10	147	P		P	10 49 34.3	+2.7
comp=Z,7.9nm,0.9s,mb4.7,baz=344,slow=7.4,SNR=2.8								
RPZ				LR		LR	11 10 39.5	
comp=Z,161nm,21.0s,MS4.0,baz=32,slow=36								
YSS	Yuzh-Sakhalins	51.00	6	i P		P	10 49 40.5	+2.2
SHL	Shillong	52.10	307	eP		P	10 49 47.0	0.0
LSA	Lhasa	54.65	311	eP		P	10 50 09.2	+3.4
LSA	Lhasa	54.65	311	eP		P	10 50 07.0	+1.2
comp=Z,8.4nm,0.7s,mb4.9								
JIRN	Jiri	57.59	306	eP		P	10 50 26.8	-0.1
comp=Z,23nm,0.9s,mb5.2								
ULN	Ulaanbaatar	57.61	337	i P		P	10 50 28.7	+1.9
SONM	Songino Array	57.84	337	P		P	10 50 27.3	-1.1
comp=Z,1.1nm,0.9s,mb3.9,baz=135,slow=6.1,SNR=3.9								
GUN	Gumba	57.94	306	eP		P	10 50 29.0	-0.3
comp=Z,32nm,0.8s,mb5.4								
PKI	Pulchoki	58.18	306	eP		P	10 50 30.1	-0.9
KKN	Kakani	58.38	306	eP		P	10 50 31.8	-0.6
DMN	Daman	58.44	306	eP		P	10 50 31.5	-1.4
comp=Z,22nm,0.6s,mb5.3								
GKN	Gorkha	58.98	306	eP		P	10 50 35.6	-1.0
comp=Z,43nm,1.0s,mb5.4								
KOLN	Koldanda	59.73	305	eP		P	10 50 40.3	-1.5
comp=Z,41nm,0.9s,mb5.5								
ZAK	Zakamensk	61.11	337	eP		P	10 50 50.1	-0.8
TLY	Talaya	62.00	338	i P		P	10 50 57.9	+1.0
TLY				pmax		pmax		
comp=Z,3.0nm,1.4s,mb4.2								
WMQ	Urumqi	64.51	323	eP		P	10 51 14.0	+0.5
WMQ				AP		pP	10 51 24.2	+1.5
WMQ				XP		sP	10 51 28.1	+2.2
WMQ				PP		PP	10 53 37.9	+0.6
WMQ				S		S	10 59 49.2	+0.1
WMQ				XS			11 00 06.2	
WMQ				AMB		AMB		
comp=Z,6.0nm,1.4s,mb4.4								
WMQ				AMB		AMB		
comp=Z,50nm,6.9s								
WMQ				LR		LR		
comp=N,421nm,20.8s,MS4.7								
WMQ				LR		LR		
comp=E,355nm,23.9s,MS4.7								
WMQ				LR		LR		
comp=Z,493nm,20.8s,MS4.7								
DDI	Dehra Dun	65.18	306	eP		P	10 51 18.5	+0.4
AYAN	Aya Nagar	65.31	304	eP		P	10 51 15.9	-3.1
KUDL	Kundal	65.73	303	eP		P	10 51 21.5	-0.2
KUDL				e			10 51 25.9	
comp=Z,16nm,0.8s								
YAK	Yakutsk	65.98	357	⇓i P		P	10 51 24.4	+1.7
YAK				pmax		pmax		
comp=Z,16nm,1.0s,mb5.0								
KKR	Kurukshetra	66.06	305	e		P	10 51 18.7	-5.0
KHET	Khetri	66.28	303	eP		P	10 51 24.9	-0.2
KHET				e			10 51 29.8	
comp=Z,16nm,0.8s								
ZAL	Zalesovo	71.81	331	P		P	10 51 59.4	+0.5
comp=Z,2.2nm,0.7s,mb4.2,baz=356,slow=5.6,SNR=7.3								
AAK	Ala-Archa	72.44	317	i P		P	10 52 04.0	+1.2
AAK				pmax		pmax		
comp=Z,7.0nm,1.3s,mb4.4								
AAK	Ala-Archa	72.44	317	eP		P	10 52 03.2	+0.5
comp=Z,7.6nm,1.2s,mb4.5								
NVS	Novosibirsk	73.08	331	i P		P	10 52 04.8	-1.5
BILL	Bilibino	74.82	11	i P		P	10 52 15.6	-0.6
BILL				pmax		pmax		
comp=Z,2.0nm,1.4s,mb3.9								
TIXI	Tiksi	75.61	358	eP		P	10 52 11.1	-10
TIXI				pmax		pmax		
comp=Z,2.0nm,0.9s,mb4.0								
BVAR	Borovoye Array	78.96	326	P		P	10 52 39.2	-0.4
comp=Z,11nm,1.0s,mb4.8,baz=124,slow=5.3,SNR=16								
BRVK	Borovoye	79.03	326	eP		P	10 52 40.2	+0.3
comp=Z,9.5nm,0.9s,mb4.7								
CHKZ	Chkalovo	79.08	326	eP		P	10 52 41.1	+1.0
comp=Z,10nm,1.2s,mb4.6								
IMA	Indian Mountai	85.60	23	eP		P	10 53 14.4	+0.8
comp=Z,48nm,1.0s,mb5.7								
QSPA	South Pole Qui	86.01	180	P		P	10 53 16.0	+0.6
comp=Z,7.4nm,1.1s,mb4.8								
ARU	Arti	86.51	327	eP		P	10 53 14.3	-4.0
SML	Sawmill	86.59	27	eP		P	10 53 16.9	-1.7
MCK	McKinley	86.82	25	eP		P	10 53 18.0	-1.7
comp=Z,7.7nm,1.1s,mb4.8								
COLA	College	87.57	24	P		P	10 53 22.1	-1.3
DIV	Divide	87.62	28	eP		P	10 53 24.2	+0.6
comp=Z,55nm,0.9s,mb5.8								
ILAR	Eielson Array	87.95	25	P		P	10 53 23.8	-1.3
ILAR	Eielson Array	87.95	25	P		P	10 53 23.9	-1.2
comp=Z,6.0nm,1.0s,mb4.8,baz=263,slow=4.0,SNR=25								
INK	Inuvik	93.70	22	P		P	10 53 51.3	-0.5
comp=Z,3.8nm,1.2s,mb4.7,baz=266,slow=4.0,SNR=3.5								
ARCES	ARCESS Array B	100.87	340	P		P	10 54 25.5	+1.2
comp=Z,3.3nm,0.8s,baz=102,slow=8.3,SNR=4.1								
YKA	Yellowknife Ar	102.24	27	P		Pdif	10 54 29.7	-0.8
comp=Z,0.4nm,1.0s,baz=292,slow=5.0,SNR=5.3								
CPUP	Villa Florida	147.14	157	PKPbc		PKPdf	11 00 20.8	-0.1
comp=Z,0.0nm,0.4s,baz=105,slow=20,SNR=1.5								
LPAZ	La Paz	148.57	130	PKIKP		PKPdf	11 00 21.6	-1.9
LPAZ				P			11 00 26.0	
LPAZ	La Paz	148.57	130	PKP		PKPdf	11 00 21.6	-1.8
comp=Z,1.2n

*IDC **08** 10:43:03.1±2.5, 47.77N×129.00W, mb3.6/3, mb1 3.9/8, mb1mx3.7/23, mbtmp3.6/8, ML3.4/5, MS3.4/9, Ms1 3.4/9, ms1mx3.2/26, Error ellipse: s-maj=52.9km s-min=15.7km az=63.0*

*NEIC **08** 10:43:05.8±1.0, 47.96N×128.66W, h10km, mb3.9/4, Error ellipse: s-maj=19.9km s-min=6.8km az=63.0*

ISC 08 10:43:03.2±1.1, 47.92N±0.09×128.8W±0.2, h10km, n24, σ0.73/21, mb3.8/4, MS3.4/5, Off coast of Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCWA	**Octopus Mounta**	**3.14**	**91**	P	**Pn**	**10 43 52.8**	**-1.0**
BBB	**Bella Bella**	**4.30**	**6**	Pn	**Pn**	**10 44 09.5**	**-0.7**
4.2nm,0.3s,baz=202,slow=14,SNR=12							
BBB	**Bella Bella**	**4.30**	**6**	Pn	**Pn**	**10 44 09.5**	**-0.7**
DLBC	**Dease Lake**	**10.56**	**357**	LR	LR	10 49 15.9	
comp=Z,158nm,21.4s,baz=129,slow=35							
NVAR	**Mina Array Bea**	**12.19**	**137**	Pn	**P**	**10 46 00.4**	**+0.6**
0.2nm,0.3s,baz=311,slow=8.3,SNR=3.9							
PDAR	**Pinedale Array**	**14.49**	**104**	Pn	**P**	**10 46 33.8**	**+3.7**
0.1nm,0.3s,baz=293,slow=11,SNR=8.4							
PDAR				LR	LR	10 52 13.6	
comp=Z,347nm,21.4s,baz=357,slow=38							
YKA	**Yellowknife Ar**	**16.65**	**23**	Pn	**P**	**10 46 58.3**	**+0.5**
0.0nm,0.3s,baz=214,slow=13,SNR=11							
YKA				LR	LR	10 53 29.6	
comp=Z,88nm,20.4s,baz=230,slow=37							
PV10	**Paradox Valley**	**17.26**	**116**	P	**P**	**10 47 07.3**	**+1.5**
PV01	**Paradox Valley**	**17.70**	**116**	*eP*	**P**	**10 47 12.2**	**+0.9**
FFC	**Flin Flon**	**18.04**	**58**	*eP*	**P**	**10 47 15.9**	**+0.6**
7.1nm,0.9s							
ILAR	**Eielson Array**	**19.50**	**337**	P	**P**	**10 47 33.3**	**+0.3**
0.0nm,0.3s,baz=153,slow=12,SNR=4.6							
ILAR				LR	LR	10 53 04.6	
comp=Z,22nm,21.6s,baz=263,slow=31							
SDCO	**Great Sand Dun**	**19.83**	**112**	P	**P**	**10 47 36.0**	**-0.9**
3.9nm,1.1s							
INK	**Inuvik**	**20.59**	**355**	P	**P**	**10 47 44.7**	**+0.1**
1.4nm,1.1s,baz=175,slow=11,SNR=3.5							
INK				LR	LR	10 55 28.6	
comp=Z,88nm,19.0s,MS3.1,baz=127,slow=36							
INK	**Inuvik**	**20.59**	**355**	P	**P**	**10 47 44.7**	**+0.1**
INK				LR	LR	10 55 28.6	
ANMO	**Albuquerque**	**21.10**	**120**	P	**P**	**10 47 49.9**	**-0.2**
5.9nm,1.1s,mb3.8,baz=319,slow=10,SNR=15							
ANMO				LR	LR	10 56 03.8	
comp=Z,141nm,19.0s,MS3.4,slow=37							
ANMO	**Albuquerque**	**21.10**	**120**	P	**P**	**10 47 49.9**	**-0.2**
ANMO				LR	LR	10 56 03.8	
LENM	**Lemitar**	**21.36**	**122**	P	**P**	**10 47 51.7**	**-1.0**
LPM	**Los Pinos Moun**	**21.45**	**121**	*eP*	**P**	**10 47 53.6**	**0.0**
BNM	**Barren Site**	**21.57**	**122**	*eP*	**P**	**10 47 54.8**	**0.0**
MNTX	**Cornudas Mount**	**24.08**	**124**	*eP*	**P**	**10 48 19.3**	**-0.3**
6.2nm,1.4s,mb4.0							
WMOK	**Wichita Mounta**	**25.94**	**109**	*eP*	**P**	**10 48 36.6**	**-0.6**
2.8nm,1.0s,mb3.8							
TXAR	**Lajitas Array**	**26.84**	**125**	P	**P**	**10 48 45.4**	**-0.1**
2.0nm,1.1s,mb3.6,baz=333,slow=5.6,SNR=9.0							
TXAR				LR	LR	11 00 00.2	
comp=Z,193nm,18.6s,MS3.7,baz=335,slow=38							
FRB	**Frobisher Bay**	**35.80**	**41**	LR	LR	11 05 30.9	
comp=Z,73nm,19.0s,MS3.5,baz=170,slow=38							
SCHQ	**Schefferville**	**38.16**	**56**	LR	LR	11 04 37.9	
comp=Z,69nm,19.7s,MS3.5,baz=307,slow=34							

IGQ 08 10:45:57.6, 0.63N×80.54W, h12km±24km, mb4.3, 6C-2D, Error ellipse: s-maj=23.0km s-min=12.0km az=23.2, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINO	**Pino**	**2.08**	**112**	⇑P	Pn	10 46 34.0	+1.3
TERV	**Terraza Guagua**	**2.09**	**112**	⇑P	Pn	10 46 34.1	+1.2
YANA	**Yana**	**2.10**	**111**	⇑P	Pn	10 46 34.4	+1.3
YANA				S	Sn	10 47 01.1	+1.8
COTA	**Cotacachi**	**2.22**	**98**	⇑P	Pn	10 46 36.8	+2.0
COTA				S	Sn	10 47 04.5	+2.2
NAS1	**Nasa**	**2.41**	**121**	⇓P	Pn	10 46 40.0	+2.5
VC1	**Cotopaxi 1**	**2.48**	**121**	⇑P	Pn	10 46 41.3	+2.8
TAMB	**Tambo**	**2.54**	**121**	⇓P	Pn	10 46 42.0	+2.7
TAMB				S	Sn	10 47 17.4	+7.1
CAYR	**Refugio Cayamb**	**2.60**	**104**	P	Pn	10 46 43.7	+3.5
CAYR				S	Sn	10 47 16.3	+4.3
ANTI	**Antisana**	**2.60**	**114**	P	Pn	10 46 43.7	+3.4
CAYA	**Cayambe**	**2.60**	**102**	⇑P	Pn	10 46 43.3	+3.0
CAYA				S	Sn	10 47 17.8	+5.7

IDC 08 11:00:31.8±16.0, 5.17N×95.05E, mb3.6/2, mb1 3.9/3, mb1mx3.5/18, mbtmp3.6/3, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/18, Error ellipse: s-maj=428.2km s-min=47.0km az=82.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.75**	**16**	Pn	P	11 03 47.9	-2.7
0.1nm,0.3s,baz=228,slow=14,SNR=4.6							
WRA	**Warramunga Arr**	**45.99**	**124**	P	P	11 08 57.3	-1.6
0.8nm,0.7s,baz=302,slow=9.1,SNR=10							
ASAR	**Alice Springs**	**47.51**	**129**	P	P	11 09 08.8	-2.2
0.5nm,0.6s,baz=300,slow=7.7,SNR=5.2							
CTA	**Charters Tower**	**56.22**	**118**	LR	LR	11 39 30.3	
comp=Z,39nm,18.1s,baz=59,slow=42							

*IDC **08** 11:24:44.5±0.8, 9.58N×92.26E, mb4.1/13, mb1 4.2/14, mb1mx4.1/22, mbtmp4.1/14, ML4.2/1, Error ellipse: s-maj=36.1km s-min=15.3km az=52.0*

*BJI **08** 11:24:49.3, 9.60N×92.30E, h30km, mb4.1*

*NEIC **08** 11:24:49.1±0.5, 9.61N×92.34E, h30km, mb4.5/4, Error ellipse: s-maj=13.5km s-min=8.6km az=57.0*

ISC 08 11:24:47.0±0.6, 9.53N±0.08×92.29E±0.08, h30km, n34, σ0.99/36, mb4.1/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.16**	**12**	*eP*	**Pn**	**11 25 27.6**	**+5.9**
PBA				*e*		11 26 02.3	
PBA				*e*		11 26 12.7	
comp=N,1μm,1.3s							
PBA				*e*		11 26 14.3	
comp=E,2μm,0.9s							
CMAR	**Chiang Mai Arr**	**10.97**	**35**	Pn	**P**	**11 27 24.0**	**-1.2**
comp=E,0.5nm,0.3s,baz=236,slow=14,SNR=17							
VIS	**Vishakhapatnam**	**11.92**	**314**	*eP*	**P**	**11 27 36.3**	**-1.8**
VIS				*eS*	**S**	**11 29 36.4**	**-15**
HYB	**Hyderabad**	**15.48**	**302**	*eP*	**P**	**11 28 32.5**	**+7.3**
HYB	**Hyderabad**	**15.48**	**302**	*i P*	**P**	**11 28 32.5**	**+7.3**
HYB				*eS*	**S**	**11 31 06.0**	**-10**
SHL	**Shillong**	**15.95**	**359**	*eP*	**P**	**11 28 32.0**	**+0.9**
SHL				*e*		11 33 12.5	
JIRN	**Jiri**	**18.93**	**343**	*eP*	**P**	**11 29 08.8**	**+0.6**
comp=E,20nm,0.7s							
PKI	**Pulchoki**	**19.08**	**341**	*eP*	**P**	**11 29 11.2**	**+1.2**
comp=E,17nm,0.8s							
DMN	**Daman**	**19.22**	**340**	*eP*	**P**	**11 29 13.5**	**+1.9**
comp=E,18nm,0.7s							
GUN	**Gumba**	**19.25**	**343**	*eP*	**P**	**11 29 11.9**	**-0.1**
comp=E,12nm,0.7s							
KKN	**Kakani**	**19.33**	**341**	*eP*	**P**	**11 29 13.8**	**+1.0**
GKN	**Gorkha**	**19.74**	**340**	*eP*	**P**	**11 29 17.5**	**+0.1**
comp=E,5.0nm,0.2s							
KOLN	**Koldanda**	**19.91**	**337**	*eP*	**P**	**11 29 21.0**	**+1.7**
comp=E,26nm,0.9s							
POO	**Poona**	**19.99**	**299**	*eS*	**S**	**11 32 57.0**	**-0.9**
LSA	**Lhasa**	**20.09**	**357**	P	**P**	**11 29 22.6**	**+1.4**
LSA	**Lhasa**	**20.09**	**357**	*eP*	**P**	**11 29 19.9**	**-1.2**
comp=E,5.3nm,0.7s							
ENH	**Enshi**	**26.14**	**35**	P	**P**	**11 30 18.4**	**-2.2**
comp=E,12nm,1.1s,mb4.4							
DLH	**Dalhousie**	**27.43**	**329**	*eS*	**S**	**11 35 07.0**	**-1.9**
DLH	**Dalhousie**	**27.43**	**329**	*eP*	**S**	**11 35 07.0**	**-1.9**
SONM	**Songino Array**	**39.99**	**15**	P	**P**	**11 32 19.1**	**-1.6**
comp=E,1.6nm,1.0s,mb3.7,baz=210,slow=10.0,SNR=8.0							
SONM				PcP	PcP	11 34 26.9	+0.8
comp=E,0.4nm,0.4s,baz=186,slow=2.5,SNR=4.0							
ZAL	**Zalesovo**	**44.69**	**354**	P	**P**	**11 32 59.1**	**+0.1**
comp=E,0.7nm,0.2s,mb4.0,baz=327,slow=18,SNR=2.5							
BVAR	**Borovoye Array**	**46.85**	**342**	P	**P**	**11 33 16.1**	**0.0**
comp=E,0.9nm,0.7s,mb3.8,baz=240,slow=39,SNR=4.8							
CHKZ	**Chkalovo**	**47.35**	**343**	*eP*	**P**	**11 33 20.0**	**0.0**
comp=E,4.0nm,0.8s,mb4.4							
WRA	**Warramunga Arr**	**50.70**	**125**	P	**P**	**11 33 46.4**	**0.0**
comp=E,2.1nm,0.4s,mb4.5,baz=306,slow=8.2,SNR=87							
WRA				PcP	PcP	11 35 03.0	-0.5
comp=E,0.5nm,0.9s,baz=320,slow=3.1,SNR=2.4							
WRAB	**Tennant Creek**	**50.71**	**125**	*eP*	**P**	**11 33 46.3**	**0.0**
comp=E,5.6nm,0.6s,mb4.7							
ASAR	**Alice Springs**	**52.37**	**130**	P	**P**	**11 33 58.8**	**-0.2**
comp=E,1.6nm,0.7s,mb4.1,baz=306,slow=7.3,SNR=26							
ASAR				PcP	PcP	11 35 11.2	+1.5
comp=E,0.6nm,0.8s,baz=306,slow=4.5,SNR=4.2							
BRTR	**Keskin Array B**	**59.97**	**310**	P	**P**	**11 34 52.3**	**-0.8**
comp=E,0.3nm,0.5s,mb3.6,baz=130,slow=9.6,SNR=4.1							
STKA	**Stephens Creek**	**62.56**	**133**	P	**P**	**11 35 11.5**	**+0.7**
comp=E,1.0nm,0.3s,mb4.4,baz=322,slow=21,SNR=3.3							
FINES	**FINESS Array B**	**70.40**	**332**	P	**P**	**11 36 00.3**	**+0.2**
comp=E,2.8nm,1.0s,mb4.2,baz=127,slow=9.5,SNR=7.6							
VRAC	**Vranov**	**73.51**	**319**	P	**P**	**11 36 18.5**	**-0.3**
comp=E,1.3nm,0.7s,mb4.0,baz=312,slow=1.8,SNR=2.6							
GERES	**GERESS Array B**	**75.38**	**318**	P	**P**	**11 36 30.3**	**+0.7**
comp=E,0.8nm,0.5s,mb3.9,baz=90,slow=4.0,SNR=2.6							
HFS	**Hagfors**	**76.11**	**330**	P	**P**	**11 36 33.7**	**+0.1**
comp=E,1.6nm,0.7s,mb4.0,baz=90,slow=4.4,SNR=4.1							
NOA	**NORSAR Array B**	**77.40**	**330**	P	**P**	**11 36 40.7**	**0.0**
comp=E,0.9nm,0.8s,mb3.8,baz=176,slow=2.5,SNR=3.1							
EKA	**Eskdalemuir Ar**	**85.33**	**325**	P	**P**	**11 37 23.0**	**+0.6**
comp=E,4.8nm,1.0s,mb4.6,baz=29,slow=39,SNR=2.8							

*IDC **08** 11:24:53.5±0.8, 9.37N×92.19E, mb4.3/14, mb1 4.4/15, mb1mx4.2/23, mbtmp4.3/15, ML4.1/1, Error ellipse: s-maj=37.4km s-min=15.1km az=47.0*

*NEIC **08** 11:24:58.3±0.4, 9.46N×92.28E, h30km, mb4.7/3, Error ellipse: s-maj=14.2km s-min=8.0km az=49.0*

ISC 08 11:24:57.0±0.6, 9.5N±0.1×92.4E±0.1, h33km, n27, σ0.64/26, mb4.3/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.93**	**35**	Pn	**P**	**11 27 33.5**	**-0.9**
0.4nm,0.3s,baz=231,slow=14,SNR=13							
CMAR	**Chiang Mai Arr**	**10.93**	**35**	Pn	**P**	**11 27 33.5**	**-0.9**
SONM	**Songino Array**	**39.99**	**15**	P	**P**	**11 32 32.1**	**+1.9**
1.4nm,0.7s,mb3.8,baz=193,slow=7.8,SNR=7.2							
BVAR	**Borovoye Array**	**46.89**	**342**	P	**P**	**11 33 25.9**	**-0.1**
3.1nm,1.0s,mb4.2,baz=104,slow=6.1,SNR=5.4							
BVAR	**Borovoye Array**	**46.89**	**342**	P	**P**	**11 33 25.9**	**-0.1**
CHKZ	**Chkalovo**	**47.39**	**343**	*eP*	**P**	**11 33 29.5**	**-0.4**
8.2nm,1.0s,mb4.6							
WRA	**Warramunga Arr**	**50.63**	**126**	P	**P**	**11 33 55.6**	**+0.2**
5.1nm,0.5s,mb4.7,baz=305,slow=8.7,SNR=34							
WRA	**Warramunga Arr**	**50.63**	**126**	P	**P**	**11 33 55.6**	**+0.2**
WRAB	**Tennant Creek**	**50.63**	**126**	*eP*	**P**	**11 33 56.2**	**+0.8**
9.1nm,0.5s,mb5.0							
ASAR	**Alice Springs**	**52.30**	**130**	P	**P**	**11 34 07.0**	**-0.9**
2.5nm,0.6s,mb4.3,baz=306,slow=6.7,SNR=19							
ASAR	**Alice Springs**	**52.30**	**130**	P	**P**	**11 34 07.0**	**-0.9**
PMG	**Port Moresby**	**57.68**	**107**	P	**P**	**11 34 47.1**	**-0.1**
4.7nm,0.7s,mb4.6,baz=265,slow=5.1,SNR=4.3							
PMG	**Port Moresby**	**57.68**	**107**	P	**P**	**11 34 47.1**	**-0.1**
BRTR	**Keskin Array B**	**60.05**	**310**	P	**P**	**11 35 02.9**	**-0.4**
0.7nm,0.6s,mb3.9,baz=124,slow=4.5,SNR=3.4							
STKA	**Stephens Creek**	**62.49**	**133**	P	**P**	**11 35 19.6**	**-0.2**
2.0nm,0.5s,mb4.5,baz=321,slow=16,SNR=3.6							
STKA	**Stephens Creek**	**62.49**	**133**	P	**P**	**11 35 19.6**	**-0.2**
FINES	**FINESS Array B**	**70.46**	**332**	P	**P**	**11 36 09.8**	**-0.1**
1.4nm,0.7s,mb4.0,baz=108,slow=6.0,SNR=5.1							
FINES	**FINESS Array B**	**70.46**	**332**	P	**P**	**11 36 09.8**	**-0.1**
ARCES	**ARCESS Array B**	**73.14**	**340**	P	**P**	**11 36 25.7**	**-0.1**
4.7nm,0.8s,mb4.4,baz=12,slow=17,SNR=3.1							
VRAC	**Vranov**	**73.58**	**319**	P	**P**	**11 36 28.1**	**-0.6**
1.7nm,0.8s,mb4.0,baz=47,slow=21,SNR=2.1							
GERES	**GERESS Array B**	**75.45**	**318**	P	**P**	**11 36 39.3**	**-0.2**
0.9nm,0.8s,mb3.8,baz=117,slow=6.0,SNR=2.5							
GERES	**GERESS Array B**	**75.45**	**318**	P	**P**	**11 36 39.3**	**-0.2**
HFS	**Hagfors**	**76.17**	**330**	P	**P**	**11 36 43.8**	**+0.5**
13nm,1.2s,mb4.7,baz=90,slow=5.9,SNR=3.2							
NOA	**NORSAR Array B**	**77.45**	**330**	P	**P**	**11 36 50.6**	**0.0**
1.3nm,0.8s,mb3.9,baz=65,slow=19,SNR=3.1							
LPG	**La Plagne**	**80.23**	**315**	*eP*	**P**	**11 37 05.9**	**-0.2**
12nm,0.9s,mb4.5							
EKA	**Eskdalemuir Ar**	**85.39**	**325**	P	**P**	**11 37 33.1**	**+0.9**
2.3nm,0.8s,mb4.4,baz=90,slow=4.2,SNR=3.5							
TXAR	**Lajitas Array**	**138.40**	**21**	PKP	PKPdf	11 44 20.8	+0.9
0.2nm,0.8s,baz=18,slow=2.9,SNR=2.6							

*IDC **08** 11:27:32.9±3.9, 43.86N×130.76W, mb3.0/3, mb1 3.6/5, mb1mx3.4/20, mbtmp3.2/5, ML3.7/2, Error ellipse: s-maj=91.8km s-min=22.2km az=51.0*

*NEIC **08** 11:27:38.3±1.2, 44.51N×129.77W, h10km, mb3.4/2, Error ellipse: s-maj=17.8km s-min=9.8km az=61.0*

ISC 08 11:27:37.0±1.6, 44.5N±0.1×129.7W±0.2, h10km, n15, σ0.85/15, mb3.2/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCWA	**Octopus Mounta**	**5.00**	**48**	*eP*	**Pn**	**11 28 54.6**	**+0.6**
YBH	**Yreka Blue Hor**	**5.82**	**116**	Pn	**Pn**	**11 29 09.3**	**+3.8**
0.2nm,0.3s,baz=284,slow=12,SNR=3.4							
PGC	**Sidney**	**5.96**	**44**	*eP*	**Pn**	**11 29 07.3**	**-0.1**
BMO	**Blue Mountains**	**8.83**	**84**	P	**P**	**11 29 46.2**	**-1.5**
NVAR	**Mina Array Bea**	**10.48**	**122**	Pn	**P**	**11 30 08.8**	**-1.6**
0.6nm,0.3s,baz=297,slow=12,SNR=3.6							
BW06	**Boulder Array**	**14.68**	**90**	P	**P**	**11 31 06.7**	**+0.2**
SRU	**San Rafael**	**15.27**	**104**	P	**P**	**11 31 14.6**	**+0.4**
SDCO	**Great Sand Dun**	**19.40**	**102**	*eP*	**P**	**11 32 06.8**	**+1.0**
0.9nm,0.7s							
YKA	**Yellowknife Ar**	**20.01**	**21**	P	**P**	**11 32 16.7**	**+4.3**
0.3nm,0.8s,baz=211,slow=10.0,SNR=5.8							
ANMO	**Albuquerque**	**20.20**	**110**	P	**P**	**11 32 14.7**	**0.0**
ILAR	**Eielson Array**	**22.45**	**341**	P	**P**	**11 32 36.8**	**-0.4**
0.7nm,1.1s,mb3.0,baz=151,slow=9.3,SNR=4.9							
MNTX	**Cornudas Mount**	**22.91**	**116**	P	**P**	**11 32 43.1**	**+1.0**
TXAR	**Lajitas Array**	**25.59**	**118**	P	**P**	**11 33 07.8**	**-0.1**
0.4nm,0.7s,mb3.1,baz=301,slow=7.3,SNR=5.7							
TXAR	**Lajitas Array**	**25.59**	**118**	P	**P**	**11 33 07.8**	**-0.1**
WMOK	**Wichita Mounta**	**25.60**	**102**	*eP*	**P**	**11 33 07.8**	**-0.1**
0.9nm,0.7s,mb3.4							

*BJI **08** 11:28:24.2, 4.09N×95.77E, h30km, mB5.0, mb4.8, Ms4.5, Msz4.4*

*IDC **08** 11:28:25.9±0.5, 4.85N×96.22E, mb4.5/24, mb1 4.6/25, mb1mx4.5/28, mbtmp4.5/25, ML3.8/1, Error ellipse: s-maj=30.8km s-min=11.3km az=48.0*

*MOS **08** 11:28:29.4±0.7, 5.01N×96.42E, h33km, mb4.9/4, Error ellipse: s-maj=19.4km s-min=10.5km az=116.5*

*NEIC **08** 11:28:30.8±0.3, 4.91N×96.41E, h30km, mb4.8/17, Error ellipse: s-maj=12.9km s-min=5.8km az=221.0*

ISC 08 11:28:29.4±0.3, 4.89N±0.06×96.42E±0.07, h33km, n93, σ0.96/80, mb4.7/46, MS4.6/1, 1C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.71**	**10**	Pn	**P**	**11 31 49.1**	**+5.3**
0.2nm,0.3s,baz=198,slow=13,SNR=14							
PALK	**Pallekele**	**15.81**	**279**	P	**P**	**11 32 12.8**	**+1.5**
HYB	**Hyderabad**	**21.47**	**307**	*eP*	**P**	**11 33 18.0**	**+0.7**
HYB	**Hyderabad**	**21.47**	**307**	*i P*	**P**	**11 33 18.0**	**+0.7**
58nm,0.8s,mb5.0							
JIRN	**Jiri**	**24.65**	**338**	*eP*	**P**	**11 33 49.6**	**+1.1**
46nm,0.8s,mb5.1							
PKI	**Pulchoki**	**24.88**	**336**	*eP*	**P**	**11 33 50.8**	**+0.1**
14nm,0.6s,mb4.7							
GUN	**Gumba**	**25.00**	**337**	*eP*	**P**	**11 33 52.7**	**+0.9**
62nm,0.7s,mb5.3							
DMN	**Daman**	**25.04**	**336**	*eP*	**P**	**11 33 52.0**	**-0.2**
KKN	**Kakani**	**25.12**	**336**	*eP*	**P**	**11 33 53.2**	**+0.2**
34nm,0.6s,mb5.0							
LSA	**Lhasa**	**25.18**	**349**	P	**P**	**11 33 56.4**	**+2.9**
LSA				AMB	AMB		
comp=Z,50nm,0.6s,mb5.2							
LSA	**Lhasa**	**25.18**	**349**	*eP*	**P**	**11 33 56.4**	**+2.9**
comp=Z,37nm,0.6s,mb5.1							
GKN	**Gorkha**	**25.58**	**335**	*eP*	**P**	**11 33 57.6**	**+0.3**
comp=Z,45nm,0.6s,mb5.2							
KOLN	**Koldanda**	**25.82**	**333**	*eP*	**P**	**11 34 00.0**	**+0.4**
comp=Z,62nm,0.7s,mb5.3							
ENH	**Enshi**	**28.09**	**25**	*eP*	**P**	**11 34 21.0**	**+0.6**
comp=Z,6.3nm,0.8s,mb4.3							
WHN	**Wuhan**	**30.60**	**31**	*eP*	**P**	**11 34 47.5**	**+4.8**
XAN	**Xi'an**	**31.24**	**20**	P	**P**	**11 34 50.3**	**+2.0**
XAN				AP	pP	11 34 58.4	+0.4
XAN				AMB	AMB		
comp=Z,18nm,0.8s,mb5.0							
FITZ	**Fitzroy Crossi**	**36.77**	**129**	*eP*	**P**	**11 35 34.6**	**-1.4**
comp=Z,12nm,0.6s,mb4.9							
BJT	**Baijiatuau**	**39.24**	**24**	*eP*	**P**	**11 36 01.1**	**+4.7**
comp=Z,13nm,0.7s,mb4.8							
WMQ	**Urumqi**	**39.53**	**350**	*eP*	**P**	**11 36 00.1**	**+1.3**
WMQ				AP	pP	11 36 09.7	+1.1
WMQ				XP	sP	11 36 13.7	+0.9
WMQ				PP	PP	11 37 35.5	+2.0
WMQ				S	**S**	**11 41 59.9**	**+1.1**
WMQ				XS		11 42 16.1	
WMQ				AMB	AMB		
comp=Z,4.0nm,0.9s,mb4.2							
WMQ				AMB	AMB		
comp=Z,39nm,5.4s							
WMQ				LR	LR		
comp=N,692nm,19.4s,MS4.6							
WMQ				LR	LR		
comp=E,577nm,20.6s,MS4.6							
WMQ				LR	LR		
comp=Z,823nm,19.7s,MS4.6							
KAKA	**Kakadu**	**39.83**	**116**	*eP*	**P**	**11 36 02.0**	**+0.5**
comp=Z,7.7nm,0.6s,mb4.6							
AAK	**Ala-Archa**	**42.33**	**336**	*eP*	**P**	**11 36 21.1**	**-0.9**
comp=Z,4.1nm,0.8s,mb4.1							
NWAO	**Narrogin (SRO)**	**42.48**	**154**	P	**P**	**11 36 24.4**	**+1.1**
comp=Z,5.3nm,0.6s,mb4.3,baz=303,slow=10,SNR=5.6							
NWAO	**Narrogin (SRO)**	**42.48**	**154**	*eP*	**P**	**11 36 24.5**	**+1.2**
comp=Z,3.9nm,0.8s,mb4.1							
SONM	**Songino Array**	**43.63**	**10**	P	**P**	**11 36 34.4**	**+1.9**
comp=Z,5.5nm,0.5s,mb4.5,baz=190,slow=9.3,SNR=60							
SONM				PcP	PcP	11 38 20.0	0.0
comp=Z,3.3nm,0.6s,baz=190,slow=3.6,SNR=11							
ULN	**Ulaanbaatar**	**43.78**	**10**	*i P*	**P**	**11 36 33.7**	**0.0**
WRA	**Warramunga Arr**	**44.70**	**125**	*i P*	**P**	**11 36 41.6**	**+0.2**
WRA				pmax	pmax		
comp=Z,7.0nm,0.6s							
WRA	**Warramunga Arr**	**44.70**	**125**	P	**P**	**11 36 41.6**	**+0.1**
comp=Z,6.6nm,0.6s,mb4.6,baz=302,slow=9.2,SNR=44							
WRA				PcP	PcP	11 38 24.3	+0.3
comp=Z,1.9nm,0.5s,baz=312,slow=2.8,SNR=8.4							
WRA				ScP		11 42 16.2	
comp=Z,0.5nm,0.6s,baz=317,slow=3.5,SNR=9.0							
WRAB	**Tennant Creek**	**44.70**	**125**	*i P*	**P**	**11 36 45.4**	**+4.0**
WRAB	**Tennant Creek**	**44.70**	**125**	*eP*	**P**	**11 36 41.2**	**-0.3**
comp=Z,13nm,0.6s,mb4.9							
WB2	**Warramunga Arr**	**44.71**	**125**	⇓*i P*	**P**	**11 36 41.6**	**+0.1**
ZAK	**Zakamensk**	**45.70**	**6**	*eP*	**P**	**11 36 49.0**	**-0.1**
ZAK				*e*		11 38 25.4	
ASPA	**Alice Springs**	**46.27**	**129**	*eP*	**P**	**11 36 54.0**	**+0.1**
ASAR	**Alice Springs**	**46.27**	**129**	P	**P**	**11 36 54.0**	**+0.1**
comp=Z,8.1nm,0.6s,mb4.8,baz=299,slow=8.0,SNR=67							
ASAR				PcP	PcP	11 38 29.7	+0.2
comp=Z,1.6nm,0.6s,baz=306,slow=3.3,SNR=4.7							
ASAR				ScP		11 42 23.4	
comp=Z,0.6nm,0.6s,baz=316,slow=4.2,SNR=5.8							
ZAL	**Zalesovo**	**49.81**	**351**	P	**P**	**11 37 20.6**	**-0.4**
comp=Z,4.6nm,0.9s,mb4.5,baz=294,slow=5.1,SNR=15							
NVS	**Novosibirsk**	**50.93**	**350**	*eP*	**P**	**11 37 28.1**	**-1.4**
PMG	**Port Moresby**	**52.52**	**106**	P	**P**	**11 37 42.3**	**+0.3**
comp=Z,5.8nm,0.5s,mb4.7,baz=291,slow=8.2,SNR=4.9							
PMG	**Port Moresby**	**52.52**	**106**	*eP*	**P**	**11 37 42.1**	**+0.2**
comp=Z,6.9nm,0.7s,mb4.7							
BVAR	**Borovoye Array**	**52.53**	**340**	P	**P**	**11 37 40.3**	**-1.3**
comp=Z,1.4nm,0.5s,mb4.1,baz=140,slow=12,SNR=6.8							
BVAR				PcP	PcP	11 38 51.5	-0.2
comp=Z,1.3nm,0.6s,baz=183,slow=4.4,SNR=5.5							
CHKZ	**Chkalovo**	**53.01**	**341**	*eP*	**P**	**11 37 44.0**	**-1.2**
comp=Z,4.1nm,0.7s,mb4.5							
KLR	**Kul'dur**

*MOS **08** 11:39:24.5±1.6, 2.23S×126.94E, h33km, mb4.5/6, Error ellipse: s-maj=23.8km s-min=10.0km az=111.7*
*DJA **08** 11:39:25.6±0.9, 0.95S×126.76E, h33km, MD4.9/3, ML5.2/3, Error ellipse: s-maj=73.0km s-min=18.5km az=157.0*
*BJI **08** 11:39:28.5, 2.30S×127.00E, h59km, mB5.4, mb4.9, Ms4.6, Msz4.5*
*NEIC **08** 11:39:29.6±1.5, 2.30S×127.03E, h60km±15km, mb4.5/14, Error ellipse: s-maj=15.1km s-min=7.1km az=55.0*
*IDC **08** 11:39:33.8±3.2, 2.38S×127.02E, h102km±29km, mb4.2/14, mb1 4.2/15, mb1mx4.1/22, mbtmp4.5/15, MS3.7/4, Ms1 3.7/4, ms1mx3.2/22, Error ellipse: s-maj=25.5km s-min=8.6km az=71.0*

ISC 08 11:39:23.6±1.9, 2.22S±0.03×127.06E±0.04, h25km±13km, n82, σ1°33/92, mb4.7/34, MS4.0/6, 6C-8D, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUNI	**Buntu Taipa**	**6.88**	**258**	⇑*i*Pn	**Pn**	**11 41 06.1**	**+0.5**
BUNI				*i* Sn	**Sn**	**11 42 22.9**	**-1.0**
BUNI	**Buntu Taipa**	**6.88**	**258**	⇑*i*Pn	**Pn**	**11 41 06.1**	**+0.5**
	114nm,0.2s						
BUNI	**Buntu Taipa**	**6.88**	**258**	⇓*i*P	**Pn**	**11 41 07.1**	**+1.5**
BUNI				⇓*i*Sn	**Sn**	**11 42 22.9**	**-1.0**
NINI	**Niniconang**	**7.62**	**253**	⇓*i*Pn	**Pn**	**11 41 19.5**	**+3.6**
NINI				*i* Sn	**Sn**	**11 42 41.3**	**-1.0**
NINI	**Niniconang**	**7.62**	**253**	⇓*i*Pn	**Pn**	**11 41 19.5**	**+3.6**
	228nm,0.4s						
NINI	**Niniconang**	**7.62**	**253**	⇓*i*P	**Pn**	**11 41 20.5**	**+4.6**
NINI				⇑*i*Sn	**Sn**	**11 42 41.3**	**-1.0**
TANI	**Tanete Lipujan**	**7.76**	**261**	⇓*i*Pn	**Pn**	**11 41 18.8**	**+0.8**
TANI				*i* Sn	**Sn**	**11 42 40.7**	**-5.3**
TANI	**Tanete Lipujan**	**7.76**	**261**	⇑*i*Pn	**Pn**	**11 41 18.9**	**+0.9**
	37nm,0.2s						
TANI	**Tanete Lipujan**	**7.76**	**261**	⇑*i*P	**Pn**	**11 41 19.5**	**+1.5**
TANI				⇑*i*Sn	**Sn**	**11 42 40.7**	**-5.3**
KAKA	**Kakadu**	**11.70**	**153**	*e*P	**P**	**11 42 12.7**	**+0.4**
	24nm,0.8s						
KAKA				*e*S	**S**	**11 44 21.0**	**-2.1**
FITZ	**Fitzroy Crossi**	**15.84**	**185**	*e*P	**P**	**11 43 07.2**	**+0.3**
	12nm,0.6s						
WRAB	**Tennant Creek**	**18.99**	**158**	*i* P	**P**	**11 43 45.1**	**-1.0**
WRAB	**Tennant Creek**	**18.99**	**158**	*e*P	**P**	**11 43 45.2**	**-0.9**
	14nm,0.4s						
WRA	**Warramunga Arr**	**18.99**	**159**	P	**P**	**11 43 45.3**	**-0.8**
	3.5nm,0.3s,baz=340,slow=11,SNR=201						
WRA				S	**S**	**11 47 14.5**	**+0.9**
	0.9nm,0.3s,baz=344,slow=21,SNR=7.6						
WRA	**Warramunga Arr**	**18.99**	**159**	P	**P**	**11 43 45.3**	**-0.8**
WRA				S	**S**	**11 47 14.4**	**+0.9**
WB2	**Warramunga Arr**	**19.00**	**158**	⇓*i*P	**P**	**11 43 45.0**	**-1.2**
WB2				*e*S	**S**	**11 47 14.3**	**+0.7**
MBWA	**Marble Bar**	**20.13**	**200**	*e*P	**P**	**11 43 58.4**	**-0.5**
	20nm,0.7s						
PMG	**Port Moresby**	**21.21**	**110**	*i* P	**P**	**11 44 12.4**	**+2.4**
PMG	**Port Moresby**	**21.21**	**110**	P	**P**	**11 44 12.9**	**+2.9**
	17nm,0.7s,mb4.5,baz=346,slow=2.4,SNR=12						
ASPA	**Alice Springs**	**22.32**	**163**	⇓*i*P	**P**	**11 44 21.1**	**0.0**
ASPA				*e*S	**S**	**11 48 20.5**	**+0.4**
ASAR	**Alice Springs**	**22.32**	**163**	P	**P**	**11 44 21.6**	**+0.5**
	17nm,0.9s,mb4.5,baz=346,slow=12,SNR=102						
ASAR				S	**S**	**11 48 22.0**	**+1.9**
	14nm,0.9s,baz=347,slow=23,SNR=8.8						
ASAR				LR	LR	11 53 47.3	
	comp=Z,96nm,18.9s,MS3.2,baz=342,slow=38						
ASAR	**Alice Springs**	**22.32**	**163**	P	**P**	**11 44 21.6**	**+0.5**
ASAR				S	**S**	**11 48 22.0**	**+1.9**
ASAR				LR	LR	11 53 47.3	
CTA	**Charters Tower**	**25.82**	**135**	*e*P	**P**	**11 44 57.0**	**+2.1**
	12nm,0.8s,mb4.5						
CTA	**Charters Tower**	**25.82**	**135**	P	**P**	**11 44 57.7**	**+2.8**
	12nm,0.8s,mb4.5,baz=322,slow=7.9,SNR=9.0						
CTAO	**Charters Tower**	**25.82**	**135**	*e*P	**P**	**11 44 56.1**	**+1.2**
	16nm,0.8s,mb4.6						
JOW	**Kunigami**	**28.91**	**2**	P	**P**	**11 45 25.7**	**+2.7**
	30nm,0.9s,mb5.0,baz=92,slow=27,SNR=3.5						
NWAO	**Narrogin (SRO)**	**31.91**	**196**	P	**P**	**11 45 48.4**	**-1.1**
	8.8nm,0.9s,mb4.6,baz=340,slow=5.3,SNR=3.7						
NWAO	**Narrogin (SRO)**	**31.91**	**196**	*e*P	**P**	**11 45 48.4**	**-1.1**
	9.4nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**32.52**	**157**	*e*P	**P**	**11 45 53.9**	**-1.0**
	1.8nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**32.52**	**157**	P	**P**	**11 45 54.2**	**-0.6**
	1.9nm,0.6s,mb4.2,baz=348,slow=8.6,SNR=8.4						
STKA				LR	LR	12 00 04.6	
	comp=Z,142nm,21.6s,MS3.6,baz=223,slow=38						
SSE	**Sheshan**	**33.60**	**351**	P	**P**	**11 46 01.4**	**-2.9**
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,142nm,7.3s						
CMAR	**Chiang Mai Arr**	**34.47**	**308**	P	**P**	**11 46 13.5**	**+1.6**
	comp=Z,1.2nm,0.8s,mb3.9,baz=134,slow=7.1,SNR=8.4						
NJ2	**Nanjing**	**34.97**	**348**	*e*P	**P**	**11 46 16.6**	**+0.6**
NJ2				AP	pP	11 46 28.7	+5.2
NJ2				XP	sP	11 46 34.1	+7.3
NJ2				PP	PP	11 47 35.6	+1.2
NJ2				PPP	PPP	11 47 53.8	+1.4
NJ2				S	**S**	**11 51 46.0**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,806nm,4.2s						
NJ2				LR	LR		
	comp=N,640nm,14.0s,MS4.6						
NJ2				LR	LR		
	comp=E,450nm,14.6s,MS4.6						
NJ2				LR	LR		
	comp=Z,1μm,13.4s,MS4.7						
ENH	**Enshi**	**36.41**	**334**	*e*P	**P**	**11 46 28.8**	**+0.6**
	comp=Z,11nm,0.9s,mb4.8						
JHJ	**Hachijo jima 2**	**37.15**	**18**	LR	LR	11 59 08.8	
	comp=Z,2μm,21.8s,MS4.9,baz=97,slow=32						
XAN	**Xi'an**	**39.91**	**336**	P	**P**	**11 46 58.3**	**+0.8**
XAN				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.7						
MAT	**Matsushiro**	**39.94**	**14**	*e*P	**P**	**11 46 56.0**	**-1.7**
MAT	**Matsushiro**	**39.94**	**14**	P	**P**	**11 46 56.1**	**-1.6**
BJT	**Baijiatuau**	**43.21**	**348**	P	**P**	**11 47 23.6**	**-0.9**
LZH	**Lanzhou**	**43.84**	**333**	*e*P	**P**	**11 47 32.0**	**+2.3**
LZH				AMB	AMB		
	comp=Z,28nm,1.2s,mb4.9						
SHL	**Shillong**	**43.85**	**311**	*e*P	**P**	**11 47 34.0**	**+4.1**
LSA	**Lhasa**	**46.75**	**316**	P	**P**	**11 47 57.8**	**+4.8**
LSA	**Lhasa**	**46.75**	**316**	*e*P	**P**	**11 47 56.4**	**+3.4**
	comp=Z,13nm,0.7s,mb5.0						
ASAJ	**Asahikawa**	**48.19**	**15**	P	**P**	**11 48 04.8**	**+0.7**
	comp=Z,14nm,1.0s,mb5.0,baz=175,slow=18,SNR=3.0						
JIRN	**Jiri**	**49.28**	**310**	*e*P	**P**	**11 48 14.7**	**+2.0**
	comp=Z,69nm,1.0s,mb5.6						
GUN	**Gumba**	**49.64**	**310**	*e*P	**P**	**11 48 17.8**	**+2.3**
	comp=Z,78nm,1.0s,mb5.7						
PKI	**Pulchoki**	**49.83**	**309**	*e*P	**P**	**11 48 14.8**	**-2.1**
KKN	**Kakani**	**50.04**	**310**	*e*P	**P**	**11 48 18.6**	**+0.1**
DMN	**Daman**	**50.08**	**309**	*e*P	**P**	**11 48 17.2**	**-1.7**
	comp=Z,50nm,1.0s,mb5.5						
GKN	**Gorkha**	**50.64**	**310**	*e*P	**P**	**11 48 24.8**	**+1.7**
	comp=Z,45nm,0.8s,mb5.4						
KOLN	**Koldanda**	**51.33**	**309**	*e*P	**P**	**11 48 31.4**	**+3.1**
	comp=Z,72nm,0.9s,mb5.6						
HYB	**Hyderabad**	**51.64**	**294**	*e*P	**P**	**11 48 36.5**	**+5.7**
HYB	**Hyderabad**	**51.64**	**294**	*i* P	**P**	**11 48 36.5**	**+5.7**
ULN	**Ulaanbaatar**	**52.86**	**343**	*i* P	**P**	**11 48 39.8**	**+0.2**
ULN	**Ulaanbaatar**	**52.86**	**343**	*e*P	**P**	**11 48 39.9**	**+0.3**
	comp=Z,5.4nm,0.7s,mb4.6						
SONM	**Songino Array**	**53.03**	**343**	P	**P**	**11 48 40.9**	**+0.1**
	comp=Z,9.0nm,1.2s,mb4.6,baz=151,slow=8.6,SNR=39						
ZAK	**Zakamensk**	**56.23**	**342**	*e*P	**P**	**11 49 01.4**	**-2.7**
TLY	**Talaya**	**57.27**	**343**	*i* P	**P**	**11 49 08.3**	**-3.2**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
WMQ	**Urumqi**	**57.82**	**327**	*e*P	**P**	**11 49 14.5**	**-1.0**
MOY	**Mondy**	**58.07**	**341**	*e*P	**P**	**11 49 18.0**	**+0.9**
BOD	**Bodaibo**	**60.77**	**352**	*e*P	**P**	**11 49 34.2**	**-1.4**
BOD				*e*		11 50 14.2	
YAK	**Yakutsk**	**64.11**	**1**	*e*P	**P**	**11 49 56.2**	**-1.6**
YAK				*e*		11 50 08.9	
YAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
YAK	**Yakutsk**	**64.11**	**1**	*e*P	**P**	**11 49 58.0**	**+0.2**
	comp=Z,22nm,0.8s,mb5.2						
AAK	**Ala-Archa**	**65.03**	**320**	*i* P	**P**	**11 50 03.5**	**-0.6**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
AAK	**Ala-Archa**	**65.03**	**320**	*e*P	**P**	**11 50 05.0**	**+0.9**
	comp=Z,3.5nm,1.0s,mb4.3						
ZAL	**Zalesovo**	**66.04**	**334**	*i* P	**P**	**11 50 09.6**	**-0.8**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAL	**Zalesovo**	**66.04**	**334**	P	**P**	**11 50 09.3**	**-1.0**
	comp=Z,1.4nm,0.6s,mb4.2,baz=344,slow=6.9,SNR=11						
NVS	**Novosibirsk**	**67.32**	**334**	*e*P	**P**	**11 50 16.7**	**-1.9**
NVS				pmax	pmax		
	comp=N,5.0nm,1.6s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.6s						
BVAR	**Borovoye Array**	**72.49**	**328**	P	**P**	**11 50 50.2**	**0.0**
	comp=E,2.6nm,0.8s,mb4.2,baz=135,slow=4.2,SNR=12						
BRVK	**Borovoye**	**72.56**	**328**	*e*P	**P**	**11 50 50.2**	**-0.3**
	comp=E,10nm,1.3s,mb4.6						
CHKZ	**Chkalovo**	**72.69**	**329**	*e*P	**P**	**11 50 51.2**	**-0.1**
	comp=E,3.6nm,0.9s,mb4.3						
TIXI	**Tiksi**	**73.75**	**1**	*i* P	**P**	**11 50 55.1**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
BILL	**Bilibino**	**75.19**	**14**	*i* P	**P**	**11 51 04.3**	**-1.2**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.6						
VNDA	**Vanda**	**77.52**	**173**	LR	LR	12 22 35.0	
	comp=Z,79nm,21.1s,MS4.0,baz=322,slow=33						
MAW	**Mawson**	**78.33**	**201**	LR	LR	12 23 06.6	
	comp=Z,40nm,18.2s,MS3.8,baz=244,slow=33						
QSPA	**South Pole Qui**	**87.72**	**180**	*e*P	**P**	**11 52 13.7**	**+2.7**
ILAR	**Eielson Array**	**90.30**	**25**	P	**P**	**11 52 22.9**	**-0.6**
	comp=Z,0.5nm,0.7s,mb4.0,baz=236,slow=5.5,SNR=8.0						
OBN	**Obninsk**	**92.09**	**325**	*e*P	**P**	**11 52 31.7**	**-0.2**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.8						
INK	**Inuvik**	**95.54**	**22**	P	**P**	**11 52 47.5**	**+0.1**
	comp=Z,1.0nm,0.9s,mb4.2,baz=273,slow=15,SNR=5.7						
INK	**Inuvik**	**95.54**	**22**	P	**P**	**11 52 47.5**	**+0.1**
INK				P		11 52 47.7	
ARCES	**ARCESS Array B**	**96.11**	**340**	P	**P**	**11 52 50.5**	**+0.4**
	comp=Z,2.0nm,0.8s,mb4.6,baz=270,slow=3.6,SNR=3.0						
CPUP	**Villa Florida**	**151.30**	**172**	PKPbc	PKPdf	11 59 15.7	+1.4
	comp=Z,0.0nm,0.5s,baz=99,slow=10,SNR=1.6						
CPUP				PKPab	PKPab	11 59 24.3	-1.8
	comp=Z,0.0nm,0.6s,baz=234,slow=14,SNR=1.8						

IDC 08 11:43:00.6±6.5, 18.93N×145.14E, h363km±67km, mb3.0/5, mb1 3.3/7, mb1mx3.1/22, mbtmp4.1/7, Error ellipse: s-maj=49.0km s-min=19.0km az=88.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**14.93**	**342**	P	P	11 46 14.4	-1.8
	9.6nm,0.3s,baz=229,slow=22,SNR=4.6						
JOW	**Kunigami**	**17.40**	**300**	P	P	11 46 39.9	-2.1
WRA	**Warramunga Arr**	**40.05**	**196**	P	P	11 50 01.8	-1.6
	1.1nm,0.5s,baz=4.7,slow=9.0,SNR=4.6						
ASAR	**Alice Springs**	**43.73**	**195**	P	P	11 50 31.7	-1.3
	0.4nm,0.6s,baz=21,slow=7.7,SNR=3.2						
BVAR	**Borovoye Array**	**65.96**	**320**	P	P	11 53 09.3	-1.0
	0.7nm,0.6s,baz=90,slow=5.8,SNR=3.9						
YKA	**Yellowknife Ar**	**78.04**	**28**	P	P	11 54 19.1	-1.7
	0.2nm,0.5s,baz=288,slow=5.3,SNR=6.1						
FINES	**FINESS Array B**	**86.46**	**335**	P	P	11 55 02.8	-0.8
	3.6nm,1.0s,baz=45,slow=3.9,SNR=4.2						

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*IDC **08** 11:48:43.5±3.5, 11.86N×91.54E, mb3.3/3, mb1 3.6/4, mb1mx3.4/18, mbtmp3.3/4, Error ellipse: s-maj=95.9km s-min=29.0km az=81.0*

ISC 08 11:48:45.3±1.2, 11.8N±0.2×91.3E±0.1, h33km, n6, σ0°84/8, mb3.3/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.40**	**94**	*e*P	**P**	**11 49 07.0**	**-1.7**
PBA				*e*S	**S**	**11 49 27.0**	**+0.9**
VIS	**Vishakhapatnam**	**9.73**	**308**	*e*P	**P**	**11 51 14.9**	**+8.7**
VIS				*e*S	**S**	**11 52 55.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**9.92**	**47**	Pn	**P**	**11 51 04.2**	**-4.5**
	baz=239,slow=16,SNR=4.0						
SONM	**Songino Array**	**38.11**	**16**	P	**P**	**11 56 03.1**	**+0.2**
	0.2nm,0.5s,mb3.1,baz=211,slow=6.9,SNR=3.6						
WRA	**Warramunga Arr**	**52.78**	**126**	P	**P**	**11 57 59.9**	**+0.1**
	0.4nm,0.9s,mb3.3,baz=300,slow=9.8,SNR=3.8						
ASAR	**Alice Springs**	**54.53**	**130**	P	**P**	**11 58 13.1**	**+0.4**
	0.2nm,0.4s,mb3.5,baz=312,slow=7.5,SNR=7.0						

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*IDC **08** 11:59:30.8±0.9, 12.71N×93.01E, mb3.7/7, mb1 3.8/8, mb1mx3.6/19, mbtmp3.6/8, ML3.0/1, Error ellipse: s-maj=56.6km s-min=18.4km az=55.0*

ISC 08 11:59:33.9±0.7, 12.63N±0.06×92.9E±0.1, h33km, n10, σ1°06/10, mb3.6/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**0.98**	**190**	*e*P	**P**	**11 59 52.0**	**+0.6**
PBA				*e*S	**S**	**12 00 04.5**	**+0.3**
PBA				*e*		12 00 07.6	
	comp=N,1μm,0.5s						
PBA				*e*		12 00 07.7	
	comp=E,3μm,0.4s						
CMAR	**Chiang Mai Arr**	**8.20**	**44**	Pn	**P**	**12 01 35.5**	**+2.2**
	comp=E,0.1nm,0.3s,baz=56,slow=5.2,SNR=3.0						
SONM	**Songino Array**	**36.86**	**15**	P	**P**	**12 06 40.7**	**-0.3**
	comp=E,0.4nm,1.1s,mb3.2,baz=180,slow=16,SNR=2.3						
BVAR	**Borovoye Array**	**44.13**	**341**	P	**P**	**12 07 38.6**	**-2.3**
	comp=E,0.2nm,0.2s,mb3.4,baz=137,slow=28,SNR=3.1						
WRA	**Warramunga Arr**	**52.05**	**128**	P	**P**	**12 08 41.9**	**-0.9**
	comp=E,1.1nm,1.0s,mb3.7,baz=300,slow=9.9,SNR=9.5						
WRA				PcP	PcP	12 09 55.2	+0.3
	comp=E,0.7nm,0.4s,baz=318,slow=3.1,SNR=29						
ASAR	**Alice Springs**	**53.92**	**132**	P	**P**	**12 08 55.8**	**-0.9**
	comp=E,0.4nm,0.5s,mb3.6,baz=307,slow=6.9,SNR=6.7						
ASAR				PcP	PcP	12 10 02.2	+0.4
	comp=E,0.5nm,0.6s,baz=302,slow=3.4,SNR=5.9						
FINES	**FINESS Array B**	**67.98**	**332**	P	**P**	**12 10 31.7**	**+0.2**
	comp=E,1.2nm,0.8s,mb4.0,baz=195,slow=30,SNR=5.5						
GERES	**GERESS Array B**	**73.52**	**317**	P	**P**	**12 11 05.9**	**+0.7**
	comp=E,0.4nm,0.5s,mb3.6,baz=101,slow=5.0,SNR=3.0						
NOA	**NORSAR Array B**	**75.03**	**330**	P	**P**	**12 11 14.2**	**+0.5**
	comp=E,1.5nm,0.9s,mb3.9,baz=51,slow=3.1,SNR=3.1						
PDAR	**Pinedale Array**	**121.14**	**19**	PKP	PKPdf	12 18 27.0	+3.4
	comp=E,0.3nm,0.8s,baz=256,slow=3.7,SNR=3.0						

IDC 08 12:14:29.4±1.2, 6.35N×92.86E, h42km±8km, mb3.2/6, mb1 3.5/7, mb1mx3.4/18, mbtmp3.5/7, ML4.1/1, MS3.0/1, Ms1 3.2/1, ms1mx2.6/10, Error ellipse: s-maj=45.9km s-min=16.7km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**13.42**	**26**	P	P	12 17 38.4	-1.2
	0.3nm,0.3s,baz=228,slow=14,SNR=7.4						
CMAR				LR	LR	12 22 50.6	
	comp=Z,55nm,18.4s,baz=52,slow=37						
SONM	**Songino Array**	**42.93**	**13**	P	P	12 22 23.0	-2.9
	0.3nm,0.8s,baz=202,slow=7.8,SNR=2.2						
ZAL	**Zalesovo**	**47.90**	**354**	P	P	12 23 03.5	-1.9
	0.5nm,0.4s,baz=39,slow=5.5,SNR=3.7						
ZAL				pP	pP	12 23 15.0	-2.1
	0.7nm,0.7s,baz=298,slow=7.8,SNR=3.4						
WRA	**Warramunga Arr**	**48.45**	**124**	P	P	12 23 08.4	-1.8
	0.4nm,0.7s,baz=305,slow=9.0,SNR=4.5						
WRA				pP	pP	12 23 20.9	-0.9
	0.8nm,0.7s,baz=304,slow=9.1,SNR=6.5						
ASAR	**Alice Springs**	**49.95**	**128**	P	P	12 23 19.3	-2.4
	0.4nm,0.8s,baz=295,slow=7.4,SNR=5.5						
ASAR				pP	pP	12 23 31.9	-1.5
	0.6nm,0.5s,baz=301,slow=7.8,SNR=5.3						
STKA	**Stephens Creek**	**60.00**	**132**	P	P	12 24 31.9	-2.6
	1.4nm,0.8s,baz=277,slow=14,SNR=2.9						
STKA				pP	pP	12 24 42.5	-4.0
	2.3nm,1.0s,baz=297,slow=15,SNR=2.7						
BRTR	**Keskin Array B**	**62.47**	**312**	P	P	12 24 49.0	-2.0
	0.4nm,0.7s,baz=117,slow=3.2,SNR=2.8						
TXAR	**Lajitas Array**	**141.13**	**23**	PKP	PKPdf	12 33 57.9	+1.6
	0.2nm,0.7s,baz=243,slow=2.0,SNR=2.5						

IDC 08 12:24:24.4±18.0, 10.43N×92.10E, h114km±136km, mb3.3/5, mb1 3.4/6, mb1mx3.3/18, mbtmp3.6/6, ML3.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.4/19, Error ellipse: s-maj=180.8km s-min=21.7km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.37**	**39**	P	P	12 26 50.4	-0.8
	0.1nm,0.3s,baz=237,slow=15,SNR=5.9						
SONM	**Songino Array**	**39.18**	**15**	P	P	12 31 41.5	-1.1
	0.5nm,0.5s,baz=197,slow=9.5,SNR=2.9						
ZAL	**Zalesovo**	**43.78**	**354**	P	P	12 32 17.8	-2.4
	0.4nm,0.6s,baz=317,slow=21,SNR=1.9						
WRA	**Warramunga Arr**	**51.38**	**126**	P	P	12 33 16.9	-2.9
	1.2nm,0.3s,baz=300,slow=10,0,SNR=21						
ASAR	**Alice Springs**	**53.09**	**130**	P	P	12 33 30.4	-2.1
	1.1nm,0.9s,baz=310,slow=6.1,SNR=8.0						
PMG	**Port Moresby**	**58.22**	**108**	LR	LR	13 04 35.2	
	comp=Z,28nm,18.4s,baz=35,slow=41						
STKA	**Stephens Creek**	**63.32**	**134**	P	P	12 34 42.8	-1.0
	1.1nm,0.8s,baz=64,slow=17,SNR=2.9						
PDAR	**Pinedale Array**	**123.47**	**19**	PKP	PKPdf	12 43 08.9	+0.4
	0.2nm,0.7s,baz=270,slow=3.0,SNR=3.8						

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*BJI **08** 12:31:33.5, 11.26N×93.20E, h37km, mB5.0, mb4.6, Ms4.7, Msz4.1*
*MOS **08** 12:31:34.2±1.3, 11.50N×92.81E, h33km, mb4.7/10, Error ellipse: s-maj=15.5km s-min=10.1km az=108.2*
*IDC **08** 12:31:35.7±0.7, 11.52N×92.91E, h28km±4km, mb4.2/21, mb1 4.4/22, mb1mx4.3/25, mbtmp4.4/22, ML4.1/1, MS3.7/6, Ms1 3.7/6, ms1mx3.3/23, Error ellipse: s-maj=22.0km s-min=11.6km az=53.0*
*NEIC **08** 12:31:35.6±0.2, 11.51N×92.95E, mb4.7/16, Error ellipse: s-maj=10.4km s-min=4.8km az=59.0*

ISC 08 12:31:34.0±0.8, 11.42N±0.05×92.85E±0.05, h32km±5km, h30km±1.1km: pP-P, n103, σ1°09/99, mb4.5/43, MS4.0/7, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**0.26**	**337**	*i* P	**Pb**	**12 31 41.2**	**+0.1**
PBA				*e*S	**Sb**	**12 31 46.1**	**+0.1**
PBA				*e*		12 31 47.3	
	comp=N,148μm,0.3s						
PBA				*e*		12 31 47.5	
	comp=E,236μm,0.5s						
NNT	**Nongplab**	**6.84**	**79**	P	**Pn**	**12 33 17.5**	**+2.7**
NST	**Nakhon Sawan**	**8.25**	**58**	P	**P**	**12 33 32.4**	**-2.1**
CMAR	**Chiang Mai Arr**	**9.15**	**39**	Pn	**P**	**12 33 48.7**	**+1.7**
	comp=E,0.6nm,0.3s,baz=235,slow=14,SNR=31						
CMAR				Sn	**Sn**	**12 35 34.1**	**+4.3**
	baz=238,slow=24,SNR=2.3						
CMAR				LR	LR	12 38 02.0	
	comp=E,215nm,18.7s,baz=358,slow=43						
VIS	**Vishakhapatnam**	**11.14**	**305**	*e*P	**P**	**12 34 11.2**	**-3.2**
VIS				*e*S	**S**	**12 36 03.0**	**-16**
PALK	**Pallekele**	**12.67**	**252**	P	**P**	**12 34 38.7**	**+3.8**
SHL	**Shillong**	**14.11**	**356**	*e*P	**P**	**12 34 54.4**	**+0.5**
BLSP	**Bilaspur**	**14.78**	**317**	*e*P	**P**	**12 35 01.1**	**-1.7**
BLSP				*e*		12 37 35.8	
KOD	**Kodaikanal**	**15.15**	**267**	*e*P	**P**	**12 35 08.0**	**+0.3**
KOD				*e*		12 35 19.7	
	comp=Z,31nm,1.3s						
NGP	**Nagpur**	**16.39**	**308**	*e*P	**P**	**12 35 22.6**	**-0.9**
NGP				*e*		12 35 36.6	
	comp=Z,30nm,1.2s						
NGP				*i*		12 38 11.7	
JIRN	**Jiri**	**17.33**	**340**	*e*P	**P**	**12 35 34.4**	**-0.9**
	comp=Z,11nm,0.3s						
PKI	**Pulchoki**	**17.52**	**338**	*e*P	**P**	**12 35 38.5**	**+0.8**
	comp=Z,7.5nm,0.2s						
GUN	**Gumba**	**17.66**	**339**	*e*P	**P**	**12 35 39.7**	**+0.2**
	comp=Z,6.8nm,0.5s						
DMN	**Daman**	**17.67**	**337**	*e*P	**P**	**12 35 40.4**	**+0.8**
	comp=Z,9.7nm,0.3s						
MNGI	**Mangalore**	**17.68**	**277**	*e*P	**P**	**12 35 36.0**	**-3.8**
MNGI				*e*		12 35 38.7	
	comp=Z,40nm,0.3s						
KKN	**Kakani**	**17.77**	**338**	*e*P	**P**	**12 35 41.0**	**+0.2**
AKL	**Akola**	**17.78**	**303**	*e*P	**P**	**12 35 37.0**	**-4.0**
GKN	**Gorkha**	**18.21**	**336**	*e*P	**P**	**12 35 46.5**	**+0.2**
	comp=Z,20nm,0.3s						
LSA	**Lhasa**	**18

comp=Z,2.4nm,0.7s,baz=135,slow=8.4,SNR=12
BRVK Borovoye 45.31 341 *e*P **P 12 39 50.6 -0.1**
CHKZ Chkalovo 45.73 342 *e*P **P 12 39 53.7 -0.3**
comp=Z,5.2nm,0.4s,mb4.8
CHKZ *e*pP pP 12 40 02.2 -1.4
MUN Mundaring 48.60 153 *e*P **P 12 40 17.3 +0.5**
comp=Z,7.4nm,0.5s,mb5.0
KLBR Kellerberrin 48.98 152 *e*P **P 12 40 19.3 -0.4**
comp=Z,6.9nm,0.6s,mb4.9
BOD Bodaibo 49.04 15 *e*P **P 12 40 18.7 -1.2**
NWAO Narrogin (SRO) 49.86 153 P **P 12 40 25.7 -0.9**
comp=Z,8.9nm,0.7s,mb4.9,baz=324,slow=2.6,SNR=8.4
NWAO Narrogin (SRO) 49.86 153 *e*P **P 12 40 25.6 -0.9**
GNI Garni 51.09 313 *i*P **P 12 40 35.9 +0.2**
GNI pmax pmax
comp=Z,5.0nm,1.3s
WRA Warramunga Arr 51.37 127 P **P 12 40 37.8 -0.4**
comp=Z,4.0nm,0.5s,mb4.7,baz=300,slow=9.9,SNR=160
WRA PcP PcP 12 41 52.8 +0.1
comp=Z,0.8nm,0.4s,baz=312,slow=3.0,SNR=6.4
WRAB Tennant Creek 51.38 127 *e*P **P 12 40 37.4 -0.8**
comp=Z,10nm,0.6s,mb4.9
WB2 Warramunga Arr 51.38 127 *e*P **P 12 40 37.6 -0.7**
WB2 *e* 12 40 41.4
ASPA Alice Springs 53.17 131 *e*P **P 12 40 51.4 -0.3**
ASPA *e* 12 40 54.0
ASAR Alice Springs 53.17 131 P **P 12 40 51.3 -0.4**
comp=Z,4.2nm,0.5s,mb4.7,baz=303,slow=7.8,SNR=55
ASAR PcP PcP 12 41 59.5 +0.2
comp=Z,0.8nm,0.4s,baz=316,slow=3.8,SNR=4.3
ASAR LR LR 13 03 15.9
comp=Z,46nm,20.4s,MS3.5,baz=135,slow=36
KIV Kislovodsk 53.87 317 *i*P **P 12 40 53.7 -2.7**
KIV *e* pP 12 41 05.1 -1.1
KIV pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KIV Kislovodsk 53.87 317 *e*P **P 12 40 57.1 +0.7**
comp=Z,4.3nm,0.6s,mb4.6
SOC Sochi 55.76 315 *e*P **P 12 41 06.6 -3.7**
SOC *e* 12 43 07.9
SOC *e*PPP PPP 12 44 28.1 -3.4
SOC *e*S **S 12 49 10.7 +18**
SOC *e* 12 50 52.6
SOC pmax pmax
comp=N,17nm,1.0s
SOC pmax pmax
comp=Z,28nm,1.0s,mb5.2
SOC pmax pmax
comp=E,31nm,1.5s
KMBO Kilima Mbogo 56.63 261 P **P 12 41 18.8 +1.8**
comp=E,0.9nm,0.8s,mb3.9,baz=227,slow=22,SNR=3.5
YAK Yakutsk 57.08 20 *i*P **P 12 41 17.0 -2.5**
YAK pmax pmax
comp=Z,12nm,0.9s,mb4.9
YAK Yakutsk 57.08 20 *e*P **P 12 41 15.8 -3.7**
comp=Z,7.1nm,0.6s,mb4.9
PMG Port Moresby 57.83 109 P **P 12 41 25.6 +0.3**
comp=Z,6.6nm,0.9s,mb4.6,baz=259,slow=13,SNR=2.5
BRTR Keskin Array B 59.18 310 P **P 12 41 33.3 -1.2**
BRTR PP pP 12 41 41.7 -2.7
BRTR Keskin Array B 59.18 310 P **P 12 41 33.2 -1.2**
comp=Z,0.6nm,0.6s,mb3.8,baz=108,slow=7.8,SNR=3.5
BRTR pP pP 12 41 41.8 -2.7
comp=Z,1.7nm,0.8s,baz=121,slow=7.2,SNR=7.1
OBN Obninsk 61.73 327 *e*P **P 12 41 51.2 -0.4**
OBN *e* 12 44 15.1
OBN pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
STKA Stephens Creek 63.47 134 *e*P **P 12 42 03.6 +0.1**
comp=Z,1.9nm,0.5s,mb4.5
STKA Stephens Creek 63.47 134 P **P 12 42 03.7 +0.2**
comp=Z,2.3nm,0.5s,mb4.6,baz=316,slow=9.4,SNR=10
TIXI Tiksi 64.04 12 *e*P **P 12 42 05.3 -1.4**
TIXI pmax pmax
comp=Z,16nm,1.3s,mb4.9
AKASG Malin Array Be 64.61 321 P pP 12 42 18.8 -1.8
AKASG Malin Array Be 64.61 321 pP pP 12 42 18.8 -1.8
comp=Z,4.4nm,1.0s,baz=87,slow=5.3,SNR=6.7
MLR Muntele Rosu 65.77 315 P **P 12 42 18.4 +0.1**
comp=Z,2.1nm,0.7s,mb4.3,baz=116,slow=15,SNR=3.8
MLR pP pP 12 42 27.6 -0.6
comp=Z,12nm,1.1s,baz=77,slow=3.9,SNR=6.6
JOF Joensuu 67.12 334 *e*p **P 12 42 25.5 -1.1**
comp=Z,7.9nm,0.8s,mb4.8
JOF Joensuu 67.12 334 *e*P **P 12 42 25.5 -1.1**
JOF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
FINES FINESS Array B 69.00 332 *i*P **P 12 42 37.5 -0.8**
FINES pmax pmax
comp=Z,6.0nm,1.1s
FINES FINESS Array B 69.00 332 P **P 12 42 37.5 -0.8**
comp=Z,5.7nm,1.1s,mb4.4,baz=99,slow=4.9,SNR=26
FINES pP pP 12 42 46.9 -1.4
comp=Z,3.0nm,0.7s,baz=100,slow=6.3,SNR=7.1
FINES FINESS Array B 69.00 332 P **P 12 42 37.5 -0.8**
FINES pP pP 12 42 46.9 -1.4
KAF Kangasniemi 69.08 332 *e*p **P 12 42 37.8 -1.0**
comp=Z,7.3nm,1.1s,mb4.5,baz=101,slow=5.8
KAF Kangasniemi 69.08 332 *e*P **P 12 42 37.8 -1.0**
KAF pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
ARCES ARCESS Array B 71.52 340 P **P 12 42 53.0 -0.4**
comp=Z,12nm,1.1s,mb4.7,baz=93,slow=6.2,SNR=10
ARCES LR LR 13 16 54.6
comp=Z,110nm,21.2s,MS4.1,baz=16,slow=38
ARCES ARCESS Array B 71.52 340 P **P 12 42 53.0 -0.4**
ARCES LR LR 13 16 54.6
GERES GERESS Array B 74.36 318 P **P 12 43 09.9 -0.6**
GERES GERESS Array B 74.36 318 P **P 12 43 10.0 -0.5**
comp=Z,1.1nm,0.6s,mb4.0,baz=90,slow=4.0,SNR=4.9
FX1 Attu Island--F 75.15 38 P **P 12 43 14.6 -0.3**
comp=Z,11nm,0.5s,mb5.0,baz=274,slow=10,SNR=4.4
NB2 NORSAR Subarra 76.04 330 P **P 12 43 19.0 -0.8**
comp=Z,0.8nm,0.5s,mb3.9,baz=95,slow=5.3
NOA NORSAR Array B 76.04 330 P **P 12 43 19.2 -0.6**
comp=Z,1.1nm,0.6s,mb4.0,baz=93,slow=5.6,SNR=4.0
NOA LR LR 13 18 59.4
comp=Z,64nm,18.2s,MS4.0,baz=220,slow=37
DAVOX Davos 76.98 316 P **P 12 43 27.1 +1.7**
comp=Z,1.3nm,0.7s,mb4.0,baz=342,slow=19,SNR=3.2
DAVOS Davos 77.03 316 P **P 12 43 27.1 +1.4**
LPG La Plagne 79.24 314 *e*P **P 12 43 38.5 +0.7**
comp=Z,11nm,0.7s,mb4.6
EKA Eskdalemuir Ar 84.10 325 P **P 12 44 03.2 +0.2**
comp=Z,2.6nm,0.8s,mb4.4,baz=87,slow=5.9,SNR=7.6
SYO Syowa Base 88.40 197 ||P **P 12 44 25.7 +1.9**
IMA Indian Mountai 88.84 22 *e*P **P 12 44 27.1 +1.2**
MCK McKinley 91.73 23 *e*P **P 12 44 40.1 +0.8**
comp=Z,1.3nm,0.7s,mb4.4
ILAR Eielson Array 91.96 22 P **P 12 44 40.0 -0.4**
comp=Z,1.6nm,0.7s,mb4.5,baz=302,slow=5.1,SNR=30
RES Resolute Bay 93.93 2 *e*P **P 12 44 50.5 +1.2**
comp=Z,3.0nm,1.0s,mb4.7
INK Inuvik 93.96 16 P **P 12 44 50.2 +0.6**
comp=Z,1.3nm,0.5s,mb4.7,baz=340,slow=5.0,SNR=21
INK Inuvik 93.96 16 *e*P **P 12 44 49.6 +0.1**
DAWY Dawson 95.02 20 *e*P **P 12 44 55.1 +0.6**
VNDA Vanda 96.63 168 P **P 12 45 02.9 +1.2**
comp=Z,2.6nm,0.9s,mb4.7,baz=278,slow=8.3,SNR=2.9
YKA Yellowknife Ar 103.29 13 Pdiff Pdif 12 45 32.2 +0.5
comp=Z,0.1nm,0.5s,baz=334,slow=4.9,SNR=4.0
YKA PP PP 12 49 44.2 -5.7
comp=Z,0.2nm,0.8s,baz=332,slow=8.5,SNR=4.4
PDAR Pinedale Array 122.31 19 PKP PKPdf 12 50 28.4 -3.1
comp=Z,0.6nm,0.4s,baz=100,slow=2.3,SNR=8.5
NVAR Mina Array Bea 122.50 29 PKP PKPdf 12 50 29.9 -2.1
comp=Z,1.1nm,0.6s,baz=27,slow=2.0,SNR=2.7
TXAR Lajitas Array 136.47 21 PKhKP 12 50 47.0
comp=Z,0.1nm,0.5s,baz=307,slow=0.9,SNR=4.5
TXAR PKP PKPdf 12 50 56.4 -2.4
comp=Z,0.5nm,0.5s,baz=54,slow=0.2,SNR=17
BDFB Brasilia 141.75 259 PKP PKPdf 12 51 05.9 -2.9
comp=Z,1.5nm,0.5s,baz=120,slow=1.7,SNR=2.3

IDC 08 12:58:48.3±1.6, 3.56N×128.23E, mb3.5/4, mb1 3.6/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=141.6km s-min=24.7km az=68.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.11**	**166**	P	P	13 04 05.0	-1.9
	1.0nm,0.9s,baz=345,slow=10,SNR=8.7						
ASAR	**Alice Springs**	**27.62**	**169**	P	P	13 04 39.3	-0.3
	0.2nm,0.5s,baz=356,slow=8.1,SNR=3.3						
ASAR				PcP	PcP	13 07 55.0	-2.6
	0.3nm,0.6s,baz=349,slow=3.0,SNR=5.2						
STKA	**Stephens Creek**	**37.46**	**161**	P	P	13 06 03.4	-2.0
	1.5nm,0.8s,baz=332,slow=15,SNR=2.2						
BVAR	**Borovoye Array**	**68.28**	**327**	P	P	13 09 51.2	-2.0
	0.7nm,0.6s,baz=117,slow=6.6,SNR=5.9						

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*MOS **08** 13:10:35.7±1.1, 52.17N×170.93W, h33km, mb4.5/3, Error ellipse: s-maj=26.5km s-min=15.7km az=73.8*
*NEIC **08** 13:10:38.8±0.6, 52.12N×170.83W, h47km±5km, mb4.2/3, ML3.8(AEIC), Error ellipse: s-maj=15.4km s-min=3.9km az=162.0*
*IDC **08** 13:10:40.0±3.9, 52.20N×170.94W, h56km±34km, mb3.7/15, mb1 3.9/17, mb1mx3.9/23, mbtmp4.0/17, ML3.6/2, MS3.2/2, Ms1 3.2/2, ms1mx2.7/34, Error ellipse: s-maj=23.1km s-min=13.9km az=168.0*
ISC 08 13:10:37.7±0.7, 52.2N±0.1×170.87W±0.07, h51km±5km, n55, σ0°82/58, mb4.3/25, MS3.1/1, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.47**	**56**	P	P	13 11 00.1	-2.1
NIKO				S	S	13 11 16.8	-3.7
ATKA	**Atka Island**	**2.04**	**272**	P	P	13 11 10.1	-0.2
ATKA				S	S	13 11 34.3	-0.4
OKCE	**Okmok Cone E**	**2.06**	**52**	P	P	13 11 10.8	+0.1
OKCD	**Okmok Cone D**	**2.09**	**52**	P	P	13 11 11.6	+0.5
OKFG	**Magazine Ridge**	**2.18**	**54**	P	P	13 11 11.9	-0.3
OKFG				S	S	13 11 38.0	-0.1
MSW	**Makushin Switc**	**3.02**	**53**	P	P	13 11 24.0	-0.2
MTBL	**Makushin Table**	**3.10**	**53**	P	P	13 11 25.3	-0.1
GSIG	**Igitkin Island**	**3.12**	**268**	P	P	13 11 25.1	-0.6
UNV	**Unalaska Valle**	**3.12**	**56**	P	P	13 11 25.0	-0.7
GSTR	**Great Sitkin T**	**3.20**	**270**	*e*P	P	13 11 27.4	+0.7
GSMY	**Great Sitkin M**	**3.20**	**270**	P	P	13 11 27.1	+0.3
GSTD	**Great Sitkin T**	**3.25**	**270**	P	P	13 11 28.2	+0.7
ADAG	**Mount Adagdak**	**3.54**	**269**	P	P	13 11 31.8	+0.2
AKLV	**Akutan Long Va**	**3.56**	**54**	P	P	13 11 33.0	+1.1
AKGG	**Akutan Green G**	**3.56**	**54**	P	P	13 11 32.7	+0.8
KIWB	**Kanaga Island**	**3.89**	**268**	P	P	13 11 37.0	+0.5
KIMD	**Kanaga Island**	**3.96**	**266**	P	P	13 11 37.5	+0.1
SPIA	**Saint Paul Isl**	**5.02**	**4**	P	P	13 11 53.6	+1.2
FALS	**False Pass**	**5.19**	**56**	P	P	13 11 54.6	-0.2
DTNA	**Dutton South F**	**5.92**	**56**	P	P	13 12 04.5	-0.5
FX1	**Attu Island--F**	**9.76**	**280**	P	P	13 12 56.6	-1.3
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FX1	**Attu Island--F**	**9.76**	**280**	P	P	13 12 56.6	-1.3
	comp=Z,1.8nm,0.3s,baz=73,slow=20,SNR=8.8						
ILAR	**Eielson Array**	**17.63**	**35**	P	P	13 14 42.0	+1.1
	comp=Z,0.1nm,0.3s,baz=228,slow=9.3,SNR=9.6						
ILAR				LR	LR	13 21 18.7	
	comp=Z,70nm,19.0s,baz=198,slow=36						
ILAR	**Eielson Array**	**17.63**	**35**	P	P	13 14 42.0	+1.1
ILAR				LR	LR	13 21 18.7	
DLBC	**Dease Lake**	**23.77**	**59**	P	P	13 15 49.0	+3.2
	comp=Z,2.8nm,0.9s,mb3.7,baz=266,slow=9.2,SNR=7.3						
INK	**Inuvik**	**24.02**	**34**	*e*P	P	13 15 48.1	+0.1
INK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
INK	**Inuvik**	**24.02**	**34**	P	P	13 15 48.1	+0.1
	comp=Z,1.2nm,0.5s,mb3.6,baz=234,slow=11,SNR=20						
INK	**Inuvik**	**24.02**	**34**	*e*P	P	13 15 48.1	0.0
	comp=Z,3.5nm,1.0s,mb3.7						
YKA	**Yellowknife Ar**	**31.06**	**48**	P	P	13 16 52.4	-0.1
	comp=Z,0.6nm,0.6s,mb3.6,baz=272,slow=7.9,SNR=13						
YKA				PcP	PcP	13 19 47.1	-0.2
	comp=Z,0.4nm,0.6s,baz=284,slow=2.5,SNR=8.9						
YKA				LR	LR	13 29 28.1	
	comp=Z,43nm,19.6s,MS3.1,baz=260,slow=36						
EDM	**Edmonton**	**34.07**	**65**	*e*P	P	13 17 19.7	+1.0
PDAR	**Pinedale Array**	**41.35**	**78**	P	P	13 18 20.8	+0.9
	comp=Z,1.4nm,0.6s,mb3.8,baz=299,slow=4.4,SNR=15						
FCC	**Fort Churchill**	**41.77**	**50**	*e*P	P	13 18 23.2	+0.2
FCC				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
FCC	**Fort Churchill**	**41.77**	**50**	*e*P	P	13 18 23.2	+0.2
	comp=Z,5.0nm,0.9s,mb4.1						
SONM	**Songino Array**	**50.60**	**300**	P	P	13 19 32.7	-0.3
	comp=Z,0.9nm,0.7s,mb3.8,baz=56,slow=5.9,SNR=10.0						
SONM				PcP	PcP	13 20 50.0	-0.2
	comp=Z,0.7nm,0.5s,baz=73,slow=2.4,SNR=5.7						
TXAR	**Lajitas Array**	**53.68**	**88**	P	P	13 19 55.9	-0.4
	comp=Z,0.5nm,0.5s,mb3.7,baz=291,slow=4.8,SNR=11						
SCHQ	**Schefferville**	**56.20**	**42**	P	P	13 20 13.6	-0.6
	comp=Z,1.7nm,0.7s,mb4.2,baz=297,slow=10.0,SNR=4.0						
ZAL	**Zalesovo**	**56.95**	**317**	P	P	13 20 20.3	+0.6
	comp=Z,0.5nm,0.3s,mb4.0,baz=127,slow=4.5,SNR=3.9						
ZAL				PcP	PcP	13 21 14.7	+0.5
	comp=Z,0.6nm,0.6s,baz=354,slow=8.8,SNR=3.4						
ARCES	**ARCESS Array B**	**58.01**	**353**	P	P	13 20 25.4	-1.5
	comp=Z,2.3nm,0.7s,mb4.3,baz=13,slow=6.5,SNR=19						
JOF	**Joensuu**	**63.92**	**349**	*e*p	P	13 21 00.6	-6.2
	comp=Z,10nm,1.3s,mb4.7						
KAF	**Kangasniemi**	**65.24**	**351**	*e*p	P	13 21 11.8	-3.5
	baz=16,slow=5.6						
FINES	**FINESS Array B**	**65.92**	**351**	P	P	13 21 18.4	-1.3
	comp=Z,0.9nm,0.6s,mb4.0,baz=22,slow=8.2,SNR=13						
NOA	**NORSAR Array B**	**67.12**	**359**	P	P	13 21 26.7	-0.6
	comp=Z,0.3nm,0.3s,mb3.8,baz=351,slow=7.3,SNR=2.7						
LSA	**Lhasa**	**71.70**	**295**	*e*P	P	13 21 57.5	+1.7
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**71.70**	**295**	*e*P	P	13 21 57.5	+1.7
	comp=Z,3.3nm,0.6s,mb4.4						
CMAR	**Chiang Mai Arr**	**75.75**	**282**	P	P	13 22 20.0	+0.4
	comp=Z,4.3nm,0.6s,mb4.5,baz=26,slow=6.9,SNR=24						
GUN	**Gumba**	**75.99**	**297**	*e*P	P	13 22 21.1	+0.3
	comp=Z,9.0nm,0.5s,mb4.9						
JIRN	**Jiri**	**76.02**	**297**	*e*P	P	13 22 21.3	+0.3
	comp=Z,13nm,0.5s,mb5.1						
KKN	**Kakani**	**76.42**	**298**	*e*P	P	13 22 23.0	-0.2
	comp=Z,7.6nm,0.7s,mb4.8						
PKI	**Pulchoki**	**76.52**	**298**	*e*P	P	13 22 23.3	-0.5
	comp=Z,20nm,1.3s,mb4.9						
GKN	**Gorkha**	**76.60**	**298**	*e*P	P	13 22 24.2	-0.1
	comp=Z,9.1nm,0.7s,mb4.8						
DMN	**Daman**	**76.65**	**298**	*e*P	P	13 22 25.6	+1.0
	comp=Z,9.4nm,0.3s,mb5.2						
KOLN	**Koldanda**	**77.34**	**299**	*e*P	P	13 22 27.4	-1.0
	comp=Z,3.7nm,0.6s,mb4.5						
GERES	**GERESS Array B**	**79.28**	**357**	P	P	13 22 38.9	+0.3
	comp=Z,0.7nm,0.6s,mb3.8,baz=22,slow=5.3,SNR=3.7						
WRA	**Warramunga Arr**	**86.17**	**230**	P	P	13 23 13.7	-0.8
	comp=Z,0.8nm,0.5s,mb4.2,baz=38,slow=6.0,SNR=11						
ASAR	**Alice Springs**	**89.57**	**229**	P	P	13 23 30.7	0.0
	comp=Z,2.5nm,0.7s,mb4.7,baz=24,slow=5.0,SNR=33						

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*NIED **08** 13:13:00.33.00N×136.90E, h5km, Mw3.6 Best double couple: M0 2.61×10^14 NP1:φs53°, δ80°, λ87°. NP2:φs251°, δ10°, λ108°.*
*JMA **08** 13:13:01.2±0.1, 33.05N×136.88E, h40km, M3.6*
ISC 08 13:13:01.7±1.4, 33.08N±0.08×136.88E±0.05, h43km±39km, n11, σ0°51/22, 1C-6D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**1.08**	**295**	||P	P	13 13 20.2	-0.3
JWZ				S	S	13 13 33.5	-1.0
TK02	**Tokai 2**	**1.13**	**40**	⇑P	P	13 13 20.8	-0.5
TK02				S	S	13 13 35.6	-0.2
JIE	**Ise**	**1.31**	**354**	||P	P	13 13 24.5	+0.5
JIE				S	S	13 13 40.6	0.0
JWM	**Minabe**	**1.49**	**301**	||P	P	13 13 26.5	0.0
JWM				S	S	13 13 44.4	-0.5
TK04	**Tokai 4**	**1.54**	**32**	P	P	13 13 27.1	-0.1
TK04				S	S	13 13 45.9	-0.3
JWY	**Kouya**	**1.56**	**317**	P	P	13 13 28.2	+0.7
JWY				S	S	13 13 47.3	+0.6
TSUJ	**Tsu 2**	**1.67**	**347**	||P	P	13 13 29.5	+0.5
TSUJ				S	S	13 13 49.3	-0.1
JHE	**Heguri**	**1.86**	**328**	||P	P	13 13 32.3	+0.6
JHE				S	S	13 13 54.5	+0.4
JAJ2	**Tsuna**	**2.13**	**309**	P	P	13 13 36.2	+0.6
JAJ2				S	S	13 14 01.4	+0.4
JAI	**Aioi**	**2.15**	**290**	||P	P	13 13 35.9	0.0
JAI				S	S	13 14 00.6	-0.9
MAT	**Matsushiro**	**3.62**	**17**	P	P	13 13 57.2	+0.5
MAT				S	S	13 14 37.9	-0.8

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*IDC **08** 13:33:15.5±0.8, 8.34N×90.86E, mb4.1/13, mb1 4.2/14, mb1mx4.2/20, mbtmp4.1/14, ML4.0/1, MS4.0/1, Ms1 3.9/1, ms1mx2.9/23, Error ellipse: s-maj=25.9km s-min=16.1km az=48.0*
*BJI **08** 13:33:16.9, 7.67N×91.02E, h53km, mB4.9, mb4.5, Ms4.5, Msz3.9*
*MOS **08** 13:33:18.3±1.7, 8.35N×90.98E, h33km, mb4.5/6, Error ellipse: s-maj=17.6km s-min=12.0km az=99.5*
*NEIC **08** 13:33:19.8±0.4, 8.32N×90.83E, h30km, mb4.6/6, Error ellipse: s-maj=11.5km s-min=8.3km az=209.0*
ISC 08 13:33:17.6±0.4, 8.29N±0.05×90.83E±0.05, h30km, n69, σ1°18/74, mb4.3/27, MS4.2/5, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.84**	**29**	*e*P	Pn	13 34 15.4	-0.8
PBA				*e*S	Sn	13 35 00.9	+0.1
PBA				*e*		13 35 51.5	
	comp=N,519nm,0.9s						
PBA				*e*		13 35 52.5	
	comp=E,932nm,1.3s						
PALK	**Pallekele**	**10.09**	**265**	*e*P	P	13 35 41.3	-2.5
	comp=E,26nm,0.7s						
MDRS	**Chennai**	**11.44**	**295**	*e*S	S	13 37 56.5	-13
VIS	**Vishakhapatnam**	**11.88**	**323**	*e*P	P	13 36 04.5	-3.8
VIS				*e*S	S	13 38 12.0	-8.8
CMAR	**Chiang Mai Arr**	**12.82**	**37**	Pn	P	13 36 19.1	-1.6
	comp=E,0.3nm,0.3s,baz=230,slow=14,SNR=29						
HYB	**Hyderabad**	**15.01**	**308**	*e*P	P	13 36 48.0	-1.7
HYB	**Hyderabad**	**15.01**	**308**	*i*P	P	13 36 48.0	-1.7
BLSP	**Bilaspur**	**16.11**	**330**	*e*P	P	13 37 02.7	-1.1
BLSP				*e*		13 37 09.8	
	comp=Z,34nm,0.8s						
BLSP				*e*S	S	13 40 08.8	+7.6
SHL	**Shillong**	**17.21**	**3**	*e*	P	13 37 26.5	+8.8
SHL				*e*		13 40 18.5	
SHL				*e*		13 44 00.0	
KAD	**Karad**	**18.53**	**301**	*e*P	P	13 37 35.0	+0.9
KAD				*e*		13 40 44.0	
POO	**Poona**	**19.39**	**303**	*e*P	P	13 37 40.0	-4.2
POO				*i*		13 41 05.0	
BHPL	**Bhopal**	**19.66**	**321**	*e*P	P	13 37 45.3	-1.9
BHPL				*e*		13 37 48.2	
	comp=Z,9.6nm,0.3s						
JIRN	**Jiri**	**19.76**	**348**	*e*P	P	13 37 48.9	+0.6
	comp=Z,87nm,1.1s						
PKI	**Pulchoki**	**19.85**	**346**	*e*P	P	13 37 49.4	+0.1
	comp=Z,85nm,1.1s						
DMN	**Daman**	**19.96**	**345**	*e*P	P	13 37 50.6	+0.1
	comp=Z,130nm,1.0s						
GUN	**Gumba**	**20.07**	**347**	*e*P	P	13 37 51.9	+0.3
	comp=Z,53nm,0.7s						
KKN	**Kakani**	**20.09**	**346**	*e*P	P	13 37 51.9	+0.1
	comp=Z,42nm,0.9s						
BOM	**Bombay**	**20.42**	**303**	*e*P	P	13 37 55.9	+0.6
BOM				*e*S	S	13 41 42.4	+5.0
GKN	**Gorkha**	**20.46**	**344**	*e*P	P	13 37 55.6	-0.1
	comp=Z,69nm,0.7s						
KOLN	**Koldanda**	**20.55**	**341**	*e*P	P	13 37 56.5	0.0
	comp=Z,70nm,1.0s						
LSA	**Lhasa**	**21.30**	**1**	P	P	13 38 07.6	+3.4
LSA				S	S	13 41 56.6	+2.4
LSA				PCP	PcP	13 42 07.1	-1.3
LSA				XS		13 42 18.4	
LSA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.2						
LSA				AMB	AMB		
	comp=Z,60nm,5.0s						
LSA				LR	LR		
	comp=N,190nm,16.9s,MS4.1						
LSA				LR	LR		
	comp=E,700nm,19.1s,MS4.1						
LSA				LR	LR		
	comp=Z,250nm,14.5s,MS3.7						
LSA	**Lhasa**	**21.30**	**1**	*e*P	P	13 38 07.6	+3.4
	comp=Z,17nm,0.8s,mb4.4						
QIZ	**Qiongzhong**	**21.31**	**58**	*e*P	P	13 38 05.1	+0.8
QIZ				S	S	13 41 56.5	+2.1
QIZ				LR	LR		
	comp=N,1μm,18.3s,MS4.4						
QIZ				LR	LR		
	comp=E,1μm,16.0s,MS4.4						
QIZ				LR	LR		
	comp=Z,917nm,11.2s,MS4.4						
PTH	**Pithoragarh**	**23.38**	**336**	*e*P	P	13 38 30.0	+5.1
PTH				*e*		13 44 00.0	
NDI	**New Delhi**	**24.00**	**329**	*e*P	P	13 38 32.0	+1.1
NDI				*e*		13 43 33.0	
DDI	**Dehra Dun**	**24.97**	**333**	*e*P	P	13 38 44.1	+3.8
ENH	**Enshi**	**27.99**	**36**	*e*P	P	13 39 06.7	-1.4
	comp=Z,4.8nm,0.6s,mb4.3						
LZH	**Lanzhou**	**30.11**	**21**	*e*P	P	13 39 27.2	+0.2
LZH				AMB	AMB		
	comp=Z,30nm,1.6s,mb4.8						
LZH				LR	LR		
	comp=E,570nm,14.4s						
LZH				LR	LR		
	comp=Z,800nm,20.4s						
NJ2	**Nanjing**	**35.16**	**44**	*e*P	P	13 40 08.5	-2.5
NJ2				PP	PP	13 41 26.2	-3.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,600nm,3.8s						
NJ2				LR	LR		
	comp=N,830nm,18.9s,MS4.7						
NJ2				LR	LR		
	comp=E,790nm,15.9s,MS4.7						
WMQ	**Urumqi**	**35.50**	**356**	*e*P	P	13 40 14.7	+0.9
SSE	**Sheshan**	**36.27**	**47**	P	P	13 40 16.3	-4.1
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,67nm,4.8s						
SSE				LR	LR		
	comp=N,419nm,23.0s,MS4.2						
SSE				LR	LR		
	comp=E,287nm,23.0s,MS4.2						
SSE				LR	LR		
	comp=Z,146nm,21.3s,MS3.7						
AAK	**Ala-Archa**	**37.11**	**340**	*i*P	P	13 40 27.3	0.0
AAK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.3						
AAK	**Ala-Archa**	**37.11**	**340**	*e*P	P	13 40 26.5	-0.8
	comp=Z,8.1nm,0.9s,mb4.5						
JOW	**Kunigami**	**39.96**	**58**	P	P	13 40 50.3	-1.1
SONM	**Songino Array**	**41.56**	**16**	P	P	13 41 05.4	+1.2
	comp=Z,1.2nm,1.0s,mb3.5,baz=203,slow=9.4,SNR=7.2						
ULN	**Ulaanbaatar**	**41.77**	**16**	*i*P	P	13 41 05.3	-0.7
ZAK	**Zakamensk**	**43.22**	**12**	*e*P	P	13 41 14.3	-3.5
FITZ	**Fitzroy Crossi**	**43.22**	**128**	*e*P	P	13 41 18.5	+0.3
	comp=Z,13nm,0.7s,mb4.8						
**TLY

comp=Z,0.4nm,0.4s,mb3.7,baz=49,slow=19,SNR=3.0
KIV Kislovodsk 54.83 319 *i* P **P 13 42 47.7 +0.2**
KIV pmax pmax
comp=Z,4.0nm,1.3s,mb4.3
KIV Kislovodsk 54.83 319 *eP* **P 13 42 47.8 +0.3**
MALT Malatya 55.71 311 *eP* **P 13 42 53.8 0.0**
comp=Z,3.5nm,0.9s,mb4.4
EIL Elat 56.38 300 P **P 13 42 59.8 +0.9**
BRTR Keskin Array B 59.69 311 P **P 13 43 21.0 -0.9**
BRTR Keskin Array B 59.69 311 P **P 13 43 21.1 -0.8**
comp=Z,0.7nm,0.6s,mb3.9,baz=113,slow=9.4,SNR=5.1
YAK Yakutsk 60.68 20 *i* P **P 13 43 27.6 -0.7**
YAK pmax pmax
comp=Z,5.0nm,1.4s,mb4.5
CTA Charters Tower 61.38 118 P **P 13 43 34.8 +1.2**
CTA Charters Tower 61.38 118 P **P 13 43 34.9 +1.2**
comp=Z,2.7nm,0.7s,mb4.5,baz=316,slow=14,SNR=2.5
STKA Stephens Creek 62.78 132 *eP* **P 13 43 49.4 +6.5**
comp=Z,1.3nm,0.3s,mb4.5
STKA Stephens Creek 62.78 132 P **P 13 43 44.2 +1.3**
comp=Z,2.5nm,0.8s,mb4.4,baz=343,slow=15,SNR=2.6
TIXI Tiksi 67.49 12⇑ *iP* **P 13 44 12.8 +0.1**
TIXI pmax pmax
comp=Z,12nm,1.7s,mb4.7
FINES FINESS Array B 70.83 333 P **P 13 44 32.5 -0.8**
comp=Z,2.8nm,0.8s,mb4.2,baz=153,slow=4.3,SNR=3.9
GERES GERESS Array B 75.34 318 P **P 13 45 00.1 +0.1**
comp=Z,0.6nm,0.9s,mb3.5,baz=129,slow=6.3,SNR=3.9
ILAR Eielson Array 95.57 21 P **P 13 46 43.3 +2.3**
comp=Z,0.3nm,0.8s,mb3.8,baz=292,slow=4.9,SNR=3.9
INK Inuvik 97.48 15 P **P 13 46 50.7 +1.2**
comp=Z,0.8nm,0.9s,mb4.2,baz=40,slow=2.0,SNR=3.0
INK Inuvik 97.48 15 *eP* **P 13 46 50.1 +0.6**
CPUP Villa Florida 144.86 235 PKP PKPdf 13 52 54.5 -3.1
comp=Z,0.0nm,0.4s,baz=158,slow=4.5,SNR=2.1

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*IDC **08** 13:38:41.2±1.4, 8.33N×93.79E, h22km±3km, mb4.2/16, mb1 4.3/17, mb1mx4.3/24, mbtmp4.3/17, ML4.9/1, MS3.9/1, Ms1 3.9/1, ms1mx3.1/25, Error ellipse: s-maj=34.5km s-min=22.5km az=136.0*
*NEIC **08** 13:38:41.8±0.5, 8.53N×93.99E, mb4.8/11, Error ellipse: s-maj=14.4km s-min=11.8km az=195.0*
*BJI **08** 13:38:43.3, 8.50N×94.00E, h23km, mB5.2, mb4.7, Ms4.5, Msz4.1*
*MOS **08** 13:38:43.8±1.3, 8.85N×93.51E, h33km, mb4.8/8, Error ellipse: s-maj=19.7km s-min=11.0km az=101.8*
ISC 08 13:38:40.3±0.6, 8.49N±0.09×93.78E±0.06, h24km, h24km±1.1km:pP-P, n68, σ1§10/63, mb4.5/33, MS4.4/5, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.90**	**100**	P		**Pn**		**13 40 22.0**	**-0.6**
	634nm,1.0s								
NNT	**Nongplab**	**7.13**	**55**	P		**Pn**		**13 40 26.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**11.11**	**26**	Pn		**P**		**13 41 22.9**	**+2.0**
	2.5nm,0.3s,baz=216,slow=16,SNR=50								
PALK	**Pallekele**	**13.01**	**266**	P		**P**		**13 41 50.0**	**+3.5**
HYB	**Hyderabad**	**17.28**	**302**	*i* P		**P**		**13 42 39.0**	**-2.9**
JIRN	**Jiri**	**20.37**	**340**	*eP*		**P**		**13 43 18.5**	**+0.4**
	61nm,1.0s								
PKI	**Pulchoki**	**20.57**	**338**	*eP*		**P**		**13 43 20.1**	**0.0**
	101nm,1.3s								
GUN	**Gumba**	**20.71**	**340**	*eP*		**P**		**13 43 21.3**	**-0.3**
	66nm,0.8s								
DMN	**Daman**	**20.71**	**338**	*eP*		**P**		**13 43 22.3**	**+0.7**
	54nm,1.1s								
KKN	**Kakani**	**20.81**	**338**	*eP*		**P**		**13 43 23.1**	**+0.5**
	72nm,1.0s								
GKN	**Gorkha**	**21.24**	**337**	*eP*		**P**		**13 43 27.1**	**+0.1**
LSA	**Lhasa**	**21.25**	**354**	P		**P**		**13 43 27.4**	**+0.4**
LSA	**Lhasa**	**21.25**	**354**	*eP*		**P**		**13 43 26.2**	**-0.8**
	13nm,0.8s,mb4.3								
KOLN	**Koldanda**	**21.46**	**335**	*eP*		**P**		**13 43 29.6**	**+0.4**
	114nm,1.3s,mb5.0								
ENH	**Enshi**	**26.18**	**32**	P		**P**		**13 44 12.9**	**-2.1**
NJ2	**Nanjing**	**33.04**	**41**	*eP*		**P**		**13 45 16.6**	**+0.4**
NJ2				AP		pP		13 45 26.5	+3.1
NJ2				XP		sP		13 45 30.6	+4.1
NJ2				PP		PP		13 46 29.7	+2.6
NJ2				PPP		PPP		13 46 47.7	+4.5
NJ2				S		**S**		**13 50 37.0**	**+4.7**
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.8								
NJ2				AMB		AMB			
	comp=Z,482nm,4.2s								
NJ2				LR		LR			
	comp=N,802nm,13.9s,MS4.7								
NJ2				LR		LR			
	comp=E,733nm,15.0s,MS4.7								
NJ2				LR		LR			
	comp=Z,2μm,12.0s,MS5.1								
SSE	**Sheshan**	**34.03**	**45**	P		**P**		**13 45 21.9**	**-2.9**
SSE				XP		sP		13 45 34.6	-0.6
SSE				S		**S**		**13 50 47.7**	**0.0**
SSE				XS				13 51 02.9	
SSE				AMB		AMB			
	comp=Z,28nm,0.8s,mb5.2								
SSE				AMB		AMB			
	comp=Z,73nm,4.3s								
SSE				LR		LR			
	comp=N,419nm,23.0s,MS4.2								
SSE				LR		LR			
	comp=E,287nm,23.0s,MS4.2								
SSE				LR		LR			
	comp=Z,146nm,21.3s,MS3.7								
WMQ	**Urumqi**	**35.59**	**352**	*eP*		**P**		**13 45 39.0**	**+1.0**
AAK	**Ala-Archa**	**38.00**	**337**	*i* P		**P**		**13 45 57.7**	**-0.6**
AAK				pmax		pmax			
	comp=Z,7.0nm,1.3s,mb4.2								
AAK	**Ala-Archa**	**38.00**	**337**	*eP*		**P**		**13 45 57.8**	**-0.5**
	comp=Z,18nm,1.1s,mb4.7								
SONM	**Songino Array**	**40.65**	**13**	P		**P**		**13 46 21.0**	**+0.8**
	comp=Z,0.8nm,0.7s,mb3.5,baz=192,slow=5.8,SNR=5.0								
SONM				pP		pP		13 46 28.4	+0.9
	comp=Z,3.0nm,0.8s,baz=196,slow=8.3,SNR=15								
ULN	**Ulaanbaatar**	**40.83**	**14**	*i* P		**P**		**13 46 23.3**	**+1.7**
ZAK	**Zakamensk**	**42.50**	**9**	*eP*		**P**		**13 46 36.8**	**+1.4**
ZAL	**Zalesovo**	**45.90**	**353**	P		**P**		**13 47 03.0**	**+0.4**
	comp=Z,5.0nm,0.8s,mb4.5,baz=296,slow=8.0,SNR=27								
ZAL				pP		pP		13 47 09.8	-0.2
	comp=Z,16nm,1.2s,baz=301,slow=8.7,SNR=9.2								
ZAL	**Zalesovo**	**45.90**	**353**	P		**P**		**13 47 03.0**	**+0.4**
ZAL				pP		pP		13 47 09.8	-0.2
HIA	**Hailar**	**46.10**	**23**	*eP*		**P**		**13 47 04.5**	**+0.1**
	comp=Z,5.5nm,0.8s,mb4.5								
NWAO	**Narrogin (SRO)**	**46.85**	**153**	*eP*		**P**		**13 47 02.1**	**-8.5**
	comp=Z,12nm,1.0s,mb4.8								
NVS	**Novosibirsk**	**46.99**	**352**	*i* P		**P**		**13 47 10.6**	**-0.7**
NVS				pmax		pmax			
	comp=Z,17nm,1.1s,mb4.9								
NVS				pmax		pmax			
	comp=E,7.0nm,1.4s								
NVS				pmax		pmax			
	comp=N,18nm,1.6s								
BVAR	**Borovoye Array**	**48.30**	**341**	P		**P**		**13 47 21.2**	**-0.4**
	comp=N,2.7nm,1.0s,mb4.2,baz=145,slow=7.0,SNR=4.9								
BVAR				pP		pP		13 47 28.3	-0.7
	comp=N,1.1nm,0.5s,baz=162,slow=14,SNR=3.7								
WRAB	**Tennant Creek**	**48.91**	**126**	*d i* P		**P**		**13 47 20.1**	**-6.6**
GNI	**Garni**	**53.76**	**314**	*i* P		**P**		**13 48 00.8**	**-2.3**
GNI				pmax		pmax			
	comp=Z,10.0nm,1.6s								
GNI	**Garni**	**53.76**	**314**	P		**P**		**13 48 04.1**	**+1.1**
	comp=Z,4.6nm,0.7s,mb4.5,baz=89,slow=19,SNR=2.8								
ARU	**Arti**	**55.19**	**337**	*eP*		**P**		**13 48 11.4**	**-2.0**
PMG	**Port Moresby**	**56.05**	**107**	LR		LR		14 14 17.9	
	comp=Z,102nm,18.1s,MS4.0,baz=263,slow=38								
PMG	**Port Moresby**	**56.05**	**107**	*eP*		**P**		**13 48 20.7**	**+0.6**
	comp=Z,11nm,0.7s,mb5.0								
KIV	**Kislovodsk**	**56.63**	**318**	*i* P		**P**		**13 48 21.4**	**-2.5**
KIV				*e*				13 49 15.5	
KIV				pmax		pmax			
	comp=Z,10.0nm,1.3s,mb4.7								
KIV	**Kislovodsk**	**56.63**	**318**	*eP*		**P**		**13 48 22.0**	**-1.9**
	comp=Z,9.6nm,0.8s,mb4.9								
GOF	**Gofitskoye**	**56.83**	**319**	*eP*		**P**		**13 48 31.0**	**+5.7**
KMBO	**Kilima Mbogo**	**57.14**	**263**	P		**P**		**13 48 30.4**	**+2.4**
	comp=Z,1.8nm,0.9s,mb4.1,baz=66,slow=22,SNR=3.8								
ASF	**Jabal al Asfar**	**57.59**	**303**	P		**P**		**13 48 31.7**	**+0.8**
	comp=Z,3.9nm,1.0s,mb4.4,baz=24,slow=7.6,SNR=2.7								
MALT	**Malatya**	**57.80**	**310**	P		**P**		**13 48 32.2**	**0.0**
	comp=Z,3.2nm,1.0s,mb4.3								
YAK	**Yakutsk**	**59.53**	**19**	*i* P		**P**		**13 48 42.7**	**-1.2**
YAK				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb4.2								
BRTR	**Keskin Array B**	**61.76**	**311**	P		**P**		**13 48 58.1**	**-1.3**
	comp=Z,2.7nm,0.8s,mb4.4,baz=118,slow=7.5,SNR=13								
BRTR				pP		pP		13 49 05.2	-1.9
	comp=Z,5.8nm,0.9s,baz=122,slow=7.1,SNR=13								
OBN	**Obninsk**	**64.67**	**328**	*i* P		**P**		**13 49 16.3**	**-2.1**
OBN				pmax		pmax			
	comp=Z,6.0nm,1.2s,mb4.5								
TIXI	**Tiksi**	**66.70**	**11**	*eP*		**P**		**13 49 30.4**	**-0.8**
TIXI				pmax		pmax			
	comp=Z,12nm,1.1s,mb4.8								
TIXI				MLR		MLR			
	comp=Z,114nm,18.0s,MS4.1								
IDI	**Anoyia**	**67.93**	**305**	P		**P**		**13 49 39.3**	**-0.3**
	comp=Z,37nm,1.1s,mb5.3,baz=23,slow=19,SNR=2.4								
MLR	**Muntele Rosu**	**68.49**	**316**	P		**P**		**13 49 42.9**	**+0.1**
MLR	**Muntele Rosu**	**68.49**	**316**	P		**P**		**13 49 43.0**	**+0.2**
	comp=Z,3.9nm,0.9s,mb4.5,baz=129,slow=4.3,SNR=4.3								
MLR				pP		pP		13 49 50.1	-0.4
	comp=Z,7.4nm,0.9s,baz=68,slow=5.9,SNR=6.8								
FINES	**FINESS Array B**	**72.00**	**332**	*i* P		**P**		**13 50 03.7**	**-0.2**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.7s								
FINES	**FINESS Array B**	**72.00**	**332**	P		**P**		**13 50 03.7**	**-0.2**
	comp=Z,3.2nm,0.7s,mb4.4,baz=117,slow=4.3,SNR=10								
FINES	**FINESS Array B**	**72.00**	**332**	P		**P**		**13 50 03.7**	**-0.2**
ARCES	**ARCESS Array B**	**74.57**	**340**	P		**P**		**13 50 18.9**	**+0.2**
	comp=Z,6.6nm,0.9s,mb4.6,baz=79,slow=6.2,SNR=5.4								
KSP	**Ksiaz**	**75.57**	**320**	*eP*		pP		13 50 32.2	-0.3
BILL	**Bilibino**	**75.65**	**22**	*i* P		**P**		**13 50 23.8**	**-1.1**
BILL				pmax		pmax			
	comp=Z,2.0nm,1.5s,mb3.8								
GERES	**GERESS Array B**	**77.13**	**318**	P		**P**		**13 50 34.0**	**+0.4**
	comp=Z,1.0nm,0.8s,mb3.8,baz=56,slow=4.8,SNR=6.7								
GERES				pP		pP		13 50 41.7	+0.3
	comp=Z,3.9nm,0.9s,baz=90,slow=4.0,SNR=11								
HFS	**Hagfors**	**77.75**	**330**	P		**P**		**13 50 37.5**	**+0.7**
	comp=Z,5.4nm,0.9s,mb4.5,baz=101,slow=7.6,SNR=12								
GRA1	**Grafenberg Arr**	**78.77**	**319**	*eP*		pP		13 50 51.2	+0.8
GRF	**Grafenberg Arr**	**78.77**	**319**	*eP*		pP		13 50 51.2	+0.8
GRF				MLR		MLR			
	comp=Z,600nm,21.9s,MS4.9								
NB2	**NORSAR Subarra**	**79.02**	**331**	P		**P**		**13 50 43.5**	**-0.3**
	comp=Z,11nm,1.0s,mb4.8,baz=92,slow=5.6								
NOA	**NORSAR Array B**	**79.02**	**331**	P		**P**		**13 50 44.0**	**+0.2**
	comp=Z,3.3nm,0.8s,mb4.3,baz=94,slow=5.5,SNR=6.0								
DAVOX	**Davos**	**79.70**	**316**	P		**P**		**13 50 48.2**	**+0.5**
	comp=Z,3.9nm,1.0s,mb4.3,baz=132,slow=14,SNR=3.1								
DAVOX				pP		pP		13 50 55.9	+0.4
	comp=Z,6.5nm,1.1s,baz=357,slow=6.4,SNR=4.7								
DAVOS	**Davos**	**79.76**	**316**	P		**P**		**13 50 48.2**	**+0.2**
LPG	**La Plagne**	**81.94**	**315**	*eP*		**P**		**13 51 01.1**	**+1.6**
	comp=Z,21nm,1.1s,mb4.7								
ILAR	**Eielson Array**	**94.31**	**22**	P		**P**		**13 51 58.0**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.9,baz=252,slow=2.9,SNR=3.7								
ILAR				pP		pP		13 52 05.7	-0.9
	comp=Z,0.5nm,0.8s,baz=282,slow=4.4,SNR=4.0								
RES	**Resolute Bay**	**96.81**	**2**	*eP*		**P**		**13 52 11.5**	**+1.5**
	comp=Z,2.9nm,1.1s,mb4.6								
PDAR	**Pinedale Array**	**124.72**	**21**	PKP		PKPdf		13 57 40.3	-2.7
	comp=Z,0.4nm,0.7s,baz=315,slow=2.1,SNR=3.5								
CPUP	**Villa Florida**	**147.35**	**233**	PKPbc		PKPdf		13 58 24.0	-0.9
	comp=Z,0.0nm,0.3s,baz=235,slow=14,SNR=1.7								
LPAZ	**La Paz**	**160.72**	**245**	PKPab		PKPab		13 59 22.0	-1.3
	comp=Z,1.7nm,1.1s,baz=352,slow=9.6,SNR=3.2								

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*BJI **08** 13:39:12.7, 4.40N×96.60E, h30km, mB5.2, mb4.6, Ms4.5, Msz4.1*
*NEIC **08** 13:39:13.2±0.4, 4.39N×96.61E, h30km, mb4.8/6, Error ellipse: s-maj=15.8km s-min=7.7km az=60.0*
*IDC **08** 13:39:15.0±5.3, 4.44N×96.65E, h47km±51km, mb4.1/20, mb1 4.2/21, mb1mx4.2/25, mbtmp4.4/21, MS4.0/6, Ms1 4.0/6, ms1mx3.5/28, Error ellipse: s-maj=23.4km s-min=12.1km az=53.0*
ISC 08 13:39:11.4±0.4, 4.43N±0.07×96.67E±0.09, h30km, n39, σ1§05/35, mb4.5/28, MS4.1/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.12**	**9**	P		**P**		**13 42 31.2**	**-0.5**
	baz=197,slow=14,SNR=3.8								
CMAR				LR		LR		13 47 56.6	
	comp=Z,333nm,19.3s,baz=205,slow=37								
HYB	**Hyderabad**	**21.95**	**307**	*i* P		**P**		**13 44 06.0**	**+1.4**
LSA	**Lhasa**	**25.67**	**349**	P		**P**		**13 44 43.2**	**+2.6**
LSA				AMB		AMB			
	comp=Z,30nm,0.9s,mb4.8								
LSA	**Lhasa**	**25.67**	**349**	*eP*		**P**		**13 44 43.3**	**+2.6**
	comp=Z,8.3nm,0.6s,mb4.4								
WHN	**Wuhan**	**30.87**	**31**	*eP*		**P**		**13 45 31.0**	**+3.5**
XAN	**Xi'an**	**31.59**	**20**	P		**P**		**13 45 32.9**	**-0.9**
XAN				AMB		AMB			
	comp=Z,8.0nm,1.0s,mb4.5								
XAN				LR		LR			
	comp=E,592nm,16.9s								
MBWA	**Marble Bar**	**34.03**	**139**	P		**P**		**13 45 54.1**	**-1.1**
	comp=E,17nm,1.3s,mb4.8								
FITZ	**Fitzroy Crossi**	**36.29**	**129**	*eP*		**P**		**13 46 13.7**	**-0.8**
	comp=E,17nm,0.6s,mb5.2								
BJT	**Baijiatuan**	**39.56**	**24**	*eP*		**P**		**13 46 43.8**	**+2.0**
	comp=E,12nm,0.8s,mb4.7								
MUN	**Mundaring**	**40.70**	**154**	*eP*		**P**		**13 46 54.0**	**+2.9**
	comp=E,11nm,0.9s,mb4.5								
KLBR	**Kellerberrin**	**41.07**	**152**	*eP*		**P**		**13 46 56.1**	**+1.9**
	comp=E,10nm,0.6s,mb4.6								
NWAO	**Narrogin (SRO)**	**41.96**	**154**	P		**P**		**13 47 01.7**	**+0.2**
	comp=E,12nm,0.9s,mb4.5,baz=306,slow=6.6,SNR=6.1								
SONM	**Songino Array**	**44.04**	**9**	P		**P**		**13 47 18.8**	**+0.5**
	comp=E,1.8nm,0.5s,mb4.0,baz=193,slow=9.0,SNR=6.7								
WRA	**Warramunga Arr**	**44.23**	**125**	P		**P**		**13 47 19.9**	**-0.4**
	comp=E,22nm,0.9s,mb4.9,baz=302,slow=9.3,SNR=73								
WRAB	**Tennant Creek**	**44.24**	**124**	*eP*		**P**		**13 47 19.8**	**-0.5**
	comp=E,22nm,0.6s,mb5.1								
WB2	**Warramunga Arr**	**44.24**	**124**	*eP*		**P**		**13 47 20.1**	**-0.2**
ASPA	**Alice Springs**	**45.79**	**129**	*eP*		**P**		**13 47 32.8**	**+0.2**
ASAR	**Alice Springs**	**45.79**	**129**	P		**P**		**13 47 32.7**	**+0.1**
	comp=E,5.8nm,0.5s,mb4.8,baz=299,slow=7.7,SNR=63								
ASAR				LR		LR		14 10 56.0	
	comp=E,114nm,18.6s,MS3.8,baz=294,slow=42								
ZAL	**Zalesovo**	**50.30**	**351**	P		**P**		**13 48 06.8**	**-0.4**
	comp=E,1.3nm,0.4s,mb4.3,baz=273,slow=3.0,SNR=2.5								
PMG	**Port Moresby**	**52.16**	**105**	P		**P**		**13 48 21.2**	**-0.7**
	comp=E,9.2nm,0.5s,mb4.9,baz=242,slow=2.7,SNR=7.3								
BVAR	**Borovoye Array**	**53.05**	**340**	P		**P**		**13 48 27.1**	**-0.9**
	comp=E,1.5nm,0.6s,mb4.1,baz=149,slow=8.6,SNR=5.4								
CTA	**Charters Tower**	**54.45**	**118**	P		**P**		**13 48 38.4**	**-0.4**
	comp=E,3.8nm,0.9s,mb4.3,baz=276,slow=9.2,SNR=2.3								
CTA				LR		LR		14 12 31.0	
	comp=E,182nm,20.8s,MS4.1,baz=135,slow=37								
STKA	**Stephens Creek**	**55.92**	**134**	P		**P**		**13 48 48.6**	**-0.7**
	comp=E,2.6nm,0.6s,mb4.5,baz=303,slow=8.0,SNR=4.6								
STKA				LR		LR		14 13 36.3	
	comp=E,156nm,18.2s,MS4.1,baz=299,slow=37								
KMBO	**Kilima Mbogo**	**59.63**	**266**	P		**P**		**13 49 15.0**	**-0.6**
	comp=E,0.8nm,0.6s,mb4.0,baz=43,slow=23,SNR=1.7								
KMBO				LR		LR		14 10 21.9	
	comp=E,162nm,21.2s,MS4.1,baz=87,slow=31								
ASF	**Jabal al Asfar**	**62.21**	**304**	P		**P**		**13 49 33.2**	**+0.3**
	comp=E,1.4nm,0.3s,mb4.5,baz=269,slow=3.1,SNR=2.3								
BRTR	**Keskin Array B**	**66.58**	**311**	P		**P**		**13 50 01.0**	**-0.2**
	comp=E,2.0nm,1.0s,mb4.1,baz=118,slow=9.2,SNR=2.6								
MLR	**Muntele Rosu**	**73.38**	**316**	P		**P**		**13 50 41.7**	**-0.9**
	comp=E,3.0nm,0.8s,mb4.2,baz=180,slow=12,SNR=2.6								
MAW	**Mawson**	**75.72**	**193**	P		**P**		**13 50 55.5**	**-0.2**
	comp=E,3.5nm,0.8s,mb4.3,baz=280,slow=8.8,SNR=2.7								
FINES	**FINESS Array B**	**76.91**	**332**	P		**P**		**13 51 01.2**	**-1.3**
	comp=E,3.9nm,1.1s,mb4.3,baz=120,slow=11,SNR=2.4								
FX1	**Attu Island--F**	**78.34**	**37**	P		**P**		**13 51 10.8**	**+0.4**
	comp=E,10nm,0.6s,mb4.9,baz=31,slow=19,SNR=3.6								
ARCES	**ARCESS Array B**	**79.34**	**340**	P		**P**		**13 51 14.8**	**-0.8**
	comp=E,1.3nm,0.6s,mb4.0,baz=90,slow=4.9,SNR=5.9								
ARCES	**ARCESS Array B**	**79.34**	**340**	P		**P**		**13 51 14.8**	**-0.8**
RPZ	**Rata Peaks**	**81.85**	**135**	P		**P**		**13 51 31.9**	**+2.6**
	comp=E,12nm,1.1s,mb4.8,baz=16,slow=6.3,SNR=3.8								
GERES	**GERESS Array B**	**82.06**	**319**	P		**P**		**13 51 29.9**	**-0.5**
	comp=E,0.7nm,0.6s,mb3.7,baz=121,slow=4.2,SNR=7.6								
DAVOX	**Davos**	**84.60**	**316**	P		**P**		**13 51 43.4**	**0.0**
	comp=E,3.1nm,0.7s,mb4.5,baz=175,slow=12,SNR=4.7								
URZ	**Urewera**	**85.23**	**129**	LR		LR		14 32 50.5	
	comp=E,122nm,19.8s,MS4.3,baz=217,slow=38								
TXAR	**Lajitas Array**	**141.16**	**29**	PKP		PKPdf		13 58 44.4	-0.6
	comp=E,0.2nm,0.3s,baz=317,slow=55,SNR=4.0								
BDFB	**Brasilia**	**143.55**	**250**	PKP		PKPdf		13 58 46.4	-3.0
	comp=E,1.3nm,0.4s,baz=219,slow=18,SNR=3.0								
CPUP	**Villa Florida**	**146.94**	**226**	PKPbc		PKPbc		13 58 57.4	+5.9
	comp=E,0.0nm,0.4s,baz=250,slow=18,SNR=1.5								

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*IDC **08** 13:43:14.2±1.8, 4.17N×95.67E, mb3.9/7, mb1 4.0/7, mb1mx3.9/17, mbtmp3.9/7, Error ellipse: s-maj=87.2km s-min=23.0km az=55.0*
*NEIC **08** 13:43:18.7±1.1, 4.12N×95.65E, h30km, mb4.1/2, Error ellipse: s-maj=50.5km s-min=10.5km az=56.0*
ISC 08 13:43:16.9±1.5, 4.1N±0.3×95.7E±0.4, h30km, n11, σ0§56/11, mb3.9/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NANT	**Nan**	**15.38**	**18**	P		**P**		**13 47 01.0**	**+7.4**
HYB	**Hyderabad**	**21.35**	**309**	*i* P		**P**		**13 48 15.0**	**+11**
LSA	**Lhasa**	**25.78**	**351**	*eP**		**P**		**13 48 48.3**	**+1.2**
	1.7nm,0.5s,mb3.8								
SONM	**Songino Array**	**44.50**	**10**	P		**P**		**13 51 27.2**	**-0.2**
	0.4nm,0.4s,mb3.5,baz=192,slow=10,SNR=5.1								
WRA	**Warramunga Arr**	**44.90**	**124**	P		**P**		**13 51 30.7**	**-0.4**
	0.7nm,0.5s,mb3.8,baz=305,slow=9.5,SNR=4.6								
WRAB	**Tennant Creek**	**44.90**	**124**	P		**P**		**13 51 31.1**	**0.0**
	2.4nm,0.6s,mb4.2								
ASAR	**Alice Springs**	**46.39**	**128**	P		**P**		**13 51 43.2**	**+0.4**
	0.2nm,0.5s,mb3.3,baz=296,slow=8.0,SNR=2.8								
ZAL	**Zalesovo**	**50.43**	**352**	P		**P**		**13 52 13.1**	**-0.6**
	1.1nm,0.3s,mb4.3,baz=328,slow=8.0,SNR=5.1								
BVAR	**Borovoye Array**	**52.99**	**341**	P		**P**		**13 52 32.3**	**-0.8**
	2.3nm,0.9s,mb4.1,baz=143,slow=7.4,SNR=4.1								
FINES	**FINESS Array B**	**76.70**	**332**	P		**P**		**13 55 07.0**	**+0.2**
	4.2nm,1.1s,mb4.3,baz=101,slow=7.1,SNR=3.2								
ARCES	**ARCESS Array B**	**79.27**	**340**	P		**P**		**13 55 20.8**	**+0.1**
	1.9nm,0.9s,mb4.0,baz=90,slow=9.0,SNR=3.5								

IDC 08 13:50:45.8±16.0, 7.22N×94.82E, mb3.8/2, mb1 3.9/3, mb1mx3.5/17, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=429.9km s-min=41.4km az=85.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.87**	**19**	Pn		P	P	13 53 36.6	-2.9
	0.1nm,0.3s,baz=187,slow=15,SNR=3.4								
WRA	**Warramunga Arr**	**47.34**	**125**	P		P	P	13 59 21.8	-1.9
	1.0nm,0.6s,baz=306,slow=8.4,SNR=13								
ASAR	**Alice Springs**	**48.98**	**130**	P		P	P	13 59 34.4	-2.0
	0.6nm,0.5s,baz=304,slow=7.9,SNR=15								

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*NEIC **08** 13:55:51.3, 35.12S×70.49W, h8km±4km, MD4.2, ML4.3(GUC), After GUC.*
NEIC Felt [IV] at Curico, Los Quenes and Talca; [II] at Linares.
GUC 08 13:55:51.3±1.0, 35.12S×70.49W, h8km±4km, MD4.2, ML4.3, 12C-9D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.62**	**280**	⇓*iP*		Pg		13 56 03.2	-0.6
NICH				*i* S		Sg		13 56 13.2	+1.1
SFDO	**San Fernando**	**0.66**	**319**	⇑*iP*		Pg		13 56 03.4	-1.2
SFDO				*i* S		Sg		13 56 14.7	+1.2
CICH	**Cipreses**	**0.80**	**4**	⇓*iP*		Pb		13 56 05.4	-1.5
TALC	**Talca**	**0

comp=Z,159nm,19.3s,baz=245,slow=34
JOW Kunigami 39.89 53 P P 14 14 44.7 -0.3
14nm,0.6s,baz=282,slow=20,SNR=2.2
SONM Songino Array 44.11 13 P P 14 15 16.8 -2.6
0.4nm,0.6s,baz=188,slow=7.3,SNR=4.6
SONM pP pP 14 15 23.4 +4.0
0.7nm,0.8s,baz=199,slow=6.8,SNR=5.4
SONM PcP PcP 14 17 02.4 -2.7
0.3nm,0.7s,baz=198,slow=4.6,SNR=3.1
WRA Warramunga Arr 47.51 123 P P 14 15 44.1 -2.6
2.0nm,0.8s,baz=301,slow=9.0,SNR=6.2
ZAL Zalesovo 49.20 353 P P 14 15 56.4 -3.1
0.5nm,0.5s,baz=312,slow=4.9,SNR=3.2
IDI Anoyia 69.38 306 P P 14 18 18.4 -1.1
34nm,1.1s,baz=34,slow=5.1,SNR=2.9

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*IDC **08** 14:08:33.6±4.2, 4.51N×126.34E, mb4.3/4, mb1 4.5/4, mb1mx4.0/16, mbtmp4.3/4, Error ellipse: s-maj=174.4km s-min=25.4km az=51.0*
*NEIC **08** 14:08:37.2±1.1, 4.08N×125.82E, h10km, mb4.4/2, Error ellipse: s-maj=69.2km s-min=10.7km az=59.0*
ISC 08 14:08:39.6±0.6, 3.80N±0.07×125.4E±0.2, h33km, n11, σ0§80/12, mb4.1/5, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.20**	**355**	⇓*i*P	**P**	**14 09 29.7**	**+1.0**
KCP				*i* S	**S**	**14 10 05.8**	**-0.4**
WRAB	**Tennant Creek**	**25.19**	**160**	*e*P	**P**	**14 14 03.7**	**-0.2**
	10nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**25.19**	**160**	P	**P**	**14 14 04.0**	**+0.1**
	5.4nm,0.5s,mb4.4,baz=342,slow=10,SNR=52						
WB2	**Warramunga Arr**	**25.20**	**160**	*e*P	**P**	**14 14 04.1**	**+0.1**
ASAR	**Alice Springs**	**28.54**	**163**	P	**P**	**14 14 34.6**	**0.0**
	1.4nm,0.5s,mb4.0,baz=343,slow=7.1,SNR=41						
ASPA	**Alice Springs**	**28.54**	**163**	*e*P	**P**	**14 14 34.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**29.66**	**301**	P	**P**	**14 14 45.6**	**+1.1**
	0.5nm,0.4s,mb3.6,baz=102,slow=6.9,SNR=6.3						
STKA	**Stephens Creek**	**38.70**	**158**	*e*P	**P**	**14 16 02.7**	**+0.5**
	4.0nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**38.70**	**158**	P	**P**	**14 16 02.4**	**+0.2**
	6.4nm,0.9s,mb4.4,baz=341,slow=7.3,SNR=10.0						
BALT	**Daday**	**88.98**	**311**	*i* P	**P**	**14 21 31.9**	**-0.6**
ELDT	**Eldivan**	**89.03**	**310**	*i* P	**P**	**14 21 29.9**	**-2.9**

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*DJA **08** 14:11:28.5±0.9, 7.91S×118.09E, h84km±16km, MD4.7/4, ML4.4/4, Error ellipse: s-maj=48.4km s-min=20.7km az=179.0*
*IDC **08** 14:11:31.9±3.7, 8.54S×118.24E, mb3.8/3, mb1 3.9/4, mb1mx3.8/14, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=196.8km s-min=25.0km az=60.0*
ISC 08 14:11:32.7±0.9, 8.8S±0.2×117.83E±0.07, h33km, n10, σ1§20/14, mb3.8/3, 8C-2D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.72**	**279**	⇑*i*Pn	**Pn**	**14 12 01.6**	**+0.8**
	350nm,0.2s						
KEDI				⇓*i*Sn	**Sn**	**14 12 26.6**	**+4.8**
RATI	**Rata**	**2.27**	**271**	⇑*i*Pn	**Pn**	**14 12 08.7**	**0.0**
	355nm,0.4s						
RATI	**Rata**	**2.27**	**271**	⇓*i*P	**P**	**14 12 12.1**	**+3.6**
RATI				⇑*i*Sn	**Sn**	**14 12 38.3**	**+2.5**
KELI	**Kelakatan**	**3.35**	**279**	⇑*i*Pn	**Pn**	**14 12 23.1**	**-0.9**
	53nm,0.8s						
KELI				⇑*i*Sn	**Sn**	**14 13 03.2**	**+0.1**
SRDI	**Scrawed**	**3.66**	**274**	⇑*i*Pn	**Pn**	**14 12 26.8**	**-1.6**
	52nm,0.2s						
SRDI	**Scrawed**	**3.66**	**274**	⇑*i*P	**P**	**14 12 27.5**	**-0.8**
SRDI				⇑*i*Sn	**Sn**	**14 13 09.9**	**-1.0**
WRA	**Warramunga Arr**	**19.45**	**127**	P	**P**	**14 15 57.9**	**-1.5**
	0.1nm,0.3s,baz=304,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**21.36**	**136**	P	**P**	**14 16 20.8**	**+1.4**
	2.1nm,0.5s,mb3.8,baz=312,slow=8.4,SNR=17						
STKA	**Stephens Creek**	**31.87**	**140**	P	**P**	**14 17 57.5**	**+0.3**
	1.2nm,0.6s,mb3.9,baz=329,slow=9.7,SNR=4.2						
SONM	**Songino Array**	**57.26**	**351**	P	**P**	**14 21 20.2**	**+0.8**
	0.8nm,0.7s,mb3.8,baz=174,slow=8.8,SNR=7.1						

GUC 08 14:16:46.3±0.6, 25.46S×70.61W, h15km±6km, ML4.1, 1C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.85**	**13**	⇓*i*P	Pb	14 17 00.7	-1.5
CPN1				*i* S	Sb	14 17 12.1	-1.0
CPN1				AMP		14 17 14.6	
	comp=E,7μm,0.4s						
ANCH	**Antofagasta**	**1.78**	**6**	*e*P	Pn	14 17 13.0	-3.8
ANCH				*i* S	Sn	14 17 35.1	-4.1
CPCH	**Copiapo**	**1.91**	**173**	*i* P	Pn	14 17 17.1	-1.6
CPCH				*i* S	Sn	14 17 40.4	-2.1
CPCH				AMP		14 17 45.4	
	comp=E,5μm,0.2s						
LVC	**Limon Verde**	**3.23**	**29**	⇑*i*Pn	Pn	14 17 36.2	-1.4
LVC				AMP		14 18 31.9	
	comp=N,512nm,0.7s						

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*HLW **08** 14:18:49.3, 37.66N×21.10E, h33km, Mb4.0*
*BJI **08** 14:18:52.6, 37.44N×21.11E, h9km, mB5.1, mb4.7, Ms4.8, Msz4.5*
*ATH **08** 14:18:54.9, 37.18N×21.09E, h16km±3km, MD4.3/19, ML4.2*
*NEIC **08** 14:18:54.9, 37.18N×21.09E, h16km, mb4.3/16, MD4.1(PDG), ML4.2(ATH), After ATH.*
*ZUR_RM **08** 14:18:54, 37.18N×21.09E, h21km, Mw4.7/27, Moment Tensor Solution. s27 Moment tensor: Scale 10^{16}Nm; M_{rr}0.03; $M_{\theta\theta}$1.16; $M_{\phi\phi}$-1.19; $M_{r\theta}$0.01; $M_{\theta\phi}$0.74; $M_{\phi r}$-0.21; Best double couple: $M_0$1.41×10^{16} NP1:ϕ_s29°, δ86°, λ-173°. NP2:ϕ_s299°, δ83°, λ-4°. Principal axes: T 1.375, Plg2°, Azm164°; N .063, Plg82°, Azm60°; P -1.437, Plg8°, Azm254°;*
*CSEM **08** 14:18:55.6±0.1, 37.04N×21.12E, h40km, mb4.5/5, Ms3.4 Error ellipse: s-maj=2.2km s-min=1.5km az=35.0*
*PDG **08** 14:18:56.4±0.2, 37.28N×20.25E, h11km±1km*
*MOS **08** 14:18:57.8±1.2, 37.46N×21.22E, h33km, mb4.7/7, Error ellipse: s-maj=7.5km s-min=4.5km az=106.8*
*IDC **08** 14:18:58.9±4.4, 37.43N×21.30E, h30km±32km, mb3.9/15, mb1 4.0/23, mb1mx3.9/29, mbtmp3.9/23, ML3.8/7, MS4.0/9, Ms1 4.0/9, ms1mx3.5/34, Error ellipse: s-maj=17.9km s-min=13.6km az=40.0*
ISC 08 14:18:54.5±0.6, 37.14N±0.03×21.05E±0.03, h26km±4km, n232, σ1§52/263, mb4.4/32, MS4.1/11, 7C-14D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.70**	**87**	⇑*i*PB	**Pb**	**14 19 07.0**	**-1.0**
ITM				*e*SN	**Sn**	**14 19 18.0**	**-0.6**
RLS	**Riolos of Patr**	**0.97**	**20**	*e*PN	**Pn**	**14 19 12.6**	**+0.1**
RLS				*e*SN	**Sn**	**14 19 26.0**	**+0.5**
VLS	**Valsamata**	**1.10**	**341**	*e*PB	**Pb**	**14 19 14.0**	**-0.7**
VLI	**Veliai**	**1.57**	**105**	*e*PN	**Pn**	**14 19 24.8**	**+3.8**
KYTH	**Kithira**	**1.81**	**118**	*e*PN	**Pn**	**14 19 28.5**	**+4.0**
EVR	**Evrytania**	**1.87**	**18**	*e*PN	**Pn**	**14 19 28.9**	**+3.5**
MGER	**Gerania Oros**	**1.95**	**64**	*e*PN	**Pn**	**14 19 28.6**	**+2.2**
NSAL	**Nisos Salamina**	**2.06**	**68**	*e*PB	**Pb**	**14 19 30.0**	**-1.1**
AGG	**Agios Georgios**	**2.13**	**28**	*e*P	**Pn**	**14 19 32.9**	**+3.8**
LKR	**Lokris**	**2.15**	**45**	*e*PN	**Pn**	**14 19 32.0**	**+2.6**
ATH	**Athens Observa**	**2.27**	**68**	*e*PB	**Pb**	**14 19 33.0**	**-1.7**
MPAR	**Parnis Oros**	**2.36**	**64**	*e*PB	**Pb**	**14 19 34.0**	**-2.1**
PTL	**Penteli**	**2.41**	**67**	*e*PN	**Pn**	**14 19 34.5**	**+1.4**
IGT	**Igoumenitsa**	**2.45**	**347**	*e*P	**Pn**	**14 19 35.4**	**+1.7**
JAN	**Janina**	**2.52**	**356**	*e*PB	**Pb**	**14 19 38.6**	**-0.2**
KEK	**Kerkira**	**2.75**	**339**	*e*PN	**Pn**	**14 19 40.3**	**+2.4**
NEO	**Neokhori**	**2.76**	**38**	*e*PN	**Pn**	**14 19 40.1**	**+2.1**
XOR	**Xorichti**	**2.79**	**37**	*e*P	**Pn**	**14 19 40.9**	**+2.4**
AOS	**Alonnisos**	**3.01**	**47**	*e*P	**Pn**	**14 19 43.3**	**+1.6**
VAM	**Vamos**	**3.08**	**123**	*e*PB	**Pb**	**14 19 46.5**	**-1.9**
LIT	**Litokhoron**	**3.16**	**20**	*e*P	**Pn**	**14 19 45.8**	**+2.1**
KZN	**Kozani**	**3.21**	**10**	*e*PB	**Pb**	**14 19 47.6**	**-3.1**
GVD	**Gavdhos**	**3.37**	**132**	P	**Pn**	**14 19 55.6**	**+9.0**
PAIG	**Paliouri**	**3.46**	**36**	*e*P	**Pn**	**14 19 49.1**	**+1.1**
APE	**Apeiranthos**	**3.58**	**90**	*e*PN	**Pn**	**14 19 50.5**	**+0.8**
IDI	**Anoyia**	**3.61**	**120**	Pn	**Pn**	**14 19 51.1**	**+1.0**
	3.1nm,0.3s,baz=315,slow=19,SNR=15						
IDI				Sn	**Sn**	**14 20 36.1**	**+3.7**
	20nm,0.3s,baz=331,slow=19,SNR=6.0						
FNA	**Florina**	**3.65**	**4**	*e*P	**Pn**	**14 19 51.8**	**+1.2**
PLG	**Polygyros**	**3.73**	**29**	*e*PN	**Pn**	**14 19 52.9**	**+1.0**
THE	**Thessaloniki**	**3.79**	**23**	*e*P	**Pn**	**14 19 53.3**	**+0.5**
BIA	**Bitola**	**3.88**	**3**	*i* Pn	**Pn**	**14 19 56.5**	**+2.5**
BIA				*i*		14 20 01.5	
BIA				*i*		14 20 13.0	
BIA				*i* Sn	**Sn**	**14 20 49.5**	**+10**
BIA				*i*		14 21 03.2	
BIA				*i*		14 21 14.9	
OUR	**Ouranopolis**	**3.92**	**35**	*e*P	**Pn**	**14 19 55.6**	**+1.0**
TIP	**Timpagrande**	**3.95**	**302**	*e*P	**Pn**	**14 19 56.6**	**+1.6**
TIP	**Timpagrande**	**3.95**	**302**	*e*P	**Pn**	**14 19 56.6**	**+1.6**
GRG	**Griva**	**3.95**	**15**	*e*P	**Pn**	**14 19 55.8**	**+0.8**
OHR	**Ohrid**	**3.97**	**357**	*i* Pn	**Pn**	**14 19 56.6**	**+1.3**
OHR				*i*		14 20 08.9	
OHR				*i*		14 20 19.1	
OHR				*i* Sn	**Sn**	**14 20 50.7**	**+9.2**
OHR				*i*		14 21 03.6	
OHR				*i*		14 21 13.0	
SOH	**Sokhos**	**4.09**	**25**	*e*P	**Pn**	**14 19 58.8**	**+1.9**
LOS	**Limnos**	**4.21**	**47**	*e*P	**Pn**	**14 19 60.0**	**+1.3**
LIA	**Limnos Island**	**4.25**	**48**	*e*PN	**Pn**	**14 20 01.5**	**+2.2**
KNT	**Kendrikon**	**4.26**	**19**	*e*P	**Pn**	**14 20 00.6**	**+1.1**
VAY	**Valandovo**	**4.34**	**15**	*i* Pn	**Pn**	**14 20 03.5**	**+3.0**
VAY				*i*		14 20 11.6	
VAY				*i*		14 20 23.4	
VAY				*i* Sn	**Sn**	**14 20 59.5**	**+8.7**
VAY				*i*		14 21 17.7	
VAY				*i*		14 21 25.7	
SRS	**Serrai**	**4.43**	**26**	*e*P	**Pn**	**14 20 02.6**	**+0.8**
QSH	**Qafa e Shtames**	**4.46**	**349**	*e*Pn	**Pn**	**14 20 03.2**	**+0.9**
QSH				*i* Sn	**Sn**	**14 20 51.2**	**-2.8**
QSH	**Qafa e Shtames**	**4.46**	**349**	*i* Pn	**Pn**	**14 20 03.2**	**+0.9**
PRK	**Paraskevi**	**4.62**	**61**	*e*PN	**Pn**	**14 20 07.5**	**+3.1**
PE1	**Pezze di Greco**	**4.62**	**323**	⇓*i*Pn	**Pn**	**14 20 04.2**	**-0.4**
SMG	**Samos**	**4.64**	**81**	*e*PN	**Pn**	**14 20 05.2**	**+0.4**
NVR	**Nevrokopi**	**4.73**	**27**	*e*PN	**Pn**	**14 20 07.4**	**+1.3**
BOZC	**Bozcaada**	**4.76**	**54**	*i* P	**Pn**	**14 20 14.2**	**+7.7**
SKO	**Skopje**	**4.83**	**3**	*i* Pn	**Pn**	**14 20 07.8**	**+0.3**
SKO				*i*		14 20 12.8	
SKO				*i*		14 20 24.8	
SKO				*i* Sn	Sx	14 21 35.4	
SKO	**Skopje**	**4.83**	**3**	*i* Pn	**Pn**	**14 20 07.8**	**+0.3**
SKO				*i*		14 20 12.8	
SKO						14 20 24.8	
SKO				*i* Sn	Sx	14 21 35.4	
MMB	**Musomiste**	**4.90**	**24**	*i* P	**Pn**	**14 20 08.0**	**-0.5**
AYVA	**Ayvalik**	**4.94**	**62**	*i* P	**Pn**	**14 20 22.6**	**+14**
KKB	**Krupnik**	**4.97**	**18**	P	**Pn**	**14 20 10.3**	**+0.8**
ULC	**Ulcinj**	**5.01**	**344**	⇓*i*Pn	**Pn**	**14 20 09.2**	**-0.8**
ULC				*e*Sn	**Sn**	**14 21 04.4**	**-3.4**
SG1	**Sgolgore (BA)**	**5.03**	**319**	⇓*i*Pn	**Pn**	**14 20 10.0**	**-0.2**
KDAG	**Bornova**	**5.08**	**74**	*i* P	**Pn**	**14 20 15.3**	**+4.3**
BAI	**Bari**	**5.12**	**322**	⇓*i*Pn	**Pn**	**14 20 11.2**	**-0.3**
RDO	**Rodhopi**	**5.30**	**40**	*e*PN	**Pn**	**14 20 14.4**	**+0.3**
RZN	**Rozhen**	**5.35**	**31**	*i* P	**Pn**	**14 20 15.7**	**+0.9**
ALN	**Alexandroupoli**	**5.40**	**44**	*e*P	**Pn**	**14 20 15.5**	**0.0**
CDT	**Castel del Mon**	**5.41**	**318**	⇓*i*Pn	**Pn**	**14 20 15.4**	**-0.3**
BUM	**Brajici-Budva**	**5.41**	**343**	⇓*i*Pn	**Pn**	**14 20 14.6**	**-1.1**
BUM				*e*Sn	**Sn**	**14 21 13.5**	**-4.4**
TTG	**Podgorica**	**5.46**	**346**	⇓*i*Pn	**Pn**	**14 20 15.4**	**-0.9**
TTG				*e*Sn	**Sn**	**14 21 15.5**	**-3.6**
PVY	**Plav**	**5.51**	**352**	*e*Pn	**Pn**	**14 20 17.6**	**+0.5**
PVY				*e*Sn	**Sn**	**14 21 18.2**	**-2.1**
PVY	**Plav**	**5.51**	**352**	*e*Pn	**Pn**	**14 20 17.5**	**+0.5**
HCY	**Herceg Novi**	**5.65**	**340**	⇓*i*Pn	**Pn**	**14 20 17.7**	**-1.4**
HCY				*e*Sn	**Sn**	**14 21 18.7**	**-5.2**
VTS	**Vitosha**	**5.69**	**16**	*i* P	**Pn**	**14 20 20.5**	**+0.9**
PLD	**Plovdiv**	**5.70**	**28**	P	**Pn**	**14 20 26.5**	**+6.8**
BARS	**Barje**	**5.70**	**6**	⇑*i*Pn	**Pn**	**14 20 18.9**	**-0.8**
IVA	**Berane**	**5.79**	**352**	*e*Pn	**Pn**	**14 20 21.2**	**+0.2**
IVA				*e*Sn	**Sn**	**14 21 24.6**	**-2.7**
NKY	**Niksic**	**5.88**	**345**	⇓*i*Pn	**Pn**	**14 20 20.9**	**-1.4**
NKY				*e*Sn	**Sn**	**14 21 25.5**	**-4.1**
SART	**Tekirdag**	**5.95**	**52**	*i* P	**Pn**	**14 20 23.1**	**-0.1**
MS1	**Monte Sant'Ang**	**6.04**	**321**	⇓*i*Pn	**Pn**	**14 20 23.6**	**-0.9**
BRY	**Bratogost**	**6.07**	**342**	⇓*i*Pn	**Pn**	**14 20 23.1**	**-1.8**
BRY				*e*Sn	**Sn**	**14 21 28.8**	**-5.4**
UPM	**Unac-Piva**	**6.27**	**346**	⇓*i*Pn	**Pn**	**14 20 27.2**	**-0.6**
UPM				*e*Sn	**Sn**	**14 21 34.9**	**-4.5**
PLE	**Pljevlja**	**6.31**	**349**	⇓*i*Pn	**Pn**	**14 20 27.7**	**-0.7**
PLE				*e*Sn	**Sn**	**14 21 36.6**	**-3.7**
GRUS	**Gruza**	**6.75**	**358**	⇓*i*Pn	**Pn**	**14 20 32.4**	**-2.1**
GRUS				Sn	**Sn**	**14 21 45.1**	**-6.1**
BBLS	**Bajina Basta -**	**6.83**	**350**	*e*Pn	**Pn**	**14 20 33.5**	**-2.2**
CII	**Carovilli**	**6.94**	**313**	*e*P	**Pn**	**14 20 36.0**	**-1.2**
	22nm,0.7s						
DIVS	**Divcibare**	**7.00**	**354**	⇑*i*Pn	**Pn**	**14 20 35.7**	**-2.3**
DIVS				Sn	**Sn**	**14 21 51.7**	**-5.8**
ULDT	**Uludag**	**7.00**	**62**	*i* P	**Pn**	**14 20 39.6**	**+1.5**
SVIS	**Svilajnac**	**7.15**	**1**	*e*Pn	**Pn**	**14 20 33.6**	**-6.6**
SVIS				Sn	**Sn**	**14 21 45.1**	**-16**
BEO	**Belgrade**	**7.69**	**357**	⇑*i*Pn	**Pn**	**14 20 45.7**	**-1.9**
HMAT	**Matruh**	**7.84**	**139**	P	**Pn**	**14 20 46.8**	**-3.0**
AQU	**L'Aquila**	**7.86**	**314**	*e*P	**Pn**	**14 20 51.1**	**+1.0**
AQU	**L'Aquila**	**7.86**	**314**	*e*P	**Pn**	**14 20 51.1**	**+1.0**
ESKT	**Eskisehir**	**8.06**	**70**	*i* P	**P**	**14 21 00.4**	**+7.6**
HENT	**Hendek**	**8.50**	**61**	*i* P	**P**	**14 21 05.1**	**+6.1**
SWA2		**8.70**	**154**	P	**P**	**14 21 00.1**	**-1.6**
SWA1		**8.77**	**152**	P	**P**	**14 21 01.3**	**-1.4**
SWA1				S	**Sn**	**14 22 37.0**	**-4.7**
SWA1		**8.77**	**152**	P	**P**	**14 21 01.3**	**-1.4**
SWA1				S	**Sn**	**14 22 37.0**	**-4.7**
MLR	**Muntele Rosu**	**9.12**	**22**	Pn	**P**	**14 21 07.4**	**-0.1**
	0.1nm,0.3s,baz=198,slow=20,SNR=3.0						
PKSM	**Moragy**	**9.24**	**350**	*e*P	**P**	**14 21 05.8**	**-3.4**
SGKT	**Sivrigoynuk**	**9.24**	**65**	*i* P	**P**	**14 21 10.0**	**+0.8**
BOJS	**Bojanci**	**9.42**	**334**	*e*Pn	**P**	**14 21 09.9**	**-1.9**
BOJS				*e*Sn	**Sn**	**14 22 53.7**	**-4.1**
HBRG	**Burj al 'Arab**	**9.81**	**129**	P	**P**	**14 21 13.4**	**-3.6**
CEY	**Cerknica**	**9.92**	**332**	*e*Pn	**P**	**14 21 16.9**	**-1.6**
JAVS	**Javornik**	**10.19**	**331**	*e*Pn	**P**	**14 21 19.5**	**-2.7**
BRTR	**Keskin Array B**	**10.21**	**72**	Pn	**P**	**14 21 24.1**	**+1.6**
	0.2nm,0.3s,baz=268,slow=12,SNR=4.8						
VOY	**Vojsko**	**10.37**	**331**	*e*Pn	**P**	**14 21 21.7**	**-3.0**
VOY				*e*Sn	**S**	**14 23 17.3**	**-3.8**
PERS	**Pernice**	**10.46**	**337**	*e*Pn	**P**	**14 21 22.9**	**-3.1**
OBKA	**Obir**	**10.54**	**335**	⇑*i*PN	**P**	**14 21 24.6**	**-2.4**
OBKA				*i* SN	**S**	**14 23 16.7**	**-8.5**
ROBS	**Robic**	**10.70**	**331**	*e*Pn	**P**	**14 21 27.6**	**-1.5**
PGF	**Pioggiola**	**10.72**	**304**	*e*P	**P**	**14 21 30.6**	**+1.1**
	56nm,1.2s						
PGF	**Pioggiola**	**10.72**	**304**	*e*P	**P**	**14 21 30.6**	**+1.1**
PGF				pmax	pmax		
	comp=Z,28nm,1.3s						
PSZ	**Piszkesteto**	**10.80**	**356**	*e*P	**P**	**14 21 26.5**	**-4.1**
ARSA	**Arzberg**	**10.90**	**340**	⇑*i*PN	**P**	**14 21 29.0**	**-2.9**
ARSA				*i* SN	**S**	**14 23 28.4**	**-5.6**
MOA	**Molln**	**11.81**	**337**	⇑*i*Pn	**P**	**14 21 40.8**	**-3.5**
MOA				*i* Sn	**S**	**14 23 49.2**	**-7.0**
AMAG	**Maghara**	**11.99**	**119**	P	**P**	**14 21 43.0**	**-3.8**
HRSH	**Kfar Ka'horesh**	**12.18**	**117**	P	**P**	**14 21 44.9**	**-4.4**
RSH		**12.18**	**117**	P	**P**	**14 21 44.9**	**-4.4**
SBF	**Sospel**	**12.34**	**307**	*e*P	**P**	**14 21 53.1**	**+1.7**
	comp=Z,32nm,0.9s						
SBF	**Sospel**	**12.34**	**307**	*e*P	**P**	**14 21 53.1**	**+1.7**
SBF				pmax	pmax		
	comp=Z,16nm,0.9s						
DAVOX	**Davos**	**12.71**	**323**	Pn	**P**	**14 21 58.2**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=163,slow=20,SNR=3.5						
DAVOX				Sn	**S**	**14 24 12.6**	**-5.5**
	comp=Z,0.1nm,0.3s,baz=315,slow=19,SNR=2.3						
DAVOX	**Davos**	**12.71**	**323**	Pn	**P**	**14 21 58.2**	**+1.8**
DAVOX				Sn	**S**	**14 24 12.6**	**-5.5**
LMR	**La Mourre**	**12.71**	**304**	*e*P	**P**	**14 21 58.1**	**+1.7**
	comp=Z,38nm,1.4s						
LMR	**La Mourre**	**12.71**	**304**	*e*P	**P**	**14 21 58.1**	**+1.7**
LMR				pmax	pmax		
	comp=Z,19nm,1.4s						
FRF	**La Foret Royal**	**12.71**	**305**	*e*P	**P**	**14 21 58.5**	**+2.1**
LVV	**L'vov**	**12.85**	**9**	*e*P	**P**	**14 22 12.0**	**+14**
LVV				MLR	MLR		
	comp=Z,300nm,10.0s						
LVV				MLR	MLR		
	comp=N,200nm,9.0s						
LVV				MLR	MLR		
	comp=E,600nm,9.0s						
OKC	**Ostrava-Krasne**	**12.86**	**352**	*e*P	**P**	**14 22 03.5**	**+5.1**
GERES	**GERESS Array B**	**12.87**	**338**	Pn	**P**	**14 21 56.5**	**-1.9**
	comp=E,0.2nm,0.3s,baz=158,slow=13,SNR=5.4						
MORC	**Moravsky Berou**	**12.88**	**350**	*e*P	**P**	**14 21 57.6**	**-1.0**
HNKL	**Nakhl**	**12.95**	**120**	P	**P**	**14 21 56.2**	**-3.4**
KHC	**Kasperske Hory**	**13.16**	**338**	*e*P	**P**	**14 22 00.6**	**-1.7**
KHC				*ex*	x	14 22 14.1	
MBDF	**Montbardon**	**13.18**	**310**	*e*P	**P**	**14 22 03.8**	**+1.2**
	comp=E,23nm,1.2s						
MBDF	**Montbardon**	**13.18**	**310**	*e*P	**P**	**14 22 03.8**	**+1.2**
MBDF				pmax	pmax		
	comp=Z,12nm,1.2s						
HDK1	**Dakhla**	**13.58**	**146**	P	**P**	**14 22 06.4**	**-1.5**
DPC	**Dobruska-Polom**	**13.63**	**347**	*e*P	**P**	**14 22 18.2**	**+10**
PRU	**Pruhonice**	**13.67**	**342**	*e*P	**P**	**14 22 10.3**	**+1.3**
EIL	**Elat**	**13.79**	**119**	Pn	**P**	**14 22 07.6**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=341,slow=20,SNR=4.7						
EIL				Sn	**S**	**14 24 29.1**	**-15**
	comp=Z,0.9nm,0.3s,baz=300,slow=1.4,SNR=5.5						
EIL	**Elat**	**13.79**	**119**	Pn	**P**	**14 22 07.6**	**-3.0**
EIL				*e*P		14 22 11.9	
EIL				Sn	**S**	**14 24 29.1**	**-15**
EIL	**Elat**	**13.79**	**119**	*e*P	**P**	**14 22 11.9**	**+1.3**
MALT	**Malatya**	**13.80**	**80**	*e*P	**P**	**14 22 14.5**	**+3.7**
MALT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MALT	**Malatya**	**13.80**	**80**	*e*P	**P**	**14 22 14.5**	**+3.7**
	comp=Z,6.0nm,0.8s						
UPC	**Upice**	**13.84**	**346**	*e*P	**P**	**14 22 20.4**	**+9.2**
HBST	**Basata**	**13.91**	**121**	P	**P**	**14 22 09.4**	**-2.8**
HDHB	**Dhahab**	**14.14**	**123**	P	**P**	**14 22 12.6**	**-2.6**
PVCC	**Panska Ves**	**14.17**	**343**	*e*P	**P**	**14 22 17.8**	**+2.3**
ELZG	**Elazig**	**14.24**	**79**	*i* P	**P**	**14 22 23.4**	**+6.9**
NKC	**Novy Kostel**	**14.48**	**337**	*e*P	**P**	**14 22 23.8**	**+4.3**
VIVF	**Saint-Julien-l**	**14.56**	**307**	*e*P	**P**	**14 22 22.7**	**+2.1**
HINF	**Hinteralfeld**	**14.93**	**320**	*e*P	**P**	**14 22 26.3**	**+0.9**
	comp=Z,15nm,0.8s						
HINF	**Hinteralfeld**	**14.93**	**320**	*e*P	**P**	**14 22 26.3**	**+0.9**
HINF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CDF	**Champ du Feu**	**15.11**	**323**	*e*P	**P**	**14 22 28.5**	**+0.7**
	comp=Z,22nm,1.0s						
CDF	**Champ du Feu**	**15.11**	**323**	*e*P	**P**	**14 22 28.5**	**+0.7**
CDF				pmax	pmax		
	comp=Z,11nm,1.0s						
CLL	**Collm**	**15.28**	**341**	*i* P	**P**	**14 22 36.8**	**+6.8**
CLL				pmax	pmax		
	comp=Z,24nm,1.2s						
CLL	**Collm**	**15.28**	**341**	*i* P	**P**	**14 22 36.8**	**+6.8**
	comp=Z,24nm,1.2s						
CLL				*e*		14 22 54.0	
CLL	**Collm**	**15.28**	**341**	*i*	**P**	**14 22 36.8**	**+6.8**
CLL				*e*		14 22 54.0	
HAU	**Haudompre**	**15.31**	**320**	*e*P	**P**	**14 22 30.8**	**+0.4**
	comp=Z,21nm,0.7s						
HAU				*e*R			
	comp=Z,439nm,18.2s						
SOC	**Sochi**	**15.60**	**60**	*e*P	**P**	**14 22 33.1**	**-1.1**
SOC				*e*		14 25 15.0	
SOC				pmax	pmax		
	comp=Z,17nm,0.7s						
SOC				pmax	pmax		
	comp=N,15nm,0.9s						
SOC				pmax	pmax		
	comp=E,16nm,1.0s						
SOC				smax			
	comp=E,23nm,1.1s						
SOC				MLR	MLR		
	comp=Z,252nm,11.0s						
SOC				MLR	MLR		
	comp=N,44nm,5.0s						
SOC				MLR	MLR		
	comp=E,287nm,11.0s						
SMF	**Signal de Mont**	**15.92**	**312**	*e*P	**P**	**14 22 40.1**	**+1.8**
**MEZF

comp=Z,21nm,1.5s,mb4.4
KAF Kangasniemi 25.21 6 *e*P **P 14 24 19.5 +0.2**
KAF pmax pmax
comp=Z,21nm,1.5s,mb4.5
JOF Joensuu 26.57 11 *ep* **P 14 24 31.3 -0.5**
comp=Z,8.2nm,0.7s,mb4.4
ARU Arti 31.57 40 *e*P **P 14 25 13.3 -3.4**
ARU *e* 14 28 08.3
ARU *e*S **S 14 30 11.4 -11**
ARCES ARCESS Array B 32.54 3 P **P 14 25 24.1 -1.0**
comp=Z,2.1nm,0.5s,mb4.3,baz=189,slow=11,SNR=20
ARCES LR LR 14 39 20.3
comp=Z,462nm,19.8s,MS4.2,baz=191,slow=38
SVE Sverdlovsk 32.78 40 *e*P **P 14 25 26.0 -1.3**
BRVK Borovoye 37.41 49 *e*P **P 14 26 07.3 +0.4**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
BRVK Borovoye 37.41 49 *e*P **P 14 26 07.3 +0.4**
comp=Z,3.6nm,0.8s,mb4.2
BRVK Borovoye 37.41 49 *e*P **P 14 26 07.3 +0.4**
comp=Z,3.6nm,0.8s,mb4.2
BVAR Borovoye Array 37.47 49 P **P 14 26 07.2 -0.2**
comp=Z,2.2nm,0.5s,mb4.2,baz=270,slow=7.1,SNR=22
CHKZ Chkalovo 37.67 48 *e*P **P 14 26 08.1 -0.9**
CHKZ pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
CHKZ Chkalovo 37.67 48 *e*P **P 14 26 08.1 -0.9**
comp=Z,3.5nm,0.5s,mb4.3
CHKZ Chkalovo 37.67 48 *e*P **P 14 26 08.1 -0.9**
comp=Z,3.5nm,0.5s,mb4.3
DBIC Dimbokro 38.43 224 P **P 14 26 19.8 +3.9**
comp=Z,4.1nm,1.1s,mb4.1,baz=346,slow=8.3,SNR=3.1
KMBO Kilima Mbogo 40.93 155 P **P 14 26 41.2 +4.7**
comp=Z,2.2nm,0.9s,mb3.8,baz=31,slow=22,SNR=4.2
KMBO LR LR 14 45 01.8
comp=Z,122nm,19.6s,MS3.8,baz=76,slow=38
KMBO Kilima Mbogo 40.93 155 P **P 14 26 41.2 +4.7**
KMBO LR LR 14 45 01.8
NVS Novosibirsk 45.08 46 *e*P **P 14 27 08.8 -1.0**
NVS *e* 14 29 02.5
NVS pmax pmax
comp=E,9.0nm,1.4s
NVS pmax pmax
comp=Z,13nm,1.4s,mb4.6
ZAL Zalesovo 46.06 47 P **P 14 27 16.3 -1.3**
comp=Z,1.5nm,0.4s,mb4.2,baz=187,slow=11,SNR=7.5
ZAL LR LR 14 47 59.8
comp=Z,114nm,18.8s,MS3.8,baz=82,slow=38
NDI New Delhi 47.31 83 *e* **P 14 27 27.0 -0.8**
WMQ Urumqi 49.90 60 *e*P **P 14 27 48.3 +0.7**
WMQ PP PP 14 29 44.3 +1.0
WMQ S **S 14 34 51.4 -3.4**
WMQ AMB AMB
comp=Z,19nm,1.1s,mb5.0
WMQ AMB AMB
comp=Z,137nm,5.7s
WMQ LR LR
comp=N,714nm,20.8s,MS4.7
WMQ LR LR
comp=E,522nm,22.3s,MS4.7
WMQ LR LR
comp=Z,779nm,21.4s,MS4.7
KOLN Koldanda 52.77 81 *e*P **P 14 28 08.2 -1.3**
comp=Z,9.5nm,0.6s,mb4.9
GKN Gorkha 53.48 80 *e*P **P 14 28 13.2 -1.6**
comp=Z,31nm,0.6s,mb5.4
DMN Daman 54.03 80 *e*P **P 14 28 17.3 -1.5**
comp=Z,37nm,0.6s,mb5.5
KKN Kakani 54.08 80 *e*P **P 14 28 17.9 -1.3**
comp=Z,19nm,0.7s,mb5.2
PKI Pulchoki 54.28 80 *e*P **P 14 28 19.4 -1.3**
comp=Z,9.8nm,0.7s,mb4.9
GUN Gumba 54.50 80 *e*P **P 14 28 21.2 -1.1**
comp=Z,17nm,0.5s,mb5.2
JIRN Jiri 54.86 80 *e*P **P 14 28 23.8 -1.1**
comp=Z,15nm,0.6s,mb5.2
FRB Frobisher Bay 57.25 328 LR LR 14 52 59.7
comp=Z,113nm,18.2s,MS4.0,baz=41,slow=36
LSA Lhasa 57.79 75 P **P 14 28 45.5 -0.4**
LSA AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
LSA Lhasa 57.79 75 *e*P **P 14 28 45.7 -0.2**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
LSA Lhasa 57.79 75 *e*P **P 14 28 45.7 -0.1**
comp=Z,7.4nm,0.6s,mb4.9
LSA Lhasa 57.79 75 *e*P **P 14 28 45.7 -0.2**
comp=Z,7.3nm,0.6s,mb4.9
ZAK Zakamensk 57.92 48 *e*P **P 14 28 48.5 +2.0**
ZAK *e* 14 29 32.6
SCHQ Schefferville 59.51 318 P **P 14 28 58.6 +1.2**
comp=Z,1.5nm,0.8s,mb4.1,baz=45,slow=17,SNR=3.0
SCHQ LR LR 14 51 35.9
comp=Z,85nm,18.8s,MS3.9,baz=164,slow=33
TIXI Tiksi 60.48 20 *e*P **P 14 29 04.9 +1.0**
TIXI pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
TIXI MLR MLR
comp=Z,372nm,17.0s,MS4.6
SONM Songino Array 60.79 50 P **P 14 29 05.0 -1.3**
comp=Z,1.2nm,0.8s,mb4.1,baz=280,slow=7.5,SNR=9.0
BOD Bodaibo 60.93 38 *e*P **P 14 29 04.5 -2.6**
CMAR Chiang Mai Arr 69.61 82 P **P 14 30 03.0 -0.6**
comp=Z,1.0nm,0.6s,mb3.9,baz=301,slow=8.0,SNR=8.9
YKA Yellowknife Ar 74.51 340 P **P 14 30 33.1 +1.2**
comp=Z,0.7nm,0.8s,mb3.6,baz=37,slow=5.6,SNR=9.5
NJ2 Nanjing 76.97 60 *e*P **P 14 30 51.9 +5.4**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
ILAR Eielson Array 77.98 355 P **P 14 30 52.7 +1.3**
comp=Z,0.3nm,0.8s,mb3.3,baz=16,slow=2.5,SNR=4.3
ILAR LR LR 15 06 17.9
comp=Z,66nm,18.0s,MS4.0,baz=181,slow=36
BDFB Brasilia 83.45 245 LR LR 15 08 45.6
comp=Z,156nm,21.2s,MS4.4,baz=112,slow=36
TXAR Lajitas Array 95.99 314 P **P 14 32 24.8 +4.2**
comp=Z,0.1nm,0.5s,mb3.5,baz=22,slow=4.9,SNR=2.9
ASAR Alice Springs 121.63 97 PKP PKPdf 14 37 49.5 -1.6
comp=Z,0.5nm,0.8s,baz=326,slow=2.4,SNR=4.3

*IDC **08** 14:33:14.8±1.6,27.17N×126.51E,h135km±15km,mb3.5/9, mb1 3.6/9,mb1mx3.5/20,mbtmp3.9/9,Error ellipse: s-maj=26.5km s-min=14.7km az=67.0*
*JMA **08** 14:33:15.9±0.4,27.02N×126.46E,h136km±5km,M4.1*
*NEIC **08** 14:33:15.8±1.1,27.14N×126.51E,h145km±12km,mb3.9/1, Error ellipse: s-maj=23.1km s-min=11.2km az=67.0*
ISC 08 14:33:13.6±0.4,27.04N±0.06×126.42E±0.06,h142km±6km, n34,σ1°02/49,mb3.6/10,Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.78**	**155**	P	**P**	**14 33 37.4**	**+1.2**
JAGN	**Aguni-jima**	**0.86**	**121**	P	**P**	**14 33 38.1**	**+1.4**
JAGN				S	**S**	**14 33 54.7**	**+0.3**
JIH	**Iheya**	**1.38**	**90**	P	**P**	**14 33 43.1**	**+1.5**
JIH				S	**S**	**14 34 02.6**	**-0.5**
NAH1	**Naha**	**1.41**	**126**	P	**P**	**14 33 43.4**	**+1.5**
NAH1				S	**S**	**14 34 02.7**	**-0.9**
JJT2	**Tamagusuku 2**	**1.49**	**127**	P	**P**	**14 33 44.7**	**+1.9**
JJT2				S	**S**	**14 34 05.5**	**+0.3**
JOW	**Kunigami**	**1.67**	**97**	P	**P**	**14 33 46.1**	**+1.4**
JOW	83nm,0.3s,baz=163,slow=17,SNR=291			S	**S**	**14 34 07.3**	**-1.3**
	679nm,0.3s,baz=144,slow=28,SNR=28						
JOW	**Kunigami**	**1.67**	**97**	P	**P**	**14 33 46.0**	**+1.2**
JOW				S	**S**	**14 34 07.2**	**-1.4**
JTK	**Tokunoshima**	**2.37**	**71**	P	**P**	**14 33 53.7**	**+0.4**
JTK				*e*S	**S**	**14 34 21.5**	**-2.0**
JMJ	**Miyako jima 2**	**2.44**	**205**	P	**P**	**14 33 55.3**	**+1.2**
JMJ				*e*S	**S**	**14 34 24.2**	**-0.9**
JOGS	**Gusukube**	**2.44**	**202**	P	**P**	**14 33 55.8**	**+1.5**
JOGS				*e*S	**S**	**14 34 25.0**	**-0.3**
JTJ	**Tarama**	**2.84**	**213**	P	**P**	**14 33 59.8**	**+0.4**
JTJ				*e*S	**S**	**14 34 32.9**	**-1.4**
JAM	**Amami Oshima**	**3.14**	**63**	P	**P**	**14 34 03.1**	**-0.1**
JAM				*e*S	**S**	**14 34 39.0**	**-2.1**
JIJ	**Ishigaki jima**	**3.36**	**218**	P	**P**	**14 34 05.7**	**-0.5**
JIJ				S	**S**	**14 34 43.4**	**-3.0**
JZK	**Kikaishima**	**3.40**	**67**	P	**P**	**14 34 06.9**	**+0.3**
JZK				*e*S	**S**	**14 34 46.2**	**-0.9**
JKRS	**Kuro-shima**	**3.54**	**219**	P	**P**	**14 34 08.5**	**0.0**
JKRS				*e*S	**S**	**14 34 48.7**	**-1.8**
IRIF	**Iriomote-Funau**	**3.62**	**223**	P	**P**	**14 34 09.2**	**-0.4**
HATJ	**Hateruma jima**	**3.79**	**219**	P	**P**	**14 34 11.9**	**0.0**
YOJ	**Yonaguni jima**	**4.00**	**231**	P	**P**	**14 34 15.5**	**+0.9**
JNN	**Nakanoshima**	**4.13**	**47**	P	**P**	**14 34 17.6**	**+1.3**
JMZ	**Minamidaito 2**	**4.47**	**105**	P	**P**	**14 34 20.0**	**-0.8**
JMZ				*e*S	**S**	**14 35 06.4**	**-6.1**
JKC	**Kuchinoerabu**	**4.76**	**43**	P	**P**	**14 34 25.4**	**+0.8**
JTN	**Tanegashima 3**	**5.38**	**47**	P	**P**	**14 34 32.8**	**-0.1**
SONM	**Songino Array**	**26.01**	**328**	P	**P**	**14 38 34.6**	**-0.4**
SONM	2.7nm,0.5s,mb4.1,baz=143,slow=10,SNR=29			PcP	PcP	14 41 59.6	-0.3
	0.2nm,0.3s,baz=152,slow=4.8,SNR=4.2						
ZAL	**Zalesovo**	**40.64**	**323**	P	**P**	**14 40 40.5**	**-0.5**
	4.1nm,0.4s,mb4.4,baz=0.7,slow=6.8,SNR=18						
ZAL	**Zalesovo**	**40.64**	**323**	P	**P**	**14 40 40.5**	**-0.5**
WRA	**Warramunga Arr**	**47.33**	**170**	P	**P**	**14 41 35.7**	**+0.7**
	0.4nm,0.9s,mb3.0,baz=351,slow=8.5,SNR=3.8						
BVAR	**Borovoye Array**	**48.60**	**318**	P	**P**	**14 41 44.5**	**0.0**
	1.3nm,0.7s,mb3.6,baz=93,slow=9.1,SNR=6.2						
BRVK	**Borovoye**	**48.67**	**318**	*e*P	**P**	**14 41 45.7**	**+0.7**
	1.1nm,0.5s,mb3.7						
ASAR	**Alice Springs**	**50.92**	**171**	P	**P**	**14 42 03.2**	**+0.6**
	0.2nm,0.5s,mb3.0,baz=359,slow=13,SNR=9.5						
ILAR	**Eielson Array**	**64.50**	**28**	P	**P**	**14 43 36.0**	**-1.0**
	0.2nm,0.6s,mb3.1,baz=240,slow=5.4,SNR=6.5						
ARCES	**ARCESS Array B**	**68.67**	**338**	P	**P**	**14 44 02.5**	**-0.7**
	3.5nm,0.9s,mb4.1,baz=82,slow=6.4,SNR=2.5						
FINES	**FINESS Array B**	**71.36**	**330**	P	**P**	**14 44 18.9**	**-0.7**
	0.5nm,0.4s,mb3.6,baz=66,slow=6.1,SNR=15						
YKA	**Yellowknife Ar**	**78.47**	**24**	P	**P**	**14 44 60.0**	**+0.1**
	0.6nm,0.4s,mb3.6,baz=301,slow=5.5,SNR=21						
YKA	**Yellowknife Ar**	**78.47**	**24**	P	**P**	**14 44 60.0**	**+0.1**

*IDC **08** 14:49:37.2±0.9,7.85N×94.09E,mb4.0/11,mb1 4.1/12, mb1mx4.0/20,mbtmp3.9/12,ML4.0/1,Error ellipse: s-maj=40.6km s-min=19.2km az=51.0*
*NEIC **08** 14:49:41.0±0.8,7.84N×94.06E,h30km,mb4.3/4,Error ellipse: s-maj=27.3km s-min=15.1km az=58.0*
ISC 08 14:49:38.7±0.8,7.9N±0.1×93.9E±0.2,h33km,n25, σ1°28/23,mb4.2/19,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.58**	**25**	Pn	**P**	**14 52 25.4**	**+0.6**
	0.3nm,0.3s,baz=219,slow=15,SNR=6.6						
JIRN	**Jiri**	**20.96**	**341**	*e*P	**P**	**14 54 20.2**	**-1.1**
	20nm,0.8s						
PKI	**Pulchoki**	**21.14**	**339**	*e*P	**P**	**14 54 22.1**	**-1.1**
	32nm,1.1s,mb4.5						
DMN	**Daman**	**21.29**	**338**	*e*P	**P**	**14 54 23.8**	**-0.9**
GUN	**Gumba**	**21.29**	**340**	*e*P	**P**	**14 54 23.6**	**-1.1**
	27nm,0.8s,mb4.6						
GKN	**Gorkha**	**21.82**	**337**	*e*P	**P**	**14 54 29.3**	**-0.7**
	23nm,0.5s,mb4.8						
LSA	**Lhasa**	**21.83**	**354**	*e*P	**P**	**14 54 28.9**	**-1.2**
	3.1nm,0.5s,mb4.0						
KOLN	**Koldanda**	**22.03**	**335**	*e*P	**P**	**14 54 31.6**	**-0.5**
	27nm,1.0s,mb4.7						
SONM	**Songino Array**	**41.18**	**13**	P	**P**	**14 57 23.2**	**+1.4**
	0.5nm,0.8s,mb3.2,baz=211,slow=8.4,SNR=2.8						
SONM				PcP	PcP	14 59 25.3	+4.2
	0.1nm,0.4s,baz=194,slow=4.4,SNR=4.5						
ZAL	**Zalesovo**	**46.48**	**353**	P	**P**	**14 58 05.6**	**+1.1**
	1.7nm,0.8s,mb4.0,baz=292,slow=9.3,SNR=11						
ZAL	**Zalesovo**	**46.48**	**353**	P	**P**	**14 58 05.6**	**+1.1**
WRA	**Warramunga Arr**	**48.48**	**125**	P	**P**	**14 58 19.8**	**-0.7**
	1.5nm,0.6s,mb4.2,baz=305,slow=8.7,SNR=12						
WRAB	**Tennant Creek**	**48.48**	**125**	*e*P	**P**	**14 58 19.6**	**-0.9**
	2.9nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**48.88**	**341**	P	**P**	**14 58 23.5**	**+0.3**
	0.8nm,0.5s,mb4.0,baz=129,slow=9.5,SNR=7.6						
BVAR				PcP	PcP	14 59 50.6	+3.0
	0.7nm,0.7s,baz=135,slow=4.2,SNR=4.2						
BRVK	**Borovoye**	**48.94**	**341**	*e*P	**P**	**14 58 22.6**	**-1.0**
	1.2nm,0.7s,mb4.0						
CHKZ	**Chkalovo**	**49.37**	**342**	*e*P	**P**	**14 58 26.7**	**-0.2**
	3.9nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**50.12**	**130**	P	**P**	**14 58 32.5**	**-0.6**
	0.4nm,0.6s,mb3.6,baz=302,slow=7.6,SNR=7.6						
BRTR	**Keskin Array B**	**62.22**	**311**	P	**P**	**15 00 01.4**	**+1.8**
	2.2nm,0.9s,mb4.3,baz=126,slow=8.1,SNR=7.7						
ARCES	**ARCESS Array B**	**75.15**	**340**	P	**P**	**15 01 21.7**	**+2.6**
	3.5nm,0.9s,mb4.3,baz=90,slow=8.1,SNR=4.4						
GERES	**GERESS Array B**	**77.64**	**318**	P	**P**	**15 01 37.6**	**+4.1**
	2.1nm,1.0s,mb4.0,baz=90,slow=6.7,SNR=4.8						
HFS	**Hagfors**	**78.31**	**330**	P	**P**	**15 01 39.8**	**+2.9**
	2.8nm,0.9s,mb4.2,baz=90,slow=5.8,SNR=4.8						
EKA	**Eskdalemuir Ar**	**87.56**	**325**	P	**P**	**15 02 29.2**	**+4.8**
	3.1nm,0.9s,mb4.5,baz=90,slow=5.0,SNR=5.2						
ILAR	**Eielson Array**	**94.81**	**22**	P	**P**	**15 03 00.7**	**+2.7**
	0.3nm,0.7s,mb3.8,baz=307,slow=4.2,SNR=5.3						
PV01	**Paradox Valley**	**129.63**	**23**	*e*PKPdf	PKPdf	15 08 46.5	+1.4
SDCO	**Great Sand Dun**	**131.10**	**20**	*e*PKPdf	PKPdf	15 08 51.0	+3.2

*IDC **08** 14:58:16.5±1.2,4.64N×125.66E,mb3.9/6,mb1 4.1/6, mb1mx4.0/17,mbtmp3.9/6,Error ellipse: s-maj=67.0km s-min=21.5km az=82.0*
*NEIC **08** 14:58:18.4±0.7,4.65N×125.83E,h10km,mb4.1/3,Error ellipse: s-maj=47.4km s-min=12.8km az=79.0*
*MAN **08** 14:58:30.9,4.26N×125.58E,h184km,mb4.7,ML3.6, MS3.6*
ISC 08 14:58:33.8±0.8,4.40N±0.09×125.5E±0.1,h169km±13km, n21,σ0°91/23,mb3.8/7,1C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**2.62**	**352**	⇑*i*P	**P**	**14 59 18.6**	**+0.8**
KCP				*i* S	**S**	**14 59 54.6**	**+2.8**
MATI	**Mati**	**2.65**	**17**	*e*P	**P**	**14 59 16.6**	**-1.6**
MATI				*e*S	S	14 59 31.8	-21
BUKP	**Musuan**	**3.48**	**353**	*e*P	**P**	**14 59 27.9**	**-0.8**
BIPH	**Bislig**	**3.86**	**13**	⇓*e*P	**P**	**14 59 33.8**	**+0.2**
BIPH				*i* S	**S**	**15 00 19.9**	**+0.3**
PAGZ	**Pagadian**	**4.00**	**329**	*e*P	**P**	**14 59 34.0**	**-1.4**
CGP	**Cagayan de Oro**	**4.10**	**349**	*e*P	**P**	**14 59 37.0**	**+0.3**
IPIL	**Ipil**	**4.43**	**320**	*e*P	**P**	**14 59 40.6**	**-0.3**
BUTP	**Butuan**	**4.54**	**2**	*e*P	**P**	**14 59 42.0**	**-0.4**
MSLP	**Maasin**	**5.73**	**354**	*e*P	**P**	**14 59 58.5**	**+0.6**
KAKA	**Kakadu**	**18.36**	**158**	*e*P	**P**	**15 02 38.2**	**-0.1**
	12nm,0.6s						
WRAB	**Tennant Creek**	**25.71**	**160**	*e*P	**P**	**15 03 49.4**	**-1.0**
	2.9nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**25.72**	**160**	P	**P**	**15 03 50.1**	**-0.4**
	1.9nm,0.4s,mb4.1,baz=338,slow=10,SNR=44						
WB2	**Warramunga Arr**	**25.72**	**160**	*e*P	**P**	**15 03 50.2**	**-0.3**
ASPA	**Alice Springs**	**29.09**	**164**	*e*P	**P**	**15 04 21.7**	**+0.8**
ASAR	**Alice Springs**	**29.09**	**164**	P	**P**	**15 04 20.4**	**-0.4**
	1.0nm,0.7s,mb3.6,baz=340,slow=6.6,SNR=21						
NWAO	**Narrogin (SRO)**	**37.94**	**191**	P	**P**	**15 05 38.2**	**+1.5**
	5.7nm,1.1s,mb4.1,baz=200,slow=17,SNR=4.2						
NWAO	**Narrogin (SRO)**	**37.94**	**191**	P	**P**	**15 05 38.2**	**+1.5**
STKA	**Stephens Creek**	**39.21**	**158**	*e*P	**P**	**15 05 48.4**	**+1.2**
	1.5nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**39.21**	**158**	P	**P**	**15 05 48.4**	**+1.2**
	2.4nm,0.6s,mb4.0,baz=338,slow=9.6,SNR=5.7						
SONM	**Songino Array**	**46.27**	**342**	P	**P**	**15 06 43.3**	**-0.7**
	0.3nm,0.4s,mb3.2,baz=162,slow=8.3,SNR=3.4						
ILAR	**Eielson Array**	**85.04**	**25**	P	**P**	**15 10 51.4**	**+0.1**
	0.6nm,1.1s,mb3.2,baz=251,slow=4.2,SNR=5.3						

*IDC **08** 14:59:36.3±0.8,3.47N×92.76E,h32km±6km,mb4.1/15, mb1 4.3/16,mb1mx4.2/23,mbtmp4.3/16,ML4.1/1,MS4.4/18, Ms1 4.4/18,ms1mx4.2/23,Error ellipse: s-maj=26.8km s-min=13.9km az=51.0*
*HRVD **08** 14:59:36.7±0.3,3.48N×92.69E,h12km,MW5.2/57, Centroid moment Tensor Solution. LP body waves: s29,c46;Mantle waves: s57,c96; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.35±.14; $M_{\theta\theta}$-1.34±.12; $M_{\phi\phi}$2.69±.17; $M_{r\theta}$-1.22±.33; $M_{\theta\phi}$-4.69±.11; $M_{\phi r}$-3.65±.39; Best double couple: $M_0$6.497×10^{16} NP1:φs105°,δ52°, λ-168°. NP2:φs8°,δ81°,λ-38°. Principal axes: T 6.576, Plg18°, Azm62°; N -.157, Plg51°, Azm176°; P -6.419, Plg33°, Azm319°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 14:59:36.6±0.4,3.54N×92.88E,mb4.9/13 Error ellipse: s-maj=11.1km s-min=8.9km az=46.0*
*MOS **08** 14:59:38.4±0.7,3.97N×92.62E,h33km,mb4.9/10,Error ellipse: s-maj=27.8km s-min=11.2km az=105.0*
*BJI **08** 14:59:40.6,3.83N×92.82E,h42km,mB5.2,mb4.7,Ms4.9, Msz4.6*

ISC 08 14:59:34.0±0.4,3.47N±0.06×92.80E±0.04,h27km, h27km±1.9km:pP-P,n122,σ0°98/120,mb4.7/48,MS4.5/30, 5C-1D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**8.14**	**360**	*e*P	**P**	**15 01 32.8**	**-0.6**
PBA				*e*S	**Sn**	**15 02 57.7**	**-7.8**
SNG	**Songkhla**	**8.61**	**64**	P	**P**	**15 01 40.0**	**0.0**
	300nm,1.0s						
NNT	**Nongplab**	**11.37**	**37**	P	**P**	**15 02 18.5**	**+0.5**
PALK	**Pallekele**	**12.62**	**288**	*e*P	**P**	**15 02 28.7**	**-6.1**
	30nm,0.8s						
NST	**Nakhon Sawan**	**14.12**	**30**	P	**P**	**15 03 03.8**	**+9.1**
CMAR	**Chiang Mai Arr**	**16.07**	**22**	Pn	**P**	**15 03 19.3**	**-0.7**
	0.3nm,0.3s,baz=216,slow=13,SNR=44						
CMAR				LR	LR	15 09 15.2	
	comp=Z,595nm,21.3s,baz=210,slow=36						
KKTK	**Khon Kaen**	**16.15**	**37**	P	**P**	**15 03 21.5**	**+0.5**
	2μm,0.7s						
CHG	**Chiang Mai**	**16.39**	**21**	P	**P**	**15 03 23.2**	**-1.0**
TRD	**Trivandrum**	**16.53**	**288**	*e*	**P**	**15 03 19.6**	**-6.3**
TRD				*i*		15 06 05.6	
KOD	**Kodaikanal**	**16.63**	**295**	*e*P	**P**	**15 03 26.3**	**-0.9**
KOD				*e*		15 03 34.0	
	comp=Z,51nm,1.6s						
KOD				*e*		15 06 14.4	
VIS	**Vishakhapatnam**	**16.94**	**327**	*e*P	**P**	**15 03 29.9**	**-1.1**
VIS				*e*		15 03 37.1	
	comp=Z,147nm,1.5s						
VIS				*e*		15 06 22.6	
NANT	**Nan**	**17.09**	**26**	P	**P**	**15 03 37.0**	**+4.1**
CHRT	**Chiangrai**	**17.67**	**22**	⇑P	**P**	**15 03 40.0**	**-0.2**
	comp=Z,171nm,1.2s						
BWNR	**Bhubaneshwar**	**18.06**	**338**	*e*P	**P**	**15 03 43.5**	**-1.6**
BWNR				*e*		15 03 56.1	
	comp=Z,138nm,1.1s						
BWNR				*e*		15 06 48.8	
CAL	**Calcutta**	**19.45**	**348**	*e*	**S**	**15 07 47.4**	**+13**
HYB	**Hyderabad**	**19.68**	**316**	*e*P	**P**	**15 04 04.0**	**-0.3**
	comp=Z,93nm,1.2s						
HYB	**Hyderabad**	**19.68**	**316**	*i* P	**P**	**15 04 04.0**	**-0.3**
	comp=Z,93nm,1.2s						
HYB				*e*S	**S**	**15 07 35.0**	**-4.1**
MNGI	**Mangalore**	**20.11**	**299**	*e*P	**P**	**15 04 07.9**	**-1.0**
MNGI				*e*		15 04 11.8	
	comp=Z,97nm,1.3s						
MNGI				*e*S	**S**	**15 07 48.6**	**+0.6**
AGT	**Agartala**	**20.35**	**356**	⇑*i*P	**P**	**15 04 11.0**	**-0.3**
AGT				*i*		15 07 38.0	
IMP	**Imphal**	**21.22**	**3**	*e*	**P**	**15 04 20.2**	**0.0**
BLSP	**Bilaspur**	**21.25**	**332**	*e*P	**P**	**15 04 20.5**	**0.0**
BLSP				*e*		15 08 32.8	
LATR	**Latur**	**21.76**	**314**	*e*	**S**	**15 08 20.5**	**+0.6**
SHL	**Shillong**	**21.99**	**358**	*e*P	**P**	**15 04 28.2**	**+0.3**
SHL				*e*		15 04 44.4	
	comp=Z,199nm,1.4s						
SHL				*e*S	**S**	**15 08 30.5**	**+6.4**
NGP	**Nagpur**	**22.09**	**324**	*e*P	**P**	**15 04 30.0**	**+1.0**
NGP				*e*		15 08 45.4	
GOA	**Goa**	**22.18**	**304**	*e*P	**P**	**15 04 27.8**	**-2.0**
GOA				*e*S	**S**	**15 08 33.9**	**+6.3**
QIZ	**Qiongzhong**	**22.73**	**46**	P	**P**	**15 04 35.6**	**+0.1**
QIZ				S	**S**	**15 08 36.9**	**-0.9**
QIZ				LR	LR		
	comp=N,2μm,14.5s,MS4.8						
QIZ				LR	LR		
	comp=E,1μm,16.1s,MS4.8						
QIZ				LR	LR		
	comp=Z,1μm,20.2s,MS4.4						
KAD	**Karad**	**22.86**	**308**	⇑*i*P	**P**	**15 04 36.5**	**-0.2**
KAD				*i*		15 08 49.6	
BOM	**Bombay**	**24.84**	**310**	*e*P	**P**	**15 04 54.2**	**-1.7**
BOM				*e*		15 04 56.6	
	comp=Z,84nm,1.4s						
BOM				*e*		15 08 57.5	
BOM				*e*		15 09 00.7	
JIRN	**Jiri**	**24.87**	**346**	*e*P	**P**	**15 04 57.3**	**+1.1**
	comp=Z,104nm,1.0s,mb5.3						
PKI	**Pulchoki**	**24.99**	**344**	*e*P	**P**	**15 04 58.4**	**+1.1**
	comp=Z,142nm,1.3s,mb5.3						
DMN	**Daman**	**25.11**	**344**	*e*P	**P**	**15 04 59.9**	**+1.5**
	comp=Z,161nm,1.4s,mb5.4						
GUN	**Gumba**	**25.19**	**345**	*e*P	**P**	**15 05 00.2**	**+1.1**
	comp=Z,343nm,1.4s,mb5.7						
KKN	**Kakani**	**25.23**	**344**	*e*P	**P**	**15 05 00.6**	**+1.1**
	comp=Z,149nm,1.3s,mb5.3						
GKN	**Gorkha**	**25.61**	**343**	*e*P	**P**	**15 05 03.6**	**+0.5**
	comp=Z,158nm,1.3s,mb5.4						
KOLN	**Koldanda**	**25.71**	**341**	*e*P	**P**	**15 05 05.1**	**+1.0**
	comp=Z,212nm,1.4s,mb5.5						
LSA	**Lhasa**	**26.14**	**357**	P	**P**	**15 05 10.6**	**+2.6**
LSA				AP	pP	15 05 18.0	+2.2
LSA				S	**S**	**15 09 39.9**	**+4.2**
LSA				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.1						
LSA				LR	LR		
	comp=N,340nm,18.4s,MS4.2						
LSA				LR	LR		
	comp=E,580nm,20.4s,MS4.2						
LSA				LR	LR		
	comp=Z,750nm,18.4s,MS4.3						
LSA	**Lhasa**	**26.14**	**357**	*e*P	**P**	**15 05 09.4**	**+1.4**
	comp=Z,30nm,0.6s,mb5.0						
PTH	**Pithoragarh**	**28.56**	**337**	*e*	**P**	**15 05 40.0**	**+10**
PTH				*e*		15 11 21.0	
NDI	**New Delhi**	**29.13**	**331**	*e*P	**P**	**15 05 34.8**	**-0.4**
NDI				*e*		15 05 36.9	
	comp=Z,24nm,1.1s						
NDI				*e*		15 10 06.0	
TGY	**Tagaytay City**	**29.71**	**67**	LR	LR	15 16 45.3	
	comp=Z,380nm,21.3s,MS4.0,baz=263,slow=35						
DDI	**Dehra Dun**	**30.13**	**334**	*e*	**P**	**15 05 52.7**	**+8.6**
ENH	**Enshi**	**30.98**	**29**	*e*P	**P**	**15 05 50.5**	**-1.1**
	comp=Z,6.3nm,0.6s,mb4.6						
**SMLA

WMQ	**Urumqi**	**40.44**	**354**	P	**P**	**15 07 14.0 +2.1**
WMQ				PP	PP	15 08 51.0 +2.5
WMQ				S	**S**	**15 13 21.6 +3.1**
WMQ				AMB	AMB	
	comp=Z,5.0nm,1.0s,mb4.2					
WMQ				AMB	AMB	
	comp=Z,47nm,5.2s					
WMQ				LR	LR	
	comp=N,811nm,18.5s,MS4.7					
WMQ				LR	LR	
	comp=E,758nm,20.3s,MS4.7					
WMQ				LR	LR	
	comp=Z,998nm,19.6s,MS4.7					
JOW	**Kunigami**	**41.12**	**52**	LR	LR	15 24 04.5
	comp=Z,472nm,21.4s,MS4.3,baz=7.7,slow=36					
BJT	**Baijiatuao**	**42.09**	**27**	*e*P	**P**	**15 07 26.7 +1.2**
	comp=Z,49nm,1.2s,mb5.0					
AAK	**Ala-Archa**	**42.28**	**340**	*i* P	**P**	**15 07 26.5 -0.6**
AAK				pmax	pmax	
	comp=Z,8.0nm,1.2s,mb4.2					
MK02	**Makanchi Array**	**44.09**	**350**	P	**P**	**15 07 41.3 -0.4**
MK02				pmax	pmax	
	comp=Z,12nm,0.7s,mb4.7					
SONM	**Songino Array**	**45.73**	**13**	P	**P**	**15 07 54.8 0.0**
	comp=Z,2.1nm,0.7s,mb4.2,baz=196,slow=8.1,SNR=11					
SONM				pP	pP	15 08 05.0 +2.2
	comp=Z,5.6nm,0.9s,baz=200,slow=8.1,SNR=17					
ULN	**Ulaanbaatar**	**45.91**	**13**	*i* P	**P**	**15 07 55.9 -0.3**
ULN	**Ulaanbaatar**	**45.91**	**13**	*e*P	**P**	**15 07 56.2 0.0**
	comp=Z,4.3nm,1.1s,mb4.3					
WRA	**Warramunga Arr**	**46.96**	**121**	P	**P**	**15 08 04.6 -0.3**
	comp=Z,2.7nm,0.7s,mb4.3,baz=299,slow=8.7,SNR=13					
WRA				pP	pP	15 08 14.1 +1.1
	comp=Z,5.0nm,0.6s,baz=298,slow=9.0,SNR=16					
WRAB	**Tennant Creek**	**46.96**	**121**	*i* P	**P**	**15 08 04.3 -0.6**
WRAB	**Tennant Creek**	**46.96**	**121**	*e*P	**P**	**15 08 03.5 -1.4**
ZAK	**Zakamensk**	**47.58**	**9**	*e*P	**P**	**15 08 10.1 +0.7**
ZAK				*e*		15 09 35.0
ASAR	**Alice Springs**	**48.27**	**126**	P	**P**	**15 08 15.2 0.0**
	comp=Z,1.2nm,0.9s,mb3.9,baz=303,slow=7.0,SNR=7.1					
ASAR				LR	LR	15 26 53.8
	comp=Z,199nm,20.5s,MS4.1,baz=294,slow=34					
ZAL	**Zalesovo**	**50.74**	**354**	P	**P**	**15 08 33.5 -0.2**
	comp=Z,4.9nm,0.5s,mb4.7,baz=299,slow=5.5,SNR=29					
HIA	**Hailar**	**51.08**	**22**	*e*P	**P**	**15 08 36.0 -0.3**
	comp=Z,16nm,1.0s,mb4.9					
NVS	**Novosibirsk**	**51.80**	**353**	*i* P	**P**	**15 08 40.6 -1.1**
NVS				*e*S	**S**	**15 16 00.6 -0.1**
NVS				pmax	pmax	
	comp=Z,19nm,1.3s,mb4.9					
NVS				pmax	pmax	
	comp=E,14nm,1.6s					
NVS				pmax	pmax	
	comp=N,11nm,1.4s					
NVS				smax		
	comp=N,17nm,1.8s					
NVS				smax		
	comp=E,13nm,1.9s					
MDJ	**Mudanjiang**	**52.20**	**33**	P	**P**	**15 08 52.5 +7.6**
MDJ				AP	pP	15 08 58.5 +5.4
MDJ				XP	sP	15 09 01.9 +5.7
MDJ				SCP		15 13 51.1
MDJ				PCS		15 13 57.1
MDJ				AMB	AMB	
	comp=Z,14nm,1.3s,mb4.7					
MDJ				AMB	AMB	
	comp=Z,252nm,4.4s					
MDJ				LR	LR	
	comp=N,243nm,20.4s,MS4.4					
MDJ				LR	LR	
	comp=E,219nm,18.5s,MS4.4					
MDJ				LR	LR	
	comp=Z,235nm,24.1s					
BVA0	**Borovoye Array**	**52.75**	**343**	*i* P	**P**	**15 08 48.5 -0.4**
BVA0				pmax	pmax	
	comp=Z,2.0nm,1.2s,mb3.9					
BVAR	**Borovoye Array**	**52.75**	**343**	P	**P**	**15 08 47.5 -1.4**
	comp=Z,5.5nm,0.9s,mb4.5,baz=149,slow=8.6,SNR=20					
BRVK	**Borovoye**	**52.81**	**343**	*e*P	**P**	**15 08 48.7 -0.7**
	comp=Z,15nm,1.4s,mb4.7					
JHJ	**Hachijo jima 2**	**52.83**	**50**	LR	LR	15 34 16.5
	comp=Z,345nm,19.7s,MS4.4,baz=27,slow=39					
CHKZ	**Chkalovo**	**53.26**	**344**	P	**P**	**15 08 52.1 -0.5**
CHKZ				pmax	pmax	
	comp=Z,38nm,1.5s,mb5.1					
CHKZ	**Chkalovo**	**53.26**	**344**	*e*P	**P**	**15 08 50.9 -1.7**
	comp=Z,25nm,1.3s,mb5.0					
KMBO	**Kilima Mbogo**	**55.71**	**266**	P	**P**	**15 09 10.7 -0.3**
	comp=Z,0.7nm,0.4s,mb4.0,baz=52,slow=14,SNR=4.8					
KMBO				LR	LR	15 28 14.7
	comp=Z,433nm,19.2s,MS4.5,baz=275,slow=31					
KMBO	**Kilima Mbogo**	**55.71**	**266**	*e*P	**P**	**15 09 12.1 +1.1**
	comp=Z,1.3nm,0.8s,mb4.0					
KLR	**Kul'dur**	**56.34**	**30**	*e*P	**P**	**15 09 16.8 +1.7**
KLR				MLR	MLR	
	comp=N,700nm,13.0s,MS5.0					
KLR				MLR	MLR	
	comp=E,500nm,13.0s,MS5.0					
KLR				MLR	MLR	
	comp=Z,2μm,13.0s,MS5.3					
GNI	**Garni**	**56.63**	**317**	*i* P	**P**	**15 09 17.6 +0.2**
GNI				pmax	pmax	
	comp=Z,12nm,1.8s					
GNI	**Garni**	**56.63**	**317**	P	**P**	**15 09 15.9 -1.5**
	comp=Z,3.5nm,0.7s,mb4.5,baz=157,slow=24,SNR=4.4					
GNI	**Garni**	**56.63**	**317**	*e*P	**P**	**15 09 17.5 +0.1**
BOD	**Bodaibo**	**56.72**	**13**	*e*P	**P**	**15 09 17.4 -0.3**
CTA	**Charters Tower**	**57.44**	**116**	LR	LR	15 35 36.2
	comp=Z,227nm,18.4s,MS4.3,baz=299,slow=38					
STKA	**Stephens Creek**	**58.14**	**131**	P	**P**	**15 09 27.6 -0.4**
	comp=Z,2.9nm,0.7s,mb4.4,baz=308,slow=8.2,SNR=5.4					
STKA				pP	pP	15 09 36.6 +0.3
	comp=Z,3.3nm,0.6s,baz=178,slow=7.0,SNR=4.7					
STKA				LR	LR	15 36 00.6
	comp=Z,259nm,19.3s,MS4.4,baz=116,slow=38					
CLNS	**Chul'man**	**59.01**	**20**	*e*P	**P**	**15 09 40.2 +6.4**
CLNS				pmax	pmax	
	comp=Z,11nm,1.0s,mb4.8					
CLNS				pmax	pmax	
	comp=N,8.0nm,0.8s					
CLNS				pmax	pmax	
	comp=E,9.0nm,1.0s					
CLNS				MLR	MLR	
	comp=Z,600nm,15.0s,MS4.8					
CLNS				MLR	MLR	
	comp=N,400nm,16.0s					
SVE	**Sverdlovsk**	**59.02**	**340**	*e*P	**P**	**15 09 34.0 +0.1**
ARU	**Arti**	**59.44**	**339**	⇑*i*P	**P**	**15 09 32.6 -4.2**
ARU				*e*		15 11 42.2
ARU				*e*S	**S**	**15 17 38.6 -3.9**
ARU				*e*SS	SS	15 21 33.2 -5.9
ARU				pmax	pmax	
	comp=Z,10.0nm,1.3s,mb4.7					
ASF	**Jabal al Asfar**	**59.58**	**305**	P	**P**	**15 09 37.1 -1.0**
	comp=Z,3.9nm,0.9s,mb4.4,baz=288,slow=3.2,SNR=3.3					
ASF				LR	LR	15 33 52.8
	comp=Z,167nm,20.1s,MS4.2,baz=163,slow=34					
ASAJ	**Asahikawa**	**59.62**	**40**	LR	LR	15 36 04.3
	comp=Z,272nm,18.8s,MS4.4,baz=358,slow=37					
KIV	**Kislovodsk**	**59.75**	**320**	*i* P	**P**	**15 09 38.2 -0.9**
KIV				*e*		15 10 31.7
KIV				pmax	pmax	
	comp=Z,13nm,1.4s,mb4.8					
KIV				MLR	MLR	
	comp=Z,200nm,18.0s,MS4.3					
KIV	**Kislovodsk**	**59.75**	**320**	P	**P**	**15 09 38.5 -0.5**
MALT	**Malatya**	**60.36**	**313**	*e*P	**P**	**15 09 44.4 +1.0**
	comp=Z,10nm,1.3s,mb4.7					
MBAR	**Mbarara**	**62.16**	**268**	P	**P**	**15 09 57.5 +1.7**
MBAR				*e*	pP	15 10 04.7 +0.5
BRTR	**Keskin Array B**	**64.35**	**313**	P	**P**	**15 10 09.8 -0.2**
	comp=Z,1.3nm,0.8s,mb4.0,baz=122,slow=8.4,SNR=8.4					
YAK	**Yakutsk**	**64.57**	**18**	*i* P	**P**	**15 10 10.8 -0.2**
YAK				pmax	pmax	
	comp=Z,12nm,1.3s,mb4.8					
YAK	**Yakutsk**	**64.57**	**18**	*e*P	**P**	**15 10 10.6 -0.4**
	comp=Z,9.9nm,0.8s,mb4.9					
OBN	**Obninsk**	**68.41**	**329**	⇑*e*P	**P**	**15 10 34.3 -1.2**
OBN				*e*		15 13 04.8
OBN				pmax	pmax	
	comp=Z,16nm,1.6s,mb4.8					
OBN				MLR	MLR	
	comp=Z,400nm,18.0s,MS4.7					
OBN	**Obninsk**	**68.41**	**329**	*e*P	**P**	**15 10 34.4 -1.1**
	comp=Z,5.7nm,0.6s,mb4.8					
MLR	**Muntele Rosu**	**71.42**	**317**	P	**P**	**15 10 54.1 +0.1**
	comp=Z,8.0nm,1.0s,mb4.6,baz=132,slow=4.6,SNR=7.1					
TIXI	**Tiksi**	**71.79**	**11**	*i* P	**P**	**15 10 55.7 -0.1**
TIXI				pmax	pmax	
	comp=Z,9.0nm,1.1s,mb4.6					
MAW	**Mawson**	**73.97**	**191**	LR	LR	15 38 39.5
	comp=Z,175nm,18.6s,MS4.4,baz=250,slow=32					
KOLS	**Kolonicke sedl**	**74.66**	**320**	*e*P	**P**	**15 11 14.5 +1.5**
FINES	**FINESS Array B**	**75.98**	**333**	*i* P	**P**	**15 11 20.7 +0.4**
FINES				pmax	pmax	
	comp=Z,2.0nm,0.7s					
FINES	**FINESS Array B**	**75.98**	**333**	P	**P**	**15 11 17.9 -2.4**
	comp=Z,1.6nm,0.7s,mb4.1,baz=124,slow=6.9,SNR=7.5					
FINES				LR	LR	15 49 22.4
	comp=Z,321nm,18.0s,MS4.7,baz=335,slow=39					
FINES	**FINESS Array B**	**75.98**	**333**	P	**P**	**15 11 17.9 -2.4**
FINES				LR	LR	15 49 22.4
OJC	**Ojcow**	**76.50**	**321**	*e*P	**P**	**15 11 23.5 +0.1**
VYHS	**Vyhne**	**76.81**	**319**	*e*P	**P**	**15 11 26.2 +1.0**
ZST	**Bratislava**	**77.90**	**318**	*e*P	**P**	**15 11 32.2 +1.0**
ARCES	**ARCESS Array B**	**78.95**	**341**	LR	LR	15 47 25.0
	comp=Z,357nm,20.9s,MS4.7,baz=298,slow=36					
GERES	**GERESS Array B**	**80.22**	**319**	P	**P**	**15 11 43.9 0.0**
	comp=Z,7.5nm,1.0s,mb4.6,baz=102,slow=5.5,SNR=25					
KHC	**Kasperske Hory**	**80.33**	**319**	*e*P	**P**	**15 11 45.5 +1.1**
KHC				*e*	pP	15 11 55.5 +2.5
KHC	**Kasperske Hory**	**80.33**	**319**	*e*P	**P**	**15 11 45.5 +1.1**
KHC				*e*SP	sP	15 11 59.0 +0.1
BILL	**Bilibino**	**80.65**	**21**	*i* P	**P**	**15 11 47.5 +1.8**
BILL				pmax	pmax	
	comp=Z,2.0nm,1.3s,mb3.9					
SYO	**Syowa Base**	**80.83**	**197**	⇓pP	pP	15 11 57.3 +2.1
CLL	**Collm**	**80.92**	**321**	P	**P**	**15 11 49.0 +1.5**
CLL				*e*SP	sP	15 11 59.0 +0.1
HFS	**Hagfors**	**81.58**	**330**	P	**P**	**15 11 49.6 -1.1**
	comp=Z,5.7nm,0.9s,mb4.5,baz=98,slow=10,SNR=3.2					
DAVOX	**Davos**	**82.64**	**317**	P	**P**	**15 11 56.9 +0.4**
	comp=Z,6.9nm,0.7s,mb4.8,baz=202,slow=1.1,SNR=12					
NOA	**NORSAR Array B**	**82.90**	**331**	LR	LR	15 50 46.5
	comp=Z,224nm,18.1s,MS4.6,baz=80,slow=37					
RPZ	**Rata Peaks**	**83.92**	**134**	LR	LR	15 45 17.2
	comp=Z,278nm,21.5s,MS4.6,baz=350,slow=33					
LPG	**La Plagne**	**84.77**	**315**	*e*P	**P**	**15 12 08.3 +0.9**
	comp=Z,17nm,1.0s,mb4.8					
VNDA	**Vanda**	**88.91**	**168**	LR	LR	15 46 09.3
	comp=Z,305nm,18.9s,MS4.7,baz=291,slow=31					
QSPA	**South Pole Qui**	**93.40**	**180**	*e*P	**P**	**15 12 51.7 +4.1**
DBIC	**Dimbokro**	**97.19**	**277**	LR	LR	15 56 55.6
	comp=Z,155nm,18.2s,MS4.5,baz=72,slow=35					
ILAR	**Eielson Array**	**99.31**	**22**	LR	LR	16 00 33.8
	comp=Z,135nm,21.1s,MS4.4,baz=141,slow=37					
YKA	**Yellowknife Ar**	**111.00**	**13**	PP	PP	15 18 47.2 -0.5
	comp=Z,0.3nm,0.8s,baz=335,slow=7.4,SNR=4.2					
TXAR	**Lajitas Array**	**143.76**	**25**	PKP	PKPdf	15 19 13.9 +1.7
	comp=Z,0.7nm,0.9s,baz=153,slow=2.0,SNR=3.0					

IDC 08 15:11:33.7±3.6, 5.74N×93.59E, mb3.8/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=119.5km s-min=27.6km az=76.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.68**	**22**	Pn	P		15 14 47.8	-3.9
	0.1nm,0.3s,baz=230,slow=14,SNR=5.8							
SONM	**Songino Array**	**43.35**	**13**	P	P		15 19 38.4	-1.0
	0.8nm,0.9s,baz=194,slow=10.0,SNR=5.3							
WRA	**Warramunga Arr**	**47.51**	**124**	P	P		15 20 11.0	-1.9
	0.9nm,0.7s,baz=304,slow=8.9,SNR=7.2							
ASAR	**Alice Springs**	**49.00**	**128**	P	P		15 20 22.9	-1.6
	0.9nm,0.5s,baz=299,slow=7.7,SNR=13							
ASAR				PcP	PcP		15 21 45.1	-3.7
	0.5nm,0.7s,baz=304,slow=3.4,SNR=4.9							
STKA	**Stephens Creek**	**59.05**	**133**	P	P		15 21 36.2	-2.0
	1.4nm,0.7s,baz=331,slow=10,SNR=3.0							

NDI 08 15:16:30.7±5.5, 30.80N×73.21E, h33km, MD3.5, ML3.4, 2C, India-Pakistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**2.40**	**37**	⇑*i*P		P	15 17 11.0	+2.6
JMU	**Jammu**	**2.40**	**37**	⇑*i*P		P	15 17 11.0	+2.6
BHK	**Bhakra**	**2.82**	**77**	*e*P		P	15 17 12.8	-1.6
BHK				*e*			15 17 38.9	
RTK	**Rohtak**	**3.29**	**121**	*e*P		rx	15 17 28.5	
RTK	**Rohtak**	**3.29**	**121**	*e*P		P	15 17 17.6	-3.6
RTK				*e*			15 17 25.1	
RTK				*e*S		S	15 17 55.0	-4.6
SMLA	**Simla**	**3.42**	**83**	*i* P		P	15 17 36.0	+13
	2μm,0.2s							
SMLA				*i* S		S	15 17 58.7	-4.1
SMLA	**Simla**	**3.42**	**83**	*e*		P	15 17 36.0	+13
SMLA				*i* S		S	15 17 58.7	-4.1
KUDL	**Kundal**	**3.89**	**132**	*e*P		P	15 17 27.2	-2.5
KUDL	**Kundal**	**3.89**	**132**	*e*P		P	15 17 27.3	-2.4
KUDL				*e*S		S	15 18 11.2	-3.7
KUDL				*e*			15 18 30.9	
	comp=Z,36nm,0.4s							
NDI	**New Delhi**	**4.07**	**120**	*e*		P	15 17 29.0	-3.2
NDI				*e*PN		Pn	15 17 37.5	+5.1
NDI				*e*SN		Sn	15 18 35.5	+16
NDI	**New Delhi**	**4.07**	**120**	*e*P		P	15 17 29.0	-3.2
NDI				*e*SG		S	15 18 35.5	+16
AYAN	**Aya Nagar**	**4.12**	**123**	*e*P		P	15 17 29.0	-3.9
AYAN				*i*			15 18 16.0	
AYAN	**Aya Nagar**	**4.12**	**123**	*e*P		P	15 17 29.0	-3.9
AYAN				*e*			15 18 41.3	
	comp=Z,32nm,0.2s							
DDI	**Dehra Dun**	**4.21**	**95**	*e*PN		Pn	15 17 44.5	+10
DDI				*e*SN		Sn	15 18 18.2	-4.7
DDI	**Dehra Dun**	**4.21**	**95**	*e*PG		P	15 17 44.5	+10
DDI				*e*SN		Sn	15 18 18.2	-4.7
KLP	**Kalpa**	**4.38**	**79**	*e*P		P	15 17 23.5	-13
KLP				*e*P			15 17 23.6	
KLP				*e*			15 17 42.9	
KLP				*i* SN		Sn	15 18 21.3	-6.1
KLP				*i*			15 18 25.2	
KLP	**Kalpa**	**4.38**	**79**	*e*		P	15 17 23.6	-13
KLP				*e*			15 17 42.9	
KLP				*i* S		S	15 18 21.3	-5.9
KLP				*e*			15 18 40.1	
	comp=N,480nm,1.1s							
KLP				*e*			15 18 43.7	
	comp=E,690nm,1.1s							
AJM	**Ajmer**	**4.48**	**163**	*e*P		P	15 17 37.2	-0.8
AJM				*e*			15 18 34.5	
AJM				*e*			15 19 17.7	
	comp=E,105nm,0.4s							
AJM				*e*			15 19 18.7	
	comp=N,51nm,0.4s							
BHPL	**Bhopal**	**8.41**	**152**	*e*P		P	15 18 31.2	-2.0
BHPL				*e*			15 20 02.3	

*NEIC **08** 15:17:20.5, 35.78S×178.24E, h267km, After WEL.*
*WEL **08** 15:17:31.7±0.2, 36.30S×177.90E, h189km±4km, ML4.0/10, Error ellipse: s-maj=4.2km s-min=3.3km az=90.0*

ISC 08 15:17:30.1±1.0, 36.67S±0.09×178.2E±0.2, h237km±8km, n50, σ1§06/60, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.90**	**173**	PN		**P**	**15 18 02.7**	**-0.6**
MXZ				SN		**S**	**15 18 26.7**	**-2.4**
WIZ	**White Island**	**1.16**	**222**	PN		**P**	**15 18 03.4**	**-1.6**
PUZ	**Puketiti**	**1.40**	**177**	*e*P		**P**	**15 18 07.3**	**+0.6**
PUZ	**Puketiti**	**1.40**	**177**	PN		**P**	**15 18 07.3**	**+0.6**
PUZ				SN		**S**	**15 18 34.3**	**-0.8**
MWZ	**Matawai**	**1.74**	**197**	*e*P		**P**	**15 18 10.2**	**+0.8**
MWZ	**Matawai**	**1.74**	**197**	PN		**P**	**15 18 10.1**	**+0.6**
MWZ				SN		**S**	**15 18 39.5**	**-0.4**
MARZ	**Manawahe**	**1.77**	**222**	P		**P**	**15 18 10.3**	**+0.6**
MARZ	**Manawahe**	**1.77**	**222**	*e*PN		**P**	**15 18 09.7**	**0.0**
URZ	**Urewera**	**1.80**	**208**	P		**P**	**15 18 10.3**	**+0.4**
URZ	**Urewera**	**1.80**	**208**	PN		**P**	**15 18 10.2**	**+0.2**
URZ				SN		**S**	**15 18 40.2**	**-0.6**
EDRZ	**Edgecumbe**	**1.83**	**218**	P		**P**	**15 18 11.0**	**+0.8**
EDRZ	**Edgecumbe**	**1.83**	**218**	PN		**P**	**15 18 10.8**	**+0.6**
BKZ	**Black Stump Fm**	**2.83**	**208**	P		**P**	**15 18 21.1**	**+0.9**
BKZ	**Black Stump Fm**	**2.83**	**208**	*e*PN		**P**	**15 18 20.6**	**+0.4**
NGZ	**Ngauruhoe**	**3.22**	**218**	P		**P**	**15 18 26.4**	**+1.7**
NGZ	**Ngauruhoe**	**3.22**	**218**	*e*PN		**P**	**15 18 26.1**	**+1.4**
CNZ	**Chateau**	**3.27**	**219**	*e*PN		**P**	**15 18 27.0**	**+1.8**
MOVZ	**Moawhango**	**3.33**	**214**	PN		**P**	**15 18 26.3**	**+0.3**
PWZ	**Pawanui**	**3.51**	**197**	P		**P**	**15 18 29.2**	**+1.2**
PWZ	**Pawanui**	**3.51**	**197**	PN		**P**	**15 18 29.2**	**+1.2**
PWZ				SN		**S**	**15 19 15.0**	**+2.0**
TSZ	**Takapari Road**	**3.81**	**206**	P		**P**	**15 18 31.9**	**+0.4**
TSZ	**Takapari Road**	**3.81**	**206**	PN		**P**	**15 18 31.7**	**+0.2**
TSZ				SN		**S**	**15 19 20.6**	**+1.5**
WAZ	**Wanganui**	**3.97**	**218**	*e*PN		**P**	**15 18 34.5**	**+1.0**
BFZ	**Birch Farm**	**4.28**	**200**	P		**P**	**15 18 38.4**	**+1.2**
BFZ	**Birch Farm**	**4.28**	**200**	PN		**P**	**15 18 38.3**	**+1.1**
BFZ				SN		**S**	**15 19 31.2**	**+1.8**
MRZ	**Mangatainoka R**	**4.47**	**206**	*e*P		**P**	**15 18 39.9**	**+0.3**
MRZ	**Mangatainoka R**	**4.47**	**206**	*e*PN		**P**	**15 18 39.5**	**0.0**
MRZ				SN		**S**	**15 19 33.6**	**0.0**
KIW	**Kapiti Island**	**4.90**	**210**	P		**P**	**15 18 44.8**	**0.0**
KIW	**Kapiti Island**	**4.90**	**210**	PN		**P**	**15 18 44.7**	**-0.1**
KIW				SN		**S**	**15 19 42.5**	**-0.5**
MTW	**Mount Morrison**	**4.94**	**204**	P		**P**	**15 18 45.4**	**+0.1**
MTW	**Mount Morrison**	**4.94**	**204**	*e*PN		**P**	**15 18 45.2**	**-0.1**
CAW	**Cannon Point**	**5.05**	**208**	P		**P**	**15 18 46.3**	**-0.4**
CAW	**Cannon Point**	**5.05**	**208**	*e*PN		**P**	**15 18 46.2**	**-0.4**
PAWZ	**Paruwai Farm**	**5.17**	**204**	*e*PN		**P**	**15 18 48.2**	**0.0**
MSWZ	**Moikau Station**	**5.26**	**205**	P		**P**	**15 18 49.3**	**+0.1**
MSWZ	**Moikau Station**	**5.26**	**205**	*e*PN		**P**	**15 18 49.2**	**0.0**
WEL	**Wellington**	**5.32**	**209**	P		**P**	**15 18 49.8**	**-0.2**
WEL	**Wellington**	**5.32**	**209**	*e*PN		**P**	**15 18 49.2**	**-0.8**
BHW	**Baring Head**	**5.38**	**207**	SN		**S**	**15 19 53.6**	**-0.2**
TUWZ	**Tuamarina**	**5.78**	**213**	*e*PN		**P**	**15 18 54.3**	**-1.5**
BSWZ	**Blackbirch Sta**	**6.04**	**212**	SN		**S**	**15 20 09.4**	**+0.8**
THZ	**Tophouse**	**6.53**	**217**	*e*P		**P**	**15 19 04.1**	**-1.1**
THZ	**Tophouse**	**6.53**	**217**	*e*PN		**P**	**15 19 03.8**	**-1.5**
KHZ	**Kahutara**	**6.76**	**210**	*e*P		**P**	**15 19 07.7**	**-0.6**
KHZ	**Kahutara**	**6.76**	**210**	*e*PN		**P**	**15 19 07.5**	**-0.7**
LTZ	**Lake Taylor**	**7.61**	**215**	*e*P		**P**	**15 19 18.4**	**-0.7**
LTZ	**Lake Taylor**	**7.61**	**215**	*e*PN		**P**	**15 19 17.6**	**-1.5**
CRLZ	**Canterbury Las**	**8.10**	**210**	SN		**S**	**15 20 53.5**	**-2.2**
MQZ	**McQueen's Vall**	**8.20**	**209**	*e*PN		**P**	**15 19 25.3**	**-1.3**
MQZ				SN		**S**	**15 20 55.3**	**-2.7**
WB2	**Warramunga Arr**	**41.64**	**281**	*e*P		**P**	**15 24 57.4**	**+0.5**

IDC 08 15:45:37.1±4.2, 1.76N×96.99E, mb3.5/4, mb1 3.7/5, mb1mx3.6/16, mbtmp3.4/5, ML3.5/1, Error ellipse: s-maj=151.9km s-min=24.2km az=64.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.71**	**6**	Pn	P		15 49 31.1	-3.2
	0.1nm,0.3s,baz=198,slow=12,SNR=4.9							
WRA	**Warramunga Arr**	**42.51**	**122**	P	P		15 53 33.6	-2.6
	0.2nm,0.4s,baz=298,slow=7.9,SNR=9.1							
ASAR	**Alice Springs**	**43.90**	**127**	P	P		15 53 46.5	-0.9
	0.5nm,0.9s,baz=304,slow=8.0,SNR=6.4							
SONM	**Songino Array**	**46.62**	**9**	P	P		15 54 08.2	-0.6
	0.2nm,0.5s,baz=192,slow=8.4,SNR=4.8							
ZAL	**Zalesovo**	**52.97**	**351**	P	P		15 54 54.5	-3.0
	0.5nm,0.6s,baz=313,slow=9.3,SNR=3.2							

IDC 08 16:00:41.7±4.3, 5.58S×103.22E, mb3.7/6, mb1 3.8/6, mb1mx3.7/14, mbtmp3.7/6, Error ellipse: s-maj=181.1km s-min=20.1km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**24.26**	**350**	P	P		16 05 59.8	-1.9
	1.2nm,0.8s,baz=181,slow=9.1,SNR=7.4							
WRA	**Warramunga Arr**	**33.45**	**118**	P	P		16 07 21.8	-3.0
	0.2nm,0.5s,baz=288,slow=8.7,SNR=3.8							
ASAR	**Alice Springs**	**34.57**	**124**	P	P		16 07 31.9	-2.6
	0.3nm,0.8s,baz=308,slow=8.1,SNR=4.2							
STKA	**Stephens Creek**	**44.38**	**131**	P	P		16 08 55.1	-0.9
	3.7nm,1.1s,baz=325,slow=9.2,SNR=2.8							
SONM	**Songino Array**	**53.26**	**3**	P	P		16 10 03.4	-1.1
	1.0nm,0.6s,baz=180,slow=8.3,SNR=13							
ZAL	**Zalesovo**	**61.29**	**348**	P	P		16 10 58.1	-3.1
	0.5nm,0.4s,baz=342,slow=17,SNR=3.1							

*IDC **08** 16:03:17.6±1.2, 4.80N×82.67W, mb3.7/5, mb1 4.1/7, mb1mx3.8/18, mbtmp3.8/7, ML3.0/2, MS3.1/2, Ms1 3.1/2, ms1mx2.0/23, Error ellipse: s-maj=35.5km s-min=19.5km az=36.0*
*NEIC **08** 16:03:18.6±0.6, 4.91N×82.41W, h10km, mb4.3/8, Error ellipse: s-maj=20.0km s-min=9.1km az=52.0*
*CASC **08** 16:03:21.1±2.0, 5.04N×82.72W, h10km, MD4.4, MW5.1, mb4.3(NEIC)*

ISC 08 16:03:20.4±1.4, 4.95N±0.04×82.62W±0.05, h27km±12km, n49, σ1§33/62, mb4.1/12, 8C-5D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PTP1	**Petroterminal**	**3.24**	**3**	*e*P		**Pn**	**16 04 12.6**	**+1.8**

SDCO	**Great Sand Dun**	**38.75**	**330**	*eP*	**P**	**16 10 45.7**	**+1.4**
	6.0nm,1.2s,mb4.2						
PDAR	**Pinedale Array**	**44.60**	**332**	P	**P**	**16 11 31.9**	**-0.3**
	0.4nm,0.7s,mb3.4,baz=135,slow=8.4,SNR=4.1						
HWUT	**Hardware Ranch**	**44.73**	**329**	*eP*	**P**	**16 11 33.2**	**0.0**
	3.5nm,0.8s,mb4.2						
NVAR	**Mina Array Bea**	**46.48**	**321**	P	**P**	**16 11 48.6**	**+1.5**
	3.3nm,0.8s,mb4.3,baz=136,slow=8.0,SNR=11						
FCC	**Fort Churchill**	**54.41**	**353**	P	**P**	**16 12 46.6**	**-0.6**
	7.8nm,1.4s,mb4.5						
YKA	**Yellowknife Ar**	**62.08**	**344**	P	**P**	**16 13 39.6**	**-1.3**
	0.4nm,0.7s,mb3.7,baz=141,slow=6.4,SNR=11						
DLBC	**Dease Lake**	**64.69**	**335**	*eP*	**P**	**16 13 56.2**	**-1.9**
INK	**Inuvik**	**71.75**	**342**	*eP*	**P**	**16 14 41.7**	**-0.2**
	3.6nm,0.9s,mb4.3						
ILAR	**Eielson Array**	**74.77**	**336**	P	**P**	**16 15 00.1**	**+0.5**
	0.5nm,1.1s,mb3.4,baz=143,slow=4.5,SNR=6.9						
ASAR	**Alice Springs**	**140.21**	**238**	PKP	PKPdf	16 22 48.6	-3.9
	0.5nm,0.7s,baz=140,slow=1.7,SNR=4.3						
ASAR	**Alice Springs**	**140.21**	**238**	PKP	PKPdf	16 22 48.6	-3.9
WRA	**Warramunga Arr**	**141.08**	**244**	PKP	PKPdf	16 22 51.2	-3.0
	0.3nm,0.7s,baz=108,slow=2.7,SNR=4.4						

*IDC **08** 16:08:17.3±0.8,26.74S×107.16W,mb4.7/15,mb1 4.8/15, mb1mx4.6/20,mbtmp4.7/15,MS4.1/14,Ms1 4.1/14, ms1mx3.9/17,Error ellipse: s-maj=24.4km s-min=17.3km az=38.0*

*HRVD **08** 16:08:18.2±0.2,26.78S×107.07W,h22km,MW5.1/44, Centroid moment Tensor Solution. LP body waves: s28,c46;Mantle waves: s44,c68; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.94±.26; M_{tt}1.52±.19; M_{pp}-5.46±.17; M_{rt}-1.01±.40; M_{tp}0.68±.15; M_{rp}2.06±.26; Best double couple: $M_0$5.302×10^{16} NP1:φ₀191°,δ35°, λ115°. NP2:φ₀341°,δ59°,λ74°. Principal axes: T 4.61, Plg71°, Azm213°; N 1.384, Plg14°, Azm350°; P -5.994, Plg12°, Azm83°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 16:08:18.2±0.3,26.85S×107.26W,h10km,mb5.0/29, MS4.3/8 Error ellipse: s-maj=9.6km s-min=7.7km az=53.0*

*BJI **08** 16:08:19.3,26.90S×107.30W,h10km,mB5.7,Ms4.6, Msz4.7*

ISC 08 16:08:15.9±2.7,26.83S±0.07×107.24W±0.07,h7km±16km, n101,σ1φ06/76,mb4.8/40,MS4.2/21,2C-2D,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**1.90**	**260**	*e*Pn	**Pn**	**16 08 48.6**	**-0.4**
RKT	**Rikitea**	**25.39**	**272**	*e*S	**S**	**16 18 09.5**	**-0.3**
RKT				*e*LR	LR	16 19 59.5	
	2μm,29.0s						
ARE	**Arequipa**	**34.68**	**80**	*e*P	**P**	**16 15 11.0**	**+2.5**
LVC	**Limon Verde**	**34.98**	**92**	P	**P**	**16 15 12.0**	**+1.1**
	50nm,1.1s,mb5.4,baz=266,slow=9.2,SNR=40						
LVC				LR	LR	16 25 59.3	
	comp=Z,340nm,18.2s,MS4.1,baz=87,slow=30						
LVC	**Limon Verde**	**34.98**	**92**	⇓*e*P	**P**	**16 15 11.9**	**+0.9**
	86nm,1.1s,mb5.6						
LVC				LR	LR		
	comp=Z,915nm,22.0s,MS4.5						
TAOE	**Nuku Hiva Isla**	**35.90**	**294**	*e*LR	LR	16 24 50.6	
	baz=128						
LPAZ	**La Paz**	**37.72**	**82**	P	**P**	**16 15 35.2**	**+1.1**
	comp=Z,13nm,0.8s,mb4.7,baz=263,slow=6.8,SNR=49						
LPAZ				LR	LR	16 28 06.8	
	comp=Z,570nm,18.3s,MS4.4,baz=322,slow=32						
LPAZ	**La Paz**	**37.72**	**82**	P	**P**	**16 15 35.2**	**+1.1**
LPAZ				LR	LR	16 28 06.8	
TBI	**Tubuai**	**38.27**	**266**	*e*S	**S**	**16 21 35.1**	**+2.4**
TBI				*e*LQ		16 24 51.0	
TBI				*e*LR	LR	16 25 49.3	
	comp=Z,762nm,29.8s,baz=104						
OTAV	**Otavalo**	**38.62**	**50**	*e*P	**P**	**16 15 41.0**	**-0.8**
	comp=Z,13nm,0.8s,mb4.7						
OTAV				LR	LR		
	comp=Z,269nm,21.0s,MS4.0						
TRQA	**Tornquist**	**39.46**	**118**	*e*P	**P**	**16 15 48.8**	**+0.3**
	comp=Z,21nm,0.9s,mb4.9						
TRQA				LR	LR		
	comp=Z,503nm,19.0s,MS4.4						
USHA	**Ushuaia**	**39.73**	**145**	P	**P**	**16 15 52.4**	**+1.8**
	comp=Z,23nm,1.0s,mb4.9,baz=314,slow=3.3,SNR=2.7						
USHA				LR	LR	16 28 23.7	
	comp=Z,1μm,18.3s,MS4.8,baz=142,slow=30						
PPT	**Papeete**	**40.11**	**274**	*e*S	**S**	**16 21 59.3**	**-1.2**
PPT				*e*LQ		16 25 03.8	
PPT				*e*LR	LR	16 26 43.7	
	comp=Z,2μm,26.5s,baz=109						
JTS	**JuntasAbangare**	**42.77**	**33**	*e*P	**P**	**16 16 17.2**	**+1.2**
	comp=Z,55nm,1.0s,mb5.2						
ROSC	**El Rosal**	**44.78**	**50**	P	**P**	**16 16 33.6**	**+1.3**
	comp=Z,17nm,0.8s,mb4.9,baz=277,slow=22,SNR=8.3						
ROSC				LR	LR	16 31 20.4	
	comp=Z,223nm,21.3s,MS4.1,baz=24,slow=31						
PMSA	**Palmer Station**	**46.78**	**156**	*e*P	**P**	**16 16 45.8**	**-1.7**
	comp=Z,18nm,1.1s,mb4.9						
RAR	**Rarotonga**	**48.04**	**265**	LR	LR	16 32 23.9	
	comp=Z,207nm,18.7s,MS4.1,baz=104,slow=30						
SDV	**Santo Domingo**	**50.21**	**50**	P	**P**	**16 17 13.2**	**-1.6**
	comp=Z,10nm,0.7s,mb4.9,baz=282,slow=6.5,SNR=15						
SDV	**Santo Domingo**	**50.21**	**50**	*e*P	**P**	**16 17 13.0**	**-1.8**
	comp=Z,11nm,0.7s,mb5.0						
BDFB	**Brasilia**	**55.89**	**91**	P	**P**	**16 17 55.7**	**-1.3**
	comp=Z,18nm,0.9s,mb5.1,baz=254,slow=7.8,SNR=20						
BDFB				LR	LR	16 39 58.3	
	comp=Z,175nm,19.8s,MS4.2,baz=294,slow=34						
BDFB	**Brasilia**	**55.89**	**91**	P	**P**	**16 17 55.7**	**-1.3**
BDFB				LR	LR	16 39 58.3	
BAO	**Brasilia Array**	**55.91**	**91**	P	**P**	**16 17 57.0**	**-0.2**
LTX	**Lajitas**	**55.94**	**4**	*e*P	**P**	**16 17 58.2**	**+1.0**
	comp=Z,33nm,1.6s,mb5.1						
LTX				LR	LR		
	comp=Z,197nm,19.0s,MS4.2						
TXAR	**Lajitas Array**	**55.94**	**4**	P	**P**	**16 17 57.7**	**+0.5**
	comp=Z,2.6nm,0.9s,mb4.2,baz=190,slow=7.6,SNR=12						
TXAR				LR	LR	16 37 05.1	
	comp=Z,154nm,18.6s,MS4.1,baz=60,slow=31						
JCT	**Junction City**	**57.42**	**8**	*e*P	**P**	**16 18 07.1**	**-0.6**
	comp=Z,22nm,1.0s,mb5.2						
HKT	**Hockley**	**57.50**	**12**	*e*P	**P**	**16 18 09.1**	**+0.7**
MNTX	**Cornudas Mount**	**58.22**	**2**	*e*P	**P**	**16 18 12.2**	**-1.1**
	comp=Z,5.2nm,0.8s,mb4.6						
GDL2	**Guadalupe Moun**	**58.76**	**3**	*e*P	**P**	**16 18 17.2**	**+0.1**
TUC	**Tucson**	**58.90**	**356**	PFAKE		16 18 30.0	+12
TUC				LR	LR		
	comp=Z,157nm,19.0s,MS4.2						
CPRX	**Cap Rock**	**59.61**	**3**	*e*P	**P**	**16 18 22.6**	**-0.3**
BNM	**Barren Site**	**60.64**	**1**	*e*P	**P**	**16 18 31.4**	**+1.3**
LENM	**Lemitar**	**60.66**	**0**	*e*P	**P**	**16 18 31.4**	**+1.3**
LAZ	**Ladron**	**60.89**	**0**	*e*P	**P**	**16 18 31.6**	**-0.1**
ANMO	**Albuquerque**	**61.44**	**1**	P	**P**	**16 18 35.0**	**-0.4**
	comp=Z,1.3nm,0.7s,mb4.1,baz=260,slow=3.8,SNR=4.6						
ANMO	**Albuquerque**	**61.44**	**1**	*e*P	**P**	**16 18 35.5**	**+0.1**
	comp=Z,6.2nm,1.3s,mb4.6						
WMOK	**Wichita Mounta**	**61.75**	**8**	*e*P	**P**	**16 18 36.3**	**-1.2**
	comp=Z,9.2nm,1.2s,mb4.8						
MIAR	**Mount Ida**	**62.39**	**13**	*e*P	**P**	**16 18 39.8**	**-2.1**
	comp=Z,28nm,1.5s,mb5.2						
NEN	**Nelson**	**62.55**	**353**	*e*P	**P**	**16 18 43.7**	**+0.9**
QSPA	**South Pole Qui**	**63.35**	**180**	*e*P	**P**	**16 18 48.5**	**+0.9**
	comp=Z,35nm,1.4s,mb5.3						
VNDA	**Vanda**	**64.21**	**194**	LR	LR	16 41 48.7	
	comp=Z,98nm,19.3s,MS4.0,baz=90,slow=31						
SDCO	**Great Sand Dun**	**64.25**	**2**	*e*P	**P**	**16 18 54.4**	**+0.3**
	comp=Z,30nm,1.6s,mb5.1						
SDCO				LR	LR		
	comp=Z,141nm,19.0s,MS4.2						
RW3	**Ridgway**	**64.73**	**360**	*e*P	**P**	**16 18 58.5**	**+1.3**
PV10	**Paradox Valley**	**64.88**	**358**	*e*P	**P**	**16 18 57.9**	**-0.2**
WVT	**Waverly**	**65.24**	**17**	*e*P	**P**	**16 18 58.3**	**-2.1**
	comp=Z,13nm,1.0s,mb4.9						
CPCT	**Cooper Cave**	**65.55**	**20**	*e*P	**P**	**16 19 01.5**	**-1.0**
JSC	**Jenkinsville**	**65.57**	**23**	*e*P	**P**	**16 19 02.1**	**-0.5**
SRU	**San Rafael**	**65.66**	**357**	*e*P	**P**	**16 19 02.9**	**-0.2**
CMB	**Columbia Colle**	**65.69**	**349**	*e*P	**P**	**16 19 01.9**	**-1.4**
	comp=Z,25nm,1.3s,mb5.1						
NVAR	**Mina Array Bea**	**65.73**	**350**	P	**P**	**16 19 04.7**	**+1.1**
	comp=Z,6.9nm,0.8s,mb4.7,baz=187,slow=9.1,SNR=22						
NVAR				LR	LR	16 41 56.8	
	comp=Z,84nm,18.0s,MS4.0,baz=175,slow=31						
CCM	**Cathedral Cave**	**66.26**	**14**	*e*P	**P**	**16 19 05.8**	**-1.2**
	comp=Z,22nm,1.2s,mb5.1						
ISCO	**Idaho Springs**	**66.30**	**1**	*e*P	**P**	**16 19 08.8**	**+1.6**
	comp=Z,15nm,1.3s,mb4.9						
ISCO				LR	LR		
	comp=Z,226nm,20.0s,MS4.4						
KSU1	**Kansas State U**	**66.33**	**9**	*e*P	**P**	**16 19 07.2**	**-0.2**
JLU	**Jordanelle**	**67.19**	**357**	*e*P	**P**	**16 19 12.6**	**-0.3**
HWUT	**Hardware Ranch**	**68.20**	**357**	*e*P	**P**	**16 19 17.5**	**-1.7**
	comp=Z,7.3nm,1.1s,mb4.6						
BLA	**Blacksburg**	**68.50**	**23**	*e*P	**P**	**16 19 19.1**	**-2.0**
	comp=Z,29nm,1.2s,mb5.1						
PDAR	**Pinedale Array**	**69.28**	**358**	P	**P**	**16 19 25.2**	**-0.5**
	comp=Z,2.6nm,0.9s,mb4.2,baz=174,slow=6.3,SNR=15						
PDAR				LR	LR	16 47 01.4	
	comp=Z,139nm,19.3s,MS4.2,baz=244,slow=34						
YBH	**Yreka Blue Hor**	**69.70**	**348**	P	**P**	**16 19 29.7**	**+1.3**
	comp=Z,4.5nm,0.8s,mb4.4,baz=112,slow=8.2,SNR=3.6						
RCBR	**Riachuelo**	**70.74**	**87**	P	**P**	**16 19 34.2**	**-1.0**
BMO	**Blue Mountains**	**71.92**	**352**	*e*P	**P**	**16 19 40.7**	**-1.1**
	comp=Z,15nm,1.5s,mb4.7						
LAO	**LASA Array**	**73.17**	**1**	*e*P	**P**	**16 19 49.2**	**+0.1**
	comp=Z,39nm,1.3s,mb5.2						
HRY	**Holter Researc**	**73.31**	**357**	*e*P	**P**	**16 19 50.6**	**+0.8**
MSO	**Missoula**	**73.56**	**355**	*e*P	**P**	**16 19 52.1**	**+0.8**
	comp=Z,7.8nm,1.1s,mb4.5						
CHMT	**Chamberlain Mo**	**73.59**	**356**	*e*P	**P**	**16 19 51.9**	**+0.3**
GENY	**Geneseo**	**74.36**	**22**	*e*P	**P**	**16 19 56.2**	**+0.1**
SADO	**Sadowa**	**75.73**	**20**	P	**P**	**16 20 03.4**	**-0.5**
	comp=Z,17nm,1.1s,mb4.9,baz=241,slow=6.7,SNR=6.2						
WALA	**Waterton Lakes**	**75.77**	**355**	*e*P	**P**	**16 20 05.4**	**+1.3**
	comp=Z,14nm,1.2s,mb4.8						
EDM	**Edmonton**	**79.88**	**356**	*e*P	**P**	**16 20 25.4**	**-1.2**
FFC	**Flin Flon**	**81.34**	**3**	*e*P	**P**	**16 20 35.4**	**+1.1**
	comp=Z,32nm,1.4s,mb5.0						
SYO	**Syowa Base**	**81.42**	**168**	⇑P	**P**	**16 20 32.5**	**-1.9**
SYO	**Syowa Base**	**81.42**	**168**	⇓pP	pP	16 20 35.3	-1.3
SYO	**Syowa Base**	**81.42**	**168**	⇑sP	sP	16 20 37.7	+0.4
MAW	**Mawson**	**85.57**	**176**	LR	LR	16 55 17.4	
	comp=Z,141nm,19.4s,MS4.4,baz=69,slow=33						
FCC	**Fort Churchill**	**85.96**	**7**	*e*P	**P**	**16 20 57.0**	**-0.7**
	comp=Z,6.8nm,1.2s,mb4.8						
DLBC	**Dease Lake**	**87.04**	**348**	*e*P	**P**	**16 21 04.2**	**+1.2**
SCHQ	**Schefferville**	**88.42**	**22**	P	**P**	**16 21 09.0**	**-0.6**
	comp=Z,5.5nm,1.0s,mb4.7,baz=199,slow=3.4,SNR=4.4						
SCHQ	**Schefferville**	**88.42**	**22**	P	**P**	**16 21 09.0**	**-0.6**
YKA	**Yellowknife Ar**	**89.20**	**357**	P	**P**	**16 21 13.3**	**+0.1**
	comp=Z,6.0nm,0.7s,mb5.0,baz=164,slow=5.1,SNR=118						
YKA				LR	LR	16 55 26.4	
	comp=Z,94nm,21.3s,MS4.2,baz=180,slow=32						
YKW3	**Yellowknife Ar**	**89.27**	**357**	*e*P	**P**	**16 21 13.3**	**-0.2**
DAWY	**Dawson**	**94.04**	**346**	*e*P	**P**	**16 21 35.5**	**-0.1**
MENT	**Mentasta**	**94.04**	**344**	*e*P	**P**	**16 21 35.8**	**+0.2**
CTA	**Charters Tower**	**94.90**	**245**	LR	LR	16 55 01.2	
	comp=Z,33nm,20.8s,MS3.8,baz=288,slow=30						
MCK	**McKinley**	**96.03**	**343**	*e*P	**P**	**16 21 44.7**	**0.0**
	comp=Z,5.9nm,1.1s,mb4.9						
MCK				LR	LR		
	comp=Z,98nm,21.0s,MS4.3						
ILAR	**Eielson Array**	**96.35**	**344**	P	**P**	**16 21 47.4**	**+1.2**
	comp=Z,0.7nm,0.9s,mb4.1,baz=192,slow=3.7,SNR=5.2						
ILAR				LR	LR	16 59 08.9	
	comp=Z,46nm,18.3s,MS4.0,baz=179,slow=32						
INK	**Inuvik**	**96.82**	**350**	*e*P	**P**	**16 21 49.0**	**+0.8**
	comp=Z,6.9nm,1.4s,mb4.9						
RES	**Resolute Bay**	**101.58**	**3**	*e*P	**P**	16 22 09.5	-0.1
	comp=Z,7.0nm,1.4s						
MBWA	**Marble Bar**	**114.09**	**228**	*e*PKPdf	PKPdf	16 26 53.9	-5.2
FINES	**FINESS Array B**	**133.49**	**29**	PKP	PKPdf	16 27 34.3	-1.0
	comp=Z,1.4nm,0.7s,baz=135,slow=2.7,SNR=5.1						
NJ2	**Nanjing**	**139.76**	**289**	*e*PKP	PKPdf	16 27 42.4	-5.3
NJ2				PP	PP	16 30 42.0	-2.7
NJ2				PKS	PKS	16 31 16.9	-2.9
NJ2				PP	PP		
	comp=Z,402nm,10.6s						
BRTR	**Keskin Array B**	**145.12**	**58**	PKPbc	PKPbc	16 27 55.5	+0.9
	comp=Z,2.7nm,0.8s,baz=257,slow=2.6,SNR=13						
ULN	**Ulaanbaatar**	**145.99**	**317**	*e*PKPdf	PKPdf	16 27 57.5	-0.6
SONM	**Songino Array**	**146.41**	**318**	PKPbc	PKPbc	16 27 59.1	+1.8
	comp=Z,6.4nm,0.9s,baz=73,slow=1.9,SNR=46						
EIL	**Elat**	**146.67**	**76**	*e*PKPbc	PKPbc	16 28 01.0	+2.4
ENH	**Enshi**	**147.65**	**285**	*e*PKPbc	PKPdf	16 28 03.8	+2.4
XAN	**Xi'an**	**148.13**	**292**	PKP	PKPdf	16 28 05.1	+3.1
MALT	**Malatya**	**149.05**	**60**	*e*PKPbc	PKPdf	16 28 06.7	+3.3
KIV	**Kislovodsk**	**150.34**	**47**	PKP	PKPdf	16 28 07.3	+2.0
ZAL	**Zalesovo**	**151.49**	**345**	PKP	PKPdf	16 28 05.9	-0.8
	comp=Z,0.5nm,0.6s,baz=91,slow=5.0,SNR=6.3						
ZAL				PKPbc	PKPdf	16 28 11.1	+4.5
	comp=Z,2.2nm,0.6s,baz=70,slow=6.3,SNR=16						
CHKZ	**Chkalovo**	**153.13**	**3**	*e*PKPbc	PKPdf	16 28 16.2	+7.3
BRVK	**Borovoye**	**153.73**	**3**	*e*PKPbc	PKPdf	16 28 18.5	+8.7
BRVK				*e*PKPab	PKPab	16 28 31.0	+0.7
CMAR	**Chiang Mai Arr**	**154.48**	**256**	PKPbc	PKPdf	16 28 20.2	+8.3
	comp=Z,1.0nm,0.9s,baz=44,slow=0.5,SNR=7.2						
CMAR				PKPab	PKPab	16 28 35.4	+0.8
	comp=Z,1.9nm,0.8s,baz=124,slow=2.1,SNR=7.8						
WMQ	**Urumqi**	**159.18**	**328**	PKP	PKPdf	16 28 14.3	-2.9
WMQ				APKP		16 28 17.5	
WMQ				XPKP		16 28 19.3	
WMQ				PP	PP	16 32 35.6	-0.1

IDC 08 16:11:16.9±1.1,23.26N×143.70E,mb3.5/4,mb1 3.8/5, mb1mx3.6/19,mbtmp3.6/5,ML3.8/1,MS3.6/1,Ms1 3.8/1, ms1mx2.4/20,Error ellipse: s-maj=71.4km s-min=21.1km az=102.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.06**	**341**	Pn	Pn	16 12 19.2	-2.5
	11nm,0.3s,baz=253,slow=20,SNR=3.5						
CBIJ				Sn	Sn	16 13 04.9	-5.8
	7.0nm,0.3s,baz=287,slow=19,SNR=3.0						
CMAR	**Chiang Mai Arr**	**41.97**	**272**	LR	LR	16 34 50.7	
	comp=Z,83nm,21.4s,baz=276,slow=34						
WRA	**Warramunga Arr**	**43.90**	**193**	P	P	16 19 26.4	-0.8
	0.4nm,0.4s,baz=17,slow=9.1,SNR=23						
ASAR	**Alice Springs**	**47.60**	**192**	P	P	16 19 53.3	-3.5
	0.6nm,1.1s,baz=12,slow=6.8,SNR=3.8						
ILAR	**Eielson Array**	**60.44**	**27**	P	P	16 21 27.7	-2.7
	0.3nm,0.8s,baz=257,slow=5.5,SNR=4.9						
YKA	**Yellowknife Ar**	**74.86**	**28**	P	P	16 22 59.9	-0.9
	0.4nm,0.6s,baz=292,slow=5.9,SNR=5.8						

*IDC **08** 16:24:54.1±1.2,11.04S×118.71E,mb3.8/4,mb1 4.0/6, mb1mx3.9/12,mbtmp3.8/6,ML3.7/2,Error ellipse: s-maj=53.6km s-min=21.1km az=64.0*

*NEIC **08** 16:24:56.8±0.8,11.38S×118.54E,h40km,mb4.6/7,Error ellipse: s-maj=24.8km s-min=12.2km az=63.0*

*DJA **08** 16:25:00.0±0.9,11.13S×118.00E,h176km±23km,MD4.7/6, ML5.0/6,Error ellipse: s-maj=34.1km s-min=12.0km az=150.0*

ISC 08 16:24:54.1±0.9,11.61S±0.08×118.36E±0.08,h34km±10km, n31,σ1φ03/39,mb4.7/15,6C-5D,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**3.81**	**324**	⇓*i*Pn	**P**	**16 25 52.1**	**+0.2**
	444nm,0.2s						
KEDI				⇑*i*Sn	**S**	**16 26 31.5**	**-4.7**
RATI	**Rata**	**4.00**	**316**	⇓*e*Pn	**P**	**16 25 53.8**	**-0.8**
	488nm,0.2s						
RATI	**Rata**	**4.00**	**316**	⇓*i*P	**P**	**16 25 55.2**	**+0.6**
RATI				⇓*i*Sn	**S**	**16 26 33.9**	**-7.0**
KELI	**Kelakatan**	**5.09**	**311**	⇑*e*Pn	**P**	**16 26 09.6**	**-0.4**
	147nm,0.2s						
KELI				⇓*i*Sn	**S**	**16 26 59.1**	**-9.3**
SRDI	**Scrawed**	**5.19**	**306**	⇑*i*Pn	**P**	**16 26 09.9**	**-1.5**
	130nm,0.2s						
SRDI				⇑*i*Sn	**S**	**16 27 01.2**	**-10**
NINI	**Niniconang**	**7.27**	**11**	⇑*i*Pn	**P**	**16 26 41.8**	**+1.1**
	297nm,0.5s						
TANI	**Tanete Lipujan**	**8.18**	**7**	⇑*i*Pn	**P**	**16 26 52.6**	**-0.7**
	28nm,0.4s						
MBWA	**Marble Bar**	**9.59**	**172**	*e*Pn	**P**	**16 27 13.0**	**+0.1**
	7.9nm,0.4s						
MBWA				*e*Sn	**S**	**16 28 47.6**	**-13**
WRA	**Warramunga Arr**	**17.46**	**120**	P	**P**	**16 28 57.6**	**+0.9**
	0.3nm,0.3s,baz=297,slow=14,SNR=18						
WRA				S	**S**	**16 32 01.3**	**-6.6**
	0.2nm,0.3s,baz=286,slow=23,SNR=4.1						
WRAB	**Tennant Creek**	**17.46**	**120**	*e*P	**P**	**16 28 56.8**	**0.0**
	7.0nm,1.0s						
WRAB				*e*S	**S**	**16 31 58.8**	**-9.3**
WB2	**Warramunga Arr**	**17.47**	**120**	*e*P	**P**	**16 28 58.0**	**+1.1**
ASPA	**Alice Springs**	**19.03**	**131**	*e*P	**P**	**16 29 20.6**	**+4.5**
ASAR	**Alice Springs**	**19.04**	**131**	P	**P**	**16 29 20.3**	**+4.2**
	0.4nm,0.3s,baz=306,slow=12,SNR=49						
ASAR				S	**S**	**16 32 41.8**	**-1.7**
	0.2nm,0.3s,baz=302,slow=22,SNR=4.8						
MUN	**Mundaring**	**20.37**	**185**	*e*P	**P**	**16 29 36.7**	**+6.1**
	8.5nm,1.4s						
NWAO	**Narrogin (SRO)**	**21.25**	**183**	P		16 29 48.2	
	3.9nm,0.5s,baz=3.8,slow=15,SNR=8.2						
NWAO	**Narrogin (SRO)**	**21.25**	**183**	*e*P	**P**	**16 29 43.8**	**+4.2**
	28nm,1.4s,mb4.4						
NWAO				*e*S	**S**	**16 33 19.9**	**-8.8**
CMAR	**Chiang Mai Arr**	**35.49**	**327**	P	**P**	**16 31 49.7**	**-0.1**
	0.3nm,0.5s,mb3.5,baz=146,slow=6.5,SNR=3.4						
LSA	**Lhasa**	**48.73**	**328**	*e*P	**P**	**16 33 35.3**	**-2.3**
	2.3nm,0.7s,mb4.3						
JIRN	**Jiri**	**49.96**	**322**	*e*P	**P**	**16 33 48.5**	**+1.4**
	17nm,0.6s,mb5.2						
GUN	**Gumba**	**50.33**	**322**	*e*P	**P**	**16 33 50.9**	**+0.9**
	15nm,0.6s,mb5.2						
PKI	**Pulchoki**	**50.37**	**321**	*e*P	**P**	**16 33 50.7**	**+0.4**
	5.1nm,0.6s,mb4.7						
DMN	**Daman**	**50.58**	**321**	*e*P	**P**	**16 33 52.0**	**+0.1**
	9.3nm,0.6s,mb4.9						
KKN	**Kakani**	**50.61**	**321**	*e*P	**P**	**16 33 52.5**	**+0.4**
	6.4nm,0.7s,mb4.6						
GKN	**Gorkha**	**51.15**	**321**	*e*P	**P**	**16 33 56.8**	**+0.6**
	23nm,0.9s,mb5.1						
MAJO	**Matsushiro**	**51.41**	**20**	*e*P	**P**	**16 33 54.2**	**-3.8**
	32nm,1.5s,mb5.0						
KOLN	**Koldanda**	**51.64**	**320**	*e*P	**P**	**16 34 00.4**	**+0.5**
	6.5nm,0.5s,mb4.8						
SONM	**Songino Array**	**60.13**	**351**	P	**P**	**16 35 00.9**	**+0.2**
	0.5nm,0.5s,mb3.8,baz=171,slow=8.1,SNR=5.8						
YSS	**Yuzh-Sakhalins**	**62.25**	**19**	P	**P**	**16 35 11.5**	**-3.5**
	35nm,1.3s,mb5.3						
ZAL	**Zalesovo**	**71.24**	**340**	P	**P**	**16 36 12.1**	**+0.3**
	0.7nm,0.3s,mb4.0,baz=326,slow=12,SNR=4.0						
ZAL	**Zalesovo**	**71.24**	**340**	P	**P**	**16 36 12.1**	**+0.3**
MA2	**Magadan**	**75.58**	**16**	*e*P	**P**	**16 36 35.8**	**-1.2**
	28nm,1.3s,mb5.0						

IDC 08 16:41:05.0±1.2,8.83N×93.82E,mb3.4/3,mb1 3.6/4, mb1mx3.5/17,mbtmp3.4/4,ML3.8/1,Error ellipse: s-maj=54.1km s-min=26.2km az=46.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.79**	**27**	Pn	P	16 43 40.7	-3.2
	0.2nm,0.3s,baz=217,slow=14,SNR=3.4						
WRA	**Warramunga Arr**	**49.07**	**126**	P	P	16 49 54.8	-1.5
	0.3nm,0.7s,baz=306,slow=8.6,SNR=7.6						
WRA				PcP	PcP	16 51 17.4	-3.0
	0.3nm,0.9s,baz=318,slow=2.7,SNR=5.0						
ASAR	**Alice Springs**	**50.77**	**130**	P	P	16 50 07.3	-1.9
	0.2nm,0.5s,baz=301,slow=7.8,SNR=4.4						
ASAR				PcP	PcP	16 51 23.9	-2.7
	0.3nm,0.7s,baz=308,slow=2.6,SNR=4.6						
BRTR	**Keskin Array B**	**61.57**	**310**	P	P	16 51 24.6	-1.9
	0.4nm,0.5s,baz=135,slow=8.2,SNR=3.7						

OTT 08 16:58:33.6±0.3,52.77N×67.34W,MN3.0/7,Blast, Mount Wright, Qc Mining explosion.,Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**2.08**	**8**	PN	Pn	16 59 09.8	-0.3
SCHQ				SG	Sg	16 59 38.4	-4.6
SCHQ				Trac		16 59 41.8	
	comp=Z,26nm,0.1s						
MNQ	**Manicouagan**	**2.42**	**202**	PN	Pn	16 59 16.2	+1.2
MNQ				SG	Sg	16 59 46.9	-7.1
MNQ				Trac		16 59 55.8	
	comp=Z,30nm,0.2s						
SMQ	**Clarke City**	**2.58**	**171**	PN	Pn	16 59 15.2	-2.1
SMQ				SN	Sn	16 59 45.0	-4.9
SMQ			

TI2	**Plekhanov**	**1.68**	**183**	α *i*PN	**Pn**	**17 28 03.8**	**-0.7**
TI2				*i* S	**Sn**	**17 28 26.8**	**+0.9**
TI2				pmax	pmax		
	comp=Z,40nm,0.6s						
TI2				smax			
	comp=E,60nm,0.8s						
TI2	**Plekhanov**	**1.68**	**183**	*i* Pn	**Pn**	**17 28 03.8**	**-0.7**
	comp=E,20nm,0.6s						
TI2				*i* Sg	**Sn**	**17 28 26.8**	**+0.9**
MTA	**Mtatsminda**	**1.72**	**182**	P	**Pn**	**17 28 04.5**	**-0.6**
MTA				S	**Sn**	**17 28 28.1**	**+1.2**
NAGR	**Nagutskaya**	**1.83**	**305**	*e*Pn	**Pn**	**17 28 06.7**	**+0.1**
GOF	**Gofitskoye**	**2.10**	**322**	*e*PN	**Pn**	**17 28 12.5**	**+2.1**
GOF				*i* S	**Sg**	**17 28 46.5**	**+1.2**
GOF				pmax	pmax		
	comp=Z,150nm,1.2s						
GOF				smax			
	comp=E,450nm,1.3s						
GOF	**Gofitskoye**	**2.10**	**322**	*e*Pn	**Pn**	**17 28 12.5**	**+2.1**
	comp=E,75nm,1.2s						
GOF				*i* Sg	**Sg**	**17 28 46.5**	**+1.2**
AKH	**Akhalkalaki**	**2.25**	**207**	P	**Pn**	**17 28 12.6**	**+0.1**
AKH				S	**Sn**	**17 28 45.8**	**+5.7**
STE	**Stepanavan**	**2.44**	**188**	*e*Pn	**Pn**	**17 28 14.0**	**-1.3**
STE				*e*Sn	**Sn**	**17 28 46.0**	**+1.0**
GNI	**Garni**	**3.27**	**182**	*i* Pn	**Pn**	**17 28 27.1**	**0.0**
SOC	**Sochi**	**3.74**	**274**	*e*PN	**Pn**	**17 28 32.4**	**-1.4**
SOC				*e*		17 29 14.9	
SOC				pmax	pmax		
	comp=Z,31nm,1.1s						
SOC				pmax	pmax		
	comp=N,36nm,1.3s						
SOC				pmax	pmax		
	comp=E,19nm,0.8s						
SOC				smax			
	comp=N,42nm,1.2s						
SOC				MLR	MLR		
	comp=Z,55nm,5.0s						
SOC				MLR	MLR		
	comp=N,63nm,6.0s						
SOC				MLR	MLR		
	comp=E,45nm,7.0s						
SOC	**Sochi**	**3.74**	**274**	*e*Pn	**Pn**	**17 28 32.4**	**-1.4**
	comp=E,18nm,1.3s						
SOC				*e*Sn	**Sn**	**17 29 14.9**	**-3.2**
	comp=E,32nm,6.0s						
ARU	**Arti**	**15.69**	**29**	*e*P	**P**	**17 31 16.8**	**-0.4**
ARU				*e*S	**S**	**17 34 14.6**	**+3.5**
JOF	**Joensuu**	**21.07**	**343**	*e*p	**P**	**17 32 20.0**	**-1.0**
KAF	**Kangasniemi**	**21.68**	**336**	*e*p	**P**	**17 32 19.0**	**-8.2**
	comp=E,15nm,1.7s,mb4.1						

IDC 08 17:42:32.4±1.8, 3.93N×94.53E, mb3.7/4, mb1 3.9/5, mb1mx3.6/18, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=65.2km s-min=29.6km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.06**	**16**	Pn	P	17 46 08.0	-0.5
	0.1nm,0.3s,baz=218,slow=10,SNR=5.3						
SONM	**Songino Array**	**44.91**	**11**	P	P	17 50 47.2	-3.5
	0.1nm,0.5s,baz=180,slow=8.6,SNR=3.5						
WRA	**Warramunga Arr**	**45.74**	**123**	P	P	17 50 56.0	-1.6
	0.7nm,0.5s,baz=298,slow=8.8,SNR=6.4						
BVAR	**Borovoye Array**	**52.83**	**342**	P	P	17 51 51.1	-0.8
	0.8nm,0.7s,baz=149,slow=8.6,SNR=6.0						
GERES	**GERESS Array B**	**81.02**	**319**	P	P	17 54 48.6	-2.0
	1.0nm,0.8s,baz=108,slow=6.2,SNR=3.5						

*IDC **08** 17:44:16.9±1.8, 6.78N×92.66E, mb3.4/5, mb1 3.6/6, mb1mx3.5/17, mbtmp3.4/6, Error ellipse: s-maj=67.6km s-min=23.6km az=60.0*
*NEIC **08** 17:44:20.0±0.5, 6.51N×92.26E, h30km, mb4.8/3, Error ellipse: s-maj=19.6km s-min=12.1km az=67.0*
ISC 08 17:44:18.1±0.7, 6.5N±0.1×92.3E±0.2, h30km, n12, σ0°68/12, mb4.0/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.50**	**28**	Pn	**P**	**17 47 23.9**	**-6.4**
	baz=199,slow=14,SNR=1.6						
DGAR	**Diego Garcia**	**24.17**	**235**	P	**P**	**17 49 32.8**	**-0.3**
	173nm,1.4s,mb5.3						
SONM	**Songino Array**	**42.87**	**14**	P	**P**	**17 52 15.2**	**-0.3**
	0.2nm,0.4s,mb3.2,baz=200,slow=9.5,SNR=4.0						
ZAL	**Zalesovo**	**47.65**	**354**	P	**P**	**17 52 52.4**	**-1.2**
	0.4nm,0.5s,mb3.7,baz=318,slow=9.9,SNR=3.1						
WRA	**Warramunga Arr**	**49.01**	**123**	P	**P**	**17 53 04.1**	**-0.5**
	0.5nm,0.8s,mb3.6,baz=304,slow=8.8,SNR=4.6						
WRAB	**Tennant Creek**	**49.02**	**123**	P	**P**	**17 53 04.8**	**+0.2**
BVAR	**Borovoye Array**	**49.69**	**343**	P	**P**	**17 53 09.0**	**-0.3**
	0.6nm,0.8s,mb3.7,baz=117,slow=6.4,SNR=2.9						
CHKZ	**Chkalovo**	**50.19**	**343**	*e*P	**P**	**17 53 13.9**	**+0.8**
	0.7nm,0.5s,mb4.0						
ASAR	**Alice Springs**	**50.50**	**128**	P	**P**	**17 53 16.3**	**+0.4**
	0.3nm,0.6s,mb3.4,baz=299,slow=8.0,SNR=3.8						
PMG	**Port Moresby**	**56.91**	**106**	P	**P**	**17 53 58.4**	**-5.0**
	13nm,1.0s,mb4.9						
CASY	**Casey**	**73.84**	**172**	*e*P	**P**	**17 55 51.5**	**0.0**
ARCES	**ARCESS Array B**	**75.90**	**341**	P	**P**	**17 56 04.8**	**+1.4**
	10nm,1.2s,mb4.6,baz=72,slow=8.6,SNR=3.4						

WEL 08 17:44:50.5±0.1, 44.34S×168.42E, h5km, ML3.7/7, 5C, Error ellipse: s-maj=1.2km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCZ	**Jackson Bay**	**0.36**	**43**	⇑PG	Pg	17 44 58.1	+0.4
JCZ				SG	Sg	17 45 02.8	+0.3
JCZ				SG	Sg	17 45 03.1	+0.6
MSZ	**Milford Sound**	**0.48**	**226**	⇑PG	Pg	17 45 00.3	+0.1
MSZ				SG	Sg	17 45 06.8	+0.1
MSZ				SG	Sg	17 45 06.8	+0.1
WKZ	**Wanaka**	**0.65**	**139**	⇑P*	Pb	17 45 03.6	-0.3
WKZ				SG	Sg	17 45 11.8	-0.4
WKZ				SG	Sg	17 45 12.0	-0.1
MLZ	**Mavora Lakes**	**1.02**	**190**	⇑P*	Pb	17 45 10.2	-0.1
EAZ	**Earnscleugh**	**1.10**	**145**	⇑P*	Pb	17 45 11.6	+0.1
FOZ	**Fox Glacier**	**1.20**	**50**	P*	Pb	17 45 13.6	+0.3
LBZ	**Lake Benmore**	**1.27**	**93**	P*	Pb	17 45 14.5	+0.1
DCZ	**Deep Cove**	**1.45**	**218**	PN	Pn	17 45 16.2	-1.2
WHZ	**Wether Hill Ro**	**1.59**	**192**	PN	Pn	17 45 19.3	-0.2
ODZ	**Otahua Downs**	**1.74**	**115**	PN	Pn	17 45 21.6	+0.1
TUZ	**Tuapeka**	**1.83**	**152**	PN	Pn	17 45 22.7	-0.2
RPZ	**Rata Peaks**	**2.00**	**73**	*e*PN	Pn	17 45 23.7	-1.6
WVZ	**Waitaha Valley**	**2.10**	**54**	*e*PN	Pn	17 45 25.1	-1.6
DSZ	**Denniston Nort**	**3.59**	**45**	PN	Pn	17 45 45.4	-2.5
QRZ	**Quartz Range**	**4.64**	**42**	*e*PN	Pn	17 46 00.2	-2.7
NNZ	**Nelson**	**4.80**	**51**	*e*PN	Pn	17 46 03.3	-1.8
TUWZ	**Tuamarina**	**4.99**	**56**	*e*PN	Pn	17 46 08.0	+0.1

*IDC **08** 17:57:15.7±1.2, 29.21S×13.02W, mb4.3/6, mb1 4.4/6, mb1mx4.0/15, mbtmp4.3/6, MS4.0/5, Ms1 3.9/5, ms1mx3.4/16, Error ellipse: s-maj=45.9km s-min=23.6km az=153.0*
*HRVD **08** 17:57:17.3±0.7, 29.27S×12.82W, h12km, MW4.7/28, Centroid moment Tensor Solution. LP body waves: s11,c13;Mantle waves: s28,c36; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.15±.19; $M_{\theta\theta}$-0.38±.21; $M_{\phi\phi}$1.53±.10; $M_{r\theta}$0.52±.66; $M_{\theta\phi}$0.14±.15; $M_{\phi r}$-0.57±.34; Best double couple: $M_0$1.584×10^{16} NP1:ϕ_s209°, δ40°, λ-49°. NP2:ϕ_s341°, δ61°, λ-119°. Principal axes: T 1.649, Plg11°, Azm91°; N -.128, Plg25°, Azm356°; P -1.52, Plg62°, Azm204°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 17:57:17.3±0.5, 29.42S×12.96W, h10km, mb4.9/23 Error ellipse: s-maj=17.8km s-min=10.2km az=150.0*
ISC 08 17:57:16.3±0.5, 29.3S±0.1×13.0W±0.1, h10km, n50, σ1°14/41, mb4.8/28, MS4.0/5, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAO	**Brasilia Array**	**34.90**	**285**	P	**P**	**18 04 09.9**	**-0.4**
BAO				*e*		18 04 16.9	
BDFB	**Brasilia**	**34.92**	**285**	P	**P**	**18 04 09.9**	**-0.5**
	6.7nm,0.5s,mb4.8,baz=112,slow=5.5,SNR=11						
BDFB				LR	LR	18 15 49.0	
	comp=Z,223nm,20.3s,MS3.9,baz=121,slow=32						
DBIC	**Dimbokro**	**36.59**	**14**	P	**P**	**18 04 23.3**	**-1.3**
	4.8nm,0.8s,mb4.4,baz=180,slow=8.8,SNR=6.1						
LSZ	**Lusaka**	**40.38**	**79**	P	**P**	**18 04 56.6**	**+0.4**
	3.9nm,1.0s,mb4.1						
TRQA	**Tornquist**	**41.28**	**244**	*e*P	**P**	**18 05 04.4**	**+1.1**
	6.4nm,0.7s,mb4.4						
TRQA				*e*		18 05 11.4	
PMSA	**Palmer Station**	**47.55**	**207**	P	**P**	**18 05 49.1**	**-4.3**
	35nm,1.6s,mb5.1						
LVC	**Limon Verde**	**50.30**	**264**	P	**P**	**18 06 15.1**	**-0.2**
	2.3nm,0.6s,mb4.4,baz=77,slow=5.7,SNR=4.4						
LVC	**Limon Verde**	**50.30**	**264**	P	**P**	**18 06 13.8**	**-1.4**
	3.0nm,0.6s,mb4.5						
MBAR	**Mbarara**	**50.50**	**64**	*e*P	**P**	**18 06 14.6**	**-2.3**
	2.1nm,0.7s,mb4.2						
LPAZ	**La Paz**	**52.01**	**272**	P	**P**	**18 06 27.4**	**-0.9**
	2.5nm,1.0s,mb4.1,baz=108,slow=5.8,SNR=8.6						
LPAZ				LR	LR	18 26 16.5	
	comp=Z,116nm,20.8s,MS3.9,baz=90,slow=34						
KMBO	**Kilima Mbogo**	**55.41**	**69**	LR	LR	18 28 35.2	
	comp=Z,156nm,20.9s,MS4.1,baz=66,slow=34						
MAW	**Mawson**	**57.93**	**154**	LR	LR	18 27 02.0	
	comp=Z,99nm,18.5s,MS4.0,baz=66,slow=31						
QSPA	**South Pole Qui**	**60.96**	**180**	*e*P	**P**	**18 07 32.3**	**+0.9**
	14nm,0.9s,mb5.1						
SDV	**Santo Domingo**	**67.18**	**295**	LR	LR	18 35 09.6	
	comp=Z,117nm,20.3s,MS4.1,baz=184,slow=34						
SDV	**Santo Domingo**	**67.18**	**295**	P	**P**	**18 08 11.8**	**-1.2**
	7.7nm,1.0s,mb4.7						
EVO	**Evora**	**67.61**	**4**	*e*P	**P**	**18 08 14.6**	**-0.8**
	20nm,0.9s,mb4.9						
ESDC	**Sonseca Array**	**69.11**	**7**	P	**P**	**18 08 22.3**	**-2.3**
	0.4nm,0.5s,baz=179,slow=5.2,SNR=6.3						
ETSF	**Etsaut**	**72.72**	**10**	*e*P	**P**	**18 08 45.8**	**-0.6**
	11nm,0.9s,mb4.5						
SJPF	**Ste Jean**	**72.84**	**9**	*e*P	**P**	**18 08 45.5**	**-1.6**
	174nm,1.9s,mb5.4						
EPF	**Esparros**	**72.99**	**10**	*e*P	**P**	**18 08 46.6**	**-1.3**
	31nm,1.3s,mb4.8						
SBA	**Scott Base**	**73.12**	**180**	P	**P**	**18 08 45.4**	**-2.6**
TIP	**Timpagrande**	**73.54**	**24**	*e*P	**P**	**18 08 49.1**	**-2.1**
PGF	**Pioggiola**	**74.29**	**17**	*e*P	**P**	**18 08 56.6**	**+1.1**
	25nm,1.0s,mb4.8						
EIL	**Elat**	**74.37**	**42**	*e*P	**P**	**18 08 50.6**	**-5.6**
	11nm,1.1s,mb4.7						
LMR	**La Mourre**	**74.44**	**15**	*e*P	**P**	**18 08 57.0**	**+0.6**
LASF	**Ste Croix**	**74.61**	**13**	*e*P	**P**	**18 08 57.7**	**+0.4**
FRF	**La Foret Royal**	**74.69**	**15**	*e*P	**P**	**18 08 58.7**	**+0.9**
SMRF	**Simiane la Rot**	**74.86**	**14**	*e*P	**P**	**18 08 59.1**	**+0.4**
	52nm,1.5s,mb5.0						
SBF	**Sospel**	**75.15**	**15**	*e*P	**P**	**18 09 01.0**	**+0.5**
	62nm,1.2s,mb5.1						
VIVF	**Saint-Julien-l**	**75.52**	**13**	*e*P	**P**	**18 09 02.5**	**0.0**
ORIF	**Oris-en-Rattie**	**75.82**	**14**	*e*P	**P**	**18 09 05.1**	**+0.9**
	2.3nm,0.5s,mb4.1						
MBDF	**Montbardon**	**75.83**	**14**	*e*P	**P**	**18 09 05.2**	**+0.9**
MFF	**Saint Martin d**	**76.41**	**9**	*e*P	**P**	**18 09 08.0**	**+0.5**
	253nm,2.0s,mb5.5						
LPG	**La Plagne**	**76.56**	**14**	*e*P	**P**	**18 09 08.4**	**0.0**
	9.8nm,0.9s,mb4.4						
LPL	**La Plagne**	**76.57**	**14**	*e*P	**P**	**18 09 08.8**	**+0.4**
	12nm,0.9s,mb4.5						
SMF	**Signal de Mont**	**77.09**	**12**	*e*P	**P**	**18 09 11.5**	**+0.2**
AVF	**Avril sur Loir**	**77.14**	**11**	*e*P	**P**	**18 09 11.9**	**+0.3**
	102nm,1.9s,mb5.1						
MEZF	**Maizieres J'vi**	**79.09**	**12**	*e*P	**P**	**18 09 23.0**	**+0.7**
CDF	**Champ du Feu**	**79.44**	**14**	*e*P	**P**	**18 09 25.0**	**+0.8**
JTS	**JuntasAbangare**	**79.61**	**288**	*e*P	**P**	**18 09 27.8**	**+2.1**
	21nm,1.1s,mb5.0						
BRTR	**Keskin Array B**	**81.21**	**35**	P	**P**	**18 09 34.0**	**+0.2**
	4.6nm,1.2s,mb4.3,baz=194,slow=5.1,SNR=11						
MALT	**Malatya**	**82.65**	**38**	*e*P	**P**	**18 09 42.1**	**+0.9**
	6.5nm,1.3s,mb4.5						
MALT				*e*		18 09 50.7	
DWPF	**Disney**	**86.79**	**305**	P	**P**	**18 10 04.5**	**+2.2**
	37nm,1.2s,mb5.5						
SUW	**Suwalki**	**88.66**	**20**	*e*P	**P**	**18 10 14.0**	**+3.4**
	62nm,1.2s,mb5.8						
ASAR	**Alice Springs**	**118.50**	**145**	PKP	PKPdf	18 16 05.5	-2.3
	0.6nm,0.6s,baz=94,slow=2.1,SNR=6.6						
YKA	**Yellowknife Ar**	**120.81**	**328**	PKP	PKPdf	18 16 08.1	-3.3
	0.2nm,0.6s,baz=94,slow=2.1,SNR=6.6						
INK	**Inuvik**	**128.06**	**336**	*e*PKPdf	PKPdf	18 16 21.4	-3.8
SONM	**Songino Array**	**130.44**	**50**	PKP	PKPdf	18 16 28.3	-2.0
	0.8nm,1.1s,baz=217,slow=2.7,SNR=4.1						
SONM	**Songino Array**	**130.44**	**50**	PKP	PKPdf	18 16 28.3	-2.0
ILAR	**Eielson Array**	**134.34**	**334**	PKP	PKPdf	18 16 35.8	-1.3
	0.5nm,0.7s,baz=344,slow=1.3,SNR=4.4						

IDC 08 17:57:24.6±5.5, 5.77N×94.51E, mb3.4/3, mb1 3.7/4, mb1mx3.5/17, mbtmp3.4/4, ML3.9/1, Error ellipse: s-maj=164.4km s-min=28.8km az=74.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.33**	**19**	Pn	P	18 00 34.5	-3.4
	0.2nm,0.3s,baz=208,slow=14,SNR=11						
SONM	**Songino Array**	**43.13**	**12**	P	P	18 05 27.1	-1.4
	0.4nm,0.8s,baz=180,slow=7.4,SNR=4.4						
WRA	**Warramunga Arr**	**46.77**	**124**	P	P	18 05 56.9	-1.1
	0.6nm,0.8s,baz=304,slow=9.0,SNR=4.1						
ASAR	**Alice Springs**	**48.31**	**129**	P	P	18 06 07.2	-2.8
	0.4nm,0.7s,baz=299,slow=8.2,SNR=2.9						

CASC 08 18:14:40.1±1.6, 13.27N×90.46W, h20km±6km, MD4.0, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.90**	**1**	*e*P	Pb	18 14 56.9	0.0
SBLS	**San Blas**	**1.00**	**55**	*e*P	Pb	18 14 58.3	-0.2
SBLS				*e*S	Sb	18 15 11.8	+0.7
RTR	**El Retiro**	**1.01**	**52**	*e*P	Pb	18 14 58.5	-0.3
RTR				*e*S	Sb	18 15 12.1	+0.4
SNJE	**San Jose**	**1.03**	**54**	*e*P	Pb	18 14 59.0	-0.1
SNJE				*e*S	Sb	18 15 12.9	+0.8
RBDL	**Robledal**	**1.13**	**42**	*e*P	Pb	18 15 00.7	-0.1
RBDL				*e*S	Sb	18 15 16.5	+1.4
BOQS	**Boqueron**	**1.24**	**68**	*e*P	Pn	18 15 01.8	-0.8
NBG	**Las Nubes**	**1.32**	**5**	*e*P	Pn	18 15 04.4	+0.7
NBG				*e*S	Sb	18 15 23.8	+3.4
LFU	**La Fuente**	**1.40**	**70**	*e*P	Pn	18 15 04.3	-0.5
LFRS	**El Faro**	**1.41**	**75**	*e*P	Pn	18 15 03.6	-1.3
LBRS	**Las Brisas**	**1.46**	**71**	*e*P	Pn	18 15 05.8	+0.1
LCBS	**La Ceiba**	**1.50**	**75**	*e*P	Pn	18 15 05.6	-0.6
LCBS				*e*S	Sn	18 15 25.4	+0.1
JAT	**Jato**	**1.54**	**313**	*e*P	Pn	18 15 06.0	-0.9
MTO2	**Montecristo 2**	**1.55**	**43**	*e*P	Pn	18 15 07.5	+0.5
TP2	**Tecpan 2**	**1.60**	**340**	⇓*e*P	Pn	18 15 07.7	0.0
TP2				*e*S	Sn	18 15 29.3	+1.3
SNVI	**San Vicente**	**1.62**	**78**	*e*P	Pn	18 15 07.9	0.0
SNVI				*e*S	Sn	18 15 29.9	+1.5
BLLM	**Bellamira**	**2.17**	**85**	*e*P	Pn	18 15 15.8	-0.1
CNCH	**Conchagua**	**2.56**	**90**	*e*P	Pn	18 15 21.5	+0.1
CNCH				*e*S	Sn	18 15 52.9	+0.6

IDC 08 18:18:52.3±13.0, 11.68S×165.96E, mb3.6/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.6/3, Error ellipse: s-maj=320.5km s-min=64.2km az=113.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.46**	**251**	P	P	18 25 16.0	-2.0
	0.6nm,0.6s,baz=82,slow=8.6,SNR=3.8						
ASAR	**Alice Springs**	**32.70**	**244**	P	P	18 25 26.6	-2.2
	0.5nm,0.8s,baz=69,slow=9.9,SNR=4.4						
CMAR	**Chiang Mai Arr**	**72.56**	**294**	P	P	18 30 21.9	-1.9
	0.8nm,0.9s,baz=119,slow=5.3,SNR=5.7						

*NNC **08** 18:19:25.0±3.3, 41.12N×73.40E, mpv3.6, Error ellipse: s-maj=97.0km s-min=25.5km az=115.0*
KNET 08 18:19:24.6±0.9, 41.33N×73.19E, h1km±3km, ml2.9, 14C-7D, Error ellipse: s-maj=5.3km s-min=4.4km az=79.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.88**	**25**	⇑P	Pg	18 19 42.6	+0.4
	102nm,0.1s,SNR=323						
AML				⇑S	Sg	18 19 56.2	+2.3
	201nm,0.2s						
UCH	**Uchtor**	**1.33**	**47**	⇓P	Pb	18 19 50.7	+0.6
	93nm,0.2s,SNR=327						
UCH				⇓S	Sb	18 20 10.4	+2.9
	127nm,0.2s						
EKS2	**Erkin-Say**	**1.40**	**18**	⇓P	Pb	18 19 51.4	+0.2
	72nm,0.3s,SNR=108						
EKS2				⇓S	Sb	18 20 11.9	+2.5
	58nm,0.2s						
AAK	**Ala-Archa**	**1.62**	**36**	⇑P	Pn	18 19 56.0	+1.5
	130nm,0.7s,baz=218,slow=30						
AAK				⇑S	Sb	18 20 19.3	+3.4
	94nm,0.5s,baz=218,slow=30						
AAK	**Ala-Archa**	**1.62**	**36**	⇑P	Pn	18 19 56.1	+1.6
	76nm,0.2s,SNR=175						
AAK				⇑S	Sb	18 20 19.4	+3.4
	104nm,0.2s						
KZA	**Kyzart**	**1.71**	**64**	⇑P	Pn	18 19 57.2	+1.4
	61nm,0.3s,SNR=166						
KZA				⇓S	Sb	18 20 22.3	+3.7
	53nm,0.2s						
KBK	**Karagaybulak**	**1.86**	**44**	⇑P	Pn	18 20 00.3	+2.4
	26nm,0.1s,SNR=70						
KBK				⇑S	Sn	18 20 27.5	+5.1
	102nm,0.2s						
CHMS	**Chumysh**	**2.03**	**34**	⇑P	Pn	18 20 02.2	+1.8
	101nm,0.4s,SNR=69						
USP	**Ospenovka**	**2.16**	**26**	⇑P	Pn	18 20 03.6	+1.3
	17nm,0.1s,SNR=47						
USP				⇑S	Sn	18 20 35.3	+5.2
	65nm,0.2s						
TKM2	**Tokmak 2**	**2.39**	**48**	⇑P	Pn	18 20 07.7	+2.1
	40nm,0.3s,SNR=68						
TKM2				⇓S	Sn	18 20 42.3	+6.4
	33nm,0.1s						
MK02	**Makanchi Array**	**8.52**	**47**	⇑Pn	P	18 21 30.2	-1.9
	0.5nm,0.6s,baz=230,slow=14						
MK02				⇓Lg		18 23 59.5	
	1.6nm,0.8s,baz=218,slow=30						

*BJI **08** 18:43:58.5, 8.19N×92.48E, h51km, mb4.6*
*NEIC **08** 18:43:59.8±0.4, 8.51N×92.55E, h30km, mb4.6/16, Error ellipse: s-maj=9.9km s-min=8.2km az=213.0*
*IDC **08** 18:44:00.3±0.7, 8.53N×92.52E, h32km±4km, mb4.0/13, mb1 4.1/14, mb1mx4.1/18, mbtmp4.1/14, ML3.9/1, Error ellipse: s-maj=28.1km s-min=12.3km az=51.0*
ISC 08 18:43:58.2±0.5, 8.43N±0.07×92.53E±0.07, h34km, h34km±.9km: pP-P, n54, σ1°00/53, mb4.4/30, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.75**	**31**	Pn	**P**	**18 46 46.3**	**-0.3**
	0.2nm,0.3s,baz=232,slow=14,SNR=27						
PALK	**Pallekele**	**11.77**	**265**	*e*Pn	**P**	**18 46 47.0**	**+0.2**
PALK				*e*Sn	S	18 48 32.6	-25
VIS	**Vishakhapatnam**	**12.86**	**317**	*e*P	**P**	**18 46 55.4**	**-6.0**
VIS				*e*S	**S**	**18 49 06.1**	**-18**
VIS				*e*		18 49 12.1	
	comp=E,88nm,0.5s						
VIS				*e*		18 49 15.1	
	comp=N,39nm,0.4s						
BWNR	**Bhubaneshwar**	**13.47**	**332**	*e*P	**P**	**18 47 04.7**	**-4.6**
BWNR				*e*S	**S**	**18 49 20.8**	**-18**
BWNR				*e*		18 49 24.1	
	comp=N,44nm,0.5s						
BWNR				*e*		18 49 24.2	
	comp=E,70nm,0.4s						
TRD	**Trivandrum**	**15.40**	**271**	*e*S	**S**	**18 50 13.6**	**-11**
HYB	**Hyderabad**	**16.28**	**305**	*e*P	**P**	**18 47 42.0**	**-4.0**
HYB	**Hyderabad**	**16.28**	**305**	*i* P	**P**	**18 47 42.0**	**-4.0**
IMP	**Imphal**	**16.32**	**5**	*e*P	**P**	**18 47 48.4**	**+2.0**
SHL	**Shillong**	**17.05**	**358**	*e*P	**P**	**18 47 56.5**	**+0.8**
KAD	**Karad**	**19.92**	**298**	*e*	**P**	**18 48 33.0**	**+2.9**
KAD				*e*		18 51 59.0	
JIRN	**Jiri**	**20.04**	**343**	*e*P	**P**	**18 48 31.8**	**+0.5**
	comp=E,21nm,0.8s						
PKI	**Pulchoki**	**20.19**	**341**	*e*P	**P**	**18 48 33.1**	**+0.3**
	comp=E,12nm,0.7s						
DMN	**Daman**	**20.32**	**341**	*e*P	**P**	**18 48 34.9**	**+0.7**
GUN	**Gumba**	**20.37**	**343**	*e*P	**P**	**18 48 34.9**	**+0.2**
	comp=E,23nm,0.6s						
KKN	**Kakani**	**20.44**	**341**	*e*P	**P**	**18 48 35.3**	**-0.1**
	comp=E,29nm,1.3s						
GKN	**Gorkha**	**20.84**	**340**	*e*P	**P**	**18 48 40.0**	**+0.4**
	comp=E,34nm,0.7s						
KOLN	**Koldanda**	**21.00**	**337**	*e*P	**P**	**18 48 41.7**	**+0.4**
	comp=E,38nm,0.7s,mb4.8						
LSA	**Lhasa**	**21.20**	**357**	*e*P	**P**	**18 48 43.6**	**+0.4**
	comp=E,14nm,0.7s,mb4.4						
ENH	**Enshi**	**26.91**	**34**	*e*P	**P**	**18 49 37.2**	**-1.1**
	comp=E,6.8nm,0.6s,mb4.3						
BJT	**Baijiatuau**	**37.88**	**30**	*e*P	**P**	**18 51 13.9**	**+0.1**
	comp=E,9.6nm,0.8s,mb4.6						
SONM	**Songino Array**	**40.99**	**14**	P	**P**	**18 51 39.6**	**0.0**
	comp=E,0.5nm,0.4s,mb3.5,baz=206,slow=7.7,SNR=11						
SONM				pP	pP	18 51 49.1	-0.5
	comp=E,2.0nm,0.9s,baz=197,slow=7.3,SNR=9.0						
SONM				PcP	PcP	18 53 41.0	+1.0
	comp=E,0.

comp=E,26nm,1.1s,mb5.1
LPG La Plagne 81.09 315 *e*P **P 18 56 13.1 +1.4**
comp=E,10nm,0.7s,mb4.6
SYO Syowa Base 85.47 197 SH 18 56 45.6
ESDC Sonseca Array 89.64 310 P **P 18 56 55.2 +1.0**
comp=E,0.8nm,0.6s,mb4.3,baz=75,slow=3.6,SNR=5.3
MCK McKinley 94.58 23 P **P 18 57 16.7 +0.4**
comp=E,1.8nm,1.1s,mb4.4
ILAR Eielson Array 94.83 22 P **P 18 57 17.7 +0.2**
comp=E,0.7nm,0.6s,mb4.3,baz=300,slow=4.7,SNR=10.0
ILAR pP pP 18 57 29.2 +0.9
comp=E,0.3nm,0.6s,baz=301,slow=4.6,SNR=3.3
PDAR Pinedale Array 125.21 20 PKP PKPdf 19 02 58.7 +2.9
comp=E,0.7nm,0.6s,baz=334,slow=1.5,SNR=4.9
NVAR Mina Array Bea 125.24 30 PKP PKPdf 19 02 59.8 +3.8
comp=E,0.3nm,0.3s,baz=279,slow=4.3,SNR=5.3

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*GUC **08** 18:45:03.4±0.0,55.20S×27.82W,h10km,mb5.7(NEIC), MS5.3(NEIC),MW6.0(NEIC)*
*BJI **08** 18:45:03.8,54.60S×28.70W,h10km,mB5.7,Ms5.8, Msz5.6*
*NEIC **08** 18:45:03.8±0.2,55.30S×27.96W,h10km,mb5.7/20, MS5.3/88,MW6.0,Error ellipse: s-maj=9.8km s-min=7.3km az=51.0,Moment Tensor Solution. s7 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.00; $M_{\theta\theta}$=0.00; $M_{\phi\phi}$=0.00; $M_{r\theta}$=0.00; $M_{\theta\phi}$=0.00; $M_{r\phi}$=0.00; Best double couple: M_0=1.2×10^{18} NP1: ϕ_s=143°,δ27°,λ-17°. NP2:ϕ_s=248°,δ82°,λ-116°. Principal axes: T 1.15, Plg32°, Azm360°; N .12, Plg26°, Azm252°; P -1.27, Plg46°, Azm131°;*
*HRVD **08** 18:45:03.8±0.1,55.36S×28.21W,h13km,MW5.6/68, Centroid moment Tensor Solution. LP body waves: s58,c108;Mantle waves: s68,c170; Half duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_{rr}=1.82±.04; $M_{\theta\theta}$-1.25±.04; $M_{\phi\phi}$-0.56±.03; $M_{r\theta}$-0.40±.10; $M_{\theta\phi}$=1.85±.03; $M_{r\phi}$=2.61±.09; Best double couple: M_0=3.604×10^{17} NP1: ϕ_s=99°,δ33°,λ34°. NP2:ϕ_s=340°,δ72°,λ119°. Principal axes: T 3.599, Plg54°, Azm285°; N .015, Plg27°, Azm151°; P -3.609, Plg22°, Azm49°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **08** 18:45:05.8±2.3,55.29S×28.27W,h18km±13km,mb5.0/13, mb1 5.1/14,mb1mx4.9/16,mbtmp5.1/14,ML5.2/1,MS5.1/11, Ms1 5.1/11,ms1mx4.7/14 Error ellipse: s-maj=18.7km s-min=10.2km az=64.0*
*MOS **08** 18:45:06.9±1.6,55.41S×28.21W,h33km,mb5.7/11, MS5.3/45,Error ellipse: s-maj=23.0km s-min=11.0km az=104.2*
ISC 08 18:45:03.6±1.8,55.37S±0.06×28.24W±0.10,h13km±10km, n260,σ0.95/82,mb5.3/32,MS5.3/102,27C-10D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.89**	**279**		Pn		**Pn**	**18 46 17.8**	**-0.9**
27μm,0.4s									
VNA1	**Neumayer--Stat**	**17.65**	**158**	P			**P**	**18 49 18.6**	**+8.2**
VNA1	**Neumayer--Stat**	**17.65**	**158**	⇑*i*			**P**	**18 49 21.0**	**+11**
VNA1	**Neumayer--Stat**	**17.65**	**158**	⇑*i*			**P**	**18 49 23.1**	**+13**
EFI	**East Falkland**	**18.04**	**269**	*e*P			**P**	**18 49 15.2**	**-0.2**
EFI					pmax		pmax		
comp=Z,936nm,1.3s									
EFI	**East Falkland**	**18.04**	**269**	*e*P			**P**	**18 49 15.2**	**-0.2**
comp=Z,936nm,1.3s									
VNA2	**Neumayer--Watz**	**18.05**	**158**	P			**P**	**18 49 19.1**	**+3.7**
VNA2	**Neumayer--Watz**	**18.05**	**158**	⇑*i*			**P**	**18 49 21.0**	**+5.6**
VNA2	**Neumayer--Watz**	**18.05**	**158**	⇑*i*			**P**	**18 49 21.6**	**+6.2**
VNA2	**Neumayer--Watz**	**18.05**	**158**	⇑*i*			**P**	**18 49 23.0**	**+7.6**
VNA2	**Neumayer--Watz**	**18.05**	**158**				**P**	**18 49 24.6**	**+9.2**
VNA2	**Neumayer--Watz**	**18.05**	**158**	⇑*i*			**P**	**18 49 29.4**	**+14**
VNA2	**Neumayer--Watz**	**18.05**	**158**	⇑*i*			**P**	**18 49 31.2**	**+16**
VNA2	**Neumayer--Watz**	**18.05**	**158**	⇑*i*			**P**	**18 49 32.5**	**+17**
SNAA	**Sanae**	**19.61**	**156**	⇑*i*	P		**P**	**18 49 32.8**	**-1.3**
SNAA	**Sanae**	**19.61**	**156**	P			**P**	**18 49 32.9**	**-1.2**
comp=Z,6.5nm,0.3s,baz=303,slow=10.0,SNR=143									
SNAA					S		**S**	**18 53 19.0**	**+10**
comp=Z,0.1nm,0.3s,baz=258,slow=21,SNR=3.0									
SNAA					LR		LR	18 55 50.7	
comp=Z,2μm,18.4s,baz=321,slow=33									
PMSA	**Palmer Station**	**19.91**	**227**	P			**P**	**18 49 38.6**	**+1.1**
PMSA	**Palmer Station**	**19.91**	**227**	⇑*i*	P		**P**	**18 49 38.5**	**+1.0**
comp=Z,608nm,1.1s									
TRIS	**Tristan da Cun**	**21.27**	**37**	⇓*e*	P		**P**	**18 49 51.9**	**+0.1**
TRIS					LR		LR		
comp=Z,4μm,19.0s,MS4.8									
USHA	**Ushuaia**	**22.78**	**255**	P			**P**	**18 50 07.2**	**+0.6**
comp=Z,98nm,1.0s,mb5.2,baz=88,slow=13,SNR=16									
USHA					LR		LR	18 56 47.7	
comp=Z,10μm,18.7s,MS5.3,baz=83,slow=31									
NVL	**N'lazarevskaya**	**23.16**	**147**	⇓*e*	P		**P**	**18 50 12.0**	**+1.9**
NVL				*e*	S		**S**	**18 54 18.0**	**+1.0**
NVL					pmax		pmax		
comp=Z,428nm,2.6s,mb5.4									
NVL					MLR		MLR		
comp=Z,8μm,18.0s,MS5.2									
TRQA	**Tornquist**	**28.51**	**293**	⇑*i*	P		**P**	**18 51 00.3**	**-0.2**
comp=Z,259nm,1.6s,mb5.7									
TRQA					LR		LR		
comp=Z,5μm,19.0s,MS5.2									
LPA	**La Plata**	**28.92**	**303**	*c*e	P		**P**	**18 51 05.0**	**+0.7**
LPA				*e*	S		**S**	**18 55 54.0**	**+0.9**
comp=Z,4μm,21.0s									
SYO	**Syowa Base**	**32.49**	**142**	⇑P			**P**	**18 51 26.7**	**-8.8**
SYO	**Syowa Base**	**32.49**	**142**	⇓pP			pP	18 51 35.1	-4.1
QSPA	**South Pole Qui**	**34.88**	**180**	⇓*i*	P		**P**	**18 51 56.9**	**+0.8**
comp=Z,84nm,0.7s,mb5.8									
FCH	**Farellones**	**36.50**	**289**	⇑*i*	P		**P**	**18 52 09.9**	**-0.4**
CLCH	**Cerro Calan**	**36.58**	**289**	⇑*i*	P		**P**	**18 52 10.4**	**-0.5**
TLL	**Tololo Astrono**	**39.23**	**292**	⇑*i*	P		**P**	**18 52 32.9**	**-0.3**
MAW	**Mawson**	**41.05**	**144**	P			**P**	**18 52 47.5**	**-0.3**
comp=Z,13nm,0.7s,mb4.7,baz=230,slow=8.3,SNR=15									
MAW					LR		LR	19 10 23.6	
comp=Z,3μm,18.1s,MS5.2,baz=254,slow=37									
SUR	**Sutherland**	**41.05**	**77**	*e*P			**P**	**18 52 49.7**	**+1.5**
comp=Z,32nm,0.9s,mb4.9									
SUR					LR		LR		
comp=Z,1μm,19.0s,MS4.8									
BAO	**Brasilia Array**	**42.48**	**331**	P			**P**	**18 53 00.2**	**+0.2**
BAO				*i*				18 53 12.3	
BAO				*e*				18 53 31.2	
BAO				*e*				18 54 53.2	
BDFB	**Brasilia**	**42.48**	**331**	P			**P**	**18 53 00.5**	**+0.5**
comp=Z,39nm,1.1s,mb5.0,baz=146,slow=6.3,SNR=34									
BDFB					S		**S**	**18 59 20.6**	**-0.8**
comp=Z,1.3nm,0.5s,baz=196,slow=17,SNR=1.4									
BDFB					LR		LR	19 09 22.5	
comp=Z,3μm,18.1s,MS5.2,baz=164,slow=34									
LVC	**Limon Verde**	**44.44**	**301**	⇑*i*	P		**P**	**18 53 16.6**	**+0.7**
comp=Z,62nm,0.8s,mb5.4									
LVC					LR		LR		
comp=Z,2μm,20.0s,MS5.0									
SBA	**Scott Base**	**46.72**	**184**	*e*P			**P**	**18 53 34.2**	**+0.9**
SBA					pmax		pmax		
comp=Z,103nm,1.2s,mb5.6									
SBA					MLR		MLR		
comp=Z,2μm,20.0s,MS5.0									
SBA	**Scott Base**	**46.72**	**184**	*e*P			**P**	**18 53 34.2**	**+1.0**
comp=Z,103nm,1.2s,mb5.6									
SBA					LR		LR		
comp=Z,2μm,20.0s,MS5.0									
VNDA	**Vanda**	**47.22**	**183**	P			**P**	**18 53 37.6**	**+0.3**
comp=Z,24nm,0.8s,mb5.2,baz=185,slow=5.7,SNR=53									
VNDA					LR		LR	19 12 49.9	
comp=Z,1μm,18.6s,MS4.9,baz=166,slow=35									
LPAZ	**La Paz**	**49.50**	**306**	P			**P**	**18 53 56.8**	**+1.1**
comp=Z,58nm,0.6s,mb5.8,baz=154,slow=6.7,SNR=269									
LPAZ					S		**S**	**19 01 02.7**	**+1.0**
comp=Z,0.5nm,0.6s,baz=354,slow=17,SNR=1.5									
LPAZ					LR		LR	19 13 41.6	
comp=Z,2μm,21.1s,MS5.1,baz=162,slow=35									
LPAZ	**La Paz**	**49.50**	**306**	P			**P**	**18 53 56.8**	**+1.1**
LPAZ					S		**S**	**19 01 02.7**	**+1.0**
LPAZ					LR		LR	19 13 41.6	
RCBR	**Riachuelo**	**49.78**	**350**	PFAKE				18 54 10.0	+12
RCBR					LR		LR		
comp=Z,2μm,21.0s,MS5.0									
MIR	**Mirnyy**	**50.66**	**154**	⇑*e*P			**P**	**18 54 03.5**	**-0.4**
MIR					pmax		pmax		
comp=Z,70nm,1.6s,mb5.3									
MIR					MLR		MLR		
comp=Z,5μm,16.0s,MS5.6									
MIR					MLR		MLR		
comp=N,2μm,16.0s,MS5.3									
MIR					MLR		MLR		
comp=E,2μm,16.0s,MS5.3									
ARE	**Arequipa**	**50.94**	**302**	⇑*i*	P		**P**	**18 54 07.6**	**+0.9**
CASY	**Casey**	**54.75**	**161**	*e*P			**P**	**18 54 33.9**	**-0.6**
comp=E,90nm,0.8s,mb5.8									
CASY					LR		LR		
comp=Z,4μm,19.0s,MS5.5									
NNA	**Nana**	**57.40**	**299**	P			**P**	**18 54 53.5**	**-0.7**
comp=Z,348nm,1.5s,mb6.2,SNR=13									
DRV	**Dumont d'Urvil**	**57.96**	**175**	P			**P**	**18 54 54.0**	**-3.4**
DRV					S		**S**	**19 03 11.0**	**+15**
DRV					L			19 08 00.0	
LSZ	**Lusaka**	**58.69**	**70**	P			**P**	**18 55 00.8**	**-2.4**
LSZ					pmax		pmax		
comp=Z,8.0nm,0.8s,mb4.8									
LSZ					MLR		MLR		
comp=Z,4μm,19.0s,MS5.5									
LSZ	**Lusaka**	**58.69**	**70**	*e*P			**P**	**18 54 59.3**	**-3.9**
comp=Z,16nm,0.8s,mb5.1									
LSZ					LR		LR		
comp=Z,4μm,19.0s,MS5.5									
RPN	**Rapa Nui**	**63.18**	**261**	*e*P			**P**	**18 55 32.8**	**-0.8**
comp=Z,555nm,1.4s									
RPN					LR		LR		
comp=Z,643nm,20.0s									
DBIC	**Dimbokro**	**64.80**	**26**	P			**P**	**18 55 43.1**	**-1.2**
comp=Z,20nm,0.7s,mb5.3,baz=173,slow=7.5,SNR=36									
DBIC					S		**S**	**19 04 21.4**	**-1.8**
comp=Z,1.9nm,0.9s,baz=212,slow=12,SNR=2.0									
DBIC					LR		LR	19 19 21.4	
comp=Z,640nm,18.0s,MS4.9,baz=185,slow=32									
OTAV	**Otavalo**	**68.78**	**304**	⇑*e*P			**P**	**18 56 09.9**	**+0.4**
comp=Z,158nm,1.5s,mb5.7									
OTAV					LR		LR		
comp=Z,1μm,21.0s,MS5.2									
ROSC	**El Rosal**	**71.01**	**311**	P			**P**	**18 56 21.2**	**-1.9**
comp=Z,16nm,0.7s,mb5.1,baz=142,slow=3.8,SNR=16									
ROSC					LR		LR	19 28 56.4	
comp=Z,961nm,18.4s,MS5.1,baz=185,slow=37									
ROSC	**El Rosal**	**71.01**	**311**	P			**P**	**18 56 21.2**	**-1.9**
ROSC					LR		LR	19 28 56.4	
MBAR	**Mbarara**	**72.38**	**64**	⇓*e*P			**P**	**18 56 31.8**	**+0.5**
MBAR					pmax		pmax		
comp=Z,30nm,1.6s,mb5.0									
MBAR					MLR		MLR		
comp=Z,648nm,21.0s,MS4.9									
MBAR	**Mbarara**	**72.38**	**64**	⇓*e*P			**P**	**18 56 31.8**	**+0.5**
comp=Z,30nm,1.6s,mb5.0									
MBAR					LR		LR		
comp=Z,648nm,21.0s,MS4.9									
SDV	**Santo Domingo**	**73.11**	**316**	⇑*i*	P		**P**	**18 56 34.8**	**-0.7**
comp=Z,77nm,0.9s,mb5.6									
SDV				⇓*e*	pP		pP	18 56 37.8	-1.7
SDV					LR		LR		
comp=Z,3μm,19.0s,MS5.6									
KMBO	**Kilima Mbogo**	**75.36**	**70**	*e*P			**P**	**18 56 50.6**	**+2.0**
KMBO					pmax		pmax		
comp=Z,126nm,2.6s									
KMBO					MLR		MLR		
comp=Z,4μm,19.0s									
KMBO	**Kilima Mbogo**	**75.36**	**70**	P			**P**	**18 56 50.6**	**+2.0**
comp=Z,0.7nm,0.5s,baz=50,slow=23,SNR=6.5									
KMBO					LR		LR	19 29 07.3	
comp=Z,4μm,18.3s,baz=17,slow=35									
KMBO	**Kilima Mbogo**	**75.36**	**70**	*e*P			**P**	**18 56 50.6**	**+2.0**
comp=Z,126nm,2.6s,mb5.4									
KMBO					LR		LR		
comp=Z,4μm,19.0s,MS5.8									
PTCN	**Pitcairn Islan**	**76.13**	**246**	PFAKE				18 57 00.0	+7.2
PTCN					LR		LR		
comp=Z,3μm,19.0s,MS5.7									
RPZ	**Rata Peaks**	**79.94**	**194**	P			**P**	**18 57 12.6**	**-0.7**
comp=Z,15nm,0.8s,mb5.0,baz=146,slow=6.0,SNR=6.2									
SJG	**San Juan**	**79.94**	**324**	P			**P**	**18 57 12.1**	**-1.7**
SJG					pmax		pmax		
comp=Z,67nm,1.2s									
SJG					MLR		MLR		
comp=Z,915nm,19.0s									
SJG	**San Juan**	**79.94**	**324**	P			**P**	**18 57 12.1**	**-1.6**
comp=Z,67nm,1.2s,mb5.4									
SJG					LR		LR		
comp=Z,915nm,19.0s,MS5.1									
RKT	**Rikitea**	**80.25**	**243**	*e*SS			SS	19 12 36.7	+3.5
RKT				*e*LQ				19 18 38.7	
RKT				*e*LR			LR	19 22 15.4	
comp=Z,2μm,25.8s,baz=148									
JTS	**JuntasAbangare**	**80.64**	**304**	*c i*P			**P**	**18 57 17.9**	**+0.3**
JTS	**JuntasAbangare**	**80.64**	**304**	⇑*i*P			**P**	**18 57 17.8**	**+0.2**
comp=Z,311nm,1.9s,mb5.9									
JTS					LR		LR		
comp=Z,248nm,20.0s,MS4.6									
TAU	**Tasmania Unive**	**82.02**	**177**	P			**P**	**18 57 23.8**	**-0.4**
TAU					pmax		pmax		
comp=Z,69nm,1.1s,mb5.5									
TAU					MLR		MLR		
comp=Z,500nm,19.0s,MS4.9									
TAU	**Tasmania Unive**	**82.02**	**177**	*e*P			**P**	**18 57 23.2**	**-1.0**
comp=Z,130nm,1.3s,mb5.7									
TAU					LR		LR		
comp=Z,504nm,19.0s,MS4.9									
URZ	**Urewera**	**84.25**	**200**	P			**P**	**18 57 34.7**	**-1.0**
comp=Z,7.6nm,0.8s,mb4.9,baz=164,slow=7.0,SNR=3.5									
TBI	**Tubuai**	**87.04**	**232**	*e*PP			PP	19 01 08.0	-7.8
TBI				*e*SS			SS	19 13 55.0	-18
TBI				*e*LQ				19 21 34.9	
TBI				*e*LR			LR	19 25 17.8	
comp=Z,2μm,30.5s,baz=156									
NWAO	**Narrogin (SRO)**	**87.21**	**151**	*e*P			**P**	**18 57 49.6**	**-0.9**
NWAO					pmax		pmax		
comp=Z,18nm,1.0s									
NWAO					MLR		MLR		
comp=Z,608nm,19.0s									
NWAO	**Narrogin (SRO)**	**87.21**	**151**	P			**P**	**18 57 50.0**	**-0.5**
comp=Z,18nm,1.1s,mb5.2,baz=204,slow=3.6,SNR=7.0									
NWAO	**Narrogin (SRO)**	**87.21**	**151**	*e*P			**P**	**18 57 49.6**	**-0.9**
comp=Z,18nm,1.0s,mb5.2									
NWAO					LR		LR		
comp=Z,608nm,19.0s,MS5.0									
DGAR	**Diego Garcia**	**89.99**	**103**	PFAKE				18 58 10.0	+5.9
DGAR					LR		LR		
comp=Z,712nm,20.0s,MS5.1									
TEIG	**Tepich**	**90.83**	**306**	⇑*i*P			**P**	**18 58 08.3**	**+0.5**
comp=Z,47nm,0.9s,mb5.8									
TEIG					LR		LR		
comp=Z,358nm,20.0s,MS4.8									
HUIG	**Huatulco**	**90.84**	**297**	*i* P			**P**	**18 58 08.8**	**+0.9**
CMIG	**Matias Romero**	**91.34**	**299**	*i* P			**P**	**18 58 10.9**	**+0.7**
RAO	**Raoul Island**	**91.80**	**206**	PFAKE				18 58 20.0	+7.9
RAO					LR		LR		
comp=Z,1μm,19.0s,MS5.4									
PPT	**Papeete**	**92.11**	**235**	*e*PP			PP	19 01 45.1	-11
PPT				*e*SS			SS	19 15 35.3	+9.2
PPT				*e*LQ				19 24 09.8	
PPT				*e*LR			LR	19 27 36.1	
comp=Z,2μm,24.2s,baz=154									
STKA	**Stephens Creek**	**92.67**	**171**	P			**P**	**18 58 15.7**	**-0.3**
comp=Z,3.4nm,0.8s,mb4.8,baz=28,slow=0.7,SNR=9.4									
STKA					LR		LR	19 41 44.6	
comp=Z,1μm,18.5s,MS5.5,baz=181,slow=37									
BBSR	**BB Station**	**92.81**	**330**	PFAKE				18 58 30.0	+13
BBSR					LR		LR		
comp=Z,742nm,20.0s,MS5.1									
DWPF	**Disney**	**94.74**	**315**	PFAKE				18 58 40.0	+14
DWPF					LR		LR		
comp=Z,1μm,21.0s,MS5.4									
TAOE	**Nuku Hiva Isla**	**94.87**	**247**	*e*PP			PP	19 02 06.5	-11
TAOE				*e*SS			SS	19 16 03.6	-2.1
TAOE				*e*LR			LR	19 29 08.5	
baz=162									
PPM	**Popocatepetl**	**94.90**	**297**	*e*P			**P**	**18 58 27.5**	**+0.9**
ESDC	**Sonseca Array**	**96.92**	**19**	P			**P**	**18 58 35.9**	**+0.5**
comp=Z,5.2nm,1.1s,mb4.9,baz=179,slow=4.0,SNR=11									
NHSC	**New Hope**	**98.68**	**318**	PFAKE				18 58 50.0	+6.6
NHSC					LR		LR		
comp=Z,674nm,22.0s,MS5.1									
MBWA	**Marble Bar**	**99.04**	**150**	PFAKE				18 59 00.0	+15
MBWA					LR		LR		
comp=Z,800nm,20.0s,MS5.2									
ASAR	**Alice Springs**	**99.81**	**163**	P			**P**	**18 58 47.6**	**-1.2**
comp=Z,2.9nm,0.8s,mb4.7,baz=180,slow=4.2,SNR=22									
ASAR					PP		PP	19 02 49.8	-6.2
comp=Z,3.0nm,0.9s,baz=188,slow=8.3,SNR=9.5									
ASAR					PKKPbc			19 15 08.1	
comp=Z,4.2nm,1.2s,baz=18,slow=2.3,SNR=14									
ASAR					LR		LR	19 42 58.7	
comp=Z,664nm,18.0s,MS5.2,baz=189,slow=35									
GOGA	**Godfrey**	**100.23**	**316**	PFAKE				18 59 00.0	+9.5
GOGA					LR		LR		
comp=Z,1μm,22.0s,MS5.3									
LRAL	**Lakeview Retre**	**101.35**	**313**	PFAKE				18 59 10.0	+14
LRAL					LR		LR		
comp=Z,1μm,19.0s,MS5.5									
CBN	**Corbin**	**102.20**	**322**	PFAKE				18 59 10.0	+11
CBN					LR		LR		
comp=Z,745nm,21.0s,MS5.2									
BLA	**Blacksburg**	**102.41**	**320**	PFAKE				18 59 10.0	+10
BLA					LR		LR		
comp=Z,626nm,20.0s,MS5.1									
HKT	**Hockley**	**102.65**	**305**	PFAKE				18 59 10.0	+8.6
HKT					LR		LR		
comp=Z,585nm,21.0s,MS5.1									
WRA	**Warramunga Arr**	**103.53**	**163**	Pdiff			Pdif	18 59 04.9	-0.6
comp=Z,1.1nm,0.8s,baz=193,slow=4.2,SNR=4.8									
WRA					PP		PP	19 03 21.1	-3.2
comp=Z,2.2nm,0.8s,baz=190,slow=6.5,SNR=7.7									
WRA					PKKPbc			19 14 57.3	
comp=Z,3.8nm,1.1s,baz=1.5,slow=3.1,SNR=12									
WRAB	**Tennant Creek**	**103.55**	**163**	P			Pdif	18 59 04.7	-0.9
WRAB					MLR		MLR		
comp=Z,539nm,19.0s,MS5.1									
NATX	**Nacogdoches**	**103.62**	**307**	PFAKE				18 59 20.0	+14
NATX					LR		LR		
comp=Z,442nm,19.0s,MS5.0									
WES	**Weston**	**104.04**	**329**	PFAKE				18 59 20.0	+13
WES					LR		LR		
comp=Z,1μm,21.0s,MS5.4									
HRV	**Harvard--Oak R**	**104.22**	**328**	PFAKE				18 59 20.0	+12
HRV					LR		LR		
comp=Z,859nm,19.0s,MS5.3									
WVT	**Waverly**	**104.36**	**314**	PFAKE				18 59 20.0	+11
WVT					LR		LR		
comp=Z,1μm,22.0s,MS5.5									
MCWV	**Mont Chateau**	**104.37**	**321**	PFAKE				18 59 20.0	+11
MCWV					LR		LR		
comp=Z,659nm,20.0s,MS5.2									
AFI	**Afiamalu**	**104.46**	**217**	PFAKE				18 59 20.0	+10
AFI					LR		LR		
comp=Z,2μm,19.0s,MS5.7									
SSPA	**Standing Stone**	**104.56**	**323**	PFAKE				18 59 20.0	+10
SSPA					LR		LR		
comp=Z,753nm,22.0s,MS5.2									
CTAO	**Charters Tower**	**104.70**	**175**	PFAKE				18 59 20.0	+9.3
CTAO					LR		LR		
comp=Z,2μm,19.0s,MS5.7									
JCT	**Junction City**	**104.98**	**302**	PFAKE				19 03 40.0	
JCT					LR		LR		
comp=Z,375nm,19.0s,MS5.0									
WCI	**Wyandotte Cave**	**105.55**	**316**	PFAKE				19 03 40.0	
WCI					LR		LR		
comp=Z,725nm,21.0s,MS5.2									
WVL	**Waterville**	**105.56**	**331**	PFAKE				19 03 40.0	
WVL					LR		LR		
comp=Z,5μm,22.0s,MS6.0									
LTX	**Lajitas**	**105.95**	**298**	PFAKE				19 03 40.0	
LTX					LR		LR		
comp=Z,644nm,20.0s,MS5.2									
ACSO	**Alum Creek Sta**	**106.02**	**319**	PFAKE				19 03 40.0	
ACSO					LR		LR		
comp=Z,547nm,20.0s,MS5.1									
NCB	**Newcomb**	**106.36**	**327**	PFAKE				19 03 40.0	
NCB					LR		LR		
comp=Z,775nm,20.0s,MS5.2									
ERPA	**Erie**	**106.60**	**322**	PFAKE				19 03 40.0	
ERPA					LR		LR		
comp=Z,523nm,20.0s,MS5.1									
PALK	**Pallekele**	**106.69**	**102**	PFAKE				19 03 40.0	
PALK					LR		LR		
comp=Z,433nm,19.0s,MS5.0									
PQI	**Presque Isle**	**107.05**	**333**	PFAKE				19 03 40.0	
PQI					LR		LR		
comp=Z,4μm,20.0s,MS5.9									
CCM	**Cathedral Cave**	**107.42**	**313**	PFAKE				19 03 40.0	
CCM					LR		LR		
comp=Z,1μm,20.0s,MS5.5									
MNTX	**Cornudas Mount**	**108.72**	**299**	PFAKE				19 03 40.0	
MNTX					LR		LR		
comp=Z,867nm,19.0s,MS5.3									
AMTX	**Amarillo**	**109.49**	**303**	PFAKE				19 03 50.0	
AMTX					LR		LR		
comp=Z,930nm,19.0s,MS5.4									
GERES	**GERESS Array B**	**109.63**	**28**	PP			PP	19 04 03.4	-5.8
comp=Z,4.5nm,1.2s,baz=191,slow=6.8,SNR=4.3									
JFWS	**Jewell Farm**	**111.11**	**316**	PFAKE				19 03 50.0	+11
JFWS					LR		LR		
comp=Z,755nm,21.0s,MS5.2									
ANMO	**Albuquerque**	**111.87**	**300**	PFAKE				19 03 50.0	+8.9
ANMO					LR		LR		
comp=Z,776nm,19.0s,MS5.3									
TUC	**Tucson**	**111.96**	**295**	PFAKE				19 03 50.0	+8.7
TUC					LR		LR		
comp=Z,713nm,19.0s,MS5.3									
GNI	**Garni**	**113.53**	**53**	PFAKE				19 03 50.0	+5.7
GNI					LR		LR		
comp=Z,1μm,21.0s,MS5

OBN Obninsk 122.17 38 PFAKE 19 04 10.0 +9.3
OBN LR LR
comp=Z,181nm,19.0s,MS4.7
HLID Hailey 122.42 301 PFAKE 19 04 10.0 +8.6
HLID LR LR
comp=Z,815nm,21.0s,MS5.3
BOZ Bozeman (W) 122.62 304 *e*PKIKP PKPdf 19 03 59.1 -2.6
BOZ MLR MLR
comp=Z,733nm,19.0s,MS5.3
DDI Dehra Dun 123.43 84 *e* PKPdf 19 04 02.7 -1.0
HRY Holter Researc 123.50 305 *e*PKPdf PKPdf 19 04 01.6 -1.8
WVOR Wild Horse Val 123.70 297 PKIKP PKPdf 19 04 03.0 -1.0
WVOR MLR MLR
comp=Z,1μm,22.0s,MS5.6
WVOR Wild Horse Val 123.70 297 *e*PKPdf PKPdf 19 04 02.2 -1.8
WVOR LR LR
comp=Z,1μm,22.0s,MS5.6
FINES FINESS Array B 124.06 28 PKP PKPdf 19 04 01.2 -3.0
comp=Z,7.5nm,0.6s,baz=144,slow=2.2,SNR=80
MOD Modoc 124.17 296 PFAKE 19 04 10.0 +5.1
MOD LR LR
comp=Z,530nm,19.0s,MS5.2
CHMT Chamberlain Mo 124.31 304 *e*P PKPdf 19 04 02.4 -2.7
MSO Missoula 124.58 304 *e*PKPdf PKPdf 19 04 03.1 -2.4
MSO LR LR
comp=Z,598nm,19.0s,MS5.3
KOLN Koldanda 124.66 90 *e*P PKPdf 19 04 03.1 -3.1
comp=Z,29nm,0.8s
KAF Kangasniemi 124.68 28 *e*pkp PKPdf 19 04 01.4 -3.8
baz=182,slow=1.8
BMO Blue Mountains 124.78 300 PKIKP PKPdf 19 04 03.9 -2.0
BMO MLR MLR
comp=Z,770nm,21.0s,MS5.3
BMO Blue Mountains 124.78 300 *e*PKPdf PKPdf 19 04 03.1 -2.8
BMO LR LR
comp=Z,772nm,21.0s,MS5.3
FFC Flin Flon 125.17 317 *e*PKPdf PKPdf 19 04 03.1 -3.3
FFC *e*PP PP 19 05 48.9 -7.8
YBH Yreka Blue Hor 125.29 294 PKP PKPdf 19 04 03.5 -3.5
comp=Z,3.2nm,0.9s,baz=204,slow=1.3,SNR=3.5
FCC Fort Churchill 125.38 324 *e*PKIKP PKPdf 19 04 02.2 -4.4
FCC *e* 19 05 54.2
DMN Daman 125.40 92 *e*P PKPdf 19 04 05.2 -2.4
comp=Z,47nm,1.0s
GKN Gorkha 125.43 91 *e*P PKPdf 19 04 04.0 -3.6
comp=Z,64nm,1.3s
PKI Pulchoki 125.54 92 *e*P PKPdf 19 04 04.9 -2.9
comp=Z,51nm,1.3s
KKN Kakani 125.64 92 *e*P PKPdf 19 04 05.1 -2.9
comp=Z,37nm,1.3s
CMAR Chiang Mai Arr 125.86 111 PKP PKPdf 19 04 06.1 -2.5
comp=Z,5.2nm,0.8s,baz=231,slow=3.5,SNR=33
JIRN Jiri 126.06 93 *e*P PKPdf 19 04 06.0 -2.8
comp=Z,68nm,1.1s
GUN Gumba 126.07 92 *e*P PKPdf 19 04 06.0 -2.8
comp=Z,59nm,1.2s
WALA Waterton Lakes 126.16 306 *e*PKPdf PKPdf 19 04 05.4 -3.0
JOF Joensuu 126.70 29 *e*pkp PKPdf 19 04 05.7 -3.3
SHL Shillong 127.67 99 *e*P PKPdf 19 04 10.0 -2.0
SHL *e* 19 11 40.0
EPH Ephrata 127.68 301 P PKPdf 19 04 09.6 -1.8
SUMG Summit 127.85 356 *e*PKPdf PKPdf 19 04 09.0 -2.1
EDM Edmonton 128.81 310 PKIKP PKPdf 19 04 10.9 -2.5
EDM Edmonton 128.81 310 *e*PKPdf PKPdf 19 04 10.3 -3.1
HTW Haystack Looko 129.06 300 P PKPdf 19 04 11.6 -2.5
RPW Rockport 129.37 301 P PKPdf 19 04 12.7 -1.9
AML Almayashu 129.54 71 P PKPdf 19 04 13.4 -1.7
SNR=8.1
EKS2 Erkin-Say 129.95 70 P PKPdf 19 04 14.2 -1.7
SNR=8.3
UCH Uchtor 130.04 71 P PKPdf 19 04 15.0 -1.1
SNR=8.7
AAK Ala-Archa 130.31 71 P PKPdf 19 04 15.0 -1.6
SNR=8.6
AAK Ala-Archa 130.31 71 *d i*PKIKP PKPdf 19 04 12.9 -3.7
AAK Ala-Archa 130.31 71 *e*PKPdf PKPdf 19 04 11.2 -5.3
AAK LR LR
comp=Z,295nm,20.0s,MS5.0
LSA Lhasa 130.43 95 *e*PKP PKPdf 19 04 16.4 -0.8
LSA Lhasa 130.43 95 *e*PKPdf PKPdf 19 04 15.0 -2.1
LSA *e*SKP 19 07 35.9
FRU Bishkek 130.51 71 *e*PKIKP PKPdf 19 04 14.5 -2.5
FRU *e* 19 04 26.0
FRU MLR MLR
comp=Z,1μm,20.0s,MS5.5
ARCES ARCESS Array B 130.53 22 PKP PKPdf 19 04 13.6 -2.7
comp=Z,46nm,1.1s,baz=210,slow=1.3,SNR=26
USP Ospenovka 130.75 70 P PKPdf 19 04 15.7 -1.7
SNR=5.2
APA Apatity 130.85 27 ⇑ *i*PKIKP PKPdf 19 04 14.7 -2.2
APA pmax pmax
comp=Z,26nm,1.0s
ARU Arti 131.68 48 *i* PKIKP PKPdf 19 04 14.8 -4.0
DAG Danmarks Havn 132.02 3 ⇓ *i*P PKPdf 19 04 17.3 -1.7
comp=Z,14nm,1.1s
SVE Sverdlovsk 132.82 49 *e*PKIKP PKPdf 19 04 18.9 -2.0
SVE pmax pmax
comp=Z,80nm,2.0s
BRVK Borovoye 134.89 57 PKIKP PKPdf 19 04 15.8 -9.1
BRVK *e* 19 04 23.0
BRVK MLR MLR
comp=Z,343nm,22.0s,MS5.0
BVA0 Borovoye Array 134.92 57 PKIKP PKPdf 19 04 22.7 -2.2
BVA0 pmax pmax
comp=Z,4.0nm,1.2s
BVAR Borovoye Array 134.92 57 SKPbc 19 07 53.1
comp=Z,3.2nm,0.9s,baz=220,slow=2.8,SNR=5.6
YKA Yellowknife Ar 135.27 319 PKP PKPdf 19 04 22.4 -2.9
comp=Z,16nm,1.0s,baz=129,slow=2.0,SNR=50
YKA PP PP 19 06 56.6 -5.3
comp=Z,2.3nm,0.9s,baz=120,slow=6.1,SNR=6.0
YKA SKPbc 19 07 50.7
comp=Z,3.9nm,0.9s,baz=129,slow=2.3,SNR=8.5
YKA Yellowknife Ar 135.27 319 PKP PKPdf 19 04 22.4 -2.9
YKA PP PP 19 06 56.6 -5.3
YKA SKPbc 19 07 50.7
YKW3 Yellowknife Ar 135.31 319 *e*PKPdf PKPdf 19 04 20.6 -4.8
YKW3 *e*PP PP 19 06 55.8 -6.4
YKW3 *e*SKP 19 07 50.5
CHKZ Chkalovo 135.42 57 *e*PKHKP 19 04 11.8
CHKZ *e* 19 04 23.6
RES Resolute Bay 137.01 339 *e*PKPpre 19 04 16.3
RES *e*PKPdf PKPdf 19 04 25.8 -2.3
RES *e*SKP 19 07 52.8
MK02 Makanchi Array 137.23 71 PKIKP PKPdf 19 04 25.5 -3.8
MK02 pmax pmax
comp=Z,13nm,1.1s
GUMO Guam 137.97 170 PFAKE 19 04 40.0 +8.5
GUMO LR LR
comp=Z,1μm,19.0s,MS5.7
WMQ Urumqi 138.35 78 PKP PKPdf 19 04 29.8 -1.7
WMQ XPKP 19 04 38.0
WMQ PP PP 19 07 23.5 +1.5
WMQ PKS PKS 19 08 04.5 +1.4
WMQ SKS SKS 19 11 35.0 -6.1
WMQ SKKS 19 14 09.4
WMQ LR LR
comp=N,1μm,29.5s,MS5.6
WMQ LR LR
comp=E,1μm,29.3s,MS5.6
WMQ LR LR
comp=Z,2μm,29.1s,MS5.6
DLBC Dease Lake 139.43 308 *e*PKPpre 19 04 21.8
DLBC *e*PKPdf PKPdf 19 04 29.6 -3.4
ENH Enshi 141.01 112 *e*PKPdf PKPdf 19 04 31.0 -5.6
SIT Sitka 141.20 304 PFAKE 19 04 50.0 +14
SIT LR LR
comp=Z,1μm,20.0s,MS5.6
NVS Novosibirsk 142.25 62 *i* PKIKP PKPdf 19 04 31.4 -6.5
NVS *e* 19 07 40.2
NVS pmax pmax
comp=Z,35nm,1.0s
NVS pmax pmax
comp=E,8.0nm,1.3s
NVS pmax pmax
comp=N,10.0nm,1.2s
LZH Lanzhou 142.32 100 PKP PKPdf 19 04 34.9 -3.7
LZH APKP 19 04 40.0
LZH XPKP 19 04 44.0
LZH PP PP 19 07 48.4 +2.5
LZH SS SS 19 26 19.2 +1.2
LZH PP PP
comp=Z,580nm,6.6s
LZH LR LR
comp=N,600nm,16.5s
LZH LR LR
comp=Z,1μm,22.3s
ZAL Zalesovo 142.59 64 PKhKP 19 04 32.1
comp=Z,2.3nm,0.5s,baz=204,slow=2.2,SNR=13
ZAL PKP PKPdf 19 04 36.5 -2.0
comp=Z,3.5nm,0.7s,baz=260,slow=3.3,SNR=12
XAN Xi'an 143.62 108 PKP PKPdf 19 04 36.8 -4.1
XAN APKP 19 04 47.0
INK Inuvik 144.90 321 *e*PKIKP PKPdf 19 04 39.0 -3.1
DAWY Dawson 145.89 313 *e*PKPdf PKPdf 19 04 41.4 -2.5
NJ2 Nanjing 147.20 122 *e*PKP PKPdf 19 04 46.1 -1.1
NJ2 XPKP 19 04 50.8
NJ2 PKS PKS 19 08 24.0 +6.2
NJ2 SKS SKS 19 11 54.0 -0.9
NJ2 PP PP
comp=Z,300nm,10.4s
NJ2 LR LR
comp=N,390nm,14.0s,MS5.7
NJ2 LR LR
comp=E,760nm,12.0s,MS5.7
NJ2 LR LR
comp=Z,150nm,13.1s,MS5.0
MENT Mentasta 147.40 310 *e*P PKPdf 19 04 47.3 +0.8
SSE Sheshan 147.52 126 PKP PKPdf 19 04 47.6 -0.1
SSE PP PP 19 08 19.8 +2.5
SSE SS SS 19 27 21.9 +4.5
SSE PP PP
comp=Z,174nm,7.4s
SSE LR LR
comp=N,510nm,19.6s,MS5.5
SSE LR LR
comp=E,503nm,19.6s,MS5.5
SSE LR LR
comp=Z,914nm,19.5s,MS5.6
EYAK Cordova Ski Ar 147.57 305 *e*PKPbc PKPdf 19 04 47.6 +0.7
DIV Divide 147.77 306 *e*PKPbc PKPdf 19 04 48.3 +1.2
DIV LR LR
comp=Z,2μm,20.0s,MS5.9
THY Trims Highway 148.42 310 *e*PKPdf PKPdf 19 04 44.2 -3.9
THY *e*PKPbc PKPdf 19 04 49.8 +1.7
SML Sawmill 149.15 307 PKP2 PKPab 19 04 51.8 -5.0
SML Sawmill 149.15 307 *e*PKPbc PKPdf 19 04 51.7 +2.4
ILAR Eielson Array 149.22 313 PKPbc PKPdf 19 04 52.0 +2.7
comp=Z,161nm,1.0s,baz=119,slow=2.4,SNR=369
COLA College 149.64 313 *c i*PKP2 PKPab 19 04 52.4 -6.3
COLA College 149.64 313 *e*P PKPdf 19 04 52.5 +2.5
SLKM Skilak Lake 149.66 304 *e*PKIKP PKPdf 19 04 45.6 -4.6
SLKM *e* 19 04 52.8
FIB Fire Island 149.83 305 *e*PKIKP PKPdf 19 04 46.7 -3.7
FIB *e* 19 04 54.5
FIB MLR MLR
comp=Z,932nm,21.0s,MS5.6
MCK McKinley 149.88 310 *e*PKIKP PKPdf 19 04 45.6 -4.8
MCK *e* 19 04 53.6
MCK MLR MLR
comp=Z,331nm,20.0s,MS5.1
KDAK Kodiak Island 149.98 298 *e*P PKPdf 19 04 53.3 +2.5
MOY Mondy 150.14 76 *e*PKIKP PKPdf 19 04 49.2 -2.0
SPU Mount Spurr 150.71 305 *e*PKPdf PKPdf 19 04 46.9 -4.9
SPU *e*PKPbc PKPdf 19 04 54.4 +2.6
ZAK Zakamensk 150.81 79 *e*PKIKP PKPdf 19 04 48.8 -3.4
ZAK *i* 19 04 56.2
RSO Redoubt South 150.86 303 *e*PKPbc PKPdf 19 04 55.4 +3.4
CBIJ Chichi jima 150.90 162 PKPbc PKPdf 19 04 55.2 +2.1
comp=Z,59nm,0.5s,baz=277,slow=15,SNR=6.6
SONM Songino Array 151.28 86 PKP PKPdf 19 04 50.8 -2.3
comp=Z,3.6nm,1.1s,baz=225,slow=3.5,SNR=19
SONM PKPbc PKPdf 19 04 57.2 +4.2
comp=Z,24nm,0.7s,baz=221,slow=3.5,SNR=149
TLY Talaya 151.62 77 *i* PKIKP PKPdf 19 04 57.6 +4.2
TLY pmax pmax
comp=Z,29nm,1.2s
TLY MLR MLR
comp=Z,895nm,20.0s,MS5.6
TLY Talaya 151.62 77 *e*PKPbc PKPdf 19 04 57.5 +4.1
TLY LR LR
comp=Z,227nm,20.0s,MS5.0
ULN Ulaanbaatar 151.67 86 *e*PKIKP PKPdf 19 04 50.7 -2.9
ULN *e* 19 04 58.1
ULN MLR MLR
comp=Z,1μm,21.0s,MS5.6
BJT Baijiatuau 151.93 108 PKIKP PKPdf 19 04 59.0 +4.7
BJT Baijiatuau 151.93 108 *e*PKPbc PKPdf 19 04 58.1 +3.8
IMA Indian Mountai 152.21 315 *e*PKIKP PKPdf 19 04 49.8 -4.1
IMA *e* 19 04 59.4
IRK Irkutsk 152.21 76 *e*PKIKP PKPdf 19 04 51.4 -2.9
IRK *e* 19 08 44.9
SVW2 Sparrevohn 152.36 304 *e*P PKPdf 19 04 58.1 +3.9
INCN Inchon 155.32 126 PFAKE 19 05 10.0 +11
INCN LR LR
comp=Z,1μm,19.0s,MS5.7
UNV Unalaska Valle 156.03 284 *e*PKPab PKPab 19 05 23.9 -2.1
UNV LR LR
comp=Z,2μm,20.0s,MS6.0
TNA Tin City 158.08 314 PFAKE 19 05 10.0 +8.3
TNA LR LR
comp=Z,527nm,19.0s,MS5.4
MAJO Matsushiro 159.01 148 PFAKE 19 05 10.0 +6.2
MAJO LR LR
comp=Z,756nm,21.0s,MS5.5
MAT Matsushiro 159.01 148 *e*PKP PKPdf 19 05 25.0 +21
MAT LR LR
comp=Z,710nm,20.0s,MS5.5
MAT Matsushiro 159.01 148 PKP2 PKPab 19 05 31.0 -8.3
BOD Bodaibo 159.25 68 *e*PKIKP PKPdf 19 04 59.2 -4.1
TIXI Tiksi 160.97 22 PKIKP PKPdf 19 05 10.0 +5.2
TIXI MLR MLR
comp=Z,975nm,20.0s
TIXI Tiksi 160.97 22 PFAKE 19 05 10.0 +5.2
TIXI LR LR
comp=Z,975nm,20.0s
MDJ Mudanjiang 162.22 118 PKP PKPdf 19 05 02.9 -3.9
MDJ PP PP 19 09 37.0 -0.9
MDJ SKS SKS 19 12 08.1 -3.0
MDJ PP PP
comp=Z,151nm,6.3s
MDJ LR LR
comp=N,329nm,20.1s
MDJ LR LR
comp=E,381nm,23.2s
MDJ LR LR
comp=Z,507nm,23.2s
CLNS Chul'man 164.97 73 *e*PKIKP PKPdf 19 05 03.5 -5.7
CLNS pmax pmax
comp=Z,22nm,1.2s
CLNS pmax pmax
comp=N,5.0nm,0.8s
BILL Bilibino 165.61 338 *e*PKIKP PKPdf 19 05 03.9 -5.5
BILL MLR MLR
comp=Z,845nm,20.0s
BILL Bilibino 165.61 338 *e*PKPdf PKPdf 19 05 03.9 -5.5
BILL LR LR
comp=Z,845nm,20.0s
KLR Kul'dur 166.33 108 *e*PKIKP PKPdf 19 05 05.7 -4.9
YAK Yakutsk 166.78 51 *e*PKIKP PKPdf 19 05 06.8 -3.7
YAK MLR MLR
comp=Z,1μm,19.0s
YSS Yuzh-Sakhalins 169.86 142 *e*PKIKP PKPdf 19 05 20.2 +7.4
YSS MLR MLR
comp=E,600nm,18.0s
YSS MLR MLR
comp=Z,1μm,18.0s
YSS Yuzh-Sakhalins 169.86 142 PFAKE 19 05 20.0 +7.2
YSS LR LR
comp=Z,1μm,20.0s

NIED ***08*** *19:03:00, 33.30N×137.50E, h8km, Mw3.6 Best double couple: M0=2.69×10^14 NP1:φs=96°, δ65°, λ93°. NP2:φs=269°, δ25°, λ83°.*
JMA ***08*** *19:03:37.5±0.1, 33.33N×137.53E, h56km±1km, M3.7*
IDC ***08*** *19:03:37.2±1.3, 32.76N×137.95E, mb3.5/3, mb1 3.7/3, mb1mx3.5/20, mbtmp3.5/3, Error ellipse: s-maj=30.3km s-min=23.3km az=168.0*
ISC 08 19:03:37.3±0.6, 33.31N±0.05×137.51E±0.03, h50km±9km, n21, σ0°70/35, mb3.7/2, 6D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.46**	**8**	P	**P**	**19 03 48.6**	**+0.5**
TK01				S	**S**	**19 03 56.4**	**+0.5**
TK02	**Tokai 2**	**0.67**	**18**	⇓P	**P**	**19 03 50.6**	**-0.1**
TK02				S	**S**	**19 04 00.8**	**+0.3**
TK03	**Tokai 3**	**0.94**	**24**	P	**P**	**19 03 54.3**	**0.0**
TK03				S	**S**	**19 04 07.3**	**+0.4**
TK04	**Tokai 4**	**1.12**	**16**	⇓P	**P**	**19 03 57.1**	**+0.3**
JIE	**Ise**	**1.27**	**328**	⇓P	**P**	**19 03 59.5**	**+0.4**
JIE				S	**S**	**19 04 14.6**	**-0.7**
JAA	**Atsumi**	**1.36**	**347**	⇓P	**P**	**19 04 00.5**	**+0.2**
JAA				S	**S**	**19 04 16.5**	**-0.9**
JWZ	**Kozaga**	**1.52**	**279**	P	**P**	**19 04 02.3**	**-0.3**
JWZ				S	**S**	**19 04 19.9**	**-1.4**
TSUJ	**Tsu 2**	**1.67**	**327**	⇓P	**P**	**19 04 05.3**	**+0.7**
TSUJ				S	**S**	**19 04 25.4**	**+0.4**
JIZS	**Izushimoda**	**1.81**	**39**	P	**P**	**19 04 06.5**	**-0.1**
JIZS				S	**S**	**19 04 27.1**	**-1.3**
JMY	**Miyakejima3**	**1.83**	**65**	P	**P**	**19 04 06.8**	**-0.2**
JWY	**Kouya**	**1.84**	**300**	P	**P**	**19 04 07.9**	**+0.9**
JWY				S	**S**	**19 04 28.8**	**-0.3**
SHZ3	**Shizuoka 3**	**1.85**	**18**	⇓P	**P**	**19 04 06.9**	**-0.3**
SHZ3				S	**S**	**19 04 28.5**	**-0.9**
JWM	**Minabe**	**1.88**	**287**	P	**P**	**19 04 07.9**	**+0.3**
JWM				S	**S**	**19 04 29.6**	**-0.6**
JHJ	**Hachijo jima 2**	**1.91**	**95**	Pn	**P**	**19 04 07.5**	**-0.6**
	16nm,0.3s,baz=40,slow=19,SNR=5.9						
JHJ				Sn	**S**	**19 04 28.3**	**-2.8**
	30nm,0.3s,baz=70,slow=21,SNR=4.6						
JHJ2	**Mitsune**	**1.94**	**95**	P	**P**	**19 04 09.0**	**+0.5**
JHE	**Heguri**	**2.03**	**312**	P	**P**	**19 04 10.3**	**+0.6**
JHE				S	**S**	**19 04 33.8**	**0.0**
JIM2	**Oshima 3**	**2.13**	**48**	P	**P**	**19 04 11.0**	**-0.1**
JIM2				S	**S**	**19 04 37.7**	**+1.3**
MAT	**Matsushiro**	**3.28**	**10**	P	**P**	**19 04 28.4**	**+0.9**
MAT				S	**S**	**19 05 05.6**	**0.0**
SONM	**Songino Array**	**27.51**	**311**	P	pP	19 09 31.1	-2.6
	0.8nm,1.0s,baz=101,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**53.04**	**184**	P	**P**	**19 12 51.9**	**+0.2**
	1.0nm,0.8s,mb3.8,baz=1.9,slow=7.8,SNR=5.7						
ASAR	**Alice Springs**	**56.76**	**184**	P	**P**	**19 13 19.5**	**+0.8**
	0.5nm,0.8s,mb3.6,baz=10,slow=10,SNR=4.2						

IDC ***08*** *19:06:45.5±2.3, 4.09N×92.55E, mb3.8/6, mb1 4.0/7, mb1mx3.9/18, mbtmp3.8/7, ML3.5/1, MS3.8/2, Ms1 4.0/2, ms1mx3.0/19, Error ellipse: s-maj=87.3km s-min=21.4km az=63.0*
ISC 08 19:06:49.3±0.9, 4.1N±0.1×92.7E±0.2, h33km, n16, σ0°83/15, mb4.2/11, MS4.8/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.51**	**23**	Pn	**P**	**19 10 26.4**	**-1.0**
	0.1nm,0.3s,baz=217,slow=13,SNR=14						
CMAR				LR	LR	19 17 26.9	
	comp=Z,56nm,19.5s,baz=9.5,slow=41						
HYB	**Hyderabad**	**19.19**	**315**	*e*P	**P**	**19 11 12.5**	**-0.7**
HYB				*e*		19 14 10.0	
IMP	**Imphal**	**20.60**	**3**	*e*	**P**	**19 11 29.5**	**+1.2**
IMP				*e*P		19 11 29.5	
JIRN	**Jiri**	**24.25**	**346**	*e*P	**P**	**19 12 04.6**	**0.0**
	9.9nm,0.7s,mb4.3						
PKI	**Pulchoki**	**24.37**	**344**	*e*P	**P**	**19 12 06.3**	**+0.6**
	14nm,1.1s,mb4.3						
GUN	**Gumba**	**24.57**	**345**	*e*P	**P**	**19 12 08.2**	**+0.6**
	11nm,0.8s,mb4.5						
KKN	**Kakani**	**24.61**	**344**	*e*P	**P**	**19 12 08.6**	**+0.5**
	22nm,1.3s,mb4.5						
GKN	**Gorkha**	**25.00**	**343**	*e*P	**P**	**19 12 12.2**	**+0.5**
KOLN	**Koldanda**	**25.10**	**341**	*e*P	**P**	**19 12 13.4**	**+0.6**
	10.0nm,1.0s,mb4.3						
SONM	**Songino Array**	**45.13**	**13**	P	**P**	**19 15 04.6**	**+0.1**
	1.1nm,1.1s,mb3.6,baz=191,slow=8.2,SNR=3.3						
WRA	**Warramunga Arr**	**47.34**	**122**	P	**P**	**19 15 21.6**	**-0.8**
	1.4nm,0.7s,mb4.0,baz=300,slow=8.8,SNR=7.6						
ASAR	**Alice Springs**	**48.69**	**127**	P	**P**	**19 15 33.6**	**+0.9**
	1.4nm,1.0s,mb4.0,baz=299,slow=6.9,SNR=4.7						
ZAL	**Zalesovo**	**50.11**	**354**	P	**P**	**19 15 42.1**	**-1.2**
	0.8nm,0.3s,mb4.2,baz=287,slow=5.8,SNR=3.1						
BVAR	**Borovoye Array**	**52.13**	**343**	P	**P**	**19 15 56.7**	**-1.8**
	1.2nm,0.8s,mb3.9,baz=143,slow=7.4,SNR=5.1						
STKA	**Stephens Creek**	**58.60**	**131**	P	**P**	**19 16 45.8**	**+0.2**
	1.3nm,0.7s,mb4.1,baz=322,slow=10.0,SNR=4.6						
ARCES	**ARCESS Array B**	**78.33**	**341**	LR	LR	19 57 46.2	
	comp=Z,385nm,18.7s,MS4.8,baz=215,slow=39						

NEIC ***08*** *19:20:41.5±4.4, 3.53S×101.47E, h44km±40km, mb4.6/8, Error ellipse: s-maj=21.5km s-min=7.8km az=56.0*
IDC ***08*** *19:20:42.0±1.0, 3.53S×101.50E, h45km±4km, mb4.0/10, mb1 4.2/10, mb1mx4.1/15, mbtmp4.3/10, Error ellipse: s-maj=49.5km s-min=11.6km az=53.0*
ISC 08 19:20:40.4±0.6, 3.5S±0.1×101.6E±0.1, h47km, h47km±1.5km: pP-P, n29, σ1°01/27, mb4.6/24, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.97**	**353**	P	**P**	**19 25 32.7**	**+0.7**
	1.6nm,0.5s,mb3.7,baz=180,slow=7.5,SNR=6.8						
CMAR				PcP	PcP	19 29 31.1	+0.8
	0.5nm,0.7s,baz=186,slow=1.9,SNR=4.7						
JIRN	**Jiri**	**34.35**	**335**	*e*P	**P**	**19 27 25.7**	**+0.7**
	14nm,0.8s,mb5.0						
ENH	**Enshi**	**34.42**	**12**	*e*P	**P**	**19 27 24.4**	**-1.2**
	5.9nm,0.5s,mb4.8						
PKI	**Pulchoki**	**34.61**	**334**	*e*P	**P**	**19 27 27.7**	**+0.5**
	3.5nm,0.7s,mb4.4						
GUN	**Gumba**	**34.70**	**335**	*e*P	**P**	**19 27 28.9**	**+0.9**
	22nm,0.7s,mb5.2						
DMN	**Daman**	**34.77**	**334**	*e*P	**P**	**19 27 29.7**	**+1.1**
KKN	**Kakani**	**34.85**	**334**	*e*P	**P**	**19 27 30.0**	**+0.7**
	11nm,0.7s,mb4.9						
GKN	**Gorkha**	**35.32**	**334**	*e*P	**P**	**19 27 34.2**	**+0.9**
	13nm,0.8s,mb4.9						
KOLN	**Koldanda**	**35.59**	**332**	*e*P	**P**	**19 27 36.8**	**+1.2**
	18nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**35.88**	**120**	P	**P**	**19 27 38.1**	**0.0**
	1.5nm,0.4s,mb4.3,baz=303,slow=9.1,SNR=28						
WRA				pP	pP	19 27 50.2	-0.5
	0.7nm,0.4s,baz=303,slow=8.8,SNR=3.2						
WRAB	**Tennant Creek**	**35.88**	**120**	*e*P	**P**	**19 27 38.2**	**+0.1**
	25nm,1.3s,mb5.0						
WB2	**Warramunga Arr**	**35.89**	**120**	*e*P	**P**	**19 27 37.7**	**-0.5**
ASPA	**Alice Springs**	**37.09**	**126**	*e*P	**P**	**19 27 49.1**	**+0.8**
ASAR	**Alice Springs**	**37.10**	**126**	P	**P**	**19 27 48.6**	**+0.3**
	1.8nm,0.4s,mb4.2,baz=298,slow=8.0,SNR=49						
ASAR				pP	pP	19 28 01.6	+0.7
	1.7nm,0.4s,baz=294,slow=7.7,SNR=19						
PMG	**Port Moresby**	**45.63**	**100**	P	**P**	**19 28 50.9**	**-7.6**
	28nm,1.1s,mb5.1						
STKA	**Stephens Creek**	**46.98**	**132**	P	**P**	**19 29 09.4**	**+0.5**
	4.8nm,0.8s,mb4.5,baz=304,slow=8.6,SNR=9.1						
STKA				pP	pP	19 29 20.8	-0.9
	4.4nm,0.8s,baz=322,slow=9.1,SNR=2.8						
SONM	**Songino Array**	**51.30**	**4**	P	**P**	**19 29 42.3**	**+0.3**
	3.2nm,0.6s,mb4.4,baz=190,slow=9.3,SNR=38						
SONM				sP	sP	19 30 00.3	0.0
	1.1nm,0.5s,baz=187,slow=10,SNR=4.4						
SONM				PcP	PcP	19 30 56.0	-0.6
	0.3nm,0.5s,baz=199,slow=3.4,SNR=2.1						
ULN	**Ulaanbaatar**	**51.38**	**5**	*e*P	**P**	**19 29 42.7**	**+0.1**
	3.7nm,1.0s,mb4.3						
ZAL	**Zalesovo**	**58.93**	**349**	P	**P**	**19 30 35.8**	**-1.3**
	2.7nm,0.5s,mb4.6,baz=295,slow=4.8,SNR=16						
ZAL				pP	pP	19 30 49.4	-1.0
	1.2nm,0.5s,baz=164,slow=1.3,SNR=2.7						
ZAL				sP	sP	19 30 55.0	-0.8
	0.8nm,0.5s,baz=305,slow=5.5,SNR=2.7						
BVAR	**Borovoye Array**	**62.13**	**339**	P	**P**	**19 30 57.3**	**-1.7**
	1.6nm,0.6s,mb4.4,baz=143,slow=10,SNR=13						
BVAR				pP	pP	19 31 11.5	-0.8
	0.8nm,0.5s,baz=146,slow=11,SNR=3.5						
BVAR				sP	sP	19 31 17.0	-0.7
	1.3nm,0.6s,baz=141,slow=9.5,SNR=5.3						
BVAR				PcP	PcP	19 31 38.0	-0.5
	0.7nm,0.6s,baz=135,slow=2.0,SNR=2.2						
BRVK	**Borovoye**	**62.20**	**339**	*e*P	**P**	**19 30 57.4**	**-2.0**
	2.9nm,0.9s,mb4.4						
CHKZ	**Chkalovo**	**62.58**	**340**	*e*P	**P**	**19 31 00.5**	**-1.5**
	3.6nm,0.7s,mb4.6						
CHKZ				*e*	pP	19 31 14.0	-1.3
CHKZ				*e*		19 31 20.0	
KMBO	**Kilima Mbogo**	**64.31**	**270**	P	**P**	**19 31 12.1**	**-1.9**
	2.9nm,0.9s,mb4.3						
YAK	**Yakutsk**	**68.80**	**14**	P	**P**	**19 31 39.8**	**-1.7**

6.6nm,0.8s,mb4.6
BRTR Keskin Array B 75.50 312 P **P 19 32 21.7 0.0**
1.4nm,0.5s,mb4.2,baz=143,slow=7.3,SNR=6.7
FINES FINESS Array B 86.17 332 P **P 19 33 18.4 +0.8**
2.0nm,0.9s,mb4.4,SNR=4.4
ARCES ARCESS Array B 88.41 340 P **P 19 33 29.3 +1.0**
4.2nm,1.0s,mb4.6,baz=36,slow=10,SNR=3.6
TXAR Lajitas Array 144.87 40 PKP PKPdf 19 40 14.5 +1.5
2.6nm,0.6s,baz=267,slow=0.7,SNR=20
TXAR pPKP 19 40 28.1
0.7nm,0.6s,baz=315,slow=1.3,SNR=3.1
TXAR Lajitas Array 144.87 40 PKP PKPdf 19 40 14.5 +1.5
TXAR pPKP 19 40 28.1

CASC 08 19:28:34.4±2.8, 11.16N×86.34W, h4km±13km, MD3.7, ML3.0, 7C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APON	**Apoyo**	**0.79**	**20⇑**	*e*P	Pg	19 28 50.6	+0.3
CONN	**Concepcion**	**0.80**	**60⇓**	*e*P	Pg	19 28 50.9	+0.5
TICN	**Ticuantepe**	**0.87**	**7⇑**	*e*P	Pb	19 28 51.8	+0.1
XAVN	**Gruta Xavier**	**0.98**	**1⇑**	*e*P	Pb	19 28 53.0	-0.5
MGAN	**Managua**	**0.98**	**5⇓**	*e*P	Pb	19 28 53.3	-0.2
MGAN				*e*S	Sb	19 29 07.6	+1.0
	comp=E,318nm,0.5s						
COPN	**Copaltepe**	**1.04**	**346⇑**	*e*P	Pb	19 28 53.4	-1.1
APYN	**Apoyeque**	**1.06**	**359⇑**	*e*P	Pb	19 28 54.2	-0.7
MOMJ	**Momotombo**	**1.25**	**351⇑**	*e*P	Pb	19 28 56.5	-1.7
MOMJ				*e*S	Sb	19 29 14.0	-0.5
MIRN	**Miramar**	**1.32**	**344⇑**	*e*P	Pb	19 28 57.2	-2.2
TEL3	**Telica 3**	**1.48**	**341⇓**	*e*P	Pn	19 28 59.5	-2.4
JCR	**Jicaral**	**1.78**	**137**	*e*P	Pn	19 29 06.9	+0.8
PRS1	**Puriscal**	**2.31**	**120**	*e*P	Pn	19 29 13.9	+0.1
TRTC	**Tortuguero**	**2.64**	**103**	*e*P	Pn	19 29 18.3	-0.2
LCR2	**La Lucha 2**	**2.70**	**121**	*e*P	Pn	19 29 20.0	+0.8
LCR2				*e*S	Sn	19 29 54.5	+1.8
URSC	**Urasca**	**2.84**	**117**	*e*P	Pn	19 29 21.7	+0.3
URSC				*e*S	Sn	19 29 57.6	+1.2

*CSEM **08** 19:34:31.1±0.8, 38.62N×28.57W, h2km±9km, ML2.0, Error ellipse: s-maj=3.4km s-min=2.0km az=38.0, After PDA*
*PDA **08** 19:34:31.1±0.8, 38.62N×28.57W, h2km±9km, MD2.7, ML2.0, Error ellipse: s-maj=3.4km s-min=2.0km az=38.0*
SVSA 08 19:34:31.1±0.8, 38.62N×28.57W, h2km±9km, MD2.7, ML2.0, Error ellipse: s-maj=3.4km s-min=2.0km az=38.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.10**	**272**	*e*P	Pg	19 34 33.2	0.0
PCED				*e*S	Sg	19 34 34.4	-0.2
	146nm,0.1s						
PCED	**Cedros**	**0.10**	**272**	*e*P	Pg	19 34 33.2	0.0
PCED				*e*S	Sg	19 34 34.4	-0.2
	146nm,0.1s						
HOR	**Horta**	**0.11**	**205**	*e*P	Pg	19 34 33.3	0.0
HOR				*e*S	Sg	19 34 34.7	0.0
CALA	**Caldeira**	**0.11**	**247**	*e*P	Pg	19 34 33.4	+0.1
CALA				*e*S	Sg	19 34 35.1	+0.3
PICO	**Pico**	**0.17**	**137**	*e*P	Pg	19 34 33.5	-1.0
PICO				*e*S	Sg	19 34 36.8	+0.1
ROSA	**Rosais**	**0.28**	**70**	*e*S	Sg	19 34 40.0	-0.3
PMAN	**Manadas**	**0.38**	**89**	*e*rx		19 34 40.7	

*BJI **08** 20:02:08.2, 11.12N×92.07E, h36km, mB5.2, mb4.6, Ms4.5, Msz4.3*
*IDC **08** 20:02:08.5±0.8, 11.37N×92.23E, mb4.4/13, mb1 4.4/14, mb1mx4.4/19, mbtmp4.3/14, ML3.6/1, Error ellipse: s-maj=32.1km s-min=15.6km az=50.0*
*MOS **08** 20:02:12.0±0.8, 11.47N×92.32E, h33km, mb5.0/10, Error ellipse: s-maj=18.8km s-min=10.9km az=101.1*
*NEIC **08** 20:02:13.1±0.3, 11.40N×92.23E, h30km, mb4.8/25, Error ellipse: s-maj=6.5km s-min=5.9km az=204.0*
ISC 08 20:02:11.6±0.4, 11.37N±0.05×92.19E±0.04, h33km, (h27km±3.3km:pP-P), n102, σ1§08/107, mb4.7/45, MS4.6/3, 5C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.61**	**62**	*i*P	**P**	**20 02 25.8**	**+2.1**
PBA				*e*S	**S**	**20 02 34.6**	**+2.1**
PBA				*e*		20 02 36.0	
	comp=N,54μm,0.5s						
PBA				*e*		20 02 36.1	
	comp=E,45μm,0.6s						
CMAR	**Chiang Mai Arr**	**9.60**	**42**	P	**P**	**20 04 28.8**	**-1.9**
CMAR	**Chiang Mai Arr**	**9.60**	**42**	Pn	**P**	**20 04 28.9**	**-1.8**
	comp=E,0.2nm,0.3s,baz=234,slow=15,SNR=9.7						
VIS	**Vishakhapatnam**	**10.65**	**307**	*e*P	**P**	**20 04 41.3**	**-3.8**
VIS				*e*S	**S**	**20 06 29.5**	**-15**
VIS				*e*		20 06 34.0	
	comp=E,140nm,0.5s						
VIS				*e*		20 06 34.8	
	comp=N,101nm,0.3s						
BWNR	**Bhubaneshwar**	**10.79**	**326**	*e*P	**P**	**20 04 40.1**	**-6.9**
BWNR				*e*S	**S**	**20 06 32.2**	**-15**
BWNR				*e*		20 06 33.4	
	comp=N,85nm,0.3s						
BWNR				*e*		20 06 33.5	
	comp=E,200nm,0.4s						
PALK	**Pallekele**	**12.05**	**251**	*e*P	**P**	**20 05 03.4**	**-0.6**
PALK				*e*S	**S**	**20 07 03.0**	**-15**
IMP	**Imphal**	**13.44**	**7**	*e*	**P**	**20 05 19.3**	**-3.3**
SHL	**Shillong**	**14.12**	**359**	*e*P	**P**	**20 05 30.0**	**-1.6**
SHL				*e*S	**S**	**20 08 02.0**	**-6.1**
HYB	**Hyderabad**	**14.51**	**296**	*e*P	**P**	**20 05 35.0**	**-1.7**
HYB	**Hyderabad**	**14.51**	**296**	*i*P	**P**	**20 05 35.0**	**-1.7**
TRD	**Trivandrum**	**15.27**	**261**	*e*	**P**	**20 05 38.2**	**-8.5**
JIRN	**Jiri**	**17.16**	**342**	*e*P	**P**	**20 06 10.3**	**-0.2**
	comp=E,38nm,1.0s						
PKI	**Pulchoki**	**17.33**	**339**	*e*P	**P**	**20 06 12.2**	**-0.5**
	comp=E,79nm,1.2s						
DMN	**Daman**	**17.47**	**339**	*e*P	**P**	**20 06 14.3**	**-0.2**
	comp=E,41nm,1.0s						
GUN	**Gumba**	**17.49**	**341**	*e*P	**P**	**20 06 14.7**	**0.0**
	comp=E,81nm,1.5s						
KKN	**Kakani**	**17.58**	**339**	*e*P	**P**	**20 06 16.1**	**+0.3**
	comp=E,54nm,1.1s						
GKN	**Gorkha**	**18.00**	**338**	*e*P	**P**	**20 06 20.8**	**-0.2**
	comp=E,84nm,1.2s						
KOLN	**Koldanda**	**18.20**	**335**	*e*P	**P**	**20 06 23.2**	**-0.4**
	comp=E,22nm,0.8s						
LSA	**Lhasa**	**18.27**	**357**	*e*P	**P**	**20 06 27.1**	**+2.7**
LSA	**Lhasa**	**18.27**	**357**	*e*P	**P**	**20 06 24.4**	**0.0**
	comp=E,15nm,0.7s						
POO	**Poona**	**19.09**	**294**	*e*P	**P**	**20 06 35.0**	**+0.6**
NDI	**New Delhi**	**22.20**	**323**	*e*P	**P**	**20 07 06.5**	**-0.2**
ENH	**Enshi**	**24.74**	**38**	*e*P	**P**	**20 07 31.4**	**-0.2**
	comp=E,63nm,1.1s,mb5.1						
LZH	**Lanzhou**	**26.77**	**21**	*e*P	**P**	**20 07 50.5**	**0.0**
LZH				AP	pP	20 07 58.5	-1.5
LZH				XP	sP	20 08 04.5	+0.5
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.6						
XAN	**Xi'an**	**27.25**	**31**	P	**P**	**20 07 53.2**	**-1.8**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.0						
NJ2	**Nanjing**	**32.05**	**46**	*e*P	**P**	**20 08 35.9**	**-1.8**
NJ2				AP	pP	20 08 45.6	-1.7
NJ2				XP	sP	20 08 49.4	-2.3
NJ2				PP	PP	20 09 41.2	-3.3
NJ2				PPP	PPP	20 09 57.0	-2.5
NJ2				S	**S**	**20 13 40.0**	**-6.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,466nm,4.2s						
NJ2				LR	LR		
	comp=N,350nm,12.0s,MS4.5						
NJ2				LR	LR		
	comp=E,410nm,11.1s,MS4.5						
NJ2				LR	LR		
	comp=Z,1μm,16.3s						
WMQ	**Urumqi**	**32.57**	**354**	*e*P	**P**	**20 08 42.8**	**+0.7**
WMQ				AP	pP	20 08 50.2	-1.5
WMQ				XP	sP	20 08 53.6	-2.5
WMQ				PP	PP	20 09 51.4	+0.3
WMQ				S	**S**	**20 13 55.3**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,48nm,5.3s						
WMQ				LR	LR		
	comp=N,2μm,17.9s,MS4.9						
WMQ				LR	LR		
	comp=E,1μm,20.8s,MS4.9						
WMQ				LR	LR		
	comp=Z,1μm,18.7s,MS4.6						
SSE	**Sheshan**	**33.23**	**49**	P	**P**	**20 08 44.1**	**-3.9**
SSE				AMB	AMB		
	comp=Z,23nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,227nm,11.2s						
ULHL	**Ulahol**	**33.77**	**338**	P	**P**	**20 08 47.1**	**-5.4**
	SNR=6.5						
UCH	**Uchtor**	**34.40**	**336**	P	**P**	**20 08 57.7**	**-0.2**
	SNR=7.2						
KBK	**Karagaybulak**	**34.60**	**337**	P	**P**	**20 09 01.5**	**+1.9**
	SNR=5.1						
AML	**Almayashu**	**34.65**	**335**	P	**P**	**20 09 02.2**	**+2.1**
	SNR=7.3						
AAK	**Ala-Archa**	**34.76**	**337**	*i*P	**P**	**20 09 00.3**	**-0.7**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
AAK	**Ala-Archa**	**34.76**	**337**	*e*P	**P**	**20 09 00.1**	**-0.8**
	comp=Z,16nm,1.2s,mb4.8						
EKS2	**Erkin-Say**	**35.06**	**336**	P	**P**	**20 09 05.6**	**+2.0**
	SNR=5.0						
USP	**Ospenovka**	**35.29**	**337**	P	**P**	**20 09 07.0**	**+1.4**
	SNR=6.3						
BJT	**Baijiatuau**	**35.55**	**32**	*e*P	**P**	**20 09 07.5**	**-0.3**
	comp=Z,22nm,1.5s,mb4.9						
SONM	**Songino Array**	**38.26**	**15**	P	**P**	**20 09 30.2**	**-0.2**
	comp=Z,4.7nm,0.8s,mb4.2,baz=204,slow=7.8,SNR=36						
SONM				PcP	PcP	20 11 45.3	+0.5
	comp=Z,1.2nm,0.8s,baz=186,slow=4.0,SNR=4.5						
ULN	**Ulaanbaatar**	**38.46**	**16**	*i*P	**P**	**20 09 32.7**	**+0.6**
ULN	**Ulaanbaatar**	**38.46**	**16**	*e*P	**P**	**20 09 32.6**	**+0.4**
	comp=Z,6.5nm,1.0s,mb4.3						
ZAK	**Zakamensk**	**39.95**	**11**	⇓*i*P	**P**	**20 09 45.1**	**+0.6**
ZAK				*e*		20 11 49.3	
TLY	**Talaya**	**41.27**	**11**	*e*P	**P**	**20 09 56.3**	**+0.9**
	comp=Z,6.4nm,0.9s,mb4.2						
MBWA	**Marble Bar**	**42.16**	**140**	*e*P	**P**	**20 10 03.0**	**-0.1**
	comp=Z,27nm,1.2s,mb4.8						
ZAL	**Zalesovo**	**42.87**	**354**	*i*P	**P**	**20 10 08.8**	**+0.4**
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ZAL	**Zalesovo**	**42.87**	**354**	P	**P**	**20 10 08.4**	**-0.1**
	comp=Z,5.4nm,0.7s,mb4.4,baz=294,slow=7.2,SNR=35						
NVS	**Novosibirsk**	**43.94**	**353**	*e*P	**P**	**20 10 16.6**	**-0.5**
HIA	**Hailar**	**44.15**	**26**	P	**P**	**20 10 16.6**	**-2.3**
BVAR	**Borovoye Array**	**45.09**	**342**	P	**P**	**20 10 25.8**	**-0.5**
	comp=Z,1.9nm,0.6s,mb4.1,baz=142,slow=8.1,SNR=22						
BVAR				PcP	PcP	20 12 06.7	-0.4
	comp=Z,1.4nm,0.7s,baz=162,slow=4.7,SNR=5.7						
BRVK	**Borovoye**	**45.15**	**341**	*e*P	**P**	**20 10 26.9**	**+0.1**
	comp=Z,9.5nm,1.1s,mb4.5						
CHKZ	**Chkalovo**	**45.58**	**342**	*e*P	**P**	**20 10 30.5**	**+0.3**
	comp=Z,28nm,1.1s,mb5.1						
MDJ	**Mudanjiang**	**46.09**	**37**	P	**P**	**20 10 31.5**	**-3.0**
MDJ				AMB	AMB		
	comp=Z,16nm,2.4s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,238nm,6.1s						
GNI	**Garni**	**50.65**	**313**	*c i*P	**P**	**20 11 12.0**	**+2.1**
GNI				pmax	pmax		
	comp=Z,16nm,1.1s						
GNI	**Garni**	**50.65**	**313**	P	**P**	**20 11 11.5**	**+1.7**
	comp=Z,6.2nm,0.9s,mb4.5,baz=149,slow=10,SNR=7.0						
GNI	**Garni**	**50.65**	**313**	*e*P	**P**	**20 11 11.3**	**+1.4**
	comp=Z,26nm,1.2s,mb5.0						
WRA	**Warramunga Arr**	**51.86**	**127**	*i*P	**P**	**20 11 14.1**	**-5.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**51.86**	**127**	P	**P**	**20 11 19.1**	**-0.2**
	comp=Z,1.5nm,0.5s,mb4.2,baz=308,slow=8.2,SNR=41						
WRAB	**Tennant Creek**	**51.86**	**127**	*i*P	**P**	**20 11 22.0**	**+2.7**
WRAB	**Tennant Creek**	**51.86**	**127**	*e*P	**P**	**20 11 19.1**	**-0.1**
	comp=Z,5.6nm,0.5s,mb4.8						
ARU	**Arti**	**51.94**	**337**	*e*P	**P**	**20 11 12.2**	**-7.2**
KIV	**Kislovodsk**	**53.46**	**317**	*c i*P	**P**	**20 11 32.1**	**+1.2**
KIV				*e*		20 12 38.9	
KIV				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
KIV	**Kislovodsk**	**53.46**	**317**	*e*P	**P**	**20 11 31.2**	**+0.3**
	comp=Z,16nm,0.9s,mb5.0						
ASAR	**Alice Springs**	**53.63**	**131**	P	**P**	**20 11 32.0**	**-0.4**
	comp=Z,2.0nm,0.9s,mb4.1,baz=309,slow=7.0,SNR=20						
MALT	**Malatya**	**54.77**	**309**	*e*P	**P**	**20 11 41.0**	**+0.5**
	comp=Z,7.1nm,1.1s,mb4.6						
YSS	**Yuzh-Sakhalins**	**55.29**	**40**	*e*P	**P**	**20 11 42.5**	**-1.8**
	comp=Z,32nm,1.2s,mb5.2						
SOC	**Sochi**	**55.35**	**316**	*e*P	**P**	**20 11 44.4**	**-0.3**
SOC				*e*		20 13 51.0	
SOC				*e*S	**S**	**20 19 26.0**	**+1.1**
SOC				*e*SS	SS	20 23 15.2	+5.9
SOC				*e*SSS	SSS	20 25 17.6	+4.2
SOC				pmax	pmax		
	comp=Z,38nm,1.5s,mb5.2						
SOC				pmax	pmax		
	comp=N,39nm,1.3s						
SOC				pmax	pmax		
	comp=E,21nm,0.6s						
EIL	**Elat**	**56.06**	**298**	P	**P**	**20 11 49.9**	**-0.2**
	comp=E,7.4nm,1.0s,mb4.7						
YAK	**Yakutsk**	**57.35**	**20**	*e*P	**P**	**20 11 57.2**	**-1.6**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
YAK	**Yakutsk**	**57.35**	**20**	*e*P	**P**	**20 11 57.0**	**-1.8**
	comp=Z,18nm,1.0s,mb5.0						
BRTR	**Keskin Array B**	**58.72**	**310**	P	**P**	**20 12 07.9**	**-0.8**
	comp=Z,2.0nm,0.6s,mb4.3,baz=126,slow=8.1,SNR=14						
OBN	**Obninsk**	**61.42**	**327⇑**	*e*P	**P**	**20 12 26.5**	**-0.4**
OBN				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.0						
OBN				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.5						
OBN	**Obninsk**	**61.42**	**327**	*e*P	**P**	**20 12 25.7**	**-1.2**
	comp=Z,25nm,1.2s,mb5.2						
STKA	**Stephens Creek**	**63.90**	**134**	P	**P**	**20 12 42.5**	**-1.2**
	comp=Z,4.3nm,1.2s,mb4.3,baz=296,slow=10,SNR=3.7						
TIXI	**Tiksi**	**64.22**	**12⇑**	*i*P	**P**	**20 12 44.6**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.9						
MA2	**Magadan**	**64.61**	**29**	*i*P	**P**	**20 12 47.1**	**-0.8**
MA2				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.7						
MA2	**Magadan**	**64.61**	**29**	*e*P	**P**	**20 12 47.4**	**-0.5**
	comp=Z,11nm,0.8s,mb5.0						
JOF	**Joensuu**	**66.89**	**334**	*e*p	**P**	**20 12 55.8**	**-6.6**
	comp=Z,13nm,0.8s,mb5.0						
JOF	**Joensuu**	**66.89**	**334**	*e*P	**P**	**20 12 55.8**	**-6.6**
JOF				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
LSZ	**Lusaka**	**68.68**	**249**	*e*P	**P**	**20 13 13.3**	**-1.1**
	comp=Z,13nm,1.4s,mb4.7						
FINES	**FINESS Array B**	**68.74**	**332**	P	**P**	**20 13 14.2**	**+0.2**
FINES	**FINESS Array B**	**68.74**	**332**	P	**P**	**20 13 14.2**	**+0.2**
	comp=Z,5.6nm,0.7s,mb4.6,baz=102,slow=6.2,SNR=36						
KAF	**Kangasniemi**	**68.82**	**333**	*e*p	**P**	**20 13 14.6**	**+0.1**
	comp=Z,14nm,1.0s,mb4.8,baz=107,slow=6.2						
KAF	**Kangasniemi**	**68.82**	**333**	*e*P	**P**	**20 13 14.6**	**+0.1**
KAF				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
PSZ	**Piszkesteto**	**69.79**	**317**	*e*P	**P**	**20 13 19.9**	**-0.8**
	comp=Z,3.4nm,0.7s,mb4.4						
OJC	**Ojcow**	**70.08**	**319**	*e*P	**P**	**20 13 23.2**	**+0.8**
ARCES	**ARCESS Array B**	**71.35**	**340**	P	**P**	**20 13 30.2**	**+0.5**
	comp=Z,4.9nm,0.5s,mb4.7,baz=86,slow=6.3,SNR=28						
BILL	**Bilibino**	**73.58**	**22**	*i*P	**P**	**20 13 42.4**	**-0.5**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
BILL	**Bilibino**	**73.58**	**22**	*e*P	**P**	**20 13 42.9**	**-0.1**
	comp=Z,10nm,1.3s,mb4.6						
GERES	**GERESS Array B**	**73.96**	**318**	P	**P**	**20 13 46.3**	**+0.8**
	comp=Z,2.0nm,0.8s,mb4.1,baz=90,slow=8.0,SNR=8.7						
GERES				PP	PP	20 16 31.7	-0.7
	comp=Z,0.7nm,0.8s,baz=108,slow=8.4,SNR=4.5						
CLL	**Collm**	**74.46**	**320**	*e**SP	sP	20 14 07.0	+4.7
GRA1	**Grafenberg Arr**	**75.59**	**319**	*e*P	**P**	**20 13 56.3**	**+1.4**
GRF	**Grafenberg Arr**	**75.59**	**319**	*e*P	**P**	**20 13 56.3**	**+1.4**
NB2	**NORSAR Subarra**	**75.76**	**330**	P	**P**	**20 13 55.6**	**0.0**
	comp=Z,6.6nm,1.0s,mb4.5,baz=93,slow=5.8						
NOA	**NORSAR Array B**	**75.76**	**330**	P	**P**	**20 13 55.6**	**-0.1**
	comp=Z,2.8nm,0.9s,mb4.2,baz=92,slow=5.9,SNR=4.9						
CASY	**Casey**	**78.61**	**173**	*e*P	**P**	**20 14 12.6**	**+1.1**
	comp=Z,151nm,1.3s,mb5.8						
LPG	**La Plagne**	**78.81**	**314**	*e*P	**P**	**20 14 13.8**	**+0.8**
	comp=Z,5.6nm,0.7s,mb4.3						
SYO	**Syowa Base**	**88.17**	**197**	⇑P	**P**	**20 15 04.2**	**+4.2**
IMA	**Indian Mountai**	**89.12**	**22**	*e*P	**P**	**20 15 05.5**	**+0.8**
SPU	**Mount Spurr**	**92.01**	**26**	*e*P	**P**	**20 15 18.9**	**+0.7**
MCK	**McKinley**	**92.02**	**23**	*e*P	**P**	**20 15 19.0**	**+0.9**
	comp=Z,4.6nm,1.1s,mb4.7						
ILAR	**Eielson Array**	**92.24**	**22**	P	**P**	**20 15 19.6**	**+0.4**
	comp=Z,1.5nm,0.7s,mb4.4,baz=310,slow=5.6,SNR=15						
PDAR	**Pinedale Array**	**122.56**	**19**	PKP	PKPdf	20 21 06.5	+2.3
	comp=Z,0.6nm,0.8s,baz=344,slow=2.5,SNR=4.3						
TXAR	**Lajitas Array**	**136.74**	**20**	PKP	PKPdf	20 21 34.6	+3.0
	comp=Z,0.7nm,0.8s,baz=180,slow=1.3,SNR=5.2						

*CSEM **08** 20:09:48.8, 37.11N×21.02E, h12km, MD3.6/7, After ATH*
*NEIC **08** 20:09:48.8, 37.11N×21.02E, h12km, MD3.6(ATH), After ATH.*
ATH 08 20:09:48.8, 37.11N×21.02E, h12km±4km, MD3.6/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.73**	**84**	*e*PB	Pb	20 10 02.3	-0.6
RLS	**Riolos of Patr**	**1.01**	**20**	*e*PG	Pg	20 10 07.6	-1.5
RLS				*e*SB	Sb	20 10 22.2	+1.4
VLS	**Valsamata**	**1.12**	**342**	*e*PN	Pn	20 10 09.9	-0.3
VLI	**Veliai**	**1.58**	**104**	*e*PB	Pb	20 10 19.5	+1.9
EVR	**Evrytania**	**1.91**	**19**	*e*PG	Pg	20 10 25.7	-1.3
NAIG	**Nisos Aigina**	**2.07**	**71**	*e*PN	Pn	20 10 25.5	+1.7
NSAL	**Nisos Salamina**	**2.10**	**67**	*e*PN	Pn	20 10 25.5	+1.2
LKR	**Lokris**	**2.19**	**45**	*e*PN	Pn	20 10 28.1	+2.5
NEO	**Neokhori**	**2.80**	**38**	*e*PN	Pn	20 10 35.7	+1.5

*NEIC **08** 20:12:58.2±0.6, 4.11N×95.83E, h30km, mb4.5/7, Error ellipse: s-maj=24.5km s-min=8.8km az=51.0*
*IDC **08** 20:13:00.4±1.3, 4.05N×95.83E, h51km±7km, mb3.7/9, mb1 3.9/9, mb1mx3.7/17, mbtmp4.0/9, Error ellipse: s-maj=45.7km s-min=19.0km az=51.0*
ISC 08 20:12:58.9±0.8, 4.2N±0.1×96.0E±0.2, h51km, h51km±.5km:pP-P, n17, σ0§91/17, mb4.2/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJT	**Baijiatuau**	**40.04**	**24**	P	**P**	**20 20 27.9**	**-3.0**
	6.5nm,0.6s,mb4.5						
SONM	**Songino Array**	**44.37**	**10**	P	**P**	**20 21 07.4**	**+1.2**
	0.8nm,0.5s,mb3.8,baz=194,slow=9.2,SNR=13						
SONM				pP	pP	20 21 20.8	+1.2
	0.4nm,0.5s,baz=193,slow=9.2,SNR=3.1						
SONM				PcP	PcP	20 22 49.9	0.0
	0.2nm,0.4s,baz=197,slow=4.6,SNR=4.5						
ULN	**Ulaanbaatar**	**44.52**	**11**	P	**P**	**20 21 08.4**	**+1.1**
	1.1nm,0.8s,mb3.7						
WRA	**Warramunga Arr**	**44.71**	**124**	P	**P**	**20 21 08.9**	**-0.4**
	0.4nm,0.4s,mb3.6,baz=302,slow=9.1,SNR=7.3						
WRAB	**Tennant Creek**	**44.71**	**124**	P	**P**	**20 21 10.6**	**+1.4**
	20nm,1.4s,mb4.7						
ASAR	**Alice Springs**	**46.22**	**129**	P	**P**	**20 21 20.4**	**-0.7**
	0.3nm,0.7s,mb3.3,baz=300,slow=7.6,SNR=4.8						
TLY	**Talaya**	**47.73**	**6**	*e*P	**P**	**20 21 31.9**	**-0.8**
	7.0nm,1.1s,mb4.6						
ZAL	**Zalesovo**	**50.40**	**351**	P	**P**	**20 21 53.2**	**0.0**
	3.1nm,0.4s,mb4.7,baz=314,slow=6.3,SNR=15						
BVAR	**Borovoye Array**	**53.01**	**341**	P	**P**	**20 22 12.4**	**-0.4**
	0.9nm,0.6s,mb3.9,baz=141,slow=9.5,SNR=8.4						
BRVK	**Borovoye**	**53.07**	**341**	*e*P	**P**	**20 22 12.7**	**-0.6**
	2.9nm,1.0s,mb4.2						
CHKZ	**Chkalovo**	**53.49**	**342**	*e*P	**P**	**20 22 16.4**	**+0.1**
	3.8nm,0.8s,mb4.4						
CHKZ				*e*		20 22 22.6	
CTAO	**Charters Tower**	**54.98**	**118**	P	**P**	**20 22 27.4**	**-0.4**
GNI	**Garni**	**58.28**	**315**	*e*P	**P**	**20 22 50.9**	**-0.1**
	7.3nm,1.1s,mb4.6						
BRTR	**Keskin Array B**	**66.18**	**312**	P	**P**	**20 23 42.5**	**-1.2**
	0.6nm,0.6s,mb3.8,baz=126,slow=9.5,SNR=2.4						
FINES	**FINESS Array B**	**76.76**	**332**	P	**P**	**20 24 46.9**	**+0.3**
	7.2nm,1.2s,mb4.5,baz=115,slow=6.4,SNR=10						
FINES				pP	pP	20 25 01.7	+0.6
	3.5nm,0.9s,baz=146,slow=6.9,SNR=1.0						
ARCES	**ARCESS Array B**	**79.29**	**340**	P	**P**	**20 25 01.1**	**+0.8**
	1.7nm,0.7s,mb4.1,baz=79,slow=6.2,SNR=5.2						
ARCES				pP	pP	20 25 15.5	+0.6
	1.9nm,0.8s,baz=90,slow=6.1,SNR=1.4						
DAVOX	**Davos**	**84.26**	**316**	P	**P**	**20 25 27.7**	**+1.1**
	1.7nm,0.8s,mb4.2,baz=175,slow=19						

*IDC **08** 20:22:12.1±0.7, 34.37N×91.33E, mb3.9/13, mb1 4.1/15, mb1mx4.0/19, mbtmp3.9/15, ML3.7/2, Error ellipse: s-maj=23.8km s-min=15.5km az=54.0*
*MOS **08** 20:22:15.2±1.3, 34.33N×91.22E, h31km, mb4.4/11, Error ellipse: s-maj=16.9km s

NVS				*e*				20 27 32.1
NVS				pmax	pmax			
	comp=E,17nm,2.2s							
NVS				pmax	pmax			
	comp=Z,28nm,2.2s,mb4.2							
NVS				pmax	pmax			
	comp=N,21nm,2.1s							
BVAR	**Borovoye Array**	**23.74**	**328**	P	**P**		**20 27 28.5**	**+2.4**
	comp=N,6.0nm,0.6s,mb4.2,baz=135,slow=11,SNR=39							
BRVK	**Borovoye**	**23.81**	**328**	*e*P	**P**		**20 27 28.8**	**+2.0**
BRVK				pmax	pmax			
	comp=Z,18nm,0.9s,mb4.5							
BRVK	**Borovoye**	**23.81**	**328**	*e*P	**P**		**20 27 28.8**	**+2.0**
	comp=Z,18nm,0.9s,mb4.5							
CHKZ	**Chkalovo**	**24.09**	**329**	*e*P	**P**		**20 27 31.1**	**+1.5**
CHKZ				pmax	pmax			
	comp=Z,9.0nm,0.7s,mb4.3							
CHKZ	**Chkalovo**	**24.09**	**329**	*e*P	**P**		**20 27 31.1**	**+1.5**
	comp=Z,8.9nm,0.7s,mb4.3							
GNI	**Garni**	**37.11**	**293**	P	pP		20 29 35.7	-2.6
YSS	**Yuzh-Sakhalins**	**40.24**	**56**	P	**P**		**20 29 41.7**	**-10**
YSS				pmax	pmax			
	comp=Z,64nm,1.6s,mb5.1							
YSS	**Yuzh-Sakhalins**	**40.24**	**56**	P	**P**		**20 29 41.7**	**-10**
	comp=Z,64nm,1.6s,mb5.1							
TIXI	**Tiksi**	**42.08**	**17**	*e*P	**P**		**20 30 06.1**	**0.0**
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.1							
MALT	**Malatya**	**42.25**	**291**	P	**P**		**20 30 11.5**	**+3.6**
MALT				pmax	pmax			
	comp=Z,3.0nm,1.3s,mb3.8							
MALT	**Malatya**	**42.25**	**291**	P	**P**		**20 30 11.5**	**+3.6**
	comp=Z,3.3nm,1.3s,mb3.8							
BRTR	**Keskin Array B**	**45.60**	**294**	P	**P**		**20 30 33.6**	**-1.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=104,slow=5.9,SNR=3.2							
FINES	**FINESS Array B**	**48.64**	**324**	P	**P**		**20 30 57.8**	**-0.7**
	comp=Z,2.3nm,0.7s,mb4.3,baz=100,slow=8.5,SNR=14							
ARCES	**ARCESS Array B**	**49.69**	**335**	P	**P**		**20 31 07.0**	**+0.5**
	comp=Z,2.2nm,0.9s,mb4.2,baz=102,slow=8.3,SNR=3.1							
BILL	**Bilibino**	**52.91**	**27**	*e*P	**P**		**20 31 32.8**	**+2.0**
BILL				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
BILL	**Bilibino**	**52.91**	**27**	*e*P	**P**		**20 31 32.8**	**+1.9**
	comp=Z,3.3nm,0.8s,mb4.3							
IDI	**Anoyia**	**53.51**	**291**	P	**P**		**20 31 36.1**	**+0.4**
	comp=Z,39nm,1.1s,mb5.2,baz=90,slow=5.4,SNR=3.5							
NOA	**NORSAR Array B**	**55.82**	**325**	P	**P**		**20 31 50.0**	**-2.1**
	comp=Z,0.8nm,0.8s,mb3.8,baz=85,slow=6.2,SNR=2.9							
GERES	**GERESS Array B**	**57.28**	**310**	P	**P**		**20 32 02.5**	**-0.3**
	comp=Z,0.2nm,0.5s,mb3.4,baz=60,slow=7.9,SNR=1.8							
KMBO	**Kilima Mbogo**	**61.72**	**247**	*e*P	**P**		**20 32 33.8**	**0.0**
KMBO				pmax	pmax			
	comp=Z,1.0nm,0.8s							
KMBO	**Kilima Mbogo**	**61.72**	**247**	P	**P**		**20 32 32.7**	**-1.1**
	comp=Z,0.9nm,0.7s,mb4.0,baz=48,slow=22,SNR=3.7							
KMBO	**Kilima Mbogo**	**61.72**	**247**	*e*P	**P**		**20 32 33.8**	**+0.1**
	comp=Z,1.3nm,0.8s,mb4.1							
WRA	**Warramunga Arr**	**67.87**	**136**	P	**P**		**20 33 11.3**	**-2.1**
	comp=Z,0.4nm,0.6s,mb3.6,baz=326,slow=6.1,SNR=4.4							
ASAR	**Alice Springs**	**70.59**	**139**	P	**P**		**20 33 29.2**	**-0.9**
	comp=Z,1.3nm,0.6s,mb4.0,baz=326,slow=6.5,SNR=32							
COLA	**College**	**70.79**	**23**	P	**P**		**20 33 31.7**	**+1.1**
ILAR	**Eielson Array**	**71.16**	**23**	P	**P**		**20 33 32.5**	**-0.3**
	comp=Z,0.9nm,0.8s,mb3.8,baz=299,slow=3.7,SNR=9.8							
INK	**Inuvik**	**72.20**	**16**	*e*P	**P**		**20 33 39.0**	**0.0**
INK				pmax	pmax			
	comp=Z,6.0nm,1.1s							
INK	**Inuvik**	**72.20**	**16**	P	**P**		**20 33 39.4**	**+0.4**
	comp=Z,3.2nm,1.1s,mb4.2,baz=325,slow=6.5,SNR=7.2							
INK	**Inuvik**	**72.20**	**16**	*e*P	**P**		**20 33 39.0**	**+0.1**
	comp=Z,5.7nm,1.1s,mb4.4							
LSZ	**Lusaka**	**77.71**	**242**	*e*P	**P**		**20 34 12.4**	**+0.9**
LSZ				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.9							
LSZ	**Lusaka**	**77.71**	**242**	*e*P	**P**		**20 34 12.4**	**+0.9**
	comp=Z,1.2nm,0.7s,mb3.9							
YKA	**Yellowknife Ar**	**81.11**	**12**	P	**P**		**20 34 29.2**	**+0.2**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**81.11**	**12**	P	**P**		**20 34 29.2**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=331,slow=5.2,SNR=15							

*ATH **08** 20:24:35.2, 36.76N×27.34E, h81km±16km*
*CSEM **08** 20:24:36.1±0.3, 36.68N×27.20E, h12km, MD3.2, Error ellipse: s-maj=6.4km s-min=5.7km az=40.0*
*ISK **08** 20:24:40.7, 36.88N×27.38E, h27km, MD3.2*

ISC 08 20:24:36.7±0.7, 36.72N±0.03×27.22E±0.05, h10km, n18, σ0§74/27, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.39**	**27**	*i* P	**Pg**	**20 24 44.0**	**-0.7**
BDRM				*i* S	**Sg**	**20 24 49.5**	**-0.6**
MLSB	**Milas**	**0.73**	**37**	*i* PG	**Pg**	**20 24 52.0**	**+0.6**
MLSB				*i* SG	**Sg**	**20 25 00.6**	**-0.5**
ARG	**Arkhangelos**	**0.88**	**124**	*e*P	**Pb**	**20 24 53.8**	**+0.1**
ARG				*e*S	**Sb**	**20 25 05.8**	**+0.5**
YER	**Yerkesik**	**0.95**	**64**	*i* PG	**Pg**	**20 24 55.4**	**-0.3**
SMG	**Samos**	**1.04**	**343**	*e*P	**Pb**	**20 24 55.5**	**-0.8**
SMG				*e*S	**Sb**	**20 25 10.7**	**+1.0**
AYDN	**Tasoluk**	**1.08**	**29**	*i* P	**Pb**	**20 24 56.4**	**-0.6**
AYDN				*i* S	**Sb**	**20 25 11.1**	**+0.2**
DALT	**Dalyan (Mudla)**	**1.14**	**87**	PG	**Pg**	**20 24 59.5**	**0.0**
DALT				SG	**Sg**	**20 25 13.6**	**-1.1**
KARP	**Karpathos**	**1.17**	**182**	*e*P	**Pb**	**20 24 58.0**	**-0.6**
APE	**Apeiranthos**	**1.40**	**285**	*e*P	**Pn**	**20 25 01.0**	**-1.4**
FETY	**Fethiye**	**1.50**	**93**	PN	**Pn**	**20 25 05.1**	**+1.3**
BLCB	**Balcova**	**1.67**	**355**	*e*PN	**Pn**	**20 25 07.0**	**+0.7**
IZM	**Izmir**	**1.68**	**1**	*e*PN	**Pn**	**20 25 07.0**	**+0.6**
KDAG	**Bornova**	**1.68**	**1**	*i* P	**Pn**	**20 25 06.5**	**+0.1**
KDAG				*i* S	**Sn**	**20 25 33.6**	**+5.4**
DNZL	**Cakiroluk**	**1.75**	**56**	*i* P	**Pn**	**20 25 07.0**	**-0.4**
DNZL				*i* S	**Sn**	**20 25 33.7**	**+3.8**
DENT	**Denizli**	**1.78**	**54**	*e*PN	**Pn**	**20 25 07.3**	**-0.5**
MANT	**Manisa**	**2.06**	**31**	*i* P	**Pn**	**20 25 12.7**	**+0.8**
MANT				*i* S	**Sn**	**20 25 43.2**	**+5.3**
ELL	**Elmali**	**2.16**	**88**	*e*PN	**Pn**	**20 25 14.2**	**+0.9**
AKS	**Akhisar**	**2.21**	**12**	*e*PN	**Pn**	**20 25 14.5**	**+0.5**

*THR **08** 20:34:51.7±0.8, 30.27N×57.57E, h15km±11km, ML3.8*
*CSEM **08** 20:34:52.9±0.1, 30.10N×57.61E, h5km, ML4.5/2, Error ellipse: s-maj=4.2km s-min=2.6km az=114.0*
*TEH **08** 20:34:58.2, 30.34N×57.53E, Mn3.7*
*IDC **08** 20:34:59.9±5.7, 31.21N×57.38E, mb3.7/5, mb1 3.9/6, mb1mx3.6/19, mbtmp3.8/6, ML3.3/1, Error ellipse: s-maj=119.4km s-min=30.9km az=165.0*

ISC 08 20:34:53.0±0.6, 30.13N±0.05×57.62E±0.05, h5km, n29, σ1§25/31, mb3.7/5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.76**	**259**	*e*PG	**Pg**	**20 35 06.5**	**-1.7**
KRBR				*e*SG	**Sg**	**20 35 16.7**	**-1.5**
KRBR				AML	AML	20 35 20.7	
	comp=N,3μm,0.5s						
KRBR	**Kerman**	**0.76**	**259**	*e*Pg	**Pg**	**20 35 06.5**	**-1.6**
	SNR=92						
KRBR				*e*Sg	**Sg**	**20 35 16.7**	**-1.6**
	comp=N,3μm,0.5s,SNR=92						
ZHSF	**Zahedan**	**2.79**	**100**	*e*PN	**Pn**	**20 35 38.6**	**-0.5**
IMEH	**Mehriz**	**2.88**	**297**	Pn	**Pn**	**20 35 41.4**	**+1.0**
BNDS	**Bandar-Abbas**	**3.00**	**205**	*e*PN	**Pn**	**20 35 42.7**	**+0.6**
BNDS				Sn	**Sn**	**20 36 19.4**	**+0.5**
BNDS				AML	AML	20 36 28.0	
	comp=E,312nm,0.4s						
BNDS				AML	AML	20 36 30.7	
	comp=N,303nm,0.5s						
BNDS	**Bandar-Abbas**	**3.00**	**205**	*e*Pn	**Pn**	**20 35 42.7**	**+0.6**
	SNR=47						
BNDS				Sn	**Sn**	**20 36 19.4**	**+0.5**
	comp=N,303nm,0.5s,SNR=47						
ICHK	**Chekchek**	**3.47**	**308**	Pn	**Pn**	**20 35 49.9**	**+1.1**
ISAD	**Sadrabad**	**3.82**	**299**	Pn	**Pn**	**20 35 54.2**	**+0.5**
ISRV	**Sarvestan**	**3.99**	**260**	Pn	**Pn**	**20 36 00.0**	**+3.9**
IMOK	**Mook**	**4.40**	**257**	Pn	**Pn**	**20 36 04.8**	**+2.7**
GHIR	**Ghir-Karzin**	**4.44**	**247**	*e*PN	**Pn**	**20 36 01.4**	**-1.3**
IMOG	**Moghan**	**6.14**	**13**	Pn	**Pn**	**20 36 26.9**	**+0.3**
MHI	**Mashhad**	**6.36**	**14**	Pn	**Pn**	**20 36 29.6**	**-0.1**
IPAY	**Payeh**	**6.41**	**10**	Pn	**Pn**	**20 36 29.9**	**-0.6**
IMYA	**Miamay**	**6.54**	**18**	Pn	**Pn**	**20 36 31.7**	**-0.5**
IKRD	**Kardeh**	**6.67**	**6**	Pn	**Pn**	**20 36 35.9**	**+1.8**
IFIR	**Firoozkooh**	**6.86**	**325**	Pn	**Pn**	**20 36 36.6**	**-0.1**
IFIR	**Firoozkooh**	**6.86**	**325**	Lg		20 38 24.4	
IDMV	**Damavand**	**7.18**	**321**	Pn	**Pn**	**20 36 41.6**	**+0.3**
IQOM	**Qom**	**7.26**	**312**	Pn	**Pn**	**20 36 41.6**	**-0.8**
IAFJ	**Afjeh**	**7.57**	**321**	Pn	**Pn**	**20 36 45.0**	**-1.7**
IRAZ	**Razeghan**	**8.34**	**311**	Lg		20 39 12.2	
IRAZ	**Razeghan**	**8.34**	**311**	Pn	**P**	**20 36 59.0**	**+1.5**
ASF	**Jabal al Asfar**	**17.86**	**282**	P	**P**	**20 39 06.0**	**+2.2**
	comp=N,0.1nm,0.3s,baz=339,slow=18,SNR=2.7						
BRTR	**Keskin Array B**	**21.82**	**302**	P	**P**	**20 39 46.5**	**-1.4**
	comp=N,1.7nm,1.1s,mb3.4,baz=117,slow=13,SNR=4.2						
BVAR	**Borovoye Array**	**24.72**	**19**	P	**P**	**20 40 15.2**	**-1.0**
	comp=N,2.6nm,0.8s,mb3.8,baz=202,slow=8.0,SNR=18						
ZAL	**Zalesovo**	**30.86**	**32**	P	**P**	**20 41 10.0**	**-2.2**
	comp=N,0.9nm,0.7s,mb3.7,baz=256,slow=7.1,SNR=8.6						
FINES	**FINESS Array B**	**37.56**	**336**	P	**P**	**20 42 04.5**	**-5.2**
	comp=N,2.8nm,0.9s,mb4.0,baz=114,slow=14,SNR=2.2						
YKA	**Yellowknife Ar**	**87.50**	**356**	P	**P**	**20 47 44.1**	**+1.7**
	comp=N,0.4nm,0.9s,mb3.7,baz=358,slow=4.9,SNR=2.9						

MAN 08 21:01:46.9, 10.41N×125.49E, h1km, mb4.6, ML3.5, MS3.4, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.68**	**246**	*e*P	Pg	21 02 00.4	-0.1
PLP	**Palo**	**0.90**	**326**	*e*P	Pg	21 01 54.8	-10
PLP				*e*S	Sg	21 02 04.5	-13
OCLP	**Ormoc**	**1.08**	**306**	*e*P	Pb	21 02 00.2	-7.8
BUTP	**Butuan**	**1.44**	**175**	*e*P	Pn	21 02 13.7	-0.4
BUKP	**Musuan**	**2.55**	**190**	*e*P	Pn	21 02 30.4	+0.3

OTT 08 21:11:21.5±0.1, 47.07N×66.68W, h5km, MN3.0/36, Miramichi region, New Brunswick Aftershock 58km east from Plaster Rock, Nb Eastern Background Seismic Zone., New Brunswick

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMN	**Caledonia Moun**	**1.78**	**133**	PN	Pn	21 11 52.8	-0.4
LMN				SN	Sn	21 12 15.7	-0.7
LMN				Trac		21 12 20.8	
	comp=Z,71nm,0.2s						
GSQ	**Grosses Roches**	**1.86**	**351**	PN	Pn	21 11 54.9	+0.6
GSQ				SN	Sn	21 12 18.1	-0.3
GSQ				Trac		21 12 24.8	
	comp=Z,76nm,0.4s						
GGN	**Saint George**	**1.96**	**183**	PN	Pn	21 11 54.7	-1.1
GGN				SN	Sn	21 12 19.8	-1.2
GGN				Trac		21 12 24.1	
	comp=Z,169nm,0.2s						
A21	**Saint Andre**	**2.14**	**288**	PN	Pn	21 11 57.9	-0.5
A21				SN	Sn	21 12 24.8	-0.8
A21				Trac		21 12 37.1	
	comp=Z,124nm,0.4s						
A16	**Riviere Ouelle**	**2.30**	**281**	PN	Pn	21 11 59.9	-0.8
A16				SN	Sn	21 12 28.1	-1.6
A16				Trac		21 12 43.7	
	comp=Z,67nm,0.3s						
A64	**Saint Simeon**	**2.31**	**290**	PN	Pn	21 11 59.9	-0.8
A64				SN	Sn	21 12 28.2	-1.7
A64				Trac		21 12 35.3	
	comp=Z,30nm,0.2s						
A61	**Sainte Mathild**	**2.40**	**286**	PN	Pn	21 12 01.1	-0.9
A61				SN	Sn	21 12 30.3	-1.9
A61				Trac		21 12 38.3	
	comp=Z,38nm,0.2s						
A11	**Saint Roch-des**	**2.41**	**275**	PN	Pn	21 12 01.6	-0.5
A11				SN	Sn	21 12 30.8	-1.6
A11				Trac		21 12 47.3	
	comp=Z,43nm,0.2s						
CNQ	**Baie Comeau**	**2.42**	**338**	PN	Pn	21 12 02.1	-0.2
CNQ				SN	Sn	21 12 30.5	-2.1
CNQ				Trac		21 12 38.4	
	comp=Z,39nm,0.2s						
ICQ	**Pointe Anglais**	**2.48**	**351**	PN	Pn	21 12 03.0	-0.2
ICQ				SN	Sn	21 12 32.3	-2.0
ICQ				Trac		21 12 39.6	
	comp=Z,24nm,0.2s						
LMQ	**La Malbaie**	**2.53**	**282**	PN	Pn	21 12 02.5	-1.4
LMQ				SN	Sn	21 12 34.0	-1.4
LMQ				Trac		21 12 40.6	
	comp=Z,88nm,0.2s						
A54	**Misere**	**2.57**	**280**	PN	Pn	21 12 03.5	-1.0
A54				SN	Sn	21 12 34.6	-2.0
A54				Trac		21 12 42.6	
	comp=Z,13nm,0.1s						
SMQ	**Clarke City**	**3.15**	**360**	PN	Pn	21 12 11.8	-0.9
SMQ				SN	Sn	21 12 48.0	-3.2
SMQ				Trac		21 12 58.4	
	comp=Z,33nm,0.3s						
QCQ	**Quebec**	**3.17**	**266**	PN	Pn	21 12 12.2	-0.8
QCQ				SN	Sn	21 12 48.1	-3.5
QCQ				Trac		21 13 13.2	
	comp=Z,13nm,0.2s						
DAQ	**Lac Daran**	**3.22**	**288**	PN	Pn	21 12 12.7	-1.0
DAQ				SN	Sn	21 12 49.6	-3.4
DAQ				Trac		21 13 06.2	
	comp=Z,66nm,0.3s						
HAL	**Halifax**	**3.25**	**137**	PN	Pn	21 12 13.8	-0.4
HAL				SN	Sn	21 12 51.0	-2.8
HAL				Trac		21 12 54.2	
	comp=Z,11nm,0.1s						
MNQ	**Manicouagan**	**3.73**	**339**	PN	Pn	21 12 20.8	-0.2
MNQ				SN	Sn	21 13 02.6	-3.3
MNQ				Trac		21 13 26.6	
	comp=Z,19nm,0.3s						
DPQ	**Saint Jean**	**4.20**	**267**	PN	Pn	21 12 25.5	-2.2
DPQ				SN	Sn	21 13 12.8	-5.1
DPQ				Trac		21 13 15.8	
	comp=Z,11nm,0.1s						
MNT	**Montreal**	**5.07**	**254**	PN	Pn	21 12 32.8	-7.1
MNT				SN	Sn	21 13 33.5	-6.1
MNT				Trac		21 13 36.1	
	comp=Z,6.0nm,0.1s						
MRHQ	**Morin Heights**	**5.34**	**260**	PN	Pn	21 12 40.7	-3.1
MRHQ				SN	Sn	21 13 39.7	-6.8
MRHQ				Trac		21 13 44.4	
	comp=Z,5.3nm,0.1s						
TRQ	**Mont Tremblant**	**5.49**	**264**	PN	Pn	21 12 42.9	-3.1
TRQ				SN	Sn	21 13 43.8	-6.6
TRQ				Trac		21 13 46.6	
	comp=Z,5.2nm,0.1s						
ALFO	**Alfred**	**5.86**	**259**	PN	Pn	21 12 48.3	-2.9
ALFO				SN	Sn	21 13 52.0	-7.7
ALFO				Trac		21 14 00.7	
	comp=Z,2.4nm,0.1s						
GAC	**Glen Almond**	**6.24**	**261**	PN	Pn	21 12 53.0	-3.5
GAC				SN	Sn	21 14 01.3	-7.9
GAC				Trac		21 14 05.0	
	comp=Z,3.9nm,0.2s						
GRQ	**Grand Remous**	**6.32**	**269**	PN	Pn	21 12 53.8	-3.8
GRQ				SN	Sn	21 14 03.0	-8.1
GRQ				Trac		21 14 05.5	
	comp=Z,4.2nm,0.1s						
WBO	**Williamsburg**	**6.34**	**254**	PN	Pn	21 12 53.9	-3.9
WBO				SN	Sn	21 14 03.6	-7.9
WBO				Trac		21 14 44.8	
	comp=Z,2.9nm,0.2s						
DRLN	**Deer Lake**	**6.51**	**67**	PN	Pn	21 12 57.5	-2.9
DRLN				SN	Sn	21 14 06.8	-9.0
DRLN				Trac		21 14 53.4	
	comp=Z,4.9nm,0.3s						
MPPO	**Murphy's Point**	**7.07**	**254**	PN	Pn	21 13 04.1	-4.2
MPPO				SN	Sn	21 14 20.6	-9.4
MPPO				Trac		21 15 17.3	
	comp=Z,2.5nm,0.3s						
VLDQ	**Val d'Or**	**7.36**	**282**	PN	Pn	21 13 10.8	-1.5
VLDQ				SN	Sn	21 14 31.4	-5.7
VLDQ				Trac		21 15 21.9	
	comp=Z,3.7nm,0.3s						
KGNO	**Kingston**	**7.45**	**251**	PN	Pn	21 13 09.8	-3.6
KGNO				SN	Sn	21 14 30.6	-8.6
KGNO				Trac		21 15 28.0	
	comp=Z,4.8nm,0.3s						
PEMO	**Pembroke**	**7.45**	**263**	PN	Pn	21 13 09.9	-3.6
PEMO				SN	Sn	21 14 28.6	-11
PEMO				Trac		21 14 33.5	
	comp=Z,2.2nm,0.2s						
CRLO	**Chalk River**	**7.45**	**266**	PN	Pn	21 13 09.2	-4.4
CRLO				SN	Sn	21 14 30.1	-9.3
CRLO				Trac		21 15 23.3	
	comp=Z,5.4nm,0.3s						
PLVO	**Plevna**	**7.52**	**258**	PN	Pn	21 13 10.2	-4.2
PLVO				SN	Sn	21 14 31.6	-9.4
PLVO				Trac		21 14 37.3	
	comp=Z,0.9nm,0.1s						
SCHQ	**Schefferville**	**7.77**	**359**	PN	Pn	21 13 13.9	-4.1
SCHQ				SN	Sn	21 14 37.3	-10
SCHQ				Trac		21 14 40.8	
	comp=Z,0.9nm,0.1s						
PECO	**Prince Edward**	**7.90**	**250**	PN	Pn	21 13 15.7	-4.1
PECO				SN	Sn	21 14 40.8	-10
PECO				Trac		21 15 40.3	
	comp=Z,2.2nm,0.3s						
LG4Q	**La Grande 4**	**8.09**	**327**	PN	P	21 13 18.3	-4.2
LG4Q				SN	Sn	21 14 44.9	-10
LG4Q				Trac		21 15 43.5	
	comp=Z,4.2nm,0.3s						
EEO	**Eldee**	**8.51**	**272**	PN	P	21 13 23.6	-4.7
EEO				SN	Sn	21 14 54.0	-12
EEO				Trac		21 15 55.7	
	comp=Z,8.7nm,0.3s						
SADO	**Sadowa**	**8.99**	**260**	PN	P	21 13 26.4	-8.6
SADO				SN	Sn	21 15 06.4	-11
SADO				Trac		21 16 15.5	
	comp=Z,3.3nm,0.5s						
VIMO	**Victor Mine**	**12.39**	**304**	PN	P	21 14 15.8	-5.6
VIMO				SN	S	21 16 25.7	-15
VIMO				Trac		21 17 52.8	
	comp=Z,0.7nm,0.3s						

*NEIC **08** 21:30:16.1, 35.07S×70.60W, h8km, ML3.9(GUC), After GUC.*
NEIC Felt [IV] at Los Quenes.

GUC 08 21:30:16.1±1.0, 35.07S×70.60W, h8km±4km, MD4.1, ML3.9, 7C-12D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.53**	**277**	⇓*i*P	Pg	21 30 26.7	0.0
SFDO	**San Fernando**	**0.57**	**323**	⇓*i*P	Pg	21 30 26.7	-0.8
SFDO				*e*S	Sg	21 30 35.2	0.0
CICH	**Cipreses**	**0.76**	**11**	⇓*i*P	Pb	21 30 29.4	-1.7
CICH				*i* S	Sb	21 30 39.6	-1.8
TALC	**Talca**	**0.91**	**249**	⇓*i*P	Pb	21 30 33.2	-0.5
TALC				*i* S	Sb	21 30 46.1	+0.3
TALC	**Talca**	**0.91**	**249**	⇓*i*P	Pb	21 30 33.2	-0.5
TALC				*i* S	Sb	21 30 46.1	+0.3
TALC				AMP		21 30 46.7	
	comp=E,15μm,0.5s						
CACH	**El Canelo**	**0.95**	**360**	⇑*i*P	Pb	21 30 32.6	-1.8
CACH				*i* S	Sb	21 30 45.6	-1.2
CHCH	**Chadas Angostu**	**1.13**	**358**	⇑*i*P	Pb	21 30 36.3	-1.2
LMEL	**Las Melosas**	**1.26**	**15**	⇑*i*P	Pb	21 30 38.2	-1.5
LMEL				*i* S	Sb	21 30 55.3	-0.6
LMEL				AMP		21 31 00.8	
	comp=N,2μm,0.2s						
LNV	**Longovilo**	**1.30**	**329**	⇑*i*P	Pb	21 30 39.0	-1.4
LNV				*i* S	Sb	21 30 56.4	-0.6
SJCH	**San Jose de Ma**	**1.44**	**8**	*e*P	Pn	21 30 41.4	-1.2
SJCH				*e*S	Sb	21 31 00.6	-0.4
SJCH				AMP		21 31 03.6	
	comp=N,1μm,0.3s						
TACH	**Talagante**	**1.44**	**349**	⇓*i*P	Pn	21 30 41.4	-1.2
TACH				*i* S	Sb	21 31 00.5	-0.6
PCH	**Pirque**	**1.45**	**3**	⇓*i*P	Pn	21 30 41.6	-1.0
PCH				*i* S	Sb	21 31 01.5	+0.2
ANTU	**Antumapu**	**1.50**	**359**	⇓*i*P	Pn	21 30 43.0	-0.4
ANTU				*i* S	Sb	21 31 02.4	-0.3
ANTU				AMP		21 31 04.2	
	comp=E,2μm,0.4s						
RCDM	**Rinconada Maip**	**1.58**	**354**	*e*P	Pn	21 30 43.8	-0.8
RCDM				*i* S	Sb	21 31 04.9	-0.5
RCDM				AMP		21 31 06.6	
	comp=E,2μm,0.1s						
FSR	**Penalolen**	**1.59**	**2**	⇓*i*P	Pn	21 30 44.2	-0.5
FSR				*i* S	Sb	21 31 05.5	+0.1
FSR				AMP		21 31 06.5	
	comp=N,2μm,0.6s						
SAN	**Santiago**	**1.61**	**358**	*e*P	Pn	21 30 44.5	-0.6
SAN				*e*S	Sb	21 31 05.6	-0.5
SAN				AMP		21 31 07.7	
	comp=N,2μm,0.3s						
DSCH	**Colegio Aleman**	**1.67**	**1**	*e*P	Pn	21 30 45.0	-0.8
DSCH				*i* S	Sn	21 31 07.4	-0.1
DSCH				AMP		21 31 14.6	
	comp=N,3μm,0.7s						
CLCH	**Cerro Calan**	**1.67**	**2**	⇑*i*P	Pn	21 30 45.4	-0.5
CLCH				*i* S	Sn	21 31 07.9	+0.3
CLCH				AMP		21 31 09.7	
	comp=E,3μm,0.6s						
CLCH				AMP		21 31 10.6	
	comp=E,3μm,0.4s						
FCH	**Farellones**	**1.75**	**8**	⇑*i*P	Pn	21 30 47.0	-0.1
FCH				*i* S	Sn	21 31 10.4	+0.6
FCH				AMP		21 31 13.5	
	comp=E,1μm,0.3s						
LCCH	**Las Cruces**	**1.78**	**333**	⇓*i*P	Pn	21 30 47.1	-0.4
LCCH				*i* S	Sn	21 31 10.7	+0.2
PEL	**Peldehue**	**1.92**	**358**	*e*P	Pn	21 30 49.9	+0.4
PEL				*i* S	Sn	21 31 15.4	+1.4
PEL				AMP		21 31 17.2	
	comp=N,4μm,0.6s						
CCHI	**Chillan**	**1.95**	**218**	⇓*i*P	Pn	21 30 49.0	-0.9
CCHI				AMP		21 31 19.5	
	comp=E,

comp=N,15nm,0.7s
ENH Enshi 25.06 33 *e*P **P 21 39 39.6 0.0**
comp=N,11nm,0.8s,mb4.5
NJ2 Nanjing 32.01 42 *e*P **P 21 40 42.1 -0.2**
NJ2 AP pP 21 40 51.6 -1.6
NJ2 XP sP 21 40 55.7 -2.6
NJ2 PP PP 21 41 49.3 +0.1
NJ2 S **S 21 45 51.0 +0.9**
NJ2 XS 21 46 07.0
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
NJ2 AMB AMB
comp=Z,1μm,5.0s
NJ2 LR LR
comp=N,1μm,15.0s,MS5.0
NJ2 LR LR
comp=E,2μm,14.7s,MS5.0
NJ2 LR LR
comp=Z,1μm,12.4s,MS4.8
WMQ Urumqi 34.40 352 *e*P **P 21 41 03.1 +0.4**
WMQ AP pP 21 41 12.6 -1.1
WMQ XP sP 21 41 16.5 -2.3
WMQ PP PP 21 42 19.2 +0.2
WMQ S **S 21 46 27.9 +1.0**
WMQ AMB AMB
comp=Z,3.0nm,0.8s,mb4.3
WMQ AMB AMB
comp=Z,36nm,5.0s
WMQ LR LR
comp=N,692nm,18.5s,MS4.5
WMQ LR LR
comp=E,577nm,20.2s,MS4.5
WMQ LR LR
comp=Z,992nm,19.3s,MS4.6
BJT Baijiatuau 36.06 30 P **P 21 41 18.8 +1.8**
AAK Ala-Archa 36.94 336 *e*P **P 21 41 23.4 -0.9**
comp=Z,8.2nm,1.0s,mb4.5
SONM Songino Array 39.41 13 P **P 21 41 45.2 +0.4**
comp=Z,0.8nm,0.6s,mb3.6,baz=202,slow=7.6,SNR=9.8
SONM PcP PcP 21 43 53.4 +0.3
comp=Z,0.8nm,0.6s,baz=203,slow=2.9,SNR=5.9
ULN Ulaanbaatar 39.59 14 P **P 21 41 47.1 +0.8**
comp=Z,3.0nm,1.2s,mb3.9
ZAL Zalesovo 44.69 352 P **P 21 42 27.5 -0.5**
comp=Z,1.0nm,0.5s,mb3.9,baz=296,slow=7.7,SNR=7.0
ZAL Zalesovo 44.69 352 P **P 21 42 27.5 -0.5**
MDJ Mudanjiang 46.40 35 P **P 21 42 38.4 -3.3**
MDJ AMB AMB
comp=Z,15nm,2.1s,mb4.5
MDJ AMB AMB
comp=Z,221nm,5.0s
MDJ LR LR
comp=N,68nm,29.1s,MS3.7
MDJ LR LR
comp=E,112nm,29.8s,MS3.7
MDJ LR LR
comp=Z,179nm,32.9s,MS3.8
BVAR Borovoye Array 47.18 341 P **P 21 42 46.7 -1.1**
comp=Z,0.2nm,0.3s,mb3.5,baz=149,slow=8.4,SNR=3.8
BVAR PcP PcP 21 44 19.4 +0.2
comp=Z,0.3nm,0.5s,baz=162,slow=4.6,SNR=2.8
CHKZ Chkalovo 47.66 341 *e*P **P 21 42 51.0 -0.6**
comp=Z,7.5nm,1.2s,mb4.6
WRA Warramunga Arr 49.50 127 P **P 21 43 06.9 +0.7**
comp=Z,2.0nm,0.7s,mb4.3,baz=306,slow=8.5,SNR=17
WRA PcP PcP 21 44 29.1 +1.1
comp=Z,0.4nm,0.5s,baz=315,slow=2.9,SNR=4.8
WRAB Tennant Creek 49.51 127 *e*P **P 21 43 07.1 +0.8**
comp=Z,14nm,1.1s,mb4.9
ASAR Alice Springs 51.26 131 P **P 21 43 20.3 +0.8**
comp=Z,4.0nm,0.7s,mb4.4,baz=305,slow=6.7,SNR=44
ASAR PcP PcP 21 44 35.9 +1.4
comp=Z,1.1nm,0.7s,baz=314,slow=3.4,SNR=5.7
CTA Charters Tower 59.39 120 P **P 21 44 19.9 +1.5**
comp=Z,6.4nm,0.9s,mb4.7,baz=319,slow=9.3,SNR=3.1
CTAO Charters Tower 59.39 120 P **P 21 44 16.0 -2.4**
comp=Z,18nm,1.2s,mb5.0
BRTR Keskin Array B 61.09 310 P **P 21 44 27.5 -2.3**
comp=Z,0.7nm,0.8s,mb3.9,baz=113,slow=7.4,SNR=4.2
STKA Stephens Creek 61.52 134 P **P 21 44 33.9 +1.1**
comp=Z,3.6nm,1.0s,mb4.5,baz=263,slow=7.8,SNR=4.6
SANT Santorini 66.99 305 *e*P **P 21 45 05.1 -3.2**
comp=Z,88nm,1.1s,mb5.7
FINES FINESS Array B 70.99 332 P **P 21 45 31.8 -0.7**
comp=Z,7.4nm,1.2s,mb4.5,baz=158,slow=10,SNR=5.1
TAU Tasmania Unive 71.44 142 P **P 21 45 25.9 -10**
ARCES ARCESS Array B 73.47 340 P **P 21 45 47.4 +0.4**
comp=Z,1.7nm,0.7s,mb4.1,baz=100,slow=7.3,SNR=14
ARCES ARCESS Array B 73.47 340 P **P 21 45 47.4 +0.4**
GERES GERESS Array B 76.33 318 P **P 21 46 02.3 -1.6**
comp=Z,0.4nm,0.5s,mb3.6,baz=90,slow=1.3,SNR=3.5
LPG La Plagne 81.18 315 *e*P **P 21 46 31.4 +1.0**
comp=Z,10nm,0.8s,mb4.5
SYO Syowa Base 87.11 197 ⇑PcP PcP 21 47 04.8 +2.6
COLA College 92.70 22 *e*P **P 21 47 21.7 -4.4**
comp=Z,4.7nm,0.9s,mb4.9
PDAR Pinedale Array 123.51 21 PKP PKPdf 21 53 11.5 +0.7
comp=Z,0.6nm,0.7s,baz=225,slow=2.1,SNR=3.8
RKT Rikitea 131.45 112 *e*LR LR 21 53 00.7
comp=Z,478nm,26.8s
TXAR Lajitas Array 137.61 23 PKP PKPdf 21 53 40.0 +2.2
comp=Z,0.3nm,0.6s,baz=270,slow=2.7,SNR=3.2

*MOS **08** 21:43:58.6±1.5, 55.85N×163.25E, h32km, mb4.3/1, Error ellipse: s-maj=30.6km s-min=17.3km az=71.7*
KRSC 08 21:43:58.6±0.6, 55.85N×163.1E, h22km±5km, ML4.2, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.45**	**323**	P	Pb	21 44 08.5	+0.6
KBTR				S	Sb	21 44 15.4	+1.3
KBTR	**Krutoberegovo**	**0.45**	**323**	*i* P	Pb	21 44 08.6	+0.7
KBTR				*e*S	Sb	21 44 15.4	+1.3
KBG	**Krutoberegovo**	**0.53**	**320**	*i* P	Pb	21 44 10.0	+0.9
KBG				*e*S	Sb	21 44 18.5	+2.2
KBG				Smax			
12μm,0.9s							
SVLR	**Shiveluch**	**1.38**	**303**	*i* P	Pn	21 44 23.2	+0.4
SVLR				*e*S	Sn	21 44 41.2	+0.7
ZLN	**Zelenaya**	**1.42**	**278**	*i* P	Pn	21 44 23.2	-0.2
ZLN				*e*S	Sn	21 44 41.1	-0.5
CIRR	**Tsirk**	**1.46**	**282**	*i* P	Pn	21 44 23.9	-0.2
CIRR				*e*S	Sn	21 44 42.0	-0.7
LGNR	**Loginova**	**1.49**	**280**	*i* P	Pn	21 44 24.4	0.0
LGNR				*e*S	Sn	21 44 43.1	-0.3
KLY	**Klyuchi**	**1.56**	**288**	*i* P	Pn	21 44 23.4	-2.0
KLY				*i* S	Sn	21 44 42.0	-3.1
KRSR	**Krestovskiy**	**1.58**	**285**	*i* P	Pn	21 44 25.3	-0.5
KRSR				*e*S	Sn	21 44 44.4	-1.3
BKI	**Bering**	**1.65**	**112**	*e*P	Pn	21 44 25.8	-0.9
BKI				*e*S	Sn	21 44 44.8	-2.5
BKI				Smax			
130nm,1.2s							
KMNR	**Kamenistaya**	**1.74**	**268**	*i* P	Pn	21 44 27.8	-0.2
KMNR				*e*S	Sn	21 44 49.3	-0.3
KPT	**Kopyto**	**1.74**	**275**	*i* P	Pn	21 44 28.0	0.0
KPT				*e*S	Sn	21 44 49.5	-0.3
TUMR	**Tumrok**	**1.89**	**254**	*i* P	Pn	21 44 30.2	+0.1
TUMR				*e*S	Sn	21 44 54.2	+0.8
KOZR	**Kozyr**	**1.93**	**278**	PN	Pn	21 44 31.8	+1.1
KOZR				S	Sn	21 44 55.9	+1.3
KOZ	**Kozyrevsk**	**1.94**	**278**	*e*P	Pn	21 44 31.8	+0.9
KOZ				*e*S	Sn	21 44 55.9	+1.0
SRDR	**Sredinnyy**	**2.07**	**285**	*i* P	Pn	21 44 33.1	+0.4
SRDR				*e*S	Sn	21 44 58.1	+0.1
ESO	**Esso**	**2.60**	**274**	*i* P	Pn	21 44 42.5	+2.2
ESO				*e*S	Sn	21 45 14.5	+3.0
ESO				Smax			
100nm,0.9s							
SPN	**Mys Shipunski**	**3.36**	**216**	P	Pn	21 44 48.8	-2.3
SPN				S	Sn	21 45 25.7	-5.1
SPN	**Mys Shipunski**	**3.36**	**216**	*e*P	Pn	21 44 51.6	+0.5
SPN				*e*S	Sn	21 45 30.5	-0.3
NLC	**Nalytchevo**	**3.54**	**222**	P	Pn	21 44 53.3	-0.4
NLC				S	Sn	21 45 32.8	-2.6
NLC	**Nalytchevo**	**3.54**	**222**	*e*P	Pn	21 44 53.2	-0.5
NLC				*e*S	Sn	21 45 32.8	-2.6
SDLR	**Sedlovina**	**3.64**	**227**	*e*P	Pn	21 44 54.9	-0.2
SMAR	**Somma**	**3.69**	**227**	*e*P	Pn	21 44 56.0	+0.2
AVH	**Avacha**	**3.71**	**228**	*e*P	Pn	21 44 57.4	+1.3
AVH				*e*S	Sn	21 45 39.9	+0.2
UGLR	**Uglovaya**	**3.72**	**226**	*e*P	Pn	21 44 56.5	+0.3
KOK	**Koryaka**	**3.74**	**229**	*e*P	Pn	21 44 56.3	-0.2
GNL	**Ganaly**	**3.79**	**237**	*i* P	Pn	21 44 58.2	+1.1
GNL				*e*S	Sn	21 45 41.5	0.0
PET	**Petropavlovsk**	**3.93**	**226**	P	Pn	21 44 59.1	0.0
PET				S	Sn	21 45 42.8	-2.3
PET	**Petropavlovsk**	**3.93**	**226**	*e*P	Pn	21 44 58.5	-0.6
PET				*e*S	Sn	21 45 42.8	-2.3
KRMR	**Karymshinskiy**	**4.28**	**227**	*e*S	Sn	21 45 53.7	-0.5
RUS	**Russkaya**	**4.43**	**221**	*e*P	Pn	21 45 07.0	+0.6
GRL	**Gorelyy**	**4.51**	**225**	P	Pn	21 45 07.7	+0.2
GRL				*e*S	Sn	21 45 57.6	-2.4
APC	**Apacha**	**4.64**	**233**	*e*P	Pn	21 45 10.5	+1.2

*IDC **08** 21:53:30.3±1.2, 9.83N×93.83E, mb3.9/8, mb1 4.0/9, mb1mx3.9/18, mbtmp3.8/9, ML4.1/1, MS2.5/1, Ms1 2.7/1, ms1mx2.4/22, Error ellipse: s-maj=54.9km s-min=19.5km az=53.0*
*NEIC **08** 21:53:34.0±0.7, 9.62N×93.57E, h30km, mb4.1/2, Error ellipse: s-maj=14.7km s-min=14.1km az=132.0*
ISC 08 21:53:32.7±0.9, 9.7N±0.1×93.8E±0.1, h30km, n20, σ1§11/20, mb3.9/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.07**	**29**	Pn	**P**	**21 55 58.2**	**-0.3**
0.5nm,0.3s,baz=215,slow=14,SNR=7.2							
CMAR				LR	LR	21 59 34.1	
comp=Z,28nm,18.8s,baz=195,slow=37							
PALK	**Pallekele**	**13.18**	**261**	P	**P**	**21 56 34.9**	**-5.6**
73nm,1.7s							
JIRN	**Jiri**	**19.30**	**339**	*e*P	**P**	**21 58 00.0**	**+1.8**
6.0nm,0.7s							
PKI	**Pulchoki**	**19.50**	**337**	*e*P	**P**	**21 58 00.3**	**-0.2**
5.1nm,0.7s							
GUN	**Gumba**	**19.64**	**339**	*e*P	**P**	**21 58 03.5**	**+1.5**
31nm,1.0s							
DMN	**Daman**	**19.66**	**336**	*e*P	**P**	**21 58 01.8**	**-0.4**
13nm,1.1s							
KKN	**Kakani**	**19.75**	**337**	*e*P	**P**	**21 58 03.2**	**0.0**
8.9nm,0.7s							
LSA	**Lhasa**	**20.10**	**353**	*e*P	**P**	**21 58 06.6**	**-0.3**
7.0nm,0.7s							
GKN	**Gorkha**	**20.19**	**336**	*e*P	**P**	**21 58 08.7**	**+0.8**
13nm,0.7s							
KOLN	**Koldanda**	**20.43**	**333**	*e*P	**P**	**21 58 11.7**	**+1.4**
6.0nm,0.7s							
SONM	**Songino Array**	**39.51**	**13**	P	**P**	**22 01 00.8**	**-1.6**
0.6nm,0.8s,mb3.4,baz=200,slow=8.1,SNR=5.3							
ZAL	**Zasovo**	**44.75**	**352**	P	**P**	**22 01 43.5**	**-1.6**
0.6nm,0.6s,mb3.6,baz=285,slow=8.9,SNR=5.2							
BVAR	**Borovoye Array**	**47.21**	**341**	P	**P**	**22 02 03.6**	**-1.0**
0.3nm,0.7s,mb3.4,baz=130,slow=11,SNR=2.6							
CHKZ	**Chkalovo**	**47.69**	**342**	*e*P	**P**	**22 02 08.3**	**-0.1**
2.2nm,1.0s,mb4.1							
WRA	**Warramunga Arr**	**49.57**	**127**	P	**P**	**22 02 23.8**	**+0.4**
0.6nm,0.7s,mb3.7,baz=306,slow=8.6,SNR=5.7							
ASAR	**Alice Springs**	**51.31**	**131**	P	**P**	**22 02 37.5**	**+0.9**
1.8nm,0.8s,mb4.1,baz=306,slow=6.9,SNR=15							
BRTR	**Keskin Array B**	**61.03**	**310**	P	**P**	**22 03 44.7**	**-1.4**
0.6nm,0.9s,mb3.7,baz=108,slow=4.6,SNR=2.9							
BRTR	**Keskin Array B**	**61.03**	**310**	P	**P**	**22 03 44.6**	**-1.4**
FINES	**FINESS Array B**	**71.00**	**332**	P	**P**	**22 04 49.3**	**-0.1**
4.2nm,1.0s,mb4.3,baz=143,slow=9.5,SNR=2.7							
ARCES	**ARCESS Array B**	**73.49**	**340**	P	**P**	**22 05 04.7**	**+0.7**
5.5nm,0.9s,mb4.5,baz=79,slow=6.2,SNR=4.5							

IDC 08 21:54:39.3±1.9, 3.57S×149.86E, mb3.4/3, mb1 3.7/3, mb1mx3.5/12, mbtmp3.4/3, Error ellipse: s-maj=161.4km s-min=32.0km az=125.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.23**	**222**	P	P	21 59 38.8	-0.5
0.8nm,0.8s,baz=46,slow=9.8,SNR=5.9							
ASAR	**Alice Springs**	**25.24**	**216**	P	P	22 00 06.5	-2.2
0.6nm,0.8s,baz=51,slow=7.8,SNR=6.9							
YKA	**Yellowknife Arr**	**95.71**	**28**	P	P	22 08 06.8	-1.2
0.2nm,0.8s,baz=278,slow=4.4,SNR=3.4							

*BJI **08** 22:11:55.2, 4.20N×95.08E, h53km, mB5.0, mb4.7, Ms4.5, Msz4.1*
*MOS **08** 22:11:57.0±1.0, 4.86N×95.04E, h33km, mb4.8/11, Error ellipse: s-maj=22.4km s-min=10.8km az=117.1*
*NEIC **08** 22:11:57.9±0.3, 4.69N×94.86E, h30km, mb4.8/24, Error ellipse: s-maj=8.6km s-min=5.6km az=221.0*
*IDC **08** 22:12:00.5±2.4, 4.72N×94.88E, h49km±22km, mb4.2/15, mb1 4.3/16, mb1mx4.2/21, mbtmp4.5/16, ML4.9/1, MS3.8/10, Ms1 3.8/10, ms1mx3.6/17, Error ellipse: s-maj=23.3km s-min=13.5km az=45.0*
ISC 08 22:11:56.6±0.3, 4.66N±0.05×94.91E±0.05, h33km, n102, σ1§18/106, mb4.7/51, MS4.0/15, 6C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**9.21**	**31**	P	**P**	**22 14 14.0**	**+3.9**
NST	**Nakhon Sawan**	**12.09**	**25**	P	**P**	**22 14 52.5**	**+2.9**
KKTK	**Khon Kaen**	**13.97**	**33**	P	**P**	**22 15 20.0**	**+5.5**
CMAR	**Chiang Mai Arr**	**14.27**	**16**	P	**P**	**22 15 21.1**	**+2.5**
1.8nm,0.3s,baz=207,slow=12,SNR=52							
CMAR				LR	LR	22 21 06.5	
comp=Z,126nm,18.6s,baz=195,slow=38							
CMAR				ScP		22 24 04.5	
0.1nm,0.3s,baz=220,slow=3.3,SNR=7.8							
CMAR	**Chiang Mai Arr**	**14.27**	**16**	P	**P**	**22 15 21.1**	**+2.5**
CMAR				ScP		22 24 04.5	
PALK	**Pallekele**	**14.37**	**281**	*e*P	**P**	**22 15 18.8**	**-1.1**
PALK				*e*S	**S**	**22 17 40.8**	**-18**
UBT	**Ubonrachathani**	**14.48**	**43**	P	**P**	**22 15 27.5**	**+6.3**
CHG	**Chiang Mai**	**14.61**	**15**	⇑P	**P**	**22 15 29.5**	**+6.5**
20nm,0.9s							
NANT	**Nan**	**15.15**	**21**	P	**P**	**22 15 35.0**	**+5.0**
IMP	**Imphal**	**20.03**	**357**	*e*	**P**	**22 16 26.4**	**-3.3**
QIZ	**Qiongzhong**	**20.41**	**44**	P	**P**	**22 16 35.0**	**+1.4**
QIZ				*e*S	**S**	**22 20 15.6**	**+0.2**
QIZ				XS		22 20 31.9	
QIZ				SS	SS	22 20 46.8	+1.2
QIZ				LR	LR		
comp=Z,377nm,20.3s,MS3.7							
QIZ	**Qiongzhong**	**20.41**	**44**	*e*P	**P**	**22 16 34.4**	**+0.8**
comp=Z,23nm,1.0s							
HYB	**Hyderabad**	**20.43**	**310**	*e*P	**P**	**22 16 36.0**	**+2.1**
HYB	**Hyderabad**	**20.43**	**310**	*i* P	**P**	**22 16 35.0**	**+1.1**
HYB				*e*S	**S**	**22 20 10.5**	**-5.5**
SHL	**Shillong**	**20.99**	**352**	*e*P	**P**	**22 16 39.0**	**-0.7**
SHL				*e*S	tx	22 18 17.0	
JIRN	**Jiri**	**24.34**	**341**	*e*P	**P**	**22 17 12.8**	**+0.1**
comp=Z,18nm,0.3s,mb5.0							
PKI	**Pulchoki**	**24.52**	**339**	*e*P	**P**	**22 17 14.8**	**+0.3**
comp=Z,6.3nm,0.3s,mb4.7							
DMN	**Daman**	**24.66**	**339**	*e*P	**P**	**22 17 16.4**	**+0.5**
comp=Z,9.3nm,0.4s,mb4.7							
GUN	**Gumba**	**24.67**	**341**	*e*P	**P**	**22 17 16.2**	**+0.2**
comp=Z,36nm,0.6s,mb5.1							
KKN	**Kakani**	**24.77**	**339**	*e*P	**P**	**22 17 16.9**	**0.0**
comp=Z,9.1nm,0.5s,mb4.6							
LSA	**Lhasa**	**25.16**	**352**	*e*P	**P**	**22 17 23.3**	**+2.7**
LSA	**Lhasa**	**25.16**	**352**	*e*P	**P**	**22 17 20.6**	**0.0**
comp=Z,13nm,0.6s,mb4.6							
LSA				*e*S	**S**	**22 21 44.1**	**+3.2**
GKN	**Gorkha**	**25.19**	**338**	*e*P	**P**	**22 17 21.7**	**+0.8**
comp=Z,29nm,0.3s,mb5.3							
KOLN	**Koldanda**	**25.39**	**336**	*e*P	**P**	**22 17 23.5**	**+0.7**
comp=Z,18nm,0.4s,mb4.9							
ENH	**Enshi**	**28.96**	**27**	*e*P	**P**	**22 17 53.9**	**-1.4**
comp=Z,27nm,0.9s,mb5.0							
WHN	**Wuhan**	**31.61**	**33**	*e*P	**P**	**22 18 17.8**	**-1.0**
XAN	**Xi'an**	**32.01**	**22**	P	**P**	**22 18 20.9**	**-1.4**
XAN				AMB	AMB		
comp=Z,44nm,0.8s,mb5.3							
XAN				LR	LR		
comp=E,248nm,21.5s							
XAN				LR	LR		
comp=Z,382nm,16.9s,MS4.2							
NJ2	**Nanjing**	**35.30**	**37**	*e*P	**P**	**22 18 50.9**	**+0.2**
NJ2				AP	pP	22 19 00.4	0.0
NJ2				XP	sP	22 19 04.6	-0.1
NJ2				PP	PP	22 20 09.2	-1.2
NJ2				PPP	PPP	22 20 26.5	-2.5
NJ2				S	**S**	**22 24 20.0**	**-1.7**
NJ2				AMB	AMB		
comp=Z,30nm,0.6s,mb5.4							
NJ2				AMB	AMB		
comp=Z,240nm,4.4s							
NJ2				LR	LR		
comp=N,690nm,13.2s,MS4.6							
NJ2				LR	LR		
comp=E,290nm,12.0s,MS4.6							
NJ2				LR	LR		
comp=Z,2μm,14.8s,MS5.1							
MBWA	**Marble Bar**	**35.36**	**137**	*e*P	**P**	**22 18 50.6**	**-0.8**
comp=Z,18nm,1.2s,mb4.9							
SSE	**Sheshan**	**36.09**	**40**	P	**P**	**22 18 53.0**	**-4.4**
SSE				S	**S**	**22 24 28.8**	**-5.0**
SSE				AMB	AMB		
comp=Z,30nm,0.7s,mb5.3							
SSE				AMB	AMB		
comp=Z,120nm,4.4s							
SSE				LR	LR		
comp=N,42nm,23.8s,MS3.5							
SSE				LR	LR		
comp=E,102nm,23.8s,MS3.5							
SSE				LR	LR		
comp=Z,134nm,21.5s,MS3.7							
FITZ	**Fitzroy Crossi**	**37.81**	**128**	*e*P	**P**	**22 19 11.9**	**-0.1**
comp=Z,16nm,0.8s,mb4.8							
JOW	**Kunigami**	**38.73**	**52**	P	**P**	**22 19 20.7**	**+1.1**
comp=Z,19nm,0.9s,mb4.8,baz=318,slow=15,SNR=4.5							
JOW				LR	LR	22 34 58.6	
comp=Z,158nm,21.7s,MS3.8,baz=162,slow=36							
WMQ	**Urumqi**	**39.52**	**352**	*e*P	**P**	**22 19 26.8**	**+0.8**
WMQ				AP	pP	22 19 39.0	+3.2
WMQ				XP	sP	22 19 44.5	+4.5
WMQ				PP	PP	22 21 02.4	+1.7
WMQ				S	**S**	**22 25 25.6**	**-0.4**
WMQ				XS		22 25 46.2	
WMQ				AMB	AMB		
comp=Z,5.0nm,0.9s,mb4.2							
WMQ				AMB	AMB		
comp=Z,47nm,5.2s							
WMQ				LR	LR		
comp=N,899nm,19.6s,MS4.8							
WMQ				LR	LR		
comp=E,888nm,20.0s,MS4.8							
WMQ				LR	LR		
comp=Z,1μm,20.6s,MS4.7							
BJT	**Baijiatuau**	**40.09**	**26**	*e*P	**P**	**22 19 31.7**	**+1.0**
comp=Z,25nm,1.0s,mb4.9							
UCH	**Uchtor**	**41.59**	**337**	P	**P**	**22 19 44.9**	**+1.7**
SNR=8.3							
TKM2	**Tokmak 2**	**41.78**	**339**	P	**P**	**22 19 46.8**	**+2.1**
SNR=7.9							
KBK	**Karagaybulak**	**41.79**	**338**	P	**P**	**22 19 46.8**	**+2.0**
SNR=9.5							
AML	**Almayashu**	**41.84**	**336**	P	**P**	**22 19 47.9**	**+2.7**
SNR=7.8							
AAK	**Ala-Archa**	**41.95**	**337**	*i* P	**P**	**22 19 46.6**	**+0.5**
AAK				pmax	pmax		
comp=Z,9.0nm,1.3s,mb4.2							
AAK	**Ala-Archa**	**41.95**	**337**	*e*P	**P**	**22 19 46.5**	**+0.5**
comp=Z,8.3nm,0.7s,mb4.5							
USP	**Ospenovka**	**42.49**	**338**	P	**P**	**22 19 52.0**	**+1.6**
SNR=8.6							
SONM	**Songino Array**	**44.13**	**11**	P	**P**	**22 20 03.2**	**-0.6**
comp=Z,1.4nm,0.4s,mb4.0,baz=194,slow=9.3,SNR=23							
SONM				ScP		22 25 36.5	
comp=Z,0.9nm,1.0s,baz=194,slow=5.1,SNR=4.0							
ULN	**Ulaanbaatar**	**44.29**	**12**	*e*P	**P**	**22 20 04.7**	**-0.4**
comp=Z,7.1nm,1.3s,mb4.2							
WRA	**Warramunga Arr**	**45.81**	**124**	P	**P**	**22 20 17.6**	**0.0**
comp=Z,14nm,0.6s,mb5.0,baz=302,slow=9.0,SNR=63							
WRAB	**Tennant Creek**	**45.82**	**124**	*i* P	**P**	**22 20 17.2**	**-0.5**
WRAB	**Tennant Creek**	**45.82**	**124**	*e*P	**P**	**22 20 17.9**	**+0.3**
comp=Z,51nm,1.0s,mb5.4							
WB2	**Warramunga Arr**	**45.83**	**124**	⇑*i* P	**P**	**22 20 18.2**	**+0.5**
ZAK	**Zakamensk**	**46.11**	**7**	*e*P	**P**	**22 20 18.5**	**-1.0**
ASPA	**Alice Springs**	**47.30**	**128**	*e*P	**P**	**22 20 29.5**	**+0.3**
ASAR	**Alice Springs**	**47.30**	**128**	P	**P**	**22 20 29.7**	**+0.4**
comp=Z,10nm,1.1s,mb4.7,baz=299,slow=7.9,SNR=53							
ASAR				LR	LR	22 44 16.0	
comp=Z,76nm,19.5s,MS3.7,baz=299,slow=41							
TLY	**Talaya**	**47.43**	**7**	*e*P	**P**	**22 20 28.9**	**-1.0**
comp=Z,4.3nm,0.9s,mb4.4							
HIA	**Hailar**	**49.20**	**21**	*e*P	**P**	**22 20 42.5**	**-1.2**
comp=Z,4.8nm,0.7s,mb4.6							
ZAL	**Zalesovo**	**49.82**	**352**	*i* P	**P**	**22 20 48.0**	**-0.3**
ZAL				pmax	pmax		
comp=Z,6.0nm,0.4s							
ZAL	**Zalesovo**	**49.82**	**352**	P	**P**	**22 20 47.6**	**-0.7**
comp=Z,5.6nm,0.3s,mb5.0,baz=299,slow=7.0,SNR=38							
MDJ	**Mudanjiang**	**50.07**	**32**	P	**P**	**22 20 44.8**	**-5.6**
MDJ				AMB	AMB		
comp=Z,15nm,2.3s,mb4.6							
MDJ				AMB	AMB		
comp=Z,126nm,3.8s							
MDJ				LR	LR		
comp=E,79nm,23.3s							
MDJ				LR	LR		
comp=N,61nm,28.5s							
MDJ				LR	LR		
comp=Z,105nm,24.6s,MS3.8							
MAJO	**Matsushiro**	**50.80**	**45**	P	**P**	**22 20 55.7**	**-0.4**
comp=Z,24nm,1.4s,mb4.9							
NVS	**Novosibirsk**	**50.92**	**351**	*e*P	**P**	**22 20 54.5**	**-2.2**
NVS				*e*		22 22 09.5	
NVS				*e*S	**S**	**22 28 07.1**	**-2.5**
NVS				pmax	pmax		
comp=Z,14nm,1.6s,mb4.6							
NVS				pmax	pmax		
comp=E,7.0nm,1.3s							
NVS				pmax	pmax		
comp=N,8.0nm,1.6s							
NVS				smax			
comp=E,27nm,2.1s							
BVAR	**Borovoye Array**	**52.26**	**342**	P	**P**	**22 21 06.3**	**-0.6**
comp=E,1.6nm,0.3s,mb4.4,baz=140,slow=11,SNR=28							
BRVK	**Borovoye**	**52.33**	**341**	*e*P	**P**	**22 21 06.5**	**-0.7**
comp=E,5.3nm,0.6s,mb4.7							
CHKZ	**Chkalovo**	**52.75**	**342**	*e*P	**P**	**22 21 09.8**	**-0.6**
comp=E,15nm,0.8s,mb5.0							
BOD	**Bodaibo**	**55.10**	**12**	*e*P	**P**	**22 21 22.6**	**-5.1**
CTA	**Charters Tower**	**56.10**	**118**	P	**P**	**22 21 37.2**	**+1.8**
comp=E,6.8nm,1.1s,mb4.6,baz=246,slow=18,SNR=2.3							
CTA				LR	LR	22 46 08.0	
comp=E,92nm,21.7s,MS3.8,baz=242,slow=36							
GNI	**Garni**	**57.24**	**316**	*i* P	**P**	**22 21 44.1**	**+0.8**
GNI				pmax	pmax		
comp=Z,11nm,1.3s							
GNI	**Garni**	**57.24**	**316**	P	**P**	**22 21 43.4**	**+0.1**
comp=Z,12nm,1.2s,mb4.8,baz=196,slow=18,SNR=3.7							
GNI				LR	LR	22 49 08.3	
comp=Z,56nm,19.5s,MS3.7,baz=156,slow=39							
GNI	**Garni**	**57.24**	**316**	*e*P	**P**	**22 21 43.3**	**0.0**
comp=Z,16nm,1.2s,mb4.9							
STKA	**Stephens Creek**	**57.36**	**133**	P	**

comp=Z,10.0nm,1.0s,mb4.9
YAK Yakutsk 62.80 18 *e*P **P 22 22 18.7 -2.4**
comp=Z,17nm,0.7s,mb5.3
BRTR Keskin Array B 65.11 312 P **P 22 22 35.2 -1.3**
BRTR Keskin Array B 65.11 312 P **P 22 22 35.2 -1.3**
comp=Z,3.1nm,0.7s,mb4.5,baz=134,slow=7.1,SNR=17
OBN Obninsk 68.50 328 ⇓*i*P **P 22 22 56.6 -1.0**
OBN pmax pmax
comp=Z,12nm,1.3s,mb4.8
OBN Obninsk 68.50 328 P **P 22 22 56.2 -1.4**
comp=Z,21nm,1.0s,mb5.1
TIXI Tiksi 70.22 11 ⇑*i*P **P 22 23 05.5 -2.4**
TIXI pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
JOF Joensuu 74.07 335 *e*p **P 22 23 32.1 +1.3**
MAW Mawson 75.56 192 LR LR 22 53 19.3
comp=Z,65nm,18.4s,MS4.0,baz=251,slow=33
FINES FINESS Array B 75.90 332 P **P 22 23 41.5 +0.1**
FINES FINESS Array B 75.90 332 P **P 22 23 41.5 +0.1**
comp=Z,2.6nm,0.7s,mb4.3,baz=109,slow=7.1,SNR=17
KAF Kangasniemi 75.99 333 *e*p **P 22 23 41.3 -0.6**
OJC Ojcow 76.92 320 *e*P **P 22 23 47.7 +0.2**
ARCES ARCESS Array B 78.53 340 P **P 22 23 56.6 +0.6**
ARCES ARCESS Array B 78.53 340 P **P 22 23 56.6 +0.7**
comp=Z,7.0nm,1.1s,mb4.5,baz=103,slow=6.8,SNR=18
BILL Bilibino 78.78 21 ⇑*i*P **P 22 23 57.1 -0.3**
BILL pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BILL Bilibino 78.78 21 *e*P **P 22 23 56.5 -0.8**
comp=Z,2.3nm,0.8s,mb4.2
GERES GERESS Array B 80.73 319 P **P 22 24 07.7 -0.5**
comp=Z,1.0nm,0.5s,mb4.0,baz=90,slow=4.0,SNR=6.1
KHC Kasperske Hory 80.83 319 *e*P **P 22 24 12.5 +3.8**
SYO Syowa Base 82.58 197 ⇓P **P 22 24 18.5 +1.1**
LPG La Plagne 85.42 315 *e*P **P 22 24 32.6 +0.4**
comp=Z,10nm,1.0s,mb4.6
VNDA Vanda 89.64 168 LR LR 23 03 40.1
comp=Z,46nm,19.2s,MS3.9,baz=79,slow=35
ILAR Eielson Array 97.41 22 P **P 22 25 28.6 +0.8**
comp=Z,0.3nm,0.9s,mb3.7,baz=227,slow=8.8,SNR=3.4
DBIC Dimbokro 99.13 277 LR LR 23 07 38.9
comp=Z,90nm,19.9s,MS4.3,baz=105,slow=34
PDAR Pinedale Array 127.84 23 PKP PKPdf 22 31 01.1 +1.6
comp=Z,0.2nm,0.5s,baz=243,slow=2.0,SNR=2.6
TXAR Lajitas Array 141.78 27 PKhKP 22 31 24.2
comp=Z,0.4nm,0.9s,baz=243,slow=2.0,SNR=2.8
TXAR PKP PKPdf 22 31 27.9 +2.2
comp=Z,1.0nm,1.0s,baz=175,slow=1.7,SNR=5.0

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*THE **08** 22:13:46.8, 38.72N×22.72E, h15km, ML2.3*
*CSEM **08** 22:13:46.6±0.2, 38.68N×22.70E, h10km, ML2.3, Error ellipse: s-maj=4.7km s-min=2.6km az=22.0*
ATH 08 22:13:45.6, 38.63N×22.82E, h29km±1km, MD2.6/3, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.14**	**82**	*e*PB		Pb	22 13 51.3	+0.2
LKR				*e*SB		Sb	22 13 55.5	+0.6
AGG	**Agios Georgios**	**0.55**	**316**	*e*Pg		Pb	22 13 55.2	-1.5
AGG	comp=Z,4.7nm,0.1s			*e*Sg		Sb	22 14 01.6	-2.7
NEO	**Neokhori**	**0.74**	**25**	*e*PN		Pn	22 14 00.6	+0.4
NEO				*e*SN		Sn	22 14 11.4	+0.9
XOR	**Xorichti**	**0.79**	**21**	*e*Pg		Pb	22 14 01.1	+0.4
XOR	comp=Z,2.7nm,0.1s			*e*Sg		Sb	22 14 12.4	+1.3
EVR	**Evrytania**	**0.84**	**290**	*e*PN		Pn	22 14 02.1	+0.6
AOS	**Alonnisos**	**0.99**	**57**	*e*Pg		Pn	22 14 05.8	+2.1
AOS				*e*Sg		Sn	22 14 19.2	+2.5
LIT	**Litokhoron**	**1.49**	**350**	*e*Pb		Pb	22 14 11.2	-1.3
LIT	**Litokhoron**	**1.49**	**350**	*e*Pb		Pb	22 14 11.2	-1.3

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*NEIC **08** 22:20:33.4±2.1, 6.52S×130.23E, h76km±20km, mb4.4/11, Error ellipse: s-maj=18.4km s-min=10.7km az=56.0*
*IDC **08** 22:20:41.1±2.4, 6.56S×130.27E, h149km±21km, mb3.9/11, mb1 4.1/13, mb1mx4.0/17, mbtmp4.4/13, Error ellipse: s-maj=29.1km s-min=12.1km az=62.0*
ISC 08 22:20:33.5±2.2, 6.57S±0.08×130.3E±0.1, h96km±21km, n37, σ0°89/42, mb4.5/19, 1C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.32**	**201**	*e*P		**P**	**22 23 26.0**	**-0.8**
FITZ	16nm,0.5s			*e*S		**S**	**22 25 31.6**	**-11**
WRAB	**Tennant Creek**	**13.87**	**164**	*e*P		**P**	**22 23 46.8**	**-0.3**
WRAB	13nm,0.6s			*e*S		S	22 25 46.4	-33
WRA	**Warramunga Arr**	**13.87**	**164**	P		**P**	**22 23 44.8**	**-2.4**
WRA	1.4nm,0.3s,baz=349,slow=13,SNR=16			S		**S**	**22 26 11.8**	**-7.2**
WB2	**Warramunga Arr**	**13.88**	**164**	*e*P		**P**	**22 23 46.7**	**-0.5**
WB2	6.4nm,0.3s,baz=351,slow=19,SNR=10			*e*S		**S**	**22 26 11.9**	**-7.2**
ASAR	**Alice Springs**	**17.36**	**169**	P		**P**	**22 24 33.3**	**+2.1**
ASAR	4.9nm,0.3s,baz=352,slow=10,SNR=140			S		**S**	**22 27 38.5**	**-0.5**
ASPA	**Alice Springs**	**17.36**	**169**	⇑*i*P		**P**	**22 24 32.1**	**+0.9**
ASPA	1.6nm,0.3s,baz=353,slow=27,SNR=8.3			*e*S		**S**	**22 27 34.4**	**-4.6**
MBWA	**Marble Bar**	**17.73**	**214**	*e*P		**P**	**22 24 36.2**	**+0.4**
MBWA	19nm,0.8s			*e*S		**S**	**22 27 37.0**	**-10**
CTA	**Charters Tower**	**20.53**	**132**	⇓*i*P		**P**	**22 25 08.7**	**+2.4**
CTA	13nm,0.6s **Charters Tower**	**20.53**	**132**	P		**P**	**22 25 08.4**	**+2.1**
CTAO	17nm,0.5s,baz=318,slow=12,SNR=21 **Charters Tower**	**20.53**	**132**	*e*P		**P**	**22 25 08.6**	**+2.3**
STKA	28nm,0.9s **Stephens Creek**	**27.31**	**159**	⇓*i*P		**P**	**22 26 11.7**	**+0.3**
STKA	4.9nm,0.4s,mb4.4 **Stephens Creek**	**27.31**	**159**	P		**P**	**22 26 11.4**	**+0.1**
MUN	6.9nm,0.4s,mb4.5,baz=337,slow=9.8,SNR=34 **Mundaring**	**28.48**	**206**	*e*P		**P**	**22 26 22.3**	**+0.4**
NWAO	6.2nm,1.2s,mb4.0 **Narrogin (SRO)**	**28.89**	**203**	P		**P**	**22 26 25.8**	**+0.2**
NWAO	3.2nm,0.4s,mb4.3,baz=10,slow=14,SNR=9.8 **Narrogin (SRO)**	**28.89**	**203**	*e*P		**P**	**22 26 25.4**	**-0.1**
CMAR	6.6nm,0.9s,mb4.3 **Chiang Mai Arr**	**39.66**	**309**	P		**P**	**22 27 58.7**	**+0.9**
CMAR	1.9nm,0.7s,mb4.0,baz=136,slow=6.4,SNR=12			ScP			22 33 37.2	
ENH	0.8nm,0.7s,baz=150,slow=3.9,SNR=5.8 **Enshi**	**41.70**	**333**	*e*P		**P**	**22 28 14.8**	**+0.2**
RPZ	3.0nm,0.6s,mb4.2 **Rata Peaks**	**51.41**	**143**	P		**P**	**22 29 31.4**	**+0.6**
LSA	11nm,0.8s,mb5.0,baz=344,slow=6.8,SNR=5.5 **Lhasa**	**52.07**	**316**	*e*P		**P**	**22 29 36.5**	**+0.6**
URZ	8.7nm,0.7s,mb4.9 **Urewera**	**52.77**	**134**	P		**P**	**22 29 40.1**	**-0.9**
JIRN	6.4nm,1.1s,mb4.6,baz=307,slow=5.1,SNR=2.6 **Jiri**	**54.50**	**311**	*e*P		**P**	**22 29 54.0**	**+0.1**
GUN	27nm,0.6s,mb5.5 **Gumba**	**54.87**	**311**	*e*P		**P**	**22 29 56.5**	**-0.1**
PKI	51nm,0.5s **Pulchoki**	**55.05**	**310**	*e*P		**P**	**22 29 57.4**	**-0.5**
KKN	16nm,0.6s,mb5.3 **Kakani**	**55.26**	**310**	*e*P		**P**	**22 29 59.1**	**-0.3**
DMN	27nm,0.6s,mb5.4 **Daman**	**55.30**	**310**	*e*P		**P**	**22 29 59.5**	**-0.2**
GKN	**Gorkha**	**55.85**	**310**	*e*P		**P**	**22 30 03.5**	**-0.2**
KOLN	38nm,0.4s **Koldanda**	**56.53**	**309**	*e*P		**P**	**22 30 08.3**	**-0.2**
ULN	25nm,0.7s,mb5.3 **Ulaanbaatar**	**57.94**	**342**	*e*P		**P**	**22 30 18.8**	**+0.7**
SONM	3.7nm,0.6s,mb4.6 **Songino Array**	**58.12**	**341**	P		**P**	**22 30 19.5**	**+0.1**
CASY	0.8nm,0.4s,mb4.1,baz=159,slow=6.5,SNR=18 **Casey**	**61.17**	**189**	*e*P		**P**	**22 30 40.9**	**+0.9**
ZAL	126nm,1.4s **Zalesovo**	**71.31**	**334**	P		**P**	**22 31 44.0**	**-0.5**
VNDA	0.8nm,0.6s,mb3.8,baz=339,slow=9.8,SNR=4.7 **Vanda**	**72.84**	**173**	P		**P**	**22 31 53.3**	**+0.1**
BVAR	4.1nm,1.2s,mb4.2,baz=332,slow=9.8,SNR=3.6 **Borovoye Array**	**77.84**	**328**	P		**P**	**22 32 21.8**	**-0.3**
BRVK	0.6nm,0.6s,mb3.5,baz=117,slow=9.7,SNR=5.0 **Borovoye**	**77.91**	**328**	*e*P		**P**	**22 32 22.5**	**+0.1**
CHKZ	2.4nm,0.9s,mb3.9 **Chkalovo**	**78.03**	**328**	*e*P		**P**	**22 32 22.3**	**-0.7**
ILAR	1.7nm,0.9s,mb3.8 **Eielson Array**	**92.85**	**25**	P		**P**	**22 33 34.6**	**-1.7**
	0.1nm,0.6s,baz=250,slow=4.5,SNR=4.2							
LPAZ	**La Paz**	**150.90**	**141**	PKPbc		PKPdf	22 40 18.3	+8.3
	2.3nm,0.4s,baz=62,slow=4.2,SNR=11							

IDC 08 22:23:09.0±15.0, 19.79S×178.50W, h295km±159km, mb3.4/5, mb1 3.8/5, mb1mx3.4/14, mbtmp4.1/5, Error ellipse: s-maj=152.0km s-min=44.6km az=165.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.10**	**263**	P		P	22 29 18.0	-1.7
	9.7nm,0.9s,baz=72,slow=13,SNR=3.8							
NVAR	**Mina Array Bea**	**80.83**	**44**	P		P	22 34 50.7	-0.8
	0.3nm,0.4s,baz=240,slow=7.3,SNR=3.7							
TXAR	**Lajitas Array**	**87.07**	**58**	P		P	22 35 21.9	-1.0
	0.4nm,0.7s,baz=207,slow=6.0,SNR=4.6							
ILAR	**Eielson Array**	**87.73**	**13**	P		P	22 35 24.1	-1.2
	0.4nm,0.8s,baz=217,slow=5.4,SNR=5.6							
PDAR	**Pinedale Array**	**88.77**	**43**	P		P	22 35 29.8	-0.9
	0.8nm,0.9s,baz=194,slow=3.7,SNR=3.9							
GERES	**GERESS Array B**	**149.39**	**344**	PKPbc		PKPdf	22 42 22.8	+4.8
	1.9nm,0.9s,baz=45,slow=3.8,SNR=4.9							

IDC 08 23:05:45.0±5.1, 7.49N×93.19E, mb3.4/3, mb1 3.6/4, mb1mx3.5/17, mbtmp3.4/4, ML4.1/1, Error ellipse: s-maj=148.0km s-min=31.1km az=77.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.26**	**27**	Pn		P	23 08 42.0	-1.9
	0.3nm,0.3s,baz=208,slow=15,SNR=1.6							
SONM	**Songino Array**	**41.75**	**13**	P		P	23 13 35.6	-2.0
	0.2nm,0.4s,baz=201,slow=9.7,SNR=3.5							
WRA	**Warramunga Arr**	**48.81**	**125**	P		P	23 14 32.0	-2.3
	0.3nm,0.5s,baz=304,slow=8.5,SNR=1.7							
ASAR	**Alice Springs**	**50.40**	**129**	P		P	23 14 44.8	-1.7
	0.4nm,0.7s,baz=299,slow=7.4,SNR=5.6							

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*IDC **08** 23:25:50.5±1.9, 51.10N×177.85E, mb3.5/7, mb1 3.8/8, mb1mx3.7/23, mbtmp3.6/8, ML4.0/1, Error ellipse: s-maj=47.5km s-min=12.6km az=12.0*
*NEIC **08** 23:25:57.8±1.3, 51.29N×177.52E, h52km±8km, ML3.7(AEIC), Error ellipse: s-maj=30.1km s-min=6.5km az=189.0*
ISC 08 23:25:56.6±1.6, 51.3N±0.2×177.6E±0.1, h59km±9km, n17, σ0°68/19, mb3.6/7, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.59**	**305**	P		**P**	**23 26 35.7**	**-1.3**
SMY				S		**S**	**23 27 06.9**	**-0.4**
FX1	**Attu Island--F**	**3.15**	**302**	Pn		**P**	**23 26 44.0**	**-1.0**
	48nm,0.3s,baz=181,slow=6.6,SNR=72							
FX1				Sn		**S**	**23 27 23.1**	**+1.5**
	30nm,0.3s,baz=274,slow=21,SNR=4.2							
FX1	**Attu Island--F**	**3.15**	**302**	P		**P**	**23 26 45.0**	**0.0**
KIMD	**Kanaga Island**	**3.28**	**80**	P		**P**	**23 26 47.0**	**+0.2**
KIWB	**Kanaga Island**	**3.34**	**78**	P		**P**	**23 26 47.4**	**-0.2**
GSMY	**Great Sitkin M**	**4.04**	**77**	P		**P**	**23 26 57.5**	**+0.1**
GSIG	**Igitkin Island**	**4.11**	**78**	P		**P**	**23 26 58.9**	**+0.4**
ATKA	**Atka Island**	**5.19**	**77**	P		**P**	**23 27 13.8**	**+0.2**
IMA	**Indian Mountai**	**20.75**	**34**	*e*P		**P**	**23 30 35.2**	**+1.0**
ILAR	**Eielson Array**	**22.76**	**40**	P		**P**	**23 30 53.4**	**-0.7**
	0.5nm,0.5s,mb3.2,baz=250,slow=9.4,SNR=8.3							
INK	**Inuvik**	**28.84**	**36**	P		**P**	**23 31 50.4**	**-0.5**
	0.6nm,0.7s,mb3.4,baz=286,slow=6.7,SNR=4.6							
INK	**Inuvik**	**28.84**	**36**	P		**P**	**23 31 50.4**	**-0.5**
YKA	**Yellowknife Ar**	**36.93**	**46**	P		**P**	**23 33 00.6**	**-0.4**
	0.2nm,0.5s,mb3.2,baz=280,slow=8.0,SNR=3.2							
SONM	**Songino Array**	**44.64**	**295**	P		**P**	**23 34 05.5**	**+1.0**
	0.8nm,0.8s,mb3.6,baz=58,slow=9.3,SNR=7.9							
PDAR	**Pinedale Array**	**48.49**	**70**	P		**P**	**23 34 35.0**	**+0.1**
	0.4nm,0.4s,mb3.8,baz=347,slow=3.1,SNR=4.7							
BVAR	**Borovoye Array**	**59.46**	**318**	P		**P**	**23 35 54.6**	**-0.5**
	2.2nm,0.9s,mb4.2,baz=53,slow=7.4,SNR=10							
TXAR	**Lajitas Array**	**60.91**	**79**	P		**P**	**23 36 05.4**	**0.0**
	0.3nm,0.5s,mb3.7,baz=309,slow=4.7,SNR=5.4							

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*IDC **08** 23:26:00.6±3.4, 12.68N×91.83E, mb3.4/3, mb1 3.6/4, mb1mx3.5/17, mbtmp3.4/4, ML3.7/1, Error ellipse: s-maj=90.4km s-min=28.8km az=82.0*
ISC 08 23:26:09.2±0.7, 13.09N±0.07×92.2E±0.1, h33km, n11, σ0°77/12, mb3.5/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.52**	**160**	*e*P		**P**	**23 26 33.6**	**-0.7**
PBA				*e*S		**S**	**23 26 53.7**	**+0.6**
PBA				*e*			23 26 54.3	
PBA	comp=E,2μm,0.4s			*e*			23 26 54.7	
CMAR	comp=N,3μm,0.4s **Chiang Mai Arr**	**8.39**	**50**	Pn		**P**	**23 28 11.9**	**+0.6**
	comp=N,0.2nm,0.3s,baz=232,slow=16,SNR=2.5							
VIS	**Vishakhapatnam**	**9.72**	**299**	*e*P		**P**	**23 28 23.3**	**-6.6**
VIS				*e*			23 30 00.6	
JIRN	**Jiri**	**15.55**	**340**	*e*P		**P**	**23 29 48.2**	**+0.5**
	comp=N,5.9nm,0.3s							
PKI	**Pulchoki**	**15.75**	**337**	*e*P		**P**	**23 29 49.3**	**-0.9**
	comp=N,3.8nm,0.2s							
GUN	**Gumba**	**15.89**	**339**	*e*P		**P**	**23 29 52.4**	**+0.4**
GKN	**Gorkha**	**16.43**	**336**	*e*P		**P**	**23 29 59.0**	**+0.1**
	comp=N,10nm,0.3s							
KOLN	**Koldanda**	**16.67**	**332**	*e*P		**P**	**23 30 02.8**	**+0.8**
	comp=N,11nm,0.6s							
SONM	**Songino Array**	**36.60**	**16**	P		**P**	**23 33 12.6**	**-1.5**
	comp=N,0.4nm,0.9s,mb3.3,baz=201,slow=8.4,SNR=3.2							
WRA	**Warramunga Arr**	**52.88**	**128**	P		**P**	**23 35 18.6**	**-5.8**
	comp=N,0.3nm,0.5s,mb3.5,baz=308,slow=9.7,SNR=3.6							
ASAR	**Alice Springs**	**54.74**	**132**	P		**P**	**23 35 32.6**	**-5.5**
	comp=N,0.3nm,0.4s,mb3.6,baz=313,slow=7.2,SNR=7.8							

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*IDC **08** 23:33:27.7±0.7, 27.32N×140.25E, h383km±7km, mb3.4/11, mb1 3.5/12, mb1mx3.4/22, mbtmp4.1/12, Error ellipse: s-maj=20.5km s-min=14.2km az=78.0*
*JMA **08** 23:33:29.4±0.1, 27.58N×141.09E, h409km, M3.9*
ISC 08 23:33:27.4±0.6, 27.36N±0.06×140.3E±0.2, h395km±6km, n25, σ1°10/32, mb3.6/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.74**	**98**	P		**P**	**23 34 21.9**	**+0.1**
	37nm,0.3s,baz=330,slow=22,SNR=30							
CBIJ				S		**S**	**23 35 02.9**	**-1.5**
	65nm,0.3s,baz=281,slow=22,SNR=17							
CBIJ	**Chichi jima**	**1.74**	**98**	P		**P**	**23 34 22.0**	**+0.2**
CBIJ				S		**S**	**23 35 03.0**	**-1.4**
JHHJ	**Haha-jima-NKT**	**1.87**	**112**	P		**P**	**23 34 23.1**	**+0.6**
JHHJ				S		**S**	**23 35 05.5**	**-0.1**
JHJ2	**Mitsune**	**5.75**	**356**	P		**P**	**23 34 59.4**	**+1.8**
JHJ	**Hachijo jima 2**	**5.75**	**356**	P		**P**	**23 34 59.2**	**+1.5**
	14nm,0.3s,baz=46,slow=21,SNR=3.8							
JOD2	**Odawara 2**	**7.94**	**353**	P		**P**	**23 35 23.9**	**+1.4**
JOD2				S		**S**	**23 36 55.3**	**+2.1**
JHU	**Hanno**	**8.51**	**355**	P		**P**	**23 35 28.7**	**-0.3**
JHU				S		**S**	**23 37 03.0**	**-2.0**
JRY	**Ryogami san**	**8.71**	**353**	P		**P**	**23 35 32.2**	**+0.9**
JRY				S		**S**	**23 37 08.9**	**-0.3**
JAG	**Ashikaga**	**9.06**	**356**	P		**P**	**23 35 34.9**	**-0.6**
JAG				S		**S**	**23 37 13.8**	**-2.9**
JHO	**Hitachi**	**9.23**	**2**	P		**P**	**23 35 37.9**	**+0.5**
JHO				S		**S**	**23 37 17.3**	**-2.8**
SONM	**Songino Array**	**33.34**	**317**	P		**P**	**23 39 31.4**	**-0.2**
	0.5nm,0.8s,mb2.9,baz=131,slow=9.3,SNR=6.6							
SONM				PcP		PcP	23 42 03.4	+0.1
	0.2nm,0.5s,baz=126,slow=3.1,SNR=5.7							
WRA	**Warramunga Arr**	**47.37**	**188**	P		**P**	**23 41 24.9**	**-0.6**
	0.7nm,0.7s,mb3.1,baz=4.0,slow=7.8,SNR=2.6							
ASAR	**Alice Springs**	**51.09**	**187**	P		**P**	**23 41 52.6**	**-0.8**
	0.2nm,0.5s,mb2.6,baz=4.5,slow=5.1,SNR=3.9							
BVAR	**Borovoye Array**	**56.68**	**317**	P		**P**	**23 42 32.8**	**-0.4**
	2.4nm,0.5s,mb3.8,baz=86,slow=6.6,SNR=26							
INK	**Inuvik**	**63.51**	**24**	P		**P**	**23 43 18.1**	**-0.1**
	0.6nm,0.4s,mb3.5,baz=287,slow=5.0,SNR=8.5							
ARCES	**ARCESS Array B**	**72.72**	**340**	P		**P**	**23 44 15.4**	**+0.9**
	0.7nm,0.4s,mb3.6,baz=79,slow=8.5,SNR=13							
YKA	**Yellowknife Ar**	**72.72**	**28**	P		**P**	**23 44 15.4**	**+0.7**
	1.5nm,0.5s,mb3.8,baz=296,slow=5.8,SNR=30							
JOF	**Joensuu**	**74.08**	**333**	*e*p		**P**	**23 44 20.5**	**-1.9**
	8.5nm,1.1s,mb4.3							
KAF	**Kangasniemi**	**76.48**	**334**	*e*p		**P**	**23 44 36.0**	**+0.1**
FINES	**FINESS Array B**	**76.94**	**333**	P		**P**	**23 44 38.6**	**+0.2**
	3.3nm,0.4s,mb4.3,baz=72,slow=5.6,SNR=61							
NVAR	**Mina Array Bea**	**81.70**	**51**	P		**P**	**23 45 05.4**	**+1.3**
	1.0nm,0.5s,mb3.8,baz=282,slow=5.9,SNR=4.3							
HFS	**Hagfors**	**82.50**	**336**	P		**P**	**23 45 07.2**	**-0.4**
	1.7nm,0.5s,mb4.0,baz=135,slow=2.1,SNR=7.6							
NB2	**NORSAR Subarra**	**82.72**	**338**	P		**P**	**23 45 08.8**	**+0.1**
	1.4nm,0.7s,mb3.8,baz=51,slow=4.6							
NOA	**NORSAR Array B**	**82.72**	**338**	P		**P**	**23 45 08.4**	**-0.4**
	3.0nm,0.9s,mb4.0,baz=44,slow=5.1,SNR=4.2							
LPAZ	**La Paz**	**151.51**	**73**	PKPbc		PKPdf	23 52 37.6	+8.5
	0.5nm,0.4s,baz=292,slow=4.9,SNR=4.4							

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*BJI **08** 23:44:34.8, 8.70N×92.32E, h42km, mB4.3, mb4.6*
*IDC **08** 23:44:36.2±0.6, 8.89N×92.24E, h28km±3km, mb4.1/13, mb1 4.2/14, mb1mx4.1/20, mbtmp4.2/14, ML3.9/1, MS3.3/1, Ms1 3.5/1, ms1mx3.1/14, Error ellipse: s-maj=27.8km s-min=11.5km az=57.0*
*NEIC **08** 23:44:36.6±0.3, 8.93N×92.35E, h30km, mb4.6/19, Error ellipse: s-maj=8.2km s-min=5.9km az=53.0*
ISC 08 23:44:34.7±0.4, 8.89N±0.06×92.33E±0.07, h30km, h30km±8km: pP-P, n48, σ1°03/48, mb4.5/29, 2C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.47**	**33**	Pn		**P**	**23 47 18.6**	**-1.1**
	0.2nm,0.3s,baz=229,slow=14,SNR=6.6							
CMAR				LR		LR	23 52 10.3	
	comp=Z,124nm,18.5s,baz=215,slow=39							
PALK	**Pallekele**	**11.63**	**263**	*e*P		**P**	**23 47 20.6**	**-1.3**
PALK				*e*S		S	23 49 09.9	-22
VIS	**Vishakhapatnam**	**12.40**	**316**	*e*P		**P**	**23 47 29.2**	**-3.0**
VIS				*e*S		**S**	**23 49 32.8**	**-18**
VIS				*e*			23 49 38.6	
	comp=N,43nm,0.3s							
VIS				*e*			23 49 38.8	
	comp=E,43nm,0.2s							
HYB	**Hyderabad**	**15.86**	**304**	*e*P		**P**	**23 48 17.5**	**-0.2**
HYB	**Hyderabad**	**15.86**	**304**	*i*P		**P**	**23 48 17.5**	**-0.2**
HYB				*e*			23 50 49.5	
SHL	**Shillong**	**16.59**	**359**	*e*		**P**	**23 48 29.0**	**+2.1**
SHL	**Shillong**	**16.59**	**359**	*e*P		**P**	**23 48 29.0**	**+2.1**
JIRN	**Jiri**	**19.55**	**344**	*e*P		**P**	**23 49 04.1**	**+1.0**
	comp=E,22nm,0.7s							
PKI	**Pulchoki**	**19.70**	**341**	*e*P		**P**	**23 49 04.0**	**-0.7**
	comp=E,24nm,0.8s							
QIZ	**Qiongzhong**	**19.74**	**57**	P		**P**	**23 48 58.0**	**-7.2**
	comp=E,11nm,0.8s							
GUN	**Gumba**	**19.88**	**343**	*e*P		**P**	**23 49 07.1**	**+0.5**
	comp=E,22nm,0.8s							
KKN	**Kakani**	**19.94**	**341**	*e*P		**P**	**23 49 06.6**	**-0.8**
	comp=E,17nm,0.9s							
GKN	**Gorkha**	**20.35**	**340**	*e*P		**P**	**23 49 11.9**	**+0.3**
	comp=E,7.1nm,0.5s							
KOLN	**Koldanda**	**20.51**	**337**	*e*P		**P**	**23 49 13.5**	**+0.3**
	comp=E,18nm,0.6s							
LSA	**Lhasa**	**20.73**	**357**	*e*P		**P**	**23 49 16.4**	**+0.9**
LSA	**Lhasa**	**20.73**	**357**	*e*P		**P**	**23 49 14.9**	**-0.6**
	comp=E,15nm,0.8s							
NDI	**New Delhi**	**24.29**	**326**	*e*		**P**	**23 49 52.0**	**+1.2**
ENH	**Enshi**	**26.64**	**35**	P		**P**	**23 50 12.6**	**-0.3**
	comp=E,12nm,1.1s,mb4.4							
AAK	**Ala-Archa**	**37.08**	**338**	*e*P		**P**	**23 51 45.3**	**+1.1**
	comp=E,5.5nm,0.8s,mb4.4							
BJT	**Baijiatuan**	**37.58**	**31**	*e*P		**P**	**23 51 48.1**	**-0.3**
	comp=E,6.9nm,0.8s,mb4.4							
MBWA	**Marble Bar**	**40.20**	**138**	*e*P		**P**	**23 52 10.6**	**+0.1**
	comp=E,2.8nm,0.5s,mb4.2							
SONM	**Songino Array**	**40.60**	**15**	P		**P**	**23 52 13.5**	**+0.1**
	comp=E,7.3nm,1.1s,mb4.2,baz=198,slow=8.0,SNR=44							
SONM				pP		pP	23 52 23.7	+1.3
	comp=E,4.3nm,0.8s,baz=199,slow=8.7,SNR=15							
SONM				PcP		PcP	23 54 16.5	+0.7
	comp=E,0.6nm,0.4s,baz=209,slow=3.9,SNR=6.3							
SONM				pPcP			23 54 25.4	
	comp=E,0.7nm,0.8s,baz=188,slow=2.1,SNR=4.0							
ULN	**Ulaanbaatar**	**40.80**	**15**	*e*P		**P**	**23 52 14.9**	**-0.1**
	comp=E,5.8nm,1.0s,mb4.2							
ZAL	**Zalesovo**	**45.33**	**354**	P		**P**	**23 52 51.8**	**0.0**
	comp=E,1.3nm,0.4s,mb4.1,baz=307,slow=6.7,SNR=7.7							
ZAL				pP		pP	23 53 00.4	-0.4
	comp=E,1.9nm,0.6s,baz=290,slow=6.4,SNR=4.7							
MUN	**Mundaring**	**46.61**	**152**	*e*P		**P**	**23 53 03.5**	**+1.3**
	comp=E,4.0nm,0.5s,mb4.6							
KLBR	**Kellerberrin**	**47.03**	**150**	⇑*i*P		**P**	**23 53 08.7**	**+3.1**
	comp=E,3.7nm,0.4s,mb4.7							
BVAR	**Borovoye Array**	**47.47**	**342**	P		**P**	**23 53 07.7**	**-1.0**
	comp=E,1.7nm,1.0s,mb3.9,baz=135

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCG	**Saint Claude**	**0.21**	**334**	⇑*iP*	Pg	00 13 09.8	0.0
BBL	**Barber's Block**	**0.33**	**160**	⇑*iP*	Pg	00 13 12.1	-0.1
BBL				*eS*	Sg	00 13 16.0	-0.6
BBL	**Barber's Block**	**0.33**	**160**	⇑*iP*	Pg	00 13 11.8	-0.4
BBL	**Barber's Block**	**0.33**	**160**	⇑*iP*	Pg	00 13 12.1	-0.1
BBL				*eS*	Sg	00 13 16.0	-0.6
DWS	**Wesley**	**0.38**	**135**	⇑*iP*	Pg	00 13 12.5	-0.6
DWS				*eS*	Sg	00 13 18.4	+0.2
MDN	**Morne-Daniel**	**0.55**	**160**	⇑*iP*	Pg	00 13 16.5	-0.1
MDN				*eS*	Sg	00 13 24.5	+0.6
SEG	**Port Louis**	**0.57**	**8**	⇑*eP*	Pg	00 13 15.9	-1.0
DBCT	**Belle View Cho**	**0.61**	**158**	*eP*	Pg	00 13 17.2	-0.6
DSTT	**Stowe**	**0.65**	**155**	*eP*	Pg	00 13 18.3	-0.3
DSTT				*eS*	Sg	00 13 30.3	+3.0
FDF	**Fort de France**	**1.18**	**159**	⇓*eP*	Pb	00 13 25.3	-3.1
BPA	**Boggy Peak**	**1.23**	**348**	*eP*	Pb	00 13 26.5	-2.8
BPA				*eS*	Sb	00 13 43.1	-2.4

*IDC **09** 00:15:14.4±2.1, 6.48N×93.89E, mb3.9/5, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, MS2.5/1, Ms1 2.7/1, ms1mx2.4/26, Error ellipse: s-maj=90.9km s-min=22.8km az=60.0*

*NEIC **09** 00:15:19.1±1.1, 6.52N×93.94E, h30km, mb4.2/4, Error ellipse: s-maj=50.0km s-min=10.7km az=59.0*

ISC 09 00:15:17.4±1.4, 6.5N±0.3×94.0E±0.4, h30km, n15, σ0°51/14, mb4.2/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.86**	**22**	LR	LR	00 23 45.2	
	comp=Z,25nm,21.5s,baz=191,slow=40						
JIRN	**Jiri**	**22.33**	**342**	*eP*	**P**	**00 20 14.3**	**0.0**
	13nm,0.6s,mb4.5						
PKI	**Pulchoki**	**22.50**	**340**	*eP*	**P**	**00 20 16.2**	**+0.1**
	4.2nm,0.5s,mb4.2						
GUN	**Gumba**	**22.66**	**341**	*eP*	**P**	**00 20 17.8**	**+0.2**
	18nm,0.8s,mb4.6						
GKN	**Gorkha**	**23.17**	**339**	*eP*	**P**	**00 20 23.3**	**+0.7**
	9.6nm,0.5s,mb4.5						
LSA	**Lhasa**	**23.25**	**354**	*eP*	**P**	**00 20 23.4**	**0.0**
	3.4nm,0.7s,mb3.9						
KOLN	**Koldanda**	**23.36**	**336**	*eP*	**P**	**00 20 25.4**	**+1.0**
	8.1nm,0.7s,mb4.2						
SONM	**Songino Array**	**42.55**	**12**	P	**P**	**00 23 11.8**	**-0.4**
	0.6nm,0.8s,mb3.4,baz=189,slow=9.3,SNR=6.1						
WRA	**Warramunga Arr**	**47.60**	**124**	P	**P**	**00 23 52.8**	**-0.1**
	1.6nm,0.6s,mb4.2,baz=305,slow=8.9,SNR=8.8						
WRAB	**Tennant Creek**	**47.60**	**124**	*eP*	**P**	**00 23 53.3**	**+0.4**
	3.9nm,0.6s,mb4.6						
ZAL	**Zalesovo**	**47.90**	**353**	P	**P**	**00 23 54.9**	**+0.1**
	0.7nm,0.3s,mb4.1,baz=311,slow=7.8,SNR=4.3						
ASAR	**Alice Springs**	**49.16**	**129**	P	**P**	**00 24 05.1**	**+0.2**
	1.0nm,0.4s,mb4.2,baz=301,slow=7.7,SNR=18						
BRVK	**Borovoye**	**50.31**	**342**	*eP*	**P**	**00 24 12.5**	**-0.9**
	1.4nm,0.5s,mb4.2						
CHKZ	**Chkalovo**	**50.74**	**342**	*eP*	**P**	**00 24 16.2**	**-0.4**
	1.4nm,0.6s,mb4.1						
FINES	**FINESS Array B**	**73.86**	**332**	P	**P**	**00 26 50.1**	**-0.9**
	2.6nm,0.9s,mb4.2,baz=90,slow=4.2,SNR=3.7						

WEL 09 00:19:13.0±0.3, 38.12S×176.29E, h150km±5km, ML3.8/9, 3C, Error ellipse: s-maj=6.8km s-min=6.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.66**	**102**	PN	P	00 19 35.1	-0.5
URZ				SN	S	00 19 51.7	-1.3
MWZ	**Matawai**	**0.99**	**103**	PN	P	00 19 38.1	+0.3
MWZ				SN	S	00 19 56.7	-0.3
BKZ	**Black Stump Fm**	**1.05**	**172**	PN	P	00 19 38.5	+0.1
BKZ				SN	S	00 19 57.7	-0.3
NGZ	**Ngauruhoe**	**1.18**	**207**	*e*PN	P	00 19 39.2	-0.4
CNZ	**Chateau**	**1.22**	**208**	PN	P	00 19 40.0	-0.1
TUVZ	**Tukino**	**1.25**	**203**	PN	P	00 19 40.4	+0.1
MOVZ	**Moawhango**	**1.35**	**198**	PN	P	00 19 40.8	-0.5
MOVZ				SN	S	00 20 02.2	-0.9
PUZ	**Puketiti**	**1.55**	**89**	PN	P	00 19 42.7	-0.7
PUZ				SN	S	00 20 05.0	-1.8
MXZ	**Matakaoa Point**	**1.69**	**71**	PN	P	00 19 44.4	-0.5
MXZ				SN	S	00 20 07.3	-2.1
WAZ	**Wanganui**	**1.92**	**212**	⇑PN	P	00 19 46.8	-0.7
TSZ	**Takapari Road**	**1.95**	**188**	PN	P	00 19 46.9	-1.0
BFZ	**Birch Farm**	**2.55**	**181**	PN	P	00 19 53.5	-1.9
MRZ	**Mangatainoka R**	**2.59**	**192**	⇑PN	P	00 19 53.5	-2.4
MRZ				SN	S	00 20 25.4	-3.2
KIW	**Kapiti Island**	**2.94**	**201**	PN	P	00 19 57.2	-3.0
MTW	**Mount Morrison**	**3.09**	**191**	⇑PN	P	00 19 58.8	-3.4

*BJI **09** 00:29:50.4, 8.00N×93.51E, h53km, mB5.5, mb4.4*

*IDC **09** 00:29:51.0±0.5, 8.44N×93.70E, h23km±3km, mb4.1/14, mb1 4.3/15, mb1mx4.3/19, mbtmp4.3/15, ML4.9/1, MS3.7/6, Ms1 3.7/6, ms1mx3.3/27, Error ellipse: s-maj=26.2km s-min=11.0km az=56.0*

*NEIC **09** 00:29:51.1±0.3, 8.41N×93.67E, mb4.6/16, Error ellipse: s-maj=10.4km s-min=6.8km az=61.0*

ISC 09 00:29:49.2±0.4, 8.37N±0.05×93.72E±0.06, h24km, h24km±.5km:pP-P, n66, σ1°03/59, mb4.4/29, MS3.7/5, 3C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.41**	**344**	*eP*	**Pn**	**00 30 50.4**	**+8.3**
PBA				*eS*	**Sn**	**00 31 25.5**	**+3.3**
SNG	**Songkhla**	**6.94**	**99**	P	**Pn**	**00 31 39.0**	**+7.0**
	120nm,0.9s						
NNT	**Nongplab**	**7.25**	**54**	P	**Pn**	**00 31 35.0**	**-1.4**
NST	**Nakhon Sawan**	**9.59**	**40**	P	**P**	**00 32 07.4**	**-1.7**
CMAR	**Chiang Mai Arr**	**11.24**	**26**	Pn	**P**	**00 32 32.8**	**+1.2**
	2.2nm,0.3s,baz=213,slow=15,SNR=75						
CMAR				LR	LR	00 37 15.1	
	comp=Z,102nm,19.7s,baz=225,slow=40						
CHG	**Chiang Mai**	**11.56**	**25**	⇑P	**P**	**00 32 27.3**	**-8.6**
	13nm,0.8s						
CHRT	**Chiangrai**	**12.86**	**27**	⇑P	**P**	**00 32 56.0**	**+2.7**
PALK	**Pallekele**	**12.94**	**266**	P	**P**	**00 32 52.1**	**-2.4**
PALK				*e*Sn	**S**	**00 35 10.4**	**-8.3**
VIS	**Vishakhapatnam**	**13.74**	**314**	*eP*	**P**	**00 33 05.8**	**+0.7**
VIS				*e*		00 33 08.6	
	comp=Z,24nm,1.3s						
VIS				*eS*	**S**	**00 35 25.7**	**-12**
IMP	**Imphal**	**16.33**	**1**	*eP*	**P**	**00 33 39.3**	**+0.6**
SHL	**Shillong**	**17.20**	**354**	*eP*	**P**	**00 33 50.0**	**+0.4**
HYB	**Hyderabad**	**17.30**	**303**	*eP*	**P**	**00 33 56.5**	**+5.6**
HYB	**Hyderabad**	**17.30**	**303**	*i P*	**P**	**00 33 56.5**	**+5.6**
JIRN	**Jiri**	**20.47**	**341**	*eP*	**P**	**00 34 28.3**	**+0.3**
	comp=Z,121nm,1.0s						
PKI	**Pulchoki**	**20.66**	**339**	*eP*	**P**	**00 34 29.1**	**-0.8**
	comp=Z,106nm,1.2s						
DMN	**Daman**	**20.80**	**338**	*eP*	**P**	**00 34 33.3**	**+1.9**
	comp=Z,81nm,0.9s						
GUN	**Gumba**	**20.80**	**340**	*eP*	**P**	**00 34 31.3**	**-0.1**
	comp=Z,134nm,0.9s						
KKN	**Kakani**	**20.90**	**339**	*eP*	**P**	**00 34 31.5**	**-0.9**
	comp=Z,62nm,0.9s						
GKN	**Gorkha**	**21.33**	**337**	*eP*	**P**	**00 34 36.8**	**0.0**
	comp=Z,74nm,0.8s,mb5.1						
LSA	**Lhasa**	**21.36**	**354**	P	**P**	**00 34 36.8**	**-0.2**
LSA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.4						
LSA	**Lhasa**	**21.36**	**354**	*eP*	**P**	**00 34 36.1**	**-0.9**
	comp=Z,14nm,0.8s,mb4.4						
LSA				*e*		00 34 44.4	
BHPL	**Bhopal**	**21.52**	**315**	*eP*	**P**	**00 34 44.1**	**+5.4**
BHPL				*e*		00 34 50.0	
	comp=Z,31nm,1.4s						
BHPL				*eS*	**S**	**00 38 38.8**	**+7.8**
KOLN	**Koldanda**	**21.54**	**335**	*eP*	**P**	**00 34 39.1**	**+0.2**
	comp=Z,71nm,1.0s,mb5.0						
PTH	**Pithoragarh**	**24.59**	**331**	*e*	**P**	**00 35 10.0**	**+1.1**
TGY	**Tagaytay City**	**27.28**	**75**	LR	LR	00 44 30.0	
	comp=Z,208nm,21.3s,MS3.7,baz=90,slow=32						
WMQ	**Urumqi**	**35.71**	**353**	*eP*	**P**	**00 36 48.0**	**+0.2**
JOW	**Kunigami**	**37.52**	**56**	LR	LR	00 51 55.8	
	comp=Z,241nm,20.8s,MS4.0,baz=112,slow=35						
AAK	**Ala-Archa**	**38.09**	**337**	*eP*	**P**	**00 37 06.9**	**-1.0**
	comp=Z,14nm,1.0s,mb4.7						
MBWA	**Marble Bar**	**38.91**	**139**	*eP*	**P**	**00 37 14.5**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.7						
SONM	**Songino Array**	**40.78**	**13**	P	**P**	**00 37 29.9**	**-0.2**
	comp=Z,1.7nm,1.1s,mb3.6,baz=203,slow=8.0,SNR=7.3						
SONM				pP	pP	00 37 37.7	+0.3
	comp=Z,2.2nm,1.0s,baz=202,slow=7.7,SNR=9.0						
SONM				PcP	PcP	00 39 32.3	+0.6
	comp=Z,1.2nm,0.6s,baz=204,slow=3.7,SNR=5.9						
SONM				pPcP		00 39 39.4	
	comp=Z,1.2nm,0.7s,baz=194,slow=3.4,SNR=4.5						
ULN	**Ulaanbaatar**	**40.96**	**14**	P	**P**	**00 37 31.1**	**-0.5**
	comp=Z,1.6nm,0.8s,mb3.7						
MUN	**Mundaring**	**45.51**	**153**	*eP*	**P**	**00 38 10.6**	**+1.8**
	comp=Z,20nm,0.9s,mb5.0						
KLBR	**Kellerberrin**	**45.90**	**151**	⇑*iP*	**P**	**00 38 13.3**	**+1.4**
	comp=Z,13nm,0.5s,mb5.1						
ZAL	**Zalesovo**	**46.01**	**353**	P	**P**	**00 38 12.1**	**-0.3**
	comp=Z,5.5nm,0.7s,mb4.6,baz=295,slow=6.9,SNR=47						
ZAL				pP	pP	00 38 19.2	-0.6
	comp=Z,11nm,0.7s,baz=290,slow=8.5,SNR=25						
ZAL	**Zalesovo**	**46.01**	**353**	P	**P**	**00 38 12.1**	**-0.3**
ZAL				pP	pP	00 38 19.2	-0.6
NWAO	**Narrogin (SRO)**	**46.77**	**153**	P	**P**	**00 38 20.4**	**+1.7**
	comp=Z,19nm,0.6s,mb5.2,baz=308,slow=8.7,SNR=13						
NWAO				pP	pP	00 38 27.4	+1.3
	comp=Z,96nm,1.3s,baz=314,slow=10,SNR=5.3						
NWAO	**Narrogin (SRO)**	**46.77**	**153**	*eP*	**P**	**00 38 19.9**	**+1.1**
	comp=Z,20nm,0.9s,mb5.0						
NWAO				pP	pP	00 38 27.4	+1.3
BVAR	**Borovoye Array**	**48.39**	**341**	P	**P**	**00 38 30.3**	**-0.8**
	comp=Z,8.4nm,1.3s,mb4.6,baz=127,slow=7.4,SNR=5.9						
BVAR				pP	pP	00 38 37.9	-0.7
	comp=Z,1.6nm,0.5s,baz=149,slow=8.6,SNR=7.5						
BRVK	**Borovoye**	**48.45**	**341**	P	**P**	**00 38 30.4**	**-1.3**
	comp=Z,2.4nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**48.88**	**342**	*eP*	**P**	**00 38 34.4**	**-0.5**
	comp=Z,9.9nm,0.9s,mb4.8						
CHKZ				*e*	pP	00 38 42.0	-0.3
WRA	**Warramunga Arr**	**48.88**	**126**	P	**P**	**00 38 34.9**	**-0.5**
	comp=Z,1.8nm,0.5s,mb4.4,baz=306,slow=8.4,SNR=12						
WRA				pP	pP	00 38 43.2	+0.4
	comp=Z,2.4nm,0.7s,baz=308,slow=8.7,SNR=6.1						
WRA				PcP	PcP	00 39 59.2	-0.7
	comp=Z,1.0nm,0.6s,baz=314,slow=3.0,SNR=4.6						
WRAB	**Tennant Creek**	**48.89**	**126**	*eP*	**P**	**00 38 35.0**	**-0.4**
	comp=Z,3.3nm,0.4s,mb4.7						
ASAR	**Alice Springs**	**50.55**	**130**	P	**P**	**00 38 47.4**	**-0.7**
	comp=Z,2.1nm,0.8s,mb4.1,baz=300,slow=7.4,SNR=21						
ASAR				PcP	PcP	00 40 06.5	+0.5
	comp=Z,1.3nm,0.5s,baz=311,slow=3.4,SNR=11						
GNI	**Garni**	**53.80**	**314**	*eP*	**P**	00 39 18.3	-1.3
	comp=Z,1.5nm,0.5s,baz=180,slow=21,SNR=3.6						
GNI				LR	LR	01 03 22.8	
	comp=Z,48nm,18.5s,MS3.6,baz=8.9,slow=37						
ASAJ	**Asahikawa**	**55.32**	**41**	LR	LR	01 03 40.4	
	comp=Z,39nm,18.5s,MS3.5,baz=163,slow=37						
KIV	**Kislovodsk**	**56.68**	**318**	*eP*	**P**	**00 39 32.4**	**-0.7**
	comp=Z,5.4nm,0.9s,mb4.6						
KIV				*e*	pP	00 39 40.6	0.0
KMBO	**Kilima Mbogo**	**57.07**	**263**	LR	LR	01 01 10.5	
	comp=Z,102nm,18.7s,MS4.0,baz=97,slow=33						
EIL	**Elat**	**58.82**	**300**	*eP*	**P**	**00 39 48.2**	**-0.2**
	comp=Z,14nm,1.3s,mb4.8						
STKA	**Stephens Creek**	**60.74**	**134**	P	**P**	**00 40 01.2**	**-0.3**
	comp=Z,2.7nm,0.8s,mb4.4,baz=304,slow=14,SNR=5.8						
STKA				PcP	PcP	00 40 44.3	-0.8
	comp=Z,1.2nm,0.7s,baz=314,slow=4.1,SNR=2.8						
STKA	**Stephens Creek**	**60.74**	**134**	P	**P**	**00 40 01.2**	**-0.3**
STKA				PcP	PcP	00 40 44.3	-0.8
BRTR	**Keskin Array B**	**61.80**	**311**	P	**P**	**00 40 07.2**	**-1.3**
	comp=Z,2.4nm,0.7s,mb4.4,baz=122,slow=7.7,SNR=16						
BRTR				pP	pP	00 40 14.1	-2.1
	comp=Z,2.9nm,0.7s,baz=130,slow=7.3,SNR=12						
LSZ	**Lusaka**	**69.04**	**250**	*eP*	**P**	**00 40 57.6**	**+2.1**
	comp=Z,2.6nm,0.8s,mb4.2						
JOF	**Joensuu**	**70.23**	**334**	*ep*	pP	00 41 09.3	-0.3
FINES	**FINESS Array B**	**72.08**	**332**	P	**P**	**00 41 12.4**	**-0.8**
	comp=Z,1.2nm,0.8s,mb3.9,baz=129,slow=8.9,SNR=5.9						
FINES				pP	pP	00 41 20.2	-0.7
	comp=Z,40nm,1.4s,baz=83,slow=6.9,SNR=4.5						
KAF	**Kangasniemi**	**72.17**	**333**	*ep*	pP	00 41 20.9	-0.4
	comp=Z,1.8nm,0.5s,baz=98,slow=4.5						
ARCES	**ARCESS Array B**	**74.67**	**340**	P	**P**	**00 41 28.2**	**+0.1**
	comp=Z,2.5nm,0.8s,mb4.2,baz=92,slow=6.9,SNR=4.0						
GERES	**GERESS Array B**	**77.19**	**318**	P	**P**	**00 41 43.0**	**+0.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=90,slow=5.3,SNR=7.7						
GERES				pP	pP	00 41 50.8	+0.4
	comp=Z,3.0nm,1.0s,baz=104,slow=5.5,SNR=5.9						
NB2	**NORSAR Subarra**	**79.10**	**331**	P	**P**	**00 41 52.5**	**-0.5**
	comp=Z,3.2nm,0.7s,mb4.4,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**79.10**	**331**	P	**P**	**00 41 52.8**	**-0.2**
	comp=Z,2.6nm,0.8s,mb4.2,baz=94,slow=5.4,SNR=5.5						
LPG	**La Plagne**	**81.98**	**315**	*eP*	**P**	**00 42 09.3**	**+0.7**
	comp=Z,5.3nm,0.7s,mb4.3						
ESDC	**Sonseca Array**	**90.58**	**310**	P	**P**	**00 42 51.8**	**+0.8**
	comp=Z,0.8nm,0.7s,mb4.2,baz=81,slow=2.8,SNR=4.4						
ESDC				pP	pP	00 42 58.9	0.0
	comp=Z,1.6nm,0.8s,baz=42,slow=6.0,SNR=5.1						
ILAR	**Eielson Array**	**94.45**	**22**	P	**P**	**00 43 08.2**	**+0.1**
	comp=Z,0.6nm,0.7s,mb4.1,baz=344,slow=5.2,SNR=6.9						
ILAR				pP	pP	00 43 15.4	-0.5
	comp=Z,0.6nm,0.6s,baz=318,slow=4.0,SNR=6.7						
YKA	**Yellowknife Ar**	**106.05**	**13**	Pdiff	Pdif	00 44 02.1	+1.9
	comp=Z,0.1nm,0.4s,baz=300,slow=5.7,SNR=3.6						
PDAR	**Pinedale Array**	**124.86**	**21**	PKP	PKPdf	00 48 49.9	-2.3
	comp=Z,0.8nm,0.8s,baz=61,slow=2.3,SNR=7.2						
TXAR	**Lajitas Array**	**138.95**	**23**	PKP	PKPdf	00 49 16.4	-2.6
	comp=Z,0.2nm,0.4s,baz=228,slow=0.4,SNR=7.2						
TXAR				PP	PP	00 52 06.5	-4.3
	comp=Z,0.4nm,1.1s,SNR=3.8						
LPAZ	**La Paz**	**160.64**	**244**	PKPab	PKPab	00 50 33.2	+1.5
	comp=Z,1.5nm,0.6s,baz=88,slow=4.9,SNR=6.5						

*BJI **09** 00:45:30.6, 13.14N×92.88E, h42km, mB5.0, mb4.2*

*IDC **09** 00:45:30.6±0.6, 13.59N×92.93E, mb4.3/16, mb1 4.5/17, mb1mx4.4/21, mbtmp4.3/17, ML4.4/1, Error ellipse: s-maj=28.4km s-min=13.7km az=54.0*

*NEIC **09** 00:45:31.8±2.8, 13.63N×92.99E, h7km±17km, mb4.5/12, Error ellipse: s-maj=7.0km s-min=5.6km az=54.0*

ISC 09 00:45:33.7±0.4, 13.69N±0.05×93.00E±0.05, h33km, n61, σ0°98/65, mb4.5/27, 2C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.03**	**187**	*eP*	**P**	**00 46 12.6**	**+6.4**
PBA				*eS*	**S**	**00 46 35.9**	**+5.3**
PBA				*e*		00 46 46.8	
	comp=E,1μm,0.8s						
PBA				*e*		00 46 47.7	
	comp=N,2μm,0.6s						
NNT	**Nongplab**	**6.65**	**99**	P	**P**	**00 47 15.0**	**+3.4**
CMAR	**Chiang Mai Arr**	**7.43**	**50**	Pn	**Pn**	**00 47 22.1**	**-0.5**
	comp=N,1.4nm,0.3s,baz=240,slow=15,SNR=29						
CMAR				Sn	**Sn**	**00 48 44.7**	**-1.9**
	comp=N,1.8nm,0.3s,baz=240,slow=28,SNR=12						
CHG	**Chiang Mai**	**7.66**	**47**	⇑P	**P**	**00 47 25.9**	**+0.3**
VIS	**Vishakhapatnam**	**10.14**	**295**	*eP*	**P**	**00 47 55.0**	**-5.1**
VIS				*eS*	**S**	**00 49 37.6**	**-16**
VIS				*eS*	**S**	**00 49 41.0**	**-13**
VIS				*e*		00 49 43.3	
	comp=N,159nm,0.3s						
VIS				*e*		00 49 43.3	
	comp=E,202nm,0.3s						
SHL	**Shillong**	**11.87**	**355**	*eP*	**P**	**00 48 22.0**	**-1.6**
SHL				*eS*	**S**	**00 50 25.0**	**-11**
PALK	**Pallekele**	**13.66**	**243**	Pn	**P**	**00 48 45.7**	**-2.0**
PALK				*e*Sn	**S**	**00 51 01.4**	**-18**
HYB	**Hyderabad**	**14.40**	**287**	*i P*	**P**	**00 48 55.5**	**-1.8**
HYB				*e*		00 51 22.5	
JIRN	**Jiri**	**15.29**	**336**	*eP*	**P**	**00 49 07.7**	**-1.1**
PKI	**Pulchoki**	**15.53**	**334**	*eP*	**P**	**00 49 10.6**	**-1.3**
GUN	**Gumba**	**15.63**	**336**	*eP*	**P**	**00 49 12.3**	**-1.0**
DMN	**Daman**	**15.69**	**333**	*eP*	**P**	**00 49 12.9**	**-1.1**
	comp=E,43nm,0.7s						
LSA	**Lhasa**	**16.03**	**354**	P	**P**	**00 49 23.2**	**+4.9**
LSA	**Lhasa**	**16.03**	**354**	*eP*	**P**	**00 49 18.0**	**-0.3**
	comp=E,8.4nm,0.6s						
LSA				*e*		00 49 22.9	
GKN	**Gorkha**	**16.24**	**333**	*eP*	**P**	**00 49 20.6**	**-0.4**
	comp=E,19nm,0.3s						
KOLN	**Koldanda**	**16.53**	**329**	*eP*	**P**	**00 49 25.2**	**+0.5**
	comp=E,34nm,0.7s						
ENH	**Enshi**	**22.45**	**40**	*eP*	**P**	**00 50 31.8**	**+0.6**
	comp=E,25nm,1.0s,mb4.6						
LZH	**Lanzhou**	**24.34**	**22**	*eP*	**P**	**00 50 49.5**	**-0.2**
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb4.7						
XAN	**Xi'an**	**24.89**	**33**	P	**P**	**00 50 55.5**	**+0.5**
XAN				AP		00 51 00.6	
XAN				AMB	AMB		
	comp=Z,26nm,0.8s,mb4.8						
COCO	**West Island**	**25.99**	**171**	*eP*	**P**	**00 51 00.2**	**-5.3**
SONM	**Songino Array**	**35.83**	**15**	P	**P**	**00 52 33.5**	**+1.4**
	comp=Z,2.2nm,0.7s,mb4.2,baz=201,slow=7.5,SNR=19						
SONM				PcP	PcP	00 55 00.5	+1.0
	comp=Z,0.3nm,0.8s,baz=203,slow=4.1,SNR=4.8						
ULN	**Ulaanbaatar**	**36.03**	**16**	*eP*	**P**	**00 52 34.4**	**+0.6**
	comp=Z,1.8nm,0.7s,mb4.1						
ZAL	**Zalesovo**	**40.67**	**353**	P	**P**	**00 53 13.0**	**+0.5**
	comp=Z,3.8nm,0.9s,mb4.0,baz=323,slow=5.1,SNR=15						
BVAR	**Borovoye Array**	**43.17**	**340**	P	**P**	**00 53 33.3**	**+0.4**
	comp=Z,1.4nm,0.5s,mb3.9,baz=138,slow=9.3,SNR=11						
BRVK	**Borovoye**	**43.23**	**340**	*eP*	**P**	**00 53 33.6**	**+0.2**
	comp=Z,3.0nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**43.64**	**341**	*eP*	**P**	**00 53 37.4**	**+0.6**
	comp=Z,5.3nm,0.4s,mb4.6						
GNI	**Garni**	**49.68**	**311**	P	**P**	**00 54 25.7**	**+1.2**
	comp=Z,3.5nm,0.7s,mb4.5,baz=19,slow=22,SNR=3.9						
GNI	**Garni**	**49.68**	**311**	*eP*	**P**	**00 54 26.5**	**+1.9**
	comp=Z,9.5nm,1.1s,mb4.7						
NWAO	**Narrogin (SRO)**	**51.81**	**154**	P	**P**	**00 54 39.9**	**-0.9**
	comp=Z,7.1nm,0.8s,mb4.6,baz=301,slow=4.5,SNR=6.6						
KIV	**Kislovodsk**	**52.34**	**315**	*eP*	**P**	**00 54 45.4**	**+0.8**
	comp=Z,4.0nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**52.64**	**129**	P	**P**	**00 54 46.5**	**-0.6**
	comp=Z,3.8nm,0.4s,mb4.7,baz=300,slow=9.8,SNR=45						
WRAB	**Tennant Creek**	**52.64**	**129**	*eP*	**P**	**00 54 46.5**	**-0.6**
	comp=Z,10nm,0.4s,mb5.1						
WB2	**Warramunga Arr**	**52.65**	**129**	*eP*	**P**	**00 54 46.0**	**-1.2**
ASPA	**Alice Springs**	**54.57**	**133**	⇑*iP*	**P**	**00 55 00.7**	**-0.7**
ASAR	**Alice Springs**	**54.57**	**133**	P	**P**	**00 55 00.7**	**-0.7**
	comp=Z,5.6nm,0.4s,mb5.0,baz=309,slow=6.9,SNR=188						
BRTR	**Keskin Array B**	**57.88**	**308**	P	**P**	**00 55 24.4**	**-0.5**
	comp=Z,9.3nm,1.1s,mb4.7,baz=121,slow=7.8,SNR=19						
STKA	**Stephens Creek**	**64.95**	**135**	P	**P**	**00 56 12.5**	**-0.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=319,slow=8.8,SNR=4.4						
STKA	**Stephens Creek**	**64.95**	**135**	P	**P**	**00 56 12.5**	**-0.2**
JOF	**Joensuu**	**65.16**	**334**	*ep*	**P**	**00 56 12.7**	**-0.8**
FINES	**FINESS Array B**	**67.09**	**331**	P	**P**	**00 56 25.5**	**-0.2**
	comp=Z,6.2nm,0.9s,mb4.6,baz=98,slow=6.8,SNR=26						
KAF	**Kangasniemi**	**67.15**	**332**	*ep*	**P**	**00 56 25.9**	**-0.2**
	baz=99,slow=5.5						
ARCES	**ARCESS Array B**	**69.45**	**340**	P	**P**	**00 56 40.9**	**+0.6**
	comp=Z,2.5nm,0.4s,mb4.5,baz=87,slow=6.3,SNR=27						
ARCES	**ARCESS Array B**	**69.45**	**340**	P	**P**	**00 56 40.9**	**+0.6**
LSZ	**Lusaka**	**70.26**	**248**	*eP*	**P**	**00 56 47.2**	**+1.2**
	comp=Z,2.5nm,0.9s,mb4.1						
GEC2	**GERESS Array S**	**72.80**	**317**	*eP*	**P**	**00 57 01.5**	**+0.8**
GERES	**GERESS Array B**	**72.80**	**317**	P	**P**	**00 57 01.4**	**+0.7**
	comp=Z,2.3nm,0.6s,mb4.3,baz=86,slow=6.0,SNR=13						
KHC	**Kasperske Hory**	**72.87**	**317**	*eP*	**P**	**00 57 01.5**	**+0.3**
WET	**Wettzell**	**73.33**	**318**	*eP*	**P**	**00 57 04.4**	**+0.5**
MOX	**Moxa**	**74.10**	**319**	*eP*	**P**	**00 57 09.2**	**+0.9**
MOX	**Moxa**	**74.10**	**319**	*i P*	**P**	**00 57 09.2**	**+

BUTP Butuan 16.98 344 *eP* **P 01 11 44.2 +1.8**
SCPH Surigao 17.79 345 *eP* **P 01 11 52.1 -0.4**
SCPH *eS* rx 01 12 07.4
TBP Tagbilaran 18.20 340 *eP* **P 01 11 56.9 -0.4**
MSLP Maasin 18.30 343 *eP* **P 01 11 57.6 -0.9**
OCLP Ormoc 19.24 343 *eP* **P 01 12 09.1 +0.2**
GUIM Jordan 19.53 337 *eP* **P 01 12 10.2 -1.7**
BESP Borongan 19.55 346 *eP* **P 01 12 11.3 -0.8**
CTA Charters Tower 19.97 130 ⇓*iP* **P 01 12 22.1 +5.6**
58nm,0.8s
CTA Charters Tower 19.97 130 P **P 01 12 21.8 +5.3**
68nm,0.6s,baz=306,slow=12,SNR=87
CTA S **S 01 16 01.4 +11**
9.7nm,0.5s,baz=36,slow=22,SNR=3.4
CTA LR LR 01 21 22.9
comp=Z,610nm,18.4s,baz=95,slow=40
CTAO Charters Tower 19.97 130 *eP* **P 01 12 22.0 +5.5**
144nm,1.2s
CTAO *eS* **S 01 15 59.3 +8.5**
RCP Roxas 20.33 338⇓*eP* **P 01 12 19.1 -1.2**
CUYO Cuyo Island 20.39 333 *eP* **P 01 12 20.8 -0.1**
OTRP Odiongan 21.33 338 *eP* **P 01 12 31.9 +1.5**
SJMP San Jose 21.78 335 *eP* **P 01 12 35.1 +0.2**
PVCP Virac 21.79 344 *eP* **P 01 12 35.3 +0.3**
BOAC Boac 22.41 338 *eP* **P 01 12 41.2 +0.2**
LUBP Lubang 23.29 335 *eP* **P 01 12 49.7 +0.1**
TGY Tagaytay City 23.34 337 P **P 01 12 50.6 +0.5**
974nm,0.7s,mb6.3,baz=193,slow=3.2,SNR=33
POLP Polilio Island 23.55 340 *eP* **P 01 12 51.2 -0.8**
BALP Baler 24.61 340 *eP* **P 01 13 00.5 -1.9**
STKA Stephens Creek 26.48 158⇓*iP* **P 01 13 24.2 +4.4**
118nm,0.6s,mb5.5
STKA Stephens Creek 26.48 158 P **P 01 13 24.3 +4.5**
32nm,0.5s,mb5.0,baz=332,slow=8.6,SNR=48
STKA pP pP 01 13 41.9 +1.1
172nm,0.9s,baz=324,slow=12,SNR=23
STKA LR LR 01 24 36.3
comp=Z,181nm,18.3s,baz=354,slow=38
KLBR Kellerberrin 26.65 204 *eP* **P 01 13 24.3 +3.0**
47nm,0.8s,mb5.1
APYP Conner 26.70 341 *eP* **P 01 13 15.9 -6.0**
MUN Mundaring 27.64 206 *eP* **P 01 13 32.7 +2.3**
11nm,0.5s,mb4.6
NWAO Narrogin (SRO) 28.03 204 P **P 01 13 36.7 +2.8**
9.8nm,0.7s,mb4.5,baz=43,slow=8.0,SNR=20
NWAO pP pP 01 13 56.5 +1.4
21nm,0.6s,baz=33,slow=13,SNR=6.9
NWAO Narrogin (SRO) 28.03 204 *eP* **P 01 13 36.8 +2.9**
33nm,1.4s,mb4.7
CNB Canberra Magne 32.80 150 *eP* **P 01 14 21.4 +5.5**
58nm,1.5s,mb5.2
QIZ Qiongzhong 33.13 323 ⇑P **P 01 14 17.5 -1.3**
JOW Kunigami 34.17 357 P **P 01 14 27.1 -0.6**
57nm,0.8s,mb5.5,baz=190,slow=12,SNR=7.3
JOW LR LR 01 30 10.0
comp=Z,133nm,18.2s,baz=224,slow=40
KKTK Khon Kaen 35.99 311 P **P 01 14 43.0 -0.2**
432nm,0.7s
CBIJ Chichi jima 36.28 18 P **P 01 14 47.1 +1.5**
76nm,0.6s,mb5.8,baz=253,slow=12,SNR=4.1
CBIJ LR LR 01 26 46.6
comp=Z,102nm,20.0s,baz=162,slow=31
NST Nakhon Sawan 37.64 308 P **P 01 14 55.2 -1.9**
CMAR Chiang Mai Arr 40.20 310 P **P 01 15 17.7 -0.6**
CMAR PP PcP 01 17 22.3 +1.0
CMAR Chiang Mai Arr 40.20 310 P **P 01 15 17.8 -0.5**
22nm,0.6s,mb5.2,baz=135,slow=7.1,SNR=126
CMAR PcP PcP 01 17 22.3 +1.0
4.8nm,0.7s,baz=164,slow=2.3,SNR=6.7
CMAR ScP 01 21 06.3
1.3nm,0.8s,baz=158,slow=4.9,SNR=6.2
CMAR LR LR 01 34 04.2
comp=Z,78nm,18.4s,baz=120,slow=40
CHG Chiang Mai 40.42 311 ⇑P **P 01 15 19.4 -0.6**
55nm,0.8s,mb5.4
WHN Wuhan 40.76 339 ⇑P **P 01 15 22.5 -0.3**
WHN AMB AMB
comp=Z,50nm,0.8s,mb5.4
NJ2 Nanjing 40.78 345 *eP* **P 01 15 22.8 -0.1**
NJ2 PP PP 01 16 57.6 -4.0
NJ2 S **S 01 21 27.0 +0.6**
NJ2 AMB AMB
comp=Z,60nm,0.8s,mb5.5
NJ2 AMB AMB
comp=Z,2μm,5.6s
NJ2 LR LR
comp=N,770nm,14.0s
NJ2 LR LR
comp=E,550nm,14.7s
NJ2 LR LR
comp=Z,1μm,14.4s
ENH Enshi 42.49 333 *eP* **P 01 15 35.5 -1.6**
comp=Z,36nm,0.6s,mb5.3
MAJO Matsushiro 44.44 9 *eP* **P 01 15 51.6 -1.1**
comp=Z,46nm,0.9s,mb5.2
MAT Matsushiro 44.44 9 *eP* **P 01 15 52.0 -0.7**
comp=Z,41nm,1.0s,mb5.1
MAT Matsushiro 44.44 9 P **P 01 15 51.8 -0.9**
XAN Xi'an 45.97 335 P **P 01 16 03.2 -1.7**
XAN AMB AMB
comp=Z,49nm,0.8s,mb5.3
BJT Baijiatuau 49.02 346 *eP* **P 01 16 27.7 -0.9**
comp=Z,53nm,0.7s,mb5.6
SHL Shillong 49.68 313 *eP* **P 01 16 32.0 -1.9**
LZH Lanzhou 49.93 332 ⇑P **P 01 16 35.0 -0.7**
LZH AMB AMB
comp=Z,110nm,1.5s,mb5.6
RPZ Rata Peaks 50.72 142 P **P 01 16 46.8 +5.1**
comp=Z,22nm,0.9s,mb5.2,baz=246,slow=2.9,SNR=10.0
PALK Pallekele 51.50 285 *eP* **P 01 16 47.8 -0.1**
MDJ Mudanjiang 51.86 359 P **P 01 16 49.4 -0.8**
MDJ PCP PcP 01 18 02.6 +0.7
MDJ PP PP 01 18 46.9 -2.6
MDJ PCS 01 22 00.7
MDJ S **S 01 24 11.1 +7.3**
MDJ AMB AMB
comp=Z,28nm,1.1s,mb5.2
MDJ AMB AMB
comp=Z,227nm,5.1s
MDJ LR LR
comp=Z,93nm,32.6s
MDJ Mudanjiang 51.86 359 *eP* **P 01 16 49.7 -0.5**
comp=Z,20nm,0.8s,mb5.2
URZ Urewera 52.18 133 P **P 01 16 56.9 +4.3**
comp=Z,16nm,1.0s,mb5.0,baz=258,slow=10,SNR=5.1
URZ LR LR 01 37 30.3
comp=Z,86nm,18.7s,baz=205,slow=34
ASAJ Asahikawa 52.57 11 P **P 01 16 55.7 +0.2**
comp=Z,9.2nm,0.4s,mb5.2,baz=242,slow=14,SNR=9.5
VIS Vishakhapatnam 52.64 299 *eP* **P 01 16 54.3 -2.0**
VIS *eP* 01 16 54.6
VIS *e* 01 16 56.5
comp=Z,24nm,0.5s
LSA Lhasa 52.69 316 P **P 01 16 56.3 -0.3**
LSA AMB AMB
comp=Z,20nm,0.6s,mb5.3
LSA Lhasa 52.69 316 *eP* **P 01 16 54.9 -1.8**
comp=Z,12nm,0.6s,mb5.1
JIRN Jiri 55.06 311 *eP* **P 01 17 13.0 -1.0**
comp=Z,33nm,0.6s,mb5.5
GUN Gumba 55.43 311 *eP* **P 01 17 15.3 -1.4**
comp=Z,90nm,0.8s,mb5.8
PKI Pulchoki 55.60 311 *eP* **P 01 17 16.0 -1.9**
comp=Z,25nm,0.6s,mb5.4
KKN Kakani 55.81 311 *eP* **P 01 17 17.9 -1.5**
comp=Z,34nm,0.5s,mb5.6
DMN Daman 55.85 311 *eP* **P 01 17 18.2 -1.5**
comp=Z,39nm,0.7s,mb5.5
GKN Gorkha 56.41 311 *eP* **P 01 17 22.0 -1.7**
comp=Z,31nm,0.3s,mb5.8
KLR Kul'dur 56.49 1 *eP* **P 01 17 20.8 -3.2**
HYB Hyderabad 56.72 296 *eP* **P 01 17 23.0 -3.0**
comp=Z,38nm,0.8s,mb5.5
HYB Hyderabad 56.72 296 *i P* **P 01 17 23.0 -3.0**
comp=Z,38nm,0.8s,mb5.5
KOLN Koldanda 57.07 310 *eP* **P 01 17 27.0 -1.4**
comp=Z,80nm,0.7s,mb5.8
ULN Ulaanbaatar 58.79 342 *eP* **P 01 17 40.1 0.0**
comp=Z,65nm,0.7s,mb5.8
SONM Songino Array 58.97 341 P **P 01 17 41.1 -0.1**
comp=Z,18nm,0.6s,mb5.3,baz=158,slow=6.3,SNR=140
BHPL Bhopal 59.95 302 *eP* **P 01 17 46.5 -1.8**
BHPL *e* 01 17 47.0
comp=Z,20nm,0.6s
KAD Karad 60.59 295⇑*iP* **P 01 17 53.0 +0.2**
POO Poona 61.30 296 *eP* **P 01 17 54.9 -2.7**
POO *e* 01 17 58.8
comp=Z,20nm,0.7s
ZAK Zakamensk 62.19 341 *eP* **P 01 18 01.8 -1.3**
NDI New Delhi 62.45 308 *eP* **P 01 18 01.5 -3.6**
DDI Dehra Dun 62.55 310 *e* **P 01 18 03.1 -2.7**
TLY Talaya 63.20 342 *eP* **P 01 18 09.5 -0.3**
TLY pmax pmax
comp=Z,17nm,0.9s,mb5.0
TLY Talaya 63.20 342 *eP* **P 01 18 09.7 -0.2**
comp=Z,16nm,0.8s,mb5.0
IRK Irkutsk 63.50 343 *eP* **P 01 18 11.0 -0.8**
WMQ Urumqi 63.91 327 P **P 01 18 15.0 +0.4**
WMQ AP pP 01 18 39.3 +0.7
WMQ XP sP 01 18 50.3 +1.2
WMQ PP PP 01 20 37.3 -0.7
WMQ S **S 01 26 38.9 -2.2**
WMQ XS 01 27 21.0
WMQ AMB AMB
comp=Z,61nm,1.4s,mb5.2
WMQ AMB AMB
comp=Z,410nm,6.8s
WMQ LR LR
comp=N,714nm,21.8s
WMQ LR LR
comp=E,522nm,23.6s
WMQ LR LR
comp=Z,1μm,22.6s
MOY Mondy 64.04 340 *eP* **P 01 18 16.0 +0.7**
CLNS Chul'man 64.25 357 *eP* **P 01 18 14.6 -1.9**
CLNS pmax pmax
comp=Z,24nm,0.8s,mb5.1
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.9s
BOD Bodaibo 66.41 351 *eP* **P 01 18 28.8 -1.6**
MK02 Makanchi Array 68.72 327 P **P 01 18 44.8 -0.2**
MK02 pmax pmax
comp=Z,31nm,0.5s,mb5.4
RAR Rarotonga 68.73 110 LR LR 01 46 13.1
comp=Z,123nm,20.8s,baz=292,slow=33
MA2 Magadan 68.83 11 *eP* **P 01 18 47.0 +1.5**
MA2 *e* 01 19 00.8
MA2 pmax pmax
comp=Z,20nm,1.1s,mb4.9
YAK Yakutsk 69.31 360 *eP* **P 01 18 48.0 -0.4**
YAK pmax pmax
comp=Z,59nm,0.8s,mb5.5
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK Yakutsk 69.31 360 *eP* **P 01 18 48.4 +0.1**
comp=E,134nm,0.8s,mb5.8
KZA Kyzart 70.28 320 P **P 01 18 55.9 +1.3**
SNR=15
FX1 Attu Island--F 70.31 26 P **P 01 18 56.6 +2.0**
comp=E,68nm,0.8s,mb5.5,baz=66,slow=13,SNR=8.2
FX1 Attu Island--F 70.31 26 *eP* **P 01 18 56.6 +2.0**
TKM2 Tokmak 2 70.49 321 P **P 01 18 56.9 +1.1**
SNR=6.8
KBK Karagaybulak 70.77 320 P **P 01 18 58.2 +0.7**
SNR=18
UCH Uchtor 70.83 319 P **P 01 18 59.1 +1.2**
SNR=31
AAK Ala-Archa 71.04 320 *eP* **P 01 18 57.7 -1.5**
comp=E,36nm,0.9s,mb5.2
CHMS Chumysh 71.06 320 P **P 01 18 59.9 +0.7**
SNR=13
AML Almayashu 71.31 319 P **P 01 19 01.5 +0.7**
SNR=41
USP Ospenovka 71.36 320 P **P 01 19 01.5 +0.5**
SNR=53
EKS2 Erkin-Say 71.52 320 P **P 01 19 02.9 +0.9**
SNR=30
VNDA Vanda 71.94 173 P **P 01 19 06.8 +2.8**
comp=E,2.5nm,0.4s,mb4.4,baz=313,slow=7.7,SNR=22
VNDA LR LR 01 47 10.0
comp=E,81nm,18.1s,baz=342,slow=33
VNDA Vanda 71.94 173 P **P 01 19 06.8 +2.8**
VNDA LR LR 01 47 10.1
ZAL Zalesovo 72.11 334 P **P 01 19 04.6 -0.7**
comp=E,18nm,0.8s,mb5.0,baz=346,slow=5.3,SNR=111
NVS Novosibirsk 73.39 334 *i P* **P 01 19 11.8 -1.0**
NVS *i* pP 01 19 33.2 -4.2
NVS pmax pmax
comp=Z,56nm,1.0s,mb5.3
NVS pmax pmax
comp=N,32nm,1.1s
NVS pmax pmax
comp=E,31nm,1.1s
MAW Mawson 74.58 202 P **P 01 19 21.1 +1.6**
comp=E,6.1nm,0.8s,mb4.4,baz=78,slow=7.0,SNR=5.0
MAW LR LR 01 49 23.7
comp=E,151nm,19.2s,baz=69,slow=33
SMDO Samad 76.74 296 ⇑P **P 01 19 33.4 +0.8**
SNR=14
BIDO Bidbid 76.78 296 ⇑P **P 01 19 33.9 +1.1**
SNR=16
HOQ Hoqain 77.53 296 ⇑P **P 01 19 37.8 +0.8**
SNR=6.9
BVA0 Borovoye Array 78.58 328 P **P 01 19 42.4 +0.3**
BVA0 pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
BVAR Borovoye Array 78.58 328 P **P 01 19 42.5 +0.4**
comp=Z,29nm,0.8s,mb5.1,baz=124,slow=5.3,SNR=150
BRVK Borovoye 78.66 328 *eP* **P 01 19 42.9 +0.3**
comp=Z,58nm,1.0s,mb5.4
CHKZ Chkalovo 78.78 328 P **P 01 19 43.3 +0.1**
CHKZ pmax pmax
comp=Z,39nm,1.0s,mb5.2
CHKZ Chkalovo 78.78 328 *eP* **P 01 19 43.1 -0.1**
comp=Z,45nm,1.0s,mb5.3
TIXI Tiksi 78.98 360 *eP* **P 01 19 44.2 +0.2**
TIXI pmax pmax
comp=Z,19nm,0.6s,mb5.1
WHFO Wadi Hawf 79.53 290 ⇑P **P 01 19 48.1 +0.1**
SNR=9.7
BILL Bilibino 79.54 13 *eP* **P 01 19 48.0 +0.9**
BILL pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
ABTO Aybut 79.86 289 ⇑P **P 01 19 50.5 +0.7**
UNV Unalaska Valle 80.80 32 *eP* **P 01 19 55.8 +1.7**
comp=Z,58nm,0.7s,mb5.5
QSPA South Pole Qui 82.49 180 *eP* **P 01 20 07.0 +4.6**
comp=Z,15nm,0.8s,mb4.9
SYO Syowa Base 83.29 201 ⇑P **P 01 20 11.1 +4.5**
SYO Syowa Base 83.29 201 ⇑PcP PcP 01 20 13.8 +2.6
SYO Syowa Base 83.29 201 ⇓pP pP 01 20 35.7 +4.1
SYO Syowa Base 83.29 201 ⇓sP sP 01 20 45.8 +3.8
SVE Sverdlovsk 85.29 329 *eP* **P 01 20 16.5 -0.3**
SVE pmax pmax
comp=Z,120nm,1.6s,mb5.6
ARU Arti 86.23 328⇓*iP* **P 01 20 20.1 -1.3**
ARU *e*SS tx 01 31 44.1
ARU pmax pmax
comp=Z,36nm,0.9s,mb5.3
IMA Indian Mountai 91.21 23 *eP* **P 01 20 46.0 +1.2**
comp=Z,39nm,1.2s,mb5.4
GNI Garni 91.32 310 P **P 01 20 47.6 +1.6**
comp=Z,5.9nm,0.7s,mb4.8,baz=125,slow=3.9,SNR=4.6
GNI Garni 91.32 310 *eP* **P 01 20 46.8 +0.9**
comp=Z,9.9nm,0.9s,mb4.9
MTA Mtatsminda 91.52 312 P **P 01 20 48.4 +1.6**
TI2 Plekhanov 91.55 312 *i P* **P 01 20 48.2 +1.2**
DUS Dusheti 91.64 312 P **P 01 20 49.2 +1.8**
ZEI Tsey 92.33 313 *eP* **P 01 20 52.6 +2.1**
ZEI *i* *PP pP 01 21 04.9 -11
ZEI pmax pmax
comp=Z,20nm,1.1s,mb5.3
MCK McKinley 92.62 26 *eP* **P 01 20 52.3 +0.9**
comp=Z,13nm,1.5s,mb5.0
KMBO Kilima Mbogo 92.79 269 P **P 01 20 55.6 +2.3**
comp=Z,3.7nm,0.9s,mb4.7,baz=48,slow=8.9,SNR=9.1
COLA College 93.31 25 *eP* **P 01 20 55.6 +1.2**
DIV Divide 93.61 29 *eP* **P 01 20 58.2 +2.3**
comp=Z,13nm,0.6s,mb5.4
ILAR Eielson Array 93.69 25 P **P 01 20 56.4 +0.2**
comp=Z,4.6nm,0.7s,mb4.9,baz=273,slow=4.3,SNR=53
ILAR PP PP 01 24 49.0 +4.1
comp=Z,0.5nm,0.8s,baz=261,slow=7.6,SNR=4.1
MALT Malatya 95.98 308 *eP* **P 01 21 08.7 +1.5**
comp=Z,4.5nm,1.0s,mb4.8
DAWY Dawson 96.85 26 *eP* **P 01 21 12.7 +2.1**
INK Inuvik 99.23 22 P **P 01 21 22.6 +1.2**
comp=Z,6.5nm,1.1s,mb5.0,baz=295,slow=6.7,SNR=8.7
INK Inuvik 99.23 22 *eP* **P 01 21 21.7 +0.4**
comp=Z,9.3nm,1.3s,mb5.2
BRTR Keskin Array B 99.78 309 P **P 01 21 24.7 +0.2**
comp=Z,1.7nm,0.8s,mb4.7,baz=126,slow=5.5,SNR=10
BRTR PP PP 01 25 28.7 -3.5
comp=Z,1.2nm,1.1s,baz=104,slow=5.9,SNR=2.9
ARCES ARCESS Array B 102.11 340 P Pdif 01 21 34.4 +0.3
comp=Z,3.0nm,0.8s,baz=79,slow=6.2,SNR=7.3
ARCES PKiKP 01 25 59.4
comp=Z,2.9nm,0.8s,baz=45,slow=5.1,SNR=6.9
FINES FINESS Array B 103.29 331 Pdiff Pdif 01 21 40.0 +0.5
comp=Z,8.0nm,1.1s,baz=157,slow=14,SNR=4.8
FINES PKiKP 01 26 01.4
comp=Z,1.4nm,0.6s,baz=96,slow=4.2,SNR=14
MLR Muntele Rosu 105.30 315 PP PP 01 26 14.3 +0.4
comp=Z,3.9nm,0.7s,baz=44,slow=3.5,SNR=5.1
YKA Yellowknife Ar 108.09 26 P Pdif 01 22 03.0 +2.4
YKA PP PP 01 26 31.9 -2.2
YKA Yellowknife Ar 108.09 26 Pdiff Pdif 01 22 03.0 +2.4
comp=Z,0.3nm,0.7s,baz=292,slow=4.8,SNR=5.6
YKA PKiKP 01 26 09.9
comp=Z,1.6nm,0.5s,baz=296,slow=1.7,SNR=63
YKA PP PP 01 26 31.9 -2.2
comp=Z,1.0nm,1.1s,baz=292,slow=7.3,SNR=5.2
YKA Yellowknife Ar 108.09 26 Pdif Pdif 01 22 03.0 +2.4
YKA PKPdf 01 26 09.9
YKA PP PP 01 26 31.9 -2.2
EDM Edmonton 111.65 35 *eP* PKPdf 01 26 16.8 +4.1
MOA Molln 112.82 319⇑*iP* PKPdf 01 26 18.7 +3.6
GEC2 GERESS Array S 112.93 320 *e*PKIKP PKPdf 01 26 19.2 +3.9
GERES GERESS Array B 112.93 320 PKiKP 01 26 19.4
comp=Z,3.0nm,0.5s,baz=63,slow=1.7,SNR=36
KHC Kasperske Hory 112.93 320 *e*PKP PKPdf 01 26 19.0 +3.7
WET Wettzell 113.37 321 *e*PKIKP PKPdf 01 26 20.2 +4.0
HLID Hailey 113.44 46 *e*PKPdf PKPdf 01 26 21.7 +5.3
CHMT Chamberlain Mo 113.45 42 *e*PKPdf PKPdf 01 26 21.2 +4.8
KBA Koelnbreinsper 113.62 318⇑*iP* PKPdf 01 26 19.4 +2.7
GRF Grafenberg Arr 114.24 321 *e*PKIKP PKPdf 01 26 22.0 +4.1
FUR Furstenfeldbru 114.67 320 *e*PKIKP PKPdf 01 26 22.8 +4.0
WTTA Wattenberg 114.70 319⇑*iP* PKPdf 01 26 22.8 +3.9
WATA Walderalm 114.72 319⇑*iP* PKPdf 01 26 22.4 +3.5
SQTA Sankt Quirin 114.99 319⇑*iP* PKPdf 01 26 23.1 +3.6
MOTA Moosalm 115.02 319⇑*iP* PKPdf 01 26 23.0 +3.5
DAVA Damuels 115.83 319⇑*iP* PKPdf 01 26 25.0 +3.9
TMUT Trail Mountain 116.73 50 *e*PKPdf PKPdf 01 26 28.7 +5.7
PDAR Pinedale Array 117.08 46 PKP PKPdf 01 26 28.8 +5.2
comp=Z,2.3nm,0.7s,baz=244,slow=1.1,SNR=24
CDF Champ du Feu 117.11 321 *e*PKP1 PKPdf 01 26 27.4 +3.9
SRU San Rafael 117.29 50 *e*PKPdf PKPdf 01 26 29.1 +5.1
HINF Hinteralfeld 117.59 321 *e*PKP1 PKPdf 01 26 27.7 +3.3
comp=Z,11nm,0.6s
PGF Pioggiola 117.83 314 *e*PKP1 PKPdf 01 26 28.4 +3.4
comp=Z,10.0nm,0.5s
HAU Haudompre 117.84 321 *e*PKP1 PKPdf 01 26 28.3 +3.4
LAO LASA Array 118.12 41 *e*PKPdf PKPdf 01 26 31.1 +5.7
LPG La Plagne 118.46 318 *e*PKP1 PKPdf 01 26 30.0 +3.8
comp=Z,12nm,0.5s
LPL La Plagne 118.47 318 *e*PKP1 PKPdf 01 26 29.9 +3.7
comp=Z,15nm,0.5s
CABF La Chapelle 118.51 320 *e*PKP1 PKPdf 01 26 30.1 +3.9
comp=Z,22nm,0.5s
PV10 Paradox Valley 118.59 50 *e*PKPdf PKPdf 01 26 32.4 +5.8
MBDF Montbardon 118.70 317 *e*PKP1 PKPdf 01 26 30.4 +3.7
comp=Z,16nm,0.8s
FCC Fort Churchill 118.71 25 *e*PKPdf PKPdf 01 26 29.2 +2.9
FRF La Foret Royal 119.17 316 *e*PKP1 PKPdf 01 26 31.0 +3.4
ORIF Oris-en-Rattie 119.24 318 *e*PKP1 PKPdf 01 26 31.4 +3.7
comp=Z,8.9nm,0.5s
LMR La Mourre 119.34 316 *e*PKP1 PKPdf 01 26 31.3 +3.4
comp=Z,21nm,1.1s
SMRF Simiane la Rot 119.77 317 *e*PKP1 PKPdf 01 26 32.7 +4.0
comp=Z,6.1nm,0.5s
SMF Signal de Mont 119.93 320 *e*PKP1 PKPdf 01 26 32.4 +3.4
comp=Z,4.2nm,0.4s
SSF Saint Saulge 119.98 321 *e*PKP1 PKPdf 01 26 32.6 +3.5
comp=Z,17nm,0.7s
VIVF Saint-Julien-l 120.06 318 *e*PKP1 PKPdf 01 26 32.7 +3.4
comp=Z,6.6nm,0.6s
AVF Avril sur Loir 120.18 321 *e*PKP1 PKPdf 01 26 33.0 +3.5
comp=Z,10nm,0.6s
BGF Bois d'Agland 120.59 320 *e*PKP1 PKPdf 01 26 33.9 +3.6
comp=Z,29nm,0.6s
LASF Ste Croix 120.89 317 *e*PKP1 PKPdf 01 26 34.6 +3.6
comp=Z,20nm,1.0s
TCF Toulx Ste Croi 121.11 320 *e*PKP1 PKPdf 01 26 34.8 +3.5
comp=Z,14nm,0.7s
ANMO Albuquerque 121.42 54 *e*PKPdf PKPdf 01 26 37.0 +4.7
CAF Calviac 121.75 319 *e*PKP1 PKPdf 01 26 36.5 +3.9
MTLF Montolieu 122.27 317 *e*PKP1 PKPdf 01 26 37.0 +3.4
comp=Z,6.4nm,0.5s
MFF Saint Martin d 122.44 321 *e*PKP1 PKPdf 01 26 37.3 +3.5
comp=Z,21nm,0.6s
LFF La Frestale 122.60 319 *e*PKP1 PKPdf 01 26 38.0 +3.8
MNTX Cornudas Mount 123.05 57 *e*PKPdf PKPdf 01 26 40.3 +4.9
SGMF Saint Gilles 123.11 324 *e*PKP1 PKPdf 01 26 38.3 +3.2
comp=Z,8.2nm,0.4s
EPF Esparros 123.65 317 *e*PKP1 PKPdf 01 26 39.8 +3.5
comp=Z,5.3nm,0.4s
CLNB Carlsbad 124.16 56 *e*PKPdf PKPdf 01 26 43.1 +5.5
ETSF Etsaut 124.31 318 *e*PKP1 PKPdf 01 26 41.9 +4.3
comp=Z,11nm,0.8s
TXAR Lajitas Array 125.00 59 PKP PKPdf 01 26 44.7 +5.4
comp=Z,2.7nm,0.7s,baz=221,slow=1.3,SNR=36
TXAR Lajitas Array 125.00 59 PKP PKPdf 01 26 44.7 +5.3
JCT Junction City 127.98 57 *e*PKPdf PKPdf 01 26 49.8 +4.7
ESDC Sonseca Array 128.00 315 PKP PKPdf 01 26 49.3 +4.4
comp=Z,0.8nm,0.5s,baz=27,slow=3.3,SNR=6.2
SCHQ Schefferville 130.85 13 PKP PKPdf 01 26 54.6 +4.8
comp=Z,2.6nm,0.6s,baz=41,slow=6.8,SNR=9.3
SCHQ SKPbc 01 30 11.1
comp=Z,11nm,0.7s,baz=6.1,slow=4.8,SNR=22
EVO Evora 131.32 316 *e*PKIKP PKPdf 01 26 54.1 +2.9
comp=Z,10nm,0.8s
CCM Cathedral Cave 131.77 44 *e*PKPdf PKPdf 01 26 55.6 +3.6
FVM French Village 132.37 44 *e*PKPdf PKPdf 01 26 57.3 +4.1
DBIC Dimbokro 135.42 272 PKP PKPdf 01 27 03.6 +4.2
comp=Z,11nm,0.5s,baz=93,slow=2.3,SNR=21
DBIC SKPbc 01 30 27.7
comp=Z,6.7nm,0.9s,baz=27,slow=4.7,SNR=5.2
DBIC Dimbokro 135.42 272 PKP PKPdf 01 27 03.6 +4.2
DBIC SKPbc 01 30 27.7
LRAL Lakeview Retre 137.19 48 *e*PKPdf PKPdf 01 27 06.5 +4.3
NCB Newcomb 137.85 26 *e*PKPdf PKPdf 01 27 09.0 +5.8
MIV Mineville/With 138.07 26 *e*PKPdf PKPdf 01 27 08.8 +5.2
LVC Limon Verde 144.71 148 *e*PKPdf PKPdf 01 27 22.6 +6.8
JTS JuntasAbangare 145.16 83 *e*PKPdf PKPdf 01 27 22.8 +6.0
LPAZ La Paz 150.21 143 PKP PKPdf 01 27 31.6 +6.6
comp=Z,1.5nm,0.6s,baz=279,slow=2.0,SNR=5.5
LPAZ PKPbc PKPdf 01 27 37.4 +12
comp=Z,8.0nm,0.4s,baz=354,slow=2.1,SNR=15
OTAV Otavalo 150.53 103 *e*PKPdf PKPdf 01 27 32.5 +6.8
OTAV *e*PKPbc PKPdf 01 27 37.8 +12
ROSC El Rosal 155.47 95 PKPbc PKPdf 01 27 48.4 +16
comp=Z,3.8nm,0.4s,baz=87,slow=23,SNR=4.4
BDFB Brasilia 156.95 184 PKP PKPdf 01 27 39.1 +4.7
comp=Z,1.3nm,0.7s,baz=106,slow=3.2,SNR=4.2
SDV Santo Domingo 159.32 85 PKP PKPdf 01 27 42.3 +4.9
comp=Z,9.7nm,0.9s,baz=353,slow=2.8,SNR=7.6

DJA 09 01:15:12.7±0.6, 4.15S×119.32E, h33km, MD4.5/3, ML4.0/1, 4C-4D, Error ellipse: s-maj=17.0km s-min=6.6km az=61.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NINI	**Niniconang** 335nm,0.2s	**0.51**	**122**	⇓*iPn*	Pn	01 15 22.8	-0.8
NINI				⇓*iSn*	Sn	01 15 30.0	-1.2
TANI	**Tanete Lipujan** 554nm,0.2s	**0.71**	**5**	⇓*iPn*	Pn	01 15 25.3	-1.2
TANI	**Tanete Lipujan** 554nm,0.2s	**0.71**	**5**	⇓*iPn*	Pn	01 15 25.3	-1.2
TANI				⇑*iSn*	Sn	01 15 33.8	-2.5
TANI				⇑*iSn*	Sn	01 15 35.0	-1.3
BUNI	**Buntu Taipa** 197nm,0.2s	**1.12**	**64**	⇑*iPn*	Pn	01 15 30.9	-1.3
BUNI				⇑*iSn*	Sn	01 15 44.4	-2.1

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*IDC **09** 01:26:05.7±12.0, 15.58S×174.82W, h259km±113km, mb3.4/4, mb1 3.8/4, mb1mx3.4/13, mbtmp4.0/4, Error ellipse: s-maj=129.1km s-min=32.3km az=145.0*
*NEIC **09** 01:26:10.0±1.2, 15.26S×175.13W, h291km±16km, mb4.0/2,*

Error ellipse: s-maj=79.5km s-min=15.6km az=149.0

ISC 09 01:26:08.7±1.7, 15.0S±0.8×175.3W±0.5, h283km±32km, n12, σ0§36/8, mb3.7/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.61**	**72**	*e*P	**P**	**01 27 10.6**	**+0.3**
AFI				*e*S	**S**	**01 27 58.0**	**-0.2**
WRA	**Warramunga Arr**	**48.12**	**257**	P	**P**	**01 34 22.8**	**+0.2**
ASAR	**Alice Springs**	**48.46**	**252**	P	**P**	**01 34 24.9**	**-0.3**
HLID	**Hailey**	**80.53**	**40**	*e*P	**P**	**01 37 51.4**	**+0.4**
COLA	**College**	**82.36**	**11**	*e*P	**P**	**01 37 59.9**	**-0.2**
ILAR	**Eielson Array**	**82.46**	**12**	P	**P**	**01 38 00.5**	**0.0**
PDAR	**Pinedale Array**	**83.24**	**43**	P	**P**	**01 38 04.7**	**-0.2**
BVAR	**Borovoye Array**	**116.45**	**322**	PKP	PKPdf	01 44 18.4	-0.4
ARCES	**ARCESS Array B**	**123.98**	**351**	PKP	PKPdf	01 44 32.9	-0.1
BRTR	**Keskin Array B**	**144.69**	**320**	PKPbc	PKPbc	01 45 13.6	+1.5
KHC	**Kasperske Hory**	**145.22**	**350**	*e*PKP	PKPdf	01 45 14.5	+2.0
GERES	**GERESS Array B**	**145.48**	**349**	PKPbc	PKPbc	01 45 15.3	+1.5

*IDC **09** 01:26:18.2±1.1, 7.38N×93.90E, mb3.9/7, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, ML4.3/1, Error ellipse: s-maj=45.2km s-min=19.5km az=58.0*

*NEIC **09** 01:26:22.9±8.4, 7.36N×93.95E, h31km±58km, mb4.5/4, Error ellipse: s-maj=36.7km s-min=7.8km az=57.0*

ISC 09 01:26:21.7±0.7, 7.4N±0.1×94.1E±0.2, h33km, n19, σ0§70/19, mb4.3/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.99**	**23**	Pn	**P**	**01 29 12.6**	**-0.7**
JIRN	**Jiri**	**21.51**	**341**	*e*P	**P**	**01 31 09.8**	**-0.1**
PKI	**Pulchoki**	**21.69**	**339**	*e*P	**P**	**01 31 13.0**	**+1.3**
GUN	**Gumba**	**21.84**	**340**	*e*P	**P**	**01 31 13.8**	**+0.6**
KKN	**Kakani**	**21.94**	**339**	*e*P	**P**	**01 31 14.2**	**0.0**
GKN	**Gorkha**	**22.37**	**338**	*e*P	**P**	**01 31 18.9**	**+0.4**
LSA	**Lhasa**	**22.37**	**353**	P	**P**	**01 31 19.7**	**+1.2**
KOLN	**Koldanda**	**22.57**	**335**	*e*P	**P**	**01 31 21.6**	**+1.0**
MBWA	**Marble Bar**	**37.94**	**139**	P	**P**	**01 33 38.2**	**0.0**
SONM	**Songino Array**	**41.66**	**13**	P	**P**	**01 34 08.5**	**-0.2**
SONM				PcP	PcP	01 36 04.5	-1.3
ZAL	**Zalesovo**	**47.02**	**353**	P	**P**	**01 34 51.1**	**-0.6**
WRA	**Warramunga Arr**	**48.04**	**125**	P	**P**	**01 35 00.1**	**-0.1**
WRAB	**Tennant Creek**	**48.05**	**125**	P	**P**	**01 35 00.7**	**+0.5**
BVAR	**Borovoye Array**	**49.43**	**341**	P	**P**	**01 35 09.6**	**-0.8**
BVAR				PcP	PcP	01 36 31.5	-1.1
BRVK	**Borovoye**	**49.49**	**341**	*e*P	**P**	**01 35 10.1**	**-0.8**
ASAR	**Alice Springs**	**49.66**	**130**	P	**P**	**01 35 13.0**	**+0.4**
ASAR				PcP	PcP	01 36 35.0	+1.1
CHKZ	**Chkalovo**	**49.92**	**342**	*e*P	**P**	**01 35 14.0**	**-0.1**
CHKZ				*e*	pP	01 35 22.4	-1.7
BRTR	**Keskin Array B**	**62.69**	**311**	P	**P**	**01 36 44.5**	**-1.3**
FINES	**FINESS Array B**	**73.11**	**332**	P	**P**	**01 37 49.8**	**-0.6**

IDC 09 01:34:03.7±6.3, 4.16N×95.49E, mb3.8/3, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=199.5km s-min=28.1km az=72.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.61**	**13**	Pn	P	01 37 32.2	-1.6
SONM	**Songino Array**	**44.51**	**10**	P	P	01 42 16.9	-1.9
WRA	**Warramunga Arr**	**45.06**	**124**	P	P	01 42 20.8	-2.8
ASAR	**Alice Springs**	**46.54**	**128**	P	P	01 42 34.1	-1.0

*IDC **09** 01:56:23.2±1.5, 5.68N×93.07E, mb3.9/5, mb1 4.1/6, mb1mx3.8/17, mbtmp3.9/6, Error ellipse: s-maj=64.8km s-min=23.7km az=58.0*

*NEIC **09** 01:56:27.7±0.8, 5.69N×93.06E, h30km, mb4.3/2, Error ellipse: s-maj=25.8km s-min=12.4km az=66.0*

ISC 09 01:56:25.6±1.1, 5.7N±0.1×93.1E±0.2, h30km, n10, σ0§52/9, mb4.0/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.92**	**24**	Pn	**P**	**01 59 43.5**	**+0.2**
SONM	**Songino Array**	**43.51**	**13**	P	**P**	**02 04 28.1**	**-0.1**
WRA	**Warramunga Arr**	**47.92**	**123**	P	**P**	**02 05 03.3**	**-0.3**
WRAB	**Tennant Creek**	**47.92**	**123**	*e*P	**P**	**02 05 03.7**	**+0.1**
ASAR	**Alice Springs**	**49.38**	**128**	P	**P**	**02 05 14.9**	**+0.1**
CHKZ	**Chkalovo**	**51.22**	**343**	P	**P**	**02 05 27.2**	**-1.2**
FINES	**FINESS Array B**	**74.14**	**333**	P	**P**	**02 08 01.3**	**+0.5**
FINES	**FINESS Array B**	**74.14**	**333**	P	**P**	**02 08 01.3**	**+0.5**
ARCES	**ARCESS Array B**	**76.95**	**341**	P	**P**	**02 08 17.3**	**+0.7**
PDAR	**Pinedale Array**	**127.57**	**21**	PKP	PKPdf	02 15 31.9	-1.6

*IDC **09** 01:57:08.6±1.3, 7.53N×92.32E, mb3.9/6, mb1 4.2/7, mb1mx3.9/17, mbtmp3.9/7, ML4.2/1, Error ellipse: s-maj=63.1km s-min=22.5km az=55.0*

*NEIC **09** 01:57:12.5±0.8, 7.31N×92.12E, h30km, mb4.3/1, Error ellipse: s-maj=22.7km s-min=13.0km az=65.0*

ISC 09 01:57:10.8±1.0, 7.3N±0.1×92.2E±0.2, h30km, n9, σ0§58/9, mb3.9/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.86**	**30**	Pn	**P**	**02 00 15.1**	**+0.6**
SONM	**Songino Array**	**42.12**	**14**	P	**P**	**02 05 01.1**	**-1.0**
CHKZ	**Chkalovo**	**49.40**	**343**	*e*P	**P**	**02 05 59.5**	**-0.2**
WRA	**Warramunga Arr**	**49.55**	**124**	P	**P**	**02 06 01.2**	**-0.2**
WRA				PcP	PcP	02 07 22.3	-0.8
WRAB	**Tennant Creek**	**49.56**	**124**	*e*P	**P**	**02 06 01.2**	**-0.3**
ASAR	**Alice Springs**	**51.08**	**128**	P	**P**	**02 06 13.4**	**+0.4**
ASAR				pP	pP	02 06 19.4	-2.8
ASAR				PcP	PcP	02 07 30.5	+1.8
ASAR				pPcP		02 07 36.5	
FINES	**FINESS Array B**	**72.28**	**333**	P	**P**	**02 08 34.8**	**-0.5**
GERES	**GERESS Array B**	**76.93**	**318**	P	**P**	**02 09 03.2**	**+1.0**
ILAR	**Eielson Array**	**95.96**	**22**	P	**P**	**02 10 36.2**	**+0.3**

*IDC **09** 01:59:08.8±0.4, 7.65N×92.47E, mb4.9/24, mb1 5.0/25, mb1mx5.0/26, mbtmp4.9/25, ML5.2/1, MS5.0/17, Ms1 5.0/17, ms1mx4.8/23, Error ellipse: s-maj=22.2km s-min=10.9km az=44.0*

*BJI **09** 01:59:10.5, 7.42N×92.37E, h37km, mB5.2, mb5.0, Ms5.3, Msz5.1*

*MOS **09** 01:59:11.9±0.9, 7.63N×92.47E, h33km, mb5.3/25, MS5.0/12, Error ellipse: s-maj=14.6km s-min=6.6km az=115.1*

*HRVD **09** 01:59:13.1±0.2, 7.39N×92.29E, h12km, MW5.3/62, Centroid moment Tensor Solution. LP body waves: s38,c65;Mantle waves: s62,c115; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.80±.02; $M_{\theta\theta}$-0.24±.02; $M_{\phi\phi}$-0.56±.02; $M_{r\theta}$0.09±.06; $M_{\theta\phi}$0.39±.02; $M_{\phi r}$-0.58±.06; Best double couple: $M_0$1.001×10^{17} NP1: ϕ_s313°,δ30°,λ66°. NP2:ϕ_s160°,δ63°,λ103°. Principal axes: T 1.013, Plg69°, Azm97°; N -.023, Plg12°, Azm334°; P -.99, Plg17°, Azm240°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **09** 01:59:13.2±0.2, 7.59N×92.40E, h30km, mb5.0/64, MS4.9/20 Error ellipse: s-maj=6.2km s-min=4.5km az=32.0*

ISC 09 01:59:10.9±0.2, 7.58N±0.03×92.40E±0.03, h28km, h28km±2.3km:pP-P, n295, σ1§04/289, mb5.0/105, MS5.0/56, 18C-26D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.06**	**5**	*e*P	**Pn**	**02 00 13.3**	**+0.3**
PBA				*e*		02 01 07.7	
SNG	**Songkhla**	**8.16**	**92**	P	**P**	**02 01 11.0**	**+0.4**
	208nm,1.0s						
NNT	**Nongplab**	**8.77**	**55**	P	**P**	**02 01 20.0**	**+1.0**
NST	**Nakhon Sawan**	**11.04**	**43**	P	**P**	**02 01 46.6**	**-3.8**
PALK	**Pallekele**	**11.61**	**269**	*e*Pn	**P**	**02 01 55.8**	**-2.2**
	24nm,0.4s						
PALK				*e*Sn	**S**	**02 03 51.0**	**-17**
CMAR	**Chiang Mai Arr**	**12.55**	**30**	Pn	**P**	**02 02 10.7**	**0.0**
	4.1nm,0.3s,baz=221,slow=14,SNR=77						
CMAR				LR	LR	02 07 13.0	
	comp=Z,3μm,21.7s,baz=215,slow=39						
CHG	**Chiang Mai**	**12.85**	**29**	⇓P	**P**	**02 02 14.9**	**+0.2**
	52nm,0.9s						
MDRS	**Chennai**	**13.14**	**296**	*e*P	**P**	**02 02 15.0**	**-3.5**
MDRS				*e*		02 04 32.0	
KKTK	**Khon Kaen**	**13.40**	**49**	P	**P**	**02 02 32.0**	**+10**
	926nm,0.8s						
VIS	**Vishakhapatnam**	**13.41**	**320**	*e*P	**P**	**02 02 20.4**	**-1.7**
VIS				*e*S	**S**	**02 04 37.9**	**-13**
CHRT	**Chiangrai**	**14.16**	**30**	⇓P	**P**	**02 02 31.0**	**-1.1**
	382nm,0.9s						
KOD	**Kodaikanal**	**14.99**	**281**	*e*P	**P**	**02 02 42.6**	**-0.3**
KOD				*e*		02 03 05.3	
	comp=Z,94nm,1.3s						
TRD	**Trivandrum**	**15.32**	**275**	*e*	**P**	**02 02 53.6**	**+6.3**
TRD				*i*		02 05 47.6	
HYB	**Hyderabad**	**16.67**	**307**	*e*P	**P**	**02 03 04.0**	**-0.5**
	comp=Z,75nm,1.0s						
HYB				*e*S	**S**	**02 06 06.0**	**-1.9**
HYB	**Hyderabad**	**16.67**	**307**	*i* P	**P**	**02 03 04.0**	**-0.5**
	comp=Z,75nm,1.0s						
HYB				*e*S	**S**	**02 06 06.0**	**-1.9**
HYB				LR	LR	02 13 10.0	
	comp=Z,5.4nm,16.0s						
IMP	**Imphal**	**17.17**	**5**	*e*P	**P**	**02 03 09.4**	**-1.3**
BLSP	**Bilaspur**	**17.53**	**327**	*e*P	**P**	**02 03 15.0**	**-0.2**
BLSP				*e*		02 06 20.1	
SHL	**Shillong**	**17.89**	**358**	*e*P	**P**	**02 03 18.1**	**-1.6**
SHL				*e*		02 03 29.9	
	comp=Z,87nm,1.5s						
SHL				*e*S	**S**	**02 06 42.0**	**+6.3**
MNGI	**Mangalore**	**18.09**	**289**	*e*P	**P**	**02 03 24.6**	**+2.3**
MNGI				*e*		02 03 34.2	
	comp=Z,109nm,1.7s						
MNGI				*i*		02 06 40.5	
NGP	**Nagpur**	**18.67**	**318**	*e*P	**P**	**02 03 29.0**	**-0.3**
NGP				*e*		02 07 15.2	
GOA	**Goa**	**19.81**	**295**	*e*	**P**	**02 03 49.8**	**+7.2**
GOA				*e*S	**S**	**02 07 24.4**	**+5.7**
GOA				*i*		02 07 39.5	
QIZ	**Qiongzhong**	**20.41**	**54**	*e*P	**P**	**02 03 47.9**	**-0.9**
QIZ				S	**S**	**02 07 31.7**	**+0.8**
QIZ				SS	SS	02 08 00.6	-0.4
QIZ				AMB	AMB		
	comp=Z,78nm,1.3s						
QIZ				LR	LR		
	comp=N,8μm,14.9s,MS5.2						
QIZ				LR	LR		
	comp=E,5μm,17.3s,MS5.2						
QIZ				LR	LR		
	comp=Z,9μm,11.7s						
QIZ	**Qiongzhong**	**20.41**	**54**	*e*P	**P**	**02 03 48.1**	**-0.6**
	comp=Z,250nm,1.4s						
JIRN	**Jiri**	**20.82**	**344**	*e*P	**P**	**02 03 53.4**	**+0.4**
	comp=Z,222nm,1.0s						
PKI	**Pulchoki**	**20.96**	**342**	*e*P	**P**	**02 03 54.9**	**+0.5**
	comp=Z,492nm,1.2s						
POO	**Poona**	**21.07**	**303**	*e*P	**P**	**02 03 56.1**	**+0.5**
POO				*e*		02 04 07.2	
	comp=Z,66nm,1.0s						
POO				*i* S	**S**	**02 07 49.0**	**+5.2**
DMN	**Daman**	**21.09**	**342**	*e*P	**P**	**02 03 55.8**	**+0.1**
	comp=Z,137nm,0.7s,mb5.4						
GUN	**Gumba**	**21.14**	**344**	*e*P	**P**	**02 03 56.8**	**+0.6**
	comp=Z,146nm,0.7s,mb5.4						
BHPL	**Bhopal**	**21.20**	**319**	*e*P	**P**	**02 03 58.0**	**+1.1**
BHPL				*e*S	**S**	**02 07 48.2**	**+2.0**
KKN	**Kakani**	**21.20**	**342**	*e*P	**P**	**02 03 57.7**	**+0.9**
	comp=Z,89nm,0.7s,mb5.2						
GKN	**Gorkha**	**21.60**	**341**	*e*P	**P**	**02 04 01.1**	**+0.2**
	comp=Z,142nm,0.6s,mb5.6						
KOLN	**Koldanda**	**21.74**	**339**	*e*P	**P**	**02 04 03.0**	**+0.7**
	comp=Z,82nm,0.6s,mb5.3						
LSA	**Lhasa**	**22.04**	**357**	P	**P**	**02 04 08.2**	**+3.0**
LSA				AMB	AMB		
	comp=Z,40nm,0.8s,mb4.9						
LSA				LR	LR		
	comp=N,1μm,18.9s,MS5.0						
LSA				LR	LR		
	comp=E,5μm,15.5s,MS5.0						
LSA				LR	LR		
	comp=Z,3μm,17.8s,MS4.8						
LSA	**Lhasa**	**22.04**	**357**	*e*P	**P**	**02 04 04.8**	**-0.4**
	comp=Z,94nm,1.1s,mb5.1						
LSA				LR	LR		
	comp=Z,3μm,22.0s,MS4.6						
BOM	**Bombay**	**22.11**	**303**	*e*		02 04 15.2	
BOM				*e*		02 08 15.5	
PTH	**Pithoragarh**	**24.68**	**334**	*e*P	**P**	**02 04 33.0**	**+1.9**
PTH				*e*		02 09 33.0	
DGAR	**Diego Garcia**	**24.85**	**234**	*e*P	**P**	**02 04 34.0**	**+1.1**
	comp=Z,127nm,1.2s,mb5.3						
AJM	**Ajmer**	**25.27**	**320**	*i* P	**P**	**02 04 39.0**	**+2.3**
NDI	**New Delhi**	**25.41**	**328**	*e*P	**P**	**02 04 38.9**	**+0.9**
NDI				*e*		02 04 51.0	
	comp=Z,99nm,1.4s						
NDI				*e*S	**S**	**02 09 00.8**	**+0.4**
DDI	**Dehra Dun**	**26.32**	**331**	*e*P	**P**	**02 04 46.0**	**-0.5**
SMLA	**Simla**	**27.42**	**331**	*e*	**P**	**02 05 11.6**	**+15**
SMLA				*e*		02 05 22.3	
ENH	**Enshi**	**27.68**	**33**	*e*P	**P**	**02 04 57.9**	**-1.0**
	comp=Z,24nm,0.6s,mb5.0						
ENH				LR	LR		
	comp=Z,3μm,21.0s,MS4.9						
TGY	**Tagaytay City**	**28.75**	**75**	LR	LR	02 17 05.0	
	comp=Z,4μm,18.2s,MS5.1,baz=143,slow=38						
LZH	**Lanzhou**	**30.24**	**19**	⇓P	**P**	**02 05 21.6**	**-0.2**
LZH				AP	pP	02 05 29.6	-0.3
LZH				PP	PP	02 06 26.1	+5.2
LZH				S	**S**	**02 10 26.4**	**+8.0**
LZH				XS		02 10 41.1	
LZH				AMB	AMB		
	comp=Z,110nm,1.4s,mb5.4						
LZH				AMB	AMB		
	comp=Z,200nm,4.1s						
LZH				LR	LR		
	comp=E,6μm,15.8s						
LZH				LR	LR		
	comp=Z,7μm,16.8s,MS5.4						
XAN	**Xi'an**	**30.43**	**28**	P	**P**	**02 05 21.4**	**-2.1**
XAN				AP	pP	02 05 31.9	+0.3
XAN				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.7						
XAN				LR	LR		
	comp=N,928nm,18.9s						
XAN				LR	LR		
	comp=E,2μm,12.8s						
XAN				LR	LR		
	comp=Z,3μm,22.8s,MS4.9						
WHN	**Wuhan**	**30.73**	**39**	⇓P	**P**	**02 05 26.5**	**+0.3**
WHN				S	**S**	**02 10 33.0**	**+6.8**
WHN				LR	LR		
	comp=Z,5μm,15.4s,MS5.3						
NJ2	**Nanjing**	**34.62**	**42**	*e*P	**P**	**02 06 00.3**	**+0.2**
NJ2				S	**S**	**02 11 30.0**	**+3.2**
NJ2				LR	LR		
	comp=N,5μm,13.0s,MS5.6						
NJ2				LR	LR		
	comp=E,5μm,13.4s,MS5.6						
NJ2				LR	LR		
	comp=Z,7μm,11.2s,MS5.6						
SSE	**Sheshan**	**35.64**	**45**	P	**P**	**02 06 03.8**	**-4.9**
SSE				S	**S**	**02 11 41.2**	**-1.3**
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,109nm,5.4s						
SSE				LR	LR		
	comp=N,1μm,18.4s,MS4.7						
SSE				LR	LR		
	comp=E,533nm,18.2s,MS4.7						
SSE				LR	LR		
	comp=Z,1μm,16.3s,MS4.8						
WMQ	**Urumqi**	**36.33**	**354**	*e*P	**P**	**02 06 15.3**	**+0.9**
WMQ				AP	pP	02 06 24.8	+2.2
WMQ				XP	sP	02 06 28.7	+2.6
WMQ				PP	PP	02 07 38.8	+0.8
WMQ				S	**S**	**02 11 53.2**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,68nm,4.7s						
WMQ				LR	LR		
	comp=N,2μm,19.4s,MS5.0						
WMQ				LR	LR		
	comp=E,1μm,19.7s,MS5.0						
WMQ				LR	LR		
	comp=Z,2μm,19.6s,MS4.9						
TIA	**Tai'an**	**36.36**	**35**	*e*P	**P**	**02 06 15.7**	**+1.0**
TIA				S	**S**	**02 11 59.1**	**+5.6**
TIA				LR	LR		
	comp=E,1μm,14.2s,MS5.0						
TIA				LR	LR		
	comp=N,1μm,14.0s,MS5.0						
TIA				LR	LR		
	comp=E,2μm,13.0s						
KZA	**Kyzart**	**37.56**	**339**	P	**P**	**02 06 26.8**	**+2.1**
	SNR=12						
UCH	**Uchtor**	**37.96**	**338**	P	**P**	**02 06 29.8**	**+1.7**
	SNR=17						
KBK	**Karagaybulak**	**38.17**	**339**	P	**P**	**02 06 31.8**	**+1.9**
	SNR=34						
AML	**Almayashu**	**38.18**	**337**	P	**P**	**02 06 32.0**	**+2.0**
	SNR=41						
TKM2	**Tokmak 2**	**38.18**	**340**	P	**P**	**02 06 31.9**	**+1.9**
	SNR=5.6						
AAK	**Ala-Archa**	**38.32**	**339**	*d i*P	**P**	**02 06 31.0**	**-0.1**
AAK				pmax	pmax		
	comp=Z,37nm,1.2s,mb5.0						
AAK	**Ala-Archa**	**38.32**	**339**	*e*P	**P**	**02 06 30.5**	**-0.7**
	comp=Z,34nm,1.1s,mb5.0						
AAK				LR	LR		
	comp=Z,497nm,19.0s,MS4.3						
FRU	**Bishkek**	**38.45**	**339**	*e*P	**P**	**02 06 34.0**	**+1.8**
FRU				pmax	pmax		
	comp=Z,140nm,2.3s,mb5.3						
FRU				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.0						
CHMS	**Chumysh**	**38.54**	**339**	P	**P**	**02 06 34.1**	**+1.0**
	SNR=12						
EKS2	**Erkin-Say**	**38.60**	**338**	P	**P**	**02 06 34.8**	**+1.2**
	SNR=16						
BJT	**Baijiatuau**	**38.67**	**30**	*e*P	**P**	**02 06 34.9**	**+0.7**
	comp=Z,20nm,1.0s,mb4.8						
BJT				LR	LR		
	comp=Z,2μm,22.0s,MS4.9						
USP	**Ospennovka**	**38.87**	**339**	P	**P**	**02 06 36.7**	**+1.0**
	SNR=24						
JOW	**Kunigami**	**39.05**	**56**	LR	LR	02 25 11.1	
	comp=Z,4μm,18.2s,MS5.2,baz=98,slow=40						
MBWA	**Marble Bar**	**39.19**	**137**	*e*P	**P**	**02 06 37.5**	**-1.2**
	comp=Z,18nm,1.2s,mb4.7						
MBWA				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
MK02	**Makanchi Array**	**40.00**	**349**	P	**P**	**02 06 44.0**	**-1.1**
MK02				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.8						
SONM	**Songino Array**	**41.84**	**14**	P	**P**	**02 07 00.5**	**+0.3**
	comp=Z,19nm,0.9s,mb4.7,baz=199,slow=6.8,SNR=58						
SONM				PcP	PcP	02 08 57.0	+0.5
	comp=Z,5.0nm,1.0s,baz=213,slow=3.5,SNR=4.2						
ULN	**Ulaanbaatar**	**42.03**	**15**	*i* P	**P**	**02 07 01.6**	**-0.2**
ULN	**Ulaanbaatar**	**42.03**	**15**	*e*P	**P**	**02 07 01.3**	**-0.5**
	comp=Z,8.5nm,0.9s,mb4.4						
ULN				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
ZAK	**Zakamensk**	**43.62**	**10**	⇑*i*P	**P**	**02 07 14.5**	**-0.2**
ZAK				*e*		02 08 52.5	
SNY	**Shenyang**	**43.86**	**34**	⇑P	**P**	**02 07 16.6**	**-0.2**
SNY				S	**S**	**02 13 53.8**	**+8.2**
SNY				AMB	AMB		
	comp=Z,30nm,1.6s,mb4.8						
SNY				LR	LR		
	comp=N,2μm,15.7s						
SNY				LR	LR		
	comp=Z,2μm,18.0s,MS5.0						
MOY	**Mondy**	**44.52**	**8**	*e*P	**P**	**02 07 23.2**	**+1.2**
TLY	**Talaya**	**44.93**	**10**	*e*P	**P**	**02 07 26.1**	**+0.8**
TLY				*e*S	**S**	**02 14 11.5**	**+11**
TLY				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.9						
TLY	**Talaya**	**44.93**	**10**	*e*P	**P**	**02 07 25.5**	**+0.2**
	comp=Z,20nm,1.0s,mb4.9						
TLY				LR	LR		
	comp=Z,211nm,19.0s,MS4.1						
IRK	**Irkutsk**	**45.58**	**10**	*e*P	**P**	**02 07 29.6**	**-0.8**
ZAL	**Zalesovo**	**46.63**	**354**	P	**P**	**02 07 38.0**	**-0.7**
	comp=Z,9.1nm,1.0s,mb4.7,baz=298,slow=8.5,SNR=35						
ZAL	**Zalesovo**	**46.63**	**354**	P	**P**	**02 07 38.0**	**-0.7**
NWAO	**Narrogin (SRO)**	**46.70**	**151**	P	**P**	**02 07 40.1**	**+0.5**
	comp=Z,11nm,0.8s,mb4.8,baz=315,slow=8.6,SNR=2.7						
NWAO	**Narrogin (SRO)**	**46.70**	**151**	*e*P	**P**	**02 07 39.5**	**0.0**
NWAO				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
HIA	**Hailar**	**47.48**	**24**	*e*P	**P**	**02 07 45.7**	**+0.2**
	comp=Z,14nm,0.8s,mb5.0						
HIA				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
NVS	**Novosibirsk**	**47.70**	**353**	*e*P	**P**	**02 07 45.8**	**-1.3**
NVS				*e*S	**S**	**02 14 50.3**	**+10**
NVS				pmax	pmax		
	comp=Z,28nm,1.5s,mb5.1						
NVS				pmax	pmax		
	comp=E,10.0nm,1.3s						
NVS				pmax	pmax		
	comp=N,24nm,1.5s						
NVS				smax			
	comp=N,20nm,3.3s						
NVS				smax			
	comp=E,45nm,3.0s						
BVA0	**Borovoye Array**	**48.73**	**342**	P	**P**	**02 07 54.5**	**-0.6**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
BVAR	**Borovoye Array**	**48.73**	**342**	P	**P**	**02 07 54.9**	**-0.2**
	comp=Z,15nm,0.8s,mb5.1,baz=143,slow=7.4,SNR=47						
BRVK	**Borovoye**	**48.79**	**342**	*e*P	**P**	**02 07 55.0**	**-0.5**
	comp=Z,30nm,1.0s,mb5.3						
BRVK				LR	LR		
	comp=Z,219nm,20.0s,MS4.1						
MDJ	**Mudanjiang**	**49.02**	**35**	P	**P**	**02 07 56.9**	**-0.6**
MDJ				PCP	PcP	02 09 21.1	-0.3
MDJ				PP	PP	02 09 50.2	-0.9
MDJ				PCS		02 13 17.3	

MDJ S **S** **02 15 02.0 +2.9**
MDJ AMB AMB
comp=Z,28nm,1.5s,mb5.1
MDJ AMB AMB
comp=Z,219nm,8.2s
MDJ LR LR
comp=N,966nm,20.2s,MS5.0
MDJ LR LR
comp=E,1μm,20.8s,MS5.0
MDJ LR LR
comp=Z,2μm,14.9s
CHKZ Chkalovo 49.23 343 *e*P **P** **02 07 57.9 -1.1**
comp=Z,55nm,1.0s,mb5.5
WRA Warramunga Arr 49.51 124 P **P** **02 08 00.1 -1.4**
comp=Z,46nm,0.9s,mb5.5,baz=304,slow=8.8,SNR=119
WRA PcP PcP 02 09 23.7 +0.2
comp=Z,5.7nm,0.6s,baz=312,slow=2.7,SNR=7.1
WRAB Tennant Creek 49.51 124 *d*P **P** **02 08 00.8 -0.8**
WRAB Tennant Creek 49.51 124 *e*P **P** **02 08 00.1 -1.5**
comp=Z,97nm,1.0s,mb5.8
WRAB LR LR
comp=Z,591nm,19.0s,MS4.6
WB2 Warramunga Arr 49.52 124⇑*i*P **P** **02 08 00.1 -1.5**
MAT Matsushiro 50.64 48 P **P** **02 08 12.0 +2.1**
MAT *e*S **S** **02 15 36.0 +14**
MAT LR LR
comp=Z,2μm,19.0s,MS5.1
MAT Matsushiro 50.64 48 P **P** **02 08 12.1 +2.2**
MAT S **S** **02 15 35.0 +13**
ASPA Alice Springs 51.06 129⇓*i*P **P** **02 08 12.3 -1.0**
ASAR Alice Springs 51.06 129 P **P** **02 08 12.2 -1.1**
comp=Z,28nm,0.7s,mb5.3,baz=307,slow=7.3,SNR=141
ASAR PcP PcP 02 09 29.2 0.0
comp=Z,8.6nm,0.7s,baz=307,slow=3.6,SNR=7.1
BOD Bodaibo 52.84 14 *e*P **P** **02 08 25.7 -0.6**
KLR Kul'dur 53.02 31 *e*P **P** **02 08 24.2 -3.5**
KLR *e*S **S** **02 15 53.0 -1.1**
KLR *e* 02 19 28.0
KLR MLR MLR
comp=N,2μm,14.0s,MS5.4
KLR MLR MLR
comp=E,2μm,14.0s,MS5.4
KLR MLR MLR
comp=Z,4μm,14.0s,MS5.6
GNI Garni 53.42 315*d*P **P** **02 08 31.8 +1.0**
GNI pmax pmax
comp=Z,25nm,1.3s
GNI MLR MLR
comp=Z,400nm,21.0s
GNI Garni 53.42 315 P **P** **02 08 31.4 +0.6**
comp=Z,10nm,0.8s,mb4.8,baz=193,slow=12,SNR=11
GNI Garni 53.42 315 *e*P **P** **02 08 31.2 +0.5**
comp=Z,50nm,1.3s,mb5.3
GNI LR LR
comp=Z,473nm,21.0s,MS4.5
TI2 Plekhanov 54.07 317⇓*i*P **P** **02 08 36.2 +0.7**
SVE Sverdlovsk 55.05 339 *e*P **P** **02 08 42.7 +0.2**
SVE pmax pmax
comp=Z,160nm,1.7s,mb5.8
SVE MLR MLR
comp=Z,2μm,17.0s,MS5.3
ZEI Tsey 55.09 318 *e*P **P** **02 08 42.9 -0.1**
ZEI pmax pmax
comp=Z,11nm,1.3s,mb4.7
CLNS Chul'man 55.31 21 *e*P **P** **02 08 44.9 +0.4**
CLNS *e*PPP PPP 02 11 56.0 -7.3
CLNS pmax pmax
comp=Z,31nm,1.1s,mb5.2
CLNS pmax pmax
comp=N,15nm,1.0s
CLNS pmax pmax
comp=E,11nm,1.1s
CLNS pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,1.1s
CLNS MLR MLR
comp=N,1μm,13.0s,MS5.1
CLNS MLR MLR
comp=Z,1μm,13.0s,MS5.1
CLNS MLR MLR
comp=E,400nm,15.0s,MS5.1
ARU Arti 55.50 338⇑*i*P **P** **02 08 42.8 -3.0**
ARU *e* 02 09 41.6
ARU *e*S **S** **02 16 25.7 -1.6**
ARU *e*SS SS 02 20 10.7 -1.5
ARU pmax pmax
comp=Z,44nm,1.2s,mb5.4
KMBO Kilima Mbogo 55.68 263 *i*P **P** **02 08 49.4 +1.8**
KMBO pmax pmax
comp=Z,6.0nm,1.1s
KMBO Kilima Mbogo 55.68 263 P **P** **02 08 48.7 +1.1**
comp=Z,5.7nm,1.1s,mb4.5,baz=44,slow=12,SNR=7.0
KMBO LR LR 02 28 54.4
comp=Z,2μm,20.4s,MS5.2,baz=91,slow=32
KMBO Kilima Mbogo 55.68 263 *e*P **P** **02 08 48.1 +0.5**
comp=Z,20nm,1.4s,mb5.0
KMBO LR LR
comp=Z,2μm,20.0s,MS5.2
ERZM Erzurum 55.72 314 *i*P **P** **02 08 46.7 -0.9**
KIV Kislovodsk 56.39 319*d*P **P** **02 08 52.0 -0.3**
KIV *e*S **S** **02 16 42.0 +2.7**
KIV pmax pmax
comp=Z,27nm,1.5s,mb5.1
KIV Kislovodsk 56.39 319 *e*P **P** **02 08 51.4 -1.0**
comp=Z,26nm,1.1s,mb5.2
KIV LR LR
comp=Z,109nm,20.0s,MS3.9
GOF Gofitskoye 56.63 320 *e*P **P** **02 08 53.5 -0.6**
GOF pmax pmax
comp=Z,30nm,1.4s,mb5.1
ASAJ Asahikawa 56.77 41 LR LR 02 37 13.3
comp=Z,1μm,18.4s,MS5.0,baz=345,slow=40
ASF Jabal al Asfar 56.93 303 P **P** **02 08 56.8 +0.4**
comp=Z,12nm,1.2s,mb4.8,baz=4.4,slow=5.0,SNR=5.7
ASF LR LR 02 34 55.9
comp=Z,626nm,19.5s,MS4.7,baz=148,slow=38
PMG Port Moresby 57.10 106 P **P** **02 08 57.7 -0.1**
comp=Z,23nm,0.8s,mb5.3,baz=260,slow=19,SNR=5.1
MALT Malatya 57.34 311 *e*P **P** **02 08 58.5 -0.7**
comp=Z,20nm,1.4s,mb5.0
GZT Gaziantep 57.72 310 *i*P **P** **02 09 02.2 +0.4**
YSS Yuzh-Sakhalins 58.08 38 *e*P **P** **02 09 04.5 +0.3**
YSS MLR MLR
comp=Z,1μm,17.0s,MS5.0
YSS MLR MLR
comp=E,1μm,16.0s
YSS Yuzh-Sakhalins 58.08 38 *i*P **P** **02 09 03.5 -0.7**
EIL Elat 58.08 300 P **P** **02 09 05.5 +1.0**
comp=E,21nm,1.2s,mb5.0,baz=29,slow=9.9,SNR=7.5
EIL Elat 58.08 300 *e*P **P** **02 09 05.1 +0.6**
comp=E,22nm,1.1s,mb5.1
SOC Sochi 58.21 317 *e*P **P** **02 09 02.9 -2.3**
SOC *e* 02 09 49.4
SOC *e* 02 11 12.3
SOC *e*PPP PPP 02 12 45.9 +6.9
SOC *e*S **S** **02 16 59.0 -4.4**
SOC *e* 02 18 49.6
SOC *e*SS SS 02 20 55.4 -1.4
SOC pmax pmax
comp=Z,27nm,1.0s,mb5.2
SOC pmax pmax
comp=N,17nm,0.8s
SOC pmax pmax
comp=E,14nm,0.8s
SOC MLR MLR
comp=N,370nm,18.0s,MS4.8
SOC MLR MLR
comp=Z,460nm,18.0s,MS4.6
SOC MLR MLR
comp=E,499nm,16.0s,MS4.8
SOKR Solikamsk 58.46 340⇓*i*P **P** **02 09 05.5 -1.2**
SOKR pmax pmax
comp=Z,30nm,0.9s,mb5.3
SOKR MLR MLR
comp=Z,860nm,20.0s,MS4.9
CTA Charters Tower 59.68 118 P **P** **02 09 15.1 -0.6**
comp=Z,16nm,1.0s,mb5.0,baz=312,slow=13,SNR=5.3
CTA LR LR 02 37 41.2
comp=Z,1μm,21.1s,MS5.0,baz=287,slow=39
CTA Charters Tower 59.68 118 P **P** **02 09 15.1 -0.6**
CTA LR LR 02 37 41.2
CTAO Charters Tower 59.68 118 *e*P **P** **02 09 15.4 -0.3**
comp=Z,37nm,1.3s,mb5.2
CTAO LR LR
comp=Z,1μm,22.0s,MS5.0
CTKT Corum 60.71 313 *i*P **P** **02 09 21.6 -0.9**
YAK Yakutsk 60.83 19*d*P **P** **02 09 22.2 -0.8**
YAK pmax pmax
comp=Z,75nm,1.3s,mb5.7
YAK MLR MLR
comp=Z,2μm,19.0s,MS5.2
YAK Yakutsk 60.83 19 *e*P **P** **02 09 22.3 -0.7**
comp=Z,62nm,1.0s,mb5.7
BOYT Boyabat 60.86 313 *i*P **P** **02 09 22.2 -1.3**
STKA Stephens Creek 61.16 133⇓*i*P **P** **02 09 25.1 -0.6**
comp=Z,16nm,0.9s,mb5.2
STKA Stephens Creek 61.16 133 P **P** **02 09 25.1 -0.6**
comp=Z,23nm,0.9s,mb5.3,baz=308,slow=6.6,SNR=30
STKA LR LR 02 39 33.9
comp=Z,1μm,18.8s,MS5.0,baz=148,slow=40
BRTR Keskin Array B 61.32 311 P **P** **02 09 25.2 -1.4**
comp=Z,5.1nm,0.8s,mb4.7,baz=124,slow=7.2,SNR=24
BRTR PcP PcP 02 10 08.0 -0.6
comp=Z,2.5nm,0.9s,baz=115,slow=6.0,SNR=4.0
ELDT Eldivan 61.67 312 *i*P **P** **02 09 28.0 -1.0**
BALT Daday 61.98 313 *i*P **P** **02 09 30.3 -0.8**
MBAR Mbarara 62.02 265 *e*P **P** **02 09 31.7 0.0**
comp=Z,24nm,1.6s,mb5.1
MBAR LR LR
comp=Z,517nm,20.0s,MS4.7
SIM Simferopol' 62.46 317 *e*P **P** **02 09 34.0 -0.2**
SIM pmax pmax
comp=Z,27nm,1.0s,mb5.3
SIM MLR MLR
comp=Z,390nm,20.4s,MS4.6
ISP Isparta 63.27 309 *e*P **P** **02 09 39.1 -0.5**
comp=Z,17nm,0.9s,mb5.2
ESKT Eskisehir 63.36 310 *i*P **P** **02 09 39.1 -1.1**
MOS Moscow 64.44 329 *e*P **P** **02 09 45.0 -2.1**
MOS pmax pmax
comp=Z,95nm,1.8s,mb5.5
OBN Obninsk 64.71 328*d*P **P** **02 09 46.8 -2.0**
OBN *i* pP 02 09 53.9 -3.5
OBN *e*S **S** **02 18 23.7 -2.0**
OBN pmax pmax
comp=Z,32nm,1.3s,mb5.2
OBN MLR MLR
comp=Z,900nm,18.0s,MS5.0
OBN Obninsk 64.71 328 *i*Pr 02 09 46.8
OBN LR LR
comp=Z,900nm,18.0s,MS5.0
ULDT Uludag 64.78 311 *i*P **P** **02 09 48.5 -1.1**
KDAG Bornova 65.88 309 *i*P **P** **02 09 56.3 -0.3**
CFR Carcaliu 66.60 316⇓*i*P **P** **02 10 00.5 -0.6**
CFR Carcaliu 66.60 316⇓*i*P **P** **02 10 00.5 -0.6**
TOO Toolangi 66.83 136⇓*i*P **P** **02 10 03.8 +1.1**
comp=Z,11nm,0.9s,mb4.9
ALN Alexandroupoli 67.24 311 *e*P **P** **02 10 03.9 -1.3**
IDI Anoyia 67.32 305 P **P** **02 10 05.6 -0.2**
comp=Z,23nm,0.7s,mb5.3,baz=154,slow=3.9,SNR=9.2
LSZ Lusaka 67.55 250 *e*P **P** **02 10 07.6 0.0**
LSZ LR LR
comp=Z,2μm,19.0s,MS5.3
VRI Vrincioaia 67.72 317⇓*i*P **P** **02 10 08.4 +0.2**
VRI Vrincioaia 67.72 317⇓*i*P **P** **02 10 08.4 +0.2**
MA2 Magadan 67.83 28 *e*P **P** **02 10 09.3 +0.7**
MA2 S S 02 19 02.5 -0.9
MA2 pmax pmax
comp=Z,30nm,0.9s,mb5.3
MA2 MLR MLR
comp=Z,2μm,25.0s,MS5.3
MA2 Magadan 67.83 28 *e*P **P** **02 10 08.9 +0.3**
comp=Z,27nm,0.8s,mb5.3
TIXI Tiksi 67.86 12⇑*i*P **P** **02 10 07.9 -0.8**
TIXI *e*S S 02 19 02.7 -1.0
TIXI pmax pmax
comp=Z,89nm,1.1s,mb5.7
TIXI MLR MLR
comp=Z,827nm,14.0s,MS5.1
ARMA Armidale 68.15 127 *e*P **P** **02 10 13.1 +1.9**
MLR Muntele Rosu 68.18 316 P **P** **02 10 11.3 +0.3**
comp=Z,27nm,0.9s,mb5.3,baz=80,slow=3.3,SNR=24
MLR Muntele Rosu 68.18 316⇑*i*P **P** **02 10 12.1 +1.0**
MLR Muntele Rosu 68.18 316⇑*i*P **P** **02 10 12.1 +1.0**
RZN Rozhen 68.36 312 *i*P **P** **02 10 15.7 +3.4**
PAIG Paliouri 68.87 310 *e*P **P** **02 10 14.9 -0.6**
MMB Musomiste 69.08 312 *i*P **P** **02 10 15.7 -1.0**
SRS Serrai 69.11 311 *e*P **P** **02 10 15.7 -1.2**
THE Thessaloniki 69.51 310 *e*P **P** **02 10 18.2 -1.2**
KKB Krupnik 69.59 312 P **P** **02 10 19.0 -0.8**
VTS Vitosha 69.61 313 *i*P **P** **02 10 19.5 -0.4**
KNT Kendrikon 69.63 311 *e*P **P** **02 10 19.1 -1.0**
AGG Agios Georgios 69.79 309 *e*P **P** **02 10 18.8 -2.4**
LIT Litokhoron 69.80 310 *e*P **P** **02 10 19.9 -1.2**
GRG Griva 69.98 311 *e*P **P** **02 10 21.3 -0.9**
LVV L'vov 70.33 320 *e*P **P** **02 10 13.1 -11**
JOF Joensuu 70.37 335 *e*p **P** **02 10 23.3 -0.9**
KWP Kalwaria 71.14 320 *e*P **P** **02 10 29.2 +0.1**
KOLS Kolonicke sedl 71.29 319 *e*P **P** **02 10 30.8 +0.8**
APA Apatity 71.52 340 *e*P **P** **02 10 30.0 -1.1**
APA pmax pmax
comp=Z,21nm,1.0s,mb5.0
CRVS Cervenica-Dubn 71.81 319 *e*P **P** **02 10 35.0 +1.8**
FINES FINESS Array B 72.17 332 P **P** **02 10 33.9 -1.1**
comp=Z,7.0nm,0.6s,mb4.8,baz=106,slow=6.8,SNR=43
FINES LR LR 02 48 25.7
comp=Z,665nm,19.5s,MS4.9,baz=120,slow=41
KAF Kangasniemi 72.27 333 *e*p **P** **02 10 34.8 -0.8**
comp=Z,4.1nm,0.6s,mb4.5,baz=107,slow=5.7
KAF Kangasniemi 72.27 333 *e*P **P** **02 10 34.8 -0.8**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
NIE Niedzica 72.64 319 *e*P **P** **02 10 38.0 -0.1**
PSZ Piszkesteto 72.70 318 *e*P **P** **02 10 38.2 -0.3**
comp=Z,10nm,1.0s,mb4.7
OJC Ojcow 73.09 320⇓*i*P **P** **02 10 40.8 +0.1**
OJC *e*PcP PcP 02 10 54.5 -3.0
PKSM Moragy 73.33 316⇓*e*P **P** **02 10 41.5 -0.7**
VYHS Vyhne 73.47 318 *e*P **P** **02 10 42.5 -0.5**
SRO2 Moca 73.68 317 *e*P **P** **02 10 44.3 +0.2**
SRO Srobarova 73.74 318 *e*P **P** **02 10 44.7 +0.2**
SRO1 Iza 73.79 317 *e*P **P** **02 10 45.4 +0.6**
OKC Ostrava-Krasne 74.09 320 *e*P **P** **02 10 46.9 +0.4**
TIP Timpagrande 74.13 308 *e*P **P** **02 10 47.5 +0.5**
MORC Moravsky Berou 74.47 319 *e*P **P** **02 10 48.1 -0.6**
comp=Z,26nm,1.4s,mb5.0
ZST Bratislava 74.59 318 *e*P **P** **02 10 49.6 +0.2**
ARCES ARCESS Array B 74.96 340 P **P** **02 10 51.0 -0.1**
comp=Z,7.6nm,0.8s,mb4.7,baz=72,slow=3.8,SNR=10
ARCES LR LR 02 49 18.5
comp=Z,1μm,18.6s,MS5.2,baz=222,slow=40
DPC Dobruska-Polom 75.32 320 *e*P **P** **02 10 53.7 +0.1**
KSP Ksiaz 75.39 321 *e*P **P** **02 10 54.1 +0.1**
KSP Ksiaz 75.39 321 *e*P **P** **02 10 54.6 +0.6**
UPC Upice 75.53 320 *e*P **P** **02 10 55.7 +0.9**
ARSA Arzberg 75.57 317⇓*i*P **P** **02 10 55.5 +0.5**
comp=Z,25nm,1.7s,mb4.9
BOJS Bojanci 75.63 315 *e*P **P** **02 10 54.8 -0.7**
VISS Visnje 75.94 315 *e*P **P** **02 10 57.4 +0.2**
LJU Ljubljana 76.17 315⇑*e*P **P** **02 10 58.3 -0.2**
OBKA Obir 76.18 316⇓*i*P **P** **02 10 59.0 +0.5**
comp=Z,24nm,1.4s,mb4.9
PRU Pruhonice 76.43 320 *e*P **P** **02 10 59.7 -0.1**
PVCC Panska Ves 76.45 320 *e*P **P** **02 11 00.8 +0.8**
MOA Molln 76.46 317⇓*i*P **P** **02 10 59.9 -0.2**
comp=Z,14nm,1.2s,mb4.8
VOY Vojsko 76.61 315 *e*P **P** **02 11 00.6 -0.3**
VOY *e* 02 11 06.7
AQU L'Aquila 76.81 312 *e*P **P** **02 11 01.3 -0.8**
BRG Berggiesshubel 76.88 320 *i*P **P** **02 11 02.6 +0.3**
BRG *i* pP 02 11 11.3 +0.3
BRG pmax pmax
comp=Z,54nm,1.8s,mb5.2
BRG MLR MLR
comp=N,670nm,16.1s,MS5.2
BRG MLR MLR
comp=E,560nm,16.1s,MS5.2
BRG MLR MLR
comp=Z,740nm,16.1s,MS5.1
BRG Berggiesshubel 76.88 320 *i*P **P** **02 11 02.6 +0.3**
comp=Z,54nm,1.8s,mb5.2
BRG *i* pP 02 11 11.3 +0.3
BRG LR LR
comp=Z,740nm,16.1s,MS5.1
GEC2 GERESS Array S 76.90 318 *e*P **P** **02 11 02.8 +0.3**
GEC2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GEC2 GERESS Array S 76.90 318 *e*P **P** **02 11 02.8 +0.3**
comp=Z,10.0nm,0.9s,mb4.8
GERES GERESS Array B 76.90 318 P **P** **02 11 02.5 +0.1**
comp=Z,12nm,0.8s,mb4.9,baz=94,slow=5.2,SNR=59
KHC Kasperske Hory 77.00 319 *e*P **P** **02 11 03.1 +0.1**
KHC *e* pP 02 11 10.0 -1.7
KHC Kasperske Hory 77.00 319 *e*P **P** **02 11 03.1 +0.1**
KHC pP pP 02 11 10.0 -1.7
BILL Bilibino 77.00 22⇓*i*P **P** **02 11 02.7 +0.1**
BILL pmax pmax
comp=Z,21nm,1.6s,mb4.8
BILL Bilibino 77.00 22 *i*P **P** **02 11 03.7 +1.1**
KBA Koelnbreinsper 77.04 316⇑*i*P **P** **02 11 03.9 +0.6**
comp=Z,16nm,1.1s,mb4.9
WET Wettzell 77.45 319 *e*P **P** **02 11 05.9 +0.3**
CLL Collm 77.50 321 *e*P **P** **02 11 06.0 +0.3**
CLL pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
CLL Collm 77.50 321 *e*P **P** **02 11 06.0 +0.3**
comp=Z,9.0nm,1.1s,mb4.6
CLL Collm 77.50 321 P **P** **02 11 06.0 +0.3**
comp=Z,logA/T=0.9,mb4.6
NKC Novy Kostel 77.79 320 *e*P **P** **02 11 07.6 +0.2**
MAW Mawson 77.91 191 LR LR 02 39 37.5
comp=Z,860nm,19.4s,MS5.1,baz=37,slow=31
WTTA Wattenberg 78.21 317⇑*i*P **P** **02 11 09.6 -0.1**
comp=Z,28nm,1.0s,mb5.2
WATA Walderalm 78.25 317⇑*i*P **P** **02 11 09.7 -0.3**
comp=Z,15nm,1.2s,mb4.8
MOX Moxa 78.34 320 *e*P **P** **02 11 10.2 -0.2**
MOX Moxa 78.34 320 *i*P **P** **02 11 10.2 -0.2**
FX1 Attu Island--F 78.42 38 P **P** **02 11 11.6 +0.9**
comp=Z,21nm,0.6s,mb5.2,baz=287,slow=19,SNR=5.5
FUR Furstenfeldbru 78.48 318 *e*P **P** **02 11 11.1 -0.1**
SQTA Sankt Quirin 78.50 317⇑*i*P **P** **02 11 10.8 -0.5**
comp=Z,12nm,0.9s,mb4.8
GRA1 Grafenberg Arr 78.56 319 *e*P **P** **02 11 12.4 +0.8**
comp=Z,14nm,0.8s,mb4.9
GRF Grafenberg Arr 78.56 319 *e*P **P** **02 11 12.4 +0.8**
GRF pmax pmax
comp=Z,14nm,0.8s,mb4.9
GRF Grafenberg Arr 78.56 319 *e*P **P** **02 11 12.4 +0.8**
comp=Z,14nm,0.8s,mb4.9
MOTA Moosalm 78.58 317⇓*i*P **P** **02 11 11.1 -0.6**
comp=Z,11nm,1.0s,mb4.8
NB2 NORSAR Subarra 79.14 331 P **P** **02 11 13.2 -1.3**
comp=Z,7.2nm,0.7s,mb4.7,baz=98,slow=5.0
NOA NORSAR Array B 79.14 331 P **P** **02 11 14.6 +0.1**
comp=Z,4.5nm,0.7s,mb4.5,baz=94,slow=5.5,SNR=10
NOA LR LR 02 50 08.3
comp=Z,645nm,19.4s,MS5.0,baz=50,slow=39
CLZ Clausthal 79.16 321 *e*P **P** **02 11 15.0 +0.2**
comp=Z,9.0nm,0.8s,mb4.8
BSEG Bad Segeberg 79.26 323 *e*P **P** **02 11 15.7 +0.4**
DAVA Damuels 79.41 317⇑*i*P **P** **02 11 16.5 +0.2**
comp=Z,37nm,1.1s,mb5.2
STU Stuttgart 79.87 318 *e*P **P** **02 11 19.0 +0.2**
comp=Z,9.2nm,0.8s,mb4.8
BFO Black Forest 80.45 318 *e*P **P** **02 11 21.7 -0.1**
BFO pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BFO Black Forest 80.45 318 *e*P **P** **02 11 21.7 -0.1**
comp=Z,6.0nm,0.8s,mb4.6
LPG La Plagne 81.60 315 *e*P **P** **02 11 28.2 +0.3**
comp=Z,46nm,0.8s,mb5.1
BNI Bardonecchia 81.67 314 *e*P **P** **02 11 28.9 +0.6**
comp=Z,20nm,0.9s,mb5.0
EJON La Jonquera 84.58 312 P **P** **02 11 42.8 -0.5**
comp=Z,687nm,5.3s
SYO Syowa Base 84.62 197⇑P **P** **02 11 44.4 +1.5**
SYO Syowa Base 84.62 197⇑sP sP 02 11 59.4 +4.8
EMIR Miracle 85.65 312 P **P** **02 11 50.0 +1.3**
comp=Z,18nm,0.6s,mb5.5
EPOB Poblet 86.04 311 P **P** **02 11 52.0 +1.3**
comp=Z,8.6nm,0.6s,mb5.2
EIBI Ibiza 86.11 309 P **P** **02 11 53.7 +2.7**
comp=Z,47nm,4.7s
EBIE Bielsa 86.58 312 P **P** **02 11 52.9 -0.3**
comp=Z,440nm,4.0s
ERTA Horta de San J 86.65 311 P **P** **02 11 52.8 -0.9**
comp=Z,4.9nm,0.7s,mb4.8
RPZ Rata Peaks 87.07 135 LR LR 02 50 11.9
comp=Z,730nm,20.6s,MS5.1,baz=212,slow=35
ESAC San Caprasio 87.15 312 P **P** **02 11 56.8 +0.8**
comp=Z,452nm,4.2s
EMOS Mosqueruela 87.33 310 P **P** **02 11 59.4 +2.5**
comp=Z,15nm,0.8s,mb5.3
DAG Danmarks Havn 87.39 348⇑*e*P **P** **02 11 56.2 -0.2**
DAG pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
DAG Danmarks Havn 87.39 348⇑*e*P **P** **02 11 56.2 -0.2**
comp=Z,3.0nm,0.8s,mb4.6
DAG Danmarks Havn 87.39 348⇑*i*P **P** **02 11 56.2 -0.2**
comp=Z,3.0nm,0.8s,mb4.6
EVIA Vianos 89.13 309 P **P** **02 12 07.7 +2.1**
comp=Z,19nm,1.6s,mb5.2
EQES Quesada 89.71 308 P **P** **02 12 08.8 +0.5**
comp=Z,7.4nm,0.8s,mb5.1
EBER Berja 89.71 307 P **P** **02 12 10.3 +1.9**
comp=Z,13nm,0.7s,mb5.4
GUD Guadarrama 90.06 311 P **P** **02 12 10.3 +0.4**
comp=Z,11nm,0.8s,mb5.2
ESDC Sonseca Array 90.08 310 P **P** **02 12 11.1 +1.1**
comp=Z,4.1nm,0.6s,mb4.9,baz=64,slow=3.9,SNR=28
URZ Urewera 90.51 128 LR LR 02 54 11.2
comp=Z,726nm,20.6s,MS5.1,baz=181,slow=36
EADA Adamuz 90.82 309 P **P** **02 12 14.8 +1.4**
comp=Z,7.7nm,0.8s,mb5.1
EMIJ Mijas 91.26 307 P **P** **02 12 14.9 -0.6**
comp=Z,8.8nm,0.6s,mb5.3
EPON Pontenova 91.74 314 P **P** **02 12 11.0 -6.6**
comp=Z,143nm,4.3s
ESPR Espera 92.06 307 P **P** **02 12 21.0 +1.9**
comp=Z,6.3nm,0.8s,mb5.0
EMIN Mina Concepcio 92.52 308 P **P** **02 12 19.6 -1.6**
comp=Z,3.2nm,2.4s,mb4.3
IMA Indian Mountai 92.54 22 *e*P **P** **02 12 22.9 +2.2**
VNDA Vanda 92.99 168 P **P** **02 12 23.8 +1.2**
comp=Z,2.8nm,1.1s,mb4.6,baz=329,slow=7.6,SNR=6.1
VNDA LR LR 02 52 46.3
comp=Z,567nm,18.3s,MS5.1,baz=301,slow=35
COLA College 95.25 22 *i*P **P** **02 12 31.1 -2.1**
ILAR Eielson Array 95.66 22 PP PP 02 16 25.6 -3.2
comp=Z,0.8nm,1.0s,baz=306,slow=9.5,SNR=4.9
ILAR LR LR 03 00 43.6
comp=Z,352nm,19.4s,MS4.8,baz=322,slow=39
DBIC Dimbokro 96.27 278 P **P** **02 12 40.8 +1.7**
comp=Z,4.6nm,0.9s,mb4.9,baz=61,slow=10,SNR=3.9
DBIC LR LR 02 55 30.4
comp=Z,1μm,18.9s,MS5.4,baz=64,slow=35
RES Resolute Bay 97.76 2 *e*P **P** **02 12 45.7 +1.3**
comp=Z,5.4nm,0.8s,mb5.1
YKA Yellowknife Ar 107.10 13 PP PP 02 17 50.4 -5.8
comp=Z,1.2nm,0.8s,baz=334,slow=7.8,SNR=7.3
TBI Tubuai 118.77 112 *e*PS PS 02 29 05.3 +1.8
TBI *e*LR LR 02 54 34.3
comp=Z,389nm,23.0s
PPT Papeete 118.92 106 *e*PP PP 02 19 22.5 +0.4
PPT *e*PS PS 02 29 09.6 +4.7
PPT *e*LR LR 02 54 33.6
comp=Z,377nm,24.2s
MSO Missoula 120.98 21 *e*PKPdf PKPdf 02 18 02.9 -3.3
CHMT Chamberlain Mo 121.15 20 *e*PKPdf PKPdf 02 18 02.5 -3.9
NVAR Mina Array Bea 126.04 30 PKP PKPdf 02 18 14.9 -1.2
comp=Z,5.0nm,0.7s,baz=271,slow=1.8,SNR=11
PDAR Pinedale Array 126.05 20 PKP PKPdf 02 18 13.2 -2.8
comp=Z,4.7nm,0.9s,baz=60,slow=0.8,SNR=26
PDAR PP PP 02 20 07.1 -2.3
comp=Z,1.6nm,1.1s,baz=315,slow=2.1,SNR=3.7
TAOE Nuku Hiva Isla 128.01 95 *e*LR LR 02 58 51.0
PV10 Paradox Valley 130.11 22 PKPdf PKPdf 02 18 19.0 -5.0
RKT Rikitea 132.01 114 *e*LR LR 03 00 39.0
comp=Z,644nm,36.2s
ANMO Albuquerque 134.10 22 *e*PKPdf PKPdf 02 18 28.7 -2.8
ANMO LR LR
comp=Z,533nm,20.0s,MS5.3
LAZ Ladron 134.33 23 *e*PKPdf PKPdf 02 18 30.2 -1.8
TUC Tucson 134.59 28 *e*PKPdf PKPdf 02 18 30.4 -2.1
BNM Barren Site 134.75 22 PKPdf PKPdf 02 18 29.3 -3.5
GDL2 Guadalupe Moun 137.33 21 *e*PKPdf PKPdf 02 18 35.3 -2.2
MNTX Cornudas Mount 137.41 23 PKPpre 02 18 26.2
MNTX *e*PKPdf PKPdf 02 18 34.3 -3.4
MIAR Mount Ida 137.72 7 *e*PKPdf PKPdf 02 18 33.9 -4.4
TXAR Lajitas Array 140.17 22 PKhKP 02 18 32.2
comp=Z,0.3nm,0.5s,baz=285,slow=0.1,SNR=9.1
TXAR PKP PKPdf 02 18 40.5 -2.3

comp=Z,1.3nm,0.5s,baz=328,slow=1.4,SNR=18
TXAR PP PP 02 21 38.9 -0.7
comp=Z,2.0nm,1.1s,baz=18,slow=4.0,SNR=5.4
TXAR Lajitas Array 140.17 22 PKP PKPdf 02 18 32.2 -11
TXAR PKP PKPdf 02 18 40.5 -2.3
TXAR PP PP 02 21 38.9 -0.7
JCT Junction City 140.39 17 *e*PKPdf PKPdf 02 18 40.7 -2.5
LPAZ La Paz 159.10 244 PKP PKPdf 02 19 11.2 -1.0
comp=Z,2.4nm,0.8s,baz=92,slow=0.4,SNR=5.9
LPAZ PKPab PKPab 02 19 47.8 +1.4
comp=Z,1.8nm,0.8s,baz=65,slow=13,SNR=3.1
ROSC El Rosal 161.89 313 PKP PKPdf 02 19 14.0 -1.2
comp=Z,12nm,1.1s,baz=109,slow=22,SNR=5.7
OTAV Otavalo 168.02 310 *e*PKPdf PKPdf 02 19 17.9 -2.6
OTAV *e*PKPab PKPab 02 20 23.3 -2.0

NEIC 09 02:10:14.4, 59.94N×148.92W, h9km, ML3.2(PMR), ML2.5(AEIC), After AEIC., Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEW	**Seward**	**0.31**	**303**	P	Pg	02 10 21.2	+0.3
SEW				S	Sg	02 10 26.0	+0.8
MPA	**Moose Pass**	**0.60**	**339**	P	Pg	02 10 25.4	-1.0
SLKM	**Skilak Lake**	**0.86**	**312**	P	Pb	02 10 30.0	-1.2
BRLK	**Bradley Lake**	**1.01**	**261**	P	Pb	02 10 32.4	-1.2
RC01	**Rabbit Creek A**	**1.23**	**341**	P	Pb	02 10 35.9	-1.4
RC01				S	Sb	02 10 52.0	-1.0
CNPM	**China Poot**	**1.24**	**252**	P	Pb	02 10 35.6	-2.0
HIN	**Hinchinbrook I**	**1.29**	**68**	P	Pb	02 10 36.8	-1.7
FIB	**Fire Island**	**1.38**	**334**	*e*P	Pn	02 10 38.3	-1.6
PMR	**Palmer**	**1.66**	**357**	P	Pn	02 10 41.9	-2.1
CVA	**Cordova**	**1.70**	**68**	P	Pn	02 10 42.1	-2.4
EYAK	**Cordova Ski Ar**	**1.70**	**67**	P	Pn	02 10 41.9	-2.5
GHO	**Glory Hole Cre**	**1.84**	**360**	P	Pn	02 10 44.7	-1.8
SML	**Sawmill**	**1.90**	**8**	P	Pn	02 10 45.2	-2.1
DIV	**Divide**	**1.96**	**51**	P	Pn	02 10 46.3	-2.0
RSO	**Redoubt South**	**1.98**	**287**	*e*P	Pn	02 10 44.6	-3.9
SPU	**Mount Spurr**	**1.99**	**310**	*e*P	Pn	02 10 46.7	-1.9
RDN	**Redoubt North**	**2.00**	**288**	P	Pn	02 10 46.5	-2.3
SCM	**Sheep Creek Mo**	**2.06**	**22**	P	Pn	02 10 47.8	-1.8
NCT	**North Crescent**	**2.10**	**289**	P	Pn	02 10 48.0	-2.1
STLK	**Strandline Lak**	**2.12**	**319**	P	Pn	02 10 49.2	-1.3
GLB	**Gilahina Butte**	**2.93**	**57**	P	Pn	02 10 59.6	-2.5
BALM	**Baldy**	**3.44**	**68**	P	Pn	02 11 06.0	-3.3
YAH	**Yahtse**	**3.61**	**80**	P	Pn	02 11 08.8	-3.0
THY	**Trims Highway**	**3.81**	**22**	P	Pn	02 11 11.6	-2.9
MCK	**McKinley**	**3.81**	**360**	*e*P	Pn	02 11 13.0	-1.5
MENT	**Mentasta**	**3.91**	**37**	*e*P	Pn	02 11 13.7	-2.3
CCB	**Clear Creek Bu**	**4.76**	**6**	P	Pn	02 11 25.4	-2.6
IL1	**Eielson Array**	**4.95**	**10**	P	Pn	02 11 27.8	-2.8
COLA	**College**	**4.98**	**5**	*e*P	Pn	02 11 28.4	-2.8
INK	**Inuvik**	**10.72**	**32**	*e*P	P	02 12 44.7	-6.3

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*IDC **09** 02:10:42.7±0.9, 7.33N×92.13E, mb4.0/11, mb1 4.2/12, mb1mx4.2/19, mbtmp4.0/12, ML4.5/1, Error ellipse: s-maj=37.3km s-min=18.7km az=48.0*
*NEIC **09** 02:10:47.3±0.5, 7.36N×92.15E, h30km, mb4.2/4, Error ellipse: s-maj=17.3km s-min=11.1km az=55.0*
ISC 09 02:10:46.0±0.7, 7.4N±0.1×92.2E±0.1, h33km, n20, σ0§85/18, mb4.0/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.81**	**30**	Pn	**P**	**02 13 49.0**	**+0.4**
0.8nm,0.3s,baz=231,slow=15,SNR=25							
HYB	**Hyderabad**	**16.64**	**308**	*e*P	**P**	**02 14 43.0**	**+4.6**
HYB	**Hyderabad**	**16.64**	**308**	*i* P	**P**	**02 14 43.0**	**+4.6**
AAK	**Ala-Archa**	**38.43**	**339**	*e*P	**P**	**02 18 05.2**	**-1.1**
3.5nm,1.0s,mb4.0							
SONM	**Songino Array**	**42.08**	**14**	P	**P**	**02 18 36.5**	**+0.1**
3.7nm,1.2s,mb3.9,baz=194,slow=7.1,SNR=8.5							
ULN	**Ulaanbaatar**	**42.28**	**15**	P	**P**	**02 18 37.7**	**-0.4**
0.8nm,0.7s,mb3.5							
ZAL	**Zalesovo**	**46.81**	**354**	P	**P**	**02 19 13.9**	**-0.4**
0.5nm,0.3s,mb3.9,baz=105,slow=8.6,SNR=3.0							
BVAR	**Borovoye Array**	**48.86**	**343**	P	**P**	**02 19 30.3**	**-0.1**
0.6nm,0.5s,mb3.9,baz=144,slow=13,SNR=3.8							
CHKZ	**Chkalovo**	**49.37**	**343**	*e*P	**P**	**02 19 33.9**	**-0.3**
2.5nm,0.4s,mb4.6							
WRA	**Warramunga Arr**	**49.55**	**124**	P	**P**	**02 19 35.8**	**-0.3**
3.7nm,1.0s,mb4.4,baz=303,slow=8.7,SNR=12							
WRAB	**Tennant Creek**	**49.56**	**124**	*e*P	**P**	**02 19 35.7**	**-0.4**
1.3nm,0.4s,mb4.3							
ASAR	**Alice Springs**	**51.09**	**128**	P	**P**	**02 19 47.8**	**0.0**
1.8nm,0.5s,mb4.2,baz=301,slow=7.6,SNR=34							
BRTR	**Keskin Array B**	**61.31**	**311**	P	**P**	**02 20 58.6**	**-2.2**
0.6nm,1.0s,mb3.7,baz=117,slow=8.3,SNR=4.1							
MLR	**Muntele Rosu**	**68.19**	**316**	P	**P**	**02 21 45.7**	**+0.5**
1.4nm,0.5s,mb4.2,baz=141,slow=20,SNR=3.2							
FINES	**FINESS Array B**	**72.26**	**333**	P	**P**	**02 22 09.6**	**0.0**
3.1nm,0.9s,mb4.2,baz=72,slow=6.0,SNR=7.6							
GERES	**GERESS Array B**	**76.92**	**318**	P	**P**	**02 22 37.7**	**+0.8**
0.8nm,0.6s,mb3.9,baz=90,slow=5.3,SNR=9.1							
ESDC	**Sonseca Array**	**90.07**	**310**	P	**P**	**02 23 46.1**	**+2.0**
0.6nm,0.6s,mb4.1,baz=63,slow=3.9,SNR=4.8							
ILAR	**Eielson Array**	**95.91**	**22**	P	**P**	**02 24 11.2**	**+1.0**
0.2nm,0.6s,mb3.7,baz=305,slow=4.5,SNR=4.5							
PDAR	**Pinedale Array**	**126.30**	**20**	PKP	PKPdf	02 29 47.4	+1.6
0.3nm,0.5s,baz=225,slow=2.1,SNR=3.6							
TXAR	**Lajitas Array**	**140.43**	**22**	PKP	PKPdf	02 30 16.1	+3.6
0.2nm,0.6s,baz=81,slow=0.7,SNR=4.6							

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*BJI **09** 02:18:06.9, 5.10N×95.00E, h48km, mb4.9*
*IDC **09** 02:18:06.5±1.0, 4.99N×94.77E, h48km±6km, mb4.0/9, mb1 4.2/10, mb1mx4.0/18, mbtmp4.3/10, Error ellipse: s-maj=38.4km s-min=16.5km az=50.0*
*NEIC **09** 02:18:06.9±0.6, 5.09N×94.97E, mb4.5/7, Error ellipse: s-maj=18.2km s-min=10.5km az=222.0*
ISC 09 02:18:05.0±0.7, 5.0N±0.1×95.0E±0.1, h48km, h48km±.8km: pP-P, n31, σ0§93/30, mb4.5/23, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.90**	**16**	P	**P**	**02 21 25.9**	**+4.8**
0.6nm,0.3s,baz=209,slow=11,SNR=9.1							
CMAR				pP		02 21 29.6	
0.6nm,0.3s,baz=215,slow=13,SNR=9.6							
PALK	**Pallekele**	**14.35**	**280**	P	**P**	**02 21 27.9**	**+0.7**
PALK				*e*S	**S**	**02 23 48.8**	**-17**
JIRN	**Jiri**	**24.00**	**341**	*e*P	**P**	**02 23 17.0**	**+0.7**
20nm,0.6s,mb4.8							
PKI	**Pulchoki**	**24.19**	**339**	*e*P	**P**	**02 23 18.4**	**+0.3**
7.6nm,0.5s,mb4.4							
DMN	**Daman**	**24.33**	**338**	*e*P	**P**	**02 23 20.9**	**+1.4**
GUN	**Gumba**	**24.34**	**340**	*e*P	**P**	**02 23 19.4**	**-0.2**
23nm,0.6s,mb4.8							
KKN	**Kakani**	**24.43**	**339**	*e*P	**P**	**02 23 20.7**	**+0.2**
14nm,0.7s,mb4.5							
LSA	**Lhasa**	**24.80**	**352**	*e*P	**P**	**02 23 25.5**	**+1.5**
6.4nm,0.5s,mb4.4							
GKN	**Gorkha**	**24.86**	**338**	*e*P	**P**	**02 23 24.9**	**+0.2**
16nm,0.6s,mb4.7							
KOLN	**Koldanda**	**25.06**	**336**	*e*P	**P**	**02 23 26.8**	**+0.2**
18nm,0.6s,mb4.8							
XAN	**Xi'an**	**31.64**	**22**	P	**P**	**02 24 25.3**	**-0.6**
XAN				AMB	AMB		
comp=Z,15nm,0.7s,mb4.9							
AAK	**Ala-Archa**	**41.62**	**337**	*e*P	**P**	**02 25 49.5**	**-0.6**
comp=Z,1.9nm,0.8s,mb3.8							
SONM	**Songino Array**	**43.76**	**11**	P	**P**	**02 26 07.5**	**0.0**
comp=Z,4.2nm,1.1s,mb4.1,baz=190,slow=8.2,SNR=20							
SONM				PcP	PcP	02 27 53.3	-0.8
comp=Z,1.0nm,0.6s,baz=194,slow=3.4,SNR=6.7							
SONM				pPcP		02 28 08.2	
comp=Z,0.5nm,0.6s,baz=180,slow=4.5,SNR=3.7							
ULN	**Ulaanbaatar**	**43.91**	**12**	*e*P	**P**	**02 26 08.1**	**-0.7**
comp=Z,1.6nm,0.6s,mb3.9							
WRA	**Warramunga Arr**	**45.98**	**124**	P	**P**	**02 26 26.2**	**+0.5**
comp=Z,3.3nm,0.6s,mb4.4,baz=304,slow=9.2,SNR=18							
WRAB	**Tennant Creek**	**45.99**	**124**	*e*P	**P**	**02 26 26.0**	**+0.3**
comp=Z,6.0nm,0.6s,mb4.7							
ASAR	**Alice Springs**	**47.50**	**129**	P	**P**	**02 26 37.8**	**+0.3**
comp=Z,1.9nm,0.5s,mb4.3,baz=299,slow=8.0,SNR=38							
ZAL	**Zalesovo**	**49.45**	**352**	P	**P**	**02 26 51.9**	**-0.4**
comp=Z,3.4nm,0.4s,mb4.7,baz=300,slow=5.7,SNR=20							
BVAR	**Borovoye Array**	**51.92**	**341**	P	**P**	**02 27 10.1**	**-0.9**
comp=Z,3.4nm,0.6s,mb4.5,baz=141,slow=9.5,SNR=21							
BVAR				pP	pP	02 27 23.2	-0.9
comp=Z,1.0nm,0.6s,baz=140,slow=12,SNR=6.9							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRVK	**Borovoye**	**51.98**	**341**	*e*P	**P**	**02 27 10.4**	**-1.0**
comp=Z,3.3nm,0.5s,mb4.5							
CHKZ	**Chkalovo**	**52.41**	**342**	*e*P	**P**	**02 27 14.0**	**-0.6**
comp=Z,10nm,0.6s,mb4.9							
CHKZ				*e*	pP	02 27 27.0	-0.8
KIV	**Kislovodsk**	**59.97**	**319**	P	**P**	**02 28 11.0**	**+2.1**
comp=Z,1.9nm,0.4s,mb4.5							
BRTR	**Keskin Array B**	**64.90**	**312**	P	**P**	**02 28 40.0**	**-1.8**
comp=Z,1.4nm,0.6s,mb4.2,baz=131,slow=7.2,SNR=12							
FINES	**FINESS Array B**	**75.59**	**332**	P	**P**	**02 29 45.2**	**-1.1**
comp=Z,1.3nm,0.5s,mb4.1,baz=99,slow=6.3,SNR=15							
FINES				pP	pP	02 29 59.6	-0.5
comp=Z,0.9nm,0.4s,baz=96,slow=6.4,SNR=1.6							
FINES	**FINESS Array B**	**75.59**	**332**	P	**P**	**02 29 45.2**	**-1.1**
FINES				pP	pP	02 29 59.6	-0.5
ARCES	**ARCESS Array B**	**78.20**	**340**	P	**P**	**02 30 00.8**	**+0.1**
comp=Z,1.2nm,0.5s,mb4.1,baz=90,slow=6.1,SNR=15							
ARCES				pP	pP	02 30 14.8	+0.2
comp=Z,2.1nm,0.7s,baz=93,slow=7.1,SNR=1.6							
ARCES	**ARCESS Array B**	**78.20**	**340**	P	**P**	**02 30 00.8**	**+0.1**
ARCES				pP	pP	02 30 14.8	+0.2
GERES	**GERESS Array B**	**80.48**	**319**	P	**P**	**02 30 13.5**	**+0.1**
comp=Z,2.2nm,0.6s,mb4.3,baz=98,slow=5.6,SNR=23							
GERES				pP	pP	02 30 27.2	-0.2
comp=Z,0.8nm,0.5s,baz=124,slow=4.8,SNR=3.9							
KHC	**Kasperske Hory**	**80.57**	**319**	*e*P	**P**	**02 30 13.5**	**-0.5**
TXAR	**Lajitas Array**	**141.43**	**27**	PKhKP		02 37 29.7	
comp=Z,0.1nm,0.4s,baz=306,slow=0.4,SNR=3.6							
TXAR				PKP	PKPdf	02 37 34.5	+3.0
comp=Z,0.1nm,0.5s,baz=61,slow=2.6,SNR=4.1							
TXAR	**Lajitas Array**	**141.43**	**27**	PKP	PKPdf	02 37 29.7	-1.8
TXAR				PKP	PKPdf	02 37 34.5	+3.0

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*IGQ **09** 02:36:02.5, 1.49S×81.27W, h5km±18km, mb4.8, Error ellipse: s-maj=18.3km s-min=5.3km az=166.8*
*NEIC **09** 02:36:11.9±0.8, 1.48S×80.95W, h40km±8km, mb4.1/9, MD4.8(IGQ), Error ellipse: s-maj=9.0km s-min=6.0km az=221.0*
NEIC Felt lightly at Bahia de Caraquez and Portoviejo.
*IDC **09** 02:36:14.5±4.5, 1.41S×80.90W, h63km±41km, mb3.7/9, mb1 4.0/12, mb1mx3.8/21, mbtmp4.1/12, ML3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/19, Error ellipse: s-maj=39.6km s-min=15.3km az=55.0*
ISC 09 02:36:06.0±1.3, 1.53S±0.06×81.17W±0.03, h8km±9km, n54, σ1§04/63, mb3.9/16, 3C-2D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.53**	**89**	⇓P	**Pn**	**02 36 47.7**	**-0.3**
CUSU	**Cusua**	**2.69**	**88**	P	**Pn**	**02 36 50.8**	**+0.6**
CUSU				S	**Sn**	**02 37 23.4**	**+0.1**
JUIV	**Juive**	**2.70**	**88**	P	**Pn**	**02 36 50.5**	**0.0**
JUIV				S	**Sn**	**02 37 23.9**	**+0.1**
ARRY	**Arrayan**	**2.71**	**90**	⇓P	**Pn**	**02 36 50.3**	**-0.3**
RETU	**Refugio**	**2.72**	**88**	⇑P	**Pn**	**02 36 51.3**	**+0.6**
RETU				S	**Sn**	**02 37 24.9**	**+0.7**
PATA	**Patacocha**	**2.73**	**89**	P	**Pn**	**02 36 51.6**	**+0.7**
PATA				S	**Sn**	**02 37 24.4**	**-0.1**
RUN2	**Runtun**	**2.75**	**88**	P	**Pn**	**02 36 51.3**	**+0.1**
RUN2				S	**Sn**	**02 37 25.5**	**+0.5**
ULBA	**Ulba**	**2.76**	**88**	P	**Pn**	**02 36 51.8**	**+0.5**
ULBA				S	**Sn**	**02 37 25.3**	**+0.2**
MARY	**Rancho Maria**	**2.79**	**74**	P	**Pn**	**02 36 52.9**	**+1.1**
PISA	**Pisayambo**	**2.82**	**80**	P	**Pn**	**02 36 52.4**	**+0.3**
NAS1	**Nasa**	**2.83**	**72**	P	**Pn**	**02 36 52.2**	**-0.1**
JUA2	**San Juan 2**	**2.87**	**63**	⇑P	**Pn**	**02 36 52.1**	**-0.8**
TERV	**Terraza Guagua**	**2.89**	**62**	P	**Pn**	**02 36 52.0**	**-1.2**
PINO	**Pino**	**2.90**	**62**	P	**Pn**	**02 36 52.0**	**-1.3**
VC1	**Cotopaxi 1**	**2.90**	**72**	P	**Pn**	**02 36 53.4**	**+0.1**
GGP	**Refugio Guagua**	**2.90**	**62**	P	**Pn**	**02 36 53.6**	**+0.3**
GGP				S	**Sn**	**02 37 31.5**	**+2.8**
TAMB	**Tambo**	**2.92**	**73**	P	**Pn**	**02 36 53.6**	**0.0**
YANA	**Yana**	**2.95**	**62**	⇑P	**Pn**	**02 36 52.5**	**-1.5**
ANTI	**Antisana**	**3.19**	**70**	P	**Pn**	**02 36 57.3**	**-0.1**
OTAV	**Otavalo**	**3.23**	**57**	*e*Pn	**Pn**	**02 36 56.1**	**-2.0**
OTAV				*e*Sn	**Sn**	**02 37 35.7**	**-1.4**
COTA	**Cotacachi**	**3.38**	**57**	P	**Pn**	**02 36 59.9**	**-0.3**
CAYR	**Refugio Cayamb**	**3.51**	**64**	P	**Pn**	**02 37 03.4**	**+1.4**
CAYR				S	**Sn**	**02 37 48.1**	**+3.9**
CAYA	**Cayambe**	**3.55**	**63**	P	**Pn**	**02 37 03.5**	**+1.0**
CAYA				S	**Sn**	**02 37 49.8**	**+4.6**
CONE	**Cono NE Rev Vo**	**3.81**	**68**	P	**Pn**	**02 37 08.4**	**+2.1**
PAYG	**Puerto Ayora**	**9.16**	**275**	*e*P	**P**	**02 38 24.0**	**+2.6**
ROSC	**El Rosal**	**9.32**	**47**	P	**P**	**02 38 22.5**	**-1.1**
2.0nm,0.3s,baz=187,slow=2.1,SNR=7.5							
JTS	**JuntasAbangare**	**12.33**	**342**	P	**P**	**02 39 05.3**	**+0.3**
SDV	**Santo Domingo**	**14.74**	**45**	P	**P**	**02 39 38.3**	**+1.5**
baz=250,slow=10,SNR=25							
SDV				LR	LR	02 45 12.1	
comp=Z,140nm,19.0s,baz=304,slow=37							
SDV	**Santo Domingo**	**14.74**	**45**	*e*Pn	**P**	**02 39 36.3**	**-0.5**
SDV				*e*P		02 39 41.7	
SDV				LR	LR	02 45 12.1	
LPAZ	**La Paz**	**19.49**	**140**	P	**P**	**02 40 36.0**	**-0.4**
0.5nm,0.3s,baz=320,slow=10,SNR=18							
LVC	**Limon Verde**	**24.10**	**151**	P	**P**	**02 41 25.3**	**+2.1**
7.1nm,0.7s,mb4.2,baz=302,slow=7.5,SNR=12							
LVC	**Limon Verde**	**24.10**	**151**	*e*P	**P**	**02 41 24.8**	**+1.5**
9.2nm,0.9s,mb4.2							
SJG	**San Juan**	**24.48**	**36**	*e*P	**P**	**02 41 25.9**	**-1.0**
11nm,0.7s,mb4.4							
BDFB	**Brasilia**	**35.57**	**115**	P	**P**	**02 43 03.8**	**-2.2**
3.6nm,0.8s,mb4.4,baz=258,slow=11,SNR=6.8							
BAO	**Brasilia Array**	**35.58**	**115**	P	**P**	**02 43 03.8**	**-2.4**
TXAR	**Lajitas Array**	**37.49**	**327**	P	**P**	**02 43 22.5**	**+0.4**
0.6nm,0.8s,mb3.5,baz=151,slow=9.3,SNR=7.5							
TXAR				PcP	PcP	02 45 40.0	-0.9
0.6nm,0.7s,baz=152,slow=6.4,SNR=6.3							
WMOK	**Wichita Mounta**	**39.68**	**337**	P	**P**	**02 43 41.5**	**+1.1**
0.9nm,0.6s,mb3.7							
MNTX	**Cornudas Mount**	**40.25**	**327**	*e*P	**P**	**02 43 46.9**	**+1.8**
1.6nm,0.7s,mb3.9							
TRQA	**Tornquist**	**40.40**	**156**	*e*P	**P**	**02 43 45.9**	**-0.3**
0.4nm,0.4s,mb3.5							
KSU1	**Kansas State U**	**42.85**	**342**	*e*P	**P**	**02 44 06.3**	**-0.1**
ANMO	**Albuquerque**	**43.34**	**329**	*e*P	**P**	**02 44 11.3**	**+0.9**
2.1nm,0.8s,mb3.9							
SDCO	**Great Sand Dun**	**45.10**	**333**	*e*P	**P**	**02 44 24.5**	**-0.2**
5.5nm,0.9s,mb4.4							
PDAR	**Pinedale Array**	**50.98**	**333**	P	**P**	**02 45 10.8**	**+0.5**
0.3nm,0.7s,mb3.3,baz=143,slow=7.4,SNR=3.6							
NVAR	**Mina Array Bea**	**52.45**	**323**	P	**P**	**02 45 20.9**	**-0.6**
3.3nm,1.1s,mb4.2,baz=139,slow=8.3,SNR=2.5							
BOZ	**Bozeman (W)**	**54.16**	**334**	*e*P	**P**	**02 45 34.1**	**+0.2**
2.2nm,0.9s,mb4.1							
EDM	**Edmonton**	**60.82**	**338**	*e*P	**P**	**02 46 19.6**	**-1.3**
EDM				*e*	pP	02 46 24.0	+0.5
YKA	**Yellowknife Ar**	**68.67**	**344**	P	**P**	**02 47 10.7**	**-1.1**
1.4nm,0.9s,mb3.9,baz=137,slow=5.8,SNR=15							
YKA	**Yellowknife Ar**	**68.67**	**344**	P	**P**	**02 47 10.7**	**-1.1**
DBIC	**Dimbokro**	**76.59**	**83**	P	**P**	**02 47 57.5**	**-2.0**
3.1nm,0.8s,mb4.3,baz=217,slow=10,SNR=7.7							
DBIC	**Dimbokro**	**76.59**	**83**	P	**P**	**02 47 57.5**	**-2.0**
INK	**Inuvik**	**78.32**	**343**	P	**P**	**02 48 08.0**	**0.0**
1.6nm,0.9s,mb4.0,baz=109,slow=9.5,SNR=3.3							
INK	**Inuvik**	**78.32**	**343**	*e*P	**P**	**02 48 07.7**	**-0.3**
2.5nm,0.9s,mb4.1							
ILAR	**Eielson Array**	**81.25**	**337**	P	**P**	**02 48 23.6**	**-0.1**
0.4nm,0.8s,mb3.4,baz=152,slow=4.6,SNR=1.3							
ENH	**Enshi**	**149.68**	**342**	*e*PKPbc	PKPdf	02 55 57.3	+2.2

IGQ 09 02:43:12.1, 1.75S×81.26W, h5km±34km, mb4.2, 1C, Error ellipse: s-maj=33.4km s-min=14.0km az=160.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.63**	**84**	P	Pn	02 43 57.7	+1.6
IGUA				S	Sn	02 44 29.7	+0.9
ARRY	**Arrayan**	**2.82**	**85**	⇑P	Pn	02 43 60.0	+1.3
ARRY				S	Sn	02 44 31.9	-1.5
PISA	**Pisayambo**	**2.96**	**77**	P	Pn	02 44 03.7	+3.1
NAS1	**Nasa**	**3.00**	**68**	P	Pn	02 44 03.3	+2.1
JUA2	**San Juan 2**	**3.06**	**60**	P	Pn	02 44 02.7	+0.5
VC1	**Cotopaxi 1**	**3.06**	**69**	P	Pn	02 44 05.0	+2.8
TAMB	**Tambo**	**3.08**	**70**	P	Pn	02 44 05.7	+3.3
TERV	**Terraza Guagua**	**3.08**	**60**	P	Pn	02 44 03.2	+0.7
PINO	**Pino**	**3.09**	**59**	P	Pn	02 44 02.9	+0.4
YANA	**Yana**	**3.14**	**59**	P	Pn	02 44 02.7	-0.6
ANTI	**Antisana**	**3.36**	**67**	P	Pn	02 44 09.3	+3.0
ANTI				S	Sn	02 44 50.9	+3.7
COTA	**Cotacachi**	**3.58**	**55**	P	Pn	02 44 10.8	+1.3
CAYR	**Refugio Cayamb**	**3.70**	**62**	P	Pn	02 44 14.2	+3.0
CAYR				S	Sn	02 45 02.2	+6.5
CAYA	**Cayambe**	**3.74**	**61**	P	Pn	02 44 14.5	+2.8
CAYA				S	Sn	02 45 02.8	+6.0

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*IDC **09** 02:45:06.1±1.3, 3.67N×95.98E, mb4.0/7, mb1 4.2/8, mb1mx4.0/17, mbtmp4.0/8, ML4.2/1, Error ellipse: s-maj=57.8km s-min=19.4km az=54.0*
*NEIC **09** 02:45:10.7±0.7, 3.74N×96.08E, h30km, mb4.1/4, Error ellipse: s-maj=26.1km s-min=10.3km az=62.0*
ISC 09 02:45:08.8±1.0, 3.7N±0.1×96.1E±0.2, h30km, n15, σ0§45/15, mb4.1/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.89**	**11**	Pn	**P**	**02 48 39.4**	**+0.1**
0.4nm,0.3s,baz=200,slow=11,SNR=8.6							
HYB	**Hyderabad**	**21.90**	**310**	*i* P	**P**	**02 50 06.5**	**+5.1**
SHL	**Shillong**	**22.07**	**350**	*e*P	**P**	**02 49 57.5**	**-5.6**
LSA	**Lhasa**	**26.23**	**350**	*e*P	**P**	**02 50 42.3**	**-0.9**
8.7nm,1.3s,mb4.1							
WRA	**Warramunga Arr**	**44.35**	**124**	P	**P**	**02 53 18.2**	**-0.3**
2.8nm,0.5s,mb4.2,baz=301,slow=9.2,SNR=12							
WRAB	**Tennant Creek**	**44.36**	**124**	*e*P	**P**	**02 53 18.2**	**-0.4**
22nm,1.2s,mb4.8							
SONM	**Songino Array**	**44.82**	**10**	P	**P**	**02 53 22.2**	**+0.3**
0.5nm,0.5s,mb3.6,baz=184,slow=9.6,SNR=5.2							
ULN	**Ulaanbaatar**	**44.96**	**10**	*e*P	**P**	**02 53 22.9**	**-0.2**
0.6nm,0.5s,mb3.7							
ASAR	**Alice Springs**	**45.84**	**128**	P	**P**	**02 53 30.9**	**+0.6**
1.7nm,0.5s,mb4.3,baz=301,slow=8.0,SNR=24							
ZAL	**Zalesovo**	**50.88**	**351**	P	**P**	**02 54 09.6**	**+0.5**
1.3nm,0.3s,mb4.3,baz=94,slow=4.3,SNR=3.0							
ZAL	**Zalesovo**	**50.88**	**351**	P	**P**	**02 54 09.6**	**+0.5**
BVAR	**Borovoye Array**	**53.49**	**341**	P	**P**	**02 54 28.6**	**0.0**
0.7nm,0.8s,mb3.7,baz=129,slow=9.2,SNR=4.5							
CHKZ	**Chkalovo**	**53.97**	**342**	*e*P	**P**	**02 54 26.7**	**-5.4**
1.6nm,0.8s,mb4.0							
BRTR	**Keskin Array B**	**66.58**	**312**	P	**P**	**02 55 58.4**	**-0.2**
0.9nm,1.0s,mb3.8,baz=124,slow=7.4,SNR=3.9							
ARCES	**ARCESS Array B**	**79.78**	**340**	P	**P**	**02 57 15.9**	**+0.5**
4.1nm,1.0s,mb4.3,baz=108,slow=8.6,SNR=3.0							

IDC 09 02:52:13.9±53.0, 19.57S×178.78W, mb4.1/3, mb1 4.3/3, mb1mx3.8/13, mbtmp4.1/3, Error ellipse: s-maj=970.3km s-min=161.4km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.55**	**243**	P	P	02 59 30.2	-1.5
0.6nm,0.4s,baz=90,slow=12,SNR=2.9							
WRA	**Warramunga Arr**	**44.01**	**261**	P	P	03 00 23.6	-1.5
1.2nm,0.3s,baz=97,slow=7.6,SNR=16							
ASAR	**Alice Springs**	**44.03**	**256**	P	P	03 00 23.1	-2.1
1.4nm,0.4s,baz=95,slow=7.5,SNR=30							

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*TAP **09** 02:53:34.8, 24.78N×122.37E, h4km±1km, ML3.3*
JMA 09 02:53:34.4±0.4, 24.38N×122.35E, h9km, M2.7, Taiwan region

| Code | Station Name | Δ° | AZ° | Phase ID Op |

TGY Tagaytay City 27.42 70 P **P** **03 08 36.3 +1.2**
comp=Z,61nm,0.3s,mb5.6,baz=152,slow=5.0,SNR=3.1
ENH Enshi 28.51 28 *eP* **P** **03 08 44.1 -0.7**
comp=Z,19nm,0.5s,mb5.1
LZH Lanzhou 31.76 14 P **P** **03 09 13.0 -0.5**
LZH AP pP 03 09 26.4 +0.4
LZH AMB AMB
comp=Z,30nm,1.0s,mb5.1
LZH LR LR
comp=N,2µm,12.9s
LZH LR LR
comp=Z,2µm,13.4s,MS5.0
NJ2 Nanjing 34.98 38 *eP* **P** **03 09 43.0 +1.6**
NJ2 AP pP 03 09 52.8 -1.2
NJ2 PP PP 03 11 00.3 -0.2
NJ2 S **S** **03 15 10.0 +1.0**
NJ2 XS 03 15 32.0
NJ2 AMB AMB
comp=Z,150nm,1.0s,mb5.9
NJ2 AMB AMB
comp=Z,1µm,3.8s
NJ2 LR LR
comp=N,520nm,17.0s
NJ2 LR LR
comp=E,690nm,10.6s
NJ2 LR LR
comp=Z,870nm,12.8s,MS4.7
SSE Sheshan 35.81 41 P **P** **03 09 44.2 -4.3**
SSE S **S** **03 15 19.7 -2.1**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,104nm,4.8s
SSE LR LR
comp=N,107nm,21.1s,MS3.8
SSE LR LR
comp=E,159nm,21.1s,MS3.8
SSE LR LR
comp=Z,218nm,20.8s,MS3.9
MBWA Marble Bar 36.14 138 *eP* **P** **03 09 50.9 -0.5**
FITZ Fitzroy Crossi 38.55 128⇑*iP* **P** **03 10 11.0 -0.5**
comp=Z,20nm,0.8s,mb4.9
WMQ Urumqi 38.77 352 P **P** **03 10 14.4 +1.3**
BJT Baijiatuau 39.63 26 *eP* **P** **03 10 22.2 +1.9**
comp=Z,16nm,0.6s,mb4.9
UCH Uchtor 40.80 337 P **P** **03 10 30.9 +1.0**
SNR=13
TKM2 Tokmak 2 40.99 339 P **P** **03 10 32.2 +0.7**
SNR=9.7
KBK Karagaybulak 41.00 338 P **P** **03 10 33.0 +1.4**
SNR=22
AML Almayashu 41.04 336 P **P** **03 10 33.2 +1.3**
SNR=20
AAK Ala-Archa 41.15 337 *i* P **P** **03 10 32.0 -0.9**
AAK pmax pmax
comp=Z,6.0nm,1.6s,mb4.0
AAK Ala-Archa 41.15 337 *eP* **P** **03 10 32.2 -0.7**
comp=Z,5.2nm,0.6s,mb4.3
FRU Bishkek 41.28 338 *eP* **P** **03 10 38.0 +4.1**
FRU *e* 03 10 57.0
EKS2 Erkin-Say 41.45 337 P **P** **03 10 36.4 +1.1**
SNR=8.4
USP Ospenovka 41.69 338 P **P** **03 10 37.6 +0.2**
SNR=11
KAKA Kakadu 41.74 116 *eP* **P** **03 10 37.0 -1.1**
comp=Z,9.6nm,0.5s,mb4.7
MK02 Makanchi Array 42.58 348 P **P** **03 10 44.9 +0.3**
MK02 pmax pmax
comp=Z,30nm,0.6s,mb5.2
SONM Songino Array 43.53 12 P **P** **03 10 52.4 +0.1**
comp=Z,10nm,0.7s,mb4.7,baz=192,slow=8.3,SNR=106
SONM pP pP 03 11 04.7 -0.4
comp=Z,18nm,1.0s,baz=193,slow=7.5,SNR=16
SONM PcP PcP 03 12 40.1 +0.1
comp=Z,5.8nm,0.6s,baz=194,slow=3.7,SNR=16
SONM ScP 03 16 27.5
comp=Z,1.0nm,0.8s,baz=183,slow=2.5,SNR=4.9
ULN Ulaanbaatar 43.69 12⇑*iP* **P** **03 10 53.3 -0.3**
ULN Ulaanbaatar 43.69 12 *eP* **P** **03 10 53.3 -0.3**
comp=Z,6.4nm,0.6s,mb4.5
NWAO Narrogin (SRO) 43.76 152 P **P** **03 10 52.4 -2.0**
comp=Z,13nm,1.1s,mb4.6
ZAK Zakamensk 45.47 8 *eP* **P** **03 11 07.6 -0.2**
ZAK *e* 03 12 45.2
WRA Warramunga Arr 46.53 124 P **P** **03 11 16.8 +0.2**
comp=Z,27nm,0.7s,mb5.3,baz=302,slow=9.1,SNR=96
WRAB Tennant Creek 46.53 124*c iP* **P** **03 11 16.7 +0.1**
WRAB Tennant Creek 46.53 124 *eP* **P** **03 11 16.6 0.0**
comp=Z,48nm,0.8s,mb5.5
WB2 Warramunga Arr 46.54 124 *eP* **P** **03 11 16.9 +0.3**
TLY Talaya 46.79 8 *i P* **P** **03 11 16.9 -1.3**
TLY pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
ASPA Alice Springs 48.04 129⇑*iP* **P** **03 11 28.3 -0.1**
ASAR Alice Springs 48.04 129 P **P** **03 11 28.4 0.0**
comp=Z,4.6nm,0.4s,mb4.8,baz=299,slow=7.6,SNR=88
ASAR PcP PcP 03 12 56.1 0.0
comp=Z,2.3nm,0.5s,baz=312,slow=2.7,SNR=3.9
HIA Hailar 48.69 22 *eP* **P** **03 11 33.0 -0.1**
comp=Z,7.0nm,0.6s,mb4.9
HIA *e* pP 03 11 44.7 -1.2
ZAL Zalesovo 49.07 352 P **P** **03 11 36.0 0.0**
comp=Z,20nm,0.7s,mb5.3,baz=300,slow=5.6,SNR=97
ZAL pP pP 03 11 47.5 -1.4
comp=Z,10nm,0.8s,baz=309,slow=10,SNR=6.7
ZAL Zalesovo 49.07 352 P **P** **03 11 36.0 0.0**
ZAL pP pP 03 11 47.5 -1.4
NVS Novosibirsk 50.17 352 *i* P **P** **03 11 43.4 -1.0**
NVS *i* *PP pP 03 11 55.9 -1.4
NVS pmax pmax
comp=Z,43nm,1.7s,mb5.2
NVS pmax pmax
comp=E,14nm,1.0s
NVS pmax pmax
comp=N,24nm,1.3s
BVAR Borovoye Array 51.48 342 P **P** **03 11 53.7 -0.6**
comp=N,9.4nm,0.5s,mb5.0,baz=141,slow=9.5,SNR=100
BVAR pP pP 03 12 06.6 -0.7
comp=N,20nm,1.0s,baz=135,slow=6.3,SNR=6.9
BRVK Borovoye 51.54 342 P **P** **03 11 54.1 -0.7**
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BRVK Borovoye 51.54 342 *eP* **P** **03 11 53.2 -1.6**
comp=Z,12nm,0.6s,mb5.0
CHKZ Chkalovo 51.97 342 *i P* **P** **03 11 57.8 -0.1**
CHKZ pmax pmax
comp=Z,20nm,0.7s,mb5.2
CHKZ Chkalovo 51.97 342⇑*iP* **P** **03 11 57.7 -0.3**
comp=Z,29nm,0.6s,mb5.4
CHKZ *e* pP 03 12 09.8 -1.1
KLR Kul'dur 53.86 29 *eP* **P** **03 12 10.2 -1.9**
PMG Port Moresby 54.47 105 P **P** **03 12 17.8 +0.7**
comp=Z,8.6nm,0.5s,mb5.0,baz=179,slow=8.4,SNR=4.4
PMG ScP 03 17 13.7
comp=Z,25nm,1.1s,baz=230,slow=13,SNR=3.1
PMG Port Moresby 54.47 105 P **P** **03 12 17.7 +0.7**
comp=Z,35nm,1.2s,mb5.2
PMG ScP 03 17 13.7
BOD Bodaibo 54.50 13 *eP* **P** **03 12 14.8 -1.9**
BOD *e* pP 03 12 26.7 -3.1
GNI Garni 56.47 315 *i P* **P** **03 12 30.1 -1.0**
GNI pmax pmax
comp=Z,11nm,1.3s
GNI Garni 56.47 315 P **P** **03 12 30.9 -0.2**
comp=Z,5.0nm,0.7s,mb4.7,baz=48,slow=8.5,SNR=5.3
CTAO Charters Tower 56.77 118 *eP* **P** **03 12 33.8 +0.2**
comp=Z,1.4nm,0.4s,mb4.3
ASAJ Asahikawa 57.08 40 LR LR 03 38 01.5
comp=Z,154nm,18.6s,MS4.1,baz=17,slow=37
KMBO Kilima Mbogo 57.56 265 *i P* **P** **03 12 43.7 +4.5**
KMBO pmax pmax
comp=Z,3.0nm,1.0s
KMBO Kilima Mbogo 57.56 265 P **P** **03 12 40.3 +1.0**
comp=Z,2.5nm,0.9s,mb4.2,baz=49,slow=13,SNR=6.1
KMBO LR LR 03 32 31.0
comp=Z,216nm,21.0s,MS4.2,baz=100,slow=31
KMBO Kilima Mbogo 57.56 265 *eP* **P** **03 12 40.1 +0.9**
comp=Z,4.0nm,1.1s,mb4.4
KMBO LR LR 03 32 31.0
SVE Sverdlovsk 57.86 339 *eP* **P** **03 12 42.0 +1.2**
STKA Stephens Creek 58.12 133⇑*iP* **P** **03 12 42.4 -0.5**
comp=Z,5.2nm,0.8s,mb4.6
STKA Stephens Creek 58.12 133 P **P** **03 12 42.8 -0.1**
comp=Z,4.8nm,0.8s,mb4.6,baz=302,slow=6.1,SNR=9.7
ZEI Tsey 58.13 318 *eP* **P** **03 12 42.4 -0.5**
ZEI *i* *PP pP 03 12 59.0 +2.9
ZEI pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ARU Arti 58.34 337⇓*iP* **P** **03 12 40.4 -3.7**
ARU *e* 03 13 27.9
ARU *e* 03 14 48.0
ARU *e*S **S** **03 20 39.7 -1.6**
ARU *e* 03 22 25.2
ARU *e*SS SS 03 24 33.0 -2.4
ARU pmax pmax
comp=Z,41nm,1.1s,mb5.4
YSS Yuzh-Sakhalins 58.54 37 *i* P **P** **03 12 44.5 -1.1**
YSS pmax pmax
comp=Z,18nm,1.3s,mb4.9
KIV Kislovodsk 59.43 319*d iP* **P** **03 12 50.7 -1.2**
KIV pmax pmax
comp=Z,11nm,1.0s,mb4.8
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.0
KIV Kislovodsk 59.43 319 *eP* **P** **03 12 50.3 -1.5**
comp=Z,9.6nm,0.8s,mb4.9
MALT Malatya 60.38 311 P **P** **03 12 55.1 -3.4**
comp=Z,5.9nm,1.1s,mb4.5
EIL Elat 61.01 301 *eP* **P** **03 13 02.1 -0.7**
comp=Z,1.5nm,0.4s,mb4.5
SOC Sochi 61.26 317 *eP* **P** **03 13 01.8 -2.6**
SOC *e* 03 15 17.9
SOC *e*S **S** **03 21 15.4 -3.8**
SOC *e* 03 22 48.7
SOC *e*SS SS 03 25 24.6 +3.2
SOC *e*SSS SSS 03 28 03.5 +2.6
SOC pmax pmax
comp=Z,25nm,1.1s,mb5.3
SOC pmax pmax
comp=N,20nm,0.9s
SOC pmax pmax
comp=E,13nm,0.7s
SOKR Solikamsk 61.27 339 *i* P pP 03 13 16.5 -0.9
SOKR pmax pmax
comp=Z,40nm,1.1s,mb5.5
YAK Yakutsk 62.25 18*c iP* **P** **03 13 09.2 -1.5**
YAK pmax pmax
comp=Z,14nm,1.1s,mb5.0
YAK MLR MLR
comp=Z,200nm,21.0s,MS4.3
TOO Toolangi 63.78 137 *eP* **P** **03 13 22.5 +1.3**
comp=Z,6.1nm,1.1s,mb4.5
BRTR Keskin Array B 64.36 312 P **P** **03 13 23.5 -1.4**
comp=Z,5.3nm,0.8s,mb4.7,baz=131,slow=7.7,SNR=39
SIM Simferopol' 65.51 317 *eP* **P** **03 13 31.0 -1.3**
SIM pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
OBN Obninsk 67.70 328*d iP* **P** **03 13 44.1 -1.8**
OBN pmax pmax
comp=Z,23nm,1.3s,mb5.0
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.4
LSZ Lusaka 68.81 251 *eP* **P** **03 13 53.7 +0.3**
comp=Z,3.5nm,0.9s,mb4.3
MA2 Magadan 68.81 27 *i P* **P** **03 13 52.3 -0.4**
TIXI Tiksi 69.61 11⇑*iP* **P** **03 13 55.9 -1.6**
TIXI pmax pmax
comp=Z,18nm,0.8s,mb5.0
TIXI MLR MLR
comp=Z,187nm,19.0s,MS4.3
IDI Anoyia 70.31 305 P **P** **03 14 02.1 -0.3**
comp=Z,6.6nm,0.6s,mb4.7,baz=81,slow=18,SNR=7.0
IDI pP pP 03 14 15.7 -0.2
comp=Z,9.2nm,0.7s,baz=84,slow=8.1,SNR=2.0
JOF Joensuu 73.27 335 *ep* **P** **03 14 15.0 -4.4**
KOLS Kolonicke sedl 74.34 319 *eP* **P** **03 14 26.2 +0.2**
CRVS Cervenica-Dubn 74.86 319 *eP* **P** **03 14 30.1 +1.1**
FINES FINESS Array B 75.10 332 P **P** **03 14 29.7 -0.4**
comp=Z,2.4nm,0.5s,mb4.4,baz=99,slow=6.6,SNR=22
FINES FINESS Array B 75.10 332 P **P** **03 14 29.7 -0.4**
KAF Kangasniemi 75.19 333 *ep* **P** **03 14 29.4 -1.2**
baz=102,slow=5.3
KECS Kecovo 75.44 319 *eP* **P** **03 14 32.4 +0.1**
PSZ Piszkesteto 75.75 318 *eP* **P** **03 14 33.8 -0.3**
comp=Z,8.0nm,0.8s,mb4.7
OJC Ojcow 76.14 320 *eP* **P** **03 14 36.2 0.0**
OJC *e*PcP PcP 03 14 49.6 +1.1
MAW Mawson 76.17 192 LR LR 03 40 39.0
comp=Z,110nm,18.5s,MS4.2,baz=259,slow=30
VYHS Vyhne 76.52 318 *i P* **P** **03 14 38.5 0.0**
SRO Srobarova 76.79 318 *eP* **P** **03 14 40.5 +0.5**
OKC Ostrava-Krasne 77.14 320 *eP* **P** **03 14 41.5 -0.4**
OKC epP pP 03 14 57.5 +1.9
MORC Moravsky Berou 77.52 320 *eP* **P** **03 14 43.7 -0.3**
comp=Z,22nm,1.3s,mb4.9
MORC *e* pP 03 14 53.9 -3.9
ZST Bratislava 77.64 318 *i P* **P** **03 14 45.0 +0.3**
ZST epP pP 03 14 59.0 +0.6
ARCES ARCESS Array B 77.75 340 P **P** **03 14 45.7 +0.9**
comp=Z,3.2nm,0.6s,mb4.5,baz=102,slow=6.1,SNR=28
ARCES pP pP 03 15 01.1 +2.5
comp=Z,4.0nm,0.5s,baz=93,slow=5.5,SNR=4.1
ARCES LR LR 03 50 51.3
comp=Z,176nm,18.3s,MS4.4,baz=19,slow=37
ARCES ARCESS Array B 77.75 340 P **P** **03 14 45.7 +0.9**
ARCES pP pP 03 15 01.1 +2.5
ARCES LR LR 03 50 51.3
VRAC Vranov 78.09 319 P **P** **03 14 47.2 +0.1**
comp=Z,2.2nm,0.5s,mb4.4,baz=77,slow=5.3,SNR=5.4
BILL Bilibino 78.27 21 *i P* **P** **03 14 47.6 -0.2**
BILL pmax pmax
comp=Z,8.0nm,1.7s,mb4.4
BILL MLR MLR
comp=Z,300nm,17.0s,MS4.7
DPC Dobruska-Polom 78.36 320 *eP* **P** **03 14 49.6 +1.0**
DPC epP pP 03 15 03.5 +1.2
KSP Ksiaz 78.43 321⇑*eP* **P** **03 14 49.5 +0.5**
UPC Upice 78.58 320 *eP* **P** **03 14 50.4 +0.6**
ARSA Arzberg 78.62 317⇓*iP* **P** **03 14 50.3 +0.2**
comp=Z,17nm,1.4s,mb4.8
BOJS Bojanci 78.68 315 *eP* **P** **03 14 50.2 -0.2**
PERS Pernice 78.85 316 *eP* **P** **03 14 51.6 +0.3**
VISS Visnje 78.98 315 *eP* **P** **03 14 52.1 -0.1**
PRU Pruhonice 79.47 320 *eP* **P** **03 14 54.9 +0.2**
PRU epP pP 03 15 12.9 +4.4
PVCC Panska Ves 79.50 320 *eP* **P** **03 14 55.2 +0.4**
AQU L'Aquila 79.85 312 *eP* **P** **03 14 56.6 -0.2**
comp=Z,13nm,0.9s,mb4.8
BRG Berggiesshubel 79.92 321 *i P* **P** **03 14 57.5 +0.4**
BRG pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BRG Berggiesshubel 79.92 321 *i P* **P** **03 14 57.5 +0.4**
comp=Z,9.6nm,0.8s,mb4.8
GEC2 GERESS Array S 79.94 319 *eP* **P** **03 14 57.8 +0.5**
GEC2 pmax pmax
comp=Z,13nm,0.8s,mb4.9
GEC2 GERESS Array S 79.94 319 *eP* **P** **03 14 57.8 +0.5**
comp=Z,13nm,0.8s,mb4.9
GERES GERESS Array B 79.94 319 P **P** **03 14 58.0 +0.8**
comp=Z,12nm,0.7s,mb4.9,baz=98,slow=5.2,SNR=52
GERES pP pP 03 15 11.4 +0.4
comp=Z,5.0nm,0.6s,baz=90,slow=6.7,SNR=7.6
KHC Kasperske Hory 80.04 319 *eP* **P** **03 14 58.0 +0.2**
KHC epP pP 03 15 12.3 +0.7
WET Wettzell 80.50 319 *eP* **P** **03 15 00.8 +0.6**
CLL Collm 80.54 321 *i P* **P** **03 15 00.2 -0.2**
CLL *e* 03 15 08.0
CLL pmax pmax
comp=Z,14nm,1.2s,mb4.8
CLL Collm 80.54 321 *i P* **P** **03 15 00.2 -0.2**
comp=Z,14nm,1.2s,mb4.8
CLL *e* 03 15 08.0
CLL Collm 80.54 321 P **P** **03 15 00.2 -0.2**
comp=Z,logA/T=1.1,mb4.8
CLL *e*PP pP 03 15 08.0 -6.2
NKC Novy Kostel 80.83 320 *eP* **P** **03 15 02.6 +0.7**
WTTA Wattenberg 81.26 317⇑*iP* **P** **03 15 04.0 -0.3**
comp=Z,11nm,0.6s,mb5.0
WATA Walderalm 81.30 317⇑*iP* **P** **03 15 03.9 -0.6**
comp=Z,3.6nm,0.8s,mb4.3
MOX Moxa 81.38 320 *eP* **P** **03 15 05.4 +0.6**
MOX Moxa 81.38 320 *i P* **P** **03 15 05.4 +0.6**
SQTA Sankt Quirin 81.55 317⇑*iP* **P** **03 15 05.7 -0.1**
comp=Z,4.8nm,0.7s,mb4.5
GRA1 Grafenberg Arr 81.61 319 *eP* **P** **03 15 07.0 +1.0**
comp=Z,11nm,0.7s,mb4.9
GRF Grafenberg Arr 81.61 319 *eP* **P** **03 15 07.0 +1.0**
GRF pmax pmax
comp=Z,11nm,0.7s,mb4.9
GRF Grafenberg Arr 81.61 319 *eP* **P** **03 15 07.0 +1.0**
comp=Z,11nm,0.7s,mb4.9
MOTA Moosalm 81.62 317⇓*iP* **P** **03 15 05.7 -0.5**
comp=Z,9.7nm,1.2s,mb4.6
NB2 NORSAR Subarra 82.09 331 P **P** **03 15 07.4 -0.9**
comp=Z,9.1nm,1.1s,mb4.6,baz=94,slow=5.3
NOA NORSAR Array B 82.09 331 P **P** **03 15 08.2 -0.1**
comp=Z,4.0nm,1.2s,mb4.2,baz=102,slow=5.1,SNR=2.9
CLZ Clausthal 82.20 321 *eP* **P** **03 15 09.8 +0.8**
comp=Z,7.0nm,0.8s,mb4.6
BSEG Bad Segeberg 82.28 324 *eP* **P** **03 15 10.3 +0.9**
DAVOX Davos 82.46 316 P **P** **03 15 11.2 +0.8**
comp=Z,19nm,0.6s,mb5.2,baz=118,slow=5.9,SNR=84
DAVA Damuels 82.46 317⇑*iP* **P** **03 15 10.8 +0.4**
comp=Z,11nm,0.9s,mb4.8
BFO Black Forest 83.50 318 *eP* **P** **03 15 15.9 +0.2**
BFO pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
BFO Black Forest 83.50 318 *eP* **P** **03 15 15.9 +0.2**
comp=Z,5.0nm,0.7s,mb4.7
LPG La Plagne 84.65 315 *eP* **P** **03 15 22.2 +0.6**
comp=Z,20nm,0.9s,mb5.0
EKA Eskdalemuir Ar 89.99 326 P **P** **03 15 48.1 +1.0**
comp=Z,3.1nm,0.6s,mb4.8,baz=90,slow=5.4,SNR=15
EKA pP pP 03 16 02.5 +1.3
comp=Z,3.3nm,0.8s,baz=88,slow=4.9,SNR=2.2
ESDC Sonseca Array 93.12 310 P **P** **03 16 03.1 +1.1**
comp=Z,0.7nm,0.6s,mb4.3,baz=66,slow=4.0,SNR=9.1
IMA Indian Mountai 93.79 22 *eP* **P** **03 16 05.5 +1.1**
comp=Z,8.8nm,0.8s,mb5.2
ILAR Eielson Array 96.92 22 P **P** **03 16 18.9 +0.2**
comp=Z,0.5nm,0.6s,mb4.2,baz=307,slow=3.9,SNR=11
ILAR PP PP 03 20 14.4 -2.6
comp=Z,0.3nm,0.9s,baz=302,slow=5.8,SNR=4.7
INK Inuvik 99.29 16 P **P** **03 16 30.7 +1.4**
comp=Z,3.2nm,1.0s,mb4.8,baz=346,slow=7.2,SNR=12
YKA Yellowknife Ar 108.76 14 Pdiff Pdif 03 17 13.1 +1.7
comp=Z,0.2nm,0.7s,baz=326,slow=4.0,SNR=5.5
YKA PP PP 03 21 41.4 -5.5
comp=Z,0.5nm,0.6s,baz=335,slow=7.7,SNR=9.5
SCHQ Schefferville 118.05 348 PKP PKPdf 03 21 34.6 +1.5
comp=Z,0.8nm,0.5s,baz=220,slow=14,SNR=6.3
NVAR Mina Array Bea 126.85 32 PKP PKPdf 03 21 53.5 +2.7
comp=Z,1.0nm,0.7s,baz=312,slow=2.7,SNR=3.6
NVAR Mina Array Bea 126.85 32 PKP PKPdf 03 21 53.5 +2.7
PDAR Pinedale Array 127.35 22 PKP PKPdf 03 21 53.3 +1.7
comp=Z,1.8nm,0.8s,baz=45,slow=4.2,SNR=5.4
TXAR Lajitas Array 141.33 26 PKhKP 03 22 13.3
comp=Z,1.0nm,0.4s,baz=260,slow=1.1,SNR=21
LPAZ La Paz 159.82 236 PKP PKPdf 03 22 49.4 +3.4
comp=Z,0.4nm,0.5s,baz=61,slow=11,SNR=3.7
LPAZ PKPab PKPab 03 23 29.4 +1.9
comp=Z,0.6nm,0.6s,baz=177,slow=4.0,SNR=3.9

NEIC 09 03:11:17.5,39.06S×176.04E,h74km,ML3.7(WEL),1C,
After WEL.,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RITZ	**Rihia Road**	**0.16**	**300**	P	P	03 11 28.5	+0.1
KATZ	**Kakaramea**	**0.28**	**287**	P	P	03 11 28.8	-0.3
WTVZ	**West Tongariro**	**0.35**	**261**	P	P	03 11 29.2	-0.4
NGZ	**Ngauruhoe**	**0.36**	**251**	P	P	03 11 29.5	-0.1
TUVZ	**Tukino**	**0.37**	**235**	⇑P	P	03 11 29.6	0.0
BKZ	**Black Stump Fm**	**0.37**	**107**	P	P	03 11 29.8	+0.1
MGZ	**Maungaku**	**0.40**	**278**	P	P	03 11 29.6	-0.3
CNZ	**Chateau**	**0.41**	**250**	P	P	03 11 29.6	-0.4
WPVZ	**Whakapapa**	**0.41**	**249**	P	P	03 11 29.8	-0.2
MOVZ	**Moawhango**	**0.41**	**213**	P	P	03 11 29.7	-0.3
FWVZ	**Far West T-bar**	**0.43**	**243**	P	P	03 11 30.0	-0.1
DRZ	**Dome Shelter**	**0.43**	**240**	P	P	03 11 30.2	+0.1
WNVZ	**Wahianoa**	**0.44**	**232**	P	P	03 11 29.6	-0.6
TWVZ	**Taurewa**	**0.47**	**268**	P	P	03 11 30.1	-0.4
VRZ	**Vera Road**	**1.00**	**266**	P	P	03 11 35.9	-0.5
TSZ	**Takapari Road**	**1.00**	**183**	P	P	03 11 36.2	-0.3
WAZ	**Wanganui**	**1.07**	**229**	P	P	03 11 37.4	0.0
HIZ	**Hauiti**	**1.07**	**300**	*eP*	P	03 11 36.8	-0.6
URZ	**Urewera**	**1.16**	**47**	P	P	03 11 38.0	-0.4
RAEZ	**Rainy Point**	**1.30**	**259**	P	P	03 11 40.3	-0.2
MWZ	**Matawai**	**1.37**	**59**	P	P	03 11 41.0	-0.4
NEZ	**North Egmont**	**1.53**	**261**	P	P	03 11 43.1	-0.4
DFE	**Dawson Falls**	**1.53**	**259**	P	P	03 11 43.6	+0.1
BFZ	**Birch Farm**	**1.63**	**174**	P	P	03 11 43.2	-1.6
MRZ	**Mangatainoka R**	**1.64**	**192**	P	P	03 11 43.1	-1.9
NRZ	**Ngariki Road**	**1.66**	**260**	P	P	03 11 44.9	-0.4
PUZ	**Puketiti**	**2.00**	**61**	*eP*	P	03 11 48.8	-1.0
KIW	**Kapiti Island**	**2.00**	**205**	P	P	03 11 47.6	-2.2
MTW	**Mount Morrison**	**2.14**	**191**	P	P	03 11 48.8	-3.0
CAW	**Cannon Point**	**2.18**	**200**	P	P	03 11 49.6	-2.8

IDC 09 03:14:47.9±2.4,12.52N×89.48E,mb3.7/3,mb1 4.0/4,
mb1mx3.6/17,mbtmp3.7/4,ML4.4/1,Error ellipse:
s-maj=70.8km s-min=29.8km az=67.0,Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.31**	**105**	*eP*	Pn	03 15 32.0	-10
PBA				*eS*	Sn	03 15 51.5	-31
PBA				*e*		03 16 03.7
	comp=E,621nm,0.7s						
PBA				*e*		03 16 04.1
	comp=N,808nm,0.7s						
CMAR	**Chiang Mai Arr**	**10.87**	**56**	Pn	P	03 17 24.8	-3.0
	comp=N,0.9nm,0.3s,baz=243,slow=16,SNR=4.3						
ZAL	**Zalesovo**	**41.48**	**356**	P	P	03 22 36.4	-1.7
	comp=N,0.8nm,0.3s,baz=318,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**54.68**	**126**	P	P	03 24 18.3	-3.0
	comp=N,0.4nm,0.4s,baz=307,slow=8.4,SNR=2.8						
ASAR	**Alice Springs**	**56.39**	**130**	P	P	03 24 31.9	-1.7
	comp=N,0.6nm,0.9s,baz=302,slow=6.9,SNR=4.5						

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*BJI **09** 03:17:17.4, 15.85N×95.00E, h36km, mB4.9, mb4.4, Ms4.7, Msz4.1*
*IDC **09** 03:17:18.6±0.9, 16.25N×95.46E, mb4.0/12, mb1 4.2/13, mb1mx4.1/19, mbtmp4.0/13, ML4.7/1, MS3.4/2, Ms1 3.5/2, ms1mx3.0/23, Error ellipse: s-maj=35.7km s-min=17.3km az=52.0*
*NEIC **09** 03:17:24.1±1.7, 16.37N×95.59E, h36km±15km, mb4.1/6, Error ellipse: s-maj=15.3km s-min=10.7km az=224.0*
NEIC Felt at Rangoon.

ISC 09 03:17:19.2±2.2,16.22N±0.06×95.45E±0.05,h17km±16km,
n42,σ0°85/48,mb4.1/19,MS3.7/1,1C-2D,Near south
coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.01**	**56**	Pn	**Pn**	**03 18 22.2**	**+0.8**
	13nm,0.3s,baz=240,slow=14,SNR=89						
CMAR				Pg	**Pn**	**03 18 38.4**	**+17**
	8.0nm,0.3s,baz=239,slow=18,SNR=21						
CMAR				Sn	**Sn**	**03 19 17.9**	**+9.3**
	24nm,0.3s,baz=240,slow=32,SNR=20						
CMAR				Lg		03 19 35.2	
	14nm,0.3s,baz=237,slow=30,SNR=5.2						
CMAR				LR	LR	03 20 10.0	
	comp=Z,241nm,21.0s,baz=215,slow=43						
CHG	**Chiang Mai**	**4.22**	**52**	PN	**Pn**	**03 18 25.2**	**+0.9**
CHG				SG	**Sn**	**03 19 13.3**	**-0.5**
NST	**Nakhon Sawan**	**4.54**	**96**	P	**Pn**	**03 18 29.1**	**+0.2**
	342nm,0.6s						
CHRT	**Chiangrai**	**5.50**	**48**	⇑PN	**Pn**	**03 18 43.5**	**+1.1**
NNT	**Nongplab**	**5.50**	**130**	P	**Pn**	**03 18 42.0**	**-0.5**
AGT	**Agartala**	**8.58**	**333**	⇓*iP*	**P**	**03 19 32.0**	**+6.4**
AGT				*eS*	**Sn**	**03 20 50.0**	**-13**
IMP	**Imphal**	**8.63**	**351**	*eP*	**P**	**03 19 26.6**	**+0.2**
SHL	**Shillong**	**9.88**	**341**	⇓*iP*	**P**	**03 19 39.5**	**-4.1**
SHL				*eS*	**Sn**	**03 21 24.0**	**-11**
LSA	**Lhasa**	**13.98**	**344**	P	**P**	**03 20 36.2**	**-2.8**
LSA	**Lhasa**	**13.98**	**344**	*eP*	**P**	**03 20 36.2**	**-2.8**
	8.5nm,0.6s						
JIRN	**Jiri**	**14.25**	**325**	*eP*	**P**	**03 20 41.5**	**-1.0**
	28nm,0.5s						
GUN	**Gumba**	**14.62**	**324**	*eP*	**P**	**03 20 46.8**	**-0.5**
	34nm,0.4s						
PKI	**Pulchoki**	**14.63**	**322**	*eP*	**P**	**03 20 48.0**	**+0.6**
DMN	**Daman**	**14.84**	**322**	*eP*	**P**	**03 20 51.9**	**+1.7**
	74nm,0.6s						
KKN	**Kakani**	**14.87**	**322**	*eP*	**P**	**03 20 50.4**	**-0.2**
GKN	**Gorkha**	**15.41**	**321**	*eP*	**P**	**03 20 57.7**	**+0.1**
	91nm,0.6s						
KOLN	**Koldanda**	**15.88**	**318**	*eP*	**P**	**03 21 03.0**	**-0.8**
HYB	**Hyderabad**	**16.22**	**277**	*eP*	**P**	**03 21 12.5**	**+4.4**
HYB	**Hyderabad**	**16.22**	**277**	*i P*	**P**	**03 21 12.5**	**+4.4**

HYB					*e*S		**S**	**03 23 53.5**	**-14**
NDI	**New Delhi**	**20.88**	**310**	*e*P			**P**	**03 22 08.5**	**+5.3**
NDI				*e*S			**S**	**03 25 44.0**	**-6.5**
LZH	**Lanzhou**	**21.15**	**19**	*e*P			**P**	**03 22 05.0**	**-0.8**
LZH				AP				03 22 15.0	
LZH				XP				03 22 19.0	
LZH				AMB		AMB			
	comp=Z,29nm,1.5s,mb4.4								
WMQ	**Urumqi**	**28.29**	**348**	*e*P			**P**	**03 23 15.0**	**+1.2**
SONM	**Songino Array**	**32.79**	**14**	P			**P**	**03 23 52.4**	**-1.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=203,slow=11,SNR=2.7								
SONM	**Songino Array**	**32.79**	**14**	P			**P**	**03 23 52.4**	**-1.3**
ULN	**Ulaanbaatar**	**32.98**	**14**	*e*P			**P**	**03 23 51.8**	**-3.4**
	comp=Z,0.8nm,0.5s,mb3.9								
ZAL	**Zalesovo**	**38.54**	**350**	P			**P**	**03 24 42.6**	**+0.1**
	comp=Z,3.1nm,0.6s,mb4.2,baz=309,slow=7.3,SNR=19								
BVAR	**Borovoye Array**	**41.67**	**337**	P			**P**	**03 25 08.3**	**-0.1**
	comp=Z,2.8nm,1.1s,mb3.8,baz=135,slow=10,SNR=7.4								
BRVK	**Borovoye**	**41.74**	**337**	*e*P			**P**	**03 25 08.2**	**-0.7**
	comp=Z,2.1nm,0.6s,mb3.9								
CHKZ	**Chkalovo**	**42.11**	**338**	*e*P			**P**	**03 25 12.3**	**+0.3**
	comp=Z,6.1nm,0.6s,mb4.4								
MBWA	**Marble Bar**	**44.13**	**147**	*e*P			**P**	**03 25 28.6**	**-0.3**
	comp=Z,0.6nm,0.4s,mb3.7								
WRA	**Warramunga Arr**	**52.46**	**132**	P			**P**	**03 26 33.3**	**-0.3**
	comp=Z,2.6nm,0.6s,mb4.3,baz=311,slow=7.5,SNR=26								
WRAB	**Tennant Creek**	**52.46**	**132**	*e*P			**P**	**03 26 33.2**	**-0.4**
	comp=Z,9.6nm,0.9s,mb4.7								
ASAR	**Alice Springs**	**54.62**	**136**	P			**P**	**03 26 49.4**	**-0.2**
	comp=Z,1.1nm,0.7s,mb4.0,baz=315,slow=7.1,SNR=15								
EIL	**Elat**	**56.73**	**295**	LR			LR	03 53 13.3	
	comp=Z,61nm,19.2s,MS3.7,baz=296,slow=38								
BRTR	**Keskin Array B**	**58.21**	**307**	P			**P**	**03 27 15.6**	**+0.7**
	comp=Z,0.9nm,1.1s,mb3.7,baz=143,slow=6.2,SNR=3.3								
FINES	**FINESS Array B**	**66.04**	**331**	P			**P**	**03 28 06.6**	**-0.3**
	comp=Z,9.3nm,1.1s,mb4.7,baz=191,slow=9.7,SNR=3.0								
ARCES	**ARCESS Array B**	**67.93**	**339**	P			**P**	**03 28 19.1**	**+0.3**
	comp=Z,3.7nm,0.9s,mb4.4,baz=86,slow=6.9,SNR=9.3								
HFS	**Hagfors**	**71.98**	**329**	P			**P**	**03 28 43.8**	**+0.2**
	comp=Z,5.1nm,0.8s,mb4.5,baz=90,slow=13,SNR=5.0								
GERES	**GERESS Array B**	**72.57**	**317**	P			**P**	**03 28 48.4**	**+1.0**
	comp=Z,0.6nm,0.7s,mb3.6,baz=90,slow=6.7,SNR=4.2								
NOA	**NORSAR Array B**	**73.17**	**330**	P			**P**	**03 28 50.4**	**-0.3**
	comp=Z,1.3nm,0.9s,mb3.9,baz=100,slow=5.6,SNR=2.9								
LSZ	**Lusaka**	**73.40**	**248**	*e*P			**P**	**03 28 53.0**	**+0.2**
	comp=Z,0.6nm,0.4s,mb3.9								
LSZ				*e*				03 29 01.9	
ILAR	**Eielson Array**	**86.58**	**22**	P			**P**	**03 30 04.0**	**+1.6**
	comp=Z,0.4nm,0.8s,mb3.7,baz=307,slow=5.3,SNR=4.2								

MAN 09 03:46:11.6, 16.85N×122.51E, h8km, mb4.5, ML3.4, MS3.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.23**	**339**	*e*P	Pg	03 46 16.9	+0.5
PALP				*e*S	Sg	03 46 21.0	+1.4
CAUP	**Cauayan**	**0.67**	**278**	*e*P	Pg	03 46 24.4	-0.5
CAUP				*e*S	Sg	03 46 35.2	+1.3
CVP	**Callao Caves**	**1.08**	**322**	*e*P	Pb	03 46 31.5	-0.5
CVP				*e*S	Sb	03 46 45.0	-1.0
BALP	**Baler**	**1.42**	**219**	*e*P	Pn	03 46 37.0	-0.8
BALP				*e*S	Sb	03 46 53.2	-2.8
APYP	**Conner**	**1.58**	**310**	*e*P	Pn	03 46 39.5	-0.5
APYP				*e*S	Sb	03 47 01.1	+0.6

*CSEM **09** 03:49:11.4±0.1, 43.16N×15.49E, h10km, ML3.1/7, Error ellipse: s-maj=2.3km s-min=1.4km az=69.0*
*ROM **09** 03:49:12.0±0.2, 43.14N×15.51E, h10km, MD3.5/4, ML2.7/23, Error ellipse: s-maj=3.0km s-min=1.7km az=90.0*
*NEIC **09** 03:49:12.3±0.8, 43.08N×15.36E, h10km, ML3.1(LDG), Error ellipse: s-maj=11.0km s-min=5.8km az=123.0*
*LDG **09** 03:49:14.2±0.4, 43.19N×15.36E, h10km, Ml3.1/11, Error ellipse: s-maj=9.7km s-min=4.4km az=69.0*

ISC 09 03:49:11.1±0.3, 43.18N±0.02×15.43E±0.04, h10km, n102, σ1§26/100, 7C-3D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**1.44**	**344**	*i* Pn	**Pn**	**03 49 36.9**	**-0.5**
NVLJ				*i* Pg	**Pg**	**03 49 37.9**	**-2.0**
NVLJ				*i* Sn	**Sn**	**03 49 58.5**	**+2.1**
NVLJ				*i* Sg	**Sg**	**03 49 59.0**	**-0.1**
NVLJ	**Novalja**	**1.44**	**344**	*i* Pn	**Pn**	**03 49 36.8**	**-0.6**
TERO	**Teramo**	**1.45**	**248**	*e*PN	**Pn**	**03 49 37.9**	**+0.3**
RGNG	**Rignano Grg**	**1.51**	**176**	*e*PN	**Pn**	**03 49 37.2**	**-1.2**
RGNG				SN	**Sn**	**03 49 58.2**	**-0.1**
FGMS	**Monte Sant'Ang**	**1.52**	**165**	*e*PN	**Pn**	**03 49 38.5**	**-0.1**
	235nm,0.5s						
FGMS	**Monte Sant'Ang**	**1.52**	**165**	*e*Pn	**Pn**	**03 49 38.5**	**-0.1**
	235nm,0.5s						
MS1	**Monte Sant'Ang**	**1.52**	**165**	*e*Pn	**Pn**	**03 49 37.8**	**-0.8**
INTR	**Introdacqua**	**1.62**	**224**	*e*PN	**Pn**	**03 49 40.2**	**+0.2**
CING	**Cingoli**	**1.64**	**278**	*e*PN	**Pn**	**03 49 40.7**	**+0.4**
CII	**Carovilli**	**1.68**	**210**	*e*PN	**Pn**	**03 49 41.3**	**+0.5**
	51nm,0.4s						
CII	**Carovilli**	**1.68**	**210**	*e*Pn	**Pn**	**03 49 39.8**	**-1.0**
CII	**Carovilli**	**1.68**	**210**	*e*Pn	**Pn**	**03 49 41.3**	**+0.5**
	51nm,0.4s						
AQU	**L'Aquila**	**1.71**	**242**	*e*PN	**Pn**	**03 49 41.4**	**+0.2**
	69nm,0.7s						
AQU	**L'Aquila**	**1.71**	**242**	*e*P	**Pn**	**03 49 41.0**	**-0.2**
AQU	**L'Aquila**	**1.71**	**242**	*e*P	**Pn**	**03 49 41.0**	**-0.2**
AQU	**L'Aquila**	**1.71**	**242**	*e*Pn	**Pn**	**03 49 41.4**	**+0.2**
	69nm,0.7s						
NRCA	**Norcia**	**1.73**	**259**	*e*PN	**Pn**	**03 49 41.8**	**+0.2**
	25nm,0.4s						
NRCA	**Norcia**	**1.73**	**259**	*e*Pn	**Pn**	**03 49 41.8**	**+0.2**
	25nm,0.4s						
SNTG	**Esanatoglia**	**1.82**	**273**	*e*PN	**Pn**	**03 49 42.7**	**-0.1**
	32nm,0.2s						
SNTG	**Esanatoglia**	**1.82**	**273**	*e*Pn	**Pn**	**03 49 42.7**	**-0.1**
	32nm,0.2s						
ARV	**Arcevia**	**1.84**	**281**	*e*PN	**Pn**	**03 49 43.1**	**0.0**
	23nm,0.5s						
ARV	**Arcevia**	**1.84**	**281**	*e*Pn	**Pn**	**03 49 43.1**	**0.0**
	23nm,0.5s						
PTQR	**Pietraquaria**	**1.90**	**233**	*e*PN	**Pn**	**03 49 45.6**	**+1.7**
	21nm,0.3s						
PTQR	**Pietraquaria**	**1.90**	**233**	*e*Pn	**Pn**	**03 49 45.6**	**+1.7**
	21nm,0.3s						
SDI	**San Donato**	**1.90**	**220**	*e*PN	**Pn**	**03 49 43.7**	**-0.2**
	62nm,0.4s						
SDI	**San Donato**	**1.90**	**220**	*e*Pn	**Pn**	**03 49 43.7**	**-0.2**
	62nm,0.4s						
SGG	**Gregorio Mates**	**1.96**	**204**	*e*PN	**Pn**	**03 49 45.9**	**+1.1**
FSSB	**Fossombrone**	**2.00**	**286**	*e*PN	**Pn**	**03 49 45.5**	**+0.1**
	44nm,0.5s						
FSSB	**Fossombrone**	**2.00**	**286**	*e*Pn	**Pn**	**03 49 45.5**	**+0.1**
	44nm,0.5s						
BLY	**Banja Luka**	**2.01**	**38**	Pn	**Pn**	**03 49 48.6**	**+3.0**
MURB	**Monte Urbino**	**2.13**	**273**	*e*PN	**Pn**	**03 49 48.9**	**+1.7**
MNS	**Montasola**	**2.17**	**249**	*e*PN	**Pn**	**03 49 48.8**	**+0.9**
	27nm,0.5s						
MNS	**Montasola**	**2.17**	**249**	*e*Pn	**Pn**	**03 49 48.8**	**+0.9**
	27nm,0.5s						
CERT	**Cerreto**	**2.19**	**237**	*e*PN	**Pn**	**03 49 48.9**	**+0.8**
CDT	**Castel del Mon**	**2.19**	**163**	*e*Pn	**Pn**	**03 49 46.3**	**-1.8**
TREB	**Trebinje**	**2.19**	**101**	Pn	**Pn**	**03 49 49.5**	**+1.3**
MSC	**Monte Massico**	**2.27**	**209**	*e*PN	**Pn**	**03 49 50.0**	**+0.8**
RSM	**Repubblica di**	**2.29**	**290**	*e*PN	**Pn**	**03 49 50.2**	**+0.6**
BOJS	**Bojanci**	**2.33**	**357**	*i* Pn	**Pn**	**03 49 51.9**	**+1.9**
BOJS				*e*Sn	**Sn**	**03 50 24.0**	**+5.0**
	comp=Z,108nm,0.5s						
MRLC	**Muro Lucano**	**2.42**	**179**	*e*PN	**Pn**	**03 49 50.1**	**-1.4**
	comp=Z,19nm,0.4s						
MRLC	**Muro Lucano**	**2.42**	**179**	*e*Pn	**Pn**	**03 49 50.1**	**-1.4**
	comp=Z,19nm,0.4s						
SG1	**Sgolgore (BA)**	**2.52**	**158**	*e*Pn	**Pn**	**03 49 51.1**	**-1.7**
CRE	**Caprese Michel**	**2.57**	**281**	*e*PN	**Pn**	**03 49 55.5**	**+1.9**
	comp=Z,14nm,0.3s						
CRE	**Caprese Michel**	**2.57**	**281**	*e*Pn	**Pn**	**03 49 55.5**	**+1.9**
	comp=Z,14nm,0.3s						
SGO	**Sicignano**	**2.62**	**182**	*e*PN	**Pn**	**03 49 52.8**	**-1.5**
	comp=Z,15nm,0.5s						
SGO	**Sicignano**	**2.62**	**182**	*e*Pn	**Pn**	**03 49 52.8**	**-1.5**
	comp=Z,15nm,0.5s						
SFI	**Santa Sofia**	**2.70**	**287**	*e*PN	**Pn**	**03 49 56.7**	**+1.2**
	comp=Z,34nm,0.8s						
SFI	**Santa Sofia**	**2.70**	**287**	*e*Pn	**Pn**	**03 49 56.7**	**+1.2**
	comp=Z,34nm,0.8s						
ISOR	**Termini**	**2.72**	**198**	*e*PN	**Pn**	**03 49 54.0**	**-1.7**
SLCN	**Sala Consilina**	**2.79**	**177**	*e*PN	**Pn**	**03 49 56.3**	**-0.4**
	comp=Z,10.0nm,0.3s						
SLCN	**Sala Consilina**	**2.79**	**177**	*e*Pn	**Pn**	**03 49 56.3**	**-0.4**
	comp=Z,10.0nm,0.3s						
TRI	**Trieste**	**2.79**	**335**	*e*PN	**Pn**	**03 49 58.0**	**+1.3**
	comp=Z,44nm,0.4s						
TRI	**Trieste**	**2.79**	**335**	*e*Pn	**Pn**	**03 49 58.0**	**+1.3**
	comp=Z,44nm,0.4s						
PE1	**Pezze di Greco**	**2.80**	**147**	*e*Pn	**Pn**	**03 49 55.1**	**-1.7**
VMG	**Vicchio**	**2.93**	**287**	*e*PN	**Pn**	**03 49 59.8**	**+1.1**
CSNT	**Castellina Chi**	**3.03**	**277**	*e*PN	**Pn**	**03 50 00.9**	**+0.7**
	comp=Z,12nm,0.5s						
CSNT	**Castellina Chi**	**3.03**	**277**	*e*Pn	**Pn**	**03 50 00.9**	**+0.7**
	comp=Z,12nm,0.5s						
MGR	**Morigerati**	**3.04**	**178**	*e*PN	**Pn**	**03 49 59.4**	**-0.9**
	comp=Z,6.0nm,0.5s						
MGR	**Morigerati**	**3.04**	**178**	*e*Pn	**Pn**	**03 49 59.4**	**-0.9**
	comp=Z,6.0nm,0.5s						
VOJS	**Vojsko**	**3.06**	**339**	*i* Pn	**Pn**	**03 50 01.2**	**+0.7**
SEI	**Scarperia**	**3.08**	**288**	*e*PN	**Pn**	**03 50 02.2**	**+1.3**
	comp=Z,43nm,0.4s						
SEI	**Scarperia**	**3.08**	**288**	*e*Pn	**Pn**	**03 50 02.2**	**+1.3**
	comp=Z,43nm,0.4s						
CADS	**Cadrg**	**3.28**	**339**	*i* Pn	**Pn**	**03 50 04.1**	**+0.5**
OBKA	**Obir**	**3.39**	**350**	⇓*i*PN	**Pn**	**03 50 06.6**	**+1.5**
OBKA				*i* SN	**Sn**	**03 50 44.6**	**-1.2**
GMNA	**Gemona**	**3.46**	**334**	*e*PN	**Pn**	**03 50 07.5**	**+1.2**
	comp=Z,83nm,0.6s						
GMNA	**Gemona**	**3.46**	**334**	*e*Pn	**Pn**	**03 50 07.5**	**+1.2**
	comp=Z,83nm,0.6s						
RHK1	**Bakonya**	**3.47**	**32**	*e*P	**Pn**	**03 50 07.3**	**+1.0**
RHK1				*e*S	**Sn**	**03 50 48.6**	**+0.7**
PTCC	**Patocco-Chiusa**	**3.55**	**336**	*e*PN	**Pn**	**03 50 07.8**	**+0.4**
	comp=Z,23nm,0.4s						
PTCC	**Patocco-Chiusa**	**3.55**	**336**	*e*Pn	**Pn**	**03 50 07.8**	**+0.4**
	comp=Z,23nm,0.4s						
PKSM	**Moragy**	**3.80**	**36**	⇑*e*P	**Pn**	**03 50 13.7**	**+2.7**
FVI	**Forni Avoltri**	**3.90**	**332**	*e*PN	**Pn**	**03 50 12.3**	**-0.1**
	comp=Z,58nm,0.9s						
FVI	**Forni Avoltri**	**3.90**	**332**	*e*Pn	**Pn**	**03 50 12.3**	**-0.1**
	comp=Z,58nm,0.9s						
ARSA	**Arzberg**	**4.07**	**1**	⇑*i*PN	**Pn**	**03 50 15.9**	**+1.0**
ARSA				*i* SN	**Sn**	**03 51 01.5**	**-1.6**
KBA	**Koelnbreinsper**	**4.17**	**340**	⇓*i*PN	**Pn**	**03 50 17.1**	**+0.9**
KBA				*i* SN	**Sn**	**03 51 04.1**	**-1.5**
MOA	**Molln**	**4.74**	**350**	⇑*i*PN	**Pn**	**03 50 25.2**	**+0.8**
MOA				*i* SN	**Sn**	**03 51 17.3**	**-2.8**
PGF	**Pioggiola**	**4.77**	**265**	*e*Pn	**Pn**	**03 50 23.9**	**-0.9**
WTTA	**Wattenberg**	**4.88**	**328**	⇑*i*PN	**Pn**	**03 50 26.7**	**+0.3**
WTTA				*i* SN	**Sn**	**03 51 21.5**	**-2.2**
WATA	**Walderalm**	**4.96**	**328**	⇓*i*PN	**Pn**	**03 50 28.1**	**+0.5**
WATA				*i* SN	**Sn**	**03 51 23.1**	**-2.7**
SQTA	**Sankt Quirin**	**5.02**	**325**	⇑*i*PN	**Pn**	**03 50 28.9**	**+0.6**
SQTA				*i* SN	**Sn**	**03 51 24.9**	**-2.3**
MOTA	**Moosalm**	**5.16**	**325**	⇑*i*PN	**Pn**	**03 50 30.8**	**+0.5**
MOTA				*i* SN	**Sn**	**03 51 28.3**	**-2.4**
DAVA	**Damuels**	**5.67**	**318**	⇑*i*PN	**Pn**	**03 50 37.7**	**+0.1**
DAVA				*i* SN	**Sn**	**03 51 41.3**	**-2.3**
GEC2	**GERESS Array S**	**5.79**	**349**	*e*Pn	**Pn**	**03 50 38.6**	**-0.6**
GEC2				*e*Sn	**Sn**	**03 51 43.8**	**-2.7**
SBF	**Sospel**	**5.85**	**279**	*e*Pn	**Pn**	**03 50 38.0**	**-2.1**
SBF				*e*Sn	**Sn**	**03 51 41.2**	**-6.9**
	comp=Z,7.4nm,0.5s						
KHC	**Kasperske Hory**	**6.09**	**348**	*e*PN	Px	03 50 42.8	
KHC				*ex*	x	03 50 53.4	
KHC				*ex*	x	03 51 37.5	
KHC				*e*SN	Sx	03 51 51.2	
WET	**Wettzell**	**6.22**	**344**	*e*Pn	Px	03 50 43.9	
WET				*e*Sn	Sx	03 51 52.1	
FRF	**La Foret Royal**	**6.41**	**276**	*e*Pn	Px	03 50 45.4	
FRF				*e*Sn	Sx	03 51 54.3	
	comp=Z,1.1nm,0.3s						
MBDF	**Montbardon**	**6.44**	**287**	*e*Pn	Px	03 50 44.6	
MBDF				*e*Sn	Sx	03 51 54.3	
	comp=Z,2.0nm,0.3s						
LMR	**La Mourre**	**6.52**	**274**	*e*Pn	Px	03 50 47.2	
LMR				*e*Sn	Sx	03 51 56.8	
	comp=Z,0.5nm,0.3s						
LPG	**La Plagne**	**6.64**	**293**	*e*Pn	Px	03 50 47.3	
LPG				*e*Sn	Sx	03 51 59.7	
	comp=Z,3.7nm,0.4s						
LPL	**La Plagne**	**6.66**	**294**	*e*Pn	Px	03 50 47.9	
LPL				*e*Sn	Sx	03 52 00.1	
	comp=Z,8.3nm,0.3s						
MORC	**Moravsky Berou**	**6.76**	**12**	*e*P	Px	03 50 53.7	
NOTT	**Nottersdorf**	**7.01**	**342**	*e*Pn	Px	03 50 53.8	
ORIF	**Oris-en-Rattie**	**7.10**	**287**	*e*Pn	Px	03 50 55.1	
ORIF				*e*Sn	Sx	03 52 10.0	
	comp=Z,1.8nm,0.3s						
NKC	**Novy Kostel**	**7.34**	**345**	*e*PN	Px	03 51 02.0	
NKC				*e*SN	Sx	03 52 19.7	
CABF	**La Chapelle**	**7.47**	**301**	*e*Pn	Px	03 50 59.3	
CABF				*e*Sn	Sx	03 52 19.8	
	comp=Z,0.6nm,0.3s						
HINF	**Hinteralfeld**	**7.60**	**311**	*e*Pn	Px	03 51 01.4	
HINF				*e*Sn	Sx	03 52 23.1	
	comp=Z,1.8nm,0.3s						
CDF	**Champ du Feu**	**7.73**	**315**	*e*Pn	Px	03 51 04.6	
VIVF	**Saint-Julien-l**	**7.93**	**286**	*e*Pn	Px	03 51 03.8	
HAU	**Haudompre**	**7.99**	**310**	*e*Pn	Px	03 51 05.8	
HAU				*e*Sn	Sx	03 52 31.6	
	comp=Z,19nm,0.5s						
CLL	**Collm**	**8.29**	**349**	*e*SG	Sx	03 53 46.0	
SMF	**Signal de Mont**	**8.92**	**297**	*e*Pn	Px	03 51 18.4	
SMF				*e*Sn	Sx	03 52 53.7	
	comp=Z,2.0nm,0.3s						
AVF	**Avril sur Loir**	**9.29**	**297**	*e*Pn	Px	03 51 23.7	

*IDC **09** 03:57:54.5±1.2, 11.15N×92.48E, mb3.9/6, mb1 4.1/7, mb1mx3.8/17, mbtmp3.8/7, ML3.8/1, MS3.0/2, Ms1 3.1/2, ms1mx2.9/16, Error ellipse: s-maj=45.8km s-min=22.1km az=55.0*
*NEIC **09** 03:57:59.2±0.6, 11.18N×92.56E, h30km, mb4.1/2, Error ellipse: s-maj=17.3km s-min=11.0km az=61.0*

ISC 09 03:57:57.5±0.8, 11.32N±0.07×92.7E±0.1, h30km, n11, σ0§64/11, mb3.9/8, MS3.4/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.34**	**9**	*e*P	**Pb**	**03 58 05.4**	**-0.2**
PBA				*e*S	**Sb**	**03 58 10.1**	**-1.0**
PBA				*e*		03 58 14.2	
	comp=E,10μm,0.4s						
PBA				*e*		03 58 14.5	
	comp=N,13μm,0.2s						
CMAR	**Chiang Mai Arr**	**9.32**	**40**	Pn	**P**	**04 00 14.1**	**+1.0**
	comp=N,0.2nm,0.3s,baz=243,slow=16,SNR=4.7						
CMAR				LR	LR	04 03 50.1	
	comp=N,37nm,20.2s,baz=145,slow=37						
SONM	**Songino Array**	**38.18**	**15**	P	**P**	**04 05 17.3**	**+1.1**
	comp=N,0.2nm,0.3s,mb3.3,baz=202,slow=9.5,SNR=4.5						
ZAL	**Zalesovo**	**42.98**	**353**	LR	LR	04 26 17.0	
	comp=N,43nm,18.4s,MS3.4,baz=127,slow=40						
CHKZ	**Chkalovo**	**45.78**	**342**	*e*P	**P**	**04 06 18.4**	**+0.2**
	comp=N,1.1nm,0.5s,mb4.0						
CHKZ				*e*	pP	04 06 27.5	+0.3
WRA	**Warramunga Arr**	**51.44**	**127**	P	**P**	**04 07 02.0**	**-0.4**
	comp=N,0.5nm,0.5s,mb3.7,baz=300,slow=9.9,SNR=4.9						
WRAB	**Tennant Creek**	**51.44**	**127**	*e*P	**P**	**04 07 02.2**	**-0.3**
	comp=N,1.2nm,0.5s,mb4.1						
ASAR	**Alice Springs**	**53.23**	**131**	P	**P**	**04 07 15.4**	**-0.4**
	comp=N,0.5nm,0.4s,mb3.8,baz=302,slow=7.7,SNR=16						
FINES	**FINESS Array B**	**69.02**	**332**	P	**P**	**04 09 01.6**	**-0.6**
	comp=N,2.7nm,0.8s,mb4.2,baz=104,slow=7.9,SNR=6.4						
ARCES	**ARCESS Array B**	**71.56**	**340**	P	**P**	**04 09 18.2**	**+0.6**
	comp=N,3.3nm,0.9s,mb4.3,baz=100,slow=5.5,SNR=3.4						
GERES	**GERESS Array B**	**74.33**	**318**	P	**P**	**04 09 34.2**	**+0.1**
	comp=N,0.3nm,0.5s,mb3.5,baz=76,slow=4.0,SNR=2.7						

*NEIC **09** 04:01:45.6, 18.03N×68.78W, h140km, MD3.5(RSPR), After RSPR.*

RSPR 09 04:01:45.6, 18.03N×68.78W, h140km±4km, MD3.5/11, MD3.5/11, 10C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGP	**Maguayo**	**1.61**	**90**	⇑*e*P	P	04 02 14.9	-1.1
MGP				*e*S	S	04 02 38.6	-0.7
LSP	**Las Mesas**	**1.62**	**84**	⇑*e*P	P	04 02 15.4	-0.7
LSP				*e*S	S	04 02 39.3	-0.2
LRS	**Lares**	**1.86**	**81**	⇑*e*P	P	04 02 18.6	-0.2
AOPR	**Arecibo Observ**	**1.96**	**80**	⇑*e*P	P	04 02 19.1	-0.9
AOPR				*e*S	S	04 02 45.9	-0.4
PORP	**Portuguez**	**2.04**	**89**	⇑*e*P	P	04 02 20.3	-0.7
PORP				*e*S	S	04 02 48.1	+0.1
CELP	**Cerrillos**	**2.10**	**88**	⇑*e*P	P	04 02 21.2	-0.5
CELP				*e*S	S	04 02 49.0	-0.3
SJG	**San Juan**	**2.51**	**88**	⇓*e*P	P	04 02 27.0	+0.1
SJG	**San Juan**	**2.51**	**88**	⇑*e*P	P	04 02 26.9	0.0
SJG	**San Juan**	**2.51**	**88**	*e*S	S	04 02 58.7	+0.3
SJG	**San Juan**	**2.51**	**88**	⇑*e*P	P	04 02 26.9	0.0
SJG				*e*S	S	04 02 58.7	+0.3
CSB	**Colonia Sabana**	**2.51**	**84**	⇓*e*P	P	04 02 27.1	+0.1
CSB				*e*S	S	04 02 57.9	-0.7
HUMP	**Col San Antoni**	**2.79**	**87**	⇑*e*P	P	04 02 29.9	-0.7
HUMP				*e*S	S	04 03 04.2	-0.7
CBYP	**Canovanas**	**2.79**	**85**	⇑*e*P	P	04 02 29.6	-1.0
CBYP				*e*S	S	04 03 04.4	-0.6

*IDC **09** 04:18:59.3±38.0, 35.79N×70.21E, mb3.8/4, mb1 4.0/4, mb1mx3.5/17, mbtmp3.9/4, MS3.7/1, Ms1 3.8/1, ms1mx2.8/19, Error ellipse: s-maj=691.5km s-min=57.9km az=161.0*

ISC 09 04:19:21.2±2.1, 36.28N±0.08×70.5E±0.3, h199km±25km, n15, σ0§74/18, mb3.6/3, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.86**	**128**	*e*S	**S**	**04 21 56.0**	**+1.6**
AML	**Almayashu**	**6.35**	**22**	P	**P**	**04 20 53.3**	**-0.4**
	SNR=48						
UCH	**Uchtor**	**6.71**	**26**	P	**P**	**04 20 58.3**	**0.0**
	SNR=23						
EKS2	**Erkin-Say**	**6.86**	**21**	P	**P**	**04 21 00.2**	**-0.2**
	SNR=10						
KZA	**Kyzart**	**6.87**	**31**	P	**P**	**04 21 00.1**	**-0.4**
	SNR=8.0						
TKM2	**Tokmak 2**	**7.71**	**29**	P	**P**	**04 21 11.5**	**0.0**
	SNR=8.7						
KLP	**Kalpa**	**8.00**	**124**	*e*P	**P**	**04 21 20.6**	**+5.4**
KLP				*e*S	**S**	**04 22 44.7**	**+0.3**
KLP				*i*		04 22 44.8	
KHET	**Khetri**	**9.34**	**150**	*e*P	**P**	**04 21 36.8**	**+4.1**
KHET				*e*S	**S**	**04 23 15.8**	**+0.3**
KHET				*e*S	**S**	**04 23 16.3**	**+0.8**
KHET				*e*		04 23 18.2	
	comp=N,16nm,0.4s						
NDI	**New Delhi**	**9.46**	**141**	*e*S	**S**	**04 23 17.0**	**-1.4**
KUDL	**Kundal**	**9.57**	**146**	*e*S	**S**	**04 23 19.6**	**-1.3**
KUDL				*e*		04 23 35.8	
AYAN	**Aya Nagar**	**9.58**	**142**	*i*	Px	04 21 48.8	
AYAN				*i* S	**S**	**04 23 21.4**	**+0.1**
AYAN				AML	AML	04 23 23.3	
	comp=Z,15nm,0.2s						
ZAL	**Zalesovo**	**20.27**	**25**	P	**P**	**04 23 42.4**	**-0.1**
	comp=Z,2.0nm,0.2s,baz=254,slow=8.5,SNR=3.4						
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**04 26 16.9**	**+0.4**
	comp=Z,3.5nm,0.9s,mb3.9,baz=120,slow=11,SNR=5.2						
ARCES	**ARCESS Array B**	**41.19**	**338**	P	**P**	**04 26 47.7**	**+0.3**
	comp=Z,3.0nm,0.9s,mb3.7,baz=111,slow=7.7,SNR=8.1						
NOA	**NORSAR Array B**	**44.31**	**323**	P	**P**	**04 27 12.6**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.1,baz=241,slow=6.5,SNR=2.5						
NOA				LR	LR	04 48 17.8	
	comp=Z,74nm,18.1s,baz=290,slow=40						

WEL 09 04:43:17.1±0.1, 40.89S×175.51E, h26km±1km, ML3.6/15, 9C-5D, Error ellipse: s-maj=1.1km s-min=0.6km az=90.0, North Island

| Code | Station Name

SCLL	**Scilla**	**1.11 188**	*e*P	**P**	**05 00 26.6**	**-0.2**
MSRU	**Castanea**	**1.14 196** ⇓	*i*P	**P**	**05 00 26.4**	**-0.6**
MSRU			S	**S**	**05 00 53.8**	**-3.0**
SGO	**Sicignano** 28nm,0.6s	**1.28 339** ⇓	*i*P	**P**	**05 00 28.2**	**+0.3**
SGO	**Sicignano** 28nm,0.6s	**1.28 339** ⇓	*i*P	**P**	**05 00 28.2**	**+0.3**
SOI	**Samo** 51nm,0.6s	**1.29 175** ⇓	*i*P	**P**	**05 00 28.3**	**+0.4**
SOI	**Samo** 51nm,0.6s	**1.29 175** ⇓	*i*P	**P**	**05 00 28.3**	**+0.4**
MTTG	**Motta San Giov**	**1.37 187** ⇓	*i*P	**P**	**05 00 28.9**	**+0.5**
CLLN	**Colliano**	**1.43 342** ⇓	*i*P	**P**	**05 00 29.1**	**+0.3**
MRLC	**Muro Lucano** 5.0nm,0.3s	**1.43 347** ⇓	*i*P	**P**	**05 00 29.1**	**+0.2**
MRLC	**Muro Lucano** 5.0nm,0.3s	**1.43 347** ⇓	*i*P	**P**	**05 00 29.1**	**+0.2**
MMME	**Mongiuffi-Meli**	**1.51 200** ⇓	*i*P	**P**	**05 00 30.6**	**+1.2**
SG1	**Sgolgore (BA)**	**1.59 22** ⇓	*i*Pn	**P**	**05 00 29.9**	**-0.1**
ISOR	**Termini**	**1.72 316** ⇓	*i*P	**P**	**05 00 30.5**	**-0.4**
PE1	**Pezze di Greco**	**1.85 38** ⇓	*i*Pn	**P**	**05 00 32.2**	**+0.2**
GIB	**Gibilmanna**	**2.01 228** ⇓	*i*P	**P**	**05 00 33.5**	**+0.2**
SGG	**Gregorio Mates**	**2.34 331**	*e*P	**P**	**05 00 36.8**	**+0.5**
VISS	**Visnje**	**6.49 353**	*i* P	**P**	**05 01 23.8**	**-0.1**
LJU	**Ljubljana**	**6.76 352**	*i* P	**P**	**05 01 27.2**	**0.0**
CADS	**Cadrg**	**7.05 348**	*i* P	**P**	**05 01 30.3**	**-0.6**
GERES	**GERESS Array B** 0.2nm,0.3s,baz=166,slow=12,SNR=4.2	**9.61 351**	P	**P**	**05 02 01.2**	**-1.7**
ESDC	**Sonseca Array** 0.2nm,0.3s,baz=72,slow=11,SNR=6.8	**15.34 277**	P	**P**	**05 03 15.0**	**+1.6**
HFS	**Hagfors** 0.0nm,0.3s,baz=163,slow=15,SNR=3.8	**20.84 357**	P	**P**	**05 04 10.0**	**-0.2**
FINES	**FINESS Array B** 2.4nm,0.9s,mb3.5,baz=190,slow=8.5,SNR=4.4	**22.98 13**	P	**P**	**05 04 31.0**	**+0.3**
SCHQ	**Schefferville** 2.1nm,0.8s,mb3.6,baz=73,slow=12,SNR=2.4	**55.12 316**	P	**P**	**05 08 53.0**	**-1.7**

*IDC **09** 05:16:52.4±1.1,4.81N×94.74E,mb4.0/9,mb1 4.2/10, mb1mx4.0/18,mbtmp4.0/10,ML4.1/1,MS2.8/1,Ms1 3.0/1, ms1mx2.8/16,Error ellipse: s-maj=53.7km s-min=19.4km az=51.0*
*NEIC **09** 05:16:56.4±0.7,4.62N×94.57E,h30km,mb4.3/5,Error ellipse: s-maj=23.1km s-min=11.5km az=60.0*
ISC 09 05:16:54.6±0.8,4.7N±0.1×94.6E±0.2,h30km,n15, σ0.99/15,mb4.1/14,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.37**	**17**	Pn	**P**	**05 20 20.1**	**+1.9**
	0.3nm,0.3s,baz=210,slow=11,SNR=28						
CMAR				LR	LR	05 25 07.7	
	comp=Z,43nm,20.2s,baz=13,slow=35						
LSA	**Lhasa**	**25.13**	**353**	P	**P**	**05 22 20.5**	**+1.8**
	4.6nm,0.6s,mb4.2						
SONM	**Songino Array**	**44.21**	**11**	P	**P**	**05 25 01.5**	**-1.3**
	2.4nm,1.1s,mb3.8,baz=192,slow=8.6,SNR=12						
SONM				PcP	PcP	05 26 46.7	-1.0
	0.4nm,0.5s,baz=189,slow=4.6,SNR=3.8						
ULN	**Ulaanbaatar**	**44.37**	**12**	*e*P	**P**	**05 25 02.4**	**-1.7**
	0.8nm,0.6s,mb3.6						
WRA	**Warramunga Arr**	**46.08**	**123**	P	**P**	**05 25 18.2**	**+0.1**
	1.6nm,0.6s,mb4.1,baz=302,slow=9.2,SNR=9.5						
WRAB	**Tennant Creek**	**46.09**	**123**	*e*P	**P**	**05 25 18.2**	**+0.1**
	9.1nm,1.1s,mb4.6						
ASAR	**Alice Springs**	**47.55**	**128**	P	**P**	**05 25 29.9**	**+0.2**
	0.7nm,0.7s,mb3.8,baz=299,slow=8.1,SNR=9.4						
ZAL	**Zalesovo**	**49.78**	**352**	P	**P**	**05 25 45.8**	**-0.7**
	1.9nm,0.8s,mb4.2,baz=287,slow=4.4,SNR=9.5						
BVAR	**Borovoye Array**	**52.17**	**342**	P	**P**	**05 26 04.3**	**-0.3**
	1.9nm,0.8s,mb4.1,baz=141,slow=9.5,SNR=12						
BRVK	**Borovoye**	**52.23**	**342**	*e*P	**P**	**05 26 04.4**	**-0.8**
	1.5nm,0.6s,mb4.1						
CHKZ	**Chkalovo**	**52.66**	**342**	*e*P	**P**	**05 26 07.6**	**-0.8**
	3.2nm,0.6s,mb4.4						
BRTR	**Keskin Array B**	**64.88**	**312**	P	**P**	**05 27 33.8**	**+0.2**
	0.9nm,0.8s,mb3.9,baz=102,slow=6.2,SNR=5.4						
FINES	**FINESS Array B**	**75.76**	**333**	P	**P**	**05 28 39.0**	**-0.1**
	7.3nm,1.1s,mb4.5,baz=153,slow=3.1,SNR=3.6						
ARCES	**ARCESS Array B**	**78.44**	**340**	P	**P**	**05 28 54.2**	**+0.3**
	2.3nm,0.7s,mb4.2,baz=90,slow=6.3,SNR=4.0						
GERES	**GERESS Array B**	**80.52**	**319**	P	**P**	**05 29 07.1**	**+1.6**
	0.5nm,0.8s,mb3.5,baz=76,slow=4.0,SNR=3.0						

TAP 09 05:33:55.9,24.58N×121.65E,h62km,ML3.6,4C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENTT	**Nioudou**	**0.10**	**308** ⇓	*i*P	P	05 34 05.6	+0.5
ENTT				S	S	05 34 12.3	+0.5
TWE	**Neicheng**	**0.14**	**6** ⇓	*i*P	P	05 34 05.8	+0.7
TWE				S	S	05 34 12.6	+0.6
ENA	**Nanau**	**0.17**	**151** ⇓	*i*P	P	05 34 05.2	-0.1
ENA				S	S	05 34 12.3	0.0
TWC	**Suao**	**0.18**	**81** ⇓	*i*P	P	05 34 05.8	+0.5
TWC				S	S	05 34 12.8	+0.4
ILA	**Ilan**	**0.20**	**26**	*e*P	P	05 34 06.0	+0.4
ILA				S	S	05 34 13.8	+1.2
NSK	**Sanguang**	**0.28**	**290** ⇓	*i*P	P	05 34 06.3	+0.2
NSK				S	S	05 34 13.6	0.0
NNS	**Nan Shan**	**0.29**	**241** ⇓	*i*P	P	05 34 06.7	+0.5
NNS				S	S	05 34 14.1	+0.4
TWA	**Mucha**	**0.40**	**351**	*i* P	P	05 34 07.5	+0.4
TWA				S	S	05 34 15.5	+0.2
TAP1	**Taipei**	**0.47**	**346**	*e*P	P	05 34 06.0	-1.7
TAP1				S	S	05 34 16.5	+0.1
TAP	**Taipei**	**0.48**	**344**	*e*P	P	05 34 07.1	-0.7
TAP				S	S	05 34 16.0	-0.6
TWD	**Chiawan**	**0.50**	**186** ⇓	*i*P	P	05 34 06.9	-1.1
TWD				S	S	05 34 15.5	-1.5
NWF	**Wu-fen Shan**	**0.50**	**14** ⇑	*i*P	P	05 34 08.5	+0.4
NWF				S	S	05 34 17.4	+0.3
TWB1	**Santiao Chiao**	**0.53**	**36**	*e*P	P	05 34 08.7	+0.4
TWB1				S	S	05 34 17.8	+0.3
TWT	**Tachien**	**0.54**	**233**	P	P	05 34 09.5	+1.0
TWT				S	S	05 34 18.5	+0.8
WHF	**Hehuan Shan**	**0.56**	**219** ⇓	*i*P	P	05 34 09.2	+0.5
WHF				S	S	05 34 18.6	+0.5
TWS1	**Kuangyinshan**	**0.56**	**338** ⇑	*i*P	P	05 34 09.2	+0.5
TWS1				S	S	05 34 19.0	+0.9
NCU	**National Centr**	**0.57**	**313**	P	P	05 34 09.3	+0.4
NCU				S	S	05 34 19.2	+0.8
NSTT	**Nanjuang**	**0.59**	**275**	*e*P	P	05 34 09.2	+0.1
NSTT				S	S	05 34 19.1	+0.3
HWA	**Hwalien**	**0.60**	**184**	*e*P	P	05 34 08.2	-0.9
HWA				S	S	05 34 18.2	-0.8
HSN	**Hsinchu**	**0.66**	**290**	*e*P	P	05 34 09.8	0.0
HSN				S	S	05 34 20.1	-0.1
TWY	**Chenhua**	**0.69**	**356**	*e*P	P	05 34 10.5	+0.3
ESL	**Shilin**	**0.79**	**195**	*e*P	P	05 34 09.6	-1.8
ESL				S	S	05 34 20.4	-2.6
NSY	**Sanyi**	**0.83**	**259**	P	P	05 34 12.5	+0.6
NSY				S	S	05 34 24.7	+0.9
TWQ1	**Liyutan**	**0.83**	**254**	*e*P	P	05 34 12.3	+0.3
TWQ1				S	S	05 34 24.3	+0.3
SMLT	**Sun Moon Lake**	**0.97**	**225** ⇑	*i*P	P	05 34 14.5	+0.6
SMLT				S	S	05 34 28.2	+0.9
TYC	**Yuchr**	**0.99**	**227** ⇑	*i*P	P	05 34 14.4	+0.4
TYC				S	S	05 34 28.2	+0.6
EHY	**Hungye**	**1.11**	**196**	*e*P	P	05 34 15.0	-0.8
WNT	**Mingjian**	**1.12**	**232**	*e*P	P	05 34 16.2	+0.2
WNT				S	S	05 34 31.6	+0.8
YUS	**Yu-Shan**	**1.26**	**211**	*e*P	P	05 34 18.5	+0.7
YUS				S	S	05 34 35.4	+1.3
TWF1	**Yuli**	**1.26**	**195**	*e*P	P	05 34 15.6	-2.2
ALS	**Alishan**	**1.31**	**216**	*e*P	P	05 34 19.1	+0.5
ALS				S	S	05 34 36.6	+1.0
CHN5	**Tsauling**	**1.32**	**222**	P	P	05 34 18.7	0.0
CHN5				S	S	05 34 36.1	+0.4
WGK	**Gukeng**	**1.33**	**228**	*e*P	P	05 34 19.1	+0.2
WGK				S	S	05 34 36.7	+0.7
ELDTW	**Lidau**	**1.50**	**203**	*e*P	P	05 34 21.0	-0.2
ELDTW				S	S	05 34 38.8	-1.1
CHY	**Chiayi**	**1.56**	**226**	*e*P	P	05 34 21.7	-0.2
CHN4	**Tsaushan**	**1.56**	**219**	*e*P	P	05 34 22.2	+0.3
CHN4				S	S	05 34 43.1	+1.9
STYT	**Tauyuan**	**1.63**	**210**	*e*P	P	05 34 23.2	+0.3
STYT				S	S	05 34 44.7	+1.8
WTP	**Ta-pu**	**1.63**	**216**	*e*P	P	05 34 23.1	+0.1
TWK	**Hsinying**	**1.69**	**219**	*e*P	P	05 34 23.9	+0.2
TWK				S	S	05 34 45.2	+1.0
CHN1	**Nanshi**	**1.73**	**217**	*e*P	P	05 34 24.2	-0.1
CHN1				S	S	05 34 46.6	+1.4
SGST	**Jiashian**	**1.78**	**213**	*e*P	P	05 34 25.3	+0.3
TWG	**Pinlang**	**1.83**	**197**	*e*P	P	05 34 25.4	-0.3
EAST	**Anshuo**	**2.31**	**199**	*e*P	P	05 34 32.3	-0.1

GUC 09 05:48:59.8±0.8,31.99S×67.46W,h140km,ML3.5,4C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**2.74**	**240** ⇑	*i*P	P	05 49 44.5	+0.4
FCH				*i* S	S	05 50 19.0	+1.1
FCH				AMP		05 50 20.3	
	comp=E,32nm,0.5s						
CLCH	**Cerro Calan**	**2.95**	**241** ⇑	*i*P	P	05 49 47.1	+0.2
CLCH				*i* S	S	05 50 23.0	+0.2
CLCH				AMP		05 50 24.4	
	comp=N,84nm,0.5s						
PTCH	**Petorca**	**2.96**	**264** ⇑	*i*P	P	05 49 48.4	+1.4
PTCH				*i* S	S	05 50 22.2	-0.8
PTCH				AMP		05 50 23.6	
	comp=N,246nm,0.3s						
CMCH	**Combarbala**	**3.13**	**284** ⇑	*i*P	P	05 49 51.5	+2.2
CMCH				*i* S	S	05 50 27.1	0.0
CMCH				AMP		05 50 30.0	
	comp=N,276nm,0.6s						
RCDM	**Rinconada Maip**	**3.19**	**241**	*i* S	S	05 50 28.2	-0.3
RCDM				AMP		05 50 30.8	
	comp=E,55nm,0.1s						

IDC 09 05:50:48.5±2.1,22.78N×144.36E,mb3.4/3,mb1 3.8/3, mb1mx3.4/18,mbtmp3.4/3,Error ellipse: s-maj=253.1km s-min=32.1km az=110.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.58**	**194**	P	P	05 58 54.4	-1.8
	0.3nm,0.6s,baz=15,slow=9.5,SNR=3.0						
ILAR	**Eielson Array**	**60.58**	**27**	P	P	06 01 00.6	-2.3
	0.5nm,0.8s,baz=256,slow=5.7,SNR=5.6						
YKA	**Yellowknife Ar**	**74.99**	**28**	P	P	06 02 31.4	-1.7
	0.3nm,0.6s,baz=293,slow=6.2,SNR=6.2						

*THE **09** 05:57:04.0,38.95N×23.39E,h1km,ML2.4*
*ATH **09** 05:57:05.1,38.99N×23.42E,h7km,MD2.7/5*
*CSEM **09** 05:57:05.3±0.1,38.99N×23.41E,h1km,MD2.7,Error ellipse: s-maj=2.2km s-min=1.0km az=76.0*
*NEIC **09** 05:57:05.1,38.99N×23.42E,h7km,MD2.7(ATH),After ATH.*
ISC 09 05:57:04.1±0.6,38.99N±0.03×23.38E±0.05,h4km±7km, n10,σ0.60/17,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.34**	**339**	*e*PB	**Pb**	**05 57 12.0**	**-0.2**
NEO				*e*SB	**Sb**	**05 57 17.0**	**-0.6**
XOR	**Xorichti**	**0.40**	**339**	*e*Pg	**Pg**	**05 57 12.8**	**+0.6**
	comp=Z,8.2nm,0.1s						
XOR				*e*Sg	**Sg**	**05 57 18.5**	**+0.9**
AOS	**Alonnisos**	**0.43**	**65**	*e*Pg	**Pg**	**05 57 12.4**	**-0.2**
AOS				*e*Sg	**Sg**	**05 57 18.5**	**+0.2**
AOS	**Alonnisos**	**0.43**	**65**	*e*Pg	**Pg**	**05 57 12.4**	**-0.2**
AGG	**Agios Georgios**	**0.82**	**273**	*e*Pg	**Pg**	**05 57 19.4**	**-1.1**
	comp=Z,2.6nm,0.1s						
AGG				*e*Sg	**Sg**	**05 57 31.8**	**+0.3**
MPAR	**Parnis Oros**	**0.88**	**162**	*e*PG	**Pg**	**05 57 21.5**	**-0.2**
MPAR				*e*SB	**Sb**	**05 57 33.0**	**-0.4**
PAIG	**Paliouri**	**0.96**	**14**	*e*Pg	**Pg**	**05 57 23.2**	**-0.1**
PTL	**Penteli**	**1.01**	**158**	*e*PN	**Pn**	**05 57 24.4**	**-0.5**
PTL				*e*SB	**Sb**	**05 57 37.5**	**+0.3**
NSAL	**Nisos Salamina**	**1.08**	**177**	*e*PB	**Pb**	**05 57 25.5**	**+0.5**
NSAL				*e*SB	**Sb**	**05 57 40.5**	**+1.2**
NAIG	**Nisos Aigina**	**1.23**	**176**	*e*PG	**Pg**	**05 57 28.0**	**-0.7**

*CSEM **09** 06:19:33.5±0.1,35.87N×26.70E,h116km±3km,MD3.4, Error ellipse: s-maj=3.4km s-min=2.6km az=156.0*
*ATH **09** 06:19:35.5,35.91N×26.58E,h97km±4km*
*NEIC **09** 06:19:35.5,35.91N×26.58E,h97km,After ATH.*
*ISK **09** 06:19:36.5,35.94N×26.53E,h34km,MD3.4*
*HLW **09** 06:19:37.5,35.63N×26.81E,h33km,Mb4.0*
ISC 09 06:19:34.6±0.7,35.79N±0.07×26.65E±0.05,h114km±15km, n35,σ0.85/39,5C-2D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**1.00**	**238**	*e*P	**P**	**06 19 56.2**	**-0.2**
SANT	**Santorini**	**1.12**	**301** ⇓	*e*Pn	**P**	**06 19 56.5**	**-1.2**
SANT				*e*Sn	**S**	**06 20 06.7**	**-8.3**
SANT	**Santorini**	**1.12**	**301** ⇓	*e*Pn	**P**	**06 19 56.5**	**-1.2**
XRY	**Khrisi**	**1.20**	**221**	*e*P	**P**	**06 19 59.5**	**+0.9**
ARG	**Arkhangelos**	**1.27**	**70**	*e*P	**P**	**06 20 00.0**	**+0.6**
APE	**Apeiranthos**	**1.56**	**325**	*e*P	**P**	**06 20 02.0**	**-0.8**
MLSB	**Milas**	**1.75**	**31**	*i* PN	**P**	**06 20 04.5**	**-0.6**
MLSB				*i* SN	**S**	**06 20 24.7**	**-3.4**
YER	**Yerkesik**	**1.88**	**44**	PN	**P**	**06 20 07.1**	**+0.4**
DALT	**Dalyan (Mudla)**	**1.88**	**58**	PN	**P**	**06 20 07.4**	**+0.7**
DALT				SN	**S**	**06 20 30.1**	**-0.7**
VAM	**Vamos**	**2.03**	**260**	*e*P	**P**	**06 20 09.5**	**+0.9**
FETY	**Fethiye**	**2.14**	**66**	PN	**P**	**06 20 10.9**	**+0.8**
GVD	**Gavdhos**	**2.30**	**246**	*e*P	**P**	**06 20 14.0**	**+1.8**
KSL	**Kastellorizon**	**2.41**	**81**	*e*P	**P**	**06 20 15.0**	**+1.3**
ELL	**Elmali**	**2.80**	**69**	PN	**P**	**06 20 20.8**	**+1.8**
KYTH	**Kithira**	**2.97**	**280**	*e*P	**P**	**06 20 20.5**	**-0.7**
VLI	**Veliai**	**3.14**	**288**	*e*P	**P**	**06 20 23.2**	**-0.3**
HMAT	**Matruh**	**4.70**	**175**	P	**P**	**06 20 44.0**	**-0.7**
DABA	**Dabaa**	**4.96**	**164**	P	**P**	**06 20 47.7**	**-0.4**
HBRG	**Burj al 'Arab**	**5.85**	**152** ⇑	P	**P**	**06 21 00.1**	**-0.1**
SWA1		**6.56**	**187**	P	**P**	**06 21 09.9**	**0.0**
SWA1				S	**S**	**06 22 17.6**	**-6.2**
SWA1		**6.56**	**187**	P	**P**	**06 21 09.9**	**0.0**
SWA2		**6.61**	**189** ⇑	P	**P**	**06 21 10.5**	**-0.1**
FYM	**Al Fayyum**	**7.12**	**147** ⇑	P	**P**	**06 21 16.8**	**-0.8**
AYT	**Al 'Ayyat**	**7.16**	**147** ⇑	P	**P**	**06 21 17.4**	**-0.7**
KOT	**Kottamia**	**7.29**	**142**	P	**P**	**06 21 19.3**	**-0.7**
HSAF	**As Saff**	**7.42**	**145**	P	**P**	**06 21 21.1**	**-0.5**
GLL	**Jalalah**	**7.52**	**144**	P	**P**	**06 21 22.2**	**-0.8**
HRSH	**Kfar Ka'horesh**	**7.63**	**127**	P	**P**	**06 21 24.0**	**-0.5**
RSH		**7.63**	**127**	P	**P**	**06 21 24.0**	**-0.5**
AWBH		**7.69**	**165**	P	**P**	**06 21 25.1**	**-0.2**
SUZ		**7.89**	**137** ⇑	P	**P**	**06 21 27.8**	**-0.3**
HNKL	**Nakhl**	**8.50**	**131**	P	**P**	**06 21 36.1**	**-0.1**
HKAT	**Jabal Katrina**	**9.55**	**137**	P	**P**	**06 21 50.5**	**+0.2**
HDK1	**Dakhla**	**10.49**	**166**	P	**P**	**06 22 03.9**	**+1.1**
AKRG	**Al Kharijah**	**10.78**	**161**	P	**P**	**06 22 08.2**	**+1.6**

IDC 09 06:20:11.8±3.0,52.10N×174.37E,mb3.2/3,mb1 3.6/3, mb1mx3.4/20,mbtmp3.2/3,Error ellipse: s-maj=65.1km s-min=13.3km az=26.0,Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**1.08**	**317**	Pn	Pn	06 20 32.8	-1.2
	26nm,0.3s,baz=194,slow=9.2,SNR=86						
FX1				Sn	Sn	06 20 48.7	-1.2
	118nm,0.3s,baz=279,slow=19,SNR=24						
ILAR	**Eielson Array**	**23.46**	**42**	P	P	06 25 21.7	-1.5
	0.3nm,0.6s,baz=248,slow=7.9,SNR=8.2						
YKA	**Yellowknife Ar**	**37.79**	**46**	P	P	06 27 30.0	-1.0
	0.2nm,0.5s,baz=286,slow=7.9,SNR=5.9						
TXAR	**Lajitas Array**	**62.68**	**77**	P	P	06 30 38.2	-2.2
	0.3nm,0.6s,baz=307,slow=6.2,SNR=5.5						

*IDC **09** 06:22:28.1±1.2,5.62N×93.39E,mb3.9/8,mb1 4.1/9, mb1mx3.9/18,mbtmp3.9/9,ML3.8/1,MS2.9/1,Ms1 3.1/1, ms1mx2.4/24,Error ellipse: s-maj=55.9km s-min=21.0km az=51.0*
*NEIC **09** 06:22:32.2±0.8,5.45N×93.34E,h30km,mb4.2/2,Error ellipse: s-maj=28.9km s-min=15.6km az=61.0*
ISC 09 06:22:30.3±0.8,5.5N±0.1×93.4E±0.2,h30km,n12, σ1.07/11,mb4.0/10,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.99**	**22**	P	**P**	**06 25 50.0**	**+1.0**
	0.2nm,0.3s,baz=222,slow=12,SNR=3.8						
CMAR				LR	LR	06 32 02.6	
	comp=Z,50nm,18.8s,baz=275,slow=41						
SONM	**Songino Array**	**43.65**	**13**	P	**P**	**06 30 33.7**	**-0.2**
	0.7nm,0.8s,mb3.4,baz=206,slow=8.5,SNR=3.5						
WRA	**Warramunga Arr**	**47.54**	**123**	P	**P**	**06 31 05.8**	**+0.5**
	1.3nm,0.8s,mb4.0,baz=298,slow=10,SNR=3.7						
WRAB	**Tennant Creek**	**47.54**	**123**	P	**P**	**06 31 03.1**	**-2.3**
	1.5nm,0.5s,mb4.3						
ZAL	**Zalesovo**	**48.81**	**353**	P	**P**	**06 31 13.5**	**-1.2**
	0.7nm,0.6s,mb3.9,baz=326,slow=15,SNR=3.5						
ASAR	**Alice Springs**	**49.01**	**128**	P	**P**	**06 31 17.6**	**+1.0**
	0.7nm,0.8s,mb3.8,baz=309,slow=8.5,SNR=7.5						
BRVK	**Borovoye**	**51.07**	**342**	*e*P	**P**	**06 31 31.0**	**-1.0**
	1.7nm,0.7s,mb4.1						
FINES	**FINESS Array B**	**74.47**	**333**	P	**P**	**06 34 06.4**	**-1.0**
	7.0nm,1.1s,mb4.5,baz=124,slow=5.0,SNR=5.0						
ARCES	**ARCESS Array B**	**77.25**	**340**	P	**P**	**06 34 23.4**	**+0.4**
	1.9nm,0.8s,mb4.0,baz=108,slow=5.7,SNR=3.5						
GERES	**GERESS Array B**	**79.10**	**319**	P	**P**	**06 34 34.7**	**+1.1**
	0.6nm,0.7s,mb3.7,baz=108,slow=4.2,SNR=4.2						
DAVOX	**Davos**	**81.59**	**316**	P	**P**	**06 34 48.0**	**+1.2**
	2.0nm,0.8s,mb4.1,baz=126,slow=17,SNR=3.8						
TXAR	**Lajitas Array**	**141.70**	**24**	PKP	PKPdf	06 42 04.2	-0.6
	0.3nm,0.9s,slow=1.8,SNR=2.5						

*IDC **09** 06:26:05.8±1.1,51.25N×168.37W,mb4.0/9,mb1 4.1/10, mb1mx3.9/22,mbtmp3.9/10,ML3.6/1,Error ellipse: s-maj=32.8km s-min=21.9km az=170.0*
*NEIC **09** 06:26:09.5,51.43N×168.45W,h20km,ML3.1(AEIC),After AEIC.*
ISC 09 06:26:06.2±2.2,51.40N±0.06×168.3W±0.2,h12km±14km, n24,σ0.68/27,mb4.0/9,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.61**	**349**	P	**Pn**	**06 26 34.0**	**-0.6**
OKFG	**Magazine Ridge**	**2.03**	**7**	P	**Pn**	**06 26 40.9**	**+0.1**
OKFG				S	**Sn**	**06 27 05.5**	**-0.8**
OKCE	**Okmok Cone E**	**2.04**	**3**	P	**Pn**	**06 26 41.0**	**+0.2**
OKCD	**Okmok Cone D**	**2.04**	**4**	P	**Pn**	**06 26 41.2**	**+0.3**
OKCD				S	**Sn**	**06 27 07.3**	**+0.8**
MSW	**Makushin Switc**	**2.69**	**20**	P	**Pn**	**06 26 50.3**	**+0.1**
MSW				S	**Sn**	**06 27 22.8**	**-0.2**
UNV	**Unalaska Valle**	**2.70**	**24**	P	**Pn**	**06 26 49.8**	**-0.4**
MTBL	**Makushin Table**	**2.77**	**21**	P	**Pn**	**06 26 51.8**	**+0.6**
AKLV	**Akutan Long Va**	**3.12**	**27**	P	**Pn**	**06 26 56.4**	**0.0**
FALS	**False Pass**	**4.56**	**39**	P	**Pn**	**06 27 17.4**	**+0.7**
DT1	**Dutton Round H**	**5.20**	**42**	P	**Pn**	**06 27 25.5**	**-0.2**
DTNA	**Dutton South F**	**5.24**	**42**	P	**Pn**	**06 27 26.2**	**-0.1**
IMA	**Indian Mountai**	**16.49**	**21**	P	**P**	**06 29 57.4**	**-1.2**
ILAR	**Eielson Array**	**17.42**	**32**	P	**P**	**06 30 07.0**	**-3.4**
	0.1nm,0.3s,baz=228,slow=9.9,SNR=8.8						
INK	**Inuvik**	**23.82**	**32**	P	**P**	**06 31 20.7**	**+1.3**
	2.5nm,0.5s,mb3.9,baz=240,slow=8.2,SNR=12						
INK	**Inuvik**	**23.82**	**32**	P	**P**	**06 31 20.7**	**+1.3**
YKA	**Yellowknife Ar**	**30.41**	**48**	P	**P**	**06 32 20.7**	**+0.6**
	0.6nm,0.6s,mb3.5,baz=267,slow=7.9,SNR=19						
YKA	**Yellowknife Ar**	**30.41**	**48**	P	**P**	**06 32 20.7**	**+0.6**
TXAR	**Lajitas Array**	**52.13**	**89**	P	**P**	**06 35 18.2**	**-0.1**
	0.5nm,0.5s,mb3.7,baz=299,slow=6.0,SNR=16						
SONM	**Songino Array**	**52.35**	**302**	P	**P**	**06 35 20.0**	**+0.2**
	0.6nm,0.8s,mb3.6,baz=49,slow=5.2,SNR=5.4						
ARCES	**ARCESS Array B**	**58.96**	**354**	P	**P**	**06 36 06.6**	**-0.5**
	2.9nm,0.9s,mb4.3,baz=350,slow=5.5,SNR=3.6						
BVAR	**Borovoye Array**	**64.87**	**325**	P	**P**	**06 36 47.3**	**+0.5**
	2.0nm,0.5s,mb4.4,baz=53,slow=7.4,SNR=13						
FINES	**FINESS Array B**	**66.92**	**353**	P	**P**	**06 37 00.0**	**+0.2**
	3.6nm,0.9s,mb4.4,slow=3.8,SNR=4.6						
CMAR	**Chiang Mai Arr**	**77.46**	**284**	P	**P**	**06 38 03.6**	**+0.6**
	1.2nm,0.8s,mb3.9,baz=25,slow=6.8,SNR=4.5						
ASAR	**Alice Springs**	**90.27**	**231**	P	**P**	**06 39 06.8**	**-1.2**
	0.4nm,0.6s,mb3.9,baz=30,slow=4.5,SNR=7.1						

*IDC **09** 06:37:34.6±6.2,7.23S×128.69E,h94km±59km,mb3.8/5, mb1 4.1/7,mb1mx3.9/13,mbtmp4.2/7,ML3.8/2,MS2.9/2, Ms1 2.9/2,ms1mx2.5/19,Error ellipse: s-maj=95.6km s-min=22.2km az=63.0*
*NEIC **09** 06:37:38.1±2.1,7.37S×128.39E,h128km±20km,mb4.3/5, Error ellipse: s-maj=20.8km s-min=14.8km az=78.0*
**IS

h32$^{km}_{\pm.5km}$:pP-P,n32,σ0°58/28,mb4.2/21,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.97**	**10**	*i P*	**Pn**	**06 57 37.0**	**+6.3**
PBA				*eS*	Sn	06 57 47.8	-29
PBA				*e*		06 57 48.6	
	comp=E,8μm,0.4s						
PBA				*e*		06 57 48.9	
	comp=N,7μm,0.3s						
CMAR	**Chiang Mai Arr**	**12.62**	**32**	Pn	**P**	**06 59 30.8**	**+0.2**
	comp=N,0.4nm,0.3s,baz=225,slow=14,SNR=6.5						
CMAR				sP		06 59 40.2	
	comp=N,0.1nm,0.3s,baz=232,slow=13,SNR=3.4						
CMAR				LR	LR	07 04 40.2	
	comp=N,65nm,19.0s,baz=235,slow=39						
JIRN	**Jiri**	**20.59**	**345**	*eP*	**P**	**07 01 09.8**	**+0.4**
PKI	**Pulchoki**	**20.71**	**343**	*eP*	**P**	**07 01 10.4**	**-0.3**
DMN	**Daman**	**20.84**	**343**	*eP*	**P**	**07 01 11.9**	**-0.1**
	comp=N,34nm,0.7s						
GUN	**Gumba**	**20.91**	**345**	*eP*	**P**	**07 01 12.7**	**0.0**
	comp=N,24nm,0.6s						
GKN	**Gorkha**	**21.35**	**342**	*eP*	**P**	**07 01 17.2**	**0.0**
	comp=N,29nm,0.5s,mb4.8						
KOLN	**Koldanda**	**21.48**	**339**	*eP*	**P**	**07 01 18.9**	**+0.4**
	comp=N,48nm,0.7s,mb4.9						
LSA	**Lhasa**	**21.88**	**358**	*eP*	**P**	**07 01 23.7**	**+1.2**
	comp=N,12nm,0.8s,mb4.4						
LSA				*e*		07 01 35.0	
MBWA	**Marble Bar**	**39.55**	**137**	*eP*	**P**	**07 04 01.1**	**+0.6**
	comp=N,0.7nm,0.5s,mb3.6						
SONM	**Songino Array**	**41.80**	**15**	P	**P**	**07 04 18.8**	**+0.1**
	comp=N,1.2nm,0.6s,mb3.7,baz=194,slow=7.4,SNR=14						
SONM				pP	pP	07 04 28.3	0.0
	comp=N,1.0nm,0.6s,baz=195,slow=8.0,SNR=6.7						
ULN	**Ulaanbaatar**	**42.00**	**15**	*eP*	**P**	**07 04 19.5**	**-0.8**
	comp=N,0.8nm,0.6s,mb3.5						
ZAL	**Zalesovo**	**46.45**	**354**	P	**P**	**07 04 55.5**	**-0.6**
	comp=N,1.8nm,0.4s,mb4.3,baz=287,slow=6.2,SNR=10.0						
ZAL				pP	pP	07 05 05.9	+0.2
	comp=N,1.7nm,0.6s,baz=113,slow=4.5,SNR=4.7						
NWAO	**Narrogin (SRO)**	**47.01**	**151**	*eP*	**P**	**07 04 60.0**	**-0.8**
	comp=N,31nm,0.8s,mb5.3						
BVAR	**Borovoye Array**	**48.48**	**343**	P	**P**	**07 05 11.5**	**-0.5**
	comp=N,1.6nm,0.7s,mb4.2,baz=141,slow=9.5,SNR=11						
BRVK	**Borovoye**	**48.54**	**343**	*eP*	**P**	**07 05 11.5**	**-0.9**
	comp=N,1.9nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**49.89**	**124**	P	**P**	**07 05 23.4**	**+0.1**
	comp=N,1.6nm,0.5s,mb4.3,baz=305,slow=8.7,SNR=9.1						
WRA				pP	pP	07 05 33.2	+0.1
	comp=N,2.6nm,0.9s,baz=304,slow=8.8,SNR=7.7						
WRAB	**Tennant Creek**	**49.90**	**124**	*eP*	**P**	**07 05 23.2**	**-0.1**
	comp=N,12nm,1.1s,mb4.8						
WRAB				*e*		07 05 32.8	-0.3
ASAR	**Alice Springs**	**51.44**	**128**	P	**P**	**07 05 35.2**	**+0.2**
	comp=N,0.9nm,0.4s,mb4.0,baz=300,slow=7.8,SNR=13						
ASAR				pP	pP	07 05 45.4	+0.6
	comp=N,2.0nm,0.9s,baz=306,slow=7.0,SNR=8.0						
BRTR	**Keskin Array B**	**60.95**	**311**	P	**P**	**07 06 42.5**	**-0.4**
	comp=N,0.8nm,0.6s,mb4.0,baz=129,slow=7.9,SNR=4.8						
BRTR				pP	pP	07 06 52.0	-0.9
	comp=N,0.6nm,0.6s,baz=138,slow=52,SNR=2.7						
MLR	**Muntele Rosu**	**67.82**	**316**	P	**P**	**07 07 28.9**	**+1.3**
	comp=N,1.1nm,0.4s,mb4.2,baz=122,slow=19,SNR=3.5						
FINES	**FINESS Array B**	**71.87**	**333**	P	**P**	**07 07 51.5**	**-0.5**
	comp=N,3.9nm,0.9s,mb4.3,baz=124,slow=6.9,SNR=8.5						
ARCES	**ARCESS Array B**	**74.70**	**340**	P	**P**	**07 08 08.5**	**+0.1**
	comp=N,3.5nm,0.8s,mb4.3,baz=135,slow=5.1,SNR=5.0						
ARCES	**ARCESS Array B**	**74.70**	**340**	P	**P**	**07 08 08.5**	**+0.1**
GERES	**GERESS Array B**	**76.55**	**318**	P	**P**	**07 08 20.3**	**+1.1**
	comp=N,1.1nm,0.7s,mb3.9,baz=79,slow=6.8,SNR=6.8						
GERES				pP	pP	07 08 30.1	+0.7
	comp=N,0.9nm,0.7s,baz=90,slow=7.8,SNR=4.0						
NOA	**NORSAR Array B**	**78.84**	**331**	P	**P**	**07 08 31.1**	**-0.5**
	comp=N,0.9nm,0.7s,mb3.8,baz=115,slow=5.4,SNR=2.8						
LPG	**La Plagne**	**81.24**	**315**	*eP*	**P**	**07 08 38.4**	**-6.4**
	comp=N,9,9nm,1.1s,mb4.4						
ILAR	**Eielson Array**	**95.67**	**22**	P	**P**	**07 09 53.9**	**0.0**
	comp=N,0.1nm,0.6s,mb3.4,baz=304,slow=5.6,SNR=4.1						
PDAR	**Pinedale Array**	**126.04**	**20**	PKP	PKPdf	07 15 32.6	-2.5
	comp=N,0.4nm,0.6s,slow=1.5,SNR=4.5						
NVAR	**Mina Array Bea**	**126.10**	**29**	PKP	PKPdf	07 15 32.7	-2.6
	comp=N,1.0nm,0.3s,baz=218,slow=1.7,SNR=3.5						
NVAR	**Mina Array Bea**	**126.10**	**29**	PKP	PKPdf	07 15 32.7	-2.6
TXAR	**Lajitas Array**	**140.18**	**22**	PKP	PKPdf	07 16 00.4	-1.6
	comp=N,0.4nm,0.6s,baz=323,slow=0.6,SNR=6.6						

*IDC **09** 07:11:40.4±1.3,2.90N×93.75E,h28$^{km}_{\pm6km}$,mb3.7/6, mb1 3.9/7,mb1mx3.7/17,mbtmp3.8/7,ML4.1/1,Error ellipse: s-maj=55.7km s-min=18.4km az=54.0*
*NEIC **09** 07:11:40.0±1.0,2.83N×93.71E,mb4.0/1,Error ellipse: s-maj=31.4km s-min=12.0km az=67.0*

ISC 09 07:11:38.1±1.2,2.8N±0.1×93.7E±0.3,h28^{km}, h28$^{km}_{\pm.7km}$:pP-P,n8,σ0°66/8,mb3.9/7,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.34**	**18**	Pn	**P**	**07 15 28.1**	**+0.6**
	0.3nm,0.3s,baz=215,slow=12,SNR=7.2						
WRA	**Warramunga Arr**	**45.84**	**121**	P	**P**	**07 20 00.5**	**+0.5**
	1.6nm,0.7s,mb4.0,baz=302,slow=9.0,SNR=6.3						
WRA				pP	pP	07 20 08.7	+0.3
	0.3nm,0.4s,baz=146,slow=28,SNR=2.5						
WRAB	**Tennant Creek**	**45.84**	**121**	P	**P**	**07 19 59.0**	**-1.1**
	1.2nm,0.6s,mb4.0						
SONM	**Songino Array**	**46.14**	**12**	P	**P**	**07 20 01.5**	**-0.5**
	0.4nm,0.5s,mb3.6,baz=166,slow=5.9,SNR=3.5						
ASAR	**Alice Springs**	**47.14**	**126**	P	**P**	**07 20 10.9**	**+0.6**
	0.7nm,0.6s,mb3.8,baz=296,slow=7.7,SNR=7.1						
ASAR				pP	pP	07 20 19.1	+0.3
	1.3nm,1.0s,baz=292,slow=6.8,SNR=4.5						
ZAL	**Zalesovo**	**51.46**	**353**	P	**P**	**07 20 42.3**	**-0.8**
	1.4nm,0.3s,mb4.3,baz=318,slow=1.9,SNR=4.6						
STKA	**Stephens Creek**	**57.02**	**131**	P	**P**	**07 21 24.1**	**-0.1**
	1.4nm,0.7s,mb4.1,baz=301,slow=12,SNR=3.6						
GERES	**GERESS Array B**	**81.31**	**319**	P	**P**	**07 23 54.2**	**+0.7**
	0.6nm,0.7s,mb3.7,baz=270,slow=1.3,SNR=4.1						
GERES				pP	pP	07 24 03.6	+1.1
	0.5nm,0.7s,baz=90,slow=2.7,SNR=2.9						

MAN 09 07:24:52.5,9.19N×125.56E,h5^{km},mb4.1,ML2.9,MS2.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.23**	**165**	*eP*	Pg	07 24 57.4	+0.1
SCPH	**Surigao**	**0.59**	**353**	*eP*	Pg	07 25 03.8	-0.5
SCPH				*i S*	Sg	07 25 11.7	-0.5
CGP	**Cagayan de Oro**	**1.13**	**229**	*eP*	Pb	07 25 13.6	-0.6
CGP				*eS*	Sb	07 25 30.9	+2.0
MSLP	**Maasin**	**1.16**	**324**	*eP*	Pb	07 25 13.8	-0.9
BUKP	**Musuan**	**1.40**	**201**	*eP*	Pb	07 25 18.6	-0.2

IDC 09 07:54:08.9±4.2,12.18S×167.11E,mb3.6/3,mb1 3.9/3, mb1mx3.7/14,mbtmp3.6/3,Error ellipse: s-maj=233.5km s-min=31.3km az=141.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.38**	**252**	P	P	08 00 39.9	-2.8
	0.6nm,0.7s,baz=83,slow=8.9,SNR=4.6						
WRA				pP	pP	08 00 52.4	+10
	0.9nm,0.8s,baz=82,slow=9.0,SNR=4.6						
ASAR	**Alice Springs**	**33.51**	**245**	P	P	08 00 51.2	-1.3
	0.5nm,0.9s,baz=88,slow=6.9,SNR=4.3						
ASAR				pP	pP	08 01 03.9	+11
	1.7nm,1.1s,baz=61,slow=10,SNR=6.2						
ILAR	**Eielson Array**	**84.16**	**18**	P	P	08 06 41.8	-1.2
	0.5nm,0.6s,baz=239,slow=5.3,SNR=12						
ARCES	**ARCESS Array B**	**117.76**	**346**	PKP	PKPdf	08 12 56.4	-2.3
	2.5nm,0.9s,baz=79,slow=4.6,SNR=4.9						

*IDC **09** 07:57:00.9±3.5,5.71S×147.84E,h155$^{km}_{\pm29km}$,mb3.6/3, mb1 3.8/5,mb1mx3.6/13,mbtmp4.1/5,Error ellipse: s-maj=71.2km s-min=28.3km az=96.0*
*NEIC **09** 07:57:01.6±2.0,5.69S×147.75E,h162$^{km}_{\pm18km}$,mb4.1/1, Error ellipse: s-maj=36.1km s-min=19.5km az=103.0*

ISC 09 07:56:59.9±2.8,5.6S±0.2×147.7E±0.2,h161$^{km}_{\pm21km}$,n12, σ0°90/14,mb4.0/5,2D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.78**	**188**	P	**P**	**07 57 58.9**	**+0.5**
	5.6nm,0.3s,baz=35,slow=5.6,SNR=18						
PMG				S	**S**	**07 58 42.3**	**-1.1**
	17nm,0.3s,baz=200,slow=19,SNR=8.1						
PMG	**Port Moresby**	**3.78**	**188**	*eP*	**P**	**07 57 58.8**	**+0.4**
PMG				*eS*	**S**	**07 58 35.2**	**-8.2**
KAKA	**Kakadu**	**16.63**	**244**	*eP*	**P**	**08 00 45.2**	**0.0**
	4.4nm,0.4s						
WRAB	**Tennant Creek**	**19.26**	**221**	*eP*	**P**	**08 01 14.0**	**-0.3**
	24nm,0.8s						
WB2	**Warramunga Arr**	**19.27**	**221**	*i P*	**P**	**08 01 14.2**	**-0.2**
WRA	**Warramunga Arr**	**19.27**	**221**	P	**P**	**08 01 14.5**	**0.0**
	2.3nm,0.3s,baz=42,slow=12,SNR=100						
ASAR	**Alice Springs**	**22.32**	**215**	P	**P**	**08 01 46.5**	**+1.8**
	6.0nm,0.4s,mb4.4,baz=40,slow=10,SNR=274						
ASPA	**Alice Springs**	**22.32**	**215**	*i P*	**P**	**08 01 46.5**	**+1.7**
FITZ	**Fitzroy Crossi**	**24.87**	**238**	*eP*	**P**	**08 02 09.0**	**-0.3**
	8.7nm,0.4s,mb4.6						
STKA	**Stephens Creek**	**26.72**	**192**	P	**P**	**08 02 25.4**	**-0.9**
	1.2nm,0.5s,mb3.8,baz=8.7,slow=9.2,SNR=2.7						
MBWA	**Marble Bar**	**31.21**	**238**	*eP*	**P**	**08 03 05.0**	**-1.3**
	1.7nm,0.4s,mb4.1						
SONM	**Songino Array**	**64.44**	**330**	P	**P**	**08 07 21.1**	**-0.1**
	0.4nm,0.8s,mb3.3,baz=152,slow=3.8,SNR=3.6						

*IDC **09** 08:06:02.6±0.9,8.71N×39.36W,mb3.9/7,mb1 4.1/7, mb1mx3.8/18,mbtmp3.9/7,MS3.8/7,Ms1 3.8/7, ms1mx3.3/24,Error ellipse: s-maj=28.4km s-min=23.4km az=149.0*
*NEIC **09** 08:06:04.2±0.6,8.67N×39.34W,h10^{km},Error ellipse: s-maj=19.9km s-min=15.7km az=129.0*

ISC 09 08:06:02.6±0.7,8.7N±0.1×39.3W±0.2,h10^{km},n13,σ0°86/9, mb4.0/8,MS3.8/7,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**25.66**	**200**	P	**P**	**08 11 34.3**	**-0.2**
	2.4nm,0.8s,mb3.8,baz=20,slow=12,SNR=3.9						
SJG	**San Juan**	**27.70**	**293**	LR	LR	08 20 41.9	
	comp=Z,290nm,19.2s,MS3.9,baz=85,slow=32						
DBIC	**Dimbokro**	**34.20**	**91**	P	**P**	**08 12 49.7**	**-1.0**
	4.9nm,0.7s,mb4.6,baz=262,slow=9.8,SNR=9.0						
DBIC				LR	LR	08 24 22.1	
	comp=Z,135nm,21.6s,MS3.6,baz=166,slow=32						
DBIC	**Dimbokro**	**34.20**	**91**	P	**P**	**08 12 49.7**	**-1.0**
DBIC				LR	LR	08 24 22.1	
ROSC	**El Rosal**	**34.97**	**266**	LR	LR	08 26 01.0	
	comp=Z,146nm,20.9s,MS3.7,baz=184,slow=34						
LPAZ	**La Paz**	**37.81**	**229**	P	**P**	**08 13 22.0**	**+0.8**
	2.4nm,0.9s,mb3.9,baz=16,slow=5.3,SNR=8.2						
LPAZ				LR	LR	08 28 32.1	
	comp=Z,85nm,18.3s,MS3.6,baz=40,slow=36						
FRB	**Frobisher Bay**	**58.80**	**345**	LR	LR	08 37 10.7	
	comp=Z,83nm,19.2s,MS3.9,baz=134,slow=32						
TXAR	**Lajitas Array**	**63.46**	**298**	P	**P**	**08 16 34.0**	**-1.2**
	0.3nm,0.5s,mb3.7,baz=100,slow=6.1,SNR=8.3						
TXAR				LR	LR	08 43 03.8	
	comp=Z,59nm,21.5s,MS3.7,baz=130,slow=35						
SUMG	**Summit**	**63.84**	**0**	*eP*	**P**	**08 16 37.4**	**+0.2**
	3.9nm,0.7s,mb4.5						
PDAR	**Pinedale Array**	**69.66**	**312**	LR	LR	08 43 46.1	
	comp=Z,122nm,20.5s,MS4.1,baz=96,slow=32						
BRTR	**Keskin Array B**	**71.39**	**51**	P	**P**	**08 17 26.4**	**+1.3**
	1.1nm,0.9s,mb3.8,baz=252,slow=3.9,SNR=4.7						
YKA	**Yellowknife Ar**	**75.56**	**332**	P	**P**	**08 17 48.3**	**-0.6**
	0.4nm,0.6s,mb3.5,baz=99,slow=5.6,SNR=11						
ILAR	**Eielson Array**	**89.56**	**336**	P	**P**	**08 19 02.1**	**+0.8**
	1.1nm,1.1s,mb4.1,baz=52,slow=5.0,SNR=6.8						

*BJI **09** 08:09:32.3,4.48N×93.36E,h30^{km},mB5.0,mb4.7,Ms4.6, Msz4.4*
*NEIC **09** 08:09:39.6±0.4,5.43N×93.50E,h30^{km},mb4.6/8,Error ellipse: s-maj=14.3km s-min=8.4km az=54.0*
*MOS **09** 08:09:40.2±0.9,5.61N×93.21E,h33^{km},mb4.9/4,MS4.3/4, Error ellipse: s-maj=23.4km s-min=10.0km az=96.7*
*IDC **09** 08:09:43.9±6.0,5.53N×93.54E,h63$^{km}_{\pm54km}$,mb4.0/13, mb1 4.2/14,mb1mx4.1/19,mbtmp4.3/14,ML4.0/1,MS4.1/12, Ms1 4.2/12,ms1mx3.9/25,Error ellipse: s-maj=27.5km s-min=13.8km az=51.0*

ISC 09 08:09:38.5±0.4,5.34N±0.07×93.44E±0.07,h33^{km},n79, σ1°08/76,mb4.6/35,MS4.3/21,2D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.10**	**22**	P	**P**	**08 12 57.5**	**-0.6**
	0.2nm,0.3s,baz=220,slow=14,SNR=10						
VIS	**Vishakhapatnam**	**15.79**	**322**	*eP*	**P**	**08 13 17.4**	**-2.6**
VIS				*e*		08 13 25.1	
	comp=Z,95nm,1.4s						
VIS				*e*		08 15 55.9	
TRD	**Trivandrum**	**16.66**	**282**	*e*	**S**	**08 16 39.6**	**+5.4**
HYB	**Hyderabad**	**18.87**	**311**	*eP*	**P**	**08 13 57.5**	**-1.2**
HYB	**Hyderabad**	**18.87**	**311**	*i P*	**P**	**08 13 57.5**	**-1.2**
HYB				*eS*	**S**	**08 17 13.0**	**-11**
BLSP	**Bilaspur**	**19.96**	**328**	*eP*	**P**	**08 14 10.4**	**-0.3**
BLSP				*e*		08 14 15.4	
	comp=Z,41nm,1.1s						
BLSP				*e*		08 17 21.7	
SHL	**Shillong**	**20.17**	**356**	*i P*	**P**	**08 14 09.5**	**-3.4**
SHL				*e*		08 17 04.5	
KAD	**Karad**	**22.28**	**304**	*eP*	**P**	**08 14 34.8**	**+0.4**
KAD				*eS*	**S**	**08 18 37.2**	**+4.6**
POO	**Poona**	**23.18**	**306**	*eP*	**P**	**08 14 41.0**	**-2.4**
POO				*eS*	**S**	**08 18 55.0**	**+6.2**
JIRN	**Jiri**	**23.25**	**344**	*eP*	**P**	**08 14 45.1**	**+1.2**
	comp=Z,81nm,1.1s,mb5.1						
PKI	**Pulchoki**	**23.39**	**342**	*eP*	**P**	**08 14 46.6**	**+1.2**
	comp=Z,162nm,1.2s,mb5.3						
DMN	**Daman**	**23.52**	**341**	*eP*	**P**	**08 14 48.4**	**+1.8**
BHPL	**Bhopal**	**23.57**	**321**	*eP*	**P**	**08 14 51.2**	**+4.1**
BHPL				*e*		08 14 58.6	
	comp=Z,18nm,1.3s						
GUN	**Gumba**	**23.57**	**343**	*eP*	**P**	**08 14 47.9**	**+0.8**
	comp=Z,236nm,1.4s,mb5.4						
KKN	**Kakani**	**23.64**	**342**	*eP*	**P**	**08 14 49.5**	**+1.8**
	comp=Z,230nm,1.6s,mb5.4						
GKN	**Gorkha**	**24.04**	**341**	*eP*	**P**	**08 14 52.8**	**+1.2**
	comp=Z,57nm,0.7s,mb5.1						
KOLN	**Koldanda**	**24.19**	**338**	*eP*	**P**	**08 14 54.3**	**+1.2**
	comp=Z,79nm,1.0s,mb5.1						
LSA	**Lhasa**	**24.33**	**355**	P	**P**	**08 14 57.3**	**+2.9**
LSA				S	**S**	**08 19 14.2**	**+5.6**
LSA				SCS	ScS	08 25 50.0	-5.8
LSA				AMB	AMB		
	comp=Z,80nm,3.8s						
LSA				LR	LR		
	comp=N,300nm,16.2s,MS4.2						
LSA				LR	LR		
	comp=E,620nm,16.2s,MS4.2						
LSA				LR	LR		
	comp=Z,500nm,20.2s,MS4.0						
LSA	**Lhasa**	**24.33**	**355**	*eP*	**P**	**08 14 55.0**	**+0.5**
	comp=Z,39nm,1.4s,mb4.6						
LSA				*eS*	**S**	**08 19 17.5**	**+8.8**
NDI	**New Delhi**	**27.85**	**328**	*eP*	**P**	**08 15 31.0**	**+3.7**
KHET	**Khetri**	**28.14**	**325**	*eP*	**P**	**08 15 30.9**	**+1.1**
KHET				AMb	AMB	08 15 38.5	
	comp=Z,17nm,1.5s,mb4.4						
DDI	**Dehra Dun**	**28.77**	**332**	*eP*	**P**	**08 15 40.2**	**+4.7**
XAN	**Xi'an**	**31.97**	**25**	P	**P**	**08 16 03.0**	**-0.8**
XAN				LR	LR		
	comp=N,405nm,14.2s,MS4.5						
XAN				LR	LR		
	comp=E,595nm,12.0s,MS4.5						
XAN				LR	LR		
	comp=Z,843nm,11.6s,MS4.7						
LZH	**Lanzhou**	**32.06**	**16**	*eP*	**P**	**08 16 04.2**	**-0.4**
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
LZH				LR	LR		
	comp=E,2μm,16.8s						
LZH				LR	LR		
	comp=Z,1μm,17.3s,MS4.6						
NJ2	**Nanjing**	**35.66**	**39**	*eP*	**P**	**08 16 36.6**	**+1.0**
NJ2				AP	pP	08 16 46.4	+1.1
NJ2				XP	sP	08 16 50.2	+0.6
NJ2				PP	PP	08 18 04.0	+7.4
NJ2				S	**S**	**08 22 21.0**	**+12**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
NJ2				LR	LR		
	comp=N,1μm,11.7s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,11.6s,MS5.0						
NJ2				LR	LR		
	comp=Z,1μm,13.8s,MS4.9						
SSE	**Sheshan**	**36.54**	**42**	P	**P**	**08 16 40.7**	**-2.3**
SSE				S	**S**	**08 22 33.3**	**+11**
SSE				XS		08 22 48.6	
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,255nm,4.2s						
SSE				LR	LR		
	comp=N,229nm,17.2s,MS4.1						
SSE				LR	LR		
	comp=E,186nm,17.2s,MS4.1						
SSE				LR	LR		
	comp=Z,267nm,17.5s,MS4.1						
MBWA	**Marble Bar**	**36.86**	**136**	P	**P**	**08 16 45.6**	**-0.3**
MBWA				*e*		08 17 02.0	
WMQ	**Urumqi**	**38.66**	**353**	*eP*	**P**	**08 17 02.0**	**+1.4**
FRU	**Bishkek**	**40.90**	**339**	*eP*	**P**	**08 17 17.0**	**-2.2**
FRU				MLR	MLR		
	comp=Z,500nm,20.0s,MS4.4						
MK02	**Makanchi Array**	**42.38**	**349**	P	**P**	**08 17 30.7**	**-0.7**
MK02				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
SONM	**Songino Array**	**43.77**	**13**	P	**P**	**08 17 41.9**	**-0.8**
	comp=Z,5.0nm,0.9s,mb4.2,baz=195,slow=7.4,SNR=25						
SONM				PcP	PcP	08 19 29.8	+0.2
	comp=Z,1.8nm,1.0s,baz=200,slow=3.7,SNR=4.4						
ULN	**Ulaanbaatar**	**43.95**	**13**	*eP*	**P**	**08 17 44.5**	**+0.4**
ULN	**Ulaanbaatar**	**43.95**	**13**	*eP*	**P**	**08 17 41.0**	**-3.2**
	comp=Z,7.4nm,1.2s,mb4.3						
ZAK	**Zakamensk**	**45.65**	**9**	*eP*	**P**	**08 17 59.0**	**+1.3**
ZAK				*e*		08 19 37.8	
TLY	**Talaya**	**46.96**	**9**	*i P*	**P**	**08 18 09.5**	**+1.5**
TLY				pmax	pmax		
	comp=Z,200nm,17.0s						
TLY				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.2						
WRA	**Warramunga Arr**	**47.41**	**123**	P	**P**	**08 18 12.3**	**+0.2**
	comp=Z,14nm,0.8s,mb4.9,baz=301,slow=8.8,SNR=23						
WRAB	**Tennant Creek**	**47.42**	**123**	*eP*	**P**	**08 18 12.3**	**+0.2**
	comp=Z,19nm,0.8s,mb5.1						
WB2	**Warramunga Arr**	**47.42**	**123**	*eP*	**P**	**08 18 12.0**	**-0.1**
ASAR	**Alice Springs**	**48.88**	**128**	P	**P**	**08 18 23.1**	**-0.2**
	comp=Z,2.5nm,0.8s,mb4.3,baz=297,slow=7.7,SNR=14						
ASAR				PcP	PcP	08 19 48.5	+0.7
	comp=Z,2.7nm,1.1s,baz=301,slow=3.8,SNR=5.8						
ZAL	**Zalesovo**	**48.96**	**353**	P	**P**	**08 18 22.5**	**-1.1**
	comp=Z,4.5nm,0.8s,mb4.6,baz=296,slow=7.7,SNR=8.2						
ZAL				LR	LR	08 43 35.6	
	comp=Z,272nm,18.4s,MS4.3,baz=291,slow=42						
NVS	**Novosibirsk**	**50.04**	**352**	*eP*	**P**	**08 18 31.5**	**-0.3**
CBIJ	**Chichi jima**	**51.16**	**59**	LR	LR	08 40 31.8	
	comp=Z,94nm,18.1s,MS3.9,baz=310,slow=36						
BVAO	**Borovoye Array**	**51.16**	**342**	*i P*	**P**	**08 18 40.1**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.6						
BVAR	**Borovoye Array**	**51.16**	**342**	P	**P**	**08 18 39.2**	**-1.2**
	comp=Z,2.8nm,0.8s,mb4.3,baz=149,slow=8.6,SNR=12						
BRVK	**Borovoye**	**51.22**	**342**	P	**P**	**08 18 40.8**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BRVK	**Borovoye**	**51.22**	**342**	*eP*	**P**	**08 18 40.6**	**-0.3**
	comp=Z,8.1nm,1.2s,mb4.5						
CHKZ	**Chkalovo**	**51.66**	**343**	*i P*	**P**	**08 18 44.2**	**+0.1**
CHKZ				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7						
CHKZ	**Chkalovo**	**51.66**	**343**	*eP*	**P**	**08 18 42.9**	**-1.2**
	comp=Z,20nm,1.3s,mb4.9						
BOD	**Bodaibo**	**54.76**	**13**	*eP*	**P**	**08 19 07.2**	**+0.1**
GNI	**Garni**	**55.73**	**316**	LR	LR	08 45 22.9	
	comp=Z,136nm,19.2s,MS4.0,baz=125,slow=38						
GNI	**Garni**	**55.73**	**316**	*eP*	**P**	**08 19 14.3**	**0.0**
	comp=Z,3.3nm,0.6s,mb4.5						
KMBO	**Kilima Mbogo**	**56.48**	**265**	P	**P**	**08 19 21.7**	**+1.6**
	comp=Z,1.1nm,0.8s,mb3.9,baz=45,slow=11,SNR=4.2						
KMBO				LR	LR	08 43 24.2	
	comp=Z,196nm,18.1s,MS4.2,baz=96,slow=36						
KMBO	**Kilima Mbogo**	**56.48**	**265**	*eP*	**P**	**08 19 21.8**	**+1.7**
KMBO				LR	LR	08 43 24.2	
SVE	**Sverdlovsk**	**57.50**	**339**	*eP*	**P**	**08 19 27.0**	**+0.3**
CTA	**Charters Tower**	**57.72**	**118**	LR	LR	08 49 30.7	
	comp=Z,275nm,18.1s,MS4.4,baz=56,slow=41						
ASAJ	**Asahikawa**	**57.78**	**40**	LR	LR	08 45 22.6	
	comp=Z

WRAB	Tennant Creek	46.92	123	*eP*		P	08 26 31.4	-1.1
	1.2nm,0.6s,mb4.0							
ASAR	Alice Springs	48.40	128	P		P	08 26 44.8	+0.7
	0.2nm,0.4s,mb3.5,baz=302,slow=7.5,SNR=6.5							
ZAL	Zalesovo	49.10	353	P		P	08 26 48.0	-1.1
	0.6nm,0.4s,mb4.0,baz=314,slow=8.5,SNR=4.5							
ZAL	Zalesovo	49.10	353	P		P	08 26 48.0	-1.1
CHKZ	Chkalovo	51.89	343	*eP*		P	08 27 11.3	+0.8
	1.2nm,0.5s,mb4.1							

IDC 09 08:36:34.4±3.2, 5.21N×93.84E, mb3.6/4, mb1 3.9/5, mb1mx3.7/17, mbtmp3.6/5, ML4.1/1, Error ellipse: s-maj=109.4km s-min=24.3km az=67.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.07	20	Pn	P	08 39 57.5	-0.1
	0.3nm,0.3s,baz=210,slow=15,SNR=4.4						
SONM	Songino Array	43.81	12	P	P	08 44 41.6	-2.1
	0.2nm,0.6s,baz=180,slow=8.6,SNR=2.7						
WRA	Warramunga Arr	47.01	123	P	P	08 45 07.3	-2.4
	0.7nm,0.8s,baz=305,slow=8.7,SNR=4.6						
ASAR	Alice Springs	48.48	128	P	P	08 45 19.8	-1.4
	0.4nm,0.7s,baz=300,slow=7.5,SNR=7.5						
ZAL	Zalesovo	49.13	353	P	P	08 45 23.8	-2.0
	1.2nm,0.4s,baz=328,slow=7.5,SNR=4.7						

*IDC **09** 08:36:34.7±11.0, 36.13N×70.98E, h96km±101km, mb3.5/7, mb1 3.6/8, mb1mx3.4/18, mbtmp3.8/8, ML3.5/1, Error ellipse: s-maj=65.0km s-min=24.2km az=36.0*

*NEIC **09** 08:36:37.2±3.2, 36.20N×70.99E, h119km±25km, mb4.1/2, Error ellipse: s-maj=31.1km s-min=12.7km az=219.0*

ISC 09 08:36:38.7±2.5, 36.3N±0.1×71.1E±0.2, h141km±24km, n20, σ0§50/20, mb3.7/7, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	6.82	22	*eP*		P	08 38 17.2	-0.2
	3.3nm,0.4s							
KOLN	Koldanda	13.64	125	*eP*		P	08 39 47.2	0.0
GKN	Gorkha	14.19	122	*eP*		P	08 39 53.8	-0.4
	13nm,0.3s							
DMN	Daman	14.76	122	*eP*		P	08 40 02.2	+0.8
KKN	Kakani	14.76	121	*eP*		P	08 40 00.8	-0.7
PKI	Pulchoki	14.99	122	*eP*		P	08 40 05.2	+0.9
	9.9nm,0.5s							
GUN	Gumba	15.11	120	*eP*		P	08 40 06.3	+0.5
JIRN	Jiri	15.48	120	*eP*		P	08 40 10.0	-0.4
	23nm,0.4s							
BVAR	Borovoye Array	16.69	359	P		P	08 40 25.1	-0.1
	0.2nm,0.3s,baz=157,slow=11,SNR=5.4							
HYB	Hyderabad	19.99	159	*i P*		P	08 41 02.0	-0.1
ZAL	Zalesovo	20.02	24	P		P	08 41 01.9	-0.3
	1.2nm,0.3s,baz=257,slow=12							
ZAL	Zalesovo	20.02	24	P		P	08 41 01.9	-0.3
FINES	FINESS Array B	37.63	326	P		P	08 43 41.2	+0.1
	6.3nm,1.1s,mb4.1,baz=111,slow=12,SNR=3.2							
ARCES	ARCESS Array B	41.30	338	P		P	08 44 11.6	+0.3
	2.5nm,1.0s,mb3.8,baz=100,slow=7.4,SNR=4.0							
HFS	Hagfors	43.21	322	P		P	08 44 26.6	-0.3
	27nm,1.3s,mb4.7,baz=90,slow=4.4,SNR=4.6							
NB2	NORSAR Subarra	44.53	323	P		P	08 44 37.3	-0.1
	2.3nm,0.7s,mb3.9,baz=95,slow=7.4							
NOA	NORSAR Array B	44.53	323	P		P	08 44 37.5	+0.1
	2.2nm,0.9s,mb3.8,baz=85,slow=10.0,SNR=3.5							
YKA	Yellowknife Ar	81.40	3	P		P	08 48 41.6	+1.1
	0.1nm,0.4s,mb2.8,baz=350,slow=5.4,SNR=5.6							
WRA	Warramunga Arr	81.88	122	P		P	08 48 43.5	-0.4
	0.6nm,1.0s,mb3.2,baz=326,slow=4.9,SNR=4.1							
ASAR	Alice Springs	84.13	125	P		P	08 48 54.6	-0.6
	0.4nm,0.6s,mb3.3,baz=312,slow=4.5,SNR=5.3							

KRSC 09 08:38:30.8±1.8, 49.82N×156.53E, h51km±73km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.90	343	*eP*	P	08 38 47.0	-0.4
SKR				*eS*	S	08 39 01.2	+1.5
ALID	Alaid	1.22	330	*eP*	P	08 38 52.0	+0.1
PAU	Pauzhetka	1.66	6	*eP*	P	08 38 59.3	+1.2
PAU				*i* S	S	08 39 19.3	+1.0
PAU				Smax			
	200nm,0.2s						
RUS	Russkaya	2.90	25	*eP*	P	08 39 15.0	-0.7
RUS				*eS*	S	08 39 47.7	-1.8
GRL	Gorelyy	2.90	19	*eP*	P	08 39 16.6	+0.9
GRL				*eS*	S	08 39 50.5	+0.9

*BJI **09** 08:40:18.2, 3.56N×93.46E, h30km, mB5.0, mb4.6, Ms4.5, Msz4.2*

*IDC **09** 08:40:20.7±1.0, 4.75N×93.70E, mb4.2/10, mb1 4.4/11, mb1mx4.2/19, mbtmp4.2/11, ML4.3/1, MS3.3/1, Ms1 3.5/1, ms1mx2.6/15, Error ellipse: s-maj=48.6km s-min=19.3km az=47.0*

*MOS **09** 08:40:23.7±1.7, 4.46N×93.37E, h39km, mb5.1/10, Error ellipse: s-maj=20.0km s-min=11.5km az=98.6*

*NEIC **09** 08:40:24.5±0.6, 4.48N×93.52E, h30km, mb4.8/5, Error ellipse: s-maj=21.1km s-min=13.2km az=49.0*

ISC 09 08:40:23.0±0.5, 4.38N±0.08×93.40E±0.07, h33km, n54, σ1§40/55, mb4.5/26, MS4.1/2, 3C-3D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	7.26	355	*eP*		P	08 42 08.5	-0.9
PBA				*e*			08 42 32.3	
CMAR	Chiang Mai Arr	15.00	21	Pn		P	08 43 54.4	-0.1
	0.5nm,0.3s,baz=242,slow=16,SNR=4.8							
CMAR				LR	LR		08 49 25.9	
	comp=Z,126nm,19.2s,baz=215,slow=38							
VIS	Vishakhapatnam	16.52	324	*i P*		P	08 44 13.9	0.0
VIS				AMb	AMB		08 44 17.8	
	comp=Z,19nm,0.3s							
VIS				*i*			08 47 10.8	
HYB	Hyderabad	19.48	313	*eP*		P	08 44 49.0	-1.1
HYB	Hyderabad	19.48	313	*i P*		P	08 44 49.5	-0.6
BLSP	Bilaspur	20.75	329	*i P*		P	08 45 05.9	+2.4
BLSP				AMb	AMB		08 45 10.9	
	comp=Z,64nm,1.1s							
BLSP				*e*			08 46 53.9	
SHL	Shillong	21.11	356	*eP*		P	08 45 07.0	-0.3
SHL				*eS*		S	08 49 01.0	+5.6
POO	Poona	23.72	308	*eP*		P	08 45 36.0	+2.8
BHPL	Bhopal	24.28	322	*eP*		P	08 45 36.8	-1.8
BHPL				AMb	AMB		08 45 44.6	
	comp=Z,11nm,0.9s,mb4.3							
LSA	Lhasa	25.27	355	P		P	08 45 52.4	+4.4
LSA	Lhasa	25.27	355	P		P	08 45 47.0	-1.0
	comp=Z,24nm,1.0s,mb4.7							
ENH	Enshi	29.90	29	*eP*		P	08 46 30.4	+0.4
	comp=Z,6.0nm,0.7s,mb4.4							
WHN	Wuhan	32.67	35	||P		P	08 46 57.7	+3.2
XAN	Xi'an	32.85	24	P		P	08 46 56.6	+0.6
XAN				AMB	AMB			
	comp=Z,12nm,1.1s,mb4.7							
NJ2	Nanjing	36.43	38	*eP*		P	08 47 26.3	-0.3
NJ2				AP	pP		08 47 36.1	-0.3
NJ2				PP	PP		08 48 54.0	+3.2
NJ2				S		S	08 53 06.0	+0.5
NJ2				XS			08 53 30.0	
NJ2				LR	LR			
	comp=N,620nm,15.3s,MS4.6							
NJ2				LR	LR			
	comp=E,430nm,15.4s,MS4.6							
NJ2				LR	LR			
	comp=Z,640nm,14.8s,MS4.5							
SSE	Sheshan	37.28	41	P		P	08 47 33.1	-0.7
SSE				S		S	08 53 20.8	+2.4
SSE				AMB	AMB			
	comp=Z,14nm,0.7s,mb4.9							
SSE				AMB	AMB			
	comp=Z,155nm,7.4s							
SSE				LR	LR			
	comp=N,122nm,21.4s,MS3.7							
SSE				LR	LR			
	comp=E,36nm,21.5s,MS3.7							
SSE				LR	LR			
	comp=Z,108nm,20.4s,MS3.6							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	39.60	354	*eP*		P	08 47 56.0	+3.0
SONM	Songino Array	44.71	12	P		P	08 48 31.6	-3.2
	comp=Z,1.2nm,1.0s,mb3.7,baz=207,slow=8.3,SNR=5.8							
SONM				PcP	PcP		08 50 18.3	+1.0
	comp=Z,1.2nm,0.7s,baz=186,slow=4.0,SNR=5.5							
WRA	Warramunga Arr	46.93	122	P		P	08 48 53.1	+0.4
	comp=Z,0.4nm,0.4s,mb3.8,baz=300,slow=9.3,SNR=8.4							
WRAB	Tennant Creek	46.94	122	*eP*		P	08 48 51.5	-1.3
TLY	Talaya	47.91	9	*eP*		P	08 48 59.6	-0.4
TLY				pmax	pmax			
	comp=Z,4.0nm,1.6s,mb4.2							
ASAR	Alice Springs	48.33	127	P		P	08 49 03.9	+0.2
	comp=Z,0.5nm,0.6s,mb3.8,baz=293,slow=8.0,SNR=7.2							
ASAR	Alice Springs	48.33	127	P		P	08 49 03.9	+0.2
ZAL	Zalesovo	49.90	353	P		P	08 49 11.8	-3.6
	comp=Z,0.8nm,0.3s,mb4.2,baz=315,slow=3.9,SNR=5.0							
NVS	Novosibirsk	50.98	352	*eP*		P	08 49 24.3	+0.8
NVS				pmax	pmax			
	comp=Z,20nm,1.1s,mb5.0							
NVS				pmax	pmax			
	comp=E,9.0nm,1.2s							
NVS				pmax	pmax			
	comp=N,20nm,1.6s							
BVAR	Borovoye Array	52.06	343	P		P	08 49 31.9	+0.2
	comp=N,5.6nm,0.9s,mb4.5,baz=158,slow=8.0,SNR=21							
CHKZ	Chkalovo	52.56	343	*eP*		P	08 49 34.1	-1.3
	comp=N,23nm,1.1s,mb5.0							
CHKZ				*e*	pP		08 49 44.2	-1.2
KLR	Kul'dur	55.26	30	*eP*		P	08 49 54.0	-1.3
BOD	Bodaibo	55.70	13	*eP*		P	08 49 58.9	+0.5
GNI	Garni	56.38	316	||*iP*		P	08 50 02.8	-0.8
GNI				pmax	pmax			
	comp=Z,16nm,1.7s							
GNI	Garni	56.38	316	*eP*		P	08 50 03.6	0.0
	comp=Z,17nm,1.3s,mb4.9							
ARU	Arti	58.82	338	||*iP*		P	08 50 18.5	-2.0
ARU				*eS*		S	08 58 24.5	+2.6
ARU				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.8							
SOC	Sochi	61.23	318	*eP*		P	08 50 34.1	-3.1
SOC				*e*			08 52 56.2	
SOC				*e*PPP	PPP		08 54 16.1	-6.4
SOC				*eS*		S	08 58 50.7	-2.4
SOC				*e*			09 00 20.9	
SOC				pmax	pmax			
	comp=Z,24nm,0.8s,mb5.4							
SOC				pmax	pmax			
	comp=N,14nm,1.0s							
SOC				pmax	pmax			
	comp=E,14nm,0.9s							
MBAR	Mbarara	62.80	267	||*iP*		P	08 50 46.4	-1.7
YAK	Yakutsk	63.52	18	*eP*		P	08 50 50.5	-1.7
YAK				pmax	pmax			
	comp=Z,21nm,1.3s,mb5.0							
BRTR	Keskin Array B	64.18	312	P		P	08 50 56.2	-0.6
	comp=Z,3.0nm,0.9s,mb4.3,baz=129,slow=7.9,SNR=14							
OBN	Obninsk	67.94	329	||*eP*		P	08 51 18.3	-2.2
OBN				pmax	pmax			
	comp=Z,44nm,1.9s,mb5.2							
TIXI	Tiksi	70.78	11	||*iP*		P	08 51 37.0	-0.7
TIXI				pmax	pmax			
	comp=Z,19nm,1.3s,mb4.9							
FINES	FINESS Array B	75.45	333	*i P*		P	08 52 06.9	+1.7
FINES				pmax	pmax			
	comp=Z,5.0nm,1.0s							
FINES	FINESS Array B	75.45	333	P		P	08 52 04.3	-0.9
	comp=Z,5.0nm,1.0s,mb4.4,baz=180,slow=7.6,SNR=4.8							
FINES	FINESS Array B	75.45	333	P		P	08 52 04.3	-0.9
ARCES	ARCESS Array B	78.29	341	P		P	08 52 21.6	+0.6
	comp=Z,3.3nm,1.0s,mb4.2,baz=76,slow=5.0,SNR=5.1							
PERS	Pernice	78.78	317	*eP*		P	08 52 25.8	+1.6
CEY	Cerknica	79.18	316	*eP*		P	08 52 27.2	+0.9
BILL	Bilibino	79.58	21	*eP*		P	08 52 28.7	+0.6
BILL				pmax	pmax			
	comp=Z,7.0nm,1.7s,mb4.3							
GERES	GERESS Array B	79.94	319	P		P	08 52 32.2	+1.8
	comp=Z,4.1nm,0.9s,mb4.3,baz=90,slow=5.3,SNR=19							
BRG	Berggiesshubel	79.96	321	*eP*		P	08 52 32.6	+2.1
BRG				*e*			08 52 39.8	
BRG				pmax	pmax			
	comp=Z,13nm,1.3s,mb4.7							
BRG	Berggiesshubel	79.96	321	*eP*		P	08 52 32.6	+2.1
	comp=Z,13nm,1.3s,mb4.7							
BRG				*e*			08 52 39.8	
DAVOX	Davos	82.39	316	P		P	08 52 45.4	+2.2
	comp=Z,3.9nm,0.5s,mb4.6,baz=129,slow=3.7,SNR=12							
DAVOS	Davos	82.45	317	P		P	08 52 45.5	+1.9
BW06	Boulder Array	128.67	22	*e*PKPdf	PKPdf		08 59 30.1	+2.6
PDAR	Pinedale Array	128.67	22	PKP	PKPdf		08 59 29.3	+1.9
	comp=Z,1.2nm,1.1s,baz=315,slow=2.1,SNR=5.2							
TXAR	Lajitas Array	142.69	25	PKP	PKPdf		08 59 53.6	0.0
	comp=Z,0.3nm,0.5s,baz=121,slow=0.4,SNR=10							
HKT	Hockley	144.74	14	PKPdf	PKPdf		08 59 57.6	+0.4

CSEM 09 08:50:26.9, 64.77N×19.03W, h3km, ML3.6, After REY, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHVE	Hveravellir	0.25	293	P	Pg	08 50 31.9	0.0
IHVE				S	Sg	08 50 35.7	+0.5
ISKR	Skrokkalda	0.35	127	P	Pg	08 50 33.6	-0.3
ISKR				S	Sg	08 50 38.3	-0.3
IVAT	Vatnsfell	0.59	175	P	Pg	08 50 37.7	-1.0
IVAT				S	Sg	08 50 46.2	-0.4
IGYG	Gygjarholskot	0.71	227	P	Pg	08 50 39.4	-1.7
IGYG				S	Sg	08 50 48.9	-1.7
IGRF	Grimsfjall	0.84	115	P	Pg	08 50 42.0	-1.8
IHAU	Haukadalur	0.90	207	P	Pb	08 50 42.6	-2.2
IHAU				S	Sg	08 50 55.1	-1.9
ISVA	Svartarkot	0.94	52	P	Pb	08 50 43.2	-2.3
ISVA				S	Sb	08 50 56.1	-2.1
IASB	`sbjarnarst	0.98	270	P	Pb	08 50 44.0	-2.2
IASB				S	Sb	08 50 57.5	-1.9
ISAU	Saurbar	0.99	218	P	Pb	08 50 44.0	-2.3
ISAU				S	Sb	08 50 57.6	-2.0
IKAL	Kalfafell	1.01	144	P	Pb	08 50 44.5	-2.2
IKAL				S	Sb	08 50 58.1	-2.2
IHEI	Heioarbar	1.11	240	P	Pb	08 50 45.9	-2.6
IHEI				S	Sb	08 51 01.1	-2.1
IKRO	Krokur	1.13	234	P	Pb	08 50 46.1	-2.6
IKRO				S	Sb	08 51 01.3	-2.4
IASM	Asmuli	1.17	217	P	Pb	08 50 47.2	-2.2
IASM				S	Sb	08 51 02.9	-1.9
IMID	Miomork	1.18	199	P	Pb	08 50 47.5	-2.1
IMID				S	Sb	08 51 03.5	-1.6
ISOL	Solvholt	1.19	225	P	Pb	08 50 47.1	-2.6
ISOL				S	Sb	08 51 03.3	-2.0
IHLA	Hella	1.21	13	P	Pb	08 50 47.8	-2.2
IHLA				S	Sb	08 51 03.9	-2.0
IREN	Reynihlio	1.25	45	P	Pb	08 50 48.2	-2.6
IHVO	Lagu-Hvolar	1.25	176	P	Pb	08 50 49.0	-1.9
IHVO				S	Sb	08 51 05.8	-1.5
IBRU	Bruarjokull	1.26	86	P	Pb	08 50 47.9	-3.1
IBRU				S	Sb	08 51 04.9	-2.6
IESK	Eystri-Skogar	1.27	189	P	Pb	08 50 49.0	-2.1
IESK				S	Sb	08 51 05.8	-1.8
IBJA	Bjarnastaoir	1.29	231	P	Pb	08 50 49.1	-2.4
IBJA				S	Sb	08 51 07.2	-1.1
IKVO	Krokottuvotn	1.31	43	P	Pb	08 50 49.1	-2.7
IKVO	Krokottuvotn	1.31	43	S	Sb	08 51 07.5	-1.3
IKUD	Kuludalsa	1.31	251	P	Pb	08 50 49.1	-2.7
IKUD				S	Sb	08 51 06.7	-2.2
ISAN	Sandskeio	1.32	238	P	Pb	08 50 49.1	-2.8
ISAN				S	Sb	08 51 07.1	-2.0
IHVA	Hvannstoosfjol	1.36	81	P	Pb	08 50 49.5	-3.2
IHVA				S	Sb	08 51 07.9	-2.5
ISIG	Siglufjorour	1.37	2	P	Pb	08 50 50.1	-2.7
ISIG	Siglufjorour	1.37	2	S	Sb	08 51 08.2	-2.3
IFAG	Fagurholsmyri	1.37	130	P	Pb	08 50 50.4	-2.5
IFAG	Fagurholsmyri	1.37	130	S	Sb	08 51 08.8	-1.9
IVSH	V-Sauoahnukur	1.42	87	P	Pn	08 50 50.6	-3.0
IVSH	V-Sauoahnukur	1.42	87	S	Sb	08 51 09.4	-2.5
IHRN	Hraun	1.42	342	P	Pn	08 50 51.0	-2.6
IHRN	Hraun	1.42	342	S	Sb	08 51 09.6	-2.4
IVES	Vestmannaeyjar	1.45	203	P	Pn	08 50 52.0	-2.0
IVES				S	Sb	08 51 11.8	-1.0
IVOS	Vogsosar	1.49	233	P	Pn	08 50 52.0	-2.6
IADA	Aoalbol	1.50	79	P	Pn	08 50 51.7	-3.0
IADA	Aoalbol	1.50	79	S	Sb	08 51 11.9	-2.3
IGRS	Grimsstaoir	1.50	53	P	Pn	08 50 52.2	-2.6
IGRS	Grimsstaoir	1.50	53	S	Sb	08 51 13.0	-1.5

IKRI	Krysuvik	1.60	237	P		Pn	08 50 53.7	-2.6
IVOG	Vogar	1.67	243	P		Pn	08 50 54.7	-2.5
IGIL	Gilhagi	1.72	39	P		Pn	08 50 55.8	-2.2
IGIL				S		Sn	08 51 19.0	-1.8
INYL	Nylenda	1.80	245	P		Pn	08 50 57.0	-2.1
IGRI	Grimsey	1.83	13	S		Sn	08 51 21.4	-2.0
ILEI	Leirhofn	1.95	32	P		Pn	08 50 59.2	-2.1

*NEIC **09** 09:20:04.6±0.9, 18.60S×69.47W, h118km±10km, Error ellipse: s-maj=17.7km s-min=13.1km az=61.0*

*IDC **09** 09:20:05.9±1.3, 18.53S×69.33W, h126km±12km, mb3.5/5, mb1 3.7/7, mb1mx3.5/20, mbtmp3.9/7, Error ellipse: s-maj=25.7km s-min=10.0km az=97.0*

ISC 09 09:20:04.4±0.7, 18.52S±0.05×69.49W±0.08, h130km±8km, n11, σ1§07/15, mb3.5/4, 1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.57	30	P		P	09 20 47.8	+1.6
	16nm,0.3s,baz=213,slow=4.7,SNR=602							
LPAZ				S		S	09 21 18.0	0.0
	2.3nm,0.3s,baz=229,slow=20,SNR=2.2							
ARE	Arequipa	2.80	317	||*iP*		P	09 20 48.4	-0.8
ARE				*eS*		S	09 21 23.0	-0.3
LVC	Limon Verde	4.10	173	P		P	09 21 05.3	-1.3
	13nm,0.3s,baz=339,slow=10.0,SNR=47							
LVC				S		S	09 21 55.4	+1.2
	13nm,0.3s,baz=106,slow=20,SNR=11							
LVC	Limon Verde	4.10	173	||*e*Pn		P	09 21 05.1	-1.4
LVC				S		S	09 21 55.4	+1.2
BDFB	Brasilia	20.73	85	P		P	09 24 34.6	-1.7
	2.4nm,0.4s,baz=268,slow=11,SNR=8.8							
TXAR	Lajitas Array	57.89	325	P		P	09 29 45.1	-0.1
	0.3nm,0.6s,mb3.3,baz=150,slow=7.5,SNR=5.1							
DBIC	Dimbokro	68.45	75	P		P	09 30 54.2	-0.7
	1.4nm,0.5s,mb4.0,baz=94,slow=22,SNR=4.6							
DBIC	Dimbokro	68.45	75	P		P	09 30 54.2	-0.7
PDAR	Pinedale Array	71.27	330	P		P	09 31 12.1	+0.6
	0.3nm,0.8s,mb3.1,baz=128,slow=8.3,SNR=4.1							
YKA	Yellowknife Ar	88.21	341	P		P	09 32 43.2	+1.7
	0.6nm,0.4s,mb3.8,baz=132,slow=4.7,SNR=35							
YKA	Yellowknife Ar	88.21	341	P		P	09 32 43.2	+1.7

JMA 09 09:20:31.7±0.5, 31.88N×142.32E, h53km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	2.99	338	P		P	09 21 17.8	0.0
BSO2	Boso 2	3.15	336	*eS*		S	09 21 56.7	0.0
BSO3	Boso 3	3.28	333	P		P	09 21 22.9	+0.9
BSO3				*eS*		S	09 22 00.9	+0.8
JIM2	Oshima 3	3.72	320	P		P	09 21 29.0	+0.8
JOD2	Odawara 2	4.32	322	P		P	09 21 37.1	+0.5
JOD2				*eS*		S	09 22 25.5	-0.7
TK01	Tokai 1	4.40	297	P		P	09 21 37.2	-0.6
JRY	Ryogami san	5.01	326	P		P	09 21 47.0	+0.8
JRY				*eS*		S	09 22 43.1	-0.4
MAT	Matsushiro	5.76	325	P		P	09 21 58.3	+1.6
JMK	Ichinoseki	7.11	353	P		P	09 22 14.6	-1.0
JMK				*eS*		S	09 23 28.1	-7.8

IDC 09 09:46:19.7±14.0, 10.49S×165.61E, h237km±141km, mb3.3/5, mb1 3.4/5, mb1mx3.2/15, mbtmp3.9/5, Error ellipse: s-maj=85.7km s-min=48.0km az=122.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	20.95	241	P		P	09 50 44.8	-0.4
	2.9nm,0.5s,baz=84,slow=9.2,SNR=3.3							
STKA	Stephens Creek	30.75	223	P		P	09 52 13.6	-1.7
	1.7nm,0.5s,baz=35,slow=11,SNR=8.9							
WRA	Warramunga Arr	31.55	249	P		P	09 52 20.3	-1.9
	1.1nm,0.5s,baz=83,slow=8.9,SNR=16							
ASAR	Alice Springs	32.92	242	P		P	09 52 31.9	-2.2
	0.8nm,0.6s,baz=67,slow=10.0,SNR=8.7							
ILAR	Eielson Array	83.03	19	P		P	09 58 18.1	-1.4
	0.2nm,0.9s,baz=238,slow=5.9,SNR=4.2							

*IDC **09** 09:59:05.7±0.9, 4.74N×96.07E, mb4.0/7, mb1 4.2/8, mb1mx4.1/16, mbtmp4.0/8, ML4.1/1, MS3.1/1, Ms1 3.3/1, ms1mx2.9/22, Error ellipse: s-maj=46.7km s-min=18.7km az=51.0*

*NEIC **09** 09:59:10.4±0.7, 4.51N×96.00E, h30km, mb4.4/2, Error ellipse: s-maj=26.2km s-min=13.3km az=58.0*

ISC 09 09:59:08.2±0.8, 4.5N±0.1×95.9E±0.2, h33km, n19, σ1§01/17, mb4.2/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.22	12	Pn		P	10 02 31.0	+1.5
	0.3nm,0.3s,baz=202,slow=14,SNR=4.6							
CMAR				LR	LR		10 08 14.7	
	comp=Z,80nm,18.2s,baz=190,slow=39							
HYB	Hyderabad	21.28	308	*eP*		P	10 03 57.5	+3.3
HYB	Hyderabad	21.28	308	*i P*		P	10 03 57.5	+3.3
SHL	Shillong	21.31	350	*eP*		P	10 03 53.0	-1.5
JIRN	Jiri	24.83	339	*eP*		P	10 04 29.5	+0.4
GUN	Gumba	25.17	339	*eP*		P	10 04 32.7	+0.4
	15nm,0.6s,mb4.7							
LSA	Lhasa	25.48	350	*eP*		P	10 04 36.5	+1.3
	4.7nm,0.5s,mb4.3							
GKN	Gorkha	25.72	337	*eP*		P	10 04 36.7	-0.8
	15nm,0.7s,mb4.6							
KOLN	Koldanda	25.94	335	*eP*		P	10 04 39.0	-0.6
	18nm,0.7s,mb4.8							
SONM	Songino Array	44.13	10	P		P	10

Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAO	**Obara**	**0.38**	**98**	⇓P	**Pb**	**09 59 36.9**	**-1.0**
JAO				S	**Sb**	**09 59 42.1**	**-1.5**
JGM	**Miyama**	**0.39**	**351**	⇑P	**Pb**	**09 59 38.4**	**+0.5**
TSUJ	**Tsu 2**	**0.68**	**207**	⇓P	**Pb**	**09 59 43.3**	**+0.6**
TSUJ				S	**Sb**	**09 59 52.6**	**+0.8**
JIE	**Ise**	**0.93**	**185**	P	**Pn**	**09 59 47.2**	**+0.6**
JIE				S	**Sb**	**09 59 59.7**	**+1.0**
MAJO	**Matsushiro**	**1.68**	**43**	⇑*e*Pn	**Pn**	**09 59 59.0**	**+1.7**
MAJO				*e*Sn	**Sn**	**10 00 21.9**	**+3.8**
MAT	**Matsushiro**	**1.68**	**43**	*e*P	**Pn**	**09 59 59.0**	**+1.7**
MAT				*e*S	**Sn**	**10 00 22.0**	**+4.0**
MAT	**Matsushiro**	**1.68**	**43**	P	**Pn**	**09 59 59.0**	**+1.7**
MAT				S	**Sn**	**10 00 22.1**	**+4.1**
JHJ	**Hachijo jima 2**	**3.31**	**131**	Pn	**Pn**	**10 00 19.1**	**-1.5**
	13nm,0.3s,baz=73,slow=19,SNR=2.6						
JHJ				LR	LR	10 01 22.9	
	comp=Z,490nm,19.8s,baz=109,slow=35						
CBIJ	**Chichi jima**	**9.40**	**149**	LR	LR	10 04 00.5	
	comp=Z,77nm,20.6s,baz=336,slow=29						
ASAJ	**Asahikawa**	**9.85**	**25**	P	**P**	**10 01 51.6**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,236nm,18.3s						
ASAJ	**Asahikawa**	**9.85**	**25**	Pn	**P**	**10 01 51.5**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=236,slow=21,SNR=5.9						
ASAJ				LR	LR	10 05 54.2	
	comp=Z,236nm,18.3s,baz=159,slow=39						
YSS	**Yuzh-Sakhalins**	**12.46**	**19**	⇓*i*P	**P**	**10 02 26.5**	**-1.2**
YSS				pmax	pmax		
	comp=Z,69nm,1.3s						
YSS	**Yuzh-Sakhalins**	**12.46**	**19**	*e*P	**P**	**10 02 27.3**	**-0.4**
	comp=Z,33nm,0.8s						
SSE	**Sheshan**	**13.73**	**257**	P	**P**	**10 02 43.4**	**-1.2**
SSE				S	**S**	**10 05 15.3**	**-1.8**
SSE				AMB	AMB		
	comp=Z,15nm,0.7s						
SSE				AMB	AMB		
	comp=Z,57nm,3.8s						
SSE				LR	LR		
	comp=N,130nm,13.7s						
SSE				LR	LR		
	comp=E,76nm,13.4s						
SSE				LR	LR		
	comp=Z,211nm,12.4s						
KLR	**Kul'dur**	**14.39**	**347**	*e*P	**P**	**10 02 57.2**	**+4.1**
KLR				MLR	MLR		
	comp=Z,1μm,13.0s						
NJ2	**Nanjing**	**15.29**	**263**	*e*P	**P**	**10 03 05.8**	**+0.8**
NJ2				AP		10 03 14.5	
NJ2				PP	PP	10 03 19.1	+2.1
NJ2				XP		10 03 21.1	
NJ2				S	**S**	**10 05 55.0**	**+1.1**
NJ2				XS		10 06 09.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,2μm,6.5s						
NJ2				LR	LR		
	comp=N,830nm,10.8s						
NJ2				LR	LR		
	comp=E,730nm,16.4s						
NJ2				LR	LR		
	comp=Z,1μm,14.1s						
BJT	**Baijiatuan**	**16.98**	**292**	*e*P	**P**	**10 03 24.5**	**-2.1**
BJT				pmax	pmax		
	comp=Z,19nm,0.6s						
BJT	**Baijiatuan**	**16.98**	**292**	*e*Pn	**P**	**10 03 24.4**	**-2.1**
	comp=Z,19nm,0.6s						
HIA	**Hailar**	**18.74**	**323**	*e*P	**P**	**10 03 49.8**	**+1.6**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HIA	**Hailar**	**18.74**	**323**	*e*P	**P**	**10 03 49.8**	**+1.6**
	comp=Z,10.0nm,0.8s						
XAN	**Xi'an**	**22.93**	**275**	P	**P**	**10 04 39.6**	**+7.3**
XAN				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.3						
ENH	**Enshi**	**23.47**	**265**	*e*P	**P**	**10 04 39.8**	**+2.3**
	comp=Z,49nm,1.0s,mb4.9						
ULN	**Ulaanbaatar**	**25.36**	**309**	⇓*i*P	**P**	**10 04 55.3**	**-0.2**
ULN	**Ulaanbaatar**	**25.36**	**309**	*e*P	**P**	**10 04 55.5**	**-0.1**
	comp=Z,3.5nm,0.6s,mb4.1						
SONM	**Songino Array**	**25.77**	**308**	P	**P**	**10 04 59.6**	**+0.2**
	comp=Z,4.9nm,0.9s,mb4.0,baz=107,slow=8.4,SNR=22						
MA2	**Magadan**	**25.93**	**16**	*i* P	**P**	**10 04 56.3**	**-4.4**
LZH	**Lanzhou**	**26.70**	**281**	*e*P	**P**	**10 05 07.0**	**-1.1**
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
LZH				LR	LR		
	comp=E,730nm,12.2s						
LZH				LR	LR		
	comp=Z,830nm,15.7s,MS4.4						
YAK	**Yakutsk**	**27.11**	**353**	*e*P	**P**	**10 05 08.5**	**-3.0**
YAK				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.5						
YAK				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.0						
YAK	**Yakutsk**	**27.11**	**353**	*e*P	**P**	**10 05 10.5**	**-1.0**
	comp=Z,24nm,1.4s,mb4.5						
TLY	**Talaya**	**28.76**	**315**	⇑*i*P	**P**	**10 05 26.6**	**+0.1**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
TLY				MLR	MLR		
	comp=Z,200nm,16.0s,MS3.8						
TIXI	**Tiksi**	**36.64**	**356**	⇑*i*P	**P**	**10 06 32.0**	**-2.9**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.7						
CMAR	**Chiang Mai Arr**	**37.44**	**253**	P	**P**	**10 06 42.4**	**+0.3**
	comp=Z,0.5nm,0.4s,mb3.7,baz=49,slow=8.3,SNR=4.3						
CMAR				PcP	PcP	10 09 02.2	+1.3
	comp=Z,0.9nm,0.8s,baz=45,slow=1.3,SNR=4.2						
CMAR				LR	LR	10 22 46.6	
	comp=Z,73nm,18.8s,MS3.5,baz=303,slow=37						
ZAL	**Zalesovo**	**40.37**	**314**	P	**P**	**10 07 05.7**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.5,baz=359,slow=7.6,SNR=3.0						
ZAL				LR	LR	10 24 10.0	
	comp=Z,73nm,18.5s,MS3.6,baz=117,slow=37						
ZAL	**Zalesovo**	**40.37**	**314**	P	**P**	**10 07 05.7**	**-0.5**
ZAL				LR	LR	10 24 10.1	
CHKZ	**Chkalovo**	**48.77**	**314**	*e*P	**P**	**10 08 12.7**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**48.77**	**314**	*e*P	**P**	**10 08 12.7**	**-0.8**
	comp=Z,4.2nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**48.98**	**313**	P	**P**	**10 08 14.7**	**-0.3**
	comp=Z,1.1nm,0.8s,mb4.0,baz=112,slow=8.0,SNR=6.6						
BRVK	**Borovoye**	**49.04**	**313**	P	**P**	**10 08 15.0**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
BRVK	**Borovoye**	**49.04**	**313**	P	**P**	**10 08 15.0**	**-0.6**
	comp=Z,1.6nm,0.7s,mb4.2						
RSO	**Redoubt South**	**50.54**	**37**	P	**P**	**10 08 27.4**	**+0.4**
COLA	**College**	**52.50**	**31**	*e*P	**P**	**10 08 39.8**	**-2.0**
COLA	**College**	**52.50**	**31**	*e*P	**P**	**10 08 42.0**	**+0.2**
	comp=Z,4.3nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**52.92**	**31**	P	**P**	**10 08 44.4**	**-0.5**
	comp=Z,1.9nm,0.8s,mb4.1,baz=278,slow=6.4,SNR=26						
ILAR				PcP	PcP	10 09 52.5	-1.1
	comp=Z,0.8nm,0.6s,baz=272,slow=3.9,SNR=4.3						
WRAB	**Tennant Creek**	**54.99**	**183**	*e*P	**P**	**10 08 58.9**	**-1.8**
WRA	**Warramunga Arr**	**55.00**	**183**	*i* P	**P**	**10 09 00.1**	**-0.7**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
WRA	**Warramunga Arr**	**55.00**	**183**	P	**P**	**10 08 59.1**	**-1.7**
	comp=Z,4.1nm,0.5s,mb4.7,baz=358,slow=7.7,SNR=29						
ARU	**Arti**	**55.17**	**319**	⇓*i*P	**P**	**10 08 58.4**	**-3.1**
ARU				*e*		10 09 58.6	
ARU				*e*PPP	PPP	10 12 16.6	-3.1
ARU				*e*S	**S**	**10 16 39.0**	**-1.9**
ARU				*e*SS	SS	10 20 23.8	-1.1
ARU				*e*SSS	SSS	10 22 34.8	+7.2
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
INK	**Inuvik**	**57.59**	**26**	*e*P	**P**	**10 09 15.1**	**-3.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
INK	**Inuvik**	**57.59**	**26**	P	**P**	**10 09 17.2**	**-1.4**
	comp=Z,1.2nm,0.7s,mb4.0,baz=318,slow=3.8,SNR=4.4						
INK	**Inuvik**	**57.59**	**26**	*e*P	**P**	**10 09 15.1**	**-3.6**
	comp=Z,2.0nm,0.9s,mb4.2						
ASAR	**Alice Springs**	**58.73**	**183**	P	**P**	**10 09 26.4**	**-0.8**
	comp=Z,2.1nm,0.7s,mb4.3,baz=5.4,slow=7.3,SNR=9.3						
ASAR				LR	LR	10 36 21.2	
	comp=Z,60nm,18.3s,MS3.8,baz=127,slow=38						
ARCES	**ARCESS Array B**	**64.26**	**339**	P	**P**	**10 10 03.0**	**-0.7**
	comp=Z,2.7nm,0.8s,mb4.3,baz=39,slow=7.8,SNR=4.0						
RES	**Resolute Bay**	**65.16**	**13**	*e*P	**P**	**10 10 08.5**	**-0.9**
RES				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
RES	**Resolute Bay**	**65.16**	**13**	*e*P	**P**	**10 10 08.5**	**-1.0**
	comp=Z,2.4nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**66.99**	**176**	P	**P**	**10 10 21.7**	**-0.1**
	comp=Z,3.4nm,0.8s,mb4.4,baz=323,slow=7.5,SNR=5.9						
YKA	**Yellowknife Ar**	**67.13**	**29**	P	**P**	**10 10 21.6**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.6,baz=305,slow=6.5,SNR=7.4						
KAF	**Kangasniemi**	**68.08**	**332**	*e*p	**P**	**10 10 32.3**	**+4.1**
	baz=44,slow=5.9						
FINES	**FINESS Array B**	**68.55**	**331**	*i* P	**P**	**10 10 32.0**	**+0.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**68.55**	**331**	P	**P**	**10 10 30.2**	**-0.8**
	comp=Z,2.8nm,0.8s,mb4.2,baz=90,slow=1.9,SNR=6.3						
GNI	**Garni**	**69.69**	**305**	*e*P	**P**	**10 10 38.5**	**+0.1**
GNI				pmax	pmax		
	comp=Z,7.0nm,1.7s						
SOC	**Sochi**	**71.21**	**310**	*e*P	**P**	**10 10 42.8**	**-4.8**
SOC				*e*		10 11 06.6	
SOC				*e*		10 13 23.7	
SOC				*e*S	S	10 19 59.7	-1.8
SOC				*e*SS	SS	10 24 42.1	+4.6
SOC				pmax	pmax		
	comp=Z,38nm,1.4s,mb5.1						
SOC				pmax	pmax		
	comp=N,28nm,1.0s						
SOC				pmax	pmax		
	comp=E,19nm,0.9s						
SUMG	**Summit**	**72.35**	**358**	*e*P	**P**	**10 10 55.3**	**+1.3**
	comp=E,10.0nm,0.7s,mb4.8						
EDM	**Edmonton**	**72.97**	**36**	*e*P	**P**	**10 10 58.0**	**+0.1**
NB2	**NORSAR Subarra**	**74.27**	**336**	P	**P**	**10 11 05.0**	**-0.2**
	comp=E,2.8nm,0.8s,mb4.2,baz=43,slow=5.8						
NOA	**NORSAR Array B**	**74.27**	**336**	P	**P**	**10 11 05.3**	**+0.1**
	comp=E,5.1nm,0.9s,mb4.5,baz=41,slow=5.9,SNR=10						
BRTR	**Keskin Array B**	**77.13**	**310**	P	**P**	**10 11 22.4**	**+0.4**
	comp=E,2.5nm,1.1s,mb4.1,baz=72,slow=3.9,SNR=4.8						
HLID	**Hailey**	**78.25**	**45**	*e*P	**P**	**10 11 29.1**	**+1.2**
NVAR	**Mina Array Bea**	**78.98**	**51**	P	**P**	**10 11 33.2**	**+1.1**
	comp=E,2.0nm,0.6s,mb4.2,baz=289,slow=5.0,SNR=6.4						
MNV	**Mina**	**79.08**	**51**	*e*P	**P**	**10 11 33.5**	**+0.9**
MNV				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
MNV	**Mina**	**79.08**	**51**	*e*P	**P**	**10 11 33.5**	**+0.8**
	comp=Z,2.2nm,0.8s,mb4.1						
GCMT	**Greycliff**	**79.47**	**41**	*e*P	**P**	**10 11 35.8**	**+1.1**
CLL	**Collm**	**80.65**	**328**	P	**P**	**10 11 42.0**	**+1.2**
BW06	**Boulder Array**	**81.50**	**43**	*e*P	**P**	**10 11 46.4**	**+1.0**
	comp=Z,1.9nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**81.50**	**43**	P	**P**	**10 11 46.0**	**+0.5**
	comp=Z,1.0nm,0.7s,mb3.9,baz=284,slow=2.2,SNR=11						
GERES	**GERESS Array B**	**82.12**	**326**	P	**P**	**10 11 50.5**	**+2.0**
	comp=Z,0.7nm,0.8s,mb3.7,baz=27,slow=6.0,SNR=4.1						
SRU	**San Rafael**	**83.32**	**46**	*e*P	**P**	**10 11 56.0**	**+1.1**
TXAR	**Lajitas Array**	**94.10**	**50**	P	**P**	**10 12 47.9**	**+1.2**
	comp=Z,1.7nm,0.7s,mb4.6,baz=300,slow=3.1,SNR=26						
SDV	**Santo Domingo**	**128.97**	**36**	PKP	PKPdf	10 18 38.1	-2.2
	comp=Z,3.1nm,0.6s,baz=77,slow=3.6,SNR=5.0						
SDV	**Santo Domingo**	**128.97**	**36**	*e*P	PKPdf	10 18 37.7	-2.6
SDV				PKP	PKPdf	10 18 38.1	-2.2
LPAZ	**La Paz**	**150.77**	**56**	PKP	PKPdf	10 19 18.5	-0.3
	comp=Z,3.3nm,1.1s,baz=11,slow=14,SNR=3.5						

JMA 09 09:59:51.0±0.3, 28.88N×132.06E, h64km, M4.0, West of Bonin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**1.92**	**253**	P	P	10 00 22.1	0.0
JTN	**Tanegashima 3**	**2.00**	**332**	P	P	10 00 23.2	0.0
JNN	**Nakanoshima**	**2.13**	**297**	P	P	10 00 25.1	0.0
JAM	**Amami Oshima**	**2.21**	**258**	P	P	10 00 25.9	-0.2
JKC	**Kuchinoerabu**	**2.26**	**315**	P	P	10 00 27.6	+0.7
JTSR	**Tashiro 2**	**2.48**	**337**	P	P	10 00 29.8	-0.2
JTSR				*e*S	S	10 00 58.4	-0.8
JNAR	**Kushima--Naru**	**2.72**	**346**	P	P	10 00 33.1	-0.3
JNAR				S	S	10 01 04.5	-0.8
JTK	**Tokunoshima**	**2.95**	**249**	P	P	10 00 36.4	-0.2
JTZ	**Takazaki**	**3.13**	**345**	P	P	10 00 39.1	0.0
JTZ				*e*S	S	10 01 14.3	-1.1
JSJ	**Shimokoshiki**	**3.45**	**325**	P	P	10 00 42.9	-0.7
JOW	**Kunigami**	**3.92**	**240**	P	P	10 00 49.1	-1.2
JIH	**Iheya**	**4.06**	**244**	P	P	10 00 51.4	-0.8

NIED ***09*** *10:00:00, 29.00N×132.00E, h5km, Mw4.1 Best double couple: M₀1.6×10¹⁵ NP1:φs157°, δ61°, λ-118°. NP2:φs24°, δ40°, λ-50°.*
IDC ***09*** *10:00:15.1±1.0, 29.27N×131.84E, mb4.2/6, mb1 4.4/7, mb1mx4.1/20, mbtmp4.2/7, ML4.0/1, Error ellipse: s-maj=38.5km s-min=22.4km az=111.0*
JMA ***09*** *10:00:18.3±0.4, 28.96N×132.02E, h55km, M4.3*

ISC 09 10:00:17.0±1.4, 28.88N±0.04×131.99E±0.09, h39km±13km, n20, σ1°19/28, mb4.2/6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**1.86**	**253**	S	**S**	**10 01 13.5**	**+4.0**
JTN	**Tanegashima 3**	**1.98**	**334**	S	**S**	**10 01 12.5**	**+0.2**
JNN	**Nakanoshima**	**2.08**	**298**	P	**P**	**10 00 51.2**	**+1.1**
JNN				S	**S**	**10 01 16.2**	**+1.2**
JAM	**Amami Oshima**	**2.15**	**258**	S	**S**	**10 01 17.5**	**+0.8**
JKC	**Kuchinoerabu**	**2.22**	**316**	P	**P**	**10 00 54.3**	**+2.2**
JKC				S	**S**	**10 01 19.8**	**+1.2**
JTSR	**Tashiro 2**	**2.46**	**338**	P	**P**	**10 00 56.0**	**+0.4**
JTSR				S	**S**	**10 01 23.5**	**-1.2**
JNAR	**Kushima--Naru**	**2.71**	**347**	P	**P**	**10 00 59.4**	**+0.3**
JNAR				S	**S**	**10 01 29.9**	**-1.1**
JTK	**Tokunoshima**	**2.89**	**249**	P	**P**	**10 01 02.8**	**+1.0**
JTK				S	**S**	**10 01 36.0**	**+0.3**
JTZ	**Takazaki**	**3.11**	**346**	S	**S**	**10 01 39.6**	**-1.6**
JSJ	**Shimokoshiki**	**3.41**	**325**	S	**S**	**10 01 47.8**	**-1.1**
JOW	**Kunigami**	**3.87**	**239**	Pn	**P**	**10 01 15.1**	**-0.6**
	21nm,0.3s,baz=85,slow=10,SNR=13						
JOW				Sn	**S**	**10 01 58.3**	**-2.2**
	17nm,0.3s,baz=107,slow=28,SNR=6.7						
JOW	**Kunigami**	**3.87**	**239**	P	**P**	**10 01 15.0**	**-0.6**
JOW				S	**S**	**10 01 58.9**	**-1.6**
JIH	**Iheya**	**4.01**	**244**	P	**P**	**10 01 17.4**	**-0.1**
JIH				S	**S**	**10 02 01.4**	**-2.5**
JAGN	**Aguni-jima**	**4.79**	**243**	*e*S	**S**	**10 02 20.4**	**-3.2**
WRA	**Warramunga Arr**	**48.59**	**177**	P	**P**	**10 09 03.8**	**+5.0**
	3.9nm,0.5s,mb4.7,baz=358,slow=7.6,SNR=33						
ILAR	**Eielson Array**	**60.52**	**29**	P	**P**	**10 10 24.0**	**-1.2**
	1.4nm,0.7s,mb4.2,baz=264,slow=5.6,SNR=7.2						
INK	**Inuvik**	**65.13**	**24**	P	**P**	**10 10 55.8**	**+0.2**
	2.4nm,0.6s,mb4.4,baz=306,slow=7.0,SNR=10						
FINES	**FINESS Array B**	**72.19**	**331**	P	**P**	**10 11 38.9**	**-0.4**
	2.6nm,0.6s,mb4.3,baz=70,slow=7.1,SNR=8.7						
YKA	**Yellowknife Ar**	**74.70**	**26**	P	**P**	**10 11 54.7**	**+0.8**
	0.8nm,0.7s,mb3.8,baz=302,slow=5.9,SNR=7.7						
BRTR	**Keskin Array B**	**78.02**	**309**	P	**P**	**10 12 14.8**	**+1.7**
	0.7nm,0.6s,mb3.8,baz=80,slow=6.3,SNR=2.9						

IDC ***09*** *10:01:39.3±1.1, 28.96N×132.00E, mb4.0/9, mb1 4.2/10, mb1mx4.0/20, mbtmp4.0/10, ML4.1/1, Error ellipse: s-maj=35.1km s-min=24.2km az=117.0*
NEIC ***09*** *10:01:40.8±0.7, 28.96N×132.01E, h10km, mb4.5/2, Error ellipse: s-maj=25.0km s-min=11.4km az=131.0*
JMA ***09*** *10:01:43.7±0.3, 28.92N×131.98E, h65km, M4.0*

ISC 09 10:01:42.6±1.2, 28.90N±0.04×132.01E±0.08, h34km±10km, n26, σ1°00/35, mb4.0/10, West of Bonin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**1.88**	**253**	P	**P**	**10 02 14.1**	**+1.2**
JTN	**Tanegashima 3**	**1.97**	**333**	P	**P**	**10 02 15.0**	**+0.9**
JTN				S	**S**	**10 02 38.1**	**+0.3**
JNN	**Nakanoshima**	**2.09**	**297**	P	**P**	**10 02 17.0**	**+1.2**
JAM	**Amami Oshima**	**2.17**	**258**	P	**P**	**10 02 17.8**	**+0.9**
JAM				*e*S	**S**	**10 02 44.1**	**+1.3**
JTSR	**Tashiro 2**	**2.45**	**338**	P	**P**	**10 02 21.8**	**+0.8**
JTSR				S	**S**	**10 02 49.8**	**-0.3**
JNAR	**Kushima--Naru**	**2.70**	**347**	P	**P**	**10 02 25.4**	**+0.9**
JNAR				S	**S**	**10 02 55.6**	**-0.8**
JTK	**Tokunoshima**	**2.91**	**248**	P	**P**	**10 02 28.1**	**+0.5**
JTK				S	**S**	**10 03 01.8**	**0.0**
JTZ	**Takazaki**	**3.10**	**345**	S	**S**	**10 03 05.7**	**-0.9**
JSJ	**Shimokoshiki**	**3.41**	**325**	P	**P**	**10 02 34.7**	**0.0**
JSJ				*e*S	**S**	**10 03 13.7**	**-0.7**
JOW	**Kunigami**	**3.89**	**239**	Pn	**P**	**10 02 40.7**	**-0.8**
	28nm,0.3s,baz=102,slow=19,SNR=6.0						
JOW				Sn	**S**	**10 03 24.6**	**-2.0**
	baz=78,slow=20						
JOW	**Kunigami**	**3.89**	**239**	P	**P**	**10 02 40.7**	**-0.8**
JOW				S	**S**	**10 03 25.1**	**-1.6**
JTO	**Tosashimizu**	**4.01**	**10**	P	**P**	**10 02 41.9**	**-1.3**
JIH	**Iheya**	**4.03**	**244**	P	**P**	**10 02 42.6**	**-0.8**
JIH				S	**S**	**10 03 27.6**	**-2.5**
MAJO	**Matsushiro**	**9.24**	**33**	*e*Pn	**P**	**10 03 52.3**	**-4.1**
ASAR	**Alice Springs**	**52.29**	**178**	P	**P**	**10 10 53.0**	**-0.1**
	0.9nm,0.6s,mb3.9,baz=11,slow=13,SNR=5.2						
COLA	**College**	**60.08**	**29**	*e*P	**P**	**10 11 48.5**	**+0.1**
	2.4nm,0.6s,mb4.4						
ILAR	**Eielson Array**	**60.50**	**29**	P	**P**	**10 11 50.0**	**-1.3**
	0.9nm,0.6s,mb4.0,baz=262,slow=5.5,SNR=8.5						
INK	**Inuvik**	**65.11**	**24**	P	**P**	**10 12 21.6**	**0.0**
	1.8nm,0.5s,mb4.3,baz=291,slow=7.4,SNR=7.4						
INK	**Inuvik**	**65.11**	**24**	*e*P	**P**	**10 12 21.6**	**-0.1**
	2.0nm,0.6s,mb4.3						
ARCES	**ARCESS Array B**	**68.75**	**339**	P	**P**	**10 12 44.0**	**-0.6**
	2.5nm,0.9s,mb4.2,baz=60,slow=9.8,SNR=3.9						
FINES	**FINESS Array B**	**72.19**	**331**	P	**P**	**10 13 05.9**	**+0.5**
	2.1nm,0.6s,mb4.2,baz=76,slow=6.8,SNR=8.7						
YKA	**Yellowknife Ar**	**74.68**	**26**	P	**P**	**10 13 20.3**	**+0.3**
	0.5nm,0.6s,mb3.6,baz=298,slow=5.7,SNR=8.1						
BRTR	**Keskin Array B**	**78.02**	**309**	P	**P**	**10 13 41.1**	**+1.8**
	0.9nm,0.8s,mb3.7,baz=101,slow=4.1,SNR=3.9						
NOA	**NORSAR Array B**	**78.38**	**335**	P	**P**	**10 13 40.6**	**-0.2**
	0.8nm,0.9s,mb3.7,baz=176,slow=14,SNR=3.2						
CLL	**Collm**	**83.84**	**326**	P	**P**	**10 14 11.8**	**+2.1**
GERES	**GERESS Array B**	**85.05**	**324**	P	**P**	**10 14 14.9**	**-1.0**
	0.4nm,0.6s,mb3.7,baz=48,slow=18,SNR=3.4						

IDC 09 10:22:54.0±10.0, 5.88N×94.55E, mb3.7/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.7/3, MS3.2/2, Ms1 3.3/2, ms1mx2.8/27, Error ellipse: s-maj=347.0km s-min=30.1km az=70.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.21**	**19**	LR	LR	10 31 55.9	
	comp=Z,50nm,18.2s,baz=215,slow=41						
SONM	**Songino Array**	**43.01**	**12**	P	P	10 30 55.1	-1.8
	0.3nm,0.8s,baz=193,slow=9.8,SNR=3.0						
WRA	**Warramunga Arr**	**46.79**	**124**	P	P	10 31 25.1	-2.4
	1.4nm,0.6s,baz=301,slow=9.6,SNR=15						
ASAR	**Alice Springs**	**48.34**	**129**	P	P	10 31 38.3	-1.3
	1.6nm,0.6s,baz=300,slow=7.5,SNR=36						
STKA	**Stephens Creek**	**58.45**	**133**	LR	LR	11 02 38.9	
	comp=Z,40nm,18.8s,baz=204,slow=41						

NIED ***09*** *10:30:00, 42.00N×142.50E, h59km, Mw4.2 Best double couple: M₀1.99×10¹⁵ NP1:φs30°, δ67°, λ90°. NP2:φs209°, δ23°, λ90°.*
MOS ***09*** *10:30:24.8±1.0, 42.35N×142.24E, h33km, mb4.8/19, Error ellipse: s-maj=12.8km s-min=7.6km az=95.9*
JMA ***09*** *10:30:28.3±0.1, 42.04N×142.45E, h68km±2km, M4.1 Broadband fault plane solution: P waves. NP1:φs165°, δ11°, λ59°. NP2:φs17°, δ80°, λ96°. Principal axes: T Plg54°, Azm294°; N Plg6°, Azm196°; P Plg35°, Azm102°;*
JMA Felt II J1.
BJI ***09*** *10:30:28.4, 42.02N×142.45E, h101km, mB5.2, mb4.5*
NEIC ***09*** *10:30:30.5±0.8, 42.12N×142.29E, h80km±7km, mb4.5/21, MW4.2(NIED), Error ellipse: s-maj=9.3km s-min=7.4km az=139.0*
NEIC Recorded [2 JMA] in south-central Hokkaido and [1 JMA] in the Chitose area. Also recorded [1 JMA] in Aomori and Iwate Prefectures, Honshu.
IDC ***09*** *10:30:33.3±4.9, 42.33N×142.33E, h97km±30km, mb4.0/14, mb1 4.1/14, mb1mx4.1/19, mbtmp4.3/14, MS3.1/1, Ms1 3.1/1, ms1mx2.3/27, Error ellipse: s-maj=46.0km s-min=16.1km az=174.0*

ISC 09 10:30:27.9±0.3, 42.06N±0.03×142.44E±0.04, h73km±2km, n111, σ0°94/132, mb4.4/45, 6C-13D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.33**	**46**	⇑P	**P**	**10 30 39.1**	**-0.5**
JNBK				*e*S	**S**	**10 30 47.5**	**-0.8**
JEM	**Erimo**	**0.54**	**94**	P	**P**	**10 30 41.6**	**+0.1**
JEM				*e*S	**S**	**10 30 51.1**	**-0.3**
JBT2	**Biratori 2**	**0.72**	**356**

MAJO	**Matsushiro**	**6.41**	**212**	*e*Pn		**P**	**10 32 01.9**	**+0.3**
	comp=Z,7.5nm,0.4s							
MAT	**Matsushiro**	**6.41**	**212**	*e*PN		**P**	**10 32 02.0**	**+0.4**
MAT				pmax	pmax			
	comp=Z,15nm,1.0s							
MAT	**Matsushiro**	**6.41**	**212**	*e*P		**P**	**10 32 02.0**	**+0.4**
	comp=Z,15nm,1.0s							
MAT				S		**S**	**10 33 15.0**	**+1.0**
MAT	**Matsushiro**	**6.41**	**212**	P		**P**	**10 32 01.9**	**+0.3**
MAT				*e*S		**S**	**10 33 15.0**	**+1.0**
HIA	**Hailar**	**17.39**	**302**	*e*P		**P**	**10 34 26.1**	**-0.8**
HIA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
HIA	**Hailar**	**17.39**	**302**	*e*P		**P**	**10 34 26.1**	**-0.7**
	comp=Z,2.2nm,0.6s							
MA2	**Magadan**	**18.29**	**14**	*i* P		**P**	**10 34 35.8**	**-2.0**
JOW	**Kunigami**	**19.12**	**222**	LR		LR	10 41 41.3	
	comp=Z,63nm,20.3s,baz=270,slow=35							
BJT	**Baijiatuau**	**19.90**	**273**	*e*P		**P**	**10 34 52.8**	**-3.0**
BJT				pmax	pmax			
	comp=Z,8.0nm,0.7s							
BJT	**Baijiatuau**	**19.90**	**273**	*e*P		**P**	**10 34 52.8**	**-3.0**
	comp=Z,7.7nm,0.7s							
NJ2	**Nanjing**	**21.25**	**250**	*e*P		**P**	**10 35 08.3**	**-1.3**
NJ2				S		**S**	**10 38 55.0**	**-1.4**
NJ2				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.4							
NJ2				AMB		AMB		
	comp=Z,2μm,5.4s							
YAK	**Yakutsk**	**21.41**	**343**	*e*P		**P**	**10 35 07.8**	**-3.3**
YAK				*i* *PP			10 35 29.3	
YAK				pmax	pmax			
	comp=Z,6.0nm,0.5s,mb4.2							
YAK	**Yakutsk**	**21.41**	**343**	P		**P**	**10 35 08.1**	**-3.0**
	comp=Z,6.5nm,0.4s,mb4.3							
ULN	**Ulaanbaatar**	**25.55**	**295**	*e*P		**P**	**10 35 51.2**	**0.0**
ULN				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb3.9							
ULN	**Ulaanbaatar**	**25.55**	**295**	*e*P		**P**	**10 35 51.2**	**0.0**
	comp=Z,2.9nm,0.6s,mb3.9							
SONM	**Songino Array**	**25.99**	**295**	P		**P**	**10 35 55.4**	**+0.2**
	comp=Z,3.0nm,0.5s,mb4.0,baz=76,slow=8.7,SNR=71							
ZAK	**Zakamensk**	**28.07**	**301**	*e*P		**P**	**10 36 13.2**	**-1.1**
ZAL	**Zalesovo**	**39.29**	**308**	P		**P**	**10 37 50.5**	**-0.3**
	comp=Z,4.1nm,0.7s,mb4.4,baz=27,slow=8.6,SNR=26							
NVS	**Novosibirsk**	**40.10**	**310**	*e*P		**P**	**10 37 56.8**	**-0.7**
NVS				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.3							
NVS				pmax	pmax			
	comp=E,3.0nm,0.8s							
MKAR	**Makanchi Array**	**42.30**	**298**	*i* P		**P**	**10 38 15.6**	**0.0**
MKAR				pmax	pmax			
	comp=Z,5.0nm,0.6s							
COLA	**College**	**44.46**	**35**	*e*P		**P**	**10 38 31.4**	**-1.5**
ILAR	**Eielson Array**	**44.88**	**35**	P		**P**	**10 38 35.6**	**-0.6**
	comp=Z,1.0nm,0.5s,mb3.9,baz=262,slow=5.3,SNR=35							
JIRN	**Jiri**	**47.53**	**271**	*e*P		**P**	**10 38 58.1**	**+0.4**
	comp=Z,8.7nm,0.4s,mb4.9							
CHKZ	**Chkalovo**	**47.57**	**310**	*i* P		**P**	**10 38 57.4**	**-0.2**
CHKZ				pmax	pmax			
	comp=Z,4.0nm,0.4s,mb4.6							
GUN	**Gumba**	**47.62**	**272**	*e*P		**P**	**10 38 59.1**	**+0.7**
	comp=Z,29nm,0.3s,mb5.5							
BVAR	**Borovoye Array**	**47.89**	**309**	P		**P**	**10 38 60.0**	**-0.2**
	comp=Z,9.7nm,0.4s,mb5.0,baz=78,slow=9.0,SNR=108							
BVAR				PcP		PcP	10 40 28.0	0.0
	comp=Z,1.8nm,0.6s,baz=90,slow=1.5,SNR=5.2							
BRVK	**Borovoye**	**47.95**	**309**	*e*P		**P**	**10 39 00.6**	**+0.1**
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.4s,mb4.6							
BRVK	**Borovoye**	**47.95**	**309**	*e*P		**P**	**10 39 00.6**	**+0.1**
	comp=Z,3.6nm,0.4s,mb4.5							
KKN	**Kakani**	**48.14**	**272**	*e*P		**P**	**10 39 02.6**	**+0.2**
	comp=Z,11nm,0.5s,mb5.0							
PKI	**Pulchoki**	**48.16**	**272**	*e*P		**P**	**10 39 03.2**	**+0.6**
	comp=Z,10nm,0.5s,mb4.9							
DMN	**Daman**	**48.36**	**272**	*e*P		**P**	**10 39 04.5**	**+0.4**
	comp=Z,9.9nm,0.5s,mb4.9							
GKN	**Gorkha**	**48.50**	**273**	*e*P		**P**	**10 39 05.5**	**+0.3**
	comp=Z,7.2nm,0.3s,mb5.1							
KOLN	**Koldanda**	**49.40**	**273**	*e*P		**P**	**10 39 12.1**	**0.0**
	comp=Z,5.5nm,0.3s,mb5.0							
INK	**Inuvik**	**49.59**	**29**	*e*P		**P**	**10 39 12.5**	**-0.5**
ARU	**Arti**	**53.20**	**316**	⇓*i*P		**P**	**10 39 37.3**	**-3.1**
ARU				*e*			10 40 41.9	
ARU				*e*			10 41 36.2	
ARU				*e*S		**S**	**10 46 57.6**	**-6.4**
ARU				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.7							
RES	**Resolute Bay**	**57.55**	**15**	*e*P		**P**	**10 40 09.9**	**-1.7**
RES				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6							
RES	**Resolute Bay**	**57.55**	**15**	*e*P		**P**	**10 40 09.9**	**-1.7**
	comp=Z,4.6nm,0.8s,mb4.6							
YKA	**Yellowknife Ar**	**59.10**	**32**	P		**P**	**10 40 21.7**	**-0.8**
YKA	**Yellowknife Ar**	**59.10**	**32**	P		**P**	**10 40 21.6**	**-0.8**
	comp=Z,1.2nm,0.8s,mb4.0,baz=306,slow=6.3,SNR=23							
ARCES	**ARCESS Array B**	**59.60**	**339**	P		**P**	**10 40 23.7**	**-2.1**
	comp=Z,0.9nm,0.5s,mb4.1,baz=51,slow=7.8,SNR=9.8							
WRA	**Warramunga Arr**	**62.14**	**189**	pP		pP	10 41 01.7	-1.0
	comp=Z,1.9nm,0.7s,baz=7.9,slow=7.2,SNR=8.8							
KAF	**Kangasniemi**	**64.23**	**332**	*e*p		**P**	**10 40 55.0**	**-1.7**
	baz=45,slow=6.2							
FINES	**FINESS Array B**	**64.76**	**332**	P		**P**	**10 40 59.1**	**-1.1**
	comp=Z,6.4nm,0.7s,mb4.6,baz=45,slow=8.7,SNR=32							
ASAR	**Alice Springs**	**65.86**	**189**	pP		pP	10 41 26.3	-0.9
	comp=Z,0.5nm,0.5s,baz=360,slow=5.3,SNR=4.4							
KIV	**Kislovodsk**	**68.25**	**310**	*e*P		**P**	**10 41 19.3**	**-3.3**
KIV				pmax	pmax			
	comp=Z,13nm,1.6s,mb4.5							
NB2	**NORSAR Subarra**	**69.87**	**337**	P		**P**	**10 41 31.5**	**-0.7**
	comp=Z,2.8nm,0.6s,mb4.3,baz=36,slow=6.2							
NB2	**NORSAR Subarra**	**69.87**	**337**	P		**P**	**10 41 31.5**	**-0.7**
NB2				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.3							
NOA	**NORSAR Array B**	**69.87**	**337**	P		**P**	**10 41 31.2**	**-1.1**
	comp=Z,4.1nm,0.7s,mb4.4,baz=36,slow=6.1,SNR=10							
SOC	**Sochi**	**70.17**	**311**	*e*P		**P**	**10 41 32.4**	**-1.9**
SOC				*e*			10 44 08.6	
SOC				*e*PPP		PPP	10 45 45.2	-7.3
SOC				*e*			10 51 04.8	
SOC				pmax	pmax			
	comp=N,16nm,0.9s							
SOC				pmax	pmax			
	comp=Z,27nm,0.9s,mb5.1							
SOC				pmax	pmax			
	comp=E,23nm,1.2s							
BOZ	**Bozeman (W)**	**70.60**	**46**	*e*P		**P**	**10 41 38.0**	**+1.1**
BOZ				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.1							
BOZ	**Bozeman (W)**	**70.60**	**46**	*e*P		**P**	**10 41 38.0**	**+1.1**
	comp=Z,1.5nm,0.6s,mb4.0							
BW06	**Boulder Array**	**73.62**	**47**	*e*P		**P**	**10 41 55.8**	**+1.0**
	comp=Z,1.3nm,0.7s,mb3.8							
PDAR	**Pinedale Array**	**73.62**	**47**	P		**P**	**10 41 55.9**	**+1.1**
	comp=Z,1.1nm,0.7s,mb3.7,baz=280,slow=3.0,SNR=14							
MALT	**Malatya**	**74.32**	**308**	*e*P		**P**	**10 42 00.3**	**+1.3**
MALT				pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.2							
MALT	**Malatya**	**74.32**	**308**	*e*P		**P**	**10 42 00.3**	**+1.3**
	comp=Z,4.6nm,1.1s,mb4.1							
BRTR	**Keskin Array B**	**76.13**	**311**	P		**P**	**10 42 09.6**	**+0.3**
	comp=Z,1.5nm,0.7s,mb3.8,baz=70,slow=4.4,SNR=8.7							
PV10	**Paradox Valley**	**76.90**	**50**	*e*P		**P**	**10 42 15.7**	**+2.0**
CLL	**Collm**	**77.14**	**330**	P		**P**	**10 42 15.0**	**+0.3**
KHC	**Kasperske Hory**	**78.68**	**329**	*e*P		**P**	**10 42 24.0**	**+0.8**
GERES	**GERESS Array B**	**78.86**	**328**	P		**P**	**10 42 24.6**	**+0.4**
	comp=Z,0.6nm,0.5s,mb3.7,baz=37,slow=6.7,SNR=6.9							
SCHQ	**Schefferville**	**80.30**	**17**	P		**P**	**10 42 32.1**	**+0.2**
	comp=Z,2.2nm,0.9s,mb4.0,baz=20,slow=15,SNR=4.4							
CDF	**Champ du Feu**	**81.62**	**332**	*e*P		**P**	**10 42 38.9**	**0.0**
HINF	**Hinteralfeld**	**82.27**	**332**	*e*P		**P**	**10 42 41.7**	**-0.6**
HAU	**Haudompre**	**82.29**	**332**	*e*P		**P**	**10 42 42.0**	**-0.4**
	comp=Z,9.0nm,0.9s,mb4.3							
HAU	**Haudompre**	**82.29**	**332**	*e*P		**P**	**10 42 42.0**	**-0.4**
HAU				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.3							
SSF	**Saint Saulge**	**84.08**	**333**	*e*P		**P**	**10 42 51.5**	**+0.2**
SSF				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.2							
SSF	**Saint Saulge**	**84.08**	**333**	*e*P		**P**	**10 42 51.5**	**+0.2**
	comp=Z,3.6nm,0.9s,mb4.2							
IDI	**Anoyia**	**84.14**	**313**	P		**P**	**10 42 51.7**	**-0.3**
	comp=Z,7.3nm,0.4s,mb4.9,baz=46,slow=3.3,SNR=15							
LPL	**La Plagne**	**84.27**	**330**	*e*P		**P**	**10 42 53.3**	**+0.9**
LPG	**La Plagne**	**84.28**	**330**	*e*P		**P**	**10 42 53.2**	**+0.8**
GRR	**Gorron**	**84.29**	**336**	*e*P		**P**	**10 42 51.9**	**-0.5**
	comp=Z,8.3nm,0.5s,mb4.5							
GRR	**Gorron**	**84.29**	**336**	*e*P		**P**	**10 42 51.9**	**-0.5**
GRR				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.5							
SMF	**Signal de Mont**	**84.33**	**333**	*e*P		**P**	**10 42 52.9**	**+0.3**
AVF	**Avril sur Loir**	**84.37**	**333**	*e*P		**P**	**10 42 53.1**	**+0.3**
	comp=Z,10nm,0.6s,mb4.5							
AVF	**Avril sur Loir**	**84.37**	**333**	*e*P		**P**	**10 42 53.1**	**+0.3**
AVF				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.5							
MBDF	**Montbardon**	**84.93**	**330**	*e*P		**P**	**10 42 56.5**	**+0.8**
	comp=Z,6.8nm,0.8s,mb4.4							
MBDF	**Montbardon**	**84.93**	**330**	*e*P		**P**	**10 42 56.5**	**+0.8**
MBDF				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
ORIF	**Oris-en-Rattie**	**85.10**	**331**	*e*P		**P**	**10 42 57.1**	**+0.6**
	comp=Z,6.3nm,0.7s,mb4.3							
ORIF	**Oris-en-Rattie**	**85.10**	**331**	*e*P		**P**	**10 42 57.1**	**+0.6**
ORIF				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
SBF	**Sospel**	**85.42**	**329**	*e*P		**P**	**10 42 58.6**	**+0.5**
	comp=Z,15nm,0.7s,mb4.8							
SBF	**Sospel**	**85.42**	**329**	*e*P		**P**	**10 42 58.6**	**+0.5**
SBF				pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.8							
VIVF	**Saint-Julien-l**	**85.59**	**331**	*e*P		**P**	**10 42 59.4**	**+0.5**
	comp=Z,18nm,1.0s,mb4.6							
VIVF	**Saint-Julien-l**	**85.59**	**331**	*e*P		**P**	**10 42 59.4**	**+0.5**
VIVF				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.7							
MFF	**Saint Martin d**	**85.67**	**335**	*e*P		**P**	**10 43 00.0**	**+0.7**
	comp=Z,13nm,0.8s,mb4.6							
LMR	**La Mourre**	**86.22**	**329**	*e*P		**P**	**10 43 02.1**	**+0.1**
CAF	**Calviac**	**86.43**	**333**	*e*P		**P**	**10 43 04.4**	**+1.4**
	comp=Z,14nm,0.8s,mb4.7							
TXAR	**Lajitas Array**	**86.46**	**53**	P		**P**	**10 43 05.4**	**+1.9**
	comp=Z,0.9nm,0.6s,mb3.9,baz=298,slow=3.7,SNR=19							
ETSF	**Etsaut**	**89.11**	**334**	*e*P		**P**	**10 43 17.2**	**+1.3**
	comp=Z,4.5nm,0.5s,mb4.4							

*KRSC **09** 10:58:13.3±0.6, 49.94N×156.44E, ML4.6*
*MOS **09** 10:58:13.7±2.5, 49.80N×156.61E, h15km, mb4.4/2, Error ellipse: s-maj=24.6km s-min=8.8km az=77.6*
*NEIC **09** 10:58:14.8±0.4, 49.72N×156.24E, mb4.0/4, Error ellipse: s-maj=11.0km s-min=7.6km az=137.0*
*IDC **09** 10:58:15.1±0.8, 49.75N×156.15E, h50km±6km, mb3.5/7, mb1 3.9/8, mb1mx3.6/20, mbtmp3.9/8, MS2.9/1, Ms1 2.9/1, ms1mx2.2/23, Error ellipse: s-maj=48.4km s-min=13.9km az=135.0*

ISC 09 10:58:14.5±1.0, 49.73N±0.07×156.3E±0.1, h67km±10km**, h49**km±1.9km**:pP-P, n45,** σ**1.9±10/59, mb3.7/8, 1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.95**	**355**	⇓*i*PN	**P**	**10 58 29.0**	**-3.5**
SKR				*i* S	**S**	**10 58 41.0**	**-4.9**
SKR				pmax	pmax		
	comp=N,120nm,0.5s						
SKR				pmax	pmax		
	comp=E,90nm,0.5s						
SKR				pmax	pmax		
	comp=Z,310nm,0.5s						
SKR				smax			
	comp=E,5μm,0.2s						
SKR				smax			
	comp=N,3μm,0.5s						
SKR	**Severo-Kuril's**	**0.95**	**355**	*i* P	**P**	**10 58 29.0**	**-3.5**
SKR				*i* S	**S**	**10 58 41.0**	**-4.9**
ALID	**Alaid**	**1.22**	**339**	*e*P	**P**	**10 58 36.6**	**+0.5**
ALID				*i* S	**S**	**10 58 53.1**	**+1.0**
PAU	**Pauzhetka**	**1.77**	**11**	*e*P	**P**	**10 58 43.4**	**-0.2**
PAU				*e*S	**S**	**10 59 04.9**	**-0.1**
GRL	**Gorelyy**	**3.04**	**21**	*e*P	**P**	**10 59 01.9**	**+0.4**
GRL				*e*S	**S**	**10 59 37.6**	**+0.8**
RUS	**Russkaya**	**3.05**	**27**	P	**P**	**10 59 01.2**	**-0.4**
RUS				S	**S**	**10 59 35.3**	**-1.8**
RUS	**Russkaya**	**3.05**	**27**	*e*P	**P**	**10 59 01.3**	**-0.3**
RUS				*e*S	**S**	**10 59 36.4**	**-0.7**
APC	**Apacha**	**3.25**	**10**	*e*P	**P**	**10 59 05.5**	**+1.2**
APC				*e*S	**S**	**10 59 43.0**	**+1.1**
PET	**Petropavlovsk**	**3.62**	**24**	P	**P**	**10 59 09.8**	**+0.3**
PET				S	**S**	**10 59 50.2**	**-1.1**
PET	**Petropavlovsk**	**3.62**	**24**	*e*P	**P**	**10 59 09.7**	**+0.2**
PET				*e*S	**S**	**10 59 50.9**	**-0.4**
UGLR	**Uglovaya**	**3.83**	**24**	*e*P	**P**	**10 59 14.6**	**+2.1**
AVH	**Avacha**	**3.86**	**23**	*e*P	**P**	**10 59 12.9**	**0.0**
AVH				*e*S	**S**	**10 59 56.2**	**-1.1**
KOK	**Koryaka**	**3.86**	**22**	*e*P	**P**	**10 59 14.4**	**+1.6**
SMAR	**Somma**	**3.88**	**23**	*e*P	**P**	**10 59 14.6**	**+1.5**
SDLR	**Sedlovina**	**3.91**	**24**	*e*P	**P**	**10 59 14.4**	**+0.9**
NLC	**Nalytchevo**	**3.95**	**28**	P	**P**	**10 59 13.1**	**-0.9**
NLC				S	**S**	**10 59 56.9**	**-2.5**
NLC	**Nalytchevo**	**3.95**	**28**	*e*P	**P**	**10 59 13.0**	**-1.0**
NLC				*e*S	**S**	**10 59 57.1**	**-2.3**
GNL	**Ganaly**	**4.10**	**14**	*e*P	**P**	**10 59 17.0**	**+0.8**
SPN	**Mys Shipunski**	**4.11**	**34**	P	**P**	**10 59 15.9**	**-0.5**
SPN				S	**S**	**11 00 01.8**	**-1.8**
SPN	**Mys Shipunski**	**4.11**	**34**	*e*P	**P**	**10 59 16.0**	**-0.4**
SPN				*e*S	**S**	**11 00 01.8**	**-1.8**
LGNR	**Loginova**	**6.90**	**21**	P	**P**	**10 59 55.8**	**+0.6**
KBTR	**Krutoberegovo**	**7.60**	**29**	P	**P**	**11 00 04.9**	**+0.2**
KBTR	**Krutoberegovo**	**7.60**	**29**	*e*P	**P**	**11 00 05.0**	**+0.3**
MA2	**Magadan**	**10.36**	**344**	*e*PN	**P**	**11 00 40.8**	**-1.5**
ASAJ	**Asahikawa**	**10.90**	**244**	PN	**P**	**11 00 47.5**	**-2.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,57nm,18.8s						
ASAJ	**Asahikawa**	**10.90**	**244**	P	**P**	**11 00 47.5**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=81,slow=13,SNR=7.2						
ASAJ				LR	LR	11 05 44.4	
	comp=Z,57nm,18.8s,baz=176,slow=42						
FX1	**Attu Island--F**	**11.04**	**67**	*e*P	**P**	**11 00 49.6**	**-2.0**
MAJO	**Matsushiro**	**18.57**	**232**	*e*P	**P**	**11 02 27.2**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MAJO	**Matsushiro**	**18.57**	**232**	*e*P	**P**	**11 02 27.2**	**-1.1**
	comp=Z,3.6nm,0.5s						
BILL	**Bilibino**	**19.03**	**12**	*e*P	**P**	**11 02 33.0**	**-0.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BILL	**Bilibino**	**19.03**	**12**	*e*P	**P**	**11 02 33.0**	**-0.2**
	comp=Z,4.8nm,1.0s						
YAK	**Yakutsk**	**19.16**	**320**	*e*P	**P**	**11 02 33.2**	**-1.5**
YAK				pmax	pmax		
	comp=Z,14nm,0.7s						
YAK	**Yakutsk**	**19.16**	**320**	*e*P	**P**	**11 02 33.2**	**-1.5**
	comp=Z,14nm,0.7s						
COLA	**College**	**32.50**	**41**	*e*P	**P**	**11 04 40.8**	**+0.5**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
COLA	**College**	**32.50**	**41**	*e*P	**P**	**11 04 40.8**	**+0.5**
	comp=Z,2.8nm,0.7s,mb4.1						
ILAR	**Eielson Array**	**32.91**	**41**	P	**P**	**11 04 43.5**	**-0.3**
	comp=Z,1.8nm,1.1s,mb3.8,baz=261,slow=7.2,SNR=11						
YKA	**Yellowknife Ar**	**47.28**	**39**	P	**P**	**11 06 42.8**	**+0.5**
	comp=Z,1.0nm,0.7s,mb3.7,baz=298,slow=7.6,SNR=17						
BVAR	**Borovoye Array**	**50.61**	**309**	PcP	PcP	11 08 23.7	-1.3
	comp=Z,0.8nm,0.7s,baz=90,slow=4.3,SNR=3.7						
CMAR	**Chiang Mai Arr**	**55.11**	**257**	P	**P**	**11 07 41.8**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=27,slow=7.8,SNR=5.2						
PDAR	**Pinedale Array**	**61.32**	**57**	P	**P**	**11 08 26.3**	**+1.3**
	comp=Z,0.8nm,0.9s,mb3.8,baz=315,slow=4.2,SNR=6.5						
PDAR				pP	pP	11 08 40.6	-2.1
	comp=Z,1.2nm,0.9s,baz=333,slow=3.3,SNR=7.8						
PV10	**Paradox Valley**	**64.62**	**60**	*e*P	**P**	**11 08 46.5**	**-0.3**
WRA	**Warramunga Arr**	**72.04**	**202**	P	**P**	**11 09 33.5**	**+0.5**
	comp=Z,1.5nm,1.1s,mb3.7,baz=16,slow=6.1,SNR=3.5						
WRA				pP	pP	11 09 46.9	-4.5
	comp=Z,1.0nm,0.7s,baz=16,slow=6.6,SNR=5.8						
TXAR	**Lajitas Array**	**74.23**	**63**	P	**P**	**11 09 47.4**	**+1.7**
	comp=Z,0.8nm,0.7s,mb3.6,baz=300,slow=4.1,SNR=15						
TXAR				pP	pP	11 10 00.8	-3.2
	comp=Z,0.7nm,0.8s,baz=296,slow=4.3,SNR=6.7						
TXAR	**Lajitas Array**	**74.23**	**63**	P	**P**	**11 09 47.4**	**+1.7**
TXAR				pP	pP	11 10 00.8	-3.2
ASAR	**Alice Springs**	**75.73**	**201**	P	**P**	**11 09 55.0**	**+0.6**
	comp=Z,0.4nm,0.7s,mb3.3,baz=15,slow=5.1,SNR=9.2						
ASAR				pP	pP	11 10 10.1	-2.7
	comp=Z,0.6nm,0.6s,baz=19,slow=5.5,SNR=5.5						

*CSEM **09** 11:01:31.9, 37.29N×21.54E, h18km, MD3.7/12, After ATH*
*NEIC **09** 11:01:31.9, 37.29N×21.54E, h18km, ML3.3(ATH), After ATH.*

ATH 09 11:01:31.9, 37.29N×21.54E, h18km±2km**, MD3.6/8, ML3.3, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.33**	**110**	*e*PB	Pb	11 01 39.0	+0.1
VLI	**Veliai**	**1.26**	**117**	*e*PN	Pn	11 01 55.5	+0.8
MGER	**Gerania Oros**	**1.53**	**63**	*e*PN	Pn	11 02 00.5	+1.8
KYTH	**Kithira**	**1.57**	**130**	*e*PN	Pn	11 02 00.8	+1.6
NAIG	**Nisos Aigina**	**1.62**	**73**	*e*PN	Pn	11 02 02.0	+2.1
EVR	**Evrytania**	**1.64**	**7**	*e*PN	Pn	11 02 02.0	+1.8
NSAL	**Nisos Salamina**	**1.65**	**67**	*e*PN	Pn	11 02 02.5	+2.2
ATH	**Athens Observa**	**1.86**	**68**	*e*PN	Pn	11 02 04.5	+1.2
MPAR	**Parnis Oros**	**1.94**	**63**	*e*PN	Pn	11 02 07.5	+3.0
PTL	**Penteli**	**1.99**	**67**	*e*PN	Pn	11 02 07.0	+1.7
NEO	**Neokhori**	**2.41**	**33**	*e*PN	Pn	11 02 12.5	+1.3
KEK	**Kerkira**	**2.78**	**331**	*e*PN	Pn	11 02 18.0	+1.5

*NIED **09** 11:15:00, 37.30N×138.90E, h8km, Mw4.0 Best double couple: M0 1.01×10^15 NP1:φs221°, δ52°, λ110°. NP2:φs10°, δ43°, λ66°.*
*IDC **09** 11:15:42.2±0.7, 37.12N×138.75E, mb3.9/14, mb1 4.1/15, mb1mx4.0/22, mbtmp3.9/15, ML3.6/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/19, Error ellipse: s-maj=23.2km s-min=17.5km az=80.0*
*JMA **09** 11:15:45.5, 37.27N×138.94E, h10km±1km, M4.2 Broadband fault plane solution: P waves. NP1:φs4°, δ38°, λ53°. NP2:φs228°, δ60°, λ115°. Principal axes: T Plg65°, Azm183°; N Plg22°, Azm35°; P Plg12°, Azm300°;*
JMA Felt IV J1.
*NEIC **09** 11:15:47.3±4.6, 37.16N×138.79E, h31km±33km, mb4.1/4 Error ellipse: s-maj=13.1km s-min=10.6km az=73.0*
NEIC Recorded [3 JMA] in Niigata, [2 JMA] Gumma and [1 JMA] in Fukushima and Saitama Prefectures.

ISC 09 11:15:44.8±0.3, 37.27N±0.02×138.92E±0.04, h23km±3km**, n37,** σ**0.8/86/46, mb3.9/18, 3C-6D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.08**	**106**	⇓P	**Pb**	**11 15 47.5**	**-1.6**
JHK				S	**Sb**	**11 15 49.1**	**-2.8**
JIZZ	**Izumozaki**	**0.31**	**327**	⇓P	**Pb**	**11 15 52.4**	**+0.5**
JIZZ				S	**Sb**	**11 15 57.9**	**+1.3**
JKT	**Katashina**	**0.57**	**152**	⇓P	**Pb**	**11 15 56.2**	**+0.2**
JKT				S	**Sb**	**11 16 03.8**	**+0.1**
JNS	**Sasagawa**	**0.63**	**30**	⇑P	**Pb**	**11 15 57.1**	**0.0**
JNS				S	**Sb**	**11 16 05.3**	**-0.2**
JFY	**Yanaizu**	**0.64**	**77**	⇓P	**Pb**	**11 15 57.2**	**0.0**
JFY				S	**Sb**	**11 16 05.7**	**0.0**
JGK	**Kuni**	**0.74**	**198**	⇑P	**Pb**	**11 15 59.3**	**+0.3**
JGK				S	**Sb**	**11 16 09.5**	**+0.8**
MAJO	**Matsushiro**	**0.93**	**218**	⇑*i*Pg	**Pb**	**11 16 02.1**	**0.0**
MAT	**Matsushiro**	**0.93**	**218**	*e*P	**Pb**	**11 16 02.0**	**-0.1**
MAT				*e*S	**Sb**	**11 16 14.0**	**+0.1**
MAT	**Matsushiro**	**0.93**	**218**	P	**Pb**	**11 16 02.2**	**+0.1**
MAT				S	**Sb**	**11 16 14.1**	**+0.2**
MAT	**Matsushiro**	**0.93**	**218**	P	**Pb**	**11 16 02.2**	**+0.1**
MAT				S	**Sb**	**11 16 14.2**	**+0.3**
JSD	**Sado**	**0.93**	**326**	⇓P	**Pb**	**11 16 01.8**	**-0.3**
JSD				*e*S	**Sb**	**11 16 14.3**	**+0.3**
JAG	**Ashikaga**	**0.95**	**153**	⇓P	**Pb**	**11 16 03.3**	**+0.9**
JAG				S	**Sb**	**11 16 15.4**	**+0.9**
JHJ	**Hachijo jima 2**	**4.20**	**170**	Pn	**Pn**	**11 16 47.

NLC	**Nalytchevo**	**1.17 226**	*e*P	P	12 08 30.2	+0.3
NLC			*e*S	S	12 08 45.8	+0.5
SDLR	**Sedlovina**	**1.32 238**	*i* P	P	12 08 32.4	+0.3
SDLR			*i* S	S	12 08 49.6	+0.6
SMAR	**Somma**	**1.37 239**	*i* P	P	12 08 33.0	+0.2
UGLR	**Uglovaya**	**1.39 236**	*i* P	P	12 08 33.5	+0.5
AVH	**Avacha**	**1.40 240**	*e*P	P	12 08 33.7	+0.5
AVH			*e*S	S	12 08 51.7	+0.8
KOK	**Koryaka**	**1.44 242**	*i* P	P	12 08 33.9	+0.2
PET	**Petropavlovsk**	**1.58 233**	*i* P	P	12 08 36.0	+0.4
PET			*i* S	S	12 08 55.7	+0.5
GNL	**Ganaly**	**1.69 261**	*i* P	P	12 08 37.1	0.0
GNL			*e*S	S	12 08 57.6	-0.1
KRMR	**Karymshinskiy**	**1.95 235**	*e*P	P	12 08 41.5	+0.8
KRMR			*e*S	S	12 09 05.3	+1.3
ZLN	**Zelenaya**	**2.03 1**	*i* P	P	12 08 42.7	+0.9
ZLN			*i* S	S	12 09 07.3	+1.4
RUS	**Russkaya**	**2.06 222**	*e*P	P	12 08 42.5	+0.3
RUS			*e*S	S	12 09 06.9	+0.2
LGNR	**Loginova**	**2.10 359**	*e*P	P	12 08 44.2	+1.5
LGNR			*e*S	S	12 09 10.0	+2.4
CIRR	**Tsirk**	**2.13 360**	*e*P	P	12 08 44.2	+1.0
CIRR			*e*S	S	12 09 10.0	+1.6
GRL	**Gorelyy**	**2.16 229**	*e*P	P	12 08 44.9	+1.3
GRL			*e*S	S	12 09 11.3	+2.1
KRSR	**Krestovskiy**	**2.23 357**	*e*P	P	12 08 45.5	+0.8
KRSR			*e*S	S	12 09 12.4	+1.3
ESO	**Esso**	**2.27 329**	*i* P	P	12 08 45.4	+0.2
ESO			*e*S	S	12 09 11.9	-0.1
ESO			Smax			
	40nm,0.5s					
KLY	**Klyuchi**	**2.33 359**	*e*P	P	12 08 46.2	+0.2
KLY			*e*S	S	12 09 13.6	+0.1
APC	**Apacha**	**2.40 245**	*e*S	S	12 09 15.0	-0.2
KBTR	**Krutoberegovo**	**2.52 27**	*e*P	P	12 08 48.8	0.0
KBTR			*e*S	S	12 09 17.7	-0.6
KBG	**Krutoberegovo**	**2.53 26**	*e*P	P	12 08 51.7	+2.8
KBG			*e*S	S	12 09 22.7	+4.1
KBG			Smax			
	380nm,0.8s					
SVLR	**Shiveluch**	**2.61 6**	*i* P	P	12 08 50.5	+0.5
SVLR			*e*S	S	12 09 20.9	+0.4
BKI	**Bering**	**3.27 66**	*i* P	P	12 08 58.3	-1.0
BKI			*i* S	S	12 09 33.4	-3.9

*NEIC **09** 12:10:21.7, 15.88N×98.18W, h10km, MD4.1(MEX), After MEX.*

MEX 09 12:10:21.7±1.5, 15.88N×98.18W, h10km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.51**	**5**	*e*P	Pg	12 10 30.0	-2.1
PNIG				*i* S	Sg	12 10 38.1	-0.9
VHO	**Vista Hermosa**	**1.82**	**49**	*i* P	Pn	12 10 48.2	-5.2
VHO				*i* S	Sn	12 11 13.0	-3.8
OXX	**Oaxaca**	**1.84**	**49**	*i* P	Pn	12 10 53.5	-0.1
OXX				*e*S	Sn	12 11 17.0	-0.1
ACX	**Acapulco**	**1.94**	**301**	*i* P	Pn	12 10 51.0	-4.1
ACX				*e*S	Sn	12 11 15.0	-4.6
CAIG	**El Cayaco**	**2.32**	**300**	*e*P	Pn	12 10 54.8	-5.7
CAIG				*i* S	Sn	12 11 22.7	-6.6
PLIG	**Platanillo**	**2.80**	**333**	*i* P	Pn	12 11 03.3	-4.1
PLIG				*i* S	Sn	12 11 37.6	-4.0
YAIG	**Yautepec**	**3.08**	**344**	*e*P	Pn	12 11 07.8	-3.7
YAIG				*i* S	Sn	12 11 43.5	-5.3
IISM	**Ciudad Serdan**	**3.18**	**14**	*e*P	Pn	12 11 18.0	+5.1
PPM	**Popocatepetl**	**3.20**	**352**	*e*P	Pn	12 11 16.0	+2.9
POHV	**Veracruz**	**3.29**	**15**	*e*P	Pn	12 11 12.5	-1.8
CMIG	**Matias Romero**	**3.38**	**69**	*e*P	Pn	12 11 12.1	-3.6
CMIG				*i* S	Sn	12 11 54.7	-1.6

*BJI **09** 12:32:01.5, 5.31N×126.59E, h96km, mB5.1, mb4.5*
*NEIC **09** 12:32:03.1±0.3, 5.58N×126.60E, h80km, mb4.6/16, Error ellipse: s-maj=15.4km s-min=4.7km az=75.0*
*MAN **09** 12:32:04.5, 5.71N×126.43E, h1km, mb4.8, ML3.8, MS3.8*
*IDC **09** 12:32:04.0±2.2, 5.57N×126.53E, h84km±18km, mb4.2/13, mb1 4.3/13, mb1mx4.2/19, mbtmp4.5/13, MS3.2/1, Ms1 3.2/1, ms1mx2.4/25, Error ellipse: s-maj=31.3km s-min=11.8km az=76.0*

ISC 09 12:32:03.7±0.8, 5.51N±0.05×126.5E±0.1, h101km±7km, n45, σ1§01/49, mb4.4/27, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.45 349**		*e*P	**P**	**12 32 28.1**	**-1.8**
KCP	**Kidapawan**	**2.07 316**		‖*e*P	**P**	**12 32 37.1**	**-0.7**
KCP				*i* S	**S**	**12 33 02.1**	**-1.1**
BUKP	**Musuan**	**2.77 328**		*e*P	**P**	**12 32 46.6**	**-0.8**
BUKP				*e*S	**S**	**12 33 24.7**	**+4.5**
CGP	**Cagayan de Oro**	**3.45 328**		*e*P	**P**	**12 32 57.0**	**+0.3**
CGP				*e*S	**S**	**12 33 39.3**	**+2.5**
BUTP	**Butuan**	**3.56 345**		*e*P	**P**	**12 32 58.3**	**+0.3**
BUTP				*e*S	**S**	**12 33 54.5**	**+15**
PAGZ	**Pagadian**	**3.91 307**		*e*P	**P**	**12 33 01.9**	**-1.0**
SCPH	**Surigao**	**4.37 346**		*i* P	**P**	**12 33 10.9**	**+1.7**
SCPH				*i* S	**S**	**12 33 56.0**	**-3.3**
IPIL	**Ipil**	**4.55 300**		*e*P	**P**	**12 33 14.3**	**+2.6**
MSLP	**Maasin**	**4.89 340**		*e*P	**P**	**12 33 16.9**	**+0.6**
OCLP	**Ormoc**	**5.83 341**		*e*P	**P**	**12 33 31.3**	**+2.3**
TGY	**Tagaytay City**	**10.17 328**		LR	LR	12 40 09.4	
	comp=Z,130nm,18.8s,baz=135,slow=48						
KAKA	**Kakadu**	**19.03 162**		*e*P	**P**	**12 36 19.3**	**-1.1**
	27nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.48 182**		*e*P	**P**	**12 37 06.2**	**+1.0**
	16nm,0.4s,mb4.7						
WRAB	**Tennant Creek**	**26.42 163**		*e*P	**P**	**12 37 33.1**	**0.0**
	14nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**26.43 163**		P	**P**	**12 37 32.8**	**-0.3**
	6.2nm,0.4s,mb4.4,baz=341,slow=10,SNR=35						
WRA				PcP	PcP	12 40 56.7	+0.3
	1.3nm,0.5s,baz=326,slow=2.5,SNR=5.2						
WRA				ScP		12 44 28.4	
	0.9nm,0.7s,baz=338,slow=3.1,SNR=5.3						
WB2	**Warramunga Arr**	**26.43 163**		⇑*i* P	**P**	**12 37 32.5**	**-0.6**
MBWA	**Marble Bar**	**27.33 194**		*e*P	**P**	**12 37 41.0**	**-0.3**
	9.4nm,0.6s,mb4.5						
ENH	**Enshi**	**29.41 329**		*e*P	**P**	**12 37 58.4**	**-1.5**
	4.2nm,0.5s,mb4.3						
CMAR	**Chiang Mai Arr**	**29.85 298**		P	**P**	**12 38 04.2**	**+0.4**
	1.2nm,1.0s,mb3.5,baz=123,slow=6.9,SNR=4.7						
CMAR				PcP	PcP	12 41 05.7	+1.0
	0.3nm,0.4s,baz=90,slow=1.8,SNR=3.1						
CMAR				ScP		12 44 39.3	
	1.0nm,0.7s,baz=108,slow=1.0,SNR=8.3						
CMAR	**Chiang Mai Arr**	**29.85 298**		P	**P**	**12 38 04.2**	**+0.4**
CMAR				PcP	PcP	12 41 05.7	+1.0
CMAR				ScP		12 44 39.3	
ASAR	**Alice Springs**	**29.88 166**		P	**P**	**12 38 04.0**	**-0.1**
	3.6nm,0.4s,mb4.3,baz=348,slow=7.2,SNR=99						
ASAR				PcP	PcP	12 41 05.5	+0.7
	3.8nm,0.5s,baz=350,slow=2.3,SNR=20						
ASAR				ScP		12 44 40.5	
	0.9nm,0.7s,baz=340,slow=3.3,SNR=7.9						
ASPA	**Alice Springs**	**29.88 166**		*e*P	**P**	**12 38 04.1**	**0.0**
CTAO	**Charters Tower**	**31.98 143**		*e*P	**P**	**12 38 21.9**	**-0.7**
	1.8nm,0.6s,mb4.0						
XAN	**Xi'an**	**32.76 332**		P	**P**	**12 38 27.9**	**-1.3**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.4						
BJT	**Baijiatuau**	**35.60 346**		*e*P	**P**	**12 38 54.0**	**+0.5**
	comp=Z,33nm,1.0s,mb5.2						
KLBR	**Kellerberrin**	**37.84 192**		*e*P	**P**	**12 39 12.9**	**+0.7**
	comp=Z,22nm,1.1s,mb4.9						
MUN	**Mundaring**	**38.56 194**		*e*P	**P**	**12 39 18.4**	**+0.1**
	comp=Z,12nm,0.5s,mb5.0						
NWAO	**Narrogin (SRO)**	**39.23 192**		P	**P**	**12 39 25.0**	**+1.2**
	comp=Z,19nm,0.7s,mb5.0,baz=19,slow=7.8,SNR=22						
NWAO	**Narrogin (SRO)**	**39.23 192**		*e*P	**P**	**12 39 24.9**	**+1.0**
	comp=Z,9.8nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**39.85 160**		*e*P	**P**	**12 39 30.2**	**+1.2**
	comp=Z,8.8nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**39.85 160**		P	**P**	**12 39 30.2**	**+1.2**
	comp=Z,12nm,0.5s,mb5.0,baz=337,slow=8.2,SNR=73						
STKA				PcP	PcP	12 41 34.2	+0.6
	comp=Z,2.2nm,0.5s,baz=352,slow=8.9,SNR=4.5						
ASAJ	**Asahikawa**	**40.96 18**		P	**P**	**12 39 39.5**	**+1.5**
	comp=Z,6.6nm,0.7s,mb4.6,baz=184,slow=7.4,SNR=3.6						
HIA	**Hailar**	**43.98 354**		*e*P	**P**	**12 40 02.1**	**-0.5**
	comp=Z,3.0nm,0.7s,mb4.1						
ULN	**Ulaanbaatar**	**45.38 342**		*e*P	**P**	**12 40 14.2**	**+0.4**
	comp=Z,2.4nm,0.6s,mb4.1						
SONM	**Songino Array**	**45.56 341**		P	**P**	**12 40 15.4**	**+0.2**
	comp=Z,1.2nm,0.7s,mb3.8,baz=156,slow=7.4,SNR=13						
SONM				PcP	PcP	12 41 53.2	+0.6
	comp=Z,0.9nm,0.9s,baz=180,slow=7.4,SNR=2.7						
BVAR	**Borovoye Array**	**65.74 327**		P	**P**	**12 42 39.3**	**-0.6**
	comp=Z,2.5nm,0.8s,mb4.1,baz=127,slow=7.4,SNR=10						
BRVK	**Borovoye**	**65.81 327**		*e*P	**P**	**12 42 39.3**	**-1.0**
	comp=Z,5.2nm,0.9s,mb4.4						
CHKZ	**Chkalovo**	**65.89 327**		*e*P	**P**	**12 42 39.6**	**-1.3**
	comp=Z,1.4nm,0.8s,mb3.8						
COLA	**College**	**83.18 25**		P	**P**	**12 44 19.7**	**+0.1**
	comp=Z,3.2nm,1.2s,mb4.0						
ILAR	**Eielson Array**	**83.59 26**		P	**P**	**12 44 21.8**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.5,baz=256,slow=5.0,SNR=6.9						
ARCES	**ARCESS Array B**	**88.72 340**		P	**P**	**12 44 46.4**	**-0.3**
	comp=Z,3.3nm,0.8s,mb4.4,baz=76,slow=5.0,SNR=11						
KAF	**Kangasniemi**	**89.94 332**		*e*p	**P**	**12 44 53.4**	**+0.9**
	baz=75,slow=4.4						
FINES	**FINESS Array B**	**90.19 332**		P	**P**	**12 44 53.2**	**-0.4**
	comp=Z,15nm,1.3s,mb5.0,baz=45,slow=2.7,SNR=15						
HFS	**Hagfors**	**96.37 332**		P	**P**	**12 45 22.6**	**+0.6**
	comp=Z,4.2nm,0.9s,mb4.9,baz=108,slow=4.7,SNR=4.5						
NOA	**NORSAR Array B**	**97.12 334**		P	**P**	**12 45 24.7**	**-0.8**
	comp=Z,0.7nm,0.8s,mb4.1,baz=282,slow=11,SNR=3.3						

*NIED **09** 12:47:00, 28.90N×132.00E, h5km, Mw4.0 Best double couple: Mo1.33×10^15 NP1:φs190°, δ59°, λ-93°. NP2:φs16°, δ31°, λ-86°.*
*IDC **09** 12:47:17.4±0.8, 28.86N×132.14E, mb3.9/12, mb1 4.0/13, mb1mx4.0/19, mbtmp3.9/13, ML4.0/1, MS3.0/2, Ms1 3.1/2, ms1mx2.5/21, Error ellipse: s-maj=28.4km s-min=17.4km az=85.0*
*NEIC **09** 12:47:20.8±3.8, 28.80N×132.07E, h20km±27km, mb4.3/2, Error ellipse: s-maj=16.5km s-min=11.2km az=111.0*
*JMA **09** 12:47:22.5±0.3, 28.92N×131.95E, h88km, M3.9*

ISC 09 12:47:20.7±0.5, 28.86N±0.03×132.05E±0.04, h33km, n31, σ1§18/44, mb3.9/14, MS2.8/1, West of Bonin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**1.91 254**		P	**P**	**12 47 53.1**	**+1.7**
JZK				*e*S	**S**	**12 48 17.5**	**+3.0**
JTN	**Tanegashima 3**	**2.02 333**		P	**P**	**12 47 53.9**	**+0.9**
JTN				S	**S**	**12 48 17.3**	**+0.1**
JNN	**Nakanoshima**	**2.14 298**		P	**P**	**12 47 55.8**	**+1.1**
JNN				S	**S**	**12 48 20.6**	**+0.3**
JAM	**Amami Oshima**	**2.19 259**		P	**P**	**12 47 56.1**	**+0.6**
JAM				*e*S	**S**	**12 48 22.1**	**+0.3**
JKC	**Kuchinoerabu**	**2.27 315**		P	**P**	**12 47 57.8**	**+1.2**
JKC				S	**S**	**12 48 24.1**	**+0.4**
JTSR	**Tashiro 2**	**2.50 337**		P	**P**	**12 48 00.7**	**+0.8**
JTSR				S	**S**	**12 48 28.3**	**-1.2**
JNAR	**Kushima--Naru**	**2.74 346**		P	**P**	**12 48 04.2**	**+0.8**
JNAR				S	**S**	**12 48 34.6**	**-1.1**
JTK	**Tokunoshima**	**2.93 249**		P	**P**	**12 48 06.8**	**+0.7**
JTK				*e*S	**S**	**12 48 40.8**	**+0.2**
JTZ	**Takazaki**	**3.14 345**		P	**P**	**12 48 09.8**	**+0.7**
JTZ				S	**S**	**12 48 44.4**	**-1.5**
JSJ	**Shimokoshiki**	**3.46 325**		P	**P**	**12 48 13.6**	**0.0**
JSJ				*e*S	**S**	**12 48 51.9**	**-2.0**
JOW	**Kunigami**	**3.91 240**		Pn	**Pn**	**12 48 18.9**	**-1.1**
	21nm,0.3s,baz=99,slow=18,SNR=61						
JOW				Sn	**Sn**	**12 49 02.8**	**-2.5**
	baz=36,slow=19						
JOW	**Kunigami**	**3.91 240**		P	**P**	**12 48 19.4**	**-0.5**
JOW				*e*S	**S**	**12 49 03.3**	**-1.9**
JTO	**Tosashimizu**	**4.04 9**		P	**P**	**12 48 20.5**	**-1.3**
JTO				S	**S**	**12 49 01.8**	**-6.8**
JIH	**Iheya**	**4.04 244**		P	**P**	**12 48 21.5**	**-0.3**
JIH				S	**S**	**12 49 06.7**	**-2.0**
CBIJ	**Chichi jima**	**9.13 99**		LR	LR	12 52 02.7	
	comp=Z,122nm,18.4s,baz=354,slow=32						
MAJO	**Matsushiro**	**9.25 33**		*e*P	**P**	**12 49 33.9**	**-0.9**
SONM	**Songino Array**	**27.43 321**		P	**P**	**12 53 06.5**	**+1.1**
	0.7nm,0.7s,mb3.3,baz=141,slow=7.8,SNR=6.3						
CMAR	**Chiang Mai Arr**	**31.95 258**		P	**P**	**12 53 49.4**	**+3.5**
	0.7nm,1.0s,mb3.5,baz=50,slow=7.0,SNR=4.2						
CMAR				LR	LR	13 08 22.8	
	comp=Z,20nm,21.8s,MS2.8,baz=195,slow=40						
WRA	**Warramunga Arr**	**48.56 177**		P	**P**	**12 56 01.6**	**-1.4**
	0.5nm,0.6s,mb3.7,baz=354,slow=8.7,SNR=3.3						
BVAR	**Borovoye Array**	**50.64 317**		P	**P**	**12 56 16.9**	**-1.6**
	0.3nm,0.4s,mb3.5,baz=263,slow=37,SNR=3.5						
BRVK	**Borovoye**	**50.71 317**		P	**P**	**12 56 20.5**	**+1.5**
	1.7nm,0.7s,mb4.1						
ASAR	**Alice Springs**	**52.25 178**		P	**P**	**12 56 30.4**	**-0.6**
	0.7nm,0.5s,mb3.8,baz=11,slow=14,SNR=13						
ILAR	**Eielson Array**	**60.51 29**		P	**P**	**12 57 28.2**	**-1.4**
	1.3nm,0.7s,mb4.2,baz=266,slow=5.8,SNR=15						
STKA	**Stephens Creek**	**61.08 171**		P	**P**	**12 57 34.0**	**+0.2**
	0.6nm,0.6s,mb3.9,baz=351,slow=13,SNR=2.4						
INK	**Inuvik**	**65.13 24**		*e*P	**P**	**12 58 00.3**	**+0.3**
	2.6nm,0.6s,mb4.4						
ARCES	**ARCESS Array B**	**68.80 339**		P	**P**	**12 58 23.2**	**+0.1**
	2.4nm,0.8s,mb4.2,baz=59,slow=7.1,SNR=6.0						
FINES	**FINESS Array B**	**72.23 331**		P	**P**	**12 58 44.8**	**+0.8**
	3.5nm,0.6s,mb4.5,baz=80,slow=4.8,SNR=22						
YKA	**Yellowknife Ar**	**74.70 26**		P	**P**	**12 58 58.8**	**+0.5**
	0.7nm,0.6s,mb3.8,baz=300,slow=5.8,SNR=18						
BRTR	**Keskin Array B**	**78.07 309**		P	**P**	**12 59 19.8**	**+1.9**
	0.8nm,0.6s,mb3.9,baz=90,slow=4.9,SNR=5.6						
NOA	**NORSAR Array B**	**78.43 335**		P	**P**	**12 59 18.8**	**-0.5**
	1.2nm,0.7s,mb4.0,baz=52,slow=5.5,SNR=3.3						
CLL	**Collm**	**83.89 327**		P	**P**	**12 59 50.0**	**+1.8**

*NAO **09** 12:53:35.7±7.5, 61.35N×4.91E, h2km±44km, ML2.5*
*NEIC **09** 12:53:36.8, 61.98N×4.76E, h13km, ML2.5(NAO), ML2.4(BER), After BER.*
*CSEM **09** 12:53:37.3±0.3, 61.81N×5.05E, h15km, ML2.3, Error ellipse: s-maj=8.0km s-min=2.8km az=132.0*

BER 09 12:53:36.9±3.2, 61.97N×5.10E, h5km±9km, MD1.9, ML2.3, ML2.5(NAO), Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOO	**Floro**	**0.37 184**		*e*P	Pg	12 53 44.5	+0.1
FOO				*e*S	Sg	12 53 49.4	+0.1
FOO				AML	AML	12 53 50.5	
	comp=Z,249nm,0.3s						
SUE	**Sulen**	**0.93 190**		*e*P	Pb	12 53 52.9	-2.2
SUE				*e*Pg	Pg	12 53 53.6	-1.8
SUE				*e*S	Sb	12 54 05.2	-2.3
SUE	**Sulen**	**0.93 190**		*e*Pg	Pg	12 53 53.7	-1.7
	SNR=93						
SUE				*e*S	Sb	12 54 05.2	-2.3
	SNR=93						
HYA	**Hoyanger**	**0.96 147**		*e*P	Pb	12 53 55.6	0.0
HYA				*e*S	Sb	12 54 09.7	+1.3
HYA	**Hoyanger**	**0.96 147**		*e*P	Pb	12 53 55.6	0.0
HYA				*e*S	Sb	12 54 08.9	+0.6
HYA				AML	AML	12 54 10.3	
	comp=Z,153nm,0.3s						
HYA	**Hoyanger**	**0.96 147**		*e*P	Pb	12 53 55.7	+0.1
	SNR=70						
HYA				*e*S	Sb	12 54 08.9	+0.5
	comp=Z,153nm,0.3s,SNR=70						
ASK	**Askoy**	**1.49 178**		*e*P	Pn	12 54 01.9	-2.6
RUND	**Rundenannen**	**1.56 175**		*e*P	Pn	12 54 02.9	-2.6
RUND				*e*S	Sb	12 54 23.9	-2.0
BER	**Bergen**	**1.59 176**		*e*P	Pn	12 54 03.1	-2.8
EGD	**Espegrend**	**1.70 178**		*e*P	Pn	12 54 04.3	-3.2
DOMB	**Dombas**	**1.87 86**		*e*P	Pn	12 54 10.0	+0.1
DOMB				*e*Pg	Pg	12 54 11.4	-2.8
ODD1	**Odda**	**2.19 159**		*e*P	Pn	12 54 11.5	-3.0
ODD1				*e*S	Sn	12 54 37.3	-5.1
BLS5	**Blasjo**	**2.64 165**		*e*P	Pn	12 54 18.8	-2.1
BLS5				*e*S	Sn	12 54 48.7	-5.0
NAO01	**NORSAR Array S**	**3.00 109**		*e*P	Pn	12 54 28.0	+1.9
NAO01	**NORSAR Array S**	**3.00 109**		*e*P	Pn	12 54 28.0	+1.9
NB2	**NORSAR Subarra**	**3.08 105**		Pn	Pn	12 54 25.1	-2.0
NB2				Pg	Pg	12 54 30.4	-7.9
NB2				Lg		12 55 11.1	
NB2	**NORSAR Subarra**	**3.08 105**		Pn	Pn	12 54 25.1	-2.0
HFS	**Hagfors**	**4.56 110**		Pn	Pn	12 54 45.8	-2.4
	baz=292,slow=14						
HFS				Pg	Pg	12 54 57.5	-11
	baz=290,slow=14						
HFS				Sn	Sn	12 55 35.6	-6.8
	baz=288,slow=28						
HFS				Lg		12 55 56.0	
	baz=306,slow=28						
HFS	**Hagfors**	**4.56 110**		Pg	Pg	12 54 57.5	-11
HFS				Sn	Sn	12 55 35.6	-6.8
	SNR=6.2						

MAN 09 12:56:02.5, 17.45N×120.77E, h14km, mb4.0, ML2.8, MS2.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.20 345**		*e*P	Pg	12 56 09.2	+2.0
ABRA				*e*S	Sg	12 56 14.8	+4.3
APYP	**Conner**	**0.61 48**		*e*P	Pb	12 56 13.6	-0.8
APYP				*e*S	Sb	12 56 22.7	+0.2
BCPH	**Baguio City Da**	**1.08 189**		⇑*i*P	Pb	12 56 20.6	-1.8
BCPH				*i* S	Sb	12 56 33.7	-2.4
CAUP	**Cauayan**	**1.13 116**		*e*P	Pb	12 56 23.1	-0.1
CAUP				*e*S	Sb	12 56 41.0	+3.4
SGCP	**Mt. Cagua**	**1.45 57**		*e*P	Pn	12 56 27.2	-1.2
PALP	**Palanan**	**1.63 103**		*e*P	Pn	12 56 24.4	-6.7
LUBP	**Lubang**	**3.73 188**		*e*P	Pn	12 57 00.8	-0.1

*IDC **09** 12:58:40.4±1.8, 4.78N×93.73E, mb4.0/4, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=67.0km s-min=24.0km az=60.0*
*NEIC **09** 12:58:45.4±1.0, 4.79N×93.83E, h30km, mb4.4/2, Error ellipse: s-maj=29.6km s-min=12.2km az=68.0*

ISC 09 12:58:43.4±1.3, 4.8N±0.2×93.8E±0.3, h30km, n7, σ0§24/7, mb4.1/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.47 20**		Pn	**P**	**13 02 08.4**	**+0.1**
	0.1nm,0.3s,baz=222,slow=12,SNR=3.2						
SONM	**Songino Array**	**44.22 12**		P	**P**	**13 06 51.4**	**-0.3**
	0.7nm,0.7s,mb3.5,baz=203,slow=5.0,SNR=6.8						
WRA	**Warramunga Arr**	**46.80 123**		P	**P**	**13 07 12.3**	**-0.2**
	3.0nm,0.8s,mb4.2,baz=302,slow=9.0,SNR=12						
WRAB	**Tennant Creek**	**46.80 123**		*e*P	**P**	**13 07 12.5**	**-0.1**
	5.7nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**48.24 128**		P	**P**	**13 07 24.2**	**+0.4**
	0.7nm,0.7s,mb3.8,baz=298,slow=7.8,SNR=9.1						
CHKZ	**Chkalovo**	**52.29 343**		P	**P**	**13 07 54.6**	**+0.3**
	2.2nm,0.8s,mb4.1						
FINES	**FINESS Array B**	**75.27 333**		P	**P**	**13 10 24.9**	**-0.2**
	6.0nm,1.1s,mb4.4,baz=162,slow=24,SNR=3.2						

*IDC **09** 13:15:55.3±0.9, 5.53N×94.63E, h52km±6km, mb3.8/7, mb1 4.0/8, mb1mx3.7/17, mbtmp4.0/8, MS2.9/1, Ms1 3.1/1, ms1mx2.6/23, Error ellipse: s-maj=45.6km s-min=14.6km az=52.0*
*NEIC **09** 13:15:55.1±0.5, 5.47N×94.66E, mb4.4/5, Error ellipse: s-maj=19.3km s-min=8.8km az=63.0*

ISC 09 13:15:53.4±0.8, 5.5N±0.1×94.7E±0.2, h52km, h52km±1.7km: pP-P, n22, σ0§67/20, mb4.3/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.56 17**		P	**P**	**13 19 04.7**	**-0.4**
	0.2nm,0.3s,baz=67,slow=11,SNR=3.3						
CMAR				LR	LR	13 24 01.2	
	comp=Z,51nm,18.8s,baz=248,slow=36						
JIRN	**Jiri**	**23.51 341**		*e*P	**P**	**13 21 00.0**	**+0.4**
PKI	**Pulchoki**	**23.70 339**		*e*P	**P**	**13 21 02.1**	**+0.7**
	8.8nm,0.7s,mb4.3						
GUN	**Gumba**	**23.85 340**		*e*P	**P**	**13 21 02.4**	**-0.5**
	11nm,0.6s,mb4.5						
KKN	**Kakani**	**23.94 339**		*e*P	**P**	**13 21 04.3**	**+0.5**
	11nm,0.7s,mb4.4						
LSA	**Lhasa**	**24.34 352**		*e*P	**P**	**13 21 09.6**	**+2.0**
	4.4nm,0.4s,mb4.2						
GKN	**Gorkha**	**24.37 338**		*e*P	**P**	**13 21 07.9**	**-0.1**
	4.6nm,0.3s,mb4.5						
KOLN	**Koldanda**	**24.57 336**		*e*P	**P**	**13 21 10.5**	**+0.6**
	15nm,0.6s,mb4.7						
SONM	**Songino Array**	**43.39 11**		P	**P**	**13 23 52.3**	**-0.2**
	1.4nm,0.7s,mb3.8,baz=189,slow=7.7,SNR=16						
SONM				PcP	PcP	13 25 40.1	-0.8
	0.3nm,0.4s,baz=200,slow=3.1,SNR=6.4						
ULN	**Ulaanbaatar**	**43.55 12**		*e*P	**P**	**13 23 53.8**	**0.0**
	1.1nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**46.44 124**		P	**P**	**13 24 17.4**	**+0.1**
	2.5nm,0.7s,mb4.3,baz=303,slow=9.3,SNR=14						
WRA				pP	pP

PCBR	Castelo Branco	4.21	42	eSn		Sn	13 25 05.7	-5.3
	1.9nm,0.2s							
PCBR	Castelo Branco	4.21	42	S		Sn	13 25 05.7	-5.3
	0.9nm,0.2s							
ESPR	Espera	4.26	87	P		Pn	13 24 17.9	-3.1
ESPR				S		Sn	13 25 05.7	-6.5
ESPR	Espera	4.26	87	P		Pn	13 24 17.9	-3.1
	1.8nm,0.1s,SNR=11							
ESPR				S		Sn	13 25 06.0	-6.2
	2.7nm,0.2s,SNR=7.9							
EADA	Adamuz	5.42	73	P		Pn	13 24 34.4	-3.1
EADA				S		Sn	13 25 34.3	-7.1
EADA	Adamuz	5.42	73	P		Pn	13 24 34.3	-3.1
	0.4nm,0.1s,SNR=7.1							
EADA				S		Sn	13 25 33.5	-7.9
	2.4nm,0.2s,SNR=7.9							
ELOB	Lobios	5.62	24	P		Pn	13 24 36.6	-3.7
ELOB				S		Sn	13 25 39.7	-6.9
ELOB	Lobios	5.62	24	P		Pn	13 24 36.5	-3.8
	0.6nm,0.2s,SNR=7.9							
ELOB				S		Sn	13 25 38.3	-8.3
	1.0nm,0.1s,SNR=7.9							
EZAM	Zamans	5.69	19	S		Sn	13 25 40.3	-8.1
	1.2nm,0.2s,SNR=4.0							
ERON	Agron	5.90	85	P		Pn	13 24 41.8	-2.4
	2.0nm,0.4s,SNR=7.9							
ECAL	Calabor	6.19	32	P		Pn	13 24 44.7	-3.6
	0.3nm,0.2s,SNR=7.9							
ECAL				S		Sn	13 25 53.3	-7.6
	0.8nm,0.1s,SNR=4.0							
GUD	Guadarrama	6.70	53	S		Sn	13 26 05.3	-8.2
	0.3nm,0.2s,SNR=7.9							

*MOS **09** 13:33:52.6±1.5, 47.69N×154.20E, h49km, mb4.3/2, Error ellipse: s-maj=16.9km s-min=11.3km az=73.9*
*NEIC **09** 13:33:56.0±1.2, 47.70N×154.16E, h63km±11km, mb4.0/3, Error ellipse: s-maj=15.3km s-min=9.4km az=146.0*
*IDC **09** 13:33:57.5±4.3, 47.71N×154.25E, h74km±39km, mb3.5/12, mb1 3.8/13, mb1mx3.7/20, mbtmp3.9/13, ML3.9/1, Error ellipse: s-maj=23.7km s-min=16.7km az=139.0*

ISC 09 13:33:52.8±1.2, 47.69N±0.09×154.2E±0.1, h47km±11km, n35, σ1§13/37, mb4.3/21, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	5.00	243	ePN	P	13 35 05.0	-2.3
KUR				eS	S	13 36 03.7	-0.8
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR				smax			
	comp=N,280nm,0.6s						
KUR				smax			
	comp=E,140nm,0.6s						
PET	Petropavlovsk	6.06	27	eP	P	13 35 21.2	-0.8
PET				eS	S	13 36 20.3	-11
YSS	Yuzh-Sakhalins	7.80	269⇑	ePN	P	13 35 48.0	+1.7
YSS				e		13 37 19.5	
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS	Yuzh-Sakhalins	7.80	269	eP	P	13 35 48.7	+2.4
ASAJ	Asahikawa	8.83	250	PN	P	13 36 02.8	+2.3
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	Asahikawa	8.83	250	P	P	13 36 02.8	+2.2
	comp=Z,1.5nm,0.3s,baz=89,slow=10,SNR=8.3						
MA2	Magadan	12.08	352	ePN	P	13 36 45.4	+0.7
FX1	Attu Island--F	13.20	60	P	P	13 37 01.4	+1.8
MAJO	Matsushiro	16.22	232	eP	P	13 37 37.3	-1.5
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAJO	Matsushiro	16.22	232	eP	P	13 37 37.3	-1.5
	comp=Z,3.9nm,0.6s						
YAK	Yakutsk	19.95	325	eP	P	13 38 20.9	-2.4
ILAR	Eielson Array	35.37	39	P	P	13 40 45.3	-0.1
	comp=Z,0.6nm,0.7s,mb3.7,baz=259,slow=6.4,SNR=10						
YKA	Yellowknife Ar	49.74	37	P	P	13 42 42.2	+0.4
	comp=Z,0.6nm,0.8s,mb3.7,baz=297,slow=7.5,SNR=9.8						
CHKZ	Chkalovo	50.38	310	eP	P	13 42 45.2	-1.7
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
CHKZ	Chkalovo	50.38	310	eP	P	13 42 45.2	-1.8
	comp=Z,1.3nm,0.5s,mb4.2						
BVAR	Borovoye Array	50.83	309	P	P	13 42 49.4	-0.9
	comp=Z,0.6nm,0.4s,mb3.9,baz=64,slow=7.6,SNR=6.6						
CMAR	Chiang Mai Arr	53.29	257	P	P	13 43 09.8	+0.6
	comp=Z,1.2nm,0.8s,mb3.9,baz=35,slow=8.1,SNR=7.5						
AAK	Ala-Archa	54.07	296	eP	P	13 43 13.6	-1.0
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
AAK	Ala-Archa	54.07	296	eP	P	13 43 13.6	-1.1
	comp=Z,1.1nm,0.6s,mb4.0						
JIRN	Jiri	55.59	275	eP	P	13 43 26.9	+1.0
	comp=Z,11nm,0.5s,mb5.2						
GUN	Gumba	55.64	275	eP	P	13 43 26.8	+0.5
	comp=Z,6.8nm,0.4s,mb5.0						
KKN	Kakani	56.12	275	eP	P	13 43 30.5	+0.8
	comp=Z,32nm,1.2s,mb5.2						
PKI	Pulchoki	56.18	275	eP	P	13 43 30.6	+0.5
	comp=Z,6.1nm,0.6s,mb4.8						
DMN	Daman	56.35	275	eP	P	13 43 31.9	+0.5
	comp=Z,11nm,0.6s,mb5.1						
GKN	Gorkha	56.41	276	eP	P	13 43 32.4	+0.6
	comp=Z,5.3nm,0.3s,mb5.0						
KOLN	Koldanda	57.26	277	eP	P	13 43 38.8	+0.9
	comp=Z,9.1nm,0.9s,mb4.8						
FINES	FINESS Array B	63.50	335	P	P	13 44 18.7	-1.1
	comp=Z,5.3nm,1.1s,mb4.5,baz=43,slow=6.5,SNR=17						
PDAR	Pinedale Array	63.61	55	P	P	13 44 19.3	-1.5
	comp=Z,1.0nm,1.1s,mb3.8,baz=297,slow=3.3,SNR=4.1						
NOA	NORSAR Array B	67.57	342	P	P	13 44 45.3	-0.5
	comp=Z,1.3nm,0.9s,mb4.0,baz=66,slow=11,SNR=3.1						
WRA	Warramunga Arr	69.64	200	P	P	13 44 58.7	-0.6
	comp=Z,1.1nm,1.0s,mb3.7,baz=20,slow=6.8,SNR=2.7						
ASAR	Alice Springs	73.33	199	P	P	13 45 21.4	+0.2
	comp=Z,0.7nm,0.7s,mb3.7,baz=13,slow=6.0,SNR=6.8						
TXAR	Lajitas Array	76.41	61	P	P	13 45 38.6	-0.2
	comp=Z,0.8nm,0.6s,mb3.8,baz=304,slow=5.2,SNR=12						
KHC	Kasperske Hory	77.71	335	eP	P	13 45 46.0	+0.3
GERES	GERESS Array B	77.93	335	P	P	13 45 47.7	+0.8
	comp=Z,0.4nm,0.5s,mb3.6,baz=31,slow=4.8,SNR=5.8						
BRTR	Keskin Array B	78.20	317	P	P	13 45 49.9	+1.3
	comp=Z,1.2nm,0.7s,mb3.9,baz=45,slow=3.5,SNR=4.8						

*MOS **09** 13:51:21.9±1.1, 10.44S×161.69E, h33km, mb5.1/4, Error ellipse: s-maj=17.4km s-min=14.1km az=151.4*
*BJI **09** 13:51:23.6, 10.50S×161.50E, h29km, mB5.2, mb4.8*
*NEIC **09** 13:51:23.7±0.2, 10.47S×161.45E, mb4.7/17, Error ellipse: s-maj=8.5km s-min=6.0km az=103.0*
*IDC **09** 13:51:28.7±6.3, 10.54S×161.44E, h75km±55km, mb4.2/13, mb1 4.5/15, mb1mx4.4/17, mbtmp4.6/15, ML3.8/2, MS3.9/8, Ms1 3.9/8, ms1mx3.6/20, Error ellipse: s-maj=23.5km s-min=17.4km az=66.0*

ISC 09 13:51:22.7±3.1, 10.49S±0.08×161.42E±0.08, h35km±28km, h28km±8km:pP-P, n58, σ0§89/52, mb4.6/28, MS3.9/7, 5C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOUC	Port Laguerre	12.46	159	eP	P	13 54 20.6	+0.1
PMG	Port Moresby	14.09	273	P	P	13 54 46.3	+4.2
	0.2nm,0.3s,baz=251,slow=15,SNR=4.9						
PMG	Port Moresby	14.09	273	P	P	13 54 40.0	-2.1
	15nm,0.8s						
PMG				e		13 54 46.1	
CTA	Charters Tower	17.45	235	eP	P	13 55 30.6	+5.5
	45nm,0.9s						
CTA	Charters Tower	17.45	235	P	P	13 55 28.8	+3.6
	2.2nm,0.3s,baz=67,slow=13,SNR=21						
CTA				LR	LR	14 01 26.1	
	comp=Z,294nm,19.6s,baz=46,slow=34						
CTAO	Charters Tower	17.45	235	P	P	13 55 27.7	+2.6
	101nm,1.0s						
CTAO				e		13 55 30.7	
ARMA	Armidale	21.82	203	eP	P	13 56 15.0	+1.2
WRAB	Tennant Creek	27.72	247⇑	iP	P	13 57 10.2	0.0
WRAB	Tennant Creek	27.72	247	eP	P	13 57 10.1	-0.1
WB2	Warramunga Arr	27.72	247	eP	P	13 57 10.2	0.0
WRA	Warramunga Arr	27.73	247	P	P	13 57 10.1	-0.2
	2.2nm,0.5s,mb4.0,baz=77,slow=9.2,SNR=22						
STKA	Stephens Creek	28.09	218	eP	P	13 57 13.5	+0.1
	2.8nm,0.8s,mb3.9						
STKA	Stephens Creek	28.09	218	P	P	13 57 13.0	-0.4
	4.9nm,1.0s,mb4.1,baz=63,slow=9.5,SNR=11						
STKA				LR	LR	14 07 49.9	
	comp=Z,463nm,19.0s,MS4.1,baz=30,slow=35						
KAKA	Kakadu	28.46	263	eP	P	13 57 17.2	+0.3
	10nm,0.6s,mb4.6						
ASAR	Alice Springs	29.31	240	P	P	13 57 23.4	-1.0
	2.0nm,0.8s,mb3.9,baz=63,slow=10.0,SNR=13						
ASAR				LR	LR	14 09 04.1	
	comp=Z,316nm,18.3s,MS4.0,baz=65,slow=36						
TOO	Toolangi	30.54	205	eP	P	13 57 35.6	+0.4
	6.2nm,0.5s,mb4.7						
URZ	Urewera	31.02	156	P	P	13 57 38.6	-0.9
	5.9nm,0.6s,mb4.6,baz=286,slow=7.2,SNR=3.7						
URZ				LR	LR	14 08 58.3	
	comp=Z,171nm,18.4s,MS3.8,baz=176,slow=34						
RPZ	Rata Peaks	34.14	168	P	P	13 58 04.7	-1.9
	7.1nm,0.7s,mb4.7,baz=92,slow=1.6,SNR=4.5						
FITZ	Fitzroy Crossi	35.44	254	eP	P	13 58 17.6	-0.3
	16nm,0.6s,mb5.1						
RAR	Rarotonga	38.73	111	LR	LR	14 11 39.1	
	comp=Z,119nm,21.7s,MS3.7,baz=284,slow=31						
MBWA	Marble Bar	41.37	250	eP	P	13 59 08.8	+1.5
	2.9nm,0.4s,mb4.3						
PPT	Papeete	47.96	104	eLR	LR	14 13 50.8	
	144nm,22.0s						
TBI	Tubuai	48.48	112	eLR	LR	14 14 03.1	
	84nm,28.2s						
MAT	Matsushiro	51.63	336	eP	P	14 00 28.0	-0.2
	6.8nm,0.7s,mb4.7						
MAT	Matsushiro	51.63	336	P	P	14 00 27.6	-0.6
YSS	Yuzh-Sakhalins	59.57	345	eP	P	14 01 34.3	+9.0
YSS				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.2						
RKT	Rikitea	61.77	111	eLR	LR	14 20 12.7	
	comp=Z,220nm,27.0s						
CASY	Casey	65.39	200	eP	P	14 02 03.0	-0.7
	comp=Z,5.5nm,0.8s,mb4.6						
VNDA	Vanda	67.01	180	P	P	14 02 13.7	-0.1
	comp=Z,6.8nm,0.7s,mb4.8,baz=334,slow=6.4,SNR=23						
VNDA				LR	LR	14 29 01.6	
	comp=Z,75nm,18.3s,MS4.0,baz=200,slow=34						
CMAR	Chiang Mai Arr	68.01	295	iP	P	14 02 21.5	+0.5
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR	Chiang Mai Arr	68.01	295	P	P	14 02 21.2	+0.2
	comp=Z,1.8nm,0.6s,mb4.3,baz=129,slow=4.9,SNR=11						
HIA	Hailar	69.85	332	eP	P	14 02 32.2	+0.4
	comp=Z,5.4nm,0.7s,mb4.6						
HIA				e	pP	14 02 41.6	-1.0
ULN	Ulaanbaatar	75.40	326⇓	iP	P	14 03 04.6	-0.1
ULN	Ulaanbaatar	75.40	326	eP	P	14 03 05.5	+0.8
	comp=Z,5.0nm,0.6s,mb4.6						
ULN				e	pP	14 03 14.6	-0.8
SONM	Songino Array	75.75	325	P	P	14 03 06.9	+0.2
	comp=Z,7.3nm,0.6s,mb4.8,baz=141,slow=5.4,SNR=57						
YAK	Yakutsk	76.42	345	iP	P	14 03 09.4	-0.8
YAK				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
YAK	Yakutsk	76.42	345	eP	P	14 03 09.9	-0.3
	comp=Z,16nm,0.7s,mb5.1						
BOD	Bodaibo	78.27	336	eP	P	14 03 19.4	-1.2
BILL	Bilibino	78.41	2⇑	iP	P	14 03 21.3	+0.2
BILL				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
BILL	Bilibino	78.41	2	eP	P	14 03 21.2	+0.1
	comp=Z,7.1nm,0.9s,mb4.6						
BILL				e	pP	14 03 30.3	-1.6
ZAK	Zakamensk	78.85	326⇑	iP	P	14 03 23.5	-0.4
TLY	Talaya	79.34	328	iP	P	14 03 26.0	-0.6
TLY				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
TLY	Talaya	79.34	328	eP	P	14 03 26.1	-0.4
	comp=Z,5.1nm,0.8s,mb4.5						
QSPA	South Pole Qui	79.51	180⇑	iP	P	14 03 27.5	+0.5
	comp=Z,10nm,0.6s,mb4.9						
MCK	McKinley	83.03	20	eP	P	14 03 45.9	+0.2
	comp=Z,7.0nm,1.0s,mb4.7						
IMA	Indian Mountai	83.17	17	eP	P	14 03 47.7	+1.5
IMA				e	pP	14 03 57.0	-0.1
MAW	Mawson	83.62	202	P	P	14 03 48.8	+0.3
	comp=Z,20nm,0.7s,mb5.3,baz=94,slow=8.2,SNR=23						
COLA	College	84.13	19⇓	iP	P	14 03 48.1	-3.1
COLA	College	84.13	19	eP	P	14 03 51.1	-0.1
	comp=Z,5.5nm,0.8s,mb4.7						
ILAR	Eielson Array	84.39	20	P	P	14 03 51.9	-0.6
ILAR	Eielson Array	84.39	20	P	P	14 03 52.0	-0.5
	comp=Z,2.0nm,0.6s,mb4.4,baz=244,slow=5.2,SNR=15						
ILAR				LR	LR	14 36 25.6	
	comp=Z,63nm,19.5s,MS4.0,baz=179,slow=32						
TIXI	Tiksi	84.78	350	iP	P	14 03 52.9	-1.4
DAWY	Dawson	86.62	22	eP	P	14 04 05.0	+1.5
DAWY				e	pP	14 04 13.9	-0.4
NVAR	Mina Array Bea	88.94	51	P	P	14 04 16.2	+0.9
	comp=Z,2.2nm,0.8s,mb4.6,baz=232,slow=5.5,SNR=10						
PDAR	Pinedale Array	96.32	48	P	P	14 04 50.5	+1.3
	comp=Z,0.4nm,0.7s,mb4.0,baz=187,slow=1.2,SNR=4.7						
YKA	Yellowknife Ar	96.45	28	P	P	14 04 48.6	-0.6
	comp=Z,0.9nm,0.6s,mb4.4,baz=261,slow=4.7,SNR=25						
YKA				LR	LR	14 40 26.8	
	comp=Z,55nm,20.1s,MS4.0,baz=270,slow=30						
ARCES	ARCESS Array B	114.70	344	PKP	PKPdf	14 09 59.1	-0.1
	comp=Z,4.8nm,1.0s,baz=61,slow=1.5,SNR=7.1						
FINES	FINESS Array B	119.66	337	PKP	PKPdf	14 10 09.6	+0.6
	comp=Z,7.2nm,1.0s,baz=190,slow=21,SNR=3.4						

IDC 09 13:52:36.9±3.2, 13.20N×93.07E, mb3.5/3, mb1 3.7/4, mb1mx3.5/16, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=82.0km s-min=29.4km az=81.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.70	46	Pn	Pn	13 54 29.1	-3.9
	0.2nm,0.3s,baz=238,slow=15,SNR=7.0						
SONM	Songino Array	36.28	15	P	P	13 59 42.4	-1.4
	0.7nm,1.0s,baz=191,slow=6.3,SNR=3.8						
WRA	Warramunga Arr	52.29	128	P	P	14 01 50.0	-2.7
	0.4nm,0.5s,baz=301,slow=9.1,SNR=4.4						
ASAR	Alice Springs	54.19	132	P	P	14 02 05.0	-1.7
	0.4nm,0.4s,baz=310,slow=7.0,SNR=6.1						

*NEIC **09** 14:07:25.8±0.6, 31.88N×141.96E, h10km, mb4.2/1, Error ellipse: s-maj=23.8km s-min=10.2km az=74.0*
*JMA **09** 14:07:28.3±0.3, 32.24N×141.85E, M4.2*
*IDC **09** 14:07:30.0±3.1, 31.91N×141.82E, h39km±31km, mb3.3/4, mb1 3.8/7, mb1mx3.5/20, mbtmp3.8/7, ML4.1/3, Error ellipse: s-maj=38.0km s-min=17.6km az=89.0*

ISC 09 14:07:28.7±1.0, 32.00N±0.05×141.89E±0.09, h53km±12km, n24, σ1§32/38, mb3.8/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.07	303	P	P	14 08 02.9	+1.2
JHJ2				S	S	14 08 28.0	+1.7
JHJ	Hachijo jima 2	2.10	303	Pn	P	14 08 03.0	+0.8
	45nm,0.3s,baz=260,slow=17,SNR=13						
JHJ				Sn	S	14 08 26.6	-0.4
	180nm,0.3s,baz=66,slow=24,SNR=11						
BSO1	Boso 1	2.75	344	P	P	14 08 11.3	-0.2
BSO1				S	S	14 08 44.3	+0.7
BSO2	Boso 2	2.90	341	S	S	14 08 49.2	+1.8
BSO3	Boso 3	3.02	338	P	P	14 08 15.4	+0.1
BSO3				S	S	14 08 50.9	+0.5
BSO4	Boso 4	3.25	337	P	P	14 08 19.9	+1.4
BSO4				S	S	14 08 56.5	+0.3
JIM2	Oshima 3	3.40	323	eS	S	14 08 58.3	-1.7
JOD2	Odawara 2	4.00	325	P	P	14 08 29.3	+0.2
JOD2				S	S	14 09 13.0	-2.3
JYN	Shimob	4.46	322	P	P	14 08 37.3	+1.7
JYN				S	S	14 09 29.0	+2.2
JRY	Ryogami san	4.71	329	P	P	14 08 39.9	+0.8
JRY				eS	S	14 09 31.9	-1.1
JAG	Ashikaga	4.85	336	P	P	14 08 40.6	-0.4
JAG				S	S	14 09 33.6	-2.9
CBIJ	Chichi jima	4.90	177	Pn	P	14 08 40.5	-1.2
	55nm,0.3s,baz=101,slow=23,SNR=31						
CBIJ				Sn	S	14 09 32.0	-5.7
	34nm,0.3s,baz=284,slow=22,SNR=5.3						
CBIJ	Chichi jima	4.90	177	P	P	14 08 40.1	-1.6
MAJO	Matsushiro	5.46	327	eP	P	14 08 49.0	-0.4
MAJO				S	S	14 09 49.9	-1.8
MAT	Matsushiro	5.46	327	eP	P	14 08 49.0	-0.4
MAT				eS	S	14 09 48.0	-3.8
MAT	Matsushiro	5.46	327	P	P	14 08 49.4	0.0
MAT				S	S	14 09 48.3	-3.5
MAT	Matsushiro	5.46	327	S	S	14 09 49.4	-2.4
JMK	Ichinoseki	6.96	356	P	P	14 09 07.4	-3.0
JMK				S	S	14 10 20.1	-8.8
ASAJ	Asahikawa	12.11	2	Pn	P	14 10 19.0	-1.8
	1.0nm,0.3s,baz=183,slow=3.6,SNR=6.6						
WRAB	Tennant Creek	52.14	189	eP	P	14 16 35.7	-0.4
	1.0nm,0.3s,mb4.2						
WRA	Warramunga Arr	52.15	189	P	P	14 16 35.7	-0.5
	1.1nm,0.6s,mb4.0,baz=5.6,slow=7.7,SNR=29						
ASAR	Alice Springs	55.88	189	P	P	14 17 03.1	-0.4
	0.2nm,0.4s,mb3.5,baz=1.7,slow=6.6,SNR=7.0						
YKA	Yellowknife Ar	67.98	29	P	P	14 18 25.7	+1.9
	0.1nm,0.4s,mb3.2,baz=255,slow=9.0,SNR=3.0						
TXAR	Lajitas Array	92.86	53	P	P	14 20 38.9	+1.6
	0.3nm,0.7s,mb3.8,baz=311,slow=2.5,SNR=4.6						

*IDC **09** 14:21:19.0±9.8, 15.24N×91.93W, mb3.6/3, mb1 4.1/4, mb1mx3.6/18, mbtmp3.7/4, ML4.5/1, Error ellipse: s-maj=194.6km s-min=102.9km az=13.0*
*MEX **09** 14:21:54.5±0.6, 16.58N×93.42W, h177km±8km, MD4.1*
*NEIC **09** 14:21:54.5, 16.58N×93.42W, h177km, mb3.6/2, MD4.1(MEX), After MEX.*

ISC 09 14:21:52.4±0.7, 16.60N±0.09×93.43W±0.04, h178km±5km, n24, σ1§29/33, mb3.4/3, 3C-1D, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	San Cristobal	0.77	80	eP	P	14 22 19.0	+0.4
SCX				eS	S	14 22 39.8	+1.0
CCIG	Comitan	1.28	104⇓	iP	P	14 22 22.6	+0.1
CCIG				eS	S	14 22 45.3	-0.4
CMIG	Matias Romero	1.48	290⇑	iP	P	14 22 25.0	+0.6
CMIG				eS	S	14 22 48.6	-0.4
TUIG	Tuzandepetl	1.71	326⇑	iP	P	14 22 27.4	+0.7
TUIG				eS	S	14 22 52.2	-0.9
HUIG	Huatulco	2.71	253⇑	iP	P	14 22 35.9	-2.1
HUIG				eS	S	14 23 12.0	-1.1
OXX	Oaxaca	3.19	279	iP	P	14 22 45.2	+1.2
OXX				eS	S	14 23 23.0	-0.7
VHO	Vista Hermosa	3.20	279	eP	P	14 22 45.4	+1.4
VHO				eS	S	14 23 23.4	-0.4
POHV	Veracruz	4.42	304	eP	P	14 23 00.0	+0.5
IISM	Ciudad Serdan	4.45	303	iS	S	14 23 44.0	-8.2
PPM	Popocatepetl	5.53	297	eP	P	14 23 16.1	+2.1
PPM				eS	S	14 24 16.3	-1.0
PLIG	Platanillo	6.07	288	eP	P	14 23 23.1	+2.0
PLIG				eS	S	14 24 28.3	-1.6
TEIG	Tepich	6.08	53	eP	P	14 23 18.4	-2.8
LTX	Lajitas	15.79	325	P	P	14 25 28.6	+2.2
TXAR	Lajitas Array	15.79	325	P	P	14 25 28.5	+2.1
	0.4nm,0.3s,baz=149,slow=13,SNR=32						
TXAR	Lajitas Array	15.79	325	P	P	14 25 28.5	+2.1
LRAL	Lakeview Retre	17.36	18	eP	P	14 25 43.7	-1.6
	1.2nm,0.4s						
CLNB	Carlsbad	18.25	331	eP	P	14 25 55.3	+0.3
CLNB				e		14 25 58.3	
MNTX	Cornudas Mount	18.55	326	eP	P	14 25 57.5	-0.5
	1.3nm,0.6s						
CPCT	Cooper Cave	20.39	21	P	P	14 26 15.2	-1.7
ANMO	Albuquerque	21.68	330	P	P	14 26 29.9	+0.3
	0.6nm,0.4s,mb3.4,baz=139,slow=9.6,SNR=4.2						
ANMO	Albuquerque	21.68	330	eP	P	14 26 30.3	+0.7
NVAR	Mina Array Bea	30.80	320	P	P	14 27 54.7	+1.1
	1.3nm,0.7s,mb3.8,baz=139,slow=9.6,SNR=9.1						
YKA	Yellowknife Ar	48.20	347	P	P	14 30 13.7	-2.8
	0.3nm,0.7s,mb3.1,baz=153,slow=7.4,SNR=4.8						
YKA	Yellowknife Ar	48.20	347	P	P	14 30 13.7	-2.8

*CSEM **09** 14:27:01.4±0.1, 40.21N×41.64E, h2km, MD3.5, Error ellipse: s-maj=2.5km s-min=1.7km az=100.0*
*NEIC **09** 14:27:01.7, 40.20N×41.61E, h5km, MD3.5(ISK), After ISK.*

ISK 09 14:27:01.9, 40.20N×41.61E, h3km, MD3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	Erzurum	0.35	213	iPG	Pg	14 27 09.5	+0.6
VRT	Varto	1.07	184	iPG	Pg	14 27 23.0	-0.2
KARS	Kars	1.20	69	PN	Pn	14 27 25.7	+0.1
BCA	Borcka	1.25	0	PN	Pn	14 27 26.4	+0.3
BCA				SN	Sn	14 27 44.3	+0.6
BCA	Borcka	1.25	0	Pn	Pn	14 27 26.4	+0.3
BCA				Sg	Sg	14 27 44.5	+1.1
BCA	Borcka	1.25	0	ePn	Pn	14 27 26.5	+0.3
BCA				eSn	Sn	14 27 44.3	+0.6
BCA				Sg	Sg	14 27 44.5	+1.1
EZC	Erzincan	1.45	253	PN	Pn	14 27 34.8	+5.7
BINT	Bingol	1.58	214	ePN	Pn	14 27 32.0	+1.0
GUMT	Gumushane	1.65	280	PN	Pn	14 27 33.0	+1.0
BTMT	Batman	2.00	183	ePN	Pn	14 27 39.2	+2.2
VANB	Van	2.11	139	ePN	Pn	14 27 39.2	+0.7
PTK	Pertek	2.16	233	ePN	Pn	14 27 40.1	+0.9
GNI	Garni	2.40	90	ePN	Pn	14 27 43.3	+0.6

IDC 09 14:28:38.9±3.3, 1.02S×128.31E, mb4.2/2, mb1 4.2/3, mb1mx3.7/13, mbtmp4.0/3, ML3.7/1, Error ellipse: s-maj=158.6km s-min=32.2km az=74.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.71	163	P	P	14 33

PBRG	**Braganca**	**1.08 160**	Pg	Pg	14 32 16.6	-1.7
PBRG			Lg		14 32 30.3	
	120nm,0.3s					
ELOB	**Lobios**	**1.13 213**	Pg	Pg	14 32 16.8	-2.5
ELOB			Lg		14 32 32.0	
ELOB	**Lobios**	**1.13 213**	Pn	Pn	14 32 16.8	-1.7
	16nm,0.1s,SNR=7.9					
ELOB			Pg	Pg	14 32 18.2	-1.2
	449nm,0.3s,SNR=7.9					
ELOB			Lg		14 32 31.8	
	288nm,0.2s,SNR=7.9					
ELOB	**Lobios**	**1.13 213**	Pg	Pg	14 32 16.8	-2.5
	19nm,0.1s,SNR=7.9					
EZAM	**Zamans**	**1.27 239**	⇑Pg	Pg	14 32 18.8	-3.2
EZAM			Lg		14 32 35.8	
EZAM	**Zamans**	**1.27 239**	⇑Pn	Pn	14 32 18.8	-1.6
	22nm,0.1s,SNR=18					
EZAM			Pg	Pg	14 32 20.6	-1.5
	136nm,0.2s,SNR=18					
EZAM			Sn	Sn	14 32 35.1	-2.5
	140nm,0.3s,SNR=7.9					
EZAM			Lg		14 32 37.7	
	SNR=7.9					
EMAZ	**Mazaricos**	**1.28 276**	Pg	Pg	14 32 19.1	-3.2
EMAZ			Lg		14 32 37.9	
EMAZ	**Mazaricos**	**1.28 276**	Pn	Pn	14 32 19.1	-1.5
	13nm,0.1s,SNR=7.9					
EMAZ			Pg	Pg	14 32 20.9	-1.5
	300nm,0.1s,SNR=18					
EMAZ			Sn	Sn	14 32 35.1	-2.8
	122nm,0.2s,SNR=7.9					
EMAZ			Lg		14 32 37.5	
	272nm,0.1s,SNR=7.9					
EMAZ	**Mazaricos**	**1.28 276**	Pg	Pg	14 32 19.1	-3.3
	300nm,0.1s,SNR=18					
EARI	**Arriondas**	**1.57 71**	⇑Pn	Pn	14 32 24.3	-0.4
EARI			Pg	Pg	14 32 25.6	-2.4
EARI			Sn	Sn	14 32 44.0	-1.2
EARI	**Arriondas**	**1.57 71**	⇑Pn	Pn	14 32 24.3	-0.4
	7.8nm,0.2s,SNR=18					
EARI			Pg	Pg	14 32 25.6	-2.4
	79nm,0.2s,SNR=7.9					
EARI			Lg		14 32 44.9	
	193nm,0.3s,SNR=7.9					
EARI	**Arriondas**	**1.57 71**	Pn	Pn	14 32 24.3	-0.4
	7.8nm,0.2s,SNR=18					
EARI	**Arriondas**	**1.57 71**	Pg	Pg	14 32 25.6	-2.4
	79nm,0.2s,SNR=7.9					
EARI			Sn	Sn	14 32 44.0	-1.2
	201nm,0.2s,SNR=7.9					
PVRL	**Vila Real**	**1.58 193**	*e*Pn	Pn	14 32 23.2	-1.8
PVRL			*e*Sg	Sg	14 32 46.6	-2.9
	304nm,0.5s					
PVRL	**Vila Real**	**1.58 193**	*e*Pn	Pn	14 32 23.2	-1.8
PVRL			*e*Sg	Sg	14 32 46.6	-2.9
	304nm,0.5s					
PVIS	**Viseu**	**2.16 193**	*e*Pn	Pn	14 32 31.2	-2.0
PVIS			*e*Sg	Sg	14 33 03.5	-5.1
	315nm,0.3s					
PVIS	**Viseu**	**2.16 193**	Pn	Pn	14 32 31.2	-2.0
PVIS			Lg		14 33 03.5	
	158nm,0.3s					
MTE	**Manteigas**	**2.43 185**	*e*Pn	Pn	14 32 35.3	-1.8
MTE			*e*Pg	Pg	14 32 41.4	-3.8
MTE			*e*Sn	Sn	14 33 04.8	-2.3
MTE			*e*Sg	Sg	14 33 13.3	-4.3
	203nm,0.5s					
MTE	**Manteigas**	**2.43 185**	Pn	Pn	14 32 35.3	-1.8
MTE			Pg	Pg	14 32 41.4	-3.8
MTE			Sn	Sn	14 33 04.8	-2.3
MTE			Lg		14 33 13.3	
	102nm,0.5s					
ELAN	**Lanestosa**	**2.82 80**	Pn	Pn	14 32 42.1	-0.7
ELAN			Pg	Pg	14 32 47.1	-6.0
ELAN			Sn	Sn	14 33 14.1	-3.1
ELAN			Lg		14 33 28.3	
ELAN	**Lanestosa**	**2.82 80**	Pn	Pn	14 32 42.1	-0.7
	7.6nm,0.2s,SNR=7.9					
ELAN			Pg	Pg	14 32 47.1	-6.0
	61nm,0.4s,SNR=7.9					
ELAN			Sn	Sn	14 33 13.7	-3.4
	20nm,0.3s,SNR=7.9					
ELAN			Lg		14 33 23.9	
	214nm,0.6s,SNR=7.9					
ELAN	**Lanestosa**	**2.82 80**	Pn	Pn	14 32 42.1	-0.6
	7.6nm,0.2s,SNR=7.9					
ELAN	**Lanestosa**	**2.82 80**	Pg	Pg	14 32 47.1	-6.0
	61nm,0.4s,SNR=7.9					
ELAN			Sn	Sn	14 33 14.1	-3.0
	43nm,0.3s,SNR=7.9					
PCBR	**Castelo Branco**	**2.98 183**	*e*Pn	Pn	14 32 43.0	-2.0
PCBR			*e*Sn	Sn	14 33 16.8	-4.3
PCBR			*e*Sg	Sg	14 33 30.0	-6.0
	90nm,0.6s					
PCBR	**Castelo Branco**	**2.98 183**	*e*Pn	Pn	14 32 43.0	-2.0
PCBR			*e*Sn	Sn	14 33 16.8	-4.3
PCBR			*e*Sg	Sg	14 33 30.0	-6.0
	90nm,0.6s					
GUD	**Guadarrama**	**3.17 132**	Pn	Pn	14 32 45.9	-1.8
GUD			Pg	Pg	14 32 55.6	-4.5
GUD			Lg		14 33 35.8	
GUD	**Guadarrama**	**3.17 132**	Pn	Pn	14 32 45.9	-1.8
	4.1nm,0.2s,SNR=7.9					
GUD			Pg	Pg	14 32 54.1	-6.0
	27nm,0.4s,SNR=7.9					
GUD			Lg		14 33 34.3	
	100nm,0.4s,SNR=7.9					
GUD	**Guadarrama**	**3.17 132**	Pg	Pg	14 32 55.6	-4.5
	27nm,0.4s,SNR=7.9					
PTOM	**Tomar**	**3.32 196**	*e*Pn	Pn	14 32 50.0	+0.3
PTOM			*e*Sn	Sn	14 33 27.4	-2.2
PTOM			*e*Sg	Sg	14 33 43.7	-3.5
	136nm,0.6s					
PTOM	**Tomar**	**3.32 196**	Pn	Pn	14 32 50.0	+0.3
PTOM			Sn	Sn	14 33 27.4	-2.2
PTOM			Lg		14 33 43.7	
	68nm,0.6s					
ALMR	**Almeirim**	**3.80 196**	*e*P	Pn	14 32 54.4	-2.1
ALMR			*e*S	Sn	14 33 34.7	-7.1
ALMR			*e*S	Sn	14 33 34.7	-7.1
ALMR			AML	AML	14 33 39.6	
	comp=E,78nm,0.8s					
ALMR	**Almeirim**	**3.80 196**	Pn	Pn	14 32 54.4	-2.1
ALMR			Sn	Sn	14 33 34.7	-7.1
	comp=E,40nm,0.8s					
ESDC	**Sonseca Array**	**4.00 141**	Pn	Pn	14 32 56.9	-2.5
	comp=E,2.6nm,0.2s,baz=323,slow=12,SNR=14					
ESDC			Lg		14 34 00.6	
	comp=E,51nm,0.5s,baz=317,slow=29,SNR=7.9					
ESDC	**Sonseca Array**	**4.00 141**	Pn	Pn	14 32 56.9	-2.5
	comp=E,2.6nm,0.2s,baz=323,slow=12,SNR=14					
EBAD	**Badajoz**	**4.06 177**	Pn	Pn	14 32 58.3	-2.0
EBAD			Sn	Sn	14 33 43.7	-4.8
EBAD			Lg		14 34 05.9	
EBAD	**Badajoz**	**4.06 177**	Pn	Pn	14 32 58.0	-2.4
	comp=E,2.5nm,0.2s,SNR=7.9					
EBAD			Sn	Sn	14 33 43.7	-4.8
	comp=E,7.2nm,0.2s,SNR=4.0					
EBAD			Lg		14 34 03.1	
	comp=E,0.8nm,0.7s,SNR=7.9					
EBAD	**Badajoz**	**4.06 177**	Pn	Pn	14 32 58.3	-2.0
	comp=E,1.0nm,0.1s,SNR=7.9					
EBAD			Sn	Sn	14 33 43.7	-4.8
	comp=E,8.6nm,0.2s,SNR=4.0					
PLOU	**Loures**	**4.19 201**	*e*Pn	Pn	14 32 59.8	-2.3
PLOU			*e*Sg	Sg	14 34 07.9	-8.3
	comp=E,53nm,0.4s					
PLOU	**Loures**	**4.19 201**	*e*Pn	Pn	14 32 59.8	-2.3
PLOU			*e*Sg	Sg	14 34 07.9	-8.3
	comp=E,53nm,0.4s					
EALK	**Alkurruntz**	**4.22 83**	Pn	Pn	14 33 01.0	-1.6
EALK			Sn	Sn	14 33 48.8	-3.8
EALK			Lg		14 34 11.6	
EALK	**Alkurruntz**	**4.22 83**	Pn	Pn	14 33 01.0	-1.6
	comp=E,7.1nm,0.4s,SNR=7.9					
EALK			Sn	Sn	14 33 48.2	-4.4
	comp=E,38nm,0.5s,SNR=7.9					
EALK			Lg		14 34 10.6	
	comp=E,62nm,0.5s,SNR=7.9					
EALK	**Alkurruntz**	**4.22 83**	Pn	Pn	14 33 01.0	-1.6
	comp=E,0.7nm,0.0s,SNR=7.9					
EALK			Sn	Sn	14 33 48.8	-3.8
	comp=E,8.8nm,0.3s,SNR=7.9					
EVO	**Evora**	**4.32 188**	*e*Pn	Pn	14 33 01.2	-2.8
EVO			*e*Sn	Sn	14 33 48.0	-7.1
EVO			*e*Sg	Sg	14 34 10.6	-10
	comp=E,60nm,0.4s					
LIS	**Lisbon**	**4.35 200**	*e*P	Pn	14 33 01.3	-3.1
LIS			*e*S	Sn	14 33 48.1	-7.6
LIS			*e*S	Sn	14 33 48.3	-7.4
LIS			AML	AML	14 33 51.4	
	comp=E,75nm,0.3s					
LIS	**Lisbon**	**4.35 200**	Pn	Pn	14 33 01.3	-3.1
LIS			Sn	Sn	14 33 48.1	-7.6
	comp=E,75nm,0.3s					
MOE	**Montemor**	**4.37 191**	*e*Pn	Pn	14 33 02.1	-2.6
MOE			*e*Sn	Sn	14 33 50.3	-6.1
MOE			*e*Sg	Sg	14 34 14.1	-8.2
SJPF	**Ste Jean**	**4.43 84**	*e*Pn	Pn	14 33 03.9	-1.6
SJPF			*e*Sn	Sn	14 33 52.9	-4.8
	comp=E,13nm,0.3s					
LARF	**Larrau**	**4.60 85**	P	Pn	14 33 06.1	-1.9
LARF			S	Sn	14 33 58.3	-3.8
PBEJ	**Beja**	**4.81 186**	*e*Pn	Pn	14 33 08.2	-2.8
PBEJ			*e*Sn	Sn	14 34 00.1	-7.3
PBEJ			*e*Sg	Sg	14 34 27.9	-9.0
	comp=E,27nm,0.6s					
PBEJ	**Beja**	**4.81 186**	Pn	Pn	14 33 08.2	-2.8
PBEJ			Sn	Sn	14 34 00.1	-7.3
PBEJ			Lg		14 34 27.9	
	comp=E,14nm,0.6s					
ETSF	**Etsaut**	**4.91 87**	*e*Pn	Pn	14 33 10.4	-2.0
ETSF			*e*Sn	Sn	14 34 04.5	-5.5
	comp=E,21nm,0.3s					
EMIN	**Mina Concepcio**	**5.06 175**	Pn	Pn	14 33 12.3	-2.3
EMIN			Sn	Sn	14 34 05.9	-7.9
EMIN			Lg		14 34 35.4	
EMIN	**Mina Concepcio**	**5.06 175**	Pn	Pn	14 33 11.4	-3.2
	comp=E,0.2nm,0.1s,SNR=4.0					
EMIN			Sn	Sn	14 34 06.0	-7.8
	comp=E,3.4nm,0.4s,SNR=4.0					
EMIN			Lg		14 34 33.6	
	comp=E,34nm,0.6s,SNR=7.9					
EMIN	**Mina Concepcio**	**5.06 175**	Pn	Pn	14 33 12.3	-2.2
	SNR=4.0					
EADA	**Adamuz**	**5.07 155**	Pn	Pn	14 33 11.6	-3.0
EADA			Sn	Sn	14 34 06.9	-7.0
EADA			Lg		14 34 34.4	
EADA	**Adamuz**	**5.07 155**	Pn	Pn	14 33 11.4	-3.2
	comp=E,0.5nm,0.1s,SNR=7.9					
EADA			Sn	Sn	14 34 06.7	-7.3
	comp=E,3.9nm,0.3s,SNR=4.0					
EADA			Lg		14 34 33.2	
	comp=E,52nm,0.6s,SNR=7.9					
EADA	**Adamuz**	**5.07 155**	Pn	Pn	14 33 11.6	-3.0
	SNR=7.9					
EADA			Sn	Sn	14 34 06.9	-7.1
	SNR=4.0					
ESAC	**San Caprasio**	**5.14 100**	Pn	Pn	14 33 12.4	-3.2
ESAC			Sn	Sn	14 34 10.0	-5.8
ESAC			Lg		14 34 41.5	
ESAC	**San Caprasio**	**5.14 100**	Pn	Pn	14 33 13.0	-2.6
	comp=E,8.3nm,0.2s,SNR=7.9					
ESAC			Pg	Pg	14 33 30.4	-9.0
	comp=E,28nm,0.3s,SNR=4.0					
ESAC			Sn	Sn	14 34 09.5	-6.3
	comp=E,77nm,0.4s,SNR=7.9					
ESAC			Lg		14 34 38.3	
	comp=E,274nm,0.4s,SNR=7.9					
ESAC	**San Caprasio**	**5.14 100**	Pn	Pn	14 33 12.4	-3.3
	SNR=7.9					
ESAC			Sn	Sn	14 34 10.0	-5.8
	comp=E,83nm,0.3s,SNR=7.9					
EGRO	**El Granado**	**5.28 182**	Pn	Pn	14 33 14.8	-2.8
EGRO			Sn	Sn	14 34 12.1	-7.1
EGRO			Lg		14 34 44.1	
EGRO	**El Granado**	**5.28 182**	Pn	Pn	14 33 14.8	-2.8
	comp=E,2.5nm,0.4s,SNR=7.9					
EGRO			Sn	Sn	14 34 11.8	-7.4
	comp=E,5.1nm,0.3s,SNR=4.0					
EGRO			Lg		14 34 43.4	
	comp=E,36nm,0.6s,SNR=7.9					
EGRO	**El Granado**	**5.28 182**	Pn	Pn	14 33 14.8	-2.8
	SNR=7.9					
EGRO			Sn	Sn	14 34 12.1	-7.2
	SNR=4.0					
VIEF	**Viey**	**5.34 87**	P	Pn	14 33 16.7	-1.8
VIEF			S	Sn	14 34 15.5	-5.3
PALC	**Alcoutim**	**5.35 182**	*e*Pn	Pn	14 33 16.0	-2.6
PALC			*e*Sg	Sg	14 34 45.2	-10
	comp=E,38nm,0.8s					
PALC	**Alcoutim**	**5.35 182**	Pn	Pn	14 33 16.0	-2.6
PALC			Lg		14 34 45.2	
	comp=E,19nm,0.8s					
PTEO	**Sao Teotonio**	**5.39 193**	*e*Pn	Pn	14 33 16.5	-2.6
PTEO			*e*Sn	Sn	14 34 17.3	-4.6
PTEO			*e*Sg	Sg	14 34 47.8	-8.3
	comp=E,44nm,0.6s					
PTEO	**Sao Teotonio**	**5.39 193**	Pn	Pn	14 33 16.5	-2.6
PTEO			Sn	Sn	14 34 17.3	-4.6
PTEO			Lg		14 34 47.8	
	comp=E,22nm,0.6s					
EBIE	**Bielsa**	**5.44 89**	Pn	Pn	14 33 18.0	-1.9
EBIE			Sn	Sn	14 34 17.5	-5.8
EBIE	**Bielsa**	**5.44 89**	Pn	Pn	14 33 17.3	-2.5
	comp=E,17nm,0.5s,SNR=7.9					
EBIE			Sn	Sn	14 34 16.9	-6.3
	comp=E,12nm,0.4s,SNR=7.9					
EBIE	**Bielsa**	**5.44 89**	Pn	Pn	14 33 18.0	-1.8
	comp=E,7.3nm,0.3s,SNR=7.9					
EBIE			Sn	Sn	14 34 17.5	-5.7
	comp=E,16nm,0.5s,SNR=7.9					
EVIA	**Vianos**	**5.51 138**	Lg		14 34 48.2	
	comp=E,45nm,0.5s,SNR=7.9					
EPF	**Esparros**	**5.57 85**	*e*Pn	Pn	14 33 20.2	-1.5
EPF			*e*Sn	Sn	14 34 20.3	-6.2
	comp=E,10nm,0.4s					
RESF	**Ens**	**5.58 88**	P	Pn	14 33 19.4	-2.4
RESF			S	Sn	14 34 22.6	-4.1
EGRA	**Graus**	**5.62 94**	Pn	Pn	14 33 20.3	-2.1
EGRA			Sn	Sn	14 34 22.7	-5.1
EGRA			Lg		14 34 58.9	
EGRA	**Graus**	**5.62 94**	Pn	Pn	14 33 20.1	-2.3
	comp=E,13nm,0.6s,SNR=7.9					
EGRA			Sn	Sn	14 34 21.3	-6.5
	comp=E,8.8nm,0.4s,SNR=7.9					
EGRA			Lg		14 34 58.4	
	comp=E,20nm,0.4s,SNR=7.9					
EGRA	**Graus**	**5.62 94**	Pn	Pn	14 33 20.3	-2.1
	comp=E,17nm,0.6s,SNR=7.9					
EGRA			Sn	Sn	14 34 22.7	-5.1
	comp=E,8.8nm,0.4s,SNR=7.9					
EMOS	**Mosqueruela**	**5.64 114**	Pn	Pn	14 33 20.6	-2.0
EMOS			Pg	Pg	14 33 41.1	-8.1
EMOS			Sn	Sn	14 34 21.0	-7.2
EMOS			Lg		14 34 56.1	
EMOS	**Mosqueruela**	**5.64 114**	Pn	Pn	14 33 20.6	-2.0
	comp=E,3.8nm,0.3s,SNR=7.9					
EMOS			Pg	Pg	14 33 39.9	-9.4
	comp=E,17nm,0.7s,SNR=7.9					
EMOS			Sn	Sn	14 34 20.8	-7.4
	comp=E,28nm,0.5s,SNR=7.9					
EMOS			Lg		14 34 54.6	
	comp=E,31nm,0.5s,SNR=7.9					
EMOS	**Mosqueruela**	**5.64 114**	Pn	Pn	14 33 20.6	-2.0
	comp=E,5.7nm,0.4s,SNR=7.9					
EMOS	**Mosqueruela**	**5.64 114**	Pg	Pg	14 33 41.2	-8.1
	comp=E,16nm,0.5s,SNR=7.9					
EMOS			Sn	Sn	14 34 21.0	-7.2
	comp=E,81nm,1.0s,SNR=7.9					
ELUQ	**Luque**	**5.72 156**	Lg		14 34 59.9	
	comp=E,16nm,0.8s,SNR=7.9					
QUIF	**Quistinic**	**5.85 28**	*e*Pn	Pn	14 33 20.5	-5.1
QUIF			*e*Sn	Sn	14 34 21.6	-12
	comp=E,12nm,0.2s					
EQES	**Quesada**	**5.94 146**	Lg		14 35 05.9	
	comp=E,31nm,0.6s,SNR=7.9					
ERTA	**Horta de San J**	**5.95 106**	Pn	Pn	14 33 24.1	-3.0
ERTA			Pg	Pg	14 33 47.4	-8.2
ERTA			Sn	Sn	14 34 28.9	-7.1
ERTA			Lg		14 35 09.1	
ERTA	**Horta de San J**	**5.95 106**	Pn	Pn	14 33 23.6	-3.4
	comp=E,5.0nm,0.3s,SNR=7.9					
ERTA			Pg	Pg	14 33 44.4	-11
	comp=E,7.0nm,0.4s,SNR=7.9					
ERTA			Sn	Sn	14 34 28.3	-7.7
	comp=E,13nm,0.4s,SNR=7.9					
ERTA			Lg		14 35 08.5	
	comp=E,22nm,0.4s,SNR=7.9					
ERTA	**Horta de San J**	**5.95 106**	Pn	Pn	14 33 24.1	-3.0
	comp=E,0.8nm,0.1s,SNR=7.9					
ERTA	**Horta de San J**	**5.95 106**	Pg	Pg	14 33 47.4	-8.2
	comp=E,11nm,0.6s,SNR=7.9					
ERTA			Sn	Sn	14 34 29.0	-7.1
	SNR=7.9					
ESPR	**Espera**	**6.04 169**	Pg	Pg	14 33 46.4	-11
	comp=E,0.5nm,0.3s,SNR=7.9					
ESPR			Sn	Sn	14 34 30.6	-7.6
	comp=E,7.7nm,0.3s,SNR=7.9					
ESPR			Lg		14 35 08.1	
	comp=E,18nm,0.3s,SNR=7.9					
ESPR	**Espera**	**6.04 169**	Sn	Sn	14 34 32.4	-5.8
	comp=E,4.6nm,0.3s,SNR=7.9					
LIJA	**Lijar**	**6.07 166**	Sn	Sn	14 34 33.0	-6.0
LIJA			Lg		14 35 09.9	
EBR	**Ebro Roquetas**	**6.12 106**	*e*Rs		14 33 30.5	
EBR			*e*Rs		14 35 11.5	
MLS	**Moulis**	**6.13 86**	P	Pn	14 33 26.5	-3.0
ELOJ	**Sierra Loja**	**6.14 156**	Lg		14 35 10.5	
	comp=E,5.2nm,0.5s,SNR=7.9					
LFF	**La Frestale**	**6.15 67**	*e*Pn	Pn	14 33 25.8	-4.0
LFF			*e*Sn	Sn	14 34 32.9	-8.0
	comp=E,15nm,0.4s					
ROSF	**Rostrenen**	**6.18 25**	*e*Pn	Pn	14 33 25.2	-5.1
ROSF			*e*Sn	Sn	14 34 29.6	-12
	comp=E,10nm,0.3s					
SALF	**Salau**	**6.21 88**	P	Pn	14 33 28.4	-2.2
MFF	**Saint Martin d**	**6.31 51**	*e*Pn	Pn	14 33 27.7	-4.5
MFF			*e*Sn	Sn	14 34 34.1	-11
	comp=E,15nm,0.4s					
SGMF	**Saint Gilles**	**6.35 30**	*e*Pn	Pn	14 33 27.4	-5.3
SGMF			*e*Sn	Sn	14 34 34.0	-12
	comp=E,9.2nm,0.3s					
EPOB	**Poblet**	**6.36 101**	Pn	Pn	14 33 28.8	-4.1
EPOB			Pg	Pg	14 33 53.9	-10
EPOB			Sn	Sn	14 34 38.1	-8.2
EPOB			Lg		14 35 14.9	
EPOB	**Poblet**	**6.36 101**	Pn	Pn	14 33 29.1	-3.8
	comp=E,1.3nm,0.2s,SNR=7.9					
EPOB			Pg	Pg	14 33 53.6	-10
	comp=E,17nm,0.5s,SNR=7.9					
EPOB			Sn	Sn	14 34 38.1	-8.2
	comp=E,5.4nm,0.4s,SNR=7.9					
EPOB			Lg		14 35 14.9	
	comp=E,21nm,0.4s,SNR=7.9					
EPOB	**Poblet**	**6.36 101**	Pn	Pn	14 33 28.8	-4.1
EPOB	**Poblet**	**6.36 101**	Pg	Pg	14 33 53.9	-10
	comp=E,9.2nm,0.4s,SNR=7.9					
EPOB			Sn	Sn	14 34 38.1	-8.2
	comp=E,3.2nm,0.4s,SNR=7.9					
EMIJ	**Mijas**	**6.53 162**	Pn	Pn	14 33 36.8	+1.6
EMIJ			Lg		14 35 26.6	
EMIJ	**Mijas**	**6.53 162**	Pn	Pn	14 33 32.3	-2.9
	comp=E,2.1nm,0.3s,SNR=7.9					
EMIJ			Lg		14 35 23.5	
	comp=E,27nm,0.6s,SNR=7.9					
EMIR	**Miracle**	**6.56 95**	Pn	Pn	14 33 32.1	-3.5
EMIR			Pg	Pg	14 33 57.6	-10
EMIR			Sn	Sn	14 34 43.5	-7.7
EMIR			Lg		14 35 22.8	
EMIR	**Miracle**	**6.56 95**	Pn	Pn	14 33 32.1	-3.5
	comp=E,14nm,0.4s,SNR=7.9					
EMIR			Pg	Pg	14 33 57.0	-11
	comp=E,17nm,0.4s,SNR=4.0					
EMIR			Sn	Sn	14 34 42.2	-9.0
	comp=E,7.3nm,0.4s,SNR=7.9					
EMIR			Lg		14 35 22.8	
	comp=E,14nm,0.5s,SNR=7.9					
EMIR	**Miracle**	**6.56 95**	Pn	Pn	14 33 32.1	-3.5
EMIR	**Miracle**	**6.56 95**	Pg	Pg	14 33 57.6	-10
EBEN	**Beniarda**	**6.73 125**	Pn	Pn	14 33 35.3	-2.7
	comp=E,1.0nm,0.3s,SNR=4.0					
EBEN			Pg	Pg	14 34 00.0	-11
	comp=E,1.5nm,0.3s,SNR=4.0					
EBEN			Sn	Sn	14 34 47.1	-8.4
	comp=E,2.5nm,0.4s,SNR=7.9					
EBEN			Lg		14 35 24.2	
	comp=E,7.7nm,0.4s,SNR=7.9					
EMUR	**La Murta**	**6.76 135**	Pn	Pn	14 33 36.2	-2.2
EMUR			Lg		14 35 32.2	
EMUR	**La Murta**	**6.76 135**	Pn	Pn	14 33 35.8	-2.7
	comp=E,2.0nm,0.3s,SNR=7.9					
EMUR			Pg	Pg	14 34 00.8	-11
	comp=E,2.8nm,0.3s,SNR=7.9					
EMUR			Lg		14 35 27.7	
	comp=E,28nm,0.5s,SNR=7.9					
EMUR	**La Murta**	**6.76 135**	Pn	Pn	14 33 36.2	-2.3
RJF	**Les Rejaudoux**	**6.78 66**	*e*Pn	Pn	14 33 34.1	-4.7
RJF			*e*Sn	Sn	14 34 46.2	-11
	comp=E,8.9nm,0.3s					
EBER	**Berja**	**6.79 149**	Pn	Pn	14 33 37.8	-1.1
	comp=E,0.4nm,0.3s,SNR=7.9					
EBER			Lg		14 35 33.6	
	comp=E,12nm,0.5s,SNR=7.9					
MTLF	**Montolieu**	**6.95 82**	*e*Pn	Pn	14 33 37.7	-3.4
MTLF			*e*Sn	Sn	14 34 52.7	-8.3
	comp=E,4.5nm,0.3s					
CAF	**Calviac**	**7.05 69**	*e*Pn	Pn	14 33 37.9	-4.6
CAF			*e*Sn	Sn	14 34 54.0	-9.5
	comp=E,7.6nm,0.3s					
GRR	**Gorron**	**7.14 37**	*e*Pn	Pn	14 33 38.3	-5.5
GRR			*e*Sn	Sn	14 34 53.2	-13
	comp=E,13nm,0.2s					
EJON	**La Jonquera**	**7.48 89**	Pn	Pn	14 33 45.2	-3.4
	comp=E,1.3nm,0.2s,SNR=4.0					
EJON			Sn	Sn	14 35 03.8	-11
	comp=E,4.6nm,0.4s,SNR=4.0					
EJON			Lg		14 35 53.8	
	comp=E,9.4nm,0.6s,SNR=4.0					
EIBI	**Ibiza**	**7.52 117**	Pn	Pn	14 33 46.5	-2.7
EIBI			Sn	Sn	14 35 03.2	-12
EIBI	**Ibiza**	**7.52 117**	Pn	Pn	14 33 44.8	-4.3
	comp=E,6.7nm,0.3s,SNR=4.0					
EIBI			Sn	Sn	14 35 03.2	-12
	comp=E,4.2nm,0.3s,SNR=7.9					
EIBI	**Ibiza**	**7.52 117**	Pn	Pn	14 33 46.5	-2.7
TCF	**Toulx Ste Croi**	**7.59 60**	*e*Pn	Pn	14 33 44.9	-5.2
TCF			*e*Sn	Sn	14 35 03.2	-14
	comp=E,13nm,0.3s					
FLN	**La Foliniere**	**7.59 36**	*e*Pn	Pn	14 33 44.2	-5.9
FLN			*e*Sn	Sn	14 35 02.7	-14
	comp=E,10nm,0.3s					
LDF	**La Druitiere**	**7.63 38**	*e*Pn	Pn	14 33 44.7	-5.9
LDF			*e*Sn	Sn	14 35 03.2	-15
	comp=E,9.7nm,0.3s					
BGF	**Bois d'Agland**	**8.10 59**	*e*Pn	P	14 33 52.4	-4.8
BGF			*e*Sn	Sn	14 35

s-min=44.6km az=89.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.33**	**25**	Pn	P	14 37 35.6	-2.7
	0.0nm,0.3s,baz=220,slow=13,SNR=5.7						
WRA	**Warramunga Arr**	**48.45**	**125**	P	P	14 43 22.4	-2.4
	0.4nm,0.5s,baz=300,slow=10,SNR=12						
ASAR	**Alice Springs**	**50.03**	**129**	P	P	14 43 35.4	-1.6
	0.2nm,0.6s,baz=304,slow=7.0,SNR=12						
ASAR				LR	LR	15 08 51.2	
	comp=Z,149nm,18.4s,baz=323,slow=41						

IDC 09 14:36:25.6±1.9, 27.23S×113.21W, mb3.5/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.5/3, MS3.7/3, Ms1 3.7/3, ms1mx3.0/10, Error ellipse: s-maj=109.5km s-min=57.8km az=100.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**49.27**	**56**	LR	LR	15 02 00.8	
	comp=Z,127nm,19.7s,baz=217,slow=31						
TXAR	**Lajitas Array**	**56.98**	**10**	LR	LR	15 06 31.6	
	comp=Z,52nm,19.3s,baz=160,slow=32						
BDFB	**Brasilia**	**61.19**	**94**	LR	LR	15 07 57.0	
	comp=Z,61nm,19.3s,baz=273,slow=31						
NVAR	**Mina Array Bea**	**65.49**	**356**	P	P	14 47 12.6	-0.2
	1.1nm,0.9s,baz=197,slow=11,SNR=3.6						
PDAR	**Pinedale Array**	**69.73**	**3**	P	P	14 47 36.8	-2.5
	0.4nm,0.8s,baz=186,slow=9.1,SNR=3.2						
YKA	**Yellowknife Ar**	**89.42**	**359**	P	P	14 49 21.8	-3.2
	0.1nm,0.7s,baz=180,slow=4.8,SNR=4.7						
SONM	**Songino Array**	**142.99**	**314**	PKP	PKPdf	14 55 59.0	-3.9
	0.6nm,0.9s,baz=117,slow=3.2,SNR=3.7						
CMAR	**Chiang Mai Arr**	**149.18**	**260**	PKPbc	PKPdf	14 56 16.6	+2.4
	0.7nm,0.9s,baz=207,slow=2.0,SNR=4.1						
BRTR	**Keskin Array B**	**149.84**	**57**	PKPbc	PKPdf	14 56 18.1	+3.5
	0.7nm,0.7s,baz=180,slow=3.7,SNR=4.7						
BVAR	**Borovoye Array**	**154.09**	**355**	PKPab	PKPab	14 56 39.8	-2.8
	1.2nm,0.9s,baz=270,slow=2.9,SNR=4.6						

*KRSC **09** 14:45:29.0±0.5, 51.91N×158.22E, h87km±4km, ML4.7*
*MOS **09** 14:45:29.2±3.0, 51.85N×158.52E, h72km, mb4.3/7, Error ellipse: s-maj=16.3km s-min=7.4km az=80.5*
*IDC **09** 14:45:29.5±3.2, 52.23N×157.85E, h87km±30km, mb3.7/11, mb1 4.0/12, mb1mx3.9/21, mbtmp4.1/12, Error ellipse: s-maj=26.8km s-min=13.4km az=162.0*
*NEIC **09** 14:45:29.8±0.8, 52.17N×157.88E, h92km±6km, mb4.3/9, Error ellipse: s-maj=11.1km s-min=6.6km az=177.0*

ISC 09 14:45:28.8±0.4, 51.95N±0.04×158.12E±0.07, h102km±3km, n69, σ1§19/95, mb4.0/18, 2C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.54**	**26**	P	P	14 45 44.4	-0.8
RUS				S	S	14 45 55.5	-2.0
RUS	**Russkaya**	**0.54**	**26**	*i* P	P	14 45 44.6	-0.6
RUS				*i* S	S	14 45 55.8	-1.7
GRL	**Gorelyy**	**0.60**	**357**	*i* P	P	14 45 45.6	-0.1
GRL				*e*S	S	14 45 58.0	-0.4
KRMR	**Karymshinskiy**	**0.88**	**0**	*i* P	P	14 45 48.2	-0.2
KRMR				*i* S	S	14 46 02.4	-0.6
PAU	**Pauzhetka**	**0.95**	**240**	*i* P	P	14 45 49.8	+0.8
PAU				*e*S	S	14 46 04.8	+0.6
PAU				Smax			
	4μm,0.5s						
PET	**Petropavlovsk**	**1.13**	**17**	⇑*i*P	P	14 45 50.6	-0.5
PET				*e*S	S	14 46 05.6	-2.2
PET	**Petropavlovsk**	**1.13**	**17**	*i* P	P	14 45 50.7	-0.4
PET				*i* S	S	14 46 06.3	-1.5
APC	**Apacha**	**1.14**	**329**	*i* P	P	14 45 51.7	+0.4
APC				*e*S	S	14 46 07.9	-0.2
APC				Smax			
	2μm,0.5s						
UGLR	**Uglovaya**	**1.33**	**19**	*i* P	P	14 45 54.0	+0.5
AVH	**Avacha**	**1.37**	**16**	*i* P	P	14 45 54.7	+0.7
AVH				*i* S	S	14 46 13.5	+0.7
SMAR	**Somma**	**1.38**	**17**	*i* P	P	14 45 54.4	+0.3
KOK	**Koryaka**	**1.38**	**13**	*i* P	P	14 45 54.9	+0.8
KOK				*i* S	S	14 46 14.1	+1.1
SDLR	**Sedlovina**	**1.41**	**19**	*i* P	P	14 45 54.5	0.0
SDLR				*i* S	S	14 46 12.8	-0.8
NLC	**Nalytchevo**	**1.44**	**31**	P	P	14 45 53.6	-1.2
NLC				S	S	14 46 11.3	-2.8
NLC	**Nalytchevo**	**1.44**	**31**	*i* P	P	14 45 53.7	-1.1
NLC				*i* S	S	14 46 11.8	-2.3
SPN	**Mys Shipunski**	**1.64**	**45**	P	P	14 45 57.2	-0.1
SPN				S	S	14 46 17.6	-0.8
SPN	**Mys Shipunski**	**1.64**	**45**	*i* P	P	14 45 57.4	+0.1
SPN				*i* S	S	14 46 17.9	-0.5
GNL	**Ganaly**	**1.75**	**357**	*i* P	P	14 45 59.2	+0.5
GNL				*e*S	S	14 46 21.6	+0.7
SKR	**Severo-Kuril's**	**1.78**	**226**	*e*P	P	14 45 56.1	-3.0
SKR				*e*S	S	14 46 20.5	-1.1
ALID	**Alaid**	**1.94**	**237**	*e*P	P	14 46 02.0	+0.9
ALID				*e*S	S	14 46 26.4	+1.3
ESO	**Esso**	**4.00**	**5**	*i* P	P	14 46 31.0	+1.8
ESO				*e*S	S	14 47 15.5	+0.2
ESO				Smax			
	70nm,1.0s						
ZLN	**Zelenaya**	**4.37**	**20**	*e*P	P	14 46 35.4	+1.1
LGNR	**Loginova**	**4.41**	**19**	*e*P	P	14 46 37.2	+2.4
LGNR				*e*S	S	14 47 27.5	+2.1
CIRR	**Tsirk**	**4.45**	**19**	*e*P	P	14 46 37.7	+2.3
KLY	**Klyuchi**	**4.62**	**18**	P	P	14 46 40.0	+2.3
KLY				S	S	14 47 32.7	+2.2
KLY	**Klyuchi**	**4.62**	**18**	*e*P	P	14 46 39.5	+1.8
KLY				*e*S	S	14 47 30.4	-0.1
SVLR	**Shiveluch**	**4.98**	**20**	*e*P	P	14 46 43.3	+0.7
KBTR	**Krutoberegovo**	**5.09**	**31**	P	P	14 46 44.0	0.0
KBTR				S	S	14 47 38.6	-3.4
KBTR	**Krutoberegovo**	**5.09**	**31**	*e*P	P	14 46 44.0	0.0
KBTR				*e*S	S	14 47 39.6	-2.4
KBG	**Krutoberegovo**	**5.09**	**30**	*e*P	P	14 46 44.0	-0.1
KBG				*e*S	S	14 47 37.5	-4.6
KBG				Smax			
	800nm,0.7s						
MA2	**Magadan**	**8.69**	**334**	PN	P	14 47 28.5	-4.7
FX1	**Attu Island--F**	**9.25**	**78**	PN	P	14 47 40.2	-0.5
FX1				pmax	pmax		
	comp=Z,16nm,0.3s						
FX1	**Attu Island--F**	**9.25**	**78**	P	P	14 47 40.2	-0.5
	comp=Z,16nm,0.3s,baz=325,slow=7.5,SNR=27						
FX1	**Attu Island--F**	**9.25**	**78**	*e*P	P	14 47 40.2	-0.5
SMY	**Shemya**	**9.82**	**79**	*e*PN	P	14 47 48.9	+0.7
SMY				S	S	14 49 33.5	-3.7
ASAJ	**Asahikawa**	**12.99**	**239**	PN	P	14 48 31.0	+0.5
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**12.99**	**239**	P	P	14 48 30.9	+0.5
	comp=Z,1.6nm,0.3s,baz=74,slow=11,SNR=7.7						
BILL	**Bilibino**	**16.62**	**11**	*e*P	P	14 49 30.9	+15
YAK	**Yakutsk**	**18.33**	**314**	⇑*i*P	P	14 49 33.5	-3.6
YAK				pmax	pmax		
	comp=Z,17nm,0.7s						
YAK	**Yakutsk**	**18.33**	**314**	*e*P	P	14 49 34.9	-2.2
	comp=Z,18nm,0.6s						
MAJO	**Matsushiro**	**20.89**	**230**	*e*P	P	14 50 04.5	+0.1
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MAJO	**Matsushiro**	**20.89**	**230**	*e*P	P	14 50 04.5	+0.1
	comp=Z,6.0nm,0.4s						
TIXI	**Tiksi**	**23.65**	**337**	*e*P	P	14 50 31.0	+0.1
TIXI				*e*		14 50 53.0	
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.8						
COLA	**College**	**30.07**	**44**	*e*P	P	14 51 28.4	-1.6
ILAR	**Eielson Array**	**30.48**	**44**	P	P	14 51 32.7	-0.9
	comp=Z,2.0nm,0.7s,mb3.8,baz=263,slow=6.8,SNR=30						
ILAR				PcP	PcP	14 54 28.6	-1.9
	comp=Z,0.2nm,0.5s,baz=287,slow=3.4,SNR=4.7						
SONM	**Songino Array**	**32.99**	**284**	P	P	14 51 54.0	-1.7
	comp=Z,0.3nm,0.6s,mb3.3,baz=50,slow=7.0,SNR=4.5						
INK	**Inuvik**	**35.51**	**37**	*e*P	P	14 52 17.0	0.0
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**35.51**	**37**	P	P	14 52 16.7	-0.3
	comp=Z,1.6nm,0.6s,mb4.2,baz=262,slow=4.8,SNR=9.6						
INK	**Inuvik**	**35.51**	**37**	*e*P	P	14 52 17.0	0.0
	comp=Z,1.6nm,0.6s,mb4.1						
YKA	**Yellowknife Ar**	**44.82**	**41**	P	P	14 53 33.4	-0.2
YKA	**Yellowknife Ar**	**44.82**	**41**	P	P	14 53 33.3	-0.3
	comp=Z,0.6nm,0.4s,mb3.7,baz=300,slow=7.5,SNR=18						
RES	**Resolute Bay**	**44.84**	**21**	*e*P	P	14 53 32.8	-0.8
RES				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
RES	**Resolute Bay**	**44.84**	**21**	*e*P	P	14 53 32.8	-0.8
	comp=Z,0.8nm,0.6s,mb3.6						
CHKZ	**Chkalovo**	**49.66**	**309**	*e*P	P	14 54 08.5	-3.0
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
CHKZ	**Chkalovo**	**49.66**	**309**	*e*P	P	14 54 08.5	-3.0
	comp=Z,1.3nm,0.4s,mb4.2						
BVAR	**Borovoye Array**	**50.15**	**308**	P	P	14 54 12.8	-2.4
	comp=Z,1.0nm,0.4s,mb4.1,baz=58,slow=7.3,SNR=17						
BVAR				PcP	PcP	14 55 32.1	-1.3
	comp=Z,0.7nm,0.3s,baz=61,slow=2.3,SNR=6.6						
BRVK	**Borovoye**	**50.18**	**308**	*e*P	P	14 54 12.9	-2.6
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
BRVK	**Borovoye**	**50.18**	**308**	*e*P	P	14 54 12.9	-2.6
	comp=Z,0.9nm,0.5s,mb4.0						
WALA	**Waterton Lakes**	**52.70**	**56**	*e*P	P	14 54 34.7	+0.1
	comp=Z,2.8nm,0.5s,mb4.5						
FCC	**Fort Churchill**	**55.13**	**37**	*e*P	P	14 54 51.3	-0.9
FCC				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
FCC	**Fort Churchill**	**55.13**	**37**	*e*P	P	14 54 51.3	-0.9
	comp=Z,2.0nm,0.5s,mb4.4						
CMAR	**Chiang Mai Arr**	**56.76**	**257**	P	P	14 55 04.5	+0.2
	comp=Z,0.3nm,0.5s,mb3.6,baz=33,slow=7.2,SNR=4.2						
NVAR	**Mina Array Bea**	**57.28**	**68**	P	P	14 55 08.9	+1.1
	comp=Z,2.0nm,0.6s,mb4.3,baz=299,slow=7.7,SNR=10						
BW06	**Boulder Array**	**59.14**	**59**	*e*P	P	14 55 21.3	+0.6
	comp=Z,1.9nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**59.14**	**59**	P	P	14 55 21.4	+0.7
	comp=Z,1.7nm,0.8s,mb4.2,baz=329,slow=2.9,SNR=17						
FINES	**FINESS Array B**	**60.68**	**336**	P	P	14 55 28.5	-2.4
	comp=Z,7.7nm,1.2s,mb4.6,baz=14,slow=7.9,SNR=4.7						
PV10	**Paradox Valley**	**62.52**	**62**	*e*P	P	14 55 45.1	+1.5
TXAR	**Lajitas Array**	**72.21**	**65**	P	P	14 56 45.0	+0.7
	comp=Z,1.2nm,0.4s,mb4.1,baz=300,slow=5.0,SNR=18						
ASAR	**Alice Springs**	**78.22**	**203**	P	P	14 57 20.2	+1.6
	comp=Z,1.9nm,0.5s,mb4.1,baz=16,slow=5.1,SNR=5.0						

*MOS **09** 14:51:24.4±1.6, 9.03S×124.00E, h40km, mb4.6/4, Error ellipse: s-maj=28.9km s-min=13.1km az=125.8*
*IDC **09** 14:51:26.1±0.8, 8.07S×125.00E, mb4.2/7, mb1 4.5/9, mb1mx4.3/14, mbtmp4.3/9, ML4.1/2, MS3.8/3, Ms1 3.8/3, ms1mx3.2/13, Error ellipse: s-maj=43.3km s-min=16.6km az=54.0*
*BJI **09** 14:51:27.1, 7.98S×125.08E, h17km, mB5.1, mb4.7*
*NEIC **09** 14:51:28.4±0.4, 8.18S×124.91E, h15km, mb4.4/10, Error ellipse: s-maj=12.8km s-min=7.3km az=64.0*

ISC 09 14:51:29.6±1.8, 8.31S±0.06×125.05E±0.08, h52km±18km, n42, σ1§36/48, mb4.3/18, MS3.8/3, 4C-2D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.47**	**122**	*e*P	P	14 53 33.7	+1.4
	54nm,0.4s						
KAKA				*e*S	S	14 55 07.7	+0.1
FITZ	**Fitzroy Crossi**	**9.75**	**177**	*e*P	P	14 53 48.7	-1.2
	22nm,0.5s						
FITZ				*e*S	S	14 55 34.5	-4.5
MBWA	**Marble Bar**	**13.77**	**201**	*e*P	P	14 54 43.9	0.0
WRA	**Warramunga Arr**	**14.64**	**143**	P	P	14 54 52.1	-3.3
WRA				S	S	14 57 30.6	-6.2
WRA	**Warramunga Arr**	**14.64**	**143**	Pn	P	14 54 52.0	-3.3
	1.3nm,0.3s,baz=313,slow=14,SNR=49						
WRA				Sn	S	14 57 30.6	-6.2
	1.4nm,0.3s,baz=308,slow=23,SNR=8.2						
WRAB	**Tennant Creek**	**14.64**	**143**	⇓*i*P	P	14 54 50.6	-4.8
WRAB	**Tennant Creek**	**14.64**	**143**	*e*P	P	14 54 52.9	-2.4
	73nm,1.0s						
WB2	**Warramunga Arr**	**14.65**	**143**	*e*P	P	14 54 53.3	-2.2
WB2				*e*		14 54 57.0	
WB2				*e*S	S	14 57 31.4	-5.6
ASPA	**Alice Springs**	**17.46**	**152**	*e*P	P	14 55 33.1	+2.0
ASPA				*e*S	S	14 58 41.4	-0.2
ASAR	**Alice Springs**	**17.46**	**152**	P	P	14 55 32.8	+1.6
	0.6nm,0.3s,baz=324,slow=10,SNR=50						
ASAR				S	S	14 58 40.5	-1.2
	0.4nm,0.3s,baz=315,slow=20,SNR=6.0						
PMG	**Port Moresby**	**21.87**	**95**	*e*P	P	14 56 25.9	+6.2
PMG	**Port Moresby**	**21.87**	**95**	P	P	14 56 21.9	+2.2
	6.7nm,0.7s,mb4.2,baz=176,slow=7.5,SNR=3.6						
CTA	**Charters Tower**	**23.62**	**122**	P	P	14 56 40.5	+3.6
	12nm,1.1s,mb4.3,baz=262,slow=6.0,SNR=2.9						
CTA				LR	LR	15 06 30.3	
	comp=Z,188nm,20.9s,MS3.5,baz=43,slow=38						
CTA	**Charters Tower**	**23.62**	**122**	P	P	14 56 40.5	+3.6
CTA				LR	LR	15 06 30.3	
CTAO	**Charters Tower**	**23.62**	**122**	*e*P	P	14 56 40.5	+3.7
	2.1nm,0.6s,mb3.7						
NWAO	**Narrogin (SRO)**	**25.54**	**195**	*e*P	P	14 56 57.1	+1.9
	2.2nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**28.04**	**149**	*e*P	P	14 57 23.8	+5.6
	2.9nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**28.04**	**149**	P	P	14 57 21.8	+3.5
	4.8nm,0.8s,mb4.2,baz=313,slow=9.6,SNR=11						
STKA				LR	LR	15 10 09.4	
	comp=Z,180nm,18.2s,MS3.7,baz=5.8,slow=40						
CMAR	**Chiang Mai Arr**	**37.03**	**316**	*i* P	P	14 58 37.6	+1.2
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**37.03**	**316**	P	P	14 58 36.5	+0.1
	comp=Z,4.0nm,0.9s,mb4.2,baz=142,slow=6.7,SNR=22						
MAT	**Matsushiro**	**46.30**	**15**	*e*P	P	14 59 53.0	+0.9
	comp=Z,10.0nm,1.0s,mb4.7						
MAT	**Matsushiro**	**46.30**	**15**	P	P	14 59 52.6	+0.5
LSA	**Lhasa**	**49.92**	**321**	*e*P	P	15 00 22.0	+1.6
	comp=Z,7.7nm,0.8s,mb4.8						
MDJ	**Mudanjiang**	**52.84**	**4**	P	P	15 00 42.4	+0.2
MDJ				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,130nm,5.2s						
ULN	**Ulaanbaatar**	**58.16**	**346**	⇑*i*P	P	15 01 19.0	-1.5
SONM	**Songino Array**	**58.29**	**345**	P	P	15 01 20.8	-0.6
	comp=Z,0.9nm,0.7s,mb3.9,baz=164,slow=6.9,SNR=8.0						
ZAK	**Zakamensk**	**61.44**	**344**	*e*P	P	15 01 42.7	-0.3
TLY	**Talaya**	**62.53**	**345**	*i* P	P	15 01 47.7	-2.5
BOD	**Bodaibo**	**66.52**	**354**	*e*P	P	15 02 15.9	0.0
AAK	**Ala-Archa**	**68.47**	**322**	*e*P	P	15 02 25.4	-3.0
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
AAK	**Ala-Archa**	**68.47**	**322**	*e*P	P	15 02 28.5	+0.1
	comp=Z,1.9nm,0.8s,mb4.2						
YAK	**Yakutsk**	**70.22**	**2**	⇑*i*P	P	15 02 38.7	-0.1
YAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
VNDA	**Vanda**	**71.78**	**172**	P	P	15 02 51.5	+3.5
	comp=Z,2.6nm,0.6s,mb4.3,baz=315,slow=9.9,SNR=7.3						
VNDA				LR	LR	15 35 29.8	
	comp=Z,96nm,18.6s,MS4.1,baz=335,slow=37						
NVS	**Novosibirsk**	**71.97**	**336**	*i* P	P	15 02 48.5	-0.9
SBA	**Scott Base**	**72.73**	**172**	*e*P	P	15 02 57.3	+3.8
	comp=Z,1.5nm,0.4s,mb4.3						
BVAR	**Borovoye Array**	**76.63**	**330**	P	P	15 03 16.8	+0.3
	comp=Z,2.5nm,1.1s,mb4.1,baz=142,slow=4.7,SNR=8.8						
BRVK	**Borovoye**	**76.70**	**330**	*e*P	P	15 03 17.3	+0.5
	comp=Z,6.0nm,1.3s,mb4.4						
CHKZ	**Chkalovo**	**76.88**	**330**	*e*P	P	15 03 17.9	+0.1
	comp=Z,2.7nm,1.0s,mb4.1						
TIXI	**Tiksi**	**79.83**	**1**	⇓*i*P	P	15 03 31.1	-2.6
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.5s,mb4.2						
QSPA	**South Pole Qui**	**81.67**	**180**	⇑*i*P	P	15 03 47.8	+4.5
	comp=Z,5.6nm,0.9s,mb4.5						
COLA	**College**	**96.23**	**25**	⇑*i*P	P	15 04 53.7	+0.8
LPAZ	**La Paz**	**152.29**	**152**	PKPbc	PKPdf	15 11 26.5	+13
	comp=Z,0.9nm,0.6s,baz=147,slow=3.5,SNR=4.3						
LPAZ				PKPab	PKPab	15 11 35.9	+3.0
	comp=Z,1.5nm,0.6s,baz=171,slow=4.2,SNR=6.1						

*IDC **09** 14:58:39.8±0.7, 4.69N×95.79E, mb4.3/14, mb1 4.4/15, mb1mx4.3/20, mbtmp4.2/15, ML4.0/1, MS3.7/2, Ms1 3.8/2, ms1mx3.2/18, Error ellipse: s-maj=34.8km s-min=16.0km az=52.0*
*BJI **09** 14:58:46.2, 4.22N×95.02E, h79km, mb4.4, Ms4.3, Msz3.7*
*NEIC **09** 14:58:46.3±2.1, 4.50N×95.60E, h48km±19km, mb4.5/10, Error ellipse: s-maj=16.8km s-min=9.5km az=48.0*

ISC 09 14:58:43.1±0.4, 4.32N±0.07×95.45E±0.07, h33km, n53, σ1§32/52, mb4.4/28, MS4.1/1, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**5.88**	**61**	P	P	15 00 13.0	+3.0
	296nm,1.0s						
NNT	**Nongplab**	**9.25**	**27**	P	P	15 00 58.5	+1.4
KKTK	**Khon Kaen**	**13.97**	**31**	P	P	15 02 10.0	+9.0
	370nm,0.5s						
CMAR	**Chiang Mai Arr**	**14.46**	**13**	Pn	P	15 02 08.0	+0.4
	0.2nm,0.3s,baz=203,slow=14,SNR=18						
CMAR				LR	LR	15 07 43.6	
	comp=Z,153nm,19.4s,baz=42,slow=39						
CHG	**Chiang Mai**	**14.81**	**13**	⇑P	P	15 02 28.0	+16
	10nm,0.9s						
PALK	**Pallekele**	**14.96**	**282**	*e*P	P	15 02 14.8	+0.8
PALK				*e*S	S	15 04 45.8	-14
HYB	**Hyderabad**	**21.06**	**309**	*e*P	P	15 03 27.0	+0.2
HYB				*e*S	S	15 07 21.0	+6.6
HYB	**Hyderabad**	**21.06**	**309**	*i* P	P	15 03 27.0	+0.2
HYB				*e*S	S	15 07 21.0	+6.6
SHL	**Shillong**	**21.40**	**351**	*e*P	P	15 03 27.0	-3.2
JIRN	**Jiri**	**24.83**	**340**	*e*P	P	15 04 04.0	0.0
GUN	**Gumba**	**25.17**	**340**	*e*P	P	15 04 07.9	+0.7
KKN	**Kakani**	**25.27**	**339**	*e*P	P	15 04 07.6	-0.5
POO	**Poona**	**25.40**	**305**	⇑*i*P	P	15 04 10.0	+0.6
	47nm,1.1s,mb4.9						
LSA	**Lhasa**	**25.57**	**351**	*e*P	P	15 04 08.4	-2.5
	2.2nm,0.4s,mb4.0						
GKN	**Gorkha**	**25.70**	**338**	*e*P	P	15 04 11.8	-0.4
	19nm,0.5s,mb4.9						
KOLN	**Koldanda**	**25.91**	**335**	*e*P	P	15 04 13.6	-0.5
	18nm,0.6s,mb4.8						
XAN	**Xi'an**	**32.12**	**21**	P	P	15 05 11.2	+1.5
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.8						
UCH	**Uchtor**	**42.11**	**337**	P	P	15 06 34.5	+0.6
	SNR=10.0						
KBK	**Karagaybulak**	**42.31**	**337**	P	P	15 06 35.9	+0.4
	SNR=13						
AML	**Almayashu**	**42.36**	**336**	P	P	15 06 36.0	+0.1
	SNR=17						
NWAO	**Narrogin (SRO)**	**42.41**	**152**	P	P	15 06 37.2	+0.7
	comp=Z,1.3nm,0.5s,mb3.8						
AAK	**Ala-Archa**	**42.46**	**337**	*e*P	P	15 06 36.7	-0.1
	comp=Z,7.7nm,0.9s,mb4.3						
EKS2	**Erkin-Say**	**42.77**	**336**	P	P	15 06 38.9	-0.4
	SNR=8.2						
USP	**Ospenovka**	**43.00**	**337**	P	P	15 06 40.5	-0.6
	SNR=13						
SONM	**Songino Array**	**44.37**	**11**	P	P	15 06 48.3	-3.8
	comp=Z,0.9nm,1.0s,mb3.5,baz=180,slow=7.4,SNR=6.3						
SONM				PcP	PcP	15 08 32.6	-3.7
	comp=Z,0.4nm,0.5s,baz=198,slow=4.6,SNR=4.1						
WRA	**Warramunga Arr**	**45.19**	**124**	P	P	15 06 57.8	-1.2
	comp=Z,16nm,0.6s,mb5.0,baz=302,slow=9.2,SNR=25						
WRAB	**Tennant Creek**	**45.19**	**124**	*e*P	P	15 06 58.7	-0.4
	comp=Z,7.3nm,0.4s,mb4.9						
WB2	**Warramunga Arr**	**45.20**	**124**	*e*P	P	15 06 58.4	-0.7
ASPA	**Alice Springs**	**46.67**	**128**	*e*P	P	15 07 11.1	+0.3
ASAR	**Alice Springs**	**46.68**	**128**	P	P	15 07 10.2	-0.5
	comp=Z,1.3nm,0.7s,mb4.0,baz=299,slow=8.0,SNR=21						
HIA	**Hailar**	**49.32**	**21**	P	P	15 07 29.1	-1.9
	comp=Z,8.5nm,0.9s,mb4.8						
BVAR	**Borovoye Array**	**52.75**	**341**	P	P	15 07 55.2	-1.7
	comp=Z,2.0nm,0.5s,mb4.3,baz=141,slow=9.5,SNR=16						
BRVK	**Borovoye**	**52.81**	**341**	*e*P	P	15 07 54.3	-3.1
	comp=Z,2.0nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**53.23**	**342**	*e*P	P	15 07 58.5	-2.1
	comp=Z,6.3nm,0.6s,mb4.7						
PMG	**Port Moresby**	**53.31**	**105**	P	P	15 07 58.8	-2.8
	comp=Z,9.2nm,0.9s,mb4.7,baz=218,slow=8.4,SNR=3.1						
STKA	**Stephens Creek**	**56.74**	**133**	LR	LR	15 35 43.5	
	comp=Z,131nm,18.7s,MS4.1,baz=257,slow=39						
GNI	**Garni**	**57.85**	**316**	*e*P	P	15 08 33.1	-1.0
	comp=Z,2.5nm,0.6s,mb4.4						
BRTR	**Keskin Array B**	**65.74**	**312**	P	P	15 09 25.5	-1.5
	comp=Z,1.8nm,0.8s,mb4.2,baz=130,slow=5.8,SNR=4.0						
JOF	**Joensuu**	**74.60**	**335**	*e*p	P	15 10 22.9	+2.5
MAW	**Mawson**	**75.35**	**192**	P	P	15 10 27.6	+2.9
	comp=Z,3.0nm,0.4s,mb4.6,baz=152,slow=3.2,SNR=7.0						
FINES	**FINESS

*IDC **09** 16:04:39.7±0.8, 4.20N×93.14E, h33km±5km, mb3.9/9, mb1 3.9/10, mb1mx3.8/19, mbtmp4.0/10, Error ellipse: s-maj=35.9km s-min=15.5km az=46.0*
*NEIC **09** 16:04:39.2±0.6, 4.16N×93.07E, mb4.4/4, Error ellipse: s-maj=16.8km s-min=11.5km az=218.0*
ISC 09 16:04:37.1±0.7, 4.0N±0.1×93.0E±0.1, h33km, (h33km±.9km):pP-P), n23, σ1°00/24, mb4.3/19, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.62**	**285**	*eP*	**P**	**16 07 36.1**	**-1.3**
PALK				*eS*	**S**	**16 09 44.2**	**-14**
CMAR	**Chiang Mai Arr**	**15.51**	**22**	Pn	**P**	**16 08 11.6**	**-3.8**
	baz=215,slow=15,SNR=4.4						
SHL	**Shillong**	**21.47**	**357**	*eP*	**P**	**16 09 22.0**	**-3.1**
JIRN	**Jiri**	**24.40**	**345**	*eP*	**P**	**16 09 54.1**	**+0.2**
	11nm,0.8s,mb4.3						
PKI	**Pulchoki**	**24.52**	**344**	*eP*	**P**	**16 09 56.5**	**+1.4**
	50nm,1.0s,mb5.0						
DMN	**Daman**	**24.64**	**343**	*eP*	**P**	**16 09 57.4**	**+1.1**
GUN	**Gumba**	**24.72**	**345**	*eP*	**P**	**16 09 57.4**	**+0.4**
	18nm,0.8s,mb4.7						
KKN	**Kakani**	**24.76**	**344**	*eP*	**P**	**16 09 57.5**	**0.0**
	14nm,0.9s,mb4.5						
GKN	**Gorkha**	**25.15**	**342**	*eP*	**P**	**16 10 01.0**	**-0.1**
	15nm,0.5s,mb4.8						
KOLN	**Koldanda**	**25.27**	**340**	*eP*	**P**	**16 10 02.4**	**+0.2**
	11nm,0.7s,mb4.5						
LSA	**Lhasa**	**25.62**	**356**	*eP*	**P**	**16 10 06.2**	**+0.8**
	9.4nm,0.8s,mb4.4						
SONM	**Songino Array**	**45.17**	**13**	P	**P**	**16 12 52.4**	**-0.3**
	0.1nm,0.4s,mb3.0,baz=170,slow=8.8,SNR=2.3						
SONM				pP	pP	16 13 00.8	-1.7
	0.8nm,0.7s,baz=197,slow=7.3,SNR=5.9						
SONM				PcP	PcP	16 14 33.2	+0.1
	0.1nm,0.5s,baz=182,slow=4.5,SNR=4.5						
SONM				pPcP		16 14 43.4	
	0.5nm,0.6s,baz=188,slow=4.9,SNR=4.0						
WRA	**Warramunga Arr**	**47.10**	**122**	P	**P**	**16 13 08.1**	**-0.2**
	0.9nm,0.7s,mb3.8,baz=301,slow=8.9,SNR=5.8						
WRA				pP	pP	16 13 18.2	0.0
	2.4nm,0.8s,baz=300,slow=8.9,SNR=8.5						
WRAB	**Tennant Creek**	**47.10**	**122**	*eP*	**P**	**16 13 08.4**	**+0.1**
	31nm,1.6s,mb5.0						
ASAR	**Alice Springs**	**48.45**	**127**	P	**P**	**16 13 18.7**	**-0.1**
	0.6nm,0.9s,mb3.6,baz=297,slow=7.2,SNR=3.0						
ASAR				pP	pP	16 13 29.1	+0.3
	0.7nm,0.7s,baz=296,slow=7.6,SNR=5.4						
ASAR				PcP	PcP	16 14 45.8	+0.8
	0.4nm,0.8s,baz=304,slow=3.3,SNR=2.7						
ASAR				pPcP		16 14 55.8	
	0.8nm,0.8s,baz=313,slow=3.1,SNR=6.6						
BVAR	**Borovoye Array**	**52.29**	**343**	P	**P**	**16 13 46.6**	**-1.1**
	1.5nm,0.7s,mb4.1,baz=143,slow=7.4,SNR=7.4						
BRVK	**Borovoye**	**52.35**	**343**	*eP*	**P**	**16 13 45.2**	**-2.9**
	2.1nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**52.80**	**344**	*eP*	**P**	**16 13 50.5**	**-1.0**
	5.6nm,1.2s,mb4.4						
CHKZ				*e*	pP	16 14 00.5	-1.0
BRTR	**Keskin Array B**	**64.11**	**312**	P	**P**	**16 15 10.3**	**-0.3**
	2.0nm,0.7s,mb4.2,baz=128,slow=7.4,SNR=14						
IDI	**Anoyia**	**69.84**	**306**	P	**P**	**16 15 47.7**	**+0.8**
	8.1nm,0.9s,mb4.6,baz=40,slow=6.3,SNR=6.1						
ARCES	**ARCESS Array B**	**78.50**	**341**	P	**P**	**16 16 36.3**	**0.0**
	2.2nm,0.9s,mb4.1,baz=100,slow=5.5,SNR=3.8						
GERES	**GERESS Array B**	**79.93**	**319**	P	**P**	**16 16 45.8**	**+1.3**
	1.6nm,0.8s,mb4.0,baz=104,slow=5.5,SNR=14						
GERES				pP	pP	16 16 56.1	+1.2
	0.6nm,0.7s,baz=76,slow=5.5,SNR=3.5						
DAVOX	**Davos**	**82.36**	**316**	P	**P**	**16 16 58.5**	**+1.2**
	2.5nm,0.4s,mb4.5,baz=136,slow=5.9,SNR=12						
DAVOX				pP	pP	16 17 09.5	+1.7
	1.5nm,0.6s,baz=153,slow=12,SNR=3.3						

*BJI **09** 16:17:04.4, 10.25N×92.54E, h19km, mB4.7, mb4.5*
*IDC **09** 16:17:04.4±1.0, 10.41N×92.84E, mb4.2/11, mb1 4.4/12, mb1mx4.2/19, mbtmp4.2/12, ML4.5/1, MS3.4/1, Ms1 3.6/1, ms1mx2.7/22, Error ellipse: s-maj=52.6km s-min=16.7km az=55.0*
*NEIC **09** 16:17:07.1±3.8, 10.24N×92.60E, h22km±27km, mb4.3/9, Error ellipse: s-maj=15.1km s-min=8.1km az=50.0*
ISC 09 16:17:06.9±0.5, 10.20N±0.06×92.68E±0.10, h33km, n34, σ0°72/35, mb4.2/18, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.45**	**2**	*eP*	**P**	**16 17 31.2**	**+0.2**
PBA				*eS*	**S**	**16 17 50.3**	**+1.3**
PBA				*e*		16 17 53.9	
	comp=E,1μm,0.3s						
PBA				*e*		16 17 54.1	
	comp=N,2μm,0.3s						
CMAR	**Chiang Mai Arr**	**10.20**	**36**	Pn	**P**	**16 19 34.0**	**-0.2**
	comp=N,1.1nm,0.3s,baz=229,slow=15,SNR=30						
CMAR				LR	LR	16 23 49.0	
	comp=N,197nm,19.2s,baz=220,slow=41						
HYB	**Hyderabad**	**15.47**	**299**	*eP*	**P**	**16 20 41.5**	**-3.0**
HYB	**Hyderabad**	**15.47**	**299**	*i P*	**P**	**16 20 41.5**	**-3.0**
JIRN	**Jiri**	**18.41**	**341**	*eP*	**P**	**16 21 22.0**	**+0.5**
	comp=N,25nm,0.9s						
PKI	**Pulchoki**	**18.59**	**339**	*eP*	**P**	**16 21 24.0**	**+0.4**
	comp=N,18nm,1.1s						
DMN	**Daman**	**18.73**	**339**	*eP*	**P**	**16 21 25.7**	**+0.3**
	comp=N,23nm,0.9s						
GUN	**Gumba**	**18.74**	**341**	*eP*	**P**	**16 21 25.9**	**+0.4**
	comp=N,21nm,1.0s						
KKN	**Kakani**	**18.83**	**339**	*eP*	**P**	**16 21 27.4**	**+0.8**
GKN	**Gorkha**	**19.26**	**338**	*eP*	**P**	**16 21 31.5**	**+0.1**
	comp=N,9.8nm,0.5s						
LSA	**Lhasa**	**19.45**	**356**	*eP*	**P**	**16 21 32.7**	**-0.9**
	comp=N,7.0nm,0.9s						
KOLN	**Koldanda**	**19.45**	**335**	*eP*	**P**	**16 21 33.8**	**+0.2**
	comp=N,9.4nm,0.7s						
ENH	**Enshi**	**25.38**	**36**	*eP*	**P**	**16 22 31.1**	**-1.8**
	comp=N,11nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**36.01**	**337**	*eP*	**P**	**16 24 06.9**	**0.0**
	comp=N,7.4nm,1.4s,mb4.4						
SONM	**Songino Array**	**39.25**	**15**	P	**P**	**16 24 33.2**	**-0.7**
	comp=N,1.8nm,0.9s,mb3.8,baz=200,slow=8.8,SNR=12						
ULN	**Ulaanbaatar**	**39.45**	**15**	*eP*	**P**	**16 24 34.5**	**-1.1**
	comp=N,3.5nm,1.1s,mb4.0						
FITZ	**Fitzroy Crossi**	**43.01**	**131**	*eP*	**P**	**16 25 05.8**	**+0.5**
	comp=N,4.4nm,0.9s,mb4.2						
BVAR	**Borovoye Array**	**46.34**	**342**	P	**P**	**16 25 31.1**	**-0.4**
	comp=N,0.9nm,0.6s,mb3.9,baz=135,slow=6.3,SNR=6.7						
BRVK	**Borovoye**	**46.40**	**341**	*eP*	**P**	**16 25 31.0**	**-0.9**
	comp=N,4.7nm,1.2s,mb4.3						
CHKZ	**Chkalovo**	**46.83**	**342**	*eP*	**P**	**16 25 35.1**	**-0.2**
	comp=N,9.1nm,1.2s,mb4.6						
WRA	**Warramunga Arr**	**50.78**	**126**	P	**P**	**16 26 06.5**	**+0.1**
	comp=N,1.4nm,0.7s,mb4.0,baz=305,slow=8.5,SNR=15						
WRAB	**Tennant Creek**	**50.79**	**126**	*eP*	**P**	**16 26 06.3**	**-0.1**
	comp=N,2.4nm,0.4s,mb4.5						
WB2	**Warramunga Arr**	**50.79**	**126**	*eP*	**P**	**16 26 06.5**	**0.0**
ASPA	**Alice Springs**	**52.51**	**130**	*eP*	**P**	**16 26 19.7**	**+0.4**
ASAR	**Alice Springs**	**52.51**	**130**	P	**P**	**16 26 19.8**	**+0.5**
	comp=N,2.7nm,0.8s,mb4.2,baz=308,slow=7.4,SNR=22						
STKA	**Stephens Creek**	**62.75**	**134**	*eP*	**P**	**16 27 32.4**	**+1.0**
	comp=N,3.0nm,1.2s,mb4.3						
STKA	**Stephens Creek**	**62.75**	**134**	P	**P**	**16 27 32.2**	**+0.8**
	comp=N,2.5nm,0.8s,mb4.4,baz=242,slow=23,SNR=7.9						
FINES	**FINESS Array B**	**69.99**	**332**	P	**P**	**16 28 16.7**	**-0.2**
	comp=N,5.0nm,1.0s,mb4.4,baz=117,slow=4.3,SNR=4.6						
ARCES	**ARCESS Array B**	**72.60**	**340**	P	**P**	**16 28 32.6**	**+0.3**
	comp=N,3.1nm,0.9s,mb4.2,baz=105,slow=6.6,SNR=5.3						
GERES	**GERESS Array B**	**75.14**	**318**	P	**P**	**16 28 48.8**	**+1.2**
	comp=N,1.5nm,0.9s,mb3.9,baz=90,slow=5.3,SNR=7.8						
HFS	**Hagfors**	**75.73**	**330**	P	**P**	**16 28 50.8**	**+0.1**
	comp=N,7.6nm,1.0s,mb4.6,baz=108,slow=4.7,SNR=5.3						
HFS	**Hagfors**	**75.73**	**330**	P	**P**	**16 28 50.8**	**+0.1**
ILAR	**Eielson Array**	**93.14**	**22**	P	**P**	**16 30 18.1**	**-0.4**
	comp=N,0.5nm,0.7s,mb4.0,baz=295,slow=4.5,SNR=6.9						
INK	**Inuvik**	**95.16**	**16**	P	**P**	**16 30 27.5**	**-0.2**
	comp=N,1.6nm,1.0s,mb4.4,baz=350,slow=2.2,SNR=4.1						

*IDC **09** 16:16:53.5±1.3, 21.22N×122.15E, mb3.4/5, mb1 3.7/5, mb1mx3.6/16, mbtmp3.4/5, Error ellipse: s-maj=78.6km s-min=22.2km az=81.0*
*MAN **09** 16:17:09.4, 21.13N×121.91E, h117km, mb4.5, ML3.3, MS3.2*
*TAP **09** 16:17:09.9, 21.26N×121.86E, h136km±2km, ML4.5*

ISC 09 16:17:08.0±0.9, 21.17N±0.07×121.9E±0.2, h137km±8km, n13, σ1°15/18, mb3.3/5, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**0.73**	**174**	*eP*	**P**	**16 17 30.2**	**+0.5**
BBP				*eS*	**S**	**16 17 44.9**	**-1.5**
SGCP	**Mt. Cagua**	**2.92**	**177**	*eP*	**P**	**16 17 55.1**	**+0.5**
SGCP				*eS*	**S**	**16 18 29.7**	**-0.4**
APYP	**Conner**	**3.35**	**191**	*eP*	**P**	**16 18 00.9**	**+0.7**
APYP				*eS*	**S**	**16 18 40.0**	**-0.1**
CVP	**Callao Caves**	**3.45**	**181**	⇓*eP*	**P**	**16 18 02.0**	**+0.4**
CVP				*eS*	**S**	**16 18 40.0**	**-2.6**
ABRA	**Dolores**	**3.68**	**198**	*eP*	**P**	**16 18 05.1**	**+0.5**
ABRA				*eS*	**S**	**16 18 47.8**	**-0.1**
PALP	**Palanan**	**4.12**	**173**	*eP*	**P**	**16 18 13.3**	**+2.9**
CAUP	**Cauayan**	**4.21**	**181**	*eP*	**P**	**16 18 14.0**	**+2.4**
BALP	**Baler**	**5.41**	**183**	*eP*	**P**	**16 18 28.1**	**+0.5**
SONM	**Songino Array**	**29.39**	**338**	P	**P**	**16 22 58.8**	**-1.5**
	0.2nm,0.5s,mb3.1,baz=135,slow=6.1,SNR=3.1						
WRA	**Warramunga Arr**	**42.64**	**163**	P	**P**	**16 24 51.2**	**-1.5**
	0.3nm,0.3s,mb3.4,baz=344,slow=9.1,SNR=4.9						
ASAR	**Alice Springs**	**46.08**	**165**	P	**P**	**16 25 19.4**	**-0.7**
	0.7nm,1.1s,mb3.2,baz=350,slow=7.5,SNR=8.5						
ILAR	**Eielson Array**	**71.59**	**27**	P	**P**	**16 28 15.8**	**+0.1**
	1.3nm,1.3s,mb3.5,baz=277,slow=7.3,SNR=4.7						
YKA	**Yellowknife Ar**	**85.48**	**23**	P	**P**	**16 29 32.0**	**+0.9**
	0.4nm,0.5s,mb3.4,baz=311,slow=4.5,SNR=12						

*NIED **09** 16:22:00, 34.70N×136.80E, h320km, Mw4.8 Best double couple: Mo1.64×10^16 NP1:φs179°, δ85°, λ107°. NP2: φs285°, δ17°, λ16°.*
*MOS **09** 16:22:02.6±0.9, 34.59N×136.69E, h304km, mb4.6/29, Error ellipse: s-maj=10.1km s-min=6.1km az=97.3*
*BJI **09** 16:22:05.4, 34.60N×136.75E, h336km, mB4.6, mb4.9*
*JMA **09** 16:22:06.4±0.1, 34.66N×136.84E, h335km±2km, M4.7*
*NEIC **09** 16:22:06.5±0.4, 34.56N×136.71E, h327km±4km, mb4.6/46, MW4.8(NIED), Error ellipse: s-maj=4.9km s-min=3.9km az=142.0*
*IDC **09** 16:22:06.9±0.7, 34.49N×136.76E, h332km±7km, mb4.1/27, mb1 4.2/31, mb1mx4.2/35, mbtmp4.8/31, Error ellipse: s-maj=9.4km s-min=7.1km az=94.0*
ISC 09 16:22:06.0±0.2, 34.60N±0.03×136.76E±0.03, h335km±1km, h320km±8.7km:pP-P, n221, σ1°04/245, mb4.5/77, 24C-15D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.22**	**192**	⇑P	**P**	**16 22 48.9**	**+0.6**
JIE				S	**S**	**16 23 21.5**	**+0.1**
JAA	**Atsumi**	**0.32**	**85**	⇑P	**P**	**16 22 49.0**	**+0.6**
JAA				S	**S**	**16 23 21.6**	**-0.1**
JWY	**Kouya**	**1.04**	**249**	P	**P**	**16 22 51.7**	**+1.2**
JWY				S	**S**	**16 23 25.7**	**+0.4**
TK01	**Tokai 1**	**1.08**	**140**	S	**S**	**16 23 27.7**	**+2.0**
JGM	**Miyama**	**1.09**	**358**	⇑P	**P**	**16 22 51.1**	**+0.4**
JGM				S	**S**	**16 23 25.9**	**+0.1**
JWT	**Wachi**	**1.31**	**302**	⇑P	**P**	**16 22 52.3**	**+0.5**
JWT				S	**S**	**16 23 27.5**	**-0.2**
JWZ	**Kozaga**	**1.38**	**219**	⇑P	**P**	**16 22 52.4**	**+0.1**
JKG	**Kaga**	**1.71**	**348**	⇑P	**P**	**16 22 54.2**	**0.0**
JKG				S	**S**	**16 23 31.2**	**-0.7**
JYN	**Shimob**	**1.71**	**58**	⇓P	**P**	**16 22 53.7**	**-0.6**
JOD2	**Odawara 2**	**2.02**	**70**	⇓P	**P**	**16 22 55.7**	**-0.7**
JAI	**Aioi**	**2.08**	**248**	⇑P	**P**	**16 22 57.5**	**+0.7**
JAI				S	**S**	**16 23 37.6**	**+1.0**
JIM2	**Oshima 3**	**2.20**	**86**	⇓P	**P**	**16 22 57.0**	**-0.8**
JRY	**Ryogami san**	**2.25**	**51**	⇓P	**P**	**16 22 57.8**	**-0.3**
JRY				S	**S**	**16 23 37.4**	**-1.5**
MAJO	**Matsushiro**	**2.27**	**31**	⇓*i*Pn	**P**	**16 22 57.8**	**-0.5**
MAJO				*e*S	**S**	**16 23 37.4**	**-1.7**
MAT	**Matsushiro**	**2.27**	**31**	*eP*	**P**	**16 22 58.0**	**-0.3**
MAT				*e*S	**S**	**16 23 37.0**	**-2.2**
MAT	**Matsushiro**	**2.27**	**31**	P	**P**	**16 22 57.8**	**-0.5**
MAT				S	**S**	**16 23 37.1**	**-2.1**
JMN	**Monobe**	**2.54**	**251**	⇑P	**P**	**16 23 01.4**	**+0.8**
JMN				S	**S**	**16 23 44.8**	**+1.5**
JHJ	**Hachijo jima 2**	**2.92**	**120**	P	**P**	**16 23 04.2**	**+0.3**
	58nm,0.3s,baz=236,slow=17,SNR=10						
JHJ				S	**S**	**16 23 49.0**	**-0.1**
	35nm,0.3s,baz=66,slow=19,SNR=4.0						
JHJ2	**Mitsune**	**2.95**	**119**	P	**P**	**16 23 04.1**	**0.0**
JHS	**Saijyo**	**3.03**	**279**	⇑P	**P**	**16 23 05.9**	**+1.0**
JHS				S	**S**	**16 23 52.6**	**+1.7**
SAI	**Saigo**	**3.22**	**301**	⇑P	**P**	**16 23 07.5**	**+0.8**
BSO1	**Boso 1**	**3.48**	**88**	P	**P**	**16 23 06.2**	**-3.0**
BSO1				S	**S**	**16 23 55.2**	**-3.6**
JTO	**Tosashimizu**	**3.73**	**243**	⇑P	**P**	**16 23 12.5**	**+0.7**
JTO				S	**S**	**16 24 05.3**	**+2.0**
INCN	**Inchon**	**8.69**	**292**	*e*Pn	**P**	**16 24 08.8**	**-0.3**
	80nm,0.9s						
CBIJ	**Chichi jima**	**8.81**	**147**	P	**P**	**16 24 03.8**	**-6.7**
	13nm,0.3s,baz=267,slow=22,SNR=13						
CBIJ				S	**S**	**16 25 38.1**	**-11**
	44nm,0.3s,baz=299,slow=22,SNR=11						
ASAJ	**Asahikawa**	**10.52**	**24**	P	**P**	**16 24 27.8**	**-3.3**
	13nm,0.3s,baz=253,slow=10.0,SNR=69						
ASAJ				S	**S**	**16 26 20.7**	**-5.1**
	6.4nm,0.3s,baz=52,slow=33,SNR=11						
JOW	**Kunigami**	**10.64**	**226**	P	**P**	**16 24 33.0**	**+0.3**
	12nm,0.3s,baz=33,slow=8.2,SNR=19						
MDJ	**Mudanjiang**	**11.42**	**333**	P	**P**	**16 24 42.2**	**+0.2**
MDJ				XP		16 25 50.4	
MDJ				S	**S**	**16 26 51.6**	**+6.1**
MDJ				PCP	PcP	16 30 02.1	-2.4
MDJ				SCP		16 33 05.0	
MDJ				PCS		16 33 37.6	
MDJ				AMB	AMB		
	comp=Z,52nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,87nm,4.0s						
MDJ	**Mudanjiang**	**11.42**	**333**	*e*Pn	**P**	**16 24 41.8**	**-0.2**
	comp=Z,41nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**11.75**	**34**	*eP*	**P**	**16 24 43.8**	**-2.3**
YUK				S	**S**	**16 26 45.0**	**-7.8**
SNY	**Shenyang**	**12.62**	**309**	⇓P	**P**	**16 24 57.3**	**+0.7**
SNY				AP		16 25 00.0	
SNY				S	**S**	**16 27 16.0**	**+4.3**
SNY				AMB	AMB		
	comp=Z,210nm,0.8s						
YSS	**Yuzh-Sakhalins**	**13.14**	**18**	*eP*	**P**	**16 25 01.0**	**-1.8**
YSS	**Yuzh-Sakhalins**	**13.14**	**18**	*eP*	**P**	**16 25 00.4**	**-2.3**
	comp=Z,43nm,0.3s						
KLR	**Kul'dur**	**15.08**	**347**	*eP*	**P**	**16 25 21.4**	**-3.1**
KLR				*e*		16 28 00.0	
NJ2	**Nanjing**	**15.19**	**265**	*eP*	**P**	**16 25 24.6**	**-1.2**
NJ2				XP		16 26 42.3	
NJ2				S	**S**	**16 28 04.0**	**-2.0**
NJ2				AMB	AMB		
	comp=Z,120nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,1μm,7.5s						
NJ2				LR	LR		
	comp=N,700nm,13.2s						
NJ2				LR	LR		
	comp=E,250nm,10.6s						
NJ2				LR	LR		
	comp=Z,560nm,14.2s						
BJT	**Baijiatuau**	**17.24**	**294**	*eP*	**P**	**16 25 45.4**	**-2.0**
BJT				pmax	pmax		
	comp=Z,15nm,0.5s						
BJT	**Baijiatuau**	**17.24**	**294**	*eP*	**P**	**16 25 45.4**	**-2.0**
	comp=Z,15nm,0.5s						
QZH	**Quanzhou**	**18.45**	**243**	⇑*i P*	**P**	**16 25 58.3**	**-1.5**
QZH				AMB	AMB		
	comp=Z,290nm,0.8s						
HIA	**Hailar**	**19.30**	**325**	⇓*eP*	**P**	**16 26 06.6**	**-1.4**
HIA				pmax	pmax		
	comp=Z,60nm,0.8s						
HIA	**Hailar**	**19.30**	**325**	⇓*eP*	**P**	**16 26 06.6**	**-1.4**
	comp=Z,60nm,0.8s						
WHN	**Wuhan**	**19.31**	**264**	⇓P	**P**	**16 26 08.2**	**0.0**
WHN				AMB	AMB		
	comp=Z,140nm,1.0s						
XAN	**Xi'an**	**22.98**	**277**	P	**P**	**16 26 43.3**	**-0.2**
XAN				AMB	AMB		
	comp=Z,137nm,0.9s,mb5.2						
XAN				LR	LR		
	comp=N,207nm,20.8s						
XAN				LR	LR		
	comp=E,381nm,21.9s						
XAN				LR	LR		
	comp=Z,555nm,25.1s						
ENH	**Enshi**	**23.39**	**267**	⇓*i P*	**P**	**16 26 46.6**	**-0.8**
	comp=Z,176nm,1.0s,mb5.2						
PET	**Petropavlovsk**	**24.09**	**33**	*eP*	**P**	**16 26 53.0**	**-0.6**
PET				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.2						
PET	**Petropavlovsk**	**24.09**	**33**	*eP*	**P**	**16 26 53.0**	**-0.5**
	comp=Z,9.3nm,0.6s,mb4.2						
TGY	**Tagaytay City**	**24.92**	**219**	P	**P**	**16 27 01.2**	**-0.2**
	comp=Z,57nm,0.4s,mb5.2,baz=50,slow=6.7,SNR=4.0						
ULN	**Ulaanbaatar**	**25.79**	**310**	⇑*i P*	**P**	**16 27 08.1**	**-0.9**
ULN	**Ulaanbaatar**	**25.79**	**310**	*eP*	**P**	**16 27 09.8**	**+0.8**
	comp=Z,40nm,0.8s,mb4.7						
SONM	**Songino Array**	**26.20**	**310**	P	**P**	**16 27 13.6**	**+0.9**
	comp=Z,28nm,0.8s,mb4.6,baz=114,slow=9.0,SNR=158						
SONM				ScP		16 33 36.3	
	comp=Z,0.5nm,0.5s,baz=100,slow=1.0,SNR=7.9						
MA2	**Magadan**	**26.63**	**16**	*eP*	**P**	**16 27 15.9**	**-0.5**
MA2				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb3.8						
MA2	**Magadan**	**26.63**	**16**	*eP*	**P**	**16 27 15.9**	**-0.5**
	comp=Z,2.1nm,0.3s,mb3.9						
LZH	**Lanzhou**	**26.82**	**283**	⇓P	**P**	**16 27 17.8**	**-0.7**
LZH				AP		16 28 18.3	
LZH				XP	sP	16 28 57.3	-1.8
LZH				AMB	AMB		
	comp=Z,50nm,1.1s,mb4.7						
BOD	**Bodaibo**	**27.80**	**334**	*eP*	**P**	**16 27 24.2**	**-2.7**
YAK	**Yakutsk**	**27.81**	**353**	*eP*	**P**	**16 27 23.5**	**-3.5**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb3.9						
QIZ	**Qiongzhong**	**28.48**	**244**	*eP*	**P**	**16 27 33.0**	**-0.3**
ZAK	**Zakamensk**	**28.99**	**313**	⇑*i P*	**P**	**16 27 37.3**	**-0.2**
ZAK				*e*		16 28 39.6	
TLY	**Talaya**	**29.25**	**316**	*eP*	**P**	**16 27 41.2**	**+1.4**
TLY				pmax	pmax		
	comp=Z,32nm,1.0s,mb4.5						
TLY				MLR	MLR		
	comp=Z,82nm,14.0s						
TLY	**Talaya**	**29.25**	**316**	*eP*	**P**	**16 27 41.0**	**+1.2**
	comp=Z,21nm,1.0s,mb4.3						
MOY	**Mondy**	**30.78**	**315**	*eP*	**P**	**16 27 53.4**	**+0.3**
FX1	**Attu Island--F**	**31.57**	**43**	P	**P**	**16 28 00.4**	**+0.6**
	comp=Z,38nm,0.3s,mb5.0,baz=265,slow=4.6,SNR=27						
FX1	**Attu Island--F**	**31.57**	**43**	*eP*	**P**	**16 28 00.1**	**+0.3**
KKTK	**Khon Kaen**	**35.40**	**248**	P	**P**	**16 28 33.0**	**+0.3**
	comp=Z,309nm,0.7s,mb5.6						
CHG	**Chiang Mai**	**37.02**	**255**	⇓P	**P**	**16 28 46.0**	**-0.1**
	comp=Z,12nm,0.8s,mb4.2						
CMAR	**Chiang Mai Arr**	**37.21**	**254**	P	**P**	**16 28 47.7**	**-0.1**
	comp=Z,6.1nm,0.6s,mb4.0,baz=46,slow=8.7,SNR=20						
CMAR				ScP		16 34 14.8	
	comp=Z,14nm,1.2s,baz=21,slow=3.4,SNR=19						
TIXI	**Tiksi**	**37.34**	**356**	⇓*i P*	**P**	**16 28 47.0**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb3.8						
BILL	**Bilibino**	**37.46**	**18**	⇑*i P*	**P**	**16 28 48.8**	**-0.5**
BILL				pmax	pmax		
	comp=Z,47nm,1.3s,mb4.6						
BILL	**Bilibino**	**37.46**	**18**	*eP*	**P**	**16 28 49.7**	**+0.4**
	comp=Z,1.0nm,0.3s,mb3.5						
NST	**Nakhon Sawan**	**37.87**	**249**	P	**P**	**16 28 52.7**	**-0.5**
WMQ	**Urumqi**	**38.63**	**299**	P	**P**	**16 29 00.1**	**+0.9**
WMQ				AP	pP	16 30 03.7	-2.0
WMQ				PP	PP	16 30 39.2	+2.4
WMQ				S	**S**	**16 34 32.6**	**+1.8**
WMQ				XS		16 36 24.8	
WMQ				AMB	AMB		
	comp=Z,89nm,1.0s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,71nm,5.1s						
NVS	**Novosibirsk**	**41.86**	**316**	*i* P	**P**	**16 29 24.6**	**-0.8**
NVS				*i* S	**S**	**16 35 16.9**	**-1.1**
NVS				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.3						
NVS				pmax	pmax		
	comp=E,15nm,0.8s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.7s						
NVS				smax			
	comp=E,14nm,1.6s						
NVS				smax			
	comp=N,9.0nm,1.4s						
MKAR	**Makanchi Array**	**42.26**	**304**	*i* P	**P**	**16 29 29.3**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,27nm,0.6s						
TNA	**Tin City**	**44.82**	**29**	*eP*	**P**	**16 29 49.6**	**+0.8**
	comp=Z,22nm,0.9s,mb4.3						
PMG	**Port Moresby**	**44.86**	**165**	P	**P**	**16 29 48.3**	**-1.5**
	comp=Z,4.0nm,0.5s,mb3.8,baz=256,slow=3.7,SNR=6.4						
PMG				PcP	PcP	16 31 24.4	-1.2

ARU	**Arti**	**55.68**	**319**⇑	*iP*	**P**	**16 31 07.0**	**-3.0**
ARU				*e*		16 32 00.4	
ARU				*e*SP	sP	16 32 45.7	-12
ARU				*e*		16 33 12.8	
ARU				*e*S	**S**	**16 38 30.0**	**+1.2**
ARU				*e*SS	SS	16 42 19.7	-1.4
ARU				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.2						
DAWY	**Dawson**	**56.87**	**31**	*eP*	**P**	**16 31 17.6**	**-0.5**
MBWA	**Marble Bar**	**57.77**	**199**	*eP*	**P**	**16 31 25.1**	**+0.1**
	comp=Z,11nm,0.6s,mb4.4						
KAD	**Karad**	**57.99**	**270**⇑	*iP*	**P**	**16 31 25.4**	**-1.1**
ASAR	**Alice Springs**	**58.01**	**183**	P	**P**	**16 31 25.1**	**-1.5**
	comp=Z,3.7nm,0.4s,mb4.0,baz=356,slow=5.0,SNR=145						
ASAR				S	**S**	**16 38 57.5**	**-2.1**
	comp=Z,1.3nm,0.9s,baz=16,slow=12,SNR=3.9						
ASPA	**Alice Springs**	**58.01**	**183**	*eP*	**P**	**16 31 25.3**	**-1.3**
INK	**Inuvik**	**58.24**	**26**	P	**P**	**16 31 27.5**	**-0.1**
INK						16 32 14.3	
INK				pmax	pmax		
	comp=Z,7.0nm,0.5s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**58.24**	**26**	P	**P**	**16 31 27.4**	**-0.2**
	comp=Z,7.2nm,0.5s,mb4.3,baz=296,slow=6.2,SNR=49						
INK				PcP	PcP	16 32 14.3	-0.7
	comp=Z,1.2nm,0.5s,baz=264,slow=4.3,SNR=3.1						
INK	**Inuvik**	**58.24**	**26**	*eP*	**P**	**16 31 27.0**	**-0.7**
	comp=Z,19nm,1.0s,mb4.4						
DLBC	**Dease Lake**	**62.84**	**36**	P	**P**	**16 31 59.4**	**+1.1**
	comp=Z,5.6nm,0.9s,mb4.1,baz=288,slow=9.5,SNR=10						
DLBC	**Dease Lake**	**62.84**	**36**	P	**P**	**16 31 59.4**	**+1.1**
ARCES	**ARCESS Array B**	**64.91**	**339**	P	**P**	**16 32 11.5**	**+0.1**
	comp=Z,2.5nm,0.5s,mb4.1,baz=63,slow=8.9,SNR=22						
RES	**Resolute Bay**	**65.86**	**13**⇑	*eP*	**P**	**16 32 17.1**	**-0.2**
RES				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.9						
RES	**Resolute Bay**	**65.86**	**13**⇑	*eP*	**P**	**16 32 17.1**	**-0.2**
	comp=Z,16nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**66.28**	**176**	*eP*	**P**	**16 32 20.0**	**-0.7**
	comp=Z,3.3nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**66.28**	**176**	P	**P**	**16 32 19.7**	**-1.0**
	comp=Z,6.1nm,0.8s,mb4.4,baz=334,slow=6.7,SNR=19						
JOF	**Joensuu**	**66.29**	**331**	*ep*	**P**	**16 32 19.1**	**-1.1**
OBN	**Obninsk**	**67.74**	**322**⇑	*iP*	**P**	**16 32 26.6**	**-2.7**
OBN				*e**SP	sP	16 34 03.1	-16
OBN				*e*		16 35 01.7	
OBN				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.8						
YKA	**Yellowknife Ar**	**67.77**	**28**	P	**P**	**16 32 29.3**	**-0.1**
	comp=Z,3.0nm,0.5s,mb4.3,baz=297,slow=6.1,SNR=74						
YKA				PcP	PcP	16 32 53.8	-0.2
	comp=Z,1.0nm,0.6s,baz=301,slow=4.3,SNR=7.3						
KAF	**Kangasniemi**	**68.69**	**332**	*ep*	**P**	**16 32 34.0**	**-1.0**
	comp=Z,2.2nm,0.3s,mb4.4,baz=54,slow=5.7						
KAF	**Kangasniemi**	**68.69**	**332**	*eP*	**P**	**16 32 34.0**	**-1.0**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.3						
GOF	**Gofitskoye**	**68.85**	**311**	*eP*	**P**	**16 32 36.0**	**-0.3**
GOF				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.0						
FINES	**FINESS Array B**	**69.16**	**331**	P	**P**	**16 32 37.5**	**-0.3**
	comp=Z,6.1nm,0.7s,mb4.5,baz=70,slow=5.7,SNR=33						
ZEI	**Tsey**	**69.38**	**308**	*eP*	**P**	**16 32 38.7**	**-0.9**
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
KIV	**Kislovodsk**	**69.59**	**310**	P	**P**	**16 32 41.2**	**+0.4**
	comp=Z,235nm,0.8s,SNR=12						
KIV	**Kislovodsk**	**69.59**	**310**⇑	*iP*	**P**	**16 32 38.3**	**-2.5**
KIV				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.1						
KIV	**Kislovodsk**	**69.59**	**310**	*eP*	**P**	**16 32 41.2**	**+0.4**
	comp=Z,25nm,0.8s,mb5.0						
GNI	**Garni**	**70.08**	**305**	*i P*	**P**	**16 32 43.6**	**-0.2**
GNI				pmax	pmax		
	comp=Z,22nm,1.7s						
GNI	**Garni**	**70.08**	**305**	P	**P**	**16 32 44.0**	**+0.2**
	comp=Z,4.7nm,0.8s,mb4.3,baz=65,slow=4.2,SNR=6.5						
GNI	**Garni**	**70.08**	**305**	*eP*	**P**	**16 32 44.6**	**+0.7**
	comp=Z,18nm,1.4s,mb4.6						
CMW	**Cultus Mountai**	**71.60**	**44**	P	**P**	**16 32 54.0**	**+1.2**
SOC	**Sochi**	**71.65**	**311**	*eP*	**P**	**16 32 51.3**	**-1.9**
SOC				*e**PP	pP	16 33 58.3	-11
SOC				*e*PPP	PPP	16 37 21.3	-1.3
SOC				*e*S	S	16 41 42.2	-2.3
SOC				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.9						
SOC				pmax	pmax		
	comp=N,26nm,1.1s						
SOC				pmax	pmax		
	comp=E,27nm,1.0s						
JCW	**Jim Creek**	**71.83**	**44**	P	**P**	**16 32 55.1**	**+0.9**
TBM	**Table Mountain**	**73.14**	**44**	P	**P**	**16 33 02.4**	**+0.5**
EDM	**Edmonton**	**73.56**	**36**	*eP*	**P**	**16 33 04.2**	**0.0**
GL2	**New Goldendale**	**73.66**	**45**	P	**P**	**16 33 06.1**	**+1.2**
GBL	**Gable Mountain**	**74.10**	**44**	P	**P**	**16 33 08.0**	**+0.5**
HFS	**Hagfors**	**74.68**	**334**	P	**P**	**16 33 09.8**	**-0.7**
	comp=E,3.4nm,0.5s,mb4.4,baz=45,slow=2.1,SNR=18						
YBH	**Yreka Blue Hor**	**74.81**	**50**	P	**P**	**16 33 13.0**	**+1.4**
	comp=E,12nm,0.9s,mb4.7,baz=328,slow=3.1,SNR=13						
NB2	**NORSAR Subarra**	**74.91**	**336**	P	**P**	**16 33 10.6**	**-1.1**
	comp=E,1.2nm,0.5s,mb3.9,baz=43,slow=5.6						
NB2	**NORSAR Subarra**	**74.91**	**336**	P	**P**	**16 33 10.6**	**-1.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
NOA	**NORSAR Array B**	**74.91**	**336**	P	**P**	**16 33 11.3**	**-0.4**
	comp=Z,1.9nm,0.5s,mb4.1,baz=45,slow=5.6,SNR=6.5						
WALA	**Waterton Lakes**	**75.75**	**40**	*eP*	**P**	**16 33 17.3**	**+0.6**
	comp=Z,21nm,1.1s,mb4.8						
BMO	**Blue Mountains**	**76.33**	**45**	*eP*	**P**	**16 33 20.2**	**+0.1**
	comp=Z,20nm,0.8s,mb4.9						
OHCM	**Honcut**	**76.91**	**51**	*eP*	**P**	**16 33 23.4**	**+0.1**
WVOR	**Wild Horse Val**	**76.93**	**47**	*eP*	**P**	**16 33 24.1**	**+0.7**
WVOR				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
WVOR	**Wild Horse Val**	**76.93**	**47**	*eP*	**P**	**16 33 24.1**	**+0.6**
	comp=Z,7.9nm,1.0s,mb4.4						
MSO	**Missoula**	**77.07**	**42**	*eP*	**P**	**16 33 23.7**	**-0.3**
	comp=Z,8.8nm,1.1s,mb4.4						
BRTR	**Keskin Array B**	**77.56**	**310**	P	**P**	**16 33 27.6**	**+0.8**
	comp=Z,2.5nm,0.7s,mb4.0,baz=108,slow=3.9,SNR=16						
BRTR				pP	pP	16 34 43.4	-0.4
	comp=Z,1.5nm,0.7s,baz=104,slow=5.1,SNR=6.9						
FFC	**Flin Flon**	**77.75**	**30**	*eP*	**P**	**16 33 27.3**	**-0.3**
FFC				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.8						
FFC	**Flin Flon**	**77.75**	**30**	*eP*	**P**	**16 33 27.3**	**-0.3**
	comp=Z,24nm,1.3s,mb4.8						
FCC	**Fort Churchill**	**77.82**	**24**	*eP*	**P**	**16 33 27.7**	**-0.1**
FCC				pmax	pmax		
	comp=Z,26nm,1.4s,mb4.8						
FCC	**Fort Churchill**	**77.82**	**24**	*eP*	**P**	**16 33 27.7**	**-0.2**
	comp=Z,26nm,1.4s,mb4.8						
HRY	**Holter Researc**	**78.29**	**41**	*eP*	**P**	**16 33 31.5**	**+0.9**
CMB	**Columbia Colle**	**78.35**	**52**	*eP*	**P**	**16 33 31.2**	**+0.1**
CMB				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
CMB	**Columbia Colle**	**78.35**	**52**	*eP*	**P**	**16 33 31.2**	**+0.1**
	comp=Z,5.5nm,0.6s,mb4.5						
HLID	**Hailey**	**78.77**	**45**	*eP*	**P**	**16 33 33.8**	**+0.6**
	comp=Z,22nm,1.4s,mb4.7						
LCCM	**Lewis and Clar**	**78.80**	**42**	P	**P**	**16 33 34.2**	**+0.8**
BOZ	**Bozeman (W)**	**79.06**	**42**	*eP*	**P**	**16 33 35.4**	**+0.7**
BOZ				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
BOZ	**Bozeman (W)**	**79.06**	**42**	*eP*	**P**	**16 33 35.4**	**+0.7**
	comp=Z,15nm,0.9s,mb4.7						
NVAR	**Mina Array Bea**	**79.46**	**51**	P	**P**	**16 33 38.1**	**+1.1**
	comp=Z,6.9nm,0.6s,mb4.6,baz=291,slow=5.3,SNR=36						
MNV	**Mina**	**79.55**	**50**	*eP*	**P**	**16 33 38.1**	**+0.6**
MNV				pmax	pmax		
	comp=Z,26nm,1.6s,mb4.7						
MNV	**Mina**	**79.55**	**50**	*eP*	**P**	**16 33 38.1**	**+0.6**
	comp=Z,26nm,1.6s,mb4.7						
ASF	**Jabal al Asfar**	**79.65**	**302**	P	**P**	**16 33 39.4**	**+1.2**
	comp=Z,1.8nm,0.4s,mb4.1,baz=18,slow=4.7,SNR=4.4						
YMR	**Madison River**	**80.04**	**42**	*eP*	**P**	**16 33 41.2**	**+1.2**
YNR	**Norris Junctio**	**80.17**	**42**	*eP*	**P**	**16 33 43.1**	**+2.5**
YFT	**Old Faithful**	**80.25**	**42**	*eP*	**P**	**16 33 43.6**	**+2.5**
DPC	**Dobruska-Polom**	**80.42**	**326**	*eP*	**P**	**16 33 42.7**	**+0.9**
MOOW	**Moose Ponds**	**80.75**	**43**	*eP*	**P**	**16 33 45.1**	**+1.5**
HVU	**Hansel Valley**	**80.82**	**45**	*eP*	**P**	**16 33 45.4**	**+1.3**
AHID	**Auburn Hatcher**	**81.17**	**44**	*eP*	**P**	**16 33 46.9**	**+1.0**
	comp=Z,8.1nm,0.8s,mb4.5						
BGU	**Big Grassy Mou**	**81.20**	**46**	*eP*	**P**	**16 33 47.2**	**+1.1**
TRCR	**Troy Canyon**	**81.22**	**49**	*eP*	**P**	**16 33 47.1**	**+0.9**

CLL	**Collm**	**81.24**	**328**	P	**P**	**16 33 46.2**	**+0.2**
CLL				*i* *PP	pP	16 35 04.2	+0.5
SPUT	**South Promonto**	**81.31**	**45**	*eP*	**P**	**16 33 47.5**	**+0.9**
PRU	**Pruhonice**	**81.50**	**326**	*eP*	**P**	**16 33 47.9**	**+0.5**
HWUT	**Hardware Ranch**	**81.63**	**45**	*eP*	**P**	**16 33 49.2**	**+0.9**
	comp=Z,30nm,1.0s,mb5.1						
NOQ	**North Oquirrh**	**81.91**	**46**	*eP*	**P**	**16 33 51.0**	**+1.2**
PDAR	**Pinedale Array**	**82.04**	**43**	P	**P**	**16 33 50.9**	**+0.5**
	comp=Z,9.9nm,0.8s,mb4.7,baz=290,slow=2.2,SNR=88						
NKC	**Novy Kostel**	**82.26**	**328**	*eP*	**P**	**16 33 52.4**	**+1.1**
NLU	**North Lily Min**	**82.38**	**46**	*eP*	**P**	**16 33 53.1**	**+0.9**
KHC	**Kasperske Hory**	**82.55**	**326**	*eP*	**P**	**16 33 53.4**	**+0.6**
MPU	**Maple Canyon**	**82.60**	**46**	*eP*	**P**	**16 33 54.4**	**+1.1**
GERES	**GERESS Array B**	**82.70**	**326**	P	**P**	**16 33 54.1**	**+0.5**
	comp=Z,2.3nm,0.5s,mb4.3,baz=39,slow=6.0,SNR=27						
GRA1	**Grafenberg Arr**	**83.20**	**328**	*eP*	**P**	**16 33 57.3**	**+1.3**
	comp=Z,7.0nm,0.8s,mb4.5						
GRF	**Grafenberg Arr**	**83.20**	**328**	*eP*	**P**	**16 33 57.3**	**+1.3**
GRF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
GRF	**Grafenberg Arr**	**83.20**	**328**	*eP*	**P**	**16 33 57.3**	**+1.3**
GRF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
GRF	**Grafenberg Arr**	**83.20**	**328**	*eP*	**P**	**16 33 57.3**	**+1.3**
	comp=Z,7.0nm,0.8s,mb4.5						
SRU	**San Rafael**	**83.84**	**46**	*eP*	**P**	**16 34 00.4**	**+0.9**
PV10	**Paradox Valley**	**85.20**	**46**	*eP*	**P**	**16 34 07.7**	**+1.4**
IDI	**Anoyia**	**85.77**	**310**	P	**P**	**16 34 09.0**	**-0.1**
	comp=Z,3.1nm,0.7s,mb4.2,baz=323,slow=5.1,SNR=2.6						
CDF	**Champ du Feu**	**85.87**	**329**	*eP*	**P**	**16 34 08.8**	**-0.4**
RW3	**Ridgway**	**86.08**	**45**	*eP*	**P**	**16 34 11.9**	**+1.4**
LPL	**La Plagne**	**88.34**	**327**	*eP*	**P**	**16 34 21.1**	**0.0**
	comp=Z,8.3nm,0.8s,mb4.3						
LPL	**La Plagne**	**88.34**	**327**	*eP*	**P**	**16 34 21.1**	**0.0**
LPL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
LPG	**La Plagne**	**88.35**	**327**	*eP*	**P**	**16 34 21.3**	**+0.2**
	comp=Z,4.7nm,0.6s,mb4.2						
LPG	**La Plagne**	**88.35**	**327**	*eP*	**P**	**16 34 21.3**	**+0.2**
LPG				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
MBDF	**Montbardon**	**88.94**	**327**	*eP*	**P**	**16 34 23.6**	**-0.3**
ANMO	**Albuquerque**	**89.02**	**47**⇑	*iP*	**P**	**16 34 23.4**	**-1.1**
ANMO	**Albuquerque**	**89.02**	**47**	P	**P**	**16 34 25.4**	**+0.9**
	comp=Z,3.7nm,0.9s,mb4.2,baz=308,slow=2.7,SNR=12						
PGF	**Pioggiola**	**89.57**	**324**	*eP*	**P**	**16 34 25.5**	**-1.4**
	comp=Z,45nm,1.1s,mb5.0						
PGF	**Pioggiola**	**89.57**	**324**	*eP*	**P**	**16 34 25.5**	**-1.4**
PGF				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0						
QUIF	**Quistinic**	**90.36**	**334**	*eP*	**P**	**16 34 29.1**	**-1.4**
	comp=Z,112nm,1.3s,mb5.3						
QUIF	**Quistinic**	**90.36**	**334**	*eP*	**P**	**16 34 29.1**	**-1.4**
QUIF				pmax	pmax		
	comp=Z,56nm,1.3s,mb5.3						
CLNB	**Carlsbad**	**92.42**	**48**	*eP*	**P**	**16 34 41.1**	**+0.6**
LTX	**Lajitas**	**94.58**	**50**	*eP*	**P**	**16 34 50.8**	**+0.5**
LTX				pmax	pmax		
	comp=Z,22nm,1.4s,mb5.0						
LTX	**Lajitas**	**94.58**	**50**	*eP*	**P**	**16 34 50.8**	**+0.4**
	comp=Z,22nm,1.4s,mb5.0						
TXAR	**Lajitas Array**	**94.58**	**50**	P	**P**	**16 34 51.2**	**+0.9**
	comp=Z,5.5nm,0.8s,mb4.6,baz=290,slow=3.4,SNR=49						
QSPA	**South Pole Qui**	**124.35**	**180**‖	*iP*	PKPdf	16 40 25.3	+0.8
SYO	**Syowa Base**	**124.36**	**206**‖	PKPdf	PKPdf	16 40 25.7	+1.0
LPAZ	**La Paz**	**151.18**	**57**	PKPbc	PKPdf	16 41 22.8	+8.9
	comp=Z,7.2nm,0.8s,baz=346,slow=3.9,SNR=32						

IDC ***09*** *16:23:46.7±1.8, 10.75N×91.06E, mb4.0/4, mb1 4.1/5, mb1mx3.9/16, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=56.0km s-min=25.8km az=65.0*
NEIC ***09*** *16:23:51.4±0.8, 10.81N×91.15E, h30km, mb4.2/3, Error ellipse: s-maj=21.6km s-min=11.3km az=69.0*
ISC 09 16:23:48.7±0.9,**10.81N**±0.10×**91.05E**±0.08,**h30km,n10,σ0.88/11,mb4.1/6,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.86**	**63**	*eP*	**Pn**	**16 24 18.9**	**-0.2**
PBA				*e*S	**Sn**	**16 24 41.9**	**+0.1**
PBA				*e*		16 24 50.0	
	comp=E,2μm,0.4s						
PBA				*e*		16 24 50.4	
	comp=N,2μm,0.5s						
VIS	**Vishakhapatnam**	**10.16**	**313**	*eP*	**P**	**16 26 14.0**	**-1.8**
CMAR	**Chiang Mai Arr**	**10.77**	**44**	Pn	**P**	**16 26 22.8**	**-1.4**
	comp=N,0.2nm,0.3s,baz=240,slow=14,SNR=7.3						
LSA	**Lhasa**	**18.79**	**0**	*eP*	**P**	**16 28 08.6**	**+0.4**
	comp=N,2.7nm,0.6s						
SONM	**Songino Array**	**39.10**	**16**	P	**P**	**16 31 16.2**	**+1.2**
	comp=N,0.4nm,0.4s,mb3.5,baz=202,slow=7.9,SNR=5.9						
BRVK	**Borovoye**	**45.33**	**342**	*eP*	**P**	**16 32 06.7**	**+0.9**
	comp=N,4.3nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**52.44**	**126**	P	**P**	**16 33 01.3**	**+0.1**
	comp=N,3.5nm,0.9s,mb4.3,baz=304,slow=8.6,SNR=8.4						
WRAB	**Tennant Creek**	**52.44**	**126**	*eP*	**P**	**16 33 00.9**	**-0.3**
	comp=N,4.1nm,0.6s,mb4.5						
ASAR	**Alice Springs**	**54.12**	**130**	P	**P**	**16 33 13.3**	**-0.2**
	comp=N,1.0nm,0.7s,mb3.9,baz=309,slow=7.2,SNR=4.0						
ARCES	**ARCESS Array B**	**71.49**	**340**	P	**P**	**16 35 09.3**	**+1.0**
	comp=N,2.5nm,0.8s,mb4.2,baz=90,slow=4.5,SNR=4.0						

BJI ***09*** *16:27:05.0, 51.48N×176.11W, h39km, mB5.3, mb5.1, Ms4.9, Msz4.6*
MOS ***09*** *16:27:06.9±1.0, 51.64N×176.20W, h33km, mb5.1/45, MS4.4/5, Error ellipse: s-maj=9.5km s-min=6.9km az=75.9*
IDC ***09*** *16:27:09.9±1.8, 51.64N×176.21W, h42km±15km, mb4.4/27, mb1 4.6/28, mb1mx4.6/31, mbtmp4.7/28, ML4.4/1, MS4.5/18, Ms1 4.5/18, ms1mx4.3/27, Error ellipse: s-maj=14.1km s-min=9.4km az=146.0*
NEIC ***09*** *16:27:09.2±0.2, 51.54N×176.14W, mb5.1/74, ML4.9(AEIC), Error ellipse: s-maj=4.4km s-min=2.7km az=184.0*
NEIC Felt on Adak.
HRVD ***09*** *16:27:09.2±0.2, 51.50N×175.80W, h29km±1km, MW5.2/59, Centroid moment Tensor Solution. LP body waves: s37,c57;Mantle waves: s59,c101; Half duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr-1.21±.15; Mθθ0.34±.13; Mφφ0.87±.10; Mrθ6.37±.32; Mθφ-0.49±.09; Mφr3.97±.26; Best double couple: M0=7.532×10^16 NP1: φs=53°, δ2°, λ-95°. NP2:φs=238°, δ88°, λ-90°. Principal axes: T 6.95, Plg43°, Azm328°; N 1.161, Plg0°, Azm58°; P -8.114, Plg47°, Azm148°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 09 16:27:07.5±0.2,**51.45N**±0.03×**176.09W**±0.03,**h41km**, **h41**km±.9km:**pP-P,n312,σ1.907/308,mb4.9**/106,**MS4.5**/31, **9C-8D,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETKA	**Kagalaska Isla**	**0.45**	**334**	P	**P**	**16 27 18.4**	**+0.8**
ETKA				S	**S**	**16 27 25.7**	**+0.9**
GSIG	**Igitkin Island**	**0.54**	**11**	P	**P**	**16 27 20.0**	**+1.2**
GSCK	**Great Sitkin C**	**0.56**	**355**	P	**P**	**16 27 20.7**	**+1.6**
GSMY	**Great Sitkin M**	**0.59**	**2**	P	**P**	**16 27 20.9**	**+1.4**
GSTD	**Great Sitkin T**	**0.60**	**357**	P	**P**	**16 27 21.1**	**+1.5**
ADAG	**Mount Adagdak**	**0.62**	**329**	P	**P**	**16 27 21.0**	**+1.2**
GSTR	**Great Sitkin T**	**0.64**	**2**	P	**P**	**16 27 21.8**	**+1.7**
GSSP	**Great Sitkin S**	**0.64**	**355**	P	**P**	**16 27 21.8**	**+1.6**
KIRH	**Kanaga Island**	**0.77**	**306**	P	**P**	**16 27 23.1**	**+1.2**
KIWB	**Kanaga Island**	**0.77**	**302**	P	**P**	**16 27 23.0**	**+1.0**
KIMD	**Kanaga Island**	**0.78**	**294**	P	**P**	**16 27 22.8**	**+0.7**
KIKV	**Kanaga Island**	**0.80**	**303**	P	**P**	**16 27 23.4**	**+1.0**
KINC	**Kanaga Island**	**0.81**	**307**	P	**P**	**16 27 23.5**	**+1.1**
ATKA	**Atka Island**	**1.39**	**57**	P	**P**	**16 27 31.7**	**+0.8**
ATKA				S	**S**	**16 27 49.1**	**+0.8**
NIKO	**Nikolski**	**4.70**	**68**	P	**P**	**16 28 17.1**	**-0.7**
NIKO				S	**S**	**16 29 12.0**	**+0.1**
SMY	**Shemya**	**6.18**	**286**	*eP*	**P**	**16 28 38.0**	**-0.6**
UNV	**Unalaska Valle**	**6.31**	**64**	*eP*	**P**	**16 28 41.2**	**+0.8**
FX1	**Attu Island--F**	**6.76**	**286**	P	**P**	**16 28 48.7**	**+1.9**
FX1				S	**S**	**16 30 05.1**	**+1.7**
FX1				pmax	pmax		
	comp=Z,25nm,0.3s						
FX1	**Attu Island--F**	**6.76**	**286**	P	**P**	**16 28 48.7**	**+1.9**
	comp=Z,25nm,0.3s,baz=119,slow=12,SNR=35						
FX1				S	**S**	**16 30 05.1**	**+1.7**
	comp=Z,15nm,0.3s,baz=52,slow=19,SNR=4.4						
FX1	**Attu Island--F**	**6.76**	**286**	*eP*	**P**	**16 28 48.4**	**+1.6**

TNA	**Tin City**	**14.76**	**13**	*eP*	**P**	**16 30 34.7**	**-0.1**
	comp=Z,38nm,1.4s						
PET	**Petropavlovsk**	**15.53**	**286**	*eP*	**P**	**16 30 51.9**	**+7.0**
PET				MLR	MLR		
	comp=Z,1μm,19.0s						
PET	**Petropavlovsk**	**15.53**	**286**	P	**P**	**16 30 46.8**	**+1.9**
IMA	**Indian Mountai**	**18.53**	**29**	*eP*	**P**	**16 31 23.9**	**+1.4**
IMA				pmax	pmax		
	comp=Z,150nm,0.9s						
IMA	**Indian Mountai**	**18.53**	**29**	*eP*	**P**	**16 31 23.2**	**+0.8**
	comp=Z,149nm,0.8s						
BILL	**Bilibino**	**18.73**	**339***c*	*iP*	**P**	**16 31 25.3**	**+0.5**
BILL				pmax	pmax		
	comp=Z,197nm,1.4s						
BILL	**Bilibino**	**18.73**	**339**	*eP*	**P**	**16 31 25.0**	**+0.2**
	comp=Z,243nm,1.4s						
MCK	**McKinley**	**18.86**	**39**	*eP*	**P**	**16 31 25.9**	**-0.5**
MCK				pmax	pmax		
	comp=Z,28nm,0.5s						
MCK	**McKinley**	**18.86**	**39**	*eP*	**P**	**16 31 25.1**	**-1.3**
	comp=Z,28nm,0.5s						
EYAK	**Cordova Ski Ar**	**19.09**	**50**	*eP*	**P**	**16 31 26.1**	**-2.9**
DIV	**Divide**	**19.24**	**48**	*eP*	**P**	**16 31 29.1**	**-1.6**
	comp=Z,65nm,0.5s						
COLA	**College**	**19.82**	**37**	*eP*	**P**	**16 31 36.0**	**-1.1**
COLA	**College**	**19.82**	**37**	*eP*	**P**	**16 31 35.2**	**-1.9**
	comp=Z,55nm,0.7s						
THY	**Trims Highway**	**20.01**	**42**	*eP*	**P**	**16 31 38.5**	**-0.7**
ILAR	**Eielson Array**	**20.14**	**37**	P	**P**	**16 31 37.6**	**-2.8**
	comp=Z,30nm,0.4s,baz=240,slow=8.4,SNR=38						
ILAR				S	**S**	**16 35 21.1**	**+1.7**
	comp=Z,1.4nm,0.9s,baz=238,slow=14,SNR=2.6						
ILAR				ScP		16 39 24.6	
	comp=Z,1.7nm,0.6s,baz=277,slow=3.1,SNR=12						
ILAR				LR	LR	16 40 11.0	
	comp=Z,1μm,18.2s,MS4.3,baz=250,slow=39						
MA2	**Magadan**	**20.26**	**307**	*eP*	**P**	**16 31 41.3**	**-0.5**
MA2				*e**PP		16 32 02.0	
MA2				*e*S	**S**	**16 35 24.7**	**+2.8**
MA2				pmax	pmax		
	comp=Z,50nm,1.1s						
MA2	**Magadan**	**20.26**	**307**	*eP*	**P**	**16 31 40.9**	**-0.9**
	comp=Z,61nm,1.0s						
SEY	**Seymchan**	**20.34**	**317**	*eP*	**P**	**16 31 44.7**	**+2.1**
SEY				*e*		16 31 57.3	
SEY				*e*		16 32 16.8	
SEY				pmax	pmax		
	comp=N,100nm,0.9s						
SEY				pmax	pmax		
	comp=E,260nm,0.9s						
SEY				pmax	pmax		
	comp=Z,320nm,0.9s						
DAWY	**Dawson**	**22.90**	**42**	*eP*	**P**	**16 32 08.6**	**+0.5**
SIT	**Sitka**	**24.18**	**61**	*eP*	**P**	**16 32 21.7**	**+1.1**
SIT				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.6						
SIT	**Sitka**	**24.18**	**61**	*eP*	**P**	**16 32 21.7**	**+1.1**
	comp=Z,22nm,0.8s,mb4.6						
INK	**Inuvik**	**26.43**	**34**	P	**P**	**16 32 41.1**	**-0.7**
INK						16 36 06.7	
INK				pmax	pmax		
	comp=Z,8.0nm,0.4s						
INK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
INK				MLR	MLR		
	comp=Z,2μm,18.4s						
INK	**Inuvik**	**26.43**	**34**	P	**P**	**16 32 41.0**	**-0.8**
	comp=Z,7.5nm,0.4s,mb4.6,baz=238,slow=5.5,SNR=20						
INK				PcP	PcP	16 36 06.7	-0.1
	comp=Z,5.0nm,0.6s,baz=338,slow=4.6,SNR=6.2						
INK

MDJ XP sP 16 34 22.8 -1.8
MDJ PP PP 16 35 29.3 -2.4
MDJ PCP PcP 16 36 31.9 -1.2
MDJ S **S** **16 39 44.0 -1.0**
MDJ XS 16 40 03.1
MDJ SCP 16 40 14.5
MDJ PCS 16 40 19.2
MDJ AMB AMB
comp=Z,13nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,147nm,5.1s
MDJ LR LR
comp=E,707nm,27.6s
MDJ LR LR
comp=Z,848nm,25.8s,MS4.4
YBH Yreka Blue Hor 37.19 84 *e*P **P** **16 34 18.1 +1.9**
YBH Yreka Blue Hor 37.19 84 P **P** **16 34 18.8 +2.6**
comp=Z,4.0nm,0.7s,mb4.4,baz=308,slow=9.1,SNR=5.6
EDM Edmonton 37.29 62 *e*P **P** **16 34 17.7 +0.8**
MOD Modoc 38.59 82 *e*P **P** **16 34 29.2 +1.4**
comp=Z,29nm,1.1s,mb4.9
WALA Waterton Lakes 38.77 68 *e*P **P** **16 34 29.9 +0.5**
comp=Z,66nm,1.4s,mb5.2
BMO Blue Mountains 38.84 76 *e*P **P** **16 34 31.4 +1.5**
BMO pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
BMO Blue Mountains 38.84 76 *e*P **P** **16 34 30.6 +0.7**
comp=Z,7.8nm,0.8s,mb4.5
BMO *e*pP pP 16 34 41.9 +0.7
WVOR Wild Horse Val 39.32 80 *e*P **P** **16 34 35.9 +1.9**
WVOR pmax pmax
comp=Z,49nm,1.1s,mb5.2
WVOR Wild Horse Val 39.32 80 *e*P **P** **16 34 35.3 +1.3**
comp=Z,49nm,1.1s,mb5.2
OHCM Honcut 39.33 86 *e*P **P** **16 34 35.2 +1.1**
CBIJ Chichi jima 39.67 248 LR LR 16 47 57.0
comp=Z,400nm,21.0s,MS4.2,baz=38,slow=31
MSO Missoula 39.84 71 *e*P **P** **16 34 38.1 -0.2**
comp=Z,9.3nm,0.4s,mb4.9
CMB Columbia Colle 40.80 87 *e*P **P** **16 34 48.4 +2.1**
CMB pmax pmax
comp=Z,56nm,1.6s,mb4.9
CMB Columbia Colle 40.80 87 *e*P **P** **16 34 47.1 +0.9**
comp=Z,56nm,1.6s,mb5.0
HRY Holter Researc 41.15 70 *e*P **P** **16 34 49.6 +0.5**
HLID Hailey 41.28 76 *e*P **P** **16 34 51.0 +0.8**
comp=Z,33nm,1.2s,mb4.8
HLID *e*pP pP 16 35 03.0 +1.4
SNY Shenyang 41.43 281 ⇑P **P** **16 34 51.8 +0.3**
SNY AMB AMB
comp=Z,80nm,1.1s,mb5.3
SNY LR LR
comp=N,600nm,24.1s
SNY LR LR
comp=Z,820nm,23.5s,MS4.5
BOZ Bozeman (W) 41.83 72 *e*P **P** **16 34 55.2 +0.7**
BOZ *e**PP pP 16 35 06.5 +0.5
BOZ pmax pmax
comp=Z,23nm,0.7s,mb4.9
BOZ Bozeman (W) 41.83 72 *e*P **P** **16 34 55.2 +0.6**
comp=Z,23nm,0.7s,mb4.9
BOZ *e*pP pP 16 35 06.5 +0.5
NVAR Mina Array Bea 41.86 85 P **P** **16 34 56.9 +1.9**
comp=Z,6.9nm,0.8s,mb4.3,baz=299,slow=6.7,SNR=13
NVAR PcP PcP 16 36 51.8 +0.9
comp=Z,3.6nm,0.7s,baz=288,slow=2.9,SNR=4.2
OMM Old Mammoth Mi 41.92 86 *e*P **P** **16 34 57.5 +2.1**
MNV Mina 41.95 85 *e*P **P** **16 34 57.5 +1.8**
MNV pmax pmax
comp=Z,29nm,1.4s,mb4.7
MNV Mina 41.95 85 *e*P **P** **16 34 56.7 +1.1**
comp=Z,29nm,1.5s,mb4.7
INCN Inchon 42.12 274 *e*P **P** **16 34 57.5 +0.5**
FFC Flin Flon 42.71 55 *e*P **P** **16 35 01.6 -0.1**
FFC pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
FFC Flin Flon 42.71 55 *e*P **P** **16 35 00.9 -0.8**
comp=Z,4.5nm,0.5s,mb4.5
YMR Madison River 42.75 72 *e*P **P** **16 35 02.8 +0.7**
YMR *e*pP pP 16 35 14.4 +0.8
YNR Norris Junctio 42.90 72 *e*P **P** **16 35 04.6 +1.2**
YNR *e*pP pP 16 35 16.0 +1.3
GCMT Greycliff 42.91 70 P **P** **16 35 04.8 +1.3**
YFT Old Faithful 42.95 73 *e*P **P** **16 35 05.2 +1.5**
HVU Hansel Valley 43.28 77 *e*P **P** **16 35 08.3 +1.7**
HVU Hansel Valley 43.28 77 *e*P **P** **16 35 07.5 +0.9**
MOOW Moose Ponds 43.39 73 *e*P **P** **16 35 07.5 +0.1**
TRCR Troy Canyon 43.60 83 *e*P **P** **16 35 09.6 +0.5**
BGU Big Grassy Mou 43.63 78 *e*P **P** **16 35 09.2 -0.2**
AHID Auburn Hatcher 43.73 75 *e*P **P** **16 35 10.7 +0.5**
comp=Z,20nm,1.0s,mb4.8
AHID *e*pP pP 16 35 22.2 +0.5
SPUT South Promonto 43.76 77 *e*P **P** **16 35 10.8 +0.4**
HWUT Hardware Ranch 44.12 77 *e*P **P** **16 35 13.6 +0.3**
comp=Z,14nm,1.0s,mb4.6
NOQ North Oquirrh 44.35 78 *e*P **P** **16 35 15.6 +0.4**
DGMT Dagmar 44.63 64 *e*P **P** **16 35 17.4 +0.1**
comp=Z,20nm,0.6s,mb5.1
BW06 Boulder Array 44.66 74 *e*P **P** **16 35 18.2 +0.6**
comp=Z,36nm,0.8s,mb5.3
BW06 *e*pP pP 16 35 30.0 +0.9
PDAR Pinedale Array 44.66 74 P **P** **16 35 18.8 +1.1**
comp=Z,23nm,0.6s,mb5.2,baz=304,slow=4.0,SNR=182
PDAR LR LR 16 51 10.9
comp=Z,372nm,20.9s,MS4.3,baz=311,slow=32
FCC Fort Churchill 44.67 47 *e*P **P** **16 35 17.2 -0.3**
FCC pmax pmax
comp=Z,8.0nm,0.5s,mb4.8
FCC Fort Churchill 44.67 47 *e*P **P** **16 35 16.4 -1.0**
comp=Z,7.5nm,0.5s,mb4.8
JLU Jordanelle 44.79 78 *e*P **P** **16 35 19.3 +0.7**
NLU North Lily Min 44.79 79 *e*P **P** **16 35 19.4 +0.7**
MPU Maple Canyon 45.02 78 *e*P **P** **16 35 21.4 +0.8**
MSU Marysvale 45.61 80 *e*P **P** **16 35 26.8 +1.5**
TMUT Trail Mountain 45.72 79 *e*P **P** **16 35 27.2 +1.1**
NEN Nelson 45.75 85 *e*P **P** **16 35 26.7 +0.3**
SRU San Rafael 46.26 79 *e*P **P** **16 35 32.0 +1.6**
SRU San Rafael 46.26 79 *e*P **P** **16 35 30.9 +0.6**
TLY Talaya 47.45 304 *i*P **P** **16 35 39.6 0.0**
PV10 Paradox Valley 47.62 78 *e*P **P** **16 35 41.4 +0.3**
ULN Ulaanbaatar 47.74 298 ⇑*i*P **P** **16 35 41.1 -0.8**
ULN Ulaanbaatar 47.74 298 *e*P **P** **16 35 39.8 -2.1**
comp=Z,5.0nm,0.9s,mb4.5
PHWY Pilot Hill 47.99 73 *e*P **P** **16 35 43.2 -0.8**
PV01 Paradox Valley 48.06 78 *e*P **P** **16 35 44.6 +0.1**
SONM Songino Array 48.12 298 P **P** **16 35 45.1 +0.2**
comp=Z,3.4nm,0.8s,mb4.4,baz=50,slow=7.2,SNR=16
SONM PcP PcP 16 37 13.0 +0.6
comp=Z,6.4nm,0.9s,baz=90,slow=1.2,SNR=4.7
SONM ScP 16 41 01.8
comp=Z,7.2nm,1.0s,baz=63,slow=2.8,SNR=22
ZAK Zakamensk 48.36 302 ⇓*i*P **P** **16 35 45.7 -1.0**
RW3 Ridgway 48.53 78 *e*P **P** **16 35 49.6 +1.5**
RW3 Ridgway 48.53 78 *e*P **P** **16 35 48.4 +0.2**
ISCO Idaho Springs 48.82 75 *e*P **P** **16 35 50.5 +0.1**
ISCO *e**PP pP 16 36 03.0 +1.1
ISCO pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
ISCO Idaho Springs 48.82 75 *e*P **P** **16 35 50.5 +0.1**
comp=Z,5.6nm,0.5s,mb4.8
ISCO *e*pP pP 16 36 03.0 +1.1
TIA Tai'an 48.83 279 *e*P **P** **16 35 51.0 +0.5**
TIA AMB AMB
comp=Z,26nm,1.1s,mb5.2
SSE Sheshan 49.69 271 P **P** **16 35 52.6 -4.6**
SSE XP sP 16 36 06.0 -7.6
SSE S **S** **16 42 56.1 -5.8**
SSE AMB AMB
comp=Z,48nm,0.7s,mb5.6
SSE AMB AMB
comp=Z,182nm,4.4s
SSE LR LR
comp=N,184nm,22.0s,MS4.0
SSE LR LR
comp=E,51nm,22.2s,MS4.0
SSE LR LR
comp=Z,199nm,28.9s
SDCO Great Sand Dun 50.18 77 *e*P **P** **16 36 01.5 +0.6**
comp=Z,44nm,1.3s,mb5.3
TUC Tucson 50.48 86 P **P** **16 36 04.2 +0.9**
TUC pmax pmax
comp=Z,35nm,1.1s,mb5.3
TUC Tucson 50.48 86 *e*P **P** **16 36 03.8 +0.6**
comp=Z,35nm,1.1s,mb5.3
NJ2 Nanjing 50.50 274 *e*P **P** **16 36 04.1 +0.7**

NJ2 PP PP 16 38 01.0 +0.9
NJ2 S **S** **16 43 12.0 -1.1**
NJ2 AMB AMB
comp=Z,140nm,0.8s,mb5.9
NJ2 AMB AMB
comp=Z,1μm,4.5s
NJ2 LR LR
comp=N,860nm,13.1s
NJ2 LR LR
comp=E,1μm,20.0s
NJ2 LR LR
comp=Z,7μm,21.9s
DAG Danmarks Havn 51.24 7 *e*P **P** **16 36 10.0 +1.6**
DAG Danmarks Havn 51.24 7 *i*P **P** **16 36 10.0 +1.6**
LAZ Ladron 51.35 81 *e*P **P** **16 36 11.0 +1.2**
ANMO Albuquerque 51.41 80 P **P** **16 36 10.8 +0.6**
ANMO pmax pmax
comp=Z,38nm,1.4s
ANMO Albuquerque 51.41 80 P **P** **16 36 11.0 +0.8**
comp=Z,30nm,1.3s,mb5.1,baz=312,slow=7.5,SNR=26
ANMO PcP PcP 16 37 25.4 +0.8
comp=Z,13nm,1.1s,baz=323,slow=4.9,SNR=5.4
ANMO Albuquerque 51.41 80 *e*P **P** **16 36 10.0 -0.2**
comp=Z,38nm,1.4s,mb5.1
LENM Lemitar 51.61 81 *e*P **P** **16 36 12.7 +0.9**
LPM Los Pinos Moun 51.73 81 *e*P **P** **16 36 13.4 +0.8**
BNM Barren Site 51.84 81 *e*P **P** **16 36 14.5 +1.1**
SUMG Summit 52.81 15 *e*P **P** **16 36 19.4 -0.8**
comp=Z,6.6nm,0.4s,mb4.9
MNTX Cornudas Mount 54.26 82 *e*P **P** **16 36 31.4 -0.1**
comp=Z,52nm,1.2s,mb5.3
CPRX Cap Rock 54.29 80 *e*P **P** **16 36 31.7 0.0**
WHN Wuhan 54.34 276 ⇑P **P** **16 36 33.0 +0.9**
WHN S **S** **16 44 05.6 +0.1**
WHN LR LR
comp=Z,590nm,21.7s,MS4.6
AMTX Amarillo 54.38 77 *e*P **P** **16 36 30.8 -1.5**
comp=Z,66nm,1.4s,mb5.4
GDL2 Guadalupe Moun 54.55 81 *e*P **P** **16 36 33.3 -0.3**
KSU1 Kansas State U 54.63 70 *e*P **P** **16 36 32.8 -1.2**
CLNB Carlsbad 54.80 81 *e*P **P** **16 36 34.5 -0.9**
NVS Novosibirsk 55.30 316 *e*P **P** **16 36 36.7 -2.0**
NVS *i* 16 37 38.3
NVS *e*S **S** **16 44 11.0 -7.0**
NVS *e* 16 46 21.5
NVS pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
NVS pmax pmax
comp=E,10.0nm,1.5s
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS smax
comp=N,12nm,1.8s
NVS smax
comp=E,11nm,1.9s
XAN Xi'an 55.31 283 P **P** **16 36 38.2 -0.9**
XAN AP pP 16 36 47.9 -2.9
XAN AMB AMB
comp=Z,73nm,1.2s,mb5.6
JFWS Jewell Farm 55.77 62 P **P** **16 36 41.1 -1.1**
JFWS pmax pmax
comp=Z,31nm,0.7s,mb5.5
JFWS Jewell Farm 55.77 62 *e*P **P** **16 36 40.1 -2.1**
comp=Z,31nm,0.7s,mb5.5
WMOK Wichita Mounta 56.24 75 P **P** **16 36 45.2 -0.6**
WMOK pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
WMOK Wichita Mounta 56.24 75 *e*P **P** **16 36 44.6 -1.1**
comp=Z,8.7nm,0.5s,mb5.0
LTX Lajitas 56.96 83 *e*P **P** **16 36 50.5 -0.5**
LTX *e**PP pP 16 37 02.1 -0.7
LTX pmax pmax
comp=Z,43nm,1.0s,mb5.4
LTX Lajitas 56.96 83 *e*P **P** **16 36 50.5 -0.5**
comp=Z,43nm,1.0s,mb5.4
LTX *e*pP pP 16 37 02.0 -0.8
TXAR Lajitas Array 56.96 83 P **P** **16 36 51.0 0.0**
comp=Z,13nm,0.6s,mb5.2,baz=304,slow=6.1,SNR=132
TXAR LR LR 16 58 27.3
comp=Z,257nm,18.6s,MS4.3,baz=325,slow=33
LZH Lanzhou 56.98 288 P **P** **16 36 51.1 0.0**
LZH AP pP 16 37 03.0 +0.1
LZH XP sP 16 37 08.1 +0.5
LZH AMB AMB
comp=Z,170nm,1.4s,mb5.9
LZH LR LR
comp=E,690nm,16.7s
LZH LR LR
comp=Z,1μm,21.0s,MS5.0
JMIC Jan Mayen 57.54 5 LR LR 16 59 37.5
comp=Z,494nm,20.4s,MS4.6,baz=268,slow=34
ENH Enshi 57.55 279 *e*P **P** **16 36 53.9 -1.2**
comp=Z,12nm,0.5s,mb5.2
ARCES ARCESS Array B 58.29 351 P **P** **16 36 57.7 -2.1**
comp=Z,3.1nm,0.7s,mb4.5,baz=32,slow=7.9,SNR=8.5
CCM Cathedral Cave 58.45 67 P **P** **16 36 59.3 -2.0**
CCM pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
CCM Cathedral Cave 58.45 67 *e*P **P** **16 36 58.8 -2.6**
comp=Z,8.1nm,0.6s,mb4.9
JCT Junction City 58.55 79 *e*P **P** **16 37 00.9 -1.2**
JCT pmax pmax
comp=Z,72nm,1.3s,mb5.5
JCT Junction City 58.55 79 *e*P **P** **16 37 00.9 -1.3**
comp=Z,72nm,1.3s,mb5.5
SCHQ Schefferville 58.88 40 P **P** **16 37 01.9 -2.2**
comp=Z,4.1nm,1.0s,mb4.4,baz=327,slow=9.2,SNR=7.6
SCHQ LR LR 17 03 36.5
comp=Z,686nm,18.0s,MS4.8,baz=191,slow=37
FVM French Village 58.97 67 P **P** **16 37 03.8 -1.2**
FVM pmax pmax
comp=Z,19nm,0.5s,mb5.4
FVM French Village 58.97 67 *e*P **P** **16 37 03.1 -1.9**
comp=Z,19nm,0.5s,mb5.4
MIAR Mount Ida 59.50 72 P **P** **16 37 08.3 -0.3**
MIAR pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
MIAR Mount Ida 59.50 72 *e*P **P** **16 37 07.3 -1.3**
comp=Z,16nm,0.6s,mb5.2
MIAR *e*pP pP 16 37 19.8 -0.6
BLO Bloomington 60.37 63 P **P** **16 37 13.1 -1.5**
BLO pmax pmax
comp=Z,42nm,1.0s,mb5.4
BLO Bloomington 60.37 63 *e*P **P** **16 37 12.7 -1.8**
comp=Z,42nm,1.0s,mb5.4
USIN University of 60.56 65 *e*P **P** **16 37 14.5 -1.4**
comp=Z,64nm,0.8s,mb5.8
WMQ Urumqi 60.71 304 *e*P **P** **16 37 17.5 +0.7**
WMQ AP pP 16 37 30.3 +1.6
WMQ XP sP 16 37 35.5 +2.1
WMQ PP PP 16 39 33.3 +0.5
WMQ S **S** **16 45 28.6 -0.4**
WMQ XS 16 45 50.1
WMQ AMB AMB
comp=Z,10.0nm,1.2s,mb4.8
WMQ AMB AMB
comp=Z,91nm,6.3s
WMQ LR LR
comp=N,722nm,21.8s,MS4.9
WMQ LR LR
comp=E,714nm,22.9s,MS4.9
WMQ LR LR
comp=Z,940nm,22.4s,MS4.9
NATX Nacogdoches 60.79 75 *e*P **P** **16 37 17.8 +0.3**
comp=Z,22nm,0.9s,mb5.3
WCI Wyandotte Cave 61.16 64 P **P** **16 37 19.1 -0.8**
WCI pmax pmax
comp=Z,19nm,0.8s,mb5.3
WCI Wyandotte Cave 61.16 64 *e*P **P** **16 37 18.4 -1.5**
comp=Z,19nm,0.8s,mb5.3
MKAR Makanchi Array 61.30 310 *i*P **P** **16 37 18.5 -2.3**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
CHKZ Chkalovo 61.33 321 *i*P **P** **16 37 20.2 -0.6**
CHKZ pmax pmax
comp=Z,5.0nm,1.5s,mb4.4
CHKZ Chkalovo 61.33 321 *e*P **P** **16 37 19.0 -1.8**
comp=Z,1.5nm,0.4s,mb4.5
HKT Hockley 61.35 77 *e*P **P** **16 37 20.8 -0.6**
HKT *e**PP pP 16 37 32.9 -0.3
HKT pmax pmax
comp=Z,64nm,1.4s,mb5.6
HKT Hockley 61.35 77 *e*P **P** **16 37 20.8 -0.6**
comp=Z,64nm,1.4s,mb5.6
HKT *e*pP pP 16 37 32.9 -0.3
SOKR Solikamsk 61.37 332 ⇓*e*P **P** **16 37 19.9 -1.1**

SOKR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
SOKR MLR MLR
comp=Z,560nm,23.0s,MS4.7
ACSO Alum Creek Sta 61.58 60 *e*P **P** **16 37 21.8 -0.9**
comp=Z,21nm,0.7s,mb5.4
WVT Waverly 61.75 67 P **P** **16 37 22.7 -1.2**
WVT pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
WVT Waverly 61.75 67 *e*P **P** **16 37 22.4 -1.6**
comp=Z,6.5nm,0.5s,mb5.0
ERPA Erie 61.85 57 *e*P **P** **16 37 23.8 -0.7**
comp=Z,15nm,0.7s,mb5.2
BVAR Borovoye Array 61.91 321 P **P** **16 37 23.7 -1.0**
comp=Z,6.3nm,0.4s,mb5.1,baz=54,slow=6.5,SNR=69
BRVK Borovoye 61.93 321 P **P** **16 37 23.9 -1.0**
BRVK pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
BRVK Borovoye 61.93 321 *e*P **P** **16 37 22.4 -2.5**
comp=Z,3.6nm,0.4s,mb4.8
ALLY Alegheny Colle 62.10 58 *e*P **P** **16 37 25.4 -0.8**
SVE Sverdlovsk 62.43 329 *e*P pP 16 37 41.7 +1.7
SVE MLR MLR
comp=Z,2μm,19.0s,MS5.2
BORG Borgarnes 62.49 12 LR LR 17 03 42.6
comp=Z,659nm,18.4s,MS4.8,baz=0.4,slow=35
BORG Borgarnes 62.49 12 *e*P **P** **16 37 27.7 -0.8**
GENY Geneseo 62.52 55 *e*P **P** **16 37 26.9 -2.1**
ARU Arti 63.42 330 ⇑*i*P **P** **16 37 31.8 -2.9**
ARU *e* 16 38 04.3
ARU *e*S **S** **16 46 00.6 -2.3**
ARU *e*SS SS 16 50 08.4 -3.5
ARU pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
MCWV Mont Chateau 63.69 59 *e*P **P** **16 37 35.6 -1.1**
comp=Z,32nm,0.8s,mb5.4
SSPA Standing Stone 64.02 57 *e*P **P** **16 37 37.4 -1.3**
comp=Z,14nm,0.6s,mb5.2
CPCT Cooper Cave 64.12 65 *e*P **P** **16 37 37.9 -1.6**
LRAL Lakeview Retre 64.43 69 *e*P **P** **16 37 40.0 -1.6**
comp=Z,9.8nm,0.9s,mb4.8
FWV Forest Hill 64.66 61 *e*P **P** **16 37 43.0 0.0**
PWV Princeton 64.71 61 *e*P **P** **16 37 43.4 +0.1**
ELN Prospectdale 64.95 61 *e*P **P** **16 37 44.3 -0.6**
BLA Blacksburg 65.14 61 P **P** **16 37 46.0 -0.1**
BLA pmax pmax
comp=Z,37nm,0.9s,mb5.4
BLA Blacksburg 65.14 61 *e*P **P** **16 37 45.6 -0.5**
comp=Z,37nm,0.8s,mb5.5
KAF Kangasniemi 65.39 349 *e*pkp **P** **16 37 46.4 -0.9**
baz=331,slow=3.6
FINES FINESS Array B 66.07 349 *i*P **P** **16 37 51.3 -0.3**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 66.07 349 P **P** **16 37 50.4 -1.2**
comp=Z,0.9nm,0.5s,mb4.1,baz=18,slow=6.0,SNR=5.7
FINES LR LR 17 08 19.5
comp=Z,483nm,20.3s,MS4.7,baz=5.8,slow=38
GOGA Godfrey 66.20 66 P **P** **16 37 52.1 -0.8**
GOGA pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
GOGA Godfrey 66.20 66 *e*P **P** **16 37 51.5 -1.5**
comp=Z,37nm,1.1s,mb5.3
GOGA *e*pP pP 16 38 03.0 -2.0
JSC Jenkinsville 66.81 64 P **P** **16 37 57.0 +0.2**
JSC Jenkinsville 66.81 64 *e*P **P** **16 37 56.5 -0.3**
TKM2 Tokmak 2 67.37 311 P **P** **16 37 59.9 -0.2**
SNR=13
TAOE Nuku Hiva Isla 67.58 141 *e*LR LR 16 57 54.4
USP Ospenovka 67.62 312 P **P** **16 38 01.5 -0.1**
SNR=14
CHMS Chumysh 67.70 311 P **P** **16 38 02.0 -0.2**
SNR=5.7
NB2 NORSAR Subarra 67.71 356 P **P** **16 38 00.4 -1.5**
comp=Z,5.2nm,1.0s,mb4.5,baz=7.0,slow=6.2
NB2 NORSAR Subarra 67.71 356 P **P** **16 38 00.4 -1.5**
NB2 pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
NOA NORSAR Array B 67.71 356 P **P** **16 37 59.2 -2.7**
comp=Z,1.4nm,0.9s,mb4.0,baz=5.8,slow=6.3,SNR=3.3
COW Cow Castle Cre 67.79 64 *e*P **P** **16 38 03.0 0.0**
KBK Karagaybulak 67.88 311 P **P** **16 38 03.1 -0.2**
SNR=8.8
FRU Bishkek 67.89 311 *e*P **P** **16 38 03.0 -0.4**
FRU *e* pP 16 38 14.0 -1.5
FRU MLR MLR
comp=Z,500nm,18.0s,MS4.8
AAK Ala-Archa 68.11 311 P **P** **16 38 04.3 -0.4**
SNR=17
AAK Ala-Archa 68.11 311 *e*P **P** **16 38 03.2 -1.5**
AAK pmax pmax
comp=Z,11nm,0.5s,mb5.1
AAK Ala-Archa 68.11 311 *e*P **P** **16 38 02.7 -2.0**
comp=Z,11nm,0.5s,mb5.2
KZA Kyzart 68.18 311 P **P** **16 38 05.6 +0.4**
SNR=14
NHSC New Hope 68.29 64 *e*P **P** **16 38 05.9 -0.1**
comp=Z,109nm,1.0s,mb5.8
PMG Port Moresby 68.41 219 P **P** **16 38 07.1 0.0**
comp=Z,35nm,1.2s,mb5.2,baz=56,slow=5.2,SNR=4.4
PMG LR LR 17 02 26.4
comp=Z,212nm,21.5s,MS4.3,baz=198,slow=31
UCH Uchtor 68.41 311 P **P** **16 38 07.3 +0.6**
SNR=7.7
EKS2 Erkin-Say 68.42 312 P **P** **16 38 06.7 0.0**
SNR=12
RGRS Roger Stewart 68.42 64 *e*P **P** **16 38 06.4 -0.5**
HFS Hagfors 68.49 355 P **P** **16 38 05.4 -1.4**
comp=Z,3.2nm,0.5s,mb4.6,baz=18,slow=4.7,SNR=10
AML Almayashu 68.87 312 P **P** **16 38 10.1 +0.6**
SNR=17
LSA Lhasa 69.00 291 *e*P **P** **16 38 11.9 +1.4**
LSA Lhasa 69.00 291 *e*P **P** **16 38 11.3 +0.8**
LSA pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
LSA Lhasa 69.00 291 *e*P **P** **16 38 11.2 +0.7**
comp=Z,7.6nm,0.6s,mb4.8
OBN Obninsk 70.38 341 *e*P **P** **16 38 18.3 -0.2**
OBN pmax pmax
comp=Z,19nm,1.7s,mb4.8
PPT Papeete 72.53 153 *e*S S 16 47 44.9 -7.3
PPT *e*LR LR 17 00 01.3
comp=Z,760nm,23.2s,baz=347
CMAR Chiang Mai Arr 72.69 278 P **P** **16 38 33.3 +0.4**
comp=Z,8.8nm,0.9s,mb4.7,baz=27,slow=7.3,SNR=32
EKA Eskdalemuir Ar 73.42 4 P **P** **16 38 37.0 +0.5**
comp=Z,3.6nm,0.9s,mb4.3,baz=353,slow=4.6,SNR=4.5
RAR Rarotonga 73.76 164 LR LR 17 04 06.8
comp=Z,957nm,19.6s,MS5.1,baz=295,slow=30
DDI Dehra Dun 75.88 301 *e*P **P** **16 38 49.2 -1.9**
CLL Collm 77.33 354 *e**PP pP 16 39 12.0 +1.0
KAKA Kakadu 77.89 231 ⇑*i*P **P** **16 39 03.3 +0.6**
comp=Z,40nm,1.1s,mb5.3
TBI Tubuai 78.07 155 *e*S S 16 48 47.3 -5.9
TBI *e*LR LR 17 02 41.4
comp=Z,906nm,29.8s,baz=338
GOF Gofitskoye 78.10 333 *e*P **P** **16 39 02.0 -1.3**
GOF pmax pmax
comp=Z,30nm,1.4s,mb5.0
CTA Charters Tower 78.50 216 *e*P **P** **16 39 05.5 -0.5**
comp=Z,23nm,1.2s,mb5.0
CTA Charters Tower 78.50 216 *e*P **P** **16 39 05.5 -0.5**
CTA pmax pmax
comp=Z,23nm,1.2s
CTA Charters Tower 78.50 216 P **P** **16 39 05.7 -0.3**
comp=Z,37nm,1.2s,mb5.2,baz=30,slow=5.6,SNR=5.3
CTA LR LR 17 10 43.6
comp=Z,168nm,18.7s,MS4.4,baz=254,slow=33
CTAO Charters Tower 78.50 216 P **P** **16 39 06.9 +0.9**
CTAO Charters Tower 78.50 216 *e*P **P** **16 39 05.7 -0.2**
GIVF Givet 78.82 359 *e*P **P** **16 39 06.3 -0.8**
BAIF Baives 78.87 360 *e*P **P** **16 39 06.8 -0.6**
KIV Kislovodsk 79.21 333 *e*P **P** **16 39 10.1 +0.7**
KIV pmax pmax
comp=Z,11nm,1.7s,mb4.5
KHC Kasperske Hory 79.46 354 ⇑*i*P **P** **16 39 10.9 +0.3**
KHC Kasperske Hory 79.46 354 *e*P **P** **16 39 11.9 +1.3**
GERES GERESS Array B 79.73 353 P **P** **16 39 13.3 +1.2**
comp=Z,0.4nm,0.5s,baz=27,slow=3.0,SNR=4.0
ZEI Tsey 79.94 331 *e*P **P** **16 39 12.7 -0.6**
ZEI pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
SOC Sochi 80.38 334 *e*P **P** **16 39 14.3 -1.4**
SOC *e*S S 16 49 16.1 -1.0
SOC *e*SSS SSS 16 57 49.3 -4.4
SOC pmax pmax

comp=N,33nm,1.0s
SOC pmax pmax
comp=Z,16nm,1.0s,mb4.9
SOC pmax pmax
comp=E,12nm,1.2s
CDF Champ du Feu 80.47 358 *e*P **P 16 39 15.4 -0.7**
comp=E,1.8nm,0.5s,mb4.0
CDF Champ du Feu 80.47 358 *e*P **P 16 39 15.4 -0.7**
CDF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
TI2 Plekhanov 80.62 330 *e*P **P 16 39 12.4 -4.6**
TI2 MLR MLR
comp=N,1μm,17.0s,MS5.3
TI2 MLR MLR
comp=E,500nm,17.0s,MS5.3
TI2 MLR MLR
comp=Z,1μm,17.0s,MS5.2
HINF Hinteralfeld 81.08 358 *e*P **P 16 39 18.1 -1.2**
comp=Z,2.9nm,0.6s,mb4.1
HINF Hinteralfeld 81.08 358 *e*P **P 16 39 18.1 -1.2**
HINF pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
BHPL Bhopal 81.80 297 *e*P **P 16 39 20.8 -2.7**
BHPL *e* 16 39 24.9
comp=Z,50nm,1.0s
SSF Saint Saulge 81.87 0 *e*P **P 16 39 21.4 -2.0**
SSF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SSF Saint Saulge 81.87 0 *e*P **P 16 39 21.4 -2.0**
comp=Z,9.6nm,1.1s,mb4.6
GNI Garni 82.06 330 *e*P **P 16 39 25.4 +0.8**
GNI pmax pmax
comp=Z,6.0nm,1.3s
AVF Avril sur Loir 82.14 0 *e*P **P 16 39 24.0 -0.8**
comp=Z,17nm,1.1s,mb4.6
AVF Avril sur Loir 82.14 0 *e*P **P 16 39 24.0 -0.8**
AVF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
SMF Signal de Mont 82.28 0 *e*P **P 16 39 24.7 -0.8**
comp=Z,24nm,1.2s,mb4.7
SMF Signal de Mont 82.28 0 *e*P **P 16 39 24.7 -0.8**
SMF pmax pmax
comp=Z,12nm,1.3s,mb4.7
RKT Rikitea 82.56 142 *e*S S 16 49 34.1 -5.9
RKT *e*LR LR 17 04 58.1
comp=Z,949nm,29.5s,baz=342
TCF Toulx Ste Croi 82.63 1 *e*P **P 16 39 26.2 -1.1**
comp=Z,20nm,1.3s,mb4.7
TCF Toulx Ste Croi 82.63 1 *e*P **P 16 39 26.2 -1.1**
TCF pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
VIS Vishakhapatnam 82.73 289 *e*P **P 16 39 28.3 -0.1**
VIS *e* 16 39 31.8
comp=Z,37nm,1.4s
WRAB Tennant Creek 83.25 226 P **P 16 39 31.5 +0.5**
WRAB pmax pmax
comp=Z,72nm,1.4s,mb5.5
WRAB Tennant Creek 83.25 226 *e*P **P 16 39 30.4 -0.6**
comp=Z,72nm,1.4s,mb5.5
WB2 Warramunga Arr 83.26 226 ⇓*i*P **P 16 39 31.0 0.0**
WRA Warramunga Arr 83.27 226 P **P 16 39 31.2 +0.1**
comp=Z,14nm,1.0s,mb4.9,baz=36,slow=6.4,SNR=32
LPL La Plagne 83.38 358 *e*P **P 16 39 30.6 -0.5**
LPG La Plagne 83.40 358 *e*P **P 16 39 30.5 -0.7**
comp=Z,12nm,1.2s,mb4.5
LPG La Plagne 83.40 358 *e*P **P 16 39 30.5 -0.7**
LPG pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
ORIF Oris-en-Rattie 84.00 359 *e*P **P 16 39 33.5 -0.7**
ORIF *e*R
comp=Z,197nm,22.4s
SBF Sospel 85.02 357 *e*P **P 16 39 38.5 -0.8**
BRTR Keskin Array B 85.56 337 P **P 16 39 42.9 +0.8**
comp=Z,2.1nm,0.9s,mb4.3,baz=38,slow=2.0,SNR=6.9
MALT Malatya 85.64 333 *e*P **P 16 39 42.0 -0.5**
MALT *e**PP pP 16 39 53.4 -1.5
HYB Hyderabad 85.77 293 *e*P **P 16 39 43.5 -0.1**
HYB Hyderabad 85.77 293 *i*P **P 16 39 43.5 -0.1**
FITZ Fitzroy Crossi 85.87 234 ⇓*i*P **P 16 39 45.2 +1.1**
comp=Z,31nm,1.1s,mb5.5
ASAR Alice Springs 86.71 225 P **P 16 39 49.0 +0.9**
comp=Z,15nm,1.0s,mb5.2,baz=34,slow=4.2,SNR=43
ASAR PKKPbc 16 57 44.4
comp=Z,0.3nm,0.9s,baz=205,slow=2.4,SNR=3.9
ASPA Alice Springs 86.71 225 ⇓*i*P **P 16 39 48.9 +0.8**
POO Poona 87.55 297 *e*P **P 16 39 52.9 +0.7**
POO *e* 16 39 55.1
comp=Z,66nm,1.0s
URZ Urewera 89.54 185 P **P 16 40 02.1 +0.8**
comp=Z,2.6nm,0.9s,mb4.6,baz=359,slow=6.8,SNR=3.2
STKA Stephens Creek 90.93 215 ⇓*i*P **P 16 40 09.3 +1.3**
comp=Z,12nm,0.9s,mb5.2
STKA Stephens Creek 90.93 215 P **P 16 40 09.3 +1.3**
comp=Z,16nm,1.0s,mb5.3,baz=344,slow=5.9,SNR=22
ROSC El Rosal 93.52 78 LR LR 17 17 53.7
comp=Z,104nm,21.6s,MS4.2,baz=256,slow=32
OTAV Otavalo 94.59 84 *e*P **P 16 40 26.2 +1.1**
comp=Z,6.1nm,1.3s,mb4.9
RPZ Rata Peaks 95.44 189 LR LR 17 19 05.5
comp=Z,430nm,19.7s,MS4.9,baz=21,slow=33
DBIC Dimbokro 121.62 10 PKP PKPdf 16 45 58.2 +1.2
comp=Z,2.8nm,0.3s,baz=354,slow=2.0,SNR=12
KMBO Kilima Mbogo 122.54 319 PKP PKPdf 16 46 00.6 +1.7
comp=Z,2.9nm,0.8s,baz=47,slow=7.3,SNR=5.8
BDFB Brasilia 125.50 69 PKP PKPdf 16 46 06.2 +1.8
comp=Z,2.3nm,0.9s,baz=270,slow=3.6,SNR=3.6
QSPA South Pole Qui 141.21 180 P PKPdf 16 46 29.0 -2.9
MAW Mawson 147.58 218 *e*P PKPdf 16 46 48.5 +5.4
comp=Z,33nm,1.0s
MAW Mawson 147.58 218 PKPbc PKPdf 16 46 48.7 +5.6
comp=Z,42nm,1.0s,baz=52,slow=3.2,SNR=22
SYO Syowa Base 155.61 211 ⇓PKPdf PKPdf 16 47 00.3 +5.5
SYO Syowa Base 155.61 211 ⇑pPKPdf 16 47 09.6
SYO Syowa Base 155.61 211 ⇓PKPab PKPab 16 47 22.8 -0.7
SNAA Sanae 159.48 174 PKP2 PKPab 16 47 39.6 -0.5
SNAA pmax pmax
comp=Z,3.0nm,1.0s
SNAA Sanae 159.48 174 PKPab PKPab 16 47 39.6 -0.5
comp=Z,3.3nm,1.0s,baz=212,slow=9.5,SNR=4.8

*IDC **09** 16:41:26.3±4.7, 5.77S×147.75E, h39km±38km, mb4.1/2, mb1 4.3/4, mb1mx3.8/12, mbtmp4.3/4, ML4.5/1, Error ellipse: s-maj=67.9km s-min=46.9km az=118.0*
*NEIC **09** 16:41:28.7±6.8, 5.97S×147.80E, h50km±37km, mb4.3/5, Error ellipse: s-maj=67.6km s-min=25.3km az=193.0*
ISC 09 16:41:26.9±1.9, 5.9S±0.1×147.7E±0.2, h50km, n12, σ0.85/15, mb4.4/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.53**	**188**	Pn	**P**	**16 42 20.5**	**-0.1**
	4.0nm,0.3s,baz=13,slow=7.3,SNR=21						
PMG				Sn	**S**	**16 43 01.7**	**+0.2**
	9.6nm,0.3s,baz=220,slow=22,SNR=18						
PMG	**Port Moresby**	**3.53**	**188**	*e*Pn	**P**	**16 42 20.4**	**-0.3**
PMG				*e*Sn	**S**	**16 43 02.2**	**+0.7**
WRAB	**Tennant Creek**	**19.04**	**222**	*e*P	**P**	**16 45 46.7**	**-1.1**
	13nm,0.6s						
WB2	**Warramunga Arr**	**19.05**	**222**	*e*P	**P**	**16 45 46.7**	**-1.1**
WRA	**Warramunga Arr**	**19.05**	**222**	P	**P**	**16 45 47.0**	**-1.0**
	1.4nm,0.3s,baz=47,slow=11,SNR=66						
ASAR	**Alice Springs**	**22.09**	**215**	P	**P**	**16 46 20.1**	**+0.7**
	7.3nm,0.7s,mb4.2,baz=46,slow=9.8,SNR=177						
ASAR				S	**S**	**16 50 23.2**	**+8.4**
	0.8nm,0.7s,baz=37,slow=23,SNR=5.8						
ASPA	**Alice Springs**	**22.09**	**215**	*e*P	**P**	**16 46 20.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**24.70**	**239**	*e*P	**P**	**16 46 46.7**	**+1.8**
	36nm,0.7s,mb5.0						
STKA	**Stephens Creek**	**26.47**	**192**	*e*P	**P**	**16 47 01.5**	**+0.1**
	2.9nm,0.9s,mb3.8						
STKA	**Stephens Creek**	**26.47**	**192**	P	**P**	**16 47 00.7**	**-0.8**
	4.0nm,0.7s,mb4.1,baz=7.2,slow=8.3,SNR=14						
MBWA	**Marble Bar**	**31.03**	**238**	*e*P	**P**	**16 47 42.6**	**+0.1**
	2.3nm,0.5s,mb4.3						
QSPA	**South Pole Qui**	**84.07**	**180**	P	**P**	**16 53 53.1**	**0.0**
	2.7nm,0.7s,mb4.5						

*IDC **09** 16:42:47.9±0.6, 3.30N×94.20E, h24km±3km, mb4.1/12, mb1 4.3/13, mb1mx4.2/20, mbtmp4.3/13, ML4.7/1, MS3.7/2, Ms1 3.8/2, ms1mx3.4/21, Error ellipse: s-maj=25.8km s-min=12.0km az=48.0*
*NEIC **09** 16:42:47.9±0.4, 3.30N×94.23E, mb4.5/5, Error ellipse: s-maj=12.6km s-min=8.8km az=64.0*

*BJI **09** 16:42:54.4, 3.96N×95.11E, h24km, mB4.7, mb4.4, Ms4.1, Msz3.8*
ISC 09 16:42:47.5±5.7, 3.3N±0.1×94.3E±0.2, h36km±49km, h22km±1.9km: pP-P, n26, σ0.75/23, mb4.3/17, MS4.5/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.73**	**17**	Pn	**P**	**16 46 28.5**	**+0.3**
	1.0nm,0.3s,baz=202,slow=12,SNR=50						
CMAR				LR	LR	16 51 49.1	
	comp=Z,69nm,21.4s,baz=355,slow=34						
HYB	**Hyderabad**	**20.84**	**313**	*i*P	**P**	**16 47 37.0**	**+8.3**
LSA	**Lhasa**	**26.41**	**354**	*e*P	**P**	**16 48 25.8**	**+2.9**
LSA	**Lhasa**	**26.41**	**354**	*e*P	**P**	**16 48 25.0**	**+2.1**
	15nm,1.0s,mb4.5						
XAN	**Xi'an**	**33.48**	**22**	P	**P**	**16 49 24.5**	**-1.1**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
AAK	**Ala-Archa**	**42.95**	**338**	*e*P	**P**	**16 50 44.0**	**-0.7**
	comp=Z,6.6nm,1.1s,mb4.3						
SONM	**Songino Array**	**45.57**	**11**	P	**P**	**16 51 06.1**	**+0.3**
	comp=Z,3.3nm,0.9s,mb4.2,baz=195,slow=7.3,SNR=18						
SONM				pP	pP	16 51 14.5	-1.9
	comp=Z,2.2nm,0.6s,baz=194,slow=8.0,SNR=9.8						
WRA	**Warramunga Arr**	**45.62**	**122**	P	**P**	**16 51 07.4**	**+0.7**
	comp=Z,3.7nm,0.8s,mb4.3,baz=300,slow=8.8,SNR=16						
WRA				pP	pP	16 51 14.8	-2.4
	comp=Z,3.9nm,0.7s,baz=301,slow=8.9,SNR=11						
ULN	**Ulaanbaatar**	**45.73**	**12**	*e*P	**P**	**16 51 06.3**	**-0.9**
ASAR	**Alice Springs**	**46.99**	**127**	P	**P**	**16 51 17.2**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.0,baz=296,slow=7.5,SNR=15						
ASAR				pP	pP	16 51 24.7	-3.2
	comp=Z,2.0nm,0.5s,baz=294,slow=8.0,SNR=9.3						
ASAR				PcP	PcP	16 52 50.2	+0.6
	comp=Z,0.9nm,0.7s,baz=292,slow=4.9,SNR=4.0						
ASAR				pPcP		16 52 56.7	
	comp=Z,0.7nm,0.5s,baz=310,slow=3.2,SNR=4.1						
BVAR	**Borovoye Array**	**53.34**	**342**	P	**P**	**16 52 05.2**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.1,baz=149,slow=8.6,SNR=9.4						
BVAR				pP	pP	16 52 12.2	-3.9
	comp=Z,4.2nm,0.6s,baz=146,slow=9.1,SNR=15						
BRVK	**Borovoye**	**53.40**	**342**	*e*P	**P**	**16 52 05.5**	**-0.3**
	comp=Z,3.3nm,0.5s,mb4.5						
CHKZ	**Chkalovo**	**53.83**	**343**	*e*P	**P**	**16 52 08.9**	**-0.1**
	comp=Z,2.4nm,0.6s,mb4.3						
CHKZ				*e*	pP	16 52 17.6	-2.2
STKA	**Stephens Creek**	**56.93**	**132**	P	**P**	**16 52 31.4**	**-0.4**
	comp=Z,2.2nm,0.8s,mb4.2,baz=327,slow=4.5,SNR=4.3						
STKA				pP	pP	16 52 39.7	-2.9
	comp=Z,1.4nm,0.6s,baz=280,slow=7.4,SNR=2.3						
STKA				LR	LR	17 17 00.3	
	comp=Z,335nm,19.4s,MS4.5,baz=18,slow=36						
KMBO	**Kilima Mbogo**	**57.17**	**267**	P	**P**	**16 52 32.8**	**-0.9**
	comp=Z,1.8nm,0.6s,mb4.2,baz=49,slow=19,SNR=4.3						
KMBO	**Kilima Mbogo**	**57.17**	**267**	P	**P**	**16 52 33.1**	**-0.6**
	comp=Z,6.6nm,1.3s,mb4.5						
BRTR	**Keskin Array B**	**65.54**	**312**	P	**P**	**16 53 29.3**	**-0.5**
	comp=Z,0.7nm,0.6s,mb3.9,baz=123,slow=5.1,SNR=4.9						
IDI	**Anoyia**	**71.30**	**306**	P	**P**	**16 54 05.7**	**+0.1**
	comp=Z,5.0nm,0.8s,mb4.5,baz=65,slow=12,SNR=5.5						
FINES	**FINESS Array B**	**76.79**	**333**	P	**P**	**16 54 36.5**	**-0.5**
	comp=Z,3.9nm,0.8s,mb4.4,baz=162,slow=6.0,SNR=6.1						
GERES	**GERESS Array B**	**81.31**	**319**	P	**P**	**16 55 03.1**	**+1.3**
	comp=Z,2.9nm,0.9s,mb4.2,baz=104,slow=5.5,SNR=21						
GERES				pP	pP	16 55 10.2	-2.8
	comp=Z,2.4nm,0.6s,baz=95,slow=5.6,SNR=13						
KHC	**Kasperske Hory**	**81.42**	**319**	*e*P	**P**	**16 55 02.5**	**+0.2**
HFS	**Hagfors**	**82.45**	**330**	P	**P**	**16 55 07.6**	**+0.2**
	comp=Z,3.3nm,0.9s,mb4.2,baz=113,slow=11,SNR=3.8						
DAVOX	**Davos**	**83.76**	**317**	P	**P**	**16 55 15.4**	**+1.0**
	comp=Z,4.4nm,0.7s,mb4.7,baz=108,slow=6.2,SNR=11						
DAVOX				pP	pP	16 55 22.6	-3.1
	comp=Z,5.3nm,0.6s,baz=159,slow=5.7,SNR=7.6						
TXAR	**Lajitas Array**	**143.26**	**27**	PKP	PKPdf	17 02 21.5	+2.9
	comp=Z,0.1nm,0.3s,baz=323,slow=4.5,SNR=2.8						
LPAZ	**La Paz**	**158.42**	**232**	PKPab	PKPab	17 03 20.0	+1.2
	comp=Z,1.4nm,0.6s,baz=117,slow=5.4,SNR=6.8						
LPAZ	**La Paz**	**158.42**	**232**	PKPab	PKPab	17 03 20.0	+1.2

NDI 09 16:43:38.2±5.8, 31.23N×77.44E, h15km±23km, MD2.8, ML3.1, 1D, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLA	**Simla**	**0.25**	**247**	*e*P	Pb	16 43 56.8	+13
SMLA				*e*S	Sb	16 44 03.6	+16
SMLA				*e*		16 46 00.0	
	9μm,0.2s						
KLP	**Kalpa**	**0.76**	**66**	⇓*i*	Pb	16 43 42.5	-10
KLP				*e*		16 43 49.2	
BHK	**Bhakra**	**0.89**	**282**	*e*P	Pb	16 43 54.3	-0.6
BHK				*e*SN	Sn	16 44 12.3	+3.6
DDI	**Dehra Dun**	**1.05**	**149**	*e*PG	Pg	16 44 01.2	+1.9
DDI				*e*		16 44 07.2	
KKR	**Kurukshetra**	**1.37**	**203**	*e*P	Pn	16 44 02.6	-0.3
KKR				*e*S	Sb	16 44 22.7	+2.6
KKR				*e*		16 44 27.2	
	comp=Z,549nm,0.2s						
DLH	**Dalhousie**	**1.81**	**317**	*e*P	Pn	16 44 08.0	-1.2
DLH				*e*S	Sn	16 44 34.0	+2.0
KALG	**Kalgarh**	**2.06**	**146**	*e*	Pn	16 44 04.8	-8.0
NDI	**New Delhi**	**2.54**	**184**	*e*P	Pn	16 44 19.0	-0.7
NDI				*e*		16 44 52.5	
AYAN	**Aya Nagar**	**2.75**	**186**	*e*P	Pn	16 44 20.1	-2.6
AYAN				*e*S	Sn	16 44 54.5	-1.3
AYAN				*e*		16 45 01.9	
	comp=Z,44nm,0.5s						
PTH	**Pithoragarh**	**2.93**	**124**	*e*P	Pn	16 44 25.0	-0.1
PTH				*e*S	Sn	16 44 59.0	-1.3
KUDL	**Kundal**	**3.18**	**195**	*e*P	Pn	16 44 26.1	-2.7
KUDL				*e*S	Sn	16 45 03.5	-3.3
KUDL				*e*		16 45 22.8	
	comp=Z,36nm,0.5s						
KHET	**Khetri**	**3.45**	**205**	*e*P	Pn	16 44 29.6	-3.0
KHET				*e*		16 45 05.5	
KHET				*e*		16 45 33.1	
	comp=E,47nm,0.4s						
KHET				*e*		16 45 33.2	
	comp=N,48nm,0.3s						
SHL	**Shillong**	**13.90**	**110**	*e*	P	16 47 42.0	+45

*NEIC **09** 16:55:33.8, 37.71S×177.31E, h117km, After WEL.*
WEL 09 16:55:33.8±0.2, 37.71S×177.31E, h117km±1km, ML4.1/6, 5C-2D, Error ellipse: s-maj=0.9km s-min=0.9km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.21**	**333**	P	P	16 55 49.1	-1.0
WIZ	**White Island**	**0.21**	**333**	PN	P	16 55 49.6	-0.5
URZ	**Urewera**	**0.57**	**196**	⇑PN	P	16 55 51.6	-0.3
URZ				SN	S	16 56 05.0	-0.7
MARZ	**Manawahe**	**0.57**	**241**	PN	P	16 55 51.9	-0.1
EDRZ	**Edgecumbe**	**0.60**	**229**	P	P	16 55 52.4	+0.2
EDRZ	**Edgecumbe**	**0.60**	**229**	PN	P	16 55 52.2	0.0
EDRZ				SN	S	16 56 06.4	+0.3
MWZ	**Matawai**	**0.65**	**165**	PN	P	16 55 52.4	-0.1
MWZ				SN	S	16 56 06.6	-0.2
LIRZ	**Lichensteins R**	**0.79**	**248**	P	P	16 55 53.8	+0.1
LIRZ	**Lichensteins R**	**0.79**	**248**	PN	P	16 55 53.8	0.0
MXZ	**Matakaoa Point**	**0.81**	**80**	⇑P	P	16 55 53.8	-0.1
MXZ				S	S	16 56 08.7	-0.3
MXZ	**Matakaoa Point**	**0.81**	**80**	⇑PN	P	16 55 53.8	-0.1
MXZ				SN	S	16 56 08.7	-0.3
TAZ	**Tarawera**	**0.82**	**230**	P	P	16 55 54.4	+0.3
TAZ	**Tarawera**	**0.82**	**230**	⇓PN	P	16 55 54.3	+0.3
TGRZ	**Tauranga**	**0.83**	**268**	PN	P	16 55 53.9	-0.3
TGRZ				SN	S	16 56 08.9	-0.5
PUZ	**Puketiti**	**0.83**	**116**	⇑P	P	16 55 53.9	-0.3
PUZ				S	S	16 56 08.8	-0.7
PUZ	**Puketiti**	**0.83**	**116**	⇑PN	P	16 55 53.9	-0.3
PUZ				SN	S	16 56 08.8	-0.7
MYRZ	**Mayor Island**	**0.95**	**297**	PN	P	16 55 55.3	-0.1
KNZ	**Kokohu**	**1.34**	**168**	P	P	16 55 59.0	-0.6
KNZ	**Kokohu**	**1.34**	**168**	⇓PN	P	16 55 59.0	-0.6
KNZ				SN	S	16 56 18.3	-0.8
BKZ	**Black Stump Fm**	**1.59**	**204**	*e*P	P	16 56 02.0	-0.5
BKZ	**Black Stump Fm**	**1.59**	**204**	PN	P	16 56 01.7	-0.9
BKZ				SN	S	16 56 23.5	-0.7
KUZ	**Kuaotunu**	**1.59**	**307**	*e*P	P	16 56 01.9	-0.7
KUZ				S	S	16 56 22.9	-1.4
KUZ	**Kuaotunu**	**1.59**	**307**	PN	P	16 56 01.9	-0.7
KUZ				SN	S	16 56 22.7	-1.6
MGZ	**Maungaku**	**1.90**	**227**	P	P	16 56 06.2	0.0
MGZ	**Maungaku**	**1.90**	**227**	PN	P	16 56 06.2	-0.1
OTVZ	**Oturere**	**1.94**	**221**	PN	P	16 56 06.5	-0.3
OTVZ				SN	S	16 56 31.7	0.0
NGZ	**Ngauruhoe**	**1.98**	**222**	P	P	16 56 07.0	-0.3
TUVZ	**Tukino**	**2.02**	**219**	P	P	16 56 07.4	-0.5
CNZ	**Chateau**	**2.03**	**222**	P	P	16 56 07.6	-0.3
CNZ	**Chateau**	**2.03**	**222**	PN	P	16 56 07.6	-0.3
MOVZ	**Moawhango**	**2.09**	**215**	P	P	16 56 07.3	-1.4
MOVZ	**Moawhango**	**2.09**	**215**	PN	P	16 56 07.3	-1.4
MOVZ				SN	S	16 56 32.7	-2.2
WNVZ	**Wahianoa**	**2.10**	**219**	P	P	16 56 07.3	-1.6
WNVZ	**Wahianoa**	**2.10**	**219**	PN	P	16 56 07.3	-1.6
PWZ	**Pawanui**	**2.34**	**188**	P	P	16 56 10.1	-2.0
PWZ	**Pawanui**	**2.34**	**188**	PN	P	16 56 10.1	-2.0
PWZ				SN	S	16 56 38.4	-2.6
TSZ	**Takapari Road**	**2.57**	**204**	P	P	16 56 12.5	-2.7
TSZ	**Takapari Road**	**2.57**	**204**	PN	P	16 56 12.8	-2.4
TSZ				SN	S	16 56 44.0	-2.4
BFZ	**Birch Farm**	**3.08**	**195**	P	P	16 56 18.6	-3.4
MRZ	**Mangatainoka R**	**3.24**	**204**	P	P	16 56 20.5	-3.6
KIW	**Kapiti Island**	**3.66**	**210**	P	P	16 56 25.8	-3.9
MTW	**Mount Morrison**	**3.72**	**202**	P	P	16 56 26.0	-4.6
CAW	**Cannon Point**	**3.81**	**206**	P	P	16 56 27.4	-4.4

*NEIC **09** 17:04:04.7, 36.90S×177.66E, h145km, After WEL.*
WEL 09 17:04:03.1±0.2, 36.85S×177.67E, h157km±1km, ML4.1/10, 4C-2D, Error ellipse: s-maj=1.3km s-min=1.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.87**	**144**	⇑P	P	17 04 27.6	-0.1
MXZ	**Matakaoa Point**	**0.87**	**144**	⇑PN	P	17 04 27.5	-0.2
MXZ				SN	S	17 04 46.4	-0.3
PUZ	**Puketiti**	**1.30**	**159**	P	P	17 04 31.6	+0.1
PUZ	**Puketiti**	**1.30**	**159**	PN	P	17 04 31.4	-0.2
PUZ				SN	S	17 04 52.9	-0.7
URZ	**Urewera**	**1.47**	**197**	P	P	17 04 33.0	-0.2
URZ	**Urewera**	**1.47**	**197**	⇑PN	P	17 04 33.0	-0.2
URZ				SN	S	17 04 56.1	-0.4
MWZ	**Matawai**	**1.48**	**184**	P	P	17 04 33.3	0.0
MWZ	**Matawai**	**1.48**	**184**	PN	P	17 04 33.1	-0.2
MWZ				SN	S	17 04 56.1	-0.6
KUZ	**Kuaotunu**	**1.57**	**273**	P	P	17 04 33.9	-0.3
KUZ				S	S	17 04 57.0	-1.2
KUZ	**Kuaotunu**	**1.57**	**273**	⇓PN	P	17 04 33.9	-0.3
KUZ				SN	S	17 04 57.0	-1.2
MKAZ	**Moumakai**	**2.02**	**262**	P	P	17 04 39.7	+0.6
MKAZ	**Moumakai**	**2.02**	**262**	PN	P	17 04 39.7	+0.6
KNZ	**Kokohu**	**2.16**	**180**	P	P	17 04 40.5	-0.4
KNZ	**Kokohu**	**2.16**	**180**	⇑PN	P	17 04 40.5	-0.5
KNZ				SN	S	17 05 09.0	-1.0
OTAZ	**Otara**	**2.20**	**267**	P	P	17 04 42.1	+0.7
OTAZ	**Otara**	**2.20**	**267**	PN	P	17 04 41.8	+0.4
WTAZ	**Waiatarua**	**2.48**	**267**	P	P	17 04 45.5	+0.6
WTAZ	**Waiatarua**	**2.48**	**267**	⇓PN	P	17 04 45.5	+0.6
BKZ	**Black Stump Fm**	**2.49**	**202**	P	P	17 04 44.3	-0.7
BKZ	**Black Stump Fm**	**2.49**	**202**	PN	P	17 04 44.2	-0.8
BKZ				SN	S	17 05 15.7	-1.4
MGZ	**Maungaku**	**2.73**	**217**	P	P	17 04 48.6	+0.7
MGZ	**Maungaku**	**2.73**	**217**	PN	P	17 04 48.6	+0.7
WCZ	**Waipu Caves**	**2.83**	**288**	P	P	17 04 48.4	-0.9
NGZ	**Ngauruhoe**	**2.83**	**214**	P	P	17 04 49.4	+0.1
TUVZ	**Tukino**	**2.89**	**213**	P	P	17 04 49.1	-0.9
FWVZ	**Far West T-bar**	**2.92**	**214**	*e*P	P	17 04 50.0	-0.4
WNVZ	**Wahianoa**	**2.96**	**213**	P	P	17 04 49.7	-1.2
MOVZ	**Moawhango**	**2.96**	**210**	P	P	17 04 49.5	-1.4
TSZ	**Takapari Road**	**3.47**	**202**	P	P	17 04 55.0	-2.5
BFZ	**Birch Farm**	**3.98**	**196**	P	P	17 05 01.1	-3.0
MRZ	**Mangatainoka R**	**4.14**	**203**	*e*P	P	17 05 02.8	-3.3
KIW	**Kapiti Island**	**4.54**	**207**	*e*P	P	17 05 07.6	-3.9
MTW	**Mount Morrison**	**4.62**	**201**	P	P	17 05 08.5	-3.9
CAW	**Cannon Point**	**4.71**	**205**	P	P	17 05 09.5	-4.1
WEL	**Wellington**	**4.97**	**206**	*e*P	P	17 05 13.1	-3.9
BHW	**Baring Head**	**5.04**	**205**	P	P	17 05 13.8	-4.2
NNZ	**Nelson**	**5.49**	**216**	*e*P	P	17 05 20.1	-3.8
QRZ	**Quartz Range**	**5.64**	**224**	*e*P	P	17 05 21.3	-4.6
THZ	**Tophouse**	**6.14**	**216**	P	P	17 05 28.0	-4.5
KHZ	**Kahutara**	**6.40**	**209**	*e*P	P	17 05 31.0	-5.1
MQZ	**McQueen's Vall**	**7.84**	**208**	*e*P	P	17 05 48.6	-6.7

DJA 09 17:08:37.3±1.5, 9.13S×112.49E, h160km, ML4.1/4, 5C-2D, Error ellipse: s-maj=48.8km s-min=37.8km az=148.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.76**	**69**	⇑*i*Pn	P	17 09 09.1	-1.6
	185nm,0.3s						
SRDI				⇑*i*Sn	S	17 09 29.0	-7.5
KELI	**Kelakatan**	**2.18**	**66**	⇑*i*Pn	P	17 09 16.8	+1.3
	98nm,0.4s						
KELI				⇓*i*Sn	S	17 09 42.6	-2.4
RATI	**Rata**	**3.04**	**83**	⇓*i*Pn	P	17 09 26.1	-0.1
	109nm,0.2s						
RATI				⇑*i*Sn	S	17 09 54.0	-10
KEDI	**Kedomdong**	**3.64**	**80**	*e*Pn	P	17 09 33.9	-0.1
	15nm,0.2s						
KEDI				⇑*i*Sn	S	17 10 15.0	-2.5

IDC 09 17:11:48.0±6.4, 20.61S×120.74E, mb3.2/1, mb1 3.9/4, mb1mx3.7/10, mbtmp3.8/4, ML3.6/2, Error ellipse: s-maj=90.5km s-min=33.3km az=158.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLBR	**Kellerberrin**	**11.26**	**193**	*e*P	P

1.1nm,0.8s,mb3.8,baz=189,slow=8.8,SNR=10
WRA Warramunga Arr 45.62 122 P **P 17 24 50.3 0.0**
2.0nm,0.8s,mb4.1,baz=303,slow=8.8,SNR=8.2
WRAB Tennant Creek 45.63 122 *e*P **P 17 24 50.6 +0.2**
0.7nm,0.4s,mb3.9
ULN Ulaanbaatar 45.73 12 *e*P **P 17 24 51.8 +0.9**
0.3nm,0.4s,mb3.6
ASAR Alice Springs 46.99 127 P **P 17 25 00.9 -0.2**
0.9nm,0.4s,mb4.0,baz=295,slow=7.5,SNR=13
BVAR Borovoye Array 53.34 342 P **P 17 25 47.9 -1.3**
0.6nm,0.6s,mb3.7,baz=124,slow=11,SNR=3.8
BRVK Borovoye 53.40 342 *e*P **P 17 25 48.5 -1.1**
1.0nm,0.4s,mb4.1
CHKZ Chkalovo 53.83 343 *e*P **P 17 25 52.1 -0.7**
0.6nm,0.3s,mb4.0
ARCES ARCESS Array B 79.58 341 P **P 17 28 36.0 0.0**
2.0nm,0.7s,mb4.1,baz=82,slow=6.4,SNR=4.3
ARCES ARCESS Array B 79.58 341 P **P 17 28 36.0 0.0**
GERES GERESS Array B 81.31 319 P **P 17 28 46.3 +0.7**
0.5nm,0.9s,mb3.4,baz=90,slow=2.7,SNR=4.5

BJI ***09*** *17:16:44.8, 3.27N×94.24E, h32km, mB5.3, mb5.1, Ms5.4, Msz5.2*
MOS ***09*** *17:16:45.5±1.2, 3.40N×94.31E, h33km, mb5.7/42, MS4.9/11, Error ellipse: s-maj=11.7km s-min=6.0km az=116.5*
NEIC ***09*** *17:16:46.0±0.1, 3.32N×94.28E, mb5.4/84, MS4.7/8, MW5.3, Error ellipse: s-maj=6.4km s-min=4.0km az=223.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.76; $M_{\theta\theta}$=1.02; $M_{\phi\phi}$=-0.26; $M_{r\theta}$=0.08; $M_{\theta\phi}$=0.04; $M_{\phi r}$=-0.41; Best double couple: M_0=1×10^{17} NP1:ϕ_s=62°, δ50°, λ-130°. NP2:ϕ_s=294°, δ54°, λ-53°. Principal axes: T 1.02, Plg2°, Azm359°; N -.03, Plg29°, Azm90°; P -1, Plg60°, Azm265°;*
IDC ***09*** *17:16:46.2±0.4, 3.42N×94.38E, h24km±2km, mb4.9/26, mb1 5.0/27, mb1mx5.0/28, mbtmp5.1/27, ML4.3/1, MS4.8/1, Ms1 4.9/1, ms1mx3.7/9 Error ellipse: s-maj=18.0km s-min=9.3km az=47.0*
HRVD ***09*** *17:16:46.0±0.2, 3.20N×94.14E, h12km, MW5.2/59, Centroid moment Tensor Solution. LP body waves: s43,c78;Mantle waves: s59,c111; Half duration: 1⅊0 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.72±.02; $M_{\theta\theta}$0.65±.01; $M_{\phi\phi}$0.07±.02; $M_{r\theta}$0.00±.04; $M_{\theta\phi}$-0.35±.01; $M_{\phi r}$-0.21±.05; Best double couple: M_0=7.97×10^{17} NP1: ϕ_s100°, δ44°, λ-112°. NP2:ϕ_s310°, δ50°, λ-70°. Principal axes: T .818, Plg3°, Azm26°; N -.041, Plg15°, Azm117°; P -.777, Plg75°, Azm283°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 09 17:16:44.6±1.2, 3.29N±0.03×94.30E±0.03, h28km±8km, h26km±.4km:pP-P, n384, σ1⅊05/376, mb5.3/128, MS4.9/31, 43C-26D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**10.69**	**30**	P		**P**	**P**	**17 19 20.5**	**+1.3**
PALK	**Pallekele**	**14.10**	**287**	*e*P		**P**	**P**	**17 20 03.0**	**-1.9**
	18nm,0.8s								
PALK				*e*				17 20 11.3	
PALK				*e*S		**S**	**S**	**17 22 23.7**	**-18**
KKTK	**Khon Kaen**	**15.44**	**32**	P		**P**	**P**	**17 20 24.0**	**+1.6**
	1μm,0.9s								
CMAR	**Chiang Mai Arr**	**15.74**	**16**	Pn		**P**	**P**	**17 20 23.1**	**-3.2**
	0.5nm,0.3s,baz=214,slow=12,SNR=22								
UBT	**Ubonrachathani**	**15.89**	**41**	P		**P**	**P**	**17 20 32.0**	**+3.7**
	312nm,0.9s								
CHG	**Chiang Mai**	**16.08**	**16**	⇓P		**P**	**P**	**17 20 29.4**	**-1.2**
	16nm,0.8s								
MDRS	**Chennai**	**16.95**	**306**	*i* P		**P**	**P**	**17 20 45.0**	**+3.4**
MDRS				*e*				17 21 53.0	
VIS	**Vishakhapatnam**	**17.92**	**324**	*e*P		**P**	**P**	**17 20 52.5**	**-1.3**
VIS				*e*				17 20 59.0	
	comp=Z,157nm,1.3s								
VIS				*i*				17 23 53.9	
TRD	**Trivandrum**	**18.00**	**287**	*e*P		**P**	**P**	**17 20 53.9**	**-0.9**
TRD				*e*				17 20 59.6	
	comp=Z,217nm,1.3s								
TRD				*e*S		**S**	**S**	**17 24 22.5**	**+11**
CAL	**Calcutta**	**19.99**	**344**	*e*P		**P**	**P**	**17 21 24.7**	**+6.6**
CAL				*e*S		**S**	**S**	**17 25 09.2**	**+13**
AGT	**Agartala**	**20.68**	**352**	⇑*i*P		**P**	**P**	**17 21 23.0**	**-2.2**
AGT				*i*				17 22 40.0	
HYB	**Hyderabad**	**20.87**	**313**	*e*P		**P**	**P**	**17 21 26.5**	**-0.7**
	comp=Z,450nm,1.4s								
HYB				*e*S		**S**	**S**	**17 25 12.0**	**-1.6**
HYB	**Hyderabad**	**20.87**	**313**	*i* P		**P**	**P**	**17 21 26.5**	**-0.7**
	comp=Z,450nm,1.4s								
HYB				*e*S		**S**	**S**	**17 25 12.0**	**-1.6**
HYB				LR		LR	LR	17 29 04.0	
	comp=Z,3.1nm,18.0s								
IMP	**Imphal**	**21.37**	**359**	⇓*i*P		**P**	**P**	**17 21 30.0**	**-2.2**
MNGI	**Mangalore**	**21.51**	**298**	*e*P		**P**	**P**	**17 21 34.7**	**+1.1**
MNGI				*e*				17 21 36.6	
	comp=Z,263nm,1.5s								
MNCY	**Minicoy**	**21.72**	**284**	*i* P		**P**	**P**	**17 21 37.0**	**+1.3**
MNCY				*i*				17 22 23.0	
QIZ	**Qiongzhong**	**21.81**	**43**	P		**P**	**P**	**17 21 38.0**	**+1.4**
QIZ				S		**S**	**S**	**17 25 34.2**	**+3.0**
QIZ				XS				17 25 45.5	
QIZ				LR		LR			
	comp=N,5μm,14.8s,MS5.1								
QIZ				LR		LR			
	comp=E,3μm,15.3s,MS5.1								
QIZ				LR		LR			
	comp=Z,3μm,18.8s,MS4.7								
BLSP	**Bilaspur**	**22.14**	**329**	*e*P		**P**	**P**	**17 21 41.0**	**+1.1**
BLSP				*e*				17 21 46.0	
	comp=Z,312nm,1.3s								
BLSP				*e*S		**S**	**S**	**17 25 43.0**	**+5.8**
SHL	**Shillong**	**22.27**	**354**	*e*		**P**	**P**	**17 21 44.1**	**+3.0**
LATR	**Latur**	**22.97**	**312**	*e*P		**P**	**P**	**17 21 48.5**	**+0.3**
NGP	**Nagpur**	**23.13**	**321**	*e*P		**P**	**P**	**17 21 51.6**	**+1.8**
NGP				*e*S		**S**	**S**	**17 26 00.1**	**+4.9**
GOA	**Goa**	**23.52**	**302**	⇓*i*		**P**	**P**	**17 21 59.2**	**+5.6**
GOA				*e*				17 22 06.2	
	comp=Z,135nm,1.6s								
GOA				*i* S		**S**	**S**	**17 26 12.2**	**+10**
DGAR	**Diego Garcia**	**24.25**	**244**	P		**P**	**P**	**17 22 00.0**	**-0.8**
POO	**Poona**	**25.10**	**309**	⇓*i*P		**P**	**P**	**17 22 09.7**	**+0.9**
POO				*e*				17 22 11.7	
	comp=Z,101nm,0.8s								
BHPL	**Bhopal**	**25.69**	**322**	*e*P		**P**	**P**	**17 22 15.1**	**+0.8**
BHPL				*e*				17 22 17.9	
	comp=Z,121nm,1.1s								
BHPL				*e*S		**S**	**S**	**17 26 42.3**	**+3.6**
BOM	**Bombay**	**26.11**	**308**	*e*P		**P**	**P**	**17 22 16.2**	**-2.1**
BOM				*e*		pP	pP	17 22 23.7	-2.7
	comp=Z,234nm,1.5s								
LSA	**Lhasa**	**26.43**	**354**	P		**P**	**P**	**17 22 23.3**	**+2.2**
LSA				AP		pP	pP	17 22 33.1	+3.9
LSA				XP		sP	sP	17 22 39.2	+6.3
LSA				PCP		PcP	PcP	17 25 42.6	-4.0
LSA				S		**S**	**S**	**17 26 54.5**	**+3.5**
LSA				SCP				17 29 20.4	
LSA				PCS				17 29 26.1	
LSA				SCS		ScS	ScS	17 33 10.6	-1.4
LSA				AMB		AMB	AMB		
	comp=Z,240nm,0.8s,mb5.8								
LSA				AMB		AMB	AMB		
	comp=Z,370nm,3.6s								
LSA				LR		LR	LR		
	comp=N,450nm,23.2s,MS4.3								
LSA				LR		LR	LR		
	comp=E,890nm,18.8s,MS4.3								
LSA				LR		LR	LR		
	comp=Z,1μm,22.4s,MS4.4								
LSA	**Lhasa**	**26.43**	**354**	*e*P		**P**	**P**	**17 22 21.9**	**+0.7**
	comp=Z,3.8nm,0.8s,mb4.0								
LSA				*e*		pP	pP	17 22 29.7	+0.5
PTH	**Pithoragarh**	**29.33**	**334**	*e*P		**P**	**P**	**17 22 47.0**	**-0.4**
PTH				*e*				17 24 05.0	
NDI	**New Delhi**	**30.03**	**329**	*e*P		**P**	**P**	**17 22 53.4**	**-0.3**
NDI				*e*				17 22 54.4	
	comp=Z,115nm,0.8s								
ENH	**Enshi**	**30.44**	**27**	*e*P		**P**	**P**	**17 22 55.9**	**-1.3**
	comp=Z,13nm,0.7s,mb4.8								
ENH				LR		LR	LR		
	comp=Z,3μm,21.0s,MS4.9								
DDI	**Dehra Dun**	**30.96**	**332**	*e*P		**P**	**P**	**17 23 01.0**	**-0.9**
DDI				*e*				17 30 18.3	
QZH	**Quanzhou**	**31.79**	**45**	*e*P		**P**	**P**	**17 23 11.0**	**+1.8**
QZH				*e*S		**S**	**S**	**17 28 21.2**	**+4.8**
QZH				LR		LR	LR		
	comp=N,2μm,14.5s,MS5.3								
QZH				LR		LR	LR		
	comp=E,4μm,13.5s,MS5.3								
QZH				LR		LR	LR		
	comp=Z,5μm,12.4s,MS5.4								
SMLA	**Simla**	**32.06**	**332**	*e*		**P**	**P**	**17 23 24.5**	**+13**
WHN	**Wuhan**	**33.07**	**33**	⇓P		**P**	**P**	**17 23 20.5**	**+0.2**
WHN				AP		pP	pP	17 23 29.5	+1.0
WHN				LR		LR	LR		
	comp=Z,11μm,13.7s,MS5.7								
XAN	**Xi'an**	**33.49**	**22**	P		**P**	**P**	**17 23 22.8**	**-1.1**
XAN				S		**S**	**S**	**17 28 40.6**	**-2.2**
XAN				AMB		AMB	AMB		
	comp=Z,81nm,0.9s,mb5.7								
XAN				LR		LR	LR		
	comp=N,1μm,23.2s,MS4.8								
XAN				LR		LR	LR		
	comp=E,2μm,19.2s,MS4.8								
XAN				LR		LR	LR		
	comp=Z,4μm,13.4s								
LZH	**Lanzhou**	**33.80**	**14**	⇑P		**P**	**P**	**17 23 25.1**	**-1.5**
LZH				AP		pP	pP	17 23 34.7	-0.1
LZH				XP		sP	sP	17 23 39.3	+0.9
LZH				S		**S**	**S**	**17 28 55.0**	**+7.4**
LZH				AMB		AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3								
LZH				AMB		AMB	AMB		
	comp=Z,210nm,4.0s								
LZH				LR		LR	LR		
	comp=E,5μm,13.4s								
LZH				LR		LR	LR		
	comp=Z,4μm,19.0s								
MBWA	**Marble Bar**	**34.81**	**135**	*e*P		**P**	**P**	**17 23 33.6**	**-1.7**
	comp=Z,17nm,1.0s,mb4.9								
NJ2	**Nanjing**	**36.75**	**36**	*e*P		**P**	**P**	**17 23 48.2**	**-3.5**
NJ2				AP		pP	pP	17 23 57.4	-2.6
NJ2				XP		sP	sP	17 24 01.2	-2.3
NJ2				PP		PP	PP	17 25 13.0	-4.2
NJ2				S		**S**	**S**	**17 29 27.0**	**-6.2**
NJ2				AMB		AMB	AMB		
	comp=Z,220nm,1.0s,mb5.9								
NJ2				AMB		AMB	AMB		
	comp=Z,4μm,7.3s								
NJ2				LR		LR	LR		
	comp=N,6μm,11.8s,MS5.8								
NJ2				LR		LR	LR		
	comp=E,7μm,10.9s,MS5.8								
NJ2				LR		LR	LR		
	comp=Z,8μm,13.0s,MS5.7								
FITZ	**Fitzroy Crossi**	**37.50**	**126**	*e*P		**P**	**P**	**17 23 56.0**	**-2.1**
	comp=Z,30nm,0.9s,mb5.1								
SSE	**Sheshan**	**37.52**	**40**	P		**P**	**P**	**17 23 58.9**	**+0.7**
SSE				S		**S**	**S**	**17 29 48.9**	**+4.0**
SSE				XS				17 30 03.1	
SSE				AMB		AMB	AMB		
	comp=Z,27nm,0.7s,mb5.1								
SSE				AMB		AMB	AMB		
	comp=Z,199nm,5.1s								
SSE				LR		LR	LR		
	comp=N,838nm,20.8s,MS4.6								
SSE				LR		LR	LR		
	comp=E,598nm,21.0s,MS4.6								
SSE				LR		LR	LR		
	comp=Z,1μm,18.4s,MS4.7								
WBK	**Wadi Bani Khal**	**39.24**	**302**	⇑P		**P**	**P**	**17 24 14.3**	**+1.6**
	SNR=6.5								
JMDO	**Jabal Madar**	**39.88**	**302**	⇑P		**P**	**P**	**17 24 19.1**	**+1.2**
SMDO	**Samad**	**40.20**	**302**	⇓P		**P**	**P**	**17 24 22.3**	**+1.8**
	SNR=7.2								
BIDO	**Bidbid**	**40.32**	**303**	⇑P		**P**	**P**	**17 24 23.6**	**+2.1**
	SNR=18								
WMQ	**Urumqi**	**40.78**	**353**	⇑P		**P**	**P**	**17 24 25.8**	**+0.7**
WMQ				AP		pP	pP	17 24 35.6	+2.1
WMQ				XP		sP	sP	17 24 39.6	+2.7
WMQ				PP		PP	PP	17 26 03.8	+1.5
WMQ				S		**S**	**S**	**17 30 34.3**	**+0.4**
WMQ				XS				17 30 50.5	
WMQ				AMB		AMB	AMB		
	comp=Z,22nm,1.0s,mb4.7								
WMQ				AMB		AMB	AMB		
	comp=Z,189nm,5.2s								
WMQ				LR		LR	LR		
	comp=N,4μm,19.8s,MS5.4								
WMQ				LR		LR	LR		
	comp=E,4μm,21.6s,MS5.4								
WMQ				LR		LR	LR		
	comp=Z,3μm,19.5s,MS5.2								
MUN	**Mundaring**	**40.79**	**151**	*e*P		**P**	**P**	**17 24 26.4**	**+1.0**
	comp=Z,8.8nm,0.6s,mb4.6								
BSY	**Bisya**	**40.79**	**302**	⇓P		**P**	**P**	**17 24 27.5**	**+2.1**
	SNR=17								
HOQ	**Hoqain**	**41.03**	**303**	⇑P		**P**	**P**	**17 24 29.6**	**+2.2**
	SNR=9.0								
KAKA	**Kakadu**	**41.09**	**114**	*e*P		**P**	**P**	**17 24 27.6**	**-0.3**
	comp=Z,44nm,1.0s,mb5.0								
KLBR	**Kellerberrin**	**41.25**	**149**	*e*P		**P**	**P**	**17 24 29.9**	**+0.8**
	comp=Z,23nm,1.1s,mb4.7								
BJT	**Baijiatuau**	**41.58**	**26**	*e*P		**P**	**P**	**17 24 33.1**	**+1.4**
	comp=Z,30nm,0.8s,mb5.0								
BJT				*e*				17 24 39.4	
ARQ	**Araqi**	**41.60**	**302**	⇓P		**P**	**P**	**17 24 34.1**	**+1.9**
ULHL	**Ulahol**	**42.01**	**340**	P		**P**	**P**	**17 24 36.6**	**+1.3**
	SNR=15								
NWAO	**Narrogin (SRO)**	**42.06**	**151**	P		**P**	**P**	**17 24 35.8**	**-0.1**
	comp=Z,8.3nm,0.6s,mb4.5,baz=281,slow=6.7,SNR=7.1								
NWAO	**Narrogin (SRO)**	**42.06**	**151**	*e*P		**P**	**P**	**17 24 35.8**	**-0.1**
KZA	**Kyzart**	**42.21**	**339**	P		**P**	**P**	**17 24 38.7**	**+1.7**
	SNR=42								
WHFO	**Wadi Hawf**	**42.27**	**293**	⇑P		**P**	**P**	**17 24 38.4**	**+0.6**
	SNR=18								
ABTO	**Aybut**	**42.56**	**292**	⇓P		**P**	**P**	**17 24 41.4**	**+1.3**
UCH	**Uchtor**	**42.61**	**338**	P		**P**	**P**	**17 24 41.7**	**+1.5**
	SNR=6.2								
KBK	**Karagaybulak**	**42.83**	**339**	P		**P**	**P**	**17 24 43.7**	**+1.7**
	SNR=78								
TKM2	**Tokmak 2**	**42.83**	**340**	P		**P**	**P**	**17 24 43.0**	**+1.0**
	SNR=9.2								
AML	**Almayashu**	**42.84**	**337**	P		**P**	**P**	**17 24 43.8**	**+1.7**
	SNR=11								
AAK	**Ala-Archa**	**42.97**	**338**	P		**P**	**P**	**17 24 44.7**	**+1.5**
	SNR=42								
AAK	**Ala-Archa**	**42.97**	**338**	⇑*i*P		**P**	**P**	**17 24 41.0**	**-2.2**
AAK				pmax		pmax	pmax		
	comp=Z,46nm,1.3s,mb5.0								
AAK	**Ala-Archa**	**42.97**	**338**	*e*P		**P**	**P**	**17 24 42.8**	**-0.4**
	comp=Z,78nm,1.3s,mb5.3								
AAK				LR		LR	LR		
	comp=Z,218nm,20.0s,MS4.0								
FRU	**Bishkek**	**43.10**	**339**	⇑*i*P		**P**	**P**	**17 24 45.0**	**+0.8**
FRU				*e*				17 31 04.0	
FRU				pmax		pmax	pmax		
	comp=Z,170nm,2.0s,mb5.4								
FRU				MLR		MLR	MLR		
	comp=Z,700nm,17.0s,MS4.6								
CHMS	**Chumysh**	**43.20**	**339**	P		**P**	**P**	**17 24 45.5**	**+0.5**
	SNR=26								
EKS2	**Erkin-Say**	**43.26**	**338**	P		**P**	**P**	**17 24 46.9**	**+1.4**
	SNR=10								
USP	**Ospenovka**	**43.52**	**339**	P		**P**	**P**	**17 24 48.4**	**+0.8**
	SNR=74								
MKAR	**Makanchi Array**	**44.57**	**348**	*i* P		**P**	**P**	**17 24 56.5**	**+0.4**
MKAR				pmax		pmax	pmax		
	comp=Z,31nm,0.6s								
SONM	**Songino Array**	**45.58**	**11**	P		**P**	**P**	**17 25 04.2**	**+0.1**
	comp=Z,36nm,0.7s,mb5.4,baz=192,slow=8.4,SNR=232								
SONM				PcP		PcP	PcP	17 26 43.1	+0.4
	comp=Z,17nm,1.2s,baz=190,slow=3.7,SNR=8.5								
SONM				pPcP				17 26 52.0	
	comp=Z,9.0nm,0.7s,baz=190,slow=4.0,SNR=6.2								
WRA	**Warramunga Arr**	**45.60**	**122**	P		**P**	**P**	**17 25 04.6**	**0.0**
	comp=Z,43nm,0.9s,mb5.4,baz=302,slow=8.4,SNR=17								
WRA				pP		pP	pP	17 25 11.7	-1.3
	comp=Z,85nm,1.1s,baz=300,slow=9.0,SNR=19								
WRAB	**Tennant Creek**	**45.60**	**122**	⇓*i*P		**P**	**P**	**17 25 04.5**	**-0.1**
WRAB	**Tennant Creek**	**45.60**	**122**	*e*P		**P**	**P**	**17 25 03.9**	**-0.7**
	comp=Z,102nm,1.0s,mb5.7								
WRAB				LR		LR	LR		
	comp=Z,171nm,20.0s,MS4.0								
WB2	**Warramunga Arr**	**45.61**	**122**	*e*P		**P**	**P**	**17 25 04.8**	**+0.1**
WB2				*e*		pP	pP	17 25 12.0	-1.0
ULN	**Ulaanbaatar**	**45.74**	**12**	⇑*i*P		**P**	**P**	**17 25 03.2**	**-2.2**
ULN	**Ulaanbaatar**	**45.74**	**12**	*e*P		**P**	**P**	**17 25 04.7**	**-0.7**
	comp=Z,21nm,0.8s,mb5.1								
ULN				LR		LR	LR		
	comp=Z,792nm,20.0s,MS4.7								
SNY	**Shenyang**	**46.47**	**30**	⇑P		**P**	**P**	**17 25 11.4**	**+0.2**
SNY				*e*S		**S**	**S**	**17 32 03.7**	**+7.0**
SNY				LR		LR	LR		
	comp=E,2μm,13.0s								
SNY				LR		LR	LR		
	comp=Z,2μm,16.5s,MS5.1								
ASPA	**Alice Springs**	**46.96**	**127**	*e*P		**P**	**P**	**17 25 15.1**	**-0.2**
ASAR	**Alice Springs**	**46.96**	**127**	P		**P**	**P**	**17 25 14.8**	**-0.5**
	comp=Z,16nm,0.7s,mb5.1,baz=300,slow=6.4,SNR=42								
ASAR				PcP		PcP	PcP	17 26 48.3	+0.4
	comp=Z,9.8nm,1.0s,baz=301,slow=3.6,SNR=6.8								
ZAK	**Zakamensk**	**47.53**	**8**	⇓*i*P		**P**	**P**	**17 25 20.0**	**+0.5**
ZAK				*e*				17 26 50.1	
MOY	**Mondy**	**48.53**	**6**	*e*P		**P**	**P**	**17 25 28.0**	**+0.8**
TLY	**Talaya**	**48.85**	**8**	*e*P		**P**	**P**	**17 25 30.8**	**+1.1**
TLY				*e*		pP	pP	17 25 39.7	+1.6
TLY				*e*				17 27 23.7	
TLY				*e*S		**S**	**S**	**17 32 37.0**	**+6.8**
TLY				*e*				17 32 54.0	
TLY				pmax		pmax	pmax		
	comp=Z,41nm,0.9s,mb5.5								
TLY				MLR		MLR	MLR		
	comp=Z,804nm,14.0s,MS4.9								
TLY	**Talaya**	**48.85**	**8**	*e*P		**P**	**P**	**17 25 30.0**	**+0.4**
	comp=Z,39nm,0.8s,mb5.5								
IRK	**Irkutsk**	**49.49**	**8**	*e*P		**P**	**P**	**17 25 34.9**	**+0.3**
HIA	**Hailar**	**50.68**	**21**	*e*P		**P**	**P**	**17 25 43.7**	**0.0**
	comp=Z,40nm,0.9s,mb5.3								
HIA				*e*		pP	pP	17 25 52.0	-0.2
MDJ	**Mudanjiang**	**51.55**	**32**	P		**P**	**P**	**17 25 50.1**	**-0.2**
MDJ				AP		pP	pP	17 25 56.4	-2.4
MDJ				PCP		PcP	PcP	17 27 04.6	+0.3
MDJ				PP		PP	PP	17 27 47.4	-1.0
MDJ				SCP				17 30 58.8	
MDJ				PCS				17 31 02.2	
MDJ				S		**S**	**S**	**17 33 11.0**	**+3.4**
MDJ				XS				17 33 21.1	
MDJ				SCS		ScS	ScS	17 35 37.9	+2.5
MDJ				AMB		AMB	AMB		
	comp=Z,12nm,1.7s,mb4.5								
MDJ				AMB		AMB	AMB		
	comp=Z,240nm,11.1s								
MDJ				LR		LR	LR		
	comp=N,1μm,20.1s,MS5.0								
MDJ				LR		LR	LR		
	comp=E,1μm,18.2s,MS5.0								
MDJ				LR		LR	LR		
	comp=Z,2μm,14.0s,MS5.3								
NVS	**Novosibirsk**	**52.17**	**352**	*i* P		**P**	**P**	**17 25 53.5**	**-1.4**
NVS				*e*				17 27 49.3	
NVS				*i* S		**S**	**S**	**17 33 10.7**	**-5.3**
NVS				pmax		pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2								
NVS				pmax		pmax	pmax		
	comp=N,32nm,1.3s								
NVS				pmax		pmax	pmax		
	comp=E,19nm,1.3s								
NVS				pmax		pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6								
NVS				pmax		pmax	pmax		
	comp=N,23nm,2.0s								
NVS				smax					
	comp=N,26nm,1.7s								
NVS				smax					
	comp=E,36nm,1.7s								
MAT	**Matsushiro**	**52.19**	**45**	P		**P**	**P**	**17 25 56.0**	**+0.7**
	comp=E,19nm,1.0s,mb5.0								
MAT				*e*S		**S**	**S**	**17 33 17.0**	**+0.4**
MAT				LR		LR	LR		
	comp=Z,1μm,20.0s,MS4.9								
MAT	**Matsushiro**	**52.19**	**45**	P		**P**	**P**	**17 25 56.1**	**+0.8**
MAT				S		**S**	**S**	**17 33 17.2**	**+0.6**
BVAR	**Borovoye Array**	**53.36**	**342**	P		**P**	**P**	**17 26 02.4**	**-1.4**
	comp=Z,33nm,0.7s,mb5.4,baz=143,slow=7.4,SNR=129								
BVAR				pP		pP	pP	17 26 11.0	-1.3
	comp=Z,25nm,0.7s,baz=141,slow=9.5,SNR=15								
BRVK	**Borovoye**	**53.42**	**342**	P		**P**	**P**	**17 26 03.7**	**-0.5**
BRVK				pmax		pmax	pmax		
	comp=Z,36nm,1.1s,mb5.2								
BRVK	**Borovoye**	**53.42**	**342**	*e*P		**P**	**P**	**17 26 02.7**	**-1.5**
	comp=Z,56nm,1.0s,mb5.5								
CHKZ	**Chkalovo**	**53.86**	**343**	*i* P		**P**	**P**	**17 26 06.2**	**-1.2**
CHKZ				pmax		pmax	pmax		
	comp=Z,106nm,1.0s,mb5.7								
CHKZ	**Chkalovo**	**53.86**	**343**	*e*P		**P**	**P**	**17 26 05.9**	**-1.5**
	comp=Z,1.9nm,1.0s,mb4.0								
PMG	**Port Moresby**	**54.16**	**104**	⇑*i*P		**P**	**P**	**17 26 09.4**	**-0.8**
PMG	**Port Moresby**	**54.16**	**104**	P		**P**	**P**	**17 26 09.7**	**-0.5**
	comp=Z,11nm,1.0s,mb4.7,baz=282,slow=16,SNR=4.1								
KLR	**Kul'dur**	**55.76**	**29**	*e*P		**P**	**P**	**17 26 18.2**	**-3.2**
KLR				*e*S		**S**	**S**	**17 34 07.0**	**+2.4**
KLR				MLR		MLR	MLR		
	comp=N,2μm,13.0s								
KLR				MLR		MLR	MLR		
	comp=Z,11μm,13.0s								
CTA	**Charters Tower**	**56.03**	**117**	*e*P		**P**	**P**	**17 26 23.9**	**+0.2**
	comp=Z,20nm,1.0s,mb5.1								
CTA	**Charters Tower**	**56.03**	**117**	P		**P**	**P**	**17 26 24.0**	**+0.3**
	comp=Z,23nm,1.0s,mb5.2,baz=288,slow=6.4,SNR=7.3								
CTAO	**Charters Tower**	**56.03**	**117**	*e*P		**P**	**P**	**17 26 23.8**	**+0.2**
	comp=Z,63nm,1.3s,mb5.5								
CTAO				*e*		pP	pP	17 26 30.8	-1.4
CTAO				LR		LR	LR		
	comp=Z,560nm,20.0s,MS4.7						

comp=Z,13nm,0.8s,mb5.0
SVE Sverdlovsk 59.70 339⇓ *eP* **P 17 26 47.5 -1.5**
SVE *e* 17 27 36.0
SVE *eS* **S 17 34 52.5 -3.7**
SVE pmax pmax
comp=Z,260nm,2.0s,mb5.9
SVE MLR MLR
comp=Z,1μm,17.0s,MS5.0
ERZM Erzurum 60.04 315 *i* P **P 17 26 51.8 +0.2**
ARU Arti 60.16 338⇓ *iP* **P 17 26 48.3 -3.8**
ARU *e* 17 27 32.0
ARU *eS* **S 17 34 59.8 -2.2**
ARU *e*SS SS 17 38 56.3 -4.0
ARU *e*SSS SSS 17 41 36.4 +3.3
ARU pmax pmax
comp=Z,81nm,1.1s,mb5.7
YSS Yuzh-Sakhalins 60.32 36⇑ *eP* **P 17 26 53.0 -0.4**
YSS *e* pP 17 27 02.0 0.0
YSS pmax pmax
comp=Z,50nm,1.0s,mb5.5
YSS MLR MLR
comp=Z,1μm,16.0s,MS5.0
YSS Yuzh-Sakhalins 60.32 36 *eP* **P 17 26 53.5 +0.1**
comp=Z,36nm,0.9s,mb5.4
KIV Kislovodsk 60.84 320 P **P 17 26 56.5 -0.4**
comp=Z,190nm,1.2s,mb6.1,SNR=10
KIV Kislovodsk 60.84 320⇓ *iP* **P 17 26 54.4 -2.5**
KIV pmax pmax
comp=Z,34nm,1.3s,mb5.3
KIV Kislovodsk 60.84 320 *eP* **P 17 26 55.7 -1.2**
comp=Z,25nm,1.0s,mb5.3
ASF Jabal al Asfar 60.90 305 P **P 17 26 58.3 +0.9**
comp=Z,18nm,0.8s,mb5.2,baz=346,slow=3.6,SNR=16
GOF Gofitskoye 61.12 321⇑ *iP* **P 17 26 56.5 -2.3**
GOF pmax pmax
comp=Z,30nm,1.4s,mb5.2
ELZG Elazig 61.24 313 *i* P **P 17 26 59.2 -0.5**
MALT Malatya 61.58 312 P **P 17 27 01.7 -0.4**
MALT pmax pmax
comp=Z,67nm,1.2s,mb5.7
MALT Malatya 61.58 312 *eP* **P 17 27 01.4 -0.7**
comp=Z,67nm,1.3s,mb5.6
MALT *e* pP 17 27 10.8 +0.1
AQBJ Aqaba 61.82 302 P **P 17 27 04.1 +0.3**
EIL Elat 61.89 302 P **P 17 27 04.7 +0.4**
EIL Elat 61.89 302 *eP* **P 17 27 03.7 -0.6**
comp=Z,58nm,1.1s,mb5.6
ZFRI Zfri 61.91 303 P **P 17 27 04.9 +0.5**
GZT Gaziantep 61.91 311 *i* P **P 17 27 04.4 +0.1**
MZDA Masada 61.94 304 P **P 17 27 04.8 +0.2**
MBH Mount Berech 61.95 302 P **P 17 27 05.3 +0.6**
DRGI Dragot 61.98 304 P **P 17 27 05.3 +0.4**
KSHT Keshet 61.99 306 P **P 17 27 06.0 +1.1**
HMDT Nahal Hemdat 62.04 305 P **P 17 27 05.8 +0.6**
MMLI Mount Malkishu 62.17 305 P **P 17 27 07.0 +0.9**
KMTI Karmit 62.18 302 P **P 17 27 06.6 +0.4**
MASH Mash'abbe Sade 62.34 303 P **P 17 27 07.6 +0.3**
SLTI Sal'it 62.43 305 P **P 17 27 08.4 +0.5**
RTMM Retamin 62.44 303 P **P 17 27 08.2 +0.3**
KAHT Ahir Dag 62.52 311 *i* P **P 17 27 07.2 -1.1**
HNTI Hanita 62.54 306 P **P 17 27 09.4 +0.9**
OFRI 'Ofer 62.57 305 P **P 17 27 09.2 +0.4**
SOC Sochi 62.63 318 *i* P **P 17 27 06.1 -2.9**
SOC *e* 17 29 21.4
SOC *e*PPP PPP 17 30 58.4 -0.5
SOC *eS* **S 17 35 32.1 -1.5**
SOC *e*SSS SSS 17 42 28.8 +4.9
SOC pmax pmax
comp=Z,54nm,1.2s,mb5.5
SOC pmax pmax
comp=N,9.0nm,0.8s
SOC pmax pmax
comp=E,11nm,0.7s
SOC MLR MLR
comp=N,161nm,21.0s,MS4.3
SOC MLR MLR
comp=E,152nm,21.0s,MS4.3
SOC MLR MLR
comp=Z,250nm,21.0s,MS4.4
KZIT Kziot 62.64 303 P **P 17 27 09.7 +0.4**
SOKR Solikamsk 63.11 340⇑ *iP* **P 17 27 09.0 -2.9**
SOKR pmax pmax
comp=Z,50nm,0.9s,mb5.6
SOKR MLR MLR
comp=Z,570nm,19.0s,MS4.8
MBAR Mbarara 63.65 268 P **P 17 27 15.9 -0.3**
MBAR pmax pmax
comp=Z,40nm,1.4s,mb5.3
MBAR Mbarara 63.65 268 *eP* **P 17 27 15.5 -0.7**
comp=Z,40nm,1.4s,mb5.2
MBAR *e* pP 17 27 23.2 -1.7
YAK Yakutsk 64.27 18 *eP* **P 17 27 17.3 -2.2**
YAK *e* pP 17 27 24.4 -3.8
YAK pmax pmax
comp=Z,66nm,0.9s,mb5.7
YAK pmax pmax
comp=N,21nm,1.1s
YAK pmax pmax
comp=E,17nm,1.2s
YAK pmax pmax
comp=N,22nm,1.0s
YAK pmax pmax
comp=Z,46nm,1.0s,mb5.5
YAK pmax pmax
comp=E,14nm,1.1s
YAK pmax pmax
comp=Z,17nm,1.0s,mb5.0
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK MLR MLR
comp=N,767nm,13.0s,MS5.1
YAK MLR MLR
comp=E,441nm,13.0s,MS5.1
YAK MLR MLR
comp=Z,1μm,13.0s,MS5.2
YAK Yakutsk 64.27 18 *eP* **P 17 27 18.0 -1.5**
comp=Z,117nm,0.9s,mb5.9
YAK LR LR
comp=Z,679nm,20.0s,MS4.8
AVNT Avonos 64.38 312 *i* P **P 17 27 20.0 -0.7**
CSS Prodhromos 64.50 307 *eP* **P 17 27 21.2 -0.2**
comp=Z,62nm,1.1s,mb5.5
ANN Anapa 64.62 319 *eP* **P 17 27 14.5 -7.6**
ANN pmax pmax
comp=Z,136nm,1.2s,mb5.8
BOYT Boyabat 65.17 315 *i* P **P 17 27 25.0 -0.7**
BRTR Keskin Array B 65.57 312 P **P 17 27 27.1 -1.2**
comp=Z,16nm,1.0s,mb5.0,baz=135,slow=7.0,SNR=59
BRTR pP pP 17 27 35.2 -1.7
comp=Z,14nm,1.1s,baz=121,slow=7.2,SNR=10
ELDT Eldivan 65.95 313 *i* P **P 17 27 29.8 -0.9**
BALT Daday 66.29 314 *i* P **P 17 27 31.7 -1.2**
SIM Simferopol' 66.88 318*c iP* **P 17 27 36.0 -0.5**
SIM pmax pmax
comp=Z,48nm,0.9s,mb5.5
SIM MLR MLR
comp=Z,190nm,16.4s,MS4.4
SGKT Sivrigoynuk 66.97 313 *i* P **P 17 27 36.6 -0.6**
ISP Isparta 67.42 310 P **P 17 27 39.9 -0.2**
ISP pmax pmax
comp=Z,48nm,1.2s,mb5.4
ISP Isparta 67.42 310 *eP* **P 17 27 38.8 -1.3**
comp=Z,48nm,1.2s,mb5.4
ESKT Eskisehir 67.58 312 *i* P **P 17 27 40.3 -0.8**
LSZ Lusaka 67.96 252 *eP* **P 17 27 42.7 -1.1**
comp=Z,42nm,1.6s,mb5.2
LSZ *e* pP 17 27 51.2 -1.2
ULDT Uludag 69.01 312 *i* P **P 17 27 49.2 -0.8**
MOS Moscow 69.07 330 *eP* **P 17 27 47.3 -2.7**
MOS *e* 17 28 09.1
MOS pmax pmax
comp=Z,300nm,1.7s,mb6.0
MOS pmax pmax
comp=Z,120nm,1.4s,mb5.6
OBN Obninsk 69.33 329⇓ *iP* **P 17 27 49.3 -2.3**
OBN *e* 17 28 13.2
OBN pmax pmax
comp=Z,55nm,1.3s,mb5.3
OBN MLR MLR
comp=Z,400nm,18.0s,MS4.7
OBN Obninsk 69.33 329 *eP* **P 17 27 48.6 -3.0**
BTOK Tokmak 69.75 311 *i* P **P 17 27 53.8 -0.7**
KDAG Bornova 70.04 310 *i* P **P 17 27 55.5 -0.7**

MA2 Magadan 70.75 27 *eP* **P 17 28 00.2 0.0**
MA2 *e* 17 30 44.8
MA2 *e*PPP PPP 17 32 12.3 -7.4
MA2 *eS* S 17 37 10.4 -1.1
MA2 pmax pmax
comp=Z,20nm,1.4s,mb4.8
MA2 MLR MLR
comp=Z,1μm,20.0s,MS5.1
MA2 Magadan 70.75 27⇓ *iP* **P 17 27 58.9 -1.3**
CFR Carcaliu 70.99 317⇑ *iP* **P 17 28 01.4 -0.5**
CFR Carcaliu 70.99 317⇑ *iP* **P 17 28 01.4 -0.5**
HARR Harsova 71.00 316⇑ *iP* **P 17 28 01.9 -0.1**
HARR Harsova 71.00 316⇑ *iP* **P 17 28 01.9 -0.1**
PRD Provadia 71.01 315 *i* P **P 17 28 02.0 -0.1**
KIS Kishinev 71.02 319 *eP* **P 17 28 01.0 -1.1**
KIS *e* pP 17 28 10.0 -0.7
KIS *e* 17 28 22.0
SANT Santorini 71.06 307 *eP* **P 17 28 01.3 -1.2**
comp=Z,120nm,1.2s,mb5.7
IDI Anoyia 71.33 306 P **P 17 28 04.2 0.0**
comp=Z,34nm,0.7s,mb5.4,baz=87,slow=7.2,SNR=27
ALN Alexandroupoli 71.48 312 *eP* **P 17 28 04.3 -0.7**
TIXI Tiksi 71.67 11⇓ *iP* **P 17 28 03.9 -1.6**
TIXI pmax pmax
comp=Z,49nm,1.0s,mb5.4
TIXI Tiksi 71.67 11⇓ *iP* **P 17 28 03.0 -2.5**
VRI Vrincioaia 72.12 317⇑ *iP* **P 17 28 09.0 +0.3**
PET Petropavlovsk 72.15 35 *eP* pP 17 28 17.8 +0.4
PET MLR MLR
comp=Z,800nm,20.0s,MS5.0
MLR Muntele Rosu 72.56 317 P **P 17 28 11.7 +0.3**
comp=Z,33nm,1.0s,mb5.2,baz=79,slow=2.8,SNR=32
RZN Rozhen 72.62 313 *i* P **P 17 28 11.5 -0.2**
OUR Ouranopolis 72.91 311 *eP* **P 17 28 13.0 -0.5**
PAIG Paliouri 73.07 311 *eP* **P 17 28 13.3 -1.1**
PGB Panagyurishte 73.19 313 *eP* **P 17 28 15.0 -0.1**
MMB Musomiste 73.33 312 *i* P **P 17 28 15.0 -0.9**
SRS Serrai 73.34 312 *eP* **P 17 28 14.3 -1.7**
SOH Sokhos 73.47 312 *eP* **P 17 28 15.6 -1.1**
KKB Krupnik 73.85 313 *i* P **P 17 28 18.0 -0.9**
KNT Kendrikon 73.87 312 *eP* **P 17 28 18.2 -0.8**
VTS Vitosha 73.89 313 *i* P **P 17 28 18.5 -0.6**
LIT Litokhoron 74.00 311 *eP* **P 17 28 18.3 -1.5**
MAW Mawson 74.11 192 P **P 17 28 21.6 +1.8**
comp=Z,7.9nm,1.0s,mb4.6,baz=29,slow=3.2,SNR=4.9
GRG Griva 74.20 312 *eP* **P 17 28 19.6 -1.4**
LVV L'vov 74.82 321 *i* P **P 17 28 23.7 -0.6**
FNA Florina 74.94 311 *eP* **P 17 28 23.5 -1.8**
BOLS Boljevac 75.01 314⇑ *iP* **P 17 28 24.7 -0.8**
KWP Kalwaria 75.62 320 *eP* **P 17 28 29.2 +0.3**
KOLS Kolonicke sedl 75.75 320 *eP* **P 17 28 30.3 +0.6**
APA Apatity 76.17 340⇓ *iP* **P 17 28 31.2 -0.5**
APA *i* 17 28 36.8
APA *i* pP 17 28 39.6 -0.8
APA pmax pmax
comp=Z,44nm,0.9s,mb5.4
APA MLR MLR
comp=Z,800nm,17.0s,MS5.1
CRVS Cervenica-Dubn 76.27 320 *eP* **P 17 28 35.6 +3.0**
SUW Suwalki 76.30 325 P **P 17 28 31.7 -1.0**
SUW *e* pP 17 28 40.3 -1.2
SUW pmax pmax
comp=Z,140nm,1.1s,mb5.8
SUW Suwalki 76.30 325 *eP* **P 17 28 32.2 -0.5**
SUW Suwalki 76.30 325 *eP* **P 17 28 32.2 -0.5**
NVSS Nova Varos 2 76.58 314 *eP* **P 17 28 33.2 -1.3**
FINES FINESS Array B 76.82 333 *i* P **P 17 28 34.8 -0.6**
FINES pmax pmax
comp=Z,29nm,0.9s
FINES FINESS Array B 76.82 333 P **P 17 28 34.8 -0.7**
comp=Z,29nm,0.9s,mb5.2,baz=105,slow=6.0,SNR=51
FINES pP pP 17 28 43.1 -1.0
comp=Z,18nm,0.7s,baz=104,slow=7.9,SNR=11
KECS Kecovo 76.83 319 *eP* **P 17 28 36.4 +0.6**
KAF Kangasniemi 76.92 333 *ep* **P 17 28 34.3 -1.7**
comp=Z,17nm,0.7s,mb5.1,baz=105,slow=5.3
KAF Kangasniemi 76.92 333 *eP* **P 17 28 34.3 -1.7**
KAF pmax pmax
comp=Z,17nm,0.7s,mb5.1
NIE Niedzica 77.11 320⇑ *eP* **P 17 28 38.0 +0.7**
PSZ Piszkesteto 77.13 318 P **P 17 28 37.3 -0.1**
PSZ pmax pmax
comp=Z,30nm,1.1s,mb5.1
PSZ Piszkesteto 77.13 318⇑ *eP* **P 17 28 37.5 +0.1**
OJC Ojcow 77.58 321⇑ *iP* **P 17 28 40.4 +0.6**
PKSM Moragy 77.71 316⇑ *eP* **P 17 28 40.3 -0.4**
SUR Sutherland 77.89 236 P **P 17 28 39.3 -2.7**
comp=Z,20nm,0.8s,mb5.1
VYHS Vyhne 77.92 319 *i* P **P 17 28 42.0 +0.3**
VYHS *ep*P pP 17 28 50.4 -0.1
RHK1 Bakonya 78.09 316 *eP* **P 17 28 42.1 -0.6**
SRO2 Moca 78.10 318 *eP* **P 17 28 43.5 +0.7**
SRO2 *ep*P pP 17 28 51.5 -0.1
SRO Srobarova 78.16 318 *i* P **P 17 28 43.9 +0.8**
TIP Timpagrande 78.27 309 *eP* **P 17 28 44.5 +0.6**
TIP *e* pP 17 28 51.8 -0.9
OKC Ostrava-Krasne 78.57 320 *eP* **P 17 28 45.2 -0.1**
OKC *ep*P pP 17 28 54.4 +0.3
RAC Raciborz 78.57 320 *eP* **P 17 28 46.2 +0.9**
MORC Moravsky Berou 78.94 320 P **P 17 28 47.2 -0.2**
MORC pmax pmax
comp=Z,61nm,1.4s,mb5.3
MORC Moravsky Berou 78.94 320 *eP* **P 17 28 46.9 -0.5**
comp=Z,61nm,1.4s,mb5.3
MORC *e* pP 17 28 55.6 -0.6
ZST Bratislava 79.02 318 *eP* **P 17 28 48.0 +0.2**
ZST *ep*P pP 17 28 56.2 -0.4
VRAC Vranov 79.50 319 P **P 17 28 50.7 +0.3**
comp=Z,5.0nm,0.8s,mb4.5,baz=81,slow=8.4,SNR=7.4
ARCES ARCESS Array B 79.60 341 P **P 17 28 50.1 -0.4**
comp=Z,89nm,1.2s,mb5.6,baz=95,slow=5.7,SNR=74
ARCES pP pP 17 28 58.8 -0.6
comp=Z,21nm,0.7s,baz=117,slow=5.4,SNR=11
ARCES LR LR 18 08 24.0
comp=Z,565nm,18.6s,MS4.9,baz=318,slow=39
GKP Gorka Klasztor 79.64 323 *eP* **P 17 28 51.1 +0.1**
DPC Dobruska-Polom 79.80 320 *eP* **P 17 28 53.0 +1.0**
DPC *ep*P pP 17 29 01.0 +0.2
KSP Ksiaz 79.88 321 *eP* **P 17 28 53.0 +0.6**
KSP *ep*P pP 17 29 00.8 -0.4
KSP *e* 17 29 07.4
KSP Ksiaz 79.88 321 *eP* **P 17 28 53.2 +0.8**
ARSA Arzberg 79.97 317⇑ *iP* **P 17 28 52.6 -0.3**
comp=Z,242nm,1.9s,mb5.8
LEGS Legarje 79.98 316 *i* P **P 17 28 53.5 +0.5**
BOJS Bojanci 79.98 315⇓ *eP* **P 17 28 52.9 -0.1**
UPC Upice 80.02 321 *eP* **P 17 28 54.3 +1.2**
UPC *ep*P pP 17 29 02.3 +0.3
PERS Pernice 80.18 317⇓ *eP* **P 17 28 54.3 +0.2**
comp=Z,112nm,1.1s,mb5.7
PERS *e* pP 17 29 03.1 +0.2
BILL Bilibino 80.27 21⇑ *iP* **P 17 28 52.2 -1.9**
BILL pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
BILL Bilibino 80.27 21 *eP* **P 17 28 53.2 -0.9**
comp=Z,92nm,1.9s,mb5.4
CII Carovilli 80.34 312 *eP* **P 17 28 54.2 -0.9**
comp=Z,24nm,1.3s,mb5.0
LJU Ljubljana 80.53 316⇓ *eP* **P 17 28 56.3 +0.3**
comp=Z,202nm,1.3s,mb5.9
LJU *e* pP 17 29 05.4 +0.6
OBKA Obir 80.56 316⇓ *iP* **P 17 28 56.3 +0.2**
comp=Z,190nm,1.9s,mb5.7
MOA Molln 80.88 318⇑ *iP* **P 17 28 58.0 +0.3**
comp=Z,38nm,1.4s,mb5.1
PRU Pruhonice 80.90 320 *eP* **P 17 28 58.5 +0.7**
PRU *ep*P pP 17 29 06.3 -0.3
PVCC Panska Ves 80.94 321 *eP* **P 17 28 58.4 +0.4**
PVCC *ep*P pP 17 29 06.3 -0.5
VOY Vojsko 80.97 316 *eP* **P 17 28 58.0 -0.3**
VOY *e* pP 17 29 05.4 -1.7
AQU L'Aquila 81.06 312 P **P 17 28 58.8 0.0**
AQU pmax pmax
comp=Z,190nm,1.4s,mb5.8
AQU L'Aquila 81.06 312 *eP* **P 17 28 58.5 -0.3**
comp=Z,187nm,1.4s,mb5.8
SYO Syowa Base 81.11 197 ⇑P **P 17 28 59.8 +1.3**
SYO Syowa Base 81.11 197 ⇑*p*P pP 17 29 06.7 -0.7
GEC2 GERESS Array S 81.34 319 *eP* **P 17 29 00.6 +0.5**
GEC2 pmax pmax
comp=Z,80nm,1.0s,mb5.6
GEC2 GERESS Array S 81.34 319 *eP* **P 17 29 00.6 +0.5**
comp=Z,80nm,1.0s,mb5.6

GERES GERESS Array B 81.34 319 P **P 17 29 00.3 +0.2**
comp=Z,20nm,0.7s,mb5.2,baz=108,slow=4.2,SNR=107
GERES pP pP 17 29 08.9 0.0
comp=Z,18nm,0.8s,baz=90,slow=4.0,SNR=18
BRG Berggiesshubel 81.36 321⇑ *iP* **P 17 29 01.2 +1.0**
BRG *i* pP 17 29 09.3 +0.2
BRG pmax pmax
comp=Z,46nm,1.2s,mb5.3
BRG Berggiesshubel 81.36 321⇑ *iP* **P 17 29 01.2 +1.0**
comp=Z,46nm,1.2s,mb5.3
BRG *i* pP 17 29 09.3 +0.2
KBA Koelnbreinsper 81.43 317⇑ *iP* **P 17 29 00.5 -0.2**
comp=Z,49nm,1.5s,mb5.2
KHC Kasperske Hory 81.44 319 *eP* **P 17 29 00.6 -0.1**
KHC *ep*P pP 17 29 09.5 0.0
KHC *e* 17 29 20.5
KHC Kasperske Hory 81.44 319 *eP* **P 17 29 00.6 -0.1**
KHC *ep*P pP 17 29 09.5 0.0
KHC x x 17 29 20.5
RUE Ruedersdorf 81.62 322 *eP* **P 17 29 01.2 -0.3**
comp=Z,14nm,0.6s,mb5.1
WET Wettzell 81.90 319 *eP* **P 17 29 03.4 +0.4**
WET pmax pmax
comp=Z,46nm,1.2s,mb5.3
WET Wettzell 81.90 319 *eP* **P 17 29 03.4 +0.4**
comp=Z,46nm,1.2s,mb5.3
CLL Collm 81.99 321⇑ *iP* **P 17 29 03.9 +0.4**
CLL *i* pP 17 29 12.4 +0.1
CLL pmax pmax
comp=Z,35nm,1.2s,mb5.2
CLL Collm 81.99 321⇑ *iP* **P 17 29 03.9 +0.4**
comp=Z,35nm,1.2s,mb5.2
CLL *i* pP 17 29 12.4 +0.1
CLL Collm 81.99 321 ⇑P **P 17 29 03.9 +0.4**
comp=Z,logA/T=1.5,mb5.2
CLL *i* *PP pP 17 29 12.4 +0.1
NKC Novy Kostel 82.26 320 *eP* **P 17 29 06.0 +1.1**
NKC *ep*P pP 17 29 13.6 -0.2
HFS Hagfors 82.47 330 P **P 17 29 05.9 +0.2**
comp=Z,39nm,1.0s,mb5.3,baz=108,slow=4.7,SNR=46
HFS pP pP 17 29 15.0 +0.3
comp=Z,11nm,0.9s,baz=180,slow=7.4,SNR=5.7
WTTA Wattenberg 82.61 317⇓ *iP* **P 17 29 06.6 -0.1**
comp=Z,66nm,1.2s,mb5.5
WATA Walderalm 82.65 317⇓ *iP* **P 17 29 06.5 -0.5**
comp=Z,35nm,1.2s,mb5.3
RPZ Rata Peaks 82.73 135 P **P 17 29 08.0 +0.6**
comp=Z,30nm,0.9s,mb5.3,baz=244,slow=1.0,SNR=12
MOX Moxa 82.82 320 *eP* **P 17 29 08.5 +0.7**
MOX pmax pmax
comp=Z,56nm,1.8s,mb5.3
MOX Moxa 82.82 320 *eP* **P 17 29 08.5 +0.7**
comp=Z,56nm,1.8s,mb5.3
MOX Moxa 82.82 320 *i* P **P 17 29 08.5 +0.7**
comp=Z,logA/T=1.5,mb5.3
SQTA Sankt Quirin 82.90 317⇑ *iP* **P 17 29 07.5 -0.8**
comp=Z,27nm,1.0s,mb5.2
FUR Furstenfeldbru 82.90 318 *eP* **P 17 29 08.0 -0.2**
FUR pmax pmax
comp=Z,60nm,1.4s,mb5.4
FUR Furstenfeldbru 82.90 318 *eP* **P 17 29 08.0 -0.2**
comp=Z,60nm,1.4s,mb5.4
MOTA Moosalm 82.97 317⇓ *iP* **P 17 29 08.1 -0.6**
comp=Z,26nm,1.1s,mb5.2
GRA1 Grafenberg Arr 83.02 319 *eP* **P 17 29 09.5 +0.7**
comp=Z,80nm,1.2s,mb5.6
GRA1 *ep*P pP 17 29 17.6 -0.1
GRF Grafenberg Arr 83.02 319 *eP* **P 17 29 09.5 +0.7**
GRF *e**PP pP 17 29 17.6 -0.1
GRF pmax pmax
comp=Z,80nm,1.2s,mb5.6
GRF Grafenberg Arr 83.02 319 *eP* **P 17 29 09.5 +0.7**
comp=Z,80nm,1.2s,mb5.6
GRF *ep*P pP 17 29 17.6 -0.1
MAIM 83.26 314 P **P 17 29 09.3 -0.9**
SARO Sassorosso 83.34 314 P **P 17 29 10.5 -0.1**
VALM 83.45 314 P **P 17 29 11.1 -0.1**
VINC Vinca 83.52 314 P **P 17 29 10.4 -1.1**
BACM 83.58 314 P **P 17 29 11.4 -0.5**
GRAM 83.59 314 P **P 17 29 12.5 +0.6**
CLZ Clausthal 83.67 322 *eP* **P 17 29 12.3 +0.2**
comp=Z,45nm,1.1s,mb5.5
CODM 83.74 314 P **P 17 29 12.4 -0.3**
NB2 NORSAR Subarra 83.78 331 P **P 17 29 12.0 -0.4**
comp=Z,31nm,1.0s,mb5.4,baz=97,slow=5.3
NB2 NORSAR Subarra 83.78 331 P **P 17 29 12.0 -0.4**
baz=97,slow=5.3
NOA NORSAR Array B 83.78 331 P **P 17 29 12.2 -0.2**
comp=Z,19nm,1.0s,mb5.2,baz=94,slow=5.4,SNR=20
NOA pP pP 17 29 20.2 -1.2
comp=Z,11nm,0.8s,baz=94,slow=5.4,SNR=9.8
BSEG Bad Segeberg 83.80 324 *eP* **P 17 29 13.1 +0.4**
BSEG pmax pmax
comp=Z,76nm,1.3s,mb5.7
DAVA Damuels 83.80 317⇑ *iP* **P 17 29 13.7 +0.8**
comp=Z,174nm,1.8s,mb5.9
PGF Pioggiola 84.32 312 *eP* **P 17 29 15.8 +0.2**
comp=Z,46nm,0.9s,mb5.3
PCP Pian Castagno 84.68 314 P **P 17 29 17.3 -0.1**
BFO Black Forest 84.87 318 *eP* **P 17 29 18.5 +0.3**
BFO pmax pmax
comp=Z,17nm,1.0s,mb5.1
BFO Black Forest 84.87 318 *eP* **P 17 29 18.5 +0.3**
comp=Z,17nm,1.0s,mb5.1
FIN Finale Ligure 84.92 314 P **P 17 29 18.4 -0.2**
ORX Oropa 85.08 315 P **P 17 29 18.9 -0.5**
IMI Imperia 85.14 314 P **P 17 29 19.5 -0.2**
ROB Roburent 85.16 314 P **P 17 29 19.6 -0.1**
MONE Monesi 85.24 314 P **P 17 29 19.5 -0.7**
TRAV 85.25 315 P **P 17 29 19.1 -1.1**
SBF Sospel 85.47 314 *eP* **P 17 29 21.3 -0.1**
comp=Z,112nm,1.0s,mb5.7
ENR Entracque 85.48 314 P **P 17 29 21.1 -0.2**
STV Sta Anna Valdi 85.55 314 P **P 17 29 21.3 -0.5**
CDF Champ du Feu 85.58 318 *eP* **P 17 29 21.4 -0.4**
comp=Z,32nm,1.2s,mb5.1
BHB Bricherasio 85.59 315 P **P 17 29 20.2 -1.7**
RSP Reno Superiore 85.59 315 P **P 17 29 20.5 -1.4**
LSD Ceresole Reale 85.67 315 P **P 17 29 22.6 +0.4**
PZZ Prazzo 85.71 314 P **P 17 29 21.3 -1.2**
FENE Fenestrelle 85.73 315 P **P 17 29 22.1 -0.5**
RRL Cesana Torines 85.93 315 P **P 17 29 23.0 -0.6**
MBDF Montbardon 85.94 314 *eP* **P 17 29 23.0 -0.7**
comp=Z,31nm,1.1s,mb5.1
LPG La Plagne 85.95 315 *eP* **P 17 29 23.8 +0.1**
comp=Z,72nm,1.1s,mb5.5
BNI Bardonecchia 86.01 315 P **P 17 29 24.4 +0.4**
BNI pmax pmax
comp=Z,20nm,1.0s,mb5.3
BNI Bardonecchia 86.01 315 *eP* **P 17 29 24.0 0.0**
comp=Z,20nm,1.0s,mb5.3
HAU Haudompre 86.20 318 *eP* **P 17 29 24.4 -0.5**
comp=Z,85nm,1.2s,mb5.6
BAIF Baives 87.56 320 *eP* **P 17 29 31.6 +0.2**
comp=Z,90nm,1.3s,mb5.5
SSF Saint Saulge 88.15 317 *eP* **P 17 29 34.3 0.0**
comp=Z,45nm,1.3s,mb5.2
VNDA Vanda 88.44 168 P **P 17 29 36.5 +1.4**
comp=Z,4.6nm,0.8s,mb4.8,baz=335,slow=1.9,SNR=7.2
VNDA Vanda 88.44 168 P **P 17 29 36.5 +1.4**
BGF Bois d'Agland 88.63 316 *eP* **P 17 29 37.0 +0.4**
comp=Z,116nm,1.4s,mb5.7
SBA Scott Base 89.54 168 P **P 17 29 40.7 +0.4**
RJF Les Rejaudoux 89.64 315 *eP* **P 17 29 42.0 +0.5**
comp=Z,66nm,1.3s,mb5.5
EMIR Miracle 89.89 312 P **P 17 29 43.9 +1.2**
comp=Z,4.5nm,0.5s,mb5.0
EIBI Ibiza 90.25 309 P **P 17 29 46.6 +2.1**
comp=Z,2.7nm,0.5s,mb4.8
EPOB Poblet 90.27 311 P **P 17 29 46.0 +1.6**
comp=Z,2.3nm,0.5s,mb4.8
FLN La Foiniere 90.70 319 *eP* **P 17 29 46.4 +0.1**
comp=Z,88nm,1.2s,mb5.7
EBR Ebro Roquetas 90.75 311 *eP* **P 17 29 48.5 +1.8**
EBIE Bielsa 90.85 313 P **P 17 29 48.8 +1.7**
comp=Z,1.3nm,0.5s,mb4.5
ERTA Horta de San J 90.86 311 P **P 17 29 49.0 +1.8**
comp=Z,1.4nm,0.4s,mb4.6
ETSF Etsaut 91.34 313 *eP* **P 17 29 50.4 +1.0**
comp=Z,23nm,0.9s,mb5.2
ESAC San Caprasio 91.39 312 P **P 17 29 51.1 +1.5**
comp=Z,3.6nm,0.3s,mb5.2
EMOS Mosqueruela 91.53 310 P **P 17 29 52.9 +2.6**
comp=Z,2.0nm,0.4s,mb4.8
EKA Eskdalemuir Ar 91.56 325 P **P 17 29 50.5 +0.5**
comp=Z,14nm,1.0s,mb5.3,baz=90,slow=5.8,SNR=8.6

QSPA South Pole Qui 93.22 180 *eP* **P 17 29 57.2 0.0**
EVIA Vianos 93.27 309 P **P 17 29 59.7 +1.3**
comp=Z,33nm,1.6s,mb5.5
EBER Berja 93.78 307 P **P 17 30 01.8 +1.0**
comp=Z,1.6nm,0.6s,mb4.6
ESDC Sonseca Array 94.27 310 P **P 17 30 02.8 -0.1**
comp=Z,2.3nm,0.6s,mb4.8,baz=63,slow=4.1,SNR=13
ESDC pP pP 17 30 12.3 +0.5
comp=Z,3.2nm,0.7s,baz=60,slow=4.2,SNR=8.3
ESDC PP PP 17 33 51.1 -1.5
comp=Z,0.1nm,0.3s,baz=68,slow=7.4,SNR=4.3
ESDC Sonseca Array 94.27 310 P **P 17 30 04.3 +1.4**
comp=Z,1.9nm,0.5s,mb4.8
GUD Guadarrama 94.28 311 P **P 17 30 04.4 +1.5**
comp=Z,12nm,0.9s,mb5.3
IMA Indian Mountai 95.78 22 *eP* **P 17 30 10.5 +1.3**
IMA pmax pmax
comp=Z,190nm,1.9s,mb6.2
IMA Indian Mountai 95.78 22 *eP* **P 17 30 10.5 +1.4**
comp=Z,189nm,1.9s,mb6.2
COLA College 98.48 22 *eP* **P 17 30 18.5 -2.9**
ILAR Eielson Array 98.90 22 P **P 17 30 23.3 0.0**
comp=Z,0.3nm,0.5s,mb4.1,baz=291,slow=4.5,SNR=9.9
ILAR PP PP 17 34 23.9 -3.5
comp=Z,1.4nm,0.8s,baz=303,slow=9.6,SNR=5.0
ILAR PKKPbc 17 46 51.0
comp=Z,0.4nm,0.6s,baz=114,slow=1.4,SNR=6.4
RES Resolute Bay 101.94 2 P P 17 30 38.8 +1.9
RES pmax pmax
comp=Z,8.0nm,0.9s
RES Resolute Bay 101.94 2 *e*Pdif P 17 30 37.4 +0.4
comp=Z,8.3nm,0.9s
RES *e* 17 30 44.9
YKA Yellowknife Ar 110.81 14 PP PP 17 35 48.0 -8.9
comp=Z,0.7nm,0.7s,baz=334,slow=7.4,SNR=8.2
YKA PKKPbc 17 46 14.8
comp=Z,0.4nm,0.7s,baz=150,slow=3.2,SNR=7.9
MSO Missoula 124.22 23 *e*PKPdf PKPdf 17 35 42.4 -3.7
MSO *e* 17 35 50.0
CHMT Chamberlain Mo 124.42 23 *e*PKPdf PKPdf 17 35 43.2 -3.2
LAO LASA Array 127.03 18 *e*PKPdf PKPdf 17 35 49.9 -1.5
NVAR Mina Array Bea 128.70 33 PKP PKPdf 17 35 53.3 -1.6
comp=Z,2.5nm,0.8s,baz=270,slow=2.8,SNR=11
MNV Mina 128.78 33 PKIKP PKPdf 17 35 53.7 -1.4
MNV *e* 17 36 02.3
MNV Mina 128.78 33 *e*PKPdf PKPdf 17 35 52.7 -2.4
MNV *e* 17 36 01.3
PDAR Pinedale Array 129.33 23 PKP PKPdf 17 35 53.8 -2.2
comp=Z,4.9nm,1.1s,slow=1.5,SNR=14
TRCR Troy Canyon 130.19 31 *e*PKPdf PKPdf 17 35 55.2 -2.5
ANMO Albuquerque 137.25 25 PKP PKPdf 17 36 08.5 -2.4
comp=Z,2.6nm,0.8s,baz=284,slow=1.1,SNR=8.7
ANMO Albuquerque 137.25 25 PKP PKPdf 17 36 08.5 -2.4
LAZ Ladron 137.42 27 PKPdf PKPdf 17 36 08.8 -2.5
MNTX Cornudas Mount 140.49 27 *e*PKPdf PKPdf 17 36 13.1 -3.8
BDFB Brasilia 140.94 249 PKP PKPdf 17 36 15.6 -2.6
comp=Z,1.6nm,0.5s,baz=12,slow=5.5,SNR=4.2
MIAR Mount Ida 141.64 10 PKIKP PKPdf 17 36 10.9 -8.1
MIAR Mount Ida 141.64 10 *e*PKPdf PKPdf 17 36 10.1 -8.9
TXAR Lajitas Array 143.27 27 PKP PKPdf 17 36 16.7 -5.2
comp=Z,9.4nm,1.3s,baz=270,slow=2.5,SNR=14
TXAR PP PP 17 39 32.2 +0.4
comp=Z,0.4nm,0.8s,baz=34,slow=3.3,SNR=3.8
TXAR Lajitas Array 143.27 27 PKP PKPdf 17 36 16.7 -5.1
TXAR PP PP 17 39 32.2 +0.4
JCT Junction City 143.82 21 PKIKP PKPdf 17 36 17.9 -4.9
JCT Junction City 143.82 21 *e*PKPpre 17 36 16.6
LRAL Lakeview Retre 143.85 2 *e*PKPpre 17 36 16.4
NATX Nacogdoches 144.12 13 *e*PKPdf PKPdf 17 36 18.8 -4.5
HKT Hockley 145.55 16 PKIKP PKPdf 17 36 23.5 -2.4
HKT Hockley 145.55 16 *e*PKP PKPdf 17 36 23.1 -2.7
DWPF Disney 148.51 353 *e*PKPbc PKPdf 17 36 31.7 +0.9
LVC Limon Verde 154.82 219 PKP PKPdf 17 36 38.4 -1.7
comp=Z,1.8nm,0.8s,baz=255,slow=16,SNR=3.5
LVC PKPbc PKPdf 17 36 47.7 +7.6
comp=Z,4.7nm,0.8s,baz=256,slow=6.1,SNR=4.8
LVC PKPab PKPab 17 37 02.0 +0.4
comp=Z,3.9nm,0.6s,baz=105,slow=1.0,SNR=4.7
LPAZ La Paz 158.43 232 PKP PKPdf 17 36 44.0 -1.1
comp=Z,3.0nm,1.0s,baz=47,slow=2.7,SNR=9.3
LPAZ PKPab PKPab 17 37 18.2 +1.0
comp=Z,6.0nm,0.6s,baz=102,slow=5.5,SNR=20
LPAZ La Paz 158.43 232 PKP PKPdf 17 36 44.0 -1.1
LPAZ PKPab PKPab 17 37 18.2 +1.0
SDV Santo Domingo 160.71 309 PKPab PKPab 17 37 26.7 -0.4
comp=Z,10.0nm,0.9s,baz=46,slow=3.5,SNR=7.1
ROSC El Rosal 166.05 305 PKP PKPdf 17 36 50.4 -2.5
comp=Z,4.3nm,0.5s,baz=113,slow=22,SNR=5.2
ROSC PKPab PKPab 17 37 50.6 +0.2
comp=Z,6.2nm,0.9s,baz=87,slow=19,SNR=4.9
OTAV Otavalo 171.95 296 *e*PKPdf PKPdf 17 36 54.0 -2.6

*IDC **09** 17:27:41.4±1.1, 3.41N×94.41E, h26km±5km, mb3.9/7, mb1 4.1/8, mb1mx3.9/17, mbtmp4.1/8, ML4.6/1, Error ellipse: s-maj=46.4km s-min=15.9km az=56.0*
*NEIC **09** 17:27:41.4±0.8, 3.36N×94.41E, mb4.3/3, Error ellipse: s-maj=28.0km s-min=10.6km az=63.0*
ISC 09 17:27:39.5±1.0, 3.4N±0.1×94.4E±0.2, h27km, h27km±1.6km: pP-P, n12, σ1§06/12, mb4.1/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.65**	**16**	Pn		**P**	**17 31 20.8 +0.7**
	0.8nm,0.3s,baz=213,slow=12,SNR=40						
LSA	**Lhasa**	**26.39**	**354**	*eP*		**P**	**17 33 16.9 +1.1**
	22nm,1.2s,mb4.6						
SONM	**Songino Array**	**45.50**	**11**	P		**P**	**17 35 57.8 -0.6**
	3.2nm,0.8s,mb4.2,baz=196,slow=8.3,SNR=17						
SONM				pP	pP	17 36 07.1 +0.5	
	1.2nm,0.6s,baz=188,slow=8.7,SNR=6.6						
WRA	**Warramunga Arr**	**45.52**	**122**	P		**P**	**17 35 59.4 +0.4**
	2.5nm,0.7s,mb4.2,baz=299,slow=8.9,SNR=16						
WRA				pP	pP	17 36 08.1 +0.9	
	2.8nm,1.1s,baz=302,slow=9.0,SNR=5.4						
WRAB	**Tennant Creek**	**45.53**	**122**	*eP*		**P**	**17 35 59.3 +0.2**
	3.2nm,0.7s,mb4.4						
ULN	**Ulaanbaatar**	**45.66**	**12**	*eP*		**P**	**17 35 59.3 -0.5**
	1.7nm,0.9s,mb4.0						
ASAR	**Alice Springs**	**46.90**	**127**	P		**P**	**17 36 10.0 +0.1**
	1.2nm,0.5s,mb4.1,baz=294,slow=7.8,SNR=28						
BVAR	**Borovoye Array**	**53.34**	**342**	P		**P**	**17 36 56.7 -2.0**
	0.8nm,0.6s,mb3.8,baz=127,slow=7.4,SNR=3.6						
BVAR				pP	pP	17 37 04.6 -2.4	
	2.5nm,0.7s,baz=141,slow=9.5,SNR=8.1						
CHKZ	**Chkalovo**	**53.84**	**343**	*eP*		**P**	**17 37 00.6 -1.7**
	3.7nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**56.85**	**132**	P		**P**	**17 37 23.6 -0.9**
	0.8nm,0.7s,mb3.9,baz=329,slow=12,SNR=1.9						
ARCES	**ARCESS Array B**	**79.59**	**341**	P		**P**	**17 39 46.7 +1.2**
	4.9nm,1.1s,mb4.4,baz=92,slow=5.7,SNR=3.0						
GERES	**GERESS Array B**	**81.38**	**319**	P		**P**	**17 39 57.0 +1.6**
	0.4nm,0.7s,mb3.5,baz=11,slow=5.0,SNR=2.1						
GERES				pP	pP	17 40 04.3 +0.3	
	1.1nm,0.7s,baz=79,slow=6.8,SNR=4.5						

*IDC **09** 17:35:03.4±1.1, 12.25N×92.14E, h18km±5km, mb3.7/7, mb1 3.8/8, mb1mx3.7/16, mbtmp3.7/8, ML3.6/1, Error ellipse: s-maj=38.1km s-min=15.8km az=60.0*
*NEIC **09** 17:35:03.2±0.7, 12.23N×92.06E, mb4.1/3, Error ellipse: s-maj=21.8km s-min=12.6km az=55.0*
ISC 09 17:35:01.0±0.7, 12.2N±0.1×92.1E±0.1, h19km, h19km±1.0km: pP-P, n14, σ0§96/15, mb3.9/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**0.87**	**131**	*eP*		**Pb**	**17 35 22.8 +5.6**
PBA				*eS*		**Sb**	**17 35 37.4 +9.0**
PBA				*e*			17 35 49.0
	comp=N,7μm,0.8s						
PBA				*e*			17 35 49.4
	comp=E,10μm,0.7s						
CMAR	**Chiang Mai Arr**	**9.07**	**46**	Pn		**P**	**17 37 13.7 -0.4**
	comp=E,0.2nm,0.3s,baz=237,slow=16,SNR=8.2						
HYB	**Hyderabad**	**14.05**	**293**	*i P*		**P**	**17 38 20.5 -0.9**
AAK	**Ala-Archa**	**33.93**	**336**	P		**P**	**17 41 42.5 -2.6**
	comp=E,0.9nm,0.6s,mb3.9						
SONM	**Songino Array**	**37.47**	**16**	P		**P**	**17 42 15.0 -0.1**
	comp=E,0.6nm,0.9s,mb3.4,baz=198,slow=7.0,SNR=5.1						
SONM				pP	pP	17 42 21.3 +0.4	
	comp=E,1.6nm,1.0s,baz=198,slow=5.9,SNR=7.4						
BVAR	**Borovoye Array**	**44.24**	**341**	P		**P**	**17 43 12.7 +1.9**
	comp=E,0.4nm,0.5s,mb3.4,baz=158,slow=7.8,SNR=2.9						
CHKZ	**Chkalovo**	**44.73**	**342**	*eP*		**P**	**17 43 15.5 +0.7**
	comp=E,3.7nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**52.47**	**127**	P		**P**	**17 44 15.0 -0.2**
	comp=E,0.7nm,0.5s,mb3.8,baz=307,slow=8.0,SNR=14						
WRA				pP	pP	17 44 21.0 -0.1	
	comp=E,0.5nm,0.4s,baz=301,slow=10.0,SNR=4.2						
WRAB	**Tennant Creek**	**52.47**	**127**	*eP*		**P**	**17 44 14.7 -0.4**
	comp=E,1.3nm,0.5s,mb4.1						
ASAR	**Alice Springs**	**54.28**	**131**	P		**P**	**17 44 28.8 +0.3**
	comp=E,0.4nm,0.4s,mb3.7,baz=310,slow=7.2,SNR=16						
ASAR				pP	pP	17 44 34.0 -0.3	
	comp=E,0.6nm,0.4s,baz=310,slow=6.6,SNR=5.8						
BRTR	**Keskin Array B**	**58.09**	**309**	P		**P**	**17 44 56.7 +1.2**
	comp=E,0.6nm,0.6s,mb3.8,baz=146,slow=8.9,SNR=4.2						
STKA	**Stephens Creek**	**64.58**	**134**	P		**P**	**17 45 39.6 0.0**
	comp=E,1.2nm,0.8s,mb4.0,baz=319,slow=9.3,SNR=2.8						
FINES	**FINESS Array B**	**67.94**	**332**	P		**P**	**17 46 00.4 -0.1**
	comp=E,9.8nm,1.1s,mb4.8,baz=109,slow=10,SNR=3.8						
ARCES	**ARCESS Array B**	**70.51**	**340**	P		**P**	**17 46 16.2 +0.1**
	comp=E,3.5nm,1.0s,mb4.3,baz=101,slow=4.6,SNR=4.1						

*BJI **09** 17:36:13.6, 2.50N×94.42E, h28km, mB5.7, mb4.8, Ms4.7, Msz4.5*
*MOS **09** 17:36:20.6±1.6, 3.48N×94.38E, h33km, mb4.9/9, Error ellipse: s-maj=18.4km s-min=10.1km az=110.3*
*IDC **09** 17:36:22.1±0.7, 3.39N×94.27E, h27km±5km, mb4.4/16, mb1 4.5/17, mb1mx4.4/22, mbtmp4.6/17, ML4.5/1, Error ellipse: s-maj=27.5km s-min=13.7km az=46.0*
*NEIC **09** 17:36:22.2±0.2, 3.36N×94.29E, mb4.8/15, Error ellipse: s-maj=8.6km s-min=5.3km az=47.0*
ISC 09 17:36:20.2±0.4, 3.45N±0.07×94.45E±0.07, h28km, h28km±.8km: pP-P, n89, σ1§03/85, mb4.7/38, MS4.5/1, 8C-4D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKTK	**Khon Kaen**	**15.22**	**32**	P		**P**	**17 40 03.0 +7.7**
	309nm,0.7s						
CMAR	**Chiang Mai Arr**	**15.55**	**16**	*i* P		**P**	**17 40 05.3 +5.7**
CMAR				pmax	pmax		
	comp=Z,17nm,0.8s						
CMAR	**Chiang Mai Arr**	**15.55**	**16**	Pn		**P**	**17 40 01.9 +2.3**
	comp=Z,0.7nm,0.3s,baz=215,slow=12,SNR=43						
CHG	**Chiang Mai**	**15.89**	**16**	⇑P		**P**	**17 40 07.9 +4.0**
	comp=Z,30nm,1.1s						
IMP	**Imphal**	**21.22**	**359**	*eP*		**P**	**17 41 05.2 -1.2**
SHL	**Shillong**	**22.13**	**354**	*eP*		**P**	**17 41 14.0 -1.5**
POO	**Poona**	**25.13**	**308**	*eP*		**P**	**17 41 39.0 -5.7**
LSA	**Lhasa**	**26.30**	**354**	P		**P**	**17 41 58.9 +3.3**
LSA	**Lhasa**	**26.30**	**354**	*eP*		**P**	**17 41 57.7 +2.1**
	comp=Z,35nm,0.9s,mb4.9						
XAN	**Xi'an**	**33.29**	**22**	P		**P**	**17 42 57.4 -0.5**
XAN				AMB	AMB		
	comp=Z,21nm,1.0s,mb5.0						
NJ2	**Nanjing**	**36.54**	**36**	*eP*		**P**	**17 43 23.6 -2.0**
NJ2				AP	pP	17 43 33.1 -0.7	
NJ2				XP	sP	17 43 37.8 +0.5	
NJ2				S	**S**	**17 49 01.0 -4.6**	
NJ2				AMB	AMB		
	comp=Z,110nm,0.6s,mb5.9						
NJ2				AMB	AMB		
	comp=Z,2μm,5.3s						
NJ2				LR	LR		
	comp=N,510nm,16.0s,MS4.6						
NJ2				LR	LR		
	comp=E,530nm,15.0s,MS4.6						
NJ2				LR	LR		
	comp=Z,660nm,15.6s,MS4.5						
SSE	**Sheshan**	**37.30**	**40**	P		**P**	**17 43 31.5 -0.5**
SSE				AMB	AMB		
	comp=Z,42nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,1μm,10.6s						
KZA	**Kyzart**	**42.13**	**339**	P		**P**	**17 44 13.8 +1.9**
	SNR=7.5						
UCH	**Uchtor**	**42.53**	**338**	P		**P**	**17 44 16.8 +1.5**
	SNR=20						
KBK	**Karagaybulak**	**42.74**	**339**	P		**P**	**17 44 18.7 +1.7**
	SNR=21						
TKM2	**Tokmak 2**	**42.74**	**340**	P		**P**	**17 44 17.9 +1.0**
	SNR=12						
AML	**Almayashu**	**42.76**	**337**	P		**P**	**17 44 18.4 +1.3**
	SNR=24						
AAK	**Ala-Archa**	**42.89**	**338**	P		**P**	**17 44 19.7 +1.5**
	SNR=9.9						
AAK	**Ala-Archa**	**42.89**	**338**	⇓*iP*		**P**	**17 44 17.1 -1.1**
AAK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.5						
AAK	**Ala-Archa**	**42.89**	**338**	*eP*		**P**	**17 44 18.3 +0.2**
	comp=Z,6.6nm,1.1s,mb4.3						
EKS2	**Erkin-Say**	**43.18**	**338**	P		**P**	**17 44 22.0 +1.4**
	SNR=12						
USP	**Ospenovka**	**43.44**	**339**	P		**P**	**17 44 23.4 +0.9**
	SNR=22						
MK02	**Makanchi Array**	**44.43**	**348**	P		**P**	**17 44 31.1 +0.5**
MK02				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
SONM	**Songino Array**	**45.40**	**11**	P		**P**	**17 44 39.7 +1.3**
	comp=Z,7.9nm,0.9s,mb4.6,baz=190,slow=8.5,SNR=58						
SONM				PcP	PcP	17 46 18.4 +0.5	
	comp=Z,1.7nm,0.8s,baz=195,slow=2.7,SNR=4.8						
WRA	**Warramunga Arr**	**45.54**	**122**	P		**P**	**17 44 40.5 +0.7**
	comp=Z,13nm,0.8s,mb4.9,baz=301,slow=8.9,SNR=40						
WRA				pP	pP	17 44 48.8 +0.6	
	comp=Z,27nm,0.9s,baz=301,slow=9.0,SNR=24						
WRAB	**Tennant Creek**	**45.55**	**122**	⇑*iP*		**P**	**17 44 39.7 -0.2**
WRAB	**Tennant Creek**	**45.55**	**122**	*eP*		**P**	**17 44 40.6 +0.7**
	comp=Z,64nm,1.1s,mb5.5						
WRAB				*e*	pP	17 44 48.8 +0.6	
WB2	**Warramunga Arr**	**45.55**	**122**	*eP*		**P**	**17 44 40.6 +0.7**
ULN	**Ulaanbaatar**	**45.56**	**12**	⇓*iP*		**P**	**17 44 38.8 -0.8**
ULN	**Ulaanbaatar**	**45.56**	**12**	*eP*		**P**	**17 44 39.9 +0.3**
	comp=Z,3.9nm,1.0s,mb4.3						
ASPA	**Alice Springs**	**46.93**	**127**	*eP*		**P**	**17 44 51.2 +0.5**
ASAR	**Alice Springs**	**46.93**	**127**	P		**P**	**17 44 51.1 +0.4**
	comp=Z,7.3nm,0.9s,mb4.6,baz=296,slow=8.0,SNR=39						
ASAR				pP	pP	17 45 00.1 +1.1	
	comp=Z,7.2nm,0.8s,baz=300,slow=7.7,SNR=16						
ASAR				PcP	PcP	17 46 23.6 +0.1	
	comp=Z,2.1nm,0.7s,baz=301,slow=3.8,SNR=6.5						
ZAK	**Zakamensk**	**47.36**	**8**	*eP*		**P**	**17 44 54.6 +0.8**
ZAK				*e*			17 46 24.3
TLY	**Talaya**	**48.68**	**8**	*i* P		**P**	**17 44 56.9 -7.1**
HIA	**Hailar**	**50.48**	**21**	*eP*		**P**	**17 45 19.0 +1.1**
	comp=Z,9.0nm,1.0s,mb4.8						
VLA	**Vladivostok**	**51.61**	**35**	*eP*		pP	17 45 43.0 +8.0
VLA				*e*			17 46 45.0
NVS	**Novosibirsk**	**52.04**	**352**	*eP*		**P**	**17 45 26.9 -2.8**
BVAR	**Borovoye Array**	**53.26**	**342**	P		**P**	**17 45 38.2 -0.6**
	comp=Z,6.5nm,0.9s,mb4.6,baz=143,slow=7.4,SNR=26						
BRVK	**Borovoye**	**53.33**	**342**	*eP*		**P**	**17 45 38.5 -0.7**
	comp=Z,13nm,1.4s,mb4.7						
BRVK				*e*	pP	17 45 46.8 -0.8	
CHKZ	**Chkalovo**	**53.76**	**343**	*eP*		**P**	**17 45 41.7 -0.7**
	comp=Z,18nm,0.9s,mb5.0						
KLR	**Kul'dur**	**55.55**	**29**	*eP*		**P**	**17 45 53.8 -1.8**
BOD	**Bodaibo**	**56.37**	**12**	*eP*		**P**	**17 46 00.8 -0.5**
STKA	**Stephens Creek**	**56.89**	**132**	*eP*		**P**	**17 46 05.3 -0.1**
	comp=Z,4.0nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**56.89**	**132**	P		**P**	**17 46 05.3 -0.1**
	comp=Z,2.6nm,0.7s,mb4.4,baz=318,slow=11,SNR=7.2						
STKA				pP	pP	17 46 14.3 +0.4	
	comp=Z,3.1nm,0.8s,baz=325,slow=8.7,SNR=5.7						
KMBO	**Kilima Mbogo**	**57.35**	**266**	P		**P**	**17 46 07.7 -1.2**
	comp=Z,1.5nm,0.8s,mb4.1,baz=46,slow=11,SNR=3.4						
GNI	**Garni**	**57.78**	**316**	⇓*iP*		**P**	**17 46 05.7 -5.9**
GNI				pmax	pmax		
	comp=Z,7.0nm,1.9s						
GNI	**Garni**	**57.78**	**316**	*eP*		**P**	**17 46 10.7 -0.9**
	comp=Z,5.9nm,1.1s,mb4.5						
ARU	**Arti**	**60.07**	**338**	⇑*iP*		**P**	**17 46 23.4 -3.8**
ARU				*e*			17 47 05.1
ARU				*e*			17 48 35.1
ARU				*eS*		**S**	**17 54 36.8 +0.2**
ARU				*e*			17 56 12.2
ARU				*eSS*	SS	17 58 36.3 +1.6	
ARU				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
YSS	**Yuzh-Sakhalins**	**60.11**	**36**	⇑*iP*		**P**	**17 46 28.1 +0.5**
YSS				pmax	pmax		
	comp=Z,25nm,1.6s,mb5.0						
KIV	**Kislovodsk**	**60.83**	**319**	⇑*iP*		**P**	**17 46 28.5 -4.0**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.7						
KIV	**Kislovodsk**	**60.83**	**319**	*eP*		**P**	**17 46 30.3 -2.2**
	comp=Z,7.1nm,1.0s,mb4.8						
ASF	**Jabal al Asfar**	**60.94**	**305**	P		**P**	**17 46 32.6 -0.9**
	comp=Z,1.6nm,0.7s,mb4.2,baz=52,slow=9.8,SNR=3.6						
MALT	**Malatya**	**61.60**	**312**	*eP*		**P**	**17 46 37.2 -0.6**
	comp=Z,7.9nm,1.2s,mb4.7						
MALT				*e*	pP	17 46 45.5 -1.0	
EIL	**Elat**	**61.95**	**302**	*eP*		**P**	**17 46 40.1 -0.2**
	comp=Z,15nm,1.3s,mb5.0						
EIL				*e*	pP	17 46 47.8 -1.2	
YAK	**Yakutsk**	**64.08**	**18**	⇑*iP*		**P**	**17 46 52.9 -1.0**
YAK				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.4						
YAK	**Yakutsk**	**64.08**	**18**	*eP*		**P**	**17 46 53.6 -0.3**
	comp=Z,30nm,0.9s,mb5.3						
BRTR	**Keskin Array B**	**65.58**	**312**	P		**P**	**17 47 02.7 -1.3**
BRTR	**Keskin Array B**	**65.58**	**312**	P		**P**	**17 47 02.8 -1.3**
	comp=Z,3.0nm,1.0s,mb4.3,baz=135,slow=7.0,SNR=11						
OBN	**Obninsk**	**69.28**	**329**	⇑*iP*		**P**	**17 47 21.8 -5.2**
OBN				pmax	pmax		
	comp=Z,23nm,1.6s,mb4.9						
IDI	**Anoyia**	**71.37**	**306**	P		**P**	**17 47 39.2 -0.8**
	comp=Z,9.3nm,1.1s,mb4.6,baz=122,slow=6.7,SNR=3.8						
TIXI	**Tiksi**	**71.49**	**11**	⇑*iP*		**P**	**17 47 38.2 -2.0**
TIXI				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
MLR	**Muntele Rosu**	**72.56**	**317**	P		**P**	**17 47 47.3 +0.3**
	comp=Z,5.3nm,0.7s,mb4.6,baz=162,slow=12,SNR=5.7						
KOLS	**Kolonicke sedl**	**75.74**	**320**	*eP*		**P**	**17 48 06.1 +0.8**
KOLS				*e*pP	pP	17 48 14.1 +0.1	
FINES	**FINESS Array B**	**76.76**	**333**	*i P*		**P**	**17 48 10.1 -0.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**76.76**	**333**	P		**P**	**17 48 10.1 -0.6**
	comp=Z,3.1nm,0.9s,mb4.2,baz=128,slow=5.1,SNR=9.7						
OJC	**Ojcow**	**77.56**	**321**	*eP*		**P**	**17 48 15.7 +0.3**
VYHS	**Vyhne**	**77.91**	**319**	*eP*		**P**	**17 48 17.5 +0.1**
OKC	**Ostrava-Krasne**	**78.55**	**320**	*eP*		**P**	**17 48 21.4 +0.5**
ARCES	**ARCESS Array B**	**79.51**	**340**	P		**P**	**17 48 25.7 0.0**
	comp=Z,6.3nm,0.8s,mb4.6,baz=108,slow=3.8,SNR=9.1						
DPC	**Dobruska-Polom**	**79.78**	**320**	*eP*		**P**	**17 48 28.2 +0.6**
KSP	**Ksiaz**	**79.86**	**321**	*eP*		**P**	**17 48 28.6 +0.6**
GROS	**Grobnik**	**79.90**	**316**	*eP*		**P**	**17 48 28.0 -0.3**
BILL	**Bilibino**	**80.07**	**21**	⇓*iP*		**P**	**17 48 26.7 -2.0**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
CADS	**Cadrg**	**81.10**	**316**	*eP*		**P**	**17 48 34.5 -0.1**
GERES	**GERESS Array B**	**81.33**	**319**	P		**P**	**17 48 36.4 +0.7**
	comp=Z,6.1nm,0.9s,mb4.5,baz=90,slow=5.3,SNR=20						
KHC	**Kasperske Hory**	**81.43**	**319**	*eP*		**P**	**17 48 32.2 -4.1**
KHC	**Kasperske Hory**	**81.43**	**319**	*eP*		**P**	**17 48 36.4 +0.1**
CLL	**Collm**	**81.97**	**321**	P		**P**	**17 48 39.0 -0.1**
HFS	**Hagfors**	**82.42**	**330**	P		**P**	**17 48 41.3 +0.1**
	comp=Z,9.1nm,1.1s,mb4.6,baz=117,slow=6.6,SNR=4.6						
NB2	**NORSAR Subarra**	**83.72**	**331**	P		**P**	**17 48 47.4 -0.5**
	comp=Z,7.8nm,1.0s,mb4.8,baz=93,slow=5.8						
NOA	**NORSAR Array B**	**83.72**	**331**	P		**P**	**17 48 47.6 -0.3**
	comp=Z,3.2nm,0.8s,mb4.5,baz=93,slow=6.0,SNR=4.2						
DAVOX	**Davos**	**83.79**	**317**	P		**P**	**17 48 49.2 +0.7**
	comp=Z,8.7nm,0.8s,mb4.9,baz=119,slow=5.7,SNR=14						
DAVOS	**Davos**	**83.85**	**317**	P		**P**	**17 48 49.2 +0.4**
LPG	**La Plagne**	**85.95**	**315**	*eP*		**P**	**17 48 59.4 0.0**
	comp=Z,13nm,1.0s,mb4.8						
PDAR	**Pinedale Array**	**129.13**	**23**	PKP	PKPdf	17 55 29.1 -2.2	
	comp=Z,0.6nm,0.9s,baz=333,slow=3.3,SNR=4.4						
PDAR				pPKP		17 55 36.5	
	comp=Z,1.3nm,1.2s,baz=72,slow=4.7,SNR=3.6						
ANMO	**Albuquerque**	**137.05**	**25**	PKP	PKPdf	17 55 45.0 -1.3	
	comp=Z,0.5nm,0.6s,baz=303,slow=2.8,SNR=4.4						
TXAR	**Lajitas Array**	**143.06**	**27**	PKP	PKPdf	17 55 54.3 -3.0	
	comp=Z,0.5nm,0.8s,baz=178,slow=2.1,SNR=4.3						
HKT	**Hockley**	**145.37**	**16**	*e*PKPbc	PKPbc	17 55 58.5 +1.7	
LPAZ	**La Paz**	**158.65**	**232**	PKPab	PKPab	17 56 53.8 0.0	
	comp=Z,1.7nm,0.8s,baz=91,slow=6.3,SNR=7.8						

*IDC **09** 17:42:16.8±0.9, 20.85N×97.62E, mb3.7/6, mb1 3.8/7, mb1mx3.6/18, mbtmp3.6/7, ML3.7/1, Error ellipse: s-maj=20.8km s-min=12.4km az=63.0*
*NEIC **09** 17:42:17.8±0.7, 20.77N×97.47E, h10km, mb3.6/1, Error ellipse: s-maj=45.6km s-min=9.8km az=59.0*
ISC 09 17:42:20.3±0.7, 21.1N±0.2×97.6E±0.3, h33km, n12, σ1§48/16, mb3.6/7, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHG	**Chiang Mai**	**2.56**	**150**	PN		**Pn**	**17 42 53.5 -7.0**
CHG				PG	P	**17 43 00.0 -0.3**	
CHG				SG	**S**	**17 43 32.2 +1.6**	
CMAR	**Chiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIN				Sn	Sn	17 52 43.4	-12
EMIN	**Mina Concepcio**	**7.39**	**86**	Pn	Pn	17 51 25.7	-3.7
	0.4nm,0.1s,SNR=7.2						
EMIN				Sn	Sn	17 52 43.1	-12
	1.5nm,0.2s						
EMIN	**Mina Concepcio**	**7.39**	**86**	Pn	Pn	17 51 25.2	-4.2
EMIN				Sn	Sn	17 52 43.4	-12
	1.8nm,0.3s						
ELOB	**Lobios**	**7.44**	**53**	Pn	Pn	17 51 26.3	-3.9
ELOB				Sn	Sn	17 52 45.8	-11
ELOB	**Lobios**	**7.44**	**53**	Pn	Pn	17 51 25.7	-4.4
	0.4nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	17 52 45.3	-11
	2.5nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**7.44**	**53**	Pn	Pn	17 51 26.3	-3.8
	0.6nm,0.3s,SNR=7.9						
ELOB				Sn	Sn	17 52 45.7	-11
	2.3nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**7.56**	**43**	Pn	Pn	17 51 28.6	-3.2
EMAZ				Sn	Sn	17 52 46.6	-13
EMAZ	**Mazaricos**	**7.56**	**43**	Pn	Pn	17 51 27.3	-4.5
	0.8nm,0.1s,SNR=7.9						
EMAZ				Sn	Sn	17 52 46.0	-13
	2.5nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**7.56**	**43**	Pn	Pn	17 51 28.6	-3.2
	0.8nm,0.1s,SNR=7.9						
EMAZ				Sn	Sn	17 52 47.5	-12
	1.0nm,0.1s,SNR=7.9						
ESPR	**Espera**	**8.12**	**92**	Sn	Sn	17 53 03.0	-10
	4.3nm,0.3s						
ESPR	**Espera**	**8.12**	**92**	Sn	Sn	17 53 03.8	-9.4
	2.5nm,0.2s						
ERUA	**La Rua**	**8.30**	**52**	Sn	Sn	17 53 06.6	-11
	1.8nm,0.4s,SNR=7.9						
ERUA	**La Rua**	**8.30**	**52**	Sn	Sn	17 53 06.8	-11
	1.8nm,0.6s,SNR=7.9						
ECAL	**Calabor**	**8.33**	**56**	Pn	P	17 51 37.8	-4.8
ECAL				Sn	Sn	17 53 07.7	-11
ECAL	**Calabor**	**8.33**	**56**	Pn	P	17 51 38.5	-4.0
	0.3nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	17 53 06.8	-12
	6.1nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**8.33**	**56**	Pn	P	17 51 37.8	-4.8
	0.4nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	17 53 07.7	-11
	1.5nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**8.83**	**47**	Sn	Sn	17 53 17.7	-13
	0.6nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**8.83**	**47**	Sn	Sn	17 53 18.8	-12
	0.8nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**9.04**	**83**	Pn	P	17 51 48.3	-4.1
EADA				Sn	Sn	17 53 23.4	-13
EADA	**Adamuz**	**9.04**	**83**	Pn	P	17 51 48.6	-3.8
	0.6nm,0.1s,SNR=7.0						
EADA				Sn	Sn	17 53 23.5	-13
	2.6nm,0.2s						
EADA	**Adamuz**	**9.04**	**83**	Pn	P	17 51 48.3	-4.1
	0.7nm,0.1s,SNR=7.0						
EADA				Sn	Sn	17 53 23.4	-13
	1.1nm,0.2s						
ESDC	**Sonseca Array**	**9.63**	**74**	Pn	P	17 51 56.5	-4.0
ESDC	**Sonseca Array**	**9.63**	**74**	Pn	P	17 51 56.5	-4.1

IDC 09 17:59:04.9±5.0,37.23S×96.67W,mb3.8/4,mb1 4.3/4, mb1mx3.8/13,mbtmp3.8/4,Error ellipse: s-maj=139.3km s-min=47.3km az=178.0,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**32.72**	**58**	P	P	18 05 40.1	-1.3
	1.6nm,1.1s,baz=206,slow=6.7,SNR=3.7						
TXAR	**Lajitas Array**	**66.54**	**353**	P	P	18 09 56.2	-2.6
	1.0nm,1.0s,baz=170,slow=7.6,SNR=5.8						
NVAR	**Mina Array Bea**	**77.89**	**343**	P	P	18 11 05.8	-0.2
	0.6nm,0.3s,baz=157,slow=6.9,SNR=5.4						
PDAR	**Pinedale Array**	**80.48**	**350**	P	P	18 11 18.1	-1.8
	0.9nm,0.8s,baz=155,slow=6.6,SNR=8.9						
SONM	**Songino Array**	**160.05**	**309**	PKPab	PKPab	18 19 45.0	-2.4
	1.9nm,1.3s,baz=90,slow=1.4,SNR=3.7						

*NEIC **09** 18:02:30.6±0.8,8.96N×93.16E,h30km,mb4.1/1,Error ellipse: s-maj=21.1km s-min=13.0km az=67.0*
*IDC **09** 18:02:34.0±8.1,9.06N×93.32E,h57km±71km,mb3.3/5, mb1 3.5/6,mb1mx3.4/16,mbtmp3.6/6,ML3.7/1,Error ellipse: s-maj=63.1km s-min=20.9km az=52.0*
ISC 09 18:02:28.7±1.0,9.0N±0.1×93.2E±0.2,h30km,n8,σ0§37/8, mb3.7/6,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.92**	**30**	P	P	18 05 06.5	+0.3
	0.2nm,0.3s,baz=222,slow=14,SNR=6.0						
LSA	**Lhasa**	**20.68**	**355**	*eP*	P	18 07 08.5	-0.5
SONM	**Songino Array**	**40.28**	**14**	P	P	18 10 04.6	-0.2
	0.6nm,0.8s,mb3.4,baz=192,slow=10,SNR=5.2						
CHKZ	**Chkalovo**	**48.13**	**342**	*eP*	P	18 11 07.6	-0.2
	1.3nm,0.6s,mb4.1						
CHKZ				*e*		18 11 14.3	
WRA	**Warramunga Arr**	**49.65**	**126**	P	P	18 11 19.6	-0.4
	0.4nm,0.8s,mb3.5,baz=308,slow=8.3,SNR=2.5						
ASAR	**Alice Springs**	**51.33**	**130**	P	P	18 11 33.0	+0.2
	0.2nm,0.7s,mb3.2,baz=315,slow=5.6,SNR=2.8						
BRTR	**Keskin Array B**	**61.01**	**311**	P	P	18 12 42.0	0.0
	0.3nm,0.8s,mb3.5,baz=120,slow=8.2,SNR=2.5						
ARCES	**ARCESS Array B**	**73.91**	**340**	P	P	18 14 03.1	+0.7
	2.8nm,0.8s,mb4.3,baz=106,slow=6.6,SNR=4.4						

*IDC **09** 18:08:57.3±1.1,3.33N×94.23E,mb4.0/7,mb1 4.2/8, mb1mx4.0/18,mbtmp4.0/8,ML4.3/1,Error ellipse: s-maj=51.4km s-min=20.3km az=54.0*
*NEIC **09** 18:09:01.4±0.7,3.30N×94.28E,mb4.1/4,Error ellipse: s-maj=22.4km s-min=10.5km az=61.0*
ISC 09 18:09:00.7±0.9,3.3N±0.1×94.3E±0.2,h33km,n12, σ0§80/12,mb4.0/11,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.69**	**16**	Pn	P	18 12 41.5	+0.4
	0.4nm,0.3s,baz=214,slow=12,SNR=21						
LSA	**Lhasa**	**26.39**	**354**	*eP*	P	18 14 38.1	+1.9
	5.5nm,0.9s,mb4.1						
SONM	**Songino Array**	**45.53**	**11**	P	P	18 17 18.8	-0.3
	0.9nm,0.7s,mb3.8,baz=190,slow=9.1,SNR=9.6						
SONM				PcP	PcP	18 18 58.0	+0.1
	0.5nm,0.9s,baz=186,slow=4.4,SNR=3.3						
WRA	**Warramunga Arr**	**45.59**	**122**	P	P	18 17 20.1	+0.2
	0.4nm,0.5s,mb3.6,baz=300,slow=8.7,SNR=6.0						
WRAB	**Tennant Creek**	**45.60**	**122**	P	P	18 17 19.7	-0.2
	1.0nm,0.6s,mb3.9						
ULN	**Ulaanbaatar**	**45.70**	**12**	*eP*	P	18 17 19.6	-0.8
	0.6nm,0.5s,mb3.8						
ASAR	**Alice Springs**	**46.96**	**127**	P	P	18 17 30.8	+0.1
	0.8nm,0.4s,mb4.0,baz=295,slow=7.5,SNR=17						
ASAR				PcP	PcP	18 19 03.0	-0.1
	0.7nm,1.2s,baz=291,slow=3.5,SNR=4.5						
BVAR	**Borovoye Array**	**53.33**	**342**	P	P	18 18 17.6	-1.3
	2.0nm,0.9s,mb4.0,baz=135,slow=6.3,SNR=5.1						
BVAR				pP	pP	18 18 25.8	-3.1
	0.8nm,0.6s,baz=153,slow=9.9,SNR=4.5						
CHKZ	**Chkalovo**	**53.83**	**343**	*eP*	P	18 18 21.5	-1.0
	1.4nm,0.5s,mb4.2						
CHKZ				*e*		18 18 29.4	
ARCES	**ARCESS Array B**	**79.58**	**341**	P	P	18 21 05.6	-0.1
	3.1nm,0.8s,mb4.3,baz=79,slow=6.2,SNR=5.4						
GERES	**GERESS Array B**	**81.33**	**319**	P	P	18 21 16.0	+0.6
	1.1nm,0.8s,mb3.8,baz=45,slow=3.8,SNR=5.5						
DAVOX	**Davos**	**83.78**	**317**	P	P	18 21 28.7	+0.6
	2.1nm,0.7s,mb4.4,baz=107,slow=22,SNR=5.1						

*IDC **09** 18:20:52.0±0.9,49.50S×161.46E,mb4.2/5,mb1 4.5/7, mb1mx4.3/11,mbtmp4.4/7,ML4.6/2,MS3.8/7,Ms1 3.8/7, ms1mx3.5/12,Error ellipse: s-maj=30.5km s-min=24.4km az=44.0*
*NEIC **09** 18:20:53.6±0.6,49.41S×161.26E,h10km,mb4.7/4,Error ellipse: s-maj=14.8km s-min=6.9km az=161.0*
ISC 09 18:20:53.5±0.7,49.16S±0.09×161.40E±0.08,h10km,n52, σ1§31/49,mb4.5/8,MS3.8/6,1C-1D,North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**5.50**	**56**	P	Pn	18 22 19.1	+1.5
WHZ				S	Sn	18 23 21.6	-0.1
WHZ	**Wether Hill Ro**	**5.50**	**56**	P	Pn	18 22 19.1	+1.5
WHZ				S	Sn	18 23 21.2	-0.5
MLZ	**Mavora Lakes**	**5.98**	**53**	P	Pn	18 22 26.1	+1.8
MLZ				S	Sn	18 23 31.3	-2.3
MSZ	**Milford Sound**	**6.33**	**47**	P	Pn	18 22 32.4	+3.2
TUZ	**Tuapeka**	**6.42**	**63**	P	Pn	18 22 31.2	+0.6
TUZ				S	Sn	18 23 44.4	-0.3
EAZ	**Earnscleugh**	**6.66**	**57**	*eP*	Pn	18 22 34.9	+1.0
EAZ	**Earnscleugh**	**6.66**	**57**	P	Pn	18 22 34.9	+1.0
EAZ				S	Sn	18 23 50.0	-0.7
WKZ	**Wanaka**	**6.77**	**53**	*eP*	Pn	18 22 37.9	+2.5
WKZ	**Wanaka**	**6.77**	**53**	P	Pn	18 22 38.1	+2.7
JCZ	**Jackson Bay**	**7.17**	**48**	*eP*	Pn	18 22 43.9	+2.8
JCZ	**Jackson Bay**	**7.17**	**48**	P	Pn	18 22 43.9	+2.8
ODZ	**Otahua Downs**	**7.53**	**60**	*eP*	Pn	18 22 44.8	-1.2
ODZ	**Otahua Downs**	**7.53**	**60**	P	Pn	18 22 44.7	-1.4
LBZ	**Lake Benmore**	**7.68**	**55**	*eP*	Pn	18 22 47.5	-0.8
LBZ	**Lake Benmore**	**7.68**	**55**	P	Pn	18 22 47.5	-0.8
LBZ				S	Sn	18 24 14.9	-1.4
FOZ	**Fox Glacier**	**8.00**	**49**	P	P	18 22 54.7	+2.0
RPZ	**Rata Peaks**	**8.60**	**54**	Pn	P	18 23 00.0	-1.0
	10nm,0.3s,baz=220,slow=6.5,SNR=38						
RPZ				Sn	Sn	18 24 35.5	-3.6
	3.0nm,0.3s,baz=24,slow=19,SNR=3.5						
RPZ				LR	LR	18 26 07.1	
	comp=Z,833nm,21.7s,baz=212,slow=36						
RPZ	**Rata Peaks**	**8.60**	**54**	*eP*	P	18 22 59.5	-1.5
RPZ	**Rata Peaks**	**8.60**	**54**	P	P	18 22 59.5	-1.5
WVZ	**Waitaha Valley**	**8.88**	**50**	*eP*	P	18 23 04.6	-0.3
WVZ	**Waitaha Valley**	**8.88**	**50**	P	P	18 23 05.9	+1.0
THZ	**Tophouse**	**10.94**	**52**	*eP*	P	18 23 32.3	-0.8
THZ	**Tophouse**	**10.94**	**52**	P	P	18 23 32.6	-0.5
QRZ	**Quartz Range**	**11.45**	**48**	P	P	18 23 40.2	+0.1
NNZ	**Nelson**	**11.58**	**51**	*eP*	P	18 23 41.5	-0.4
NNZ	**Nelson**	**11.58**	**51**	P	P	18 23 41.6	-0.3
TAU	**Tasmania Unive**	**11.60**	**297**	*eP*	P	18 23 37.8	-4.4
	67nm,0.6s						
URZ	**Urewera**	**15.70**	**52**	Pn	P	18 24 36.7	+0.4
	1.6nm,0.3s,baz=213,slow=10,SNR=7.1						
WCZ	**Waipu Caves**	**16.25**	**40**	*eP*	P	18 24 47.6	+4.2
WCZ	**Waipu Caves**	**16.25**	**40**	P	P	18 24 47.6	+4.2
STKA	**Stephens Creek**	**22.79**	**312**	*eP*	P	18 26 01.5	+4.2
	6.0nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**22.79**	**312**	P	P	18 25 59.5	+2.2
	10nm,1.1s,mb4.2,baz=141,slow=9.0,SNR=5.6						
STKA				LR	LR	18 34 00.1	
	comp=Z,272nm,18.2s,MS3.7,baz=94,slow=34						
CTA	**Charters Tower**	**31.44**	**332**	LR	LR	18 38 24.1	
	comp=Z,79nm,21.4s,MS3.4,baz=161,slow=33						
ASAR	**Alice Springs**	**33.38**	**310**	P	P	18 27 33.6	-0.5
	3.0nm,0.6s,mb4.4,baz=144,slow=8.1,SNR=33						
ASAR				LR	LR	18 40 09.4	
	comp=Z,183nm,18.1s,MS3.8,baz=170,slow=34						
ASPA	**Alice Springs**	**33.38**	**310**	*eP*	P	18 27 33.9	-0.2
WB2	**Warramunga Arr**	**36.31**	**314**	*eP*	P	18 27 58.7	-0.5
WRA	**Warramunga Arr**	**36.32**	**314**	P	P	18 27 58.7	-0.5
	4.6nm,0.8s,mb4.5,baz=146,slow=8.2,SNR=20						
WRAB	**Tennant Creek**	**36.32**	**314**	*eP*	P	18 27 58.7	-0.6
	11nm,0.8s,mb4.8						
QSPA	**South Pole Qui**	**40.97**	**180**	⇓*iP*	P	18 28 35.3	-2.1
	9.0nm,0.9s,mb4.4						
PMG	**Port Moresby**	**41.38**	**338**	P	P	18 28 39.9	-1.6
	19nm,1.1s,mb4.7						
RAR	**Rarotonga**	**41.53**	**62**	LR	LR	18 41 02.1	
	comp=Z,121nm,20.9s,MS3.8,baz=268,slow=29						
MAW	**Mawson**	**48.75**	**210**	LR	LR	18 48 50.8	
	comp=Z,234nm,18.9s,MS4.2,baz=74,slow=35						
SNAA	**Sanae**	**58.96**	**186**	P	P	18 30 50.2	-4.6
	5.3nm,1.1s,mb4.5,baz=175,slow=1.0,SNR=6.3						
SNAA				LR	LR	18 53 54.1	
	comp=Z,59nm,19.5s,MS3.7,baz=190,slow=34						
VNA2	**Neumayer--Watz**	**59.96**	**184**	⇑*i*	P	18 31 02.6	+0.9
CMAR	**Chiang Mai Arr**	**87.09**	**303**	P	P	18 33 41.6	+0.9
	1.7nm,0.8s,mb4.3,baz=169,slow=3.7,SNR=13						
TXAR	**Lajitas Array**	**114.64**	**73**	PKP	PKPdf	18 39 31.9	-5.0
	0.1nm,0.5s,baz=288,slow=4.0,SNR=3.6						
YKA	**Yellowknife Ar**	**129.50**	**37**	PKP	PKPdf	18 40 02.7	-2.0
	0.1nm,0.5s,baz=212,slow=1.5,SNR=3.4						
YKA	**Yellowknife Ar**	**129.50**	**37**	PKP	PKPdf	18 40 02.7	-2.0
ARCES	**ARCESS Array B**	**150.68**	**330**	PKPbc	PKPdf	18 40 45.8	+4.0
	4.2nm,0.8s,slow=3.6,SNR=6.2						
ARCES				PKPab	PKPab	18 40 52.7	-0.8
	6.0nm,0.7s,baz=117,slow=2.7,SNR=9.4						
FINES	**FINESS Array B**	**152.36**	**313**	PKPbc	PKPdf	18 40 48.7	+4.3
	4.0nm,1.1s,baz=270,slow=1.4,SNR=3.1						
FINES				PKPab	PKPab	18 41 00.3	-0.4
	1.5nm,0.6s,baz=90,slow=5.7,SNR=4.4						
FINES	**FINESS Array B**	**152.36**	**313**	PKPbc	PKPdf	18 40 48.7	+4.3
FINES				PKPab	PKPab	18 41 00.3	-0.4
GERES	**GERESS Array B**	**158.89**	**281**	PKPab	PKPab	18 41 26.1	-2.8
	0.7nm,0.7s,baz=117,slow=3.0,SNR=4.6						

*IDC **09** 18:22:15.6±1.1,5.98N×92.80E,h30km±6km,mb3.4/6, mb1 3.6/7,mb1mx3.5/17,mbtmp3.6/7,ML3.1/1,Error ellipse: s-maj=47.0km s-min=17.8km az=52.0*
*NEIC **09** 18:22:15.5±0.7,6.03N×92.77E,mb4.2/2,Error ellipse: s-maj=14.9km s-min=12.4km az=201.0*
ISC 09 18:22:13.3±5.4,6.0N±0.1×92.7E±0.1,h29km±39km, h29km±2.7km:pP-P,n10,σ0§71/10,mb3.8/8,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.02**	**277**	*eP*	P	18 25 05.8	0.0
CMAR	**Chiang Mai Arr**	**13.75**	**26**	Pn	P	18 25 29.2	+0.3
	0.0nm,0.3s,baz=219,slow=14,SNR=8.3						
SONM	**Songino Array**	**43.25**	**13**	P	P	18 30 13.8	-0.1
	0.4nm,0.7s,mb3.3,baz=180,slow=5.8,SNR=3.9						
WRA	**Warramunga Arr**	**48.38**	**123**	P	P	18 30 54.6	-0.4
	0.9nm,0.8s,mb3.9,baz=303,slow=9.1,SNR=5.0						
WRA				pP	pP	18 31 02.7	-1.0
	1.4nm,0.8s,baz=301,slow=8.9,SNR=6.6						
ASAR	**Alice Springs**	**49.85**	**128**	P	P	18 31 06.5	+0.2
	0.5nm,0.9s,mb3.5,baz=306,slow=7.9,SNR=4.9						
ASAR				pP	pP	18 31 14.2	-0.8
	1.1nm,0.9s,baz=311,slow=8.3,SNR=5.1						
BVAR	**Borovoye Array**	**50.29**	**343**	P	P	18 31 09.4	+0.2
	1.1nm,0.9s,mb3.9,baz=146,slow=5.3,SNR=4.8						
BVAR				pP	pP	18 31 20.2	+2.2
	0.8nm,0.8s,baz=127,slow=15,SNR=3.6						
BRVK	**Borovoye**	**50.35**	**343**	P	P	18 31 08.2	-1.6
	2.9nm,1.1s,mb4.2						
CHKZ	**Chkalovo**	**50.80**	**343**	*eP*	P	18 31 13.3	+0.2
	2.5nm,0.9s,mb4.1						
BRTR	**Keskin Array B**	**62.59**	**312**	P	P	18 32 37.0	-0.3
	0.4nm,0.6s,mb3.7,baz=153,slow=9.7,SNR=3.8						
GERES	**GERESS Array B**	**78.27**	**319**	P	P	18 34 13.7	+1.5
	0.4nm,0.8s,mb3.4,baz=90,slow=6.7,SNR=6.0						

DJA 09 18:25:15.7±0.4,8.18S×114.95E,h15km,MD6.0/4, ML3.7/1,4C-4D,Error ellipse: s-maj=21.4km s-min=4.8km az=7.0,Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELI	**Kelakatan**	**0.45**	**265**	⇓*iPn*	Pn	18 25 24.0	-3.3
	112nm,0.2s						
KELI				⇓*iSn*	Sn	18 25 31.4	-3.5
RATI	**Rata**	**0.80**	**133**	⇓*ePn*	Pn	18 25 28.3	-3.9
	182nm,0.2s						
RATI				⇓*iSn*	Sn	18 25 40.4	-3.3
SRDI	**Scrawed**	**0.85**	**249**	⇑*iPn*	Pn	18 25 30.4	-2.6
	43nm,0.2s						
SRDI				⇑*iSn*	Sn	18 25 43.4	-1.7
KEDI	**Kedomdong**	**1.20**	**105**	⇑*iPn*	Pn	18 25 35.4	-2.5
	91nm,0.2s						
KEDI				⇑*eSn*	Sn	18 25 50.6	-3.3

*NEIC **09** 18:31:13.5±2.5,32.23S×179.52W,h254km±24km,Error ellipse: s-maj=33.2km s-min=26.1km az=148.0*
*IDC **09** 18:31:21.1±4.1,32.66S×179.82W,h318km±43km,mb3.6/2, mb1 3.8/4,mb1mx3.4/14,mbtmp4.4/4,Error ellipse: s-maj=46.4km s-min=30.0km az=175.0*
ISC 09 18:31:14.3±1.0,32.18S±0.07×179.9W±0.2,h250km,n58, σ1§32/66,mb3.9/2,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.56**	**195**	*eP*	P	18 32 34.7	-2.8
MXZ				S	S	18 33 46.6	+4.1
MXZ	**Matakaoa Point**	**5.56**	**195**	*eP*	P	18 32 34.7	-2.8
MXZ				S	S	18 33 44.5	+2.0
PUZ	**Puketiti**	**6.06**	**194**	*eP*	P	18 32 42.8	-0.9
PUZ	**Puketiti**	**6.06**	**194**	P	P	18 32 42.8	-0.9
MWZ	**Matawai**	**6.48**	**198**	*eP*	P	18 32 48.2	-0.8
MWZ	**Matawai**	**6.48**	**198**	P	P	18 32 48.2	-0.8
URZ	**Urewera**	**6.53**	**201**	P	P	18 32 52.5	+2.9
	6.9nm,0.3s,baz=314,slow=3.1,SNR=35						
URZ				S	S	18 34 06.3	+2.1
	6.4nm,0.3s,baz=301,slow=4.4,SNR=15						
URZ	**Urewera**	**6.53**	**201**	*eP*	P	18 32 49.5	-0.1
URZ	**Urewera**	**6.53**	**201**	P	P	18 32 49.5	-0.1
KNZ	**Kokohu**	**7.10**	**195**	*eP*	P	18 32 57.7	+0.9
KNZ	**Kokohu**	**7.10**	**195**	P	P	18 32 57.7	+0.9
BKZ	**Black Stump Fm**	**7.55**	**202**	*eP*	P	18 33 02.0	-0.6
BKZ	**Black Stump Fm**	**7.55**	**202**	P	P	18 33 01.1	-1.5
BKZ				S	S	18 34 29.6	+2.2
NGZ	**Ngauruhoe**	**7.87**	**206**	*eP*	P	18 33 08.7	+2.1
NGZ	**Ngauruhoe**	**7.87**	**206**	P	P	18 33 08.7	+2.1
CNZ	**Chateau**	**7.91**	**206**	P	P	18 33 09.6	+2.5
TUVZ	**Tukino**	**7.93**	**206**	*eP*	P	18 33 08.0	+0.6
TUVZ	**Tukino**	**7.93**	**206**	P	P	18 33 10.4	+3.0
FWVZ	**Far West T-bar**	**7.95**	**206**	*eP*	P	18 33 08.7	+1.0
WNVZ	**Wahianoa**	**8.00**	**206**	*eP*	P	18 33 09.1	+0.8
MOVZ	**Moawhango**	**8.01**	**205**	*eP*	P	18 33 10.1	+1.6
TSZ	**Takapari Road**	**8.53**	**202**	P	P	18 33 16.5	+1.5
WAZ	**Wanganui**	**8.60**	**207**	P	P	18 33 18.9	+2.9
BFZ	**Birch Farm**	**9.02**	**199**	*eP*	P	18 33 20.6	-0.6
BFZ				S	S	18 34 58.1	-2.8
BFZ	**Birch Farm**	**9.02**	**199**	P	P	18 33 20.6	-0.6
BFZ				S	S	18 34 58.1	-2.8
MRZ	**Mangatainoka R**	**9.20**	**202**	*eP*	P	18 33 23.2	-0.3
MRZ	**Mangatainoka R**	**9.20**	**202**	P	P	18 33 23.2	-0.3
MRZ				S	S	18 35 04.3	-0.6
KIW	**Kapiti Island**	**9.60**	**204**	P	P	18 33 28.6	0.0
KIW				S	S	18 35 13.7	-0.4
MTW	**Mount Morrison**	**9.68**	**201**	P	P	18 33 29.8	+0.3
CAW	**Cannon Point**	**9.77**	**203**	*eP*	P	18 33 28.6	-2.1
CAW	**Cannon Point**	**9.77**	**203**	P	P	18 33 28.6	-2.1
CAW				S	S	18 35 18.7	+0.9
MSWZ	**Moikau Station**	**9.99**	**201**	*eP*	P	18 33 32.8	-0.6
BHW	**Baring Head**	**10.10**	**203**	*eP*	P	18 33 33.7	-1.2
BHW	**Baring Head**	**10.10**	**203**	P	P	18 33 33.7	-1.2
NNZ	**Nelson**	**10.49**	**209**	*eP*	P	18 33 39.3	-0.5
NNZ				S	S	18 35 34.9	+0.6
NNZ	**Nelson**	**10.49**	**209**	P	P	18 33 39.6	-0.2
NNZ				S	S	18 35 34.3	0.0
QRZ	**Quartz Range**	**10.54**	**213**	*eP*	P	18 33 40.6	+0.2
QRZ	**Quartz Range**	**10.54**	**213**	P	P	18 33 40.6	+0.2
THZ	**Tophouse**	**11.14**	**209**	*eP*	P	18 33 46.5	-1.5
THZ	**Tophouse**	**11.14**	**209**	P	P	18 33 46.5	-1.5
THZ				S	S	18 35 50.6	+1.5
KHZ	**Kahutara**	**11.46**	**205**	P	P	18 33 52.1	+0.1
DSZ	**Denniston Nort**	**11.60**	**212**	S	S	18 35 58.7	-0.9
MQZ	**McQueen's Vall**	**12.90**	**205**	*eP*	P	18 34 08.7	-1.2
MQZ	**McQueen's Vall**	**12.90**	**205**	P	P	18 34 08.7	-1.2
MQZ				S	S	18 36 24.6	-4.2
WVZ	**Waitaha Valley**	**13.14**	**211**	*eP*	P	18 34 11.3	-1.5
WVZ	**Waitaha Valley**	**13.14**	**211**	P	P	18 34 11.0	-1.8
WVZ				S	S	18 36 31.7	-2.4
RPZ	**Rata Peaks**	**13.52**	**209**	P	P	18 34 16.5	-1.0
	1.0nm,0.3s,baz=268,slow=2.2,SNR=5.2						
RPZ				S	S	18 36 41.3	-1.2
	1.2nm,0.3s,baz=350,slow=23,SNR=8.1						
ODZ	**Otahua Downs**	**14.79**	**207**	*eP*	P	18 34 34.0	+0.9
ODZ	**Otahua Downs**	**14.79**	**207**	P	P	18 34 34.0	+0.9
ASAR	**Alice Springs**	**41.40**	**270**	P	P	18 38 38.5	+0.6
	1.2nm,0.4s,mb3.7,baz=105,slow=7.4,SNR=30						
WRA	**Warramunga Arr**	**42.55**	**275**	P	P	18 38 47.4	+0.1
	3.1nm,0.4s,mb4.1,baz=111,slow=8.0,SNR=118						
ARCES	**ARCESS Array B**	**139.95**	**346**	PKhKP		18 50 05.1	
	2.1nm,0.9s,baz=34,slow=3.3,SNR=3.9						
ARCES				PKP	PKPdf	18 50 11.8	0.0
	7.6nm,1.1s,slow=1.2,SNR=6.3						
JOF	**Joensuu**	**143.42**	**337**	*e*pkp	PKPdf	18 50 15.3	-2.6
KAF	**Kang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.49**	**20**	Pn	P	19 01 39.1	-2.1
	0.1nm,0.3s,baz=213,slow=12,SNR=5.9						
WRA	**Warramunga Arr**	**46.85**	**123**	P	P	19 06 43.6	-1.9
	0.7nm,0.6s,baz=302,slow=9.3,SNR=9.5						
WRAB	**Tennant Creek**	**46.86**	**123**	*eP*	P	19 06 43.6	-1.9
	1.3nm,0.6s						
ASAR	**Alice Springs**	**48.29**	**128**	P	P	19 06 54.8	-1.9
	0.2nm,0.4s,baz=301,slow=7.7,SNR=5.4						
FINES	**FINESS Array B**	**75.25**	**333**	P	P	19 09 55.6	-1.9
	5.6nm,1.1s,baz=153,slow=4.3,SNR=3.4						

*IDC **09** 19:06:52.2±0.9, 11.54N×94.31E, mb4.0/7, mb1 4.0/8, mb1mx3.9/17, mbtmp3.9/8, ML3.7/1, Error ellipse: s-maj=37.5km s-min=19.1km az=48.0*
*NEIC **09** 19:06:56.6±0.8, 11.64N×94.35E, h30km, mb4.2/4, Error ellipse: s-maj=22.6km s-min=13.6km az=59.0*

ISC 09 19:06:54.6±0.8, 11.7N±0.1×94.4E±0.1, h30km, n14, σ1§03/14, mb4.0/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.04**	**32**	Pn	**P**	**19 08 52.2**	**-0.2**
	0.2nm,0.3s,baz=223,slow=15,SNR=5.4						
LSA	**Lhasa**	**18.20**	**351**	P	**P**	**19 11 07.3**	**+0.3**
	1.2nm,0.5s						
SONM	**Songino Array**	**37.43**	**13**	P	**P**	**19 14 09.5**	**+2.5**
	1.6nm,1.2s,mb3.7,baz=190,slow=8.8,SNR=3.2						
BRVK	**Borovoye**	**45.59**	**340**	*eP*	**P**	**19 15 11.9**	**-1.8**
	1.9nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**46.00**	**340**	*eP*	**P**	**19 15 15.7**	**-1.3**
	3.6nm,0.6s,mb4.5						
CHKZ				*e*		19 15 19.2	
WRA	**Warramunga Arr**	**50.30**	**128**	P	**P**	**19 15 51.0**	**+0.1**
	1.4nm,0.6s,mb4.2,baz=306,slow=8.4,SNR=17						
WRAB	**Tennant Creek**	**50.31**	**128**	*eP*	**P**	**19 15 50.8**	**-0.2**
	1.3nm,0.6s,mb4.1						
GNI	**Garni**	**52.05**	**312**	P	**P**	**19 16 04.0**	**0.0**
	1.2nm,0.4s,mb4.2,baz=109,slow=22,SNR=2.5						
ASAR	**Alice Springs**	**52.19**	**132**	P	**P**	**19 16 05.0**	**-0.2**
	0.7nm,0.6s,mb3.7,baz=308,slow=6.7,SNR=13						
BRTR	**Keskin Array B**	**60.22**	**309**	P	**P**	**19 17 03.5**	**+1.0**
	1.0nm,0.7s,mb4.0,baz=117,slow=8.3,SNR=5.0						
BRTR	**Keskin Array B**	**60.22**	**309**	P	**P**	**19 17 03.5**	**+1.0**
ARCES	**ARCESS Array B**	**71.82**	**340**	P	**P**	**19 18 15.2**	**-0.9**
	1.4nm,0.7s,mb4.0,baz=23,slow=9.2,SNR=3.0						
GERES	**GERESS Array B**	**75.22**	**318**	P	**P**	**19 18 37.4**	**+1.2**
	0.2nm,0.6s,mb3.2,baz=112,slow=5.3,SNR=2.6						
GERES	**GERESS Array B**	**75.22**	**318**	P	**P**	**19 18 37.4**	**+1.2**

OTT 09 19:07:20.5±0.8, 64.04N×85.69W, h18km, MN2.5/6, 124km west from Coral Harbour, Nu Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QILN	**Qililugaq Expl**	**2.64**	**354**	PN	Pn	19 08 01.8	-1.3
QILN				SN	Sn	19 08 32.9	-2.1
QILN				SG	Sn	19 08 42.5	+7.5
QILN				Trac		19 08 49.0	
	comp=Z,8.6nm,0.1s						
YRTN	**Rankin Inlet**	**3.14**	**250**	PN	Pn	19 08 09.6	-0.5
YRTN				SN	Sn	19 08 44.4	-3.1
YRTN				SG	Sn	19 08 54.5	+7.0
YRTN				Trac		19 09 02.1	
	comp=Z,2.5nm,0.1s						
IGLN	**Igloolik**	**5.57**	**14**	PN	Pn	19 08 40.5	-4.1
IGLN				SN	Sn	19 09 42.7	-6.3
IGLN				LG		19 10 12.0	
IGLN				Trac		19 10 21.4	
	comp=Z,5.9nm,0.5s						
IGL	**Igloolik**	**5.58**	**14**	PN	Pn	19 08 44.9	+0.1
IGL				SN	Sn	19 09 46.4	-2.8
IGL				LG		19 10 12.1	
IGL				Trac		19 10 20.1	
	comp=Z,1.2nm,0.1s						
FCC	**Fort Churchill**	**6.65**	**221**	SN	Sn	19 10 05.3	-11
FCC				LG		19 10 43.0	
FCC				Trac		19 10 49.8	
	comp=Z,1.7nm,0.3s						
FRB	**Frobisher Bay**	**7.57**	**84**	SN	Sn	19 10 30.7	-8.3
PINU	**Pond Inlet**	**9.14**	**15**	SN	Sn	19 11 08.0	-10
PINU				LG		19 12 00.0	
SILO	**Sutton Inlier**	**9.60**	**177**	PN	P	19 09 37.7	-3.0
SILO				SN	Sn	19 11 18.3	-11
SILO				LG		19 12 23.6	
SILO				Trac		19 12 36.6	
	comp=Z,0.6nm,0.3s						
KUQ	**Kuujjuuaa**	**10.24**	**118**	SN	S	19 11 40.9	-4.0
RES	**Resolute Bay**	**11.16**	**347**	SN	S	19 11 53.6	-14
VIMO	**Victor Mine**	**11.30**	**174**	PN	P	19 09 59.9	-4.2
VIMO				SN	S	19 11 56.6	-14
LG4Q	**La Grande 4**	**12.02**	**145**	PN	P	19 10 11.7	-2.0
LG4Q				SN	S	19 12 14.1	-14
LG4Q				LG		19 13 23.8	
YKW3	**Yellowknife Ar**	**13.04**	**277**	SN	S	19 12 37.4	-15
SCHQ	**Schefferville**	**13.25**	**125**	PN	P	19 10 23.1	-7.1
SCHQ				SN	S	19 12 44.6	-13

*IDC **09** 19:19:09.9±1.5, 3.38N×94.21E, mb3.6/5, mb1 3.8/6, mb1mx3.7/16, mbtmp3.5/6, ML3.5/1, Error ellipse: s-maj=62.6km s-min=25.3km az=53.0*
*NEIC **09** 19:19:14.5±0.9, 3.34N×94.23E, h30km, mb4.1/2, Error ellipse: s-maj=30.4km s-min=14.9km az=65.0*

ISC 09 19:19:12.9±1.1, 3.4N±0.2×94.3E±0.2, h30km, n8, σ1§01/8, mb3.7/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.69**	**17**	Pn	**P**	**19 22 54.0**	**+0.2**
	0.1nm,0.3s,baz=213,slow=12,SNR=4.5						
LSA	**Lhasa**	**26.37**	**354**	P	**P**	**19 24 50.5**	**+1.9**
	4.9nm,0.8s,mb4.1						
SONM	**Songino Array**	**45.53**	**11**	P	**P**	**19 27 30.6**	**-1.1**
	0.2nm,0.6s,mb3.3,baz=190,slow=8.8,SNR=2.3						
WRA	**Warramunga Arr**	**45.65**	**122**	P	**P**	**19 27 33.2**	**+0.2**
	0.5nm,0.7s,mb3.5,baz=298,slow=9.0,SNR=3.5						
ASAR	**Alice Springs**	**47.02**	**127**	P	**P**	**19 27 43.8**	**0.0**
	0.2nm,0.4s,mb3.4,baz=296,slow=7.7,SNR=4.6						
CHKZ	**Chkalovo**	**53.79**	**343**	*eP*	**P**	**19 28 33.1**	**-1.8**
	1.1nm,0.7s,mb3.9						
GERES	**GERESS Array B**	**81.28**	**319**	P	**P**	**19 31 28.2**	**+0.4**
	0.4nm,0.7s,mb3.5,baz=100,slow=5.5,SNR=3.6						
NOA	**NORSAR Array B**	**83.71**	**331**	P	**P**	**19 31 40.3**	**+0.2**
	0.7nm,0.3s,mb4.2,baz=94,slow=5.8,SNR=4.0						

*NAO **09** 19:26:41.8±1.5, 60.53N×14.63E, ML2.3*
*CSEM **09** 19:26:41.5±0.1, 60.43N×14.57E, h12km, ML2.5, Error ellipse: s-maj=2.4km s-min=2.3km az=171.0*
*IDC **09** 19:26:41.3±0.7, 60.59N×14.55E, mb1 3.3/2, mb1mx2.9/16, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=7.9km s-min=4.8km az=146.0*
*UPP **09** 19:26:42.8, 60.43N×14.61E, h20km, ML2.3*
*BER **09** 19:26:44.3±3.1, 60.37N×14.65E, h19km±15km, MD3.2, ML2.4, ML2.3(NAO)*

HEL 09 19:26:42.8±0.1, 60.46N×14.62E, h10km, ML2.5, ML2.3(UPP), **ML2.4**(BER), **2C-3D, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**0.56**	**235**	*i* P	Pg	19 26 53.0	-1.2
HFS				*i* S	Sg	19 27 00.5	-1.4
HFS	**Hagfors**	**0.56**	**235**	Pg	Pg	19 26 53.1	-1.2
	1.6nm,0.3s,baz=54,slow=20,SNR=224						
HFS				Lg		19 27 00.3	
	5.7nm,0.3s,baz=58,slow=32,SNR=124						
HFS	**Hagfors**	**0.56**	**235**	Pg	Pg	19 26 53.0	-1.2
	baz=54,slow=18						
HFS				Lg		19 27 00.5	
	baz=59,slow=37						
HFS	**Hagfors**	**0.56**	**235**	P	Pg	19 26 53.0	-1.2
FALU	**Falun**	**0.60**	**86**	‖*iP*	Pg	19 26 54.4	-0.5
FALU				*i* S	Sg	19 27 02.8	-0.3
NRAU	**Nora**	**0.92**	**167**	⇑*iP*	Pb	19 26 59.2	-1.1
NRAU				*i* S	Sb	19 27 10.8	-1.5
ROTU	**Roteberg**	**1.13**	**31**	⇑*eP*	Pb	19 27 03.2	-0.7
ROTU				*eS*	Sb	19 27 18.0	-0.4
OSTU	**Oestervaala**	**1.27**	**99**	‖*eP*	Pb	19 27 05.4	-0.9
OSTU				*eS*	Sb	19 27 21.7	-0.9
BACU	**Backbrunna**	**1.38**	**115**	‖*eP*	Pn	19 27 07.4	-0.8
BACU				*eS*	Sb	19 27 25.2	-0.7
IGGU	**Iggoen**	**1.39**	**71**	*eP*	Pn	19 27 07.8	-0.6
IGGU				*eS*	Sb	19 27 25.7	-0.4
IGGU	**Iggoen**	**1.39**	**71**	P	Pn	19 27 07.7	-0.7
IGGU				S	Sb	19 27 25.7	-0.4
ESKU	**Eskilstuna**	**1.52**	**143**	*eP*	Pn	19 27 09.4	-0.9
ESKU	**Eskilstuna**	**1.52**	**143**	P	Pn	19 27 09.3	-0.9
UPP	**Uppsala**	**1.62**	**111**	*eP*	Pn	19 27 11.2	-0.4
UPP				*eS*	Sn	19 27 32.0	-0.7
FLYU	**Flymyra**	**1.66**	**100**	*eP*	Pn	19 27 11.2	-1.0
FLYU				*eS*	Sn	19 27 33.5	-0.1
FLYU	**Flymyra**	**1.66**	**100**	P	Pn	19 27 11.2	-1.0
FLYU				S	Sn	19 27 33.5	-0.2
NOA	**NORSAR Array B**	**1.77**	**291**	Pg	Pg	19 27 12.9	-5.3
	2.1nm,0.3s,baz=102,slow=14,SNR=16						
NOA				Lg		19 27 33.3	
	5.6nm,0.3s,baz=110,slow=21,SNR=19						
ARNU	**Arnoeviken**	**1.82**	**46**	*eP*	Pn	19 27 14.4	-0.1
ARNU				*eS*	Sn	19 27 37.7	-0.2
GRAU	**Graesoe**	**1.95**	**92**	*eP*	Pn	19 27 14.3	-2.1
HASU	**Hassela**	**1.95**	**29**	*eP*	Pn	19 27 16.3	-0.2
HASU				*eS*	Sn	19 27 41.4	+0.2
HASU	**Hassela**	**1.95**	**29**	P	Pn	19 27 16.2	-0.2
HASU				S	Sn	19 27 41.3	+0.1
NRTU	**Norrtaelje**	**2.16**	**110**	*eP*	Pn	19 27 17.9	-1.4
NYNU	**Nynaeshamn**	**2.25**	**129**	*eP*	Pn	19 27 19.5	-1.1
AAL	**Aland**	**2.69**	**94**	*eP*	Pn	19 27 25.1	-1.8
HEMU	**Hemsoen**	**2.76**	**35**	*eP*	Pn	19 27 27.3	-0.6
NOD	**Norderasen**	**3.00**	**2**	*eP*	Pn	19 27 30.2	-1.2
SOLU	**Sollefteaa**	**3.06**	**23**	*eP*	Pn	19 27 31.4	-0.9
DOMB	**Dombas**	**3.12**	**303**	*e*SG	Sg	19 28 18.2	-8.6
DOMB				AML	AML	19 28 20.8	
	comp=Z,13nm,0.3s						
TRON	**Trondheim**	**3.60**	**328**	*e*SG	Sg	19 28 35.1	-7.5
NSS	**Namsos**	**4.27**	**344**	*e*S	Sn	19 28 33.4	-6.5
NSS				*e*SG	Sg	19 28 54.0	-11
VAF	**Ylistaro**	**4.62**	**52**	*eP*	Pn	19 27 53.8	-0.6
VAF				*eS*	Sn	19 28 45.4	-3.3
VAF				*e*SG	Sg	19 29 03.4	-13
KEF	**Keuruu**	**5.23**	**66**	*eP*	Pn	19 28 01.6	-1.4
KEF				*eS*	Sn	19 28 57.8	-6.2
KEF				*e*SG	Sg	19 29 21.0	-16
KEF				MSG		19 29 27.8	
	comp=Z,3.6nm,0.2s						
PVF	**Pernaja**	**5.56**	**84**	*eP*	Pn	19 28 04.7	-2.9
PVF				*eS*	Sn	19 29 05.7	-6.6
PVF				*e*SG	Sg	19 29 32.8	-15
PVF				MSG		19 29 40.2	
	comp=Z,4.5nm,0.3s						
FIA0	**FINESS Array S**	**5.67**	**75**	*eP*	Pn	19 28 07.1	-2.1
FIA0				*eS*	Sn	19 29 08.0	-7.2
FIA0				*e*SG	Sg	19 29 35.1	-16
FIA0				MSG		19 29 38.8	
	comp=Z,6.8nm,0.4s						
FIA0	**FINESS Array S**	**5.67**	**75**	Pn	Pn	19 28 07.1	-2.1
	baz=260,slow=12						
FIA0				Sn	Sn	19 29 07.9	-7.2
	baz=263,slow=28						
FIA0				Lg		19 29 37.8	
	baz=269,slow=28						
FINES	**FINESS Array B**	**5.67**	**75**	Pn	Pn	19 28 07.0	-2.2
	comp=Z,0.5nm,0.3s,baz=259,slow=12,SNR=24						
FINES				Sn	Sn	19 29 08.1	-7.0
	comp=Z,0.4nm,0.3s,baz=258,slow=20,SNR=6.2						
FINES				Lg		19 29 38.3	
	comp=Z,1.8nm,0.3s,baz=270,slow=26,SNR=17						
KAF	**Kangasniemi**	**5.87**	**69**	*eP*	Pn	19 28 10.7	-1.3
KAF				*eS*	Sn	19 29 12.9	-7.3
KAF				*e*SG	Sg	19 29 43.4	-15
KAF				MSG		19 29 47.2	
	comp=Z,4.0nm,0.3s						
SUF	**Sumiainen**	**5.95**	**63**	*eP*	Pn	19 28 11.0	-2.2
SUF				*eS*	Sn	19 29 14.7	-7.5
SUF				*e*SG	Sg	19 29 45.2	-16
SUF	**Sumiainen**	**5.95**	**63**	P	Pn	19 28 10.9	-2.3
VJF	**Virojoki**	**6.39**	**84**	*eS*	Sn	19 29 22.2	-11
VJF				*e*SG	Sg	19 29 58.8	-17
OUL	**Oulu**	**6.94**	**43**	*eS*	Sn	19 29 39.2	-7.8
OUL				*e*SG	Sg	19 30 14.8	-19
OUL				MSG		19 30 16.3	
	comp=Z,4.7nm,0.4s						
KJN	**Kajaani**	**7.10**	**54**	*eS*	Sn	19 29 43.2	-7.8
KJN				*e*SG	Sg	19 30 18.8	-21
JOF	**Joensuu**	**8.30**	**66**	*eS*	Sn	19 30 10.6	-10
JOF				*e*SG	Sg	19 30 55.7	-24
JOF				MSG		19 31 04.3	
	comp=Z,2.0nm,0.4s						
JOF				MSG		19 31 04.3	
	comp=Z,2.0nm,0.4s						
ARA0	**ARCESS Array S**	**10.19**	**22**	Pn	P	19 29 04.9	-7.1
	baz=211,slow=14						
ARA0	**ARCESS Array S**	**10.19**	**22**	*eP*	P	19 29 04.9	-7.1
ARCES	**ARCESS Array B**	**10.19**	**22**	Pn	P	19 29 05.8	-6.2
	comp=Z,0.1nm,0.3s,baz=210,slow=13,SNR=6.0						
ARCES				Sn	S	19 30 51.3	-16
	comp=Z,0.1nm,0.3s,baz=213,slow=22,SNR=2.9						
ARCES				Lg		19 31 58.0	
	comp=Z,0.2nm,0.3s,baz=203,slow=28,SNR=3.8						

IDC 09 19:27:41.9±12.0, 13.54N×91.84E, mb3.7/3, mb1 3.9/3, mb1mx3.6/15, mbtmp3.7/3, Error ellipse: s-maj=428.6km s-min=32.5km az=76.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**36.27**	**17**	P	P	19 34 46.9	-1.9
	0.4nm,0.5s,baz=192,slow=7.7,SNR=4.9						
WRA	**Warramunga Arr**	**53.44**	**128**	P	P	19 37 03.4	-2.8
	1.1nm,0.6s,baz=307,slow=8.5,SNR=11						
ASAR	**Alice Springs**	**55.31**	**132**	P	P	19 37 18.3	-1.6
	0.6nm,0.6s,baz=308,slow=7.4,SNR=8.3						

*CASC **09** 19:35:51.7±2.2, 13.21N×90.37W, h18km±7km, MD4.2, ML4.2, mb4.1(NEIC)*
*IDC **09** 19:36:01.8±6.1, 13.85N×89.69W, h99km±49km, mb3.6/8, mb1 3.9/9, mb1mx3.6/19, mbtmp3.9/9, MS3.2/2, Ms1 3.2/2, ms1mx2.2/19, Error ellipse: s-maj=45.8km s-min=22.2km az=33.0*
*NEIC **09** 19:36:03.4±2.2, 13.75N×89.85W, h118km±20km, mb4.1/13, MD4.5(SNET), Error ellipse: s-maj=23.0km s-min=10.7km az=48.0*
NEIC Felt [II] at San Salvador.

ISC 09 19:35:51.3±0.4, 13.11N±0.03×90.41W±0.03, h33km, n72, σ1§20/81, mb4.1/15, MS3.2/2, 7C-12D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.06**	**46**	⇑*iP*	**P**	**19 36 09.3**	**-0.5**
IXG	**Ixpaco**	**1.06**	**358**	‖*eP*	**P**	**19 36 09.4**	**-0.4**
IXG				*eS*	**S**	**19 36 22.1**	**-1.5**
RTR	**El Retiro**	**1.08**	**43**	*e*	**P**	**19 36 09.7**	**-0.4**
RTR				*eP*		19 36 09.7	
SNJE	**San Jose**	**1.09**	**46**	⇑*eP*	**P**	**19 36 09.7**	**-0.5**
RBDL	**Robledal**	**1.23**	**35**	‖*eP*	**P**	**19 36 11.9**	**-0.2**
BOQS	**Boqueron**	**1.27**	**60**	‖*eP*	**P**	**19 36 12.5**	**-0.1**
SNET	**Serv Nac Est T**	**1.29**	**63**	‖*eP*	**P**	**19 36 12.8**	**-0.1**
SNET				*eS*	**S**	**19 36 29.5**	**+0.2**
SNET				*e*		19 36 31.7	
	comp=Z,9μm,0.3s						
PCG	**Pacaya**	**1.29**	**352**	‖*eP*	**P**	**19 36 13.9**	**+0.8**
FUG	**Fuego 3**	**1.40**	**343**	‖*eP*	**P**	**19 36 14.4**	**-0.2**
LFRS	**El Faro**	**1.41**	**68**	‖*eP*	**P**	**19 36 14.3**	**-0.5**
LFU	**La Fuente**	**1.42**	**63**	*eP*	**P**	**19 36 14.9**	**0.0**
LBRS	**Las Brisas**	**1.47**	**65**	‖*eP*	**P**	**19 36 15.7**	**0.0**
LBRS				*eS*	**S**	**19 36 34.9**	**+0.9**
NBG	**Las Nubes**	**1.48**	**2**	‖*eP*	**P**	**19 36 17.0**	**+1.3**
NBG				*eS*	**S**	**19 36 36.0**	**+1.9**
GCG	**Guatemala City**	**1.48**	**355**	⇑*eP*	**P**	**19 36 17.1**	**+1.4**
GCG				*eS*	**S**	**19 36 34.6**	**+0.5**
LCBS	**La Ceiba**	**1.50**	**68**	‖*eP*	**P**	**19 36 15.6**	**-0.4**
MTO2	**Montecristo 2**	**1.64**	**38**	‖*eP*	**P**	**19 36 18.6**	**+0.5**
MTO2				*eS*	**S**	**19 36 39.5**	**+1.2**
JAT	**Jato**	**1.69**	**316**	‖*eP*	**P**	**19 36 19.2**	**+0.4**
TP2	**Tecpan 2**	**1.77**	**341**	⇑*eP*	**P**	**19 36 20.6**	**+0.7**
TP2				*eS*	**S**	**19 36 42.4**	**+0.9**
BLLM	**Bellamira**	**2.14**	**81**	⇑*eP*	**P**	**19 36 25.3**	**0.0**
BLLM				*eS*	**S**	**19 36 50.8**	**-0.2**
CAHU	**Cacacuatique**	**2.24**	**73**	‖*eP*	**P**	**19 36 26.9**	**+0.2**
CNCH	**Conchagua**	**2.52**	**86**	*eP*	**P**	**19 36 30.3**	**-0.4**
CRIN	**San Cristobal**	**3.30**	**97**	*eP*	**P**	**19 36 42.6**	**+0.7**
CRIN				*eS*	**S**	**19 37 25.3**	**+4.8**
LEON	**Leon**	**3.50**	**101**	*eP*	**P**	**19 36 44.7**	**0.0**
TEL3	**Telica 3**	**3.52**	**98**	*eP*	**P**	**19 36 45.1**	**+0.2**
TELN	**Telica**	**3.53**	**98**	*eP*	**P**	**19 36 44.4**	**-0.7**
MIRN	**Miramar**	**3.67**	**100**	*eP*	**P**	**19 36 47.1**	**0.0**
CNGN	**Cerro Negro**	**3.67**	**99**	*eP*	**P**	**19 36 47.3**	**+0.2**
COPN	**Copaltepe**	**3.84**	**103**	*eP*	**P**	**19 36 49.5**	**0.0**
COPN				*eS*	**S**	**19 37 39.6**	**+5.5**
MOMJ	**Momotombo**	**3.84**	**100**	*eP*	**P**	**19 36 49.1**	**-0.4**
APYN	**Apoyeque**	**4.06**	**102**	*eP*	**P**	**19 36 52.3**	**-0.3**
XAVN	**Gruta Xavier**	**4.10**	**103**	*eP*	**P**	**19 36 53.0**	**-0.2**
MGAN	**Managua**	**4.17**	**103**	*eP*	**P**	**19 36 55.7**	**+1.4**
MGAN				*eS*	**S**	**19 37 40.2**	**-2.4**
MGAN				*i*		19 37 46.3	
	comp=E,415nm,0.6s						
TICN	**Ticuantepe**	**4.22**	**104**	*eP*	**P**	**19 36 56.0**	**+1.2**
JCR	**Jicaral**	**6.12**	**121**	*eP*	**P**	**19 37 21.1**	**-0.6**
CGA2	**Cerro Gallo 2**	**6.59**	**117**	*eP*	**P**	**19 37 30.0**	**+1.8**
LAJ	**Bijagual**	**6.96**	**117**	*eP*	**P**	**19 37 29.5**	**-3.9**
LCR2	**La Lucha 2**	**7.12**	**117**	*eP*	**P**	**19 37 37.4**	**+1.8**
LCR2				*eS*	**S**	**19 38 53.1**	**-3.2**
TEIG	**Tepich**	**7.37**	**16**	‖*eP*n	**Pn**	**19 37 38.8**	**-0.6**
	comp=E,18nm,0.7s						
BUS	**Buena Vista**	**7.42**	**118**	*eP*	**P**	**19 37 41.2**	**+1.3**
ACR	**Cerro Adams**	**8.38**	**121**	*eP*	**P**	**19 37 54.7**	**+1.5**
OTAV	**Otavalo**	**17.43**	**136**	P	**P**	**19 40 01.1**	**+7.4**
NATX	**Nacogdoches**	**18.97**	**349**	P	**P**	**19 40 11.1**	**-1.5**
	comp=E,24nm,0.7s						
JCT	**Junction City**	**19.35**	**335**	*eP*	**P**	**19 40 15.1**	**-1.7**
	comp=E,11nm,1.3s						
SDV	**Santo Domingo**	**19.86**	**100**	P	**P**	**19 40 19.0**	**-3.5**
	comp=E,0.6nm,0.3s,baz=354,slow=12,SNR=6.0						
SDV	**Santo Domingo**	**19.86**	**100**	*eP*	**P**	**19 40 19.2**	**-3.3**
	comp=E,4.5nm,0.8s						
LRAL	**Lakeview Retre**	**20.08**	**8**	*eP*	**P**	**19 40 22.0**	**-2.8**
	comp=E,15nm,1.0s						
LTX	**Lajitas**	**20.30**	**325**	*eP*	**P**	**19 40 27.0**	**-0.1**
	comp=E,2.5nm,0.5s						
TXAR	**Lajitas Array**	**20.30**	**325**	P	**P**	**19 40 27.9**	**+0.8**
	comp=E,1.8nm,0.5s,baz=146,slow=12,SNR=24						
TXAR				PcP	PcP	19 44 39.6	0.0
	comp=E,0.4nm,0.8s,baz=162,slow=2.9,SNR=3.5						
MIAR	**Mount Ida**	**21.54**	**353**	*eP*	**P**	**19 40 36.7**	**-2.9**
	comp=E,6.1nm,0.8s,mb4.1						
UALR	**University of**	**21.64**	**356**	P	**P**	**19 40 36.7**	**-4.0**
	comp=E,31nm,1.8s,mb4.4						
WMOK	**Wichita Mounta**	**22.83**	**342**	*eP*	**P**	**19 40 50.9**	**-1.7**
	comp=E,2.4nm,0.5s,mb3.9						
GDL2	**Guadalupe Moun**	**22.91**	**328**	*eP*	**P**	**19 40 55.1**	**+1.7**
MNTX	**Cornudas Mount**	**23.06**	**326**	*eP*	**P**	**19 40 54.5**	**-0.4**
	comp=E,9.9nm,0.8s,mb4.3						
CCM	**Cathedral Cave**	**24.86**	**358**	P	**P**	**19 41 09.0**	**-3.2**
	comp=E,3.7nm,0.7s,mb4.0						
WCI	**Wyandotte Cave**	**25.29**	**8**	*eP*	**P**	**19 41 13.5**	**-2.8**
	comp=E,8.3nm,0.6s,mb4.4						
ANMO	**Albuquerque**	**26.15**	**329**	P	**P**	**19 41 25.4**	**+0.9**
	comp=E,0.4nm,0.4s,mb3.3,baz=147,slow=13,SNR=4.3						
ANMO				LR	LR	19 53 12.1	
	comp=E,44nm,21.2s,MS3.0,slow=40						
ANMO	**Albuquerque**	**26.15**	**329**	P	**P**	**19 41 23.6**	**-0.9**
	comp=E,0.9nm,0.8s,mb3.4						
TUC	**Tucson**	**26.71**	**319**	*eP*	**P**	**19 41 32.3**	**+2.6**
	comp=E,1.8nm,0.8s,mb3.6						
PDAR	**Pinedale Array**	**33.88**	**334**	P	**P**	**19 42 31.6**	**-1.4**
	comp=E,0.4nm,0.7s,mb3.5,baz=126,slow=10,SNR=3.8						
PDAR				PcP	PcP	19 45 10.1	-1.3
	comp=E,0.2nm,0.3s,baz=125,slow=4.3,SNR=4.6						
MNV	**Mina**	**35.24**	**321**	*eP*	**P**	**19 42 46.0**	**+1.2**
	comp=E,4.8nm,0.8s,mb4.5						
NVAR	**Mina Array Bea**	**35.34**	**321**	P	**P**	**19 42 47.5**	**+1.9**
	comp=E,7.3nm,0.7s,mb4.7,baz=142,slow=8.0,SNR=31						
NVAR				PcP	PcP	19 45 15.7	0.0
	comp=E,1.7nm,0.7s,baz=132,slow=3.3,SNR=5.3						
NVAR	**Mina Array Bea**	**35.34**	**321**	P	**P**	**19 42 47.5**	**+1.9**
NVAR				PcP	PcP	19 45 15.7	+0.1
MCMT	**McKenzie Canyo**	**36.95**	**333**	*eP*	**P**	**19 43 00.2**	**+1.0**
SCHQ	**Schefferville**	**45.54**	**19**	P	**P**	**19 44 04.9**	**-4.7**
	comp=E,1.9nm,0.5s,mb4.3,baz=221,slow=9.0,SNR=16						
YKA	**Yellowknife Ar**	**52.25**	**346**	*eP*	**P**	**19 44 57.9**	**-3.3**
	comp=E,1.1nm,0.7s,mb3.9,baz=146,slow=7.7,SNR=23						
YKA				PcP	PcP	19 46 10.3	-2.1
	comp=E,0.2nm,0.5s,baz=150,slow=3.8,SNR=5.7						
YKA				L

IDC 09 19:55:44.9±2.9, 0.10S×128.73E, mb3.4/3, mb1 3.6/3, mb1mx3.4/13, mbtmp3.5/3, Error ellipse: s-maj=130.6km s-min=44.1km az=86.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.47**	**165**	P	P	20 00 24.2	-2.9
	0.3nm,0.4s,baz=345,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**23.95**	**168**	P	P	20 01 01.2	-0.7
	0.8nm,0.7s,baz=342,slow=9.2,SNR=3.9						
STKA	**Stephens Creek**	**33.87**	**160**	P	P	20 02 29.3	-2.2
	1.3nm,0.7s,slow=9.1,SNR=3.3						
TXAR	**Lajitas Array**	**122.26**	**55**	PKP	PKPdf	20 14 42.6	-1.8
	0.3nm,0.9s,baz=315,slow=1.3,SNR=3.5						

*IDC **09** 20:00:55.6±1.9, 9.62N×93.55E, mb3.9/3, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, ML3.0/1, Error ellipse: s-maj=66.2km s-min=29.5km az=56.0*
*NEIC **09** 20:01:00.2±1.0, 9.68N×93.57E, h30km, mb3.9/3, Error ellipse: s-maj=24.2km s-min=16.5km az=64.0*

ISC 09 20:00:58.5±1.4, 9.8N±0.2×93.7E±0.2, h30km, n7, σ0°36/7, mb4.0/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.05**	**30**	Pn	**P**	**20 03 24.1**	**0.0**
	0.0nm,0.3s,baz=214,slow=13,SNR=3.7						
LSA	**Lhasa**	**19.99**	**354**	P	**P**	**20 05 31.6**	**0.0**
	2.5nm,0.6s						
BVAR	**Borovoye Array**	**47.08**	**341**	P	**P**	**20 09 30.1**	**+0.7**
	0.4nm,0.4s,mb3.7,baz=143,slow=7.2,SNR=5.0						
BRVK	**Borovoye**	**47.14**	**341**	P	**P**	**20 09 29.2**	**-0.6**
	0.5nm,0.4s,mb3.8						
CHKZ	**Chkalovo**	**47.56**	**342**	*eP*	**P**	**20 09 33.3**	**+0.1**
	2.1nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**49.73**	**127**	P	**P**	**20 09 50.5**	**0.0**
	0.5nm,0.6s,mb3.7,baz=306,slow=8.9,SNR=6.8						
ARCES	**ARCESS Array B**	**73.36**	**340**	P	**P**	**20 12 28.8**	**-0.2**
	5.3nm,1.1s,mb4.4,baz=105,slow=6.3,SNR=6.8						

*ATH **09** 20:11:40.7, 38.56N×23.57E, h30km±2km, MD2.9/7, ML2.9*
*NEIC **09** 20:11:40.7, 38.56N×23.57E, h30km, ML2.9(ATH), After ATH.*
*CSEM **09** 20:11:41.5±0.1, 38.57N×23.61E, h10km, ML2.9, Error ellipse: s-maj=3.2km s-min=1.3km az=82.0*
*THE **09** 20:11:42.4, 38.63N×23.59E, h12km, ML2.6*

ISC 09 20:11:40.0±0.7, 38.54N±0.03×23.60E±0.06, h14km±5km, n16, σ0°69/24, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAR	**Parnis Oros**	**0.41**	**164**	*e*PB	**Pb**	**20 11 50.0**	**+1.6**
PTL	**Penteli**	**0.54**	**157**	*e*PN	**Pn**	**20 11 52.0**	**-0.9**
ATH	**Athens Observa**	**0.58**	**171**	*e*PN	**Pn**	**20 11 53.0**	**-0.5**
MGER	**Gerania Oros**	**0.62**	**206**	*e*PN	**Pn**	**20 11 53.5**	**-0.5**
NSAL	**Nisos Salamina**	**0.65**	**189**	*e*PN	**Pn**	**20 11 54.2**	**-0.2**
AOS	**Alonnisos**	**0.66**	**19**	*e*Pg	**Pg**	**20 11 52.8**	**-0.7**
AOS				*e*Sg	**Sg**	**20 12 02.9**	**+0.4**
NAIG	**Nisos Aigina**	**0.79**	**186**	*e*PN	**Pn**	**20 11 57.0**	**+0.5**
NEO	**Neokhori**	**0.82**	**339**	*e*PN	**Pn**	**20 11 56.5**	**-0.3**
XOR	**Xorichti**	**0.88**	**339**	*e*Pg	**Pg**	**20 11 57.1**	**-0.7**
XOR				*e*Sg	**Sg**	**20 12 09.6**	**0.0**
AGG	**Agios Georgios**	**1.10**	**296**	*e*Pg	**Pg**	**20 12 01.7**	**-0.4**
	comp=Z,2.5nm,0.5s						
AGG				*e*Sg	**Sg**	**20 12 17.6**	**+0.7**
PAIG	**Paliouri**	**1.38**	**3**	*e*Pb	**Pb**	**20 12 05.2**	**+0.1**
PAIG				*e*Sb	**Sb**	**20 12 23.5**	**+1.0**
LIT	**Litokhoron**	**1.78**	**331**	*e*Pb	**Pb**	**20 12 11.3**	**-0.5**
LIT				*e*Sb	**Sb**	**20 12 33.4**	**-0.5**
OUR	**Ouranopolis**	**1.81**	**9**	*e*Pb	**Pb**	**20 12 11.6**	**-0.9**
SOH	**Sokhos**	**2.28**	**355**	*e*Pn	**Pn**	**20 12 19.2**	**+1.3**
SOH				*e*Sn	**Sn**	**20 12 45.1**	**-0.8**
GRG	**Griva**	**2.58**	**339**	*e*Pn	**Pn**	**20 12 22.9**	**+0.8**
GRG				*e*Sn	**Sn**	**20 12 53.5**	**0.0**
KNT	**Kendrikon**	**2.67**	**349**	*e*Pn	**Pn**	**20 12 23.7**	**+0.3**
KNT				*e*Sn	**Sn**	**20 12 55.8**	**0.0**

IDC 09 20:12:34.4±24.0, 17.33S×172.30W, mb4.4/4, mb1 4.5/4, mb1mx4.0/16, mbtmp4.4/4, Error ellipse: s-maj=463.0km s-min=155.7km az=73.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**39.29**	**259**	P	P	20 20 05.3	-1.5
	6.0nm,0.7s,baz=91,slow=12,SNR=7.1						
STKA	**Stephens Creek**	**44.03**	**242**	P	P	20 20 44.5	-1.2
	1.3nm,0.5s,baz=71,slow=7.6,SNR=6.5						
WRA	**Warramunga Arr**	**50.46**	**258**	P	P	20 21 34.1	-2.2
	2.3nm,0.3s,baz=97,slow=7.3,SNR=67						
ASAR	**Alice Springs**	**50.55**	**253**	P	P	20 21 34.6	-2.3
	2.7nm,0.5s,baz=93,slow=7.1,SNR=44						

*IDC **09** 20:19:01.6±1.4, 13.37N×92.99E, mb3.9/5, mb1 4.0/6, mb1mx3.7/17, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=45.4km s-min=26.8km az=50.0*
*NEIC **09** 20:19:05.2±0.8, 13.57N×93.02E, h30km, mb4.0/4, Error ellipse: s-maj=21.0km s-min=15.0km az=79.0*

ISC 09 20:19:03.5±0.8, 13.61N±0.09×93.1E±0.1, h30km, n12, σ0°96/14, mb3.9/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.98**	**191**	*e*P	**Pn**	**20 19 38.9**	**+3.3**
PBA				*e*S	**Sn**	**20 19 48.1**	**-12**
PBA				*e*		20 19 50.7	
	comp=N,539nm,0.5s						
PBA				*e*		20 19 51.4	
	comp=E,159nm,0.4s						
CMAR	**Chiang Mai Arr**	**7.38**	**49**	Pn	**Pn**	**20 20 53.4**	**+1.3**
	comp=E,0.3nm,0.3s,baz=236,slow=15,SNR=15						
CMAR				Sn	**Sn**	**20 22 15.2**	**-0.6**
	comp=E,0.4nm,0.3s,baz=232,slow=24,SNR=4.6						
ENH	**Enshi**	**22.43**	**40**	P	**P**	**20 24 01.5**	**+0.2**
	comp=E,2.7nm,0.6s,mb3.9						
CHKZ	**Chkalovo**	**43.75**	**341**	P	**P**	**20 27 07.1**	**-0.8**
	comp=E,0.5nm,0.5s,mb3.5						
NWAO	**Narrogin (SRO)**	**51.70**	**154**	P	**P**	**20 28 08.2**	**-2.0**
	comp=E,7.8nm,1.0s,mb4.6,baz=225,slow=4.3,SNR=3.0						
NWAO	**Narrogin (SRO)**	**51.70**	**154**	*e*P	**P**	**20 28 08.0**	**-2.3**
	comp=E,1.9nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**52.50**	**129**	P	**P**	**20 28 16.4**	**0.0**
	comp=E,0.8nm,0.5s,mb3.9,baz=311,slow=7.9,SNR=28						
WRAB	**Tennant Creek**	**52.51**	**129**	*e*P	**P**	**20 28 16.6**	**+0.1**
	comp=E,5.5nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**54.43**	**133**	P	**P**	**20 28 30.7**	**+0.1**
	comp=E,1.0nm,0.5s,mb4.0,baz=307,slow=6.7,SNR=21						
BRTR	**Keskin Array B**	**58.02**	**308**	P	**P**	**20 28 56.5**	**+0.4**
	comp=E,0.3nm,0.7s,mb3.4,baz=100,slow=6.0,SNR=3.0						
STKA	**Stephens Creek**	**64.82**	**135**	P	**P**	**20 29 42.9**	**+0.8**
	comp=E,0.8nm,0.8s,mb3.8,baz=312,slow=11,SNR=3.1						
STKA	**Stephens Creek**	**64.82**	**135**	P	**P**	**20 29 42.9**	**+0.8**

IDC 09 20:26:22.1±1.1, 21.05N×145.77E, mb3.8/7, mb1 4.1/7, mb1mx3.8/18, mbtmp3.8/7, MS3.4/1, Ms1 3.4/1, ms1mx2.3/27, Error ellipse: s-maj=35.2km s-min=28.2km az=101.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**24.64**	**258**	LR	LR	20 39 46.6	
	comp=Z,87nm,20.9s,baz=148,slow=33						
SONM	**Songino Array**	**41.38**	**320**	P	P	20 34 10.6	-0.9
	0.3nm,0.5s,baz=134,slow=9.2,SNR=7.1						
WRA	**Warramunga Arr**	**42.25**	**196**	P	P	20 34 17.3	-1.8
	0.5nm,0.7s,baz=14,slow=8.8,SNR=6.4						
ILAR	**Eielson Array**	**61.52**	**27**	P	P	20 36 40.5	-2.4
	0.9nm,1.0s,baz=253,slow=7.0,SNR=4.2						
BVAR	**Borovoye Array**	**64.72**	**320**	P	P	20 37 02.3	-2.0
	1.0nm,0.4s,baz=94,slow=7.7,SNR=10						
YKA	**Yellowknife Ar**	**75.89**	**28**	P	P	20 38 10.2	-1.7
	2.1nm,1.2s,baz=289,slow=5.8,SNR=7.2						
NVAR	**Mina Array Bea**	**81.64**	**52**	P	P	20 38 43.3	-0.4
	1.8nm,0.8s,baz=260,slow=9.0,SNR=4.7						
FINES	**FINESS Array B**	**84.79**	**335**	P	P	20 38 57.0	-2.3
	2.1nm,0.8s,baz=53,slow=6.9,SNR=4.8						

WEL 09 20:39:50.9±1.0, 36.05S×176.96E, h33km, ML3.7/1, Error ellipse: s-maj=9.6km s-min=7.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.86**	**145**	PN	Pn	20 40 20.2	-0.8
MXZ				SN	Sn	20 40 41.4	-2.2
URZ	**Urewera**	**2.21**	**177**	PN	Pn	20 40 24.2	-1.8
URZ				SN	Sn	20 40 51.4	-1.1
MWZ	**Matawai**	**2.33**	**169**	PN	Pn	20 40 26.6	-1.1
MWZ				SN	Sn	20 40 52.5	-3.0

IDC 09 20:43:39.2±8.4, 10.60N×92.15E, mb3.8/4, mb1 3.9/4, mb1mx3.7/15, mbtmp3.8/4, Error ellipse: s-maj=285.8km s-min=29.5km az=75.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.20**	**29**	*e*P	Pb	20 44 01.0	-1.6
PBA				*e*S	Sb	20 44 07.7	-11
PBA				*e*		20 44 17.6	
	comp=N,398nm,0.5s						
PBA				*e*		20 44 17.8	
	comp=E,416nm,0.4s						
SONM	**Songino Array**	**39.01**	**15**	P	P	20 51 07.6	-1.6
	comp=E,0.5nm,0.5s,baz=198,slow=8.3,SNR=7.4						
WRA	**Warramunga Arr**	**51.44**	**126**	P	P	20 52 46.4	-2.2
	comp=E,0.6nm,0.4s,baz=307,slow=8.2,SNR=17						
ASAR	**Alice Springs**	**53.16**	**130**	P	P	20 52 59.3	-2.2
	comp=E,0.8nm,0.7s,baz=306,slow=6.6,SNR=10.0						
STKA	**Stephens Creek**	**63.40**	**134**	P	P	20 54 10.9	-2.2
	comp=E,1.0nm,0.8s,baz=30,slow=8.1,SNR=4.6						

*IDC **09** 20:46:02.8±1.2, 10.44N×91.60E, mb3.7/5, mb1 3.8/6, mb1mx3.7/16, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=41.2km s-min=22.0km az=58.0*
*NEIC **09** 20:46:07.1±0.9, 10.47N×91.65E, h30km, mb4.1/4, Error ellipse: s-maj=23.9km s-min=13.8km az=71.0*

ISC 09 20:46:05.1±0.8, 10.45N±0.09×91.66E±0.10, h30km, n12, σ0°98/13, mb3.9/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.60**	**41**	*e*P	**Pn**	**20 46 33.0**	**+1.2**
PBA				*e*S	**Sn**	**20 46 42.7**	**-8.9**
PBA				*e*		20 46 44.0	
	comp=N,668nm,0.8s						
PBA				*e*		20 46 44.1	
	comp=E,655nm,0.5s						
CMAR	**Chiang Mai Arr**	**10.63**	**41**	Pn	**P**	**20 48 37.2**	**-1.4**
	comp=E,0.1nm,0.3s,baz=221,slow=15,SNR=4.3						
HYB	**Hyderabad**	**14.48**	**300**	*i* P	**P**	**20 49 30.5**	**+0.3**
HYB				*e*		20 49 43.0	
LSA	**Lhasa**	**19.16**	**359**	*e*P	**P**	**20 50 30.5**	**+1.5**
	comp=E,2.9nm,0.7s						
ENH	**Enshi**	**25.78**	**38**	*e*P	**P**	**20 51 34.5**	**-0.7**
	comp=E,6.4nm,0.8s,mb4.2						
SONM	**Songino Array**	**39.28**	**16**	P	**P**	**20 53 33.5**	**+0.6**
	comp=E,0.3nm,0.5s,mb3.3,baz=208,slow=8.4,SNR=8.2						
CHKZ	**Chkalovo**	**46.29**	**343**	P	**P**	**20 54 27.7**	**-2.1**
	comp=E,1.6nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**51.74**	**126**	P	**P**	**20 55 12.4**	**+0.1**
	comp=E,0.8nm,0.4s,mb4.0,baz=307,slow=8.1,SNR=14						
WRAB	**Tennant Creek**	**51.74**	**126**	*e*P	**P**	**20 55 11.7**	**-0.6**
	comp=E,2.7nm,0.5s,mb4.4						
ASAR	**Alice Springs**	**53.43**	**130**	P	**P**	**20 55 25.2**	**+0.4**
	comp=E,1.1nm,0.7s,mb3.9,baz=306,slow=6.9,SNR=12						
BRTR	**Keskin Array B**	**58.91**	**310**	P	**P**	**20 56 03.7**	**-0.2**
	comp=E,0.4nm,0.7s,mb3.6,baz=53,slow=7.2,SNR=2.5						
STKA	**Stephens Creek**	**63.64**	**133**	P	**P**	**20 56 36.6**	**+0.6**
	comp=E,1.0nm,0.8s,mb3.9,baz=317,slow=8.2,SNR=5.0						

*IDC **09** 20:52:24.3±1.7, 3.19N×93.84E, mb3.9/6, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, Error ellipse: s-maj=80.0km s-min=20.0km az=56.0*
*NEIC **09** 20:52:28.6±1.1, 3.07N×93.75E, h30km, mb4.2/4, Error ellipse: s-maj=50.1km s-min=9.9km az=56.0*

ISC 09 20:52:26.4±1.5, 3.0N±0.3×93.7E±0.4, h30km, n10, σ0°64/10, mb4.0/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**26.63**	**355**	*e*P	**P**	**20 58 06.1**	**+1.7**
	4.1nm,0.6s,mb4.1						
SONM	**Songino Array**	**45.96**	**12**	P	**P**	**21 00 47.6**	**-1.0**
	1.0nm,0.7s,mb3.8,baz=192,slow=9.0,SNR=12						
WRA	**Warramunga Arr**	**45.98**	**122**	P	**P**	**21 00 49.3**	**+0.2**
	1.4nm,0.6s,mb4.0,baz=300,slow=8.9,SNR=14						
WRAB	**Tennant Creek**	**45.98**	**122**	*e*P	**P**	**21 00 48.9**	**-0.2**
	2.3nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**47.30**	**126**	P	**P**	**21 00 59.8**	**+0.3**
	0.7nm,0.6s,mb3.8,baz=295,slow=8.1,SNR=8.6						
BVAR	**Borovoye Array**	**53.42**	**343**	P	**P**	**21 01 45.5**	**-0.2**
	0.9nm,0.6s,mb3.9,baz=143,slow=7.4,SNR=7.9						
BRVK	**Borovoye**	**53.48**	**343**	*e*P	**P**	**21 01 45.8**	**-0.4**
	0.6nm,0.6s,mb3.7						
CHKZ	**Chkalovo**	**53.92**	**343**	*e*P	**P**	**21 01 49.0**	**-0.4**
	1.0nm,0.5s,mb4.0						
CHKZ				*e*		21 01 55.0	
STKA	**Stephens Creek**	**57.19**	**131**	P	**P**	**21 02 13.2**	**-0.1**
	0.9nm,0.6s,mb4.0,baz=334,slow=14,SNR=3.8						
FINES	**FINESS Array B**	**76.77**	**333**	P	**P**	**21 04 16.8**	**+0.2**
	3.6nm,0.9s,mb4.3,baz=97,slow=11,SNR=3.2						

*IDC **09** 20:57:15.4±1.1, 11.69N×94.29E, mb4.0/6, mb1 4.1/6, mb1mx3.9/17, mbtmp4.0/6, MS3.4/1, Ms1 3.4/1, ms1mx2.8/18, Error ellipse: s-maj=53.8km s-min=20.1km az=50.0*
*NEIC **09** 20:57:19.8±0.7, 11.62N×94.22E, h30km, mb4.4/5, Error ellipse: s-maj=30.0km s-min=10.5km az=56.0*

ISC 09 20:57:18.0±0.8, 11.8N±0.1×94.5E±0.1, h30km, n15, σ0°94/15, mb4.2/10, MS3.4/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**5.19**	**81**	P	**Pn**	**20 58 35.5**	**-0.3**
NST	**Nakhon Sawan**	**6.71**	**54**	P	**Pn**	**20 58 56.0**	**-1.1**
SHL	**Shillong**	**13.92**	**350**	*e*P	**P**	**21 00 36.0**	**+0.3**
PALK	**Pallekele**	**14.32**	**253**	P	**P**	**21 00 50.8**	**+10**
LSA	**Lhasa**	**18.09**	**351**	*e*P	**P**	**21 01 32.0**	**+3.0**
	3.6nm,0.7s						
SONM	**Songino Array**	**37.29**	**13**	P	**P**	**21 04 30.4**	**+1.2**
	1.1nm,1.1s,mb3.6,baz=180,slow=7.4,SNR=4.5						
BVAR	**Borovoye Array**	**45.43**	**340**	P	**P**	**21 05 35.8**	**-0.2**
	1.9nm,0.8s,mb4.0,baz=141,slow=9.5,SNR=5.8						
BRVK	**Borovoye**	**45.50**	**340**	*e*P	**P**	**21 05 36.0**	**-0.4**
	2.4nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**45.90**	**340**	*e*P	**P**	**21 05 39.6**	**0.0**
	5.7nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**50.33**	**128**	P	**P**	**21 06 14.9**	**+0.3**
	1.9nm,0.6s,mb4.3,baz=307,slow=8.6,SNR=11						
WRAB	**Tennant Creek**	**50.34**	**128**	*e*P	**P**	**21 06 14.9**	**+0.3**
	3.0nm,0.6s,mb4.5						
GNI	**Garni**	**52.02**	**312**	P	**P**	**21 06 27.3**	**+0.2**
	1.9nm,0.6s,mb4.2,baz=208,slow=15,SNR=2.4						
GNI				LR	LR	21 34 50.8	
	comp=Z,32nm,18.1s,MS3.4,baz=113,slow=43						
ASAR	**Alice Springs**	**52.23**	**133**	P	**P**	**21 06 29.4**	**+0.5**
	1.5nm,0.8s,mb4.0,baz=305,slow=6.6,SNR=9.6						
KIV	**Kislovodsk**	**54.71**	**316**	P	**P**	**21 06 43.5**	**-3.4**
	4.0nm,0.7s,mb4.6						
BRTR	**Keskin Array B**	**60.19**	**309**	P	**P**	**21 07 24.2**	**-1.4**
	1.2nm,0.8s,mb4.0,baz=117,slow=6.4,SNR=3.8						

*CSEM **09** 20:58:30.8±0.0, 49.38N×6.94E, h2km, ML3.8/27, Error ellipse: s-maj=0.8km s-min=0.7km az=157.0*
*BNS **09** 20:58:30.9±0.7, 49.36N×6.97E, h1km, ML2.9*
*LDG **09** 20:58:31.1±0.1, 49.36N×6.92E, h1km, Md3.5/3, Ml3.7/30, Error ellipse: s-maj=1.1km s-min=1.0km az=105.0, Suspected Mining induced.*
*LEDBW **09** 20:58:31.2±0.5, 49.37N×6.93E, h1km, ML3.0, Error ellipse: s-maj=14.0km s-min=6.0km az=89.0*
*NEIC **09** 20:58:31.1, 49.36N×6.92E, h1km, ML3.3(VIE), ML3.3(STR), ML3.1(SZGRF), ML3.0(LEDBW), ML3.7(LDG), After LDG.*

BGR 09 20:58:31.0±0.3, 49.35N×6.91E, h1km, ML3.1/13, 8C-5D, Error ellipse: s-maj=6.7km s-min=4.4km az=23.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.36**	**16↑**	*e*Pg	Pg	20 58 37.8	-0.5
RUP				Sg	Sg	20 58 43.5	+0.3
RUP	**Ruppelstein**	**0.36**	**16**	Pg	Pg	20 58 37.6	-0.7
RUP				Sg	Sg	20 58 43.5	+0.3
WLF	**Walferdange**	**0.58**	**303**	*e*Pg	Pg	20 58 42.0	-0.7
	SNR=40						
WLF				*e*Sg	Sg	20 58 48.4	-2.1
	SNR=159						
WLF	**Walferdange**	**0.58**	**303↑**	*e*Pg	Pg	20 58 42.0	-0.7
ABH	**Alteburg**	**0.67**	**38**	*e*Pg	Pg	20 58 43.0	-1.5
ABH				Sg	Sg	20 58 51.9	-1.5
ABH	**Alteburg**	**0.67**	**38**	Pg	Pg	20 58 43.1	-1.4
ABH				Sg	Sg	20 58 51.9	-1.6
LANF	**Langenberg**	**0.69**	**122**	*e*Pg	Pg	20 58 44.2	-0.7
LANF	**Langenberg**	**0.69**	**122**	Pg	Pg	20 58 44.1	-0.8
KTD	**Kalmit**	**0.77**	**92**	Pg	Pg	20 58 46.2	-0.2
BGG	**Burgeitz**	**0.90**	**18**	*e*Pg	Pg	20 58 47.4	-1.6
BGG				*e*Sg	Sg	20 58 59.9	-1.1
	324nm,0.9s						
STR	**Strasbourg**	**0.95**	**143**	Pg	Pg	20 58 49.9	-0.1
CDF	**Champ du Feu**	**0.97**	**165**	*e*Pg	Pg	20 58 49.2	-1.2
CDF				*e*Pn	Pn	20 58 50.2	-1.4
CDF				*e*Sg	Sg	20 59 02.7	-0.6
	266nm,0.3s						
WLS	**Welschbruch**	**0.98**	**162**	*e*Pg	Pg	20 58 49.0	-1.7
WLS	**Welschbruch**	**0.98**	**162**	Pg	Pg	20 58 49.6	-1.1
WLS	**Welschbruch**	**0.98**	**162**	Pg	Pg	20 58 49.9	-0.8
ECH	**Echery**	**1.15**	**172**	Pn	Pn	20 58 52.6	-1.5
ECH	**Echery**	**1.15**	**172**	Pg	Pg	20 58 53.3	-0.7
ECH				Sg	Sg	20 59 08.2	-1.1
SWS	**Schriesheim**	**1.18**	**83**	Pg	Pg	20 58 52.2	-2.3
SWS				Sg	Sg	20 59 09.1	-1.1
RFYF	**Reffroy**	**1.19**	**233**	*e*Pg	Pg	20 58 53.8	-1.0
	baz=50						
RFYF				*e*Sg	Sg	20 59 09.5	-1.1
	496nm,0.3s,baz=50						
STB	**Steinbach**	**1.25**	**358**	*e*Pg	Pg	20 58 53.7	-2.2
STB				*e*Sg	Sg	20 59 11.5	-1.0
	186nm,0.5s						
TOD	**Tromm**	**1.26**	**78**	Pn	Pn	20 58 53.4	-2.3
TOD				Sg	Sg	20 59 11.6	-1.4
TOD	**Tromm**	**1.26**	**78**	Pg	Pg	20 58 54.3	-1.9
TOD				Sg	Sg	20 59 11.6	-1.4
THEF	**They Montfort**	**1.28**	**209**	*e*Pn	Pn	20 58 54.8	-1.3
THEF	**They Montfort**	**1.28**	**209**	Pg	Pg	20 58 55.0	-1.6
THEF	**They Montfort**	**1.28**	**209**	Pg	Pg	20 58 55.1	-1.5
LIBD	**Limburg**	**1.29**	**159**	Pn	Pn	20 58 55.9	-0.2
LIBD	**Limburg**	**1.29**	**159**	Pg	Pg	20 58 56.0	-0.7
LIBD				Sg	Sg	20 59 12.9	-0.9
KLL	**Kalltalsperre**	**1.35**	**344**	*e*Pg	Pg	20 58 55.2	-2.8
KLL				*e*Sg	Sg	20 59 13.0	-3.1
	97nm,0.5s						
BFO	**Black Forest**	**1.39**	**137**	*e*Pg	Pg	20 58 56.0	-2.7
	SNR=38						
BFO				*e*Sg	Sg	20 59 16.1	-1.1
	SNR=176						
BFO	**Black Forest**	**1.39**	**137**	*e*Pg	Pg	20 58 55.8	-2.9
BFO				*e*Sg	Sg	20 59 16.0	-1.2
BFO	**Black Forest**	**1.39**	**137**	P	Pb	20 58 57.7	+0.3
BFO				S	Sb	20 59 16.1	+0.5
BFO	**Black Forest**	**1.39**	**137**	Pg	Pg	20 58 56.0	-2.7
	SNR=38						
BFO				*e*Sg	Sg	20 59 16.0	-1.2
MEM	**Membach**	**1.39**	**336**	P	Pb	20 58 55.6	-1.9
HAU	**Haudompre**	**1.40**	**196**	*e*Pn	Pn	20 58 56.1	-1.7
HAU				*e*Pg	Pg	20 58 57.3	-1.6
HAU				*e*Sn	Sn	20 59 13.9	-3.1
HAU				*e*Sg	Sg	20 59 15.6	-1.9
	412nm,0.3s						
LBG	**Lerchenberg**	**1.42**	**118**	Pn	Pn	20 58 56.4	-1.6
LBG				Pg	Pg	20 58 57.9	-1.5
LBG				Sg	Sg	20 59 16.9	-1.3
LBG	**Lerchenberg**	**1.42**	**118**	Pg	Pg	20 58 57.9	-1.4
LBG				Sg	Sg	20 59 16.9	-1.4
MEZF	**Maizieres J'vi**	**1.49**	**236**	*e*Pn	Pn	20 58 57.4	-1.6
	baz=52						
MEZF				*e*Pg	Pg	20 58 59.0	-1.8
	baz=50						
MEZF				*e*Sn	Sn	20 59 16.5	-2.9
MEZF				*e*Sg	Sg	20 59 18.8	-1.9
	293nm,0.4s,baz=56						
MEZF	**Maizieres J'vi**	**1.49**	**236**	*e*Pg	Pg	20 58 59.0	-1.8
MEZF				*e*Sn	Sn	20 59 16.5	-2.9
MEZF				*e*Sg	Sg	20 59 18.8	-1.9
	147nm,0.4s						
MOF	**Molkenrain**	**1.51**	**174**	Pn	Pn	20 58 59.4	+0.1
MOF				Sg	Sg	20 59 20.1	-1.1
MOF	**Molkenrain**	**1.51**	**174**	Pg	Pg	20 58 59.2	-1.9
MOF	**Molkenrain**	**1.51**	**174**	Pg	Pg	20 58 59.5	-1.6
MOF				Sg	Sg	20 59 20.0	-1.2
HINF	**Hinteralfeld**	**1.54**	**181**	*e*Pn	Pn	20 58 58.8	-1.7
HINF				*e*Pg	Pg	20 58 59.6	-2.1
HINF				*e*Sn	Sn	20 59 17.4	-3.2
HINF				*e*Sg	Sg	20 59 19.6	-2.6
	447nm,0.3s						
GIVF	**Givet**	**1.55**	**300**	*e*Pn	Pn	20 58 58.4	-1.5
GIVF				*e*Sn	Sn	20 59 17.3	-3.6
GIVF				*e*

4.5nm,1.0s
WTSB eSg Sg 20 59 53.3 -5.0
CABF La Chapelle 2.80 192 ePn Pn 20 59 15.7 -2.0
CABF ePg Pg 20 59 22.7 -4.2
CABF eSn Sn 20 59 47.2 -5.4
CABF eSg Sg 21 00 00.0 -4.1
142nm,0.5s
GRA1 Grafenberg Arr 2.83 81 ePn Pn 20 59 17.2 -1.0
GRF Grafenberg Arr 2.83 81 ePn Pn 20 59 17.2 -1.0
DAVA Damuels 2.86 135⇑iPN Pn 20 59 18.7 0.0
DAVA i SG Sg 21 00 06.5 +0.1
67nm,0.7s
SSF Saint Saulge 3.23 226 ePn Pn 20 59 20.8 -3.1
SSF ePg Pg 20 59 32.3 -3.2
SSF eSn Sn 20 59 58.2 -5.3
SSF eSg Sg 21 00 13.9 -4.6
93nm,0.5s
MOX Moxa 3.30 65 ePn Pn 20 59 22.9 -2.0
SNR=1.6
MOX ePg Pg 20 59 31.5 -5.5
SNR=10
MOX eSn Sn 21 00 01.7 -3.7
SNR=2.0
MOX eSg Sg 21 00 16.2 -4.7
SNR=15
MOX Moxa 3.30 65 ePn Pn 20 59 23.6 -1.3
MOX ePg Pg 20 59 31.6 -5.3
MOX eSn Sn 21 00 01.7 -3.7
MOX eSg Sg 21 00 16.4 -4.5
MOX Moxa 3.30 65 iP Pn 20 59 23.6 -1.3
MOX Pg Pg 20 59 32.0 -4.9
MOX S Sn 21 00 01.0 -4.4
MOX Sg Sg 21 00 16.0 -4.9
CLZ Clausthal 3.33 40 ePg Pg 20 59 33.8 -3.7
SNR=3.5
MZEK Zeckenberg-Ebn 3.33 78⇓iPn Pn 20 59 24.3 -1.0
SMF Signal de Mont 3.40 218 ePn Pn 20 59 23.0 -3.3
SMF eSn Sn 21 00 02.5 -5.4
SMF eSg Sg 21 00 18.5 -5.8
46nm,0.3s
NOTT Nottersdorf 3.42 80 ePn Pn 20 59 26.4 -0.3
MANZ Manzenberg 3.44 77⇓iPn Pn 20 59 25.7 -1.1
MOTA Moosalm 3.44 124⇓iPN Pn 20 59 26.1 -0.8
MOTA i SN Sn 21 00 11.7 +2.8
AVF Avril sur Loir 3.50 224 ePn Pn 20 59 23.3 -4.4
AVF ePg Pg 20 59 36.8 -4.1
AVF eSn Sn 21 00 05.0 -5.4
40nm,0.3s
HYF Humbligny 3.53 235 ePn Pn 20 59 24.9 -3.2
HYF eSg Sg 21 00 21.7 -6.9
SQTA Sankt Quirin 3.58 125⇑iPN Pn 20 59 28.6 -0.2
SQTA i SN Sn 21 00 15.1 +2.8
WERD Werda 3.66 70 ePn Pn 20 59 28.4 -1.6
SNR=2.1
WERD ePg Pg 20 59 38.6 -5.4
SNR=8.9
WERD eSg Sg 21 00 26.6 -6.2
SNR=24
NKC Novy Kostel 3.70 74 ePG Pg 20 59 38.7 -6.1
NKC eSG Sg 21 00 29.0 -5.1
WATA Walderalm 3.71 121⇑iPN Pn 20 59 30.0 -0.7
WATA i SN Sn 21 00 18.2 +2.5
NRDL Niedersach Rie 3.74 32 ePg Pg 20 59 41.5 -4.2
SNR=2.7
TANN Tannenbergstha 3.75 71 ePg Pg 20 59 41.4 -4.4
SNR=12
TANN eSg Sg 21 00 29.3 -6.4
SNR=19
WTTA Wattenberg 3.78 122⇑iPN Pn 20 59 31.4 -0.3
WTTA i SN Sn 21 00 20.1 +2.5
LPL La Plagne 3.84 182 ePn Pn 20 59 29.2 -3.3
LPL eSg Sg 21 00 32.5 -6.3
15nm,0.4s
LPG La Plagne 3.86 182 ePn Pn 20 59 30.3 -2.5
LPG eSg Sg 21 00 33.2 -6.2
8.5nm,0.3s
BGF Bois d'Agland 3.91 226 ePn Pn 20 59 29.8 -3.7
BGF ePg Pg 20 59 46.4 -2.6
BGF eSg Sg 21 00 34.4 -6.7
194nm,0.4s
WET Wettzell 3.92 91 ePn Pn 20 59 31.7 -2.0
SNR=18
WET eSg Sg 21 00 37.1 -4.3
SNR=16
WET Wettzell 3.92 91 ePn Pn 20 59 31.6 -2.0
RJOB Jochberg 4.23 110⇑iPn Pn 20 59 37.3 -0.8
CLL Collm 4.37 61 ePn Pn 20 59 31.0 -9.0
CLL ePg Pg 20 59 55.0 -3.2
CLL eSg Sg 21 00 50.2 -6.2
SNR=3.6
CLL Collm 4.37 61 ePn Pn 20 59 31.0 -9.0
CLL ePg Pg 20 59 55.0 -3.2
CLL eSg Sg 21 00 50.0 -6.4
KHC Kasperske Hory 4.38 90 ePN Pn 20 59 37.8 -2.4
KHC ex x 21 00 00.0
KHC eSN Sn 21 00 27.5 -5.0
KHC eSG Sg 21 00 50.5 -6.2
KHC Kasperske Hory 4.38 90 ePn Pn 20 59 37.8 -2.4
KHC Sn Sn 21 00 27.5 -5.0
KHC Sg Sg 21 00 50.5 -6.2
BGLD Berchtesgaden 4.40 110⇑iPn Pn 20 59 39.1 -1.4
TCF Toulx Ste Croi 4.41 228 ePn Pn 20 59 37.2 -3.4
TCF eSn Sn 21 00 26.6 -6.7
TCF eSg Sg 21 00 49.2 -8.5
21nm,0.3s
ORIF Oris-en-Rattie 4.49 189 ePn Pn 20 59 38.8 -3.0
ORIF eSn Sn 21 00 27.6 -7.9
ORIF eSg Sg 21 00 51.7 -8.8
19nm,0.5s
GEC2 GERESS Array S 4.49 94 ePn Pn 20 59 39.8 -2.0
SNR=35
GEC2 eSn Sn 21 00 30.4 -5.1
SNR=9.2
GEC2 GERESS Array S 4.49 94 ePn Pn 20 59 39.8 -2.0
GEC2 eSn Sn 21 00 31.2 -4.3
MBDF Montbardon 4.63 181 ePn Pn 20 59 39.7 -4.0
MBDF eSg Sg 21 00 56.7 -8.4
31nm,0.8s
LDF La Druitiere 4.69 263 ePn Pn 20 59 41.2 -3.5
LDF eSg Sg 21 00 59.0 -8.3
22nm,0.4s
VIVF Saint-Julien-l 4.75 200 ePn Pn 20 59 41.6 -3.9
VIVF ePg Pg 20 59 58.9 -6.9
VIVF eSg Sg 21 01 00.0 -9.1
20nm,0.4s
BRG Berggiesshubel 4.78 69 ePg Pg 20 59 58.7 -7.6
SNR=3.5
BRG eSg Sg 21 01 00.1 -10
SNR=5.1
BRG Berggiesshubel 4.78 69 ePg Pg 20 59 58.5 -7.9
BRG eSg Sg 21 01 00.2 -10
KBA Koelnbreinsper 4.87 115⇓iPN Pn 20 59 46.0 -1.1
KBA i 21 00 43.7
FLN La Foliniere 4.90 266 ePn Pn 20 59 44.2 -3.3
FLN eSn Sn 21 00 38.1 -7.6
23nm,0.4s
FLN eSg Sg 21 01 05.0 -9.0
20nm,0.4s
PRU Pruhonice 5.00 80 ePG Pg 21 00 01.1 -10
PRU eSG Sg 21 01 09.2 -8.2
PVCC Panska Ves 5.08 74 eSG Sg 21 01 12.9 -7.4
MOA Molln 5.11 104⇓iPN Pn 20 59 48.6 -1.9
MOA i 21 00 45.9
GRR Gorron 5.22 262 ePn Pn 20 59 48.9 -3.2
RJF Les Rejaudoux 5.46 224 eSn Sn 21 00 51.6 -8.3
RJF eSg Sg 21 01 22.6 -10
34nm,0.6s
MFF Saint Martin d 5.48 243 ePn Pn 20 59 51.7 -4.0
MFF eSg Sg 21 01 23.6 -10
20nm,0.6s
CAF Calviac 5.52 219 ePn Pn 20 59 52.1 -4.3
CAF eSg Sg 21 01 24.8 -10
16nm,0.4s
LASF Ste Croix 5.68 203 eSg Sg 21 01 29.7 -10
22nm,0.5s
LFF La Frestale 6.10 226 eSg Sg 21 01 43.7 -10
22nm,0.4s
KSP Ksiaz 6.22 73 ePg Pg 21 00 26.9 -8.3
KSP eSg Sg 21 01 45.5 -13
SGMF Saint Gilles 6.35 264 ePn Pn 21 00 03.5 -4.6
SGMF eSg Sg 21 01 50.8 -12
14nm,0.5s
OKC Ostrava-Krasne 7.32 82 eSG Sg 21 02 23.6 -11

*TAP **09** 21:06:26.2,24.01N×122.50E,h13km±1km,ML2.7*
JMA 09 21:06:28.5±0.2,24.11N×122.48E,h26km,M1.7,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.60**	**54**	P	Pb	21 06 40.1	-0.2
YOJ				S	Sb	21 06 48.2	-0.2
IRIF	**Iriomote-Funau**	**1.16**	**79**	P	Pn	21 06 48.9	-0.4
IRIF				S	Sn	21 07 05.0	+0.6
JKRS	**Kuro-shima**	**1.40**	**84**	P	Pn	21 06 52.8	+0.1
JKRS				eS	Sn	21 07 10.5	0.0
JIJ	**Ishigaki jima**	**1.54**	**80**	P	Pn	21 06 54.8	+0.1
JIJ				S	Sn	21 07 13.5	-0.5

*CASC **09** 21:15:15.8±2.6, 15.69N×88.60W,MD4.3,ML4.7, mb4.0(NEIC)*
*IDC **09** 21:15:20.1±1.7, 15.99N×88.43W,mb3.9/6,mb1 4.2/9, mb1mx3.9/19,mbtmp4.0/9,ML3.8/1,MS3.5/3,Ms1 3.5/3, ms1mx2.8/21,Error ellipse: s-maj=54.2km s-min=23.0km az=38.0*
*NEIC **09** 21:15:21.5±4.9, 15.91N×88.46W,h11km±32km,mb4.0/6, Error ellipse: s-maj=19.5km s-min=8.8km az=56.0*
ISC 09 21:15:17.0±0.3,15.71N±0.02×88.54W±0.04,h10km,n49, σ1§21/57,mb4.0/10,MS3.4/3,7C-12D,Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTO2	**Montecristo 2**	**1.52**	**212**⇓	eP	**Pn**	**21 15 41.4**	**-3.0**
MTO2				eS	**Sb**	**21 16 05.3**	**+1.3**
RBDL	**Robledal**	**1.93**	**215**⇑	eP	**Pn**	**21 15 48.7**	**-1.6**
RBDL				eS	**Sn**	**21 16 13.6**	**-1.2**
CAHU	**Cacacuatique**	**1.95**	**171**⇑	eP	**Pn**	**21 15 49.9**	**-0.7**
LBRS	**Las Brisas**	**2.02**	**194**⇓	eP	**Pn**	**21 15 50.0**	**-1.5**
LFU	**La Fuente**	**2.02**	**196**⇓	eP	**Pn**	**21 15 50.1**	**-1.4**
NBG	**Las Nubes**	**2.07**	**238**⇑	eP	**Pn**	**21 15 51.0**	**-1.2**
NBG				eS	**Sn**	**21 16 19.4**	**+1.1**
NBG				AML	AML	21 16 23.0	
	comp=N,102μm,0.4s						
LCBS	**La Ceiba**	**2.08**	**192**⇓	eP	**Pn**	**21 15 51.0**	**-1.4**
BOQS	**Boqueron**	**2.08**	**200**⇓	eP	**Pn**	**21 15 51.1**	**-1.4**
RTR	**El Retiro**	**2.09**	**211**⇓	eP	**Pn**	**21 15 51.6**	**-1.0**
RTR				eS	**Sn**	**21 16 20.7**	**+1.9**
SNJE	**San Jose**	**2.10**	**210**⇓	iP	**Pn**	**21 15 51.5**	**-1.1**
SNJE				eS	**Sn**	**21 16 19.6**	**+0.6**
SNVI	**San Vicente**	**2.10**	**188**	eP	**Pn**	**21 15 51.8**	**-0.9**
LFRS	**El Faro**	**2.13**	**194**⇓	eP	**Pn**	**21 15 51.9**	**-1.3**
LFRS				eS	**Sn**	**21 16 21.2**	**+1.3**
SBLS	**San Blas**	**2.13**	**210**⇓	iP	**Pn**	**21 15 52.1**	**-1.0**
SBLS				eS	**Sn**	**21 16 20.9**	**+1.1**
GCG	**Guatemala City**	**2.22**	**240**⇓	eP	**Pn**	**21 15 54.9**	**+0.5**
GCG				eS	**Sn**	**21 16 23.2**	**+1.1**
BLLM	**Bellamira**	**2.27**	**173**⇓	eP	**Pn**	**21 15 54.5**	**-0.6**
BLLM				eS	**Sn**	**21 16 24.4**	**+1.0**
IXG	**Ixpaco**	**2.40**	**231**⇑	eP	**Pn**	**21 15 57.0**	**+0.1**
IXG				eS	**Sn**	**21 16 28.1**	**+1.5**
IXG				AML	AML	21 16 29.8	
	comp=E,29μm,0.5s						
CNCH	**Conchagua**	**2.51**	**164**⇑	eP	**Pn**	**21 15 59.1**	**+0.6**
FUG	**Fuego 3**	**2.55**	**241**⇑	eP	**Pn**	**21 15 57.7**	**-1.4**
TP2	**Tecpan 2**	**2.56**	**249**⇑	eP	**Pn**	**21 15 57.9**	**-1.5**
TP2				eS	**Sn**	**21 16 31.5**	**+0.6**
TP2				AML	AML	21 16 46.9	
	comp=E,4μm,0.6s						
JAT	**Jato**	**3.29**	**246**⇓	eP	**Pn**	**21 16 08.7**	**-1.0**
JAT				AML	AML	21 17 03.8	
	comp=E,4μm,0.7s						
CRIN	**San Cristobal**	**3.32**	**154**	eP	**Pn**	**21 16 11.2**	**+1.1**
CRIN				eS	**Sn**	**21 16 51.1**	**+1.2**
APYN	**Apoyeque**	**4.05**	**148**	eP	**Pn**	**21 16 20.7**	**+0.2**
TEIG	**Tepich**	**4.50**	**3**	ePn	**Pn**	**21 16 28.6**	**+1.7**
TEIG				ePg	**Pg**	**21 16 46.0**	**-0.9**
TEIG				Sn	**Sn**	**21 17 20.6**	**+0.6**
JTS	**JuntasAbangare**	**6.42**	**147**	ePn	**Pn**	**21 16 58.0**	**+4.1**
LRAL	**Lakeview Retre**	**17.31**	**4**	Pn	**P**	**21 19 19.2**	**-1.2**
ROSC	**El Rosal**	**17.64**	**126**	P	**P**	**21 19 28.7**	**+4.0**
	comp=E,0.0nm,0.3s,baz=277,slow=20,SNR=5.3						
SDV	**Santo Domingo**	**18.75**	**109**	P	**P**	**21 19 40.9**	**+2.4**
	comp=E,0.3nm,0.3s,baz=14,slow=6.6,SNR=4.0						
SDV	**Santo Domingo**	**18.75**	**109**	eP	**P**	**21 19 39.5**	**+1.0**
	comp=E,2.4nm,0.4s						
PLAL	**Pickwick Lake**	**19.20**	**1**	eP	**P**	**21 19 41.3**	**-2.4**
	comp=E,0.1nm,0.6s						
LTX	**Lajitas**	**19.44**	**317**	eP	**P**	**21 19 48.4**	**+1.9**
	comp=E,8.4nm,0.7s						
TXAR	**Lajitas Array**	**19.44**	**317**	P	**P**	**21 19 48.2**	**+1.7**
	comp=E,0.8nm,0.3s,baz=138,slow=9.0,SNR=110						
CPCT	**Cooper Cave**	**19.99**	**10**	P	**P**	**21 19 52.5**	**-0.1**
CPCT				e		21 20 01.9	
WMOK	**Wichita Mounta**	**21.07**	**336**	eP	**P**	**21 20 04.7**	**+0.9**
	comp=E,11nm,1.3s,mb4.0						
SJG	**San Juan**	**21.55**	**80**	LR	LR	21 27 39.4	
	comp=E,83nm,18.2s,MS3.2,baz=262,slow=34						
MNTX	**Cornudas Mount**	**22.12**	**319**	eP	**P**	**21 20 13.7**	**-0.6**
	comp=E,8.4nm,1.3s,mb4.0						
CCM	**Cathedral Cave**	**22.39**	**354**	eP	**P**	**21 20 17.6**	**+0.6**
	comp=E,2.7nm,0.6s,mb3.9						
AMTX	**Amarillo**	**22.45**	**331**	eP	**P**	**21 20 16.1**	**-1.5**
	comp=E,13nm,0.6s,mb4.5						
SADO	**Sadowa**	**30.04**	**13**	LR	LR	21 34 16.4	
	comp=E,69nm,21.6s,MS3.3,baz=91,slow=38						
PDAR	**Pinedale Array**	**32.43**	**330**	P	**P**	**21 21 49.8**	**+0.4**
	comp=E,0.8nm,1.1s,mb3.5,baz=135,slow=6.3,SNR=3.6						
NVAR	**Mina Array Bea**	**34.60**	**317**	P	**P**	**21 22 08.9**	**+0.6**
	comp=E,1.3nm,0.8s,mb3.9,baz=124,slow=9.3,SNR=5.8						
SCHQ	**Schefferville**	**42.51**	**18**	P	**P**	**21 23 14.6**	**+0.5**
	comp=E,6.5nm,0.9s,mb4.3,baz=204,slow=7.4,SNR=10						
YKA	**Yellowknife Ar**	**50.21**	**345**	P	**P**	**21 24 14.9**	**0.0**
	comp=E,0.5nm,0.7s,mb3.6,baz=144,slow=7.6,SNR=11						
BDFB	**Brasilia**	**50.71**	**126**	LR	LR	21 49 15.0	
	comp=E,96nm,18.4s,MS3.9,baz=298,slow=40						
DLBC	**Dease Lake**	**52.53**	**334**	P	**P**	**21 24 34.4**	**+1.9**
	comp=E,1.1nm,0.3s,mb4.2,baz=310,slow=6.6,SNR=5.2						
DLBC	**Dease Lake**	**52.53**	**334**	P	**P**	**21 24 34.4**	**+1.9**
ESDC	**Sonseca Array**	**76.04**	**52**	P	**P**	**21 27 10.6**	**+4.1**
	comp=E,0.4nm,0.6s,mb3.5,baz=284,slow=5.1,SNR=4.7						
WRA	**Warramunga Arr**	**139.04**	**258**	PKP	PKPdf	21 34 49.6	+1.7
	comp=E,0.3nm,0.7s,baz=82,slow=1.8,SNR=5.1						
ASAR	**Alice Springs**	**139.38**	**252**	PKP	PKPdf	21 34 50.0	+1.5
	comp=E,0.3nm,0.8s,baz=86,slow=2.0,SNR=4.5						
CMAR	**Chiang Mai Arr**	**145.26**	**347**	PKPbc	PKPbc	21 34 59.2	+2.9
	comp=E,0.6nm,0.6s,baz=338,slow=3.4,SNR=6.1						

PRE 09 21:16:24.8±1.3,29.52S×25.09E,h5km,ML3.9,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**0.91**	**9**	eP	Pb	21 16 41.6	-1.1
BOSA				eS	Sb	21 16 53.1	-1.9
HVD	**Hendrik Verwoe**	**1.14**	**162**	eP	Pb	21 16 45.8	-0.8
HVD				eS	Sb	21 17 00.0	-1.4
HVD				e		21 17 09.0	
	comp=Z,599nm,0.3s						
SEK	**Senekal**	**2.52**	**62**	eP	Pn	21 17 16.8	+10
SEK				eS	Sn	21 17 40.8	+2.2
SEK				e		21 17 50.5	
	comp=Z,297nm,0.4s						
PRY	**Parys**	**3.33**	**40**	eP	Pn	21 17 15.3	-3.2
PRY				eS	Sn	21 17 53.3	-5.7
PRY				e		21 18 07.9	
	comp=Z,139nm,0.3s						
NWL	**Newcastle**	**4.63**	**68**	eP	Pn	21 17 31.3	-5.8
NWL				eS	Sn	21 18 22.9	-9.1
NWL				e		21 18 29.2	
	comp=Z,407nm,0.4s						
SLR	**Silverton**	**4.71**	**38**	eP	Pn	21 17 20.2	-18
SLR				eS	Sn	21 17 48.9	-45
SLR				e		21 18 05.4	
	comp=Z,287nm,0.3s						
CVNA	**Calvinia**	**5.00**	**246**	eP	Pn	21 17 39.1	-3.3
CVNA				eS	Sn	21 17 52.9	-48

IDC 09 21:20:54.9±3.7,10.42N×92.05E,mb3.3/3,mb1 3.5/4, mb1mx3.4/16,mbtmp3.2/4,ML3.3/1,Error ellipse: s-maj=103.0km s-min=28.7km az=80.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.40**	**29**	eP	Pb	21 21 13.9	-7.8
PBA				eS	Sb	21 21 27.6	-12
PBA				e		21 21 29.5	
	comp=N,3μm,0.4s						
PBA				e		21 21 29.8	
	comp=E,2μm,0.4s						
CMAR	**Chiang Mai Arr**	**10.41**	**39**	Pn	P	21 23 25.1	-3.4
	comp=E,0.1nm,0.3s,baz=232,slow=15,SNR=3.7						
SONM	**Songino Array**	**39.20**	**15**	P	P	21 28 24.7	-1.7
	comp=E,0.4nm,1.0s,baz=180,slow=7.2,SNR=2.8						
WRA	**Warramunga Arr**	**51.41**	**126**	P	P	21 30 02.7	-1.3
	comp=E,0.3nm,0.5s,baz=304,slow=9.1,SNR=4.6						
ASAR	**Alice Springs**	**53.12**	**130**	P	P	21 30 14.1	-2.7
	comp=E,0.3nm,0.8s,baz=291,slow=7.5,SNR=3.4						

*IDC **09** 21:40:20.1±1.2, 6.52N×92.83E,mb3.7/4,mb1 3.9/5, mb1mx3.7/16,mbtmp3.6/5,ML3.5/1,MS2.4/1,Ms1 2.6/1, ms1mx2.6/18,Error ellipse: s-maj=61.6km s-min=23.2km az=42.0*
*NEIC **09** 21:40:26.2±1.5, 6.63N×92.93E,h44km±15km,mb4.2/2, Error ellipse: s-maj=15.6km s-min=12.0km az=195.0*
ISC 09 21:40:23.0±0.8,6.7N±0.2×92.9E±0.1,h33km,n8,σ0§49/8, mb3.9/6,1C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.96**	**358**⇑	eP	Px	21 42 21.2	
PBA				eS	Sx	21 43 03.1	
PBA				e		21 43 04.6	
	comp=N,206nm,0.3s						
PBA				e		21 43 04.8	
	comp=E,170nm,0.4s						
PALK	**Pallekele**	**12.17**	**274**	eP	**P**	**21 43 16.8**	**-0.2**
PALK				eS	**S**	**21 45 21.2**	**-11**
WRA	**Warramunga Arr**	**48.55**	**124**	P	**P**	**21 49 05.5**	**+0.1**
	comp=E,0.8nm,0.4s,mb4.1,baz=304,slow=8.7,SNR=18						
WRAB	**Tennant Creek**	**48.56**	**124**	eP	**P**	**21 49 05.3**	**-0.2**
	comp=E,3.5nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**50.08**	**128**	P	**P**	**21 49 17.1**	**-0.1**
	comp=E,0.5nm,0.6s,mb3.7,baz=301,slow=8.1,SNR=5.6						
CHKZ	**Chkalovo**	**50.26**	**343**	eP	**P**	**21 49 17.5**	**-0.6**
	comp=E,0.4nm,0.4s,mb3.8						
BRTR	**Keskin Array B**	**62.33**	**312**	P	**P**	**21 50 44.5**	**-0.1**
	comp=E,0.4nm,0.7s,mb3.7,baz=117,slow=9.7,SNR=3.7						
GERES	**GERESS Array B**	**77.93**	**318**	P	**P**	**21 52 20.6**	**+1.1**
	comp=E,0.3nm,0.7s,mb3.3,baz=117,slow=4.4,SNR=4.0						

IDC 09 22:00:27.8±1.2,13.47N×93.58E,mb3.4/4,mb1 3.6/5, mb1mx3.5/16,mbtmp3.4/5,ML3.5/1,Error ellipse: s-maj=32.8km s-min=22.8km az=58.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.16**	**45**	Pn	Pn	22 02 14.8	-1.5
	0.2nm,0.3s,baz=234,slow=15,SNR=15						
CMAR				Sn	Sn	22 03 34.7	-4.6
	0.1nm,0.3s,baz=226,slow=25,SNR=3.7						
SONM	**Songino Array**	**35.89**	**15**	P	P	22 07 29.4	-2.1
	0.6nm,1.0s,baz=207,slow=8.4,SNR=8.2						
WRA	**Warramunga Arr**	**52.06**	**129**	P	P	22 09 41.2	-0.7
	0.2nm,0.8s,baz=315,slow=8.1,SNR=8.2						
WRA				PcP	PcP	22 10 51.0	-3.1
	0.2nm,0.5s,baz=311,slow=3.0,SNR=5.8						
ASAR	**Alice Springs**	**54.01**	**133**	P	P	22 09 53.9	-2.4
	0.3nm,0.4s,baz=309,slow=6.9,SNR=7.6						
BRTR	**Keskin Array B**	**58.46**	**308**	P	P	22 10 25.2	-2.7
	0.3nm,0.5s,baz=109,slow=7.9,SNR=2.8						

*MOS **09** 22:12:54.3±0.9, 4.94N×95.07E,h33km,mb6.3/78, MS5.5/55,Error ellipse: s-maj=7.5km s-min=3.4km az=128.8*
*DHMR **09** 22:12:54.5±3.0, 4.95N×95.11E,h10km,mb5.9*
*GUC **09** 22:12:56.3±0.0, 4.92N×95.09E,h40km,mb6.0(NEIC), MS5.7(NEIC),MW6.1(NEIC)*
*HRVD **09** 22:12:56.5±0.1, 4.63N×94.94E,h46km,MW6.0/68, Centroid moment Tensor Solution. LP body waves: s68,c163;Mantle waves: s66,c218; Half duration: 2s3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.75±.01; $M_{\theta\theta}$-0.42±.01; $M_{\phi\phi}$-0.32±.01; $M_{r\theta}$0.59±.01; $M_{\theta\phi}$0.47±.01; $M_{\phi r}$-0.56±.01; Best double couple: $M_0$1.137×10^{18} NP1: ϕ_s311°,δ22°,λ88°. NP2:ϕ_s133°,δ68°,λ91°. Principal axes: T 1.086, Plg67°, Azm45°; N .102, Plg1°, Azm313°; P -1.188, Plg23°, Azm223°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **09** 22:12:56.5±0.1, 4.93N×95.11E,h40km,mb6.0/149,ME5.6, MS5.8/117,MW6.1 Error ellipse: s-maj=5.1km s-min=2.7km az=212.0 Broadband fault plane solution: P waves. NP1:ϕ_s135°,δ65°,λ90°. NP2:ϕ_s315°,δ25°,λ90°. Principal axes: T Plg70°, Azm45°; N Plg0°, Azm0°; P Plg20°, Azm225°; Moment Tensor Solution. s34 Moment tensor: Scale 10^{18} Nm; M_{rr}1.04; $M_{\theta\theta}$-0.20; $M_{\phi\phi}$-0.84; $M_{r\theta}$0.74; $M_{\theta\phi}$0.38; $M_{\phi r}$-0.57; Best double couple: $M_0$1.4×10^{18} NP1:ϕ_s349°,δ27°,λ118°. NP2:ϕ_s138°, δ66°,λ77°. Principal axes: T 1.45, Plg66°, Azm24°; N -.12, Plg12°, Azm144°; P -1.33, Plg20°, Azm238°; Complex earthquake observed on broadband displacement seismograms. A small event is followed by at least one larger event about 2 seconds later. Depth from synthetics of broadband displacement seismograms based on larger event. Energy computed from BB mechanism.*
NEIC Felt [IV] at Banda Aceh. Felt in Aceh Province.
*BJI **09** 22:12:57.5, 5.10N×94.84E,h35km,mB6.2,mb5.9,Ms6.0, Msz5.9*
*IDC **09** 22:12:58.7±1.1, 4.93N×95.18E,h58km±8km,mb5.6/30, mb1 5.5/31,mb1mx5.5/31,mbtmp5.8/31,MS5.5/19, Ms1 5.5/19,ms1mx5.4/21,Error ellipse: s-maj=13.0km s-min=7.1km az=40.0*
ISC 09 22:12:55.2±0.6,4.84N±0.03×95.06E±0.02,h42km±5km, h53km±1.7km:pP-P,n1032,σ1§08/879,mb6.0/217, MS5.7/169,182C-36D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**7.15**	**341**	eP	**P**	**22 14 39.0**	**-0.8**
PBA				e		22 15 58.0	
NNT	**Nongplab**	**8.98**	**31**	P	**P**	**22 15 08.5**	**+3.3**
NST	**Nakhon Sawan**	**11.87**	**24**	P	**P**	**22 15 47.0**	**+2.4**
	604nm,0.6s						
CMAR	**Chiang Mai Arr**	**14.06**	**15**	P	**P**	**22 16 15.2**	**+1.5**
	12nm,0.3s,baz=196,slow=10,SNR=125						
CMAR				LR	LR	22 21 42.0	
	comp=Z,24μm,20.7s,baz=200,slow=38						
CMAR				ScP		22 25 02.0	
	0.2nm,0.3s,baz=234,slow=3.1,SNR=4.7						
CMAR				PKiKP		22 29 27.1	
	0.2nm,0.3s,baz=247,slow=2.1,SNR=8.5						
CHG	**Chiang Mai**	**14.40**	**15**	⇑P	**P**	**22 16 20.4**	**+2.1**
	150nm,0.9s						
CHG				S	S	22 19 21.0	+24
PENI	**Pendagan**	**14.45**	**136**	eP	**P**	**22 16 12.2**	**-6.7**
PENI				pmax	pmax		
	comp=Z,230nm,0.6s						
PENI	**Pendagan**	**14.45**	**136**	eP	**P**	**22 16 12.2**	**-6.7**
	comp=Z,230nm,0.6s						
PALK	**Pallekele**	**14.48**	**280**	eP	**P**	**22 16 20.1**	**+0.7**
	comp=Z,135nm,1.0s						
PALK				eS	**S**	**22 18 44.6**	**-15**
NANT	**Nan**	**14.93**	**21**	⇑P	**P**	**22 16 27.0**	**+1.8**
	comp=Z,700nm,1.0s						
CHRT	**Chiangrai**	**15.63**	**17**	⇑P	**P**	**22 16 37.0**	**+2.7**
	comp=Z,2μm,1.1s						
MDRS	**Chennai**	**16.75**	**300**⇑	iP	**P**	**22 16 49.8**	**+1.4**
MDRS				e		22 17 02.0	
	comp=Z,361nm,0.7s						
COCO	**West Island**	**17.01**	**174**	eP	**P**	**22 16 50.5**	**-1.1**
	comp=Z,1μm,1.2s						
COCO				e		22 17 08.4	
VIS	**Vishakhapatnam**	**17.20**	**319**⇑	iP	**P**	**22 16 54.6**	**+0.6**
VIS				e		22 17 02.0	
	comp=Z,984nm,1.7s						
BWNR	**Bhubaneshwar**	**17.81**	**330**⇑	iP	**P**	**22 16 57.3**	**-4.4**
BWNR				e		22 19 47.0	
	comp=Z,1μm,0.7s						
KOD	**Kodaikanal**	**18.24**	**288**⇓	i	**P**	**22 17 01.0**	**-6.1**

KOD e 22 20 20.0
TRD Trivandrum 18.34 282 eP P 22 17 09.9 +1.6
TRD eS S **22 20 38.0 +10**
CAL Calcutta 18.76 340 eP P 22 17 10.8 -2.5
CAL eS S **22 20 40.1 +2.5**
AGT Agartala 19.29 349⇓iP P 22 17 16.0 -3.3
AGT i 22 18 56.0
IMP Imphal 19.86 357⇓iP P 22 17 22.1 -3.5
QIZ Qiongzhong 20.17 44 P P 22 17 29.5 +0.6
QIZ AP 22 17 37.8
QIZ PP PP 22 17 49.2 -0.2
QIZ eS S **22 21 07.5 -0.6**
QIZ SS SS 22 21 37.0 -1.1
QIZ LR LR
comp=E,26μm,19.7s
QIZ LR LR
comp=Z,28μm,19.2s,MS5.6
QIZ Qiongzhong 20.17 44 eP P 22 17 29.3 +0.4
comp=Z,221nm,1.2s
QIZ e 22 17 42.4
HYB Hyderabad 20.43 309⇑eP P 22 17 32.0 +0.4
HYB eS S **22 21 09.5 -3.6**
HYB pmax pmax
comp=Z,410nm,1.0s
HYB Hyderabad 20.43 309⇑eP P 22 17 32.0 +0.4
comp=Z,410nm,1.0s
HYB eS S **22 21 09.5 -3.6**
HYB Hyderabad 20.43 309⇑iP P 22 17 32.0 +0.4
comp=Z,410nm,1.0s
HYB eS S **22 21 09.5 -3.6**
HYB LR LR 22 25 06.0
comp=Z,9.5nm,22.0s
BOK Bokaro 20.82 336⇑iP P 22 17 34.8 -0.8
BOK e 22 17 42.1
comp=Z,2μm,1.2s
BOK eS S **22 21 28.1 +7.6**
SHL Shillong 20.84 352⇑iP P 22 17 31.5 -4.2
SHL eS S **22 21 25.2 +4.4**
BLSP Bilaspur 21.27 325 iP P 22 17 40.0 -0.1
BLSP e 22 17 46.0
comp=Z,2μm,1.1s
BLSP eS S **22 21 37.0 +8.0**
MNGI Mangalore 21.54 293 eP P 22 17 44.4 +1.5
MNGI e 22 18 06.3
comp=Z,677nm,1.3s
MNGI eS S **22 21 43.2 +9.1**
MNCY Minicoy 22.14 280 iP P 22 17 53.0 +4.1
MNCY i 22 20 51.0
NGP Nagpur 22.46 318 eP P 22 17 54.0 +2.0
NGP eS S **22 21 57.2 +6.3**
LATR Latur 22.56 308 eP P 22 17 54.5 +1.4
LATR ⇑i 22 23 10.3
SLGI Shiliguri 22.65 344 e 22 18 12.8
BATP Bataraza 22.91 79 eP P 22 17 56.6 0.0
SRDI Scrawed 23.18 125⇑eP P 22 17 58.8 -0.4
SRDI pmax pmax
comp=Z,134nm,0.8s,mb5.4
SRDI Scrawed 23.18 125⇑eP P 22 17 58.8 -0.4
comp=Z,134nm,0.8s,mb5.4
KELI Kelakatan 23.32 124⇑eP P 22 18 02.4 +1.8
comp=Z,195nm,0.9s,mb5.5
GOA Goa 23.40 298⇑i P 22 18 11.1 +10
GOA e 22 18 27.8
comp=Z,427nm,0.8s
GOA e 22 22 20.6
KAD Karad 23.91 303⇑iP P 22 18 10.3 +4.1
KAD i S S **22 22 27.0 +10**
PPR Puerto Princes 23.98 77 eP P 22 18 08.8 +1.9
ALBI Allahabad 24.00 329⇑iP P 22 18 06.0 -1.1
RATI Rata 24.46 123⇑eP P 22 18 12.0 +0.4
comp=Z,668nm,0.6s,mb6.2
VLK Valmikinagar 24.77 336 iP P 22 18 15.0 +0.4
VLK i 22 18 31.0
POO Poona 24.79 305⇑iP P 22 18 17.2 +2.4
POO e 22 18 19.9
comp=Z,443nm,1.3s
POO eS S **22 22 36.8 +5.2**
KEDI Kedomdong 24.82 122⇓eP P 22 18 13.3 -1.8
KEDI pmax pmax
comp=Z,247nm,0.6s,mb5.9
KEDI Kedomdong 24.82 122⇓eP P 22 18 13.3 -1.8
comp=Z,246nm,0.6s,mb5.9
ENPP El Nido 24.93 74 eP P 22 18 17.4 +1.2
BHPL Bhopal 24.99 319⇑iP P 22 18 17.7 +1.0
BHPL e 22 18 23.8
comp=Z,816nm,1.5s
BHPL eS S **22 22 43.9 +8.9**
LSA Lhasa 25.00 352 P P **22 18 17.1 +0.3**
LSA AP pP 22 18 29.7 +1.9
LSA XP sP 22 18 36.1 +3.2
LSA S S **22 22 34.8 -0.3**
LSA PCS 22 25 29.7
LSA LR LR
comp=N,9μm,25.2s,MS5.3
LSA LR LR
comp=E,10μm,25.2s,MS5.3
LSA LR LR
comp=Z,21μm,23.5s,MS5.6
LSA Lhasa 25.00 352⇑iP P 22 18 16.7 -0.1
LSA e 22 21 53.0
LSA eS S **22 22 39.3 +4.2**
LSA pmax pmax
comp=Z,227nm,0.6s,mb5.9
LSA Lhasa 25.00 352⇑iP P 22 18 16.7 -0.1
comp=Z,228nm,0.6s,mb5.9
LSA ePcP PcP 22 21 53.0 +1.1
LSA eS S **22 22 39.3 +4.2**
LSA eScP 22 25 30.4
HKC Hong Kong 25.37 45⇑iP P 22 18 23.0 +2.7
HKC i S Sx 22 23 32.0
DGAR Diego Garcia 25.63 242 eP P 22 18 23.2 +0.4
DGAR pmax pmax
comp=Z,874nm,0.8s,mb6.3
DGAR MLR MLR
comp=Z,6μm,21.0s,MS5.1
DGAR Diego Garcia 25.63 242 eP P 22 18 23.2 +0.4
comp=Z,874nm,0.8s,mb6.3
DGAR LR LR
comp=Z,6μm,21.0s,MS5.1
TANI Tanete Lipujan 25.65 108⇓eP P 22 18 21.6 -1.4
TANI pmax pmax
comp=Z,293nm,0.7s,mb5.9
TANI Tanete Lipujan 25.65 108⇓eP P 22 18 21.6 -1.4
comp=Z,293nm,0.7s,mb5.9
BOM Bombay 25.82 305⇑iP P 22 18 27.8 +3.3
BOM e 22 18 34.9
comp=Z,718nm,1.5s
BOM eS S **22 22 53.9 +5.2**
BUSP Coron 25.85 72 eP P 22 18 25.3 +0.4
JHNI Jhansi 25.92 324⇑iP P 22 18 22.0 -3.4
JHNI e 22 19 21.0
JHNI e 22 23 23.0
NINI Niniconang 26.33 110⇑eP P 22 18 28.5 -0.8
NINI pmax pmax
comp=Z,2μm,0.9s,mb6.6
NINI Niniconang 26.33 110⇑eP P 22 18 28.5 -0.8
comp=Z,2μm,0.9s,mb6.6
LUBP Lubang 26.35 69 eP P 22 18 30.9 +1.4
BUNI Buntu Taipa 26.61 108⇓eP P 22 18 30.9 -1.0
comp=Z,247nm,0.7s,mb5.8
SCZP Santa Cruz 26.72 64 eP P 22 18 33.0 +0.2
SJMP San Jose 26.83 72 eP P 22 18 33.7 -0.2
TGY Tagaytay City 27.10 68 P P 22 18 36.4 0.0
comp=Z,1μm,0.8s,mb6.4,baz=196,slow=4.1,SNR=20
TGY LR LR 22 28 53.9
comp=Z,11μm,20.9s,MS5.4,baz=76,slow=35
LQP Lukban 27.66 69⇓eP P 22 18 41.8 +0.3
OTRP Odiongan 27.66 73 eP P 22 18 41.5 -0.1
BOAC Boac 27.77 70 eP P 22 18 42.2 -0.2
GUIM Jordan 27.86 76 eP P 22 18 46.2 +2.9
ABRA Dolores 28.14 61 eP P 22 18 46.4 +0.6
RCP Roxas 28.19 75⇑eP P 22 18 47.9 +1.7
BALP Baler 28.21 65 eP P 22 18 46.4 0.0
POLP Polilio Island 28.22 68 eP P 22 18 46.5 0.0
PAGZ Pagadian 28.30 82 eP P 22 18 49.7 +2.4
AUQP San Andres 28.51 71 eP P 22 18 50.6 +1.5
APYP Conner 28.69 61 eP P 22 18 50.4 -0.3
ENH Enshi 28.73 27⇑iP P 22 18 49.5 -1.3
comp=Z,110nm,0.6s,mb5.8
CAUP Cauayan 28.85 63 eP P 22 18 51.9 -0.2
CVP Callao Caves 29.14 62⇓eP P 22 18 55.0 +0.4
NDI New Delhi 29.14 326⇑iP P 22 18 53.6 -1.0
NDI e 22 19 11.1
comp=Z,322nm,1.9s
NDI e 22 23 40.6
NDI e 22 23 41.0
PALP Palanan 29.43 63 eP P 22 18 58.5 +1.3
SGCP Mt. Cagua 29.54 61 eP P 22 18 59.7 +1.4
OCLP Ormoc 29.89 76 eP P 22 19 03.9 +2.5
BUKP Musuan 29.96 83 eP P 22 19 02.9 +0.9
PVCP Virac 29.98 71 eP P 22 19 02.0 -0.1
MSLP Maasin 30.00 78 eP pP 22 19 17.0 +3.3
DDI Dehra Dun 30.00 330 eP P 22 18 59.9 -2.3
DDI eS S **22 24 03.4 +7.5**
QZH Quanzhou 30.17 46⇑iP P 22 19 04.1 +0.3
QZH S S **22 23 59.0 +0.3**
QZH AMB AMB
comp=Z,360nm,0.9s,mb6.1
QZH LR LR
comp=N,13μm,18.6s
QZH LR LR
comp=E,9μm,11.5s
QZH LR LR
comp=Z,38μm,24.2s
BBP Basco 30.41 57 eP P 22 19 07.2 +1.3
DAV Davao City (W) 30.43 84 eP P 22 19 05.0 -1.2
BHJ Bhuj 30.60 309⇑iP P 22 19 10.3 +2.6
BHJ e 22 19 27.2
comp=Z,222nm,1.2s
BHJ eS S **22 24 11.8 +6.4**
BESP Borongan 30.79 75 eP P 22 19 11.7 +2.3
SMLA Simla 31.10 329⇑i pP 22 19 23.9 +0.5
SMLA e 22 19 42.4
comp=Z,537nm,1.4s
WHN Wuhan 31.37 33 ⇑P P 22 19 14.2 -0.2
WHN PCP PcP 22 22 08.0 +0.6
WHN S S **22 24 21.3 +3.8**
WHN LR LR
comp=Z,21μm,13.7s,MS6.0
BHK Bhakra 31.71 329 eP P 22 19 17.2 -0.1
BHK e 22 25 42.6
XAN Xi'an 31.78 22 P P **22 19 16.6 -1.3**
XAN AP pP 22 19 35.1 +5.7
XAN PP PP 22 20 28.7 +4.7
XAN S S **22 24 21.0 -2.9**
XAN XS 22 24 45.7
XAN AMB AMB
comp=Z,1μm,0.8s,mb6.8
XAN LR LR
comp=N,14μm,16.3s,MS5.9
XAN LR LR
comp=E,16μm,15.9s,MS5.9
XAN LR LR
comp=Z,34μm,17.0s,MS6.1
XAN Xi'an 31.78 22 P P **22 19 16.5 -1.4**
XAN S S **22 24 21.7 -2.2**
LZH Lanzhou 32.13 13 ⇑P P 22 19 19.7 -1.3
LZH PP PP 22 20 26.5 -2.0
LZH S S **22 24 24.3 -5.1**
LZH AMB AMB
comp=Z,420nm,1.0s,mb6.2
LZH AMB AMB
comp=Z,3μm,4.0s
LZH LR LR
comp=N,27μm,18.3s
LZH LR LR
comp=Z,32μm,21.0s,MS6.0
TATO Taipei 32.32 49 PFAKE 22 19 30.0 +7.3
TATO LR LR
comp=Z,14μm,22.0s,MS5.6
DLH Dalhousie 32.84 329 eP P 22 19 26.0 -1.1
DLH e 22 20 07.0
NJ2 Nanjing 35.06 37 eP P 22 19 46.8 +0.5
NJ2 AP pP 22 19 56.6 -1.3
NJ2 PP PP 22 21 06.0 +0.4
NJ2 S S **22 25 17.0 +2.1**
NJ2 AMB AMB
comp=Z,120nm,1.0s,mb5.8
NJ2 AMB AMB
comp=Z,2μm,6.9s
NJ2 LR LR
comp=N,20μm,19.5s,MS6.0
NJ2 LR LR
comp=E,22μm,21.2s,MS6.0
NJ2 LR LR
comp=Z,23μm,22.8s,MS5.9
MBWA Marble Bar 35.40 138 eP P 22 19 47.9 -1.3
comp=Z,157nm,1.1s,mb5.9
MBWA ePcP PcP 22 22 20.2 +1.4
MBWA LR LR
comp=Z,7μm,22.0s,MS5.4
SSE Sheshan 35.85 40 P P **22 19 55.1 +2.1**
SSE S S **22 25 30.5 +3.5**
SSE AMB AMB
comp=Z,72nm,0.9s,mb5.6
SSE AMB AMB
comp=Z,1μm,6.7s
SSE LR LR
comp=N,6μm,22.1s,MS5.4
SSE LR LR
comp=E,5μm,21.9s,MS5.4
SSE LR LR
comp=Z,9μm,20.5s,MS5.5
TIA Tai'an 37.24 30 ⇑P P 22 20 04.7 +0.1
TIA PP PP 22 21 33.0 +0.6
TIA S S **22 25 46.2 -2.0**
TIA AMB AMB
comp=Z,173nm,1.2s,mb5.8
TIA LR LR
comp=N,7μm,14.0s,MS5.9
TIA LR LR
comp=E,11μm,15.0s,MS5.9
FITZ Fitzroy Crossi 37.80 128⇑iP P 22 20 07.9 -1.6
comp=E,118nm,0.7s,mb5.7
FITZ ePCP PcP 22 22 28.3 +2.3
FITZ eSCS ScS 22 30 18.5 +2.2
JOW Kunigami 38.51 52 P P 22 20 14.9 -0.3
comp=E,218nm,0.7s,mb6.0,baz=234,slow=6.6,SNR=27
JOW LR LR 22 36 12.6
comp=E,11μm,21.5s,MS5.7,baz=238,slow=36
WBK Wadi Bani Khal 39.09 300 ⇓P P 22 20 22.6 +2.4
SNR=17
WMQ Urumqi 39.36 352 ⇑P P 22 20 22.2 0.0
WMQ PP PP 22 21 56.3 -0.5
WMQ S S **22 26 21.7 +1.3**
WMQ AMB AMB
comp=Z,98nm,0.9s,mb5.5
WMQ AMB AMB
comp=Z,872nm,4.8s
WMQ LR LR
comp=N,21μm,19.4s,MS6.1
WMQ LR LR
comp=E,20μm,21.8s,MS6.1
WMQ LR LR
comp=Z,22μm,21.3s,MS6.0
JMDO Jabal Madar 39.76 300 ⇓P P 22 20 27.7 +2.0
SNR=21
BJT Baijiatuau 39.86 26 P P 22 20 27.7 +1.3
BJT P 22 20 29.6
BJT ScP 22 26 16.9
BJT Baijiatuau 39.86 26⇑eP P 22 20 27.5 +1.1
BJT e 22 22 31.6
BJT pmax pmax
comp=Z,644nm,0.8s
BJT Baijiatuau 39.86 26⇑eP P 22 20 27.5 +1.1
comp=Z,644nm,0.8s,mb6.4
BJT ePcP PcP 22 22 31.6 -0.7
BIDO Bidbid 40.15 301 ⇑P P 22 20 31.9 +3.0
SNR=53
BSY Bisya 40.67 300 ⇑P P 22 20 35.8 +2.5
SNR=57
ULHL Ulahol 40.85 339 P P **22 20 35.6 +1.1**
SNR=56
HOQ Hoqain 40.87 301 ⇓P P 22 20 38.7 +3.8
SNR=26
KAKA Kakadu 41.03 116⇑iP P 22 20 34.5 -1.8
comp=Z,210nm,0.7s,mb5.9
KZA Kyzart 41.07 337 P P **22 20 37.4 +1.0**
SNR=136
UCH Uchtor 41.48 337 P P **22 20 41.1 +1.3**
SNR=304
AAA Alma-Ata 41.50 340 iP P **22 20 40.0 +0.1**
AAA i S S **22 26 54.0 +1.8**
AAA pmax pmax
comp=Z,8μm,4.0s
AAA smax
comp=N,6μm,6.0s
AAA MLR MLR
comp=Z,3μm,16.0s,MS5.3
TKM2 Tokmak 2 41.67 338 P P **22 20 42.3 +1.0**
SNR=358
KBK Karagaybulak 41.68 338 P P **22 20 43.1 +1.6**
SNR=499
AML Almayashu 41.73 336 P P **22 20 43.3 +1.5**
SNR=375
MUN Mundaring 41.78 153 eP P **22 20 42.6 +0.2**
comp=Z,22nm,0.5s,mb5.0
MUN Mundaring 41.78 153 eP P **22 20 42.6 +0.2**
MUN pmax pmax
comp=Z,23nm,0.5s,mb5.1
AAK Ala-Archa 41.84 337 P P **22 20 43.9 +1.2**
SNR=316
AAK Ala-Archa 41.84 337 eP P **22 20 42.8 +0.1**
AAK pmax pmax
comp=Z,1μm,1.3s,mb6.4
AAK MLR MLR
comp=Z,2μm,19.0s,MS5.0
AAK Ala-Archa 41.84 337 eP P **22 20 42.8 +0.1**
comp=Z,1μm,1.3s,mb6.4
AAK LR LR
comp=Z,2μm,19.0s,MS5.0
RBK Rabkut 41.90 291 ⇓P P 22 20 46.7 +3.1
SNR=13
FRU Bishkek 41.96 337⇑iP P 22 20 44.0 +0.3
FRU i 22 21 00.0
FRU i S S **22 27 02.0 +2.9**
FRU e 22 30 00.0
FRU pmax pmax
comp=Z,4μm,2.1s,mb6.7
FRU pmax pmax
comp=Z,8μm,3.6s
FRU smax
comp=N,8μm,8.0s
FRU MLR MLR
comp=Z,8μm,18.0s,MS5.6
CHMS Chumysh 42.05 338 P P **22 20 45.5 +1.1**
SNR=20
EKS2 Erkin-Say 42.14 336 P P **22 20 46.5 +1.3**
SNR=43
KLBR Kellerberrin 42.20 151 eP P **22 20 46.7 +0.9**
comp=Z,115nm,1.2s,mb5.4
KLBR ePCP PcP 22 22 41.1 +1.0
USP Ospenovka 42.38 338 P P **22 20 48.5 +1.4**
SNR=61
WHFO Wadi Hawf 42.40 291 ⇓P P 22 20 50.5 +2.9
SNR=14
ABTO Aybut 42.72 290 ⇑P P 22 20 53.6 +3.4
SNR=13
NWAO Narrogin (SRO) 43.05 152 P P **22 20 53.4 +0.6**
comp=Z,29nm,0.8s,mb5.1,baz=326,slow=9.2,SNR=11
NWAO LR LR 22 39 27.1
comp=Z,38nm,18.2s,baz=150,slow=37
NWAO Narrogin (SRO) 43.05 152 eP P **22 20 52.4 -0.4**
comp=Z,108nm,0.9s,mb5.6
NWAO LR LR
comp=Z,5μm,20.0s,MS5.4
MK02 Makanchi Array 43.20 347 P P **22 20 53.4 -0.4**
MK02 pmax pmax
comp=Z,91nm,0.5s,mb5.8
INCN Inchon 43.44 37 eP P **22 20 53.7 -2.2**
comp=Z,328nm,1.0s,mb6.0
INCN LR LR
comp=Z,14μm,22.0s,MS5.8
SONM Songino Array 43.93 11 P P **22 20 58.8 -0.9**
comp=Z,32nm,0.4s,mb5.4,baz=192,slow=8.7,SNR=200
SONM PcP PcP 22 22 45.2 -0.4
comp=Z,57nm,0.6s,baz=192,slow=3.6,SNR=14
SONM ScP 22 26 32.8
comp=Z,13nm,1.1s,baz=207,slow=5.5,SNR=3.7
SONM PKiKP 22 29 45.7
comp=Z,1.3nm,0.8s,baz=169,slow=2.6,SNR=4.6
ULN Ulaanbaatar 44.09 12 eP P **22 20 59.8 -1.2**
ULN pmax pmax
comp=Z,44nm,0.7s,mb5.3
ULN MLR MLR
comp=Z,10μm,20.0s,MS5.7
ULN Ulaanbaatar 44.09 12 eP P **22 20 59.8 -1.2**
comp=Z,44nm,0.7s,mb5.3
ULN LR LR
comp=Z,10μm,20.0s,MS5.7
SNY Shenyang 44.76 30 ⇑P P 22 21 06.1 -0.3
SNY PP PP 22 22 48.9 -3.3
SNY S S **22 27 39.0 -0.8**
SNY XS 22 28 04.7
SNY AMB AMB
comp=Z,380nm,1.1s,mb6.1
SNY AMB AMB
comp=Z,7μm,6.9s
SNY LR LR
comp=N,12μm,17.8s
SNY LR LR
comp=Z,11μm,19.7s,MS5.8
WRA Warramunga Arr 45.79 124 P P **22 21 14.3 -0.7**
WRA S S **22 27 52.9 -2.0**
WRA Warramunga Arr 45.79 124 P P **22 21 14.3 -0.7**
comp=Z,314nm,0.8s,mb6.3,baz=301,slow=9.2,SNR=522
WRA ScP 22 26 41.6
comp=Z,9.6nm,1.2s,baz=308,slow=4.0,SNR=6.1
WRA S S **22 27 52.9 -2.0**
comp=Z,10nm,1.1s,baz=294,slow=17,SNR=8.4
WRA PKiKP 22 29 47.0
comp=Z,1.5nm,0.6s,baz=299,slow=1.7,SNR=5.3
WRAB Tennant Creek 45.80 124⇑eP P 22 21 14.5 -0.5
WRAB pmax pmax
comp=Z,525nm,0.6s,mb6.6
WRAB MLR MLR
comp=Z,2μm,22.0s,MS5.1
WRAB Tennant Creek 45.80 124⇑eP P 22 21 14.5 -0.5
comp=Z,525nm,0.6s,mb6.6
WRAB LR LR
comp=Z,2μm,22.0s,MS5.1
WB2 Warramunga Arr 45.80 124⇑iP P 22 21 14.3 -0.8
WB2 eS S **22 27 50.8 -4.2**
WB2 eSCS ScS 22 31 05.5 +0.8
ZAK Zakamensk 45.91 7⇑iP P 22 21 19.6 +4.1
MOY Mondy 46.93 5 eP P 22 21 22.6 -0.9
TLY Talaya 47.23 7 eP P 22 21 25.5 -0.4
TLY e 22 23 19.4
TLY eS S **22 28 30.0 +15**
TLY pmax pmax
comp=Z,116nm,1.2s,mb5.7
TLY MLR MLR
comp=Z,15μm,25.0s,MS5.8
TLY Talaya 47.23 7 eP P 22 21 24.8 -1.0
comp=Z,105nm,1.0s,mb5.7
TLY LR LR
comp=Z,2μm,19.0s,MS5.1
ASPA Alice Springs 47.30 129 eP P **22 21 25.9 -0.9**
ASPA eS S **22 28 16.5 +0.3**
ASPA eSCS ScS 22 31 15.5 +1.1
ASAR Alice Springs 47.30 129 P P **22 21 25.9 -0.8**
comp=Z,97nm,0.6s,mb5.9,baz=299,slow=8.0,SNR=277
ASAR PcP PcP 22 22 58.9 +1.2
comp=Z,40nm,0.7s,baz=302,slow=4.0,SNR=4.9
ASAR S S **22 28 16.1 -0.2**
comp=Z,6.8nm,1.1s,baz=297,slow=13,SNR=4.6
ASAR PKiKP 22 29 49.0
comp=Z,1.7nm,0.6s,baz=317,slow=1.2,SNR=4.7
ASAR LR LR 22 44 51.2
comp=Z,3μm,19.7s,MS5.2,baz=297,slow=40
IRK Irkutsk 47.86 8 eP P 22 21 29.7 -1.1
IRK e pP 22 21 44.5 +1.8
IRK e 22 23 00.6
HIA Hailar 48.97 21⇑eP P 22 21 38.9 -0.5
HIA pmax pmax
comp=Z,372nm,1.1s
HIA Hailar 48.97 21⇑eP P 22 21 38.9 -0.5
comp=Z,372nm,1.1s,mb6.3
MDJ Mudanjiang 49.84 32 P P **22 21 46.2 0.0**
MDJ PCP PcP 22 23 06.2 -0.4
MDJ PP PP 22 23 40.9 -0.9
MDJ PCS 22 27 03.3
MDJ S S **22 28 55.4 +3.8**
MDJ AMB AMB
comp=Z,395nm,1.3s,mb6.3
MDJ AMB AMB
comp=Z,2μm,7.4s
MDJ LR LR
comp=N,8μm,22.5s,MS5.8
MDJ LR LR
comp=E,7μm,20.5s,MS5.8
MDJ LR LR
comp=Z,12μm,24.0s,MS5.8
MDJ Mudanjiang 49.84 32 P P **22 21 46.3 +0.2**

MDJ S **S** **22 28 54.0 +2.4**
MDJ Mudanjiang 49.84 32⇑ *e*P **P** **22 21 45.8 -0.4**
comp=Z,456nm,1.1s,mb6.4
GUMO Guam 49.84 76 PFAKE 22 22 00.0 +13
GUMO LR LR
comp=Z,3μm,20.0s,MS5.3
CBIJ Chichi jima 50.03 58 P **P** **22 21 46.6 -1.2**
comp=Z,357nm,0.7s,mb6.5,baz=100,slow=2.5,SNR=6.4
CBIJ LR LR 22 43 44.5
comp=Z,2μm,18.7s,MS5.2,baz=274,slow=37
JHJ Hachijo jima 2 50.23 50 LR LR 22 45 01.8
comp=Z,4μm,20.3s,MS5.5,baz=285,slow=38
MAJO Matsushiro 50.57 45 *e*P **P** **22 21 51.1 -0.8**
MAJO pmax pmax
comp=Z,75nm,0.6s,mb5.8
MAJO MLR MLR
comp=Z,12μm,21.0s,MS5.9
MAJO Matsushiro 50.57 45 *e*P **P** **22 21 51.1 -0.8**
comp=Z,75nm,0.6s,mb5.8
MAJO LR LR
comp=Z,12μm,21.0s,MS5.9
MAT Matsushiro 50.57 45 *e*P **P** **22 21 51.0 -0.8**
MAT *e*S **S** **22 29 08.0 +6.2**
MAT pmax pmax
comp=Z,795nm,1.9s,mb6.3
MAT MLR MLR
comp=Z,11μm,18.0s,MS5.9
MAT Matsushiro 50.57 45 *e*P **P** **22 21 51.0 -0.8**
comp=Z,795nm,1.9s,mb6.3
MAT *e*S **S** **22 29 08.0 +6.2**
MAT LR LR
comp=Z,11μm,18.0s,MS5.9
MAT Matsushiro 50.57 45 P **P** **22 21 50.6 -1.2**
MAT S **S** **22 29 08.0 +6.2**
BVAR Borovoye Array 52.14 341 P **P** **22 22 02.6 -0.9**
comp=Z,438nm,0.8s,mb6.5,baz=141,slow=9.5,SNR=584
BVAR S **S** **22 29 23.8 +0.6**
comp=Z,9.8nm,0.9s,baz=126,slow=13,SNR=5.1
BRVK Borovoye 52.20 341⇑ *e*P **P** **22 22 02.8 -1.1**
comp=Z,741nm,0.8s,mb6.7
BRVK LR LR
comp=Z,1μm,21.0s,MS4.9
CHKZ Chkalovo 52.62 342 *i* P **P** **22 22 06.3 -0.8**
CHKZ pmax pmax
comp=Z,2μm,1.2s,mb6.8
PMG Port Moresby 53.81 105 P **P** **22 22 15.0 -1.4**
PMG pmax pmax
comp=Z,136nm,0.6s
PMG Port Moresby 53.81 105 P **P** **22 22 15.0 -1.4**
comp=Z,136nm,0.6s,mb6.1,baz=9.0,slow=3.2,SNR=37
PMG Port Moresby 53.81 105⇑ *e*P **P** **22 22 14.6 -1.9**
comp=Z,150nm,0.6s,mb6.1
PMG LR LR
comp=Z,3μm,22.0s,MS5.3
KLR Kul'dur 54.05 29⇓ *e*P **P** **22 22 14.0 -3.7**
KLR *e* pP 22 22 29.0 -0.8
KLR *e*S **S** **22 29 44.0 -5.2**
KLR *e* 22 31 56.5
KLR pmax pmax
comp=N,1μm,7.5s
KLR pmax pmax
comp=E,1μm,7.5s
KLR pmax pmax
comp=Z,3μm,7.5s
KLR pmax pmax
comp=N,200nm,1.8s
KLR pmax pmax
comp=E,410nm,1.8s
KLR pmax pmax
comp=Z,560nm,1.8s,mb6.2
KLR smax
comp=N,1μm,14.0s
KLR smax
comp=E,1μm,14.0s
KLR MLR MLR
comp=N,7μm,13.0s
KLR MLR MLR
comp=Z,24μm,13.0s,MS6.4
BOD Bodaibo 54.89 12 *e*P **P** **22 22 21.7 -2.0**
BHD Baghdad 54.92 308 *i* P **P** **22 22 08.5 -16**
BHD *i* pP pP 22 22 23.0 -13
BHD *e*PP PP 22 24 09.0 -20
BHD *e*S **S** **22 29 45.0 -16**
BHD *e*sS 22 30 00.0
BHD *e*ScS ScS 22 31 54.0 -12
CTA Charters Tower 56.06 118 *e*P **P** **22 22 32.3 -0.3**
comp=Z,39nm,0.7s,mb5.5
CTA *e*S **S** **22 30 17.3 +0.9**
CTA Charters Tower 56.06 118 *e*P **P** **22 22 32.3 -0.3**
CTA *e*S **S** **22 30 17.3 +0.9**
CTA pmax pmax
comp=Z,39nm,0.7s
CTA Charters Tower 56.06 118 P **P** **22 22 31.4 -1.3**
comp=Z,54nm,0.7s,mb5.7,baz=296,slow=8.9,SNR=15
CTA LR LR 22 47 48.1
comp=Z,8μm,21.7s,MS5.8,baz=286,slow=37
CTAO Charters Tower 56.06 118 *e*P **P** **22 22 32.0 -0.6**
CTAO pmax pmax
comp=Z,138nm,1.3s,mb5.8
CTAO MLR MLR
comp=Z,9μm,22.0s,MS5.8
CTAO Charters Tower 56.06 118 *e*P **P** **22 22 32.0 -0.6**
comp=Z,138nm,1.3s,mb5.8
CTAO LR LR
comp=Z,9μm,22.0s,MS5.8
MSL Mosul 56.95 311 *e*P **P** **22 22 29.0 -10**
MSL *e*pP pP 22 22 44.5 -6.5
MSL *e*PcP PcP 22 23 24.5 -9.1
MSL *e*PP PP 22 24 42.0 -5.1
MSL *e*PPP PPP 22 26 01.5 -5.5
MSL *e*S **S** **22 30 13.5 -15**
MSL *e*sS 22 30 28.5
MSL *e*ScS ScS 22 32 10.0 -11
CLNS Chul'man 56.97 19 *e*P **P** **22 22 37.8 -0.9**
CLNS *e**PP pP 22 22 44.3 -6.6
CLNS *e* 22 23 29.7
CLNS *e* 22 24 41.6
CLNS *e*S **S** **22 30 28.4 +0.4**
CLNS pmax pmax
comp=E,44nm,1.1s
CLNS pmax pmax
comp=Z,83nm,1.1s,mb5.7
CLNS pmax pmax
comp=N,47nm,1.0s
CLNS pmax pmax
comp=Z,24nm,1.0s,mb5.2
CLNS pmax pmax
comp=N,21nm,1.1s
CLNS pmax pmax
comp=E,21nm,0.9s
CLNS smax
comp=N,813nm,12.0s
CLNS smax
comp=Z,459nm,11.4s
CLNS smax
comp=E,140nm,10.9s
CLNS MLR MLR
comp=Z,24μm,17.0s,MS6.4
CLNS MLR MLR
comp=N,10μm,16.0s,MS6.0
CLNS MLR MLR
comp=E,3μm,19.0s,MS6.0
ADE Adelaide 57.02 137 P **P** **22 22 39.2 -0.1**
GNI Garni 57.21 315 *e*P **P** **22 22 40.4 -0.3**
GNI Garni 57.21 315 P **P** **22 22 40.0 -0.6**
GNI S **S** **22 30 33.6 +2.2**
GNI pmax pmax
comp=Z,47nm,0.6s
GNI Garni 57.21 315 P **P** **22 22 40.0 -0.6**
comp=Z,47nm,0.6s,mb5.7,baz=345,slow=4.5,SNR=78
GNI S **S** **22 30 33.6 +2.2**
comp=Z,1.9nm,0.6s,baz=146,slow=21,SNR=3.3
STKA Stephens Creek 57.37 133⇑ *i*P **P** **22 22 40.2 -1.7**
comp=Z,43nm,0.6s,mb5.7
STKA *e*S **S** **22 30 25.2 -8.4**
STKA Stephens Creek 57.37 133 P **P** **22 22 40.5 -1.4**
comp=Z,37nm,0.7s,mb5.5,baz=304,slow=6.7,SNR=26
STKA LR LR 22 50 22.1
comp=Z,4μm,20.3s,MS5.5,baz=301,slow=39
VANB Van 57.57 313 *e*P **P** **22 22 40.0 -3.1**
STE Stepanavan 57.80 316 *i* P **P** **22 22 41.0 -3.8**
MTA Mtatsminda 57.82 317 P **P** **22 22 43.8 -1.1**
MTA S **S** **22 30 37.4 -1.9**
DUS Dusheti 58.05 318 P **P** **22 22 45.2 -1.3**
KMBO Kilima Mbogo 58.05 266 *e*P **P** **22 22 48.2 +1.3**
KMBO pmax pmax
comp=Z,36nm,1.3s
KMBO MLR MLR
comp=Z,9μm,22.0s
KMBO Kilima Mbogo 58.05 266 P **P** **22 22 48.2 +1.3**
comp=Z,9.7nm,0.7s,mb4.9,baz=65,slow=9.5,SNR=17
KMBO S **S** **22 30 46.2 +3.5**
comp=Z,0.4nm,0.5s,baz=61,slow=19,SNR=4.8
KMBO LR LR 22 43 25.6
comp=Z,9μm,21.8s,MS5.8,baz=87,slow=31
KMBO Kilima Mbogo 58.05 266 *e*P **P** **22 22 48.2 +1.3**
comp=Z,36nm,1.3s,mb5.2
KMBO LR LR
comp=Z,9μm,22.0s,MS5.8
SVE Sverdlovsk 58.54 339⇑ *i*P **P** **22 22 49.2 -0.5**
SVE *e* 22 23 33.0
SVE *e* 22 25 00.0
SVE *e*S **S** **22 30 46.2 -2.4**
SVE *e*SS SS 22 34 40.0 -3.2
SVE pmax pmax
comp=Z,1μm,1.6s,mb6.7
SVE smax
comp=N,2μm,8.4s
SVE smax
comp=E,2μm,8.4s
SVE MLR MLR
comp=Z,4μm,19.0s,MS5.6
KARS Kars 58.55 315 *e*P **P** **22 22 45.1 -4.9**
AKH Akhalkalaki 58.59 316 P **P** **22 22 50.1 -0.1**
AKH S **S** **22 30 52.2 +2.7**
YSS Yuzh-Sakhalins 58.63 36⇑ *i*P **P** **22 22 49.0 -1.5**
YSS *e* pP 22 22 58.0 -3.7
YSS *e* 22 23 41.0
YSS *e*S **S** **22 30 45.0 -4.9**
YSS *e*SS SS 22 34 51.0 +6.2
YSS pmax pmax
comp=Z,470nm,1.0s,mb6.5
YSS pmax pmax
comp=N,180nm,1.2s
YSS pmax pmax
comp=E,230nm,1.2s
YSS MLR MLR
comp=E,5μm,18.0s,MS5.7
YSS MLR MLR
comp=Z,6μm,18.0s,MS5.7
YSS MLR MLR
comp=N,1μm,16.0s,MS5.7
YSS Yuzh-Sakhalins 58.63 36 *e*P **P** **22 22 49.8 -0.7**
comp=N,491nm,1.0s,mb6.5
YSS LR LR
comp=Z,6μm,22.0s,MS5.7
BTMT Batman 58.81 312 *e*P **P** **22 22 50.5 -1.3**
ZEI Tsey 58.88 318 *e*P **P** **22 22 51.9 -0.3**
ZEI *i* *PP pP 22 23 08.2 +3.8
ZEI *i* 22 25 05.3
ZEI *i* S **S** **22 30 53.9 +0.7**
ZEI pmax pmax
comp=Z,149nm,0.8s,mb6.1
ARU Arti 59.02 337⇑ *i*P **P** **22 22 49.7 -3.3**
ARU *i* 22 23 38.0
ARU *i* S **S** **22 30 54.8 -0.1**
ARU *e* 22 32 31.4
ARU *e*SS SS 22 34 47.7 -3.2
ARU pmax pmax
comp=Z,315nm,1.2s,mb6.2
ARU MLR MLR
comp=N,3μm,18.0s,MS5.4
ARU MLR MLR
comp=Z,4μm,18.0s,MS5.6
ARU MLR MLR
comp=E,900nm,19.0s,MS5.4
ONI Oni 59.10 318 P **P** **22 22 53.3 -0.5**
ONI S **S** **22 30 55.3 -0.8**
VRT Varto 59.11 313 *e*P **P** **22 22 53.8 -0.1**
YUK Yuzh-Kuril'sk 59.19 41⇑ *i*P **P** **22 22 54.0 -0.3**
YUK *e* 22 30 55.0
YUK pmax pmax
comp=Z,5μm,2.3s
YUK pmax pmax
comp=N,4μm,2.0s
YUK pmax pmax
comp=E,2μm,2.0s
YUK pmax pmax
comp=Z,150nm,0.5s,mb6.3
YUK pmax pmax
comp=N,150nm,0.6s
YUK MLR MLR
comp=N,4μm,18.0s,MS5.8
YUK MLR MLR
comp=Z,5μm,18.0s,MS5.7
YUK MLR MLR
comp=E,5μm,17.0s,MS5.8
ERZM Erzurum 59.51 314 *i* P **P** **22 22 57.3 +0.7**
EZM Erzurum 59.51 314 *e*P **P** **22 22 57.0 +0.3**
DIY Diyarbakir 59.65 311 *e*P **P** **22 22 55.2 -2.4**
BINT Bingol 59.78 313 *e*P **P** **22 22 58.1 -0.5**
BCA Borcka 59.90 316 *e*P **P** **22 22 57.5 -1.8**
KIV Kislovodsk 60.18 319 P **P** **22 23 00.2 -1.0**
comp=E,1μm,1.0s,mb6.9,SNR=94
KIV Kislovodsk 60.18 319 *e*P **P** **22 22 59.6 -1.6**
KIV pmax pmax
comp=Z,227nm,1.0s,mb6.2
KIV Kislovodsk 60.18 319 *e*P **P** **22 22 59.6 -1.6**
comp=Z,227nm,1.0s,mb6.2
KIV LR LR
comp=Z,518nm,21.0s,MS4.7
GOF Gofitskoye 60.42 320⇓ *i*P **P** **22 23 01.5 -1.3**
GOF *i* S **S** **22 31 25.0 +12**
GOF pmax pmax
comp=Z,250nm,1.7s,mb6.0
GOF pmax pmax
comp=Z,3μm,7.0s
GOF MLR MLR
comp=Z,3μm,18.0s,MS5.5
URFA Urfa 60.56 311 *e*P **P** **22 23 03.7 -0.2**
EZC Erzincan 60.57 313 *e*P **P** **22 23 05.7 +1.7**
PTK Pertek 60.60 312 *e*P **P** **22 23 03.4 -0.7**
ASF Jabal al Asfar 60.65 304 P **P** **22 23 05.2 +0.7**
comp=Z,23nm,1.0s,mb5.3,baz=343,slow=3.9,SNR=27
ELZG Elazig 60.77 312 *i* P **P** **22 23 04.0 -1.3**
GUMT Gumushane 61.06 314 *e*P **P** **22 23 07.3 +0.1**
MALT Malatya 61.13 311 *e*P **P** **22 23 05.3 -2.4**
MALT Malatya 61.13 311 P **P** **22 23 08.3 +0.6**
MYA Malataya 61.13 311 *e*P **P** **22 23 07.5 -0.3**
GZT Gaziantep 61.49 310 *i* P **P** **22 23 11.7 +1.5**
MKRJ Makawir 61.55 303 P **P** **22 23 11.0 +0.4**
AQBJ Aqaba 61.67 301 P **P** **22 23 11.4 -0.1**
GAZ Gaziantep 61.71 310 *e*P **P** **22 23 11.5 -0.1**
ZFRI Zfri 61.73 302 P **P** **22 23 12.0 +0.2**
MZDA Masada 61.73 303 P **P** **22 23 11.9 +0.1**
KSHT Keshet 61.73 305 P **P** **22 23 12.6 +0.8**
EIL Elat 61.74 301 P **P** **22 23 12.0 +0.1**
EIL Elat 61.74 301⇑ *e*P **P** **22 23 11.7 -0.2**
comp=Z,76nm,0.9s,mb5.8
EIL *e* 22 23 19.8
EIL *e* 22 23 27.8
DRGI Dragot 61.76 303 P **P** **22 23 12.4 +0.3**
MBH Mount Berech 61.80 301 P **P** **22 23 12.6 +0.3**
HMDT Nahal Hemdat 61.80 304 P **P** **22 23 12.6 +0.3**
HRI Mount Hermon 61.86 305 P **P** **22 23 13.3 +0.6**
MMLI Mount Malkishu 61.92 304 P **P** **22 23 13.8 +0.7**
SOKR Solikamsk 61.94 339*c* *i*P **P** **22 23 11.4 -1.5**
SOKR *i* S **S** **22 31 24.1 -8.1**
SOKR *i* SSS SSS 22 38 23.8 +5.3
SOKR pmax pmax
comp=Z,360nm,1.2s,mb6.4
SOKR MLR MLR
comp=Z,4μm,19.0s,MS5.5
SOC Sochi 62.01 317 *i* P **P** **22 23 10.1 -3.4**
SOC *i* S **S** **22 31 27.8 -5.5**
SOC pmax pmax
comp=Z,2μm,3.6s
SOC pmax pmax
comp=Z,300nm,1.2s,mb6.3
SOC pmax pmax
comp=N,38nm,0.9s
SOC pmax pmax
comp=E,49nm,1.1s
BHL Bhannes 62.08 306 *e*P **P** **22 23 14.6 +0.5**
MASH Mash'abbe Sade 62.15 302 P **P** **22 23 14.7 +0.1**
SLTI Sal'it 62.20 304 P **P** **22 23 15.3 +0.3**
RTMM Retamin 62.24 303 P **P** **22 23 15.3 0.0**
HTY Hatay 62.25 308 *e*P **P** **22 23 14.2 -1.0**
COBT Iskenderun 62.26 309 *i* P **P** **22 23 15.5 +0.2**
HNTI Hanita 62.27 305 P **P** **22 23 16.1 +0.6**
OFRI 'Ofer 62.33 304 P **P** **22 23 16.2 +0.4**
HAF Haifa 62.33 305 P **P** **22 23 16.2 +0.4**
KZIT Kziot 62.45 302 P **P** **22 23 16.7 0.0**
YAK Yakutsk 62.58 18*c* *i*P **P** **22 23 14.8 -2.3**
YAK *e* 22 25 31.3
YAK *i* S **S** **22 31 38.8 -1.4**
YAK *e* 22 32 01.7
YAK pmax pmax
comp=Z,124nm,1.0s,mb6.0
YAK pmax pmax
comp=N,41nm,1.1s
YAK pmax pmax
comp=E,31nm,1.1s
YAK pmax pmax
comp=Z,24nm,1.0s,mb5.3
YAK pmax pmax
comp=N,11nm,1.5s
YAK pmax pmax
comp=E,15nm,1.3s
YAK smax
comp=N,36nm,1.2s
YAK smax
comp=Z,7.0nm,1.0s
YAK smax
comp=E,22nm,1.3s
YAK MLR MLR
comp=N,5μm,23.0s,MS5.8
YAK MLR MLR
comp=Z,7μm,23.0s,MS5.8
YAK MLR MLR
comp=E,5μm,19.0s,MS5.8
YAK Yakutsk 62.58 18 *e*P **P** **22 23 14.6 -2.5**
comp=E,203nm,0.6s,mb6.4
YAK LR LR
comp=Z,18μm,19.0s,MS6.2
SVST Sivas 62.67 313 *i* P **P** **22 23 17.4 -0.6**
CEYT Ceyhan 62.79 309 *e*P **P** **22 23 18.4 -0.4**
TOO Toolangi 63.03 137 *e*P **P** **22 23 20.8 +0.3**
comp=Z,39nm,0.8s,mb5.6
TOO Toolangi 63.03 137 *e*P **P** **22 23 20.8 +0.3**
TOO pmax pmax
comp=Z,39nm,0.8s,mb5.6
TOKT Tokat 63.13 313 *e*P **P** **22 23 20.4 -0.8**
BNN Bunyan 63.22 311 *e*P **P** **22 23 21.1 -0.6**
YOZ Yozgat 63.83 312 *e*P **P** **22 23 22.2 -3.5**
AVNT Avonos 63.94 311 *i* P **P** **22 23 25.1 -1.3**
NIG Nigde 63.95 310 *e*P **P** **22 23 26.1 -0.5**
ANN Anapa 63.98 318 *e*P **P** **22 23 26.6 0.0**
ANN pmax pmax
comp=Z,76nm,0.6s,mb5.9
CSS Prodhromos 64.19 307 P **P** **22 23 28.6 +0.5**
IKL Isikli 64.20 308 *e*P **P** **22 23 26.9 -1.2**
MAMC Mammari 64.32 307 P **P** **22 23 28.8 -0.2**
MBAR Mbarara 64.48 267 P **P** **22 23 30.5 +0.2**
MBAR pmax pmax
comp=Z,40nm,1.1s,mb5.4
MBAR Mbarara 64.48 267 *e*P **P** **22 23 30.0 -0.3**
comp=Z,40nm,1.1s,mb5.4
MBAR LR LR
comp=Z,2μm,21.0s,MS5.4
SZAC Souni-Zanaja 64.50 306 P **P** **22 23 29.6 -0.5**
CTKT Corum 64.50 313 *i* P **P** **22 23 28.9 -1.1**
BOYT Boyabat 64.65 314 *i* P **P** **22 23 29.9 -1.1**
CNB Canberra Magne 64.70 133 *e*P **P** **22 23 30.7 -0.7**
comp=Z,50nm,0.7s,mb5.7
BYBT Boyabat 64.76 314 *e*P **P** **22 23 29.2 -2.5**
ALFC Alevga 64.82 307 P **P** **22 23 31.2 -1.0**
comp=Z,3.9nm,0.7s
KAMT Kaman 64.96 311 *e*P **P** **22 23 32.0 -1.1**
BRTR Keskin Array B 65.11 312 P **P** **22 23 32.6 -1.4**
comp=Z,96nm,0.7s,mb6.0,baz=127,slow=6.5,SNR=197
TOS Tosya 65.18 313 *e*P **P** **22 23 33.5 -0.9**
PECR Pechory 65.22 332 *e*P **P** **22 23 32.4 -2.0**
PECR *e* 22 24 10.0
PECR *e*S S 22 32 07.2 -5.7
PECR *e*PS PS 22 32 32.4 -6.9
PECR pmax pmax
comp=Z,2μm,7.0s
PECR pmax pmax
comp=E,2μm,6.0s
PECR smax
comp=E,1μm,4.0s
PECR MLR MLR
comp=Z,3μm,20.0s,MS5.4
PECR MLR MLR
comp=E,2μm,22.0s
PECR MLR MLR
comp=Z,4μm,22.0s
HDMB Hadim 65.31 309 *e*P **P** **22 23 31.9 -3.4**
CANT Cankiri 65.35 313 *e*P **P** **22 23 35.3 -0.2**
BZK Bozkurt 65.45 314 *e*P **P** **22 23 35.0 -1.1**
ELDT Eldivan 65.46 312 *i* P **P** **22 23 34.7 -1.6**
VOR Voronezh 65.58 326 *e*P **P** **22 23 34.5 -2.3**
VOR pmax pmax
comp=Z,700nm,1.5s,mb6.5
KONT Konya--Tatoy 65.63 310 *e*P **P** **22 23 34.5 -2.9**
ANTO Ankara 65.77 312 *e*P **P** **22 23 35.9 -2.3**
ANTO Ankara 65.77 312 P **P** **22 23 37.3 -1.0**
ANTO S S 22 32 17.3 -2.7
BALT Daday 65.78 314 *i* P **P** **22 23 35.6 -2.6**
LOD Lodumlu 65.80 312 *e*P **P** **22 23 37.2 -1.2**
SAFT Safranbolu 66.20 313 *e*P **P** **22 23 40.1 -0.8**
KIZT Kizilcal 66.22 310 *e*P **P** **22 23 39.8 -1.3**
SIM Simferopol' 66.26 317*c* *i*P **P** **22 23 40.3 -0.9**
SIM *e**PP pP 22 23 57.0 +3.3
SIM *e*S S 22 32 25.0 -0.8
SIM *e*PS PS 22 33 04.0 +10
SIM pmax pmax
comp=Z,220nm,1.0s,mb6.1
ANTB Antalya 66.72 308 *e*P **P** **22 23 42.0 -2.3**
BCK Bucak 66.89 309 *e*P **P** **22 23 44.3 -1.0**
TAU Tasmania Unive 66.97 141 P **P** **22 23 47.5 +1.8**
TAU pmax pmax
comp=Z,21nm,0.8s,mb5.2
TAU Tasmania Unive 66.97 141 *e*P **P** **22 23 47.3 +1.6**
comp=Z,21nm,0.8s,mb5.2
TAU LR LR
comp=Z,800nm,21.0s,MS4.9
ISP Isparta 67.03 309 *e*P **P** **22 23 44.2 -2.1**
ISP Isparta 67.03 309 P **P** **22 23 44.9 -1.3**
ISP pmax pmax
comp=Z,780nm,1.5s,mb6.5
MDU Mudurnu 67.09 312 *e*P **P** **22 23 45.5 -1.0**
ESKT Eskisehir 67.14 311 *e*P **P** **22 23 46.7 -0.2**
ELL Elmali 67.28 308 *e*P **P** **22 23 48.1 +0.3**
ALT Altintas 67.60 310 *e*P **P** **22 23 48.4 -1.3**
KHL Karahalli 67.89 309 *e*P **P** **22 23 50.4 -1.2**
FETY Fethiye 67.91 308 *e*P **P** **22 23 50.1 -1.6**
MOS Moscow 68.13 329⇑ *i*P **P** **22 23 51.5 -1.3**
MOS *e* 22 24 18.3
MOS *e*S S 22 32 45.6 -2.6
MOS *e* 22 33 06.1
MOS pmax pmax
comp=Z,2μm,1.9s,mb6.9
MOS pmax pmax
comp=Z,1μm,1.5s,mb6.6
MOS pmax pmax
comp=N,110nm,1.2s
MOS pmax pmax
comp=E,282nm,1.2s
MOS smax
comp=N,2μm,3.0s
MOS MLR MLR
comp=Z,4μm,24.3s,MS5.5
DNZL Cakiroluk 68.14 309 *i* P **P** **22 23 54.5 +1.4**
DENT Denizli 68.16 309 *e*P **P** **22 23 52.5 -0.8**
DALT Dalyan (Mudla) 68.29 308 *e*P **P** **22 23 54.5 +0.4**
HRT Hereke 68.32 312 *e*P **P** **22 23 50.9 -3.3**
OBN Obninsk 68.42 328⇑ *i*P **P** **22 23 50.0 -4.6**
OBN *i* 22 24 06.3
OBN *e* 22 26 31.0
OBN *i* S S 22 32 46.8 -4.8
OBN *i* 22 33 09.6
OBN pmax pmax
comp=Z,719nm,1.6s,mb6.5
OBN MLR MLR
comp=Z,2μm,17.0s,MS5.4
OBN Obninsk 68.42 328⇑ *e*P **P** **22 23 52.1 -2.5**
comp=Z,857nm,1.4s,mb6.6
OBN LR LR
comp=Z,624nm,22.0s,MS4.8
YLV Yalova 68.48 312 *e*P **P** **22 23 54.2 -1.1**
YER Yerkesik 68.63 308 *e*P **P** **22 23 56.0 -0.3**
MANT Manisa 68.67 309 *i* P **P** **22 23 57.3 +0.8**

ORLT Orhaneli 68.73 311 *e*P **P 22 23 54.7 -2.1**
BADT Buyukada 68.73 312 *e*P **P 22 23 55.7 -1.1**
ISK Istanbul-Kandi 68.82 312 *e*P **P 22 23 56.5 -0.9**
DST Dursunbey 68.84 311 *e*P **P 22 23 56.3 -1.2**
MA2 Magadan 69.03 27 *e*P **P 22 23 57.4 -0.9**
MA2 *e* pP 22 24 11.8 +1.0
MA2 *e*S S 22 32 58.4 -0.4
MA2 *e*PS PS 22 33 22.3 -7.8
MA2 *e* 22 33 52.3
MA2 pmax pmax
comp=Z,100nm,1.0s,mb5.7
MA2 pmax pmax
comp=N,30nm,1.1s
MA2 pmax pmax
comp=E,80nm,1.5s
MA2 MLR MLR
comp=Z,12μm,21.0s,MS6.1
MA2 Magadan 69.03 27 *e*P **P 22 23 56.9 -1.4**
comp=Z,247nm,1.1s,mb6.0
MA2 LR LR
comp=Z,4μm,20.0s,MS5.7
AYDN Tasoluk 69.04 308 *i* P **P 22 23 60.0 +1.2**
LSZ Lusaka 69.16 252 P **P 22 24 00.3 +0.5**
LSZ pmax pmax
comp=Z,23nm,0.9s,mb5.1
LSZ Lusaka 69.16 252 *e*P **P 22 23 59.9 +0.1**
comp=Z,24nm,0.9s,mb5.1
LSZ LR LR
comp=Z,12μm,20.0s,MS6.1
AKS Akhisar 69.32 310 *e*P **P 22 23 59.9 -0.5**
BALB Balikesir 69.41 311 *e*P **P 22 24 00.6 -0.4**
BNT Bandirma 69.52 311 *e*P **P 22 24 00.6 -1.0**
EDC Edincik 69.56 311 *e*P **P 22 24 01.1 -0.9**
IZM Izmir 69.65 309 *e*P **P 22 24 02.7 +0.2**
MRMT Marmara Adasi 69.81 311 *e*P **P 22 24 01.9 -1.5**
BLCB Balcova 69.82 309 *e*P **P 22 24 04.4 +0.9**
TIXI Tiksi 70.02 11⇓*i*P **P 22 24 01.1 -3.1**
TIXI *e* 22 26 35.3
TIXI *e*PPP PPP 22 28 26.1 +4.9
TIXI *e*S S 22 33 05.4 -4.8
TIXI pmax pmax
comp=E,46nm,0.7s
TIXI pmax pmax
comp=Z,238nm,0.7s,mb6.2
TIXI pmax pmax
comp=N,34nm,0.6s
TIXI pmax pmax
comp=Z,1μm,1.7s,mb6.5
TIXI MLR MLR
comp=N,4μm,17.0s,MS6.1
TIXI MLR MLR
comp=E,8μm,17.0s,MS6.1
TIXI MLR MLR
comp=Z,10μm,17.0s,MS6.1
TIXI Tiksi 70.02 11⇓*i*P **P 22 24 01.0 -3.2**
TIXI LR LR
comp=Z,12μm,22.0s,MS6.1
PSN Preselentsi 70.03 315 *i* P **P 22 24 04.0 -0.7**
TIRR Tirgusor 70.04 316⇑P **P 22 24 03.3 -1.4**
MFT Murefte 70.08 312 *e*P **P 22 24 02.3 -2.8**
KIS Kishinev 70.38 318 *e*P **P 22 24 06.0 -0.7**
KIS *i* 22 24 13.0
KIS *i* pP 22 24 20.0 +0.8
KIS *i* 22 24 28.0
KIS *e* 22 26 48.0
KIS *e*S S 22 33 11.0 -3.8
KIS *e*PS PS 22 33 37.0 -11
KIS *e* 22 33 46.0
KIS pmax pmax
comp=E,510nm,2.0s
KIS pmax pmax
comp=Z,630nm,2.0s,mb6.2
KIS pmax pmax
comp=Z,1μm,8.0s
KIS pmax pmax
comp=E,1μm,6.0s
KIS pmax pmax
comp=Z,1μm,13.0s
KIS smax
comp=N,1.0nm,2.0s
KIS smax
comp=E,1.0nm,2.0s
KIS MLR MLR
comp=N,1μm,19.0s,MS5.3
KIS MLR MLR
comp=Z,1μm,19.0s,MS5.2
KIS MLR MLR
comp=E,800nm,18.0s,MS5.3
KIS MLR MLR
comp=Z,1μm,19.0s
CFR Carcaliu 70.40 316 P **P 22 24 07.4 +0.5**
CFR Carcaliu 70.40 316⇑*i*P **P 22 24 06.2 -0.8**
CFR Carcaliu 70.40 316⇑*i*P **P 22 24 06.2 -0.7**
HARR Harsova 70.43 316⇑*i*P **P 22 24 06.6 -0.5**
PET Petropavlovsk 70.46 35⇓*i*P **P 22 24 06.0 -1.1**
PET *e**SP sP 22 24 20.4 -3.8
PET *e* 22 24 27.1
PET *e*PPP PPP 22 28 26.5 +0.6
PET *e*S S 22 33 22.3 +6.6
PET *e*PPS PPS 22 34 08.3 +6.3
PET pmax pmax
comp=Z,221nm,0.8s,mb6.1
PET pmax pmax
comp=Z,2μm,8.3s
PET smax
comp=E,700nm,17.8s
PET MLR MLR
comp=Z,6μm,21.0s,MS5.8
PET MLR MLR
comp=Z,6μm,21.0s
PET Petropavlovsk 70.46 35 *e*P **P 22 24 05.9 -1.2**
comp=Z,136nm,0.8s,mb5.9
PET LR LR
comp=Z,6μm,20.0s,MS5.8
PRD Provadia 70.48 314 *i* P **P 22 24 07.0 -0.4**
EDRB Edirne 70.69 313 *e*P **P 22 24 06.4 -2.3**
SANT Santorini 70.74 307 *e*P **P 22 24 07.5 -1.7**
comp=Z,132nm,0.6s,mb6.0
APE Apeiranthos 70.79 307 *e*P **P 22 24 08.8 -0.7**
JMB Yambol 70.92 313 *e*P **P 22 24 11.0 +0.9**
ALN Alexandroupoli 71.03 312 *e*P **P 22 24 09.9 -0.8**
IDI Anoyia 71.05 306 P **P 22 24 10.9 -0.2**
comp=Z,98nm,0.6s,mb5.9,baz=78,slow=7.0,SNR=55
IDI S S 22 33 21.8 -1.1
comp=Z,7.6nm,1.0s,baz=289,slow=19,SNR=3.2
MIR Mirnyy 71.23 181⇓*e*P **P 22 24 20.0 +8.4**
MIR *e*PPP PPP 22 28 33.0 -0.2
MIR *e*S S 22 33 27.0 +2.7
MIR pmax pmax
comp=Z,2μm,14.0s
MIR smax
comp=N,1μm,16.0s
MIR smax
comp=E,1μm,13.0s
MIR MLR MLR
comp=Z,2μm,17.0s,MS5.5
SEY Seymchan 71.30 24 *e*P **P 22 24 12.7 +0.7**
SEY 22 24 30.9
SEY 22 26 56.3
SEY *e*PPP PPP 22 28 28.8 -5.0
SEY 22 34 16.4
SEY pmax pmax
comp=Z,150nm,1.0s,mb5.9
SEY MLR MLR
comp=Z,21μm,20.0s,MS6.4
SEY MLR MLR
comp=N,7μm,18.0s,MS6.0
SEY MLR MLR
comp=E,3μm,17.0s,MS6.0
ISR Istrita 71.49 316⇓*i*P **P 22 24 16.1 +2.7**
ISR Istrita 71.49 316⇑*i*P **P 22 24 13.6 +0.1**
VRI Vrincioaia 71.52 317 P **P 22 24 13.9 +0.3**
VRI Vrincioaia 71.52 317⇑*i*P **P 22 24 13.7 +0.1**
VRI Vrincioaia 71.52 317⇑*i*P **P 22 24 13.8 +0.2**
SZH Strazhica 71.55 314 *e*P **P 22 24 14.5 +0.7**
DIM Dimitrovgrad 71.61 313 *i* P **P 22 24 14.0 -0.2**
KDZ Kurdzhali 71.62 312 *i* P **P 22 24 15.0 +0.7**
GVD Gavdhos 71.65 305 *e*P **P 22 24 13.4 -1.2**
comp=E,70nm,0.8s,mb5.6
BUC1 Bucharest 71.69 315⇓P **P 22 24 14.7 0.0**
CASY Casey 71.83 173 P **P 22 24 13.6 -1.5**
comp=E,43nm,1.0s,mb5.3
CASY LR LR
comp=Z,7μm,20.0s,MS5.9
PVL Pavlikeni 71.97 314 *i* P **P 22 24 17.5 +1.2**

MLR Muntele Rosu 71.98 316 P **P 22 24 16.4 +0.1**
comp=Z,266nm,0.9s,mb6.2,baz=157,slow=3.8,SNR=117
MLR S S 22 33 33.0 -0.3
comp=Z,5.2nm,0.8s,baz=122,slow=21,SNR=10
MLR LR LR 23 04 17.7
comp=Z,708nm,18.1s,MS5.0,baz=72,slow=43
ZIMR 72.03 314⇑P **P 22 24 16.9 +0.3**
RZN Rozhen 72.15 312 *i* P **P 22 24 17.0 -0.4**
PLD Plovdiv 72.23 313 *e*P **P 22 24 18.0 +0.1**
OUR Ouranopolis 72.48 311 *e*P **P 22 24 18.4 -1.0**
PAIG Paliouri 72.65 310 *e*P **P 22 24 19.5 -1.0**
PGB Panagyurishte 72.69 313 *i* P **P 22 24 21.0 +0.3**
MMB Musomiste 72.86 312 *i* P **P 22 24 20.5 -1.2**
SRS Serrai 72.89 311 *e*P **P 22 24 20.4 -1.5**
BURAR Bucovina Array 72.90 318⇓P **P 22 24 21.7 -0.1**
MNK Minsk 72.96 326⇓*e*P **P 22 24 20.0 -2.0**
MNK pmax pmax
comp=Z,2μm,1.0s,mb7.0
SOH Sokhos 73.03 311 *e*P **P 22 24 21.4 -1.3**
PUL Pulkovo 73.30 331 *e*P **P 22 24 22.2 -1.7**
PUL *e*S S 22 33 45.9 -2.2
PUL pmax pmax
comp=Z,337nm,0.6s,mb6.5
PUL pmax pmax
comp=N,373nm,2.0s
PUL pmax pmax
comp=E,700nm,1.7s
PUL pmax pmax
comp=N,85nm,0.5s
PUL pmax pmax
comp=E,490nm,1.1s
PUL smax
comp=N,2μm,1.6s
PUL smax
comp=E,1μm,1.4s
PUL MLR MLR
comp=Z,3μm,20.0s,MS5.6
PUL MLR MLR
comp=N,2μm,27.0s
PUL MLR MLR
comp=E,4μm,22.0s
PUL Pulkovo 73.30 331⇑*i*P **P 22 24 22.0 -1.9**
KKB Krupnik 73.38 312 *i* P **P 22 24 23.5 -1.3**
VTS Vitosha 73.40 313⇑P **P 22 24 24.3 -0.6**
VTS Vitosha 73.40 313 *i* P **P 22 24 24.0 -0.9**
KNT Kendrikon 73.42 311 *e*P **P 22 24 23.6 -1.5**
AGG Agios Georgios 73.56 309 *e*P **P 22 24 23.1 -2.8**
LIT Litokhoron 73.58 310 *e*P **P 22 24 24.0 -1.9**
VAY Valandovo 73.69 312 *i* P **P 22 24 25.6 -1.0**
GRG Griva 73.76 311 *e*P **P 22 24 25.4 -1.6**
IDID Didziasalis 73.79 326 *e*P **P 22 24 26.2 -0.6**
IDID AMPb AMB 22 24 29.2
comp=Z,68nm,1.0s,mb5.5
JOF Joensuu 73.97 335 *e*p **P 22 24 26.1 -1.6**
LVV L'vov 74.12 320 *i* P **P 22 24 27.7 -1.2**
LVV *e* pP 22 24 42.4 +1.0
LVV *e* 22 27 22.0
LVV *e*S S 22 33 54.0 -3.4
IZAR Zarasai 74.17 327 *e*P **P 22 24 28.3 -0.8**
IZAR AMPb AMB 22 24 31.4
comp=Z,60nm,1.0s,mb5.5
ISAL Salakas 74.19 327 *e*P **P 22 24 28.5 -0.7**
ISAL AMPb AMB 22 24 32.4
comp=Z,63nm,1.7s,mb5.3
BARS Barje 74.44 313⇑*i*P **P 22 24 29.4 -1.5**
BOLS Boljevac 74.49 314⇑*i*P **P 22 24 30.0 -1.1**
FNA Florina 74.51 311 *e*P **P 22 24 29.0 -2.4**
NOUC Port Laguerre 74.58 114 *e*P **P 22 24 32.1 -0.1**
SKO Skopje 74.61 312⇑*i*P **P 22 24 31.8 -0.1**
LVZ Lovozero 74.71 340 *e*P **P 22 24 31.1 -0.8**
LVZ *e*S S 22 33 54.9 -8.8
LVZ pmax pmax
comp=Z,1μm,2.3s,mb6.5
LVZ pmax pmax
comp=N,242nm,2.7s
LVZ pmax pmax
comp=E,200nm,1.4s
LVZ pmax pmax
comp=Z,232nm,0.6s,mb6.3
LVZ pmax pmax
comp=N,13nm,0.7s
LVZ pmax pmax
comp=E,39nm,0.5s
LVZ smax
comp=Z,205nm,3.7s
LVZ smax
comp=N,1μm,2.9s
LVZ smax
comp=E,948nm,4.0s
LVZ MLR MLR
comp=Z,4μm,20.0s,MS5.7
LVZ MLR MLR
comp=N,3μm,21.0s,MS5.7
LVZ MLR MLR
comp=E,3μm,23.0s,MS5.7
LVZ Lovozero 74.71 340⇑*i*P **P 22 24 30.1 -1.8**
KWP Kalwaria 74.93 320 *e*P **P 22 24 33.4 -0.2**
comp=E,3μm,2.6s,mb6.8
KWP *e*pP pP 22 24 39.5 -6.6
KWP *e*PcP PcP 22 24 50.0 +2.4
KWP *e*S S 22 34 05.5 -1.0
KWP MLR MLR 22 52 56.3
comp=E,2μm,38.7s,MS5.2
OHR Ohrid 74.98 311 *i* P **P 22 24 32.1 -2.0**
BZS Buzias 74.99 316⇑P **P 22 24 34.2 +0.2**
APA Apatity 74.99 340⇓*i*P **P 22 24 32.1 -1.5**
APA *i* pP 22 24 47.1 +1.0
APA *i* 22 27 21.3
APA *i* S S 22 34 03.0 -3.9
APA *i* 22 34 29.0
APA pmax pmax
comp=Z,290nm,0.7s,mb6.3
APA pmax pmax
comp=Z,2μm,4.0s
KOLS Kolonicke sedl 75.08 319 *i* P **P 22 24 34.7 +0.2**
IGT Igoumenitsa 75.16 309 *e*P **P 22 24 33.3 -1.8**
SUW Suwalki 75.49 325 *e*P **P 22 24 35.6 -1.1**
SUW *e**PP pP 22 24 42.1 -7.1
SUW *e* 22 24 51.3
SUW *e*S S 22 34 09.8 -2.8
SUW *e* 22 34 46.1
SUW Suwalki 75.49 325 *e*P **P 22 24 35.6 -1.1**
comp=Z,1μm,1.1s,mb6.7
SUW *e*pP pP 22 24 42.1 -7.1
SUW *e*PcP PcP 22 24 51.3 +1.4
SUW *e*S S 22 34 09.8 -2.8
SUW *e*SKS SKS 22 34 46.1 +8.2
SUW MLR MLR 22 56 53.2
comp=Z,2μm,28.3s,MS5.3
CRVS Cervenica-Dubn 75.61 319 *e*P **P 22 24 38.8 +1.4**
QSH Qafa e Shtames 75.70 311 *i* p **P 22 24 38.2 +0.1**
TIR Tirane 75.71 311 *i* p **P 22 24 32.5 -5.7**
PVY Plav 75.77 313⇑*i*P **P 22 24 38.2 -0.3**
MAW Mawson 75.77 192 *e*P **P 22 24 40.2 +2.2**
comp=Z,13nm,0.9s,mb4.9
MAW Mawson 75.77 192 *e*P **P 22 24 40.2 +2.2**
MAW pmax pmax
comp=Z,13nm,0.9s
MAW Mawson 75.77 192 P **P 22 24 38.7 +0.7**
comp=Z,5.3nm,0.8s,baz=354,slow=6.3,SNR=5.9
MAW LR LR 22 52 05.6
comp=Z,3μm,21.3s,MS5.6,baz=23,slow=31
FINES FINESS Array B 75.81 332 P **P 22 24 37.4 -0.9**
comp=Z,109nm,0.6s,mb5.9,baz=100,slow=6.5,SNR=410
FINES LR LR 23 03 04.1
comp=Z,2μm,21.4s,MS5.4,baz=264,slow=40
FINES FINESS Array B 75.81 332 P **P 22 24 37.4 -0.9**
FINES LR LR 23 03 04.1
IVA Berane 75.85 313⇑*i*P **P 22 24 39.4 +0.4**
KAF Kangasniemi 75.89 333 *e*p **P 22 24 37.9 -0.9**
comp=Z,112nm,0.6s,mb6.0,baz=103,slow=5.3
KAF Kangasniemi 75.89 333 *e*P **P 22 24 37.9 -0.9**
KAF pmax pmax
comp=Z,112nm,0.6s,mb6.0
DIVS Divcibare 75.93 314⇓*i*P **P 22 24 38.5 -0.9**
NVSS Nova Varos 2 76.07 314 *e*P **P 22 24 39.1 -1.2**
KECS Kecovo 76.18 319 *i* P **P 22 24 40.7 0.0**
KECS *e* pP 22 24 54.0 +0.7
ULC Ulcinj 76.23 312⇑*i*P **P 22 24 40.3 -0.9**
PLE Pljevlja 76.27 313⇑*i*P **P 22 24 41.0 -0.4**
TTG Podgorica 76.27 312⇑*i*P **P 22 24 40.0 -1.4**
PKSN Nyarlorinc 76.37 317⇓*e*P **P 22 24 42.3 +0.4**
NIE Niedzica 76.43 320⇑*e*P **P 22 24 42.4 +0.3**
WAR Warsaw 76.43 323 *e*P **P 22 24 42.2 +0.1**

WAR *e**PP pP 22 24 48.1 -6.5
WAR *e* 22 24 58.1
WAR *e*S S 22 34 27.3 +4.3
WAR *e* 22 34 54.5
WAR pmax pmax
comp=Z,2.0nm,2.0s
WAR MLR MLR
comp=Z,2μm,21.5s,MS5.5
WAR Warsaw 76.43 323 *e*P **P 22 24 42.2 +0.1**
comp=Z,1.9nm,2.0s
WAR *e*pP pP 22 24 48.1 -6.5
WAR *e*PcP PcP 22 24 58.1 +4.1
WAR *e*S S 22 34 27.3 +4.3
WAR *e*SKS SKS 22 34 54.5 +10
WAR LR LR
comp=Z,2μm,21.5s,MS5.5
WAR Warsaw 76.43 323 *e*P **P 22 24 42.2 +0.1**
comp=Z,2μm,2.0s,mb6.7
WAR *e*pP pP 22 24 48.0 -6.6
WAR *e*PcP PcP 22 24 58.1 +4.0
WAR *e*S S 22 34 27.3 +4.3
WAR *e*SKS SKS 22 34 54.5 +10
WAR MLR MLR 23 04 20.8
comp=Z,2μm,21.5s,MS5.5
PSZ Piszkesteto 76.49 318 P **P 22 24 42.4 -0.1**
PSZ pmax pmax
comp=Z,240nm,0.9s,mb6.1
PSZ Piszkesteto 76.49 318⇑*i*P **P 22 24 42.3 -0.2**
NKY Niksic 76.51 313⇑*i*P **P 22 24 41.7 -1.0**
BUM Brajici-Budva 76.53 312⇑*i*P **P 22 24 41.6 -1.2**
UPM Unac-Piva 76.61 313⇑*i*P **P 22 24 42.2 -1.1**
HCY Herceg Novi 76.84 312⇑*i*P **P 22 24 44.6 0.0**
BRY Bratogost 76.85 313⇑*i*P **P 22 24 43.4 -1.3**
PKS7 Kunszentmiklos 76.87 317⇓*e*P **P 22 24 44.9 +0.2**
OJC Ojcow 76.88 320⇑*i*P **P 22 24 44.5 -0.1**
OJC *e*PcP PcP 22 24 56.6 +0.6
OJC *e*S S 22 34 27.3 -0.5
OJC MLR MLR 23 09 00.2
comp=Z,2μm,20.8s,MS5.4
PENC Penc 76.88 318⇑*e*P **P 22 24 45.1 +0.4**
BUD Budapest 77.02 318⇓*e*P **P 22 24 45.4 -0.1**
BUD Budapest 77.02 318 *e*Pd 22 24 45.4
PKSM Moragy 77.13 316⇑*i*P **P 22 24 45.6 -0.6**
LIKS Likavka 77.16 319 *e*P **P 22 24 45.7 -0.6**
PKS8 Sarbogard 77.18 317⇑*e*P **P 22 24 46.2 -0.2**
VYHS Vyhne 77.27 319 *i* P **P 22 24 46.7 -0.2**
VYHS *e*S S 22 34 30.6 -1.5
VYHS *e*S S 22 34 32.4 +0.3
PKS9 Tamasi 77.42 317⇓*e*P **P 22 24 47.6 -0.2**
PKSG 77.43 317⇑*e*P **P 22 24 47.6 -0.2**
SRO2 Moca 77.47 318 *e*P **P 22 24 48.1 +0.1**
SRO2 *e*sP sP 22 25 04.7 -0.6
RHK1 Bakonya 77.51 316⇑*e*P **P 22 24 48.1 -0.2**
SRO Srobarova 77.53 318 *i* P **P 22 24 48.7 +0.3**
SRO *e* 22 24 56.3
KOLL Kolacno 77.56 319 *i* P **P 22 24 48.3 -0.2**
RAC Raciborz 77.88 320 *e*P **P 22 24 50.8 +0.6**
RAC *e*S S 22 34 38.6 -0.1
RAC MLR MLR 23 09 39.9
comp=Z,2μm,20.8s,MS5.3
OKC Ostrava-Krasne 77.88 320⇑*i*P **P 22 24 50.3 +0.1**
OKC *e*S S 22 34 36.7 -2.0
OKC *e*x x 22 35 02.6
OKC AMS AMS 23 09 40.0
comp=Z,1μm,22.8s
TIP Timpagrande 77.89 309 *e*P **P 22 24 50.1 -0.4**
KEV Kevo 77.98 341 P **P 22 24 49.9 -0.5**
SMOL Smolenice 78.20 318 *e*P **P 22 24 51.9 -0.1**
SMOL *e* pP 22 25 06.5 +1.9
DRV Dumont d'Urvil 78.22 163 P pP 22 25 01.0 -3.3
DRV S S 22 34 44.0 +2.0
DRV SS SS 22 39 46.0 -1.5
DRV L 22 45 00.0
MORC Moravsky Berou 78.26 320 P **P 22 24 52.5 +0.2**
MORC pmax pmax
comp=Z,270nm,1.0s,mb6.1
MORC Moravsky Berou 78.26 320 *e*P **P 22 24 52.3 0.0**
comp=Z,265nm,1.0s,mb6.1
ZST Bratislava 78.38 318 *i* P **P 22 24 53.4 +0.4**
ZST *e*pP pP 22 25 07.3 +1.7
ZST *e*S S 22 34 41.1 -3.0
ARCES ARCESS Array B 78.41 340 P **P 22 24 52.5 -0.3**
comp=Z,158nm,0.6s,mb6.1,baz=92,slow=5.6,SNR=636
ARCES S S 22 34 44.4 +0.3
comp=Z,6.8nm,0.9s,baz=291,slow=17,SNR=4.8
ARCES LR LR 23 02 51.6
comp=Z,4μm,22.0s,MS5.7,baz=111,slow=38
ARCES ARCESS Array B 78.41 340 P **P 22 24 52.5 -0.3**
ARCES S S 22 34 44.4 +0.3
ARCES LR LR 23 02 51.6
BILL Bilibino 78.56 21⇑*i*P **P 22 24 52.1 -1.5**
BILL *e* pP 22 25 06.0 -0.2
BILL pmax pmax
comp=Z,106nm,0.8s,mb5.8
BILL Bilibino 78.56 21 *e*P **P 22 24 51.8 -1.8**
comp=Z,68nm,0.6s,mb5.8
BILL LR LR
comp=Z,11μm,19.0s,MS6.2
SOP Sopron 78.70 318⇑*e*P **P 22 24 54.7 0.0**
VRAC Vranov 78.83 319 P **P 22 24 55.8 +0.4**
comp=Z,45nm,0.6s,mb5.5,baz=95,slow=7.0,SNR=33
GKP Gorka Klasztor 78.86 323 *e*P **P 22 24 55.0 -0.5**
comp=Z,1.4nm,2.2s
GKP *e*pP pP 22 25 01.3 -6.8
GKP *e*S S 22 34 47.1 -1.9
GKP *e*SKS SKS 22 35 11.9 +10
GKP LR LR
comp=Z,2μm,23.1s
GKP Gorka Klasztor 78.86 323 *e*P **P 22 24 55.0 -0.5**
comp=Z,1μm,2.2s,mb6.5
GKP *e*pP pP 22 25 01.3 -6.8
GKP *e*S S 22 34 47.1 -1.9
GKP *e*SKS SKS 22 35 11.9 +10
GKP MLR MLR 23 04 52.1
comp=Z,2μm,23.1s,MS5.4
VKA Vienna 78.91 318⇑*i*P **P 22 24 55.8 -0.1**
comp=Z,2μm,2.5s,mb6.7
VKA Vienna 78.91 318⇑*i*P **P 22 24 55.8 -0.1**
VKA pmax pmax
comp=Z,2μm,2.5s,mb6.7
FX1 Attu Island--F 78.98 37 LR LR 23 02 49.5
comp=Z,79nm,19.0s,baz=282,slow=38
KTK1 Kautokeino 79.04 340 *e*P **P 22 24 56.5 +0.3**
comp=Z,430nm,1.1s,mb6.3
KTK1 Kautokeino 79.04 340⇑*i*P **P 22 24 56.6 +0.4**
KTK1 AMb AMB 22 24 59.1
comp=Z,430nm,1.1s,mb6.3
DPC Dobruska-Polom 79.11 320⇑*i*P **P 22 24 57.6 +0.7**
DPC *e*x x 22 25 14.0
DPC *e*S S 22 34 51.8 +0.1
DPC *e*x x 22 35 13.8
DPC AMS AMS 23 08 40.0
comp=Z,2μm,22.3s
KSP Ksiaz 79.17 321⇑*e*P **P 22 24 57.5 +0.2**
KSP *e**PP pP 22 25 04.4 -5.5
KSP *e* pP 22 25 11.9 +2.0
KSP *e*S S 22 34 51.0 -1.4
KSP MLR MLR
comp=Z,5μm,20.1s,MS5.8
KSP Ksiaz 79.17 321 *e*P **P 22 24 57.6 +0.4**
comp=Z,2μm,2.1s,mb6.7
KSP *e*pP pP 22 25 04.7 -5.2
KSP *e*PcP PcP 22 25 13.8 +8.0
KSP *e*S S 22 34 52.3 -0.1
KSP *e*SKS SKS 22 35 13.5 +9.0
KSP MLR MLR 23 06 23.7
comp=Z,4μm,20.1s,MS5.8
UPC Upice 79.32 320⇑*i*P **P 22 24 58.5 +0.4**
UPC *e*x x 22 25 14.8
UPC *e*S S 22 34 55.3 +1.4
ARSA Arzberg 79.36 317⇑*i*P **P 22 24 58.5 +0.1**
comp=Z,2μm,2.5s,mb6.5
SUR Sutherland 79.38 236 *e*P **P 22 25 01.4 +2.5**
comp=Z,78nm,1.2s,mb5.5
SUR LR LR
comp=Z,884nm,19.0s,MS5.1
SMY Shemya 79.53 37 P **P 22 24 58.9 -0.3**
SMY pmax pmax
comp=Z,490nm,0.8s,mb6.5
SMY Shemya 79.53 37 *e*P **P 22 24 58.3 -0.9**
comp=Z,494nm,0.8s,mb6.5
SMY LR LR
comp=Z,6μm,22.0s,MS5.9

PERS Pernice 79.59 316⇑ eP P 22 24 59.8 +0.2
NVLJ Novalja 79.63 314 i P P 22 24 58.6 -1.3
CII Carovilli 79.90 311 eP P 22 25 01.4 0.0
comp=Z,492nm,2.2s,mb6.0
LJU Ljubljana 79.96 316⇑ eP P 22 25 01.9 +0.2
LJU eS S 22 34 58.6 -2.2
LJU pmax pmax
comp=Z,2µm,2.0s,mb6.7
LJU Ljubljana 79.96 316⇑ eP P 22 25 01.9 +0.3
comp=Z,2µm,2.0s,mb6.7
LJU eS S 22 34 58.6 -2.2
OBKA Obir 79.98 316⇑ iP P 22 25 02.1 +0.4
comp=Z,2µm,2.8s,mb6.6
KNDS Knezji Dol 80.04 315⇑ eP P 22 25 01.3 -0.7
KNDS e 22 25 24.6
PRU Pruhonice 80.22 320⇑ iP P 22 25 03.1 +0.2
PRU eS S 22 35 03.0 -0.4
PRU MLR MLR
comp=Z,1µm,18.8s,MS5.3
PRU Pruhonice 80.22 320⇑ iP P 22 25 03.1 +0.2
PRU eS S 22 35 03.0 -0.4
PRU ex x 22 35 29.4
PRU AMS AMS 23 06 50.0
comp=Z,1µm,18.8s
PVCC Panska Ves 80.24 320⇑ iP P 22 25 03.4 +0.4
PVCC e 22 25 19.2
PVCC eS S 22 35 03.7 +0.1
PVCC MLR MLR
comp=Z,2µm,19.9s,MS5.5
PVCC Panska Ves 80.24 320⇑ iP P 22 25 03.4 +0.4
PVCC epP pP 22 25 19.2 +3.5
PVCC eS S 22 35 03.7 +0.1
PVCC ex x 22 35 26.0
PVCC AMS AMS 23 06 50.0
comp=Z,2µm,19.9s
MOA Molln 80.25 318⇑ iP P 22 25 02.8 -0.4
comp=Z,1µm,3.0s
JAVS Javornik 80.28 316⇑ eP P 22 25 02.9 -0.4
comp=Z,2µm,2.9s,mb6.4
VOY Vojsko 80.40 316⇑ eP P 22 25 03.6 -0.4
BSD Bornholm Skovb 80.41 325⇑ iP P 22 25 04.3 +0.5
comp=Z,174nm,0.7s,mb6.1
BSD i S S 22 35 02.1 -3.2
comp=Z,1µm,20.0s
CADS Cadrg 80.52 316 eP P 22 25 04.3 -0.3
AQU L'Aquila 80.60 312 P P 22 25 04.9 -0.2
AQU pmax pmax
comp=Z,120nm,0.7s,mb5.9
AQU L'Aquila 80.60 312 eP P 22 25 04.7 -0.4
comp=Z,120nm,0.7s,mb5.9
BRG Berggiesshubel 80.66 321⇑ iP P 22 25 05.4 +0.2
BRG i 22 25 21.2
BRG i 22 28 05.8
BRG i S S 22 35 09.2 +1.2
BRG eSS SS 22 40 19.0 -5.4
BRG pmax pmax
comp=Z,195nm,1.1s,mb6.0
BRG MLR MLR
comp=Z,3µm,19.3s,MS5.6
BRG Berggiesshubel 80.66 321⇑ iP P 22 25 05.4 +0.2
comp=Z,195nm,1.1s,mb6.0
BRG i 22 25 21.2
BRG i PP PP 22 28 05.8 -5.3
BRG i S S 22 35 09.2 +1.2
BRG eSS SS 22 40 19.0 -5.4
BRG eP'P' 22 52 06.5
BRG LR LR
comp=Z,3µm,19.3s,MS5.6
TRO Tromso 80.67 340 eP P 22 25 03.2 -1.7
TRO e 22 35 03.1
TRO LR LR
comp=Z,2380µm,17.2s
TRO Tromso 80.67 340 eP P 22 25 03.2 -1.7
TRO eS S 22 35 01.7 -6.0
TRO AMS AMS 23 04 24.6
comp=Z,2µm,17.2s,MS5.6
GEC2 GERESS Array S 80.69 319 eP P 22 25 05.6 +0.2
GEC2 pmax pmax
comp=Z,352nm,1.0s,mb6.2
GEC2 GERESS Array S 80.69 319 eP P 22 25 05.6 +0.2
comp=Z,352nm,1.0s,mb6.2
GERES GERESS Array B 80.69 319 P P 22 25 05.6 +0.2
comp=Z,116nm,0.6s,mb6.0,baz=102,slow=4.7,SNR=247
GERES S S 22 35 10.9 +2.6
comp=Z,3.2nm,1.1s,baz=83,slow=11,SNR=11
KHC Kasperske Hory 80.79 319⇑ iP P 22 25 05.8 -0.2
KHC e 22 25 23.0
KHC eS S 22 35 10.5 +1.2
KHC MLR MLR
comp=Z,1µm,20.3s,MS5.3
KHC Kasperske Hory 80.79 319⇑ iP P 22 25 05.8 -0.2
KHC e 22 25 23.0
KHC e 22 25 33.5
KHC eS S 22 35 10.5 +1.2
KHC e 22 35 30.9
KHC LR LR
comp=Z,1µm,20.3s,MS5.3
KHC Kasperske Hory 80.79 319⇑ iP P 22 25 05.8 -0.2
KHC ex x 22 25 23.0
KHC x x 22 25 33.5
KHC eS S 22 35 10.5 +1.2
KHC ex x 22 35 30.9
KHC AMS AMS 23 11 30.0
comp=Z,1µm,20.3s
KBA Koelnbreinsper 80.83 317⇑ iP P 22 25 05.8 -0.5
comp=Z,1µm,3.3s
KBA Koelnbreinsper 80.83 317⇑ iP P 22 25 05.8 -0.5
KBA pmax pmax
comp=Z,1µm,3.3s
RUE Ruedersdorf 80.87 322 eP P 22 25 05.8 -0.5
comp=Z,461nm,0.9s,mb6.4
WET Wettzell 81.25 319 eP P 22 25 08.5 +0.1
WET pmax pmax
comp=Z,210nm,1.1s,mb6.0
WET Wettzell 81.25 319 eP P 22 25 08.5 +0.1
comp=Z,210nm,1.1s,mb6.2
CLL Collm 81.28 321⇑ iP P 22 25 08.1 -0.4
CLL i pP 22 25 23.6 +2.4
CLL eS S 22 35 11.0 -3.3
CLL pmax pmax
comp=Z,139nm,1.1s,mb5.8
CLL MLR MLR
comp=Z,2µm,18.5s,MS5.6
CLL Collm 81.28 321⇑ iP P 22 25 08.1 -0.4
comp=Z,139nm,1.1s,mb5.8
CLL i pP 22 25 23.6 +2.4
CLL eS S 22 35 11.0 -3.3
CLL LR LR
comp=Z,2µm,18.5s,MS5.6
CLL Collm 81.28 321 ⇑P P 22 25 08.1 -0.4
comp=Z,logA/T=2.1,mb5.8
CLL i *SP sP 22 25 23.6 -2.2
CLL e 22 25 34.0
CLL eS S 22 35 11.0 -3.3
CLL e*SS 22 35 36.0
CLL ePPS PPS 22 36 11.0 -18
MSZ Milford Sound 81.33 136 eP P 22 25 09.0 +0.1
NKC Novy Kostel 81.58 320⇑ iP P 22 25 10.4 +0.3
NKC epP pP 22 25 26.7 +4.0
NKC eS S 22 35 19.3 +1.9
NKC ex x 22 35 43.9
NKC AMS AMS 23 07 40.0
comp=Z,2µm,19.5s
BJO Bjornoya 81.60 345 eP P 22 25 09.7 -0.1
BJO AMS AMS 23 06 33.5
comp=Z,2µm,19.0s,MS5.5
BJO1 Bjornoya 81.65 345 eP P 22 25 09.7 -0.3
BJO1 LR LR
comp=Z,1796µm,19.0s
JCZ Jackson Bay 81.75 136 eP P 22 25 10.6 -0.5
MOR8 Moi Rana 81.81 336 eP P 22 25 09.7 -1.2
comp=Z,286nm,1.3s,mb6.0
MOR8 Moi Rana 81.81 336⇑ iP P 22 25 09.6 -1.3
MOR8 AMb AMB 22 25 12.4
comp=Z,286nm,1.3s,mb6.0
COP Copenhagen 81.87 325⇑ iP P 22 25 13.0 +1.5
COP i S S 22 35 19.9 -0.4
COP pmax pmax
comp=Z,54nm,0.6s,mb5.7
COP MLR MLR
comp=Z,800nm,20.0s,MS5.1
COP Copenhagen 81.87 325⇑ iP P 22 25 13.0 +1.5
comp=Z,54nm,0.6s,mb5.7
COP i S S 22 35 19.9 -0.4
COP LR LR
comp=Z,800nm,20.0s,MS5.1
COP Copenhagen 81.87 325⇑ iP P 22 25 13.0 +1.5
comp=Z,54nm,0.6s,mb5.7
COP i S S 22 35 19.9 -0.4
COP LR LR
comp=Z,800nm,20.0s
WTTA Wattenberg 82.01 317⇑ iP P 22 25 11.9 -0.5
comp=Z,1µm,2.6s,mb6.4
WTTA Wattenberg 82.01 317⇑ iP P 22 25 11.9 -0.5
WTTA pmax pmax
comp=Z,1µm,2.6s,mb6.4
WATA Walderalm 82.05 317⇑ iP P 22 25 11.8 -0.8
comp=Z,160nm,1.3s,mb5.8
WATA Walderalm 82.05 317⇑ iP P 22 25 11.8 -0.8
WATA pmax pmax
comp=Z,160nm,1.3s,mb5.8
MOX Moxa 82.12 320 eP P 22 25 12.8 -0.1
MOX pmax pmax
comp=Z,427nm,2.0s,mb6.0
MOX MLR MLR
comp=Z,2µm,18.0s,MS5.4
MOX Moxa 82.12 320 eP P 22 25 12.8 -0.1
comp=Z,427nm,2.0s,mb6.0
MOX LR LR
comp=Z,2µm,18.0s,MS5.4
MOX Moxa 82.12 320 i P P 22 25 12.8 -0.1
comp=Z,logA/T=2.3,mb6.0
MOX pP pP 22 25 30.0 +4.4
MOX PP PP 22 28 24.0 +0.8
MOX S S 22 35 24.0 +1.0
MOX L 23 09 36.0
FUR Furstenfeldbru 82.27 318 eP P 22 25 13.3 -0.4
FUR pmax pmax
comp=Z,204nm,1.2s,mb5.9
FUR Furstenfeldbru 82.27 318 eP P 22 25 13.3 -0.4
comp=Z,204nm,1.2s,mb5.9
SQTA Sankt Quirin 82.30 317⇑ iP P 22 25 13.4 -0.4
comp=Z,196nm,1.3s,mb5.9
SQTA Sankt Quirin 82.30 317⇑ iP P 22 25 13.4 -0.4
SQTA pmax pmax
comp=Z,196nm,1.3s,mb5.9
GRA1 Grafenberg Arr 82.35 319 eP P 22 25 14.5 +0.5
comp=Z,309nm,1.1s,mb6.2
GRA1 e 22 25 16.2
GRA1 eS S 22 35 26.4 +1.1
GRA1 LR LR
comp=Z,2µm,20.2s,MS5.5
GRF Grafenberg Arr 82.35 319 eP P 22 25 14.5 +0.5
GRF eS S 22 35 26.4 +1.1
GRF pmax pmax
comp=Z,309nm,1.1s,mb6.2
GRF MLR MLR
comp=Z,2µm,20.2s,MS5.5
GRF Grafenberg Arr 82.35 319 eP P 22 25 14.5 +0.5
GRF eS S 22 35 26.4 +1.1
GRF pmax pmax
comp=Z,309nm,1.1s,mb6.2
GRF MLR MLR
comp=Z,2µm,20.2s,MS5.5
GRF Grafenberg Arr 82.35 319 eP P 22 25 14.5 +0.5
comp=Z,309nm,1.1s,mb6.2
GRF e 22 25 16.2
GRF eS S 22 35 26.4 +1.1
GRF LR LR
comp=Z,2µm,20.2s,MS5.5
MOTA Moosalm 82.37 317⇑ iP P 22 25 13.6 -0.6
comp=Z,104nm,1.1s,mb5.7
MOTA Moosalm 82.37 317⇑ iP P 22 25 13.6 -0.6
MOTA pmax pmax
comp=Z,104nm,1.1s,mb5.7
LOF Lofoten 82.37 338 eP P 22 25 14.8 +1.0
comp=Z,267nm,1.3s,mb6.0
LOF Lofoten 82.37 338 eP P 22 25 14.8 +1.0
LOF AMb AMB 22 25 17.6
comp=Z,267nm,1.3s,mb6.0
NSS Namsos 82.68 334 eP P 22 25 14.0 -1.5
NSS AMS AMS 23 06 11.9
comp=Z,2µm,16.7s,MS5.5
MAIM 82.76 314 P P 22 25 15.5 -0.8
SYO Syowa Base 82.80 197 ⇓P P 22 25 18.6 +2.6
SYO Syowa Base 82.80 197 ⇓pP pP 22 25 27.6 -1.1
NB2 NORSAR Subarra 82.81 331 P P 22 25 15.5 -0.7
comp=Z,182nm,1.2s,mb6.0,baz=97,slow=5.0
NB2 NORSAR Subarra 82.81 331 P P 22 25 15.5 -0.7
baz=96,slow=5.1
NOA NORSAR Array B 82.81 331 P P 22 25 15.4 -0.8
comp=Z,34nm,0.7s,mb5.5,baz=95,slow=4.9,SNR=67
NOA LR LR 23 07 57.7
comp=Z,2µm,18.0s,MS5.4,baz=80,slow=40
SARO Sassorosso 82.82 314 P P 22 25 16.0 -0.6
VLC Villacollemand 82.83 314 eP P 22 25 15.8 -0.9
comp=Z,25nm,0.6s,mb5.4
FUORN Ofenpass 82.94 316⇑ iP P 22 25 17.8 +0.7
VALM 82.94 314 P P 22 25 17.1 0.0
CLZ Clausthal 82.94 322 eP P 22 25 17.1 +0.1
comp=Z,212nm,1.0s,mb6.1
HSP Hornsund 82.95 347 eP P 22 25 16.9 +0.2
HDH Heidenheim 82.99 318⇑ eP P 22 25 16.9 -0.5
OSL Oslo 83.00 330 eP P 22 25 17.1 -0.1
comp=Z,50nm,1.4s,mb5.3
OSL Oslo 83.00 330 eP P 22 25 17.1 -0.1
OSL AMb AMB 22 25 20.6
comp=Z,50nm,1.4s,mb5.4
VINC Vinca 83.00 314 P P 22 25 16.6 -0.9
BSEG Bad Segeberg 83.02 324 eP P 22 25 17.6 +0.2
UBR Uberruh 83.05 317⇑ eP P 22 25 17.4 -0.3
BACM 83.06 314 P P 22 25 18.2 +0.4
GRAM 83.07 314 P P 22 25 18.3 +0.5
BERNI Berninapass 83.10 316⇑ iP P 22 25 18.8 +0.9
DAVOX Davos 83.20 316 P P 22 25 19.0 +0.6
comp=Z,302nm,0.6s,mb6.5,baz=125,slow=5.0,SNR=418
DAVOX Davos 83.20 316⇑ iP P 22 25 19.0 +0.6
DAVA Damuels 83.20 317⇑ iP P 22 25 18.6 +0.2
comp=Z,2µm,2.6s,mb6.6
CODM 83.22 314 P P 22 25 18.6 0.0
TRON Trondheim 83.29 333 eP P 22 25 19.9 +1.4
SIND Sindeldorf 83.39 319⇑ eP P 22 25 19.5 +0.1
LIENZ Alp Oberkamor 83.47 317⇑ iP P 22 25 20.0 +0.2
VDL Val di Lei 83.48 316⇑ iP P 22 25 20.1 +0.2
PLONS Plons 83.54 317⇑ iP P 22 25 20.4 +0.2
KONO Kongsberg 83.56 329 PFAKE 22 25 30.0 +10
KONO LR LR
comp=Z,3µm,20.0s,MS5.6
BUCH Bad Urach 83.56 318⇑ eP P 22 25 20.1 -0.2
STU Stuttgart 83.67 318 P P 22 25 20.7 -0.1
STU pmax pmax
comp=Z,77nm,0.7s,mb5.9
STU Stuttgart 83.67 318 eP P 22 25 20.4 -0.4
comp=Z,77nm,0.7s,mb5.9
QRZ Quartz Range 83.71 132 P P 22 25 21.4 +0.2
GUT Gutenstein 83.72 318⇑ eP P 22 25 20.9 -0.2
MUD Monsted U'grnd 83.72 326 i P P 22 25 22.5 +1.6
MUD i S S 22 35 38.8 -0.2
MUD pmax pmax
comp=Z,87nm,0.8s,mb5.9
MUD Monsted U'grnd 83.72 326 i P P 22 25 22.5 +1.6
comp=Z,87nm,0.8s,mb5.9
MUD i S S 22 35 38.8 -0.2
MUD Monsted U'grnd 83.72 326 i P P 22 25 22.5 +1.6
comp=Z,87nm,0.8s,mb5.9
MUD Monsted U'grnd 83.72 326 i S S 22 35 38.8 -0.2
comp=Z,910nm,18.0s
MUGIO Muggio 83.78 316⇑ iP P 22 25 20.6 -0.9
LLS Linth-Limmern 83.80 316 eP P 22 25 21.7 +0.2
WEIN Weingarten 83.81 317⇑ iP P 22 25 21.5 -0.1
PGF Pioggiola 83.86 312 eP P 22 25 21.9 0.0
comp=Z,113nm,0.8s,mb5.8
PGF Pioggiola 83.86 312 eP P 22 25 21.9 0.0
PGF pmax pmax
comp=Z,56nm,0.8s,mb5.8
WILA Wila 83.86 317⇑ iP P 22 25 21.9 +0.1
DOMB Dombas 83.88 332 eP P 22 25 21.4 -0.2
comp=Z,162nm,1.7s,mb5.9
DOMB Dombas 83.88 332 eP P 22 25 21.4 -0.2
DOMB AMb AMB 22 25 25.4
comp=Z,162nm,1.7s,mb5.9
STEIN Stein am Rhein 83.89 317⇑ iP P 22 25 21.9 0.0
TOD Tromm 83.92 319 eP P 22 25 22.2 +0.2
TOD Tromm 83.92 319 eP P 22 25 22.0 0.0
LBG Lerchenberg 83.93 318 eP P 22 25 22.1 0.0
SPAK Spaichingen 83.94 318⇑ eP P 22 25 22.2 0.0
SWS Schriesheim 83.99 319 eP P 22 25 22.4 0.0
TRULL Truellikon 84.02 317⇑ iP P 22 25 22.1 -0.5
MUO Muotathal 84.05 317⇑ iP P 22 25 23.3 +0.5
PCP Pian Castagno 84.15 314 P P 22 25 23.8 +0.4
BNALP Bannalp 84.20 316⇑ iP P 22 25 23.7 +0.2
BFO Black Forest 84.24 318 eP P 22 25 23.2 -0.5
BFO pmax pmax
comp=Z,114nm,1.1s,mb5.9
BFO Black Forest 84.24 318 eP P 22 25 23.2 -0.5
comp=Z,114nm,1.1s,mb5.9
HASLI Hasliberg 84.39 316⇑ iP P 22 25 24.5 0.0
KTD Kalmit 84.39 319 eP P 22 25 24.4 0.0
SULZ Sulz-Cheisache 84.40 317⇑ iP P 22 25 24.2 -0.3
FIN Finale Ligure 84.40 314 P P 22 25 24.6 0.0
FELD Feldberg 84.47 318 eP P 22 25 24.7 -0.2
KIZ Kirchzarten 84.53 318⇑ eP P 22 25 24.7 -0.4
ORX Oropa 84.53 315 P P 22 25 24.3 -0.9
MMK Mattmark 84.53 316 eP P 22 25 25.3 +0.1
LANF Langenberg 84.58 319 eP P 22 25 25.7 +0.3
IMI Imperia 84.64 314 P P 22 25 26.4 +0.6
ROB Roburent 84.64 314 P P 22 25 26.2 +0.4
BALST Balsthal 84.69 317 eP P 22 25 25.8 -0.2
TRAV 84.70 315 P P 22 25 24.6 -1.5
ABH Alteburg 84.73 320 eP P 22 25 26.5 +0.4
ABH Alteburg 84.73 320⇑ eP P 22 25 26.4 +0.3
MONE Monesi 84.73 314 P P 22 25 25.8 -0.4
LIBD Limburg 84.73 318 eP P 22 25 26.3 +0.1
LIBD Limburg 84.73 318 eP P 22 25 26.1 -0.1
LKBD Leukerbad 84.76 316⇑ iP P 22 25 26.7 +0.4
NEGI Negi 84.77 313 P P 22 25 26.1 -0.4
BBS Basel-Blauen 84.81 317 eP P 22 25 23.8 -2.8
BBS Basel-Blauen 84.81 317 eP P 22 25 26.3 -0.3
KIWB Kanaga Island 84.86 38 eP P 22 25 25.9 -0.8
SAOF Saorge 84.88 314 eP P 22 25 27.2 +0.2
WLS Welschbruch 84.89 318 eP P 22 25 26.8 -0.2
DIX Grande Dixence 84.92 316⇑ iP P 22 25 28.1 +1.0
CDF Champ du Feu 84.94 318 eP P 22 25 26.9 -0.3
comp=Z,62nm,0.6s,mb5.6
CDF Champ du Feu 84.94 318 eP P 22 25 26.9 -0.3
CDF pmax pmax
comp=Z,31nm,0.6s,mb5.6
ENR Entracque 84.97 314 P P 22 25 27.8 +0.4
SBF Sospel 84.97 313 eP P 22 25 27.6 +0.1
comp=Z,372nm,0.7s,mb6.3
SBF Sospel 84.97 313 eP P 22 25 27.6 +0.1
SBF pmax pmax
comp=Z,186nm,0.7s,mb6.3
AUTN L'Aution 84.97 314 eP P 22 25 29.0 +1.5
AUTN L'Aution 84.97 314 eP P 22 25 29.1 +1.6
SENIN Lac Senin 84.99 316⇑ iP P 22 25 27.9 +0.4
REVF Revere 85.02 313 eP P 22 25 27.1 -0.6
REVF Revere 85.02 313 eP P 22 25 29.5 +1.8
ECH Echery 85.03 318 eP P 22 25 27.0 -0.6
STV Sta Anna Valdi 85.04 314 P P 22 25 27.3 -0.5
RUP Ruppelstein 85.05 319 eP P 22 25 28.1 +0.4
RUP Ruppelstein 85.05 319 eP P 22 25 28.0 +0.3
RSP Reno Superiore 85.05 315 P P 22 25 27.8 0.0
MOF Molkenrain 85.06 317 eP P 22 25 27.8 0.0
BHB Bricherasio 85.06 314 P P 22 25 26.2 -1.7
TOUF Mont Tournerai 85.10 314 eP P 22 25 28.6 +0.5
LSD Ceresole Reale 85.11 315 P P 22 25 28.3 +0.2
WTSB Winterswijk 85.15 322 eP P 22 25 28.7 +0.6
comp=Z,204nm,0.4s,mb6.6
BLS5 Blasjo 85.16 329 eP P 22 25 29.9 +1.9
MVIF Mont Vial 85.17 314 eP P 22 25 28.9 +0.4
PZZ Prazzo 85.19 314 P P 22 25 28.1 -0.4
FENE Fenestrelle 85.20 315 P P 22 25 28.4 -0.2
TORNY Torny 85.21 316⇑ iP P 22 25 28.9 +0.3
WIT Witteveen 85.21 322 eP P 22 25 30.1 +1.7
comp=Z,858nm,0.9s,mb6.9
EMV Vieux Emosson 85.27 316⇑ iP P 22 25 29.4 +0.5
LOMF Lomont 85.28 317 eP P 22 25 28.7 -0.2
OG22 Abries 85.29 314 eP P 22 25 28.7 -0.3
CALN Calern 85.37 313 eP P 22 25 29.8 +0.4
SURF Saint Ours 85.39 314 eP P 22 25 30.1 +0.6
RRL Cesana Torines 85.40 315 P P 22 25 28.9 -0.6
LPG La Plagne 85.40 315 eP P 22 25 30.1 +0.6
comp=Z,241nm,0.7s,mb6.1
LPG La Plagne 85.40 315 eP P 22 25 30.1 +0.6
LPG pmax pmax
comp=Z,121nm,0.7s,mb6.1
MBDF Montbardon 85.41 314 eP P 22 25 29.2 -0.4
comp=Z,88nm,0.6s,mb5.7
MBDF Montbardon 85.41 314 eP P 22 25 29.2 -0.4
MBDF pmax pmax
comp=Z,44nm,0.6s,mb5.8
OG01 Vacheresse 85.41 316 eP P 22 25 28.2 -1.4
BNI Bardonecchia 85.47 315 P P 22 25 29.5 -0.4
BNI pmax pmax
comp=Z,98nm,0.9s,mb5.9
BNI Bardonecchia 85.47 315 eP P 22 25 29.2 -0.7
comp=Z,98nm,0.8s,mb6.0
RSL Roselend 85.48 315 eP P 22 25 30.0 +0.1
GSTR Great Sitkin T 85.53 38 eP P 22 25 29.4 -0.6
HAU Haudompre 85.58 318 eP P 22 25 30.2 -0.1
comp=Z,194nm,0.6s,mb6.2
HAU eR
comp=Z,690nm,22.2s
HAU Haudompre 85.58 318 eP P 22 25 30.2 -0.1
HAU pmax pmax
comp=Z,97nm,0.6s,mb6.2
HAU MLR MLR
comp=Z,690nm,22.3s,MS5.0
MIDW Midway 85.60 62 eP P 22 25 31.8 +0.9
comp=Z,110nm,0.7s,mb6.2
MIDW LR LR
comp=Z,4µm,19.0s,MS5.8
WLF Walferdange 85.64 319 P P 22 25 31.2 +0.6
WLF pmax pmax
comp=Z,120nm,1.1s,mb6.0
WLF Walferdange 85.64 319 eP P 22 25 31.0 +0.4
comp=Z,120nm,1.1s,mb6.0
BER Bergen 85.69 330 eP P 22 25 31.7 +1.1
comp=Z,1µm,1.6s,mb6.9
BER Bergen 85.69 330 eP P 22 25 31.7 +1.1
BER AMb AMB 22 25 35.1
comp=Z,1µm,1.6s,mb6.9
HGN Heimansgroeve 85.74 320 eP P 22 25 31.9 +0.8
comp=Z,99nm,2.4s,mb5.6
HGN ePP PP 22 28 47.5 -4.6
HGN eS S 22 36 00.1 +1.1
HGN eSS SS 22 41 51.3 +12
EGD Espegrend 85.75 330 eP P 22 25 32.1 +1.2
comp=Z,2µm,1.7s,mb7.0
EGD Espegrend 85.75 330 eP P 22 25 32.1 +1.2
EGD AMb AMB 22 25 35.8
comp=Z,2µm,1.7s,mb7.0
ASK Askoy 85.76 330 eP P 22 25 32.0 +1.1
comp=Z,1µm,1.8s,mb6.9
ASK Askoy 85.76 330 eP P 22 25 32.0 +1.1
ASK AMb AMB 22 25 35.5
comp=Z,1µm,1.8s,mb6.9
KMY Karmoy 85.78 329 eP P 22 25 32.6 +1.5
comp=Z,362nm,1.6s,mb6.3
KMY Karmoy 85.78 329 eP P 22 25 32.6 +1.5
KMY AMb AMB 22 25 35.3
comp=Z,362nm,1.6s,mb6.3
FOO Floro 85.79 331 eP P 22 25 32.5 +1.5
THEF They Montfort 85.81 318 eP P 22 25 31.4 -0.1
GDM Grand'Maison 85.86 315 eP P 22 25 33.7 +1.9
OG05 Jujurieux 86.28 316 eP P 22 25 34.1 +0.3
OCF Saint Nazaire 86.47 314 eP P 22 25 35.5 +0.7
OG26 St.-Nazaire-De 86.47 314 eP P 22 25 35.5 +0.7
BAIF Baives 86.88 320 eP P 22 25 37.1 +0.5
comp=Z,176nm,0.8s,mb6.1
BAIF Baives 86.88 320 eP P 22 25 37.1 +0.5
BAIF pmax pmax
comp=Z,88nm,0.8s,mb6.0
COLF Collangettes 87.54 315 eP P 22 25 40.3 +0.3
SSF Saint Saulge 87.56 317 eP P 22 25 40.0 0.0
SSF pmax pmax
comp=Z,41nm,0.8s,mb5.7
SSF Saint Saulge 87.56 317 eP P 22 25 40.0 0.0
comp=Z,41nm,0.8s,mb5.7
PLDF La Plantade 87.56 316 eP P 22 25 40.4 +0.3
PUZ Puketiti 87.61 128 eP P 22 25 41.0 +0.5
LBL Lubilhac 87.88 315 eP P 22 25 42.2 +0.6
AGO Saint Agoulin 87.89 316 eP P 22 25 41.9 +0.2
PYM Petit Puy Mans 88.00 316 eP P 22 25 42.7 +0.5
BGF Bois d'Agland 88.05 316 eP P 22 25 42.8 +0.4
comp=Z,309nm,1.2s,mb6.1
BGF Bois d'Agland 88.05 316 eP P 22 25 42.8 +0.4
BGF pmax pmax
comp=Z,154nm,1.2s,mb6.1
MENF Mencas 88.15 320 eP P 22 25 44.9 +2.1
FRNF Fournols 88.35 315 eP P 22 25 44.6 +0.8
VERF Verneugheol 88.37 316 eP P 22 25 44.0 +0.1

EJON	La Jonquera	88.37	312	P	P	22 25 44.3 +0.3
	comp=Z,65nm,1.2s,mb5.7					
SJAF	Saint Jean de	88.38	312	eP	P	22 25 45.4 +1.4
TNA	Tin City	88.54	24	eP	P	22 25 43.6 -0.6
	comp=Z,31nm,0.7s,mb5.8					
TNA				LR	LR	
	comp=Z,3µm,20.0s,MS5.7					
FILF	Fillols	88.61	312	eP	P	22 25 46.1 +1.0
VALF	Valcebollere	89.02	312	eP	P	22 25 49.6 +2.5
LPEF	Le Peyrat	89.05	313	eP	P	22 25 47.5 +0.3
RJF	Les Rejaudoux	89.09	315	eP	P	22 25 48.1 +0.7
	comp=Z,164nm,1.1s,mb6.0					
RJF				eR		
	comp=Z,1µm,22.5s					
RJF	Les Rejaudoux	89.09	315	eP	P	22 25 48.1 +0.7
RJF				pmax	pmax	
	comp=Z,82nm,1.1s,mb6.0					
RJF				MLR	MLR	
	comp=Z,1µm,22.5s,MS5.3					
WAL1	Walls	89.15	330	eP	P	22 25 47.9 +0.6
LMK	Market Rasen	89.36	323	eP	P	22 25 49.0 +0.6
EMIR	Miracle	89.43	312	P	P	22 25 49.6 +0.5
	comp=Z,226nm,1.3s,mb6.3					
MLS	Moulis	89.64	313	eP	P	22 25 50.6 +0.6
RAO	Raoul Island	89.74	119	PFAKE		22 26 00.0 +9.2
RAO				LR	LR	
	comp=Z,2µm,20.0s,MS5.5					
ANM	Nome	89.77	25	eP	P	22 25 50.7 +0.6
VNDA	Vanda	89.79	168	P	P	22 25 52.0 +2.0
	comp=Z,5.9nm,1.1s,baz=274,slow=8.5,SNR=4.9					
VNDA				PKKP	PKKP	22 43 18.4 +9.4
	comp=Z,2.5nm,0.8s,baz=90,slow=11,SNR=4.8					
VNDA				LR	LR	23 04 45.0
	comp=Z,4µm,18.1s,MS5.9,baz=302,slow=35					
VNDA	Vanda	89.79	168	P	P	22 25 52.0 +2.0
VNDA				PKKP	PKKP	22 43 18.4 +9.4
VNDA				LR	LR	23 04 45.0
EPOB	Poblet	89.83	311	P	P	22 25 51.3 +0.3
	comp=Z,166nm,1.7s,mb6.1					
JMIC	Jan Mayen	89.86	341	P	P	22 25 51.1 +0.7
	comp=Z,124nm,0.5s,mb6.5,baz=167,slow=4.1,SNR=3.4					
JMIC				LR	LR	23 14 14.3
	comp=Z,2µm,20.9s,MS5.5,baz=221,slow=41					
JMIC	Jan Mayen	89.86	341	AMS	AMS	23 11 59.6
	comp=Z,2µm,18.8s,MS5.5					
LCP	Cassop	89.86	325⇑	eP	P	22 25 51.5 +0.7
EIBI	Ibiza	89.87	309	P	P	22 25 51.0 -0.2
	comp=Z,228nm,1.4s,mb6.3					
MELF	Melles	89.89	313	eP	P	22 25 53.5 +2.3
FLN	La Foliniere	90.05	319	eP	P	22 25 52.2 +0.4
	comp=Z,292nm,0.9s,mb6.3					
FLN				eR		
	comp=Z,2µm,22.5s					
FLN	La Foliniere	90.05	319	eP	P	22 25 52.2 +0.4
FLN				pmax	pmax	
	comp=Z,146nm,0.9s,mb6.3					
FLN				MLR	MLR	
	comp=Z,2µm,22.5s,MS5.4					
HPK	Haverah Park	90.06	324⇑	eP	P	22 25 51.7 0.0
KBI1	Birley Grange	90.10	323⇑	eP	P	22 25 51.5 -0.4
RESF	Ens	90.21	313	eP	P	22 25 55.0 +2.3
LHO	Holmfirth	90.25	324⇑	eP	P	22 25 52.7 0.0
KWE	Weaver Farm	90.32	323⇑	eP	P	22 25 52.2 -0.8
EBR	Ebro Roquetas	90.33	311	eP	P	22 25 53.5 +0.2
EBIE	Bielsa	90.37	313	P	P	22 25 55.2 +1.7
	comp=Z,151nm,1.5s,mb6.1					
LABF	Labassere	90.37	313	eP	P	22 25 55.0 +1.5
ERTA	Horta de San J	90.43	311	P	P	22 25 54.5 +0.7
	comp=Z,250nm,1.5s,mb6.3					
VIEF	Viey	90.43	313	eP	P	22 25 56.1 +2.4
LCHF	La Chataignera	90.50	317	eP	P	22 25 54.8 +0.9
DAG	Danmarks Havn	90.62	348⇓	iP	P	22 25 53.1 -0.8
DAG				i		22 29 29.2
DAG				pmax	pmax	
	comp=Z,50nm,0.5s,mb6.1					
DAG	Danmarks Havn	90.62	348⇓	iP	P	22 25 53.1 -0.8
	comp=Z,50nm,0.5s,mb6.1					
DAG				i		22 29 29.2
REYF	Montagne du Re	90.71	313	eP	P	22 25 57.5 +2.4
ESK	Eskdalemuir	90.75	326	PFAKE		22 26 10.0 +15
ESK				LR	LR	
	comp=Z,447nm,21.0s,MS4.9					
ESK	Eskdalemuir	90.75	326	eP	P	22 25 54.9 0.0
ESK				AMb	AMB	22 25 59.4
	comp=Z,96nm,2.3s,mb5.7					
EAU	Auchinoon	90.80	326	eP	P	22 25 57.1 +1.9
EAU				AMb	AMB	22 25 60.0
	comp=Z,213nm,1.7s,mb6.2					
ETSF	Etsaut	90.85	313	eP	P	22 25 56.9 +1.2
	comp=Z,100nm,0.9s,mb5.9					
ETSF	Etsaut	90.85	313	eP	P	22 25 56.9 +1.2
ETSF				pmax	pmax	
	comp=Z,50nm,0.9s,mb5.8					
SBA	Scott Base	90.89	168	PFAKE		22 26 10.0 +15
SBA				LR	LR	
	comp=Z,2µm,19.0s,MS5.7					
ESAC	San Caprasio	90.94	312	P	P	22 25 57.0 +0.9
	comp=Z,244nm,0.9s,mb6.5					
LRYF	La Roche-sur-Y	91.06	317	eP	P	22 25 57.0 +0.4
UNV	Unalaska Valle	91.10	36	eP	P	22 25 56.5 0.0
	comp=Z,93nm,0.6s,mb6.3					
UNV				LR	LR	
	comp=Z,6µm,21.0s,MS6.0					
EMOS	Mosqueruela	91.11	310	P	P	22 25 58.2 +1.2
	comp=Z,927nm,2.2s,mb6.7					
EBEN	Beniarda	91.13	309	P	P	22 25 57.3 +0.2
	comp=Z,261nm,1.9s,mb6.2					
LARF	Larrau	91.15	313	eP	P	22 25 58.0 +0.9
EAB	Aberfoyle	91.23	327	eP	P	22 25 58.9 +1.7
EAB				AMb	AMB	22 26 02.6
	comp=Z,199nm,1.7s,mb6.2					
OSSF	Osses	91.32	313	eP	P	22 25 59.4 +1.5
EALK	Alkurruntz	91.50	313	P	P	22 26 01.1 +2.4
	comp=Z,142nm,1.2s,mb6.2					
CART	Cartagena	91.88	308	eP	P	22 26 00.8 +0.2
	comp=Z,30nm,0.7s,mb5.7					
EMUR	La Murta	92.03	308	P	P	22 26 02.0 +0.8
	comp=Z,309nm,2.8s,mb6.1					
NVL	N'lazarevskaya	92.30	199⇓	eP	sP	22 26 19.0 0.0
NVL				eS		22 36 25.0
NVL				pmax	pmax	
	comp=Z,914nm,6.6s					
NVL				MLR	MLR	
	comp=Z,3µm,22.0s,MS5.8					
ELAN	Lanestosa	92.89	314	P	P	22 26 07.4 +2.3
	comp=Z,497nm,2.5s,mb6.5					
EVIA	Vianos	92.90	309	P	P	22 26 07.2 +1.9
EVIA				pmax	pmax	
	comp=Z,46nm,1.0s,mb5.9					
EVIA	Vianos	92.90	309	P	P	22 26 07.2 +1.9
	comp=Z,46nm,1.0s,mb5.9					
ENIJ	Nijar	92.91	307	P	P	22 26 06.6 +1.2
ENIJ				pmax	pmax	
	comp=Z,25nm,0.9s,mb5.6					
ENIJ	Nijar	92.91	307	P	P	22 26 06.6 +1.3
	comp=Z,25nm,0.9s,mb5.7					
DLF	Lyons Farm	93.05	324⇑	iP	P	22 26 07.4 +1.8
EBER	Berja	93.46	307	P	P	22 26 08.7 +0.8
	comp=Z,95nm,1.1s,mb6.1					
EQES	Quesada	93.47	308	P	P	22 26 09.2 +1.3
	comp=Z,205nm,1.7s,mb6.3					
DCN	Croghan	93.47	324⇑	iP	P	22 26 07.4 -0.1
GUD	Guadarrama	93.85	311	P	P	22 26 10.9 +1.4
GUD				pmax	pmax	
	comp=Z,78nm,1.3s,mb6.0					
GUD	Guadarrama	93.85	311	P	P	22 26 10.9 +1.4
	comp=Z,78nm,1.3s,mb6.0					
ESDC	Sonseca Array	93.86	310	P	P	22 26 10.1 +0.5
	comp=Z,9.3nm,0.6s,mb5.4,baz=63,slow=3.8,SNR=50					
ESDC				PP	PP	22 29 56.7 -1.7
	comp=Z,2.9nm,0.8s,baz=69,slow=7.0,SNR=4.3					
ESDC				PKKP	PKKP	22 43 13.0 +10
	comp=Z,2.8nm,0.7s,baz=290,slow=2.8,SNR=14					
ESDC	Sonseca Array	93.86	310	P	P	22 26 11.3 +1.7
	comp=Z,10nm,0.5s,mb5.5					
IMA	Indian Mountai	94.07	22	P	P	22 26 10.4 +0.5
IMA				pmax	pmax	
	comp=Z,410nm,0.7s,mb7.0					
IMA	Indian Mountai	94.07	22	eP	P	22 26 10.3 +0.4
EARI	Arriondas	94.16	314	P	P	22 26 13.1 +2.3
	comp=Z,322nm,2.6s,mb6.3					
ERON	Agron	94.17	308	P	P	22 26 12.2 +1.2
	comp=Z,1.9nm,0.3s,mb5.0					
SCO	Scoresbysund	94.20	343	iP	P	22 26 11.4 +1.0
SCO				iS	S	22 37 13.9 -1.4
SCO				pmax	pmax	
	comp=Z,28nm,0.7s,mb5.8					
SCO	Scoresbysund	94.20	343	iP	P	22 26 11.4 +1.0
	comp=Z,28nm,0.7s,mb5.8					
SCO	Scoresbysund	94.20	343	iS	S	22 37 13.9 -1.4
AFI	Afiamalu	94.21	104	PFAKE		22 26 20.0 +8.3
AFI				LR	LR	
	comp=Z,2µm,19.0s,MS5.5					
ELOJ	Sierra Loja	94.42	308	P	P	22 26 12.8 +0.6
ELOJ				pmax	pmax	
	comp=Z,12nm,1.1s,mb5.2					
ELOJ	Sierra Loja	94.42	308	P	P	22 26 12.8 +0.6
	comp=Z,12nm,1.1s,mb5.2					
ELUQ	Luque	94.44	308	P	P	22 26 14.3 +2.0
ELUQ				pmax	pmax	
	comp=Z,6.0nm,0.5s,mb5.3					
ELUQ	Luque	94.44	308	P	P	22 26 14.3 +2.0
	comp=Z,5.5nm,0.5s,mb5.2					
EADA	Adamuz	94.59	309	P	P	22 26 15.0 +2.0
	comp=Z,347nm,2.7s,mb6.3					
QSPA	South Pole Qui	94.76	180	P	sP	22 26 31.0 +0.9
SVW2	Sparrevohn	95.01	27	eP	P	22 26 15.1 +0.8
EMIJ	Mijas	95.01	307	P	P	22 26 15.4 +0.5
	comp=Z,14nm,0.9s,mb5.4					
ECAL	Calabor	95.52	313	P	P	22 26 19.7 +2.6
	comp=Z,167nm,2.0s,mb6.1					
EPON	Pontenova	95.54	314	P	P	22 26 20.9 +3.8
	comp=Z,87nm,1.5s,mb6.0					
PBRG	Braganca	95.55	313	eP	P	22 26 19.6 +2.4
	comp=Z,35nm,2.4s,mb5.4					
ERUA	La Rua	95.73	313	P	P	22 26 20.4 +2.4
ERUA				pmax	pmax	
	comp=Z,21nm,1.2s,mb5.4					
ERUA	La Rua	95.73	313	P	P	22 26 20.4 +2.4
	comp=Z,21nm,1.2s,mb5.4					
ESPR	Espera	95.81	308	P	P	22 26 20.4 +1.8
	comp=Z,67nm,1.4s,mb5.9					
EMIN	Mina Concepcio	96.29	309	P	P	22 26 21.7 +1.1
	comp=Z,59nm,1.7s,mb5.7					
EBAD	Badajoz	96.36	310	P	P	22 26 22.4 +1.4
	comp=Z,5.8nm,2.9s					
MTE	Manteigas	96.43	311	eS	S	22 37 43.0 +8.1
PCBR	Castelo Branco	96.49	311	eP	P	22 26 24.2 +2.6
ELOB	Lobios	96.50	313	P	P	22 26 24.9 +3.4
	comp=Z,63nm,1.3s,mb5.9					
RSO	Redoubt South	96.53	28	eP	P	22 26 20.0 -1.2
BORG	Borgarnes	96.56	337	P	P	22 26 24.2 +2.9
	comp=Z,27nm,0.9s,mb5.7,baz=118,slow=3.7,SNR=4.7					
BORG				LR	LR	23 14 00.3
	comp=Z,2µm,19.3s,MS5.5,baz=199,slow=38					
SPU	Mount Spurr	96.57	27	eP	P	22 26 20.3 -1.1
STS	Santiago	96.64	314	P	P	22 26 25.0 +2.9
STS				pmax	pmax	
	comp=Z,8.0nm,0.8s,mb5.2					
STS	Santiago	96.64	314	P	P	22 26 25.0 +2.8
	comp=Z,8.2nm,0.8s,mb5.2					
COLA	College	96.78	23	P	P	22 26 24.9 +2.7
COLA				pmax	pmax	
	comp=Z,9.0nm,1.0s,mb5.2					
COLA	College	96.78	23	eP	P	22 26 24.8 +2.6
MCK	McKinley	96.86	24	P	P	22 26 22.4 -0.2
MCK				pmax	pmax	
	comp=Z,120nm,1.8s,mb6.0					
MCK	McKinley	96.86	24	eP	P	22 26 21.9 -0.8
	comp=Z,119nm,1.8s,mb6.0					
MCK				LR	LR	
	comp=Z,2µm,19.0s,MS5.6					
EMAZ	Mazaricos	96.93	314	P	P	22 26 27.0 +3.5
	comp=Z,9.0nm,0.8s,mb5.2					
EGRO	El Granado	96.96	309	P	P	22 26 24.9 +1.1
	comp=Z,67nm,1.4s,mb5.9					
PBEJ	Beja	97.16	309	eP	P	22 26 27.3 +2.6
ILAR	Eielson Array	97.19	22	P	P	22 26 24.0 -0.1
	comp=Z,7.2nm,0.6s,mb5.3,baz=294,slow=2.2,SNR=57					
ILAR				PKKPbc		22 43 03.4
	comp=Z,0.7nm,0.7s,baz=145,slow=2.2,SNR=5.5					
ILAR				LR	LR	23 17 33.7
	comp=Z,3µm,19.0s,MS5.8,baz=323,slow=40					
SUMG	Summit	97.29	347	eP	P	22 26 24.8 +0.3
	comp=Z,33nm,0.7s,mb5.9					
FIB	Fire Island	97.42	26	eP	P	22 26 25.8 +0.6
FIB	Fire Island	97.42	26	eP	P	22 26 25.5 +0.3
FIB				LR	LR	
	comp=Z,2µm,20.0s,MS5.6					
KDAK	Kodiak Island	97.60	30	eP	P	22 26 25.7 -0.5
	comp=Z,54nm,1.0s,mb6.0					
KDAK				LR	LR	
	comp=Z,999nm,22.0s,MS5.3					
SLKM	Skilak Lake	97.67	27	P	P	22 26 26.7 +0.3
SLKM	Skilak Lake	97.67	27	eP	P	22 26 25.6 -0.8
PMR	Palmer	97.69	26	eP	P	22 26 26.2 -0.3
SML	Sawmill	97.94	25	eP	P	22 26 27.5 -0.1
SML	Sawmill	97.94	25	eP	P	22 26 26.9 -0.7
THY	Trims Highway	98.27	23	P	P	22 26 27.9 -1.2
DBIC	Dimbokro	99.25	278	P	P	22 26 35.8 +1.1
	comp=Z,5.5nm,0.9s,mb5.1,baz=94,slow=4.8,SNR=8.1					
DBIC				LR	LR	23 11 14.7
	comp=Z,3µm,19.6s,MS5.8,baz=67,slow=35					
MENT	Mentasta	99.31	23	eP	P	22 26 35.3 +1.5
DIV	Divide	99.35	25	eP	P	22 26 35.2 +1.3
	comp=Z,47nm,0.9s,mb6.0					
DIV				LR	LR	
	comp=Z,10µm,19.0s,MS6.3					
INK	Inuvik	99.63	16	P	P	22 26 36.0 +0.8
	comp=Z,16nm,0.5s,mb5.7,baz=335,slow=4.4,SNR=46					
INK				PKiKP		22 31 02.4
	comp=Z,10nm,1.1s,baz=269,slow=4.2,SNR=3.4					
INK				PKKPbc		22 42 53.4
	comp=Z,1.4nm,0.8s,baz=106,slow=6.3,SNR=3.2					
INK	Inuvik	99.63	16	eP	P	22 26 34.5 -0.6
	comp=Z,19nm,0.7s,mb5.6					
EYAK	Cordova Ski Ar	99.63	26	eP	P	22 26 35.5 +0.2
DAWY	Dawson	100.34	21	eP	P	22 26 37.3 -1.2
RES	Resolute Bay	100.37	3	P	P	22 26 38.7 +0.3
RES				pmax	pmax	
	comp=Z,38nm,0.9s					
RES	Resolute Bay	100.37	3	eP	P	22 26 38.4 0.0
	comp=Z,38nm,0.9s					
RAR	Rarotonga	105.87	111	PFAKE		22 31 30.0
RAR				LR	LR	
	comp=Z,1µm,20.0s,MS5.5					
SIT	Sitka	106.08	26	PFAKE		22 31 30.0
SIT				LR	LR	
	comp=Z,5µm,21.0s,MS6.0					
TRIS	Tristan da Cun	106.76	233	PFAKE		22 31 30.0
TRIS				LR	LR	
	comp=Z,3µm,22.0s,MS5.8					
DLBC	Dease Lake	107.39	23	PKiKP		22 31 18.1
	comp=Z,3.7nm,0.7s,baz=323,slow=3.3,SNR=6.8					
DLBC	Dease Lake	107.39	23	ePKiKP		22 31 18.5
YKA	Yellowknife Ar	109.14	14	Pdiff	Pdif	22 27 18.0 +0.7
	comp=Z,1.4nm,0.5s,baz=333,slow=4.7,SNR=34					
YKA				PKiKP		22 31 21.6
	comp=Z,1.9nm,0.6s,baz=329,slow=1.9,SNR=11					
YKA				PKKPbc		22 42 27.7
	comp=Z,0.9nm,0.7s,baz=146,slow=3.1,SNR=15					
YKA	Yellowknife Ar	109.14	14	Pdif	Pdif	22 27 18.1 +0.7
YKA				PKPdf		22 31 21.6
YKA				PKKPbc		22 42 27.7
TBI	Tubuai	115.28	113	ePP	PP	22 32 20.9 -18
TBI				ePS	PS	22 42 22.3 +7.8
TBI				eSS	SS	22 48 38.8 +9.1
TBI				eLQ		23 01 41.1
TBI				eLR	LR	23 06 31.9
	comp=Z,3µm,23.8s					
PPT	Papeete	115.61	107	ePP	PP	22 32 16.9 -24
PPT				ePS	PS	22 42 23.6 +5.9
PPT				eSS	SS	22 48 36.4 +2.2
PPT				eLR	LR	23 06 44.6
	comp=Z,3µm,25.0s					
FCC	Fort Churchill	116.18	5	PKiKP	PKPdf	22 31 35.1 +1.3
FCC	Fort Churchill	116.18	5	ePKPdf	PKPdf	22 31 34.5 +0.7
FCC				ePP	PP	22 32 37.3 -7.0
EDM	Edmonton	117.39	19	PKiKP	PKPdf	22 31 37.3 +1.1
EDM	Edmonton	117.39	19	ePKPdf	PKPdf	22 31 37.1 +0.9
PMSA	Palmer Station	118.34	190	PFAKE		22 31 50.0 +12
PMSA				LR	LR	
	comp=Z,2µm,20.0s,MS5.8					
HTW	Haystack Looko	118.41	27	P	PKPdf	22 31 39.4 +1.0
SCHQ	Schefferville	118.66	348	PKP	PKPdf	22 31 39.7 +1.0
	comp=Z,9.3nm,0.5s,baz=23,slow=6.0,SNR=25					
SCHQ				PP	PP	22 32 50.5 -11
	comp=Z,6.4nm,0.6s,baz=29,slow=10.0,SNR=3.8					
SCHQ				PKKPbc		22 41 55.5
	comp=Z,3.0nm,0.7s,baz=199,slow=4.4,SNR=7.1					
SCHQ	Schefferville	118.66	348	PKP	PKPdf	22 31 39.7 +1.0
SCHQ				PP	PP	22 32 50.5 -11
SCHQ				PKKPbc		22 41 55.5
WTV	Waterville	119.31	26	P	PKPdf	22 31 41.3 +1.1
WPW	White Pass	119.33	28	P	PKPdf	22 31 41.7 +1.5
TBM	Table Mountain	119.42	27	P	PKPdf	22 31 41.9 +1.5
EBG	Ellensburg	119.62	27	P	PKPdf	22 31 42.2 +1.4
NAC	Naches	119.64	28	P	PKPdf	22 31 42.6 +1.8
EPH	Ephrata	119.73	26	P	PKPdf	22 31 41.9 +0.9
VLMM	Larch Mountain	119.93	29	P	PKPdf	22 31 43.0 +1.6
COR	Corvallis	119.98	31	PFAKE		22 31 50.0 +8.4
COR				LR	LR	
	comp=Z,622nm,22.0s,MS5.2					
MXC	Moxie City	120.00	27	P	PKPdf	22 31 43.2 +1.7
OD2	Odessa Site #2	120.09	26	P	PKPdf	22 31 42.9 +1.2
WALA	Waterton Lakes	120.69	22	ePKPdf	PKPdf	22 31 43.0 +0.2
YBH	Yreka Blue Hor	122.28	33	PKIKP	PKPdf	22 31 47.3 +1.3
YBH				MLR	MLR	
	comp=Z,2µm,21.0s					
YBH	Yreka Blue Hor	122.28	33	PKP	PKPdf	22 31 47.3 +1.3
	comp=Z,5.8nm,0.7s,baz=103,slow=5.7,SNR=8.9					
MSO	Missoula	122.52	23	ePKPdf	PKPdf	22 31 46.5 +0.2
MSO				LR	LR	
	comp=Z,3µm,19.0s,MS6.0					
BMO	Blue Mountains	122.67	27	PKIKP	PKPdf	22 31 47.4 +0.7
BMO	Blue Mountains	122.67	27	ePKPdf	PKPdf	22 31 47.1 +0.4
BMO				LR	LR	
	comp=Z,2µm,22.0s,MS5.8					
CHMT	Chamberlain Mo	122.71	23	ePKPdf	PKPdf	22 31 47.3 +0.6
WDC	Whiskeytown Da	123.16	34	PKIKP	PKPdf	22 31 48.9 +1.1
WDC	Whiskeytown Da	123.16	34	ePKPdf	PKPdf	22 31 48.3 +0.5
WDC				LR	LR	
	comp=Z,2µm,21.0s,MS5.8					
HRY	Holter Researc	123.42	22	ePKPdf	PKPdf	22 31 49.9 +1.7
MOD	Modoc	123.43	31	eP	PKPdf	22 31 50.1 +1.8
MOD				LR	LR	
	comp=Z,3µm,21.0s,MS6.0					
WVOR	Wild Horse Val	123.88	30	PKIKP	PKPdf	22 31 51.2 +2.1
WVOR	Wild Horse Val	123.88	30	ePKPdf	PKPdf	22 31 51.0 +1.9
WVOR				LR	LR	
	comp=Z,3µm,20.0s,MS5.9					
HOPS	Hopland	123.94	35	ePKPdf	PKPdf	22 31 51.2 +1.9
HOPS				LR	LR	
	comp=Z,2µm,22.0s,MS5.8					
DGMT	Dagmar	124.30	15	ePKPdf	PKPdf	22 31 49.8 0.0
DGMT				LR	LR	
	comp=Z,5µm,19.0s,MS6.2					
BOZ	Bozeman (W)	124.39	22	PKIKP	PKPdf	22 31 51.3 +1.3
BOZ	Bozeman (W)	124.39	22	ePKPdf	PKPdf	22 31 51.1 +1.1
BOZ				LR	LR	
	comp=Z,4µm,20.0s,MS6.1					
MCMT	McKenzie Canyo	124.59	24	ePKPdf	PKPdf	22 31 51.8 +1.3
OHCM	Honcut	124.61	34	ePKPdf	PKPdf	22 31 51.5 +0.8
HLID	Hailey	124.97	26	ePKPdf	PKPdf	22 31 52.7 +1.5
HLID				LR	LR	
	comp=Z,3µm,20.0s,MS5.9					
TAOE	Nuku Hiva Isla	125.08	97	ePP	PP	22 33 39.1 -6.7
TAOE				eLR	LR	23 10 34.6
QLMT	Earthquake Lak	125.15	23	ePKPdf	PKPdf	22 31 53.1 +1.6
LAO	LASA Array	125.34	18	ePKPdf	PKPdf	22 31 52.7 +0.9
LAO				LR	LR	
	comp=Z,4µm,21.0s,MS6.1					
YMR	Madison River	125.47	23	ePKPdf	PKPdf	22 31 54.5 +2.4
YNR	Norris Junctio	125.54	22	ePKPdf	PKPdf	22 31 55.2 +2.9
WCN	Washoe City	125.59	33	PKIKP	PKPdf	22 31 56.4 +3.9
WCN	Washoe City	125.59	33	ePKPdf	PKPdf	22 31 54.6 +2.1
YFT	Old Faithful	125.70	23	ePKPdf	PKPdf	22 31 55.5 +2.9
CMB	Columbia Colle	126.13	35	PKIKP	PKPdf	22 31 55.3 +1.7
CMB	Columbia Colle	126.13	35	ePKPdf	PKPdf	22 31 54.8 +1.2
CMB				LR	LR	
	comp=Z,2µm,21.0s,MS5.7					
MOOW	Moose Ponds	126.33	23	ePKPdf	PKPdf	22 31 55.6 +1.7
SAO	San Andreas Ge	126.39	36	PFAKE		22 32 10.0 +16
SAO				LR	LR	
	comp=Z,2µm,22.0s,MS5.8					
WUWY	Wally Ulrich	126.51	23	ePKPdf	PKPdf	22 31 56.0 +1.8
PQI	Presque Isle	126.57	346	PFAKE		22 32 10.0 +16
PQI				LR	LR	
	comp=Z,9µm,21.0s,MS6.4					
NVAR	Mina Array Bea	127.00	33	PKP	PKPdf	22 31 57.4 +2.1
	comp=Z,31nm,0.7s,baz=287,slow=1.8,SNR=60					
NVAR				PP	PP	22 33 56.5 -1.1
	comp=Z,8.7nm,1.0s,baz=284,slow=3.7,SNR=4.5					
AHID	Auburn Hatcher	127.01	24	ePKPdf	PKPdf	22 31 56.8 +1.6
AHID				LR	LR	
	comp=Z,4µm,19.0s,MS6.1					
MNV	Mina	127.08	33	PKIKP	PKPdf	22 31 57.8 +2.3
MNV	Mina	127.08	33	ePKPdf	PKPdf	22 31 57.4 +1.9
MNV				LR	LR	
	comp=Z,3µm,21.0s,MS6.0					
HVU	Hansel Valley	127.12	26	PKIKP	PKPdf	22 31 57.1 +1.7
HVU	Hansel Valley	127.12	26	ePKPdf	PKPdf	22 31 57.0 +1.6
EYMN	Ely	127.12	6	ePKPdf	PKPdf	22 31 55.6 +0.3
EYMN				LR	LR	
	comp=Z,4µm,22.0s,MS6.1					
OMM	Old Mammoth Mi	127.21	34	ePKPdf	PKPdf	22 31 57.7 +2.0
BW06	Boulder Array	127.62	23	PFAKE		22 32 10.0 +14
BW06				LR	LR	
	comp=Z,4µm,22.0s,MS6.1					
PDAR	Pinedale Array	127.62	23	PKP	PKPdf	22 31 57.5 +1.1
	comp=Z,47nm,1.1s,baz=151,slow=3.1,SNR=17					
SPUT	South Promonto	127.64	26	ePKPdf	PKPdf	22 31 57.9 +1.4
BGU	Big Grassy Mou	127.70	27	ePKPdf	PKPdf	22 31 58.2 +1.6
BGU				eSKPdf		22 35 31.0
HWUT	Hardware Ranch	127.78	25	ePKPdf	PKPdf	22 31 57.5 +0.8
HWUT				LR	LR	
	comp=Z,4µm,21.0s,MS6.1					
TCUT	Toone Canyon	128.25	25	PKPdf	PKPdf	22 31 59.6 +2.0
NOQ	North Oquirrh	128.32	26	ePKPdf	PKPdf	22 31 59.5 +1.7
RKT	Rikitea	128.46	116	ePP	PP	22 33 49.5 -19
RKT				ePS	PS	22 44 15.7 +4.4
RKT				eSS	SS	22 51 28.

JFWS	**Jewell Farm**	**132.23**	**5**	PKIKP	PKPdf	22 32 04.7	-0.4
JFWS	**Jewell Farm**	**132.23**	**5**	*e*PKPdf	PKPdf	22 32 07.3	+2.2
JFWS				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
ERPA	**Erie**	**133.05**	**355**	*e*PKPdf	PKPdf	22 32 07.7	+1.0
ERPA				LR	LR		
	comp=Z,3μm,21.0s,MS6.0						
AAM	**Ann Arbor**	**133.07**	**359**	PFAKE		22 32 20.0	+13
AAM				LR	LR		
	comp=Z,3μm,21.0s,MS6.0						
PAL	**Palisades**	**133.27**	**349**	*e*PKPdf	PKPdf	22 32 09.1	+1.9
PAL				*e*PP	PP	22 34 33.3	-5.1
SDCO	**Great Sand Dun**	**133.52**	**23**	*e*PKPdf	PKPdf	22 32 10.0	+2.3
SDCO				LR	LR		
	comp=Z,4μm,20.0s,MS6.2						
SSPA	**Standing Stone**	**134.29**	**353**	PFAKE		22 32 20.0	+11
SSPA				LR	LR		
	comp=Z,607nm,22.0s,MS5.3						
KSU1	**Kansas State U**	**134.97**	**13**	*e*PKPdf	PKPdf	22 32 12.3	+2.0
ACSO	**Alum Creek Sta**	**135.12**	**358**	*e*PKPdf	PKPdf	22 32 12.2	+1.6
ACSO				LR	LR		
	comp=Z,3μm,21.0s,MS5.9						
SDMD	**Soldier's Deli**	**135.34**	**351**	*e*PKPdf	PKPdf	22 32 12.9	+1.9
MCWV	**Mont Chateau**	**135.48**	**354**	PFAKE		22 32 20.0	+8.7
MCWV				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
ANMO	**Albuquerque**	**135.54**	**25**	*e*PKHKP		22 32 00.1	
ANMO						22 32 13.6	
ANMO				MLR	MLR		
	comp=Z,2μm,22.0s						
ANMO	**Albuquerque**	**135.54**	**25**	PKhKP		22 32 00.8	
	comp=Z,2.8nm,0.6s,baz=35,slow=2.6,SNR=12						
ANMO				PKP	PKPdf	22 32 13.6	+2.1
	comp=Z,19nm,1.0s,baz=210,slow=1.1,SNR=6.3						
ANMO				SKP		22 35 41.4	
	comp=Z,5.9nm,0.8s,baz=332,slow=2.1,SNR=9.5						
ANMO	**Albuquerque**	**135.54**	**25**	*e*PKPpre		22 32 00.1	
ANMO				PKP	PKPdf	22 32 13.6	+2.1
ANMO				SKP		22 35 41.4	
ANMO				LR	LR		
	comp=Z,2μm,22.0s,MS5.9						
TUC	**Tucson**	**135.63**	**32**	PKPpre		22 32 06.7	
TUC				LR	LR		
	comp=Z,1μm,19.0s,MS5.6						
LAZ	**Ladron**	**135.71**	**27**	PKPdf	PKPdf	22 32 15.0	+3.2
LENM	**Lemitar**	**135.98**	**27**	*e*PKPdf	PKPdf	22 32 15.0	+2.7
LPM	**Los Pinos Moun**	**136.01**	**26**	*e*PKPdf	PKPdf	22 32 14.5	+2.2
BNM	**Barren Site**	**136.15**	**26**	*e*PKPdf	PKPdf	22 32 15.1	+2.4
CBN	**Corbin**	**136.60**	**351**	PFAKE		22 32 30.0	+17
CBN				LR	LR		
	comp=Z,3μm,19.0s,MS6.1						
CCM	**Cathedral Cave**	**136.93**	**7**	PKHKP		22 32 03.9	
CCM	**Cathedral Cave**	**136.93**	**7**	*e*PKPpre		22 32 03.6	
CCM				LR	LR		
	comp=Z,408nm,20.0s,MS5.2						
FVM	**French Village**	**137.09**	**6**	*e*PKPdf	PKPdf	22 32 16.6	+2.4
WCI	**Wyandotte Cave**	**137.13**	**2**	*e*PKHKP		22 32 05.3	
WCI	**Wyandotte Cave**	**137.13**	**2**	*e*PKPdf	PKPdf	22 32 15.4	+1.0
WCI				LR	LR		
	comp=Z,758nm,21.0s,MS5.4						
USIN	**University of**	**137.34**	**3**	PKPdf	PKPdf	22 32 16.1	+1.4
AMTX	**Amarillo**	**137.46**	**21**	*e*PKPpre		22 32 06.3	
AMTX				*e*PKPdf	PKPdf	22 32 17.7	+2.6
AMTX				LR	LR		
	comp=Z,4μm,20.0s,MS6.1						
FWV	**Forest Hill**	**137.62**	**355**	*e*PKPdf	PKPdf	22 32 16.1	+0.8
PWV	**Princeton**	**137.89**	**355**	*e*PKPpre		22 32 09.3	
BLA	**Blacksburg**	**137.96**	**355**	*e*PKPdf	PKPdf	22 32 17.7	+1.8
BLA				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
ELN	**Prospectdale**	**137.97**	**355**	*e*PKPdf	PKPdf	22 32 17.7	+1.8
CPRX	**Cap Rock**	**138.28**	**24**	*e*PKPdf	PKPdf	22 32 19.2	+2.6
BBSR	**BB Station**	**138.29**	**334**	PFAKE		22 32 30.0	+13
BBSR				LR	LR		
	comp=Z,1μm,20.0s,MS5.6						
WMOK	**Wichita Mounta**	**138.53**	**17**	*e*PKHKP		22 32 06.3	
WMOK				MLR	MLR		
	comp=Z,3μm,20.0s,MS6.0						
MNTX	**Cornudas Mount**	**138.77**	**27**	*e*PKPpre		22 32 09.5	
MNTX				*e*PKPdf	PKPdf	22 32 19.6	+2.0
MNTX				LR	LR		
	comp=Z,3μm,22.0s,MS6.0						
GDL2	**Guadalupe Moun**	**138.79**	**25**	*e*PKPdf	PKPdf	22 32 19.9	+2.4
UTMT	**University of**	**138.87**	**5**	PKPdf	PKPdf	22 32 19.5	+2.0
GLAT	**Glass**	**138.91**	**5**	*e*PKPdf	PKPdf	22 32 18.5	+0.8
CLNB	**Carlsbad**	**138.94**	**25**	*e*PKPdf	PKPdf	22 32 19.9	+2.1
WVT	**Waverly**	**139.16**	**4**	*e*PKPdf	PKPdf	22 32 09.1	-9.0
WVT				*e*PKPdf	PKPdf	22 32 20.4	+2.3
WVT				LR	LR		
	comp=Z,3μm,22.0s,MS6.0						
CPCT	**Cooper Cave**	**139.93**	**359**	*e*PKPpre		22 32 12.2	
CPCT				*e*PKPdf	PKPdf	22 32 20.9	+1.5
UALR	**University of**	**139.99**	**9**	*e*PKPdf	PKPdf	22 32 21.9	+2.3
MIAR	**Mount Ida**	**139.99**	**11**	*e*PKPpre		22 32 12.6	
MIAR				*e*PKPdf	PKPdf	22 32 22.2	+2.6
MIAR				LR	LR		
	comp=Z,3μm,22.0s,MS6.0						
TRQA	**Tornquist**	**140.87**	**209**	*e*PKPpre		22 32 16.8	
TRQA				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
JSC	**Jenkinsville**	**140.94**	**355**	*e*PKPdf	PKPdf	22 32 23.2	+1.8
LTX	**Lajitas**	**141.56**	**27**	*e*PKPpre		22 32 18.8	
LTX				LR	LR		
	comp=Z,4μm,22.0s,MS6.1						
TXAR	**Lajitas Array**	**141.56**	**27**	PKhKP		22 32 17.9	
	comp=Z,2.5nm,0.4s,baz=126,slow=1.0,SNR=38						
TXAR				PKP	PKPdf	22 32 22.5	-0.1
	comp=Z,9.0nm,0.5s,baz=255,slow=1.5,SNR=40						
TXAR				PP	PP	22 35 27.5	-2.6
	comp=Z,5.6nm,1.1s,baz=311,slow=9.6,SNR=5.3						
TXAR				SKPbc		22 35 57.8	
	comp=Z,3.9nm,0.7s,slow=0.9,SNR=7.3						
TXAR	**Lajitas Array**	**141.56**	**27**	PKP	PKPdf	22 32 17.9	-4.7
TXAR				PKP	PKPdf	22 32 22.5	-0.1
TXAR				PP	PP	22 35 27.5	-2.6
TXAR				SKPbc		22 35 57.8	
COW	**Cow Castle Cre**	**141.78**	**354**	*e*PKPdf	PKPdf	22 32 19.7	-3.2
GOGA	**Godfrey**	**141.94**	**358**	PKPdf	PKPdf	22 32 24.2	+1.0
GOGA				LR	LR		
	comp=Z,3μm,20.0s,MS6.1						
NHSC	**New Hope**	**142.00**	**354**	PFAKE		22 32 40.0	+17
NHSC				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
JCT	**Junction City**	**142.11**	**21**	*e*PKPpre		22 32 18.8	
JCT				LR	LR		
	comp=Z,4μm,20.0s,MS6.2						
BAO	**Brasilia Array**	**142.16**	**251**	P	PKPdf	22 32 22.1	-1.9
BAO				*i*		22 32 27.8	
BAO				*i*		22 32 30.6	
BAO				*i*		22 32 36.0	
BAO				*i*		22 32 43.1	
BAO				*e*		22 35 50.5	
BDFB	**Brasilia**	**142.18**	**251**	PKhKP		22 32 21.3	
	comp=Z,6.2nm,0.6s,baz=175,slow=2.2,SNR=12						
BDFB				PKP	PKPdf	22 32 25.6	+1.6
	comp=Z,12nm,0.7s,baz=127,slow=2.4,SNR=14						
RGRS	**Roger Stewart**	**142.19**	**353**	*e*PKPpre		22 32 20.7	
LRAL	**Lakeview Retre**	**142.29**	**3**	*e*PKPpre		22 32 19.1	
LRAL				LR	LR		
	comp=Z,4μm,22.0s,MS6.1						
NATX	**Nacogdoches**	**142.45**	**14**	*e*PKPpre		22 32 21.8	
NATX				LR	LR		
	comp=Z,4μm,22.0s,MS6.1						
HKT	**Hockley**	**143.87**	**16**	PFAKE		22 32 40.0	+14
HKT				LR	LR		
	comp=Z,582nm,22.0s,MS5.3						
DWPF	**Disney**	**147.07**	**354**	PKPdf	PKPdf	22 32 35.3	+3.1
DWPF	**Disney**	**147.07**	**354**	*e*PKPbc	PKPdf	22 32 35.7	+3.6
DWPF				LR	LR		
	comp=Z,1μm,21.0s,MS5.6						
RPN	**Rapa Nui**	**147.87**	**136**	*e*PKPbc	PKPdf	22 32 39.1	+5.7
RPN				LR	LR		
	comp=Z,372nm,21.0s,MS5.2						
DEG	**La Desirade**	**148.38**	**312**	*e*P	PKPdf	22 32 39.9	+5.3
SEG	**Port Louis**	**148.65**	**313**	*e*P	PKPdf	22 32 39.0	+4.1
CJM	**Chamela**	**148.76**	**39**	*i* P	PKPdf	22 32 38.1	+3.0
BBL	**Barber's Block**	**149.19**	**311**	*e*P	PKPdf	22 32 42.4	+6.6
SFJM	**Santa Fe**	**149.19**	**35**	*i* P	PKPdf	22 32 38.0	+2.3
SJG	**San Juan**	**150.61**	**321**	PKP	PKPdf	22 32 39.4	+1.4
	comp=Z,28nm,1.0s,baz=336,slow=5.7,SNR=5.0						
SJG				PKPbc	PKPdf	22 32 44.7	+6.7
	comp=Z,71nm,0.8s,baz=44,slow=10,SNR=16						
SJG	**San Juan**	**150.61**	**321**	*e*PKPdf	PKPdf	22 32 39.4	+1.4
SJG				LR	LR		
	comp=Z,2μm,22.0s,MS6.0						
MOIG	**Morelia**	**150.86**	**33**	*e*P	PKPdf	22 32 41.8	+3.5
TPR	**Prospect**	**151.16**	**304**	*e*P	PKPdf	22 32 48.6	+10
GRW	**Mount Saint Ca**	**151.35**	**306**	*e*P	PKPdf	22 32 48.3	+9.1
TLL	**Tololo Astrono**	**151.49**	**206**	*e*P	PKPdf	22 32 46.9	+7.9
TRN	**Trinidad (W)**	**151.97**	**303**	*e*P	PKPdf	22 32 49.5	+9.3
TPP	**Pointe-a-Pierr**	**152.18**	**303**	*e*P	PKPdf	22 32 50.3	+10
UNM	**Universidad Na**	**152.19**	**30**	*e*P	PKPdf	22 32 46.0	+5.7
ZIIG	**Zihuatanejo**	**152.37**	**36**	*e*P	PKPdf	22 32 40.6	+0.1
PPM	**Popocatepetl**	**152.69**	**29**	*e*P	PKPdf	22 32 43.0	+2.0
LVIG	**Laguna Verde**	**153.11**	**24**	*e*P	PKPdf	22 32 45.4	+3.8
TEIG	**Tepich**	**154.88**	**7**	PKPbc	PKPdf	22 32 55.1	+11
TEIG				LR	LR		
	comp=Z,1μm,21.0s,MS5.6						
LVC	**Limon Verde**	**156.50**	**220**	PKP	PKPdf	22 32 49.6	+3.6
	comp=Z,5.4nm,0.8s,baz=172,slow=5.0,SNR=7.0						
LVC				PKPab	PKPab	22 33 18.5	+1.1
	comp=Z,20nm,0.8s,baz=118,slow=2.5,SNR=9.7						
LVC	**Limon Verde**	**156.50**	**220**	*e*PKPdf	PKPdf	22 32 48.5	+2.5
LVC				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
LPAZ	**La Paz**	**159.96**	**234**	PKP	PKPdf	22 32 53.4	+2.9
	comp=Z,11nm,0.8s,baz=59,slow=5.4,SNR=35						
LPAZ				PKPab	PKPab	22 33 33.9	+1.5
	comp=Z,7.0nm,0.7s,baz=85,slow=5.6,SNR=4.5						
SDV	**Santo Domingo**	**160.27**	**314**	PKP	PKPdf	22 32 52.4	+1.6
	comp=Z,12nm,1.1s,baz=325,slow=1.8,SNR=16						
SDV				PKPab	PKPab	22 33 34.3	+0.5
	baz=26,slow=3.9,SNR=9.5						
SDV				PP	PP	22 37 17.4	+0.6
	comp=Z,6.7nm,0.7s,baz=13,slow=3.2,SNR=5.5						
SDV	**Santo Domingo**	**160.27**	**314**	*e*PKPdf	PKPdf	22 32 51.7	+0.8
SDV				LR	LR		
	comp=Z,3μm,22.0s						
ARE	**Arequipa**	**162.46**	**228**	*e*P	PKPdf	22 32 58.0	+5.1
ROSC	**El Rosal**	**165.68**	**312**	PKP	PKPdf	22 32 58.5	+2.3
	comp=Z,38nm,1.0s,baz=118,slow=3.7,SNR=25						
ROSC				PKPab	PKPab	22 33 58.9	+1.5
	comp=Z,25nm,0.7s,baz=89,slow=15,SNR=7.9						
OTAV	**Otavalo**	**171.79**	**308**	*e*PKPdf	PKPdf	22 33 01.6	+1.5
OTAV				LR	LR		
	comp=Z,3μm,22.0s						
PAYG	**Puerto Ayora**	**173.25**	**52**	PFAKE		22 33 10.0	+9.2
PAYG				LR	LR		
	comp=Z,1μm,20.0s						

*IDC **09** 22:18:32.8±1.8, 44.07N×127.86W, mb3.6/5, mb1 3.9/8, mb1mx3.8/20, mbtmp3.5/8, ML3.3/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/21, Error ellipse: s-maj=44.9km s-min=15.9km az=51.0*

*NEIC **09** 22:18:32.5±0.7, 43.89N×128.25W, h10km, mb3.7/3, Error ellipse: s-maj=11.3km s-min=6.1km az=53.0*

ISC 09 22:18:31.3±0.9, 43.93N±0.08×128.2W±0.1, h10km, n23, σ0§90/22, mb3.7/6, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBH	**Yreka Blue Hor**	**4.57**	**117**	Pn	**Pn**	**22 19 42.9**	**+0.7**
	0.2nm,0.3s,baz=302,slow=7.0,SNR=3.1						
VLMM	**Larch Mountain**	**4.65**	**68**	P	**Pn**	**22 19 43.2**	**-0.2**
VFP	**Flag Point**	**4.98**	**71**	P	**Pn**	**22 19 48.3**	**+0.3**
ASR	**Mount Adams--S**	**5.16**	**62**	P	**Pn**	**22 19 50.8**	**+0.2**
WPW	**White Pass**	**5.43**	**57**	P	**Pn**	**22 19 54.3**	**0.0**
GSM	**Grass Mountain**	**5.54**	**52**	P	**Pn**	**22 19 56.1**	**+0.1**
OHCM	**Honcut**	**6.79**	**130**	*e*P	**Pn**	**22 20 12.3**	**-1.1**
BMO	**Blue Mountains**	**7.83**	**79**	P	**Pn**	**22 20 24.4**	**-3.7**
BBB	**Bella Bella**	**8.27**	**0**	LR	LR	22 22 57.9	
	comp=Z,40nm,18.9s,baz=72,slow=33						
NVAR	**Mina Array Bea**	**9.24**	**123**	Pn	**P**	**22 20 47.1**	**-0.5**
	baz=288,slow=11,SNR=8.0						
PDAR	**Pinedale Array**	**13.60**	**88**	Pn	**P**	**22 21 48.4**	**+1.9**
	baz=270,slow=7.2,SNR=3.1						
SDCO	**Great Sand Dun**	**18.20**	**102**	*e*P	**P**	**22 22 45.0**	**-0.6**
	2.3nm,0.9s						
YKA	**Yellowknife Ar**	**20.21**	**18**	P	**P**	**22 23 08.1**	**-0.8**
	0.1nm,0.3s,baz=207,slow=11,SNR=22						
YKW3	**Yellowknife Ar**	**20.27**	**18**	*e*P	**P**	**22 23 08.1**	**-1.3**
MNTX	**Cornudas Mount**	**21.67**	**117**	*e*P	**P**	**22 23 23.2**	**-0.7**
	2.8nm,1.0s,mb3.6						
SPU	**Mount Spurr**	**22.36**	**329**	*e*P	**P**	**22 23 30.5**	**-0.1**
ILAR	**Eielson Array**	**23.38**	**340**	P	**P**	**22 23 41.6**	**+1.1**
	0.8nm,0.7s,mb3.2,baz=149,slow=8.3,SNR=13						
TXAR	**Lajitas Array**	**24.35**	**119**	P	**P**	**22 23 50.8**	**+0.5**
	4.3nm,1.1s,mb3.8,baz=294,slow=6.2,SNR=15						
WMOK	**Wichita Mounta**	**24.41**	**102**	*e*P	**P**	**22 23 51.2**	**+0.4**
	4.2nm,0.9s,mb3.9						
INK	**Inuvik**	**24.60**	**355**	P	**P**	**22 23 52.2**	**-0.2**
	2.2nm,1.1s,mb3.6,baz=179,slow=9.8,SNR=3.5						
INK	**Inuvik**	**24.60**	**355**	P	**P**	**22 23 52.2**	**-0.2**
JCT	**Junction City**	**26.13**	**111**	*e*P	**P**	**22 24 06.6**	**-0.6**
LPAZ	**La Paz**	**81.14**	**123**	P	**P**	**22 30 51.5**	**+3.0**
	1.2nm,0.7s,mb4.0,baz=357,slow=10,SNR=7.0						

*MOS **09** 22:27:40.5±1.7, 56.26N×112.66E, h21km, mb4.4/1, Error ellipse: s-maj=24.6km s-min=13.7km az=79.8*

BYKL 09 22:27:41.5±0.4, 56.21N×112.62E, 8C-2D, FELT I=IV
MSK at Yanchukan, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOA	**Uoyan**	**0.51**	**262**	⇑*i*PG	Pg	22 27 51.2	-0.4
YOA				*e*		22 27 57.0	
YOA				pmax	pmax		
	comp=Z,249nm,0.4s						
YOA				smax			
	comp=N,6μm,0.4s						
YOA	**Uoyan**	**0.51**	**262**	*e*Pg	Pg	22 27 51.4	-0.2
YOA				*e*Sg	Sg	22 27 58.9	+0.5
YOA				Pmax			
	comp=N,317nm,0.3s						
YOA				Smax			
	comp=N,6μm,0.4s						
SVKR	**Severomuysk**	**0.53**	**100**	⇑*i*Pg	Pg	22 27 51.5	-0.6
SVKR				*e*Sg	Sg	22 27 59.2	-0.1
SVKR				Pmax			
	comp=N,842nm,0.3s						
SVKR				Smax			
	comp=N,9μm,0.4s						
KMO	**Kumora**	**0.86**	**248**	⇑*i*Pg	Pg	22 27 57.2	-1.5
KMO				*e*Sg	Sg	22 28 08.6	-1.5
KMO				Pmax			
	comp=N,117nm,0.2s						
KMO				Smax			
	comp=N,850nm,0.8s						
UKT	**Uakit**	**0.92**	**141**	*e*PG	Pg	22 27 58.0	-1.9
UKT				*e*		22 28 10.5	
UKT				pmax	pmax		
	comp=Z,273nm,0.2s						
UKT				smax			
	comp=N,2μm,0.2s						
UKT	**Uakit**	**0.92**	**141**	⇓*i*Pg	Pg	22 27 58.1	-1.8
	comp=N,524nm,0.6s						
UKT				⇑*i*Pg	Pg	22 27 58.1	-1.8
	comp=N,343nm,0.6s						
UKT				⇑*i*Pg	Pg	22 27 58.1	-1.8
	comp=N,506nm,0.6s						
UKT				*e*Sg	Sg	22 28 10.5	-1.6
UKT				*e*Sb	Sb	22 28 13.7	+1.1
UKT				Pmax			
	comp=N,587nm,0.7s						
UKT				max			
	comp=N,2μm,0.2s						
YLYR	**Ulyunkhan**	**1.57**	**212**	⇑*i*PN	Pn	22 28 09.3	-1.5
YLYR				*e*		22 28 29.4	
YLYR				pmax	pmax		
	comp=Z,99nm,0.3s						
YLYR				smax			
	comp=E,1μm,0.4s						
YLYR	**Ulyunkhan**	**1.57**	**212**	⇑*i*Pg	Pg	22 28 09.4	-3.5
YLYR				*i* Sg	Sg	22 28 30.5	-3.4
YLYR				Pmax			
	comp=E,81nm,0.3s						
YLYR				Smax			
	comp=E,1μm,0.4s						
NLYR	**Nelyaty**	**1.74**	**79**	*e*PN	Pn	22 28 11.1	-2.1
NLYR				*e*		22 28 33.1	
NLYR				pmax	pmax		
	comp=Z,26nm,0.2s						
NLYR				smax			
	comp=N,1μm,0.8s						
NLYR	**Nelyaty**	**1.74**	**79**	*i* Pn	Pn	22 28 11.3	-1.9
NLYR				⇓*e*Pg	Pg	22 28 13.0	-3.2
NLYR				*i* Sg	Sg	22 28 36.0	-3.4
NLYR				Pmax			
	comp=N,57nm,0.2s						
NLYR				Smax			
	comp=N,1μm,0.6s						
BOD	**Bodaibo**	**1.78**	**25**	*e*PN	Pn	22 28 11.5	-2.3
BOD				*e*		22 28 34.0	
BOD				pmax	pmax		
	comp=Z,60nm,0.3s						
BOD				smax			
	comp=E,914nm,0.4s						
BOD	**Bodaibo**	**1.78**	**25**	*e*Pg	Pg	22 28 12.0	-5.1
BOD				*e*Sg	Sg	22 28 34.9	-5.9
BOD				*e*		22 28 35.9	
BOD				Pmax			
	comp=E,114nm,0.6s						
BOD				max			
	comp=E,922nm,0.4s						
NIZ	**Nizh Angarsk**	**1.78**	**257**	*i* Pn	Pn	22 28 12.5	-1.3
NIZ			⇑	*e*Pg	Pg	22 28 13.8	-3.3
NIZ				*e*Sn	Sn	22 28 35.6	-1.9
NIZ				*e*Sg	Sg	22 28 36.6	-4.3
NIZ				Pmax			
	comp=E,71nm,0.6s						
NIZ				Smax			
	comp=E,505nm,0.7s						
SYVR	**Suvo**	**2.97**	**212**	*e*Pn	Pn	22 28 27.9	-2.9
SYVR				*e*Pg	Pg	22 28 34.0	-6.8
SYVR				*e*Sg	Sg	22 29 12.1	-8.3
SYVR				Pmax			
	comp=E,33nm,0.6s						
SYVR				Smax			
	comp=E,262nm,1.1s						
CRS	**Chara**	**3.20**	**75**	*e*Pn	Pn	22 28 31.5	-2.6
CRS				*e*Pg	Pg	22 28 38.6	-6.8
CRS				*e*		22 28 42.4	
CRS				*e*Sg	Sg	22 29 19.6	-8.5
CRS				max			
	comp=E,50nm,0.6s						
CRS				Smax			
	comp=E,196nm,0.6s						
OGRR	**Ongureny**	**3.88**	**231**	*e*Pn	Pn	22 28 40.6	-3.0
OGRR				*i*		22 28 46.5	
OGRR				*e*Sg	Sg	22 29 42.6	-7.9
OGRR				max			
	comp=E,13nm,0.2s						
OGRR				Smax			
	comp=E,70nm,0.5s						
CIT	**Chita**	**4.23**	**172**	*e*PN	Pn	22 28 57.0	+8.3
CIT				*e*		22 29 52.4	
CIT				pmax	pmax		
	comp=Z,18nm,1.2s						
CIT				smax			
	comp=E,217nm,0.6s						
CIT	**Chita**	**4.23**	**172**	*e*	Pn	22 28 47.9	-0.8
CIT				*e*Pg	Pg	22 28 57.1	-8.9
CIT				*e*Sg	Sg	22 29 52.0	-10
CIT				Pmax			
	comp=E,14nm,0.6s						
CIT				Smax			
	comp=E,217nm,0.4s						
TUP	**Tupik**	**4.55**	**110**	*e*PN	Pn	22 28 49.0	-4.3
TUP				*e*		22 29 01.8	
TUP				*e*S	Sn	22 29 41.9	-5.9
TUP				*e*		22 30 02.0	
TUP				pmax	pmax		
	comp=Z,15nm,0.3s						
TUP				smax			
	comp=N,236nm,1.0s						
TUP	**Tupik**	**4.55**	**110**	*i* Pn	Pn	22 28 49.3	-4.0
TUP				*e*		22 28 53.1	
TUP				*e*Sg	Sg	22 30 02.4	-11
TUP				Smax			
	comp=N,288nm,1.0s						
TRTB	**Turuntaevo**	**4.95**	**218**	*e*	Pn	22 29 27.9	+29
TRTB				*e*Sg	Sg	22 30 13.4	-13
TRTB				Smax			
	comp=N,44nm,0.5s						
TRG	**Tyrgan**	**5.03**	**229**	*e*Pn	Pn	22 28 55.9	-4.1
TRG				*e*Pg	Pg	22 29 10.9	-11
TRG				*e*		22 29 17.9	
TRG				*e*Sg	Sg	22 30 16.1	-13
TRG				max			
	comp=N,7.0nm,0.8s						
TRG				Smax			
	comp=N,45nm,1.3s						
KPC	**Khapcheranga**	**6.52**	**181**	*e*PG	Pg	22 29 40.0	-12
KPC				*e*		22 31 04.1	
KPC				pmax	pmax		
	comp=Z,12nm,1.8s						
KPC				smax			
	comp=E,79nm,0.8s						
KPC	**Khapcheranga**	**6.52**	**181**	*e*Pg	Pg	22 29 38.6	-13
KPC				*e*Sg	Sg	22 31 03.0	-16
KPC				Pmax			
	comp=E,4.0nm,1.0s						
KPC				Smax			
	comp=E,119nm,2.0s						
TLY	**Talaya**	**6.97**	**233**	*e*Sg	Sg	22 31 16.0	-18
TLY				Smax			
	comp=E,61nm,1.7s						
ARS	**Arshan**	**7.38**	**239**	*e*PG	Pg	22 29 54.8	-14
ARS				*e*		22 31 31.0	
ARS				pmax	pmax		
	comp=Z,3.0nm,0.2s						
ARS				smax			
	comp=E,107nm,0.9s						
ARS	**Arshan**	**7.38**	**239**	*e*Sg	Sg	22 31 30.4	-17
ARS				Smax			
	comp=E,85nm,1.0s						
ORL	**Orlik**	**8.33**	**249**	*e*		22 31 24.9	
ORL				*e*Sg	Sg	22 32 00.1	-19
ORL				Smax			
	comp=E,35nm,1.6s						

*NEIC **09** 22:31:31.2, 17.28N×95.03W, h134km, MD3.7(MEX), After MEX.*

MEX 09 22:31:31.2±1.2, 17.28N×95.03W, h134km±12km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.23**	**142**	*i* P	P	22 31 48.6	-1.1
CMIG				*i* S	S	22 32 01.4	-2.6
OXX	**Oaxaca**	**1.63**	**263**	*e*P	P	22 32 01.7	+0.3
OXX				*i* S	S	22 32 23.3	-1.3
VHO	**Vista Hermosa**	**1.64**	**263**	*i* P	P	22 32 00.6	-1.0
VHO				*i* S	S	22 32 23.2	-1.6
VHO				*i* S	S	22 32 23.5	-1.3
VHO	**Vista Hermosa**	**

MBWA Marble Bar 15.75 211 *eP* **P 22 40 51.6 +0.2**
8.1nm,0.9s

ASAR Alice Springs 16.72 162 Pn **P 22 41 05.0 +1.7**
0.5nm,0.3s,baz=336,slow=11,SNR=26

ASAR Sn **S 22 44 03.5 +0.2**
0.7nm,0.3s,baz=331,slow=21,SNR=7.8

ASPA Alice Springs 16.72 162 *eP* **P 22 41 06.3 +3.0**

ASPA *eS* **S 22 44 04.3 +1.0**

STKA Stephens Creek 27.00 155 P **P 22 42 53.4 +6.4**
1.0nm,0.5s,mb3.8,baz=328,slow=8.2,SNR=4.7

CMAR Chiang Mai Arr 38.98 312 P **P 22 44 30.6 +0.1**
0.9nm,0.8s,mb3.5,baz=141,slow=6.8,SNR=7.3

LSA Lhasa 51.62 318 *eP* **P 22 46 10.8 +0.2**
4.6nm,0.6s,mb4.3

SONM Songino Array 58.63 343 P **P 22 47 01.2 +0.3**
2.3nm,0.8s,mb4.1,baz=172,slow=6.7,SNR=2.7

BRVK Borovoye 77.89 328 P **P 22 48 59.0 -0.9**
2.2nm,0.8s,mb3.8

CHKZ Chkalovo 78.04 329 *eP* **P 22 48 59.9 -0.8**
1.0nm,0.7s,mb3.5

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*JMA **09** 22:51:17.0±0.3,24.37N×122.14E,h26km,M3.3*
TAP 09 22:51:19.1,24.67N×122.23E,h3km,ML3.4,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.74**	**106**	P	Pg	22 51 31.8	-2.1
YOJ				*eS*	Sg	22 51 42.3	-1.4
IRIF	**Iriomote-Funau**	**1.41**	**103**	P	Pb	22 51 41.8	-3.8
IRIF				*eS*	Sb	22 51 59.5	-4.4
HATJ	**Hateruma jima**	**1.56**	**113**	*eS*	Sb	22 52 03.8	-4.6
JKRS	**Kuro-shima**	**1.68**	**105**	P	Pn	22 51 46.1	-3.4
JKRS				*eS*	Sb	22 52 06.4	-5.3
JIJ	**Ishigaki jima**	**1.77**	**100**	P	Pn	22 51 46.9	-3.9
JIJ				*eS*	Sn	22 52 07.3	-6.8
JTJ	**Tarama**	**2.25**	**90**	P	Pn	22 51 54.8	-2.9

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*IDC **09** 23:03:09.6±4.6, 6.53N×92.27E, h32km±8km, mb3.3/3, mb1 3.6/4, mb1mx3.4/16, mbtmp3.5/4, ML4.1/1, Error ellipse: s-maj=139.8km s-min=22.5km az=74.0*
*NEIC **09** 23:03:10.5±0.9, 6.47N×92.42E, mb4.3/1, Error ellipse: s-maj=18.0km s-min=15.8km az=188.0*
ISC 09 23:03:08.2±0.9, 6.5N±0.1×92.4E±0.1, h32km, h32km±1.0km:pP-P, n7, σ0§61/8, mb4.0/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**11.62**	**275**	*e*Pn	**P**	**23 05 55.6**	**+0.5**
PALK				*e*Sn	**S**	**23 07 56.1**	**-8.7**
CMAR	**Chiang Mai Arr**	**13.51**	**28**	Pn	**P**	**23 06 21.2**	**+0.8**
0.3nm,0.3s,baz=231,slow=14,SNR=11							
SONM	**Songino Array**	**42.91**	**14**	P	**P**	**23 11 05.2**	**-0.4**
0.4nm,0.9s,mb3.1,baz=194,slow=6.3,SNR=2.9							
SONM				pP	pP	23 11 14.0	-1.1
0.3nm,0.7s,baz=187,slow=12,SNR=3.0							
WRA	**Warramunga Arr**	**48.92**	**123**	P	**P**	**23 11 53.7**	**0.0**
0.4nm,0.6s,mb3.6,baz=302,slow=10,SNR=3.7							
WRA				pP	pP	23 12 03.7	+0.4
0.5nm,0.5s,baz=306,slow=8.3,SNR=2.8							
WRAB	**Tennant Creek**	**48.92**	**123**	*e*P	**P**	**23 11 47.0**	**-6.7**
20nm,1.5s,mb4.9							
CHKZ	**Chkalovo**	**50.27**	**343**	*e*P	**P**	**23 12 02.6**	**-1.0**
1.3nm,0.4s,mb4.3							
ASAR	**Alice Springs**	**50.41**	**128**	P	**P**	**23 12 05.0**	**0.0**
0.6nm,0.7s,mb3.7,baz=306,slow=7.5,SNR=5.0							
ASAR				pP	pP	23 12 15.1	+0.3
0.8nm,0.8s,baz=311,slow=7.5,SNR=4.2							

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*IDC **09** 23:18:00.4±0.5, 24.89S×70.00E, mb4.5/16, mb1 4.6/16, mb1mx4.6/20, mbtmp4.5/16, MS4.4/5, Ms1 4.4/5, ms1mx4.2/17, Error ellipse: s-maj=21.1km s-min=15.5km az=55.0*
*BJI **09** 23:18:01.7, 24.80S×69.90E, h10km, mB5.1, mb4.7, Ms5.1, Msz4.8*
*HRVD **09** 23:18:01.7±0.8, 24.60S×69.79E, h12km, MW5.1/41, Centroid moment Tensor Solution. LP body waves: s10,c12;Mantle waves: s41,c58; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.46±.28; Mθθ0.90±.24; Mφφ2.56±.26; Mrθ1.98±1.04; Mθφ-1.88±.22; Mφr3.51±.90; Best double couple: M0 5.246×10^16 NP1:φs307°, δ35°, λ-141°. NP2:φs183°, δ69°, λ-62°. Principal axes: T 4.446, Plg19°, Azm252°; N 1.596, Plg26°, Azm352°; P -6.047, Plg57°, Azm130°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 23:18:01.7±0.2, 24.84S×69.92E, h10km, mb5.1/28 Error ellipse: s-maj=12.4km s-min=8.1km az=60.0*
ISC 09 23:18:00.0±0.3, 24.89S±0.07×69.98E±0.09, h10km, (h18km±1.1km:pP-P), n104, σ0§95/81, mb4.8/44, MS4.6/7, 6C-9D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**39.46**	**302**	P	**P**	**23 25 34.0**	**+1.5**
8.7nm,1.0s,mb4.5,baz=107,slow=3.9,SNR=14							
KMBO	**Kilima Mbogo**	**39.46**	**302**	*e*P	**P**	**23 25 33.8**	**+1.4**
13nm,1.1s,mb4.6							
KMBO				*e*		23 25 39.7	
LSZ	**Lusaka**	**40.26**	**276**	*e*P	**P**	**23 25 40.6**	**+1.6**
10nm,1.2s,mb4.4							
MAW	**Mawson**	**42.95**	**184**	P	**P**	**23 26 01.6**	**+1.2**
9.4nm,1.2s,mb4.4,baz=17,slow=11,SNR=3.3							
MAW				LR	LR	23 40 08.8	
comp=Z,396nm,18.5s,MS4.3,baz=194,slow=31							
SYO	**Syowa Base**	**47.72**	**194**	⇑P	**P**	**23 26 37.1**	**-1.4**
SYO	**Syowa Base**	**47.72**	**194**	⇓sP	sP	23 26 44.1	+1.3
CASY	**Casey**	**48.55**	**159**	*e*P	**P**	**23 26 47.5**	**+2.5**
5.3nm,0.7s,mb4.7							
CMAR	**Chiang Mai Arr**	**51.50**	**36**	P	**P**	**23 27 07.5**	**-0.7**
2.4nm,0.9s,mb4.1,baz=227,slow=6.0,SNR=4.5							
CMAR				LR	LR	23 44 23.7	
comp=Z,315nm,20.6s,MS4.3,baz=205,slow=31							
ASAR	**Alice Springs**	**57.78**	**103**	P	**P**	**23 27 54.0**	**0.0**
1.5nm,0.6s,mb4.2,baz=252,slow=6.0,SNR=12							
ASAR				PcP	PcP	23 28 44.5	-2.0
0.9nm,0.7s,baz=247,slow=4.7,SNR=4.4							
ASAR				LR	LR	23 50 12.1	
comp=Z,260nm,18.2s,MS4.4,baz=297,slow=33							
WRA	**Warramunga Arr**	**59.23**	**99**	P	**P**	**23 28 03.3**	**-0.8**
5.4nm,1.0s,mb4.5,baz=256,slow=6.8,SNR=16							
WRAB	**Tennant Creek**	**59.24**	**99**	*e*P	**P**	**23 28 03.3**	**-0.9**
WRAB				*e*		23 28 10.0	
SNAA	**Sanae**	**61.19**	**200**	P	**P**	**23 28 15.9**	**-0.9**
2.1nm,0.9s,mb4.2,baz=87,slow=9.7,SNR=6.0							
TGY	**Tagaytay City**	**63.02**	**58**	LR	LR	23 53 37.4	
comp=Z,403nm,20.2s,MS4.6,baz=50,slow=34							
EIL	**Elat**	**63.83**	**326**	*e*P	**P**	**23 28 33.2**	**-1.8**
8.5nm,1.0s,mb4.7							
ASF	**Jabal al Asfar**	**64.94**	**329**	P	**P**	**23 28 43.2**	**+1.0**
12nm,1.1s,mb4.8,baz=186,slow=5.6,SNR=5.5							
QSPA	**South Pole Qui**	**65.24**	**180**	⇑*i*P	**P**	**23 28 43.0**	**-0.4**
27nm,0.9s,mb5.3							
VNDA	**Vanda**	**66.29**	**166**	P	**P**	**23 28 51.1**	**+0.9**
5.7nm,0.8s,mb4.7,baz=110,slow=8.0,SNR=3.7							
AAK	**Ala-Archa**	**67.31**	**4**	P	**P**	**23 28 57.0**	**-0.2**
11nm,1.2s,mb4.8							
AAK				*e*		23 29 02.5	
GNI	**Garni**	**68.85**	**339**	P	**P**	**23 29 08.0**	**+1.2**
2.1nm,0.6s,mb4.2,baz=105,slow=23,SNR=5.4							
GNI	**Garni**	**68.85**	**339**	*e*P	**P**	**23 29 07.0**	**+0.2**
40nm,1.6s,mb5.1							
GNI				*e*		23 29 13.8	
MALT	**Malatya**	**69.49**	**334**	*e*P	**P**	**23 29 11.3**	**+0.6**
5.4nm,1.2s,mb4.3							
WMQ	**Urumqi**	**70.28**	**14**	*e*P	**P**	**23 29 16.1**	**+0.6**
WMQ				AP	pP	23 29 20.4	+1.8
WMQ				XP	sP	23 29 22.7	+3.0
WMQ				PP	PP	23 31 53.4	+0.4
WMQ				S	S	23 38 25.9	-0.2
WMQ				XS		23 38 33.7	
WMQ				AMB	AMB		
comp=Z,12nm,1.8s,mb4.5							
WMQ				AMB	AMB		
comp=Z,83nm,7.2s							
WMQ				LR	LR		
comp=N,811nm,22.5s,MS4.9							
WMQ				LR	LR		
comp=E,344nm,24.8s,MS4.9							
WMQ				LR	LR		
comp=Z,743nm,22.6s,MS4.9							
BRTR	**Keskin Array B**	**72.68**	**331**	P	**P**	**23 29 29.9**	**0.0**
comp=Z,6.3nm,1.1s,mb4.5,baz=162,slow=7.8,SNR=24							
KIV	**Kislovodsk**	**72.94**	**340**	*e*P	**P**	**23 29 30.9**	**-0.5**
comp=Z,14nm,1.1s,mb4.8							
NJ2	**Nanjing**	**73.37**	**42**	*e*P	**P**	**23 29 34.9**	**+0.7**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb5.0							
PMG	**Port Moresby**	**74.52**	**93**	LR	LR	23 57 31.2	
comp=Z,338nm,21.8s,MS4.6,baz=30,slow=32							
BVAR	**Borovoye Array**	**77.58**	**0**	P	**P**	**23 29 56.8**	**-0.9**
comp=Z,4.1nm,0.7s,mb4.4,baz=146,slow=10,SNR=4.2							
BRVK	**Borovoye**	**77.62**	**0**	*e*P	**P**	**23 29 57.2**	**-0.6**
CHKZ	**Chkalovo**	**78.24**	**0**	P	**P**	**23 30 00.6**	**-0.7**
comp=Z,18nm,1.2s,mb4.9							
CHKZ				*e*		23 30 07.7	
TIRR	**Tirgusor**	**78.79**	**331**	⇓P	**P**	**23 30 04.2**	**-0.3**
DBIC	**Dimbokro**	**79.18**	**283**	P	**P**	**23 30 06.9**	**-0.4**
comp=Z,7.7nm,0.9s,mb4.6,baz=146,slow=6.2,SNR=6.9							
SONM	**Songino Array**	**79.45**	**24**	P	**P**	**23 30 09.9**	**+1.9**
comp=Z,1.8nm,0.7s,mb4.1,baz=201,slow=9.5,SNR=5.7							
ULN	**Ulaanbaatar**	**79.72**	**24**	*e*P	**P**	**23 30 11.2**	**+1.8**
comp=Z,8.8nm,1.1s,mb4.6							
VTS	**Vitosha**	**79.80**	**327**	⇑P	**P**	**23 30 09.1**	**-0.9**
VRI	**Vrincioaia**	**80.63**	**331**	⇑P	**P**	**23 30 15.2**	**+0.9**
MLR	**Muntele Rosu**	**80.69**	**330**	P	**P**	**23 30 15.6**	**+0.9**
comp=Z,9.4nm,0.7s,mb4.8,baz=147,slow=7.8,SNR=9.2							
MLR	**Muntele Rosu**	**80.69**	**330**	⇓P	**P**	**23 30 15.6**	**+0.9**
BURAR	**Bucovina Array**	**82.64**	**331**	⇑P	**P**	**23 30 25.0**	**+0.2**
PKSM	**Moragy**	**84.67**	**327**	⇓*e*P	**P**	**23 30 35.4**	**+0.2**
AQU	**L'Aquila**	**84.84**	**322**	*e*P	**P**	**23 30 35.9**	**-0.3**
comp=Z,8.5nm,0.8s,mb4.9							
KOLS	**Kolonicke sedl**	**84.93**	**331**	*e*P	**P**	**23 30 36.5**	**+0.1**
KOLS				*e*		23 30 46.0	
KWP	**Kalwaria**	**85.26**	**331**	*e*P	**P**	**23 30 38.4**	**+0.4**
SRO2	**Moca**	**85.88**	**328**	*e*	**P**	**23 30 47.2**	**+6.0**
VYHS	**Vyhne**	**86.19**	**329**	*i* P	**P**	**23 30 43.3**	**+0.6**
VYHS				*e*sP	sP	23 30 49.2	+2.3
PDKS	**Podkum**	**86.42**	**325**	*e*P	**P**	**23 30 44.2**	**+0.4**
ZST	**Bratislava**	**86.81**	**328**	*e*P	**P**	**23 30 45.6**	**-0.1**
SMOL	**Smolenice**	**86.87**	**328**	*e*P	**P**	**23 30 46.2**	**+0.2**
ARSA	**Arzberg**	**86.95**	**326**	⇑*i*P	**P**	**23 30 47.4**	**+1.0**
comp=Z,14nm,1.1s,mb5.1							
OJC	**Ojcow**	**86.97**	**330**	*e*P	**P**	**23 30 47.3**	**+0.8**
OKC	**Ostrava-Krasne**	**87.45**	**329**	*e*P	**P**	**23 30 49.3**	**+0.5**
OKC				*e*pP	pP	23 30 55.6	+3.6
OKC				*ex*	x	23 31 00.8	
MORC	**Moravsky Berou**	**87.69**	**329**	*e*P	**P**	**23 30 49.6**	**-0.3**
comp=Z,12nm,0.9s,mb5.1							
MORC				*e*		23 30 56.3	
MOA	**Molln**	**87.98**	**326**	⇓*i*P	**P**	**23 30 51.8**	**+0.4**
comp=Z,33nm,1.1s,mb5.5							
MDJ	**Mudanjiang**	**87.98**	**38**	P	**P**	**23 30 51.0**	**-0.5**
MDJ				PCP	PcP	23 30 52.6	-1.1
MDJ				PP	PP	23 34 16.6	-3.8
MDJ				S	S	23 41 34.9	+1.9
MDJ				SS	SS	23 47 24.0	-0.4
MDJ				AMB	AMB		
comp=Z,8.0nm,1.3s,mb4.8							
MDJ				AMB	AMB		
comp=Z,171nm,6.6s							
MDJ				LR	LR		
comp=N,428nm,19.4s,MS5.0							
MDJ				LR	LR		
comp=E,466nm,19.4s,MS5.0							
MDJ				LR	LR		
comp=Z,562nm,18.6s,MS5.0							
SUW	**Suwalki**	**88.34**	**335**	*e*P	**P**	**23 30 54.0**	**+1.1**
SUW	**Suwalki**	**88.34**	**335**	*e*P	**P**	**23 30 54.0**	**+1.1**
DPC	**Dobruska-Polom**	**88.66**	**329**	*e*P	**P**	**23 30 54.9**	**+0.3**
UPC	**Upice**	**88.91**	**329**	*e*P	**P**	**23 30 56.8**	**+1.0**
UPC				*e*pP	pP	23 31 03.1	+4.1
UPC				*ex*	x	23 31 07.7	
GERES	**GERESS Array B**	**88.92**	**327**	P	**P**	**23 30 55.5**	**-0.3**
comp=Z,2.7nm,1.0s,mb4.5,baz=146,slow=4.8,SNR=10							
WTTA	**Wattenberg**	**88.96**	**325**	⇓*i*P	**P**	**23 30 56.5**	**+0.4**
comp=Z,28nm,1.1s,mb5.5							
KSP	**Ksiaz**	**89.01**	**329**	*e*P	**P**	**23 30 57.2**	**+1.0**
KSP				*e*		23 31 03.1	
KSP	**Ksiaz**	**89.01**	**329**	*e*P	**P**	**23 30 56.5**	**+0.2**
SQTA	**Sankt Quirin**	**89.16**	**324**	⇓*i*P	**P**	**23 30 57.3**	**+0.3**
comp=Z,16nm,1.1s,mb5.2							
KHC	**Kasperske Hory**	**89.17**	**327**	*e*P	**P**	**23 30 56.5**	**-0.5**
KHC				*e*pP	pP	23 31 02.7	+2.5
KHC				*ex*	x	23 31 08.5	
SBF	**Sospel**	**89.21**	**320**	*e*P	**P**	**23 30 55.8**	**-1.5**
comp=Z,37nm,0.9s,mb5.4							
PRU	**Pruhonice**	**89.26**	**328**	*e*P	**P**	**23 30 58.1**	**+0.7**
PRU				*ex*	x	23 31 04.1	
MOTA	**Moosalm**	**89.29**	**324**	⇓*i*P	**P**	**23 30 57.7**	**0.0**
comp=Z,11nm,1.0s,mb5.2							
LMR	**La Mourre**	**89.44**	**319**	*e*P	**P**	**23 30 56.9**	**-1.6**
FRF	**La Foret Royal**	**89.49**	**319**	*e*P	**P**	**23 30 57.4**	**-1.3**
comp=Z,35nm,1.2s,mb5.2							
PVCC	**Panska Ves**	**89.61**	**328**	*e*P	**P**	**23 31 00.1**	**+1.0**
PVCC				*e*pP	pP	23 31 05.5	+3.2
PVCC				*ex*	x	23 31 11.3	
DAVA	**Damuels**	**89.91**	**324**	⇓*i*P	**P**	**23 31 01.2**	**+0.7**
comp=Z,20nm,0.9s,mb5.5							
MBDF	**Montbardon**	**90.10**	**320**	*e*P	**P**	**23 31 00.8**	**-0.7**
comp=Z,58nm,1.4s,mb5.4							
BRG	**Berggiesshubel**	**90.14**	**328**	*e*P	**P**	**23 30 59.6**	**-1.9**
comp=Z,18nm,1.6s,mb5.2							
BRG				*e*		23 31 08.9	
BRG				*e*		23 32 14.3	
NKC	**Novy Kostel**	**90.44**	**327**	*e*P	**P**	**23 31 04.2**	**+1.3**
NKC				*ex*	x	23 31 10.5	
NKC				*ex*	x	23 31 15.1	
LPG	**La Plagne**	**90.56**	**321**	*e*P	**P**	**23 31 02.5**	**-1.1**
comp=Z,5.5nm,0.9s,mb4.6							
LPL	**La Plagne**	**90.58**	**321**	*e*P	**P**	**23 31 02.4**	**-1.3**
comp=Z,26nm,1.2s,mb5.1							
GRA1	**Grafenberg Arr**	**90.71**	**326**	*e*P	**P**	**23 31 05.1**	**+0.9**
comp=Z,12nm,1.3s,mb5.1							
GRF	**Grafenberg Arr**	**90.71**	**326**	*e*P	**P**	**23 31 05.1**	**+0.9**
comp=Z,12nm,1.3s,mb5.1							
ORIF	**Oris-en-Rattie**	**90.73**	**320**	*e*P	**P**	**23 31 03.3**	**-1.1**
CLL	**Collm**	**90.87**	**328**	*e*P	**P**	**23 31 05.0**	**+0.1**
CLL	**Collm**	**90.87**	**328**	P	**P**	**23 31 05.0**	**+0.1**
VIVF	**Saint-Julien-l**	**91.40**	**320**	*e*P	**P**	**23 31 06.5**	**-1.0**
SSF	**Saint Saulge**	**93.30**	**321**	*e*P	**P**	**23 31 14.4**	**-1.8**
comp=Z,11nm,1.1s,mb4.9							
BGF	**Bois d'Agland**	**93.41**	**320**	*e*P	**P**	**23 31 14.7**	**-2.0**
ESDC	**Sonseca Array**	**94.14**	**312**	P	**P**	**23 31 19.3**	**-0.9**
comp=Z,2.1nm,1.0s,mb4.5,baz=123,slow=3.0,SNR=6.3							
YKA	**Yellowknife Ar**	**142.28**	**3**	PKiKP		23 37 28.1	
comp=Z,0.3nm,0.7s,baz=335,slow=3.8,SNR=4.6							
YKA				PKP	PKPdf	23 37 31.6	-3.6
comp=Z,0.9nm,0.8s,baz=342,slow=2.9,SNR=6.9							
YKA				PP	PP	23 40 41.0	-1.6
comp=Z,1.8nm,1.2s,baz=353,slow=6.9,SNR=8.5							
YKA	**Yellowknife Ar**	**142.28**	**3**	PKP	PKPdf	23 37 28.1	-7.1
YKA				PKP	PKPdf	23 37 31.6	-3.6
YKA				PP	PP	23 40 41.0	-1.6
FCC	**Fort Churchill**	**144.33**	**346**	*e*PKPdf	PKPdf	23 37 35.1	-3.8
FCC				*e*		23 37 41.2	
MIV	**Mineville/With**	**144.73**	**312**	*e*PKPdf	PKPdf	23 37 37.6	-2.5
NCB	**Newcomb**	**145.23**	**312**	*e*PKPdf	PKPdf	23 37 39.1	-1.9
NCB				*e*		23 37 44.7	
MSNY	**Massena**	**145.26**	**314**	*e*PKPbc	PKPbc	23 37 39.1	+0.7
PAL	**Palisades**	**145.98**	**307**	*e*PKPdf	PKPdf	23 37 41.1	-1.2
SDMD	**Soldier's Deli**	**148.60**	**306**	*e*PKPbc	PKPdf	23 37 48.3	+1.7
SSPA	**Standing Stone**	**148.96**	**308**	*e*PKPbc	PKPdf	23 37 49.4	+2.2
SSPA				*e*PKPab	PKPab	23 37 55.4	+0.9
MCWV	**Mont Chateau**	**150.71**	**308**	*e*PKPdf	PKPdf	23 37 50.1	+0.2
MCWV				*e*PKPbc	PKPdf	23 37 54.9	+4.9
MCWV				*e*PKPab	PKPab	23 38 00.7	-1.0
EDM	**Edmonton**	**151.60**	**4**	*e*PKPbc	PKPdf	23 37 55.7	+4.9
EDM				*e*PKPab	PKPab	23 38 02.2	-2.8
BLA	**Blacksburg**	**151.95**	**303**	*e*PKPbc	PKPdf	23 37 57.0	+5.2
ELN	**Prospectdale**	**152.19**	**303**	*e*PKPbc	PKPdf	23 37 56.9	+4.7
ELN				*e*		23 38 03.8	
PWV	**Princeton**	**152.38**	**304**	*e*PKPbc	PKPdf	23 37 57.9	+5.4
PWV				*e*		23 38 03.9	
EYMN	**Ely**	**152.72**	**332**	*e*PKPbc	PKPdf	23 37 58.2	+5.6
EYMN				*e*		23 38 04.2	
HLID	**Hailey**	**161.03**	**10**	PKPdf	PKPdf	23 38 02.8	-0.4
PDAR	**Pinedale Array**	**162.16**	**359**	PKP	PKPdf	23 38 03.6	-0.7
comp=Z,1.0nm,0.9s,baz=90,slow=1.5,SNR=6.0							
PDAR				PKPab	PKPab	23 38 49.7	-0.9
comp=Z,0.5nm,0.9s,baz=90,slow=2.7,SNR=2.3							
NVAR	**Mina Array Bea**	**164.78**	**26**	PKP	PKPdf	23 38 07.3	+0.2
comp=Z,0.2nm,0.3s,baz=308,slow=1.2,SNR=4.3							
NVAR				PKPab	PKPab	23 39 03.0	+1.0
comp=Z,0.6nm,0.7s,baz=304,slow=3.1,SNR=3.9							
NVAR	**Mina Array Bea**	**164.78**	**26**	PKP	PKPdf	23 38 07.3	+0.2
NVAR				PKPab	PKPab	23 39 03.0	+1.0
TXAR	**Lajitas Array**	**172.82**	**309**	PKP	PKPdf	23 38 11.6	-1.0
comp=Z,0.4nm,0.9s,baz=180,slow=8.8,SNR=3.8							
TXAR				PKPab	PKPab	23 39 38.3	+0.7
comp=Z,0.6nm,0.7s,baz=52,slow=4.9,SNR=6.1							
TXAR				PP	PP	23 43 31.9	+1.8
comp=Z,1.7nm,1.1s,baz=45,slow=1.8,SNR=8.2							

IDC 09 23:20:00.8±15.0, 0.31N×126.34E, mb3.7/3, mb1 4.0/3, mb1mx3.7/13, mbtmp3.8/3, Error ellipse: s-maj=243.2km s-min=161.6km az=160.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.60**	**159**	P	P	23 24 52.1	-2.4
1.1nm,0.4s,baz=337,slow=10,SNR=16							
ASAR	**Alice Springs**	**24.94**	**163**	P	P	23 25 26.1	-1.3
0.9nm,0.5s,baz=346,slow=7.2,SNR=11							
STKA	**Stephens Creek**	**35.12**	**157**	P	P	23 26 56.3	-1.9
1.1nm,0.5s,baz=337,slow=12,SNR=5.8							

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*IDC **09** 23:20:33.5±0.6, 10.56N×92.23E, mb4.8/20, mb1 4.9/21, mb1mx4.8/25, mbtmp4.7/21, ML4.4/1, MS4.4/4, Ms1 4.5/4, ms1mx3.7/25, Error ellipse: s-maj=25.7km s-min=12.2km az=52.0*
*BJI **09** 23:20:34.1, 10.40N×92.24E, h29km, mB5.3, mb5.0, Ms4.7, Msz4.4*
*MOS **09** 23:20:36.6±1.1, 10.73N×92.58E, h33km, mb5.1/12, Error ellipse: s-maj=20.6km s-min=9.7km az=110.1*
*HRVD **09** 23:20:37.0±1.0, 10.35N×92.37E, h15km±2km, MW5.4/28, Centroid moment Tensor Solution. LP body waves: s16,c19;Mantle waves: s28,c32; Half duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr0.19±.06; Mθθ0.01±.04; Mφφ-0.20±.04; Mrθ0.86±.19; Mθφ0.03±.03; Mφr-1.44±.23; Best double couple: M0 1.691×10^17 NP1:φs12°, δ4°, λ132°. NP2:φs149°, δ87°, λ87°. Principal axes: T 1.703, Plg48°, Azm56°; N -.023, Plg3°, Azm149°; P -1.68, Plg42°, Azm242°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 23:20:37.0±0.2, 10.53N×92.28E, mb4.9/25 Error ellipse: s-maj=6.4km s-min=4.8km az=223.0*
ISC 09 23:20:34.3±1.3, 10.53N±0.04×92.29E±0.04, h20km±9km, h24km±2.9km:pP-P, n121, σ1§14/122, mb4.8/52, MS4.6/9, 16C-4D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.20**	**22**	*e*P	**Pn**	**23 20 58.2**	**+1.9**
PBA				*e*S	**Sb**	**23 21 15.7**	**+4.3**
PBA				*e*		23 21 22.9	
comp=N,23μm,0.4s							
PBA				*e*		23 21 23.1	
comp=E,29μm,0.5s							
CMAR	**Chiang Mai Arr**	**10.18**	**39**	Pn	**P**	**23 23 02.3**	**-0.4**
comp=E,0.8nm,0.3s,baz=232,slow=14,SNR=97							
CMAR				LR	LR	23 27 47.1	
comp=E,2μm,18.5s,baz=346,slow=43							
VIS	**Vishakhapatnam**	**11.24**	**310**	*e*P	**P**	**23 23 14.5**	**-2.8**
VIS				*e*S	**S**	**23 25 08.8**	**-15**
VIS				*e*		23 25 11.7	
comp=N,202nm,0.7s							
VIS				*e*		23 25 11.7	
comp=E,120nm,0.6s							
BWNR	**Bhubaneshwar**	**11.54**	**328**	*e*P	**P**	**23 23 16.1**	**-5.2**
BWNR				*e*		23 25 11.4	
BWNR				*e*		23 25 21.1	
comp=E,365nm,0.5s							
BWNR				*e*		23 25 21.2	
comp=N,145nm,0.3s							
PALK	**Pallekele**	**11.89**	**255**	*e*P	**P**	**23 23 25.1**	**-1.0**
comp=N,67nm,0.5s							
PALK				S	S	23 25 16.1	-23
MDRS	**Chennai**	**12.05**	**283**	*e*P	**P**	**23 23 26.0**	**-2.2**
MDRS				*e*		23 25 26.0	
IMP	**Imphal**	**14.26**	**6**	*e*P	**P**	**23 23 55.5**	**-2.0**
SHL	**Shillong**	**14.96**	**359**	*e*P	**P**	**23 24 07.0**	**+0.3**
SHL				*e*S	**S**	**23 26 40.0**	**-13**
HYB	**Hyderabad**	**14.97**	**299**	*e*P	**P**	**23 24 03.5**	**-3.4**
HYB				*e*S	**S**	**23 26 35.5**	**-18**
HYB	**Hyderabad**	**14.97**	**299**	*i* P	**P**	**23 24 03.5**	**-3.4**
HYB				*e*S	**S**	**23 26 35.5**	**-18**
BLSP	**Bilaspur**	**15.09**	**321**	*e*P	**P**	**23 24 07.1**	**-1.3**
BLSP				*e*		23 24 08.4	
comp=Z,31nm,0.9s							
BLSP				*e*S	**S**	**23 26 38.9**	**-17**
NGP	**Nagpur**	**16.53**

comp=E,900nm,14.5s,MS4.8
NJ2 LR LR
comp=Z,1μm,23.0s
WMQ Urumqi 33.40 354 P **P 23 27 15.2 +1.3**
WMQ AP pP 23 27 22.2 +2.6
WMQ XP sP 23 27 25.5 +3.3
WMQ PP PP 23 28 27.3 +1.4
WMQ AMB AMB
comp=Z,4.0nm,0.8s,mb4.4
WMQ AMB AMB
comp=Z,45nm,4.9s
WMQ LR LR
comp=N,2μm,18.2s,MS4.9
WMQ LR LR
comp=E,1μm,21.2s,MS4.9
WMQ LR LR
comp=Z,2μm,18.7s,MS4.8
AAK Ala-Archa 35.56 337⇑*iP* **P 23 27 31.8 -0.6**
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
AAK Ala-Archa 35.56 337 *eP* **P 23 27 32.8 +0.5**
comp=Z,14nm,1.4s,mb4.7
FRU Bishkek 35.68 337 *eP* **P 23 27 35.0 +1.6**
BJT Baijiatuau 36.21 32 *eP* **P 23 27 38.5 +0.6**
comp=Z,16nm,0.7s,mb5.1
MK02 Makanchi Array 37.09 349 P **P 23 27 45.6 +0.3**
MK02 pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
SONM Songino Array 39.03 15 P **P 23 28 02.2 +0.7**
comp=Z,7.4nm,0.8s,mb4.5,baz=202,slow=7.7,SNR=73
SONM PcP PcP 23 30 13.1 +1.1
comp=Z,2.5nm,0.7s,baz=201,slow=3.0,SNR=6.6
ULN Ulaanbaatar 39.23 16⇑*iP* **P 23 28 02.4 -0.8**
ULN Ulaanbaatar 39.23 16 *eP* **P 23 28 03.4 +0.2**
comp=Z,19nm,1.3s,mb4.7
ZAK Zakamensk 40.75 11 *eP* **P 23 28 19.0 +3.3**
ZAK *e* 23 30 18.0
MBWA Marble Bar 41.46 139 *eP* **P 23 28 21.7 -0.1**
comp=Z,19nm,1.2s,mb4.6
SNY Shenyang 41.52 36⇑P **P 23 28 22.1 0.0**
SNY AMB AMB
comp=Z,20nm,0.8s,mb4.8
SNY LR LR
comp=E,690nm,17.6s
SNY LR LR
comp=Z,580nm,17.4s,MS4.5
TLY Talaya 42.06 11⇑*iP* **P 23 28 23.4 -3.1**
TLY pmax pmax
comp=Z,17nm,1.7s,mb4.4
FITZ Fitzroy Crossi 43.52 131⇑*iP* **P 23 28 38.0 -0.7**
comp=Z,40nm,0.6s,mb5.3
NVS Novosibirsk 44.77 353 *iP* **P 23 28 46.5 -1.9**
NVS pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
HIA Hailar 44.86 25 *eP* **P 23 28 49.1 -0.1**
comp=Z,15nm,0.8s,mb4.9
BVAR Borovoye Array 45.90 342 P **P 23 28 57.2 -0.2**
comp=Z,2.5nm,0.5s,mb4.4,baz=135,slow=8.4,SNR=29
BRVK Borovoye 45.96 342 P **P 23 28 57.9 0.0**
BRVK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BRVK Borovoye 45.96 342 *eP* **P 23 28 57.7 -0.2**
comp=Z,3.7nm,0.6s,mb4.5
KAKA Kakadu 46.08 119 *eP* **P 23 28 58.4 -0.9**
comp=Z,8.6nm,0.5s,mb4.9
CHKZ Chkalovo 46.40 342 *iP* **P 23 29 01.6 +0.3**
CHKZ pmax pmax
comp=Z,17nm,1.0s,mb4.9
CHKZ Chkalovo 46.40 342 *eP* **P 23 29 01.7 +0.4**
comp=Z,15nm,0.7s,mb5.0
MDJ Mudanjiang 46.71 36 P **P 23 29 04.9 +1.0**
MDJ AP pP 23 29 10.7 +0.9
MDJ XP sP 23 29 13.9 +1.7
MDJ AMB AMB
comp=Z,4.0nm,0.9s,mb4.3
MDJ AMB AMB
comp=Z,228nm,4.1s
MDJ LR LR
comp=N,269nm,20.0s,MS4.4
MDJ LR LR
comp=E,313nm,22.8s,MS4.4
MDJ LR LR
comp=Z,348nm,21.4s,MS4.3
NWAO Narrogin (SRO) 49.34 152 P **P 23 29 25.4 +0.8**
comp=Z,20nm,0.7s,mb5.3,baz=334,slow=6.4,SNR=11
NWAO Narrogin (SRO) 49.34 152 *eP* **P 23 29 25.2 +0.7**
BOD Bodaibo 50.03 15 *eP* **P 23 29 28.9 -0.6**
GNI Garni 51.28 314 *eP* **P 23 29 40.7 +1.4**
GNI pmax pmax
comp=Z,15nm,0.9s
GNI Garni 51.28 314 P **P 23 29 41.7 +2.4**
comp=Z,7.3nm,0.8s,mb4.7,baz=340,slow=7.5,SNR=6.2
GNI Garni 51.28 314 P **P 23 29 41.1 +1.8**
comp=Z,15nm,1.0s,mb4.9
WRA Warramunga Arr 51.29 126 *iP* **P 23 29 39.6 0.0**
WRA pmax pmax
comp=Z,27nm,0.4s
WRA Warramunga Arr 51.29 126 P **P 23 29 39.6 0.0**
comp=Z,27nm,0.4s,mb5.5,baz=306,slow=8.3,SNR=265
WRA PcP PcP 23 30 54.9 +0.2
comp=Z,1.5nm,0.7s,baz=314,slow=3.0,SNR=5.4
WRA S **S 23 36 54.0 -2.1**
comp=Z,1.6nm,0.9s,baz=296,slow=16,SNR=5.9
WRAB Tennant Creek 51.30 126⇑*iP* **P 23 29 38.1 -1.5**
WRAB Tennant Creek 51.30 126 *eP* **P 23 29 39.6 -0.1**
comp=Z,58nm,0.5s,mb5.8
WB2 Warramunga Arr 51.30 126⇑*iP* **P 23 29 39.7 0.0**
ARU Arti 52.74 337⇓*iP* **P 23 29 48.3 -1.8**
ARU *e* 23 30 56.0
ARU *e* 23 31 46.2
ARU *e*PPP PPP 23 32 54.4 -1.4
ARU *e*S **S 23 37 15.3 -0.1**
ARU *e*SS SS 23 40 57.1 +3.9
ARU pmax pmax
comp=Z,13nm,1.1s,mb4.8
ASPA Alice Springs 53.02 130⇑*iP* **P 23 29 52.5 -0.1**
ASAR Alice Springs 53.02 130 P **P 23 29 52.5 0.0**
comp=Z,44nm,0.7s,mb5.5,baz=304,slow=6.9,SNR=279
ASAR PcP PcP 23 31 01.4 +0.4
comp=Z,3.8nm,0.7s,baz=310,slow=3.8,SNR=4.9
ASAR S **S 23 37 17.2 -2.4**
comp=Z,1.7nm,1.0s,baz=295,slow=13,SNR=6.8
KIV Kislovodsk 54.13 317⇓*iP* **P 23 30 00.7 +0.3**
KIV pmax pmax
comp=Z,16nm,0.9s,mb5.0
KIV Kislovodsk 54.13 317 *eP* **P 23 30 00.7 +0.2**
comp=Z,10nm,0.7s,mb4.9
ASAJ Asahikawa 54.67 43 P **P 23 30 04.5 +0.2**
comp=Z,11nm,0.6s,mb5.1,baz=276,slow=10.0,SNR=7.2
ASF Jabal al Asfar 55.26 302 LR LR 23 57 05.2
comp=Z,287nm,18.1s,MS4.4,baz=131,slow=40
MALT Malatya 55.36 309 *eP* **P 23 30 09.8 +0.2**
YSS Yuzh-Sakhalins 55.87 40⇑*iP* **P 23 30 10.8 -2.3**
YSS pmax pmax
comp=Z,89nm,2.5s,mb5.3
YSS Yuzh-Sakhalins 55.87 40 *eP* **P 23 30 13.2 +0.1**
comp=Z,20nm,0.9s,mb5.1
KMBO Kilima Mbogo 55.95 261 LR LR 23 53 37.2
comp=Z,569nm,18.0s,MS4.7,baz=278,slow=36
EIL Elat 56.54 299 P **P 23 30 18.2 +0.1**
comp=Z,7.5nm,1.1s,mb4.6
ANN Anapa 57.96 317 *eP* **P 23 30 23.4 -4.5**
ANN pmax pmax
comp=Z,222nm,1.7s,mb5.9
PMG Port Moresby 58.07 108⇑*iP* **P 23 30 28.2 -0.9**
PMG Port Moresby 58.07 108 P **P 23 30 29.7 +0.5**
comp=Z,24nm,0.8s,mb5.3,baz=353,slow=2.1,SNR=11
PMG Port Moresby 58.07 108 *eP* **P 23 30 29.6 +0.5**
YAK Yakutsk 58.10 20 *eP* **P 23 30 26.4 -2.3**
YAK pmax pmax
comp=Z,12nm,0.8s,mb5.0
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.8s
YAK Yakutsk 58.10 20 *eP* **P 23 30 27.4 -1.3**
comp=E,24nm,0.5s,mb5.5
BRTR Keskin Array B 59.32 310 P **P 23 30 36.6 -0.9**
comp=E,0.9nm,0.6s,mb4.0,baz=148,slow=5.5,SNR=4.1
CTA Charters Tower 61.20 120 P **P 23 30 51.1 +0.5**
comp=E,5.5nm,0.7s,mb4.8,baz=272,slow=9.5,SNR=5.5
CTAO Charters Tower 61.20 120 *eP* **P 23 30 51.0 +0.4**
comp=E,13nm,1.0s,mb5.0
MOS Moscow 61.87 328 *eP* **P 23 30 53.6 -1.1**
OBN Obninsk 62.17 328⇑*eP* **P 23 30 54.6 -2.1**
OBN pmax pmax
comp=Z,39nm,1.9s,mb5.2
MBAR Mbarara 62.19 264 *eP* **P 23 30 57.3 0.0**
comp=Z,13nm,1.5s,mb4.8
STKA Stephens Creek 63.26 134⇑*iP* **P 23 31 04.8 +0.6**
comp=Z,19nm,1.1s,mb5.2
STKA Stephens Creek 63.26 134 P **P 23 31 04.8 +0.7**
comp=Z,12nm,0.7s,mb5.2,baz=309,slow=6.1,SNR=33
STKA LR LR 00 00 06.8
comp=Z,221nm,18.4s,MS4.4,baz=106,slow=38
TIXI Tiksi 65.01 12⇑*iP* **P 23 31 14.1 -1.0**
TIXI pmax pmax
comp=Z,14nm,1.2s,mb4.9
MLR Muntele Rosu 66.00 315 P **P 23 31 22.4 +0.6**
comp=Z,8.6nm,0.7s,mb4.9,baz=133,slow=7.3,SNR=4.2
LSZ Lusaka 68.47 249 *eP* **P 23 31 38.7 +0.8**
comp=Z,5.5nm,1.0s,mb4.5
FINES FINESS Array B 69.52 332 *iP* **P 23 31 42.9 -0.7**
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 69.52 332 P **P 23 31 43.5 -0.1**
comp=Z,2.8nm,0.8s,mb4.2,baz=108,slow=6.0,SNR=9.0
ARCES ARCESS Array B 72.16 340 P **P 23 31 59.9 +0.5**
comp=Z,7.1nm,0.7s,mb4.7,baz=90,slow=6.1,SNR=24
DPC Dobruska-Polom 73.01 319 *eP* **P 23 32 06.6 +1.9**
UPC Upice 73.22 320 *eP* pP 23 32 15.5 +3.4
UPC *e**PP PcP 23 32 23.7 +1.0
UPC Upice 73.22 320 *ep*P pP 23 32 15.5 +3.4
UPC *e*PCP PcP 23 32 23.7 +1.0
PRU Pruhonice 74.13 319 *eP* **P 23 32 12.3 +1.1**
PRU *ep*P pP 23 32 19.0 +1.6
PVCC Panska Ves 74.14 320 *eP* pP 23 32 20.0 +2.6
PVCC *e**PP PcP 23 32 26.5 -0.1
PVCC Panska Ves 74.14 320 *ep*P pP 23 32 20.0 +2.6
PVCC *e*PCP PcP 23 32 26.5 -0.1
BILL Bilibino 74.32 22⇑*iP* **P 23 32 10.5 -1.5**
BILL pmax pmax
comp=Z,20nm,2.5s,mb4.6
GERES GERESS Array B 74.64 318 P **P 23 32 14.6 +0.3**
comp=Z,1.7nm,0.7s,mb4.1,baz=76,slow=5.5,SNR=8.9
KHC Kasperske Hory 74.73 318 *eP* **P 23 32 15.3 +0.6**
KHC *ep*P pP 23 32 22.0 +1.1
FX1 Attu Island--F 76.18 38 P **P 23 32 23.4 +0.5**
comp=Z,12nm,0.5s,mb5.1,baz=315,slow=4.3,SNR=3.8
NB2 NORSAR Subarra 76.53 330 P **P 23 32 24.4 -0.3**
comp=Z,1.7nm,0.7s,mb4.1,baz=95,slow=5.3
NOA NORSAR Array B 76.53 330 P **P 23 32 24.8 +0.1**
comp=Z,2.7nm,0.8s,mb4.2,baz=92,slow=5.8,SNR=7.2
LPG La Plagne 79.46 315 *eP* **P 23 32 42.0 +0.8**
comp=Z,12nm,0.6s,mb4.7
SYO Syowa Base 87.40 197⇑PcP PcP 23 33 24.9 +1.3
ESDC Sonseca Array 88.12 310 P **P 23 33 26.6 +1.4**
comp=Z,2.0nm,0.9s,mb4.3,baz=60,slow=4.2,SNR=7.2
IMA Indian Mountai 89.86 22 *eP* **P 23 33 34.6 +1.7**
comp=Z,32nm,0.6s,mb5.8
COLA College 92.57 22 *eP* **P 23 33 46.4 +1.0**
ILAR Eielson Array 92.97 22 P **P 23 33 47.2 -0.1**
comp=Z,3.2nm,0.6s,mb4.9,baz=297,slow=6.2,SNR=25
SML Sawmill 93.97 25 *eP* **P 23 33 52.4 +0.5**
INK Inuvik 94.95 16 P **P 23 33 57.0 +0.7**
comp=Z,2.3nm,0.8s,mb4.7,baz=285,slow=5.9,SNR=4.8
YKA Yellowknife Ar 104.26 13 Pdiff Pdif 23 34 41.0 +2.7
comp=Z,0.1nm,0.6s,baz=315,slow=4.4,SNR=4.1
YKA PP PP 23 38 53.8 -5.5
comp=Z,0.3nm,0.6s,baz=333,slow=8.2,SNR=5.6
YKA PKKP PKKP 23 50 32.1 +3.0
comp=Z,0.1nm,0.4s,baz=151,slow=4.3,SNR=5.3
YKA Yellowknife Ar 104.26 13 Pdif Pdif 23 34 41.0 +2.6
YKA PP PP 23 38 53.8 -5.5
YKA PKKP PKKP 23 50 32.1 +3.0
PDAR Pinedale Array 123.32 19 PKP PKPdf 23 39 32.6 -1.9
comp=Z,0.4nm,0.5s,baz=135,slow=1.3,SNR=3.3
NVAR Mina Array Bea 123.53 29 PKP PKPdf 23 39 34.6 -0.4
comp=Z,3.4nm,1.0s,baz=306,slow=1.8,SNR=8.0
TXAR Lajitas Array 137.48 21 PKP PKPdf 23 40 00.1 -1.7
comp=Z,0.4nm,0.5s,baz=13,slow=1.1,SNR=6.5
BDFB Brasilia 141.04 258 PKP PKPdf 23 40 07.4 -1.2
comp=Z,0.6nm,0.4s,baz=27,slow=2.3,SNR=3.1

MAN 09 23:30:13.8, 14.54N×119.72E, h26km, mb4.4, ML3.2, MS3.0, 3C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.95**	**147**	*eP*	Pb	23 30 30.8	-0.8
LUBP				*eS*	Sb	23 30 43.2	-0.6
SCZP	**Santa Cruz**	**1.24**	**9**	*eP*	Pn	23 30 36.1	+0.4
TGY	**Tagaytay City**	**1.26**	**110**	*eP*	Pn	23 30 36.1	+0.1
TGY				*i* S	Sn	23 30 52.3	+0.1
QVPH	**Quezon City--P**	**1.30**	**85**⇑	*iP*	Pn	23 30 26.8	-10
QVPH				*i* S	Sn	23 30 35.7	-18
PCPH	**Palayan**	**1.68**	**53**⇑	*eP*	Pn	23 30 41.5	-0.4
PCPH				*e*S	Sn	23 31 02.3	-0.5
LQP	**Lukban**	**1.82**	**103**⇑	*eP*	Pn	23 30 43.7	-0.3
LQP				*e*S	Sn	23 31 04.6	-1.8
BOLP	**Bolinao**	**1.84**	**6**	*eP*	Pn	23 30 43.5	-0.8
BALP	**Baler**	**2.16**	**56**	*eP*	Pn	23 30 48.7	-0.1
BALP				*e*S	Sn	23 31 15.1	+0.1
POLP	**Polilio Island**	**2.16**	**85**	*eP*	Pn	23 30 48.2	-0.6
SJMP	**San Jose**	**2.48**	**146**	*eP*	Pn	23 30 54.7	+1.3
BUSP	**Coron**	**2.57**	**169**	*eP*	Pn	23 30 54.6	-0.1
ENPP	**El Nido**	**3.33**	**185**	*eP*	Pn	23 31 04.5	-1.0
PVCP	**Virac**	**4.41**	**102**	*eP*	Pn	23 31 22.1	+1.3

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*MOS **09** 23:34:05.9±1.6, 8.41N×93.97E, h33km, mb5.1/8, Error ellipse: s-maj=18.4km s-min=10.4km az=93.8*
*IDC **09** 23:34:06.4±0.6, 8.52N×93.84E, h21km±3km, mb4.1/15, mb1 4.3/16, mb1mx4.2/19, mbtmp4.2/16, ML5.2/1, Error ellipse: s-maj=25.9km s-min=13.7km az=49.0*
*NEIC **09** 23:34:06.8±0.3, 8.51N×93.83E, mb4.7/14, Error ellipse: s-maj=11.1km s-min=7.0km az=55.0*
*BJI **09** 23:34:07.2, 8.61N×93.36E, h22km, mB5.0, mb4.2*
ISC 09 23:34:04.9±0.4, 8.44N±0.05×93.82E±0.06, h25km, h25km±.6km: pP-P, n74, σ1§26/64, mb4.6/36, 5C-1D,

Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan** 68nm,0.7s	**9.47**	**40**	P	**P**	**23 36 23.0**	**+0.1**
CMAR	**Chiang Mai Arr** 4.5nm,0.3s,baz=214,slow=16,SNR=83	**11.13**	**26**	Pn	**P**	**23 36 48.2**	**+2.4**
CMAR	baz=244,slow=2.2,SNR=6.2			ScP		23 46 12.7	
CHG	**Chiang Mai** 19nm,0.8s	**11.45**	**25**	⇑P	**P**	**23 36 52.8**	**+2.7**
NANT	**Nan**	**12.27**	**32**	P	**P**	**23 37 03.5**	**+2.3**
CHRT	**Chiangrai** 203nm,1.0s	**12.74**	**26**	⇑P	**P**	**23 37 11.5**	**+4.0**
VIS	**Vishakhapatnam**	**13.75**	**313**	*eP*	**P**	**23 37 22.0**	**+1.1**
IMP	**Imphal**	**16.25**	**0**	*eP*	**P**	**23 37 52.0**	**-1.3**
IMP	**Imphal**	**16.25**	**0**	*eP*	**P**	**23 37 52.0**	**-1.3**
SHL	**Shillong**	**17.13**	**354**	*eP*	**P**	**23 38 05.0**	**+0.6**
KAD	**Karad**	**21.05**	**297**	*e*	**P**	**23 38 46.1**	**-3.5**
LSA	**Lhasa**	**21.29**	**354**	P	**P**	**23 38 51.8**	**-0.2**
LSA	comp=Z,20nm,0.7s,mb4.6			AMB	AMB		
LSA	**Lhasa** comp=Z,18nm,0.6s,mb4.6	**21.29**	**354**	*eP*	**P**	**23 38 51.5**	**-0.6**
NDI	**New Delhi**	**25.49**	**324**	*eP*	**P**	**23 39 38.0**	**+4.9**
NDI				*e*		23 42 06.0	
ENH	**Enshi** comp=Z,9.8nm,0.8s,mb4.4	**26.20**	**32**	P	**P**	**23 39 40.2**	**+0.5**
DDI	**Dehra Dun**	**26.29**	**328**	*e*	**P**	**23 39 39.5**	**-1.0**
DGAR	**Diego Garcia**	**26.49**	**234**	P	**P**	**23 39 46.6**	**+4.2**
AAK	**Ala-Archa**	**38.06**	**337**	*eP*	**P**	**23 41 27.4**	**+4.1**
AAK	comp=Z,28nm,1.5s,mb4.8			pmax	pmax		
SONM	**Songino Array** comp=Z,1.2nm,0.8s,mb3.6,baz=196,slow=7.8,SNR=12	**40.68**	**13**	P	**P**	**23 41 45.4**	**+0.5**
SONM				PcP	PcP	23 43 47.6	+0.5
	comp=Z,2.0nm,0.8s,baz=201,slow=3.7,SNR=7.9						
SONM				ScP		23 47 35.3	
	comp=Z,0.6nm,0.9s,baz=194,slow=3.8,SNR=4.2						
ULN	**Ulaanbaatar**	**40.86**	**14**	*eP*	**P**	**23 41 45.1**	**-1.3**
ULN	**Ulaanbaatar** comp=Z,1.7nm,0.6s,mb3.9	**40.86**	**14**	*eP*	**P**	**23 41 46.2**	**-0.3**
TLY	**Talaya**	**43.86**	**9**	*iP*	**P**	**23 42 10.8**	**-0.1**
MUN	**Mundaring** comp=Z,31nm,1.2s,mb5.1	**45.53**	**153**	*eP*	**P**	**23 42 25.9**	**+1.3**
KLBR	**Kellerberrin** comp=Z,20nm,0.7s,mb5.2	**45.93**	**151**	*eP*	**P**	**23 42 28.8**	**+1.1**
HIA	**Hailar**	**46.13**	**23**	*eP*	**P**	**23 42 29.8**	**+0.7**
	comp=Z,4.7nm,0.8s,mb4.5						
NWAO	**Narrogin (SRO)** comp=Z,18nm,0.7s,mb5.1,baz=316,slow=14,SNR=6.1	**46.80**	**153**	P	**P**	**23 42 34.5**	**-0.1**
NVS	**Novosibirsk**	**47.04**	**352**	*iP*	**P**	**23 42 34.8**	**-1.4**
NVS				*e*		23 44 06.8	
WRA	**Warramunga Arr** comp=Z,2.0nm,0.6s,mb4.3,baz=305,slow=8.6,SNR=19	**48.85**	**126**	P	**P**	**23 42 50.4**	**-0.4**
WRA				PcP	PcP	23 44 15.5	0.0
	comp=Z,1.2nm,0.7s,baz=316,slow=2.9,SNR=5.5						
WRAB	**Tennant Creek** comp=Z,4.1nm,0.6s,mb4.6	**48.86**	**126**	*eP*	**P**	**23 42 50.1**	**-0.7**
WB2	**Warramunga Arr**	**48.86**	**126**	*eP*	**P**	**23 42 50.5**	**-0.4**
ASAR	**Alice Springs** comp=Z,1.8nm,0.7s,mb4.1,baz=300,slow=7.0,SNR=14	**50.52**	**130**	P	**P**	**23 43 02.9**	**-0.7**
ASAR				PcP	PcP	23 44 21.9	+0.4
	comp=Z,1.6nm,0.6s,baz=309,slow=3.4,SNR=9.0						
BOD	**Bodaibo**	**51.67**	**14**	*eP*	**P**	**23 43 10.4**	**-1.4**
GNI	**Garni**	**53.81**	**314**	*eP*	**P**	**23 43 29.5**	**+1.5**
GNI				pmax	pmax		
	comp=Z,17nm,1.7s						
GNI	**Garni**	**53.81**	**314**	P	**P**	**23 43 28.5**	**+0.5**
	comp=Z,2.8nm,0.8s,mb4.2,baz=165,slow=20,SNR=2.4						
TI2	**Plekhanov**	**54.42**	**316**	*eP*	**P**	**23 43 38.0**	**+5.6**
ZEI	**Tsey**	**55.41**	**317**	*eP*	**P**	**23 43 46.7**	**+7.1**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
YSS	**Yuzh-Sakhalins**	**56.53**	**38**	P	**P**	**23 43 45.5**	**-2.2**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
KIV	**Kislovodsk**	**56.68**	**318**⇓	*iP*	**P**	**23 43 51.0**	**+2.2**
KIV				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1						
KIV	**Kislovodsk** comp=Z,16nm,0.8s,mb5.1	**56.68**	**318**	P	**P**	**23 43 48.5**	**-0.3**
KMBO	**Kilima Mbogo** comp=Z,0.7nm,0.9s,mb3.7,baz=82,slow=16,SNR=1.9	**57.17**	**263**	P	**P**	**23 43 54.6**	**+2.0**
MALT	**Malatya** comp=Z,5.5nm,1.0s,mb4.5	**57.85**	**310**	*eP*	**P**	**23 43 54.2**	**-2.9**
EIL	**Elat** comp=Z,6.9nm,0.9s,mb4.7	**58.87**	**300**	P	**P**	**23 44 04.2**	**-0.1**
YAK	**Yakutsk**	**59.56**	**19**⇑	*iP*	**P**	**23 44 06.7**	**-2.0**
YAK				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.1						
ANN	**Anapa**	**60.50**	**317**	*eP*	**P**	**23 44 10.6**	**-4.7**
ANN				pmax	pmax		
	comp=Z,112nm,1.5s,mb5.8						
STKA	**Stephens Creek** comp=Z,1.2nm,0.7s,mb4.2,baz=284,slow=7.6,SNR=4.3	**60.73**	**134**	P	**P**	**23 44 16.7**	**-0.4**
STKA	**Stephens Creek**	**60.73**	**134**	P	**P**	**23 44 16.7**	**-0.4**
BRTR	**Keskin Array B** comp=Z,1.9nm,0.7s,mb4.3,baz=124,slow=7.7,SNR=13	**61.81**	**311**	P	**P**	**23 44 22.6**	**-1.8**
BRTR				pP	pP	23 44 30.1	-1.9
	comp=Z,14nm,1.1s,baz=121,slow=7.3,SNR=20						
OBN	**Obninsk**	**64.73**	**328**	*eP*	**P**	**23 44 45.8**	**+2.5**
OBN				pmax	pmax		
	comp=Z,14nm,0.5s,mb5.2						
TIXI	**Tiksi**	**66.74**	**11**⇑	*iP*	**P**	**23 44 54.0**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
TIXI	**Tiksi**	**66.74**	**11**⇑	*iP*	**P**	**23 44 53.9**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
IDI	**Anoyia**	**67.98**	**305**	P	**P**	**23 45 02.7**	**-1.7**
	comp=Z,3.1nm,0.6s,mb4.5,baz=85,slow=12,SNR=2.7						
LSZ	**Lusaka**	**69.16**	**250**	*eP*	**P**	**23 45 12.8**	**+0.9**
LSZ	comp=Z,3.3nm,0.7s,mb4.4			*e*	pP	23 45 21.1	+1.5
FINES	**FINESS Array B**	**72.06**	**332**	*iP*	**P**	**23 45 28.3**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**72.06**	**332**	P	**P**	**23 45 27.9**	**-0.8**
	comp=Z,1.4nm,0.6s,mb4.1,baz=108,slow=6.0,SNR=5.4						
FINES				pP	pP	23 45 34.8	-1.7
	comp=Z,12nm,1.2s,baz=98,slow=4.4,SNR=2.7						
ARCES	**ARCESS Array B**	**74.62**	**340**	P	**P**	**23 45 43.7**	**+0.2**
	comp=Z,6.6nm,1.1s,mb4.5,baz=108,slow=8.6,SNR=6.0						
ARCES				pP	pP	23 45 51.2	-0.1
	comp=Z,7.1nm,0.9s,baz=121,slow=7.1,SNR=5.0						
ARCES	**ARCESS Array B**	**74.62**	**340**	P	**P**	**23 45 43.7**	**+0.2**
ARCES				pP	pP	23 45 51.2	-0.1
KSP	**Ksiaz**	**75.62**	**320**	*eP*	**P**	**23 45 49.7**	**+0.1**
KSP				epP	pP	23 45 57.9	+0.5
BILL	**Bilibino**	**75.68**	**22**	*eP*	**P**	**23 45 48.5**	**-1.1**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
GERES	**GERESS Array B** comp=Z,1.0nm,0.7s,mb3.9,baz=90,slow=5.3,SNR=8.5	**77.19**	**318**	P	**P**	**23 45 58.5**	**0.0**
GERES				pP	pP	23 46 06.6	+0.4
	comp=Z,2.5nm,0.8s,baz=90,slow=5.3,SNR=10						
KHC	**Kasperske Hory**	**77.28**	**318**	*eP*	pP	23 46 05.5	-1.2
KHC	**Kasperske Hory**	**77.28**	**318**	*ep*P	pP	23 46 05.5	-1.2
NB2	**NORSAR Subarra** comp=Z,12nm,1.2s,mb4.7,baz=93,slow=5.0	**79.08**	**331**	P	**P**	**23 46 08.1**	**-0.5**
NOA	**NORSAR Array B** comp=Z,1.7nm,0.7s,mb4.1,baz=102,slow=5.1,SNR=5.7	**79.08**	**331**	P	**P**	**23 46 07.8**	**-0.8**
NOA				pP	pP	23 46 15.6	-0.8
	comp=Z,5.2nm,0.9s,baz=93,slow=5.5,SNR=6.8						
LPG	**La Plagne** comp=Z,15nm,0.9s,mb4.6	**81.99**	**315**	*eP*	**P**	**23 46 25.0**	**+0.7**
ESDC	**Sonseca Array** comp=Z,2.3nm,1.0s,mb4.5,baz=69,slow=4.0,SNR=3.2	**90.61**	**310**	P	**P**	**23 47 08.0**	**+1.2**
IMA	**Indian Mountai** comp=Z,12nm,0.8s,mb5.3	**91.22**	**22**	*eP*	**P**	**23 47 10.8**	**+1.9**
ILAR	**Eielson Array** comp=Z,0.7nm,0.6s,mb4.2,baz=300,slow=4.1,SNR=11	**94.34**	**22**	P	**P**	**23 47 23.5**	**+0.2**
YKA	**Yellowknife Ar**	**105.95**	**13**	PKKPbc		00 03 50.6	
	comp=Z,0.2nm,0.8s,baz=156,slow=3.8,SNR=4.1						
NVAR	**Mina Array Bea** comp=Z,0.8nm,0.7s,baz=288,slow=2.1,SNR=5.6	**124.60**	**30**	PKP	PKPdf	23 53 05.9	-1.6
PDAR	**Pinedale Array** comp=Z,0.9nm,0.7s,baz=45,slow=2.1,SNR=9.7	**124.75**	**21**	PKP	PKPdf	23 53 04.8	-2.9
TXAR	**Lajitas Array** comp=Z,0.5nm,0.8s,baz=101,slow=1.4,SNR=4.8	**138.84**	**23**	PKP	PKPdf	23 53 31.5	-3.0
TXAR				SKPbc		23 57 04.2	
	comp=Z,0.3nm,0.7s,slow=2.7,SNR=3.2						
JCT	**Junction City**	**139.15**	**18**	*e*PKPdf	PKPdf	23 53 32.2	-2.8
LVC	**Limon Verde**	**158.23**	**228**	PKPab	PKPab	23 54 37.7	+0.8
	comp=Z,6.6nm,0.7s,baz=245,slow=2.2,SNR=4.0						
LVC	**Limon Verde**	**158.23**	**228**	*e*PKPab	PKPab	23 54 38.1	+1.1
LPAZ	**La Paz**	**160.73**	**244**	PKPab	PKPab	23 54 49.1	+1.3
	comp=Z,1.0nm,0.6s,baz=108,slow=7.6,SNR=6.3						

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*NNC **09** 23:36:51.7±7.5, 40.95N×72.47E, mpv4.8, Error ellipse: s-maj=88.5km s-min=53.6km az=151.0*
*NEIC **09** 23:36:51.5±6.8, 40.88N×72.68E, h14km±41km, mb4.0/3, Error ellipse: s-maj=20.3km s-min=11.8km az=174.0*
*MOS **09** 23:36:53.2±1.2, 40.93N×72.52E, h33km, mb4.5/1, Error ellipse: s-maj=16.7km s-min=11.2km az=72.5*
*IDC **09** 23:36:54.0±7.6, 40.83N×72.75E, h31km±54km, mb3.5/10, mb1 3.7/11, mb1mx3.6/19, mbtmp3.7/11, ML3.5/1, Error ellipse: s-maj=30.1km s-min=23.1km az=7.0*
ISC 09 23:36:53.8±0.4, 40.96N±0.04×72.44E±0.07, h33km, n38, σ1§23/43, mb3.6/12, 7C-3D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=431	**1.50**	**38**	P	**P**	**23 37 17.1**	**-1.5**
EKS2	**Erkin-Say** SNR=593	**1.97**	**30**	P	**P**	**23 37 26.1**	**+0.7**
UCH	**Uchtor** SNR=876	**2.00**	**50**	P	**P**	**23 37 25.3**	**-0.6**
AAK	**Ala-Archa** 254nm,0.4s	**2.27**	**42**	⇑P	**P**	**23 37 30.9**	**+1.2**
AAK	636nm,0.8s		

TKM2	**Tokmak 2**	**3.06**	**49**	P	**P**		**23 37 41.5**	**+0.5**
	SNR=139							
ULHL	**Ulahol**	**3.12**	**64**	P	**P**		**23 37 40.8**	**-1.1**
	SNR=27							
CEP	**Cherat**	**7.14**	**184**	P	**P**		**23 38 38.8**	**+0.3**
CEP				S	**S**		**23 40 00.0**	**+0.7**
THW	**Thamme Wali**	**8.17**	**184**	P	**P**		**23 38 53.6**	**+0.7**
MK31	**Makanchi Array**	**9.19**	**47**	⇓Pn	**P**		**23 39 03.6**	**-3.5**
	comp=E,1.6nm,0.5s,baz=224,slow=13,SNR=47							
MK31				⇓Lg			23 41 39.0	
	comp=E,11nm,0.8s,baz=237,slow=30,SNR=11							
MKAR	**Makanchi Array**	**9.19**	**47**	*i* P	**P**		**23 39 03.9**	**-3.2**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BVAR	**Borovoye Array**	**12.15**	**354**	Pn	**P**		**23 39 45.2**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=162,slow=14,SNR=7.9							
BVAR				Sn	**S**		**23 42 10.6**	**+7.9**
	comp=Z,0.3nm,0.3s,baz=174,slow=26,SNR=3.0							
BVAR				Lg			23 43 15.1	
	comp=Z,0.3nm,0.3s,baz=135,slow=26,SNR=2.8							
BRVK	**Borovoye**	**12.19**	**354**	⇑Pn	**P**		**23 39 46.4**	**-1.5**
	comp=Z,1.3nm,0.5s							
BRVK				⇓Lg			23 43 21.4	
	comp=Z,12nm,1.2s							
BRVK	**Borovoye**	**12.19**	**354**	P	**P**		**23 39 55.2**	**+7.3**
BRVK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BRVK	**Borovoye**	**12.19**	**354**	*e*P	**P**		**23 39 45.2**	**-2.8**
	comp=Z,2.5nm,0.6s							
CHKZ	**Chkalovo**	**12.78**	**355**	⇑Pn	**P**		**23 39 55.6**	**-0.2**
	comp=Z,4.8nm,1.9s							
CHKZ				⇑Lg			23 43 42.5	
	comp=Z,15nm,0.9s							
CHKZ	**Chkalovo**	**12.78**	**355**	*e*P	**P**		**23 39 53.1**	**-2.8**
GNI	**Garni**	**21.03**	**277**	P	**P**		**23 41 36.9**	**-0.1**
	comp=Z,1.8nm,0.7s,mb3.5,baz=45,slow=18,SNR=2.8							
KIV	**Kislovodsk**	**22.10**	**288**	*e*P	**P**		**23 41 48.3**	**+0.7**
KIV				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb3.9							
KIV	**Kislovodsk**	**22.10**	**288**	*e*P	**P**		**23 41 48.3**	**+0.7**
	comp=Z,3.1nm,0.6s,mb3.9							
ZAK	**Zakamensk**	**23.37**	**56**	*e*P	**P**		**23 41 59.4**	**-0.6**
TLY	**Talaya**	**23.89**	**53**	P	**P**		**23 41 59.0**	**-6.0**
	comp=Z,7.3nm,0.7s,mb4.2							
BRTR	**Keskin Array B**	**29.44**	**281**	P	**P**		**23 42 57.8**	**+1.3**
	comp=Z,0.7nm,0.8s,mb3.4,baz=88,slow=7.4,SNR=4.4							
FINES	**FINESS Array B**	**34.53**	**322**	P	**P**		**23 43 40.9**	**+0.1**
	comp=Z,1.1nm,0.5s,mb4.0,baz=121,slow=12,SNR=9.6							
ARCES	**ARCESS Array B**	**37.52**	**335**	P	**P**		**23 44 05.7**	**-0.3**
	comp=Z,2.7nm,1.0s,mb3.9,baz=106,slow=7.9,SNR=6.7							
GERES	**GERESS Array B**	**41.42**	**301**	P	**P**		**23 44 40.5**	**+1.9**
	comp=Z,0.5nm,0.4s,mb3.5,baz=64,slow=8.3,SNR=11							
NB2	**NORSAR Subarra**	**41.59**	**320**	P	**P**		**23 44 39.6**	**-0.1**
	comp=Z,2.1nm,0.7s,mb3.9,baz=90,slow=7.9							
NOA	**NORSAR Array B**	**41.59**	**320**	P	**P**		**23 44 39.9**	**+0.2**
	comp=Z,1.3nm,0.6s,mb3.7,baz=91,slow=8.3,SNR=4.0							
ILAR	**Eielson Array**	**70.19**	**17**	P	**P**		**23 48 04.1**	**-0.4**
	comp=Z,0.2nm,0.8s,mb3.1,baz=315,slow=5.1,SNR=2.9							
YKA	**Yellowknife Ar**	**76.74**	**3**	P	**P**		**23 48 42.0**	**-0.8**
	comp=Z,0.1nm,0.4s,mb3.1,baz=351,slow=5.7,SNR=4.3							
WRA	**Warramunga Arr**	**83.44**	**123**	P	**P**		**23 49 17.1**	**-2.3**
	comp=Z,0.2nm,0.5s,mb3.4,baz=312,slow=7.4,SNR=2.9							
ASAR	**Alice Springs**	**85.92**	**126**	P	**P**		**23 49 29.4**	**-2.4**
	comp=Z,0.6nm,0.8s,mb3.9,baz=313,slow=4.8,SNR=4.6							

*IDC **09** 23:52:31.6±2.0, 5.66N×95.19E, mb3.9/2, mb1 4.1/3, mb1mx3.7/14, mbtmp3.8/3, ML3.5/1, Error ellipse: s-maj=87.5km s-min=25.5km az=58.0*
*NEIC **09** 23:52:35.9±0.7, 5.46N×95.07E, h30km, mb4.0/1, Error ellipse: s-maj=15.7km s-min=9.4km az=194.0*
ISC 09 23:52:33.8±0.8, 5.5N±0.1×95.05E±0.08, h30km, n7, σ0°59/7, mb3.8/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.45**	**16**	Pn	**P**	**23 55 46.0**	**+0.7**
	0.1nm,0.3s,baz=205,slow=15,SNR=3.8						
PALK	**Pallekele**	**14.37**	**278**	*e*Sn	**S**	**23 58 36.8**	**+0.1**
SONM	**Songino Array**	**43.31**	**11**	P	**P**	**00 00 33.7**	**-1.1**
	0.2nm,0.8s,mb2.9,baz=180,slow=4.3,SNR=2.2						
WRA	**Warramunga Arr**	**46.15**	**124**	P	**P**	**00 00 57.8**	**-0.1**
	2.0nm,0.9s,mb4.0,baz=304,slow=9.1,SNR=6.5						
WRAB	**Tennant Creek**	**46.16**	**124**	*e*P	**P**	**00 00 57.5**	**-0.4**
	1.0nm,0.5s,mb4.0						
ASAR	**Alice Springs**	**47.70**	**129**	P	**P**	**00 01 10.8**	**+0.7**
	1.1nm,0.7s,mb4.0,baz=299,slow=7.5,SNR=7.1						
FINES	**FINESS Array B**	**75.24**	**332**	P	**P**	**00 04 15.5**	**+0.1**
	3.8nm,1.0s,mb4.3,baz=108,slow=6.0,SNR=6.0						

IDC 10 00:15:31.2±10.0, 10.60N×91.50E, h24km±6km, mb3.3/3, mb1 3.5/3, mb1mx3.3/15, mbtmp3.5/3, Error ellipse: s-maj=330.1km s-min=22.6km az=74.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.61**	**49**	*e*P	Pn	00 15 57.2	-1.5
PBA				*e*S	Sn	00 16 00.2	-19
PBA				*e*		00 16 29.8	
	comp=E,499nm,1.0s						
PBA				*e*		00 16 30.4	
	comp=N,298nm,0.3s						
SONM	**Songino Array**	**39.18**	**16**	P	P	00 22 57.1	-2.0
	comp=N,0.3nm,0.4s,baz=204,slow=8.1,SNR=9.0						
SONM				pP	pP	00 23 04.8	-1.4
	comp=N,0.2nm,0.4s,baz=203,slow=8.5,SNR=3.6						
WRA	**Warramunga Arr**	**51.96**	**126**	P	P	00 24 38.8	-2.2
	comp=N,0.3nm,0.4s,baz=300,slow=10.0,SNR=3.6						
WRA				pP	pP	00 24 45.9	-2.4
	comp=N,1.5nm,0.8s,baz=306,slow=8.3,SNR=5.8						
ASAR	**Alice Springs**	**53.66**	**130**	P	P	00 24 51.2	-2.3
	comp=N,0.5nm,0.7s,baz=312,slow=6.6,SNR=3.8						
ASAR				pP	pP	00 24 58.8	-2.1
	comp=N,1.0nm,0.7s,baz=306,slow=8.1,SNR=8.0						

IDC 10 00:16:22.3±30.0, 17.69S×178.91W, h684km±441km, mb2.8/7, mb1 3.1/7, mb1mx2.9/14, mbtmp3.9/7, Error ellipse: s-maj=164.0km s-min=72.4km az=15.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**33.95**	**280**	P	P	00 22 15.1	+0.3
	3.7nm,0.3s,baz=163,slow=19,SNR=4.8						
STKA	**Stephens Creek**	**38.32**	**241**	P	P	00 22 48.4	-1.8
	2.2nm,0.9s,baz=107,slow=8.2,SNR=3.4						
WRA	**Warramunga Arr**	**44.20**	**259**	P	P	00 23 34.8	-1.7
	0.3nm,0.3s,baz=96,slow=7.1,SNR=6.6						
ASAR	**Alice Springs**	**44.39**	**254**	P	P	00 23 36.4	-1.6
	3.0nm,0.6s,baz=88,slow=8.6,SNR=38						
NVAR	**Mina Array Bea**	**79.60**	**44**	P	P	00 27 22.0	-0.8
	0.5nm,0.8s,baz=219,slow=5.8,SNR=3.5						
ILAR	**Eielson Array**	**85.78**	**13**	P	P	00 27 51.4	-1.4
	0.2nm,0.5s,baz=222,slow=5.0,SNR=7.0						
TXAR	**Lajitas Array**	**86.28**	**58**	P	P	00 27 55.0	-1.0
	0.3nm,0.7s,baz=210,slow=4.3,SNR=5.1						

*TIF **10** 00:32:04.0, 43.19N×46.64E, h3km±1km*
*CSEM **10** 00:32:03.9±0.2, 43.17N×46.47E, h8km, mb3.8, Error ellipse: s-maj=7.1km s-min=3.8km az=44.0, After OBN*
MOS 10 00:32:03.9±2.5, 43.17N×46.47E, h8km, mb3.8/1, 3C-1D, Error ellipse: s-maj=21.3km s-min=9.5km az=116.9, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.15**	**130**	⇑*i*PG	Pg	00 32 06.5	-0.8
DLMR				pmax	pmax		
	comp=Z,766nm,0.2s						
DLMR	**Dylym**	**0.15**	**130**	*i* Pg	Pg	00 32 06.5	-0.8
	comp=Z,383nm,0.2s						
DBC	**Dubki**	**0.30**	**119**	⇑*i*PG	Pg	00 32 10.0	-0.1
DBC				*i* S	Sg	00 32 14.0	-0.2
DBC				pmax	pmax		
	comp=Z,250nm,0.1s						
DBC	**Dubki**	**0.30**	**119**	*i* Pg	Pg	00 32 10.0	-0.1
	comp=Z,125nm,0.1s						
DBC				*i* Sg	Sg	00 32 14.0	-0.2
KRNR	**Karanay**	**0.47**	**137**	⇓*i*PG	Pg	00 32 19.0	+5.7
KRNR				*i* S	Sg	00 32 25.7	+6.0
KRNR				pmax	pmax		
	comp=Z,53nm,0.2s						
KRNR	**Karanay**	**0.47**	**137**	*i* Pg	Pg	00 32 19.0	+5.7
	comp=Z,26nm,0.2s						
KRNR				*i* Sg	Sg	00 32 25.7	+6.0
UNCR	**Uncukul**	**0.51**	**152**	*i* PG	Pg	00 32 14.5	+0.3
UNCR				*i* S	Sg	00 32 22.5	+1.4
UNCR				pmax	pmax		
	comp=Z,86nm,0.2s						
UNCR	**Uncukul**	**0.51**	**152**	*i* Pg	Pg	00 32 14.5	+0.3
	comp=Z,43nm,0.2s						
UNCR				*i* Sg	Sg	00 32 22.5	+1.4
BTLR	**Botlikh**	**0.54**	**200**	⇑*i*PG	Pg	00 32 13.8	-0.9
BTLR				*e*S	Sg	00 32 24.5	+2.6
BTLR				pmax	pmax		
	comp=Z,119nm,0.3s						
BTLR	**Botlikh**	**0.54**	**200**	*i* Pg	Pg	00 32 13.8	-0.9
	comp=Z,60nm,0.3s						
BTLR				*e*Sg	Sg	00 32 24.5	+2.6
BUJR	**Buynaksk**	**0.58**	**126**	*e*Pg	Pg	00 32 15.5	-0.1
BUJR				*i* Sg	Sg	00 32 24.0	+0.6
GNBR	**Gunib**	**0.86**	**155**	*e*Pg	Pg	00 32 20.3	-0.8
GNBR				*e*Sg	Sg	00 32 33.6	+1.0
KMKR	**Kumukh**	**1.14**	**156**	*e*PG	Pg	00 32 27.0	+0.4
KMKR				*e*S	Sb	00 32 44.0	+3.9
KMKR				pmax	pmax		
	comp=Z,113nm,0.3s						
KMKR	**Kumukh**	**1.14**	**156**	*e*Pg	Pg	00 32 27.0	+0.4
	comp=Z,56nm,0.3s						
KMKR				*e*Sg	Sg	00 32 44.0	+2.2
DUS	**Dusheti**	**1.69**	**231**	P	Pn	00 32 38.2	+4.2
MTA	**Mtatsminda**	**1.93**	**221**	P	Pn	00 32 42.0	+4.6
MTA				S	Sn	00 33 09.6	+7.6
ZEI	**Tsey**	**1.93**	**259**	*e*PN	Pn	00 32 38.6	+1.2
ZEI				*e*		00 33 06.3	
ZEI				pmax	pmax		
	comp=Z,17nm,0.2s						
ZEI				smax			
	comp=Z,72nm,0.4s						
ZEI	**Tsey**	**1.93**	**259**	*e*Pn	Pn	00 32 38.6	+1.2
	comp=Z,8.5nm,0.2s						
ZEI				*e*Sg	Sg	00 33 06.3	-1.9
	comp=Z,36nm,0.4s						
ONI	**Oni**	**2.30**	**256**	P	Pn	00 32 49.5	+6.9
ONI				S	Sn	00 33 19.8	+8.3

*BJI **10** 01:04:11.2, 9.19N×93.59E, h24km, mB5.3, mb4.8, Ms4.7, Msz4.4*
*MOS **10** 01:04:15.3±1.6, 9.56N×93.79E, h33km, mb4.9/14, MS4.2/5, Error ellipse: s-maj=18.5km s-min=8.8km az=109.5*
*IDC **10** 01:04:16.7±0.7, 9.71N×93.83E, h22km±3km, mb4.5/25, mb1 4.6/26, mb1mx4.6/28, mbtmp4.6/26, ML4.8/1, MS4.1/15, Ms1 4.1/15, ms1mx4.0/20, Error ellipse: s-maj=21.2km s-min=10.7km az=46.0*
*NEIC **10** 01:04:16.6±0.2, 9.64N×93.76E, mb4.9/27, Error ellipse: s-maj=8.2km s-min=6.3km az=220.0*
*HRVD **10** 01:04:16.6±0.6, 9.56N×93.91E, h12km, MW4.9/49, Centroid moment Tensor Solution. LP body waves: s11,c13;Mantle waves: s49,c72; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.48±.12; $M_{\theta\theta}$-1.92±.09; $M_{\phi\phi}$1.44±.11; $M_{r\theta}$-0.91±.37; $M_{\theta\phi}$-1.50±.09; $M_{\phi r}$-0.31±.35; Best double couple: $M_0$2.395×10^{16} NP1:φ$_s$23°, δ77°, λ-11°. NP2:φ$_s$115°, δ79°, λ-167°. Principal axes: T 2.013, Plg1°, Azm249°; N .767, Plg73°, Azm154°; P -2.776, Plg16°, Azm339°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 10 01:04:16.2±0.7, 9.61N±0.04×93.80E±0.03, h34km±6km, h22km±2.6km: pP-P, n171, σ1°9/09/160, mb4.8/59, MS4.2/26, 6C-10D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.29**	**333**	*e*P	**P**	**01 04 52.7**	**+0.3**
PBA				*e*		01 05 11.2	
	comp=E,3μm,0.9s						
PBA				*e*		01 05 13.2	
	comp=N,3μm,1.0s						
PBA				*e*		01 09 35.6	
	comp=N,2μm,0.2s						
PKT	**Phuket**	**4.59**	**109**	P	**P**	**01 05 25.5**	**+0.3**
NNT	**Nongplab**	**6.54**	**62**	P	**P**	**01 05 50.5**	**-2.0**
SNG	**Songkhla**	**7.16**	**109**	P	**P**	**01 05 59.5**	**-1.8**
	comp=N,420nm,0.9s						
NST	**Nakhon Sawan**	**8.63**	**45**	P	**P**	**01 06 20.0**	**-1.7**
CMAR	**Chiang Mai Arr**	**10.11**	**29**	Pn	**P**	**01 06 42.7**	**+0.4**
	comp=N,2.3nm,0.3s,baz=217,slow=15,SNR=143						
CMAR				LR	LR	01 11 13.1	
	comp=N,1μm,19.9s,baz=215,slow=42						
CHG	**Chiang Mai**	**10.42**	**28**	⇑P	**P**	**01 06 47.3**	**+0.8**
	comp=N,38nm,0.8s						
KKTK	**Khon Kaen**	**11.05**	**52**	P	**P**	**01 06 56.2**	**+1.1**
	comp=N,432nm,0.9s						
NANT	**Nan**	**11.32**	**35**	P	**P**	**01 07 00.8**	**+2.0**
CHRT	**Chiangrai**	**11.73**	**29**	⇑P	**P**	**01 07 04.5**	**+0.2**
	comp=N,176nm,0.9s						
VIS	**Vishakhapatnam**	**12.98**	**310**	*e*P	**P**	**01 07 20.0**	**-1.1**
VIS				*e*S	**S**	**01 09 32.5**	**-13**
VIS				*e*		01 09 42.3	
VIS				*e*		01 09 42.6	
	comp=E,138nm,1.4s						
BWNR	**Bhubaneshwar**	**13.13**	**325**	*e*P	**P**	**01 07 18.8**	**-4.3**
BWNR				*e*S	**S**	**01 09 37.7**	**-11**
BWNR				*e*		01 09 39.4	
	comp=E,166nm,0.7s						
BWNR				*e*		01 09 40.2	
	comp=N,60nm,0.6s						
PALK	**Pallekele**	**13.16**	**261**	P	**P**	**01 07 22.8**	**-0.6**
	comp=N,52nm,1.3s						
IMP	**Imphal**	**15.10**	**0**	*e*P	**P**	**01 07 47.4**	**-1.4**
SHL	**Shillong**	**15.98**	**354**	*e*P	**P**	**01 08 01.0**	**+0.8**
SHL				*e*		01 11 04.0	
HYB	**Hyderabad**	**16.73**	**299**	*e*P	**P**	**01 08 11.0**	**+1.3**
	comp=N,75nm,1.0s						
HYB				*e*S	**S**	**01 10 57.0**	**-16**
HYB	**Hyderabad**	**16.73**	**299**	*i* P	**P**	**01 08 11.0**	**+1.3**
	comp=N,75nm,1.0s						
HYB				*e*S	**S**	**01 10 57.0**	**-16**
BLSP	**Bilaspur**	**16.75**	**319**	*e*P	**P**	**01 08 10.0**	**+0.1**
BLSP				*e*		01 11 06.6	
QIZ	**Qiongzhong**	**18.13**	**57**	P	**P**	**01 08 29.0**	**+1.7**
QIZ				S	**S**	**01 11 47.3**	**+1.9**
QIZ				LR	LR		
	comp=N,2μm,15.9s						
QIZ				LR	LR		
	comp=Z,967nm,17.4s						
NGP	**Nagpur**	**18.26**	**311**	*e*P	**P**	**01 08 29.2**	**+0.3**
NGP				*e*		01 11 42.5	
LATR	**Latur**	**18.87**	**300**	*e*P	**P**	**01 08 40.0**	**+3.6**
MNGI	**Mangalore**	**18.90**	**282**	*e*	**P**	**01 08 44.6**	**+7.8**
JIRN	**Jiri**	**19.34**	**339**	*e*P	**P**	**01 08 41.9**	**+0.2**
	comp=Z,87nm,0.6s						
PKI	**Pulchoki**	**19.55**	**337**	*e*P	**P**	**01 08 43.4**	**-0.5**
	comp=Z,184nm,1.1s						
GUN	**Gumba**	**19.68**	**339**	*e*P	**P**	**01 08 45.8**	**+0.4**
	comp=Z,91nm,0.6s						
DMN	**Daman**	**19.70**	**337**	*e*P	**P**	**01 08 45.1**	**-0.5**
	comp=Z,166nm,0.9s						
KKN	**Kakani**	**19.79**	**337**	*e*P	**P**	**01 08 45.8**	**-0.8**
	comp=Z,71nm,0.7s						
LSA	**Lhasa**	**20.14**	**353**	P	**P**	**01 08 49.6**	**-0.8**
LSA				AP		01 08 57.5	
LSA				XP		01 09 01.7	
LSA				S	**S**	**01 12 42.2**	**+12**
LSA				AMB	AMB		
	comp=Z,20nm,0.8s						
LSA				LR	LR		
	comp=N,170nm,17.6s,MS3.8						
LSA				LR	LR		
	comp=E,300nm,16.3s,MS3.8						
LSA				LR	LR		
	comp=Z,350nm,18.8s,MS3.7						
LSA	**Lhasa**	**20.14**	**353**	*e*P	**P**	**01 08 49.5**	**-0.9**
	comp=Z,45nm,0.8s						
GKN	**Gorkha**	**20.23**	**336**	*e*P	**P**	**01 08 51.2**	**-0.1**
	comp=Z,101nm,0.6s						
KOLN	**Koldanda**	**20.47**	**333**	*e*P	**P**	**01 08 54.0**	**+0.2**
	comp=Z,140nm,0.9s						
KAD	**Karad**	**20.54**	**294**	*e*P	**P**	**01 08 57.3**	**+2.7**
KAD				*i*		01 12 50.8	
BHPL	**Bhopal**	**20.72**	**313**	*e*P	**P**	**01 08 57.5**	**+1.2**
BHPL				*e*		01 08 59.6	
	comp=Z,55nm,0.8s						
BHPL				*e*		01 12 39.2	
POO	**Poona**	**21.27**	**297**	*e*P	**P**	**01 09 05.7**	**+3.6**
POO				*e*		01 09 09.8	
	comp=Z,30nm,1.2s						
NDI	**New Delhi**	**24.55**	**323**	*e*	**P**	**01 09 24.0**	**-10**
NDI				*e*		01 13 51.0	
ENH	**Enshi**	**25.24**	**33**	*e*P	**P**	**01 09 40.5**	**-0.4**
	comp=Z,64nm,0.9s,mb5.2						
DDI	**Dehra Dun**	**25.31**	**327**	*e*	**P**	**01 09 42.6**	**+1.0**
TGY	**Tagaytay City**	**26.92**	**78**	LR	LR	01 20 40.8	
	comp=Z,563nm,18.4s,MS4.2,baz=242,slow=37						
LZH	**Lanzhou**	**27.90**	**18**	P	**P**	**01 10 05.5**	**+0.2**
LZH				AP	pP	01 10 13.0	-2.0
LZH				XP	sP	01 10 16.5	-2.8
LZH				PP	PP	01 10 55.0	-0.1
LZH				*e*S	**S**	**01 14 45.0**	**+0.1**
LZH				XS		01 15 00.5	
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,220nm,5.2s						
LZH				LR	LR		
	comp=E,860nm,12.6s						
LZH				LR	LR		
	comp=Z,920nm,15.4s,MS4.5						
XAN	**Xi'an**	**28.00**	**27**	P	**P**	**01 10 06.0**	**-0.3**
XAN				AP	pP	01 10 13.6	-2.4
XAN				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.6						
XAN				LR	LR		
	comp=N,663nm,15.4s,MS4.5						
XAN				LR	LR		
	comp=E,836nm,15.8s,MS4.5						
XAN				LR	LR		
	comp=Z,608nm,13.0s,MS4.4						
NJ2	**Nanjing**	**32.20**	**42**	*e*P	**P**	**01 10 44.6**	**+1.1**
NJ2				AP	pP	01 10 56.5	+3.1
NJ2				PP	PP	01 11 53.5	+2.5
NJ2				S	**S**	**01 15 52.0**	**-1.1**
NJ2				XS		01 16 12.0	
NJ2				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,240nm,5.0s						
NJ2				LR	LR		
	comp=N,420nm,15.5s,MS4.5						
NJ2				LR	LR		
	comp=E,580nm,13.7s,MS4.5						
NJ2				LR	LR		
	comp=Z,520nm,18.3s,MS4.3						
SSE	**Sheshan**	**33.24**	**46**	P	**P**	**01 10 48.1**	**-4.5**
SSE				S	**S**	**01 16 08.8**	**-0.5**
SSE				XS		01 16 23.8	
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.5						
SSE				LR	LR		
	comp=N,149nm,29.0s,MS3.7						
SSE				LR	LR		
	comp=E,127nm,29.0s,MS3.7						
SSE				LR	LR		
	comp=Z,140nm,30.0s,MS3.5						
WMQ	**Urumqi**	**34.50**	**352**	*e*P	**P**	**01 11 03.6**	**+0.4**
WMQ				AP	pP	01 11 10.9	-2.2
WMQ				XP	sP	01 11 14.3	-3.3
WMQ				PP	PP	01 12 19.5	-0.3
WMQ				S	**S**	**01 16 29.1**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,52nm,4.5s						
WMQ				LR	LR		
	comp=N,2μm,16.8s,MS4.9						
WMQ				LR	LR		
	comp=E,1μm,19.5s,MS4.9						
WMQ				LR	LR		
	comp=Z,1μm,16.9s,MS4.8						
BJT	**Baijiatuau**	**36.24**	**30**	*e*P	**P**	**01 11 18.9**	**+0.8**
	comp=Z,11nm,0.6s,mb5.0						
UCH	**Uchtor**	**36.65**	**336**	P	**P**	**01 11 21.9**	**+0.4**
	SNR=20						
JOW	**Kunigami**	**36.79**	**58**	LR	LR	01 25 48.0	
	comp=Z,305nm,21.6s,MS4.0,baz=191,slow=35						
TKM2	**Tokmak 2**	**36.81**	**337**	P	**P**	**01 11 24.2**	**+1.4**
	SNR=16						
KBK	**Karagaybulak**	**36.83**	**337**	P	**P**	**01 11 24.0**	**+1.0**
	SNR=48						
AML	**Almayashu**	**36.90**	**335**	P	**P**	**01 11 24.5**	**+0.8**
	SNR=42						
AAK	**Ala-Archa**	**36.99**	**336**	P	**P**	**01 11 25.2**	**+0.8**
	SNR=20						
AAK	**Ala-Archa**	**36.99**	**336**	⇓*i*P	**P**	**01 11 23.3**	**-1.1**
AAK				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.9						
AAK	**Ala-Archa**	**36.99**	**336**	*e*P	**P**	**01 11 23.4**	**-1.0**
	comp=Z,13nm,0.8s,mb4.8						
FRU	**Bishkek**	**37.11**	**336**	*e*P	**P**	**01 11 26.0**	**+0.6**
CHMS	**Chumysh**	**37.20**	**337**	P	**P**	**01 11 26.3**	**+0.1**
	SNR=21						
EKS2	**Erkin-Say**	**37.31**	**335**	P	**P**	**01 11 27.7**	**+0.7**
	SNR=48						
USP	**Ospenovka**	**37.52**	**337**	P	**P**	**01 11 29.1**	**+0.2**
	SNR=34						
MK02	**Makanchi Array**	**38.31**	**347**	P	**P**	**01 11 34.3**	**-1.1**
MK02				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
SONM	**Songino Array**	**39.56**	**13**	P	**P**	**01 11 46.0**	**+0.2**
	comp=Z,6.4nm,0.7s,mb4.5,baz=195,slow=7.2,SNR=44						
SONM				PcP	PcP	01 13 53.7	+0.3
	comp=Z,1.8nm,0.6s,baz=202,slow=3.3,SNR=9.0						
SONM				pPcP		01 14 01.2	
	comp=Z,4.4nm,0.6s,baz=198,slow=4.0,SNR=8.2						
SONM				pScP		01 17 39.7	
	comp=Z,0.6nm,0.8s,baz=153,slow=2.8,SNR=3.6						
ULN	**Ulaanbaatar**	**39.74**	**14**	⇓*i*P	**P**	**01 11 46.5**	**-0.8**
ULN	**Ulaanbaatar**	**39.74**	**14**	*e*P	**P**	**01 11 46.8**	**-0.5**
	comp=Z,8.9nm,0.8s,mb4.5						
ZAK	**Zakamensk**	**41.40**	**9**	*e*P	**P**	**01 12 00.9**	**-0.1**
ZAK				*e*		01 13 52.9	
SNY	**Shenyang**	**41.42**	**34**	⇓P	**P**	**01 12 02.6**	**+1.4**
SNY				AMB	AMB		
	comp=Z,30nm,1.6s,mb4.7						
TLY	**Talaya**	**42.72**	**9**	*e*P	**P**	**01 12 11.9**	**+0.1**
TLY				pmax	pmax		
	comp=Z,13nm,2.3s,mb4.2						
TLY				MLR	MLR	

MAT *eS* **S** **01 19 49.6 -2.9**
WRA Warramunga Arr 49.54 127 P **P** **01 13 05.9 -0.3**
comp=Z,25nm,0.6s,mb5.4,baz=305,slow=8.8,SNR=78
WRA PcP PcP 01 14 28.0 0.0
comp=Z,3.0nm,0.8s,baz=316,slow=2.9,SNR=6.0
WRA pPcP 01 14 34.8
comp=Z,2.1nm,0.5s,baz=318,slow=2.9,SNR=7.1
WRAB Tennant Creek 49.55 127⇓ *iP* **P** **01 13 04.0 -2.2**
WRAB Tennant Creek 49.55 127 *eP* **P** **01 13 05.2 -1.0**
comp=Z,45nm,0.6s,mb5.7
WB2 Warramunga Arr 49.55 127⇓ *iP* **P** **01 13 05.9 -0.4**
BOD Bodaibo 50.56 14 *eP* **P** **01 13 11.8 -1.6**
ASPA Alice Springs 51.28 131⇑ *iP* **P** **01 13 19.9 +0.5**
ASAR Alice Springs 51.28 131 P **P** **01 13 18.4 -1.0**
comp=Z,10nm,0.7s,mb4.9,baz=306,slow=7.0,SNR=55
ASAR PcP PcP 01 14 34.5 +0.2
comp=Z,5.9nm,0.9s,baz=301,slow=4.0,SNR=6.9
ASAR pPcP 01 14 41.5
comp=Z,4.2nm,0.6s,baz=312,slow=3.2,SNR=10
ASAR LR LR 01 34 24.8
comp=Z,173nm,20.2s,MS4.1,baz=280,slow=35
GNI Garni 53.00 314 *iP* **P** **01 13 28.9 -3.1**
GNI pmax pmax
comp=Z,9.0nm,0.9s
GNI Garni 53.00 314 P **P** **01 13 32.3 +0.3**
comp=Z,2.5nm,0.6s,mb4.3,baz=58,slow=5.0,SNR=4.8
GNI LR LR 01 39 22.9
comp=Z,94nm,19.2s,MS3.9,baz=246,slow=40
GNI Garni 53.00 314 *eP* **P** **01 13 31.9 -0.1**
comp=Z,22nm,1.1s,mb5.0
TI2 Plekhanov 53.58 315 *eP* **P** **01 13 36.8 +0.5**
ARU Arti 54.17 337 *eP* pP 01 13 48.7 -2.0
ZEI Tsey 54.56 316 *eP* **P** **01 13 44.8 +1.3**
ZEI pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
YSS Yuzh-Sakhalins 55.64 39⇑ *iP* **P** **01 13 50.5 -0.8**
YSS pmax pmax
comp=Z,65nm,1.7s,mb5.4
YSS Yuzh-Sakhalins 55.64 39 *eP* **P** **01 13 51.7 +0.4**
comp=Z,28nm,0.9s,mb5.3
KIV Kislovodsk 55.82 317 *eP* **P** **01 13 50.1 -2.5**
KIV pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
KIV Kislovodsk 55.82 317 *eP* **P** **01 13 51.3 -1.3**
comp=Z,61nm,1.4s,mb5.4
GOF Gofitskoye 56.01 319 *eP* **P** **01 13 53.0 -0.9**
PMG Port Moresby 56.37 108⇓ *iP* **P** **01 13 56.9 0.0**
PMG Port Moresby 56.37 108 P **P** **01 13 57.9 +0.9**
comp=Z,42nm,0.8s,mb5.5,baz=309,slow=3.9,SNR=18
PMG Port Moresby 56.37 108 *eP* **P** **01 13 57.1 +0.2**
comp=Z,40nm,0.8s,mb5.5
ASF Jabal al Asfar 57.01 302 P **P** **01 14 02.6 +1.3**
comp=Z,2.3nm,1.0s,mb4.2,baz=359,slow=19,SNR=3.0
ASF LR LR 01 41 43.7
comp=Z,108nm,19.0s,MS4.0,baz=222,slow=39
SOKR Solikamsk 57.07 339⇑ *iP* **P** **01 13 59.3 -2.1**
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
SOKR MLR MLR 01 15 22.0
comp=Z,350nm,22.0s,MS4.4
MALT Malatya 57.10 310 *eP* **P** **01 13 59.9 -2.0**
MALT *epP* pP 01 14 08.3 -3.9
KMBO Kilima Mbogo 57.30 262 P **P** **01 14 05.2 +1.6**
comp=Z,1.0nm,0.7s,mb4.0,baz=65,slow=18,SNR=3.4
KMBO LR LR 01 35 31.6
comp=Z,291nm,20.8s,MS4.4,baz=279,slow=33
KMBO Kilima Mbogo 57.30 262 *eP* **P** **01 14 00.6 -3.0**
comp=Z,2.4nm,0.7s,mb4.3
KMBO LR LR 01 35 31.6
SOC Sochi 57.71 316 *eP* **P** **01 14 00.7 -5.4**
SOC *e* 01 14 57.1
SOC *eS* **S** **01 21 54.5 -6.1**
SOC *e* 01 23 43.6
SOC *eSS* SS 01 25 47.2 -5.3
SOC *eSSS* SSS 01 28 12.1 +1.3
SOC pmax pmax
comp=Z,27nm,1.2s,mb5.2
SOC pmax pmax
comp=N,16nm,1.0s
EIL Elat 58.29 299 P **P** **01 14 10.4 +0.1**
comp=N,14nm,1.2s,mb4.8,baz=35,slow=15,SNR=2.4
EIL Elat 58.29 299 *eP* **P** **01 14 09.7 -0.6**
comp=N,12nm,0.6s,mb5.1
YAK Yakutsk 58.47 19⇓ *iP* **P** **01 14 08.9 -2.2**
YAK pmax pmax
comp=Z,35nm,0.8s,mb5.4
YAK Yakutsk 58.47 19 *eP* **P** **01 14 09.3 -1.9**
comp=Z,44nm,0.4s,mb5.8
CTA Charters Tower 59.45 120 P **P** **01 14 18.8 +0.3**
comp=Z,9.7nm,1.0s,mb4.8,baz=124,slow=6.2,SNR=2.4
CTA Charters Tower 59.45 120 P **P** **01 14 18.8 +0.2**
CTAO Charters Tower 59.45 120 P **P** **01 14 17.8 -0.7**
STKA Stephens Creek 61.54 134⇓ *iP* **P** **01 14 33.1 +0.5**
comp=Z,5.2nm,0.8s,mb4.7
STKA Stephens Creek 61.54 134 P **P** **01 14 32.0 -0.5**
comp=Z,7.2nm,0.9s,mb4.8,baz=321,slow=7.5,SNR=12
STKA LR LR 01 42 34.9
comp=Z,199nm,18.1s,MS4.3,baz=224,slow=37
ISP Isparta 63.12 308 *iP* **P** **01 14 39.7 -3.3**
OBN Obninsk 63.75 327 P **P** **01 14 49.0 +2.1**
OBN 01 15 22.0
OBN 01 17 10.0
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.1
TIXI Tiksi 65.61 12⇓ *iP* **P** **01 14 57.3 -1.4**
TIXI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TIXI MLR MLR
comp=Z,178nm,17.0s,MS4.3
MLR Muntele Rosu 67.71 315 P **P** **01 15 12.1 -0.3**
comp=Z,5.8nm,0.6s,mb4.8,baz=115,slow=22,SNR=3.1
JOF Joensuu 69.15 334 *ep* **P** **01 15 20.3 -0.7**
comp=Z,2.2nm,0.5s,mb4.3
JOF Joensuu 69.15 334 *eP* **P** **01 15 20.3 -0.7**
JOF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
LSZ Lusaka 69.54 250 *eP* **P** **01 15 25.4 +1.3**
comp=Z,2.8nm,0.6s,mb4.4
FINES FINESS Array B 71.03 332 P **P** **01 15 31.4 -1.1**
comp=Z,3.5nm,0.8s,mb4.3,baz=90,slow=7.6,SNR=11
FINES LR LR 01 48 56.5
comp=Z,143nm,21.6s,MS4.2,baz=155,slow=38
KAF Kangasniemi 71.11 333 *ep* **P** **01 15 31.2 -1.7**
comp=Z,0.2nm,0.3s
OJC Ojcow 72.44 320 *eP* **P** **01 15 40.2 -0.8**
OKC Ostrava-Krasne 73.47 319 *eP* pP 01 15 54.4 -3.3
OKC *e* 01 16 10.5
OKC Ostrava-Krasne 73.47 319 *epP* pP 01 15 54.4 -3.3
OKC *ex* x 01 16 10.5
ARCES ARCESS Array B 73.53 340 P **P** **01 15 47.0 -0.1**
comp=Z,6.5nm,0.9s,mb4.6,baz=87,slow=7.0,SNR=17
ARCES pP pP 01 15 53.8 -3.9
comp=Z,1.7nm,0.4s,baz=99,slow=6.0,SNR=1.9
ARCES LR LR 01 51 15.2
comp=Z,286nm,19.7s,MS4.6,baz=299,slow=38
BILL Bilibino 74.61 22 P **P** **01 15 54.0 +0.6**
BILL 01 16 08.0
BILL MLR MLR
comp=Z,200nm,18.0s,MS4.5
DPC Dobruska-Polom 74.68 320 *eP* **P** **01 15 55.4 +1.3**
KSP Ksiaz 74.73 320 *eP* **P** **01 15 54.2 -0.2**
KSP Ksiaz 74.73 320 *eP* **P** **01 15 55.4 +1.0**
PRU Pruhonice 75.80 319 *eP* **P** **01 15 54.9 -5.7**
BRG Berggiesshubel 76.22 320 *eP* pP 01 16 11.1 -2.4
BRG *e* 01 16 17.9
BRG pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
BRG Berggiesshubel 76.22 320 *eP* pP 01 16 11.1 -2.4
comp=Z,10nm,1.5s
BRG *e* 01 16 17.9
GERES GERESS Array B 76.32 318 P **P** **01 16 03.2 -0.4**
comp=Z,1.7nm,0.5s,mb4.2,baz=101,slow=5.5,SNR=6.9
KHC Kasperske Hory 76.41 318⇓ *iP* **P** **01 16 09.1 +5.0**
KHC Kasperske Hory 76.41 318 *eP* **P** **01 15 59.1 -5.0**
HFS Hagfors 76.80 330 P **P** **01 16 05.0 -1.1**
comp=Z,6.1nm,1.0s,mb4.5,baz=104,slow=6.1,SNR=8.8
CLL Collm 76.82 320 *eP* pP 01 16 13.0 -3.9
CLL Collm 76.82 320 *e**PP pP 01 16 13.0 -3.9
NKC Novy Kostel 77.16 319 *eP* **P** **01 16 10.4 +2.1**
GRA1 Grafenberg Arr 77.95 319 *eP* pP 01 16 20.4 -2.8
comp=Z,12nm,1.2s
GRF Grafenberg Arr 77.95 319 *eP* pP 01 16 20.4 -2.8
GRF pmax pmax
comp=Z,12nm,1.2s,mb4.7
NB2 NORSAR Subarra 78.07 330 P **P** **01 16 12.0 -1.1**
comp=Z,2.1nm,0.7s,mb4.2,baz=91,slow=5.6
NOA NORSAR Array B 78.07 330 P **P** **01 16 11.7 -1.4**
comp=Z,2.9nm,0.8s,mb4.3,baz=92,slow=5.8,SNR=7.0
NOA LR LR 01 54 26.2
comp=Z,90nm,18.1s,MS4.1,baz=80,slow=39
DAVOX Davos 78.92 316 P **P** **01 16 17.6 -0.4**
comp=Z,2.4nm,0.5s,mb4.4,baz=120,slow=6.0,SNR=15
MAW Mawson 80.15 192 P **P** **01 16 24.8 +0.5**
comp=Z,11nm,0.8s,mb4.8,baz=290,slow=7.8,SNR=9.2
MAW LR LR 01 43 36.4
comp=Z,86nm,20.6s,MS4.1,baz=255,slow=29
LPG La Plagne 81.17 315 *eP* **P** **01 16 30.0 -0.1**
comp=Z,22nm,0.9s,mb4.8
BNI Bardonecchia 81.25 314 *eP* **P** **01 16 30.3 -0.2**
comp=Z,16nm,1.1s,mb4.8
EKA Eskdalemuir Ar 86.11 325 P **P** **01 16 55.8 +1.0**
comp=Z,5.5nm,0.8s,mb4.9,baz=90,slow=5.0,SNR=5.0
SYO Syowa Base 86.95 197⇑ P **P** **01 17 00.0 +1.4**
RPZ Rata Peaks 87.50 135 P **P** **01 17 03.6 +1.7**
comp=Z,15nm,1.0s,mb5.2,baz=87,slow=4.5,SNR=4.5
ESDC Sonseca Array 89.85 310 P **P** **01 17 13.6 +0.4**
comp=Z,0.4nm,0.5s,mb4.0,baz=58,slow=4.2,SNR=5.7
IMA Indian Mountai 90.16 22 *eP* **P** **01 17 15.5 +1.5**
COLA College 92.87 22 *iP* **P** **01 17 26.5 -0.1**
MCK McKinley 93.01 23 *eP* **P** **01 17 27.2 -0.1**
comp=Z,3.0nm,1.0s,mb4.7
ILAR Eielson Array 93.28 22 P **P** **01 17 29.0 +0.6**
comp=Z,1.4nm,0.8s,mb4.4,baz=299,slow=4.4,SNR=19
ILAR PKKPbc 01 34 37.4
comp=Z,0.4nm,0.5s,baz=165,slow=1.6,SNR=8.1
ILAR LR LR 01 58 52.9
comp=Z,80nm,21.6s,MS4.1,baz=164,slow=35
PWA Palmer West 93.61 25 *eP* **P** **01 17 30.3 +0.3**
SML Sawmill 94.19 25 *eP* **P** **01 17 31.1 -1.5**
VNDA Vanda 94.68 168 P **P** **01 17 35.3 +0.7**
comp=Z,1.9nm,0.9s,mb4.5,baz=56,slow=3.8,SNR=3.4
VNDA LR LR 01 55 20.4
comp=Z,75nm,20.5s,MS4.1,baz=311,slow=32
INK Inuvik 95.43 16 P **P** **01 17 38.8 +0.6**
comp=Z,2.8nm,0.9s,mb4.7,baz=331,slow=3.9,SNR=6.3
INK pP pP 01 17 46.1 -2.9
comp=Z,3.8nm,1.1s,baz=282,slow=2.1,SNR=4.0
INK PKKPbc 01 34 36.2
comp=Z,1.0nm,0.7s,baz=214,slow=4.9,SNR=4.2
INK Inuvik 95.43 16 *eP* **P** **01 17 37.6 -0.6**
RES Resolute Bay 95.70 2 *eP* **P** **01 17 39.0 -0.2**
comp=Z,7.6nm,0.8s,mb5.2
RES *epP* pP 01 17 47.3 -2.8
DBIC Dimbokro 97.37 278 LR LR 02 00 05.4
comp=Z,74nm,18.5s,MS4.2,baz=49,slow=34
YKA Yellowknife Ar 104.83 13 Pdiff Pdif 01 18 21.1 +0.7
comp=Z,0.1nm,0.7s,baz=326,slow=4.3,SNR=4.0
YKA PP PP 01 22 38.9 -4.7
comp=Z,0.4nm,0.9s,baz=327,slow=7.0,SNR=4.9
YKA PKKPbc 01 34 04.1
comp=Z,0.2nm,0.6s,baz=153,slow=3.0,SNR=4.8
YKA Yellowknife Ar 104.83 13 Pdif Pdif 01 18 21.1 +0.7
YKA PP PP 01 22 38.9 -4.7
YKA PKKPbc 01 34 04.1
NVAR Mina Array Bea 123.61 30 PKP PKPdf 01 23 13.4 +2.5
comp=Z,0.7nm,0.5s,baz=319,slow=1.9,SNR=7.4
NVAR pPKP 01 23 20.2
comp=Z,2.9nm,0.6s,baz=320,slow=1.4,SNR=15
PDAR Pinedale Array 123.68 21 PKP PKPdf 01 23 12.5 +1.6
comp=Z,0.8nm,0.6s,baz=177,slow=0.1,SNR=10
PDAR pPKP 01 23 19.6
comp=Z,2.0nm,0.6s,baz=264,slow=0.9,SNR=15
PDAR PKKPbc 01 33 00.0
comp=Z,0.6nm,0.9s,baz=124,slow=5.3,SNR=5.0
MSU Marysvale 126.35 25 *e*PKP PKPdf 01 23 18.7 +2.6
ANMO Albuquerque 131.72 22 PKP PKPdf 01 23 29.4 +2.9
comp=Z,0.5nm,0.5s,baz=293,slow=5.5,SNR=2.9
ANMO pPKP 01 23 36.9
comp=Z,2.3nm,0.9s,baz=300,slow=2.5,SNR=5.8
TXAR Lajitas Array 137.78 23 PKhKP 01 23 30.9
comp=Z,0.2nm,0.7s,baz=308,slow=1.8,SNR=4.7
TXAR PKP PKPdf 01 23 41.1 +3.2
comp=Z,0.7nm,0.6s,baz=193,slow=0.6,SNR=12
TXAR pPKP 01 23 47.5
comp=Z,1.4nm,0.6s,baz=194,slow=0.2,SNR=12
TXAR SKPbc 01 27 11.9
comp=Z,0.7nm,0.8s,baz=270,slow=1.3,SNR=4.4
JCT Junction City 138.06 18 *e*PKP PKPdf 01 23 42.0 +3.6
BDFB Brasilia 142.30 257 PKP PKPdf 01 23 48.5 +2.2
comp=Z,3.0nm,0.7s,baz=189,slow=9.8,SNR=2.6
BDFB SKPbc 01 27 24.2
comp=Z,2.1nm,0.8s,baz=117,slow=4.5,SNR=3.0
TEIG Tepich 150.29 4 *e*PKP PKPdf 01 24 01.2 +1.7
SDV Santo Domingo 155.97 319 *e*PKPab PKPab 01 24 36.6 -0.8
LPAZ La Paz 161.19 247 PKP PKPdf 01 24 17.5 +3.7
comp=Z,0.5nm,0.5s,baz=206,slow=19,SNR=2.2
LPAZ PKPab PKPab 01 25 00.2 +0.5
comp=Z,1.1nm,0.6s,baz=253,slow=3.7,SNR=3.6
LPAZ pPKPab 01 25 07.2
comp=Z,2.4nm,0.7s,baz=119,slow=1.4,SNR=4.8

*NEIC **10** 01:10:08.4, 19.93N×69.27W, h25km, MD3.5(RSPR), After RSPR.*
RSPR 10 01:10:08.4, 19.93N×69.27W, h25km±23km, MD3.5/3, MD3.5/3, 4C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**2.70**	**130⇑**	*eP*	Pn	01 10 48.1	-3.2
LSP				*eS*	Sn	01 11 15.3	-8.3
AOPR	**Arecibo Observ**	**2.85**	**123⇑**	*eP*	Pn	01 10 50.8	-2.7
AOPR				*eS*	Sn	01 11 23.5	-4.0
PORP	**Portuguez**	**3.11**	**126⇑**	*eP*	Pn	01 10 54.6	-2.6
PORP				*eS*	Sn	01 11 30.1	-3.9
CELP	**Cerrillos**	**3.14**	**125⇑**	*eP*	Pn	01 10 54.6	-3.0
CELP				*eS*	Sn	01 11 26.7	-8.0

*IDC **10** 01:12:20.7±1.5, 36.14N×29.37E, mb3.8/2, mb1 4.0/6, mb1mx3.7/18, mbtmp3.9/6, ML3.7/4, MS2.9/2, Ms1 2.9/2, ms1mx2.7/24, Error ellipse: s-maj=32.7km s-min=23.0km az=159.0*
*ATH **10** 01:12:22.6, 35.75N×29.38E, h5km, MD3.9/4*
*CSEM **10** 01:12:24.0±0.2, 36.15N×29.40E, h23km±1km, Mw3.7, Error ellipse: s-maj=2.4km s-min=1.5km az=40.0*
*NEIC **10** 01:12:26.0, 36.27N×29.37E, h22km, MD3.9(ATH), ML3.7(ISK), ML3.6(NIC), After ISK.*
*ISK **10** 01:12:26.1, 36.27N×29.37E, h23km, MD3.7, ML3.8*
*NIC **10** 01:12:29.2±0.4, 35.21N×29.35E, h25km, mb4.0, ML3.6, MW3.2*
ISC 10 01:12:23.2±0.3, 35.94N±0.02×29.43E±0.03, h33km, n84, σ1§20/104, mb4.0/2, 1D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.24**	**32⇓**	*i*PB	**Pb**	**01 12 31.0**	**+0.7**
FETY	**Fethiye**	**0.74**	**338**	*i*PG	**P**	**01 12 34.8**	**-2.5**
FETY				*i*SG	**S**	**01 12 42.8**	**-4.7**
ELL	**Elmali**	**0.89**	**26**	*i*PG	**P**	**01 12 39.0**	**-0.4**
DALT	**Dalyan (Mudla)**	**1.04**	**323**	*i*PG	**P**	**01 12 41.7**	**+0.2**
DALT				*i*SG	**S**	**01 12 53.3**	**-1.8**
DALT	**Dalyan (Mudla)**	**1.04**	**323**	*i*Pg	**P**	**01 12 41.7**	**+0.2**
DALT				Sg	**S**	**01 12 53.7**	**-1.4**
ARG	**Arkhangelos**	**1.09**	**285**	*e*PG	**P**	**01 12 43.5**	**+1.3**
ANTB	**Antalya**	**1.38**	**46**	PN	**Pn**	**01 12 48.6**	**+2.1**
YER	**Yerkesik**	**1.50**	**323**	*i*PN	**Pn**	**01 12 48.8**	**+0.5**
YER	**Yerkesik**	**1.50**	**323**	Pn	**Pn**	**01 12 48.8**	**+0.5**
DNZL	**Cakiroluk**	**1.77**	**350**	*i*P	**P**	**01 12 52.4**	**+0.5**
DNZL				*i*S	**S**	**01 13 14.3**	**+0.8**
BCK	**Bucak**	**1.78**	**31**	PN	**Pn**	**01 12 53.7**	**+1.4**
BCK	**Bucak**	**1.78**	**31**	Pn	**Pn**	**01 12 53.7**	**+1.4**
DENT	**Denizli**	**1.83**	**350**	PN	**Pn**	**01 12 52.0**	**-1.1**
BDRM	**Kayabasi**	**1.95**	**306**	*i*P	**P**	**01 12 55.2**	**+0.7**
BDRM				*i*S	**S**	**01 13 22.2**	**+4.1**
ISP	**Isparta**	**2.09**	**24**	PN	**Pn**	**01 12 56.8**	**+0.1**
ISP	**Isparta**	**2.09**	**24**	Pn	**Pn**	**01 12 56.9**	**+0.2**
ISP	**Isparta**	**2.09**	**24**	*i*P	**P**	**01 12 57.5**	**+1.0**
ISP				*i*S	**S**	**01 13 34.4**	**+13**
AYDN	**Tasoluk**	**2.12**	**325**	*i*P	**P**	**01 12 57.5**	**+0.5**
AYDN				*i*S	**S**	**01 13 24.1**	**+1.7**
KHL	**Karahalli**	**2.38**	**2**	PN	**Pn**	**01 13 00.0**	**-0.8**
MANT	**Manisa**	**2.64**	**345**	*i*P	**P**	**01 13 02.7**	**-1.7**
MANT				*i*S	**S**	**01 13 40.9**	**+5.3**
HDMB	**Hadim**	**2.67**	**67**	*e*PN	**Pn**	**01 13 08.0**	**+3.0**
ALFC	**Alevga**	**2.70**	**106**	P	**P**	**01 13 08.5**	**+3.2**
	11nm,0.2s						
ALFC				S	**S**	**01 13 40.5**	**+3.3**
IZM	**Izmir**	**3.00**	**325**	*e*PN	**Pn**	**01 13 09.4**	**-0.3**
IZM	**Izmir**	**3.00**	**325**	Pn	**Pn**	**01 13 09.5**	**-0.2**
KDAG	**Bornova**	**3.00**	**326**	*i*P	**P**	**01 13 08.1**	**-1.4**
KONT	**Konya--Tatoy**	**3.09**	**49**	*e*PN	**Pn**	**01 13 13.0**	**+2.1**
BLCB	**Balcova**	**3.09**	**323**	*e*PN	**Pn**	**01 13 10.2**	**-0.8**
BLCB	**Balcova**	**3.09**	**323**	Pn	**Pn**	**01 13 10.3**	**-0.7**
BLCB	**Balcova**	**3.09**	**323**	Pn	**Pn**	**01 13 10.3**	**-0.7**
ALT	**Altintas**	**3.15**	**10**	*e*PN	**Pn**	**01 13 11.1**	**-0.8**
ALT	**Altintas**	**3.15**	**10**	Pn	**Pn**	**01 13 11.1**	**-0.8**
NPS	**Neapolis**	**3.18**	**259**	*e*PN	**Pn**	**01 13 14.5**	**+2.3**
MAMC	**Mammari**	**3.19**	**103**	P	**P**	**01 13 16.6**	**+4.4**
MAMC				S	**S**	**01 13 53.2**	**+3.7**
AKS	**Akhisar**	**3.20**	**337**	*e*PN	**Pn**	**01 13 12.2**	**-0.3**
AKS	**Akhisar**	**3.20**	**337**	Pn	**Pn**	**01 13 10.2**	**-2.3**
SANT	**Santorini**	**3.24**	**279**	*e*PN	**Pn**	**01 13 13.6**	**+0.5**
SANT	**Santorini**	**3.24**	**279**	*e*PN	**Pn**	**01 13 13.6**	**+0.5**
CSS	**Prodhromos**	**3.33**	**106**	*i*P	**P**	**01 13 18.0**	**+3.7**
CSS				*i*S	**S**	**01 13 55.9**	**+2.6**
CSS	**Prodhromos**	**3.33**	**106**	P	**P**	**01 13 18.0**	**+3.7**
CSS				S	**S**	**01 13 55.6**	**+2.3**
KIZT	**Kizilcal**	**3.52**	**33**	*e*PN	**Pn**	**01 13 17.3**	**+0.2**
KIZT	**Kizilcal**	**3.52**	**33**	Pn	**Pn**	**01 13 17.3**	**+0.2**
DST	**Dursunbey**	**3.71**	**350**	*e*PN	**Pn**	**01 13 19.2**	**-0.6**
DST	**Dursunbey**	**3.71**	**350**	Pn	**Pn**	**01 13 19.3**	**-0.5**
ESKT	**Eskisehir**	**3.75**	**17**	*e*PN	**Pn**	**01 13 19.4**	**-0.9**
ESKT	**Eskisehir**	**3.75**	**17**	Pn	**Pn**	**01 13 19.4**	**-0.8**
ESKT	**Eskisehir**	**3.75**	**17**	*i*P	**P**	**01 13 19.1**	**-1.0**
IDI	**Anoyia**	**3.75**	**261**	Pn	**Pn**	**01 13 21.0**	**+0.7**
	2.1nm,0.3s,baz=98,slow=11,SNR=24						
IDI				Sn	**Sn**	**01 14 04.3**	**+0.3**
	2.7nm,0.3s,baz=312,slow=20,SNR=3.2						
MEST	**Erdemli**	**3.87**	**79**	*i*P	**P**	**01 13 24.8**	**+3.0**
PHNC	**Paralimni**	**3.88**	**103**	P	**P**	**01 13 26.5**	**+4.5**
PHNC				S	**S**	**01 14 12.7**	**+5.7**
BALB	**Balikesir**	**3.89**	**342**	*e*PN	**Pn**	**01 13 21.0**	**-1.3**
ULDT	**Uludag**	**4.20**	**357**	*i*P	**P**	**01 13 24.5**	**-2.0**
VAM	**Vamos**	**4.29**	**264**	*e*PN	**Pn**	**01 13 32.0**	**+4.0**
YLV	**Yalova**	**4.62**	**360**	*e*PN	**Pn**	**01 13 31.4**	**-1.3**
MDU	**Mudurnu**	**4.73**	**17**	*e*PN	**Pn**	**01 13 33.6**	**-0.7**
MDU	**Mudurnu**	**4.73**	**17**	Pn	**Pn**	**01 13 33.7**	**-0.6**
ANTO	**Ankara**	**4.74**	**33**	*e*PN	**Pn**	**01 13 35.4**	**+1.0**
ANTO	**Ankara**	**4.74**	**33**	Pn	**Pn**	**01 13 35.5**	**+1.1**
BRTR	**Keskin Array B**	**5.04**	**40**	Pn	**Pn**	**01 13 37.8**	**-0.8**
	1.0nm,0.3s,baz=216,slow=14,SNR=55						
BRTR				Sn	**Sn**	**01 14 36.1**	**-0.3**
	1.9nm,0.3s,baz=210,slow=27,SNR=12						
SGKT	**Sivrigoynuk**	**5.07**	**23**	*i*P	**P**	**01 13 38.2**	**-0.6**
AVNT	**Avonos**	**5.17**	**55**	*i*P	**P**	**01 13 41.5**	**+1.2**
ELDT	**Eldivan**	**5.53**	**34**	*i*P	**P**	**01 13 44.5**	**-0.8**
HNTI	**Hanita**	**5.54**	**119**	Sn	**Sn**	**01 14 48.3**	**-0.6**
COBT	**Iskenderun**	**5.55**	**82**	*i*P	**P**	**01 13 47.4**	**+1.7**
HAF	**Haifa**	**5.60**	**123**	Sn	**Sn**	**01 14 49.9**	**-0.7**
OFRI	**'Ofer**	**5.67**	**124**	Sn	**Sn**	**01 14 51.9**	**-0.4**
KSDI	**Kefar Szold**	**5.83**	**116**	Sn	**Sn**	**01 14 55.7**	**-0.5**
HRI	**Mount Hermon**	**5.85**	**115**	Sn	**Sn**	**01 14 56.1**	**-0.6**
SLTI	**Sal'it**	**5.94**	**127**	Sn	**Sn**	**01 14 58.2**	**-0.9**
KSHT	**Keshet**	**6.04**	**117**	Sn	**Sn**	**01 15 01.1**	**-0.5**
HMDT	**Nahal Hemdat**	**6.26**	**124**	Sn	**Sn**	**01 15 06.3**	**-0.6**
KZIT	**Kziot**	**6.52**	**139**	Sn	**Sn**	**01 15 12.1**	**-1.3**
DRGI	**Dragot**	**6.59**	**129**	Sn	**Sn**	**01 15 14.7**	**-0.7**
MASH	**Mash'abbe Sade**	**6.66**	**136**	Sn	**Sn**	**01 15 15.9**	**-1.1**
GZT	**Gaziantep**	**6.69**	**75**	*i*P	**P**	**01 14 02.2**	**+0.5**
MZDA	**Masada**	**6.77**	**131**	Sn	**Sn**	**01 15 19.0**	**-0.8**
ASF	**Jabal al Asfar**	**7.25**	**119**	Pn	**Pn**	**01 14 11.3**	**+1.6**
	0.8nm,0.3s,baz=311,slow=8.2,SNR=16						
ASF				Sn	**Sn**	**01 15 31.7**	**-0.1**
	0.4nm,0.3s,baz=282,slow=19,SNR=2.2						
ASF				LR	LR	01 18 17.8	
	comp=Z,79nm,19.7s,baz=184,slow=48						
ASF	**Jabal al Asfar**	**7.25**	**119**	Pn	**Pn**	**01 14 11.3**	**+1.6**
ASF				Sn	**Sn**	**01 15 31.7**	**-0.1**
ASF				LR	LR	01 18 17.8	
EIL	**Elat**	**7.79**	**142**	Pn	**Pn**	**01 14 18.9**	**+1.6**
EIL				Sn	**Sn**	**01 15 43.7**	**-1.6**
EIL	**Elat**	**7.79**	**142**	Pn	**Pn**	**01 14 18.0**	**+0.7**
	2.5nm,0.3s,baz=332,slow=10,SNR=8.8						
EIL				Sn	**Sn**	**01 15 43.9**	**-1.4**
	2.9nm,0.3s,baz=133,slow=33,SNR=8.1						
EIL	**Elat**	**7.79**	**142**	Pn	**Pn**	**01 14 18.0**	**+0.7**
EIL				*e*Pn	**Pn**	**01 14 18.4**	**+1.1**
EIL				Sn	**Sn**	**01 15 43.9**	**-1.4**
AQBJ	**Aqaba**	**7.80**	**141**	Pn	**Pn**	**01 14 18.3**	**+0.9**
GNI	**Garni**	**12.78**	**66**	LR	LR	01 19 58.4	
	comp=Z,66nm,19.1s,baz=206,slow=36						
SONM	**Songino Array**	**56.28**	**52**	P	**P**	**01 22 01.7**	**-1.0**
	0.4nm,0.5s,mb3.7,baz=284,slow=8.2,SNR=5.3						
CMAR	**Chiang Mai Arr**	**63.04**	**86**	P	**P**	**01 22 49.5**	**-0.1**
	0.8nm,0.3s,mb4.3,baz=290,slow=7.2,SNR=5.4						

*ATH **10** 01:15:27.6, 36.32N×29.42E, h35km, MD3.4/3*
*CSEM **10** 01:15:27.8±0.2, 36.18N×29.39E, h12km, MD3.3, Error ellipse: s-maj=3.8km s-min=2.6km az=159.0*
*NEIC **10** 01:15:27.6, 36.32N×29.42E, h35km, MD3.4(ATH), After ATH.*
*ISK **10** 01:15:28.0, 36.18N×29.38E, h14km, MD3.3*
ISC 10 01:15:27.2±1.1, 36.12N±0.05×29.36E±0.05, h1km±6km, n17, σ1§12/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.18**	**80**	*e*PB	**Pb**	**01 15 34.8**	**+1.9**
KSL				*e*SB	**Sb**	**01 15 40.0**	**+3.4**
FETY	**Fethiye**	**0.56**	**336**	*i*PG	**Pg**	**01 15 38.3**	**-0.1**
FETY				*i*SG	**Sg**	**01 15 46.4**	**+0.5**
ELL	**Elmali**	**0.77**	**35**	PG	**Pg**	**01 15 42.1**	**-0.4**
DALT	**Dalyan (Mudla)**	**0.88**	**318**	PG	**Pg**	**01 15 44.8**	**+0.1**
DALT				SG	**Sg**	**01 15 56.9**	**+0.6**
ARG	**Arkhangelos**	**1.01**	**276**	*e*PN	**Pn**	**01 15 47.5**	**-0.7**
YER	**Yerkesik**	**1.34**	**320**	PN	**Pn**	**01 15 52.4**	**-0.5**
DNZL	**Cakiroluk**	**1.59**	**351**	*i*P	**Pn**	**01 15 56.7**	**+0.1**
DNZL				*i*S	**Sb**	**01 16 18.4**	**+0.9**
DENT	**Denizli**	**1.65**	**351**	*e*PN	**Pn**	**01 15 56.8**	**-0.7**
DENT				*e*SN	**Sn**	**01 16 18.4**	**-1.2**
BCK	**Bucak**	**1.66**	**36**	*e*PN	**Pn**	**01 15 57.1**	**-0.5**
BDRM	**Kayabasi**	**1.81**	**302**	*i*P	**Pn**	**01 16 02.5**	**+2.7**
BDRM				*i*S	**Sn**	**01 16 25.6**	**+2.0**
AYDN	**Tasoluk**	**1.95**	**323**	*i

1.1nm,0.5s,mb4.0
CHKZ Chkalovo 51.97 342 *e*P **P 01 38 31.7 -0.3**
3.3nm,0.6s,mb4.4
KMBO Kilima Mbogo 57.15 265 LR LR 01 59 34.3
comp=Z,33nm,20.0s,MS3.4,baz=103,slow=31
BRTR Keskin Array B 64.15 312 P **P 01 39 57.2 -0.3**
0.7nm,0.8s,mb3.8,baz=68,slow=6.7,SNR=3.7
FINES FINESS Array B 75.03 333 P **P 01 41 03.8 +0.1**
5.5nm,1.1s,mb4.4,baz=101,slow=7.1,SNR=2.8
GERES GERESS Array B 79.78 319 P **P 01 41 32.3 +2.0**
0.7nm,0.6s,mb3.8,baz=90,slow=5.9,SNR=3.5
ILAR Eielson Array 97.19 22 P **P 01 42 54.0 0.0**
0.1nm,0.5s,mb3.5,baz=326,slow=4.5,SNR=4.5
TXAR Lajitas Array 141.62 25 PKP PKPdf 01 48 52.8 -5.0
0.1nm,0.3s,baz=147,slow=1.8,SNR=3.8

IDC 10 01:31:00.6±6.4, 4.82N×91.81E, mb3.4/2, mb1 3.8/3, mb1mx3.5/16, mbtmp3.5/3, ML4.3/1, Error ellipse: s-maj=178.5km s-min=37.1km az=74.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.24**	**27**	Pn	P	01 34 38.2	-0.7
	0.4nm,0.3s,baz=222,slow=13,SNR=4.7						
SONM	**Songino Array**	**44.65**	**14**	P	P	01 39 14.8	-2.0
	0.6nm,0.8s,baz=191,slow=6.3,SNR=4.2						
WRA	**Warramunga Arr**	**48.51**	**122**	P	P	01 39 45.6	-2.0
	0.7nm,0.9s,baz=302,slow=9.0,SNR=6.4						

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*IDC **10** 01:47:38.7±2.0, 23.10N×141.34E, mb4.2/6, mb1 4.3/6, mb1mx3.9/18, mbtmp4.2/6, Error ellipse: s-maj=100.8km s-min=29.5km az=79.0*
*JMA **10** 01:48:56.7±0.1, 27.76N×140.71E, h504km, M3.8*
ISC 10 01:48:56.2±0.8, 27.7N±0.1×140.4E±0.4, h502km±12km, n13, σ0=60/14, mb3.8/7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.69**	**110**	P	**P**	**01 50 00.4**	**-0.1**
JHHJ	**Haha-jima-NKT**	**1.89**	**123**	P	**P**	**01 50 01.6**	**+0.2**
JHHJ				*e*S	**S**	**01 50 52.9**	**-0.2**
BSO3	**Boso 3**	**7.10**	**1**	*e*S	**S**	**01 52 10.2**	**-0.2**
JIE	**Ise**	**7.41**	**336**	P	**P**	**01 50 49.0**	**+1.4**
JAG	**Ashikaga**	**8.76**	**355**	P	**P**	**01 51 01.1**	**-0.6**
SONM	**Songino Array**	**33.20**	**317**	P	**P**	**01 54 50.9**	**-0.9**
	0.8nm,0.8s,mb3.2,baz=124,slow=7.8,SNR=7.7						
BVAR	**Borovoye Array**	**56.54**	**317**	P	**P**	**01 57 51.0**	**-0.9**
	9.2nm,0.5s,mb4.4,baz=90,slow=6.9,SNR=80						
ARCES	**ARCESS Array B**	**72.47**	**340**	P	**P**	**01 59 32.7**	**+0.6**
	2.0nm,0.8s,mb3.7,baz=74,slow=8.8,SNR=8.7						
JOF	**Joensuu**	**73.86**	**333**	*e*p	**P**	**01 59 40.3**	**+0.3**
	0.6nm,0.3s,mb3.6						
KAF	**Kangasniemi**	**76.26**	**334**	*e*p	**P**	**01 59 53.1**	**-0.2**
	0.9nm,0.4s,mb3.6						
FINES	**FINESS Array B**	**76.72**	**333**	P	**P**	**01 59 56.2**	**+0.4**
	2.1nm,0.3s,mb4.2,baz=71,slow=5.3,SNR=48						
NB2	**NORSAR Subarra**	**82.48**	**338**	P	**P**	**02 00 26.1**	**+0.1**
	0.1nm,0.6s,baz=54,slow=5.0						
NOA	**NORSAR Array B**	**82.48**	**338**	P	**P**	**02 00 26.3**	**+0.3**
	1.4nm,0.6s,mb3.6,baz=46,slow=5.5,SNR=3.9						

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*IDC **10** 02:13:50.6±1.0, 5.68N×93.14E, mb3.9/7, mb1 4.1/8, mb1mx3.9/16, mbtmp3.9/8, ML3.9/1, Error ellipse: s-maj=47.0km s-min=20.1km az=48.0*
*NEIC **10** 02:13:54.8±4.0, 5.77N×93.28E, h24km±28km, mb4.0/4, Error ellipse: s-maj=16.3km s-min=13.3km az=217.0*
ISC 10 02:13:53.9±0.7, 5.7N±0.1×93.3E±0.1, h33km, n16, σ0=91/14, mb4.0/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.57**	**278**	P	**P**	**02 16 53.2**	**0.0**
CMAR	**Chiang Mai Arr**	**13.81**	**23**	Pn	**P**	**02 17 09.1**	**-0.7**
	0.2nm,0.3s,baz=212,slow=14,SNR=5.1						
LSA	**Lhasa**	**23.92**	**355**	*e*P	**P**	**02 19 06.1**	**+0.2**
	3.8nm,0.6s,mb4.0						
SONM	**Songino Array**	**43.43**	**13**	P	**P**	**02 21 55.1**	**-0.3**
	0.5nm,0.7s,mb3.3,baz=199,slow=7.9,SNR=4.4						
ULN	**Ulaanbaatar**	**43.61**	**13**	P	**P**	**02 21 57.7**	**+0.9**
	1.1nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**47.78**	**123**	P	**P**	**02 22 30.1**	**-0.2**
	1.8nm,0.6s,mb4.3,baz=302,slow=9.1,SNR=11						
WRAB	**Tennant Creek**	**47.79**	**123**	*e*P	**P**	**02 22 30.7**	**+0.3**
	3.7nm,0.5s,mb4.7						
ASAR	**Alice Springs**	**49.26**	**128**	P	**P**	**02 22 41.4**	**-0.4**
	0.7nm,0.7s,mb3.8,baz=300,slow=7.6,SNR=7.5						
ASAR				PcP	PcP	02 24 05.8	+1.1
	0.5nm,0.6s,baz=306,slow=2.9,SNR=3.8						
CHKZ	**Chkalovo**	**51.23**	**343**	*e*P	**P**	**02 22 55.2**	**-1.1**
	1.2nm,0.8s,mb3.9						
BRTR	**Keskin Array B**	**63.17**	**312**	P	**P**	**02 24 19.1**	**-2.0**
	0.5nm,0.8s,mb3.7,baz=117,slow=9.7,SNR=3.4						
FINES	**FINESS Array B**	**74.19**	**333**	P	**P**	**02 25 30.6**	**+1.8**
	4.4nm,0.9s,mb4.4,baz=135,slow=11,SNR=3.5						
ARCES	**ARCESS Array B**	**76.97**	**340**	P	**P**	**02 25 45.7**	**+1.1**
	6.5nm,1.1s,mb4.5,baz=90,slow=5.4,SNR=3.8						
ARCES	**ARCESS Array B**	**76.97**	**340**	P	**P**	**02 25 45.7**	**+1.1**
GERES	**GERESS Array B**	**78.83**	**319**	P	**P**	**02 25 55.5**	**+0.2**
	0.2nm,0.3s,mb3.5,baz=78,slow=9.0,SNR=3.2						
ANMO	**Albuquerque**	**135.47**	**23**	PKP	PKPdf	02 33 15.1	+3.9
	0.2nm,0.3s,baz=358,slow=13,SNR=3.0						
TXAR	**Lajitas Array**	**141.52**	**24**	PKP	PKPdf	02 33 25.7	+3.2
	0.1nm,0.6s,baz=180,slow=1.3,SNR=3.7						

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*BJI **10** 02:19:16.1, 2.87N×95.40E, h28km, mB5.3, mb5.2, Ms5.0, Msz4.9*
*MOS **10** 02:19:17.2±0.8, 3.00N×95.51E, h33km, mb5.4/18, Error ellipse: s-maj=13.8km s-min=7.0km az=111.6*
*IDC **10** 02:19:17.9±0.4, 2.95N×95.46E, h24km±2km, mb4.5/19, mb1 4.5/19, mb1mx4.5/21, mbtmp4.6/19, ML5.2/1, MS4.4/13, Ms1 4.4/13, ms1mx4.1/23, Error ellipse: s-maj=17.0km s-min=9.3km az=46.0*
*NEIC **10** 02:19:17.6±0.2, 2.90N×95.44E, mb5.0/33, MS4.2/11, Error ellipse: s-maj=6.9km s-min=4.3km az=222.0*
*HRVD **10** 02:19:17.6±1.0, 2.42N×95.43E, h37km±2km, MW4.8/32, Centroid moment Tensor Solution. LP body waves: s14,c20;Mantle waves: s32,c50; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.45±.25; $M_{\theta\theta}$-1.45±.14; $M_{\phi\phi}$0.00±.18; $M_{r\theta}$0.95±.12; $M_{\theta\phi}$1.14±.09; $M_{\phi r}$-0.25±.22; Best double couple: $M_0$2.028×10^{16} NP1:ϕ_s313°, δ32°, λ111°. NP2:ϕ_s108°, δ60°, λ77°. Principal axes: T 1.74, Plg72°, Azm348°; N .579, Plg11°, Azm115°; P -2.317, Plg14°, Azm208°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 10 02:19:15.9±0.3, 2.90N±0.04×95.48E±0.04, h26km, h26km±.3km: pP-P, n196, σ1=01/180, mb5.0/73, MS4.5/37, 11C-4D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKT	**Phuket**	**5.81**	**28**	P	**Pn**	**02 20 45.0**	**+2.2**
SNG	**Songkhla**	**6.65**	**50**	P	**Pn**	**02 20 55.0**	**+0.3**
NNT	**Nongplab**	**10.51**	**23**	P	**P**	**02 21 49.0**	**+0.7**
NST	**Nakhon Sawan**	**13.50**	**20**	P	**P**	**02 22 26.0**	**-2.4**
KKTK	**Khon Kaen**	**15.18**	**28**	P	**P**	**02 22 55.0**	**+4.4**
	4μm,0.6s						
PALK	**Pallekele**	**15.34**	**287**	P	**P**	**02 22 50.9**	**-1.8**
	55nm,0.9s						
CMAR	**Chiang Mai Arr**	**15.83**	**12**	Pn	**P**	**02 22 58.4**	**-0.6**
	3.1nm,0.3s,baz=201,slow=11,SNR=120						
CMAR				LR	LR	02 30 05.2	
	comp=Z,2μm,18.8s,baz=195,slow=41						
CHG	**Chiang Mai**	**16.18**	**12**	⇓P	**P**	**02 23 03.4**	**0.0**
	92nm,0.8s						
NANT	**Nan**	**16.61**	**18**	P	**P**	**02 23 09.0**	**+0.1**
	75nm,1.0s						
VIS	**Vishakhapatnam**	**18.95**	**322**	*e*P	**P**	**02 23 35.3**	**-2.5**
VIS				*e*		02 23 38.9	
	comp=Z,30nm,1.1s						
VIS				*e*		02 26 52.9	
KOD	**Kodaikanal**	**19.31**	**293**	*e*P	**P**	**02 23 41.6**	**-0.5**
BWNR	**Bhubaneshwar**	**19.70**	**332**	*e*P	**P**	**02 23 45.0**	**-1.5**
BWNR				*e*		02 23 55.6	
	comp=Z,153nm,1.3s						
BWNR				*e*		02 27 12.6	
QIZ	**Qiongzhong**	**21.32**	**40**	P	**P**	**02 24 03.8**	**+0.5**
QIZ				LR	LR		
	comp=N,2μm,16.0s						
QIZ				LR	LR		
	comp=Z,2μm,17.2s,MS4.6						
IMP	**Imphal**	**21.81**	**356**	*e*P	**P**	**02 24 05.0**	**-3.1**
HYB	**Hyderabad**	**22.00**	**312**	*e*P	**P**	**02 24 10.0**	**-0.1**
	comp=Z,50nm,1.0s,mb4.9						
HYB				*e*S	**S**	**02 28 02.5**	**-4.0**
HYB	**Hyderabad**	**22.00**	**312**	*i*P	**P**	**02 24 10.0**	**-0.1**
	comp=Z,50nm,1.0s,mb4.9						
HYB				*e*S	**S**	**02 28 02.5**	**-4.0**
MNGI	**Mangalore**	**22.74**	**297**	*e*P	**P**	**02 24 20.3**	**+2.7**
MNGI				*e*		02 24 29.2	
	comp=Z,56nm,1.3s						
MNGI				*e*		02 28 27.2	
SHL	**Shillong**	**22.80**	**352**	*e*P	**P**	**02 24 15.1**	**-3.1**
SHL				*e*		02 24 19.5	
	comp=Z,58nm,1.2s						
SHL				*e*S	**S**	**02 28 25.1**	**+4.0**
BLSP	**Bilaspur**	**23.09**	**327**	*e*P	**P**	**02 24 21.9**	**+0.9**
BLSP				*e*		02 24 26.7	
	comp=Z,72nm,1.1s						
BLSP				*e*S	**S**	**02 28 34.0**	**+7.7**
NGP	**Nagpur**	**24.18**	**320**	*e*P	**P**	**02 24 32.4**	**+0.8**
KAD	**Karad**	**25.34**	**306**	⇑*i*P	**P**	**02 24 41.0**	**-1.7**
JIRN	**Jiri**	**26.17**	**341**	*e*P	**P**	**02 24 51.4**	**+1.0**
	comp=Z,194nm,0.7s,mb5.7						
POO	**Poona**	**26.26**	**308**	*e*	pP	02 25 00.0	+1.3
POO				*i*		02 29 52.0	
PKI	**Pulchoki**	**26.35**	**340**	*e*P	**P**	**02 24 52.2**	**+0.2**
	comp=Z,120nm,1.0s,mb5.4						
DMN	**Daman**	**26.50**	**339**	*e*P	**P**	**02 24 53.3**	**0.0**
	comp=Z,103nm,0.8s,mb5.4						
GUN	**Gumba**	**26.51**	**341**	*e*P	**P**	**02 24 54.1**	**+0.7**
	comp=Z,260nm,0.7s,mb5.9						
KKN	**Kakani**	**26.60**	**339**	*e*P	**P**	**02 24 54.3**	**0.0**
	comp=Z,133nm,0.8s,mb5.5						
BHPL	**Bhopal**	**26.73**	**321**	*e*P	**P**	**02 24 57.0**	**+1.5**
BHPL				*e*	pP	02 25 05.7	+2.7
	comp=Z,22nm,0.8s						
LSA	**Lhasa**	**26.97**	**352**	P	**P**	**02 24 58.6**	**+1.0**
LSA				AP	pP	02 25 07.1	+2.0
LSA				XP	sP	02 25 11.2	+2.7
LSA				AMB	AMB		
	comp=Z,80nm,0.8s,mb5.3						
LSA				AMB	AMB		
	comp=Z,170nm,6.4s						
LSA				LR	LR		
	comp=N,390nm,22.7s,MS4.2						
LSA				LR	LR		
	comp=E,690nm,21.7s,MS4.2						
LSA				LR	LR		
	comp=Z,870nm,22.7s,MS4.3						
LSA	**Lhasa**	**26.97**	**352**	*e*P	**P**	**02 24 58.3**	**+0.7**
	comp=Z,65nm,0.8s,mb5.2						
GKN	**Gorkha**	**27.02**	**339**	*e*P	**P**	**02 24 58.1**	**-0.1**
	comp=Z,169nm,0.7s,mb5.7						
KOLN	**Koldanda**	**27.21**	**336**	*e*P	**P**	**02 25 00.0**	**+0.1**
	comp=Z,170nm,0.8s,mb5.6						
ENH	**Enshi**	**30.29**	**25**	*e*P	**P**	**02 25 26.0**	**-1.5**
	comp=Z,15nm,0.7s,mb4.8						
NDI	**New Delhi**	**30.98**	**328**	*e*P	**P**	**02 25 32.5**	**-1.1**
NDI				*e*		02 25 44.3	
	comp=Z,28nm,1.0s						
DDI	**Dehra Dun**	**31.87**	**331**	*e*	**P**	**02 25 49.6**	**+8.1**
WHN	**Wuhan**	**32.78**	**31**	*e*P	**P**	**02 25 48.5**	**-0.9**
WHN				AMB	AMB		
	comp=Z,130nm,1.1s,mb5.8						
WHN				LR	LR		
	comp=Z,4μm,14.0s,MS5.3						
SMLA	**Simla**	**32.97**	**330**	*e*	**P**	**02 26 03.7**	**+13**
SMLA				*e*		02 26 20.4	
	comp=Z,59nm,1.3s						
XAN	**Xi'an**	**33.42**	**21**	P	**P**	**02 25 54.0**	**-0.9**
XAN				S	**S**	**02 31 11.1**	**-2.5**
XAN				AMB	AMB		
	comp=Z,46nm,1.2s,mb5.3						
XAN				LR	LR		
	comp=N,464nm,13.4s,MS4.5						
XAN				LR	LR		
	comp=E,651nm,16.9s,MS4.5						
XAN				LR	LR		
	comp=Z,1μm,16.6s,MS4.6						
MBWA	**Marble Bar**	**33.71**	**136**	*e*P	**P**	**02 25 57.2**	**-0.3**
	comp=Z,30nm,1.0s,mb5.2						
MBWA				LR	LR		
	comp=Z,496nm,20.0s,MS4.2						
LZH	**Lanzhou**	**33.92**	**12**	P	**P**	**02 25 58.8**	**-0.4**
LZH				AP	pP	02 26 07.0	+0.2
LZH				XP	sP	02 26 12.7	+2.7
LZH				PP	PP	02 27 14.0	+1.0
LZH				S	**S**	**02 31 24.0**	**+2.8**
LZH				AMB	AMB		
	comp=Z,110nm,1.0s,mb5.7						
LZH				AMB	AMB		
	comp=Z,400nm,5.0s						
LZH				LR	LR		
	comp=E,860nm,14.1s						
LZH				LR	LR		
	comp=Z,990nm,18.9s,MS4.6						
FITZ	**Fitzroy Crossi**	**36.31**	**126**	*e*P	**P**	**02 26 18.9**	**-0.9**
	comp=Z,26nm,0.8s,mb5.2						
NJ2	**Nanjing**	**36.39**	**35**	*e*P	**P**	**02 26 20.1**	**-0.2**
NJ2				AP	pP	02 26 30.1	+2.2
NJ2				XP	sP	02 26 33.5	+2.4
NJ2				PP	PP	02 27 43.0	-1.1
NJ2				S	**S**	**02 31 56.0**	**-3.4**
NJ2				XS		02 32 12.0	
NJ2				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,360nm,5.4s						
NJ2				LR	LR		
	comp=N,1μm,13.6s,MS5.0						
NJ2				LR	LR		
	comp=E,940nm,13.6s,MS5.0						
NJ2				LR	LR		
	comp=Z,2μm,13.4s,MS5.1						
SSE	**Sheshan**	**37.08**	**38**	P	**P**	**02 26 22.9**	**-3.2**
SSE				S	**S**	**02 32 03.5**	**-6.6**
SSE				SS	SS	02 34 43.4	+3.0
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,140nm,4.4s						
SSE				LR	LR		
	comp=N,334nm,16.4s,MS4.4						
SSE				LR	LR		
	comp=E,322nm,16.2s,MS4.4						
SSE				LR	LR		
	comp=Z,668nm,16.9s,MS4.5						
TIA	**Tai'an**	**38.71**	**28**	*e*P	**P**	**02 26 39.7**	**-0.1**
JOW	**Kunigami**	**39.40**	**50**	P	**P**	**02 26 46.5**	**+1.0**
	comp=Z,18nm,0.5s,mb5.1						
NWAO	**Narrogin (SRO)**	**41.15**	**152**	P	**P**	**02 27 01.5**	**+1.6**
	comp=Z,7.3nm,0.8s,mb4.4,baz=350,slow=11,SNR=2.9						
NWAO				pP	pP	02 27 08.4	+0.8
	comp=Z,24nm,1.1s,baz=310,slow=4.5,SNR=3.8						
WMQ	**Urumqi**	**41.33**	**351**	P	**P**	**02 27 02.5**	**+1.2**
WMQ				AP	pP	02 27 09.9	+1.0
WMQ				XP	sP	02 27 13.3	+1.2
WMQ				PP	PP	02 28 41.5	+1.7
WMQ				S	**S**	**02 33 15.0**	**+1.1**
WMQ				XS		02 33 27.3	
WMQ				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,105nm,5.8s						
WMQ				LR	LR		
	comp=N,2μm,19.3s,MS5.1						
WMQ				LR	LR		
	comp=E,2μm,22.8s,MS5.1						
WMQ				LR	LR		
	comp=Z,2μm,20.5s,MS5.0						
BJT	**Baijiatuau**	**41.44**	**24**	*e*P	**P**	**02 27 03.0**	**+0.9**
	comp=Z,79nm,0.8s,mb5.4						
KZA	**Kyzart**	**43.01**	**338**	P	**P**	**02 27 16.5**	**+1.4**
	SNR=8.4						
UCH	**Uchtor**	**43.42**	**337**	P	**P**	**02 27 19.9**	**+1.5**
	SNR=30						
TKM2	**Tokmak 2**	**43.61**	**339**	P	**P**	**02 27 21.1**	**+1.2**
	SNR=9.5						
KBK	**Karagaybulak**	**43.62**	**338**	P	**P**	**02 27 21.6**	**+1.5**
	SNR=21						
AML	**Almayashu**	**43.66**	**336**	P	**P**	**02 27 21.9**	**+1.6**
	SNR=26						
AAK	**Ala-Archa**	**43.77**	**338**	P	**P**	**02 27 23.9**	**+2.6**
	SNR=13						
AAK	**Ala-Archa**	**43.77**	**338**	*e*P	**P**	**02 27 21.2**	**-0.1**
	comp=Z,9.6nm,0.7s,mb4.6						
AAK				LR	LR		
	comp=Z,113nm,19.0s,MS3.8						
CHMS	**Chumysh**	**43.99**	**338**	P	**P**	**02 27 24.1**	**+1.0**
	SNR=6.4						
EKS2	**Erkin-Say**	**44.08**	**337**	P	**P**	**02 27 25.2**	**+1.4**
	SNR=20						
USP	**Ospenovka**	**44.31**	**338**	P	**P**	**02 27 26.1**	**+0.4**
	SNR=37						
WRA	**Warramunga Arr**	**44.39**	**122**	P	**P**	**02 27 26.6**	**0.0**
	comp=Z,15nm,0.9s,mb4.7,baz=301,slow=9.0,SNR=50						
WRA				pP	pP	02 27 34.4	+0.1
	comp=Z,11nm,0.6s,baz=300,slow=9.2,SNR=14						
WRAB	**Tennant Creek**	**44.40**	**122**	*e*P	**P**	**02 27 26.4**	**-0.2**
	comp=Z,36nm,1.1s,mb5.0						
WRAB				*e*	pP	02 27 34.1	-0.2
WRAB				LR	LR		
	comp=Z,166nm,19.0s,MS4.0						
WB2	**Warramunga Arr**	**44.40**	**122**	⇑*i*P	**P**	**02 27 26.5**	**-0.2**
MK02	**Makanchi Array**	**45.17**	**347**	P	**P**	**02 27 32.8**	**+0.3**
MK02				pmax	pmax		
	comp=Z,55nm,0.8s,mb5.4						
SONM	**Songino Array**	**45.74**	**10**	P	**P**	**02 27 37.3**	**+0.3**
	comp=Z,44nm,0.8s,mb5.4,baz=189,slow=8.5,SNR=363						
SONM				pP	pP	02 27 44.3	-0.4
	comp=Z,14nm,0.6s,baz=191,slow=8.8,SNR=12						
SONM				PcP	PcP	02 29 15.3	+0.3
	comp=Z,7.7nm,0.7s,baz=194,slow=3.2,SNR=10						
SONM				pPcP		02 29 23.4	
	comp=Z,3.8nm,0.7s,baz=197,slow=3.1,SNR=4.4						
ASPA	**Alice Springs**	**45.78**	**127**	*e*P	**P**	**02 27 37.7**	**+0.1**
ASAR	**Alice Springs**	**45.79**	**127**	P	**P**	**02 27 37.7**	**0.0**
	comp=Z,7.6nm,0.9s,mb4.6,baz=302,slow=7.7,SNR=43						
ASAR				pP	pP	02 27 45.2	-0.1
	comp=Z,6.7nm,0.8s,baz=299,slow=7.5,SNR=11						
ASAR				PcP	PcP	02 29 14.9	-0.5
	comp=Z,3.0nm,0.8s,baz=304,slow=4.2,SNR=4.8						
ASAR				pPcP		02 29 23.2	
	comp=Z,2.9nm,0.6s,baz=306,slow=3.1,SNR=7.6						
ULN	**Ulaanbaatar**	**45.90**	**11**	⇑*i*P	**P**	**02 27 35.4**	**-2.8**
ULN	**Ulaanbaatar**	**45.90**	**11**	*e*P	**P**	**02 27 38.2**	**0.0**
	comp=Z,25nm,0.8s,mb5.2						
ULN				*e*	pP	02 27 46.3	+0.4
ULN				LR	LR		
	comp=Z,511nm,22.0s,MS4.4						
SNY	**Shenyang**	**46.23**	**29**	⇓P	**P**	**02 27 41.3**	**+0.4**
SNY				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
ZAK	**Zakamensk**	**47.77**	**7**	⇓*i*P	**P**	**02 27 52.7**	**-0.3**
ZAK				*e*		02 29 29.2	
MOY	**Mondy**	**48.82**	**5**	*e*P	**P**	**02 28 01.5**	**+0.5**
TLY	**Talaya**	**49.09**	**7**	*e*P	**P**	**02 28 03.9**	**+0.8**
TLY				*e*	pP	02 28 11.7	+0.8
TLY				*e*S	**S**	**02 35 20.9**	**+15**
TLY				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.4						
TLY				MLR	MLR		
	comp=Z,487nm,17.0s,MS4.6						
TLY	**Talaya**	**49.09**	**7**	*e*P	**P**	**02 28 03.6**	**+0.5**
	comp=Z,37nm,0.8s,mb5.5						
TLY				*e*	pP	02 28 11.3	+0.3
IRK	**Irkutsk**	**49.72**	**7**	*e*P	**P**	**02 28 07.8**	**-0.2**
IRK				*e*		02 28 13.3	
HIA	**Hailar**	**50.62**	**20**	*e*P	**P**	**02 28 14.8**	**-0.1**
	comp=Z,9.5nm,0.6s,mb4.9						
MDJ	**Mudanjiang**	**51.27**	**31**	P	**P**	**02 28 20.6**	**+0.8**
MDJ				AP	pP	02 28 28.3	+0.6
MDJ				XP	sP	02 28 32.3	+1.6
MDJ				PP	PP	02 30 18.0	+0.4
MDJ				S	**S**	**02 35 40.2**	**+4.6**
MDJ				XS		02 35 51.0	
MDJ				AMB	AMB		
	comp=Z,25nm,1.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,93nm,3.6s						
MDJ				LR	LR		
	comp=N,320nm,17.1s						
MDJ				LR	LR		
	comp=Z,228nm,19.4s,MS4.2						
MAJO	**Matsushiro**	**51.64**	**44**	PFAKE		02 28 30.0	+7.2
MAJO				LR	LR		
	comp=Z,385nm,20.0s,MS4.4						
NVS	**Novosibirsk**	**52.73**	**351**	*i*P	**P**	**02 28 29.4**	**-1.3**
NVS				*i*S	**S**	**02 35 55.6**	**+0.1**
NVS				pmax	pmax		
	comp=Z,55nm,0.9s,mb5.5						
NVS				pmax	pmax		
	comp=E,21nm,0.9s						
NVS				pmax	pmax		
	comp=N,35nm,0.9s						
NVS				smax			
	comp=E,70nm,2.0s						
NVS				smax			
	comp=N,34nm,1.9s						
PMG	**Port Moresby**	**52.92**	**104**	P	**P**	**02 28 32.4**	**-0.3**
	comp=N,19nm,0.8s,mb5.1,baz=260,slow=1.6,SNR=9.5						
PMG				pP	pP	02 28 40.3	-0.3
	comp=N,16nm,0.8s,baz=358,slow=8.0,SNR=5.1						
PMG	**Port Moresby**	**52.92**	**104**	*e*P	**P**	**02 28 32.3**	**-0.4**
	comp=N,20nm,1.0s,mb5.0						
PMG				*e*	pP	02 28 39.5	-1.1
PMG				LR	LR		
	comp=Z,253nm,19.0s,MS4.3						
BVAR	**Borovoye Array**	**54.10**	**342**	P	**P**	**02 28 40.1**	**-0.7**
	comp=Z,18nm,0.7s,mb5.1,baz=143,slow=7.4,SNR=103						
BRVK	**Borovoye**	**54.16**	**342**	*e*P	**P**	**02 28 40.4**	**-0.9**
	comp=Z,20nm,0.7s,mb5.2						
BRVK				*e*	pP	02 28 48.0	-1.1
CHKZ	**Chkalovo**	**54.58**	**342**	*e*P	**P**	**02 28 43.8**	**-0.6**
	comp=Z,58nm,0.9s,mb5.6						
CHKZ				*e*pP	pP	02 28 51.3	-0.9
CTA	**Charters Tower**	**54.80**	**117**	P	**P**	**02 28 46.4**	**0.0**
	comp=Z,3.0nm,0.4s,mb4.7,baz=297,slow=7.9,SNR=5.0						
CTA				LR	LR	02 56 21.0	
	comp=Z,412nm,18.0s,MS4.5,baz=228,slow=40						
KLR	**Kul'dur**	**55.54**	**28**	*e*P	**P**	**02 28 47.7**	**-3.7**
KLR				*e*	pP	02 28 57.0	-2.3
KLR				pmax	pmax		
	comp=E,34nm,1.6s						
KLR				pmax	pmax		
	comp=Z,57nm,1.6s,mb5.3						
KLR				MLR	MLR		
	comp=N,600nm,15.0s,MS5.1						
KLR				MLR	MLR		
	comp=E,1μm,15.0s,MS5.1						
STKA	**Stephens Creek**	**55.77**	**132**	*e*P	**P**	**02 28 52.9**	**-0.4**

comp=Z,1.3nm,0.5s,mb4.2,baz=14,slow=8.5,SNR=3.1
GNI Garni 58.88 316 *eP* **P 02 29 15.7 +0.5**
comp=Z,14nm,1.0s,mb4.9
GNI LR LR
comp=Z,148nm,21.0s,MS4.1
MTA Mtatsminda 59.52 318 P pP 02 29 26.0 -1.5
TI2 Plekhanov 59.57 318 *eP* pP 02 29 28.2 +0.3
DUS Dusheti 59.76 318 P pP 02 29 28.0 -1.2
YSS Yuzh-Sakhalins 59.95 36⇓*iP* **P 02 29 22.1 -0.4**
YSS *e* pP 02 29 30.0 -0.4
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.4
YSS MLR MLR
comp=Z,500nm,16.0s,MS4.8
YSS Yuzh-Sakhalins 59.95 36 *eP* **P 02 29 22.3 -0.2**
comp=Z,73nm,1.2s,mb5.6
SVE Sverdlovsk 60.49 339 *eP* **P 02 29 25.9 -0.1**
SVE *e* 02 30 10.0
SVE pmax pmax
comp=Z,100nm,2.0s,mb5.5
ZEI Tsey 60.59 319 *eP* **P 02 29 26.2 -0.7**
ZEI pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
ARU Arti 60.96 338⇑*iP* **P 02 29 25.5 -3.7**
ARU *e* 02 30 07.1
ARU *eS* **S 02 37 41.0 -3.1**
ARU *e*SS SS 02 41 39.6 -5.5
ARU pmax pmax
comp=Z,44nm,1.3s,mb5.4
KIV Kislovodsk 61.90 319 *eP* **P 02 29 33.5 -2.3**
KIV pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
KIV Kislovodsk 61.90 319 *eP* **P 02 29 34.7 -1.1**
comp=Z,11nm,0.8s,mb5.0
KIV LR LR
comp=Z,47nm,19.0s,MS3.7
ASF Jabal al Asfar 62.08 305 P **P 02 29 37.2 +0.1**
comp=Z,1.6nm,0.8s,mb4.2,baz=22,slow=7.7,SNR=2.7
ASF pP pP 02 29 43.8 -1.4
comp=Z,5.2nm,0.9s,baz=302,slow=1.6,SNR=3.6
GOF Gofitskoye 62.16 321 *eP* **P 02 29 36.5 -1.0**
MALT Malatya 62.72 312 *eP* **P 02 29 39.1 -2.2**
comp=Z,15nm,1.4s,mb4.9
MALT *e*pP pP 02 29 48.4 -0.9
SOC Sochi 63.71 318 *eP* **P 02 29 42.6 -5.2**
SOC *e* 02 30 24.5
SOC *e* 02 32 07.0
SOC *e*PPP PPP 02 33 35.3 -6.0
SOC *eS* **S 02 38 15.2 -3.8**
SOC *e* 02 39 33.6
SOC pmax pmax
comp=Z,22nm,1.0s,mb5.1
SOC pmax pmax
comp=N,6.0nm,0.8s
SOC pmax pmax
comp=E,16nm,1.1s
SOKR Solikamsk 63.89 339 *i* P **P 02 29 47.3 -1.4**
SOKR pmax pmax
comp=Z,30nm,0.8s,mb5.4
YAK Yakutsk 64.30 17⇑*iP* **P 02 29 49.1 -2.2**
YAK pmax pmax
comp=Z,77nm,0.7s,mb5.8
YAK Yakutsk 64.30 17 *eP* **P 02 29 49.4 -1.9**
comp=Z,79nm,0.9s,mb5.7
YAK *e*pP pP 02 29 57.1 -2.1
MBAR Mbarara 64.81 268 *eP* **P 02 29 54.1 -1.3**
comp=Z,9.5nm,1.1s,mb4.7
MBAR *e*pP pP 02 30 01.4 -2.0
MBAR LR LR
comp=Z,82nm,21.0s,MS3.9
BRTR Keskin Array B 66.70 312 P **P 02 30 05.8 -1.3**
BRTR PP pP 02 30 13.9 -1.2
BRTR Keskin Array B 66.70 312 P **P 02 30 05.8 -1.4**
comp=Z,1.5nm,0.8s,mb4.0,baz=122,slow=6.0,SNR=8.8
BRTR pP pP 02 30 13.9 -1.1
comp=Z,2.6nm,0.7s,baz=129,slow=7.9,SNR=11
LSZ Lusaka 68.96 253 *eP* **P 02 30 21.1 -0.6**
comp=Z,12nm,1.2s,mb4.7
LSZ *e*pP pP 02 30 27.7 -1.9
LSZ LR LR
comp=Z,330nm,19.0s,MS4.6
MOS Moscow 70.00 329 *eP* pP 02 30 33.8 -1.5
MOS pmax pmax
comp=Z,90nm,1.6s,mb5.5
OBN Obninsk 70.28 328⇑*eP* **P 02 30 27.1 -1.9**
OBN *i* pP 02 30 35.3 -1.7
OBN *e* 02 30 47.5
OBN 02 33 05.0
OBN pmax pmax
comp=Z,35nm,1.7s,mb5.0
OBN Obninsk 70.28 328 *eP* **P 02 30 26.4 -2.6**
OBN *e*pP pP 02 30 34.7 -2.3
TIXI Tiksi 71.83 11⇑*iP* **P 02 30 37.1 -1.1**
TIXI pmax pmax
comp=Z,54nm,1.8s,mb5.2
TIXI MLR MLR
comp=Z,439nm,14.0s,MS4.9
MAW Mawson 73.98 192 P **P 02 30 51.3 +0.6**
comp=Z,4.0nm,0.9s,mb4.3,baz=47,slow=23,SNR=4.2
MAW pP pP 02 30 59.2 +0.5
comp=Z,9.9nm,0.7s,baz=40,slow=5.2,SNR=7.3
MAW LR LR 02 59 31.1
comp=Z,154nm,18.9s,MS4.3,baz=254,slow=33
JOF Joensuu 75.88 335 *ep* **P 02 31 01.1 -0.7**
comp=Z,0.9nm,0.4s,mb4.0
JOF Joensuu 75.88 335 *eP* **P 02 31 01.1 -0.7**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
KWP Kalwaria 76.67 320 *eP* **P 02 31 06.3 -0.1**
KWP *e* pP 02 31 13.7 -0.8
KOLS Kolonicke sedl 76.81 320 *eP* **P 02 31 07.8 +0.5**
KOLS *e*pP pP 02 31 15.6 +0.2
APA Apatity 76.94 340⇑*iP* **P 02 31 07.3 -0.3**
APA *i* pP 02 31 16.8 +1.1
APA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
SUW Suwalki 77.30 325 *eP* **P 02 31 09.5 -0.3**
SUW *e* pP 02 31 16.7 -1.3
CRVS Cervenica-Dubn 77.34 319 *eP* sP 02 31 21.8 +0.8
CRVS Cervenica-Dubn 77.34 319 *es*P sP 02 31 21.8 +0.8
FINES FINESS Array B 77.71 333 *i P* **P 02 31 11.7 -0.2**
FINES pmax pmax
comp=Z,8.0nm,0.6s
FINES FINESS Array B 77.71 333 P **P 02 31 11.7 -0.2**
comp=Z,7.9nm,0.6s,mb4.8,baz=97,slow=6.6,SNR=48
FINES pP pP 02 31 19.6 -0.4
comp=Z,5.0nm,0.6s,baz=106,slow=6.4,SNR=4.0
FINES LR LR 03 10 58.8
comp=Z,160nm,18.7s,MS4.4,baz=128,slow=40
KAF Kangasniemi 77.80 333 *ep* **P 02 31 12.1 -0.3**
comp=Z,6.1nm,0.6s,mb4.7,baz=104,slow=5.1
KAF Kangasniemi 77.80 333 *eP* **P 02 31 12.1 -0.3**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
PSZ Piszkesteto 78.20 318⇑*eP* **P 02 31 15.1 +0.2**
OJC Ojcow 78.63 321 *eP* **P 02 31 17.5 +0.3**
PKSM Moragy 78.81 316⇑*iP* **P 02 31 17.9 -0.4**
VYHS Vyhne 78.99 319 *eP* **P 02 31 19.3 +0.1**
VYHS *e*pP pP 02 31 26.8 -0.6
SRO Srobarova 79.24 318 *eP* pP 02 31 29.6 +0.8
SRO Srobarova 79.24 318 *ep*P pP 02 31 29.6 +0.8
OKC Ostrava-Krasne 79.62 320 *eP* **P 02 31 22.8 +0.2**
OKC *e*pP pP 02 31 30.6 -0.2
MORC Moravsky Berou 80.00 320 *eP* **P 02 31 24.5 -0.1**
MORC *e*pP pP 02 31 31.8 -1.0
ZST Bratislava 80.09 318 *eP* **P 02 31 25.6 +0.4**
ZST *e*pP pP 02 31 34.1 +0.7
BILL Bilibino 80.20 21 P **P 02 31 27.0 +1.6**
BILL pP pP 02 31 35.0 +1.4
BILL *e* 02 31 44.3
BILL MLR MLR
comp=Z,400nm,16.0s,MS4.9
ARCES ARCESS Array B 80.37 340 P **P 02 31 26.9 +0.7**
comp=Z,7.9nm,0.6s,mb4.8,baz=92,slow=4.9,SNR=41
ARCES pP pP 02 31 35.1 +0.7
comp=Z,6.3nm,0.7s,baz=90,slow=4.9,SNR=4.3
ARCES LR LR 03 12 45.1
comp=Z,313nm,18.3s,MS4.7,baz=193,slow=40
ARCES ARCESS Array B 80.37 340 P **P 02 31 26.9 +0.7**
ARCES pP pP 02 31 35.1 +0.7
ARCES LR LR 03 12 45.1
DPC Dobruska-Polom 80.85 320 *eP* **P 02 31 29.9 +0.7**
DPC *e*pP pP 02 31 37.6 +0.3
KSP Ksiaz 80.93 321 *eP* **P 02 31 30.3 +0.7**
KSP *e*pP pP 02 31 38.5 +0.8
KSP Ksiaz 80.93 321 *eP* **P 02 31 30.2 +0.6**
KSP *e* pP 02 31 37.1 -0.6
UPC Upice 81.07 321 *eP* **P 02 31 31.3 +1.0**
UPC *e*pP pP 02 31 39.1 +0.6
RPZ Rata Peaks 81.62 135 LR LR 03 07 45.9
comp=Z,290nm,20.6s,MS4.6,baz=203,slow=36
PRU Pruhonice 81.95 320 *eP* **P 02 31 35.7 +0.8**
PRU *e*pP pP 02 31 43.4 +0.3
PVCC Panska Ves 81.99 320 *eP* **P 02 31 35.4 +0.3**
PVCC *e*pP pP 02 31 43.8 +0.6
AQU L'Aquila 82.19 312 *eP* **P 02 31 36.7 +0.3**
GEC2 GERESS Array S 82.41 319 *eP* **P 02 31 37.9 +0.6**
GEC2 *e*PP pP 02 31 46.6 +1.1
GEC2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GEC2 GERESS Array S 82.41 319 *eP* **P 02 31 37.9 +0.6**
comp=Z,8.0nm,0.9s,mb4.7
GEC2 *e*pP pP 02 31 46.6 +1.1
GERES GERESS Array B 82.41 319 P **P 02 31 37.9 +0.6**
comp=Z,3.5nm,0.6s,mb4.5,baz=100,slow=5.6,SNR=41
GERES pP pP 02 31 45.8 +0.4
comp=Z,5.1nm,0.7s,baz=104,slow=5.5,SNR=19
BRG Berggiesshubel 82.41 321 *eP* **P 02 31 38.1 +0.8**
BRG *i* pP 02 31 46.5 +1.0
BRG pmax pmax
comp=Z,13nm,1.1s,mb4.8
BRG Berggiesshubel 82.41 321 *eP* **P 02 31 38.1 +0.8**
comp=Z,13nm,1.1s,mb4.8
BRG *i* pP 02 31 46.5 +1.0
KHC Kasperske Hory 82.51 319 *eP* **P 02 31 38.4 +0.6**
KHC *e*pP pP 02 31 46.8 +0.8
WET Wettzell 82.97 319 *eP* **P 02 31 40.6 +0.4**
WET *e*PP pP 02 31 49.3 +0.9
CLL Collm 83.04 321 *eP* **P 02 31 41.0 +0.5**
CLL *e* pP 02 31 49.0 +0.3
CLL Collm 83.04 321 P **P 02 31 41.0 +0.5**
CLL *e*PP pP 02 31 49.0 +0.3
MOX Moxa 83.87 320 *eP* **P 02 31 45.2 +0.4**
MOX Moxa 83.87 320 *i P* **P 02 31 45.2 +0.4**
FUR Furstenfeldbru 83.98 318 *eP* **P 02 31 45.2 -0.2**
FUR *e*PP pP 02 31 54.4 +0.8
GRA1 Grafenberg Arr 84.08 319 *eP* **P 02 31 47.0 +1.1**
comp=Z,8.0nm,0.9s,mb4.8
GRA1 *e*pP pP 02 31 55.3 +1.2
GRF Grafenberg Arr 84.08 319 *eP* **P 02 31 47.0 +1.1**
GRF *e*PP pP 02 31 55.3 +1.2
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
GRF Grafenberg Arr 84.08 319 *eP* **P 02 31 47.0 +1.1**
comp=Z,8.0nm,0.9s,mb4.8
GRF *e*pP pP 02 31 55.3 +1.2
NB2 NORSAR Subarra 84.69 331 P **P 02 31 48.7 0.0**
comp=Z,1.7nm,0.7s,mb4.3,baz=92,slow=5.0
NOA NORSAR Array B 84.69 331 P **P 02 31 49.0 +0.3**
comp=Z,4.4nm,0.9s,mb4.6,baz=95,slow=4.9,SNR=6.2
NOA LR LR 03 13 14.3
comp=Z,114nm,21.2s,MS4.2,baz=85,slow=38
BSEG Bad Segeberg 84.82 324 *eP* **P 02 31 50.7 +1.2**
BSEG *e*PP pP 02 31 59.0 +1.3
URZ Urewera 85.22 129 LR LR 03 08 06.1
comp=Z,202nm,21.4s,MS4.5,baz=155,slow=34
BFO Black Forest 85.95 318 *eP* **P 02 31 55.2 -0.1**
BFO *e*PP pP 02 32 03.9 +0.4
BFO pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
BFO Black Forest 85.95 318 *eP* **P 02 31 55.2 -0.1**
comp=Z,5.0nm,0.8s,mb4.8
BFO *e*pP pP 02 32 03.9 +0.4
LPG La Plagne 87.06 315 *eP* **P 02 32 01.4 +0.7**
comp=Z,17nm,0.8s,mb5.0
VNDA Vanda 87.82 168 LR LR 03 06 06.8
comp=Z,115nm,19.6s,MS4.3,baz=310,slow=32
ESDC Sonseca Array 95.42 310 P **P 02 32 40.4 +0.6**
comp=Z,0.7nm,0.8s,mb4.2,baz=51,slow=3.6,SNR=3.8
ESDC pP pP 02 32 48.3 +0.2
comp=Z,1.2nm,0.7s,baz=65,slow=4.4,SNR=8.3
IMA Indian Mountai 95.69 23 *eP* **P 02 32 39.7 -0.7**
comp=Z,26nm,1.2s,mb5.5
COLA College 98.39 23 *i P* **P 02 32 51.5 -1.2**
BORG Borgarnes 98.50 337 LR LR 03 21 35.1
comp=Z,244nm,18.7s,MS4.7,baz=340,slow=38
ILAR Eielson Array 98.81 23 PP PP 02 36 52.8 -5.7
comp=Z,0.7nm,0.8s,baz=296,slow=7.3,SNR=4.3
ILAR PKKP PKKP 02 49 31.1 +12
comp=Z,1.3nm,1.1s,baz=238,slow=1.6,SNR=6.1
SML Sawmill 99.50 26 P **P 02 32 59.4 +1.7**
DBIC Dimbokro 99.91 277 LR LR 03 19 15.5
comp=Z,133nm,18.6s,MS4.5,baz=58,slow=36
YKA Yellowknife Ar 110.90 14 PP PP 02 38 22.3 -6.9
comp=Z,0.9nm,0.7s,baz=332,slow=7.5,SNR=12
YKA PKKPab 02 48 54.4
comp=Z,0.6nm,0.8s,baz=145,slow=3.2,SNR=12
YKA PKKP PKKP 02 49 04.9 +8.0
comp=Z,0.2nm,0.5s,baz=145,slow=4.4,SNR=5.5
MSO Missoula 124.11 24 *e*PKP PKPdf 02 38 13.4 -3.9
LAO LASA Array 127.04 19 *e*PKP PKPdf 02 38 20.1 -2.8
NVAR Mina Array Bea 128.38 34 PKP PKPdf 02 38 23.8 -2.0
comp=Z,1.4nm,0.8s,baz=242,slow=1.6,SNR=7.8
NVAR pPKP 02 38 32.2
comp=Z,2.9nm,0.8s,baz=307,slow=0.8,SNR=10
PDAR Pinedale Array 129.23 24 PKP PKPdf 02 38 24.6 -2.6
comp=Z,0.6nm,0.6s,baz=154,slow=1.8,SNR=5.8
PDAR pPKP 02 38 32.6
comp=Z,1.5nm,0.7s,SNR=9.7
ANMO Albuquerque 137.09 27 PKP PKPdf 02 38 40.9 -1.2
comp=Z,1.8nm,0.8s,baz=254,slow=2.3,SNR=3.6
ANMO pPKP 02 38 48.1
comp=Z,4.0nm,1.1s,baz=289,slow=2.8,SNR=5.8
LAZ Ladron 137.23 28 *e*PKP PKPdf 02 38 37.2 -5.1
GDL2 Guadalupe Moun 140.34 27 *e*PKP PKPdf 02 38 44.8 -3.4
BDFB Brasilia 141.89 248 PKP PKPdf 02 38 51.7 +0.4
comp=Z,1.9nm,0.7s,baz=180,slow=2.0,SNR=3.1
BDFB pPKP 02 38 57.9
comp=Z,4.3nm,0.8s,baz=191,slow=9.1,SNR=4.2
TXAR Lajitas Array 143.07 28 PKP PKPdf 02 38 47.6 -5.4
comp=Z,0.8nm,0.6s,baz=341,slow=1.0,SNR=15
JCT Junction City 143.74 23 *e*PKP PKPdf 02 38 48.7 -5.4
NATX Nacogdoches 144.21 15 *e*PKP PKPdf 02 38 51.1 -3.8
HKT Hockley 145.59 18 *e*PKP PKPdf 02 38 54.3 -3.1
LPAZ La Paz 159.09 229 PKP PKPdf 02 39 23.7 +6.4
comp=Z,2.7nm,0.7s,baz=67,slow=2.6,SNR=7.5
LPAZ PKPab PKPab 02 40 00.7 +9.0
comp=Z,2.2nm,0.8s,baz=101,slow=5.1,SNR=5.1

*NEIC **10** 02:31:13.9, 35.06S×70.59W, h5km, ML2.5(GUC), After GUC.*
GUC 10 02:31:13.9±0.7, 35.06S×70.59W, h5km, MD3.5, ML2.5, 5C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.57**	**322**	↓*iP*		Pg	02 31 25.2	0.0
SFDO				*i* S		Sg	02 31 34.3	+1.4
CACH	**El Canelo**	**0.94**	**359**	↑*iP*		Pb	02 31 30.7	-1.6
CACH				*i* S		Sb	02 31 44.1	-0.8
CHCH	**Chadas Angostu**	**1.12**	**357**	↑*iP*		Pb	02 31 34.4	-1.1
CHCH				*i* S		Sb	02 31 50.3	0.0
LNV	**Longovilo**	**1.29**	**328**	*eP*		Pb	02 31 37.4	-1.0
LNV				*i* S		Sb	02 31 55.7	+0.5
TACH	**Talagante**	**1.43**	**348**	↑*iP*		Pn	02 31 39.9	-0.8
PCH	**Pirque**	**1.44**	**2**	*i P*		Pn	02 31 39.6	-1.0
RCDM	**Rinconada Maip**	**1.58**	**353**	↑*iP*		Pn	02 31 42.2	-0.5
RCDM				*i* S		Sb	02 32 03.7	+0.3
RCDM				AMP			02 32 05.4	
comp=E,148nm,0.2s								
CLCH	**Cerro Calan**	**1.66**	**1**	↑*iP*		Pn	02 31 43.6	-0.3
CLCH				AMP			02 32 18.2	
comp=N,85nm,0.8s								
FCH	**Farellones**	**1.75**	**8**	↓*iP*		Pn	02 31 45.0	-0.1
FCH				*i* S		Sn	02 32 09.2	+1.3
FCH				AMP			02 32 19.1	
comp=N,81nm,0.1s								
LCCH	**Las Cruces**	**1.78**	**332**	*eP*		Pn	02 31 45.6	0.0
LCCH				*i* S		Sn	02 32 09.9	+1.1
ROCH	**El Roble**	**2.11**	**350**	*eP*		Pn	02 31 50.5	+0.2
JACH	**Jahuel**	**2.37**	**360**	*eP*		Pn	02 31 54.8	+0.7

IDC 10 02:53:16.2±1.8, 3.01N×93.88E, mb3.7/3, mb1 4.0/4, mb1mx3.7/16, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=77.1km s-min=30.4km az=49.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.14**	**18**	Pn		P	02 57 04.2	-2.0
0.2nm,0.3s,baz=212,slow=12,SNR=7.7								
WRA	**Warramunga Arr**	**45.80**	**122**	P		P	03 01 40.1	-1.8
0.5nm,1.0s,baz=204,slow=41,SNR=4.6								
ASAR	**Alice Springs**	**47.13**	**126**	P		P	03 01 50.3	-2.0
0.4nm,0.4s,baz=294,slow=8.0,SNR=5.6								
GERES	**GERESS Array B**	**81.28**	**319**	P		P	03 05 34.7	-1.1
0.3nm,0.6s,baz=104,slow=5.5,SNR=4.4								

IDC 10 02:59:37.8±1.0, 20.32N×146.11E, mb3.7/6, mb1 3.9/6, mb1mx3.8/17, mbtmp3.7/6, Error ellipse: s-maj=42.6km s-min=22.9km az=100.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.64**	**197**	P		P	03 07 28.1	-1.6
1.2nm,0.6s,baz=19,slow=8.8,SNR=7.6								
SONM	**Songino Array**	**42.14**	**320**	P		P	03 07 33.2	-0.1
0.3nm,0.3s,baz=135,slow=6.1,SNR=6.5								
ASAR	**Alice Springs**	**45.31**	**196**	P		P	03 07 57.4	-2.1
0.4nm,0.8s,baz=6.3,slow=8.2,SNR=3.4								
YKA	**Yellowknife Ar**	**76.38**	**28**	P		P	03 11 27.8	-2.5
0.3nm,0.8s,baz=295,slow=6.0,SNR=4.2								
NVAR	**Mina Array Bea**	**81.84**	**52**	P		P	03 12 00.7	+0.3
0.2nm,0.3s,baz=270,slow=9.0,SNR=3.3								
FINES	**FINESS Array B**	**85.58**	**335**	P		P	03 12 15.8	-3.0
1.8nm,0.8s,baz=72,slow=6.0,SNR=5.2								

*IDC **10** 03:03:24.5±1.6, 15.90N×61.39W, mb3.9/6, mb1 4.2/7, mb1mx3.9/19, mbtmp3.9/7, ML5.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/17, Error ellipse: s-maj=46.5km s-min=33.5km az=13.0*
*NEIC **10** 03:03:27.7±0.8, 15.85N×61.52W, h20km±6km, mb4.3/5, MD3.6(TRN), Error ellipse: s-maj=12.5km s-min=6.2km az=73.0*
*TRN **10** 03:03:28.2, 15.84N×61.60W, h3km, MD3.6, M3.2(FDF), Md3.2(FDF)*
ISC 10 03:03:27.1±0.4, 15.85N±0.03×61.53W±0.06, h27km±3km, n39, σ0=88/53, mb4.1/11, 5C-7D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCG	**Saint Claude**	**0.23**	**320**	⇑*iP*		**Pb**	**03 03 32.2**	**-1.2**
BBL	**Barber's Block**	**0.33**	**170**	↓*eP*		**Pb**	**03 03 34.6**	**-0.1**
BBL				*eS*		**Sb**	**03 03 42.6**	**+2.7**
BBL	**Barber's Block**	**0.33**	**170**	↓*eP*		**Pb**	**03 03 33.6**	**-1.1**
BBL	**Barber's Block**	**0.33**	**170**	↓*eP*		**Pb**	**03 03 34.6**	**-0.1**
BBL				*eS*		**Sb**	**03 03 39.0**	**-0.9**
BBL				*eS*		**Sb**	**03 03 42.6**	**+2.7**
DWS	**Wesley**	**0.35**	**143**	⇑*eP*		**Pb**	**03 03 35.9**	**+0.8**
DWS				*eS*		**Sb**	**03 03 41.1**	**+0.7**
MDN	**Morne-Daniel**	**0.55**	**166**	⇑*iP*		**Pb**	**03 03 38.5**	**+0.4**
MDN				*eS*		**Sb**	**03 03 45.8**	**+0.1**
SEG	**Port Louis**	**0.55**	**2**	⇑*eP*		**Pb**	**03 03 37.6**	**-0.6**
SEG				*eS*		**Sb**	**03 03 45.8**	**0.0**
DSTT	**Stowe**	**0.64**	**160**	*eP*		**Pb**	**03 03 39.8**	**+0.1**
DEG	**La Desirade**	**0.64**	**44**	⇑*iP*		**Pb**	**03 03 38.5**	**-1.3**
DSHT	**Scott's Head**	**0.65**	**167**	*eP*		**Pb**	**03 03 40.4**	**+0.5**
DSHT				*eS*		**Sb**	**03 03 47.9**	**-0.7**
FDF	**Fort de France**	**1.17**	**162**	↓*eP*		**Pn**	**03 03 47.7**	**-0.3**
FDF				*eS*		**Sn**	**03 04 03.0**	**-0.1**
BPA	**Boggy Peak**	**1.23**	**345**	*eP*		**Pn**	**03 03 48.8**	**0.0**
BPA				*i* S		**Sn**	**03 04 05.3**	**+0.7**
CRM	**Caravelle**	**1.24**	**151**	↓*eP*		**Pn**	**03 03 48.1**	**-0.9**
CRM				*eS*		**Sn**	**03 04 04.2**	**-0.8**
BIM	**Bigot**	**1.40**	**162**	↓*iP*		**Pn**	**03 03 51.4**	**+0.2**
MVM	**Montagne Vaucl**	**1.43**	**155**	↓*eP*		**Pn**	**03 03 51.2**	**-0.5**
MVM				*eS*		**Sn**	**03 04 09.6**	**0.0**
SKTB	**Turtle Beach**	**1.71**	**322**	*eP*		**Pn**	**03 03 57.6**	**+2.0**
SKTB				*eS*		**Sn**	**03 04 21.8**	**+5.0**
CPB	**Codrington**	**1.80**	**351**	*eP*		**Pn**	**03 03 56.9**	**0.0**
CPB				*eS*		**Sn**	**03 04 20.1**	**+0.9**
SKI	**Saint Kitts**	**1.88**	**322**	*eP*		**Pn**	**03 03 59.1**	**+1.1**
GRW	**Mount Saint Ca**	**3.67**	**182**	*eP*		**Pn**	**03 04 24.4**	**+0.8**
SJG	**San Juan**	**4.96**	**298**	Pn		**Pn**	**03 04 41.0**	**-0.9**
5.8nm,0.3s,baz=166,slow=11,SNR=13								
SJG				Sn		**Sn**	**03 05 36.6**	**-2.5**
6.1nm,0.3s,baz=57,slow=20,SNR=3.0								
SJG	**San Juan**	**4.96**	**298**	*e*Pn		**Pn**	**03 04 41.5**	**-0.4**
SJG				Sn		**Sn**	**03 05 36.6**	**-2.6**
SJG				*e*Sn		**Sn**	**03 05 37.0**	**-2.2**
SDV	**Santo Domingo**	**11.27**	**233**	LR		LR	03 10 29.2	
comp=Z,76nm,20.1s,baz=97,slow=37								
SDV	**Santo Domingo**	**11.27**	**233**	*eP*		**P**	**03 06 05.9**	**-3.8**
HKT	**Hockley**	**34.43**	**300**	*eP*		**P**	**03 10 16.7**	**+2.1**
5.5nm,1.2s,mb4.4								
JCT	**Junction City**	**37.88**	**299**	*eP*		**P**	**03 10 43.0**	**-0.8**
2.4nm,0.3s,mb4.4								
TXAR	**Lajitas Array**	**40.93**	**297**	P		**P**	**03 11 10.2**	**+1.0**
0.3nm,0.5s,mb3.2,baz=89,slow=8.4,SNR=7.0								
TXAR				PcP		PcP	03 13 10.9	+1.0
1.3nm,1.2s,baz=104,slow=5.2,SNR=4.3								
MNTX	**Cornudas Mount**	**42.82**	**300**	*eP*		**P**	**03 11 24.4**	**-0.3**
2.6nm,0.6s,mb4.1								
BNM	**Barren Site**	**44.35**	**303**	*eP*		**P**	**03 11 38.1**	**+1.1**
SDCO	**Great Sand Dun**	**44.39**	**308**	*eP*		**P**	**03 11 37.2**	**-0.1**
3.5nm,1.1s,mb4.0								
BW06	**Boulder Array**	**48.88**	**313**	*eP*		**P**	**03 12 12.5**	**-0.2**
3.1nm,0.6s,mb4.5								
PDAR	**Pinedale Array**	**48.88**	**313**	P		**P**	**03 12 13.0**	**+0.4**
3.9nm,0.6s,mb4.6,baz=119,slow=9.8,SNR=26								
BGU	**Big Grassy Mou**	**50.87**	**310**	*eP*		**P**	**03 12 28.1**	**+0.2**
NVAR	**Mina Array Bea**	**54.40**	**306**	P		**P**	**03 12 54.4**	**+0.2**
1.1nm,0.8s,mb3.9,baz=99,slow=6.3,SNR=5.8								
NVAR				PcP		PcP	03 13 58.3	+0.7
0.3nm,0.5s,baz=112,slow=4.9,SNR=3.6								
EDM	**Edmonton**	**54.93**	**325**	*eP*		**P**	**03 12 56.4**	**-1.5**
YKA	**Yellowknife Ar**	**59.41**	**334**	P		**P**	**03 13 28.4**	**-1.1**
0.7nm,0.4s,mb4.0,baz=107,slow=7.4,SNR=13								
DAWY	**Dawson**	**70.56**	**333**	*eP*		**P**	**03 14 41.7**	**+0.1**
ILAR	**Eielson Array**	**73.82**	**334**	P		**P**	**03 15 00.7**	**-0.2**
0.8nm,0.9s,mb3.7,baz=95,slow=2.7,SNR=6.2								
BRTR	**Keskin Array B**	**83.92**	**51**	P		**P**	**03 15 56.1**	**-0.1**
0.6nm,0.7s,mb3.8,baz=273,slow=5.4,SNR=4.4								
ASAR	**Alice Springs**	**163.53**	**239**	PKPab		PKPab	03 24 21.1	-0.6
0.9nm,0.7s,baz=108,slow=4.3,SNR=10								

*IDC **10** 03:13:14.5±1.2, 8.47N×93.20E, mb3.6/5, mb1 3.8/6, mb1mx3.7/16, mbtmp3.6/6, ML4.4/1, Error ellipse: s-maj=44.6km s-min=22.3km az=52.0*
ISC 10 03:13:17.8±1.1, 8.4N±0.1×93.4E±0.2, h33km, n14, σ0=96/13, mb3.8/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.32**	**28**	Pn		**P**	**03 16 00.1**	**-0.3**
0.8nm,0.3s,baz=225,slow=10,SNR=3.4								
JIRN	**Jiri**	**20.32**	**341**	*eP*		**P**	**03 17 53.5**	**-0.4**
PKI	**Pulchoki**	**20.50**	**339**	*eP*		**P**	**03 17 56.4**	**+0.6**
8.2nm,0.5s								
DMN	**Daman**	**20.64**	**339**	*eP*		**P**	**03 17 58.0**	**+0.8**
GUN	**Gumba**	**20.66**	**341**	*eP*		**P**	**03 17 57.1**	**-0.3**
10nm,0.5s								
KKN	**Kakani**	**20.75**	**339**	*eP*		**P**	**03 17 58.8**	**+0.5**
GKN	**Gorkha**	**21.17**	**338**	*eP*		**P**	**03 18 03.3**	**+0.7**
12nm,0.3s,mb4.7								
KOLN	**Koldanda**	**21.37**	**335**	*eP*		**P**	**03 18 05.2**	**+0.6**
7.2nm,0.5s,mb4.2								
SONM	**Songino Array**	**40.79**	**13**	P		**P**	**03 20 56.7**	**-1.0**
0.3nm,0.7s,mb3.0,baz=202,slow=6.7,SNR=4.3								
WRA	**Warramunga Arr**	**49.15**	**125**	P		**P**	**03 22 04.1**	**-0.7**
0.4nm,0.5s,mb3.7,baz=305,slow=8.5,SNR=3.9								
ASAR	**Alice Springs**	**50.80**	**130**	P		**P**	**03 22 20.3**	**+2.9**
0.3nm,0.5s,mb3.5,baz=297,slow=8.1,SNR=3.4								
BRTR	**Keskin Array B**	**61.54**	**311**	P		**P**	**03 23 32.0**	**-2.1**
0.4nm,0.6s,mb3.7,baz=166,slow=12,SNR=3.3								
FINES	**FINESS Array B**	**71.90**	**332**	P		**P**	**03 24

ISC 10 03:19:50.0±0.4, 44.58N±0.03×10.86E±0.06, h10km, n24, σ1§33/32, 6C-9D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZCCA	**Zocca** 136nm,0.3s	**0.25**	**159**	⇓*i*PG	**Pg**	**03 19 56.0**	**+0.8**
ZCCA	**Zocca** 136nm,0.3s	**0.25**	**159**	⇓*i*Pg	**Pg**	**03 19 56.0**	**+0.8**
GSCL	**Gusciola** 58nm,0.4s	**0.30**	**220**	⇓*i*PG	**Pg**	**03 19 56.9**	**+0.7**
GSCL	**Gusciola** 58nm,0.4s	**0.30**	**220**	⇓*i*Pg	**Pg**	**03 19 56.9**	**+0.7**
ERBM	**Eremo**	**0.36**	**243**	⇑*i*PG	**Pg**	**03 19 58.2**	**+0.9**
ERBM				SG	**Sg**	**03 20 03.5**	**+1.3**
FNVD	**Fontana Vidola**	**0.46**	**155**	*e*PG	**Pg**	**03 19 59.1**	**-0.2**
BDI	**Bagni Di Lucca** 24nm,0.2s	**0.55**	**200**	⇑*i*PG	**Pg**	**03 20 00.9**	**-0.2**
BDI	**Bagni Di Lucca** 24nm,0.2s	**0.55**	**200**	⇑*i*Pg	**Pg**	**03 20 00.9**	**-0.2**
SEI	**Scarperia** 70nm,0.4s	**0.64**	**146**	⇓*i*PG	**Pg**	**03 20 02.4**	**-0.5**
SEI	**Scarperia** 70nm,0.4s	**0.64**	**146**	⇓*i*Pg	**Pg**	**03 20 02.4**	**-0.5**
VMG	**Vicchio** 23nm,0.5s	**0.79**	**141**	*e*PG	**Pg**	**03 20 05.2**	**-0.7**
VMG	**Vicchio** 23nm,0.5s	**0.79**	**141**	*e*Pg	**Pg**	**03 20 05.2**	**-0.7**
PII	**Pisa** 31nm,0.3s	**0.89**	**196**	*e*PG	**Pg**	**03 20 07.0**	**-0.9**
PII	**Pisa** 31nm,0.3s	**0.89**	**196**	*e*Pg	**Pg**	**03 20 07.0**	**-0.9**
CSNT	**Castellina Chi** 14nm,0.4s	**1.15**	**164**	*e*PN	**Pn**	**03 20 12.6**	**+0.5**
CSNT	**Castellina Chi** 14nm,0.4s	**1.15**	**164**	*e*Pn	**Pn**	**03 20 12.6**	**+0.5**
VOY	**Vojsko**	**2.59**	**55**	*e*Pn	**Pn**	**03 20 28.4**	**-4.2**
VOY				*e*Sn	**Sn**	**03 21 07.0**	**+2.5**
SQTA	**Sankt Quirin**	**2.65**	**5**	⇓*i*PN	**Pn**	**03 20 31.8**	**-1.7**
SQTA				*i* SN	**Sn**	**03 21 08.2**	**+2.2**
WTTA	**Wattenberg**	**2.74**	**11**	⇓*i*PN	**Pn**	**03 20 34.3**	**-0.5**
WTTA				*i* SN	**Sn**	**03 21 10.4**	**+2.2**
MOTA	**Moosalm**	**2.77**	**4**	⇑*i*PN	**Pn**	**03 20 33.7**	**-1.5**
MOTA				*i* SN	**Sn**	**03 21 09.3**	**+0.3**
DAVA	**Damuels**	**2.79**	**346**	⇑*i*PN	**Pn**	**03 20 33.0**	**-2.5**
DAVA				*i* SN	**Sn**	**03 21 07.6**	**-2.0**
WATA	**Walderalm**	**2.80**	**10**	⇓*i*PN	**Pn**	**03 20 34.8**	**-0.9**
WATA				*i* SN	**Sn**	**03 21 11.1**	**+1.3**
KBA	**Koelnbreinsper**	**3.04**	**34**	⇑*i*PN	**Pn**	**03 20 42.3**	**+3.2**
KBA				*i* SN	**Sn**	**03 21 21.8**	**+5.8**
KHC	**Kasperske Hory**	**4.92**	**21**	*e*PN	**Pn**	**03 21 04.5**	**-1.3**
KHC				*ex*	x	03 21 54.5	
KHC				*ex*	x	03 22 12.0	

IDC 10 03:53:21.7±1.3, 13.06N×93.50E, mb3.6/4, mb1 3.8/5, mb1mx3.7/16, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=39.5km s-min=23.7km az=57.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.58**	**208**	*e*P	Pn	03 53 55.6	+4.4
PBA				*e*S	Sb	03 54 23.1	+11
PBA	comp=N,1μm,0.7s			*e*		03 54 44.0	
PBA	comp=E,1μm,0.4s			*e*		03 54 45.6	
CMAR	**Chiang Mai Arr** comp=E,0.4nm,0.3s,baz=236,slow=14,SNR=6.7	**7.49**	**44**	Pn	Pn	03 55 12.3	-2.6
SONM	**Songino Array** comp=E,0.4nm,0.8s,baz=193,slow=8.2,SNR=2.8	**36.30**	**15**	P	P	04 00 26.4	-2.4
WRA	**Warramunga Arr** comp=E,0.4nm,0.3s,baz=300,slow=9.9,SNR=6.5	**51.87**	**129**	P	P	04 02 31.9	-2.4
ASAR	**Alice Springs** comp=E,0.6nm,0.4s,baz=309,slow=6.9,SNR=12	**53.79**	**133**	P	P	04 02 46.6	-1.9
BRTR	**Keskin Array B** comp=E,0.4nm,0.8s,baz=114,slow=9.8,SNR=3.8	**58.65**	**309**	P	P	04 03 21.4	-1.8

*CSEM **10** 03:58:19.1±0.2, 35.04N×2.93W, h15km, MD2.7, Error ellipse: s-maj=5.7km s-min=2.9km az=126.0*
*CNRM **10** 03:58:19.0, 35.00N×2.68W, h15km, MD2.7*
*SFS **10** 03:58:20.0, 34.98N×2.97W, h12km*
*NEIC **10** 03:58:20.7, 34.98N×2.97W, h12km, MG3.2(MDD), After MDD.*

MDD 10 03:58:19.9±0.5, 34.98N×2.80W, h11km±3km, mb3.1/7, Error ellipse: s-maj=5.6km s-min=4.6km az=85.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.05**	**108**	P	Pg	03 58 21.5	-0.7
ZAI				S	Sg	03 58 24.0	+0.3
MELI	**Melilla**	**0.33**	**340**	P	Pg	03 58 25.3	-1.5
MELI				S	Sg	03 58 31.0	-0.3
MELI	**Melilla**	**0.33**	**340**	*i* S	Sg	03 58 31.0	-0.4
MELI	**Melilla**	**0.33**	**340**	*e*P	Pg	03 58 25.3	-1.5
EMLI	**Melilla** 57nm,0.1s,SNR=4.7	**0.34**	**339**	S	Sg	03 58 30.9	-0.8
EMLI	**Melilla** 44nm,0.2s,SNR=7.6	**0.34**	**339**	P	Pg	03 58 27.0	0.0
EMEL	**Melilla** 25nm,0.1s,SNR=7.6	**0.34**	**338**	P	Pg	03 58 27.0	-0.1
EMEL	750nm,0.4s,SNR=4.7			S	Sg	03 58 31.2	-0.5
TOU	**Touzarine**	**0.79**	**269**	*i* P	Pb	03 58 34.0	-1.1
TOU				*i* S	Sb	03 58 46.0	+0.6
MPAL	**Palemas**	**0.97**	**285**	P	Pb	03 58 38.5	+0.3
MPAL				S	Sb	03 58 53.0	+2.3
TZK	**Tazeka**	**1.45**	**232**	*i* P	Pn	03 58 44.5	-1.7
TZK				*i* S	Sb	03 59 03.5	-1.3
EBER	**Berja**	**1.91**	**358**	P	Pn	03 58 52.1	-0.6
EBER				S	Sn	03 59 15.7	-1.2
EBER	**Berja** 2.0nm,0.4s,SNR=7.9	**1.91**	**358**	P	Pn	03 58 52.1	-0.6
EBER	8.7nm,0.5s,SNR=7.9			S	Sn	03 59 13.8	-3.2
EBER	**Berja** 1.2nm,0.4s,SNR=7.9	**1.91**	**358**	P	Pn	03 58 52.1	-0.7
EBER	8.7nm,0.4s,SNR=7.9			S	Sn	03 59 15.7	-1.2
ENIJ	**Nijar**	**2.04**	**13**	P	Pn	03 58 53.6	-1.0
ENIJ				S	Sn	03 59 19.3	-0.9
ENIJ	**Nijar** 2.4nm,0.3s,SNR=7.9	**2.04**	**13**	P	Pn	03 58 53.6	-1.0
ENIJ	5.3nm,0.3s,SNR=7.9			S	Sn	03 59 15.1	-5.1
ENIJ	**Nijar** 6.4nm,0.5s,SNR=7.9	**2.04**	**13**	P	Pn	03 58 53.6	-1.0
ENIJ	5.3nm,0.3s,SNR=7.9			S	Sn	03 59 19.3	-0.9
ERON	**Agron**	**2.19**	**338**	P	Pn	03 58 54.9	-1.9
ERON				S	Sn	03 59 20.4	-3.6
ERON	**Agron** 1.0nm,0.2s,SNR=7.9	**2.19**	**338**	P	Pn	03 58 55.0	-1.7
ERON	4.1nm,0.3s,SNR=7.9			S	Sn	03 59 19.7	-4.3
ERON	**Agron** 1.5nm,0.2s,SNR=7.9	**2.19**	**338**	P	Pn	03 58 54.9	-1.8
ERON	2.3nm,0.2s,SNR=7.9			S	Sn	03 59 20.4	-3.6
EMIJ	**Mijas**	**2.25**	**315**	P	Pn	03 58 54.5	-3.1
EMIJ				S	Sn	03 59 21.4	-4.2
EMIJ	**Mijas** 0.9nm,0.2s,SNR=7.9	**2.25**	**315**	P	Pn	03 58 54.2	-3.4
EMIJ	3.7nm,0.3s,SNR=7.9			S	Sn	03 59 18.9	-6.7
EMIJ	**Mijas** 3.2nm,0.4s,SNR=7.9	**2.25**	**315**	P	Pn	03 58 54.5	-3.1
EMIJ	5.6nm,0.4s,SNR=7.9			S	Sn	03 59 21.4	-4.2
ELOJ	**Sierra Loja** 0.9nm,0.2s,SNR=7.9	**2.42**	**333**	P	Pn	03 58 58.1	-2.0
ELOJ	2.7nm,0.4s,SNR=7.9			S	Sn	03 59 25.4	-4.5
ELOJ	**Sierra Loja** 2.7nm,0.4s,SNR=7.9	**2.42**	**333**	S	Sn	03 59 26.9	-3.0
EQES	**Quesada**	**2.82**	**356**	P	Pn	03 59 05.8	0.0
EQES				S	Sn	03 59 37.2	-2.9
EQES	**Quesada** 2.0nm,0.3s,SNR=8.6	**2.82**	**356**	P	Pn	03 59 06.2	+0.4
EQES	11nm,0.5s,SNR=7.9			S	Sn	03 59 39.3	-0.8
EQES	**Quesada**	**2.82**	**356**	P	Pn	03 59 05.8	0.0
	2.3nm,0.3s,SNR=8.6						
EQES				S	Sn	03 59 37.2	-2.9
EMUR	**La Murta** 10nm,0.4s,SNR=7.9	**3.12**	**23**	P	Pn	03 59 08.8	-1.2
EMUR				S	Sn	03 59 45.6	-2.0
EMUR	**La Murta** 10nm,0.6s,SNR=7.9	**3.12**	**23**	P	Pn	03 59 08.9	-1.1
EMUR	1.4nm,0.3s,SNR=7.9			S	Sn	03 59 44.9	-2.7
EMUR	**La Murta** 2.0nm,0.4s,SNR=7.9	**3.12**	**23**	P	Pn	03 59 08.8	-1.2
EMUR	15nm,0.8s,SNR=7.9			S	Sn	03 59 45.6	-2.0
EADA	**Adamuz**	**3.48**	**336**	P	Pn	03 59 13.7	-1.5
EADA				S	Sn	03 59 51.4	-5.5
EADA	**Adamuz** 0.6nm,0.2s,SNR=7.9	**3.48**	**336**	P	Pn	03 59 13.7	-1.5
EADA	4.5nm,0.4s,SNR=7.9			S	Sn	03 59 51.0	-5.9
EADA	**Adamuz** 0.1nm,0.3s,SNR=7.9	**3.48**	**336**	P	Pn	03 59 13.7	-1.5
EADA	1.4nm,0.3s,SNR=7.9			S	Sn	03 59 51.4	-5.4
EVIA	**Vianos** 7.9nm,0.7s,SNR=7.9	**3.66**	**4**	S	Sn	03 59 59.0	-2.2
EVIA	**Vianos** 1.4nm,0.4s,SNR=7.9	**3.66**	**4**	S	Sn	03 59 56.5	-4.7
EMIN	**Mina Concepcio**	**4.18**	**313**	P	Pn	03 59 21.1	-4.0
EMIN				S	Sn	04 00 07.2	-7.3
EMIN	**Mina Concepcio** 0.3nm,0.2s,SNR=7.9	**4.18**	**313**	P	Pn	03 59 21.6	-3.5
EMIN	1.0nm,0.4s,SNR=7.9			S	Sn	04 00 05.9	-8.6
EMIN	**Mina Concepcio** 0.8nm,0.3s,SNR=7.9	**4.18**	**313**	P	Pn	03 59 21.1	-4.0
EMIN	0.9nm,0.4s,SNR=7.9			S	Sn	04 00 07.2	-7.3
EBEN	**Beniarda**	**4.25**	**28**	P	Pn	03 59 25.4	-0.7
EBEN	**Beniarda** 0.2nm,0.2s,SNR=7.9	**4.25**	**28**	P	Pn	03 59 26.0	0.0
EBEN	**Beniarda** 2.2nm,0.5s,SNR=7.9	**4.25**	**28**	P	Pn	03 59 25.4	-0.7
EGRO	**El Granado**	**4.56**	**305**	P	Pn	03 59 26.7	-3.8
EGRO				S	Sn	04 00 15.7	-8.4
EGRO	**El Granado** 1.7nm,0.3s,SNR=7.9	**4.56**	**305**	P	Pn	03 59 27.0	-3.5
EGRO	0.2nm,0.3s,SNR=7.9			S	Sn	04 00 15.7	-8.4
EGRO	**El Granado** 2.1nm,0.2s,SNR=7.9	**4.56**	**305**	S	Sn	04 00 15.7	-8.4
EGRO	**El Granado** 0.6nm,0.2s,SNR=7.9	**4.56**	**305**	P	Pn	03 59 26.7	-3.8
ESDC	**Sonseca Array** 0.6nm,0.4s,baz=175,slow=13,SNR=4.0	**4.77**	**349**	P	Pn	03 59 31.0	-2.5
ESDC	0.5nm,0.5s,baz=170,slow=24,SNR=5.0			S	Sn	04 00 22.9	-6.6
ESDC	**Sonseca Array** 0.6nm,0.4s,SNR=4.0	**4.77**	**349**	P	Pn	03 59 31.0	-2.5
ESDC	0.5nm,0.5s,SNR=5.0			S	Sn	04 00 22.9	-6.6
EBAD	**Badajoz** 0.9nm,0.2s,SNR=7.9	**5.06**	**319**	P	Pn	03 59 34.0	-3.5
EBAD	1.4nm,0.2s,SNR=7.9			S	Sn	04 00 28.7	-7.9
EBAD	**Badajoz** 1.4nm,0.3s,SNR=7.9	**5.06**	**319**	P	Pn	03 59 34.0	-3.5
EBAD	1.3nm,0.3s,SNR=7.9			S	Sn	04 00 28.7	-7.9
EIBI	**Ibiza** 0.3nm,0.2s,SNR=7.9	**5.22**	**38**	P	Pn	03 59 38.5	-1.3

IDC 10 04:06:18.1±1.2, 6.15N×92.59E, mb3.7/5, mb1 3.9/6, mb1mx3.8/16, mbtmp3.7/6, ML4.1/1, Error ellipse: s-maj=47.9km s-min=22.8km az=47.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=214,slow=9.8,SNR=9.6	**13.71**	**26**	Pn	P	04 09 35.0	-1.4
SONM	**Songino Array** 0.3nm,0.8s,baz=195,slow=9.9,SNR=2.6	**43.18**	**14**	P	P	04 14 20.1	-2.3
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=304,slow=9.2,SNR=4.9	**48.56**	**123**	P	P	04 15 03.3	-2.3
ASAR	**Alice Springs** 1.3nm,0.8s,baz=301,slow=7.4,SNR=12	**50.03**	**128**	P	P	04 15 15.0	-1.8
BRTR	**Keskin Array B** 0.8nm,0.6s,baz=116,slow=3.3,SNR=5.9	**62.40**	**312**	P	P	04 16 42.4	-3.0
GERES	**GERESS Array B** 0.8nm,0.8s,baz=79,slow=5.0,SNR=2.4	**78.08**	**319**	P	P	04 18 20.2	-0.3

*MAN **10** 04:46:46.6, 5.65N×124.50E, h11km, mb4.6, ML3.5, MS3.4*
*IDC **10** 04:47:19.9±8.5, 1.53N×124.41E, mb3.5/3, mb1 3.7/3, mb1mx3.5/14, mbtmp3.6/3, Error ellipse: s-maj=200.0km s-min=133.7km az=66.0*

ISC 10 04:46:46.4±2.2, 5.65N±0.05×124.55E±0.06, h10km±15km, n11, σ1§00/18, mb3.5/3, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.46**	**22**	⇓*e*P	**Pn**	**04 47 11.7**	**-1.2**
KCP				*i* S	**Sb**	**04 47 30.5**	**-1.2**
MATI	**Mati**	**2.13**	**53**	*e*P	**Pn**	**04 47 23.1**	**+0.5**
MATI				*e*S	**Sn**	**04 47 48.5**	**-0.9**
BUKP	**Musuan**	**2.28**	**13**	*e*P	**Pn**	**04 47 24.6**	**-0.1**
BUKP				*e*S	**Sn**	**04 47 52.9**	**-0.1**
PAGZ	**Pagadian**	**2.47**	**332**	*e*P	**Pn**	**04 47 27.9**	**+0.4**
PAGZ				*e*S	**Sn**	**04 47 58.4**	**+0.3**
CGP	**Cagayan de Oro**	**2.79**	**3**	*i* P	**Pn**	**04 47 34.8**	**+2.7**
CGP				*e*S	**Sn**	**04 48 06.9**	**+0.8**
IPIL	**Ipil**	**2.90**	**317**	*e*P	**Pn**	**04 47 32.5**	**-1.0**
IPIL				*e*S	**Sn**	**04 48 04.5**	**-4.2**
BIPH	**Bislig**	**3.10**	**35**	⇓*e*P	**Pn**	**04 47 37.7**	**+1.3**
BIPH				*e*S	**Sn**	**04 48 14.3**	**+0.5**
DCPH	**Dipolog City**	**3.15**	**338**	*e*P	**Pn**	**04 47 36.4**	**-0.7**
WRA	**Warramunga Arr** 0.7nm,0.8s,mb3.2,baz=334,slow=11,SNR=3.5	**27.19**	**160**	P	**P**	**04 52 32.0**	**-0.4**
ASAR	**Alice Springs** 0.5nm,0.6s,mb3.5,baz=337,slow=6.5,SNR=5.9	**30.53**	**163**	P	**P**	**04 53 01.4**	**-1.0**
STKA	**Stephens Creek** 1.3nm,0.8s,mb3.6,baz=321,slow=9.2,SNR=2.5	**40.70**	**158**	P	**P**	**04 54 30.3**	**+1.4**

IDC 10 04:59:56.1±3.4, 30.44S×138.16E, mb1 3.0/3, mb1mx3.0/9, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=75.1km s-min=19.7km az=46.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.5nm,0.3s,baz=306,slow=14,SNR=14	**3.28**	**117**	Pn	Pn	05 00 48.4	-1.4
STKA	1.0nm,0.3s,baz=294,slow=14,SNR=12			Pg	Pg	05 00 56.5	-5.0
STKA	2.0nm,0.3s,baz=296,slow=13,SNR=6.7			Sn	Sn	05 01 26.8	-3.2
ASAR	**Alice Springs** 0.1nm,0.3s,baz=148,slow=12,SNR=2.9	**7.74**	**330**	Pn	Pn	05 01 48.4	-4.4
ASAR	0.2nm,0.3s,baz=149,slow=22,SNR=4.2			Sn	Sn	05 03 22.2	+0.1
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=156,slow=14,SNR=4.7	**11.01**	**341**	Pn	P	05 02 36.4	-1.6
WRA	0.1nm,0.3s,baz=163,slow=24,SNR=3.0			Sn	S	05 04 38.4	-4.7

IDC 10 05:00:57.2±9.3, 3.21N×96.41E, mb3.8/3, mb1 3.9/4, mb1mx3.7/15, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=232.3km s-min=57.0km az=140.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=215,slow=10,SNR=7.1	**15.36**	**9**	Pn	P	05 04 36.6	-0.5
SONM	**Songino Array** 1.0nm,0.8s,baz=189,slow=7.4,SNR=8.4	**45.28**	**9**	P	P	05 09 16.0	-2.5
BRTR	**Keskin Array B** 0.3nm,0.6s,baz=123,slow=8.0,SNR=4.0	**67.18**	**312**	P	P	05 11 52.6	-2.9
FINES	**FINESS Array B** 2.7nm,1.1s,baz=90,slow=6.9,SNR=6.7	**77.86**	**332**	P	P	05 12 57.8	-0.3

IDC 10 05:08:54.5±6.8, 2.96N×94.14E, mb3.4/3, mb1 3.7/4, mb1mx3.6/16, mbtmp3.5/4, ML4.0/1, Error ellipse: s-maj=206.3km s-min=28.8km az=71.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=206,slow=11,SNR=8.1	**16.10**	**17**	Pn	P	05 12 43.0	-1.0
WRA	**Warramunga Arr** 0.8nm,0.7s,baz=297,slow=9.4,SNR=3.1	**45.55**	**122**	P	P	05 17 16.2	-2.0
SONM	**Songino Array** 0.4nm,0.8s,baz=180,slow=12,SNR=3.2	**45.93**	**11**	P	P	05 17 19.0	-1.9
ASAR	**Alice Springs** 0.6nm,1.1s,baz=299,slow=7.7,SNR=4.9	**46.89**	**127**	P	P	05 17 27.2	-1.6

*CSEM **10** 05:10:41.3±0.6, 38.61N×28.58W, h15km, ML1.6, Error ellipse: s-maj=2.9km s-min=1.8km az=173.0, After PDA*
*PDA **10** 05:10:41.3±0.6, 38.61N×28.58W, h15km, MD2.7, ML1.6, Error ellipse: s-maj=2.9km s-min=1.8km az=173.0*

SVSA 10 05:10:41.3±0.6, 38.61N×28.58W, h15km, MD2.7, ML1.6, Error ellipse: s-maj=2.9km s-min=1.8km az=173.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.09**	**207**	*e*P	Pb	05 10 43.9	-0.4
HOR				*e*S	Sb	05 10 46.2	0.0
PCED	**Cedros**	**0.10**	**281**	*e*P	Pb	05 10 43.8	-0.6
PCED				*e*S	Sb	05 10 46.5	+0.1
CALA	**Caldeira**	**0.10**	**254**	*e*P	Pb	05 10 44.2	-0.2
CALA				*e*S	Sb	05 10 46.9	+0.4
PICO	**Pico**	**0.16**	**133**	*e*P	Pb	05 10 45.0	-0.4
PICO				*e*S	Sb	05 10 47.7	-0.5
ROSA	**Rosais**	**0.28**	**67**	*e*S	Sb	05 10 50.5	-1.2
PMAN	**Manadas** 32nm,0.1s	**0.38**	**86**	*e*S	Sb	05 10 52.9	-1.7
PMAN	**Manadas** 32nm,0.1s	**0.38**	**86**	*e*S	Sb	05 10 52.9	-1.7

*IDC **10** 05:18:54.1±4.3, 42.21N×148.04E, mb3.4/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=106.8km s-min=31.0km az=9.0*
*JMA **10** 05:19:07.8±0.2, 43.67N×147.43E, h14km, M3.7*

ISC 10 05:19:08.2±1.6, 43.7N±0.1×147.6E±0.1, h66km±20km, n13, σ0§56/21, mb3.4/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.35**	**259**	P	**P**	**05 19 31.0**	**-0.6**
NEM2				*e*S	**S**	**05 19 47.8**	**-1.1**
JRA	**Rausu**	**1.79**	**280**	P	**P**	**05 19 37.4**	**-0.1**
JRA				*e*S	**S**	**05 19 58.8**	**-0.3**
JNK	**Nakash**	**2.06**	**269**	P	**P**	**05 19 41.2**	**-0.1**
JNK				*e*S	**S**	**05 20 05.4**	**-0.4**
JAK	**Akkeshi**	**2.19**	**254**	P	**P**	**05 19 43.0**	**-0.1**
JAK				*e*S	**S**	**05 20 08.9**	**0.0**
JTKR	**Abashiri--Toko**	**2.66**	**278**	P	**P**	**05 19 50.2**	**+0.4**
JAR	**Ashorobuto**	**2.78**	**264**	P	**P**	**05 19 52.2**	**+0.8**
JAR				*e*S	**S**	**05 20 24.3**	**+0.4**
JOB	**Onbets**	**2.82**	**256**	P	**P**	**05 19 52.3**	**+0.3**
JOB				*e*S	**S**	**05 20 24.5**	**-0.4**
JMP	**Maruseppu**	**3.06**	**278**	P	**P**	**05 19 55.8**	**+0.4**
JCH	**Churui**	**3.24**	**253**	P	**P**	**05 19 58.4**	**+0.5**
JCH				*e*S	**S**	**05 20 35.8**	**+0.4**
ASAJ	**Asahikawa** 0.6nm,0.3s,baz=103,slow=16,SNR=3.3	**3.62**	**279**	Pn	**P**	**05 20 03.5**	**+0.3**
ASAJ	0.4nm,0.3s,baz=3.4,slow=17,SNR=1.9			Sn	**S**	**05 20 52.8**	**+7.9**
ILAR	**Eielson Array** 0.3nm,0.6s,mb3.3,baz=267,slow=8.5,SNR=8.1	**41.40**	**36**	P	**P**	**05 26 49.5**	**+0.5**
YKA	**Yellowknife Ar** 0.3nm,0.6s,mb3.5,baz=298,slow=6.8,SNR=8.9	**55.72**	**34**	P	**P**	**05 28 39.2**	**-0.6**
TXAR	**Lajitas Array** 0.2nm,0.4s,mb3.3,baz=315,slow=3.8,SNR=10	**82.46**	**57**	P	**P**	**05 31 21.0**	**-3.8**

*IDC **10** 05:40:16.8±0.7, 4.63N×95.02E, h51km±5km, mb3.8/10, mb1 4.0/11, mb1mx3.9/17, mbtmp4.1/11, Error ellipse: s-maj=31.3km s-min=13.5km az=46.0*
*NEIC **10** 05:40:16.4±0.5, 4.52N×94.88E, mb4.3/7, Error ellipse: s-maj=16.9km s-min=11.7km az=58.0*

ISC 10 05:40:14.8±0.6, 4.48N±0.09×94.9E±0.1, h50km, h50km±1.6km: pP-P, n28, σ0§93/26, mb4.2/22, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,baz=209,slow=12,SNR=13	**14.45**	**16**	P	**P**	**05 43 39.0**	**+0.9**
JIRN	**Jiri** 5.0nm,0.4s,mb4.4	**24.50**	**341**	*e*P	**P**	**05 45 31.1**	**+0.2**
PKI	**Pulchoki** 6.8nm,0.6s,mb4.3	**24.68**	**339**	*e*P	**P**	**05 45 33.8**	**+1.2**
DMN	**Daman**	**24.83**	**339**	*e*P	**P**	**05 45 34.5**	**+0.5**
GUN	**Gumba**	**24.84**	**341**	*e*P	**P**	**05 45 34.1**	**0.0**
KKN	**Kakani**	**24.93**	**339**	*e*P	**P**	**05 45 36.1**	**+1.1**
LSA	**Lhasa** 3.3nm,0.6s,mb4.0	**25.34**	**352**	P	**P**	**05 45 38.1**	**-0.7**
GKN	**Gorkha** 5.3nm,0.3s,mb4.5	**25.36**	**338**	*e*P	**P**	**05 45 39.3**	**+0.3**
KOLN	**Koldanda** 9.4nm,0.6s,mb4.5	**25.55**	**336**	*e*P	**P**	**05 45 41.0**	**+0.2**
AAK	**Ala-Archa** 2.5nm,0.5s,mb4.1	**42.11**	**337**	*e*P	**P**	**05 48 04.5**	**+0.8**
SONM	**Songino Array** 0.2nm,0.4s,mb3.2,baz=193,slow=8.5,SNR=4.7	**44.31**	**11**	P	**P**	**05 48 20.0**	**-1.6**
SONM	0.4nm,0.6s,baz=191,slow=8.2,SNR=3.2			pP	pP	05 48 33.1	-1.9
SONM	0.5nm,0.4s,baz=202,slow=3.8,SNR=9.5			PcP	PcP	05 50 04.8	-0.8
WRA	**Warramunga Arr** 2.6nm,0.5s,mb4.5,baz=302,slow=9.3,SNR=16	**45.72**	**123**	P	**P**	**05 48 33.4**	**+0.1**
WRA	5.2nm,0.6s,baz=303,slow=9.2,SNR=11			pP	pP	05 48 46.6	-0.1
WRAB	**Tennant Creek** 8.9nm,0.6s,mb4.9	**45.73**	**123**	*e*P	**P**	**05 48 33.4**	**+0.1**
ASAR	**Alice Springs** 0.9nm,0.4s,mb4.0,baz=298,slow=7.9,SNR=11	**47.20**	**128**	P	**P**	**05 48 45.1**	**+0.3**
ASAR	2.1nm,0.5s,baz=301,slow=8.1,SNR=8.6			pP	pP	05 48 57.9	-0.4
BVAR	**Borovoye Array** 2.0nm,0.6s,mb4.2,baz=146,slow=11,SNR=8.6	**52.43**	**342**	P	**P**	**05 49 23.5**	**-0.9**
BVAR	2.0nm,0.7s,baz=153,slow=6.6,SNR=5.1			pP	pP	05 49 36.9	-1.2
CHKZ	**Chkalovo** 5.1nm,0.5s,mb4.7	**52.92**	**342**	*e*P	**P**	**05 49 27.0**	**-1.1**
GNI	**Garni** 2.0nm,0.5s,mb4.4	**57.36**	**316**	P	**P**	**05 49 57.1**	**-3.4**
KMBO	**Kilima Mbogo** 2.4nm,1.0s,mb4.2,baz=72,slow=12,SNR=4.4	**57.87**	**266**	P	**P**	**05 50 04.2**	**-0.2**
BRTR	**Keskin Array B** 1.8nm,0.6s,mb4.3,baz=129,slow=7.2,SNR=13	**65.23**	**312**	P	**P**	**05 50 52.9**	**-0.6**
BRTR	1.1nm,0.6s,baz=122,slow=6.3,SNR=5.6			pP	pP	05 51 08.8	+1.1
LSZ	**Lusaka** 1.1nm,0.5s,mb4.0	**68.90**	**252**	P	**P**	**05 51 17.6**	**+0.7**
JOF	**Joensuu** 0.3nm,0.3s,mb3.7	**74.22**	**335**	*ep*	**P**	**05 51 45.8**	**-2.2**
**F

SONM	Songino Array	40.76	15	P	P	05 55 51.4	-1.7
	0.9nm,0.9s,baz=198,slow=7.9,SNR=6.0						
WRA	Warramunga Arr	50.67	125	P	P	05 57 10.3	-1.9
	0.8nm,0.9s,baz=306,slow=8.4,SNR=6.0						
ASAR	Alice Springs	52.28	129	P	P	05 57 22.1	-2.3
	0.3nm,0.4s,baz=308,slow=7.0,SNR=5.9						

*IDC **10** 06:05:04.4±1.0, 4.66N×94.68E, mb4.2/8, mb1 4.3/9, mb1mx4.1/17, mbtmp4.1/9, ML4.0/1, MS3.6/5, Ms1 3.7/5, ms1mx3.2/20, Error ellipse: s-maj=46.7km s-min=18.8km az=51.0*
*BJI **10** 06:05:06.0, 4.58N×94.77E, h25km, mb4.9, Ms4.3*
*NEIC **10** 06:05:08.0±6.8, 4.73N×94.80E, h20km±46km, mb4.4/6, Error ellipse: s-maj=27.4km s-min=7.2km az=56.0*

ISC 10 06:05:08.4±0.7, 4.76N±0.10×94.9E±0.1, h33km, n30, σ0°67/26, mb4.5/22, MS3.7/4, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.16	16	Pn	P	06 08 28.5	-0.4
	0.2nm,0.3s,baz=210,slow=11,SNR=2.6						
CMAR				LR	LR	06 13 59.0	
	comp=Z,154nm,19.0s,baz=200,slow=37						
CMAR	Chiang Mai Arr	14.16	16	Pn	P	06 08 28.5	-0.4
CMAR				LR	LR	06 13 59.0	
JIRN	Jiri	24.24	341	eP	P	06 10 24.3	+0.7
	44nm,1.1s,mb4.8						
PKI	Pulchoki	24.43	339	eP	P	06 10 26.1	+0.7
	29nm,1.1s,mb4.6						
DMN	Daman	24.57	339	eP	P	06 10 27.9	+1.2
	29nm,0.9s,mb4.8						
GUN	Gumba	24.58	340	eP	P	06 10 27.4	+0.6
	23nm,0.7s,mb4.8						
KKN	Kakani	24.67	339	eP	P	06 10 28.3	+0.6
	28nm,0.9s,mb4.8						
LSA	Lhasa	25.06	352	eP	P	06 10 31.6	+0.2
	4.5nm,0.6s,mb4.2						
GKN	Gorkha	25.10	338	eP	P	06 10 32.1	+0.3
	35nm,0.9s,mb4.9						
KOLN	Koldanda	25.30	336	eP	P	06 10 34.2	+0.5
	45nm,0.9s,mb5.0						
ENH	Enshi	28.85	27	eP	P	06 11 05.0	-1.2
	5.1nm,0.5s,mb4.5						
XAN	Xi'an	31.90	22	P	P	06 11 32.7	-0.4
XAN				AMB	AMB		
	comp=Z,24nm,0.9s,mb5.0						
JOW	Kunigami	38.65	52	LR	LR	06 27 39.0	
	comp=Z,79nm,21.6s,MS3.5,baz=0.6,slow=35						
SONM	Songino Array	44.03	11	P	P	06 13 15.0	+0.3
	comp=Z,2.4nm,0.9s,mb4.0,baz=191,slow=8.0,SNR=19						
SONM				PcP	PcP	06 15 00.3	0.0
	comp=Z,1.2nm,0.7s,baz=208,slow=3.4,SNR=6.1						
ULN	Ulaanbaatar	44.19	12	eP	P	06 13 16.1	+0.1
	comp=Z,1.5nm,0.8s,mb3.8						
WRA	Warramunga Arr	45.86	124	P	P	06 13 30.0	+0.3
	comp=Z,7.5nm,0.7s,mb4.8,baz=302,slow=9.1,SNR=36						
WRAB	Tennant Creek	45.86	124	eP	P	06 13 30.1	+0.3
	comp=Z,20nm,1.1s,mb5.0						
WB2	Warramunga Arr	45.87	124	⇑iP	P	06 13 30.2	+0.4
ASPA	Alice Springs	47.35	128	eP	P	06 13 41.5	+0.1
ASAR	Alice Springs	47.35	128	P	P	06 13 41.5	0.0
	comp=Z,2.1nm,0.7s,mb4.2,baz=296,slow=7.9,SNR=18						
BVAR	Borovoye Array	52.17	341	P	P	06 14 16.9	-0.9
	comp=Z,2.3nm,0.8s,mb4.2,baz=149,slow=8.6,SNR=10						
BRVK	Borovoye	52.23	341	eP	P	06 14 18.1	-0.2
	comp=Z,2.2nm,0.6s,mb4.3						
CHKZ	Chkalovo	52.65	342	eP	P	06 14 20.9	-0.6
	comp=Z,13nm,1.1s,mb4.8						
CTA	Charters Tower	56.14	118	LR	LR	06 43 43.4	
	comp=Z,29nm,19.1s,MS3.4,baz=227,slow=41						
KMBO	Kilima Mbogo	57.92	266	LR	LR	06 35 15.5	
	comp=Z,89nm,19.5s,MS3.9,baz=96,slow=31						
BRTR	Keskin Array B	65.06	312	P	P	06 15 46.0	-2.0
	comp=Z,0.8nm,0.7s,mb3.9,baz=135,slow=9.6,SNR=4.6						
FINES	FINESS Array B	75.81	332	P	P	06 16 51.6	-1.1
	comp=Z,2.4nm,0.9s,mb4.1,baz=108,slow=6.0,SNR=8.5						
ARCES	ARCESS Array B	78.44	340	P	P	06 17 07.2	-0.1
	comp=Z,2.3nm,0.8s,mb4.1,baz=98,slow=6.3,SNR=10						
ARCES				LR	LR	06 57 12.3	
	comp=Z,75nm,18.4s,MS4.0,baz=17,slow=40						
GERES	GERESS Array B	80.66	319	P	P	06 17 19.6	0.0
	comp=Z,0.6nm,0.7s,mb3.7,baz=104,slow=5.5,SNR=6.9						
TXAR	Lajitas Array	141.68	27	PKP	PKPdf	06 24 37.0	-0.3
	comp=Z,0.2nm,0.6s,baz=90,slow=0.9,SNR=3.1						

JMA 10 06:07:18.8±0.2, 25.68N×124.09E, h161km, M3.9, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	Tarama	1.17	152	P	P	06 07 46.4	+0.1
JTJ				eS	S	06 08 07.4	-0.2
JIJ	Ishigaki jima	1.31	178	P	P	06 07 47.1	-0.6
JIJ				eS	S	06 08 08.4	-1.6
IRIF	Iriomote-Funau	1.38	194	P	P	06 07 48.0	-0.3
IRIF				eS	S	06 08 10.6	-0.5
JMJ	Miyako jima 2	1.39	128	P	P	06 07 48.7	+0.3
JMJ				eS	S	06 08 10.3	-1.0
JKRS	Kuro-shima	1.44	183	P	P	06 07 48.7	-0.2
JKRS				eS	S	06 08 11.6	-0.6
JOGS	Gusukube	1.50	127	P	P	06 07 50.0	+0.4
JOGS				eS	S	06 08 12.7	-0.6
YOJ	Yonaguni jima	1.56	219	P	P	06 07 50.5	+0.4
YOJ				eS	S	06 08 14.6	+0.3
HATJ	Hateruma jima	1.64	189	P	P	06 07 50.6	-0.3
HATJ				eS	S	06 08 15.2	-0.6
JKE	Kume jima 2	2.51	75	P	P	06 08 00.1	-1.0
JKE				eS	S	06 08 31.2	-2.4
JAGN	Aguni-jima	2.98	72	P	P	06 08 05.7	-1.2
JAGN				eS	S	06 08 40.5	-3.3
NAH1	Naha	3.28	80	eS	S	06 08 47.8	-3.0
JJT2	Tamagusuku 2	3.33	81	P	P	06 08 10.1	-1.3
JJT2				eS	S	06 08 50.1	-1.7
JIH	Iheya	3.73	68	P	P	06 08 14.6	-2.0
JIH				eS	S	06 08 56.1	-5.0
JOW	Kunigami	3.93	72	P	P	06 08 16.6	-2.6
JOW				eS	S	06 08 59.8	-5.9
JTK	Tokunoshima	4.83	63	P	P	06 08 27.5	-3.4
JTK				eS	S	06 09 20.0	-6.6
JAM	Amami Oshima	5.62	60	P	P	06 08 37.4	-4.0
JMZ	Minamidaito 2	6.43	87	P	P	06 08 48.4	-3.8
JMZ				eS	S	06 09 54.7	-10

MAN 10 06:21:07.2, 11.25N×124.60E, h1km, mb4.1, ML2.9, MS2.7, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.20	177	eP	Pg	06 21 11.0	-0.2
OCLP				eS	Sg	06 21 14.3	+0.6
PLP	Palo	0.38	103	eP	Pg	06 21 14.6	-0.2
PLP				i S	Sg	06 21 19.8	-0.1
BESP	Borongan	0.89	67	eP	Pg	06 21 24.1	-1.0
MSLP	Maasin	1.14	167	eP	Pb	06 21 31.5	+2.1

JMA 10 06:23:05.5±0.1, 37.07N×141.89E, h15km±2km, M2.1, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFT	Otama	1.32	290	P	Pb	06 23 29.5	+0.1
JFT				eS	Sb	06 23 46.7	+0.8
JIO	Ouri	1.45	343	eS	Sb	06 23 49.1	-0.6
JOU	Okura	1.62	323	P	Pn	06 23 34.0	+0.3
JOU				eS	Sn	06 23 55.2	+0.8

*NIED **10** 06:23:00, 36.60N×142.00E, h8km, Mw3.9 Best double couple: M0=8.44×10^14 NP1:φs=4°, δ57°, λ81°. NP2:φs=201°, δ34°, λ104°.*
*IDC **10** 06:23:56.3±0.8, 36.59N×141.85E, mb3.8/8, mb1 4.0/10, mb1mx3.9/21, mbtmp3.8/10, ML3.7/2, Error ellipse: s-maj=28.1km s-min=16.9km az=107.0*
*JMA **10** 06:23:58.8±0.3, 36.60N×142.00E, h62km, M4.1*
*NEIC **10** 06:24:00.4±0.5, 36.59N×141.96E, mb3.9/4, Error ellipse: s-maj=16.3km s-min=10.1km az=171.0*

ISC 10 06:23:57.4±1.3, 36.57N±0.04×142.06E±0.06, h21km±9km, n34, σ1°08/43, mb3.8/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.14	298	P	Pn	06 24 18.5	+0.2
ONAJ				eS	Sb	06 24 34.1	+1.4
JHO	Hitachi	1.20	272	P	Pn	06 24 18.2	-0.9
JHO				eS	Sb	06 24 33.0	-1.3
JFK	Kawauchi	1.24	310	P	Pn	06 24 19.0	-0.6
JFK				eS	Sb	06 24 34.5	-1.0
JMM	Marumori	1.64	322	P	Pn	06 24 24.6	-0.8
JFT	Otama	1.67	305	P	Pn	06 24 25.8	0.0
JFT				eS	Sn	06 24 47.1	+0.3
JIO	Ouri	1.96	344	P	Pn	06 24 29.8	-0.2
JFY	Yanaizu	2.06	295	P	Pn	06 24 32.5	+1.1
JFY				S	Sn	06 24 57.9	+1.2
BSO1	Boso 1	2.10	205	P	Pn	06 24 33.5	+1.5
JAG	Ashikaga	2.10	267	P	Pn	06 24 32.3	+0.3
JAG				eS	Sn	06 24 55.8	-2.0
JOU	Okura	2.11	329	P	Pn	06 24 32.4	+0.3
JOU				eS	Sn	06 24 58.9	+1.0
BSO3	Boso 3	2.17	216	P	Pn	06 24 34.5	+1.6
JKT	Katashina	2.27	276	P	Pn	06 24 35.3	+0.9
JYS	Shiratake	2.29	317	P	Pn	06 24 35.0	+0.3
MAJO	Matsushiro	3.10	271	ePn	Pn	06 24 46.8	+0.5
MAT	Matsushiro	3.10	271	eP	Pn	06 24 47.0	+0.8
MAT				eS	Sn	06 25 24.0	+0.9
MAT	Matsushiro	3.10	271	P	Pn	06 24 47.3	+1.1
MAT				S	Sn	06 25 24.3	+1.2
JHJ	Hachijo jima 2	3.92	209	Pn	Pn	06 24 57.9	+0.1
JHJ	43nm,0.3s,baz=66,slow=18,SNR=3.3						
JHJ				Sn	Sn	06 25 42.5	-1.2
	45nm,0.3s,baz=55,slow=23,SNR=5.8						
ASAJ	Asahikawa	7.55	3	Pn	Pn	06 25 47.0	-2.1
	0.7nm,0.3s,baz=326,slow=11,SNR=3.2						
ENH	Enshi	27.82	266	eP	P	06 29 46.6	-0.6
	3.4nm,0.3s,mb4.5						
ENH				e	pP	06 29 54.5	+1.1
ULN	Ulaanbaatar	28.04	305	eP	P	06 29 49.2	+0.2
	1.3nm,0.6s,mb3.7						
SONM	Songino Array	28.47	305	P	P	06 29 52.1	-0.8
	3.1nm,0.7s,mb4.0,baz=104,slow=8.6,SNR=27						
ILAR	Eielson Array	49.61	32	P	P	06 32 48.6	-0.1
	0.6nm,0.8s,mb3.7,baz=273,slow=6.5,SNR=7.0						
CHKZ	Chkalovo	51.01	313	eP	P	06 32 58.4	-1.2
	0.8nm,0.5s,mb3.9						
BVAR	Borovoye Array	51.27	313	P	P	06 33 00.2	-1.3
	0.6nm,0.5s,mb3.8,baz=68,slow=8.0,SNR=4.6						
BRVK	Borovoye	51.32	313	P	P	06 33 00.7	-1.2
	1.2nm,0.6s,mb4.0						
WRA	Warramunga Arr	56.67	189	P	P	06 33 40.8	-0.9
	1.2nm,0.7s,mb4.1,baz=6.8,slow=7.5,SNR=6.9						
ASAR	Alice Springs	60.40	189	P	P	06 34 07.2	-0.4
	1.2nm,0.7s,mb4.0,baz=13,slow=7.0,SNR=12						
YKA	Yellowknife Ar	63.95	30	P	P	06 34 31.0	+0.3
	0.3nm,1.0s,mb3.3,baz=302,slow=7.0,SNR=5.6						
PDAR	Pinedale Array	77.62	46	P	P	06 35 55.1	+1.6
	0.3nm,0.8s,mb3.3,baz=333,slow=3.3,SNR=3.6						
PV10	Paradox Valley	80.69	49	eP	P	06 36 13.0	+2.8
PV10				e	pP	06 36 21.4	+4.4
PV01	Paradox Valley	81.13	49	eP	P	06 36 11.3	-1.2
TXAR	Lajitas Array	89.99	53	P	P	06 36 59.5	+2.8
	0.3nm,1.0s,mb3.6,baz=307,slow=4.5,SNR=2.3						
TXAR	Lajitas Array	89.99	53	P	P	06 36 59.5	+2.8
LPAZ	La Paz	146.47	61	PKPbc	PKPbc	06 43 41.2	+4.0
	0.7nm,0.5s,baz=295,slow=3.8,SNR=3.5						

*CSEM **10** 07:12:49.3, 33.55N×46.33E, h19km, ML3.2, After TEH*

TEH 10 07:12:49.3, 33.55N×46.33E, h19km, Mn3.2, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	Ghaleghazi	0.80	14	Pg	Pb	07 13 03.4	-1.0
IVIS	Veys	1.07	24	Pg	Pb	07 13 07.7	-1.2
IDHR	Dehrash	1.15	2	Pg	Pb	07 13 10.1	-0.2
IKOM	Komasi	1.17	57	Pg	Pb	07 13 10.5	-0.2
IRAZ	Razeghan	3.50	57	Pn	Pn	07 13 43.3	-0.8
IRAZ	Razeghan	3.50	57	Lg		07 14 38.6	
MSL	Mosul	3.81	317	ePn	Pn	07 13 54.0	+5.5
MSL				eSn	Sn	07 14 39.0	+5.7
MSL				i Sb	Sb	07 14 46.5	+4.6
MSL				i Sg	Sn	07 14 56.5	+23
IQOM	Qom	4.14	71	Pn	Pn	07 13 50.9	-2.2
IAFJ	Afjeh	5.00	61	Lg		07 15 25.0	
IAFJ	Afjeh	5.00	61	Pn	Pn	07 14 18.8	+14
IDMV	Damavand	5.12	65	Pn	Pn	07 14 04.3	-2.8
IFIR	Firoozkooh	5.70	67	Pn	Pn	07 14 12.2	-2.9

*IDC **10** 07:12:56.8±0.7, 13.09N×144.63E, mb4.0/8, mb1 4.3/8, mb1mx4.2/17, mbtmp4.0/8, MS3.6/6, Ms1 3.6/6, ms1mx3.2/22, Error ellipse: s-maj=39.6km s-min=17.4km az=96.0*
*NEIC **10** 07:13:04.2±1.1, 13.03N×144.64E, h58km±11km, mb4.6/1, Error ellipse: s-maj=28.4km s-min=10.5km az=100.0*

ISC 10 07:13:03.1±0.9, 13.00N±0.09×144.7E±0.3, h64km±10km, n16, σ0°53/13, mb4.1/10, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.61	15	⇓iPg	P	07 13 17.1	+0.3
GUMO				eSg	S	07 13 26.5	-0.2
PMG	Port Moresby	22.39	174	LR	LR	07 26 28.2	
	comp=Z,74nm,18.3s,baz=258,slow=36						
WRAB	Tennant Creek	34.28	197	eP	P	07 19 45.0	-0.4
	9.9nm,0.8s,mb4.8						
WB2	Warramunga Arr	34.28	197	eP	P	07 19 45.7	+0.2
WRA	Warramunga Arr	34.29	197	P	P	07 19 44.9	-0.6
	5.7nm,0.8s,mb4.6,baz=19,slow=9.5,SNR=19						
WRA				PcP	PcP	07 22 22.9	+2.2
	0.7nm,0.8s,baz=2.5,slow=3.1,SNR=6.1						
ASAR	Alice Springs	37.94	196	P	P	07 20 16.5	+0.2
	1.1nm,0.6s,mb3.7,baz=19,slow=12,SNR=12						
ASAR				PcP	PcP	07 22 33.6	+2.0
	1.1nm,0.8s,baz=16,slow=4.5,SNR=5.7						
MBWA	Marble Bar	41.88	216	eP	P	07 20 49.7	+0.7
	6.0nm,0.6s,mb4.4						
CMAR	Chiang Mai Arr	44.29	283	LR	LR	07 39 16.1	
	comp=Z,38nm,21.0s,baz=148,slow=36						
STKA	Stephens Creek	44.72	184	P	P	07 21 11.7	-0.2
	1.8nm,0.8s,mb4.0,baz=349,slow=11,SNR=3.8						
STKA				LR	LR	07 39 29.6	
	comp=Z,54nm,19.6s,baz=25,slow=36						
SONM	Songino Array	47.12	325	P	P	07 21 30.9	+0.3
	0.3nm,0.8s,mb3.2,baz=146,slow=10,SNR=2.7						
ILAR	Eielson Array	69.16	25	P	P	07 24 03.9	-0.7
	1.1nm,0.5s,mb4.0,baz=263,slow=5.9,SNR=27						
BVAR	Borovoye Array	70.29	322	P	P	07 24 11.1	-0.4
	0.8nm,0.6s,mb3.8,baz=90,slow=10,SNR=4.4						
YKA	Yellowknife Ar	83.45	27	P	P	07 25 26.0	+1.3
	0.9nm,0.6s,mb4.0,baz=288,slow=5.5,SNR=26						
FINES	FINESS Array B	91.63	335	P	P	07 26 03.7	-0.4
	3.6nm,1.1s,mb4.6,baz=90,slow=4.2,SNR=2.6						
FINES				LR	LR	08 11 23.7	
	comp=Z,73nm,18.8s,baz=330,slow=38						
DBIC	Dimbokro	144.00	301	PKP	PKPdf	07 32 32.4	0.0
	1.4nm,0.5s,baz=52,slow=12,SNR=3.8						
LPAZ	La Paz	148.08	100	PKPbc	PKPdf	07 32 46.8	+7.6
	3.2nm,0.8s,baz=187,slow=0.9,SNR=11						

IDC 10 07:18:21.9±27.0, 22.00S×172.86W, mb4.1/4, mb1 4.3/4, mb1mx3.9/15, mbtmp4.1/4, MS4.1/3, Ms1 4.1/3, ms1mx3.2/25, Error ellipse: s-maj=505.4km s-min=158.6km az=76.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	38.13	265	P	P	07 25 43.8	-0.9
	3.4nm,0.4s,baz=101,slow=9.8,SNR=7.7						
STKA	Stephens Creek	41.52	246	P	P	07 26 10.3	-2.4
	1.1nm,0.7s,baz=94,slow=12,SNR=4.4						
ASAR	Alice Springs	48.86	257	P	P	07 27 09.1	-2.3
	0.8nm,0.4s,baz=97,slow=7.2,SNR=8.6						
WRA	Warramunga Arr	49.15	262	P	P	07 27 12.1	-1.7
	1.5nm,0.3s,baz=97,slow=8.3,SNR=17						
JOW	Kunigami	74.83	308	LR	LR	08 01 58.9	
	comp=Z,56nm,18.1s,baz=108,slow=35						
TXAR	Lajitas Array	83.89	55	LR	LR	08 00 12.9	
	comp=Z,364nm,21.3s,baz=75,slow=30						
PDAR	Pinedale Array	86.84	41	LR	LR	08 05 42.1	
	comp=Z,38nm,18.3s,baz=93,slow=33						

*IDC **10** 07:43:55.0±1.4, 12.93N×145.31E, mb3.5/4, mb1 3.8/4, mb1mx3.6/14, mbtmp3.5/4, Error ellipse: s-maj=239.1km s-min=22.6km az=111.0*
*NEIC **10** 07:43:57.1±0.8, 12.81N×145.42E, h10km, mb4.3/1, Error ellipse: s-maj=25.5km s-min=14.3km az=79.0*

ISC 10 07:43:58.7±0.8, 12.85N±0.09×145.3E±0.2, h33km, n7, σ1°23/8, mb3.6/5, 1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.82	333	⇓iPg	P	07 44 15.2	+1.4
GUMO				eSg	S	07 44 24.1	-0.8
WRA	Warramunga Arr	34.31	198	P	P	07 50 43.6	-0.8
	1.2nm,1.0s,mb3.8,baz=23,slow=9.7,SNR=5.7						
ASAR	Alice Springs	37.95	197	P	P	07 51 15.7	+0.5
	0.3nm,0.6s,mb3.2,baz=21,slow=7.7,SNR=4.2						
COLA	College	68.70	25	eP	P	07 54 59.6	-1.1
ILAR	Eielson Array	69.07	25	P	P	07 55 01.4	-1.7
	0.4nm,0.5s,mb3.6,baz=250,slow=6.2,SNR=11						
INK	Inuvik	74.90	22	eP	P	07 55 39.8	+2.2
	3.4nm,1.1s,mb4.2						
YKA	Yellowknife Ar	83.34	27	P	P	07 56 24.1	+0.7
	0.2nm,0.7s,mb3.3,baz=289,slow=5.2,SNR=5.9						

*LDG **10** 07:58:02.5±0.1, 48.32N×6.65E, h12km, Md2.8/3, Ml2.8/10, Error ellipse: s-maj=1.4km s-min=1.0km az=168.0*
*CSEM **10** 07:58:02.1±0.1, 48.33N×6.67E, h12km, ML2.8/10, Error ellipse: s-maj=1.5km s-min=1.1km az=170.0*
*BGR **10** 07:58:02.1±0.3, 48.35N×6.64E, h10km, ML1.8/1, Error ellipse: s-maj=2.2km s-min=2.2km az=94.0*
*NEIC **10** 07:58:02.5, 48.32N×6.65E, h12km, ML2.8(LDG), ML2.4(STR), After LDG.*

ISC 10 07:58:00.3±0.2, 48.33N±0.02×6.61E±0.02, h12km, n48, σ1°24/95, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAU	Haudompre	0.37	208	ePg	Pg	07 58 09.7	+1.7
HAU				eSg	Sg	07 58 14.6	+1.4
	64nm,0.2s						
ECH	Echery	0.39	108	ePg	Pg	07 58 09.3	+1.0
	SNR=8.9						
ECH				eSg	Sg	07 58 14.0	+0.4
	SNR=15						
THEF	They Montfort	0.43	256	ePg	Pg	07 58 10.7	+1.6
	SNR=19						
THEF				eSg	Sg	07 58 16.5	+1.5
	SNR=7.4						
THEF	They Montfort	0.43	256	Pg	Pg	07 58 10.7	+1.6
THEF				Sg	Sg	07 58 16.5	+1.5
CDF	Champ du Feu	0.45	80	ePg	Pg	07 58 10.3	+0.7
CDF				eSg	Sg	07 58 16.0	+0.2
	92nm,0.3s						
WLS	Welschbruch	0.50	81	ePg	Pg	07 58 11.4	+0.8
	SNR=16						
WLS				eSg	Sg	07 58 17.6	+0.2
	SNR=14						
WLS	Welschbruch	0.50	81	Pg	Pg	07 58 11.3	+0.8
HINF	Hinteralfeld	0.54	162	ePg	Pg	07 58 12.4	+1.1
HINF				ePn	Pn	07 58 14.0	+0.6
HINF				eSg	Sg	07 58 19.4	+0.7
HINF				eSn	Sn	07 58 22.3	-0.1
	80nm,0.2s						
MOF	Molkenrain	0.60	144	ePg	Pg	07 58 13.9	+1.5
	SNR=3.8						
MOF				eSg	Sg	07 58 21.2	+0.7
	SNR=7.0						
MOF	Molkenrain	0.60	144	Pg	Pg	07 58 13.8	+1.4
LIBD	Limburg	0.69	105	eSg	Sg	07 58 23.8	+0.3
	SNR=2.5						
LIBD	Limburg	0.69	105	Pg	Pg	07 58 14.7	+0.5
RFYF	Reffroy	0.81	292	ePg	Pg	07 58 18.5	+1.9
	baz=114						
RFYF				ePn	Pn	07 58 18.8	+1.5
RFYF				eSg	Sg	07 58 29.9	+2.4
	60nm,0.2s,baz=114						
RFYF	Reffroy	0.81	292	ePn	Pn	07 58 18.8	+1.5
RFYF				eSg	Sg	07 58 29.9	+2.4
	30nm,0.2s,baz=114						
LOMF	Lomont	0.99	171	ePg	Pg	07 58 21.2	+0.9
	SNR=11						
LOMF				eSg	Sg	07 58 34.3	+0.7
	SNR=15						
LOMF	Lomont	0.99	171	Pg	Pg	07 58 20.8	+0.6
LOMF				Sg	Sg	07 58 34.8	+1.2
LANF	Langenberg	1.02	50	Pg	Pg	07 58 20.4	-0.4
FELD	Feldberg	1.04	116	ePg	Pg	07 58 21.4	+0.3
	SNR=2.9						
FELD				eSg	Sg	07 58 34.9	-0.2
	SNR=6.0						
FELD	Feldberg	1.04	116	Pg	Pg	07 58 21.1	-0.1
FELD				Sg	Sg	07 58 34.7	-0.4
MEZF	Maizieres J'vi	1.05	280	ePn	Pn	07 58 22.4	+1.7
MEZF				eSn	Sn	07 58 36.4	+1.1
MEZF				eSg	Sg	07 58 37.7	+2.3
	52nm,0.3s						
SFTF	Sexfontaines	1.06	264	ePn	Pn	07 58 22.1	+1.3
	baz=86						
SFTF				ePg	Pg	07 58 22.7	+1.2
SFTF				eSn	Sn	07 58 36.3	+0.9
SFTF				eSg	Sg	07 58 37.2	+1.6
	51nm,0.2s						
SFTF	Sexfontaines	1.06	264	ePg	Pg	07 58 22.7	+1.2
SFTF				eSn	Sn	07 58 36.3	+0.9
SFTF				eSg	Sg	07 58 37.2	+1.6
	25nm,0.2s						
BBS	Basel-Blauen	1.06	145	eSg	Sg	07 58 35.8	0.0
	SNR=4.7						
BBS	Basel-Blauen	1.06	145	Pg	Pg	07 58 22.4	+0.9
BBS				Sg	Sg	07 58 36.2	+0.5
BFO	Black Forest	1.15	90	ePn	Pn	07 58 22.2	+0.1
	SNR=6.8						
BFO				eSg	Sg	07 58 37.8	-0.9
	SNR=7.5						
BFO	Black Forest	1.15	90	ePg	Pg	07 58 22.2	-1.1
BFO				eSg	Sg	07 58 37.9	-0.8
KTD	Kalmit	1.39	44	ePg	Pg	07 58 27.9	-0.1
	SNR=3.7						
KTD				eSg	Sg	07 58 45.9	-0.7
	SNR=5.2						
KTD	Kalmit	1.39	44	Pg	Pg	07 58 27.7	-0.4
RUP	Ruppelstein	1.40	12	ePg	Pg	07 58

ORIF	**Oris-en-Rattie**	**3.45 189**	*e*Pn	**Pn**	**07 58 54.6**	**-0.4**
MBDF	**Montbardon**	**3.61 178**	*e*Pn	**Pn**	**07 58 56.4**	**-0.8**
TCF	**Toulx Ste Croi**	**3.62 237**	*e*Pn	**Pn**	**07 58 57.0**	**-0.5**
VIVF	**Saint-Julien-l**	**3.73 202**	*e*Pn	**Pn**	**07 58 57.6**	**-1.3**
VIVF			*e*Sg	**Sg**	**07 59 58.9**	**-5.4**
	3.5nm,0.3s					
CAF	**Calviac**	**4.63 224**	*e*Pn	**Pn**	**07 59 10.4**	**-1.3**
CAF			*e*Pg	**Pg**	**07 59 28.2**	**-4.5**
LASF	**Ste Croix**	**4.67 205**	*e*Pn	**Pn**	**07 59 10.0**	**-2.3**
LASF			*e*Pg	**Pg**	**07 59 28.7**	**-4.8**

NIED ***10*** *08:01:00, 42.40N×145.50E, h23km, Mw4.0 Best double couple: M₀1.14×10¹⁵ NP1:φs225°, δ46°, λ90°. NP2:φs45°, δ44°, λ90°.*
MOS ***10*** *08:01:53.2±1.3, 42.26N×145.57E, h33km, mb4.8/4, Error ellipse: s-maj=20.9km s-min=11.1km az=79.4*
JMA ***10*** *08:01:55.4±0.1, 42.41N×145.50E, h41km±2km, M4.0*
IDC ***10*** *08:01:59.7±5.4, 42.37N×145.36E, h64km±36km, mb3.8/12, mb1 4.0/13, mb1mx3.8/21, mbtmp4.1/13, ML3.7/1, MS3.2/1, Ms1 3.3/1, ms1mx2.2/28, Error ellipse: s-maj=53.9km s-min=18.1km az=180.0*
NEIC ***10*** *08:01:59.4±2.3, 42.26N×145.28E, h68km±23km, mb4.4/3, Error ellipse: s-maj=19.8km s-min=15.1km az=159.0*

ISC 10 08:01:54.8±0.5, 42.38N±0.04×145.53E±0.05, h33km, n38, σ1§05/46, mb4.1/15, MS3.2/1, 1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.87**	**315**	P	**P**	**08 02 10.9**	**+0.3**
JAK				*e*S	**S**	**08 02 22.8**	**+0.5**
NEM2	**Nemuro 2**	**1.00**	**9**	P	**P**	**08 02 13.1**	**+0.6**
NEM2				*e*S	**S**	**08 02 26.1**	**+0.5**
JNK	**Nakash**	**1.35**	**334**	P	**P**	**08 02 17.0**	**-0.4**
JNK				*e*S	**S**	**08 02 33.5**	**-0.8**
JOB	**Onbets**	**1.36**	**293**	P	**P**	**08 02 18.2**	**+0.6**
JRA	**Rausu**	**1.59**	**349**	P	**P**	**08 02 21.4**	**+0.5**
JRA				*e*S	**S**	**08 02 40.6**	**+0.1**
JAR	**Ashorobuto**	**1.59**	**306**	P	**P**	**08 02 20.9**	**0.0**
JAR				*e*S	**S**	**08 02 40.6**	**+0.1**
JCH	**Churui**	**1.62**	**279**	P	**P**	**08 02 22.0**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**1.67**	**8**	||*e*PN	**Pn**	**08 02 21.5**	**-0.8**
YUK				*i* S	**S**	**08 02 41.6**	**-1.0**
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				pmax	pmax		
	comp=N,210nm,0.4s						
YUK				pmax	pmax		
	comp=Z,850nm,0.4s						
YUK				pmax	pmax		
	comp=E,220nm,0.3s						
YUK				smax			
	comp=N,14μm,0.6s						
YUK				smax			
	comp=E,3μm,0.6s						
YUK				smax			
	comp=N,5μm,0.5s						
YUK				smax			
	comp=E,1μm,0.4s						
ASAJ	**Asahikawa**	**2.76**	**310**	PN	**Pn**	**08 02 38.6**	**+0.8**
ASAJ				S	**S**	**08 03 12.9**	**+2.7**
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ASAJ	**Asahikawa**	**2.76**	**310**	P	**Pn**	**08 02 38.6**	**+0.8**
	comp=Z,10nm,0.3s,baz=177,slow=17,SNR=26						
ASAJ				S	**S**	**08 03 12.9**	**+2.7**
	comp=Z,20nm,0.3s,baz=8.0,slow=16,SNR=9.3						
KUR	**Kuril'sk**	**3.32**	**30**	*e*PN	**Pn**	**08 02 43.5**	**-2.2**
KUR				*e*S	**S**	**08 03 24.0**	**-0.4**
KUR				pmax	pmax		
	comp=Z,170nm,0.7s						
KUR				smax			
	comp=N,260nm,0.7s						
KUR				smax			
	comp=E,170nm,0.7s						
MAJO	**Matsushiro**	**8.12**	**227**	PN	**P**	**08 03 52.1**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MAJO	**Matsushiro**	**8.12**	**227**	P	**P**	**08 03 52.1**	**-1.1**
	comp=Z,2.0nm,0.4s						
FX1	**Attu Island--F**	**21.25**	**51**	P	**P**	**08 06 40.8**	**+0.8**
FX1				pmax	pmax		
	comp=Z,14nm,0.6s						
FX1	**Attu Island--F**	**21.25**	**51**	P	**P**	**08 06 40.8**	**+0.8**
	comp=Z,14nm,0.6s,mb4.5,baz=87,slow=13,SNR=2.7						
SONM	**Songino Array**	**27.94**	**295**	P	**P**	**08 07 42.3**	**-1.6**
	comp=Z,2.2nm,0.8s,mb3.8,baz=77,slow=7.1,SNR=17						
ZAK	**Zakamensk**	**29.89**	**300**	*e*P	**P**	**08 08 00.7**	**-0.5**
IMA	**Indian Mountai**	**40.48**	**33**	*e*P	**P**	**08 09 32.8**	**+1.2**
IMA				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.1						
IMA	**Indian Mountai**	**40.48**	**33**	*e*P	**P**	**08 09 32.8**	**+1.2**
	comp=Z,30nm,0.7s,mb5.1						
ILAR	**Eielson Array**	**43.29**	**35**	P	**P**	**08 09 53.5**	**-1.0**
	comp=Z,0.9nm,0.7s,mb3.6,baz=263,slow=5.3,SNR=22						
ILAR				LR	LR	08 27 06.2	
	comp=Z,26nm,18.9s,MS3.2,baz=172,slow=35						
INK	**Inuvik**	**48.18**	**30**	*e*P	**P**	**08 10 33.5**	**+0.2**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**48.18**	**30**	P	**P**	**08 10 33.4**	**0.0**
	comp=Z,3.2nm,0.7s,mb4.5,baz=303,slow=6.3,SNR=6.4						
INK	**Inuvik**	**48.18**	**30**	*e*P	**P**	**08 10 33.5**	**+0.2**
	comp=Z,3.1nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**49.12**	**311**	*e*P	**P**	**08 10 39.5**	**-1.2**
YKA	**Yellowknife Ar**	**57.60**	**33**	P	**P**	**08 11 42.4**	**-0.9**
	comp=Z,0.7nm,0.7s,mb3.8,baz=303,slow=6.9,SNR=18						
WRAB	**Tennant Creek**	**62.85**	**192**	*e*P	**P**	**08 12 15.4**	**-4.4**
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.4						
WRAB	**Tennant Creek**	**62.85**	**192**	*e*P	**P**	**08 12 15.3**	**-4.4**
	comp=Z,1.1nm,0.3s,mb4.5						
FINES	**FINESS Array B**	**65.55**	**333**	P	**P**	**08 12 35.6**	**-1.0**
	comp=Z,4.0nm,0.9s,mb4.5,baz=63,slow=8.5,SNR=9.9						
NVAR	**Mina Array Bea**	**69.32**	**57**	P	**P**	**08 13 01.8**	**+1.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=306,slow=3.8,SNR=5.5						
NOA	**NORSAR Array B**	**70.45**	**338**	P	**P**	**08 13 06.3**	**-0.9**
	comp=Z,1.3nm,1.0s,mb3.8,baz=30,slow=6.9,SNR=2.5						
BW06	**Boulder Array**	**71.70**	**49**	*e*P	**P**	**08 13 15.6**	**+0.6**
	comp=Z,1.9nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**71.70**	**49**	P	**P**	**08 13 16.1**	**+1.2**
	comp=Z,1.2nm,0.7s,mb4.0,baz=269,slow=2.1,SNR=13						
PV10	**Paradox Valley**	**74.92**	**52**	*e*P	**P**	**08 13 35.4**	**+1.5**
BRTR	**Keskin Array B**	**77.62**	**313**	P	**P**	**08 13 47.0**	**-2.2**
	comp=Z,0.3nm,0.4s,mb3.6,baz=72,slow=4.6,SNR=2.5						
SCHQ	**Schefferville**	**79.30**	**18**	P	**P**	**08 13 58.9**	**+0.9**
	comp=Z,2.6nm,0.8s,mb4.2,baz=350,slow=6.1,SNR=3.0						
SCHQ	**Schefferville**	**79.30**	**18**	P	**P**	**08 13 58.9**	**+0.9**
TXAR	**Lajitas Array**	**84.40**	**55**	P	**P**	**08 14 27.0**	**+1.9**
	comp=Z,0.6nm,0.7s,mb3.8,baz=294,slow=3.7,SNR=11						
BDFB	**Brasilia**	**150.92**	**28**	PKPbc	PKPdf	08 21 46.5	+8.0
	comp=Z,2.2nm,0.7s,baz=14,slow=4.2,SNR=3.8						

IDC 10 08:24:14.3±9.4, 17.07S×178.80E, mb3.8/4, mb1 4.0/4, mb1mx3.7/13, mbtmp3.8/4, Error ellipse: s-maj=217.3km s-min=42.6km az=32.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.73**	**239**	P	P	08 31 23.2	-2.0
	1.1nm,1.0s,baz=78,slow=9.3,SNR=3.8						
WRA	**Warramunga Arr**	**42.17**	**259**	P	P	08 32 09.2	-1.4
	0.3nm,0.3s,baz=90,slow=8.0,SNR=6.7						
ASAR	**Alice Springs**	**42.47**	**253**	P	P	08 32 11.2	-1.8
	1.8nm,0.5s,baz=88,slow=8.6,SNR=39						
VNDA	**Vanda**	**61.07**	**184**	P	P	08 34 29.5	-2.4
	0.6nm,0.4s,baz=21,slow=8.6,SNR=2.4						

IDC 10 08:31:08.2±35.0, 15.64S×173.24W, h24km±6km, mb4.1/3, mb1 4.3/3, mb1mx3.7/15, mbtmp4.3/3, Error ellipse: s-maj=670.9km s-min=128.8km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.05**	**240**	P	P	08 39 15.1	-1.1
	2.4nm,0.7s,baz=87,slow=11,SNR=12						
STKA				pP	pP	08 39 21.9	-1.4
	1.3nm,0.5s,baz=77,slow=9.4,SNR=2.9						
WRA	**Warramunga Arr**	**49.94**	**257**	P	P	08 40 00.0	-2.6
	0.5nm,0.3s,baz=97,slow=7.3,SNR=8.0						
WRA				pP	pP	08 40 07.5	-2.3
	0.6nm,0.6s,baz=94,slow=7.0,SNR=2.7						
ASAR	**Alice Springs**	**50.18**	**252**	P	P	08 40 02.1	-2.4
	5.3nm,0.4s,baz=89,slow=7.9,SNR=140						
ASAR				pP	pP	08 40 09.8	-1.9
	4.1nm,0.5s,baz=89,slow=8.0,SNR=16						

IDC ***10*** *09:10:24.9±3.7, 58.95N×155.96W, h159km±32km, mb3.5/4, mb1 3.7/8, mb1mx3.4/21, mbtmp4.1/8, MS3.0/1, Ms1 3.0/1, ms1mx2.0/21, Error ellipse: s-maj=36.2km s-min=18.6km az=178.0*
NEIC ***10*** *09:10:24.5, 58.49N×155.72W, h153km, mb3.8/1, After AEIC.*

ISC 10 09:10:21.6±0.3, 58.51N±0.05×155.71W±0.08, h168km±4km, n73, σ1§02/85, mb3.8/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAIC	**Katmai Ikaglui**	**0.35**	**94**	P	**P**	**09 10 44.9**	**0.0**
KAHC	**Katmai Hardscr**	**0.39**	**69**	P	**P**	**09 10 45.0**	**0.0**
KAHC				S	**S**	**09 11 01.6**	**-1.4**
KAWH	**Katmai**	**0.50**	**105**	P	**P**	**09 10 45.3**	**-0.1**
KAPH	**Katmai Pasha**	**0.72**	**83**	P	**P**	**09 10 47.0**	**+0.6**
KAPH				S	**S**	**09 11 04.8**	**-0.8**
MCNL	**McNeil River**	**0.98**	**46**	P	**P**	**09 10 48.8**	**+0.7**
MCNL				S	**S**	**09 11 07.6**	**-0.9**
AUI	**Augustine Isla**	**1.44**	**54**	P	**P**	**09 10 53.4**	**+1.0**
AUI				S	**S**	**09 11 15.5**	**-0.6**
AUW	**Augustine West**	**1.44**	**53**	P	**P**	**09 10 53.6**	**+1.2**
AUE	**Augustine Isla**	**1.48**	**54**	P	**P**	**09 10 54.0**	**+1.2**
OPT	**Oil Point**	**1.72**	**47**	P	**P**	**09 10 56.5**	**+1.3**
SYI	**Shuyak Island**	**1.74**	**85**	P	**P**	**09 10 56.2**	**+0.8**
KDAK	**Kodiak Island**	**1.81**	**113**	P	**P**	**09 10 56.0**	**-0.1**
KDAK				S	**S**	**09 11 21.1**	**-1.7**
ILW	**Iliamna West**	**2.04**	**39**	P	**P**	**09 10 59.6**	**+0.9**
INE	**Iliamna NE**	**2.06**	**40**	P	**P**	**09 10 59.3**	**+0.4**
ILIM	**Iliamna**	**2.11**	**41**	P	**P**	**09 11 00.7**	**+1.2**
ANPK	**Aniakchak Peak**	**2.12**	**219**	P	**P**	**09 10 59.6**	**0.0**
RSO	**Redoubt South**	**2.47**	**36**	*i* P	**P**	**09 11 04.9**	**+1.1**
NCT	**North Crescent**	**2.50**	**33**	P	**P**	**09 11 05.1**	**+1.0**
CNPM	**China Poot**	**2.53**	**64**	P	**P**	**09 11 05.3**	**+0.8**
DFR	**Drift River**	**2.59**	**35**	P	**P**	**09 11 06.4**	**+1.1**
SVW2	**Sparrevohn**	**2.59**	**1**	P	**P**	**09 11 06.1**	**+0.7**
BRLK	**Bradley Lake**	**2.79**	**61**	P	**P**	**09 11 08.3**	**+0.6**
BRLK				S	**S**	**09 11 41.1**	**-1.9**
CKN	**Chakachatna No**	**3.25**	**32**	P	**P**	**09 11 15.1**	**+1.6**
SPU	**Mount Spurr**	**3.25**	**33**	*e*P	**P**	**09 11 14.1**	**+0.6**
SLKM	**Skilak Lake**	**3.44**	**52**	P	**P**	**09 11 16.6**	**+0.7**
STLK	**Strandline Lak**	**3.57**	**31**	P	**P**	**09 11 18.6**	**+1.0**
SEW	**Seward**	**3.58**	**61**	P	**P**	**09 11 18.9**	**+1.1**
SEW				S	**S**	**09 11 58.0**	**-2.9**
MPA	**Moose Pass**	**3.79**	**56**	P	**P**	**09 11 21.2**	**+0.8**
FIB	**Fire Island**	**3.86**	**44**	P	**P**	**09 11 22.3**	**+1.1**
RC01	**Rabbit Creek A**	**3.97**	**47**	P	**P**	**09 11 22.9**	**+0.1**
RC01				S	**S**	**09 12 06.9**	**-2.9**
PWA	**Palmer West**	**4.29**	**40**	P	**P**	**09 11 26.7**	**-0.2**
TT01	**Tatalina**	**4.41**	**358**	P	**P**	**09 11 29.3**	**+0.8**
PMR	**Palmer**	**4.52**	**44**	P	**P**	**09 11 28.9**	**-1.0**
HAG	**Hague Volcano**	**4.67**	**229**	P	**P**	**09 11 32.0**	**+0.2**
GHO	**Glory Hole Cre**	**4.71**	**43**	P	**P**	**09 11 31.4**	**-0.9**
CUT	**Chulitna**	**4.74**	**32**	P	**P**	**09 11 32.8**	**0.0**
DOL	**Dolgoi Island**	**4.77**	**228**	P	**P**	**09 11 32.7**	**-0.5**
MID	**Middleton Isla**	**4.94**	**75**	*e*P	**P**	**09 11 36.6**	**+1.3**
SML	**Sawmill**	**4.95**	**45**	P	**P**	**09 11 34.4**	**-1.0**
SML				S	**S**	**09 12 28.9**	**-3.6**
SCM	**Sheep Creek Mo**	**5.35**	**48**	P	**P**	**09 11 40.0**	**-0.6**
EYAK	**Cordova Ski Ar**	**5.47**	**64**	P	**P**	**09 11 42.4**	**+0.2**
KTH	**Kantishna Hill**	**5.56**	**23**	P	**P**	**09 11 43.2**	**-0.3**
FALS	**False Pass**	**5.61**	**232**	P	**P**	**09 11 43.8**	**-0.3**
TRF	**Thorofare Moun**	**5.61**	**26**	P	**P**	**09 11 44.0**	**-0.2**
DIV	**Divide**	**5.66**	**58**	P	**P**	**09 11 45.4**	**+0.7**
MCK	**McKinley**	**6.18**	**29**	P	**P**	**09 11 50.4**	**-1.2**
GCSA	**Galena City Sc**	**6.28**	**355**	P	**P**	**09 11 53.7**	**+0.6**
WESE	**West Dahl East**	**6.37**	**234**	P	**P**	**09 11 54.6**	**+0.4**
BWN	**Browne**	**6.42**	**25**	P	**P**	**09 11 54.2**	**-0.7**
GLB	**Gilahina Butte**	**6.65**	**59**	P	**P**	**09 11 58.5**	**+0.5**
PAX	**Paxson**	**6.72**	**44**	P	**P**	**09 11 58.2**	**-0.6**
AKLV	**Akutan Long Va**	**7.17**	**237**	P	**P**	**09 12 04.6**	**-0.2**
CCB	**Clear Creek Bu**	**7.21**	**28**	P	**P**	**09 12 03.5**	**-2.0**
MENT	**Mentasta**	**7.36**	**48**	*e*P	**P**	**09 12 08.0**	**+0.6**
MDM	**Murphy Dome**	**7.37**	**26**	P	**P**	**09 12 05.7**	**-1.9**
COLA	**College**	**7.39**	**27**	P	**P**	**09 12 06.1**	**-1.7**
ILAR	**Eielson Array**	**7.55**	**30**	P	**P**	**09 12 07.7**	**-2.2**
	2.1nm,0.3s,baz=222,slow=13,SNR=117						
ILAR				S	**S**	**09 13 29.4**	**-4.9**
	1.8nm,0.3s,baz=220,slow=22,SNR=13						
IL1	**Eielson Array**	**7.55**	**30**	P	**P**	**09 12 07.5**	**-2.4**
IM3	**Indian Mountai**	**7.55**	**6**	P	**P**	**09 12 10.6**	**+0.6**
UNV	**Unalaska Valle**	**7.62**	**237**	P	**P**	**09 12 09.6**	**-1.3**
IMA	**Indian Mountai**	**7.64**	**6**	*e*P	**P**	**09 12 12.3**	**+1.2**
MSW	**Makushin Switc**	**7.70**	**238**	P	**P**	**09 12 11.1**	**-0.8**
BCA3	**Beaver Creek A**	**8.19**	**50**	P	**P**	**09 12 19.0**	**+0.6**
COLD	**Coldfoot**	**9.10**	**14**	P	**P**	**09 12 28.8**	**-1.5**
DAWY	**Dawson**	**9.61**	**48**	*e*P	**P**	**09 12 37.4**	**+0.6**
DLBC	**Dease Lake**	**13.41**	**79**	P	**P**	**09 13 31.4**	**+5.4**
	1.2nm,0.3s,baz=266,slow=12,SNR=42						
DLBC				S	**S**	**09 15 57.4**	**+5.9**
	0.2nm,0.3s,baz=95,slow=26,SNR=2.5						
DLBC	**Dease Lake**	**13.41**	**79**	*e*P	**P**	**09 13 32.1**	**+6.1**
INK	**Inuvik**	**13.87**	**36**	P	**P**	**09 13 30.1**	**-1.4**
	0.6nm,0.3s,baz=224,slow=12,SNR=9.0						
INK				S	**S**	**09 16 09.2**	**+7.5**
	0.2nm,0.3s,baz=27,slow=27,SNR=7.6						
INK				LR	LR	09 19 16.4	
	comp=Z,57nm,19.0s,baz=226,slow=39						
INK	**Inuvik**	**13.87**	**36**	*e*P	**P**	**09 13 30.5**	**-1.0**
	1.8nm,0.4s						
FX1	**Attu Island--F**	**18.31**	**266**	P	**P**	**09 14 24.6**	**-0.4**
	1.0nm,0.3s,baz=58,slow=15,SNR=3.4						
YKA	**Yellowknife Ar**	**20.36**	**61**	P	**P**	**09 14 47.6**	**+1.4**
	1.7nm,0.6s,baz=278,slow=9.9,SNR=55						
YKA				PcP	PcP	09 18 52.8	+0.1
	0.1nm,0.4s,baz=283,slow=1.7,SNR=4.9						
SCHQ	**Schefferville**	**45.56**	**54**	P	**P**	**09 18 26.2**	**+0.6**
	2.8nm,1.0s,mb3.9,baz=333,slow=11,SNR=2.0						
SONM	**Songino Array**	**54.52**	**305**	P	**P**	**09 19 33.9**	**+0.3**
	1.4nm,0.5s,mb4.0,baz=43,slow=6.6,SNR=16						
BVAR	**Borovoye Array**	**62.71**	**331**	P	**P**	**09 20 29.5**	**-0.8**
	0.9nm,0.8s,mb3.7,baz=27,slow=6.6,SNR=4.0						

IDC ***10*** *09:12:23.9±1.0, 7.60N×94.04E, h17km±5km, mb3.8/6, mb1 4.0/7, mb1mx3.8/16, mbtmp3.9/7, Error ellipse: s-maj=45.9km s-min=17.5km az=52.0*
NEIC ***10*** *09:12:23.9±0.7, 7.59N×93.93E, mb4.0/3, Error ellipse: s-maj=22.7km s-min=12.0km az=65.0*

ISC 10 09:12:22.4±0.9, 7.6N±0.1×94.1E±0.2, h18km, h18km±1.5km: pP-P, n18, σ0§88/18, mb4.1/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.78**	**23**	Pn	**P**	**09 15 11.4**	**-1.2**
	baz=215,slow=14,SNR=3.0						
JIRN	**Jiri**	**21.31**	**340**	*e*P	**P**	**09 17 10.7**	**+0.2**
	24nm,1.0s,mb4.5						
PKI	**Pulchoki**	**21.50**	**339**	*e*P	**P**	**09 17 13.2**	**+0.8**
	7.8nm,0.5s,mb4.3						
DMN	**Daman**	**21.64**	**338**	*e*P	**P**	**09 17 15.1**	**+1.2**
GUN	**Gumba**	**21.64**	**340**	*e*P	**P**	**09 17 14.0**	**+0.1**
	14nm,0.6s,mb4.5						
KKN	**Kakani**	**21.74**	**339**	*e*P	**P**	**09 17 15.4**	**+0.5**
LSA	**Lhasa**	**22.16**	**353**	P	**P**	**09 17 18.4**	**-0.6**
	5.8nm,0.6s,mb4.2						
GKN	**Gorkha**	**22.18**	**337**	*e*P	**P**	**09 17 19.3**	**+0.1**
KOLN	**Koldanda**	**22.39**	**335**	*e*P	**P**	**09 17 21.1**	**-0.2**
	5.4nm,0.3s,mb4.4						
SONM	**Songino Array**	**41.44**	**13**	P	**P**	**09 20 09.9**	**+0.3**
	0.4nm,0.4s,mb3.4,baz=197,slow=9.0,SNR=8.0						
ULN	**Ulaanbaatar**	**41.61**	**13**	P	**P**	**09 20 13.4**	**+2.3**
	1.0nm,0.5s,mb3.7						
WRA	**Warramunga Arr**	**48.14**	**125**	P	**P**	**09 21 04.0**	**+0.2**
	0.8nm,0.5s,mb4.0,baz=304,slow=8.8,SNR=6.9						
ASAR	**Alice Springs**	**49.78**	**130**	P	**P**	**09 21 16.5**	**+0.2**
	0.8nm,0.6s,mb4.0,baz=304,slow=7.2,SNR=16						
ASAR				pP	pP	09 21 20.9	-0.9
	0.7nm,0.6s,baz=302,slow=7.7,SNR=5.4						
JOF	**Joensuu**	**71.07**	**335**	*e*p	**P**	**09 23 38.8**	**-2.5**
	0.8nm,0.4s,mb4.0						
FINES	**FINESS Array B**	**72.93**	**332**	P	**P**	**09 23 51.6**	**-0.6**
	1.0nm,0.4s,mb4.1,baz=101,slow=7.1,SNR=12						
FINES				pP	pP	09 23 57.7	-0.3
	1.4nm,0.6s,baz=90,slow=9.5,SNR=2.7						
KAF	**Kangasniemi**	**73.01**	**333**	*e*p	**P**	**09 23 52.0**	**-0.8**
	0.7nm,0.4s,mb3.9						
ARCES	**ARCESS Array B**	**75.50**	**340**	P	**P**	**09 24 07.0**	**0.0**
	2.0nm,0.9s,mb4.0,baz=103,slow=5.8,SNR=6.2						
GERES	**GERESS Array B**	**78.00**	**318**	P	**P**	**09 24 21.3**	**-0.1**
	0.5nm,0.4s,mb3.8,baz=90,slow=4.0,SNR=5.7						
GERES				pP	pP	09 24 27.8	+0.7
	1.0nm,0.6s,baz=72,slow=4.2,SNR=3.5						

IDC ***10*** *09:15:33.4±0.8, 6.33N×127.40E, mb4.3/8, mb1 4.5/8, mb1mx4.3/17, mbtmp4.3/8, MS3.1/1, Ms1 3.3/1, ms1mx2.6/26, Error ellipse: s-maj=51.8km s-min=16.6km az=82.0*
NEIC ***10*** *09:15:35.9±0.5, 6.32N×127.36E, h15km, mb4.5/3, Error ellipse: s-maj=31.5km s-min=8.9km az=81.0*
MAN ***10*** *09:15:41.2, 6.26N×126.87E, h1km, mb4.8, ML3.7, MS3.7*

ISC 10 09:15:37.6±2.1, 6.28N±0.08×127.3E±0.2, h41km±21km, n18, σ0§94/21, mb4.1/10, MS3.0/1, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.26**	**301**	*e*P	**P**	**09 15 58.9**	**-0.2**
MATI				*e*S	**S**	**09 16 15.0**	**-0.3**
BIPH	**Bislig**	**2.12**	**333**	*e*P	**P**	**09 16 10.9**	**-0.5**
BIPH				*e*S	**S**	**09 16 33.8**	**-3.0**
BUKP	**Musuan**	**2.76**	**305**	*e*P	**P**	**09 16 22.6**	**+2.1**
BUKP				*e*S	**S**	**09 16 58.6**	**+5.6**
BUTP	**Butuan**	**3.17**	**327**	*e*P	**P**	**09 16 30.3**	**+4.0**
BUTP				*e*S	**S**	**09 17 17.6**	**+14**
WRAB	**Tennant Creek**	**26.95**	**165**	*e*P	**P**	**09 21 16.9**	**-0.7**
	1.6nm,0.5s,mb3.8						
WRA	**Warramunga Arr**	**26.95**	**165**	P	**P**	**09 21 16.5**	**-1.1**
	4.3nm,0.5s,mb4.3,baz=347,slow=10,SNR=23						
CMAR	**Chiang Mai Arr**	**30.21**	**296**	LR	LR	09 34 18.2	
	comp=Z,35nm,20.0s,MS3.0,baz=130,slow=37						
ASAR	**Alice Springs**	**30.45**	**168**	P	**P**	**09 21 48.5**	**-0.4**
	1.4nm,0.5s,mb4.0,baz=354,slow=8.5,SNR=30						
ASAR				PcP	PcP	09 24 47.4	-0.3
	0.8nm,0.6s,baz=343,slow=2.3,SNR=9.2						
ASPA	**Alice Springs**	**30.45**	**168**	*e*P	**P**	**09 21 49.2**	**+0.3**
NWAO	**Narrogin (SRO)**	**40.16**	**193**	P	**P**	**09 23 12.1**	**+0.5**
	7.0nm,0.7s,mb4.5,baz=59,slow=11,SNR=2.7						
STKA	**Stephens Creek**	**40.31**	**161**	||*i* P	**P**	**09 23 13.5**	**+0.7**
	12nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**40.31**	**161**	P	**P**	**09 23 12.8**	**-0.1**
	19nm,0.8s,mb4.9,baz=338,slow=8.2,SNR=63						
SONM	**Songino Array**	**45.10**	**340**	P	**P**	**09 23 50.6**	**-1.1**
	0.3nm,0.8s,mb3.2,baz=146,slow=5.2,SNR=2.6						
BVAR	**Borovoye Array**	**65.54**	**326**	P	**P**	**09 26 18.9**	**-0.3**
	1.9nm,1.0s,mb4.1,baz=108,slow=4.7,SNR=5.9						
ILAR	**Eielson Array**	**82.55**	**26**	P	**P**	**09 27 57.6**	**+0.2**
	0.9nm,0.8s,mb3.9,baz=238,slow=4.6,SNR=8.8						
ILAR				pP	pP	09 28 10.4	+0.6
	0.7nm,0.7s,baz=248,slow=5.0,SNR=7.3						
INK	**Inuvik**	**87.58**	**22**	P	**P**	**09 28 23.0**	**+0.7**
	2.0nm,0.8s,mb4.4,baz=240,slow=6.6,SNR=2.5						
INK	**Inuvik**	**87.58**	**22**	P	**P**	**09 28 23.2**	**+0.9**
	3.5nm,1.0s,mb4.5						
YKA	**Yellowknife Ar**	**96.94**	**24**	P	**P**	**09 29 06.8**	**+1.1**
	0.3nm,0.7s,mb3.8,baz=298,slow=4.1,SNR=7.4						

IDC ***10*** *09:18:18.9±1.3, 52.70N×174.88W, mb3.4/4, mb1 3.8/6, mb1mx3.6/20, mbtmp3.4/6, ML3.5/2, Error ellipse: s-maj=57.7km s-min=11.8km az=179.0*
NEIC ***10*** *09:18:19.1, 51.61N×175.14W, h32km, ML3.3(AEIC), After AEIC.*

ISC 10 09:18:18.3±1.4, 51.7N±0.2×175.15W±0.08, h49km±13km, n16, σ0§50/21, mb3.3/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSIG	**Igitkin Island**	**0.58**	**304**	P	**P**	**09 18 30.4**	**-0.1**
GSIG				S	**S**	**09 18 39.0**	**-0.3**
GSMY	**Great Sitkin M**	**0.68**	**304**	P	**P**

ISC 10 09:36:14.4±0.6,51.47N±0.06×177.98W±0.04,h67km±4km, n225,σ1°08/228,mb4.6/87,5C-1D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.55**	**57**	P	**P**	**09 36 26.1**	**-1.5**
KIWB	**Kanaga Island**	**0.64**	**53**	P	**P**	**09 36 27.7**	**-0.9**
KIKV	**Kanaga Island**	**0.65**	**50**	P	**P**	**09 36 28.0**	**-0.6**
ADAG	**Mount Adagdak**	**1.00**	**58**	P	**P**	**09 36 32.6**	**-0.3**
GSTD	**Great Sitkin T**	**1.28**	**62**	P	**P**	**09 36 36.6**	**-0.2**
GSMY	**Great Sitkin M**	**1.33**	**63**	P	**P**	**09 36 37.0**	**-0.5**
GSTR	**Great Sitkin T**	**1.35**	**61**	P	**P**	**09 36 37.8**	**0.0**
GSIG	**Igitkin Island**	**1.38**	**67**	P	**P**	**09 36 37.2**	**-1.0**
ATKA	**Atka Island**	**2.46**	**71**	P	**P**	**09 36 51.6**	**-1.5**
ATKA				S	**S**	**09 37 23.7**	**+1.6**
SMY	**Shemya**	**5.05**	**288**	P	**P**	**09 37 28.3**	**-1.0**
SMY				S	**S**	**09 38 29.0**	**+2.1**
FX1	**Attu Island--F**	**5.63**	**288**	P	**P**	**09 37 35.3**	**-2.1**
	12nm,0.3s,baz=76,slow=5.3,SNR=23						
FX1				S	**S**	**09 38 43.2**	**+1.7**
	27nm,0.3s,baz=6.6,slow=19,SNR=5.1						
FX1				T		09 42 28.0	
	3.8nm,0.3s,baz=80,slow=9.6,SNR=2.5						
FX1	**Attu Island--F**	**5.63**	**288**	P	**P**	**09 37 36.9**	**-0.5**
NIKO	**Nikolski**	**5.81**	**71**	P	**P**	**09 37 39.7**	**-0.1**
NIKO				S	**S**	**09 38 46.7**	**+0.8**
SPIA	**Saint Paul Isl**	**7.29**	**35**	P	**P**	**09 38 01.3**	**+0.8**
MTBL	**Makushin Table**	**7.31**	**66**	P	**P**	**09 38 01.7**	**+1.0**
UNV	**Unalaska Valle**	**7.38**	**67**	P	**P**	**09 38 01.3**	**-0.3**
AKGG	**Akutan Green G**	**7.76**	**65**	P	**P**	**09 38 07.4**	**+0.5**
FALS	**False Pass**	**9.38**	**63**	P	**P**	**09 38 28.8**	**-0.4**
ANM	**Nome**	**14.69**	**22**	*e*P	**P**	**09 39 44.7**	**+5.2**
TNA	**Tin City**	**15.05**	**16**	*e*P	**P**	**09 39 46.8**	**+2.8**
	3.8nm,0.7s						
SVW2	**Sparrevohn**	**15.65**	**43**	*e*P	**P**	**09 39 54.5**	**+2.6**
KDAK	**Kodiak Island**	**15.95**	**57**	*e*P	**P**	**09 39 52.3**	**-3.3**
	28nm,0.6s						
KDAK				*e*P		09 39 56.0	
RSO	**Redoubt South**	**16.65**	**47**	*e*P	**P**	**09 40 06.5**	**+2.1**
SPU	**Mount Spurr**	**17.24**	**46**	*e*P	**P**	**09 40 13.4**	**+1.6**
SLKM	**Skilak Lake**	**17.84**	**49**	*e*P	**P**	**09 40 19.7**	**+0.4**
BILL	**Bilibino**	**18.31**	**341**α	*i*P	**P**	**09 40 27.5**	**+2.6**
BILL				pmax	pmax		
	comp=Z,29nm,0.8s						
BILL				MLR	MLR		
	comp=Z,100nm,17.0s						
BILL	**Bilibino**	**18.31**	**341**	*e*P	**P**	**09 40 25.8**	**+0.9**
	comp=Z,25nm,0.6s						
PWA	**Palmer West**	**18.38**	**45**	*e*P	**P**	**09 40 25.8**	**0.0**
IMA	**Indian Mountai**	**19.11**	**31**	*e*P	**P**	**09 40 34.9**	**+0.8**
SML	**Sawmill**	**19.13**	**46**	*e*P	**P**	**09 40 33.6**	**-0.7**
MA2	**Magadan**	**19.31**	**307**	*e*P	**P**	**09 40 44.8**	**+8.5**
MID	**Middleton Isla**	**19.47**	**54**	*e*P	**P**	**09 40 42.6**	**+4.5**
EYAK	**Cordova Ski Ar**	**19.99**	**50**	*e*P	**P**	**09 40 42.7**	**-0.9**
DIV	**Divide**	**20.11**	**49**	*e*P	**P**	**09 40 46.0**	**+1.2**
	comp=Z,66nm,0.6s						
COLA	**College**	**20.53**	**38**	*e*P	**P**	**09 40 50.5**	**+1.4**
THY	**Trims Highway**	**20.80**	**43**	*e*P	**P**	**09 40 52.2**	**+0.3**
ILAR	**Eielson Array**	**20.85**	**38**	P	**P**	**09 40 50.8**	**-1.6**
	comp=Z,3.0nm,0.6s,baz=235,slow=8.3,SNR=39						
ILAR				ScP		09 48 28.6	
	comp=Z,0.5nm,0.9s,baz=266,slow=2.8,SNR=3.8						
ILAR				LR	LR	09 50 12.1	
	comp=Z,208nm,19.1s,baz=110,slow=40						
YSS	**Yuzh-Sakhalins**	**25.82**	**276**⇓	*i*P	**P**	**09 41 41.4**	**+0.6**
YSS				*e*		09 41 47.3	
YSS	**Yuzh-Sakhalins**	**25.82**	**276**	*e*P	**P**	**09 41 40.3**	**-0.5**
	comp=Z,16nm,0.7s,mb4.6						
INK	**Inuvik**	**27.09**	**35**	P	**P**	**09 41 51.0**	**-1.3**
INK						09 45 11.0	
INK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK				MLR	MLR		
	comp=Z,177nm,18.7s						
INK	**Inuvik**	**27.09**	**35**	P	**P**	**09 41 51.0**	**-1.3**
	comp=Z,2.8nm,0.5s,mb4.0,baz=243,slow=10,SNR=8.5						
INK				PcP	PcP	09 45 11.0	-1.0
	comp=Z,3.2nm,0.6s,baz=322,slow=5.3,SNR=9.3						
INK				LR	LR	09 54 12.1	
	comp=Z,176nm,18.7s,baz=234,slow=40						
INK	**Inuvik**	**27.09**	**35**	*e*P	**P**	**09 41 50.9**	**-1.4**
	comp=Z,2.7nm,0.6s,mb4.0						
ASAJ	**Asahikawa**	**27.22**	**270**	P	**P**	**09 41 54.7**	**+1.0**
	comp=Z,10nm,0.8s,mb4.4,baz=113,slow=17,SNR=6.7						
ASAJ				LR	LR	09 50 17.0	
	comp=Z,131nm,21.9s,baz=74,slow=31						
DLBC	**Dease Lake**	**27.88**	**57**	P	**P**	**09 42 00.5**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=194,slow=8.1,SNR=5.3						
DLBC				PP	PP	09 42 38.8	-12
	comp=Z,1.6nm,0.6s,baz=268,slow=12,SNR=8.1						
DLBC	**Dease Lake**	**27.88**	**57**	*e*P	**P**	**09 41 59.9**	**+0.4**
BBB	**Bella Bella**	**30.34**	**69**	P	**P**	**09 42 23.0**	**+1.5**
	comp=Z,15nm,1.0s,mb4.6,baz=184,slow=22,SNR=3.7						
TIXI	**Tiksi**	**30.82**	**330**	*i*P	**P**	**09 42 25.2**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
KLR	**Kul'dur**	**31.65**	**286**	*e*P	**P**	**09 42 28.9**	**-4.1**
MAT	**Matsushiro**	**34.31**	**262**	*e*P	**P**	**09 42 56.0**	**-0.2**
MAT				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.9						
MAT	**Matsushiro**	**34.31**	**262**	*e*P	**P**	**09 42 56.0**	**-0.2**
	comp=Z,19nm,1.0s,mb4.9						
MAT	**Matsushiro**	**34.31**	**262**	P	**P**	**09 42 55.5**	**-0.7**
MAT				*e*S	**S**	**09 48 17.6**	**0.0**
YKW3	**Yellowknife Ar**	**34.78**	**47**	*e*P	**P**	**09 42 58.4**	**-1.5**
YKA	**Yellowknife Ar**	**34.80**	**47**	P	**P**	**09 42 59.3**	**-0.7**
	comp=Z,6.0nm,0.7s,mb4.5,baz=284,slow=8.1,SNR=76						
YKA				pP	pP	09 43 15.4	-1.2
	comp=Z,0.6nm,0.4s,baz=81,slow=9.7,SNR=3.5						
YKA				PP	PP	09 44 12.0	-7.2
	comp=Z,0.7nm,0.6s,baz=279,slow=8.0,SNR=2.1						
YKA				PcP	PcP	09 45 32.6	+0.2
	comp=Z,1.8nm,0.7s,baz=288,slow=3.3,SNR=14						
YKA				ScP		09 49 13.1	
	comp=Z,0.4nm,0.6s,baz=294,slow=3.0,SNR=5.9						
YKA				LR	LR	09 59 06.2	
	comp=Z,126nm,19.3s,baz=260,slow=39						
YKA	**Yellowknife Ar**	**34.80**	**47**	P	**P**	**09 42 59.4**	**-0.7**
YKA				pP	pP	09 43 15.4	-1.2
YKA				PP	PP	09 44 12.0	-7.2
YKA				PcP	PcP	09 45 32.6	+0.2
YKA				ScP		09 49 13.2	
YKA				LR	LR	09 59 06.2	
MDJ	**Mudanjiang**	**35.07**	**280**	P	**P**	**09 43 01.3**	**-1.2**
MDJ				S	**S**	**09 48 32.0**	**+2.7**
MDJ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.8						
MDJ				LR	LR		
	comp=E,105nm,22.7s						
MDJ				LR	LR		
	comp=Z,88nm,24.8s						
FMW	**Mount Fremont**	**36.29**	**74**	P	**P**	**09 43 14.8**	**+1.9**
ETW	**Entiat**	**36.78**	**73**	P	**P**	**09 43 18.7**	**+1.7**
TBM	**Table Mountain**	**36.83**	**73**	P	**P**	**09 43 19.0**	**+1.6**
EBG	**Ellensburg**	**36.97**	**74**	P	**P**	**09 43 20.5**	**+1.9**
EPH	**Ephrata**	**37.34**	**73**	P	**P**	**09 43 22.9**	**+1.2**
MDW	**Midway**	**37.60**	**74**	P	**P**	**09 43 25.6**	**+1.8**
OD2	**Odessa Site #2**	**37.85**	**72**	P	**P**	**09 43 27.0**	**+1.1**
EDM	**Edmonton**	**38.32**	**61**	*e*P	**P**	**09 43 29.6**	**-0.2**
YBH	**Yreka Blue Hor**	**38.36**	**82**	P	**P**	**09 43 32.2**	**+2.0**
YBH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YBH	**Yreka Blue Hor**	**38.36**	**82**	P	**P**	**09 43 32.2**	**+2.0**
	comp=Z,4.4nm,0.7s,mb4.4,baz=1.5,slow=9.2,SNR=12						
YBH	**Yreka Blue Hor**	**38.36**	**82**	*e*P	**P**	**09 43 30.7**	**+0.5**
	comp=Z,4.3nm,0.8s,mb4.3						
CBIJ	**Chichi jima**	**38.59**	**246**	P	**P**	**09 43 32.0**	**-0.2**
	comp=Z,73nm,0.6s,mb5.7,baz=122,slow=24,SNR=2.8						
HIA	**Hailar**	**38.73**	**292**	*e*P	**P**	**09 43 32.7**	**-0.5**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HIA	**Hailar**	**38.73**	**292**	*e*P	**P**	**09 43 32.7**	**-0.5**
	comp=Z,5.8nm,0.6s,mb4.6						
MOD	**Modoc**	**39.75**	**81**	*e*P	**P**	**09 43 42.7**	**+0.9**
	comp=Z,3.6nm,0.6s,mb4.4						
WALA	**Waterton Lakes**	**39.86**	**67**	*e*P	**P**	**09 43 43.3**	**+0.7**
	comp=Z,10nm,0.8s,mb4.7						
BMO	**Blue Mountains**	**39.97**	**75**	*e*P	**P**	**09 43 44.2**	**+0.6**
	comp=Z,5.0nm,0.9s,mb4.3						
WVOR	**Wild Horse Val**	**40.48**	**79**	*e*P	**P**	**09 43 48.9**	**+1.1**
WVOR				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
WVOR	**Wild Horse Val**	**40.48**	**79**	*e*P	**P**	**09 43 48.9**	**+1.1**
	comp=Z,6.9nm,0.6s,mb4.7						
MSO	**Missoula**	**40.95**	**70**	*e*P	**P**	**09 43 51.7**	**0.0**
	comp=Z,5.0nm,0.6s,mb4.5						
CHMT	**Chamberlain Mo**	**41.31**	**70**	*e*P	**P**	**09 43 54.6**	**0.0**
CMB	**Columbia Colle**	**41.98**	**85**	*e*P	**P**	**09 44 00.2**	**+0.1**
HRY	**Holter Researc**	**42.25**	**69**	*e*P	**P**	**09 44 03.0**	**+0.8**
HLID	**Hailey**	**42.42**	**75**	*e*P	**P**	**09 44 04.5**	**+0.8**
	comp=Z,6.4nm,0.8s,mb4.4						
BOZ	**Bozeman (W)**	**42.94**	**71**	*e*P	**P**	**09 44 08.4**	**+0.5**
BOZ				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
BOZ	**Bozeman (W)**	**42.94**	**71**	*e*P	**P**	**09 44 08.4**	**+0.6**
	comp=Z,9.5nm,0.6s,mb4.7						
NVAR	**Mina Array Bea**	**43.03**	**83**	P	**P**	**09 44 09.8**	**+1.1**
	comp=Z,1.8nm,0.6s,mb4.0,baz=309,slow=5.9,SNR=9.5						
NVAR	**Mina Array Bea**	**43.03**	**83**	P	**P**	**09 44 09.8**	**+1.1**
MNV	**Mina**	**43.12**	**83**	*e*P	**P**	**09 44 10.5**	**+1.0**
YMR	**Madison River**	**43.87**	**71**	*e*P	**P**	**09 44 15.6**	**+0.2**
YFT	**Old Faithful**	**44.07**	**72**	*e*P	**P**	**09 44 17.1**	**0.0**
HVU	**Hansel Valley**	**44.43**	**76**	*e*P	**P**	**09 44 20.3**	**+0.3**
BGU	**Big Grassy Mou**	**44.78**	**77**	*e*P	**P**	**09 44 22.8**	**0.0**
AHID	**Auburn Hatcher**	**44.87**	**74**	*e*P	**P**	**09 44 23.3**	**-0.1**
	comp=Z,3.8nm,0.7s,mb4.2						
HWUT	**Hardware Ranch**	**45.27**	**75**	*e*P	**P**	**09 44 27.2**	**+0.6**
	comp=Z,4.3nm,0.6s,mb4.4						
LAO	**LASA Array**	**45.52**	**66**	*e*P	**P**	**09 44 28.6**	**+0.1**
	comp=Z,16nm,0.6s,mb4.9						
FCC	**Fort Churchill**	**45.53**	**47**	*e*P	**P**	**09 44 28.0**	**-0.5**
FCC				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
FCC	**Fort Churchill**	**45.53**	**47**	*e*P	**P**	**09 44 28.0**	**-0.5**
	comp=Z,5.1nm,0.6s,mb4.4						
TCUT	**Toone Canyon**	**45.65**	**76**	*e*P	**P**	**09 44 30.7**	**+1.0**
PDAR	**Pinedale Array**	**45.79**	**73**	P	**P**	**09 44 31.6**	**+0.7**
	comp=Z,7.8nm,0.5s,mb4.7,baz=307,slow=3.7,SNR=90						
JLU	**Jordanelle**	**45.93**	**76**	*e*P	**P**	**09 44 32.7**	**+0.8**
NLU	**North Lily Min**	**45.94**	**78**	*e*P	**P**	**09 44 32.6**	**+0.6**
DAU	**Daniels Canyon**	**46.17**	**76**	*e*P	**P**	**09 44 33.5**	**-0.3**
MPU	**Maple Canyon**	**46.18**	**77**	*e*P	**P**	**09 44 34.4**	**+0.6**
TLY	**Talaya**	**46.45**	**303**	*e*P	**P**	**09 44 35.8**	**-0.1**
TLY				*e*		09 47 05.4	
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
TLY				MLR	MLR		
	comp=Z,71nm,13.0s						
ULN	**Ulaanbaatar**	**46.68**	**297**⇑	*i*P	**P**	**09 44 38.9**	**+1.1**
ULN	**Ulaanbaatar**	**46.68**	**297**	*e*P	**P**	**09 44 38.1**	**+0.4**
	comp=Z,3.9nm,0.6s,mb4.3						
TMUT	**Trail Mountain**	**46.88**	**78**	*e*P	**P**	**09 44 40.2**	**+0.8**
SONM	**Songino Array**	**47.07**	**297**	P	**P**	**09 44 42.4**	**+1.6**
	comp=Z,2.5nm,0.5s,mb4.2,baz=61,slow=7.0,SNR=27						
SONM				PcP	PcP	09 46 12.6	+0.4
	comp=Z,0.8nm,0.5s,baz=95,slow=1.1,SNR=5.1						
SONM				ScP		09 50 00.5	
	comp=Z,2.0nm,1.0s,baz=63,slow=2.8,SNR=8.3						
ZAK	**Zakamensk**	**47.35**	**301**	*e*P	**P**	**09 44 42.6**	**-0.4**
PV10	**Paradox Valley**	**48.77**	**77**	*e*P	**P**	**09 44 54.5**	**+0.4**
NJ2	**Nanjing**	**49.32**	**272**	*e*P	**P**	**09 44 55.2**	**-3.3**
NJ2				PP	PP	09 46 47.2	-6.1
NJ2				S	**S**	**09 51 47.0**	**-12**
NJ2				AMB	AMB		
	comp=Z,410nm,7.0s						
NJ2				LR	LR		
	comp=N,250nm,18.6s						
NJ2				LR	LR		
	comp=E,480nm,21.5s						
NJ2				LR	LR		
	comp=Z,460nm,14.3s						
SDCO	**Great Sand Dun**	**51.33**	**76**	*e*P	**P**	**09 45 13.9**	**+0.2**
	comp=Z,6.7nm,0.8s,mb4.7						
SDCO				*e*		09 45 24.1	
LAZ	**Ladron**	**52.52**	**80**	*e*P	**P**	**09 45 23.2**	**+0.5**
ANMO	**Albuquerque**	**52.57**	**79**	*i*P	**P**	**09 45 24.1**	**+1.1**
ANMO	**Albuquerque**	**52.57**	**79**	P	**P**	**09 45 23.1**	**+0.1**
	comp=Z,3.6nm,1.2s,mb4.3,baz=336,slow=3.3,SNR=5.6						
ANMO	**Albuquerque**	**52.57**	**79**	*e*P	**P**	**09 45 21.7**	**-1.4**
	comp=Z,2.3nm,1.0s,mb4.2						
EYMN	**Ely**	**52.89**	**57**	*e*P	**P**	**09 45 24.8**	**-0.4**
BNM	**Barren Site**	**53.00**	**80**	*e*P	**P**	**09 45 26.6**	**+0.3**
SUMG	**Summit**	**53.09**	**14**	P	**P**	**09 45 26.3**	**-0.2**
MNTX	**Cornudas Mount**	**55.43**	**81**	*e*P	**P**	**09 45 43.4**	**-0.7**
	comp=Z,3.4nm,0.8s,mb4.4						
CPRX	**Cap Rock**	**55.45**	**79**	*e*P	**P**	**09 45 43.3**	**-0.9**
GDL2	**Guadalupe Moun**	**55.71**	**80**	*e*P	**P**	**09 45 45.0**	**-1.1**
KSU1	**Kansas State U**	**55.73**	**69**	*e*P	**P**	**09 45 43.5**	**-2.7**
LZH	**Lanzhou**	**55.85**	**287**⇑	P	**P**	**09 45 47.5**	**+0.4**
LZH				AP	pP	09 45 56.0	-8.5
LZH				XP	sP	09 46 00.5	-12
LZH				AMB	AMB		
	comp=Z,60nm,1.4s,mb5.4						
LZH				LR	LR		
	comp=N,350nm,16.0s						
LZH				LR	LR		
	comp=Z,450nm,20.0s						
WMOK	**Wichita Mounta**	**57.38**	**74**	*e*P	**P**	**09 45 57.0**	**-0.9**
WMOK				*e*		09 46 08.0	
WMOK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
WMOK	**Wichita Mounta**	**57.38**	**74**	*e*P	**P**	**09 45 57.0**	**-1.0**
	comp=Z,7.5nm,0.8s,mb4.8						
WMOK				*e*		09 46 08.0	
ARCES	**ARCESS Array B**	**58.09**	**350**	P	**P**	**09 46 01.6**	**-0.9**
	comp=Z,2.5nm,0.6s,mb4.5,baz=30,slow=7.9,SNR=17						
ARCES				PcP	PcP	09 46 52.8	-0.5
	comp=Z,5.0nm,0.7s,baz=11,slow=6.2,SNR=6.3						
TXAR	**Lajitas Array**	**58.13**	**82**	P	**P**	**09 46 02.4**	**-0.8**
	comp=Z,2.1nm,0.6s,mb4.4,baz=310,slow=4.8,SNR=24						
TXAR	**Lajitas Array**	**58.13**	**82**	P	**P**	**09 46 02.4**	**-0.8**
CCM	**Cathedral Cave**	**59.53**	**66**	*e*P	**P**	**09 46 10.6**	**-2.2**
CCM				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
CCM	**Cathedral Cave**	**59.53**	**66**	*e*P	**P**	**09 46 10.6**	**-2.2**
	comp=Z,4.3nm,0.6s,mb4.7						
SCHQ	**Schefferville**	**59.62**	**39**	P	**P**	**09 46 12.2**	**-1.0**
	comp=Z,2.4nm,0.8s,mb4.2,baz=284,slow=5.5,SNR=3.6						
SCHQ				LR	LR	10 13 23.9	
	comp=Z,115nm,18.2s,baz=334,slow=37						
JCT	**Junction City**	**59.71**	**78**	*e*P	**P**	**09 46 12.5**	**-1.6**
JCT				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
JCT	**Junction City**	**59.71**	**78**	*e*P	**P**	**09 46 12.5**	**-1.7**
	comp=Z,5.3nm,0.6s,mb4.8						
WMQ	**Urumqi**	**59.73**	**303**	*e*P	**P**	**09 46 17.0**	**+2.9**
WMQ				AP	pP	09 46 27.4	-4.3
WMQ				S	**S**	**09 54 24.9**	**+6.9**
WMQ				AMB	AMB		
	comp=Z,3.0nm,1.5s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,25nm,6.8s						
WMQ				LR	LR		
	comp=N,311nm,22.4s						
WMQ				LR	LR		
	comp=E,214nm,22.8s						
WMQ				LR	LR		
	comp=Z,342nm,20.2s						
FVM	**French Village**	**60.05**	**66**	*e*P	**P**	**09 46 14.3**	**-2.1**
FVM				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
FVM	**French Village**	**60.05**	**66**	*e*P	**P**	**09 46 14.3**	**-2.1**
	comp=Z,7.1nm,0.6s,mb4.9						
MIAR	**Mount Ida**	**60.61**	**71**	*e*P	**P**	**09 46 19.2**	**-1.1**
MIAR				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
MIAR	**Mount Ida**	**60.61**	**71**	*e*P	**P**	**09 46 19.2**	**-1.1**
	comp=Z,6.5nm,0.7s,mb4.8						
BVAR	**Borovoye Array**	**61.16**	**320**	P	**P**	**09 46 22.6**	**-1.1**
	comp=Z,4.0nm,0.5s,mb4.7,baz=53,slow=6.1,SNR=25						
BVAR				PcP	PcP	09 47 05.0	-0.6
	comp=Z,10.0nm,0.9s,baz=45,slow=4.2,SNR=11						
BLO	**Bloomington**	**61.41**	**62**	*e*P	**P**	**09 46 24.6**	**-1.0**
BLO				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.1						
BLO	**Bloomington**	**61.41**	**62**	*e*P	**P**	**09 46 24.6**	**-1.1**
	comp=Z,9.9nm,0.5s,mb5.1						
USIN	**University of**	**61.62**	**64**	*e*P	**P**	**09 46 26.1**	**-0.9**
	comp=Z,28nm,0.6s,mb5.5						
WCI	**Wyandotte Cave**	**62.20**	**63**	*e*P	**P**	**09 46 29.7**	**-1.2**
WCI				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
WCI	**Wyandotte Cave**	**62.20**	**63**	*e*P	**P**	**09 46 29.7**	**-1.2**
	comp=Z,17nm,0.8s,mb5.1						
ARU	**Arti**	**62.80**	**329**⇑	*i*P	**P**	**09 46 32.0**	**-2.7**
ARU				*e*		09 47 05.5	
ARU				*e*		09 48 52.5	
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
WVT	**Waverly**	**62.83**	**66**	*e*P	**P**	**09 46 34.1**	**-1.0**
WVT				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
WVT	**Waverly**	**62.83**	**66**	*e*P	**P**	**09 46 34.1**	**-1.0**
	comp=Z,3.6nm,0.5s,mb4.6						
OXF	**Oxford**	**63.07**	**68**	*e*P	**P**	**09 46 36.0**	**-0.8**
OXF				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.4						
OXF	**Oxford**	**63.07**	**68**	*e*P	**P**	**09 46 36.0**	**-0.8**
	comp=Z,39nm,0.8s,mb5.4						
JOF	**Joensuu**	**63.64**	**346**	*e*p	**P**	**09 46 38.8**	**-1.2**
	comp=Z,0.6nm,0.3s,mb3.9						
KAF	**Kangasniemi**	**65.14**	**348**	*e*p	**P**	**09 46 48.9**	**-0.8**
	comp=Z,1.4nm,0.5s,mb4.0						
KAF	**Kangasniemi**	**65.14**	**348**	*e*P	**P**	**09 46 48.9**	**-0.8**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
CPCT	**Cooper Cave**	**65.19**	**64**	*e*P	**P**	**09 46 49.5**	**-0.9**
LRAL	**Lakeview Retre**	**65.52**	**67**	*e*P	**P**	**09 46 51.4**	**-1.3**
	comp=Z,11nm,0.7s,mb4.8						
FWV	**Forest Hill**	**65.68**	**60**	*e*P	**P**	**09 46 53.3**	**-0.3**
PWV	**Princeton**	**65.73**	**60**	*e*P	**P**	**09 46 54.3**	**+0.4**
FINES	**FINESS Array B**	**65.81**	**348**	P	**P**	**09 46 52.7**	**-1.3**
	comp=Z,3.5nm,0.9s,mb4.2,baz=56,slow=6.9,SNR=7.1						
FINES				PcP	PcP	09 47 23.5	-1.0
	comp=Z,1.8nm,0.6s,baz=63,slow=4.3,SNR=4.1						
ELN	**Prospectdale**	**65.97**	**60**	*e*P	**P**	**09 46 55.1**	**-0.3**
BLA	**Blacksburg**	**66.16**	**60**	*e*P	**P**	**09 46 56.4**	**-0.3**
BLA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
BLA	**Blacksburg**	**66.16**	**60**	*e*P	**P**	**09 46 56.4**	**-0.2**
	comp=Z,6.9nm,0.6s,mb4.7						
AAK	**Ala-Archa**	**67.20**	**310**	*i*P	**P**	**09 47 01.8**	**-1.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
GOGA	**Godfrey**	**67.27**	**65**	*e*P	**P**	**09 47 02.7**	**-1.0**
GOGA				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
GOGA	**Godfrey**	**67.27**	**65**	*e*P	**P**	**09 47 02.7**	**-1.0**
	comp=Z,15nm,0.8s,mb4.9						
NB2	**NORSAR Subarra**	**67.61**	**355**	P	**P**	**09 47 04.9**	**-0.4**
	comp=Z,9.6nm,1.2s,mb4.5,baz=7.0,slow=6.5						
NB2	**NORSAR Subarra**	**67.61**	**355**	P	**P**	**09 47 04.9**	**-0.4**
NB2				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.5						
NOA	**NORSAR Array B**	**67.61**	**355**	P	**P**	**09 47 04.6**	**-0.6**
	comp=Z,1.1nm,0.5s,mb3.9,baz=5.9,slow=6.3,SNR=4.6						
LSA	**Lhasa**	**67.90**	**290**	P	**P**	**09 47 10.0**	**+2.4**
LSA				AMB	AMB		
	comp=Z,70nm,0.7s,mb5.6						
LSA	**Lhasa**	**67.90**	**290**	*e*P	**P**	**09 47 09.1**	**+1.5**
LSA				pmax	pmax		
	comp=Z,48nm,0.6s,mb5.5						
LSA	**Lhasa**	**67.90**	**290**	*e*P	**P**	**09 47 09.1**	**+1.4**
	comp=Z,48nm,0.6s,mb5.5						
NHSC	**New Hope**	**69.34**	**63**	*e*P	**P**	**09 47 16.5**	**0.0**
	comp=Z,20nm,1.1s,mb4.9						
OBN	**Obninsk**	**69.97**	**340**	*e*P	**P**	**09 47 19.5**	**-0.5**
OBN				*e*	pP	09 47 40.8	+2.7
OBN				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.9						
SHL	**Shillong**	**70.52**	**287**	*i*P	**P**	**09 47 23.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**71.52**	**277**	*i*P	**P**	**09 47 30.1**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**71.52**	**277**	P	**P**	**09 47 29.5**	**-0.4**
	comp=Z,2.5nm,0.6s,mb4.2,baz=26,slow=6.6,SNR=10						
GUN	**Gumba**	**72.30**	**293**

SJPF	**Ste Jean**	**85.76**	**2**	*eP*	**P**	**09 48 45.7**	**-1.1**	
	comp=Z,16nm,0.8s,mb4.7							
SJPF	**Ste Jean**	**85.76**	**2**	*eP*	**P**	**09 48 45.7**	**-1.1**	
SJPF				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.7							
ASAR	**Alice Springs**	**85.90**	**223**	P	**P**	**09 48 48.0**	**+0.1**	
	comp=Z,1.4nm,0.6s,mb4.0,baz=23,slow=5.6,SNR=27							
ETSF	**Etsaut**	**85.99**	**2**	*eP*	**P**	**09 48 46.7**	**-1.2**	
	comp=Z,6.7nm,0.6s,mb4.5							
ETSF	**Etsaut**	**85.99**	**2**	*eP*	**P**	**09 48 46.7**	**-1.2**	
ETSF				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
PGF	**Pioggiola**	**86.17**	**355**	*eP*	**P**	**09 48 47.7**	**-1.1**	
	comp=Z,26nm,0.7s,mb5.0							
PGF	**Pioggiola**	**86.17**	**355**	*eP*	**P**	**09 48 47.7**	**-1.1**	
PGF				pmax	pmax			
	comp=Z,13nm,0.7s,mb5.0							
POO	**Poona**	**86.48**	**295**	*eP*	**P**	**09 48 52.0**	**+1.1**	
ESDC	**Sonseca Array**	**89.09**	**5**	P	**P**	**09 49 03.1**	**+0.2**	
	comp=Z,3.9nm,0.8s,mb4.5,baz=349,slow=4.5,SNR=8.6							
STKA	**Stephens Creek**	**90.28**	**213**	P	**P**	**09 49 08.8**	**+0.1**	
	comp=Z,1.5nm,0.6s,mb4.3,baz=46,slow=6.5,SNR=12							
RPZ	**Rata Peaks**	**95.28**	**188**	LR	LR	10 24 39.2		
	comp=Z,99nm,19.1s,baz=12,slow=30							
DBIC	**Dimbokro**	**121.80**	**8**	PKP	PKPdf	09 55 02.3	+1.3	
	comp=Z,3.3nm,0.5s,baz=345,slow=4.6,SNR=18							
MAW	**Mawson**	**146.87**	**218**	PKPbc	PKPbc	09 55 49.6	+2.4	
	baz=38,slow=2.7,SNR=4.2							

*IDC **10** 09:50:17.8±0.9, 5.38N×94.44E, h47km±6km, mb3.7/9, mb1 3.9/10, mb1mx3.8/17, mbtmp3.9/10, Error ellipse: s-maj=35.4km s-min=15.4km az=51.0*
*NEIC **10** 09:50:18.1±0.6, 5.43N×94.53E, mb4.3/1, Error ellipse: s-maj=20.4km s-min=9.4km az=57.0*

ISC 10 09:50:16.6±0.8, 5.4N±0.1×94.6E±0.2, h48km, h48km±1.6km: pP-P, n19, σ1°05/19, mb4.1/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.65**	**18**	P	**P**	**09 53 27.9**	**-1.7**
	0.4nm,0.3s,baz=210,slow=13,SNR=3.1						
JIRN	**Jiri**	**23.55**	**341**	*eP*	**P**	**09 55 24.9**	**+1.4**
GUN	**Gumba**	**23.88**	**341**	*eP*	**P**	**09 55 28.4**	**+1.6**
KKN	**Kakani**	**23.97**	**339**	*eP*	**P**	**09 55 29.1**	**+1.4**
	5.9nm,0.4s,mb4.3						
GKN	**Gorkha**	**24.40**	**338**	*eP*	**P**	**09 55 32.5**	**+0.6**
	15nm,0.7s,mb4.5						
KOLN	**Koldanda**	**24.59**	**336**	*eP*	**P**	**09 55 34.6**	**+0.9**
SONM	**Songino Array**	**43.47**	**12**	P	**P**	**09 58 16.8**	**0.0**
	1.4nm,0.8s,mb3.8,baz=184,slow=8.8,SNR=11						
SONM				pP	pP	09 58 28.7	-1.1
	2.1nm,0.9s,baz=193,slow=7.8,SNR=9.6						
WRA	**Warramunga Arr**	**46.47**	**124**	P	**P**	**09 58 41.4**	**+0.2**
	2.0nm,0.7s,mb4.2,baz=302,slow=8.9,SNR=12						
WRAB	**Tennant Creek**	**46.48**	**124**	*eP*	**P**	**09 58 41.6**	**+0.4**
	7.9nm,0.9s,mb4.6						
WB2	**Warramunga Arr**	**46.48**	**124**	*eP*	**P**	**09 58 41.5**	**+0.2**
ASAR	**Alice Springs**	**47.99**	**129**	P	**P**	**09 58 53.0**	**-0.1**
	0.7nm,0.8s,mb3.8,baz=298,slow=7.2,SNR=9.6						
ASAR				pP	pP	09 59 06.5	+0.3
	1.1nm,0.7s,baz=299,slow=7.7,SNR=7.0						
BVAR	**Borovoye Array**	**51.47**	**342**	P	**P**	**09 59 18.1**	**-1.2**
	0.8nm,0.5s,mb3.9,baz=135,slow=8.4,SNR=6.5						
BVAR				pP	pP	09 59 32.7	+0.3
	0.7nm,0.5s,baz=143,slow=7.4,SNR=3.4						
BRVK	**Borovoye**	**51.53**	**341**	*eP*	**P**	**09 59 18.6**	**-1.2**
	2.2nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**51.96**	**342**	*eP*	**P**	**09 59 22.5**	**-0.4**
	5.7nm,0.7s,mb4.6						
CHKZ				*e*	pP	09 59 35.8	-0.3
BRTR	**Keskin Array B**	**64.40**	**312**	P	**P**	**10 00 47.6**	**-2.7**
	1.0nm,0.8s,mb3.9,baz=101,slow=7.3,SNR=2.8						
FINES	**FINESS Array B**	**75.11**	**332**	P	**P**	**10 01 54.0**	**-1.2**
	0.5nm,0.6s,mb3.6,baz=76,slow=5.7,SNR=2.8						
FINES				pP	pP	10 02 07.7	-1.4
	2.8nm,1.0s,baz=90,slow=3.8,SNR=2.1						
ARCES	**ARCESS Array B**	**77.74**	**340**	P	**P**	**10 02 09.9**	**0.0**
	3.5nm,1.0s,mb4.2,baz=100,slow=5.5,SNR=2.6						
GERES	**GERESS Array B**	**79.98**	**319**	P	**P**	**10 02 22.1**	**-0.3**
	1.0nm,0.7s,mb3.9,baz=30,slow=11,SNR=9.9						
GERES				pP	pP	10 02 35.4	-1.0
	1.0nm,0.6s,baz=104,slow=5.5,SNR=4.0						
ILAR	**Eielson Array**	**96.84**	**22**	P	**P**	**10 03 44.5**	**+1.1**
	0.2nm,0.5s,mb3.8,baz=304,slow=3.3,SNR=6.9						

IDC 10 09:56:41.8±37.0, 6.59N×126.53E, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=627.6km s-min=163.6km az=161.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.46**	**164**	P	P	10 02 30.3	-1.5
	0.3nm,0.4s,baz=344,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**30.92**	**167**	P	P	10 03 00.2	-2.5
	0.4nm,0.7s,baz=346,slow=6.7,SNR=4.1						
STKA	**Stephens Creek**	**40.86**	**160**	P	P	10 04 25.2	-2.0
	0.6nm,0.3s,baz=342,slow=9.8,SNR=5.7						

IDC 10 09:59:27.8±44.0, 16.27S×174.13W, mb4.0/3, mb1 4.2/3, mb1mx3.8/13, mbtmp4.0/3, Error ellipse: s-maj=843.3km s-min=163.7km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.00**	**241**	P	P	10 07 29.0	-1.7
	1.0nm,0.7s,baz=96,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**48.97**	**258**	P	P	10 08 16.2	-2.0
	0.5nm,0.3s,baz=94,slow=7.0,SNR=16						
ASAR	**Alice Springs**	**49.18**	**253**	P	P	10 08 18.0	-1.8
	3.5nm,0.5s,baz=88,slow=8.5,SNR=87						

IDC 10 10:04:19.7±35.0, 8.61N×126.19E, mb3.5/3, mb1 3.7/3, mb1mx3.5/16, mbtmp3.5/3, MS3.5/1, Ms1 3.5/1, ms1mx2.8/13, Error ellipse: s-maj=606.3km s-min=188.4km az=159.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**7.75**	**312**	*eP*	Pn	10 05 56.5	-20
JOW	**Kunigami**	**18.23**	**6**	LR	LR	10 13 36.5	
	comp=Z,146nm,20.6s,baz=67,slow=30						
WRA	**Warramunga Arr**	**29.48**	**164**	P	P	10 10 26.2	-1.7
	0.4nm,0.5s,baz=345,slow=10,SNR=10						
ASAR	**Alice Springs**	**32.95**	**167**	P	P	10 10 55.8	-2.6
	0.2nm,0.3s,baz=339,slow=7.0,SNR=3.4						
STKA	**Stephens Creek**	**42.86**	**161**	P	P	10 12 19.8	-1.9
	0.7nm,0.3s,baz=339,slow=10,SNR=6.9						

*IDC **10** 10:04:50.0±1.2, 22.67S×112.61W, mb4.3/7, mb1 4.6/7, mb1mx4.2/16, mbtmp4.3/7, MS3.8/5, Ms1 3.8/5, ms1mx3.2/21, Error ellipse: s-maj=39.7km s-min=32.0km az=56.0*
*NEIC **10** 10:04:51.1±0.6, 22.73S×112.66W, h10km, mb4.6/11, Error ellipse: s-maj=18.9km s-min=9.7km az=51.0*
*BJI **10** 10:04:52.3, 22.70S×112.70W, h10km*

ISC 10 10:04:49.8±1.7, 22.6S±0.2×112.7W±0.3, h10km, n37, σ0°71/28, mb4.4/17, MS3.9/5, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**33.82**	**261**	*eLR*	LR	10 11 16.6	
	123nm,30.8s						
LVC	**Limon Verde**	**40.29**	**99**	P	**P**	**10 12 29.8**	**+0.8**
	2.2nm,0.5s,mb4.1						
OTAV	**Otavalo**	**40.32**	**60**	*eP*	**P**	**10 12 29.8**	**+0.5**
	3.7nm,1.0s,mb4.1						
LPAZ	**La Paz**	**42.35**	**90**	P	**P**	**10 12 46.5**	**+0.5**
	3.4nm,0.9s,mb4.0,baz=280,slow=5.8,SNR=9.0						
LPAZ	**La Paz**	**42.35**	**90**	P	**P**	**10 12 46.5**	**+0.5**
TRQA	**Tornquist**	**45.83**	**122**	*eP*	**P**	**10 13 12.8**	**-1.1**
	8.5nm,1.2s,mb4.5						
USHA	**Ushuaia**	**45.98**	**146**	LR	LR	10 27 39.5	
	comp=Z,146nm,19.3s,MS3.9,baz=53,slow=30						
TXAR	**Lajitas Array**	**52.37**	**10**	P	**P**	**10 14 04.4**	**0.0**
	2.0nm,1.1s,mb4.0,baz=186,slow=11,SNR=8.5						
TXAR				PcP	PcP	10 15 16.2	+0.7
	0.3nm,0.8s,baz=180,slow=5.4,SNR=2.4						
TXAR				LR	LR	10 31 40.6	
	comp=Z,69nm,19.6s,MS3.7,baz=225,slow=31						
JCT	**Junction City**	**54.22**	**14**	*eP*	**P**	**10 14 17.8**	**-0.2**
	13nm,0.8s,mb4.9						
TUC	**Tucson**	**54.65**	**2**	*eP*	**P**	**10 14 21.5**	**+0.3**
	3.5nm,1.1s,mb4.3						
GDL2	**Guadalupe Moun**	**55.08**	**9**	*eP*	**P**	**10 14 24.4**	**0.0**
CPRX	**Cap Rock**	**55.97**	**9**	*eP*	**P**	**10 14 29.5**	**-1.2**
LENM	**Lemitar**	**56.73**	**6**	*eP*	**P**	**10 14 36.4**	**+0.2**
LAZ	**Ladron**	**56.95**	**5**	*eP*	**P**	**10 14 38.1**	**+0.4**
ANMO	**Albuquerque**	**57.55**	**6**	P	**P**	**10 14 42.2**	**+0.2**
	1.1nm,0.9s,mb3.9,baz=207,slow=4.2,SNR=5.3						
ANMO	**Albuquerque**	**57.55**	**6**	*eP*	**P**	**10 14 42.1**	**+0.1**
	2.2nm,1.2s,mb4.1						
SDCO	**Great Sand Dun**	**60.42**	**7**	*eP*	**P**	**10 15 01.2**	**-0.6**
	7.0nm,1.2s,mb4.6						
NVAR	**Mina Array Bea**	**60.95**	**355**	P	**P**	**10 15 06.9**	**+1.5**
	5.7nm,0.7s,mb4.8,baz=164,slow=9.7,SNR=31						
MPU	**Maple Canyon**	**62.31**	**1**	*eP*	**P**	**10 15 14.7**	**0.0**
JLU	**Jordanelle**	**62.90**	**1**	*eP*	**P**	**10 15 18.8**	**+0.3**
CCM	**Cathedral Cave**	**63.62**	**19**	*eP*	**P**	**10 15 21.6**	**-1.7**
	8.3nm,0.8s,mb4.8						
MOD	**Modoc**	**64.58**	**354**	*eP*	**P**	**10 15 30.2**	**+0.7**
	8.2nm,1.1s,mb4.7						
WVOR	**Wild Horse Val**	**64.95**	**355**	*eP*	**P**	**10 15 32.2**	**+0.3**
	5.3nm,1.0s,mb4.5						
PDAR	**Pinedale Array**	**65.12**	**3**	P	**P**	**10 15 31.9**	**-1.0**
	1.7nm,0.7s,mb4.2,baz=169,slow=6.4,SNR=16						
PDAR				LR	LR	10 39 07.1	
	comp=Z,45nm,20.7s,MS3.6,baz=359,slow=32						
HLID	**Hailey**	**65.87**	**359**	*eP*	**P**	**10 15 38.2**	**+0.5**
	6.3nm,1.0s,mb4.6						
MOOW	**Moose Ponds**	**66.06**	**2**	*eP*	**P**	**10 15 38.0**	**-1.0**
HRY	**Holter Researc**	**69.00**	**1**	*eP*	**P**	**10 15 57.3**	**-0.1**
DLBC	**Dease Lake**	**82.03**	**351**	P	**P**	**10 17 11.8**	**+0.7**
	3.0nm,1.0s,mb4.2,baz=202,slow=7.2,SNR=5.5						
YKA	**Yellowknife Ar**	**84.83**	**359**	P	**P**	**10 17 25.3**	**0.0**
	1.8nm,0.9s,mb4.2,baz=173,slow=5.1,SNR=32						
YKA				LR	LR	10 50 45.5	
	comp=Z,55nm,18.5s,MS4.0,baz=220,slow=32						
YKA	**Yellowknife Ar**	**84.83**	**359**	P	**P**	**10 17 25.3**	**0.0**
YKA				LR	LR	10 50 45.5	
FRB	**Frobisher Bay**	**92.72**	**18**	LR	LR	10 57 46.6	
	comp=Z,51nm,18.7s,MS4.0,baz=200,slow=34						
SONM	**Songino Array**	**139.99**	**319**	PKhKP		10 24 15.5	
	0.9nm,0.8s,baz=45,slow=2.0,SNR=4.1						
SONM				PKP	PKPdf	10 24 19.8	-1.7
	1.7nm,0.9s,baz=71,slow=1.9,SNR=12						
SONM	**Songino Array**	**139.99**	**319**	PKP	PKPdf	10 24 19.8	-1.7
LZH	**Lanzhou**	**145.66**	**301**	*ePKP*	PKPdf	10 24 31.0	-0.7
LZH				APKP		10 24 38.0	
BRTR	**Keskin Array B**	**146.76**	**51**	PKPbc	PKPbc	10 24 33.3	+1.4
	3.1nm,0.8s,baz=270,slow=1.9,SNR=12						
BVAR	**Borovoye Array**	**149.55**	**356**	PKPbc	PKPdf	10 24 40.3	+2.8
	5.5nm,0.8s,slow=1.5,SNR=27						
BVAR				PKPab	PKPab	10 24 45.7	-0.6
	1.0nm,0.8s,baz=243,slow=3.3,SNR=3.7						
CMAR	**Chiang Mai Arr**	**150.13**	**268**	PKP	PKPdf	10 24 38.0	-1.4
	0.4nm,0.4s,baz=90,slow=0.9,SNR=3.6						
CMAR				PKPbc	PKPdf	10 24 43.6	+4.1
	6.6nm,1.0s,baz=84,slow=0.5,SNR=29						

IDC 10 10:05:51.3±7.5, 13.03N×93.36E, mb3.2/2, mb1 3.5/3, mb1mx3.3/16, mbtmp3.3/3, ML3.9/1, Error ellipse: s-maj=159.5km s-min=45.7km az=103.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.49**	**204**	*eP*	Pn	10 06 26.1	+6.6
PBA				*eS*	Sb	10 06 56.6	+18
PBA				*e*		10 07 05.9	
	comp=E,158nm,0.3s						
PBA				*e*		10 07 06.6	
	comp=N,164nm,0.7s						
CMAR	**Chiang Mai Arr**	**7.61**	**44**	Pn	Pn	10 07 42.8	-3.5
	comp=N,0.5nm,0.3s,baz=235,slow=15,SNR=6.8						
WRA	**Warramunga Arr**	**51.96**	**128**	P	P	10 15 02.8	-1.9
	comp=N,0.3nm,0.7s,baz=303,slow=9.9,SNR=4.9						
ASAR	**Alice Springs**	**53.87**	**132**	P	P	10 15 16.6	-2.2
	comp=N,0.2nm,0.8s,baz=305,slow=6.9,SNR=4.7						

*CSEM **10** 10:05:53.9±0.2, 45.78N×26.81E, h110km±2km, MD3.9/4, Error ellipse: s-maj=3.3km s-min=2.9km az=172.0*
*BUC **10** 10:05:54.5±0.3, 45.71N×26.76E, h111km, MD3.9, Error ellipse: s-maj=6.5km s-min=5.5km az=60.0*
*SOF **10** 10:05:57.1, 45.17N×26.54E, h2km, MD2.5*

ISC 10 10:05:53.8±0.8, 45.76N±0.04×26.84E±0.05, h117km±6km, n19, σ0°70/32, 6C-5D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.13**	**324**	↑*iP*	**P**	**10 06 09.7**	**-0.3**
VRI				S	**S**	**10 06 21.2**	**-0.9**
BRD	**Bordesti**	**0.25**	**147**	↑*iP*	**P**	**10 06 11.3**	**+1.1**
BRD				*i* S	**S**	**10 06 24.1**	**+1.5**
ISR	**Istrita**	**0.68**	**198**	↓↓*iP*	**P**	**10 06 13.2**	**+0.5**
ISR				*i* S	**S**	**10 06 28.2**	**+1.1**
MLR	**Muntele Rosu**	**0.68**	**247**	↑*iP*	**P**	**10 06 12.4**	**-0.3**
MLR				*i* S	**S**	**10 06 25.6**	**-1.6**
SNX	**Sinaia**	**1.01**	**247**	↑*iP*	**P**	**10 06 15.6**	**-0.4**
SNX				*i* S	**S**	**10 06 31.7**	**-0.9**
CFR	**Carcaliu**	**1.08**	**122**	↑*iP*	**P**	**10 06 17.2**	**+0.5**
CFR				*i* S	**S**	**10 06 34.3**	**+0.4**
HARR	**Harsova**	**1.32**	**144**	↓↓*iP*	**P**	**10 06 19.5**	**+0.1**
HARR				S	**S**	**10 06 38.1**	**-0.6**
MTUR	**Matau**	**1.36**	**247**	↓↓*iP*	**P**	**10 06 19.9**	**+0.1**
MTUR				S	**S**	**10 06 40.5**	**+1.0**
BUC	**Bucharest**	**1.45**	**202**	*i* S	**S**	**10 06 42.1**	**+0.9**
TLCR		**1.51**	**112**	↓↓*iP*	**P**	**10 06 21.5**	**0.0**
TLCR				S	**S**	**10 06 42.5**	**0.0**
BUC1	**Bucharest**	**1.52**	**202**	S	**S**	**10 06 42.1**	**-0.8**
TIRR	**Tirgusor**	**1.72**	**139**	↓↓*iP*	**P**	**10 06 24.1**	**+0.1**
TIRR				S	**S**	**10 06 45.7**	**-1.1**
KIS	**Kishinev**	**1.85**	**47**	*eP*	**P**	**10 06 26.0**	**+0.4**
	230nm,0.5s						
KIS				*i* S	**S**	**10 06 48.5**	**-1.1**
	2μm,0.6s						
BURAR	**Bucovina Array**	**2.16**	**330**	↑*iP*	**P**	**10 06 30.1**	**+0.4**
BURAR				S	**S**	**10 06 57.0**	**+0.2**
PSN	**Preselentsi**	**2.29**	**155**	P	**P**	**10 06 31.6**	**+0.2**
PSN	**Preselentsi**	**2.29**	**155**	Sg	**S**	**10 06 59.8**	**+0.1**
PRD	**Provadia**	**2.59**	**171**	P	**P**	**10 06 35.2**	**-0.2**
PVL	**Pavlikeni**	**2.76**	**203**	*eP*	**P**	**10 06 38.0**	**+0.3**
PVL				Sg	**S**	**10 07 10.7**	**-0.2**
RZN	**Rozhen**	**4.35**	**201**	*eP*	**P**	**10 06 58.3**	**-0.8**

*IDC **10** 10:15:00.3±1.5, 36.89N×104.92W, mb1 3.5/3, mb1mx3.1/19, mbtmp3.1/3, ML3.6/2, Error ellipse: s-maj=25.6km s-min=10.2km az=79.0*

NEIC 10 10:14:59.1±0.8, 37.01N×104.68W, h5km, MN3.4, 1C, Error ellipse: s-maj=11.6km s-min=9.4km az=76.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**0.99**	**318**	↑*iP*	Pb	10 15 18.2	-0.2
SDCO				*i* S	Sb	10 15 30.7	-0.8
ANMO	**Albuquerque**	**2.51**	**216**	Pn	Pn	10 15 40.8	-0.5
	baz=38,slow=13,SNR=94						
ANMO				Pg	Pg	10 15 43.5	-5.8
	baz=42,slow=17,SNR=126						
ANMO				Lg		10 16 12.1	
	baz=279,slow=13,SNR=12						
ANMO	**Albuquerque**	**2.51**	**216**	*ePn*	Pn	10 15 40.8	-0.5
ANMO				*eSg*	Sg	10 16 12.0	-11
RW3	**Ridgway**	**2.69**	**298**	Pn	Pn	10 15 44.0	+0.1
ISCO	**Idaho Springs**	**2.88**	**345**	*ePn*	Pn	10 15 47.4	+0.8
LPM	**Los Pinos Moun**	**3.13**	**211**	*ePn*	Pn	10 15 48.8	-1.3
AMTX	**Amarillo**	**3.22**	**130**	*ePn*	Pn	10 15 52.8	+1.3
BNM	**Barren Site**	**3.27**	**210**	*ePn*	Pn	10 15 51.0	-1.0
BNM				*ePg*	Pg	10 15 56.1	-8.2
LAZ	**Ladron**	**3.28**	**218**	*ePn*	Pn	10 15 50.8	-1.5
PV10	**Paradox Valley**	**3.72**	**293**	Pn	Pn	10 15 56.9	-1.6
CPRX	**Cap Rock**	**4.02**	**170**	*ePn*	Pn	10 16 02.8	0.0
CBKS	**Cedar Bluff**	**4.30**	**64**	Pn	Pn	10 16 03.0	-3.8
PHWY	**Pilot Hill**	**4.33**	**352**	Pn	Pn	10 16 07.9	+0.7
CLNB	**Carlsbad**	**4.78**	**172**	*ePn*	Pn	10 16 13.3	-0.2
CLNB				*ePg*	Pg	10 16 24.7	-10
CLNB				*eS*	Sn	10 17 24.2	+14
GDL2	**Guadalupe Moun**	**4.80**	**177**	*ePn*	Pn	10 16 15.1	+1.3
WMOK	**Wichita Mounta**	**5.29**	**114**	Pn	Pn	10 16 11.8	-9.0
WMOK				*ePb*	Pb	10 16 21.7	-10
WMOK				*ePg*	Pg	10 16 37.4	-7.5
WMOK				*eSg*	Sg	10 17 49.0	-6.4
MNTX	**Cornudas Mount**	**5.33**	**187**	Pn	Pn	10 16 17.6	-3.7
MNTX				*ePg*	Pg	10 16 34.0	-12
MNTX				*eSg*	Sg	10 17 42.6	-14
TMUT	**Trail Mountain**	**5.63**	**296**	Pn	Pn	10 16 24.7	-0.9
TMUT				*ePg*	Pg	10 16 42.4	-9.2
TMUT				*eSg*	Sg	10 17 54.4	-12
MSU	**Marysvale**	**6.13**	**286**	Pn	Pn	10 16 26.6	-6.0
KSU1	**Kansas State U**	**6.70**	**69**	Pn	Pn	10 16 45.1	+4.4
KSU1				*eSg*	Sg	10 18 31.6	-11
PDAR	**Pinedale Array**	**6.87**	**328**	Pn	Pn	10 16 45.1	+2.1
	0.2nm,0.3s,baz=137,slow=14,SNR=6.8						
PDAR				Pg	Pg	10 17 08.0	-8.3
	0.4nm,0.3s,baz=138,slow=15,SNR=14						
PDAR				Lg		10 18 37.2	
	0.2nm,0.3s,baz=126,slow=30,SNR=3.0						
TUC	**Tucson**	**6.88**	**229**	Pn	Pn	10 16 43.9	+0.7
TUC				*ePg*	Pg	10 17 04.2	-12
JCT	**Junction City**	**7.67**	**147**	Pn	Pn	10 16 49.2	-5.1
JCT				*ePg*	Pg	10 17 21.4	-11
LTX	**Lajitas**	**7.70**	**173**	Pn	Pn	10 17 09.1	+14
TXAR	**Lajitas Array**	**7.70**	**173**	Pn	Pn	10 16 53.6	-1.0
	0.2nm,0.3s,baz=359,slow=11,SNR=12						
TXAR				Pg	Pg	10 17 20.0	-13
	0.8nm,0.3s,baz=3.8,slow=14,SNR=15						
TXAR				Lg		10 18 57.7	
	2.7nm,0.3s,baz=357,slow=28,SNR=16						
TXAR	**Lajitas Array**	**7.70**	**173**	Pn	Pn	10 16 53.6	-1.0
TXAR				Pg	Pg	10 17 20.0	-13
TXAR				Lg		10 18 57.7	
MIAR	**Mount Ida**	**9.35**	**102**	Pn	P	10 17 18.1	+0.5
CCM	**Cathedral Cave**	**10.72**	**80**	Pn	P	10 17 39.2	+2.8
	11nm,0.9s						
CCM				*eS*	S	10 20 39.2	+61
NVAR	**Mina Array Bea**	**10.89**	**282**	Pg	P	10 18 22.1	+43
	0.1nm,0.3s,baz=106,slow=17,SNR=3.3						

*IDC **10** 10:17:50.1±0.8, 49.01S×124.78E, mb4.1/7, mb1 4.3/7, mb1mx4.2/10, mbtmp4.1/7, MS3.6/5, Ms1 3.6/5, ms1mx3.3/16, Error ellipse: s-maj=43.9km s-min=17.3km az=106.0*
*NEIC **10** 10:17:51.8±0.6, 49.03S×124.75E, h10km, mb4.4/1, Error ellipse: s-maj=28.9km s-min=10.7km az=109.0*

ISC 10 10:17:49.7±0.7, 49.0S±0.1×124.8E±0.4, h10km, n12, σ0°61/8, mb4.0/8, MS3.7/4, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.05**	**338**	LR	LR	10 26 42.4	
	comp=Z,13nm,20.7s,baz=297,slow=31						
STKA	**Stephens Creek**	**21.30**	**43**	P	**P**	**10 22 39.2**	**+0.6**
	4.9nm,0.9s,mb3.8,baz=194,slow=8.9,SNR=6.1						
STKA				LR	LR	10 29 15.1	
	comp=Z,245nm,21.4s,MS3.6,baz=202,slow=32						
ASAR	**Alice Springs**	**26.32**	**19**	P	**P**	**10 23 26.8**	**-0.5**
	2.8nm,0.8s,mb3.8,baz=198,slow=9.1,SNR=28						
ASAR				PcP	PcP	10 26 52.8	-1.2
	0.4nm,0.8s,baz=170,slow=3.1,SNR=3.7						
ASAR				LR	LR	10 32 46.3	
	comp=Z,255nm,18.8s,MS3.8,baz=230,slow=34						
WRA	**Warramunga Arr**	**30.02**	**18**	P	**P**	**10 23 59.6**	**-1.2**
	0.5nm,0.9s,mb3.2,baz=194,slow=7.9,SNR=4.7						
WRA				PcP	PcP	10 27 01.4	-1.6
	0.6nm,0.8s,baz=204,slow=2.9,SNR=3.7						
WRAB	**Tennant Creek**	**30.03**	**18**	*eP*	**P**	**10 24 01.4**	**+0.5**
	9.3nm,1.4s,mb4.3						
VNDA	**Vanda**	**31.89**	**166**	P	**P**	**10 24 16.8**	**0.0**
	2.4nm,0.9s,mb4.0,baz=288,slow=6.4,SNR=2.8						
VNDA				LR	LR	10 35 51.8	
	comp=Z,156nm,18.1s,MS3.7,baz=328,slow=34						
CTA	**Charters Tower**	**33.62**	**38**	LR	LR	10 37 25.9	
	comp=Z,192nm,19.1s,MS3.8,baz=223,slow=35						
MAW	**Mawson**	**35.50**	**216**	P	**P**	**10 24 47.7**	**-0.3**
	3.6nm,0.7s,mb4.4,baz=64,slow=11,SNR=3.5						
SNAA	**Sanae**	**54.05**	**198**	P	**P**	**10 27 15.9**	**+0.1**
	3.8nm,0.8s,mb4.4,baz=148,slow=11,SNR=12						
CMAR	**Chiang Mai Arr**	**71.01**	**334**	P	**P**	**10 29 10.4**	**+0.8**
	0.9nm,0.6s,mb3.9,baz=181,slow=5.5,SNR=7.0						
TXAR	**Lajitas Array**	**138.43**	**100**	PKhKP		10 37 13.9	
	0.3nm,0.8s,baz=214,slow=4.5,SNR=3.5						
YKA	**Yellowknife Ar**	**145.

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KELI	**Kelakatan**	**0.49**	**333**	⇓*i*Pn	P	10 53 01.8	-0.3
KELI				⇓*i*Sn	S	10 53 18.9	-1.3
SRDI	**Scrawed**	**0.59**	**287**	⇑*i*Pn	P	10 53 02.2	-0.4
	56nm,0.1s						
SRDI				⇓*i*Sn	S	10 53 19.1	-2.0
RATI	**Rata**	**0.81**	**95**	⇑*i*Pn	P	10 53 03.8	0.0
	296nm,0.2s						
RATI				⇓*i*Sn	S	10 53 21.5	-1.7
KEDI	**Kedomdong**	**1.39**	**83**	⇓*i*Pn	P	10 53 08.1	-0.6
	305nm,0.2s						

IDC 10 10:54:46.1±1.1, 13.32N×92.73E, mb3.7/4, mb1 3.8/5, mb1mx3.6/16, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=52.1km s-min=22.9km az=40.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.65**	**179**	*eP*	Pn	10 55 26.7	+10
PBA				*eS*	Sb	10 55 50.0	+11
PBA				*e*		10 56 04.7	
	comp=E,345nm,0.6s						
PBA				*e*		10 56 05.0	
	comp=N,620nm,0.6s						
CMAR	**Chiang Mai Arr**	**7.87**	**49**	Pn	Pn	10 56 41.8	-2.8
	comp=N,0.2nm,0.3s,baz=236,slow=16,SNR=3.2						
WRA	**Warramunga Arr**	**52.62**	**128**	P	P	11 04 02.3	-2.2
	comp=N,0.6nm,0.6s,baz=310,slow=7.9,SNR=12						
ASAR	**Alice Springs**	**54.52**	**132**	P	P	11 04 16.4	-2.0
	comp=N,0.4nm,0.6s,baz=311,slow=7.2,SNR=5.5						
BRTR	**Keskin Array B**	**57.90**	**309**	P	P	11 04 40.1	-2.3
	comp=N,0.6nm,0.7s,baz=129,slow=9.2,SNR=3.5						
GERES	**GERESS Array B**	**72.89**	**317**	P	P	11 06 17.2	-1.7
	comp=N,0.5nm,0.6s,baz=90,slow=4.9,SNR=3.9						

*IDC **10** 10:59:30.5±0.9, 30.15N×138.72E, h423km±10km, mb3.1/8, mb1 3.2/10, mb1mx3.1/20, mbtmp3.9/10, Error ellipse: s-maj=27.8km s-min=9.8km az=83.0*
*JMA **10** 10:59:32.1±0.3, 30.50N×139.17E, h461km, M3.6*
ISC 10 10:59:30.1±0.7, 30.19N±0.06×138.9E±0.2, h439km±7km, n16, σ0°84/22, mb3.3/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.02**	**15**	P	**P**	**11 00 37.8**	**+0.8**
	54nm,0.3s,baz=204,slow=13,SNR=23						
JHJ				S	**S**	**11 01 30.1**	**+0.4**
	16nm,0.3s,baz=240,slow=22,SNR=2.6						
JHJ2	**Mitsune**	**3.02**	**15**	P	**P**	**11 00 37.8**	**+0.8**
TK02	**Tokai 2**	**3.86**	**346**	P	**P**	**11 00 46.0**	**+2.1**
CBIJ	**Chichi jima**	**4.24**	**136**	P	**P**	**11 00 47.5**	**+0.1**
	12nm,0.3s,baz=272,slow=23,SNR=3.5						
CBIJ				S	**S**	**11 01 47.2**	**-1.1**
	19nm,0.3s,baz=308,slow=22,SNR=4.5						
BSO1	**Boso 1**	**4.80**	**21**	P	**P**	**11 00 52.7**	**0.0**
BSO1				*eS*	**S**	**11 01 58.0**	**+0.3**
JOD2	**Odawara 2**	**5.06**	**2**	P	**P**	**11 00 55.3**	**0.0**
JOD2				*eS*	**S**	**11 02 01.7**	**-0.7**
JRY	**Ryogami san**	**5.81**	**0**	P	**P**	**11 01 02.9**	**0.0**
JRY				*eS*	**S**	**11 02 14.0**	**-2.0**
JMK	**Ichinoseki**	**8.95**	**12**	P	**P**	**11 01 37.7**	**+0.5**
JMK				*eS*	**S**	**11 03 16.8**	**-1.1**
WRA	**Warramunga Arr**	**50.03**	**186**	P	**P**	**11 07 44.2**	**-0.4**
	1.5nm,0.5s,mb3.6,baz=1.7,slow=7.9,SNR=43						
ASAR	**Alice Springs**	**53.76**	**186**	P	**P**	**11 08 11.4**	**-0.4**
	0.5nm,0.3s,mb3.0,baz=359,slow=5.5,SNR=15						
BVAR	**Borovoye Array**	**53.80**	**316**	P	**P**	**11 08 10.7**	**-1.1**
	0.4nm,0.3s,mb3.1,baz=104,slow=6.1,SNR=4.4						
ILAR	**Eielson Array**	**56.44**	**30**	P	**P**	**11 08 30.9**	**+0.8**
	0.4nm,0.8s,mb2.8,baz=262,slow=5.6,SNR=4.0						
STKA	**Stephens Creek**	**61.78**	**177**	P	**P**	**11 09 06.5**	**+0.1**
	1.2nm,0.7s,mb3.5,baz=124,slow=4.6,SNR=2.6						
ARCES	**ARCESS Array B**	**69.66**	**340**	P	**P**	**11 09 55.3**	**+0.2**
	1.7nm,0.7s,mb3.7,baz=67,slow=9.2,SNR=4.9						
YKA	**Yellowknife Ar**	**70.81**	**28**	P	**P**	**11 10 03.1**	**+1.2**
	0.4nm,0.9s,mb2.9,baz=297,slow=6.0,SNR=5.5						
FINES	**FINESS Array B**	**73.88**	**333**	P	**P**	**11 10 19.3**	**-0.5**
	3.5nm,1.0s,mb3.9,baz=199,slow=34,SNR=3.4						

*IDC **10** 11:06:44.6±1.2, 5.00N×95.83E, mb4.1/6, mb1 4.3/7, mb1mx4.1/16, mbtmp4.1/7, ML4.1/1, MS2.7/1, Ms1 2.9/1, ms1mx2.5/17, Error ellipse: s-maj=64.1km s-min=20.0km az=54.0*
*NEIC **10** 11:06:49.0±0.6, 4.48N×95.47E, h30km, mb4.0/1, Error ellipse: s-maj=23.5km s-min=10.1km az=53.0*
ISC 10 11:06:46.9±0.8, 4.5N±0.1×95.5E±0.2, h30km, n12, σ0°68/12, mb4.1/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.29**	**14**	Pn	**P**	**11 10 09.7**	**+0.1**
	0.3nm,0.3s,baz=203,slow=11,SNR=12						
CMAR				LR	LR	11 15 01.3	
	comp=Z,30nm,18.5s,baz=202,slow=36						
HYB	**Hyderabad**	**20.96**	**309**	*eP*	**P**	**11 11 31.0**	**+0.9**
HYB	**Hyderabad**	**20.96**	**309**	*i P*	**P**	**11 11 31.0**	**+0.9**
SONM	**Songino Array**	**44.20**	**11**	P	**P**	**11 14 50.0**	**-5.0**
	1.1nm,1.0s,mb3.6,baz=187,slow=9.3,SNR=7.5						
WRA	**Warramunga Arr**	**45.27**	**124**	P	**P**	**11 15 03.7**	**-0.4**
	2.2nm,0.5s,mb4.2,baz=304,slow=9.5,SNR=23						
WB2	**Warramunga Arr**	**45.28**	**124**	*eP*	**P**	**11 15 03.5**	**-0.6**
ASPA	**Alice Springs**	**46.77**	**129**	*eP*	**P**	**11 15 16.2**	**+0.4**
ASAR	**Alice Springs**	**46.77**	**129**	P	**P**	**11 15 16.6**	**+0.7**
	4.0nm,0.5s,mb4.7,baz=299,slow=7.6,SNR=29						
ASAR				PcP	PcP	11 16 50.1	+0.9
	0.9nm,0.8s,baz=302,slow=3.2,SNR=4.8						
CHKZ	**Chkalovo**	**53.08**	**342**	*eP*	**P**	**11 16 03.3**	**-0.4**
	1.5nm,0.9s,mb3.9						
STKA	**Stephens Creek**	**56.85**	**133**	P	**P**	**11 16 31.6**	**+0.1**
	2.6nm,0.8s,mb4.3,baz=303,slow=10,SNR=5.2						
BRTR	**Keskin Array B**	**65.63**	**312**	P	**P**	**11 17 29.2**	**-1.5**
	0.9nm,0.9s,mb3.8,baz=123,slow=7.5,SNR=3.9						
ARCES	**ARCESS Array B**	**78.87**	**340**	P	**P**	**11 18 49.3**	**+0.7**
	1.6nm,0.8s,mb4.0,baz=108,slow=5.7,SNR=2.9						

CASC 10 11:08:22.9±1.7, 13.28N×89.58W, h53km±18km, MD3.8, ML4.1, 6C-11D, El Salvador

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.53**	**40**	⇑*eP*	P	11 08 34.8	+0.1
SNET				*eS*	S	11 08 44.0	+0.7
SNET				*i*		11 08 49.1	
	comp=Z,8μm,0.3s						
BOQS	**Boqueron**	**0.54**	**32**	⇓*iP*	P	11 08 35.2	+0.4
SBLS	**San Blas**	**0.56**	**356**	⇓*eP*	P	11 08 35.5	+0.4
SNJE	**San Jose**	**0.59**	**357**	⇓*eP*	P	11 08 35.8	+0.3
LFRS	**El Faro**	**0.61**	**55**	⇓*iP*	P	11 08 35.8	+0.1
RTR	**El Retiro**	**0.62**	**354**	⇓*eP*	P	11 08 36.3	+0.5
LFU	**La Fuente**	**0.65**	**44**	⇓*iP*	P	11 08 36.7	+0.5
LBRS	**Las Brisas**	**0.69**	**48**	⇓*eP*	P	11 08 37.2	+0.5
LBRS				*eS*	S	11 08 47.9	+0.8
LCBS	**La Ceiba**	**0.70**	**57**	⇓*iP*	P	11 08 36.8	+0.1
SNVI	**San Vicente**	**0.79**	**65**	⇑*eP*	P	11 08 38.4	+0.3
SNVI				*eS*	S	11 08 50.7	+1.4
RBDL	**Robledal**	**0.84**	**353**	⇑*eP*	P	11 08 39.2	+0.5
MTO2	**Montecristo 2**	**1.14**	**11**	⇓*iP*	P	11 08 43.1	+0.3
MTO2				*eS*	S	11 08 58.3	+0.7
IXG	**Ixpaco**	**1.23**	**317**	⇑*eP*	P	11 08 43.9	-0.3
IXG				*eS*	S	11 08 59.2	-0.8
IXG				AML	AML	11 09 03.3	
	comp=E,10μm,0.4s						
BLLM	**Bellamira**	**1.32**	**83**	*eP*	P	11 08 45.1	-0.4
BLLM				*eS*	S	11 09 02.1	0.0
CAHU	**Cacacuatique**	**1.42**	**70**	⇑*eP*	P	11 08 46.7	-0.2
NBG	**Las Nubes**	**1.50**	**330**	⇓*eP*	P	11 08 48.4	+0.3
CNCH	**Conchagua**	**1.70**	**90**	⇑*eP*	P	11 08 50.4	-0.4
CNCH				*eS*	S	11 09 11.9	+0.5
JAT	**Jato**	**2.25**	**298**	⇓*eP*	P	11 08 58.2	-0.3
JAT				*eS*	S	11 09 24.9	-0.2
TEL3	**Telica 3**	**2.76**	**104**	*eP*	P	11 09 05.7	-0.1
TELN	**Telica**	**2.76**	**104**	*eP*	P	11 09 05.6	-0.2
TELN				*eS*	S	11 09 37.5	-0.6
MIRN	**Miramar**	**2.92**	**106**	*eP*	P	11 09 07.1	-0.9
MIRN				*eS*	S	11 09 41.5	-0.6
MOMJ	**Momotombo**	**3.09**	**106**	*eP*	P	11 09 10.5	+0.1
COPN	**Copaltepe**	**3.11**	**110**	*eP*	P	11 09 10.2	-0.5
COPN				*eS*	S	11 09 45.2	-1.7

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
APYN	**Apoyeque**	**3.32**	**108**	*eP*	P	11 09 13.4	-0.2
MGAN	**Managua**	**3.44**	**109**	*eS*	S	11 09 52.1	-3.1
MGAN				*i*		11 09 53.8	
	comp=E,213nm,0.2s						

*IDC **10** 11:14:51.6±4.9, 28.54S×111.85W, mb3.6/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.6/5, MS3.9/6, Ms1 3.9/6, ms1mx3.4/20, Error ellipse: s-maj=247.2km s-min=42.8km az=118.0*
*NEIC **10** 11:14:52.6±0.8, 28.63S×111.80W, h10km, mb4.6/4, Error ellipse: s-maj=24.9km s-min=18.0km az=65.0*
ISC 10 11:14:51.5±3.4, 28.5S±0.5×111.7W±0.7, h10km, n21, σ0°62/14, mb3.9/9, MS3.9/6, Easter Island region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**36.91**	**108**	*eP*	**P**	**11 22 02.2**	**-0.1**
LPAZ	**La Paz**	**41.85**	**83**	LR	LR	11 36 55.8	
	comp=Z,113nm,21.5s,MS3.7,baz=298,slow=32						
TXAR	**Lajitas Array**	**58.01**	**8**	P	**P**	**11 24 47.2**	**+0.3**
	0.4nm,0.9s,mb3.4,baz=191,slow=9.2,SNR=4.3						
TXAR	**Lajitas Array**	**58.01**	**8**	P	**P**	**11 24 47.2**	**+0.3**
JCT	**Junction City**	**59.73**	**12**	*eP*	**P**	**11 24 59.8**	**+0.9**
	4.8nm,0.9s,mb4.5						
BDFB	**Brasilia**	**59.78**	**92**	LR	LR	11 48 24.7	
	comp=Z,89nm,19.1s,MS3.9,baz=174,slow=34						
TUC	**Tucson**	**60.47**	**1**	*eP*	**P**	**11 25 04.1**	**+0.2**
	0.9nm,0.8s,mb3.9						
CPRX	**Cap Rock**	**61.63**	**7**	*eP*	**P**	**11 25 11.6**	**-0.2**
VNDA	**Vanda**	**61.64**	**194**	LR	LR	11 48 03.0	
	comp=Z,77nm,18.4s,MS3.9,baz=328,slow=32						
ANMO	**Albuquerque**	**63.29**	**5**	P	**P**	**11 25 22.6**	**-0.2**
	0.2nm,0.3s,mb3.7,baz=197,slow=11,SNR=2.4						
PV10	**Paradox Valley**	**66.56**	**2**	*eP*	**P**	**11 25 42.0**	**-1.9**
NVAR	**Mina Array Bea**	**66.86**	**354**	P	**P**	**11 25 45.6**	**-0.2**
	1.3nm,0.8s,mb4.0,baz=180,slow=9.0,SNR=7.0						
WVOR	**Wild Horse Val**	**70.86**	**355**	*eP*	**P**	**11 26 10.9**	**+0.4**
	10.0nm,1.5s,mb4.5						
PDAR	**Pinedale Array**	**70.93**	**2**	P	**P**	**11 26 10.8**	**-0.1**
	0.4nm,0.6s,mb3.5,baz=164,slow=6.6,SNR=4.9						
PDAR				LR	LR	11 52 36.9	
	comp=Z,41nm,19.2s,MS3.7,baz=158,slow=32						
HLID	**Hailey**	**71.74**	**358**	*eP*	**P**	**11 26 15.8**	**+0.1**
	3.8nm,0.9s,mb4.3						
MOOW	**Moose Ponds**	**71.89**	**1**	*eP*	**P**	**11 26 16.5**	**-0.1**
MAW	**Mawson**	**84.12**	**178**	LR	LR	12 02 33.3	
	comp=Z,126nm,18.6s,MS4.3,baz=245,slow=34						
YKA	**Yellowknife Ar**	**90.69**	**359**	P	**P**	**11 27 55.8**	**+0.7**
	0.2nm,0.6s,mb3.6,baz=175,slow=4.8,SNR=8.9						
YKA				LR	LR	12 03 39.1	
	comp=Z,55nm,21.7s,MS4.0,baz=255,slow=32						
SONM	**Songino Array**	**144.84**	**314**	PKP	PKPdf	11 34 29.3	-2.2
	0.7nm,1.0s,baz=63,slow=1.9,SNR=3.1						
CMAR	**Chiang Mai Arr**	**150.26**	**257**	PKPab	PKPab	11 34 50.6	-1.3
	0.7nm,0.8s,baz=117,slow=2.0,SNR=4.4						
CMAR	**Chiang Mai Arr**	**150.26**	**257**	PKPab	PKPab	11 34 50.6	-1.3

*NEIC **10** 11:20:56.4, 17.03N×101.30W, h20km, MD4.0(MEX), After MEX.*
MEX 10 11:20:56.4±1.1, 17.03N×101.30W, h20km±18km, MD4.0, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.60**	**345**	⇓*iP*	Pb	11 21 06.2	-1.8
ZIIG				*i* S	Sb	11 21 13.6	-2.4
CAIG	**El Cayaco**	**0.99**	**89**	*i P*	Pb	11 21 11.3	-3.3
CAIG				*i* S	Sb	11 21 23.4	-3.9
ACX	**Acapulco**	**1.33**	**97**	*i P*	Pn	11 21 17.7	-2.5
ACX				*i* S	Sb	11 21 33.3	-3.9
PLIG	**Platanillo**	**2.19**	**51**	*eP*	Pn	11 21 28.4	-4.0
PLIG				*i* S	Sn	11 21 55.0	-4.1
MOIG	**Morelia**	**2.64**	**2**	*eP*	Pn	11 21 36.5	-2.3
MOIG				*i* S	Sn	11 22 06.6	-3.9
PPM	**Popocatepetl**	**3.25**	**51**	*i P*	Pn	11 21 42.5	-5.0
PPM				*i* S	Sn	11 22 22.9	-3.3
VHO	**Vista Hermosa**	**4.37**	**89**	*i P*	Pn	11 22 10.3	+6.9
VHO				*i* S	Sn	11 22 46.9	-7.5

*NEIC **10** 11:20:57.0, 30.82S×71.37W, h63km, MD4.0(GUC), After GUC.*
GUC 10 11:20:57.0±1.0, 30.82S×71.37W, h63km±7km, MD4.0, ML3.9, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.26**	**34**	*i P*	P	11 21 07.4	+0.2
OVCH				*i* S	S	11 21 15.2	+0.4
OVCH				AMP		11 21 15.8	
	comp=N,7μm,0.2s						
TLL	**Tololo Astrono**	**0.81**	**37**	*i P*	P	11 21 13.9	+0.9
TLL				*i* S	S	11 21 26.0	+1.2
TLL				AMP		11 21 28.7	
	comp=N,5μm,0.6s						
PACH	**Papudo**	**1.71**	**182**	*i P*	P	11 21 24.0	-1.2
PACH				*i* S	S	11 21 44.6	-1.3
JACH	**Jahuel**	**1.97**	**161**	⇑*i P*	P	11 21 28.8	+0.1
JACH				*i* S	S	11 21 52.6	+0.4
VACH	**Vallenar**	**2.30**	**13**	*eP*	P	11 21 34.2	+0.7
VACH				*i* S	S	11 22 02.0	+1.4
VACH				AMP		11 22 19.0	
	comp=E,4μm,0.6s						
FCH	**Farellones**	**2.66**	**160**	*eP*	P	11 21 38.3	-0.2
FCH				*i* S	S	11 22 10.8	+1.2
FCH				AMP		11 22 13.7	
	comp=E,247nm,0.2s						
CLCH	**Cerro Calan**	**2.66**	**165**	*eP*	P	11 21 38.2	-0.4
CLCH				*i* S	S	11 22 09.6	-0.1
CLCH				AMP		11 22 24.9	
	comp=E,328nm,0.5s						
RCDM	**Rinconada Maip**	**2.70**	**170**	*eP*	P	11 21 38.4	-0.7
RCDM				AMP		11 22 12.8	
	comp=E,508nm,0.1s						
LMEL	**Las Melosas**	**3.17**	**162**	*eP*	P	11 21 45.7	0.0
LMEL				*i* S	S	11 22 22.1	-0.5
LMEL				AMP		11 22 25.1	
	comp=E,267nm,0.2s						

*IDC **10** 11:40:29.4±1.3, 5.07N×92.62E, mb3.8/6, mb1 3.9/7, mb1mx3.8/18, mbtmp3.8/7, ML3.8/1, Error ellipse: s-maj=60.7km s-min=22.5km az=49.0*
ISC 10 11:40:32.7±1.0, 4.8N±0.1×92.6E±0.2, h33km, n14, σ1°21/14, mb4.2/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.92**	**24**	Pn	**P**	**11 44 03.8**	**+0.7**
	0.3nm,0.3s,baz=228,slow=14,SNR=5.9						
SHL	**Shillong**	**20.65**	**358**	*eP*	**P**	**11 45 09.0**	**-3.1**
JIRN	**Jiri**	**23.52**	**346**	*eP*	**P**	**11 45 40.9**	**+0.1**
	8.2nm,0.6s,mb4.3						
PKI	**Pulchoki**	**23.64**	**344**	*eP*	**P**	**11 45 41.8**	**-0.2**
	15nm,0.5s,mb4.7						
DMN	**Daman**	**23.76**	**343**	*eP*	**P**	**11 45 44.6**	**+1.5**
GUN	**Gumba**	**23.84**	**345**	*eP*	**P**	**11 45 44.8**	**+0.9**
	12nm,0.6s,mb4.5						
GKN	**Gorkha**	**24.27**	**343**	*eP*	**P**	**11 45 48.8**	**+0.7**
	24nm,0.6s,mb4.8						
KOLN	**Koldanda**	**24.38**	**340**	*eP*	**P**	**11 45 50.1**	**+1.0**
	12nm,0.6s,mb4.5						
SONM	**Songino Array**	**44.48**	**13**	P	**P**	**11 48 40.1**	**-2.5**
	0.6nm,0.7s,mb3.4,baz=199,slow=6.3,SNR=5.5						
WRA	**Warramunga Arr**	**47.86**	**122**	P	**P**	**11 49 08.9**	**-0.8**
	0.6nm,0.6s,mb3.8,baz=299,slow=9.2,SNR=5.0						
ASAR	**Alice Springs**	**49.24**	**127**	P	**P**	**11 49 22.1**	**+1.7**
	0.9nm,1.2s,mb3.7,baz=24,slow=36,SNR=3.0						
BVAR	**Borovoye Array**	**51.40**	**343**	P	**P**	**11 49 34.9**	**-1.5**
	1.5nm,0.7s,mb4.0,baz=153,slow=6.6,SNR=7.5						
GERES	**GERESS Array B**	**79.07**	**319**	P	**P**	**11 52 34.6**	**-0.8**
	0.7nm,0.6s,mb3.8,baz=108,slow=4.2,SNR=6.4						
DAVOX	**Davos**	**81.51**	**316**	P	**P**	**11 52 48.3**	**-0.1**
	2.6nm,0.6s,mb4.4,baz=184,slow=5.3,SNR=7.2						

*IDC **10** 11:41:13.6±1.0, 53.21N×167.27W, h40km±7km, mb3.7/14, mb1 4.0/15, mb1mx3.9/21, mbtmp3.9/15, ML3.6/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/22, Error ellipse: s-maj=21.7km s-min=14.8km az=171.0*

*NEIC **10** 11:41:14.4±0.6, 53.17N×167.18W, h48km±5km, mb4.1/3, ML4.0(AEIC), Error ellipse: s-maj=11.2km s-min=4.3km az=166.0*
ISC 10 11:41:13.9±0.6, 53.21N±0.09×167.15W±0.07, h60km±5km, h41km±2.5km: pP-P, n46, σ0°76/49, mb4.0/16, MS3.5/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.50**	**294**	P	**P**	**11 41 25.6**	**-0.2**
OKFG				S	**S**	**11 41 35.1**	**+0.5**
OKER	**East Rim**	**0.59**	**295**	P	**P**	**11 41 27.3**	**+0.4**
OKCE	**Okmok Cone E**	**0.64**	**290**	P	**P**	**11 41 27.8**	**+0.4**
OKCE				S	**S**	**11 41 38.8**	**+1.2**
MNAT	**Makushin Natee**	**0.73**	**22**	P	**P**	**11 41 28.5**	**0.0**
MNAT				S	**S**	**11 41 39.5**	**+0.1**
MSW	**Makushin Switc**	**0.74**	**17**	P	**P**	**11 41 28.7**	**0.0**
UNV	**Unalaska Valle**	**0.74**	**31**	P	**P**	**11 41 27.7**	**-1.0**
UNV				S	**S**	**11 41 38.8**	**-1.0**
MTBL	**Makushin Table**	**0.81**	**20**	P	**P**	**11 41 29.9**	**+0.4**
NIKO	**Nikolski**	**1.05**	**258**	P	**P**	**11 41 32.1**	**-0.8**
NIKO				S	**S**	**11 41 45.3**	**-1.6**
AKLV	**Akutan Long Va**	**1.19**	**36**	P	**P**	**11 41 34.3**	**-0.4**
AKGG	**Akutan Green G**	**1.21**	**34**	P	**P**	**11 41 35.0**	**+0.1**
WESS	**West Dahl Sout**	**1.92**	**48**	P	**P**	**11 41 44.8**	**-0.1**
WFAR	**Faris Peak**	**1.93**	**46**	P	**P**	**11 41 45.2**	**+0.1**
WESN	**West Dahl Nort**	**2.04**	**47**	P	**P**	**11 41 46.7**	**+0.2**
WTUG	**Tugumak**	**2.31**	**44**	P	**P**	**11 41 50.1**	**-0.3**
FALS	**False Pass**	**2.75**	**52**	P	**P**	**11 41 56.8**	**+0.2**
BALA	**Baldy Mountain**	**3.24**	**51**	P	**P**	**11 42 04.1**	**+0.5**
DT1	**Dutton Round H**	**3.44**	**55**	P	**P**	**11 42 06.5**	**+0.2**
DTNA	**Dutton South F**	**3.47**	**54**	P	**P**	**11 42 06.6**	**-0.2**
DOL	**Dolgoi Island**	**3.66**	**56**	P	**P**	**11 42 08.9**	**-0.6**
HAG	**Hague Volcano**	**3.73**	**53**	P	**P**	**11 42 11.1**	**+0.7**
SPIA	**Saint Paul Isl**	**4.35**	**337**	P	**P**	**11 42 20.6**	**+1.5**
EYAK	**Cordova Ski Ar**	**13.77**	**49**	*eP*	**P**	**11 44 27.2**	**0.0**
IMA	**Indian Mountai**	**14.53**	**22**	*eP*	**P**	**11 44 39.4**	**+2.2**
	30nm,1.0s						
ILAR	**Eielson Array**	**15.50**	**34**	Pn	**P**	**11 44 48.5**	**-1.2**
	0.1nm,0.3s,baz=229,slow=11,SNR=11						
ILAR				LR	LR	11 51 18.5	
	comp=Z,140nm,20.1s,baz=336,slow=39						
DAWY	**Dawson**	**17.91**	**42**	*eP*	**P**	**11 45 17.9**	**-2.1**
DLBC	**Dease Lake**	**21.30**	**61**	*eP*	**P**	**11 45 56.3**	**-0.7**
	1.9nm,1.0s,mb3.4,baz=209,slow=15,SNR=2.5						
DLBC				LR	LR	11 54 54.5	
	comp=Z,56nm,19.1s,MS3.0,baz=168,slow=38						
DLBC	**Dease Lake**	**21.30**	**61**	*eP*	**P**	**11 45 57.8**	**+0.7**
INK	**Inuvik**	**21.90**	**34**	P	**P**	**11 46 02.5**	**-0.4**
	3.7nm,0.5s,mb4.1,baz=259,slow=10,SNR=12						
INK				LR	LR	11 55 22.8	
	comp=Z,88nm,20.0s,MS3.2,baz=223,slow=39						
INK	**Inuvik**	**21.90**	**34**	*eP*	**P**	**11 46 01.6**	**-1.4**
	3.8nm,0.6s,mb4.0						
YKA	**Yellowknife Ar**	**28.67**	**50**	P	**P**	**11 47 06.8**	**+0.2**
	0.7nm,0.6s,mb3.6,baz=277,slow=8.0,SNR=26						
YKA				pP	pP	11 47 18.0	-3.4
	0.4nm,0.5s,baz=274,slow=8.0,SNR=4.4						
YKA				PcP	PcP	11 50 16.0	-0.3
	1.2nm,1.0s,baz=280,slow=2.1,SNR=9.2						
YKA	**Yellowknife Ar**	**28.67**	**50**	P	**P**	**11 47 06.8**	**+0.2**
YKA				pP	pP	11 47 18.0	-3.4
YKA				PcP	PcP	11 50 16.0	-0.3
YBH	**Yreka Blue Hor**	**31.66**	**93**	P	**P**	**11 47 34.3**	**+1.0**
	0.9nm,0.5s,mb3.8,baz=210,slow=9.6,SNR=3.6						
NVAR	**Mina Array Bea**	**36.35**	**94**	P	**P**	**11 48 15.0**	**+1.3**
	0.2nm,0.4s,mb3.4,baz=315,slow=8.3,SNR=3.6						
NVAR				pP	pP	11 48 26.2	-2.7
	0.7nm,0.7s,baz=302,slow=9.3,SNR=3.0						
BW06	**Boulder Array**	**38.94**	**82**	*eP*	**P**	**11 48 35.5**	**+0.3**
	0.4nm,0.5s,mb3.4						
PDAR	**Pinedale Array**	**38.94**	**82**	P	**P**	**11 48 35.8**	**+0.6**
	0.7nm,0.7s,mb3.5,baz=290,slow=4.5,SNR=5.8						
PDAR				pP	pP	11 48 48.7	-1.7
	0.6nm,0.9s,baz=296,slow=4.3,SNR=3.1						
FCC	**Fort Churchill**	**39.36**	**52**	*eP*	**P**	**11 48 38.8**	**+0.3**
	11nm,0.6s,mb4.8						
ANMO	**Albuquerque**	**45.78**	**88**	PcP	PcP	11 51 08.7	+0.5
	1.3nm,0.8s,baz=297,slow=4.8,SNR=7.0						
TXAR	**Lajitas Array**	**51.40**	**91**	P	**P**	**11 50 14.2**	**-0.4**
	0.9nm,0.6s,mb3.9,baz=299,slow=5.3,SNR=17						
TXAR				pP	pP	11 50 24.7	-5.5
	1.4nm,0.8s,baz=299,slow=5.6,SNR=7.8						
SONM	**Songino Array**	**52.02**	**301**	P	**P**	**11 50 18.5**	**-0.4**
	2.2nm,1.4s,mb

0.4nm,0.5s,mb3.7,baz=302,slow=9.3,SNR=6.1
ASAR Alice Springs 49.57 127 P **P 12 00 49.0 +2.7**
0.4nm,0.5s,mb3.7,baz=303,slow=7.9,SNR=8.0
BVAR Borovoye Array 51.07 343 P **P 12 00 54.3 -3.0**
1.0nm,0.7s,mb3.9,baz=135,slow=8.2,SNR=6.9
GERES GERESS Array B 78.72 319 P **P 12 03 54.5 -2.4**
0.8nm,0.6s,mb3.8,baz=112,slow=5.3,SNR=7.1

IDC 10 11:55:50.2±1.7, 5.12N×94.85E, mb3.5/5, mb1 3.7/6, mb1mx3.6/17, mbtmp3.5/6, ML3.7/1, Error ellipse: s-maj=78.7km s-min=23.6km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.85**	**16**	Pn	P	11 59 15.6	+5.3
	0.1nm,0.3s,baz=207,slow=10,SNR=5.1						
SONM	**Songino Array**	**43.70**	**11**	P	P	12 03 56.7	-1.9
	0.4nm,0.7s,baz=190,slow=7.5,SNR=3.8						
WRA	**Warramunga Arr**	**46.12**	**124**	P	P	12 04 16.5	-1.9
	0.9nm,0.8s,baz=302,slow=9.3,SNR=4.7						
ASAR	**Alice Springs**	**47.63**	**129**	P	P	12 04 28.6	-1.8
	0.4nm,0.6s,baz=294,slow=7.7,SNR=4.9						
BVAR	**Borovoye Array**	**51.81**	**341**	P	P	12 04 59.9	-2.0
	0.9nm,0.9s,baz=143,slow=7.2,SNR=2.9						
GERES	**GERESS Array B**	**80.34**	**319**	P	P	12 08 03.4	-1.4
	0.3nm,0.3s,baz=117,slow=6.0,SNR=3.8						

IDC 10 12:05:57.6±6.8, 3.74N×94.88E, mb3.2/3, mb1 3.5/4, mb1mx3.4/16, mbtmp3.2/4, ML3.8/1, MS2.5/1, Ms1 2.7/1, ms1mx2.3/5, Error ellipse: s-maj=211.5km s-min=28.2km az=71.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.16**	**15**	Pn	P	12 09 34.5	-0.5
	0.1nm,0.3s,baz=204,slow=11,SNR=4.9						
CMAR				LR	LR	12 15 55.3	
	comp=Z,16nm,18.2s,baz=105,slow=39						
SONM	**Songino Array**	**45.03**	**11**	P	P	12 14 14.9	-2.0
	0.2nm,0.8s,baz=194,slow=5.9,SNR=2.1						
WRA	**Warramunga Arr**	**45.34**	**123**	P	P	12 14 17.2	-2.5
	0.2nm,0.4s,baz=302,slow=9.3,SNR=2.5						
ASAR	**Alice Springs**	**46.77**	**128**	P	P	12 14 29.8	-1.2
	0.5nm,0.9s,baz=292,slow=7.7,SNR=4.0						

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*SOF **10** 12:08:40.8, 45.83N×26.54E, h8km, MD3.0*
*MOS **10** 12:08:44.4±1.1, 45.83N×26.50E, h102km, mb4.6/1, Error ellipse: s-maj=14.0km s-min=10.3km az=107.3*
*BUC **10** 12:08:45.4±0.8, 45.68N×26.60E, h102km±8km, MD4.0/4, Error ellipse: s-maj=6.3km s-min=5.8km az=59.0*
*NEIC **10** 12:08:45.8±0.9, 45.72N×26.58E, h102km±12km, Error ellipse: s-maj=8.3km s-min=7.3km az=218.0*
*CSEM **10** 12:08:46.2±0.1, 45.71N×26.65E, h80km, MD3.9/4, Error ellipse: s-maj=2.5km s-min=2.2km az=78.0*

ISC 10 12:08:45.4±0.5, 45.69N±0.03×26.64E±0.04, h103km±4km, n42, σ1°07/68, 10C-11D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.19**	**19**	P	P	12 08 59.1	-0.9
VRI				S	S	12 09 09.1	-2.0
VRI	**Vrincioaia**	**0.19**	**19**	↑iP	P	12 08 59.3	-0.7
VRI				*i* S	S	12 09 10.8	-0.2
VRI	**Vrincioaia**	**0.19**	**19**	↑iP	P	12 08 59.3	-0.7
VRI				*i* S	S	12 09 10.8	-0.3
BRD	**Bordesti**	**0.30**	**116**	↓iP	P	12 09 01.5	+1.0
BRD				*i* S	S	12 09 13.5	+1.7
BRD	**Bordesti**	**0.30**	**116**	↓iP	P	12 09 01.5	+1.0
BRD				eS	S	12 09 13.5	+1.7
MLR	**Muntele Rosu**	**0.52**	**248**	↑iP	P	12 09 01.5	-0.4
MLR				*i* S	S	12 09 12.3	-1.9
ISR	**Istrita**	**0.57**	**187**	P	P	12 09 02.6	+0.4
ISR				S	S	12 09 11.6	-3.2
ISR	**Istrita**	**0.57**	**187**	↓iP	P	12 09 02.7	+0.5
ISR				*i* S	S	12 09 15.5	+0.7
ISR	**Istrita**	**0.57**	**187**	↓iP	P	12 09 02.7	+0.5
ISR				*i* S	S	12 09 15.5	+0.7
PGOR	**Pogoanele**	**0.82**	**162**	↑iP	P	12 09 05.1	+0.6
PGOR				*i* S	S	12 09 20.0	+1.4
SNX	**Sinaia**	**0.85**	**248**	↑iP	P	12 09 05.0	+0.1
SNX				*i* S	S	12 09 19.0	-0.4
CFR	**Carcaliu**	**1.17**	**115**	P	P	12 09 08.2	-0.2
CFR				S	S	12 09 24.3	-1.3
CFR	**Carcaliu**	**1.17**	**115**	↓iP	P	12 09 08.3	-0.1
CFR				*i* S	S	12 09 24.4	-1.2
CFR	**Carcaliu**	**1.17**	**115**	↓iP	P	12 09 08.3	-0.1
CFR				*i* S	S	12 09 24.4	-1.2
AMRR		**1.18**	**155**	↓iP	P	12 09 09.0	+0.5
MTUR	**Matau**	**1.20**	**248**	↑iP	P	12 09 09.4	+0.7
MTUR				*i* S	S	12 09 27.7	+1.5
BUC	**Bucharest**	**1.33**	**197**	*i* S	S	12 09 29.5	+0.7
HARR	**Harsova**	**1.35**	**137**	↓iP	P	12 09 10.9	+0.4
HARR				*i* S	S	12 09 28.6	-0.7
BUC1	**Bucharest**	**1.41**	**198**	↑iP	P	12 09 11.3	+0.2
BUC1				*i* S	S	12 09 29.5	-0.9
TLCR		**1.61**	**107**	↑iP	P	12 09 14.8	+1.1
TLCR				*i* S	S	12 09 35.0	+0.3
IAS	**Iasi**	**1.64**	**23**	↑iP	P	12 09 13.9	-0.1
IAS				*i* S	S	12 09 33.5	-1.7
TIRR	**Tirgusor**	**1.76**	**134**	↓iP	P	12 09 16.0	+0.5
TIRR				*i* S	S	12 09 37.1	-0.8
BURAR	**Bucovina Array**	**2.16**	**334**	↓iP	P	12 09 21.4	+0.6
BURAR				*i* S	S	12 09 48.6	+1.4
BURAR	**Bucovina Array**	**2.16**	**334**	↓iP	P	12 09 21.4	+0.6
BURAR				*i* S	S	12 09 48.6	+1.4
ZIMR		**2.22**	**205**	*i* S	S	12 09 46.8	-1.8
PSN	**Preselentsi**	**2.29**	**151**	P	P	12 09 23.0	+0.5
PSN				S	S	12 09 51.0	+0.8
CRAR	**CRAIOVA**	**2.43**	**237**	*i* S	S	12 09 50.9	-2.8
PRD	**Provadia**	**2.55**	**167**	P	P	12 09 27.0	+1.0
PVL	**Pavlikeni**	**2.64**	**201**	P	P	12 09 28.3	+1.0
JMB	**Yambol**	**3.22**	**181**	*e*P	P	12 09 34.5	-0.7
PGB	**Panagyurishte**	**3.60**	**210**	P	P	12 09 40.5	0.0
VTS	**Vitosha**	**3.96**	**220**	↑iP	P	12 09 44.3	-1.0
VTS				*i* S	S	12 10 26.4	-4.5
VTS	**Vitosha**	**3.96**	**220**	P	P	12 09 44.0	-1.3
RZN	**Rozhen**	**4.23**	**200**	*e*P	P	12 09 49.0	-0.1
LVV	**L'vov**	**4.49**	**338**	*e*P	P	12 09 47.0	-5.6
LVV				*e*		12 10 40.0	
KKB	**Krupnik**	**4.60**	**215**	P	P	12 09 54.0	-0.1
MMB	**Musomiste**	**4.61**	**208**	*e*P	P	12 09 58.0	+3.8
SEV	**Sevastopol'**	**5.11**	**100**	*i* P	P	12 10 01.3	+0.4
SEV				eS	S	12 10 56.3	-2.8
NIE	**Niedzica**	**5.68**	**313**	*e*PX	P	12 10 09.1	+0.4
SUDU	**Sudak**	**5.95**	**95**	*i* P	P	12 10 13.2	+0.7
SUDU				eS	S	12 11 16.7	-3.2
OJC	**Ojcow**	**6.45**	**317**	*e*P	P	12 10 16.1	-3.3
OJC	**Ojcow**	**6.45**	**317**	*e*PX	P	12 10 16.1	-3.3

WEL 10 12:21:56.6±0.3, 38.05S×176.16E, h187km±3km, ML3.5/10, Error ellipse: s-maj=4.3km s-min=4.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.78**	**106**	PN	P	12 22 23.3	-0.5
URZ				SN	S	12 22 43.9	-1.0
MWZ	**Matawai**	**1.12**	**105**	PN	P	12 22 26.1	0.0
MWZ				SN	S	12 22 49.1	+0.2
BKZ	**Black Stump Fm**	**1.15**	**167**	PN	P	12 22 26.3	-0.1
BKZ				SN	S	12 22 49.0	-0.4
TWVZ	**Taurewa**	**1.17**	**209**	PN	P	12 22 26.5	0.0
NGZ	**Ngauruhoe**	**1.21**	**201**	PN	P	12 22 26.9	+0.1
CNZ	**Chateau**	**1.24**	**202**	PN	P	12 22 27.1	-0.1
TUVZ	**Tukino**	**1.28**	**198**	*e*PN	P	12 22 27.4	-0.1
FWVZ	**Far West T-bar**	**1.29**	**201**	*e*PN	P	12 22 27.6	0.0
MOVZ	**Moawhango**	**1.39**	**193**	PN	P	12 22 27.9	-0.6
MOVZ				eSN	S	12 22 51.8	-1.4
PUZ	**Puketiti**	**1.66**	**91**	PN	P	12 22 30.4	-0.6
PUZ				SN	S	12 22 56.6	-0.9
WAZ	**Wanganui**	**1.93**	**208**	PN	P	12 22 32.8	-1.0
TSZ	**Takapari Road**	**2.01**	**184**	PN	P	12 22 33.7	-0.9
TSZ				SN	S	12 23 02.6	-1.3
PWZ	**Pawanui**	**2.05**	**165**	PN	P	12 22 34.7	-0.3
PWZ				SN	S	12 23 03.9	-0.8
BFZ	**Birch Farm**	**2.63**	**178**	PN	P	12 22 40.2	-1.5
MRZ	**Mangatainoka R**	**2.65**	**190**	PN	P	12 22 39.7	-2.2
KIW	**Kapiti Island**	**2.97**	**199**	PN	P	12 22 42.8	-2.9
MTW	**Mount Morrison**	**3.15**	**189**	PN	P	12 22 44.8	-3.1
CAW	**Cannon Point**	**3.17**	**195**	PN	P	12 22 45.2	-3.0
MSWZ	**Moikau Station**	**3.43**	**191**	PN	P	12 22 48.0	-3.4
BHW	**Baring Head**	**3.50**	**196**	PN	P	12 22 48.6	-3.7
TUWZ	**Tuamarina**	**3.78**	**206**	PN	P	12 22 52.1	-3.8

NEIC 10 12:33:10.9, 9.89N×84.12W, h6km, MD4.3(CASC), 1C-1D, After CASC., Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAJ	**Bijagual**	**0.03**	**187**	*e*P	Pg	12 33 21.0	+9.0
SJS	**Escuela Geolog**	**0.08**	**52**	↑iP	Pg	12 33 12.9	+0.1
SJS				eS	Sg	12 33 14.8	+0.7
LCR2	**La Lucha 2**	**0.18**	**142**	*e*P	Pg	12 33 15.6	+0.9
ICR	**Volcan Irazu**	**0.30**	**72**	↓*e*P	Pg	12 33 17.7	+0.8
VPS2	**Volcan Poas 2**	**0.32**	**339**	*e*P	Pg	12 33 18.2	+0.8
URSC	**Urasca**	**0.34**	**99**	*e*P	Pg	12 33 18.8	+1.0
CGA2	**Cerro Gallo 2**	**0.36**	**290**	*e*P	Pg	12 33 18.4	+0.2
QCR	**Quepos**	**0.46**	**186**	*e*P	Pg	12 33 20.7	+0.5
BUS	**Buena Vista**	**0.48**	**133**	*e*P	Pg	12 33 21.0	+0.4
TRTC	**Tortuguero**	**0.79**	**30**	*e*P	Pb	12 33 26.2	-0.4
FORC	**Fortuna**	**0.79**	**317**	*e*P	Pb	12 33 26.3	-0.4
JTS	**JuntasAbangare**	**0.91**	**296**	*e*Pg	Pg	12 33 27.0	-2.2
JTS				*e*Sg	Sg	12 33 38.7	-2.7
JCR	**Jicaral**	**0.98**	**268**	*e*P	Pb	12 33 29.2	-0.7
JCR				eS	Sb	12 33 42.7	-0.3
ACR	**Cerro Adams**	**1.54**	**143**	*e*P	Pn	12 33 38.5	-0.6

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*CSEM **10** 12:47:49.8±0.1, 32.30N×48.74E, h35km, ML3.7/1, Error ellipse: s-maj=2.9km s-min=1.7km az=99.0*
*THR **10** 12:47:49.9±0.5, 32.41N×48.64E, h18km±6km, ML3.0*
*TEH **10** 12:47:51.6, 32.42N×48.79E, h10km, Mn3.0*

ISC 10 12:47:49.7±1.5, 32.47N±0.05×48.83E±0.08, h0km±14km, n12, σ0°47/14, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.36**	**183**	*e*PG	**Pg**	**12 47 56.9**	**0.0**
SHGR				AML	AML	12 48 11.2	
	comp=N,2μm,0.3s						
IKOM	**Komasi**	**2.02**	**328**	Pn	**Pn**	**12 48 25.5**	**+0.1**
IBRJ	**Borojen**	**2.19**	**108**	Pn	**Pn**	**12 48 27.9**	**+0.2**
ASAO	**Ashtian**	**2.30**	**26**	*e*PN	**Pn**	**12 48 30.8**	**+1.4**
ASAO				*e*SG	**Sg**	**12 49 06.3**	**0.0**
ASAO				AML	AML	12 49 14.0	
	comp=N,66nm,0.5s						
ASAO	**Ashtian**	**2.30**	**26**	*e*Pn	**Pn**	**12 48 30.8**	**+1.4**
	SNR=52						
ASAO				*e*Sg	**Sg**	**12 49 06.3**	**0.0**
	comp=N,66nm,0.5s,SNR=91						
IVIS	**Veys**	**2.63**	**322**	Pn	**Pn**	**12 48 34.1**	**0.0**
SNGE	**Sanandaj**	**2.89**	**335**	*e*PN	**Pn**	**12 48 37.3**	**-0.5**
SNGE				AML	AML	12 49 26.9	
	comp=N,29nm,0.5s						
IDHR	**Dehrash**	**3.01**	**318**	Pn	**Pn**	**12 48 39.7**	**+0.1**
IRAZ	**Razeghan**	**3.07**	**17**	Pn	**Pn**	**12 48 40.3**	**0.0**
IDMV	**Damavand**	**4.09**	**40**	Pn	**Pn**	**12 48 54.5**	**-0.3**
IAFJ	**Afjeh**	**4.14**	**35**	Pn	**Pn**	**12 48 55.2**	**-0.3**
IFIR	**Firoozkooh**	**4.54**	**45**	Pn	**Pn**	**12 49 00.7**	**-0.6**

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*GUC **10** 12:52:30.3±0.7, 31.32S×69.32W, h148km±8km, MD4.1, ML4.6*
*NEIC **10** 12:52:30.2±0.4, 31.32S×68.90W, h106km±4km, mb4.4/11, MD4.1(GUC), Error ellipse: s-maj=7.3km s-min=4.5km az=93.0*
NEIC Felt [III] at San Juan.
*IDC **10** 12:52:31.5±0.9, 31.38S×68.98W, h118km±8km, mb3.9/8, mb1 4.1/10, mb1mx4.0/15, mbtmp4.3/10, Error ellipse: s-maj=26.8km s-min=16.7km az=77.0*

ISC 10 12:52:29.5±0.4, 31.30S±0.03×68.96W±0.06, h112km±4km, n57, σ0°90/70, mb4.2/19, 10C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**1.58**	**177**	↓iP	**P**	**12 52 56.9**	**-0.9**
MDZ				*i*		12 53 06.2	
MDZ				*i* S	**S**	**12 53 19.8**	**+0.6**
TLL	**Tololo Astrono**	**1.95**	**305**	*i* P	**P**	**12 53 03.7**	**+1.4**
TLL				*i* S	**S**	**12 53 27.8**	**+0.8**
TLL				AMP		12 53 31.1	
	comp=N,5μm,0.6s						
JACH	**Jahuel**	**1.95**	**225**	↑iP	**P**	**12 53 03.3**	**+0.9**
JACH				*i* S	**S**	**12 53 27.7**	**+0.6**
FCH	**Farellones**	**2.31**	**209**	↑iP	**P**	**12 53 08.4**	**+1.2**
FCH				*i* S	**S**	**12 53 37.6**	**+2.0**
FCH				AMP		12 53 43.9	
	comp=E,3μm,0.3s						
PEL	**Peldehue**	**2.34**	**218**	↑iP	**P**	**12 53 07.9**	**+0.2**
PEL				*i* S	**S**	**12 53 36.1**	**-0.3**
PEL				AMP		12 53 42.2	
	comp=N,4μm,0.5s						
ROCH	**El Roble**	**2.41**	**226**	↑iP	**P**	**12 53 08.2**	**-0.3**
ROCH				*i* S	**S**	**12 53 37.2**	**-0.7**
PACH	**Papudo**	**2.44**	**239**	↓iP	**P**	**12 53 07.8**	**-1.1**
PACH				*i* S	**S**	**12 53 36.6**	**-2.0**
CLCH	**Cerro Calan**	**2.48**	**212**	AMP		12 53 45.2	
	comp=E,4μm,0.5s						
CLCH				AMP		12 53 48.9	
	comp=E,4μm,0.4s						
DSCH	**Colegio Aleman**	**2.49**	**213**	AMP		12 53 43.3	
	comp=N,5μm,0.5s						
STL	**Santa Lucia**	**2.56**	**213**	↑iP	**P**	**12 53 10.7**	**+0.2**
STL				*i* S	**S**	**12 53 41.2**	**-0.2**
STL				AMP		12 53 44.1	
	comp=N,1μm,0.2s						
SJCH	**San Jose de Ma**	**2.61**	**206**	↑iP	**P**	**12 53 11.6**	**+0.4**
SJCH				*i* S	**S**	**12 53 43.4**	**+0.7**
SJCH				AMP		12 53 48.0	
	comp=N,867nm,0.3s						
PUEX	**Pudahuel**	**2.62**	**215**	↑iP	**P**	**12 53 12.5**	**+1.2**
PUEX				*i* S	**S**	**12 53 43.6**	**+0.7**
PUEX				AMP		12 53 53.7	
	comp=N,4μm,0.6s						
PCH	**Pirque**	**2.66**	**209**	↓iP	**P**	**12 53 12.1**	**+0.2**
PCH				*i* S	**S**	**12 53 43.9**	**0.0**
ANTU	**Antumapu**	**2.67**	**212**	↑iP	**P**	**12 53 11.7**	**-0.3**
ANTU				*i* S	**S**	**12 53 43.7**	**-0.3**
ANTU				AMP		12 53 47.5	
	comp=E,3μm,0.5s						
LMEL	**Las Melosas**	**2.75**	**202**	AMP		12 53 57.6	
	comp=N,2μm,0.3s						
CHCH	**Chadas Angostu**	**2.99**	**208**	↑iP	**P**	**12 53 16.3**	**0.0**
CHCH				*i* S	**S**	**12 53 51.1**	**-0.6**
LCCH	**Las Cruces**	**3.09**	**225**	*i* P	**P**	**12 53 16.4**	**-1.3**
LCCH				*i* S	**S**	**12 53 52.1**	**-2.1**
CACH	**El Canelo**	**3.13**	**206**	↓iP	**P**	**12 53 18.6**	**+0.4**
CACH				*i* S	**S**	**12 53 56.0**	**+0.9**
VACH	**Vallenar**	**3.13**	**330**	↑iP	**P**	**12 53 18.6**	**+0.4**
VACH				*i* S	**S**	**12 53 54.4**	**-0.8**
CICH	**Cipreses**	**3.25**	**202**	↓iP	**P**	**12 53 20.2**	**+0.3**
CICH				*i* S	**S**	**12 53 58.1**	**+0.1**
CPCH	**Copiapo**	**4.11**	**343**	*i* P	**P**	**12 53 31.8**	**+0.3**
CPCH				*i* S	**S**	**12 54 18.8**	**-0.2**
TALC	**Talca**	**4.66**	**208**	*i* P	**P**	**12 53 38.1**	**-0.8**
TALC				*i* S	**S**	**12 54 29.3**	**-3.0**
LVC	**Limon Verde**	**8.65**	**0**	P	**P**	**12 54 31.6**	**-1.6**
	comp=N,6.9nm,0.3s,baz=191,slow=8.4,SNR=54						
LVC				S	**S**	**12 56 02.1**	**-7.6**
	comp=N,3.6nm,0.3s,baz=33,slow=22,SNR=3.4						
LVC	**Limon Verde**	**8.65**	**0**	*e*Pn	**P**	**12 54 31.1**	**-2.1**
LVC				S	**S**	**12 56 02.1**	**-7.6**
TRQA	**Tornquist**	**8.86**	**141**	*e*Pn	**P**	**12 54 34.9**	**-1.0**
	comp=N,92nm,0.7s						
TRQA				*e*Sn	**S**	**12 56 10.1**	**-4.4**
CPUP	**Villa Florida**	**11.34**	**67**	P	**P**	**12 55 07.5**	**-1.6**
	comp=N,0.0nm,0.3s,baz=2.0,slow=12,SNR=1.8						
LPAZ	**La Paz**	**14.96**	**3**	P	**P**	**12 55 59.1**	**+2.8**
	comp=N,0.7nm,0.3s,baz=179,slow=8.1,SNR=34						
USHA	**Ushuaia**	**23.52**	**179**	P	**P**	**12 57 30.9**	**+1.0**
	comp=N,18nm,0.6s,mb4.5,baz=332,slow=6.1,SNR=8.5						
BDFB	**Brasilia**	**24.67**	**56**	P	**P**	**12 57 41.9**	**+0.5**
	comp=N,3.2nm,0.5s,mb4.0,baz=235,slow=8.7,SNR=5.4						
SNAA	**Sanae**	**53.13**	**159**	P	**P**	**13 01 36.8**	**-0.5**
	comp=N,1.8nm,0.9s,mb4.1,baz=308,slow=9.1,SNR=6.4						
QSPA	**South Pole Qui**	**58.93**	**180**	*e*P	**P**	**13 02 18.5**	**-0.1**
	comp=N,2.9nm,0.2s,mb5.0						
JCT	**Junction City**	**68.06**	**332**	*e*P	**P**	**13 03 18.9**	**-0.2**
	comp=N,9.7nm,1.1s,mb4.5						
TXAR	**Lajitas Array**	**68.75**	**328**	P	**P**	**13 03 23.4**	**+0.1**
	comp=N,1.5nm,0.6s,mb4.0,baz=154,slow=8.5,SNR=32						
TXAR				pP	pP	13 03 53.3	+1.8
	comp=N,0.4nm,0.6s,baz=172,slow=8.8,SNR=2.9						
TXAR	**Lajitas Array**	**68.75**	**328**	P	**P**	**13 03 23.4**	**+0.1**
TXAR				pP	pP	13 03 53.2	+1.8
LTX	**Lajitas**	**68.75**	**328**	*e*P	**P**	**13 03 23.2**	**-0.1**
	comp=N,2.2nm,0.6s,mb4.2						
WVT	**Waverly**	**69.37**	**344**	*e*P	**P**	**13 03 26.1**	**-1.0**
	comp=N,21nm,0.7s,mb5.1						
WCI	**Wyandotte Cave**	**71.04**	**346**	*e*P	**P**	**13 03 36.0**	**-1.0**
	comp=N,7.5nm,0.8s,mb4.6						
WMOK	**Wichita Mounta**	**71.43**	**334**	*e*P	**P**	**13 03 39.3**	**-0.2**
	comp=N,1.2nm,0.5s,mb4.0						
GDL2	**Guadalupe Moun**	**71.50**	**329**	*e*P	**P**	**13 03 39.9**	**0.0**
FVM	**French Village**	**71.78**	**342**	*e*P	**P**	**13 03 40.3**	**-1.2**
	comp=N,9.7nm,0.8s,mb4.7						
DBIC	**Dimbokro**	**71.84**	**70**	P	**P**	**13 03 42.3**	**0.0**
	comp=N,2.2nm,0.6s,mb4.2,baz=218,slow=6.4,SNR=4.0						
CPRX	**Cap Rock**	**71.98**	**330**	*e*P	**P**	**13 03 43.1**	**+0.3**
CCM	**Cathedral Cave**	**72.06**	**342**	*e*P	**P**	**13 03 42.1**	**-1.1**
ANMO	**Albuquerque**	**74.75**	**329**	*e*P	**P**	**13 03 59.3**	**+0.4**
	comp=N,1.6nm,0.5s,mb4.0						
ISCO	**Idaho Springs**	**78.49**	**332**	*e*P	**P**	**13 04 20.4**	**+0.7**
	comp=N,4.2nm,1.1s,mb4.1						
BW06	**Boulder Array**	**82.59**	**331**	*e*P	**P**	**13 04 42.2**	**+0.9**
	comp=N,1.0nm,0.7s,mb3.8						
PDAR	**Pinedale Array**	**82.59**	**331**	P	**P**	**13 04 41.6**	**+0.3**
	comp=N,1.1nm,0.7s,mb3.8,baz=133,slow=5.7,SNR=11						
PDAR				pP	pP	13 05 15.4	+5.0
	comp=N,0.3nm,0.7s,baz=162,slow=9.4,SNR=1.8						
NVAR	**Mina Array Bea**	**83.22**	**323**	P	**P**	**13 04 45.4**	**+0.8**
	comp=N,1.0nm,0.6s,mb3.8,baz=151,slow=5.2,SNR=8.0						
MOOW	**Moose Ponds**	**83.89**	**331**	*e*P	**P**	**13 04 48.1**	**+0.3**
HLID	**Hailey**	**85.32**	**329**	*e*P	**P**	**13 04 56.0**	**+1.1**
	comp=N,4.6nm,1.1s,mb4.3						
SCHQ	**Schefferville**	**85.80**	**1**	P	**P**	**13 04 57.8**	**+0.8**
	comp=N,1.3nm,0.8s,mb3.9,baz=34,slow=9.7,SNR=3.1						
YKA	**Yellowknife Ar**	**100.37**	**340**	P	P	13 06 04.0	-0.2
	comp=N,0.3nm,0.6s,baz=136,slow=4.5,SNR=7.4						
YKA	**Yellowknife Ar**	**100.37**	**340**	P	P	13 06 04.0	-0.2
ASAR	**Alice Springs**	**121.12**	**205**	PKP	PKPdf	13 11 09.5	+0.1
	comp=N,0.2nm,0.4s,baz=146,slow=1.6,SNR=3.0						
ASAR				pPKP		13 11 41.5	
	comp=N,0.3nm,0.9s,baz=134,slow=2.1,SNR=1.9						
ASAR				PKKPbc		13 21 12.7	
	comp=N,0.3nm,0.6s,baz=339,slow=3.5,SNR=5.0						
WRA	**Warramunga Arr**	**124.36**	**207**	PKP	PKPdf	13 11 15.9	+0.2
	comp=N,0.7nm,0.7s,baz=162,slow=1.7,SNR=13						
WRA				pPKP		13 11 47.8	
	comp=N,0.3nm,0.4s,baz=162,slow=1.7,SNR=3.7						
WRA				PKKPbc		13 21 00.8	
	comp=N,0.3nm,0.5s,baz=339,slow=4.3,SNR=5.6						
BVAR	**Borovoye Array**	**143.54**	**41**	PKP	PKPdf	13 11 50.1	-0.1
	comp=N,0.3nm,0.4s,slow=5.8,SNR=3.0						
SONM	**Songino Array**	**163.11**	**11**	PKPab	PKPab	13 13 11.0	+0.4
	comp=N,0.6nm,0.7s,baz=329,slow=4.6,SNR=5.8						

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*MAN **10** 13:16:09.5, 15.23N×122.94E, h30km, mb4.1, ML3.0, MS2.7*
*IDC **10** 13:16:21.3±1.1, 12.57N×121.03E, mb3.5/5, mb1 3.6/5, mb1mx3.5/17, mbtmp3.5/5, MS3.5/1, Ms1 3.5/1, ms1mx2.7/16, Error ellipse: s-maj=38.8km s-min=12.5km az=78.0*

ISC 10 13:16:10.7±1.9, 15.15N±0.09×122.91E±0.09, h37km±17km, n12, σ1°23/15, mb3.3/4, MS3.3/1, 3C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**1.32**	**200**	↓*e*P	**P**	**13 16 33.8**	**+0.8**
GQP				eS	**S**	**13 16 50.4**	**+0.8**
LQP	**Lukban**	**1.68**	**232**	↓*e*P	**P**	**13 16 37.3**	**-0.9**
LQP				eS	**S**	**13 16 56.8**	**-2.0**
PCPH	**Palayan**	**1.80**	**283**	↑*e*P	**P**	**13 16 38.5**	**-1.4**
PCPH				*i* S	**S**	**13 16 57.1**	**-4.6**
QVPH	**Quezon City--P**	**1.86**	**255**	↑*e*P	**P**	**13 16 41.0**	**+0.3**
QVPH				*i* S	**S**	**13 17 04.0**	**+0.8**
TGY	**Tagaytay City**	**2.18**	**242**	↑*e*P	**P**	**13 16 48.0**	**+2.8**
TGY				eS	**S**	**13 17 11.1**	**-0.1**
TGY	**Tagaytay City**	**2.18**	**242**	Pg	**P**	**13 16 48.2**	**+2.9**
	80nm,0.3s,baz=158,slow=19,SNR=7.5						
TGY				Lg		13 17 11.0	
	110nm,0.3s,baz=145,slow=22,SNR=7.3						
CMAR	**Chiang Mai Arr**	**23.18**	**282**	P	**P**	**13 21 16.9**	**+1.7**
	0.3nm,0.5s,mb3.0,baz=90,slow=6.3,SNR=3.9						

comp=Z,0.4nm,0.3s,baz=126,slow=20,SNR=2.5
ROSC LR LR 13 49 59.4
comp=Z,25nm,20.6s,baz=206,slow=34
SDV Santo Domingo 19.60 102 P **P 13 44 16.6 -3.2**
comp=Z,0.2nm,0.3s,baz=318,slow=12,SNR=3.9
SDV LR LR 13 50 42.9
comp=Z,36nm,21.3s,baz=181,slow=33
SDV Santo Domingo 19.60 102 *eP* **P 13 44 16.7 -3.2**
SDV LR LR 13 50 42.9
TXAR Lajitas Array 20.15 323 P **P 13 44 27.3 +1.8**
comp=Z,0.9nm,0.5s,baz=145,slow=10,SNR=9.4
TXAR LR LR 13 53 48.0
comp=Z,37nm,20.1s,baz=150,slow=41
WMOK Wichita Mounta 22.53 341 *eP* **P 13 44 48.4 -1.0**
comp=Z,1.2nm,0.6s,mb3.4
MNTX Cornudas Mount 22.89 325 *eP* **P 13 44 54.0 +1.1**
comp=Z,0.6nm,0.5s,mb3.2
PDAR Pinedale Array 33.64 334 P **P 13 46 31.6 +1.2**
comp=Z,0.1nm,0.7s,mb2.8,baz=156,slow=18,SNR=2.4
PDAR PcP PcP 13 49 07.3 -1.9
comp=Z,0.3nm,0.6s,baz=146,slow=3.3,SNR=2.8
NVAR Mina Array Bea 35.22 320 P **P 13 46 45.6 +1.6**
comp=Z,2.4nm,0.6s,mb4.2,baz=138,slow=7.7,SNR=24
NVAR PcP PcP 13 49 13.6 -0.1
comp=Z,0.6nm,0.7s,baz=127,slow=4.5,SNR=4.8
YBH Yreka Blue Hor 39.89 321 P **P 13 47 22.7 -0.3**
comp=Z,2.3nm,1.1s,mb3.9,baz=113,slow=7.7,SNR=2.5
SCHQ Schefferville 45.01 19 P **P 13 48 01.7 -2.9**
comp=Z,2.0nm,0.5s,mb4.1,baz=218,slow=7.1,SNR=9.2
YKA Yellowknife Ar 51.91 346 P **P 13 48 55.2 -2.6**
comp=Z,0.5nm,0.5s,mb3.9,baz=138,slow=7.1,SNR=20
YKA Yellowknife Ar 51.91 346 P **P 13 48 55.2 -2.6**
FRB Frobisher Bay 52.35 12 P **P 13 48 57.4 -3.7**
comp=Z,1.5nm,0.7s,mb4.2,baz=208,slow=9.7,SNR=2.9
DLBC Dease Lake 53.84 335 P **P 13 49 10.3 -2.0**
comp=Z,0.8nm,0.7s,mb3.9,baz=136,slow=17,SNR=2.2
WRA Warramunga Arr 137.11 255 PKP PKPdf 13 59 13.2 +2.8
comp=Z,0.3nm,0.4s,baz=88,slow=2.3,SNR=8.2
ASAR Alice Springs 137.29 250 PKP PKPdf 13 59 13.6 +3.0
comp=Z,0.3nm,0.7s,baz=116,slow=1.7,SNR=7.1
CMAR Chiang Mai Arr 146.98 344 PKPbc PKPbc 13 59 29.6 +0.1
comp=Z,1.3nm,0.8s,baz=341,slow=3.0,SNR=4.7

IDC 10 13:52:12.7±2.3, 3.73N×94.66E, mb3.7/4, mb1 4.0/5, mb1mx3.8/16, mbtmp3.8/5, ML4.2/1, MS2.6/1, Ms1 2.8/1, ms1mx2.3/19, Error ellipse: s-maj=96.3km s-min=27.3km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.23**	**16**	Pn	P	13 55 54.2	+3.3
	0.3nm,0.3s,baz=209,slow=11,SNR=25						
CMAR				LR	LR	14 01 07.1	
	comp=Z,24nm,21.4s,baz=90,slow=35						
SONM	**Songino Array**	**45.09**	**11**	P	P	14 00 30.7	-1.7
	0.3nm,0.5s,baz=191,slow=8.2,SNR=4.6						
WRA	**Warramunga Arr**	**45.52**	**123**	P	P	14 00 34.3	-1.9
	1.1nm,0.7s,baz=301,slow=9.0,SNR=6.7						
ASAR	**Alice Springs**	**46.94**	**127**	P	P	14 00 45.5	-1.8
	0.9nm,1.1s,baz=301,slow=8.3,SNR=4.4						
FINES	**FINESS Array B**	**76.60**	**333**	P	P	14 04 04.9	-1.7
	2.3nm,1.0s,baz=117,slow=6.2,SNR=4.5						

IDC 10 14:30:16.3±0.9, 14.41N×93.98E, mb3.7/7, mb1 3.9/8, mb1mx3.8/17, mbtmp3.7/8, ML3.7/1, MS3.6/2, Ms1 3.7/2, ms1mx3.2/17, Error ellipse: s-maj=30.8km s-min=19.3km az=48.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.23**	**49**	Pn	Pn	14 31 50.7	-1.0
	0.5nm,0.3s,baz=240,slow=14,SNR=22						
CMAR				Sn	Sn	14 33 04.5	-0.1
	baz=246,slow=25,SNR=2.2						
CMAR				LR	LR	14 34 51.7	
	comp=Z,249nm,18.9s,baz=225,slow=44						
SONM	**Songino Array**	**34.88**	**15**	P	P	14 37 07.9	-3.5
	2.1nm,1.2s,baz=180,slow=4.3,SNR=3.2						
WRA	**Warramunga Arr**	**52.36**	**130**	P	P	14 39 29.8	-2.8
	0.3nm,0.8s,baz=312,slow=7.9,SNR=3.8						
WRA				PcP	PcP	14 40 43.3	-0.4
	0.5nm,0.8s,baz=321,slow=3.1,SNR=5.9						
ASAR	**Alice Springs**	**54.37**	**134**	P	P	14 39 44.5	-2.9
	0.3nm,0.7s,baz=311,slow=7.0,SNR=6.3						
BRTR	**Keskin Array B**	**58.18**	**308**	P	P	14 40 11.8	-2.7
	1.8nm,1.0s,baz=90,slow=2.5,SNR=3.8						
MLR	**Muntele Rosu**	**64.49**	**314**	P	P	14 40 55.8	-1.2
	1.9nm,0.8s,baz=86,slow=2.9,SNR=3.3						
STKA	**Stephens Creek**	**64.80**	**136**	P	P	14 40 57.0	-2.4
	1.0nm,0.8s,baz=302,slow=15,SNR=2.3						
FINES	**FINESS Array B**	**66.92**	**331**	LR	LR	15 11 42.0	
	comp=Z,85nm,20.3s,baz=135,slow=37						
GERES	**GERESS Array B**	**72.92**	**317**	P	P	14 41 47.7	-1.5
	0.6nm,0.7s,baz=76,slow=8.1,SNR=4.6						

*MOS **10** 14:41:02.7±0.8, 51.56N×16.06E, h10km, mb4.0/1, Error ellipse: s-maj=6.5km s-min=3.5km az=76.2*
*BGR **10** 14:41:02.6±0.6, 51.48N×16.31E, h1km, ML4.2/9, Error ellipse: s-maj=6.7km s-min=4.4km az=162.0*
*LDG **10** 14:41:03.3±0.2, 51.46N×16.33E, h1km, Ml4.6/17, Suspected Mining induced.*
*NEIC **10** 14:41:03.6±0.2, 51.56N×16.10E, h5km, mb4.2/5, ML4.2(VIE), ML4.2(SZGRF), ML4.2(FUR), Error ellipse: s-maj=2.9km s-min=2.6km az=153.0*
*IPEC **10** 14:41:03.9±0.3, 51.52N×16.22E, h9km±1km, ML3.5/3, Error ellipse: s-maj=1.7km s-min=0.7km az=34.0*
*WAR **10** 14:41:04.9, 51.50N×16.14E, h1km, ML3.9, Mining Induced*
*CSEM **10** 14:41:05.0±0.1, 51.47N×16.19E, h2km, mb4.2/1, ML4.5/17, Error ellipse: s-maj=1.2km s-min=1.0km az=171.0*
*IDC **10** 14:41:05.8±1.4, 51.48N×16.02E, h12km±10km, mb3.9/12, mb1 4.0/21, mb1mx4.0/25, mbtmp3.9/21, ML3.8/8, Error ellipse: s-maj=11.6km s-min=6.1km az=98.0*

ISC 10 14:41:01.8±0.2, 51.46N±0.01×16.12E±0.02, n212, σ1$30/335, mb4.3/23, 17C-8D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.63**	**170**	⇓*iP*	**Pg**	**14 41 17.0**	**+2.6**
KSP				*e*		14 41 31.0	
KSP	**Ksiaz**	**0.63**	**170**	⇓*iPg*	**Pg**	**14 41 17.0**	**+2.6**
KSP				*i* Sg	**Sg**	**14 41 26.1**	**+3.3**
KSP				*e*		14 41 31.0	
KSP	**Ksiaz**	**0.63**	**170**	*e*Pg	**Pg**	**14 41 17.0**	**+2.6**
KSP				*e*Pn	**Pn**	**14 41 18.2**	**+0.6**
KSP				*e*Sg	**Sg**	**14 41 26.3**	**+3.5**
KSP	**Ksiaz**	**0.63**	**170**	⇓*iPg*	**Pg**	**14 41 17.0**	**+2.6**
KSP				*i* Sg	**Sg**	**14 41 26.1**	**+3.3**
UPC	**Upice**	**0.96**	**184**	*e*Pg	**Pg**	**14 41 23.1**	**+2.1**
UPC				*e*Sg	**Sg**	**14 41 36.6**	**+2.9**
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*Pg	**Pg**	**14 41 25.8**	**+1.6**
DPC				*e*Sg	**Sg**	**14 41 40.2**	**+1.1**
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*PG	**Pg**	**14 41 25.8**	**+1.6**
DPC				*e*SG	**Sg**	**14 41 40.2**	**+1.1**
	1μm,0.8s						
PVCC	**Panska Ves**	**1.36**	**227**	*e*PG	**Pg**	**14 41 30.1**	**+1.2**
PVCC	**Panska Ves**	**1.36**	**227**	*e*Pn	**Pn**	**14 41 30.0**	**+2.0**
PVCC				*e*Sg	**Sg**	**14 41 49.4**	**+2.5**
BRG	**Berggiesshubel**	**1.49**	**248**	*e*Pg	**Pg**	**14 41 31.3**	**-0.4**
BRG				*e*Sg	**Sg**	**14 41 53.7**	**+2.2**
BRG	**Berggiesshubel**	**1.49**	**248**	*i* P	**Pn**	**14 41 31.2**	**+1.2**
BRG				*i*		14 41 55.2	
BRG	**Berggiesshubel**	**1.49**	**248**	*i* Pn	**Pn**	**14 41 31.2**	**+1.2**
BRG				*i* Pg	**Pg**	**14 41 33.0**	**+1.4**
BRG				*i* Sg	**Sg**	**14 41 55.2**	**+3.7**
BRG	**Berggiesshubel**	**1.49**	**248**	*i* Pg	**Pg**	**14 41 33.0**	**+1.4**
BRG				*i* Sg	**Sg**	**14 41 53.7**	**+2.2**
PRA	**Prague**	**1.76**	**218**	⇓SG	**Sg**	**14 42 00.0**	**-0.4**
RUE	**Ruedersdorf**	**1.77**	**306**	*e*Pn	**Pn**	**14 41 34.4**	**+0.4**
RUE				*e*Sg	**Sg**	**14 41 58.8**	**-2.0**
RUE	**Ruedersdorf**	**1.77**	**306**	*e*Pn	**Pn**	**14 41 34.4**	**+0.5**
PRU	**Pruhonice**	**1.79**	**215**	*e*P	**Pn**	**14 41 35.7**	**+1.6**
PRU				*e*		14 42 01.0	
PRU	**Pruhonice**	**1.79**	**215**	*e*PN	**Pn**	**14 41 35.7**	**+1.6**
PRU				*e*PG	**Pg**	**14 41 37.7**	**+0.2**
PRU				*e*SG	**Sg**	**14 42 01.0**	**-0.2**
	735nm,0.5s						
RAC	**Raciborz**	**1.91**	**136**	*e*P	**Pg**	**14 41 40.0**	**+0.1**
RAC				*e*S	**Sg**	**14 42 06.0**	**+0.7**
RAC	**Raciborz**	**1.91**	**136**	*e*Pg	**Pg**	**14 41 39.9**	**0.0**
RAC				*e*Sg	**Sg**	**14 42 05.6**	**+0.3**
MORC	**Moravsky Berou**	**1.92**	**151**	*e*Pn	**Pn**	**14 41 37.2**	**+1.2**
MORC				*e*Sn	**Sn**	**14 42 04.1**	**+2.9**
MORC	**Moravsky Berou**	**1.92**	**151**	*e*Pn	**Pn**	**14 41 37.2**	**+1.2**
MORC				*e*Sg	**Sg**	**14 42 04.4**	**-1.2**
	179nm,0.4s						
GKP	**Gorka Klasztor**	**1.94**	**20**	*e*P	**Pn**	**14 41 37.8**	**+1.5**
GKP				*e*		14 42 01.2	
GKP	**Gorka Klasztor**	**1.94**	**20**	*e*Pn	**Pn**	**14 41 37.8**	**+1.5**
GKP				*e*Pg	**Pg**	**14 41 41.1**	**+0.6**
GKP				*e*PP	PP	14 41 45.4	+2.5
GKP				*e*Sn	**Sn**	**14 42 01.2**	**-0.5**
GKP	**Gorka Klasztor**	**1.94**	**20**	*e*Pn	**Pn**	**14 41 37.8**	**+1.5**
GKP				*e*Pg	**Pg**	**14 41 41.1**	**+0.7**
GKP				*e*PP	PP	14 41 45.4	+2.4
GKP				*e*Sn	**Sn**	**14 42 01.2**	**-0.5**
GKP	**Gorka Klasztor**	**1.94**	**20**	*e*Pg	**Pg**	**14 41 41.1**	**+0.6**
GKP				*e*Sn	**Sn**	**14 42 01.2**	**-0.5**
CLL	**Collm**	**1.96**	**267**	*e*Pn	**Pn**	**14 41 37.4**	**+0.7**
CLL				*e*Sg	**Sg**	**14 42 07.8**	**+0.8**
CLL	**Collm**	**1.96**	**267**	*i* P	**Pn**	**14 41 37.5**	**+0.8**
CLL				*i*		14 42 08.5	
CLL	**Collm**	**1.96**	**267**	*i* Pn	**Pn**	**14 41 37.5**	**+0.8**
CLL				*e*Pg	**Pg**	**14 41 41.0**	**0.0**
CLL				*i* Sg	**Sg**	**14 42 08.5**	**+1.4**
CLL	**Collm**	**1.96**	**267**	*i* PN	**Pn**	**14 41 37.5**	**+0.8**
	logA/T=2.2						
CLL				*e*PG	**Pg**	**14 41 41.0**	**0.0**
CLL				*i*		14 41 43.9	
CLL				*i*		14 42 07.4	
CLL				*i* SG	**Sg**	**14 42 08.5**	**+1.4**
CLL	**Collm**	**1.96**	**267**	*e*Pg	**Pg**	**14 41 41.0**	**0.0**
CLL				Sg	**Sg**	**14 42 07.8**	**+0.7**
OKC	**Ostrava-Krasne**	**2.08**	**141**	*e*P	**Pn**	**14 41 38.7**	**+0.4**
OKC				*e*		14 42 09.5	
OKC	**Ostrava-Krasne**	**2.08**	**141**	*e*PN	**Pn**	**14 41 38.7**	**+0.4**
OKC				*e*PG	**Pg**	**14 41 43.2**	**-0.1**
OKC				*e*SG	**Sg**	**14 42 09.5**	**-1.4**
OKC	**Ostrava-Krasne**	**2.08**	**141**	*e*Pg	**Pg**	**14 41 43.2**	**-0.1**
OKC				*e*Sg	**Sg**	**14 42 09.5**	**-1.4**
VRAC	**Vranov**	**2.18**	**172**	Pn	**Pn**	**14 41 41.8**	**+2.0**
	9.3nm,0.3s,baz=345,slow=14,SNR=62						
VRAC				Lg		14 42 13.2	
	30nm,0.3s,baz=76,slow=20,SNR=17						
VRAC	**Vranov**	**2.18**	**172**	*e*Pn	**Pn**	**14 41 41.4**	**+1.6**
VRAC				*e*Sg	**Sg**	**14 42 13.2**	**-1.1**
	263nm,0.6s						
KRUC	**Moravsky**	**2.41**	**176**	*e*Pn	**Pn**	**14 41 44.9**	**+1.8**
KRUC	**Moravsky**	**2.41**	**176**	*e*Pg	**Pg**	**14 41 49.2**	**-0.7**
KRUC				*e*Sg	**Sg**	**14 42 21.0**	**-1.0**
	409nm,0.7s						
TANN	**Tannenbergstha**	**2.54**	**247**	*e*Pn	**Pn**	**14 41 46.7**	**+1.7**
TANN				*e*Sg	**Sg**	**14 42 27.8**	**+1.4**
WERD	**Werda**	**2.62**	**249**	*e*Pn	**Pn**	**14 41 47.4**	**+1.3**
WERD				*e*Sg	**Sg**	**14 42 30.2**	**+1.2**
NKC	**Novy Kostel**	**2.63**	**244**	*e*PN	**Pn**	**14 41 47.8**	**+1.5**
NKC				*e*PG	**Pg**	**14 41 55.3**	**+0.9**
NKC				*e*SG	**Sg**	**14 42 30.6**	**+1.1**
	935nm,0.6s						
OJC	**Ojcow**	**2.64**	**117**	*e*P	**Pn**	**14 41 45.5**	**-0.9**
OJC				*e*		14 42 18.2	
OJC	**Ojcow**	**2.64**	**117**	*e*Pn	**Pn**	**14 41 45.5**	**-0.9**
OJC				*i* Pg	**Pg**	**14 41 55.1**	**+0.5**
OJC				*e*Sn	**Sn**	**14 42 18.2**	**-1.4**
OJC				*i* Sg	**Sg**	**14 42 28.5**	**-1.3**
NEUB	**Neuenburg**	**2.74**	**266**	*e*Pn	**Pn**	**14 41 49.9**	**+2.1**
NEUB				*e*Sg	**Sg**	**14 42 33.4**	**+0.4**
KHC	**Kasperske Hory**	**2.85**	**216**	*e*PN	**Pn**	**14 41 50.4**	**+1.1**
KHC				*e*PG	**Pg**	**14 41 56.0**	**-2.7**
KHC				*e*SG	**Sg**	**14 42 35.8**	**-0.8**
KHC	**Kasperske Hory**	**2.85**	**216**	*e*Pg	**Pg**	**14 41 57.1**	**-1.6**
KHC				*e*Sg	**Sg**	**14 42 35.7**	**-0.9**
MOX	**Moxa**	**2.96**	**256**	*e*Pn	**Pn**	**14 41 51.8**	**+0.8**
MOX				*e*Sg	**Sg**	**14 42 40.7**	**+0.4**
MOX	**Moxa**	**2.96**	**256**	*e*Pn	**Pn**	**14 41 51.8**	**+0.9**
MOX				*e*Pg	**Pg**	**14 42 00.0**	**-0.9**
MOX				*e*Sg	**Sg**	**14 42 40.1**	**-0.2**
MOX	**Moxa**	**2.96**	**256**	*i* P	**Pn**	**14 41 51.8**	**+0.9**
MOX				Pg	**Pg**	**14 42 00.0**	**-0.9**
MOX				Sg	**Sg**	**14 42 40.0**	**-0.3**
MOX	**Moxa**	**2.96**	**256**	*e*Pg	**Pg**	**14 42 00.0**	**-0.9**
MOX				Sg	**Sg**	**14 42 40.7**	**+0.4**
ROTZ	**Rotzenmuhle**	**3.02**	**237**	⇓*i*Pn	**Pn**	**14 41 52.8**	**+1.0**
NOTT	**Nottersdorf**	**3.04**	**239**	*e*Pn	**Pn**	**14 41 53.2**	**+1.2**
NOTT				*e*Sg	**Sg**	**14 42 41.4**	**-1.4**
GEC2	**GERESS Array S**	**3.05**	**212**	*e*Pn	**Pn**	**14 41 53.6**	**+1.5**
GEC2				*e*Sg	**Sg**	**14 42 41.0**	**-2.3**
GEC2	**GERESS Array S**	**3.05**	**212**	*e*Pn	**Pn**	**14 41 53.6**	**+1.4**
GEC2				*e*Sg	**Sg**	**14 42 41.0**	**-2.3**
GEC2	**GERESS Array S**	**3.05**	**212**	Sg	**Sg**	**14 42 41.0**	**-2.3**
GERES	**GERESS Array B**	**3.05**	**212**	P	**Pn**	**14 41 53.5**	**+1.3**
GERES						14 42 30.8	
GERES	**GERESS Array B**	**3.05**	**212**	Pn	**Pn**	**14 41 53.5**	**+1.3**
	5.3nm,0.3s,baz=104,slow=4.0,SNR=19						
GERES				Pg	**Pg**	**14 42 01.4**	**-1.2**
	23nm,0.3s,baz=30,slow=14,SNR=82						
GERES				Sn	**Sn**	**14 42 30.8**	**+0.9**
	11nm,0.3s,baz=38,slow=24,SNR=6.3						
GERES				Lg		14 42 41.8	
	40nm,0.3s,baz=32,slow=26,SNR=11						
GERES	**GERESS Array B**	**3.05**	**212**	Pn	**Pn**	**14 41 53.5**	**+1.3**
GERES				Pg	**Pg**	**14 42 01.4**	**-1.2**
GERES				Sn	**Sn**	**14 42 30.8**	**+0.9**
GERES				Lg		14 42 41.8	
GERES	**GERESS Array B**	**3.05**	**212**	Pg	**Pg**	**14 42 01.4**	**-1.3**
SMOL	**Smolenice**	**3.07**	**164**	*e*PN	**Pn**	**14 41 55.3**	**+2.8**
SMOL				*i* PB	**Pg**	**14 42 02.3**	**-0.8**
SMOL				*e*SG	**Sg**	**14 42 45.0**	**+1.0**
SMOL	**Smolenice**	**3.07**	**164**	*e*Pn	**Pn**	**14 41 55.3**	**+2.8**
SMOL				*e*Sg	**Sg**	**14 42 45.0**	**+1.0**
SMOL	**Smolenice**	**3.07**	**164**	*i* Pg	**Pg**	**14 42 02.3**	**-0.8**
LIKS	**Likavka**	**3.08**	**140**	*e*PN	**Pn**	**14 41 55.2**	**+2.5**
LIKS				*e*SG	**Sg**	**14 42 46.7**	**+2.3**
WET	**Wettzell**	**3.12**	**223**	*e*Pn	**Pn**	**14 41 54.3**	**+1.1**
WET				*e*Sg	**Sg**	**14 42 44.8**	**-0.8**
WET	**Wettzell**	**3.12**	**223**	*e*Pn	**Pn**	**14 41 54.3**	**+1.1**
WET				*e*Sg	**Sg**	**14 42 44.8**	**-0.8**
VKA	**Vienna**	**3.20**	**178**	⇓*i*PN	**Pn**	**14 41 55.7**	**+1.3**
VKA				*i* PG	**Pg**	**14 42 04.6**	**-1.2**
VKA				*i* SG	**Sg**	**14 42 47.5**	**-1.0**
VKA	**Vienna**	**3.20**	**178**	*i* Pg	**Pg**	**14 42 04.6**	**-1.2**
VKA				*i* Sg	**Sg**	**14 42 47.5**	**-1.0**
KOLL	**Kolacno**	**3.24**	**152**	*e*PG	**Pg**	**14 42 05.2**	**-1.3**
KOLL				*e*SG	**Sg**	**14 42 50.4**	**+0.7**
ZST	**Bratislava**	**3.33**	**169**	*e*PN	**Pn**	**14 41 58.9**	**+2.7**
ZST				*i* SG	**Sg**	**14 42 51.4**	**-1.3**
NIE	**Niedzica**	**3.37**	**126**	*e*P	**Pg**	**14 42 07.3**	**-1.8**
NIE				*e*S	**Sg**	**14 42 51.9**	**-2.1**
VYHS	**Vyhne**	**3.45**	**148**	*e*PN	**Pn**	**14 41 58.5**	**+0.6**
VYHS				*e*SG	**Sg**	**14 42 55.9**	**-0.8**
RGN	**Rugen**	**3.52**	**332**	*e*Pn	**Pn**	**14 41 58.2**	**-0.8**
RGN	**Rugen**	**3.52**	**332**	*e*Pn	**Pn**	**14 41 58.2**	**-0.8**
GRA1	**Grafenberg Arr**	**3.59**	**242**	*e*Pn	**Pn**	**14 42 01.3**	**+1.4**
GRA1				*e*Sg	**Sg**	**14 43 00.5**	**-0.9**
GRA1	**Grafenberg Arr**	**3.59**	**242**	Pn	**Pn**	**14 42 01.3**	**+1.4**
GRA1	**Grafenberg Arr**	**3.59**	**242**	Sg	**Sg**	**14 43 00.5**	**-0.9**
GRF	**Grafenberg Arr**	**3.59**	**242**	*e*Pn	**Pn**	**14 42 01.3**	**+1.4**
GRF				*e*Sg	**Sg**	**14 43 00.5**	**-0.9**
GRF	**Grafenberg Arr**	**3.59**	**242**	*e*Pn	**Pn**	**14 42 01.3**	**+1.4**
GRF				*e*Sg	**Sg**	**14 43 00.5**	**-0.9**
CLZ	**Clausthal**	**3.60**	**278**	*e*Pn	**Pn**	**14 42 01.1**	**+1.0**
BSD	**Bornholm Skovb**	**3.73**	**349**	*i* P	**Pn**	**14 41 59.6**	**-2.3**
BSD				*i* S	**Sn**	**14 42 41.0**	**-6.2**
BSD				*i* LG		14 42 43.4	
SOP	**Sopron**	**3.79**	**176**	⇑*i*Pn	**Pn**	**14 42 04.2**	**+1.4**
SOP				*e*SB	**Sb**	**14 43 03.7**	**+7.3**
MOA	**Molln**	**3.81**	**199**	⇓*i*PN	**Pn**	**14 42 04.2**	**+1.1**
MOA				*i* SG	**Sg**	**14 43 07.2**	**-1.5**
	183nm,0.5s						
HROE	**Hohe Rhon--Fla**	**3.88**	**259**	*e*Pn	**Pn**	**14 42 04.6**	**+0.6**
SRO	**Srobarova**	**3.92**	**158**	*e*SG	**Sg**	**14 43 13.8**	**+1.5**
SRO1	**Iza**	**3.95**	**159**	*e*SG	**Sg**	**14 43 13.2**	**-0.1**
KECS	**Kecovo**	**4.10**	**135**	*e*PN	**Pn**	**14 42 07.7**	**+0.5**
ARSA	**Arzberg**	**4.23**	**186**	⇑*i*PN	**Pn**	**14 42 10.8**	**+1.7**
ARSA				*i* SG	**Sg**	**14 43 20.3**	**-2.5**
	138nm,0.6s						
CRVS	**Cervenica-Dubn**	**4.28**	**125**	*e*Pn	**Pn**	**14 42 10.7**	**+1.0**
CRVS				*e*Sg	**Sg**	**14 43 22.9**	**-1.5**
PSZ	**Piszkesteto**	**4.31**	**144**	⇑*i*Pn	**Pn**	**14 42 11.2**	**+1.1**
PKSG		**4.33**	**159**	⇑*iP*	**Pn**	**14 42 11.4**	**+0.9**
KWP	**Kalwaria**	**4.58**	**111**	*e*Pn	**Pn**	**14 42 14.9**	**+0.9**
KWP				*e*Pg	**Pg**	**14 42 41.9**	**+8.6**
KWP				*e*Sg	**Sg**	**14 43 35.2**	**+0.8**
KWP	**Kalwaria**	**4.58**	**111**	*e*Pn	**Pn**	**14 42 14.9**	**+0.9**
KWP				*e*P*	**Pb**	**14 42 28.3**	**+5.3**
KWP				*e*Pg	**Pg**	**14 42 41.9**	**+8.6**
KWP				*e*Sg	**Sg**	**14 43 35.2**	**+0.9**
KOLS	**Kolonicke sedl**	**4.69**	**120**	*e*PN	**Pn**	**14 42 15.7**	**+0.1**
KOLS				*e*SG	**Sg**	**14 43 38.8**	**+0.8**
KBA	**Koelnbreinsper**	**4.75**	**204**	⇑*i*PN	**Pn**	**14 42 17.3**	**+0.9**
KBA				*i* SG	**Sg**	**14 43 37.5**	**-2.4**
	192nm,0.7s						
COP	**Copenhagen**	**4.77**	**334**	*i* P	**Pg**	**14 42 40.0**	**+3.0**
	109nm,0.8s						
PERS	**Pernice**	**4.88**	**188**	*e*Pn	**Pn**	**14 42 20.1**	**+1.9**
PERS	**Pernice**	**4.88**	**188**	*e*Pn	**Pn**	**14 42 20.0**	**+1.8**
UZH	**Uzhgorod**	**4.88**	**123**	*e*P	**Pg**	**14 42 39.0**	**-0.3**
PKS8	**Sarbogard**	**4.88**	**159**	⇑*i*P	**Pn**	**14 42 19.2**	**+0.9**
SUW	**Suwalki**	**4.99**	**56**	*e*PN	**Pn**	**14 42 19.0**	**-0.8**
SUW				*e*PG	**Pg**	**14 42 39.0**	**-2.5**
SUW				*e*SN	**Sn**	**14 43 17.0**	**-2.1**
SUW	**Suwalki**	**4.99**	**56**	*e*P	**Pn**	**14 42 19.1**	**-0.7**
SUW				*e*		14 43 16.7	
SUW	**Suwalki**	**4.99**	**56**	*e*Pn	**Pn**	**14 42 19.1**	**-0.7**
SUW				*e*Pg	**Pg**	**14 42 38.6**	**-2.9**
SUW				*e*Sn	**Sn**	**14 43 16.7**	**-2.4**
SUW	**Suwalki**	**4.99**	**56**	*e*Pg	**Pg**	**14 42 38.6**	**-2.9**
TOD	**Tromm**	**5.02**	**251**	P	**Pn**	**14 42 19.8**	**-0.5**
OBKA	**Obir**	**5.06**	**192**	⇑*i*PN	**Pn**	**14 42 21.1**	**+0.3**
OBKA				*i* SG	**Sg**	**14 43 47.7**	**-2.7**
	115nm,0.8s						
OBKA	**Obir**	**5.06**	**192**	⇑*i*Pn	**Pn**	**14 42 21.1**	**+0.3**
	115nm,0.8s						
OBKA				*i* Sg	**Sg**	**14 43 47.7**	**-2.7**
WATA	**Walderalm**	**5.08**	**217**	⇑*i*PN	**Pn**	**14 42 22.6**	**+1.5**
WATA				*i* SG	**Sg**	**14 43 49.7**	**-1.4**
	79nm,0.6s						
WATA	**Walderalm**	**5.08**	**217**	⇑*i*Pn	**Pn**	**14 42 22.6**	**+1.5**
	79nm,0.6s						
WATA				*i* Sg	**Sg**	**14 43 49.7**	**-1.4**
WTTA	**Wattenberg**	**5.12**	**217**	⇑*i*PN	**Pn**	**14 42 23.5**	**+1.9**
WTTA				*i* SG	**Sg**	**14 43 50.6**	**-1.8**
	78nm,0.5s						
WTTA	**Wattenberg**	**5.12**	**217**	⇑*i*Pn	**Pn**	**14 42 23.5**	**+1.9**
	78nm,0.5s						
WTTA				*i* Sg	**Sg**	**14 43 50.6**	**-1.8**
STU	**Stuttgart**	**5.21**	**242**	*e*P	**Pn**	**14 42 22.0**	**-0.8**
STU				pmax	pmax		
	comp=Z,40nm,0.8s						
STU	**Stuttgart**	**5.21**	**242**	*e*Pn	**Pn**	**14 42 22.0**	**-0.8**
	comp=Z,40nm,0.8s						
STU				*e*Pb	**Pb**	**14 42 34.9**	**+1.2**
STU	**Stuttgart**	**5.21**	**242**	*e*Pn	**Pn**	**14 42 22.0**	**-0.8**
	comp=Z,40nm,0.8s						
MOTA	**Moosalm**	**5.26**	**220**	⇑*i*Pn	**Pn**	**14 42 24.4**	**+0.8**
	comp=Z,61nm,0.6s						
MOTA				*i* Sg	**Sg**	**14 43 52.0**	**-5.1**
	comp=Z,61nm,0.6s						
SCE	**Schlegeis**	**5.29**	**215**	⇓*i*Pn	**Pn**	**14 42 25.3**	**+1.3**
LVV	**L'vov**	**5.29**	**105**	*e*P	**Pn**	**14 42 25.0**	**+0.9**
LVV				*e*S	**Sn**	**14 43 23.8**	**-2.9**
LVV				MLR	MLR		
	comp=Z,100nm,1.0s						
LVV				MLR	MLR		
	comp=E,100nm,2.0s						
LVV				MLR	MLR		
	comp=N,100nm,1.0s						
SQTA	**Sankt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STV	**Sta Anna Valdi**	**9.33**	**223**	P	**P**	**14 43 19.2**	**-1.4**
SSF	**Saint Saulge**	**9.35**	**247**	*e*Pn	**P**	**14 43 18.6**	**-2.2**
SSF				*e*Sg	**Sg**	**14 45 59.9**	**-13**
	comp=N,17nm,0.7s						
IMI	**Imperia**	**9.37**	**219**	P	**P**	**14 43 19.7**	**-1.4**
SMF	**Signal de Mont**	**9.39**	**244**	*e*Sg	**Sg**	**14 46 00.9**	**-14**
	comp=N,84nm,0.9s						
ORIF	**Oris-en-Rattie**	**9.46**	**230**	*e*Pn	**P**	**14 43 20.8**	**-1.6**
ORIF				*e*Sg	**Sg**	**14 46 03.6**	**-13**
	comp=N,143nm,1.3s						
NEGI	**Negi**	**9.50**	**220**	P	**P**	**14 43 20.9**	**-2.0**
AVF	**Avril sur Loir**	**9.59**	**246**	*e*Pn	**P**	**14 43 20.9**	**-3.1**
AVF				*e*Sg	**Sg**	**14 46 06.7**	**-14**
	comp=N,87nm,1.1s						
SBF	**Sospel**	**9.59**	**221**	*e*Pn	**P**	**14 43 23.3**	**-0.8**
NB2	**NORSAR Subarra**	**9.98**	**346**	P	**P**	**14 43 24.0**	**-5.4**
	comp=N,9.3nm,1.1s,baz=163,slow=12						
NOA	**NORSAR Array B**	**9.98**	**346**	Pn	**P**	**14 43 24.6**	**-4.7**
	comp=N,0.5nm,0.3s,baz=160,slow=11,SNR=3.7						
NOA				Sn	**Sn**	**14 45 11.3**	**-12**
	comp=N,0.4nm,0.3s,baz=207,slow=14,SNR=2.7						
NOA				Lg		14 46 19.9	
	comp=N,1.0nm,0.3s,baz=350,slow=15,SNR=4.8						
NOA	**NORSAR Array B**	**9.98**	**346**	Sn	**Sn**	**14 45 11.3**	**-12**
FRF	**La Foret Royal**	**10.17**	**223**	*e*Pn	**P**	**14 43 31.4**	**-0.7**
FINES	**FINESS Array B**	**11.40**	**25**	Pn	**P**	**14 43 43.8**	**-5.1**
	comp=N,1.2nm,0.3s,baz=199,slow=11,SNR=34						
FINES				Sn	**S**	**14 45 46.9**	**-11**
	comp=N,0.6nm,0.3s,baz=214,slow=22,SNR=5.1						
KAF	**Kangasniemi**	**12.03**	**24**	*e*p	**P**	**14 43 51.1**	**-6.2**
	comp=N,0.8nm,0.3s						
EKA	**Eskdalemuir Ar**	**12.13**	**296**	Pn	**P**	**14 43 53.5**	**-5.2**
	comp=N,0.6nm,0.3s,baz=101,slow=13,SNR=12						
JOF	**Joensuu**	**14.08**	**30**	*e*p	**P**	**14 44 19.6**	**-4.8**
	comp=N,0.4nm,0.2s						
BRTR	**Keskin Array B**	**16.92**	**127**	Pn	**P**	**14 45 03.1**	**+1.7**
	baz=337,slow=9.4,SNR=3.6						
ARCES	**ARCESS Array B**	**18.67**	**10**	Pn	**P**	**14 45 17.8**	**-5.2**
	comp=N,0.8nm,0.3s,baz=198,slow=12,SNR=22						
GNI	**Garni**	**22.79**	**109**	P	**P**	**14 46 10.7**	**+3.9**
	comp=N,1.3nm,0.3s,mb3.9,baz=142,slow=15,SNR=5.4						
GNI	**Garni**	**22.79**	**109**	P	**P**	**14 46 10.8**	**+3.9**
CHKZ	**Chkalovo**	**32.52**	**64**	*e*P	**P**	**14 47 35.5**	**-0.5**
	comp=N,1.3nm,0.5s,mb4.1						
CHKZ	**Chkalovo**	**32.52**	**64**	*e*P	**P**	**14 47 35.5**	**-0.5**
	comp=N,1.3nm,0.5s,mb4.1						
BRVK	**Borovoye**	**32.53**	**65**	*e*P	**P**	**14 47 36.0**	**-0.1**
	comp=N,3.5nm,0.7s,mb4.4						
BRVK	**Borovoye**	**32.53**	**65**	*e*P	**P**	**14 47 36.0**	**-0.2**
	comp=N,3.5nm,0.7s,mb4.4						
BVAR	**Borovoye Array**	**32.60**	**66**	P	**P**	**14 47 37.2**	**+0.4**
	comp=N,2.6nm,0.6s,mb4.3,baz=293,slow=7.4,SNR=24						
AAK	**Ala-Archa**	**39.77**	**79**	*e*P	**P**	**14 48 38.0**	**+0.2**
	comp=N,6.0nm,1.0s,mb4.2						
AAK	**Ala-Archa**	**39.77**	**79**	*e*P	**P**	**14 48 38.0**	**+0.2**
	comp=N,6.0nm,1.0s,mb4.2						
SCHQ	**Schefferville**	**47.10**	**308**	P	**P**	**14 49 35.7**	**-1.1**
	comp=N,2.5nm,0.8s,mb4.4,baz=215,slow=19,SNR=3.8						
SCHQ	**Schefferville**	**47.10**	**308**	P	**P**	**14 49 35.7**	**-1.1**
DBIC	**Dimbokro**	**47.91**	**209**	P	**P**	**14 49 43.3**	**-0.5**
	comp=N,0.6nm,0.5s,mb4.0,baz=64,slow=22,SNR=2.0						
SONM	**Songino Array**	**54.94**	**55**	P	**P**	**14 50 36.8**	**+0.4**
	comp=N,1.8nm,0.8s,mb4.1,baz=291,slow=8.0,SNR=14						
KOLN	**Koldanda**	**54.98**	**88**	*e*P	**P**	**14 50 36.2**	**-0.7**
	comp=N,13nm,1.2s,mb4.9						
YAK	**Yakutsk**	**55.24**	**32**	*e*P	**P**	**14 50 36.6**	**-1.8**
	comp=N,11nm,0.7s,mb5.0						
YAK				*e*PcP	PcP	14 51 36.9	-2.3
ULN	**Ulaanbaatar**	**55.26**	**55**	*e*P	**P**	**14 50 38.8**	**+0.1**
	comp=N,1.2nm,0.6s,mb4.1						
GKN	**Gorkha**	**55.46**	**87**	*e*P	**P**	**14 50 39.6**	**-0.8**
	comp=N,5.6nm,0.5s,mb4.8						
KKN	**Kakani**	**56.01**	**87**	*e*P	**P**	**14 50 43.2**	**-1.2**
	comp=N,5.6nm,0.7s,mb4.7						
PKI	**Pulchoki**	**56.25**	**87**	*e*P	**P**	**14 50 45.3**	**-0.8**
	comp=N,9.1nm,0.9s,mb4.8						
GUN	**Gumba**	**56.30**	**86**	*e*P	**P**	**14 50 45.7**	**-0.8**
	comp=N,21nm,1.2s,mb5.0						
JIRN	**Jiri**	**56.67**	**86**	*e*P	**P**	**14 50 48.7**	**-0.4**
	comp=N,12nm,0.8s,mb5.0						
YKW3	**Yellowknife Ar**	**59.85**	**336**	*e*P	**P**	**14 51 09.8**	**-1.1**
YKA	**Yellowknife Ar**	**59.91**	**336**	P	**P**	**14 51 10.7**	**-0.6**
	comp=N,2.1nm,0.6s,mb4.3,baz=29,slow=6.7,SNR=48						
ILAR	**Eielson Array**	**63.36**	**352**	P	**P**	**14 51 35.0**	**+0.6**
	comp=N,0.3nm,0.7s,mb3.5,baz=350,slow=6.5,SNR=6.7						
CMAR	**Chiang Mai Arr**	**71.36**	**84**	P	**P**	**14 52 25.6**	**+0.2**
	comp=N,1.7nm,1.0s,mb4.1,baz=302,slow=7.0,SNR=10						
PDAR	**Pinedale Array**	**74.98**	**322**	P	**P**	**14 52 47.0**	**+0.8**
	comp=N,0.9nm,0.6s,mb4.0,baz=45,slow=5.9,SNR=13						
ANMO	**Albuquerque**	**80.32**	**315**	P	**P**	**14 53 17.7**	**+1.8**
	comp=N,1.7nm,1.0s,mb3.9,baz=63,slow=4.8,SNR=3.4						
NVAR	**Mina Array Bea**	**82.01**	**326**	P	**P**	**14 53 24.3**	**-0.4**
	comp=N,0.4nm,0.6s,mb3.7,baz=336,slow=2.4,SNR=3.9						
TXAR	**Lajitas Array**	**83.75**	**310**	P	**P**	**14 53 33.8**	**0.0**
	comp=N,0.8nm,0.8s,mb4.0,baz=45,slow=1.8,SNR=6.1						
ASAR	**Alice Springs**	**125.36**	**84**	PKP	PKPdf	15 00 05.4	-1.1
	comp=N,0.4nm,0.9s,baz=332,slow=2.3,SNR=6.7						

*CSEM **10** 14:43:57.1±0.1, 37.02N×28.39E, h10km, MD3.3, Error ellipse: s-maj=3.3km s-min=2.9km az=73.0*
*ISK **10** 14:43:57.4, 37.03N×28.37E, h12km, MD3.3*
*ATH **10** 14:43:59.4, 36.91N×28.17E, h32km, MD3.3/4*

ISC 10 14:43:57.2±0.6, 36.98N±0.03×28.34E±0.05, h7km±5km, n23, σ0=98/29, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.17**	**344**	*i* PG	**Pg**	**14 44 01.0**	**+0.2**
YER				*i* SG	**Sg**	**14 44 03.4**	**+0.3**
DALT	**Dalyan (Mudla)**	**0.31**	**131**	*i* PG	**Pg**	**14 44 05.0**	**+1.4**
MLSB	**Milas**	**0.55**	**305**	PG	**Pg**	**14 44 08.4**	**+0.1**
FETY	**Fethiye**	**0.69**	**119**	PG	**Pg**	**14 44 10.9**	**0.0**
BDRM	**Kayabasi**	**0.72**	**277**	*i* P	**Pb**	**14 44 12.6**	**+0.9**
BDRM				*i* S	**Sg**	**14 44 29.0**	**+7.6**
AYDN	**Tasoluk**	**0.78**	**332**	*i* P	**Pb**	**14 44 12.4**	**-0.3**
AYDN				*i* S	**Sb**	**14 44 21.7**	**-1.4**
ARG	**Arkhangelos**	**0.78**	**193**	*e*PN	**Pn**	**14 44 13.5**	**-0.8**
DNZL	**Cakiroluk**	**0.91**	**38**	*i* P	**Pb**	**14 44 14.0**	**-0.9**
DNZL				*i* S	**Sb**	**14 44 29.5**	**+2.6**
DENT	**Denizli**	**0.95**	**35**	PG	**Pg**	**14 44 15.0**	**-1.3**
ELL	**Elmali**	**1.28**	**100**	*e*PN	**Pn**	**14 44 20.5**	**-1.0**
KSL	**Kastellorizon**	**1.30**	**129**	*e*PN	**Pn**	**14 44 24.2**	**+2.4**
SMG	**Samos**	**1.41**	**302**	*e*PN	**Pn**	**14 44 23.5**	**+0.2**
MANT	**Manisa**	**1.52**	**6**	*i* P	**Pn**	**14 44 25.1**	**+0.1**
MANT				*i* S	**Sb**	**14 44 46.9**	**+2.1**
KHL	**Karahalli**	**1.64**	**35**	*e*PN	**Pn**	**14 44 25.7**	**-1.0**
IZM	**Izmir**	**1.66**	**329**	*e*PN	**Pn**	**14 44 27.2**	**+0.2**
KDAG	**Bornova**	**1.66**	**329**	*i* P	**Pn**	**14 44 26.5**	**-0.5**
KDAG				*i* S	**Sn**	**14 44 50.5**	**+1.8**
KARP	**Karpathos**	**1.71**	**214**	*e*PN	**Pn**	**14 44 27.5**	**-0.3**
BLCB	**Balcova**	**1.75**	**324**	*e*PN	**Pn**	**14 44 27.5**	**-0.6**
BCK	**Bucak**	**1.86**	**74**	*e*PN	**Pn**	**14 44 30.1**	**+0.3**
ISP	**Isparta**	**1.93**	**63**	*e*PN	**Pn**	**14 44 29.9**	**-0.9**
AKS	**Akhisar**	**1.95**	**348**	*e*PN	**Pn**	**14 44 30.5**	**-0.5**
ALT	**Altintas**	**2.50**	**33**	*e*PN	**Pn**	**14 44 38.8**	**-0.3**
BALB	**Balikesir**	**2.69**	**352**	*e*PN	**Pn**	**14 44 41.6**	**0.0**

IDC 10 15:02:14.3±4.1, 19.09S×177.83W, mb3.7/4, mb1 3.9/4, mb1mx3.8/13, mbtmp3.7/4, Error ellipse: s-maj=170.9km s-min=35.7km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.56**	**243**	P	P	15 09 39.0	-1.6
	0.6nm,0.7s,baz=97,slow=16,SNR=2.2						
WRA	**Warramunga Arr**	**44.97**	**261**	P	P	15 10 31.6	-1.8
	0.4nm,0.3s,baz=97,slow=7.5,SNR=20						
ASAR	**Alice Springs**	**45.01**	**255**	P	P	15 10 31.6	-2.0
	0.7nm,0.4s,baz=89,slow=8.1,SNR=28						
ILAR	**Eielson Array**	**86.91**	**13**	P	P	15 15 00.7	-1.2
	0.2nm,0.4s,baz=215,slow=5.0,SNR=4.5						

*IDC **10** 15:20:16.2±0.5, 13.74N×93.05E, h18km±2km, mb3.9/12, mb1 4.0/13, mb1mx4.0/16, mbtmp4.0/13, ML4.1/1, MS4.0/9, Ms1 4.1/9, ms1mx3.8/20, Error ellipse: s-maj=22.2km s-min=10.6km az=54.0*
*NEIC **10** 15:20:17.7±0.4, 13.67N×93.29E, mb4.7/33, Error ellipse: s-maj=11.1km s-min=9.6km az=52.0*
*BJI **10** 15:20:18.1, 13.71N×93.08E, h21km, mB5.0, mb4.6, Ms4.4, Msz4.1*

*MOS **10** 15:20:20.6±1.4, 13.35N×93.20E, h38km, mb4.8/11, Error ellipse: s-maj=18.3km s-min=9.1km az=113.8*

ISC 10 15:20:16.3±0.3, 13.54N±0.05×93.25E±0.04, h19km, h19km±.7km:pP-P, n162, σ1=73/149, mb4.6/51, MS4.1/17, 3C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.93**	**195**	*e*P	**Pn**	**15 20 52.0**	**+3.2**
PBA				*e*		15 21 22.4	
PBA				*e*		15 21 55.5	
	comp=E,4μm,0.9s						
PBA				*e*		15 21 56.3	
	comp=N,4μm,1.1s						
NST	**Nakhon Sawan**	**7.00**	**71**	P	**Pn**	**15 22 02.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**7.34**	**47**	Pn	**Pn**	**15 22 02.9**	**-2.5**
	comp=N,0.8nm,0.3s,baz=242,slow=15,SNR=21						
CMAR				Sn	**Sn**	**15 23 25.0**	**-4.1**
	comp=N,0.8nm,0.3s,baz=68,slow=7.5,SNR=2.7						
CMAR				LR	LR	15 25 35.3	
	comp=N,663nm,21.4s,baz=230,slow=43						
CHG	**Chiang Mai**	**7.58**	**45**	⇑P	**Pn**	**15 22 09.2**	**+0.5**
	comp=N,40nm,1.0s						
NANT	**Nan**	**8.87**	**53**	P	**P**	**15 22 35.0**	**+8.4**
CHRT	**Chiangrai**	**8.88**	**44**	⇓P	**P**	**15 22 26.0**	**-0.8**
KKTK	**Khon Kaen**	**9.66**	**72**	P	**P**	**15 22 41.5**	**+3.8**
	comp=N,556nm,0.7s						
VIS	**Vishakhapatnam**	**10.42**	**295**	*e*P	**P**	**15 22 46.0**	**-2.1**
VIS				*e*		15 24 21.5	
AGT	**Agartala**	**10.46**	**350**	*e*	Px	15 23 08.0	
IMP	**Imphal**	**11.21**	**3**	*e*P	**P**	**15 22 53.3**	**-5.5**
SHL	**Shillong**	**12.04**	**354**	*e*	**P**	**15 23 00.0**	**-10**
SHL				*e*S	**S**	**15 25 07.0**	**-18**
PALK	**Pallekele**	**13.81**	**244**	*e*P	**P**	**15 23 33.4**	**-0.5**
	comp=N,40nm,1.1s						
HYB	**Hyderabad**	**14.68**	**287**	*e*P	**P**	**15 23 41.5**	**-3.6**
HYB	**Hyderabad**	**14.68**	**287**	*i* P	**P**	**15 23 42.0**	**-3.1**
JIRN	**Jiri**	**15.52**	**336**	*e*P	**P**	**15 23 48.1**	**-7.9**
PKI	**Pulchoki**	**15.76**	**334**	*e*P	**P**	**15 23 52.3**	**-6.9**
	comp=N,34nm,0.8s						
GUN	**Gumba**	**15.87**	**335**	*e*P	**P**	**15 23 53.1**	**-7.4**
DMN	**Daman**	**15.93**	**333**	*e*P	**P**	**15 23 54.4**	**-7.0**
	comp=N,66nm,1.0s						
KKN	**Kakani**	**16.01**	**334**	*e*P	**P**	**15 23 54.6**	**-7.8**
LSA	**Lhasa**	**16.20**	**353**	P	**P**	**15 24 04.4**	**-0.4**
LSA				AP		15 24 11.8	
LSA				XP		15 24 14.9	
LSA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
LSA				LR	LR		
	comp=N,220nm,15.4s						
LSA				LR	LR		
	comp=E,640nm,15.4s						
LSA				LR	LR		
	comp=Z,410nm,16.3s						
LSA	**Lhasa**	**16.20**	**353**	*e*P	**P**	**15 24 02.4**	**-2.4**
	comp=Z,26nm,0.8s						
GKN	**Gorkha**	**16.48**	**332**	*e*P	**P**	**15 24 01.1**	**-7.2**
TRD	**Trivandrum**	**16.75**	**254**	*e*	**P**	**15 24 20.6**	**+8.8**
TRD				*i*		15 27 28.6	
LATR	**Latur**	**16.76**	**289**	*e*P	**P**	**15 24 09.5**	**-2.4**
KOLN	**Koldanda**	**16.78**	**329**	*e*P	**P**	**15 24 05.4**	**-6.7**
	comp=Z,53nm,0.7s						
QIZ	**Qiongzhong**	**16.84**	**69**	P	**P**	**15 24 11.0**	**-1.9**
QIZ				*e*S	**S**	**15 27 27.2**	**+8.7**
QIZ				LR	LR		
	comp=N,1μm,18.7s						
QIZ				LR	LR		
	comp=Z,730nm,19.4s						
KAD	**Karad**	**18.75**	**284**	*e*	**P**	**15 24 41.0**	**+4.3**
POO	**Poona**	**19.29**	**287**	*e*P	**P**	**15 24 42.0**	**-1.1**
POO				*i* S	**S**	**15 28 21.0**	**+6.9**
NDI	**New Delhi**	**21.19**	**318**	*e*	**P**	**15 24 57.5**	**-5.7**
NDI				*e*		15 28 02.5	
NDI				*e*		15 30 25.0	
DDI	**Dehra Dun**	**21.81**	**322**	*e*P	**P**	**15 25 04.8**	**-4.7**
DDI				*e*S	**S**	**15 29 05.8**	**+1.1**
ENH	**Enshi**	**22.41**	**39**	*e*P	**P**	**15 25 14.2**	**-1.3**
	comp=Z,40nm,0.9s,mb4.8						
LZH	**Lanzhou**	**24.39**	**21**	*e*P	**P**	**15 25 34.7**	**-0.1**
LZH				AP		15 25 39.0	
LZH				XP		15 25 42.3	
LZH				PP	PP	15 26 14.0	+3.7
LZH				*e*S	**S**	**15 29 56.0**	**+5.6**
LZH				AMB	AMB		
	comp=Z,50nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,170nm,4.0s						
LZH				LR	LR		
	comp=E,490nm,11.8s						
LZH				LR	LR		
	comp=Z,730nm,16.0s,MS4.3						
XAN	**Xi'an**	**24.88**	**32**	P	**P**	**15 25 42.1**	**+2.6**
XAN				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.2						
XAN				LR	LR		
	comp=N,314nm,22.8s,MS3.9						
XAN				LR	LR		
	comp=E,346nm,25.6s,MS3.9						
XAN				LR	LR		
	comp=Z,350nm,24.4s,MS3.8						
TGY	**Tagaytay City**	**26.89**	**85**	LR	LR	15 35 23.0	
	comp=Z,181nm,19.5s,MS3.6,baz=196,slow=34						
NJ2	**Nanjing**	**29.82**	**48**	*e*P	**P**	**15 26 28.6**	**+3.9**
NJ2				AP	pP	15 26 38.2	+8.0
NJ2				XP	sP	15 26 42.0	+9.4
NJ2				PP	PP	15 27 27.2	+5.3
NJ2				S	**S**	**15 31 22.0**	**+2.9**
NJ2				XS		15 31 38.0	
NJ2				AMB	AMB		
	comp=Z,410nm,7.0s						
NJ2				LR	LR		
	comp=N,250nm,18.6s,MS4.2						
NJ2				LR	LR		
	comp=E,480nm,21.5s,MS4.2						
NJ2				LR	LR		
	comp=Z,460nm,14.3s						
WMQ	**Urumqi**	**30.55**	**352**	*e*P	**P**	**15 26 30.1**	**-0.9**
WMQ				AP	pP	15 26 35.9	-0.6
WMQ				XP	sP	15 26 38.9	0.0
WMQ				PP	PP	15 27 29.7	-1.6
WMQ				S	**S**	**15 31 28.6**	**-2.0**
WMQ				XS		15 31 39.0	
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,25nm,4.3s						
WMQ				LR	LR		
	comp=N,1μm,17.2s,MS4.7						
WMQ				LR	LR		
	comp=E,912nm,18.7s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,19.2s,MS4.7						
SSE	**Sheshan**	**31.06**	**51**	P	**P**	**15 26 34.9**	**-0.8**
SSE				S	**S**	**15 31 41.8**	**+3.0**
SSE				XS		15 31 55.6	
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,84nm,3.9s						
SSE				LR	LR		
	comp=N,326nm,24.0s,MS4.0						
SSE				LR	LR		
	comp=E,207nm,23.9s,MS4.0						
SSE				LR	LR		
	comp=Z,213nm,20.4s,MS3.8						
KZA	**Kyzart**	**32.44**	**335**	P	**P**	**15 26 50.3**	**+2.7**
	SNR=5.6						
KBK	**Karagaybulak**	**33.05**	**335**	P	**P**	**15 26 56.5**	**+3.6**
	SNR=5.1						
AML	**Almayashu**	**33.16**	**333**	P	**P**	**15 26 56.6**	**+2.8**
	SNR=5.9						
AAK	**Ala-Archa**	**33.22**	**334**	P	**P**	**15 26 57.4**	**+3.0**
	SNR=6.0						
AAK	**Ala-Archa**	**33.22**	**334**	*i* P	**P**	**15 26 55.5**	**+1.1**
AAK	**Ala-Archa**	**33.22**	**334**	*e*P	**P**	**15 26 52.8**	**-1.6**
	comp=Z,9.4nm,1.1s,mb4.6						
CHMS	**Chumysh**	**33.41**	**335**	P	**P**	**15 26 58.2**	**+2.2**
	SNR=5.4						
EKS2	**Erkin-Say**	**33.55**	**334**	P	**P**	**15 27 00.2**	**+3.0**
	SNR=5.6						
USP	**Ospenovka**	**33.74**	**335**	P	**P**	**15 27 00.7**	**+1.9**
	SNR=9.1						
SONM	**Songino Array**	**35.91**	**15**	P	**P**	**15 27 14.7**	**-2.7**
	comp=Z,8.4nm,1.0s,mb4.6,baz=191,slow=6.3,SNR=20						
SONM				pP	pP	15 27 20.7	-2.2
	comp=Z,7.8nm,1.0s,baz=196,slow=7.5,SNR=32						
SONM				PcP	PcP	15 29 44.2	-0.4
	comp=Z,1.4nm,0.9s,baz=168,slow=4.7,SNR=2.4						
SONM				pPcP		15 29 48.8	
	comp=Z,2.0nm,0.8s,baz=194,slow=2.9,SNR=6.8						
ULN	**Ulaanbaatar**	**36.10**	**16**	*i* P	**P**	**15 27 20.9**	**+1.8**
ULN	**Ulaanbaatar**	**36.10**	**16**	*e*P	**P**	**15 27 16.3**	**-2.8**
	comp=Z,7.0nm,1.0s,mb4.5						
ZAK	**Zakamensk**	**37.65**	**11**	⇓*i*P	**P**	**15 27 34.7**	**+2.7**
ZAK				*e*		15 29 53.9	
MOY	**Mondy**	**38.54**	**8**	*e*P	**P**	**15 27 43.2**	**+3.7**
TLY	**Talaya**	**38.96**	**10**	*e*P	**P**	**15 27 47.0**	**+4.0**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.2						
TLY				MLR	MLR		
	comp=Z,172nm,21.0s,MS3.9						
ZAL	**Zalesovo**	**40.85**	**352**	P	**P**	**15 27 55.0**	**-3.5**
	comp=Z,0.7nm,0.5s,mb3.5,baz=326,slow=10.0,SNR=5.3						
ZAL				pP	pP	15 28 00.6	-3.6
	comp=Z,3.6nm,0.7s,baz=302,slow=9.2,SNR=16						
ZAL	**Zalesovo**	**40.85**	**352**	P	**P**	**15 27 55.0**	**-3.5**
ZAL				pP	pP	15 28 00.6	-3.6
HIA	**Hailar**	**41.76**	**26**	*e*P	**P**	**15 28 05.8**	**-0.3**
	comp=Z,3.9nm,0.8s,mb4.1						
NVS	**Novosibirsk**	**41.95**	**351**	*e*P	**P**	**15 28 05.2**	**-2.4**
MBWA	**Marble Bar**	**43.19**	**143**	*e*P	**P**	**15 28 18.8**	**+0.6**
	comp=Z,23nm,1.1s,mb4.8						
BVAR	**Borovoye Array**	**43.39**	**340**	P	**P**	**15 28 15.9**	**-3.5**
	comp=Z,0.4nm,0.5s,mb3.4,baz=140,slow=11,SNR=2.6						
BVAR				pP	pP	15 28 21.4	-3.6
	comp=Z,3.6nm,0.8s,baz=143,slow=7.4,SNR=13						
BRVK	**Borovoye**	**43.45**	**340**	*e*P	**P**	**15 28 18.9**	**-1.0**
	comp=Z,6.8nm,0.9s,mb4.4						
MDJ	**Mudanjiang**	**43.76**	**38**	P	**P**	**15 28 21.7**	**-0.8**
MDJ				S	**S**	**15 34 52.3**	**+0.9**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.4						
MDJ				LR	LR		
	comp=N,176nm,19.8s,MS4.1						
MDJ				LR	LR		
	comp=E,121nm,18.6s,MS4.1						
MDJ				LR	LR		
	comp=Z,67nm,19.2s,MS3.6						
CHKZ	**Chkalovo**	**43.86**	**341**	*e*P	**P**	**15 28 19.4**	**-3.8**
	comp=Z,18nm,1.0s,mb4.8						
CHKZ				*e*pP	pP	15 28 24.5	-4.2
FITZ	**Fitzroy Crossi**	**44.83**	**134**	*e*P	**P**	**15 28 30.9**	**-0.6**
	comp=Z,8.1nm,1.1s,mb4.5						
FITZ				*e*	pP	15 28 36.1	-1.0
MAT	**Matsushiro**	**46.20**	**52**	P	**P**	**15 28 45.0**	**+2.9**
MAT				*e*S	**S**	**15 35 27.2**	**+0.4**
BOD	**Bodaibo**	**46.91**	**15**	*e*P	**P**	**15 28 49.3**	**+1.9**
GNI	**Garni**	**49.96**	**311**	*i* P	**P**	**15 29 11.3**	**0.0**
GNI	**Garni**	**49.96**	**311**	pP	pP	15 29 13.0	-4.0
	comp=Z,7.0nm,0.8s,baz=154,slow=7.9,SNR=2.7						
GNI	**Garni**	**49.96**	**311**	*e*P	**P**	**15 29 12.1**	**+0.8**
	comp=Z,34nm,1.1s,mb5.3						
ARU	**Arti**	**50.38**	**336**	⇑*i*P	**P**	**15 29 13.2**	**-1.1**
ARU				*e*		15 30 30.2	
ARU				*e*		15 31 07.3	
ARU				*e*S	**S**	**15 36 23.6**	**-1.6**
ARU				*e*SS	SS	15 39 57.8	+1.6
ARU				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
NWAO	**Narrogin (SRO)**	**51.58**	**154**	pP	pP	15 29 29.1	-0.3
	comp=Z,13nm,0.7s,baz=337,slow=9.5,SNR=3.4						
WRA	**Warramunga Arr**	**52.36**	**129**	P	**P**	**15 29 29.2**	**-0.6**
WRA	**Warramunga Arr**	**52.36**	**129**	P	**P**	**15 29 29.0**	**-0.8**
	comp=Z,1.0nm,0.5s,mb4.0,baz=299,slow=9.5,SNR=18						
WRA				pP	pP	15 29 35.3	-0.3
	comp=Z,16nm,1.0s,baz=306,slow=7.8,SNR=44						
WRA				PcP	PcP	15 30 39.5	-1.3
	comp=Z,0.5nm,0.5s,baz=320,slow=3.2,SNR=5.2						
WRA				pPcP		15 30 45.3	
	comp=Z,3.5nm,0.7s,baz=314,slow=3.3,SNR=20						
WRAB	**Tennant Creek**	**52.36**	**129**	*e*P	**P**	**15 29 29.5**	**-0.4**
	comp=Z,30nm,0.9s,mb5.2						
WB2	**Warramunga Arr**	**52.37**	**129**	*e*P	**P**	**15 29 30.0**	**+0.1**
WB2				*e*	pP	15 29 35.2	-0.4
KIV	**Kislovodsk**	**52.62**	**315**	*i* P	**P**	**15 29 32.0**	**+0.6**
KIV	**Kislovodsk**	**52.62**	**315**	*e*P	**P**	**15 29 31.8**	**+0.3**
	comp=Z,28nm,1.0s,mb5.1						
YSS	**Yuzh-Sakhalins**	**52.98**	**41**	*i* P	**P**	**15 29 37.4**	**+3.3**
YSS	**Yuzh-Sakhalins**	**52.98**	**41**	P	**P**	**15 29 32.9**	**-1.2**
	comp=Z,28nm,0.9s,mb5.2						
MALT	**Malatya**	**54

BILL 15 31 55.0
BILL pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
DPC Dobruska-Polom 71.36 319 *eP* **P 15 31 40.2 +3.1**
PVCC Panska Ves 72.49 319 *eP* **P 15 31 48.1 +4.3**
PRU Pruhonice 72.51 318 *eP* **P 15 31 47.1 +3.2**
BRG Berggiesshubel 72.88 319 *eP* **P 15 31 48.9 +2.8**
BRG pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
BRG Berggiesshubel 72.88 319 *eP* **P 15 31 48.9 +2.8**
comp=Z,6.6nm,0.6s,mb4.7
VOY Vojsko 73.02 314 P **P 15 31 49.2 +2.2**
VOY Vojsko 73.02 314 *e* **P 15 31 42.9 -4.1**
VOY *e*(P) pP 15 31 49.2 -3.7
GEC2 GERESS Array S 73.07 317 *eP* **P 15 31 50.0 +2.8**
GEC2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
GEC2 GERESS Array S 73.07 317 *eP* **P 15 31 50.0 +2.8**
comp=Z,6.0nm,0.8s,mb4.6
GERES GERESS Array B 73.07 317 P **P 15 31 43.7 -3.5**
comp=Z,5.6nm,0.8s,mb4.6,baz=90,slow=5.3,SNR=9.5
GERES pP pP 15 31 49.9 -3.2
comp=Z,4.6nm,0.7s,baz=82,slow=6.9,SNR=21
KHC Kasperske Hory 73.14 318 *eP* **P 15 31 50.3 +2.6**
CLL Collm 73.47 320 *eP* **P 15 31 48.0 -1.5**
CLL *e* 15 32 04.0
CLL Collm 73.47 320 P **P 15 31 48.0 -1.5**
CLL *i* *PP pP 15 31 51.2 -4.2
CLL *e* 15 32 04.0
WET Wettzell 73.60 318 *eP* **P 15 31 52.4 +2.1**
MOX Moxa 74.37 319 *eP* **P 15 31 57.5 +2.8**
MOX Moxa 74.37 319 *i P* **P 15 31 57.5 +2.8**
NB2 NORSAR Subarra 74.41 330 P **P 15 31 50.6 -4.1**
comp=Z,3.8nm,0.8s,mb4.4,baz=90,slow=5.8
NOA NORSAR Array B 74.41 330 P **P 15 31 50.5 -4.2**
comp=Z,0.8nm,0.7s,mb3.8,baz=96,slow=5.6,SNR=2.5
NOA pP pP 15 31 56.4 -4.3
comp=Z,2.9nm,0.7s,baz=89,slow=5.8,SNR=4.5
NOA LR LR 16 10 11.7
NOA NORSAR Array B 74.41 330 P **P 15 31 50.5 -4.2**
NOA pP pP 15 31 56.4 -4.3
NOA LR LR 16 10 11.7
GRA1 Grafenberg Arr 74.66 318 *eP* **P 15 31 58.6 +2.2**
comp=Z,4.0nm,0.8s,mb4.4
GRF Grafenberg Arr 74.66 318 *eP* **P 15 31 58.6 +2.2**
GRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
GRF Grafenberg Arr 74.66 318 *eP* **P 15 31 58.6 +2.2**
comp=Z,4.0nm,0.8s,mb4.4
BSEG Bad Segeberg 75.03 323 *eP* **P 15 32 01.5 +3.0**
CLZ Clausthal 75.09 320 *eP* **P 15 32 01.6 +2.7**
comp=Z,4.0nm,0.8s,mb4.4
BFO Black Forest 76.66 317 *eP* **P 15 32 10.1 +2.3**
BFO pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BFO Black Forest 76.66 317 *eP* **P 15 32 10.1 +2.3**
comp=Z,2.0nm,0.8s,mb4.1
LPG La Plagne 78.04 314 *eP* **P 15 32 17.2 +1.7**
comp=Z,30nm,0.9s,mb4.9
BNI Bardonecchia 78.15 314 P **P 15 32 13.7 -2.4**
comp=Z,5.2nm,0.8s,mb4.5
MAW Mawson 83.88 191 pP pP 15 32 52.6 +0.8
comp=Z,10nm,0.8s,baz=20,slow=7.3,SNR=8.7
MAW LR LR 16 03 52.3
comp=Z,99nm,18.2s,MS4.2,baz=250,slow=31
IMA Indian Mountai 86.74 22 *eP* **P 15 33 00.6 +0.5**
comp=Z,34nm,0.9s,mb5.6
ESDC Sonseca Array 86.92 310 pP pP 15 33 05.4 -2.2
comp=Z,0.5nm,0.4s,baz=92,slow=3.0,SNR=1.8
SUMG Summit 88.46 347 *eP* **P 15 33 10.5 +2.3**
comp=Z,12nm,1.1s,mb5.1
SPU Mount Spurr 89.62 26 P **P 15 33 12.6 -1.4**
SPU *e*pP pP 15 33 19.2 -0.8
MCK McKinley 89.64 23 *eP* **P 15 33 13.4 -0.6**
comp=Z,2.6nm,1.0s,mb4.5
MCK *e*pP pP 15 33 18.5 -1.6
ILAR Eielson Array 89.85 22 P **P 15 33 12.1 -2.9**
comp=Z,0.3nm,0.7s,mb3.7,baz=311,slow=4.1,SNR=5.5
ILAR pP pP 15 33 18.6 -2.4
comp=Z,1.7nm,0.8s,baz=302,slow=5.9,SNR=16
ILAR LR LR 16 20 12.7
comp=Z,87nm,21.7s,MS4.1,baz=165,slow=40
SYO Syowa Base 90.53 197 ⇑P pP 15 33 26.2 +2.1
RES Resolute Bay 91.81 2 P **P 15 33 25.7 +1.8**
comp=Z,3.8nm,0.9s,mb4.7
INK Inuvik 91.82 16 pP pP 15 33 28.1 -1.8
comp=Z,4.6nm,0.9s,baz=285,slow=6.2,SNR=4.5
INK Inuvik 91.82 16 P **P 15 33 23.2 -0.8**
INK *e*pP pP 15 33 27.4 -2.6
DAWY Dawson 92.90 20 P **P 15 33 27.8 -1.3**
DAWY *e*pP pP 15 33 33.2 -1.9
VNDA Vanda 98.62 168 LR LR 16 12 11.6
comp=Z,95nm,18.6s,MS4.3,baz=289,slow=32
YKA Yellowknife Ar 101.14 13 *i P* P 15 34 11.1 +4.5
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 101.14 13 pP 15 34 10.0
comp=Z,0.5nm,0.9s,baz=327,slow=4.1,SNR=5.0
PDAR Pinedale Array 120.19 19 pPKP 15 39 12.8
comp=Z,0.6nm,0.6s,baz=342,slow=2.9,SNR=4.8
NVAR Mina Array Bea 120.46 28 pPKP 15 39 14.8
comp=Z,1.6nm,0.8s,baz=279,slow=3.2,SNR=6.9
DAU Daniels Canyon 121.70 22 *e*PKPdf PKPdf 15 39 12.4 -1.1
ANMO Albuquerque 128.28 21 pPKP 15 39 29.8
comp=Z,2.5nm,0.9s,baz=279,slow=5.3,SNR=4.0
TXAR Lajitas Array 134.36 21 pPKP 15 39 41.4
comp=Z,1.0nm,0.8s,baz=270,slow=1.3,SNR=3.1
TEIG Tepich 146.41 3 PKP PKPdf 15 39 57.0 -2.8
CPUP Villa Florida 149.64 241 PKP2 PKPab 15 40 06.9 -6.0
CPUP Villa Florida 149.64 241 PKPbc PKPdf 15 40 07.0 +2.1
comp=Z,0.0nm,0.3s,baz=240,slow=17,SNR=2.1
LVC Limon Verde 160.80 239 pPKPab 15 41 03.5
comp=Z,2.9nm,0.9s,baz=83,slow=4.3,SNR=4.2
LPAZ La Paz 161.80 259 PKIKP PKPdf 15 40 25.7 +4.9
LPAZ La Paz 161.80 259 pPKP 15 40 25.7
comp=Z,0.8nm,0.8s,baz=306,slow=7.7,SNR=2.7
LPAZ pPKPab 15 41 07.3
comp=Z,1.2nm,0.8s,baz=53,slow=5.1,SNR=4.9

JMA 10 15:56:16.7±0.1, 31.49N×141.11E, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.95**	**326**	*e*S	Sn	15 57 17.1	+0.1
BSO2	**Boso 2**	**3.27**	**355**	S	Sn	15 57 50.9	+0.6
NJJJ	**Nii jima 2**	**3.29**	**333**	*e*S	Sn	15 57 50.5	-0.3
BSO3	**Boso 3**	**3.34**	**352**	*e*S	Sn	15 57 51.9	-0.3

IDC 10 16:00:36.9±4.7, 13.70N×95.10E, mb3.6/2, mb1 3.7/3, mb1mx3.5/17, mbtmp3.4/3, Error ellipse: s-maj=104.9km s-min=41.2km az=95.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.00**	**38**	Pn	Pn	16 02 06.9	-2.2
baz=231,slow=14,SNR=8.7							
WRA	**Warramunga Arr**	**51.07**	**130**	P	P	16 09 41.7	-1.7
0.7nm,0.7s,baz=304,slow=10,SNR=9.2							
ASAR	**Alice Springs**	**53.09**	**134**	P	P	16 09 56.1	-2.6
0.3nm,0.5s,baz=308,slow=6.7,SNR=7.6							

GUC 10 16:32:11.0±0.7, 23.42S×70.14W, h38km±5km, MD3.9, ML2.3, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**0.36**	**223**	⇓*i*P	P	16 32 19.6	-0.3
ANCH				*i* S	S	16 32 25.5	-0.5
CPN1	**Cerro Paranal**	**1.23**	**191**	*eP*	P	16 32 33.5	+1.5
CPN1				*i* S	S	16 32 50.0	+2.4
CPN1				AMP		16 32 52.7	
comp=E,186nm,0.1s							
LVC	**Limon Verde**	**1.39**	**55**	*eP*	P	16 32 35.9	+1.6
LVC				*i* S	S	16 32 54.2	+2.7
LVC				AMP		16 32 56.1	
comp=N,50nm,0.3s							
SPCH	**San Pedro de A**	**1.85**	**75**	*eP*	P	16 32 42.4	+1.4
SPCH				*i* S	S	16 33 10.6	+7.3

MAN 10 16:34:09.3, 15.97N×121.67E, h1km, mb3.8, ML2.5, MS2.3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.24**	**202**	*eP*	Pg	16 34 13.9	-0.2
BALP				*e*S	Sg	16 34 20.5	+3.1
PCPH	**Palayan**	**0.68**	**234**	⇑*e*P	Pg	16 34 22.9	0.0
PCPH				*e*S	Sg	16 34 36.7	+4.7
CAUP	**Cauayan**	**0.98**	**9**	*eP*	Pb	16 34 26.6	-2.2
CAUP				*e*S	Sg	16 34 43.7	+1.8
POLP	**Polilio Island**	**1.26**	**168**	*eP*	Pb	16 34 44.4	+11
ABRA	**Dolores**	**1.91**	**331**	*eP*	Pn	16 34 44.0	+0.8

*TIR **10** 16:42:37.8, 40.39N×20.62E, h29km, MI2.8*
*ATH **10** 16:42:38.5, 40.52N×20.55E, h12km±5km, MD3.3/3*
*NEIC **10** 16:42:38.5, 40.52N×20.55E, h12km, MD3.3(ATH), MD2.9(PDG), After ATH.*
*PDG **10** 16:42:38.5±0.2, 40.05N×19.62E, h11km±1km*
*THE **10** 16:42:40.4, 40.45N×20.62E, h16km, ML3.1*
*CSEM **10** 16:42:40.0±0.2, 40.38N×20.68E, h0km, ML3.1, Error ellipse: s-maj=3.1km s-min=1.8km az=122.0*

ISC 10 16:42:40.0±0.5, 40.41N±0.02×20.70E±0.03, h8km±3km, n35, σ1§45/59, 8D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.23**	**16**	*epg?*	**Pg**	**16 42 45.3**	**+0.6**
KBN				*i* Sg	**Sg**	**16 42 50.5**	**+2.6**
LSK	**Leskovik**	**0.27**	**197**	*ePg*	**Pg**	**16 42 44.9**	**-0.6**
LSK				*i* Sg	**Sg**	**16 42 50.4**	**+1.2**
TPE	**Tepelena**	**0.54**	**258**	*ePn*	**Pn**	**16 42 48.7**	**-4.8**
FNA	**Florina**	**0.64**	**53**	*ePg*	**Pg**	**16 42 52.9**	**+0.1**
FNA				*e*Sg	**Sg**	**16 43 03.3**	**+2.0**
OHR	**Ohrid**	**0.71**	**6**	*i Pg*	**Pg**	**16 42 52.9**	**-1.3**
OHR				*i*		16 42 53.4	
OHR				*i* Sg	**Sg**	**16 43 03.6**	**-0.1**
JAN	**Janina**	**0.76**	**171**	*ePB*	**Pb**	**16 42 54.0**	**-0.9**
JAN				*e*SB	**Sb**	**16 43 07.5**	**+2.4**
KZN	**Kozani**	**0.82**	**97**	*ePG*	**Pg**	**16 42 56.0**	**-0.4**
KZN				*e*SB	**Sb**	**16 43 11.0**	**+4.0**
IGT	**Igoumenitsa**	**0.92**	**198**	*ePg*	**Pg**	**16 42 56.5**	**-1.8**
IGT				*e*Sg	**Sg**	**16 43 11.5**	**+1.3**
KEK	**Kerkira**	**0.98**	**225**	*ePG*	**Pg**	**16 42 57.0**	**-2.6**
KEK				*e*SB	**Sb**	**16 43 12.0**	**+0.4**
TIR	**Tirane**	**1.14**	**326**	*ePn*	**Pn**	**16 42 59.0**	**-3.1**
TIR				*i* Sn	**Sn**	**16 43 19.5**	**+1.6**
QSH	**Qafa e Shtames**	**1.27**	**332**	*ePn*	**Pn**	**16 43 01.6**	**-2.3**
QSH				*i* Sn	**Sn**	**16 43 18.6**	**-2.6**
LIT	**Litokhoron**	**1.40**	**102**	*ePb*	**Pb**	**16 43 06.0**	**+0.1**
GRG	**Griva**	**1.40**	**66**	*ePb*	**Pb**	**16 43 05.4**	**-0.6**
GRG				*e*Sb	**Sb**	**16 43 24.4**	**+0.5**
SKO	**Skopje**	**1.66**	**19**	*i Pn*	**Pn**	**16 43 10.5**	**+0.9**
SKO				*i*		16 43 25.5	
EVR	**Evrytania**	**1.71**	**150**	*e*PN	**Pn**	**16 43 12.5**	**+2.2**
KNT	**Kendrikon**	**1.83**	**65**	*ePb*	**Pb**	**16 43 11.6**	**-1.7**
KNT				*e*Sb	**Sb**	**16 43 34.9**	**-1.3**
AGG	**Agios Georgios**	**1.87**	**137**	*ePb*	**Pb**	**16 43 13.3**	**-0.6**
AGG				*e*Sb	**Sb**	**16 43 37.3**	**0.0**
ULC	**Ulcinj**	**1.90**	**325**	⇓*i Pn*	**Pn**	**16 43 12.3**	**-0.8**
ULC				*e*Sn	**Sn**	**16 43 38.9**	**+1.5**
SOH	**Sokhos**	**2.06**	**78**	*ePn*	**Pn**	**16 43 15.3**	**0.0**
PLG	**Polygyros**	**2.10**	**90**	*ePN*	**Pn**	**16 43 17.0**	**+1.2**
XOR	**Xorichti**	**2.18**	**118**	*ePn*	**Pn**	**16 43 16.7**	**-0.3**
VLS	**Valsamata**	**2.23**	**182**	*ePN*	**Pn**	**16 43 20.0**	**+2.3**
PVY	**Plav**	**2.25**	**346**	⇓*i Pn*	**Pn**	**16 43 20.4**	**+2.4**
PVY				*e*Sn	**Sn**	**16 43 53.8**	**+7.5**
TTG	**Podgorica**	**2.29**	**332**	⇓*i Pn*	**Pn**	**16 43 19.0**	**+0.3**
TTG				*e*Sn	**Sn**	**16 43 49.9**	**+2.6**
SRS	**Serrai**	**2.31**	**71**	*ePn*	**Pn**	**16 43 18.1**	**-0.7**
BUM	**Brajici-Budva**	**2.33**	**325**	*ePn*	**Pn**	**16 43 17.2**	**-2.0**
BUM				*e*Sn	**Sn**	**16 43 48.0**	**-0.3**
BUM	**Brajici-Budva**	**2.33**	**325**	*e*Sn	**Sn**	**16 43 48.0**	**-0.2**
PAIG	**Paliouri**	**2.33**	**101**	*ePn*	**Pn**	**16 43 18.1**	**-1.1**
PAIG				*e*Sn	**Sn**	**16 43 47.5**	**-0.8**
OUR	**Ouranopolis**	**2.51**	**91**	*ePn*	**Pn**	**16 43 20.4**	**-1.2**
IVA	**Berane**	**2.54**	**347**	⇓*i Pn*	**Pn**	**16 43 24.6**	**+2.5**
IVA				*e*Sn	**Sn**	**16 44 00.1**	**+6.7**
HCY	**Herceg Novi**	**2.63**	**322**	*ePn*	**Pn**	**16 43 20.6**	**-2.8**
HCY				*e*Sn	**Sn**	**16 43 53.3**	**-2.5**
NKY	**Niksic**	**2.72**	**333**	⇓*i Pn*	**Pn**	**16 43 24.2**	**-0.6**
NKY				*e*Sn	**Sn**	**16 44 00.1**	**+1.9**
BRY	**Bratogost**	**2.97**	**328**	⇓*i Pn*	**Pn**	**16 43 26.8**	**-1.5**
BRY				*e*Sn	**Sn**	**16 44 03.9**	**-0.6**
PLE	**Pljevlja**	**3.08**	**342**	⇓*i Pn*	**Pn**	**16 43 31.2**	**+1.4**
PLE				*e*Sn	**Sn**	**16 44 11.3**	**+4.0**
UPM	**Unac-Piva**	**3.10**	**335**	⇓*i Pn*	**Pn**	**16 43 30.3**	**+0.1**
UPM				*e*Sn	**Sn**	**16 44 09.2**	**+1.5**

IDC 10 16:48:14.9±4.0, 6.52N×104.03W, mb3.6/5, mb1 4.1/5, mb1mx3.8/16, mbtmp3.6/5, MS3.3/2, Ms1 3.3/2, ms1mx2.6/17, Error ellipse: s-maj=142.4km s-min=74.4km az=92.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**22.70**	**1**	P	P	16 53 19.2	-0.3
0.9nm,0.6s,baz=184,slow=14,SNR=4.6							
TXAR				LR	LR	17 01 14.9	
comp=Z,96nm,19.1s,baz=245,slow=34							
ANMO	**Albuquerque**	**28.38**	**356**	LR	LR	17 05 29.9	
comp=Z,39nm,19.8s,slow=36							
NVAR	**Mina Array Bea**	**34.30**	**340**	P	P	16 55 04.2	-0.9
0.3nm,0.6s,baz=148,slow=8.5,SNR=3.6							
PDAR	**Pinedale Array**	**36.43**	**353**	P	P	16 55 21.9	-1.4
1.1nm,0.9s,baz=180,slow=7.2,SNR=5.7							
YKA	**Yellowknife Ar**	**56.40**	**354**	P	P	16 57 56.9	-3.3
0.5nm,0.9s,baz=162,slow=7.4,SNR=8.3							
YKA				PcP	PcP	16 58 55.8	-1.4
0.4nm,0.7s,baz=160,slow=3.8,SNR=9.8							
ILAR	**Eielson Array**	**65.54**	**341**	P	P	16 58 59.1	-3.1
1.3nm,0.8s,baz=151,slow=5.2,SNR=16							

*ATH **10** 16:49:15.9, 40.76N×20.39E, h2km, MD3.0/4*
*NEIC **10** 16:49:15.9, 40.76N×20.39E, h2km, MD3.0(ATH), After ATH.*
*CSEM **10** 16:49:20.4±0.3, 40.49N×20.44E, h2km, ML2.5, Error ellipse: s-maj=6.3km s-min=2.9km az=125.0*
*THE **10** 16:49:22.7, 40.43N×20.64E, h4km, ML2.5*

ISC 10 16:49:20.4±1.1, 40.45N±0.04×20.47E±0.07, h10km, n12, σ1§24/19, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.30**	**54**	*i Pg*	**Pg**	**16 49 28.0**	**+1.4**
KBN				*i* Sg	**Sg**	**16 49 32.8**	**+2.0**
LSK	**Leskovik**	**0.31**	**161**	*ePg*	**Pg**	**16 49 28.1**	**+1.2**
LSK				*i* Sg	**Sg**	**16 49 33.1**	**+1.8**
FNA	**Florina**	**0.77**	**64**	*ePg*	**Pg**	**16 49 35.1**	**-0.7**
FNA				*e*Sg	**Sg**	**16 49 45.1**	**-1.0**
JAN	**Janina**	**0.84**	**160**	*ePG*	**Pg**	**16 49 37.4**	**+0.1**
KEK	**Kerkira**	**0.90**	**215**	*ePB*	**Pb**	**16 49 37.5**	**-0.1**
KZN	**Kozani**	**1.00**	**98**	*ePG*	**Pg**	**16 49 37.5**	**-3.0**
KZN				*e*SB	**Sb**	**16 49 54.0**	**+1.5**
GRG	**Griva**	**1.55**	**70**	*ePb*	**Pb**	**16 49 48.5**	**-0.4**
GRG				*e*Sb	**Sb**	**16 50 08.8**	**+0.4**
LIT	**Litokhoron**	**1.58**	**102**	*ePb*	**Pb**	**16 49 48.7**	**-0.6**
LIT				*e*Sb	**Sb**	**16 50 09.6**	**+0.2**
EVR	**Evrytania**	**1.85**	**146**	*e*PG	**Pg**	**16 49 56.8**	**-0.5**
KNT	**Kendrikon**	**1.98**	**68**	*ePb*	**Pb**	**16 49 53.8**	**-2.3**
AGG	**Agios Georgios**	**2.02**	**134**	*ePb*	**Pb**	**16 49 56.0**	**-0.8**
AGG				*e*Sb	**Sb**	**16 50 20.0**	**-2.0**
SRS	**Serrai**	**2.46**	**73**	*ePn*	**Pn**	**16 50 02.1**	**+0.8**

IDC 10 16:49:47.4±8.9, 1.21N×124.40E, mb3.7/3, mb1 3.9/3, mb1mx3.6/15, mbtmp3.7/3, Error ellipse: s-maj=172.4km s-min=137.5km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.17**	**156**	P	P	16 54 55.8	-1.1
0.9nm,0.5s,baz=333,slow=11,SNR=16							
ASAR	**Alice Springs**	**26.40**	**160**	P	P	16 55 27.0	-0.6
0.5nm,0.6s,baz=342,slow=7.1,SNR=12							
STKA	**Stephens Creek**	**36.72**	**155**	P	P	16 56 55.2	-3.2
1.9nm,0.6s,baz=346,slow=12,SNR=4.9							

CASC 10 16:51:25.3±1.6, 13.56N×90.58W, h33km±5km, MD3.6, 1C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.63**	**11**	⇓*eP*	Pb	16 51 38.2	+0.4
IXG				*e*S	Sb	16 51 48.4	+1.9
PCG	**Pacaya**	**0.83**	**358**	⇑*eP*	Pn	16 51 41.1	+0.3
PCG				*e*S	Sn	16 51 53.6	+1.5
FUG	**Fuego 3**	**0.92**	**344**	⇓*iP*	Pn	16 51 41.9	-0.2
RTR	**El Retiro**	**0.97**	**69**	*eP*	Pn	16 51 42.5	-0.3
RTR				*e*S	Sn	16 51 56.6	+1.2
SBLS	**San Blas**	**0.97**	**73**	*eP*	Pn	16 51 42.9	+0.1
SBLS				*e*S	Sn	16 51 57.1	+1.6
SNJE	**San Jose**	**0.99**	**72**	*eP*	Pn	16 51 43.4	+0.2
SNJE				*e*S	Sn	16 51 57.5	+1.4
RBDL	**Robledal**	**1.03**	**57**	*eP*	Pn	16 51 42.9	-0.8
NBG	**Las Nubes**	**1.05**	**12**	⇓*eP*	Pn	16 51 43.6	-0.3
BOQS	**Boqueron**	**1.27**	**82**	*eP*	Pn	16 51 47.0	-0.2
BOQS				*e*S	Sn	16 52 05.0	+1.8
JAT	**Jato**	**1.28**	**307**	*eP*	Pn	16 51 48.0	+0.8
JAT				*e*S	Sn	16 52 04.5	+1.2
TP2	**Tecpan 2**	**1.29**	**341**	⇓*eP*	Pn	16 51 47.5	0.0
TP2				*e*S	Sn	16 52 04.5	+0.7
MTO2	**Montecristo 2**	**1.45**	**54**	*eP*	Pn	16 51 47.8	-1.8
LFRS	**El Faro**	**1.48**	**87**	*eP*	Pn	16 51 49.5	-0.5
LFRS				*e*S	Sn	16 52 09.5	+1.2
LBRS	**Las Brisas**	**1.50**	**83**	*eP*	Pn	16 51 49.0	-1.5
LCBS	**La Ceiba**	**1.56**	**86**	*eP*	Pn	16 51 50.9	-0.3
SNVI	**San Vicente**	**1.69**	**88**	*eP*	Pn	16 51 52.9	-0.2
SNVI				*e*S	Sn	16 52 14.6	+0.8
BLLM	**Bellamira**	**2.28**	**93**	*eP*	Pn	16 52 01.1	-0.4
BLLM				*e*S	Sn	16 52 29.2	+0.4
CNCH	**Conchagua**	**2.69**	**96**	*eP*	Pn	16 52 06.2	-1.1

*BJI **10** 16:58:21.4, 5.75S×154.63E, h397km, mB4.9, mb4.9*
*IDC **10** 16:58:22.2±1.3, 6.21S×154.55E, h403km±13km, mb4.4/19, mb1 4.5/21, mb1mx4.5/22, mbtmp5.2/21, Error ellipse: s-maj=12.2km s-min=8.5km az=104.0*
*HRVD **10** 16:58:23.1±2.0, 6.26S×154.82E, h406km±9km, MW5.1/14, Centroid moment Tensor Solution. LP body waves: s14,c15; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.13±.68; $M_{\theta\theta}$-0.56±1.22; $M_{\phi\phi}$0.68±1.05; $M_{r\theta}$-3.70±.95; $M_{\theta\phi}$-3.98±.98; $M_{\phi r}$2.10±1.15; Best double couple: $M_0$5.639×10^{16} NP1:ϕ_s10°, δ46°, λ4°. NP2:ϕ_s278°, δ87°, λ136°. Principal axes: T 6.56, Plg32°, Azm225°; N -1.842, Plg46°, Azm95°; P -4.718, Plg27°, Azm333°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **10** 16:58:23.1±1.2, 6.18S×154.55E, h418km±13km, mb4.9/25 Error ellipse: s-maj=9.0km s-min=6.0km az=84.0*

ISC 10 16:58:21.1±1.1, 6.20S±0.04×154.58E±0.05, h409km±11km, h411km±4.0km: pP-P, n130, σ0§92/125, mb5.0/56, 11C-4D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.01**	**246**	P	P	**17 00 18.8**	**+1.5**
44nm,0.3s,baz=56,slow=5.8,SNR=290							
PMG	**Port Moresby**	**8.01**	**246**	*eP*	P	**17 00 18.4**	**+1.1**
19nm,0.8s							
CTA	**Charters Tower**	**16.00**	**210**	⇑*iP*	P	**17 01 46.6**	**+1.0**
126nm,0.4s							
CTA	**Charters Tower**	**16.00**	**210**	P	P	**17 01 46.4**	**+0.8**
19nm,0.3s,baz=31,slow=11,SNR=195							
CTAO	**Charters Tower**	**16.00**	**210**	*eP*	P	**17 01 46.4**	**+0.8**
175nm,0.6s							
DZM	**Mont Dzumac**	**19.50**	**145**	*eP*	P	**17 02 20.9**	**+0.4**
DZM	**Mont Dzumac**	**19.50**	**145**	*eP*	P	**17 02 20.9**	**+0.4**
KAKA	**Kakadu**	**22.77**	**252**	*eP*	P	**17 02 50.6**	**-1.0**
133nm,0.3s,mb5.8							
KAKA				*e*S	**S**	**17 06 28.2**	**-1.0**
WRAB	**Tennant Creek**	**23.93**	**233**	⇑*iP*	P	**17 03 02.0**	**-0.2**
152nm,0.8s,mb5.5							
WB2	**Warramunga Arr**	**23.93**	**233**	⇑*iP*	P	**17 03 02.1**	**-0.1**
WB2				*e*S	**S**	**17 06 48.0**	**-0.1**
WB2				*e*SCS	ScS	17 13 20.0	+3.0
WRA	**Warramunga Arr**	**23.94**	**233**	P	P	**17 03 02.1**	**-0.2**
54nm,0.6s,mb5.2,baz=61,slow=8.9,SNR=270							
WRA				S	**S**	**17 06 48.1**	**-0.2**
18nm,1.0s,baz=56,slow=15,SNR=5.3							
WRA				ScP		17 09 32.8	
4.2nm,0.7s,baz=61,slow=3.1,SNR=5.8							
ARMA	**Armidale**	**24.25**	**186**	*eP*	P	**17 03 05.4**	**+0.4**
ASAR	**Alice Springs**	**26.40**	**227**	P	P	**17 03 23.4**	**-0.9**
113nm,0.3s,mb5.8,baz=57,slow=9.3,SNR=42							
ASAR				S	**S**	**17 07 27.6**	**+0.1**
144nm,0.3s,baz=56,slow=14,SNR=6.9							
ASAR				ScP		17 09 39.3	
85nm,0.3s,baz=57,slow=2.5,SNR=1.4							
ASPA	**Alice Springs**	**26.40**	**227**	⇑*iP*	P	**17 03 23.6**	**-0.8**
ASPA				*i* S	**S**	**17 07 25.2**	**-2.4**
ASPA				*e*SCS	ScS	17 13 31.1	+3.9
RIV	**Riverview**	**27.67**	**186**	*eP*	P	**17 03 35.7**	**+0.2**
STKA	**Stephens Creek**	**28.28**	**204**	⇑*iP*	P	**17 03 40.1**	**-0.8**
54nm,0.4s,mb5.2							
STKA				*i* SCP		17 09 46.5	
STKA	**Stephens Creek**	**28.28**	**204**	P	P	**17 03 40.2**	**-0.7**
50nm,0.4s,mb5.2,baz=15,slow=7.5,SNR=564							
STKA				ScP		17 09 46.5	
9.4nm,0.8s,baz=12,slow=4.1,SNR=6.9							
CNB	**Canberra Magne**	**29.37**	**189**	*eP*	P	**17 03 50.6**	**+0.3**
428nm,0.9s,mb5.8							
FITZ	**Fitzroy Crossi**	**30.61**	**245**	⇑*iP*	P	**17 04 00.0**	**-1.2**
249nm,0.4s,mb5.9							
MATI	**Mati**	**31.14**	**294**	*eP*	P	**17 04 04.7**	**-1.0**
ADE	**Adelaide**	**32.15**	**205**	⇑*iP*	P	**17 04 14.3**	**0.0**
TOO	**Toolangi**	**32.30**	**194**	*eP*	P	**17 04 15.9**	**+0.3**
8.4nm,0.5s,mb4.3							
BUKP	**Musuan**	**32.60**	**295**	*eP*	P	**17 04 18.5**	**+0.2**
MSLP	**Maasin**	**33.76**	**299**	*eP*	P	**17 04 28.2**	**0.0**
BESP	**Borongan**	**33.96**	**301**	*eP*	P	**17 04 30.2**	**+0.4**
PAGZ	**Pagadian**	**34.11**	**294**	*eP*	P	**17 04 32.0**	**+0.9**
OCLP	**Ormoc**	**34.41**	**300**	*eP*	P	**17 04 32.7**	**-0.9**
**

NJ2 PP PP 17 08 49.0 +1.9
NJ2 S **S** **17 13 32.0 +1.4**
NJ2 AMB AMB
comp=Z,360nm,0.5s,mb5.9
NJ2 AMB AMB
comp=Z,740nm,6.8s
NJ2 LR LR
comp=N,290nm,20.1s
NJ2 LR LR
comp=E,300nm,22.0s
NJ2 LR LR
comp=Z,600nm,15.4s
WHN Wuhan 53.09 316 ⇓P **P** **17 07 00.3 -0.4**
WHN AMB AMB
comp=Z,50nm,0.8s,mb4.8
YSS Yuzh-Sakhalins 53.95 350 *eP* **P** **17 07 05.0 -1.7**
comp=Z,67nm,0.8s,mb4.9
MDJ Mudanjiang 55.36 338 P **P** **17 07 15.7 -1.0**
MDJ AMB AMB
comp=Z,18nm,0.9s,mb4.3
MDJ Mudanjiang 55.36 338 *eP* **P** **17 07 15.3 -1.4**
comp=Z,8.5nm,0.4s,mb4.3
ENH Enshi 56.40 313 *eP* **P** **17 07 22.4 -1.8**
comp=Z,20nm,0.4s,mb4.8
ENH *e*PcP PcP 17 08 15.1 -0.5
NANT Nan 58.62 296 P **P** **17 07 29.8 -10**
XAN Xi'an 58.85 316 P **P** **17 07 39.7 -1.1**
XAN AMB AMB
comp=Z,28nm,0.7s,mb4.7
PET Petropavlovsk 59.10 3 *eP* **P** **17 07 40.5 -1.7**
comp=Z,15nm,0.4s,mb4.7
CMAR Chiang Mai Arr 60.08 295 P **P** **17 07 49.8 +0.6**
comp=Z,21nm,0.7s,mb4.7,baz=119,slow=5.2,SNR=190
CHG Chiang Mai 60.19 296 ⇓P **P** **17 07 50.0 +0.1**
comp=Z,22nm,0.7s,mb4.7
HIA Hailar 63.03 335 *eP* **P** **17 08 07.5 -0.7**
comp=Z,20nm,0.8s,mb4.7
HIA *e*PcP PcP 17 08 40.5 -1.4
LZH Lanzhou 63.47 315 *eP* **P** **17 08 11.5 +0.4**
LZH AP pP 17 09 31.5 -7.6
LZH AMB AMB
comp=Z,56nm,1.2s,mb5.0
CASY Casey 67.22 198 *eP* **P** **17 08 33.0 -1.3**
SONM Songino Array 68.45 327 P **P** **17 08 42.6 +0.5**
comp=Z,16nm,0.6s,mb4.8,baz=147,slow=6.6,SNR=103
LSA Lhasa 70.49 304 P **P** **17 08 56.2 +1.5**
LSA AMB AMB
comp=Z,20nm,0.7s,mb4.8
LSA Lhasa 70.49 304 *eP* **P** **17 08 55.5 +0.8**
comp=Z,19nm,0.8s,mb4.7
YAK Yakutsk 70.70 348 *eP* **P** **17 08 54.4 -1.0**
comp=Z,4.8nm,0.3s,mb4.5
VNDA Vanda 71.38 178 P **P** **17 08 59.8 +0.6**
comp=Z,9.8nm,0.7s,mb4.4,baz=329,slow=5.8,SNR=42
JIRN Jiri 74.03 301 *eP* **P** **17 09 16.2 +0.8**
comp=Z,66nm,0.6s,mb5.5
GUN Gumba 74.36 301 *eP* **P** **17 09 18.0 +0.7**
comp=Z,153nm,0.7s,mb5.7
BILL Bilibino 74.53 5 *eP* **P** **17 09 16.9 -0.5**
comp=Z,52nm,0.8s,mb5.2
PKI Pulchoki 74.67 301 *eP* **P** **17 09 19.3 +0.3**
comp=Z,58nm,0.7s,mb5.3
KKN Kakani 74.84 301 *eP* **P** **17 09 20.2 +0.2**
comp=Z,62nm,0.5s,mb5.5
DMN Daman 74.94 301 *eP* **P** **17 09 20.9 +0.4**
comp=Z,181nm,0.9s,mb5.7
GKN Gorkha 75.44 301 *eP* **P** **17 09 23.5 +0.2**
comp=Z,146nm,0.6s,mb5.8
KOLN Koldanda 76.27 300 *eP* **P** **17 09 28.1 +0.1**
comp=Z,67nm,0.5s,mb5.5
ANM Nome 76.59 17 *eP* **P** **17 09 29.6 +0.6**
TNA Tin City 76.67 15 *eP* **P** **17 09 28.6 -0.8**
comp=Z,6.1nm,0.8s,mb4.3
WMQ Urumqi 77.97 317 P **P** **17 09 37.5 +0.6**
WMQ AP pP 17 11 10.4 +1.4
WMQ XP sP 17 11 52.7 +1.4
WMQ PP PP 17 12 42.4 +1.8
WMQ S S 17 18 55.9 +0.5
WMQ AMB AMB
comp=Z,320nm,1.8s,mb5.7
WMQ AMB AMB
comp=Z,210nm,7.6s
HYB Hyderabad 78.62 289 *eP* **P** **17 09 40.5 -0.3**
HYB Hyderabad 78.62 289 *i* P **P** **17 09 40.5 -0.3**
SML Sawmill 80.67 24 *eP* **P** **17 09 50.0 -0.7**
IMA Indian Mountai 81.19 19 *eP* **P** **17 09 53.5 +0.2**
MCK McKinley 81.48 22 *eP* **P** **17 09 53.5 -1.3**
comp=Z,16nm,1.2s,mb4.6
MCK *e*pP pP 17 11 25.3 -2.4
COLA College 82.50 21 *eP* **P** **17 09 59.1 -0.9**
ILAR Eielson Array 82.79 22 P **P** **17 10 00.6 -0.9**
comp=Z,7.2nm,0.7s,mb4.5,baz=250,slow=5.3,SNR=87
ZAL Zalesovo 83.31 326 P **P** **17 10 03.5 -0.8**
comp=Z,19nm,0.6s,mb5.0,baz=359,slow=5.5,SNR=62
QSPA South Pole Qui 83.77 180 ⇑ *iP* **P** **17 10 07.3 +1.2**
comp=Z,31nm,0.6s,mb5.2
MAW Mawson 84.97 203 P **P** **17 10 12.8 +0.6**
comp=Z,28nm,0.6s,mb5.2,baz=98,slow=5.3,SNR=63
DAWY Dawson 85.34 24 *eP* **P** **17 10 14.8 +0.7**
ULHL Ulahol 85.57 313 P **P** **17 10 17.1 +1.4**
SNR=11
TKM2 Tokmak 2 86.17 314 P **P** **17 10 19.5 +0.9**
SNR=22
KZA Kyzart 86.25 313 P **P** **17 10 21.0 +1.9**
SNR=6.0
KBK Karagaybulak 86.59 313 P **P** **17 10 21.8 +1.1**
SNR=9.3
CHMS Chumysh 86.80 314 P **P** **17 10 22.1 +0.5**
SNR=13
UCH Uchtor 86.82 313 P **P** **17 10 23.2 +1.4**
SNR=6.7
AAK Ala-Archa 86.91 313 P **P** **17 10 23.1 +0.9**
SNR=13
AAK Ala-Archa 86.91 313 *eP* **P** **17 10 21.2 -1.0**
comp=Z,13nm,0.8s,mb4.7
USP Ospenovka 87.03 314 P **P** **17 10 23.3 +0.6**
SNR=12
AML Almayashu 87.40 313 P **P** **17 10 26.0 +1.5**
SNR=13
EKS2 Erkin-Say 87.44 313 P **P** **17 10 25.6 +1.0**
SNR=7.0
DLBC Dease Lake 87.67 31 P **P** **17 10 26.9 +1.5**
comp=Z,3.2nm,1.0s,mb4.0,baz=205,slow=3.9,SNR=4.7
INK Inuvik 89.13 21 *eP* **P** **17 10 31.2 -0.8**
comp=Z,2.3nm,0.4s,mb4.3
CHKZ Chkalovo 91.38 324 *eP* **P** **17 10 41.4 -1.4**
comp=Z,24nm,0.8s,mb5.1
BVAR Borovoye Array 91.42 323 P **P** **17 10 42.1 -0.8**
comp=Z,15nm,0.6s,mb5.0,baz=104,slow=6.1,SNR=59
BRVK Borovoye 91.49 323 *eP* **P** **17 10 42.2 -1.0**
comp=Z,15nm,0.9s,mb4.8
NVAR Mina Array Bea 91.55 52 P **P** **17 10 45.3 +1.4**
comp=Z,0.4nm,0.6s,baz=231,slow=1.6,SNR=6.1
SYO Syowa Base 92.94 199 ⇑P **P** **17 10 49.1 -0.5**
SYO Syowa Base 92.94 199 ⇓P Px 17 11 06.2
YKA Yellowknife Ar 95.83 28 P **P** **17 11 03.1 +0.2**
comp=Z,1.1nm,0.8s,mb4.1,baz=268,slow=4.4,SNR=24
YKA Yellowknife Ar 95.83 28 P **P** **17 11 03.1 +0.2**
BW06 Boulder Array 98.47 48 P **P** **17 11 14.5 -0.9**
PDAR Pinedale Array 98.47 48 P **P** **17 11 17.6 +2.2**
comp=Z,0.2nm,0.6s,baz=225,slow=5.1,SNR=2.6
ARCES ARCESS Array B 108.72 343 PKiKP 17 16 03.0
comp=Z,1.8nm,0.9s,baz=65,slow=1.4,SNR=15
FINES FINESS Array B 113.05 336 Pdiff Pdif 17 12 17.8 -1.4
comp=Z,1.8nm,0.9s,baz=56,slow=5.0,SNR=3.4
BRTR Keskin Array B 117.55 312 PKP PKPdf 17 16 20.9 +1.5
comp=Z,0.8nm,0.5s,baz=45,slow=3.5,SNR=4.2
NB2 NORSAR Subarra118.82 341 PKPdf PKPdf 17 16 22.0 +0.7
comp=Z,3.3nm,1.0s,baz=40,slow=1.7
NOA NORSAR Array B 118.82 341 PKP PKPdf 17 16 22.7 +1.4
comp=Z,2.0nm,1.0s,baz=80,slow=6.3,SNR=3.3
CLL Collm 124.92 332 *e*PKIKP PKPdf 17 16 35.0 +1.6
GERES GERESS Array B 126.17 329 PKP PKPdf 17 16 38.1 +2.3
comp=Z,1.7nm,0.5s,baz=88,slow=1.8,SNR=20
GERES SKP 17 19 37.0
comp=Z,1.0nm,0.8s,baz=90,slow=2.0,SNR=5.5
LPAZ La Paz 132.19 118 SKPbc 17 19 39.4
comp=Z,1.7nm,0.8s,baz=304,slow=3.6,SNR=5.5
BDFB Brasilia 148.82 134 PKPbc PKPdf 17 17 23.6 +6.1
comp=Z,3.5nm,0.5s,baz=221,slow=2.7,SNR=5.9
BAO Brasilia Array 148.84 134 P PKPdf 17 17 23.8 +6.2

*IDC **10** 16:59:33.1±6.7, 9.11N×94.10E, mb4.2/8, mb1 4.3/9, mb1mx4.2/18, mbtmp4.1/9, ML3.5/1, Error ellipse: s-maj=156.5km s-min=46.9km az=144.0*

*NEIC **10** 16:59:41.9±1.7, 9.19N×92.93E, h30km, mb4.4/7, Error ellipse: s-maj=39.8km s-min=19.9km az=141.0*
*BJI **10** 16:59:44.4, 9.20N×92.90E, h30km, mB5.2, mb4.5*
ISC 10 16:59:38.1±1.4, 8.8N±0.2×93.2E±0.1, h30km, n35, σ1°29/35, mb4.3/14, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.09**	**30**	Pn	**P**	**17 02 17.1**	**-0.8**
	0.1nm,0.3s,baz=218,slow=14,SNR=15						
VIS	**Vishakhapatnam**	**13.01**	**314**	*i* P	**P**	**17 02 38.5**	**-5.2**
VIS				*i* S	**S**	**17 04 45.4**	**-23**
HYB	**Hyderabad**	**16.57**	**302**	*i* P	**P**	**17 03 27.0**	**-3.1**
SHL	**Shillong**	**16.68**	**356**	*eP*	**P**	**17 03 32.1**	**+0.7**
SHL				⇓ *i*		17 08 43.0	
BLSP	**Bilaspur**	**16.94**	**323**	*i* P	**P**	**17 03 32.8**	**-2.0**
BLSP				*e*		17 03 45.0	
	comp=Z,14nm,0.6s						
BLSP				*i*		17 06 34.7	
JIRN	**Jiri**	**19.84**	**342**	*eP*	**P**	**17 04 10.3**	**+0.6**
	comp=Z,46nm,0.8s						
PKI	**Pulchoki**	**20.02**	**340**	*eP*	**P**	**17 04 12.5**	**+1.0**
	comp=Z,57nm,1.1s						
DMN	**Daman**	**20.16**	**339**	*eP*	**P**	**17 04 14.1**	**+1.1**
GUN	**Gumba**	**20.18**	**341**	*eP*	**P**	**17 04 13.8**	**+0.7**
	comp=Z,98nm,1.0s						
KKN	**Kakani**	**20.27**	**339**	*eP*	**P**	**17 04 14.4**	**+0.3**
	comp=Z,45nm,0.9s						
GKN	**Gorkha**	**20.69**	**338**	*eP*	**P**	**17 04 18.9**	**+0.5**
	comp=Z,46nm,0.6s						
BHPL	**Bhopal**	**20.79**	**315**	*i* P	**P**	**17 04 21.2**	**+1.7**
BHPL				*e*		17 04 26.2	
	comp=Z,17nm,1.0s						
BHPL				*e*		17 08 04.8	
LSA	**Lhasa**	**20.84**	**355**	P	**P**	**17 04 18.8**	**-1.2**
LSA				AMB	AMB		
	comp=Z,20nm,1.1s						
LSA	**Lhasa**	**20.84**	**355**	*eP*	**P**	**17 04 18.6**	**-1.4**
	comp=Z,12nm,0.5s						
KOLN	**Koldanda**	**20.88**	**336**	*eP*	**P**	**17 04 21.5**	**+1.1**
	comp=Z,45nm,0.7s						
BATP	**Bataraza**	**24.35**	**88**	*eP*	**P**	**17 04 47.1**	**-7.7**
NDI	**New Delhi**	**24.79**	**325**	*eP*	**P**	**17 05 00.0**	**+1.0**
NDI				*e*		17 09 56.0	
DDI	**Dehra Dun**	**25.62**	**329**	*e*	**P**	**17 05 01.3**	**-5.5**
AAK	**Ala-Archa**	**37.44**	**337**	*eP*	**P**	**17 06 51.3**	**+0.7**
	comp=Z,4.9nm,1.0s,mb4.3						
SONM	**Songino Array**	**40.45**	**14**	P	**P**	**17 07 07.7**	**-7.9**
	comp=Z,0.6nm,0.4s,mb3.6,baz=193,slow=9.1,SNR=9.6						
ULN	**Ulaanbaatar**	**40.64**	**14**	*eP*	**P**	**17 07 16.0**	**-1.1**
	comp=Z,2.7nm,0.9s,mb3.9						
ZAL	**Zalesovo**	**45.47**	**353**	P	**P**	**17 07 53.8**	**-2.5**
	comp=Z,1.5nm,0.7s,mb3.9,baz=313,slow=7.6,SNR=12						
MDJ	**Mudanjiang**	**47.57**	**35**	P	**P**	**17 08 15.7**	**+2.7**
MDJ				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.1						
BVAR	**Borovoye Array**	**47.77**	**342**	P	**P**	**17 08 11.9**	**-2.6**
	comp=Z,1.6nm,0.6s,mb4.2,baz=149,slow=8.6,SNR=12						
CHKZ	**Chkalovo**	**48.26**	**342**	*eP*	**P**	**17 08 15.4**	**-2.8**
	comp=Z,8.3nm,1.0s,mb4.7						
BRTR	**Keskin Array B**	**61.07**	**311**	P	**P**	**17 09 51.2**	**-0.4**
	comp=Z,2.7nm,0.8s,mb4.4,baz=124,slow=6.4,SNR=12						
FINES	**FINESS Array B**	**71.41**	**332**	P	**P**	**17 10 57.1**	**-0.2**
	comp=Z,9.3nm,1.2s,mb4.6,baz=166,slow=5.7,SNR=4.3						
MORC	**Moravsky Berou**	**74.02**	**319**	*eP*	**P**	**17 11 13.2**	**+0.4**
	comp=Z,6.8nm,1.2s,mb4.5						
ARCES	**ARCESS Array B**	**74.03**	**340**	P	**P**	**17 11 12.6**	**0.0**
	comp=Z,14nm,1.3s,mb4.8,baz=72,slow=7.7,SNR=6.9						
ARCES	**ARCESS Array B**	**74.03**	**340**	P	**P**	**17 11 12.6**	**0.0**
GERES	**GERESS Array B**	**76.47**	**318**	P	**P**	**17 11 27.7**	**+0.8**
	comp=Z,1.2nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=12						
NB2	**NORSAR Subarra**	**78.42**	**331**	P	**P**	**17 11 36.7**	**-0.7**
	comp=Z,1.6nm,0.7s,mb4.1,baz=96,slow=4.8						
NOA	**NORSAR Array B**	**78.42**	**331**	P	**P**	**17 11 36.3**	**-1.1**
	comp=Z,6.0nm,1.1s,mb4.4,baz=95,slow=4.9,SNR=4.7						
LPG	**La Plagne**	**81.25**	**315**	*eP*	**P**	**17 11 53.6**	**+0.7**
	comp=Z,11nm,0.8s,mb4.5						
PDAR	**Pinedale Array**	**124.61**	**20**	PKP	PKPdf	17 18 39.1	-1.1
	comp=Z,0.5nm,0.9s,SNR=4.1						

*IDC **10** 17:18:03.6±1.5, 5.36N×93.25E, mb3.9/7, mb1 4.0/8, mb1mx3.8/18, mbtmp3.8/8, ML3.2/1, MS2.8/1, Ms1 3.0/1, ms1mx2.9/17, Error ellipse: s-maj=66.1km s-min=17.9km az=61.0*
*NEIC **10** 17:18:08.2±0.8, 5.37N×93.29E, h30km, mb4.1/1, Error ellipse: s-maj=25.2km s-min=10.5km az=67.0*
ISC 10 17:18:06.2±1.1, 5.4N±0.1×93.3E±0.2, h30km, n9, σ0°36/9, mb4.0/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.12**	**22**	Pn	**P**	**17 21 26.5**	**0.0**
	0.0nm,0.3s,baz=221,slow=13,SNR=5.8						
CMAR				LR	LR	17 26 46.7	
	comp=Z,38nm,18.7s,baz=287,slow=37						
SONM	**Songino Array**	**43.76**	**13**	P	**P**	**17 26 10.5**	**-0.3**
	0.4nm,0.9s,mb3.1,baz=194,slow=5.9,SNR=3.0						
SONM				PcP	PcP	17 27 57.9	+0.2
	0.2nm,0.4s,baz=170,slow=3.8,SNR=3.6						
WRA	**Warramunga Arr**	**47.55**	**123**	P	**P**	**17 26 41.5**	**+0.2**
	2.9nm,0.7s,mb4.4,baz=301,slow=9.1,SNR=22						
ZAL	**Zalesovo**	**48.91**	**353**	P	**P**	**17 26 52.0**	**+0.7**
	0.6nm,0.3s,mb4.1,baz=321,slow=13,SNR=2.5						
ASAR	**Alice Springs**	**49.00**	**128**	P	**P**	**17 26 52.5**	**0.0**
	0.6nm,0.4s,mb4.0,baz=296,slow=8.0,SNR=9.4						
ASAR				PcP	PcP	17 28 17.1	+0.6
	0.3nm,0.5s,baz=304,slow=2.8,SNR=4.2						
BVAR	**Borovoye Array**	**51.09**	**342**	P	**P**	**17 27 07.4**	**-0.6**
	0.5nm,0.7s,mb3.6,baz=158,slow=7.8,SNR=3.0						
CHKZ	**Chkalovo**	**51.59**	**343**	*eP*	**P**	**17 27 11.7**	**-0.1**
	0.9nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**59.02**	**132**	P	**P**	**17 28 05.7**	**-0.3**
	5.6nm,1.3s,mb4.4,baz=325,slow=12,SNR=4.9						
ARCES	**ARCESS Array B**	**77.32**	**341**	P	**P**	**17 29 59.7**	**+0.4**
	2.7nm,0.9s,mb4.2,baz=104,slow=7.4,SNR=4.4						

*FUNV **10** 17:34:28.1, 6.63N×73.25W, h143km, MW3.7*
*IDC **10** 17:34:30.1±0.7, 6.80N×72.96W, h156km±6km, mb3.9/13, mb1 4.2/16, mb1mx4.0/21, mbtmp4.5/16, Error ellipse: s-maj=12.3km s-min=7.4km az=128.0*
*NEIC **10** 17:34:30.1±0.6, 6.77N×73.02W, h157km±6km, mb4.4/14, Error ellipse: s-maj=8.1km s-min=6.9km az=112.0*
NEIC Felt at Bucaramanga.
ISC 10 17:34:29.1±0.4, 6.83N±0.04×72.98W±0.04, h162km±4km, n66, σ0°81/65, mb4.2/26, 2C-7D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**33**	*eP*	**P**	**17 34 57.0**	**-0.1**
CAPV				*eS*	**S**	**17 35 18.1**	**-0.6**
ROSC	**El Rosal**	**2.38**	**214**	P	**P**	**17 35 10.7**	**+0.9**
	274nm,0.3s,baz=288,slow=8.5,SNR=1109						
ROSC				S	**S**	**17 35 41.9**	**+0.8**
	732nm,0.3s,baz=229,slow=19,SNR=25						
SOCV	**Socops**	**2.55**	**55**	*eP*	**P**	**17 35 12.8**	**+0.9**
SOCV				*eS*	**S**	**17 35 46.0**	**+1.1**
VIGV	**El Vigia**	**2.56**	**39**	⇓ *iP*	**P**	**17 35 13.4**	**+1.4**
VIGV				*eS*	**S**	**17 35 45.5**	**+0.4**
SDV	**Santo Domingo**	**3.10**	**49**	P	**P**	**17 35 20.4**	**+1.7**
	131nm,0.3s,baz=244,slow=8.0,SNR=358						
SDV				S	**S**	**17 35 56.8**	**-0.1**
	91nm,0.3s,baz=70,slow=18,SNR=10.0						
SDV	**Santo Domingo**	**3.10**	**49**	*e*Pn	**P**	**17 35 20.3**	**+1.5**
SDV				*e*Sn	**S**	**17 35 53.9**	**-2.9**
ELOV	**Elorza**	**3.48**	**87**	*eP*	**P**	**17 35 23.9**	**+0.3**
VIRV	**Villa del Rosa**	**3.69**	**9**	⇓ *iP*	**P**	**17 35 25.9**	**-0.6**
VIRV				*eS*	**S**	**17 36 08.2**	**-2.3**
DABV	**Dabajuro**	**4.68**	**30**	*eP*	**P**	**17 35 39.3**	**0.0**
TEPV	**Terepaima**	**4.87**	**50**	⇓ *iP*	**P**	**17 35 42.6**	**+0.8**
SIQV	**Siquisique**	**4.92**	**39**	⇓ *iP*	**P**	**17 35 42.8**	**+0.4**
BAUV	**El Baul**	**5.32**	**66**	⇓ *iP*	**P**	**17 35 47.1**	**-0.6**
PAYV	**Puerto Ayacuch**	**5.48**	**105**	*eP*	**P**	**17 35 48.1**	**-1.6**
IMOV	**Isla Los Monje**	**5.86**	**20**	*eP*	**P**	**17 35 54.4**	**-0.4**
JACV	**Jacura**	**5.89**	**44**	*eP*	**P**	**17 35 55.5**	**+0.3**
MONV	**Montecano**	**5.89**	**30**	*eP*	**P**	**17 35 55.2**	**0.0**
TURV	**Turiamo**	**6.22**	**54**	*eP*	**P**	**17 35 60.0**	**+0.2**
CAOV	**Caicara del Or**	**6.63**	**85**	⇓ *iP*	**P**	**17 36 04.4**	**-0.7**
MERV	**Las Mercedes**	**7.04**	**70**	*eP*	**P**	**17 36 10.2**	**-0.5**
CUPV	**Cepira**	**7.80**	**65**	⇓ *eP*	**P**	**17 36 20.2**	**-0.5**
OTAV	**Otavalo**	**8.53**	**220**	*e*Pn	**P**	**17 36 28.5**	**-1.8**
	14nm,0.7s						
OTAV				*e*Sn	**S**	**17 38 04.2**	**-0.8**
PCRV	**Puerto La Cruz**	**8.90**	**67**	*eP*	**P**	**17 36 35.2**	**0.0**
GUNV	**Guanoco**	**10.46**	**71**	*eP*	**P**	**17 36 55.1**	**-0.8**
SJG	**San Juan**	**13.04**	**30**	P	**P**	**17 37 29.3**	**+0.1**
	4.8nm,0.3s,baz=197,slow=20,SNR=3.0						
SJG	**San Juan**	**13.04**	**30**	P	**P**	**17 37 29.3**	**+0.1**
LPAZ	**La Paz**	**23.46**	**168**	P	**P**	**17 39 26.1**	**+0.9**
	2.0nm,0.7s,mb3.6,baz=318,slow=7.2,SNR=3.7						
WVT	**Waverly**	**32.18**	**337**	*eP*	**P**	**17 40 43.5**	**-0.3**
	6.3nm,0.3s,mb4.8						
BDFB	**Brasilia**	**33.32**	**132**	P	**P**	**17 40 53.7**	**-0.1**
	4.3nm,0.6s,mb4.4,baz=295,slow=10,SNR=7.1						
CCM	**Cathedral Cave**	**35.22**	**335**	*eP*	**P**	**17 41 09.7**	**-0.1**
	22nm,0.7s,mb4.9						
WMOK	**Wichita Mounta**	**36.55**	**323**	*eP*	**P**	**17 41 20.1**	**-0.8**
	3.2nm,0.5s,mb4.2						
LTX	**Lajitas**	**36.56**	**312**	*eP*	**P**	**17 41 21.1**	**0.0**
	2.1nm,0.4s,mb4.1						
TXAR	**Lajitas Array**	**36.56**	**312**	P	**P**	**17 41 21.3**	**+0.2**
	1.8nm,0.5s,mb4.0,baz=128,slow=9.4,SNR=13						
TXAR				PcP	PcP	17 43 42.6	+1.2
	0.9nm,0.5s,baz=127,slow=5.6,SNR=6.7						
TXAR	**Lajitas Array**	**36.56**	**312**	P	**P**	**17 41 21.3**	**+0.2**
TXAR				PcP	PcP	17 43 42.6	+1.2
SADO	**Sadowa**	**38.17**	**353**	P	**P**	**17 41 35.5**	**+1.1**
	8.9nm,0.7s,mb4.5,baz=170,slow=7.3,SNR=4.1						
MNTX	**Cornudas Mount**	**39.06**	**314**	*eP*	**P**	**17 41 42.1**	**+0.1**
	5.9nm,0.7s,mb4.3						
SDCO	**Great Sand Dun**	**42.63**	**321**	*eP*	**P**	**17 42 12.2**	**+1.1**
	5.3nm,0.9s,mb4.2						
ISCO	**Idaho Springs**	**43.98**	**323**	*eP*	**P**	**17 42 23.1**	**+1.1**
	2.6nm,0.8s,mb3.9						
SCHQ	**Schefferville**	**48.12**	**5**	P	**P**	**17 42 55.0**	**+0.6**
	8.9nm,0.6s,mb4.5,baz=180,slow=6.1,SNR=30						
PDAR	**Pinedale Array**	**48.15**	**324**	P	**P**	**17 42 54.8**	**+0.1**
	2.0nm,0.5s,mb4.0,baz=125,slow=9.2,SNR=24						
PDAR				PcP	PcP	17 44 19.6	-0.4
	0.4nm,0.5s,baz=122,slow=6.8,SNR=3.8						
TCUT	**Toone Canyon**	**48.31**	**321**	*eP*	**P**	**17 42 56.4**	**+0.4**
HWUT	**Hardware Ranch**	**48.68**	**321**	*eP*	**P**	**17 42 58.8**	**0.0**
	3.3nm,0.6s,mb4.1						
MOOW	**Moose Ponds**	**49.44**	**324**	*eP*	**P**	**17 43 04.2**	**-0.4**
QLMT	**Earthquake Lak**	**50.48**	**325**	*eP*	**P**	**17 43 13.6**	**+1.2**
BOZ	**Bozeman (W)**	**51.08**	**326**	*eP*	**P**	**17 43 16.8**	**-0.3**
	3.5nm,0.6s,mb4.2						
MCMT	**McKenzie Canyo**	**51.29**	**324**	*eP*	**P**	**17 43 19.1**	**+0.5**
HLID	**Hailey**	**51.52**	**322**	*eP*	**P**	**17 43 20.4**	**0.0**
	3.1nm,0.7s,mb4.0						
NVAR	**Mina Array Bea**	**51.58**	**315**	P	**P**	**17 43 21.4**	**+0.5**
	1.3nm,0.6s,mb3.7,baz=134,slow=6.1,SNR=11						
NVAR				PcP	PcP	17 44 33.1	+0.5
	1.0nm,0.6s,baz=128,slow=5.2,SNR=5.3						
WVOR	**Wild Horse Val**	**53.61**	**319**	*eP*	**P**	**17 43 35.5**	**-0.3**
	7.1nm,0.9s,mb4.4						
FCC	**Fort Churchill**	**54.29**	**347**	*eP*	**P**	**17 43 39.1**	**-1.4**
	8.8nm,1.1s,mb4.4						
YBH	**Yreka Blue Hor**	**56.03**	**316**	P	**P**	**17 43 51.6**	**-1.8**
	baz=144,slow=17						
YKA	**Yellowknife Ar**	**63.30**	**340**	P	**P**	**17 44 41.8**	**-0.9**
	8.5nm,0.5s,mb4.8,baz=132,slow=6.7,SNR=251						
DBIC	**Dimbokro**	**67.59**	**86**	P	**P**	**17 45 10.0**	**-1.0**
	4.9nm,0.6s,mb4.4,baz=260,slow=6.7,SNR=15						
SUMG	**Summit**	**68.95**	**11**	*eP*	**P**	**17 45 18.4**	**+0.1**
	18nm,0.7s,mb4.9						
ILAR	**Eielson Array**	**77.01**	**335**	P	**P**	**17 46 05.3**	**-0.1**
	1.7nm,0.8s,mb3.7,baz=107,slow=4.4,SNR=20						
NOA	**NORSAR Array B**	**81.25**	**29**	P	**P**	**17 46 29.4**	**+1.1**
	3.0nm,1.0s,mb3.9,baz=271,slow=5.0,SNR=2.8						
GERES	**GERESS Array B**	**82.72**	**42**	P	**P**	**17 46 36.4**	**+0.3**
	0.8nm,0.6s,mb3.6,baz=270,slow=4.0,SNR=8.1						
ARCES	**ARCESS Array B**	**86.61**	**20**	P	**P**	**17 46 55.4**	**+0.5**
	2.2nm,0.7s,mb4.1,baz=284,slow=5.0,SNR=8.0						
ZAL	**Zalesovo**	**116.63**	**14**	PKP	PKPdf	17 52 54.5	+0.6
	1.6nm,0.5s,baz=190,slow=4.6,SNR=8.8						
SONM	**Songino Array**	**125.57**	**1**	PKP	PKPdf	17 53 13.3	+1.9
	0.9nm,0.5s,baz=306,slow=1.1,SNR=21						
STKA	**Stephens Creek**	**139.26**	**228**	PKP	PKPdf	17 53 38.9	+1.4
	0.5nm,0.3s,baz=96,slow=9.2,SNR=3.7						
ASAR	**Alice Springs**	**149.23**	**234**	PKP	PKPdf	17 53 56.0	+1.3
	5.1nm,0.6s,baz=108,slow=1.6,SNR=33						
ASAR				PKPbc	PKPdf	17 53 59.6	+4.9
	5.9nm,0.5s,baz=116,slow=3.8,SNR=105						
ASPA	**Alice Springs**	**149.23**	**234**	⇑ *iP*	PKPdf	17 53 59.8	+5.0
WB2	**Warramunga Arr**	**150.45**	**241**	⇑ *iP*	PKPdf	17 54 03.1	+6.4
WRAB	**Tennant Creek**	**150.46**	**241**	*e*PKPdf	PKPdf	17 54 02.9	+6.2
WRA	**Warramunga Arr**	**150.46**	**241**	PKP	PKPdf	17 53 58.3	+1.6
	5.5nm,0.4s,baz=109,slow=2.6,SNR=120						
WRA				PKPbc	PKPdf	17 54 02.9	+6.2
	6.6nm,0.5s,baz=107,slow=2.6,SNR=191						
CMAR	**Chiang Mai Arr**	**153.64**	**17**	PKP	PKPdf	17 54 03.9	+2.6
	1.1nm,0.6s,baz=306,slow=1.5,SNR=13						
CMAR				PKPbc	PKPdf	17 54 11.2	+10
	4.0nm,0.6s,baz=320,slow=3.3,SNR=44						

*NEIC **10** 17:45:32.9, 34.79S×72.31W, h35km, MD3.7(GUC), After GUC.*
GUC 10 17:45:32.9±0.6, 34.79S×72.31W, h35km±3km, MD3.7, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**1.08**	**81**	*eP*	P	17 45 52.3	+0.5
LNV	**Longovilo**	**1.11**	**42**	⇑ *iP*	P	17 45 52.5	+0.2
L

ellipse: s-maj=21.6km s-min=15.6km az=69.0

ISC 10 18:35:05.2±1.2, 8.7N±0.1×93.5E±0.2, h30km, n14, σ0°69/14, mb3.7/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.01	28	Pn	P	18 37 43.8	-0.2
	0.1nm,0.3s,baz=222,slow=15,SNR=3.7						
CMAR				LR	LR	18 42 25.9	
	comp=Z,43nm,19.3s,baz=350,slow=40						
JIRN	Jiri	20.06	341	*e*P	P	18 39 38.9	-0.1
	24nm,1.1s						
PKI	Pulchoki	20.24	339	*e*P	P	18 39 41.6	+0.7
	6.8nm,0.5s						
GUN	Gumba	20.39	340	*e*P	P	18 39 43.0	+0.5
KKN	Kakani	20.49	339	*e*P	P	18 39 44.4	+0.9
	4.9nm,0.6s						
GKN	Gorkha	20.92	338	*e*P	P	18 39 48.0	+0.1
LSA	Lhasa	20.98	354	*e*P	P	18 39 47.8	-0.7
	1.9nm,0.6s						
KOLN	Koldanda	21.12	335	*e*P	P	18 39 50.9	+0.9
	12nm,0.8s,mb4.3						
SONM	Songino Array	40.47	13	P	P	18 42 43.2	+0.3
	0.5nm,1.0s,mb3.2,baz=194,slow=5.9,SNR=2.8						
ZAL	Zalesovo	45.62	353	P	P	18 43 24.4	-0.1
	0.9nm,0.6s,mb3.9,baz=139,slow=12,SNR=4.8						
BVAR	Borovoye Array	47.98	341	P	P	18 43 41.8	-1.4
	0.2nm,0.4s,mb3.5,baz=141,slow=9.2,SNR=2.8						
CHKZ	Chkalovo	48.47	342	*e*P	P	18 43 46.6	-0.4
	1.2nm,0.4s,mb4.3						
WRA	Warramunga Arr	49.27	126	P	P	18 43 54.2	+0.6
	0.2nm,0.6s,mb3.4,baz=302,slow=9.0,SNR=2.6						
GERES	GERESS Array B	76.77	318	P	P	18 46 54.6	-1.1
	0.4nm,0.7s,mb3.5,baz=79,slow=5.0,SNR=3.4						

*IDC **10** 18:36:40.5±1.0, 0.10N×98.52E, mb4.2/11, mb1 4.2/12, mb1mx4.1/19, mbtmp4.1/12, ML4.3/1, Error ellipse: s-maj=47.9km s-min=19.4km az=51.0*

*NEIC **10** 18:36:46.0±0.6, 0.17N×98.64E, h35km, mb4.6/4, Error ellipse: s-maj=24.7km s-min=10.3km az=57.0*

ISC 10 18:36:44.1±0.8, 0.2N±0.2×98.7E±0.2, h33km, n17, σ0°76/16, mb4.2/15, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.14	1	P	P	18 40 55.6	+0.4
	0.3nm,0.3s,baz=192,slow=11,SNR=13						
MBWA	Marble Bar	29.59	137	*e*P	P	18 42 42.4	-6.0
	33nm,1.3s,mb4.9						
LSA	Lhasa	30.18	347	*e*P	P	18 42 53.9	+0.2
	1.9nm,0.8s,mb3.9						
WRA	Warramunga Arr	40.28	122	P	P	18 44 19.1	-0.8
	0.5nm,0.5s,mb3.5,baz=304,slow=9.0,SNR=5.2						
ASAR	Alice Springs	41.64	127	P	P	18 44 31.9	+0.6
	0.7nm,0.8s,mb3.3,baz=305,slow=8.0,SNR=3.9						
SONM	Songino Array	47.91	7	P	P	18 45 21.9	+0.7
	1.4nm,0.4s,mb4.3,baz=192,slow=9.6,SNR=21						
ZAL	Zalesovo	54.76	350	P	P	18 46 12.2	-0.5
	3.4nm,0.8s,mb4.4,baz=309,slow=5.0,SNR=12						
BVAR	Borovoye Array	57.66	340	P	P	18 46 32.7	-0.9
	2.3nm,0.4s,mb4.5,baz=142,slow=10,SNR=25						
BRVK	Borovoye	57.72	340	*e*P	P	18 46 33.0	-1.0
	2.7nm,0.4s,mb4.6						
CHKZ	Chkalovo	58.13	341	*e*P	P	18 46 36.0	-0.7
	5.9nm,1.1s,mb4.5						
BRTR	Keskin Array B	70.85	312	P	P	18 47 59.6	-0.1
	0.6nm,0.9s,mb3.5,baz=108,slow=7.8,SNR=4.0						
AKASG	Malin Array Be	76.92	322	P	P	18 48 34.1	-0.8
	0.2nm,0.3s,mb3.5,baz=81,slow=4.6,SNR=4.6						
SYO	Syowa Base	79.52	198	⇓P	sP	18 49 04.8	+2.0
FINES	FINESS Array B	81.54	332	P	P	18 48 59.6	0.0
	1.3nm,0.6s,mb4.1,baz=104,slow=5.0,SNR=14						
ARCES	ARCESS Array B	83.95	340	P	P	18 49 12.4	+0.6
	4.3nm,1.0s,mb4.5,baz=90,slow=3.6,SNR=10.0						
HFS	Hagfors	87.30	330	P	P	18 49 29.4	+1.0
	3.8nm,0.9s,mb4.6,baz=117,slow=6.6,SNR=6.2						
DAVOX	Davos	89.00	317	P	P	18 49 38.6	+1.6
	1.8nm,0.7s,mb4.5,baz=80,slow=15,SNR=2.9						

*PRU **10** 18:37:25.3, 44.15N×16.69E*

*PDG **10** 18:37:26.6±0.2, 44.30N×16.51E, h12km±1km*

*NEIC **10** 18:37:26.6, 44.30N×16.51E, h12km, MD3.0(PDG), After PDG.*

*CSEM **10** 18:37:27.5±0.1, 44.21N×16.12E, h10km, MD3.0, Error ellipse: s-maj=2.7km s-min=1.2km az=52.0*

ISC 10 18:37:27.2±0.3, 44.32N±0.03×16.50E±0.04, h10km, n24, σ1°08/47, 8C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	Novalja	1.19	282	*i*Pg	Pg	18 37 48.6	-2.5
NVLJ				*i*Pn	Pn	18 37 48.6	-1.3
NVLJ				*i*Sg	Sg	18 38 07.3	+0.3
VBY	Vinica-Bojanci	1.48	324	*e*Pn	Pn	18 37 55.2	+1.2
VBY				*e*Sn	Sn	18 38 18.5	+5.0
BRY	Bratogost	2.05	133	*e*Pn	Pn	18 38 01.6	-0.6
BRY				*e*Sn	Sn	18 38 29.3	+1.2
UPM	Unac-Piva	2.07	122	*e*Pn	Pn	18 38 02.2	-0.3
UPM				*e*Sn	Sn	18 38 29.5	+1.0
TREB	Trebinje	2.09	139	Pn	Pn	18 38 01.5	-1.3
TREB				Sn	Sn	18 38 30.3	+1.2
RHK1	Bakonya	2.09	31	*e*P	Pn	18 38 02.3	-0.5
RHK1				*e*S	Sn	18 38 29.3	+0.2
PLE	Pljevlja	2.31	114	⇑*i*Pn	Pn	18 38 05.1	-0.9
PLE				*e*Sn	Sn	18 38 35.8	+1.1
NKY	Niksic	2.36	129	⇑*i*Pn	Pn	18 38 06.8	+0.2
NKY				*e*Sn	Sn	18 38 37.2	+1.4
HCY	Herceg Novi	2.37	141	⇑*i*Pn	Pn	18 38 06.2	-0.5
HCY				*e*Sn	Sn	18 38 36.3	+0.1
PKSM	Moragy	2.42	38	⇑*e*P	Pn	18 38 07.5	0.0
PKSM				*e*S	Sn	18 38 38.7	+1.2
VOY	Vojsko	2.52	314	*e*Pn	Pn	18 38 10.8	+1.9
VOY				*e*		18 38 14.0	
VOY				*e*Sn	Sn	18 38 46.3	+6.4
OBKA	Obir	2.59	329	⇑*i*PN	Pn	18 38 10.1	+0.3
OBKA				*i* SN	Sn	18 38 43.8	+2.2
BUM	Brajici-Budva	2.67	138	*e*Pn	Pn	18 38 10.2	-0.8
BUM				*e*Sn	Sn	18 38 43.8	0.0
TTG	Podgorica	2.76	132	⇑*i*Pn	Pn	18 38 11.8	-0.5
TTG				*e*Sn	Sn	18 38 46.5	+0.4
IVA	Berane	2.86	119	*e*Pn	Pn	18 38 13.3	-0.5
IVA				*e*Sn	Sn	18 38 48.5	-0.1
ARSA	Arzberg	3.01	347	⇑*i*PN	Pn	18 38 16.5	+0.6
ARSA				*i* SN	Sn	18 38 55.0	+2.6
PVY	Plav	3.06	123	*e*Pn	Pn	18 38 15.6	-1.0
PVY				*e*Sn	Sn	18 38 53.6	-0.1
ULC	Ulcinj	3.10	139	*e*Pn	Pn	18 38 17.0	-0.1
ULC				*e*Sn	Sn	18 38 54.3	-0.3
SRO1	Iza	3.65	19	*e*PN	Pn	18 38 24.7	-0.3
MOA	Molln	3.86	337	⇑*i*PN	Pn	18 38 28.1	+0.2
MOA				*i* SN	Sn	18 39 15.2	+1.4
ZST	Bratislava	3.90	6	*e*PN	Pn	18 38 26.7	-1.8
SMOL	Smolenice	4.24	8	*e*PN	Pn	18 38 32.6	-0.8
SMOL				*e*SN	Sn	18 39 22.1	-1.5
VYHS	Vyhne	4.48	20	*e*PN	Pn	18 38 36.5	-0.2
VYHS				*e*SN	Sn	18 39 27.3	-2.2
KHC	Kasperske Hory	5.21	338	*e*PN	Pn	18 38 48.6	+1.4
KHC				*ex*	x	18 39 20.0	
KHC				*e*SN	Sn	18 39 46.3	-1.8

*THR **10** 18:38:28.1±0.5, 28.68N×57.86E, h14km±6km, ML4.0*

*OMAN **10** 18:38:29.4, 28.79N×58.25E, h170km±39km, Error ellipse: s-maj=33.2km s-min=11.0km az=322.0*

*CSEM **10** 18:38:32.1±0.1, 28.48N×58.00E, h50km, ML3.2, Error ellipse: s-maj=3.6km s-min=1.8km az=91.0*

*TEH **10** 18:38:33.3, 28.55N×57.77E, h10km, Mn3.2*

ISC 10 18:38:29.3±0.5, 28.58N±0.03×57.87E±0.08, h10km, n26, σ1°50/30, 6C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	Kerman	1.70	326	*e*PG	Pg	18 38 57.8	-5.6
KRBR				AML	AML	18 39 24.5	
	comp=E,4μm,0.2s						
KRBR				AML	AML	18 39 25.8	
	comp=N,4μm,0.5s						
BNDS	Bandar-Abbas	1.90	232	*e*PG	Pg	18 39 03.9	-3.5
BNDS				AML	AML	18 39 34.8	
	comp=E,579nm,0.5s						
BNDS				AML	AML	18 39 41.2	
	comp=N,592nm,0.3s						
ZHSF	Zahedan	2.75	67	*e*PN	Pn	18 39 13.4	-0.9
IMEH	Mehriz	3.98	316	Pn	Pn	18 39 32.5	+0.7
GHIR	Ghir-Karzin	4.31	267	*e*PN	Pn	18 39 35.6	-0.9
ICHK	Chekchek	4.72	322	Pn	Pn	18 39 44.3	+1.9
ISAD	Sadrabad	4.92	314	Pn	Pn	18 39 42.1	-3.0
HOQ	Hoqain	5.00	186	⇑P	Pn	18 39 44.0	-2.2
BIDO	Bidbid	5.04	177	⇑P	Pn	18 39 45.2	-1.6
ARQ	Araqi	5.36	193	⇓P	Pn	18 39 52.1	+0.9
	SNR=13						
ARQ				⇑S	Sn	18 40 57.2	+3.4
SMDO	Samad	5.50	178	⇓P	Pn	18 39 52.3	-1.0
	SNR=6.4						
BSY	Bisya	5.84	186	⇑P	Pn	18 39 59.8	+1.7
BSY				⇓S	Sn	18 41 07.6	+1.7
BSYO	Bisya	5.85	186	P	Pn	18 39 59.8	+1.6
BSYO				S	Sn	18 41 07.6	+1.5
WBK	Wadi Bani Khal	6.02	170	⇓P	Pn	18 39 59.0	-1.7
	SNR=11						
JMDO	Jabal Madar	6.18	178	⇓P	Pn	18 40 03.3	+0.3
IBRJ	Borojen	6.54	301	Pn	Pn	18 40 07.7	-0.3
IMOG	Moghan	7.61	9	Pn	Pn	18 40 24.6	+1.5
IPAY	Payeh	7.91	7	Pn	Pn	18 40 26.3	-0.9
IMYA	Miamay	7.97	13	Pn	Pn	18 40 27.5	-0.5
IKRD	Kardeh	8.19	4	Pn	P	18 40 32.7	+1.6
IFIR	Firoozkooh	8.27	330	Pn	P	18 40 33.6	+1.4
IDMV	Damavand	8.56	326	Pn	P	18 40 36.6	+0.4
IDMV	Damavand	8.56	326	Pn	P	18 40 36.6	+0.4
IAFJ	Afjeh	8.94	326	Pn	P	18 40 40.5	-1.0
IAFJ				Sn	Sn	18 42 09.9	-13
WHFO	Wadi Hawf	11.25	200	⇑P	P	18 41 10.0	-3.4
ABTO	Aybut	11.93	202	⇑P	P	18 41 19.0	-3.6

*MEX **10** 18:42:23.8±0.7, 13.69N×91.74W, h80km, MD4.7*

*CASC **10** 18:42:27.6±2.0, 14.07N×91.57W, h25km±10km, MD4.3, ML4.6, mb4.1(NEIC)*

*IDC **10** 18:42:27.2±1.5, 14.53N×91.10W, h55km±6km, mb3.8/8, mb1 4.1/9, mb1mx3.8/20, mbtmp4.1/9, MS3.1/2, Ms1 3.1/2, ms1mx2.2/24, Error ellipse: s-maj=48.6km s-min=21.0km az=31.0*

*NEIC **10** 18:42:27.1±1.2, 14.12N×91.69W, mb4.1/10, MD4.7(MEX), Error ellipse: s-maj=21.7km s-min=11.0km az=189.0*

ISC 10 18:42:25.8±0.5, 14.04N±0.05×91.70W±0.04, h71km±5km, h56km±1.5km: pP-P, n77, σ1°09/91, mb4.1/15, 9C-6D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	0.92	64	⇑*i*P	P	18 42 43.0	-0.5
TP2	Tecpan 2	0.98	42	⇓*e*P	P	18 42 44.4	0.0
TP2				*e*S	S	18 42 59.3	+1.0
PCG	Pacaya	1.11	72	⇓*e*P	P	18 42 46.3	+0.2
PCG				*i* S	S	18 42 59.4	-1.7
IXG	Ixpaco	1.21	84	*e*P	P	18 42 46.9	-0.5
IXG				*e*S	S	18 43 02.6	-0.8
GCG	Guatemala City	1.25	64	*e*P	P	18 42 48.7	+0.8
GCG				*e*S	S	18 43 04.3	0.0
RBDL	Robledal	1.95	88	⇑*e*P	P	18 42 58.1	+0.7
RBDL				*e*S	S	18 43 21.7	+1.0
RTR	El Retiro	2.00	94	⇑*e*P	P	18 42 58.6	+0.6
SBLS	San Blas	2.02	96	⇑*e*P	P	18 42 58.7	+0.3
SNJE	San Jose	2.04	95	⇑*e*P	P	18 42 59.2	+0.6
SNJE				*e*S	S	18 43 23.1	+0.3
CCIG	Comitan	2.27	349	*i* P	P	18 43 03.1	+1.3
CCIG				*i* S	S	18 43 33.1	+4.5
MTO2	Montecristo 2	2.29	81	⇓*e*P	P	18 43 02.5	+0.3
BOQS	Boqueron	2.37	97	⇑*e*P	P	18 43 03.6	+0.4
BOQS				*e*S	S	18 43 32.0	+0.9
SNET	Serv Nac Est T	2.42	98	*e*P	P	18 43 03.8	-0.2
SNET				*e*S	S	18 43 31.8	-0.7
SNET				*i*		18 43 38.1	
	comp=Z,6μm,0.3s						
LFU	La Fuente	2.52	96	⇓*e*P	P	18 43 06.0	+0.5
LFRS	El Faro	2.59	99	⇓*e*P	P	18 43 06.8	+0.4
LBRS	Las Brisas	2.59	96	⇓*e*P	P	18 43 06.9	+0.4
LCBS	La Ceiba	2.67	98	⇓*e*P	P	18 43 08.1	+0.6
SNVI	San Vicente	2.81	98	*e*P	P	18 43 10.8	+1.3
SNVI				*e*S	S	18 43 42.0	-0.3
SCX	San Cristobal	2.83	341	*i* P	P	18 43 13.3	+3.5
VSM	San Miguel	3.38	100	*e*P	P	18 43 18.4	+0.9
VSM				*e*S	S	18 43 56.6	0.0
BLLM	Bellamira	3.41	100	*e*P	P	18 43 18.7	+0.8
CNCH	Conchagua	3.83	101	⇑*e*P	P	18 43 23.8	0.0
CMIG	Matias Romero	4.32	315	*e*P	P	18 43 28.2	-2.3
CMIG				*i* S	S	18 44 20.9	+0.9
HUIG	Huatulco	4.60	292	*i* S	S	18 44 27.2	+0.2
CRIN	San Cristobal	4.71	106	*e*P	P	18 43 34.7	-1.4
TEL3	Telica 3	4.94	107	*e*P	P	18 43 37.9	-1.4
TELN	Telica	4.95	106	*e*P	P	18 43 38.7	-0.6
LEON	Leon	4.95	109	*e*P	P	18 43 39.3	-0.1
CNGN	Cerro Negro	5.10	107	*e*P	P	18 43 41.0	-0.4
MIRN	Miramar	5.11	108	⇑*e*P	P	18 43 41.5	0.0
MIRN				*e*S	S	18 44 39.0	-0.8
MOMJ	Momotombo	5.28	107	*e*P	P	18 43 42.4	-1.5
COPN	Copaltepe	5.31	110	*e*P	P	18 43 43.7	-0.5
APYN	Apoyeque	5.51	108	*e*P	P	18 43 46.1	-1.0
EVV	El Vigia	5.62	322	*e*P	P	18 43 47.5	-1.0
CRUN	El Crucero	5.64	111	*e*P	P	18 43 49.6	+0.7
OXX	Oaxaca	5.71	303	*e*P	P	18 43 50.1	+0.3
VHO	Vista Hermosa	5.71	302	*i* P	P	18 43 50.5	+0.6
VHO				*i* S	S	18 44 53.7	-1.1
TEIG	Tepich	6.96	28	*e*Pn	P	18 44 06.1	-1.2
	comp=Z,76nm,0.6s						
POHV	Veracruz	7.32	314	*e*P	P	18 44 12.0	-0.3
PPM	Popocatepetl	8.31	308	*i* P	P	18 44 22.6	-3.2
PPM				*i* S	S	18 45 55.6	-3.4
PPM	Popocatepetl	8.31	308	*i* P	P	18 44 22.6	-3.2
PPM				*e*P		18 44 28.2	
PPM				*i* S	S	18 45 55.6	-3.4
ICR	Volcan Irazu	8.69	117	*e*P	P	18 44 35.2	+4.3
ACR	Cerro Adams	9.93	122	*e*P	P	18 44 50.7	+2.7
MOIG	Morelia	10.67	303	*i* P	P	18 44 56.2	-1.8
LTX	Lajitas	18.82	326	*e*P	P	18 46 42.6	+0.2
	comp=Z,8.7nm,1.0s						
TXAR	Lajitas Array	18.82	326	P	P	18 46 43.2	+0.7
	comp=Z,0.2nm,0.3s,baz=153,slow=11,SNR=26						
TXAR	Lajitas Array	18.82	326	P	P	18 46 43.2	+0.7
LRAL	Lakeview Retre	19.38	12	*e*P	P	18 46 47.8	-0.9
	comp=Z,14nm,1.1s						
SDV	Santo Domingo	21.26	102	P	P	18 47 05.5	-2.7
	comp=Z,2.2nm,0.3s,mb4.0,baz=305,slow=10,SNR=3.1						
SDV	Santo Domingo	21.26	102	P	P	18 47 09.7	+1.5
GDL2	Guadalupe Moun	21.47	329	*e*P	P	18 47 10.7	+0.6
WMOK	Wichita Mounta	21.58	344	*e*P	P	18 47 09.0	-2.2
	comp=Z,7.8nm,1.2s,mb3.9						
MNTX	Cornudas Mount	21.59	327	*e*P	P	18 47 11.1	-0.3
	comp=Z,12nm,0.9s,mb4.2						
CPRX	Cap Rock	21.91	332	*e*P	P	18 47 17.2	+2.6
AMTX	Amarillo	22.62	338	*e*P	P	18 47 20.8	-0.8
	comp=Z,7.9nm,0.6s,mb4.2						
BNM	Barren Site	24.16	329	*e*P	P	18 47 38.6	+2.2
WCI	Wyandotte Cave	24.56	10	*e*P	P	18 47 40.4	+0.1
	comp=Z,10.0nm,0.7s,mb4.3						
LAZ	Ladron	24.62	328	*e*P	P	18 47 42.8	+1.8
ANMO	Albuquerque	24.71	330	P	P	18 47 42.8	+0.9
	comp=Z,1.9nm,0.5s,mb3.8,baz=141,slow=12,SNR=6.7						
ANMO				LR	LR	18 59 08.0	
	comp=Z,43nm,20.2s,slow=41						
ANMO	Albuquerque	24.71	330	*e*P	P	18 47 43.3	+1.4
	comp=Z,2.2nm,0.6s,mb3.8						
SJG	San Juan	24.87	77	LR	LR	18 56 46.7	
	comp=Z,40nm,20.6s,baz=101,slow=36						
TUC	Tucson	25.19	319	*e*P	P	18 47 47.5	+1.1
	comp=Z,4.0nm,0.9s,mb3.9						
NEN	Nelson	29.92	320	*e*P	P	18 48 30.1	+0.8
NEN				*e*	pP	18 48 44.8	-1.5
PDAR	Pinedale Array	32.50	335	P	P	18 48 50.5	-1.5
	comp=Z,0.5nm,0.7s,mb3.5,baz=139,slow=9.1,SNR=5.0						
SNOW	Snow King Moun	33.57	335	*e*P	P	18 49 01.8	+0.7
NVAR	Mina Array Bea	33.82	321	P	P	18 49 05.0	+1.6
	comp=Z,4.8nm,0.7s,mb4.4,baz=141,slow=7.6,SNR=32						
NVAR				pP	pP	18 49 19.6	-1.1
	comp=Z,5.2nm,0.8s,baz=145,slow=8.5,SNR=8.6						
NVAR				PcP	PcP	18 51 42.3	+1.2
	comp=Z,1.6nm,0.8s,baz=145,slow=3.0,SNR=5.0						
HLID	Hailey	35.28	331	*e*P	P	18 49 16.2	+0.5
	comp=Z,3.2nm,0.9s,mb4.2						
MCMT	McKenzie Canyo	35.56	334	*e*P	P	18 49 19.1	+1.0
WVOR	Wild Horse Val	36.62	326	*e*P	P	18 49 28.0	+0.9
	comp=Z,5.4nm,1.0s,mb4.4						
BMO	Blue Mountains	37.63	330	*e*P	P	18 49 35.0	-0.5
SCHQ	Schefferville	45.08	20	P	P	18 50 33.6	-2.9
	comp=Z,4.1nm,0.8s,mb4.2,baz=214,slow=6.7,SNR=5.6						
YKA	Yellowknife Ar	51.05	347	P	P	18 51 20.7	-2.0
	comp=Z,1.0nm,0.6s,mb4.0,baz=149,slow=7.5,SNR=24						
YKA				pP	pP	18 51 34.9	-5.8
	comp=Z,1.1nm,0.8s,baz=148,slow=7.5,SNR=8.5						
YKA				PcP	PcP	18 52 36.7	-1.2
	comp=Z,1.5nm,0.9s,baz=152,slow=3.8,SNR=13						
YKA	Yellowknife Ar	51.05	347	P	P	18 51 20.7	-2.1
YKA				pP	pP	18 51 34.9	-5.8
YKA				PcP	PcP	18 52 36.7	-1.2
ILAR	Eielson Array	62.92	337	P	P	18 52 45.6	-1.1
	comp=Z,2.4nm,0.8s,mb4.2,baz=136,slow=4.2,SNR=29						
ILAR				pP	pP	18 53 00.6	-4.9
	comp=Z,0.7nm,0.6s,baz=118,slow=5.2,SNR=4.2						
ILAR				PcP	PcP	18 53 23.9	-0.2
	comp=Z,1.0nm,0.8s,baz=119,slow=1.2,SNR=5.1						
SPU	Mount Spurr	63.67	332	*e*P	P	18 52 51.4	-0.4
EKA	Eskdalemuir Ar	77.76	36	P	P	18 54 13.4	-3.2
	comp=Z,1.0nm,0.5s,mb3.8,baz=273,slow=7.0,SNR=6.4						
CMAR	Chiang Mai Arr	146.04	342	PKPbc	PKPbc	19 02 00.1	+1.5
	comp=Z,7.2nm,0.8s,baz=333,slow=3.4,SNR=18						
CMAR				pPKPbc		19 02 16.2	
	comp=Z,7.8nm,1.0s,baz=337,slow=3.1,SNR=6.5						

*BJI **10** 18:47:22.5, 36.85N×53.68E, h31km, mB5.4, mb5.1, Ms5.3, Msz5.0*

*THR **10** 18:47:25.8±0.8, 37.38N×54.58E, h15km, ML5.6*

*MOS **10** 18:47:28.9±1.0, 37.10N×54.45E, h32km, mb5.5/76, MS4.9/61, Error ellipse: s-maj=6.1km s-min=2.7km az=37.3*

*DHMR **10** 18:47:28.8±3.4, 37.03N×54.65E, h10km±999km, mb5.6*

*CSEM **10** 18:47:29.0±0.0, 37.23N×54.46E, h31km, mb5.3/99, Ms4.8, Mw5.4, Error ellipse: s-maj=1.4km s-min=1.1km az=20.0*

*TEH **10** 18:47:30.2, 37.24N×54.46E, h8km, Mn5.7*

*ZUR_RM **10** 18:47:30, 37.10N×54.57E, h33km, Mw5.4/12, Moment Tensor Solution. s12 Moment tensor: Scale 10^17 Nm; Mrr 1.30; Mθθ -1.47; Mφφ 0.18; Mrθ -0.35; Mrφ -0.04; Mθφ 0.16; Best double couple: M0 1.44×10^17 NP1:φs 276°, δ53°, λ100°. NP2:φs 80°, δ39°, λ77°. Principal axes: T 1.366, Plg79°, Azm228°; N .152, Plg8°, Azm90°; P -1.518, Plg7°, Azm359°;*

*NEIC **10** 18:47:30.2±0.2, 37.10N×54.57E, mb5.3/122, MS5.1/89, MW5.3 Error ellipse: s-maj=4.9km s-min=2.5km az=180.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^17 Nm; Mrr 0.00; Mθθ 0.00; Mφφ 0.00; Mrθ 0.00; Mrφ 0.00; Mθφ 0.00; Best double couple: M0 1.1×10^17 NP1:φs 84°, δ28°, λ83°. NP2:φs 272°, δ62°, λ94°. Principal axes: T 1.1, Plg73°, Azm191°; N -.02, Plg3°, Azm90°; P -1.07, Plg17°, Azm359°;*

NEIC Atl least 110 people injured in the Gorgan area.

*IDC **10** 18:47:30.7±0.5, 37.16N×54.45E, h33km±2km, mb4.7/27, mb1 4.9/32, mb1mx4.9/32, mbtmp4.9/32, ML4.1/5, MS4.8/24, Ms1 4.9/24, ms1mx4.7/28 Error ellipse: s-maj=12.6km s-min=9.7km az=7.0*

*HRVD **10** 18:47:30.2±0.2, 37.46N×54.53E, h32km, MW5.3/57, Centroid moment Tensor Solution. LP body waves: s55,c102;Mantle waves: s57,c110; Half duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr 0.94±.03; Mθθ -1.12±.02; Mφφ 0.18±.02; Mrθ -0.77±.03; Mθφ -0.24±.02; Mrφ 0.18±.03; Best double couple: M0 1.32×10^17 NP1:φs 62°, δ30°, λ60°. NP2:φs 276°, δ64°, λ106°. Principal axes: T 1.249, Plg67°, Azm216°; N .144, Plg15°, Azm88°; P -1.392, Plg18°, Azm354°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NNC **10** 18:47:35.9±4.6, 38.43N×54.52E Error ellipse: s-maj=51.6km s-min=29.2km az=100.0*

ISC 10 18:47:29.2±0.1, 37.21N±0.02×54.51E±0.01, h32km, h32km±.5km: pP-P, n1107, σ1°08/1085, mb5.2/179, MS5.0/128, 69C-29D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMIN	Minoodasht	0.58	97	Pg	Pb	18 47 44.0	+3.1
IGLO	Galoogah	1.22	222	Pg	Pn	18 47 46.0	-4.3
IANJ	Anjiloo	1.81	196	Pn	Pn	18 48 01.8	+3.1
IPRN	Paran-Amol	2.07	243	Pn	Pn	18 48 02.0	-0.4
IFIR	Firoozkooh	2.12	223	Pn	Pn	18 48 05.4	+2.3
ILAS	Lasjerd	2.22	215	Pn	Pn	18 48 07.3	+2.7
IDMV	Damavand	2.58	232	Pn	Pn	18 48 12.1	+2.3
DAMV	Damavand	2.59	233	*i* PN	Pn	18 48 11.9	+2.0
DAMV				AML	AML	18 48 59.0	
	comp=E,30μm,0.5s						
DAMV				AML	AML	18 49 04.4	
	comp=N,28μm,0.6s						
IAFJ	Afjeh	2.63	240	Pn	Pn	18 48 12.3	+1.8
IVRN	Varamin	3.16	226	Pn	Pn	18 48 19.2	+1.2
IKRD	Kardeh	3.24	97	Pn	Pn	18 48

BEST Besiri 10.54 278 *i* P **P 18 49 58.5 -2.7**
ERZM Erzurum 10.64 289 *i* P **P 18 50 05.6 +3.0**
EZM Erzurum 10.64 289 *eP* **P 18 50 05.1 +2.4**
BCA Borcka 10.84 297 *eP* **P 18 50 04.6 -0.7**
KBSD Kabsdagh 11.16 273⇑*i*P **P 18 50 06.9 -2.8**
BINT Bingol 11.19 283 *eP* **P 18 50 11.6 +1.6**
KIV Kislovodsk 11.23 311 Pn **P 18 50 06.6 -4.0**
comp=Z,833nm,0.6s,SNR=30
KIV Kislovodsk 11.23 311 *d i*P **P 18 50 05.6 -5.0**
KIV pmax pmax
comp=Z,194nm,1.0s
KIV pmax pmax
comp=N,166nm,1.2s
KIV pmax pmax
comp=Z,253nm,1.4s
KIV MLR MLR
comp=N,2μm,20.0s
KIV MLR MLR
comp=E,3μm,20.0s
KIV MLR MLR
comp=Z,2μm,20.0s
KIV Kislovodsk 11.23 311 *e*P **P 18 50 05.8 -4.8**
comp=Z,99nm,0.8s
KIV Kislovodsk 11.23 311 *i* P **P 18 50 05.6 -5.0**
comp=Z,126nm,1.4s
GOF Gofitskoye 11.67 316⇑*i*P **P 18 50 11.0 -5.5**
GOF pmax pmax
comp=Z,310nm,1.4s
GOF MLR MLR
comp=Z,10μm,16.0s
GOF Gofitskoye 11.67 316 *i* P **P 18 50 11.0 -5.5**
comp=Z,5μm,16.0s
EZC Erzincan 11.80 287 *eP* **P 18 50 22.3 +4.0**
BSHR Al Beshri 11.94 267⇓*i*P **P 18 50 20.1 -0.1**
PTK Pertek 12.04 283 *eP* **P 18 50 22.3 +0.7**
GUMT Gumushane 12.16 290 *eP* **P 18 50 23.5 +0.3**
ELZG Elazig 12.34 281 *i* P **P 18 50 23.8 -1.9**
URFA Urfa 12.50 276 *eP* **P 18 50 33.6 +5.9**
MALT Malatya 12.78 280 *eP* **P 18 50 32.7 +1.3**
MALT Malatya 12.78 280 *eP* **P 18 50 29.5 -2.0**
MALT pmax pmax
comp=Z,18nm,1.1s
MALT Malatya 12.78 280 *eP* **P 18 50 29.5 -1.9**
comp=Z,18nm,1.1s
MALT Malatya 12.78 280 *eP* **P 18 50 29.5 -2.0**
comp=Z,9.0nm,1.1s
MALT Malatya 12.78 280 *eP* **P 18 50 29.5 -2.0**
comp=Z,18nm,1.1s
SOC Sochi 12.94 304 *i* P **P 18 50 21.5 -12**
SOC *e*SS SS 18 52 58.1 -14
SOC pmax pmax
comp=N,87nm,1.0s
SOC pmax pmax
comp=E,59nm,1.0s
SOC pmax pmax
comp=Z,63nm,1.0s
SOC MLR MLR
comp=N,3μm,19.0s
SOC MLR MLR
comp=E,3μm,19.0s
SOC MLR MLR
comp=Z,4μm,19.0s
GZT Gaziantep 13.50 276 *i* P **P 18 50 40.1 -0.8**
HOQ Hoqain 13.80 169 ⇑P **P 18 50 44.4 -0.5**
SNR=10
GAZ Gaziantep 13.80 275 *eP* **P 18 50 44.7 -0.1**
ARQ Araqi 13.94 172 ⇑P **P 18 50 46.0 -0.8**
SNR=12
BIDO Bidbid 14.00 166 ⇓P **P 18 50 46.6 -1.0**
SNR=5.7
SMDO Samad 14.43 167 ⇑P **P 18 50 53.1 -0.2**
SNR=8.7
BSY Bisya 14.61 170 ⇑P **P 18 50 55.6 +0.1**
SNR=18
BSYO Bisya 14.62 170 P **P 18 50 55.6 -0.2**
SNR=18
WRDH Warideh 14.69 269⇑*i*P **P 18 50 57.4 +0.9**
BNN Bunyan 14.81 282 *eP* **P 18 51 04.7 +6.6**
ANN Anapa 14.94 306 *eP* **P 18 50 58.8 -1.0**
ANN *e*S **S 18 53 42.5 -2.3**
ANN pmax pmax
comp=Z,111nm,1.2s
ANN MLR MLR
comp=E,3μm,20.0s
ANN Anapa 14.94 306 *eP* **P 18 50 58.8 -1.0**
comp=E,56nm,1.2s
ANN *e*S **S 18 53 42.5 -2.3**
CEYT Ceyhan 14.98 275 *eP* **P 18 51 06.8 +6.5**
WBK Wadi Bani Khal 15.05 164 ⇓P **P 18 51 01.9 +0.5**
SNR=15
JMDO Jabal Madar 15.12 167 ⇑P **P 18 51 02.1 -0.1**
SNR=12
YOZ Yozgat 15.24 285 *eP* **P 18 51 09.9 +6.1**
SALA Sala 15.25 258⇑*i*P **P 18 51 04.1 +0.2**
TOTH TOTAH 15.26 261⇑*i*P **P 18 51 05.3 +1.3**
QASN Qassioun 15.32 262⇑*i*P **P 18 51 03.7 -1.1**
ASF Jabal al Asfar 15.33 256 Pn **P 18 51 03.4 -1.6**
comp=E,0.5nm,0.3s,baz=297,slow=6.1,SNR=9.2
ASF LR LR 18 58 15.3
comp=E,4μm,19.1s,baz=291,slow=42
AML Almayashu 15.56 66 P **P 18 51 14.8 +7.0**
SNR=6.7
BRBR Barbar 15.62 261⇑*i*P **P 18 51 10.1 +1.4**
BHL Bhannes 15.70 263 *eP* **P 18 51 11.1 +1.4**
CTKT Corum 15.72 289 *i* P **P 18 51 11.4 +1.4**
EKS2 Erkin-Say 15.74 64 P **P 18 51 05.4 -4.7**
SNR=8.1
BOYT Boyabat 15.74 292 *i* P **P 18 51 14.8 +4.6**
NIG Nigde 15.79 279 *eP* **P 18 51 16.1 +5.2**
BYBT Boyabat 15.85 292 *eP* **P 18 51 16.7 +5.1**
TCHB Talchebab 15.87 259⇑*i*P **P 18 51 12.5 +0.7**
KSHT Keshet 15.88 260 P **P 18 51 13.2 +1.2**
UCH Uchtor 16.17 66 P **P 18 51 20.4 +4.7**
SNR=28
AAK Ala-Archa 16.25 64 ⇑P **P 18 51 18.9 +2.3**
comp=E,91nm,0.8s
AAK ⇑S **S 18 54 15.9 +0.6**
comp=E,126nm,1.9s
AAK Ala-Archa 16.25 64 P **P 18 51 20.9 +4.4**
SNR=33
AAK Ala-Archa 16.25 64 *i* P **P 18 51 14.1 -2.5**
AAK MLR MLR
comp=Z,6μm,14.0s
AAK Ala-Archa 16.25 64 *eP* **P 18 51 13.4 -3.1**
comp=Z,8.0nm,0.6s
AAK Ala-Archa 16.25 64 *i* P **P 18 51 14.1 -2.5**
comp=Z,3μm,14.0s
AAK Ala-Archa 16.25 64 P **P 18 51 18.9 +2.3**
comp=Z,91nm,0.8s
AAK S **S 18 54 15.9 +0.6**
comp=Z,126nm,1.9s
MEST Erdemli 16.31 274 *i* P **P 18 51 17.4 -0.1**
HNTI Hanita 16.34 261 P **P 18 51 20.4 +2.5**
TOS Tosya 16.35 290 *eP* **P 18 51 22.1 +4.2**
HMDT Nahal Hemdat 16.37 258 P **P 18 51 18.9 +0.7**
FRU Bishkek 16.38 64⇑*i*P **P 18 51 22.5 +4.2**
FRU pmax pmax
comp=Z,105nm,1.5s
FRU Bishkek 16.38 64 *i* P **P 18 51 22.5 +4.2**
comp=Z,52nm,1.5s
MMLI Mount Malkishu 16.38 259 P **P 18 51 19.6 +1.2**
USP Ospenovka 16.40 62 P **P 18 51 17.1 -1.5**
SNR=12
KAMT Kaman 16.47 284 *eP* **P 18 51 23.1 +3.6**
CHMS Chumysh 16.51 63 P **P 18 51 23.8 +3.9**
SNR=42
BRTR Keskin Array B 16.54 285 Pn **P 18 51 20.8 +0.5**
comp=Z,1.2nm,0.3s,baz=108,slow=12,SNR=42
BRTR PcP PcP 18 56 09.4 -1.7
comp=Z,0.2nm,0.3s,baz=90,slow=4.9,SNR=3.5
BRTR Keskin Array B 16.54 285 PcP PcP 18 56 09.4 -1.7
MKRJ Makawir 16.56 256 P **P 18 51 20.8 +0.1**
HAF Haifa 16.57 260 P **P 18 51 24.0 +3.3**
KBK Karagaybulak 16.58 65 P **P 18 51 25.8 +5.0**
SNR=27
CANT Cankiri 16.61 288 *eP* **P 18 51 22.8 +1.6**
KZA Kyzart 16.68 67 P **P 18 51 27.2 +5.1**
SNR=18
PHNC Paralimni 16.70 269 P **P 18 51 25.1 +2.7**
DRGI Dragot 16.74 256 P **P 18 51 23.2 +0.3**
ELDT Eldivan 16.75 288 *i* P **P 18 51 23.5 +0.6**
SLTI Sal'it 16.75 259 P **P 18 51 24.1 +1.0**
MZDA Masada 16.88 255 P **P 18 51 25.7 +1.0**
BALT Daday 16.89 291 *i* P **P 18 51 25.1 +0.4**
TKM2 Tokmak 2 17.10 64 P **P 18 51 30.4 +3.0**
SNR=48
SIM Simferopol' 17.18 303 *eP* **P 18 51 26.0 -2.4**
SIM *e*S **S 18 54 42.5 +5.7**
SIM pmax pmax
comp=Z,221nm,1.1s
SIM MLR MLR
comp=Z,2μm,20.0s
SIM Simferopol' 17.18 303 *eP* **P 18 51 26.0 -2.4**
comp=Z,110nm,1.1s
SIM *e*S **S 18 54 42.5 +5.7**
comp=Z,900nm,20.0s
SIM Simferopol' 17.18 303 P **P 18 51 26.6 -1.8**
ANTO Ankara 17.20 286 *eP* **P 18 51 27.6 -1.0**
LOD Lodumlu 17.22 286 *eP* **P 18 51 32.1 +3.2**
JASL Jaisalmer 17.24 122 *eP* **P 18 51 29.1 -0.1**
CSS Prodhromos 17.27 269 P **P 18 51 30.5 +1.0**
comp=Z,3.4nm,1.3s
MAMC Mammari 17.31 270 P **P 18 51 32.0 +2.0**
ZFRI Zfri 17.36 253 P **P 18 51 31.2 +0.5**
SAFT Safranbolu 17.37 290 *eP* **P 18 51 33.3 +2.5**
ULHL Ulahol 17.44 67 P **P 18 51 35.2 +3.6**
SNR=17
MASH Mash'abbe Sade 17.46 255 P **P 18 51 32.3 +0.3**
RTMM Retamin 17.52 255 P **P 18 51 32.7 +0.1**
KONT Konya--Tatoy 17.57 279 *eP* **P 18 51 35.2 +1.9**
HDMB Hadim 17.58 276 *eP* **P 18 51 34.3 +0.9**
PRNI Paran 17.59 253 P **P 18 51 34.0 +0.5**
SZAC Souni-Zanaja 17.68 269 P **P 18 51 35.3 +0.7**
SGKT Sivrigoynuk 17.79 288 *i* P **P 18 51 34.8 -1.2**
KZIT Kziot 17.80 255 P **P 18 51 36.5 +0.3**
ALFC Alevga 17.81 270 P **P 18 51 36.0 -0.2**
AQBJ Aqaba 17.85 251 P **P 18 51 37.0 +0.2**
KIZT Kizilcal 17.90 282 *eP* **P 18 51 38.5 +1.2**
KMTI Karmit 17.92 252 P **P 18 51 37.7 +0.1**
MBH Mount Berech 17.92 251 P **P 18 51 38.1 +0.4**
EIL Elat 17.96 251 P **P 18 51 38.1 0.0**
EIL Elat 17.96 251 P **P 18 51 36.4 -1.7**
comp=Z,0.3nm,0.3s,baz=41,slow=8.0,SNR=8.4
EIL LR LR 19 00 03.8
comp=Z,6μm,18.7s,baz=63,slow=42
EIL Elat 17.96 251 *eP* **P 18 51 36.7 -1.4**
comp=Z,260nm,1.4s
EIL Elat 17.96 251 *eP* **P 18 51 36.7 -1.4**
comp=Z,260nm,1.4s
AKMC Akamas 18.05 270 P **P 18 51 39.9 +0.6**
VOR Voronezh 18.11 328 *eP* **P 18 51 35.0 -5.0**
VOR *i* S **S 18 54 59.0 +1.1**
VOR pmax pmax
comp=Z,520nm,1.0s
VOR smax
comp=E,9μm,1.5s
VOR Voronezh 18.11 328 *eP* **P 18 51 35.0 -5.0**
comp=E,260nm,1.0s
VOR *i* S **S 18 54 59.0 +1.1**
AAA Alma-Ata 18.14 64 P **P 18 51 42.5 +2.1**
AAA MLR MLR
comp=Z,8μm,15.0s
AAA Alma-Ata 18.14 64 P **P 18 51 42.5 +2.1**
comp=Z,4μm,15.0s
DLH Dalhousie 18.20 98 *eP* **P 18 51 42.0 +0.8**
DLH *e* 18 52 06.0
MDU Mudurnu 18.43 287 *eP* **P 18 51 44.5 +0.6**
HENT Hendek 18.69 288 *i* P **P 18 51 46.7 -0.4**
ESKT Eskisehir 18.69 284 *eP* **P 18 51 46.2 -0.9**
ESKT Eskisehir 18.69 284 *i* P **P 18 51 46.5 -0.6**
BHK Bhakra 18.98 101 *eP* **P 18 51 50.5 0.0**
ANTB Antalya 19.04 276 *eP* 18 52 01.6
ISP Isparta 19.04 279 *eP* **P 18 51 50.5 -0.8**
WHFO Wadi Hawf 19.23 182 ⇓P **P 18 51 51.0 -2.6**
SNR=62
ALT Altintas 19.27 283 *eP* **P 18 51 53.2 -0.8**
BRVK Borovoye 19.29 30 *eP* **P 18 51 51.4 -2.6**
BRVK pmax pmax
comp=Z,144nm,0.9s
BRVK Borovoye 19.29 30 *eP* **P 18 51 51.4 -2.7**
comp=Z,144nm,0.9s
BRVK Borovoye 19.29 30 *eP* **P 18 51 51.4 -2.6**
comp=Z,72nm,0.9s
BRVK Borovoye 19.29 30 *eP* **P 18 51 51.4 -2.6**
comp=Z,144nm,0.9s
BVA0 Borovoye Array 19.31 30 ⇓P **P 18 51 52.1 -2.1**
comp=Z,25nm,0.7s,baz=210,slow=12,SNR=814
BVA0 ⇓S **S 18 55 16.2 -8.6**
comp=Z,15nm,1.4s,baz=226,slow=21,SNR=6.9
BVA0 Borovoye Array 19.31 30 *i* P **P 18 51 52.1 -2.1**
BVA0 pmax pmax
comp=Z,18nm,0.7s
BVA0 Borovoye Array 19.31 30 *i* P **P 18 51 52.1 -2.1**
comp=Z,9.0nm,0.7s
BVAR Borovoye Array 19.31 30 P **P 18 51 51.8 -2.4**
comp=Z,22nm,0.3s,baz=220,slow=11,SNR=692
BVAR S **S 18 55 16.7 -8.1**
comp=Z,3.2nm,0.3s,baz=232,slow=24,SNR=5.3
ARU Arti 19.42 7⇓*i*P **P 18 51 50.5 -5.0**
ARU *e*S **S 18 55 25.0 -2.2**
ARU pmax pmax
comp=Z,430nm,1.1s
ARU MLR MLR
comp=N,7μm,19.0s
ARU MLR MLR
comp=E,2μm,19.0s
ARU MLR MLR
comp=Z,10μm,19.0s
ARU Arti 19.42 7 *i* P **P 18 51 50.5 -5.0**
comp=Z,215nm,1.1s
ARU *e*S **S 18 55 25.0 -2.2**
HRT Hereke 19.62 288 *eP* **P 18 51 58.3 +0.4**
RBK Rabkut 19.64 181 ⇓P **P 18 51 56.8 -1.4**
SNR=182
ELL Elmali 19.65 276 *eP* **P 18 51 58.5 +0.2**
ABTO Aybut 19.81 183 ⇑P **P 18 51 58.2 -1.9**
SNR=113
YLV Yalova 19.84 287 *eP* **P 18 51 58.5 -1.7**
CHKZ Chkalovo 19.89 29 ⇓P **P 18 51 59.3 -1.4**
comp=Z,188nm,1.1s
CHKZ ⇑S **S 18 55 29.3 -8.0**
comp=Z,154nm,1.9s
CHKZ Chkalovo 19.89 29 *i* P **P 18 51 59.2 -1.5**
CHKZ pmax pmax
comp=Z,188nm,1.2s
CHKZ Chkalovo 19.89 29 *eP* **P 18 51 58.9 -1.8**
comp=Z,238nm,1.1s
CHKZ Chkalovo 19.89 29 *i* P **P 18 51 59.2 -1.5**
comp=Z,94nm,1.2s
CHKZ Chkalovo 19.89 29 *eP* **P 18 51 58.9 -1.8**
comp=Z,238nm,1.1s
KKR Kurukshetra 19.92 105 *eP* **P 18 52 01.1 -0.1**
ULDT Uludag 20.01 286 *i* P **P 18 52 00.2 -1.8**
BADT Buyukada 20.04 288 *eP* **P 18 52 01.9 -0.5**
SVE Sverdlovsk 20.05 10 *eP* **P 18 52 00.0 -2.3**
SVE *e* 18 52 21.0
SVE *e*S **S 18 55 44.2 +3.7**
SVE *e*SS SS 18 56 16.0 +6.7
SVE pmax pmax
comp=Z,400nm,1.6s
SVE pmax pmax
comp=Z,2μm,4.0s
SVE smax
comp=N,2μm,8.4s
SVE smax
comp=E,2μm,8.4s
SVE MLR MLR
comp=Z,9μm,17.0s,MS5.2
SVE Sverdlovsk 20.05 10 *eP* **P 18 52 00.0 -2.3**
comp=Z,750nm,4.0s
SVE *e*S **S 18 55 44.2 +3.7**
SVE Sverdlovsk 20.05 10 *e*PcP PcP 18 56 16.0 -0.9
comp=Z,4μm,17.0s
KHET Khetri 20.08 111 *eP* **P 18 52 01.7 -1.1**
KHET *e* 18 55 56.3
ISK Istanbul-Kandi 20.09 289 *eP* **P 18 52 01.3 -1.6**
ISK Istanbul-Kandi 20.09 289 P **P 18 52 01.2 -1.7**
ISK Istanbul-Kandi 20.09 289 P **P 18 52 01.2 -1.7**
AJM Ajmer 20.13 116 *i* P **P 18 52 02.0 -1.4**
ORLT Orhaneli 20.19 286 *eP* **P 18 52 10.2 +6.2**
DENT Denizli 20.21 279 *eP* **P 18 52 04.3 +0.1**
FETY Fethiye 20.33 276 *eP* **P 18 52 02.9 -2.4**
PECR Pechory 20.36 343⇓*i*P **P 18 52 03.2 -2.3**
PECR *i* 18 52 21.0
PECR *e*S **S 18 55 48.0 +1.1**
PECR pmax pmax
comp=Z,2μm,3.4s
PECR smax
comp=E,2μm,5.0s
PECR Pechory 20.36 343 *i* P **P 18 52 03.2 -2.3**
comp=E,1μm,3.4s
PECR *e*S **S 18 55 48.0 +1.1**
KLP Kalpa 20.37 99 *eP* **P 18 52 06.0 +0.2**
KLP *e* 18 52 10.9
comp=Z,330nm,1.5s
KUDL Kundal 20.55 110 *eP* **P 18 52 06.4 -1.4**
BHGR Bahadurgarh 20.61 108 *eP* **P 18 52 07.8 -0.6**
DALT Dalyan (Mudla) 20.66 277 *eP* **P 18 52 08.2 -0.6**
DALT Dalyan (Mudla) 20.66 277 P **P 18 52 08.2 -0.6**
DDI Dehra Dun 20.71 102 *eP* **P 18 52 08.0 -1.4**
NDI New Delhi 20.83 107 *eP* **P 18 52 08.5 -2.1**
NDI *e* 18 56 25.0
AYAN Aya Nagar 20.86 108 *eP* **P 18 52 10.4 -0.5**
AYAN *e* 18 52 17.1
comp=Z,221nm,1.4s
YER Yerkesik 20.89 278 *eP* **P 18 52 09.3 -1.8**
BNT Bandirma 20.94 287 *eP* **P 18 52 11.4 -0.3**
BALB Balikesir 20.98 285 *eP* **P 18 52 12.6 +0.6**
PSN Preselentsi 21.00 296 *eP* **P 18 52 12.0 -0.3**
AKS Akhisar 21.07 283 *eP* **P 18 52 12.6 -0.4**
ARG Arkhangelos 21.16 275 P **P 18 52 13.2 -0.7**
ARG Arkhangelos 21.16 275 P **P 18 52 13.2 -0.7**
MRMT Marmara Adasi 21.19 288 *eP* **P 18 52 13.3 -0.9**
ASOR Ausora 21.22 107 *eP* **P 18 52 14.2 -0.3**
MLSB Milas 21.26 278 *eP* **P 18 52 14.7 -0.2**
KIS Kishinev 21.34 305α*i*P **P 18 52 15.0 -0.7**
KIS *i* 18 52 24.0
KIS *i* 18 52 40.0
KIS *e*S **S 18 56 07.5 +1.6**
KIS pmax pmax
comp=Z,500nm,1.0s,mb5.8
KIS MLR MLR
comp=Z,2μm,13.0s,MS4.8
KIS MLR MLR
comp=Z,3μm,13.0s
KIS Kishinev 21.34 305 *i* P **P 18 52 15.0 -0.7**
comp=Z,250nm,1.0s,mb5.5
KIS *i* sp 18 52 24.0
KIS *e*S **S 18 56 07.5 +1.6**
comp=Z,1μm,13.0s
KIS Kishinev 21.34 305⇑*i*P **P 18 52 15.0 -0.7**
comp=Z,500nm,1.0s,mb5.8
MFT Murefte 21.43 288 *eP* **P 18 52 15.2 -1.4**
MFT Murefte 21.43 288 P **P 18 52 15.1 -1.5**
PRD Provadia 21.50 295 *eP* **P 18 52 18.0 +0.7**
IZM Izmir 21.54 281 *eP* **P 18 52 17.6 -0.1**
KALG Kalgarh 21.62 104 *e* **P 18 52 08.9 -10**
KALG *e* 18 52 11.6
comp=Z,350nm,1.6s
OBN Obninsk 21.68 331κ*i*P **P 18 52 17.1 -1.9**
OBN *i* 18 52 29.8
OBN *i* 18 52 39.9
OBN *i* S **S 18 56 10.8 -1.4**
OBN *i* 18 56 58.3
OBN pmax pmax
comp=Z,700nm,1.3s,mb5.9
OBN pmax pmax
comp=Z,508nm,1.2s,mb5.8
OBN MLR MLR
comp=Z,2μm,13.0s,MS4.8
OBN Obninsk 21.68 331 *eP* **P 18 52 16.9 -2.1**
comp=Z,588nm,1.1s,mb5.9
OBN LR LR
comp=Z,845nm,21.0s,MS4.1
OBN Obninsk 21.68 331 *i* P **P 18 52 17.1 -1.9**
comp=Z,254nm,1.2s,mb5.5
OBN *i* sp 18 52 29.8
OBN *i* S **S 18 56 10.8 -1.4**
comp=Z,1μm,13.0s
OBN *i* Ss 18 56 58.3
OBN Obninsk 21.68 331 *eP* **P 18 52 16.9 -2.1**
comp=Z,588nm,1.1s,mb5.9
BLCB Balcova 21.71 282 *eP* **P 18 52 20.1 +0.6**
MOS Moscow 21.77 334 *i* P **P 18 52 19.3 -0.6**
MOS *e* 18 52 28.9
MOS *e*S **S 18 56 09.8 -4.0**
MOS *e**SS 18 56 18.4
MOS pmax pmax
comp=Z,624nm,1.0s,mb6.0
MOS smax
comp=E,1μm,2.6s
MOS Moscow 21.77 334 *i* P **P 18 52 19.3 -0.6**
comp=E,312nm,1.0s,mb5.7
MOS *e*sp 18 52 28.9
MOS *e*S **S 18 56 09.8 -4.0**
MOS Moscow 21.77 334 *e*PcP PcP 18 56 18.4 -1.8
EDRB Edirne 21.87 291 *eP* **P 18 52 20.6 -0.4**
JMB Yambol 22.03 292 *eP* **P 18 52 24.0 +1.4**
ALN Alexandroupoli 22.37 288 *eP* **P 18 52 26.4 +0.4**
SOKR Solikamsk 22.42 3*c i*P **P 18 52 25.8 -0.6**
SOKR *i* S **S 18 56 21.8 -3.9**
SOKR pmax pmax
comp=Z,410nm,1.2s,mb5.7
SOKR MLR MLR
comp=Z,5μm,17.0s,MS5.0
SOKR Solikamsk 22.42 3 *i* P **P 18 52 25.8 -0.6**
comp=Z,205nm,1.2s,mb5.4
SOKR *i* S **S 18 56 21.8 -3.9**
comp=Z,2μm,17.0s
AKASG Malin Array Be 22.52 315 P **P 18 52 26.4 -0.9**
AKASG pmax pmax
comp=Z,21nm,0.4s
AKASG Malin Array Be 22.52 315 P **P 18 52 26.4 -0.9**
comp=Z,21nm,0.4s,mb4.9,baz=122,slow=9.2,SNR=121
SZH Strazhica 22.58 294 P **P 18 52 30.0 +2.0**
MK31 Makanchi Array 22.65 56 P **P 18 52 30.1 +1.5**
comp=Z,224nm,1.4s,mb5.4,baz=248,slow=11,SNR=297
MK31 ⇑S **S 18 56 37.0 +7.1**
comp=Z,75nm,1.6s
MKAR Makanchi Array 22.65 56 *i* P **P 18 52 30.1 +1.4**
MKAR pmax pmax
comp=Z,137nm,1.0s
MKAR Makanchi Array 22.65 56 *i* P **P 18 52 30.1 +1.4**
comp=Z,68nm,1.0s,mb5.0
DIM Dimitrovgrad 22.78 291 *eP* **P 18 52 31.0 +1.0**
MLR Muntele Rosu 22.89 300 P **P 18 52 32.5 +1.5**
comp=Z,7.1nm,1.0s,mb5.1,baz=143,slow=1.5,SNR=41
PVL Pavlikeni 23.01 294 *eP* **P 18 52 33.0 +0.8**
APE Apeiranthos 23.07 278 *i* P **P 18 52 34.3 +1.4**
MUKL Al Mukalla 23.16 194⇑*e*P **P 18 52 33.9 -0.1**
SANT Santorini 23.25 277 *eP* **P 18 52 31.3 -3.3**
comp=Z,325nm,1.4s,mb5.6
RZN Rozhen 23.38 290 P **P 18 52 37.0 +1.2**
PLD Plovdiv 23.40 291 *eP* **P 18 52 39.0 +3.0**
IDI Anoyia 23.93 274 P **P 18 52 40.6 -0.6**
comp=Z,49nm,0.4s,mb5.3,baz=47,slow=12,SNR=46
OUR Ouranopolis 23.95 287 *eP* **P 18 52 42.4 +1.1**
AOS Alonnisos 24.10 284 *eP* **P 18 52 43.5 +0.6**
MMB Musomiste 24.12 290 P **P 18 52 44.0 +1.0**
BHPL Bhopal 24.12 119 *eP* **P 18 52 44.5 +1.3**
BHPL *e* 18 52 47.8
comp=Z,221nm,1.6s
BHPL *e*S **S 18 57 00.6 +4.7**
PAIG Paliouri 24.20 286 *eP* **P 18 52 44.5 +0.7**
SRS Serrai 24.22 289 *eP* **P 18 52 45.3 +1.3**
DHBB Dhamar BB 24.29 204⇑*e*P **P 18 52 45.5 +0.6**
DHBB Dhamar BB 24.29 204⇓*e*P **P 18 52 45.4 +0.5**
BOM Bombay 24.29 134 *e* **P 18 52 47.3 +2.4**
comp=Z,654nm,3.5s
BOM *e*S **S 18 57 03.2 +4.5**
SOH Sokhos 24.41 288 *eP* **P 18 52 47.0 +1.2**
BDHA Al Bayda' 24.48 201⇑*e*P **P 18 52 46.9 +0.1**
BDHA AMb AMB 18 52 48.2
comp=Z,551nm,2.8s,mb5.5
BDHA Al Bayda' 24.48 201⇑*e*P **P 18 52 46.9 +0.1**
comp=Z,276nm,2.8s,mb5.2
VTS Vitosha 24.53 292 P **P 18 52 48.6 +1.7**
KKB Krupnik 24.60 291 P **P 18 52 48.0 +0.3**
XOR Xorichti 24.62 285 *eP* **P 18 52 48.7 +0.8**
GVD Gavdhos 24.67 274 *eP* **P 18 52 47.1 -1.4**
comp=Z,110nm,0.6s,mb5.6
GVD Gavdhos 24.67 274 *eP* **P 18 52 47.1 -1.3**
comp=Z,110nm,0.6s,mb5.6
LBOS 24.67 202⇑*e*P **P 18 52 49.3 +0.7**
LBOS AMb AMB 18 52 50.0
comp=Z,134nm,1.0s,mb5.5
THE Thessaloniki 24.71 288 *eP* **P 18 52 49.5 +0.8**
KNT Kendrikon 24.75 289 *eP* **P 18 52 49.5 +0.4**
VAY Valandovo 24.99 289 *i* P **P 18 52 52.0 +0.6**
LIT Litokhoron 25.10 287 *eP* **P 18 52 52.4 -0.1**
GRG Griva 25.13 289 *eP* **P 18 52 53.4 +0.7**
MNK Minsk 25.15 322⇑*e*P **P 18 52 50.0 -2.7**
MNK pmax pmax
comp=Z,1μm,1.2s,mb6.3

MNK pmax pmax
comp=E,760nm,1.5s
MNK Minsk 25.15 322 *e*P **P** **18 52 50.0 -2.7**
comp=E,545nm,1.2s,mb6.0
POO Poona 25.18 132 *e*P **P** **18 52 53.7 +0.3**
POO *e* 18 52 57.4
comp=Z,203nm,1.5s
POO *e* 18 57 28.2
LVV L'vov 25.25 310 *e*P **P** **18 52 56.6 +2.8**
LVV *e* 18 53 36.0
LVV *e*PPP PPP 18 53 48.8 +5.1
LVV *e*S **S** **18 57 18.8 +4.2**
LVV L'vov 25.25 310 *e*P **P** **18 52 56.6 +2.8**
LVV *e*S **S** **18 57 18.8 +4.2**
AGG Agios Georgios 25.32 284 *e*P **P** **18 52 54.1 -0.4**
BOLS Boljevac 25.50 295⇑*i*P **P** **18 52 56.9 +0.7**
BARS Barje 25.55 293⇑*i*P **P** **18 52 57.2 +0.5**
SKO Skopje 25.83 291⇑*i*P **P** **18 52 59.6 +0.3**
SKO *i* 18 53 11.8
SKO pmax pmax
comp=Z,176nm,1.2s,mb5.5
SKO Skopje 25.83 291⇑*i*P **P** **18 52 59.6 +0.3**
comp=Z,176nm,1.2s,mb5.5
SKO *i* 18 53 11.8
SKO Skopje 25.83 291⇑*i*P **P** **18 52 59.6 +0.3**
SKO ⇑*i* 18 53 11.8
comp=Z,0.2nm,1.2s
SKO Skopje 25.83 291 *i* P **P** **18 52 59.6 +0.3**
comp=Z,88nm,1.2s,mb5.2
SKO *i* sp 18 53 11.8
FNA Florina 25.91 288 *e*P **P** **18 53 00.3 +0.2**
WMQ Urumqi 25.95 65 P **P** **18 53 02.3 +1.9**
WMQ AP pP 18 53 11.6 +1.9
WMQ S **S** **18 57 29.2 +2.8**
WMQ AMB AMB
comp=Z,181nm,0.8s,mb5.7
WMQ AMB AMB
comp=Z,522nm,4.8s
WMQ LR LR
comp=N,2μm,14.2s,MS5.0
WMQ LR LR
comp=E,2μm,12.0s,MS5.0
WMQ LR LR
comp=Z,2μm,16.5s,MS4.7
KWP Kalwaria 26.02 309 *e*P **P** **18 52 59.9 -1.0**
comp=Z,77nm,1.0s,mb5.2
KWP *e*pP pP 18 53 13.5 +3.3
KWP Kalwaria 26.02 309 *e*P **P** **18 53 03.2 +2.3**
KWP *e*pP pP 18 53 13.5 +3.3
KWP MLR MLR 19 05 00.3
comp=Z,2μm,23.7s,MS4.5
KWP Kalwaria 26.02 309 *e*P **P** **18 53 03.2 +2.3**
comp=Z,900nm,23.7s
KWP *e*pp pP 18 53 13.5 +3.3
KWP Kalwaria 26.02 309 *e*P **P** **18 52 59.9 -1.0**
comp=Z,77nm,1.0s,mb5.2
UZH Uzhgorod 26.02 306 *d*/*i*P **P** **18 53 04.0 +3.1**
UZH *e*S **S** **18 57 29.0 +1.6**
UZH Uzhgorod 26.02 306 *i*P **P** **18 53 04.0 +3.1**
UZH *e*S **S** **18 57 29.0 +1.6**
SVIS Svilajnac 26.07 296⇑*i*P **P** **18 53 02.7 +1.3**
ALBI Allahabad 26.08 109 *e*P **P** **18 53 00.0 -1.8**
KOLS Kolonicke sedl 26.10 307 *i*P **P** **18 53 04.4 +2.7**
KOLS *e* pP 18 53 11.7 +0.7
KOLS *e*sP sP 18 53 16.3 +1.1
OHR Ohrid 26.33 289 *i*P **P** **18 53 03.6 -0.3**
KAD Karad 26.34 134⇓*i*P **P** **18 53 05.0 +0.8**
NVS Novosibirsk 26.34 39 *i*P **P** **18 53 03.8 0.0**
NVS pmax pmax
comp=Z,145nm,2.2s,mb5.1
NVS pmax pmax
comp=N,101nm,1.7s
NVS Novosibirsk 26.34 39 *i*P **P** **18 53 03.8 0.0**
comp=N,50nm,1.7s,mb4.8
GRUS Gruza 26.40 295⇑*i*P **P** **18 53 05.0 +0.5**
CRVS Cervenica-Dubn 26.62 307 *e*P **P** **18 53 07.9 +1.5**
CRVS *e*sP sP 18 53 19.7 -0.2
CRVS *e* 18 54 08.7
NGP Nagpur 26.63 120 *e*P **P** **18 53 06.9 +0.1**
NGP *e* 18 58 09.2
BEO Belgrade 26.65 297⇑*i*P **P** **18 53 10.0 +3.2**
ZAL Zalesovo 26.71 42 P **P** **18 53 07.3 0.0**
comp=N,20nm,0.9s,mb4.6,baz=222,slow=8.9,SNR=59
ZAL LR LR 19 05 44.7
comp=N,4μm,18.8s,MS5.0,baz=232,slow=41
IGT Igoumenitsa 26.81 286 *e*P **P** **18 53 07.5 -0.8**
PVY Plav 26.91 292⇑*i*P **P** **18 53 09.0 -0.2**
LATR Latur 26.92 128⇑*i*P **P** **18 53 08.7 -0.8**
DIVS Divcibare 26.94 296⇓*i*P **P** **18 53 09.5 +0.1**
IVA Berane 26.97 293 *e*P **P** **18 53 10.2 +0.5**
NVSS Nova Varos 2 27.12 294⇑*i*P **P** **18 53 11.1 0.0**
KECS Kecovo 27.16 305 *e*P **P** **18 53 13.2 +1.8**
KECS *e*pP pP 18 53 21.6 +0.9
KECS *e*sP sP 18 53 25.0 +0.1
SUW Suwalki 27.30 318 *e*P **P** **18 53 13.4 +0.7**
SUW *e*pP pP 18 53 22.8 +0.8
SUW MLR MLR 19 05 59.9
comp=N,2μm,23.5s,MS4.7
PLE Pljevlja 27.34 294 *e*P **P** **18 53 14.3 +1.2**
PUL Pulkovo 27.39 333 *e*P **P** **18 53 16.3 +2.9**
PUL *e*S **S** **18 57 48.6 -1.0**
PUL pmax pmax
comp=Z,267nm,0.7s,mb5.9
PUL pmax pmax
comp=N,436nm,1.4s
PUL pmax pmax
comp=E,395nm,1.1s
PUL pmax pmax
comp=Z,410nm,0.9s,mb6.0
PUL pmax pmax
comp=N,268nm,0.6s
PUL pmax pmax
comp=E,494nm,0.8s
PUL MLR MLR
comp=N,2μm,17.0s,MS4.7
PUL MLR MLR
comp=E,938nm,17.0s,MS4.7
PUL MLR MLR
comp=Z,3μm,17.0s,MS4.9
PUL Pulkovo 27.39 333 *e*P **P** **18 53 16.3 +2.9**
comp=Z,134nm,0.6s,mb5.7
PUL *e*S **S** **18 57 48.6 -1.0**
PUL Pulkovo 27.39 333 *i*P **P** **18 53 13.5 +0.1**
PSZ Piszkesteto 27.43 304⇓*e*P **P** **18 53 15.2 +1.3**
TTG Podgorica 27.44 292⇑*i*P **P** **18 53 13.4 -0.6**
ULC Ulcinj 27.46 291⇑*i*P **P** **18 53 13.8 -0.4**
NIE Niedzica 27.47 307 *e*P **P** **18 53 15.5 +1.3**
NKY Niksic 27.63 293⇑*i*P **P** **18 53 14.8 -0.9**
UPM Unac-Piva 27.70 294⇑*i*P **P** **18 53 15.8 -0.6**
BUM Brajici-Budva 27.71 292⇑*i*P **P** **18 53 15.4 -1.1**
VSU Vasula 27.92 328 *i*P **P** **18 53 18.3 +0.1**
VSU Vasula 27.92 328 *i*P **P** **18 53 18.3 +0.1**
BRY Bratogost 27.96 293⇑*i*P **P** **18 53 17.5 -1.3**
OJC Ojcow 27.98 309 *e*P **P** **18 53 18.9 0.0**
OJC *e**PP pP 18 53 29.4 +1.2
OJC MLR MLR
comp=Z,1μm,20.9s,MS4.4
OJC Ojcow 27.98 309 *e*P **P** **18 53 18.9 0.0**
OJC *e*pP pP 18 53 29.4 +1.2
OJC *e*S tx 18 58 29.8
OJC MLR MLR 19 06 41.7
comp=Z,1μm,20.9s,MS4.4
OJC Ojcow 27.98 309 *e*P **P** **18 53 18.9 0.0**
OJC *e*pp pP 18 53 29.4 +1.2
comp=Z,500nm,20.9s
HCY Herceg Novi 28.01 292⇑*i*P **P** **18 53 18.8 -0.4**
PKSM Moragy 28.05 300 P **P** **18 53 20.0 +0.5**
PKSM Moragy 28.05 300 P **P** **18 53 20.0 +0.5**
BLSP Bilaspur 28.18 114 *e*P **P** **18 53 20.4 -0.5**
BLSP *i* 18 58 01.4
VYHS Vyhne 28.23 305 *e*P **P** **18 53 22.1 +1.0**
VYHS *e* pP 18 53 32.7 +2.2
VYHS *e* 18 53 36.5
RHK1 Bakonya 28.43 300 *e*P **P** **18 53 23.2 +0.3**
KOLL Kolacno 28.53 305 *e*P **P** **18 53 25.0 +1.2**
KOLL *e* 18 53 39.1
HYB Hyderabad 28.93 126⇑*e*P **P** **18 53 27.0 -0.7**
HYB *e*S **S** **18 58 12.0 -2.8**
HYB pmax pmax
comp=Z,65nm,1.0s,mb5.3
HYB Hyderabad 28.93 126⇑*e*P **P** **18 53 27.0 -0.7**
comp=Z,65nm,1.0s,mb5.3
HYB *e*S **S** **18 58 12.0 -2.8**
HYB Hyderabad 28.93 126⇑*i*P **P** **18 53 27.0 -0.7**
comp=Z,65nm,1.0s,mb5.3
HYB *e*S **S** **18 58 12.0 -2.8**
HYB LR LR 19 06 56.0
comp=Z,2.7nm,16.0s
HYB Hyderabad 28.93 126 *e*P **P** **18 53 27.0 -0.7**
comp=Z,32nm,1.0s,mb5.0
HYB *e*S **S** **18 58 12.0 -2.8**
OKC Ostrava-Krasne 28.94 307 *e*P **P** **18 53 28.1 +0.7**
OKC *e*pP pP 18 53 37.5 +0.7
OKC *e*x x 18 58 36.1
OKC AMS AMS 19 07 00.0
comp=Z,900nm,15.9s
RAC Raciborz 28.96 308 *e*P **P** **18 53 27.5 -0.1**
SMOL Smolenice 29.16 305 *e*P **P** **18 53 30.6 +1.1**
MORC Moravsky Berou 29.31 307 *e*P **P** **18 53 30.2 -0.6**
MORC pmax pmax
comp=Z,37nm,1.2s,mb5.0
MORC Moravsky Berou 29.31 307 *e*P **P** **18 53 30.2 -0.6**
comp=Z,37nm,1.2s,mb5.0
MORC Moravsky Berou 29.31 307 *e*P **P** **18 53 30.2 -0.6**
comp=Z,16nm,1.2s,mb4.7
MORC Moravsky Berou 29.31 307 *e*P **P** **18 53 30.2 -0.6**
comp=Z,37nm,1.2s,mb5.0
ZST Bratislava 29.33 304 *e*P **P** **18 53 31.2 +0.2**
JOF Joensuu 29.39 338 *e*p **P** **18 53 31.0 -0.4**
comp=Z,11nm,0.3s,mb5.0
TIP Timpagrande 29.60 286 *e*P **P** **18 53 31.3 -2.2**
TIP Timpagrande 29.60 286 *e*P **P** **18 53 31.3 -2.2**
SOP Sopron 29.63 303 P **P** **18 53 35.5 +1.8**
SOP Sopron 29.63 303 P **P** **18 53 35.5 +1.8**
ORI Oriolo Calabro 29.72 287 P **P** **18 53 34.0 -0.6**
ORI Oriolo Calabro 29.72 287 P **P** **18 53 34.0 -0.6**
VRAC Vranov 29.83 306 P **P** **18 53 34.2 -1.3**
comp=Z,4.4nm,0.7s,mb4.3,baz=97,slow=6.8,SNR=8.7
GRI Girifalco 29.91 285 P **P** **18 53 35.8 -0.5**
GRI Girifalco 29.91 285 P **P** **18 53 35.8 -0.5**
FINES FINESS Array B 30.07 333 P **P** **18 53 36.7 -0.7**
comp=Z,5.2nm,0.8s,mb4.3,baz=128,slow=10.0,SNR=18
FINES pP pP 18 53 46.1 -0.7
comp=Z,30nm,0.6s,baz=117,slow=9.3,SNR=27
FINES LR LR 19 07 39.8
comp=Z,2μm,19.3s,MS4.8,baz=1.8,slow=40
FINES FINESS Array B 30.07 333 P **P** **18 53 36.7 -0.7**
FINES pP pP 18 53 46.1 -0.7
FINES LR LR 19 07 39.8
DPC Dobruska-Polom 30.19 308 *e*P **P** **18 53 39.6 +1.0**
DPC *e*pP pP 18 53 49.2 +1.2
DPC *e*S **S** **18 58 39.5 +5.0**
DPC AMS AMS 19 09 10.0
comp=Z,900nm,16.8s
DPC Dobruska-Polom 30.19 308 *e*P **P** **18 53 39.6 +1.0**
DPC *e*pp pP 18 53 49.2 +1.2
DPC *e*S **S** **18 58 39.5 +5.0**
comp=Z,450nm,16.8s
CUC Castrocucco 30.21 287 P **P** **18 53 46.4 +7.5**
ARSA Arzberg 30.28 302⇑*i*P **P** **18 53 39.4 -0.1**
comp=Z,42nm,0.9s,mb5.2
SLCN Sala Consilina 30.30 288 P **P** **18 53 39.5 -0.2**
KSP Ksiaz 30.30 309 *e*P **P** **18 53 41.4 +1.8**
KSP *e**PP pP 18 53 49.7 +0.7
KSP *e*S **S** **18 58 40.0 +3.6**
KSP MLR MLR
comp=Z,2μm,16.7s,MS4.9
KSP Ksiaz 30.30 309 *e*P **P** **18 53 41.9 +2.2**
KSP *e*pP pP 18 53 49.3 +0.3
KSP MLR MLR 19 10 50.9
comp=Z,2μm,16.7s,MS4.9
KSP Ksiaz 30.30 309 *e*P **P** **18 53 41.4 +1.8**
KSP *e*pp pP 18 53 49.7 +0.7
KSP *e*S **S** **18 58 40.0 +3.6**
comp=Z,1μm,16.7s
SOI Samo 30.32 284 P **P** **18 53 39.0 -0.9**
SOI Samo 30.32 284 P **P** **18 53 39.0 -0.9**
GKP Gorka Klasztor 30.34 314 *e*P **P** **18 53 38.9 -1.1**
GKP *e*pP pP 18 53 49.7 +0.4
GKP MLR MLR 19 07 48.4
comp=Z,2μm,23.7s,MS4.7
GKP Gorka Klasztor 30.34 314 *e*P **P** **18 53 38.9 -1.0**
comp=Z,1μm,23.7s
GKP *e*pp pP 18 53 49.7 +0.4
BOJS Bojanci 30.36 298 *i*PcP PcP 18 56 39.8 0.0
MRLC Muro Lucano 30.37 289 P **P** **18 53 40.8 +0.5**
MGR Morigerati 30.39 288 P **P** **18 53 40.0 -0.5**
UPC Upice 30.41 308 *e*P **P** **18 53 42.9 +2.3**
UPC *e*pP pP 18 53 51.8 +1.8
CEL Celeste 30.41 284 P **P** **18 53 40.4 -0.3**
KAF Kangasniemi 30.43 334 *e*p **P** **18 53 32.7 -7.9**
comp=Z,90nm,1.4s,mb5.3,baz=130,slow=8.8
KAF Kangasniemi 30.43 334 *e*P **P** **18 53 32.7 -7.9**
KAF pmax pmax
comp=Z,91nm,1.4s,mb5.3
FG5 Orsara di Pugl 30.48 290 P **P** **18 53 42.1 +0.8**
FG5 Orsara di Pugl 30.48 290 P **P** **18 53 42.1 +0.8**
PERS Pernice 30.51 301 *e*PcP PcP 18 56 40.0 -0.1
SGO Sicignano 30.53 289 P **P** **18 53 40.5 -1.2**
SGO Sicignano 30.53 289 P **P** **18 53 40.5 -1.2**
SCLL Scilla 30.55 284 P **P** **18 53 41.8 -0.2**
MTTG Motta San Giov 30.62 283 P **P** **18 53 42.1 -0.4**
VISS Visnje 30.66 299 *e*PcP PcP 18 56 40.5 0.0
MRB1 Monte Rocchett 30.72 290 P **P** **18 53 44.0 +0.6**
PSB1 Pescosannita 30.83 290 P **P** **18 53 44.6 +0.2**
LJU Ljubljana 30.89 299 *e*PcP PcP 18 56 41.2 0.0
OBKA Obir 30.90 300⇑*i*P **P** **18 53 44.9 0.0**
comp=Z,24nm,1.3s,mb4.9
CII Carovilli 31.16 291 *e*P **P** **18 53 47.0 -0.3**
comp=Z,154nm,1.3s,mb5.7
CII Carovilli 31.16 291 *e*P **P** **18 53 47.0 -0.3**
comp=Z,154nm,1.3s,mb5.7
MOA Molln 31.18 303 P **P** **18 53 48.4 +1.0**
SLNA Salina 31.18 285 P **P** **18 53 46.7 -0.8**
PRU Pruhonice 31.26 307 *e*P **P** **18 53 48.4 +0.4**
PRU *e**PP pP 18 53 59.5 +2.1
PRU MLR MLR
comp=Z,1μm,17.8s,MS4.6
PRU Pruhonice 31.26 307 *e*P **P** **18 53 48.4 +0.4**
PRU *e*pP pP 18 53 59.5 +2.1
PRU *e*x x 18 59 02.3
PRU AMS AMS 19 08 30.0
comp=Z,1μm,17.8s
PRU Pruhonice 31.26 307 *e*P **P** **18 53 48.4 +0.4**
PRU *e*pp pP 18 53 59.5 +2.1
comp=Z,550nm,17.8s
RNI2 Rionero Sannit 31.28 291 P **P** **18 53 49.0 +0.7**
LSA Lhasa 31.32 93 *e*P **P** **18 53 49.9 +1.0**
LSA pmax pmax
comp=Z,537nm,1.8s,mb6.1
LSA Lhasa 31.32 93 *e*P **P** **18 53 49.9 +1.0**
comp=Z,537nm,1.8s,mb6.1
LSA Lhasa 31.32 93 *e*P **P** **18 53 49.9 +1.0**
comp=Z,268nm,1.8s,mb5.8
LSA Lhasa 31.32 93 *e*P **P** **18 53 49.9 +1.0**
comp=Z,537nm,1.8s,mb6.1
PVCC Panska Ves 31.32 308 *e*P **P** **18 53 49.5 +0.9**
PVCC *e*pP pP 18 53 59.4 +1.4
PVCC *e*S **S** **18 58 55.3 +3.0**
PVCC AMS AMS 19 09 50.0
comp=Z,1μm,14.8s
PVCC Panska Ves 31.32 308 *e*P **P** **18 53 49.5 +0.9**
PVCC *e*pp pP 18 53 59.4 +1.4
PVCC *e*S **S** **18 58 55.3 +3.0**
comp=Z,500nm,14.8s
VOY Vojsko 31.33 299 *e*P **P** **18 53 48.2 -0.5**
VOY *e* 18 53 55.5
TRI Trieste 31.41 299 P **P** **18 53 48.9 -0.6**
TRI Trieste 31.41 299 P **P** **18 53 48.9 -0.6**
RFI Roccamonfina 31.45 290 P **P** **18 53 49.8 0.0**
SDI San Donato 31.53 291 P **P** **18 53 50.1 -0.5**
SDI San Donato 31.53 291 P **P** **18 53 50.1 -0.5**
AOI Ancona 31.56 295 P **P** **18 53 50.7 -0.1**
TERO Teramo 31.61 293 P **P** **18 53 51.1 -0.1**
GEC2 GERESS Array S 31.65 305 *e*P **P** **18 53 51.3 -0.2**
GEC2 pmax pmax
comp=Z,210nm,2.0s,mb5.6
GEC2 GERESS Array S 31.65 305 *e*P **P** **18 53 51.3 -0.2**
comp=Z,210nm,2.0s,mb5.6
GEC2 *e*S **S** **18 59 07.8 +10**
GERES GERESS Array B 31.65 305 P **P** **18 53 50.5 -1.1**
comp=Z,5.4nm,0.8s,mb4.4,baz=101,slow=6.8,SNR=49
GERES PcP PcP 18 56 41.4 -1.7
comp=Z,6.0nm,1.0s,baz=180,slow=1.3,SNR=4.5
GERES ScP 19 00 21.5
comp=Z,1.0nm,0.8s,baz=166,slow=5.5,SNR=5.0
GERES GERESS Array B 31.65 305 PcP PcP 18 56 41.4 -1.7
GERES GERESS Array B 31.65 305 PcP PcP 18 56 41.4 -1.7
KBA Koelnbreinsper 31.75 301 P **P** **18 53 53.5 +1.1**
KBA Koelnbreinsper 31.75 301 P **P** **18 53 53.5 +1.1**
KHC Kasperske Hory 31.76 305 *e*P **P** **18 53 52.5 0.0**
KHC *e*pP pP 18 54 01.6 -0.3
KHC *e*S **S** **18 59 01.1 +1.9**
KHC AMS AMS 19 08 40.0
comp=Z,3μm,28.5s
BRG Berggiesshubel 31.77 309 *e*P **P** **18 53 54.2 +1.6**
BRG *i* pP 18 54 03.5 +1.5
BRG *e*S **S** **18 59 06.0 +6.7**
BRG pmax pmax
comp=Z,224nm,1.8s,mb5.7
BRG Berggiesshubel 31.77 309 *e*P **P** **18 53 54.2 +1.6**
comp=Z,224nm,1.8s,mb5.7
BRG *i* pP 18 54 03.5 +1.5
BRG *e*S **S** **18 59 06.0 +6.7**
BRG *e* 19 00 59.1
BRG LR LR
comp=Z,1μm,21.9s,MS4.6
BRG Berggiesshubel 31.77 309 *e*P **P** **18 53 54.2 +1.6**
comp=Z,112nm,1.8s,mb5.4
BRG *i* pp pP 18 54 03.5 +1.5
BRG *e*S **S** **18 59 06.0 +6.7**
BRG Berggiesshubel 31.77 309 *e*P **P** **18 53 52.8 +0.2**
comp=Z,222nm,1.9s,mb5.7
AQU L'Aquila 31.78 292 *e*P **P** **18 53 52.2 -0.5**
AQU pmax pmax
comp=Z,51nm,1.0s,mb5.3
AQU L'Aquila 31.78 292 *e*P **P** **18 53 52.2 -0.5**
comp=Z,51nm,1.0s,mb5.3
AQU L'Aquila 31.78 292 *e*P **P** **18 53 52.2 -0.5**
comp=Z,26nm,1.0s,mb5.0
AQU L'Aquila 31.78 292 *e*P **P** **18 53 52.2 -0.5**
comp=Z,51nm,1.0s,mb5.3
GMNA Gemona 31.79 300 P **P** **18 53 53.2 +0.4**
PTQR Pietraquaria 31.81 292 P **P** **18 53 53.5 +0.5**
CING Cingoli 31.86 294 P **P** **18 53 53.4 0.0**
VIS Vishakhapatnam 31.91 120 *e*P **P** **18 53 52.8 -1.3**
VIS *e* 18 53 56.5
comp=Z,56nm,0.8s
GIB Gibilmanna 31.91 284 P **P** **18 53 52.9 -1.0**
GIB Gibilmanna 31.91 284 P **P** **18 53 52.9 -1.0**
VENT Ventotene 31.93 289 P **P** **18 53 54.2 +0.2**
NRCA Norcia 31.96 293 P **P** **18 53 54.2 -0.1**
WDD Wield Dalam 32.00 280 P **P** **18 53 54.6 -0.1**
FIAM Fiamignano 32.00 292 P **P** **18 53 55.0 +0.4**
BWNR Bhubaneshwar 32.00 113 *e*P **P** **18 53 53.7 -1.2**
BWNR *e* 18 53 56.4
comp=Z,77nm,1.5s
BWNR *e* 19 01 34.9
ARV Arcevia 32.04 294 P **P** **18 53 55.2 +0.2**
ARV Arcevia 32.04 294 P **P** **18 53 55.2 +0.2**
SNTG Esanatoglia 32.06 294 P **P** **18 53 55.1 0.0**
PESA Pesaro 32.09 295 P **P** **18 53 56.0 +0.6**
FVI Forni Avoltri 32.12 300 P **P** **18 53 56.1 +0.5**
FVI Forni Avoltri 32.12 300 P **P** **18 53 56.1 +0.5**
CERT Cerreto 32.13 292 P **P** **18 53 55.5 -0.3**
FSSB Fossombrone 32.15 295 P **P** **18 53 56.4 +0.5**
RUE Ruedersdorf 32.17 311 *e*P **P** **18 53 56.0 -0.1**
RUE Ruedersdorf 32.17 311 *e*P **P** **18 53 55.2 -0.8**
comp=Z,163nm,1.3s,mb5.7
BSD Bornholm Skovb 32.19 317 *i*P **P** **18 53 55.0 -1.1**
BSD *i*S tx 18 55 47.8
WET Wettzell 32.22 305 *e*P **P** **18 53 55.9 -0.6**
WET pmax pmax
comp=Z,132nm,2.1s,mb5.4
WET Wettzell 32.22 305 *e*P **P** **18 53 55.9 -0.6**
comp=Z,66nm,2.1s,mb5.1
WET Wettzell 32.22 305 *e*P **P** **18 53 55.9 -0.6**
comp=Z,132nm,2.1s,mb5.4
MNS Montasola 32.31 292 P **P** **18 53 57.0 -0.3**
MNS Montasola 32.31 292 P **P** **18 53 57.0 -0.3**
MURB Monte Urbino 32.36 294 P **P** **18 53 58.8 +1.1**
RSM Repubblica di 32.38 295 P **P** **18 53 58.6 +0.7**
RSM Repubblica di 32.38 295 P **P** **18 53 58.6 +0.7**
CLL Collm 32.43 309 *i*P **P** **18 53 59.4 +1.1**
CLL *e* pP 18 54 09.0 +1.3
CLL *e*S **S** **18 59 12.0 +2.4**
CLL pmax pmax
comp=Z,29nm,1.3s,mb5.0
CLL Collm 32.43 309 *i*P **P** **18 53 59.4 +1.1**
comp=Z,29nm,1.3s,mb5.0
CLL *e* pP 18 54 09.0 +1.3
CLL *e*S **S** **18 59 12.0 +2.4**
CLL *e*ScP 19 00 27.0
CLL Collm 32.43 309 P **P** **18 53 59.4 +1.1**
comp=Z,logA/T=1.3,mb4.9
CLL *e**SP sP 18 54 09.0 -2.8
CLL *i* 18 54 34.6
CLL *e*PPP PPP 18 55 21.0 -1.1
CLL *e*S **S** **18 59 12.0 +2.4**
CLL *e*SCP 19 00 27.0
CLL Collm 32.43 309 *i*P **P** **18 53 59.4 +1.1**
comp=Z,14nm,1.3s,mb4.7
CLL *e*pp pP 18 54 09.0 +1.3
CLL *e*S **S** **18 59 12.0 +2.4**
CLL Collm 32.43 309 *e*P **P** **18 53 58.8 +0.5**
comp=Z,45nm,0.9s,mb5.3
BERN Bernov 32.58 307⇑P pP 18 54 12.2 +3.2
NKC Novy Kostel 32.62 307 *e*P **P** **18 54 01.7 +1.7**
NKC *e*pP pP 18 54 10.1 +0.7
NKC *e*S **S** **18 59 17.9 +5.3**
NKC AMS AMS 19 10 40.0
comp=Z,2μm,14.4s
APA Apatity 32.66 345 *e*P **P** **18 54 00.7 +0.6**
APA *i* pP 18 54 10.7 +1.2
APA *i* 18 55 32.5
APA *e*S **S** **18 59 19.0 +6.0**
APA pmax pmax
comp=Z,54nm,1.2s,mb5.3
APA MLR MLR
comp=Z,4μm,16.0s,MS5.3
APA Apatity 32.66 345 *e*P **P** **18 54 00.7 +0.6**
comp=Z,27nm,1.2s,mb5.0
APA *i* pp pP 18 54 10.7 +1.2
APA *e*S **S** **18 59 19.0 +6.0**
comp=Z,2μm,16.0s
LVZ Lovozero 32.70 346 *e*P pP 18 54 09.4 -0.4
LVZ *e*S **S** **18 59 04.6 -8.9**
LVZ pmax pmax
comp=N,19nm,1.0s
LVZ pmax pmax
comp=Z,68nm,1.0s,mb5.5
LVZ pmax pmax
comp=E,19nm,1.1s
LVZ MLR MLR
comp=Z,3μm,13.0s,MS5.2
LVZ MLR MLR
comp=N,2μm,15.0s,MS5.0
LVZ MLR MLR
comp=E,2μm,14.0s,MS5.0
LVZ Lovozero 32.70 346 *e*P pP 18 54 09.4 -0.4
LVZ *e*S **S** **18 59 04.6 -8.9**
comp=E,964nm,15.0s
LVZ Lovozero 32.70 346 *i*P **P** **18 53 59.6 -0.8**
WERD Werda 32.74 307 *e*P **P** **18 54 00.3 -0.7**
comp=E,76nm,2.1s,mb5.3
NOTT Nottersdorf 32.78 306 *e*P **P** **18 54 00.9 -0.5**
comp=E,60nm,1.8s,mb5.2
SFI Santa Sofia 32.81 295 P **P** **18 54 02.0 +0.3**
SFI Santa Sofia 32.81 295 P **P** **18 54 02.0 +0.3**
RGN Rugen 32.92 315 *e*P **P** **18 54 01.8 -0.7**
comp=E,381nm,0.9s,mb6.3
WTTA Wattenberg 32.92 302⇑*i*P **P** **18 54 02.1 -0.5**
comp=E,146nm,1.2s,mb5.8
WTTA Wattenberg 32.92 302⇑*i*P **P** **18 54 02.1 -0.5**
WTTA pmax pmax
comp=Z,146nm,1.2s,mb5.8
APPI Appiano 33.19 300 P **P** **18 54 04.6 -0.3**
MOX Moxa 33.20 308 *i*P **P** **18 54 06.3 +1.3**
comp=Z,logA/T=1.9,mb5.6
MOX *i* pP 18 54 16.0 +1.5
MOX S **S** **18 59 29.0 +7.4**
MOX L 19 10 38.0
MOX Moxa 33.20 308 *e*P **P** **18 54 06.3 +1.3**
MOX Moxa 33.20 308 *e*P **P** **18 54 05.1 +0.1**
comp=Z,43nm,1.2s,mb5.2
FUR Furstenfeldbru 33.21 303 *e*P **P** **18 54 04.7 -0.4**
FUR pmax pmax
comp=Z,55nm,1.3s,mb5.3
FUR Furstenfeldbru 33.21 303 *e*P **P** **18 54 04.7 -0.4**
comp=Z,28nm,1.3s,mb5.0
FUR Furstenfeldbru 33.21 303 *e*P **P** **18 54 04.7 -0.4**

comp=Z,55nm,1.3s,mb5.3
SQTA Sankt Quirin 33.21 301 ⇑*i*P **P 18 54 04.3 -0.9**
comp=Z,64nm,1.5s,mb5.3
SQTA Sankt Quirin 33.21 301 ⇑*i*P **P 18 54 04.3 -0.9**
SQTA pmax pmax
comp=Z,64nm,1.5s,mb5.3
MOTA Moosalm 33.29 302 ⇑*i*P **P 18 54 04.8 -1.0**
comp=Z,32nm,1.5s,mb5.0
MOTA Moosalm 33.29 302 ⇑*i*P **P 18 54 04.8 -1.0**
MOTA pmax pmax
comp=Z,33nm,1.5s,mb5.0
GRA1 Grafenberg Arr 33.35 306 *e*P **P 18 54 06.3 0.0**
comp=Z,37nm,1.2s,mb5.2
GRA1 *e*pP pP 18 54 17.2 +1.4
GRA1 *e*PcP PcP 18 56 46.1 -1.7
GRA1 *ep*PcP 18 56 59.0
GRA1 *es*PcP 18 57 06.1
GRA1 *e*S **S 18 59 33.6 +10**
GRA1 *e*PcS 19 00 30.4
GRA1 *es*PcS 19 00 51.7
GRA1 LR LR
comp=Z,2µm,24.1s,MS4.7
GRA1 Grafenberg Arr 33.35 306 *e*PcS 19 00 30.4
GRF Grafenberg Arr 33.35 306 *e*P **P 18 54 06.3 0.0**
GRF *e**PP pP 18 54 17.2 +1.4
GRF *e* 18 56 46.1
GRF *e*S **S 18 59 33.6 +10**
GRF pmax pmax
comp=Z,37nm,1.2s,mb5.2
GRF Grafenberg Arr 33.35 306 *e*P **P 18 54 06.3 0.0**
GRF *e**PP pP 18 54 17.2 +1.4
GRF *e* 18 56 46.1
GRF *e*S **S 18 59 33.6 +10**
GRF pmax pmax
comp=Z,37nm,1.2s,mb5.2
GRF Grafenberg Arr 33.35 306 *e*P **P 18 54 06.3 0.0**
comp=Z,37nm,1.2s,mb5.2
GRF *ep*P pP 18 54 17.2 +1.4
GRF *e*PcP PcP 18 56 46.1 -1.7
GRF *ep*PcP 18 56 59.0
GRF *es*PcP 18 57 06.1
GRF *e*S **S 18 59 33.6 +10**
GRF *e*PcS 19 00 30.4
GRF *es*PcS 19 00 51.7
GRF LR LR
comp=Z,2µm,24.1s,MS4.7
SHL Shillong 33.74 99 *e*P **P 18 54 10.0 0.0**
SHL *e* 19 00 32.0
MAIM 33.79 295 P **P 18 54 09.5 -0.7**
MAIM 33.79 295 P **P 18 54 09.5 -0.7**
SARO Sassorosso 33.84 296 P **P 18 54 10.3 -0.3**
SARO Sassorosso 33.84 296 P **P 18 54 10.3 -0.3**
SARO Sassorosso 33.84 296 P **P 18 54 10.3 -0.3**
VLC Villacollemand 33.85 296 *e*P **P 18 54 09.0 -1.7**
comp=Z,68nm,1.2s,mb5.5
VLC Villacollemand 33.85 296 *e*P **P 18 54 09.0 -1.7**
comp=Z,68nm,1.2s,mb5.5
VALM 33.94 296 P **P 18 54 11.1 -0.3**
VALM 33.94 296 P **P 18 54 11.1 -0.4**
HDH Heidenheim 33.94 304 P **P 18 54 13.0 +1.6**
UBR Uberruh 33.97 302 P **P 18 54 11.7 0.0**
VINC Vinca 34.02 296 P **P 18 54 11.3 -0.9**
VINC Vinca 34.02 296 P **P 18 54 11.3 -0.9**
VINC Vinca 34.02 296 P **P 18 54 11.3 -0.9**
GRAM 34.06 296 P **P 18 54 12.1 -0.4**
GRAM 34.06 296 P **P 18 54 12.1 -0.4**
BACM 34.07 296 P **P 18 54 12.1 -0.5**
BACM 34.07 296 P **P 18 54 12.1 -0.5**
AGT Agartala 34.10 102 ⇑*i*P **P 18 54 13.0 0.0**
AGT *i* 18 55 39.0
DAVOX Davos 34.12 301 P **P 18 54 12.1 -0.9**
comp=Z,12nm,1.0s,mb4.8,baz=114,slow=4.2,SNR=12
DAVOX Davos 34.12 301 P **P 18 54 12.1 -0.9**
DAVA Damuels 34.12 301 ⇑*i*P **P 18 54 12.4 -0.6**
comp=Z,92nm,1.1s,mb5.6
CLZ Clausthal 34.13 310 *e*P **P 18 54 14.7 +1.6**
comp=Z,115nm,1.4s,mb5.6
CODM 34.22 296 P **P 18 54 13.5 -0.4**
CODM 34.22 296 P **P 18 54 13.5 -0.4**
UBBA Unterbreizbach 34.24 308 *e*P **P 18 54 14.3 +0.3**
comp=Z,172nm,1.7s,mb5.7
SIND Sindeldorf 34.38 305 P **P 18 54 16.1 +0.9**
NRDL Niedersach Rie 34.39 311 *e*P **P 18 54 15.4 +0.1**
comp=Z,117nm,2.0s,mb5.5
VDL Val di Lei 34.40 300 P **P 18 54 15.1 -0.4**
VDL Val di Lei 34.40 300 ⇑P **P 18 54 15.1 -0.4**
BSEG Bad Segeberg 34.50 313 *e*P **P 18 54 16.1 -0.1**
BSEG Bad Segeberg 34.50 313 *e*P **P 18 54 16.1 -0.1**
comp=Z,190nm,1.1s,mb5.9
HFS Hagfors 34.54 325 P **P 18 54 16.1 -0.3**
comp=Z,11nm,0.5s,mb5.0,baz=109,slow=7.5,SNR=43
HFS pP pP 18 54 24.3 -1.6
comp=Z,71nm,0.7s,baz=124,slow=10,SNR=23
STU Stuttgart 34.62 304 *e*P **P 18 54 16.1 -1.2**
STU pmax pmax
comp=Z,95nm,1.0s,mb5.7
STU Stuttgart 34.62 304 *e*P **P 18 54 16.1 -1.2**
comp=Z,95nm,1.0s,mb5.7
STU Stuttgart 34.62 304 *e*P **P 18 54 16.1 -1.2**
comp=Z,48nm,1.0s,mb5.4
STU Stuttgart 34.62 304 *e*P **P 18 54 16.1 -1.2**
comp=Z,95nm,1.0s,mb5.7
GENL Genova Univers 34.85 296 P **P 18 54 18.1 -1.1**
GENL Genova Univers 34.85 296 P **P 18 54 18.1 -1.2**
LBG Lerchenberg 34.88 304 P **P 18 54 19.8 +0.3**
TOD Tromm 34.91 306 P **P 18 54 21.7 +1.9**
TOD Tromm 34.91 306 P **P 18 54 21.7 +1.9**
MUO Muotathal 34.97 301 ⇑P **P 18 54 19.6 -0.7**
PGF Pioggiola 35.00 293 *e*P **P 18 54 19.9 -0.7**
comp=Z,289nm,1.1s,mb5.8
PGF Pioggiola 35.00 293 *e*P **P 18 54 19.9 -0.7**
PGF pmax pmax
comp=Z,144nm,1.1s,mb5.8
PCP Pian Castagno 35.14 297 P **P 18 54 20.1 -1.7**
PCP Pian Castagno 35.14 297 P **P 18 54 20.1 -1.7**
VSL Villasalto 35.19 288 P **P 18 54 22.4 +0.1**
KTD Kalmit 35.37 305 *e*P **P 18 54 24.5 +0.8**
KTD Kalmit 35.37 305 *e*P **P 18 54 24.5 +0.8**
FELD Feldberg 35.39 303 P **P 18 54 24.6 +0.7**
FIN Finale Ligure 35.41 296 P **P 18 54 23.2 -0.9**
FIN Finale Ligure 35.41 296 P **P 18 54 23.2 -0.9**
MMK Mattmark 35.46 299 P **P 18 54 22.4 -2.1**
MMK Mattmark 35.46 299 ⇓P **P 18 54 22.4 -2.1**
ORX Oropa 35.47 299 P **P 18 54 23.0 -1.6**
ORX Oropa 35.47 299 P **P 18 54 23.0 -1.6**
MOY Mondy 35.56 51 *e*P **P 18 54 28.1 +2.8**
TRAV 35.64 298 P **P 18 54 24.4 -1.7**
TRAV 35.64 298 P **P 18 54 24.4 -1.6**
ROB Roburent 35.64 296 P **P 18 54 25.4 -0.6**
ROB Roburent 35.64 296 P **P 18 54 25.4 -0.6**
IMI Imperia 35.66 296 P **P 18 54 25.7 -0.5**
IMI Imperia 35.66 296 P **P 18 54 25.7 -0.5**
MUD Monsted U'grnd 35.67 317 *i* P pP 18 54 36.9 +1.3
MUD pmax pmax
comp=Z,100nm,1.4s,mb5.5
MUD Monsted U'grnd 35.67 317 *i* P pP 18 54 36.9 +1.3
comp=Z,100nm,1.4s
LKBD Leukerbad 35.68 300 ⇓P **P 18 54 26.2 -0.1**
BBS Basel-Blauen 35.73 302 *e*P **P 18 54 25.4 -1.4**
BBS Basel-Blauen 35.73 302 *e*P **P 18 54 25.4 -1.4**
ABH Alteburg 35.74 306 *e*P **P 18 54 28.0 +1.2**
MONE Monesi 35.74 296 P **P 18 54 25.8 -1.1**
MONE Monesi 35.74 296 P **P 18 54 25.8 -1.1**
IMP Imphal 35.74 99 ⇓*i*P **P 18 54 28.3 +1.2**
IBBN Ibbenburen 35.79 310 *e*P **P 18 54 27.5 +0.3**
comp=Z,222nm,1.5s,mb5.9
NEGI Negi 35.80 296 P **P 18 54 26.5 -0.9**
NEGI Negi 35.80 296 P **P 18 54 26.5 -0.9**
WLS Welschbruch 35.83 303 *e*P **P 18 54 26.4 -1.2**
CDF Champ du Feu 35.88 303 *e*P **P 18 54 26.7 -1.3**
comp=Z,55nm,1.0s,mb5.2
CDF Champ du Feu 35.88 303 *e*P **P 18 54 26.7 -1.3**
CDF pmax pmax
comp=Z,28nm,1.0s,mb5.2
SAOF Saorge 35.90 296 *e*P **P 18 54 27.9 -0.3**
ECH Echery 35.96 303 *e*P **P 18 54 27.8 -0.9**
ENR Entracque 35.97 296 P **P 18 54 27.9 -0.9**
ENR Entracque 35.97 296 P **P 18 54 27.9 -0.9**
ARCES ARCESS Array B 35.97 343 P **P 18 54 28.4 -0.2**
comp=Z,2.4nm,0.4s,mb4.5,baz=142,slow=8.6,SNR=65
ARCES pP pP 18 54 36.3 -1.8
comp=Z,10nm,0.6s,baz=124,slow=8.7,SNR=10
ARCES PP PP 18 55 59.0 +8.4
comp=Z,22nm,0.7s,baz=139,slow=11,SNR=4.6
ARCES LR LR 19 12 27.6
comp=Z,3µm,18.3s,MS5.1,baz=148,slow=42
ARCES ARCESS Array B 35.97 343 pp 18 54 36.3
ARCES ARCESS Array B 35.97 343 pP pP 18 54 36.3 -1.8
MOF Molkenrain 35.98 302 *e*P **P 18 54 29.5 +0.6**
AUTN L'Aution 35.99 296 *e*P **P 18 54 29.8 +0.8**
SBF Sospel 35.99 296 *e*P **P 18 54 28.7 -0.3**
comp=Z,138nm,1.0s,mb5.6
SBF Sospel 35.99 296 *e*P **P 18 54 28.7 -0.3**
SBF pmax pmax
comp=Z,69nm,1.0s,mb5.5
RSP Reno Superiore 36.01 298 P **P 18 54 27.8 -1.3**
RSP Reno Superiore 36.01 298 P **P 18 54 27.8 -1.3**
BUG Bochum--Univer 36.01 309 *e*P **P 18 54 29.8 +0.7**
comp=Z,107nm,1.5s,mb5.5
NB2 NORSAR Subarra 36.02 325 P **P 18 54 29.0 0.0**
comp=Z,215nm,1.4s,mb5.9,baz=112,slow=8.6
NB2 NORSAR Subarra 36.02 325 P **P 18 54 29.0 0.0**
baz=112,slow=8.6
NOA NORSAR Array B 36.02 325 P **P 18 54 28.8 -0.2**
comp=Z,7.7nm,0.9s,mb4.7,baz=116,slow=8.1,SNR=10
NOA pP pP 18 54 38.3 -0.2
comp=Z,36nm,0.8s,baz=116,slow=8.1,SNR=22
NOA LR LR 19 11 44.5
comp=Z,2µm,18.0s,MS4.8,baz=75,slow=40
NOA NORSAR Array B 36.02 325 pp 18 54 38.3
NOA NORSAR Array B 36.02 325 pP pP 18 54 38.3 -0.2
BHB Bricherasio 36.03 297 P **P 18 54 27.4 -1.9**
BHB Bricherasio 36.03 297 P **P 18 54 27.4 -1.9**
STV Sta Anna Valdi 36.04 296 P **P 18 54 27.9 -1.5**
STV Sta Anna Valdi 36.04 296 P **P 18 54 27.9 -1.5**
RUP Ruppelstein 36.05 306 *e*P **P 18 54 30.1 +0.7**
RUP Ruppelstein 36.05 306 *e*P **P 18 54 30.1 +0.7**
REVF Revere 36.06 295 *e*P **P 18 54 30.6 +1.1**
LSD Ceresole Reale 36.06 298 P **P 18 54 29.0 -0.5**
LSD Ceresole Reale 36.06 298 P **P 18 54 29.0 -0.5**
TOUF Mont Tournerai 36.11 296 *e*P **P 18 54 30.4 +0.4**
KTK1 Kautokeino 36.14 342 *e*P **P 18 54 30.8 +0.8**
comp=Z,90nm,1.8s,mb5.4
KTK1 Kautokeino 36.14 342 *e*P **P 18 54 30.8 +0.8**
KTK1 *ep*P pP 18 54 41.4 +2.0
KTK1 AMb AMB 18 54 45.7
comp=Z,90nm,1.8s,mb5.4
FENE Fenestrelle 36.16 298 P **P 18 54 28.6 -1.8**
HINF Hinteralfeld 36.17 302 *e*P **P 18 54 29.2 -1.3**
PZZ Prazzo 36.17 297 P **P 18 54 28.6 -1.9**
PZZ Prazzo 36.17 297 P **P 18 54 28.6 -1.9**
MVIF Mont Vial 36.20 296 *e*P **P 18 54 30.6 -0.1**
LOMF Lomont 36.20 302 *e*P **P 18 54 28.3 -2.4**
KONO Kongsberg 36.31 323 PFAKE 18 54 40.0 +8.5
KONO LR LR
comp=Z,3µm,19.0s,MS5.0
OG01 Vacheresse 36.34 300 *e*P **P 18 54 29.1 -2.8**
LPG La Plagne 36.34 299 *e*P **P 18 54 31.4 -0.5**
comp=Z,118nm,1.1s,mb5.4
LPG La Plagne 36.34 299 *e*P **P 18 54 31.4 -0.5**
LPG pmax pmax
comp=Z,59nm,1.1s,mb5.4
WTSB Winterswijk 36.35 309 *e*P **P 18 54 32.9 +1.0**
comp=Z,14nm,0.8s,mb5.0
LPL La Plagne 36.35 299 *e*P **P 18 54 31.5 -0.5**
comp=Z,57nm,0.8s,mb5.3
LPL La Plagne 36.35 299 *e*P **P 18 54 31.5 -0.5**
LPL pmax pmax
comp=Z,28nm,0.8s,mb5.2
RRL Cesana Torines 36.36 298 P **P 18 54 31.6 -0.5**
RRL Cesana Torines 36.36 298 P **P 18 54 31.6 -0.5**
MBDF Montbardon 36.39 297 *e*P **P 18 54 31.7 -0.6**
comp=Z,74nm,0.7s,mb5.4
MBDF Montbardon 36.39 297 *e*P **P 18 54 31.7 -0.6**
MBDF pmax pmax
comp=Z,37nm,0.7s,mb5.4
CALN Calern 36.40 296 *e*P **P 18 54 32.3 -0.1**
RSL Roselend 36.41 299 *e*P **P 18 54 31.8 -0.7**
BNI Bardonecchia 36.42 298 *e*P **P 18 54 31.1 -1.5**
BNI pmax pmax
comp=Z,85nm,1.3s,mb5.5
BNI Bardonecchia 36.42 298 *e*P **P 18 54 31.1 -1.5**
comp=Z,42nm,1.3s,mb5.2
BNI Bardonecchia 36.42 298 *e*P **P 18 54 31.1 -1.5**
comp=Z,86nm,1.3s,mb5.5
HAU Haudompre 36.51 303 *e*P **P 18 54 32.2 -1.1**
comp=Z,97nm,1.0s,mb5.3
HAU *e*R
comp=Z,570nm,22.8s
FRF La Foret Royal 36.60 295 *e*P **P 18 54 33.4 -0.7**
comp=Z,150nm,1.0s,mb5.5
FRF La Foret Royal 36.60 295 *e*P **P 18 54 33.4 -0.7**
FRF pmax pmax
comp=Z,75nm,1.0s,mb5.5
WLF Walferdange 36.64 306 *e*P **P 18 54 33.9 -0.5**
WLF pmax pmax
comp=Z,208nm,1.9s,mb5.6
WLF Walferdange 36.64 306 *e*P **P 18 54 33.9 -0.5**
comp=Z,208nm,1.9s,mb5.6
WLF Walferdange 36.64 306 *e*P **P 18 54 33.9 -0.5**
comp=Z,104nm,1.9s,mb5.3
WLF Walferdange 36.64 306 *e*P **P 18 54 33.9 -0.5**
comp=Z,208nm,1.9s,mb5.6
LMR La Mourre 36.72 295 *e*P **P 18 54 34.3 -0.9**
comp=Z,151nm,1.6s,mb5.3
LMR La Mourre 36.72 295 *e*P **P 18 54 34.3 -0.9**
LMR pmax pmax
comp=Z,76nm,1.6s,mb5.3
CABF La Chapelle 36.73 300 *e*P **P 18 54 34.9 -0.3**
comp=Z,259nm,1.3s,mb5.6
CABF La Chapelle 36.73 300 *e*P **P 18 54 34.9 -0.3**
CABF pmax pmax
comp=Z,130nm,1.3s,mb5.6
MEM Membach 36.76 307 P **P 18 54 37.1 +1.7**
HGN Heimansgroeve 36.81 307 *e*P **P 18 54 36.5 +0.7**
comp=Z,18nm,1.7s,mb4.6
HGN *e*PP PP 18 56 15.2 +13
HGN *e*S **S 19 00 19.1 +1.7**
HGN *e*SS SS 19 02 58.5 +12
HGN *e*x x 19 05 18.3
HGN Heimansgroeve 36.81 307 *e*P **P 18 54 36.5 +0.7**
comp=Z,18nm,1.7s,mb4.6
HGN *e*S **S 19 00 19.1 +1.7**
HGN *e*SS SS 19 02 58.5 +12
ZAK Zakamensk 36.92 53 ⇑*i*P **P 18 54 38.8 +2.1**
ZAK Zakamensk 36.92 53 *i* P **P 18 54 38.8 +2.1**
ORIF Oris-en-Rattie 37.00 298 *e*P **P 18 54 37.3 -0.2**
comp=Z,3.3nm,0.6s
ORIF *e*R
comp=Z,659nm,20.0s
TAVF Tavernes 37.01 295 *e*P **P 18 54 37.0 -0.6**
MOR8 Moi Rana 37.02 334 *e*P **P 18 54 37.3 -0.1**
MOR8 *ep*P pP 18 54 47.0 +0.2
MOR8 Moi Rana 37.02 334 *e*P **P 18 54 37.4 0.0**
MOR8 *ep*P pP 18 54 47.0 +0.1
SNR=154
NSS Namsos 37.13 331 *e*P **P 18 54 37.7 -0.6**
comp=Z,251nm,1.2s,mb5.9
NSS Namsos 37.13 331 *e*P **P 18 54 37.7 -0.6**
NSS *ep*P pP 18 54 47.8 -0.1
NSS AMb AMB 18 54 49.9
comp=Z,251nm,1.2s,mb5.9
TLY Talaya 37.20 51 *e*P **P 18 54 41.1 +2.0**
TLY *e* 18 56 22.5
TLY *e*S **S 19 00 26.1 +2.7**
TLY pmax pmax
comp=Z,35nm,1.7s,mb4.9
TLY MLR MLR
comp=Z,4µm,18.0s,MS5.2
TLY Talaya 37.20 51 *e*P **P 18 54 36.9 -2.2**
comp=Z,10nm,1.0s,mb4.6
TLY LR LR
comp=Z,888nm,19.0s,MS4.6
TLY Talaya 37.20 51 *e*S **S 19 00 26.1 +2.7**
comp=Z,2µm,18.0s
TLY Talaya 37.20 51 *e*P **P 18 54 41.1 +2.0**
comp=Z,18nm,1.7s,mb4.6
TLY Talaya 37.20 51 *e*P **P 18 54 36.9 -2.2**
comp=Z,10nm,1.0s,mb4.6
PUYF Puyloubier 37.28 295 *e*P **P 18 54 39.5 -0.4**
SMRF Simiane la Rot 37.32 296 *e*P **P 18 54 39.7 -0.4**
comp=Z,97nm,1.3s,mb5.2
CMAH Djebel Manchou 37.35 284 P **P 18 54 41.0 +0.5**
MEZF Maizieres J'vi 37.36 304 *e*P **P 18 54 40.1 -0.4**
ABSA Djebel Ababsia 37.40 283 P **P 18 54 41.5 +0.6**
GIVF Givet 37.51 306 *e*P **P 18 54 43.0 +1.4**
comp=Z,281nm,1.2s,mb5.5
GIVF Givet 37.51 306 *e*P **P 18 54 43.0 +1.4**
GIVF pmax pmax
comp=Z,140nm,1.2s,mb5.6
IRK Irkutsk 37.62 50 *e*P **P 18 54 44.1 +1.5**
IRK *e* pP 18 54 54.1 +2.0
IRK *e* 18 57 05.6
IRK *e* 19 00 34.6
IRK Irkutsk 37.62 50 *e*S **S 19 00 34.6 +4.8**
IRK Irkutsk 37.62 50 *e*PcP PcP 18 57 05.6 +5.3
PRAF Pradon 37.63 296 *e*P **P 18 54 41.2 -1.6**
TRO Tromso 37.69 341 *e*P **P 18 54 42.5 -0.5**
TRO pmax pmax
comp=Z,95nm,2.4s,mb5.1
TRO Tromso 37.69 341 *e*P **P 18 54 42.5 -0.5**
comp=Z,95nm,2.4s,mb5.1
TRO Tromso 37.69 341 *e*P **P 18 54 42.5 -0.5**
TRO *ep*P pP 18 54 52.8 +0.3
TRO AMb AMB 18 54 55.0
comp=Z,95nm,2.4s,mb5.1
TRO Tromso 37.69 341 *e*P **P 18 54 42.5 -0.5**
comp=Z,48nm,2.4s,mb4.8
CAEH 'Ain El Ouahch 37.75 284 P **P 18 54 44.0 +0.1**
SNF Seneffe 37.86 307 P **P 18 54 43.8 -0.8**
VIVF Saint-Julien-l 37.86 298 *e*P **P 18 54 44.0 -0.7**
comp=Z,185nm,1.7s,mb5.2
VIVF Saint-Julien-l 37.86 298 *e*P **P 18 54 44.0 -0.7**
VIVF pmax pmax
comp=Z,92nm,1.7s,mb5.2
BAIF Baives 37.90 306 *e*P **P 18 54 46.4 +1.4**
comp=Z,525nm,1.5s,mb5.7
BAIF Baives 37.90 306 *e*P **P 18 54 46.4 +1.4**
BAIF pmax pmax
comp=Z,262nm,1.5s,mb5.7
CKFL Kef-Lekhel 37.95 284 P **P 18 54 46.0 +0.4**
PALK Pallekele 38.15 135 *e*P **P 18 54 46.0 -1.4**
PALK LR LR
comp=Z,340nm,20.0s,MS4.2
PALK Pallekele 38.15 135 *e*P **P 18 54 46.0 -1.4**
CASM Ain Smara 38.17 284 P **P 18 54 47.0 -0.4**
SMF Signal de Mont 38.27 301 *e*P **P 18 54 47.7 -0.5**
comp=Z,152nm,1.4s,mb5.2
SMF Signal de Mont 38.27 301 *e*P **P 18 54 47.7 -0.5**
SMF pmax pmax
comp=Z,76nm,1.4s,mb5.2
CTEI Djebel Teioual 38.29 283 P **P 18 54 49.0 +0.6**
SSF Saint Saulge 38.47 301 *e*P **P 18 54 49.3 -0.5**
SSF pmax pmax
comp=Z,55nm,1.5s,mb5.1
SSF Saint Saulge 38.47 301 *e*P **P 18 54 49.3 -0.5**
comp=Z,28nm,1.5s,mb4.8
SSF Saint Saulge 38.47 301 *e*P **P 18 54 49.3 -0.5**
comp=Z,55nm,1.5s,mb5.1
PLDF La Plantade 38.48 300 *e*P **P 18 54 50.6 +0.7**
LASF Ste Croix 38.53 297 *e*P **P 18 54 49.8 -0.6**
comp=Z,123nm,1.3s,mb5.2
DFRA Djebel Bou Aff 38.57 284 P **P 18 54 51.0 +0.3**
AVF Avril sur Loir 38.60 301 *e*P **P 18 54 50.4 -0.5**
comp=Z,152nm,1.3s,mb5.3
AVF Avril sur Loir 38.60 301 *e*P **P 18 54 50.4 -0.5**
AVF pmax pmax
comp=Z,76nm,1.3s,mb5.3
AGO Saint Agoulin 38.82 300 *e*P **P 18 54 53.8 +1.1**
LBL Lubilhac 38.82 298 *e*P **P 18 54 53.6 +0.8**
PYM Petit Puy Mans 38.93 299 *e*P **P 18 54 52.9 -0.8**
BGF Bois d'Agland 38.97 301 *e*P **P 18 54 53.4 -0.5**
comp=Z,47nm,1.1s,mb4.8
BGF Bois d'Agland 38.97 301 *e*P **P 18 54 53.4 -0.5**
BGF pmax pmax
comp=Z,24nm,1.1s,mb4.8
CKHR Kef el Ahmar 39.00 284 P **P 18 54 54.5 +0.2**
SONM Songino Array 39.01 57 P **P 18 54 55.0 +0.7**
comp=Z,12nm,0.6s,mb4.8,baz=275,slow=9.4,SNR=119
SONM pP pP 18 55 04.6 +0.7
comp=Z,5.6nm,0.7s,baz=286,slow=11,SNR=8.1
SET Setif 39.03 284 P **P 18 54 56.0 +1.4**
HYF Humbligny 39.05 302 *e*P **P 18 54 54.7 +0.1**
LZH Lanzhou 39.23 76 P **P 18 54 57.3 +1.0**
LZH AP pP 18 55 08.2 +2.4
LZH XP sP 18 55 11.4 +1.6
LZH PP PP 18 56 33.1 +2.8
LZH S **S 19 00 58.3 +4.0**
LZH XS 19 01 14.2
LZH SS SS 19 03 47.0 +6.5
LZH AMB AMB
comp=Z,90nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,340nm,4.0s
LZH LR LR
comp=E,5µm,18.3s
LZH LR LR
comp=Z,5µm,18.8s,MS5.3
VERF Verneugheol 39.30 299 *e*P **P 18 54 57.0 +0.3**
TCF Toulx Ste Croi 39.43 300 *e*P **P 18 54 57.9 +0.1**
comp=Z,150nm,1.3s,mb5.2
TCF Toulx Ste Croi 39.43 300 *e*P **P 18 54 57.9 +0.1**
TCF pmax pmax
comp=Z,75nm,1.3s,mb5.3
ULN Ulaanbaatar 39.45 57 PFAKE 18 55 10.0 +12
ULN LR LR
comp=Z,1µm,21.0s,MS4.7
CAF Calviac 39.69 298 *e*P **P 18 54 59.9 -0.1**
comp=Z,116nm,1.3s,mb5.1
CAF Calviac 39.69 298 *e*P **P 18 54 59.9 -0.1**
CAF pmax pmax
comp=Z,58nm,1.3s,mb5.2
MTLF Montolieu 39.82 296 *e*P **P 18 55 00.5 -0.6**
comp=Z,79nm,1.2s,mb5.0
MTLF Montolieu 39.82 296 *e*P **P 18 55 00.5 -0.6**
MTLF pmax pmax
comp=Z,39nm,1.3s,mb5.0
RJF Les Rejaudoux 40.03 299 *e*P **P 18 55 03.1 +0.3**
comp=Z,187nm,1.4s,mb5.3
RJF *e*R
comp=Z,1µm,22.5s
LPEF Le Peyrat 40.11 295 *e*P **P 18 55 03.1 -0.4**
EMIR Miracle 40.58 294 P **P 18 55 07.8 +0.5**
comp=Z,161nm,1.2s,mb5.5
EMIR Miracle 40.58 294 P **P 18 55 07.8 +0.5**
comp=Z,161nm,1.2s,mb5.5,SNR=22
LFF La Frestale 40.62 298 *e*P **P 18 55 07.5 -0.1**
comp=Z,83nm,0.7s,mb5.2
LFF La Frestale 40.62 298 *e*P **P 18 55 07.5 -0.1**
LFF pmax pmax
comp=Z,42nm,0.7s,mb5.2
ABA Alger-Bouzarea 40.69 286 P **P 18 55 07.5 -0.8**
LDF La Druitiere 40.79 304 *e*P **P 18 55 08.8 -0.2**
comp=Z,128nm,1.4s,mb5.1
LDF La Druitiere 40.79 304 *e*P **P 18 55 08.8 -0.2**
LDF pmax pmax
comp=Z,64nm,1.4s,mb5.1
EMHD Djebel Mahouad 40.93 285 P **P 18 55 12.0 +1.8**
MFF Saint Martin d 41.01 301 *e*P **P 18 55 10.0 -0.8**
comp=Z,175nm,1.6s,mb5.2
MFF Saint Martin d 41.01 301 *e*P **P 18 55 10.0 -0.8**
MFF pmax pmax
comp=Z,87nm,1.6s,mb5.1
FLN La Foliniere 41.02 304 *e*P **P 18 55 09.7 -1.1**
comp=Z,230nm,1.6s,mb5.3
FLN *e*R
comp=Z,1µm,18.2s
EPOB Poblet 41.03 293 P **P 18 55 10.4 -0.6**
comp=Z,96nm,1.2s,mb5.3
EPOB Poblet 41.03 293 P **P 18 55 10.4 -0.6**
comp=Z,96nm,1.2s,mb5.3,SNR=14
EPF Esparros 41.23 296 *e*P **P 18 55 11.0 -1.6**
comp=Z,16nm,1.1s,mb4.2
RESF Ens 41.27 295 *e*P **P 18 55 12.5 -0.5**
GRR Gorron 41.30 304 *e*P **P 18 55 12.9 -0.2**
comp=Z,295nm,1.5s,mb5.4
GRR Gorron 41.30 304 *e*P **P 18 55 12.9 -0.2**
GRR pmax pmax
comp=Z,147nm,1.5s,mb5.4
KMBO Kilima Mbogo 41.37 207 P **P 18 55 13.8 -0.2**
comp=Z,2.3nm,0.7s,baz=36,slow=11,SNR=11
KMBO pP pP 18 55 23.8 +0.2
comp=Z,5.1nm,1.1s,baz=19,slow=8.7,SNR=6.1
KMBO PcP PcP 18 57 12.2 -0.4
comp=Z,3.9nm,0.7s,baz=6.8,slow=4.1,SNR=7.7
KMBO LR LR 19 13 32.0
comp=Z,2µm,19.4s,baz=78,slow=38
KMBO Kilima Mbogo 41.37 207 *e*P **P 18 55 13.7 -0.4**
comp=Z,28nm,1.7s,mb4.6
KMBO *ep*P pP 18 55 23.8 +0.1
KMBO LR LR
comp=Z,2µm,20.0s,MS5.0
KMBO Kilima Mbogo 41.37 207 PcP PcP 18 57 12.2 -0.4

KMBO Kilima Mbogo 41.37 207 *e*P P 18 55 13.7 -0.4
comp=Z,28nm,1.7s,mb4.6
KMBO *e*pP pP 18 55 23.8 +0.2
EIBI Ibiza 41.37 289 P P 18 55 15.2 +1.4
comp=Z,180nm,2.1s,mb5.3
EIBI Ibiza 41.37 289 P P 18 55 15.2 +1.3
comp=Z,180nm,2.1s,mb5.3,SNR=5.8
EBIE Bielsa 41.44 295 P P 18 55 15.4 +1.1
comp=Z,39nm,1.3s,mb4.9
EBIE Bielsa 41.44 295 P P 18 55 15.4 +1.1
comp=Z,39nm,1.3s,mb4.9,SNR=7.5
EBR Ebro Roquetas 41.58 292 *e*P P 18 55 15.3 -0.2
ERTA Horta de San J 41.66 292 P P 18 55 15.4 -0.8
comp=Z,70nm,1.8s,mb5.0
ERTA Horta de San J 41.66 292 P P 18 55 15.4 -0.8
comp=Z,70nm,1.8s,mb5.0,SNR=7.9
ETSF Etsaut 41.90 296 *e*P P 18 55 17.7 -0.4
comp=Z,81nm,1.1s,mb5.0
ETSF Etsaut 41.90 296 *e*P P 18 55 17.7 -0.4
ETSF pmax pmax
comp=Z,41nm,1.1s,mb5.0
EBNR Beni Rached 42.00 285 P P 18 55 20.0 +1.0
ESAC San Caprasio 42.08 294 P P 18 55 19.2 -0.4
comp=Z,21nm,0.7s,mb4.9,SNR=4.7
ECHA Ech Chlef 42.16 285 P P 18 55 21.0 +0.6
LARF Larrau 42.18 296 *e*P P 18 55 19.9 -0.5
SJPF Ste Jean 42.34 296 *e*P P 18 55 21.1 -0.6
EMOS Mosqueruela 42.40 292 P P 18 55 22.5 +0.3
comp=Z,6.5nm,0.6s,mb4.4
EMOS Mosqueruela 42.40 292 P P 18 55 22.5 +0.3
comp=Z,6.5nm,0.6s,mb4.5,SNR=7.1
EKA Eskdalemuir Ar 42.43 314 P P 18 55 22.4 +0.2
comp=Z,6.0nm,0.5s,mb4.5,baz=99,slow=7.8,SNR=33
EKA pP pP 18 55 31.9 +0.1
comp=Z,64nm,1.0s,baz=95,slow=7.8,SNR=25
EKA PcP PcP 18 57 15.3 -0.2
comp=Z,8.5nm,0.6s,baz=91,slow=3.6,SNR=6.6
EKA Eskdalemuir Ar 42.43 314 PcP PcP 18 57 15.3 -0.2
EKA Eskdalemuir Ar 42.43 314 pP pP 18 55 31.9 +0.1
EANR 'Ain N'Sour 42.43 285 P P 18 55 22.5 -0.1
SGMF Saint Gilles 42.44 304 *e*P P 18 55 22.5 0.0
comp=Z,328nm,1.3s,mb5.5
SGMF Saint Gilles 42.44 304 *e*P P 18 55 22.5 0.0
SGMF pmax pmax
comp=Z,164nm,1.3s,mb5.5
ESK Eskdalemuir 42.45 314 *e*P P 18 55 22.7 +0.2
ESK *e**PP pP 18 55 30.4 -1.6
ESK pmax pmax
comp=Z,128nm,1.2s,mb5.4
ESK Eskdalemuir 42.45 314 *e*P P 18 55 22.6 +0.2
comp=Z,128nm,1.2s,mb5.4
ESK *e*pP pP 18 55 30.4 -1.7
ESK Eskdalemuir 42.45 314 *e*P P 18 55 22.7 +0.2
comp=Z,64nm,1.2s,mb5.1
ESK *e*pp pP 18 55 30.4 -1.6
ESK Eskdalemuir 42.45 314 *e*P P 18 55 22.6 +0.1
comp=Z,128nm,1.2s,mb5.4
ESK Eskdalemuir 42.45 314 *e*pP pP 18 55 30.4 -1.6
ETRT Tiaret 42.45 284 P P 18 55 23.0 +0.2
EBEN Beniarda 42.64 289 P P 18 55 24.5 +0.3
comp=Z,47nm,0.6s,mb5.4,SNR=28
CHG Chiang Mai 42.86 103 PG P 18 55 26.3 0.0
CHG SG Px 18 55 27.6
QUIF Quistinic 42.89 303 *e*P P 18 55 25.9 -0.2
comp=Z,488nm,1.6s,mb5.7
QUIF Quistinic 42.89 303 *e*P P 18 55 25.9 -0.2
QUIF pmax pmax
comp=Z,244nm,1.6s,mb5.7
ROSF Rostrenen 42.90 304 *e*P P 18 55 26.3 0.0
comp=Z,631nm,1.6s,mb5.8
ROSF Rostrenen 42.90 304 *e*P P 18 55 26.3 0.0
ROSF pmax pmax
comp=Z,315nm,1.6s,mb5.8
CMAR Chiang Mai Arr 43.06 103 P P 18 55 27.9 +0.1
comp=Z,30nm,0.6s,mb5.2,baz=299,slow=8.4,SNR=293
CMAR LR LR 19 17 07.5
comp=Z,467nm,20.5s,MS4.4,baz=300,slow=41
BOD Bodaibo 43.48 42 *e*P P 18 55 31.1 +0.3
BOD *e* 18 55 36.8
MBAR Mbarara 43.59 216 *e*P P 18 55 29.5 -2.8
comp=Z,11nm,1.1s,mb4.5
MBAR *e*pP pP 18 55 39.3 -2.5
MBAR LR LR
comp=Z,499nm,22.0s,MS4.4
MBAR Mbarara 43.59 216 *e*P P 18 55 29.5 -2.8
MBAR *e*pp pP 18 55 39.3 -2.5
MBAR Mbarara 43.59 216 *e*P P 18 55 29.5 -2.8
comp=Z,11nm,1.1s,mb4.5
MBAR *e*pP pP 18 55 39.3 -2.5
EMUR La Murta 43.65 289 P P 18 55 32.1 -0.4
comp=Z,155nm,1.9s,mb5.4
EMUR La Murta 43.65 289 P P 18 55 32.1 -0.3
comp=Z,155nm,1.9s,mb5.4,SNR=7.9
XAN Xi'an 43.83 77 P P 18 55 34.7 +0.7
XAN AP pP 18 55 44.7 +1.2
XAN S S 19 02 03.3 +1.1
XAN XS 19 02 24.6
XAN AMB AMB
comp=Z,32nm,1.4s,mb4.9
XAN LR LR
comp=N,1μm,19.2s,MS5.0
XAN LR LR
comp=E,753nm,17.7s,MS5.0
XAN LR LR
comp=Z,2μm,17.7s,MS5.1
ELAN Lanestosa 43.89 297 P P 18 55 33.4 -0.9
ELAN Lanestosa 43.89 297 P P 18 55 33.4 -0.9
SNR=7.9
NANT Nan 44.23 102 P P 18 55 38.0 +0.6
EVIA Vianos 44.37 290 P P 18 55 38.5 +0.2
EVIA pmax pmax
comp=Z,143nm,1.3s,mb5.5
EVIA Vianos 44.37 290 P P 18 55 38.5 +0.2
comp=Z,143nm,1.3s,mb5.5
EVIA Vianos 44.37 290 P P 18 55 38.5 +0.2
comp=Z,72nm,1.3s,mb5.2
EVIA Vianos 44.37 290 P P 18 55 38.5 +0.2
comp=Z,143nm,1.3s,mb5.5,SNR=21
ENIJ Nijar 44.65 288 P P 18 55 39.6 -1.0
ENIJ pmax pmax
comp=Z,36nm,1.0s,mb5.2
ENIJ Nijar 44.65 288 P P 18 55 39.6 -0.9
comp=Z,36nm,1.0s,mb5.2
ENIJ Nijar 44.65 288 P P 18 55 39.6 -1.0
comp=Z,18nm,1.0s,mb4.9
ENIJ Nijar 44.65 288 P P 18 55 39.6 -1.0
comp=Z,36nm,1.0s,mb5.1,SNR=7.9
GUD Guadarrama 45.04 293 P P 18 55 43.1 -0.5
GUD pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
GUD Guadarrama 45.04 293 P P 18 55 43.1 -0.5
comp=Z,9.5nm,0.6s,mb4.8
GUD Guadarrama 45.04 293 P P 18 55 43.1 -0.5
comp=Z,5.0nm,0.6s,mb4.5
GUD Guadarrama 45.04 293 P P 18 55 43.1 -0.5
comp=Z,9.5nm,0.6s,mb4.8,SNR=9.3
EQES Quesada 45.05 289 P P 18 55 43.5 -0.3
EQES Quesada 45.05 289 P P 18 55 43.5 -0.2
SNR=7.9
EARI Arriondas 45.14 297 P P 18 55 44.3 -0.1
EARI Arriondas 45.14 297 P P 18 55 44.3 -0.1
SNR=7.9
ESDC Sonseca Array 45.16 292 P P 18 55 44.0 -0.6
comp=Z,6.4nm,0.5s,mb4.7,baz=68,slow=8.1,SNR=56
ESDC Sonseca Array 45.16 292 P P 18 55 44.0 -0.6
comp=Z,6.5nm,0.5s,mb4.7
EBER Berja 45.19 288 P P 18 55 44.6 -0.3
comp=Z,250nm,1.6s,mb5.8,SNR=7.9
NST Nakhon Sawan 45.61 106 P P 18 55 49.0 +0.6
ENH Enshi 45.70 82 *e*P P 18 55 49.3 +0.3
comp=Z,6.8nm,0.6s,mb4.8
ENH Enshi 45.70 82 *e*P P 18 55 49.3 +0.3
comp=Z,6.8nm,0.6s,mb4.8
ERON Agron 45.85 288 P P 18 55 49.0 -1.1
comp=Z,11nm,0.7s,mb4.9
ERON Agron 45.85 288 P P 18 55 49.0 -1.0
comp=Z,11nm,0.7s,mb4.9,SNR=12
ELUQ Luque 46.02 289 P P 18 55 50.5 -0.9
ELUQ pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
ELUQ Luque 46.02 289 P P 18 55 50.5 -0.9
comp=Z,5.7nm,0.4s,mb4.8
ELUQ Luque 46.02 289 P P 18 55 50.5 -0.9
comp=Z,3.0nm,0.4s,mb4.6
ELUQ Luque 46.02 289 P P 18 55 50.5 -0.9
comp=Z,5.7nm,0.4s,mb4.9,SNR=5.8

EADA Adamuz 46.07 290 P P 18 55 51.3 -0.5
comp=Z,110nm,1.8s,mb5.5
EADA Adamuz 46.07 290 P P 18 55 51.3 -0.5
comp=Z,110nm,1.8s,mb5.5,SNR=7.9
ELOJ Sierra Loja 46.07 289 P P 18 55 50.6 -1.2
comp=Z,1.9nm,0.4s,mb4.4
ELOJ Sierra Loja 46.07 289 P P 18 55 50.6 -1.2
ELOJ Sierra Loja 46.07 289 P P 18 55 50.6 -1.2
comp=Z,1.9nm,0.4s,mb4.4,SNR=8.0
JMIC Jan Mayen 46.56 336 LR LR 19 16 52.7
comp=Z,934nm,20.4s,MS4.7,baz=86,slow=38
EMIJ Mijas 46.73 288 P P 18 55 55.1 -1.9
comp=Z,22nm,0.6s,mb5.3
EMIJ Mijas 46.73 288 P P 18 55 55.1 -1.9
comp=Z,22nm,0.6s,mb5.3,SNR=7.9
LIJA Lijar 47.09 289 *i* P P 18 55 58.0 -1.9
NNT Nongplab 47.20 109 P P 18 56 02.5 +1.4
KKTK Khon Kaen 47.30 103 P P 18 56 02.0 +0.2
comp=Z,247nm,0.7s,mb6.2
ESPR Espera 47.45 289 P P 18 56 01.1 -1.7
ESPR Espera 47.45 289 P P 18 56 01.0 -1.7
PVRL Vila Real 47.46 295 *e*P P 18 56 02.4 -0.4
MTE Manteigas 47.59 294 *e*P P 18 56 03.9 +0.1
comp=Z,116nm,1.4s,mb5.7
MTE Manteigas 47.59 294 *e*P P 18 56 02.8 -0.9
comp=Z,47nm,1.0s,mb5.5
MTE Manteigas 47.59 294 *e*P P 18 56 02.8 -1.0
comp=Z,47nm,1.0s,mb5.5
HIA Hailar 47.61 54 *e*P P 18 56 03.8 -0.1
HIA pmax pmax
comp=Z,16nm,0.7s
HIA Hailar 47.61 54 *e*P P 18 56 03.8 0.0
comp=Z,16nm,0.7s,mb5.2
HIA Hailar 47.61 54 *e*P P 18 56 03.8 -0.1
comp=Z,8.0nm,0.7s,mb4.9
HIA Hailar 47.61 54 *e*P P 18 56 03.8 -0.1
comp=Z,16nm,0.7s,mb5.2
EBAD Badajoz 47.70 292 P P 18 56 03.9 -0.8
comp=Z,179nm,2.1s,mb5.7
EBAD Badajoz 47.70 292 P P 18 56 03.9 -0.8
comp=Z,179nm,2.1s,mb5.7,SNR=7.9
PCBR Castelo Branco 47.71 293 *e*P P 18 56 04.5 -0.2
comp=Z,98nm,1.6s,mb5.6
PCBR *e*pP pP 18 56 18.3 +3.9
PVIS Viseu 47.75 294 *e*P P 18 56 04.7 -0.4
comp=Z,60nm,1.9s,mb5.3
PVIS *e*pP pP 18 56 13.1 -1.6
EMIN Mina Concepcio 47.76 290 P P 18 56 04.5 -0.7
EMIN Mina Concepcio 47.76 290 P P 18 56 04.5 -0.7
SNR=7.9
IFR Ifrane 48.08 284 P P 18 56 08.0 +0.3
EGRO El Granado 48.45 290 P P 18 56 09.6 -0.8
EGRO El Granado 48.45 290 P P 18 56 09.6 -0.9
SNR=7.9
PTOM Tomar 48.46 293 *e*P P 18 56 10.7 +0.2
comp=Z,123nm,1.5s,mb5.7
PALC Alcoutim 48.47 290 *e*P P 18 56 09.9 -0.7
comp=Z,71nm,1.7s,mb5.4
EVO Evora 48.51 292 *e*P P 18 56 10.9 -0.1
comp=Z,90nm,1.3s,mb5.3
EVO *e*R
comp=Z,639nm,21.8s
PBEJ Beja 48.57 291 *e*P P 18 56 11.3 -0.1
comp=Z,43nm,1.3s,mb5.3
TIA Tai'an 49.37 71 *e*P P 18 56 17.4 -0.2
WHN Wuhan 49.41 79 *e*P P 18 56 19.0 +1.0
WHN LR LR
comp=Z,4μm,16.2s,MS5.5
CLNS Chul'man 49.43 43 *e*P P 18 56 19.0 +1.3
CLNS *e**PP pP 18 56 28.5 +1.0
CLNS *e* 18 57 41.6
CLNS *e* 18 58 07.0
CLNS *e*S S 19 03 17.3 -4.2
CLNS *e* 19 05 58.0
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS pmax pmax
comp=Z,23nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,9.0nm,0.7s
CLNS pmax pmax
comp=Z,11nm,1.1s,mb4.8
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=E,11nm,0.8s
CLNS smax
comp=N,147nm,12.4s
CLNS smax
comp=Z,162nm,11.5s
CLNS smax
comp=E,43nm,11.8s
CLNS MLR MLR
comp=Z,2μm,14.0s,MS5.2
CLNS MLR MLR
comp=N,1μm,16.0s,MS4.9
CLNS MLR MLR
comp=E,300nm,15.0s,MS4.9
CLNS Chul'man 49.43 43 *e*S S 19 03 17.3 -4.2
comp=E,81nm,11.5s
CLNS *e*ScS ScS 19 05 58.0 -6.0
comp=E,500nm,16.0s
CLNS Chul'man 49.43 43 *e*P P 18 56 19.0 +1.3
comp=E,4.5nm,0.7s,mb4.6
CLNS *e*pp pP 18 56 28.5 +1.0
CLNS Chul'man 49.43 43 *e*PcP PcP 18 57 41.6 +1.7
UBT Ubonrachathani 49.65 102 P P 18 56 20.5 +0.5
AVE Averroes 49.93 285 P P 18 56 20.8 -1.2
TIXI Tiksi 50.25 23⇑ *i*P P 18 56 24.6 +0.7
TIXI LR LR
comp=Z,7μm,19.0s,MS5.7
TIXI Tiksi 50.25 23 *i* P P 18 56 24.6 +0.7
TIXI Tiksi 50.25 23⇑ *i*P P 18 56 24.6 +0.7
DAG Danmarks Havn 50.27 343⇓ *e*P P 18 56 24.3 +0.4
DAG pmax pmax
comp=Z,11nm,1.0s,mb4.8
DAG Danmarks Havn 50.27 343⇓ *e*P P 18 56 24.3 +0.4
comp=Z,11nm,1.0s,mb4.8
DAG Danmarks Havn 50.27 343⇓ *i*P P 18 56 24.3 +0.4
comp=Z,11nm,1.0s,mb4.8
BORG Borgarnes 51.12 328 LR LR 19 19 49.6
comp=Z,2μm,18.2s,MS5.1,baz=193,slow=38
YAK Yakutsk 51.14 36 *e*P P 18 56 30.2 -0.5
comp=Z,14nm,0.6s,mb5.1
YAK *e*pP pP 18 56 39.5 -1.0
YAK LR LR
comp=Z,2μm,19.0s,MS5.2
YAK Yakutsk 51.14 36 *e*P P 18 56 30.2 -0.5
comp=Z,7.0nm,0.6s,mb4.8
YAK *e*pp pP 18 56 39.5 -1.0
YAK Yakutsk 51.14 36 *e*P P 18 56 30.2 -0.5
comp=Z,14nm,0.6s,mb5.1
YAK *e*pP pP 18 56 39.5 -1.0
QIZ Qiongzhong 51.33 95 P P 18 56 34.5 +1.7
QIZ S S 19 03 48.6 +0.3
QIZ LR LR
comp=N,982nm,19.0s
QIZ LR LR
comp=Z,684nm,22.8s,MS4.6
SNY Shenyang 52.17 62 ⇓P P 18 56 38.7 -0.1
SNY S S 19 04 03.8 +4.2
SNY LR LR
comp=N,1μm,18.3s,MS5.2
SNY LR LR
comp=E,880nm,14.7s,MS5.2
SNY LR LR
comp=Z,2μm,15.3s,MS5.2
SSE Sheshan 54.50 75 P P 18 56 51.3 -4.9
SSE S S 19 04 27.2 -4.1
SSE XS 19 04 46.9
SSE AMB AMB
comp=Z,18nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,120nm,5.1s
SSE LR LR
comp=N,784nm,25.2s,MS4.8
SSE LR LR
comp=E,576nm,25.1s,MS4.8
SSE LR LR
comp=Z,597nm,23.5s,MS4.6
KLR Kul'dur 55.22 51 *e*P P 18 56 57.8 -3.4
KLR *e*pp pP 18 57 08.2 -2.8
MDJ Mudanjiang 55.37 57 P P 18 57 00.7 -1.6
MDJ AP pP 18 57 09.8 -2.3
MDJ XP sP 18 57 13.1 -2.7
MDJ PP PP 18 59 04.5 -3.0

MDJ S S 19 04 41.0 -1.7
MDJ AMB AMB
comp=Z,7.0nm,1.3s,mb4.5
MDJ LR LR
comp=N,627nm,16.0s,MS5.2
MDJ LR LR
comp=E,1μm,15.0s,MS5.2
MDJ LR LR
comp=Z,1μm,14.4s,MS5.2
SUMG Summit 55.82 339 *e*P P 18 57 05.9 +0.7
comp=Z,114nm,1.2s,mb5.8
SUMG *e*pP pP 18 57 14.9 -0.1
SUMG Summit 55.82 339 *e*P P 18 57 05.9 +0.7
comp=Z,114nm,1.2s,mb5.8
SUMG *e*pP pP 18 57 14.9 -0.1
INCN Inchon 55.95 66 PFAKE 18 57 20.0 +13
INCN LR LR
comp=Z,532nm,22.0s,MS4.6
TATO Taipei 57.57 82 PFAKE 18 57 30.0 +12
TATO LR LR
comp=Z,1μm,19.0s,MS5.0
LSZ Lusaka 57.80 210 *e*P P 18 57 17.9 -2.1
comp=Z,12nm,1.1s,mb4.8
LSZ LR LR
comp=Z,3μm,19.0s,MS5.3
LSZ Lusaka 57.80 210 *e*P P 18 57 17.9 -2.1
comp=Z,6.0nm,1.1s,mb4.5
LSZ Lusaka 57.80 210 *e*P P 18 57 17.9 -2.1
comp=Z,12nm,1.1s,mb4.8
MA2 Magadan 61.70 35 *i* P P 18 57 46.5 +0.2
MA2 pmax pmax
comp=Z,32nm,1.5s,mb5.2
MA2 MLR MLR
comp=Z,900nm,12.0s,MS5.2
MA2 Magadan 61.70 35 *e*P P 18 57 46.4 +0.1
comp=Z,9.4nm,0.5s,mb5.2
MA2 LR LR
comp=Z,871nm,20.0s,MS4.9
MA2 Magadan 61.70 35 *i* P P 18 57 46.5 +0.2
comp=Z,450nm,12.0s
MA2 Magadan 61.70 35 *e*P P 18 57 46.3 +0.1
comp=Z,9.4nm,0.5s,mb5.2
DBIC Dimbokro 61.74 256 P P 18 57 45.4 -1.7
comp=Z,20nm,0.5s,mb5.5,baz=28,slow=7.7,SNR=75
DBIC LR LR 19 28 00.7
comp=Z,1μm,18.6s,MS5.1,baz=31,slow=39
DBIC Dimbokro 61.74 256 P P 18 57 45.4 -1.7
DBIC LR LR 19 28 00.7
JOW Kunigami 61.98 76 LR LR 19 28 56.5
comp=Z,815nm,18.9s,MS4.9,baz=317,slow=40
TGY Tagaytay City 62.90 93 LR LR 19 28 14.8
comp=Z,375nm,18.5s,MS4.6,baz=300,slow=39
YSS Yuzh-Sakhalins 62.90 50⇑ *e*P P 18 57 53.8 -0.6
YSS *e**PP pP 18 58 03.0 -1.4
YSS *e*S S 19 06 23.0 +2.7
YSS pmax pmax
comp=Z,130nm,1.2s,mb5.9
YSS MLR MLR
comp=E,2μm,18.0s
YSS MLR MLR
comp=Z,2μm,18.0s,MS5.3
YSS Yuzh-Sakhalins 62.90 50 *e*P P 18 57 53.5 -1.0
comp=Z,80nm,1.0s,mb5.8
YSS *e*pP pP 18 58 02.9 -1.5
YSS LR LR
comp=Z,2μm,19.0s,MS5.3
YSS Yuzh-Sakhalins 62.90 50 *e*S S 19 06 23.0 +2.7
YSS Yuzh-Sakhalins 62.90 50 *e*P P 18 57 53.8 -0.6
comp=Z,65nm,1.2s,mb5.6
YSS *e*pp pP 18 58 03.0 -1.4
YSS Yuzh-Sakhalins 62.90 50 *e*P P 18 57 53.5 -0.9
comp=Z,80nm,1.0s,mb5.8
YSS *e*pP pP 18 58 02.9 -1.5
BILL Bilibino 63.47 23κ *i*P P 18 57 59.4 +1.5
BILL *i* pP 18 58 08.9 +1.1
BILL *i* 18 58 17.5
BILL 19 00 20.0
BILL *e*S S 19 06 37.2 +10
BILL pmax pmax
comp=Z,33nm,0.8s,mb5.5
BILL MLR MLR
comp=Z,3μm,23.0s,MS5.5
BILL Bilibino 63.47 23 *e*P P 18 57 58.5 +0.6
comp=Z,50nm,1.1s,mb5.5
BILL *e*pP pP 18 58 07.5 -0.3
BILL LR LR
comp=Z,3μm,20.0s,MS5.5
BILL Bilibino 63.47 23 *e*S S 19 06 37.2 +10
comp=Z,2μm,23.0s
BILL Bilibino 63.47 23 *i* P P 18 57 59.4 +1.5
comp=Z,16nm,0.8s,mb5.2
BILL *i* pp pP 18 58 08.9 +1.1
BILL *i* sp 18 58 17.5
BILL Bilibino 63.47 23 *e*P P 18 57 58.5 +0.6
comp=Z,50nm,1.1s,mb5.5
BILL *e*pP pP 18 58 07.5 -0.3
PENI Pendagan 63.53 121⇑ *i*P P 18 57 53.4 -5.7
ASAJ Asahikawa 64.09 53 LR LR 19 28 10.9
comp=Z,2μm,18.0s,MS5.3,baz=299,slow=38
MAJO Matsushiro 64.68 62 *e*P P 18 58 05.2 -1.1
comp=Z,8.3nm,0.5s,mb5.0
MAJO *e*pP pP 18 58 14.7 -1.5
MAJO LR LR
comp=Z,688nm,21.0s,MS4.8
MAJO Matsushiro 64.68 62 *e*P P 18 58 05.2 -1.0
comp=Z,4.0nm,0.5s,mb4.7
MAJO *e*pp pP 18 58 14.7 -1.5
MAJO Matsushiro 64.68 62 *e*P P 18 58 05.2 -1.0
comp=Z,8.3nm,0.5s,mb5.0
MAJO *e*pP pP 18 58 14.7 -1.5
MAT Matsushiro 64.68 62 *e*P P 18 58 05.0 -1.2
MAT pmax pmax
comp=Z,48nm,1.2s,mb5.4
MAT Matsushiro 64.68 62 P P 18 58 04.6 -1.6
MAT S S 19 06 50.2 +7.7
MAT Matsushiro 64.68 62 *e*P P 18 58 05.0 -1.2
comp=Z,24nm,1.2s,mb5.1
MAT Matsushiro 64.68 62 *e*P P 18 58 05.0 -1.2
comp=Z,48nm,1.2s,mb5.4
RES Resolute Bay 66.55 352 *e*P P 18 58 18.1 +0.5
RES pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
RES Resolute Bay 66.55 352 *e*P P 18 58 18.1 +0.5
comp=Z,10nm,1.0s,mb4.8
RES Resolute Bay 66.55 352 *e*P P 18 58 18.1 +0.5
comp=Z,5.0nm,1.0s,mb4.5
RES Resolute Bay 66.55 352 *e*P P 18 58 18.1 +0.5
comp=Z,10nm,1.0s,mb4.8
PET Petropavlovsk 68.77 39 PFAKE 18 58 40.0 +8.2
PET LR LR
comp=Z,2μm,19.0s,MS5.4
FRB Frobisher Bay 69.78 337 LR LR 19 30 16.1
comp=Z,730nm,21.6s,MS4.9,baz=48,slow=37
TNA Tin City 72.39 17 *e*P P 18 58 53.5 -0.1
comp=Z,5.1nm,0.8s,mb4.5
TNA *e*pP pP 18 59 04.1 +0.5
TNA LR LR
comp=Z,769nm,20.0s,MS5.0
TNA Tin City 72.39 17 *e*P P 18 58 53.5 -0.1
comp=Z,5.1nm,0.8s,mb4.5
TNA *e*pP pP 18 59 04.1 +0.6
BUNI Buntu Taipa 73.24 108⇓ *e*P P 18 59 00.3 +0.8
NINI Niniconang 73.31 109⇓ *e*P P 18 58 56.0 -3.8
ANM Nome 73.82 17 *e*P P 18 59 03.5 +1.7
ANM Nome 73.82 17 *e*P P 18 59 03.5 +1.7
INK Inuvik 74.63 3 P P 18 59 07.3 +0.9
comp=Z,7.4nm,0.7s,mb4.7,baz=0.1,slow=6.8,SNR=14
INK pP pP 18 59 16.8 +0.3
comp=Z,54nm,1.1s,baz=5.8,slow=7.6,SNR=22
INK LR LR 19 37 56.8
comp=Z,359nm,19.1s,MS4.7,baz=140,slow=40
INK Inuvik 74.63 3 *e*P P 18 59 06.7 +0.3
comp=Z,15nm,1.0s,mb4.9
INK Inuvik 74.63 3 P P 18 59 07.3 +0.9
comp=Z,3.5nm,0.7s,mb4.4
INK Inuvik 74.63 3 PcP PcP 18 59 16.8 -4.0
INK Inuvik 74.63 3 *e*P P 18 59 06.7 +0.3
comp=Z,15nm,1.0s,mb4.9
IMA Indian Mountai 74.77 12 *e*P P 18 59 07.6 +0.4
IMA Indian Mountai 74.77 12 *e*P P 18 59 07.6 +0.4
SCHQ Schefferville 75.47 329 P P 18 59 11.3 -0.1
comp=Z,7.5nm,0.7s,mb4.7,baz=44,slow=6.5,SNR=9.9
SCHQ pP pP 18 59 22.1 +0.6
comp=Z,41nm,0.9s,baz=47,slow=7.2,SNR=22
SCHQ LR LR 19 32 47.1
comp=Z,374nm,21.8s,MS4.7,baz=169,slow=36

ATTU Attu Island--F 75.70 33 P **P 18 59 13.3 +0.5**
comp=Z,16nm,0.5s,mb5.2
ATTU Attu Island--F 75.70 33 PcP PcP 18 59 23.3 -2.4
FX1 Attu Island--F 75.70 33 P **P 18 59 13.3 +0.5**
FX1 *PP pP 18 59 23.3 +0.4
FX1 pmax pmax
comp=Z,33nm,0.5s
FX1 Attu Island--F 75.70 33 P **P 18 59 13.3 +0.5**
comp=Z,33nm,0.5s,mb5.6,baz=301,slow=20,SNR=20
FX1 pP pP 18 59 23.3 +0.5
comp=Z,32nm,0.5s,baz=86,slow=20,SNR=4.1
SUR Sutherland 76.05 209 *eP* **P 18 59 14.2 -1.1**
comp=Z,14nm,0.6s,mb5.1
SUR LR LR
comp=Z,651nm,20.0s,MS4.9
SUR Sutherland 76.05 209 *eP* **P 18 59 14.2 -1.1**
comp=Z,14nm,0.6s,mb5.1
COLA College 76.74 10⇑*iP* **P 18 59 20.0 +1.5**
COLA College 76.74 10 *iP* **P 18 59 20.0 +1.5**
COLA College 76.74 10 *eP* **P 18 59 19.7 +1.2**
ILAR Eielson Array 76.97 9 P **P 18 59 20.4 +0.7**
comp=Z,9.1nm,0.8s,mb4.8,baz=326,slow=3.8,SNR=76
ILAR pP pP 18 59 30.1 +0.3
comp=Z,36nm,0.9s,baz=334,slow=3.7,SNR=35
ILAR PKKPbc 19 18 25.6
comp=Z,0.6nm,1.0s,baz=201,slow=3.0,SNR=4.7
ILAR LR LR 19 41 33.4
comp=Z,523nm,19.4s,MS4.9,baz=354,slow=42
ILAR Eielson Array 76.97 9 PcP PcP 18 59 30.1 -0.8
ILAR Eielson Array 76.97 9 P **P 18 59 20.4 +0.7**
ILAR pP pP 18 59 30.0 +0.2
MCK McKinley 77.68 10 *eP* **P 18 59 24.5 +0.9**
MCK *e**PP pP 18 59 34.5 +0.8
MCK pmax pmax
comp=Z,29nm,1.2s,mb5.1
MCK MLR MLR
comp=Z,435nm,19.0s,MS4.8
MCK McKinley 77.68 10 *eP* **P 18 59 24.5 +0.8**
comp=Z,29nm,1.2s,mb5.1
MCK *e*pP pP 18 59 34.5 +0.8
MCK LR LR
comp=Z,435nm,19.0s,MS4.8
MCK McKinley 77.68 10 *eP* **P 18 59 24.5 +0.9**
comp=Z,14nm,1.2s,mb4.8
MCK McKinley 77.68 10 *e*PcP PcP 18 59 34.5 +0.5
comp=Z,218nm,19.0s
MCK McKinley 77.68 10 *eP* **P 18 59 24.5 +0.9**
comp=Z,29nm,1.2s,mb5.1
MCK *e*pP pP 18 59 34.5 +0.8
THY Trims Highway 78.41 9 *eP* **P 18 59 27.9 +0.2**
DAWY Dawson 78.46 6 *eP* **P 18 59 28.7 +0.8**
DAWY *e*pP pP 18 59 38.0 0.0
DAWY Dawson 78.46 6 *eP* **P 18 59 28.7 +0.8**
DAWY *e*pP pP 18 59 38.0 0.0
SVW2 Sparrevohn 79.00 14 *eP* **P 18 59 32.6 +1.7**
PWA Palmer West 79.51 12 *eP* **P 18 59 34.5 +0.8**
PWA Palmer West 79.51 12 *eP* **P 18 59 34.5 +0.8**
SPU Mount Spurr 79.58 13 *eP* **P 18 59 33.7 -0.4**
SPU Mount Spurr 79.58 13 *eP* **P 18 59 33.7 -0.4**
SML Sawmill 79.60 11 *eP* **P 18 59 34.7 +0.5**
SML Sawmill 79.60 11 *eP* **P 18 59 34.7 +0.5**
PMR Palmer 79.68 11 *eP* **P 18 59 35.7 +1.1**
PMR Palmer 79.68 11 *eP* **P 18 59 35.7 +1.1**
FIB Fire Island 79.92 12 *eP* **P 18 59 36.7 +0.8**
FIB MLR MLR
comp=Z,701nm,20.0s,MS5.0
FIB Fire Island 79.92 12 *eP* **P 18 59 36.7 +0.8**
comp=Z,350nm,20.0s
RSO Redoubt South 80.13 13 *eP* **P 18 59 37.6 +0.5**
RSO Redoubt South 80.13 13 *eP* **P 18 59 37.6 +0.6**
YKW3 Yellowknife Ar 80.19 355 *eP* **P 18 59 37.2 -0.1**
YKW3 *e*pP pP 18 59 47.0 -0.5
YKW3 Yellowknife Ar 80.19 355 *eP* **P 18 59 37.2 -0.1**
YKW3 *e*pP pP 18 59 47.0 -0.4
YKA Yellowknife Ar 80.25 355 P **P 18 59 38.0 +0.4**
comp=Z,9.3nm,0.7s,mb4.8,baz=9.2,slow=5.3,SNR=178
YKA pP pP 18 59 48.1 +0.4
comp=Z,30nm,0.7s,baz=5.9,slow=5.6,SNR=40
YKA LR LR 19 38 46.0
comp=Z,554nm,21.6s,MS4.9,baz=15,slow=38
YKA Yellowknife Ar 80.25 355 P **P 18 59 38.0 +0.4**
YKA pP pP 18 59 48.1 +0.4
YKA LR LR 19 38 46.0
YKA Yellowknife Ar 80.25 355 P **P 18 59 38.0 +0.4**
YKA pp pP 18 59 48.2 +0.4
YKA Yellowknife Ar 80.25 355 P **P 18 59 38.0 +0.4**
YKA pP pP 18 59 48.2 +0.4
SLKM Skilak Lake 80.53 12 *eP* **P 18 59 40.7 +1.5**
SLKM Skilak Lake 80.53 12 *eP* **P 18 59 40.7 +1.5**
DIV Divide 80.61 10 *eP* **P 18 59 40.9 +1.3**
comp=Z,185nm,1.2s,mb5.9
DIV LR LR
comp=Z,2μm,22.0s,MS5.5
DIV Divide 80.61 10 *eP* **P 18 59 40.9 +1.3**
comp=Z,185nm,1.2s,mb5.9
FCC Fort Churchill 80.86 344 *eP* **P 18 59 41.3 +0.4**
FCC *e**PP pP 18 59 50.9 -0.2
FCC pmax pmax
comp=Z,39nm,1.1s,mb5.2
FCC Fort Churchill 80.86 344 *eP* **P 18 59 41.3 +0.4**
comp=Z,39nm,1.1s,mb5.2
FCC *e*pP pP 18 59 50.9 -0.2
FCC Fort Churchill 80.86 344 *eP* **P 18 59 41.3 +0.4**
comp=Z,20nm,1.1s,mb5.0
FCC *e*pp pP 18 59 50.9 -0.2
FCC Fort Churchill 80.86 344 *eP* **P 18 59 41.3 +0.4**
comp=Z,39nm,1.1s,mb5.2
FCC *e*pP pP 18 59 50.9 -0.2
FCC Fort Churchill 80.86 344 *eP* **P 18 59 41.3 +0.4**
comp=Z,39nm,1.1s,mb5.2
KDAK Kodiak Island 82.66 14 *eP* **P 18 59 51.5 +1.2**
EMMW East Machias 83.06 322 PFAKE 19 00 00.0 +7.3
EMMW LR LR
comp=Z,4μm,22.0s,MS5.7
WVL Waterville 84.23 324 PFAKE 19 00 10.0 +11
WVL LR LR
comp=Z,3μm,20.0s,MS5.7
MBWA Marble Bar 84.48 122 *eP* **P 18 59 58.5 -1.9**
MBWA *e*pP pP 19 00 08.8 -1.8
MBWA LR LR
comp=Z,966nm,19.0s,MS5.2
MBWA Marble Bar 84.48 122 *eP* **P 18 59 58.5 -1.8**
MBWA *e*pP pP 19 00 08.8 -1.8
DLBC Dease Lake 84.63 2 P **P 19 00 01.4 +1.2**
comp=Z,6.8nm,0.6s,mb5.0,baz=1.7,slow=5.3,SNR=13
DLBC pP pP 19 00 12.1 +1.7
comp=Z,32nm,0.8s,baz=341,slow=7.6,SNR=22
DLBC LR LR 19 41 55.7
comp=Z,414nm,20.7s,MS4.8,baz=346,slow=39
DLBC Dease Lake 84.63 2 *eP* **P 19 00 01.4 +1.2**
DLBC Dease Lake 84.63 2 *eP* **P 19 00 01.5 +1.3**
SIT Sitka 85.72 5 PFAKE 19 00 20.0 +14
SIT LR LR
comp=Z,942nm,20.0s,MS5.2
FITZ Fitzroy Crossi 86.58 116 *eP* **P 19 00 10.2 -0.6**
comp=Z,32nm,1.5s,mb5.3
FITZ *e* pP 19 00 20.7 -0.4
HRV Harvard--Oak R 86.69 323 PFAKE 19 00 20.0 +9.2
HRV LR LR
comp=Z,373nm,21.0s,MS4.8
NCB Newcomb 86.79 326 PFAKE 19 00 20.0 +8.7
NCB LR LR
comp=Z,438nm,19.0s,MS4.9
KAKA Kakadu 88.21 107⇑*iP* **P 19 00 18.2 -0.6**
comp=Z,63nm,0.8s,mb5.9
SADO Sadowa 88.28 329 LR LR 19 40 00.1
comp=Z,505nm,22.0s,MS4.9,baz=49,slow=36
EDM Edmonton 89.32 353 *eP* **P 19 00 24.1 +0.9**
EDM *e*pp pP 19 00 32.4 -1.0
EDM Edmonton 89.32 353 *eP* **P 19 00 24.1 +0.9**
EDM *e*pP pP 19 00 32.4 -1.0
MUN Mundaring 89.75 132 *eP* **P 19 00 24.0 -1.7**
comp=Z,16nm,0.7s,mb5.5
MUN Mundaring 89.75 132 *eP* **P 19 00 24.0 -1.7**
MUN pmax pmax
comp=Z,16nm,0.7s,mb5.5
EYMN Ely 89.96 338 *eP* **P 19 00 25.9 -0.4**
EYMN *e*pP pP 19 00 36.0 -0.5
EYMN LR LR
comp=Z,1μm,21.0s,MS5.2
EYMN Ely 89.96 338 *eP* **P 19 00 25.9 -0.4**
EYMN *e*pP pP 19 00 36.0 -0.5
ERPA Erie 90.80 328 PFAKE 19 00 40.0 +10
ERPA LR LR
comp=Z,467nm,20.0s,MS4.9
SSPA Standing Stone 91.09 326 PFAKE 19 00 40.0 +8.3
SSPA LR LR
comp=Z,381nm,20.0s,MS4.8
SDMD Soldier's Deli 91.60 324 P **P 19 00 34.5 +0.4**
SDMD Soldier's Deli 91.60 324 P **P 19 00 34.5 +0.4**
AAM Ann Arbor 92.15 330 PFAKE 19 00 50.0 +13
AAM LR LR
comp=Z,563nm,20.0s,MS5.0
DGMT Dagmar 92.61 346 *eP* **P 19 00 39.7 +1.2**
comp=Z,29nm,1.1s,mb5.6
DGMT LR LR
comp=Z,921nm,20.0s,MS5.2
DGMT Dagmar 92.61 346 *eP* **P 19 00 39.7 +1.2**
comp=Z,29nm,1.1s,mb5.6
MCWV Mont Chateau 92.76 326 PFAKE 19 00 50.0 +11
MCWV LR LR
comp=Z,505nm,19.0s,MS5.0
CBN Corbin 92.81 324 PFAKE 19 00 50.0 +10
CBN LR LR
comp=Z,589nm,21.0s,MS5.0
WALA Waterton Lakes 93.49 352 *eP* **P 19 00 43.2 +0.7**
comp=Z,20nm,1.1s,mb5.5
WALA Waterton Lakes 93.49 352 *eP* **P 19 00 43.2 +0.7**
comp=Z,20nm,1.1s,mb5.5
ACSO Alum Creek Sta 93.62 329 PFAKE 19 01 00.0 +17
ACSO LR LR
comp=Z,565nm,22.0s,MS5.0
RCBR Riachuelo 93.81 266 P **P 19 00 44.0 -0.8**
comp=Z,28nm,1.3s,mb5.5
RCBR LR LR
comp=Z,557nm,19.0s,MS5.0
RCBR Riachuelo 93.81 266 P **P 19 00 44.0 -0.8**
comp=Z,28nm,1.3s,mb5.5
JFWS Jewell Farm 94.04 335 *eP* **P 19 00 44.4 -0.8**
JFWS pmax pmax
comp=Z,29nm,1.0s,mb5.7
JFWS MLR MLR
comp=Z,691nm,22.0s,MS5.1
JFWS Jewell Farm 94.04 335 *eP* **P 19 00 44.4 -0.8**
comp=Z,30nm,1.0s,mb5.7
JFWS LR LR
comp=Z,691nm,22.0s,MS5.1
JFWS Jewell Farm 94.04 335 *eP* **P 19 00 44.4 -0.8**
comp=Z,346nm,22.0s
JFWS Jewell Farm 94.04 335 *eP* **P 19 00 44.4 -0.8**
comp=Z,30nm,1.0s,mb5.7
WRA Warramunga Arr 94.10 112 P **P 19 00 44.7 -1.3**
comp=Z,4.0nm,0.6s,mb5.0,baz=319,slow=4.2,SNR=75
WRAB Tennant Creek 94.10 112 *eP* **P 19 00 44.2 -1.8**
comp=Z,7.0nm,0.6s,mb5.3
WRAB LR LR
comp=Z,128nm,21.0s,MS4.4
WRAB Tennant Creek 94.10 112 *eP* **P 19 00 44.2 -1.8**
comp=Z,3.5nm,0.6s,mb5.0
WRAB Tennant Creek 94.10 112 *eP* **P 19 00 44.2 -1.8**
comp=Z,7.0nm,0.6s,mb5.3
WB2 Warramunga Arr 94.11 112⇑*iP* **P 19 00 44.8 -1.2**
LAO LASA Array 94.71 347 *eP* **P 19 00 49.6 +1.4**
comp=Z,48nm,1.4s,mb5.7
LAO LR LR
comp=Z,847nm,20.0s,MS5.2
LAO LASA Array 94.71 347 *eP* **P 19 00 49.6 +1.4**
comp=Z,48nm,1.4s,mb5.7
BLA Blacksburg 95.02 325 PFAKE 19 01 00.0 +10
BLA LR LR
comp=Z,612nm,20.0s,MS5.1
CHMT Chamberlain Mo 95.54 352 *eP* **P 19 00 52.6 +0.6**
CHMT Chamberlain Mo 95.54 352 *eP* **P 19 00 52.6 +0.6**
HRY Holter Researc 95.56 351 *eP* **P 19 00 53.2 +1.1**
HRY Holter Researc 95.56 351 *eP* **P 19 00 53.2 +1.1**
MSO Missoula 95.70 352 *eP* **P 19 00 53.1 +0.4**
comp=Z,5.0nm,1.0s,mb4.9
MSO LR LR
comp=Z,448nm,21.0s,MS4.9
MSO Missoula 95.70 352 *eP* **P 19 00 53.1 +0.4**
comp=Z,5.0nm,1.0s,mb4.9
ASPA Alice Springs 96.06 115 *eP* **P 19 00 53.6 -1.3**
ASAR Alice Springs 96.06 115 P **P 19 00 53.5 -1.4**
comp=Z,3.4nm,0.5s,mb5.1,baz=312,slow=4.5,SNR=51
ASAR PKKPbc 19 17 42.7
comp=Z,0.3nm,0.5s,baz=114,slow=3.6,SNR=6.5
ASAR LR LR 19 52 51.0
comp=Z,215nm,19.4s,MS4.6,baz=303,slow=41
TRIS Tristan da Cun 96.32 228 PFAKE 19 01 10.0 +14
TRIS LR LR
comp=Z,1μm,21.0s,MS5.4
BOZ Bozeman (W) 96.58 350 *eP* **P 19 00 57.6 +0.8**
BOZ MLR MLR
comp=Z,686nm,22.0s,MS5.1
BOZ Bozeman (W) 96.58 350 *eP* **P 19 00 57.6 +0.8**
comp=Z,343nm,22.0s
WCI Wyandotte Cave 96.67 330 PFAKE 19 01 10.0 +13
WCI LR LR
comp=Z,446nm,19.0s,MS5.0
MCMT McKenzie Canyo 97.54 351 *eP* **P 19 01 02.0 +0.9**
YFT Old Faithful 97.64 349 P **P 19 01 00.8 -0.8**
PMG Port Moresby 97.71 96 P **P 19 01 01.7 -0.9**
comp=Z,14nm,1.0s,mb5.4,baz=316,slow=23,SNR=3.5
BMO Blue Mountains 97.98 354 *eP* **P 19 01 02.7 -0.4**
BMO MLR MLR
comp=Z,534nm,21.0s,MS5.0
BMO Blue Mountains 97.98 354 *eP* **P 19 01 02.7 -0.4**
BMO *e*pP pP 19 01 12.7 -0.6
BMO LR LR
comp=Z,534nm,21.0s,MS5.0
BMO Blue Mountains 97.98 354 *eP* **P 19 01 02.7 -0.4**
comp=Z,267nm,21.0s
NHSC New Hope 98.27 323 PFAKE 19 01 20.0 +15
NHSC LR LR
comp=Z,640nm,21.0s,MS5.1
MOOW Moose Ponds 98.31 349 P **P 19 01 06.1 +1.5**
MOOW *e*pP pP 19 01 14.3 -0.5
COR Corvallis 98.56 358 PFAKE 19 01 20.0 +14
COR LR LR
comp=Z,801nm,22.0s,MS5.2
CCM Cathedral Cave 98.70 333 *eP* **P 19 01 07.0 +0.5**
CCM MLR MLR
comp=Z,651nm,21.0s,MS5.1
CCM Cathedral Cave 98.70 333 *eP* **P 19 01 07.0 +0.5**
comp=Z,326nm,21.0s
MIDW Midway 98.72 45 PFAKE 19 01 20.0 +13
MIDW LR LR
comp=Z,1μm,21.0s,MS5.4
HLID Hailey 98.98 352 *eP* **P 19 01 07.8 +0.2**
comp=Z,3.3nm,1.3s,mb4.7
HLID *e*pP pP 19 01 16.4 -1.5
HLID LR LR
comp=Z,633nm,19.0s,MS5.1
BW06 Boulder Array 99.09 348 *eP* **P 19 01 08.5 +0.4**
BW06 LR LR
comp=Z,649nm,21.0s,MS5.1
PDAR Pinedale Array 99.09 348 P **P 19 01 07.8 -0.3**
comp=Z,0.3nm,0.5s,baz=69,slow=3.9,SNR=3.6
PDAR pP pP 19 01 18.8 +0.3
comp=Z,1.3nm,0.8s,baz=22,slow=4.4,SNR=6.7
PDAR LR LR 19 50 20.1
comp=Z,444nm,19.7s,baz=12,slow=38
WVT Waverly 99.10 330 PFAKE 19 01 20.0 +12
WVT LR LR
comp=Z,496nm,19.0s,MS5.0
AHID Auburn Hatcher 99.33 349 *eP* **P 19 01 10.7 +1.5**
AHID LR LR
comp=Z,669nm,20.0s,MS5.1
WVOR Wild Horse Val 100.49 355 *eP* P 19 01 15.3 +0.8
WVOR MLR MLR
comp=Z,1μm,21.0s,MS5.4
WVOR Wild Horse Val 100.49 355 *eP* P 19 01 15.3 +0.8
comp=Z,567nm,21.0s
HUMO Hull Mountain 100.53 358 PFAKE 19 01 30.0 +15
HUMO LR LR
comp=Z,774nm,22.0s,MS5.2
MOD Modoc 101.12 356 *e*Pdif P 19 01 18.8 +1.4
comp=Z,36nm,1.6s
MOD LR LR
comp=Z,510nm,20.0s,MS5.0
OXF Oxford 101.14 330 PFAKE 19 01 30.0 +12
OXF LR LR
comp=Z,414nm,20.0s,MS4.9
ISCO Idaho Springs 101.22 345 PFAKE 19 01 30.0 +12
ISCO LR LR
comp=Z,937nm,21.0s,MS5.3
YBH Yreka Blue Hor 101.39 358 PFAKE 19 01 30.0 +11
YBH LR LR
comp=Z,774nm,20.0s,MS5.2
LRAL Lakeview Retre 101.43 328 PFAKE 19 01 30.0 +11
LRAL LR LR
comp=Z,754nm,20.0s,MS5.2
SJG San Juan 101.61 303 PFAKE 19 01 30.0 +10
SJG LR LR
comp=Z,330nm,19.0s,MS4.9
WDC Whiskeytown Da 102.54 358 PFAKE 19 01 40.0 +16
WDC LR LR
comp=Z,743nm,22.0s,MS5.2
DWPF Disney 102.98 321 PFAKE 19 01 40.0 +14
DWPF LR LR
comp=Z,324nm,20.0s,MS4.8
SDCO Great Sand Dun 103.16 344 PFAKE 19 01 40.0 +14
SDCO LR LR
comp=Z,1μm,20.0s,MS5.4
PV01 Paradox Valley 103.42 346 Pdif Pdif 19 01 29.7 +2.1
MSU Marysvale 103.66 349 *eP* Pdif 19 01 28.4 -0.2
HOPS Hopland 104.14 358 PFAKE 19 01 40.0 +9.3
HOPS LR LR
comp=Z,395nm,19.0s,MS5.0
WMOK Wichita Mounta 104.23 338 PFAKE 19 01 40.0 +8.8
WMOK LR LR
comp=Z,779nm,20.0s,MS5.2
MNV Mina 104.42 354 PFAKE 19 01 40.0 +8.0
MNV LR LR
comp=Z,472nm,20.0s,MS5.0
AMTX Amarillo 104.93 340 PFAKE 19 06 00.0
AMTX LR LR
comp=Z,832nm,22.0s,MS5.2
CMB Columbia Colle 104.98 356 PFAKE 19 06 00.0
CMB LR LR
comp=Z,665nm,20.0s,MS5.2
NATX Nacogdoches 105.58 333 PFAKE 19 06 00.0
NATX LR LR
comp=Z,765nm,21.0s,MS5.2
ANMO Albuquerque 106.06 344 PFAKE 19 06 00.0
ANMO LR LR
comp=Z,833nm,20.0s,MS5.3
HKT Hockley 107.64 333 PFAKE 19 06 10.0
HKT LR LR
comp=Z,211nm,19.0s,MS4.7
JCT Junction City 108.49 337 PFAKE 19 06 10.0
JCT LR LR
comp=Z,673nm,20.0s,MS5.2
MNTX Cornudas Mount 108.92 342 *e*PKP 19 05 57.0
MNTX LR LR
comp=Z,320nm,21.0s,MS4.9
TUC Tucson 109.49 347 PFAKE 19 06 10.0
TUC LR LR
comp=Z,782nm,21.0s,MS5.3
LTX Lajitas 110.71 340 PFAKE 19 06 10.0 +6.0
LTX LR LR
comp=Z,685nm,22.0s,MS5.2
TXAR Lajitas Array 110.71 340 PKiKP 19 06 00.8
comp=Z,1.1nm,0.7s,baz=135,slow=3.5,SNR=4.0
SDV Santo Domingo 111.21 300 PFAKE 19 06 10.0 +4.8
SDV LR LR
comp=Z,147nm,22.0s,MS4.5
TEIG Tepich 112.96 322 PFAKE 19 06 20.0 +11
TEIG LR LR
comp=Z,198nm,21.0s,MS4.7
VNA2 Neumayer--Watz 116.43 199⇑*i* PKPdf 19 06 12.6 -1.6
VNA3 Neumayer Olymp 117.22 199⇑*i* PKPdf 19 06 12.9 -2.8
OTAV Otavalo 122.80 299 *e*PKPdf PKPdf 19 06 24.5 -3.3
OTAV LR LR
comp=Z,191nm,20.0s,MS4.8
LPAZ La Paz 125.55 276 PKP PKPdf 19 06 28.4 -4.7
comp=Z,2.5nm,0.8s,baz=39,slow=5.8,SNR=7.1
LPAZ La Paz 125.55 276 PkIKP 19 06 28.4
QSPA South Pole Qui 127.03 180 P PKPdf 19 06 30.0 -4.3
LVC Limon Verde 129.54 270 *e*PKP PKPdf 19 06 37.2 -3.4
LVC LR LR
comp=Z,272nm,19.0s,MS5.0
TRQA Tornquist 130.60 249 *e*PKPdf PKPdf 19 06 37.5 -4.8
TRQA LR LR
comp=Z,532nm,19.0s,MS5.3
RAO Raoul Island 135.90 96 PFAKE 19 07 00.0 +7.6
RAO LR LR
comp=Z,1μm,19.0s,MS5.6
USHA Ushuaia 137.94 226 PKP PKPdf 19 06 50.4 -5.0
comp=Z,8.2nm,0.6s,baz=336,slow=24,SNR=6.0
RAR Rarotonga 146.31 71 PKPbc PKPbc 19 07 07.4 +0.5
comp=Z,14nm,0.7s,baz=239,slow=6.2,SNR=4.1
TAOE Nuku Hiva Isla 148.80 29 *e*LR LR 19 56 39.6
PPT Papeete 151.15 54 *e*SS SS 19 30 26.5 +7.9
PPT *e*LR LR 19 57 35.2
comp=Z,502nm,23.2s
TBI Tubuai 155.20 63 *e*LR LR 19 59 43.5
comp=Z,281nm,26.2s
RKT Rikitea 163.75 33 *e*LR LR 20 03 37.1
comp=Z,508nm,26.8s

IDC 10 18:53:56.4±5.7, 21.51S×178.62W, h579km±68km, mb3.1/6, mb1 3.4/7, mb1mx3.3/14, mbtmp4.0/7, Error ellipse: s-maj=45.6km s-min=26.1km az=172.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	17.09	191	P	P	18 57 24.5	-0.4
	1.0nm,0.3s,baz=147,slow=22,SNR=4.1						
ASAR	Alice Springs	43.73	258	P	P	19 01 12.7	-0.3
	1.9nm,0.5s,baz=91,slow=8.1,SNR=4.3						
WRA	Warramunga Arr	43.89	263	P	P	19 01 11.8	-2.5
	0.7nm,0.3s,baz=97,slow=7.6,SNR=9.8						
NVAR	Mina Array Bea	82.16	44	P	P	19 05 17.9	-0.5
	1.1nm,0.6s,baz=214,slow=8.2,SNR=5.8						
ILAR	Eielson Array	89.43	13	P	P	19 05 51.4	-1.3
	0.7nm,0.6s,baz=240,slow=5.4,SNR=7.3						
CMAR	Chiang Mai Arr	89.91	290	P	P	19 05 55.8	-0.2
	0.9nm,0.8s,baz=119,slow=3.6,SNR=5.0						
PDAR	Pinedale Array	90.09	43	P	P	19 05 55.5	-0.8
	0.5nm,0.7s,baz=180,slow=4.4,SNR=3.6						
BVAR	Borovoye Array	119.47	320	PKP	PKPdf	19 11 40.1	-0.3
	0.6nm,0.4s,baz=121,slow=2.4,SNR=7.9						
ARCES	ARCESS Array B	129.81	349	PKP	PKPdf	19 11 59.6	-0.3
	2.6nm,0.8s,baz=77,slow=1.0,SNR=10						
FINES	FINESS Array B	136.57	343	PKP	PKPdf	19 12 11.7	-0.9
	1.3nm,0.8s,baz=72,slow=4.4,SNR=3.4						
HFS	Hagfors	140.44	350	PKhKP		19 12 13.3	
	1.2nm,0.4s,baz=90,slow=4.4,SNR=10						
AKASG	Malin Array Be	143.61	330	PKP	PKPdf	19 12 23.7	-1.7
	2.0nm,0.4s,baz=41,slow=4.2,SNR=23						
BRTR	Keskin Array B	147.07	311	PKPbc	PKPdf	19 12 35.4	+3.8
	0.9nm,0.5s,baz=135,slow=3.5,SNR=3.7						
GERES	GERESS Array B	151.01	343	PKPbc	PKPdf	19 12 44.5	+7.1
	0.5nm,0.5s,baz=27,slow=3.0,SNR=6.5						

IDC 10 18:57:36.9±1.4, 4.98N×93.81E, h27km±6km, mb3.6/4, mb1 3.9/5, mb1mx3.5/20, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=45.4km s-min=26.6km az=69.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.30	20	Pn	P	19 00 59.3	-0.6
	0.1nm,0.3s,baz=212,slow=14,SNR=7.9						
SONM	Songino Array	44.04	12	P	P	19 05 42.5	-1.6
	0.6nm,0.6s,baz=192,slow=6.7,SNR=5.8						
SONM				pP	pP	19 05 50.8	-1.5
	2.3nm,0.9s,baz=190,slow=8.1,SNR=12						
WRA	Warramunga Arr	46.91	123	P	P	19 06 04.8	-2.5
	0.9nm,0.7s,baz=301,slow=8.9,SNR=4.1						
ZAL	Zalesovo	49.35	353	P	P	19 06 23.5	-2.3
	0.9nm,0.5s,baz=90,slow=5.1,SNR=3.7						
ZAL				pP	pP	19 06 32.0	-2.2
	3.0nm,0.5s,baz=317,slow=5.6,SNR=7.6						
BVAR	Borovoye Array	51.61	342	P	P	19 06 39.5	-3.5
	0.7nm,0.8s,baz=162,slow=14,SNR=2.8						
BVAR				pP	pP	19 06 49.0	-2.5
	1.4nm,0.7s,baz=141,slow=9.5,SNR=6.0						
ARCES	ARCESS Array B	77.86	340	pP	pP	19 09 38.0	-4.0
	2.4nm,0.9s,baz=94,slow=6.1,SNR=1.7						
CPUP	Villa Florida	145.19	229	PKPbc	PKPbc	19 17 12.3	-0.8
	0.0nm,0.3s,baz=206,slow=16,SNR=2.0						

IGQ 10 19:08:21.2, 3.38S×80.43W, h12km±11km, mb4.2, Error ellipse: s-maj=13.7km s-min=11.6km az=36.2, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.60**	**44**	P	Pn	19 09 04.4	+0.6
ARRY	**Arrayan**	**2.71**	**47**	P	Pn	19 09 06.3	+0.8
PATA	**Patacocha**	**2.73**	**47**	P	Pn	19 09 07.0	+1.2
RETU	**Refugio**	**2.76**	**46**	P	Pn	19 09 09.7	+3.6
ULBA	**Ulba**	**2.79**	**47**	P	Pn	19 09 07.9	+1.3
RUN2	**Runtun**	**2.80**	**46**	P	Pn	19 09 09.6	+2.8
PISA	**Pisayambo**	**3.08**	**42**	P	Pn	19 09 12.3	+1.5
NAS1	**Nasa**	**3.36**	**36**	P	Pn	19 09 17.3	+2.7
TAMB	**Tambo**	**3.37**	**38**	P	Pn	19 09 17.0	+2.2
TAMB				S	Sn	19 09 56.0	+0.8
VC1	**Cotopaxi 1**	**3.39**	**37**	P	Pn	19 09 17.6	+2.5
JUA2	**San Juan 2**	**3.64**	**30**	P	Pn	19 09 19.6	+1.0
JUA2				S	Sn	19 10 00.1	-1.8
TERV	**Terraza Guagua**	**3.67**	**30**	P	Pn	19 09 21.1	+2.0
PINO	**Pino**	**3.68**	**30**	P	Pn	19 09 20.4	+1.1
PINO				S	Sn	19 10 04.1	+1.0
ANTI	**Antisana**	**3.69**	**38**	P	Pn	19 09 21.8	+2.4
YANA	**Yana**	**3.74**	**30**	P	Pn	19 09 21.4	+1.3
CAYR	**Refugio Cayambe**	**4.15**	**36**	P	Pn	19 09 28.6	+2.6
COTA	**Cotacachi**	**4.24**	**30**	P	Pn	19 09 28.6	+1.4

*IDC **10** 19:19:15.0±2.5, 43.63N×105.39W, mb1 3.4/3, mb1mx3.2/20, mbtmp3.0/3, ML3.6/3, Error ellipse: s-maj=39.7km s-min=17.9km az=151.0*
*NEIC **10** 19:19:17.4±0.7, 43.76N×105.48W, ML3.1, Error ellipse: s-maj=8.5km s-min=5.9km az=86.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] S of Gillette.

ISC 10 19:19:16.2±0.7, 43.77N±0.04×105.60W±0.08, n30, σ1§54/50, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RWWY	**Rawlins**	**2.39**	**210**	*e*Pn	**Pn**	**19 19 59.1**	**+1.9**
RWWY				*e*Sn	**Sn**	**19 20 32.5**	**+4.8**
PHWY	**Pilot Hill**	**2.47**	**178**	*e*Pn	**Pn**	**19 19 57.1**	**-1.2**
PHWY				*e*Sn	**Sn**	**19 20 27.9**	**-1.7**
LAO	**LASA Array**	**2.95**	**352**	*e*Pn	**Pn**	**19 20 05.3**	**+0.1**
BW06	**Boulder Array**	**3.06**	**252**	*e*Pn	**Pn**	**19 20 09.6**	**+2.8**
BW06				*e*Sn	**Sn**	**19 20 53.1**	**+8.5**
PDAR	**Pinedale Array**	**3.06**	**252**	Pn	**Pn**	**19 20 08.9**	**+2.2**
PDAR				Pg	**Pg**	**19 20 14.3**	**-2.9**
PDAR				Lg		19 20 54.9	
PDAR	**Pinedale Array**	**3.06**	**252**	Pn	**Pn**	**19 20 08.9**	**+2.2**
5.5nm,0.3s,baz=81,slow=19,SNR=57							
PDAR				Pg	**Pg**	**19 20 14.3**	**-2.9**
5.8nm,0.3s,baz=75,slow=18,SNR=76							
PDAR				Lg		19 20 54.9	
6.8nm,0.3s,baz=73,slow=31,SNR=9.1							
MOOW	**Moose Ponds**	**3.73**	**271**	*e*Pn	**Pn**	**19 20 17.8**	**+1.5**
MOOW				*e*Pg	**Pg**	**19 20 29.4**	**-1.3**
WUWY	**Wally Ulrich**	**3.74**	**268**	*e*Pn	**Pn**	**19 20 17.4**	**+1.0**
WUWY				*e*Pg	**Pg**	**19 20 28.7**	**-2.1**
SNOW	**Snow King Moun**	**3.76**	**267**	Pn	**Pn**	**19 20 17.4**	**+0.8**
SNOW				*e*Pg	**Pg**	**19 20 28.6**	**-2.6**
YNR	**Norris Junctio**	**3.77**	**286**	*e*Pg	**Pg**	**19 20 29.8**	**-1.7**
YFT	**Old Faithful**	**3.83**	**282**	*e*Pg	**Pg**	**19 20 30.6**	**-2.1**
YMR	**Madison River**	**3.96**	**285**	Pn	**Pn**	**19 20 21.4**	**+1.9**
YMR				*e*Pg	**Pg**	**19 20 34.6**	**-0.7**
ISCO	**Idaho Springs**	**3.96**	**180**	*e*Pn	**Pn**	**19 20 19.1**	**-0.5**
ISCO				*e*Sn	**Sn**	**19 21 08.1**	**+0.6**
QLMT	**Earthquake Lak**	**4.32**	**286**	*e*Pn	**Pn**	**19 20 26.0**	**+1.3**
QLMT				*e*Pb	**Pb**	**19 20 35.9**	**+3.0**
BOZ	**Bozeman (W)**	**4.69**	**296**	*e*Pn	**Pn**	**19 20 31.1**	**+1.2**
BOZ				*e*Pg	**Pg**	**19 20 46.9**	**-3.0**
DGMT	**Dagmar**	**4.80**	**11**	*e*Pn	**Pn**	**19 20 30.6**	**-0.9**
TCUT	**Toone Canyon**	**5.05**	**240**	*e*Pn	**Pn**	**19 20 31.2**	**-3.8**
MCMT	**McKenzie Canyo**	**5.31**	**284**	Pb	**Pb**	**19 20 52.8**	**+2.9**
JLU	**Jordanelle**	**5.38**	**236**	Pn	**Pn**	**19 20 39.7**	**+0.1**
JLU				*e*Pg	**Pg**	**19 20 59.3**	**-4.2**
DAU	**Daniels Canyon**	**5.38**	**233**	*e*Pn	**Pn**	**19 20 41.3**	**+1.6**
SPUT	**South Promonto**	**5.62**	**246**	*e*Pn	**Pn**	**19 20 42.8**	**-0.3**
MPU	**Maple Canyon**	**5.86**	**232**	Pb	**Pb**	**19 21 00.5**	**+1.3**
SRU	**San Rafael**	**5.94**	**220**	*e*Pn	**Pn**	**19 20 47.4**	**-0.2**
SRU				*e*Pg	**Pg**	**19 21 05.8**	**-9.0**
SRU				*e*Sg	**Sg**	**19 22 29.1**	**-4.9**
PV01	**Paradox Valley**	**6.06**	**203**	*e*Pn	**Pn**	**19 20 48.8**	**-0.4**
PV01				*e*Pb	**Pb**	**19 21 04.1**	**+1.4**
PV01				*e*Pg	**Pg**	**19 21 13.2**	**-4.0**
TMUT	**Trail Mountain**	**6.14**	**225**	*e*Pn	**Pn**	**19 20 50.0**	**-0.3**
TMUT				*e*Pg	**Pg**	**19 21 13.7**	**-5.0**
TMUT				*e*Sn	**Sn**	**19 21 58.1**	**-4.1**
MSU	**Marysvale**	**7.22**	**226**	*e*Pn	**Pn**	**19 20 58.2**	**-7.5**
MSU				*e*Pg	**Pg**	**19 21 30.7**	**-10**
NVAR	**Mina Array Bea**	**10.97**	**245**	Pn	**P**	**19 21 58.2**	**+0.8**
NVAR	**Mina Array Bea**	**10.97**	**245**	Pn	**P**	**19 21 58.2**	**+0.8**
0.1nm,0.3s,baz=55,slow=14,SNR=2.8							
YKA	**Yellowknife Ar**	**19.49**	**347**	P	**P**	**19 23 46.8**	**-0.4**
YKA	**Yellowknife Ar**	**19.49**	**347**	P	**P**	**19 23 46.8**	**-0.4**
0.1nm,0.3s,baz=158,slow=12,SNR=6.2							

*IDC **10** 19:23:40.5±3.3, 13.54N×92.75E, mb3.5/2, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=77.2km s-min=32.8km az=77.0*

ISC 10 19:23:45.2±1.4, 13.7N±0.1×93.09E±0.09, h33km, n7, σ0§58/8, mb3.5/2, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.33**	**49**	Pn	**Pn**	**19 25 34.0**	**+1.2**
0.3nm,0.3s,baz=239,slow=15,SNR=9.5							
CMAR				Sn	**Sn**	**19 26 54.9**	**-0.7**
0.4nm,0.3s,baz=238,slow=33,SNR=4.4							
JIRN	**Jiri**	**15.28**	**336**	*e*P	**P**	**19 27 20.5**	**+0.3**
4.9nm,0.5s							
PKI	**Pulchoki**	**15.52**	**334**	*e*P	**P**	**19 27 23.3**	**0.0**
7.3nm,0.5s							
GKN	**Gorkha**	**16.24**	**332**	*e*P	**P**	**19 27 32.7**	**+0.3**
KOLN	**Koldanda**	**16.54**	**329**	*e*P	**P**	**19 27 35.5**	**-0.7**
5.5nm,0.5s							
SONM	**Songino Array**	**35.76**	**15**	P	**P**	**19 30 42.9**	**-0.1**
0.4nm,0.8s,mb3.4,baz=191,slow=7.3,SNR=4.6							
WRA	**Warramunga Arr**	**52.60**	**129**	P	**P**	**19 32 58.0**	**-0.3**
0.3nm,0.4s,mb3.6,baz=300,slow=9.9,SNR=7.2							

*IDC **10** 19:58:43.8±0.9, 3.82N×95.04E, h45km±6km, mb3.7/8, mb1 4.0/9, mb1mx3.8/19, mbtmp4.0/9, ML4.3/1, Error ellipse: s-maj=47.5km s-min=13.6km az=53.0*
*NEIC **10** 19:58:43.5±0.7, 3.72N×95.00E, mb4.3/2, Error ellipse: s-maj=27.9km s-min=11.1km az=63.0*

ISC 10 19:58:41.5±0.9, 3.7N±0.1×95.0E±0.2, h45km, h45km±2.2km: pP-P, n13, σ0§91/13, mb4.0/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.16**	**14**	P	**P**	**20 02 15.4**	**+1.1**
0.5nm,0.3s,baz=206,slow=11,SNR=48							
LSA	**Lhasa**	**26.10**	**352**	*e*P	**P**	**20 04 13.7**	**+0.5**
5.4nm,0.6s,mb4.2							
SONM	**Songino Array**	**45.04**	**11**	P	**P**	**20 06 53.5**	**-1.2**
0.3nm,0.6s,mb3.3,baz=197,slow=8.1,SNR=5.2							
SONM				PcP	PcP	20 08 36.3	+0.8
0.7nm,1.0s,baz=162,slow=4.6,SNR=3.1							
WRA	**Warramunga Arr**	**45.23**	**123**	P	**P**	**20 06 56.5**	**-0.1**
2.7nm,0.5s,mb4.3,baz=300,slow=9.1,SNR=23							
WRA				pP	pP	20 07 10.1	+1.1
1.5nm,0.8s,baz=300,slow=9.2,SNR=4.1							
ASAR	**Alice Springs**	**46.66**	**128**	P	**P**	**20 07 08.2**	**+0.4**
1.7nm,0.4s,mb4.3,baz=296,slow=7.9,SNR=13							
ASAR				pP	pP	20 07 21.2	+1.0
0.7nm,0.6s,baz=300,slow=7.7,SNR=3.2							
ZAL	**Zalesovo**	**50.76**	**352**	P	**P**	**20 07 38.6**	**-0.6**
1.4nm,0.4s,mb4.2,baz=293,slow=6.3,SNR=6.5							
ZAL				pP	pP	20 07 51.4	-0.2
0.9nm,0.7s,baz=193,slow=3.9,SNR=2.8							
ZAL	**Zalesovo**	**50.76**	**352**	P	**P**	**20 07 38.6**	**-0.6**
ZAL				pP	pP	20 07 51.4	-0.2
BVAR	**Borovoye Array**	**53.18**	**342**	P	**P**	**20 07 55.4**	**-1.9**
0.4nm,0.6s,mb3.5,baz=124,slow=5.2,SNR=3.1							
CHKZ	**Chkalovo**	**53.67**	**342**	*e*P	**P**	**20 08 00.9**	**-0.1**
1.6nm,0.6s,mb4.1							
STKA	**Stephens Creek**	**56.66**	**132**	P	**P**	**20 08 22.8**	**-0.2**
3.1nm,1.1s,mb4.3,baz=95,slow=14,SNR=4.0							
FINES	**FINESS Array B**	**76.77**	**333**	P	**P**	**20 10 30.4**	**+0.5**
2.1nm,0.9s,mb4.1,baz=135,slow=5.4,SNR=4.7							
FINES				pP	pP	20 10 42.4	-0.6
2.9nm,0.9s,baz=107,slow=4.3,SNR=1.7							
FINES	**FINESS Array B**	**76.77**	**333**	P	**P**	**20 10 30.4**	**+0.5**
FINES				pP	pP	20 10 42.4	-0.6
GERES	**GERESS Array B**	**81.49**	**319**	P	**P**	**20 10 57.2**	**+1.5**
0.2nm,0.4s,mb3.4,baz=111,slow=8.4,SNR=2.7							
GERES				pP	pP	20 11 09.6	+0.6
1.3nm,0.8s,baz=117,slow=6.0,SNR=5.8							

IDC 10 20:05:30.6±4.2, 8.36N×91.83E, mb3.2/3, mb1 3.5/4, mb1mx3.4/18, mbtmp3.2/4, ML3.2/1, Error ellipse: s-maj=118.4km s-min=28.5km az=78.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.19**	**34**	Pn	P	20 08 24.7	-3.9
0.1nm,0.3s,baz=232,slow=15,SNR=3.4							
SONM	**Songino Array**	**41.24**	**15**	P	P	20 13 17.7	-1.3
0.2nm,0.7s,baz=197,slow=11,SNR=2.9							
WRA	**Warramunga Arr**	**50.41**	**124**	P	P	20 14 29.5	-2.8
0.3nm,0.6s,baz=300,slow=9.3,SNR=3.1							
ASAR	**Alice Springs**	**51.99**	**129**	P	P	20 14 42.8	-1.5
0.3nm,0.7s,baz=297,slow=8.1,SNR=3.1							

*IDC **10** 20:19:40.4±22.0, 6.88N×93.20E, mb3.4/2, mb1 3.9/3, mb1mx3.5/18, mbtmp3.6/3, ML4.0/1, Error ellipse: s-maj=530.9km s-min=45.9km az=89.0*

ISC 10 20:19:38.3±1.3, 7.0N±0.2×92.5E±0.2, h33km, n8, σ0§32/8, mb4.1/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.02**	**28**	Pn	**P**	**20 22 43.6**	**0.0**
0.2nm,0.3s,baz=231,slow=14,SNR=24							
JIRN	**Jiri**	**21.39**	**345**	*e*P	**P**	**20 24 25.6**	**+0.3**
4.2nm,0.4s,mb4.2							
GUN	**Gumba**	**21.71**	**344**	*e*P	**P**	**20 24 28.2**	**-0.3**
9.5nm,0.6s,mb4.4							
KKN	**Kakani**	**21.77**	**343**	*e*P	**P**	**20 24 29.8**	**+0.7**
8.2nm,0.8s,mb4.2							
GKN	**Gorkha**	**22.17**	**341**	*e*P	**P**	**20 24 32.8**	**-0.3**
8.1nm,0.3s,mb4.6							
KOLN	**Koldanda**	**22.30**	**339**	*e*P	**P**	**20 24 34.1**	**-0.3**
6.7nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**49.13**	**124**	P	**P**	**20 28 25.2**	**-0.1**
0.2nm,0.5s,mb3.4,baz=303,slow=8.8,SNR=5.1							
ASAR	**Alice Springs**	**50.66**	**128**	P	**P**	**20 28 36.9**	**+0.1**
0.8nm,1.0s,mb3.6,baz=295,slow=7.6,SNR=4.8							

MAN 10 20:25:29.5, 18.81N×121.29E, h1km, mb3.9, ML2.6, MS2.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.91**	**128**	*e*P	Pg	20 25 47.7	-0.1
APYP	**Conner**	**0.94**	**182**	*e*P	Pb	20 25 47.8	-0.5
APYP				*e*S	Sg	20 26 03.8	+3.0
CVP	**Callao Caves**	**1.21**	**155**	*e*P	Pb	20 25 53.0	+0.1
CVP				*e*S	Sb	20 26 12.0	+3.1
ABRA	**Dolores**	**1.27**	**205**	*e*P	Pb	20 25 53.9	-0.1
ABRA				*e*S	Sb	20 26 15.4	+4.7
CAUP	**Cauayan**	**1.92**	**164**	*e*P	Pn	20 26 06.9	+3.2
PALP	**Palanan**	**2.04**	**148**	*e*P	Pn	20 26 05.4	0.0
PALP				*e*S	Sn	20 26 35.4	+3.4

*IDC **10** 20:54:01.9±0.9, 6.69S×155.22E, h30km±5km, mb4.3/9, mb1 4.5/11, mb1mx4.4/15, mbtmp4.5/11, ML3.8/2, MS3.7/3, Ms1 3.7/3, ms1mx3.2/16, Error ellipse: s-maj=26.1km s-min=15.1km az=133.0*
*NEIC **10** 20:54:06.2±3.9, 6.71S×155.05E, h65km±30km, mb4.5/2, Error ellipse: s-maj=35.6km s-min=17.8km az=90.0*

ISC 10 20:54:02.4±3.4, 6.7S±0.1×155.1E±0.1, h46km, ±29km, h28km±1.2km: pP-P, n27, σ0§63/25, mb4.7/18, MS3.7/3, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.34**	**250**	Pn	**P**	**20 56 03.6**	**+0.1**
4.7nm,0.3s,baz=45,slow=5.9,SNR=12							
PMG				Sn	**S**	**20 57 37.4**	**+0.1**
2.0nm,0.3s,baz=73,slow=20,SNR=6.7							
CTA	**Charters Tower**	**15.87**	**212**	Pn	**P**	**20 57 44.0**	**-0.3**
0.3nm,0.3s,baz=32,slow=15,SNR=2.7							
WRAB	**Tennant Creek**	**24.09**	**235**	*e*P	**P**	**20 59 14.3**	**-0.5**
WRA	**Warramunga Arr**	**24.10**	**235**	P	**P**	**20 59 14.9**	**-0.1**
3.0nm,0.5s,mb4.0,baz=60,slow=9.1,SNR=49							
WRA				PcP	PcP	21 02 56.0	-0.9
1.5nm,0.5s,baz=63,slow=2.5,SNR=12							
ASAR	**Alice Springs**	**26.48**	**228**	P	**P**	**20 59 36.2**	**-1.2**
1.1nm,0.5s,mb3.6,baz=61,slow=9.1,SNR=22							
ASAR				PcP	PcP	21 03 01.6	-0.4
1.7nm,1.0s,baz=67,slow=3.5,SNR=5.9							
STKA	**Stephens Creek**	**28.07**	**205**	P	**P**	**20 59 53.1**	**+1.2**
11nm,1.3s,mb4.3,baz=4.3,slow=7.3,SNR=5.3							
STKA				PcP	PcP	21 03 04.5	-1.3
1.7nm,0.9s,baz=121,slow=14,SNR=3.2							
STKA				LR	LR	21 10 05.5	
comp=Z,122nm,19.8s,MS3.5,baz=27,slow=34							
CMAR	**Chiang Mai Arr**	**60.76**	**295**	P	**P**	**21 04 12.2**	**-0.1**
11nm,0.7s,mb5.1,baz=120,slow=5.3,SNR=89							
CMAR				pP	pP	21 04 21.2	-4.1
1.9nm,0.8s,baz=122,slow=4.6,SNR=4.2							
CMAR				LR	LR	21 30 01.3	
comp=Z,32nm,20.6s,MS3.5,baz=115,slow=36							
FX1	**Attu Island--F**	**61.28**	**12**	P	**P**	**21 04 15.1**	**-0.2**
16nm,0.6s,mb5.3,baz=211,slow=5.9,SNR=5.5							
SONM	**Songino Array**	**69.14**	**327**	P	**P**	**21 05 06.0**	**0.0**
1.3nm,0.6s,mb4.0,baz=137,slow=5.5,SNR=14							
LSA	**Lhasa**	**71.19**	**304**	*e*P	**P**	**21 05 19.5**	**+0.7**
3.2nm,0.7s,mb4.4							
JIRN	**Jiri**	**74.73**	**301**	*e*P	**P**	**21 05 40.2**	**+0.5**
15nm,0.6s,mb5.1							
GUN	**Gumba**	**75.06**	**301**	*e*P	**P**	**21 05 42.3**	**+0.7**
30nm,0.7s,mb5.3							
PKI	**Pulchoki**	**75.37**	**301**	*e*P	**P**	**21 05 43.5**	**+0.1**
9.1nm,0.5s,mb4.9							
KKN	**Kakani**	**75.54**	**301**	*e*P	**P**	**21 05 44.6**	**+0.2**
15nm,0.6s,mb5.1							
DMN	**Daman**	**75.64**	**301**	*e*P	**P**	**21 05 45.6**	**+0.7**
25nm,0.6s,mb5.3							
GKN	**Gorkha**	**76.14**	**301**	*e*P	**P**	**21 05 47.9**	**+0.1**
19nm,0.8s,mb5.1							
KOLN	**Koldanda**	**76.97**	**300**	*e*P	**P**	**21 05 52.5**	**0.0**
7.6nm,0.7s,mb4.8							
HYB	**Hyderabad**	**79.28**	**289**	*i* P	**P**	**21 06 04.5**	**-0.9**
IMA	**Indian Mountai**	**81.46**	**19**	*e*P	**P**	**21 06 16.2**	**+0.3**
ILAR	**Eielson Array**	**83.03**	**21**	P	**P**	**21 06 23.2**	**-0.9**
0.9nm,0.4s,mb4.2,baz=241,slow=5.5,SNR=25							
QSPA	**South Pole Qui**	**83.30**	**180**	*i* P	**P**	**21 06 25.6**	**+0.4**
5.0nm,0.7s,mb4.7							
BBB	**Bella Bella**	**87.19**	**37**	LR	LR	21 44 28.1	
comp=Z,62nm,18.4s,MS4.0,baz=348,slow=35							
NVAR	**Mina Array Bea**	**91.43**	**52**	P	**P**	**21 07 05.3**	**0.0**
1.6nm,0.9s,mb4.3,baz=249,slow=4.3,SNR=7.7							
NVAR				pP	pP	21 07 15.2	-4.0
1.3nm,0.8s,baz=256,slow=3.7,SNR=4.8							
BRVK	**Borovoye**	**92.18**	**323**	*e*P	**P**	**21 07 06.6**	**-1.8**
YKA	**Yellowknife Ar**	**96.00**	**28**	P	**P**	**21 07 26.1**	**+0.6**
1.2nm,0.6s,mb4.5,baz=267,slow=4.6,SNR=31							
YKA				pP	pP	21 07 35.2	-4.1
4.4nm,1.1s,baz=268,slow=4.6,SNR=12							
FRB	**Frobisher Bay**	**115.02**	**20**	PKP	PKPdf	21 12 38.5	+0.2
1.5nm,0.5s,baz=77,slow=3.8,SNR=5.3							
BDFB	**Brasilia**	**148.11**	**134**	PKPbc	PKPdf	21 13 45.0	+4.1
5.6nm,0.5s,baz=212,slow=2.5,SNR=8.9							

IDC 10 21:08:34.0±1.7, 5.20S×145.67E, mb3.6/3, mb1 3.7/5, mb1mx3.6/13, mbtmp3.5/5, ML2.9/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/14, Error ellipse: s-maj=62.4km s-min=28.3km az=109.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.43**	**161**	Pn	Pn	21 09 43.1	-0.9
2.3nm,0.3s,baz=333,slow=7.1,SNR=6.8							
PMG				Sn	Sn	21 10 28.3	-8.9
5.3nm,0.3s,baz=157,slow=19,SNR=3.7							
PMG				LR	LR	21 11 47.6	
comp=Z,98nm,19.9s,baz=82,slow=44							
WRA	**Warramunga Arr**	**18.34**	**216**	P	P	21 12 51.2	-0.5
0.1nm,0.3s,baz=38,slow=11,SNR=3.9							
ASAR	**Alice Springs**	**21.58**	**211**	P	P	21 13 25.1	-2.4
0.3nm,0.6s,baz=35,slow=11,SNR=3.2							
STKA	**Stephens Creek**	**26.81**	**188**	P	P	21 14 15.2	-2.8
2.8nm,1.0s,baz=342,slow=6.4,SNR=3.1							
ILAR	**Eielson Array**	**85.27**	**23**	P	P	21 21 12.8	-0.9
0.3nm,0.7s,baz=254,slow=5.2,SNR=4.6							

IDC 10 21:20:55.6±4.0, 10.54N×91.63E, mb3.4/2, mb1 3.6/3, mb1mx3.3/18, mbtmp3.3/3, ML3.7/1, Error ellipse: s-maj=99.4km s-min=35.4km az=79.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.56**	**45**	*e*P	Pn	21 21 25.3	+0.6
PBA				*e*S	Sb	21 21 55.1	+10
PBA				*e*		21 22 04.6	
comp=E,2μm,1.1s							
PBA				*e*		21 22 06.1	
comp=N,1μm,0.7s							
CMAR	**Chiang Mai Arr**	**10.59**	**41**	Pn	P	21 23 26.8	-5.0
comp=N,0.2nm,0.3s,baz=238,slow=15,SNR=6.1							
SONM	**Songino Array**	**39.20**	**16**	P	P	21 28 26.6	-0.5
comp=N,0.6nm,1.1s,baz=207,slow=6.4,SNR=4.3							
WRA	**Warramunga Arr**	**51.82**	**126**	P	P	21 30 05.2	-2.7
comp=N,0.3nm,0.4s,baz=307,slow=8.4,SNR=6.2							

IDC 10 21:24:15.4±3.8, 50.19S×127.63E, mb4.2/2, mb1 4.4/2, mb1mx3.9/9, mbtmp4.3/2, Error ellipse: s-maj=138.3km s-min=66.4km az=111.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.05**	**35**	P	P	21 29 02.1	-1.1
6.6nm,0.8s,baz=179,slow=10,SNR=9.8							
ASAR	**Alice Springs**	**26.93**	**13**	P	P	21 29 57.3	-2.8
3.6nm,0.7s,baz=185,slow=9.2,SNR=14							
YKA	**Yellowknife Ar**	**144.84**	**46**	PKP	PKPdf	21 43 52.8	-1.9
0.9nm,0.9s,baz=267,slow=3.6,SNR=11							

IDC 10 21:28:55.8±3.6, 12.38N×93.07E, mb3.5/3, mb1 3.6/4, mb1mx3.4/18, mbtmp3.3/4, Error ellipse: s-maj=96.2km s-min=29.4km az=82.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.78**	**204**	*e*P	Pg	21 29 20.7	+9.2
PBA				*e*S	Sg	21 29 40.6	+19
PBA				*e*		21 29 41.1	
comp=E,1μm,0.4s							
PBA				*e*		21 29 41.5	
comp=N,2μm,0.6s							
CMAR	**Chiang Mai Arr**	**8.28**	**42**	Pn	P	21 30 56.1	-4.0
baz=235,slow=16,SNR=2.7							
SONM	**Songino Array**	**37.07**	**15**	P	P	21 36 08.5	-1.0
comp=N,0.3nm,0.6s,baz=198,slow=7.2,SNR=3.9							
WRA	**Warramunga Arr**	**51.78**	**128**	P	P	21 38 05.6	-2.2
comp=N,0.3nm,0.5s,baz=308,slow=8.3,SNR=11							
ASAR	**Alice Springs**	**53.64**	**132**	P	P	21 38 19.2	-2.4
comp=N,0.3nm,0.4s,baz=308,slow=6.6,SNR=6.6							

*IDC **10** 21:33:24.5±12.0, 5.32N×94.47E, h78km±96km, mb3.4/4, mb1 3.6/5, mb1mx3.3/19, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=111.9km s-min=24.3km az=58.0*

ISC 10 21:33:16.5±1.5, 5.0N±0.2×94.2E±0.2, h33km, n10, σ1§10/10, mb4.0/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.21**	**19**	P	**P**	**21 36 38.2**	**+0.7**
0.2nm,0.3s,baz=208,slow=14,SNR=5.1							
JIRN	**Jiri**	**23.81**	**342**	*e*P	**P**	**21 38 28.0**	**+0.6**
11nm,0.6s,mb4.4							
DMN	**Daman**	**24.11**	**340**	*e*P	**P**	**21 38 31.9**	**+1.5**
GUN	**Gumba**	**24.14**	**342**	*e*P	**P**	**21 38 30.2**	**-0.4**
7.6nm,0.6s,mb4.3							
KKN	**Kakani**	**24.22**	**341**	*e*P	**P**	**21 38 32.1**	**+0.7**
GKN	**Gorkha**	**24.64**	**339**	*e*P	**P**	**21 38 35.8**	**+0.3**
5.6nm,0.5s,mb4.3							
SONM	**Songino Array**	**43.99**	**12**	P	**P**	**21 41 19.9**	**-2.5**
0.9nm,1.0s,mb3.5,baz=190,slow=9.1,SNR=7.4							
SONM				PcP	PcP	21 43 08.6	+0.3
0.2nm,0.5s,baz=187,slow=4.4,SNR=6.3							
WRA	**Warramunga Arr**	**46.61**	**123**	P	**P**	**21 41 44.4**	**+0.7**
1.1nm,0.6s,mb4.0,baz=304,slow=8.8,SNR=9.9							
ZAL	**Zalesovo**	**49.42**

az=50.0

*NEIC **10** 21:52:22.2±0.8, 8.19N×92.93E, mb4.3/2, Error ellipse: s-maj=24.1km s-min=14.5km az=60.0*

ISC 10 21:52:20.6±7.7, 8.2N±0.1×93.0E±0.2, h32km±54km, h28km±.4km:pP-P, n16, σ1§00/16, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.47**	**357**	*eP*	Pn	21 52 50.0	-24
PBA				*eS*	**Sn**	**21 53 54.5**	**+0.3**
PBA				*e*		21 53 57.9	
	comp=N,156nm,0.7s						
PBA				*e*		21 53 58.7	
	comp=E,218nm,0.9s						
CMAR	**Chiang Mai Arr**	**11.76**	**29**	Pn	**P**	**21 55 09.3**	**-0.2**
	baz=220,slow=14,SNR=2.9						
CMAR				LR	LR	22 00 58.5	
	comp=E,64nm,18.6s,baz=220,slow=44						
SHL	**Shillong**	**17.33**	**357**	*eP*	**P**	**21 56 22.5**	**+0.5**
LSA	**Lhasa**	**21.48**	**356**	P	**P**	**21 57 09.2**	**+0.4**
LSA	**Lhasa**	**21.48**	**356**	*eP*	**P**	**21 57 08.4**	**-0.4**
	comp=E,16nm,1.0s,mb4.3						
SONM	**Songino Array**	**41.14**	**14**	P	**P**	**22 00 04.7**	**+1.2**
	comp=E,1.5nm,0.8s,mb3.7,baz=196,slow=8.9,SNR=14						
SONM				pP	pP	22 00 12.8	-0.3
	comp=E,2.3nm,1.0s,baz=187,slow=6.0,SNR=8.8						
ULN	**Ulaanbaatar**	**41.33**	**14**	*eP*	**P**	**22 00 05.2**	**+0.1**
ZAL	**Zalesovo**	**46.11**	**353**	P	**P**	**22 00 42.5**	**-1.1**
	comp=E,0.9nm,0.3s,mb4.2,baz=297,slow=5.4,SNR=5.7						
ZAL				pP	pP	22 00 51.1	-2.1
	comp=E,0.7nm,0.5s,baz=329,slow=17,SNR=3.2						
BVAR	**Borovoye Array**	**48.34**	**342**	P	**P**	**22 00 59.9**	**-1.3**
	comp=E,0.7nm,0.6s,mb3.9,baz=131,slow=13,SNR=4.1						
BVAR				pP	pP	22 01 08.6	-2.2
	comp=E,1.2nm,0.8s,baz=112,slow=8.0,SNR=6.0						
CHKZ	**Chkalovo**	**48.83**	**343**	*eP*	**P**	**22 01 02.3**	**-2.7**
	comp=E,1.3nm,0.5s,mb4.2						
CHKZ				*ep*P	pP	22 01 11.1	-3.5
WRA	**Warramunga Arr**	**49.39**	**125**	P	**P**	**22 01 10.4**	**+0.6**
	comp=E,0.7nm,0.5s,mb4.0,baz=303,slow=8.8,SNR=57						
WRAB	**Tennant Creek**	**49.40**	**125**	*eP*	**P**	**22 01 09.2**	**-0.6**
ASAR	**Alice Springs**	**51.01**	**129**	P	**P**	**22 01 22.1**	**0.0**
	comp=E,0.6nm,0.6s,mb3.7,baz=313,slow=7.5,SNR=5.5						
GNI	**Garni**	**53.39**	**315**	P	**P**	**22 01 39.7**	**0.0**
	comp=E,1.5nm,0.6s,mb4.1,baz=32,slow=23,SNR=2.6						
BRTR	**Keskin Array B**	**61.34**	**311**	P	**P**	**22 02 36.5**	**+0.5**
	comp=E,1.3nm,0.8s,mb4.1,baz=125,slow=6.5,SNR=3.3						
GERES	**GERESS Array B**	**76.82**	**318**	P	**P**	**22 04 13.9**	**+2.8**
	comp=E,0.8nm,0.8s,mb3.7,baz=104,slow=4.0,SNR=3.4						

IDC 10 22:00:33.8±3.3, 4.02N×78.83W, mb3.3/1, mb1 3.7/3, mb1mx3.3/19, mbtmp3.7/3, ML2.8/2, Error ellipse: s-maj=84.7km s-min=36.2km az=3.0, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**4.57**	**79**	Pn	Pn	22 01 43.5	-2.2
	3.3nm,0.3s,baz=262,slow=19,SNR=10						
ROSC				Sn	Sn	22 02 48.6	+8.3
	0.6nm,0.3s,baz=274,slow=18,SNR=2.8						
SDV	**Santo Domingo**	**9.47**	**59**	Pn	P	22 02 53.1	-1.4
	0.5nm,0.3s,baz=22,slow=5.5,SNR=2.2						
YKA	**Yellowknife Ar**	**64.06**	**342**	P	P	22 11 09.0	-2.5
	0.2nm,0.6s,baz=137,slow=6.4,SNR=8.4						
WRA	**Warramunga Arr**	**144.01**	**241**	PKP	PKPdf	22 20 12.5	-1.5
	0.5nm,0.7s,baz=110,slow=3.4,SNR=5.2						

IDC 10 22:02:06.4±7.9, 12.28N×93.60E, mb3.7/2, mb1 3.8/3, mb1mx3.4/18, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=173.7km s-min=44.8km az=99.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.02**	**39**	Pn	P	22 04 03.0	-4.0
	0.1nm,0.3s,baz=231,slow=15,SNR=4.2						
WRA	**Warramunga Arr**	**51.32**	**128**	P	P	22 11 12.5	-2.4
	0.5nm,0.5s,baz=300,slow=9.8,SNR=39						
ASAR	**Alice Springs**	**53.20**	**132**	P	P	22 11 27.3	-1.7
	0.5nm,0.4s,baz=308,slow=6.7,SNR=7.7						

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*IDC **10** 22:05:36.0±1.8, 5.95N×90.30E, mb4.1/5, mb1 4.3/6, mb1mx3.9/18, mbtmp4.0/6, ML3.8/1, MS3.1/1, Ms1 3.3/1, ms1mx2.8/21, Error ellipse: s-maj=50.8km s-min=32.3km az=56.0*

*NEIC **10** 22:05:40.8±1.2, 6.05N×90.39E, h30km, mb3.9/2, Error ellipse: s-maj=23.4km s-min=17.6km az=208.0*

ISC 10 22:05:39.4±5.7, 6.2N±0.1×90.5E±0.1, h28km±43km, n13, σ1§14/15, mb4.0/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.73**	**33**	Pn	**P**	**22 09 08.2**	**+0.2**
	0.1nm,0.3s,baz=225,slow=13,SNR=18						
CMAR				Sn	**S**	**22 11 49.8**	**-1.2**
	0.3nm,0.3s,baz=303,slow=25,SNR=4.8						
CMAR				LR	LR	22 15 40.7	
	comp=Z,70nm,19.5s,baz=210,slow=40						
HYB	**Hyderabad**	**16.18**	**315**	*eP*	**P**	**22 09 25.0**	**-1.7**
HYB	**Hyderabad**	**16.18**	**315**	*i P*	**P**	**22 09 25.0**	**-1.7**
HYB				*eS*	**S**	**22 12 16.0**	**-9.0**
KAD	**Karad**	**19.43**	**306**	*eP*	**P**	**22 10 07.0**	**+0.3**
LSA	**Lhasa**	**23.42**	**1**	*eP*	**P**	**22 10 50.3**	**+3.1**
	5.3nm,0.7s,mb4.1						
ENH	**Enshi**	**29.90**	**34**	P	**P**	**22 11 47.0**	**-0.2**
SONM	**Songino Array**	**43.69**	**15**	P	**P**	**22 13 44.8**	**+1.2**
	1.9nm,0.7s,mb3.9,baz=197,slow=8.7,SNR=16						
ULN	**Ulaanbaatar**	**43.89**	**16**	*eP*	**P**	**22 13 46.0**	**+0.7**
	0.7nm,0.6s,mb3.6						
ZAL	**Zalesovo**	**47.86**	**355**	P	**P**	**22 14 18.0**	**+1.2**
	1.0nm,0.5s,mb4.2,baz=315,slow=6.9,SNR=3.0						
WRA	**Warramunga Arr**	**50.30**	**122**	P	**P**	**22 14 35.2**	**-0.8**
	0.7nm,0.7s,mb3.8,baz=300,slow=8.1,SNR=4.5						
FINES	**FINESS Array B**	**72.56**	**333**	P	**P**	**22 17 01.9**	**-3.8**
	3.4nm,0.8s,mb4.3,baz=153,slow=13,SNR=3.6						
FINES	**FINESS Array B**	**72.56**	**333**	P	**P**	**22 17 01.9**	**-3.8**
GERES	**GERESS Array B**	**76.71**	**319**	P	**P**	**22 17 29.0**	**-0.8**
	1.9nm,0.8s,mb4.1,baz=104,slow=4.0,SNR=7.6						

IDC 10 22:29:21.1±1.2, 57.19S×176.65E, mb4.0/5, mb1 4.2/5, mb1mx3.9/10, mbtmp4.0/5, MS3.4/5, Ms1 3.4/5, ms1mx2.9/17, Error ellipse: s-maj=42.4km s-min=26.1km az=58.0, South of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**13.94**	**343**	LR	LR	22 36 46.0	
	comp=Z,66nm,18.8s,baz=36,slow=32						
URZ	**Urewera**	**18.94**	**1**	LR	LR	22 39 39.2	
	comp=Z,64nm,20.2s,baz=179,slow=33						
VNDA	**Vanda**	**21.06**	**189**	P	P	22 34 07.0	-1.8
	1.0nm,0.8s,baz=69,slow=8.6,SNR=2.7						
VNDA				LR	LR	22 40 20.5	
	comp=Z,86nm,22.0s,baz=324,slow=31						
RAR	**Rarotonga**	**39.88**	**36**	LR	LR	22 50 10.3	
	comp=Z,114nm,18.4s,baz=277,slow=31						
ASAR	**Alice Springs**	**45.46**	**299**	P	P	22 37 42.4	-1.1
	3.6nm,0.9s,baz=149,slow=7.2,SNR=14						
MAW	**Mawson**	**46.32**	**209**	P	P	22 37 46.9	-2.8
	5.9nm,1.1s,baz=158,slow=5.4,SNR=4.5						
MAW				LR	LR	22 55 08.4	
	comp=Z,89nm,19.2s,baz=248,slow=33						
WRA	**Warramunga Arr**	**48.45**	**302**	P	P	22 38 04.6	-2.5
	1.0nm,0.7s,baz=152,slow=6.8,SNR=8.4						
LPAZ	**La Paz**	**89.37**	**120**	P	P	22 42 20.7	0.0
	1.6nm,0.8s,baz=140,slow=1.4,SNR=7.5						
YKA	**Yellowknife Ar**	**130.63**	**35**	PKP	PKPdf	22 48 30.8	-3.9
	0.1nm,0.6s,baz=208,slow=2.8,SNR=3.6						
BRTR	**Keskin Array B**	**150.38**	**250**	PKPbc	PKPdf	22 49 14.1	+4.0
	1.4nm,0.8s,baz=144,slow=4.5,SNR=6.3						

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*IDC **10** 22:33:43.6±1.0, 13.27N×93.17E, mb3.9/8, mb1 4.0/9, mb1mx3.9/18, mbtmp3.8/9, MS3.3/2, Ms1 3.3/2, ms1mx2.5/16, Error ellipse: s-maj=51.6km s-min=19.8km az=51.0*

ISC 10 22:33:44.4±0.7, 13.28N±0.05×92.72E±0.09, h33km, n15, σ1§53/17, mb3.9/8, MS3.6/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.61**	**179**	*eP*	**P**	**22 34 18.4**	**+7.5**
PBA				*eS*	**S**	**22 34 30.4**	**-0.3**
PBA				*e*		22 35 05.1	
	comp=N,774nm,0.3s						
PBA				*e*		22 35 08.1	
	comp=E,944nm,0.3s						
CMAR	**Chiang Mai Arr**	**7.89**	**48**	Pn	**Pn**	**22 35 30.2**	**-10**
	baz=242,slow=15,SNR=12						
CMAR				Sn	**Sn**	**22 37 08.6**	**-0.4**
	comp=E,0.3nm,0.3s,baz=235,slow=32,SNR=6.1						
CMAR				LR	LR	22 39 12.3	
	comp=E,88nm,18.9s,baz=230,slow=43						
JIRN	**Jiri**	**15.56**	**338**	*eP*	**P**	**22 37 21.4**	**-1.6**
	comp=E,8.9nm,0.6s						
PKI	**Pulchoki**	**15.78**	**335**	*eP*	**P**	**22 37 21.3**	**-4.5**
	comp=E,7.0nm,0.6s						
GUN	**Gumba**	**15.90**	**337**	*eP*	**P**	**22 37 25.5**	**-1.9**
GKN	**Gorkha**	**16.48**	**334**	*eP*	**P**	**22 37 30.0**	**-4.7**
KOLN	**Koldanda**	**16.75**	**331**	*eP*	**P**	**22 37 37.3**	**-0.8**
SONM	**Songino Array**	**36.29**	**16**	P	**P**	**22 40 48.2**	**+1.5**
	comp=E,0.4nm,0.6s,mb3.5,baz=198,slow=7.8,SNR=4.1						
ZAL	**Zalesovo**	**41.04**	**353**	P	**P**	**22 41 28.6**	**+2.4**
	comp=E,0.8nm,0.3s,mb3.8,baz=317,slow=8.1,SNR=3.1						
ZAL				LR	LR	23 01 24.7	
	comp=E,71nm,18.5s,MS3.6,baz=86,slow=40						
WRA	**Warramunga Arr**	**52.60**	**128**	P	**P**	**22 42 57.6**	**+0.1**
	comp=E,1.1nm,0.8s,mb3.9,baz=301,slow=9.7,SNR=9.5						
ASAR	**Alice Springs**	**54.49**	**132**	P	**P**	**22 43 10.3**	**-1.2**
	comp=E,0.5nm,0.4s,mb3.8,baz=309,slow=7.2,SNR=9.4						
BRTR	**Keskin Array B**	**57.92**	**309**	P	**P**	**22 43 39.6**	**+3.8**
	comp=E,1.0nm,0.8s,mb3.9,baz=121,slow=7.2,SNR=4.8						
FINES	**FINESS Array B**	**67.32**	**331**	P	**P**	**22 44 41.8**	**+3.9**
	comp=E,2.0nm,0.7s,mb4.2,baz=135,slow=5.4,SNR=3.7						
GERES	**GERESS Array B**	**72.91**	**317**	P	**P**	**22 45 18.0**	**+5.9**
	comp=E,1.3nm,0.8s,mb3.9,baz=90,slow=4.0,SNR=8.0						
NOA	**NORSAR Array B**	**74.38**	**330**	P	**P**	**22 45 23.1**	**+2.8**
	comp=E,1.9nm,0.8s,mb4.1,baz=84,slow=4.5,SNR=3.2						

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*NEIC **10** 22:47:11.2, 34.06N×6.39W, MG3.7(MDD), After MDD.*

MDD 10 22:47:10.5±3.2, 34.03N×6.46W, mb3.2/6, Error ellipse: s-maj=27.1km s-min=24.0km az=8.0, PRXIMO SOLUCIN POBRE, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**2.87**	**10**	Sn	Sn	22 48 30.2	-3.9
	0.0nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**2.88**	**28**	Pn	Pn	22 47 56.0	-2.4
EMIJ				Sn	Sn	22 48 30.1	-4.2
EMIJ	**Mijas**	**2.88**	**28**	Pn	Pn	22 47 56.9	-1.5
	0.3nm,0.2s,SNR=4.0						
EMIJ				Sn	Sn	22 48 29.9	-4.3
	0.3nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.59**	**347**	Pn	Pn	22 48 07.0	-1.7
EGRO				Sn	Sn	22 48 47.5	-4.9
EGRO	**El Granado**	**3.59**	**347**	Pn	Pn	22 48 05.8	-2.8
	0.8nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	22 48 48.0	-4.4
	0.2nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.73**	**357**	Pn	Pn	22 48 08.8	-1.7
EMIN				Sn	Sn	22 48 52.5	-3.4
EMIN	**Mina Concepcio**	**3.73**	**357**	Pn	Pn	22 48 08.0	-2.6
	0.1nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	22 48 51.3	-4.6
	0.1nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**4.40**	**20**	Pn	Pn	22 48 16.9	-3.1
EADA				Sn	Sn	22 49 04.4	-8.4
EADA	**Adamuz**	**4.40**	**20**	Pn	Pn	22 48 16.9	-3.1
	0.3nm,0.1s,SNR=7.9						
EADA				Sn	Sn	22 49 05.2	-7.6
	0.5nm,0.4s,SNR=6.1						
EQES	**Quesada**	**4.66**	**35**	Pn	Pn	22 48 21.5	-2.2
EQES				Sn	Sn	22 49 14.2	-5.2
EQES	**Quesada**	**4.66**	**35**	Pn	Pn	22 48 21.3	-2.4
	0.3nm,0.2s,SNR=7.9						
EQES				Sn	Sn	22 49 13.5	-5.9
	0.8nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.74**	**355**	Pn	Pn	22 48 22.0	-2.8
	0.5nm,0.2s,SNR=7.9						
EBAD				Sn	Sn	22 49 14.6	-6.7
	0.6nm,0.2s,SNR=7.9						

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*IDC **10** 22:52:43.6±2.1, 49.78S×161.45E, mb4.1/3, mb1 4.4/3, mb1mx3.9/8, mbtmp4.1/3, MS3.4/1, Ms1 3.3/1, ms1mx2.3/9, Error ellipse: s-maj=154.3km s-min=51.0km az=43.0*

ISC 10 22:52:44.1±3.8, 49.75±0.6×161.4E±0.3, h10km, n11, σ1§08/7, mb4.1/3, MS3.2/1, North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**5.87**	**52**	P	**Pn**	**22 54 12.9**	**-0.3**
MLZ	**Mavora Lakes**	**6.37**	**49**	P	**Pn**	**22 54 20.2**	**-0.1**
JCZ	**Jackson Bay**	**7.59**	**45**	P	**Pn**	**22 54 39.0**	**+1.5**
ODZ	**Otahua Downs**	**7.85**	**57**	P	**Pn**	**22 54 37.8**	**-3.3**
STKA	**Stephens Creek**	**23.17**	**313**	LR	LR	23 05 10.3	
	comp=Z,90nm,19.3s,MS3.2,baz=206,slow=32						
ASAR	**Alice Springs**	**33.74**	**310**	P	**P**	**22 59 27.9**	**+0.2**
	2.0nm,0.7s,mb4.2,baz=146,slow=8.6,SNR=17						
WRA	**Warramunga Arr**	**36.71**	**314**	P	**P**	**22 59 51.9**	**-1.1**
	2.3nm,0.8s,mb4.1,baz=146,slow=8.0,SNR=12						
CMAR	**Chiang Mai Arr**	**87.39**	**303**	P	**P**	**23 05 33.5**	**+0.8**
	0.9nm,0.8s,mb4.1,baz=158,slow=3.8,SNR=6.3						
ARCES	**ARCESS Array B**	**151.18**	**329**	PKPbc	PKPdf	23 12 37.4	+4.4
	1.6nm,0.6s,baz=63,slow=2.7,SNR=8.7						
FINES	**FINESS Array B**	**152.74**	**312**	PKPbc	PKPdf	23 12 40.6	+5.1
	2.8nm,0.9s,baz=76,slow=5.7,SNR=5.3						
GERES	**GERESS Array B**	**158.98**	**280**	PKPab	PKPab	23 13 18.6	-1.2
	0.4nm,0.8s,baz=63,slow=2.2,SNR=3.7						

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*NEIC **10** 23:32:36.7±1.7, 11.86S×75.88W, h91km±23km, mb3.7/1, Error ellipse: s-maj=34.7km s-min=11.2km az=69.0*

NEIC Felt [II] at Jauja, Lima and Matucana.

*IDC **10** 23:32:37.2±3.4, 11.80S×75.77W, h99km±31km, mb3.8/9, mb1 3.9/11, mb1mx3.7/20, mbtmp4.1/11, Error ellipse: s-maj=37.1km s-min=19.7km az=51.0*

ISC 10 23:32:36.4±0.9, 11.79S±0.10×75.8W±0.1, h105km±11km, n19, σ0§85/18, mb3.9/10, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.06**	**259**	Pn	**P**	**23 32 58.0**	**0.0**
	26μm,0.3s						
ARE	**Arequipa**	**6.24**	**139**	*eP*	**P**	**23 34 07.0**	**-0.3**
ARE				*eS*	**S**	**23 35 13.0**	**-4.8**
LPAZ	**La Paz**	**8.67**	**122**	P	**P**	**23 34 40.6**	**+0.2**
	2.0nm,0.3s,baz=302,slow=10,SNR=32						
LPAZ				S	**S**	**23 36 16.4**	**-0.7**
	0.3nm,0.3s,baz=263,slow=17,SNR=2.7						
OTAV	**Otavalo**	**12.24**	**347**	*eP*	**P**	**23 35 28.9**	**+0.6**
	4.9nm,0.7s						
LVC	**Limon Verde**	**12.60**	**150**	P	**P**	**23 35 32.6**	**-0.4**
	0.3nm,0.3s,baz=319,slow=10,SNR=6.4						
LVC				S	**S**	**23 37 52.5**	**+1.1**
	0.3nm,0.3s,baz=96,slow=18,SNR=3.0						
SDV	**Santo Domingo**	**21.17**	**14**	P	**P**	**23 37 15.9**	**+1.1**
	4.0nm,0.3s,mb4.2,baz=261,slow=6.4,SNR=5.7						
TXAR	**Lajitas Array**	**48.94**	**327**	P	**P**	**23 41 14.1**	**0.0**
	0.3nm,0.3s,mb3.8,baz=148,slow=8.5,SNR=2.3						
MNTX	**Cornudas Mount**	**51.71**	**328**	P	**P**	**23 41 34.9**	**-0.2**
	0.7nm,0.9s,mb3.7						
PDAR	**Pinedale Array**	**62.48**	**333**	P	**P**	**23 42 50.0**	**-1.0**
	0.4nm,0.8s,mb3.5,baz=180,slow=4.4,SNR=3.7						
SCHQ	**Schefferville**	**66.79**	**6**	P	**P**	**23 43 17.1**	**-1.6**
	1.5nm,0.7s,mb3.9,baz=225,slow=7.1,SNR=6.2						
DBIC	**Dimbokro**	**72.88**	**79**	P	**P**	**23 43 55.5**	**-0.8**
	3.0nm,0.6s,mb4.3,baz=204,slow=5.0,SNR=13						
FRB	**Frobisher Bay**	**75.51**	**3**	P	**P**	**23 44 10.1**	**-0.5**
	1.0nm,0.3s,mb4.0,baz=351,slow=13,SNR=3.8						
YKA	**Yellowknife Ar**	**79.95**	**343**	P	**P**	**23 44 34.9**	**-0.2**
	4.9nm,1.2s,mb4.2,baz=140,slow=6.1,SNR=20						
ESDC	**Sonseca Array**	**83.87**	**48**	P	**P**	**23 44 57.7**	**+1.8**
	0.6nm,0.8s,mb3.5,baz=262,slow=5.0,SNR=4.0						
INK	**Inuvik**	**89.66**	**342**	P	**P**	**23 45 24.2**	**+1.0**
	1.0nm,0.6s,mb4.1,baz=67,slow=11,SNR=3.2						
BVAR	**Borovoye Array**	**130.78**	**26**	PKP	PKPdf	23 51 38.3	+2.9
	0.5nm,0.6s,baz=162,slow=4.7,SNR=4.2						
ZAL	**Zalesovo**	**135.21**	**16**	PKP	PKPdf	23 51 45.4	+1.7
	2.7nm,1.1s,baz=177,slow=2.7,SNR=8.4						
WRA	**Warramunga Arr**	**136.72**	**224**	PKP	PKPdf	23 51 48.8	+1.5
	1.0nm,0.8s,baz=124,slow=2.0,SNR=8.8						
SONM	**Songino Array**	**144.02**	**358**	PKP	PKPdf	23 51 60.0	+0.5
	0.7nm,0.5s,baz=331,slow=2.2,SNR=6.7						

IDC 10 23:37:20.6±3.7, 12.59N×92.05E, mb3.6/2, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, ML4.2/1, Error ellipse: s-maj=93.3km s-min=35.1km az=80.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.84**	**48**	Pn	P	23 39 29.8	-2.8
	0.7nm,0.3s,baz=238,slow=15,SNR=4.5						
CMAR				Sn	Sn	23 41 07.7	-6.5
	0.1nm,0.3s,baz=240,slow=28,SNR=4.3						
SONM	**Songino Array**	**37.13**	**16**	P	P	23 44 32.9	-1.8
	0.8nm,0.8s,baz=209,slow=6.8,SNR=5.8						
WRA	**Warramunga Arr**	**52.70**	**127**	P	P	23 46 37.2	-2.2
	0.6nm,0.7s,baz=307,slow=8.3,SNR=6.3						

IDC 10 23:42:43.8±3.2, 3.15N×93.80E, mb3.5/4, mb1 3.8/5, mb1mx3.7/19, mbtmp3.6/5, ML4.4/1, Error ellipse: s-maj=128.1km s-min=25.6km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.02**	**18**	Pn	P	23 46 35.1	+2.7
	0.5nm,0.3s,baz=214,slow=11,SNR=11						
SONM	**Songino Array**	**45.82**	**12**	P	P	23 51 07.7	-1.6
	0.2nm,0.4s,baz=280,slow=29,SNR=4.6						
WRA	**Warramunga Arr**	**45.95**	**122**	P	P	23 51 09.0	-1.7
	0.6nm,0.6s,baz=300,slow=8.8,SNR=8.3						
ASAR	**Alice Springs**	**47.28**	**126**	P	P	23 51 19.1	-2.1
	0.3nm,0.7s,baz=301,slow=8.1,SNR=4.9						
BVAR	**Borovoye Array**	**53.34**	**343**	P	P	23 52 04.6	-2.4
	0.7nm,0.6s,baz=141,slow=9.5,SNR=6.3						

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*IDC **10** 23:45:07.2±1.5, 10.63N×92.94E, h39km±6km, mb4.0/5, mb1 4.2/6, mb1mx3.9/19, mbtmp4.2/6, ML4.2/1, MS3.0/1, Ms1 3.2/1, ms1mx3.0/23, Error ellipse: s-maj=70.3km s-min=15.7km az=64.0*

*NEIC **10** 23:45:07.4±0.7, 10.68N×93.06E, mb4.6/3, Error ellipse: s-maj=23.9km s-min=12.0km az=48.0*

ISC 10 23:45:05.3±0.8, 10.54N±0.09×93.0E±0.1, h42km, h42km±.9km:pP-P, n15, σ1§02/14, mb4.4/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.15**	**346**	*eP*	**P**	**23 45 26.1**	**+1.0**
PBA				*eS*	**S**	**23 45 40.3**	**+0.4**
PBA				*e*		23 45 44.5	
	comp=E,3μm,0.4s						
PBA				*e*		23 45 44.8	
	comp=N,5μm,0.3s						
CMAR	**Chiang Mai Arr**	**9.74**	**35**	Pn	**P**	**23 47 29.9**	**+4.0**
	comp=N,0.5nm,0.3s,baz=227,slow=15,SNR=9.0						
CMAR				LR	LR	23 51 19.0	
	comp=N,78nm,19.6s,baz=210,slow=38						
CMAR	**Chiang Mai Arr**	**9.74**	**35**	Pn	**P**	**23 47 29.9**	**+3.9**
CMAR				LR	LR	23 51 19.0	
HYB	**Hyderabad**	**15.61**	**298**	*eP*	**P**	**23 48 45.0**	**+0.9**
HYB	**Hyderabad**	**15.61**	**298**	*i P*	**P**	**23 48 45.0**	**+0.9**
ENH	**Enshi**	**24.91**	**36**	*eP*	**P**	**23 50 26.0**	**-0.1**
	comp=N,8.8nm,0.6s,mb4.5						
SONM	**Songino Array**	**38.85**	**14**	P	**P**	**23 52 28.1**	**0.0**
	comp=N,0.5nm,0.5s,mb3.5,baz=202,slow=6.7,SNR=3.6						
SONM				pP	pP	23 52 39.5	-0.1
	comp=N,1.0nm,0.8s,baz=188,slow=8.7,SNR=3.1						
SONM				PcP	PcP	23 54 39.4	+0.2
	comp=N,0.8nm,0.8s,baz=204,slow=3.6,SNR=4.2						
BVAR	**Borovoye Array**	**46.13**	**341**	P	**P**	**23 53 25.4**	**-2.0**
	comp=N,0.7nm,0.4s,mb3.9,baz=136,slow=9.7,SNR=8.5						
BVAR				pP	pP	23 53 37.6	-1.5
	comp=N,1.7nm,1.0s,baz=139,slow=8.8,SNR=2.7						
CHKZ	**Chkalovo**	**46.62**	**342**	*eP*	**P**	**23 53 29.0**	**-2.2**
	comp=N,3.6nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**50.71**	**127**	P	**P**	**23 54 03.5**	**+0.2**
	comp=N,5.5nm,0.6s,mb4.6,baz=306,slow=8.5,SNR=68						
WRA				pP	pP	23 54 15.7	+0.5
	comp=N,1.5nm,0.6s,baz=306,slow=8.8,SNR=4.3						
WRA				PcP	PcP	23 55 20.9	+0.6
	comp=N,0.5nm,0.4s,baz=317,slow=3.0,SNR=8.3						
WRA				pPcP		23 55 32.1	
	comp=N,0.6nm,0.9s,baz=12,slow=34,SNR=2.5						
WRAB	**Tennant Creek**	**50.72**	**127**	*eP*	**P**	**23 54 03.1**	**-0.2**
	comp=N,6.4nm,0.5s,mb4.8						
ASAR	**Alice Springs**	**52.47**	**131**	P	**P**	**23 54 16.6**	**+0.1**
	comp=N,4.6nm,0.7s,mb4.5,baz=307,slow=6.9,SNR=36						
ASAR				pP	pP	23 54 28.5	+0.1
	comp=N,8.7nm,1.1s,baz

DALT	Dalyan (Mudla)	0.58	98	*i* PG	Pb	23 49 04.1	+3.2
DALT				*i* SG	Sb	23 49 14.7	+6.1
ARG	Arkhangelos	0.66	166⇑	*i* PN	Pn	23 49 04.9	+0.9
AYDN	Tasoluk	0.80	357	*i* S	Sb	23 49 14.5	-0.6
FETY	Fethiye	0.95	103	PN	Pn	23 49 10.5	+2.3
SMG	Samos	1.22	315	*e*Pn	Pn	23 49 11.1	-0.9
DNZL	Cakiroluk	1.22	47	*i* P	Pb	23 49 12.7	+0.8
DNZL				*i* S	Sb	23 49 31.8	+4.6
KARP	Karpathos	1.45	206⇑	*i* PN	Pn	23 49 17.6	+2.4
KDAG	Bornova	1.63	341	*i* P	Pn	23 49 16.6	-1.3
KDAG				*i* S	Pn	23 49 16.6	-1.3
BLCB	Balcova	1.68	336	PN	Pn	23 49 17.3	-1.3
BLCB	Balcova	1.68	336	Pn	Pn	23 49 17.4	-1.2
MANT	Manisa	1.71	17	*i* P	Pn	23 49 18.8	-0.2
MANT				*i* S	Sn	23 49 42.9	+2.4
APE	Apeiranthos	1.93	277	PN	Pn	23 49 21.5	-0.7
APE	Apeiranthos	1.93	277	*d i*P	Pn	23 49 22.1	-0.1
APE	Apeiranthos	1.93	277	Pn	Pn	23 49 21.5	-0.7
APE	Apeiranthos	1.93	277	*e*Pn	Pn	23 49 22.0	-0.2
SANT	Santorini	2.04	257	*e*Pn	Pn	23 49 24.0	+0.2
SANT				*e*Pg	Pn	23 49 30.7	+6.9
SANT	Santorini	2.04	257	*e*Pg	Pn	23 49 30.7	+6.9
SANT	Santorini	2.04	257	*e*Pn	Pn	23 49 24.0	+0.2
ANTB	Antalya	2.19	88	PN	Pn	23 49 28.4	+2.5
ISP	Isparta	2.28	64	PN	Pn	23 49 28.8	+1.6
ISP	Isparta	2.28	64	*c i*P	Pn	23 49 29.4	+2.2
NPS	Neapolis	2.46	230	*e*PN	Pn	23 49 30.9	+1.2
XRY	Khrisi	2.68	223	*e*PB	Pb	23 49 36.9	+0.1
PRK	Paraskevi	2.72	332	*e*PN	Pn	23 49 32.1	-1.4
BALB	Balikesir	2.78	359	PN	Pn	23 49 33.0	-1.3
IDI	Anoyia	2.92	238	P	Pn	23 49 37.4	+1.1
	38nm,0.3s,baz=58,slow=13,SNR=295						
IDI				S	Sn	23 50 13.4	+2.2
	56nm,0.3s,baz=275,slow=22,SNR=6.7						
CANB	Canakkale	3.23	348	*e*PN	Pn	23 49 38.7	-2.0
VAM	Vamos	3.34	245	*e*PN	Pn	23 49 43.5	+1.2
PTL	Penteli	3.44	291	*e*PN	Pn	23 49 43.8	+0.1
ATH	Athens Observa	3.53	290	*e*PN	Pn	23 49 44.8	-0.2
MPAR	Parnis Oros	3.57	292	*e*PN	Pn	23 49 45.6	0.0
NAIG	Nisos Aigina	3.65	286	*e*PN	Pn	23 49 46.7	0.0
HDMB	Hadim	3.66	87	PN	Pn	23 49 49.3	+2.5
HDMB	Hadim	3.66	87	Pn	Pn	23 49 49.3	+2.6
NSAL	Nisos Salamina	3.71	288	*e*PN	Pn	23 49 48.0	+0.5
GVD	Gavdhos	3.71	238	*e*PN	Pn	23 49 50.5	+3.0
LIA	Limnos Island	3.72	325	⇑*i*PN	Pn	23 49 46.6	-1.1
MRMT	Marmara Adasi	3.75	356	*e*PN	Pn	23 49 45.9	-2.2
LOS	Limnos	3.80	325	*e*Pn	Pn	23 49 47.7	-1.1
YLV	Yalova	3.87	17	PN	Pn	23 49 48.6	-1.2
MGER	Gerania Oros	3.88	288	*e*PN	Pn	23 49 50.2	+0.2
AOS	Alonnisos	3.94	307	*e*Pn	Pn	23 49 50.4	-0.5
AOS	Alonnisos	3.94	307	*e*Pn	Pn	23 49 50.3	-0.5
MFT	Murefte	3.96	353	*e*PN	Pn	23 49 48.9	-2.1
KYTH	Kithira	3.98	263	*e*PN	Pn	23 49 52.0	+0.7
VLI	Veliai	4.01	270	⇓*e*PN	Pn	23 49 51.5	-0.3
AKMC	Akamas	4.01	116	P	Pn	23 49 53.5	+1.7
ALFC	Alevga	4.15	113	⇓*e*P	Pn	23 49 55.2	+1.4
	67nm,0.9s						
ALFC				S	Sn	23 50 45.3	+2.8
HRT	Hereke	4.19	18	PN	Pn	23 49 53.0	-1.3
ALN	Alexandroupoli	4.29	341	*e*Pn	Pn	23 49 53.7	-2.1
ISK	Istanbul-Kandi	4.29	12	*e*PN	Pn	23 49 54.8	-1.0
LKR	Lokris	4.30	296	*e*PN	Pn	23 49 55.4	-0.5
NEO	Neokhori	4.44	305	⇑*i*PN	Pn	23 49 57.1	-0.9
XOR	Xorichti	4.50	305	*e*Pn	Pn	23 49 57.8	-0.9
PAIG	Paliouri	4.53	314	*e*Pn	Pn	23 49 58.0	-1.2
SZAC	Souni-Zanaja	4.54	116	⇓*e*P	Pn	23 50 01.3	+2.0
SZAC				S	Sn	23 50 55.0	+2.7
MAMC	Mammari	4.61	110	P	Pn	23 50 02.1	+1.8
OUR	Ouranopolis	4.65	320	*e*Pn	Pn	23 49 59.4	-1.4
RDO	Rodhopi	4.67	337	⇑*i*PN	Pn	23 49 59.2	-2.0
CSS	Prodhromos	4.78	112	P	Pn	23 50 04.0	+1.3
CSS				S	Sn	23 51 01.5	+3.2
ITM	Ithomi	4.81	276	*e*PN	Pn	23 50 04.7	+1.5
ANTO	Ankara	4.87	50	PN	Pn	23 50 04.6	+0.7
ANTO	Ankara	4.87	50	Pn	Pn	23 50 05.2	+1.3
ANTO	Ankara	4.87	50	Pn	Pn	23 50 04.6	+0.7
AGG	Agios Georgios	4.92	298	*e*Pn	Pn	23 50 04.8	0.0
PLG	Polygyros	4.96	316	*e*PN	Pn	23 50 04.3	-1.0
EDRB	Edirne	5.07	350	*e*PN	Pn	23 50 04.9	-1.9
EDRB	Edirne	5.07	350	Pn	Pn	23 50 05.1	-1.8
KDZ	Kurdzhali	5.17	339	P	Pn	23 50 06.0	-2.2
EVR	Evrytania	5.26	295	*e*PN	Pn	23 50 10.5	+1.0
RLS	Riolos of Patr	5.28	285	*e*PN	Pn	23 50 10.6	+0.9
PHNC	Paralimni	5.29	109	P	Pn	23 50 13.2	+3.3
BRTR	Keskin Array B	5.33	56	P	Pn	23 50 11.7	+1.2
	24nm,0.3s,baz=236,slow=14,SNR=136						
BRTR				S	Sn	23 51 14.0	+1.8
	10.0nm,0.3s,baz=149,slow=14,SNR=5.7						
SOH	Sokhos	5.33	319	*e*Pn	Pn	23 50 09.4	-1.1
LIT	Litokhoron	5.36	309	*e*Pn	Pn	23 50 09.9	-0.9
THE	Thessaloniki	5.41	316	*e*Pn	Pn	23 50 10.7	-0.9
RZN	Rozhen	5.43	334	P	Pn	23 50 10.0	-1.9
SRS	Serrai	5.43	323	*e*Pn	Pn	23 50 10.0	-1.9
NVR	Nevrokopi	5.49	326	⇑*i*PN	Pn	23 50 11.0	-1.7
DIM	Dimitrovgrad	5.51	341	P	Pn	23 50 10.2	-2.8
MMB	Musomiste	5.74	327	P	Pn	23 50 14.0	-2.3
HMAT	Matruh	5.79	187	⇑P	Pn	23 50 17.6	+0.6
PLD	Plovdiv	5.80	336	P	Pn	23 50 26.0	+8.8
SLUM		5.80	204	P	Pn	23 50 17.3	+0.1
KNT	Kendrikon	5.81	319	*e*Pn	Pn	23 50 16.4	-0.9
DABA	Dabaa	5.84	177	⇑P	Pn	23 50 17.8	+0.1
KZN	Kozani	5.93	307	*e*PN	Pn	23 50 18.5	-0.4
GRG	Griva	5.94	315	*e*Pn	Pn	23 50 18.8	-0.4
VLS	Valsamata	5.98	285	*e*PN	Pn	23 50 22.0	+2.4
VAY	Valandovo	6.10	319	*i* Pn	Pn	23 50 21.5	+0.1
VAY				*i*		23 51 40.3	
JAN	Janina	6.23	299	*e*PN	Pn	23 50 25.0	+1.8
PRD	Provadia	6.35	357	P	Pn	23 50 22.0	-2.9
PGB	Panagyurishte	6.38	334	P	Pn	23 50 22.8	-2.5
FNA	Florina	6.44	309	*e*Pn	Pn	23 50 25.9	-0.3
HBRG	Burj al 'Arab	6.46	165	P	Pn	23 50 26.4	-0.1
IGT	Igoumenitsa	6.55	296	*e*PN	Pn	23 50 29.1	+1.5
IGT	Igoumenitsa	6.55	296	*e*Pn	Pn	23 50 29.1	+1.4
SZH	Strazhica	6.58	347	P	Pn	23 50 25.0	-3.1
MANS	Anshas	6.60	152	P	Pn	23 50 36.2	+7.8
PVL	Pavlikeni	6.66	343	*e*P	Pn	23 50 26.8	-2.4
VTS	Vitosha	6.78	329	P	Pn	23 50 29.3	-1.7
PSN	Preselentsi	6.82	2	P	Pn	23 50 29.0	-2.5
MATL	Matirih	6.93	117	*e*PN	Pn	23 50 32.5	-0.6
BHL	Bhannes	6.96	113	*e*PN	Pn	23 50 31.9	-1.6
BHL				SN	Sn	23 51 48.6	-4.5
KEK	Kerkira	7.00	297	*e*PN	Pn	23 50 35.2	+1.2
HWQ	Hawqa	7.02	109	*e*PN	Pn	23 50 34.6	+0.3
HWQ				SN	Sn	23 51 50.7	-3.9
HNTI	Hanita	7.04	120	Pn	Pn	23 50 34.6	0.0
HNTI				Sn	Sn	23 51 52.0	-3.0
HAF	Haifa	7.11	123	Pn	Pn	23 50 35.6	0.0
AANS		7.16	155	⇓P	Pn	23 50 36.2	0.0
SKO	Skopje	7.16	317	*i* Pn	Pn	23 50 35.5	-0.8
SKO				*i*		23 50 43.0	
SKO				*i*		23 50 49.0	
SKO				Lm		23 52 30.0	
	comp=E,16nm,6.5s						
SKO				Lm		23 52 30.0	
	comp=N,9.6nm,6.0s						
OFRI	'Ofer	7.18	124	Pn	Pn	23 50 37.1	+0.5
KSDI	Kefar Szold	7.32	118	Pn	Pn	23 50 38.9	+0.4
HRI	Mount Hermon	7.33	117	Pn	Pn	23 50 39.4	+0.7
KHB	Jabal al Khash	7.36	159	⇑P	Pn	23 50 38.5	-0.6
SLTI	Sal'it	7.46	126	Pn	Pn	23 50 40.1	-0.3
SQR		7.47	158	⇑P	Pn	23 50 40.1	-0.6
KSHT	Keshet	7.54	119	Pn	Pn	23 50 42.4	+0.8
HNAT	Natroun	7.55	162	⇑P	Pn	23 50 40.3	-1.4
GLH	Golan-Tel Qazi	7.58	121	Pn	Pn	23 50 42.6	+0.5
BARS	Barje	7.58	324	⇑*i*PN	Pn	23 50 40.2	-2.0
MMLI	Mount Malkishu	7.59	123	Pn	Pn	23 50 42.7	+0.5
AMAG	Maghara	7.60	143	⇑P	Pn	23 50 41.5	-0.8
HRSH	Kfar Ka'horesh	7.60	139	P	Pn	23 50 42.5	0.0
RSH		7.60	139	P	Pn	23 50 42.5	+0.1
KVT	Kavak	7.60	54	*e*PN	Pn	23 50 43.2	+0.8
FYM	Al Fayyum	7.61	159	⇑P	Pn	23 50 41.9	-0.6
AYT	Al 'Ayyat	7.63	158	⇑P	Pn	23 50 42.1	-0.7
KOT	Kottamia	7.64	154	P	Pn	23 50 42.8	-0.1
HMDT	Nahal Hemdat	7.77	124	Pn	Pn	23 50 44.8	0.0
SWA1		7.80	194	P	Pn	23 50 44.4	-0.7
SWA1				S	Sn	23 52 05.8	-8.1
HSAF	As Saff	7.83	156	⇑P	Pn	23 50 45.0	-0.6
SWA2		7.87	196	P	Pn	23 50 45.3	-0.9
GLL	Jalalah	7.92	155	⇑P	Pn	23 50 46.1	-0.8
KZIT	Kziot	8.01	136	Pn	P	23 50 48.1	0.0
KZIT				Sn	Sn	23 52 14.0	-5.2
RTMM	Retamin	8.06	134	Pn	P	23 50 48.7	-0.2
DRGI	Dragot	8.11	128	Pn	P	23 50 49.5	0.0
SUZ		8.11	148	P	P	23 50 49.0	-0.6
MASH	Mash'abbe Sade	8.16	134	Pn	P	23 50 50.2	0.0
MZDA	Masada	8.28	130	Pn	P	23 50 52.2	+0.3
MZDA				Sn	Sn	23 52 20.9	-5.2
MKRJ	Makawir	8.29	127	Pn	P	23 50 52.5	+0.4
BOLS	Boljevac	8.32	329	⇓*i*Pn	P	23 50 50.4	-2.1
BOLS				Sn	Sn	23 52 21.4	-5.5
BOLS	Boljevac	8.32	329	Pn	P	23 50 50.3	-2.2
BOLS				Sn	Sn	23 52 21.5	-5.5
HBNS	Bani Suwayf	8.35	160	P	P	23 50 52.2	-0.7
PVY	Plav	8.39	316	⇑*i*Pn	P	23 50 54.3	+0.9
PVY				*e*Sn	Sn	23 52 25.2	-3.5
ULC	Ulcinj	8.43	310	⇑*i*Pn	P	23 50 55.1	+1.1
ULC				*e*Sn	Sn	23 52 25.4	-4.4
MALT	Malatya	8.46	77	*e*PN	P	23 50 55.5	+1.1
MALT	Malatya	8.46	77	Pn	P	23 50 55.5	+1.1
AWBH		8.55	174	P	P	23 50 54.1	-1.6
HNKL	Nakhl	8.56	142	P	P	23 50 55.1	-0.7
IVA	Berane	8.61	317	⇑*i*Pn	P	23 50 56.8	+0.3
IVA				*e*Sn	Sn	23 52 30.0	-4.2
TTG	Podgorica	8.70	312	⇑*i*Pn	P	23 50 58.9	+1.3
TTG				*e*Sn	Sn	23 52 31.9	-4.4
ZFRI	Zfri	8.71	134	Pn	P	23 50 57.3	-0.6
URFA	Urfa	8.72	83	*e*PN	P	23 50 59.7	+1.7
ASF	Jabal al Asfar	8.75	120	P	P	23 50 59.2	+0.7
	comp=N,17nm,0.3s,baz=178,slow=6.2,SNR=76						
ASF				S	Sn	23 52 34.6	-3.1
	comp=N,15nm,0.3s,baz=185,slow=14,SNR=3.5						
MLR	Muntele Rosu	8.76	351	P	P	23 50 56.2	-2.3
	comp=N,1.0nm,0.3s,baz=196,slow=6.3,SNR=49						
PRNI	Paran	8.77	136	Pn	P	23 50 58.0	-0.7
PRNI				Sn	Sn	23 52 33.3	-4.8
KMTI	Karmit	8.80	138	Pn	P	23 50 58.4	-0.8
KMTI				Sn	Sn	23 52 34.2	-4.8
SEV	Sevastopol'	8.83	28	*e*P	P	23 50 57.8	-1.7
SEV				*e*S	Sn	23 52 34.1	-5.5
BUM	Brajici-Budva	8.84	311	⇑*i*Pn	P	23 51 00.3	+0.7
BUM				*e*Sn	Sn	23 52 35.2	-4.6
GRUS	Gruza	8.92	324	⇓*i*Pn	P	23 50 59.2	-1.6
GRUS				Sn	Sx	23 53 28.9	
YAL	Yalta	8.97	30	*e*P	P	23 50 59.3	-2.2
YAL				*e*S	Sn	23 52 36.0	-7.1
SVIS	Svilajnac	9.01	328	*e*Pn	P	23 51 00.1	-2.0
NKY	Niksic	9.08	314	⇑*i*Pn	P	23 51 03.9	+0.9
NKY				*e*Sn	Sn	23 52 41.3	-4.6
TIP	Timpagrande	9.11	288	⇓*e*Pn	P	23 51 01.9	-1.5
MBH	Mount Berech	9.15	138	Pn	P	23 51 04.4	+0.4
HCY	Herceg Novi	9.16	310	⇑*i*Pn	P	23 51 04.8	+0.6
HCY				*e*Sn	Sn	23 52 43.2	-4.7
PLE	Pljevlja	9.19	317	*e*Pn	P	23 51 05.0	+0.5
PLE				*e*Sn	Sn	23 52 43.6	-5.0
ALU	Alushta	9.23	30	*e*P	P	23 51 03.8	-1.3
ALU				*e*S	Sn	23 52 44.0	-5.5
EIL	Elat	9.27	139	P	P	23 51 05.2	-0.4
	comp=N,6.5nm,0.3s,baz=336,slow=17,SNR=49						
EIL				S	Sn	23 52 47.5	-3.0
	comp=N,28nm,0.3s,baz=15,slow=32,SNR=8.7						
EIL				LR	LR	23 57 12.0	
	comp=N,700nm,18.1s,baz=102,slow=53						
EIL	Elat	9.27	139	⇑*e*Pn	P	23 51 05.3	-0.3
EIL	Elat	9.27	139	Pn	P	23 51 05.2	-0.4
EIL				Sn	Sn	23 52 45.5	-5.0
AQBJ	Aqaba	9.28	138	Pn	P	23 51 05.7	0.0
HRDS	Abu Rudays	9.29	149	P	P	23 51 04.9	-1.0
PTK	Pertek	9.29	74	PN	P	23 51 06.2	+0.3
SIM	Simferopol'	9.34	28	*c i*P	P	23 51 05.3	-1.3
SIM				*e*S	Sn	23 52 45.0	-7.3
SIM				pmax	pmax		
	comp=Z,106nm,0.8s						
SIM				MLR	MLR		
	comp=Z,8μm,14.0s						
SIM	Simferopol'	9.34	28	*e*P	P	23 51 05.5	-1.1
UPM	Unac-Piva	9.38	315	⇑*i*Pn	P	23 51 07.6	+0.5
UPM				*e*Sn	Sn	23 52 48.8	-4.4
BRY	Bratogost	9.40	313	*e*Pn	P	23 51 08.1	+0.7
BRY				*e*Sn	Sn	23 52 49.5	-4.3
GRB	Gharib	9.49	153	⇑P	P	23 51 07.6	-1.0
HBST	Basata	9.52	141	P	P	23 51 08.2	-0.9
HBST	Basata	9.52	141	P	P	23 51 08.1	-1.0
NUB		9.63	142	P	P	23 51 09.7	-0.9
SUDU	Sudak	9.64	31	*e*P	P	23 51 10.0	-0.7
SUDU				*e*S	Sn	23 52 55.0	-4.7
CEL	Celeste	9.66	282	P	P	23 51 10.3	-0.6
HFRF	Wahat Farafira	9.68	178	P	P	23 51 10.2	-1.1
HKAT	Jabal Katrina	9.75	147	P	P	23 51 11.1	-1.2
TR2		9.76	148	P	P	23 51 11.2	-1.2
HDHB	Dhahab	9.87	143	P	P	23 51 12.5	-1.5
FEO	Feodosiya	9.91	32	*e*P	P	23 51 13.0	-1.4
ASUT		9.92	161	P	P	23 51 13.5	-1.1
ZEIT		10.14	151	P	P	23 51 16.8	-0.8
KIS	Kishinev	10.16	3	*e*P	P	23 51 14.0	-3.8
KIS				MLR	MLR		
	comp=N,6μm,7.0s						
KIS				MLR	MLR		
	comp=E,5μm,7.0s						
KIS				MLR	MLR		
	comp=Z,7μm,7.0s						
KIS				MLR	MLR		
	comp=Z,7μm,8.0s						
TR1		10.18	148	⇑P	P	23 51 16.9	-1.3
SSY	Sortino	10.29	276	P	P	23 51 20.5	+0.9
SHRM		10.36	148	P	P	23 51 19.7	-0.9
ANN	Anapa	10.71	39	*e*P	P	23 51 24.2	-1.1
ANN				*e*S	S	23 53 25.3	-0.6
ANN				pmax	pmax		
	comp=Z,44nm,0.8s						
ANN				MLR	MLR		
	comp=Z,964nm,10.0s						
ANN				MLR	MLR		
	comp=N,601nm,4.0s						
ANN				MLR	MLR		
	comp=E,2μm,9.0s						
HHRG	Al Ghardaqah	10.73	152	P	P	23 51 24.2	-1.5
SOC	Sochi	11.24	50	*e*P	P	23 51 32.3	-0.2
SOC				*e*		23 53 37.4	
SOC				pmax	pmax		
	comp=Z,43nm,0.9s						
SOC				pmax	pmax		
	comp=N,69nm,1.0s						
SOC				pmax	pmax		
	comp=E,66nm,1.1s						
SOC				MLR	MLR		
	comp=E,4μm,12.0s						
SOC				MLR	MLR		
	comp=Z,7μm,16.0s						
SOC				MLR	MLR		
	comp=N,5μm,14.0s						
HDK1	Dakhla	11.35	173	P	P	23 51 31.8	-2.3
HSFG		11.46	152	P	P	23 51 34.3	-1.3
AKRG	Al Kharijah	11.53	168	P	P	23 51 34.7	-1.9
GTR	Jabal at Tayr	11.53	168	P	P	23 51 34.5	-2.1
CII	Carovilli	11.62	299	*e*Pn	P	23 51 36.6	-1.2
	comp=N,17nm,0.8s						
CII				P		23 51 41.2	
PKSM	Moragy	11.64	326	⇓*e*P	P	23 51 36.3	-1.8
RHK1	Bakonya	11.81	324	*e*P	P	23 51 40.1	-0.3
HQSR		12.36	152	P	P	23 51 46.7	-1.1
VANB	Van	12.37	77	*e*PN	P	23 51 48.3	+0.4
VANB	Van	12.37	77	Pn	P	23 51 48.4	+0.5
AQU	L'Aquila	12.47	301	P	P	23 51 48.3	-0.9
AQU				pmax	pmax		
	comp=Z,25nm,1.0s						
AQU	L'Aquila	12.47	301	Pn	P	23 51 48.3	-0.9
	comp=Z,25nm,1.0s						
HDK2	Wahat Dakhilah	12.53	176	P	P	23 51 48.6	-1.4
NVLJ	Novalja	12.54	312	*i* P	P	23 51 56.6	+6.5
PSZ	Piszkesteto	12.54	334	⇑*e*P	P	23 51 50.3	+0.2
PSZ	Piszkesteto	12.54	334	⇑*e*	P	23 51 50.3	+0.2
KOLS	Kolonicke sedl	12.76	343	*i* Pn	P	23 51 53.7	+0.7
KOLS	Kolonicke sedl	12.76	343	*i*	P	23 51 53.7	+0.7
KECS	Kecovo	12.84	337	*i* PN	P	23 51 54.6	+0.5
BOJS	Bojanci	12.86	316	*e*P	P	23 51 54.1	-0.3
AKH	Akhalkalaki	12.91	65	P	P	23 51 53.4	-1.7
CRVS	Cervenica-Dubn	12.93	341	*i* Pn	P	23 51 54.3	-1.0
CRVS	Cervenica-Dubn	12.93	341	*i* PN	P	23 51 54.3	-1.0
CRVS	Cervenica-Dubn	12.93	341	P	P	23 51 58.7	+3.4
ONI	Oni	13.24	60	P	P	23 52 03.8	+4.4
LVV	L'vov	13.26	349	*e*P	P	23 51 58.5	-1.2
LVV				*e*S	S	23 54 23.4	-4.3
LVV				MLR	MLR		
	comp=Z,1μm,18.0s						
LVV				MLR	MLR		
	comp=E,500nm,11.0s						
LVV				MLR	MLR		
	comp=N,700nm,16.0s						
KIV	Kislovodsk	13.29	53	Pn	P	23 52 03.8	+3.8
	comp=N,355nm,1.3s,SNR=12						
KIV	Kislovodsk	13.29	53	*e*P	P	23 52 01.5	+1.5
KIV				pmax	pmax		
	comp=Z,131nm,1.4s						
KIV	Kislovodsk	13.29	53	*e*P	P	23 52 01.5	+1.5
	comp=Z,131nm,1.4s						
KWP	Kalwaria	13.32	345	*e*P	P	23 51 59.0	-1.4
KWP	Kalwaria	13.32	345	*e*P	P	23 52 03.6	+3.2
KWP				MLR	MLR	23 57 56.8	
	comp=Z,8μm,22.1s						
VYHS	Vyhne	13.40	333	*i* PN	P	23 51 59.9	-1.7
VYHS				*e*		23 56 16.6	
STE	Stepanavan	13.47	67	*i* P	P	23 52 06.0	+3.5
GNI	Garni	13.57	71	*e*PN	P	23 52 04.4	+0.6
GNI	Garni	13.57	71	P	P	23 52 04.8	+0.9
	comp=Z,0.1nm,0.3s,baz=267,slow=3.5,SNR=11						
GNI				LR	LR	23 58 12.1	
	comp=Z,7μm,18.7s,baz=271,slow=41						
GNI	Garni	13.57	71	Pn	P	23 52 04.5	+0.7
LJU	Ljubljana	13.59	317	*e*P	P	23 52 09.9	+5.9
ZEI	Tsey	13.62	59	*e*P	P	23 52 13.0	+8.6
ZEI				pmax	pmax		
	comp=Z,50nm,1.0s						
PERS	Pernice	13.65	320	*e*P	P	23 52 06.1	+1.2
NIE	Niedzica	13.72	339	*e*P	P	23 52 05.0	-0.7
JAVS	Javornik	13.76	315	*e*P	P	23 52 05.3	-1.0
ZST	Bratislava	13.84	328	*i* Pn	P	23 52 10.1	+2.8
ZST	Bratislava	13.84	328	*i*	P	23 52 10.1	+2.8
AKASG	Malin Array Be	13.87	3	P	P	23 52 04.2	-3.5
	comp=Z,1.1nm,0.3s,baz=183,slow=13,SNR=41						
AKASG				S	S	23 54 47.1	+4.9
	comp=Z,0.8nm,0.3s,baz=193,slow=25,SNR=3.3						
AKASG				ScP		00 01 01.6	
	comp=Z,0.3nm,0.3s,baz=220,slow=1.7,SNR=6.3						
OBKA	Obir	13.87	318	P	P	23 52 11.1	+3.4
TI2	Plekhanov	13.90	64	⇑*i*P	P	23 52 13.0	+4.8
TI2				MLR	MLR		
	comp=N,10μm,10.0s						
TI2				MLR	MLR		
	comp=Z,10μm,10.0s						
TI2				MLR	MLR		
	comp=E,10μm,10.0s						
MTA	Mtatsminda	13.93	65	P	P	23 52 12.0	+3.5
VOY	Vojsko	13.94	315	*e*P	P	23 52 08.1	-0.5
VOY				*e*		23 52 12.3	
SMOL	Smolenice	13.96	330	*i* PN	P	23 52 08.5	-0.3
DUS	Dusheti	13.97	63	P	P	23 52 13.0	+4.0
GOF	Gofitskoye	14.04	50	⇑*i*P	P	23 52 12.0	+2.1
GOF				pmax	pmax		
	comp=Z,34nm,1.2s						
GOF				MLR	MLR		
	comp=Z,6μm,14.0s						
JAVC	Velka Javorina	14.14	331	P	P	23 52 11.6	+0.4
DGRG	David-gareji	14.29	66	P	P	23 52 17.7	+4.5
OJC	Ojcow	14.59	339	P	P	23 52 18.9	+1.9
OJC				*e*S	S	23 55 08.0	+8.8
OJC	Ojcow	14.59	339	P	P	23 52 18.9	+1.9
OJC				*e*P		23 52 25.1	
OJC				*e*PP	PP	23 52 36.4	+7.7
OJC				*e*S	S	23 55 08.0	+8.8
OJC	Ojcow	14.59	339	*e*P	P	23 52 25.1	+8.1
OJC				*e*PP	PP	23 52 36.4	+7.7
OJC				*e*S	S	23 55 08.0	+8.8
OJC				MLR	MLR	23 58 39.0	
	comp=Z,5μm,19.7s						
OKC	Ostrava-Krasne	14.78	334	*e*P	P	23 52 24.2	+4.6
OKC				*e*pP		23 52 28.4	
OKC				*e*S	S	23 55 19.7	+16
OKC				AMS	AMS	23 58 30.0	
	comp=Z,6

WET	Wettzell	16.45 323	eP	P	23 52 44.8 +3.6
	comp=Z,335nm,2.0s				
FUR	Furstenfeldbru	16.65 318	eP	P	23 52 44.7 +1.1
FUR			pmax	pmax	
	comp=Z,52nm,0.8s				
FUR	Furstenfeldbru	16.65 318	eP	P	23 52 44.7 +1.1
	comp=Z,52nm,0.8s				
DAVOX	Davos	16.68 312	P	P	23 52 46.1 +2.1
	comp=Z,0.4nm,0.3s,baz=98,slow=15,SNR=28				
PVCC	Panska Ves	16.70 329	eP	P	23 52 47.5 +3.2
PVCC			epP		23 52 52.7
PVCC			eS	S	23 55 59.6 +11
PVCC			AMS	AMS	00 00 00.0
	comp=Z,7µm,16.5s				
PVCC	Panska Ves	16.70 329	pP		23 52 52.7
IMI	Imperia	16.79 301	P	P	23 52 46.1 +0.6
IMI	Imperia	16.79 301	P	P	23 52 46.1 +0.6
CAEH	'Ain El Ouahch	16.88 276	P	P	23 52 47.0 +0.4
VOR	Voronezh	16.89 25	eP	P	23 52 45.0 -1.6
VOR			pmax	pmax	
	comp=Z,200nm,2.0s				
NEGI	Negi	16.90 301	P	P	23 52 47.8 +0.9
NEGI	Negi	16.90 301	P	P	23 52 47.8 +0.9
ROB	Roburent	16.93 302	P	P	23 52 48.4 +1.2
DAVA	Damuels	16.93 314	⇑iP	P	23 52 48.1 +0.8
	comp=Z,32nm,0.8s				
MONE	Monesi	16.94 301	P	P	23 52 48.5 +1.2
MONE	Monesi	16.94 301	P	P	23 52 48.5 +1.2
UBR	Uberruh	17.01 315	eP	P	23 52 52.2 +3.9
CKFL	Kef-Lekhel	17.03 275	P	P	23 52 50.0 +1.4
SAOF	Saorge	17.05 301	eP	P	23 52 49.7 +1.0
SBF	Sospel	17.09 301	eP	P	23 52 49.0 -0.3
	comp=Z,380nm,1.2s				
SBF	Sospel	17.09 301	eP	P	23 52 49.0 -0.3
SBF			pmax	pmax	
	comp=Z,190nm,1.2s				
REVF	Revere	17.10 300	eP	P	23 52 50.4 +1.0
AUTN	L'Aution	17.14 301	eP	P	23 52 51.5 +1.7
ENR	Entracque	17.21 302	P	P	23 52 52.0 +1.2
BRG	Berggiesshubel	17.22 329	iP	P	23 52 53.6 +2.8
BRG			iS	S	23 56 05.0 +4.6
BRG			pmax	pmax	
	comp=Z,103nm,1.0s				
BRG	Berggiesshubel	17.22 329	iP	P	23 52 53.6 +2.8
	comp=Z,103nm,1.0s				
BRG			i		23 52 57.1
BRG			i		23 55 12.3
BRG			iS	S	23 56 05.0 +4.6
BRG			ePcP	PcP	23 57 46.2 +11
BRG	Berggiesshubel	17.22 329	eP	P	23 52 53.7 +2.9
	comp=Z,102nm,1.0s				
CASM	Ain Smara	17.23 274	P	P	23 52 53.0 +1.9
TOUF	Mont Tournerai	17.27 301	eP	P	23 52 52.6 +1.2
NOTT	Nottersdorf	17.27 324	eP	P	23 52 53.8 +2.4
	comp=Z,510nm,2.5s				
STV	Sta Anna Valdi	17.28 302	P	P	23 52 52.1 +0.4
MVIF	Mont Vial	17.30 300	eP	P	23 52 53.1 +1.3
CTEI	Djebel Teioual	17.33 274	P	P	23 52 54.0 +1.7
ORX	Oropa	17.34 307	P	P	23 52 54.2 +1.8
NKC	Novy Kostel	17.41 325	eP	P	23 52 54.8 +1.6
NKC			epP		23 52 59.8
NKC			eS	S	23 56 18.0 +13
NKC			AMS	AMS	23 59 50.0
	comp=Z,8µm,14.4s				
CALN	Calern	17.44 300	eP	P	23 52 54.9 +1.3
SUW	Suwalki	17.47 351	eP	P	23 52 53.1 -0.8
SUW			pmax	pmax	
	comp=Z,134nm,0.9s				
SUW	Suwalki	17.47 351	eP	P	23 52 53.1 -0.9
	comp=Z,134nm,0.9s				
SUW	Suwalki	17.47 351	eP	P	23 52 55.1 +1.2
SUW			MLR	MLR	23 59 36.6
	comp=Z,4µm,27.8s				
MUO	Muotathal	17.51 311	⇓P	P	23 52 56.8 +2.3
PZZ	Prazzo	17.52 302	P	P	23 52 55.9 +1.3
BHB	Bricherasio	17.52 303	P	P	23 52 55.4 +0.8
MMK	Mattmark	17.52 308	⇑P	P	23 52 57.7 +3.1
FRF	La Foret Royal	17.56 299	eP	P	23 52 53.7 -1.4
	comp=Z,210nm,1.3s				
FRF	La Foret Royal	17.56 299	eP	P	23 52 53.7 -1.4
FRF			pmax	pmax	
	comp=Z,105nm,1.3s				
WILA	Wila	17.57 313	⇑P	P	23 52 57.2 +2.0
LMR	La Mourre	17.59 298	eP	P	23 52 54.7 -0.9
	comp=Z,224nm,1.5s				
LMR	La Mourre	17.59 298	eP	P	23 52 54.7 -0.9
LMR			pmax	pmax	
	comp=Z,112nm,1.5s				
WERD	Werda	17.62 325	eP	P	23 52 57.9 +2.1
	comp=Z,191nm,0.9s				
GRA1	Grafenberg Arr	17.63 322	eP	P	23 52 57.3 +1.4
	comp=Z,146nm,1.2s				
GRA1			eS	S	23 56 18.2 +8.5
GRF	Grafenberg Arr	17.63 322	eP	P	23 52 57.3 +1.4
GRF			eS	S	23 56 18.2 +8.5
GRF			pmax	pmax	
	comp=Z,146nm,1.2s				
GRF	Grafenberg Arr	17.63 322	eP	P	23 52 57.3 +1.4
GRF			eS	S	23 56 18.2 +8.5
GRF			pmax	pmax	
	comp=Z,146nm,1.2s				
GRF	Grafenberg Arr	17.63 322	eP	P	23 52 57.3 +1.4
	comp=Z,146nm,1.2s				
GRF			eS	S	23 56 18.2 +8.5
RSP	Reno Superiore	17.63 304	P	P	23 52 57.6 +1.6
MNK	Minsk	17.65 360	eP	P	23 52 52.0 -4.1
MNK			pmax	pmax	
	comp=Z,750nm,1.5s				
MNK			pmax	pmax	
	comp=N,870nm,1.5s				
SISB	Singen-Sch Ber	17.67 314	P	P	23 52 58.9 +2.4
DFRA	Djebel Bou Aff	17.68 276	P	P	23 52 59.0 +2.3
SURF	Saint Ours	17.70 302	eP	P	23 53 00.9 +4.0
FENE	Fenestrelle	17.72 304	P	P	23 52 59.5 +2.5
GUT	Gutenstein	17.79 315	P	P	23 52 58.5 +0.6
LSD	Ceresole Reale	17.81 305	P	P	23 52 58.9 +0.7
CMER	Merouana	17.81 273	P	P	23 53 01.0 +2.7
MBDF	Montbardon	17.81 303	eP	P	23 52 57.5 -0.8
	comp=N,93nm,1.0s				
MBDF	Montbardon	17.81 303	eP	P	23 52 57.5 -0.8
MBDF			pmax	pmax	
	comp=Z,46nm,1.0s				
BUCH	Bad Urach	17.86 316	P	P	23 53 00.5 +1.7
RRL	Cesana Torines	17.87 303	P	P	23 53 01.3 +2.4
RRL	Cesana Torines	17.87 303	P	P	23 53 01.2 +2.3
LKBD	Leukerbad	17.87 309	⇑P	P	23 53 01.0 +2.0
DIX	Grande Dixence	17.88 307	⇓P	P	23 53 01.3 +2.2
CLL	Collm	17.94 328	iP	P	23 53 00.9 +1.1
CLL			eS	S	23 56 25.0 +8.2
CLL			pmax	pmax	
	comp=Z,179nm,0.9s				
CLL	Collm	17.94 328	iP	P	23 53 00.9 +1.1
	comp=Z,179nm,0.9s				
CLL			i		23 53 04.8
CLL			eS	S	23 56 25.0 +8.2
CLL	Collm	17.94 328	P	P	23 53 00.9 +1.1
CLL			i		23 53 04.8
CLL			i		23 53 41.0
CLL			eS	S	23 56 25.0 +8.2
CLL	Collm	17.94 328	eP	P	23 53 01.1 +1.3
	comp=Z,179nm,0.9s				
BNI	Bardonecchia	17.98 304	eP	P	23 53 01.0 +0.7
BNI			pmax	pmax	
	comp=Z,83nm,1.2s				
BNI	Bardonecchia	17.98 304	eP	P	23 53 01.0 +0.6
	comp=Z,83nm,1.2s				
TAVF	Tavernes	17.98 299	eP	P	23 53 02.9 +2.5
SLE	Schleitheim	17.99 313	⇓P	P	23 53 01.7 +1.3
SPAK	Spaichingen	17.99 315	eP	P	23 53 02.6 +2.1
GKP	Gorka Klasztor	18.03 339	eP	P	23 53 02.3 +1.3
GKP			MLR	MLR	00 00 04.1
	comp=Z,7µm,20.5s				
CKHR	Kef el Ahmar	18.05 274	P	P	23 53 02.0 +0.6
MOX	Moxa	18.08 325	eP	P	23 53 03.9 +2.4
MOX			eS	S	23 56 30.0 +10
MOX			pmax	pmax	
	comp=Z,372nm,1.8s				
MOX	Moxa	18.08 325	eP	P	23 53 03.9 +2.4
	comp=Z,372nm,1.8s				
MOX			eS	S	23 56 30.0 +10
MOX	Moxa	18.08 325	iP	P	23 53 03.9 +2.4
	comp=Z,logA/T=2.3				
MOX			S	S	23 56 30.0 +10
MOX			QM		23 59 12.0
MOX			RM		00 00 31.0
MOX	Moxa	18.08 325	eP	P	23 53 02.9 +1.4
	comp=Z,364nm,1.6s				
LPG	La Plagne	18.09 305	eP	P	23 53 01.3 -0.4
	comp=Z,153nm,0.8s				
LPG	La Plagne	18.09 305	eP	P	23 53 01.3 -0.4
LPG			pmax	pmax	
	comp=Z,77nm,0.8s				
SULZ	Sulz-Cheisache	18.09 312	⇑P	P	23 53 02.5 +0.7
LPL	La Plagne	18.11 305	eP	P	23 53 01.6 -0.4
	comp=Z,161nm,1.2s				
LPL	La Plagne	18.11 305	eP	P	23 53 01.6 -0.4
LPL			pmax	pmax	
	comp=Z,81nm,1.2s				
SET	Setif	18.11 275	P	P	23 53 05.0 +2.9
STU	Stuttgart	18.13 317	eP	P	23 53 02.2 0.0
STU			pmax	pmax	
	comp=Z,71nm,0.8s				
STU	Stuttgart	18.13 317	eP	P	23 53 02.2 0.0
	comp=Z,71nm,0.8s				
STU	Stuttgart	18.13 317	eP	P	23 53 02.8 +0.6
	comp=Z,110nm,1.2s				
BERF	Bertagne	18.17 298	eP	P	23 53 04.5 +1.7
EMV	Vieux Emosson	18.20 307	⇓P	P	23 53 04.2 +1.0
PUYF	Puyloubier	18.21 298	eP	P	23 53 05.2 +1.9
SIND	Sindeldorf	18.24 319	P	P	23 53 05.2 +1.6
SIND	Sindeldorf	18.24 319	eP	P	23 53 06.4 +2.8
RSL	Roselend	18.24 306	eP	P	23 53 04.9 +1.3
VILF	Villemus	18.28 299	eP	P	23 53 05.0 +0.8
LBG	Lerchenberg	18.29 316	P	P	23 53 06.9 +2.7
LBG	Lerchenberg	18.29 316	⇓eP	P	23 53 07.6 +3.4
FELD	Feldberg	18.33 313	⇓eP	P	23 53 06.5 +1.8
FELD	Feldberg	18.33 313	eP	P	23 53 05.9 +1.2
BFO	Black Forest	18.37 315	eP	P	23 53 06.0 +0.8
BFO			pmax	pmax	
	comp=Z,46nm,1.0s				
BFO	Black Forest	18.37 315	eP	P	23 53 06.0 +0.8
	comp=Z,46nm,1.0s				
SMRF	Simiane la Rot	18.41 300	eP	P	23 53 05.7 -0.1
KIZ	Kirchzarten	18.42 313	⇓eP	P	23 53 07.4 +1.6
BBS	Basel-Blauen	18.42 312	⇓eP	P	23 53 07.9 +2.0
BBS	Basel-Blauen	18.42 312	eP	P	23 53 07.4 +1.5
TREF	Trevaresse	18.46 298	eP	P	23 53 07.8 +1.5
ORIF	Oris-en-Rattie	18.47 303	eP	P	23 53 05.5 -1.0
	comp=Z,88nm,1.0s				
ORIF			eR		
	comp=Z,5µm,18.0s				
RUE	Ruedersdorf	18.53 332	eP	P	23 53 05.9 -1.2
	comp=Z,151nm,1.0s				
RUE	Ruedersdorf	18.53 332	eP	P	23 53 07.4 +0.3
	comp=Z,174nm,1.0s				
LIBD	Limburg	18.70 313	⇓eP	P	23 53 13.5 +4.3
LOMF	Lomont	18.79 311	eP	P	23 53 09.9 -0.3
TOD	Tromm	18.81 319	⇓eP	P	23 53 12.6 +2.0
TOD	Tromm	18.81 319	eP	P	23 53 12.5 +1.9
STR	Strasbourg	18.82 315	eP	P	23 53 13.5 +2.8
MOF	Molkenrain	18.83 312	eP	P	23 53 11.4 +0.6
CABF	La Chapelle	18.94 308	eP	P	23 53 11.1 -0.9
	comp=Z,329nm,1.3s				
CABF	La Chapelle	18.94 308	eP	P	23 53 11.1 -0.9
CABF			pmax	pmax	
	comp=Z,164nm,1.3s				
WLS	Welschbruch	18.97 314	eP	P	23 53 13.4 +0.9
HINF	Hinteralfeld	18.98 312	eP	P	23 53 11.4 -1.2
	comp=Z,151nm,1.5s				
HINF	Hinteralfeld	18.98 312	eP	P	23 53 11.4 -1.2
HINF			pmax	pmax	
	comp=Z,76nm,1.5s				
ECH	Echery	18.99 313	eP	P	23 53 13.7 +1.0
LANF	Langenberg	19.01 316	eP	P	23 53 15.6 +2.7
CDF	Champ du Feu	19.02 314	eP	P	23 53 11.9 -1.1
	comp=Z,225nm,1.2s				
CDF	Champ du Feu	19.02 314	eP	P	23 53 11.9 -1.1
CDF			pmax	pmax	
	comp=Z,113nm,1.2s				
KTD	Kalmit	19.04 317	eP	P	23 53 14.6 +1.3
OG05	Jujurieux	19.13 306	eP	P	23 53 14.7 +0.4
OBN	Obninsk	19.20 15	⇓iP	P	23 53 11.9 -3.2
OBN			eS	S	23 56 48.8 +3.6
OBN			pmax	pmax	
	comp=Z,100nm,1.3s				
OBN			pmax	pmax	
	comp=Z,142nm,1.4s				
OBN			MLR	MLR	
	comp=Z,3µm,10.0s				
OBN	Obninsk	19.20 15	eP	P	23 53 12.2 -2.9
	comp=Z,238nm,1.4s				
VIVF	Saint-Julien-l	19.27 302	eP	P	23 53 14.3 -1.8
	comp=Z,68nm,0.9s				
VIVF	Saint-Julien-l	19.27 302	eP	P	23 53 14.3 -1.8
VIVF			pmax	pmax	
	comp=Z,34nm,0.9s				
HAU	Haudompre	19.37 312	eP	P	23 53 16.1 -1.0
	comp=Z,134nm,1.0s				
HAU			eR		
	comp=Z,9µm,20.0s				
CLZ	Clausthal	19.47 326	eP	P	23 53 16.6 -1.6
	comp=Z,122nm,1.1s				
LASF	Ste Croix	19.64 299	eP	P	23 53 18.6 -1.6
	comp=Z,289nm,1.6s				
ABH	Altenburg	19.64 318	P	P	23 53 21.9 +1.7
ABH	Altenburg	19.64 318	eP	P	23 53 21.3 +1.1
THEF	They Montfort	19.69 312	eP	P	23 53 20.6 -0.1
RUP	Ruppelstein	19.81 317	⇓eP	P	23 53 23.1 +1.0
RUP	Ruppelstein	19.81 317	eP	P	23 53 22.1 0.0
ABA	Alger-Bouzarea	19.91 277	P	P	23 53 22.0 -1.3
MOS	Moscow	20.00 16	eP	P	23 53 21.7 -2.4
MOS			eS	S	23 57 07.5 +4.7
MOS			pmax	pmax	
	comp=Z,249nm,1.3s				
MOS			pmax	pmax	
	comp=N,164nm,1.6s				
MOS			pmax	pmax	
	comp=E,110nm,1.6s				
MOS			smax		
	comp=N,4µm,5.3s				
EJON	La Jonquera	20.04 294	P	P	23 53 24.7 +0.1
	comp=N,16nm,0.8s				
EJON	La Jonquera	20.04 294	P	P	23 53 24.7 +0.1
	comp=N,16nm,0.8s,SNR=7.9				
EMHD	Djebel Mahouad	20.07 276	P	P	23 53 24.0 -1.0
WLF	Walferdange	20.29 316	eP	P	23 53 24.9 -2.3
WLF			pmax	pmax	
	comp=Z,46nm,1.0s				
WLF	Walferdange	20.29 316	eP	P	23 53 24.9 -2.3
	comp=Z,46nm,1.0s				
WLF	Walferdange	20.29 316	eP	P	23 53 26.3 -0.9
	comp=Z,55nm,1.1s				
FILF	Fillols	20.29 294	eP	P	23 53 26.3 -1.0
PLDF	La Plantade	20.31 304	eP	P	23 53 26.1 -1.3
BSD	Bornholm Skovb	20.31 338	⇓iP	P	23 53 26.0 -1.4
	comp=Z,62nm,0.8s				
BSD			i		23 57 11.9
	comp=Z,4µm,19.0s				
RGN	Rugen	20.35 335	eP	P	23 53 23.2 -4.5
	comp=Z,462nm,1.6s				
LBL	Lubilhac	20.35 302	eP	P	23 53 28.0 +0.2
LRDF	Laroque-de-Fa	20.36 295	eP	P	23 53 26.6 -1.4
MEZF	Maizieres J'vi	20.37 312	eP	P	23 53 27.4 -0.6
	comp=Z,87nm,1.0s				
SMF	Signal de Mont	20.39 306	eP	P	23 53 26.7 -1.5
	comp=Z,320nm,0.9s				
SMF	Signal de Mont	20.39 306	eP	P	23 53 26.7 -1.5
SMF			pmax	pmax	
	comp=Z,160nm,0.9s				
PYM	Petit Puy Mans	20.66 303	eP	P	23 53 30.1 -0.9
MTLF	Montolieu	20.66 296	eP	P	23 53 29.4 -1.7
	comp=Z,107nm,1.2s				
MTLF	Montolieu	20.66 296	eP	P	23 53 29.4 -1.7
MTLF			pmax	pmax	
	comp=Z,53nm,1.2s				
AGO	Saint Agoulin	20.66 304	eP	P	23 53 30.8 -0.3
BUG	Bochum--Univer	20.69 321	eP	P	23 53 32.3 +1.0
	comp=Z,131nm,1.2s				
SSF	Saint Saulge	20.75 307	eP	P	23 53 30.6 -1.3
SSF			pmax	pmax	
	comp=Z,119nm,1.0s				
SSF	Saint Saulge	20.75 307	eP	P	23 53 30.6 -1.3
	comp=Z,119nm,1.0s				
AVF	Avril sur Loir	20.75 306	eP	P	23 53 30.5 -1.5
	comp=Z,367nm,1.2s				
AVF	Avril sur Loir	20.75 306	eP	P	23 53 30.5 -1.5
AVF			pmax	pmax	
	comp=Z,184nm,1.2s				
FRNF	Fournols	20.86 302	eP	P	23 53 32.9 -0.2
EMIR	Miracle	20.98 292	P	P	23 53 33.0 -1.3
	comp=Z,22nm,0.8s				
EMIR	Miracle	20.98 292	P	P	23 53 33.0 -1.4
	comp=Z,22nm,0.8s,SNR=7.9				
BSEG	Bad Segeberg	20.99 330	eP	P	23 53 33.8 -0.5
	comp=Z,188nm,1.4s				
IBBN	Ibbenburen	20.99 324	eP	P	23 53 33.8 -0.5
	comp=Z,252nm,1.5s				
HGN	Heimansgroeve	20.99 318	eP	P	23 53 35.0 +0.6
	comp=Z,28nm,3.3s				
HGN			eS	S	23 57 29.1 +6.4
BGF	Bois d'Agland	21.01 305	eP	P	23 53 33.9 -0.7
	comp=Z,280nm,1.1s,mb5.2				
BGF	Bois d'Agland	21.01 305	eP	P	23 53 33.9 -0.7
BGF			pmax	pmax	
	comp=Z,140nm,1.1s,mb5.2				
VERF	Verneugheol	21.01 303	eP	P	23 53 35.5 +0.9
EIBI	Ibiza	21.05 284	P	P	23 53 33.6 -1.5
	comp=Z,15nm,0.8s,mb4.4				
EIBI	Ibiza	21.05 284	P	P	23 53 33.6 -1.5
	comp=Z,15nm,0.8s,mb4.3,SNR=7.9				
CAF	Calviac	21.08 301	eP	P	23 53 34.2 -1.2
	comp=Z,92nm,1.3s,mb4.7				
CAF	Calviac	21.08 301	eP	P	23 53 34.2 -1.2
CAF			pmax	pmax	
	comp=Z,46nm,1.3s,mb4.7				
EBNR	Beni Rached	21.19 276	P	P	23 53 37.0 +0.5
WTSB	Winterswijk	21.24 322	eP	P	23 53 36.7 -0.2
	comp=Z,69nm,3.5s				
GIVF	Givet	21.25 316	eP	P	23 53 36.3 -0.8
	comp=Z,59nm,0.9s,mb4.6				
GIVF	Givet	21.25 316	eP	P	23 53 36.3 -0.8
GIVF			pmax	pmax	
	comp=Z,30nm,0.9s,mb4.6				
EPOB	Poblet	21.28 290	P	P	23 53 35.4 -2.0
	comp=Z,19nm,0.9s,mb4.4				
EPOB	Poblet	21.28 290	P	P	23 53 35.4 -2.0
	comp=Z,19nm,0.9s,mb4.4,SNR=7.9				
ECHA	Ech Chlef	21.34 276	P	P	23 53 38.0 -0.1
TCF	Toulx Ste Croi	21.34 304	eP	P	23 53 37.0 -1.0
	comp=Z,162nm,1.3s,mb4.9				
TCF	Toulx Ste Croi	21.34 304	eP	P	23 53 37.0 -1.0
TCF			pmax	pmax	
	comp=Z,81nm,1.3s,mb4.9				
HYF	Humbligny	21.38 307	eP	P	23 53 38.1 -0.2
ETRT	Tiaret	21.54 274	P	P	23 53 40.0 0.0
RJF	Les Rejaudoux	21.55 301	eP	P	23 53 39.4 -0.7
	comp=Z,95nm,1.1s,mb4.8				
RJF			eR		
	comp=Z,4µm,19.2s				
RJF	Les Rejaudoux	21.55 301	eP	P	23 53 39.4 -0.7
RJF			pmax	pmax	
	comp=Z,48nm,1.1s,mb4.8				
RJF			MLR	MLR	
	comp=Z,4µm,19.3s,MS4.8				
COP	Copenhagen	21.57 336	⇑iP	P	23 53 42.7 +2.5
COP			iS	S	23 57 36.6 +3.0
COP			pmax	pmax	
	comp=Z,125nm,0.9s,mb5.3				
COP			MLR	MLR	
	comp=Z,2µm,20.0s,MS4.6				
COP	Copenhagen	21.57 336	⇑iP	P	23 53 42.7 +2.5
	comp=Z,125nm,0.9s,mb5.3				
COP			iS	S	23 57 36.6 +3.0
	comp=Z,2µm,20.0s				
BAIF	Baives	21.58 315	eP	P	23 53 39.7 -0.6
	comp=Z,222nm,1.6s,mb5.0				
BAIF	Baives	21.58 315	eP	P	23 53 39.7 -0.6
BAIF			pmax	pmax	
	comp=Z,111nm,1.6s,mb5.0				
EANR	'Ain N'Sour	21.59 276	P	P	23 53 39.0 -1.6
VSU	Vasula	21.63 358	diP	P	23 53 41.0 +0.2
VSU	Vasula	21.63 358	iPr		23 53 41.1
EBR	Ebro Roquetas	21.70 289	eP	P	23 53 41.3 -0.3
ERTA	Horta de San J	21.82 289	P	P	23 53 41.8 -1.0
	comp=Z,16nm,0.8s,mb4.5				
ERTA	Horta de San J	21.82 289	P	P	23 53 41.8 -1.0
	comp=Z,16nm,0.8s,mb4.5,SNR=7.9				
WIT	Witteveen	21.82 324	eP	P	23 53 44.1 +1.3
	comp=Z,213nm,1.4s,mb5.4				
RESF	Ens	21.95 294	eP	P	23 53 43.9 -0.2
EPF	Esparros	21.98 295	eP	P	23 53 43.5 -0.9
LFF	La Frestale	22.00 300	eP	P	23 53 43.6 -1.1
	comp=Z,326nm,1.6s,mb5.2				
LFF	La Frestale	22.00 300	eP	P	23 53 43.6 -1.1
LFF			pmax	pmax	
	comp=Z,163nm,1.6s,mb5.2				
EBIE	Bielsa	22.08 294	P	P	23 53 44.7 -0.7
	comp=Z,12nm,0.9s,mb4.3				
EBIE	Bielsa	22.08 294	P	P	23 53 44.7 -0.7
	comp=Z,12nm,0.9s,mb4.3,SNR=7.9				
LABF	Labassere	22.17 295	eP	P	23 53 48.1 +1.8
VIEF	Viey	22.19 294	eP	P	23 53 46.2 -0.3
EBEN	Beniarda	22.30 283	P	P	23 53 47.0 -0.6
	comp=Z,28nm,1.1s,mb4.6				
EBEN	Beniarda	22.30 283	P	P	23 53 46.9 -0.7
	comp=Z,28nm,1.1s,mb4.6,SNR=7.9				
PECR	Pechory	22.30 24	eP	P	23 53 59.5 +12
PECR			e		23 54 09.0
PECR			iS	S	23 57 53.0 +5.9
PECR			pmax	pmax	
	comp=Z,1µm,3.0s				
PECR			smax		
	comp=N,10µm,12.0s				
PECR			smax		
	comp=E,5µm,12.0s				
PECR			MLR	MLR	
	comp=Z,4µm,16.0s,MS4.9				
PECR			MLR	MLR	
	comp=N,5µm,15.0s,MS5.1				
PECR			MLR	MLR	
	comp=E,2µm,15.0s,MS5.1				
EMOS	Mosqueruela	22.43 288	P	P	23 53 48.8 -0.1
	comp=E,19nm,0.9s,mb4.5				
ESAC	San Caprasio	22.46 291	P	P	23 53 49.0 -0.1
	comp=E,31nm,0.8s,mb4.8				
ESAC	San Caprasio	22.46 291	P	P	23 53 49.0 -0.2
	comp=E,31nm,0.8s,mb4.8,SNR=7.9				
ETSF	Etsaut	22.62 294	eP	P	23 53 50.7 0.0
	comp=E,42nm,1.1s,mb4.5				
ETSF	Etsaut	22.62 294	eP	P	23 53 50.7 0.0
ETSF			pmax	pmax	
	comp=Z,21nm,1.1s,mb4.5				
LARF	Larrau	22.94 295	eP	P	23 53 54.4 +0.5
PUL	Pulkovo	22.98 3	eP	P	23 53 53.2 -0.9
PUL			eS	S	23 58 05.7 +6.5
PUL			pmax	pmax	
	comp=Z,343nm,1.0s,mb5.7				
PUL			pmax	pmax	
	comp=N,1µm,1.4s				
PUL			pmax	pmax	
	comp=E,208nm,2.1s				
PUL			pmax	pmax	
	comp=Z,1µm,1.9s,mb6.0				
PUL			pmax	pmax	
	comp=N,1µm,1.3s				
PUL			pmax	pmax	
	comp=E,342nm,2.3s				
PUL			MLR	MLR	
	comp=Z,4µm,13.0s,MS5.0				
PUL			MLR	MLR	
	comp=N,4µm,12.0s,MS5.1				
PUL			MLR	MLR	
	comp=E,1µm,12.0s,MS5.1				
PUL	Pulkovo	22.98 3	iP	P	23 53 55.2 +1.1
MFF	Saint Martin d	23.00 304	eP	P	23 53 54.0 -0.4
	comp=E,224nm,1.3s,mb5.1				
MFF	Saint Martin d	23.00 304	eP	P	23 53 54.0 -0.4
MFF			pmax	pmax	
	comp=Z,112nm,1.3s,mb5.1				
SJPF	Ste Jean	23.12 295	eP	P	23 53 54.7 -1.0
	comp=Z,200nm,1.5s,mb5.0				
SJPF	Ste Jean	23.12 295	eP	P	23 53 54.7 -1.0
SJPF			pmax	pmax	
	comp=Z,100nm,1.5s,mb5.0				
EMUR	La Murta	23.17 281	P	P	23 53 56.6 +0.4
	comp=Z,12nm,0.8s,mb4.4				
EMUR	La Murta	23.17 281	P	P	23 53 56.6 +0.4
	comp=Z,12nm,0.8s,mb4.4,SNR=7.9				
MUD	Monsted U'grnd	23.31 333	iP	P	23 54 00.0 +2.7
	comp=Z,153nm,1.3s,mb5.3				
MUD			iS	S	23 58 15.3 +10
	comp=Z,3µm,17.0s				
EALK	Alkurruntz	23.34 295	P	P	23 53 58.2 +0.5
	comp=Z,6.9nm,1.0s,mb4.0				

EALK Alkurruntz 23.34 295 P **P 23 53 58.2 +0.4**
comp=Z,6.9nm,1.0s,mb4.1,SNR=7.9
LCHF La Chataignera 23.41 304 *eP* **P 23 53 58.8 +0.4**
LDF La Druitiere 23.57 309 *eP* **P 23 53 59.1 -0.8**
comp=Z,160nm,1.0s,mb5.1
LDF La Druitiere 23.57 309 *eP* **P 23 53 59.1 -0.8**
LDF pmax pmax
comp=Z,80nm,1.0s,mb5.1
FLN La Foliniere 23.85 309 *eP* **P 23 54 01.4 -1.3**
comp=Z,309nm,1.1s,mb5.4
FLN *eR*
comp=Z,3μm,22.8s
FLN La Foliniere 23.85 309 *eP* **P 23 54 01.4 -1.3**
FLN pmax pmax
comp=Z,155nm,1.1s,mb5.3
FLN MLR MLR
comp=Z,3μm,22.8s,MS4.7
GRR Gorron 23.97 308 *eP* **P 23 54 03.2 -0.6**
comp=Z,520nm,1.0s,mb5.6
GRR Gorron 23.97 308 *eP* **P 23 54 03.2 -0.6**
GRR pmax pmax
comp=Z,260nm,1.0s,mb5.6
ENIJ Nijar 24.05 279 P **P 23 54 05.0 +0.3**
ENIJ pmax pmax
comp=Z,41nm,0.9s,mb4.9
ENIJ Nijar 24.05 279 P **P 23 54 05.0 +0.2**
comp=Z,41nm,0.9s,mb4.9
ENIJ Nijar 24.05 279 P **P 23 54 05.0 +0.3**
comp=Z,41nm,0.9s,mb4.9,SNR=7.9
EVIA Vianos 24.08 284 P **P 23 54 06.0 +1.0**
EVIA pmax pmax
comp=Z,95nm,1.0s,mb5.2
EVIA Vianos 24.08 284 P **P 23 54 06.0 +1.0**
comp=Z,95nm,1.0s,mb5.2
EVIA Vianos 24.08 284 P **P 23 54 06.0 +1.0**
comp=Z,95nm,1.0s,mb5.2,SNR=7.9
EHUE Huescar 24.24 282 S **S 23 58 34.5 +13**
comp=Z,1.1nm,1.5s,SNR=7.9
EBER Berja 24.60 279 P **P 23 54 10.8 +0.7**
comp=Z,42nm,0.9s,mb5.0
EBER Berja 24.60 279 P **P 23 54 10.8 +0.7**
comp=Z,42nm,0.9s,mb5.0,SNR=7.9
EQES Quesada 24.61 282 P **P 23 54 09.6 -0.6**
comp=Z,40nm,0.9s,mb5.0
EQES Quesada 24.61 282 P **P 23 54 09.6 -0.6**
comp=Z,40nm,0.9s,mb5.0,SNR=7.9
FINES FINESS Array B 24.64 358 P **P 23 54 10.3 +0.1**
comp=Z,46nm,0.9s,mb5.0,baz=156,slow=12,SNR=49
FINES LR LR 00 04 08.1
comp=Z,2μm,21.3s,MS4.7,baz=350,slow=37
FINES FINESS Array B 24.64 358 P **P 23 54 10.3 +0.1**
FINES LR LR 00 04 08.1
ELAN Lanestosa 24.74 295 P **P 23 54 11.2 -0.2**
comp=Z,18nm,0.9s,mb4.6
ELAN Lanestosa 24.74 295 P **P 23 54 11.2 -0.2**
comp=Z,18nm,0.9s,mb4.6,SNR=7.9
SGMF Saint Gilles 25.01 307 *eP* **P 23 54 12.3 -1.6**
comp=Z,173nm,1.0s,mb5.2
SGMF Saint Gilles 25.01 307 *eP* **P 23 54 12.3 -1.6**
SGMF pmax pmax
comp=Z,86nm,1.0s,mb5.2
HFS Hagfors 25.02 343 P **P 23 54 11.9 -2.0**
comp=Z,19nm,0.9s,mb4.7,baz=162,slow=4.7,SNR=20
ESDC Sonseca Array 25.13 286 P **P 23 54 15.1 0.0**
comp=Z,31nm,0.9s,mb4.8,baz=81,slow=9.1,SNR=68
ESDC Sonseca Array 25.13 286 P **P 23 54 14.1 -1.0**
comp=Z,47nm,1.3s,mb4.9
ESDC Sonseca Array 25.13 286 P **P 23 54 14.1 -1.0**
comp=Z,47nm,1.3s,mb4.9,SNR=7.9
GUD Guadarrama 25.23 289 P **P 23 54 15.7 -0.3**
GUD pmax pmax
comp=Z,20nm,0.7s,mb4.8
GUD Guadarrama 25.23 289 P **P 23 54 15.7 -0.4**
comp=Z,20nm,0.7s,mb4.8
KAF Kangasniemi 25.30 358 *ep* **P 23 54 16.2 -0.3**
comp=Z,4.1nm,0.4s,mb4.3,baz=174,slow=9.8
KAF Kangasniemi 25.30 358 *eP* **P 23 54 16.2 -0.3**
KAF pmax pmax
comp=Z,4.0nm,0.4s,mb4.3
ERON Agron 25.31 280 P **P 23 54 17.5 +0.7**
comp=Z,17nm,1.0s,mb4.5
QUIF Quistinic 25.32 306 *eP* **P 23 54 15.9 -0.9**
comp=Z,206nm,1.2s,mb5.2
QUIF Quistinic 25.32 306 *eP* **P 23 54 15.9 -0.9**
QUIF pmax pmax
comp=Z,103nm,1.2s,mb5.2
ROSF Rostrenen 25.50 307 *eP* **P 23 54 16.7 -1.8**
comp=Z,124nm,1.1s,mb5.0
ROSF Rostrenen 25.50 307 *eP* **P 23 54 16.7 -1.8**
ROSF pmax pmax
comp=Z,62nm,1.1s,mb5.0
ELOJ Sierra Loja 25.56 280 P **P 23 54 17.7 -1.5**
ELOJ pmax pmax
comp=Z,9.0nm,0.8s,mb4.3
ELOJ Sierra Loja 25.56 280 P **P 23 54 17.7 -1.5**
comp=Z,9.3nm,0.8s,mb4.4
ELUQ Luque 25.59 281 P **P 23 54 18.1 -1.3**
EADA Adamuz 25.75 283 P **P 23 54 19.6 -1.3**
comp=Z,14nm,1.0s,mb4.5
EARI Arriondas 26.04 295 P **P 23 54 23.4 -0.2**
comp=Z,17nm,1.1s,mb4.5
EMIJ Mijas 26.15 279 P **P 23 54 22.9 -1.8**
comp=Z,33nm,0.8s,mb4.9
JOF Joensuu 26.17 4 *ep* **P 23 54 25.4 +0.8**
comp=Z,1.1nm,0.4s
NAO01 NORSAR Array S 26.33 341 *eP* **P 23 54 24.9 -1.2**
comp=Z,67nm,0.9s,mb5.2
NB2 NORSAR Subarra 26.41 342 P **P 23 54 25.2 -1.6**
comp=Z,10nm,0.8s,mb4.4,baz=145,slow=9.3
NB2 NORSAR Subarra 26.41 342 P **P 23 54 25.2 -1.6**
NB2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
NOA NORSAR Array B 26.41 342 P **P 23 54 25.7 -1.1**
comp=Z,10nm,0.8s,mb4.4,baz=147,slow=8.9,SNR=19
NOA LR LR 00 05 37.6
comp=Z,2μm,18.8s,MS4.7,baz=115,slow=38
DHBB Dhamar BB 26.61 142⇓*eP* **P 23 54 33.3 +4.2**
ECAL Calalbor 27.14 292 P **P 23 54 34.8 +1.1**
comp=Z,26nm,0.8s,mb4.8
PBRG Braganca 27.15 291 *eP* **P 23 54 34.9 +1.1**
comp=Z,102nm,1.2s,mb5.2
EMIN Mina Concepcio 27.44 282 P **P 23 54 35.0 -1.6**
comp=Z,11nm,1.1s,mb4.3
EPON Pontenova 27.46 295 P **P 23 54 35.2 -1.3**
comp=Z,22nm,0.8s,mb4.7
EBAD Badajoz 27.57 285 P **P 23 54 35.5 -2.2**
comp=Z,3.4nm,1.1s,mb3.9
PCBR Castelo Branco 27.82 287 *eP* **P 23 54 39.4 -0.5**
comp=Z,40nm,1.1s,mb5.0
MTE Manteigas 27.82 288 *eP* **P 23 54 38.4 -1.5**
comp=Z,40nm,1.1s,mb5.0
MTE Manteigas 27.82 288 *eP* **P 23 54 38.2 -1.7**
comp=Z,37nm,1.1s,mb4.9
EKA Eskdalemuir Ar 28.04 321 P **P 23 54 40.0 -1.8**
comp=Z,19nm,1.1s,mb4.6,baz=127,slow=8.3,SNR=9.8
ARQ Araqi 28.05 111 ⇑P **P 23 54 43.7 +1.6**
SNR=36
PVIS Viseu 28.07 289 *eP* **P 23 54 41.9 -0.2**
comp=Z,59nm,1.3s,mb5.1
EGRO El Granado 28.12 282 P **P 23 54 40.2 -2.4**
comp=Z,22nm,1.0s,mb4.8
PALC Alcoutim 28.12 282 *eP* **P 23 54 41.4 -1.3**
comp=Z,64nm,1.1s,mb5.2
PBEJ Beja 28.34 283 *eP* **P 23 54 43.4 -1.2**
comp=Z,74nm,1.1s,mb5.2
ARU Arti 28.36 37 *eP* **P 23 54 38.5 -6.1**
ARU *e*PPP PPP 23 55 33.0 -15
ARU *e*S **S 23 59 20.4 -8.6**
ARU *e*SS SS 00 00 50.2 -3.4
ARU *e* 00 05 26.4
ARU MLR MLR
comp=Z,2μm,19.0s,MS4.7
ARU MLR MLR
comp=N,1μm,17.0s,MS4.7
ARU MLR MLR
comp=E,2μm,20.0s,MS4.7
EVO Evora 28.38 284 *eP* **P 23 54 44.3 -0.7**
comp=E,29nm,1.0s,mb4.6
EVO *eR*
comp=E,1μm,18.5s
HOQ Hoqain 28.50 109 ⇑P **P 23 54 46.9 +0.7**
SNR=28
PTOM Tomar 28.55 287 *eP* **P 23 54 44.9 -1.6**
BSY Bisya 28.90 111 ⇑P **P 23 54 50.5 +0.7**
SNR=19
BSYO Bisya 28.94 111 P **P 23 54 50.5 +0.4**
SNR=19

PTEO Sao Teotonio 29.09 283 *eP* **P 23 54 51.1 -0.3**
BIDO Bidbid 29.16 109 ⇓P **P 23 54 52.2 0.0**
MUKL Al Mukalla 29.17 134⇓*eP* **P 23 54 54.7 +2.4**
SOKR Solikamsk 29.35 30⇓*iP* **P 23 54 52.0 -1.5**
SOKR pmax pmax
comp=Z,90nm,1.4s,mb5.3
SMDO Samad 29.36 109 ⇑P **P 23 54 54.5 +0.5**
SNR=24
WHFO Wadi Hawf 29.55 123 ⇓P **P 23 54 56.8 +1.1**
SNR=14
SVE Sverdlovsk 29.55 37⇓*eP* **P 23 54 57.0 +1.6**
SVE pmax pmax
comp=Z,260nm,2.0s,mb5.6
SVE MLR MLR
comp=Z,2μm,13.5s,MS5.0
ABTO Aybut 29.64 124 P **P 23 54 57.8 +1.3**
SNR=13
JMDO Jabal Madar 29.80 111 ⇑P **P 23 54 58.0 +0.2**
SNR=14
RBK Rabkut 30.14 123 ⇑P **P 23 55 01.8 +0.9**
SNR=21
WBK Wadi Bani Khal 30.31 109 ⇑P **P 23 55 03.4 +0.9**
SNR=19
APA Apatity 30.92 4⇑*iP* **P 23 55 06.7 -0.6**
APA *i* 23 56 15.7
APA pmax pmax
comp=Z,200nm,2.0s,mb5.6
APA MLR MLR
comp=Z,4μm,14.0s,MS5.2
LVZ Lovozero 31.32 5 *eP* **P 23 55 11.4 +0.5**
LVZ *e*S **S 00 00 15.9 0.0**
LVZ pmax pmax
comp=Z,56nm,1.4s,mb5.2
LVZ pmax pmax
comp=N,26nm,1.6s
LVZ MLR MLR
comp=Z,3μm,13.0s,MS5.2
LVZ MLR MLR
comp=N,2μm,14.0s
LVZ Lovozero 31.32 5 *iP* **P 23 55 11.1 +0.2**
ARCES ARCESS Array B 32.76 358 P **P 23 55 23.2 -0.2**
comp=N,26nm,1.0s,mb5.1,baz=181,slow=7.0,SNR=19
ARCES LR LR 00 09 18.0
comp=N,2μm,19.0s,MS4.9,baz=191,slow=38
BRVK Borovoye 33.50 47 *eP* **P 23 55 30.0 0.0**
BRVK pmax pmax
comp=Z,62nm,1.9s,mb5.2
BRVK Borovoye 33.50 47 *eP* **P 23 55 30.0 0.0**
comp=Z,62nm,1.9s,mb5.2
BVA0 Borovoye Array 33.55 48 *iP* **P 23 55 30.7 +0.2**
BVA0 pmax pmax
comp=Z,6.0nm,1.8s,mb4.2
BVAR Borovoye Array 33.55 48 P **P 23 55 30.1 -0.4**
comp=Z,18nm,1.2s,mb4.9,baz=256,slow=6.1,SNR=19
CHKZ Chkalovo 33.82 46⇓*eP* **P 23 55 32.4 -0.4**
CHKZ pmax pmax
comp=Z,20nm,1.0s,mb5.0
CHKZ Chkalovo 33.82 46⇓*eP* **P 23 55 32.4 -0.4**
comp=Z,20nm,1.0s,mb5.0
AML Almayashu 35.38 67 P **P 23 55 47.1 +0.8**
SNR=10
EKS2 Erkin-Say 35.38 66 P **P 23 55 47.8 +1.5**
SNR=33
USP Ospenovka 35.84 65 P **P 23 55 50.9 +0.6**
SNR=15
AAK Ala-Archa 35.91 66 P **P 23 55 51.9 +1.1**
SNR=58
AAK Ala-Archa 35.91 66⇓*iP* **P 23 55 50.8 0.0**
AAK pmax pmax
comp=Z,62nm,1.1s,mb5.5
AAK Ala-Archa 35.91 66⇓*iP* **P 23 55 50.8 0.0**
comp=Z,62nm,1.1s,mb5.5
UCH Uchtor 35.97 67 P **P 23 55 53.0 +1.7**
SNR=11
FRU Bishkek 35.98 66⇓*iP* **P 23 55 52.5 +1.2**
FRU pmax pmax
comp=Z,330nm,1.5s,mb6.0
FRU MLR MLR
comp=Z,2μm,14.0s,MS4.9
CHMS Chumysh 36.05 65 P **P 23 55 52.8 +0.8**
SNR=56
KBK Karagaybulak 36.24 66 P **P 23 55 55.4 +1.9**
SNR=29
KZA Kyzart 36.53 67 P **P 23 55 57.7 +1.7**
SNR=48
TKM2 Tokmak 2 36.68 65 P **P 23 55 58.6 +1.3**
SNR=18
ULHL Ulahol 37.24 66 P **P 23 56 04.1 +2.2**
SNR=7.2
MBAR Mbarara 37.36 175⇓*iP* **P 23 56 04.4 +1.1**
MBAR pmax pmax
comp=Z,20nm,0.9s,mb5.0
MBAR Mbarara 37.36 175⇓*iP* **P 23 56 04.4 +1.1**
comp=Z,20nm,0.9s,mb5.0
JASL Jaisalmer 37.54 93 *eP* **P 23 56 05.6 +0.9**
KMBO Kilima Mbogo 38.77 165 P **P 23 56 18.6 +3.5**
KMBO 23 58 30.8
KMBO pmax pmax
comp=Z,6.0nm,0.9s
KMBO pmax pmax
comp=Z,5.0nm,1.2s
KMBO MLR MLR
comp=Z,2μm,19.5s
KMBO Kilima Mbogo 38.77 165 P **P 23 56 18.6 +3.4**
comp=Z,6.3nm,0.8s,mb4.4,baz=355,slow=9.2,SNR=20
KMBO PcP PcP 23 58 30.8 +3.7
comp=Z,5.4nm,1.2s,baz=7.6,slow=3.9,SNR=3.1
KMBO LR LR 00 13 14.0
comp=Z,2μm,19.4s,MS5.0,baz=324,slow=38
KMBO Kilima Mbogo 38.77 165 *eP* **P 23 56 17.3 +2.1**
comp=Z,6.7nm,0.9s,mb4.4
KMBO LR LR
comp=Z,2μm,20.0s,MS5.0
BHK Bhakra 40.16 83 *e* **P 23 56 26.7 +0.2**
BORG Borgarnes 40.18 330 P **P 23 56 26.6 +0.4**
AJM Ajmer 40.74 91 *iP* **P 23 56 32.0 +0.8**
SMLA Simla 40.86 83⇑*i* **P 23 56 45.1 +13**
comp=Z,220nm,1.9s,mb5.5
MKAR Makanchi Array 40.97 58 *iP* **P 23 56 33.4 +0.4**
MKAR pmax pmax
comp=Z,21nm,0.7s
NVS Novosibirsk 41.30 46 *iP* **P 23 56 35.6 0.0**
NVS *e* 23 58 11.0
NVS *e*S **S 00 02 49.2 +0.4**
NVS pmax pmax
comp=N,46nm,1.8s
NVS pmax pmax
comp=Z,129nm,1.8s,mb5.3
NVS pmax pmax
comp=E,41nm,1.2s
NVS smax
comp=N,88nm,2.0s
KUDL Kundal 41.50 88 *eP* **P 23 56 38.3 +0.9**
KLP Kalpa 41.58 82 *eP* **P 23 56 38.3 +0.2**
NDI New Delhi 41.86 87 *eP* **P 23 56 40.0 -0.4**
AYAN Aya Nagar 41.87 87 *eP* **P 23 56 41.0 +0.5**
DDI Dehra Dun 41.88 84 *eP* **P 23 56 38.5 -2.1**
DDI *e* 00 03 05.3
ZAL Zalesovo 42.20 47 P **P 23 56 43.1 +0.3**
comp=N,7.8nm,0.6s,mb4.5,baz=210,slow=7.6,SNR=21
DBIC Dimbokro 42.38 233 P **P 23 56 44.3 -0.6**
comp=N,25nm,0.6s,mb5.0,baz=22,slow=9.0,SNR=80
POO Poona 44.11 102 *eP* **P 23 56 59.8 +0.9**
POO *e* 23 57 02.2
comp=Z,34nm,0.8s
BHPL Bhopal 44.48 93 *eP* **P 23 57 02.1 +0.2**
BHPL *e* 23 57 04.6
comp=Z,42nm,0.9s
BHPL *e*S **S 00 03 33.7 -1.9**
DAG Danmarks Havn 44.92 346 *eP* **P 23 57 06.0 +1.3**
DAG pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
DAG Danmarks Havn 44.92 346 *eP* **P 23 57 06.0 +1.3**
comp=Z,2.0nm,0.6s,mb4.1
DAG Danmarks Havn 44.92 346 *iP* **P 23 57 06.0 +1.3**
comp=Z,2.0nm,0.6s,mb4.1
KAD Karad 45.06 103 *eP* **P 23 57 08.0 +1.4**
WMQ Urumqi 45.22 62 P **P 23 57 08.8 +1.3**
WMQ AP pP 23 57 19.1 +6.5
WMQ XP sP 23 57 23.0 +8.3
LATR Latur 46.31 100 *eP* **P 23 57 16.5 +0.1**
NGP Nagpur 46.83 95 *eP* **P 23 57 21.7 +1.1**
NGP *e* 00 04 15.1
ALBI Allahabad 47.01 88 *eP* **P 23 57 19.5 -2.4**
KOLN Koldanda 47.34 84 *eP* **P 23 57 24.4 -0.1**
comp=Z,249nm,1.2s,mb6.0

GKN Gorkha 48.07 83 *eP* **P 23 57 29.7 -0.5**
comp=Z,217nm,1.2s,mb6.0
MNGI Mangalore 48.15 107 *eP* **P 23 57 31.6 +0.7**
SUMG Summit 48.22 338 *eP* **P 23 57 31.0 +0.3**
comp=Z,32nm,0.8s,mb5.4
HYB Hyderabad 48.44 99 *eP* **P 23 57 33.0 -0.2**
HYB *e*S **S 00 04 32.0 -0.1**
HYB Hyderabad 48.44 99 *iP* **P 23 57 33.0 -0.2**
HYB *e*S **S 00 04 32.0 -0.1**
HYB Hyderabad 48.44 99 *eS* **S 00 04 32.0 -0.1**
DMN Daman 48.62 84 *eP* **P 23 57 34.2 -0.2**
comp=Z,142nm,1.0s,mb6.0
KKN Kakani 48.68 83 *eP* **P 23 57 34.9 0.0**
comp=Z,59nm,0.7s,mb5.7
BLSP Bilaspur 48.80 92 *e* PP 23 59 32.3 +3.0
BLSP *e*S **S 00 04 35.4 -1.8**
PKI Pulchoki 48.88 84 *eP* **P 23 57 36.0 -0.4**
comp=Z,110nm,1.0s,mb5.9
GUN Gumba 49.10 83 *eP* **P 23 57 38.2 0.0**
comp=Z,142nm,1.1s,mb5.9
JIRN Jiri 49.46 83 *eP* **P 23 57 40.0 -0.9**
comp=Z,222nm,1.4s,mb6.0
LSZ Lusaka 51.85 180⇓*iP* **P 23 58 00.5 +1.2**
LSZ *i* 23 59 13.2
LSZ pmax pmax
comp=Z,20nm,1.3s,mb4.9
LSZ Lusaka 51.85 180⇓*iP* **P 23 58 00.5 +1.2**
comp=Z,20nm,1.3s,mb4.9
LSZ *i* PcP PcP 23 59 13.2 +1.0
LSZ Lusaka 51.85 180 *i* PcP PcP 23 59 13.2 +1.0
VIS Vishakhapatnam 52.06 96 *eP* **P 23 57 59.8 -1.0**
VIS *e* pP 23 58 03.1 -2.9
comp=Z,37nm,1.0s
MOY Mondy 52.21 49 *eP* **P 23 58 03.1 +1.6**
LSA Lhasa 52.50 78 P **P 23 58 04.8 +0.8**
LSA AMB AMB
comp=Z,20nm,1.3s,mb4.9
LSA LR LR
comp=N,470nm,28.0s,MS4.6
LSA LR LR
comp=E,530nm,23.1s,MS4.6
LSA LR LR
comp=Z,620nm,30.4s
LSA Lhasa 52.50 78 *eP* **P 23 58 04.1 +0.1**
LSA pmax pmax
comp=Z,29nm,1.2s,mb5.1
LSA Lhasa 52.50 78 *eP* **P 23 58 04.1 +0.1**
comp=Z,29nm,1.2s,mb5.1
TLY Talaya 53.80 48 *eP* **P 23 58 14.0 +0.7**
TLY *e* 00 00 13.3
TLY *e*S **S 00 05 53.1 +7.6**
TLY pmax pmax
comp=Z,73nm,1.4s,mb5.4
TLY Talaya 53.80 48⇓*eP* **P 23 58 14.1 +0.8**
comp=Z,72nm,1.3s,mb5.4
TLY *e* 23 58 25.8
TLY *e*PcP PcP 23 59 15.0 -4.1
ZAK Zakamensk 53.94 50⇓*iP* **P 23 58 15.4 +1.1**
IRK Irkutsk 54.03 48 *eP* **P 23 58 14.9 0.0**
SHL Shillong 54.94 82⇓*iP* **P 23 58 21.0 -1.1**
SHL *e* 00 02 06.0
PALK Pallekele 56.19 108 *eP* **P 23 58 30.5 -0.7**
comp=Z,81nm,1.4s,mb5.6
PALK Pallekele 56.19 108 *eP* **P 23 58 30.5 -0.7**
comp=Z,81nm,1.4s,mb5.6
SONM Songino Array 56.68 52 P **P 23 58 34.4 +0.2**
comp=Z,14nm,0.6s,mb5.2,baz=288,slow=7.8,SNR=116
SONM ScP 00 03 23.9
comp=Z,2.2nm,0.6s,baz=291,slow=7.5,SNR=10
IMP Imphal 56.95 82 *eP* **P 23 58 36.5 0.0**
ULN Ulaanbaatar 57.08 52⇓*iP* **P 23 58 37.3 +0.2**
ULN pmax pmax
comp=Z,57nm,1.3s,mb5.4
ULN Ulaanbaatar 57.08 52⇓*iP* **P 23 58 37.3 +0.2**
comp=Z,57nm,1.3s,mb5.4
ULN Ulaanbaatar 57.08 52⇓*iP* **P 23 58 37.3 +0.2**
comp=Z,57nm,1.3s,mb5.4
BOD Bodaibo 57.73 39 *eP* **P 23 58 39.7 -1.9**
TIXI Tiksi 58.78 21⇓*iP* **P 23 58 48.0 -0.7**
TIXI *e*S **S 00 06 52.1 +0.7**
TIXI pmax pmax
comp=Z,54nm,1.5s,mb5.4
TIXI MLR MLR
comp=Z,2μm,17.0s,MS5.2
TIXI Tiksi 58.78 21⇓*iP* **P 23 58 48.2 -0.5**
LZH Lanzhou 59.45 66 ⇓P **P 23 58 54.3 +0.5**
LZH AP pP 23 59 04.0 +4.9
LZH XP sP 23 59 08.0 +7.0
LZH AMB AMB
comp=Z,100nm,1.0s,mb5.8
LZH AMB AMB
comp=Z,770nm,4.0s
LZH LR LR
comp=N,2μm,15.7s
LZH LR LR
comp=Z,2μm,16.1s,MS5.4
FRB Frobisher Bay 60.35 329 P **P 23 58 57.6 -2.0**
comp=Z,23nm,0.9s,mb5.2,baz=74,slow=7.5,SNR=38
RES Resolute Bay 62.60 345⇓*eP* **P 23 59 13.1 -1.6**
RES pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
RES Resolute Bay 62.60 345⇓*eP* **P 23 59 13.1 -1.5**
comp=Z,10nm,0.8s,mb5.0
RES Resolute Bay 62.60 345⇓*eP* **P 23 59 13.1 -1.6**
comp=Z,10nm,0.8s,mb5.0
YAK Yakutsk 63.28 31⇓*eP* **P 23 59 18.2 -1.1**
SCHQ Schefferville 63.35 320 P **P 23 59 17.6 -2.2**
comp=Z,11nm,0.8s,mb5.0,baz=54,slow=5.0,SNR=28
CHRT Chiangrai 64.10 84 ⇑P **P 23 59 11.0 -14**
comp=Z,140nm,0.6s
CMAR Chiang Mai Arr 64.18 86 P **P 23 59 25.1 -0.7**
comp=Z,8.1nm,0.9s,mb4.8,baz=301,slow=8.1,SNR=44
CMAR PcP PcP 00 00 04.0 +3.4
comp=Z,6.6nm,0.8s,baz=292,slow=7.3,SNR=6.5
CMAR Chiang Mai Arr 64.18 86 P **P 23 59 25.1 -0.7**
HIA Hailar 64.24 47 *eP* **P 23 59 25.5 -0.2**
HIA pmax pmax
comp=Z,52nm,1.3s
HIA Hailar 64.24 47 *eP* **P 23 59 25.5 -0.3**
comp=Z,52nm,1.3s,mb5.4
HIA Hailar 64.24 47 *eP* **P 23 59 25.5 -0.2**
comp=Z,52nm,1.3s,mb5.4
NANT Nan 65.40 84 P **P 23 59 33.5 -0.2**
BJT Baijiatuau 66.33 57⇓*iP* **P 23 59 39.4 +0.1**
BJT pmax pmax
comp=Z,86nm,1.3s
BJT Baijiatuau 66.33 57⇓*iP* **P 23 59 39.4 +0.1**
comp=Z,86nm,1.3s,mb5.6
BJT Baijiatuau 66.33 57⇓*iP* **P 23 59 39.4 +0.1**
comp=Z,86nm,1.3s,mb5.6
ENH Enshi 66.33 69 *eP* **P 23 59 39.1 -0.4**
comp=Z,57nm,1.1s,mb5.5
NST Nakhon Sawan 66.64 88 P **P 23 59 41.0 -0.7**
NNT Nongplab 68.05 91 P **P 23 59 50.5 -0.1**
TIA Tai'an 68.88 60 ⇑P **P 23 59 55.8 +0.4**
TIA AMB AMB
comp=Z,58nm,1.1s,mb5.4
BILL Bilibino 70.86 15⇓*iP* **P 00 00 06.7 -0.2**
BILL pmax pmax
comp=Z,68nm,1.3s,mb5.4
BILL MLR MLR
comp=Z,500nm,18.0s,MS4.8
BILL Bilibino 70.86 15⇓*eP* **P 00 00 06.2 -0.7**
comp=Z,73nm,1.3s,mb5.5
BILL Bilibino 70.86 15⇓*eP* **P 00 00 06.2 -0.7**
comp=Z,73nm,1.3s,mb5.5
KLR Kul'dur 71.01 42 *eP* **P 00 00 05.0 -3.2**
KLR *e*S S 00 09 22.5 +0.4
KLR pmax pmax
comp=N,24nm,1.4s
KLR pmax pmax
comp=Z,33nm,1.4s,mb5.1
MA2 Magadan 72.98 27 P **P 00 00 20.2 +0.6**
MA2 *e* 00 10 11.3
MA2 pmax pmax
comp=Z,40nm,1.5s,mb5.1
FCC Fort Churchill 73.25 333 *eP* **P 00 00 18.9 -2.3**
FCC pmax pmax
comp=Z,29nm,1.6s,mb5.0
FCC Fort Churchill 73.25 333 *eP* **P 00 00 18.9 -2.3**
comp=Z,29nm,1.6s,mb5.0
INK Inuvik 74.23 353 P **P 00 00 25.4 -1.3**
INK pmax pmax
comp=Z,10.0nm,1.0s
INK Inuvik 74.23 353 P **P 00 00 25.4 -1.4**
comp=Z,9.6nm,1.0s,mb4.7,baz=19,slow=8.6,SNR=14

INK	Inuvik	74.23	353	eP	P	00 00 24.8	-1.9
	comp=Z,45nm,1.5s,mb5.2						
INK	Inuvik	74.23	353	eP	P	00 00 24.8	-1.9
	comp=Z,45nm,1.5s,mb5.2						
YKW3	Yellowknife Ar	76.45	343	‖ i P	P	00 00 37.8	-1.7
YKW3	Yellowknife Ar	76.45	343	‖ i P	P	00 00 37.8	-1.7
YKA	Yellowknife Ar	76.50	343	P	P	00 00 38.2	-1.6
	comp=Z,4.2nm,0.9s,mb4.4,baz=34,slow=5.4,SNR=49						
SDMD	Soldier's Deli	77.33	310	‖ eP	P	00 00 44.2	-0.7
SDMD	Soldier's Deli	77.33	310	‖ eP	P	00 00 44.2	-0.7
IMA	Indian Mountai	77.40	1	‖ i P	P	00 00 45.4	+0.7
YSS	Yuzh-Sakhalins	78.21	39	‖ i P	P	00 00 50.1	+0.6
YSS				e		00 01 02.0	
YSS				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.6						
COLA	College	78.55	358	d i P	P	00 00 51.3	+0.3
COLA	College	78.55	358	eP	P	00 00 50.5	-0.6
	comp=Z,57nm,1.6s,mb5.2						
COLA				LR	LR		
	comp=Z,599nm,22.0s,MS4.9						
COLA	College	78.55	358	eP	P	00 00 50.5	-0.5
	comp=Z,57nm,1.6s,mb5.2						
ILAR	Eielson Array	78.62	358	P	P	00 00 50.8	-0.7
	comp=Z,4.2nm,0.9s,mb4.4,baz=349,slow=3.2,SNR=37						
DAWY	Dawson	78.91	354	eP	P	00 00 52.5	-0.5
DAWY	Dawson	78.91	354	eP	P	00 00 52.5	-0.6
PET	Petropavlovsk	80.80	28	eP	P	00 01 15.3	+12
PET				eS	S	00 11 20.9	+12
PET				pmax	pmax		
	comp=Z,200nm,7.0s						
PET				pmax	pmax		
	comp=Z,67nm,1.6s,mb5.3						
PET				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.1						
JOW	Kunigami	81.99	63	LR	LR	00 41 21.4	
	comp=Z,529nm,19.6s,MS4.9,baz=355,slow=38						
SPU	Mount Spurr	82.31	360	eP	P	00 01 10.7	-0.4
SPU	Mount Spurr	82.31	360	eP	P	00 01 10.7	-0.4
SLKM	Skilak Lake	82.97	359	eP	P	00 01 14.4	-0.2
FX1	Attu Island--F	85.66	20	P	P	00 01 28.6	+0.4
FX1				pmax	pmax		
	comp=Z,28nm,0.7s						
FX1	Attu Island--F	85.66	20	P	P	00 01 28.6	+0.4
	comp=Z,28nm,0.7s,mb5.6,baz=35,slow=2.9,SNR=7.1						
WALA	Waterton Lakes	88.00	336	eP	P	00 01 37.9	-1.7
	comp=Z,6.1nm,0.9s,mb4.8						
WALA	Waterton Lakes	88.00	336	eP	P	00 01 37.9	-1.7
	comp=Z,6.1nm,0.9s,mb4.8						
BAO	Brasilia Array	88.39	249	P	P	00 01 44.0	+1.7
BAO	Brasilia Array	88.39	249	P	P	00 01 44.0	+1.7
BDFB	Brasilia	88.41	249	P	P	00 01 42.8	+0.4
	comp=Z,15nm,0.7s,mb5.3,baz=65,slow=4.7,SNR=27						
GCMT	Greycliff	89.30	332	eP	P	00 01 45.4	-0.5
PHWY	Pilot Hill	91.28	327	eP	P	00 01 54.0	-1.2
PHWY	Pilot Hill	91.28	327	eP	P	00 01 54.0	-1.3
SDV	Santo Domingo	91.51	282	eP	P	00 01 56.6	-0.3
	comp=Z,11nm,0.9s,mb5.2						
SDV	Santo Domingo	91.51	282	eP	P	00 01 56.6	-0.3
	comp=Z,11nm,0.9s,mb5.2						
BW06	Boulder Array	91.80	330	eP	P	00 01 56.1	-1.4
	comp=Z,18nm,1.9s,mb5.1						
BW06	Boulder Array	91.80	330	eP	P	00 01 56.1	-1.5
	comp=Z,18nm,1.9s,mb5.1						
PDAR	Pinedale Array	91.80	330	P	P	00 01 56.1	-1.5
	comp=Z,1.2nm,0.8s,mb4.3,baz=41,slow=3.3,SNR=9.8						
PDAR				PP	PP	00 05 38.1	-1.0
	comp=Z,1.2nm,1.1s,baz=34,slow=5.3,SNR=4.3						
HLID	Hailey	92.95	334	P	P	00 02 02.4	-0.4
HLID	Hailey	92.95	334	P	P	00 02 02.4	-0.5
NVAR	Mina Array Bea	98.86	334	P	P	00 02 30.8	+0.9
	comp=Z,0.8nm,0.9s,mb4.2,baz=46,slow=4.8,SNR=4.0						
NVAR	Mina Array Bea	98.86	334	P	P	00 02 30.8	+0.9
TXAR	Lajitas Array	100.01	318	P	P	00 02 34.5	-0.9
	comp=Z,0.8nm,0.7s,baz=72,slow=4.0,SNR=6.2						
WRA	Warramunga Arr	114.56	97	PKP	PKPdf	00 07 30.2	-2.8
	comp=Z,1.6nm,0.7s,baz=311,slow=1.7,SNR=22						
ASAR	Alice Springs	116.16	101	PKP	PKPdf	00 07 32.4	-3.7
	comp=Z,2.8nm,0.7s,baz=320,slow=1.5,SNR=37						
CTA	Charters Tower	124.17	91	PKP	PKPdf	00 07 49.6	-2.1
	comp=Z,7.1nm,0.8s,baz=327,slow=7.8,SNR=7.1						
STKA	Stephens Creek	126.00	106	PKP	PKPdf	00 07 51.4	-3.5
	comp=Z,7.0nm,1.1s,baz=333,slow=7.4,SNR=7.7						
STKA	Stephens Creek	126.00	106	PKP	PKPdf	00 07 51.4	-3.5
QSPA	South Pole Qui	126.70	180	P	PKPdf	00 07 52.0	-3.0
VNDA	Vanda	134.75	167	PKP	PKPdf	00 08 09.2	-1.2
	comp=Z,2.4nm,0.9s,baz=87,slow=4.4,SNR=4.5						
TAOE	Nuku Hiva Isla	150.10	336	eLR	LR	00 58 36.1	
RKT	Rikitea	159.88	308	eLR	LR	01 03 06.3	
	comp=Z,588nm,29.2s						
PPT	Papeete	160.66	353	eSS	SS	00 33 35.9	+11
PPT				eLR	LR	01 03 29.0	
	comp=Z,537nm,23.5s						
TBI	Tubuai	166.35	350	eLR	LR	01 06 06.3	
	comp=Z,672nm,26.0s						

*BJI **10** 23:50:20.8, 37.53N×27.12E, h14km, mB5.0, mb5.0, Ms5.1, Msz5.0*
*MOS **10** 23:50:23.7±2.3, 36.77N×28.01E, h10km, mb5.3/13, Error ellipse: s-maj=12.2km s-min=5.6km az=107.3*
*ZUR_RM **10** 23:50:25, 37.02N×27.92E, h9km, Mw5.2/7, Moment Tensor Solution. s7 Moment tensor: Scale 1016Nm; Mrr=7.06; Mθθ7.01; Mφφ0.06; Mrθ-1.98; Mθφ-0.20; Mφr0.18; Best double couple: M0 7.31×1016 NP1:φs93°, δ53°, λ-89°. NP2:φs271°, δ37°, λ-92°. Principal axes: T 7.288, Plg8°, Azm182°; N .051, Plg1°, Azm272°; P -7.339, Plg82°, Azm9°;*
*NEIC **10** 23:50:25.7±0.2, 37.02N×27.92E, h10km, mb5.0/18, ML4.8(ATH) Error ellipse: s-maj=5.7km s-min=5.0km az=57.0*
*ATH **10** 23:50:27.2, 36.81N×27.66E, h2km, ML4.8*
*CSEM **10** 23:50:28.0±0.1, 37.08N×27.99E, h40km, mb4.9/8, Error ellipse: s-maj=4.8km s-min=3.5km az=144.0*
*IDC **10** 23:50:34.7±3.8, 37.12N×27.69E, h78km±32km, mb4.4/17, mb1 4.6/22, mb1mx4.5/27, mbtmp4.7/22, MS4.7/2, Ms1 4.7/2, ms1mx4.0/16, Error ellipse: s-maj=22.4km s-min=17.1km az=170.0*

ISC 10 23:50:27.9±0.7, 36.94N±0.05×27.89E±0.05, h39km±7km, n148, σ1°9/26/143, mb4.8/35, MS4.9/4, 1C-3D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.74	165	ePG	P	23 50 40.7	-1.2
SMG	Samos	1.14	313	ePB	P	23 50 46.9	-0.6
KARP	Karpathos	1.51	203	ePB	P	23 50 52.2	-0.7
SANT	Santorini	2.04	255	P	P	23 51 00.2	-0.2
SANT	Santorini	2.04	255	P	P	23 51 00.2	-0.2
NPS	Neapolis	2.49	229	ePN	P	23 51 08.4	+1.5
PRK	Paraskevi	2.64	331	ePN	P	23 51 14.5	+5.5
IDI	Anoyia	2.94	237	P	P	23 51 14.6	+1.3
	44nm,0.3s,baz=340,slow=13,SNR=1.5						
IDI				S	S	23 51 51.9	+4.2
	33nm,0.3s,baz=74,slow=20,SNR=2.4						
IDI	Anoyia	2.94	237	P	P	23 51 14.6	+1.4
IDI				S	S	23 51 51.8	+4.2
PTL	Penteli	3.39	290	ePN	P	23 51 19.0	-0.7
ATH	Athens Observa	3.48	289	ePN	P	23 51 20.6	-0.3
EVR	Evrytania	5.20	294	ePN	P	23 51 45.2	-0.1
BRTR	Keskin Array B	5.31	57	P	P	23 51 51.2	+4.4
	17nm,0.3s,baz=244,slow=18,SNR=5.2						
JAN	Janina	6.17	298	ePN	P	23 52 01.5	+2.7
SKO	Skopje	7.08	317	i Pn	P	23 52 11.3	-0.4
TIP	Timpagrande	9.06	288	ePn	P	23 52 36.2	-3.0
TIP	Timpagrande	9.06	288	ePn	P	23 52 36.2	-2.9
EIL	Elat	9.35	139	Pn	P	23 52 42.0	-1.1
EIL	Elat	9.35	139	Pn	P	23 52 42.0	-1.1
PSZ	Piszkesteto	12.45	334	P	P	23 53 22.8	-2.5
KOLS	Kolonicke sedl	12.67	343	eSg	S	23 55 44.1	-4.8
KOLS	Kolonicke sedl	12.67	343	e	S	23 55 44.1	-4.8
CRVS	Cervenica-Dubn	12.85	341	e	S	23 56 00.3	+7.2
CRVS	Cervenica-Dubn	12.85	341	eSg	S	23 56 00.3	+7.2
ZST	Bratislava	13.76	328	eSg	S	23 56 30.9	+16
ZST	Bratislava	13.76	328	e	S	23 56 30.9	+16
AKASG	Malin Array Be	13.79	4	P	P	23 53 46.9	+4.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	13.79	4	P	P	23 53 46.9	+4.0
	comp=Z,0.8nm,0.3s,baz=181,slow=9.4,SNR=4.3						
OJC	Ojcow	14.50	339	eP	P	23 53 57.8	+5.6
VRAC	Vranov	14.84	330	P	P	23 54 04.6	+8.0
	comp=Z,1.0nm,0.3s,baz=116,slow=9.4,SNR=4.8						
MORC	Moravsky Berou	14.86	333	P	P	23 53 56.1	-0.7
GERES	GERESS Array B	15.77	323	P	P	23 54 13.8	+5.2
	comp=Z,0.1nm,0.3s,baz=132,slow=12,SNR=1.9						
DPC	Dobruska-Polom	15.78	332	eP	P	23 54 17.5	+8.8
UPC	Upice	16.02	332	eP	P	23 54 22.7	+11
KHC	Kasperske Hory	16.03	324	eP	P	23 54 20.6	+8.7
KSP	Ksiaz	16.19	333	eP	P	23 54 13.2	-0.7
KSP				epP		23 54 22.2	
PRU	Pruhonice	16.22	328	eP	P	23 54 21.9	+7.6
WET	Wettzell	16.37	323	eP	P	23 54 23.8	+7.6
WET				pmax	pmax		
	comp=Z,65nm,1.3s						
WET	Wettzell	16.37	323	eP	P	23 54 23.8	+7.6
	comp=Z,65nm,1.3s						
PVCC	Panska Ves	16.61	329	eP	P	23 54 27.4	+8.1
BRG	Berggiesshubel	17.14	329	i P	P	23 54 32.3	+6.5
BRG				pmax	pmax		
	comp=Z,85nm,0.9s						
BRG	Berggiesshubel	17.14	329	i P	P	23 54 32.3	+6.5
	comp=Z,85nm,0.9s						
BRG	Berggiesshubel	17.14	329	eP	P	23 54 32.1	+6.3
	comp=Z,84nm,0.9s						
NKC	Nove Kostel	17.32	325	eP	P	23 54 32.8	+4.6
WERD	Werda	17.54	325	eP	P	23 54 36.8	+5.9
	comp=Z,156nm,0.9s						
GRA1	Grafenberg Arr	17.55	322	eP	P	23 54 35.5	+4.5
	comp=Z,94nm,1.1s						
GRF	Grafenberg Arr	17.55	322	eP	P	23 54 35.5	+4.5
GRF				pmax	pmax		
	comp=Z,94nm,1.1s						
GRF	Grafenberg Arr	17.55	322	eP	P	23 54 35.5	+4.5
GRF				pmax	pmax		
	comp=Z,94nm,1.1s						
GRF	Grafenberg Arr	17.55	322	eP	P	23 54 35.5	+4.5
	comp=Z,94nm,1.1s						
CLL	Collm	17.86	328	i P	P	23 54 38.9	+4.1
CLL				i		23 54 40.2	
CLL	Collm	17.86	328	P	P	23 54 38.9	+4.1
CLL				i		23 54 40.2	
CLL				i		23 54 43.7	
CLL	Collm	17.86	328	eP	P	23 54 38.9	+4.1
	comp=Z,149nm,0.9s						
MOX	Moxa	17.99	325	eP	P	23 54 38.0	+1.5
MOX				pmax	pmax		
	comp=Z,238nm,1.7s						
MOX	Moxa	17.99	325	i P	P	23 54 38.0	+1.5
	comp=Z,logA/T=2.1						
MOX	Moxa	17.99	325	eP	P	23 54 38.0	+1.5
	comp=Z,238nm,1.7s						
RUE	Ruedersdorf	18.44	332	eP	P	23 54 45.4	+3.3
	comp=Z,98nm,1.1s						
BSEG	Bad Segeberg	20.90	330	eP	P	23 55 11.9	+2.8
EMIR	Miracle	20.93	292	S	P	23 55 02.9	-6.6
EPOB	Poblet	21.22	290	S	P	23 55 11.1	-1.4
ERTA	Horta de San J	21.77	289	S	P	23 55 16.9	-1.0
EBIE	Bielsa	22.02	294	S	P	23 55 32.6	+12
EBEN	Beniarda	22.25	283	S	P	23 55 14.3	-8.4
EMOS	Mosqueruela	22.37	288	S	P	23 55 23.8	-0.1
ENIJ	Nijar	24.01	279	S	P	23 55 40.2	+0.4
EVIA	Vianos	24.03	283	S	P	23 55 41.1	+1.0
FINES	FINESS Array B	24.56	358	P	P	23 55 45.5	+0.6
	comp=Z,19nm,0.8s,mb4.7,baz=146,slow=14,SNR=4.2						
EBER	Berja	24.56	279	S	P	23 55 44.8	-0.5
EQES	Quesada	24.57	281	S	P	23 55 46.4	+1.0
ELAN	Lanestosa	24.68	295	S	P	23 55 46.8	+0.4
HFS	Hagfors	24.93	343	P	P	23 55 48.7	+0.1
	comp=Z,27nm,0.8s,mb4.8,baz=162,slow=9.4,SNR=5.8						
ESDC	Sonseca Array	25.08	286	P	P	23 55 50.4	+0.2
	comp=Z,15nm,0.7s,mb4.6,baz=82,slow=9.0,SNR=5.8						
ESDC	Sonseca Array	25.08	286	S	P	23 55 49.2	-1.0
EADA	Adamuz	25.70	283	S	P	23 55 51.2	-4.9
EARI	Arriondas	25.98	294	S	P	23 56 03.1	+4.4
EMIJ	Mijas	26.11	279	S	P	23 55 58.5	-1.4
NOA	NORSAR Array B	26.33	342	P	P	23 56 00.6	-1.1
	comp=Z,8.1nm,0.8s,mb4.3,baz=147,slow=9.0,SNR=4.5						
ECAL	Calabor	27.09	291	S	P	23 56 12.1	+3.3
PBRG	Braganca	27.09	291	eP	P	23 56 11.0	+2.1
EMIN	Mina Concepcio	27.40	282	S	P	23 56 09.4	-2.3
PCBR	Castelo Branco	27.77	287	eP	P	23 56 16.3	+1.3
EKA	Eskdalemuir Ar	27.96	321	P	P	23 56 14.1	-2.6
	comp=Z,7.0nm,0.9s,mb4.3,baz=119,slow=8.9,SNR=3.1						
PVIS	Viseu	28.01	289	eP	P	23 56 16.9	-0.4
EGRO	El Granado	28.07	282	S	P	23 56 18.7	+0.9
PALC	Alcoutim	28.08	282	eP	P	23 56 17.0	-0.9
	comp=Z,40nm,1.3s,mb4.9						
PBEJ	Beja	28.29	283	eP	P	23 56 18.1	-1.7
	comp=Z,32nm,1.0s,mb4.9						
PTOM	Tomar	28.50	287	eP	P	23 56 20.9	-0.7
APA	Apatity	30.84	4	‖ eP	pP	23 56 51.7	-1.2
APA				MLR	MLR		
	comp=Z,4μm,16.0s,MS5.1						
ARCES	ARCESS Array B	32.68	358	P	P	23 56 57.9	-0.4
	comp=Z,8.3nm,0.8s,mb4.7,baz=186,slow=8.2,SNR=3.1						
BVAR	Borovoye Array	33.52	48	P	P	23 57 07.6	+2.0
	comp=Z,6.0nm,0.8s,mb4.6,baz=236,slow=5.2,SNR=3.5						
AAK	Ala-Archa	35.90	66	P	P	23 57 25.3	-0.9
AAK				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.1						
AAK	Ala-Archa	35.90	66	P	P	23 57 25.3	-0.8
	comp=Z,22nm,0.9s,mb5.1						
AAK	Ala-Archa	35.90	66	P	P	23 57 25.3	-0.9
	comp=Z,22nm,0.9s,mb5.1						
MBAR	Mbarara	37.44	175	P	P	23 57 39.9	+0.5
MBAR				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.7						
MBAR	Mbarara	37.44	175	P	P	23 57 39.9	+0.4
	comp=Z,14nm,1.1s,mb4.7						
MBAR	Mbarara	37.44	175	P	P	23 57 39.8	+0.4
	comp=Z,14nm,1.1s,mb4.7						
KMBO	Kilima Mbogo	38.85	165	P	P	23 57 56.9	+5.7
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMBO	Kilima Mbogo	38.85	165	P	P	23 57 56.9	+5.7
	comp=Z,1.7nm,0.8s,mb3.8,baz=1.0,slow=10,SNR=3.7						
KMBO	Kilima Mbogo	38.85	165	eP	P	23 57 52.7	+1.5
	comp=Z,5.7nm,1.0s,mb4.3						
KMBO	Kilima Mbogo	38.85	165	eP	P	23 57 52.7	+1.5
	comp=Z,5.7nm,1.0s,mb4.3						
ZAL	Zalesovo	42.16	48	P	P	23 58 19.1	+1.1
	comp=Z,3.1nm,0.7s,mb4.1,baz=228,slow=4.0,SNR=2.7						
ZAL	Zalesovo	42.16	48	P	P	23 58 19.1	+1.1
DBIC	Dimbokro	42.40	233	P	P	23 58 21.9	+1.4
	comp=Z,16nm,0.9s,mb4.7,baz=35,slow=8.9,SNR=4.0						
SCO	Scoresbysund	42.51	338	i P	P	23 58 22.1	+1.5
SCO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
SCO	Scoresbysund	42.51	338	i P	P	23 58 22.1	+1.5
	comp=Z,10nm,0.9s,mb4.6						
WMQ	Urumqi	45.21	62	P	P	23 58 44.6	+1.8
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,72nm,5.0s						
WMQ				LR	LR		
	comp=N,1μm,20.4s,MS5.0						
WMQ				LR	LR		
	comp=E,1μm,22.1s,MS5.0						
WMQ				LR	LR		
	comp=Z,1μm,20.3s,MS4.9						
SUMG	Summit	48.13	338	eP	P	23 59 06.0	+0.5
	comp=Z,35nm,1.0s,mb5.3						
SUMG	Summit	48.13	338	eP	P	23 59 05.9	+0.4
	comp=Z,35nm,1.0s,mb5.3						
LSA	Lhasa	52.51	78	eP	P	23 59 40.0	+0.6
TLY	Talaya	53.77	48	eP	P	23 59 47.4	-1.0
TLY				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0						
TLY	Talaya	53.77	48	eP	P	23 59 47.4	-1.1
	comp=Z,21nm,1.0s,mb5.0						
TLY	Talaya	53.77	48	eP	P	23 59 47.4	-1.0
	comp=Z,21nm,1.0s,mb5.0						
SONM	Songino Array	56.65	52	P	P	00 00 09.8	+0.5
	comp=Z,9.8nm,0.6s,mb5.0,baz=289,slow=8.0,SNR=8.5						
ULN	Ulaanbaatar	57.06	52	‖ eP	P	00 00 12.6	+0.4
ULN				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2						
ULN	Ulaanbaatar	57.06	52	‖ eP	P	00 00 12.6	+0.4
	comp=Z,19nm,0.8s,mb5.2						
TIXI	Tiksi	58.72	21	eP	P	00 00 23.7	+0.1
TIXI				pmax	pmax		
	comp=Z,36nm,1.4s,mb5.2						
FRB	Frobisher Bay	60.27	329	P	P	00 00 32.9	-1.5
	comp=Z,28nm,0.9s,mb5.3,baz=76,slow=7.2,SNR=8.2						
RES	Resolute Bay	62.52	345	eP	P	00 00 48.7	-0.7
RES				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
RES	Resolute Bay	62.52	345	eP	P	00 00 48.6	-0.7
	comp=Z,9.0nm,0.8s,mb5.0						
YAK	Yakutsk	63.23	31	eP	P	00 00 53.6	-0.6
YAK				pmax	pmax		
	comp=Z,44nm,0.8s,mb5.6						
YAK	Yakutsk	63.23	31	eP	P	00 00 53.6	-0.6
	comp=Z,44nm,0.8s,mb5.6						
SCHQ	Schefferville	63.27	320	P	P	00 00 52.6	-2.0
	comp=Z,12nm,0.6s,mb5.2,baz=67,slow=5.6,SNR=7.9						
BJT	Baijiatuau	66.31	57	eP	P	00 01 14.9	+0.5
BJT				pmax	pmax		
	comp=Z,18nm,0.9s						
BJT	Baijiatuau	66.31	57	eP	P	00 01 14.9	+0.5
	comp=Z,18nm,0.9s,mb5.1						
ENH	Enshi	66.33	69	P	P	00 01 14.1	-0.6
	comp=Z,29nm,1.0s,mb5.3						
BILL	Bilibino	70.79	15	eP	P	00 01 39.7	-1.9
BILL				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.1						
BILL	Bilibino	70.79	15	eP	P	00 01 39.7	-1.9
	comp=Z,26nm,1.1s,mb5.1						
FCC	Fort Churchill	73.17	332	eP	P	00 01 53.5	-2.4
FCC				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
FCC	Fort Churchill	73.17	332	eP	P	00 01 53.5	-2.4
	comp=Z,11nm,1.0s,mb4.7						
INK	Inuvik	74.15	353	P	P	00 02 01.0	-0.4
INK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
INK	Inuvik	74.15	353	P	P	00 02 01.0	-0.4
	comp=Z,9.9nm,0.9s,mb4.7,baz=11,slow=8.0,SNR=5.0						
INK	Inuvik	74.15	353	eP	P	00 01 60.0	-1.4
YKW3	Yellowknife Ar	76.36	343	eP	P	00 02 13.3	-0.9
YKA	Yellowknife Ar	76.42	343	P	P	00 02 13.6	-0.9
	comp=Z,2.8nm,0.7s,mb4.3,baz=37,slow=5.2,SNR=6.1						
SDMD	Soldier's Deli	77.26	310	eP	P	00 02 19.3	-0.5
IMA	Indian Mountai	77.32	1	eP	P	00 02 20.3	+0.8
YSS	Yuzh-Sakhalins	78.16	39	‖ eP	P	00 02 30.5	+6.0
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
COLA	College	78.47	358	eP	P	00 02 25.8	0.0
COLA				pmax	pmax		
	comp=Z,46nm,1.6s,mb5.2						
COLA	College	78.47	358	eP	P	00 02 25.8	0.0
	comp=Z,46nm,1.6s,mb5.2						
ILAR	Eielson Array	78.54	358	P	P	00 02 27.1	+0.8
	comp=Z,6.9nm,1.0s,mb4.5,baz=350,slow=3.4,SNR=8.3						
DAWY	Dawson	78.83	354	eP	P	00 02 27.8	0.0
SPU	Mount Spurr	82.23	360	eP	P	00 02 45.6	-0.3
JHJ	Hachijo jima 2	85.72	51	LR	LR	00 42 24.3	
	comp=Z,673nm,21.1s,MS5.0,baz=330,slow=36						
BDFB	Brasilia	88.42	249	P	P	00 03 18.8	+1.3
	comp=Z,9.8nm,0.8s,mb5.1,baz=80,slow=3.9,SNR=5.2						
ROSC	El Rosal	96.82	281	LR	LR	00 43 54.4	
	comp=Z,206nm,20.6s,MS4.6,baz=158,slow=33						
WRA	Warramunga Arr	114.60	97	PKP	PKPdf	00 09 05.1	+0.8
	comp=Z,1.4nm,0.7s,baz=305,slow=1.8,SNR=5.5						
ASAR	Alice Springs	116.20	101	PKP	PKPdf	00 09 08.7	+1.3
	comp=Z,1.8nm,0.7s,baz=330,slow=1.4,SNR=5.4						
STKA	Stephens Creek	126.05	106	PKP	PKPdf	00 09 27.9	+1.7
	comp=Z,4.3nm,0.8s,baz=319,slow=4.0,SNR=3.9						
QSPA	South Pole Qui	126.78	180	eP	PKPdf	00 09 27.7	+1.3

*ATH **11** 00:02:17.7, 37.03N×27.79E, h2km, MD4.0/13, ML4.3*
*MOS **11** 00:02:17.6±2.6, 36.76N×27.95E, h10km, mb4.5/8, Error ellipse: s-maj=8.9km s-min=4.3km az=124.0*
*ISK **11** 00:02:17.9, 36.93N×27.71E, h13km, ML4.0*
*NEIC **11** 00:02:17.7, 37.03N×27.79E, h2km, mb4.0/23, ML4.3(ATH), After ATH.*
*THE **11** 00:02:20.4, 37.01N×28.04E, h7km*
*HLW **11** 00:02:20.6, 36.96N×27.92E, h33km, Mb3.9*
*CSEM **11** 00:02:20.2±0.0, 36.82N×27.89E, h40km, mb4.4/5, Error ellipse: s-maj=1.7km s-min=0.9km az=51.0*
*IDC **11** 00:02:22.2±3.0, 36.96N×27.80E, h34km±26km, mb3.7/8, mb1 3.9/15, mb1mx3.8/24, mbtmp3.8/15, ML3.8/7, MS3.9/1, Ms1 3.9/1, ms1mx3.1/29, Error ellipse: s-maj=18.6km s-min=16.5km az=153.0*

ISC 11 00:02:19.0±0.4, 36.89N±0.02×27.88E±0.03, h24km±3km, n163, σ0°9/94/174, mb4.0/13, 6C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.39	297	i P	Pb	00 02 27.6	+0.2
BDRM				i S	Sb	00 02 32.3	-0.7
MLSB	Milas	0.41	348	PG	Pb	00 02 25.5	-2.2
MLSB				SG	Sb	00 02 32.0	-1.7
DALT	Dalyan (Mudla)	0.62	101	PG	Pb	00 02 32.6	+1.5
ARG	Arkhangelos	0.70	164	ePG	Pb	00 02 33.5	+1.0
AYDN	Tasoluk	0.77	360	i P	Pb	00 02 33.0	-0.7
AYDN				i S	Sb	00 02 43.4	-0.3
FETY	Fethiye	1.00	104	PN	Pn	00 02 40.9	+3.3
SMG	Samos	1.17	315

GLL	Jalalah	7.96 155	P	Pn	00 04 15.0	-1.2
SUZ		8.16 148	⇑P	P	00 04 18.1	-0.8
SUZ		8.16 148	P	P	00 04 18.1	-0.8
AWBH		8.59 174	P	P	00 04 24.1	-0.8
HNKL	Nakhl	8.61 142	P	P	00 04 24.3	-1.0
MLR	Muntele Rosu	8.72 351	Pn	P	00 04 25.8	-0.9
	0.3nm,0.3s,baz=251,slow=14,SNR=8.4					
ASF	Jabal al Asfar	8.80 120	Pn	P	00 04 28.2	+0.4
	1.1nm,0.3s,baz=178,slow=4.3,SNR=6.6					
ASF			Sn	Sn	00 06 06.3	-1.0
	0.9nm,0.3s,baz=258,slow=22,SNR=4.1					
TIP	Timpagrande	9.07 288	eP	P	00 04 31.8	+0.2
EIL	Elat	9.31 139	Pn	P	00 04 34.8	-0.2
	1.0nm,0.3s,baz=340,slow=7.0,SNR=10.0					
EIL			Sn	Sn	00 06 15.1	-5.0
	3.9nm,0.3s,baz=107,slow=35,SNR=12					
EIL	Elat	9.31 139	Pn	P	00 04 34.8	-0.2
EIL			Sn	Sn	00 06 15.1	-5.0
HKAT	Jabal Katrina	9.80 147	⇑P	P	00 04 41.1	-0.6
TR2		9.80 148	P	P	00 04 40.9	-0.8
ASUT		9.96 161	P	P	00 04 42.8	-1.2
TR1		10.23 148	P	P	00 04 46.9	-0.7
HHRG	Al Ghardaqah	10.78 152	P	P	00 04 54.0	-1.1
GNI	Garni	13.60 71	LR	LR	00 10 40.2	
	comp=Z,506nm,18.6s,baz=266,slow=36					
AKASG	Malin Array Be	13.84 4	Pn	P	00 05 34.7	-1.3
	0.2nm,0.3s,baz=178,slow=12,SNR=4.3					
PGF	Pioggiola	15.58 297	eP	P	00 05 58.8	0.0
	16nm,1.1s					
PGF	Pioggiola	15.58 297	eP	P	00 05 58.8	0.0
PGF			pmax	pmax		
	comp=Z,8.0nm,1.1s					
GEC2	GERESS Array S	15.81 324	eP	P	00 06 09.7	+8.1
	comp=Z,17nm,1.7s					
GERES	GERESS Array B	15.81 324	Pn	P	00 06 06.9	+5.3
	comp=Z,0.2nm,0.3s,baz=130,slow=10,SNR=19					
DPC	Dobruska-Polom	15.82 332	eP	Px	00 06 19.6	
KHC	Kasperske Hory	16.06 324	eP	P	00 06 10.4	+5.5
UPC	Upice	16.06 332	eP	P	00 06 11.6	+6.7
PRU	Pruhonice	16.25 328	eP	P	00 06 14.0	+6.7
WET	Wettzell	16.41 323	eP	P	00 06 17.1	+7.9
	comp=Z,90nm,3.0s					
FUR	Furstenfeldbru	16.60 318	eP	P	00 06 17.9	+6.2
FUR			pmax	pmax		
	comp=Z,24nm,1.1s					
FUR	Furstenfeldbru	16.60 318	eP	P	00 06 17.9	+6.2
	comp=Z,24nm,1.1s					
PVCC	Panska Ves	16.65 329	eP	P	00 06 19.2	+6.9
SBF	Sospel	17.04 300	eP	P	00 06 17.0	-0.3
	comp=Z,20nm,0.9s					
SBF	Sospel	17.04 300	eP	P	00 06 17.0	-0.3
SBF			pmax	pmax		
	comp=Z,10.0nm,0.9s					
BRG	Berggiesshubel	17.17 329	eP	P	00 06 25.7	+6.8
BRG			pmax	pmax		
	comp=Z,8.0nm,0.9s					
BRG	Berggiesshubel	17.17 329	eP	P	00 06 25.7	+6.8
	comp=Z,8.4nm,0.9s					
BRG	Berggiesshubel	17.17 329	eP	P	00 06 26.1	+7.2
	comp=Z,8.0nm,1.0s					
NKC	Novy Kostel	17.36 325	eP	P	00 06 28.1	+6.9
GUNZ	Gunzen	17.50 325	eP	P	00 06 29.6	+6.6
	comp=Z,26nm,1.0s					
FRF	La Foret Royal	17.51 299	eP	P	00 06 23.3	+0.1
	comp=Z,19nm,1.1s					
FRF	La Foret Royal	17.51 299	eP	P	00 06 23.3	+0.1
FRF			pmax	pmax		
	comp=Z,9.0nm,1.1s					
LMR	La Mourre	17.55 298	eP	P	00 06 23.9	+0.3
	comp=Z,22nm,1.4s					
LMR	La Mourre	17.55 298	eP	P	00 06 23.9	+0.3
LMR			pmax	pmax		
	comp=Z,11nm,1.4s					
WERD	Werda	17.57 325	eP	P	00 06 30.1	+6.2
	comp=Z,19nm,1.0s					
GRA1	Grafenberg Arr	17.58 322	eP	P	00 06 29.6	+5.6
	comp=Z,7.0nm,1.0s					
GRF	Grafenberg Arr	17.58 322	eP	P	00 06 29.6	+5.6
GRF			pmax	pmax		
	comp=Z,7.0nm,1.0s					
GRF	Grafenberg Arr	17.58 322	eP	P	00 06 29.6	+5.6
GRF			pmax	pmax		
	comp=Z,7.0nm,1.0s					
GRF	Grafenberg Arr	17.58 322	eP	P	00 06 29.6	+5.6
	comp=Z,7.0nm,1.0s					
MBDF	Montbardon	17.77 303	eP	P	00 06 27.0	+0.7
	comp=Z,9.5nm,0.8s					
MBDF	Montbardon	17.77 303	eP	P	00 06 27.0	+0.7
MBDF			pmax	pmax		
	comp=Z,5.0nm,0.8s					
CLL	Collm	17.89 328	i P	P	00 06 33.6	+5.8
CLL			pmax	pmax		
	comp=Z,17nm,0.9s					
CLL	Collm	17.89 328	i P	P	00 06 33.6	+5.8
	comp=Z,17nm,0.9s					
CLL			e		00 06 36.0	
CLL	Collm	17.89 328	i	P	00 06 33.6	+5.8
CLL			e		00 06 36.0	
CLL	Collm	17.89 328	eP	P	00 06 33.6	+5.8
	comp=Z,17nm,0.9s					
MOX	Moxa	18.03 325	eP	P	00 06 35.7	+6.1
MOX			pmax	pmax		
	comp=Z,16nm,1.6s					
MOX	Moxa	18.03 325	eP	P	00 06 35.7	+6.1
	comp=Z,16nm,1.6s					
MOX	Moxa	18.03 325	i P	P	00 06 35.7	+6.1
	comp=Z,logA/T=1.0					
MOX	Moxa	18.03 325	eP	P	00 06 36.0	+6.4
	comp=Z,8.0nm,0.8s					
LPG	La Plagne	18.04 305	eP	P	00 06 30.6	+0.8
	comp=Z,18nm,0.8s					
LPG	La Plagne	18.04 305	eP	P	00 06 30.6	+0.8
LPG			pmax	pmax		
	comp=Z,9.0nm,0.8s					
LPL	La Plagne	18.06 305	eP	P	00 06 30.7	+0.7
	comp=Z,13nm,0.7s					
LPL	La Plagne	18.06 305	eP	P	00 06 30.7	+0.7
LPL			pmax	pmax		
	comp=Z,7.0nm,0.7s					
SMRF	Simiane la Rot	18.37 300	eP	P	00 06 33.9	+0.1
ORIF	Oris-en-Rattie	18.43 303	eP	P	00 06 34.9	+0.3
CABF	La Chapelle	18.89 308	eP	P	00 06 40.2	+0.1
	comp=Z,18nm,0.9s					
CABF	La Chapelle	18.89 308	eP	P	00 06 40.2	+0.1
CABF			pmax	pmax		
	comp=Z,9.0nm,0.9s					
HINF	Hinteralfeld	18.93 312	eP	P	00 06 40.4	-0.2
CDF	Champ du Feu	18.97 314	eP	P	00 06 40.9	-0.1
OBN	Obninsk	19.17 15	eP	P	00 06 40.8	-2.6
OBN			S	S	00 10 11.6	-1.4
OBN			pmax	pmax		
	comp=Z,8.0nm,1.5s					
HAU	Haudompre	19.32 312	eP	P	00 06 45.7	+0.5
	comp=Z,21nm,1.0s					
HAU	Haudompre	19.32 312	eP	P	00 06 45.7	+0.5
HAU			pmax	pmax		
	comp=Z,10.0nm,1.0s					
SMF	Signal de Mont	20.34 306	eP	P	00 06 56.5	+0.3
	comp=Z,26nm,0.9s					
SMF	Signal de Mont	20.34 306	eP	P	00 06 56.5	+0.3
SMF			pmax	pmax		
	comp=Z,13nm,0.9s					
MTLF	Montolieu	20.61 296	eP	P	00 06 58.9	-0.2
	comp=Z,7.2nm,1.0s					
MTLF	Montolieu	20.61 296	eP	P	00 06 58.9	-0.2
MTLF			pmax	pmax		
	comp=Z,4.0nm,1.0s					
SSF	Saint Saulge	20.70 307	eP	P	00 06 58.5	-1.5
SSF			pmax	pmax		
	comp=Z,11nm,0.8s					
SSF	Saint Saulge	20.70 307	eP	P	00 06 58.5	-1.5
	comp=Z,11nm,0.8s					
AVF	Avril sur Loir	20.71 306	eP	P	00 07 00.1	+0.1
	comp=Z,41nm,1.1s					
AVF	Avril sur Loir	20.71 306	eP	P	00 07 00.1	+0.1
AVF			pmax	pmax		
	comp=Z,21nm,1.1s					
BGF	Bois d'Agland	20.96 305	eP	P	00 07 02.7	+0.1
BAIF	Baives	21.53 315	eP	P	00 07 09.2	+0.8
MFF	Saint Martin d	22.95 304	eP	P	00 07 23.0	+0.6
	comp=Z,21nm,1.1s,mb4.2					
MFF	Saint Martin d	22.95 304	eP	P	00 07 23.0	+0.6
MFF			pmax	pmax		
	comp=Z,11nm,1.1s,mb4.2					
LDF	La Druitiere	23.52 309	eP	P	00 07 28.9	+0.9
	comp=Z,26nm,1.0s,mb4.3					
LDF	La Druitiere	23.52 309	eP	P	00 07 28.9	+0.9
LDF			pmax	pmax		
	comp=Z,13nm,1.0s,mb4.3					
FLN	La Foliniere	23.80 309	eP	P	00 07 29.8	-0.9
	comp=Z,90nm,1.3s,mb4.7					
FLN	La Foliniere	23.80 309	eP	P	00 07 29.8	-0.9
FLN			pmax	pmax		
	comp=Z,45nm,1.3s,mb4.7					
GRR	Gorron	23.92 308	eP	P	00 07 32.4	+0.6
	comp=Z,40nm,0.8s,mb4.6					
GRR	Gorron	23.92 308	eP	P	00 07 32.4	+0.6
GRR			pmax	pmax		
	comp=Z,20nm,0.8s,mb4.6					
FINES	FINESS Array B	24.60 358	P	P	00 07 38.2	-0.1
	comp=Z,3.2nm,0.8s,mb3.9,baz=159,slow=12,SNR=1.7					
ESDC	Sonseca Array	25.09 286	P	P	00 07 42.8	-0.4
	comp=Z,4.1nm,0.8s,mb4.0,baz=82,slow=9.0,SNR=7.8					
ROSF	Rostrenen	25.45 307	eP	P	00 07 45.8	-0.7
ZAL	Zalesovo	42.20 48	P	P	00 10 11.7	+0.3
	comp=Z,0.6nm,0.6s,mb3.4,baz=207,slow=6.8,SNR=3.1					
ZAL	Zalesovo	42.20 48	P	P	00 10 11.6	+0.3
DBIC	Dimbokro	42.37 233	P	P	00 10 13.5	+0.3
	comp=Z,1.3nm,0.6s,mb3.7,baz=35,slow=13,SNR=3.2					
ZAK	Zakamensk	53.95 50	eP	P	00 11 42.9	+0.2
SONM	Songino Array	56.69 52	P	P	00 12 02.6	-0.1
	comp=Z,1.0nm,0.5s,mb4.1,baz=290,slow=8.1,SNR=14					
SCHQ	Schefferville	63.30 320	P	P	00 12 46.9	-1.0
	comp=Z,3.8nm,1.1s,mb4.4,baz=66,slow=12,SNR=3.8					
BILL	Bilibino	70.83 15	eP	P	00 13 35.6	+0.4
BILL			i S	S	00 22 45.9	-1.5
BILL			pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.0					
BILL	Bilibino	70.83 15	eP	P	00 13 35.6	+0.4
	comp=Z,1.5nm,1.4s,mb3.7					
BILL			i S	S	00 22 45.9	-1.5
YKA	Yellowknife Ar	76.46 343	P	P	00 14 07.0	-0.9
	comp=Z,0.2nm,0.6s,mb3.2,baz=34,slow=5.2,SNR=5.6					
ILAR	Eielson Array	78.59 358	P	P	00 14 19.8	+0.1
	comp=Z,0.6nm,0.8s,mb3.6,baz=355,slow=7.1,SNR=5.2					

ISK 11 00:06:14.4, 36.99N×27.89E, h7km, ML3.2
IDC 11 00:06:16.9±6.2, 36.97N×27.78E, h32km±60km, mb3.7/3, mb1 3.7/7, mb1mx3.5/22, mbtmp3.7/7, ML3.2/3, Error ellipse: s-maj=36.1km s-min=25.1km az=0.0
ISC 11 00:06:13.9±0.7, 36.92N±0.04×27.87E±0.04, h17km±6km, n19, σ1§21/27, mb3.9/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.37	294	i P	Pb	00 06 20.7	-0.9
BDRM				i S	Sb	00 06 26.5	-0.4
MLSB	Milas	0.38	349	i PG	Pb	00 06 21.0	-0.8
MLSB				SG	Sb	00 06 26.3	-1.0
DALT	Dalyan (Mudla)	0.63	103	PG	Pb	00 06 27.2	+1.1
AYDN	Tasoluk	0.74	1	i P	Pb	00 06 27.5	-0.4
AYDN				i S	Sb	00 06 37.0	-0.6
FETY	Fethiye	1.01	106	PG	Pb	00 06 34.2	+1.6
DNZL	Cakiroluk	1.22	50	i P	Pb	00 06 35.7	-0.3
DNZL				i S	Sb	00 06 54.3	+3.0
KDAG	Bornova	1.56	342	i P	Pn	00 06 40.8	-0.3
KDAG				i S	Sn	00 07 01.4	+0.5
BLCB	Balcova	1.60	336	PN	Pn	00 06 43.4	+1.6
MANT	Manisa	1.66	19	i P	Pn	00 06 42.0	-0.6
MANT				i S	Sn	00 07 05.2	+1.6
APE	Apeiranthos	1.88	275	ePN	Pn	00 06 47.6	+2.0
IDI	Anoyia	2.91	237	Pn	Pn	00 07 01.1	+0.7
	baz=24,slow=10.0,SNR=1.7						
BRTR	Keskin Array B	5.33	57	Pn	Pn	00 07 35.2	+0.4
	0.8nm,0.3s,baz=239,slow=15,SNR=5.6						
BRTR				Sn	Sn	00 08 36.1	-0.4
	0.1nm,0.3s,baz=226,slow=26,SNR=2.5						
ASF	Jabal al Asfar	8.82	120	Pn	P	00 08 22.8	-0.9
	0.4nm,0.3s,baz=129,slow=6.5,SNR=2.0						
ASF				Sn	Sn	00 10 01.4	-2.3
	0.4nm,0.3s,baz=172,slow=23,SNR=2.1						
EIL	Elat	9.34	139	Sn	Sn	00 10 09.8	-6.7
	0.9nm,0.3s,baz=316,slow=30,SNR=3.4						
GERES	GERESS Array B	15.78	324	Pn	P	00 09 59.6	+2.8
	0.0nm,0.3s,baz=150,slow=7.9,SNR=2.4						
CLL	Collm	17.86	328	P	P	00 10 28.0	+4.9
FINES	FINESS Array B	24.57	358	P	P	00 11 33.3	-0.5
	4.0nm,1.0s,mb3.9,baz=162,slow=12,SNR=3.9						
HFS	Hagfors	24.95	343	P	P	00 11 35.3	-2.1
	4.1nm,0.8s,mb4.0,baz=170,slow=16,SNR=3.1						
SONM	Songino Array	56.68	52	P	P	00 15 57.8	-0.7
	0.5nm,0.6s,mb3.7,baz=292,slow=6.7,SNR=5.8						

GUC 11 00:10:36.4±0.8, 27.97S×66.71W, h180km
IDC 11 00:10:36.9±2.7, 27.83S×66.27W, h156km±24km, mb3.5/5, mb1 3.8/7, mb1mx3.6/15, mbtmp4.1/7, Error ellipse: s-maj=25.2km s-min=17.7km az=47.0
NEIC 11 00:10:36.4, 27.97S×66.71W, h180km, After GUC.
ISC 11 00:10:36.2±0.7, 28.00S±0.03×66.57W±0.08, h167km±12km, n32, σ1§05/44, mb3.7/5, 13C-3D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	3.41	280	⇑i P	P	00 11 29.9	-0.2
CPCH				i S	S	00 12 09.4	-2.2
VACH	Vallenar	3.74	260	⇑i P	P	00 11 35.0	+0.7
VACH				i S	S	00 12 18.3	-0.7
TLL	Tololo Astrono	4.29	239	⇑i P	P	00 11 42.5	+1.1
TLL				i S	S	00 12 32.5	+0.8
LSCH	La Serena	4.51	244	⇑i P	P	00 11 44.3	-0.1
LSCH				i S	S	00 12 35.0	-1.9
CPN1	Cerro Paranal	4.81	313	⇑i P	P	00 11 49.0	+0.8
CMCH	Combarbala	4.99	230	⇑i P	P	00 11 50.9	+0.3
CMCH				i S	S	00 12 48.2	+0.1
MDZ	Mendoza	5.25	201	eP	P	00 11 53.4	-0.6
MDZ				e		00 12 51.3	
ILCH	Illapel	5.39	227	⇑i P	P	00 11 55.8	0.0
ILCH				i S	S	00 12 56.2	-1.4
ANCH	Antofagasta	5.52	320	⇓i P	P	00 12 01.7	+4.2
ANCH				i S	S	00 13 03.0	+2.4
PTCH	Petorca	5.68	221	⇑i P	P	00 11 59.9	+0.2
PTCH				i S	S	00 13 03.9	-0.5
PTCH	Petorca	5.68	221	⇑i P	P	00 11 59.9	+0.2
PTCH				i S	S	00 13 03.9	-0.5
LVC	Limon Verde	5.77	338	P	P	00 12 01.5	+0.8
	16nm,0.3s,baz=174,slow=8.0,SNR=165						
LVC				S	S	00 13 03.7	-2.7
	43nm,0.3s,baz=288,slow=20,SNR=26						
LVC	Limon Verde	5.77	338	⇓i P	P	00 12 01.6	+0.8
JACH	Jahuel	5.82	216	i P	P	00 12 02.0	+0.6
FCH	Farellones	6.20	210	⇓i P	P	00 12 08.0	+1.5
FCH				i S	S	00 13 18.1	+1.3
CLCH	Cerro Calan	6.37	211	⇑i P	P	00 12 09.5	+0.7
PCH	Pirque	6.55	210	⇑i P	P	00 12 11.8	+0.7
RCDM	Rinconada Maip	6.57	213	⇑i P	P	00 12 11.4	0.0
RCDM				i S	S	00 13 24.8	-0.9
LMEL	Las Melosas	6.61	207	i P	P	00 12 12.9	+1.0
CHCH	Chadas Angostu	6.87	210	⇑i P	P	00 12 15.4	0.0
CHCH				i S	S	00 13 32.0	-0.7
TRQA	Tornquist	10.74	160	eP	P	00 13 05.7	-0.7
LPAZ	La Paz	11.74	353	P	P	00 13 19.4	-0.1
	4.0nm,0.3s,baz=120,slow=5.4,SNR=52						
LPAZ				S	S	00 15 22.4	-5.3
	0.1nm,0.3s,baz=69,slow=24,SNR=3.9						
LPAZ	La Paz	11.74	353	P	P	00 13 19.4	-0.1
LPAZ				S	S	00 15 22.4	-5.3
BDFB	Brasilia	21.13	58	P	P	00 15 07.6	-1.3
	5.9nm,0.5s,mb4.2,baz=230,slow=11,SNR=13						
BAO	Brasilia Array	21.15	58	P	P	00 15 08.6	-0.6
BAO				e		00 15 15.0	
SNAA	Sanae	55.47	160	P	P	00 19 55.6	+0.3
	0.7nm,0.5s,mb3.6,baz=266,slow=17,SNR=12						
TXAR	Lajitas Array	67.15	325	P	P	00 21 15.9	+1.7
	0.3nm,0.5s,mb3.4,baz=142,slow=6.1,SNR=16						
DBIC	Dimbokro	68.76	70	P	P	00 21 22.0	-2.4
	2.2nm,1.1s,mb3.8,baz=199,slow=5.9,SNR=10.0						
PDAR	Pinedale Array	80.77	329	P	P	00 22 32.5	+0.2
	0.5nm,0.5s,mb3.4,baz=125,slow=8.2,SNR=7.3						
ASAR	Alice Springs	124.97	203	PKP	PKPdf	00 29 18.1	+1.2
	0.9nm,0.4s,baz=142,slow=1.9,SNR=15						
WRA	Warramunga Arr	128.22	205	PKP	PKPdf	00 29 25.2	+1.9
	0.9nm,0.3s,baz=155,slow=2.0,SNR=56						
ZAL	Zalesovo	146.67	31	PKPbc	PKPbc	00 29 57.3	0.0
	1.2nm,0.4s,baz=154,slow=2.9,SNR=5.1						

ATH 11 00:18:41.0, 36.97N×27.82E, h10km±4km, MD3.9/10, ML4.2
MOS 11 00:18:41.7±1.5, 36.91N×27.91E, h10km, mb4.3/5, Error ellipse: s-maj=10.5km s-min=6.3km az=132.7
ISK 11 00:18:41.1, 36.92N×27.80E, h10km, ML3.9
NEIC 11 00:18:41.0, 36.97N×27.81E, h10km, mb4.1/10, ML4.2(ATH), After ATH.
THE 11 00:18:42.4, 36.98N×28.07E, h7km
CSEM 11 00:18:42.4±0.1, 36.80N×27.93E, h30km, mb4.3/2, Error ellipse: s-maj=1.9km s-min=1.1km az=52.0
HLW 11 00:18:42.0, 37.02N×27.98E, h24km, Mb4.0
IDC 11 00:18:45.1±3.9, 37.00N×27.85E, h32km±36km, mb3.4/3, mb1 3.8/9, mb1mx3.6/23, mbtmp3.6/9, ML3.5/6, Error ellipse: s-maj=23.3km s-min=18.6km az=169.0
NIC 11 00:18:46.0±0.3, 36.37N×27.64E, h25km, mb4.3, ML3.8, MW3.7
ISC 11 00:18:41.7±0.5, 36.87N±0.02×27.87E±0.02, h18km±5km, n116, σ1§23/131, mb3.8/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.39	299	i P	Pb	00 18 49.2	-0.6
BDRM				i S	Sb	00 18 54.9	-0.3
MLSB	Milas	0.43	350	PG	Pb	00 18 48.9	-1.5
MLSB				SG	Sb	00 18 54.9	-1.4
DALT	Dalyan (Mudla)	0.62	99	PG	Pb	00 18 54.9	+1.1
ARG	Arkhangelos	0.69	162	ePB	Pb	00 18 56.4	+1.6
AYDN	Tasoluk	0.79	1	i P	Pb	00 18 55.7	-0.8
AYDN				i S	Sb	00 19 05.7	-0.9
FETY	Fethiye	1.00	103	PG	Pb	00 19 01.8	+1.6
SMG	Samos	1.17	316	ePN	Pn	00 19 02.5	-0.8
SMG	Samos	1.17	316	ePn	Pn	00 19 03.0	-0.3
DNZL	Cakiroluk	1.24	49	i P	Pn	00 19 04.6	+0.3
DNZL				i S	Sb	00 19 21.3	+1.4
KARP	Karpathos	1.44	204	ePG	Pn	00 19 08.4	+1.2
KDAG	Bornova	1.60	343	i P	Pn	00 19 07.3	-2.1
KDAG				i S	Sn	00 19 30.7	+1.0
BLCB	Balcova	1.65	337	ePN	Pn	00 19 09.7	-0.4
MANT	Manisa	1.70	18	i P	Pn	00 19 12.1	+1.2
MANT				i S	Sn	00 19 32.7	+0.3
APE	Apeiranthos	1.88	277	ePN	Pn	00 19 13.4	-0.1
APE	Apeiranthos	1.88	277	ePN	Pn	00 19 14.5	+1.0
SANT	Santorini	2.00	256	ePn	Pn	00 19 20.3	+5.1
ANTB	Antalya	2.23	89	ePN	Pn	00 19 20.2	+1.7
ISP	Isparta	2.32	65	ePN	Pn	00 19 20.7	+1.0
ISP	Isparta	2.32	65	ePn	Pn	00 19 21.8	+2.2
NPS	Neapolis	2.44	229	ePN	Pn	00 19 24.1	+2.7
XRY	Khrisi	2.66	222	ePN	Pn	00 19 27.0	+2.4
BALB	Balikesir	2.76	0	ePN	Pn	00 19 25.3	-0.7
IDI	Anoyia	2.89	238	Pn	Pn	00 19 30.6	+2.8
	4.8nm,0.3s,baz=73,slow=19,SNR=7.8						
IDI				Sn	Sn	00 20 03.3	+0.9
	10.0nm,0.3s,baz=246,slow=21,SNR=5.7						
VAM	Vamos	3.31	245	ePN	Pn	00 19 36.0	+2.2
PTL	Penteli	3.40	291	ePN	Pn	00 19 35.2	+0.2
ATH	Athens Observa	3.48	290	ePN	Pn	00 19 36.7	+0.4
MPAR	Parnis Oros	3.52	292	ePN	Pn	00 19 37.0	+0.1
LIA	Limnos Island	3.68	326	ePN	Pn	00 19 38.3	-0.8
HDMB	Hadim	3.70	87	ePN	Pn	00 19 40.8	+1.4
MGER	Gerania Oros	3.83	288	ePN	Pn	00 19 41.5	+0.3
YLV	Yalova	3.87	17	ePN	Pn	00 19 42.4	0.6
AOS	Alonnisos	3.90	307	ePn	Pn	00 19 43.0	+0.9
MFT	Murefte	3.93	353	ePN	Pn	00 19 43.4	+0.7
VLI	Veliai	3.96	269	ePN	Pn	00 19 44.0	+0.9
AKMC	Akamas	4.06	116	P	Pn	00 19 45.3	+0.8
HRT	Hereke	4.18	19	ePN	Pn	00 19 47.0	+0.8
ALFC	Alevga	4.20	113	P	Pn	00 19 47.4	+0.9
	4.5nm,0.2s						
ALFC				S	Sn	00 20 35.8	+0.2
ALN	Alexandroupoli	4.26	341	ePn	Pn	00 19 45.7	-1.6
PAIG	Paliouri	4.49	314	ePn	Pn	00 19 49.9	-0.6
SZAC	Souni-Zanaja	4.59	116	P	Pn	00 19 52.8	+0.8
	4.9nm,0.3s						
SZAC				S	Sn	00 20 45.3	-0.2
OUR	Ouranopolis	4.61	320	ePn	Pn	00 19 51.1	-1.1
RDO	Rodhopi	4.64	338	ePN	Pn	00 19 51.5	-1.2
MAMC	Mammari	4.66	110	P	Pn	00 19 54.9	+2.0
CSS	Prodhromos	4.83	112	P	Pn	00 19 57.9	+2.6
CSS				S	Sn	00 20 50.9	-0.5
AGG	Agios Georgios	4.88	298	ePn	Pn	00 19 56.2	+0.1
ANTO	Ankara	4.89	51	ePN	Pn	00 19 57.1	+0.9
EDRB	Edirne	5.04	350	ePN	Pn	00 19 58.7	+0.3
EVR	Evrytania	5.21	295	ePN	Pn	00 20 01.5	+0.8
SOH	Sokhos	5.29	320	ePn	Pn	00 20 01.1	-0.8
LIT	Litokhoron	5.31	309	ePn	Pn	00 20 01.7	-0.5
PHNC	Paralimni	5.34	109	P	Pn	00 20 03.9	+1.4
BRTR	Keskin Array B	5.36	56	Pn	Pn	00 20 03.1	+0.3
	1.5nm,0.3s,baz=238,slow=16,SNR=11						
BRTR				Sn	Sn	00 21 04.5	-0.3
	0.2nm,0.3s,baz=240,slow=20,SNR=3.7						
BRTR	Keskin Array B	5.36	56	Pn	Pn	00 20 03.1	+0.3
BRTR				Sn	Sn	00 21 04.4	-0.4
SRS	Serrai	5.39	323	ePn	Pn	00 20 02.4	-0.8
RZN	Rozhen	5.39	334	P	Pn	00 20 02.5	-0.8
MMB	Musomiste	5.70	327	P	Pn	00 20 06.0	-1.7
KNT	Kendrikon	5.77	319	ePn	Pn	00 20 08.3	-0.4
HMAT	Matruh	5.80	187	P	Pn	00 20 08.6	-0.4
SLUM		5.80	203	P	Pn	00 20 08.6	-0.5
GRG	Griva	5.90	315	ePn	Pn	00 20 10.0	-0.5
KKB	Krupnik	6.21	325	eP	Pn	00 20 14.0	-0.9
FNA	Florina	6.40	310	ePn	Pn	00 20 17.3	-0.2
HBRG	Burj al 'Arab	6.49	165	P	Pn	00 20 17.4	-1.4
HMYD	Mayadein	7.47	160	P	Pn	00 20 30.8	-1.8
HNAT	Natroun	7.58	162	P	Pn	00 20 32.4	-1.7
HNAT	Natroun	7.58	162	P	Pn	00 20 32.3	-1.8
AMAG	Maghara

CDF	Champ du Feu	18.97	314	eP	P	00 23 04.3 -0.1
HAU	Haudompre	19.32	312	eP	P	00 23 08.5 -0.1
	comp=Z,6.9nm,0.7s					
HAU	Haudompre	19.32	312	eP	P	00 23 08.5 -0.1
HAU				pmax	pmax	
	comp=Z,3.0nm,0.7s					
SMF	Signal de Mont	20.34	306	eP	P	00 23 19.0 -0.6
	comp=Z,32nm,1.0s					
SMF	Signal de Mont	20.34	306	eP	P	00 23 19.0 -0.6
SMF				pmax	pmax	
	comp=Z,16nm,1.0s					
SSF	Saint Saulge	20.70	307	eP	P	00 23 24.5 +1.1
SSF				pmax	pmax	
	comp=Z,11nm,0.9s					
SSF	Saint Saulge	20.70	307	eP	P	00 23 24.5 +1.1
	comp=Z,11nm,0.9s					
AVF	Avril sur Loir	20.71	306	eP	P	00 23 22.9 -0.5
	comp=Z,36nm,1.3s					
AVF	Avril sur Loir	20.71	306	eP	P	00 23 22.9 -0.5
AVF				pmax	pmax	
	comp=Z,18nm,1.3s					
LDF	La Druitiere	23.52	309	eP	P	00 23 51.7 +0.3
	comp=Z,11nm,0.9s,mb4.0					
LDF	La Druitiere	23.52	309	eP	P	00 23 51.7 +0.3
LDF				pmax	pmax	
	comp=Z,5.0nm,0.9s,mb3.9					
FLN	La Foliniere	23.80	309	eP	P	00 23 54.4 +0.3
GRR	Gorron	23.92	308	eP	P	00 23 55.5 +0.2
	comp=Z,30nm,0.9s,mb4.4					
GRR	Gorron	23.92	308	eP	P	00 23 55.5 +0.2
GRR				pmax	pmax	
	comp=Z,15nm,0.9s,mb4.4					
ESDC	Sonseca Array	25.08	286	P	P	00 24 06.7 +0.2
	comp=Z,2.5nm,1.1s,mb3.6,baz=77,slow=8.6,SNR=2.9					
ZAK	Zakamensk	53.97	50	eP	P	00 28 06.2 -0.2
SONM	Songino Array	56.70	52	P	P	00 28 25.3 -1.0
	comp=Z,0.6nm,0.6s,mb3.8,baz=290,slow=8.1,SNR=6.3					
YKA	Yellowknife Ar	76.47	343	P	P	00 30 29.7 -1.8
	comp=Z,0.1nm,0.5s,mb3.0,baz=25,slow=3.9,SNR=4.1					

*ISK **11** 00:27:23.6, 36.93N×27.78E, h23km, ML3.3*
*ATH **11** 00:27:24.9, 36.87N×27.63E, h19km±8km, MD3.2/4*
*CSEM **11** 00:27:24.2±0.1, 36.99N×27.84E, h20km, MD3.2, Error ellipse: s-maj=4.9km s-min=3.2km az=63.0*
*NEIC **11** 00:27:24.7, 36.91N×27.71E, h5km, MD3.2(ATH), After ATH.*

ISC 11 00:27:24.7±0.9, 36.98N±0.05×27.77E±0.10, h22km±11km, n10, σ1º01/13, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	Milas	0.31	0	ePG	Pb	00 27 31.7	+0.1
DALT	Dalyan (Mudla)	0.72	107	PG	Pb	00 27 37.8	-0.7
DALT				SG	Sb	00 27 48.9	+0.9
ARG	Arkhangelos	0.82	160	ePg	Pb	00 27 39.0	-1.1
ARG				eSb	Sb	00 27 52.0	+1.3
ARG	Arkhangelos	0.82	160	ePB	Pb	00 27 39.0	-1.1
ARG				eSN	Sn	00 27 51.5	-0.9
SMG	Samos	1.04	314	ePN	Pn	00 27 45.0	+0.9
FETY	Fethiye	1.11	108	PG	Pb	00 27 43.8	-1.3
BLCB	Balcova	1.52	338	PN	Pn	00 27 51.0	+0.2
KARP	Karpathos	1.52	199	ePN	Pn	00 27 50.8	-0.1
KSL	Kastellorizon	1.68	119	ePN	Pn	00 27 56.0	+2.8
BALB	Balikesir	2.65	2	ePN	Pn	00 28 06.5	-0.7

DJA 11 00:41:18.7±0.9, 9.30S×113.07E, h33km, MD4.9/4, ML4.4/4, 2C-2D, Error ellipse: s-maj=20.5km s-min=17.1km az=168.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	1.33	52⇓	ePn	Pn	00 41 39.6	-1.8
	785nm,0.2s						
SRDI				eSn	Sn	00 41 54.9	-3.2
KELI	Kelakatan	1.77	53⇑	ePn	Pn	00 41 46.5	-1.1
	266nm,0.2s						
KELI	Kelakatan	1.77	53	eP	P	00 41 47.5	+0.1
KELI				eSn	Sn	00 42 07.4	-1.7
RATI	Rata	2.50	77⇑	ePn	Pn	00 41 57.0	-1.0
	223nm,0.2s						
RATI				eSn	Sn	00 42 23.8	-3.8
KEDI	Kedomdong	3.11	75⇓	ePn	Pn	00 42 04.5	-2.2
	43nm,0.2s						
KEDI				eSn	Sn	00 42 38.4	-4.8

IDC 11 00:45:14.0±15.0, 0.17N×125.38E, mb3.9/3, mb1 4.1/3, mb1mx3.6/15, mbtmp3.9/3, Error ellipse: s-maj=234.5km s-min=169.8km az=161.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.83	157	P	P	00 50 08.2	-1.9
	1.0nm,0.4s,baz=335,slow=11,SNR=41						
ASAR	Alice Springs	25.10	161	P	P	00 50 41.1	-1.0
	1.3nm,0.5s,baz=339,slow=7.1,SNR=23						
STKA	Stephens Creek	35.38	156	P	P	00 52 11.0	-2.6
	1.7nm,0.6s,baz=339,slow=8.8,SNR=5.1						

*CSEM **11** 00:47:01.0±0.1, 36.97N×27.82E, h10km, MD3.2/1, Error ellipse: s-maj=4.7km s-min=2.8km az=75.0*
*ISK **11** 00:47:01.3, 36.98N×27.77E, h15km, ML3.2*
*NEIC **11** 00:47:03.1, 36.73N×27.65E, h17km, MD3.3(ATH), After ATH.*
*ATH **11** 00:47:04.4, 36.70N×27.67E, h35km±31km, MD3.3/3*

ISC 11 00:47:01.8±0.7, 36.95N±0.03×27.79E±0.05, h13km±5km, n17, σ0º67/23, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.30	292	iP	Pg	00 47 08.0	-0.2
BDRM				iS	Sg	00 47 13.4	+0.9
MLSB	Milas	0.34	358	iPG	Pg	00 47 07.9	-1.1
MLSB				iSG	Sg	00 47 13.7	-0.1
DALT	Dalyan (Mudla)	0.70	105	ePG	Pg	00 47 16.0	0.0
AYDN	Tasoluk	0.71	6	iP	Pb	00 47 15.1	-0.4
AYDN				iS	Sb	00 47 25.4	+0.5
ARG	Arkhangelos	0.78	160	ePB	Pb	00 47 16.0	-0.8
SMG	Samos	1.07	315	ePN	Pn	00 47 22.8	+0.3
FETY	Fethiye	1.08	107	ePN	Pn	00 47 22.6	0.0
DNZL	Cakiroluk	1.24	53	iP	Pb	00 47 25.1	+0.5
DNZL				iS	Sb	00 47 40.8	+0.4
KARP	Karpathos	1.49	200	ePN	Pn	00 47 28.0	-0.5
KDAG	Bornova	1.51	344	iP	Pn	00 47 27.9	-0.8
KDAG				iS	Sb	00 47 48.2	+0.1
BLCB	Balcova	1.55	338	ePN	Pn	00 47 28.7	-0.6
KSL	Kastellorizon	1.65	119	ePB	Pb	00 47 33.0	+1.4
MANT	Manisa	1.65	21	iP	Pn	00 47 30.6	-0.1
MANT				iS	Sn	00 47 51.4	-0.5
APE	Apeiranthos	1.81	274	ePN	Pn	00 47 32.9	-0.2
APE	Apeiranthos	1.81	274	ePB	Pb	00 47 35.0	+0.6
PRK	Paraskevi	2.58	333	ePb	Pb	00 47 52.0	+4.4
PRK	Paraskevi	2.58	333	ePB	Pb	00 47 50.5	+2.9

*ISK **11** 00:48:13.2, 36.97N×27.72E, h19km, ML3.2*
*ATH **11** 00:48:23.7, 35.96N×28.14E, h10km, MD3.3/3*
*CSEM **11** 00:48:23.7, 35.96N×28.14E, h10km, MD3.3/3, After ATH*

ISC 11 00:48:14.7±0.7, 36.87N±0.04×27.68E±0.06, h22km±7km, n12, σ1º29/18, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.27	317	iP	Pb	00 48 21.0	-0.1
BDRM				iS	Sb	00 48 26.0	+0.5
MLSB	Milas	0.44	10	PG	Pb	00 48 20.6	-3.2
ARG	Arkhangelos	0.74	151	ePG	Pb	00 48 29.0	+0.1
DALT	Dalyan (Mudla)	0.78	97	iPG	Pb	00 48 28.5	-1.0
DALT				iSG	Sb	00 48 39.7	+0.2
AYDN	Tasoluk	0.81	11	iP	Pb	00 48 28.0	-2.0
AYDN				iS	Sb	00 48 42.0	+1.5
FETY	Fethiye	1.15	101	PN	Pn	00 48 34.8	-0.9
DNZL	Cakiroluk	1.37	53	iP	Pn	00 48 37.6	-1.2
DNZL				iS	Sn	00 48 56.7	+0.3
KARP	Karpathos	1.38	198	ePB	Pb	00 48 40.7	+1.0
KDAG	Bornova	1.57	348	iP	Pn	00 48 42.7	+1.0
KDAG				iS	Sn	00 48 57.6	-3.9
BLCB	Balcova	1.60	342	ePN	Pn	00 48 40.7	-1.4
KSL	Kastellorizon	1.69	114	ePB	Pb	00 48 46.0	+0.9
MANT	Manisa	1.77	23	iP	Pn	00 48 46.1	+1.6
MANT				iS	Sn	00 49 08.6	+2.1

*IDC **11** 00:49:27.8±0.7, 8.60N×93.43E, mb4.6/19, mb1 4.7/20, mb1mx4.6/25, mbtmp4.6/20, ML4.5/1, Error ellipse: s-maj=29.4km s-min=16.3km az=45.0*
*BJI **11** 00:49:31.4, 8.48N×93.51E, h42km, mB5.0, mb4.7, Ms4.4, Msz4.0*
*MOS **11** 00:49:32.9±1.1, 8.93N×93.45E, h33km, mb5.0/20, Error ellipse: s-maj=14.0km s-min=7.4km az=106.0*
*NEIC **11** 00:49:32.7±0.4, 8.67N×93.53E, h30km, mb4.7/16, Error ellipse: s-maj=9.0km s-min=7.8km az=187.0*

ISC 11 00:49:31.1±0.5, 8.57N±0.06×93.50E±0.05, h35km, h35km±1.4km: pP-P, n107, σ1º10/111, mb4.8/49, MS4.2/3, 5C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	3.16	346	eP	P	00 50 24.0	+4.3
PBA				eP		00 50 26.3	
PBA				eS	S	00 51 07.2	+10
PBA				e		00 51 16.2	
	comp=N,999nm,0.7s						
PBA				e		00 51 17.5	
	comp=E,876nm,1.0s						
NNT	Nongplab	7.32	56	P	P	00 51 18.8	+0.5
CMAR	Chiang Mai Arr	11.16	28	Pn	P	00 52 10.6	-0.9
	comp=E,1.0nm,0.3s,baz=215,slow=14,SNR=88						
CHG	Chiang Mai	11.47	27	⇑P	P	00 52 17.9	+2.2
	comp=E,19nm,0.9s						
PALK	Pallekele	12.74	265	eP	P	00 52 33.1	+0.3
PALK				eS	S	00 54 45.1	-9.3
VIS	Vishakhapatnam	13.45	314	eP	P	00 52 37.9	-4.2
VIS				eS	S	00 54 54.8	-16
VIS				AML	AML	00 54 59.0	
	comp=E,55nm,0.2s						
VIS				AML	AML	00 55 00.6	
	comp=N,32nm,0.7s						
IMP	Imphal	16.13	1	e	P	00 53 12.5	-4.5
SHL	Shillong	16.98	355	eP	P	00 53 30.0	+2.3
	comp=N,16nm,0.9s						
SHL				e		00 56 34.2	
SHL				e		00 56 35.0	
HYB	Hyderabad	17.01	303	iP	P	00 53 28.0	-0.1
JIRN	Jiri	20.21	341	eP	P	00 54 05.9	0.0
	comp=N,109nm,0.7s						
PKI	Pulchoki	20.39	339	eP	P	00 54 08.2	+0.4
	comp=N,50nm,0.8s						
DMN	Daman	20.54	338	eP	P	00 54 09.6	+0.3
	comp=N,61nm,0.8s						
GUN	Gumba	20.55	340	eP	P	00 54 09.5	+0.1
	comp=N,68nm,0.5s						
KKN	Kakani	20.64	339	eP	P	00 54 10.4	0.0
	comp=N,62nm,0.7s						
KAD	Karad	20.72	297	eS	S	00 57 52.7	-3.1
GKN	Gorkha	21.07	338	eP	P	00 54 14.9	+0.1
	comp=N,190nm,0.7s,mb5.5						
LSA	Lhasa	21.14	354	P	P	00 54 15.0	-0.5
LSA				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.0						
LSA	Lhasa	21.14	354	eP	P	00 54 15.1	-0.4
LSA				pmax	pmax		
	comp=Z,48nm,0.4s,mb5.2						
LSA	Lhasa	21.14	354	eP	P	00 54 15.1	-0.4
	comp=Z,48nm,0.4s,mb5.2						
BHPL	Bhopal	21.23	315	eP	P	00 54 12.9	-3.5
KOLN	Koldanda	21.27	335	eP	P	00 54 17.4	+0.6
	comp=Z,113nm,0.7s,mb5.3						
NDI	New Delhi	25.21	325	eP	P	00 54 56.0	+0.5
KUDL	Kundal	25.23	323	eP	P	00 54 55.5	-0.2
KHET	Khetri	25.60	322	eP	P	00 54 58.5	-0.6
DDI	Dehra Dun	26.03	328	eP	P	00 55 03.8	+0.7
ENH	Enshi	26.27	33	eP	P	00 55 04.8	-0.5
	comp=Z,11nm,0.7s,mb4.5						
KLP	Kalpa	26.91	330	eP	P	00 55 10.1	-1.0
LZH	Lanzhou	28.97	17	⇑P	P	00 55 30.0	+0.3
LZH				AMB	AMB		
	comp=Z,50nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,133nm,4.5s						
NJ2	Nanjing	33.17	42	eP	P	00 56 05.6	-1.1
NJ2				AP	pP	00 56 15.2	-1.5
NJ2				XP	sP	00 56 19.1	-2.1
NJ2				PP	PP	00 57 18.0	-0.3
NJ2				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,190nm,7.0s						
NJ2				LR	LR		
	comp=N,1μm,14.1s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,16.7s,MS4.9						
NJ2				LR	LR		
	comp=Z,540nm,15.2s,MS4.4						
SSE	Sheshan	34.18	45	P	P	00 56 12.2	-3.3
SSE				S	S	01 01 39.7	+1.2
SSE				XS		01 01 55.1	
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,155nm,5.4s						
SSE				LR	LR		
	comp=N,164nm,17.2s,MS3.9						
SSE				LR	LR		
	comp=E,127nm,17.2s,MS3.9						
SSE				LR	LR		
	comp=Z,245nm,19.5s,MS4.0						
WMQ	Urumqi	35.48	353	eP	P	00 56 26.8	+0.3
WMQ				AP	pP	00 56 36.5	0.0
WMQ				XP	sP	00 56 40.4	-0.6
WMQ				PP	PP	00 57 47.3	+0.3
WMQ				S	S	01 01 57.8	-0.8
WMQ				AMB	AMB		
	comp=Z,1.0nm,0.8s,mb3.8						
KZA	Kyzart	37.06	337	P	P	00 56 41.8	+2.0
	SNR=5.2						
UCH	Uchtor	37.47	337	P	P	00 56 44.6	+1.3
	SNR=7.4						
KBK	Karagaybulak	37.67	337	P	P	00 56 46.7	+1.8
	SNR=18						
AML	Almayashu	37.72	336	P	P	00 56 46.8	+1.5
	SNR=23						
AAK	Ala-Archa	37.82	337	eP	P	00 56 46.7	+0.5
AAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
AAK	Ala-Archa	37.82	337	eP	P	00 56 46.5	+0.3
	comp=Z,7.5nm,0.7s,mb4.5						
CHMS	Chumysh	38.04	337	P	P	00 56 48.9	+0.9
	SNR=8.2						
EKS2	Erkin-Say	38.13	336	P	P	00 56 50.2	+1.4
	SNR=6.3						
USP	Ospenovka	38.36	337	P	P	00 56 51.8	+1.1
	SNR=9.0						
SONM	Songino Array	40.63	13	P	P	00 57 09.1	-0.4
	comp=Z,8.0nm,0.9s,mb4.4,baz=198,slow=8.7,SNR=51						
SONM				PcP	PcP	00 59 11.0	-0.6
	comp=Z,0.9nm,0.5s,baz=201,slow=3.2,SNR=5.2						
ULN	Ulaanbaatar	40.82	14	⇓iP	P	00 57 10.8	-0.2
ULN	Ulaanbaatar	40.82	14	eP	P	00 57 09.5	-1.5
	comp=Z,7.1nm,0.8s,mb4.3						
ZAK	Zakamensk	42.47	9	eP	P	00 57 22.0	-2.6
MOY	Mondy	43.41	7	eP	P	00 57 33.0	+0.8
ZAL	Zalesovo	45.78	353	P	P	00 57 50.5	-0.8
	comp=Z,12nm,0.5s,mb5.0,baz=295,slow=7.0,SNR=78						
HIA	Hailar	46.14	24	eP	P	00 57 54.3	+0.2
HIA				pmax	pmax		
	comp=Z,29nm,1.1s						
HIA	Hailar	46.14	24	eP	P	00 57 54.3	+0.2
	comp=Z,29nm,1.1s,mb5.1						
NVS	Novosibirsk	46.87	352	iP	P	00 57 58.6	-1.2
NVS				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
NVS				pmax	pmax		
	comp=N,11nm,0.8s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.7s						
BVAR	Borovoye Array	48.14	341	P	P	00 58 09.1	-0.7
	comp=E,3.8nm,0.4s,mb4.8,baz=146,slow=9.4,SNR=35						
BRVK	Borovoye	48.20	341	eP	P	00 58 09.5	-0.7
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
BRVK	Borovoye	48.20	341	eP	P	00 58 09.5	-0.7
	comp=Z,7.5nm,0.6s,mb4.9						
CHKZ	Chkalovo	48.62	342	eP	P	00 58 13.0	-0.5
CHKZ				pmax	pmax		
	comp=Z,21nm,0.5s,mb5.4						
CHKZ	Chkalovo	48.62	342	eP	P	00 58 13.0	-0.5
	comp=Z,21nm,0.5s,mb5.4						
WRA	Warramunga Arr	49.17	126	P	P	00 58 18.0	-0.2
	comp=Z,1.0nm,0.6s,mb4.0,baz=305,slow=8.6,SNR=9.7						
WRAB	Tennant Creek	49.18	126	eP	P	00 58 18.9	+0.7
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
WRAB	Tennant Creek	49.18	126	eP	P	00 58 18.9	+0.7
	comp=Z,7.3nm,0.8s,mb4.8						
ASAR	Alice Springs	50.84	130	P	P	00 58 30.8	-0.1
	comp=Z,0.8nm,0.6s,mb3.8,baz=302,slow=6.9,SNR=8.8						
ASAR				PcP	PcP	00 59 48.5	+1.0
	comp=Z,0.7nm,0.6s,baz=316,slow=3.6,SNR=5.4						
BOD	Bodaibo	51.63	14	⇓iP	P	00 58 35.8	-0.6
ARU	Arti	55.01	337	⇑iP	P	00 58 58.4	-3.0
ARU				ePPP	PPP	01 02 10.4	-8.7
ARU				eS	S	01 06 41.4	+2.0
ARU				eSS	SS	01 10 25.6	+2.6
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
KIV	Kislovodsk	56.38	318	P	P	00 59 09.4	-2.1
KIV				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KIV	Kislovodsk	56.38	318	P	P	00 59 09.4	-2.1
	comp=Z,9.0nm,0.8s,mb4.8						
KMBO	Kilima Mbogo	56.88	263	eP	P	00 59 19.4	+4.0
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMBO	Kilima Mbogo	56.88	263	eP	P	00 59 19.4	+3.9
	comp=Z,2.2nm,0.8s,mb4.2						
SOC	Sochi	58.25	316	eP	P	00 59 21.1	-3.6
SOC				e		01 00 11.8	
SOC				e		01 01 27.9	
SOC				ePPP	PPP	01 02 50.4	-8.3
SOC				eS	S	01 07 26.3	+3.9
SOC				eSS	SS	01 11 18.8	+2.8
SOC				pmax	pmax		
	comp=Z,64nm,1.1s,mb5.6						
SOC				pmax	pmax		
	comp=N,22nm,0.8s						
SOC				pmax	pmax		
	comp=E,42nm,1.0s						
YAK	Yakutsk	59.55	19	iP	P	00 59 32.2	-1.2
YAK				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.4						
ANN	Anapa	60.20	317	eP	P	00 59 27.2	-11
ANN				e*PP	pP	00 59 38.3	-10
ANN				pmax	pmax		
	comp=Z,56nm,1.1s,mb5.5						
BRTR	Keskin Array B	61.50	311	P	P	00 59 45.7	-1.3
	comp=Z,2.8nm,0.7s,mb4.5,baz=131,slow=8.0,SNR=16						
MOS	Moscow	64.17	329	eP	P	01 00 00.7	-3.7
MOS				e		01 00 35.2	
OBN	Obninsk	64.46	328	iP	P	01 00 04.2	-2.1
OBN				i		01 00 40.2	
OBN				pmax	pmax		
	comp=Z,23nm,1.6s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
TIXI	Tiksi	66.68	12	⇓iP	P	01 00 19.3	-1.0
TIXI				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.3						
AKASG	Malin Array Be	67.22	322	P	P	01 00 22.4	-1.7
	comp=Z,3.1nm,0.7s,mb4.4,baz=88,slow=5.0,SNR=41						
MLR	Muntele Rosu	68.24	316	P	P	01 00 30.4	-0.1
	comp=Z,4.0nm,0.8s,mb4.5,baz=198,slow=3.7,SNR=6.3						
LSZ	Lusaka	68.91	250	eP	P	01 00 38.4	+3.3
LSZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
LSZ	Lusaka	68.91	250	eP	P	01 00 38.4	+3.3
	comp=Z,3.6nm,0.8s,mb4.3						
JOF	Joensuu	69.96	334	ep	P	01 00 40.0	-0.7
	comp=Z,11nm,0.8s,mb4.8						
FINES	FINESS Array B	71.81	332	iP	P	01 00 51.9	0.0
FINES				pmax	pmax		
	comp=Z,11nm,1.0s						
FINES	FINESS Array B	71.81	332	P	P	01 00 51.5	-0.4
	comp=Z,11nm,0.9s,mb4.8,baz=101,slow=6.7,SNR=17						
KAF	Kangasniemi	71.89	333	ep	P	01 00 51.6	-0.8
	comp=Z,8.0nm,0.9s,mb4.7,baz=104,slow=5.7						
KAF	Kangasniemi	71.89	333	eP	P	01 00 51.6	-0.8
KAF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
OJC	Ojcow	73.04	320	eP	P	01 00 59.3	-0.2
KEV	Kevo	73.98	341	ep	P	01 01 04.3	-0.2
	comp=Z,15nm,1.1s,mb4.8						
KEV	Kevo	73.98	341	eP	P	01 01 04.3	-0.2
KEV				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
ARCES	ARCESS Array B	74.41	340	P	P	01 01 07.3	+0.3
	comp=Z,13nm,1.1s,mb4.8,baz=98,slow=6.6,SNR=19						
MORC	Moravsky Berou	74.44	319	P	P	01 01 07.7	+0.1
MORC				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
MORC	Moravsky Berou	74.44	319	P	P	01 01 07.7	+0.1
	comp=Z,6.1nm,0.9s,mb4.5						
BILL	Bilibino	75.68	22	iP	P	01 01 13.2	-1.2
BILL				i		01 04 09.2	
BILL				eSS	SS	01 15 49.7	+3.2
BILL				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
PRU	Pruhonice	76.39	319	eP	P	01 01 19.9	+1.1
GERES	GERESS Array B	76.89	318	P	P	01 01 22.0	+0.4
	comp=Z,2.4nm,0.8s,mb4.2,baz=90,slow=5.3,SNR=22						
FX1	Attu Island--F	76.98	38	P	P	01 01 22.3	+0.2
	comp=Z,40nm,1.0s,mb5.3,baz=14,slow=1.0,SNR=4.8						
KHC	Kasperske Hory	76.98	318	eP	P	01 01 21.0	-1.2
HFS	Hagfors	77.55	330	P	P	01 01 25.1	+0.1
	comp=Z,6.8nm,0.7s,mb4.7,baz=90,slow=5.9,SNR=14						
NB2	NORSAR Subarra	78.82	331	P	P	01 01 32.0	0.0
	comp=Z,4.5nm,0.7s,mb4.5,baz=97,slow=5.0						
NB2	NORSAR Subarra	78.82	331	P	P	01 01 32.0	0.0
NB2				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
NOA	NORSAR Array B	78.82	331	P	P	01 01 32.1	+0.1
	comp=Z,6.2nm,0.7s,mb4.7,baz=92,slow=5.7,SNR=17						
DAVOX	Davos	79.46	316	P	P	01 01 36.4	+0.6
	comp=Z,3.3nm,0.9s,mb4.3,baz=127,slow=8.1,SNR=3.9						
LPG	La Plagne	81.69	315	eP	P	01 01 48.7	+1.1
	comp=Z,11nm,0.8s,mb4.5						
LPG	La Plagne	81.69	315	eP	P	01 01 48.7	+1.1
LPG				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
SYO	Syowa Base	85.88	197	⇑P	P	01 02 11.7	+3.5
EKA	Eskdalemuir Ar	86.80	325	P	P	01 02 14.4	+1.4
	comp=Z,5.0nm,0.7s,mb4.9,baz=93,slow=5.6,SNR=13						
ESDC	Sonseca Array	90.29	310	P	P	01 02 31.0	+1.0
	comp=Z,0.9nm,0.8s,mb4.2,baz=112,slow=3.7,SNR=5.8						
IMA	Indian Mountai	91.22	22	eP	P	01 02 35.8	+2.0
ILAR	Eielson Array	94.34	22	P	P	01 02 48.0	-0.1
	comp=Z,1.2nm,0.6s,mb4.5,baz=310,slow=5.9,SNR=11						
INK	Inuvik	96.51	16	P	P	01 02 58.6	+0.8
	comp=Z,2.2nm,0.7s,mb4.7,baz=329,slow=2.3,SNR=5.4						
NVAR	Mina Array Bea	124.65	30	PKP	PKPdf	01 08 31.2	+3.5
	comp=Z,0.6nm,0.6s,baz=338,slow=4.9,SNR=4.2		

0.3nm,0.3s,baz=299,slow=1.4,SNR=5.2
VIS Vishakhapatnam 14.37 313 *e*P P 00 58 22.0 -2.0
VIS *e* 00 58 28.9
comp=Z,32nm,1.0s
VIS *i* 01 00 56.5
KOD Kodaikanal 16.70 279 *e*P P 00 58 54.8 +0.7
KOD *e* 00 59 07.4
comp=Z,24nm,1.0s
SHL Shillong 17.64 353 *e*P P 00 59 04.0 -1.8
SHL *e* 00 59 10.4
comp=Z,35nm,1.6s
HYB Hyderabad 17.93 303 *e*P P 00 59 10.5 +1.1
HYB Hyderabad 17.93 303 *i* P **P 00 59 10.5 +1.1**
BLSP Bilaspur 18.27 322 *e*P P 00 59 14.3 +0.6
JIRN Jiri 21.01 340 *e*P P 00 59 45.0 +1.0
comp=Z,45nm,0.6s,mb5.0
PKI Pulchoki 21.21 338 *e*P P 00 59 45.3 -0.7
comp=Z,59nm,0.6s,mb5.1
GUN Gumba 21.35 339 *e*P P 00 59 47.8 +0.4
comp=Z,34nm,0.6s,mb4.9
KKN Kakani 21.45 338 *e*P P 00 59 47.7 -0.8
LSA Lhasa 21.81 353 P **P 00 59 51.7 -0.3**
LSA Lhasa 21.81 353 *e*P P 00 59 51.4 -0.6
LSA pmax pmax
comp=Z,38nm,0.6s,mb5.0
LSA Lhasa 21.81 353 *e*P P 00 59 51.4 -0.6
comp=Z,38nm,0.6s,mb5.0
GKN Gorkha 21.89 337 *e*P P 00 59 52.9 +0.1
comp=Z,47nm,0.6s,mb5.1
KOLN Koldanda 22.11 334 *e*P P 00 59 55.2 +0.2
comp=Z,83nm,0.7s,mb5.3
BHPL Bhopal 22.15 315 *e*P P 00 59 56.0 +0.5
BHPL *e* 00 59 57.6
comp=Z,28nm,0.6s
BHPL *e*S **S 01 04 07.8 +15**
NDI New Delhi 26.11 324 *e*P P 01 00 34.8 +1.1
NDI *e* 01 00 37.8
comp=Z,23nm,0.9s
ENH Enshi 26.39 31 P **P 01 00 38.0 +1.7**
comp=Z,15nm,0.9s,mb4.5
WMQ Urumqi 36.16 352 *e*P P 01 02 02.5 +0.4
WMQ AP pP 01 02 12.0 +0.2
WMQ PP PP 01 03 25.6 +0.5
WMQ AMB AMB
comp=Z,3.0nm,0.9s,mb4.2
WMQ AMB AMB
comp=Z,29nm,5.0s
WMQ LR LR
comp=N,866nm,19.0s,MS4.6
WMQ LR LR
comp=E,436nm,20.5s,MS4.6
WMQ LR LR
comp=Z,770nm,20.8s,MS4.5
UCH Uchtor 38.30 336 P **P 01 02 21.1 +1.1**
SNR=5.6
KBK Karagaybulak 38.49 337 P **P 01 02 22.2 +0.6**
SNR=18
AML Almayashu 38.55 335 P **P 01 02 23.0 +0.8**
SNR=23
AAK Ala-Archa 38.65 336 *e*P P 01 02 22.0 -0.9
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
AAK Ala-Archa 38.65 336 *e*P P 01 02 21.9 -1.0
comp=Z,6.0nm,0.8s,mb4.4
CHMS Chumysh 38.86 337 P **P 01 02 24.8 +0.2**
SNR=6.2
EKS2 Erkin-Say 38.96 336 P **P 01 02 26.7 +1.2**
SNR=6.2
USP Ospenovka 39.18 337 P **P 01 02 27.9 +0.6**
SNR=6.5
SONM Songino Array 41.05 12 P **P 01 02 43.4 +0.6**
comp=Z,1.3nm,0.6s,mb3.8,baz=196,slow=9.6,SNR=8.9
SONM PcP PcP 01 04 43.5 +0.6
comp=Z,1.7nm,0.5s,baz=196,slow=4.1,SNR=8.1
ULN Ulaanbaatar 41.22 13 P **P 01 02 44.4 +0.2**
ULN pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
ULN Ulaanbaatar 41.22 13 P **P 01 02 44.4 +0.2**
comp=Z,2.4nm,0.8s,mb3.9
ZAL Zalesovo 46.46 352 P **P 01 03 26.2 -0.3**
comp=Z,7.1nm,0.4s,mb4.9,baz=303,slow=6.1,SNR=35
NVS Novosibirsk 47.56 351 *e*P P 01 03 33.7 -1.4
NVS pmax pmax
comp=Z,11nm,0.9s,mb4.9
NVS pmax pmax
comp=N,7.0nm,0.9s
WRA Warramunga Arr 48.25 126 P **P 01 03 40.5 -0.4**
comp=N,1.5nm,0.5s,mb4.3,baz=305,slow=8.5,SNR=15
WRAB Tennant Creek 48.25 126 *e*P P 01 03 37.4 -3.5
WRAB pmax pmax
comp=Z,13nm,0.9s,mb5.0
WRAB Tennant Creek 48.25 126 *e*P P 01 03 37.4 -3.5
comp=Z,13nm,0.9s,mb5.0
BVAR Borovoye Array 48.93 341 P **P 01 03 44.9 -0.8**
comp=Z,1.0nm,0.5s,mb4.2,baz=141,slow=11,SNR=7.5
BVAR PcP PcP 01 05 10.1 +0.1
comp=Z,1.4nm,0.5s,baz=175,slow=3.6,SNR=9.1
CHKZ Chkalovo 49.41 342 *e*P P 01 03 48.5 -0.9
CHKZ pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
CHKZ Chkalovo 49.41 342 *e*P P 01 03 48.5 -0.8
comp=Z,7.7nm,0.6s,mb4.9
ASAR Alice Springs 49.91 130 P **P 01 03 52.4 -1.3**
comp=Z,2.7nm,1.0s,mb4.2,baz=307,slow=7.6,SNR=9.0
ASAR PcP PcP 01 05 13.8 -0.2
comp=Z,2.0nm,0.9s,baz=305,slow=3.7,SNR=8.6
BOD Bodaibo 52.04 13 *e*P P 01 04 06.0 -3.2
KIV Kislovodsk 57.30 318 *e*P P 01 04 47.1 -0.8
KIV pmax pmax
comp=Z,11nm,0.8s,mb4.9
KIV Kislovodsk 57.30 318 *e*P P 01 04 47.1 -0.8
comp=Z,10nm,0.8s,mb4.9
KMBO Kilima Mbogo 57.52 264 *e*P P 01 04 50.7 +0.9
KMBO pmax pmax
comp=Z,9.0nm,0.9s
KMBO Kilima Mbogo 57.52 264 P **P 01 04 50.9 +1.1**
comp=Z,6.3nm,0.8s,mb4.7,baz=56,slow=11,SNR=19
KMBO Kilima Mbogo 57.52 264 *e*P P 01 04 50.7 +0.9
comp=Z,8.9nm,0.9s,mb4.8
ASF Jabal al Asfar 58.24 303 P **P 01 04 54.3 -0.3**
comp=Z,3.0nm,0.8s,mb4.4,baz=24,slow=11,SNR=4.4
EIL Elat 59.45 300 P **P 01 05 02.6 -0.5**
comp=Z,5.4nm,0.6s,mb4.8
CSS Prodhromos 61.69 305 *e*P P 01 05 17.4 -0.9
comp=Z,14nm,1.1s,mb5.0
BRTR Keskin Array B 62.43 311 P **P 01 05 20.8 -2.4**
comp=Z,2.8nm,0.6s,mb4.6,baz=129,slow=7.1,SNR=16
MBAR Mbarara 63.85 265 P **P 01 05 32.7 -0.3**
MBAR pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
MBAR Mbarara 63.85 265 P **P 01 05 32.7 -0.3**
comp=Z,5.2nm,0.9s,mb4.6
OBN Obninsk 65.34 328 *e*P P 01 05 40.4 -1.5
OBN pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
TIXI Tiksi 67.12 11⇑*i*P **P 01 05 52.6 -0.3**
TIXI pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
AKASG Malin Array Be 68.13 322 P **P 01 05 57.4 -2.2**
comp=Z,2.3nm,0.6s,mb4.4,baz=89,slow=5.1,SNR=10
IDI Anoyia 68.58 305 P **P 01 06 02.0 -0.7**
comp=Z,7.7nm,0.5s,mb4.9,baz=83,slow=4.9,SNR=14
MLR Muntele Rosu 69.16 316 P **P 01 06 05.5 -0.6**
comp=Z,5.9nm,0.8s,mb4.6,baz=187,slow=2.3,SNR=8.5
LSZ Lusaka 69.38 250 *e*P P 01 06 08.1 +0.2
LSZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LSZ Lusaka 69.38 250 *e*P P 01 06 08.1 +0.2
comp=Z,3.0nm,0.6s,mb4.4
JOF Joensuu 70.80 334 *e*p P 01 06 15.3 -0.4
comp=Z,4.2nm,0.5s,mb4.6
FINES FINESS Array B 72.67 332 P **P 01 06 26.4 -0.5**
comp=Z,7.8nm,0.7s,mb4.8,baz=94,slow=7.5,SNR=30
KAF Kangasniemi 72.75 333 *e*p P 01 06 26.8 -0.5
comp=Z,2.4nm,0.5s,mb4.4,baz=102,slow=5.6
KAF Kangasniemi 72.75 333 *e*P P 01 06 26.8 -0.5
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
OJC Ojcow 73.96 320 *e*P P 01 06 34.9 +0.2
KEV Kevo 74.77 341 *e*p P 01 06 38.8 -0.2
comp=Z,5.1nm,0.6s,mb4.6
KEV Kevo 74.77 341 *e*P P 01 06 38.8 -0.2
KEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
ARCES ARCESS Array B 75.20 340 P **P 01 06 41.8 +0.3**
comp=Z,2.8nm,0.5s,mb4.5,baz=97,slow=5.7,SNR=17
MORC Moravsky Berou 75.36 319 *e*P P 01 06 43.2 +0.4
MORC pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
MORC Moravsky Berou 75.36 319 *e*P P 01 06 43.2 +0.4
comp=Z,3.2nm,0.6s,mb4.4
KSP Ksiaz 76.24 320 *e*P P 01 06 48.4 +0.6
PRU Pruhonice 77.31 319 *e*P P 01 06 54.6 +0.8
GERES GERESS Array B 77.81 318 P **P 01 06 56.9 +0.3**
comp=Z,4.2nm,0.6s,mb4.5,baz=87,slow=5.3,SNR=35
KHC Kasperske Hory 77.90 318 *e*P P 01 06 57.0 -0.1
HFS Hagfors 78.42 330 P **P 01 06 59.5 -0.2**
comp=Z,10nm,0.4s,mb5.1,baz=104,slow=6.1,SNR=73
MAW Mawson 78.64 192 P **P 01 07 02.3 +1.5**
comp=Z,5.6nm,0.8s,mb4.5,baz=322,slow=5.6,SNR=6.2
NB2 NORSAR Subarra 79.69 331 P **P 01 07 06.2 -0.4**
comp=Z,4.2nm,0.5s,mb4.6,baz=98,slow=4.8
NB2 NORSAR Subarra 79.69 331 P **P 01 07 06.2 -0.4**
NB2 pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
NOA NORSAR Array B 79.69 331 P **P 01 07 06.5 -0.2**
comp=Z,3.7nm,0.6s,mb4.5,baz=95,slow=5.2,SNR=13
DAVOX Davos 80.38 316 P **P 01 07 10.8 +0.1**
comp=Z,5.2nm,0.6s,mb4.6,baz=130,slow=6.5,SNR=13
LPG La Plagne 82.61 315 *e*P P 01 07 22.7 +0.5
comp=Z,14nm,0.9s,mb4.7
LPG La Plagne 82.61 315 *e*P P 01 07 22.7 +0.5
LPG pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
SYO Syowa Base 85.52 197⇑P **P 01 07 37.1 +0.7**
EKA Eskdalemuir Ar 87.69 325 P **P 01 07 48.0 +0.8**
comp=Z,1.6nm,0.6s,mb4.5,baz=95,slow=5.1,SNR=6.9
ESDC Sonseca Array 91.22 310 P **P 01 08 05.4 +1.1**
comp=Z,1.1nm,0.6s,mb4.4,baz=67,slow=4.2,SNR=9.7
IMA Indian Mountai 91.50 22 *e*P P 01 08 07.3 +2.3
IMA pmax pmax
comp=Z,15nm,0.7s,mb5.4
IMA Indian Mountai 91.50 22 *e*P P 01 08 07.3 +2.4
comp=Z,15nm,0.7s,mb5.4
YKA Yellowknife Ar 106.31 13 PKKPbc 01 24 43.9
comp=Z,0.3nm,0.7s,baz=162,slow=2.6,SNR=8.0
YKA PKKPab 01 24 59.8
comp=Z,0.4nm,0.8s,baz=150,slow=4.4,SNR=8.4
NVAR Mina Array Bea 124.79 31 PKP PKPdf 01 14 01.4 +3.5
comp=Z,2.0nm,0.7s,baz=359,slow=0.5,SNR=6.3
PDAR Pinedale Array 125.05 21 PKP PKPdf 01 14 00.4 +2.2
comp=Z,1.3nm,0.7s,baz=41,slow=1.8,SNR=16
TXAR Lajitas Array 139.10 24 PKhKP 01 14 18.7
comp=Z,0.2nm,0.5s,baz=289,slow=0.4,SNR=6.1
TXAR PKP PKPdf 01 14 28.3 +3.3
comp=Z,0.8nm,0.5s,baz=340,slow=0.8,SNR=17
JCT Junction City 139.47 19 *e*PKP PKPdf 01 14 28.6 +3.0
BDFB Brasilia 142.31 255 PKP PKPdf 01 14 34.0 +2.9
comp=Z,2.2nm,0.6s,baz=224,slow=7.2,SNR=4.6
SJG San Juan 147.64 323 *e*PKPbc PKPdf 01 14 45.0 +4.8
LVC Limon Verde 158.21 226 PKPab PKPab 01 15 31.1 -0.4
comp=Z,3.3nm,0.7s,baz=101,slow=0.7,SNR=5.6
LPAZ La Paz 160.89 243 PKPab PKPab 01 15 42.2 -0.9
comp=Z,1.1nm,0.7s,baz=68,slow=18,SNR=4.0

*NIED **11** 00:58:00,23.60N×121.70E,h50km,Mw4.5 Best double couple: M0=5.63×10^15 NP1:φ=28°,δ=63°,λ=74°. NP2:φ=241°, δ=31°,λ=118°.*
*BJI **11** 00:58:21.0,23.69N×121.55E,h18km,mB4.4,mb4.4, ML4.8,Ms4.2,Msz3.8*
*NEIC **11** 00:58:21.5,23.58N×121.64E,h38km,mb4.4/5,After TAP.*
NEIC Recorded [4 TAP] in Hua-lien; [3 TAP] in T'ai-tung; [2 TAP] in Chang-hua, I-lan, Nan-t'ou and Yun-lin; [1 TAP] in Chia-i, Kao-hsiung and Miao-li Counties.
*TAP **11** 00:58:22.0,23.58N×121.63E,h27km,ML4.9*
TAP Felt II J at Hungye, III J at Shilin, I J at Yuli, III J at Hualien, II J at Chiawan, III J at Chenggung, II J at Hehuanshan, I J at Lidau, I J at Ryuetan, I J at Alishan, I J at Yuchr, II J at Nanau, I J at Tsauling, II J at Nanshan, I J at Tauyuan, II J at Mingjian, I J at Tsaushan, II J at Gukeng, I J at Dapu, I J at Taichung, I J at Suao, I J at Nioudou, I J at Jiashian, I J at Nanshi, I J at Dungshan, II J at Liyutan, I J at Chiayi, I J at Sanguang, I J at Sanyi, II J at Dacheng, I J at Szhu.
*JMA **11** 00:58:23.0±0.3,23.64N×121.66E,h75km,M4.5*
*IDC **11** 00:58:23.1±3.7,23.60N×121.76E,h52km±35km,mb3.8/15, mb1 4.1/16,mb1mx4.0/23,mbtmp4.1/16,MS3.5/1, Ms1 3.7/1,ms1mx2.9/23,Error ellipse: s-maj=22.2km s-min=15.5km az=68.0*
ISC 11 00:58:21.5±0.2,23.57N±0.01×121.68E±0.01,h27km,n107, σ1§11/170,**mb4.1**/20,**MS3.8**/2,**22C-6D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESL	**Shilin**	**0.34**	**317**	⇑*i*P	**Pb**	**00 58 29.8**	**+0.6**
EHY	**Hungye**	**0.34**	**260**	⇑*i*P	**Pb**	**00 58 29.7**	**+0.5**
EHY				S	**Sb**	**00 58 34.3**	**-0.1**
HWA	**Hwalien**	**0.41**	**350**	⇓*i*P	**Pb**	**00 58 31.7**	**+1.3**
TWF1	**Yuli**	**0.41**	**239**	⇑*i*P	**Pb**	**00 58 31.1**	**+0.7**
TWF1				S	**Sb**	**00 58 37.1**	**+0.7**
TWD	**Chiawan**	**0.52**	**351**	⇑*i*P	**Pb**	**00 58 32.8**	**+0.8**
TWD				S	**Sb**	**00 58 40.4**	**+1.2**
CHKT	**Chengkung**	**0.55**	**212**	*e*P	**Pb**	**00 58 33.3**	**+0.7**
CHKT				S	**Sb**	**00 58 41.4**	**+1.3**
YUS	**Yu-Shan**	**0.68**	**263**	⇑*i*P	**Pb**	**00 58 35.1**	**+0.5**
WHF	**Hehuan Shan**	**0.69**	**326**	⇑*i*P	**Pb**	**00 58 34.8**	**-0.1**
ELDTW	**Lidau**	**0.72**	**238**	⇓*i*P	**Pb**	**00 58 35.0**	**-0.4**
ELDTW				S	**Sb**	**00 58 43.8**	**-1.1**
SMLT	**Sun Moon Lake**	**0.78**	**294**	⇑*i*P	**Pb**	**00 58 36.3**	**-0.2**
SMLT				S	**Sb**	**00 58 46.9**	**+0.2**
ALS	**Alishan**	**0.81**	**266**	⇑*i*P	**Pb**	**00 58 37.3**	**+0.4**
ALS				S	**Sb**	**00 58 47.5**	**0.0**
TYC	**Yuchr**	**0.83**	**294**	⇑*i*P	**Pb**	**00 58 36.9**	**-0.3**
TYC				S	**Sb**	**00 58 47.4**	**-0.6**
ENA	**Nanau**	**0.86**	**4**	⇑*i*P	**Pb**	**00 58 37.8**	**+0.1**
NNS	**Nan Shan**	**0.91**	**342**	⇑P	**Pb**	**00 58 38.2**	**-0.4**
CHN5	**Tsauling**	**0.92**	**272**	⇑*i*P	**Pb**	**00 58 39.0**	**+0.2**
TWG	**Pinlang**	**0.93**	**217**	*e*P	**Pb**	**00 58 37.9**	**-1.1**
STYT	**Tauyuan**	**0.94**	**245**	⇓*i*P	**Pn**	**00 58 39.1**	**0.0**
STYT				S	**Sb**	**00 58 50.9**	**-0.3**
TTN	**Taitung**	**0.95**	**211**	*e*P	**Pn**	**00 58 39.2**	**0.0**
WNT	**Mingjian**	**0.97**	**289**	⇑P	**Pn**	**00 58 39.8**	**+0.3**
WNT				S	**Sb**	**00 58 51.9**	**0.0**
CHN4	**Tsaushan**	**1.02**	**258**	⇑*i*P	**Pn**	**00 58 41.0**	**+0.7**
CHN4				S	**Sb**	**00 58 53.8**	**+0.3**
WTP	**Ta-pu**	**1.03**	**252**	*e*P	**Pn**	**00 58 41.0**	**+0.6**
WTP				S	**Sb**	**00 58 53.9**	**+0.1**
WGK	**Gukeng**	**1.03**	**277**	⇑P	**Pn**	**00 58 40.6**	**+0.2**
WGK				S	**Sb**	**00 58 53.5**	**-0.4**
TWC	**Suao**	**1.05**	**8**	*e*P	**Pn**	**00 58 41.0**	**+0.4**
TWC				S	**Sb**	**00 58 54.7**	**+0.5**
ENTT	**Nioudou**	**1.07**	**354**	⇑*i*P	**Pn**	**00 58 40.8**	**-0.2**
TCU	**Taichung**	**1.09**	**302**	⇑*i*P	**Pn**	**00 58 41.8**	**+0.6**
TCU				S	**Sb**	**00 58 55.4**	**-0.1**
CHN2	**Minshiung**	**1.11**	**268**	*e*P	**Pn**	**00 58 41.9**	**+0.4**
CHN2				S	**Sn**	**00 58 56.0**	**0.0**
SGST	**Jiashian**	**1.12**	**245**	⇓P	**Pn**	**00 58 42.3**	**+0.6**
SGST				S	**Sn**	**00 58 56.6**	**+0.3**
CHN1	**Nanshi**	**1.13**	**250**	*e*P	**Pn**	**00 58 42.4**	**+0.6**
CHN1				S	**Sn**	**00 58 56.5**	**0.0**
TWK	**Hsinying**	**1.14**	**255**	⇓P	**Pn**	**00 58 42.2**	**+0.3**
TWK				S	**Sn**	**00 58 57.2**	**+0.5**
TWQ1	**Liyutan**	**1.14**	**313**	⇑*i*P	**Pn**	**00 58 42.8**	**+0.9**
TWQ1				S	**Sn**	**00 58 57.2**	**+0.4**
NSK	**Sanguang**	**1.14**	**345**	⇑P	**Pn**	**00 58 42.1**	**+0.1**
NSK				S	**Sn**	**00 58 55.5**	**-1.3**
TWE	**Neicheng**	**1.15**	**359**	*e*P	**Pn**	**00 58 42.0**	**-0.1**
TWE				S	**Sn**	**00 58 56.8**	**-0.2**
CHY	**Chiayi**	**1.16**	**267**	*e*P	**Pn**	**00 58 42.7**	**+0.5**
CHY				S	**Sn**	**00 58 57.0**	**-0.3**
ECL	**Taimali**	**1.18**	**215**	*e*P	**Pn**	**00 58 41.0**	**-1.4**
NSY	**Sanyi**	**1.19**	**315**	⇑*i*P	**Pn**	**00 58 43.7**	**+1.0**
NSY				S	**Sn**	**00 58 58.8**	**+0.6**
NSTT	**Nanjuang**	**1.23**	**330**	⇑P	**Pn**	**00 58 44.0**	**+0.7**
NSTT				S	**Sn**	**00 58 58.2**	**-0.9**
SSD	**Sandimen**	**1.27**	**230**	*e*P	**Pn**	**00 58 43.5**	**-0.2**
SSD				S	**Sn**	**00 59 00.3**	**+0.3**
CHN3	**Shinhua**	**1.31**	**248**	*e*P	**Pn**	**00 58 45.8**	**+1.5**
CHN3				S	**Sn**	**00 59 03.4**	**+2.3**
WTCT	**Ta-ch'eng**	**1.32**	**283**	*e*P	**Pn**	**00 58 44.5**	**0.0**
WTCT				S	**Sn**	**00 59 01.2**	**-0.1**
WSF	**Szhu**	**1.34**	**273**	*e*P	**Pn**	**00 58 45.0**	**+0.1**
WSF				S	**Sn**	**00 59 01.2**	**-0.7**
CHN8	**Yiju**	**1.37**	**261**	*e*P	**Pn**	**00 58 45.3**	**0.0**
CHN8				S	**Sn**	**00 59 02.1**	**-0.5**
TWM1	**Shoushan**	**1.38**	**238**	*e*P	**Pn**	**00 58 46.8**	**+1.4**
SGLT	**Jiouru**	**1.38**	**233**	*e*P	**Pn**	**00 58 46.8**	**+1.4**
SGLT				S	**Sn**	**00 59 06.7**	**+3.8**
HSN	**Hsinchu**	**1.39**	**332**	*e*P	**Pn**	**00 58 46.1**	**+0.6**
HSN				S	**Sn**	**00 59 04.4**	**+1.2**
TAW	**Tawu**	**1.41**	**211**	*e*P	**Pn**	**00 58 47.6**	**+1.9**
EAST	**Anshuo**	**1.41**	**213**	*e*P	**Pn**	**00 58 44.5**	**-1.2**
TWA	**Mucha**	**1.41**	**356**	*e*P	**Pn**	**00 58 46.2**	**+0.4**
TWA				S	**Sn**	**00 59 03.1**	**-0.6**
TATO	**Taipei**	**1.41**	**353**	*e*Pn	**Pn**	**00 58 45.1**	**-0.8**
SCLT	**Jiali**	**1.42**	**254**	*e*P	**Pn**	**00 58 46.3**	**+0.3**
SCLT				S	**Sn**	**00 59 04.6**	**+0.6**
TWB1	**Santiao Chiao**	**1.46**	**11**	*e*P	**Pn**	**00 58 47.6**	**+1.0**
TWB1				S	**Sn**	**00 59 05.9**	**+0.9**
NCU	**National Centr**	**1.47**	**342**	*e*P	**Pn**	**00 58 47.2**	**+0.6**
NCU				S	**Sn**	**00 59 06.2**	**+1.1**
TAP1	**Taipei**	**1.47**	**354**	*e*P	**Pn**	**00 58 47.1**	**+0.5**
TAP1				S	**Sn**	**00 59 04.9**	**-0.3**
TAP	**Taipei**	**1.47**	**354**	*e*P	**Pn**	**00 58 47.8**	**+1.0**
TAP				S	**Sn**	**00 59 04.3**	**-1.0**
NWF	**Wu-fen Shan**	**1.50**	**3**	*e*P	**Pn**	**00 58 47.6**	**+0.5**
NWF				S	**Sn**	**00 59 06.9**	**+1.0**
YOJ	**Yonaguni jima**	**1.51**	**54**	P	**Pn**	**00 58 48.3**	**+1.1**
YOJ				S	**Sn**	**00 59 07.2**	**+1.1**
LAY	**Lan-yu**	**1.53**	**185**	*e*P	**Pn**	**00 58 46.6**	**-0.9**
SCZT	**Fangliau**	**1.54**	**220**	*e*P	**Pn**	**00 58 47.5**	**-0.1**
SCZT				S	**Sn**	**00 59 08.2**	**+1.2**
TWS1	**Kuangyinshan**	**1.54**	**351**	*e*P	**Pn**	**00 58 48.1**	**+0.4**
TWS1				S	**Sn**	**00 59 07.3**	**+0.2**
TWY	**Chenhua**	**1.70**	**357**	*e*P	**Pn**	**00 58 50.2**	**+0.2**
TWP	**Hsiaoliuchiu**	**1.72**	**225**	*e*P	**Pn**	**00 58 51.9**	**+1.7**
HEN	**Hengchun**	**1.78**	**209**	*e*P	**Pn**	**00 58 53.1**	**+2.0**
TWK1	**Hengchun**	**1.81**	**207**	*e*P	**Pn**	**00 58 51.4**	**-0.1**
TWK1				S	**Sn**	**00 59 13.3**	**-0.5**
WDGT	**Dungji**	**1.88**	**261**	⇓*i*P	**Pn**	**00 58 51.8**	**-0.8**
WDGT				S	**Sn**	**00 59 12.6**	**-3.1**
PNG	**Penghu**	**1.95**	**270**	*e*P	**Pn**	**00 58 52.6**	**-1.0**
PNG				S	**Sn**	**00 59 14.9**	**-2.5**
HATJ	**Hateruma jima**	**2.00**	**76**	P	**Pn**	**00 58 55.2**	**+0.9**
HATJ				S	**Sn**	**00 59 19.8**	**+1.0**
IRIF	**Iriomote-Funau**	**2.02**	**67**	P	**Pn**	**00 58 55.8**	**+1.2**
IRIF				*e*S	**Sn**	**00 59 20.5**	**+1.3**
JKRS	**Kuro-shima**	**2.23**	**72**	P	**Pn**	**00 58 59.2**	**+1.6**
JKRS				S	**Sn**	**00 59 26.2**	**+1.7**
JIJ	**Ishigaki jima**	**2.39**	**70**	P	**Pn**	**00 59 00.3**	**+0.5**
JIJ				*e*S	**Sn**	**00 59 28.1**	**-0.4**
JTJ	**Tarama**	**2.96**	**68**	P	**Pn**	**00 59 08.2**	**+0.2**
JTJ				S	**Sn**	**00 59 42.6**	**-0.4**
KNM	**Kinmen**	**3.09**	**287**	*e*P	**Pn**	**00 59 09.4**	**-0.4**
QZH	**Quanzhou**	**3.13**	**297**	⇑*i*P	**Pn**	**00 59 08.4**	**-2.0**
QZH				S	**Sn**	**00 59 41.7**	**-5.7**
QZH				Smax			
comp=E,4μm,1.1s
JMJ Miyako jima 2 3.52 69 P **Pn 00 59 16.8 +0.8**
JMJ S **Sn 00 59 56.5 -0.7**
JOGS Gusukube 3.60 70 *e*S **Sn 00 59 59.6 +0.4**
JKE Kume jima 2 5.38 58 P **Pn 00 59 40.9 -1.4**
JKE *e*S **Sn 01 00 40.6 -3.6**
JAGN Aguni-jima 5.87 58 *e*S **Sn 01 00 52.7 -3.7**
JIH Iheya 6.65 57 P **Pn 00 59 58.2 -2.0**
JIH *e*S **Sn 01 01 09.5 -6.4**
JOW Kunigami 6.80 60 P **Pn 00 59 59.4 -2.8**
baz=203,slow=7.7
JOW Kunigami 6.80 60 P **Pn 00 59 59.3 -2.9**
JOW *e*S **Sn 01 01 13.0 -6.5**
JTK Tokunoshima 7.79 56 P **Pn 01 00 12.2 -3.9**
JTK S **Sn 01 01 37.4 -6.8**
JAM Amami Oshima 8.61 54 P **P 01 00 23.4 -4.0**
JAM *e*S **Sn 01 01 53.9 -11**
NJ2 Nanjing 8.81 344 *e*P P 01 00 25.2 -5.1
NJ2 AP 01 00 32.1
NJ2 S **Sn 01 02 02.4 -7.4**
NJ2 XS 01 02 15.4
NJ2 AMB AMB
comp=Z,30nm,0.6s
NJ2 Smax
comp=N,260nm,0.8s
NJ2 Smax
comp=E,160nm,0.9s
NJ2 LR LR
comp=N,870nm,10.0s
NJ2 LR LR
comp=E,1μm,12.1s
NJ2 LR LR
comp=Z,680nm,11.2s
JMZ Minamidaito 2 8.96 74 P **P 01 00 26.4 -5.9**
JMZ *e*S **Sn 01 02 00.8 -13**
WHN Wuhan 9.54 318 P **P 01 00 36.0 -4.4**
WHN *e*S **Sn 01 02 17.5 -10**
WHN LR LR
comp=Z,1μm,14.0s
QIZ Qiongzhong 11.92 250 *e*P P 01 01 12.6 -0.4
QIZ *e*S **S 01 03 16.4 -10**
QIZ LR LR
comp=N,947nm,10.5s
QIZ LR LR
comp=E,568nm,11.7s
LZH Lanzhou 19.84 313 *e*P P 01 02 54.4 +1.0
LZH PP PP 01 03 13.3 +1.2
LZH *e*S **S 01 06 30.4 +0.6**
LZH SS SS 01 06 58.4 +0.7
LZH AMB AMB
comp=Z,16nm,1.3s
LZH AMB AMB
comp=Z,100nm,6.0s
LZH LR LR
comp=E,300nm,12.0s
LZH LR LR
comp=Z,459nm,13.6s
CMAR Chiang Mai Arr 21.82 261 P **P 01 03 12.6 -1.2**
comp=Z,3.3nm,0.7s,mb3.9,baz=59,slow=8.4,SNR=13
CMAR LR LR 01 12 19.9
comp=Z,123nm,18.2s,MS3.4,baz=70,slow=38
ULN Ulaanbaatar 26.91 338 *e*P P 01 03 56.8 -5.5
comp=Z,2.2nm,0.5s,mb3.9
SONM Songino Array 27.11 337 P **P 01 04 00.9 -3.3**
comp=Z,1.5nm,0.7s,mb3.7,baz=158,slow=9.7,SNR=7.1
WMQ Urumqi 34.41 314 *e*P P 01 05 06.6 -2.1
WMQ AP pP 01 05 16.7 0.0
WMQ XP sP 01 05 20.5 +0.4
WMQ PP PP 01 06 19.7 -4.9
WMQ S **S 01 10 32.1 -1.9**
WMQ XS 01 10 47.4
WMQ AMB AMB
comp=Z,1.0nm,0.6s,mb3.9
WMQ AMB AMB
comp=Z,12nm,4.0s
WMQ LR LR
comp=N,354nm,17.6s,MS4.2
WMQ LR LR
comp=E,214nm,18.4s,MS4.2
WMQ LR LR
comp=Z,478nm,18.2s,MS4.3
ZAL Zalesovo 41.01 327 P **P 01 06 00.3 -3.7**
comp=Z,2.0nm,0.9s,mb3.7,baz=2.7,slow=11,SNR=4.5
AAK Ala-Archa 43.24 308 *e*P P 01 06 20.1 -2.3
comp=Z,3.4nm,0.7s,mb4.2
WRAB Tennant Creek 44.97 163 *e*P P 01 06 32.9 -3.7
comp=Z,8.8nm,0.9s,mb4.6
WRA Warramunga Arr 44.97 163 P **P 01 06 32.8 -3.9**
comp=Z,1.8nm,0.6s,mb4.1,baz=344,slow=8.9,SNR=8.3
ASAR Alice Springs 48.43 165 P **P 01 07 01.1 -2.7**
comp=Z,0.6nm,0.5s,mb3.9,baz=342,slow=6.9,SNR=5.6
BVAR Borovoye Array 48.44 321 P **P 01 07 00.6 -2.9**
comp=Z,0.8nm,0.5s,mb4.0,baz=101,slow=7.6,SNR=5.2
CHKZ Chkalovo 48.50 322 *e*P P 01 06 60.0 -3.9
comp=Z,5.4nm,0.7s,mb4.7
STKA Stephens Creek 58.33 160 P **P 01 08 12.6 -4.3**
comp=Z,2.7nm,0.7s,mb4.4,baz=326,slow=13,SNR=4.6
ILAR Eielson Array 69.55 27 P **P 01 09 25.4 -4.4**
comp=Z,0.7nm,0.5s,mb3.8,baz=299,slow=7.0,SNR=5.7
FINES FINESS Array B 72.21 330 P **P 01 09 43.2 -2.6**
comp=Z,7.1nm,1.2s,mb4.5,baz=56,slow=6.9,SNR=4.3
DAWY Dawson 72.88 27 *e*P P 01 09 46.4 -3.3
INK Inuvik 73.62 22 P **P 01 09 51.5 -2.4**
comp=Z,1.2nm,0.5s,mb4.1,baz=297,slow=5.0,SNR=3.4
INK Inuvik 73.62 22 P **P 01 09 51.0 -3.0**
comp=Z,2.0nm,0.6s,mb4.2
BRTR Keskin Array B 73.91 307 P **P 01 09 53.0 -3.2**
comp=Z,1.0nm,0.6s,mb4.0,baz=128,slow=5.0

YKA	Yellowknife Ar	83.36	23	P	P	01 10 44.3	-2.9
	comp=Z,0.7nm,0.6s,mb3.9,baz=310,slow=4.8,SNR=16						
GERES	GERESS Array B	83.61	321	P	P	01 10 46.2	-2.5
	comp=Z,1.9nm,0.7s,mb4.3,baz=56,slow=4.8,SNR=17						

NIED ***11*** *01:04:00,29.00N×129.80E,h38km,Mw4.4 Best double couple: M₀5.16×10¹⁵ NP1:φs7°,δ90°,λ83°. NP2:φs275°, δ7°,λ179°.*
JMA ***11*** *01:04:44.7±0.2,28.97N×129.78E,h66km±4km,M4.2*
JMA Felt I J1.
BJI ***11*** *01:04:44.8,28.46N×130.10E,h51km,mB4.9,mb4.5, Ms4.0,Msz3.8*
IDC ***11*** *01:04:46.7±3.8,29.04N×129.84E,h52km±35km,mb3.8/13, mb1 3.9/14,mb1mx3.8/23,mbtmp4.1/14,ML4.0/1,MS3.2/3, Ms1 3.3/3,ms1mx2.7/27,Error ellipse: s-maj=30.4km s-min=15.8km az=74.0*
NEIC ***11*** *01:04:46.6±2.3,29.01N×129.90E,h51km±22km,mb4.5/5, MW4.4(NIED),Error ellipse: s-maj=21.3km s-min=10.6km az=63.0*

ISC 11 01:04:45.5±0.5,28.99N±0.04×130.00E±0.07,h57km±4km, n38,σ0§95/47,mb4.3/21,MS3.4/1,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	Amami Oshima	0.67	211	P	P	01 04 57.8	-1.4
JAM				S	S	01 05 07.6	-1.8
JZK	Kikaishima	0.67	182	P	P	01 04 59.1	-0.1
JZK				S	S	01 05 10.1	+0.7
JNN	Nakanoshima	0.86	353	P	P	01 05 01.2	-0.4
JNN				S	S	01 05 13.6	-0.1
JKC	Kuchinoerabu	1.48	7	P	P	01 05 10.3	-0.1
JKC				S	S	01 05 29.6	+0.8
JTK	Tokunoshima	1.51	218	P	P	01 05 11.0	+0.2
JTK				S	S	01 05 31.6	+2.1
JTN	Tanegashima 3	1.87	27	P	P	01 05 16.0	+0.3
JTN				S	S	01 05 39.5	+1.4
JOW	Kunigami	2.63	216	P	P	01 05 25.9	-0.7
	48nm,0.3s,baz=70,slow=12,SNR=68						
JOW				S	S	01 05 57.1	-0.2
	59nm,0.3s,baz=280,slow=25,SNR=5.6						
JOW				LR	LR	01 06 46.2	
	comp=Z,784nm,20.0s,baz=3.1,slow=46						
JOW	Kunigami	2.63	216	P	P	01 05 25.8	-0.8
JOW				S	S	01 05 57.2	-0.2
JIH	Iheya	2.65	223	P	P	01 05 26.4	-0.4
JIH				S	S	01 05 58.5	+0.8
JAGN	Aguni-jima	3.42	226	P	P	01 05 37.6	0.0
JAGN				eS	S	01 06 19.5	+2.4
JKE	Kume jima 2	3.89	228	P	P	01 05 43.7	-0.6
JKE				S	S	01 06 28.3	-0.8
CBIJ	Chichi jima	10.93	97	LR	LR	01 11 24.8	
	comp=Z,27nm,18.3s,baz=81,slow=36						
BJT	Baijiatuau	15.82	318	eP	P	01 08 30.8	+4.9
	39nm,0.8s						
ENH	Enshi	17.88	279	eP	P	01 08 51.5	-0.3
	11nm,0.6s						
ULN	Ulaanbaatar	25.88	323	eP	P	01 10 13.1	-0.5
	9.2nm,0.6s,mb4.5						
SONM	Songino Array	26.21	322	P	P	01 10 16.1	-0.6
	6.3nm,0.6s,mb4.3,baz=138,slow=9.9,SNR=46						
CMAR	Chiang Mai Arr	30.22	257	LR	LR	01 23 06.0	
	comp=Z,85nm,18.3s,MS3.4,baz=43,slow=36						
JIRN	Jiri	38.42	279	eP	P	01 12 04.9	+1.7
	6.6nm,0.5s,mb4.7						
GUN	Gumba	38.64	279	eP	P	01 12 06.8	+1.8
	20nm,0.4s,mb5.2						
PKI	Pulchoki	39.12	279	eP	P	01 12 09.6	+0.6
	7.1nm,0.4s,mb4.7						
KKN	Kakani	39.18	279	eP	P	01 12 10.4	+0.9
	15nm,0.6s,mb4.9						
GKN	Gorkha	39.69	280	eP	P	01 12 14.4	+0.6
	10nm,0.5s,mb4.8						
ZAL	Zalesovo	41.08	320	P	P	01 12 24.3	-0.7
	1.2nm,0.4s,mb3.9,baz=2.4,slow=10.0,SNR=7.4						
ZAL				PcP	PcP	01 14 23.4	-1.0
	1.0nm,0.3s,baz=332,slow=4.2,SNR=4.9						
ZAL	Zalesovo	41.08	320	P	P	01 12 24.3	-0.7
ZAL				PcP	PcP	01 14 23.4	-1.0
WRA	Warramunga Arr	48.82	175	P	P	01 13 26.9	-0.4
	0.9nm,0.6s,mb4.0,baz=354,slow=8.4,SNR=9.5						
BVAR	Borovoye Array	49.31	317	P	P	01 13 30.2	-0.4
	2.0nm,0.5s,mb4.4,baz=93,slow=9.6,SNR=19						
BVAR				PcP	PcP	01 14 52.0	-0.9
	2.3nm,0.5s,baz=116,slow=4.1,SNR=14						
BVAR	Borovoye Array	49.31	317	P	P	01 13 30.2	-0.4
BVAR				PcP	PcP	01 14 52.0	-0.9
BRVK	Borovoye	49.38	317	eP	P	01 13 29.5	-1.6
	5.0nm,0.6s,mb4.7						
BRVK				ePcP	PcP	01 14 52.7	-0.5
ASAR	Alice Springs	52.48	175	P	P	01 13 55.4	+0.4
	1.2nm,0.5s,mb4.1,baz=8.5,slow=14,SNR=18						
ILAR	Eielson Array	61.28	29	P	P	01 14 56.8	-0.1
	0.3nm,0.7s,mb3.5,baz=273,slow=5.2,SNR=4.5						
ARCES	ARCESS Array B	68.03	338	P	P	01 15 39.0	-1.4
	2.8nm,0.9s,mb4.3,baz=68,slow=6.5,SNR=5.3						
FINES	FINESS Array B	71.24	330	P	P	01 15 58.7	-1.5
	0.9nm,0.4s,mb4.0,baz=71,slow=7.0,SNR=19						
RES	Resolute Bay	72.55	11	eP	P	01 16 08.3	+0.7
	3.3nm,0.6s,mb4.4						
AKASG	Malin Array Be	74.46	320	P	P	01 16 17.9	-1.3
	0.9nm,0.4s,mb4.1,baz=56,slow=6.2,SNR=6.7						
YKA	Yellowknife Ar	75.37	26	P	P	01 16 25.0	+0.9
	0.6nm,0.5s,mb3.8,baz=302,slow=5.6,SNR=12						
BRTR	Keskin Array B	76.58	308	P	P	01 16 32.6	+1.1
	1.0nm,0.7s,mb3.9,baz=98,slow=4.9,SNR=5.4						
HFS	Hagfors	77.11	333	P	P	01 16 33.7	-0.4
	3.6nm,0.9s,mb4.3,baz=56,slow=5.2,SNR=7.8						
NOA	NORSAR Array B	77.53	334	P	P	01 16 35.8	-0.6
	1.5nm,0.8s,mb4.0,baz=60,slow=4.5,SNR=3.1						

BJI ***11*** *01:24:23.9,36.36N×111.16E,h10km,ML3.6,Ms3.7, Msz3.9*
IDC ***11*** *01:24:25.0±9.0,36.34N×110.33E,mb3.6/4,mb1 3.7/5, mb1mx3.5/20,mbtmp3.6/5,ML3.4/1,Error ellipse: s-maj=217.8km s-min=26.2km az=91.0*
NEIC ***11*** *01:24:25.3±0.9,36.21N×110.50E,h10km,mb4.1/1,Error ellipse: s-maj=20.4km s-min=10.3km az=97.0*

ISC 11 01:24:20.1±0.7,36.29N±0.06×111.28E±0.08,h10km,n11, σ1§23/18,mb3.7/4,1C,Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIY	Taiyuan	1.69	33	⇑PG	Pg	01 24 55.0	+1.1
TIY				SG	Sg	01 25 17.4	+0.9
TIY				Smax			
	comp=N,568nm,0.8s						
TIY				Smax			
	comp=E,505nm,0.6s						
XAN	Xi'an	2.96	221	P	Pn	01 25 10.5	+2.3
XAN				PG	Pg	01 25 17.5	-1.8
XAN				S	Sn	01 25 45.9	+1.7
XAN				SG	Sg	01 25 58.6	-0.2
XAN				Smax			
	comp=N,188nm,0.8s						
XAN				Smax			
	comp=E,39nm,0.8s						
BJT	Baijiatuau	5.35	44	Pn	Pb	01 25 52.8	-0.8
BJT				eS	Sb	01 26 57.7	-0.8
LZH	Lanzhou	6.02	270	P	Pn	01 25 56.3	+4.8
LZH				S	Sn	01 27 00.8	-0.4
LZH				SG	Sg	01 27 33.6	-7.0
LZH				Smax			
	comp=N,160nm,0.9s						
LZH				Smax			
	comp=E,222nm,0.9s						
LZH				LR	LR		
	comp=N,591nm,6.5s						
LZH				LR	LR		
	comp=Z,670nm,7.1s						
ENH	Enshi	6.19	195	ePg	Pg	01 26 18.9	-4.7
SONM	Songino Array	12.09	344	Pn	P	01 27 14.6	-0.8
	comp=Z,0.1nm,0.3s,baz=151,slow=15,SNR=3.0						
SONM				Lg		01 30 39.0	
	baz=149,slow=25,SNR=4.4						
CMAR	Chiang Mai Arr	20.84	215	P	P	01 29 03.5	-0.9
	comp=Z,6.3nm,1.0s,baz=24,slow=9.7,SNR=15						
ZAL	Zalesovo	25.47	322	P	P	01 29 51.6	+1.9
	comp=Z,0.6nm,0.6s,mb3.3,baz=335,slow=13,SNR=5.0						
BVAR	Borovoye Array	33.02	313	P	P	01 30 55.5	-1.8
	comp=Z,0.4nm,0.7s,mb3.5,baz=101,slow=7.3,SNR=2.4						
CHKZ	Chkalovo	33.05	315	eP	P	01 30 58.4	+0.8
	comp=Z,2.2nm,0.9s,mb4.1						
BRTR	Keskin Array B	59.44	299	P	P	01 34 25.1	-0.2
	comp=Z,0.9nm,0.7s,mb3.9,baz=53,slow=7.2,SNR=5.5						

DJA 11 01:39:50.4±1.1,8.52S×112.65E,h160km,MD4.6/3, ML3.6/4,2C-5D,Error ellipse: s-maj=65.6km s-min=26.7km az=3.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	1.48	89	⇑iPn	P	01 40 20.2	-0.6
	53nm,0.2s						
SRDI				⇓iSn	S	01 40 40.8	-3.5
KELI	Kelakatan	1.85	81	⇑iPn	P	01 40 25.0	+0.3
	28nm,0.2s						
KELI				⇓iSn	S	01 40 49.8	-1.4
RATI	Rata	2.86	94	⇓iPn	P	01 40 37.4	+0.4
	71nm,0.2s						
RATI				⇓iSn	S	01 41 10.6	-2.2
KEDI	Kedomdong	3.43	90	⇓iPn	P	01 40 43.7	-0.6
	13nm,0.2s						

IDC 11 01:47:00.4±1.5,0.07N×98.58E,h50km±7km,mb3.8/7, mb1 3.9/8,mb1mx3.7/17,mbtmp4.0/8,MS2.7/1,Ms1 2.9/1, ms1mx2.4/20,Error ellipse: s-maj=47.8km s-min=27.9km az=52.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.27	1	P	P	01 51 09.2	-3.0
	0.5nm,0.3s,baz=193,slow=10,SNR=7.2						
CMAR				LR	LR	01 58 18.9	
	comp=Z,24nm,18.5s,baz=320,slow=37						
WRA	Warramunga Arr	40.27	122	P	P	01 54 32.3	-2.1
	0.6nm,0.5s,baz=300,slow=8.7,SNR=3.3						
SONM	Songino Array	48.06	7	P	P	01 55 35.7	-1.2
	1.7nm,0.4s,baz=190,slow=9.3,SNR=19						
SONM				pP	pP	01 55 48.8	-1.6
	2.1nm,0.5s,baz=189,slow=8.4,SNR=11						
ZAL	Zalesovo	54.88	350	P	P	01 56 25.1	-3.1
	2.6nm,0.5s,baz=186,slow=3.8,SNR=3.8						
BVAR	Borovoye Array	57.77	340	P	P	01 56 45.5	-3.2
	1.1nm,0.5s,baz=144,slow=9.9,SNR=11						
BVAR				pP	pP	01 56 58.5	-4.2
	1.1nm,0.6s,baz=141,slow=9.5,SNR=4.3						
BRTR	Keskin Array B	70.88	312	P	P	01 58 12.8	-1.6
	0.5nm,0.5s,baz=123,slow=6.2,SNR=3.9						
FINES	FINESS Array B	81.63	332	P	P	01 59 13.3	-1.1
	2.3nm,0.9s,baz=108,slow=6.0,SNR=10						
FINES				pP	pP	01 59 28.0	-1.0
	5.0nm,1.1s,baz=104,slow=7.9,SNR=1.5						
ARCES	ARCESS Array B	84.06	340	P	P	01 59 25.9	-0.8
	1.8nm,0.8s,baz=90,slow=4.9,SNR=5.4						
ARCES				pP	pP	01 59 41.0	-0.3
	2.1nm,0.8s,baz=45,slow=1.7,SNR=1.8						
TXAR	Lajitas Array	143.86	34	pPKP		02 06 45.2	
	0.1nm,0.3s,baz=43,slow=0.5,SNR=2.2						

MEX 11 01:49:37.2±0.7,15.38N×96.26W,h13km±60km,MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.41	20	iP	Pg	01 49 44.6	-1.1
HUIG				iS	Sg	01 49 50.8	-0.6
OXX	Oaxaca	1.75	345	iP	Pn	01 50 02.7	-4.9
OXX				iS	Sn	01 50 24.5	-5.3
CMIG	Matias Romero	2.15	38	iP	Pn	01 50 10.5	-2.9
CMIG				iS	Sn	01 50 34.3	-5.7
POHV	Veracruz	3.80	345	eP	Pn	01 50 39.0	+2.3

CSEM ***11*** *01:59:48.8±0.1,36.99N×27.80E,h18km±1km,MD3.3, Error ellipse: s-maj=3.4km s-min=2.0km az=70.0*
ATH ***11*** *01:59:49.8,36.84N×27.71E,h11km,MD3.1/4*
ISK ***11*** *01:59:49.3,37.00N×27.81E,h17km,MD3.3*
NEIC ***11*** *01:59:50.3,36.87N×27.65E,h22km,MD3.1(ATH),After ATH.*

ISC 11 01:59:48.9±1.3,36.95N±0.04×27.77E±0.08,h10km±9km, n13,σ0§76/17,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	Milas	0.35	1	PG	Pg	01 59 56.3	+0.3
DALT	Dalyan (Mudla)	0.72	104	ePG	Pg	02 00 03.0	-0.4
DALT				eSG	Sg	02 00 13.3	+0.3
ARG	Arkhangelos	0.79	158	ePB	Pb	02 00 03.5	-0.7
ARG	Arkhangelos	0.79	158	ePb	Pb	02 00 03.2	-1.0
ARG				eSn	Sn	02 00 17.0	-0.6
SMG	Samos	1.06	316	ePn	Pn	02 00 10.8	+1.1
SMG				eSn	Sn	02 00 25.5	+0.9
FETY	Fethiye	1.10	106	ePN	Pn	02 00 11.0	+0.7
DENT	Denizli	1.29	51	ePN	Pn	02 00 12.7	-0.3
KARP	Karpathos	1.48	200	ePn	Pn	02 00 15.5	-0.2
KARP				eSn	Sn	02 00 35.5	+0.3
IZM	Izmir	1.50	345	ePN	Pn	02 00 15.2	-0.8
BLCB	Balcova	1.55	338	ePN	Pn	02 00 15.8	-0.9
KSL	Kastellorizon	1.67	118	ePB	Pb	02 00 21.0	+1.8
ELL	Elmali	1.73	96	ePN	Pn	02 00 19.1	-0.2
AKS	Akhisar	1.93	1	ePN	Pn	02 00 21.2	-0.9

ATH ***11*** *02:09:49.9,37.00N×28.13E,h10km,MD3.0/3*
CSEM ***11*** *02:09:51.6±0.1,36.93N×27.73E,h10km,MD3.3,Error ellipse: s-maj=3.5km s-min=2.5km az=73.0*
ISK ***11*** *02:09:53.2,37.02N×27.80E,h17km,MD3.3*

ISC 11 02:09:52.5±1.2,36.95N±0.04×27.72E±0.07,h11km±10km, n12,σ0§89/15,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	Milas	0.35	7	PG	Pg	02 09 59.4	-0.3
DALT	Dalyan (Mudla)	0.76	103	ePG	Pg	02 10 07.9	+0.2
DALT				SG	Sg	02 10 18.1	+0.3
ARG	Arkhangelos	0.80	156	ePB	Pb	02 10 06.0	-1.9
ARG	Arkhangelos	0.80	156	eP	Pb	02 10 07.0	-0.9
ARG				eS	Sb	02 10 20.5	+2.0
SMG	Samos	1.04	317	ePB	Pb	02 10 14.0	+2.0
FETY	Fethiye	1.14	105	PN	Pn	02 10 13.9	-0.4
DENT	Denizli	1.32	52	PN	Pn	02 10 16.4	-0.6
KARP	Karpathos	1.47	198	eP	Pn	02 10 18.5	-0.6
KARP				eS	Sb	02 10 37.5	-0.5
IZM	Izmir	1.49	346	ePN	Pn	02 10 19.8	+0.4
BLCB	Balcova	1.53	340	ePN	Pn	02 10 19.9	-0.1
ELL	Elmali	1.77	96	ePN	Pn	02 10 23.4	+0.1
AKS	Akhisar	1.93	2	ePN	Pn	02 10 25.0	-0.7

ATH ***11*** *02:15:37.5,37.06N×28.13E,h10km,MD2.9/3*
CSEM ***11*** *02:15:40.8±0.3,37.02N×27.88E,h0km±3km,MD3.3,Error ellipse: s-maj=10.7km s-min=2.2km az=46.0*
ISK ***11*** *02:15:40.5,37.00N×27.83E,h5km,MD3.3*

ISC 11 02:15:40.5±0.6,36.94N±0.04×27.79E±0.05,h5km,n16, σ1§06/20,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.31	295	iP	Pg	02 15 46.8	+0.1
BDRM				iS	Sg	02 15 52.2	+1.3
MLSB	Milas	0.36	358	iPG	Pg	02 15 47.3	-0.4
MLSB				SG	Sg	02 15 52.7	+0.1
DALT	Dalyan (Mudla)	0.70	104	iPG	Pg	02 15 54.4	-0.1
AYDN	Tasoluk	0.73	5	iP	Pg	02 15 53.7	-1.3
AYDN				iS	Sg	02 16 02.8	-2.0
ARG	Arkhangelos	0.77	159	ePB	Pb	02 15 55.0	-0.9
ARG	Arkhangelos	0.77	159	ePb	Pb	02 15 56.0	+0.1
FETY	Fethiye	1.08	106	PG	Pg	02 16 01.9	-0.1
SMG	Samos	1.08	316	ePB	Pb	02 16 01.0	-0.4
DNZL	Cakiroluk	1.25	53	iP	Pb	02 16 03.2	-1.1
DNZL				iS	Sb	02 16 22.7	+2.2
DENT	Denizli	1.28	50	PN	Pn	02 16 05.3	+0.2
KARP	Karpathos	1.48	200	ePB	Pb	02 16 07.0	-1.1
IZM	Izmir	1.52	344	PN	Pn	02 16 09.5	+1.0
KDAG	Bornova	1.52	344	iP	Pn	02 16 05.1	-3.5
BLCB	Balcova	1.57	338	ePN	Pn	02 16 09.8	+0.6
ELL	Elmali	1.71	96	PN	Pn	02 16 12.5	+1.4
AKS	Akhisar	1.94	0	PN	Pn	02 16 15.4	+0.9

HLW ***11*** *02:33:30.0,37.13N×27.69E,h33km,Mb3.4*
ATH ***11*** *02:33:31.7,36.96N×27.80E,h21km±2km,MD3.6/8*
CSEM ***11*** *02:33:31.4±0.1,37.01N×27.86E,h10km,ML3.7,Error ellipse: s-maj=1.7km s-min=1.4km az=47.0*
ISK ***11*** *02:33:31.3,37.00N×27.84E,h12km,ML3.7*
NEIC ***11*** *02:33:31.7,36.96N×27.80E,h21km,MD3.6(ATH), ML3.7(ISK),After ATH.*
IDC ***11*** *02:33:31.0±1.4,37.00N×27.80E,mb3.7/2,mb1 3.7/8, mb1mx3.6/23,mbtmp3.6/8,ML3.5/6,Error ellipse: s-maj=24.1km s-min=20.9km az=127.0*

ISC 11 02:33:31.4±0.5,36.91N±0.02×27.77E±0.03,h22km±5km, n78,σ1§02/93,mb3.7/2,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.31	301	iP	Sb	02 33 43.9	+1.0
BDRM				iS	Sb	02 33 43.9	+1.0
MLSB	Milas	0.39	0	PG	Pb	02 33 38.1	-1.4
MLSB	Milas	0.39	0	Pg	Pb	02 33 38.2	-1.4
MLSB	Milas	0.39	0	Pg	Pb	02 33 38.2	-1.3
DALT	Dalyan (Mudla)	0.71	101	PG	Pb	02 33 45.0	+0.1
DALT				SG	Sb	02 33 54.7	+0.5
DALT	Dalyan (Mudla)	0.71	101	Pg	Pb	02 33 45.1	+0.2
DALT				Sg	Sb	02 33 54.1	-0.1
ARG	Arkhangelos	0.75	158	ePN	Pn	02 33 46.0	-0.6
ARG				eSN	Sn	02 33 58.8	+1.5
AYDN	Tasoluk	0.76	6	iP	Pb	02 33 45.2	-0.5
AYDN				iS	Sb	02 33 55.8	+0.3
FETY	Fethiye	1.09	104	PG	Pb	02 33 51.8	+0.5
SMG	Samos	1.09	317	ePN	Pn	02 33 52.4	+0.9
DNZL	Cakiroluk	1.28	52	iP	Pn	02 33 53.9	-0.3
DNZL				iS	Sb	02 34 11.3	+0.6
DENT	Denizli	1.31	50	PN	Pn	02 33 53.9	-0.8
DENT	Denizli	1.31	50	Pn	Pn	02 33 54.0	-0.7
DENT	Denizli	1.31	50	Pn	Pn	02 33 54.0	-0.7
KARP	Karpathos	1.45	200	ePB	Pb	02 33 58.0	+0.6
KARP				eSN	Sn	02 34 20.0	+5.0
IZM	Izmir	1.54	345	ePN	Pn	02 33 58.0	+0.1
KDAG	Bornova	1.54	345	iP	Pn	02 33 58.0	0.0
BLCB	Balcova	1.58	339	ePN	Pn	02 33 59.4	+0.8
BLCB	Balcova	1.58	339	Pn	Pn	02 33 59.5	+0.9
KSL	Kastellorizon	1.64	117	ePN	Pn	02 34 01.5	+2.1
MANT	Manisa	1.70	21	iP	Pn	02 34 00.4	+0.2
MANT				iS	Sn	02 34 25.4	+4.0
APE	Apeiranthos	1.80	276	ePN	Pn	02 34 03.7	+2.0
APE	Apeiranthos	1.80	276	Pn	Pn	02 34 03.7	+2.0
APE	Apeiranthos	1.80	276	ePN	Pn	02 34 04.0	+2.3
AKS	Akhisar	1.97	1	ePN	Pn	02 34 03.7	-0.3
AKS	Akhisar	1.97	1	Pn	Pn	02 34 03.8	-0.3
AKS	Akhisar	1.97	1	Pn	Pn	02 34 03.8	-0.2
KHL	Karahalli	1.98	44	ePN	Pn	02 34 04.1	-0.1
KHL	Karahalli	1.98	44	Pn	Pn	02 34 04.4	+0.1
ANTB	Antalya	2.31	89	ePN	Pn	02 34 09.8	+0.9
ISP	Isparta	2.37	66	ePN	Pn	02 34 10.7	+0.9
ISP	Isparta	2.37	66	Pn	Pn	02 34 10.7	+0.9
NPS	Neapolis	2.40	227	ePB	Pb	02 34 13.0	-0.7
AYVA	Ayvalik	2.54	341	iP	Pn	02 34 21.6	+9.4
PRK	Paraskevi	2.62	334	ePB	Pb	02 34 15.5	-1.9
XRY	Khrisi	2.64	220	ePN	Pn	02 34 16.0	+2.3
BALB	Balikesir	2.73	2	ePN	Pn	02 34 14.9	0.0
ALT	Altintas	2.83	40	ePN	Pn	02 34 16.5	+0.2
IDI	Anoyia	2.84	236	Pn	Pn	02 34 18.3	+1.8
	2.1nm,0.3s,baz=71,slow=5.1,SNR=19						
IDI				Sn	Sn	02 34 56.3	+5.8
	3.8nm,0.3s,baz=238,slow=16,SNR=4.4						
BTOK	Tokmak	2.86	4	iP	Pn	02 34 15.5	-1.2
ORLT	Orhaneli	3.25	15	ePN	Pn	02 34 22.3	-0.1
ORLT	Orhaneli	3.25	15	Pn	Pn	02 34 22.3	-0.1
KCT	Karacabey	3.38	8	ePN	Pn	02 34 23.7	-0.5
KCT	Karacabey	3.38	8	Pn	Pn	02 34 23.7	-0.5
ULDT	Uludag	3.40	18	iP	Pn	02 34 23.9	-0.5
BNT	Bandirma	3.44	2	ePN	Pn	02 34 24.1	-1.0
BNT	Bandirma	3.44	2	Pn	Pn	02 34 24.2	-0.9
BNT	Bandirma	3.44	2	Pn	Pn	02 34 24.2	-0.9
ESKT	Eskisehir	3.56	42	iP	Pn	02 34 26.6	-0.1
LIA	Limnos Island	3.61	327	ePN	Pn	02 34 27.8	+0.3
HDMB	Hadim	3.78	88	ePN	Pn	02 34 30.8	+1.0
HDMB	Hadim	3.78	88	Pn	Pn	02 34 30.9	+1.1
KONT	Konya--Tatoy	3.79	73	ePN	Pn	02 34 30.6	+0.5
KONT	Konya--Tatoy	3.79	73	Pn	Pn	02 34 30.7	+0.6
KIZT	Kizilcal	3.80	58	ePN	Pn	02 34 31.0	+0.9
YLV	Yalova	3.86	18	ePN	Pn	02 34 31.4	+0.4
MFT	Murefte	3.89	354	ePN	Pn	02 34 32.1	+0.7
HRT	Hereke	4.18	20	ePN	Pn	02 34 34.6	-0.9
CSS	Prodhromos	4.91	112	ePn	Pn	02 34 47.1	+1.2
CSS	Prodhromos	4.91	112	ePn	Pn	02 34 47.1	+1.2
NVR	Nevrokopi	5.38	327	ePN	Pn	02 34 52.4	-0.1
BRTR	Keskin Array B	5.40	57	Pn	Pn	02 34 53.1	+0.3
	1.8nm,0.3s,baz=238,slow=16,SNR=40						
BRTR				Sn	Sn	02 35 54.8	-0.3
	0.5nm,0.3s,baz=233,slow=27,SNR=3.4						
ELDT	Eldivan	5.69	49	iP	Pn	02 34 57.2	+0.3
AMAG	Maghara	7.71	143	P	Pn	02 35 22.8	-2.6
SWA1		7.82	193	P	Pn	02 35 25.1	-1.6
SWA1				S	Sn	02 36 49.0	-6.5
SWA1		7.82	193	P	Pn	02 35 25.1	-1.7
SWA1				S	Sn	02 36 49.0	-6.6
SWA2		7.89	195	P	Pn	02 35 25.8	-2.0
SUZ		8.22	148	P	P	02 35 31.1	-1.3
AWBH		8.62	173	P	P	02 35 36.0	-1.9
MLR	Muntele Rosu	8.68	351	Pn	P	02 35 38.2	-0.6
	0.1nm,0.3s,baz=168,slow=14,SNR=3.6						
ASF	Jabal al Asfar	8.88	119	Pn	P	02 35 40.6	-1.0
	0.6nm,0.3s,baz=168,slow=13,SNR=5.0						
ASF				Sn	Sn	02 37 19.1	-3.0
	0.6nm,0.3s,baz=360,slow=22,SNR=3.5						
EIL	Elat	9.39	138	Pn	P	02 35 48.7	+0.1
	0.8nm,0.3s,baz=19,slow=21,SNR=7.1						
EIL				Sn	Sn	02 37 24.5	-10
	0.4nm,0.3s,baz=7.9,slow=30,SNR=2.5

3.1nm,0.9s,mb4.2,baz=270,slow=1.9,SNR=5.2
ARCES ARCESS Array B 78.43 341 P P 02 49 09.4 -0.7
1.6nm,0.8s,mb4.0,baz=135,slow=5.1,SNR=3.9
GERES GERESS Array B 80.19 319 P P 02 49 20.9 +0.8
1.4nm,0.8s,mb4.0,baz=90,slow=5.3,SNR=11

IDC 11 02:38:51.3±0.9, 14.04N×145.39E, mb3.8/7, mb1 4.1/7, mb1mx3.9/18, mbtmp3.8/7, MS3.3/2, Ms1 3.4/2, ms1mx2.8/21, Error ellipse: s-maj=49.3km s-min=19.9km az=105.0
NEIC 11 02:39:04.1±1.4, 13.93N×145.31E, h104km±13km, Error ellipse: s-maj=50.2km s-min=18.4km az=104.0
ISC 11 02:39:03.9±1.1, 13.9N±0.2×145.1E±0.4, h111km±8km, n11, σ0§83/10, mb3.6/7, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.36	216	⇓iPg	P	02 39 20.8	+0.7
GUMO				eSg	S	02 39 31.8	-0.5
WRA	Warramunga Arr	35.23	198	P	P	02 45 49.3	-0.4
1.9nm,0.8s,mb4.0,baz=20,slow=9.0,SNR=6.0							
ASAR	Alice Springs	38.88	196	P	P	02 46 20.9	+0.7
0.4nm,0.6s,mb3.4,baz=21,slow=11,SNR=4.5							
CMAR	Chiang Mai Arr	44.46	282	LR	LR	03 03 22.5	
comp=Z,19nm,21.1s,baz=200,slow=33							
STKA	Stephens Creek	45.62	184	P	P	02 47 14.5	-0.5
1.2nm,0.6s,mb3.8,baz=358,slow=10.0,SNR=4.1							
ZAL	Zalesovo	61.52	324	LR	LR	03 16 07.0	
comp=Z,45nm,18.4s,baz=273,slow=36							
ILAR	Eielson Array	68.22	25	P	P	02 49 50.4	-3.8
0.3nm,0.5s,mb3.4,baz=255,slow=5.8,SNR=9.9							
BVAR	Borovoye Array	69.83	322	P	P	02 50 04.6	+0.3
0.4nm,0.5s,mb3.5,baz=121,slow=8.4							
YKA	Yellowknife Ar	82.51	27	P	P	02 51 14.3	-1.0
0.3nm,0.5s,mb3.4,baz=286,slow=5.1,SNR=6.5							
NVAR	Mina Array Bea	86.58	51	P	P	02 51 37.2	+1.2
0.9nm,0.5s,mb4.0,baz=280,slow=5.5							
NVAR	Mina Array Bea	86.58	51	P	P	02 51 37.2	+1.2

NEIC 11 02:45:22.0, 17.83N×101.88W, h43km, MD4.2(MEX), After MEX.
MEX 11 02:45:21.8±0.7, 17.82N×101.88W, h46km±8km, MD4.2, 2D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.45	118	⇓iP	P	02 45 30.7	-1.4
ZIIG				iS	S	02 45 37.7	-1.7
CAIG	El Cayaco	1.72	116	iP	P	02 45 47.5	-2.4
CAIG				iS	S	02 46 07.5	-3.2
MOIG	Morelia	1.96	19	⇓iP	P	02 45 51.6	-1.7
MOIG				iS	S	02 46 13.8	-3.0
ACX	Acapulco	2.10	116	iP	P	02 45 54.8	-0.4
ACX				iS	S	02 46 20.5	+0.3
ACX	Acapulco	2.10	116	iP	P	02 45 53.4	-1.9
ACX				iS	S	02 46 18.2	-2.0
COLM	Colima	2.19	309	eP	P	02 45 57.8	+1.2
COLM				iS	S	02 46 22.0	-0.6
PLIG	Platanillo	2.33	75	eP	P	02 45 56.5	-2.1
PLIG				iS	S	02 46 23.7	-2.5
CGX	Ciudad Guzman	2.42	321	eP	P	02 46 07.8	+8.0
CGX				iS	S	02 46 33.5	+5.1
CRX	Cerrillo	2.62	52	iP	P	02 46 02.3	-0.3
YAIG	Yautepec	2.87	68	iP	P	02 46 05.6	-0.6
YAIG				iS	S	02 46 36.0	-3.7
SFJM	Santa Fe	2.87	338	iP	P	02 46 07.5	+1.2
UNM	Universidad Na	2.97	59	eP	P	02 46 09.5	+1.8
PPM	Popocatepetl	3.33	68	eP	P	02 46 10.2	-2.5
PPM				iP		02 46 10.8	
PPM				iS	S	02 46 49.8	-1.6
PNIG	Pinotepa	3.86	111	iS	S	02 46 60.0	-4.8
POHV	Veracruz	4.54	73	eP	P	02 46 30.5	+0.7
VHO	Vista Hermosa	4.97	98	iS	S	02 47 30.0	-2.7
OXX	Oaxaca	4.98	98	iP	P	02 46 34.5	-1.5

IDC 11 02:51:22.6±1.5, 51.18N×168.51W, mb3.6/5, mb1 3.8/5, mb1mx3.5/22, mbtmp3.6/5, Error ellipse: s-maj=43.8km s-min=31.0km az=156.0
NEIC 11 02:51:24.9±0.9, 51.43N×168.51W, h10km, mb3.6/1, Error ellipse: s-maj=24.0km s-min=13.6km az=167.0
ISC 11 02:51:26.3±0.9, 51.5N±0.2×168.6W±0.2, h33km, n10, σ1§17/10, mb3.5/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	Unalaska Valle	2.70	27	eP	P	02 52 07.0	-1.3
KIWB	Kanaga Island	5.36	278	P	P	02 52 45.7	-0.3
INK	Inuvik	23.85	32	P	P	02 56 39.3	+2.5
1.0nm,0.5s,mb3.5,baz=218,slow=6.4,SNR=2.8							
YKA	Yellowknife Ar	30.48	48	P	P	02 57 38.4	+0.6
0.2nm,0.7s,mb3.0,baz=270,slow=8.0,SNR=3.6							
HLID	Hailey	36.68	81	P	P	02 58 33.3	+1.8
FCC	Fort Churchill	41.15	50	P	P	02 59 07.5	-1.1
WMOK	Wichita Mounta	51.65	80	P	P	03 00 31.1	-0.5
0.5nm,0.6s,mb3.6							
TXAR	Lajitas Array	52.27	89	P	P	03 00 35.0	-1.4
0.1nm,0.7s,mb2.9,baz=302,slow=6.2,SNR=6.2							
BVAR	Borovoye Array	64.73	325	P	P	03 02 03.4	+0.6
1.0nm,0.9s,mb3.8,slow=2.9,SNR=3.7							
ASAR	Alice Springs	90.19	231	P	P	03 04 24.4	0.0
0.5nm,0.7s,mb4.0,baz=21,slow=4.5,SNR=4.1							

WEL 11 03:09:18.3±0.4, 39.03S×175.14E, h215km±3km, ML3.5/7, 1C-1D, Error ellipse: s-maj=7.8km s-min=3.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FWVZ	Far West T-bar	0.39	126	PN	P	03 09 46.9	-0.3
FWVZ				eSN	S	03 10 09.0	-0.5
WNVZ	Wahianoa	0.46	130	PN	P	03 09 46.7	-0.7
WNVZ				SN	S	03 10 08.2	-1.7
MOVZ	Moawhango	0.61	129	PN	P	03 09 47.4	-0.5
MOVZ				SN	S	03 10 09.6	-1.2
WAZ	Wanganui	0.74	189	PN	P	03 09 48.0	-0.4
WAZ				SN	S	03 10 11.1	-0.7
BKZ	Black Stump Fm	1.06	98	⇓PN	P	03 09 50.1	-0.1
BKZ				SN	S	03 10 14.4	-0.6
TSZ	Takapari Road	1.21	149	PN	P	03 09 51.5	+0.1
TSZ				SN	S	03 10 16.9	0.0
MRZ	Mangatainoka R	1.67	169	PN	P	03 09 54.4	-0.8
MRZ				SN	S	03 10 22.4	-1.2
URZ	Urewera	1.72	64	PN	P	03 09 53.8	-1.9
URZ				SN	S	03 10 21.3	-3.2
KIW	Kapiti Island	1.84	186	PN	P	03 09 55.4	-1.4
BFZ	Birch Farm	1.86	153	PN	P	03 09 56.4	-0.5
BFZ				SN	S	03 10 27.0	+0.3
CAW	Cannon Point	2.08	182	PN	P	03 09 57.5	-1.7
CAW				SN	S	03 10 28.8	-1.8
MRW	Makara Radio	2.23	189	PN	P	03 09 58.8	-1.8
MRW				SN	S	03 10 31.0	-2.4
MSWZ	Moikau Station	2.39	178	PN	P	03 10 00.5	-1.9
NNZ	Nelson	2.57	211	⇑PN	P	03 10 01.2	-3.2
NNZ				SN	S	03 10 35.5	-4.6
QRZ	Quartz Range	2.70	227	PN	P	03 10 01.4	-4.3
THZ	Tophouse	3.22	211	PN	P	03 10 07.8	-4.0
THZ				SN	S	03 10 48.2	-5.1
KHZ	Kahutara	3.60	199	PN	P	03 10 13.2	-3.2
DSZ	Denniston Nort	3.73	222	SN	S	03 10 56.5	-7.5
MQZ	McQueen's Vall	5.04	201	SN	S	03 11 25.1	-8.0

DJA 11 03:09:56.8±1.0, 8.21S×116.90E, h33km, MD4.5/3, ML4.3/3, 6D, Error ellipse: s-maj=48.4km s-min=22.4km az=165.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.83	251	⇓ePg	P	03 10 10.0	-2.0
910nm,0.2s							
KEDI				⇓iSg	S	03 10 21.9	-1.3
RATI	Rata	1.45	249	⇓ePn	Pn	03 10 20.3	-0.8
728nm,0.2s							
RATI				⇓iSn	Sn	03 10 36.8	-2.3
SRDI	Scrawed	2.75	264	⇓ePn	Pn	03 10 38.6	-1.0
44nm,0.2s							
SRDI				⇓iSn	Sn	03 11 07.3	-4.7

IDC 11 03:11:43.2±2.0, 0.79N×123.46E, mb3.5/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, Error ellipse: s-maj=217.6km s-min=26.9km az=70.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.20	153	P	P	03 16 52.0	-0.9
1.5nm,0.5s,baz=330,slow=11,SNR=24							
ASAR	Alice Springs	26.34	158	P	P	03 17 21.1	-1.8
0.3nm,0.6s,baz=343,slow=9.4,SNR=3.2							
SONM	Songino Array	49.15	345	P	P	03 20 32.9	-1.8
0.3nm,0.6s,baz=154,slow=7.3,SNR=3.6							

CASC 11 03:13:53.2±3.1, 13.95N×91.33W, h19km±14km, MD3.9, ML4.3, mb3.9(NEIC)
NEIC 11 03:13:57.2±1.8, 14.59N×90.77W, h142km±16km, mb3.9/1, Error ellipse: s-maj=26.8km s-min=12.8km az=52.0
IDC 11 03:13:58.1±5.8, 14.75N×90.73W, h144km±48km, mb3.5/7, mb1 3.7/8, mb1mx3.4/18, mbtmp3.9/8, MS3.1/1, Ms1 3.1/1, ms1mx1.7/19, Error ellipse: s-maj=42.2km s-min=21.4km az=26.0
ISC 11 03:13:50.3±0.7, 14.31N±0.07×91.39W±0.07, h115km±4km, n40, σ0§96/50, mb3.8/7, 4C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.24	272	eP	P	03 14 06.5	0.0
JAT				AML	AML	03 14 19.7	
comp=N,62μm,0.3s							
FUG	Fuego 3	0.55	76	eP	P	03 14 07.1	-1.1
TP2	Tecpan 2	0.59	37	eP	P	03 14 08.8	+0.4
TP2				eS	S	03 14 22.5	+0.4
TP2				AML	AML	03 14 26.8	
comp=E,4μm,0.7s							
PCG	Pacaya	0.76	84	eP	P	03 14 10.0	+0.2
GCG	Guatemala City	0.88	72	eP	P	03 14 10.5	-0.5
GCG				eS	S	03 14 25.7	-0.7
GCG				AML	AML	03 14 37.5	
comp=N,1μm,0.5s							
IXG	Ixpaco	0.92	98	eP	P	03 14 10.4	-1.0
IXG				eS	S	03 14 26.1	-1.1
IXG				AML	AML	03 14 30.0	
comp=N,38μm,0.4s							
NBG	Las Nubes	1.05	75	eP	P	03 14 12.1	-0.6
NBG				eS	S	03 14 30.9	+1.5
NBG				AML	AML	03 14 40.1	
comp=E,6μm,0.3s							
RBDL	Robledal	1.66	97	eP	P	03 14 19.4	-0.4
RTR	El Retiro	1.74	103	⇓eP	P	03 14 20.5	-0.2
RTR				eS	S	03 14 44.2	+0.5
SBLS	San Blas	1.78	105	⇑eP	P	03 14 20.9	-0.2
SBLS				eS	S	03 14 45.0	+0.5
SNJE	San Jose	1.79	104	eP	P	03 14 20.8	-0.5
SNJE				eS	S	03 14 45.8	+1.2
BOQS	Boqueron	2.13	105	eP	P	03 14 25.4	-0.2
SNET	Serv Nac Est T	2.19	106	eP	P	03 14 26.2	-0.2
SNET				eS	S	03 14 53.5	-0.1
LFU	La Fuente	2.28	104	eP	P	03 14 27.5	-0.2
LBRS	Las Brisas	2.35	104	⇑eP	P	03 14 28.4	-0.2
LBRS				eS	S	03 14 57.9	+0.4
LFRS	El Faro	2.36	107	eP	P	03 14 28.5	-0.3
LFRS				eS	S	03 14 57.4	-0.3
LCBS	La Ceiba	2.43	105	⇑eP	P	03 14 29.5	-0.3
LCBS				eS	S	03 14 59.1	-0.3
SNVI	San Vicente	2.57	105	⇑eP	P	03 14 31.5	-0.1
SNVI				eS	S	03 15 02.7	-0.1
CAHU	Cacacuatique	3.13	99	eP	P	03 14 40.5	+1.4
TEIG	Tepich	6.59	26	ePn	P	03 15 25.6	-0.4
JTS	JuntasAbangare	7.45	122	ePn	P	03 15 38.2	+0.4
JCR	Jicaral	7.57	125	eP	P	03 15 41.2	+1.8
JCR				eS	S	03 17 02.1	-2.1
PRS1	Puriscal	8.15	121	eP	P	03 15 49.9	+2.7
LAJ	Bijagual	8.37	121	eP	P	03 15 48.6	-1.6
URSC	Urasca	8.67	120	eP	P	03 15 56.1	+1.9
BUS	Buena Vista	8.84	121	eP	P	03 15 58.8	+2.4
TXAR	Lajitas Array	18.77	325	P	P	03 18 06.8	+3.7
comp=E,0.2nm,0.3s,baz=142,slow=10,SNR=21							
TXAR				pP		03 18 28.2	
comp=E,0.0nm,0.3s,baz=153,slow=11,SNR=4.0							
TXAR				PcP	PcP	03 22 28.2	+2.6
comp=E,0.0nm,0.3s,baz=141,slow=2.1,SNR=3.9							
LRAL	Lakeview Retre	19.06	11	P	P	03 18 07.8	+1.6
comp=E,5.1nm,0.9s							
SDV	Santo Domingo	21.03	103	P	P	03 18 24.6	-1.9
comp=E,1.4nm,0.5s,mb3.5,baz=350,slow=12,SNR=3.3							
ANMO	Albuquerque	24.64	329	LR	LR	03 30 14.4	
comp=E,41nm,19.6s,slow=40							
PDAR	Pinedale Array	32.39	335	PcP	PcP	03 22 57.9	+1.7
comp=E,0.4nm,0.7s,baz=122,slow=4.8,SNR=5.7							
NVAR	Mina Array Bea	33.81	320	P	P	03 20 28.1	+4.7
comp=E,1.8nm,0.5s,mb4.2,baz=137,slow=7.8,SNR=16							
NVAR				PcP	PcP	03 23 03.1	+3.0
comp=E,0.7nm,0.5s,baz=140,slow=2.4,SNR=5.9							
SCHQ	Schefferville	44.73	20	P	P	03 21 53.0	-0.6
comp=E,1.2nm,0.4s,mb4.0,baz=215,slow=7.6,SNR=12							
YKA	Yellowknife Ar	50.86	346	P	P	03 22 41.2	+0.1
comp=E,0.4nm,0.4s,mb3.8,baz=148,slow=7.5,SNR=12							
YKA				pP	pP	03 23 08.1	-0.2
comp=E,0.3nm,0.7s,baz=147,slow=7.6,SNR=5.6							
YKA				PcP	PcP	03 23 56.7	+0.4
comp=E,0.1nm,0.4s,baz=154,slow=4.2,SNR=3.6							
YKA	Yellowknife Ar	50.86	346	P	P	03 22 41.2	+0.1
YKA				pP	pP	03 23 08.2	-0.2
YKA				PcP	PcP	03 23 56.7	+0.4
ILAR	Eielson Array	62.79	337	P	P	03 24 05.4	-0.2
comp=E,0.4nm,0.6s,mb3.5,baz=164,slow=5.5,SNR=9.5							
EKA	Eskdalemuir Ar	77.37	36	P	P	03 25 32.9	-1.1
comp=E,0.6nm,0.4s,mb3.7,baz=278,slow=5.8,SNR=5.9							
ARCES	ARCESS Array B	85.66	18	P	P	03 26 16.9	+0.1
comp=E,1.8nm,0.7s,mb4.1,baz=288,slow=2.9,SNR=3.6							
ARCES	ARCESS Array B	85.66	18	P	P	03 26 16.9	+0.1
ASAR	Alice Springs	136.32	251	PKP	PKPdf	03 33 05.8	+6.6
comp=E,0.2nm,0.6s,baz=90,slow=2.7,SNR=2.8							

PLV 11 03:30:35.2±1.6, 20.90N×101.89E, MD3.7, Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBV	Dienbien	1.17	65	ePG	Pg	03 30 57.6	-0.9
DBV				eSG	Sg	03 31 13.1	-1.0
DHV	Doan Hung	3.16	76	ePn	Pn	03 31 26.6	-0.5
DHV				ePg	Pg	03 31 34.8	-3.5
DHV				eSg	Sg	03 32 17.4	-2.9
BVV	Ba Vi	3.26	86	ePn	Pn	03 31 27.2	-1.4
BVV				ePg	Pg	03 31 37.0	-3.2
BVV				eSg	Sg	03 32 19.9	-3.7
HNV	Hanoi	3.66	87	ePn	Pn	03 31 31.7	-2.5
HNV				ePg	Pg	03 31 43.2	-5.0
HNV				eSg	Sg	03 32 29.5	-7.4
DSV	Doi Son	3.84	94	ePn	Pn	03 31 36.5	-0.3
DSV				ePg	Pg	03 31 49.1	-2.7
DSV				eSg	Sg	03 32 39.6	-3.4
MTZV	Met	4.21	80	ePn	Pn	03 31 40.4	-1.6
MTZV				ePg	Pg	03 31 54.7	-4.4
MTZV				eSg	Sg	03 32 51.1	-4.1
PLV	Phu-Lien	4.43	90	ePn	Pn	03 31 44.9	-0.4
PLV				ePg	Pg	03 32 00.0	-3.7
PLV				eSg	Sg	03 32 57.5	-5.3
YTV	Yen Tu	4.52	86	ePn	Pn	03 31 45.7	-0.7
YTV				ePg	Pg	03 32 01.4	-4.0
YTV				eSg	Sg	03 33 01.4	-4.2

IDC 11 03:44:09.8±6.7, 2.89N×93.21E, mb3.6/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML4.4/1, Error ellipse: s-maj=197.5km s-min=29.8km az=72.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.45	20	Pn	P	03 48 03.2	-0.6
0.5nm,0.3s,baz=222,slow=11,SNR=4.2							
SONM	Songino Array	46.19	12	P	P	03 52 36.2	-2.0
0.5nm,0.6s,baz=195,slow=9.5,SNR=5.7							
WRA	Warramunga Arr	46.31	121	P	P	03 52 37.4	-2.1
1.0nm,0.7s,baz=299,slow=8.8,SNR=8.3							
ASAR	Alice Springs	47.60	126	P	P	03 52 48.0	-1.6
0.5nm,0.7s,baz=288,slow=8.6,SNR=5.5							

IDC 11 04:00:13.3±1.6, 16.35N×92.58E, mb3.9/7, mb1 4.0/8, mb1mx3.8/18, mbtmp3.8/8, ML3.8/1, Error ellipse: s-maj=46.7km s-min=27.6km az=37.0
NEIC 11 04:00:17.9±1.1, 16.37N×92.65E, h30km, mb4.4/3, Error ellipse: s-maj=24.9km s-min=14.4km az=199.0
ISC 11 04:00:16.8±1.1, 16.5N±0.1×92.68E±0.07, h33km, n18, σ0§91/19, mb4.0/10, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.27	71	Pn	Pn	04 01 48.0	-1.5
0.5nm,0.3s,baz=253,slow=12,SNR=4.5							
CMAR				Sn	Sn	04 03 00.6	-0.3
0.9nm,0.3s,baz=253,slow=27,SNR=5.6							
JIRN	Jiri	12.60	333	eP	P	04 03 15.7	-0.8
5.3nm,0.3s							
PKI	Pulchoki	12.88	330	eP	P	04 03 19.7	-0.6
6.6nm,0.3s							
GUN	Gumba	12.95	332	eP	P	04 03 20.9	-0.3
6.2nm,0.5s							
DMN	Daman	13.06	329	eP	P	04 03 22.6	-0.1
GKN	Gorkha	13.62	328	eP	P	04 03 29.4	-0.7
KOLN	Koldanda	13.99	325	eP	P	04 03 34.0	-0.9
5.9nm,0.5s							
BJT	Baijiatuau	31.05	36	P	P	04 06 36.1	+2.2
8.7nm,0.6s,mb4.8							
SONM	Songino Array	33.20	17	P	P	04 06 54.2	+1.6
0.6nm,0.7s,mb3.6,baz=207,slow=7.8,SNR=4.3							
BVAR	Borovoye Array	40.41	339	P	P	04 07 54.2	+0.8
0.6nm,0.4s,mb3.6,baz=143,slow=10.0,SNR=5.9							
BRVK	Borovoye	40.47	339	P	P	04 07 53.8	-0.1
2.9nm,0.9s,mb4.0							
CHKZ	Chkalovo	40.87	340	eP	P	04 07 58.6	+1.4
8.9nm,1.1s,mb4.3							
WRA	Warramunga Arr	54.67	130	P	P	04 09 44.4	-0.8
0.5nm,0.8s,mb3.6,baz=315,slow=7.2,SNR=3.0							
FINES	FINESS Array B	64.47	331	P	P	04 10 51.9	-0.2
2.8nm,0.9s,mb4.3,baz=135,slow=5.4,SNR=4.4							
ARCES	ARCESS Array B	66.70	339	P	P	04 11 06.7	+0.5
2.4nm,0.9s,mb4.2,baz=82,slow=8.6,SNR=6.4							
GERES	GERESS Array B	70.53	317	P	P	04 11 30.5	+0.3
0.7nm,0.7s,mb3.7,baz=90,slow=5.3,SNR=3.5							
NOA	NORSAR Array B	71.56	330	P	P	04 11 36.2	0.0
1.7nm,0.9s,mb4.0,baz=63,slow=5.6,SNR=3.4							
RSO	Redoubt South	87.25	27	P	P	04 13 05.7	+4.8

ATH 11 04:01:31.1, 36.95N×28.01E, h80km±4km
CSEM 11 04:01:31.6±0.1, 36.99N×27.66E, h15km, MD3.3, Error ellipse: s-maj=2.7km s-min=1.7km az=90.0
ISK 11 04:01:31.4, 36.98N×27.59E, h14km, MD3.3
ISC 11 04:01:33.1±0.5, 37.00N±0.03×27.70E±0.05, h24km±4km, n18, σ0§76/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.21	287	iP	Pb	04 01 38.6	-0.2
BDRM				iS	Sb	04 01 43.7	+1.0
MLSB	Milas	0.30	12	PG	Pb	04 01 39.0	-1.1
MLSB				SG	Sb	04 01 44.3	-0.5
AYDN	Tasoluk	0.67	12	iP	Pb	04 01 45.7	-0.4
AYDN				iS	Sb	04 01 55.4	+0.3
DALT	Dalyan (Mudla)	0.79	107	ePG	Pb	04 01 47.8	-0.3
ARG	Arkhangelos	0.86	156	eP	Pb	04 01 48.0	-1.3
ARG				eS	Sb	04 02 00.5	+0.2
SMG	Samos	0.98	316	eP	Pb	04 01 53.0	+1.6
SMG				eS	Sb	04 02 10.0	+6.1
FETY	Fethiye	1.17	108	ePN	Pn	04 01 54.6	+0.4
DNZL	Cakiroluk	1.28	57	iP	Pn	04 01 55.6	-0.1
DNZL				iS	Sn	04 02 13.2	+1.1
DENT	Denizli	1.30	54	ePN	Pn	04 01 56.4	+0.3
IZM	Izmir	1.43	346	ePN	Pn	04 01 57.7	-0.3
KDAG	Bornova	1.44	346	iP	Pn	04 01 58.5	+0.5
KDAG				iS	Sn	04 02 14.9	-1.4
BLCB	Balcova	1.47	340	ePN	Pn	04 01 57.8	-0.8
KARP	Karpathos	1.52	197	eP	Pn	04 01 58.5	-0.6
KARP				eS	Sn	04 02 18.0	-0.2
MANT	Manisa	1.64	24	iP	Pn	04 02 01.3	+0.5
MANT				iS	Sn	04 02 20.3	-1.0
ELL	Elmali	1.79	97	PN	Pn	04 02 04.2	+1.1
AKS	Akhisar	1.88	3	ePN	Pn	04 02 04.2	-0.1
ALT	Altintas	2.80	42	ePN	Pn	04 02 18.1	+0.6
LIA	Limnos Island	3.50	326	eP	Pn	04 02 28.2	+0.8

ISK 11 04:06:14.9, 36.84N×27.70E, h22km, ML3.5
ATH 11 04:06:16.7, 36.89N×27.72E, h20km±3km, MD3.4/5
CSEM 11 04:06:16.7±0.1, 36.93N×27.85E, h20km, MD3.4, Error ellipse: s-maj=3.2km s-min=2.5km az=70.0
NEIC 11 04:06:16.7, 36.89N×27.72E, h20km, MD3.4(ATH), After ATH.
ISC 11 04:06:16.6±1.1, 36.94N±0.03×27.83E±0.06, h16km±12km, n19, σ0§83/22, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	Milas	0.36	354	PG	Pb	04 06 24.5	+0.3
DALT	Dalyan (Mudla)	0.67	104	iPG	Pb	04 06 29.9	+0.5
ARG	Arkhangelos	0.76	161	ePB	Pb	04 06 30.0	-1.0
ARG				eSN	Sn	04 06 43.0	-0.7
FETY	Fethiye	1.05	106	PN	Pn	04 06 36.0	-0.8
FETY				SN	Sn	04 06 50.6	-0.5
SMG	Samos	1.10	314	ePN	Pn	04 06 37.5	+0.1
DENT	Denizli	1.26	49	ePN	Pn	04 06 40.3	+0.6
KARP	Karpathos	1.49	201	ePN	Pn	04 06 43.0	0.0
KARP				eSN	Sn	04 07 03.0	+0.8
IZM	Izmir	1.52	343	PN	Pn	04 06 42.4	-1.1
BLCB	Balcova	1.57	337	ePN	Pn	04 06 42.8	-1.3
KSL	Kastellorizon	1.62	119	ePN	Pn	04 06 47.0	+2.2
ELL	Elmali	1.68	96	PN	Pn	04 06 45.6	-0.1
AKS	Akhisar	1.94	360	iPN	Pn	04 06 48.6	-0.8
ISP	Isparta	2.32	66	ePN	Pn	04 06 55.2	+0.3
PRK	Paraskevi	2.61	332	ePN	Pn	04 07 00.5	+1.5
ALT	Altintas	2.78	40	ePN	Pn	04 07 01.5	+0.1
BNT	Bandirma	3.41	1	ePN	Pn	04 07 09.4	-1.0
ESKT	Eskisehir	3.51	42	ePN	Pn	04 07 12.3	+0.6
LIA	Limnos Island	3.61	326	ePN	Pn	04 07 13.8	+0.6
YLV	Yalova	3.82	18	ePN	Pn	04 07 16.5	+0.3

IDC 11 04:10:05.7±1.2, 1.87N×127.07E, mb4.2/5, mb1 4.4/5, mb1mx4.1/16, mbtmp4.2/5, Error ellipse: s-maj=135.8km s-min=18.6km az=69.0
**ISC 11 04:10:08.8±1.1, 2.0N±0.2×127.3E±0.5, h33km, n7, σ

ASAR Alice Springs 53.57 130 P P 04 36 19.1 -2.4
comp=E,2.4nm,0.9s,baz=310,slow=7.8,SNR=14

NEIC ***11*** *04:34:45.7±1.3, 1.98S×137.49E, h10km, mb4.3/3, Error ellipse: s-maj=38.9km s-min=12.5km az=84.0*
IDC ***11*** *04:34:51.4±5.4, 2.17S×136.76E, h36km±48km, mb3.7/5, mb1 3.9/6, mb1mx3.8/12, mbtmp3.9/6, ML4.1/1, MS3.8/4, Ms1 3.9/4, ms1mx3.4/19, Error ellipse: s-maj=64.3km s-min=14.7km az=81.0*
ISC 11 04:34:49.1±2.5, 2.14S±0.07×137.1E±0.2, h41km±25km, **n15**, σ1°**25**/19, **mb3.9**/6, **MS3.8**/4, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.49**	**204**	*eP*	**P**	**04 37 33.8**	**+0.2**
	22nm,0.5s						
KAKA				*eS*	**S**	**04 39 39.2**	**-2.3**
WRAB	**Tennant Creek**	**17.89**	**189**	*eP*	**P**	**04 38 57.3**	**+0.6**
	14nm,0.6s						
WRAB				*eS*	**S**	**04 42 07.3**	**-4.7**
WB2	**Warramunga Arr**	**17.90**	**189**	*eP*	**P**	**04 38 57.7**	**+0.9**
WB2				*eS*	**S**	**04 42 04.6**	**-7.6**
WRA	**Warramunga Arr**	**17.90**	**189**	P	**P**	**04 38 55.2**	**-1.6**
	0.7nm,0.3s,baz=2.8,slow=13,SNR=13						
WRA				S	**S**	**04 42 10.2**	**-2.0**
	0.7nm,0.3s,baz=8.3,slow=22,SNR=8.3						
FITZ	**Fitzroy Crossi**	**19.47**	**215**	*eP*	**P**	**04 39 17.1**	**+1.7**
	9.3nm,0.8s						
FITZ				*eS*	**S**	**04 42 48.9**	**+1.5**
ASAR	**Alice Springs**	**21.63**	**188**	P	**P**	**04 39 38.8**	**+1.0**
	1.7nm,0.4s,mb3.9,baz=17,slow=11,SNR=20						
ASAR				S	**S**	**04 43 36.3**	**+6.5**
	4.3nm,0.9s,baz=9.4,slow=20,SNR=4.9						
ASPA	**Alice Springs**	**21.63**	**188**	*eP*	**P**	**04 39 39.0**	**+1.3**
ASPA				*eS*	**S**	**04 43 36.9**	**+7.1**
TGY	**Tagaytay City**	**22.77**	**316**	LR	LR	04 49 02.3	
	comp=Z,119nm,19.0s,MS3.4,baz=311,slow=38						
MBWA	**Marble Bar**	**25.40**	**221**	P	**P**	**04 40 18.9**	**+4.2**
	3.4nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**29.87**	**172**	P	**P**	**04 40 55.0**	**-0.1**
	1.5nm,0.4s,mb4.0,baz=340,slow=11,SNR=5.9						
CMAR	**Chiang Mai Arr**	**42.80**	**300**	P	**P**	**04 42 44.0**	**-1.0**
	1.0nm,0.4s,mb3.9,baz=120,slow=7.3,SNR=6.9						
CMAR				LR	LR	05 03 17.7	
	comp=Z,54nm,18.3s,MS3.5,baz=294,slow=40						
SONM	**Songino Array**	**56.55**	**336**	P	**P**	**04 44 28.8**	**-1.0**
	0.2nm,0.4s,mb3.5,baz=143,slow=7.2,SNR=2.2						
RAR	**Rarotonga**	**64.19**	**112**	LR	LR	05 12 14.3	
	comp=Z,90nm,19.2s,MS4.0,baz=262,slow=35						
VNDA	**Vanda**	**76.48**	**175**	LR	LR	05 22 04.5	
	comp=Z,194nm,18.0s,MS4.5,baz=85,slow=37						
BVAR	**Borovoye Array**	**77.96**	**325**	P	**P**	**04 46 44.5**	**-0.1**
	1.7nm,0.7s,mb4.1,baz=117,slow=6.6,SNR=4.3						

CSEM ***11*** *04:35:57.2, 36.89N×27.85E, h20km, mb5.0*
ATH ***11*** *04:35:57.6, 36.99N×27.74E, h23km±2km, MD4.7/17, ML5.0*
BJI ***11*** *04:35:57.9, 36.78N×27.21E, h61km, mB5.4, mb5.1, Ms4.9, Msz4.7*
ISK ***11*** *04:35:57.4, 37.02N×27.74E, h15km, MD4.8, ML5.0*
MOS ***11*** *04:35:59.2±0.9, 36.95N×27.86E, h33km, mb5.3/58, MS4.2/25, Error ellipse: s-maj=4.1km s-min=1.9km az=127.1*
IDC ***11*** *04:35:59.9±4.1, 37.01N×27.75E, h26km±27km, mb4.6/18, mb1 4.8/28, mb1mx4.7/29, mbtmp4.7/28, ML4.4/8, MS4.3/17, Ms1 4.3/17, ms1mx4.1/27, Error ellipse: s-maj=12.7km s-min=11.4km az=55.0*
HLW ***11*** *04:35:59.7, 36.90N×27.93E, h25km, Mb4.8*
ZUR_RM ***11*** *04:36:00, 36.92N×27.87E, h15km, Mw5.2/27, Moment Tensor Solution. s27 Moment tensor: Scale 10^16^Nm; Mrr=6.22; Mθθ=5.73; Mφφ=0.49; Mrθ=3.71; Mθφ=0.96; Mφr=0.65; Best double couple: M0=7.14×10^16^ NP1:φs260°,δ61°,λ-90°. NP2:φs80°,δ29°,λ-90°. Principal axes: T=6.977, Plg16°, Azm350°; N=.32, Plg0°, Azm80°; P=-7.297, Plg74°, Azm170°;*
NEIC ***11*** *04:36:01.0±0.5, 36.92N×27.87E, h35km±4km, mb5.1/126, MS4.4/21, ML5.0(ATH), ML4.7(ISK), ML4.6(THE) Error ellipse: s-maj=2.7km s-min=1.6km az=201.0*
THE ***11*** *04:36:01.7, 37.18N×27.79E, h7km, ML5.0*
PDG ***11*** *04:36:01.4±0.2, 37.29N×27.86E, h16km*
HRVD ***11*** *04:36:01.0±0.3, 36.84N×27.84E, h12km, MW5.0/57, Centroid moment Tensor Solution. LP body waves: s34,c49;Mantle waves: s57,c99; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=3.81±.16; Mθθ=3.71±.13; Mφφ=0.10±.11; Mrθ=1.89±.35; Mθφ=0.13±.10; Mφr=1.11±.32; Best double couple: M0=4.347×10^16^ NP1:φs100°,δ33°, λ-69°. NP2:φs255°,δ60°,λ-103°. Principal axes: T=4.196, Plg14°, Azm354°; N=.306, Plg11°, Azm261°; P=-4.498, Plg72°, Azm134°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NIC ***11*** *04:36:02.6±0.2, 37.19N×28.18E, h25km, mb5.2, ML5.1, Earthquake Dodecanese Islands , Greece 20 km SW Oren.*
ISC 11 04:35:56.9±0.4, 36.90N±0.01×27.88E±0.01, h18km±3km, **h27**km±3.3km:**pP-P, n938**, σ1°**08**/977, **mb5.0**/128, **MS4.4**/46, **40C-47D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.41**	**349**	*i* PG	**Pb**	**04 36 04.0**	**-1.3**
DALT	**Dalyan (Mudla)**	**0.62**	**101**	*i* PG	**Pb**	**04 36 12.5**	**+3.5**
DALT	**Dalyan (Mudla)**	**0.62**	**101**	Pg	**Pb**	**04 36 11.2**	**+2.2**
DALT	**Dalyan (Mudla)**	**0.62**	**101**	Pg	**Pb**	**04 36 11.1**	**+2.1**
ARG	**Arkhangelos**	**0.71**	**163**	*e*PN	**Pn**	**04 36 12.3**	**+0.5**
ARG				*e*SB	**Sb**	**04 36 26.6**	**+7.0**
ARG	**Arkhangelos**	**0.71**	**163**	*e*S	**Sb**	**04 36 26.6**	**+7.0**
FETY	**Fethiye**	**1.00**	**105**	*i* PN	**Pn**	**04 36 18.8**	**+2.7**
FETY				*i* SN	**Sn**	**04 36 36.1**	**+6.3**
SMG	**Samos**	**1.16**	**315**	*e*PN	**Pn**	**04 36 17.5**	**-0.8**
DENT	**Denizli**	**1.26**	**47**	PN	**Pn**	**04 36 20.7**	**+1.0**
DENT	**Denizli**	**1.26**	**47**	Pn	**Pn**	**04 36 20.9**	**+1.1**
DENT	**Denizli**	**1.26**	**47**	Pn	**Pn**	**04 36 20.9**	**+1.2**
KARP	**Karpathos**	**1.46**	**203**	*e*PB	**Pb**	**04 36 24.6**	**+1.3**
KSL	**Kastellorizon**	**1.56**	**118**	*e*PN	**Pn**	**04 36 28.2**	**+4.1**
IZM	**Izmir**	**1.58**	**342**	PN	**Pn**	**04 36 23.9**	**-0.3**
IZM	**Izmir**	**1.58**	**342**	Pn	**Pn**	**04 36 24.0**	**-0.2**
BLCB	**Balcova**	**1.63**	**336**	PN	**Pn**	**04 36 24.7**	**-0.3**
BLCB	**Balcova**	**1.63**	**336**	Pn	**Pn**	**04 36 24.7**	**-0.3**
ELL	**Elmali**	**1.64**	**95**	PN	**Pn**	**04 36 28.2**	**+3.1**
ELL	**Elmali**	**1.64**	**95**	Pn	**Pn**	**04 36 29.6**	**+4.4**
APE	**Apeiranthos**	**1.89**	**276**	PN	**Pn**	**04 36 28.8**	**+0.1**
APE	**Apeiranthos**	**1.89**	**276**	Pn	**Pn**	**04 36 28.3**	**-0.4**
APE	**Apeiranthos**	**1.89**	**276**	*e*PN	**Pn**	**04 36 28.9**	**+0.2**
APE	**Apeiranthos**	**1.89**	**276**	Pn	**Pn**	**04 36 28.3**	**-0.4**
KHL	**Karahalli**	**1.94**	**42**	PN	**Pn**	**04 36 31.0**	**+1.6**
AKS	**Akhisar**	**1.98**	**359**	PN	**Pn**	**04 36 29.7**	**-0.3**
AKS	**Akhisar**	**1.98**	**359**	Pn	**Pn**	**04 36 29.7**	**-0.3**
SANT	**Santorini**	**2.01**	**256**	*e*Pn	**Pn**	**04 36 30.8**	**+0.3**
SANT	**Santorini**	**2.01**	**256**	*e*Pn	**Pn**	**04 36 30.8**	**+0.3**
ANTB	**Antalya**	**2.23**	**89**	PN	**Pn**	**04 36 36.1**	**+2.5**
ISP	**Isparta**	**2.30**	**65**	PN	**Pn**	**04 36 37.2**	**+2.6**
ISP	**Isparta**	**2.30**	**65**	*d i* P	**Pn**	**04 36 37.1**	**+2.5**
NPS	**Neapolis**	**2.45**	**229**	*e*PN	**Pn**	**04 36 37.5**	**+0.7**
PRK	**Paraskevi**	**2.67**	**332**	*e*PN	**Pn**	**04 36 39.4**	**-0.4**
XRY	**Khrisi**	**2.68**	**222**	*e*PB	**Pb**	**04 36 42.5**	**-1.6**
BALB	**Balikesir**	**2.74**	**0**	PN	**Pn**	**04 36 40.6**	**-0.3**
ALT	**Altintas**	**2.79**	**39**	PN	**Pn**	**04 36 42.7**	**+1.1**
ALT	**Altintas**	**2.79**	**39**	Pn	**Pn**	**04 36 43.2**	**+1.6**
IDI	**Anoyia**	**2.90**	**237**	Pn	**Pn**	**04 36 44.1**	**+0.9**
	31nm,0.3s,baz=58,slow=12,SNR=150						
IDI				Sn	**Sn**	**04 37 18.8**	**+0.9**
	111nm,0.3s,baz=328,slow=19,SNR=5.8						
EZN	**Ezine**	**3.17**	**338**	PN	**Pn**	**04 36 45.6**	**-1.4**
ORLT	**Orhaneli**	**3.25**	**14**	PN	**Pn**	**04 36 48.1**	**0.0**
ORLT	**Orhaneli**	**3.25**	**14**	Pn	**Pn**	**04 36 48.2**	**+0.1**
ORLT	**Orhaneli**	**3.25**	**14**	Pn	**Pn**	**04 36 48.2**	**+0.1**
VAM	**Vamos**	**3.33**	**245**	*e*PN	**Pn**	**04 36 50.7**	**+1.5**
KCT	**Karacabey**	**3.39**	**6**	PN	**Pn**	**04 36 49.3**	**-0.8**
KCT	**Karacabey**	**3.39**	**6**	Pn	**Pn**	**04 36 49.3**	**-0.7**
BNT	**Bandirma**	**3.46**	**1**	PN	**Pn**	**04 36 50.1**	**-1.0**
BNT	**Bandirma**	**3.46**	**1**	Pn	**Pn**	**04 36 50.1**	**-0.9**
ATH	**Athens Observa**	**3.48**	**289**	⇑*i*PN	**Pn**	**04 36 51.8**	**+0.4**
ESKT	**Eskisehir**	**3.52**	**41**	PN	**Pn**	**04 36 53.6**	**+1.7**
MPAR	**Parnis Oros**	**3.52**	**292**	*e*PN	**Pn**	**04 36 52.4**	**+0.4**
NAIG	**Nisos Aigina**	**3.60**	**285**	*e*PN	**Pn**	**04 36 52.8**	**-0.3**
NSAL	**Nisos Salamina**	**3.66**	**287**	*e*PN	**Pn**	**04 36 54.0**	**+0.1**
LIA	**Limnos Island**	**3.67**	**326**	*e*PN	**Pn**	**04 36 53.7**	**-0.4**
HDMB	**Hadim**	**3.69**	**88**	PN	**Pn**	**04 36 57.2**	**+2.7**
HDMB	**Hadim**	**3.69**	**88**	Pn	**Pn**	**04 36 59.4**	**+4.9**
GVD	**Gavdhos**	**3.70**	**237**	*e*PN	**Pn**	**04 36 55.0**	**+0.5**
MRMT	**Marmara Adasi**	**3.71**	**357**	PN	**Pn**	**04 36 53.9**	**-0.7**
KONT	**Konya--Tatoy**	**3.72**	**72**	PN	**Pn**	**04 36 57.2**	**+2.4**
KONT	**Konya--Tatoy**	**3.72**	**72**	Pn	**Pn**	**04 36 58.5**	**+3.7**
KIZT	**Kizilcal**	**3.74**	**57**	PN	**Pn**	**04 36 57.4**	**+2.4**
KIZT	**Kizilcal**	**3.74**	**57**	Pn	**Pn**	**04 36 57.5**	**+2.4**
KIZT	**Kizilcal**	**3.74**	**57**	Pn	**Pn**	**04 36 57.5**	**+2.5**
LOS	**Limnos**	**3.74**	**325**	*e*Pn	**Pn**	**04 36 55.0**	**-0.1**
LOS	**Limnos**	**3.74**	**325**	P	**Pn**	**04 36 55.0**	**-0.1**
MGER	**Gerania Oros**	**3.83**	**288**	⇓*i*PN	**Pn**	**04 36 56.8**	**+0.4**
YLV	**Yalova**	**3.85**	**17**	PN	**Pn**	**04 36 56.3**	**-0.3**
YLV	**Yalova**	**3.85**	**17**	P	**Pn**	**04 36 55.4**	**-1.2**
AOS	**Alonnisos**	**3.89**	**307**	*e*Pn	**Pn**	**04 36 57.2**	**0.0**
GPA	**Golpazari**	**3.89**	**29**	*e*PN	**Pn**	**04 36 58.0**	**+0.8**
MFT	**Murefte**	**3.91**	**353**	PN	**Pn**	**04 36 56.0**	**-1.6**
KYTH	**Kithira**	**3.94**	**262**	*e*PN	**Pn**	**04 36 59.0**	**+1.0**
VLI	**Veliai**	**3.97**	**269**	*e*PN	**Pn**	**04 36 58.0**	**-0.3**
AKMC	**Akamas**	**4.07**	**116**	P	**Pn**	**04 37 01.2**	**+1.5**
BADT	**Buyukada**	**4.07**	**13**	PN	**Pn**	**04 36 59.6**	**-0.2**
BADT	**Buyukada**	**4.07**	**13**	Pn	**Pn**	**04 36 58.8**	**-1.0**
BADT	**Buyukada**	**4.07**	**13**	Pn	**Pn**	**04 36 58.8**	**-1.0**
HRT	**Hereke**	**4.16**	**19**	PN	**Pn**	**04 37 00.9**	**-0.2**
HRT	**Hereke**	**4.16**	**19**	Pn	**Pn**	**04 37 00.8**	**-0.3**
HRT	**Hereke**	**4.16**	**19**	P	**Pn**	**04 37 00.8**	**-0.3**
ALFC	**Alevga**	**4.20**	**113**	⇓*e*P	**Pn**	**04 37 02.5**	**+0.8**
	39nm,0.8s						
ALFC				S	**Sn**	**04 37 50.5**	**-0.4**
LKR	**Lokris**	**4.24**	**296**	*e*PN	**Pn**	**04 37 02.0**	**-0.2**
ALN	**Alexandroupoli**	**4.24**	**341**	*e*PN	**Pn**	**04 37 01.1**	**-1.1**
ISK	**Istanbul-Kandi**	**4.26**	**12**	PN	**Pn**	**04 37 02.1**	**-0.5**
NEO	**Neokhori**	**4.39**	**305**	*e*PN	**Pn**	**04 37 04.1**	**-0.2**
MDU	**Mudurnu**	**4.42**	**35**	PN	**Pn**	**04 37 06.3**	**+1.5**
MDU	**Mudurnu**	**4.42**	**35**	Pn	**Pn**	**04 37 06.4**	**+1.6**
MDU	**Mudurnu**	**4.42**	**35**	Pn	**Pn**	**04 37 06.4**	**+1.6**
XOR	**Xorichti**	**4.44**	**305**	*e*Pn	**Pn**	**04 37 04.6**	**-0.5**
PAIG	**Paliouri**	**4.47**	**314**	*e*Pn	**Pn**	**04 37 04.6**	**-0.9**
OUR	**Ouranopolis**	**4.59**	**320**	*e*Pn	**Pn**	**04 37 06.7**	**-0.5**
SZAC	**Souni-Zanaja**	**4.59**	**116**	⇓*e*P	**Pn**	**04 37 08.7**	**+1.5**
	30nm,0.5s						
SZAC				S	**Sn**	**04 38 00.4**	**-0.4**
RDO	**Rodhopi**	**4.62**	**338**	⇑*i*PN	**Pn**	**04 37 06.6**	**-1.0**
MAMC	**Mammari**	**4.66**	**110**	P	**Pn**	**04 37 09.2**	**+1.0**
IKL	**Isikli**	**4.72**	**96**	PN	**Pn**	**04 37 12.2**	**+3.1**
IKL	**Isikli**	**4.72**	**96**	Pn	**Pn**	**04 37 12.6**	**+3.6**
ITM	**Ithomi**	**4.77**	**275**	*e*PN	**Pn**	**04 37 11.2**	**+1.5**
CSS	**Prodhromos**	**4.83**	**112**	P	**Pn**	**04 37 11.5**	**+0.9**
	19nm,0.7s						
CSS				S	**Sn**	**04 38 05.2**	**-1.5**
AGG	**Agios Georgios**	**4.87**	**298**	*e*Pn	**Pn**	**04 37 11.2**	**+0.1**
ANTO	**Ankara**	**4.87**	**51**	PN	**Pn**	**04 37 12.5**	**+1.3**
ANTO	**Ankara**	**4.87**	**51**	Pn	**Pn**	**04 37 12.8**	**+1.6**
PLG	**Polygyros**	**4.91**	**316**	⇑*i*PN	**Pn**	**04 37 10.8**	**-0.9**
EDRB	**Edirne**	**5.02**	**350**	PN	**Pn**	**04 37 12.6**	**-0.7**
EDRB	**Edirne**	**5.02**	**350**	Pn	**Pn**	**04 37 11.5**	**-1.7**
EDRB	**Edirne**	**5.02**	**350**	Pn	**Pn**	**04 37 11.5**	**-1.8**
KDZ	**Kurdzhali**	**5.12**	**339**	*i* P	**Pn**	**04 37 13.5**	**-1.1**
EVR	**Evrytania**	**5.20**	**295**	⇑*i*PN	**Pn**	**04 37 17.0**	**+1.2**
KAMT	**Kaman**	**5.22**	**60**	PN	**Pn**	**04 37 18.0**	**+1.9**
RLS	**Riolos of Patr**	**5.23**	**285**	*e*PN	**Pn**	**04 37 17.3**	**+1.1**
SOH	**Sokhos**	**5.27**	**319**	*e*Pn	**Pn**	**04 37 16.1**	**-0.8**
SOH	**Sokhos**	**5.27**	**319**	*e*Pn	**Pn**	**04 37 16.0**	**-0.8**
LIT	**Litokhoron**	**5.30**	**309**	*e*Pn	**Pn**	**04 37 16.8**	**-0.4**
PHNC	**Paralimni**	**5.34**	**109**	P	**Pn**	**04 37 20.4**	**+2.7**
BRTR	**Keskin Array B**	**5.34**	**56**	Pn	**Pn**	**04 37 19.5**	**+1.7**
	15nm,0.3s,baz=235,slow=14,SNR=187						
BRTR				Sn	**Sn**	**04 38 20.4**	**+0.9**
	1.0nm,0.3s,baz=259,slow=15,SNR=2.8						
THE	**Thessaloniki**	**5.35**	**316**	*e*Pn	**Pn**	**04 37 17.7**	**-0.3**
SRS	**Serrai**	**5.38**	**323**	*e*Pn	**Pn**	**04 37 17.8**	**-0.5**
RZN	**Rozhen**	**5.38**	**334**	*i* P	**Pn**	**04 37 17.5**	**-0.8**
NVR	**Nevrokopi**	**5.43**	**326**	*e*PN	**Pn**	**04 37 18.3**	**-0.8**
DIM	**Dimitrovgrad**	**5.46**	**341**	*i* P	**Pn**	**04 37 18.0**	**-1.4**
JMB	**Yambol**	**5.65**	**350**	*i* P	**Pn**	**04 37 20.5**	**-1.7**
MMB	**Musomiste**	**5.69**	**327**	*i* P	**Pn**	**04 37 21.5**	**-1.1**
SAFT	**Safranbolu**	**5.73**	**39**	PN	**Pn**	**04 37 23.7**	**+0.4**
SAFT	**Safranbolu**	**5.73**	**39**	Pn	**Pn**	**04 37 24.0**	**+0.8**
SAFT	**Safranbolu**	**5.73**	**39**	Pn	**Pn**	**04 37 24.0**	**+0.7**
PLD	**Plovdiv**	**5.75**	**336**	*i* P	**Pn**	**04 37 23.0**	**-0.6**
KNT	**Kendrikon**	**5.76**	**319**	*e*Pn	**Pn**	**04 37 23.4**	**-0.3**
CANT	**Cankiri**	**5.82**	**49**	PN	**Pn**	**04 37 26.5**	**+2.0**
CANT	**Cankiri**	**5.82**	**49**	Pn	**Pn**	**04 37 26.7**	**+2.2**
HMAT	**Matruh**	**5.82**	**187**	P	**Pn**	**04 37 24.1**	**-0.4**
KZN	**Kozani**	**5.87**	**307**	*e*PN	**Pn**	**04 37 25.5**	**+0.3**
GRG	**Griva**	**5.89**	**315**	*e*Pn	**Pn**	**04 37 25.2**	**-0.3**
VLS	**Valsamata**	**5.93**	**285**	*e*PN	**Pn**	**04 37 26.1**	**0.0**
VAY	**Valandovo**	**6.04**	**319**	*e*Pn	**Pn**	**04 37 27.4**	**-0.3**
VAY				*e*Sn	rx	04 39 07.4	
VAY				*i*		04 40 15.6	
KKB	**Krupnik**	**6.20**	**325**	*i* P	**Pn**	**04 37 28.8**	**-1.1**
CEYT	**Ceyhan**	**6.31**	**87**	*e*PN	**Pn**	**04 37 34.2**	**+2.8**
CEYT	**Ceyhan**	**6.31**	**87**	Pn	**Pn**	**04 37 33.5**	**+2.1**
CEYT	**Ceyhan**	**6.31**	**87**	Pn	**Pn**	**04 37 33.5**	**+2.1**
PRD	**Provadia**	**6.31**	**357**	*i* P	**Pn**	**04 37 29.0**	**-2.4**
TOS	**Tosya**	**6.33**	**47**	PN	**Pn**	**04 37 33.1**	**+1.4**
TOS	**Tosya**	**6.33**	**47**	Pn	**Pn**	**04 37 33.5**	**+1.8**
TOS	**Tosya**	**6.33**	**47**	Pn	**Pn**	**04 37 33.5**	**+1.8**
PGB	**Panagyurishte**	**6.33**	**334**	*i* P	**Pn**	**04 37 30.0**	**-1.7**
FNA	**Florina**	**6.39**	**309**	*e*Pn	**Pn**	**04 37 33.0**	**+0.4**
IGT	**Igoumenitsa**	**6.50**	**296**	*e*Pn	**Pn**	**04 37 35.3**	**+1.2**
SZH	**Strazhica**	**6.54**	**347**	*i* P	**Pn**	**04 37 33.0**	**-1.6**
BNN	**Bunyan**	**6.60**	**70**	*e*PN	**Pn**	**04 37 38.4**	**+2.9**
BNN	**Bunyan**	**6.60**	**70**	Pn	**Pn**	**04 37 39.2**	**+3.6**
BNN	**Bunyan**	**6.60**	**70**	Pn	**Pn**	**04 37 39.2**	**+3.7**
PVL	**Pavlikeni**	**6.61**	**344**	*i* P	**Pn**	**04 37 33.2**	**-2.4**
HTY	**Hatay**	**6.70**	**94**	*e*PN	**Pn**	**04 37 39.3**	**+2.4**
HTY	**Hatay**	**6.70**	**94**	Pn	**Pn**	**04 37 38.3**	**+1.4**
HTY	**Hatay**	**6.70**	**94**	Pn	**Pn**	**04 37 38.3**	**+1.4**
VTS	**Vitosha**	**6.73**	**329**	*i* P	**Pn**	**04 37 36.7**	**-0.6**
PSN	**Preselentsi**	**6.78**	**2**	*i* P	**Pn**	**04 37 35.3**	**-2.8**
KEK	**Kerkira**	**6.95**	**296**	*e*PN	**Pn**	**04 37 41.1**	**+0.7**
BHL	**Bhannes**	**7.02**	**113**	*e*P	**Pn**	**04 37 39.8**	**-1.6**
BYBT	**Boyabat**	**7.03**	**47**	*e*PN	**Pn**	**04 37 42.8**	**+1.2**
BYBT	**Boyabat**	**7.03**	**47**	Pn	**Pn**	**04 37 43.0**	**+1.4**
HWQ	**Hawqa**	**7.08**	**109**	*e*P	**Pn**	**04 37 42.3**	**+0.1**
HNTI	**Hanita**	**7.09**	**120**	Pn	**Pn**	**04 37 41.6**	**-0.9**
HNTI				Sn	**Sn**	**04 38 59.9**	**-3.5**
HNTI	**Hanita**	**7.09**	**120**	P	**Pn**	**04 37 41.9**	**-0.6**
HNTI				S	**Sn**	**04 38 59.9**	**-3.5**
SKO	**Skopje**	**7.11**	**317**	⇑*i*P	**Pn**	**04 37 42.7**	**+0.1**
SKO				pmax	pmax		
	comp=Z,96nm,0.6s						
SKO	**Skopje**	**7.11**	**317**	⇑*i*Pn	**Pn**	**04 37 42.7**	**+0.1**
	comp=Z,0.1nm,0.6s						
SKO				*i* Sn	rx	04 39 26.7	
HAF	**Haifa**	**7.17**	**123**	Pn	**Pn**	**04 37 42.3**	**-1.2**
HAF				Sn	**Sn**	**04 39 01.9**	**-3.4**
HAF	**Haifa**	**7.17**	**123**	P	**Pn**	**04 37 42.8**	**-0.7**
OFRI	**'Ofer**	**7.24**	**124**	Pn	**Pn**	**04 37 44.6**	**+0.1**
OFRI	**'Ofer**	**7.24**	**124**	P	**Pn**	**04 37 44.8**	**+0.3**
KSDI	**Kefar Szold**	**7.38**	**118**	Pn	**Pn**	**04 37 46.0**	**-0.4**
KSDI	**Kefar Szold**	**7.38**	**118**	P	**Pn**	**04 37 46.4**	**0.0**
HRI	**Mount Hermon**	**7.39**	**117**	Pn	**Pn**	**04 37 45.9**	**-0.7**
HRI	**Mount Hermon**	**7.39**	**117**	P	**Pn**	**04 37 46.2**	**-0.4**
FKH	**Fakeheh**	**7.44**	**108**	*e*P	**Pn**	**04 37 47.3**	**+0.1**
GAZ	**Gaziantep**	**7.47**	**85**	*e*PN	**Pn**	**04 37 49.4**	**+1.6**
GAZ	**Gaziantep**	**7.47**	**85**	Pn	**Pn**	**04 37 50.5**	**+2.8**
GAZ	**Gaziantep**	**7.47**	**85**	Pn	**Pn**	**04 37 50.5**	**+2.7**
HMYD	**Mayadein**	**7.49**	**160**	⇑P	**Pn**	**04 37 47.0**	**-1.1**
SLTI	**Sal'it**	**7.51**	**126**	Pn	**Pn**	**04 37 47.7**	**-0.7**
SLTI				Sn	**Sn**	**04 39 09.0**	**-4.9**
BARS	**Barje**	**7.53**	**324**	⇑*i*Pn	**Pn**	**04 37 47.5**	**-1.0**
SQR		**7.53**	**157**	⇑P	**Pn**	**04 37 47.3**	**-1.2**
KSHT	**Keshet**	**7.59**	**119**	Pn	**Pn**	**04 37 48.9**	**-0.6**
HNAT	**Natroun**	**7.60**	**162**	⇑P	**Pn**	**04 37 48.4**	**-1.2**
MMLI	**Mount Malkishu**	**7.64**	**123**	Pn	**Pn**	**04 37 49.3**	**-0.8**
MMLI	**Mount Malkishu**	**7.64**	**123**	⇑P	**Pn**	**04 37 49.7**	**-0.4**
TIR	**Tirane**	**7.65**	**308**	*e*Pn	**Pn**	**04 37 53.0**	**+2.8**
TIR	**Tirane**	**7.65**	**308**	P	**Pn**	**04 37 52.0**	**+1.8**
FYM	**Al Fayyum**	**7.66**	**159**	P	**Pn**	**04 37 49.4**	**-0.9**
AYT	**Al 'Ayyat**	**7.68**	**158**	P	**Pn**	**04 37 49.6**	**-1.0**
KOT	**Kottamia**	**7.69**	**153**	P	**Pn**	**04 37 49.7**	**-1.2**
QSH	**Qafa e Shtames**	**7.72**	**309**	*e*Pn	**Pn**	**04 37 53.2**	**+2.0**
SWA1		**7.83**	**194**	P	**Pn**	**04 37 51.8**	**-0.9**
SWA1				S	**Sn**	**04 39 14.0**	**-7.7**
HSAF	**As Saff**	**7.88**	**156**	⇑P	**Pn**	**04 37 52.5**	**-1.0**
SWA2		**7.90**	**196**	P	**Pn**	**04 37 52.9**	**-0.8**
GLL	**Jalalah**	**7.97**	**155**	P	**Pn**	**04 37 53.7**	**-1.0**
PUK	**Puka**	**8.03**	**312**	*e*Pn	**P**	**04 37 56.5**	**+0.9**
KZIT	**Kziot**	**8.06**	**136**	Pn	**P**	**04 37 55.3**	**-0.7**
KZIT				Sn	**Sn**	**04 39 23.3**	**-4.4**
KZIT	**Kziot**	**8.06**	**136**	⇑P	**P**	**04 37 55.6**	**-0.4**
KZIT				S	**Sn**	**04 39 23.3**	**-4.4**
KZIT	**Kziot**	**8.06**	**136**	⇑P	**P**	**04 37 55.6**	**-0.4**
RTMM	**Retamin**	**8.12**	**134**	Pn	**P**	**04 37 56.1**	**-0.7**
DRGI	**Dragot**	**8.16**	**128**	Pn	**P**	**04 37 56.2**	**-1.2**
DRGI	**Dragot**	**8.16**	**128**	P	**P**	**04 37 56.4**	**-1.0**
MASH	**Mash'abbe Sade**	**8.22**	**134**	Pn	**P**	**04 37 56.9**	**-1.3**
MASH	**Mash'abbe Sade**	**8.22**	**134**	P	**P**	**04 37 57.2**	**-1.0**
BOLS	**Boljevac**	**8.27**	**329**	⇑*i*Pn	**P**	**04 37 56.8**	**-2.0**
BOLS				Sn	**Sn**	**04 39 25.8**	**-7.0**
PVY	**Plav**	**8.33**	**316**	⇑*i*Pn	**P**	**04 37 59.3**	**-0.5**
PVY				*e*Sn	**Sn**	**04 39 28.4**	**-5.9**
MZDA	**Masada**	**8.34**	**130**	Pn	**P**	**04 37 58.8**	**-1.1**
MZDA				Sn	**Sn**	**04 39 30.1**	**-4.4**
MZDA	**Masada**	**8.34**	**130**	⇓P	**P**	**04 37 58.8**	**-1.1**
MZDA				S	**Sn**	**04 39 30.1**	**-4.4**
MKRJ	**Makawir**	**8.35**	**127**	Pn	**P**	**04 37 59.3**	**-0.7**
ULC	**Ulcinj**	**8.37**	**310**	⇑*i*Pn	**P**	**04 38 00.9**	**+0.6**
ULC				*e*Sn	**Sn**	**04 39 29.9**	**-5.5**
LCI	**Lecce**	**8.38**	**297**	P	**P**	**04 37

KOLS Kolonicke sedl 12.71 343 *e*Pn **P 04 38 59.1 -0.4**
AOI Ancona 12.77 306 P **P 04 38 59.0 -1.3**
KECS Kecovo 12.78 337 *i* PN **P 04 39 00.7 +0.2**
NRCA Norcia 12.79 302 P **P 04 38 59.0 -1.6**
BOJS Bojanci 12.81 316 *e*Pn **P 04 38 59.3 -1.5**
GCIS Gornji Cirnik 12.83 318 *i* Pn **P 04 38 59.2 -1.9**
CRVS Cervenica-Dubn 12.88 341 *i* PN **P 04 39 01.5 -0.3**
CRVS *e* 04 43 15.2
SRO2 Moca 12.91 330 *e*PN **P 04 39 03.6 +1.4**
MNS Montasola 12.93 300 P **P 04 39 03.5 +1.1**
CING Cingoli 12.96 304 P **P 04 39 01.4 -1.4**
SRO Srobarova 12.99 330 *e*PN **P 04 39 03.1 -0.1**
SNTG Esanatoglia 13.07 304 P **P 04 39 02.9 -1.5**
ARV Arcevia 13.18 305 P **P 04 39 04.2 -1.5**
LVV L'vov 13.21 349 *e*P **P 04 38 55.2 -11**
LVV *e*S **S 04 41 24.0 -10**
LVV MLR MLR
comp=Z,1µm,12.0s
LVV MLR MLR
comp=N,1µm,11.0s
LVV MLR MLR
comp=E,1µm,10.0s
KIV Kislovodsk 13.29 53 *i* P **P 04 39 07.6 +0.3**
KIV pmax pmax
comp=Z,40nm,1.3s
KIV MLR MLR
comp=Z,900nm,16.0s
KIV Kislovodsk 13.29 53 P **P 04 39 07.9 +0.6**
comp=Z,39nm,1.0s
KIV Kislovodsk 13.29 53 *i* P **P 04 39 07.6 +0.3**
comp=Z,450nm,16.0s
VYHS Vyhne 13.35 333 *i* PN **P 04 39 07.2 -0.8**
VYHS *e* 04 43 29.8
MURB Monte Urbino 13.36 303 P **P 04 39 09.1 +1.0**
STE Stepanavan 13.50 67 *e*P **P 04 39 11.0 +1.1**
LJU Ljubljana 13.54 317 *e*Pn **P 04 39 08.7 -1.7**
KOLL Kolacno 13.58 332 *e*PN **P 04 39 09.4 -1.6**
PERS Pernice 13.60 320 *e*Pn **P 04 39 10.6 -0.7**
GNI Garni 13.60 71 *i* P **P 04 39 10.8 -0.5**
GNI pmax pmax
comp=Z,25nm,0.8s
GNI MLR MLR
comp=Z,800nm,17.0s
GNI Garni 13.60 71 Pn **P 04 39 10.7 -0.6**
comp=Z,0.3nm,0.3s,baz=65,slow=20,SNR=2.1
GNI LR LR 04 44 54.3
comp=Z,1µm,18.4s,baz=72,slow=39
GNI Garni 13.60 71 *e*P **P 04 39 09.9 -1.4**
GNI Garni 13.60 71 *e*P **P 04 39 09.9 -1.4**
ZEI Tsey 13.63 60 *e*P **P 04 39 19.4 +7.7**
ZEI pmax pmax
comp=Z,15nm,0.8s
SOP Sopron 13.63 326 P **P 04 39 12.0 +0.3**
NIE Niedzica 13.67 339 *e*P **P 04 39 12.4 +0.3**
RSM Repubblica di 13.68 306 P **P 04 39 11.5 -0.8**
JAVS Javornik 13.71 315 *e*Pn **P 04 39 10.9 -1.7**
ZST Bratislava 13.79 328 *e*PN **P 04 39 12.7 -1.0**
ZST *e* 04 41 27.9
ZST *e* 04 43 41.1
ARSA Arzberg 13.81 322 ⇓*i*P **P 04 39 13.1 -0.9**
comp=Z,27nm,1.1s
OBKA Obir 13.82 318 ⇑*i*P **P 04 39 13.0 -1.1**
comp=Z,15nm,0.8s
AKASG Malin Array Be 13.84 4 P **P 04 39 11.3 -3.0**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 13.84 4 Pn **P 04 39 11.2 -3.1**
comp=Z,1.6nm,0.3s,baz=184,slow=13,SNR=47
CRE Caprese Michel 13.88 304 P **P 04 39 15.6 +0.6**
VOY Vojsko 13.88 315 *e*Pn **P 04 39 13.2 -1.8**
VOY *e* 04 39 15.4
VOY *e* 04 39 24.1
SMOL Smolenice 13.90 330 *e*P **P 04 39 26.9 +12**
TI2 Plekhanov 13.93 65 *e*P **P 04 39 23.4 +7.8**
BHD Baghdad 13.99 100 *e*P **P 04 39 04.0 -12**
BHD *e*S **S 04 41 45.0 -7.2**
BHD *e*LQ 04 43 25.5
BHD *e*LR LR 04 43 56.0
GOF Gofitskoye 14.04 50 ⇑*i*P **P 04 39 28.0 +11**
GOF pmax pmax
comp=Z,34nm,1.2s
GOF MLR MLR
comp=Z,3µm,14.0s
SFI Santa Sofia 14.07 305 P **P 04 39 17.3 -0.1**
PGD Poggio Sodo 14.14 305 P **P 04 39 17.4 -0.9**
VMG Vicchio 14.29 305 P **P 04 39 20.6 +0.3**
GMNA Gemona 14.39 315 P **P 04 39 21.1 -0.6**
PTCC Patocco-Chiusa 14.41 315 P **P 04 39 20.2 -1.6**
SEI Scarperia 14.45 305 P **P 04 39 24.7 +2.3**
OJC Ojcow 14.54 339 ⇓*i*P **P 04 39 31.0 +7.5**
OJC *e*PP PP 04 39 40.2 +5.2
OJC *e*S **S 04 42 15.9 +11**
OJC MLR MLR 04 45 47.5
comp=Z,2µm,17.0s
OKC Ostrava-Krasne 14.73 335 *e*P **P 04 39 26.4 +0.4**
OKC *e*x x 04 39 32.9
OKC AMS AMS 04 45 50.0
comp=Z,3µm,13.7s
VSL Villasalto 14.78 286 *e*P **P 04 39 26.5 -0.2**
VSL Villasalto 14.78 286 *e*P **P 04 39 26.5 -0.2**
KBA Koelnbreinsper 14.82 318 ⇓*i*P **P 04 39 27.0 -0.2**
comp=Z,136nm,1.6s
KBA Koelnbreinsper 14.82 318 ⇓*i*P **P 04 39 27.0 -0.2**
KBA pmax pmax
comp=Z,136nm,1.6s
FVI Forni Avoltri 14.84 315 P **P 04 39 27.4 -0.1**
MOA Molln 14.84 322 P **P 04 39 28.8 +1.3**
VRAC Vranov 14.87 330 Pn **P 04 39 26.6 -1.3**
baz=134,slow=12,SNR=10
PII Pisa 14.88 303 P **P 04 39 29.5 +1.5**
MORC Moravsky Berou 14.89 333 *e*P **P 04 39 26.6 -1.5**
MORC Moravsky Berou 14.89 333 *e*P **P 04 39 26.5 -1.6**
RAC Raciborz 14.92 335 *e*P **P 04 39 25.5 -3.0**
RAC LME 04 46 09.1
RAC MLR MLR 04 46 10.0
RAC LMN 04 46 46.8
comp=Z,5µm,14.1s
BDI Bagni Di Lucca 14.96 304 P **P 04 39 30.1 +1.1**
VLC Villacollemand 15.13 304 P **P 04 39 31.2 -0.2**
comp=Z,39nm,1.1s
VLC Villacollemand 15.13 304 P **P 04 39 31.2 -0.2**
comp=Z,39nm,1.1s
CTI Castel Tesino 15.19 312 P **P 04 39 31.5 -0.6**
SEST Monte Rota 15.24 315 P **P 04 39 35.1 +2.3**
BACM 15.39 304 P **P 04 39 35.2 +0.5**
BACM 15.39 304 P **P 04 39 35.2 +0.5**
GRAM 15.47 305 P **P 04 39 36.9 +1.1**
GRAM 15.47 305 P **P 04 39 36.9 +1.1**
BRES Bressanone 15.49 314 P **P 04 39 35.6 -0.4**
PGF Pioggiola 15.57 297 *e*P **P 04 39 37.0 -0.1**
comp=Z,245nm,1.2s
PGF Pioggiola 15.57 297 *e*P **P 04 39 37.0 -0.1**
PGF pmax pmax
comp=Z,122nm,1.2s
SAL Salo 15.66 309 P **P 04 39 37.0 -1.2**
APPI Appiano 15.67 313 P **P 04 39 39.4 +1.1**
GEC2 GERESS Array S 15.80 324 *e*P **P 04 39 42.8 +2.9**
GEC2 pmax pmax
comp=Z,212nm,1.4s
GEC2 GERESS Array S 15.80 324 *e*P **P 04 39 42.8 +2.9**
comp=Z,212nm,1.4s
GERES GERESS Array B 15.80 324 Pn **P 04 39 38.7 -1.2**
comp=Z,0.2nm,0.3s,baz=135,slow=9.4,SNR=34
GERES PcP PcP 04 44 38.3 -1.6
comp=Z,0.2nm,0.3s,baz=166,slow=2.3,SNR=5.9
GERES ScP 04 48 10.9
comp=Z,0.1nm,0.3s,baz=180,slow=1.3,SNR=6.2
GERES GERESS Array B 15.80 324 PcP PcP 04 44 38.3 -1.6
DPC Dobruska-Polom 15.81 332 *e*P **P 04 39 39.9 -0.2**
DPC AMS AMS 04 46 40.0
comp=Z,6µm,10.6s
WTTA Wattenberg 15.87 316 ⇑*i*P **P 04 39 41.3 +0.5**
comp=Z,22nm,0.9s
WTTA Wattenberg 15.87 316 ⇑*i*P **P 04 39 41.3 +0.5**
WTTA pmax pmax
comp=Z,23nm,0.9s
MABI Malga Bissina 15.88 311 P **P 04 39 43.0 +2.0**
WATA Walderalm 15.94 316 ⇓*i*P **P 04 39 41.6 -0.2**
comp=Z,28nm,0.7s
WATA Walderalm 15.94 316 ⇓*i*P **P 04 39 41.6 -0.2**
WATA pmax pmax
comp=Z,28nm,0.7s
BOB Bobbio (Coli) 15.99 305 P **P 04 39 43.6 +1.2**

KHC Kasperske Hory 16.05 324 *e*P **P 04 39 43.2 0.0**
KHC *e* 04 39 47.5
KHC *e* 04 39 58.5
KHC Kasperske Hory 16.05 324 *e*P **P 04 39 43.2 0.0**
KHC x x 04 39 47.5
KHC x x 04 39 58.5
KHC AMS AMS 04 46 40.0
comp=Z,7µm,11.5s
UPC Upice 16.05 332 *e*P **P 04 39 42.4 -0.8**
SQTA Sankt Quirin 16.08 315 ⇑*i*P **P 04 39 43.4 -0.2**
comp=Z,19nm,0.7s
SQTA Sankt Quirin 16.08 315 ⇑*i*P **P 04 39 43.4 -0.2**
SQTA pmax pmax
comp=Z,19nm,0.7s
WAR Warsaw 16.09 345 *e*P **P 04 39 47.1 +3.5**
WAR MLR MLR 04 45 19.3
comp=Z,2µm,30.2s
BRMO Bormio 16.17 312 P **P 04 39 45.7 +1.0**
MOTA Moosalm 16.21 315 ⇑*i*P **P 04 39 46.1 +0.9**
comp=Z,35nm,0.9s
MOTA Moosalm 16.21 315 ⇑*i*P **P 04 39 46.1 +0.9**
MOTA pmax pmax
comp=Z,35nm,0.9s
KSP Ksiaz 16.22 333 *e*P **P 04 39 44.8 -0.5**
KSP *e*S **S 04 42 49.0 +4.5**
KSP Ksiaz 16.22 333 *e*P **P 04 39 44.8 -0.5**
KSP *e*pP 04 39 49.6
KSP *e* 04 39 56.2
KSP *e*S **S 04 42 49.0 +4.5**
KSP Ksiaz 16.22 333 *e*P **P 04 39 45.8 +0.5**
KSP MLR MLR 04 47 06.1
comp=Z,7µm,13.6s
PRU Pruhonice 16.25 328 *e*P **P 04 39 44.0 -1.6**
PRU AMS AMS 04 46 50.0
comp=Z,4µm,11.7s
PRA Prague 16.35 328 AMS AMS 04 47 20.0
WET Wettzell 16.40 323 *e*P **P 04 39 48.9 +1.3**
WET pmax pmax
comp=Z,164nm,1.4s
WET Wettzell 16.40 323 *e*P **P 04 39 48.9 +1.3**
comp=Z,82nm,1.4s
PCP Pian Castagno 16.50 304 P **P 04 39 48.7 -0.2**
FUR Furstenfeldbru 16.59 318 *e*P **P 04 39 52.4 +2.4**
FUR pmax pmax
comp=Z,135nm,1.4s
FUR Furstenfeldbru 16.59 318 *e*P **P 04 39 52.4 +2.4**
comp=Z,68nm,1.4s
FIN Finale Ligure 16.61 302 P **P 04 39 49.8 -0.6**
DAVOX Davos 16.62 312 Pn **P 04 39 50.0 -0.4**
comp=Z,0.4nm,0.3s,baz=118,slow=7.7,SNR=26
PVCC Panska Ves 16.64 329 *e*P **P 04 39 50.5 -0.2**
PVCC *e*x x 04 39 55.0
PVCC AMS AMS 04 47 20.0
comp=Z,3µm,17.0s
IMI Imperia 16.74 301 P **P 04 39 52.5 +0.6**
IMI Imperia 16.74 301 P **P 04 39 52.5 +0.6**
CAEH `Ain El Ouahch 16.83 276 P **P 04 39 55.0 +1.8**
NEGI Negi 16.85 301 P **P 04 39 53.3 0.0**
NEGI Negi 16.85 301 P **P 04 39 53.3 0.0**
ROB Roburent 16.87 302 P **P 04 39 52.7 -0.9**
DAVA Damuels 16.88 314 ⇑*i*P **P 04 39 54.6 +0.9**
comp=Z,37nm,1.1s
VAI Varese 16.88 308 P **P 04 39 55.2 +1.5**
MONE Monesi 16.88 301 P **P 04 39 53.1 -0.6**
MONE Monesi 16.88 301 P **P 04 39 53.1 -0.6**
UBR Uberruh 16.96 315 ⇓*e*P **P 04 39 55.7 +1.0**
UBR Uberruh 16.96 315 P **P 04 39 56.9 +2.2**
CKFL Kef-Lekhel 16.99 275 P **P 04 39 57.5 +2.4**
SAOF Saorge 16.99 301 *e*P **P 04 39 55.7 +0.6**
SBF Sospel 17.04 300 *e*P **P 04 39 55.7 0.0**
comp=Z,705nm,1.3s
SBF Sospel 17.04 300 *e*P **P 04 39 55.7 0.0**
SBF pmax pmax
comp=Z,353nm,1.3s
REVF Revere 17.05 300 *e*P **P 04 39 55.8 0.0**
AUTN L'Aution 17.08 301 *e*P **P 04 39 57.8 +1.6**
ENR Entracque 17.16 302 P **P 04 39 57.6 +0.4**
BRG Berggiesshubel 17.16 329 *i* P **P 04 39 59.1 +1.9**
BRG pmax pmax
comp=Z,110nm,1.5s
BRG Berggiesshubel 17.16 329 *i* P **P 04 39 59.1 +1.9**
comp=Z,110nm,1.5s
BRG *i* 04 40 04.7
BRG *e*S **S 04 43 19.0 +13**
BRG Berggiesshubel 17.16 329 *e*P **P 04 39 58.1 +0.9**
comp=Z,100nm,0.9s
LLS Linth-Limmern 17.17 311 ⇑P **P 04 39 59.2 +1.8**
TOUF Mont Tournerai 17.21 301 *e*P **P 04 39 59.0 +1.1**
NOTT Nottersdorf 17.21 324 *e*P **P 04 39 59.0 +1.1**
comp=Z,66nm,1.5s
STV Sta Anna Valdi 17.23 302 P **P 04 39 57.9 -0.2**
MVIF Mont Vial 17.24 300 *e*P **P 04 39 59.2 +0.9**
ORO Oropa 17.28 307 P **P 04 39 59.4 +0.7**
ORX Oropa 17.28 307 P **P 04 39 59.2 +0.4**
NKC Novy Kostel 17.35 325 *e*P **P 04 40 01.3 +1.7**
NKC AMS AMS 04 47 30.0
comp=Z,4µm,12.3s
DOI San Damiano 17.36 302 P **P 04 40 01.3 +1.5**
MCGN Macugnaga 17.41 308 P **P 04 40 01.7 +1.3**
HDH Heidenheim 17.41 318 *e*P **P 04 40 00.5 +0.1**
HDH Heidenheim 17.41 318 P **P 04 40 01.0 +0.6**
SUW Suwalki 17.43 351 *e*P **P 04 39 57.3 -3.2**
SUW pmax pmax
comp=Z,209nm,1.0s
SUW Suwalki 17.43 351 *e*P **P 04 39 57.3 -3.1**
comp=Z,209nm,1.0s
SUW *e*P 04 40 01.2
SUW Suwalki 17.43 351 *e*P **P 04 40 01.2 +0.7**
SUW MLR MLR 04 46 24.0
comp=Z,1µm,30.4s
MUO Muotathal 17.45 311 ⇓P **P 04 40 03.0 +2.1**
PZZ Prazzo 17.46 302 P **P 04 40 01.4 +0.4**
BHB Bricherasio 17.46 303 P **P 04 40 00.9 -0.2**
BHB Bricherasio 17.46 303 P **P 04 40 00.9 -0.1**
MMK Mattmark 17.46 308 ⇓P **P 04 40 03.3 +2.3**
MMK Mattmark 17.46 308 P **P 04 40 03.3 +2.3**
GUNZ Gunzen 17.50 325 *e*P **P 04 40 02.6 +1.2**
comp=Z,244nm,1.0s
FRF La Foret Royal 17.50 299 *e*P **P 04 40 01.3 -0.2**
comp=Z,340nm,1.3s
FRF La Foret Royal 17.50 299 *e*P **P 04 40 01.3 -0.2**
FRF pmax pmax
comp=Z,170nm,1.3s
WILA Wila 17.51 313 ⇓P **P 04 40 03.3 +1.7**
LMR La Mourre 17.54 298 *e*P **P 04 40 01.9 -0.1**
comp=Z,181nm,1.4s
LMR La Mourre 17.54 298 *e*P **P 04 40 01.9 -0.1**
LMR pmax pmax
comp=Z,91nm,1.4s
GRA1 Grafenberg Arr 17.57 322 *e*P **P 04 40 02.9 +0.6**
comp=Z,102nm,1.3s
GRF Grafenberg Arr 17.57 322 *e*P **P 04 40 02.9 +0.6**
GRF pmax pmax
comp=Z,204nm,1.3s
GRF Grafenberg Arr 17.57 322 *e*P **P 04 40 02.9 +0.6**
GRF pmax pmax
comp=Z,204nm,1.3s
GRF Grafenberg Arr 17.57 322 *e*P **P 04 40 02.9 +0.6**
comp=Z,102nm,1.3s
RSP Reno Superiore 17.57 304 P **P 04 40 02.3 -0.1**
MNK Minsk 17.61 360 *e*P **P 04 40 00.0 -2.7**
SISB Singen-Sch Ber 17.62 314 P **P 04 40 04.5 +1.6**
FENE Fenestrelle 17.66 304 P **P 04 40 04.2 +0.7**
FENE Fenestrelle 17.66 304 P **P 04 40 04.2 +0.7**
OG22 Abries 17.67 303 *e*P **P 04 40 07.7 +4.1**
GUT Gutenstein 17.73 315 ⇓*e*P **P 04 40 04.9 +0.6**
LSD Ceresole Reale 17.75 305 P **P 04 40 04.5 -0.1**
MBDF Montbardon 17.76 303 *e*P **P 04 40 04.8 +0.1**
comp=Z,101nm,0.8s
MBDF Montbardon 17.76 303 *e*P **P 04 40 04.8 +0.1**
MBDF pmax pmax
comp=Z,50nm,0.8s
BUCH Bad Urach 17.80 316 ⇓*e*P **P 04 40 05.7 +0.5**
BUCH Bad Urach 17.80 316 P **P 04 40 06.0 +0.8**
RRL Cesana Torines 17.81 303 P **P 04 40 05.9 +0.6**
LKBD Leukerbad 17.82 308 ⇓P **P 04 40 07.5 +2.1**
DIX Grande Dixence 17.83 307 ⇑P **P 04 40 08.0 +2.5**
CLL Collm 17.88 328 ⇓*i*P **P 04 40 07.1 +0.9**
CLL pmax pmax
comp=Z,108nm,1.4s
CLL Collm 17.88 328 ⇓*i*P **P 04 40 07.1 +0.9**
comp=Z,108nm,1.4s
CLL *i* 04 40 12.0

CLL *e*S **S 04 43 32.0 +9.5**
CLL Collm 17.88 328 ⇓P **P 04 40 07.1 +0.9**
comp=Z,logA/T=1.9
CLL *i* 04 40 12.0
CLL *i* 04 40 19.0
CLL *e*S **S 04 43 32.0 +9.5**
CLL Collm 17.88 328 *i* P **P 04 40 07.1 +0.9**
comp=Z,54nm,1.4s
BNI Bardonecchia 17.93 304 *e*P **P 04 40 08.9 +2.1**
BNI pmax pmax
comp=Z,155nm,1.3s
BNI Bardonecchia 17.93 304 *e*P **P 04 40 08.9 +2.1**
comp=Z,156nm,1.3s
BNI Bardonecchia 17.93 304 *e*P **P 04 40 08.9 +2.1**
comp=Z,78nm,1.3s
TAVF Tavernes 17.93 299 *e*P **P 04 40 08.8 +2.0**
SLE Schleitheim 17.93 313 ⇓P **P 04 40 07.5 +0.7**
SLE Schleitheim 17.93 313 P **P 04 40 07.5 +0.7**
SPAK Spaichingen 17.93 315 ⇓*e*P **P 04 40 07.7 +0.8**
GKP Gorka Klasztor 17.98 339 *e*P **P 04 40 08.3 +0.9**
GKP MLR MLR 04 48 50.0
comp=Z,2µm,18.2s
MOX Moxa 18.02 325 *e*P **P 04 40 09.6 +1.6**
MOX pmax pmax
comp=Z,321nm,1.5s
MOX Moxa 18.02 325 *e*P **P 04 40 09.6 +1.6**
comp=Z,321nm,1.5s
MOX Moxa 18.02 325 *i* P **P 04 40 09.6 +1.6**
comp=Z,logA/T=2.3
MOX S **S 04 43 38.0 +12**
MOX L 04 47 25.0
MOX Moxa 18.02 325 *e*P **P 04 40 09.4 +1.4**
comp=Z,253nm,1.3s
LPG La Plagne 18.03 305 *e*P **P 04 40 08.5 +0.4**
comp=Z,348nm,1.0s
LPG La Plagne 18.03 305 *e*P **P 04 40 08.5 +0.4**
LPG pmax pmax
comp=Z,174nm,1.0s
SULZ Sulz-Cheisache 18.04 312 ⇑P **P 04 40 08.7 +0.5**
LPL La Plagne 18.05 305 *e*P **P 04 40 08.9 +0.5**
comp=Z,306nm,1.2s
LPL La Plagne 18.05 305 *e*P **P 04 40 08.9 +0.5**
LPL pmax pmax
comp=Z,153nm,1.2s
STU Stuttgart 18.07 317 *e*P **P 04 40 09.2 +0.6**
STU pmax pmax
comp=Z,55nm,0.7s
STU Stuttgart 18.07 317 *e*P **P 04 40 09.2 +0.6**
comp=Z,55nm,0.7s
STU Stuttgart 18.07 317 *e*P **P 04 40 08.9 +0.3**
comp=Z,68nm,1.0s
EMV Vieux Emosson 18.15 307 ⇑P **P 04 40 10.8 +1.2**
PUYF Puyloubier 18.16 298 *e*P **P 04 40 11.8 +2.0**
SIND Sindeldorf 18.18 319 *e*P **P 04 40 09.1 -0.9**
SIND Sindeldorf 18.18 319 P **P 04 40 11.3 +1.3**
VILF Villemus 18.23 299 *e*P **P 04 40 12.3 +1.7**
LBG Lerchenberg 18.23 316 ⇓*e*P **P 04 40 10.7 +0.1**
LBG Lerchenberg 18.23 316 P **P 04 40 12.8 +2.2**
FELD Feldberg 18.27 313 ⇓*e*P **P 04 40 11.7 +0.6**
BFO Black Forest 18.31 315 *e*P **P 04 40 11.9 +0.3**
BFO pmax pmax
comp=Z,79nm,1.4s
BFO Black Forest 18.31 315 *e*P **P 04 40 11.9 +0.3**
comp=Z,40nm,1.4s
SMRF Simiane la Rot 18.36 300 *e*P **P 04 40 12.4 +0.2**
comp=Z,220nm,1.3s
KIZ Kirchzarten 18.36 313 ⇓*e*P **P 04 40 12.5 +0.3**
KIZ Kirchzarten 18.36 313 P **P 04 40 12.9 +0.7**
BBS Basel-Blauen 18.37 311 ⇓*e*P **P 04 40 13.1 +0.8**
BBS Basel-Blauen 18.37 311 *e*P **P 04 40 12.8 +0.5**
TREF Trevaresse 18.41 298 *e*P **P 04 40 14.4 +1.6**
ORIF Oris-en-Rattie 18.42 303 *e*P **P 04 40 13.2 +0.3**
comp=Z,40nm,0.8s
ORIF *e*R
comp=Z,2µm,18.8s
RUE Ruedersdorf 18.47 332 *e*P **P 04 40 13.8 +0.2**
comp=Z,111nm,0.8s
RUE Ruedersdorf 18.47 332 *e*P **P 04 40 13.7 +0.2**
comp=Z,188nm,1.2s
PRAF Pradon 18.60 299 *e*P **P 04 40 16.5 +1.4**
LIBD Limburg 18.64 313 ⇓*e*P **P 04 40 16.5 +0.9**
LIBD Limburg 18.64 313 *e*P **P 04 40 15.7 +0.1**
OCF Saint Nazaire 18.71 301 *e*P **P 04 40 16.5 0.0**
OG26 St.-Nazaire-De 18.71 301 *e*P **P 04 40 16.5 0.0**
LOMF Lomont 18.73 310 *e*P **P 04 40 17.0 +0.3**
TOD Tromm 18.76 319 ⇓*e*P **P 04 40 17.4 +0.4**
TOD Tromm 18.76 319 *e*P **P 04 40 18.4 +1.4**
STR Strasbourg 18.77 315 *e*P **P 04 40 18.2 +1.1**
MOF Molkenrain 18.77 312 *e*P **P 04 40 16.5 -0.7**
CABF La Chapelle 18.88 308 *e*P **P 04 40 18.5 0.0**
comp=Z,684nm,1.3s
CABF La Chapelle 18.88 308 *e*P **P 04 40 18.5 0.0**
CABF pmax pmax
comp=Z,342nm,1.3s
UBBA Unterbreizbach 18.90 323 *e*P **P 04 40 19.1 +0.4**
comp=Z,80nm,1.5s
WLS Welschbruch 18.92 314 *e*P **P 04 40 19.1 +0.2**
HINF Hinteralfeld 18.92 312 *e*P **P 04 40 19.5 +0.5**
ECH Echery 18.93 313 *e*P **P 04 40 19.3 +0.2**
LANF Langenberg 18.95 316 *e*P **P 04 40 20.9 +1.6**
CDF Champ du Feu 18.96 314 *e*P **P 04 40 19.7 +0.3**
comp=Z,285nm,1.4s
CDF Champ du Feu 18.96 314 *e*P **P 04 40 19.7 +0.3**
CDF pmax pmax
comp=Z,142nm,1.4s
KTD Kalmit 18.98 317 ⇓*e*P **P 04 40 19.9 +0.2**
KTD Kalmit 18.98 317 *e*P **P 04 40 21.2 +1.5**
OBN Obninsk 19.17 15 *i* P **P 04 40 18.7 -3.2**
OBN pmax pmax
comp=Z,84nm,1.2s
OBN MLR MLR
comp=Z,900nm,17.0s
OBN Obninsk 19.17 15 *e*P **P 04 40 17.7 -4.1**
comp=Z,53nm,0.8s
VIVF Saint-Julien-l 19.22 302 *e*P **P 04 40 23.0 +0.5**
comp=Z,382nm,1.4s
VIVF Saint-Julien-l 19.22 302 *e*P **P 04 40 23.0 +0.5**
VIVF pmax pmax
comp=Z,191nm,1.4s
HAU Haudompre 19.31 312 *e*P **P 04 40 23.8 +0.2**
comp=Z,94nm,0.8s
HAU *e*R
comp=Z,3µm,17.8s
CLZ Clausthal 19.41 326 *e*P **P 04 40 24.1 -0.6**
comp=Z,131nm,1.2s
ABH Alteburg 19.59 318 *e*P **P 04 40 26.5 -0.2**
ABH Alteburg 19.59 318 *e*P **P 04 40 27.4 +0.7**
LASF Ste Croix 19.59 299 *e*P **P 04 40 26.7 0.0**
comp=Z,340nm,1.5s
THEF They Montfort 19.63 312 *e*P **P 04 40 26.4 -0.8**
RUP Ruppelstein 19.75 317 ⇓*e*P **P 04 40 28.4 -0.1**
RUP Ruppelstein 19.75 317 *e*P **P 04 40 26.1 -2.4**
ABA Alger-Bouzarea 19.87 277 P **P 04 40 30.0 +0.1**
MOS Moscow 19.98 16 *e*P **P 04 40 29.3 -1.7**
MOS *e*S **S 04 44 16.9 +7.6**
MOS pmax pmax
comp=Z,236nm,1.4s
MOS MLR MLR
comp=Z,1µm,18.7s
MOS Moscow 19.98 16 *e*P **P 04 40 29.3 -1.7**
comp=Z,118nm,1.4s
NRDL Niedersach Rie 19.98 327 *e*P **P 04 40 30.2 -0.9**
comp=Z,138nm,1.3s
EJON La Jonquera 19.98 294 P **P 04 40 30.6 -0.6**
comp=Z,48nm,1.3s
EJON La Jonquera 19.98 294 P **P 04 40 30.6 -0.6**
comp=Z,48nm,1.3s,SNR=6.3
SJAF Saint Jean de 19.99 294 *e*P **P 04 40 29.2 -2.1**
COLF Collangettes 20.07 303 *e*P **P 04 40 31.4 -0.6**
WLF Walferdange 20.23 316 *e*P **P 04 40 32.8 -0.9**
WLF pmax pmax
comp=Z,72nm,1.0s
WLF Walferdange 20.23 316 *e*P **P 04 40 32.8 -0.9**
comp=Z,72nm,1.0s
WLF Walferdange 20.23 316 *e*P **P 04 40 32.8 -0.9**
comp=Z,36nm,1.0s
FILF Fillols 20.24 294 *e*P **P 04 40 33.4 -0.4**
PLDF La Plantade 20.26 304 *e*P **P 04 40 33.2 -0.7**
BSD Bornholm Skovb 20.26 338 *i* P **P 04 40 31.2 -2.7**
comp=Z,62nm,1.1s
BSD *i* S **S 04 44 14.6 -0.5**
comp=Z,2µm,16.0s
LBL Lubilhac 20.30 302 *e*P **P 04 40 34.4 +0.1**
LRDF Laroque-de-Fa 20.31 295 *e*P **P 04 40 32.0 -2.5**
MEZF Maizieres J'vi 20.31 312 *e*P **P 04 40 35.3 +0.8**

comp=Z,268nm,1.2s
SMF Signal de Mont 20.33 306 *e*P P 04 40 34.4 -0.3
comp=Z,862nm,1.3s
SMF Signal de Mont 20.33 306 *e*P P 04 40 34.4 -0.3
SMF pmax pmax
comp=Z,431nm,1.3s
PYM Petit Puy Mans 20.60 303 *e*P P 04 40 37.6 +0.1
MTLF Montolieu 20.61 296 *e*P P 04 40 36.8 -0.8
comp=Z,112nm,1.1s
MTLF Montolieu 20.61 296 *e*P P 04 40 36.8 -0.8
MTLF pmax pmax
comp=Z,56nm,1.1s
AGO Saint Agoulin 20.61 304 *e*P P 04 40 37.6 0.0
SSF Saint Saulge 20.69 307 *e*P P 04 40 38.1 -0.3
SSF pmax pmax
comp=Z,106nm,0.8s
SSF Saint Saulge 20.69 307 *e*P P 04 40 38.1 -0.3
comp=Z,106nm,0.8s
AVF Avril sur Loir 20.70 306 *e*P P 04 40 38.3 -0.2
comp=Z,883nm,1.3s
AVF Avril sur Loir 20.70 306 *e*P P 04 40 38.3 -0.2
AVF pmax pmax
comp=Z,442nm,1.3s
FRNF Fournols 20.80 302 *e*P P 04 40 41.2 +1.6
FRNF Fournols 20.80 302 *e*P P 04 40 40.5 +0.9
FRNF *e*P 04 40 41.2
MEM Membach 20.81 318 P P **04 40 40.1 +0.5**
BSEG Bad Segeberg 20.93 330 *e*P P 04 40 39.2 -1.6
EMIR Miracle 20.93 292 P P **04 40 41.9 +1.0**
comp=Z,70nm,1.1s,SNR=11
HGN Heimansgroeve 20.94 318 *e*P P 04 40 41.5 +0.5
comp=Z,62nm,1.6s
HGN *e*S S **04 44 37.0 +8.4**
BGF Bois d'Agland 20.95 305 *e*P P 04 40 41.1 0.0
comp=Z,812nm,1.3s
BGF Bois d'Agland 20.95 305 *e*P P 04 40 41.1 0.0
BGF pmax pmax
comp=Z,406nm,1.3s
VERF Verneugheol 20.95 303 *e*P P 04 40 42.9 +1.8
EIBI Ibiza 21.00 284 P P **04 40 41.9 +0.2**
comp=Z,40nm,1.3s,mb4.6
EIBI Ibiza 21.00 284 P P **04 40 41.9 +0.2**
comp=Z,40nm,1.3s,mb4.6,SNR=7.9
CAF Calviac 21.03 300 *e*P P 04 40 41.9 0.0
comp=Z,174nm,1.4s,mb4.9
CAF Calviac 21.03 300 *e*P P 04 40 41.9 0.0
CAF pmax pmax
comp=Z,87nm,1.4s,mb4.9
WTSB Winterswijk 21.18 322 *e*P P 04 40 43.2 -0.2
comp=Z,134nm,2.2s,mb4.9
GIVF Givet 21.20 316 *e*P P 04 40 44.3 +0.7
comp=Z,51nm,0.8s,mb4.6
GIVF Givet 21.20 316 *e*P P 04 40 44.3 +0.7
GIVF pmax pmax
comp=Z,25nm,0.8s,mb4.6
EPOB Poblet 21.22 290 P P **04 40 43.7 -0.2**
comp=Z,124nm,1.5s,mb5.0
EPOB Poblet 21.22 290 P P **04 40 43.7 -0.2**
comp=Z,124nm,1.5s,mb5.0,SNR=7.9
SALF Salau 21.27 294 *e*P P 04 40 48.6 +4.2
TCF Toulx Ste Croi 21.29 304 *e*P P 04 40 44.9 +0.4
comp=Z,301nm,1.3s,mb5.2
TCF Toulx Ste Croi 21.29 304 *e*P P 04 40 44.9 +0.4
TCF pmax pmax
comp=Z,151nm,1.3s,mb5.2
HYF Humbligny 21.32 307 *e*P P 04 40 45.4 +0.6
DOU Dourbes 21.32 316 P P **04 40 42.7 -2.1**
RJF Les Rejaudoux 21.50 301 *e*P P 04 40 47.8 +1.2
comp=Z,61nm,0.8s,mb4.7
RJF *e*R
comp=Z,1μm,19.8s
RJF Les Rejaudoux 21.50 301 *e*P P 04 40 47.8 +1.2
RJF pmax pmax
comp=Z,30nm,0.8s,mb4.7
RJF MLR MLR
comp=Z,1μm,19.8s,MS4.2
COP Copenhagen 21.52 336 *e*P P 04 40 48.5 +1.7
COP pmax pmax
comp=Z,122nm,1.3s,mb5.2
COP MLR MLR
comp=Z,410nm,18.0s,MS3.9
COP Copenhagen 21.52 336 *e*P P 04 40 48.5 +1.7
comp=Z,122nm,1.3s,mb5.2
COP *i* S S **04 44 57.2 +18**
COP LR LR
comp=Z,410nm,18.0s,MS3.9
COP Copenhagen 21.52 336 *i* P P **04 40 48.5 +1.7**
comp=Z,122nm,1.3s,mb5.2
COP *i* S S **04 44 57.2 +18**
comp=Z,400nm,18.0s
BAIF Baives 21.52 315 *e*P P 04 40 47.6 +0.7
comp=Z,230nm,1.3s,mb5.2
BAIF Baives 21.52 315 *e*P P 04 40 47.6 +0.7
BAIF pmax pmax
comp=Z,115nm,1.3s,mb5.2
VSU Vasula 21.59 358 *i* P P **04 40 46.9 -0.6**
VSU Vasula 21.59 358 *i* P P **04 40 46.8 -0.7**
EBR Ebro Roquetas 21.64 289 *e*P P 04 40 47.0 -1.2
SNF Seneffe 21.70 316 P P **04 40 48.7 +0.1**
comp=Z,52nm,2.1s,mb4.6
ERTA Horta de San J 21.77 289 P P **04 40 50.0 +0.6**
comp=Z,122nm,1.6s,mb5.1
ERTA Horta de San J 21.77 289 P P **04 40 50.0 +0.6**
comp=Z,122nm,1.6s,mb5.1,SNR=8.4
UCC Uccle 21.80 317 P P **04 40 50.3 +0.6**
RESF Ens 21.90 294 *e*P P 04 40 51.3 +0.6
EPF Esparros 21.92 295 *e*P P 04 40 51.2 +0.3
LFF La Frestale 21.95 300 *e*P P 04 40 51.6 +0.4
comp=Z,184nm,1.4s,mb5.0
LFF La Frestale 21.95 300 *e*P P 04 40 51.6 +0.4
LFF pmax pmax
comp=Z,92nm,1.4s,mb5.0
EBIE Bielsa 22.03 294 P P **04 40 52.6 +0.7**
comp=Z,1.1nm,0.6s
EBIE Bielsa 22.03 294 P P **04 40 52.6 +0.6**
comp=Z,1.1nm,0.6s,SNR=8.3
LABF Labassere 22.12 295 *e*P P 04 40 56.6 +3.7
EBEN Beniarda 22.25 283 P P **04 40 55.4 +1.2**
comp=Z,70nm,1.4s,mb4.9
EBEN Beniarda 22.25 283 P P **04 40 55.4 +1.2**
comp=Z,70nm,1.4s,mb4.9,SNR=5.9
EMOS Mosqueruela 22.37 288 P P **04 40 57.1 +1.7**
comp=Z,55nm,1.4s,mb4.8
EMOS Mosqueruela 22.37 288 P P **04 40 57.1 +1.7**
comp=Z,55nm,1.4s,mb4.8,SNR=9.9
ESAC San Caprasio 22.41 291 P P **04 40 56.2 +0.4**
comp=Z,67nm,1.0s,mb5.0
ESAC San Caprasio 22.41 291 P P **04 40 56.2 +0.5**
comp=Z,67nm,1.0s,mb5.0,SNR=8.2
ETSF Etsaut 22.56 294 *e*P P 04 40 58.2 +0.9
comp=Z,85nm,1.3s,mb4.7
ETSF Etsaut 22.56 294 *e*P P 04 40 58.2 +0.9
ETSF pmax pmax
comp=Z,43nm,1.3s,mb4.7
LARF Larrau 22.89 295 *e*P P 04 41 02.6 +2.1
MFF Saint Martin d 22.94 304 *e*P P 04 41 01.2 +0.3
comp=Z,521nm,1.4s,mb5.5
MFF Saint Martin d 22.94 304 *e*P P 04 41 01.2 +0.3
MFF pmax pmax
comp=Z,261nm,1.4s,mb5.5
PUL Pulkovo 22.94 3 *e*P P 04 41 01.4 +0.6
PUL *e*S S **04 45 13.1 +7.6**
PUL pmax pmax
comp=Z,520nm,1.2s,mb5.8
PUL pmax pmax
comp=N,1μm,1.4s
PUL MLR MLR
comp=Z,1μm,8.0s
PUL MLR MLR
comp=N,591nm,6.0s
PUL MLR MLR
comp=E,291nm,5.0s
PUL Pulkovo 22.94 3 *i* P P **04 41 01.5 +0.7**
PUL Pulkovo 22.94 3 *e*P P 04 41 01.4 +0.6
comp=E,705nm,8.0s
SJPF Ste Jean 23.07 295 *e*P P 04 41 03.1 +0.9
comp=E,65nm,1.1s,mb4.7
SJPF Ste Jean 23.07 295 *e*P P 04 41 03.1 +0.9
SJPF pmax pmax
comp=Z,32nm,1.1s,mb4.7
EMUR La Murta 23.12 281 P P **04 41 03.0 +0.2**
comp=Z,46nm,1.6s,mb4.7
EMUR La Murta 23.12 281 P P **04 41 03.0 +0.2**
comp=Z,46nm,1.6s,mb4.7,SNR=7.9
MUD Monsted U'grnd 23.26 333 *i* P P **04 41 06.2 +2.3**
comp=Z,159nm,1.2s,mb5.3
MUD *i* S S **04 45 21.9 +11**
comp=Z,2μm,15.0s
EALK Alkurruntz 23.29 295 P P **04 41 05.2 +0.9**
comp=Z,53nm,1.2s,mb4.8
EALK Alkurruntz 23.29 295 P P **04 41 05.2 +0.9**
comp=Z,53nm,1.2s,mb4.8,SNR=7.9
LCHF La Chataignera 23.36 304 *e*P P 04 41 06.2 +1.3
LDF La Druitiere 23.51 309 *e*P P 04 41 06.7 +0.2
comp=Z,556nm,1.3s,mb5.5
LDF La Druitiere 23.51 309 *e*P P 04 41 06.7 +0.2
LDF pmax pmax
comp=Z,278nm,1.3s,mb5.5
FLN La Foliniere 23.80 309 *e*P P 04 41 10.2 +1.0
comp=Z,459nm,1.1s,mb5.5
FLN *e*R
comp=Z,1μm,23.0s
FLN La Foliniere 23.80 309 *e*P P 04 41 10.2 +1.0
FLN pmax pmax
comp=Z,229nm,1.1s,mb5.5
FLN MLR MLR
comp=Z,1μm,23.0s,MS4.3
GRR Gorron 23.91 308 *e*P P 04 41 10.5 +0.2
comp=Z,824nm,1.1s,mb5.8
GRR Gorron 23.91 308 *e*P P 04 41 10.5 +0.2
GRR pmax pmax
comp=Z,412nm,1.1s,mb5.8
ENIJ Nijar 24.00 279 P P **04 41 12.0 +0.6**
ENIJ pmax pmax
comp=Z,33nm,0.9s,mb4.8
ENIJ Nijar 24.00 279 P P **04 41 12.0 +0.6**
comp=Z,33nm,0.9s,mb4.8,SNR=7.9
EVIA Vianos 24.03 283 P P **04 41 13.0 +1.4**
EVIA pmax pmax
comp=Z,57nm,0.9s,mb5.0
EVIA Vianos 24.03 283 P P **04 41 13.0 +1.4**
comp=Z,57nm,0.9s,mb5.0
EVIA Vianos 24.03 283 P P **04 41 13.0 +1.4**
comp=Z,57nm,0.9s,mb5.0,SNR=20
EBER Berja 24.55 279 P P **04 41 17.7 +0.9**
comp=Z,70nm,1.2s,mb5.1
EBER Berja 24.55 279 P P **04 41 17.7 +1.0**
comp=Z,70nm,1.2s,mb5.1,SNR=15
EQES Quesada 24.57 282 P P **04 41 18.0 +1.2**
comp=Z,54nm,1.0s,mb5.0
EQES Quesada 24.57 282 P P **04 41 18.0 +1.2**
comp=Z,54nm,1.0s,mb5.0,SNR=14
FINES FINESS Array B 24.60 358 P P **04 41 17.1 +0.3**
comp=Z,26nm,0.8s,mb4.8,baz=159,slow=11,SNR=46
FINES PcP PcP 04 44 55.1 -0.6
comp=Z,0.8nm,0.5s,baz=90,slow=1.4,SNR=3.9
FINES LR LR 04 51 27.8
comp=Z,626nm,20.6s,MS4.1,baz=354,slow=38
FINES FINESS Array B 24.60 358 P P **04 41 17.1 +0.2**
FINES FINESS Array B 24.60 358 PcP PcP 04 44 55.1 -0.7
ELAN Lanestosa 24.69 295 P P **04 41 20.5 +2.5**
comp=Z,116nm,1.6s,mb5.2,SNR=10
SGMF Saint Gilles 24.96 307 *e*P P 04 41 21.1 +0.6
comp=Z,355nm,1.3s,mb5.5
SGMF Saint Gilles 24.96 307 *e*P P 04 41 21.1 +0.6
SGMF pmax pmax
comp=Z,177nm,1.3s,mb5.4
HFS Hagfors 24.97 343 P P **04 41 20.7 +0.2**
comp=Z,40nm,0.9s,mb4.9,baz=153,slow=6.6,SNR=25
ESDC Sonseca Array 25.08 286 P P **04 41 21.8 +0.1**
comp=Z,16nm,0.6s,mb4.7,baz=81,slow=9.4,SNR=90
ESDC Sonseca Array 25.08 286 P P **04 41 21.5 -0.2**
comp=Z,46nm,0.8s,mb5.0
ESDC Sonseca Array 25.08 286 P P **04 41 21.5 -0.2**
comp=Z,46nm,0.8s,mb5.0,SNR=112
GUD Guadarrama 25.18 288 P P **04 41 23.1 +0.5**
GUD pmax pmax
comp=Z,19nm,0.7s,mb4.7
GUD Guadarrama 25.18 288 P P **04 41 23.1 +0.5**
comp=Z,19nm,0.7s,mb4.7
GUD Guadarrama 25.18 288 P P **04 41 23.1 +0.5**
comp=Z,19nm,0.7s,mb4.7,SNR=7.9
ERON Agron 25.26 280 P P **04 41 23.4 0.0**
comp=Z,5.0nm,0.6s,mb4.2
ERON Agron 25.26 280 P P **04 41 23.4 0.0**
comp=Z,5.0nm,0.6s,mb4.2,SNR=8.6
KAF Kangasniemi 25.26 358 *e*p P **04 41 23.5 +0.3**
comp=Z,47nm,0.8s,mb5.1
KAF Kangasniemi 25.26 358 *e*P P 04 41 23.5 +0.3
KAF pmax pmax
comp=Z,47nm,0.8s,mb5.1
QUIF Quistinic 25.26 306 *e*P P 04 41 23.7 +0.3
comp=Z,299nm,1.2s,mb5.4
QUIF Quistinic 25.26 306 *e*P P 04 41 23.7 +0.3
QUIF pmax pmax
comp=Z,149nm,1.2s,mb5.4
ROSF Rostrenen 25.44 307 *e*P P 04 41 24.1 -0.9
comp=Z,88nm,0.8s,mb5.1
ROSF Rostrenen 25.44 307 *e*P P 04 41 24.1 -0.9
ROSF pmax pmax
comp=Z,44nm,0.8s,mb5.0
ELOJ Sierra Loja 25.51 280 P P **04 41 25.3 -0.5**
ELOJ pmax pmax
comp=Z,15nm,1.2s,mb4.4
ELOJ Sierra Loja 25.51 280 P P **04 41 25.3 -0.5**
comp=Z,14nm,1.2s,mb4.4
ELOJ Sierra Loja 25.51 280 P P **04 41 25.3 -0.5**
comp=Z,14nm,1.2s,mb4.4,SNR=6.9
ELUQ Luque 25.54 281 P P **04 41 25.3 -0.8**
comp=Z,4.5nm,0.3s,mb4.5,SNR=12
EADA Adamuz 25.70 283 P P **04 41 27.2 -0.4**
comp=Z,47nm,1.6s,mb4.8
EADA Adamuz 25.70 283 P P **04 41 27.2 -0.4**
comp=Z,47nm,1.6s,mb4.8,SNR=7.9
EARI Arriondas 25.99 295 P P **04 41 30.2 0.0**
comp=Z,81nm,1.4s,mb5.1
EARI Arriondas 25.99 295 P P **04 41 30.2 0.0**
comp=Z,81nm,1.4s,mb5.1,SNR=5.8
EMIJ Mijas 26.10 279 P P **04 41 30.6 -0.7**
comp=Z,40nm,1.0s,mb4.9,SNR=11
JOF Joensuu 26.14 4 *e*p P **04 41 30.5 -0.9**
comp=Z,36nm,0.9s,mb4.9
NB2 NORSAR Subarra 26.36 342 P P **04 41 32.3 -1.2**
comp=Z,20nm,1.1s,mb4.6,baz=145,slow=9.3
NB2 NORSAR Subarra 26.36 342 P P **04 41 32.3 -1.2**
NB2 pmax pmax
comp=Z,20nm,1.1s,mb4.6
NOA NORSAR Array B 26.36 342 P P **04 41 32.5 -0.9**
comp=Z,12nm,0.9s,mb4.4,baz=145,slow=8.6,SNR=20
NOA LR LR 04 52 46.5
comp=Z,325nm,19.6s,MS3.9,baz=150,slow=38
NOA NORSAR Array B 26.36 342 P P **04 41 32.5 -0.9**
NOA LR LR 04 52 46.5
ESPR Espera 26.90 280 P P **04 41 38.4 -0.2**
comp=Z,25nm,0.8s,mb4.8
ESPR Espera 26.90 280 P P **04 41 38.4 -0.3**
comp=Z,25nm,0.8s,mb4.8,SNR=9.6
ECAL Calabor 27.09 291 P P **04 41 38.9 -1.5**
comp=Z,96nm,1.0s,mb5.3
ECAL Calabor 27.09 291 P P **04 41 38.9 -1.4**
comp=Z,96nm,1.0s,mb5.3,SNR=12
PBRG Braganca 27.10 291 *e*P P 04 41 42.8 +2.4
comp=Z,67nm,1.5s,mb5.0
EMIN Mina Concepcio 27.40 282 P P **04 41 42.5 -0.7**
comp=Z,5.9nm,0.4s,mb4.4,SNR=21
EPON Pontenova 27.41 295 P P **04 41 42.4 -0.8**
comp=Z,0.9nm,0.6s
EPON Pontenova 27.41 295 P P **04 41 42.4 -0.8**
comp=Z,0.9nm,0.6s,SNR=4.8
EBAD Badajoz 27.52 285 P P **04 41 42.5 -1.8**
comp=Z,28nm,0.9s,mb4.9
EBAD Badajoz 27.52 285 P P **04 41 42.5 -1.8**
comp=Z,28nm,0.9s,mb4.9,SNR=12
PCBR Castelo Branco 27.77 287 *e*P P 04 41 45.9 -0.6
comp=Z,53nm,1.6s,mb4.9
PCBR Castelo Branco 27.77 287 *e*P P 04 41 45.8 -0.7
MTE Manteigas 27.77 288 *e*P P 04 41 46.0 -0.5
comp=Z,87nm,1.2s,mb5.3
MTE Manteigas 27.77 288 *e*P P 04 41 43.7 -2.9
comp=Z,42nm,0.9s,mb5.1
MTE *e*P pP 04 41 47.5 -4.4
EKA Eskdalemuir Ar 27.98 321 P P **04 41 46.8 -1.5**
comp=Z,8.4nm,0.6s,mb4.5,baz=115,slow=9.7,SNR=15
PVIS Viseu 28.01 289 *e*P P 04 41 48.5 -0.2
comp=Z,34nm,1.3s,mb4.8
PVIS Viseu 28.01 289 *e*P P 04 41 48.4 -0.3
EGRO El Granado 28.07 282 P P **04 41 48.3 -1.0**
comp=Z,79nm,1.5s,mb5.1
EGRO El Granado 28.07 282 P P **04 41 48.3 -1.0**
comp=Z,79nm,1.5s,mb5.1,SNR=7.9
PALC Alcoutim 28.07 282 *e*P P 04 41 48.6 -0.7
comp=Z,68nm,1.3s,mb5.1
PALC Alcoutim 28.07 282 *e*P P 04 41 48.5 -0.8
ELOB Lobios 28.08 291 P P **04 41 50.4 +1.1**
comp=Z,65nm,1.5s,mb5.0
ELOB Lobios 28.08 291 P P **04 41 50.4 +1.1**
comp=Z,65nm,1.5s,mb5.0,SNR=4.5
ARQ Araqi 28.10 111 P P **04 41 51.1 +1.4**
SNR=8.1
PBEJ Beja 28.29 283 *e*P P 04 41 50.7 -0.5
comp=Z,54nm,1.4s,mb5.0
PBEJ Beja 28.29 283 *e*P P 04 41 50.6 -0.6
EVO Evora 28.33 284 *e*P P 04 41 51.3 -0.3
comp=Z,9.6nm,0.7s,mb4.2
EVO *e*R
comp=Z,372nm,17.5s
ARU Arti 28.35 37 *e*P P 04 41 48.2 -3.4
ARU *e*PPP PPP 04 42 44.4 -11
ARU *e* 04 45 01.4
ARU *e*S S **04 46 32.0 -3.9**
ARU *e*SSS SSS 04 48 01.8 -17
ARU MLR MLR
comp=N,400nm,18.5s,MS4.2
ARU MLR MLR
comp=Z,600nm,18.5s,MS4.2
ARU MLR MLR
comp=E,400nm,18.0s,MS4.2
ARU Arti 28.35 37 *e*PcP PcP 04 45 01.4 -3.1
HOQ Hoqain 28.55 109 P P **04 41 54.2 +0.4**
SNR=14
HOQ Hoqain 28.55 109 P P **04 41 54.2 +0.5**
SNR=14
SOKR Solikamsk 29.34 30⇓ *i*P P **04 41 59.4 -1.1**
SOKR *i* S S **04 46 43.6 -8.0**
SOKR pmax pmax
comp=Z,40nm,1.0s,mb5.1
SOKR MLR MLR
comp=Z,470nm,20.0s,MS4.1
SOKR Solikamsk 29.34 30 *i* P P **04 41 59.4 -1.1**
comp=Z,20nm,1.0s,mb4.8
SMDO Samad 29.41 109 P P **04 42 02.2 +0.7**
SNR=12
SVE Sverdlovsk 29.55 37⇓ *e*P P **04 42 03.0 +0.6**
SVE Sverdlovsk 29.55 37 *e*P P **04 42 03.0 +0.6**
WHFO Wadi Hawf 29.61 123 P P **04 42 04.0 +0.7**
SNR=8.2
ABTO Aybut 29.69 124 P P **04 42 05.1 +1.1**
SNR=13
JMDO Jabal Madar 29.85 111 P P **04 42 05.8 +0.4**
SNR=13
RBK Rabkut 30.19 123 P P **04 42 09.6 +1.1**
SNR=18
APA Apatity 30.88 4⇑ *i*P P **04 42 15.6 +1.5**
APA pmax pmax
comp=Z,40nm,1.2s,mb5.1
APA MLR MLR
comp=Z,2μm,13.0s,MS5.0
APA Apatity 30.88 4 *i* P P **04 42 15.6 +1.5**
comp=Z,1μm,13.0s
ARCES ARCESS Array B 32.72 358 P P **04 42 29.4 -0.8**
comp=Z,14nm,0.9s,mb4.9,baz=180,slow=8.5,SNR=14
ARCES LR LR 04 57 03.2
comp=Z,431nm,19.6s,MS4.2,baz=196,slow=39
BRVK Borovoye 33.50 48 *i* P P **04 42 37.4 +0.3**
BVAR Borovoye Array 33.56 48 P P **04 42 37.7 +0.1**
comp=Z,2.1nm,0.6s,mb4.2,baz=243,slow=6.6,SNR=13
BVAR Borovoye Array 33.56 48 P P **04 42 37.7 +0.1**
CHKZ Chkalovo 33.82 46 *i* P P **04 42 39.9 0.0**
CHKZ pmax pmax
comp=Z,16nm,1.4s,mb4.8
CHKZ Chkalovo 33.82 46 *e*P P **04 42 40.1 +0.2**
comp=Z,6.6nm,0.7s,mb4.7
CHKZ Chkalovo 33.82 46 *i* P P **04 42 39.9 0.0**
comp=Z,8.0nm,1.4s,mb4.5
EFAM Famara 35.36 270 P P **04 42 52.7 -0.6**
comp=Z,23nm,0.7s,mb5.2,SNR=9.1
EKS2 Erkin-Say 35.40 66 P P **04 42 54.6 +1.1**
SNR=15
USP Ospenovka 35.86 65 P P **04 42 57.7 +0.3**
SNR=9.4
AAK Ala-Archa 35.93 66*d i*P P **04 42 58.2 +0.2**
AAK pmax pmax
comp=Z,46nm,1.1s,mb5.3
AAK MLR MLR
comp=Z,300nm,18.0s,MS4.1
AAK Ala-Archa 35.93 66⇓ *e*P P **04 42 58.1 0.0**
comp=Z,75nm,1.1s,mb5.5
AAK LR LR
comp=Z,111nm,21.0s,MS3.6
AAK Ala-Archa 35.93 66⇓ *e*P P **04 42 58.1 +0.1**
comp=Z,75nm,1.1s,mb5.5
UCH Uchtor 35.99 67 P P **04 43 00.0 +1.5**
SNR=13
FRU Bishkek 36.00 66 *e*P P 04 43 00.0 +1.4
FRU *e* 04 44 20.0
CHMS Chumysh 36.08 65 P P **04 43 00.1 +0.8**
SNR=25
KZA Kyzart 36.56 67 P P **04 43 05.5 +2.2**
SNR=17
ULHL Ulahol 37.26 66 P P **04 43 07.0 -2.2**
SNR=6.2
MBAR Mbarara 37.40 175 *e*P P 04 43 11.2 +0.5
MBAR pmax pmax
comp=Z,40nm,1.2s,mb5.1
MBAR MLR MLR
comp=Z,142nm,19.0s,MS3.8
MBAR Mbarara 37.40 175 *e*P P 04 43 11.2 +0.5
comp=Z,40nm,1.2s,mb5.1
MBAR LR LR
comp=Z,142nm,19.0s,MS3.8
MBAR Mbarara 37.40 175 *e*P P 04 43 11.2 +0.5
comp=Z,71nm,19.0s
KMBO Kilima Mbogo 38.82 165 *e*P P 04 43 25.0 +2.4
KMBO *e* 04 45 36.1
KMBO pmax pmax
comp=Z,9.0nm,0.9s
KMBO MLR MLR
comp=Z,400nm,19.0s
KMBO Kilima Mbogo 38.82 165 P P **04 43 25.3 +2.7**
comp=Z,4.3nm,0.8s,mb4.2,baz=7.2,slow=9.4,SNR=13
KMBO LR LR 05 00 20.6
comp=Z,467nm,18.1s,MS4.3,baz=284,slow=38
KMBO Kilima Mbogo 38.82 165 *e*P P 04 43 25.0 +2.4
comp=Z,8.6nm,0.9s,mb4.5
KMBO *e*PcP PcP 04 45 36.1 +1.8
KMBO LR LR
comp=Z,400nm,19.0s,MS4.3
KMBO Kilima Mbogo 38.82 165 *e*P P 04 43 25.0 +2.4
comp=Z,4.5nm,0.9s,mb4.2
JMIC Jan Mayen 39.08 342 LR LR 05 00 45.6
comp=Z,485nm,18.1s,MS4.4,baz=268,slow=38
BORG Borgarnes 40.12 330 LR LR 05 01 21.5
comp=Z,956nm,20.2s,MS4.6,baz=354,slow=38
MKAR Makanchi Array 40.99 58 *i* P P **04 43 41.0 +0.8**
MKAR pmax pmax
comp=Z,11nm,0.5s
MKAR Makanchi Array 40.99 58 *i* P P **04 43 41.1 +0.9**
KHET Khetri 41.02 88 *e*P P 04 43 40.8 +0.2
KKR Kurukshetra 41.07 85 *e*P P 04 43 42.0 +1.0
NVS Novosibirsk 41.30 46 *i* P P **04 43 43.2 +0.5**
NVS *e* 04 45 19.8
NVS *e*S S **04 49 55.6 -0.2**
NVS pmax pmax
comp=Z,45nm,1.1s,mb5.0
NVS pmax pmax
comp=N,14nm,1.3s
NVS pmax pmax
comp=E,20nm,1.0s
NVS smax
comp=N,24nm,2.1s
NVS Novosibirsk 41.30 46 *i* P P **04 43 43.2 +0.5**
comp=N,7.0nm,1.3s,mb4.1
NVS *e*S S **04 49 55.6 -0.2**
KUDL Kundal 41.54 88 *e*P P 04 43 45.4 +0.5
KLP Kalpa 41.61 82 *e*P P 04 43 45.8 +0.4
NDI New Delhi 41.90 87 *e*P P 04 43 47.5 -0.3
AYAN Aya Nagar 41.91 87 *e*P P 04 43 48.2 +0.3
AYAN *e* 04 43 51.6
comp=Z,35nm,1.0s
DDI Dehra Dun 41.91 84 *e* P **04 43 46.8 -1.1**
ZAL Zalesovo 42.20 48 LR LR 05 04 09.9
comp=Z,348nm,20.3s,MS4.2,baz=203,slow=40
DBIC Dimbokro 42.37 233 P P **04 43 51.2 -0.7**
comp=Z,30nm,0.8s,mb5.0,baz=22,slow=9.7,SNR=72
DBIC LR LR 05 04 58.8
comp=Z,337nm,18.1s,MS4.3,baz=23,slow=41
POO Poona 44.16 102 *e*P P 04 44 05.4 -1.0
BHPL Bhopal 44.52 93 *e*P P 04 44 09.1 -0.2
BHPL *e* 04 44 11.1

comp=Z,20nm,0.7s
WMQ Urumqi 45.24 62 ⇓P **P 04 44 16.3 +1.6**
WMQ AP pP 04 44 26.2 +5.9
WMQ PP PP 04 46 02.7 +1.4
WMQ S **S 04 50 53.3 +0.1**
WMQ AMB AMB
comp=Z,11nm,1.3s,mb4.5
WMQ AMB AMB
comp=Z,76nm,5.3s
WMQ LR LR
comp=Z,2μm,21.6s,MS5.0
KOLN Koldanda 47.38 84 *e*P **P 04 44 32.3 +0.4**
comp=Z,125nm,1.4s,mb5.7
GKN Gorkha 48.11 83 *e*P **P 04 44 37.8 +0.2**
comp=Z,59nm,0.9s,mb5.6
SUMG Summit 48.17 338 *e*P **P 04 44 37.6 +0.1**
comp=Z,17nm,0.6s,mb5.2
SUMG *e* 04 44 47.7
SUMG Summit 48.17 338 *e*P **P 04 44 37.6 +0.2**
HYB Hyderabad 48.48 99 *i*P **P 04 44 41.0 +0.4**
HYB Hyderabad 48.48 99 *e*P **P 04 44 41.0 +0.4**
DMN Daman 48.65 84 *e*P **P 04 44 41.8 0.0**
KKN Kakani 48.71 83 *e*P **P 04 44 42.0 -0.2**
comp=Z,20nm,0.6s,mb5.3
PKI Pulchoki 48.91 84 *e*P **P 04 44 44.0 +0.2**
comp=Z,72nm,1.2s,mb5.6
GUN Gumba 49.14 83 *e*P **P 04 44 45.4 -0.1**
comp=Z,88nm,1.3s,mb5.7
JIRN Jiri 49.49 83 *e*P **P 04 44 48.5 +0.2**
comp=Z,58nm,1.1s,mb5.5
LSZ Lusaka 51.89 180 *e*P **P 04 45 07.3 +0.7**
LSZ *e* 04 46 20.0
LSZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LSZ MLR MLR
comp=Z,396nm,20.0s,MS4.4
LSZ Lusaka 51.89 180 *e*P **P 04 45 07.3 +0.7**
comp=Z,8.4nm,0.8s,mb4.7
LSZ *e*PcP PcP 04 46 20.0 +0.6
LSZ LR LR
comp=Z,396nm,20.0s,MS4.4
LSZ Lusaka 51.89 180 *e*P **P 04 45 07.3 +0.7**
comp=Z,4.0nm,0.8s,mb4.4
VIS Vishakhapatnam 52.11 96 *e*P **P 04 45 07.1 -1.2**
VIS *e* 04 45 10.2
comp=Z,39nm,1.5s
MOY Mondy 52.22 49 *e*P **P 04 45 10.3 +1.7**
LSA Lhasa 52.53 78 *e*P **P 04 45 11.0 -0.3**
LSA pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
LSA MLR MLR
comp=Z,256nm,21.0s,MS4.2
LSA Lhasa 52.53 78 *e*P **P 04 45 11.0 -0.3**
comp=Z,7.6nm,0.6s,mb4.8
LSA LR LR
comp=Z,256nm,21.0s,MS4.2
LSA Lhasa 52.53 78 *e*P **P 04 45 11.0 -0.3**
comp=Z,128nm,21.0s
TLY Talaya 53.81 48 *e*P **P 04 45 21.8 +1.4**
TLY *e*S **S 04 52 59.7 +7.2**
TLY pmax pmax
comp=Z,29nm,1.0s,mb5.2
TLY MLR MLR
comp=Z,228nm,18.0s,MS4.3
TLY Talaya 53.81 48 *e*P **P 04 45 21.4 +1.0**
comp=Z,29nm,1.0s,mb5.2
TLY LR LR
comp=Z,79nm,21.0s,MS3.8
TLY Talaya 53.81 48 *e*P **P 04 45 21.4 +1.0**
comp=Z,29nm,1.0s,mb5.2
ZAK Zakamensk 53.95 50 *e*P **P 04 45 22.2 +0.8**
IRK Irkutsk 54.03 48 *e*P **P 04 45 16.5 -5.5**
IRK *e* pP 04 45 22.5 -5.1
SHL Shillong 54.98 82 *e* **P 04 45 27.5 -1.9**
SONM Songino Array 56.69 52 P **P 04 45 41.8 +0.4**
comp=Z,20nm,0.9s,mb5.2,baz=290,slow=8.0,SNR=137
ULN Ulaanbaatar 57.09 52⇓*e*P **P 04 45 44.6 +0.3**
ULN pmax pmax
comp=Z,25nm,0.9s,mb5.2
ULN MLR MLR
comp=Z,294nm,21.0s,MS4.4
ULN Ulaanbaatar 57.09 52⇓*e*P **P 04 45 44.6 +0.4**
comp=Z,24nm,0.9s,mb5.2
ULN LR LR
comp=Z,294nm,21.0s,MS4.4
ULN Ulaanbaatar 57.09 52 *e*P **P 04 45 44.6 +0.3**
comp=Z,147nm,21.0s
BOD Bodaibo 57.73 39 *e*P **P 04 45 47.2 -1.4**
TIXI Tiksi 58.76 21 *e*P **P 04 45 55.2 -0.5**
TIXI pmax pmax
comp=Z,28nm,1.2s,mb5.2
TIXI Tiksi 58.76 21 *i*Pr 04 45 55.4
TIXI Tiksi 58.76 21 *e*P **P 04 45 55.2 -0.5**
comp=Z,14nm,1.2s,mb4.9
LZH Lanzhou 59.47 66 ⇓P **P 04 46 02.0 +1.0**
LZH AP pP 04 46 12.5 +5.7
LZH PP PP 04 48 14.3 0.0
LZH *e*S **S 04 54 05.2 -2.5**
LZH SS SS 04 58 01.0 -3.5
LZH AMB AMB
comp=Z,54nm,1.1s,mb5.5
LZH AMB AMB
comp=Z,222nm,5.0s
LZH LR LR
comp=N,393nm,14.0s
LZH LR LR
comp=Z,527nm,16.0s,MS4.8
RES Resolute Bay 62.55 345 *e*P **P 04 46 19.8 -1.6**
RES pmax pmax
comp=Z,16nm,0.9s,mb5.2
RES Resolute Bay 62.55 345 *e*P **P 04 46 19.8 -1.6**
comp=Z,16nm,0.9s,mb5.2
RES Resolute Bay 62.55 345 *e*P **P 04 46 19.8 -1.6**
comp=Z,8.0nm,0.9s,mb4.8
YAK Yakutsk 63.27 31*d i*P **P 04 46 25.4 -0.8**
YAK pmax pmax
comp=Z,55nm,1.2s,mb5.6
YAK MLR MLR
comp=Z,400nm,19.0s,MS4.6
YAK Yakutsk 63.27 31 *e*P **P 04 46 24.9 -1.3**
YAK LR LR
comp=Z,274nm,19.0s,MS4.5
YAK Yakutsk 63.27 31 *e*P **P 04 46 24.9 -1.3**
SCHQ Schefferville 63.29 320 P **P 04 46 24.3 -2.2**
comp=Z,12nm,0.7s,mb5.2,baz=60,slow=6.9,SNR=41
SCHQ LR LR 05 12 39.3
comp=Z,319nm,21.5s,MS4.5,baz=178,slow=35
CHG Chiang Mai 64.03 85 PG **P 04 46 31.8 -0.1**
comp=Z,14nm,1.1s,mb4.9
XAN Xi'an 64.11 66 P **P 04 46 32.3 +0.1**
XAN AMB AMB
comp=Z,29nm,1.4s,mb5.1
CHRT Chiangrai 64.13 84 ⇓P **P 04 46 32.0 -0.6**
CMAR Chiang Mai Arr 64.22 86 P **P 04 46 33.0 -0.2**
comp=Z,11nm,0.9s,mb4.9,baz=300,slow=8.0,SNR=43
CMAR LR LR 05 20 03.8
comp=Z,93nm,18.3s,MS4.0,baz=285,slow=41
HIA Hailar 64.24 47 *e*P **P 04 46 32.9 +0.1**
HIA pmax pmax
comp=Z,14nm,0.8s
HIA MLR MLR
comp=Z,243nm,20.0s
HIA Hailar 64.24 47 *e*P **P 04 46 32.9 +0.1**
comp=Z,14nm,0.8s,mb5.0
HIA LR LR
comp=Z,243nm,20.0s,MS4.4
HIA Hailar 64.24 47 *e*P **P 04 46 32.9 +0.1**
comp=Z,122nm,20.0s
NANT Nan 65.43 84 P **P 04 46 39.0 -2.0**
BJT Baijiatuau 66.35 57 *e*P **P 04 46 46.5 0.0**
BJT pmax pmax
comp=Z,36nm,1.0s
BJT MLR MLR
comp=Z,360nm,19.0s
BJT Baijiatuau 66.35 57 *e*P **P 04 46 46.5 0.0**
comp=Z,36nm,1.0s,mb5.4
BJT LR LR
comp=Z,360nm,19.0s,MS4.6
BJT Baijiatuau 66.35 57 *e*P **P 04 46 46.5 0.0**
comp=Z,180nm,19.0s
ENH Enshi 66.36 69 *e*P **P 04 46 46.3 -0.4**
comp=Z,39nm,1.0s,mb5.4
ENH LR LR
comp=Z,184nm,19.0s,MS4.3
ENH Enshi 66.36 69 *e*P **P 04 46 46.3 -0.4**
comp=Z,39nm,1.0s,mb5.4

SUR Sutherland 69.23 186 *e*P **P 04 47 05.9 +1.2**
comp=Z,16nm,0.7s,mb5.1
SUR Sutherland 69.23 186 *e*P **P 04 47 05.9 +1.2**
comp=Z,16nm,0.7s,mb5.1
BILL Bilibino 70.83 15*d i*P **P 04 47 13.8 0.0**
BILL *e* pP 04 47 21.1 +1.5
BILL *e* 04 49 47.2
BILL S S 04 56 26.5 -0.1
BILL *e*SS SS 05 00 58.2 -2.9
BILL pmax pmax
comp=Z,47nm,1.3s,mb5.3
BILL Bilibino 70.83 15 *e*P **P 04 47 13.3 -0.5**
comp=Z,22nm,0.8s,mb5.2
BILL Bilibino 70.83 15 *e*P **P 04 47 13.3 -0.5**
comp=Z,22nm,0.8s,mb5.2
BILL S S 04 56 26.5 -0.1
KLR Kul'dur 71.01 42 *e*P **P 04 47 11.8 -3.4**
SEY Seymchan 71.11 23 *e*P **P 04 47 17.1 +1.5**
SEY 04 47 35.8
SEY 04 49 54.1
SEY *e*S S 04 56 30.9 +1.0
SEY 04 57 16.4
SEY SS SS 05 01 11.4 +5.9
SEY *e*SSS SSS 05 04 09.4 -2.4
SEY pmax pmax
comp=E,40nm,1.4s
SEY pmax pmax
comp=Z,100nm,1.4s,mb5.5
SEY pmax pmax
comp=N,60nm,1.6s
SEY MLR MLR
comp=Z,600nm,17.0s,MS4.9
SEY MLR MLR
comp=N,60nm,8.0s
SEY MLR MLR
comp=E,820nm,24.0s
SEY Seymchan 71.11 23 *e*P **P 04 47 17.1 +1.5**
comp=E,30nm,1.6s,mb5.0
SEY Seymchan 71.11 23 PcP PcP 04 47 35.8 -0.1
SEY *e*S S 04 56 30.9 +1.0
NJ2 Nanjing 72.30 63 *e*P **P 04 47 23.3 0.0**
NJ2 AP pP 04 47 33.7 +4.7
NJ2 PP PP 04 50 05.6 -0.2
NJ2 S S 04 56 44.0 -0.1
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.2
NJ2 AMB AMB
comp=Z,420nm,5.6s
NJ2 LR LR
comp=N,350nm,21.5s,MS4.9
NJ2 LR LR
comp=E,550nm,19.0s,MS4.9
NJ2 LR LR
comp=Z,180nm,18.7s,MS4.4
MDJ Mudanjiang 72.41 47 P **P 04 47 21.6 -2.1**
MDJ AMB AMB
comp=Z,5.0nm,0.8s,mb4.5
MDJ AMB AMB
comp=Z,174nm,4.6s
MDJ LR LR
comp=N,88nm,16.2s,MS4.3
MDJ LR LR
comp=E,125nm,19.7s,MS4.3
MDJ LR LR
comp=Z,123nm,17.4s,MS4.2
QIZ Qiongzhong 72.56 79 P **P 04 47 26.2 +1.2**
QIZ S S 04 56 49.9 +2.6
QIZ LR LR
comp=N,74nm,22.5s,MS4.0
QIZ LR LR
comp=E,78nm,24.4s,MS4.0
MA2 Magadan 72.96 27 *i*P **P 04 47 27.3 +0.7**
MA2 pmax pmax
comp=Z,56nm,1.2s,mb5.4
MA2 Magadan 72.96 27 *e*P **P 04 47 27.5 +0.9**
comp=Z,72nm,1.2s,mb5.5
MA2 Magadan 72.96 27 *i*P **P 04 47 27.3 +0.7**
comp=Z,28nm,1.2s,mb5.1
FCC Fort Churchill 73.20 332 *e*P **P 04 47 26.4 -1.6**
FCC pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
FCC Fort Churchill 73.20 332 *e*P **P 04 47 26.4 -1.6**
comp=Z,9.7nm,1.1s,mb4.7
FCC Fort Churchill 73.20 332 *e*P **P 04 47 26.4 -1.6**
comp=Z,5.0nm,1.1s,mb4.4
INK Inuvik 74.19 353 *e*P **P 04 47 32.1 -1.4**
INK pmax pmax
comp=Z,40nm,1.3s
INK Inuvik 74.19 353 *e*P **P 04 47 32.1 -1.5**
comp=Z,40nm,1.3s,mb5.2
INK Inuvik 74.19 353 *e*P **P 04 47 32.1 -1.4**
comp=Z,20nm,1.3s,mb4.9
SSE Sheshan 74.49 63 P **P 04 47 33.7 -2.3**
SSE PP PP 04 50 19.4 -5.1
SSE S S 04 57 06.7 -2.0
SSE AMB AMB
comp=Z,37nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,168nm,6.4s
SSE LR LR
comp=N,69nm,26.4s,MS4.1
SSE LR LR
comp=E,126nm,26.6s,MS4.1
SSE LR LR
comp=Z,97nm,24.1s,MS4.0
YKW3 Yellowknife Ar 76.40 343 *e*P **P 04 47 44.5 -1.8**
YKW3 Yellowknife Ar 76.40 343 *e*P **P 04 47 44.5 -1.8**
YKA Yellowknife Ar 76.45 343 P **P 04 47 45.4 -1.2**
comp=Z,4.7nm,0.8s,mb4.5,baz=34,slow=5.6,SNR=82
YKA LR LR 05 22 40.3
comp=Z,206nm,21.0s,MS4.4,baz=25,slow=37
TNA Tin City 77.14 7 *e*P **P 04 47 50.3 0.0**
comp=Z,17nm,1.0s,mb4.9
TNA Tin City 77.14 7 *e*P **P 04 47 50.3 0.0**
comp=Z,17nm,1.0s,mb4.9
SDMD Soldier's Deli 77.28 310 *e*P **P 04 47 51.1 -0.5**
SDMD Soldier's Deli 77.28 310 *e*P **P 04 47 51.1 -0.6**
IMA Indian Mountai 77.36 1 *e*P **P 04 47 52.4 +0.9**
YSS Yuzh-Sakhalins 78.20 39 *e*P **P 04 47 56.6 0.0**
YSS pmax pmax
comp=Z,40nm,0.9s,mb5.3
YSS Yuzh-Sakhalins 78.20 39 *e*P **P 04 47 56.6 0.0**
comp=Z,40nm,0.9s,mb5.3
YSS Yuzh-Sakhalins 78.20 39 *e*P **P 04 47 56.6 0.0**
comp=Z,20nm,0.9s,mb5.0
ANM Nome 78.34 6 *e*P **P 04 47 57.1 +0.2**
CBN Corbin 78.34 309 *e*P **P 04 47 56.7 -0.8**
comp=Z,21nm,0.4s,mb5.4
CBN LR LR
comp=Z,313nm,20.0s,MS4.6
CBN Corbin 78.34 309 *e*P **P 04 47 56.7 -0.8**
comp=Z,21nm,0.4s,mb5.4
COLA College 78.51 358 *e*P **P 04 47 57.9 0.0**
COLA College 78.51 358 *i*P **P 04 47 57.8 -0.1**
ILAR Eielson Array 78.58 358 P **P 04 47 58.3 0.0**
comp=Z,4.9nm,0.8s,mb4.5,baz=338,slow=3.3,SNR=42
DAWY Dawson 78.87 354 *e*P **P 04 48 00.0 +0.2**
DAWY Dawson 78.87 354 *e*P **P 04 48 00.0 +0.1**
MCK McKinley 79.68 359 *e*P **P 04 48 03.7 -0.6**
MCK pmax pmax
comp=Z,28nm,1.1s,mb5.1
MCK MLR MLR
comp=Z,120nm,20.0s,MS4.2
MCK McKinley 79.68 359 *e*P **P 04 48 03.6 -0.6**
comp=Z,28nm,1.1s,mb5.1
MCK LR LR
comp=Z,120nm,20.0s,MS4.2
MCK McKinley 79.68 359 *e*P **P 04 48 03.7 -0.6**
comp=Z,60nm,20.0s
MENT Mentasta 80.28 356 *e*P **P 04 48 08.4 +0.9**
ACSO Alum Creek Sta 80.44 313 *e*P **P 04 48 08.4 -0.5**
comp=Z,41nm,1.1s,mb5.3
ACSO Alum Creek Sta 80.44 313 *e*P **P 04 48 08.4 -0.4**
comp=Z,41nm,1.1s,mb5.3
FWV Forest Hill 80.85 310 *e*P **P 04 48 10.9 -0.1**
FWV Forest Hill 80.85 310 *e*P **P 04 48 10.9 -0.2**
SML Sawmill 81.59 358 *e*P **P 04 48 14.3 -0.1**
PMR Palmer 81.83 359 *e*P **P 04 48 15.0 -0.6**
SVW2 Sparrevohn 82.31 2 *e*P **P 04 48 19.1 +0.9**
RSO Redoubt South 82.99 0 *e*P **P 04 48 21.8 +0.1**
RSO Redoubt South 82.99 0 *e*P **P 04 48 21.8 +0.1**
BLO Bloomington 83.19 315 *e*P **P 04 48 21.4 -1.8**
BLO pmax pmax
comp=Z,12nm,0.6s,mb5.1
BLO Bloomington 83.19 315 *e*P **P 04 48 21.4 -1.7**
comp=Z,12nm,0.6s,mb5.1

BLO Bloomington 83.19 315 *e*P **P 04 48 21.4 -1.8**
comp=Z,6.0nm,0.6s,mb4.8
DLBC Dease Lake 83.24 349 *e*P **P 04 48 23.5 +0.5**
DLBC Dease Lake 83.24 349 *e*P **P 04 48 23.5 +0.5**
JSC Jenkinsville 83.25 308 *e*P **P 04 48 23.8 +0.2**
COW Cow Castle Cre 83.47 307 *e*P **P 04 48 24.3 -0.4**
COW Cow Castle Cre 83.47 307 *e*P **P 04 48 24.3 -0.4**
WCI Wyandotte Cave 83.69 314 *e*P **P 04 48 25.1 -0.6**
WCI pmax pmax
comp=Z,19nm,0.9s,mb5.2
WCI Wyandotte Cave 83.69 314 *e*P **P 04 48 25.1 -0.6**
comp=Z,19nm,0.9s,mb5.2
WCI Wyandotte Cave 83.69 314 *e*P **P 04 48 25.1 -0.6**
comp=Z,9.5nm,0.9s,mb4.9
EDM Edmonton 84.16 338 *e*P **P 04 48 26.7 -1.0**
CPCT Cooper Cave 84.50 311 *e*P **P 04 48 30.1 +0.2**
CPCT Cooper Cave 84.50 311 *e*P **P 04 48 30.1 +0.2**
GOGA Godfrey 85.21 309 *e*P **P 04 48 33.8 +0.4**
GOGA pmax pmax
comp=Z,15nm,0.7s,mb5.2
GOGA MLR MLR
comp=Z,217nm,22.0s,MS4.5
GOGA Godfrey 85.21 309 *e*P **P 04 48 33.8 +0.3**
comp=Z,15nm,0.7s,mb5.2
GOGA LR LR
comp=Z,217nm,22.0s,MS4.5
GOGA Godfrey 85.21 309 *e*P **P 04 48 33.8 +0.4**
comp=Z,108nm,22.0s
WVT Waverly 86.02 313 *e*P **P 04 48 35.8 -1.6**
WVT pmax pmax
comp=Z,14nm,0.9s,mb5.2
WVT Waverly 86.02 313 *e*P **P 04 48 35.8 -1.7**
comp=Z,14nm,0.9s,mb5.2
WVT Waverly 86.02 313 *e*P **P 04 48 35.8 -1.6**
comp=Z,7.0nm,0.9s,mb4.9
FVM French Village 86.22 316 *e*P **P 04 48 37.8 -0.6**
FVM pmax pmax
comp=Z,28nm,1.0s,mb5.5
FVM French Village 86.22 316 *e*P **P 04 48 37.8 -0.6**
comp=Z,14nm,1.0s,mb5.2
CCM Cathedral Cave 86.62 316 *e*P **P 04 48 39.5 -0.8**
CCM pmax pmax
comp=Z,21nm,0.9s,mb5.4
CCM Cathedral Cave 86.62 316 *e*P **P 04 48 39.5 -0.9**
comp=Z,21nm,0.9s,mb5.4
CCM Cathedral Cave 86.62 316 *e*P **P 04 48 39.5 -0.8**
comp=Z,10nm,0.9s,mb5.1
LAO LASA Array 87.16 330 *e*P **P 04 48 42.9 +0.1**
comp=Z,78nm,1.6s,mb5.7
LAO LR LR
comp=Z,379nm,21.0s,MS4.8
LAO LASA Array 87.16 330 *e*P **P 04 48 42.9 +0.2**
comp=Z,78nm,1.6s,mb5.7
LRAL Lakeview Retre 87.64 310 *e*P **P 04 48 44.7 -0.7**
comp=Z,38nm,1.1s,mb5.5
LRAL LR LR
comp=Z,309nm,20.0s,MS4.7
LRAL Lakeview Retre 87.64 310 *e*P **P 04 48 44.7 -0.7**
comp=Z,38nm,1.1s,mb5.5
BAO Brasilia Array 88.37 249 P **P 04 48 50.6 +1.4**
BAO Brasilia Array 88.37 249 P **P 04 48 50.6 +1.4**
BDFB Brasilia 88.39 249 P **P 04 48 50.9 +1.6**
comp=Z,14nm,0.7s,mb5.3,baz=60,slow=4.2,SNR=22
BDFB LR LR 05 30 56.6
comp=Z,233nm,20.4s,MS4.6,baz=101,slow=37
BBB Bella Bella 88.84 345 LR LR 05 31 33.3
comp=Z,156nm,19.0s,MS4.5,baz=358,slow=38
HRY Holter Researc 89.26 334 *e*P **P 04 48 52.0 -0.8**
HRY Holter Researc 89.26 334 *e*P **P 04 48 52.0 -0.8**
BOZ Bozeman (W) 90.09 333 *e*P **P 04 48 56.6 -0.1**
BOZ pmax pmax
comp=Z,14nm,1.3s,mb5.1
BOZ MLR MLR
comp=Z,623nm,21.0s,MS5.0
BOZ Bozeman (W) 90.09 333 *e*P **P 04 48 56.6 -0.1**
comp=Z,14nm,1.3s,mb5.1
BOZ LR LR
comp=Z,623nm,21.0s,MS5.0
BOZ Bozeman (W) 90.09 333 *e*P **P 04 48 56.6 -0.1**
comp=Z,312nm,21.0s
MIAR Mount Ida 90.45 315 *e*P **P 04 48 58.0 -0.6**
MIAR pmax pmax
comp=Z,29nm,1.1s,mb5.5
MIAR Mount Ida 90.45 315 *e*P **P 04 48 58.0 -0.7**
comp=Z,29nm,1.1s,mb5.5
MIAR Mount Ida 90.45 315 *e*P **P 04 48 58.0 -0.6**
comp=Z,14nm,1.1s,mb5.2
PHWY Pilot Hill 91.23 327 *e*P **P 04 49 00.7 -1.4**
MCMT McKenzie Canyo 91.24 333 *e*P **P 04 49 01.6 -0.4**
SDV Santo Domingo 91.46 282 *e*P **P 04 49 02.3 -1.4**
comp=Z,14nm,0.9s,mb5.3
SDV LR LR
comp=Z,177nm,22.0s,MS4.5
PDAR Pinedale Array 91.74 330 P **P 04 49 03.5 -0.9**
comp=Z,1.0nm,0.8s,mb4.2,baz=46,slow=3.3,SNR=11
PDAR LR LR 05 34 08.2
comp=Z,203nm,18.3s,MS4.6,baz=36,slow=38
BMO Blue Mountains 92.75 336 *e*P **P 04 49 07.6 -1.4**
comp=Z,2.4nm,0.8s,mb4.7
WMOK Wichita Mounta 93.16 319 *e*P **P 04 49 09.7 -1.4**
comp=Z,6.3nm,1.0s,mb5.0
WMOK LR LR
comp=Z,235nm,19.0s,MS4.7
NVAR Mina Array Bea 98.81 334 P **P 04 49 36.6 0.0**
comp=Z,0.7nm,0.8s,mb4.2,baz=54,slow=5.9,SNR=5.0
TXAR Lajitas Array 99.95 318 P **P 04 49 41.9 -0.3**
comp=Z,0.8nm,0.9s,mb4.2,baz=71,slow=3.0,SNR=8.5
TXAR LR LR 05 33 35.0
comp=Z,166nm,21.8s,MS4.5,baz=60,slow=35
WRA Warramunga Arr 114.61 97 PKP PKPdf 04 54 37.0 -3.3
comp=Z,1.8nm,0.6s,baz=303,slow=2.1,SNR=9.4
ASAR Alice Springs 116.20 101 PKP PKPdf 04 54 40.3 -3.1
comp=Z,3.2nm,0.8s,baz=319,slow=1.5,SNR=26
CTA Charters Tower 124.21 90 PKP PKPdf 04 54 56.5 -2.4
comp=Z,8.0nm,0.9s,baz=16,slow=10,SNR=5.5
STKA Stephens Creek 126.05 106 PKP PKPdf 04 54 59.9 -2.3
comp=Z,5.2nm,0.8s,baz=351,slow=6.5,SNR=6.2
QSPA South Pole Qui 126.74 180⇓*i*P PKPdf 04 54 59.9 -2.3
TAOE Nuku Hiva Isla 150.04 336 *e*LR LR 05 45 31.3
RPZ Rata Peaks 151.28 115 PKPbc PKPdf 04 55 50.9 +4.2
comp=Z,30nm,0.7s,baz=214,slow=2.7,SNR=16
URZ Urewera 155.63 103 PKPab PKPab 04 56 16.2 -1.5
baz=214,slow=3.6
RKT Rikitea 159.82 308 *e*SS SS 05 20 50.9 +28
RKT *e*LR LR 05 50 04.6
comp=Z,144nm,28.2s
PPT Papeete 160.62 353 *e*SS SS 05 20 48.3 +17
PPT *e*LR LR 05 50 29.1
comp=Z,135nm,24.0s
TBI Tubuai 166.30 350 *e*LR LR 05 52 59.9
comp=Z,156nm,25.2s

NEIC ***11*** *04:40:12.5, 16.66N×99.88W, h10km, MD3.8(MEX), After MEX.*
MEX 11 04:40:12.5±0.9, 16.66N×99.88W, h10km, MD3.8, 2D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.21**	**350**	⇓*i*P	Pg	04 40 15.8	-1.2
ACX				*i*S	Sg	04 40 19.0	-1.0
CAIG	**El Cayaco**	**0.54**	**316**	*i*P	Pg	04 40 22.0	-1.4
CAIG				*i*S	Sg	04 40 29.7	-0.9
PLIG	**Platanillo**	**1.76**	**12**	*i*P	Pn	04 40 39.6	-3.7
PLIG				*i*S	Sn	04 41 02.3	-3.6
ZIIG	**Zihuatanejo**	**1.79**	**302**	*i*P	Pn	04 40 41.0	-2.7
ZIIG				*i*S	Sn	04 41 03.0	-3.6
YAIG	**Yautepec**	**2.32**	**19**	*e*P	Pn	04 40 46.6	-4.8
YAIG				*i*S	Sn	04 41 16.1	-4.1
PPM	**Popocatepetl**	**2.67**	**26**	*i*P	Pn	04 40 54.0	-2.4
UNM	**Universidad Na**	**2.74**	**14**	*e*P	Pn	04 40 56.5	-0.8
OXX	**Oaxaca**	**3.05**	**82**	*e*P	Pn	04 41 08.5	+6.7
MOIG	**Morelia**	**3.25**	**338**⇓	*i*P	Pn	04 41 02.6	-2.0
MOIG				*i*S	Sn	04 41 40.4	-3.4
POHV	**Veracruz**	**3.44**	**46**	*e*P	Pn	04 41 05.0	-2.4

ATH ***11*** *04:44:31.5, 37.02N×28.13E, h10km, MD3.2/3*
CSEM ***11*** *04:44:33.8±0.1, 36.98N×27.85E, h20km, MD3.3, Error ellipse: s-maj=2.3km s-min=1.4km az=62.0*
ISK ***11*** *04:44:33.3, 36.93N×27.80E, h21km, MD3.3*
ISC 11 04:44:34.5±0.6, 36.94N±0.04×27.82E±0.05, h24km±6km, n19, σ0.9 62/25, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.33**	**292**	*i* P	**Sb**	**04 44 47.2**	**+0.4**
MLSB	**Milas**	**0.35**	**354**	PG	**Pb**	**04 44 41.5**	**-0.7**
DALT	**Dalyan (Mudla)**	**0.67**	**105**	PG	**Pb**	**04 44 47.6**	**+0.1**
DALT				SG	**Sb**	**04 44 57.3**	**+0.9**
AYDN	**Tasoluk**	**0.72**	**3**	*i* P	**Pb**	**04 44 47.5**	**-0.7**
AYDN	**Tasoluk**	**0.72**	**3**	*i* P	**Pb**	**04 44 47.5**	**-0.7**
ARG	**Arkhangelos**	**0.77**	**161**	*e*PB	**Pb**	**04 44 48.0**	**-1.0**
FETY	**Fethiye**	**1.06**	**106**	*e*PG	**Pb**	**04 44 53.2**	**-0.7**
SMG	**Samos**	**1.10**	**314**	*e*PB	**Pb**	**04 44 55.5**	**+0.9**
DNZL	**Cakiroluk**	**1.23**	**52**	*i* P	**Pn**	**04 45 00.9**	**+4.6**
DNZL				*i* S	**Sb**	**04 45 12.7**	**+0.5**
DENT	**Denizli**	**1.26**	**50**	*e*PN	**Pn**	**04 44 57.1**	**+0.3**
KARP	**Karpathos**	**1.49**	**201**	*e*PN	**Pn**	**04 45 00.5**	**+0.3**
IZM	**Izmir**	**1.52**	**343**	PN	**Pn**	**04 45 00.1**	**-0.5**
KDAG	**Bornova**	**1.52**	**343**	*i* P	**Pn**	**04 45 00.7**	**+0.1**
KDAG				*i* S	**Sn**	**04 45 20.5**	**+0.7**
BLCB	**Balcova**	**1.57**	**337**	*e*PN	**Pn**	**04 45 00.8**	**-0.4**
MANT	**Manisa**	**1.65**	**20**	*i* P	**Pn**	**04 45 03.3**	**+0.9**
MANT				*i* S	**Sn**	**04 45 22.1**	**-1.1**
ELL	**Elmali**	**1.68**	**96**	*e*PN	**Pn**	**04 45 03.1**	**+0.2**
AKS	**Akhisar**	**1.93**	**360**	PN	**Pn**	**04 45 06.2**	**-0.3**
BTOK	**Tokmak**	**2.82**	**3**	*i* P	**Pn**	**04 45 19.4**	**+0.2**
BTOK				*i* S	**Sb**	**04 46 04.6**	**+6.3**
ULDT	**Uludag**	**3.36**	**17**	*i* P	**Pb**	**04 45 38.3**	**+5.2**
ULDT				*i* S	**Sb**	**04 46 26.8**	**+13**

*IDC **11** 04:52:36.8±1.0, 6.53N×92.52E, mb4.1/11, mb1 4.3/12, mb1mx4.1/22, mbtmp4.1/12, Error ellipse: s-maj=47.1km s-min=18.6km az=44.0*
*NEIC **11** 04:52:41.0±0.6, 6.30N×92.37E, h30km, mb4.4/4, Error ellipse: s-maj=19.3km s-min=10.9km az=55.0*

ISC 11 04:52:39.3±0.8, 6.4N±0.1×92.4E±0.1, h30km, n17, σ0§97/16, mb4.2/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.58**	**27**	Pn	**P**	**04 55 54.4**	**+1.9**
	baz=232,slow=14,SNR=16						
SHL	**Shillong**	**19.07**	**359**	*e*	**P**	**04 57 01.0**	**-1.2**
SHL				*e*		05 02 18.8	
LSA	**Lhasa**	**23.22**	**357**	P		04 57 56.5	
	7.1nm,0.6s						
AAK	**Ala-Archa**	**39.42**	**339**	*e*P	**P**	**05 00 09.8**	**+1.4**
	1.7nm,0.6s,mb4.0						
SONM	**Songino Array**	**42.99**	**14**	P	**P**	**05 00 36.2**	**-1.4**
	0.7nm,1.0s,mb3.4,baz=180,slow=7.2,SNR=4.0						
ZAL	**Zalesovo**	**47.81**	**354**	P	**P**	**05 01 15.5**	**-0.5**
	1.6nm,0.5s,mb4.3,baz=285,slow=3.7,SNR=7.0						
BVAR	**Borovoye Array**	**49.86**	**343**	P	**P**	**05 01 31.3**	**-0.5**
	1.9nm,1.0s,mb4.1,baz=149,slow=8.6,SNR=6.4						
ASAR	**Alice Springs**	**50.32**	**128**	P	**P**	**05 01 36.0**	**+0.2**
	2.1nm,0.7s,mb4.3,baz=309,slow=6.2,SNR=6.6						
CHKZ	**Chkalovo**	**50.37**	**343**	*e*P	**P**	**05 01 36.0**	**+0.3**
	3.1nm,0.7s,mb4.5						
CTA	**Charters Tower**	**59.11**	**118**	P	**P**	**05 02 39.1**	**-0.6**
	7.2nm,0.7s,mb4.8,baz=278,slow=7.1,SNR=22						
CTAO	**Charters Tower**	**59.11**	**118**	P	**P**	**05 02 39.4**	**-0.3**
	7.6nm,0.6s,mb4.9						
BRTR	**Keskin Array B**	**62.11**	**312**	P	**P**	**05 03 00.1**	**+0.1**
	1.3nm,0.8s,mb4.1,baz=126,slow=7.0,SNR=7.6						
AKASG	**Malin Array Be**	**68.26**	**322**	P	**P**	**05 03 37.9**	**-1.5**
	1.1nm,0.6s,mb4.1,baz=86,slow=5.0,SNR=6.7						
MLR	**Muntele Rosu**	**69.04**	**316**	P	**P**	**05 03 45.2**	**+0.8**
	2.8nm,0.8s,mb4.2,baz=162,slow=6.7,SNR=6.0						
ARCES	**ARCESS Array B**	**76.08**	**341**	P	**P**	**05 04 24.8**	**-0.7**
	2.8nm,0.9s,mb4.2,baz=97,slow=6.6,SNR=6.7						
GERES	**GERESS Array B**	**77.79**	**318**	P	**P**	**05 04 36.4**	**+1.0**
	2.3nm,0.8s,mb4.2,baz=90,slow=5.3,SNR=16						
DAVOX	**Davos**	**80.27**	**316**	P	**P**	**05 04 49.5**	**+0.6**
	3.3nm,0.6s,mb4.4,baz=97,slow=3.2,SNR=7.1						

*CSEM **11** 04:55:04.8, 8.60N×127.47E, h33km, mb5.5*
*MOS **11** 04:55:16.7±1.1, 6.97N×126.71E, h179km, mb5.1/15, Error ellipse: s-maj=29.2km s-min=9.9km az=117.7*
*MAN **11** 04:55:18.7, 6.86N×126.68E, h153km, mb4.9, ML3.8, MS3.9*
*BJI **11** 04:55:19.1, 6.98N×126.65E, h197km, mB4.8, mb4.7*
*IDC **11** 04:55:20.3±0.9, 6.99N×126.70E, h192km±8km, mb4.3/25, mb1 4.4/26, mb1mx4.4/28, mbtmp4.8/26, Error ellipse: s-maj=16.7km s-min=8.5km az=73.0*
*NEIC **11** 04:55:21.2±1.7, 6.93N×126.59E, h203km±16km, mb4.8/25, Error ellipse: s-maj=10.8km s-min=5.2km az=70.0*

ISC 11 04:55:16.8±0.4, 6.94N±0.04×126.70E±0.06, h177km±3km, h206km±6.0km: pP-P, n128, σ1§00/125, mb4.8/67, 4C-7D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.44**	**271**	*e*P	**P**	**04 55 41.4**	**0.0**
MATI				*e*S	**S**	**04 55 58.6**	**-1.6**
BIPH	**Bislig**	**1.28**	**345**	⇓*i*P	**P**	**04 55 47.6**	**+0.8**
BIPH				*i* S	**S**	**04 56 08.1**	**-1.8**
KCP	**Kidapawan**	**1.60**	**273**	⇓*e*P	**P**	**04 55 50.5**	**+0.7**
KCP				*i* S	**S**	**04 56 13.9**	**-1.3**
BUKP	**Musuan**	**1.87**	**300**	*e*P	**P**	**04 55 53.8**	**+1.2**
BUKP				*e*S	**S**	**04 56 20.3**	**+0.1**
BUTP	**Butuan**	**2.28**	**332**	*e*P	Px	04 56 13.1	
SCPH	**Surigao**	**3.07**	**337**	*e*P	**P**	**04 56 09.6**	**+2.9**
SCPH				*e*S	**S**	**04 56 42.8**	**-2.3**
PAGZ	**Pagadian**	**3.41**	**286**	*e*P	**P**	**04 56 12.2**	**+1.3**
MSLP	**Maasin**	**3.66**	**330**	*e*P	**P**	**04 56 18.4**	**+4.2**
DCPH	**Dipolog City**	**3.69**	**296**	⇓*e*P	**P**	**04 56 15.8**	**+1.2**
TBP	**Tagbilaran**	**3.92**	**314**	*e*P	**P**	**04 56 18.7**	**+1.3**
JOW	**Kunigami**	**19.84**	**4**	P	**P**	**04 59 36.4**	**+0.5**
	2.5nm,0.3s,baz=213,slow=8.1,SNR=7.1						
KAKA	**Kakadu**	**20.34**	**164**	*e*P	**P**	**04 59 42.8**	**+1.8**
	9.2nm,0.4s						
SSE	**Sheshan**	**24.58**	**349**	P	**P**	**05 00 20.8**	**-1.2**
SSE				AMB	AMB		
	comp=Z,36nm,0.6s,mb5.1						
SSE				AMB	AMB		
	comp=Z,115nm,4.5s						
FITZ	**Fitzroy Crossi**	**24.90**	**182**	*e*P	**P**	**05 00 25.1**	**0.0**
	comp=Z,31nm,0.6s,mb5.0						
WRAB	**Tennant Creek**	**27.75**	**164**	*e*P	**P**	**05 00 51.1**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.9						
WRAB	**Tennant Creek**	**27.75**	**164**	*e*P	**P**	**05 00 51.1**	**-0.1**
	comp=Z,16nm,0.6s,mb4.9						
WRA	**Warramunga Arr**	**27.75**	**164**	P	**P**	**05 00 51.0**	**-0.2**
	comp=Z,1.0nm,0.7s,mb3.7,baz=345,slow=9.4,SNR=8.8						
WRA				pP	pP	05 01 30.9	+3.6
	comp=Z,9.3nm,0.7s,baz=342,slow=10,SNR=8.7						
WRA				PcP	PcP	05 04 03.1	-0.2
	comp=Z,0.5nm,0.4s,baz=340,slow=2.5,SNR=5.6						
WRA				S	**S**	**05 05 16.2**	**-3.0**
	comp=Z,2.5nm,0.9s,baz=346,slow=15,SNR=5.4						
WRA				ScP		05 07 27.0	
	comp=Z,2.8nm,0.8s,baz=338,slow=3.2,SNR=8.5						
WB2	**Warramunga Arr**	**27.75**	**164**	*e*P	**P**	**05 00 51.8**	**+0.6**
WB2				*e*S	**S**	**05 05 15.5**	**-3.7**
ENH	**Enshi**	**28.28**	**327**	*e*P	**P**	**05 00 55.8**	**-0.1**
	comp=Z,78nm,0.8s,mb5.5						
MBWA	**Marble Bar**	**28.75**	**194**	*e*P	**P**	**05 00 59.0**	**-1.2**
	comp=Z,11nm,0.7s,mb4.7						
CMAR	**Chiang Mai Arr**	**29.34**	**296**	P	**P**	**05 01 05.7**	**+0.2**
	comp=Z,6.0nm,0.9s,mb4.3,baz=128,slow=7.9,SNR=27						
CMAR				PcP	PcP	05 04 08.1	+0.7
	comp=Z,2.3nm,0.7s,baz=118,slow=0.7,SNR=9.9						
ASAR	**Alice Springs**	**31.22**	**167**	P	**P**	**05 01 21.1**	**-0.9**
	comp=Z,1.5nm,0.3s,mb4.1,baz=342,slow=7.4,SNR=20						
ASAR				pP	pP	05 02 02.0	+3.2
	comp=Z,3.2nm,0.5s,baz=353,slow=8.7,SNR=6.5						
ASAR				PcP	PcP	05 04 11.9	-0.3
	comp=Z,3.2nm,0.5s,baz=351,slow=2.6,SNR=16						
ASAR				S	**S**	**05 06 11.7**	**-2.1**
	comp=Z,0.9nm,0.6s,baz=343,slow=14,SNR=3.9						
ASAR				ScP		05 07 38.1	
	comp=Z,1.5nm,0.7s,baz=355,slow=2.8,SNR=6.9						
ASPA	**Alice Springs**	**31.22**	**167**	*e*P	**P**	**05 01 21.4**	**-0.5**
ASPA				*e*S	**S**	**05 06 12.2**	**-1.6**
XAN	**Xi'an**	**31.58**	**331**	P	**P**	**05 01 24.4**	**-0.5**
XAN				AMB	AMB		
	comp=Z,63nm,0.9s,mb5.3						
CTA	**Charters Tower**	**33.04**	**145**	P	**P**	**05 01 38.7**	**+1.1**
	comp=Z,14nm,1.3s,mb4.5,baz=352,slow=7.1,SNR=2.4						
CTA	**Charters Tower**	**33.04**	**145**	P	**P**	**05 01 38.7**	**+1.1**
LZH	**Lanzhou**	**35.76**	**327**	⇑P	**P**	**05 02 02.2**	**+1.6**
LZH				AP	pP	05 02 48.0	+10
LZH				XP	sP	05 03 10.0	+11
LZH				PCP	PcP	05 04 25.7	+0.9
LZH				AMB	AMB		
	comp=Z,90nm,1.1s,mb5.3						
LZH				AMB	AMB		
	comp=Z,220nm,4.6s						
LZH				LR	LR		
	comp=N,259nm,15.2s						
LZH				LR	LR		
	comp=Z,517nm,16.5s						
FORT	**Forrest**	**37.53**	**178**	*e*P	**P**	**05 02 15.6**	**+0.2**
	comp=Z,28nm,0.4s,mb5.2						
MDJ	**Mudanjiang**	**37.61**	**3**	P	**P**	**05 02 16.7**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,143nm,4.0s						
ASAJ	**Asahikawa**	**39.56**	**18**	P	**P**	**05 02 32.6**	**+0.5**
	comp=Z,6.3nm,0.4s,mb4.6,baz=217,slow=11,SNR=7.4						
LSA	**Lhasa**	**40.36**	**309**	P	**P**	**05 02 40.3**	**+1.4**
LSA	**Lhasa**	**40.36**	**309**	*e*P	**P**	**05 02 40.1**	**+1.2**
	comp=Z,17nm,0.6s,mb4.9						
NWAO	**Narrogin (SRO)**	**40.66**	**192**	P	**P**	**05 02 42.1**	**+0.9**
	comp=Z,7.4nm,0.4s,mb4.6,baz=15,slow=13,SNR=7.3						
STKA	**Stephens Creek**	**41.14**	**161**	P	**P**	**05 02 46.3**	**+1.1**
	comp=Z,4.7nm,0.6s,mb4.3,baz=336,slow=8.3,SNR=6.2						
STKA				pP	pP	05 03 27.9	+4.2
	comp=Z,5.2nm,0.5s,baz=343,slow=8.5,SNR=3.4						
HIA	**Hailar**	**42.59**	**353**	*e*P	**P**	**05 02 56.7**	**-0.1**
	comp=Z,5.1nm,0.7s,mb4.3						
JIRN	**Jiri**	**43.53**	**303**	*e*P	**P**	**05 03 05.2**	**+0.4**
	comp=Z,70nm,0.6s,mb5.5						
GUN	**Gumba**	**43.88**	**303**	*e*P	**P**	**05 03 07.9**	**+0.4**
	comp=Z,86nm,0.6s,mb5.6						
ULN	**Ulaanbaatar**	**44.08**	**341**	*c i*P	**P**	**05 03 09.5**	**+0.6**
ULN	**Ulaanbaatar**	**44.08**	**341**	*e*P	**P**	**05 03 09.3**	**+0.5**
	comp=Z,21nm,0.9s,mb4.8						
ULN				*e*PcP	PcP	05 04 51.4	0.0
PKI	**Pulchoki**	**44.15**	**303**	*e*P	**P**	**05 03 09.2**	**-0.5**
	comp=Z,33nm,0.6s,mb5.2						
SONM	**Songino Array**	**44.27**	**340**	P	**P**	**05 03 10.9**	**+0.5**
	comp=Z,6.2nm,1.0s,mb4.2,baz=162,slow=7.8,SNR=28						
SONM				PcP	PcP	05 04 51.9	-0.1
	comp=Z,2.6nm,0.5s,baz=158,slow=3.0,SNR=9.5						
KKN	**Kakani**	**44.34**	**303**	*e*P	**P**	**05 03 10.9**	**-0.3**
	comp=Z,40nm,0.7s,mb5.2						
DMN	**Daman**	**44.42**	**303**	*e*P	**P**	**05 03 11.7**	**-0.1**
	comp=Z,57nm,0.8s,mb5.2						
GKN	**Gorkha**	**44.94**	**303**	*e*P	**P**	**05 03 15.7**	**-0.3**
	comp=Z,35nm,0.6s,mb5.2						
KOLN	**Koldanda**	**45.73**	**302**	*e*P	**P**	**05 03 22.1**	**-0.2**
	comp=Z,98nm,0.6s,mb5.6						
ZAK	**Zakamensk**	**47.51**	**340**	*e*P	**P**	**05 03 35.6**	**-0.2**
HYB	**Hyderabad**	**48.07**	**287**	*e*P	**P**	**05 03 39.0**	**-1.6**
HYB	**Hyderabad**	**48.07**	**287**	*i* P	**P**	**05 03 39.0**	**-1.6**
TLY	**Talaya**	**48.49**	**341**	*e*P	**P**	**05 03 43.7**	**+0.3**
TLY				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.6						
TLY	**Talaya**	**48.49**	**341**	*e*P	**P**	**05 03 43.7**	**+0.4**
	comp=Z,14nm,0.8s,mb4.6						
MOY	**Mondy**	**49.38**	**339**	*e*P	**P**	**05 03 51.0**	**+0.9**
WMQ	**Urumqi**	**50.11**	**324**	⇓P	**P**	**05 03 55.4**	**-0.4**
WMQ				AP	pP	05 04 44.4	+8.8
WMQ				PP	PP	05 05 53.4	+0.1
WMQ				S	**S**	**05 10 47.6**	**-4.6**
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,39nm,5.4s						
WMQ				LR	LR		
	comp=N,556nm,20.5s						
WMQ				LR	LR		
	comp=E,365nm,21.3s						
WMQ				LR	LR		
	comp=Z,613nm,21.4s						
NDI	**New Delhi**	**51.39**	**301**	*e*	**P**	**05 04 02.5**	**-3.1**
BOD	**Bodaibo**	**51.70**	**351**	*e*P	**P**	**05 04 06.6**	**-1.0**
YAK	**Yakutsk**	**55.02**	**2**	*i* P	**P**	**05 04 31.1**	**-0.8**
YAK				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.8						
KZA	**Kyzart**	**57.26**	**316**	P	**P**	**05 04 49.3**	**+1.2**
	SNR=11						
ZAL	**Zalesovo**	**57.74**	**332**	P	**P**	**05 04 50.2**	**-1.0**
	comp=Z,15nm,0.5s,mb5.1,baz=345,slow=5.9,SNR=61						
UCH	**Uchtor**	**57.83**	**316**	P	**P**	**05 04 53.1**	**+1.1**
	SNR=27						
CHMS	**Chumysh**	**57.96**	**317**	P	**P**	**05 04 52.6**	**-0.3**
	SNR=8.1						
AAK	**Ala-Archa**	**57.99**	**317**	P	**P**	**05 04 53.5**	**+0.3**
	SNR=8.4						
AAK	**Ala-Archa**	**57.99**	**317**	*i* P	**P**	**05 04 52.4**	**-0.8**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
AAK	**Ala-Archa**	**57.99**	**317**	*e*P	**P**	**05 04 52.1**	**-1.1**
	comp=Z,6.7nm,0.7s,mb4.6						
AAK				*e*		05 05 41.8	
USP	**Ospenovka**	**58.23**	**317**	P	**P**	**05 04 54.7**	**-0.1**
	SNR=24						
AML	**Almayashu**	**58.36**	**316**	P	**P**	**05 04 56.4**	**+0.7**
	SNR=21						
EKS2	**Erkin-Say**	**58.49**	**316**	P	**P**	**05 04 57.1**	**+0.5**
	SNR=17						
NVS	**Novosibirsk**	**59.02**	**332**	*i* P	**P**	**05 04 58.6**	**-1.5**
NVS				pmax	pmax		
	comp=Z,53nm,0.9s,mb5.4						
NVS				pmax	pmax		
	comp=N,36nm,1.1s						
NVS				pmax	pmax		
	comp=E,45nm,1.1s						
FX1	**Attu Island--F**	**59.34**	**31**	P	**P**	**05 05 02.1**	**-0.3**
	comp=E,22nm,0.8s,mb5.0,baz=47,slow=17,SNR=5.9						
BVAR	**Borovoye Array**	**64.64**	**326**	P	**P**	**05 05 37.2**	**-0.3**
	comp=E,33nm,0.6s,mb5.4,baz=125,slow=8.2,SNR=177						
BRVK	**Borovoye**	**64.71**	**326**	⇑*e*P	**P**	**05 05 37.7**	**-0.3**
	comp=E,63nm,0.7s,mb5.5						
CHKZ	**Chkalovo**	**64.78**	**327**	*e*P	**P**	**05 05 37.6**	**-0.8**
	comp=E,16nm,0.5s,mb5.1						
BILL	**Bilibino**	**66.48**	**15**	*e*P	**P**	**05 05 48.2**	**-0.9**
BILL				*e*		05 08 16.6	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb3.9						
BILL				MLR	MLR		
	comp=Z,100nm,15.0s						
ARU	**Arti**	**72.23**	**327**	⇓*i*P	**P**	**05 06 21.4**	**-2.8**
ARU				*e*		05 06 36.5	
ARU				*e*S	S	05 15 37.6	+6.7
ARU				*e*SS	SS	05 20 16.4	+1.9
ARU				pmax	pmax		
	comp=Z,31nm,0.6s,mb5.2						
TI2	**Plekhanov**	**79.41**	**311**	*e*P	**P**	**05 07 10.2**	**+5.3**
GNI	**Garni**	**79.42**	**309**	*i* P	**P**	**05 07 04.4**	**-0.5**
GNI				pmax	pmax		
	comp=Z,25nm,1.2s						
GNI	**Garni**	**79.42**	**309**	P	**P**	**05 07 06.9**	**+2.0**
	comp=Z,9.1nm,0.7s,mb4.5,baz=161,slow=6.7,SNR=6.0						
GNI	**Garni**	**79.42**	**309**	*e*P	**P**	**05 07 04.2**	**-0.7**
	comp=Z,28nm,0.9s,mb4.9						
IMA	**Indian Mountai**	**79.48**	**24**	*e*P	**P**	**05 07 06.0**	**+1.3**
	comp=Z,28nm,0.8s,mb5.0						
ZEI	**Tsey**	**80.05**	**312**	*e*P	**P**	**05 07 09.0**	**+0.8**
ZEI				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.6						
KIV	**Kislovodsk**	**80.92**	**313**	*i* P	**P**	**05 07 12.9**	**+0.1**
KIV				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.8						
KIV	**Kislovodsk**	**80.92**	**313**	*e*P	**P**	**05 07 13.3**	**+0.4**
	comp=Z,32nm,0.8s,mb5.0						
MCK	**McKinley**	**81.32**	**27**	*e*P	**P**	**05 07 14.8**	**+0.2**
	comp=Z,15nm,0.9s,mb4.6						
COLA	**College**	**81.83**	**25**	*e*P	**P**	**05 07 17.0**	**-0.1**
	comp=Z,7.0nm,0.8s,mb4.3						
ILAR	**Eielson Array**	**82.24**	**26**	P	**P**	**05 07 18.6**	**-0.6**
	comp=Z,4.6nm,0.7s,mb4.2,baz=246,slow=4.6,SNR=56						
SOC	**Sochi**	**83.08**	**313**	*e*P	**P**	**05 07 21.6**	**-2.4**
SOC				*e*		05 10 40.4	
SOC				*e*PPP	PPP	05 12 26.8	-6.4
SOC				*e*S	S	05 17 30.2	+3.3
SOC				*e*SS	SS	05 22 59.8	+1.5
SOC				pmax	pmax		
	comp=Z,29nm,0.7s,mb5.1						
SOC				pmax	pmax		
	comp=N,51nm,0.8s						
SOC				pmax	pmax		
	comp=E,22nm,0.7s						
MALT	**Malatya**	**84.39**	**308**	*e*P	**P**	**05 07 31.8**	**+1.1**
	comp=E,12nm,0.9s,mb4.6						
OBN	**Obninsk**	**84.44**	**325**	*c i*P	**P**	**05 07 29.7**	**-0.8**
OBN				*e*		05 10 48.5	
OBN				pmax	pmax		
	comp=Z,58nm,0.9s,mb5.3						
OBN	**Obninsk**	**84.44**	**325**	*e*P	**P**	**05 07 29.3**	**-1.2**
	comp=Z,69nm,0.9s,mb5.4						
ANN	**Anapa**	**84.64**	**314**	*e*P	**P**	**05 07 30.3**	**-1.5**
ANN				*e*		05 10 53.7	
ANN				*e*		05 17 45.4	
ANN				pmax	pmax		
	comp=Z,107nm,1.0s,mb5.5						
ASF	**Jabal al Asfar**	**86.18**	**302**	P	**P**	**05 07 41.2**	**+1.5**
	comp=Z,20nm,0.8s,mb4.9,baz=348,slow=3.3,SNR=22						
JOF	**Joensuu**	**86.33**	**333**	*e*p	**P**	**05 07 38.6**	**-1.0**
	comp=Z,5.8nm,0.5s,mb4.6						
JOF	**Joensuu**	**86.33**	**333**	*e*P	**P**	**05 07 38.6**	**-1.0**
JOF				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.6						
VNDA	**Vanda**	**86.59**	**173**	P	**P**	**05 07 41.3**	**+0.7**
	comp=Z,1.7nm,0.6s,mb4.1,baz=297,slow=7.6,SNR=14						
INK	**Inuvik**	**87.21**	**22**	P	**P**	**05 07 44.3**	**+0.6**
	comp=Z,7.3nm,0.8s,mb4.6,baz=272,slow=4.7,SNR=15						
INK	**Inuvik**	**87.21**	**22**	*e*P	**P**	**05 07 43.9**	**+0.2**
	comp=Z,9.9nm,0.8s,mb4.7						
ARCES	**ARCESS Array B**	**87.44**	**340**	P	**P**	**05 07 44.8**	**-0.1**
	comp=Z,6.3nm,0.5s,mb4.7,baz=87,slow=5.7,SNR=58						
BRTR	**Keskin Array B**	**87.96**	**310**	P	**P**	**05 07 47.6**	**-0.3**
	comp=Z,3.2nm,0.7s,mb4.2,baz=108,slow=4.2,SNR=15						
BRTR				PP	PP	05 11 12.7	-6.3
	comp=Z,0.8nm,0.9s,baz=45,slow=5.2,SNR=3.6						
EIL	**Elat**	**88.12**	**299**	*e*P	**P**	**05 07 49.7**	**+0.7**
	comp=Z,7.3nm,0.9s,mb4.5						
KAF	**Kangasniemi**	**88.75**	**332**	*e*p	**P**	**05 07 50.4**	**-0.8**
	comp=Z,3.9nm,0.5s,mb4.6,baz=74,slow=4.3						
KAF	**Kangasniemi**	**88.75**	**332**	*e*P	**P**	**05 07 50.4**	**-0.8**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
CSS	**Prodhromos**	**88.82**	**305**	P	**P**	**05 07 50.4**	**-1.8**
	comp=Z,18nm,0.7s,mb5.1						
FINES	**FINESS Array B**	**89.00**	**332**	P	**P**	**05 07 52.2**	**-0.2**
	comp=Z,2.7nm,0.5s,mb4.5,baz=86,slow=4.7,SNR=42						
AKASG	**Malin Array Be**	**89.40**	**321**	P	**P**	**05 07 54.0**	**-0.5**
	comp=Z,7.8nm,0.7s,mb4.8,baz=63,slow=4.8,SNR=36						
KMBO	**Kilima Mbogo**	**89.58**	**269**	P	**P**	**05 07 56.8**	**+0.6**
	comp=Z,0.6nm,0.2s,mb4.1,baz=72,slow=14,SNR=2.9						
KMBO	**Kilima Mbogo**	**89.58**	**269**	P	**P**	**05 07 55.1**	**-1.2**
MLR	**Muntele Rosu**	**92.58**	**316**	P	**P**	**05 08 09.5**	**+0.1**
	comp=Z,3.4nm,0.6s,mb4.7,baz=54,slow=6.7,SNR=8.3						
KOLS	**Kolonicke sedl**	**94.18**	**320**	*i* P	**P**	**05 08 18.3**	**+1.8**
CRVS	**Cervenica-Dubn**	**94.70**	**320**	*i* P	**P**	**05 08 20.2**	**+1.3**
OJC	**Ojcow**	**95.36**	**322**	*e*P	**P**	**05 08 22.3**	**+0.4**
NB2	**NORSAR Subarra**	**95.91**	**334**	P	**P**	**05 08 23.5**	**-0.7**
	comp=Z,0.3nm,0.7s,mb3.7,baz=70,slow=5.6						
NOA	**NORSAR Array B**	**95.91**	**334**	P	**P**	**05 08 23.5**	**-0.7**
	comp=Z,3.2nm,0.8s,mb4.7,baz=67,slow=4.5,SNR=5.6						
YKA	**Yellowknife Ar**	**96.61**	**24**	*i* P	**P**	**05 08 27.9**	**+0.6**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YKA	**Yellowknife Ar**	**96.61**	**24**	P	**P**	**05 08 27.9**	**+0.7**
	comp=Z,4.4nm,0.8s,mb4.9,baz=300,slow=4.6,SNR=79						
YKA				PKiKP		05 13 04.2	
	comp=Z,0.4nm,0.5s,baz=303,slow=1.8,SNR=9.5						
YKA	**Yellowknife Ar**	**96.61**	**24**	P	**P**	**05 08 27.9**	**+0.7**
BRG	**Berggiesshubel**	**98.65**	**324**	*e*P	**P**	**05 08 37.9**	**+1.0**
BRG				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb5.0						
BRG	**Berggiesshubel**	**98.65**	**324**	*e*P	**P**	**05 08 37.9**	**+1.0**
	comp=Z,8.1nm,1.2s,mb5.0						
GERES	**GERESS Array B**	**99.56**	**322**	P	**P**	**05 08 41.6**	**+0.5**
	comp=Z,1.5nm,0.7s,mb4.5,baz=56,slow=4.8,SNR=9.3						
PDAR	**Pinedale Array**	**108.96**	**40**	PKiKP		05 13 27.4	
	comp=Z,0.2nm,0.4s,baz=50,slow=1.4,SNR=3.7						
VNA2	**Neumayer--Watz**	**109.91**	**195**

KIW			SN	S		05 21 23.1	-2.2
MTW	**Mount Morrison**	**2.90 192**	PN	P		05 20 50.2	-2.5
CAW	**Cannon Point**	**2.94 199**	PN	P		05 20 50.7	-2.5
CAW			SN	S		05 21 24.1	-5.3
MRW	**Makara Radio**	**3.16 203**	PN	P		05 20 53.1	-2.9
MRW			SN	S		05 21 30.2	-4.2
MSWZ	**Moikau Station**	**3.19 195**	PN	P		05 20 53.5	-2.9
TUWZ	**Tuamarina**	**3.60 210**	PN	P		05 20 57.4	-4.3
NNZ	**Nelson**	**3.67 217**	SN	S		05 21 41.9	-4.4
QRZ	**Quartz Range**	**3.85 228**	SN	S		05 21 45.6	-4.9
THZ	**Tophouse**	**4.32 216**	*e*PN	P		05 21 06.5	-4.6
KHZ	**Kahutara**	**4.61 207**	PN	P		05 21 10.9	-4.0
MQZ	**McQueen's Vall**	**6.05 206**	SN	S		05 22 31.8	-11
WVZ	**Waitaha Valley**	**6.36 220**	SN	S		05 22 40.8	-9.4

*IDC **11** 05:34:46.6±3.3, 5.53N×94.60E, mb3.5/4, mb1 3.6/4, mb1mx3.5/18, mbtmp3.5/4, MS2.5/1, Ms1 2.7/1, ms1mx2.0/11, Error ellipse: s-maj=130.1km s-min=26.9km az=61.0*
*NEIC **11** 05:34:51.8±0.7, 5.61N×94.76E, h30km, mb4.2/1, Error ellipse: s-maj=22.0km s-min=13.2km az=211.0*
ISC 11 05:34:49.8±0.9, 5.6N±0.2×94.8E±0.1, h30km, n7, σ0°53/6, mb3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.40**	**17**	LR	LR	05 43 54.1	
	comp=Z,19nm,19.9s,baz=105,slow=40						
PALK	**Pallekele**	**14.05**	**277**	P	**P**	**05 38 09.4**	**+0.1**
SONM	**Songino Array**	**43.22**	**11**	P	**P**	**05 42 50.4**	**+0.4**
	0.5nm,0.8s,mb3.3,baz=180,slow=9.9,SNR=5.5						
WRA	**Warramunga Arr**	**46.49**	**124**	P	**P**	**05 43 16.1**	**-0.4**
	0.5nm,0.5s,mb3.7,baz=299,slow=9.8,SNR=7.5						
ASAR	**Alice Springs**	**48.03**	**129**	P	**P**	**05 43 28.9**	**+0.3**
	0.3nm,0.6s,mb3.5,baz=304,slow=9.8,SNR=3.1						
BVAR	**Borovoye Array**	**51.30**	**341**	P	**P**	**05 43 52.6**	**-0.6**
	0.2nm,0.4s,mb3.4,baz=143,slow=7.2,SNR=2.6						
CHKZ	**Chkalovo**	**51.78**	**342**	P	**P**	**05 43 57.0**	**+0.1**
	2.1nm,0.7s,mb4.2						

*ATH **11** 05:43:34.1, 36.87N×27.69E, h23km±4km, MD3.5/7*
*CSEM **11** 05:43:34.3±0.1, 36.91N×27.79E, h22km±1km, MD3.5, Error ellipse: s-maj=3.3km s-min=2.3km az=7.0*
*NEIC **11** 05:43:34.1, 36.87N×27.69E, h23km, MD3.5(ATH), After ATH.*
*ISK **11** 05:43:35.0, 36.89N×27.78E, h46km, MD3.5*
ISC 11 05:43:34.3±1.0, 36.88N±0.05×27.70E±0.05, h25km±11km, n22, σ0°83/23, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.53**	**240**	*e*PN	**Pn**	**05 43 45.5**	**-0.8**
ARG	**Arkhangelos**	**0.75**	**153**	*e*PN	**Pn**	**05 43 48.1**	**-1.2**
DALT	**Dalyan (Mudla)**	**0.76**	**98**	PG	**Pb**	**05 43 48.9**	**+0.1**
DALT				SG	**Sb**	**05 43 59.4**	**+0.7**
SMG	**Samos**	**1.08**	**320**	*e*PN	**Pn**	**05 43 54.2**	**+0.2**
FETY	**Fethiye**	**1.14**	**102**	PN	**Pn**	**05 43 54.2**	**-0.6**
DENT	**Denizli**	**1.37**	**50**	PN	**Pn**	**05 43 57.9**	**-0.4**
KARP	**Karpathos**	**1.40**	**198**	*e*PN	**Pn**	**05 44 00.0**	**+1.3**
IZM	**Izmir**	**1.55**	**347**	PN	**Pn**	**05 44 01.5**	**+0.6**
BLCB	**Balcova**	**1.59**	**341**	*e*PN	**Pn**	**05 44 01.8**	**+0.4**
KSL	**Kastellorizon**	**1.68**	**115**	*e*PN	**Pn**	**05 44 04.5**	**+1.8**
APE	**Apeiranthos**	**1.75**	**277**	*e*PB	**Pb**	**05 44 04.6**	**-1.0**
ELL	**Elmali**	**1.77**	**94**	*e*PN	**Pn**	**05 44 03.7**	**-0.3**
AKS	**Akhisar**	**2.00**	**2**	PN	**Pn**	**05 44 07.3**	**+0.1**
KHL	**Karahalli**	**2.04**	**45**	*e*PN	**Pn**	**05 44 06.8**	**-1.0**
ISP	**Isparta**	**2.43**	**66**	*e*Pn	**Pn**	**05 44 13.8**	**+0.4**
ISP	**Isparta**	**2.43**	**66**	*e*Pn	**Pn**	**05 44 13.8**	**+0.4**
PRK	**Paraskevi**	**2.62**	**335**	*e*PN	**Pn**	**05 44 18.0**	**+1.9**
ALT	**Altintas**	**2.89**	**41**	*e*PN	**Pn**	**05 44 19.2**	**-0.7**
ORLT	**Orhaneli**	**3.30**	**16**	*e*PN	**Pn**	**05 44 25.4**	**-0.3**
ESKT	**Eskisehir**	**3.62**	**42**	*e*PN	**Pn**	**05 44 30.4**	**+0.1**
KIZT	**Kizilcal**	**3.86**	**58**	*e*PN	**Pn**	**05 44 33.0**	**-0.7**
YLV	**Yalova**	**3.91**	**19**	*e*PN	**Pn**	**05 44 34.2**	**-0.1**

*ATH **11** 05:45:36.7, 37.01N×28.13E, h33km±10km, MD3.6/6*
*NEIC **11** 05:45:36.7, 37.01N×28.13E, h33km, MD3.6(ATH), After ATH.*
*CSEM **11** 05:45:38.7±0.1, 37.03N×27.93E, h15km, MD3.5, Error ellipse: s-maj=2.6km s-min=1.8km az=28.0*
*ISK **11** 05:45:39.7, 37.12N×28.01E, h10km, MD3.5*
ISC 11 05:45:38.2±0.9, 36.98N±0.05×27.87E±0.06, h13km±8km, n19, σ0°97/20, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.33**	**347**	*i* PG	**Pg**	**05 45 45.5**	**+0.4**
DALT	**Dalyan (Mudla)**	**0.65**	**108**	PG	**Pg**	**05 45 51.3**	**-0.1**
DALT				SG	**Sg**	**05 46 01.6**	**+1.4**
ARG	**Arkhangelos**	**0.79**	**165**	*e*PN	**Pn**	**05 45 52.5**	**-2.3**
FETY	**Fethiye**	**1.03**	**109**	PG	**Pg**	**05 45 58.6**	**-0.4**
SMG	**Samos**	**1.10**	**312**	*e*PN	**Pn**	**05 45 59.6**	**+0.3**
DENT	**Denizli**	**1.21**	**50**	*e*PG	**Pg**	**05 45 59.8**	**-2.7**
IZM	**Izmir**	**1.50**	**341**	*e*PN	**Pn**	**05 46 05.5**	**+0.5**
KARP	**Karpathos**	**1.54**	**202**	*e*PN	**Pn**	**05 46 05.3**	**-0.3**
BLCB	**Balcova**	**1.55**	**335**	PN	**Pn**	**05 46 07.0**	**+1.2**
ELL	**Elmali**	**1.65**	**97**	*e*PN	**Pn**	**05 46 08.2**	**+1.0**
APE	**Apeiranthos**	**1.87**	**274**	*e*PN	**Pn**	**05 46 14.4**	**+4.0**
APE	**Apeiranthos**	**1.87**	**274**	*e*Pn	**Pn**	**05 46 11.1**	**+0.7**
KHL	**Karahalli**	**1.88**	**44**	*e*PN	**Pn**	**05 46 10.1**	**-0.4**
AKS	**Akhisar**	**1.90**	**359**	PN	**Pn**	**05 46 11.0**	**+0.3**
NPS	**Neapolis**	**2.50**	**228**	*e*PN	**Pn**	**05 46 20.0**	**+0.6**
PRK	**Paraskevi**	**2.59**	**331**	*e*PN	**Pn**	**05 46 19.3**	**-1.4**
ALT	**Altintas**	**2.73**	**40**	*e*PN	**Pn**	**05 46 22.4**	**-0.2**
KCT	**Karacabey**	**3.31**	**6**	*e*PN	**Pn**	**05 46 30.4**	**-0.4**
KIZT	**Kizilcal**	**3.70**	**58**	*e*PN	**Pn**	**05 46 36.8**	**+0.4**

IDC 11 05:46:37.2±10.0, 3.63N×95.77E, mb3.6/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, MS4.0/1, Ms1 4.0/1, ms1mx3.5/15, Error ellipse: s-maj=346.7km s-min=31.5km az=68.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**41.66**	**152**	LR	LR	06 10 47.4	
	comp=Z,13nm,18.6s,baz=219,slow=35						
WRA	**Warramunga Arr**	**44.55**	**123**	P	P	05 54 50.9	-2.0
	0.9nm,0.6s,baz=300,slow=9.0,SNR=6.5						
SONM	**Songino Array**	**44.98**	**10**	P	P	05 54 54.2	-1.8
	0.5nm,0.6s,baz=192,slow=8.7,SNR=7.1						
ASAR	**Alice Springs**	**46.01**	**128**	P	P	05 55 02.8	-1.6
	0.5nm,0.6s,baz=298,slow=7.5,SNR=5.2						
ASF	**Jabal al Asfar**	**61.90**	**305**	LR	LR	06 26 54.2	
	comp=Z,116nm,19.9s,baz=99,slow=39						

*IDC **11** 05:49:25.0±0.4, 8.23N×93.88E, mb4.6/22, mb1 4.8/23, mb1mx4.7/26, mbtmp4.6/23, ML4.7/1, MS4.1/7, Ms1 4.1/7, ms1mx3.9/18, Error ellipse: s-maj=23.6km s-min=11.2km az=48.0*
*BJI **11** 05:49:28.5, 8.07N×93.56E, h40km, mB4.9, mb4.7, Ms4.5, Msz4.2*
*HRVD **11** 05:49:29.2±0.4, 8.16N×93.85E, h13km±1km, MW4.9/49, Centroid moment Tensor Solution. LP body waves: s20,c27;Mantle waves: s49,c76; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.44±.15; $M_{\theta\theta}$0.87±.09; $M_{\phi\phi}$1.57±.11; $M_{r\theta}$1.03±.28; $M_{r\phi}$0.91±.06; $M_{\theta\phi}$-0.26±.24; Best double couple: $M_0$2.512×10^{16} NP1:ϕ_s19°, δ43°, λ-117°. NP2:ϕ_s233°, δ53°, λ-67°. Principal axes: T2.232, Plg5°, Azm307°; N.563, Plg18°, Azm39°; P-2.793, Plg71°, Azm202°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 05:49:29.2±0.3, 8.17N×93.84E, h30km, mb4.9/23 Error ellipse: s-maj=11.1km s-min=6.9km az=50.0*
*MOS **11** 05:49:30.5±1.3, 8.47N×93.28E, h33km, mb5.0/16, Error ellipse: s-maj=22.3km s-min=10.1km az=96.2*
ISC 11 05:49:27.7±0.3, 8.08N±0.04×93.79E±0.04, h33km, (h31km±4.3km:pP-P), n123, σ1°12/117, mb4.8/58, MS4.2/11, 1C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.70**	**344**	*e*P	**P**	**05 50 23.8**	**-0.2**
PBA				*e*S	**S**	**05 51 09.6**	**+2.5**
NNT	**Nongplab**	**7.37**	**52**	P	**P**	**05 51 16.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**11.47**	**25**	Pn	**P**	**05 52 14.4**	**+2.1**
	1.4nm,0.3s,baz=213,slow=15,SNR=35						
CMAR				LR	LR	05 56 36.6	
	comp=Z,229nm,19.5s,baz=215,slow=38						
CMAR				ScP		06 01 34.2	
	0.2nm,0.3s,baz=228,slow=2.6,SNR=11						
CMAR	**Chiang Mai Arr**	**11.47**	**25**	Pn	**P**	**05 52 14.4**	**+2.1**
CMAR				ScP		06 01 34.2	
NANT	**Nan**	**12.60**	**32**	P	**P**	**05 52 32.0**	**+4.5**
PALK	**Pallekele**	**12.99**	**267**	*e*P	**P**	**05 52 31.7**	**-1.1**
CHRT	**Chiangrai**	**13.09**	**26**	‖P	**P**	**05 52 37.0**	**+3.1**
VIS	**Vishakhapatnam**	**13.99**	**314**	*e*P	**P**	**05 52 43.7**	**-2.2**
VIS				*e*		05 55 10.4	
MDRS	**Chennai**	**14.20**	**292**	*e*P	**P**	**05 52 48.3**	**-0.4**
BWNR	**Bhubaneshwar**	**14.40**	**328**	*e*P	**P**	**05 52 46.5**	**-4.8**
BWNR				*e*		05 52 48.7	
	comp=Z,36nm,0.2s						
BWNR				*e*		05 55 20.0	
KOD	**Kodaikanal**	**16.26**	**279**	*e*P	**P**	**05 53 18.2**	**+2.9**
KOD				*e*		05 53 33.0	
	comp=Z,68nm,2.1s						
KOD				*e*		05 56 05.1	
TRD	**Trivandrum**	**16.66**	**273**	*e*P	**P**	**05 53 21.2**	**+0.8**
TRD				*e*		05 56 35.5	
SHL	**Shillong**	**17.49**	**354**	*e*P	**P**	**05 53 27.0**	**-3.7**
	comp=Z,110nm,1.0s						
SHL				*e*P		05 53 28.3	
SHL				*e*		05 53 31.9	
	comp=Z,101nm,1.2s						
SHL				*e*S	**S**	**05 56 43.0**	**+0.7**
HYB	**Hyderabad**	**17.51**	**303**	*i* P	**P**	**05 53 31.0**	**0.0**
	comp=Z,40nm,1.0s						
HYB				*e*		05 53 50.5	
HYB				*e*S	**S**	**05 56 36.0**	**-6.8**
HYB				*e*		05 56 45.0	
MNGI	**Mangalore**	**19.26**	**286**	*e*P	**P**	**05 53 52.0**	**-0.4**
JIRN	**Jiri**	**20.76**	**341**	*e*P	**P**	**05 54 07.9**	**-0.5**
	comp=Z,184nm,0.8s						
GOA	**Goa**	**20.87**	**293**	*e*	**P**	**05 54 16.1**	**+6.5**
PKI	**Pulchoki**	**20.95**	**339**	*e*P	**P**	**05 54 09.9**	**-0.4**
	comp=Z,514nm,1.4s						
DMN	**Daman**	**21.09**	**338**	*e*P	**P**	**05 54 11.5**	**-0.2**
	comp=Z,66nm,0.6s,mb5.1						
GUN	**Gumba**	**21.10**	**340**	*e*P	**P**	**05 54 11.3**	**-0.5**
	comp=Z,106nm,0.6s,mb5.4						
KKN	**Kakani**	**21.20**	**339**	*e*P	**P**	**05 54 12.3**	**-0.5**
	comp=Z,145nm,0.9s,mb5.3						
GKN	**Gorkha**	**21.62**	**338**	*e*P	**P**	**05 54 17.0**	**-0.1**
	comp=Z,253nm,0.9s,mb5.6						
LSA	**Lhasa**	**21.65**	**354**	P	**P**	**05 54 16.5**	**-0.8**
LSA				AP		05 54 26.7	
LSA				S	**S**	**05 58 09.7**	**-0.5**
LSA				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.0						
LSA				LR	LR		
	comp=N,120nm,14.3s,MS3.7						
LSA				LR	LR		
	comp=E,180nm,15.1s,MS3.7						
LSA	**Lhasa**	**21.65**	**354**	‖ *i* P	**P**	**05 54 16.4**	**-0.9**
	comp=E,70nm,0.7s,mb5.2						
BHPL	**Bhopal**	**21.77**	**316**	*e*P	**P**	**05 54 20.0**	**+1.5**
BHPL				*e*		05 54 29.0	
	comp=Z,46nm,0.8s						
BHPL				*e*S	**S**	**05 58 20.6**	**+8.2**
KOLN	**Koldanda**	**21.83**	**335**	*e*P	**P**	**05 54 19.3**	**+0.2**
	comp=Z,106nm,0.7s,mb5.4						
NDI	**New Delhi**	**25.77**	**325**	*e*P	**P**	**05 54 56.7**	**-0.7**
NDI				*e*		05 54 59.5	
	comp=Z,106nm,1.0s						
ENH	**Enshi**	**26.53**	**32**	*e*P	**P**	**05 55 03.6**	**-0.9**
	comp=Z,14nm,0.9s,mb4.5						
SMLA	**Simla**	**27.69**	**328**	*e*	**P**	**05 55 20.8**	**+5.7**
SMLA				*e*	pP	05 55 31.6	+7.1
	comp=Z,57nm,1.2s						
LZH	**Lanzhou**	**29.36**	**17**	*e*P	**P**	**05 55 30.5**	**+0.6**
LZH				AP	pP	05 55 38.0	-1.4
LZH				PP	PP	05 56 26.0	+0.5
LZH				AMB	AMB		
	comp=Z,17nm,1.5s,mb4.5						
SSE	**Sheshan**	**34.32**	**44**	P	**P**	**05 56 12.7**	**-0.7**
SSE				S	**S**	**06 01 40.7**	**+3.0**
SSE				XS		06 01 55.6	
SSE				AMB	AMB		
	comp=Z,23nm,0.6s,mb5.3						
SSE				AMB	AMB		
	comp=Z,118nm,5.2s						
SSE				LR	LR		
	comp=N,135nm,20.4s,MS3.8						
SSE				LR	LR		
	comp=E,95nm,20.7s,MS3.8						
SSE				LR	LR		
	comp=Z,125nm,13.9s						
WMQ	**Urumqi**	**36.00**	**352**	P	**P**	**05 56 27.9**	**+0.3**
WMQ				AP	pP	05 56 37.4	0.0
WMQ				XP	sP	05 56 41.3	-0.3
WMQ				PP	PP	05 57 49.7	-0.2
WMQ				S	**S**	**06 02 03.0**	**-0.5**
WMQ				XS		06 02 19.0	
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,44nm,4.8s						
WMQ				LR	LR		
	comp=N,1μm,19.0s,MS4.7						
WMQ				LR	LR		
	comp=E,814nm,20.1s,MS4.7						
WMQ				LR	LR		
	comp=Z,2μm,20.3s,MS4.8						
BJT	**Baijiatuau**	**37.57**	**29**	P	**P**	**05 56 44.2**	**+3.3**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJT	**Baijiatuau**	**37.57**	**29**	P	**P**	**05 56 44.2**	**+3.3**
	comp=Z,9.8nm,0.6s,mb4.7						
JOW	**Kunigami**	**37.63**	**56**	LR	LR	06 14 05.3	
	comp=Z,334nm,18.7s,MS4.2,baz=54,slow=40						
UCH	**Uchtor**	**38.03**	**337**	P	**P**	**05 56 45.6**	**+1.0**
	SNR=7.1						
AML	**Almayashu**	**38.28**	**336**	P	**P**	**05 56 47.9**	**+1.1**
	SNR=17						
AAK	**Ala-Archa**	**38.38**	**337**	P	**P**	**05 56 49.2**	**+1.6**
	SNR=7.7						
AAK	**Ala-Archa**	**38.38**	**337**	*i* P	**P**	**05 56 46.3**	**-1.3**
AAK				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.6						
AAK	**Ala-Archa**	**38.38**	**337**	*e*P	**P**	**05 56 46.2**	**-1.4**
	comp=Z,12nm,0.7s,mb4.7						
CHMS	**Chumysh**	**38.59**	**337**	P	**P**	**05 56 49.6**	**+0.2**
	SNR=8.1						
MBWA	**Marble Bar**	**38.64**	**139**	*e*P	**P**	**05 56 49.7**	**-0.3**
	comp=Z,11nm,0.8s,mb4.6						
EKS2	**Erkin-Say**	**38.69**	**336**	P	**P**	**05 56 51.2**	**+1.1**
	SNR=7.7						
USP	**Ospenovka**	**38.92**	**337**	P	**P**	**05 56 52.5**	**+0.5**
	SNR=8.2						
FITZ	**Fitzroy Crossi**	**40.81**	**130**	*e*P	**P**	**05 57 07.1**	**-0.9**
	comp=Z,18nm,1.0s,mb4.7						
SONM	**Songino Array**	**41.04**	**13**	P	**P**	**05 57 09.8**	**+0.1**
	comp=Z,4.3nm,0.8s,mb4.1,baz=196,slow=7.3,SNR=35						
SONM				PcP	PcP	05 59 10.4	+0.7
	comp=Z,1.7nm,0.7s,baz=188,slow=3.6,SNR=5.6						
SONM				ScP		06 02 56.6	
	comp=Z,0.5nm,0.9s,baz=219,slow=2.7,SNR=3.7						
ULN	**Ulaanbaatar**	**41.22**	**14**	*i* P	**P**	**05 57 11.1**	**0.0**
ULN	**Ulaanbaatar**	**41.22**	**14**	*e*P	**P**	**05 57 10.8**	**-0.3**
	comp=Z,5.3nm,0.8s,mb4.2						
ZAK	**Zakamensk**	**42.91**	**9**	*e*P	**P**	**05 57 24.9**	**0.0**
ZAK				*e*		05 59 15.6	
TLY	**Talaya**	**44.22**	**9**	*i* P	**P**	**05 57 36.0**	**+0.5**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
HIA	**Hailar**	**46.47**	**23**	*e*P	**P**	**05 57 53.7**	**+0.2**
	comp=Z,12nm,0.8s,mb4.9						
NWAO	**Narrogin (SRO)**	**46.48**	**153**	P	**P**	**05 57 55.0**	**+1.2**
	comp=Z,37nm,0.7s,mb5.4,baz=331,slow=7.0,SNR=23						
NWAO	**Narrogin (SRO)**	**46.48**	**153**	*e*P	**P**	**05 57 54.8**	**+1.0**
	comp=Z,36nm,0.8s,mb5.4						
NVS	**Novosibirsk**	**47.40**	**352**	*e*P	**P**	**05 57 58.9**	**-1.7**
NVS				*e*		06 04 43.6	
NVS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
NVS				pmax	pmax		
	comp=N,16nm,1.1s						
MDJ	**Mudanjiang**	**47.84**	**34**	P	**P**	**05 58 02.7**	**-1.6**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,131nm,5.1s						
WRA	**Warramunga Arr**	**48.66**	**125**	P	**P**	**05 58 10.2**	**-0.8**
	comp=Z,15nm,0.6s,mb5.2,baz=304,slow=8.5,SNR=37						
WRA				PcP	PcP	05 59 36.7	+0.3
	comp=Z,2.7nm,0.6s,baz=313,slow=2.9,SNR=8.9						
WRA	**Warramunga Arr**	**48.66**	**125**	P	**P**	**05 58 10.2**	**-0.8**
WRA				PcP	PcP	05 59 36.7	+0.3
WRAB	**Tennant Creek**	**48.66**	**125**	*e*P	**P**	**05 58 10.2**	**-0.8**
	comp=Z,35nm,0.7s,mb5.5						
BVAR	**Borovoye Array**	**48.69**	**341**	P	**P**	**05 58 09.6**	**-1.1**
	comp=Z,2.7nm,0.5s,mb4.5,baz=143,slow=7.4,SNR=14						
BVAR				PcP	PcP	05 59 36.0	0.0
	comp=Z,2.3nm,0.8s,baz=153,slow=6.6,SNR=3.6						
BVAR				ScP		06 03 28.3	
	comp=Z,2.9nm,0.8s,baz=143,slow=7.4,SNR=10						
BRVK	**Borovoye**	**48.75**	**341**	*e*P	**P**	**05 58 08.4**	**-2.8**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
BRVK	**Borovoye**	**48.75**	**341**	*e*P	**P**	**05 58 08.4**	**-2.8**
	comp=Z,6.3nm,0.7s,mb4.8						
CHKZ	**Chkalovo**	**49.17**	**342**	*e*P	**P**	**05 58 13.4**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2						
CHKZ	**Chkalovo**	**49.17**	**342**	*e*P	**P**	**05 58 13.4**	**-1.1**
	comp=Z,16nm,0.7s,mb5.2						
CHKZ				*e*P		05 58 13.6	
ASAR	**Alice Springs**	**50.31**	**130**	P	**P**	**05 58 23.0**	**-0.6**
	comp=Z,7.0nm,0.7s,mb4.8,baz=301,slow=7.3,SNR=41						
ASAR				PcP	PcP	05 59 42.8	+0.5
	comp=Z,4.0nm,0.6s,baz=308,slow=3.5,SNR=12						
ASAR				LR	LR	06 21 44.8	
	comp=Z,136nm,18.2s,MS4.0,baz=288,slow=38						
BOD	**Bodaibo**	**52.03**	**14**	*e*P	**P**	**05 58 35.2**	**-0.9**
ARU	**Arti**	**55.57**	**337**	‖ *i* P	**P**	**05 58 59.3**	**-2.9**
ARU				*e*		05 59 57.5	
ARU				*e*PPP	PPP	06 02 17.1	-5.4
ARU				*e*S	**S**	**06 06 44.2**	**+0.4**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
PMG	**Port Moresby**	**55.92**	**107**	P	**P**	**05 59 06.1**	**+0.8**
	comp=Z,35nm,0.6s,mb5.5,baz=72,slow=0.8,SNR=9.4						
PMG	**Port Moresby**	**55.92**	**107**	*e*P	**P**	**05 59 06.0**	**+0.7**
	comp=Z,50nm,0.7s,mb5.7						
KIV	**Kislovodsk**	**56.94**	**318**	P	**P**	**05 59 11.6**	**-0.6**
KIV				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
KIV	**Kislovodsk**	**56.94**	**318**	P	**P**	**05 59 11.6**	**-0.6**
	comp=Z,11nm,0.7s,mb5.0						
KMBO	**Kilima Mbogo**	**57.10**	**263**	P	**P**	**05 59 16.4**	**+2.6**
	comp=Z,2.9nm,0.8s,mb4.4,baz=36,slow=9.1,SNR=6.5						
KMBO				LR	LR	06 21 09.5	
	comp=Z,183nm,19.1s,MS4.2,baz=89,slow=33						
KMBO	**Kilima Mbogo**	**57.10**	**263**	*e*P	**P**	**05 59 17.0**	**+3.2**
	comp=Z,4.9nm,0.8s,mb4.6						
ASF	**Jabal al Asfar**	**57.81**	**303**	P	**P**	**05 59 19.4**	**+0.9**
	comp=Z,3.4nm,0.9s,mb4.4,baz=12,slow=11,SNR=3.3						
CTA	**Charters Tower**	**58.71**	**119**	P	**P**	**05 59 25.1**	**+0.1**
	comp=Z,18nm,1.1s,mb5.0,baz=304,slow=13,SNR=3.9						
SOC	**Sochi**	**58.80**	**317**	*e*P	**P**	**05 59 24.9**	**-0.3**
SOC				*e*		06 00 13.1	
SOC				*e*		06 01 40.2	
SOC				*e*PPP	PPP	06 03 00.0	-1.2
SOC				*e*S	**S**	**06 07 30.9**	**+4.4**
SOC				pmax	pmax		
	comp=Z,76nm,1.3s,mb5.6						
SOC				pmax	pmax		
	comp=N,64nm,1.2s						
SOC				pmax	pmax		
	comp=E,45nm,1.0s						
YAK	**Yakutsk**	**59.92**	**19**	*i* P	**P**	**05 59 31.9**	**-0.8**
YAK				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.3						
STKA	**Stephens Creek**	**60.50**	**134**	*e*P	**P**	**05 59 36.7**	**-0.4**
	comp=Z,7.4nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**60.50**	**134**	P	**P**	**05 59 36.7**	**-0.4**
	comp=Z,3.2nm,0.6s,mb4.5,baz=316,slow=8.7,SNR=12						
STKA				LR	LR	06 28 48.5	
	comp=Z,149nm,19.9s,MS4.1,baz=117,slow=39						
BRTR	**Keskin Array B**	**62.03**	**311**	P	**P**	**05 59 46.6**	**-0.8**
	comp=Z,2.9nm,0.7s,mb4.5,baz=121,slow=7.4,SNR=16						
MOS	**Moscow**	**64.73**	**329**	*e*P	**P**	**06 00 03.4**	**-1.4**
MOS				*e*		06 00 37.4	
OBN	**Obninsk**	**65.02**	**328**	*i* P	**P**	**06 00 04.0**	**-2.7**
OBN				*i*		06 00 11.6	
OBN				*e*		06 00 37.4	
OBN				*e*		06 02 26.9	
OBN				pmax	pmax		
	comp=Z,48nm,2.1s,mb5.2						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
MA2	**Magadan**	**66.75**	**28**	*i* P	**P**	**06 00 17.4**	**-0.2**
MA2				pmax	pmax		
	comp=Z,64nm,2.0s,mb5.3						
AKASG	**Malin Array Be**	**67.78**	**322**	P	**P**	**06 00 22.7**	**-1.6**
	comp=Z,0.4nm,0.3s,mb3.9,baz=90,slow=4.4,SNR=7.3						
MLR	**Muntele Rosu**	**68.78**	**316**	P	**P**	**06 00 31.0**	**+0.4**
	comp=Z,6.6nm,1.0s,mb4.5,baz=123,slow=4.2,SNR=8.5						
LSZ	**Lusaka**	**69.01**	**250**	*e*P	**P**	**06 00 33.2**	**+0.7**
	comp=Z,6.6nm,0.7s,mb4.7						

NVAR	**Mina Array Bea**	**124.92**	**31**	PKP	PKPdf	06 08 28.4	+3.4
	comp=Z,2.2nm,0.7s,baz=76,slow=0.8,SNR=11						
PDAR	**Pinedale Array**	**125.11**	**21**	PKP	PKPdf	06 08 27.5	+2.3
	comp=Z,2.3nm,0.8s,baz=24,slow=1.6,SNR=22						
MSU	**Marysvale**	**127.73**	**26**	*e*PKP	PKPdf	06 08 34.0	+3.6
ANMO	**Albuquerque**	**133.12**	**23**	PKP	PKPdf	06 08 44.1	+3.3
	comp=Z,1.4nm,0.7s,baz=16,slow=0.4,SNR=8.7						
ANMO				SKPbc		06 12 08.4	
	comp=Z,2.2nm,0.9s,baz=298,slow=3.1,SNR=6.5						
GDL2	**Guadalupe Moun**	**136.36**	**23**	*e*PKP	PKPdf	06 08 46.6	-0.3
TXAR	**Lajitas Array**	**139.18**	**24**	PKhKP		06 08 48.6	
	comp=Z,0.9nm,0.8s,baz=88,slow=1.6,SNR=3.7						
TXAR				PKP	PKPdf	06 08 54.6	+2.6
	comp=Z,0.9nm,0.8s,baz=157,slow=0.6,SNR=9.6						
TXAR				PP	PP	06 11 48.6	-0.9
	comp=Z,0.8nm,1.0s,slow=1.3,SNR=3.9						
TXAR				SKPbc		06 12 27.6	
	comp=Z,1.3nm,0.7s,baz=288,slow=1.3,SNR=9.9						
JCT	**Junction City**	**139.51**	**18**	*e*PKP	PKPdf	06 08 55.3	+2.7
BDFB	**Brasilia**	**141.92**	**255**	PKP	PKPdf	06 08 58.8	+1.5
	comp=Z,2.8nm,0.8s,baz=148,slow=7.3,SNR=3.4						
LPAZ	**La Paz**	**160.55**	**244**	PKP	PKPdf	06 09 26.9	+2.2
	comp=Z,3.4nm,1.1s,baz=275,slow=4.1,SNR=4.0						
LPAZ				PKPab	PKPab	06 10 09.3	+0.7
	comp=Z,2.8nm,0.9s,baz=101,slow=4.8,SNR=6.8						
LPAZ	**La Paz**	**160.55**	**244**	PKP	PKPdf	06 09 26.9	+2.1
LPAZ				PKPab	PKPab	06 10 09.3	+0.7

*IDC **11** 05:49:11.6±10.0, 15.29S×173.97W, mb4.3/3, mb1 4.6/3, mb1mx3.9/13, mbtmp4.3/3, Error ellipse: s-maj=452.3km s-min=32.6km az=140.0*
*NEIC **11** 05:49:29.9±0.8, 14.99S×174.47W, h135km, mb4.4/1, Error ellipse: s-maj=49.4km s-min=10.3km az=156.0*

ISC 11 05:49:28.1±0.9,**15.0S**±0.5×**174.5W**±0.2,**h135**km,**n9**, σ**0**°**60**/**8**,**mb4.1**/**4**,**Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.81**	**68**	*e*Pn	**P**	**05 50 14.6**	**+1.3**
AFI				*e*S	**S**	**05 50 46.7**	**-0.9**
WB2	**Warramunga Arr**	**48.93**	**256**	*e*P	**P**	**05 58 02.5**	**-0.2**
WRAB	**Tennant Creek**	**48.93**	**256**	P	**P**	**05 58 03.1**	**+0.3**
	3.8nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**48.94**	**256**	P	**P**	**05 58 03.0**	**+0.2**
	2.8nm,0.8s,mb4.0,baz=90,slow=7.3,SNR=52						
ASAR	**Alice Springs**	**49.27**	**252**	P	**P**	**05 58 05.0**	**-0.2**
	16nm,0.9s,mb4.7,baz=86,slow=8.3,SNR=118						
ASPA	**Alice Springs**	**49.27**	**252**	*e*P	**P**	**05 58 04.9**	**-0.4**
ILAR	**Eielson Array**	**82.22**	**12**	P	**P**	**06 01 35.2**	**0.0**
	0.6nm,0.6s,mb3.4,baz=219,slow=5.8,SNR=6.6						
MLR	**Muntele Rosu**	**145.04**	**335**	PKPbc	PKPbc	06 08 51.4	+1.6
	1.3nm,0.6s,baz=145,slow=1.7,SNR=3.6						
BRTR	**Keskin Array B**	**145.17**	**320**	PKPbc	PKPbc	06 08 52.3	+2.0
	1.1nm,0.8s,baz=63,slow=3.2,SNR=4.5						

*NEIC **11** 05:53:57.4, 15.79N×61.56W, h29km, MD3.7(TRN), After TRN.*

TRN 11 05:53:55.7,**15.84N**×**61.60W**,**h15**km,**MD3.7**,**M2.3**(FDF), **7C-2D**,**Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCG	**Saint Claude**	**0.20**	**338**	⇑*i*P	Pb	05 54 01.9	+1.3
BBL	**Barber's Block**	**0.34**	**158**	⇑*i*P	Pb	05 54 06.3	+3.4
BBL				*e*S	Sb	05 54 11.2	+3.5
BBL	**Barber's Block**	**0.34**	**158**	⇓*i*P	Pb	05 54 05.2	+2.4
BBL	**Barber's Block**	**0.34**	**158**	⇑*i*P	Pb	05 54 06.3	+3.4
BBL				*e*S	Sb	05 54 10.1	+2.4
BBL				*e*S	Sb	05 54 11.2	+3.5
DWS	**Wesley**	**0.39**	**134**	⇓*i*P	Pb	05 54 07.0	+3.2
DWS				*e*S	Sb	05 54 13.2	+4.1
MDN	**Morne-Daniel**	**0.55**	**159**	*e*P	Pb	05 54 10.1	+3.5
MDN				*e*S	Sb	05 54 17.9	+3.9
SEG	**Port Louis**	**0.57**	**9**	⇑*i*P	Pb	05 54 08.8	+1.9
DBCT	**Belle View Cho**	**0.61**	**156**	*e*P	Pb	05 54 11.1	+3.4
DBCT				*e*S	Sb	05 54 19.5	+3.8
DSTT	**Stowe**	**0.65**	**154**	*e*P	Pb	05 54 11.9	+3.6
DSTT				*e*S	Sb	05 54 21.1	+4.2
DEG	**La Desirade**	**0.70**	**48**	⇑*e*P	Pb	05 54 10.7	+1.6
FDF	**Fort de France**	**1.18**	**158**	⇑*e*P	Pb	05 54 18.8	+1.4
FDF				*e*S	Sb	05 54 34.6	+2.4
BPA	**Boggy Peak**	**1.23**	**348**	*e*P	Pb	05 54 20.6	+2.5
BPA				*e*S	Sb	05 54 38.7	+5.2
CRM	**Caraville**	**1.27**	**148**	⇑*e*P	Pb	05 54 20.4	+1.7
NVBH	**Bath Hotel, Ne**	**1.60**	**323**	*e*P	Pn	05 54 19.5	-4.2
NVBH				*e*S	Sn	05 54 47.3	+3.1
CPB	**Codrington**	**1.81**	**353**	*e*P	Pn	05 54 28.7	+2.1
CPB				*e*S	Sn	05 54 50.9	+1.6

*MOS **11** 06:19:05.0±2.1, 52.11N×102.37E, h17km, mb4.3/1, Error ellipse: s-maj=12.5km s-min=11.6km az=122.3*

BYKL 11 06:19:04.8±0.3,**52.16N**×**102.34E**,**h8**km±6km,**3C-5D**, **FELT I=II MSK at Arshan**),**Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARS	**Arshan**	**0.25**	**168**	*e*PG	Pg	06 19 09.5	-0.4
ARS				*e*		06 19 13.3	
ARS	comp=Z,3μm,0.1s			pmax	pmax		
ARS	comp=N,13μm,0.4s			smax			
ARS	**Arshan**	**0.25**	**168**	⇑*i*Pg	Pg	06 19 10.0	+0.1
ARS				*i* Sg	Sg	06 19 13.2	-0.1
ARS	comp=N,4μm,0.1s			Pmax			
ARS	comp=N,13μm,0.5s			Smax			
TLY	**Talaya**	**0.94**	**120**	*e*PG	Pg	06 19 21.8	-1.8
TLY				*e*		06 19 34.2	
TLY	comp=Z,187nm,0.1s			pmax	pmax		
TLY	comp=E,602nm,0.2s			smax			
TLY	**Talaya**	**0.94**	**120**	⇓*i*Pg	Pg	06 19 21.7	-1.9
TLY				*e*		06 19 23.0	
TLY				*e*Sg	Sg	06 19 33.8	-2.4
TLY	comp=E,186nm,0.3s			Pmax			
TLY	comp=E,602nm,0.2s			Smax			
MOY	**Mondy**	**0.97**	**240**	*e*PG	Pg	06 19 22.6	-1.6
MOY				*e*		06 19 34.8	
MOY	comp=Z,105nm,0.2s			pmax	pmax		
MOY	comp=E,905nm,0.6s			smax			
MOY	**Mondy**	**0.97**	**240**	⇓*i*Pg	Pg	06 19 22.6	-1.6
MOY				*i* Sg	Sg	06 19 34.9	-2.3
MOY	comp=E,107nm,0.2s			Pmax			
MOY	comp=E,919nm,0.5s			Smax			
IRK	**Irkutsk**	**1.19**	**85**	*e*PG	Pg	06 19 25.6	-3.0
IRK				*e*		06 19 41.2	
IRK	comp=Z,94nm,0.2s			pmax	pmax		
IRK	comp=E,804nm,0.4s			smax			
IRK	**Irkutsk**	**1.19**	**85**	*e*Pg	Pg	06 19 26.7	-1.9
IRK				*e*Sg	Sg	06 19 42.3	-2.2
IRK	comp=E,153nm,0.3s			Pmax			
IRK	comp=E,860nm,0.2s			Smax			
LSTR	**Listvyanka**	**1.57**	**100**	*e*PN	Pn	06 19 32.6	-0.5
LSTR				*e*		06 19 52.4	
LSTR	comp=Z,54nm,0.2s			pmax	pmax		
LSTR	comp=N,348nm,0.2s			smax			
LSTR	**Listvyanka**	**1.57**	**100**	⇓*i*Pg	Pg	06 19 32.8	-3.3
LSTR				*i* Sg	Sg	06 19 52.5	-4.5
LSTR	comp=N,46nm,0.1s			Pmax			
LSTR	comp=N,413nm,0.6s			Smax			
ORL	**Orlik**	**1.60**	**285**	*e*PN	Pn	06 19 34.1	+0.6
ORL				*e*		06 19 55.2	
ORL	comp=Z,81nm,0.2s			pmax	pmax		
ORL	comp=N,359nm,0.7s			smax			
ORL	**Orlik**	**1.60**	**285**	⇓*i*Pg	Pg	06 19 34.2	-2.5
ORL				*e*Sg	Sg	06 19 55.1	-2.9
ORL	comp=N,78nm,0.4s			Pmax			
ORL	comp=N,359nm,0.8s			Smax			
ZAK	**Zakamensk**	**1.88**	**161**	*e*PN	Pn	06 19 37.9	+0.4
ZAK				*e*		06 20 01.7	
ZAK	comp=Z,75nm,0.2s			pmax	pmax		
ZAK	comp=E,186nm,0.3s			smax			
ZAK	**Zakamensk**	**1.88**	**161**	⇑*e*Pg	Pg	06 19 37.9	-4.4
ZAK				*i* Pn	Pn	06 19 38.0	+0.5
ZAK				*e*		06 19 43.6	
ZAK				*e*Sg	Sg	06 20 02.5	-4.8
ZAK	comp=E,73nm,0.2s			max			
ZAK	comp=E,186nm,0.3s			Smax			
BTMB	**Babushkin**	**2.21**	**101**	⇑*i*Pg	Pg	06 19 44.0	-5.0
BTMB				*e*Sg	Sg	06 20 12.0	-6.4
BTMB	comp=E,49nm,0.4s			Pmax			
BTMB	comp=E,491nm,0.5s			Smax			
STDB	**Stepnoy Dvoret**	**2.48**	**88**	*e*	Pn	06 19 50.8	+4.6
STDB				*e*Sg	Sg	06 20 22.8	-4.6
STDB	comp=E,383nm,0.4s			Smax			
TRG	**Tyrgan**	**2.52**	**75**	*e*PN	Pn	06 19 49.6	+2.8
TRG				*e*		06 20 21.3	
TRG	comp=Z,36nm,0.2s			pmax	pmax		
TRG	comp=N,201nm,0.1s			smax			
TRG	**Tyrgan**	**2.52**	**75**	*e*Pn	Pn	06 19 45.9	-0.9
TRG				*e*Pg	Pg	06 19 49.0	-6.2
TRG				*e*Sn	Sn	06 20 16.1	-2.0
TRG				*e*Sg	Sg	06 20 21.8	-7.1
TRG	comp=N,37nm,0.3s			Pmax			
TRG	comp=N,205nm,0.1s			Smax			
KAB	**Kabansk**	**2.66**	**91**	*e*PN	Pn	06 19 53.6	+4.8
KAB	**Kabansk**	**2.66**	**91**	*e*	Pn	06 20 14.7	+26
KAB				*e*Sg	Sg	06 20 27.4	-6.1
KAB	comp=N,604nm,1.3s			Smax			
FFNB	**Fofonovo**	**2.73**	**91**	*e*	Pn	06 19 50.9	+1.1
FFNB				*e*Pg	Pg	06 19 53.5	-5.8
FFNB				*e*		06 19 55.3	
FFNB				*e*Sn	Sn	06 20 22.6	-0.7
FFNB				*e*Sg	Sg	06 20 28.8	-6.9
FFNB	comp=N,91nm,0.1s			max			
FFNB	comp=N,385nm,0.6s			Smax			
TRTB	**Turuntaevo**	**3.26**	**87**	*e*Pn	Pn	06 19 56.3	-0.9
TRTB				*e*Pg	Pg	06 20 03.2	-6.6
TRTB				*e*Sn	Sn	06 20 36.1	-0.5
TRTB				*e*Sg	Sg	06 20 45.5	-7.7
TRTB	comp=N,21nm,0.6s			Pmax			
TRTB	comp=N,65nm,0.4s			Smax			
OGRR	**Ongureny**	**3.51**	**63**	*e*PN	Pn	06 20 02.4	+1.5
OGRR				*e*		06 20 09.3	
OGRR	**Ongureny**	**3.51**	**63**	*e*Pn	Pn	06 20 02.2	+1.3
OGRR				*e*Pg	Pg	06 20 08.8	-6.1
OGRR				*e*		06 20 51.1	
OGRR				*e*Sg	Sg	06 20 54.2	-7.5
OGRR	comp=N,36nm,0.2s			Pmax			
OGRR	comp=N,159nm,0.5s			Smax			
TDJR	**Todzha**	**3.84**	**276**	*e*Pg	Pg	06 20 11.7	-10
TDJR				*e*Sg	Sg	06 21 01.0	-12
SYVR	**Suvo**	**4.87**	**69**	*e*Pg	Pg	06 20 31.7	-10
SYVR				*e*Sg	Sg	06 21 34.6	-12
SYVR	comp=N,4.0nm,0.3s			Pmax			
SYVR	comp=N,40nm,1.2s			Smax			
ULN	**Ulaanbaatar**	**5.26**	**143**	*d*PN	Pn	06 20 38.5	+13
NIZ	**Nizh Angarsk**	**5.58**	**47**	*e*PN	Pn	06 20 31.9	+1.7
NIZ				*e*		06 20 47.6	
NIZ				*e*S	Sn	06 21 34.8	-0.6
NIZ				*e*		06 21 59.3	
NIZ	comp=Z,5.0nm,0.3s			pmax	pmax		
NIZ	comp=N,93nm,0.9s			smax			
NIZ	**Nizh Angarsk**	**5.58**	**47**	*e*	Pn	06 20 30.2	0.0
NIZ				*e*Pg	Pg	06 20 45.5	-11
NIZ				*e*Sn	Sn	06 21 32.2	-3.2
NIZ				*e*Sg	Sg	06 21 58.3	-12
NIZ	comp=N,6.0nm,0.4s			Pmax			
NIZ	comp=N,77nm,0.8s			Smax			
YLYR	**Ulyunkhan**	**5.92**	**59**	*e*	Pn	06 20 36.7	+1.7
YLYR				*e*Pg	Pg	06 20 50.5	-13
YLYR				*e*		06 21 51.4	
YLYR				*e*Sg	Sg	06 22 07.2	-15
YLYR	comp=N,3.0nm,0.4s			Pmax			
YLYR	comp=N,51nm,1.8s			Smax			
KMO	**Kumora**	**6.42**	**51**	*e*Pg	Pg	06 21 00.2	-13
KMO				*e*		06 21 43.2	
KMO				*e*Sg	Sg	06 22 24.8	-14
KMO	comp=N,7.0nm,0.4s			Pmax			
KMO	comp=N,86nm,1.0s			Smax			
KPC	**Khapcheranga**	**6.80**	**107**	*e*Pn	Pn	06 20 44.6	-2.8
KPC				*e*Pg	Pg	06 21 07.4	-13
KPC				*e*Sg	Sg	06 22 36.1	-15
KPC	comp=N,1.0nm,0.8s			Pmax			
KPC	comp=N,26nm,1.5s			Smax			
CIT	**Chita**	**6.91**	**87**	*e*Sg	Sg	06 22 40.2	-15
CIT				Smax			
UKT	**Uakit**	**7.46**	**59**	*e*Sg	Sg	06 22 55.8	-18
UKT	comp=N,16nm,0.4s			Smax			
UKT	comp=N,24nm,3.4s			Smax			

*JMA **11** 06:27:23.0±0.3, 25.11N×122.24E, h15km, M2.8*
*TAP **11** 06:27:24.9, 24.38N×121.99E, h12km, ML3.4*
TAP Felt III J at Nanau, I J at Suao, I J at Nioudou.

ISC 11 06:27:23.1±0.5,**24.37N**±0.02×**122.09E**±0.02,**h4**km±3km, **n39**,σ**6**°**78**/**72**,**4C-1D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.32**	**281**	⇑*i*P	**Pg**	**06 27 29.8**	**+0.2**
ENA				S	**Sg**	**06 27 33.7**	**-0.2**
TWC	**Suao**	**0.33**	**318**	⇑*i*P	**Pg**	**06 27 30.4**	**+0.7**
TWC				S	**Sg**	**06 27 34.2**	**+0.2**
ILA	**Ilan**	**0.50**	**322**	*e*P	**Pg**	**06 27 33.4**	**+0.2**
ILA				S	**Sg**	**06 27 40.5**	**+0.5**
TWE	**Neicheng**	**0.52**	**313**	P	**Pg**	**06 27 33.8**	**+0.2**
TWE				S	**Sg**	**06 27 40.0**	**-0.6**
TWD	**Chiawan**	**0.53**	**238**	*e*P	**Pg**	**06 27 33.4**	**-0.4**
TWD				S	**Sg**	**06 27 41.6**	**+0.8**
ENTT	**Nioudou**	**0.55**	**300**	⇑*i*P	**Pg**	**06 27 34.1**	**0.0**
ENTT				S	**Sg**	**06 27 40.7**	**-0.7**
HWA	**Hwalien**	**0.58**	**229**	*e*P	**Pg**	**06 27 36.1**	**+1.2**
TWB1	**Santiao Chiao**	**0.65**	**352**	*e*P	**Pg**	**06 27 37.0**	**+1.0**
TWB1				S	**Sg**	**06 27 45.0**	**+0.3**
NNS	**Nan Shan**	**0.66**	**277**	*i* P	**Pg**	**06 27 35.8**	**-0.4**
NNS				S	**Sg**	**06 27 43.3**	**-1.7**
NSK	**Sanguang**	**0.73**	**295**	⇓*i*P	**Pg**	**06 27 37.4**	**-0.3**
NSK				S	**Sg**	**06 27 46.0**	**-1.6**
NWF	**Wu-fen Shan**	**0.76**	**338**	*e*P	**Pg**	**06 27 38.9**	**+0.7**
NWF				S	**Sg**	**06 27 48.5**	**+0.2**
TWA	**Mucha**	**0.77**	**323**	*e*P	**Pg**	**06 27 38.3**	**-0.1**
TWA				S	**Sg**	**06 27 48.1**	**-0.5**
WHF	**Hehuan Shan**	**0.78**	**254**	⇑P	**Pg**	**06 27 37.9**	**-0.8**
WHF				S	**Sg**	**06 27 48.4**	**-0.8**
ESL	**Shilin**	**0.81**	**228**	*e*P	**Pg**	**06 27 38.8**	**-0.5**
ESL				S	**Sg**	**06 27 51.0**	**+0.9**
YOJ	**Yonaguni jima**	**0.85**	**83**	P	**Pb**	**06 27 40.7**	**+0.7**
YOJ				*e*S	**Sg**	**06 27 53.3**	**+1.9**
TWS1	**Kuangyinshan**	**0.95**	**320**	*e*P	**Pb**	**06 27 42.5**	**+0.6**
TWS1				S	**Sb**	**06 27 55.0**	**+0.3**
TWY	**Chenhua**	**1.01**	**334**	*e*P	**Pb**	**06 27 43.6**	**+0.8**
NSTT	**Nanjuang**	**1.02**	**285**	*e*P	**Pb**	**06 27 43.5**	**+0.4**
NSTT				S	**Sb**	**06 27 56.3**	**-0.4**
EHY	**Hungye**	**1.10**	**219**	*e*P	**Pb**	**06 27 43.5**	**-1.0**
EHY				S	**Sb**	**06 27 59.2**	**+0.2**
SMLT	**Sun Moon Lake**	**1.19**	**246**	*e*P	**Pb**	**06 27 45.5**	**-0.3**
SMLT				S	**Sb**	**06 28 01.8**	**+0.4**
TWQ1	**Liyutan**	**1.20**	**269**	*e*P	**Pb**	**06 27 46.4**	**+0.3**
TWQ1				S	**Sb**	**06 28 03.2**	**+1.4**
NSY	**Sanyi**	**1.21**	**273**	*e*P	**Pb**	**06 27 46.5**	**+0.2**
TYC	**Yuchr**	**1.21**	**248**	*e*P	**Pb**	**06 27 45.6**	**-0.7**
TYC				S	**Sb**	**06 28 02.7**	**+0.5**
TWF1	**Yuli**	**1.24**	**216**	*e*P	**Pb**	**06 27 44.9**	**-1.8**
TWF1				S	**Sb**	**06 28 04.0**	**+1.1**
YUS	**Yu-Shan**	**1.36**	**230**	*e*P	**Pb**	**06 27 48.3**	**-0.5**
YUS				S	**Sb**	**06 28 05.7**	**-0.7**
ALS	**Alishan**	**1.45**	**234**	*e*P	**Pn**	**06 27 49.8**	**-0.4**
ALS				S	**Sb**	**06 28 10.9**	**+1.9**
CHN5	**Tsauling**	**1.50**	**240**	*e*P	**Pn**	**06 27 51.0**	**+0.1**
CHN5				S	**Sb**	**06 28 10.5**	**+0.1**
IRIF	**Iriomote-Funau**	**1.50**	**91**	P	**Pn**	**06 27 50.0**	**-0.9**
IRIF				*e*S	**Sb**	**06 28 10.1**	**-0.4**
ELDTW	**Lidau**	**1.53**	**220**	*e*P	**Pn**	**06 27 49.7**	**-1.6**
HATJ	**Hateruma jima**	**1.60**	**101**	P	**Pn**	**06 27 54.0**	**+1.6**
CHN4	**Tsaushan**	**1.70**	**234**	*e*P	**Pn**	**06 27 54.0**	**+0.2**
CHN4				S	**Sn**	**06 28 16.0**	**-0.3**
STYT	**Tauyuan**	**1.71**	**226**	*e*P	**Pn**	**06 27 53.7**	**-0.2**
STYT				S	**Sn**	**06 28 17.0**	**+0.6**
WTP	**Ta-pu**	**1.75**	**231**	*e*P	**Pn**	**06 27 54.4**	**-0.1**
WTP				S	**Sn**	**06 28 17.6**	**+0.1**
JKRS	**Kuro-shima**	**1.76**	**94**	P	**Pn**	**06 27 54.2**	**-0.4**
JKRS				*e*S	**Sn**	**06 28 17.1**	**-0.7**
TWK	**Hsinying**	**1.83**	**234**	*e*P	**Pn**	**06 27 55.5**	**-0.1**
TWK				S	**Sn**	**06 28 19.4**	**-0.1**
CHN1	**Nanshi**	**1.85**	**231**	*e*P	**Pn**	**06 27 56.1**	**+0.1**
CHN1				S	**Sn**	**06 28 20.0**	**0.0**
JIJ	**Ishigaki jima**	**1.88**	**90**	P	**Pn**	**06 27 55.4**	**-0.9**
JIJ				*e*S	**Sn**	**06 28 18.3**	**-2.4**
SGST	**Jiashian**	**1.88**	**227**	*e*P	**Pn**	**06 27 56.5**	**+0.2**
SGST				S	**Sn**	**06 28 21.5**	**+0.7**
SSD	**Sandimen**	**2.09**	**220**	*e*P	**Pn**	**06 27 59.6**	**+0.2**

*ATH **11** 06:29:59.3, 37.00N×27.97E, h25km, MD3.2/4*
*ISK **11** 06:29:59.4, 36.97N×27.76E, h16km, MD3.2*
*NEIC **11** 06:29:59.3, 37.00N×27.97E, h25km, MD3.2(ATH), After ATH.*
*CSEM **11** 06:30:00.2±0.1, 37.03N×27.86E, h15km, MD3.2, Error ellipse: s-maj=2.5km s-min=1.8km az=51.0*

ISC 11 06:29:60.0±0.8,**36.94N**±0.04×**27.81E**±0.05,**h12**km±6km, **n20**,σ**1**°**07**/**25**,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.32**	**292**	*i* P	**Pg**	**06 30 07.2**	**+0.5**
BDRM				*i* S	**Sg**	**06 30 13.8**	**+2.6**
MLSB	**Milas**	**0.35**	**355**	*i* PG	**Pg**	**06 30 06.7**	**-0.6**
NISR	**Nisiros**	**0.64**	**239**	*e*PN	**Pn**	**06 30 14.6**	**0.0**
DALT	**Dalyan (Mudla)**	**0.68**	**105**	PG	**Pg**	**06 30 13.7**	**0.0**
AYDN	**Tasoluk**	**0.72**	**4**	*i* P	**Pb**	**06 30 13.3**	**-0.6**
AYDN				*i* S	**Sb**	**06 30 22.9**	**-0.5**
ARG	**Arkhangelos**	**0.77**	**161**	*e*PN	**Pn**	**06 30 14.9**	**-1.5**
FETY	**Fethiye**	**1.06**	**106**	*e*PN	**Pn**	**06 30 21.2**	**+0.6**
SMG	**Samos**	**1.09**	**315**	*e*PN	**Pn**	**06 30 21.3**	**+0.3**
DNZL	**Cakiroluk**	**1.23**	**53**	*i* P	**Pb**	**06 30 21.8**	**-0.9**
DNZL				*i* S	**Sb**	**06 30 41.5**	**+3.2**
DENT	**Denizli**	**1.26**	**50**	*e*PN	**Pn**	**06 30 22.9**	**-0.5**
DENT				*e*SN	**Sn**	**06 30 40.8**	**+0.5**
KARP	**Karpathos**	**1.49**	**201**	*e*PN	**Pn**	**06 30 27.9**	**+1.2**
IZM	**Izmir**	**1.52**	**343**	*e*PN	**Pn**	**06 30 25.2**	**-1.8**
KDAG	**Bornova**	**1.52**	**344**	*i* P	**Pn**	**06 30 26.7**	**-0.4**
BLCB	**Balcova**	**1.56**	**337**	*e*PN	**Pn**	**06 30 27.1**	**-0.6**
MANT	**Manisa**	**1.65**	**21**	*i* P	**Pn**	**06 30 30.0**	**+1.0**
MANT				*i* S	**Sn**	**06 30 52.4**	**+2.2**
ELL	**Elmali**	**1.69**	**96**	*e*PN	**Pn**	**06 30 30.0**	**+0.5**
AKS	**Akhisar**	**1.93**	**360**	*e*PN	**Pn**	**06 30 31.5**	**-1.5**
ULDT	**Uludag**	**3.36**	**18**	*e*P	**Pn**	**06 31 01.3**	**+8.0**
ESKT	**Eskisehir**	**3.51**	**42**	*i* P	**Pn**	**06 31 04.8**	**+9.3**
KIZT	**Kizilcal**	**3.75**	**58**	*e*PN	**Pn**	**06 30 58.6**	**-0.3**

IDC 11 06:40:44.6±49.0,**22.67S**×**175.75W**,**mb3.8**/3,**mb1 4.0**/3, **mb1mx3.7**/14,**mbtmp3.8**/3,**Error ellipse: s-maj=913.4km s-min=156.1km az=87.0**,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.80**	**247**	P	P	06 48 10.4	-2.5
	1.8nm,0.7s,baz=90,slow=6.1,SNR=3.1						
ASAR	**Alice Springs**	**46.10**	**258**	P	P	06 49 10.4	-2.1
	0.2nm,0.4s,baz=97,slow=7.2,SNR=5.8						
WRA	**Warramunga Arr**	**46.41**	**264**	P	P	06 49 14.1	-0.9
	0.7nm,0.3s,baz=100,slow=8.2,SNR=22						

*BJI **11** 07:00:53.9, 8.60N×83.70W, h20km, mB5.5, Ms5.3, Msz4.8*
*NEIC **11** 07:00:53.9, 8.60N×83.72W, h20km, mb4.7/20, MD4.5(CASC), After CASC.*
NEIC Felt at Alaska, Heredia and Palmital de Perez Zeledon. Also felt in the Valle Central.
*CASC **11** 07:00:54.9±2.2, 8.62N×83.75W, h20km±8km, MD4.5, ML3.7, MW4.8, mb4.7(NEIC)*
*IDC **11** 07:00:59.5±2.2, 9.13N×83.49W, h51km±19km, mb3.9/11, mb1 4.1/13, mb1mx3.9/20, mbtmp4.2/13, ML2.9/2, MS3.7/9, Ms1 3.7/9, ms1mx3.3/18, Error ellipse: s-maj=29.9km s-min=14.2km az=46.0*

ISC 11 07:00:51.7±0.4,**8.49N**±0.05×**83.75W**±0.03,**h20**km,**n119**, σ**1**°**32**/120,**mb4.4**/31,**MS3.9**/8,**13C-23D**,**Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.60**	**74**	⇓*i*P	**Pb**	**07 01 04.8**	**+1.4**
ACR				*e*S	**Sb**	**07 01 11.2**	**-0.3**
ACR	**Cerro Adams**	**0.60**	**74**	⇓*i*P	**Pb**	**07 01 04.8**	**+1.4**
ACR				*e*S	**Sb**	**07 01 17.1**	**+5.7**
QCR	**Quepos**	**1.01**	**336**	*e*P	**Pb**	**07 01 10.5**	**+0.1**
BUS	**Buena Vista**	**1.06**	**360**	⇑*e*P	**Pb**	**07 01 11.7**	**+0.6**
LCR2	**La Lucha 2**	**1.27**	**349**	⇑*i*P	**Pn**	**07 01 14.7**	**+0.2**
DVD	**David**	**1.29**	**92**	⇓*e*P	**Pn**	**07 01 16.7**	**+1.8**
URSC	**Urasca**	**1.33**	**359**	⇑*i*P	**Pn**	**07 01 16.1**	**+0.6**
LAJ	**Bijagual**	**1.41**	**345**	⇓*e*P	**Pn**	**07 01 16.9**	**+0.4**
SJS	**Escuela Geolog**	**1.47**	**348**	⇓*i*P	**Pn**	**07 01 17.2**	**-0.2**
SJS				*e*S	**Sn**	**07 01 35.1**	**-1.0

WILN Americas 2 4.36 327⇓eP Pn 07 01 59.2 +0.6
MGAN Managua 4.38 326⇑eP Pn 07 01 59.5 +0.6
MGAN i 07 03 21.1
comp=N,200nm,0.6s
JEF Cerro Jefe 4.39 80⇑eP Pn 07 02 01.0 +2.0
XAVN Gruta Xavier 4.43 325⇓eP Pn 07 02 01.1 +1.5
APYN Apoyeque 4.51 326 eP Pn 07 02 01.2 +0.5
COPN Copaltepe 4.61 323⇑eP Pn 07 02 02.7 +0.6
PYTN Playitas 4.62 331⇓eP Pn 07 02 03.1 +1.0
MOMJ Momotombo 4.76 325⇓eP Pn 07 02 04.7 +0.5
MIRN Miramar 4.88 324⇑eP Pn 07 02 06.9 +0.9
CNGN Cerro Negro 4.92 324⇓eP Pn 07 02 07.4 +0.8
LEON Leon 4.97 322 eP Pn 07 02 07.9 +0.6
TEL3 Telica 3 5.07 323⇓eP Pn 07 02 09.5 +0.9
TELN Telica 5.08 324⇓eP Pn 07 02 09.6 +0.8
CRIN San Cristobal 5.29 323 eP Pn 07 02 12.4 +0.7
CNCH Conchagua 6.22 320 eP Pn 07 02 24.9 +0.1
BLLM Bellamira 6.60 319 eP Pn 07 02 30.6 +0.4
SNVI San Vicente 7.13 316 eP Pn 07 02 38.3 +0.7
SNVI eS Sn 07 03 59.1 +0.3
LCBS La Ceiba 7.25 315 eP Pn 07 02 39.5 +0.2
LFRS El Faro 7.29 315 eP Pn 07 02 39.7 -0.1
LBRS Las Brisas 7.36 316 eP Pn 07 02 41.3 +0.5
LFU La Fuente 7.41 315 eP Pn 07 02 42.3 +0.7
SNET Serv Nac Est T 7.45 314 eP Pn 07 02 43.3 +1.1
BOQS Boqueron 7.52 314 eP Pn 07 02 43.7 +0.6
SBLS San Blas 7.83 313 eP Pn 07 02 48.1 +0.6
SNJE San Jose 7.84 313 eP Pn 07 02 48.9 +1.3
RTR El Retiro 7.89 313 eP Pn 07 02 48.8 +0.5
RBDL Robledal 8.06 314 eP P 07 02 51.6 +0.9
OTAV Otavalo 9.75 147 eP P 07 03 15.7 +1.4
comp=N,23nm,1.1s
ROSC El Rosal 10.03 111 P P 07 03 22.5 +4.5
comp=N,0.6nm,0.3s,baz=85,slow=22,SNR=4.3
ROSC LR LR 07 06 34.0
comp=N,298nm,21.4s,baz=172,slow=33
TEIG Tepich 12.46 340 P P 07 03 44.9 -6.1
SDV Santo Domingo 12.98 87 P P 07 03 56.7 -1.2
comp=N,0.3nm,0.3s,baz=268,slow=7,9,SNR=12
SDV Santo Domingo 12.98 87 eP P 07 03 56.9 -1.0
comp=N,16nm,0.8s
SJG San Juan 19.60 59 LR LR 07 12 49.5
comp=N,227nm,18.7s,baz=87,slow=37
LRAL Lakeview Retre 24.61 353 eP P 07 06 11.5 -0.6
comp=N,49nm,0.9s,mb5.0
GOGA Godfrey 24.80 1 eP P 07 06 13.2 -0.7
comp=N,8.5nm,0.7s,mb4.4
JSC Jenkinsville 25.77 5 eP P 07 06 21.5 -1.6
OXF Oxford 26.41 349 eP P 07 06 25.4 -3.6
JCT Junction City 26.53 328 eP P 07 06 27.7 -2.4
comp=N,5.0nm,0.5s,mb4.3
CPCT Cooper Cave 26.84 359 eP P 07 06 31.3 -1.6
MIAR Mount Ida 27.46 342 eP P 07 06 35.3 -3.2
comp=N,9.2nm,0.8s,mb4.4
WVT Waverly 27.76 353 eP P 07 06 37.9 -3.4
comp=N,11nm,0.8s,mb4.5
LTX Lajitas 27.92 321 P P 07 06 41.8 -1.0
TXAR Lajitas Array 27.92 321 P P 07 06 41.9 -0.9
comp=N,0.7nm,0.6s,mb3.5,baz=141,slow=7.3,SNR=9.2
TXAR PcP PcP 07 09 58.7 +0.3
comp=N,0.2nm,0.7s,baz=135,slow=7.1,SNR=3.4
TXAR LR LR 07 19 56.2
comp=N,75nm,19.4s,MS3.3,baz=20,slow=41
TXAR Lajitas Array 27.92 321 P P 07 06 41.9 -0.9
TXAR PcP PcP 07 09 58.7 +0.3
GLAT Glass 28.11 350 P P 07 06 41.8 -2.6
LPAZ La Paz 29.07 148 P P 07 06 58.9 +5.6
comp=N,1.0nm,0.6s,mb3.8,baz=286,slow=7.4,SNR=4.5
LPAZ LR LR 07 19 07.6
comp=N,142nm,20.3s,MS3.6,baz=224,slow=37
WCI Wyandotte Cave 29.69 356 eP P 07 06 56.4 -2.3
comp=N,41nm,1.0s,mb5.1
CCM Cathedral Cave 30.20 348 eP P 07 06 59.3 -3.9
comp=N,24nm,1.1s,mb4.8
MNTX Cornudas Mount 30.62 322 eP P 07 07 05.0 -2.0
comp=N,2.0nm,0.9s,mb4.0
BLO Bloomington 30.65 356 eP P 07 07 04.7 -2.5
comp=N,28nm,0.8s,mb5.1
CPRX Cap Rock 30.70 326 P P 07 07 06.9 -0.7
ACSO Alum Creek Sta 31.61 1 eP P 07 07 13.4 -2.2
comp=N,18nm,0.5s,mb5.2
ANMO Albuquerque 33.57 325 eP P 07 07 30.7 -2.0
comp=N,2.7nm,0.8s,mb4.2
LVC Limon Verde 34.16 155 P P 07 07 45.0 +7.1
comp=N,2.6nm,0.9s,mb4.2,baz=307,slow=4.5,SNR=4.7
LVC Limon Verde 34.16 155 eP P 07 07 40.2 +2.2
LVC P pP 07 07 45.0 +1.1
JFWS Jewell Farm 34.76 352 eP P 07 07 39.4 -3.5
comp=N,35nm,0.7s,mb5.4
SDCO Great Sand Dun 35.14 329 eP P 07 07 44.0 -2.2
comp=N,1.9nm,0.7s,mb4.1
MDV Middlebury 36.55 13 P P 07 07 56.1 -2.0
SRU San Rafael 38.81 326 eP P 07 08 16.0 -1.1
NEN Nelson 39.19 318 eP P 07 08 21.2 +0.9
EYMN Ely 39.86 352 eP P 07 08 21.9 -3.8
comp=N,9.6nm,0.6s,mb4.7
PDAR Pinedale Array 40.97 331 P P 07 08 33.5 -1.4
comp=N,0.8nm,0.7s,mb3.5,baz=133,slow=10,SNR=7.9
PDAR LR LR 07 28 09.1
comp=N,78nm,19.9s,MS3.6,baz=317,slow=40
BW06 Boulder Array 40.97 331 eP P 07 08 33.7 -1.2
BDFB Brasilia 42.76 124 P P 07 08 56.5 +6.6
comp=N,2.6nm,0.7s,mb4.1,baz=288,slow=12,SNR=4.4
BDFB LR LR 07 29 16.2
comp=N,101nm,18.3s,MS3.8,baz=307,slow=40
MNV Mina 42.96 319 eP P 07 08 52.1 +0.8
comp=N,12nm,0.9s,mb4.6
NVAR Mina Array Bea 43.05 319 P P 07 08 53.2 +1.1
comp=N,7.6nm,0.6s,mb4.6,baz=138,slow=6.2,SNR=59
NVAR PcP PcP 07 10 43.3 +0.7
comp=N,0.6nm,0.7s,baz=135,slow=3.8,SNR=3.1
HLID Hailey 44.00 328 eP P 07 08 57.9 -1.8
comp=N,2.0nm,0.7s,mb4.0
MCMT McKenzie Canyo 44.10 330 eP P 07 08 59.0 -1.5
WVOR Wild Horse Val 45.62 324 eP P 07 09 11.6 -1.1
comp=N,16nm,0.8s,mb5.0
BMO Blue Mountains 46.41 327 eP P 07 09 16.2 -2.6
WALA Waterton Lakes 47.69 333 P P 07 09 27.8 -1.1
SCHQ Schefferville 48.15 13 P P 07 09 29.5 -2.9
comp=N,2.4nm,0.6s,mb4.4,baz=221,slow=9.9,SNR=6.9
SCHQ LR LR 07 31 15.0
comp=N,194nm,18.6s,MS4.1,baz=147,slow=38
FCC Fort Churchill 50.78 353 eP P 07 09 49.4 -3.1
comp=N,12nm,1.1s,mb4.7
YKA Yellowknife Ar 58.38 344 P P 07 10 45.2 -2.7
comp=N,4.8nm,0.6s,mb4.7,baz=140,slow=6.9,SNR=25
YKA PcP PcP 07 11 38.0 -0.5
comp=N,0.6nm,0.6s,baz=140,slow=4.0,SNR=6.8
YKA LR LR 07 38 54.5
comp=N,95nm,19.3s,MS3.9,baz=200,slow=39
YKA Yellowknife Ar 58.38 344 P P 07 10 45.2 -2.7
YKA PcP PcP 07 11 38.0 -0.5
YKW3 Yellowknife Ar 58.44 344 eP P 07 10 45.2 -3.2
RES Resolute Bay 66.46 357 eP P 07 11 38.2 -3.4
comp=N,6.0nm,0.8s,mb4.7
INK Inuvik 68.05 342 eP P 07 11 50.1 -1.6
comp=N,14nm,1.2s,mb4.9
ILAR Eielson Array 71.09 336 P P 07 12 09.4 -1.0
comp=N,2.8nm,0.7s,mb4.3,baz=113,slow=4.5,SNR=27
ILAR LR LR 07 50 31.0
comp=N,60nm,18.5s,MS3.9,baz=177,slow=42
ESDC Sonseca Array 76.79 51 P P 07 12 43.4 -0.6
comp=N,0.5nm,0.5s,mb3.7,baz=275,slow=3.5,SNR=5.7
GERES GERESS Array B 88.55 41 P P 07 13 43.3 -1.1
comp=N,0.7nm,0.8s,mb4.1,baz=270,slow=1.3,SNR=5.1
VNA3 Neumayer Olymp 92.93 162⇑iP P 07 14 11.9 +7.7
VNA2 Neumayer--Watz 93.55 161⇑iP P 07 14 09.9 +2.8
SONM Songino Array 123.20 352 PKP PKPdf 07 19 48.8 -2.7
baz=331,slow=1.3,SNR=7.3
NJ2 Nanjing 134.26 333 ePKP PKPdf 07 20 05.8 -7.3
NJ2 XPKP 07 20 20.2
NJ2 PKS PKS 07 23 41.0 -3.2
NJ2 PPP PPP 07 26 04.0 +24
NJ2 PP PP
comp=Z,270nm,11.6s
NJ2 LR LR
comp=N,520nm,24.0s,MS5.2
NJ2 LR LR
comp=E,350nm,26.9s,MS5.2
NJ2 LR LR
comp=Z,290nm,22.2s,MS5.0
ASAR Alice Springs 140.95 243 PKP PKPdf 07 20 25.5 -0.1
comp=Z,0.9nm,0.9s,baz=135,slow=2.0,SNR=4.0
WRA Warramunga Arr 141.46 249 PKP PKPdf 07 20 26.0 -0.5
comp=Z,0.4nm,0.6s,baz=97,slow=2.8,SNR=3.2
CMAR Chiang Mai Arr 153.09 354 PKPbc PKPdf 07 20 50.1 +4.7
comp=Z,1.9nm,0.6s,baz=336,slow=2.9,SNR=7.9
CMAR PKPab PKPab 07 21 00.8 -2.0
comp=Z,1.8nm,0.8s,baz=338,slow=5.0,SNR=7.3

DJA 11 07:02:15.8±1.1, 7.42S×115.95E, h33km, MD4.6/1, ML3.9/3, 3C-3D, Error ellipse: s-maj=26.5km s-min=13.5km az=21.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.07	172	⇓iPn	Pn	07 02 33.0	-1.7
	301nm,0.2s						
KEDI				⇓eSn	Sn	07 02 37.5	-11
RATI	Rata	1.36	198	⇓ePn	Pn	07 02 41.9	+3.1
	355nm,0.2s						
RATI				⇑eSn	Sn	07 02 54.1	-1.7
KELI	Kelakatan	1.65	241	⇑ePn	Pn	07 02 41.9	-1.1
	17nm,0.3s						
KELI				⇑eSn	Sn	07 02 59.3	-3.9

ATH 11 07:02:36.5, 36.94N×27.83E, h30km±2km, MD3.3/5
NEIC 11 07:02:36.5, 36.94N×27.83E, h30km, MD3.3(ATH), After ATH.
CSEM 11 07:02:37.1±0.1, 36.99N×27.79E, h20km, MD3.3, Error ellipse: s-maj=2.4km s-min=1.6km az=40.0
ISK 11 07:02:37.2, 37.00N×27.78E, h22km, MD3.3
ISC 11 07:02:37.2±0.6, 36.92N±0.03×27.71E±0.04, h17km±6km, n21, σ1$15/29, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.26	305	iP	Pb	07 02 43.0	-0.1
BDRM				iS	Sb	07 02 47.8	+0.7
MLSB	Milas	0.38	8	iPG	Pb	07 02 44.6	-0.6
MLSB				iSG	Sb	07 02 49.0	-1.4
NISR	Nisiros	0.56	237	ePN	Pn	07 02 49.9	-0.2
NISR				eSN	Sn	07 02 59.5	+0.6
AYDN	Tasoluk	0.76	10	iP	Pb	07 02 50.2	-1.3
AYDN				iS	Sb	07 03 00.7	-0.6
DALT	Dalyan (Mudla)	0.76	101	iPG	Pb	07 02 51.8	+0.3
DALT				iSG	Sb	07 03 02.8	+1.4
ARG	Arkhangelos	0.78	154	ePN	Pn	07 02 51.8	-1.4
SMG	Samos	1.05	319	ePN	Pn	07 02 57.0	-0.2
FETY	Fethiye	1.14	104	iPN	Pn	07 02 57.8	-0.6
DNZL	Cakiroluk	1.32	54	iP	Pn	07 02 59.9	-1.0
DNZL				iS	Sb	07 03 20.2	+2.7
DENT	Denizli	1.35	51	PN	Pn	07 03 00.2	-1.2
KARP	Karpathos	1.44	198	ePN	Pn	07 03 03.4	+0.7
IZM	Izmir	1.52	347	ePN	Pn	07 03 03.0	-0.9
KDAG	Bornova	1.52	347	iP	Pn	07 03 03.4	-0.6
KDAG				iS	Sn	07 03 25.3	+1.9
BLCB	Balcova	1.56	340	ePN	Pn	07 03 03.9	-0.5
MANT	Manisa	1.71	23	iP	Pn	07 03 07.6	+1.0
MANT				iS	Sn	07 03 30.4	+2.3
APE	Apeiranthos	1.75	276	ePN	Pn	07 03 07.6	+0.4
APE	Apeiranthos	1.75	276	ePN	Pn	07 03 09.5	+2.3
ELL	Elmali	1.77	95	ePN	Pn	07 03 06.8	-0.6
ELL	Elmali	1.77	95	ePn	Pn	07 03 06.8	-0.7
AKS	Akhisar	1.96	2	PN	Pn	07 03 08.8	-1.3
ULDT	Uludag	3.41	19	iP	Pb	07 03 39.1	+2.3

BJI 11 07:07:13.6, 15.70S×71.30W, h147km, mB5.1
NEIC 11 07:07:13.7±0.6, 15.65S×71.27W, h148km±6km, mb4.6/5, Error ellipse: s-maj=11.5km s-min=7.1km az=62.0
IDC 11 07:07:15.6±1.8, 15.58S×71.20W, h162km±15km, mb3.9/15, mb1 4.1/17, mb1mx4.1/21, mbtmp4.4/17, Error ellipse: s-maj=22.0km s-min=12.1km az=55.0
ISC 11 07:07:12.8±0.5, 15.68S±0.07×71.38W±0.07, h156km±5km, h155km±6.0km; pP-P, n54, σ1$00/46, mb4.2/17, 3C-2D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	0.78	188	⇑iP	P	07 07 37.1	+0.4
ARE				eS	S	07 07 54.0	-1.1
LPAZ	La Paz	3.19	101	P	P	07 08 05.1	+1.7
	11nm,0.3s,baz=297,slow=9.5,SNR=252						
LPAZ				S	S	07 08 43.1	+0.8
	14nm,0.3s,baz=55,slow=16,SNR=8.7						
LPAZ	La Paz	3.19	101	P	P	07 08 05.1	+1.7
LPAZ				S	S	07 08 43.1	+0.8
NNA	Nana	6.45	304	Pn	P	07 08 46.7	+0.3
	1um,0.4s,SNR=38						
LVC	Limon Verde	7.28	162	P	P	07 08 56.3	-1.2
	23nm,0.3s,baz=344,slow=8.9,SNR=220						
LVC				S	S	07 10 12.5	-6.5
	6.1nm,0.3s,baz=223,slow=22,SNR=22						
LVC	Limon Verde	7.28	162	ePn	P	07 08 55.8	-1.7
LVC				eSn	S	07 10 12.7	-6.4
OTAV	Otavalo	17.29	336	eP	P	07 11 09.3	+3.1
	34nm,0.9s						
ROSC	El Rosal	20.61	352	P	P	07 11 41.1	-0.3
	4.1nm,0.4s,baz=182,slow=9.9,SNR=4.1						
BDFB	Brasilia	22.50	93	P	P	07 11 59.1	-0.9
	9.6nm,0.4s,mb4.6,baz=271,slow=12,SNR=32						
BAO	Brasilia Array	22.52	93	eP	P	07 11 59.8	-0.4
SDV	Santo Domingo	24.42	2	P	P	07 12 17.9	-0.5
	10nm,0.4s,mb4.7,baz=220,slow=6.4,SNR=23						
SDV	Santo Domingo	24.42	2	eP	P	07 12 17.8	-0.7
	18nm,0.7s,mb4.7						
ELN	Prospectdale	53.36	351	eP	P	07 16 17.5	-0.8
PWV	Princeton	53.51	350	eP	P	07 16 19.1	-0.4
TXAR	Lajitas Array	54.54	325	P	P	07 16 27.1	+0.1
	2.0nm,0.5s,mb4.1,baz=152,slow=9.7,SNR=50						
TXAR				PcP	PcP	07 17 27.6	-0.5
	0.3nm,0.6s,baz=146,slow=6.5,SNR=3.7						
FVM	French Village	56.30	342	eP	P	07 16 38.4	-1.2
	10nm,0.7s,mb4.8						
GDL2	Guadalupe Moun	57.14	327	eP	P	07 16 45.9	+0.3
MNTX	Cornudas Mount	57.30	325	eP	P	07 16 45.7	-1.0
	5.5nm,0.9s,mb4.4						
CPRX	Cap Rock	57.53	328	eP	P	07 16 48.1	-0.1
ALLY	Alegheny Colle	57.61	352	eP	P	07 16 47.6	-1.1
LAZ	Ladron	60.31	326	eP	P	07 17 08.4	+0.9
SADO	Sadowa	60.57	354	P	P	07 17 08.0	-1.1
	5.4nm,0.7s,mb4.5,baz=198,slow=6.4,SNR=3.0						
VNA3	Neumayer Olymp	66.31	162	⇓iP	P	07 17 44.2	-2.1
VNA3				e		07 18 14.8	
VNA3				e	pP	07 18 24.6	+1.0
VNA3				e		07 18 45.5	
VNA1	Neumayer--Stat	66.52	161	⇑iP	P	07 17 50.6	+3.0
VNA1				e		07 18 16.9	
VNA1				e	pP	07 18 26.3	+1.4
VNA1				e		07 18 47.1	
VNA2	Neumayer--Watz	66.89	161	⇑iP	P	07 17 51.3	+1.4
VNA2				e		07 18 17.4	
VNA2				e	pP	07 18 27.5	+0.2
VNA2				e		07 18 48.5	
PDAR	Pinedale Array	67.92	331	P	P	07 17 57.0	+0.2
	1.1nm,0.6s,mb3.8,baz=122,slow=7.4,SNR=16						
SNAA	Sanae	68.51	162	P	P	07 17 60.0	0.0
	1.7nm,0.6s,mb4.0,baz=284,slow=6.9,SNR=20						
NVAR	Mina Array Bea	69.48	322	P	P	07 18 07.7	+1.3
	1.7nm,0.8s,mb3.8,baz=168,slow=6.8,SNR=9.8						
NVAR				PcP	PcP	07 18 28.7	+0.1
	0.9nm,0.7s,baz=112,slow=5.9,SNR=5.8						
DBIC	Dimbokro	69.50	77	P	P	07 18 05.7	-1.2
	6.0nm,0.6s,mb4.5,baz=246,slow=6.5,SNR=14						
DBIC	Dimbokro	69.50	77	P	P	07 18 05.7	-1.2
GCMT	Greycliff	70.30	333	eP	P	07 18 11.4	+0.2
SCHQ	Schefferville	70.34	3	P	P	07 18 10.3	-1.0
	0.7nm,0.5s,mb3.7,baz=214,slow=3.6,SNR=5.2						
SCHQ	Schefferville	70.34	3	P	P	07 18 10.3	-1.0
HLID	Hailey	70.89	328	eP	P	07 18 15.8	+1.0
	1.4nm,0.6s,mb3.9						
MCMT	McKenzie Canyo	71.04	330	eP	P	07 18 15.7	0.0
YBH	Yreka Blue Hor	74.19	323	P	P	07 18 34.6	+0.4
	2.0nm,0.9s,mb3.8,baz=127,slow=10,SNR=5.3						
VNDA	Vanda	82.14	190	P	P	07 19 18.7	+1.8
	0.8nm,0.8s,mb3.4,baz=141,slow=6.5,SNR=3.1						
SYO	Syowa Base	82.74	160	⇓PcP	PcP	07 19 21.0	-3.9
ESDC	Sonseca Array	83.42	46	P	P	07 19 24.8	+0.7
	2.7nm,0.6s,mb4.1,baz=259,slow=5.1,SNR=11						
YKA	Yellowknife Ar	84.95	341	P	P	07 19 31.9	+0.7
	5.6nm,0.5s,mb4.5,baz=134,slow=5.1,SNR=156						
YKW3	Yellowknife Ar	85.00	341	eP	P	07 19 31.4	-0.1
ILAR	Eielson Array	98.01	335	P	P	07 20 32.4	+0.4
	0.4nm,0.6s,mb4.0,baz=138,slow=3.1,SNR=5.7						
STKA	Stephens Creek	123.11	214	PKP	PKPdf	07 25 52.5	+1.2
	1.3nm,0.6s,baz=147,slow=13,SNR=4.3						
BVAR	Borovoye Array	132.16	30	PKP	PKPdf	07 26 09.7	+1.6
	0.7nm,0.7s,baz=180,slow=3.0,SNR=3.9						
ASAR	Alice Springs	133.74	213	PKP	PKPdf	07 26 13.9	+2.1
	0.5nm,0.4s,baz=115,slow=1.6,SNR=9.2						
WRA	Warramunga Arr	136.50	216	PKP	PKPdf	07 26 19.4	+2.4
	1.3nm,0.4s,baz=146,slow=1.7,SNR=16						
ZAL	Zalesovo	137.53	21	PKP	PKPdf	07 26 20.0	+2.0
	3.2nm,0.7s,baz=191,slow=1.4,SNR=18						
HIA	Hailar	145.29	347	ePKP	PKPdf	07 26 34.1	+2.2
ULN	Ulaanbaatar	147.88	2	ePKPbc	PKPdf	07 26 42.6	+6.4
SONM	Songino Array	147.89	3	PKP	PKPdf	07 26 39.5	+3.3
	7.5nm,0.7s,baz=299,slow=3.2,SNR=54						
SONM				PKPbc	PKPdf	07 26 42.4	+6.2
	8.5nm,0.8s,baz=326,slow=2.1,SNR=47						
HYB	Hyderabad	151.14	82	iPKP	PKPdf	07 26 50.0	+7.9
LZH	Lanzhou	159.24	11	ePKP	PKPdf	07 26 51.9	-0.5
LZH				APKP		07 27 33.0	
LZH				XPKP		07 27 49.5	
NJ2	Nanjing	161.23	332	ePKP	PKPdf	07 26 54.0	-0.6
CMAR	Chiang Mai Arr	170.35	72	PKPab	PKPab	07 28 21.5	-0.2
	2.8nm,0.9s,baz=284,slow=5.9,SNR=4.6						

IDC 11 07:07:40.5±2.9, 20.08S×178.10W, h546km±31km, mb3.5/11, mb1 3.7/11, mb1mx3.7/15, mbtmp4.4/11, Error ellipse: s-maj=25.3km s-min=17.7km az=152.0
NEIC 11 07:07:43.3±3.3, 20.09S×178.22W, h582km±38km, mb4.6/6, Error ellipse: s-maj=17.3km s-min=16.7km az=105.0
ISC 11 07:07:39.8±0.6, 20.1S±0.1×178.2W±0.1, h550km, n29, σ0$74/21, mb4.1/15, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.37	264	eP	P	07 13 34.9	+0.7
	11nm,0.6s,mb4.6						
CTA	Charters Tower	33.37	264	P	P	07 13 35.1	+0.9
	15nm,0.7s,mb4.7,baz=106,slow=9.8,SNR=16						
CTAO	Charters Tower	33.37	264	eP	P	07 13 34.3	+0.2
	19nm,0.7s,mb4.7						
PMG	Port Moresby	35.10	283	P	P	07 13 49.4	+0.7
	16nm,0.9s,mb4.6,baz=60,slow=5.2,SNR=3.5						
STKA	Stephens Creek	37.81	244	P	P	07 14 11.5	+0.8
	7.5nm,1.2s,mb4.1,baz=35,slow=12,SNR=4.4						
STKA	Stephens Creek	37.81	244	P	P	07 14 11.5	+0.8
ASAR	Alice Springs	44.45	256	P	P	07 15 03.6	-0.2
	14nm,0.8s,mb4.5,baz=87,slow=8.5,SNR=96						
ASAR				PcP	PcP	07 16 35.1	-0.6
	1.0nm,0.9s,baz=115,slow=3.7,SNR=4.8						
ASAR				ScP		07 19 36.4	
	0.8nm,0.8s,baz=106,slow=4.2,SNR=4.6						
ASPA	Alice Springs	44.45	256	eP	P	07 15 03.7	-0.1
WB2	Warramunga Arr	44.48	262	eP	P	07 15 03.4	-0.7
WRAB	Tennant Creek	44.48	262	eP	P	07 15 03.2	-0.9
	17nm,0.7s,mb4.7						
WRA	Warramunga Arr	44.49	262	P	P	07 15 03.7	-0.5
	8.9nm,0.7s,mb4.4,baz=97,slow=8.5,SNR=59						
VNDA	Vanda	58.27	185	P	P	07 16 42.8	-0.5
	1.5nm,0.7s,mb3.3,baz=4.6,slow=8,4,SNR=7.3						
QSPA	South Pole Qui	69.95	180	⇑iP	P	07 17 57.0	+0.1
	9.4nm,0.8s,mb4.4						
NVAR	Mina Array Bea	80.86	43	P	P	07 18 58.6	+0.9
	0.6nm,0.7s,mb3.2,baz=226,slow=9.3,SNR=3.6						
ENH	Enshi	85.69	304	P	P	07 19 21.7	-0.2
	5.7nm,0.4s,mb4.5						
MCK	McKinley	86.64	13	eP	P	07 19 24.9	-0.7
	2.4nm,0.8s,mb3.9						
TXAR	Lajitas Array	86.99	57	P	P	07 19 28.6	+0.5
	0.2nm,0.7s,mb2.9,baz=230,slow=7.0,SNR=3.2						
ILAR	Eielson Array	87.98	13	P	P	07 19 30.9	-0.9
	1.6nm,0.7s,mb3.9,baz=217,slow=5.2,SNR=24						
PDAR	Pinedale Array	88.80	43	P	P	07 19 36.8	+0.6
	0.4nm,0.5s,mb3.5,baz=162,slow=2.9,SNR=3.8						
DAWY	Dawson	89.14	16	eP	P	07 19 36.1	-1.2
CMAR	Chiang Mai Arr	89.83	290	P	P	07 19 43.2	+1.7
	6.1nm,1.1s,mb4.3,baz=108,slow=2.7,SNR=13						
BVAR	Borovoye Array	118.68	320	PKP	PKPdf	07 25 24.6	-0.5
	0.7nm,0.4s,baz=153,slow=3.3,SNR=5.1						
HFS	Hagfors	139.14	351	PKhKP		07 25 57.1	
	1.2nm,0.5s,slow=3.4,SNR=5.8						
AKASG	Malin Array Be	142.60	331	PKhKP		07 26 07.2	
	8.1nm,0.8s,baz=41,slow=4.3,SNR=29						
BRTR	Keskin Array B	146.46	313	PKPbc	PKPbc	07 26 20.3	+1.5
	1.6nm,0.7s,baz=149,slow=5.9,SNR=5.8						
CLL	Collm	147.66	347	iPKP1	PKPdf	07 26 23.0	+4.6
CLL				ePKP2	PKPab	07 26 27.0	-1.7
BRG	Berggiesshubel	147.85	346	eP	PKPdf	07 26 23.3	+4.6
KHC	Kasperske Hory	149.56	345	ePKPbc	PKPdf	07 26 26.5	+5.0
GERES	GERESS Array B	149.79	344	PKPbc	PKPdf	07 26 28.4	+6.5
	1.8nm,1.0s,SNR=9.0						

MAN 11 07:21:35.9, 9.10N×125.61E, h9km, mb5.4, ML4.4, MS4.6
MAN BUTUAN CITY IV HIBOK-HIBOK II MANDAUE I CAGAYAN DE ORO I.
BJI 11 07:21:42.1, 8.46N×125.58E, h117km, mB5.3, mb4.7
IDC 11 07:21:43.0±5.2, 8.97N×125.71E, h80km±47km, mb4.1/16, mb1 4.2/17, mb1mx4.2/22, mbtmp4.4/17, ML4.6/1, MS3.7/5, Ms1 3.7/5, ms1mx3.4/20, Error ellipse: s-maj=25.6km s-min=11.8km az=73.0
NEIC 11 07:21:43.7±2.3, 8.93N×125.70E, h88km±21km, mb4.6/15, Error ellipse: s-maj=11.8km s-min=5.5km az=73.0
NEIC Felt [IV PIVS] at Butuan and [II PIVS] at Cagayan de Oro. Also felt [II PIVS] at Hibok-Hibok, Camiguin; [I PIVS] at Mandaue City, Cebu.
MOS 11 07:21:58.4±1.0, 10.66N×125.36E, h157km, mb4.5/10, Error ellipse: s-maj=29.6km s-min=13.0km az=114.6
ISC 11 07:21:37.4±0.5, 9.04N±0.03×125.69E±0.05, h42km±4km, n88, σ1$20/92, mb4.7/41, MS3.9/8, 5C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.76	345	iP	P	07 21 50.5	-1.3
SCPH				iS	S	07 22 02.1	-0.2
BIPH	Bislig	1.08	142	⇑iP	P	07 21 56.2	0.0
BIPH				iS	S	07 22 11.6	+1.3
BUKP	Musuan	1.31	208	eP	P	07 22 00.2	+0.5
BUKP				eS	S	07 22 19.6	+3.2
MSLP	Maasin	1.36	323	eP	P	07 21 59.0	-1.4
TBP	Tagbilaran	1.92	290	iP	P	07 22 07.0	-1.2
TBP				eS	S	07 22 31.6	+0.3
DMPH	Davao City--Mi	1.96	185	⇓eP	P	07 22 07.2	-1.6
DMPH				eS	S	07 22 36.4	+4.1
DAV	Davao City (W)	1.96	183	eP	P	07 22 10.0	+1.1
KCP	Kidapawan	2.11	196	⇓iP	P	07 22 11.8	+0.8
KCP				iS	S	07 22 41.9	+5.9
LLP	Lapu-Lapu	2.12	307	⇑eP	P	07 22 10.0	-1.1
LLP				iS	S	07 22 36.6	+0.2

PMG	Port Moresby	28.16	130	LR	LR	07 39 45.1
	comp=Z,143nm,18.1s,MS3.6,baz=21,slow=38					
PMG	Port Moresby	28.16	130	P	P	07 27 26.2 -2.0
	comp=Z,16nm,0.9s,mb4.6					
WRAB	Tennant Creek	30.03	164	*e*P	P	07 27 42.1 -2.7
	comp=Z,11nm,0.6s,mb4.8					
WRA	Warramunga Arr	30.04	164	P	P	07 27 43.1 -1.7
	comp=Z,3.4nm,0.7s,mb4.2,baz=344,slow=9.3,SNR=18					
WB2	Warramunga Arr	30.04	164	*e*P	P	07 27 43.0 -1.9
MBWA	Marble Bar	30.58	191	*e*P	P	07 27 42.9 -6.8
	comp=Z,5.1nm,0.7s,mb4.5					
LZH	Lanzhou	33.47	327	*e*P	P	07 28 18.8 +4.0
LZH				PP	PP	07 29 32.5 +4.9
LZH				AMB	AMB	
	comp=Z,25nm,1.5s,mb4.9					
LZH				AMB	AMB	
	comp=Z,210nm,4.5s					
LZH				LR	LR	
	comp=E,226nm,13.0s					
LZH				LR	LR	
	comp=Z,289nm,14.3s,MS4.1					
ASPA	Alice Springs	33.48	166	*e*P	P	07 28 14.2 -0.8
ASAR	Alice Springs	33.49	166	P	P	07 28 14.0 -1.1
	comp=Z,4.5nm,0.6s,mb4.6,baz=344,slow=7.0,SNR=50					
CTA	Charters Tower	35.32	145	P	P	07 28 30.3 -0.5
	comp=Z,4.9nm,0.8s,mb4.5,baz=336,slow=10.0,SNR=4.3					
CTAO	Charters Tower	35.32	145	*e*P	P	07 28 29.9 -0.9
	comp=Z,7.5nm,0.6s,mb4.8					
ASAJ	Asahikawa	37.91	20	P	P	07 28 53.9 +1.6
	comp=Z,11nm,0.8s,mb4.6,baz=256,slow=2.5,SNR=6.2					
FORT	Forrest	39.66	177	*e*P	P	07 29 06.7 -0.3
	comp=Z,104nm,0.7s,mb5.7					
JIRN	Jiri	41.57	302	*e*P	P	07 29 23.9 +0.9
	comp=Z,47nm,0.7s,mb5.2					
ULN	Ulaanbaatar	41.78	341	*i*P	P	07 29 23.4 -1.0
ULN	Ulaanbaatar	41.78	341	*e*P	P	07 29 25.5 +1.1
	comp=Z,1.8nm,0.6s,mb3.9					
GUN	Gumba	41.91	302	*e*P	P	07 29 26.5 +0.7
	comp=Z,100nm,1.0s,mb5.4					
SONM	Songino Array	41.97	341	P	P	07 29 26.5 +0.6
	comp=Z,0.5nm,0.6s,baz=162,slow=9.1,SNR=3.8					
SONM				PcP	PcP	07 31 21.4 +0.1
	comp=Z,0.8nm,0.7s,baz=160,slow=4.1,SNR=3.5					
PKI	Pulchoki	42.20	301	*e*P	P	07 29 28.4 +0.3
KKN	Kakani	42.38	302	*e*P	P	07 29 30.7 +1.1
DMN	Daman	42.47	301	*e*P	P	07 29 31.6 +1.3
NWAO	Narrogin (SRO)	42.51	191	P	P	07 29 29.7 -0.9
	comp=Z,21nm,1.0s,mb4.8,baz=21,slow=8.6,SNR=4.2					
GKN	Gorkha	42.99	302	*e*P	P	07 29 34.9 +0.3
	comp=Z,13nm,0.4s,mb5.0					
STKA	Stephens Creek	43.44	160	*e*P	P	07 29 38.0 -0.2
	comp=Z,5.5nm,0.8s,mb4.3					
STKA	Stephens Creek	43.44	160	P	P	07 29 38.1 -0.1
	comp=Z,6.2nm,0.7s,mb4.4,baz=337,slow=8.5,SNR=9.8					
KOLN	Koldanda	43.79	301	*e*P	P	07 29 41.5 +0.4
	comp=Z,33nm,0.8s,mb5.1					
ZAK	Zakamensk	45.21	340	*e*P	pP	07 30 02.2 -1.8
ZAK				*e*		07 31 33.2
TLY	Talaya	46.20	341⇑	*e*P	P	07 29 55.7 -4.2
WMQ	Urumqi	47.84	323	*e*P	P	07 30 14.4 +1.4
WMQ				PP	PP	07 32 06.0 +1.7
WMQ				S	S	07 37 08.1 +2.2
WMQ				AMB	AMB	
	comp=Z,4.0nm,1.3s,mb4.3					
WMQ				AMB	AMB	
	comp=Z,30nm,5.2s					
WMQ				LR	LR	
	comp=N,468nm,20.4s,MS4.6					
WMQ				LR	LR	
	comp=E,397nm,21.5s,MS4.6					
WMQ				LR	LR	
	comp=Z,663nm,21.8s,MS4.6					
MKAR	Makanchi Array	52.66	324	*i*P	P	07 30 49.4 -0.3
MKAR				pmax	pmax	
	comp=Z,8.0nm,0.8s					
YAK	Yakutsk	52.97	2	*i*P	P	07 30 48.3 -3.5
YAK				pmax	pmax	
	comp=Z,14nm,0.7s,mb5.0					
ZAL	Zalesovo	55.43	332	*i*P	P	07 31 08.3 -1.6
ZAL				pmax	pmax	
	comp=Z,2.0nm,0.4s					
ZAL	Zalesovo	55.43	332	P	P	07 31 08.3 -1.6
	comp=Z,2.1nm,0.4s,mb4.5,baz=346,slow=6.1,SNR=6.2					
ZAL	Zalesovo	55.43	332	P	P	07 31 08.3 -1.6
AAK	Ala-Archa	55.80	316	*e*P	P	07 31 12.0 -0.7
AAK				pmax	pmax	
	comp=Z,3.0nm,0.8s,mb4.4					
AAK	Ala-Archa	55.80	316	*e*P	P	07 31 12.0 -0.7
	comp=Z,2.8nm,0.8s,mb4.3					
NVS	Novosibirsk	56.71	332	*e*P	P	07 31 16.6 -2.5
BVAR	Borovoye Array	62.35	326	P	P	07 31 57.1 -0.8
	comp=Z,3.4nm,0.7s,mb4.6,baz=112,slow=8.0,SNR=18					
BRVK	Borovoye	62.42	326	*e*P	P	07 31 57.3 -1.1
BRVK				pmax	pmax	
	comp=Z,6.0nm,0.7s,mb4.8					
BRVK	Borovoye	62.42	326	*e*P	P	07 31 57.3 -1.1
	comp=Z,5.6nm,0.7s,mb4.8					
TIXI	Tiksi	62.58	1	*e*P	P	07 31 57.8 -1.4
TIXI				pmax	pmax	
	comp=Z,13nm,1.4s,mb4.9					
TIXI				MLR	MLR	
	comp=Z,89nm,17.0s,MS4.0					
BILL	Bilibino	64.73	16⇑	*e*P	P	07 32 13.6 +0.3
BILL				*e*		07 34 31.9
BILL				pmax	pmax	
	comp=Z,2.0nm,0.3s,mb4.6					
URZ	Urewera	67.13	138	LR	LR	07 57 45.8
	comp=Z,85nm,21.4s,MS3.9,baz=290,slow=32					
ARU	Arti	69.93	327	*e*P	P	07 32 42.8 -3.3
IMA	Indian Mountai	77.98	24	*e*P	P	07 33 33.8 +1.1
	comp=Z,18nm,0.8s,mb5.0					
MCK	McKinley	79.90	27	*e*P	P	07 33 42.9 -0.2
	comp=Z,5.9nm,0.5s,mb4.8					
COLA	College	80.37	26⇑	*e*P	P	07 33 45.3 -0.4
COLA	College	80.37	26	*e*P	P	07 33 46.0 +0.3
	comp=Z,10nm,0.9s,mb4.8					
ILAR	Eielson Array	80.78	26	P	P	07 33 47.2 -0.6
	comp=Z,1.9nm,0.8s,mb4.1,baz=256,slow=4.2,SNR=21					
SOC	Sochi	80.93	313	*e*P	P	07 33 50.4 +1.3
SOC				*e*		07 36 46.2
SOC				*e*PPP	PPP	07 38 42.4 -4.7
SOC				*e*S	S	07 43 45.8 -7.3
SOC				pmax	pmax	
	comp=Z,23nm,0.5s,mb5.4					
SOC				pmax	pmax	
	comp=N,23nm,0.6s					
SOC				pmax	pmax	
	comp=E,16nm,0.5s					
THY	Trims Highway	81.33	27	*e*P	P	07 33 51.6 +0.9
DAWY	Dawson	84.09	26	*e*P	P	07 34 06.3 +1.5
ARCES	ARCESS Array B	85.14	340	P	P	07 34 10.4 +0.5
	comp=E,3.8nm,0.7s,mb4.6,baz=81,slow=6.7,SNR=9.7					
INK	Inuvik	85.63	21	*e*P	P	07 34 12.5 +0.2
	comp=E,4.1nm,0.7s,mb4.8					
BRTR	Keskin Array B	85.86	309	P	P	07 34 15.7 +1.5
	comp=E,2.4nm,1.2s,mb4.3,baz=101,slow=7.3,SNR=2.7					
FINES	FINESS Array B	86.69	332	P	P	07 34 17.3 -0.4
	comp=E,1.5nm,0.7s,mb4.3,baz=85,slow=4.3,SNR=10					
AKASG	Malin Array Be	87.15	321	P	P	07 34 19.7 -0.5
	comp=E,1.2nm,0.5s,mb4.3,baz=64,slow=5.7,SNR=6.9					
KMBO	Kilima Mbogo	88.64	269	LR	LR	08 10 47.7
	comp=E,39nm,19.4s,MS3.8,baz=83,slow=33					
KMBO	Kilima Mbogo	88.64	269	P	P	07 34 28.5 +0.3
	comp=E,2.6nm,0.9s,mb4.6					
VNDA	Vanda	88.79	173	P	P	07 34 27.2 -0.3
	comp=E,1.2nm,0.5s,mb4.5,baz=293,slow=5.1,SNR=6.6					
RES	Resolute Bay	92.80	10	*e*P	P	07 34 46.2 0.0
	comp=E,3.7nm,0.8s,mb4.9					
YKA	Yellowknife Ar	95.10	24	*i*P	P	07 34 57.6 +0.7
YKA				pmax	pmax	
	comp=Z,1.0nm,0.7s					
YKA	Yellowknife Ar	95.10	24	P	P	07 34 57.6 +0.7
	comp=Z,1.1nm,0.7s,mb4.4,baz=301,slow=4.8,SNR=19					
SYO	Syowa Base	96.98	201	⇓P	P	07 35 03.9 -1.4
TXAR	Lajitas Array	119.05	49	PKP	PKPdf	07 40 23.6 +1.3
	comp=Z,0.2nm,0.6s,baz=352,slow=1.7,SNR=6.0					

*ATH **11** 07:27:41.3, 36.95N×27.91E, h28km±1km, MD3.3/5*
*ISK **11** 07:27:41.8, 36.85N×27.77E, h32km, MD3.3*
*NEIC **11** 07:27:41.3, 36.95N×27.91E, h28km, MD3.3(ATH), After ATH.*
*CSEM **11** 07:27:42.1±0.1, 36.96N×27.91E, h40km, MD3.3, Error ellipse: s-maj=2.8km s-min=2.0km az=20.0*
ISC 11 07:27:42.7±0.9,**36.91N**±0.07×**27.87E**±0.05,**h52**km±21km,

n15,σ0°**88**/17,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALT	Dalyan (Mudla)	0.64	103	*i* PG	P	07 27 55.9	+0.2
DALT				*i* SG	S	07 28 05.3	-0.1
NISR	Nisiros	0.67	243	*e*PN	P	07 27 55.5	-0.6
NISR				*e*SN	S	07 28 06.0	-0.1
ARG	Arkhangelos	0.73	163	*e*PN	P	07 27 56.2	-0.7
FETY	Fethiye	1.02	106	PG	P	07 28 01.7	+0.8
SMG	Samos	1.14	314	*e*PN	P	07 28 03.2	+0.6
DENT	Denizli	1.25	48	PN	P	07 28 05.3	+1.1
KARP	Karpathos	1.48	203	*e*PN	P	07 28 08.8	+1.3
IZM	Izmir	1.56	342	PN	P	07 28 08.4	-0.2
BLCB	Balcova	1.61	336	PN	P	07 28 08.9	-0.4
ELL	Elmali	1.65	95	*e*PN	P	07 28 09.6	-0.2
APE	Apeiranthos	1.88	275	*e*PN	P	07 28 11.1	-1.9
APE	Apeiranthos	1.88	275	*e*Pb	P	07 28 13.9	+0.9
AKS	Akhisar	1.96	359	*e*PN	P	07 28 14.7	+0.5
ISP	Isparta	2.30	65	Pn	P	07 28 16.6	-2.5
ISP	Isparta	2.30	65	Pn	P	07 28 16.6	-2.4

*IDC **11** 07:45:12.4±2.5, 2.58N×95.85E, mb3.7/4, mb1 3.9/5, mb1mx3.7/18, mbtmp3.8/5, ML4.4/1, Error ellipse: s-maj=93.4km s-min=23.2km az=62.0*
*NEIC **11** 07:45:17.0±1.1, 2.59N×95.86E, h30km, mb4.5/3, Error ellipse: s-maj=36.9km s-min=11.4km az=66.0*
ISC 11 07:45:14.6±1.6,**2.6N**±0.2×**95.8E**±0.3,**h30**km,**n8**,σ0°**45**/8,
mb4.0/7,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.10	11	Pn	P	07 49 00.0	-0.7
	0.5nm,0.3s,baz=198,slow=12,SNR=8.7						
BJT	Baijiatuau	41.63	24	P	P	07 53 02.8	+0.9
	12nm,0.6s,mb4.7						
WRA	Warramunga Arr	43.99	122	P	P	07 53 20.9	-0.5
	0.6nm,0.7s,mb3.4,baz=298,slow=9.4,SNR=5.6						
WRAB	Tennant Creek	43.99	122	*e*P	P	07 53 21.5	+0.1
	3.5nm,0.8s,mb4.1						
ASAR	Alice Springs	45.37	127	P	P	07 53 32.5	+0.1
	0.4nm,0.6s,mb3.4,baz=302,slow=7.8,SNR=7.5						
SONM	Songino Array	46.02	10	P	P	07 53 37.6	+0.3
	1.2nm,0.7s,mb3.9,baz=190,slow=9.1,SNR=12						
BVAR	Borovoye Array	54.50	341	P	P	07 54 41.8	0.0
	1.3nm,0.7s,mb4.0,baz=143,slow=7.4,SNR=7.5						
CHKZ	Chkalovo	54.98	342	*e*P	P	07 54 45.3	-0.1
	3.4nm,0.7s,mb4.5						

*NEIC **11** 07:49:00.8, 17.61N×94.54W, h171km, MD3.9(MEX), After MEX.*
MEX 11 07:49:00.8±0.7,**17.61N**×**94.54W**,**h171**km±10km,**MD3.9**,
Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.61	212	*i* P	P	07 49 24.1	-1.4
CMIG				*i* S	S	07 49 41.4	-3.2
OXX	Oaxaca	2.15	256	*i* P	P	07 49 38.3	-1.0
OXX				*i* S	S	07 50 07.5	-1.5
VHO	Vista Hermosa	2.16	256	*i* P	P	07 49 37.7	-1.8
VHO				*i* S	S	07 50 07.3	-2.0
HUIG	Huatulco	2.37	219	*i* P	P	07 49 38.9	-3.1
HUIG				*i* S	S	07 50 10.8	-2.9
POHV	Veracruz	2.98	300	*e*P	P	07 49 48.0	-1.3

*NEIC **11** 07:55:20.1, 39.12S×174.82E, h219km, After WEL.*
WEL 11 07:55:21.2±0.3,**39.12S**×**174.80E**,**h208**km±2km,**ML4.2**/11,
11C-5D,**Error ellipse: s-maj=2.5km s-min=2.2km az=0.0,**
North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	Vera Road	0.04	256	P	P	07 55 47.8	-0.7
VRZ	Vera Road	0.04	256	PN	P	07 55 47.6	-0.9
VRZ				SN	S	07 56 08.5	-1.0
RAEZ	Rainy Point	0.36	242	P	P	07 55 48.6	-0.5
RAEZ	Rainy Point	0.36	242	PN	P	07 55 48.6	-0.5
TWVZ	Taurewa	0.50	85	P	P	07 55 48.9	-0.6
TWVZ	Taurewa	0.50	85	PN	P	07 55 48.8	-0.7
TWVZ				SN	S	07 56 10.3	-1.1
NEZ	North Egmont	0.57	254	P	P	07 55 49.6	-0.2
NEZ	North Egmont	0.57	254	PN	P	07 55 49.6	-0.2
DFE	Dawson Falls	0.58	249	P	P	07 55 49.6	-0.2
DFE	Dawson Falls	0.58	249	PN	P	07 55 49.5	-0.3
CNZ	Chateau	0.58	98	P	P	07 55 49.7	-0.1
CNZ	Chateau	0.58	98	PN	P	07 55 49.6	-0.3
MGZ	Maungaku	0.58	79	P	P	07 55 49.5	-0.3
MGZ	Maungaku	0.58	79	PN	P	07 55 49.2	-0.6
WPVZ	Whakapapa	0.58	99	P	P	07 55 49.6	-0.2
WPVZ	Whakapapa	0.58	99	PN	P	07 55 49.6	-0.3
WPVZ				SN	S	07 56 10.9	-1.1
FWVZ	Far West T-bar	0.60	104	P	P	07 55 49.7	-0.2
FWVZ	Far West T-bar	0.60	104	⇑PN	P	07 55 49.7	-0.2
HIZ	Hauiti	0.60	4	P	P	07 55 48.8	-1.1
HIZ	Hauiti	0.60	4	PN	P	07 55 48.8	-1.1
HIZ				SN	S	07 56 10.6	-1.5
WTVZ	West Tongariro	0.61	90	P	P	07 55 49.6	-0.3
WTVZ	West Tongariro	0.61	90	PN	P	07 55 49.5	-0.4
WTVZ				SN	S	07 56 10.4	-1.8
DRZ	Dome Shelter	0.61	105	P	P	07 55 49.9	0.0
DRZ				P		07 55 50.2	
DRZ	Dome Shelter	0.61	105	*e*PN	P	07 55 49.4	-0.5
DRZ				SN	S	07 56 11.4	-0.8
NGZ	Ngauruhoe	0.62	96	P	P	07 55 49.7	-0.3
NGZ	Ngauruhoe	0.62	96	⇓PN	P	07 55 49.8	-0.2
NGZ				SN	S	07 56 10.9	-1.4
PKE	Pukeiti	0.64	263	P	P	07 55 49.6	-0.5
PKE	Pukeiti	0.64	263	PN	P	07 55 49.4	-0.7
WAZ	Wanganui	0.65	168	P	P	07 55 50.1	0.0
WAZ				S	S	07 56 12.0	-0.5
WAZ	Wanganui	0.65	168	PN	P	07 55 50.0	-0.1
WAZ				SN	S	07 56 11.6	-0.9
WNVZ	Wahianoa	0.65	109	P	P	07 55 49.3	-0.8
OTVZ	Oturere	0.67	94	PN	P	07 55 49.8	-0.4
TUVZ	Tukino	0.68	103	P	P	07 55 50.2	0.0
TUVZ	Tukino	0.68	103	PN	P	07 55 50.2	0.0
KATZ	Kakaramea	0.71	79	P	P	07 55 49.9	-0.5
KATZ	Kakaramea	0.71	79	PN	P	07 55 49.9	-0.5
NRZ	Ngariki Road	0.71	252	P	P	07 55 50.0	-0.4
NRZ	Ngariki Road	0.71	252	PN	P	07 55 49.8	-0.6
NWEZ	Newall Road	0.74	258	P	P	07 55 50.2	-0.3
NWEZ	Newall Road	0.74	258	PN	P	07 55 50.1	-0.5
MOVZ	Moawhango	0.79	112	P	P	07 55 50.2	-0.6
MOVZ	Moawhango	0.79	112	⇓PN	P	07 55 50.2	-0.6
TSZ	Takapari Road	1.30	137	P	P	07 55 54.1	-0.2
TSZ	Takapari Road	1.30	137	PN	P	07 55 54.0	-0.2
BKZ	Black Stump Fm	1.31	93	P	P	07 55 53.5	-0.9
BKZ	Black Stump Fm	1.31	93	⇓PN	P	07 55 53.5	-1.0
MRZ	Mangatainoka R	1.66	159	P	P	07 55 56.6	-0.9
MRZ	Mangatainoka R	1.66	159	⇑PN	P	07 55 56.5	-0.9
KIW	Kapiti Island	1.75	177	P	P	07 55 57.2	-1.0
KIW	Kapiti Island	1.75	177	⇑PN	P	07 55 57.2	-1.0
PWZ	Pawanui	1.83	120	P	P	07 55 58.5	-0.5
PWZ	Pawanui	1.83	120	PN	P	07 55 58.4	-0.6
PWZ				SN	S	07 56 23.3	-4.9
BFZ	Birch Farm	1.92	145	P	P	07 55 58.9	-0.9
BFZ	Birch Farm	1.92	145	PN	P	07 55 58.8	-1.0
BFZ				SN	S	07 56 26.8	-2.7
URZ	Urewera	2.00	65	P	P	07 55 58.4	-2.2
URZ	Urewera	2.00	65	⇓PN	P	07 55 58.3	-2.3
CAW	Cannon Point	2.00	174	P	P	07 55 59.5	-1.1
CAW	Cannon Point	2.00	174	⇑PN	P	07 55 59.5	-1.1
MTW	Mount Morrison	2.11	165	P	P	07 56 00.4	-1.4
MTW	Mount Morrison	2.11	165	⇑PN	P	07 56 00.3	-1.5
MRW	Makara Radio	2.11	182	P	P	07 56 00.5	-1.3
MRW	Makara Radio	2.11	182	⇑PN	P	07 56 00.5	-1.3
WEL	Wellington	2.17	181	P	P	07 56 01.0	-1.4
WEL	Wellington	2.17	181	PN	P	07 56 00.9	-1.5
KNZ	Kokohu	2.24	88	⇓PN	P	07 56 01.8	-1.4
MWZ	Matawai	2.27	71	P	P	07 56 01.5	-2.0
MWZ	Matawai	2.27	71	PN	P	07 56 01.5	-2.1
BHW	Baring Head	2.29	179	P	P	07 56 02.0	-1.7
BHW	Baring Head	2.29	179	PN	P	07 56 02.0	-1.7
PAWZ	Paruwai Farm	2.31	168	⇑PN	P	07 56 02.4	-1.5
MSWZ	Moikau Station	2.32	172	P	P	07 56 02.5	-1.6
MSWZ	Moikau Station	2.32	172	⇑PN	P	07 56 02.4	-1.6
NNZ	Nelson	2.37	207	P	P	07 56 02.7	-1.9
NNZ	Nelson	2.37	207	⇑PN	P	07 56 02.7	-1.9
TUWZ	Tuamarina	2.40	196	⇑PN	P	07 56 03.2	-1.8
QRZ	Quartz Range	2.44	225	P	P	07 56 02.8	-2.6
QRZ	Quartz Range	2.44	225	⇑PN	P	07 56 02.8	-2.6
BSWZ	Blackbirch Sta	2.69	195	P	P	07 56 06.6	-1.6
BSWZ	Blackbirch Sta	2.69	195	PN	P	07 56 06.5	-1.6
PUZ	Puketiti	2.90	70	P	P	07 56 08.1	-2.5
PUZ	Puketiti	2.90	70	PN	P	07 56 07.9	-2.7
THZ	Tophouse	3.01	208	P	P	07 56 09.4	-2.5
THZ	Tophouse	3.01	208	PN	P	07 56 09.4	-2.5
MXZ	Matakaoa Point	3.16	62	P	P	07 56 10.9	-2.7
MXZ	Matakaoa Point	3.16	62	PN	P	07 56 10.8	-2.9
KHZ	Kahutara	3.43	196	P	P	07 56 14.4	-2.5
KHZ	Kahutara	3.43	196	PN	P	07 56 14.4	-2.6
DSZ	Denniston Nort	3.48	220	P	P	07 56 14.3	-3.2
DSZ	Denniston Nort	3.48	220	PN	P	07 56 14.2	-3.3
LTZ	Lake Taylor	4.13	207	P	P	07 56 22.3	-3.2
LTZ	Lake Taylor	4.13	207	PN	P	07 56 22.1	-3.4
CRLZ	Canterbury Las	4.75	200	P	P	07 56 29.1	-4.2
CRLZ	Canterbury Las	4.75	200	PN	P	07 56 28.8	-4.5
MQZ	McQueen's Vall	4.86	199	P	P	07 56 30.2	-4.5
MQZ	McQueen's Vall	4.86	199	PN	P	07 56 30.1	-4.6
WVZ	Waitaha Valley	5.01	217	P	P	07 56 31.8	-4.7
WVZ	Waitaha Valley	5.01	217	*e*PN	P	07 56 31.7	-4.9
RPZ	Rata Peaks	5.39	210	*e*P	P	07 56 37.2	-4.2
RPZ	Rata Peaks	5.39	210	*e*PN	P	07 56 36.8	-4.6
FOZ	Fox Glacier	5.88	219	*e*PN	P	07 56 41.0	-6.7
LBZ	Lake Benmore	6.30	212	*e*P	P	07 56 48.3	-4.8
LBZ	Lake Benmore	6.30	212	*e*PN	P	07 56 48.0	-5.1
ODZ	Otahua Downs	6.68	206	P	P	07 56 54.4	-3.7
ODZ	Otahua Downs	6.68	206	*e*PN	P	07 56 53.6	-4.5
JCZ	Jackson Bay	6.71	220	*e*P	P	07 56 53.2	-5.3
JCZ	Jackson Bay	6.71	220	*e*PN	P	07 56 52.4	-6.1
WKZ	Wanaka	7.15	215	*e*P	P	07 56 58.9	-5.3
WKZ	Wanaka	7.15	215	*e*PN	P	07 56 57.9	-6.2
EAZ	Earnscleugh	7.35	212	*e*P	P	07 57 01.2	-5.5
EAZ	Earnscleugh	7.35	212	*e*PN	P	07 57 00.9	-5.8
TUZ	Tuapeka	7.83	207	*e*P	P	07 57 09.0	-4.0
TUZ	Tuapeka	7.83	207	*e*PN	P	07 57 09.0	-4.0

GUC 11 08:05:19.5±1.0,**21.98S**×**68.71W**,**h124**km±9km,**ML3.5**,**3C**,
Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.66	196⇑	*i*P	P	08 05 39.9	+0.9
LVC				*i* S	S	08 05 55.1	+1.1
LVC				AMP		08 05 56.0	
	comp=E,1μm,0.4s						
SPCH	San Pedro de A	1.04	153⇑	*i*P	P	08 05 43.5	+1.0
SPCH				*i* S	S	08 06 01.5	+1.6
SPCH				AMP		08 06 16.3	
	comp=N,1μm,0.5s						
ANCH	Antofagasta	2.31	222	*e*P	P	08 05 58.2	+0.6
ANCH				*i* S	S	08 06 27.3	+0.7
CPN1	Cerro Paranal	3.06	210⇑	*i*P	P	08 06 08.1	+0.5
CPN1				AMP		08 06 57.0	
	comp=E,169nm,0.3s						

*IDC **11** 08:31:25.6±0.9, 2.95N×96.30E, mb4.1/11, mb1 4.3/12, mb1mx4.2/18, mbtmp4.2/12, ML4.7/1, MS3.6/2, Ms1 3.7/2, ms1mx3.1/21, Error ellipse: s-maj=47.2km s-min=16.2km az=50.0*
*BJI **11** 08:31:28.7, 3.32N×96.55E, h15km, mB5.5, mb4.8*
*NEIC **11** 08:31:30.1±0.6, 2.99N×96.39E, h30km, mb4.7/7, Error ellipse: s-maj=20.4km s-min=9.6km az=59.0*
ISC 11 08:31:28.9±0.6,**3.02N**±0.10×**96.4E**±0.1,**h33**km,**n30**,
σ0°**85**/28,**mb4.5**/25,**MS3.8**/1,**1C**,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.54	9	Pn	P	08 35 09.1	+1.8
	1.1nm,0.3s,baz=197,slow=10,SNR=16						
CMAR				LR	LR	08 41 46.2	
	comp=Z,156nm,21.6s,baz=190,slow=40						
JIRN	Jiri	26.38	339	*e*P	P	08 37 04.6	+0.3
	18nm,0.7s,mb4.7						
GUN	Gumba	26.71	339	*e*P	P	08 37 07.3	-0.1
	17nm,0.5s,mb4.8						
GKN	Gorkha	27.27	337	*e*P	P	08 37 12.2	-0.3
	15nm,0.5s,mb4.8						
KOLN	Koldanda	27.49	335	*e*P	P	08 37 14.5	0.0
	14nm,0.7s,mb4.6						
ENH	Enshi	29.79	23	*e*P	P	08 37 33.9	-1.1
	9.7nm,0.6s,mb4.7						
XAN	Xi'an	32.99	19	P	P	08 38 02.8	-0.3
XAN				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
NJ2	Nanjing	35.76	34	*e*P	P	08 38 28.3	+1.4
NJ2				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.5						
SSE	Sheshan	36.41	37	P	P	08 38 31.4	-1.0
SSE				S	S	08 44 17.3	+6.2
SSE				AMB	AMB		
	comp=Z,25nm,0.6s,mb5.3						
WRA	Warramunga Arr	43.67	123	P	P	08 39 33.0	+0.3
	comp=Z,3.0nm,0.5s,mb4.3,baz=301,slow=9

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.40**	**349**	PG	**Pb**	**08 33 46.9**	**+2.5**
NISR	**Nisiros**	**0.66**	**244**	*e*PN	**Pn**	**08 33 48.0**	**-1.7**
ARG	**Arkhangelos**	**0.72**	**163**	*e*PB	**Pb**	**08 33 49.5**	**-0.2**
FETY	**Fethiye**	**1.01**	**105**	PN	**Pn**	**08 33 57.4**	**+2.8**
FETY				SN	**Sn**	08 34 13.4	+5.3
SMG	**Samos**	**1.15**	**315**	*e*PN	**Pn**	**08 33 56.1**	**-0.5**
DENT	**Denizli**	**1.25**	**47**	PN	**Pn**	**08 33 58.8**	**+0.7**
KARP	**Karpathos**	**1.47**	**203**	*e*PN	**Pn**	**08 34 01.9**	**+0.7**
KARP				*e*SN	**Sn**	08 34 21.5	+1.7
IZM	**Izmir**	**1.56**	**342**	PN	**Pn**	**08 34 02.1**	**-0.5**
KSL	**Kastellorizon**	**1.57**	**118**	*e*PN	**Pn**	**08 34 05.0**	**+2.3**
BLCB	**Balcova**	**1.62**	**336**	PN	**Pn**	**08 34 02.1**	**-1.2**
ELL	**Elmali**	**1.64**	**95**	PN	**Pn**	**08 34 06.3**	**+2.6**
APE	**Apeiranthos**	**1.88**	**276**	PN	**Pn**	**08 34 07.3**	**+0.2**
APE	**Apeiranthos**	**1.88**	**276**	*e*PN	**Pn**	**08 34 07.0**	**-0.1**
KHL	**Karahalli**	**1.93**	**42**	PN	**Pn**	**08 34 08.3**	**+0.5**
AKS	**Akhisar**	**1.97**	**359**	PN	**Pn**	**08 34 07.6**	**-0.7**
SANT	**Santorini**	**2.01**	**255**	*e*Pn	**Pn**	**08 34 11.9**	**+2.9**
SANT	**Santorini**	**2.01**	**255**	*e*Pn	**Pn**	**08 34 11.9**	**+2.9**
ANTB	**Antalya**	**2.23**	**89**	PN	**Pn**	**08 34 14.5**	**+2.4**
BCK	**Bucak**	**2.24**	**75**	PN	**Pn**	**08 34 14.5**	**+2.3**
ISP	**Isparta**	**2.30**	**65**	PN	**Pn**	**08 34 14.5**	**+1.4**
ISP	**Isparta**	**2.30**	**65**	*e*Pn	**Pn**	**08 34 15.0**	**+1.9**
NPS	**Neapolis**	**2.46**	**229**	*e*PN	**Pn**	**08 34 15.6**	**+0.3**
PRK	**Paraskevi**	**2.65**	**332**	*e*PN	**Pn**	**08 34 17.3**	**-0.8**
BALB	**Balikesir**	**2.73**	**0**	*e*PN	**Pn**	**08 34 18.5**	**-0.7**
ALT	**Altintas**	**2.78**	**39**	*e*PN	**Pn**	**08 34 19.9**	**0.0**
IDI	**Anoyia**	**2.90**	**237**	Pn	**Pn**	**08 34 21.4**	**-0.3**
	4.7nm,0.3s,baz=55,slow=15,SNR=18						
IDI				Sn	**Sn**	**08 34 57.4**	**+1.3**
	9.1nm,0.3s,baz=352,slow=20,SNR=5.2						
IDI				Lg		08 35 05.0	
	14nm,0.3s,baz=287,slow=23,SNR=6.8						
ORLT	**Orhaneli**	**3.24**	**14**	*e*PN	**Pn**	**08 34 25.9**	**-0.5**
KCT	**Karacabey**	**3.38**	**6**	*e*PN	**Pn**	**08 34 26.9**	**-1.5**
EDC	**Edincik**	**3.44**	**360**	*e*PN	**Pn**	**08 34 27.8**	**-1.4**
BNT	**Bandirma**	**3.44**	**1**	*e*PN	**Pn**	**08 34 27.9**	**-1.5**
ESKT	**Eskisehir**	**3.51**	**41**	*e*PN	**Pn**	**08 34 31.1**	**+0.8**
LIA	**Limnos Island**	**3.66**	**326**	*e*PN	**Pn**	**08 34 31.5**	**-0.9**
MRMT	**Marmara Adasi**	**3.70**	**357**	*e*PN	**Pn**	**08 34 31.3**	**-1.6**
HDMB	**Hadim**	**3.70**	**88**	*e*PN	**Pn**	**08 34 35.7**	**+2.7**
GVD	**Gavdhos**	**3.70**	**237**	*e*Pn	**Pn**	**08 34 34.4**	**+1.4**
GVD	**Gavdhos**	**3.70**	**237**	*e*Pn	**Pn**	**08 34 34.4**	**+1.4**
KONT	**Konya--Tatoy**	**3.72**	**72**	*e*PN	**Pn**	**08 34 35.2**	**+1.9**
KIZT	**Kizilcal**	**3.73**	**57**	*e*PN	**Pn**	**08 34 33.6**	**+0.1**
YLV	**Yalova**	**3.84**	**17**	*e*PN	**Pn**	**08 34 35.2**	**+0.2**
MFT	**Murefte**	**3.90**	**353**	*e*PN	**Pn**	**08 34 35.2**	**-0.7**
AKMC	**Akamas**	**4.08**	**116**	P	**Pn**	**08 34 38.7**	**+0.4**
HRT	**Hereke**	**4.15**	**19**	*e*PN	**Pn**	**08 34 38.3**	**-1.1**
ALFC	**Alevga**	**4.21**	**113**	P	**Pn**	**08 34 41.8**	**+1.5**
	12nm,0.3s						
ALFC				S	**Sn**	08 35 29.8	+0.5
ALN	**Alexandroupoli**	**4.23**	**341**	*e*Pn	**Pn**	**08 34 39.2**	**-1.3**
ALN	**Alexandroupoli**	**4.23**	**341**	*e*Pn	**Pn**	**08 34 39.2**	**-1.3**
ISK	**Istanbul-Kandi**	**4.25**	**12**	*e*PN	**Pn**	**08 34 40.4**	**-0.5**
MDU	**Mudurnu**	**4.41**	**35**	*e*PN	**Pn**	**08 34 42.6**	**-0.5**
OUR	**Ouranopolis**	**4.58**	**320**	*e*Pn	**Pn**	**08 34 44.7**	**-0.8**
SZAC	**Souni-Zanaja**	**4.60**	**116**	P	**Pn**	**08 34 46.2**	**+0.4**
SZAC				S	**Sn**	08 34 39.0	-0.2
CSS	**Prodhromos**	**4.84**	**112**	P	**Pn**	**08 34 50.6**	**+1.5**
	3.8nm,0.4s						
CSS				S	**Sn**	**08 35 45.8**	**+0.7**
AGG	**Agios Georgios**	**4.86**	**297**	*e*Pn	**Pn**	**08 34 49.6**	**+0.2**
ANTO	**Ankara**	**4.87**	**51**	*e*PN	**Pn**	**08 34 49.7**	**+0.1**
EDRB	**Edirne**	**5.01**	**350**	*e*PN	**Pn**	**08 34 51.2**	**-0.4**
BRTR	**Keskin Array B**	**5.34**	**56**	Pn	**Pn**	**08 34 57.4**	**+1.2**
	3.2nm,0.3s,baz=238,slow=15,SNR=47						
BRTR				Sn	**Sn**	**08 35 58.3**	**+0.7**
	0.9nm,0.3s,baz=241,slow=25,SNR=3.3						
BRTR				Lg		08 36 29.2	
	baz=210,slow=23,SNR=1.3						
BRTR	**Keskin Array B**	**5.34**	**56**	Pn	**Pn**	**08 34 57.4**	**+1.2**
BRTR				Sn	**Sn**	**08 35 58.3**	**+0.7**
BRTR				Lg		08 36 29.2	
BRTR	**Keskin Array B**	**5.34**	**56**	Pn	**Pn**	**08 34 57.3**	**+1.1**
PHNC	**Paralimni**	**5.35**	**109**	P	**Pn**	**08 34 59.0**	**+2.7**
KNT	**Kendrikon**	**5.75**	**319**	*e*Pn	**Pn**	**08 35 01.3**	**-0.7**
SLUM		**5.83**	**203**	P	**Pn**	**08 35 03.9**	**+0.7**
HMAT	**Matruh**	**5.83**	**187**	P	**Pn**	**08 34 59.4**	**-3.7**
GRG	**Griva**	**5.88**	**315**	*e*Pn	**Pn**	**08 35 04.0**	**+0.3**
HNTI	**Hanita**	**7.10**	**120**	Sn	**Sn**	**08 36 36.5**	**-5.3**
HAF	**Haifa**	**7.18**	**123**	Pn	**Pn**	**08 35 21.6**	**-0.5**
OFRI	**'Ofer**	**7.25**	**124**	Pn	**Pn**	**08 35 21.5**	**-1.6**
KSDI	**Kefar Szold**	**7.38**	**118**	Pn	**Pn**	**08 35 23.8**	**-1.2**
SLTI	**Sal'it**	**7.52**	**126**	Pn	**Pn**	**08 35 25.8**	**-1.1**
KSHT	**Keshet**	**7.60**	**119**	Pn	**Pn**	**08 35 27.4**	**-0.7**
GLH	**Golan-Tel Qazi**	**7.64**	**121**	Pn	**Pn**	**08 35 27.6**	**-1.0**
MMLI	**Mount Malkishu**	**7.65**	**123**	Pn	**Pn**	**08 35 28.2**	**-0.5**
SWA1		**7.83**	**194**	P	**Pn**	**08 35 29.4**	**-1.8**
SWA1				S	**Sn**	**08 36 51.2**	**-8.9**
SWA2		**7.91**	**196**	⇓P	**Pn**	**08 35 31.0**	**-1.3**
KZIT	**Kziot**	**8.08**	**136**	Pn	**P**	**08 35 32.8**	**-1.8**
DRGI	**Dragot**	**8.18**	**128**	Pn	**P**	**08 35 35.1**	**-0.9**
MZDA	**Masada**	**8.35**	**130**	Pn	**P**	**08 35 36.3**	**-2.1**
MKRJ	**Makawir**	**8.36**	**127**	Pn	**P**	**08 35 37.7**	**-0.9**
MLR	**Muntele Rosu**	**8.70**	**351**	Pn	**P**	**08 35 41.9**	**-1.4**
	0.2nm,0.3s,baz=185,slow=6.2,SNR=10.0						
ZFRI	**Zfri**	**8.78**	**134**	Pn	**P**	**08 35 42.8**	**-1.6**
ASF	**Jabal al Asfar**	**8.82**	**120**	Pn	**P**	**08 35 44.7**	**-0.2**
	2.2nm,0.3s,baz=189,slow=8.4,SNR=7.8						
ASF				Sn	**Sn**	**08 37 24.3**	**-0.2**
	1.1nm,0.3s,baz=217,slow=20,SNR=3.5						
KMTI	**Karmit**	**8.87**	**138**	Pn	**P**	**08 35 45.0**	**-0.7**
KMTI				Sn	**Sn**	**08 37 18.0**	**-7.9**
TIP	**Timpagrande**	**9.05**	**288**	*e*P	**P**	**08 35 47.6**	**-0.6**
TIP	**Timpagrande**	**9.05**	**288**	*e*P	**P**	**08 35 47.6**	**-0.6**
MBH	**Mount Berech**	**9.22**	**138**	Pn	**P**	**08 35 49.4**	**-1.1**
EIL	**Elat**	**9.34**	**139**	Pn	**P**	**08 35 49.9**	**-2.2**
	0.7nm,0.3s,baz=352,slow=12,SNR=3.8						
EIL				Sn	**Sn**	**08 37 30.7**	**-6.7**
	2.1nm,0.3s,baz=308,slow=18,SNR=3.8						
EIL	**Elat**	**9.34**	**139**	*e*P	**P**	**08 35 49.7**	**-2.3**
EIL				Pn	**P**	**08 35 49.9**	**-2.2**
EIL				Sn	**Sn**	**08 37 30.7**	**-6.7**
EIL	**Elat**	**9.34**	**139**	Pn	**P**	**08 35 50.2**	**-1.9**
AQBJ	**Aqaba**	**9.34**	**138**	Pn	**P**	**08 35 50.7**	**-1.5**
GNI	**Garni**	**13.60**	**71**	LR	LR	08 43 01.3	
	comp=Z,79nm,19.9s,baz=341,slow=42						
PGF	**Pioggiola**	**15.56**	**297**	*e*P	**P**	**08 37 17.1**	**+1.8**
	28nm,1.1s						
PGF	**Pioggiola**	**15.56**	**297**	*e*P	**P**	**08 37 17.1**	**+1.8**
PGF				pmax	pmax		
	comp=Z,14nm,1.1s						
GERES	**GERESS Array B**	**15.79**	**324**	Pn	**P**	**08 37 19.9**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=135,slow=9.7,SNR=2.1						
KHC	**Kasperske Hory**	**16.04**	**324**	*i* P	**P**	**08 37 27.5**	**+6.1**
BRG	**Berggiesshubel**	**17.15**	**329**	*e*P	**P**	**08 37 42.7**	**+7.3**
BRG				*i*		08 37 45.8	
LMR	**La Mourre**	**17.53**	**298**	*e*P	**P**	**08 37 41.8**	**+1.6**
GRA1	**Grafenberg Arr**	**17.56**	**322**	*e*P	**P**	**08 37 45.8**	**+5.3**
GRF	**Grafenberg Arr**	**17.56**	**322**	*e*P	**P**	**08 37 45.8**	**+5.3**
MBDF	**Montbardon**	**17.75**	**303**	*e*P	**P**	**08 37 44.2**	**+1.3**
	comp=Z,2.8nm,0.7s						
MBDF	**Montbardon**	**17.75**	**303**	*e*P	**P**	**08 37 44.2**	**+1.3**
MBDF				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CLL	**Collm**	**17.87**	**328**	*i* P	**P**	**08 37 48.9**	**+4.5**
CLL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CLL	**Collm**	**17.87**	**328**	*i* P	**P**	**08 37 48.9**	**+4.5**
	comp=Z,10.0nm,0.8s						
CLL				*i*		08 37 52.9	
CLL	**Collm**	**17.87**	**328**	*i* *PP		08 37 48.9	
CLL				*i* *SP		08 37 52.9	
CLL				*e*PP	PP	08 37 56.0	-3.1
MOX	**Moxa**	**18.01**	**325**	*e*P	**P**	**08 37 46.0**	**-0.2**
LPG	**La Plagne**	**18.02**	**305**	*e*P	**P**	**08 37 47.9**	**+1.5**
	comp=Z,14nm,0.8s						
LPG	**La Plagne**	**18.02**	**305**	*e*P	**P**	**08 37 47.9**	**+1.5**
LPG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LPL	**La Plagne**	**18.04**	**305**	*e*P	**P**	**08 37 47.9**	**+1.3**
ORIF	**Oris-en-Rattie**	**18.41**	**303**	*e*P	**P**	**08 37 52.3**	**+1.2**
CABF	**La Chapelle**	**18.87**	**308**	*e*P	**P**	**08 37 57.3**	**+0.6**
SMF	**Signal de Mont**	**20.32**	**306**	*e*P	**P**	**08 38 13.0**	**+0.2**
	comp=Z,13nm,0.6s						
SMF	**Signal de Mont**	**20.32**	**306**	*e*P	**P**	**08 38 13.0**	**+0.2**
SMF				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SSF	**Saint Saulge**	**20.68**	**307**	*e*P	**P**	**08 38 17.1**	**+0.5**
SSF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SSF	**Saint Saulge**	**20.68**	**307**	*e*P	**P**	**08 38 17.1**	**+0.5**
	comp=Z,6.4nm,0.8s						
AVF	**Avril sur Loir**	**20.69**	**306**	*e*P	**P**	**08 38 16.4**	**-0.2**
	comp=Z,31nm,1.2s						
AVF	**Avril sur Loir**	**20.69**	**306**	*e*P	**P**	**08 38 16.4**	**-0.2**
AVF				pmax	pmax		
	comp=Z,16nm,1.2s						
FLN	**La Foliniere**	**23.78**	**309**	*e*P	**P**	**08 38 47.5**	**+0.2**
GRR	**Gorron**	**23.90**	**308**	*e*P	**P**	**08 38 48.8**	**+0.4**
	comp=Z,95nm,1.2s,mb4.8						
GRR	**Gorron**	**23.90**	**308**	*e*P	**P**	**08 38 48.8**	**+0.4**
GRR				pmax	pmax		
	comp=Z,48nm,1.2s,mb4.8						
FINES	**FINESS Array B**	**24.59**	**358**	P	**P**	**08 38 54.8**	**-0.1**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FINES	**FINESS Array B**	**24.59**	**358**	P	**P**	**08 38 54.8**	**-0.1**
	comp=Z,4.7nm,0.9s,mb4.0,baz=180,slow=7.6,SNR=5.4						
ESDC	**Sonseca Array**	**25.07**	**286**	P	**P**	**08 38 59.5**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.4,baz=75,slow=9.7,SNR=4.0						
ZAK	**Zakamensk**	**53.94**	**50**	*e*P	**P**	**08 42 59.3**	**-0.2**
SONM	**Songino Array**	**56.68**	**52**	P	**P**	**08 43 19.8**	**+0.3**
	comp=Z,1.2nm,0.6s,mb4.1,baz=287,slow=7.6,SNR=8.9						
YKA	**Yellowknife Ar**	**76.44**	**343**	P	**P**	**08 45 23.3**	**-1.3**
YKA	**Yellowknife Ar**	**76.44**	**343**	P	**P**	**08 45 23.2**	**-1.3**
	comp=Z,0.2nm,0.7s,mb3.2,baz=29,slow=5.3,SNR=4.8						

ATH ***11*** *08:36:11.7, 36.85N×27.58E, h18km±5km, MD3.6/5*
CSEM ***11*** *08:36:11.2±0.1, 36.98N×27.67E, h20km, MD3.4, Error ellipse: s-maj=4.6km s-min=2.8km az=90.0*
NEIC ***11*** *08:36:11.7, 36.85N×27.58E, h18km, MD3.6(ATH), After ATH.*
ISK ***11*** *08:36:14.4, 37.14N×27.81E, h26km, MD3.4*
ISC 11 08:36:11.5±0.6, 36.95N±0.04×27.61E±0.06, h18km, n18, σ1§02/20, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.37**	**21**	*i* PG	**Pb**	**08 36 20.0**	**+0.8**
MLSB				*i* SG	**Sb**	**08 36 24.1**	**-0.4**
NISR	**Nisiros**	**0.52**	**229**	*e*PB	**Pb**	**08 36 20.5**	**-1.2**
ARG	**Arkhangelos**	**0.84**	**150**	*e*PB	**Pb**	**08 36 25.9**	**-1.5**
SMG	**Samos**	**0.97**	**321**	*e*PN	**Pn**	**08 36 31.6**	**+1.3**
FETY	**Fethiye**	**1.23**	**105**	PN	**Pn**	**08 36 34.9**	**+1.0**
FETY				SN	**Sn**	**08 36 50.2**	**+0.1**
DENT	**Denizli**	**1.39**	**54**	*e*PN	**Pn**	**08 36 35.3**	**-0.9**
KARP	**Karpathos**	**1.45**	**195**	*e*PN	**Pn**	**08 36 37.5**	**+0.4**
IZM	**Izmir**	**1.47**	**349**	PN	**Pn**	**08 36 37.1**	**-0.3**
BLCB	**Balcova**	**1.50**	**343**	*e*PN	**Pn**	**08 36 39.4**	**+1.6**
APE	**Apeiranthos**	**1.67**	**275**	*e*PN	**Pn**	**08 36 44.8**	**+4.6**
KSL	**Kastellorizon**	**1.78**	**116**	*e*PN	**Pn**	**08 36 43.5**	**+1.7**
ELL	**Elmali**	**1.86**	**96**	*e*PN	**Pn**	**08 36 44.3**	**+1.4**
AKS	**Akhisar**	**1.93**	**5**	PN	**Pn**	**08 36 44.4**	**+0.4**
KHL	**Karahalli**	**2.04**	**47**	*e*PN	**Pn**	**08 36 45.0**	**-0.6**
BCK	**Bucak**	**2.43**	**77**	*e*PN	**Pn**	**08 36 50.6**	**-0.6**
ALT	**Altintas**	**2.88**	**43**	*e*PN	**Pn**	**08 36 56.0**	**-1.6**
EDC	**Edincik**	**3.39**	**3**	*e*PN	**Pn**	**08 37 03.8**	**-1.1**
BNT	**Bandirma**	**3.41**	**4**	PN	**Pn**	**08 37 04.7**	**-0.3**

IDC ***11*** *08:36:39.0±1.3, 50.23S×161.55E, mb4.3/4, mb1 4.5/6, mb1mx4.2/10, mbtmp4.4/6, ML3.8/2, MS3.8/5, Ms1 3.8/5, ms1mx3.6/10, Error ellipse: s-maj=48.1km s-min=29.2km az=10.0*
NEIC ***11*** *08:36:40.7±1.1, 50.23S×161.40E, h10km, mb4.6/1, Error ellipse: s-maj=24.6km s-min=7.0km az=165.0*
ISC 11 08:36:43.2±1.1, 49.5S±0.2×161.3E±0.1, h10km, n44, σ1§28/45, mb4.2/5, MS4.1/4, North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**5.79**	**53**	P	**Pn**	**08 38 12.3**	**+1.1**
WHZ	**Wether Hill Ro**	**5.79**	**53**	P	**Pn**	**08 38 11.8**	**+0.6**
WHZ				S	**Sn**	**08 39 16.3**	**-2.1**
MLZ	**Mavora Lakes**	**6.27**	**51**	*e*P	**Pn**	**08 38 19.5**	**+1.4**
MLZ				S	**Sn**	**08 39 29.9**	**-0.8**
MLZ	**Mavora Lakes**	**6.27**	**51**	P	**Pn**	**08 38 19.0**	**+0.9**
MLZ				S	**Sn**	**08 39 29.8**	**-0.9**
MSZ	**Milford Sound**	**6.65**	**45**	P	**Pn**	**08 38 25.6**	**+2.2**
MSZ				S	**Sn**	**08 39 40.7**	**+0.6**
TUZ	**Tuapeka**	**6.67**	**61**	P	**Pn**	**08 38 23.5**	**-0.2**
TUZ	**Tuapeka**	**6.67**	**61**	P	**Pn**	**08 38 23.1**	**-0.6**
TUZ				S	**Sn**	**08 39 36.1**	**-4.4**
EAZ	**Earnscleugh**	**6.94**	**55**	P	**Pn**	**08 38 27.3**	**-0.2**
EAZ	**Earnscleugh**	**6.94**	**55**	*e*P	**Pn**	**08 38 26.5**	**-1.0**
WKZ	**Wanaka**	**7.07**	**51**	*e*P	**Pn**	**08 38 31.2**	**+1.9**
WKZ	**Wanaka**	**7.07**	**51**	P	**Pn**	**08 38 31.1**	**+1.8**
JCZ	**Jackson Bay**	**7.49**	**46**	*e*P	**Pn**	**08 38 37.6**	**+2.4**
JCZ	**Jackson Bay**	**7.49**	**46**	P	**Pn**	**08 38 37.1**	**+1.9**
JCZ				S	**Sn**	**08 40 01.3**	**+0.2**
ODZ	**Otahua Downs**	**7.79**	**58**	*e*P	**Pn**	**08 38 37.4**	**-1.9**
ODZ	**Otahua Downs**	**7.79**	**58**	P	**Pn**	**08 38 37.0**	**-2.4**
ODZ				S	**Sn**	**08 40 03.5**	**-5.0**
LBZ	**Lake Benmore**	**7.97**	**53**	*e*P	**Pn**	**08 38 40.7**	**-1.2**
LBZ	**Lake Benmore**	**7.97**	**53**	*e*P	**Pn**	**08 38 39.3**	**-2.6**
FOZ	**Fox Glacier**	**8.32**	**47**	*e*P	**P**	**08 38 48.1**	**+1.4**
FOZ				S	**Sn**	**08 40 21.2**	**-0.5**
RPZ	**Rata Peaks**	**8.89**	**53**	Pn	**P**	**08 38 51.5**	**-3.2**
	1.1nm,0.3s,baz=270,slow=20,SNR=3.8						
RPZ				Sn	**Sn**	**08 40 29.3**	**-6.6**
	1.8nm,0.3s,baz=47,slow=16,SNR=4.3						
RPZ				LR	LR	08 42 11.7	
	comp=Z,350nm,20.5s,baz=233,slow=36						
WVZ	**Waitaha Valley**	**9.19**	**49**	*e*P	**P**	**08 39 00.7**	**+1.9**
WVZ	**Waitaha Valley**	**9.19**	**49**	*e*P	**P**	**08 38 59.2**	**+0.4**
DSZ	**Denniston Nort**	**10.71**	**47**	P	**P**	**08 39 19.4**	**-0.3**
DSZ	**Denniston Nort**	**10.71**	**47**	*e*P	**P**	**08 39 18.5**	**-1.2**
DSZ				S	**S**	**08 41 15.3**	**-5.4**
THZ	**Tophouse**	**11.24**	**51**	*e*P	**P**	**08 39 26.9**	**0.0**
THZ	**Tophouse**	**11.24**	**51**	*e*P	**P**	**08 39 26.6**	**-0.3**
TAU	**Tasmania Unive**	**11.72**	**299**	*e*P	**P**	**08 39 32.1**	**-1.4**
QRZ	**Quartz Range**	**11.77**	**46**	P	**P**	**08 39 34.1**	**0.0**
QRZ	**Quartz Range**	**11.77**	**46**	*e*P	**P**	**08 39 33.9**	**-0.2**
URZ	**Urewera**	**16.00**	**51**	Pn	**P**	**08 40 30.7**	**+0.9**
	0.2nm,0.3s,baz=216,slow=7.6,SNR=3.0						
URZ				Sn	**S**	**08 43 36.3**	**+9.0**
	0.7nm,0.3s,baz=192,slow=23,SNR=7.7						
URZ				LR	LR	08 46 58.3	
	comp=Z,303nm,19.5s,baz=163,slow=38						
STKA	**Stephens Creek**	**23.00**	**313**	P	**P**	**08 41 52.4**	**+3.3**
	2.8nm,1.0s,mb3.6,baz=143,slow=13,SNR=3.2						
VNDA	**Vanda**	**28.08**	**180**	LR	LR	08 50 50.9	
	comp=Z,216nm,20.4s,MS3.7,baz=4.2,slow=31						
ASAR	**Alice Springs**	**33.58**	**310**	P	**P**	**08 43 25.6**	**+0.1**
	5.2nm,1.0s,mb4.4,baz=145,slow=8.5,SNR=21						
ASAR				PcP	PcP	08 46 02.2	-3.9
	1.7nm,1.3s,baz=132,slow=5.9,SNR=4.2						
WRA	**Warramunga Arr**	**36.54**	**314**	P	**P**	**08 43 50.4**	**-0.4**
	3.2nm,0.9s,mb4.2,baz=147,slow=7.9,SNR=12						
WRA				PcP	PcP	08 46 11.2	-3.5
	1.1nm,0.8s,baz=149,slow=2.5,SNR=4.7						
WRAB	**Tennant Creek**	**36.54**	**314**	P	**P**	**08 43 50.5**	**-0.3**
	12nm,1.0s,mb4.7						
PMG	**Port Moresby**	**41.72**	**339**	LR	LR	08 59 57.2	
	comp=Z,90nm,19.7s,MS3.6,baz=244,slow=33						
MAW	**Mawson**	**48.38**	**210**	LR	LR	09 03 57.0	
	comp=Z,134nm,18.6s,MS4.0,baz=237,slow=34						
JHJ	**Hachijo jima 2**	**84.49**	**342**	LR	LR	09 20 44.9	
	comp=Z,1um,21.8s,MS5.2,baz=106,slow=31						
CMAR	**Chiang Mai Arr**	**87.24**	**303**	P	**P**	**08 49 30.5**	**-0.6**
	0.9nm,0.4s,mb4.3,baz=166,slow=3.8,SNR=5.1						
ILAR	**Eielson Array**	**120.86**	**23**	PKP	PKPdf	08 55 32.4	-5.4
	0.5nm,0.8s,baz=297,slow=3.3,SNR=4.9						
YKA	**Yellowknife Ar**	**129.86**	**37**	PKP	PKPdf	08 55 50.2	-4.8
	0.1nm,0.5s,baz=223,slow=1.8,SNR=4.2						
YKA	**Yellowknife Ar**	**129.86**	**37**	PKP	PKPdf	08 55 50.2	-4.8
AKASG	**Malin Array Be**	**149.67**	**291**	PKPbc	PKPdf	08 56 29.4	-1.0
	0.4nm,0.4s,baz=86,slow=2.8,SNR=5.1						
ARCES	**ARCESS Array B**	**150.98**	**330**	PKPbc	PKPdf	08 56 34.0	+2.1
	6.2nm,0.7s,baz=90,slow=2.4,SNR=14						
FINES	**FINESS Array B**	**152.57**	**313**	PKPbc	PKPdf	08 56 36.8	+2.4
	2.9nm,0.7s,baz=84,slow=3.4,SNR=13						

CSEM ***11*** *08:42:04.1±0.1, 37.06N×27.81E, h25km, MD3.1, Error ellipse: s-maj=2.7km s-min=2.2km az=100.0*
ISK ***11*** *08:42:04.3, 37.06N×27.80E, h26km, MD3.1*
ATH ***11*** *08:42:06.0, 36.77N×26.45E, h39km±22km, MD3.1/4*
NEIC ***11*** *08:42:06.0, 36.77N×26.45E, h39km, MD3.1(ATH), After ATH.*
ISC 11 08:42:04.2±0.7, 37.01N±0.04×27.79E±0.07, h25km±7km, n11, σ0§59/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.28**	**357**	*i* PG	**Pb**	**08 42 10.6**	**-0.4**
MLSB				*i* SG	**Sb**	**08 42 15.9**	**+0.4**
NISR	**Nisiros**	**0.67**	**233**	*e*PN	**Pn**	**08 42 17.2**	**-0.9**
NISR				*e*SN	**Sn**	**08 42 27.8**	**+0.1**
ARG	**Arkhangelos**	**0.84**	**161**	*e*PB	**Sb**	**08 42 30.8**	**-0.1**
SMG	**Samos**	**1.03**	**313**	*e*PN	**Pn**	**08 42 24.9**	**+1.6**
FETY	**Fethiye**	**1.10**	**110**	*e*PN	**Pn**	**08 42 24.9**	**+0.6**
DENT	**Denizli**	**1.23**	**53**	PN	**Pn**	**08 42 25.8**	**-0.4**
IZM	**Izmir**	**1.45**	**343**	PN	**Pn**	**08 42 28.9**	**-0.3**
BLCB	**Balcova**	**1.50**	**337**	*e*PN	**Pn**	**08 42 29.4**	**-0.5**
KARP	**Karpathos**	**1.55**	**199**	*e*PN	**Pn**	**08 42 30.9**	**+0.2**
ELL	**Elmali**	**1.72**	**98**	*e*PN	**Pn**	**08 42 33.2**	**+0.1**
AKS	**Akhisar**	**1.86**	**0**	*e*PN	**Pn**	**08 42 34.8**	**-0.4**

ATH ***11*** *08:44:49.1, 36.93N×27.87E, h25km, MD3.4/4*
CSEM ***11*** *08:44:49.0±0.3, 36.93N×27.84E, h15km, MD3.5, Error ellipse: s-maj=7.1km s-min=2.1km az=42.0*
ISK ***11*** *08:44:49.7, 36.96N×27.83E, h19km, MD3.5*
NEIC ***11*** *08:44:49.1, 36.93N×27.87E, h25km, MD3.4(ATH), After ATH.*
HLW ***11*** *08:44:52.4, 36.89N×27.80E, h33km, Mb3.5*
ISC 11 08:44:48.5±1.0, 36.89N±0.03×27.79E±0.05, h11km±8km, n29, σ0§66/31, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.41**	**359**	*i* PG	**Pg**	**08 44 57.4**	**+0.6**
MLSB				*i* SG	**Sg**	**08 45 02.4**	**0.0**
NISR	**Nisiros**	**0.60**	**243**	*e*PN	**Pn**	**08 45 02.5**	**-0.1**
ARG	**Arkhangelos**	**0.72**	**158**	*e*PN	**Pn**	**08 45 03.8**	**-0.6**
FETY	**Fethiye**	**1.07**	**103**	*i* PG	**Pg**	**08 45 09.2**	**-0.8**
SMG	**Samos**	**1.11**	**318**	*e*PN	**Pn**	**08 45 10.8**	**+0.8**
DENT	**Denizli**	**1.32**	**49**	*i* PN	**Pn**	**08 45 12.6**	**-0.3**
KARP	**Karpathos**	**1.43**	**201**	*e*PN	**Pn**	**08 45 16.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.38**	**251**	Pn	**P**	**09 21 53.6**	**+0.2**
	5.0nm,0.3s,baz=42,slow=6.2,SNR=12						
PMG				Sn	**Sn**	**09 23 28.6**	**+0.2**
	2.1nm,0.3s,baz=86,slow=19,SNR=2.9						
PMG				LR	LR	09 24 20.4	
	comp=Z,116nm,19.4s,baz=237,slow=32						
PMG	**Port Moresby**	**8.38**	**251**	*e*P	**P**	**09 21 53.7**	**+0.3**
CTA	**Charters Tower**	**15.85**	**212**	Pn	**P**	**09 23 34.0**	**+0.1**
	0.3nm,0.3s,baz=22,slow=19,SNR=4.0						
CTA				LR	LR	09 27 57.5	
	comp=Z,64nm,19.5s,baz=46,slow=31						
CTAO	**Charters Tower**	**15.85**	**212**	*e*P	**P**	**09 23 34.4**	**+0.5**
	11nm,0.8s						
WRAB	**Tennant Creek**	**24.10**	**235**	*e*P	**P**	**09 25 05.7**	**0.0**
	5.1nm,0.6s,mb4.1						
WB2	**Warramunga Arr**	**24.11**	**235**	⇑*i*P	**P**	**09 25 06.4**	**+0.8**
WRA	**Warramunga Arr**	**24.12**	**235**	P	**P**	**09 25 06.0**	**+0.3**
	4.6nm,0.7s,mb4.0,baz=59,slow=9.3,SNR=29						
WRA				PcP	PcP	09 28 47.0	-1.2
	1.0nm,0.6s,baz=54,slow=2.4,SNR=8.9						
ASAR	**Alice Springs**	**26.48**	**228**	P	**P**	**09 25 27.1**	**-0.9**
	1.7nm,0.6s,mb3.8,baz=62,slow=8.9,SNR=22						
ASAR				PcP	PcP	09 28 52.1	-1.2
	0.7nm,0.8s,baz=40,slow=3.8,SNR=4.7						
ASPA	**Alice Springs**	**26.48**	**228**	*e*P	**P**	**09 25 27.2**	**-0.9**
STKA	**Stephens Creek**	**28.04**	**205**	P	**P**	**09 25 40.8**	**-1.3**
	1.7nm,0.7s,mb3.8,baz=42,slow=14,SNR=3.6						
STKA				LR	LR	09 36 59.0	
	comp=Z,174nm,18.1s,MS3.7,baz=26,slow=37						
CMAR	**Chiang Mai Arr**	**60.85**	**295**	P	**P**	**09 30 04.0**	**+0.1**
	10nm,0.9s,mb5.0,baz=119,slow=4.9,SNR=27						
SONM	**Songino Array**	**69.23**	**327**	P	**P**	**09 30 57.2**	**-0.5**
	2.2nm,1.0s,mb4.0,baz=129,slow=4.7,SNR=12						
JIRN	**Jiri**	**74.82**	**301**	*e*P	**P**	**09 31 31.6**	**+0.3**
	8.8nm,0.6s,mb4.8						
GUN	**Gumba**	**75.16**	**301**	*e*P	**P**	**09 31 33.4**	**+0.2**
	25nm,0.7s,mb5.2						
KKN	**Kakani**	**75.64**	**301**	*e*P	**P**	**09 31 35.6**	**-0.4**
DMN	**Daman**	**75.73**	**301**	*e*P	**P**	**09 31 36.9**	**+0.4**
GKN	**Gorkha**	**76.24**	**301**	*e*P	**P**	**09 31 39.3**	**-0.1**
IMA	**Indian Mountai**	**81.51**	**19**	*e*P	**P**	**09 32 07.9**	**+0.8**
IMA				*e*		09 32 17.1	
MCK	**McKinley**	**81.75**	**22**	*e*P	**P**	**09 32 08.3**	**-0.2**
	4.9nm,0.8s,mb4.5						
COLA	**College**	**82.78**	**21**	*e*P	**P**	**09 32 12.7**	**-1.1**
	3.3nm,0.8s,mb4.4						
ILAR	**Eielson Array**	**83.07**	**21**	P	**P**	**09 32 14.2**	**-1.1**
	1.3nm,0.8s,mb4.0,baz=253,slow=5.0,SNR=15						
QSPA	**South Pole Qui**	**83.23**	**180**	P	**P**	**09 32 17.0**	**+1.1**
	5.6nm,0.4s,mb5.0						
NVAR	**Mina Array Bea**	**91.41**	**52**	P	**P**	**09 32 57.6**	**+1.3**
	1.7nm,1.0s,mb4.3,baz=263,slow=8.2,SNR=4.9						
YKA	**Yellowknife Ar**	**96.03**	**28**	P	**P**	**09 33 17.4**	**+0.5**
	1.1nm,0.7s,mb4.4,baz=267,slow=4.6,SNR=24						
PDAR	**Pinedale Array**	**98.39**	**48**	LR	LR	10 09 31.5	
	comp=Z,34nm,19.8s,MS3.8,baz=258,slow=30						
BDFB	**Brasília**	**148.01**	**134**	PKPbc	PKPdf	09 39 36.2	0.0
	5.7nm,0.7s,baz=268,slow=1.0,SNR=8.5						

*NEIC **11** 09:29:09.4,38.59N×8.33W,MN3.5(MDD),After MDD.*
NEIC Felt at Montemor-o-Novo.
*LDG **11** 09:29:11.0±0.1,38.53N×8.31W,h10km±1km,Md4.1/1,*
Ml3.8/8,Error ellipse: s-maj=2.2km s-min=1.8km az=60.0
*INMG **11** 09:29:11.2±1.2,38.55N×8.27W,h15km±3km,ML3.8,Error*
ellipse: s-maj=2.0km s-min=1.6km az=60.0
*IGIL **11** 09:29:11.4,38.50N×8.30W,h2km,ML3.8*
*CSEM **11** 09:29:11.9±0.1,38.56N×8.31W,h20km,ML4.0/14,Error*
ellipse: s-maj=2.3km s-min=1.6km az=46.0
MDD 11 09:29:11.1±0.3,38.54N×8.27W,h11km,mbLg3.7/31,
4C-3D,Error ellipse: s-maj=3.2km s-min=2.1km az=38.0,
PRXIMO DATOS INTENSIDAD: IMGP-ESCALA MM,
Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOE	**Montemor**	**0.07**	**256**	*i*Pg	Pg	09 29 13.9	+0.4
MOE	**Montemor**	**0.07**	**256**	Pg	Pg	09 29 13.8	+0.4
EVO	**Evora**	**0.20**	**92**	*e*Pg	Pg	09 29 14.8	-0.7
EVO				*e*Sg	Sg	09 29 17.5	-0.9
	21μm,0.2s						
ALMR	**Almeirim**	**0.66**	**338**	*e*P	Pb	09 29 23.6	-0.5
ALMR				*e*S	Sb	09 29 32.8	-0.3
ALMR				*e*S	Sb	09 29 32.8	-0.3
ALMR				AML	AML	09 29 34.1	
	comp=N,3μm,0.2s						
ALMR	**Almeirim**	**0.66**	**338**	Pg	Pg	09 29 23.6	-0.8
ALMR				Lg		09 29 32.8	
	comp=N,2μm,0.2s						
INMG	**Instituto de M**	**0.71**	**289**	*e*P	Pb	09 29 25.2	+0.2
INMG				*e*S	Sb	09 29 34.3	-0.3
INMG	**Instituto de M**	**0.71**	**289**	Pg	Pg	09 29 24.5	-1.0
INMG				Lg		09 29 34.3	
INMG	**Instituto de M**	**0.71**	**289**	Pg	Pg	09 29 24.5	-0.9
INMG	**Instituto de M**	**0.71**	**289**	*e*P	Pb	09 29 25.2	+0.2
LIS	**Lisbon**	**0.71**	**285**	*e*P	Pb	09 29 23.9	-1.1
LIS				*e*S	Sb	09 29 33.2	-1.4
LIS				*e*S	Sb	09 29 33.3	-1.3
LIS				AML	AML	09 29 36.4	
	comp=N,4μm,0.5s						
LIS	**Lisbon**	**0.71**	**285**	Pg	Pg	09 29 23.9	-1.5
LIS				Lg		09 29 33.2	
	comp=N,4μm,0.5s						
PLOU	**Loures**	**0.78**	**297**	*e*P	Pb	09 29 25.3	-0.8
PLOU				*e*S	Sb	09 29 35.6	-0.8
	comp=N,2μm,0.5s						
PLOU	**Loures**	**0.78**	**297**	Pg	Pg	09 29 25.4	-1.3
PLOU				Lg		09 29 35.6	
	comp=N,829nm,0.5s						
PLOU	**Loures**	**0.78**	**297**	Pg	Pg	09 29 25.4	-1.3
EBAD	**Badajoz**	**1.00**	**77**	Pg	Pg	09 29 29.3	-1.9
EBAD				Lg		09 29 42.3	
EBAD	**Badajoz**	**1.00**	**77**	⇑Pn	Pn	09 29 29.3	-1.7
	comp=N,2.6nm,0.1s,SNR=18						
EBAD				⇑Pg	Pg	09 29 29.8	-1.4
	comp=N,708nm,0.1s,SNR=18						
EBAD				Lg		09 29 43.5	
	comp=N,5μm,0.2s,SNR=28						
EBAD	**Badajoz**	**1.00**	**77**	Pg	Pg	09 29 29.8	-1.4
	comp=N,708nm,0.1s,SNR=18						
PTEO	**Sao Teotonio**	**1.06**	**200**	*e*P	Pb	09 29 29.9	-1.0
PTEO				*e*S	Sb	09 29 42.5	-2.0
	comp=N,2μm,0.4s						
PTEO	**Sao Teotonio**	**1.06**	**200**	P	Pb	09 29 30.3	-0.6
PTEO				S	Sb	09 29 42.5	-2.1
PTEO	**Sao Teotonio**	**1.06**	**200**	P	Pb	09 29 30.3	-0.6
PTOM	**Tomar**	**1.08**	**354**	*e*P	Pb	09 29 31.0	-0.3
PTOM				*e*S	Sb	09 29 45.9	+0.6
	comp=N,1μm,0.3s						
PTOM	**Tomar**	**1.08**	**354**	P	Pb	09 29 31.0	-0.3
PTOM				S	Sb	09 29 46.0	+0.7
PTOM	**Tomar**	**1.08**	**354**	P	Pb	09 29 31.0	-0.3
PTOM				S	Sb	09 29 46.0	+0.7
EGRO	**El Granado**	**1.18**	**148**	Pg	Pg	09 29 32.5	-2.2
EGRO				Lg		09 29 47.4	
EGRO	**El Granado**	**1.18**	**148**	Pn	Pn	09 29 31.0	-2.5
	comp=N,2.0nm,0.2s,SNR=18						
EGRO				Pg	Pg	09 29 32.4	-2.3
	comp=N,276nm,0.2s,SNR=7.9						
EGRO				Lg		09 29 47.9	
	comp=N,792nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.18**	**148**	Pg	Pg	09 29 32.5	-2.2
PALC	**Alcoutim**	**1.24**	**150**	*e*P	Pb	09 29 32.3	-1.8
PALC				*e*S	Sb	09 29 48.9	-1.0
	comp=N,2μm,0.1s						
PALC	**Alcoutim**	**1.24**	**150**	P	Pb	09 29 33.2	-0.8
PALC				S	Sb	09 29 48.7	-1.2
PALC	**Alcoutim**	**1.24**	**150**	P	Pb	09 29 33.2	-0.9
PALC				*e*S	Sb	09 29 48.9	-1.0
	comp=N,2μm,0.1s						
PCBR	**Castelo Branco**	**1.44**	**25**	*e*Pn	Pn	09 29 35.5	-1.7
PCBR				*e*Sg	Sg	09 29 56.1	-2.9
	comp=N,1μm,0.3s						
PCBR	**Castelo Branco**	**1.44**	**25**	P	Pn	09 29 35.7	-1.4
PCBR				S	Sb	09 29 54.9	-0.7
PCBR	**Castelo Branco**	**1.44**	**25**	Pn	Pn	09 29 35.5	-1.7
PCBR				Lg		09 29 56.1	
	comp=N,525nm,0.3s						
PCBR	**Castelo Branco**	**1.44**	**25**	P	Pn	09 29 35.7	-1.5
PCBR				S	Sb	09 29 54.9	-0.6
PCBR				*e*Sg	Sg	09 29 56.1	-2.9
	comp=N,1μm,0.3s						
EMIN	**Mina Concepcio**	**1.47**	**121**	Pg	Pg	09 29 35.9	-4.6
EMIN				Lg		09 29 55.8	
EMIN	**Mina Concepcio**	**1.47**	**121**	⇓Pn	Pn	09 29 35.9	-1.8
	comp=N,2.3nm,0.1s,SNR=18						
EMIN				Pg	Pg	09 29 37.3	-3.3
	comp=N,89nm,0.1s,SNR=202						
EMIN				Lg		09 29 56.9	
	comp=N,869nm,0.2s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.47**	**121**	Pn	Pn	09 29 35.9	-1.8
	comp=N,3.1nm,0.1s,SNR=18						
EMIN	**Mina Concepcio**	**1.47**	**121**	Pg	Pg	09 29 37.3	-3.2
	comp=N,77nm,0.3s,SNR=202						
MTE	**Manteigas**	**1.94**	**16**	*e*Pn	Pn	09 29 42.4	-2.0
MTE				*e*Sn	Sn	09 30 06.9	-2.0
MTE				*e*Sg	Sg	09 30 10.9	-4.8
	comp=N,628nm,0.4s						
MTE	**Manteigas**	**1.94**	**16**	Pn	Pn	09 29 42.0	-2.4
MTE				Sn	Sn	09 30 10.1	+1.2
MTE	**Manteigas**	**1.94**	**16**	⇓Pn	Pn	09 29 42.4	-2.0
MTE				Sn	Sn	09 30 06.9	-2.0
MTE				Lg		09 30 10.9	
	comp=N,314nm,0.4s						
MTE	**Manteigas**	**1.94**	**16**	Pn	Pn	09 29 42.0	-2.4
MTE				*e*Sn	Sn	09 30 06.9	-2.0
MTE				*e*Sg	Sg	09 30 10.9	-4.8
	comp=N,628nm,0.4s						
PVIS	**Viseu**	**2.19**	**7**	*e*Pn	Pn	09 29 45.9	-2.1
PVIS				*e*Sg	Sg	09 30 18.8	-5.3
	comp=N,432nm,0.4s						
PVIS	**Viseu**	**2.19**	**7**	*e*Pn	Pn	09 29 45.9	-2.1
PVIS				*e*Sg	Sg	09 30 18.8	-5.3
	comp=N,432nm,0.4s						
GIBL	**Gibalbin**	**2.50**	**132**	Lg		09 30 29.8	
SCRT	**Cerro San Cris**	**2.52**	**138**	Lg		09 30 31.3	
ESPR	**Espera**	**2.54**	**130**	Pn	Pn	09 29 51.2	-1.7
ESPR				Lg		09 30 31.2	
ESPR	**Espera**	**2.54**	**130**	Pn	Pn	09 29 51.2	-1.7
	comp=N,9.9nm,0.1s,SNR=13						
ESPR				Pg	Pg	09 29 57.8	-3.9
	comp=N,60nm,0.2s,SNR=26						
ESPR				Sn	Sn	09 30 19.9	-4.2
	comp=N,164nm,0.3s,SNR=6.7						
ESPR				Lg		09 30 30.3	
	comp=N,811nm,0.5s,SNR=5.0						
ESPR	**Espera**	**2.54**	**130**	Pn	Pn	09 29 51.2	-1.7
	comp=N,2.7nm,0.1s,SNR=13						
ESPR	**Espera**	**2.54**	**130**	Pg	Pg	09 29 58.0	-3.7
	comp=N,62nm,0.3s,SNR=26						
PVRL	**Vila Real**	**2.77**	**9**	*e*Pn	Pn	09 29 53.7	-2.5
PVRL				*e*Sn	Sn	09 30 25.8	-4.1
PVRL				*e*Sg	Sg	09 30 37.1	-6.1
	comp=N,229nm,0.2s						
PVRL	**Vila Real**	**2.77**	**9**	Pn	Pn	09 29 53.5	-2.6
PVRL	**Vila Real**	**2.77**	**9**	Pn	Pn	09 29 53.7	-2.5
PVRL				Sn	Sn	09 30 25.8	-4.1
PVRL				Lg		09 30 37.1	
	comp=N,115nm,0.2s						
PVRL	**Vila Real**	**2.77**	**9**	Pn	Pn	09 29 53.5	-2.7
CNIL	**Conil**	**2.79**	**140**	Lg		09 30 37.7	
LIJA	**Lijar**	**2.79**	**125**	Pn	Pn	09 29 54.0	-2.6
LIJA				Lg		09 30 39.4	
EADA	**Adamuz**	**2.92**	**96**	Pn	Pn	09 29 56.1	-2.3
EADA				Lg		09 30 41.9	
EADA	**Adamuz**	**2.92**	**96**	Pn	Pn	09 29 55.5	-2.9
	comp=N,1.6nm,0.1s,SNR=18						
EADA				Pg	Pg	09 30 04.8	-4.6
	comp=N,28nm,0.2s,SNR=48						
EADA				Sn	Sn	09 30 30.2	-3.6
	comp=N,65nm,0.3s,SNR=7.9						
EADA				Lg		09 30 41.2	
	comp=N,320nm,0.4s,SNR=5.0						
EADA	**Adamuz**	**2.92**	**96**	Pn	Pn	09 29 56.1	-2.3
EADA	**Adamuz**	**2.92**	**96**	Pg	Pg	09 30 05.1	-4.3
	comp=N,42nm,0.3s,SNR=48						
EADA				Sn	Sn	09 30 31.4	-2.5
	SNR=7.9						
ELUQ	**Luque**	**3.30**	**106**	Pn	Pn	09 30 01.9	-1.9
ELUQ				Lg		09 30 55.4	
ELUQ	**Luque**	**3.30**	**106**	Pn	Pn	09 30 01.9	-1.9
	comp=N,4.6nm,0.2s,SNR=6.3						
ELUQ				Lg		09 30 55.1	
	comp=N,79nm,0.3s,SNR=9.8						
ELOB	**Lobios**	**3.33**	**3**	Pn	Pn	09 30 01.5	-2.7
ELOB				Lg		09 30 54.7	
ELOB	**Lobios**	**3.33**	**3**	Pn	Pn	09 30 01.5	-2.7
	comp=N,14nm,0.2s,SNR=31						
ELOB				Pg	Pg	09 30 07.8	-10
	comp=N,8.5nm,0.1s,SNR=16						
ELOB				Sn	Sn	09 30 38.3	-5.8
	comp=N,19nm,0.3s,SNR=7.9						
ELOB				Lg		09 30 54.9	
	comp=N,262nm,0.4s,SNR=5.0						
ELOB	**Lobios**	**3.33**	**3**	Pn	Pn	09 30 01.5	-2.7
	comp=N,4.2nm,0.1s,SNR=31						
ELOB				Sn	Sn	09 30 38.3	-5.8
	SNR=7.9						
ELOB	**Lobios**	**3.33**	**3**	Pg	Pg	09 30 08.0	-10
	comp=N,29nm,0.3s,SNR=16						
EMIJ	**Mijas**	**3.40**	**124**	Pn	Pn	09 30 04.1	-1.2
EMIJ				Lg		09 30 57.1	
EMIJ	**Mijas**	**3.40**	**124**	Pn	Pn	09 30 04.1	-1.2
	comp=N,3.7nm,0.1s,SNR=14						
EMIJ				Pg	Pg	09 30 13.3	-5.7
	comp=N,15nm,0.2s,SNR=4.0						
EMIJ				Sn	Sn	09 30 42.3	-3.8
	comp=N,37nm,0.5s,SNR=7.2						
EMIJ				Lg		09 30 58.0	
	comp=N,130nm,0.4s,SNR=5.0						
EMIJ	**Mijas**	**3.40**	**124**	Pg	Pg	09 30 14.1	-4.9
	comp=N,24nm,0.3s,SNR=6.8						
EMIJ				Sn	Sn	09 30 42.3	-3.8
	comp=N,72nm,0.4s,SNR=7.2						
PBRG	**Braganca**	**3.46**	**19**	*e*Pn	Pn	09 30 03.4	-2.7
PBRG				*e*Sn	Sn	09 30 42.5	-5.1
PBRG				*e*Sg	Sg	09 30 57.8	-8.6
	comp=N,123nm,0.6s						
PBRG	**Braganca**	**3.46**	**19**	Pn	Pn	09 30 03.3	-2.8
PBRG	**Braganca**	**3.46**	**19**	Pn	Pn	09 30 03.4	-2.7
PBRG				Sn	Sn	09 30 42.5	-5.1
PBRG				Lg		09 30 57.8	
	comp=N,61nm,0.6s						
PBRG	**Braganca**	**3.46**	**19**	Pn	Pn	09 30 03.3	-2.8
ESDC	**Sonseca Array**	**3.53**	**70**	Pn	Pn	09 30 04.8	-2.3
ESDC				Lg		09 31 02.9	
ESDC	**Sonseca Array**	**3.53**	**70**	Pn	Pn	09 30 04.8	-2.3
	comp=N,13nm,0.3s,baz=255,slow=13,SNR=18						
ESDC				Pg	Pg	09 30 14.5	-7.1
	comp=N,10.0nm,0.3s,baz=260,slow=17,SNR=21						
ESDC				Sn	Sn	09 30 44.6	-4.7
	comp=N,15nm,0.3s,baz=256,slow=23,SNR=13						
ESDC				Lg		09 30 59.9	
	comp=N,24nm,0.2s,baz=266,slow=28,SNR=16						
ESDC	**Sonseca Array**	**3.53**	**70**	Pn	Pn	09 30 04.8	-2.3
	comp=N,13nm,0.3s,SNR=18						
ESDC	**Sonseca Array**	**3.53**	**70**	Pg	Pg	09 30 14.5	-7.1
	comp=N,10.0nm,0.3s,SNR=21						
ESDC				Sn	Sn	09 30 44.6	-4.7
	comp=N,15nm,0.3s,SNR=13						
ELOJ	**Sierra Loja**	**3.54**	**112**	Pn	Pn	09 30 05.4	-1.8
ELOJ				Sn	Sn	09 30 45.3	-4.1
ELOJ				Lg		09 31 05.4	
ELOJ	**Sierra Loja**	**3.54**	**112**	Pn	Pn	09 30 05.4	-1.8
	comp=N,3.9nm,0.2s,SNR=5.0						
ELOJ				Sn	Sn	09 30 45.3	-4.1
	comp=N,11nm,0.2s,SNR=5.3						
ELOJ				Lg		09 31 04.7	
	comp=N,51nm,0.3s,SNR=4.9						
ECAL	**Calabor**	**3.59**	**19**	⇑Pn	Pn	09 30 05.3	-2.6
	comp=N,27nm,0.2s,SNR=18						
ECAL				Sn	Sn	09 30 45.8	-5.0
	comp=N,84nm,0.4s,SNR=5.8						
ECAL				Lg		09 31 02.8	
	comp=N,650nm,0.5s,SNR=5.0						
ECAL	**Calabor**	**3.59**	**19**	Pn	Pn	09 30 05.3	-2.6
	comp=N,25nm,0.2s,SNR=72						
ECAL				Sn	Sn	09 30 46.5	-4.3
	comp=N,50nm,0.3s,SNR=5.8						
GUD	**Guadarrama**	**3.81**	**55**	Pn	Pn	09 30 09.0	-2.0
GUD	**Guadarrama**	**3.81**	**55**	Pn	Pn	09 30 08.8	-2.2
	comp=N,7.1nm,0.3s,SNR=16						
GUD				Pg	Pg	09 30 20.4	-6.7
	comp=N,21nm,0.3s,SNR=5.7						
GUD				Sn	Sn	09 30 51.6	-4.6
	comp=N,18nm,0.2s,SNR=5.1						
GUD				Lg		09 31 10.1	
	comp=N,82nm,0.3s,SNR=5.0						
GUD	**Guadarrama**	**3.81**	**55**	Sn	Sn	09 30 53.7	-2.6
	comp=N,18nm,0.3s,SNR=5.1						
GUD	**Guadarrama**	**3.81**	**55**	Pn	Pn	09 30 09.0	-2.0
	comp=N,0.5nm,0.1s,SNR=16						
ERON	**Agron**	**3.84**	**112**	Pn	Pn	09 30 09.6	-2.0
ERON				Sn	Sn	09 30 55.4	-1.8
ERON				Lg		09 31 14.4	
ERON	**Agron**	**3.84**	**112**	Pn	Pn	09 30 09.6	-1.9
	comp=N,2.3nm,0.2s,SNR=5.7						
ERON				Sn	Sn	09 30 52.3	-4.9
	comp=N,11nm,0.3s,SNR=9.1						
ERON				Lg		09 31 13.0	
	comp=N,31nm,0.4s,SNR=5.6						
ERON	**Agron**	**3.84**	**112**	Pn	Pn	09 30 09.6	-1.9
	comp=N,0.9nm,0.2s,SNR=5.7						
ERON				Sn	Sn	09 30 55.4	-1.8
	comp=N,22nm,0.5s,SNR=9.1						
EQES	**Quesada**	**4.16**	**99**	Pn	Pn	09 30 13.7	-2.3
EQES				Sn	Sn	09 31 01.4	-3.8
EQES				Lg		09 31 21.8	
EQES	**Quesada**	**4.16**	**99**	Pn	Pn	09 30 13.7	-2.3
	comp=N,0.6nm,0.1s,SNR=6.8						
EQES				Pg	Pg	09 30 25.7	-8.4
	comp=N,4.0nm,0.2s,SNR=7.9						
EQES				Sn	Sn	09 30 59.3	-5.9
	comp=N,21nm,0.3s,SNR=6.6						
EQES				Lg		09 31 21.8	
	comp=N,109nm,0.4s,SNR=8.2						
EQES	**Quesada**	**4.16**	**99**	Pn	Pn	09 30 13.7	-2.3
	comp=N,3.5nm,0.4s,SNR=6.8						
EQES				Sn	Sn	09 31 01.4	-3.8
	comp=N,14nm,0.3s,SNR=6.6						
EMAZ	**Mazaricos**	**4.44**	**353**	⇑Pn	Pn	09 30 16.5	-3.4
	comp=N,14nm,0.2s,SNR=18						
EMAZ				Sn	Sn	09 31 04.1	-8.1
	comp=N,12nm,0.3s,SNR=5.0						
EMAZ				Lg		09 31 30.1	
	comp=N,44nm,0.4s,SNR=4.5						
EMAZ	**Mazaricos**	**4.44**	**353**	Pn	Pn	09 30 16.5	-3.4
	comp=N,14nm,0.2s,SNR=23						
EMAZ				Sn	Sn	09 31 04.6	-7.6
	comp=N,40nm,0.4s,SNR=5.0						
EVIA	**Vianos**	**4.52**	**87**	Pn	Pn	09 30 19.6	-1.5
EVIA				Sn	Sn	09 31 10.2	-4.1
EVIA				Lg		09 31 34.7	
EVIA	**Vianos**	**4.52**	**87**	Pn	Pn	09 30 19.0	-2.1
	comp=N,2.1nm,0.2s,SNR=4.7						
EVIA				Sn	Sn	09 31 08.4	-5.8
	comp=N,28nm,0.4s,SNR=6.5						
EVIA				Lg		09 31 34.5	
	comp=N,234nm,0.4s,SNR=6.9						
EVIA	**Vianos**	**4.52**	**87**	Pn	Pn	09 30 19.6	-1.5
	comp=N,0.9nm,0.1s,SNR=4.7						
EVIA				Sn	Sn	09 31 10.1	-4.1
EBER	**Berja**	**4.57**	**109**	Pn	Pn	09 30 20.3	-1.4
	comp=N,3.5nm,0.2s,SNR=14						
EBER				Sn	Sn	09 31 07.9	-7.6
	comp=N,46nm,0.4s,SNR=4.5						
EBER				Lg		09 31 36.9	
	comp=N,153nm,0.5s,SNR=5.0						
EBER	**Berja**	**4.57**	**109**	Pn	Pn	09 30 20.3	-1.5
	comp=N,1.6nm,0.2s,SNR=14						
EBER				Sn	Sn	09 31 12.5	-3.0
	comp=N,27nm,0.4s,SNR=4.5						
EPON	**Pontenova**	**4.86**	**10**	P	Pn	09 30 22.4	-3.4
EPON	**Pontenova**	**4.86**	**10**	⇓Pn	Pn	09 30 22.4	-3.5
	comp=N,4.5nm,0.1s,SNR=18						
EPON				Lg		09 31 43.5	
	comp=N,49nm,0.4s,SNR=5.0						
EPON	**Pontenova**	**4.86**	**10**	Pn	Pn	09 30 22.4	-3.5
	comp=N,3.2nm,0.2s,SNR=22						
ENIJ	**Nijar**	**5.05**	**106**	Pn	Pn	09 30 27.5	-1.1
ENIJ				Sn	Sn	09 31 23.0	-4.6
ENIJ				Lg		09 31 50.1	
ENIJ	**Nijar**	**5.05**	**106**	Pn	Pn	09 30 27.3	-1.3
	comp=N,14nm,0.3s,SNR=7.9						
ENIJ				Sn	Sn	09 31 21.9	-5.8
	comp=N,17nm,0.4s,SNR=7.9						
ENIJ				Lg		09 31 50.1	
	comp=N,26nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**5.05**	**106**	Pn	Pn	09 30 27.5	-1.1
	SNR=7.9						
ENIJ				Sn	Sn	09 31 23.0	-4.7
	SNR=7.9						
AVE	**Averroes**	**5.28**	**172**	P	Pn	09 30 28.0	-3.8
AVE				S	Sn	09 31 35.5	+2.1
EARI	**Arriondas**	**5.29**	**25**	P	Pn	09 30 28.9	-3.1
EARI	**Arriondas**	**5.29**	**25**	Pn	Pn	09 30 29.3	-2.7
	comp=N,2.7nm,0.3s,SNR=13						
EARI				Sn	Sn	09 31 25.7	-8.0
	comp=N,6.2nm,0.4s,SNR=7.9						
EARI				Lg		09 31 57.6	
	comp=N,251nm,1.0s,SNR=5.0						
EARI	**Arriondas**	**5.29**	**25**	Pn	Pn	09 30 28.9	-3.1
	comp=N,12nm,1.0s,SNR=13						
EARI				Sn	Sn	09 31 25.4	-8.3
	SNR=7.9						
EMUR	**La Murta**	**5.58**	**95**	Sn	Sn	09

comp=N,13nm,0.4s,SNR=14
EBIE Sn Sn 09 32 22.4 -10
comp=N,4.4nm,0.3s,SNR=5.0
EPOB Poblet 7.71 66 Pn Pn 09 31 00.8 -5.2
EPOB Poblet 7.71 66 Pn Pn 09 31 00.8 -5.2
comp=N,0.6nm,0.2s,SNR=7.9
EPOB Sn Sn 09 32 24.0 -10
comp=N,0.9nm,0.2s,SNR=7.9
EPOB Lg 09 33 13.7
comp=N,5.8nm,0.4s,SNR=7.9
EPOB Poblet 7.71 66 Pn Pn 09 31 00.8 -5.2
EPF Esparros 7.92 53 *e*Pn Pn 09 31 04.8 -4.2
EPF *e*Sn Sn 09 32 28.9 -11
EPF *e*Sg Sg 09 33 19.4 -15
comp=N,31nm,0.7s
MTLF Montolieu 9.27 56 *e*Pn P 09 31 22.3 -5.4
MTLF *e*Sn Sn 09 33 01.2 -12
comp=N,3.7nm,0.4s
LFF La Frestale 9.28 44 *e*Pn P 09 31 22.5 -5.3
RJF Les Rejaudoux 9.94 44 *e*Pn P 09 31 31.2 -5.6
RJF *e*Sn Sn 09 33 16.6 -13
comp=N,1.9nm,0.3s
CAF Calviac 10.01 47 *e*Pn P 09 31 33.1 -4.8
CAF *e*Sn S 09 33 19.8 -11
comp=N,2.3nm,0.2s
MFF Saint Martin d 10.03 34 *e*Pn P 09 31 32.8 -5.4
QUIF Quistinic 10.08 20 *e*Pn P 09 31 32.9 -5.9
ROSF Rostrenen 10.44 19 *e*Pn P 09 31 38.2 -5.5
SGMF Saint Gilles 10.56 21 *e*Pn P 09 31 39.4 -5.9
LASF Ste Croix 10.66 55 *e*Pn P 09 31 41.2 -5.6
LASF *e*Sn S 09 33 34.6 -13
comp=N,3.1nm,0.5s
TCF Toulx Ste Croi 10.94 42 *e*Pn P 09 31 44.8 -5.8
GRR Gorron 11.21 26 *e*Pn P 09 31 49.0 -5.3
BGF Bois d'Agland 11.45 42 *e*Sn S 09 33 52.0 -15
comp=N,13nm,0.4s
LDF La Druitiere 11.65 28 *e*Pn P 09 31 54.8 -5.4
FLN La Foliniere 11.66 26 *e*Pn P 09 31 55.1 -5.3
SSF Saint Saulge 12.12 42 *e*Pn P 09 32 01.3 -5.4

IDC 11 09:31:27.8±10.0, 3.97N×95.83E, mb3.5/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.5/3, Error ellipse: s-maj=349.6km s-min=33.2km az=68.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**44.64**	**10**	P	P	09 39 42.0	-1.8
	0.3nm,0.7s,baz=186,slow=9.1,SNR=4.0						
WRA	**Warramunga Arr**	**44.67**	**124**	P	P	09 39 42.5	-2.0
	1.3nm,0.6s,baz=301,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**46.16**	**128**	P	P	09 39 54.7	-1.5
	0.5nm,0.7s,baz=302,slow=7.7,SNR=5.2						

IDC 11 09:38:55.0±4.5, 8.70N×91.90E, mb3.5/2, mb1 3.9/3, mb1mx3.6/17, mbtmp3.6/3, ML4.4/1, Error ellipse: s-maj=119.7km s-min=35.2km az=78.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.86**	**34**	Pn	P	09 41 45.5	-3.1
	0.7nm,0.3s,baz=230,slow=14,SNR=5.1						
SONM	**Songino Array**	**40.89**	**15**	P	P	09 46 39.0	-1.4
	0.7nm,0.7s,baz=203,slow=7.3,SNR=7.9						
WRA	**Warramunga Arr**	**50.55**	**125**	P	P	09 47 55.4	-2.2
	0.4nm,0.8s,baz=306,slow=8.3,SNR=5.2						

IDC 11 09:49:26.3±1.3, 11.30N×93.05E, mb3.7/6, mb1 4.0/6, mb1mx3.8/17, mbtmp3.7/6, Error ellipse: s-maj=66.8km s-min=22.0km az=53.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.46**	**319**	*e*P	Pg	09 49 42.0	+6.5
PBA				*e*S	Sg	09 49 49.0	+7.4
SONM	**Songino Array**	**38.10**	**15**	P	P	09 56 47.1	-1.5
	0.8nm,1.1s,baz=211,slow=8.4,SNR=3.1						
BVAR	**Borovoye Array**	**45.42**	**341**	P	P	09 57 45.5	-2.9
	0.6nm,0.7s,baz=146,slow=5.2,SNR=3.7						
WRA	**Warramunga Arr**	**51.15**	**127**	P	P	09 58 31.5	-1.9
	0.6nm,0.5s,baz=306,slow=8.5,SNR=10.0						
ASAR	**Alice Springs**	**52.95**	**131**	P	P	09 58 44.5	-2.5
	0.7nm,0.9s,baz=307,slow=6.2,SNR=5.0						
FINES	**FINESS Array B**	**69.20**	**332**	P	P	10 00 35.4	-1.2
	3.9nm,0.9s,baz=129,slow=8.9,SNR=3.4						
GERES	**GERESS Array B**	**74.58**	**318**	P	P	10 01 07.5	-1.4
	0.3nm,0.3s,baz=79,slow=5.0,SNR=3.2						

IDC 11 10:08:46.8±2.6, 29.15N×67.61E, mb3.5/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=82.7km s-min=43.1km az=80.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**35.17**	**47**	P	P	10 15 42.6	-1.6
	0.4nm,0.4s,baz=254,slow=7.6,SNR=4.9						
WRA	**Warramunga Arr**	**80.75**	**119**	P	P	10 21 02.3	-1.6
	0.3nm,0.9s,baz=322,slow=5.0,SNR=4.8						
ASAR	**Alice Springs**	**82.59**	**122**	P	P	10 21 12.2	-1.2
	0.4nm,0.5s,baz=310,slow=5.6,SNR=8.3						
YKA	**Yellowknife Ar**	**88.66**	**1**	P	P	10 21 41.3	-1.3
	0.1nm,0.6s,baz=346,slow=4.8,SNR=4.2						

IDC 11 10:14:05.6±2.5, 20.44S×70.08W, h87km±29km, mb3.4/3, mb1 3.7/5, mb1mx3.6/14, mbtmp3.8/5, Error ellipse: s-maj=40.0km s-min=19.8km az=83.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.42**	**153**	P	P	10 14 43.8	-0.3
	26nm,0.3s,baz=345,slow=8.6,SNR=217						
LVC				S	S	10 15 13.2	+0.5
	97nm,0.3s,baz=229,slow=22,SNR=12						
LPAZ	**La Paz**	**4.53**	**24**	P	P	10 15 12.4	-0.9
	2.1nm,0.3s,baz=197,slow=8.6,SNR=18						
BDFB	**Brasilia**	**21.51**	**81**	P	P	10 18 47.8	-1.3
	3.3nm,0.4s,baz=246,slow=12,SNR=4.1						
TXAR	**Lajitas Array**	**59.14**	**326**	P	P	10 23 57.2	-2.4
	0.1nm,0.6s,baz=159,slow=7.6,SNR=2.8						
YKA	**Yellowknife Ar**	**89.83**	**341**	P	P	10 26 54.3	-1.1
	0.4nm,0.5s,baz=138,slow=4.5,SNR=15						

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*BJI **11** 10:29:39.3, 4.39S×153.94E, h81km, mB5.3, mb5.3, Ms4.7, Msz4.4*
*MOS **11** 10:29:39.4±1.0, 4.54S×153.47E, h72km, mb5.9/10, Error ellipse: s-maj=18.3km s-min=12.5km az=94.7*
*HRVD **11** 10:29:40.5±0.2, 4.75S×153.38E, h93km±2km, MW5.0/60, Centroid moment Tensor Solution. LP body waves: s42,c62;Mantle waves: s60,c101; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.51±.14; Mθθ0.13±.13; Mφφ-3.64±.14; Mrθ1.14±.11; Mθφ0.52±.15; Mφr-2.15±.11; Best double couple: M0 4.357×10^16 NP1:φ0=4°, δ30°, λ110°. NP2:φ0=161°, δ62°, λ79°. Principal axes: T 4.33, Plg71°, Azm47°; N .054, Plg10°, Azm166°; P -4.385, Plg16°, Azm259°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 10:29:40.5±0.1, 4.63S×153.55E, mb5.3/30 Error ellipse: s-maj=6.1km s-min=3.9km az=109.0*
*IDC **11** 10:29:41.0±0.5, 4.69S×153.60E, h76km±3km, mb5.0/19, mb1 5.0/21, mb1mx5.0/22, mbtmp5.3/21, Error ellipse: s-maj=12.1km s-min=9.2km az=110.0*

ISC 11 10:29:39.8±0.2, 4.69S±0.03×153.55E±0.04, h82km, h82km±2.7km: pP-P, n222, σ0=96/159, mb5.4/72, 14C-16D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.89**	**233**	*d* iP	P	10 31 34.2	+0.4
PMG	**Port Moresby**	**7.89**	**233**	P	P	10 31 34.4	+0.6
	176nm,0.3s,baz=48,slow=5.5,SNR=263						
PMG				S	S	10 32 59.9	-2.4
	312nm,0.3s,baz=146,slow=21,SNR=18						
PMG	**Port Moresby**	**7.89**	**233**	*e*P	P	10 31 34.2	+0.4
	1um,0.8s						
CTA	**Charters Tower**	**16.88**	**204**	*e*P	P	10 33 33.6	+1.3
	22nm,1.0s						
CTA	**Charters Tower**	**16.88**	**204**	P	P	10 33 34.0	+1.7
	0.5nm,0.3s,baz=29,slow=13,SNR=11						
CTAO	**Charters Tower**	**16.88**	**204**	*e*P	P	10 33 33.4	+1.1
	38nm,1.0s						
NOUC	**Port Laguerre**	**21.27**	**146**	*e*P	P	10 34 21.4	+0.1
NOUC	**Port Laguerre**	**21.27**	**146**	*e*P	P	10 34 21.4	+0.1
DZM	**Mont Dzumac**	**21.32**	**145**	*e*P	P	10 34 22.3	+0.5
KAKA	**Kakadu**	**22.33**	**248**	⇓*i*P	P	10 34 31.3	-0.5
	815nm,1.3s,mb5.9						
KAKA				*e*PCP	PcP	10 38 25.8	-0.2
WRAB	**Tennant Creek**	**24.07**	**229**	*d* iP	P	10 34 48.9	+0.2
WRAB	**Tennant Creek**	**24.07**	**229**	*e*P	P	10 34 48.0	-0.6
	111nm,0.6s,mb5.4						
WB2	**Warramunga Arr**	**24.07**	**229**	⇓*i*P	P	10 34 49.0	+0.3
WB2				*e*PCP	PcP	10 38 29.5	-0.2
WB2				*e*S	S	10 39 05.3	+7.9
WB2				*e*PCS		10 42 08.6	
WRA	**Warramunga Arr**	**24.08**	**229**	P	P	10 34 50.3	+1.5
	58nm,0.5s,mb5.2,baz=53,slow=9.8,SNR=386						
WRA				PcP	PcP	10 38 29.5	-0.2
	40nm,0.7s,baz=50,slow=2.4,SNR=17						
WRA				S	S	10 39 05.0	+7.5
	9.5nm,1.2s,baz=52,slow=17,SNR=5.4						
WRA				ScP		10 42 00.9	
	8.0nm,1.2s,baz=57,slow=3.2,SNR=7.7						
ASAR	**Alice Springs**	**26.74**	**223**	P	P	10 35 12.9	-0.9
	15nm,0.9s,mb4.5,baz=55,slow=8.8,SNR=61						
ASAR				PcP	PcP	10 38 35.6	+0.1
	32nm,0.7s,baz=58,slow=2.4,SNR=19						
ASAR				ScP		10 42 08.6	
	3.0nm,0.6s,baz=48,slow=2.7,SNR=6.9						
ASPA	**Alice Springs**	**26.74**	**223**	*e*P	P	10 35 13.1	-0.8
ASPA				*e*PCP	PcP	10 38 35.5	-0.1
ASPA				*e*SCS	ScS	10 46 01.4	+5.1
RIV	**Riverview**	**29.08**	**184**	⇓*i*P	P	10 35 35.4	+0.6
STKA	**Stephens Creek**	**29.28**	**201**	⇓*i*P	P	10 35 35.6	-1.1
	18nm,0.7s,mb4.8						
STKA				*e*PCP	PcP	10 38 41.2	-0.5
STKA	**Stephens Creek**	**29.28**	**201**	P	P	10 35 35.6	-1.1
	21nm,0.6s,mb4.9,baz=9.8,slow=8.5,SNR=33						
STKA				PcP	PcP	10 38 41.3	-0.4
	24nm,0.9s,baz=49,slow=0.8,SNR=6.0						
STKA				ScP		10 42 15.7	
	5.4nm,0.9s,baz=35,slow=8.2,SNR=4.1						
FITZ	**Fitzroy Crossi**	**30.37**	**242**	⇓*i*P	P	10 35 44.8	-1.7
	81nm,0.6s,mb5.5						
FITZ				*e*PCP	PcP	10 38 44.3	-0.3
CNB	**Canberra Magne**	**30.72**	**187**	*e*P	P	10 35 49.7	+0.3
	609nm,0.7s,mb6.4						
TOO	**Toolangi**	**33.55**	**192**	⇓*i*P	P	10 36 14.5	+0.5
	19nm,0.8s,mb5.0						
FORT	**Forrest**	**35.35**	**220**	⇓*i*P	P	10 36 28.8	-0.6
	260nm,0.8s,mb6.1						
MBWA	**Marble Bar**	**36.68**	**240**	*e*P	P	10 36 39.2	-1.5
	28nm,0.6s,mb5.4						
TGY	**Tagaytay City**	**37.36**	**300**	PcP	PcP	10 39 05.8	+1.4
	224nm,0.4s,baz=230,slow=9.3,SNR=3.2						
URZ	**Urewera**	**39.71**	**150**	P	P	10 37 05.8	0.0
	16nm,0.4s,mb5.2,baz=359,slow=2.2,SNR=30						
JOW	**Kunigami**	**39.75**	**323**	P	P	10 37 07.5	+1.4
	72nm,0.6s,mb5.7,baz=152,slow=10,SNR=33						
JOW				pP	pP	10 37 26.6	+0.7
	43nm,0.7s,baz=146,slow=13,SNR=4.5						
QRZ	**Quartz Range**	**39.81**	**157**	P	P	10 37 07.7	+1.1
MWZ	**Matawai**	**39.97**	**150**	P	P	10 37 07.9	0.0
BKZ	**Black Stump Fm**	**40.13**	**152**	P	P	10 37 08.2	-1.0
PUZ	**Puketiti**	**40.14**	**149**	P	P	10 37 09.0	-0.3
NNZ	**Nelson**	**40.48**	**157**	P	P	10 37 11.6	-0.5
TSZ	**Takapari Road**	**40.60**	**153**	⇑P	P	10 37 12.6	-0.5
THZ	**Tophouse**	**40.77**	**158**	P	P	10 37 12.7	-1.7
MRZ	**Mangatainoka R**	**40.92**	**154**	P	P	10 37 14.9	-0.8
BFZ	**Birch Farm**	**41.23**	**154**	P	P	10 37 17.2	-1.1
FOZ	**Fox Glacier**	**41.26**	**162**	P	P	10 37 19.0	+0.5
LTZ	**Lake Taylor**	**41.42**	**159**	P	P	10 37 20.3	+0.6
JCZ	**Jackson Bay**	**41.45**	**163**	P	P	10 37 20.9	+0.9
KHZ	**Kahutara**	**41.57**	**158**	⇓P	P	10 37 20.1	-0.9
MSZ	**Milford Sound**	**41.78**	**165**	P	P	10 37 23.5	+0.8
RPZ	**Rata Peaks**	**41.83**	**161**	P	P	10 37 23.6	+0.5
	331nm,0.6s,mb6.3,baz=332,slow=1.6,SNR=313						
RPZ	**Rata Peaks**	**41.83**	**161**	P	P	10 37 22.8	-0.3
LBZ	**Lake Benmore**	**42.16**	**162**	P	P	10 37 25.4	-0.4
MQZ	**McQueen's Vall**	**42.36**	**159**	P	P	10 37 27.2	-0.3
MLZ	**Mavora Lakes**	**42.47**	**165**	P	P	10 37 28.7	+0.3
ODZ	**Otahua Downs**	**42.89**	**162**	P	P	10 37 31.6	-0.3
MAJO	**Matsushiro**	**43.45**	**342**	*e*P	P	10 37 34.0	-2.5
	48nm,1.4s,mb5.0						
MAT	**Matsushiro**	**43.45**	**342**	*e*P	P	10 37 35.0	-1.6
	9.1nm,0.5s,mb4.8						
MAT	**Matsushiro**	**43.45**	**342**	P	P	10 37 35.0	-1.6
SSE	**Sheshan**	**47.12**	**321**	P	P	10 38 07.2	+1.4
SSE				XP	sP	10 38 32.8	-2.3
SSE				S	S	10 44 53.7	+2.8
SSE				XS		10 45 24.6	
SSE				AMB	AMB		
	comp=Z,37nm,0.8s,mb5.2						
RAR	**Rarotonga**	**48.14**	**114**	P	P	10 38 14.1	+0.2
	comp=Z,14nm,0.6s,mb5.0,baz=257,slow=12,SNR=5.4						
INCN	**Inchon**	**48.87**	**331**	*e*P	P	10 38 19.0	-0.3
	comp=Z,64nm,0.8s,mb5.6						
INCN				*e*pP	pP	10 38 38.5	-1.0
NJ2	**Nanjing**	**49.23**	**320**	*e*P	P	10 38 23.0	+0.8
NJ2				AP	pP	10 38 47.6	+5.2
NJ2				PP	PP	10 40 19.9	+2.9
NJ2				S	S	10 45 23.0	+2.5
NJ2				AMB	AMB		
	comp=Z,60nm,1.1s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,350nm,4.6s						
NJ2				LR	LR		
	comp=N,540nm,24.2s						
NJ2				LR	LR		
	comp=E,570nm,17.2s						
NJ2				LR	LR		
	comp=Z,300nm,16.4s						
ASAJ	**Asahikawa**	**49.57**	**350**	P	P	10 38 25.4	+0.7
	comp=Z,12nm,0.7s,mb5.0,baz=35,slow=29,SNR=11						
WHN	**Wuhan**	**51.30**	**316**	P	P	10 38 38.8	+0.9
TIA	**Tai'an**	**53.07**	**323**	*e*P	P	10 38 49.2	-2.0
TIA				AMB	AMB		
	comp=Z,31nm,1.0s,mb5.3						
MDJ	**Mudanjiang**	**53.58**	**339**	P	P	10 38 54.2	-0.6
MDJ				AMB	AMB		
	comp=Z,17nm,1.1s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,168nm,4.3s						
ENH	**Enshi**	**54.63**	**312**	*e*P	P	10 39 01.7	-0.9
	comp=Z,84nm,1.1s,mb5.7						
BJT	**Baijiatuau**	**56.21**	**326**	*e*P	P	10 39 12.9	-1.0
	comp=Z,14nm,0.7s,mb5.1						
KLR	**Kul'dur**	**56.95**	**343**	*e*P	P	10 39 16.8	-2.2
PPT	**Papeete**	**57.04**	**108**	*e*P	P	10 39 20.8	+0.7
	comp=Z,57nm,0.8s,mb5.6						
PPT	**Papeete**	**57.04**	**108**	*e*LR	LR	10 55 46.1	
	comp=Z,308nm,37.5s						
PPT	**Papeete**	**57.04**	**108**	P	P	10 39 21.1	+1.0
	comp=Z,48nm,0.6s,mb5.7,baz=273,slow=3.5,SNR=7.7						
PAE	**Paea**	**57.05**	**108**	*e*P	P	10 39 20.6	+0.5
	comp=Z,73nm,1.0s,mb5.7						
XAN	**Xi'an**	**57.06**	**316**	P	P	10 39 19.3	-0.7
XAN				AMB	AMB		
	comp=Z,41nm,1.2s,mb5.3						
TIAR	**Tiarei**	**57.26**	**108**	*e*P	P	10 39 22.6	+1.0
	comp=Z,304nm,0.7s,mb6.4						
TVO	**Taravao**	**57.37**	**108**	*e*P	P	10 39 23.4	+1.0
	comp=Z,148nm,0.7s,mb6.1						
TBI	**Tubuai**	**57.92**	**115**	*e*P	P	10 39 26.6	+0.4
	comp=Z,66nm,0.8s,mb5.7						
TBI				*e*LR	LR	10 56 51.1	
	comp=Z,312nm,38.5s						
PMOR	**Pomariorio Ree**	**58.44**	**105**	*e*P	P	10 39 30.5	+0.6
	comp=Z,181nm,1.0s,mb6.1						
MEH	**Mehetia**	**58.51**	**108**	*e*P	P	10 39 30.8	+0.5
	comp=Z,86nm,0.8s,mb5.8						
CMAR	**Chiang Mai Arr**	**58.51**	**295**	P	P	10 39 30.8	+0.4
	comp=Z,11nm,0.8s,mb5.0,baz=115,slow=5.2,SNR=8.3						
CMAR				pP	pP	10 39 50.4	-0.8
	comp=Z,7.9nm,0.7s,baz=112,slow=5.4,SNR=6.3						
FX1	**Attu Island--F**	**59.71**	**14**	P	P	10 39 38.5	+0.4
	comp=Z,54nm,0.7s,mb5.7,baz=238,slow=2.8,SNR=14						
FX1	**Attu Island--F**	**59.71**	**14**	*e*P	P	10 39 37.1	-1.0
HIA	**Hailar**	**61.24**	**335**	*e*P	P	10 39 47.5	-1.1
	comp=Z,37nm,1.1s,mb5.3						
LZH	**Lanzhou**	**61.67**	**315**	⇑P	P	10 39 52.9	+1.2
LZH				AP	pP	10 40 17.5	+4.8
LZH				PCP	PcP	10 40 32.8	+0.7
LZH				PP	PP	10 42 12.4	+1.9
LZH				AMB	AMB		
	comp=Z,165nm,1.0s,mb6.0						
LZH				AMB	AMB		
	comp=Z,648nm,4.0s						
LZH				LR	LR		
	comp=E,206nm,16.0s						
LZH				LR	LR		
	comp=Z,378nm,18.0s						
MA2	**Magadan**	**64.10**	**358**	*c iP*	P	10 40 06.7	-0.7
MA2				pmax	pmax		
	comp=Z,26nm,0.5s,mb5.3						
MA2	**Magadan**	**64.10**	**358**	*e*P	P	10 40 05.8	-1.5
	comp=Z,31nm,0.6s,mb5.3						
CLNS	**Chul'man**	**65.61**	**343**	*e*P	P	10 40 16.6	-0.6
CLNS				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.7s						
ULN	**Ulaanbaatar**	**66.30**	**328**	*c iP*	P	10 40 22.3	+0.6
ULN	**Ulaanbaatar**	**66.30**	**328**	*e*P	P	10 40 21.9	+0.2
	comp=E,32nm,0.9s,mb5.2						
SONM	**Songino Array**	**66.63**	**327**	P	P	10 40 24.1	+0.2
	comp=E,19nm,0.6s,mb5.1,baz=140,slow=5.7,SNR=310						
SONM				sP	sP	10 40 51.9	-2.2
	comp=E,7.3nm,0.6s,baz=147,slow=3.3,SNR=3.4						
UNV	**Unalaska Valle**	**67.21**	**24**	*e*P	P	10 40 25.2	-2.1
LSA	**Lhasa**	**68.80**	**304**	P	P	10 40 38.5	+0.9
LSA	**Lhasa**	**68.80**	**304**	*e*P	P	10 40 38.0	+0.4
	comp=E,14nm,0.6s,mb5.0						
YAK	**Yakutsk**	**69.02**	**348**	⇑*e*P	P	10 40 37.1	-1.3
YAK				pmax	pmax		
	comp=Z,54nm,1.2s,mb5.2						
ZAK	**Zakamensk**	**69.79**	**328**	⇓*e*P	P	10 40 42.6	-0.7
ZAK				*e*	pP	10 41 03.7	-1.1
BOD	**Bodaibo**	**69.96**	**339**	⇓*i*P	P	10 40 43.0	-1.2
TLY	**Talaya**	**70.36**	**330**	*c iP*	P	10 40 46.9	+0.1
TLY				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.9						
TLY	**Talaya**	**70.36**	**330**	*e*P	P	10 40 45.3	-1.5
	comp=Z,26nm,1.2s,mb4.9						
RKT	**Rikitea**	**71.14**	**113**	*e*LR	LR	11 02 46.8	
	comp=Z,264nm,31.2s						
MOY	**Mondy**	**71.71**	**329**	*e*P	P	10 40 55.3	+0.4
JIRN	**Jiri**	**72.38**	**301**	*e*P	P	10 40 59.9	+0.7
	comp=Z,38nm,0.7s,mb5.3						
GUN	**Gumba**	**72.71**	**301**	*e*P	P	10 41 01.9	+0.7
	comp=Z,81nm,0.7s,mb5.7						
VNDA	**Vanda**	**72.92**	**178**	P	P	10 41 02.0	+0.5
	comp=Z,92nm,0.8s,mb5.7,baz=330,slow=6.5,SNR=119						
PKI	**Pulchoki**	**73.02**	**301**	*e*P	P	10 41 03.3	+0.2
BILL	**Bilibino**	**73.11**	**5**	*c iP*	P	10 41 03.1	+0.3
BILL				*e*		10 43 44.1	
BILL				*e*S	S	10 50 22.0	-0.5
BILL				*e*		10 55 08.1	
BILL				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.3						
BILL	**Bilibino**	**73.11**	**5**	*e*P	P	10 41 02.8	0.0
	comp=Z,37nm,0.8s,mb5.3						
KKN	**Kakani**	**73.19**	**301**	*e*P	P	10 41 04.3	+0.3
	comp=Z,49nm,0.6s,mb5.5						
DMN	**Daman**	**73.29**	**300**	*e*P	P	10 41 05.3	+0.6
	comp=Z,108nm,0.9s,mb5.7						
SBA	**Scott Base**	**73.45**	**177**	*e*P	P	10 41 04.9	+0.3
	comp=Z,68nm,0.9s,mb5.5						
GKN	**Gorkha**	**73.79**	**301**	*e*P	P	10 41 07.8	+0.2
	comp=Z,33nm,0.4s,mb5.4						
MIR	**Mirnyy**	**74.30**	**201**	⇑*e*P	P	10 41 09.8	0.0
MIR				pmax	pmax		
	comp=Z,95nm,1.4s,mb5.3						
KOLN	**Koldanda**	**74.63**	**300**	*e*P	P	10 41 12.5	+0.1
	comp=Z,58nm,0.8s,mb5.3						
ANM	**Nome**	**75.45**	**17**	*e*P	P	10 41 17.0	+0.7
WMQ	**Urumqi**	**76.17**	**317**	⇑*i*P	P	10 41 22.0	+1.1
SVW2	**Sparrevohn**	**76.43**	**23**	*e*P	P	10 41 22.8	+0.8
HYB	**Hyderabad**	**77.17**	**289**	*e*P	P	10 41 26.0	-1.0
HYB	**Hyderabad**	**77.17**	**289**	*i* P	P	10 41 26.0	-1.0
HYB				*e*	pP	10 41 47.5	-1.3
TIXI	**Tiksi**	**77.89**	**352**	⇑*e*P	P	10 41 30.7	+0.8
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.3						
FIB	**Fire Island**	**78.62**	**24**	*e*P	P	10 41 33.8	-0.3
PWA	**Palmer West**	**79.00**	**24**	*e*P	P	10 41 35.5	-0.7
PMR	**Palmer**	**79.27**	**24**	*e*P	P	10 41 37.1	-0.6
SML	**Sawmill**	**79.71**	**24**	*e*P	P	10 41 39.4	-0.6
SML				*e*pP	pP	10 42 05.7	+3.7
IMA	**Indian Mountai**	**80.10**	**19**	*e*P	P	10 41 42.4	+0.4
DIV	**Divide**	**80.45**	**25**	*e*P	P	10 41 43.5	-0.5
	comp=Z,61nm,1.0s,mb5.4						
MCK	**McKinley**	**80.47**	**22**	*e*P	P	10 41 42.8	-1.3
	comp=Z,9μm,1.2s						
MCK				*e*pP	pP	10 42 10.5	+4.5
MKAR	**Makanchi Array**	**80.73**	**319**	*i* P	P	10 41 46.4	+0.6
MKAR				pmax	pmax		
	comp=Z,24nm,0.4s						
MKAR	**Makanchi Array**	**80.73**	**319**	*i* P	P	10 41 46.5	+0.7
COLA	**College**	**81.47**	**22**	*e*P	P	10 41 48.2	-1.1
POO	**Poona**	**81.76**	**289**	*e*	P	10 41 51.0	-0.7
ILAR	**Eielson Array**	**81.77**	**22**	P	P	10 41 49.5	-1.4
	comp=Z,12nm,0.9s,mb4.7,baz=242,slow=5.6,SNR=91						
ILAR				PKKPbc		11 00 21.5	
	comp=Z,1.5nm,0.7s,baz=30,slow=2.5,SNR=17						
MENT	**Mentasta**	**82.14**	**24**	*e*P	P	10 41 53.1	+0.3
NVS	**Novosibirsk**	**82.65**	**327**	*i* P	P	10 41 54.9	-0.6
NVS				*e*	pP	10 42 16.3	-1.3
NVS				*e*		10 52 04.0	
NVS				pmax	pmax		
	comp=Z,85nm,1.4s,mb5.4						
NVS				pmax	pmax		
	comp=N,43nm,1.6s						
NVS				pmax	pmax		
	comp=E,61nm,1.2s						
**

BRVK Borovoye 89.67 323 *eP* **P 10 42 29.2 -0.7**
comp=Z,62nm,0.9s,mb5.7
BRVK *eP*P pP 10 42 50.0 -2.2
NVAR Mina Array Bea 91.42 52 P **P 10 42 39.0 +0.6**
comp=Z,4.2nm,0.7s,mb4.7,baz=259,slow=8.3,SNR=21
NVAR sP sP 10 43 09.2 -0.2
comp=Z,5.4nm,1.0s,baz=257,slow=9.1,SNR=6.0
MNV Mina 91.54 52 *eP* **P 10 42 39.0 +0.1**
comp=Z,10nm,1.1s,mb5.0
MNV *eP*P pP 10 43 04.4 +3.0
BMO Blue Mountains 92.66 45 *eP* **P 10 42 42.9 -1.1**
comp=Z,6.2nm,1.0s,mb4.9
BMO *eP*P pP 10 43 10.8 +4.3
SYO Syowa Base 94.02 199 ‖P **P 10 42 49.1 -0.4**
SYO Syowa Base 94.02 199 ⇑PcP PcP 10 42 51.1 +0.8
HLID Hailey 94.67 47 *eP* **P 10 42 52.6 -0.5**
comp=Z,1.1nm,0.7s,mb4.4
YKA Yellowknife Ar 94.98 28 P **P 10 42 54.3 +0.2**
comp=Z,4.0nm,0.8s,mb4.9,baz=269,slow=4.7,SNR=68
YKA sP sP 10 43 22.7 -2.2
comp=Z,1.7nm,0.7s,baz=270,slow=4.6,SNR=5.2
YKA PKKPbc 10 59 48.8
comp=Z,2.4nm,0.6s,baz=86,slow=2.8,SNR=49
YKA Yellowknife Ar 94.98 28 P **P 10 42 54.3 +0.2**
YKA sP sP 10 43 22.8 -2.2
YKA PKKPbc 10 59 48.8
WALA Waterton Lakes 95.17 41 *eP* **P 10 42 55.2 -0.1**
EDM Edmonton 95.58 37 *eP* **P 10 42 56.7 -0.3**
ARU Arti 96.64 326 ‖*iP* **P 10 42 57.4 -4.3**
ARU pmax pmax
comp=Z,21nm,1.1s,mb5.5
BW06 Boulder Array 98.22 48 *eP* **P 10 43 08.2 -1.1**
PDAR Pinedale Array 98.22 48 pP pP 10 43 28.7 -3.1
comp=Z,1.1nm,0.9s,baz=270,slow=3.0,SNR=7.2
SNAA Sanae 102.24 187 *e* Pdif 10 43 38.8 +12
SNAA Sanae 102.24 187 P Pdif 10 43 26.1 -0.6
comp=Z,2.7nm,1.0s,baz=183,slow=7.2,SNR=5.5
SNAA Sanae 102.24 187 ‖*i*Pdif Pdif 10 43 26.4 -0.3
SNAA *e* 10 43 38.8
VNA3 Neumayer Olymp 103.41 186 ‖*i*Pdif Pdif 10 43 31.6 -0.2
VNA3 *e* 10 43 41.9
TXAR Lajitas Array 103.42 61 PP PP 10 47 52.4 +0.4
comp=Z,1.2nm,0.9s,baz=259,slow=6.4,SNR=5.9
TXAR PKKPbc 10 59 26.3
comp=Z,1.4nm,0.9s,baz=113,slow=4.2,SNR=9.6
VNA2 Neumayer--Watz 103.48 186 ⇑*i*Pdif Pdif 10 43 30.4 -1.7
VNA2 *e* 10 43 41.5
ARCES ARCESS Array B 106.98 343 PKiKP 10 47 56.7
comp=Z,2.1nm,0.8s,baz=90,slow=1.2,SNR=5.9
ARCES PKKPbc 10 59 13.0
comp=Z,4.7nm,1.0s,baz=270,slow=2.4,SNR=3.7
ARCES ARCESS Array B 106.98 343 PKPdf 10 47 56.7
ARCES PKKPbc 10 59 13.0
FINES FINESS Array B 111.26 336 Pdiff Pdif 10 44 05.5 -1.1
comp=Z,4.1nm,1.1s,baz=45,slow=3.9,SNR=10.0
AKASG Malin Array Be 114.84 325 PKP PKPdf 10 48 11.4 +0.3
comp=Z,2.4nm,0.5s,baz=53,slow=2.7,SNR=7.2
AKASG PKKPbc 10 58 47.4
comp=Z,0.9nm,0.4s,baz=261,slow=3.9,SNR=9.0
ASF Jabal al Asfar 114.98 303 PKP PKPdf 10 48 13.6 +1.7
comp=Z,2.8nm,0.6s,baz=273,slow=4.8,SNR=4.3
BRTR Keskin Array B 115.79 312 PKP PKPdf 10 48 14.0 +0.8
comp=Z,6.3nm,1.2s,baz=90,slow=1.4,SNR=11
KMBO Kilima Mbogo 116.10 266 PKP PKPdf 10 48 16.4 +2.0
comp=Z,3.3nm,0.7s,baz=48,slow=8.1,SNR=13
KMBO PKKP PKKP 10 59 09.9 +11
comp=Z,1.0nm,0.6s,baz=209,slow=22,SNR=4.0
KMBO Kilima Mbogo 116.10 266 PKP PKPdf 10 48 16.4 +2.0
KMBO PKKP PKKP 10 59 09.9 +11
NB2 NORSAR Subarra117.06 340 PKPdf PKPdf 10 48 15.5 +0.4
comp=Z,1.3nm,0.7s,baz=41,slow=1.8
NOA NORSAR Array B 117.06 340 PKP PKPdf 10 48 15.9 +0.9
comp=Z,1.8nm,0.7s,baz=46,slow=1.4,SNR=4.5
SCHQ Schefferville 120.36 26 PKP PKPdf 10 48 23.2 +1.5
comp=Z,1.9nm,0.8s,baz=250,slow=11,SNR=4.3
SCHQ Schefferville 120.36 26 PKP PKPdf 10 48 23.2 +1.5
LSZ Lusaka 122.38 249 *e*PKP PKPdf 10 48 27.6 +1.2
MBAR Mbarara 122.63 266 *e*PKP PKPdf 10 48 27.6 +0.5
BRG Berggiesshubel 122.94 331 *e*PKIKP PKPdf 10 48 27.9 +1.2
BRG *e* 10 48 57.1
BRG pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 123.11 332 *e*PKIKP PKPdf 10 48 28.0 +0.9
CLL *e* 10 48 52.0
CLL *e* 10 48 56.0
PRU Pruhonice 123.20 330 *e*PKPDF PKPdf 10 48 29.1 +1.8
IDI Anoyia 123.79 310 PKP PKPdf 10 48 30.0 +1.2
comp=Z,17nm,0.9s,baz=121,slow=10,SNR=5.4
NKC Novy Kostel 124.08 331 *e*PKPDF PKPdf 10 48 30.1 +1.1
NKC *ep*PKP 10 48 55.4
KHC Kasperske Hory 124.23 329 *e*PKPDF PKPdf 10 48 30.9 +1.6
KHC *ep*PKP 10 48 57.6
GERES GERESS Array B 124.35 329 PKP 10 48 31.0 +1.5
comp=Z,3.3nm,0.6s,baz=73,slow=1.6,SNR=19
GERES pPKP 10 48 53.8
comp=Z,2.0nm,0.6s,baz=27,slow=3.0,SNR=3.6
GRA1 Grafenberg Arr 125.04 331 *e*PKPdf PKPdf 10 48 32.6 +1.8
GRF Grafenberg Arr 125.04 331 *e*PKIKP PKPdf 10 48 32.6 +1.8
BOJS Bojanci 125.53 325 *e*PKPdf PKPdf 10 48 33.7 +1.8
VISS Visnje 125.59 325 *e*PKPdf PKPdf 10 48 33.5 +1.5
DAVOX Davos 127.65 329 PKP PKPdf 10 48 37.9 +1.9
comp=Z,7.2nm,0.9s,baz=145,slow=7.4,SNR=6.6
DAVOX Davos 127.65 329 PKP PKPdf 10 48 37.9 +1.9
CDF Champ du Feu 127.80 332 *e*PKIKP PKPdf 10 48 37.2 +1.0
TIP Timpagrande 128.01 318 *e*PKP PKPdf 10 48 38.2 +1.3
HINF Hinteralfeld 128.42 332 *e*PKIKP PKPdf 10 48 38.4 +1.0
comp=Z,4.5nm,0.5s
HAU Haudompre 128.52 332 *e*PKIKP PKPdf 10 48 38.4 +0.8
comp=Z,8.6nm,0.5s
MEZF Maizieres J'vi 128.74 334 *e*PKIKP PKPdf 10 48 39.9 +1.9
CABF La Chapelle 129.65 331 *e*PKIKP PKPdf 10 48 41.4 +1.6
comp=Z,10nm,0.6s
LPL La Plagne 130.11 330 *e*PKIKP PKPdf 10 48 42.8 +2.1
comp=Z,11nm,0.6s
LPG La Plagne 130.11 330 *e*PKIKP PKPdf 10 48 42.4 +1.7
comp=Z,10nm,0.5s
SSF Saint Saulge 130.51 333 *e*PKIKP PKPdf 10 48 44.2 +2.8
comp=Z,8.3nm,0.6s
MBDF Montbardon 130.64 329 *e*PKIKP PKPdf 10 48 43.5 +1.8
PGF Pioggiola 130.90 325 *e*PKIKP PKPdf 10 48 43.9 +1.6
comp=Z,56nm,1.1s
ORIF Oris-en-Rattie 130.96 330 *e*PKIKP PKPdf 10 48 43.5 +1.2
comp=Z,14nm,0.7s
GRR Gorron 131.28 337 *e*PKIKP PKPdf 10 48 44.7 +1.9
FRF La Foret Royal 131.51 328 *e*PKIKP PKPdf 10 48 44.5 +1.1
VIVF Saint-Julien-l 131.60 331 *e*PKIKP PKPdf 10 48 44.9 +1.3
comp=Z,2.6nm,0.4s
TCF Toulx Ste Croi 131.68 334 *e*PKIKP PKPdf 10 48 45.1 +1.4
comp=Z,32nm,1.1s
LMR La Mourre 131.74 328 *e*PKIKP PKPdf 10 48 45.1 +1.2
SMRF Simiane la Rot 131.78 329 *e*PKIKP PKPdf 10 48 45.8 +1.9
LASF Ste Croix 132.57 330 *e*PKIKP PKPdf 10 48 47.0 +1.6
LPAZ La Paz 133.81 118 PKP PKPdf 10 48 49.0 +0.6
comp=Z,3.4nm,0.5s,baz=322,slow=0.7,SNR=15
LPAZ SKPbc 10 52 12.5
comp=Z,1.6nm,0.8s,baz=310,slow=4.5,SNR=3.7
LPAZ La Paz 133.81 118 PKP PKPdf 10 48 49.0 +0.6
LPAZ SKPbc 10 52 12.5
EPF Esparros 135.04 332 *e*PKIKP PKPdf 10 48 51.9 +1.8
ETSF Etsaut 135.56 333 *e*PKIKP PKPdf 10 48 53.0 +2.0
comp=Z,7.5nm,0.6s
SDV Santo Domingo 135.95 82 *e*PKP PKPdf 10 48 52.7 +0.2
ESDC Sonseca Array 139.68 333 PP PP 10 51 54.5 -3.6
comp=Z,0.4nm,0.4s,baz=26,slow=7.4,SNR=4.2
EVO Evora 142.37 336 *e*PKIKP PKPdf 10 49 04.4 +1.0
comp=Z,14nm,0.8s
BDFB Brasilia 150.61 134 PKPbc PKPdf 10 49 24.1 +6.4
comp=Z,32nm,0.4s,baz=250,slow=1.9,SNR=4.8
BAO Brasilia Array 150.63 134 P PKPdf 10 49 24.2 +6.5
DBIC Dimbokro 158.43 276 PKP PKPdf 10 49 30.0 +1.5
comp=Z,5.0nm,0.9s,baz=99,slow=3.1,SNR=5.7
DBIC PKPab PKPab 10 50 05.1 -0.8
comp=Z,12nm,0.7s,baz=81,slow=6.3,SNR=7.7
DBIC Dimbokro 158.43 276 PKP PKPdf 10 49 30.0 +1.5
DBIC PKPab PKPab 10 50 05.1 -0.8

*IDC **11** 10:41:28.3±0.8, 12.83N×92.35E, mb4.0/9, mb1 4.1/10, mb1mx4.0/19, mbtmp4.0/10, ML4.1/1, MS3.4/2, Ms1 3.5/2, ms1mx3.2/18, Error ellipse: s-maj=37.1km s-min=16.4km az=53.0*
*NEIC **11** 10:41:32.7±0.5, 12.84N×92.36E, h30km, mb4.6/4, Error ellipse: s-maj=13.6km s-min=9.6km az=221.0*
*BJI **11** 10:41:39.7, 13.56N×92.05E, h5km, mb4.6*

ISC 11 10:41:31.1±0.6, 12.89N±0.08×92.34E±0.07, h33km, n32, σ1§09/35, mb4.2/13, MS3.6/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.29**	**162**	*eP*	Px	10 41 57.0	
PBA				*eP*	Px	10 41 57.9	
PBA				*eS*	Sx	10 42 18.8	
CMAR	**Chiang Mai Arr**	**8.43**	**48**	Pn	**P**	**10 43 31.3**	**-2.4**
	0.7nm,0.3s,baz=238,slow=15,SNR=14						
CMAR				Sn	**Sn**	**10 44 59.7**	**-9.2**
	1.0nm,0.3s,baz=234,slow=24,SNR=3.2						
CMAR				LR	LR	10 47 29.1	
	comp=Z,158nm,19.2s,baz=235,slow=43						
BWNR	**Bhubaneshwar**	**9.67**	**320**	*eP*	**P**	**10 43 47.0**	**-4.0**
BWNR				*eS*	**S**	**10 45 25.3**	**-14**
BWNR				*e*		10 45 29.8	
	comp=E,501nm,0.4s						
BWNR				*e*		10 45 29.9	
	comp=N,382nm,0.3s						
VIS	**Vishakhapatnam**	**9.94**	**300**	*eP*	**P**	**10 43 52.7**	**-2.0**
VIS				*e*		10 43 54.8	
	comp=Z,206nm,0.3s						
VIS				*eS*	**S**	**10 45 33.6**	**-13**
SHL	**Shillong**	**12.62**	**358**	*eP*	**P**	**10 44 30.0**	**-1.1**
SHL				*eS*	**S**	**10 46 41.0**	**-10**
BLSP	**Bilaspur**	**13.38**	**315**	*iP*	**P**	**10 44 40.3**	**-0.9**
BLSP				*e*		10 47 01.3	
HYB	**Hyderabad**	**14.05**	**290**	*eP*	**P**	**10 44 49.0**	**-1.1**
HYB				*eS*	**S**	**10 47 12.0**	**-14**
HYB	**Hyderabad**	**14.05**	**290**	*iP*	**P**	**10 44 49.0**	**-1.1**
HYB				*eS*	**S**	**10 47 12.0**	**-14**
JIRN	**Jiri**	**15.78**	**340**	*eP*	**P**	**10 45 13.0**	**+0.4**
	comp=Z,23nm,0.5s						
PKI	**Pulchoki**	**15.98**	**337**	*eP*	**P**	**10 45 14.6**	**-0.5**
	comp=Z,19nm,0.7s						
PKI				*eS*	**S**	**10 47 59.8**	**-11**
GUN	**Gumba**	**16.12**	**339**	*eP*	**P**	**10 45 17.2**	**+0.3**
DMN	**Daman**	**16.14**	**336**	*eP*	**P**	**10 45 17.4**	**+0.3**
	comp=Z,11nm,0.3s						
GKN	**Gorkha**	**16.67**	**336**	*eP*	**P**	**10 45 23.7**	**-0.1**
	comp=Z,14nm,0.3s						
LSA	**Lhasa**	**16.77**	**356**	*eP*	**P**	**10 45 27.9**	**+2.9**
	comp=Z,30nm,0.8s						
KOLN	**Koldanda**	**16.91**	**332**	*eP*	**P**	**10 45 26.0**	**-0.8**
	comp=Z,16nm,0.6s						
BHPL	**Bhopal**	**17.51**	**308**	*eP*	**P**	**10 45 35.6**	**+1.2**
BHPL				*e*		10 45 38.7	
	comp=Z,18nm,0.6s						
BHPL				*e*		10 48 43.4	
POO	**Poona**	**18.66**	**290**	*eP*	**P**	**10 45 50.0**	**+1.2**
NDI	**New Delhi**	**21.10**	**320**	*e*		10 46 24.0	
ENH	**Enshi**	**23.47**	**40**	*eP*	**P**	**10 46 40.1**	**+1.4**
	comp=Z,20nm,0.8s,mb4.6						
LZH	**Lanzhou**	**25.31**	**22**	*eP*	pP	10 47 06.5	+0.8
LZH				AP	pP	10 47 14.0	+8.3
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.6						
AAK	**Ala-Archa**	**33.43**	**336**	P	**P**	**10 48 09.2**	**+0.2**
	comp=Z,3.7nm,0.9s,mb4.3						
SONM	**Songino Array**	**36.76**	**16**	P	**P**	**10 48 38.4**	**+1.1**
	comp=Z,0.6nm,0.5s,mb3.6,baz=215,slow=6.8,SNR=6.3						
BVAR	**Borovoye Array**	**43.70**	**341**	P	**P**	**10 49 36.3**	**+1.6**
	comp=Z,0.9nm,0.6s,mb3.6,baz=211,slow=35,SNR=2.4						
WRA	**Warramunga Arr**	**52.65**	**128**	P	**P**	**10 50 44.3**	**-0.3**
	comp=Z,1.1nm,0.5s,mb4.1,baz=300,slow=9.6,SNR=9.5						
WRA				PcP	PcP	10 51 54.6	+0.3
	comp=Z,1.1nm,0.5s,baz=318,slow=3.0,SNR=7.5						
WRAB	**Tennant Creek**	**52.66**	**128**	*eP*	**P**	**10 50 45.0**	**+0.4**
	comp=Z,6.4nm,0.5s,mb4.8						
ASF	**Jabal al Asfar**	**54.09**	**300**	LR	LR	11 18 53.8	
	comp=Z,50nm,18.1s,MS3.6,baz=279,slow=42						
ASAR	**Alice Springs**	**54.51**	**132**	P	**P**	**10 50 57.7**	**-0.6**
	comp=Z,1.2nm,0.5s,mb4.2,baz=310,slow=6.8,SNR=19						
ASAR				PcP	PcP	10 52 02.0	+0.7
	comp=Z,1.2nm,0.6s,baz=311,slow=3.4,SNR=6.1						
BRTR	**Keskin Array B**	**57.88**	**309**	P	**P**	**10 51 22.1**	**-0.1**
	comp=Z,1.0nm,0.6s,mb4.0,baz=126,slow=7.5,SNR=4.3						
STKA	**Stephens Creek**	**64.85**	**135**	P	**P**	**10 52 08.9**	**-0.5**
	comp=Z,1.5nm,0.6s,mb4.2,baz=296,slow=16,SNR=3.0						
FINES	**FINESS Array B**	**67.48**	**332**	P	**P**	**10 52 25.4**	**-0.2**
	comp=Z,1.1nm,0.6s,mb4.0,baz=90,slow=3.8,SNR=5.6						
ARCES	**ARCESS Array B**	**69.98**	**340**	P	**P**	**10 52 41.4**	**+0.6**
	comp=Z,4.1nm,0.8s,mb4.4,baz=117,slow=2.7,SNR=4.7						
GERES	**GERESS Array B**	**72.95**	**317**	P	**P**	**10 53 00.4**	**+1.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=78,slow=9.0,SNR=3.2						

*IDC **11** 10:48:10.4±1.6, 5.07N×93.20E, mb3.7/5, mb1 3.9/6, mb1mx3.8/18, mbtmp3.6/6, ML4.0/1, Error ellipse: s-maj=60.4km s-min=25.4km az=59.0*
*NEIC **11** 10:48:15.4±0.8, 5.09N×93.29E, h30km, mb4.4/3, Error ellipse: s-maj=27.6km s-min=12.4km az=66.0*

ISC 11 10:48:14.3±0.9, 5.1N±0.1×93.4E±0.2, h33km, n13, σ1§02/11, mb4.0/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.32**	**22**	Pn	**P**	**10 51 37.0**	**+0.1**
	0.2nm,0.3s,baz=221,slow=12,SNR=6.5						
HYB	**Hyderabad**	**19.00**	**311**	*iP*	**P**	**10 52 37.0**	**+1.0**
LSA	**Lhasa**	**24.55**	**355**	P	**P**	**10 53 34.8**	**+2.4**
	6.7nm,0.4s,mb4.5						
SONM	**Songino Array**	**44.00**	**13**	P	**P**	**10 56 20.2**	**-0.1**
	0.3nm,0.8s,mb3.1,baz=198,slow=9.8,SNR=3.0						
WRA	**Warramunga Arr**	**47.32**	**123**	P	**P**	**10 56 46.7**	**-0.4**
	1.1nm,0.8s,mb3.8,baz=300,slow=9.1,SNR=5.3						
WRAB	**Tennant Creek**	**47.32**	**123**	P	**P**	**10 56 47.2**	**+0.1**
	2.8nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**48.76**	**128**	P	**P**	**10 56 59.0**	**+0.8**
	0.4nm,0.8s,mb3.5,baz=306,slow=8.1,SNR=3.2						
ASAR	**Alice Springs**	**48.76**	**128**	P	**P**	**10 56 59.0**	**+0.8**
ZAL	**Zalesovo**	**49.18**	**353**	P	**P**	**10 56 59.8**	**-1.3**
	1.4nm,0.4s,mb4.3,baz=219,slow=3.2,SNR=4.4						
CHKZ	**Chkalovo**	**51.87**	**343**	*eP*	**P**	**10 57 20.0**	**-1.5**
	1.5nm,0.5s,mb4.2						
GERES	**GERESS Array B**	**79.40**	**319**	P	**P**	**11 00 18.1**	**-0.6**
	2.0nm,1.1s,mb4.0,baz=72,slow=8.4,SNR=4.3						
TXAR	**Lajitas Array**	**142.03**	**25**	PKhKP		11 07 41.3	
	0.2nm,0.8s,baz=180,slow=2.5,SNR=3.6						
TXAR				PKP	PKPdf	11 07 46.7	+3.0
	0.6nm,1.0s,baz=90,slow=3.8,SNR=3.9						
TXAR	**Lajitas Array**	**142.03**	**25**	PKP	PKPdf	11 07 46.7	+3.0

*ATH **11** 10:54:59.3, 36.92N×28.04E, h11km, MD3.1/4*
*NEIC **11** 10:54:59.3, 36.92N×28.04E, h11km, MD3.1(ATH), After ATH.*
*CSEM **11** 10:55:02.5±0.1, 36.97N×27.80E, h10km, MD3.0, Error ellipse: s-maj=3.0km s-min=2.0km az=29.0*
*ISK **11** 10:55:03.7, 37.05N×27.91E, h13km, MD3.0*

ISC 11 10:55:02.3±0.6, 36.96N±0.04×27.80E±0.04, h14km±5km, n15, σ0§92/20, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.30**	**290**	*iP*	**Pg**	**10 55 08.0**	**-0.8**
BDRM				*iS*	**Sg**	**10 55 13.1**	**-0.1**
MLSB	**Milas**	**0.34**	**357**	*iPG*	**Pg**	**10 55 09.3**	**-0.1**
MLSB				*iSG*	**Sg**	**10 55 14.6**	**+0.4**
NISR	**Nisiros**	**0.64**	**237**	*ePB*	**Pb**	**10 55 14.5**	**-0.3**
DALT	**Dalyan (Mudla)**	**0.70**	**106**	PG	**Pg**	**10 55 16.6**	**+0.1**
DALT				SG	**Sg**	**10 55 26.7**	**+0.7**
AYDN	**Tasoluk**	**0.70**	**5**	*iP*	**Pb**	**10 55 15.2**	**-0.6**
AYDN				*iS*	**Sb**	**10 55 23.9**	**-1.2**
ARG	**Arkhangelos**	**0.79**	**160**	*ePB*	**Pb**	**10 55 13.0**	**-4.3**
SMG	**Samos**	**1.07**	**315**	*ePB*	**Pb**	**10 55 22.7**	**+0.6**
FETY	**Fethiye**	**1.08**	**107**	PG	**Pg**	**10 55 23.5**	**-0.5**
DNZL	**Cakiroluk**	**1.23**	**53**	*iP*	**Pb**	**10 55 24.4**	**-0.5**
DNZL				*iS*	**Sb**	**10 55 39.5**	**-0.9**
DENT	**Denizli**	**1.26**	**51**	PN	**Pn**	**10 55 25.2**	**-0.4**
IZM	**Izmir**	**1.50**	**344**	PN	**Pn**	**10 55 31.1**	**+2.1**
KARP	**Karpathos**	**1.50**	**200**	*ePB*	**Pb**	**10 55 28.4**	**-1.1**
BLCB	**Balcova**	**1.54**	**337**	*ePN*	**Pn**	**10 55 31.4**	**+1.8**
ELL	**Elmali**	**1.71**	**96**	*ePN*	**Pn**	**10 55 33.5**	**+1.6**
AKS	**Akhisar**	**1.92**	**0**	*ePN*	**Pn**	**10 55 34.9**	**0.0**

*IDC **11** 11:03:27.5±0.9, 10.83N×91.99E, mb4.0/10, mb1 4.2/11, mb1mx4.1/19, mbtmp4.0/11, ML3.8/1, MS3.1/1, Ms1 3.3/1, ms1mx3.0/17, Error ellipse: s-maj=36.3km s-min=16.3km az=52.0*
*BJI **11** 11:03:30.4, 10.63N×92.25E, h43km, mb4.7*

*NEIC **11** 11:03:32.4±0.6, 10.89N×92.14E, h30km, mb4.5/5, Error ellipse: s-maj=16.4km s-min=9.9km az=59.0*

ISC 11 11:03:29.8±0.6, 10.87N±0.09×92.00E±0.07, h30km, n21, σ1§11/23, mb4.2/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.07**	**43**	*eP*	**Pn**	**11 03 48.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**10.10**	**41**	Pn	**P**	**11 05 53.5**	**-2.7**
	0.2nm,0.3s,baz=232,slow=14,SNR=5.4						
CMAR				LR	LR	11 10 43.5	
	comp=Z,108nm,18.6s,baz=220,slow=43						
VIS	**Vishakhapatnam**	**10.81**	**310**	*eP*	**P**	**11 06 05.1**	**-0.8**
VIS				*e*		11 06 07.0	
	comp=Z,55nm,0.9s						
VIS				*eS*	**S**	**11 07 53.5**	**-13**
HYB	**Hyderabad**	**14.57**	**298**	*iP*	**P**	**11 07 01.5**	**+5.4**
HYB				*eS*	**S**	**11 09 27.5**	**-10**
BHPL	**Bhopal**	**18.57**	**313**	*eP*	**P**	**11 07 39.8**	**-6.9**
LSA	**Lhasa**	**18.75**	**358**	P	**P**	**11 07 50.9**	**+2.0**
	comp=Z,9.4nm,0.6s						
POO	**Poona**	**19.13**	**296**	*e*	**S**	**11 11 20.0**	**-2.2**
ENH	**Enshi**	**25.25**	**38**	*eP*	**P**	**11 08 53.6**	**-1.4**
	comp=Z,14nm,0.6s,mb4.7						
AAK	**Ala-Archa**	**35.14**	**337**	*eP*	**P**	**11 10 24.0**	**+1.0**
	comp=Z,1.9nm,0.7s,mb4.1						
SONM	**Songino Array**	**38.79**	**16**	P	**P**	**11 10 55.0**	**+1.4**
	comp=Z,1.2nm,1.0s,mb3.6,baz=198,slow=8.2,SNR=6.8						
ZAL	**Zalesovo**	**43.34**	**354**	P	**P**	**11 11 31.3**	**+0.4**
	comp=Z,1.0nm,0.7s,mb3.7,baz=301,slow=8.8,SNR=7.1						
BVAR	**Borovoye Array**	**45.50**	**342**	P	**P**	**11 11 48.5**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.7,baz=141,slow=9.5,SNR=5.5						
CHKZ	**Chkalovo**	**45.99**	**342**	*eP*	**P**	**11 11 53.2**	**+1.1**
	comp=Z,4.5nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**51.72**	**126**	P	**P**	**11 12 36.5**	**-0.4**
	comp=Z,6.8nm,0.6s,mb4.8,baz=305,slow=8.6,SNR=28						
WRAB	**Tennant Creek**	**51.72**	**126**	*eP*	**P**	**11 12 36.6**	**-0.3**
	comp=Z,9.2nm,0.6s,mb4.9						
ASAR	**Alice Springs**	**53.45**	**130**	P	**P**	**11 12 49.6**	**-0.1**
	comp=Z,4.1nm,0.6s,mb4.6,baz=304,slow=6.9,SNR=22						
BRTR	**Keskin Array B**	**58.89**	**310**	P	**P**	**11 13 28.4**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.8,baz=135,slow=9.8,SNR=3.5						
STKA	**Stephens Creek**	**63.69**	**134**	P	**P**	**11 14 01.2**	**+0.2**
	comp=Z,1.5nm,0.6s,mb4.2,baz=317,slow=17,SNR=4.0						
AKASG	**Malin Array Be**	**64.51**	**321**	P	**P**	**11 14 06.0**	**-0.2**
	comp=Z,0.3nm,0.4s,mb3.7,baz=90,slow=5.1,SNR=6.4						
FINES	**FINESS Array B**	**69.09**	**332**	P	**P**	**11 14 35.3**	**+0.4**
	comp=Z,1.8nm,0.8s,mb4.0,baz=90,slow=5.7,SNR=5.4						
GERES	**GERESS Array B**	**74.20**	**318**	P	**P**	**11 15 07.2**	**+1.6**
	comp=Z,1.3nm,0.9s,mb3.8,baz=74,slow=9.7,SNR=6.2						

*ATH **11** 11:07:32.7, 36.96N×28.04E, h23km±2km, MD3.0/4*
*NEIC **11** 11:07:32.7, 36.96N×28.04E, h23km, MD3.0(ATH), After ATH.*
*CSEM **11** 11:07:34.0±0.3, 37.07N×27.97E, h40km, MD2.9, Error ellipse: s-maj=9.3km s-min=8.2km az=85.0*
*ISK **11** 11:07:35.4, 37.17N×28.08E, h24km, MD2.9*

ISC 11 11:07:35.0±0.6, 36.95N±0.03×27.83E±0.04, h23km±5km, n15, σ1§03/23, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.33**	**291**	*iP*	**Pb**	**11 07 42.2**	**-0.1**
BDRM				*iS*	**Sb**	**11 07 47.9**	**+0.6**
MLSB	**Milas**	**0.35**	**353**	PG	**Pb**	**11 07 42.5**	**-0.2**
MLSB				SG	**Sb**	**11 07 47.5**	**-0.3**
NISR	**Nisiros**	**0.65**	**239**	*ePN*	**Pn**	**11 07 48.0**	**-0.9**
NISR				*eSN*	**Sn**	**11 08 00.0**	**+1.5**
DALT	**Dalyan (Mudla)**	**0.67**	**105**	PG	**Pb**	**11 07 47.5**	**-0.5**
DALT				SG	**Sb**	**11 07 57.2**	**+0.3**
AYDN	**Tasoluk**	**0.71**	**3**	*iP*	**Pb**	**11 07 48.2**	**-0.5**
AYDN				*iS*	**Sb**	**11 07 57.9**	**-0.1**
ARG	**Arkhangelos**	**0.77**	**162**	*ePN*	**Pn**	**11 07 47.3**	**-3.2**
FETY	**Fethiye**	**1.05**	**107**	*ePG*	**Pb**	**11 07 54.1**	**-0.4**
SMG	**Samos**	**1.09**	**314**	*ePN*	**Pn**	**11 07 55.9**	**+0.7**
DNZL	**Cakiroluk**	**1.22**	**52**	*iP*	**Pn**	**11 07 56.9**	**0.0**
DNZL				*iS*	**Sb**	**11 08 15.2**	**+2.5**
DENT	**Denizli**	**1.25**	**50**	*ePG*	**Pn**	**11 07 53.1**	**-4.3**
KARP	**Karpathos**	**1.50**	**201**	*ePN*	**Pn**	**11 08 01.4**	**+0.5**
IZM	**Izmir**	**1.52**	**343**	*ePN*	**Pn**	**11 07 59.7**	**-1.4**
KDAG	**Bornova**	**1.52**	**343**	*iP*	**Pn**	**11 08 01.4**	**+0.2**
KDAG				*iS*	**Sn**	**11 08 20.1**	**-0.4**
MANT	**Manisa**	**1.65**	**20**	*iP*	**Pn**	**11 08 05.0**	**+2.0**
MANT				*iS*	**Sn**	**11 08 24.1**	**+0.5**
AKS	**Akhisar**	**1.93**	**360**	*ePN*	**Pn**	**11 08 05.0**	**-2.0**

*IDC **11** 11:16:05.8±2.2, 49.16S×161.26E, mb3.9/3, mb1 4.1/4, mb1mx3.8/9, mbtmp3.9/4, ML3.2/1, MS3.5/4, Ms1 3.4/4, ms1mx3.0/14, Error ellipse: s-maj=63.8km s-min=31.4km az=169.0*

ISC 11 11:16:06.1±2.2, 49.2S±0.4×161.2E±0.2, h10km, n14, σ1§29/11, mb3.9/3, MS3.4/3, North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**5.62**	**57**	*eP*	**Pn**	**11 17 32.5**	**+0.8**
MLZ	**Mavora Lakes**	**6.09**	**54**	*eP*	**Pn**	**11

ellipse: s-maj=22.0km s-min=11.7km az=68.0

ISC 11 11:29:53.4±0.7, 10.87N±0.07×91.98E±0.08, h30km, n14, σ0983/15, mb4.2/9, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.08	44	eP	Pn	11 30 13.1	+0.3
PBA				eS	Sn	11 30 25.9	-0.9
PBA				e		11 30 27.6	
	comp=N,4μm,0.4s						
PBA				e		11 30 27.7	
	comp=E,4μm,0.7s						
CMAR	Chiang Mai Arr	10.11	41	Pn	P	11 32 20.5	+0.6
	comp=E,0.2nm,0.3s,baz=233,slow=15,SNR=7.3						
VIS	Vishakhapatnam	10.79	310	eP	P	11 32 28.0	-1.2
ENH	Enshi	25.26	38	eP	P	11 35 17.7	-1.0
	comp=E,11nm,0.6s,mb4.6						
SONM	Songino Array	38.79	16	P	P	11 37 19.6	+2.4
	comp=E,0.4nm,0.6s,mb3.3,baz=200,slow=7.8,SNR=4.6						
FITZ	Fitzroy Crossi	43.97	131	eP	P	11 38 00.3	+0.3
	comp=E,7.8nm,0.6s,mb4.6						
BVAR	Borovoye Array	45.48	342	P	P	11 38 11.9	+0.2
	comp=E,0.4nm,0.5s,mb3.5,baz=140,slow=11,SNR=3.8						
CHKZ	Chkalovo	45.98	342	eP	P	11 38 16.9	+1.3
	comp=E,1.6nm,0.5s,mb4.2						
WRA	Warramunga Arr	51.74	126	P	P	11 39 00.5	-0.1
	comp=E,3.2nm,0.4s,mb4.6,baz=306,slow=8.5,SNR=23						
WRAB	Tennant Creek	51.74	126	eP	P	11 39 00.3	-0.4
	comp=E,10.0nm,0.6s,mb4.9						
WB2	Warramunga Arr	51.75	126	⇑iP	P	11 39 00.6	-0.1
ASPA	Alice Springs	53.47	130	eP	P	11 39 13.3	-0.2
ASAR	Alice Springs	53.47	130	P	P	11 39 13.6	+0.1
	comp=E,2.4nm,0.5s,mb4.4,baz=306,slow=7.0,SNR=51						
GERES	GERESS Array B	74.18	318	P	P	11 41 28.6	-0.5
	comp=E,0.6nm,0.8s,mb3.6,baz=63,slow=9.0,SNR=4.4						

IDC 11 11:49:02.4±7.5, 47.86S×164.39E, mb3.9/3, mb1 4.2/3, mb1mx3.8/8, mbtmp3.9/3, Error ellipse: s-maj=627.9km s-min=111.9km az=44.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	34.19	304	P	P	11 55 49.3	-2.2
	1.5nm,0.9s,baz=139,slow=8.3,SNR=7.0						
WRA	Warramunga Arr	36.96	308	P	P	11 56 13.4	-1.7
	1.4nm,0.9s,baz=148,slow=8.1,SNR=6.4						
CMAR	Chiang Mai Arr	88.11	300	P	P	12 01 54.9	-1.3
	0.9nm,0.8s,baz=143,slow=4.5,SNR=4.9						

*IDC **11** 11:58:43.8±3.5, 5.57S×146.44E, h90km±33km, mb3.6/5, mb1 3.9/8, mb1mx3.9/13, mbtmp4.1/8, MS3.5/2, Ms1 3.5/2, ms1mx2.8/15, Error ellipse: s-maj=46.7km s-min=22.8km az=76.0*

*NEIC **11** 11:58:45.3±2.2, 5.53S×146.30E, h99km±20km, mb4.6/4, Error ellipse: s-maj=21.0km s-min=17.8km az=65.0*

ISC 11 11:58:42.8±2.6, 5.6S±0.1×146.4E±0.2, h98km±23km, n19, σ0963/20, mb4.0/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.89	169	P	P	11 59 42.5	+0.9
	14nm,0.3s,baz=357,slow=5.3,SNR=57						
PMG				S	S	12 00 25.6	-0.8
	24nm,0.3s,baz=185,slow=19,SNR=13						
PMG	Port Moresby	3.89	169	P	P	11 59 42.5	+0.9
PMG				S	S	12 00 25.6	-0.8
CTA	Charters Tower	14.44	181	eP	P	12 02 09.1	+5.5
	7.4nm,1.0s						
CTA	Charters Tower	14.44	181	P	P	12 02 09.0	+5.4
	1.2nm,0.3s,baz=342,slow=15,SNR=11						
CTAO	Charters Tower	14.44	181	eP	P	12 02 08.0	+4.4
KAKA	Kakadu	15.52	242	eP	P	12 02 17.9	+0.5
	15nm,0.4s						
WRAB	Tennant Creek	18.49	218	eP	P	12 02 53.0	-0.8
	15nm,0.4s						
WB2	Warramunga Arr	18.50	218	eP	P	12 02 53.1	-0.7
WRA	Warramunga Arr	18.50	218	P	P	12 02 53.5	-0.4
	1.6nm,0.3s,baz=40,slow=12,SNR=17						
ASAR	Alice Springs	21.66	213	P	P	12 03 27.5	+0.8
	9.1nm,0.9s,mb4.1,baz=48,slow=8.6,SNR=38						
ASAR				LR	LR	12 11 56.1	
	comp=Z,66nm,20.6s,baz=43,slow=37						
ASPA	Alice Springs	21.66	213	eP	P	12 03 27.7	+0.9
FITZ	Fitzroy Crossi	23.82	237	eP	P	12 03 48.1	+0.4
	44nm,0.8s,mb4.8						
STKA	Stephens Creek	26.56	189	eP	P	12 04 13.5	-0.1
	1.5nm,0.4s,mb3.9						
STKA	Stephens Creek	26.56	189	P	P	12 04 13.6	0.0
	1.6nm,0.4s,mb3.9,baz=50,slow=10,SNR=6.9						
JOW	Kunigami	36.69	332	LR	LR	12 18 28.3	
	comp=Z,181nm,21.7s,baz=39,slow=32						
CMAR	Chiang Mai Arr	52.54	298	P	P	12 07 47.9	-0.7
	0.8nm,0.8s,mb3.8,baz=124,slow=5.2,SNR=5.1						
SONM	Songino Array	63.75	331	P	P	12 09 06.4	-0.1
	0.5nm,1.0s,mb3.3,baz=124,slow=5.2,SNR=2.6						
VNDA	Vanda	72.38	177	P	P	12 09 59.7	+0.1
	1.5nm,1.0s,mb3.8,baz=296,slow=2.1,SNR=4.6						
VNDA	Vanda	72.38	177	P	P	12 09 59.7	+0.1

GUC 11 11:59:43.5±0.6, 23.07S×67.43W, h247km±8km, ML3.9, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	0.73	283	eP	P	12 00 18.6	+1.4
SPCH				iS	S	12 00 45.0	+1.7
SPCH				AMP		12 00 54.6	
	comp=E,234nm,0.8s						
LVC	Limon Verde	1.44	288	eP	P	12 00 23.1	+1.7
LVC				iS	S	12 00 52.6	+1.7
LVC				AMP		12 00 54.9	
	comp=E,322nm,0.2s						
ANCH	Antofagasta	2.80	257	⇑iP	P	12 00 39.5	+5.4
ANCH				iS	S	12 01 19.3	+6.0
CPN1	Cerro Paranal	3.13	240	⇑iP	P	12 00 40.1	+2.5
CPN1				iS	S	12 01 23.2	+3.4
CPN1				AMP		12 01 24.9	
	comp=E,623nm,0.3s						

*IDC **11** 12:08:14.1±0.7, 9.08N×91.96E, mb4.3/15, mb1 4.4/16, mb1mx4.2/23, mbtmp4.2/16, ML3.7/1, MS3.2/2, Ms1 3.3/2, ms1mx2.9/22, Error ellipse: s-maj=34.8km s-min=15.2km az=52.0*

*BJI **11** 12:08:16.4, 8.98N×92.19E, h34km, mB4.6, mb4.4, Ms4.3, Msz4.1*

*MOS **11** 12:08:16.8±0.8, 9.06N×92.06E, h33km, mb4.8/8, Error ellipse: s-maj=15.9km s-min=9.5km az=101.7*

*NEIC **11** 12:08:18.4±0.3, 9.08N×92.02E, h30km, mb4.6/8, Error ellipse: s-maj=10.1km s-min=6.5km az=48.0*

ISC 11 12:08:16.3±0.5, 9.05N±0.07×92.05E±0.07, h30km, n59, σ0994/61, mb4.4/28, MS4.2/3, 1C-5D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.49	35	Pn	P	12 11 00.8	-0.8
	0.1nm,0.3s,baz=222,slow=15,SNR=4.4						
CMAR				LR	LR	12 15 23.1	
	comp=Z,50nm,19.9s,baz=220,slow=37						
VIS	Vishakhapatnam	12.09	316	eP	P	12 11 07.4	-2.2
VIS				eS	S	12 13 08.0	-16
VIS				e		12 13 12.9	
	comp=N,177nm,0.2s						
VIS				e		12 13 13.1	
	comp=E,67nm,0.4s						
HYB	Hyderabad	15.54	304	eP	P	12 11 55.0	-0.2
HYB				eS	S	12 14 34.0	-13
HYB	Hyderabad	15.54	304	iP	P	12 11 55.0	-0.2
HYB				eS	S	12 14 34.0	-13
SHL	Shillong	16.42	359	eP	P	12 12 08.5	+2.1
JIRN	Jiri	19.32	344	eP	P	12 12 43.1	+1.1
	comp=E,24nm,0.6s						
PKI	Pulchoki	19.46	342	eP	P	12 12 44.4	+0.8
	comp=E,15nm,0.6s						
GUN	Gumba	19.64	344	eP	P	12 12 45.8	+0.2
	comp=E,22nm,0.6s						
KKN	Kakani	19.70	342	eP	P	12 12 47.3	+1.0
GKN	Gorkha	20.10	341	eP	P	12 12 49.8	-0.8
	comp=E,29nm,0.7s						
KOLN	Koldanda	20.25	338	eP	P	12 12 51.3	-0.8
	comp=E,18nm,0.5s						
LSA	Lhasa	20.56	358	P	P	12 12 55.0	-0.3
LSA	Lhasa	20.56	358	eP	P	12 12 55.2	-0.1
LSA				pmax	pmax		
	comp=Z,15nm,0.6s						
LSA	Lhasa	20.56	358	eP	P	12 12 55.2	-0.1
	comp=Z,15nm,0.6s						
ENH	Enshi	26.67	35	eP	P	12 13 53.5	-1.2
	comp=Z,15nm,0.5s,mb4.8						
NJ2	Nanjing	33.78	44	eP	P	12 14 57.2	-0.6
WMQ	Urumqi	34.84	354	eP	P	12 15 07.4	+0.6
WMQ				AP	pP	12 15 17.1	+1.4
WMQ				XP	sP	12 15 21.0	+1.4
WMQ				PP	PP	12 16 25.6	+0.9
WMQ				S	S	12 20 35.6	+0.8
WMQ				XS		12 20 51.6	
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,28nm,4.9s						
WMQ				LR	LR		
	comp=N,625nm,18.6s,MS4.5						
WMQ				LR	LR		
	comp=E,668nm,18.9s,MS4.5						
WMQ				LR	LR		
	comp=Z,750nm,18.5s,MS4.5						
SSE	Sheshan	34.87	47	P	P	12 15 04.8	-2.4
SSE				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,108nm,4.2s						
AAK	Ala-Archa	36.83	338	⇓eP	P	12 15 24.5	+0.9
AAK				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.4						
AAK	Ala-Archa	36.83	338	eP	P	12 15 23.0	-0.7
	comp=Z,6.9nm,1.0s,mb4.4						
BJT	Baijiatuau	37.59	31	eP	P	12 15 29.9	-0.1
BJT				pmax	pmax		
	comp=Z,11nm,0.7s						
BJT	Baijiatuau	37.59	31	eP	P	12 15 29.9	-0.1
	comp=Z,11nm,0.7s,mb4.7						
SONM	Songino Array	40.52	15	P	P	12 15 55.0	+0.7
	comp=Z,3.8nm,0.9s,mb4.0,baz=199,slow=8.0,SNR=30						
SONM				PcP	PcP	12 17 58.1	+1.0
	comp=Z,2.5nm,0.7s,baz=208,slow=3.7,SNR=13						
ULN	Ulaanbaatar	40.71	16	diP	P	12 15 56.4	+0.5
ULN	Ulaanbaatar	40.71	16	eP	P	12 15 56.6	+0.7
	comp=Z,2.2nm,0.5s,mb4.0						
ZAK	Zakamensk	42.24	11	eP	P	12 16 08.4	-0.1
TLY	Talaya	43.55	10	⇑eP	P	12 16 20.5	+1.4
TLY				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.0						
ZAL	Zalesovo	45.14	354	P	P	12 16 31.6	-0.3
	comp=Z,3.4nm,0.4s,mb4.5,baz=304,slow=5.9,SNR=13						
BVAR	Borovoye Array	47.23	342	P	P	12 16 47.9	-0.5
	comp=Z,0.9nm,0.5s,mb3.9,baz=144,slow=13,SNR=4.1						
CHKZ	Chkalovo	47.73	343	eP	P	12 16 52.6	+0.2
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
CHKZ	Chkalovo	47.73	343	eP	P	12 16 52.6	+0.2
	comp=Z,3.8nm,0.5s,mb4.7						
WRA	Warramunga Arr	50.63	125	P	P	12 17 15.4	+0.4
	comp=Z,2.1nm,0.5s,mb4.3,baz=305,slow=8.5,SNR=25						
WRAB	Tennant Creek	50.63	125	eP	P	12 17 14.7	-0.4
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.9						
WRAB	Tennant Creek	50.63	125	eP	P	12 17 14.7	-0.4
	comp=Z,5.7nm,0.4s,mb4.8						
WB2	Warramunga Arr	50.64	125	eP	P	12 17 15.4	+0.3
BOD	Bodaibo	51.52	15	⇓iP	P	12 17 21.3	0.0
ASAR	Alice Springs	52.26	129	P	P	12 17 27.4	+0.1
	comp=Z,1.3nm,0.4s,mb4.2,baz=301,slow=7.6,SNR=26						
ASAR				PcP	PcP	12 18 39.8	+1.3
	comp=Z,1.0nm,0.6s,baz=309,slow=3.8,SNR=5.2						
ASAR				LR	LR	12 41 03.5	
	comp=Z,58nm,20.4s,MS3.6,baz=196,slow=38						
ARU	Arti	54.01	338	eP	P	12 17 37.0	-2.9
SOC	Sochi	56.91	317	eP	P	12 17 59.7	-1.4
SOC				e		12 18 51.9	
SOC				ePPP	PPP	12 21 33.7	+5.1
SOC				eS	S	12 25 53.9	+2.9
SOC				eSS	SS	12 29 46.9	+6.3
SOC				pmax	pmax		
	comp=Z,63nm,1.3s,mb5.5						
SOC				pmax	pmax		
	comp=N,26nm,0.9s						
SOC				pmax	pmax		
	comp=E,26nm,1.1s						
SOC				MLR	MLR		
	comp=Z,434nm,21.0s,MS4.5						
SOC				MLR	MLR		
	comp=N,620nm,22.0s,MS4.7						
SOC				MLR	MLR		
	comp=E,215nm,24.0s,MS4.7						
YAK	Yakutsk	59.56	20	⇓eP	P	12 18 18.4	-0.9
YAK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
BRTR	Keskin Array B	60.10	311	P	P	12 18 22.3	-1.0
	comp=Z,1.4nm,0.6s,mb4.2,baz=117,slow=5.5,SNR=6.8						
STKA	Stephens Creek	62.41	133	P	P	12 18 40.0	+0.9
	comp=Z,2.2nm,0.7s,mb4.4,baz=347,slow=8.7,SNR=4.4						
TIXI	Tiksi	66.50	12	⇓iP	P	12 19 04.5	-0.5
TIXI				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
MLR	Muntele Rosu	66.89	316	P	P	12 19 08.6	+0.7
MLR	Muntele Rosu	66.89	316	P	P	12 19 08.5	+0.6
	comp=Z,11nm,1.3s,mb4.7,baz=62,slow=3.7,SNR=5.9						
FINES	FINESS Array B	70.71	332	iP	P	12 19 32.2	+0.9
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	FINESS Array B	70.71	332	P	P	12 19 31.0	-0.2
	comp=Z,2.7nm,0.9s,mb4.2,baz=124,slow=6.9,SNR=8.0						
FINES	FINESS Array B	70.71	332	P	P	12 19 31.0	-0.3
ARCES	ARCESS Array B	73.46	340	P	P	12 19 47.5	+0.1
	comp=Z,2.8nm,0.8s,mb4.2,baz=56,slow=6.5,SNR=6.3						
HFS	Hagfors	76.40	330	P	P	12 20 05.0	+0.5
	comp=Z,3.2nm,0.9s,mb4.3,baz=74,slow=10,SNR=4.6						
NOA	NORSAR Array B	77.69	331	P	P	12 20 11.8	+0.2
	comp=Z,0.8nm,0.7s,mb3.8,baz=122,slow=4.1,SNR=2.7						
LPG	La Plagne	80.32	315	eP	P	12 20 25.9	-0.3
	comp=Z,7.2nm,0.7s,mb4.4						
LPG	La Plagne	80.32	315	eP	P	12 20 25.9	-0.3
LPG				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
EKA	Eskdalemuir Ar	85.58	325	P	P	12 20 54.2	+1.3
	comp=Z,1.3nm,0.6s,mb4.4,baz=100,slow=5.1,SNR=3.9						
ILAR	Eielson Array	94.43	22	P	P	12 21 34.5	+0.2
	comp=Z,0.4nm,0.7s,mb4.0,baz=314,slow=4.3,SNR=6.3						
INK	Inuvik	96.43	15	P	P	12 21 44.6	+1.2
	comp=Z,0.9nm,0.6s,mb4.3,baz=296,slow=10.0,SNR=3.7						
PDAR	Pinedale Array	124.78	19	PKP	PKPdf	12 27 17.0	-1.8
	comp=Z,1.0nm,0.7s,baz=5.9,slow=2.0,SNR=10						
NVAR	Mina Array Bea	124.94	29	PKP	PKPdf	12 27 18.4	-0.8
	comp=Z,0.8nm,0.7s,baz=289,slow=3.2,SNR=6.3						
TXAR	Lajitas Array	138.94	21	PKP	PKPdf	12 27 44.4	-1.4
	comp=Z,0.6nm,0.6s,baz=82,slow=0.4,SNR=12						

*ATH **11** 12:13:53.8, 36.77N×28.35E, h10km, MD3.0/3*

*CSEM **11** 12:13:59.7±0.1, 37.00N×27.88E, h16km±1km, MD3.1, Error ellipse: s-maj=3.5km s-min=2.6km az=49.0*

*ISK **11** 12:14:00.0, 37.01N×27.90E, h17km, MD3.1*

ISC 11 12:14:00.4±1.0, 36.97N±0.07×27.85E±0.10, h18km±13km, n8, σ0976/9, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	Milas	0.33	350	PG	Pb	12 14 06.9	-0.5
MLSB				SG	Sb	12 14 11.9	-0.3
NISR	Nisiros	0.68	238	ePB	Pb	12 14 12.6	-0.8
FETY	Fethiye	1.04	108	PG	Pb	12 14 19.9	+0.3
SMG	Samos	1.09	313	ePB	Pb	12 14 22.5	+2.1
DENT	Denizli	1.22	50	PN	Pn	12 14 22.4	-0.3
IZM	Izmir	1.50	342	PN	Pn	12 14 26.6	0.0
ELL	Elmali	1.67	97	ePN	Pn	12 14 29.4	+0.4
AKS	Akhisar	1.90	359	PN	Pn	12 14 32.0	-0.4

*NIED **11** 12:18:00, 36.30N×142.00E, h11km, Mw3.6 Best double couple: M0:3.35×10^14 NP1:φs=10°, δ81°, λ86°. NP2:φs=214°, δ10°, λ114°.*

*JMA **11** 12:18:52.0±0.2, 36.32N×141.99E, h62km±5km, M3.6*

ISC 11 12:18:49.5±2.5, 36.31N±0.09×142.1E±0.2, h11km±24km, n7, σ0948/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	1.18	239	P	Pb	12 19 11.8	+0.4
CHOJ				S	Sb	12 19 26.6	+0.2
JHO	Hitachi	1.27	284	P	Pb	12 19 12.6	-0.4
JHO				S	Sb	12 19 28.4	-0.8
BSO1	Boso 1	1.89	209	P	Pn	12 19 22.0	-0.1
BSO1				S	Sn	12 19 45.4	-0.6
BSO3	Boso 3	1.98	221	P	Pn	12 19 23.6	+0.2
JAG	Ashikaga	2.14	274	P	Pn	12 19 25.2	-0.5
JKT	Katashina	2.34	282	P	Pn	12 19 29.0	+0.4
MAT	Matsushiro	3.15	275	P	Pn	12 19 40.3	+0.2
MAT				S	Sn	12 20 18.8	+0.8

*IDC **11** 12:18:55.4±1.1, 6.37N×125.57E, mb3.6/4, mb1 3.7/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=185.2km s-min=20.9km az=72.0*

*MAN **11** 12:19:02.7, 6.42N×126.17E, h4km, mb4.6, ML3.5, MS3.5*

ISC 11 12:18:58.3±0.8, 6.21N±0.05×126.38E±0.08, h10km, n11, σ1911/15, mb3.8/5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.74	350	eP	Pb	12 19 12.8	-0.1
MATI				eS	Sb	12 19 22.0	-0.9
KCP	Kidapawan	1.51	302	⇑eP	Pn	12 19 25.8	+0.2
KCP				iS	Sb	12 19 44.2	-0.8
BIPH	Bislig	1.96	359	⇓eP	Pn	12 19 30.1	-2.0
BIPH				eS	Sn	12 19 50.6	-6.3
BUKP	Musuan	2.11	322	eP	Pn	12 19 34.0	-0.3
PAGZ	Pagadian	3.39	299	eP	Pn	12 19 53.4	+0.9
SCPH	Surigao	3.66	346	eP	Pn	12 19 58.4	+2.2
SCPH				eS	Sn	12 20 42.0	+2.1
WRA	Warramunga Arr	27.14	163	P	P	12 24 44.4	+0.5
	0.4nm,0.5s,mb3.2,baz=342,slow=10,SNR=3.6						
ASAR	Alice Springs	30.59	166	P	P	12 25 14.2	-0.6
	0.4nm,0.5s,mb3.5,baz=341,slow=7.0,SNR=8.9						
ASAR				PcP	PcP	12 28 11.1	-2.4
	0.4nm,0.6s,baz=337,slow=2.2,SNR=9.7						
STKA	Stephens Creek	40.56	160	P	P	12 26 39.6	-0.1
	2.2nm,1.0s,mb3.8,baz=336,slow=12,SNR=2.9						
SONM	Songino Array	44.85	341	P	P	12 27 07.8	-6.8
	0.6nm,1.0s,mb3.4,baz=162,slow=9.1,SNR=2.0						
ARCES	ARCESS Array B	88.02	340	P	P	12 31 45.5	-4.2
	8.5nm,1.2s,mb4.9,baz=79,slow=4.6,SNR=4.1						

*ATH **11** 12:41:02.6, 36.91N×27.81E, h32km, MD2.9/4*

*CSEM **11** 12:41:02.9±0.2, 36.98N×27.78E, h15km, MD3.1, Error ellipse: s-maj=6.1km s-min=2.8km az=50.0*

*ISK **11** 12:41:02.4, 36.97N×27.74E, h12km, MD3.1*

*NEIC **11** 12:41:02.6, 36.91N×27.81E, h32km, MD2.9(ATH), After ATH.*

ISC 11 12:41:01.8±1.5, 36.92N±0.06×27.7E±0.1, h8km±16km, n8, σ0958/10, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	Milas	0.39	10	PG	Pg	12 41 09.1	-0.6
MLSB				SG	Sg	12 41 14.8	-0.1
NISR	Nisiros	0.55	237	ePN	Pn	12 41 15.5	0.0
DALT	Dalyan (Mudla)	0.77	101	PG	Pg	12 41 17.4	+0.2
DALT				SG	Sg	12 41 28.1	+0.6
ARG	Arkhangelos	0.78	153	ePN	Pn	12 41 17.5	-1.3
SMG	Samos	1.05	319	ePN	Pn	12 41 23.5	+0.8
KARP	Karpathos	1.43	198	ePN	Pn	12 41 28.6	+0.5
BLCB	Balcova	1.56	341	ePN	Pn	12 41 30.2	+0.3
AKS	Akhisar	1.96	3	ePN	Pn	12 41 35.4	-0.3

IDC 11 12:43:40.2±2.0, 5.78S×149.07E, mb3.2/3, mb1 3.6/4, mb1mx3.4/13, mbtmp3.3/4, ML1.9/1, Error ellipse: s-maj=121.9km s-min=28.0km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.07	208	Pn	Pn	12 44 43.3	-1.8
	0.6nm,0.3s,baz=34,slow=7.3,SNR=3.1						
PMG				Sn	Sn	12 45 23.1	-11
	2.7nm,0.3s,baz=6.4,slow=22,SNR=6.8						
WRA	Warramunga Arr	20.08	224	P	P	12 48 15.6	-2.8
	0.2nm,0.4s,baz=50,slow=10,SNR=4.7						
ASAR	Alice Springs	23.01	218	P	P	12 48 47.2	-0.8
	0.3nm,0.3s,baz=49,slow=9.0,SNR=9.8						
ILAR	Eielson Array	84.47	23	P	P	12 56 14.7	-1.2
	0.6nm,1.1s,baz=231,slow=5.9,SNR=4.2						

*SFS **11** 12:52:39.0, 37.75N×3.20W*

*NEIC **11** 12:52:39.4, 36.76N×3.20W, MN2.5(MDD), After MDD.*

*CSEM **11** 12:52:40.9±0.2, 36.86N×3.12W, h2km, mb2.5*

MDD 11 12:52:39.8±0.5, 36.78N×3.19W, mbLg2.6/19, 1C, Error ellipse: s-maj=6.8km s-min=1.5km az=1.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBER	Berja	0.27	65	⇑Pg	Pg	12 52 44.7	-0.4
	138nm,0.2s,SNR=18						
EBER				Lg		12 52 48.4	
	2μm,0.3s,SNR=7.9						
EBER	Berja	0.27	65	Pg	Pg	12 52 44.7	-0.4
	155nm,0.3s,SNR=18						
EBER				Lg		12 52 48.4	
	1μm,0.2s,SNR=7.9						
ERON	Agron	0.55	296	Pg	Pg	12 52 49.4	-1.3
ERON				Lg		12 52 57.3	
ERON	Agron	0.55	296	Pg	Pg	12 52 49.9	-0.8
	27nm,0.1s,SNR=33						
ERON				Lg		12 52 57.3	
	100nm,0.2s,SNR=29						
ERON	Agron	0.55	296	Pg	Pg	12 52 49.4	-1.3
	14nm,0.2s,SNR=33						
ERON				Lg		12 52 57.3	
	78nm,0.1s,SNR=29						
ENIJ	Nijar	0.81	76	Pg	Pg	12 52 54.2	-1.8
ENIJ				Lg		12 53 05.5	
ENIJ	Nijar	0.81	76	Pg	Pg	12 52 54.5	-1.5
	27nm,0.3s,SNR=7.9						
ENIJ				Lg		12 53 06.1	
	118nm,0.2s,SNR=7.9						
ENIJ	Nijar	0.81	76	Pg	Pg	12 52 54.2	-1.8
	5.7nm,0.1s,SNR=7.9						
ELOJ	Sierra Loja	0.85	296	Pg	Pg	12 52 55.3	-1.5
ELOJ				Lg		12 53 07.3	
ELOJ	Sierra Loja	0.85	296	Pg	Pg	12 52 55.3	-1.5
	33nm,0.3s,SNR=19						
ELOJ				Lg		12 53 06.7	
	30nm,0.2s,SNR=5.0						
EMAL	Malaga-Limoner	0.99	269	Pg	Pg	12 52 57.0	-2.6
EMAL				Lg		12 53 08.8	
EMAL	Malaga-Limoner	0.99	269	Pg	Pg	12

EADA			Sn	Sn	12 53 33.1	-2.3
EADA			Lg		12 53 35.9	
EADA	**Adamuz**	**1.77 322**	Pn	Pn	12 53 10.3	-1.5
	0.6nm,0.1s,SNR=4.0					
EADA			Pg	Pg	12 53 11.6	-3.4
	12nm,0.2s,SNR=7.9					
EADA			Lg		12 53 33.4	
	93nm,0.5s,SNR=7.9					
EADA	**Adamuz**	**1.77 322**	Pn	Pn	12 53 11.0	-0.9
	12nm,0.2s,SNR=7.9					
EADA			Sn	Sn	12 53 33.1	-2.3
	SNR=4.0					
LIJA	**Lijar**	**1.78 275**	Pg	Pg	12 53 14.0	-1.3
LIJA			Lg		12 53 42.2	
LIJA	**Lijar**	**1.78 275**	*e*S	Sn	12 53 42.2	+6.5
LIJA	**Lijar**	**1.78 275**	*e*P	Pn	12 53 14.0	+2.0
EMUR	**La Murta**	**1.88 55**	Pg	Pg	12 53 13.8	-3.5
EMUR			Lg		12 53 39.4	
EMUR	**La Murta**	**1.88 55**	Pg	Pg	12 53 13.3	-4.0
	11nm,0.4s,SNR=7.9					
EMUR			Lg		12 53 34.5	
	22nm,0.5s,SNR=4.0					
EMUR	**La Murta**	**1.88 55**	Pg	Pg	12 53 13.8	-3.5
	5.9nm,0.3s,SNR=7.9					
EVIA	**Vianos**	**1.93 16**	Pg	Pg	12 53 13.9	-4.4
EVIA			Lg		12 53 39.1	
EVIA	**Vianos**	**1.93 16**	Pg	Pg	12 53 13.9	-4.4
	46nm,0.4s,SNR=43					
EVIA			Lg		12 53 36.5	
	85nm,0.4s,SNR=5.0					
ESPR	**Espera**	**2.14 273**	Pg	Pg	12 53 21.8	-0.7
ESPR			Lg		12 53 50.4	
ESPR	**Espera**	**2.14 273**	Pg	Pg	12 53 19.3	-3.2
	5.9nm,0.4s,SNR=4.0					
ESPR			Lg		12 53 48.0	
	32nm,0.5s,SNR=4.0					
ESPR	**Espera**	**2.14 273**	Pg	Pg	12 53 21.8	-0.7
	1.0nm,0.1s,SNR=4.0					
EMIN	**Mina Concepcio**	**2.95 291**	Pn	Pn	12 53 26.8	-1.9
EMIN			Sn	Sn	12 54 00.3	-5.0
EMIN			Lg		12 54 13.7	
EMIN	**Mina Concepcio**	**2.95 291**	Pn	Pn	12 53 26.6	-2.1
	1.4nm,0.2s,SNR=7.9					
EMIN			Sn	Sn	12 54 01.0	-4.3
	3.3nm,0.3s,SNR=7.9					
EMIN			Lg		12 54 12.9	
	9.3nm,0.4s,SNR=7.9					
EMIN	**Mina Concepcio**	**2.95 291**	Pn	Pn	12 53 26.8	-1.9
	1.7nm,0.2s,SNR=7.9					
EMIN			Sn	Sn	12 54 00.3	-5.0
	SNR=7.9					
ESDC	**Sonseca Array**	**2.95 348**	Pn	Pn	12 53 28.4	-0.3
ESDC			Pg	Pg	12 53 33.6	-5.0
ESDC			Lg		12 54 10.2	
ESDC	**Sonseca Array**	**2.95 348**	Pg	Pg	12 53 33.6	-5.0
	2.1nm,0.1s,baz=168,slow=16,SNR=7.5					
ESDC			Lg		12 54 10.7	
	19nm,0.3s,baz=162,slow=28,SNR=10					
ESDC	**Sonseca Array**	**2.95 348**	Pn	Pn	12 53 28.4	-0.4
	1.3nm,0.5s,SNR=7.5					
ESDC	**Sonseca Array**	**2.95 348**	Pg	Pg	12 53 33.6	-5.1
	4.2nm,0.6s,SNR=7.5					
EBEN	**Beniarda**	**3.03 50**	Pn	Pn	12 53 28.1	-1.9
	1.2nm,0.4s,SNR=7.9					
EBEN			Pg	Pg	12 53 36.9	-3.4
	2.4nm,0.4s,SNR=7.9					
EBEN			Lg		12 54 16.6	
	5.1nm,0.4s,SNR=7.9					
PALC	**Alcoutim**	**3.49 283**	*e*Pn	Pn	12 53 35.4	-1.1
PALC			*e*Sn	Sn	12 54 15.5	-3.6
	7.3nm,0.5s					
PALC	**Alcoutim**	**3.49 283**	Pn	Pn	12 53 35.4	-1.1
PALC			Sn	Sn	12 54 15.5	-3.6
	3.7nm,0.5s					
EGRO	**El Granado**	**3.51 284**	Pn	Pn	12 53 35.4	-1.3
EGRO			Sn	Sn	12 54 15.9	-3.6
EGRO			Lg		12 54 33.1	
EGRO	**El Granado**	**3.51 284**	Pn	Pn	12 53 35.4	-1.3
	1.4nm,0.4s,SNR=4.0					
EGRO			Sn	Sn	12 54 14.9	-4.6
	6.1nm,0.3s,SNR=7.9					
EGRO			Lg		12 54 30.3	
	5.0nm,0.3s,SNR=7.9					
EGRO	**El Granado**	**3.51 284**	Pn	Pn	12 53 35.4	-1.3
	SNR=4.0					
EGRO			Sn	Sn	12 54 16.0	-3.6
	SNR=7.9					
EBAD	**Badajoz**	**3.61 304**	Pn	Pn	12 53 36.5	-1.6
EBAD			Sn	Sn	12 54 18.0	-4.1
EBAD			Lg		12 54 37.3	
EBAD	**Badajoz**	**3.61 304**	Pn	Pn	12 53 36.7	-1.4
	0.6nm,0.2s,SNR=7.9					
EBAD			Pg	Pg	12 53 44.6	-7.3
	2.7nm,0.3s,SNR=7.9					
EBAD			Sn	Sn	12 54 16.3	-5.9
	5.3nm,0.2s,SNR=7.9					
EBAD			Lg		12 54 34.3	
	10nm,0.2s,SNR=7.9					
EBAD	**Badajoz**	**3.61 304**	Pn	Pn	12 53 36.5	-1.7
EBAD			Sn	Sn	12 54 18.0	-4.2
GUD	**Guadarrama**	**3.93 349**	Pg	Pg	12 53 51.9	-6.2
GUD			Lg		12 54 40.8	
GUD	**Guadarrama**	**3.93 349**	Pn	Pn	12 53 40.7	-1.9
	0.4nm,0.2s,SNR=4.0					
GUD			Pg	Pg	12 53 50.9	-7.2
	1.8nm,0.3s,SNR=7.9					
GUD			Lg		12 54 40.8	
	7.2nm,0.3s,SNR=7.8					
GUD	**Guadarrama**	**3.93 349**	Pg	Pg	12 53 51.9	-6.3
EMOS	**Mosqueruela**	**4.16 30**	Pn	Pn	12 53 44.4	-1.5
EMOS			Pg	Pg	12 53 56.8	-6.0
EMOS			Lg		12 54 53.2	
EMOS	**Mosqueruela**	**4.16 30**	Pn	Pn	12 53 44.1	-1.9
	1.1nm,0.3s,SNR=4.0					
EMOS			Pg	Pg	12 53 55.9	-7.0
	3.2nm,0.4s,SNR=4.0					
EMOS			Lg		12 54 54.4	
	2.3nm,0.4s,SNR=4.0					
EMOS	**Mosqueruela**	**4.16 30**	Pn	Pn	12 53 44.4	-1.6
EMOS	**Mosqueruela**	**4.16 30**	Pg	Pg	12 53 56.8	-6.0
EIBI	**Ibiza**	**4.23 57**	Pn	Pn	12 53 44.8	-2.1
	1.3nm,0.3s,SNR=7.9					
EIBI			Sn	Sn	12 54 29.6	-8.2
	2.2nm,0.3s,SNR=7.9					
MOE	**Montemor**	**4.45 295**	*e*Pn	Pn	12 53 47.7	-2.3
MOE			*e*Sn	Sn	12 54 39.7	-3.6
PCBR	**Castelo Branco**	**4.55 313**	*e*Pn	Pn	12 53 49.5	-2.0
	6.5nm,0.7s					
PCBR	**Castelo Branco**	**4.55 313**	*e*Pn	Pn	12 53 49.5	-2.0
	6.5nm,0.7s					
ERTA	**Horta de San J**	**4.99 32**	Pn	Pn	12 53 56.7	-1.0
ERTA	**Horta de San J**	**4.99 32**	Pn	Pn	12 53 56.1	-1.6
	2.3nm,0.5s,SNR=4.0					
ERTA	**Horta de San J**	**4.99 32**	Pn	Pn	12 53 56.7	-1.1
ESAC	**San Caprasio**	**5.36 22**	Lg		12 55 27.8	
	30nm,0.5s,SNR=7.9					
ECAL	**Calabor**	**5.84 333**	Pn	Pn	12 54 07.2	-2.5
	0.7nm,0.3s,SNR=7.9					
ECAL			Lg		12 55 41.3	
	9.4nm,0.4s,SNR=7.9					

*IDC **11** 13:05:58.8±11.0, 52.92N×171.49W, mb3.4/4, mb1 3.7/5, mb1mx3.5/22, mbtmp3.4/5, ML3.4/1, Error ellipse: s-maj=221.2km s-min=46.3km az=82.0*
*NEIC **11** 13:06:30.3, 53.56N×166.55W, h64km, ML3.5(AEIC), After AEIC.*

ISC 11 13:06:29.1±0.6, **53.6N**±0.1×**166.6W**±0.1, **h73**km±5km, **n29, σ0s57/35, mb3.3/4, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.23**	**13**	P	**P**	**13 06 40.0**	**-0.2**
UNV				S	**S**	**13 06 48.1**	**-0.4**
MNAT	**Makushin Natee**	**0.27**	**348**	P	**P**	**13 06 40.4**	**-0.1**
MNAT				S	**S**	**13 06 48.9**	**-0.1**
MSW	**Makushin Switc**	**0.31**	**339**	P	**P**	**13 06 40.6**	**-0.2**
MTBL	**Makushin Table**	**0.35**	**352**	P	**P**	**13 06 41.1**	**+0.1**
LVA	**Lava Point**	**0.63**	**31**	P	**P**	**13 06 43.9**	**+0.2**
AKLV	**Akutan Long Va**	**0.66**	**35**	P	**P**	**13 06 43.8**	**-0.1**
AHB	**Akutan Harbor**	**0.67**	**43**	P	**P**	**13 06 44.1**	**0.0**
AKGG	**Akutan Green G**	**0.68**	**31**	P	**P**	**13 06 44.3**	**+0.1**
AKA	**Akutan**	**0.71**	**43**	P	**P**	**13 06 44.4**	**-0.1**
AKA				S	**S**	**13 06 55.8**	**-0.1**
OKFG	**Magazine Ridge**	**0.82**	**255**	P	**P**	**13 06 45.7**	**0.0**
OKFG				S	**S**	**13 06 58.1**	**0.0**
OKCD	**Okmok Cone D**	**0.93**	**259**	P	**P**	**13 06 47.0**	**0.0**
OKCE	**Okmok Cone E**	**0.96**	**259**	P	**P**	**13 06 47.7**	**+0.3**
WESS	**West Dahl Sout**	**1.40**	**51**	P	**P**	**13 06 53.4**	**+0.1**
WESS				S	**S**	**13 07 11.3**	**+0.1**
WFAR	**Faris Peak**	**1.41**	**49**	P	**P**	**13 06 53.5**	**+0.1**
NIKO	**Nikolski**	**1.51**	**245**	P	**P**	**13 06 54.7**	**0.0**
NIKO				S	**S**	**13 07 14.0**	**+0.3**
WESN	**West Dahl Nort**	**1.52**	**51**	P	**P**	**13 06 55.0**	**+0.2**
WTUG	**Tugumak**	**1.78**	**46**	P	**P**	**13 06 58.1**	**-0.4**
SSLS	**Shishaldin Sou**	**1.88**	**53**	P	**P**	**13 07 00.2**	**+0.5**
SSLN	**Shishaldin Nor**	**1.94**	**51**	P	**P**	**13 07 00.8**	**+0.3**
FALS	**False Pass**	**2.24**	**55**	P	**P**	**13 07 04.8**	**+0.1**
BALA	**Baldy Mountain**	**2.73**	**53**	P	**P**	**13 07 11.9**	**+0.3**
DOL	**Dolgoi Island**	**3.16**	**59**	P	**P**	**13 07 17.4**	**-0.4**
HAG	**Hague Volcano**	**3.22**	**56**	P	**P**	**13 07 18.6**	**+0.1**
SPIA	**Saint Paul Isl**	**4.13**	**331**	P	**P**	**13 07 30.8**	**-0.4**
ILAR	**Eielson Array**	**14.97**	**34**	Pn	**P**	**13 09 59.1**	**+1.7**
	0.1nm,0.3s,baz=232,slow=12,SNR=4.6						
INK	**Inuvik**	**21.37**	**34**	P	**P**	**13 11 11.6**	**-0.2**
	1.8nm,0.6s,mb3.6,baz=250,slow=6.0,SNR=6.2						
YKA	**Yellowknife Ar**	**28.15**	**51**	P	**P**	**13 12 14.6**	**-1.3**
	0.2nm,0.4s,mb3.0,baz=276,slow=8.4,SNR=6.3						
PDAR	**Pinedale Array**	**38.55**	**83**	P	**P**	**13 13 49.0**	**+3.2**
	0.3nm,0.7s,mb3.2,baz=301,slow=5.3,SNR=3.1						
TXAR	**Lajitas Array**	**51.08**	**92**	P	**P**	**13 15 24.6**	**-1.4**
	0.2nm,0.4s,mb3.5,baz=286,slow=4.6,SNR=5.2						

*ATH **11** 13:09:55.8, 36.97N×27.99E, h27km, MD3.2/4*
*NEIC **11** 13:09:55.8, 36.97N×27.99E, h27km, MD3.2(ATH), After ATH.*
*CSEM **11** 13:09:56.9±0.1, 36.97N×27.89E, h17km±1km, MD3.1, Error ellipse: s-maj=5.1km s-min=2.5km az=75.0*
*ISK **11** 13:09:56.4, 36.94N×27.83E, h21km, MD3.1*

ISC 11 13:09:57.2±0.9, **36.94N**±0.05×**27.82E**±0.08, **h21**km±11km, **n11, σ0s72/13, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.36**	**355**	PG	**Pb**	**13 10 04.6**	**-0.2**
MLSB				SG	**Sb**	**13 10 09.9**	**-0.1**
NISR	**Nisiros**	**0.64**	**240**	*e*PN	**Pn**	**13 10 11.1**	**+0.2**
DALT	**Dalyan (Mudla)**	**0.68**	**104**	PG	**Pb**	**13 10 10.4**	**+0.2**
DALT				SG	**Sb**	**13 10 19.9**	**+0.8**
ARG	**Arkhangelos**	**0.76**	**161**	*e*PN	**Pn**	**13 10 10.9**	**-1.8**
FETY	**Fethiye**	**1.06**	**106**	PG	**Pb**	**13 10 16.1**	**-0.6**
SMG	**Samos**	**1.10**	**315**	*e*PN	**Pn**	**13 10 18.1**	**+0.7**
DENT	**Denizli**	**1.27**	**50**	*e*PN	**Pn**	**13 10 20.2**	**+0.4**
KARP	**Karpathos**	**1.49**	**201**	*e*PN	**Pn**	**13 10 23.9**	**+0.9**
IZM	**Izmir**	**1.52**	**343**	*e*PN	**Pn**	**13 10 22.5**	**-1.0**
BLCB	**Balcova**	**1.57**	**337**	*e*PN	**Pn**	**13 10 24.8**	**+0.6**
AKS	**Akhisar**	**1.94**	**360**	*e*PN	**Pn**	**13 10 29.3**	**-0.1**

*IDC **11** 13:27:54.5±0.8, 13.71N×93.49E, mb4.1/9, mb1 4.4/10, mb1mx4.1/20, mbtmp4.1/10, ML4.6/1, MS2.9/1, Ms1 3.2/1, ms1mx2.7/18, Error ellipse: s-maj=30.5km s-min=17.1km az=55.0*
*BJI **11** 13:27:57.0, 13.54N×93.73E, h39km, mb4.3*
*NEIC **11** 13:27:59.3±0.5, 13.73N×93.57E, h30km, mb4.5/5, Error ellipse: s-maj=14.7km s-min=8.0km az=61.0*

ISC 11 13:27:57.6±0.5, **13.71N**±0.06×**93.48E**±0.05, **h33**km, **n36, σ0s97/41, mb4.2/14, 2D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.16**	**199**	*e*P	**P**	**13 28 40.4**	**+8.5**
PBA				*e*S	**S**	**13 29 10.7**	**+13**
PBA				*e*		13 29 13.8	
	comp=E,2μm,0.4s						
PBA				*e*		13 29 14.0	
	comp=N,2μm,0.6s						
PBA	**Port Blair**	**2.16**	**199**	*e*P	**P**	**13 28 40.4**	**+8.5**
PBA				*e*S	**S**	**13 29 10.7**	**+13**
NNT	**Nongplab**	**6.20**	**100**	P	**P**	**13 29 31.5**	**+2.4**
NST	**Nakhon Sawan**	**6.73**	**72**	P	**P**	**13 29 37.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**7.06**	**47**	Pn	**Pn**	**13 29 40.0**	**-1.5**
	comp=N,2.7nm,0.3s,baz=240,slow=15,SNR=50						
CMAR				Sn	**Sn**	**13 31 01.6**	**+0.1**
	comp=N,0.7nm,0.3s,baz=237,slow=24,SNR=5.4						
CMAR				LR	LR	13 32 34.9	
	comp=N,97nm,18.4s,baz=220,slow=40						
CHG	**Chiang Mai**	**7.30**	**45**	PG	**P**	**13 29 43.7**	**-0.9**
CHG				SG	rx	13 29 45.7	
KKTK	**Khon Kaen**	**9.40**	**73**	P	**P**	**13 30 16.0**	**+2.2**
	comp=N,340nm,0.7s						
BWNR	**Bhubaneshwar**	**9.83**	**313**	*e*P	**P**	**13 30 17.6**	**-2.3**
BWNR				*e*S	**S**	**13 31 56.9**	**-13**
BWNR				*e*		13 32 00.6	
	comp=E,220nm,0.4s						
BWNR				*e*		13 32 00.6	
	comp=N,147nm,0.3s						
VIS	**Vishakhapatnam**	**10.55**	**294**	*e*P	**P**	**13 30 29.7**	**-0.1**
VIS				*e*		13 30 30.6	
	comp=Z,22nm,0.3s						
VIS				*e*S	**S**	**13 32 15.5**	**-12**
SHL	**Shillong**	**11.89**	**353**	*e*P	**P**	**13 30 48.0**	**+0.1**
SHL				*e*S	**S**	**13 32 48.0**	**-12**
HYB	**Hyderabad**	**14.84**	**286**	*i* P	**P**	**13 31 33.0**	**+6.0**
JIRN	**Jiri**	**15.46**	**335**	*e*P	**P**	**13 31 35.3**	**+0.4**
	comp=Z,7.1nm,0.3s						
PKI	**Pulchoki**	**15.71**	**333**	*e*P	**P**	**13 31 38.4**	**+0.2**
	comp=Z,6.3nm,0.3s						
GUN	**Gumba**	**15.81**	**335**	*e*P	**P**	**13 31 39.8**	**+0.4**
	comp=Z,12nm,0.8s						
KKN	**Kakani**	**15.96**	**333**	*e*P	**P**	**13 31 41.9**	**+0.5**
LSA	**Lhasa**	**16.06**	**353**	P	**P**	**13 31 46.0**	**+3.4**
LSA	**Lhasa**	**16.06**	**353**	*e*P	**P**	**13 31 45.4**	**+2.8**
	comp=Z,22nm,0.5s						
GKN	**Gorkha**	**16.44**	**331**	*e*P	**P**	**13 31 48.2**	**+0.8**
	comp=Z,8.5nm,0.3s						
KOLN	**Koldanda**	**16.75**	**328**	*e*P	**P**	**13 31 52.4**	**+1.0**
	comp=Z,10nm,0.6s						
ENH	**Enshi**	**22.14**	**39**	*e*P	**P**	**13 32 50.4**	**-1.7**
	comp=Z,20nm,0.7s,mb4.6						
XAN	**Xi'an**	**24.62**	**32**	P	**P**	**13 33 14.9**	**-1.4**
XAN				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.4						
SONM	**Songino Array**	**35.69**	**15**	P	**P**	**13 34 54.5**	**-0.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=207,slow=9.0,SNR=10						
ZAL	**Zasovo**	**40.71**	**352**	P	**P**	**13 35 36.1**	**-0.6**
	comp=Z,3.8nm,0.5s,mb4.3,baz=310,slow=7.8,SNR=17						
BVAR	**Borovoye Array**	**43.31**	**340**	P	**P**	**13 35 58.0**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.4,baz=143,slow=7.4,SNR=4.1						
BVAR				PcP	PcP	13 37 47.2	+0.1
	comp=Z,0.3nm,0.5s,baz=137,slow=5.0,SNR=2.7						
CHKZ	**Chkalovo**	**43.77**	**340**	*e*P	**P**	**13 36 01.8**	**+0.1**
	comp=Z,2.6nm,0.5s,mb4.2						
FITZ	**Fitzroy Crossi**	**44.78**	**134**	⇓*i*P	**P**	**13 36 10.6**	**+0.3**
	comp=Z,3.0nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**52.29**	**129**	P	**P**	**13 37 08.0**	**-0.4**
	comp=Z,0.7nm,0.3s,mb4.0,baz=306,slow=10,SNR=31						
WRA				PcP	PcP	13 38 18.4	-1.2
	comp=Z,0.8nm,0.7s,baz=319,slow=3.4,SNR=8.0						
WRAB	**Tennant Creek**	**52.29**	**129**	*e*P	**P**	**13 37 07.5**	**-0.9**
	comp=Z,2.4nm,0.4s,mb4.5						
WB2	**Warramunga Arr**	**52.30**	**129**	⇓*i*P	**P**	**13 37 08.3**	**-0.2**
ASPA	**Alice Springs**	**54.24**	**133**	*e*P	**P**	**13 37 22.7**	**-0.2**
ASAR	**Alice Springs**	**54.24**	**133**	P	**P**	**13 37 22.8**	**-0.1**
	comp=Z,1.0nm,0.4s,mb4.1,baz=310,slow=7.2,SNR=30						
MLR	**Muntele Rosu**	**64.62**	**314**	P	**P**	**13 38 34.7**	**+0.6**
	comp=Z,1.9nm,0.7s,mb4.3,baz=192,slow=5.8,SNR=4.5						
FINES	**FINESS Array B**	**67.30**	**331**	P	**P**	**13 38 50.2**	**-0.7**
	comp=Z,1.4nm,0.7s,mb4.1,baz=135,slow=5.4,SNR=5.2						
ARCES	**ARCESS Array B**	**69.60**	**340**	P	**P**	**13 39 05.3**	**+0.2**
	comp=Z,6.6nm,1.1s,mb4.5,baz=87,slow=5.8,SNR=6.2						
GERES	**GERESS Array B**	**73.10**	**317**	P	**P**	**13 39 27.3**	**+0.8**
	comp=Z,1.1nm,0.6s,mb3.9,baz=76,slow=5.5,SNR=7.7						
SJG	**San Juan**	**142.54**	**327**	PKPdf	PKPdf	13 47 26.5	-1.6

*IDC **11** 13:36:02.8±0.7, 20.43S×68.86W, h99km±7km, mb3.7/5, mb1 3.9/7, mb1mx3.7/14, mbtmp4.1/7, Error ellipse: s-maj=28.2km s-min=9.0km az=89.0*
*NEIC **11** 13:36:03.3±0.8, 20.46S×68.92W, h105km±9km, mb4.2/1, Error ellipse: s-maj=18.0km s-min=9.8km az=77.0*

ISC 11 13:36:01.5±0.7, **20.36S**±0.05×**68.9W**±0.1, **h103**km±9km, **h97**km±1.5km: **pP-P, n11, σ1s08/13, mb3.8/4, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.25**	**181**	P	**P**	**13 36 38.6**	**+0.6**
	66nm,0.3s,baz=23,slow=11,SNR=323						
LVC				S	**S**	**13 37 05.2**	**0.0**
	103nm,0.3s,baz=129,slow=21,SNR=10						
LPAZ	**La Paz**	**4.11**	**10**	P	**P**	**13 37 06.5**	**+3.1**
	2.1nm,0.3s,baz=188,slow=9.3,SNR=108						
LPAZ				S	**S**	**13 37 49.9**	**-0.8**
	1.6nm,0.3s,baz=159,slow=12,SNR=4.6						
ARE	**Arequipa**	**4.61**	**327**	*e*P	**P**	**13 37 11.0**	**+0.7**
ARE				*e*S	**S**	**13 38 02.0**	**-1.0**
TRQA	**Tornquist**	**18.62**	**163**	*e*P	**P**	**13 40 11.3**	**-2.1**
	9.1nm,0.7s						
BDFB	**Brasilia**	**20.37**	**80**	P	**P**	**13 40 32.9**	**+0.9**
	4.3nm,0.4s,baz=265,slow=8.6,SNR=6.8						
DBIC	**Dimbokro**	**68.37**	**74**	P	**P**	**13 46 53.1**	**-1.3**
	1.5nm,0.5s,mb4.1,baz=215,slow=8.8,SNR=4.7						
NVAR	**Mina Array Bea**	**74.63**	**322**	P	**P**	**13 47 32.3**	**+0.9**
	0.4nm,0.6s,mb3.3,baz=135,slow=7.7,SNR=3.7						
NVAR				pP	pP	13 47 57.0	-0.9
	0.7nm,0.6s,baz=157,slow=6.9,SNR=3.3						
SCHQ	**Schefferville**	**74.90**	**1**	P	**P**	**13 47 33.0**	**+0.5**
	1.2nm,0.8s,mb3.7,baz=201,slow=14,SNR=2.5						
SCHQ				pP	pP	13 47 58.0	-1.1
	4.1nm,0.9s,baz=205,slow=7.5,SNR=3.3						
YKA	**Yellowknife Ar**	**90.13**	**341**	P	**P**	**13 48 51.0**	**+0.2**
	0.9nm,0.8s,mb4.0,baz=133,slow=4.6,SNR=17						
YKA				pP	pP	13 49 17.6	-0.6
	0.8nm,0.6s,baz=134,slow=4.7,SNR=10						
YKA	**Yellowknife Ar**	**90.13**	**341**	P	**P**	**13 48 51.0**	**+0.2**
YKA				pP	pP	13 49 17.6	-0.6
SONM	**Songino Array**	**152.32**	**7**	PKPbc	PKPdf	13 55 47.9	+10
	0.4nm,0.6s,baz=334,slow=0.6,SNR=4.4						

*IDC **11** 13:44:00.8±0.6, 19.02S×174.65W, mb4.3/14, mb1 4.6/15, mb1mx4.5/20, mbtmp4.4/15, ML5.3/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/21, Error ellipse: s-maj=29.1km s-min=14.9km az=134.0*
*BJI **11** 13:44:02.9, 19.10S×174.60W, h14km, mB5.1, mb4.9, Ms4.7, Msz4.7*
*NEIC **11** 13:44:03.0±4.8, 19.07S×174.65W, h15km±29km, mb4.8/8, Error ellipse: s-maj=14.4km s-min=7.0km az=135.0*

ISC 11 13:44:04.2±0.4, **19.14S**±0.10×**174.71W**±0.10, **h33**km, **n44, σ0s85/38, mb4.5/20, 3C-1D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.91**	**29**	*e*Pn	**Pn**	**13 45 28.2**	**-3.6**
RAR	**Rarotonga**	**14.17**	**101**	Pn	**P**	**13 47 18.1**	**-6.6**
	13nm,0.3s,baz=243,slow=5.4,SNR=27						
RAR				Sn	**S**	**13 49 38.5**	**-23**
	3.1nm,0.3s,baz=342,slow=20,SNR=4.3						
RAR				LR	LR	13 51 07.3	
	comp=Z,180nm,20.6s,baz=268,slow=30						
RAR	**Rarotonga**	**14.17**	**101**	*e*P	**P**	**13 47 18.0**	**-6.7**
	29nm,0.4s						
URZ	**Urewera**	**20.34**	**199**	P	**P**	**13 48 39.1**	**-1.2**
	8.1nm,0.4s,baz=330,slow=2.8,SNR=18						
URZ				S	**S**	**13 52 12.9**	**-8.5**
	6.0nm,1.1s,baz=227,slow=19,SNR=3.6						
RPZ	**Rata Peaks**	**27.27**	**203**	P	**P**	**13 49 49.1**	**+1.6**
	3.4nm,0.4s,mb4.2,baz=14,slow=11,SNR=6.4						
CTA	**Charters Tower**	**36.73**	**262**	*e*P	**P**	**13 51 11.8**	**+1.4**
	8.5nm,1.0s,mb4.5						
CTA	**Charters Tower**	**36.73**	**262**	P	**P**	**13 51 11.2**	**+0.8**
	8.5nm,0.7s,mb4.7,baz=86,slow=11,SNR=9.1						
CTAO	**Charters Tower**	**36.73**	**262**	*e*P	**P**	**13 51 11.5**	**+1.1**
	9.4nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**41.17**	**243**	P	**P**	**13 51 48.2**	**+1.0**
	1.8nm,0.9s,mb3.7,baz=123,slow=7.3,SNR=3.0						
ASAR	**Alice Springs**	**47.85**	**255**	P	**P**	**13 52 40.9**	**-0.2**
	3.8nm,0.5s,mb4.7,baz=91,slow=8.0,SNR=83						
ASAR				PcP	PcP	13 54 09.7	-0.1
	0.8nm,0.5s,baz=101,slow=4.3,SNR=4.1						
ASPA	**Alice Springs**	**47.86**	**255**	*e*P	**P**	**13 52 42.2**	**+1.1**
WB2	**Warramunga Arr**	**47.86**	**260**	⇑*i*P	**P**	**13 52 40.7**	**-0.5**
WRAB	**Tennant Creek**	**47.86**	**260**	*e*P	**P**	**13 52 40.6**	**-0.6**
	7.8nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	**47.87**	**260**	P	**P**	**13 52 40.8**	**-0.5**
	1.9nm,0.5s,mb4.4,baz=96,slow=6.8,SNR=89						
VNDA	**Vanda**	**59.55**	**186**	P	**P**	**13 54 06.2**	**-0.2**
	2.6nm,0.7s,mb4.4,baz=11,slow=7.0,SNR=11						
VNDA	**Vanda**	**59.55**	**186**	P	**P**	**13 54 06.2**	**-0.2**
MBWA	**Marble Bar**	**61.18**	**256**	P	**P**	**13 54 15.9**	**-2.4**
	39nm,1.2s,mb5.4						
QSPA	**South Pole Qui**	**70.92**	**180**	⇓*i*P	**P**	**13 55 20.1**	**+0.6**
	5.7nm,0.9s,mb4.5						
YBH	**Yreka Blue Hor**	**77.32**	**37**	P	**P**	**13 55 56.

PLIG	**Platanillo**	**1.56**	**24**	*e*P	Pn	14 10 56.7	-3.8
PLIG				*i* S	Sb	14 11 16.1	-4.8

ATH ***11*** *14:13:38.2, 36.93N×27.90E, h31km±4km, MD3.2/4*
CSEM ***11*** *14:13:38.7±0.1, 36.97N×27.85E, h15km, MD3.3, Error ellipse: s-maj=1.8km s-min=1.3km az=68.0*
NEIC ***11*** *14:13:38.2, 36.93N×27.90E, h31km, MD3.2(ATH), After ATH.*
ISK ***11*** *14:13:39.0, 36.98N×27.81E, h17km, MD3.3*
ISC 11 14:13:38.2±1.0, 36.92N±0.05×27.80E±0.07, h12km±8km, n13, σ0º65/15, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.38**	**358**	PG	**Pg**	**14 13 46.2**	**+0.1**
MLSB				SG	**Sg**	**14 13 51.2**	**-0.2**
NISR	**Nisiros**	**0.62**	**241**	*e*PN	**Pn**	**14 13 51.5**	**-1.0**
NISR				*e*SN	**Sn**	**14 14 02.9**	**+0.6**
DALT	**Dalyan (Mudla)**	**0.69**	**102**	PG	**Pg**	**14 13 53.1**	**+0.9**
ARG	**Arkhangelos**	**0.75**	**159**	*e*PN	**Pn**	**14 13 53.0**	**-1.4**
FETY	**Fethiye**	**1.07**	**105**	PG	**Pg**	**14 13 59.3**	**-0.4**
SMG	**Samos**	**1.10**	**316**	*e*PN	**Pn**	**14 13 59.8**	**+0.4**
DENT	**Denizli**	**1.29**	**49**	PN	**Pn**	**14 14 02.7**	**+0.5**
KARP	**Karpathos**	**1.46**	**201**	*e*PN	**Pn**	**14 14 05.3**	**+0.7**
IZM	**Izmir**	**1.54**	**344**	PN	**Pn**	**14 14 06.0**	**+0.3**
BLCB	**Balcova**	**1.58**	**338**	*e*PN	**Pn**	**14 14 06.4**	**+0.1**
ELL	**Elmali**	**1.70**	**95**	*e*PN	**Pn**	**14 14 08.4**	**+0.4**
AKS	**Akhisar**	**1.96**	**0**	*e*PN	**Pn**	**14 14 11.5**	**-0.2**
KCT	**Karacabey**	**3.37**	**7**	*e*PN	**Pn**	**14 14 31.0**	**-0.9**

IDC ***11*** *14:14:27.4±1.4, 7.43N×93.76E, h22km±5km, mb3.5/5, mb1 3.7/6, mb1mx3.5/18, mbtmp3.6/6, ML3.2/1, Error ellipse: s-maj=53.4km s-min=18.8km az=63.0*
NEIC ***11*** *14:14:27.6±1.1, 7.34N×93.74E, mb4.0/1, Error ellipse: s-maj=34.3km s-min=15.0km az=71.0*
ISC 11 14:14:25.9±1.3, 7.4N±0.1×93.9E±0.3, h23km, h23km±1.1km: pP-P, n7, σ0º95/7, mb3.7/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.07**	**24**	Pn	**P**	**14 17 19.6**	**0.0**
	0.0nm,0.3s,baz=210,slow=14,SNR=5.5						
LSA	**Lhasa**	**22.34**	**354**	*e*P	**P**	**14 19 26.1**	**+2.3**
	2.9nm,0.4s,mb4.1						
SONM	**Songino Array**	**41.70**	**13**	P	**P**	**14 22 13.9**	**-0.7**
	0.3nm,0.8s,mb3.0,baz=195,slow=9.2,SNR=3.7						
SONM				pP	pP	14 22 21.1	-0.4
	0.2nm,0.4s,baz=202,slow=9.2,SNR=2.9						
ZAL	**Zalesovo**	**46.99**	**353**	P	**P**	**14 22 55.9**	**-1.2**
	0.9nm,0.3s,mb4.1,baz=326,slow=3.6,SNR=4.4						
WRA	**Warramunga Arr**	**48.22**	**125**	P	**P**	**14 23 07.6**	**+0.3**
	0.3nm,0.5s,mb3.6,baz=304,slow=8.7,SNR=6.3						
ASAR	**Alice Springs**	**49.83**	**129**	P	**P**	**14 23 19.6**	**-0.1**
	0.3nm,0.7s,mb3.5,baz=300,slow=7.3,SNR=5.1						
ASAR				pP	pP	14 23 27.0	+0.4
	0.5nm,0.9s,baz=305,slow=7.1,SNR=2.8						
FINES	**FINESS Array B**	**73.00**	**332**	P	**P**	**14 25 55.5**	**-0.1**
	1.5nm,0.8s,mb4.0,baz=101,slow=8.0,SNR=3.4						
FINES				pP	pP	14 26 01.9	-0.9
	3.2nm,1.0s,baz=119,slow=11,SNR=1.8						

DJA 11 14:20:49.0±1.0, 8.39S×116.84E, h33km, MD5.1/4, ML4.4/2, 2C-5D, Error ellipse: s-maj=39.2km s-min=20.7km az=178.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.73**	**262**	⇓*e*Pn	Pn	14 21 00.6	-2.4
	3μm,0.2s						
RATI	**Rata**	**1.34**	**256**	⇑*e*Pn	Pn	14 21 11.0	-0.7
	2μm,0.2s						
RATI				⇓*e*Sn	Sn	14 21 26.9	-1.6
KELI	**Kelakatan**	**2.33**	**274**	⇓*e*Pn	Pn	14 21 25.5	-0.5
	44nm,0.2s						
KELI				⇓*e*Sn	Sn	14 21 50.4	-3.4
SRDI	**Scrawed**	**2.67**	**268**	⇓*e*Pn	Pn	14 21 29.2	-1.6
SRDI				⇑*e*Sn	Sn	14 21 57.6	-4.8

BJI ***11*** *14:21:26.6, 4.85N×94.46E, h41km, mB4.6, mb4.4, Ms4.6, Msz4.2*
NEIC ***11*** *14:21:29.7±0.8, 5.11N×94.17E, h30km, mb4.5/6, Error ellipse: s-maj=28.7km s-min=13.3km az=61.0*
NEIC Felt [II] at Banda Aceh.
IDC ***11*** *14:21:37.6±10.0, 5.39N×94.53E, h90km±87km, mb3.9/8, mb1 4.1/8, mb1mx3.8/18, mbtmp4.2/8, ML5.8/1, MS2.8/1, Ms1 3.0/1, ms1mx1.9/20, Error ellipse: s-maj=69.8km s-min=16.3km az=57.0*
ISC 11 14:21:28.3±0.8, 5.1N±0.1×94.3E±0.2, h30km, n25, σ0º98/26, mb4.4/21, MS4.5/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.00**	**19**	P	**P**	**14 24 49.2**	**+2.2**
	17nm,0.3s,baz=210,slow=14,SNR=6.6						
CMAR				LR	LR	14 29 26.3	
	comp=Z,47nm,21.7s,baz=243,slow=34						
JIRN	**Jiri**	**23.68**	**342**	*e*P	**P**	**14 26 39.8**	**+1.4**
	10.0nm,0.3s,mb4.8						
PKI	**Pulchoki**	**23.85**	**340**	*e*P	**P**	**14 26 39.9**	**-0.2**
	6.7nm,0.5s,mb4.3						
GUN	**Gumba**	**24.01**	**341**	*e*P	**P**	**14 26 42.5**	**+0.9**
	16nm,0.5s,mb4.7						
KKN	**Kakani**	**24.09**	**340**	*e*P	**P**	**14 26 42.8**	**+0.3**
	13nm,0.8s,mb4.4						
GKN	**Gorkha**	**24.51**	**339**	*e*P	**P**	**14 26 46.9**	**+0.4**
	8.7nm,0.3s,mb4.8						
LSA	**Lhasa**	**24.60**	**353**	P	**P**	**14 26 48.0**	**+0.6**
LSA	**Lhasa**	**24.60**	**353**	*e*P	**P**	**14 26 47.9**	**+0.5**
	6.2nm,0.5s,mb4.4						
KOLN	**Koldanda**	**24.69**	**337**	*e*P	**P**	**14 26 49.2**	**+1.0**
	18nm,0.5s,mb4.8						
WMQ	**Urumqi**	**38.95**	**352**	*e*P	**P**	**14 28 53.4**	**-0.1**
WMQ				AP	pP	14 29 03.2	+0.7
WMQ				XP	sP	14 29 07.0	+0.8
WMQ				PP	PP	14 30 26.4	-0.4
WMQ				S	**S**	**14 34 48.1**	**-1.6**
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,28nm,4.8s						
WMQ				LR	LR		
	comp=N,524nm,19.4s,MS4.5						
WMQ				LR	LR		
	comp=E,499nm,21.4s,MS4.5						
WMQ				LR	LR		
	comp=Z,709nm,21.2s,MS4.5						
AAK	**Ala-Archa**	**41.26**	**338**	*e*P	**P**	**14 29 11.8**	**-0.6**
	comp=Z,4.3nm,1.1s,mb4.0						
SONM	**Songino Array**	**43.79**	**12**	P	**P**	**14 29 31.6**	**-1.4**
	comp=Z,1.7nm,0.7s,mb3.9,baz=191,slow=7.8,SNR=14						
SONM				PcP	PcP	14 31 19.7	-0.3
	comp=Z,0.4nm,0.4s,baz=203,slow=3.7,SNR=6.2						
ULN	**Ulaanbaatar**	**43.95**	**12**	*e*P	**P**	**14 29 31.8**	**-2.7**
	comp=Z,2.2nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**46.61**	**124**	P	**P**	**14 29 56.5**	**+0.5**
	comp=Z,2.8nm,0.7s,mb4.3,baz=304,slow=9.5,SNR=39						
WRAB	**Tennant Creek**	**46.62**	**124**	*e*P	**P**	**14 29 55.8**	**-0.2**
	comp=Z,5.3nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**48.10**	**128**	P	**P**	**14 30 08.0**	**+0.3**
	comp=Z,1.1nm,0.6s,mb4.1,baz=300,slow=7.9,SNR=13						
ZAL	**Zalesovo**	**49.25**	**353**	P	**P**	**14 30 15.4**	**-0.7**
	comp=Z,2.4nm,0.3s,mb4.7,baz=301,slow=6.1,SNR=10.0						
BVAR	**Borovoye Array**	**51.60**	**342**	P	**P**	**14 30 33.3**	**-0.7**
	comp=Z,1.1nm,0.3s,mb4.2,baz=135,slow=8.4,SNR=18						
BRVK	**Borovoye**	**51.66**	**342**	*e*P	**P**	**14 30 33.8**	**-0.7**
	comp=Z,2.5nm,0.3s,mb4.6						
CHKZ	**Chkalovo**	**52.09**	**342**	*e*P	**P**	**14 30 37.1**	**-0.7**
	comp=Z,5.4nm,0.6s,mb4.7						
FINES	**FINESS Array B**	**75.17**	**333**	P	**P**	**14 33 08.8**	**-0.7**
	comp=Z,3.7nm,1.0s,mb4.3,baz=135,slow=2.7,SNR=5.7						
FINES	**FINESS Array B**	**75.17**	**333**	P	**P**	**14 33 08.8**	**-0.7**
ARCES	**ARCESS Array B**	**77.86**	**340**	P	**P**	**14 33 24.3**	**-0.1**
	comp=Z,3.1nm,0.9s,mb4.2,baz=90,slow=4.9,SNR=6.7						
ARCES	**ARCESS Array B**	**77.86**	**340**	P	**P**	**14 33 24.3**	**-0.1**
GERES	**GERESS Array B**	**79.94**	**319**	P	**P**	**14 33 37.6**	**+1.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=108,slow=4.2,SNR=6.5						

ATH ***11*** *14:24:11.3, 36.89N×27.78E, h5km, MD3.1/4*
CSEM ***11*** *14:24:11.5±0.1, 36.96N×27.70E, h10km, MD3.0, Error ellipse: s-maj=2.7km s-min=2.3km az=96.0*
NEIC ***11*** *14:24:11.3, 36.89N×27.78E, h5km, MD3.1(ATH), After ATH.*
ISK ***11*** *14:24:12.1, 36.98N×27.71E, h14km, MD3.0*
ISC 11 14:24:12.3±0.7, 36.93N±0.03×27.69E±0.04, h13km±5km, n15, σ1º01/22, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.24**	**305**	*i* P	**Pg**	**14 24 18.9**	**+1.4**
BDRM				*i* S	**Sg**	**14 24 23.9**	**+2.8**
MLSB	**Milas**	**0.37**	**11**	PG	**Pg**	**14 24 19.0**	**-1.1**
MLSB				SG	**Sg**	**14 24 24.6**	**-0.7**
NISR	**Nisiros**	**0.55**	**235**	*e*PB	**Pb**	**14 24 22.0**	**-1.2**
AYDN	**Tasoluk**	**0.75**	**12**	*i* P	**Pb**	**14 24 26.1**	**-0.6**
AYDN				*i* S	**Sb**	**14 24 35.5**	**-0.9**
DALT	**Dalyan (Mudla)**	**0.78**	**101**	PG	**Pg**	**14 24 27.7**	**-0.3**
DALT				SG	**Sg**	**14 24 38.6**	**+0.1**
ARG	**Arkhangelos**	**0.79**	**153**	*e*PB	**Pb**	**14 24 24.4**	**-3.0**
SMG	**Samos**	**1.03**	**319**	*e*PN	**Pn**	**14 24 32.8**	**+0.4**
FETY	**Fethiye**	**1.16**	**104**	PN	**Pn**	**14 24 34.5**	**+0.3**
FETY				SN	**Sn**	**14 24 50.8**	**+0.9**
DNZL	**Cakiroluk**	**1.32**	**55**	*i* P	**Pb**	**14 24 36.6**	**+0.1**
DNZL				*i* S	**Sb**	**14 24 54.4**	**+1.2**
KARP	**Karpathos**	**1.44**	**197**	*e*PB	**Pb**	**14 24 39.3**	**+0.8**
IZM	**Izmir**	**1.51**	**347**	*e*PN	**Pn**	**14 24 38.9**	**-0.2**
BLCB	**Balcova**	**1.54**	**341**	*e*PN	**Pn**	**14 24 39.2**	**-0.5**
MANT	**Manisa**	**1.71**	**24**	*e*P	**Pn**	**14 24 45.8**	**+3.8**
MANT				*i* S	**Sn**	**14 25 05.0**	**+1.2**
ELL	**Elmali**	**1.79**	**95**	*e*PN	**Pn**	**14 24 42.9**	**-0.3**
AKS	**Akhisar**	**1.95**	**3**	*e*PN	**Pn**	**14 24 44.5**	**-1.0**

IDC ***11*** *14:31:40.8±1.3, 10.93N×91.94E, mb3.9/8, mb1 4.1/9, mb1mx3.9/19, mbtmp3.8/9, ML3.2/1, Error ellipse: s-maj=49.3km s-min=19.7km az=59.0*
NEIC ***11*** *14:31:45.9±0.6, 11.03N×92.04E, h30km, mb4.7/5, Error ellipse: s-maj=17.9km s-min=9.0km az=62.0*
ISC 11 14:31:43.4±0.6, 10.93N±0.08×91.91E±0.09, h30km, n16, σ0º85/17, mb4.2/13, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.09**	**49**	*e*P	**Pn**	**14 32 03.5**	**+0.7**
PBA				*e*S	**Sn**	**14 32 17.8**	**+0.8**
PBA				*e*		14 32 18.9	
	comp=N,4μm,0.3s						
PBA				*e*		14 32 18.9	
	comp=E,4μm,0.7s						
CMAR	**Chiang Mai Arr**	**10.11**	**41**	Pn	**P**	**14 34 07.3**	**-2.6**
	comp=E,0.1nm,0.3s,baz=236,slow=14,SNR=3.5						
ENH	**Enshi**	**25.25**	**38**	*e*P	**P**	**14 37 07.2**	**-1.4**
	comp=E,12nm,0.4s,mb4.8						
SONM	**Songino Array**	**38.75**	**16**	P	**P**	**14 39 07.3**	**+0.4**
	comp=E,0.4nm,0.6s,mb3.4,baz=206,slow=8.3,SNR=6.4						
ZAL	**Zalesovo**	**43.27**	**354**	P	**P**	**14 39 44.1**	**+0.2**
	comp=E,0.9nm,0.4s,mb3.9,baz=309,slow=10,SNR=3.9						
FITZ	**Fitzroy Crossi**	**44.06**	**131**	*e*P	**P**	**14 39 52.5**	**+1.8**
	comp=E,16nm,1.1s,mb4.7						
BVAR	**Borovoye Array**	**45.41**	**342**	P	**P**	**14 40 01.2**	**+0.1**
	comp=E,0.6nm,0.6s,mb3.6,baz=142,slow=10,SNR=6.2						
BRVK	**Borovoye**	**45.47**	**342**	*e*P	**P**	**14 40 01.8**	**+0.2**
	comp=E,1.3nm,0.6s,mb3.9						
CHKZ	**Chkalovo**	**45.91**	**342**	*e*P	**P**	**14 40 05.5**	**+0.4**
	comp=E,3.2nm,0.4s,mb4.6						
CHKZ				*e*	pP	14 40 13.6	-0.4
WRA	**Warramunga Arr**	**51.83**	**126**	P	**P**	**14 40 51.0**	**-0.3**
	comp=E,2.5nm,0.6s,mb4.3,baz=300,slow=10,SNR=29						
WRAB	**Tennant Creek**	**51.83**	**126**	*e*P	**P**	**14 40 51.1**	**-0.2**
	comp=E,5.8nm,0.5s,mb4.8						
WB2	**Warramunga Arr**	**51.84**	**126**	*e*P	**P**	**14 40 51.1**	**-0.2**
ASAR	**Alice Springs**	**53.56**	**130**	P	**P**	**14 41 03.6**	**-0.5**
	comp=E,0.8nm,0.6s,mb3.8,baz=304,slow=6.8,SNR=11						
FINES	**FINESS Array B**	**69.00**	**332**	P	**P**	**14 42 48.0**	**+0.1**
	comp=E,3.5nm,1.1s,mb4.2,baz=206,slow=10,SNR=4.3						
ARCES	**ARCESS Array B**	**71.66**	**340**	P	**P**	**14 43 04.3**	**+0.4**
	comp=E,4.6nm,1.0s,mb4.3,baz=104,slow=5.0,SNR=4.4						
ILAR	**Eielson Array**	**92.74**	**22**	P	**P**	**14 44 52.9**	**-0.8**
	comp=E,0.5nm,0.8s,mb4.0,baz=300,slow=3.6,SNR=4.7						

IDC 11 14:31:52.3±16.0, 0.93N×130.01E, mb3.6/3, mb1 3.8/3, mb1mx3.5/15, mbtmp3.6/3, Error ellipse: s-maj=257.0km s-min=160.3km az=162.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.18**	**169**	P	P	14 36 38.8	-3.0
	0.7nm,0.9s,baz=348,slow=12,SNR=13						
ASAR	**Alice Springs**	**24.74**	**171**	P	P	14 37 17.1	+0.2
	0.6nm,0.5s,baz=350,slow=8.3,SNR=9.6						
STKA	**Stephens Creek**	**34.43**	**162**	P	P	14 38 40.3	-3.5
	3.2nm,1.1s,baz=331,slow=13,SNR=2.9						

NEIC ***11*** *14:32:14.4±1.0, 23.82S×63.61W, h532km±16km, mb4.2/2, Error ellipse: s-maj=22.8km s-min=19.1km az=68.0*
IDC ***11*** *14:32:15.4±1.6, 23.50S×63.65W, h528km±18km, mb3.4/4, mb1 3.8/7, mb1mx3.5/17, mbtmp4.6/7, Error ellipse: s-maj=32.5km s-min=23.1km az=18.0*
ISC 11 14:32:15.9±0.8, 23.55S±0.10×63.7W±0.1, h543km±14km, n19, σ0º89/23, mb3.9/4, 2D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**4.91**	**280**	P	**P**	**14 33 45.3**	**+0.1**
	13nm,0.3s,baz=85,slow=8.9,SNR=302						
LVC				S	**S**	**14 34 54.6**	**-1.5**
	25nm,0.3s,baz=260,slow=20,SNR=27						
LVC	**Limon Verde**	**4.91**	**280**	*e*P	**P**	**14 33 44.8**	**-0.5**
LVC				*i* S	**S**	**14 34 54.6**	**-1.6**
ANCH	**Antofagasta**	**6.18**	**267**	⇓*i*P	**P**	**14 33 56.7**	**+0.1**
ANCH				*i* S	**S**	**14 35 17.0**	**+0.4**
CPN1	**Cerro Paranal**	**6.24**	**259**	*e*P	**P**	**14 33 57.4**	**+0.2**
CPN1				*i* S	**S**	**14 35 18.1**	**+0.5**
CPN1				AMP		14 35 25.6	
LPAZ	**La Paz**	**8.35**	**329**	P	**P**	**14 34 18.1**	**+0.2**
	23nm,0.3s,baz=115,slow=6.0,SNR=401						
LPAZ				S	**S**	**14 35 55.0**	**0.0**
	1.1nm,0.3s,baz=251,slow=22,SNR=8.1						
LPAZ	**La Paz**	**8.35**	**329**	P	**P**	**14 34 18.1**	**+0.2**
LPAZ				S	**S**	**14 35 55.0**	**0.0**
TLL	**Tololo Astrono**	**9.16**	**222**	⇓*i*P	**P**	**14 34 25.7**	**-0.2**
TRQA	**Tornquist**	**14.53**	**175**	P	**P**	**14 35 14.6**	**-5.8**
	4.3nm,0.9s						
BDFB	**Brasilia**	**16.71**	**65**	P	**P**	**14 35 42.8**	**+0.9**
	3.3nm,0.3s,baz=248,slow=9.9,SNR=35						
BAO	**Brasilia Array**	**16.73**	**65**	*e*P	**P**	**14 35 42.8**	**+0.6**
NNA	**Nana**	**17.00**	**310**	P	**P**	**14 35 47.1**	**+2.4**
	306nm,0.5s,SNR=10						
SDV	**Santo Domingo**	**32.95**	**347**	P	**P**	**14 38 05.7**	**-1.5**
	2.1nm,0.3s,mb4.2,baz=180,slow=4.0,SNR=2.5						
SDV	**Santo Domingo**	**32.95**	**347**	*e*P	**P**	**14 38 05.6**	**-1.6**
	3.7nm,0.3s,mb4.4						
DBIC	**Dimbokro**	**64.78**	**70**	P	**P**	**14 42 01.8**	**-1.3**
	6.8nm,0.4s,mb4.4,baz=228,slow=5.5,SNR=22						
DBIC	**Dimbokro**	**64.78**	**70**	P	**P**	**14 42 01.8**	**-1.3**
PDAR	**Pinedale Array**	**78.37**	**327**	P	**P**	**14 43 21.7**	**+0.4**
	0.4nm,0.4s,mb3.1,baz=119,slow=9.7,SNR=4.9						
ESDC	**Sonseca Array**	**84.00**	**42**	P	**P**	**14 43 49.7**	**-0.4**
	2.3nm,0.8s,mb3.7,baz=239,slow=5.0,SNR=4.9						
WRA	**Warramunga Arr**	**133.34**	**204**	PKP	PKPdf	14 50 31.7	+0.9
	0.2nm,0.3s,baz=154,slow=1.9,SNR=12						
SONM	**Songino Array**	**154.51**	**16**	PKPbc	PKPdf	14 51 15.5	+10
	0.2nm,0.5s,baz=56,slow=4.5,SNR=3.7						
SONM				PKPab	PKPab	14 51 33.8	-0.1
	0.5nm,0.7s,baz=301,slow=3.9,SNR=4.5						

DJA 11 14:32:23.9±0.9, 8.36S×116.66E, h33km, MD5.1/3, ML4.4/3, 4C-2D, Error ellipse: s-maj=31.1km s-min=18.2km az=175.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.56**	**257**	⇓*e*Pg	P	14 32 33.2	-2.0
	3μm,0.2s						
KEDI				*e*Sg	Sb	14 32 40.0	-3.2
RATI	**Rata**	**1.17**	**252**	⇑*e*Pn	Pn	14 32 43.5	-0.7
	2μm,0.2s						
RATI				⇑*i*Sn	Sn	14 32 59.6	+0.4
KELI	**Kelakatan**	**2.15**	**274**	⇓*e*Pn	Pn	14 32 57.7	-0.6
	74nm,0.2s						
KELI				*e*Sn	Sn	14 33 19.9	-4.2
SRDI	**Scrawed**	**2.49**	**267**	⇑*e*Pn	Pn	14 33 01.7	-1.5
	102nm,0.2s						
SRDI				⇑*e*Sn	Sn	14 33 29.1	-3.7

ATH ***11*** *14:35:28.3, 36.92N×27.77E, h27km, MD3.2/4*
CSEM ***11*** *14:35:28.3±0.1, 36.98N×27.81E, h15km, MD3.4, Error ellipse: s-maj=3.1km s-min=2.4km az=86.0*
NEIC ***11*** *14:35:28.3, 36.92N×27.77E, h27km, MD3.2(ATH), After ATH.*
ISK ***11*** *14:35:29.3, 37.03N×27.81E, h21km, MD3.4*
ISC 11 14:35:28.4±0.6, 36.91N±0.03×27.75E±0.04, h15km±4km, n24, σ1º06/35, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.28**	**302**	*i* P	**Pg**	**14 35 35.1**	**+0.5**
BDRM				*i* S	**Sg**	**14 35 40.0**	**+1.2**
MLSB	**Milas**	**0.38**	**4**	PG	**Pg**	**14 35 35.6**	**-0.8**
MLSB				SG	**Sg**	**14 35 41.0**	**-0.8**
NISR	**Nisiros**	**0.58**	**239**	*e*PN	**Pn**	**14 35 40.5**	**-1.3**
DALT	**Dalyan (Mudla)**	**0.73**	**101**	PG	**Pg**	**14 35 43.6**	**+0.4**
DALT				SG	**Sg**	**14 35 54.3**	**+1.2**
AYDN	**Tasoluk**	**0.75**	**8**	*i* P	**Pb**	**14 35 42.2**	**-0.5**
AYDN				*i* S	**Sb**	**14 35 52.0**	**-0.5**
ARG	**Arkhangelos**	**0.76**	**156**	*e*PN	**Pn**	**14 35 43.5**	**-0.9**
SMG	**Samos**	**1.07**	**318**	*e*PN	**Pn**	**14 35 49.0**	**+0.1**
SMG				*e*SN	**Sn**	**14 36 04.3**	**+0.8**
FETY	**Fethiye**	**1.11**	**104**	PN	**Pn**	**14 35 50.3**	**+0.9**
FETY				SN	**Sn**	**14 36 04.9**	**+0.5**
DNZL	**Cakiroluk**	**1.29**	**53**	*i* P	**Pb**	**14 35 51.7**	**-0.2**
DNZL				*i* S	**Sb**	**14 36 09.9**	**+1.7**
DENT	**Denizli**	**1.33**	**50**	PN	**Pn**	**14 35 51.6**	**-0.9**
KARP	**Karpathos**	**1.44**	**199**	*e*PN	**Pn**	**14 35 54.8**	**+0.7**
IZM	**Izmir**	**1.53**	**346**	*e*PN	**Pn**	**14 35 54.7**	**-0.7**
KDAG	**Bornova**	**1.54**	**346**	*i* P	**Pn**	**14 35 55.2**	**-0.3**
KDAG				*i* S	**Sb**	**14 36 16.8**	**+1.6**
BLCB	**Balcova**	**1.57**	**339**	*e*PN	**Pn**	**14 35 55.2**	**-0.8**
MANT	**Manisa**	**1.70**	**22**	*i* P	**Pn**	**14 35 57.3**	**-0.5**
MANT				*i* S	**Sn**	**14 36 22.4**	**+3.0**
ELL	**Elmali**	**1.74**	**95**	*e*PN	**Pn**	**14 35 57.7**	**-0.7**
APE	**Apeiranthos**	**1.78**	**276**	*e*PN	**Pn**	**14 36 00.5**	**+1.5**
AKS	**Akhisar**	**1.96**	**2**	PN	**Pn**	**14 36 00.9**	**-0.7**
BCK	**Bucak**	**2.34**	**76**	*e*PN	**Pn**	**14 36 06.7**	**-0.2**
AYVA	**Ayvalik**	**2.53**	**341**	*e*P	**Pn**	**14 36 13.3**	**+3.6**
AYVA				*i* S	**Sn**	**14 36 49.5**	**+8.9**
BTOK	**Tokmak**	**2.85**	**4**	*i* P	**Pn**	**14 36 13.2**	**-1.1**
KCT	**Karacabey**	**3.38**	**8**	*e*PN	**Pn**	**14 36 20.2**	**-1.6**
ULDT	**Uludag**	**3.40**	**18**	*e*P	**Pn**	**14 36 25.6**	**+3.4**
ULDT				*i* S	**Sn**	**14 37 13.1**	**+10**
KIZT	**Kizilcal**	**3.81**	**58**	*e*PN	**Pn**	**14 36 26.8**	**-1.2**

NEIC ***11*** *15:16:35.4±2.1, 23.19N×142.51E, h65km±19km, mb4.9/4, Error ellipse: s-maj=14.8km s-min=8.4km az=87.0*
IDC ***11*** *15:16:40.8±3.0, 23.16N×142.42E, h114km±27km, mb3.7/13, mb1 3.9/14, mb1mx3.8/22, mbtmp4.1/14, Error ellipse: s-maj=24.8km s-min=13.0km az=89.0*
ISC 11 15:16:38.4±1.5, 23.19N±0.08×142.3E±0.2, h107km±13km, n28, σ1º06/28, mb4.2/16, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**3.43**	**358**	P	**P**	**15 17 33.0**	**+1.9**
JHHJ				*e*S	**S**	**15 18 11.2**	**+0.2**
CBIJ	**Chichi jima**	**3.89**	**358**	P	**P**	**15 17 38.7**	**+1.3**
	baz=136,slow=23,SNR=1.3						
CBIJ	**Chichi jima**	**3.89**	**358**	P	**P**	**15 17 38.9**	**+1.5**
BSO1	**Boso 1**	**11.48**	**354**	P	**P**	**15 19 18.5**	**-1.6**
BSO4	**Boso 4**	**11.89**	**352**	P	**P**	**15 19 24.9**	**-0.5**
JNY	**Yasuok**	**12.73**	**343**	P	**P**	**15 19 35.8**	**-0.8**
MAJO	**Matsushiro**	**13.78**	**346**	P	**P**	**15 19 47.8**	**-2.2**
JFK	**Kawauchi**	**14.19**	**355**	P	**P**	**15 19 53.1**	**-2.3**
ASAJ	**Asahikawa**	**20.88**	**1**	P	**P**	**15 21 14.7**	**+1.2**
	5.6nm,0.6s,baz=169,slow=10,SNR=5.4						
SONM	**Songino Array**	**37.69**	**320**	P	**P**	**15 23 45.5**	**+0.7**
	0.7nm,0.9s,mb3.5,baz=133,slow=7.5,SNR=6.3						
WRAB	**Tennant Creek**	**43.56**	**191**	*e*P	**P**	**15 24 33.2**	**-0.3**
	10nm,0.4s,mb4.9						
WRA	**Warramunga Arr**	**43.57**	**191**	P	**P**	**15 24 33.7**	**+0.2**
	2.7nm,0.3s,mb4.4,baz=7.8,slow=8.1,SNR=176						
LSA	**Lhasa**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.31**	**290**	*i* P	**Pg**	**15 46 35.8**	**-0.9**
BDRM				*i* S	**Sg**	**15 46 42.1**	**+1.0**
MLSB	**Milas**	**0.34**	**356**	PG	**Pg**	**15 46 36.8**	**-0.4**
NISR	**Nisiros**	**0.65**	**238**	*e*PB	**Pb**	**15 46 42.6**	**-0.2**
DALT	**Dalyan (Mudla)**	**0.69**	**106**	PG	**Pg**	**15 46 44.4**	**+0.3**
AYDN	**Tasoluk**	**0.70**	**5**	*i* P	**Pb**	**15 46 42.6**	**-1.2**
AYDN				*i* S	**Sb**	**15 46 52.2**	**-1.0**
FETY	**Fethiye**	**1.07**	**107**	PG	**Pg**	**15 46 51.0**	**-0.7**
FETY				SG	**Sg**	**15 47 06.3**	**+0.2**
SMG	**Samos**	**1.08**	**314**	*e*PB	**Pb**	**15 46 50.9**	**+0.7**
DNZL	**Cakiroluk**	**1.23**	**53**	*i* P	**Pb**	**15 46 53.6**	**+0.8**
DNZL				*i* S	**Sb**	**15 47 12.7**	**+4.3**
DENT	**Denizli**	**1.26**	**51**	PN	**Pn**	**15 46 53.4**	**-0.2**
IZM	**Izmir**	**1.50**	**343**	*e*PN	**Pn**	**15 46 57.8**	**+0.8**
KARP	**Karpathos**	**1.50**	**201**	*e*PB	**Pb**	**15 46 56.6**	**-0.9**
BLCB	**Balcova**	**1.55**	**337**	PN	**Pn**	**15 46 58.5**	**+0.8**
ELL	**Elmali**	**1.70**	**96**	*e*PN	**Pn**	**15 47 00.8**	**+0.9**
AKS	**Akhisar**	**1.92**	**0**	PN	**Pn**	**15 47 02.7**	**-0.3**

*ISK **11** 16:06:08.9, 36.91N×27.67E, h17km, MD3.3*
*ATH **11** 16:06:09.1, 36.99N×27.98E, h35km, MD3.2/3*
*CSEM **11** 16:06:10.1±0.1, 36.97N×27.80E, h20km, MD3.3, Error ellipse: s-maj=4.6km s-min=3.1km az=62.0*

ISC 11 16:06:10.5±1.3, 36.93N±0.06×27.77E±0.09, h21km±14km, n11, σ0§94/13, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.36**	**2**	*i* PG	**Pb**	**16 06 17.2**	**-1.0**
DALT	**Dalyan (Mudla)**	**0.72**	**103**	PG	**Pb**	**16 06 24.5**	**+0.3**
DALT				SG	**Sb**	**16 06 36.5**	**+2.8**
ARG	**Arkhangelos**	**0.77**	**158**	*e*PN	**Pn**	**16 06 24.8**	**-1.4**
SMG	**Samos**	**1.07**	**317**	*e*PN	**Pn**	**16 06 30.8**	**+0.3**
SMG				*e*SN	**Sn**	**16 06 46.5**	**+1.7**
FETY	**Fethiye**	**1.10**	**105**	PN	**Pn**	**16 06 30.5**	**-0.4**
DENT	**Denizli**	**1.30**	**51**	*e*PN	**Pn**	**16 06 33.6**	**-0.2**
KARP	**Karpathos**	**1.47**	**200**	*e*PN	**Pn**	**16 06 36.7**	**+0.6**
IZM	**Izmir**	**1.51**	**345**	PN	**Pn**	**16 06 36.3**	**-0.5**
BLCB	**Balcova**	**1.56**	**339**	PN	**Pn**	**16 06 36.9**	**-0.6**
ELL	**Elmali**	**1.73**	**96**	*e*PN	**Pn**	**16 06 39.8**	**-0.1**
AKS	**Akhisar**	**1.94**	**1**	*e*PN	**Pn**	**16 06 42.8**	**-0.1**

*THE **11** 16:15:54.5, 39.25N×20.19E, h10km, ML2.7*
*ATH **11** 16:15:55.1, 39.38N×20.45E, h20km, MD3.1/4*
*CSEM **11** 16:15:55.2±0.6, 39.22N×20.31E, h2km, ML2.7, Error ellipse: s-maj=16.1km s-min=10.1km az=66.0*
*NEIC **11** 16:15:55.1, 39.38N×20.45E, h20km, MD3.1(ATH), After ATH.*

ISC 11 16:15:53.6±1.6, 39.24N±0.06×20.16E±0.09, h5km±11km, n9, σ1§17/13, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.32**	**24**	*e*Pg	**Pg**	**16 16 00.0**	**0.0**
IGT				*e*Sg	**Sg**	**16 16 05.2**	**+0.9**
KEK	**Kerkira**	**0.55**	**329**	*e*PN	**Pn**	**16 16 07.3**	**-0.4**
JAN	**Janina**	**0.67**	**52**	*e*PB	**Pb**	**16 16 03.3**	**-4.2**
VLS	**Valsamata**	**1.11**	**163**	*e*PN	**Pn**	**16 16 17.8**	**+2.0**
EVR	**Evrytania**	**1.32**	**104**	*e*PN	**Pn**	**16 16 17.8**	**-1.0**
AGG	**Agios Georgios**	**1.70**	**97**	*e*Pb	**Pb**	**16 16 23.8**	**-1.2**
AGG				*e*Sb	**Sb**	**16 16 47.8**	**+1.2**
FNA	**Florina**	**1.80**	**31**	*e*Pb	**Pb**	**16 16 26.2**	**-0.5**
FNA				*e*Sb	**Sb**	**16 16 50.7**	**+1.2**
LIT	**Litokhoron**	**1.99**	**64**	*e*Pb	**Pb**	**16 16 27.5**	**-2.5**
LIT				*e*Sb	**Sb**	**16 16 54.4**	**-0.7**
XOR	**Xorichti**	**2.35**	**86**	*e*Pn	**Pn**	**16 16 34.4**	**+0.9**

IDC 11 16:17:02.9±4.6, 8.53N×91.70E, mb3.6/2, mb1 3.8/3, mb1mx3.5/18, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=123.8km s-min=34.6km az=79.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.12**	**35**	Pn	P	16 19 57.0	-2.8
	0.1nm,0.3s,baz=232,slow=14,SNR=9.8						
SONM	**Songino Array**	**41.10**	**15**	P	P	16 24 48.5	-1.6
	0.5nm,0.7s,baz=193,slow=8.0,SNR=5.6						
WRA	**Warramunga Arr**	**50.61**	**124**	P	P	16 26 03.9	-2.1
	0.3nm,0.6s,baz=304,slow=8.6,SNR=7.9						

*IDC **11** 16:22:06.4±1.3, 11.00N×92.90E, mb3.8/7, mb1 4.0/8, mb1mx3.8/19, mbtmp3.8/8, ML3.1/1, Error ellipse: s-maj=39.8km s-min=26.2km az=49.0*
*NEIC **11** 16:22:10.8±1.0, 10.98N×92.92E, h30km, mb4.1/4, Error ellipse: s-maj=20.1km s-min=18.0km az=223.0*

ISC 11 16:22:09.3±1.1, 11.0N±0.1×93.1E±0.1, h33km, n13, σ1§04/12, mb3.9/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.70**	**334**	*e*P	Px	16 22 32.9	
PBA				*e*S	Sx	16 22 56.6	
PBA				*e*		16 23 06.5	
	comp=N,387nm,0.4s						
PBA				*e*		16 23 06.5	
	comp=E,813nm,0.6s						
CMAR	**Chiang Mai Arr**	**9.32**	**37**	Pn	**P**	**16 24 24.6**	**+0.2**
	comp=E,0.1nm,0.3s,baz=224,slow=14,SNR=11						
LSA	**Lhasa**	**18.66**	**355**	*e*P	**P**	**16 26 29.1**	**+2.1**
	comp=E,2.5nm,0.6s						
ENH	**Enshi**	**24.50**	**36**	P	**P**	**16 27 24.6**	**-2.3**
	comp=E,2.6nm,0.4s,mb4.0						
AAK	**Ala-Archa**	**35.41**	**336**	*e*P	**P**	**16 29 03.1**	**-1.1**
	comp=E,2.1nm,0.7s,mb4.2						
SONM	**Songino Array**	**38.37**	**15**	P	**P**	**16 29 28.5**	**-0.6**
	comp=E,0.6nm,1.0s,mb3.3,baz=198,slow=3.9,SNR=4.6						
ZAL	**Zalesovo**	**43.30**	**353**	P	**P**	**16 30 10.8**	**+1.1**
	comp=E,1.0nm,0.3s,mb4.0,baz=301,slow=8.6,SNR=3.5						
BVAR	**Borovoye Array**	**45.68**	**341**	P	**P**	**16 30 29.5**	**+0.7**
	comp=E,0.6nm,0.7s,mb3.6,baz=117,slow=6.4,SNR=4.1						
CHKZ	**Chkalovo**	**46.16**	**342**	*e*P	**P**	**16 30 32.1**	**-0.5**
	comp=E,1.9nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**50.98**	**127**	P	**P**	**16 31 11.2**	**+0.9**
	comp=E,0.3nm,0.8s,mb3.3,baz=305,slow=8.7,SNR=8.3						
BRTR	**Keskin Array B**	**59.59**	**310**	P	**P**	**16 32 11.8**	**-0.6**
	comp=E,1.4nm,1.0s,mb4.0,baz=101,slow=6.3,SNR=3.7						
ARCES	**ARCESS Array B**	**71.96**	**340**	P	**P**	**16 33 31.0**	**0.0**
	comp=E,7.6nm,1.1s,mb4.5,baz=90,slow=7.2,SNR=4.4						
GERES	**GERESS Array B**	**74.78**	**318**	P	**P**	**16 33 47.8**	**-0.2**
	comp=E,0.4nm,0.5s,mb3.6,baz=76,slow=4.0,SNR=4.4						

*MAN **11** 16:29:13.2, 5.32N×125.59E, h184km, mb4.7, ML3.6, MS3.5*
*IDC **11** 16:29:21.2±8.2, 1.93N×125.32E, mb4.0/3, mb1 4.3/3, mb1mx3.7/16, mbtmp4.1/3, Error ellipse: s-maj=178.6km s-min=128.5km az=69.0*

ISC 11 16:29:12.2±1.0, 5.2N±0.2×125.6E±0.1, h183km±23km, n8, σ0§55/12, mb4.0/3, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.83**	**21**	*e*P	**P**	**16 29 48.5**	**+0.4**
MATI				*e*S	**S**	**16 30 15.1**	**-0.7**
KCP	**Kidapawan**	**1.85**	**344**	↑*e*P	**P**	**16 29 48.7**	**+0.4**
KCP				*i* S	**S**	**16 30 16.2**	**+0.1**
BUKP	**Musuan**	**2.70**	**348**	*e*P	**P**	**16 29 58.2**	**+0.3**
BUKP				*e*S	**S**	**16 30 33.1**	**-0.1**
BIPH	**Bislig**	**3.04**	**14**	↑*e*P	**P**	**16 30 03.0**	**+1.0**
BIPH				*e*S	**S**	**16 30 40.0**	**-0.4**
PAGZ	**Pagadian**	**3.42**	**320**	*e*P	**P**	**16 30 06.2**	**-0.6**
WRA	**Warramunga Arr**	**26.44**	**161**	P	**P**	**16 34 33.5**	**-0.7**
	0.9nm,0.3s,mb3.9,baz=334,slow=11,SNR=32						
ASAR	**Alice Springs**	**29.83**	**165**	P	**P**	**16 35 04.1**	**-0.4**
	1.5nm,0.5s,mb4.0,baz=349,slow=7.4,SNR=22						
STKA	**Stephens Creek**	**39.91**	**159**	P	**P**	**16 36 30.8**	**+0.8**
	2.3nm,0.5s,mb4.1,baz=338,slow=7.2,SNR=9.4						

*NEIC **11** 16:33:12.6±1.1, 20.45S×178.24W, h511km±12km, mb4.1/7, Error ellipse: s-maj=16.3km s-min=8.8km az=143.0*
*IDC **11** 16:33:17.2±2.7, 20.37S×178.38W, h556km±30km, mb3.5/11, mb1 3.8/12, mb1mx3.6/17, mbtmp4.4/12, Error ellipse: s-maj=24.0km s-min=11.7km az=152.0*

ISC 11 16:33:11.1±1.2, 20.4S±0.1×178.3W±0.1, h501km±14km, n35, σ0§69/23, mb4.0/16, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.99**	**45**	*e*P	**P**	**16 35 19.2**	**+0.1**
AFI				*e*S	**S**	**16 37 00.6**	**-0.2**
URZ	**Urewera**	**18.20**	**192**	P	**P**	**16 36 52.7**	**-0.4**
	2.1nm,0.3s,baz=323,slow=5.7,SNR=12						
CTA	**Charters Tower**	**33.24**	**264**	P	**P**	**16 39 08.1**	**+0.7**
	5.5nm,0.9s,mb4.0,baz=100,slow=11,SNR=3.5						
CTAO	**Charters Tower**	**33.24**	**264**	P	**P**	**16 39 07.1**	**-0.3**
	5.6nm,0.7s,mb4.1						
ASAR	**Alice Springs**	**44.28**	**257**	P	**P**	**16 40 37.6**	**+0.5**
	4.2nm,0.5s,mb4.1,baz=97,slow=7.6,SNR=72						
ASAR				PcP	PcP	16 42 10.0	-1.3
	1.4nm,0.6s,baz=104,slow=3.8,SNR=8.2						
ASAR				S	**S**	**16 46 30.9**	**-3.4**
	0.7nm,0.9s,baz=90,slow=14,SNR=3.4						
WRAB	**Tennant Creek**	**44.34**	**262**	*e*P	**P**	**16 40 37.6**	**-0.1**
	4.5nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**44.35**	**262**	P	**P**	**16 40 37.8**	**0.0**
	1.8nm,0.3s,mb4.0,baz=97,slow=7.4,SNR=97						
WRA				PcP	PcP	16 42 09.7	-1.8
	0.6nm,0.6s,baz=93,slow=3.5,SNR=4.5						
WRA	**Warramunga Arr**	**44.35**	**262**	P	**P**	**16 40 37.8**	**0.0**
WRA				PcP	PcP	16 42 09.7	-1.8
VNDA	**Vanda**	**57.94**	**185**	P	**P**	**16 42 16.4**	**+0.1**
	0.4nm,0.8s,baz=21,slow=8.6,SNR=2.1						
QSPA	**South Pole Qui**	**69.62**	**180**	*e*P	**P**	**16 43 30.1**	**-0.4**
	0.8nm,0.4s,mb3.6						
FX1	**Attu Island--F**	**73.39**	**355**	P	**P**	**16 43 51.8**	**-0.9**
	19nm,0.8s,mb4.7,baz=239,slow=9.9,SNR=2.3						
YBH	**Yreka Blue Hor**	**80.41**	**39**	P	**P**	**16 44 32.0**	**+1.1**
	5.0nm,0.6s,mb4.2,baz=176,slow=0.4,SNR=9.6						
NVAR	**Mina Array Bea**	**81.16**	**43**	P	**P**	**16 44 35.8**	**+0.8**
	2.1nm,0.6s,mb3.8,baz=222,slow=8.6,SNR=13						
MOD	**Modoc**	**81.94**	**40**	*e*P	**P**	**16 44 38.3**	**-0.5**
	5.4nm,0.7s,mb4.2						
BMO	**Blue Mountains**	**85.43**	**39**	*e*P	**P**	**16 44 55.7**	**-0.4**
	2.8nm,0.8s,mb3.9						
HLID	**Hailey**	**86.45**	**41**	P	**P**	**16 45 01.8**	**+0.8**
	3.0nm,0.8s,mb4.0						
MCK	**McKinley**	**86.97**	**13**	*e*P	**P**	**16 45 02.0**	**-0.9**
	2.2nm,0.6s,mb4.1						
TXAR	**Lajitas Array**	**87.24**	**57**	P	**P**	**16 45 05.5**	**+0.5**
	1.4nm,0.7s,mb3.8,baz=202,slow=6.7,SNR=7.9						
ILAR	**Eielson Array**	**88.32**	**13**	P	**P**	**16 45 08.1**	**-1.1**
	1.4nm,0.4s,mb4.0,baz=215,slow=5.2,SNR=32						
PDAR	**Pinedale Array**	**89.10**	**43**	P	**P**	**16 45 13.2**	**-0.3**
	1.7nm,0.6s,mb4.1,baz=222,slow=2.9,SNR=14						
CMAR	**Chiang Mai Arr**	**89.85**	**290**	P	**P**	**16 45 18.7**	**+1.3**
	0.9nm,0.5s,mb3.8,baz=120,slow=2.8,SNR=7.3						
BVAR	**Borovoye Array**	**118.87**	**320**	PKiKP		16 51 01.3	
	1.7nm,0.3s,baz=121,slow=1.9,SNR=26						
ARCES	**ARCESS Array B**	**128.82**	**350**	PKP	PKPdf	16 51 20.1	-0.5
	6.6nm,1.2s,baz=18,slow=3.8,SNR=8.0						
FINES	**FINESS Array B**	**135.64**	**344**	PKP	PKPdf	16 51 33.4	0.0
	3.8nm,1.1s,baz=63,slow=6.2,SNR=4.1						
HFS	**Hagfors**	**139.44**	**351**	PKhKP		16 51 33.9	
	2.5nm,0.5s,baz=63,slow=3.3,SNR=16						
AKASG	**Malin Array Be**	**142.84**	**331**	PKhKP		16 51 43.8	
	5.6nm,0.5s,baz=43,slow=4.3,SNR=53						
ASF	**Jabal al Asfar**	**146.52**	**298**	PKPbc	PKPbc	16 51 56.9	+1.5
	2.9nm,0.6s,baz=332,slow=5.8,SNR=5.8						
BRTR	**Keskin Array B**	**146.61**	**312**	PKPbc	PKPbc	16 51 56.5	+1.2
	1.8nm,0.6s,baz=141,slow=5.0,SNR=8.3						
CLL	**Collm**	**147.95**	**347**	↓↓*i*PKP1	PKPdf	16 51 59.4	+4.3
CLL				*e*PKP2	PKPab	16 52 04.0	-1.7
BRG	**Berggiesshubel**	**148.14**	**345**	*i* P	PKPdf	16 52 00.6	+5.2
PRU	**Pruhonice**	**148.81**	**344**	*e*PKPbc	PKPdf	16 52 01.6	+5.1
KHC	**Kasperske Hory**	**149.84**	**344**	*e*P	PKPdf	16 52 04.5	+6.3
KHC				*e*		16 52 13.0	
KHC	**Kasperske Hory**	**149.84**	**344**	*e*PKPbc	PKPdf	16 52 04.5	+6.3
KHC				PKPab	PKPab	16 52 13.0	-0.6
GERES	**GERESS Array B**	**150.07**	**344**	PKPbc	PKPdf	16 52 05.0	+6.4
	1.4nm,0.6s,slow=2.7,SNR=12						
DAVOX	**Davos**	**152.90**	**348**	PKPbc	PKPdf	16 52 11.4	+8.7
	1.8nm,0.4s,baz=182,slow=21,SNR=4.9						

IDC 11 16:42:04.5±6.9, 6.84N×75.71W, h126km±83km, mb3.3/1, mb1 3.6/2, mb1mx2.9/18, mbtmp3.8/2, Error ellipse: s-maj=182.2km s-min=32.5km az=81.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.40**	**145**	P	P	16 42 43.9	-0.1
	42nm,0.3s,baz=9.3,slow=2.8,SNR=52						
ROSC				S	S	16 43 14.6	+0.8
	89nm,0.3s,baz=74,slow=18,SNR=13						
YKA	**Yellowknife Ar**	**62.38**	**341**	P	P	16 52 13.6	-2.4
	0.3nm,0.4s,baz=134,slow=6.8,SNR=8.2						
ASAR	**Alice Springs**	**147.00**	**236**	PKPbc	PKPdf	17 01 32.5	+1.5
	1.2nm,0.8s,baz=119,slow=3.5,SNR=16						
WRA	**Warramunga Arr**	**148.07**	**243**	PKPbc	PKPdf	17 01 35.8	+3.0
	0.8nm,0.4s,baz=109,slow=2.6,SNR=37						

*BJI **11** 16:45:30.2, 19.24S×169.93E, h234km, mb4.2*
*IDC **11** 16:45:30.7±3.0, 19.94S×169.75E, h243km±27km, mb3.8/12, mb1 4.0/13, mb1mx4.0/16, mbtmp4.4/13, Error ellipse: s-maj=18.2km s-min=13.7km az=34.0*
*NEIC **11** 16:45:31.2±2.4, 19.90S×169.75E, h254km±22km, mb4.4/8, Error ellipse: s-maj=14.7km s-min=9.7km az=179.0*

ISC 11 16:45:31.0±1.6, 20.0S±0.1×169.69E±0.09, h260km±15km, n48, σ0§96/26, mb4.0/17, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.68**	**235**	↑*e*P	**P**	**16 46 32.4**	**+0.4**
AFI	**Afiamalu**	**18.72**	**74**	*e*P	**P**	**16 49 29.7**	**-2.8**
	52nm,0.6s						
URZ	**Urewera**	**19.32**	**162**	P	**P**	**16 49 38.4**	**0.0**
	0.6nm,0.3s,baz=7.9,slow=5.8,SNR=7.0						
CTA	**Charters Tower**	**22.02**	**266**	P	**P**	**16 50 06.7**	**+1.8**
	12nm,1.2s,mb4.1,baz=63,slow=10,SNR=3.6						
CTA	**Charters Tower**	**22.02**	**266**	P	**P**	**16 50 06.7**	**+1.8**
CTAO	**Charters Tower**	**22.02**	**266**	P	**P**	**16 50 04.8**	**-0.2**
	3.8nm,0.5s,mb4.0						
RPZ	**Rata Peaks**	**23.69**	**178**	P	**P**	**16 50 21.6**	**+0.8**
	7.6nm,0.7s,mb4.1,baz=21,slow=9.5,SNR=5.7						
PMG	**Port Moresby**	**24.16**	**293**	P	**P**	**16 50 25.7**	**+0.3**
	22nm,0.7s,mb4.6,baz=111,slow=5.7,SNR=8.8						
PMG	**Port Moresby**	**24.16**	**293**	P	**P**	**16 50 25.7**	**+0.3**
STKA	**Stephens Creek**	**27.82**	**239**	*e*P	**P**	**16 50 58.6**	**+0.1**
	3.0nm,0.8s,mb3.8						
STKA	**Stephens Creek**	**27.82**	**239**	P	**P**	**16 50 58.5**	**-0.1**
	4.2nm,0.8s,mb3.9,baz=56,slow=10,SNR=5.9						
WB2	**Warramunga Arr**	**33.18**	**264**	*e*P	**P**	**16 51 44.5**	**-0.8**
WRAB	**Tennant Creek**	**33.18**	**264**	*e*P	**P**	**16 51 43.5**	**-1.9**
	5.5nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**33.19**	**264**	P	**P**	**16 51 44.4**	**-1.0**
	2.0nm,0.4s,mb4.0,baz=83,slow=5.9,SNR=146						
WRA				ScP		16 57 42.3	
	1.2nm,0.9s,baz=81,slow=4.0,SNR=4.9						
ASAR	**Alice Springs**	**33.37**	**257**	P	**P**	**16 51 46.6**	**-0.3**
	5.6nm,0.5s,mb4.4,baz=87,slow=9.2,SNR=135						
ASPA	**Alice Springs**	**33.37**	**257**	*e*P	**P**	**16 51 46.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**41.59**	**265**	*e*P	**P**	**16 52 55.9**	**+0.5**
	12nm,0.6s,mb4.3						
VNDA	**Vanda**	**57.71**	**182**	P	**P**	**16 54 55.2**	**-0.9**
	0.9nm,0.8s,mb3.2,baz=1.4,slow=8.2,SNR=3.4						
SBA	**Scott Base**	**57.93**	**181**	*e*P	**P**	**16 54 58.0**	**+0.4**
	2.5nm,0.7s,mb3.8						
CMAR	**Chiang Mai Arr**	**79.19**	**294**	P	**P**	**16 57 10.4**	**+1.4**
	2.2nm,0.9s,mb3.9,baz=136,slow=4.5,SNR=15						
SONM	**Songino Array**	**80.06**	**323**	P	**P**	**16 57 53.9**	**+0.9**
	1.7nm,1.0s,mb3.8,baz=151,slow=3.7,SNR=10						
NVAR	**Mina Array Bea**	**88.97**	**48**	P	**P**	**16 57 58.1**	**+0.7**
	3.8nm,0.8s,mb4.3,baz=225,slow=7.8,SNR=18						
MOD	**Modoc**	**89.20**	**45**	*e*P	**P**	**16 57 58.4**	**0.0**
	6.3nm,0.8s,mb4.5						
WVOR	**Wild Horse Val**	**90.54**	**45**	*e*P	**P**	**16 58 05.3**	**+0.6**
	6.2nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**90.81**	**17**	P	**P**	**16 58 03.7**	**-1.7**
	0.7nm,0.6s,mb3.7,baz=236,slow=4.8,SNR=18						
PDAR	**Pinedale Array**	**96.81**	**47**	P	**P**	**16 58 34.1**	**+0.7**
	0.5nm,0.8s,mb3.8,baz=180,slow=1.5,SNR=3.7						
DPC	**Dobruska-Polom**	**143.08**	**331**	*e*PKP	PKPdf	17 04 32.5	-0.9
PVCC	**Panska Ves**	**143.72**	**333**	*e*PKP	PKPdf	17 04 34.3	-0.2
BRG	**Berggiesshubel**	**143.72**	**334**	*i* P	PKPbc	17 04 34.3	+0.6
CLL	**Collm**	**143.77**	**335**	*i* PKIKP	PKPdf	17 04 34.0	-0.6
PRU	**Pruhonice**	**144.13**	**332**	*e*PKP	PKPdf	17 04 35.7	+0.4
CLZ	**Clausthal**	**144.32**	**338**	*e*PKPbc	PKPbc	17 04 35.9	+0.5
NKC	**Novy Kostel**	**144.82**	**334**	*e*PKP	PKPdf	17 04 37.9	+1.4
KHC	**Kasperske Hory**	**145.19**	**332**	*e*PKP	PKPdf	17 04 38.9	+1.7
GEC2	**GERESS Array S**	**145.34**	**332**	*e*PKPbc	PKPbc	17 04 39.2	+1.0
GERES	**GERESS Array B**	**145.34**	**332**	PKPbc	PKPbc	17 04 39.5	+1.2
	3.3nm,0.6s,baz=29,slow=3.3,SNR=36						
IDI	**Anoyia**	**145.50**	**304**	PKPbc	PKPbc	17 04 40.1	+1.0
	9.3nm,1.0s,baz=347,slow=16,SNR=3.1						
GRA1	**Grafenberg Arr**	**145.74**	**335**	*e*PKPbc	PKPbc	17 04 40.7	+1.5
GRF	**Grafenberg Arr**	**145.74**	**335**	*e*PKP	PKPdf	17 04 40.7	+2.6
BOJS	**Bojanci**	**146.95**	**326**	*e*PKP	PKPdf	17 04 44.2	+3.7
VISS	**Visnje**	**146.96**	**327**	*e*PKP	PKPdf	17 04 42.0	+1.5
CDF	**Champ du Feu**	**148.28**	**337**	*e*PKP1	PKPdf	17 04 47.4	+5.0
DAVOX	**Davos**	**148.59**	**333**	PKPbc	PKPdf	17 04 48.5	+5.7
	6.0nm,0.8s,baz=314,slow=4.5,SNR=7.6						
DAVOX				PKPab	PKPab	17 04 53.2	-0.4
	1.3nm,0.5s,baz=7.8,slow=17,SNR=6.0						
HAU	**Haudompre**	**148.96**	**338**	*e*PKP1	PKPdf	17 04 49.1	+5.7
	15nm,0.8s						
LPG	**La Plagne**	**150.91**	**335**	*e*PKP1	PKPdf	17 04 54.3	+7.8
MBDF	**Montbardon**	**151.53**	**334**	*e*PKP1	PKPdf	17 04 55.0	+7.6
	18nm,1.2s						
ORIF	**Oris-en-Rattie**	**151.74**	**335**	*e*PKP1	PKPdf	17 04 55.3	+7.6
PGF	**Pioggiola**	**152.23**	**328**	*e*PKP1	PKPdf	17 04 56.5	+8.0
	15nm,0.8s						

*PRU **11** 16:52:45.3, 51.38N×16.21E*
*WAR **11** 16:52:45.5, 51.41N×16.21E, h1km, ML2.7, Mining Induced*

ISC 11 16:52:42.5±1.0, 51.42N±0.05×16.19E±0.05, n10, σ1§14/19, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.58**	**173**	*e*PG	**Pg**	**16 52 56.0**	**+2.0**
KSP				*e*SG	**Sg**	**16 53 03.0**	**+1.2**
UPC	**Upice**	**0.92**	**187**	*e*PG	**Pg**	**16 53 02.3**	**+1.5**
DPC	**Dobruska-Polom**	**1.07**	**175**	*e*PG	**Pg**	**16 53 04.8**	**+0.9**
DPC				*e*SG	**Sg**	**16 53 18.5**	**+0.3**
	17nm,0.4s						
PVCC	**Panska Ves**	**1.35**	**230**	*e*PG	**Pg**	**16 53 10.8**	**+1.2**
PRU	**Pruhonice**	**1.77**	**217**	*e*PG	**Pg**	**16 53 17.5**	**-0.4**
PRU				*e*SG	**Sg**	**16 53 41.1**	**-0.4**
CLL	**Collm**	**2.00**	**268**	*i* PG	**Pg**	**16 53 22.4**	**0.0**
CLL				*e*SG	**Sg**	**16 53 49.0**	**-0.1**
OKC	**Ostrava-Krasne**	**2.01**	**141**	*e*PG	**Pg**	**16 53 20.6**	**-2.1**
OKC				*e*SG	**Sg**	**16 53 48.1**	**-1.5**
OJC	**Ojcow**	**2.58**	**116**	*e*PG	**Pg**	**16 53 35.0**	**+0.9**
OJC				*e*SG	**Sg**	**16 54 08.0**	**-0.6**
NKC	**Novy Kostel**	**2.65**	**245**	*e*PG	**Pg**	**16 53 35.2**	**-0.2**
NKC				*e*SG	**Sg**	**16 54 10.8**	**+0.1**
KHC	**Kasperske Hory**	**2.83**	**217**	*e*PG	**Pg**	**16 53 36.8**	**-2.3**
KHC				*e*SN	**Sn**	**16 54 05.7**	**+0.5**
KHC				*e*SG	**Sg**	**16 54 15.1**	**-1.8**

GUC 11 17:17:53.4±0.5, 34.27S×70.06W, h9km±1km, MD3.5, ML1.9, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.30**	**260**	↑*i* P	Pg	17 17 60.0	+0.3
CICH				*i* S	Sg	17 18 04.9	+1.1
LMEL	**Las Melosas**	**0.43**	**344**	↑*i* P	Pg	17 18 02.5	+0.2
LMEL				*i* S	Sg	17 18 09.9	+1.8
LMEL				AMP		17 18 11.2	
	comp=N,242nm,0.3s						
CACH	**El Canelo**	**0.47**	**288**	*e*P	Pg	17 18 02.9	-0.1
CACH				*i* S	Sg	17 18 10.0	+0.6

SPCH AMP 17 29 50.6
comp=N,11μm,0.5s
LVC Limon Verde 2.09 308 P **P 17 29 29.8 +2.3**
comp=N,266nm,0.3s,baz=126,slow=6.7,SNR=1064
LVC S **S 17 29 58.2 +1.4**
comp=N,364nm,0.3s,baz=254,slow=22,SNR=88
LVC Limon Verde 2.09 308 *e*Pn **P 17 29 29.3 +1.7**
ANCH Antofagasta 3.02 274 ⇑*i*P **P 17 29 40.0 +1.3**
ANCH *i* S **S 17 30 16.5 0.0**
CPN1 Cerro Paranal 3.08 256 ⇑*i*P **P 17 29 40.6 +1.2**
CPN1 *i* S **S 17 30 17.9 0.0**
CPN1 AMP 17 30 19.2
comp=E,9μm,0.5s
CPCH Copiapo 4.51 220 ⇑*i*P **P 17 29 56.4 -1.3**
CPCH *i* S **S 17 30 47.2 -3.1**
VACH Vallenar 5.68 214 ⇓*i*P **P 17 30 12.1 -0.9**
VACH *i* S **S 17 31 15.4 -2.4**
TLL Tololo Astrono 7.04 207 *i* P **P 17 30 29.4 -1.6**
TLL *i* S **S 17 31 46.9 -3.2**
LPAZ La Paz 7.64 353 P **P 17 30 39.1 +0.2**
comp=E,48nm,0.3s,baz=156,slow=11,SNR=348
LPAZ S **S 17 32 02.2 -2.1**
comp=E,2.7nm,0.3s,baz=312,slow=21,SNR=4.1
LPAZ LR LR 17 33 48.0
comp=E,180nm,19.4s,baz=220,slow=40
LPAZ La Paz 7.64 353 P **P 17 30 39.1 +0.2**
LPAZ S **S 17 32 02.2 -2.1**
ARE Arequipa 8.47 330 *e*P **P 17 30 51.0 +1.2**
ARE *e* 17 30 57.0
ARE *e*S **S 17 32 20.0 -3.8**
TRQA Tornquist 14.77 164 *e*P **P 17 32 10.1 -0.8**
comp=E,46nm,0.8s
BDFB Brasilia 19.76 69 P **P 17 33 07.1 -0.8**
comp=E,44nm,0.3s,baz=252,slow=9.3,SNR=346
BDFB S **S 17 36 38.6 +2.8**
comp=E,0.6nm,0.3s,baz=143,slow=25,SNR=1.9
BAO Brasilia Array 19.78 69 *e*P **P 17 33 07.4 -0.7**
BAO *i* 17 33 08.4
OTAV Otavalo 26.40 334 *e*P **P 17 34 10.9 -0.9**
comp=E,4.7nm,0.8s,mb4.2
PAYG Puerto Ayora 32.21 312 *e*P **P 17 35 04.5 +1.1**
comp=E,16nm,0.7s,mb4.9
SDV Santo Domingo 32.77 354 P **P 17 35 06.9 -1.3**
comp=E,3.2nm,0.5s,mb4.3,baz=239,slow=2.7,SNR=3.9
SDV Santo Domingo 32.77 354 *e*P **P 17 35 07.3 -0.9**
comp=E,22nm,0.4s,mb5.2
RCBR Riachuelo 34.98 64 *e*P **P 17 35 25.4 -1.6**
comp=E,25nm,0.7s,mb5.0
PMSA Palmer Station 40.91 178 *e*P **P 17 36 17.2 +1.4**
comp=E,12nm,0.4s,mb4.9
VNA3 Neumayer Olymp 57.27 161 P **P 17 38 24.6 +4.0**
VNA3 Neumayer Olymp 57.27 161 ⇑*i* pP 17 39 01.8 +1.0
VNA1 Neumayer--Stat 57.47 160 ⇓*i*P **P 17 38 26.7 +4.7**
VNA2 Neumayer--Watz 57.84 160 ⇑*i*P **P 17 38 27.7 +3.2**
VNA2 Neumayer--Watz 57.84 160 ⇑*i* pP 17 39 04.9 0.0
COW Cow Castle Cre 58.42 347 *e*P **P 17 38 28.1 -1.0**
JSC Jenkinsville 59.41 346 *e*P **P 17 38 34.5 -1.4**
SNAA Sanae 59.47 161 ⇓*i*P **P 17 38 35.6 -0.2**
SNAA Sanae 59.47 161 ⇑*i* pP 17 39 20.8 +4.3
SNAA Sanae 59.47 161 P **P 17 38 35.7 -0.2**
comp=E,11nm,1.0s,mb4.6,baz=282,slow=8.2,SNR=48
LRAL Lakeview Retre 59.71 341 *e*P **P 17 38 35.0 -3.0**
comp=E,13nm,0.6s,mb4.9
HKT Hockley 60.23 331 P **P 17 38 40.4 -1.1**
comp=E,14nm,1.0s,mb4.7
ELN Prospectdale 62.15 348 *e*P **P 17 38 53.6 -0.8**
PWV Princeton 62.31 347 *e*P **P 17 38 54.0 -1.4**
JCT Junction City 62.51 328 *e*P **P 17 38 55.6 -1.2**
comp=E,35nm,0.7s,mb5.3
WVT Waverly 62.84 341 *e*P **P 17 38 56.2 -2.7**
comp=E,25nm,0.6s,mb5.2
MIAR Mount Ida 63.33 336 *e*P **P 17 39 00.2 -1.9**
comp=E,22nm,0.5s,mb5.2
TXAR Lajitas Array 63.54 324 P **P 17 39 03.0 -0.7**
comp=E,2.1nm,0.5s,mb4.2,baz=144,slow=8.5,SNR=18
WCI Wyandotte Cave 64.38 343 *e*P **P 17 39 06.0 -2.9**
comp=E,39nm,0.5s,mb5.5
FVM French Village 65.34 340 *e*P **P 17 39 12.8 -2.4**
comp=E,24nm,0.6s,mb5.2
WMOK Wichita Mounta 65.61 332 *e*P **P 17 39 15.2 -1.7**
comp=E,5.7nm,0.6s,mb4.6
CCM Cathedral Cave 65.67 339 *e*P **P 17 39 15.2 -2.1**
comp=E,31nm,0.6s,mb5.3
CLNB Carlsbad 65.98 326 *e*P **P 17 39 18.6 -0.7**
GDL2 Guadalupe Moun 66.17 326 *e*P **P 17 39 20.3 -0.3**
QSPA South Pole Qui 66.30 180 ⇓*i*P **P 17 39 21.5 +0.9**
comp=E,56nm,0.4s,mb5.8
MNTX Cornudas Mount 66.31 325 *e*P **P 17 39 19.6 -1.8**
comp=E,12nm,0.8s,mb4.8
DBIC Dimbokro 67.88 72 P **P 17 39 30.0 -1.5**
comp=E,5.7nm,0.5s,mb4.5,baz=217,slow=6.3,SNR=19
LPM Los Pinos Moun 69.00 326 *e*P **P 17 39 39.1 +1.1**
SADO Sadowa 69.22 351 P **P 17 39 37.7 -1.4**
comp=E,2.0nm,0.3s,mb4.3,baz=182,slow=5.4,SNR=7.5
SADO Sadowa 69.22 351 P **P 17 39 37.7 -1.4**
LAZ Ladron 69.33 325 *e*P **P 17 39 40.8 +0.8**
ANMO Albuquerque 69.41 326 *e*P **P 17 39 40.5 0.0**
comp=E,18nm,0.9s,mb4.8
TUC Tucson 69.74 321 *e*P **P 17 39 42.5 -0.1**
comp=E,16nm,1.1s,mb4.7
JFWS Jewell Farm 69.82 342 *e*P **P 17 39 41.4 -1.4**
comp=E,65nm,0.6s,mb5.5
SDCO Great Sand Dun 71.15 329 *e*P **P 17 39 51.5 +0.5**
comp=E,21nm,0.8s,mb4.9
RW3 Ridgway 72.61 328 *e*P **P 17 40 00.1 +0.5**
ISCO Idaho Springs 72.85 330 *e*P **P 17 40 00.9 0.0**
comp=E,14nm,0.8s,mb4.8
SYO Syowa Base 73.67 159 ⇓P **P 17 40 05.6 +0.4**
SYO Syowa Base 73.67 159 ⇑sP sP 17 41 02.6 -3.6
SBA Scott Base 73.77 190 *e*P **P 17 40 07.5 +1.8**
comp=E,8.2nm,0.8s,mb4.5
PHWY Pilot Hill 73.98 331 *e*P **P 17 40 07.5 0.0**
NEN Nelson 74.48 321 *e*P **P 17 40 10.6 +0.1**
SRU San Rafael 74.68 326 *e*P **P 17 40 11.9 +0.3**
VNDA Vanda 74.77 190 P **P 17 40 13.4 +2.0**
comp=E,8.0nm,1.0s,mb4.3,baz=120,slow=5.6,SNR=33
RWWY Rawlins 75.08 330 *e*P **P 17 40 14.2 +0.4**
MSU Marysvale 75.09 325 *e*P **P 17 40 14.0 +0.1**
TMUT Trail Mountain 75.17 326 *e*P **P 17 40 15.2 +0.8**
TRCR Troy Canyon 76.81 323 *e*P **P 17 40 24.9 +1.4**
PDAR Pinedale Array 77.01 329 P **P 17 40 24.8 +0.2**
comp=E,4.5nm,0.5s,mb4.3,baz=132,slow=7.7,SNR=55
BGU Big Grassy Mou 77.32 326 *e*P **P 17 40 26.2 -0.1**
AHID Auburn Hatcher 77.74 328 *e*P **P 17 40 29.2 +0.7**
comp=E,24nm,0.5s,mb5.1
HVU Hansel Valley 77.82 327 *e*P **P 17 40 29.0 0.0**
SNOW Snow King Moun 78.11 329 *e*P **P 17 40 31.0 +0.4**
LOHW Long Hollow 78.15 329 *e*P **P 17 40 31.2 +0.5**
WUWY Wally Ulrich 78.16 329 *e*P **P 17 40 31.2 +0.4**
OMM Old Mammoth Mi 78.24 320 *e*P **P 17 40 31.1 -0.3**
MNV Mina 78.31 321 *e*P **P 17 40 31.9 +0.2**
comp=E,12nm,1.2s,mb4.4
MOOW Moose Ponds 78.32 329 *e*P **P 17 40 32.0 +0.3**
NVAR Mina Array Bea 78.40 321 P **P 17 40 33.3 +1.1**
comp=E,3.9nm,0.6s,mb4.2,baz=145,slow=5.3,SNR=22
SCHQ Schefferville 78.42 0 P **P 17 40 31.2 -0.8**
comp=E,2.9nm,0.6s,mb4.1,baz=217,slow=6.3,SNR=12
YFT Old Faithful 78.90 330 *e*P **P 17 40 37.6 +2.8**
YMR Madison River 79.13 330 *e*P **P 17 40 37.4 +1.4**
DGMT Dagmar 79.33 336 *e*P **P 17 40 37.5 +0.5**
comp=E,26nm,0.5s,mb5.1
QLMT Earthquake Lak 79.46 330 *e*P **P 17 40 39.5 +1.7**
HLID Hailey 79.95 327 *e*P **P 17 40 41.8 +1.3**
comp=E,18nm,0.8s,mb4.7
MCMT McKenzie Canyo 80.13 329 *e*P **P 17 40 42.4 +1.0**
BOZ Bozeman (W) 80.17 330 *e*P **P 17 40 40.5 -1.1**
comp=E,4.3nm,0.7s,mb4.2
HRY Holter Researc 81.07 331 *e*P **P 17 40 47.2 +0.9**
MAW Mawson 81.56 163 P **P 17 40 49.4 +1.0**
comp=E,23nm,0.5s,mb5.0,baz=216,slow=7.0,SNR=59
MAW LR LR 18 17 17.9
comp=E,48nm,18.3s,baz=62,slow=36
MOD Modoc 81.88 323 *e*P **P 17 40 51.5 +0.9**
comp=E,13nm,0.9s,mb4.6
MSO Missoula 82.12 330 *e*P **P 17 40 51.4 -0.3**
comp=E,3.5nm,0.6s,mb4.2
BMO Blue Mountains 82.32 327 *e*P **P 17 40 53.0 +0.2**
comp=E,5.9nm,0.6s,mb4.4
HUMO Hull Mountain 83.82 322 *e*P **P 17 40 59.3 -1.1**
comp=E,3.7nm,0.6s,mb4.3
BBOR Butler Butte 83.85 322 P **P 17 41 01.1 +0.5**
HBO Huckleberry Mo 84.27 323 P **P 17 41 03.4 +0.6**
FCC Fort Churchill 85.34 346 *e*P **P 17 41 07.5 -0.1**
comp=E,34nm,0.5s,mb5.3
EBG Ellensburg 85.39 326 P **P 17 41 09.4 +1.2**
WTV Waterville 85.62 327 P **P 17 41 10.0 +0.7**
ETW Entiat 85.74 327 P **P 17 41 10.7 +0.8**
ESDC Sonseca Array 86.41 44 P **P 17 41 14.1 +0.8**
comp=E,2.0nm,0.7s,mb4.0,baz=224,slow=4.9,SNR=6.5
EDM Edmonton 86.64 334 *e*P **P 17 41 13.2 -0.8**
CMW Cultus Mountai 87.18 327 P **P 17 41 17.1 +0.3**
FRB Frobisher Bay 87.37 359 P **P 17 41 18.1 +0.8**
comp=E,1.5nm,0.3s,mb4.3,baz=178,slow=14,SNR=5.7
LSZ Lusaka 88.64 106 *e*P **P 17 41 27.0 +2.6**
comp=E,8.9nm,1.0s,mb4.7
YKA Yellowknife Ar 94.00 340 P **P 17 41 48.4 +0.3**
comp=E,6.1nm,0.5s,mb5.0,baz=129,slow=4.6,SNR=145
GERES GERESS Array B 101.89 42 PKKPbc 17 58 28.5
comp=E,0.3nm,0.5s,baz=90,slow=4.0,SNR=4.0
ILAR Eielson Array 107.12 334 PKKPbc 17 58 12.2
comp=E,0.2nm,0.5s,baz=311,slow=4.2,SNR=6.0
AKASG Malin Array Be 112.05 43 PKKPab 17 58 05.9
comp=E,0.2nm,0.2s,baz=66,slow=4.4,SNR=4.4
FINES FINESS Array B 112.21 31 PKKPbc 17 57 55.9
comp=E,1.3nm,0.6s,baz=72,slow=6.0,SNR=9.7
BRTR Keskin Array B 112.85 55 PKKPab 17 58 04.3
comp=E,1.2nm,0.7s,baz=108,slow=3.9,SNR=4.5
ARCES ARCESS Array B 113.08 22 PKKPbc 17 57 53.2
comp=E,1.9nm,0.8s,baz=96,slow=4.1,SNR=6.3
ARCES PKKPab 17 58 02.0
comp=E,2.8nm,0.7s,baz=68,slow=6.5,SNR=4.3
STKA Stephens Creek 118.10 208 PKP PKPdf 17 47 17.3 +1.5
comp=E,1.1nm,0.6s,baz=98,slow=7.1,SNR=3.7
NWAO Narrogin (SRO) 123.33 184 PKP PKPdf 17 47 27.1 +1.1
comp=E,24nm,1.3s,baz=117,slow=16,SNR=3.1
CTA Charters Tower 125.50 219 PKP PKPdf 17 47 32.4 +1.9
comp=E,5.1nm,0.7s,baz=129,slow=20,SNR=6.3
ASAR Alice Springs 128.49 205 PKP PKPdf 17 47 37.5 +1.2
comp=E,7.6nm,0.5s,baz=137,slow=1.9,SNR=89
ASAR SKPbc 17 50 40.9
comp=E,0.8nm,1.0s,baz=150,slow=3.8,SNR=3.9
ASAR PKKP PKKP 17 57 43.5 +20
comp=E,0.2nm,0.5s,baz=352,slow=1.4,SNR=5.0
ASPA Alice Springs 128.49 205 *e*P PKPdf 17 47 37.2 +1.0
WB2 Warramunga Arr 131.65 207 ⇑*i*P PKPdf 17 47 43.6 +1.3
WRA Warramunga Arr 131.66 207 PKP PKPdf 17 47 43.8 +1.5
comp=E,7.1nm,0.5s,baz=158,slow=1.7,SNR=115
WRA SKPbc 17 50 52.8
comp=E,5.3nm,1.1s,baz=159,slow=3.2,SNR=9.5
WRAB Tennant Creek 131.66 207 *e*PKP PKPdf 17 47 42.8 +0.5
CHKZ Chkalovo 136.62 36 *e*PKP PKPdf 17 47 51.6 +1.1
BVAR Borovoye Array 136.79 37 PKP PKPdf 17 47 52.9 +2.1
comp=E,1.3nm,0.4s,baz=307,slow=2.5,SNR=9.7
KAKA Kakadu 138.89 210 *e*P PKPdf 17 47 48.8 -7.0
comp=E,7.1nm,0.6s
AAK Ala-Archa 143.26 50 *e*PKP PKPdf 17 48 01.1 -1.6
ZAL Zalesovo 143.36 28 PKhKP 17 48 01.6
comp=E,5.1nm,0.4s,baz=147,slow=5.0,SNR=26
HYB Hyderabad 147.30 95 *e*P PKPdf 17 48 14.5 +4.2
HYB Hyderabad 147.30 95 *i* PKP PKPdf 17 48 12.5 +2.2
HYB *e* 17 48 14.5
HYB *e* 17 49 05.0
ASAJ Asahikawa 148.44 317 PKPbc PKPdf 17 48 14.8 +3.5
comp=E,11nm,0.7s,baz=182,slow=7.4,SNR=8.0
MDJ Mudanjiang 155.24 331 PKP PKPdf 17 48 22.7 +1.5
SONM Songino Array 155.57 11 PKP PKPdf 17 48 24.3 +2.8
comp=E,2.1nm,1.0s,baz=266,slow=1.6,SNR=13
SONM PKPbc PKPdf 17 48 33.2 +12
comp=E,1.7nm,0.5s,baz=306,slow=1.6,SNR=23
SONM PKPab PKPab 17 48 48.9 -2.0
comp=E,0.9nm,0.5s,baz=302,slow=2.9,SNR=4.5
LZH Lanzhou 165.57 31 *e*PKP PKPdf 17 48 35.5 +2.6
CMAR Chiang Mai Arr 165.92 110 PKP PKPdf 17 48 35.8 +2.1
comp=E,3.8nm,1.3s,baz=300,slow=2.0,SNR=7.2
CMAR PKPab PKPab 17 49 36.4 -0.2
comp=E,0.9nm,0.8s,baz=255,slow=5.3,SNR=5.6
NJ2 Nanjing 170.32 328 *e*PKP PKPdf 17 48 37.3 +1.2
NJ2 APKP 17 49 20.0
NJ2 XPKP 17 49 36.6
NJ2 PKP2 PKPab 17 49 56.7 +1.2
NJ2 PKS PKS 17 52 08.0 +0.4
NJ2 PP PP 17 53 48.0 +1.4
NJ2 SKS SKS 17 55 23.0 +2.3
NJ2 PP PP
comp=Z,410nm,7.9s
NJ2 LR LR
comp=N,680nm,30.3s
NJ2 LR LR
comp=E,780nm,24.0s
NJ2 LR LR
comp=Z,410nm,29.5s

IDC 11 17:53:26.9±12.0, 14.29N×91.17E, mb3.5/2, mb1 3.6/3, mb1mx3.3/18, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=246.7km s-min=54.4km az=117.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.53**	**60**	Pn	P	17 55 32.0	-2.6
0.0nm,0.3s,baz=246,slow=15,SNR=4.3							
WRA	**Warramunga Arr**	**54.41**	**128**	P	P	18 02 55.5	-2.9
0.5nm,0.8s,baz=315,slow=8.3,SNR=6.0							
ASAR	**Alice Springs**	**56.29**	**132**	P	P	18 03 10.3	-1.7
0.5nm,0.8s,baz=303,slow=6.1,SNR=4.2							

*IDC **11** 17:56:44.5±1.3, 12.63N×92.84E, mb3.6/6, mb1 3.8/7, mb1mx3.6/19, mbtmp3.6/7, ML3.6/1, MS2.6/1, Ms1 2.8/1, ms1mx2.4/19, Error ellipse: s-maj=54.1km s-min=20.4km az=56.0*
*NEIC **11** 17:56:49.3±0.8, 12.69N×92.94E, h30km, mb4.2/3, Error ellipse: s-maj=23.7km s-min=13.5km az=58.0*
ISC 11 17:56:48.2±0.7, 12.92N±0.09×93.3E±0.2, h30km, n12, σ0§97/13, mb3.8/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.38**	**204**	*e*P	**Pn**	**17 57 12.0**	**+0.3**
PBA				*e*S	**Sn**	**17 57 34.0**	**+4.9**
PBA				*e*		17 57 36.8	
comp=E,2μm,0.4s							
PBA				*e*		17 57 37.1	
comp=N,2μm,0.3s							
CMAR	**Chiang Mai Arr**	**7.72**	**44**	Pn	**Pn**	**17 58 45.5**	**+4.1**
comp=N,0.2nm,0.3s,baz=236,slow=15,SNR=7.7							
CMAR				LR	LR	18 02 28.1	
comp=N,34nm,18.6s,baz=225,slow=42							
LSA	**Lhasa**	**16.82**	**353**	*e*P	**P**	**18 00 38.4**	**-4.9**
comp=N,3.5nm,0.6s							
ZAL	**Zalesovo**	**41.47**	**352**	P	**P**	**18 04 35.2**	**+1.2**
comp=N,0.4nm,0.4s,mb3.4,baz=152,slow=22,SNR=4.5							
BVAR	**Borovoye Array**	**43.99**	**340**	P	**P**	**18 04 52.9**	**-1.6**
comp=N,0.5nm,0.8s,mb3.3,baz=80,slow=8.8,SNR=3.4							
CHKZ	**Chkalovo**	**44.46**	**341**	*e*P	**P**	**18 04 58.8**	**+0.4**
comp=N,1.9nm,0.5s,mb4.1							
WRA	**Warramunga Arr**	**51.92**	**128**	P	**P**	**18 05 56.5**	**-0.3**
comp=N,0.4nm,0.6s,mb3.6,baz=301,slow=9.9,SNR=7.7							
WRAB	**Tennant Creek**	**51.92**	**128**	P	**P**	**18 05 56.9**	**+0.1**
comp=N,6.9nm,1.1s,mb4.5							
ASAR	**Alice Springs**	**53.82**	**132**	P	**P**	**18 06 10.7**	**-0.2**
comp=N,0.2nm,0.6s,mb3.2,baz=314,slow=6.3,SNR=6.8							
FINES	**FINESS Array B**	**67.91**	**331**	P	**P**	**18 07 44.6**	**-1.4**
comp=N,2.0nm,0.8s,mb4.2,baz=328,slow=36,SNR=3.8							
ARCES	**ARCESS Array B**	**70.28**	**340**	P	**P**	**18 08 01.7**	**+1.3**
comp=N,1.6nm,0.7s,mb4.0,baz=104,slow=7.4,SNR=4.5							
ARCES	**ARCESS Array B**	**70.28**	**340**	P	**P**	**18 08 01.7**	**+1.3**

*IDC **11** 18:07:34.3±1.7, 11.08S×164.64E, mb3.9/6, mb1 4.1/7, mb1mx4.0/15, mbtmp3.9/7, ML4.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/15, Error ellipse: s-maj=75.1km s-min=21.5km az=133.0*
*NEIC **11** 18:07:50.8±5.0, 11.27S×164.52E, h135km±50km, mb4.4/2, Error ellipse: s-maj=40.9km s-min=15.5km az=163.0*
ISC 11 18:07:50.7±0.8, 11.3S±0.1×164.5E±0.1, h150km, n16, σ0§60/14, mb3.7/7, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.85**	**170**	*e*P	**P**	**18 10 22.4**	**-0.4**
NOUC	**Port Laguerre**	**10.85**	**171**	*e*P	**P**	**18 10 23.3**	**+0.5**
NOUC	**Port Laguerre**	**10.85**	**171**	*e*P	**P**	**18 10 23.3**	**+0.4**
PMG	**Port Moresby**	**17.13**	**275**	LR	LR	18 16 20.2	
comp=Z,70nm,18.2s,baz=273,slow=30							
CTA	**Charters Tower**	**19.55**	**241**	P	**P**	**18 12 08.7**	**-0.3**
0.3nm,0.3s,baz=59,slow=14,SNR=4.7							
CTAO	**Charters Tower**	**19.55**	**241**	*e*P	**P**	**18 12 09.9**	**+0.9**
24nm,0.9s							
STKA	**Stephens Creek**	**29.37**	**222**	P	**P**	**18 13 42.2**	**+0.2**
1.1nm,0.6s,mb3.8,baz=69,slow=8.6,SNR=2.6							
STKA	**Stephens Creek**	**29.37**	**222**	P	**P**	**18 13 42.2**	**+0.2**
WRAB	**Tennant Creek**	**30.19**	**250**	*e*P	**P**	**18 13 50.3**	**+1.0**
2.7nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**30.20**	**250**	P	**P**	**18 13 48.4**	**-1.0**
1.2nm,0.7s,mb3.8,baz=80,slow=9.2,SNR=9.8							
ASAR	**Alice Springs**	**31.54**	**243**	P	**P**	**18 14 00.4**	**-0.7**
0.6nm,0.4s,mb3.6,baz=65,slow=10.0,SNR=8.4							
SONM	**Songino Array**	**78.16**	**324**	P	**P**	**18 19 35.3**	**+0.4**
0.6nm,0.7s,mb3.4,baz=143,slow=6.3,SNR=5.5							
ILAR	**Eielson Array**	**84.19**	**19**	P	**P**	**18 20 06.0**	**+0.1**
0.9nm,0.6s,mb3.7,baz=240,slow=5.3,SNR=13							
YKA	**Yellowknife Ar**	**95.81**	**27**	P	**P**	**18 21 00.3**	**-0.3**
0.1nm,0.6s,mb3.3,baz=253,slow=5.4,SNR=4.4							
YKA	**Yellowknife Ar**	**95.81**	**27**	P	**P**	**18 21 00.3**	**-0.4**
ARCES	**ARCESS Array B**	**116.29**	**345**	PKP	PKPdf	18 26 18.6	+2.7
4.0nm,1.0s,baz=27,slow=2.0,SNR=5.3							

*IDC **11** 18:12:26.4±1.7, 10.27N×91.52E, mb3.9/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=60.5km s-min=19.1km az=66.0*
*BJI **11** 18:12:28.7, 9.87N×91.61E, h56km, mb4.2*
*NEIC **11** 18:12:30.6±0.6, 10.29N×91.48E, h30km, mb4.2/4, Error ellipse: s-maj=16.3km s-min=9.7km az=53.0*
ISC 11 18:12:28.2±0.7, 10.23N±0.07×91.41E±0.07, h30km, n24, σ0§82/25, mb4.0/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.93**	**43**	*e*P	**Pn**	**18 12 59.3**	**-0.3**
PBA				*e*S	**Sn**	**18 13 23.0**	**-0.1**
PBA				*e*		18 13 38.1	
comp=E,2μm,0.4s							
PBA				*e*		18 13 41.8	
comp=N,2μm,0.9s							
VIS	**Vishakhapatnam**	**10.81**	**314**	*e*P	**P**	**18 15 03.0**	**-1.2**
CMAR	**Chiang Mai Arr**	**10.96**	**41**	Pn	**P**	**18 15 02.8**	**-3.5**
comp=N,0.2nm,0.3s,baz=234,slow=15,SNR=6.3							
HYB	**Hyderabad**	**14.38**	**301**	*e*P	**P**	**18 15 51.5**	**-0.4**
HYB	**Hyderabad**	**14.38**	**301**	*i* P	**P**	**18 15 51.5**	**-0.4**
JIRN	**Jiri**	**18.02**	**345**	*e*P	**P**	**18 16 38.5**	**+0.1**
PKI	**Pulchoki**	**18.15**	**343**	*e*P	**P**	**18 16 41.6**	**+1.6**
DMN	**Daman**	**18.28**	**342**	*e*P	**P**	**18 16 41.8**	**+0.3**
comp=N,13nm,0.7s							
GUN	**Gumba**	**18.34**	**344**	*e*P	**P**	**18 16 40.7**	**-1.6**
KKN	**Kakani**	**18.39**	**343**	*e*P	**P**	**18 16 42.6**	**-0.4**
GKN	**Gorkha**	**18.79**	**341**	*e*P	**P**	**18 16 47.0**	**-0.7**
KOLN	**Koldanda**	**18.93**	**338**	*e*P	**P**	**18 16 50.2**	**+0.8**
comp=N,6.5nm,0.5s							
LSA	**Lhasa**	**19.37**	**359**	P	**P**	**18 16 56.0**	**+1.5**
LSA	**Lhasa**	**19.37**	**359**	*e*P	**P**	**18 16 54.4**	**-0.1**
comp=N,6.0nm,0.7s							
ENH	**Enshi**	**26.10**	**38**	*e*P	**P**	**18 17 57.2**	**-4.2**
comp=N,10.0nm,0.6s,mb4.5							
SONM	**Songino Array**	**39.55**	**16**	P	**P**	**18 19 58.8**	**+0.4**
comp=N,1.5nm,0.7s,mb3.9,baz=199,slow=8.8,SNR=13							
ZAL	**Zalesovo**	**43.91**	**354**	P	**P**	**18 20 34.8**	**+0.9**
comp=N,1.2nm,0.5s,mb3.9,baz=289,slow=4.7,SNR=8.0							
BVAR	**Borovoye Array**	**45.92**	**342**	P	**P**	**18 20 50.2**	**+0.3**
comp=N,0.3nm,0.7s,mb3.3,baz=127,slow=7.2,SNR=2.7							
BVAR	**Borovoye Array**	**45.92**	**342**	P	**P**	**18 20 50.2**	**+0.3**
CHKZ	**Chkalovo**	**46.42**	**343**	*e*P	**P**	**18 20 54.6**	**+0.7**
comp=N,1.7nm,1.0s,mb3.9							
WRA	**Warramunga Arr**	**51.82**	**125**	P	**P**	**18 21 36.1**	**+0.1**
comp=N,2.1nm,0.6s,mb4.3,baz=305,slow=8.5,SNR=27							
WRAB	**Tennant Creek**	**51.82**	**125**	*e*P	**P**	**18 21 35.7**	**-0.3**
comp=N,2.9nm,0.5s,mb4.5							
ASAR	**Alice Springs**	**53.49**	**130**	P	**P**	**18 21 48.5**	**+0.1**
comp=N,1.7nm,0.7s,mb4.1,baz=306,slow=7.0,SNR=20							
STKA	**Stephens Creek**	**63.68**	**133**	P	**P**	**18 22 59.4**	**0.0**
comp=N,2.5nm,1.0s,mb4.2,baz=280,slow=8.3,SNR=3.2							

*NEIC **11** 19:03:19.6±1.3, 10.49N×91.88E, mb4.5/1, Error ellipse: s-maj=32.2km s-min=13.9km az=80.0*
IDC 11 19:03:16.9±2.5, 10.48N×91.84E, mb3.7/4, mb1 3.7/5, mb1mx3.5/18, mbtmp3.5/5, ML3.2/1, Error ellipse: s-maj=76.9km s-min=24.5km az=71.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.49**	**40**	Pn	P	19 05 48.9	-2.9
0.1nm,0.3s,baz=234,slow=15,SNR=4.4							
SONM	**Songino Array**	**39.20**	**16**	P	P	19 10 46.9	-1.6
0.6nm,0.8s,baz=217,slow=6.2,SNR=6.5							
ZAL	**Zalesovo**	**43.71**	**354**	P	P	19 11 23.4	-1.9
0.5nm,0.4s,baz=138,slow=24,SNR=3.1							
WRA	**Warramunga Arr**	**51.61**	**126**	P	P	19 12 25.7	-1.9
1.1nm,0.5s,baz=300,slow=10,SNR=17							
WRA				pP	pP	19 12 30.1	+2.4
1.2nm,0.5s,baz=306,slow=8.5,SNR=7.1							
WRAB	**Tennant Creek**	**51.62**	**126**	P	P	19 12 25.8	-1.9
3.4nm,0.5s							
ASAR	**Alice Springs**	**53.32**	**130**	P	P	19 12 37.9	-2.5
0.6nm,0.7s,baz=317,slow=4.9,SNR=6.2							
ASAR				pP	pP	19 12 43.2	+2.9
1.1nm,0.8s,baz=309,slow=6.4,SNR=8.1							

IDC 11 19:05:11.9±12.0, 10.54N×92.07E, mb3.6/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, MS2.8/1, Ms1 3.0/1, ms1mx2.4/12, Error ellipse: s-maj=410.2km s-min=31.0km az=74.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.29**	**31**	*e*P	Pb	19 05 38.6	+1.8
PBA				*e*S	Sb	19 05 59.8	+6.0
PBA				*e*		19 06 01.9	
comp=E,780nm,0.9s							
PBA				*e*		19 06 04.6	
comp=N,934nm,0.4s							
CMAR	**Chiang Mai Arr**	**10.31**	**39**	LR	LR	19 12 37.7	
comp=N,48nm,18.4s,baz=52,slow=43							
SONM	**Songino Array**	**39.09**	**15**	P	P	19 12 40.6	-1.8
comp=N,0.3nm,0.8s,baz=203,slow=8.6,SNR=3.2							
WRA	**Warramunga Arr**	**51.47**	**126**	P	P	19 14 19.5	-2.0
comp=N,1.1nm,0.4s,baz=302,slow=9.6,SNR=8.0							
WRA				pP	pP	19 14 24.1	+2.7
comp=N,1.2nm,0.4s,baz=301,slow=9.9,SNR=6.5							
ASAR	**Alice Springs**	**53.18**	**130**	P	P	19 14 32.2	-2.1
comp=N,0.5nm,0.7s,baz=316,slow=7.2,SNR=4.1							
ASAR				pP	pP	19 14 36.3	+2.0
comp=N,2.0nm,1.1s,baz=310,slow=6.6,SNR=5.8							

*ATH **11** 19:07:49.7, 36.19N×22.27E, h5

*IDC **11** 19:17:04.4±1.3, 5.50N×94.39E, mb4.0/8, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, ML4.4/1, Error ellipse: s-maj=62.7km s-min=19.1km az=54.0*
*NEIC **11** 19:17:08.0±0.7, 5.19N×94.05E, h30km, mb4.3/5, Error ellipse: s-maj=25.3km s-min=11.5km az=61.0*
ISC 11 19:17:06.2±0.9, 5.2N±0.1×94.1E±0.2, h30km, n15, σ1°05/15, mb4.1/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.95**	**19**	Pn	**P**	**19 20 26.2**	**+1.8**
	0.6nm,0.3s,baz=208,slow=14,SNR=27						
LSA	**Lhasa**	**24.49**	**354**	P	**P**	**19 22 25.2**	**+0.9**
	2.5nm,0.5s,mb3.9						
SONM	**Songino Array**	**43.72**	**12**	P	**P**	**19 25 08.9**	**-1.6**
	0.5nm,0.4s,mb3.6,baz=196,slow=9.2,SNR=10						
SONM				PcP	PcP	19 26 56.4	-1.3
	0.2nm,0.5s,baz=190,slow=3.8,SNR=5.1						
ULN	**Ulaanbaatar**	**43.89**	**13**	P	**P**	**19 25 09.0**	**-2.9**
	1.0nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**46.80**	**124**	P	**P**	**19 25 35.6**	**+0.2**
	1.4nm,0.8s,mb4.0,baz=305,slow=9.5,SNR=24						
WRAB	**Tennant Creek**	**46.80**	**124**	*eP*	**P**	**19 25 35.3**	**-0.2**
	2.7nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**48.29**	**128**	P	**P**	**19 25 47.2**	**+0.2**
	0.7nm,0.7s,mb3.8,baz=302,slow=7.6,SNR=17						
ZAL	**Zalesovo**	**49.13**	**353**	P	**P**	**19 25 52.5**	**-0.7**
	1.6nm,0.3s,mb4.5,baz=290,slow=3.4,SNR=6.9						
ZAL	**Zalesovo**	**49.13**	**353**	P	**P**	**19 25 52.5**	**-0.7**
BVAR	**Borovoye Array**	**51.46**	**342**	P	**P**	**19 26 10.6**	**-0.3**
	1.1nm,0.4s,mb4.1,baz=138,slow=14,SNR=18						
BRVK	**Borovoye**	**51.52**	**342**	*eP*	**P**	**19 26 10.8**	**-0.6**
	2.5nm,0.5s,mb4.4						
CHKZ	**Chkalovo**	**51.95**	**342**	*eP*	**P**	**19 26 14.4**	**-0.3**
	3.2nm,0.4s,mb4.6						
FINES	**FINESS Array B**	**75.02**	**333**	P	**P**	**19 28 46.5**	**0.0**
	2.1nm,0.9s,mb4.1,baz=124,slow=6.9,SNR=3.8						
ARCES	**ARCESS Array B**	**77.72**	**340**	P	**P**	**19 29 01.9**	**+0.3**
	2.8nm,0.9s,mb4.2,baz=95,slow=7.7,SNR=5.7						
GERES	**GERESS Array B**	**79.76**	**319**	P	**P**	**19 29 15.0**	**+1.9**
	0.4nm,0.6s,mb3.5,baz=108,slow=4.2,SNR=7.1						

DJA 11 19:18:31.5±1.1, 8.75S×115.81E, h57km±6km, MD4.6/3, ML3.4/1, 2C-3D, Error ellipse: s-maj=46.7km s-min=10.9km az=162.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.27**	**275**	⇑*e*Pg	P	19 18 40.9	-0.2
	264nm,0.2s						
RATI				⇓*e*Sg	S	19 18 47.2	-0.9
KEDI	**Kedomdong**	**0.40**	**49**	*e*Pn	P	19 18 41.5	-0.7
	174nm,0.2s						
KEDI				⇑*e*Sn	S	19 18 49.2	-0.9
KELI	**Kelakatan**	**1.41**	**292**	⇓*e*Pn	P	19 18 54.4	-1.0
SRDI	**Scrawed**	**1.67**	**279**	⇓*e*Pn	P	19 18 57.9	-1.1
	29nm,0.2s						

*MOS **11** 19:19:45.9±1.0, 11.53N×86.28W, h33km, mb5.3/12, Error ellipse: s-maj=23.8km s-min=7.5km az=116.6*
*IDC **11** 19:19:46.8±0.7, 11.52N×86.22W, h32km±4km, mb4.4/11, mb1 4.6/12, mb1mx4.2/21, mbtmp4.6/12, ML3.8/1, MS4.4/14, Ms1 4.4/14, ms1mx4.2/19, Error ellipse: s-maj=32.2km s-min=10.0km az=50.0*
*BJI **11** 19:19:48.5, 11.50N×86.40W, h39km, mB5.5, Ms5.4, Msz5.0*
*HRVD **11** 19:19:48.5±0.3, 10.97N×86.87W, h37km±1km, MW5.0/50, Centroid moment Tensor Solution. LP body waves: s37,c52;Mantle waves: s50,c77; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.55±.21; Mθθ-2.96±.12; Mφφ-0.59±.16; Mrθ1.92±.13; Mθφ2.48±.10; Mφr-0.88±.20; Best double couple: M0 4.559×10^16 NP1:φs308°, δ32°, λ99°. NP2:φs118°, δ59°, λ84°. Principal axes: T 4.084, Plg75°, Azm12°; N .95, Plg5°, Azm120°; P -5.034, Plg14°, Azm212°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 19:19:48.5±0.3, 11.52N×86.37W, mb5.0/44, MD5.3(SNET), MD4.7(CASC) Error ellipse: s-maj=9.0km s-min=3.5km az=219.0*
*CASC **11** 19:19:48.1±2.4, 11.23N×86.63W, h35km±999km, MD4.6, ML4.6, mb5.0(NEIC)*
ISC 11 19:19:45.5±0.3, 11.18N±0.04×86.66W±0.03, h33km, (h37km±2.4km·pP-P), n249, σ1°66/242, mb4.9/54, MS4.5/16, 31C-17D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.80**	**82**	⇓*i*P	**P**	**19 20 01.0**	**+0.6**
CRUN	**El Crucero**	**0.88**	**24**	⇑*i*P	**P**	**19 20 03.6**	**+2.2**
MASN	**Masaya**	**0.95**	**32**	⇓*e*P	**P**	**19 20 03.9**	**+1.5**
MASN				*e*P		19 20 04.3	
TICN	**Ticuantepe**	**0.95**	**26**	⇓*i*P	**P**	**19 20 04.4**	**+1.9**
COPN	**Copalltepe**	**1.00**	**4**	⇑*i*P	**P**	**19 20 05.0**	**+1.9**
XAVN	**Gruta Xavier**	**1.02**	**19**	⇓*e*P	**P**	**19 20 05.3**	**+1.8**
MGAN	**Managua**	**1.04**	**23**	⇓*i*P	**P**	**19 20 05.6**	**+1.8**
MGAN				*e*S	**S**	**19 20 21.7**	**+4.3**
	comp=Z,18μm,0.4s						
MGAN				*i*		19 20 30.4	
	comp=N,26μm,0.6s						
WILN	**Americas 2**	**1.08**	**25**	⇓*e*P	**P**	**19 20 06.1**	**+1.8**
WILN				⇑*e*P		19 20 06.3	
CONN	**Concepcion**	**1.09**	**69**	⇓*e*P	**P**	**19 20 05.3**	**+0.9**
APYN	**Apoyeque**	**1.09**	**16**	⇑*e*P	**P**	**19 20 06.3**	**+1.8**
MADN	**Villa Maderas**	**1.13**	**78**	⇑*e*P	**P**	**19 20 06.1**	**+1.1**
MOMJ	**Momotombo**	**1.23**	**6**	⇑*e*P	**P**	**19 20 08.1**	**+1.7**
LEON	**Leon**	**1.25**	**350**	⇓*i*P	**P**	**19 20 08.7**	**+2.0**
MIRN	**Miramar**	**1.25**	**358**	⇑*i*P	**P**	**19 20 08.7**	**+2.0**
CNGN	**Cerro Negro**	**1.31**	**358**	⇑*e*P	**P**	**19 20 09.5**	**+1.8**
TEL3	**Telica 3**	**1.40**	**353**	⇓*e*P	**P**	**19 20 10.8**	**+1.9**
TELN	**Telica**	**1.43**	**353**	⇑*e*P	**P**	**19 20 11.3**	**+2.0**
VCR	**Vista de Mar**	**1.46**	**136**	*e*P	**P**	**19 20 10.3**	**+0.6**
VCR	**Vista de Mar**	**1.46**	**136**	*e*P	**P**	**19 20 10.5**	**+0.7**
PYTN	**Playitas**	**1.48**	**24**	⇑*e*P	**P**	**19 20 11.5**	**+1.5**
CRIN	**San Cristobal**	**1.56**	**346**	⇑*i*P	**P**	**19 20 13.2**	**+2.0**
JTS	**JuntasAbangare**	**1.90**	**118**	*c i*P	**P**	**19 20 16.9**	**+0.9**
JTS	**JuntasAbangare**	**1.90**	**118**	Pg	**P**	**19 20 18.8**	**+2.8**
	comp=N,0.1nm,0.3s,baz=211,slow=22,SNR=2.6						
JTS				Sn	**Sn**	**19 20 35.0**	**-4.2**
	comp=N,0.2nm,0.3s,baz=204,slow=21,SNR=7.0						
JTS				Lg		19 20 44.8	
	comp=N,0.9nm,0.3s,baz=206,slow=20,SNR=12						
JTS	**JuntasAbangare**	**1.90**	**118**	*e*Pn	**Pn**	**19 20 16.5**	**+0.3**
JCR	**Jicaral**	**2.02**	**131**	*e*P	**P**	**19 20 19.9**	**+2.2**
JCR	**Jicaral**	**2.02**	**131**	*e*P	**P**	**19 20 19.8**	**+2.1**
FORC	**Fortuna**	**2.08**	**110**	*e*P	**P**	**19 20 20.1**	**+1.5**
FORC	**Fortuna**	**2.08**	**110**	*e*P	**P**	**19 20 20.2**	**+1.6**
CNCH	**Conchagua**	**2.38**	**331**	*e*P	**P**	**19 20 25.0**	**+2.1**
CNCH				*e*S	**S**	**19 20 52.2**	**+0.9**
CNCH	**Conchagua**	**2.38**	**331**	⇑*e*P	**P**	**19 20 24.8**	**+1.8**
CNCH				*e*S	**S**	**19 20 52.2**	**+0.9**
CGA2	**Cerro Gallo 2**	**2.45**	**118**	*e*P	**P**	**19 20 26.7**	**+2.8**
CGA2	**Cerro Gallo 2**	**2.45**	**118**	*e*P	**P**	**19 20 27.1**	**+3.2**
VPS2	**Volcan Poas 2**	**2.58**	**112**	*e*P	**P**	**19 20 29.4**	**+3.6**
VPS2	**Volcan Poas 2**	**2.58**	**112**	*e*P	**P**	**19 20 28.1**	**+2.3**
PRS1	**Puriscal**	**2.60**	**117**	*e*P	**P**	**19 20 28.6**	**+2.6**
PRS1	**Puriscal**	**2.60**	**117**	*e*P	**P**	**19 20 28.0**	**+1.9**
BLLM	**Bellamira**	**2.73**	**326**	*e*P	**P**	**19 20 29.9**	**+1.9**
BLLM				*e*S	**S**	**19 20 60.0**	**-0.1**
BLLM	**Bellamira**	**2.73**	**326**	⇓*e*P	**P**	**19 20 30.2**	**+2.2**
BLLM				*e*S	**S**	**19 20 60.0**	**-0.1**
VSM	**San Miguel**	**2.74**	**325**	*e*P	**P**	**19 20 31.1**	**+3.1**
VSM				*e*S	**S**	**19 21 01.2**	**+0.9**
VSM	**San Miguel**	**2.74**	**325**	⇑*e*P	**P**	**19 20 31.2**	**+3.1**
VSM				*e*S	**S**	**19 21 01.2**	**+0.9**
LAJ	**Bijagual**	**2.82**	**117**	*e*P	**P**	**19 20 27.4**	**-1.8**
LAJ	**Bijagual**	**2.82**	**117**	*e*P	**P**	**19 20 27.0**	**-2.2**
SJS	**Escuela Geolog**	**2.84**	**115**	*e*P	**P**	**19 20 32.6**	**+3.0**
SJS				*e*S	**S**	**19 21 22.3**	**+19**
SJS	**Escuela Geolog**	**2.84**	**115**	*e*P	**P**	**19 20 33.1**	**+3.5**
SJS				*e*S	**S**	**19 21 07.3**	**+4.3**
TRTC	**Tortuguero**	**2.96**	**101**	*e*P	**P**	**19 20 32.0**	**+0.9**
TRTC	**Tortuguero**	**2.96**	**101**	*e*P	**P**	**19 20 31.8**	**+0.6**
LCR2	**La Lucha 2**	**2.98**	**118**	*e*P	**P**	**19 20 34.3**	**+2.8**
LCR2	**La Lucha 2**	**2.98**	**118**	*e*P	**P**	**19 20 33.7**	**+2.2**
CAHU	**Cacacuatique**	**2.99**	**330**	*e*P	**P**	**19 20 35.0**	**+3.3**
QCR	**Quepos**	**3.01**	**125**	*e*P	**P**	**19 20 34.3**	**+2.4**
ICR	**Volcan Irazu**	**3.03**	**113**	*e*P	**P**	**19 20 35.7**	**+3.5**
ICR	**Volcan Irazu**	**3.03**	**113**	*e*P	**P**	**19 20 34.6**	**+2.4**
URSC	**Urasca**	**3.13**	**115**	*e*P	**P**	**19 20 35.7**	**+2.0**
URSC	**Urasca**	**3.13**	**115**	*e*P	**P**	**19 20 35.0**	**+1.3**
SNVI	**San Vicente**	**3.22**	**319**	*e*P	**P**	**19 20 36.6**	**+1.6**
SNVI				*e*S	**S**	**19 21 11.4**	**-1.2**
SNVI	**San Vicente**	**3.22**	**319**	*e*P	**P**	**19 20 36.6**	**+1.6**
SNVI				*e*S	**S**	**19 21 14.4**	**+1.8**
BUS	**Buena Vista**	**3.28**	**119**	*e*P	**P**	**19 20 39.4**	**+3.7**
LCBS	**La Ceiba**	**3.34**	**318**	*e*P	**P**	**19 20 38.1**	**+1.4**
LCBS	**La Ceiba**	**3.34**	**318**	⇓*e*P	**P**	**19 20 38.5**	**+1.8**
LFRS	**El Faro**	**3.38**	**316**	*e*P	**P**	**19 20 38.5**	**+1.4**
LFRS				*e*S	**S**	**19 21 14.7**	**-2.0**
LFRS	**El Faro**	**3.38**	**316**	⇓*e*P	**P**	**19 20 38.9**	**+1.7**
LFRS				*e*S	**S**	**19 21 17.6**	**+1.0**
LBRS	**Las Brisas**	**3.45**	**318**	*e*P	**P**	**19 20 40.3**	**+2.7**
LFU	**La Fuente**	**3.50**	**317**	*e*P	**P**	**19 20 41.0**	**+2.1**
LFU	**La Fuente**	**3.50**	**317**	*e*P	**P**	**19 20 41.1**	**+2.2**
SNET	**Serv Nac Est T**	**3.54**	**315**	*e*P	**P**	**19 20 40.6**	**+1.2**
SNET				*e*S	**S**	**19 21 18.5**	**-2.2**
SNET				*i*		19 21 42.6	
SNET	**Serv Nac Est T**	**3.54**	**315**	*e*P	**P**	**19 20 40.6**	**+1.2**
SNET				*e*S	**S**	**19 21 21.5**	**+0.8**
SNET				*i*		19 21 42.6	
	comp=Z,3μm,0.8s						
BOQS	**Boqueron**	**3.61**	**315**	*e*P	**P**	**19 20 42.4**	**+2.0**
BOQS				*e*S	**S**	**19 21 21.1**	**-1.3**
BOQS	**Boqueron**	**3.61**	**315**	⇓*e*P	**P**	**19 20 42.4**	**+2.0**
BOQS				*e*S	**S**	**19 21 24.1**	**+1.7**
SBLS	**San Blas**	**3.92**	**313**	*e*P	**P**	**19 20 46.9**	**+2.1**
SBLS				*e*S	**S**	**19 21 29.3**	**-1.1**
SBLS	**San Blas**	**3.92**	**313**	⇑*e*P	**P**	**19 20 46.9**	**+2.1**
SBLS				*e*S	**S**	**19 21 29.3**	**-1.1**
SNJE	**San Jose**	**3.93**	**313**	*e*P	**P**	**19 20 47.3**	**+2.4**
RTR	**El Retiro**	**3.97**	**313**	*e*P	**P**	**19 20 47.7**	**+2.1**
RTR				*e*S	**S**	**19 21 29.8**	**-2.0**
RTR	**El Retiro**	**3.97**	**313**	⇑*e*P	**P**	**19 20 48.8**	**+3.2**
RTR				*e*S	**S**	**19 21 32.8**	**+1.0**
MTO2	**Montecristo 2**	**4.15**	**321**	*e*P	**P**	**19 20 50.3**	**+2.2**
RBDL	**Robledal**	**4.15**	**315**	*e*P	**P**	**19 20 49.9**	**+1.8**
RBDL				*e*S	**S**	**19 21 33.9**	**-2.3**
RBDL	**Robledal**	**4.15**	**315**	⇑*e*P	**P**	**19 20 50.7**	**+2.5**
RBDL				*e*S	**S**	**19 21 36.9**	**+0.7**
ACR	**Cerro Adams**	**4.26**	**126**	*e*P	**P**	**19 20 52.0**	**+2.3**
ACR	**Cerro Adams**	**4.26**	**126**	*e*P	**P**	**19 20 51.8**	**+2.1**
ACR				*e*S	**S**	**19 21 36.3**	**-2.6**
CCIG	**Comitan**	**7.35**	**314**	*i*P	**P**	**19 21 35.4**	**+2.3**
TEIG	**Tepich**	**9.13**	**350**	*e*P	**P**	**19 21 56.8**	**-1.1**
CMIG	**Matias Romero**	**9.90**	**307**	*i*P	**P**	**19 22 08.8**	**+0.1**
HUIG	**Huatulco**	**10.26**	**297**	*i*P	**P**	**19 22 10.8**	**-2.7**
OXX	**Oaxaca**	**11.38**	**302**	*i*P	**P**	**19 22 32.5**	**+3.6**
VHO	**Vista Hermosa**	**11.39**	**302**	*i*P	**P**	**19 22 31.1**	**+2.1**
PNIG	**Pinotepa**	**12.28**	**296**	*i*P	**P**	**19 22 43.6**	**+2.6**
OTAV	**Otavalo**	**13.59**	**143**	P	**P**	**19 22 56.1**	**-2.4**
ROSC	**El Rosal**	**13.73**	**116**	LR	LR	19 28 07.8	
	comp=Z,2μm,19.4s,baz=338,slow=37						
PPM	**Popocatepetl**	**13.96**	**306**	*i*P	**P**	**19 23 05.9**	**+2.6**
PPM				*i*P		19 23 07.0	
YAIG	**Yautepec**	**14.20**	**304**	*i*P	**P**	**19 23 09.5**	**+2.9**
PLIG	**Platanillo**	**14.33**	**302**	*i*P	**P**	**19 23 10.2**	**+1.9**
CAIG	**El Cayaco**	**14.43**	**295**	*i*P	**P**	**19 23 12.6**	**+3.2**
UNM	**Universidad Na**	**14.54**	**305**	*e*P	**P**	**19 23 16.5**	**+5.6**
ZIIG	**Zihuatanejo**	**15.69**	**296**	*i*P	**P**	**19 23 30.9**	**+5.0**
SDV	**Santo Domingo**	**15.95**	**97**	Pn	**P**	**19 23 27.7**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=296,slow=8.1,SNR=16						
SDV	**Santo Domingo**	**15.95**	**97**	*e*P	**P**	**19 23 29.9**	**+0.7**
	comp=Z,71nm,1.2s						
MOIG	**Morelia**	**16.35**	**303**	*i*P	**P**	**19 23 37.7**	**+3.5**
COLM	**Colima**	**18.25**	**298**	*i*P	**P**	**19 24 01.9**	**+3.8**
SFJM	**Santa Fe**	**18.26**	**302**	*i*P	**P**	**19 24 02.0**	**+3.8**
HKT	**Hockley**	**20.54**	**337**	⇑*i*P	**P**	**19 24 23.2**	**-0.6**
HKT				*e*		19 24 33.8	
HKT				pmax	pmax		
	comp=Z,157nm,1.0s						
HKT	**Hockley**	**20.54**	**337**	⇑*i*P	**P**	**19 24 23.2**	**-0.6**
	comp=Z,157nm,1.0s						
HKT				*e*		19 24 33.8	
SJG	**San Juan**	**21.00**	**68**	LR	LR	19 31 33.0	
	comp=Z,991nm,21.2s,MS4.2,baz=73,slow=34						
LRAL	**Lakeview Retre**	**21.76**	**359**	*e*P	**P**	**19 24 35.7**	**-0.4**
	comp=Z,35nm,0.9s,mb4.8						
NATX	**Nacogdoches**	**21.77**	**341**	*e*P	**P**	**19 24 36.0**	**-0.3**
	comp=Z,213nm,0.8s,mb5.6						
NATX				*e*		19 24 46.8	
NHSC	**New Hope**	**22.62**	**14**	*e*P	**P**	**19 24 45.2**	**+0.4**
	comp=Z,125nm,0.9s,mb5.3						
JCT	**Junction City**	**22.76**	**330**	*e*P	**P**	**19 24 45.2**	**-1.0**
JCT				pmax	pmax		
	comp=Z,40nm,0.9s,mb4.8						
JCT	**Junction City**	**22.76**	**330**	*e*P	**P**	**19 24 45.2**	**-1.0**
	comp=Z,40nm,0.9s,mb4.8						
OXF	**Oxford**	**23.36**	**354**	⇑*e*P	**P**	**19 24 50.7**	**-1.3**
OXF				pmax	pmax		
	comp=Z,136nm,1.0s,mb5.3						
OXF	**Oxford**	**23.36**	**354**	⇑*e*P	**P**	**19 24 50.7**	**-1.3**
	comp=Z,136nm,1.0s,mb5.3						
JSC	**Jenkinsville**	**23.52**	**11**	*e*P	**P**	**19 24 53.4**	**-0.2**
TXAR	**Lajitas Array**	**24.04**	**321**	P	**P**	**19 24 59.6**	**+0.9**
	comp=Z,61nm,1.1s,mb5.0,baz=138,slow=10,SNR=108						
TXAR				PcP	PcP	19 28 40.0	-1.4
	comp=Z,4.9nm,1.0s,baz=124,slow=4.5,SNR=6.1						
TXAR				pPcP		19 28 52.2	
	comp=Z,9.1nm,0.9s,baz=146,slow=4.5,SNR=9.7						
TXAR				ScP		19 32 18.9	
	comp=Z,0.9nm,0.8s,baz=158,slow=6.7,SNR=4.5						
TXAR				LR	LR	19 36 57.5	
	comp=Z,175nm,21.0s,MS3.5,baz=135,slow=43						
TXAR	**Lajitas Array**	**24.04**	**321**	P	**P**	**19 24 59.6**	**+1.0**
TXAR				PcP	PcP	19 28 40.0	-1.4
TXAR				pPcP		19 28 52.2	
TXAR				ScP		19 32 18.9	
LTX	**Lajitas**	**24.04**	**321**	⇑*e*P	**P**	**19 24 59.5**	**+0.8**
LTX				pmax	pmax		
	comp=Z,62nm,0.9s,mb5.0						
LTX	**Lajitas**	**24.04**	**321**	⇑*e*P	**P**	**19 24 59.5**	**+0.9**
	comp=Z,62nm,0.9s,mb5.0						
UALR	**University of**	**24.05**	**348**	⇑*e*P	**P**	**19 24 57.6**	**-1.1**
	comp=Z,77nm,0.8s,mb5.2						
MIAR	**Mount Ida**	**24.10**	**346**	⇑*e*P	**P**	**19 24 58.0**	**-1.2**
MIAR				pmax	pmax		
	comp=Z,72nm,0.8s,mb5.2						
MIAR	**Mount Ida**	**24.10**	**346**	⇑*e*P	**P**	**19 24 58.0**	**-1.2**
	comp=Z,72nm,0.8s,mb5.2						
CPCT	**Cooper Cave**	**24.24**	**4**	*e*P	**P**	**19 25 00.1**	**-0.4**
HBAR	**Harrisburg**	**24.54**	**352**	*e*P	**P**	**19 25 02.0**	**-1.5**
WVT	**Waverly**	**24.86**	**358**	*e*P	**P**	**19 25 04.3**	**-2.3**
WVT				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.7						
WVT	**Waverly**	**24.86**	**358**	*e*P	**P**	**19 25 04.3**	**-2.3**
	comp=Z,27nm,1.0s,mb4.7						
WMOK	**Wichita Mounta**	**25.92**	**337**	*e*P	**P**	**19 25 17.1**	**+0.5**
WMOK				pmax	pmax		
	comp=Z,219nm,1.2s,mb5.6						
WMOK	**Wichita Mounta**	**25.92**	**337**	*e*P	**P**	**19 25 17.1**	**+0.5**
	comp=Z,219nm,1.2s,mb5.6						
CLNB	**Carlsbad**	**26.31**	**326**	*e*P	**P**	**19 25 19.3**	**-0.9**
ELN	**Prospectdale**	**26.48**	**11**	*e*P	**P**	**19 25 20.6**	**-1.1**
PWV	**Princeton**	**26.53**	**10**	*e*P	**P**	**19 25 20.6**	**-1.6**
GDL2	**Guadalupe Moun**	**26.53**	**325**	*e*P	**P**	**19 25 21.6**	**-0.6**
MNTX	**Cornudas Mount**	**26.76**	**323**	*e*P	**P**	**19 25 22.8**	**-1.5**
	comp=Z,28nm,1.0s,mb4.8						
FWV	**Forest Hill**	**26.81**	**10**	*e*P	**P**	**19 25 22.4**	**-2.3**
CPRX	**Cap Rock**	**26.88**	**327**	*e*P	**P**	**19 25 22.8**	**-2.7**
FVM	**French Village**	**26.91**	**353**	*e*P	**P**	**19 25 22.2**	**-3.4**
FVM				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.4						
FVM	**French Village**	**26.91**	**353**	*e*P	**P**	**19 25 22.2**	**-3.4**
	comp=Z,7.0nm,0.6s,mb4.4						
WCI	**Wyandotte Cave**	**26.94**	**1**	*e*P	**P**	**19 25 22.8**	**-3.1**
WCI				pmax	pmax		
	comp=Z,75nm,1.0s,mb5.2						
WCI	**Wyandotte Cave**	**26.94**	**1**	*e*P	**P**	**19 25 22.8**	**-3.1**
	comp=Z,75nm,1.0s,mb5.2						
CCM	**Cathedral Cave**	**27.08**	**352**	*e*P	**P**	**19 25 24.3**	**-2.9**
CCM				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.2						
CCM	**Cathedral Cave**	**27.08**	**352**	*e*P	**P**	**19 25 24.3**	**-2.9**
	comp=Z,70nm,1.0s,mb5.2						
AMTX	**Amarillo**	**27.27**	**332**	*e*P	**P**	**19 25 27.3**	**-1.8**
	comp=Z,112nm,1.0s,mb5.3						
ACSO	**Alum Creek Sta**	**29.12**	**6**	*e*P	**P**	**19 25 44.1**	**-1.4**
	comp=Z,76nm,1.1s,mb5.3						
KSU1	**Kansas State U**	**29.19**	**344**	*e*P	**P**	**19 25 42.9**	**-3.2**
BNM	**Barren Site**	**29.25**	**325**	*e*P	**P**	**19 25 46.4**	**-0.4**
SDMD	**Soldier's Deli**	**29.44**	**16**	*e*P	**P**	**19 25 46.7**	**-1.7**
LENM	**Lemitar**	**29.46**	**324**	*e*P	**P**	**19 25 49.6**	**+1.0**
LAZ	**Ladron**	**29.72**	**324**	*e*P	**P**	**19 25 50.6**	**-0.4**
ANMO	**Albuquerque**	**29.74**	**326**	*c i*P	**P**	**19 25 50.8**	**-0.3**
ANMO	**Albuquerque**	**29.74**	**326**	P	**P**	**19 25 51.3**	**+0.2**
	comp=Z,8.3nm,0.9s,mb4.4,baz=158,slow=5.2,SNR=12						
ANMO				PcP	PcP	19 28 53.6	-1.1
	comp=Z,7.0nm,1.1s,baz=163,slow=6.6,SNR=4.1						
ANMO				LR	LR	19 41 44.8	
	comp=Z,347nm,19.4s,MS4.0,slow=44						
ANMO	**Albuquerque**	**29.74**	**326**	*e*P	**P**	**19 25 50.6**	**-0.5**
	comp=Z,14nm,0.9s,mb4.7						
TUC	**Tucson**	**30.59**	**317**	*e*P	**P**	**19 25 59.2**	**+0.5**
TUC				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
TUC	**Tucson**	**30.59**	**317**	*e*P	**P**	**19 25 59.2**	**+0.5**
	comp=Z,13nm,1.0s,mb4.7						
ERPA	**Erie**	**31.37**	**10**	*e*P	**P**	**19 26 02.6**	**-2.9**
	comp=Z,54nm,0.7s,mb5.5						
SDCO	**Great Sand Dun**	**31.39**	**331**	*e*P	**P**	**19 26 05.0**	**-0.8**
	comp=Z,18nm,0.8s,mb5.0						
JFWS	**Jewell Farm**	**31.77**	**355**	⇑*e*P	**P**	**19 26 05.7**	**-3.3**
JFWS				*e*	pP	19 26 16.9	-1.7
JFWS				pmax	pmax		
	comp=Z,55nm,0.9s,mb5.4						
JFWS	**Jewell Farm**	**31.77**	**355**	⇑*e*P	**P**	**19 26 05.7**	**-3.3**
	comp=Z,55nm,0.9s,mb5.4						
JFWS				*e*	pP	19 26 16.9	-1.7
BINY	**Binghamton**	**32.28**	**15**	*e*P	**P**	**19 26 11.7**	**-1.8**
	comp=Z,23nm,0.8s,mb5.1						
GENY	**Geneseo**	**32.40**	**12**	*e*P	**P**	**19 26 11.8**	**-2.7**
RW3	**Ridgway**	**32.87**	**329**	*e*P	**P**	**19 26 14.3**	**-4.4**
LPAZ	**La Paz**	**32.88**	**146**	P	**P**	**19 26 18.9**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=1.1,slow=7.5,SNR=3.8						
LPAZ				LR	LR	19 40 29.9	
	comp=Z,711nm,21.2s,MS4.3,baz=111,slow=38						
ISCO	**Idaho Springs**	**33.09**	**333**	*e*P	**P**	**19 26 19.2**	**-1.3**
	comp=Z,6.9nm,0.8s,mb4.6						
PV01	**Paradox Valley**	**33.24**	**328**	*e*P	**P**	**19 26 20.5**	**-1.4**
SADO	**Sadowa**	**34.09**	**10**	P	**P**	**19 26 26.1**	**-3.0**
	comp=Z,14nm,0.7s,mb5.0,baz=223,slow=8.7,SNR=9.9						
PHWY	**Pilot Hill**	**34.25**	**334**	*e*P	**P**	**19 26 28.0**	**-2.5**
SRU	**San Rafael**	**35.00**	**327**	*e*P	**P**	**19 26 36.3**	**-0.6**
RWWY	**Rawlins**	**35.33**	**333**	*e*P	**P**	**19 26 38.7**	**-1.0**
MSU	**Marysvale**	**35.49**	**324**	*e*P	**P**	**19 26 41.2**	**0.0**
TMUT	**Trail Mountain**	**35.50**	**326**	*e*P	**P**	**19 26 41.5**	**+0.2**
MPU	**Maple Canyon**	**36.24**	**327**	*e*P	**P**	**19 26 46.8**	**-0.7**
NLU	**North Lily Min**	**36.44**	**326**	*e*P	**P**	**19 26 48.5**	**-0.6**
EYMN	**Ely**	**36.87**	**355**	*e*P	**P**	**19 26 48.9**	**-3.8**
	comp=Z,17nm,0.9s,mb4.9						
PDAR	**Pinedale Array**	**37.25**	**332**	P	**P**	**19 26 55.0**	**-0.9**
	comp=Z,6.6nm,0.8s,mb4.5,baz=

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BILL				e		19 35 40.9	
BILL				e		19 42 37.6	
BILL				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.0						
BILL				MLR	MLR		
	comp=Z,400nm,30.0s,MS4.6						
ARCES	ARCESS Array B	87.13	19	LR	LR	20 14 26.6	
	comp=Z,320nm,18.7s,MS4.8,baz=102,slow=38						
FINES	FINESS Array B	90.77	26	LR	LR	20 09 54.0	
	comp=Z,386nm,19.2s,MS4.8,baz=178,slow=33						
TIXI	Tiksi	94.03	349	⇓eP	P	19 32 59.3	-1.7
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.6						
SYO	Syowa Base	112.88	162	⇓pPdiff		19 34 36.0	
SYO	Syowa Base	112.88	162	⇑PP	PP	19 39 11.2	-1.0
ZAL	Zalesovo	114.74	6	PKP	PKPdf	19 38 21.6	-1.0
	comp=Z,0.8nm,0.4s,baz=257,slow=11,SNR=3.8						
ZAK	Zakamensk	118.09	353	ePKIKP	PKPdf	19 38 27.1	-2.0
ULN	Ulaanbaatar	119.97	349	iPKIKP	PKPdf	19 38 32.4	-0.6
SONM	Songino Array	120.11	350	PKP	PKPdf	19 38 33.3	0.0
	comp=Z,1.1nm,0.7s,baz=344,slow=0.7,SNR=12						
SONM				pPKP		19 38 43.3	
	comp=Z,2.6nm,0.8s,baz=320,slow=1.1,SNR=12						
AAK	Ala-Archa	123.74	17	⇓iPKIKP	PKPdf	19 38 40.3	-0.1
AAK				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.9						
NJ2	Nanjing	130.56	331	ePKP	PKPdf	19 38 53.5	-0.3
NJ2				PP	PP	19 41 17.0	+3.9
NJ2				PKS	PKS	19 42 28.0	-1.2
NJ2				PPP	PPP	19 44 01.0	-0.6
NJ2				SKS	SKS	19 46 00.0	+1.8
NJ2				PP	PP		
	comp=Z,270nm,11.6s						
NJ2				LR	LR		
	comp=N,520nm,24.0s						
NJ2				LR	LR		
	comp=E,350nm,16.9s						
NJ2				LR	LR		
	comp=Z,290nm,18.2s						
ENH	Enshi	135.96	340	ePKP	PKPdf	19 39 04.0	+0.1
LSA	Lhasa	139.31	3	ePKP	PKPdf	19 39 11.0	+0.9
ASAR	Alice Springs	139.50	247	PKhKP		19 39 06.1	
	comp=Z,1.0nm,0.8s,baz=132,slow=2.3,SNR=6.8						
ASAR				PKP	PKPdf	19 39 12.4	+1.9
	comp=Z,3.2nm,0.9s,baz=118,slow=2.0,SNR=15						
ASAR				pPKP		19 39 22.9	
	comp=Z,9.2nm,0.9s,baz=118,slow=2.2,SNR=17						
ASAR	Alice Springs	139.50	247	PKP	PKPdf	19 39 12.4	+1.9
ASAR				pPKP		19 39 22.9	
ASPA	Alice Springs	139.50	247	eP	PKPdf	19 39 12.3	+1.8
WB2	Warramunga Arr	139.63	252	eP	PKPdf	19 39 12.3	+1.5
WB2				e		19 39 23.2	
WRAB	Tennant Creek	139.63	252	iPKIKP	PKPdf	19 39 11.9	+1.1
WRAB	Tennant Creek	139.63	252	ePKP	PKPdf	19 39 12.1	+1.3
WRA	Warramunga Arr	139.64	252	PKP	PKPdf	19 39 12.3	+1.5
	comp=Z,5.8nm,0.8s,baz=91,slow=1.8,SNR=26						
WRA				pPKP		19 39 23.1	
	comp=Z,12nm,0.9s,baz=88,slow=1.5,SNR=16						
QIZ	Qiongzhong	145.86	331	PKP	PKPdf	19 39 23.8	+2.0
QIZ	Qiongzhong	145.86	331	ePKPbc	PKPbc	19 39 23.5	+0.9
FITZ	Fitzroy Crossi	148.03	254	eP	PKPdf	19 39 30.5	+5.1
	comp=Z,37nm,0.9s						
HYB	Hyderabad	148.05	27	ePKIKP	PKPdf	19 39 26.0	+0.6
HYB	Hyderabad	148.05	27	iPKP	PKPdf	19 39 26.0	+0.6
CMAR	Chiang Mai Arr	150.04	349	PKP	PKPdf	19 39 29.8	+1.2
	comp=Z,6.1nm,0.9s,baz=304,slow=1.9,SNR=16						
CMAR				PKPbc	PKPdf	19 39 34.5	+5.9
	comp=Z,9.3nm,0.9s,baz=334,slow=3.0,SNR=35						
CMAR				pPKPbc		19 39 45.0	
	comp=Z,12nm,0.9s,baz=340,slow=3.2,SNR=15						

MAN 11 19:29:43.1, 12.95N×122.61E, h1km, mb3.1, ML2.8, MS4.3, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AUQP	San Andres	0.38	9	eP	Pg	19 29 50.7	+0.1
AUQP				eS	Sg	19 29 59.8	+4.1
OTRP	Odiongan	0.82	225	eP	Pg	19 29 59.1	-0.3
OTRP				eS	Sg	19 30 12.3	+1.9
BOAC	Boac	0.90	304	eP	Pg	19 30 01.0	-0.1
BOAC				eS	Sg	19 30 16.8	+3.6
GQP	Guinayangan	0.96	350	⇓eP	Pb	19 30 00.6	-1.7
GQP				eS	Sg	19 30 15.3	+0.1
MMPH	Masbate	1.15	121	eP	Pb	19 30 11.0	+5.6
SJMP	San Jose	1.53	252	eP	Pn	19 30 11.6	-0.1
LQP	Lukban	1.56	318	⇓eP	Pn	19 30 12.0	0.0
POLP	Polilio Island	1.89	340	eP	Pn	19 30 16.4	-0.3

ATH 11 20:03:20.4, 36.96N×27.82E, h27km±4km, MD3.0/4
ISK 11 20:03:20.3, 36.96N×27.73E, h19km, MD3.2
NEIC 11 20:03:20.4, 36.96N×27.82E, h27km, MD3.0(ATH), After ATH.
CSEM 11 20:03:21.1±0.1, 36.99N×27.83E, h20km, MD3.2, Error ellipse: s-maj=1.8km s-min=1.5km az=45.0
ISC 11 20:03:21.2±0.6, 36.91N±0.04×27.70E±0.05, h22km±7km, n16, σ0.98/22, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.26	307	iP	Pb	20 03 27.5	+0.3
BDRM				iS	Sb	20 03 32.4	+1.1
MLSB	Milas	0.39	9	PG	Pb	20 03 27.7	-1.6
NISR	Nisiros	0.55	237	ePN	Pn	20 03 33.5	-0.1
AYDN	Tasoluk	0.76	11	iP	Pb	20 03 34.6	-0.9
AYDN				iS	Sb	20 03 44.4	-1.1
DALT	Dalyan (Mudla)	0.77	101	PG	Pb	20 03 35.1	-0.5
DALT				SG	Sb	20 03 46.8	+1.2
ARG	Arkhangelos	0.78	154	ePN	Pn	20 03 35.7	-1.1
ARG				eSN	Sn	20 03 47.9	+0.1
SMG	Samos	1.05	319	ePN	Pn	20 03 41.4	+0.7
FETY	Fethiye	1.15	104	PN	Pn	20 03 41.4	-0.7
DNZL	Cakiroluk	1.32	54	iP	Pn	20 03 45.2	+0.6
DNZL				iS	Sb	20 04 03.4	+1.6
DENT	Denizli	1.35	51	ePN	Pn	20 03 43.8	-1.2
KARP	Karpathos	1.43	198	ePN	Pn	20 03 47.4	+1.2
IZM	Izmir	1.52	347	ePN	Pn	20 03 47.3	-0.1
BLCB	Balcova	1.56	341	ePN	Pn	20 03 47.9	-0.1
MANT	Manisa	1.72	23	iP	Pn	20 03 50.6	+0.3
MANT				iS	Sn	20 04 14.2	+2.5
ELL	Elmali	1.78	95	ePN	Pn	20 03 50.7	-0.4
AKS	Akhisar	1.96	3	ePN	Pn	20 03 53.0	-0.8

BJI 11 20:07:20.4, 6.36S×128.78E, h351km, mB4.7, mb4.2
NEIC 11 20:07:22.9±1.1, 6.42S×128.11E, h334km±15km, mb4.6/7, Error ellipse: s-maj=13.0km s-min=8.1km az=61.0
IDC 11 20:07:24.3±2.1, 6.50S×128.03E, h351km±23km, mb3.6/6, mb1 3.9/9, mb1mx3.8/14, mbtmp4.6/9, Error ellipse: s-maj=24.5km s-min=8.6km az=63.0
ISC 11 20:07:20.5±1.1, 6.42S±0.07×128.1E±0.1, h323km±13km, n31, σ0.97/36, mb4.2/16, 4C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	7.61	146	⇑iP	P	20 09 10.9	+0.6
	41nm,0.4s						
KAKA				iS	S	20 10 37.3	+0.6
FITZ	Fitzroy Crossi	11.85	191	⇓iP	P	20 10 02.7	+0.7
	21nm,0.4s						
FITZ				eS	S	20 12 25.3	+16
WRAB	Tennant Creek	14.77	156	eP	P	20 10 35.2	-1.3
	33nm,0.7s						
WRA	Warramunga Arr	14.77	156	P	P	20 10 35.4	-1.1
	5.5nm,0.3s,baz=337,slow=12,SNR=280						
WRA				S	S	20 13 11.8	-1.3
	1.8nm,0.3s,baz=335,slow=19,SNR=15						
WB2	Warramunga Arr	14.78	156	⇑iP	P	20 10 35.5	-1.1
WB2				eS	S	20 13 11.7	-1.4
MBWA	Marble Bar	16.72	208	eP	P	20 10 57.6	+0.1
ASAR	Alice Springs	18.05	162	P	P	20 11 11.6	+0.5
	11nm,0.3s,baz=344,slow=11,SNR=476						
ASAR				S	S	20 14 19.2	+2.3
	1.3nm,0.3s,baz=346,slow=22,SNR=12						
ASAR				ScP		20 18 31.1	
	0.1nm,0.3s,baz=360,slow=1.8,SNR=3.6						
ASPA	Alice Springs	18.05	162	⇑iP	P	20 11 11.6	+0.5
ASPA				eS	S	20 14 19.1	+2.2
PMG	Port Moresby	19.16	100	P	P	20 11 23.5	+1.3
	3.2nm,0.3s,baz=293,slow=5.1,SNR=14						
PMG	Port Moresby	19.16	100	eP	P	20 11 22.4	+0.2
TGY	Tagaytay City	21.57	341	P	P	20 11 47.2	+1.5
	118nm,0.5s,mb5.4,baz=110,slow=11,SNR=5.0						
CTA	Charters Tower	22.30	129	eP	P	20 11 53.5	+0.9
	7.8nm,0.4s,mb4.3						
CTA	Charters Tower	22.30	129	P	P	20 11 53.6	+0.9
	14nm,0.5s,mb4.4,baz=315,slow=11,SNR=19						
CTAO	Charters Tower	22.30	129	eP	P	20 11 53.4	+0.8
	19nm,0.6s,mb4.5						
STKA	Stephens Creek	28.32	155	⇑iP	P	20 12 46.5	-0.9
	8.4nm,0.6s,mb4.2						
STKA	Stephens Creek	28.32	155	P	P	20 12 46.7	-0.7
	8.9nm,0.5s,mb4.3,baz=327,slow=9.1,SNR=48						
CMAR	Chiang Mai Arr	37.88	311	P	P	20 14 10.1	+1.1
	0.9nm,0.4s,mb3.4,baz=140,slow=6.8,SNR=14						
LSA	Lhasa	50.45	317	eP	P	20 15 49.0	+0.8
	5.9nm,0.6s,mb4.0						
JIRN	Jiri	52.75	312	eP	P	20 16 04.9	-0.2
	12nm,0.7s,mb4.3						
GUN	Gumba	53.12	312	eP	P	20 16 07.7	-0.1
	18nm,0.5s,mb4.7						
PKI	Pulchoki	53.28	311	eP	P	20 16 08.6	-0.4
	9.8nm,0.6s,mb4.3						
KKN	Kakani	53.49	312	eP	P	20 16 10.4	-0.1
	8.9nm,0.5s,mb4.3						
DMN	Daman	53.53	311	eP	P	20 16 10.8	0.0
	11nm,0.7s,mb4.3						
GKN	Gorkha	54.09	311	eP	P	20 16 14.6	-0.2
	14nm,0.3s,mb4.7						
KOLN	Koldanda	54.74	311	eP	P	20 16 19.4	-0.1
	7.4nm,0.5s,mb4.3						
ULN	Ulaanbaatar	57.13	343	eP	P	20 16 35.3	-0.7
	5.2nm,0.9s,mb3.9						
SONM	Songino Array	57.29	343	P	P	20 16 37.2	+0.1
	4.0nm,0.9s,mb3.7,baz=162,slow=7.4,SNR=25						
ZAL	Zalesovo	70.21	334	P	P	20 17 58.7	-1.7
	1.5nm,0.6s,mb3.9,baz=0.7,slow=4.8,SNR=8.7						
VNDA	Vanda	73.26	173	P	P	20 18 16.9	-1.2
	0.8nm,0.7s,mb3.5,baz=313,slow=11,SNR=4.2						
VNDA	Vanda	73.26	173	P	P	20 18 16.9	-1.2
LPAZ	La Paz	152.34	145	PKPbc	PKPdf	20 26 40.5	+8.6
	1.0nm,0.4s,baz=93,slow=4.2,SNR=5.0						
LPAZ				PKPab	PKPab	20 26 51.9	-1.0
	1.1nm,0.5s,baz=206,slow=6.1,SNR=5.5						

IDC 11 20:15:02.5±1.1, 57.99N×151.71W, h30km±5km, mb3.9/8, mb1 4.0/11, mb1mx3.8/22, mbtmp4.0/11, ML3.9/3, MS3.5/4, Ms1 3.5/4, ms1mx3.0/28, Error ellipse: s-maj=19.9km s-min=16.0km az=154.0
NEIC 11 20:15:04.3, 58.20N×151.26W, h38km, mb3.8/2, ML4.0(PMR), ML3.9(AEIC), After AEIC.
ISC 11 20:15:02.7±0.5, 58.22N±0.04×151.32W±0.06, h47km±6km, h30km±.8km:pP-P, n84, σ1.02/88, mb4.0/10, MS3.9/2, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SYI	Shuyak Island	0.69	306	P	P	20 15 16.6	+0.4
KDAK	Kodiak Island	0.80	238	P	P	20 15 18.7	+0.9
KDAK				S	S	20 15 29.3	+0.5
XLV	Seldovia	1.26	351	P	P	20 15 25.5	+1.2
CNPM	China Poot	1.31	2	P	P	20 15 26.2	+1.0
HOM	Homer	1.46	354	P	P	20 15 28.5	+1.4
BRLK	Bradley Lake	1.57	8	P	P	20 15 29.4	+0.7
AUI	Augustine Isla	1.57	317	P	P	20 15 29.8	+1.1
AUI				S	S	20 15 49.2	+1.2
AUP	Augustine Pinn	1.59	317	P	P	20 15 30.3	+1.4
KAPH	Katmai Pasha	1.64	285	P	P	20 15 30.9	+1.2
KAPH				S	S	20 15 51.0	+1.3
NNL	Ninilchik	1.83	0	P	P	20 15 33.6	+1.3
ILIM	Iliamna	2.05	336	P	P	20 15 36.1	+0.7
SEW	Seward	2.12	26	P	P	20 15 36.2	-0.3
SEW				S	S	20 16 01.6	-0.2
SLKM	Skilak Lake	2.37	13	P	P	20 15 40.1	+0.1
SLKM				S	S	20 16 07.4	-0.5
RSO	Redoubt South	2.37	343	eP	P	20 15 40.3	+0.3
RDT	Redoubt	2.43	347	P	P	20 15 41.5	+0.6
MPA	Moose Pass	2.49	23	P	P	20 15 40.9	-0.9
NCT	North Crescent	2.49	341	P	P	20 15 42.0	+0.2
NKA	Nikishka	2.54	1	P	P	20 15 43.9	+1.5
VOGL	Vogel Lake	2.83	9	P	P	20 15 47.4	+0.9
RC01	Rabbit Creek A	2.99	15	P	P	20 15 49.1	+0.2
RC01				S	S	20 16 23.1	-0.7
SPU	Mount Spurr	3.00	353	eP	P	20 15 48.6	-0.4
FIB	Fire Island	3.02	11	P	P	20 15 49.8	+0.6
CKN	Chakachatna No	3.05	352	P	P	20 15 50.1	+0.4
CRP	Crater Peak	3.09	352	P	P	20 15 50.1	-0.1
BGL	Barrier Glacie	3.11	350	P	P	20 15 50.8	+0.3
HIN	Hinchinbrook I	3.30	46	P	P	20 15 53.1	-0.1
STLK	Strandline Lak	3.30	356	P	P	20 15 53.5	+0.2
KNK	Knik Glacier	3.52	23	P	P	20 15 55.7	-0.6
PWA	Palmer West	3.52	11	eP	P	20 15 56.6	+0.2
PMR	Palmer	3.56	17	P	P	20 15 55.8	-1.1
SVW2	Sparrevohn	3.61	325	P	P	20 15 57.0	-0.6
EYAK	Cordova Ski Ar	3.69	48	P	P	20 15 58.1	-0.6
GHO	Glory Hole Cre	3.77	18	P	P	20 15 59.3	-0.5
SML	Sawmill	3.90	21	P	P	20 16 01.5	-0.2
DIV	Divide	4.06	42	P	P	20 16 03.5	-0.4
SCM	Sheep Creek Mo	4.14	27	P	P	20 16 05.1	-0.1
GLB	Gilahina Butte	4.98	46	P	P	20 16 16.5	-0.4
TT01	Tatalina	5.25	336	P	P	20 16 19.4	-1.2
TRF	Thorofare Moun	5.28	5	P	P	20 16 20.6	-0.5
YAH	Yahtse	5.36	62	P	P	20 16 22.0	-0.2
BALM	Baldy	5.36	54	P	P	20 16 21.5	-0.7
KTH	Kantishna Hill	5.36	2	P	P	20 16 21.5	-0.7
MCK	McKinley	5.66	11	P	P	20 16 26.1	-0.2
CTGM	Chitina Glacie	5.77	57	P	P	20 16 27.7	-0.2
THY	Trims Highway	5.88	25	P	P	20 16 30.4	+0.9
MENT	Mentasta	6.04	35	eP	P	20 16 32.5	+0.9
PNL	Peninsula	6.34	72	P	P	20 16 35.2	-0.7
BLHA	Black Hill	6.39	251	P	P	20 16 35.8	-0.9
PVV	Pavlof Volcano	6.42	248	P	P	20 16 36.2	-0.8
HAG	Hague Volcano	6.50	248	P	P	20 16 37.5	-0.8
BCA3	Beaver Creek A	6.75	40	P	P	20 16 39.8	-1.9
DT1	Dutton Round H	6.80	247	P	P	20 16 41.1	-1.3
COLA	College	6.88	12	eP	P	20 16 43.0	-0.6
IL1	Eielson Array	6.91	16	P	P	20 16 42.3	-1.7
ILAR	Eielson Array	6.91	16	Pn	P	20 16 42.0	-1.9
	0.7nm,0.3s,baz=206,slow=14,SNR=39						
ILAR				Sn	S	20 17 56.5	-5.5
	2.1nm,0.3s,baz=260,slow=31,SNR=4.8						
SSLN	Shishaldin Nor	7.80	249	P	P	20 16 55.1	-1.1
IM3	Indian Mountai	7.88	353	P	P	20 16 55.4	-2.0
IMA	Indian Mountai	7.96	353	eP	P	20 16 59.4	+1.0
DAWY	Dawson	8.22	39	eP	P	20 17 02.3	+0.2
WHY	Whitehorse	8.72	67	P	P	20 17 05.4	-3.6
ANM	Nome	9.26	319	eP	P	20 17 15.4	-0.9
UNV	Unalaska Valle	9.55	249	P	P	20 17 18.3	-2.0
MSW	Makushin Switc	9.65	250	P	P	20 17 19.6	-2.1
BM3	Burnt Mountain	9.73	15	P	P	20 17 19.9	-2.8
TNA	Tin City	10.72	320	eP	P	20 17 35.2	-1.0
DLBC	Dease Lake	11.19	80	Pn	P	20 17 42.8	+0.2
	1.1nm,0.3s,baz=218,slow=12,SNR=4.3						
DLBC				LR	LR	20 22 02.8	
	comp=Z,84nm,20.6s,baz=269,slow=37						
INK	Inuvik	12.84	31	eP	P	20 18 05.0	+0.3
BBB	Bella Bella	14.52	105	LR	LR	20 23 15.4	
	comp=Z,136nm,18.1s,baz=357,slow=34						
YKW3	Yellowknife Ar	18.47	61	P	P	20 19 19.0	+2.6
YKA	Yellowknife Ar	18.48	61	P	P	20 19 17.3	+0.7
	0.1nm,0.3s,baz=270,slow=10,SNR=11						
YKA				pP		20 19 25.6	
	0.2nm,0.3s,baz=274,slow=9.5,SNR=22						
YKA	Yellowknife Ar	18.48	61	P	P	20 19 17.3	+0.7
YKA				pP		20 19 25.6	
HLID	Hailey	27.09	107	eP	P	20 20 44.7	+2.1
BW06	Boulder Array	30.15	102	eP	P	20 21 11.9	+2.0
	0.7nm,0.5s,mb3.6						
PDAR	Pinedale Array	30.15	102	P	P	20 21 12.8	+2.9
	0.8nm,0.6s,mb3.6,baz=314,slow=4.8,SNR=8.9						
WMOK	Wichita Mounta	41.72	101	eP	P	20 22 51.5	+3.2
	2.4nm,0.9s,mb3.8						
ARCES	ARCESS Array B	52.53	1	P	P	20 24 12.3	-0.3
	3.5nm,0.9s,mb4.3,baz=349,slow=9.2,SNR=3.5						
SONM	Songino Array	56.56	308	P	P	20 24 42.1	-0.2
	1.3nm,0.8s,mb4.0,baz=49,slow=5.6,SNR=18						
ZAL	Zalesovo	59.35	325	P	P	20 25 01.1	-0.6
	1.4nm,0.4s,mb4.3,baz=53,slow=4.8,SNR=8.2						
FINES	FINESS Array B	60.66	1	P	P	20 25 10.8	+0.2
	1.6nm,0.8s,mb4.2,baz=350,slow=9.9,SNR=8.1						
FINES				pP	pP	20 25 20.6	-3.4
	1.1nm,0.7s,baz=34,slow=6.9,SNR=1.7						
HFS	Hagfors	61.41	8	P	P	20 25 15.9	+0.3
	2.4nm,0.9s,mb4.3,baz=51,slow=9.2,SNR=3.1						
BVAR	Borovoye Array	64.06	333	P	P	20 25 32.9	-0.2
	0.9nm,0.6s,mb4.0,baz=37,slow=7.4,SNR=9.2						
BVAR				pP	pP	20 25 42.5	-4.1
	1.4nm,0.6s,baz=39,slow=9.5,SNR=8.6						
SJG	San Juan	72.27	84	LR	LR	20 58 04.4	
	comp=Z,76nm,18.2s,MS4.0,baz=106,slow=36						
SDV	Santo Domingo	77.59	93	LR	LR	20 59 36.7	
	comp=Z,43nm,20.7s,MS3.8,baz=238,slow=34						
CMAR	Chiang Mai Arr	84.42	296	P	P	20 27 32.6	+1.5
	0.9nm,0.9s,mb3.9,baz=21,slow=4.0,SNR=5.8						
CMAR				pP	pP	20 27 42.1	-3.0
	0.7nm,0.7s,baz=14,slow=4.2,SNR=4.6						

OTT 11 20:15:17.6±0.4, 53.01N×66.84W, MN2.9/6, Blast, Labrador City, Nl Mining explosion., Labrador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	Schefferville	1.83	0	PN	Pn	20 15 50.6	0.0
SCHQ				SG	Sg	20 16 14.8	-3.7
SCHQ				Trac		20 16 17.0	
	comp=Z,14nm,0.1s						
MNQ	Manicouagan	2.75	207	PN	Pn	20 16 05.2	+1.5
MNQ				SG	Sg	20 16 42.7	-6.5
MNQ				Trac		20 16 46.8	
	comp=Z,12nm,0.1s						
SMQ	Clarke City	2.79	178	PN	Pn	20 16 03.2	-1.1
SMQ				Trac		20 16 45.0	
	comp=Z,17nm,0.1s						
ICQ	Pointe Anglais	3.50	185	PN	Pn	20 16 12.7	-1.7
ICQ				Trac		20 17 00.6	
	comp=Z,4.6nm,0.1s						
CNQ	Baie Comeau	3.79	192	PN	Pn	20 16 17.6	-0.9
CNQ				SN	Sn	20 17 03.5	-1.0
CNQ				Trac		20 17 17.4	
	comp=Z,5.1nm,0.1s						
LG4Q	La Grande 4	4.40	281	PN	Pn	20 16 23.7	-3.4
LG4Q				PG	Pg	20 16 34.9	-10
LG4Q				SN	Sn	20 17 15.4	-4.4
LG4Q				SG	Sg	20 17 30.1	-14
LG4Q				Trac		20 17 34.6	
	comp=Z,2.3nm,0.1s						
LMQ	La Malbaie	5.90	204	PN	Pn	20 16 46.0	-2.4
DRLN	Deer Lake	6.97	119	PN	Pn	20 16 58.7	-4.8
VLDQ	Val d'Or	8.34	238	PN	P	20 17 19.6	-3.1
VIMO	Victor Mine	10.22	276	PN	P	20 17 41.9	-6.5
SILO	Sutton Inlier	10.81	285	PN	P	20 17 50.1	-6.4

IDC 11 20:38:59.4±8.5, 16.02N×92.66E, mb3.7/4, mb1 3.8/5, mb1mx3.5/19, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=175.3km s-min=62.4km az=149.0
NEIC 11 20:39:05.4±1.9, 16.13N×92.35E, h30km, mb4.2/1, Error ellipse: s-maj=34.9km s-min=16.8km az=190.0
ISC 11 20:39:09.4±2.6, 17.0N±0.3×92.4E±0.2, h33km, n14, σ0.98/15, mb3.8/5, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.36	76	Pn	Pn	20 40 42.4	-1.0
	0.1nm,0.3s,baz=255,slow=15,SNR=3.1						
CMAR				Sn	Sn	20 41 48.8	-6.8
	0.4nm,0.3s,baz=256,slow=26,SNR=6.0						
JIRN	Jiri	12.07	332	eP	P	20 42 02.4	+0.4
PKI	Pulchoki	12.36	329	eP	P	20 42 04.9	-1.0
GUN	Gumba	12.43	332	eP	P	20 42 06.7	-0.1
DMN	Daman	12.54	329	eP	P	20 42 07.5	-0.8
	21nm,0.9s						
KKN	Kakani	12.60	330	eP	P	20 42 08.4	-0.8
LSA	Lhasa	12.69	355	P	P	20 42 16.8	+6.5
GKN	Gorkha	13.10	328	eP	P	20 42 14.7	-1.0
	5.9nm,0.4s						
KOLN	Koldanda	13.47	324	eP	P	20 42 21.4	+0.8
	12nm,0.7s						
SONM	Songino Array	32.81	17	P	P	20 45 42.4	+0.5
	1.1nm,1.1s,mb3.7,baz=198,slow=9.1,SNR=6.1						
ZAL	Zalesovo	37.33	353	P	P	20 46 21.6	+1.3
	2.1nm,1.0s,mb3.9,baz=293,slow=8.0,SNR=9.0						
BVAR	Borovoye Array	39.88	339	P	P	20 46 43.1	+1.6
	0.7nm,0.9s,mb3.4,baz=130,slow=11,SNR=3.8						
CHKZ	Chkalovo	40.35	340	eP	P	20 46 46.7	+1.3
	3.3nm,0.7s,mb4.2						
CHKZ				e	pP	20 46 55.1	-0.1
GERES	GERESS Array B	70.02	316	P	P	20 50 18.5	-1.2
	0.7nm,0.8s,mb3.6,baz=80,slow=6.0,SNR=4.4						

IDC 11 20:46:11.0±0.9, 67.07N×21.10E, mb1 3.1/4, mb1mx3.0/19, mbtmp3.0/4, ML2.5/4, Error ellipse: s-maj=18.5km s-min=8.8km az=111.0
HEL 11 20:46:11.0±0.1, 67.07N×20.93E, ML1.9, ML2.4(UPP), Explosion
ISC 11 20:46:09.7±0.3, 67.08N±0.02×20.91E±0.06, n28, σ1.02/39, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	Dundret	0.14	287	iP	Pg	20 46 13.5	+1.1
MASU	Masugnsbyn	0.57	48	iP	Pg	20 46 21.1	+0.1
PAJU	Pajala	0.87	93	iP	Pg	20 46 26.1	-0.8
KUA	Kurravaara	0.91	346	eP	Pg	20 46 27.4	-0.3
KUA				eS	Sg	20 46 40.1	+0.4
LANU	Lannavaara	1.06	23	eP	Pb	20 46 29.7	-0.9
NIKU	Nikkaluokta	1.07	318	eP	Pb	20 46 30.3	-0.5
SJUU	Sjulsmark	1.60	170	eP	Pn	20 46 39.6	+0.2
SJUU				eS	Sb	20 47 02.4	+1.7
LILU	Lilltraesk	1.85	194	eP	Pn	20 46 43.8	+0.8
KTK1	Kautokeino	2.13	23	eP	Pn	20 46 49.0	+2.1
SGF	Sodankyl	2.21	78	eP	Pn	20 46 49.0	+0.9
SGF				eS	Sn	20 47 18.5	+1.9
SGF				MSG		20 47 22.0	
	comp=Z,7.2nm,0.1s						
BURU	Burvik	2.52	175	eP	Pn	20 46 53.4	+0.9
SVAU	Svanoeiden	2.66	193	eP	Pn	20 46 55.0	+0.6
TRO	Tromso	2.67	345	eP	Pn	20 46 55.1	+0.5
MOR8	Moi Rana	2.74	253	eSG	Sn	20 47 31.0	+1.1
OUL	Oulu	2.85	132	eP	Pn	20 46 57.7	+0.4
OUL				eS	Sn	20 47 33.7	+0.8
OUL				MSG		20 47 41.5	
	comp=Z,3.6nm,0.2s						
ARCES	ARCESS Array B	3.00	33	Pn	Pn	20 46 59.1	-0.3
	comp=Z,0.9nm,0.3s,baz=210,slow=14,SNR=62						
ARCES				Sn	Sn	20 47 37.0	+0.5
	comp=Z,1.1nm,0.3s,baz=216,slow=21,SNR=8.5						
LOF	Lofoten	3.01	294	e	Sg	20 47 49.2	-0.7
LOF	Lofoten	3.01	294	e	Sg	20 47 49.2	-0.7
BREU	Bredtraesk	3.35	198	eP	Pn	20 47 04.3	0.0
MSF	Maaselka	3.46	106	eP	Pn	20 47 05.5	-0.5
MSF				eS	Sn	20 47 47.8	-0.5
MSF				MSG		20 48 04.6	
	comp=Z,2.5nm,0.2s						
KEV	Kevo	3.51	37	eP	Pn	20 47 05.9	-0.7
KEV				eS	Sn	20 47 48.3	-1.1
KEV				MSG		20 48 08.4	
	comp=Z,2.0nm,0.2s						
KU4	Oulanka	3.52	98	eP	Pn	20 47 06.7	-0.1
KU4				eS	Sn	20 47 49.7	0.0
VAF	Ylistaro	4.12	169	eP	Pn	20 47 14.8	-0.5
VAF				eS	Sn	20 48 01.3	-3.8
VAF				MSG		20 48 23.4	
	comp=Z,3.2nm,0.2s						
KJN	Kajaani	4.12	134	eP	Pn	20 47 15.3	0.0
KJN				eS	Sn	20 48 02.3	-2.7
KJN				MSG		20 48 16.7	
	comp=Z,1.5nm,0.2s						
NSS	Namsos	4.48	239	eS	Sn	20 48 14.0	-0.1
FINES	FINESS Array B	6.09	156	Pn	Pn	20 47 42.2	-0.9
	comp=Z,0.1nm,0.3s,baz=348,slow=14,SNR=12						
FINES				Sn	Sn	20 48 49.9	-4.6
	comp=Z,0.4nm,0.3s,baz=350,slow=24,SNR=8.3						
NOA	NORSAR Array B	7.40	220	Pn	Pn	20 47 58.6	-2.9
	comp=Z,0.1nm,0.3s,baz=26,slow=12,SNR=2.7						
HFS	Hagfors	7.67	208	Pn	Pn	20 48 03.0	-2.4
	comp=Z,0.0nm,0.3s,baz=29,slow=12,SNR=7.0						

IDC 11 20:49:39.3±4.9, 8.10N×93.29E, mb3.6/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=143.5km s-min=28.0km az=77.0, Nicobar Islands

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.67**	**28**	Pn	P	20 52 27.7	-2.6
	0.1nm,0.3s,baz=231,slow=13,SNR=4.2						
SONM	**Songino Array**	**41.14**	**13**	P	P	20 57 25.2	-1.6
	0.7nm,0.6s,baz=200,slow=7.2,SNR=7.6						
WRA	**Warramunga Arr**	**49.07**	**125**	P	P	20 58 28.7	-2.0
	0.5nm,0.5s,baz=306,slow=8.4,SNR=10						
ASAR	**Alice Springs**	**50.70**	**130**	P	P	20 58 41.0	-2.1
	0.8nm,0.8s,baz=313,slow=7.5,SNR=5.5						

ISC 11 21:21:00.5±3.0, 8.6S±0.4×119.5E±0.4, h233km±63km, n6, σ1º10/9, 1C-6D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**3.30**	**271**	*e*Pn	**P**	**21 21 55.5**	**-0.3**
	114nm,0.2s						
KEDI				⇑*e*Sn	**S**	**21 22 43.8**	**+5.0**
RATI	**Rata**	**3.88**	**267**	⇓*e*Pn	**P**	**21 22 01.0**	**-1.6**
	119nm,0.2s						
RATI				⇓*e*Sn	**S**	**21 22 51.2**	**+0.4**
KELI	**Kelakatan**	**4.92**	**273**	⇓*e*P	**P**	**21 22 17.0**	**+1.7**
SRDI	**Scrawed**	**5.25**	**270**	⇓*e*P	**P**	**21 22 19.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**11.24**	**148**	*e*P	**P**	**21 23 37.8**	**+1.8**
	15nm,1.4s						
FITZ				*e*S	**S**	**21 25 37.6**	**-0.6**
WB2	**Warramunga Arr**	**18.34**	**130**	⇓*i*P	**P**	**21 24 59.4**	**-0.6**

*NEIC **11** 21:33:22.8, 31.63S×69.72W, h116km, MD2.8(GUC), After GUC.*

GUC 11 21:33:22.8±0.8, 31.63S×69.72W, h116km±14km, MD2.8, ML3.2, 5C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.19**	**292**	⇑*i*P	P	21 33 47.0	+0.1
CMCH				*i* S	S	21 34 05.2	+0.4
CMCH				AMP		21 34 06.5	
	comp=E,622nm,0.4s						
JACH	**Jahuel**	**1.29**	**215**	⇑*i*P	P	21 33 47.9	-0.1
JACH				*i* S	S	21 34 07.5	+0.7
PACH	**Papudo**	**1.72**	**238**	*i* P	P	21 33 53.1	+0.1
TLL	**Tololo Astrono**	**1.73**	**327**	⇓*i*P	P	21 33 53.7	+0.5
TLL				*i* S	S	21 34 16.7	+0.6
FCH	**Farellones**	**1.76**	**196**	⇑*i*P	P	21 33 54.2	+0.7
FCH				*i* S	S	21 34 18.1	+1.3
FCH				AMP		21 34 20.4	
	comp=N,137nm,0.3s						
RCDM	**Rinconada Maip**	**2.07**	**206**	*i* P	P	21 33 57.1	-0.3
RCDM				*i* S	S	21 34 23.3	-0.2
RCDM				AMP		21 34 25.4	
	comp=E,221nm,0.1s						
PCH	**Pirque**	**2.10**	**199**	⇑*i*P	P	21 33 58.0	+0.2
TACH	**Talagante**	**2.27**	**207**	⇑*i*P	P	21 34 00.3	+0.3
CHCH	**Chadas Angostu**	**2.43**	**199**	⇓*i*P	P	21 34 01.9	-0.3
CHCH				*i* S	S	21 34 32.0	0.0

*IDC **11** 21:35:45.4±11.0, 3.82N×93.83E, mb3.5/3, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=371.7km s-min=33.5km az=69.0*
*NEIC **11** 21:35:51.8±1.5, 3.66N×93.96E, mb4.4/2, Error ellipse: s-maj=47.7km s-min=14.2km az=68.0*

ISC 11 21:35:49.3±1.7, 3.6N±0.2×93.9E±0.3, h33km, n7, σ0º93/7, mb3.9/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.55**	**18**	Pn	**P**	**21 39 28.4**	**+0.5**
	0.2nm,0.3s,baz=213,slow=12,SNR=6.3						
LSA	**Lhasa**	**26.06**	**355**	*e*P	**P**	**21 41 22.8**	**+1.0**
	3.9nm,0.5s,mb4.2						
SONM	**Songino Array**	**45.34**	**12**	P	**P**	**21 44 03.9**	**-2.3**
	0.2nm,0.5s,mb3.2,baz=189,slow=7.0,SNR=4.7						
WRA	**Warramunga Arr**	**46.11**	**122**	P	**P**	**21 44 13.0**	**+0.3**
	1.0nm,0.6s,mb3.9,baz=300,slow=9.1,SNR=12						
WRA				pP	pP	21 44 23.5	+0.9
	1.5nm,0.5s,baz=300,slow=9.1,SNR=13						
WRAB	**Tennant Creek**	**46.12**	**122**	*e*P	**P**	**21 44 12.2**	**-0.5**
	4.6nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**47.48**	**127**	P	**P**	**21 44 23.9**	**+0.5**
	0.3nm,0.5s,mb3.5,baz=292,slow=7.9,SNR=4.7						
ASAR				pP	pP	21 44 34.5	+1.2
	0.4nm,0.4s,baz=307,slow=7.1,SNR=4.1						
CHKZ	**Chkalovo**	**53.42**	**343**	*e*P	**P**	**21 45 08.2**	**0.0**

DJA 11 21:37:02.5±1.0, 9.87S×113.80E, h15km, ML3.8/3, 5C-2D, Error ellipse: s-maj=22.3km s-min=14.1km az=48.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.42**	**14**	⇓*e*Pn	Pn	21 37 24.8	-3.1
	80nm,0.2s						
SRDI				⇑*e*Sn	Sn	21 37 42.1	-4.2
KELI	**Kelakatan**	**1.78**	**23**	⇓*e*Pn	Pn	21 37 30.8	-2.2
	73nm,0.2s						
KELI				⇑*e*Sn	Sn	21 37 51.2	-4.2
RATI	**Rata**	**2.05**	**57**	⇑*e*Pn	Pn	21 37 34.2	-2.8
	81nm,0.2s						
RATI				⇑*e*Sn	Sn	21 37 57.0	-5.4
KEDI	**Kedomdong**	**2.66**	**59**	⇑*e*Pn	Pn	21 37 42.9	-2.8

*MOS **11** 21:39:50.9±1.4, 36.50N×71.16E, h150km, mb4.2/5, Error ellipse: s-maj=19.9km s-min=9.1km az=102.0*
*IDC **11** 21:39:51.7±9.5, 36.41N×71.37E, h146km±84km, mb3.5/8, mb1 3.8/10, mb1mx3.5/19, mbtmp4.1/10, Error ellipse: s-maj=43.3km s-min=18.1km az=23.0*
*NEIC **11** 21:39:51.3±3.0, 36.51N×71.05E, h133km±25km, mb4.1/7, Error ellipse: s-maj=26.4km s-min=14.9km az=209.0*
*NNC **11** 21:39:55.0±23.0, 37.51N×70.14E, mpv4.4, Error ellipse: s-maj=305.1km s-min=162.8km az=161.0*

ISC 11 21:39:54.4±0.5, 36.64N±0.03×71.46E±0.07, h179km±6km, n60, σ0º99/67, mb3.9/12, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.83**	**172**	⇓P	**P**	**21 40 43.0**	**+1.4**
CEP				S	**S**	**21 41 15.0**	**-2.9**
THW	**Thamme Wali**	**3.84**	**176**	⇓P	**P**	**21 40 55.1**	**+0.9**
SBDP	**Sheikh Budin**	**4.36**	**187**	P	**P**	**21 41 00.4**	**-0.5**
SARP	**Sargodha**	**4.81**	**168**	P	**P**	**21 41 06.8**	**+0.1**
SARP				S	**S**	**21 42 03.0**	**+0.4**
DRP	**Derazinda**	**4.99**	**192**	P	**P**	**21 41 09.8**	**+0.8**
DLH	**Dalhousie**	**5.52**	**136**	*e*	**P**	**21 41 26.0**	**+10**
DLH				*e*S	**S**	**21 42 19.0**	**-0.2**
AML	**Almayashu**	**5.75**	**17**	P	**P**	**21 41 19.3**	**+0.3**
	SNR=117						
UCH	**Uchtor**	**6.06**	**22**	P	**P**	**21 41 23.5**	**+0.5**
	SNR=53						
KZA	**Kyzart**	**6.17**	**27**	P	**P**	**21 41 24.6**	**+0.1**
	SNR=9.1						
EKS2	**Erkin-Say**	**6.27**	**16**	P	**P**	**21 41 26.4**	**+0.6**
	SNR=31						
AAK	**Ala-Archa**	**6.43**	**20**	⇑Pn	**P**	**21 41 28.4**	**+0.5**
	14nm,0.3s						
AAK				⇑Sn	**S**	**21 42 38.2**	**-2.3**
	52nm,0.6s						
AAK	**Ala-Archa**	**6.43**	**20**	P	**P**	**21 41 28.4**	**+0.6**
	SNR=51						
AAK	**Ala-Archa**	**6.43**	**20**	*e*P	**P**	**21 41 27.3**	**-0.6**
BHK	**Bhakra**	**6.64**	**140**	*e*	**S**	**21 42 43.2**	**-2.3**
ULHL	**Ulahol**	**6.71**	**32**	P	**P**	**21 41 32.3**	**+0.8**
	SNR=9.1						
CHMS	**Chumysh**	**6.84**	**21**	P	**P**	**21 41 33.3**	**0.0**
	SNR=32						
USP	**Ospenovka**	**7.02**	**18**	P	**P**	**21 41 35.2**	**-0.4**
	SNR=10						
TKM2	**Tokmak 2**	**7.03**	**26**	P	**P**	**21 41 36.6**	**+0.8**
	SNR=20						
SMLA	**Simla**	**7.26**	**138**	⇑*i*P	**P**	**21 41 53.3**	**+15**
SMLA				*e*S	**S**	**21 43 11.2**	**+11**
DDI	**Dehra Dun**	**8.37**	**137**	*e*	**S**	**21 43 24.7**	**-1.6**
PTH	**Pithoragarh**	**10.19**	**131**	*e*P	**P**	**21 42 17.0**	**-0.2**
PTH				*e*S	**S**	**21 44 06.0**	**-3.1**
MK02	**Makanchi Array**	**12.95**	**35**	⇑P	**P**	**21 42 55.9**	**+3.1**
	1.2nm,0.6s						
KOLN	**Koldanda**	**13.55**	**127**	*e*P	**P**	**21 42 59.9**	**-0.4**
	9.5nm,0.2s						
GKN	**Gorkha**	**14.07**	**124**	*e*P	**P**	**21 43 07.3**	**+0.4**
	22nm,0.3s						
KKN	**Kakani**	**14.64**	**123**	*e*P	**P**	**21 43 14.7**	**+0.7**
	32nm,0.5s						
DMN	**Daman**	**14.64**	**124**	*e*P	**P**	**21 43 14.7**	**+0.7**
	31nm,0.4s						
PKI	**Pulchoki**	**14.87**	**124**	*e*P	**P**	**21 43 17.5**	**+0.6**
	39nm,0.5s						
GUN	**Gumba**	**14.97**	**121**	*e*P	**P**	**21 43 18.3**	**+0.2**
	27nm,0.3s						
JIRN	**Jiri**	**15.34**	**122**	*e*P	**P**	**21 43 23.3**	**+0.5**
	64nm,0.4s						
BVA0	**Borovoye Array**	**16.40**	**358**	⇑P	**P**	**21 43 34.9**	**-0.7**
	0.3nm,0.5s,baz=218,slow=43,SNR=33						
BVAR	**Borovoye Array**	**16.40**	**358**	P	**P**	**21 43 34.5**	**-1.1**
	1.4nm,0.3s,baz=155,slow=9.7,SNR=33						
BRVK	**Borovoye**	**16.44**	**357**	*e*P	**P**	**21 43 36.3**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BRVK	**Borovoye**	**16.44**	**357**	*e*P	**P**	**21 43 36.3**	**+0.1**
	comp=Z,4.5nm,0.4s						
CHKZ	**Chkalovo**	**17.05**	**358**	⇑P	**P**	**21 43 42.9**	**-0.5**
	comp=Z,2.1nm,0.5s						
CHKZ	**Chkalovo**	**17.05**	**358**	*e*P	**P**	**21 43 41.7**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.4s						
CHKZ	**Chkalovo**	**17.05**	**358**	*e*P	**P**	**21 43 41.7**	**-1.6**
	comp=Z,3.9nm,0.4s						
LSA	**Lhasa**	**17.86**	**107**	*e*P	**P**	**21 43 54.9**	**+2.3**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LSA	**Lhasa**	**17.86**	**107**	*e*P	**P**	**21 43 54.9**	**+2.3**
	comp=Z,4.4nm,0.7s						
ZAL	**Zalesovo**	**19.62**	**24**	P	**P**	**21 44 10.3**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=255,slow=5.9,SNR=15						
NVS	**Novosibirsk**	**19.92**	**20**	*e*P	**P**	**21 44 13.5**	**-0.3**
HYB	**Hyderabad**	**20.15**	**160**	*i* P	**P**	**21 44 20.5**	**+4.1**
ARU	**Arti**	**21.62**	**340**	*e*P	**P**	**21 44 28.4**	**-2.3**
ARU				*e*S	**S**	**21 48 29.1**	**+15**
MALT	**Malatya**	**26.20**	**284**	P	**P**	**21 45 08.4**	**-5.7**
MALT				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
MALT	**Malatya**	**26.20**	**284**	P	**P**	**21 45 08.4**	**-5.8**
	comp=Z,1.2nm,0.6s,mb3.7						
SONM	**Songino Array**	**27.95**	**55**	P	**P**	**21 45 31.3**	**+1.4**
	comp=Z,0.3nm,0.8s,mb3.1,baz=262,slow=10,SNR=2.9						
AKASG	**Malin Array Be**	**33.15**	**309**	P	**P**	**21 46 14.9**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**33.15**	**309**	P	**P**	**21 46 14.9**	**-0.6**
	comp=Z,1.4nm,0.4s,mb4.1,baz=78,slow=7.9,SNR=8.6						
JOF	**Joensuu**	**35.94**	**330**	*ep*	**P**	**21 46 39.0**	**+0.1**
	comp=Z,3.4nm,0.3s,mb4.5						
FINES	**FINESS Array B**	**37.58**	**326**	P	**P**	**21 46 53.0**	**+0.2**
	comp=Z,1.6nm,0.3s,mb4.1,baz=123,slow=10.0,SNR=26						
KAF	**Kangasniemi**	**37.71**	**327**	*ep*	**P**	**21 46 53.9**	**0.0**
	comp=Z,5.7nm,0.9s,mb4.2,baz=111,slow=8.5						
KAF	**Kangasniemi**	**37.71**	**327**	*e*P	**P**	**21 46 53.9**	**0.0**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
KEV	**Kevo**	**40.81**	**338**	*ep*	**P**	**21 47 19.3**	**-0.1**
	comp=Z,11nm,1.0s,mb4.4						
KEV	**Kevo**	**40.81**	**338**	*e*P	**P**	**21 47 19.3**	**-0.1**
KEV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.4						
ARCES	**ARCESS Array B**	**41.16**	**337**	P	**P**	**21 47 22.9**	**+0.7**
	comp=Z,2.4nm,0.4s,mb4.2,baz=118,slow=9.4,SNR=22						
NB2	**NORSAR Subarra**	**44.49**	**323**	P	**P**	**21 47 48.7**	**-0.4**
	comp=Z,2.1nm,0.5s,mb4.0,baz=97,slow=7.4						
NB2	**NORSAR Subarra**	**44.49**	**323**	P	**P**	**21 47 48.7**	**-0.4**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
NOA	**NORSAR Array B**	**44.49**	**323**	P	**P**	**21 47 49.0**	**-0.1**
	comp=Z,2.3nm,0.5s,mb4.0,baz=96,slow=7.7,SNR=9.2						
YKA	**Yellowknife Ar**	**81.09**	**3**	P	**P**	**21 51 51.0**	**+0.7**
	comp=Z,0.4nm,0.5s,mb3.4,baz=353,slow=5.4,SNR=9.4						
WRA	**Warramunga Arr**	**81.75**	**122**	P	**P**	**21 51 53.7**	**-0.8**
	comp=Z,0.4nm,0.4s,mb3.4,baz=325,slow=5.0,SNR=8.9						
ASAR	**Alice Springs**	**84.03**	**125**	P	**P**	**21 52 05.7**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.4,baz=310,slow=4.7,SNR=4.1						

*BJI **11** 21:46:33.4, 4.75N×94.81E, h49km, mB5.0, mb5.1, Ms4.7, Msz4.4*
*MOS **11** 21:46:34.1±0.9, 5.28N×94.92E, h33km, mb5.2/25, Error ellipse: s-maj=16.3km s-min=6.7km az=118.4*
*HRVD **11** 21:46:34.7±0.4, 4.74N×94.63E, h48km±1km, MW5.0/46, Centroid moment Tensor Solution. LP body waves: s35,c55;Mantle waves: s46,c72; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.70±.16; $M_{\theta\theta}$-1.43±.11; $M_{\phi\phi}$-1.27±.15; $M_{r\theta}$1.31±.09; $M_{\theta\phi}$1.76±.10; $M_{\phi r}$-1.13±.11; Best double couple: $M_0$3.382×10^{16} NP1:ϕ_s316°,δ30°,λ93°. NP2:ϕ_s132°,δ60°,λ88°. Principal axes: T 3.177, Plg75°, Azm37°; N .409, Plg2°, Azm133°; P -3.587, Plg15°, Azm223°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 21:46:34.7±0.2, 5.06N×94.79E, h30km, mb5.0/33 Error ellipse: s-maj=9.0km s-min=4.4km az=218.0*
NEIC Felt [IV] at Banda Aceh.
*IDC **11** 21:46:37.5±0.7, 5.10N×94.81E, h52km±5km, mb4.5/19, mb1 4.6/20, mb1mx4.5/22, mbtmp4.7/20, MS4.1/10, Ms1 4.1/10, ms1mx4.0/17, Error ellipse: s-maj=21.6km s-min=12.5km az=45.0*

ISC 11 21:46:35.3±0.2, 5.04N±0.04×94.83E±0.04, h50km, h50km±1.5km: pP-P, n194, σ1º01/195, mb5.0/77, MS4.3/19, 25C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKTK	**Khon Kaen**	**13.69**	**34**	P	**P**	**21 49 59.0**	**+10**
CMAR	**Chiang Mai Arr**	**13.92**	**16**	P	**P**	**21 49 54.6**	**+2.8**
	2.1nm,0.3s,baz=207,slow=13,SNR=61						
CMAR				LR	LR	21 55 04.5	
	comp=Z,593nm,21.7s,baz=200,slow=36						
CMAR				ScP		21 58 41.5	
	0.1nm,0.3s,baz=230,slow=2.9,SNR=15						
CMAR	**Chiang Mai Arr**	**13.92**	**16**	P	**P**	**21 49 54.6**	**+2.8**
CMAR				ScP		21 58 41.5	
CHG	**Chiang Mai**	**14.26**	**16**	⇑P	**P**	**21 50 03.4**	**+7.2**
	59nm,0.7s						
NANT	**Nan**	**14.82**	**22**	P	**P**	**21 50 06.0**	**+2.4**
CHRT	**Chiangrai**	**15.51**	**18**	⇓P	**P**	**21 50 15.5**	**+3.1**
	174nm,1.2s						
MDRS	**Chennai**	**16.45**	**300**	*e*P	**P**	**21 50 25.0**	**+0.6**
MDRS				*e*		21 53 10.5	
VIS	**Vishakhapatnam**	**16.89**	**319**	*e*P	**P**	**21 50 31.3**	**+1.4**
VIS				*e*		21 50 53.0	
	comp=Z,80nm,1.6s						
VIS				*i*		21 53 22.2	
BWNR	**Bhubaneshwar**	**17.52**	**331**	*e*P	**P**	**21 50 36.8**	**-0.9**
BWNR				*e*		21 50 39.1	
	comp=Z,40nm,0.5s						
BWNR				*e*		21 53 29.1	
BWNR				*e*		21 53 34.7	
KOD	**Kodaikanal**	**17.96**	**288**	*e*P	**P**	**21 50 44.9**	**+1.6**
KOD				*e*		21 51 01.2	
	comp=Z,53nm,1.0s						
TRD	**Trivandrum**	**18.08**	**282**	*e*P	**P**	**21 50 47.9**	**+3.2**
TRD				*i*		21 53 48.6	
IMP	**Imphal**	**19.65**	**358**	*e*P	**P**	**21 51 01.0**	**-1.8**
HYB	**Hyderabad**	**20.13**	**309**	*e*P	**P**	**21 51 07.0**	**-1.0**
HYB	**Hyderabad**	**20.13**	**309**	*i* P	**P**	**21 51 07.0**	**-1.0**
QIZ	**Qiongzhong**	**20.19**	**45**	*e*P	**P**	**21 51 08.6**	**0.0**
QIZ				AP		21 51 16.7	
QIZ				PP	PP	21 51 26.0	-3.4
QIZ				*e*S	**S**	**21 54 42.3**	**-5.2**
QIZ				AMB	AMB		
	comp=Z,29nm,2.2s						
QIZ				LR	LR		
	comp=N,784nm,16.4s,MS4.2						
QIZ				LR	LR		
	comp=E,701nm,17.9s,MS4.2						
QIZ				LR	LR		
	comp=Z,1μm,19.5s,MS4.2						
SHL	**Shillong**	**20.60**	**352**	*e*P	**P**	**21 51 09.5**	**-3.4**
SHL				*e*		21 51 09.5	
SHL				*e*		21 51 16.4	
	comp=Z,53nm,0.6s						
SHL				*e*		21 55 00.0	
SHL				*e*S	**S**	**21 55 03.2**	**+7.8**
BLSP	**Bilaspur**	**20.97**	**325**	*e*P	**P**	**21 51 14.8**	**-1.9**
BLSP				*e*		21 51 18.2	
	comp=Z,56nm,1.2s						
BLSP				*e*		21 51 18.8	
	comp=Z,82nm,0.9s						
BLSP				*e*S	**S**	**21 55 07.3**	**+4.9**
LATR	**Latur**	**22.25**	**308**	*e*	**S**	**21 55 29.1**	**+2.9**
KAD	**Karad**	**23.61**	**303**	*e*	**P**	**21 51 59.0**	**+16**
ALBI	**Allahabad**	**23.71**	**330**	*e*	**P**	**21 51 42.5**	**-1.2**
JIRN	**Jiri**	**23.95**	**341**	*e*P	**P**	**21 51 45.3**	**-0.7**
	comp=Z,126nm,0.6s,mb5.5						
PKI	**Pulchoki**	**24.13**	**339**	*e*P	**P**	**21 51 47.4**	**-0.4**
	comp=Z,53nm,0.6s,mb5.1						
DMN	**Daman**	**24.28**	**339**	*e*P	**P**	**21 51 49.1**	**-0.1**
	comp=Z,64nm,0.7s,mb5.1						
GUN	**Gumba**	**24.28**	**340**	*e*P	**P**	**21 51 48.6**	**-0.7**
	comp=Z,73nm,0.6s,mb5.3						
KKN	**Kakani**	**24.38**	**339**	*e*P	**P**	**21 51 49.7**	**-0.5**
	comp=Z,92nm,0.9s,mb5.2						
BHPL	**Bhopal**	**24.69**	**319**	*e*P	**P**	**21 51 54.6**	**+1.4**
BHPL				*e*		21 51 58.8	
	comp=Z,32nm,0.7s						
LSA	**Lhasa**	**24.77**	**352**	P	**P**	**21 51 55.4**	**+1.4**
GKN	**Gorkha**	**24.81**	**338**	*e*P	**P**	**21 51 54.3**	**0.0**
	comp=Z,94nm,0.6s,mb5.5						
KOLN	**Koldanda**	**25.00**	**336**	*e*P	**P**	**21 51 57.0**	**+0.8**
	comp=Z,178nm,0.7s,mb5.7						
DDI	**Dehra Dun**	**29.71**	**330**	*e*	**P**	**21 52 37.8**	**-1.2**
SMLA	**Simla**	**30.81**	**329**	*e*	**P**	**21 52 57.3**	**+8.5**
SMLA				*e*		21 53 04.9	
	comp=Z,14nm,0.7s						
WHN	**Wuhan**	**31.33**	**34**	*e*P	**P**	**21 52 54.0**	**+0.6**
XAN	**Xi'an**	**31.68**	**23**	P	**P**	**21 52 55.5**	**-0.9**
XAN				S	**S**	**21 58 11.4**	**+10**
XAN				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.2						
XAN				LR	LR		
	comp=N,365nm,16.2s,MS4.6						
XAN				LR	LR		
	comp=E,996nm,17.0s,MS4.6						
XAN				LR	LR		
	comp=Z,386nm,16.6s,MS4.2						
LZH	**Lanzhou**	**31.99**	**14**	*e*P	**P**	**21 52 58.5**	**-0.6**
LZH				AP	pP	21 53 08.0	-4.0
LZH				PP	PP	21 54 06.0	-0.3
LZH				S	**S**	**21 58 07.7**	**+1.7**
LZH				SS	SS	22 00 01.2	+0.6
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,160nm,4.4s						
LZH				LR	LR		
	comp=E,554nm,14.5s						
LZH				LR	LR		
	comp=Z,877nm,16.0s,MS4.5						
NJ2	**Nanjing**	**35.04**	**37**	*e*P	**P**	**21 53 26.7**	**+1.2**
NJ2				AP	pP	21 53 36.8	-1.7
NJ2				XP	sP	21 53 40.7	-4.1
NJ2				PP	PP	21 54 46.5	+1.6
NJ2				S	**S**	**21 58 58.0**	**+4.7**
NJ2				XS		21 59 13.0	
NJ2				AMB	AMB		
	comp=Z,70nm,0.7s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,530nm,4.2s						
NJ2				LR	LR		
	comp=N,420nm,14.6s,MS4.4						
NJ2				LR	LR		
	comp=E,300nm,15.9s,MS4.4						
NJ2				LR	LR		
	comp=Z,340nm,14.7s,MS4.2						
SSE	**Sheshan**	**35.84**	**41**	P	**P**	**21 53 29.2**	**-3.1**
SSE				S	**S**	**21 59 10.1**	**+4.4**
SSE				XS		21 59 25.2	
SSE				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,70nm,4.7s						
SSE				LR	LR		
	comp=N,185nm,22.8s,MS3.9						
SSE				LR	LR		
	comp=E,159nm,23.0s,MS3.9						
SSE				LR	LR		
	comp=Z,318nm,20.2s,MS4.1						
FITZ	**Fitzroy Crossi**	**38.11**	**128**	*e*P	**P**	**21 53 51.1**	**-0.3**
	comp=Z,12nm,0.8s,mb4.7						
JOW	**Kunigami**	**38.56**	**52**	P	**P**	**21 53 56.5**	**+1.4**
	comp=Z,19nm,0.6s,mb5.0,baz=278,slow=11,SNR=5.5						
WMQ	**Urumqi**	**39.13**	**352**	*e*P	**P**	**21 53 59.7**	**+0.1**
WMQ				AP	pP	21 54 09.5	-3.3
WMQ				PP	PP	21 55 34.0	+0.2
WMQ				S	**S**	**21 59 56.8**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,54nm,4.7s						
WMQ				LR	LR		
	comp=N,1μm,20.3s,MS4.8						
WMQ				LR	LR		
	comp=E,1μm,21.7s,MS4.8						
WMQ				LR	LR		
	comp=Z,2μm,21.3s,MS5.0						
KZA	**Kyzart**	**40.80**	**338**	P	**P**	**21 54 15.0**	**+1.6**
	SNR=8.1						
UCH	**Uchtor**	**41.21**	**337**	P	**P**	**21 54 18.4**	**+1.6**
	SNR=32						
KAKA	**Kakadu**	**41.32**	**116**	*e*P	**P**	**21 54 18.3**	**+0.2**
	comp=Z,9.8nm,0.6s,mb4.6						
TKM2	**Tokmak 2**	**41.40**	**339**	P	**P**	**21 54 19.5**	**+1.1**
	SNR=17						
KBK	**Karagaybulak**	**41.41**	**338**	P	**P**	**21 54 20.3**	**+1.8**
	SNR=32						
AML	**Almayashu**	**41.45**	**336**	P	**P**	**21 54 20.2**	**+1.3**
	SNR=76						
AAK	**Ala-Archa**	**41.56**	**337**	P	**P**	**21 54 20.7**	**+0.9**
	SNR=20						
AAK	**Ala-Archa**	**41.56**	**337**	*c i*P	**P**	**21 54 20.0**	**+0.2**
AAK				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.7						
AAK				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.1						
AAK	**Ala-Archa**	**41.56**	**337**	*e*P	**P**	**21 54 19.4**	**-0.4**
	comp=Z,16nm,0.8s,mb4.7						
FRU	**Bishkek**	**41.69**	**338**	*e*P	**P**	**21 54 22.0**	**+1.2**
FRU				*e*	pP	21 54 35.0	+0.9
FRU				pmax	pmax		
	comp=Z,60nm,2.0s,mb4.9						
**CH

IRK	Irkutsk	47.69	8	eP	P	21 55 05.2	-3.7
FORT	Forrest	47.72	140	eP	P	21 55 10.2	+0.8
	comp=Z,37nm,0.6s,mb5.6						
ZAL	Zalesovo	49.43	352	P	P	21 55 21.8	-0.4
	comp=Z,23nm,0.6s,mb5.4,baz=302,slow=5.7,SNR=144						
ZAL				LR	LR	22 17 36.3	
	comp=Z,142nm,20.0s,MS4.0,baz=287,slow=38						
MDJ	Mudanjiang	49.79	32	P	P	21 55 26.0	+0.9
MDJ				AMB	AMB		
	comp=Z,23nm,1.1s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,132nm,3.8s						
NVS	Novosibirsk	50.53	351	eP	P	21 55 28.8	-1.9
NVS				e*PP	pP	21 55 42.2	-1.9
NVS				eS	S	22 02 53.4	+14
NVS				pmax	pmax		
	comp=N,10.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,10.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,26nm,0.6s,mb5.3						
NVS				smax			
	comp=N,21nm,2.1s						
NVS				smax			
	comp=E,20nm,2.1s						
MAT	Matsushiro	50.59	46	eP	P	21 55 32.0	+0.6
	comp=E,7.0nm,0.5s,mb4.8						
MAT	Matsushiro	50.59	46	P	P	21 55 32.0	+0.6
BVAR	Borovoye Array	51.87	341	P	P	21 55 40.3	-0.5
	comp=E,23nm,0.7s,mb5.2,baz=143,slow=7.4,SNR=136						
BRVK	Borovoye	51.94	341	eP	P	21 55 40.2	-1.1
BRVK				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.2						
BRVK	Borovoye	51.94	341	eP	P	21 55 40.2	-1.1
	comp=Z,26nm,0.8s,mb5.2						
CTA	Charters Tower	56.35	118	LR	LR	22 22 28.5	
	comp=Z,263nm,19.4s,MS4.3,baz=48,slow=38						
CTAO	Charters Tower	56.35	118	eP	P	21 56 12.9	-1.2
GNI	Garni	56.91	315	i P	P	21 56 15.3	-2.5
GNI				pmax	pmax		
	comp=Z,24nm,1.5s						
GNI	Garni	56.91	315	P	P	21 56 18.2	+0.3
	comp=Z,6.7nm,0.8s,mb4.7,baz=164,slow=18,SNR=3.3						
STKA	Stephens Creek	57.68	133	eP	P	21 56 22.6	-0.8
	comp=Z,4.9nm,0.9s,mb4.5						
STKA	Stephens Creek	57.68	133	P	P	21 56 22.6	-0.7
	comp=Z,4.2nm,0.7s,mb4.6,baz=309,slow=8.1,SNR=6.9						
STKA				LR	LR	22 23 59.2	
	comp=Z,205nm,18.8s,MS4.3,baz=37,slow=39						
KMBO	Kilima Mbogo	57.84	266	i P	P	21 56 25.9	+1.1
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KMBO	Kilima Mbogo	57.84	266	P	P	21 56 25.9	+1.1
	comp=Z,1.4nm,0.7s,mb4.1,baz=58,slow=14,SNR=5.8						
KMBO	Kilima Mbogo	57.84	266	eP	P	21 56 24.2	-0.6
SVE	Sverdlovsk	58.27	339	eP	P	21 56 26.7	-0.4
SVE				pmax	pmax		
	comp=Z,80nm,2.5s,mb5.3						
ZEI	Tsey	58.58	318	eP	P	21 56 29.1	-0.4
ZEI				i *PP	pP	21 56 47.6	+4.4
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
YSS	Yuzh-Sakhalins	58.60	37⇑	eP	P	21 56 29.1	-0.5
YSS				e	pP	21 56 42.7	-0.7
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
YSS	Yuzh-Sakhalins	58.60	37	eP	P	21 56 29.2	-0.4
ARU	Arti	58.75	337	⇑iP	P	21 56 26.6	-3.9
ARU				e		21 58 34.0	
ARU				eS	S	22 04 29.2	-0.8
ARU				eSS	SS	22 08 28.0	+2.6
ARU				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
KIV	Kislovodsk	59.88	319	i P	P	21 56 37.3	-1.1
KIV				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
MALT	Malatya	60.82	311	eP	P	21 56 44.1	-0.9
	comp=Z,5.1nm,1.0s,mb4.6						
YAK	Yakutsk	62.45	18	eP	P	21 56 53.3	-2.3
YAK				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.1						
YAK				pmax	pmax		
	comp=N,5.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.5s						
BRTR	Keskin Array B	64.80	312	P	P	21 57 10.2	-1.1
	comp=E,7.5nm,0.7s,mb4.8,baz=131,slow=7.3,SNR=46						
SIM	Simferopol'	65.95	317	eP	P	21 57 18.4	-0.2
SIM				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
OBN	Obninsk	68.13	328⇑	eP	P	21 57 30.0	-2.1
OBN				e*PP	pP	21 57 44.0	-2.2
OBN				e		21 57 56.3	
OBN				eS	S	22 06 26.3	-0.5
OBN				eSS	SS	22 10 51.9	+0.4
OBN				pmax	pmax		
	comp=Z,43nm,1.7s,mb5.2						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.4						
MA2	Magadan	68.95	27	eP	P	21 57 36.8	-0.3
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
LSZ	Lusaka	69.00	252	eP	P	21 57 37.6	-0.6
	comp=Z,16nm,1.6s,mb4.7						
TIXI	Tiksi	69.86	11⇑	iP	P	21 57 40.9	-1.6
TIXI				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.2						
TIXI				MLR	MLR		
	comp=Z,376nm,19.0s,MS4.7						
ALN	Alexandroupoli	70.72	312	eP	P	21 57 47.4	-0.8
IDI	Anoyia	70.75	306	P	P	21 57 48.2	-0.3
	comp=Z,9.2nm,0.7s,mb4.8,baz=32,slow=13,SNR=6.2						
AKASG	Malin Array Be	70.79	322	P	P	21 57 47.0	-1.6
	comp=Z,6.3nm,0.5s,mb4.8,baz=90,slow=5.4,SNR=32						
PAIG	Paliouri	72.34	310	eP	P	21 57 57.0	-0.9
SRS	Serrai	72.59	311	eP	P	21 57 58.2	-1.2
SOH	Sokhos	72.72	311	eP	P	21 57 59.2	-1.0
KNT	Kendrikon	73.11	311	eP	P	21 58 01.3	-1.2
AGG	Agios Georgios	73.26	309	eP	P	21 58 01.6	-1.9
LIT	Litokhoron	73.27	310	eP	P	21 58 01.7	-1.8
GRG	Griva	73.45	311	eP	P	21 58 03.4	-1.2
JOF	Joensuu	73.68	335	ep	P	21 58 03.9	-1.5
	comp=Z,12nm,0.9s,mb4.8						
JOF	Joensuu	73.68	335	eP	P	21 58 03.9	-1.5
JOF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
KWP	Kalwaria	74.62	320	eP	P	21 58 11.4	+0.3
APA	Apatity	74.72	340⇑	iP	P	21 58 11.3	0.0
APA				i	pP	21 58 26.4	+0.8
APA				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
KOLS	Kolonicke sedl	74.78	319	eP	P	21 58 12.6	+0.6
KOLS				epP	pP	21 58 20.4	-5.9
KOLS				e	pP	21 58 27.9	+1.6
KOLS				ePP	PP	22 00 57.0	-4.7
SUW	Suwalki	75.19	325	eP	P	21 58 13.5	-0.8
CRVS	Cervenica-Dubn	75.30	319	i P	P	21 58 15.7	+0.7
FINES	FINESS Array B	75.52	332	i P	P	21 58 15.8	-0.2
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES	FINESS Array B	75.52	332	P	P	21 58 15.8	-0.3
	comp=Z,3.6nm,0.6s,mb4.5,baz=100,slow=6.5,SNR=34						
FINES				pP	pP	21 58 30.2	0.0
	comp=Z,6.6nm,0.6s,baz=109,slow=6.1,SNR=7.6						
KAF	Kangasniemi	75.61	333	ep	P	21 58 15.6	-0.9
	comp=Z,5.1nm,0.5s,mb4.7,baz=105,slow=5.4						
KAF	Kangasniemi	75.61	333	eP	P	21 58 15.6	-0.9
KAF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
KECS	Kecovo	75.88	319	i P	P	21 58 18.6	+0.3
KECS				epP	pP	21 58 27.7	-4.9
KECS				esP	sP	21 58 31.3	-6.7
MAW	Mawson	75.92	192	LR	LR	22 23 20.2	
	comp=Z,134nm,20.3s,MS4.2,baz=68,slow=29						
NIE	Niedzica	76.13	320	eP	P	21 58 20.5	+0.8
OJC	Ojcow	76.57	320	eP	P	21 58 22.6	+0.4
VYHS	Vyhne	76.97	319	i P	P	21 58 24.8	+0.3
VYHS				e		21 58 30.4	
VYHS				esP	sP	21 58 38.4	-5.8
OKC	Ostrava-Krasne	77.58	320	eP	P	21 58 27.9	+0.1
TIP	Timpagrande	77.59	309	eP	P	21 58 25.9	-2.3
KEV	Kevo	77.72	341	ep	P	21 58 27.1	-1.1
	comp=Z,23nm,0.8s,mb5.2						
KEV	Kevo	77.72	341	eP	P	21 58 27.1	-1.1
KEV				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.2						
SMOL	Smolenice	77.90	318	eP	P	21 58 30.0	+0.4
ZST	Bratislava	78.08	318	i P	P	21 58 31.5	+0.9
ZST				e	pP	21 58 46.0	+1.1
ZST	Bratislava	78.08	318	i P	P	21 58 31.5	+0.9
ZST				e		21 58 35.0	
ZST				e	pP	21 58 46.0	+1.1
ARCES	ARCESS Array B	78.14	340	P	P	21 58 30.6	+0.1
	comp=Z,7.5nm,0.7s,mb4.8,baz=91,slow=6.2,SNR=35						
ARCES				pP	pP	21 58 45.8	+0.9
	comp=Z,9.2nm,0.6s,baz=93,slow=5.0,SNR=6.2						
ARCES				LR	LR	22 37 15.6	
	comp=Z,165nm,18.9s,MS4.4,baz=288,slow=39						
BILL	Bilibino	78.45	21⇓	eP	P	21 58 32.1	-0.2
BILL				e		22 01 29.4	
BILL				eS	S	22 08 24.2	+1.1
BILL				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
BILL				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.9						
GKP	Gorka Klasztor	78.56	323	eP	P	21 58 33.6	+0.5
DPC	Dobruska-Polom	78.80	320	eP	P	21 58 35.5	+0.9
DPC				epP	pP	21 58 52.0	+3.1
KSP	Ksiaz	78.87	321	eP	P	21 58 35.4	+0.5
KSP	Ksiaz	78.87	321	eP	P	21 58 35.6	+0.7
GOLS	Golise	78.89	316	i P	P	21 58 35.6	+0.5
FX1	Attu Island--F	78.96	37	P	P	21 58 35.5	+0.2
	baz=53,slow=5.1						
UPC	Upice	79.02	320	eP	P	21 58 36.4	+0.7
ARSA	Arzberg	79.06	317⇑	iP	P	21 58 36.7	+0.7
	comp=Z,30nm,1.4s,mb5.0						
BOJS	Bojanci	79.12	315	eP	P	21 58 36.6	+0.2
PERS	Pernice	79.29	316	i P	P	21 58 38.0	+0.7
PDKS	Podkum	79.33	316	i P	P	21 58 38.2	+0.7
LJU	Ljubljana	79.66	316	eP	P	21 58 40.1	+0.8
OBKA	Obir	79.67	316⇑	iP	P	21 58 40.2	+0.8
	comp=Z,24nm,1.4s,mb4.9						
PRU	Pruhonice	79.91	320	eP	P	21 58 41.3	+0.7
PRU				epP	pP	21 58 55.8	+0.9
PVCC	Panska Ves	79.94	320	eP	P	21 58 41.5	+0.8
PVCC				epP	pP	21 58 55.5	+0.5
MOA	Molln	79.95	318⇑	iP	P	21 58 39.6	-1.2
	comp=Z,9.2nm,0.9s,mb4.7						
VOY	Vojsko	80.10	316	eP	P	21 58 41.7	0.0
VOY				e	pP	21 58 56.0	0.0
AQU	L'Aquila	80.29	312	eP	P	21 58 41.1	-1.7
	comp=Z,13nm,0.9s,mb4.8						
BRG	Berggiesshubel	80.36	321	i P	P	21 58 43.5	+0.6
BRG				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
GEC2	GERESS Array S	80.39	319	eP	P	21 58 43.8	+0.7
GEC2				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.2						
GEC2	GERESS Array S	80.39	319	eP	P	21 58 43.8	+0.7
	comp=Z,28nm,0.8s,mb5.2						
GERES	GERESS Array B	80.39	319	P	P	21 58 43.8	+0.7
	comp=Z,15nm,0.7s,mb5.1,baz=95,slow=5.3,SNR=156						
GERES				pP	pP	21 58 58.5	+1.0
	comp=Z,17nm,1.1s,baz=108,slow=4.9,SNR=7.9						
KHC	Kasperske Hory	80.48	319	eP	P	21 58 44.0	+0.4
KHC				epP	pP	21 58 58.7	+0.7
KBA	Koelnbreinsper	80.53	317⇑	iP	P	21 58 44.0	+0.1
	comp=Z,14nm,1.3s,mb4.7						
WET	Wettzell	80.94	319	eP	P	21 58 46.4	+0.3
CLL	Collm	80.98	321⇑	iP	P	21 58 46.2	0.0
CLL				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
CLL	Collm	80.98	321⇑	iP	P	21 58 46.2	0.0
	comp=Z,21nm,1.3s,mb4.9						
CLL	Collm	80.98	321	⇑P	P	21 58 46.2	0.0
	comp=Z,logA/T=1.2,mb4.9						
NKC	Novy Kostel	81.27	320	eP	P	21 58 48.3	+0.5
WTTA	Wattenberg	81.70	317⇑	iP	P	21 58 50.2	+0.1
	comp=Z,25nm,0.8s,mb5.2						
WATA	Walderalm	81.75	317⇑	iP	P	21 58 50.0	-0.3
	comp=Z,14nm,1.1s,mb4.8						
MOX	Moxa	81.82	320	eP	P	21 58 51.0	+0.4
MOX	Moxa	81.82	320	i P	P	21 58 51.0	+0.4
FUR	Furstenfeldbru	81.97	318	eP	P	21 58 51.9	+0.5
SQTA	Sankt Quirin	81.99	317⇑	iP	P	21 58 51.6	0.0
	comp=Z,16nm,1.1s,mb4.8						
GRA1	Grafenberg Arr	82.05	319	eP	P	21 58 52.6	+0.8
	comp=Z,30nm,1.2s,mb5.1						
GRA1				epP	pP	21 59 07.3	+1.1
GRF	Grafenberg Arr	82.05	319	eP	P	21 58 52.6	+0.8
GRF				e*PP	pP	21 59 07.3	+1.1
GRF				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.1						
GRF	Grafenberg Arr	82.05	319	eP	P	21 58 52.6	+0.8
	comp=Z,30nm,1.2s,mb5.1						
GRF				epP	pP	21 59 07.3	+1.1
MOTA	Moosalm	82.07	317⇑	iP	P	21 58 51.9	0.0
	comp=Z,17nm,1.1s,mb4.9						
NB2	NORSAR Subarra	82.52	331	P	P	21 58 53.5	-0.5
	comp=Z,1.4nm,0.6s,mb4.2,baz=95,slow=4.8						
NOA	NORSAR Array B	82.52	331	P	P	21 58 53.8	-0.2
	comp=Z,3.1nm,0.8s,mb4.4,baz=95,slow=5.3,SNR=6.1						
NOA				pP	pP	21 59 08.9	+0.5
	comp=Z,2.4nm,0.8s,baz=95,slow=4.9,SNR=2.8						
NOA				LR	LR	22 41 17.8	
	comp=Z,138nm,20.9s,MS4.3,baz=270,slow=40						
CLZ	Clausthal	82.64	321	eP	P	21 58 55.3	+0.5
	comp=Z,31nm,1.3s,mb5.2						
BSEG	Bad Segeberg	82.72	324	eP	P	21 58 56.0	+0.9
DAVA	Damuels	82.90	317⇑	iP	P	21 58 56.9	+0.7
	comp=Z,27nm,1.2s,mb5.2						
SYO	Syowa Base	82.92	197	⇓P	P	21 58 57.2	+1.3
BFO	Black Forest	83.94	318	eP	P	21 59 01.5	0.0
BFO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
BFO	Black Forest	83.94	318	eP	P	21 59 01.5	0.0
	comp=Z,9.0nm,0.8s,mb5.0						
LPG	La Plagne	85.09	315⇑	iP	P	21 59 08.1	+0.8
	comp=Z,28nm,0.9s,mb5.1						
VNDA	Vanda	90.04	168	P	P	21 59 31.7	+1.3
	comp=Z,1.3nm,0.9s,mb4.2,baz=305,slow=7.5,SNR=3.6						
VNDA	Vanda	90.04	168	P	P	21 59 31.7	+1.3
ESDC	Sonseca Array	93.56	310	P	P	21 59 48.6	+1.1
	comp=Z,0.6nm,0.5s,mb4.3,baz=62,slow=4.5,SNR=6.5						
IMA	Indian Mountai	93.96	22	eP	P	21 59 48.9	+0.2
	comp=Z,22nm,0.6s,mb5.8						
ILAR	Eielson Array	97.09	22	P	P	22 00 02.8	-0.2
	comp=Z,0.7nm,0.9s,mb4.1,baz=290,slow=5.2,SNR=7.6						
ILAR				LR	LR	22 45 48.7	
	comp=Z,74nm,18.6s,MS4.2,baz=173,slow=37						
DBIC	Dimbokro	99.00	278	LR	LR	22 40 59.2	
	comp=Z,106nm,20.6s,MS4.3,baz=58,slow=33						
INK	Inuvik	99.50	16	eP	P	22 00 12.2	-1.6
HLID	Hailey	124.88	26	ePKP	PKPdf	22 05 32.1	+1.8
NVAR	Mina Array Bea	126.95	32	PKP	PKPdf	22 05 37.4	+2.9
	comp=Z,2.1nm,0.8s,baz=318,slow=1.1,SNR=11						
PDAR	Pinedale Array	127.52	23	PKP	PKPdf	22 05 37.0	+1.5
	comp=Z,3.4nm,1.1s,baz=118,slow=0.3,SNR=12						
TXAR	Lajitas Array	141.48	26	PKhKP		22 06 00.2	
	comp=Z,0.7nm,0.5s,baz=315,slow=1.8,SNR=4.8						
TXAR	Lajitas Array	141.48	26	PKP	PKPdf	22 06 00.2	-1.5
JCT	Junction City	142.00	21	ePKP	PKPdf	22 05 58.8	-3.8

*ATH **11** 21:48:14.6, 37.03N×28.13E, h34km, MD3.2/3*
*ISK **11** 21:48:14.6, 36.88N×27.74E, h19km, MD3.3*
*CSEM **11** 21:48:15.9±0.2, 36.98N×27.89E, h20km, MD3.3, Error ellipse: s-maj=6.0km s-min=3.3km az=63.0*

ISC 11 21:48:16.5±0.6, 36.94N±0.04×27.83E±0.05, h24km±7km, n15, σ0§65/21, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.33	292	i P		Pb	21 48 23.5	-0.4
BDRM				i S		Sb	21 48 29.8	+1.0
MLSB	Milas	0.36	354	PG		Pb	21 48 23.6	-0.6
MLSB				SG		Sb	21 48 29.6	0.0
DALT	Dalyan (Mudla)	0.67	104	PG		Pb	21 48 29.3	-0.2
AYDN	Tasoluk	0.72	3	i P		Pb	21 48 30.1	-0.2
AYDN				i S		Sb	21 48 39.8	0.0
ARG	Arkhangelos	0.76	161	ePN		Pn	21 48 30.2	-1.5
ARG				eSN		Sn	21 48 42.7	+0.2
FETY	Fethiye	1.05	106	i PN		Pn	21 48 35.2	-0.7
FETY				SN		Sn	21 48 50.9	+0.9
SMG	Samos	1.10	315	ePN		Pn	21 48 37.4	+0.9
DNZL	Cakiroluk	1.23	52	i P		Pn	21 48 38.7	+0.3
DNZL				i S		Sb	21 48 54.6	+0.2
DENT	Denizli	1.26	49	PN		Pn	21 48 39.4	+0.6
KARP	Karpathos	1.49	201	ePN		Pn	21 48 42.9	+0.8
IZM	Izmir	1.52	343	PN		Pn	21 48 42.0	-0.6
BLCB	Balcova	1.57	337	ePN		Pn	21 48 42.2	-1.0
ELL	Elmali	1.68	96	PN		Pn	21 48 44.4	-0.5
AKS	Akhisar	1.94	360	PN		Pn	21 48 48.5	0.0
BCK	Bucak	2.27	76	ePN		Pn	21 48 53.9	+0.6

*ATH **11** 21:56:46.6, 37.24N×28.06E, h3km, MD3.2/4*
*NEIC **11** 21:56:46.5, 37.25N×28.08E, h3km, MD3.2(ATH), After ATH.*
*CSEM **11** 21:56:50.1±0.2, 37.01N×28.37E, h29km, MD3.3, Error ellipse: s-maj=6.0km s-min=2.9km az=149.0, After ISK*
*ISK **11** 21:56:50.1, 37.01N×28.37E, h29km, MD3.3*

ISC 11 21:56:50.8±0.6, 37.02N±0.03×28.39E±0.04, h10km±8km, n13, σ1§32/19, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DALT	Dalyan (Mudla)	0.32	142	PG		Pg	21 56 58.3	+0.8
MLSB	Milas	0.56	299	PG		Pg	21 57 02.2	0.0
FETY	Fethiye	0.68	124	PG		Pg	21 57 04.0	-0.5
FETY				SG		Sg	21 57 14.0	+0.5
AYDN	Tasoluk	0.76	328	i P		Pb	21 57 05.9	+0.2
AYDN				i S		Sg	21 57 16.1	-0.1
BDRM	Kayabasi	0.76	274	i P		Pb	21 57 05.3	-0.4
BDRM				i S		Sg	21 57 17.3	+1.1
ARG	Arkhangelos	0.83	195	ePG		Pg	21 57 05.9	-1.6
ARG				eSG		Sg	21 57 20.5	+1.9
ARG	Arkhangelos	0.83	195	ePg		Pg	21 57 05.9	-1.6
ARG				eSg		Sg	21 57 19.3	+0.7
DNZL	Cakiroluk	0.85	38	i P		Pb	21 57 08.1	+0.9
DNZL				i S		Sb	21 57 20.6	+2.1
DENT	Denizli	0.89	35	ePG		Pg	21 57 07.1	-1.7
ELL	Elmali	1.25	102	ePN		Pn	21 57 12.1	-2.3
KSL	Kastellorizon	1.30	132	ePB		Pb	21 57 17.4	+2.5
KARP	Karpathos	1.77	214	ePB		Pb	21 57 21.8	-1.3
BCK	Bucak	1.81	75	ePN		Pn	21 57 20.5	-2.0

DJA 11 22:08:40.0±1.0, 9.92S×113.57E, h15km, ML4.3/4, 4C-3D, Error ellipse: s-maj=22.2km s-min=15.9km az=57.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	1.53	22⇑	ePn		Pn	22 09 03.9	-3.1
	260nm,0.2s							
SRDI				⇓eSn		Sn	22 09 21.9	-4.8
KELI	Kelakatan	1.92	28⇓	ePn		Pn	22 09 10.3	-2.2
	126nm,0.3s							
KELI				⇑eSn		Sn	22 09 33.0	-3.4
RATI	Rata	2.27	59⇑	ePn		Pn	22 09 14.7	-2.8
	382nm,0.2s							
RATI				⇓eSn		Sn	22 09 39.4	-6.0
KEDI	Kedomdong	2.88	61⇑	ePn		Pn	22 09 23.7	-2.6
	108nm,0.2s							

ISC 11 22:11:36.8±1.7, 44.61N±0.08×15.1E±0.1, h10km, n10, σ0§92/13, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NVLJ	Novalja	0.20	257	i Pg		Pg	22 11 40.3	-0.8
NVLJ				i Sg		Sg	22 11 44.2	+0.2
BOJS	Bojanci	0.90	5	i Pn		Pn	22 11 54.0	-1.4
VBY	Vinica-Bojanci	0.90	5	eSg		Sg	22 12 06.5	-0.4
KNDS	Knezji Dol	1.06	330	i Pn		Pn	22 11 57.7	0.0
VISS	Visnje	1.21	350	i Pn		Pn	22 12 00.3	+0.5
LEGS	Legarje	1.35	5	i Pn		Pn	22 12 02.7	+1.0
PDKS	Podkum	1.46	356	i Pn		Pn	22 12 04.5	+1.2
JAVS	Javornik	1.49	330	i Pn		Pn	22 12 04.4	+0.6
VOY	Vojsko	1.67	329	ePn		Pn	22 12 06.0	-0.4
VOY				eSn		Sn	22 12 31.9	+3.8
OBKA	Obir	1.95	348⇑	iPG		Pg	22 12 12.3	-3.4
OBKA				i SG		Sg	22 12 41.6	-0.1
	6.2nm,0.3s							

*CSEM **11** 22:26:59.5±0.1, 36.98N×27.72E, h15km, MD3.2, Error ellipse: s-maj=5.3km s-min=2.4km az=89.0*
*ATH **11** 22:27:00.0, 36.90N×27.70E, h37km±9km, MD3.2/4*
*ISK **11** 22:27:00.9, 37.07N×27.72E, h16km, MD3.2*
*NEIC **11** 22:27:00.0, 36.90N×27.70E, h37km, MD3.2(ATH), After ATH.*

ISC 11 22:26:59.0±1.5, 36.92N±0.05×27.69E±0.08, h12km±11km, n10, σ0§84/12, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MLSB	Milas	0.38	11	PG		Pg	22 27 06.4	-0.5
NISR	Nisiros	0.54	236	ePN		Pn	22 27 12.0	-0.3
ARG	Arkhangelos	0.79	153	ePN		Pn	22 27 14.4	-1.3
ARG				eSN		Sn	22 27 26.9	-0.5
SMG	Samos	1.04	320	ePN		Pn	22 27 19.8	+0.5
FETY	Fethiye	1.16	104	PN		Pn	22 27 23.2	+2.2
DENT	Denizli	1.36	52	PN		Pn	22 27 24.6	+0.7
DENT				SN		Sn	22 27 41.5	-0.5
KARP	Karpathos	1.43	197	ePN		Pn	22 27 25.8	+0.8
IZM	Izmir	1.51	347	PN		Pn	22 27 26.2	+0.1
BLCB	Balcova	1.55	341	ePN		Pn	22 27 26.8	+0.2
AKS	Akhisar	1.96	3	ePN		Pn	22 27 31.7	-0.8

WEL 11 22:35:04.3±0.3, 37.84S×176.23E, h202km±3km, ML3.7/7, 2C-1D, Error ellipse: s-maj=4.3km s-min=4.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.81	121	⇓PN		P	22 35 33.1	-0.3
URZ				SN		S	22 35 55.2	-0.7
MWZ	Matawai	1.14	116	PN		P	22 35 35.5	-0.1
MWZ				SN		S	22 35

WRA sP sP 22 55 29.6 -2.0
0.5nm,0.7s,baz=306,slow=8.6,SNR=1.8
ASAR Alice Springs 52.54 130 P P 22 55 32.5 -2.3
0.4nm,0.5s,baz=307,slow=7.2,SNR=6.3
ASAR pP pP 22 55 40.6 -1.3
0.3nm,0.6s,baz=297,slow=8.1,SNR=2.1

TAP 11 22:50:25.7,24.30N×121.89E,h25km,ML3.6,Taiwan

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*BJI **11** 22:53:42.1,4.80N×95.19E,h19km,mb4.8,Ms4.6,Msz4.4*
*NEIC **11** 22:53:43.0±0.5,4.64N×95.13E,h30km,mb4.5/7,Error ellipse: s-maj=24.3km s-min=8.9km az=58.0*
*IDC **11** 22:53:44.9±0.9,4.55N×95.02E,h50km±7km,mb3.7/9,mb1 3.9/10,mb1mx3.7/19,mbtmp4.0/10,MS4.4/1,Ms1 4.4/1,ms1mx3.2/12,Error ellipse: s-maj=47.2km s-min=17.7km az=49.0*
ISC 11 22:53:43.6±0.7,4.6N±0.1×95.2E±0.2,h49km,h49km±.8km:pP-P,n25,σ0§92/24,mb4.3/23,MS4.5/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.24**	**15**	P	**P**	**22 57 09.3**	**+5.1**
	0.7nm,0.3s,baz=207,slow=11,SNR=47						
JIRN	**Jiri**	**24.46**	**340**	*e*P	**P**	**22 59 00.7**	**+1.4**
	7.2nm,0.3s,mb4.5						
PKI	**Pulchoki**	**24.65**	**339**	*e*P	**P**	**22 59 02.2**	**+1.0**
	3.9nm,0.4s,mb4.2						
GUN	**Gumba**	**24.80**	**340**	*e*P	**P**	**22 59 03.8**	**+1.2**
	12nm,0.7s,mb4.6						
KKN	**Kakani**	**24.90**	**339**	*e*P	**P**	**22 59 04.8**	**+1.3**
	9.8nm,0.7s,mb4.5						
LSA	**Lhasa**	**25.24**	**352**	*e*P	**P**	**22 59 07.5**	**+0.8**
	4.5nm,0.6s,mb4.2						
GKN	**Gorkha**	**25.33**	**338**	*e*P	**P**	**22 59 08.0**	**+0.4**
	14nm,0.6s,mb4.7						
KOLN	**Koldanda**	**25.53**	**336**	*e*P	**P**	**22 59 09.7**	**+0.2**
	16nm,0.6s,mb4.7						
XAN	**Xi'an**	**31.94**	**22**	P	**P**	**23 00 06.7**	**-0.3**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**42.09**	**337**	*e*P	**P**	**23 01 32.2**	**-0.2**
	comp=Z,3.2nm,0.6s,mb4.1						
SONM	**Songino Array**	**44.12**	**11**	P	**P**	**23 01 48.7**	**-0.2**
	comp=Z,0.9nm,0.6s,mb3.6,baz=192,slow=8.3,SNR=9.3						
ULN	**Ulaanbaatar**	**44.28**	**11**	P	**P**	**23 01 49.2**	**-1.0**
	comp=Z,0.5nm,0.5s,mb3.5						
WRA	**Warramunga Arr**	**45.57**	**124**	P	**P**	**23 02 00.8**	**-0.1**
	comp=Z,1.8nm,0.9s,mb4.0,baz=302,slow=9.2,SNR=15						
WRAB	**Tennant Creek**	**45.57**	**124**	*e*P	**P**	**23 02 01.1**	**+0.2**
	comp=Z,6.1nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**47.07**	**128**	P	**P**	**23 02 12.8**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=300,slow=7.7,SNR=6.1						
ZAL	**Zalesovo**	**49.89**	**352**	P	**P**	**23 02 33.8**	**-0.3**
	comp=Z,2.9nm,0.3s,mb4.7,baz=302,slow=7.0,SNR=12						
BVAR	**Borovoye Array**	**52.38**	**341**	P	**P**	**23 02 52.5**	**-0.5**
	comp=Z,3.8nm,0.7s,mb4.5,baz=135,slow=6.3,SNR=17						
BRVK	**Borovoye**	**52.45**	**341**	P	**P**	**23 02 51.5**	**-1.9**
	comp=Z,3.5nm,0.5s,mb4.5						
CHKZ	**Chkalovo**	**52.87**	**342**	*e*P	**P**	**23 02 56.3**	**-0.3**
	comp=Z,13nm,0.6s,mb5.0						
BRTR	**Keskin Array B**	**65.34**	**312**	P	**P**	**23 04 21.7**	**-1.4**
	comp=Z,0.5nm,0.6s,mb3.7,baz=133,slow=7.2,SNR=3.7						
BRTR				pP	pP	23 04 35.1	-2.0
	comp=Z,1.0nm,0.5s,baz=128,slow=7.2,SNR=5.3						
AKASG	**Malin Array Be**	**71.34**	**322**	P	**P**	**23 04 58.2**	**-1.9**
	comp=Z,1.2nm,0.5s,mb4.0,baz=88,slow=5.5,SNR=7.7						
AKASG				pP	pP	23 05 12.6	-1.7
	comp=Z,0.3nm,0.4s,baz=90,slow=5.6,SNR=2.4						
FINES	**FINESS Array B**	**76.06**	**332**	P	**P**	**23 05 26.6**	**-0.8**
	comp=Z,0.9nm,0.5s,mb4.0,baz=107,slow=5.6,SNR=10						
FINES				pP	pP	23 05 40.9	-0.7
	comp=Z,2.0nm,0.7s,baz=96,slow=5.0,SNR=2.2						
GERES	**GERESS Array B**	**80.93**	**319**	P	**P**	**23 05 55.1**	**+0.8**
	comp=Z,0.4nm,0.6s,mb3.5,baz=135,slow=3.8,SNR=3.7						
GERES				pP	pP	23 06 09.7	+1.1
	comp=Z,1.8nm,0.7s,baz=101,slow=6.8,SNR=8.9						
SBA	**Scott Base**	**90.65**	**168**	*e*P	**P**	**23 06 42.9**	**+1.2**
	comp=Z,12nm,0.7s,mb5.3						
BORG	**Borgarnes**	**96.81**	**337**	LR	LR	23 57 38.5	
	comp=Z,184nm,20.7s,MS4.5,baz=204,slow=40						

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*IDC **11** 22:55:45.0±0.5,11.85N×92.23E,mb4.3/22,mb1 4.4/23,mb1mx4.4/26,mbtmp4.3/23,ML4.0/1,MS4.3/4,Ms1 4.3/4,ms1mx3.6/10,Error ellipse: s-maj=20.9km s-min=11.8km az=48.0*
*MOS **11** 22:55:48.6±1.7,11.78N×91.98E,h33km,mb5.2/16,Error ellipse: s-maj=17.6km s-min=8.1km az=113.4*
*BJI **11** 22:55:49.1,11.95N×92.02E,h27km,mB5.0,mb4.7,Ms4.6,Msz4.3*
*NEIC **11** 22:55:49.1±0.2,11.87N×92.27E,mb4.9/20,Error ellipse: s-maj=7.2km s-min=5.4km az=50.0*
*HRVD **11** 22:55:49.1±0.4,11.95N×92.22E,h20km±1km,MW4.9/47,Centroid moment Tensor Solution. LP body waves: s16,c21;Mantle waves: s47,c74; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.25±.13; $M_{\theta\theta}$-1.05±.10; $M_{\phi\phi}$1.30±.11; $M_{r\theta}$0.67±.20; $M_{\theta\phi}$2.23±.10; $M_{r\phi}$0.70±.24; Best double couple: $M_0$2.674×10^{16} NP1:φ§s345°,δ74°,λ172°. NP2:φ§s77°,δ83°,λ16°. Principal axes: T 2.928, Plg17°, Azm302°; N -.508, Plg72°, Azm100°; P -2.419, Plg6°, Azm210°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 11 22:55:47.7±0.3,11.89N±0.04×92.17E±0.03,h28km,h28km±1.2km:pP-P,n133,σ1§21/138,mb4.7/54,MS4.4/8,6C-6D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.60**	**112**	*e*	**Pb**	**22 56 00.0**	**+0.3**
PBA				*e*P		22 56 01.8	
PBA				*e*S	**Sb**	**22 56 10.4**	**+2.6**
PBA				*e*		22 56 13.8	
	comp=N,63μm,0.5s						
PBA				*e*		22 56 13.9	
	comp=E,90μm,0.5s						
NNT	**Nongplab**	**7.42**	**84**	P	**Pn**	**22 57 37.5**	**+0.5**
NST	**Nakhon Sawan**	**8.60**	**63**	P	**P**	**22 58 00.0**	**+6.6**
CMAR	**Chiang Mai Arr**	**9.24**	**44**	Pn	**P**	**22 57 59.9**	**-2.4**
	comp=E,0.4nm,0.3s,baz=240,slow=16,SNR=7.2						
CMAR				Sn	**Sn**	**22 59 41.9**	**-4.4**
	comp=E,0.7nm,0.3s,baz=236,slow=29,SNR=3.2						
VIS	**Vishakhapatnam**	**10.33**	**305**	*i* P	**P**	**22 58 14.3**	**-3.1**
VIS				*i* S	**S**	**23 00 01.6**	**-12**
BWNR	**Bhubaneshwar**	**10.36**	**325**	*e*P	**P**	**22 58 11.6**	**-6.1**
	comp=Z,205nm,0.7s						
BWNR				*e*		22 59 40.0	
BWNR				*e*S	**S**	**22 59 57.0**	**-17**
CHRT	**Chiangrai**	**10.80**	**42**	⇑P	**P**	**22 58 23.0**	**-0.7**
	comp=Z,176nm,1.0s						
PALK	**Pallekele**	**12.20**	**249**	*e*P	**P**	**22 58 41.4**	**-1.3**
IMP	**Imphal**	**12.94**	**7**	*e*P	**P**	**22 58 50.0**	**-2.5**
SHL	**Shillong**	**13.61**	**359**	*e*P	**P**	**22 58 55.0**	**-6.5**
SHL				*e*S	**S**	**23 01 20.5**	**-12**
BLSP	**Bilaspur**	**13.99**	**318**	*e*P	**P**	**22 59 04.6**	**-1.9**
BLSP				*e*		23 01 28.9	
HYB	**Hyderabad**	**14.28**	**294**	*e*P	**P**	**22 59 06.0**	**-4.2**
HYB				pmax	pmax		
	comp=Z,600nm,1.0s						
HYB	**Hyderabad**	**14.28**	**294**	*i* P	**P**	**22 59 08.5**	**-1.7**
	comp=Z,60nm,1.0s						
HYB				*e*S	**S**	**23 01 34.0**	**-14**
TRD	**Trivandrum**	**15.34**	**259**	*e*P	**P**	**22 59 25.0**	**+0.7**
TRD				*e*		22 59 33.3	
	comp=Z,34nm,1.3s						
LATR	**Latur**	**16.40**	**295**	*e*P	**P**	**22 59 36.0**	**-1.8**
LATR				*e*		23 02 23.8	
ALBI	**Allahabad**	**16.56**	**325**	*e*P	**P**	**22 59 38.5**	**-1.2**
JIRN	**Jiri**	**16.66**	**341**	*e*P	**P**	**22 59 40.0**	**-1.0**
	comp=Z,101nm,0.6s						
PKI	**Pulchoki**	**16.84**	**339**	*e*P	**P**	**22 59 42.0**	**-1.3**
	comp=Z,223nm,0.9s						
MNGI	**Mangalore**	**16.98**	**275**	*i* P	**P**	**22 59 45.6**	**+0.5**
	comp=Z,115nm,1.4s						
MNGI				*i*		23 00 40.0	
DMN	**Daman**	**16.99**	**338**	*e*P	**P**	**22 59 43.0**	**-2.1**
	comp=Z,218nm,0.8s						
GUN	**Gumba**	**17.00**	**341**	*e*P	**P**	**22 59 44.8**	**-0.4**
	comp=Z,106nm,0.7s						
KKN	**Kakani**	**17.09**	**339**	*e*P	**P**	**22 59 44.9**	**-1.5**
	comp=Z,48nm,0.7s						
GKN	**Gorkha**	**17.52**	**337**	*e*P	**P**	**22 59 50.9**	**-0.8**
	comp=Z,153nm,0.6s						
KOLN	**Koldanda**	**17.73**	**334**	*e*P	**P**	**22 59 54.6**	**+0.3**
	comp=Z,216nm,0.8s						
LSA	**Lhasa**	**17.75**	**357**	P	**P**	**22 59 55.0**	**+0.4**
LSA				AP		23 00 06.2	
LSA				S	**S**	**23 03 10.2**	**+1.2**
LSA				SCP		23 08 00.6	
LSA				LR	LR		
	comp=N,290nm,15.8s						
LSA				LR	LR		
	comp=E,750nm,16.5s						
LSA	**Lhasa**	**17.75**	**357**	*e*P	**P**	**22 59 56.0**	**+1.4**
	comp=E,33nm,0.6s						
BHPL	**Bhopal**	**18.02**	**311**	⇓*i*	**P**	**22 59 59.2**	**+1.2**
BHPL				*e*P		22 59 59.4	
BHPL				*e*		23 00 03.3	
	comp=Z,79nm,1.5s						
BHPL				*i*		23 03 07.0	
	comp=Z,76nm,1.2s						
KAD	**Karad**	**18.22**	**289**	*e*P	**P**	**22 59 59.9**	**-0.6**
KAD				*e*		23 00 05.1	
	comp=Z,61nm,0.9s						
QIZ	**Qiongzhong**	**18.44**	**65**	*e*P	**P**	**23 00 02.5**	**-0.8**
QIZ				PPP	PPP	23 00 24.7	-3.0
QIZ				AMB	AMB		
	comp=Z,183nm,3.5s						
QIZ				LR	LR		
	comp=N,642nm,16.6s						
QIZ				LR	LR		
	comp=E,649nm,18.5s						
QIZ				LR	LR		
	comp=Z,756nm,16.6s						
POO	**Poona**	**18.87**	**293**	*e*P	**P**	**23 00 08.6**	**+0.3**
POO				*e*		23 00 12.4	
	comp=Z,51nm,0.8s						
POO				*e*		23 03 21.4	
NDI	**New Delhi**	**21.78**	**322**	*e*P	**P**	**23 00 38.0**	**-1.3**
NDI				*e*		23 04 28.0	
KUDL	**Kundal**	**21.84**	**320**	*e*P	**P**	**23 00 40.3**	**+0.4**
AJM	**Ajmer**	**21.98**	**314**	*e*P	**P**	**23 00 43.0**	**+1.8**
AJM				*e*		23 00 44.5	
	comp=Z,101nm,1.1s						
KHET	**Khetri**	**22.23**	**319**	*e*P	**P**	**23 00 45.3**	**+1.6**
SMLA	**Simla**	**23.65**	**326**	*e*P	**P**	**23 01 13.6**	**+16**
SMLA				*e*S	S	23 05 28.0	+21
BHK	**Bhakra**	**24.28**	**326**	*e*P	**P**	**23 01 06.5**	**+2.7**
ENH	**Enshi**	**24.34**	**39**	*e*P	**P**	**23 01 04.2**	**-0.3**
	comp=Z,144nm,1.2s,mb5.3						
LZH	**Lanzhou**	**26.30**	**22**	*e*P	**P**	**23 01 29.0**	**+6.1**
LZH				AP	pP	23 01 36.6	+5.5
LZH				XP	sP	23 01 39.7	+4.9
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,210nm,4.3s						
LZH				LR	LR		
	comp=E,870nm,14.5s						
LZH				LR	LR		
	comp=Z,1μm,16.0s,MS4.6						
XAN	**Xi'an**	**26.83**	**32**	P	**P**	**23 01 28.6**	**+0.9**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.3						
NJ2	**Nanjing**	**31.70**	**47**	*e*P	**P**	**23 02 10.9**	**-0.5**
NJ2				AP	pP	23 02 20.5	+0.8
NJ2				XP	sP	23 02 24.8	+1.5
NJ2				PP	PP	23 03 16.3	-0.3
NJ2				S	**S**	**23 07 17.0**	**-1.0**
NJ2				XS		23 07 32.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,620nm,4.8s						
NJ2				LR	LR		
	comp=N,2μm,16.9s						
NJ2				LR	LR		
	comp=E,1μm,23.4s						
NJ2				LR	LR		
	comp=Z,660nm,20.2s,MS4.3						
WMQ	**Urumqi**	**32.05**	**354**	*e*P	**P**	**23 02 16.3**	**+2.0**
WMQ				AP	pP	23 02 23.5	+0.9
WMQ				XP	sP	23 02 26.9	+0.7
WMQ				PP	PP	23 03 23.2	+2.2
WMQ				S	**S**	**23 07 26.0**	**+2.7**
WMQ				XS		23 07 38.1	
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,44nm,4.8s						
WMQ				LR	LR		
	comp=N,1μm,18.4s,MS4.7						
WMQ				LR	LR		
	comp=E,995nm,19.8s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,19.3s,MS4.7						
TKM2	**Tokmak 2**	**34.10**	**338**	P	**P**	**23 02 33.3**	**+1.1**
SNR=5.7							
AML	**Almayashu**	**34.17**	**335**	P	**P**	**23 02 34.6**	**+1.9**
SNR=8.2							
AAK	**Ala-Archa**	**34.27**	**337**	P	**P**	**23 02 35.0**	**+1.4**
SNR=5.3							
AAK	**Ala-Archa**	**34.27**	**337**	*c i*P	**P**	**23 02 33.9**	**+0.3**
AAK				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.7						
AAK	**Ala-Archa**	**34.27**	**337**	*e*P	**P**	**23 02 33.8**	**+0.2**
	comp=Z,12nm,0.9s,mb4.8						
AAK				*e*	pP	23 02 41.3	-0.7
FRU	**Bishkek**	**34.40**	**337**	*e*P	**P**	**23 02 34.0**	**-0.7**
FRU				*e*	pP	23 02 43.0	0.0
EKS2	**Erkin-Say**	**34.58**	**336**	P	**P**	**23 02 38.1**	**+1.8**
SNR=7.4							
USP	**Ospenovka**	**34.81**	**337**	P	**P**	**23 02 39.3**	**+1.1**
SNR=8.5							
SONM	**Songino Array**	**37.77**	**16**	P	**P**	**23 03 03.3**	**+0.2**
	comp=Z,2.5nm,0.8s,mb4.0,baz=203,slow=7.3,SNR=11						
ULN	**Ulaanbaatar**	**37.97**	**16**	⇓*e*P	**P**	**23 03 05.3**	**+0.5**
ULN	**Ulaanbaatar**	**37.97**	**16**	*e*P	**P**	**23 03 04.7**	**-0.2**
	comp=Z,14nm,1.1s,mb4.6						
ULN				*e*pP	pP	23 03 12.2	-1.0
ZAK	**Zakamensk**	**39.45**	**11**	*e*P	**P**	**23 03 17.4**	**+0.2**
ZAK				*e*		23 05 17.0	
MOY	**Mondy**	**40.31**	**8**	*e*P	**P**	**23 03 28.3**	**+4.1**
TLY	**Talaya**	**40.76**	**11**	⇑*e*P	**P**	**23 03 29.5**	**+1.6**
IRK	**Irkutsk**	**41.42**	**11**	*e*P	pP	23 03 41.6	-0.1
IRK				*e*		23 09 46.1	
ZAL	**Zalesovo**	**42.35**	**354**	P	**P**	**23 03 40.8**	**-0.2**
	comp=Z,2.2nm,0.6s,mb4.0,baz=307,slow=9.9,SNR=8.6						
ZAL				LR	LR	23 23 23.3	
	comp=Z,374nm,19.1s,MS4.3,baz=292,slow=39						
MBWA	**Marble Bar**	**42.56**	**140**	*e*P	**P**	**23 03 42.9**	**-0.2**
	comp=Z,8.1nm,0.7s,mb4.6						
NVS	**Novosibirsk**	**43.43**	**352**	*e*P	**P**	**23 03 54.9**	**+5.2**
NVS				pmax	pmax		
	comp=Z,26nm,1.6s,mb4.7						
NVS				pmax	pmax		
	comp=N,6.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.3s						
FITZ	**Fitzroy Crossi**	**44.48**	**132**	*e*P	**P**	**23 03 57.7**	**-1.0**
	comp=E,10nm,0.6s,mb4.7						
BVAR	**Borovoye Array**	**44.59**	**341**	P	**P**	**23 03 58.6**	**-0.5**
	comp=E,4.9nm,0.9s,mb4.3,baz=146,slow=11,SNR=7.6						
BRVK	**Borovoye**	**44.65**	**341**	*e*P	**P**	**23 03 59.5**	**-0.1**
BRVK				*e*	pP	23 04 07.3	-0.8
BRVK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.8						
BRVK	**Borovoye**	**44.65**	**341**	*e*P	**P**	**23 03 59.5**	**-0.2**
	comp=Z,14nm,0.8s,mb4.8						
BRVK				*e*	pP	23 04 07.3	-0.8
CHKZ	**Chkalovo**	**45.08**	**342**	*e*P	**P**	**23 04 03.2**	**+0.2**
CHKZ				*e*	pP	23 04 11.6	+0.1
CHKZ				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.2						
CHKZ	**Chkalovo**	**45.08**	**342**	*e*P	**P**	**23 04 03.2**	**+0.2**
	comp=Z,36nm,0.8s,mb5.3						
CHKZ				*e*pP	pP	23 04 11.6	+0.1
BOD	**Bodaibo**	**48.77**	**15**	*e*P	**P**	**23 04 31.4**	**-0.5**
GNI	**Garni**	**50.28**	**313**	⇓*e*P	**P**	**23 04 46.1**	**+2.3**
GNI				pmax	pmax		
	comp=Z,27nm,1.6s						
GNI	**Garni**	**50.28**	**313**	P	**P**	**23 04 45.1**	**+1.3**
	comp=Z,9.8nm,0.7s,mb4.9,baz=343,slow=3.1,SNR=10						
GNI	**Garni**	**50.28**	**313**	*e*P	**P**	**23 04 45.5**	**+1.6**
	comp=Z,30nm,0.9s,mb5.3						
NWAO	**Narrogin (SRO)**	**50.58**	**153**	P	**P**	**23 04 45.4**	**-0.8**
	comp=Z,6.9nm,0.5s,mb4.8,baz=314,slow=7.8,SNR=8.2						
SVE	**Sverdlovsk**	**50.98**	**338**	*e*P	**P**	**23 04 50.0**	**+1.1**
ARU	**Arti**	**51.46**	**337**	⇑*i*P	**P**	**23 04 49.8**	**-2.7**
ARU				*e*		23 06 00.7	
ARU				*e*		23 06 44.8	
ARU				*e*S	**S**	**23 12 06.7**	**-2.5**
ARU				*e*SS	SS	23 15 46.5	+3.3
ARU				*e*SSS	SSS	23 17 20.8	-0.8
ARU				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
ZEI	**Tsey**	**51.82**	**316**	*e*P	**P**	**23 04 57.3**	**+1.9**
ZEI				*i* *PP	pP	23 05 06.8	+2.7
ZEI				*i*		23 06 56.7	
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**52.18**	**127**	P	**P**	**23 04 56.8**	**-1.7**
	comp=Z,5.9nm,0.7s,mb4.7,baz=306,slow=8.3,SNR=38						
WRAB	**Tennant Creek**	**52.19**	**127**	⇑*e*P	**P**	**23 04 58.5**	**0.0**
WRAB	**Tennant Creek**	**52.19**	**127**	*e*P	**P**	**23 04 57.4**	**-1.1**
	comp=Z,26nm,0.7s,mb5.3						
WB2	**Warramunga Arr**	**52.19**	**127**	*e*P	**P**	**23 04 57.3**	**-1.3**
KIV	**Kislovodsk**	**53.07**	**317**	*e*P	**P**	**23 05 05.6**	**+0.8**
KIV				pmax	pmax		
	comp=N,16nm,1.1s						
KIV				pmax	pmax		
	comp=E,15nm,1.1s						
KIV				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.2						
KIV	**Kislovodsk**	**53.07**	**317**	*e*P	**P**	**23 05 05.2**	**+0.3**
	comp=Z,39nm,0.9s,mb5.3						
KIV				*e*	pP	23 05 13.3	-0.2
ASAR	**Alice Springs**	**53.98**	**131**	P	**P**	**23 05 10.6**	**-1.1**
	comp=Z,2.8nm,0.6s,mb4.4,baz=306,slow=6.0,SNR=22						
MALT	**Malatya**	**54.43**	**309**	*e*P	**P**	**23 05 14.2**	**-0.6**
	comp=Z,7.3nm,1.0s,mb4.6						
ASF	**Jabal al Asfar**	**54.46**	**301**	P	**P**	**23 05 14.1**	**-1.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=294,slow=12,SNR=2.3						
SOC	**Sochi**	**54.97**	**315**	*e*P	**P**	**23 05 16.9**	**-1.9**
SOC				*e*		23 06 16.7	
SOC				*e*		23 07 17.0	
SOC				*e*PPP	PPP	23 08 30.4	-5.6
SOC				*e*S	**S**	**23 12 57.0**	**0.0**
SOC				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.4						
SOC				pmax	pmax		
	comp=N,25nm,0.7s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.6s						
EIL	**Elat**	**55.81**	**298**	P	**P**	**23 05 25.2**	**+0.2**
	comp=E,3.4nm,0.8s,mb4.4,baz=124,slow=11,SNR=3.1						
EIL	**Elat**	**55.81**	**298**	*e*P	**P**	**23 05 27.3**	**+2.3**
KMBO	**Kilima Mbogo**	**56.05**	**261**	P	**P**	**23 05 27.0**	**+0.1**
	comp=E,1.1nm,0.9s,mb3.9,baz=38,slow=19,SNR=2.8						
KMBO	**Kilima Mbogo**	**56.05**	**261**	P	**P**	**23 05 27.0**	**+0.1**
KMBO				P		23 05 30.0	
YAK	**Yakutsk**	**56.87**	**20**	⇓*e*P	**P**	**23 05 34.3**	**+2.1**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
ANN	**Anapa**	**56.91**	**316**	*e*P	**P**	**23 05 36.6**	**+3.9**
ANN				*e**PP	pP	23 05 48.4	+7.0
ANN				*e*PPP	PPP	23 09 07.9	+7.8
ANN				*e*S	**S**	**23 13 36.5**	**+14**
ANN				pmax	pmax		
	comp=Z,67nm,1.1s,mb5.6						
BRTR	**Keskin Array B**	**58.38**	**309**	P	**P**	**23 05 41.9**	**-1.1**
	comp=Z,2.8nm,0.6s,mb4.5,baz=129,slow=7.6,SNR=12						
BRTR	**Keskin Array B**	**58.38**	**309**	P	**P**	**23 05 41.9**	**-1.1**
MOS	**Moscow**	**60.67**	**328**	*e*P	**P**	**23 05 50.8**	**-7.8**
MOS				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.4						
OBN	**Obninsk**	**60.98**	**327**	⇓*e*P	**P**	**23 06 00.8**	**+0.1**
OBN				*e*S	**S**	**23 14 16.9**	**+1.5**
OBN				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
CTA	**Charters Tower**	**61.98**	**120**	P	**P**	**23 06 06.5**	**-1.5**
	comp=Z,3.5nm,0.7s,mb4.6,baz=305,slow=16,SNR=2.1						
TIXI	**Tiksi**	**63.72**	**12**	*e*P	**P**	**23 06 18.1**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,117nm,18.0s,MS4.1						
AKASG	**Malin Array Be**	**63.83**	**321**	P	**P**	**23 06 18.6**	**-1.2**
	comp=Z,3.0nm,0.9s,mb4.3,baz=85,slow=6.0,SNR=8.4						
STKA	**Stephens Creek**	**64.27**	**134**	P	**P**	**23 06 22.1**	**-0.9**
	comp=Z,5.7nm,0.8s,mb4.7,baz=310,slow=12,SNR=6.3						
SANT	**Santorini**	**64.33**	**305**	*e*P	**P**	**23 06 24.6**	**+1.2**
	comp=Z,45nm,1.1s,mb5.4						
IDI	**Anoyia**	**64.73**	**303**	P	**P**	**23 06 26.4**	**+0.4**
	comp=Z,9.9nm,1.1s,mb4.7,baz=102,slow=14,SNR=2.3						
JOF	**Joensuu**	**66.42**	**334**	*e*p	**P**	**23 06 35.1**	**-1.1**
	comp=Z,7.0nm,0.8s,mb4.7						
JOF	**Joensuu**	**66.42**	**334**	*e*P	**P**	**23 06 35.1**	**-1.1**
JOF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
SUW	**Suwalki**	**68.14**	**324**	*e*P	**P**	**23 06 47.0**	**-0.2**
	comp=Z,48nm,1.0s,mb5.5						
SUW				*e*P	pP	23 06 55.0	-1.1
SUW	**Suwalki**	**68.14**	**324**	*e*P	pP	23 06 55.0	-1.1
FINES	**FINESS Array B**	**68.28**	**332**	P	**P**	**23 06 48.0**	**-0.1**
	comp=Z,2.7nm,0.6s,mb4.4,baz=72,slow=6.0,SNR=6.7						
KAF	**Kangasniemi**	**68.36**	**333**	*e*p	**P**	**23 06 48.7**	**+0.2**
	comp=Z,16nm,1.3s,mb4.9,baz=106,slow=5.1						
KAF	**Kangasniemi**	**68.36**	**333**	*e*P	**P**	**23 06 48.7**	**+0.2**
KAF				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.9						
LSZ	**Lusaka**	**68.85**	**248**	*e*P	**P**	**23 06 53.9**	**+1.6**
	comp=Z,5.2nm,0.7s,mb4.6						
OJC	**Ojcow**	**69.68**	**319**	*e*P	**P**	**23 06 51.6**	**-5.2**
ARCES	**ARCESS

Ms1 2.8/1, ms1mx2.4/18, Error ellipse: s-maj=49.2km s-min=18.4km az=88.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.46**	**153**	P	P	23 02 09.2	+0.1
	44nm,0.3s,baz=346,slow=9.9,SNR=632						
LVC				S	S	23 02 48.2	-0.9
	22nm,0.3s,baz=143,slow=18,SNR=20						
LVC				LR	LR	23 03 24.2	
	comp=Z,119nm,18.5s,baz=163,slow=37						
LPAZ	**La Paz**	**4.00**	**37**	P	P	23 02 15.7	-0.9
	9.1nm,0.3s,baz=237,slow=9.2,SNR=163						
BDFB	**Brasilia**	**21.89**	**83**	P	P	23 06 03.8	-0.9
	2.0nm,0.4s,baz=231,slow=5.6,SNR=3.9						
YKA	**Yellowknife Ar**	**88.81**	**341**	P	P	23 14 01.0	-1.9
	1.0nm,0.5s,baz=135,slow=4.8,SNR=26						
ASAR	**Alice Springs**	**130.85**	**210**	PKP	PKPdf	23 20 19.9	-0.2
	0.4nm,0.5s,baz=162,slow=2.9,SNR=4.4						
WRA	**Warramunga Arr**	**133.77**	**213**	PKP	PKPdf	23 20 25.9	+0.2
	0.4nm,0.4s,baz=143,slow=1.7,SNR=9.7						
SONM	**Songino Array**	**151.66**	**4**	PKPbc	PKPdf	23 21 02.4	+6.7
	0.9nm,0.4s,slow=2.9,SNR=15						
SONM				pPKPbc		23 21 25.4	
	0.5nm,0.5s,baz=345,slow=2.0,SNR=3.5						

*IDC **11** 23:03:46.0±1.4, 13.89N×91.55E, mb3.8/6, mb1 3.9/7, mb1mx3.7/19, mbtmp3.7/7, ML3.8/1, Error ellipse: s-maj=38.1km s-min=25.2km az=41.0*
*NEIC **11** 23:03:50.8±1.2, 13.95N×91.73E, h30km, mb4.0/3, Error ellipse: s-maj=25.2km s-min=17.8km az=187.0*

ISC 11 23:03:44.3±0.8, 13.3N±0.1×91.9E±0.1, h30km, n13, σ0§72/12, mb3.8/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.84**	**152**	*e*P	**Pn**	**23 04 14.5**	**0.0**
CMAR	**Chiang Mai Arr**	**8.52**	**52**	Pn	**P**	**23 05 47.7**	**-1.1**
	0.3nm,0.3s,baz=241,slow=15,SNR=4.5						
HYB	**Hyderabad**	**13.48**	**289**	*i* P	**P**	**23 06 56.0**	**-0.1**
LSA	**Lhasa**	**16.34**	**358**	*e*P	**P**	**23 07 38.7**	**+5.4**
	6.2nm,0.9s						
ENH	**Enshi**	**23.46**	**41**	P	**P**	**23 08 53.3**	**+1.0**
	3.5nm,0.6s,mb4.0						
SONM	**Songino Array**	**36.50**	**17**	P	**P**	**23 10 49.8**	**+0.9**
	0.9nm,0.9s,mb3.6,baz=205,slow=7.4,SNR=5.1						
ZAL	**Zalesovo**	**40.93**	**354**	P	**P**	**23 11 25.2**	**-0.5**
	0.8nm,0.5s,mb3.6,baz=332,slow=6.7,SNR=3.1						
ZAL	**Zalesovo**	**40.93**	**354**	P	**P**	**23 11 25.2**	**-0.5**
BVAR	**Borovoye Array**	**43.17**	**341**	P	**P**	**23 11 43.0**	**-0.9**
	0.4nm,0.5s,mb3.4,baz=126,slow=12,SNR=3.4						
CHKZ	**Chkalovo**	**43.66**	**342**	*e*P	**P**	**23 11 48.9**	**+1.0**
	1.9nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**53.27**	**128**	P	pP	23 13 11.5	-0.6
	0.9nm,0.8s,baz=304,slow=8.2,SNR=2.4						
BRTR	**Keskin Array B**	**57.26**	**309**	P	**P**	**23 13 31.4**	**-0.2**
	1.6nm,0.9s,mb4.0,baz=119,slow=7.6,SNR=7.4						
GERES	**GERESS Array B**	**72.33**	**317**	P	**P**	**23 15 09.1**	**-0.1**
	0.6nm,0.7s,mb3.6,baz=104,slow=5.5,SNR=5.5						

*NEIC **11** 23:05:27.2, 16.02N×97.63W, h17km, MD3.7(MEX), After MEX.*

MEX 11 23:05:27.2±0.5, 16.02N×97.63W, h17km±10km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.61**	**308**	*e*P	Pb	23 05 37.3	-1.7
PNIG				*i* S	Sb	23 05 44.9	-2.2
VHO	**Vista Hermosa**	**1.35**	**39**	*e*P	Pn	23 05 48.2	-3.3
VHO				*i* S	Sb	23 06 04.0	-4.7
OXX	**Oaxaca**	**1.37**	**39**	*i* P	Pn	23 05 48.7	-3.0
OXX				*i* S	Sb	23 06 05.1	-3.9
HUIG	**Huatulco**	**1.48**	**99**	*e*P	Pn	23 05 49.9	-3.4
HUIG				*i* S	Sb	23 06 07.7	-4.6
CMIG	**Matias Romero**	**2.84**	**67**	*e*P	Pn	23 06 09.0	-3.7
CMIG				*i* S	Sn	23 06 41.6	-5.2

*PRU **11** 23:19:06.4, 50.12N×19.06E*

WAR 11 23:19:06.2, 50.10N×19.18E, h0km, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.41**	**74**	*e*PG	Pg	23 19 14.0	-0.5
OJC				*e*SG	Sg	23 19 20.0	0.0
RAC	**Raciborz**	**0.64**	**269**	*e*PG	Pg	23 19 18.0	-0.9
RAC				*e*SG	Sg	23 19 28.0	+0.7
OKC	**Ostrava-Krasne**	**0.72**	**249**	*e*PG	Pg	23 19 19.2	-1.3
OKC				*e*SG	Sg	23 19 29.1	-1.0
NIE	**Niedzica**	**1.00**	**133**	*e*PG	Pg	23 19 25.0	-1.3
NIE				*e*SG	Sg	23 19 40.0	+0.3
LIKS	**Likavka**	**1.06**	**183**	*e*PG	Pg	23 19 27.2	-0.1
LIKS				*e*SG	Sg	23 19 42.1	+0.7
VYHS	**Vyhne**	**1.63**	**188**	*e*PN	Pn	23 19 34.8	-1.4
VYHS				*i* SN	Sn	23 19 56.3	-1.8
VYHS				*e*SG	Sg	23 19 57.5	-2.9
KECS	**Kecovo**	**1.83**	**152**	*e*SN	Sn	23 20 01.6	-1.8
DPC	**Dobruska-Polom**	**1.85**	**279**	*e*PG	Pg	23 19 38.8	-4.4
DPC				*e*SG	Sg	23 20 03.6	-4.3
	14nm,0.2s						
CRVS	**Cervenica-Dubn**	**1.91**	**128**	*e*PN	Pn	23 19 42.2	+1.9
CRVS				*e*PG	Pg	23 19 44.6	+0.2
CRVS				*e*SG	Sg	23 20 09.4	-0.5
SMOL	**Smolenice**	**1.96**	**216**	*e*SN	Sn	23 20 04.6	-2.0
SMOL				*e*SG	Sg	23 20 08.6	-2.9
KSP	**Ksiaz**	**1.99**	**293**	*e*PG	Pg	23 19 44.0	-1.9
KSP				*e*SN	Sn	23 20 08.0	+0.7
UPC	**Upice**	**2.07**	**282**	*e*PG	Pg	23 19 43.3	-4.2
PRU	**Pruhonice**	**2.99**	**270**	*e*PG	Pg	23 19 59.1	-6.8
PRU				*e*SG	Sg	23 20 40.2	-5.6
BRG	**Berggiesshubel**	**3.43**	**285**	*e*Sg	Sg	23 20 53.1	-7.4
KHC	**Kasperske Hory**	**3.77**	**257**	*e*PN	Pn	23 20 04.0	-2.8
KHC				*e*PG	Pg	23 20 14.6	-6.9
KHC				*e*x	x	23 20 45.0	
KHC				*e*SG	Sg	23 21 04.3	-7.4
MOA	**Molln**	**3.94**	**237**	*i*	Pn	23 20 09.8	+0.5
MOA	**Molln**	**3.94**	**237**	*i* SG	Sg	23 21 10.4	-7.1
	3.3nm,0.6s						
NKC	**Novy Kostel**	**4.33**	**274**	*e*SG	Sg	23 21 22.4	-7.9

*IDC **11** 23:20:59.1±0.9, 5.24N×94.69E, mb4.1/11, mb1 4.2/12, mb1mx4.0/20, mbtmp4.0/12, ML4.2/1, Error ellipse: s-maj=44.2km s-min=18.3km az=48.0*
*NEIC **11** 23:21:03.3±0.6, 4.99N×94.47E, h30km, mb4.4/5, Error ellipse: s-maj=22.5km s-min=11.9km az=58.0*

ISC 11 23:21:01.4±0.7, 5.0N±0.1×94.5E±0.1, h30km, n28, σ0§84/25, mb4.2/22, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.07**	**18**	Pn	**P**	**23 24 22.7**	**+1.6**
	0.4nm,0.3s,baz=315,slow=54,SNR=3.0						
JIRN	**Jiri**	**23.89**	**342**	*e*P	**P**	**23 26 14.6**	**+1.0**
	3.1nm,0.3s,mb4.2						
PKI	**Pulchoki**	**24.07**	**340**	*e*P	**P**	**23 26 15.2**	**-0.2**
	7.9nm,0.9s,mb4.1						
DMN	**Daman**	**24.21**	**339**	*e*P	**P**	**23 26 16.3**	**-0.4**
GUN	**Gumba**	**24.22**	**341**	*e*P	**P**	**23 26 17.9**	**+1.0**
	4.5nm,0.4s,mb4.2						
KKN	**Kakani**	**24.31**	**340**	*e*P	**P**	**23 26 17.2**	**-0.6**
	5.0nm,0.4s,mb4.3						
GKN	**Gorkha**	**24.73**	**339**	*e*P	**P**	**23 26 22.1**	**+0.3**
	5.4nm,0.3s,mb4.6						
LSA	**Lhasa**	**24.78**	**353**	*e*P	**P**	**23 26 22.3**	**0.0**
	4.8nm,0.6s,mb4.2						
KOLN	**Koldanda**	**24.92**	**337**	*e*P	**P**	**23 26 23.9**	**+0.3**
	10nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**41.48**	**338**	*e*P	**P**	**23 28 48.8**	**+1.4**
	2.4nm,0.5s,mb4.1						
SONM	**Songino Array**	**43.89**	**12**	P	**P**	**23 29 05.0**	**-2.1**
	1.2nm,0.7s,mb3.7,baz=192,slow=8.1,SNR=12						
SONM				PcP	PcP	23 30 52.4	-1.0
	0.5nm,0.5s,baz=201,slow=4.0,SNR=9.0						
WRA	**Warramunga Arr**	**46.34**	**124**	P	**P**	**23 29 26.9**	**-0.1**
	2.2nm,0.7s,mb4.2,baz=303,slow=9.2,SNR=19						
WRAB	**Tennant Creek**	**46.35**	**124**	*e*P	**P**	**23 29 27.4**	**+0.3**
	5.0nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**47.83**	**128**	P	**P**	**23 29 39.0**	**+0.2**
	0.9nm,0.4s,mb4.1,baz=296,slow=7.9,SNR=8.4						
ZAL	**Zalesovo**	**49.43**	**352**	P	**P**	**23 29 49.6**	**-1.1**
	3.7nm,0.5s,mb4.7,baz=301,slow=3.6,SNR=15						
BVAR	**Borovoye Array**	**51.82**	**342**	P	**P**	**23 30 07.9**	**-0.9**
	1.5nm,0.7s,mb4.0,baz=146,slow=11,SNR=9.3						
BRVK	**Borovoye**	**51.88**	**342**	*e*P	**P**	**23 30 08.5**	**-0.8**
	2.2nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**52.31**	**342**	*e*P	**P**	**23 30 11.9**	**-0.6**
	5.8nm,1.0s,mb4.5						
BRTR	**Keskin Array B**	**64.58**	**312**	P	**P**	**23 31 38.6**	**+0.1**
	0.6nm,0.7s,mb3.7,baz=125,slow=8.9,SNR=3.2						
BRTR	**Keskin Array B**	**64.58**	**312**	P	**P**	**23 31 38.6**	**+0.1**
IDI	**Anoyia**	**70.51**	**306**	P	**P**	**23 32 16.3**	**+0.6**
	7.9nm,0.8s,mb4.7,baz=56,slow=18,SNR=5.7						
FINES	**FINESS Array B**	**75.41**	**333**	P	**P**	**23 32 43.2**	**-0.8**
	1.4nm,0.8s,mb3.9,baz=108,slow=8.8,SNR=5.4						
ARCES	**ARCESS Array B**	**78.08**	**340**	P	**P**	**23 32 58.6**	**-0.1**
	1.5nm,0.6s,mb4.1,baz=90,slow=6.1,SNR=7.3						
GERES	**GERESS Array B**	**80.20**	**319**	P	**P**	**23 33 12.0**	**+1.4**
	0.6nm,0.7s,mb3.7,baz=117,slow=6.0,SNR=5.4						
NOA	**NORSAR Array B**	**82.40**	**331**	P	**P**	**23 33 21.3**	**-0.6**
	0.4nm,0.7s,mb3.5,baz=117,slow=8.7,SNR=2.5						
PDAR	**Pinedale Array**	**127.70**	**22**	PKP	PKPdf	23 40 05.2	-4.3
	0.2nm,0.7s,baz=90,slow=4.4,SNR=3.6						
SADO	**Sadowa**	**130.14**	**354**	PKP	PKPdf	23 40 12.7	-1.4
	16nm,1.2s,baz=33,slow=7.9,SNR=3.0						
TXAR	**Lajitas Array**	**141.67**	**26**	PKhKP		23 40 25.1	
	0.2nm,0.3s,baz=329,slow=5.3,SNR=2.3						

*THE **11** 23:21:06.5, 38.69N×20.82E, h10km, ML3.3*
*ATH **11** 23:21:07.2, 38.80N×20.90E, h9km±4km, MD3.3/7*
*CSEM **11** 23:21:07.9±0.1, 38.78N×20.86E, h2km, MD3.3, Error ellipse: s-maj=2.5km s-min=1.7km az=69.0*
*NEIC **11** 23:21:07.2, 38.80N×20.90E, h9km, MD3.3(ATH), After ATH.*

ISC 11 23:21:06.7±0.7, 38.71N±0.04×20.80E±0.05, h9km, n25, σ1§14/33, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.56**	**197**	*e*PB	**Pb**	**23 21 20.1**	**+1.9**
EVR	**Evrytania**	**0.82**	**75**	*e*PB	**Pb**	**23 21 20.2**	**-2.4**
RLS	**Riolos of Patr**	**0.84**	**141**	*e*PB	**Pb**	**23 21 23.8**	**+0.9**
IGT	**Igoumenitsa**	**0.90**	**336**	*e*Pg	**Pg**	**23 21 23.4**	**-1.2**
IGT				*e*Sg	**Sg**	**23 21 37.0**	**+0.5**
IGT	**Igoumenitsa**	**0.90**	**336**	*e*Pg	**Pg**	**23 21 23.4**	**-1.2**
IGT				*e*Sg	**Sg**	**23 21 37.0**	**+0.4**
JAN	**Janina**	**0.94**	**2**	*e*PB	**Pb**	**23 21 23.9**	**-0.8**
AGG	**Agios Georgios**	**1.24**	**75**	*e*Pb	**Pb**	**23 21 28.6**	**-1.1**
AGG				*e*Sb	**Sb**	**23 21 47.7**	**+2.1**
KEK	**Kerkira**	**1.27**	**322**	*e*PB	**Pb**	**23 21 30.7**	**+0.5**
LSK	**Leskovik**	**1.44**	**354**	*e*Pg	**Pg**	**23 21 34.5**	**-1.0**
LKR	**Lokris**	**1.72**	**91**	*e*PB	**Pb**	**23 21 38.9**	**+0.8**
KZN	**Kozani**	**1.76**	**25**	*e*PG	**Pg**	**23 21 38.0**	**-3.9**
ITM	**Ithomi**	**1.77**	**149**	*e*PG	**Pg**	**23 21 41.4**	**-0.6**
LIT	**Litokhoron**	**1.91**	**43**	*e*Pb	**Pb**	**23 21 39.4**	**-1.9**
LIT				*e*Sb	**Sb**	**23 22 06.0**	**+0.8**
LIT	**Litokhoron**	**1.91**	**43**	*e*Pb	**Pb**	**23 21 39.3**	**-1.9**
LIT				*e*Sb	**Sb**	**23 22 06.0**	**+0.9**
XOR	**Xorichti**	**1.98**	**70**	*e*Pb	**Pb**	**23 21 41.1**	**-1.3**
NEO	**Neokhori**	**1.98**	**72**	*e*PN	**Pn**	**23 21 41.5**	**+0.7**
FNA	**Florina**	**2.12**	**12**	*e*Pn	**Pn**	**23 21 43.7**	**+1.0**
FNA				*e*Sn	**Sn**	**23 22 11.7**	**+2.3**
AOS	**Alonnisos**	**2.45**	**78**	*e*Pn	**Pn**	**23 21 47.2**	**-0.3**
PAIG	**Paliouri**	**2.54**	**61**	*e*Pn	**Pn**	**23 21 48.1**	**-0.8**
GRG	**Griva**	**2.56**	**28**	*e*Pn	**Pn**	**23 21 49.8**	**+0.7**
SOH	**Sokhos**	**2.88**	**42**	*e*Pn	**Pn**	**23 21 54.3**	**+0.6**
SOH				*e*Sn	**Sn**	**23 22 29.6**	**+0.7**
KNT	**Kendrikon**	**2.93**	**33**	*e*Pn	**Pn**	**23 21 54.1**	**-0.3**
OUR	**Ouranopolis**	**2.95**	**56**	*e*Pn	**Pn**	**23 21 54.4**	**-0.2**
SRS	**Serrai**	**3.22**	**41**	*e*Pn	**Pn**	**23 21 58.4**	**-0.1**
SRS				*e*Sn	**Sn**	**23 22 38.0**	**+0.6**
ALN	**Alexandroupoli**	**4.59**	**60**	*e*Pn	**Pn**	**23 22 16.3**	**-1.6**

*NEIC **11** 23:29:49.9, 16.49N×93.93W, h136km, MD3.9(MEX), After MEX.*

MEX 11 23:29:50.3±0.7, 16.46N×93.93W, h130km±20km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.11**	**304**	*i* P	P	23 30 12.5	-2.0
CMIG				*i* S	S	23 30 30.9	-1.9
CCIG	**Comitan**	**1.73**	**96**	*e*P	P	23 30 20.3	-1.2
CCIG				*i* S	S	23 30 42.6	-2.6
HUIG	**Huatulco**	**2.21**	**252**	*e*P	P	23 30 25.1	-2.2
HUIG				*i* S	S	23 30 54.0	-1.5
HUIG	**Huatulco**	**2.21**	**252**	*e*P	P	23 30 24.9	-2.4
HUIG				*i* S	S	23 30 54.0	-1.5
OXX	**Oaxaca**	**2.75**	**283**	*e*P	P	23 30 33.2	-1.2
OXX				*e*S	S	23 31 06.5	-1.4

IDC 11 23:50:58.1±2.5, 4.00N×94.66E, mb3.7/4, mb1 3.9/5, mb1mx3.6/19, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=105.8km s-min=23.4km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.97**	**16**	Pn	P	23 54 32.1	-0.8
	0.1nm,0.3s,baz=208,slow=11,SNR=7.4						
WRA	**Warramunga Arr**	**45.67**	**123**	P	P	23 59 20.2	-2.5
	0.5nm,0.6s,baz=303,slow=9.0,SNR=5.4						
ASAR	**Alice Springs**	**47.10**	**128**	P	P	23 59 32.8	-1.2
	0.6nm,0.6s,baz=297,slow=8.1,SNR=7.2						
ZAL	**Zalesovo**	**50.43**	**352**	P	P	23 59 56.8	-2.6
	0.5nm,0.3s,baz=143,slow=19,SNR=2.5						
BVAR	**Borovoye Array**	**52.80**	**342**	P	P	00 00 15.3	-2.0
	0.9nm,0.8s,baz=149,slow=8.6,SNR=5.8						

*IDC **12** 00:03:58.8±2.7, 3.76N×95.59E, mb3.7/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, ML4.1/1, Error ellipse: s-maj=114.0km s-min=21.9km az=59.0*

ISC 12 00:04:02.3±1.2, 3.5N±0.2×95.6E±0.2, h33km, n11, σ1§28/11, mb4.1/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.19**	**12**	Pn	**P**	**00 07 37.2**	**+1.0**
	0.3nm,0.3s,baz=197,slow=15,SNR=5.0						
JIRN	**Jiri**	**25.60**	**340**	*e*P	**P**	**00 09 31.6**	**+1.2**
	21nm,0.6s,mb4.8						
GUN	**Gumba**	**25.93**	**340**	*e*P	**P**	**00 09 34.5**	**+0.9**
	18nm,0.6s,mb4.8						
KKN	**Kakani**	**26.03**	**339**	*e*P	**P**	**00 09 34.8**	**+0.3**
	9.3nm,0.7s,mb4.4						
GKN	**Gorkha**	**26.46**	**338**	*e*P	**P**	**00 09 39.3**	**+0.9**
KOLN	**Koldanda**	**26.66**	**336**	*e*P	**P**	**00 09 40.5**	**+0.2**
	11nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**44.67**	**123**	P	**P**	**00 12 15.0**	**+0.9**
	0.3nm,0.4s,mb3.4,baz=300,slow=9.5,SNR=5.2						
SONM	**Songino Array**	**45.10**	**10**	P	**P**	**00 12 15.2**	**-2.1**
	0.8nm,0.6s,mb3.7,baz=192,slow=8.8,SNR=13						
ASAR	**Alice Springs**	**46.11**	**128**	P	**P**	**00 12 25.5**	**-0.1**
	0.4nm,0.9s,mb3.3,baz=315,slow=6.4,SNR=2.9						
ZAL	**Zalesovo**	**51.00**	**352**	P	**P**	**00 13 00.7**	**-2.4**
	1.5nm,0.6s,mb4.1,baz=319,slow=7.3,SNR=9.8						
BVAR	**Borovoye Array**	**53.52**	**341**	P	**P**	**00 13 19.5**	**-2.3**
	0.9nm,0.6s,mb3.9,baz=149,slow=8.6,SNR=10.0						

IDC 12 00:09:38.9±2.8, 12.58N×92.27E, mb3.4/2, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=81.8km s-min=31.2km az=84.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.03**	**153**	*i* P	Pb	00 10 06.5	+7.2
PBA				*e*S	Sg	00 10 26.0	+13
CMAR	**Chiang Mai Arr**	**8.69**	**47**	Pn	P	00 11 46.4	-2.5
	0.1nm,0.3s,baz=234,slow=14,SNR=5.0						
SONM	**Songino Array**	**37.08**	**16**	P	P	00 16 50.6	-2.1
	0.4nm,0.9s,baz=219,slow=9.2,SNR=3.5						
WRA	**Warramunga Arr**	**52.53**	**127**	P	P	00 18 53.7	-2.8
	0.3nm,0.5s,baz=304,slow=8.7,SNR=11						
WRA				PcP	PcP	00 20 05.7	-1.3
	0.3nm,0.4s,baz=318,slow=3.1,SNR=9.7						

*JMA **12** 00:11:48.1±0.1, 35.54N×140.97E, h42km±1km, M3.2*
*NEIC **12** 00:11:51.0±2.1, 35.40N×140.83E, h62km±17km, mb3.9/2, Error ellipse: s-maj=25.9km s-min=15.2km az=79.0*
*IDC **12** 00:11:53.5±2.6, 35.43N×140.77E, h88km±25km, mb3.3/4, mb1 3.7/7, mb1mx3.4/23, mbtmp3.9/7, MS2.9/1, Ms1 2.9/1, ms1mx2.7/19, Error ellipse: s-maj=38.9km s-min=21.0km az=100.0*

ISC 12 00:11:47.1±0.8, 35.56N±0.04×141.10E±0.10, h47km±6km, n21, σ1§07/27, mb3.6/6, 1C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.24**	**306**	⇑P	**P**	**00 11 55.5**	**+0.1**
CHOJ				S	**S**	**00 12 00.6**	**-0.7**
JCN	**Nagara**	**0.74**	**259**	P	**P**	**00 12 01.6**	**+0.2**
KTR	**Katsuura**	**0.76**	**237**	P	**P**	**00 12 01.6**	**0.0**
BSO4	**Boso 4**	**0.84**	**227**	P	**P**	**00 12 02.1**	**-0.7**
BSO4				*e*S	**S**	**00 12 12.7**	**-1.6**
BSO3	**Boso 3**	**0.90**	**212**	⇓P	**P**	**00 12 02.8**	**-0.7**
BSO1	**Boso 1**	**0.91**	**186**	P	**P**	**00 12 04.5**	**+0.8**
JYT	**Yasato**	**0.99**	**312**	P	**P**	**00 12 05.1**	**+0.3**
JYT				*e*S	**S**	**00 12 17.6**	**-0.3**
JAG	**Ashikaga**	**1.58**	**303**	P	**P**	**00 12 14.4**	**+1.1**
JOD2	**Odawara 2**	**1.67**	**260**	P	**P**	**00 12 13.7**	**-0.7**
MAJO	**Matsushiro**	**2.54**	**293**	*e*P	**P**	**00 12 28.1**	**+1.3**
MAT	**Matsushiro**	**2.54**	**293**	*e*P	**P**	**00 12 28.0**	**+1.2**
MAT				*e*S	**S**	**00 13 05.0**	**+8.4**
MAT	**Matsushiro**	**2.54**	**293**	P	**P**	**00 12 27.7**	**+0.9**
MAT				S	**S**	**00 12 57.3**	**+0.7**
JHJ	**Hachijo jima 2**	**2.67**	**204**	P	**P**	**00 12 31.8**	**+3.1**
	49nm,0.3s,baz=256,slow=23,SNR=4.6						
JHJ				S	**S**	**00 13 01.1**	**+1.1**
	44nm,0.3s,baz=59,slow=22,SNR=3.4						
CBIJ	**Chichi jima**	**8.49**	**173**	P	**P**	**00 13 51.0**	**+0.8**
	33nm,0.3s,baz=267,slow=20,SNR=5.6						
ASAJ	**Asahikawa**	**8.62**	**7**	P	**P**	**00 13 50.2**	**-1.8**
	1.2nm,0.3s,baz=208,slow=18,SNR=4.3						
ASAJ				LR	LR	00 18 18.0	
	comp=Z,74nm,18.4s,baz=344,slow=44						
SONM	**Songino Array**	**28.42**	**306**	P	**P**	**00 17 38.5**	**-0.8**
	0.4nm,0.8s,mb3.1,baz=100,slow=8.7,SNR=2.7						
ILAR	**Eielson Array**	**50.88**	**32**	P	**P**	**00 20 47.0**	**+2.1**
	0.6nm,0.6s,mb3.7,baz=271,slow=5.9,SNR=11						
CHKZ	**Chkalovo**	**51.14**	**314**	*e*P	**P**	**00 20 46.6**	**-0.5**
	1.2nm,0.8s,mb3.9						
BRVK	**Borovoye**	**51.44**	**313**	P	**P**	**00 20 49.6**	**+0.3**
	0.5nm,0.6s,mb3.6						
WRA	**Warramunga Arr**	**55.57**	**188**	P	**P**	**00 21 18.7**	**-1.6**
	1.0nm,0.7s,mb4.0,baz=4.4,slow=7.6,SNR=8.7						
ASAR	**Alice Springs**	**59.30**	**188**	P	**P**	**00 21 45.1**	**-1.4**
	0.4nm,0.8s,mb3.5,baz=11,slow=9.2,SNR=3.4						

*CASC **12** 00:15:34.8±2.2, 13.15N×89.45W, h47km±20km, MD4.0, ML4.2*
*GCG **12** 00:15:34.4, 13.11N×89.71W, h15km, MD4.1, ML4.3*
*NEIC **12** 00:15:34.8, 13.23N×89.43W, h58km, MD3.8(SNET), After SNET.*
NEIC Felt [II] at San Salvador.
*SSS **12** 00:15:34.8, 13.23N×89.43W, h58km, MD3.8, ML4.3*
*UCR **12** 00:15:38.1, 11.59N×89.94W, h18km, MD4.8*
*INET **12** 00:15:38.0, 12.97N×89.17W, h3km, MD4.4, ML3.7*
*IDC **12** 00:15:48.2±38.0, 13.75N×89.20W, h174km±213km, mb3.0/5, mb1 3.4/5, mb1mx3.1/17, mbtmp3.5/5, Error ellipse: s-maj=363.6km s-min=50.1km az=174.0*

ISC 12 00:15:34.2±0.5, 13.21N±0.06×89.42W±0.04, h76km±5km, n42, σ1§03/61, mb3.6/4, 8C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.51**	**21**	⇑*e*P	**P**	**00 15 47.1**	**-0.6**
SNET				*e*S	**S**	**00 15 56.3**	**-1.5**
SNET				*i*		00 15 59.4	
	comp=Z,14μm,0.3s						
LFRS	**El Faro**	**0.54**	**40**	⇓*i*P	**P**	**00 15 47.5**	**-0.5**
BOQS	**Boqueron**	**0.54**	**14**	*e*P	**P**	**00 15 47.5**	**-0.5**
BOQS	**Boqueron**	**0.54**	**14**	⇑*e*P	**P**	**00 15 47.5**	**-0.6**
BOQS				*e*P		00 15 47.5	
LFU	**La Fuente**	**0.61**	**29**	*e*P	**P**	**00 15 48.6**	**-0.2**
LCBS	**La Ceiba**	**0.61**	**44**	⇑*i*P	**P**	**00 15 48.4**	**-0.4**
LBRS	**Las Brisas**	**0.64**	**35**	*e*P	**P**	**00 15 49.0**	**0.0**
LBRS				*e*S	**S**	**00 15 59.2**	**-0.8**
LBRS	**Las Brisas**	**0.64**	**35**	*e*P	**P**	**00 15 49.0**	**0.0**
LBRS				*e*S	**S**	**00 15 59.4**	**-0.7**
SBLS	**San Blas**	**0.66**	**342**	⇑*e*P	**P**	**00 15 48.6**	**-0.7**
SNJE	**San Jose**	**0.68**	**344**	⇑*e*P

PTCH AMP 00 26 13.3
comp=N,2μm,0.4s
FCH Farellones 1.33 205 *e*P P 00 25 55.2 +0.5
FCH *i* S S 00 26 17.1 +0.7
FCH AMP 00 26 22.8
comp=E,199nm,0.3s
PEL Peldehue 1.36 221 *i* S S 00 26 16.6 -0.4
PEL AMP 00 26 18.4
comp=N,710nm,0.5s
ILCH Illapel 1.40 290⇑*i*P P 00 25 55.5 +0.1
ILCH *i* S S 00 26 17.1 -0.5
ILCH AMP 00 26 19.0
comp=N,517nm,0.3s
ROCH El Roble 1.45 234⇑*i*P P 00 25 56.5 +0.6
ROCH *i* S S 00 26 19.1 +0.5
CLCH Cerro Calan 1.49 211 *i* S S 00 26 19.6 +0.3
CLCH AMP 00 26 24.3
comp=N,289nm,0.5s
CMCH Combarbala 1.51 308⇓*i*P P 00 25 56.6 +0.1
CMCH *i* S S 00 26 20.0 +0.4
CMCH AMP 00 26 21.4
comp=N,714nm,0.4s
PACH Papudo 1.59 254⇑*i*P P 00 25 57.5 0.0
PACH *i* S S 00 26 20.5 -0.7
PCH Pirque 1.68 206 *e*P P 00 25 58.8 +0.4
PCH *i* S S 00 26 22.8 0.0
RCDM Rinconada Maip 1.69 216 *e*P P 00 25 58.9 +0.4
RCDM *i* S S 00 26 23.4 +0.3
RCDM AMP 00 26 25.8
comp=E,531nm,0.1s
LMEL Las Melosas 1.79 196 *e*P P 00 25 59.9 +0.2
LMEL AMP 00 26 39.1
comp=N,147nm,0.2s
CHCH Chadas Angostu 2.01 205 *e*P P 00 26 02.9 +0.8
CHCH *i* S S 00 26 29.2 -0.2
TLL Tololo Astrono 2.19 332 *e*P P 00 26 04.7 +0.3
TLL AMP 00 26 39.2
comp=N,182nm,0.5s

ISC 12 00:45:10.8±0.7, 46.39N±0.04×15.10E±0.06, n8, σ0°59/11, 2C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.25**	**3**	*i* Pg	**Pg**	**00 45 16.1**	**+0.3**
GROS	**Grobnik**	**0.29**	**75**	*i* Pg	**Pg**	**00 45 17.2**	**+0.6**
PDKS	**Podkum**	**0.33**	**192**	*i* Pg	**Pg**	**00 45 17.7**	**+0.2**
DOBS	**Dobrina**	**0.35**	**132**	*i* Pg	**Pg**	**00 45 18.1**	**+0.3**
OBKA	**Obir**	**0.40**	**288**⇑	*i*PG	**Pg**	**00 45 19.3**	**+0.6**
OBKA				*i* SG	**Sg**	**00 45 24.8**	**+0.8**
22nm,0.6s							
CEY	**Cerknica**	**0.80**	**216**	*i* Pg	**Pg**	**00 45 25.8**	**-0.9**
ARSA	**Arzberg**	**0.91**	**19**⇓	*i*PG	**Pg**	**00 45 28.0**	**-1.0**
ARSA				*i* SG	**Sg**	**00 45 41.2**	**0.0**
1.9nm,0.4s							
KBA	**Koelnbreinsper**	**1.39**	**300**⇑	*i*PG	**Pg**	**00 45 37.8**	**-0.7**
KBA				*i* SG	**Sg**	**00 45 56.9**	**-0.1**
3.1nm,0.5s							

IDC 12 00:53:14.7±7.7, 2.17N×127.99E, h136km±74km, mb3.6/7, mb1 3.7/7, mb1mx3.5/17, mbtmp4.0/7, Error ellipse: s-maj=81.3km s-min=15.5km az=77.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warrumunga Arr**	**22.84**	**164**	P	P	00 58 06.3	-0.6
1.5nm,0.4s,baz=344,slow=10,SNR=12							
JOW	**Kunigami**	**24.53**	**1**	P	P	00 58 21.5	-1.5
13nm,0.5s,baz=146,slow=25,SNR=2.9							
ASAR	**Alice Springs**	**26.31**	**168**	P	P	00 58 37.8	-1.9
0.2nm,0.5s,baz=348,slow=7.7,SNR=5.5							
ASAR				PcP	PcP	01 02 00.5	-2.3
0.3nm,0.4s,baz=3.2,slow=2.5,SNR=5.7							
STKA	**Stephens Creek**	**36.23**	**160**	P	P	01 00 04.6	-1.8
0.7nm,0.5s,baz=326,slow=10,SNR=5.8							
SONM	**Songino Array**	**49.17**	**341**	P	P	01 01 49.0	-1.7
0.3nm,0.6s,baz=143,slow=7.4,SNR=3.7							
SONM				PcP	PcP	01 03 09.9	-2.3
0.1nm,0.4s,baz=158,slow=0.2,SNR=2.9							
BVAR	**Borovoye Array**	**69.31**	**327**	P	P	01 04 07.7	-1.5
0.7nm,0.5s,baz=135,slow=8.2,SNR=8.1							
ARCES	**ARCESS Array B**	**92.34**	**340**	P	P	01 06 08.5	-1.9
3.3nm,0.9s,baz=80,slow=5.5,SNR=3.6							

*IDC **12** 00:59:18.0±0.7, 13.56N×92.76E, mb4.0/12, mb1 4.1/13, mb1mx3.9/20, mbtmp3.9/13, ML3.6/1, MS3.4/1, Ms1 3.6/1, ms1mx3.2/19, Error ellipse: s-maj=28.9km s-min=15.3km az=49.0*
*NEIC **12** 00:59:22.4±0.6, 13.48N×92.65E, h30km, mb3.9/4, Error ellipse: s-maj=21.2km s-min=11.1km az=57.0*
ISC 12 00:59:20.2±0.6, 13.51N±0.08×92.72E±0.07, h30km, n21, σ0°87/22, mb4.0/15, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.84**	**179**	*e*P	Px	01 00 05.7	
PBA				*e*S	Sx	01 00 25.8	
PBA				*e*		01 00 47.3	
comp=N,2μm,0.5s							
PBA				*e*		01 00 49.2	
comp=E,2μm,1.4s							
CMAR	**Chiang Mai Arr**	**7.75**	**50**	Pn	**Pn**	**01 01 10.0**	**-3.9**
comp=E,0.3nm,0.3s,baz=240,slow=15,SNR=4.1							
CMAR				Sn	**Sn**	**01 02 41.4**	**-0.1**
comp=E,0.4nm,0.3s,baz=230,slow=34,SNR=3.6							
CMAR				LR	LR	01 04 53.2	
comp=E,261nm,18.9s,baz=230,slow=44							
VIS	**Vishakhapatnam**	**9.97**	**296**	*e*P	**P**	**01 01 43.5**	**-1.3**
VIS				*e*S	**Sn**	**01 03 25.0**	**-12**
SHL	**Shillong**	**12.02**	**356**	*e*P	**P**	**01 02 07.5**	**-5.2**
LSA	**Lhasa**	**16.18**	**355**	P	**P**	**01 03 06.5**	**-0.7**
comp=E,3.4nm,0.6s							
ENH	**Enshi**	**22.76**	**40**	*e*P	**P**	**01 04 25.2**	**+3.8**
comp=E,4.0nm,0.7s,mb4.0							
SONM	**Songino Array**	**36.07**	**16**	P	**P**	**01 06 20.2**	**-1.0**
comp=E,0.3nm,0.6s,mb3.4,baz=191,slow=8.9,SNR=3.7							
ZAL	**Zalesovo**	**40.81**	**353**	P	**P**	**01 07 00.4**	**-0.2**
comp=E,0.8nm,0.4s,mb3.7,baz=102,slow=4.9,SNR=4.5							
BVAR	**Borovoye Array**	**43.24**	**340**	P	**P**	**01 07 21.5**	**+1.0**
comp=E,0.2nm,0.5s,mb3.1,baz=121,slow=8.4,SNR=2.6							
BVAR	**Borovoye Array**	**43.24**	**340**	P	**P**	**01 07 21.5**	**+1.0**
CHKZ	**Chkalovo**	**43.72**	**341**	*e*P	**P**	**01 07 25.1**	**+0.7**
comp=E,0.9nm,0.6s,mb3.7							
WRA	**Warrumunga Arr**	**52.74**	**128**	P	**P**	**01 08 34.2**	**-0.8**
comp=E,1.2nm,0.4s,mb4.2,baz=302,slow=9.2,SNR=6.5							
WRA				PcP	PcP	01 09 45.4	+1.1
comp=E,0.4nm,0.5s,baz=321,slow=3.1,SNR=5.2							
WRAB	**Tennant Creek**	**52.75**	**128**	*e*P	**P**	**01 08 34.8**	**-0.2**
comp=E,3.3nm,0.5s,mb4.5							
ASAR	**Alice Springs**	**54.65**	**132**	P	**P**	**01 08 48.9**	**-0.1**
comp=E,1.6nm,0.3s,mb4.5,baz=310,slow=7.1,SNR=36							
BRTR	**Keskin Array B**	**57.78**	**309**	P	**P**	**01 09 10.7**	**-0.5**
comp=E,1.2nm,0.8s,mb4.0,baz=97,slow=8.3,SNR=7.7							
IDI	**Anoyia**	**64.29**	**303**	P	**P**	**01 09 54.3**	**-1.1**
comp=E,12nm,1.1s,mb4.8,baz=90,slow=11,SNR=2.9							
STKA	**Stephens Creek**	**65.02**	**135**	P	**P**	**01 10 00.7**	**+0.5**
comp=E,1.6nm,0.9s,mb4.0,baz=313,slow=18,SNR=2.3							
FINES	**FINESS Array B**	**67.12**	**331**	P	**P**	**01 10 13.5**	**+0.5**
comp=E,2.8nm,1.0s,mb4.2,baz=108,slow=6.0,SNR=5.2							
ARCES	**ARCESS Array B**	**69.53**	**340**	P	**P**	**01 10 28.5**	**+0.6**
comp=E,4.1nm,0.9s,mb4.4,baz=90,slow=7.2,SNR=5.0							
GERES	**GERESS Array B**	**72.74**	**317**	P	**P**	**01 10 49.3**	**+1.7**
comp=E,0.4nm,0.5s,mb3.6,baz=76,slow=5.5,SNR=6.3							
NOA	**NORSAR Array B**	**74.17**	**330**	P	**P**	**01 10 56.5**	**+0.9**
comp=E,1.0nm,0.7s,mb3.9,baz=96,slow=5.6,SNR=2.7							

*NEIC **12** 01:10:25.8±0.7, 4.80N×94.46E, h30km, mb4.4/3, Error ellipse: s-maj=26.2km s-min=9.8km az=59.0*
*IDC **12** 01:10:36.2±9.9, 5.21N×95.04E, h111km±88km, mb3.7/10, mb1 3.9/11, mb1mx3.7/19, mbtmp4.1/11, ML4.0/1, Error ellipse: s-maj=53.8km s-min=14.1km az=56.0*
ISC 12 01:10:24.5±0.8, 5.0N±0.2×94.7E±0.2, h30km, n18, σ0°98/17, mb4.2/13, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.02**	**17**	P	**P**	**01 13 47.5**	**+4.0**
0.3nm,0.3s,baz=211,slow=11,SNR=20							
SONM	**Songino Array**	**43.86**	**11**	P	**P**	**01 18 28.9**	**-1.0**
0.8nm,0.6s,mb3.6,baz=188,slow=7.5,SNR=9.3							
WRA	**Warrumunga Arr**	**46.18**	**124**	P	**P**	**01 18 48.7**	**-0.1**
6.6nm,0.7s,mb4.7,baz=302,slow=9.1,SNR=33							
WRAB	**Tennant Creek**	**46.18**	**124**	*e*P	**P**	**01 18 48.9**	**+0.1**
15nm,0.9s,mb4.9							
WB2	**Warrumunga Arr**	**46.19**	**124**⇑	*i*P	**P**	**01 18 49.0**	**+0.2**
ASPA	**Alice Springs**	**47.67**	**128**	*e*P	**P**	**01 19 01.0**	**+0.4**
ASAR	**Alice Springs**	**47.67**	**128**	P	**P**	**01 19 00.6**	**0.0**
2.3nm,0.8s,mb4.3,baz=311,slow=7.7,SNR=17							
ZAL	**Zalesovo**	**49.47**	**352**	P	**P**	**01 19 13.3**	**-0.7**
1.4nm,0.3s,mb4.4,baz=316,slow=2.1,SNR=6.8							
BVAR	**Borovoye Array**	**51.89**	**342**	P	**P**	**01 19 32.1**	**-0.3**
1.0nm,0.6s,mb3.9,baz=149,slow=8.6,SNR=9.6							
BRVK	**Borovoye**	**51.95**	**342**	*e*P	**P**	**01 19 31.1**	**-1.8**
1.1nm,0.7s,mb3.9							
CHKZ	**Chkalovo**	**52.38**	**342**	*e*P	**P**	**01 19 35.8**	**-0.3**
2.9nm,0.5s,mb4.5							
STKA	**Stephens Creek**	**57.74**	**133**	P	**P**	**01 20 14.5**	**-0.8**
3.1nm,0.9s,mb4.3,baz=328,slow=6.7,SNR=3.3							
BRTR	**Keskin Array B**	**64.74**	**312**	P	**P**	**01 21 02.6**	**+0.1**
0.3nm,0.5s,mb3.6,baz=125,slow=5.9,SNR=2.2							
FINES	**FINESS Array B**	**75.51**	**332**	P	**P**	**01 22 08.2**	**+0.6**
1.6nm,0.9s,mb3.9,baz=230,slow=15,SNR=3.5							
FINES	**FINESS Array B**	**75.51**	**332**	P	**P**	**01 22 08.2**	**+0.6**
ARCES	**ARCESS Array B**	**78.16**	**340**	P	**P**	**01 22 28.8**	**+0.6**
4.0nm,0.9s,mb4.3,baz=100,slow=5.5,SNR=3.4							
GERES	**GERESS Array B**	**80.34**	**319**	P	**P**	**01 22 36.3**	**+1.9**
1.1nm,0.8s,mb3.9,baz=90,slow=6.7,SNR=6.0							
CPUP	**Villa Florida**	**145.86**	**229**	PKPbc	PKPbc	01 30 04.7	+2.7
0.0nm,0.3s,baz=205,slow=13,SNR=1.8							

MAN 12 01:14:22.5, 13.54N×120.29E, h29km, mb4.0, ML2.8, MS2.6, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.20**	**349**	*e*P	Pb	01 14 29.4	+0.9
LUBP				*e*S	Sb	01 14 34.4	+1.7
LUBP	**Lubang**	**0.20**	**349**	*i* P	Pb	01 14 29.4	+0.9
TGY	**Tagaytay City**	**0.84**	**49**⇑	*e*P	Pn	01 14 41.4	+2.8
LQP	**Lukban**	**1.34**	**65**	*i* P	Pn	01 14 46.7	+1.0
LQP				*e*S	Sn	01 15 07.1	+4.5
SJMP	**San Jose**	**1.35**	**143**	*e*P	Pn	01 14 45.0	-0.7
SJMP				*e*S	Sn	01 15 02.8	0.0
BOAC	**Boac**	**1.52**	**93**	*e*P	Pn	01 14 47.6	-0.6
BOAC				*e*S	Sn	01 15 06.8	-0.3
BUSP	**Coron**	**1.53**	**183**	*e*P	Pn	01 14 48.7	+0.4
BUSP				*e*S	Sn	01 15 07.2	-0.3
OTRP	**Odiongan**	**2.06**	**125**	*e*P	Pn	01 14 55.8	-0.1

*ROM **12** 01:19:21.2±0.3, 46.55N×13.75E, h10km, MD2.5/3, ML1.8/2, Error ellipse: s-maj=1.7km s-min=1.4km az=0.0*
*CSEM **12** 01:19:22.4±0.1, 46.52N×13.71E, ML2.6/8, Error ellipse: s-maj=1.0km s-min=0.9km az=26.0*
*NEIC **12** 01:19:22.2, 46.54N×13.75E, h10km, ML2.6(VIE), ML2.0(LJU), ML2.0(FUR), After LJU.*
*PRU **12** 01:19:23.1, 46.54N×13.73E*
*BGR **12** 01:19:29.6±1.1, 46.97N×13.78E, ML2.5/3, Error ellipse: s-maj=22.2km s-min=17.8km az=154.0*
LJU 12 01:19:21.8, 46.54N×13.72E, h20km, ML2.1, 15C-9D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSR	**Lussari**	**0.15**	**244**⇑	*i*Pg	Pb	01 19 26.6	+0.3
LSR				*i* Sg	Sb	01 19 29.3	+0.1
PTCC	**Patocco-Chiusa**	**0.29**	**242**⇑	*i*PG	Pb	01 19 28.5	+0.2
PTCC				SG	Sb	01 19 32.8	+0.2
105nm,0.4s							
PTCC	**Patocco-Chiusa**	**0.29**	**242**⇑	*i*Pg	Pb	01 19 28.5	+0.2
105nm,0.4s							
PTCC				Sg	Sb	01 19 32.8	+0.2
CADS	**Cadrg**	**0.31**	**178**⇓	*i*Pg	Pb	01 19 28.9	+0.2
CADS				*i* Sg	Sb	01 19 33.9	+0.6
comp=Z,62nm,0.1s							
CADS	**Cadrg**	**0.31**	**178**⇓	*i*Pg	Pb	01 19 28.9	+0.2
CADS				*i* Sg	Sb	01 19 33.9	+0.6
comp=Z,62nm,0.1s							
ROBS	**Robic**	**0.33**	**206**	*i* Pg	Pb	01 19 29.1	+0.2
ROBS				*i* Sg	Sb	01 19 33.9	+0.1
comp=Z,67nm,0.1s							
ROBS	**Robic**	**0.33**	**206**	*i* Pg	Pb	01 19 29.1	+0.2
ROBS				*i* Sg	Sb	01 19 33.9	+0.1
comp=Z,67nm,0.1s							
DRE	**Drenchia**	**0.37**	**188**⇓	*i*Pg	Pb	01 19 29.8	+0.1
DRE				*i* Sg	Sb	01 19 35.4	+0.5
PLRO	**Paularo**	**0.40**	**271**⇑	*i*Pg	Pb	01 19 30.4	+0.3
GMNA	**Gemona**	**0.43**	**232**	*e*PG	Pb	01 19 31.9	+1.3
GMNA				SG	Sb	01 19 39.1	+2.6
comp=Z,100nm,0.3s							
GMNA	**Gemona**	**0.43**	**232**	*e*Pg	Pb	01 19 31.9	+1.3
comp=Z,100nm,0.3s							
GMNA				Sg	Sb	01 19 39.1	+2.6
BAD	**Bernadia**	**0.45**	**228**⇑	*i*Pg	Pb	01 19 31.2	+0.3
BAD				*i* Sg	Sb	01 19 38.5	+1.4
COLI	**Coloredo**	**0.47**	**210**⇑	*i*Pg	Pb	01 19 31.8	+0.5
COLI				*e*Sg	Sb	01 19 39.1	+1.3
BOO	**Bordano**	**0.48**	**243**⇑	*i*Pg	Pb	01 19 31.7	+0.2
BOO				*i* Sg	Sb	01 19 38.9	+0.8
ZOU	**Zoufplan**	**0.52**	**272**⇑	*i*Pg	Pb	01 19 32.3	+0.2
VOJS	**Vojsko**	**0.52**	**167**	*i* Pg	Pb	01 19 32.4	+0.3
VOY	**Vojsko**	**0.52**	**167**	*e*Sg	Sb	01 19 40.6	+1.4
BUA	**Buia**	**0.53**	**232**⇑	*i*Pg	Pb	01 19 32.6	+0.4
BUA				*i* Sg	Sb	01 19 40.8	+1.5
OBKA	**Obir**	**0.57**	**93**⇑	*i*PG	Pb	01 19 33.7	+0.7
OBKA				*i* SG	Sb	01 19 42.2	+1.5
comp=Z,26nm,0.1s							
KBA	**Koelnbreinsper**	**0.60**	**334**⇓	*i*PG	Pb	01 19 34.6	+1.2
KBA				*i* SG	Sb	01 19 42.8	+1.4
comp=Z,20nm,0.1s							
FVI	**Forni Avoltri**	**0.65**	**275**	*e*PG	Pb	01 19 34.6	+0.3
FVI				SG	Sb	01 19 44.5	+1.6
comp=Z,53nm,0.4s							
FVI	**Forni Avoltri**	**0.65**	**275**	*e*Pg	Pb	01 19 34.6	+0.3
comp=Z,53nm,0.4s							
JAVS	**Javornik**	**0.69**	**160**	*i* Pg	Pb	01 19 35.5	+0.5
CSMI	**Casera Mimoias**	**0.74**	**268**⇑	*i*Pg	Pb	01 19 36.3	+0.5
LJU	**Ljubljana**	**0.75**	**131**	*i* Pg	Pb	01 19 37.3	+1.3
TRI	**Trieste**	**0.83**	**178**⇓	*i*Pg	Pb	01 19 37.8	+0.4
TRI				SG	Sb	01 19 50.5	+2.3
comp=Z,10.0nm,0.2s							
TRI	**Trieste**	**0.83**	**178**⇓	*i*Pg	Pb	01 19 37.8	+0.4
comp=Z,10.0nm,0.2s							
TRI				Sg	Sb	01 19 50.5	+2.3
CEY	**Cerknica**	**0.94**	**148**	*i* Pg	Pb	01 19 40.3	+1.1
PERS	**Pernice**	**0.97**	**84**	*i* Pg	Pb	01 19 40.7	+1.0
PDKS	**Podkum**	**1.01**	**118**	*i* Pg	Pb	01 19 41.8	+1.4
PDKS				*i* Sg	Sb	01 19 54.9	+1.7
comp=Z,8.0nm,0.1s							
VISS	**Visnje**	**1.07**	**133**	*i* Pg	Pb	01 19 43.0	+1.5
GROS	**Grobnik**	**1.23**	**93**	*i* Pg	Pn	01 19 45.4	+1.2
LEGS	**Legarje**	**1.26**	**118**	*i* Pg	Pn	01 19 46.3	+1.9
LEGS				*i* Sg	Sb	01 20 02.7	+2.2
DOBS	**Dobrina**	**1.27**	**107**	*e*Pg	Pn	01 19 46.2	+1.5
MOA	**Molln**	**1.36**	**16**⇑	*i*PG	Pn	01 19 48.8	+2.8
MOA				*i* SG	Sb	01 20 07.3	+3.9
comp=Z,5.8nm,0.3s							
CRES	**Cresnjev**	**1.40**	**120**	*i* Pg	Pn	01 19 48.9	+2.3
GOLS	**Golise**	**1.42**	**111**	*e*Pg	Pn	01 19 49.3	+2.5
GOLS	**Golise**	**1.42**	**111**	*e*Pg	Pn	01 19 49.3	+2.4
ARSA	**Arzberg**	**1.43**	**59**⇓	*i*PG	Pn	01 19 49.2	+2.3
ARSA				*i* SG	Sn	01 20 08.4	+3.2
comp=Z,4.4nm,0.2s							
SCE	**Schlegeis**	**1.47**	**291**	*e*Pg	Pn	01 19 49.6	+2.1
SCE				*i* Sg	Sn	01 20 09.6	+3.3
GCIS	**Gornji Cirnik**	**1.49**	**116**	*e*Pn	Pn	01 19 50.8	+3.0
BOJS	**Bojanci**	**1.49**	**134**	*e*Pg	Pn	01 19 49.5	+1.7
WTTA	**Wattenberg**	**1.60**	**298**⇑	*i*PG	Pn	01 19 52.6	+3.2
WTTA				*i* SG	Sn	01 20 14.5	+4.8
comp=Z,3.1nm,0.3s							
WATA	**Walderalm**	**1.67**	**299**⇑	*i*PG	Pn	01 19 54.0	+3.6
WATA				*i* SG	Sn	01 20 17.1	+5.7
comp=Z,4.6nm,0.2s							
SQTA	**Sankt Quirin**	**1.85**	**292**⇓	*i*PG	Pn	01 19 56.7	+3.7
SQTA				*i* SG	Sn	01 20 22.5	+6.4
comp=Z,9.1nm,0.4s							
MOTA	**Moosalm**	**1.96**	**295**⇓	*i*PG	Pn	01 19 59.0	+4.4
MOTA				*i* SG	Sn	01 20 25.9	+7.0
comp=Z,5.4nm,0.4s							
GEC2	**GERESS Array S**	**2.31**	**360**	*e*Pn	Pn	01 20 02.1	+2.6
SNR=1.2							
GEC2				*e*Pg	Pn	01 20 06.0	+6.5
SNR=3.6							
GEC2				*e*Sg	Sn	01 20 31.3	+3.7
GEC2	**GERESS Array S**	**2.31**	**360**	*e*Pn	Pn	01 20 05.6	+6.1
GEC2	**GERESS Array S**	**2.31**	**360**	Pg	Pn	01 20 06.0	+6.5
SNR=3.6							
FUR	**Furstenfeldbru**	**2.33**	**315**	*e*Pg	Pn	01 20 06.7	+7.0
SNR=2.9							
FUR				*e*Sg	Sn	01 20 37.6	+9.5
KHC	**Kasperske Hory**	**2.59**	**358**	*e*PN	Pn	01 20 06.3	+2.7
KHC				*e*PG	Pn	01 20 11.5	+7.9
KHC				*e*x	x	01 20 32.5	
KHC				*e*SG	Sn	01 20 46.9	+12
KHC	**Kasperske Hory**	**2.59**	**358**	*e*Pg	Pn	01 20 11.5	+7.9
KHC				*e*Sg	Sn	01 20 46.9	+12
WET	**Wettzell**	**2.67**	**348**	*e*Pn	Pn	01 20 07.1	+2.5
SNR=1.8							
WET				*e*Sg	Sn	01 20 37.9	+1.2
WET	**Wettzell**	**2.67**	**348**	*e*Pn	Pn	01 20 06.8	+2.2
DAVA	**Damuels**	**2.74**	**287**⇑	*i*PG	Pn	01 20 13.1	+7.4
DAVA				*i* SG	Sn	01 20 52.5	+14
comp=Z,3.2nm,0.5s							
DPC	**Dobruska-Polom**	**4.19**	**23**	*e*SG	Sn	01 21 34.6	+19
UPC	**Upice**	**4.25**	**20**	*e*SG	Sn	01 21 36.8	+20

IDC 12 01:24:29.6±10.0, 19.67S×177.95W, h449km±122km, mb3.0/5, mb1 3.3/5, mb1mx3.1/13, mbtmp3.8/5, Error ellipse: s-maj=104.8km s-min=40.2km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.19**	**243**	P	P	01 31 08.3	-2.0
2.8nm,1.1s,baz=32,slow=9.5,SNR=3.6							
ASAR	**Alice Springs**	**44.76**	**256**	P	P	01 32 02.1	-1.1
1.1nm,0.6s,baz=94,slow=8.4,SNR=15							
WRA	**Warrumunga Arr**	**44.76**	**261**	P	P	01 32 01.9	-1.4
0.4nm,0.3s,baz=96,slow=6.9,SNR=8.0							
TXAR	**Lajitas Array**	**86.58**	**57**	P	P	01 36 24.9	-0.3
0.3nm,0.6s,baz=217,slow=6.3,SNR=4.8							
ILAR	**Eielson Array**	**87.50**	**13**	P	P	01 36 27.4	-1.4
0.4nm,0.5s,baz=222,slow=5.9,SNR=10							
BRTR	**Keskin Array B**	**146.31**	**313**	PKPbc	PKPbc	01 43 18.6	+0.1
0.4nm,0.5s,baz=63,slow=3.2,SNR=3.0							
GERES	**GERESS Array B**	**149.42**	**345**	PKPbc	PKPdf	01 43 26.6	+5.2
0.3nm,0.8s,SNR=4.0							

IDC 12 01:24:58.4±3.4, 46.85N×150.67E, h192km±33km, mb3.3/9, mb1 3.5/10, mb1mx3.3/21, mbtmp3.8/10, Error ellipse: s-maj=28.9km s-min=16.0km az=113.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**6.30**	**247**	P	P	01 26 29.4	-0.9
1.9nm,0.3s,baz=108,slow=17,SNR=4.7							
ILAR	**Eielson Array**	**37.52**	**39**	P	P	01 31 53.0	-1.8
0.2nm,0.5s,baz=268,slow=7.0,SNR=9.4							
YKA	**Yellowknife Ar**	**51.84**	**36**	P	P	01 33 46.4	-1.6
0.1nm,0.4s,baz=299,slow=6.9,SNR=3.8							
ARCES	**ARCESS Array B**	**57.19**	**340**	P	P	01 34 26.4	-0.4
2.2nm,0.9s,baz=14,slow=7.4,SNR=2.3							
FINES	**FINESS Array B**	**63.22**	**334**	P	P	01 35 04.7	-3.0
3.6nm,1.0s,baz=55,slow=5.6,SNR=7.7							
NOA	**NORSAR Array B**	**67.57**	**340**	P	P	01 35 33.4	-2.0
1.5nm,0.9s,baz=303,slow=3.1,SNR=3.0							
WRA	**Warrumunga Arr**	**68.10**	**197**	P	P	01 35 36.7	-2.6
0.4nm,0.5s,baz=19,slow=6.9,SNR=2.8							
ASAR	**Alice Springs**	**71.81**	**196**	P	P	01 36 00.2	-1.4
1.3nm,0.9s,baz=6.7,slow=5.4,SNR=9.6							
SCHQ	**Schefferville**	**73.85**	**22**	P	P	01 36 11.7	-1.3
3.2nm,0.8s,baz=64,slow=15,SNR=2.8							
TXAR	**Lajitas Array**	**78.89**	**59**	P	P	01 36 40.4	-1.2
0.1nm,0.5s,baz=304,slow=4.5,SNR=4.6							

*NEIC **12** 01:32:58.9±1.1, 3.08N×93.46E, h30km, mb4.0/2, Error ellipse: s-maj=25.2km s-min=17.6km az=50.0*
*IDC **12** 01:32:59.3±1.3, 3.11N×93.47E, h30km±6km, mb3.5/4, mb1 3.8/5, mb1mx3.5/18, mbtmp3.7/5, MS3.5/3, Ms1 3.6/3, ms1mx3.4/13, Error ellipse: s-maj=45.7km s-min=22.0km az=55.0*
ISC 12 01:32:57.0±1.2, 3.1N±0.2×93.4E±0.2, h30km, (h30km±1.9km:pP-P), n11, σ0°85/10, mb3.7/6, MS3.8/2, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.22**	**19**	Pn	**P**	**01 36 43.9**	**-0.7**
baz=211,slow=13,SNR=6.9							
CMAR				LR	LR	01 44 01.4	
comp=Z,56nm,18.7s,baz=210,slow=41							
HYB	**Hyderabad**	**20.39**	**315**	*e*P	**P**	**01 37 34.0**	**-0.4**
HYB	**Hyderabad**	**20.39**	**315**	*i* P	**P**	**01 37 34.0**	**-0.4**
LSA	**Lhasa**	**26.57**	**356**	*e*P	**P**	**01 38 35.9**	**+1.5**
4.6nm,0.6s,mb4.2							

1.3nm,0.4s,mb4.3
BRTR Keskin Array B 62.65 311 P **P 02 19 10.7 +2.6**
0.5nm,0.7s,mb3.8,baz=96,slow=5.7,SNR=3.4
IDI Anoyia 68.62 305 P **P 02 19 50.6 +4.0**
3.6nm,0.8s,mb4.3,baz=277,slow=21,SNR=2.4
MLR Muntele Rosu 69.51 316 P **P 02 19 55.3 +3.4**
2.1nm,0.9s,mb4.1,baz=256,slow=5.6,SNR=4.9
FINES FINESS Array B 73.45 332 P **P 02 20 15.3 +0.2**
1.3nm,0.7s,mb4.0,baz=140,slow=32,SNR=2.9
FINES pP pP 02 20 22.4 -1.3
1.2nm,0.6s,baz=98,slow=9.8,SNR=1.9
ARCES ARCESS Array B 76.18 340 P **P 02 20 30.1 -0.6**
4.7nm,1.0s,mb4.4,baz=119,slow=9.3,SNR=2.2
ARCES pP pP 02 20 38.5 -0.8
4.7nm,0.9s,baz=80,slow=5.5,SNR=1.9
GERES GERESS Array B 78.23 318 P **P 02 20 43.0 +0.6**
0.4nm,0.6s,mb3.5,baz=80,slow=8.1,SNR=4.1

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*NEIC **12** 02:29:29.2±1.6,51.44N×179.06W,h39km±10km,mb4.0/1, ML3.5(AEIC),Error ellipse: s-maj=23.8km s-min=12.2km az=194.0*
*IDC **12** 02:29:30.8±3.7,51.57N×179.09W,h48km±33km,mb3.6/11, mb1 3.8/12,mb1mx3.7/22,mbtmp3.8/12,Error ellipse: s-maj=49.7km s-min=18.8km az=6.0*
ISC 12 02:29:28.2±1.3,51.5N±0.2×179.13W±0.09,h46km±9km, n24,σ0§59/29,mb3.9/12,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**1.21**	**76**	P	**P**	**02 29 48.2**	**-0.8**
KIMD				S	**S**	**02 30 04.3**	**-0.3**
KIKV	**Kanaga Island**	**1.28**	**71**	P	**P**	**02 29 49.9**	**-0.2**
KIWB	**Kanaga Island**	**1.29**	**72**	P	**P**	**02 29 49.7**	**-0.4**
KIWB				S	**S**	**02 30 07.1**	**+0.6**
ADAG	**Mount Adagdak**	**1.65**	**71**	P	**P**	**02 29 55.0**	**-0.3**
GSTD	**Great Sitkin T**	**1.94**	**72**	P	**P**	**02 30 00.2**	**+0.8**
GSTD				S	**S**	**02 30 23.6**	**+1.0**
GSMY	**Great Sitkin M**	**1.99**	**72**	P	**P**	**02 30 00.0**	**-0.1**
GSTR	**Great Sitkin T**	**2.00**	**71**	P	**P**	**02 30 00.8**	**+0.6**
GSIG	**Igitkin Island**	**2.06**	**74**	P	**P**	**02 30 01.2**	**+0.2**
ATKA	**Atka Island**	**3.14**	**75**	P	**P**	**02 30 16.0**	**-0.5**
ATKA				S	**S**	**02 30 53.0**	**-0.1**
FX1	**Attu Island--F**	**4.95**	**290**	P	**P**	**02 30 41.9**	**-0.1**
FX1				S	**S**	**02 31 44.8**	**+6.2**
IMA	**Indian Mountai**	**19.47**	**32**	*e*P	**P**	**02 33 53.3**	**-0.3**
ILAR	**Eielson Array**	**21.29**	**39**	P	**P**	**02 34 12.3**	**-0.3**
	0.4nm,0.3s,mb3.2,baz=239,slow=8.3,SNR=9.8						
YKA	**Yellowknife Ar**	**35.31**	**46**	P	**P**	**02 36 19.6**	**-0.7**
	0.6nm,0.5s,mb3.8,baz=281,slow=7.2,SNR=9.1						
HLID	**Hailey**	**43.11**	**74**	*e*P	**P**	**02 37 25.0**	**-0.3**
SONM	**Songino Array**	**46.42**	**296**	P	**P**	**02 37 52.9**	**+1.2**
	0.5nm,0.5s,mb3.7,baz=55,slow=7.4,SNR=6.8						
BW06	**Boulder Array**	**46.47**	**72**	*e*P	**P**	**02 37 52.1**	**0.0**
	1.3nm,0.8s,mb3.9						
PDAR	**Pinedale Array**	**46.48**	**72**	P	**P**	**02 37 52.5**	**+0.3**
	2.0nm,0.8s,mb4.1,baz=312,slow=3.4,SNR=15						
ARCES	**ARCESS Array B**	**57.96**	**350**	P	**P**	**02 39 16.9**	**-0.6**
	11nm,1.2s,mb4.8,baz=9.6,slow=8.2,SNR=6.2						
TXAR	**Lajitas Array**	**58.84**	**81**	P	**P**	**02 39 24.1**	**-0.2**
	0.3nm,0.6s,mb3.5,baz=315,slow=5.7,SNR=6.7						
FINES	**FINESS Array B**	**65.64**	**347**	P	**P**	**02 40 07.9**	**-1.1**
	2.3nm,0.9s,mb4.2,baz=37,slow=9.5,SNR=6.8						
NOA	**NORSAR Array B**	**67.53**	**355**	P	**P**	**02 40 22.1**	**+1.2**
	1.2nm,0.8s,mb4.0						
AKASG	**Malin Array Be**	**75.39**	**342**	P	**P**	**02 41 07.7**	**-0.3**
	0.6nm,0.4s,mb3.9,baz=24,slow=6.1,SNR=5.0						
GERES	**GERESS Array B**	**79.45**	**351**	P	**P**	**02 41 30.8**	**+0.1**
	0.3nm,0.6s,mb3.4,baz=34,slow=4.8,SNR=3.6						
BRTR	**Keskin Array B**	**84.77**	**335**	P	**P**	**02 41 59.0**	**+0.8**
	0.7nm,0.5s,mb4.0,baz=51,slow=1.9,SNR=5.4						

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*NEIC **12** 02:39:04.4±0.6,4.78N×95.13E,h30km,mb4.5/3,Error ellipse: s-maj=32.6km s-min=9.8km az=51.0*
*IDC **12** 02:39:06.7±1.0,4.78N×95.12E,h50km±7km,mb3.5/9, mb1 3.7/10,mb1mx3.6/18,mbtmp3.8/10,Error ellipse: s-maj=48.7km s-min=16.3km az=47.0*
ISC 12 02:39:02.4±0.9,4.8N±0.2×95.1E±0.2,h30km, (h46km±2.4km:pP-P),n13,σ0§64/13,mb3.9/12,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.09**	**15**	P	**P**	**02 42 30.6**	**+8.3**
	0.4nm,0.3s,baz=210,slow=12,SNR=13						
SONM	**Songino Array**	**43.96**	**11**	P	**P**	**02 47 08.7**	**+0.1**
	0.2nm,0.5s,mb3.1,baz=196,slow=10,SNR=2.4						
SONM				PcP	PcP	02 48 54.9	+0.3
	0.3nm,0.7s,baz=214,slow=2.1,SNR=3.8						
WRA	**Warramunga Arr**	**45.73**	**124**	P	**P**	**02 47 23.3**	**+0.2**
	2.4nm,0.7s,mb4.2,baz=302,slow=9.3,SNR=16						
WRAB	**Tennant Creek**	**45.73**	**124**	*e*P	**P**	**02 47 23.2**	**+0.1**
	6.4nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**47.23**	**129**	P	**P**	**02 47 34.5**	**-0.4**
	0.4nm,0.5s,mb3.6,baz=300,slow=8.3,SNR=4.7						
ASAR				pP	pP	02 47 48.1	+4.1
	0.4nm,0.5s,baz=296,slow=7.7,SNR=3.9						
ZAL	**Zalesovo**	**49.71**	**352**	P	**P**	**02 47 53.4**	**-0.3**
	0.8nm,0.5s,mb4.0,baz=302,slow=10.0,SNR=4.9						
BRVK	**Borovoye**	**52.26**	**341**	*e*P	**P**	**02 48 12.8**	**-0.3**
	2.6nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**52.68**	**342**	*e*P	**P**	**02 48 16.4**	**+0.1**
	3.4nm,0.5s,mb4.5						
BRTR	**Keskin Array B**	**65.17**	**312**	P	**P**	**02 49 42.8**	**-0.4**
	0.7nm,0.8s,mb3.7,baz=129,slow=7.9,SNR=4.6						
BRTR				pP	pP	02 49 57.6	+5.1
	0.4nm,0.7s,baz=111,slow=5.3,SNR=1.9						
AKASG	**Malin Array Be**	**71.16**	**322**	P	**P**	**02 50 19.1**	**-1.2**
	0.1nm,0.3s,mb3.2,baz=87,slow=5.7,SNR=6.8						
FINES	**FINESS Array B**	**75.87**	**332**	P	**P**	**02 50 47.5**	**0.0**
	0.6nm,0.4s,mb3.9,baz=104,slow=5.3,SNR=8.5						
FINES				pP	pP	02 51 02.1	+5.1
	3.4nm,1.1s,baz=108,slow=6.0,SNR=1.9						
ARCES	**ARCESS Array B**	**78.47**	**340**	P	**P**	**02 51 02.5**	**+0.7**
	2.4nm,0.8s,mb4.2,baz=100,slow=6.7,SNR=9.1						
GERES	**GERESS Array B**	**80.75**	**319**	P	**P**	**02 51 16.1**	**+1.6**
	0.5nm,0.5s,mb3.7,baz=135,slow=3.8,SNR=4.7						

MAN 12 02:51:23.0,10.27N×121.89E,h1km,mb4.0,ML2.8,MS2.4, 2C-1D,Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAP	**Anini-y**	**0.16**	**20**	⇓*i*P	Pg	02 51 23.5	-2.7
AAP				*i* S	Sg	02 51 27.5	-0.8
GUIM	**Jordan**	**0.78**	**63**	*e*P	Pg	02 51 37.7	-0.8
GUIM				*e*S	Sg	02 51 49.3	+0.5
CUYO	**Cuyo Island**	**1.03**	**304**	*e*P	Pb	02 51 44.6	+1.3
CUYO				*e*S	Sb	02 51 59.6	+2.4
KALP	**Kalibo**	**1.47**	**17**	*e*P	Pn	02 51 56.0	+5.3
RCP	**Roxas**	**1.53**	**33**	⇑*i*P	Pn	02 51 51.1	-0.5
RCP				*i* S	Sb	02 52 07.3	-4.5
SNPH	**Sibulan**	**1.62**	**125**	*e*P	Pn	02 51 53.5	+0.7
TBP	**Tagbilaran**	**2.03**	**106**	*e*P	Pn	02 51 59.7	+1.0
TBP				*e*S	Sn	02 52 25.4	+0.4
DCPH	**Dipolog City**	**2.21**	**139**	⇑*e*P	Pn	02 52 02.2	+0.8
DCPH				*e*S	Sn	02 52 29.4	-0.3
ENPP	**El Nido**	**2.59**	**291**	*e*P	Pn	02 52 06.4	-0.3
ENPP				*e*S	Sn	02 52 48.8	+9.4
MSLP	**Maasin**	**2.93**	**92**	*e*P	Pn	02 52 12.7	+1.2
MSLP				*e*S	Sn	02 52 50.8	+3.0

IDC 12 02:57:15.1±3.9,10.35N×91.95E,mb4.0/3,mb1 4.2/4, mb1mx3.7/18,mbtmp3.9/4,ML4.4/1,Error ellipse: s-maj=107.4km s-min=28.3km az=81.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.52**	**31**	*e*P	Pn	02 57 43.2	-0.3
PBA				*e*S	Sb	02 58 02.2	-1.3
PBA				*e*		02 58 17.6	
	comp=E,3μm,0.6s						
PBA				*e*		02 58 20.4	
	comp=N,3μm,0.7s						
CMAR	**Chiang Mai Arr**	**10.53**	**39**	Pn	P	02 59 47.6	-2.8
	comp=N,0.8nm,0.3s,baz=231,slow=15,SNR=5.3						
SONM	**Songino Array**	**39.30**	**15**	P	P	03 04 45.7	-1.7
	comp=N,0.7nm,0.9s,baz=204,slow=7.9,SNR=6.0						
WRA	**Warramunga Arr**	**51.45**	**126**	P	P	03 06 22.3	-2.3
	comp=N,2.4nm,0.5s,baz=306,slow=8.4,SNR=32						
ASAR	**Alice Springs**	**53.15**	**130**	P	P	03 06 35.2	-2.1

2005 JAN

comp=N,2.1nm,0.6s,baz=305,slow=6.8,SNR=28

ISC 12 02:58:40.2±0.7,46.41N±0.04×15.08E±0.06,n8,σ0§81/10, 1C-1D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.23**	**6**	*i* Pg	**Pg**	**02 58 45.1**	**+0.3**
GROS	**Grobnik**	**0.30**	**80**	*i* Pg	**Pg**	**02 58 46.2**	**0.0**
PDKS	**Podkum**	**0.35**	**189**	*i* Pg	**Pg**	**02 58 46.7**	**-0.6**
OBKA	**Obir**	**0.38**	**286**	⇑*i*PG	**Pg**	**02 58 48.3**	**+0.5**
OBKA				*i* SG	**Sg**	**02 58 53.8**	**+0.9**
	13nm,0.6s						
GOLS	**Golise**	**0.55**	**136**	*i* Pg	**Pg**	**02 58 51.7**	**+0.5**
ARSA	**Arzberg**	**0.90**	**20**	⇓*i*PG	**Pg**	**02 58 57.1**	**-1.0**
ARSA				*i* SG	**Sg**	**02 59 10.2**	**+0.2**
	1.4nm,0.3s						
BOJS	**Bojanci**	**0.91**	**172**	*i* Pg	**Pg**	**02 58 59.3**	**+0.8**
CADS	**Cadrg**	**0.95**	**260**	*e*Pg	**Pg**	**02 58 57.3**	**-1.9**

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*NAO **12** 03:06:45.3±5.1,78.03N×8.53E,ML2.0*
*BER **12** 03:06:48.7±4.2,77.73N×9.25E,h0km±41km,MD3.0,ML2.4, ML2.0(NAO)*
ISC 12 03:06:49.2±2.1,77.5N±0.1×10.2E±0.5,h10km,n4,σ1§41/6, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**1.30**	**111**	*e*Pg	**Pg**	**03 07 14.8**	**-0.4**
HSP				*e*(Sg)	**Sg**	**03 07 31.5**	**-1.1**
SPA0	**Spitsbergen Ar**	**1.46**	**61**	Pn	**Pn**	**03 07 15.1**	**-0.7**
	baz=246,slow=12						
SPA0				Lg		03 07 36.5	
	baz=251,slow=22						
HOPEN	**Hopen**	**3.49**	**100**	*e*P	**Pn**	**03 07 45.0**	**+0.2**
HOPEN				*e*S	**Sn**	**03 08 28.8**	**+2.2**
HOPEN				AML	AML	03 08 30.2	
	comp=Z,22nm,0.2s						
ARA0	**ARCESS Array S**	**9.09**	**144**	Pn	**P**	**03 09 03.6**	**+0.2**
	baz=322,slow=11						

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*IDC **12** 03:28:56.6±0.8,24.03N×122.47E,mb3.8/10,mb1 4.0/10, mb1mx3.9/20,mbtmp3.8/10,Error ellipse: s-maj=42.5km s-min=18.1km az=70.0*
*NEIC **12** 03:28:58.1±0.6,24.04N×122.64E,h10km,mb4.1/2,Error ellipse: s-maj=28.3km s-min=10.9km az=62.0*
*TAP **12** 03:28:60.0,23.87N×122.49E,h6km,ML3.9*
*JMA **12** 03:29:01.3±0.3,23.96N×122.55E,h20km,M3.4*
ISC 12 03:29:01.7±1.1,24.03N±0.09×122.50E±0.07,h50km±10km, n20,σ0§84/25,mb3.8/12,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.64**	**47**	P	**P**	**03 29 13.8**	**-0.8**
YOJ				S	**S**	**03 29 22.6**	**-1.6**
IRIF	**Iriomote-Funau**	**1.17**	**75**	P	**P**	**03 29 22.5**	**+0.6**
IRIF				*e*S	**S**	**03 29 37.4**	**+0.4**
HATJ	**Hateruma jima**	**1.20**	**88**	P	**P**	**03 29 21.9**	**-0.4**
HATJ				*e*S	**S**	**03 29 37.1**	**-0.6**
TATO	**Taipei**	**1.32**	**316**	*e*P	**P**	**03 29 25.5**	**+1.3**
JKRS	**Kuro-shima**	**1.40**	**81**	P	**P**	**03 29 25.4**	**+0.1**
JKRS				*e*S	**S**	**03 29 43.5**	**+0.7**
JIJ	**Ishigaki jima**	**1.54**	**77**	P	**P**	**03 29 27.6**	**+0.3**
JIJ				*e*S	**S**	**03 29 46.3**	**+0.1**
JTJ	**Tarama**	**2.10**	**73**	P	**P**	**03 29 36.6**	**+1.4**
SONM	**Songino Array**	**26.99**	**336**	P	**P**	**03 34 39.3**	**-1.4**
	0.8nm,1.0s,mb3.2,baz=159,slow=11,SNR=5.6						
ZAL	**Zalesovo**	**41.03**	**327**	P	**P**	**03 36 40.5**	**-1.1**
	0.8nm,0.9s,mb3.4,baz=262,slow=22,SNR=3.5						
WRAB	**Tennant Creek**	**45.20**	**164**	*e*P	**P**	**03 37 15.4**	**-0.4**
	2.5nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**45.20**	**164**	P	**P**	**03 37 14.4**	**-1.4**
	1.8nm,0.7s,mb4.0,baz=346,slow=8.8,SNR=9.8						
BVAR	**Borovoye Array**	**48.55**	**321**	P	**P**	**03 37 41.2**	**-0.5**
	0.6nm,0.5s,mb3.9,baz=112,slow=8.0,SNR=5.7						
CHKZ	**Chkalovo**	**48.60**	**321**	*e*P	**P**	**03 37 41.7**	**-0.4**
	0.9nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**48.69**	**166**	P	**P**	**03 37 43.5**	**+0.3**
	0.7nm,0.5s,mb4.0,baz=353,slow=14,SNR=18						
ILAR	**Eielson Array**	**68.80**	**27**	P	**P**	**03 40 02.9**	**+0.6**
	0.4nm,1.1s,mb3.3,baz=289,slow=6.6,SNR=3.4						
ARCES	**ARCESS Array B**	**70.13**	**338**	P	**P**	**03 40 11.5**	**+1.2**
	1.8nm,0.8s,mb4.1,baz=111,slow=7.7,SNR=3.0						
FINES	**FINESS Array B**	**72.18**	**330**	P	**P**	**03 40 23.1**	**+0.3**
	2.8nm,1.0s,mb4.2,baz=63,slow=3.1,SNR=4.6						
BRTR	**Keskin Array B**	**74.23**	**307**	P	**P**	**03 40 36.2**	**+1.1**
	0.5nm,0.7s,mb3.6,baz=68,slow=6.7,SNR=3.8						
YKA	**Yellowknife Ar**	**82.64**	**23**	P	**P**	**03 41 20.9**	**+0.2**
	0.2nm,0.5s,mb3.4,baz=314,slow=4.9,SNR=7.0						
YKA	**Yellowknife Ar**	**82.64**	**23**	P	**P**	**03 41 20.9**	**+0.2**

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*ISK **12** 03:42:01.4,36.96N×27.62E,h5km,ML3.7*
*ATH **12** 03:42:03.0,36.95N×27.82E,h26km,MD3.6/6*
*CSEM **12** 03:42:03.0±0.1,36.90N×27.59E,h20km,MD3.6,Error ellipse: s-maj=2.9km s-min=1.5km az=98.0*
*NEIC **12** 03:42:03.0,36.95N×27.82E,h26km,MD3.6(ATH),After ATH.*
*HLW **12** 03:42:08.0,36.73N×27.80E,h33km,Mb3.4*
ISC 12 03:42:03.5±0.3,36.87N±0.02×27.66E±0.04,h20km,n43, σ1§13/49,7C-2D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.26**	**318**	*i* P	**Pb**	**03 42 09.9**	**+0.4**
BDRM				*i* S	**Sb**	**03 42 14.7**	**+1.1**
MLSB	**Milas**	**0.43**	**13**	*i* PG	**Pb**	**03 42 10.0**	**-2.4**
NISR	**Nisiros**	**0.50**	**239**	*e*PN	**Pn**	**03 42 16.0**	**+0.6**
ARG	**Arkhangelos**	**0.76**	**150**	*e*PN	**Pn**	**03 42 18.2**	**-0.8**
DALT	**Dalyan (Mudla)**	**0.79**	**97**	*i* PG	**Pb**	**03 42 18.4**	**-0.1**
AYDN	**Tasoluk**	**0.81**	**13**	*i* P	**Pb**	**03 42 17.4**	**-1.3**
AYDN				*i* S	**Sb**	**03 42 26.6**	**-2.5**
SMG	**Samos**	**1.06**	**322**	*e*PN	**Pn**	**03 42 24.2**	**+0.8**
SMG				*e*SN	**Sn**	**03 42 39.4**	**+1.8**
FETY	**Fethiye**	**1.17**	**101**	PN	**Pn**	**03 42 25.5**	**+0.6**
DNZL	**Cakiroluk**	**1.38**	**53**	*i* P	**Pn**	**03 42 26.9**	**-1.0**
DNZL				*i* S	**Sb**	**03 42 45.2**	**-0.4**
KARP	**Karpathos**	**1.38**	**197**	*e*PN	**Pn**	**03 42 30.2**	**+2.2**
IZM	**Izmir**	**1.55**	**348**	PN	**Pn**	**03 42 29.8**	**-0.6**
BLCB	**Balcova**	**1.59**	**342**	PN	**Pn**	**03 42 30.4**	**-0.5**
APE	**Apeiranthos**	**1.71**	**277**	PN	**Pn**	**03 42 33.4**	**+0.6**
APE	**Apeiranthos**	**1.71**	**277**	*e*PN	**Pn**	**03 42 35.0**	**+2.3**
ELL	**Elmali**	**1.81**	**93**	*e*PN	**Pn**	**03 42 35.8**	**+1.7**
ELL				*e*SN	**Sn**	**03 43 00.4**	**+3.7**
AKS	**Akhisar**	**2.01**	**3**	PN	**Pn**	**03 42 36.1**	**-0.8**
KHL	**Karahalli**	**2.07**	**45**	PN	**Pn**	**03 42 38.4**	**+0.6**
ANTB	**Antalya**	**2.40**	**88**	*e*PN	**Pn**	**03 42 44.4**	**+1.8**
BCK	**Bucak**	**2.41**	**75**	PN	**Pn**	**03 42 44.3**	**+1.6**
ISP	**Isparta**	**2.47**	**66**	*e*PN	**Pn**	**03 42 44.5**	**+0.9**
PRK	**Paraskevi**	**2.61**	**336**	*e*PN	**Pn**	**03 42 45.5**	**0.0**
BALB	**Balikesir**	**2.77**	**4**	*e*PN	**Pn**	**03 42 46.9**	**-0.9**
ALT	**Altintas**	**2.92**	**41**	PN	**Pn**	**03 42 50.0**	**+0.1**
KCT	**Karacabey**	**3.43**	**9**	*e*PN	**Pn**	**03 42 56.6**	**-0.6**
BNT	**Bandirma**	**3.48**	**3**	*e*PN	**Pn**	**03 42 56.6**	**-1.3**
ESKT	**Eskisehir**	**3.65**	**43**	*e*PN	**Pn**	**03 43 00.2**	**-0.1**
MRMT	**Marmara Adasi**	**3.72**	**359**	*e*PN	**Pn**	**03 43 01.8**	**+0.5**
HDMB	**Hadim**	**3.87**	**87**	*e*PN	**Pn**	**03 43 05.0**	**+1.6**
KONT	**Konya--Tatoy**	**3.89**	**73**	*e*PN	**Pn**	**03 43 04.9**	**+1.1**
KIZT	**Kizilcal**	**3.90**	**58**	*e*PN	**Pn**	**03 43 04.2**	**+0.4**
MFT	**Murefte**	**3.92**	**356**	*e*PN	**Pn**	**03 43 04.0**	**-0.1**
YLV	**Yalova**	**3.92**	**19**	*e*PN	**Pn**	**03 43 04.2**	**0.0**
HRT	**Hereke**	**4.24**	**21**	*e*PN	**Pn**	**03 43 08.8**	**+0.1**
IKL	**Isikli**	**4.89**	**96**	*e*PN	**Pn**	**03 43 19.7**	**+1.7**
SLUM		**5.74**	**201**	⇓P	**Pn**	**03 43 29.7**	**-0.2**
HMAT	**Matruh**	**5.78**	**185**	⇓P	**Pn**	**03 43 30.6**	**+0.1**
HMYD	**Mayadein**	**7.53**	**159**	⇑P	**Pn**	**03 43 53.7**	**-1.4**
HNAT	**Natroun**	**7.63**	**160**	⇑P	**Pn**	**03 43 55.9**	**-0.6**
AMAG	**Maghara**	**7.74**	**142**	⇑P	**Pn**	**03 43 56.4**	**-1.6**
SWA1		**7.76**	**193**	⇑P	**Pn**	**03 43 57.9**	**-0.5**
SWA1				S	**Sn**	**03 45 17.9**	**-8.7**
SWA2		**7.83**	**194**	⇑P	**Pn**	**03 43 58.7**	**-0.5**
SUZ		**8.24**	**147**	⇑P	**P**	**03 44 03.1**	**-1.9**
AWBH		**8.59**	**173**	⇑P	**P**	**03 44 07.9**	**-2.0**

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*ISK **12** 03:46:58.6,36.93N×27.82E,h17km,MD3.4*
*ATH **12** 03:46:59.3,36.89N×27.78E,h25km±4km,MD3.2/7*
*CSEM **12** 03:46:59.0±0.1,36.96N×27.85E,h16km,MD3.2/1,Error ellipse: s-maj=1.6km s-min=1.3km az=27.0*
*NEIC **12** 03:46:59.3,36.89N×27.78E,h25km,MD3.2(ATH),After ATH.*
ISC 12 03:46:59.4±0.6,36.91N±0.04×27.79E±0.04,h22km±6km, n22,σ0§80/26,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.32**	**300**	*i* P	**Pb**	**03 47 06.8**	**+0.3**
BDRM				*i* S	**Sb**	**03 47 12.5**	**+1.2**
MLSB	**Milas**	**0.39**	**359**	*i* PG	**Pb**	**03 47 06.5**	**-1.1**
NISR	**Nisiros**	**0.60**	**241**	*e*PN	**Pn**	**03 47 12.1**	**-0.5**
DALT	**Dalyan (Mudla)**	**0.69**	**101**	*i* PG	**Pb**	**03 47 12.3**	**-0.4**
ARG	**Arkhangelos**	**0.74**	**158**	*e*PN	**Pn**	**03 47 13.1**	**-1.4**
AYDN	**Tasoluk**	**0.76**	**6**	*i* P	**Pb**	**03 47 13.4**	**-0.4**
AYDN				*i* S	**Sb**	**03 47 23.1**	**-0.5**
FETY	**Fethiye**	**1.07**	**104**	PG	**Pb**	**03 47 18.6**	**-0.6**
SMG	**Samos**	**1.10**	**317**	*e*PN	**Pn**	**03 47 20.5**	**+0.8**
DNZL	**Cakiroluk**	**1.27**	**52**	*i* P	**Pn**	**03 47 22.1**	**0.0**
DNZL				*i* S	**Sb**	**03 47 40.5**	**+2.0**
DENT	**Denizli**	**1.30**	**49**	PN	**Pn**	**03 47 22.4**	**-0.2**
DENT				SN	**Sn**	**03 47 39.5**	**+0.1**
KARP	**Karpathos**	**1.45**	**201**	*e*PN	**Pn**	**03 47 25.6**	**+1.0**
IZM	**Izmir**	**1.55**	**345**	PN	**Pn**	**03 47 26.5**	**+0.4**
BLCB	**Balcova**	**1.59**	**338**	*e*PN	**Pn**	**03 47 26.7**	**0.0**
KSL	**Kastellorizon**	**1.63**	**117**	*e*PN	**Pn**	**03 47 29.0**	**+1.8**
ELL	**Elmali**	**1.71**	**95**	*e*PN	**Pn**	**03 47 28.6**	**+0.2**
APE	**Apeiranthos**	**1.81**	**276**	*e*PN	**Pn**	**03 47 30.4**	**+0.5**
APE	**Apeiranthos**	**1.81**	**276**	*e*Pb	**Pb**	**03 47 30.8**	**-1.0**
AKS	**Akhisar**	**1.97**	**1**	*e*PN	**Pn**	**03 47 31.8**	**-0.3**
BCK	**Bucak**	**2.31**	**75**	*e*PN	**Pn**	**03 47 36.6**	**-0.3**
PRK	**Paraskevi**	**2.62**	**333**	*e*PN	**Pn**	**03 47 41.6**	**+0.2**
BALB	**Balikesir**	**2.73**	**2**	PN	**Pn**	**03 47 42.5**	**-0.4**
BNT	**Bandirma**	**3.45**	**2**	*e*PN	**Pn**	**03 47 52.2**	**-1.0**

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*NNC **12** 03:53:21.0±5.9,41.84N×78.13E,mpv3.5,Error ellipse: s-maj=90.9km s-min=21.9km az=159.0*
BJI 12 03:53:18.3,41.62N×78.54E,h3km,ML3.7,2C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.82**	**291**	P	Pn	03 53 44.9	-5.9
	SNR=19						
KZA	**Kyzart**	**2.50**	**282**	P	Pn	03 53 56.8	-3.8
	SNR=77						
TKM2	**Tokmak 2**	**2.54**	**302**	P	Pn	03 53 57.8	-3.3
	SNR=136						
KBK	**Karagaybulak**	**2.87**	**292**	P	Pn	03 54 03.9	-1.9
	SNR=18						
UCH	**Uchtor**	**3.06**	**283**	P	Pn	03 54 07.6	-0.9
	SNR=32						
CHMS	**Chumysh**	**3.13**	**297**	P	Pn	03 54 07.2	-2.3
	SNR=17						
AAK	**Ala-Archa**	**3.17**	**290**	⇓Pn	Pn	03 54 07.7	-2.4
	40nm,1.1s						
AAK				⇑Lg		03 54 49.1	
	56nm,0.5s						
AAK	**Ala-Archa**	**3.17**	**290**	P	Pn	03 54 08.0	-2.2
	SNR=23						
USP	**Ospenovka**	**3.41**	**300**	P	Pn	03 54 12.3	-1.2
	SNR=17						
AML	**Almayashu**	**3.65**	**280**	P	Pn	03 54 18.8	+1.9
	SNR=29						
EKS2	**Erkin-Say**	**3.69**	**288**	P	Pn	03 54 18.2	+0.8
	SNR=16						
MK02	**Makanchi Array**	**5.82**	**26**	⇓Pn	Pn	03 54 47.5	0.0
	3.2nm,0.8s,baz=206,slow=13						
MK02				⇑Sn	Sn	03 55 56.9	+1.2
	13nm,0.7s,baz=210,slow=23						

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*IDC **12** 03:56:56.0±1.8,32.17S×177.68W,mb4.3/4,mb1 4.3/5, mb1mx4.0/15,mbtmp4.2/5,ML3.3/1,Error ellipse: s-maj=52.7km s-min=29.1km az=135.0*
ISC 12 03:56:56.1±5.1,32.3S±0.2×177.3W±0.7,h33km,n8, σ0§80/6,mb4.2/4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.49**	**216**	Pn	**Pn**	**03 58 46.0**	**0.0**
	0.5nm,0.3s,baz=134,slow=17,SNR=2.9						
URZ				Sn	**Sn**	**04 00 10.5**	**

CSEM 12 04:09:03.4±0.1, 37.00N×27.71E, h8km, MD3.3/1, Error ellipse: s-maj=3.3km s-min=2.0km az=26.0
ISK 12 04:09:03.2, 36.98N×27.67E, h9km, MD3.4
ATH 12 04:09:04.5, 36.87N×27.59E, h17km±4km, MD3.3/5
NEIC 12 04:09:04.5, 36.87N×27.59E, h17km, MD3.3(ATH), After ATH.

ISC 12 04:09:04.9±0.6, 36.99N±0.04×27.70E±0.04, h19km±6km, n21, σ0§85/26, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.22**	**290**	*i* P	**Pb**	**04 09 10.2**	**0.0**
BDRM				*i* S	**Sb**	**04 09 15.2**	**+1.4**
MLSB	**Milas**	**0.31**	**12**	PG	**Pb**	**04 09 10.5**	**-1.2**
AYDN	**Tasoluk**	**0.68**	**12**	*i* P	**Pb**	**04 09 17.6**	**-0.4**
AYDN				*i* S	**Sb**	**04 09 26.7**	**-0.2**
DALT	**Dalyan (Mudla)**	**0.79**	**106**	PG	**Pb**	**04 09 18.9**	**-0.8**
DALT				SG	**Sb**	**04 09 30.7**	**+0.8**
ARG	**Arkhangelos**	**0.85**	**156**	*e*PN	**Pn**	**04 09 19.0**	**-2.8**
SMG	**Samos**	**0.99**	**316**	*e*PN	**Pn**	**04 09 24.1**	**+0.2**
FETY	**Fethiye**	**1.17**	**107**	PN	**Pn**	**04 09 26.4**	**0.0**
DNZL	**Cakiroluk**	**1.28**	**57**	*i* P	**Pn**	**04 09 27.3**	**-0.7**
DNZL				*i* S	**Sb**	**04 09 43.9**	**-0.3**
DENT	**Denizli**	**1.31**	**54**	*e*PN	**Pn**	**04 09 28.2**	**-0.1**
IZM	**Izmir**	**1.44**	**346**	PN	**Pn**	**04 09 30.3**	**0.0**
KDAG	**Bornova**	**1.45**	**346**	*i* P	**Pn**	**04 09 30.0**	**-0.4**
KDAG				*i* S	rx	04 10 26.7	
BLCB	**Balcova**	**1.48**	**340**	*e*PN	**Pn**	**04 09 30.8**	**-0.1**
KARP	**Karpathos**	**1.51**	**197**	*e*PN	**Pn**	**04 09 30.8**	**-0.4**
MANT	**Manisa**	**1.64**	**24**	*i* P	**Pn**	**04 09 33.2**	**0.0**
MANT				*i* S	**Sn**	**04 09 55.8**	**+1.9**
KSL	**Kastellorizon**	**1.73**	**118**	*e*PN	**Pn**	**04 09 36.5**	**+2.0**
APE	**Apeiranthos**	**1.74**	**273**	PN	**Pn**	**04 09 34.1**	**-0.4**
APE	**Apeiranthos**	**1.74**	**273**	*e*PN	**Pn**	**04 09 35.1**	**+0.6**
ELL	**Elmali**	**1.79**	**97**	PN	**Pn**	**04 09 35.7**	**+0.5**
AKS	**Akhisar**	**1.89**	**3**	PN	**Pn**	**04 09 36.1**	**-0.5**
BCK	**Bucak**	**2.35**	**78**	PN	**Pn**	**04 09 44.0**	**+0.7**
BNT	**Bandirma**	**3.36**	**3**	*e*PN	**Pn**	**04 09 57.1**	**-0.6**

IDC 12 04:16:23.9±2.5, 3.81N×93.89E, mb3.6/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=81.6km s-min=29.8km az=72.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.38**	**18**	Pn	P	04 20 02.5	-1.6
	0.2nm,0.3s,baz=212,slow=11,SNR=11						
SONM	**Songino Array**	**45.16**	**12**	P	P	04 24 42.4	-1.9
	0.6nm,0.7s,baz=193,slow=8.3,SNR=6.6						
WRA	**Warramunga Arr**	**46.21**	**122**	P	P	04 24 51.2	-1.7
	1.6nm,0.8s,baz=298,slow=8.8,SNR=5.8						
ASAR	**Alice Springs**	**47.59**	**127**	P	P	04 25 01.5	-2.3
	0.5nm,0.7s,baz=298,slow=7.9,SNR=4.3						
CPUP	**Villa Florida**	**144.49**	**228**	PKP	PKPdf	04 36 03.0	-2.0
	0.0nm,0.4s,baz=281,slow=16,SNR=1.6						

IDC 12 04:21:44.8±1.8, 12.30N×92.57E, mb3.9/5, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, ML3.9/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/11, Error ellipse: s-maj=62.9km s-min=21.5km az=75.0
NEIC 12 04:21:49.3±0.8, 12.31N×92.62E, h30km, mb4.3/3, Error ellipse: s-maj=22.4km s-min=11.1km az=74.0

ISC 12 04:21:46.9±0.7, 12.57N±0.08×92.6E±0.1, h30km, n14, σ1§73/16, mb4.0/8, MS3.8/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.92**	**171**	*i* P	**Pn**	**04 22 05.5**	**+1.6**
PBA				*e*P		04 22 06.9	
PBA				*e*S	**Sn**	**04 22 19.8**	**+3.7**
PBA				*e*		04 22 24.5	
	comp=E,9μm,0.6s						
PBA				*e*		04 22 24.5	
	comp=N,19μm,0.4s						
CMAR	**Chiang Mai Arr**	**8.47**	**45**	Pn	**P**	**04 23 52.2**	**+1.7**
	comp=N,0.3nm,0.3s,baz=236,slow=15,SNR=15						
BWNR	**Bhubaneshwar**	**10.07**	**321**	*e*P	**P**	**04 24 10.1**	**-2.7**
BWNR				*e*		04 24 12.2	
	comp=Z,51nm,0.6s						
BWNR				*e*		04 25 51.5	
VIS	**Vishakhapatnam**	**10.31**	**301**	*e*P	**P**	**04 24 16.6**	**+0.5**
VIS				*e*		04 24 17.3	
	comp=Z,40nm,0.3s						
VIS				*e*S	**S**	**04 26 00.9**	**-11**
SHL	**Shillong**	**12.95**	**357**	*e*S	**S**	**04 27 05.5**	**-10**
ENH	**Enshi**	**23.56**	**39**	P	**P**	**04 26 54.8**	**-1.0**
	comp=Z,6.1nm,0.6s,mb4.2						
SONM	**Songino Array**	**37.00**	**15**	P	**P**	**04 28 58.4**	**+2.7**
	comp=Z,0.6nm,0.5s,mb3.7,baz=199,slow=7.5,SNR=6.4						
ZAL	**Zalesovo**	**41.73**	**353**	P	**P**	**04 29 37.2**	**+2.4**
	comp=Z,0.7nm,0.5s,mb3.6,baz=78,slow=5.5,SNR=2.8						
ZAL	**Zalesovo**	**41.73**	**353**	P	**P**	**04 29 37.2**	**+2.4**
CHKZ	**Chkalovo**	**44.57**	**341**	*e*P	**P**	**04 30 00.6**	**+2.7**
	comp=Z,3.0nm,0.6s,mb4.3						
CHKZ				*e*pP	pP	04 30 09.2	+2.3
WRA	**Warramunga Arr**	**52.26**	**128**	P	**P**	**04 30 56.7**	**-1.4**
	comp=Z,1.8nm,0.8s,mb4.1,baz=302,slow=8.8,SNR=9.2						
WRA				PcP	PcP	04 32 09.5	+0.3
	comp=Z,0.8nm,0.6s,baz=318,slow=3.3,SNR=9.3						
WRAB	**Tennant Creek**	**52.27**	**128**	*e*P	**P**	**04 30 56.7**	**-1.4**
	comp=Z,1.2nm,0.4s,mb4.2						
ASAR	**Alice Springs**	**54.12**	**132**	P	**P**	**04 31 10.6**	**-1.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=311,slow=7.4,SNR=10						
ASAR				PcP	PcP	04 32 16.8	+0.6
	comp=Z,0.5nm,0.7s,baz=309,slow=5.0,SNR=4.8						
ASAR				LR	LR	04 57 46.9	
	comp=Z,81nm,18.1s,MS3.8,baz=66,slow=40						
STKA	**Stephens Creek**	**64.45**	**135**	P	**P**	**04 32 22.1**	**-1.0**
	comp=Z,2.7nm,0.9s,mb4.3,baz=326,slow=7.3,SNR=3.0						

ATH 12 04:51:26.0, 37.02N×28.13E, h41km, MD3.1/3
CSEM 12 04:51:26.7±0.1, 36.94N×27.83E, h10km, MD3.2, Error ellipse: s-maj=3.8km s-min=3.0km az=56.0
ISK 12 04:51:27.0, 36.96N×27.78E, h14km, MD3.2

ISC 12 04:51:27.3±1.1, 36.97N±0.05×27.79E±0.07, h11km±10km, n12, σ0§55/14, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.33**	**359**	PG	**Pg**	**04 51 34.0**	**-0.2**
DALT	**Dalyan (Mudla)**	**0.71**	**106**	PG	**Pg**	**04 51 41.4**	**-0.2**
DALT				SG	**Sg**	**04 51 51.7**	**+0.5**
ARG	**Arkhangelos**	**0.80**	**160**	*e*P	**Pb**	**04 51 42.0**	**-0.7**
ARG				*e*S	**Sb**	**04 51 54.1**	**+0.8**
SMG	**Samos**	**1.06**	**315**	*e*P	**Pb**	**04 51 48.2**	**+1.0**
FETY	**Fethiye**	**1.09**	**107**	PN	**Pn**	**04 51 47.7**	**-0.8**
DENT	**Denizli**	**1.27**	**51**	PN	**Pn**	**04 51 51.2**	**+0.1**
IZM	**Izmir**	**1.49**	**344**	PN	**Pn**	**04 51 54.8**	**+0.6**
KARP	**Karpathos**	**1.50**	**200**	*e*P	**Pn**	**04 51 54.0**	**-0.4**
BLCB	**Balcova**	**1.54**	**338**	*e*PN	**Pn**	**04 51 54.6**	**-0.2**
ELL	**Elmali**	**1.72**	**97**	*e*PN	**Pn**	**04 51 57.5**	**+0.1**
APE	**Apeiranthos**	**1.81**	**274**	*e*PN	**Pn**	**04 51 58.7**	**-0.1**
AKS	**Akhisar**	**1.91**	**1**	PN	**Pn**	**04 51 59.6**	**-0.6**

BJI 12 04:55:38.0, 13.35N×93.62E, h52km, mb4.4
NEIC 12 04:55:40.4±0.7, 13.69N×93.56E, h30km, mb4.5/3, Error ellipse: s-maj=15.6km s-min=12.3km az=53.0
IDC 12 04:55:41.6±3.6, 13.77N×93.55E, h38km±28km, mb3.8/10, mb1 4.0/11, mb1mx3.9/19, mbtmp4.0/11, ML4.9/1, MS3.1/1, Ms1 3.3/1, ms1mx3.0/20, Error ellipse: s-maj=31.6km s-min=16.6km az=54.0

ISC 12 04:55:38.4±0.7, 13.82N±0.09×93.49E±0.05, h30km, n22, σ0§83/27, mb4.1/13, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.98**	**48**	Pn	**Pn**	**04 57 21.3**	**-0.1**
	5.6nm,0.3s,baz=240,slow=15,SNR=79						
CMAR				Sn	**Sn**	**04 58 40.9**	**+0.3**
	0.9nm,0.3s,baz=239,slow=28,SNR=5.2						
CMAR				LR	LR	05 00 27.2	
	comp=Z,131nm,18.4s,baz=230,slow=41						
CHG	**Chiang Mai**	**7.22**	**46**	PN	**Pn**	**04 57 24.7**	**0.0**
CHG				SG	**Sn**	**04 58 45.0**	**-1.5**
BWNR	**Bhubaneshwar**	**9.77**	**312**	*e*P	**P**	**04 57 58.9**	**-1.2**
BWNR				*e*S	**Sn**	**04 59 38.0**	**-12**
BWNR				*e*		04 59 41.5	
	comp=E,223nm,0.3s						
BWNR				*e*		04 59 41.5	
	comp=N,184nm,0.3s						
VIS	**Vishakhapatnam**	**10.52**	**293**	*e*P	**P**	**04 58 09.5**	**-1.0**
VIS				*e*S	**S**	**04 59 59.0**	**-9.3**
VIS	**Vishakhapatnam**	**10.52**	**293**	*e*P	**P**	**04 58 10.8**	**+0.3**
VIS				*e*S	**S**	**04 59 59.2**	**-9.1**
VIS				*e*		05 00 04.3	
	comp=N,104nm,0.2s						
VIS				*e*		05 00 04.3	
	comp=E,55nm,0.2s						
HYB	**Hyderabad**	**14.82**	**286**	*i* P	**P**	**04 59 13.0**	**+5.1**
HYB				*e*S	**S**	**05 01 50.5**	**-1.4**
HYB				*e*		05 01 57.0	
LSA	**Lhasa**	**15.95**	**353**	*e*P	**P**	**04 59 27.3**	**+4.8**
	comp=E,20nm,0.6s						
POO	**Poona**	**19.43**	**287**	*e*P	**P**	**05 00 10.0**	**+4.5**
ENH	**Enshi**	**22.04**	**39**	*e*P	**P**	**05 00 32.1**	**-0.3**
	comp=E,17nm,0.3s,mb5.0						
XAN	**Xi'an**	**24.52**	**32**	P	**P**	**05 00 56.1**	**-0.5**
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.5						
SONM	**Songino Array**	**35.57**	**15**	P	**P**	**05 02 35.9**	**+0.8**
	comp=Z,1.3nm,0.5s,mb4.2,baz=205,slow=9.0,SNR=20						
SONM				ScP		05 08 46.6	
	comp=Z,0.7nm,0.8s,baz=196,slow=4.8,SNR=5.9						
ZAL	**Zalesovo**	**40.60**	**352**	P	**P**	**05 03 17.7**	**+0.6**
	comp=Z,4.8nm,0.5s,mb4.3,baz=308,slow=5.9,SNR=24						
BVAR	**Borovoye Array**	**43.20**	**340**	P	**P**	**05 03 39.5**	**+1.1**
	comp=Z,1.2nm,0.9s,mb3.6,baz=143,slow=7.2,SNR=3.4						
CHKZ	**Chkalovo**	**43.67**	**340**	*e*P	**P**	**05 03 42.9**	**+0.7**
	comp=Z,2.8nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**52.35**	**129**	P	**P**	**05 04 49.7**	**-0.6**
	comp=Z,1.1nm,0.5s,mb4.1,baz=308,slow=8.5,SNR=8.9						
WRA				PcP	PcP	05 06 00.7	-0.3
	comp=Z,0.5nm,0.5s,baz=313,slow=3.3,SNR=5.6						
ASAR	**Alice Springs**	**54.31**	**133**	P	**P**	**05 05 03.6**	**-1.0**
	comp=Z,1.1nm,0.6s,mb4.0,baz=310,slow=7.0,SNR=11						
BRTR	**Keskin Array B**	**58.17**	**308**	P	**P**	**05 05 32.5**	**+0.4**
	comp=Z,0.9nm,0.8s,mb3.8,baz=105,slow=7.6,SNR=4.4						
FINES	**FINESS Array B**	**67.20**	**331**	P	**P**	**05 06 31.8**	**+0.1**
	comp=Z,1.0nm,0.7s,mb4.0,baz=108,slow=6.0,SNR=8.0						
ARCES	**ARCESS Array B**	**69.50**	**340**	P	**P**	**05 06 46.6**	**+0.7**
	comp=Z,3.0nm,0.9s,mb4.2,baz=100,slow=7.4,SNR=7.5						
GERES	**GERESS Array B**	**73.02**	**317**	P	**P**	**05 07 08.8**	**+1.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=76,slow=5.5,SNR=9.6						
ILAR	**Eielson Array**	**89.50**	**22**	P	**P**	**05 08 34.4**	**+0.6**
	comp=Z,0.7nm,0.8s,mb4.0,baz=300,slow=4.8,SNR=11						
TXAR	**Lajitas Array**	**134.01**	**21**	PKP	PKPdf	05 14 56.5	-2.3
	comp=Z,0.2nm,0.6s,baz=282,slow=0.6,SNR=4.5						

ATH 12 04:58:28.2, 36.99N×28.16E, h77km±24km
CSEM 12 04:58:28.6±0.1, 36.89N×27.80E, h10km, Error ellipse: s-maj=2.2km s-min=1.9km az=71.0
ISK 12 04:58:29.3, 36.88N×27.79E, h19km, ML3.6
HLW 12 04:58:38.5, 36.60N×27.96E, h33km, Mb3.2

ISC 12 04:58:30.2±0.5, 36.87N±0.03×27.80E±0.04, h25km±5km, n38, σ0§84/46, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.34**	**304**	*i* P	**Pb**	**04 58 38.0**	**+0.2**
BDRM				*i* S	**Sb**	**04 58 44.1**	**+1.1**
MLSB	**Milas**	**0.42**	**358**	*i* PG	**Pb**	**04 58 37.6**	**-1.5**
DALT	**Dalyan (Mudla)**	**0.68**	**99**	PG	**Pb**	**04 58 43.5**	**+0.1**
ARG	**Arkhangelos**	**0.71**	**158**	*e*P	**Pb**	**04 58 44.7**	**+0.9**
ARG				*e*S	**Sb**	**04 58 57.7**	**+4.6**
AYDN	**Tasoluk**	**0.79**	**5**	*i* P	**Pb**	**04 58 44.3**	**-0.9**
AYDN				*i* S	**Sb**	**04 58 54.3**	**-1.2**
FETY	**Fethiye**	**1.06**	**103**	*i* PG	**Pn**	**04 58 49.3**	**-0.3**
FETY				SG	**Sb**	**04 59 03.8**	**+0.5**
SMG	**Samos**	**1.13**	**318**	*e*P	**Pn**	**04 58 51.8**	**+1.1**
DNZL	**Cakiroluk**	**1.29**	**50**	*i* P	**Pn**	**04 58 52.9**	**0.0**
DNZL				*i* S	**Sn**	**04 59 10.7**	**+1.3**
DENT	**Denizli**	**1.32**	**48**	PN	**Pn**	**04 58 53.5**	**+0.1**
KARP	**Karpathos**	**1.42**	**201**	*e*P	**Pn**	**04 58 57.4**	**+2.6**
IZM	**Izmir**	**1.58**	**345**	PN	**Pn**	**04 58 57.3**	**+0.2**
KDAG	**Bornova**	**1.58**	**345**	*i* P	**Pn**	**04 58 57.5**	**+0.3**
BLCB	**Balcova**	**1.62**	**339**	PN	**Pn**	**04 58 57.7**	**-0.1**
ELL	**Elmali**	**1.70**	**94**	*e*PN	**Pn**	**04 58 59.4**	**+0.7**
MANT	**Manisa**	**1.72**	**20**	*i* P	**Pn**	**04 58 59.4**	**+0.2**
MANT				*i* S	**Sn**	**04 59 20.2**	**-0.4**
APE	**Apeiranthos**	**1.83**	**277**	*e*PN	**Pn**	**04 59 00.6**	**-0.1**
APE	**Apeiranthos**	**1.83**	**277**	*e*Pn	**Pn**	**04 59 00.5**	**-0.1**
APE	**Apeiranthos**	**1.83**	**277**	*e*P	**Pn**	**04 59 02.5**	**+1.9**
KHL	**Karahalli**	**1.99**	**43**	PN	**Pn**	**04 59 03.6**	**+0.6**
AKS	**Akhisar**	**2.00**	**0**	PN	**Pn**	**04 59 02.9**	**-0.3**
BCK	**Bucak**	**2.31**	**74**	*e*PN	**Pn**	**04 59 08.2**	**+0.7**
ISP	**Isparta**	**2.37**	**65**	*e*PN	**Pn**	**04 59 08.8**	**+0.4**
BALB	**Balikesir**	**2.76**	**1**	PN	**Pn**	**04 59 13.8**	**-0.2**
BTOK	**Tokmak**	**2.89**	**4**	*i* P	**Pb**	**04 59 25.5**	**+4.6**
KCT	**Karacabey**	**3.42**	**7**	*e*PN	**Pn**	**04 59 23.2**	**-0.1**
ULDT	**Uludag**	**3.43**	**17**	*i* P	**Pn**	**04 59 29.3**	**+5.9**
BNT	**Bandirma**	**3.48**	**2**	PN	**Pn**	**04 59 23.1**	**-1.0**
HDMB	**Hadim**	**3.76**	**87**	*e*PN	**Pn**	**04 59 28.5**	**+0.3**
KIZT	**Kizilcal**	**3.80**	**57**	PN	**Pn**	**04 59 29.6**	**+0.9**
YLV	**Yalova**	**3.89**	**18**	*e*PN	**Pn**	**04 59 29.4**	**-0.5**
HMAT	**Matruh**	**5.79**	**186**	P	**Pn**	**04 59 57.4**	**+0.5**
HMAT				S	**Sn**	**05 00 56.1**	**-7.3**
HNAT	**Natroun**	**7.60**	**161**	P	**Pn**	**05 00 21.4**	**-0.9**
AMAG	**Maghara**	**7.67**	**143**	P	**Pn**	**05 00 22.6**	**-0.7**
SWA1		**7.79**	**194**	P	**Pn**	**05 00 25.1**	**+0.1**
SWA1				S	**Sn**	**05 01 44.0**	**-9.3**
SWA2		**7.86**	**195**	P	**Pn**	**05 00 25.8**	**-0.2**
SUZ		**8.18**	**148**	P	**P**	**05 00 29.5**	**-0.9**
AWBH		**8.58**	**173**	P	**P**	**05 00 34.5**	**-1.4**
ASUT		**9.97**	**160**	P	**P**	**05 00 53.2**	**-2.0**

IDC 12 05:26:56.2±41.0, 7.37S×67.85E, mb3.8/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.8/3, Error ellipse: s-maj=1236.0km s-min=46.2km az=70.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**64.62**	**28**	P	P	05 37 35.8	-2.1
	0.9nm,0.8s,baz=226,slow=6.0,SNR=4.4						
ASAR	**Alice Springs**	**65.17**	**113**	P	P	05 37 39.9	-2.0
	0.7nm,0.8s,baz=270,slow=6.3,SNR=5.5						
WRA	**Warramunga Arr**	**65.46**	**108**	P	P	05 37 41.6	-2.2
	0.9nm,0.8s,baz=280,slow=6.6,SNR=4.8						

BER 12 05:49:03.7±5.8, 81.89N×5.78W, h13km±348km, MD3.6, ML3.2, ML2.1(NAO)
NAO 12 05:49:07.2±8.8, 82.41N×2.73E, ML2.1

ISC 12 05:49:06.3±2.8, 81.5N±0.2×2.9W±0.4, h10km, n5, σ1§03/9, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**4.76**	**125**	Pn	**Pn**	**05 50 20.2**	**+0.4**
	baz=341,slow=9.3						
SPA0				Sn	**Sn**	**05 51 16.5**	**+0.8**
	baz=338,slow=18						
DAG	**Danmarks Havn**	**5.59**	**220**	*i* P	**Pn**	**05 50 31.0**	**-0.6**
DAG				*i*	**Sn**	**05 51 36.8**	**+0.1**
HSP	**Hornsund**	**5.66**	**133**	*e*P	**Pn**	**05 50 35.4**	**+2.8**
HOPEN	**Hopen**	**7.22**	**119**	*e*P	**Pn**	**05 50 54.3**	**-0.2**
HOPEN				*e*S	**Sn**	**05 52 15.8**	**-1.7**
HOPEN				AML	AML	05 52 21.5	
	comp=Z,26nm,0.2s						
ARA0	**ARCESS Array S**	**13.68**	**135**	Pn	**P**	**05 52 21.9**	**-0.3**
	baz=7.0,slow=10						
ARA0				Sn	**S**	**05 54 49.7**	**-5.6**
	baz=4.6,slow=18						

IDC 12 05:50:27.1±3.7, 45.95N×153.22E, mb3.8/7, mb1 4.0/7, mb1mx3.7/21, mbtmp3.8/7, Error ellipse: s-maj=98.5km s-min=34.0km az=4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**42.29**	**32**	P	P	05 58 22.5	-1.0
	0.7nm,0.6s,baz=206,slow=12,SNR=2.1						
YKA	**Yellowknife Ar**	**51.53**	**36**	P	P	05 59 33.2	-3.0
	0.4nm,0.6s,baz=296,slow=7.1,SNR=5.6						
FINES	**FINESS Array B**	**64.80**	**335**	P	P	06 01 06.8	-2.4
	1.5nm,0.5s,baz=43,slow=7.5,SNR=13						
NOA	**NORSAR Array B**	**69.01**	**341**	P	P	06 01 34.2	-1.7
	0.7nm,0.8s,baz=356,slow=17,SNR=2.8						
AKASG	**Malin Array Be**	**72.26**	**326**	P	P	06 01 53.8	-1.9
	0.5nm,0.4s,baz=32,slow=5.0,SNR=5.1						
TXAR	**Lajitas Array**	**77.83**	**60**	P	P	06 02 26.6	-1.2
	0.4nm,0.6s,baz=292,slow=3.8,SNR=6.6						
GERES	**GERESS Array B**	**79.21**	**334**	P	P	06 02 34.4	-0.6
	0.3nm,0.3s,baz=32,slow=9.3,SNR=4.1						

NEIC 12 06:36:20.7±9.0, 23.66S×179.83W, h511km±55km, mb4.5/4, Error ellipse: s-maj=138.4km s-min=18.6km az=48.0
IDC 12 06:36:23.0±3.1, 23.83S×179.99E, h520km±42km, mb3.6/5, mb1 3.8/6, mb1mx3.4/15, mbtmp4.5/6, Error ellipse: s-maj=56.9km s-min=20.6km az=49.0

ISC 12 06:36:21.1±2.9, 23.7S±0.2×179.8W±0.3, h535km±43km, n13, σ0§46/15, mb4.2/8, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.77**	**189**	P	**P**	**06 39 28.1**	**-0.1**
	2.2nm,0.3s,baz=4.0,slow=2.7,SNR=10						
URZ				S	**S**	**06 41 59.1**	**0.0**
	0.3nm,0.3s,baz=138,slow=19,SNR=3.4						
RPZ	**Rata Peaks**	**21.35**	**198**	P	**P**	**06 40 30.9**	**-0.2**
	6.8nm,0.5s,mb4.5,baz=135,slow=3.1,SNR=8.7						
CTA	**Charters Tower**	**31.63**	**270**	P	**P**	**06 42 02.9**	**+1.2**
	13nm,0.3s,mb4.9,baz=93,slow=11,SNR=30						
CTA	**Charters Tower**	**31.63**	**270**	P	**P**	**06 42 02.9**	**+1.2**
CTAO	**Charters Tower**	**31.63**	**270**	*e*P	**P**	**06 42 02.6**	**+1.0**
	12nm,0.4s,mb4.8						
ASAR	**Alice Springs**	**42.23**	**260**	P	**P**	**06 43 28.8**	**+0.2**
	2.2nm,0.5s,mb4.0,baz=98,slow=6.9,SNR=35						
ASAR				S	**S**	**06 49 10.9**	**-0.1**
	0.2nm,0.6s,baz=97,slow=14,SNR=4.8						
ASPA	**Alice Springs**	**42.23**	**260**	*e*P	**P**	**06 43 28.9**	**+0.3**
WB2	**Warramunga Arr**	**42.57**	**266**	‖ *i*P	**P**	**06 43 31.0**	**-0.3**
WRAB	**Tennant Creek**	**42.57**	**266**	*e*P	**P**	**06 43 30.8**	**-0.6**
	7.7nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**42.58**	**266**	P	**P**	**06 43 31.1**	**-0.3**
	4.9nm,0.3s,mb4.5,baz=96,slow=8.4,SNR=87						
KAKA	**Kakadu**	**46.44**	**275**	*e*P	**P**	**06 44 00.8**	**-0.7**
	5.8nm,0.7s,mb4.2						
FITZ	**Fitzroy Crossi**	**51.00**	**265**	*e*P	**P**	**06 44 35.8**	**+0.3**
	18nm,1.5s,mb4.2						
VNDA	**Vanda**	**54.62**	**185**	P	**P**	**06 45 00.8**	**+0.3**
	2.0nm,1.1s,mb3.2,baz=14,slow=4.4,SNR=5.8						

IDC 12 06:44:51.9±2.9, 4.97N×93.48E, mb3.6/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.6/4, ML4.3/1, Error ellipse: s-maj=88.9km s-min=31.6km az=64.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.43**	**21**	Pn	P	06 48 19.0	-0.6
	0.4nm,0.3s,baz=212,slow=14,SNR=3.4						
SONM	**Songino Array**	**44.12**	**12**	P	P	06 53 01.4	-2.3
	0.2nm,0.4s,baz=194,slow=5.9,SNR=3.2						
WRA	**Warramunga Arr**	**47.18**	**123**	P	P	06 53 26.7	-1.8
	1.3nm,0.7s,baz=299,slow=9.3,SNR=5.0						
BVAR	**Borovoye Array**	**51.52**	**342**	P	P	06 53 59.6	-1.9
	0.6nm,0.5s,baz=131,slow=13,SNR=3.5						

IDC 12 06:45:33.8±0.9, 6.31N×128.49E, mb3.9/6, mb1 4.2/6, mb1mx4.0/17, mbtmp3.9/6, 1D, Error ellipse: s-maj=65.1km s-min=18.2km az=76.0, East of Philippine Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.45**	**282**	‖ *i*P	Pn	06 46 15.2	-15
CGP	**Cagayan de Oro**	**4.33**	**300**	*e*P	Pg	06 46 59.2	-1.0
CGP				*e*S	Sn	06 47 16.5	-18
FITZ	**Fitzroy Crossi**	**24.42**	**187**	*e*P	P	06 50 52.0	-3.4
	14nm,1.8s						
WRA	**Warramunga Arr**	**26.71**	**168**	P	P	06 51 14.7	-2.2
	2.5nm,0.6s,baz=347,slow=10,SNR=15						
WB2	**Warramunga Arr**	**26.72**	**168**	*e*P	P	06 51 14.9	-2.1
ASAR	**Alice Springs**	**30.26**	**170**	P	P	06 51 46.2	-2.7
	0.9nm,0.5s,baz=360,slow=8.8,SNR=16						
ASPA	**Alice Springs**	**30.26**	**170**	*e*P	P	06 51 46.9	-2.0
STKA	**Stephens Creek**	**39.98**	**163**	P	P	06 53 11.2	-0.9
	11nm,0.7s,baz=343,slow=9.2,SNR=19						
SONM	**Songino Array**	**45.47**	**339**	P	P	06 53 55.5	-1.1
	0.1nm,0.4s,baz=135,slow=8.2,SNR=2.6						
BVAR	**Borovoye Array**	**66.15**	**326**	P	P	06 56

0.6nm,0.8s,mb3.7,baz=154,slow=9.1,SNR=6.7
SNAA Sanae 61.91 161 P **P 07 09 30.8 -1.3**
0.8nm,0.7s,mb3.9,baz=292,slow=11,SNR=4.5
DBIC Dimbokro 68.34 73 P **P 07 10 14.3 0.0**
3.5nm,0.6s,mb4.3,baz=220,slow=7.1,SNR=11
MSU Marysvale 72.63 325 *e*P **P 07 10 40.9 +1.1**
PDAR Pinedale Array 74.54 330 P **P 07 10 50.9 +0.1**
0.8nm,0.7s,mb3.5,baz=133,slow=7.2,SNR=7.6
NVAR Mina Array Bea 75.96 322 P **P 07 10 59.7 +0.8**
1.7nm,0.8s,mb3.8,baz=144,slow=7.3,SNR=5.2
NVAR Mina Array Bea 75.96 322 P **P 07 10 59.7 +0.8**
MCMT McKenzie Canyo 77.66 329 *e*P **P 07 11 09.6 +1.4**
YKA Yellowknife Ar 91.56 340 P **P 07 12 17.3 -0.1**
2.1nm,0.7s,mb4.5,baz=135,slow=4.6,SNR=52
YKA pP pP 07 12 49.7 +3.4
0.6nm,0.7s,baz=133,slow=4.5,SNR=4.1
YKA sP sP 07 13 01.5 +3.6
0.7nm,0.7s,baz=135,slow=4.2,SNR=4.3
YKA Yellowknife Ar 91.56 340 P **P 07 12 17.3 -0.1**
YKA pP pP 07 12 49.7 +3.4
YKA sP sP 07 13 01.5 +3.6
SONM Songino Array 153.61 8 PKP PKPdf 07 19 02.4 +2.6
0.4nm,0.8s,baz=180,slow=2.5,SNR=3.5
SONM PKPbc PKPdf 07 19 09.9 +10
0.5nm,0.9s,baz=315,slow=1.7,SNR=3.0
SONM PKPab PKPab 07 19 22.8 -0.3
0.2nm,0.3s,baz=333,slow=3.2,SNR=4.7
SONM pPKP 07 19 32.4
0.7nm,0.6s,baz=315,slow=2.7,SNR=4.2

*ATH **12** 07:18:41.6, 38.50N×21.60E, h18km±5km, MD3.3/10*
*CSEM **12** 07:18:41.4±0.1, 38.51N×21.62E, h2km, MD3.3, Error ellipse: s-maj=2.2km s-min=1.6km az=115.0*
*NEIC **12** 07:18:41.7, 38.49N×21.60E, h4km, MD3.3(ATH), After ATH.*
*THE **12** 07:18:42.1, 38.42N×21.79E, h2km, ML3.1*
ISC 12 07:18:41.2±0.5, 38.47N±0.03×21.68E±0.06, h2km, n23, σ1§07/29, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.45**	**202**	*e*PB	**Pb**	**07 18 51.5**	**+0.1**
EVR	**Evrytania**	**0.46**	**13**	*e*Pg	**Pg**	**07 18 49.7**	**-0.6**
EVR				*e*Sg	**Sg**	**07 18 56.7**	**+0.3**
AGG	**Agios Georgios**	**0.75**	**43**	*e*Pg	**Pg**	**07 18 55.9**	**-0.3**
AGG				*e*Sg	**Sg**	**07 19 06.9**	**+0.7**
VLS	**Valsamata**	**0.90**	**251**	*e*PB	**Pb**	**07 18 57.7**	**-1.6**
LKR	**Lokris**	**1.05**	**80**	*e*PN	**Pn**	**07 19 03.0**	**+0.2**
ITM	**Ithomi**	**1.31**	**171**	*e*PN	**Pn**	**07 19 07.3**	**+0.8**
MGER	**Gerania Oros**	**1.34**	**111**	*e*PN	**Pn**	**07 19 08.1**	**+1.2**
JAN	**Janina**	**1.34**	**332**	*e*PN	**Pn**	**07 19 06.5**	**-0.5**
NEO	**Neokhori**	**1.47**	**55**	*e*PB	**Pb**	**07 19 08.7**	**-0.2**
XOR	**Xorichti**	**1.48**	**53**	*e*Pb	**Pb**	**07 19 09.2**	**0.0**
XOR	**Xorichti**	**1.48**	**53**	*e*Pb	**Pb**	**07 19 09.1**	**0.0**
NSAL	**Nisos Salamina**	**1.52**	**111**	*e*PN	**Pn**	**07 19 10.5**	**+1.0**
NAIG	**Nisos Aigina**	**1.60**	**116**	*e*PN	**Pn**	**07 19 13.5**	**+2.9**
LIT	**Litokhoron**	**1.74**	**21**	*e*Pb	**Pb**	**07 19 12.6**	**-1.0**
LIT				*e*Sb	**Sb**	**07 19 36.2**	**+0.3**
AOS	**Alonnisos**	**1.86**	**67**	*e*Pb	**Pb**	**07 19 14.2**	**-1.3**
AOS				*e*Sb	**Sb**	**07 19 37.5**	**-1.8**
VLI	**Veliai**	**2.02**	**150**	*e*PN	**Pn**	**07 19 18.5**	**+1.9**
VLI	**Veliai**	**2.02**	**150**	*e*Pg	**Pg**	**07 19 20.0**	**-1.5**
PAIG	**Paliouri**	**2.13**	**46**	*e*Pn	**Pn**	**07 19 17.2**	**-1.0**
FNA	**Florina**	**2.32**	**354**	*e*Pn	**Pn**	**07 19 21.7**	**+0.7**
FNA				*e*Sn	**Sn**	**07 19 52.9**	**+2.4**
GRG	**Griva**	**2.54**	**12**	*e*Pn	**Pn**	**07 19 24.4**	**+0.2**
OUR	**Ouranopolis**	**2.58**	**43**	*e*Pn	**Pn**	**07 19 23.4**	**-1.2**
SOH	**Sokhos**	**2.68**	**28**	*e*Pn	**Pn**	**07 19 25.3**	**-0.9**
SOH				*e*Sn	**Sn**	**07 20 00.7**	**+1.1**
KNT	**Kendrikon**	**2.85**	**19**	*e*Pn	**Pn**	**07 19 28.6**	**+0.1**

MAN 12 07:47:33.5, 17.96N×122.26E, h1km, mb4.1, ML2.9, MS2.6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.35**	**324**	*e*P	Pg	07 47 40.6	0.0
SGCP				*e*S	Sg	07 47 48.8	+3.5
CVP	**Callao Caves**	**0.49**	**239**	*i* P	Pg	07 47 45.0	+1.7
CVP				*e*S	Sg	07 47 55.0	+5.2
PALP	**Palanan**	**0.90**	**170**	*e*P	Pg	07 47 51.3	-0.2
APYP	**Conner**	**0.98**	**265**	*e*P	Pb	07 47 52.4	-0.5
APYP				*e*S	Sg	07 48 09.0	+3.0
CAUP	**Cauayan**	**1.09**	**203**	*e*P	Pb	07 47 48.1	-6.7
ABRA	**Dolores**	**1.51**	**259**	*e*P	Pn	07 48 00.8	-1.0
BALP	**Baler**	**2.30**	**197**	*e*P	Pn	07 48 13.2	+0.1

*CSEM **12** 07:57:53.5±0.2, 35.00N×3.84W, h15km, MD3.3, Error ellipse: s-maj=5.7km s-min=4.8km az=116.0*
*MDD **12** 07:57:55.3±0.4, 34.99N×3.87W, h8km±3km, mb3.5/5, Error ellipse: s-maj=4.7km s-min=3.3km az=63.0, PRXIMO*
*CNRM **12** 07:57:55.0, 35.00N×3.83W, h7km, MD3.3*
*NEIC **12** 07:57:57.7, 35.22N×3.82W, MG3.3(MDD), After MDD.*
ISC 12 07:57:54.1±0.4, 35.00N±0.02×3.90W±0.03, h10km, n27, σ1§04/49, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.12**	**108**	P	**Pg**	**07 57 57.0**	**-0.1**
TOU				S	**Sg**	**07 58 00.0**	**+0.8**
TOU	**Touzarine**	**0.12**	**108**	*i* P	**Pg**	**07 57 57.0**	**-0.1**
MPAL	**Palemas**	**0.23**	**351**	P	**Pg**	**07 57 59.5**	**+0.5**
MPAL				S	**Sg**	**07 58 04.0**	**+1.8**
MPAL	**Palemas**	**0.23**	**351**	*i* P	**Pg**	**07 57 59.5**	**+0.5**
EMEL	**Melilla**	**0.83**	**69**	P	**Pb**	**07 58 10.2**	**+0.1**
205nm,0.1s,SNR=7.5
EMEL S **Sb** **07 58 20.9** **-0.1**
395nm,0.2s,SNR=4.0
EMLI Melilla 0.83 69 P **Pb 07 58 10.0 -0.2**
143nm,0.1s,SNR=7.5
EMLI S **Sb** **07 58 20.9** **-0.3**
67nm,0.1s,SNR=4.0
TZK Tazeka 0.94 195 *i* P **Pb 07 58 13.0 +1.0**
TZK *i* S **Sb 07 58 26.0 +1.7**
ZAI Zaio 0.95 91 *i* P **Pb 07 58 12.0 -0.1**
ZAI *i* S **Sb 07 58 24.0 -0.5**
DKH Dar Kharkhour 1.29 293 *i* P **Pb 07 58 18.0 0.0**
DKH *i* S **Sb 07 58 38.0 +3.5**
EMIJ Mijas 1.71 336 P **Pn 07 58 26.4 +2.1**
EMIJ S **Sn 07 58 44.2 -2.2**
EMIJ Mijas 1.71 336 P **Pn 07 58 24.6 +0.3**
3.3nm,0.2s,SNR=7.9
EMIJ S **Sn 07 58 44.2 -2.2**
6.9nm,0.3s,SNR=7.9
EMIJ Mijas 1.71 336 P **Pn 07 58 26.4 +2.1**
1.3nm,0.2s,SNR=7.9
EMIJ S **Sn 07 58 44.2 -2.2**
6.9nm,0.3s,SNR=7.9
MIF Mishlifen 1.93 215 *i* P **Pn 07 58 28.0 +0.6**
MIF *i* S **Sn 07 58 52.0 +0.1**
EBER Berja 2.06 23 P **Pn 07 58 29.3 0.0**
EBER S **Sn 07 58 52.0 -3.3**
EBER Berja 2.06 23 P **Pn 07 58 29.4 +0.1**
1.7nm,0.2s,SNR=4.0
EBER S **Sn 07 58 55.0 -0.2**
9.9nm,0.3s,SNR=7.9
EBER Berja 2.06 23 P **Pn 07 58 29.3 0.0**
0.8nm,0.1s,SNR=4.9
EBER S **Sn 07 58 52.0 -3.2**
2.3nm,0.3s,SNR=7.9
CZD Col de Zad 2.18 206 *i* P **Pn 07 58 30.0 -0.9**
CZD *i* S **Sn 07 58 56.0 -2.2**
EQES Quesada 2.88 13 P **Pn 07 58 41.7 +0.8**
EQES S **Sn 07 59 16.4 +0.6**
EQES Quesada 2.88 13 P **Pn 07 58 41.0 +0.1**
0.9nm,0.1s,SNR=7.9
EQES S **Sn 07 59 15.1 -0.8**
7.4nm,0.3s,SNR=7.9
EQES Quesada 2.88 13 P **Pn 07 58 41.7 +0.8**
0.2nm,0.1s,SNR=7.9
EQES S **Sn 07 59 16.4 +0.5**
0.5nm,0.1s,SNR=7.9
ZFT Errachidia 2.98 187 P **Pn 07 58 42.0 -0.4**
ZFT S **Sn 07 59 18.0 -0.6**
ZFT Errachidia 2.98 187 *i* P **Pn 07 58 42.0 -0.4**
EMIN Mina Concepcio 3.56 322 P **Pn 07 58 50.2 -0.3**
EMIN S **Sn 07 59 29.1 -4.0**
EMIN Mina Concepcio 3.56 322 P **Pn 07 58 49.8 -0.7**
0.8nm,0.2s,SNR=7.9
EMIN S **Sn 07 59 30.2 -2.9**
0.7nm,0.2s,SNR=4.0
EMIN Mina Concepcio 3.56 322 S **Sn 07 59 29.1 -4.0**
EMIN Mina Concepcio 3.56 322 P **Pn 07 58 50.2 -0.3**
0.3nm,0.1s,SNR=7.9
EBAD Badajoz 4.50 327 P **Pn 07 59 04.2 +0.2**
0.9nm,0.1s,SNR=7.9
EBAD S **Sn 07 59 53.2 -3.9**
3.5nm,0.2s,SNR=7.9

*BJI **12** 08:10:43.3, 34.00N×116.40W, h7km, mB4.9, mb4.4, Ms4.6, Msz4.3*
*IDC **12** 08:10:45.7±1.7, 33.94N×116.30W, mb3.3/2, mb1 3.8/6, mb1mx3.6/19, mbtmp3.4/6, ML3.8/3, MS3.3/4, Ms1 3.3/4, ms1mx3.0/14, Error ellipse: s-maj=26.0km s-min=12.0km az=49.0*
*NEIC **12** 08:10:46.4, 33.95N×116.40W, h8km, ML4.3(PAS), After PAS.*
NEIC Felt [IV] at Cabazon, Coachella, Desert Hot Springs, Indian Wells and Thousand Palms; [III] at Cathedral City, Hemet, Indio, Joshua Tree, La Quinta, Morongo Valley, Palm Desert, Palm Springs, Rancho Mirage, Riverside, San Jacinto, Twentynine Palms, Yucaipa and Yucca Valley. Felt as far as Anaheim and San Diego.
ISC 12 08:10:44.0±0.6, 33.97N±0.05×116.34W±0.06, h8km, n30, σ1§22/29, mb3.6/3, MS3.6/2, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flat Ob**	**0.37**	**195**	*e*P	**Pg**	**08 10 52.1**	**+0.6**
NEN	**Nelson**	**2.08**	**36**	*e*Pn	**Pn**	**08 11 20.9**	**+1.2**
OMM	**Old Mammoth Mi**	**4.24**	**330**	*e*Pn	**Pn**	**08 11 52.0**	**+1.6**
TRCR	**Troy Canyon**	**4.42**	**8**	*e*Pn	**Pn**	**08 11 52.2**	**-0.8**
LRV	**Little Rabbit**	**4.55**	**304**	*e*Pn	**Pn**	**08 11 53.3**	**-1.5**
MNV	**Mina**	**4.69**	**342**	*e*Pn	**Pn**	**08 11 57.1**	**+0.3**
NVAR	**Mina Array Bea**	**4.73**	**341**	Pn	**Pn**	**08 11 58.1**	**+0.7**
2.0nm,0.3s,baz=177,slow=15,SNR=19
NVAR Pg **Pg** **08 12 13.8** **-4.7**
4.4nm,0.3s,baz=163,slow=18,SNR=21
NVAR Lg 08 13 14.6
2.4nm,0.3s,baz=84,slow=40,SNR=2.5
TUC Tucson 4.94 108 *e*Pn **Pn 08 11 58.2 -2.2**
SAO San Andreas Ge 5.02 305 *e*Pn **Pn 08 12 00.5 -1.0**
CMB Columbia Colle 5.22 322 *e*Pn **Pn 08 12 04.4 +0.1**
MSU Marysvale 5.65 35 *e*Pn **Pn 08 12 10.5 +0.1**
WCN Washoe City 5.99 334 *e*Pn **Pn 08 12 13.6 -1.6**
TMUT Trail Mountain 6.73 36 Pn **Pn 08 12 25.6 0.0**
OHCM Honcut 6.77 324 *e*Pn **Pn 08 12 25.4 -0.8**
NLU North Lily Min 6.88 28 *e*Pn **Pn 08 12 25.8 -2.0**
BGU Big Grassy Mou 7.43 20 Pn **Pn 08 12 34.9 -0.5**
LAZ Ladron 7.63 84 *e*Pn **Pn 08 12 37.9 -0.4**
ANMO Albuquerque 8.22 80 Pn **P 08 12 47.6 +1.2**
baz=266,slow=12,SNR=8.6
ANMO Pg P 08 13 19.3 +33
baz=270,slow=13,SNR=12
ANMO Lg 08 15 00.9
baz=301,slow=19,SNR=3.5
ANMO LR LR 08 16 24.3
comp=Z,54nm,21.7s,slow=41
ANMO Albuquerque 8.22 80 *e*Pn **P 08 12 46.5 +0.1**
MNTX Cornudas Mount 9.49 101 *e*Pn **P 08 13 02.0 -2.1**
GDL2 Guadalupe Moun 10.20 97 *e*Pn **P 08 13 14.4 +0.5**
PDAR Pinedale Array 10.27 29 Pn **P 08 13 18.3 +3.6**
0.1nm,0.3s,baz=200,slow=11,SNR=12
PDAR Lg 08 16 07.5
0.0nm,0.3s,baz=198,slow=30,SNR=2.8
CPRX Cap Rock 10.46 92 *e*Pn **P 08 13 18.8 +1.4**
TXAR Lajitas Array 11.74 110 Pn **P 08 13 34.8 -0.1**
0.4nm,0.3s,baz=290,slow=12,SNR=26
TXAR Lg 08 16 47.5
0.0nm,0.3s,baz=290,slow=27,SNR=4.5
TXAR LR LR 08 18 51.1
comp=Z,121nm,18.4s,baz=5.0,slow=42
YKA Yellowknife Ar 28.57 2 P **P 08 16 44.5 +2.4**
0.4nm,0.9s,mb3.1,baz=175,slow=7.4,SNR=4.1
YKA LR LR 08 28 17.3
comp=Z,51nm,19.4s,MS3.1,baz=205,slow=37
YKA Yellowknife Ar 28.57 2 P **P 08 16 44.5 +2.4**
YKA LR LR 08 28 17.4
ILAR Eielson Array 35.98 338 P **P 08 17 49.1 +2.1**
0.3nm,0.6s,mb3.4,baz=152,slow=7.7,SNR=12
FX1 Attu Island--F 52.37 314 LR LR 08 37 23.2
comp=Z,175nm,20.0s,MS4.1,baz=131,slow=30
MDJ Mudanjiang 81.54 319 P **P 08 23 04.0 +0.6**
MDJ AMB AMB
comp=Z,9.0nm,2.0s,mb4.3
MDJ AMB AMB
comp=Z,102nm,3.7s
LZH Lanzhou 100.85 328 *e*P P 08 24 34.1 -0.9
LZH AP 08 24 36.3
LZH PP PP 08 28 43.5 -2.1

IDC 12 08:12:40.1±6.1, 11.31N×92.34E, mb3.9/3, mb1 4.1/3, mb1mx3.6/16, mbtmp3.9/3, Error ellipse: s-maj=474.3km s-min=29.8km az=53.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.53**	**49**	*e*P	Pg	08 12 55.5	+4.9
PBA				*e*S	Sg	08 13 05.3	+7.6
PBA				*e*		08 13 06.0
comp=N,5μm,0.3s
PBA *e* 08 13 06.6
comp=E,5μm,0.5s
WRA Warramunga Arr 51.71 127 P **P 08 21 49.6 -2.0**
comp=E,0.7nm,0.4s,baz=306,slow=8.7,SNR=16
ASAR Alice Springs 53.48 131 P **P 08 22 02.5 -2.3**
comp=E,0.3nm,0.4s,baz=308,slow=6.6,SNR=7.0
ARCES ARCESS Array B 71.45 340 P **P 08 24 02.2 -1.9**
comp=E,9.0nm,1.2s,baz=90,slow=6.1,SNR=5.7

*BJI **12** 08:16:09.3, 4.22N×93.96E, h41km, mb4.8*
*IDC **12** 08:16:11.7±1.0, 4.56N×93.90E, h28km±4km, mb3.8/6, mb1 4.0/7, mb1mx3.8/18, mbtmp4.0/7, ML4.1/1, Error ellipse: s-maj=44.7km s-min=14.9km az=55.0*
*NEIC **12** 08:16:11.7±0.8, 4.51N×93.78E, mb4.5/3, Error ellipse: s-maj=25.6km s-min=11.4km az=63.0*
ISC 12 08:16:10.1±0.9, 4.5N±0.1×93.9E±0.2, h29km, h29km±2.0km: pP-P, n17, σ0§69/17, mb4.3/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr 14.73 19** Pn **P 08 19 38.0 -0.6**
0.3nm,0.3s,baz=215,slow=14,SNR=5.1
JIRN Jiri 24.16 343 *e*P **P 08 21 25.8 +0.7**
15nm,0.9s,mb4.4
PKI Pulchoki 24.31 342 *e*P **P 08 21 26.9 +0.3**
DMN Daman 24.44 341 *e*P **P 08 21 28.8 +0.9**
GUN Gumba 24.48 343 *e*P **P 08 21 28.3 0.0**
11nm,0.6s,mb4.5
GKN Gorkha 24.96 340 *e*P **P 08 21 33.0 +0.2**
KOLN Koldanda 25.11 338 *e*P **P 08 21 34.5 +0.2**
29nm,1.0s,mb4.8
LSA Lhasa 25.19 354 P **P 08 21 36.0 +1.0**
LSA Lhasa 25.19 354 *e*P **P 08 21 36.9 +1.9**
21nm,0.7s,mb4.8
SONM Songino Array 44.49 12 P **P 08 24 20.3 -0.5**
1.7nm,0.9s,mb3.8,baz=188,slow=9.8,SNR=10
SONM pP pP 08 24 28.2 -1.2
1.3nm,0.6s,baz=195,slow=7.6,SNR=8.4
WRA Warramunga Arr 46.61 123 P **P 08 24 38.4 +0.4**
2.2nm,0.7s,mb4.2,baz=299,slow=9.1,SNR=13
WRA pP pP 08 24 45.7 -0.9
4.6nm,0.6s,baz=300,slow=9.1,SNR=22
WRAB Tennant Creek 46.62 123 *e*P **P 08 24 38.2 +0.2**
3.4nm,0.6s,mb4.5
ASAR Alice Springs 48.04 128 P **P 08 24 49.4 +0.1**
1.4nm,1.1s,mb3.9,baz=298,slow=7.6,SNR=7.1
ASAR pP pP 08 24 56.5 -1.3
2.6nm,0.7s,baz=300,slow=7.6,SNR=16
BVAR Borovoye Array 52.08 342 P **P 08 25 18.9 -0.7**
2.4nm,0.6s,mb4.3,baz=149,slow=8.4,SNR=12
BVAR pP pP 08 25 27.2 -1.2
1.3nm,0.6s,baz=153,slow=6.4,SNR=4.8
BRVK Borovoye 52.14 342 *e*P **P 08 25 19.3 -0.8**
2.8nm,0.6s,mb4.4
ARCES ARCESS Array B 78.32 340 P **P 08 28 07.5 -1.4**
2.1nm,0.9s,mb4.1,baz=90,slow=4.5,SNR=4.1
ARCES pP pP 08 28 18.5 +0.5
3.9nm,0.9s,baz=97,slow=7.3,SNR=2.1
GERES GERESS Array B 80.14 319 P **P 08 28 18.8 -0.4**
1.1nm,0.9s,mb3.8,baz=104,slow=5.5,SNR=5.2
GERES pP pP 08 28 29.8 +1.5
0.3nm,0.2s,baz=90,slow=2.9,SNR=1.9

*IDC **12** 08:29:45.2±1.1, 2.37N×92.97E, mb3.9/7, mb1 4.1/8, mb1mx4.0/17, mbtmp3.9/8, ML4.2/1, MS3.0/1, Ms1 3.2/1, ms1mx2.8/24, Error ellipse: s-maj=46.8km s-min=19.0km az=50.0*
*NEIC **12** 08:29:50.2±0.8, 2.42N×93.07E, h30km, mb4.3/2, Error ellipse: s-maj=28.3km s-min=12.6km az=60.0*
ISC 12 08:29:48.3±0.9, 2.4N±0.1×93.1E±0.2, h30km, n14, σ1§04/13, mb4.0/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr 16.99 19** Pn **P 08 33 43.7 -1.9**
0.3nm,0.3s,baz=215,slow=13,SNR=15
CMAR LR LR 08 40 23.9
comp=Z,54nm,19.6s,baz=215,slow=38
IMP Imphal 22.29 2 *e* **P 08 34 45.3 +0.5**
SHL Shillong 23.08 357 *e*P **P 08 34 53.5 +0.9**
LSA Lhasa 27.23 356 *e*P **P 08 35 34.0 +2.1**
WRA Warramunga Arr 46.19 121 P **P 08 38 12.9 +0.3**
4.2nm,0.8s,mb4.4,baz=300,slow=8.7,SNR=21
WRAB Tennant Creek 46.19 121 *e*P **P 08 38 13.3 +0.7**
5.2nm,0.6s,mb4.6
SONM Songino Array 46.73 12 P **P 08 38 17.1 +0.6**
1.1nm,0.9s,mb3.8,baz=188,slow=7.9,SNR=8.3
ASAR Alice Springs 47.43 125 P **P 08 38 21.5 -0.9**
0.6nm,0.5s,mb3.8,baz=293,slow=7.7,SNR=7.0
BVAR Borovoye Array 53.86 343 P **P 08 39 09.3 -1.5**
1.3nm,0.9s,mb3.8,baz=146,slow=5.3,SNR=4.1
CHKZ Chkalovo 54.37 344 P **P 08 39 14.1 -0.4**
0.8nm,0.7s,mb3.8
STKA Stephens Creek 57.24 131 P **P 08 39 35.6 0.0**
1.4nm,0.6s,mb4.2,baz=310,slow=7.9,SNR=3.7
BRTR Keskin Array B 65.27 313 P **P 08 40 28.6 -1.1**
0.7nm,0.8s,mb3.8,baz=124,slow=5.2,SNR=2.8
GERES GERESS Array B 81.20 319 P **P 08 42 03.6 +0.8**
1.3nm,0.9s,mb3.8,baz=101,slow=6.8,SNR=5.2
TXAR Lajitas Array 144.63 26 PKP PKPdf 08 49 24.0 -3.9
0.4nm,0.6s,baz=21,slow=0.4,SNR=10

ISC 12 08:35:04.6±1.7, 45.17N±0.07×14.45E±0.07, h10km, n11, σ0§58/17, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDS	**Knezji Dol 0.36 352** *i* Pg **Pg 08 35 12.6 +0.5**
KNDS *i* Sg **Sg 08 35 17.4 +0.3**
comp=Z,37nm,0.1s
CEY Cerknica 0.57 358 *i* Pg **Pg 08 35 16.0 -0.2**
BOJS Bojanci 0.66 59 *i* Pg **Pg 08 35 18.6 +0.7**
BOJS *i* Sg **Sg 08 35 26.2 -0.5**
comp=Z,7.0nm,0.1s
VISS Visnje 0.69 23 *i* Pg **Pg 08 35 17.9 -0.6**
comp=Z,12nm,0.1s
JAVS Javornik 0.77 340 *i* Pg **Pg 08 35 20.0 -0.2**
JAVS *i* Sg **Sg 08 35 31.2 +0.6**
comp=Z,9.0nm,0.1s
VOJS Vojsko 0.95 335 *i* Pg **Pg 08 35 23.0 -0.7**
VOJS *i* Sg **Sg 08 35 36.9 +0.5**
PDKS Podkum 0.97 23 *e*Pg **Pg 08 35 25.0 +0.9**
LEGS Legarje 0.99 38 *i* Pg **Pg 08 35 23.9 -0.6**
GCIS Gornji Cirnik 1.08 49 *i* Pg **Pg 08 35 26.6 +0.3**
GOLS Golise 1.18 44 *e*Pg **Pg 08 35 28.3 +0.1**
GOLS *i* Sg **Sg 08 35 44.5 +0.6**
OBKA Obir 1.34 3 *i*PG **Pg 08 35 30.8 -0.7**
OBKA *i* SG **Sg 08 35 48.4 -1.0**
comp=Z,5.8nm,0.2s

IDC 12 08:37:23.5±7.7, 19.52S×175.14W, mb3.6/3, mb1 3.9/3, mb1mx3.7/14, mbtmp3.6/3, Error ellipse: s-maj=333.7km s-min=38.6km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs 47.37 255** P P 08 46 00.3 -1.2
1.2nm,0.8s,baz=91,slow=8.1,SNR=23
WRA Warramunga Arr 47.41 261 P P 08 45 59.0 -2.8
0.3nm,0.8s,baz=99,slow=6.7,SNR=5.7
ILAR Eielson Array 86.78 12 P P 08 50 09.2 -1.2
0.7nm,1.2s,baz=223,slow=5.2,SNR=5.8

*IGIL **12** 08:39:57.6, 1.00S×20.80W, h2km, MS6.2*
*CSEM **12** 08:40:02.5, 0.98S×20.80W, h10km, MS6.5*
*MOS **12** 08:40:02.3±1.0, 0.74S×21.14W, h10km, mb5.8/94, MS6.3/42, Error ellipse: s-maj=8.1km s-min=2.9km az=62.4*
*IDC **12** 08:40:02.3±0.4, 0.83S×21.08W, mb4.7/30, mb1 4.8/31, mb1mx4.7/32, mbtmp4.7/31, ML5.7/1, MS6.1/15, Ms1 6.1/15, ms1mx5.8/22, Error ellipse: s-maj=10.7km s-min=5.8km az=144.0*
*BJI **12** 08:40:03.6, 0.90S×21.20W, h10km, mB6.3, Ms5.7, Msz6.3*
*HRVD **12** 08:40:03.7±0.1, 0.47S×20.53W, h12km, MW6.8/78, Centroid moment Tensor Solution. LP body waves: s76,c198; Mantle waves: s78,c345; Half duration: 6s3 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.09±.01; $M_{\theta\theta}$0.63±.01; $M_{\phi\phi}$-0.53±.01; $M_{r\theta}$-0.05±.03; $M_{\theta\phi}$-1.77±.01; $M_{\phi r}$0.16±.03; Best double couple: $M_0$1.871×10^{19} NP1: ϕ_s261°, δ85°, λ180°. NP2:ϕ_s351°, δ90°, λ5°. Principal axes: T 1.917, Plg4°, Azm216°; N -.091, Plg85°, Azm356°; P -1.826, Plg3°, Azm126°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=125s.*
*NEIC **12** 08:40:03.6±0.2, 0.88S×21.19W, h10km, mb5.7/159, ME6.6, MS6.0/127, MW6.8 Error ellipse: s-maj=6.6km s-min=3.0km az=154.0 Broadband fault plane solution: P waves. NP1:ϕ_s170°, δ85°, λ-5°. NP2:ϕ_s260°, δ85°, λ-175°. Principal axes: T Plg0°, Azm35°; N Plg0°, Azm0°; P Plg7°, Azm125°; Moment Tensor Solution. s52 Moment tensor: Scale 10^{19} Nm; M_{rr}-0.21; $M_{\theta\theta}$0.79; $M_{\phi\phi}$-0.58; $M_{r\theta}$0.38; $M_{\theta\phi}$-1.63; $M_{\phi r}$-0.33; Best double couple: $M_0$1.8×10^{19} NP1:ϕ_s78°, δ79°, λ173°. NP2:ϕ_s169°, δ83°, λ11°. Principal axes: T 1.99, Plg13°, Azm34°; N -.32, Plg77°, Azm201°; P -1.66, Plg3°, Azm303°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
ISC 12 08:40:01.7±0.2, 0.88S±0.05×21.12W±0.03, h10km, (h20km±3.8km: pP-P), n817, σ1§04/779, mb5.5/198, MS6.1/159, 28C-48D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo 15.55 251** *e*P **P 08 43 40.6 -2.3**
177nm,0.5s
DBIC Dimbokro 17.88 65 P **P 08 44 11.6 -0.8**
26nm,0.3s,baz=232,slow=14,SNR=127
DBIC S **S 08 47 33.2 +3.8**
40nm,0.3s,baz=124,slow=18,SNR=4.0
DBIC LR LR 08 49 29.5
comp=Z,349μm,18.4s,baz=228,slow=32
CAM3 Guarapari 27.36 223 *i* P **P 08 45 53.7 +4.5**
CAM3 *e* 08 46 01.4
CAM3 *e*pP pP 08 46 06.9 +15
EGOM La Gomera 29.12 7 P **P 08 46 07.0 +1.9**
83nm,1.2s,mb5.3
CCAN Las Canadas 29.26 8 P **P 08 46 10.6 +4.2**
32nm,1.0s,mb5.0
CAM4 Nova Friburgo 29.85 223 *e*P **P 08 46 16.1 +4.3**
CAM4 *e*pP pP 08 46 29.8 +15
CAM4 *e*sP sP 08 46 34.0 +18
BAO Brasilia Array 30.30 240 P **P 08 46 17.1 +1.4**
BAO *e* 08 46 28.4
BAO *e* 08 46 40.4
BAO *e* 08 47 05.2
BAO *e* 08 47 13.6
BDFB Brasilia 30.32 240 P **P 08 46 16.9 +0.9**
8.2nm,0.8s,mb4.5,baz=81,slow=5.5,SNR=8.9
BDFB S **S 08 51 17.3 +2.6**
9.1nm,1.1s,baz=324,slow=17,SNR=1.5
BDFB LR LR 08 58 04.9
comp=Z,28μm,18.1s,MS5.9,baz=73,slow=36
TRIS Tristan da Cun 36.91 168 PFAKE 08 47 20.0 +7.3

TRIS LR LR
comp=Z,8µm,21.0s,MS5.5
PDA Ponta Delgada 38.67 354 *e*PP PP 08 48 50.0 -10
PDA *e* 08 53 33.0
PDA *i* LQ 08 56 38.0
PDA *i* LR LR 08 59 20.0
SFS San Fernando 39.66 19 *e*P **P 08 47 37.2 +1.5**
SFS pmax pmax
comp=Z,62nm,0.6s,mb5.5
SFS San Fernando 39.66 19 *e*P **P 08 47 37.2 +1.5**
comp=Z,62nm,0.6s,mb5.5
PTEO Sao Teotonio 39.92 15 *e*P **P 08 47 38.4 +0.6**
PTEO Sao Teotonio 39.92 15 *e*P **P 08 47 37.6 -0.2**
ESPR Espera 40.14 19 P **P 08 47 42.2 +2.6**
comp=Z,330nm,2.4s,mb5.6
EMIJ Mijas 40.24 21 P **P 08 47 39.6 -0.9**
comp=Z,366nm,3.2s
EGRO El Granado 40.25 17 P **P 08 47 39.3 -1.2**
comp=Z,285nm,2.6s,mb5.5
PBEJ Beja 40.60 16 *e*P **P 08 47 46.0 +2.6**
comp=Z,126nm,1.5s,mb5.3
PBEJ Beja 40.60 16 *e*P **P 08 47 44.5 +1.1**
EMIN Mina Concepcio 40.71 18 P **P 08 47 47.5 +3.2**
comp=Z,679nm,3.9s
LIS Lisbon 40.92 14 *e*P **P 08 47 42.2 -3.8**
LIS *e*SS SS 08 56 57.6 +3.5
LIS *e*SS SS 08 56 57.9 +3.8
LIS AMS AMS 09 05 36.9
comp=Z,36µm,19.6s,MS6.2
ERON Agron 40.99 21 P **P 08 47 49.9 +3.4**
comp=Z,29nm,1.2s,mb4.8
EVO Evora 41.04 16 *e*P **P 08 47 47.7 +0.7**
comp=Z,638nm,1.7s,mb5.7
EVO *e*R
comp=Z,42µm,20.5s
EBER Berja 41.22 22 P **P 08 47 50.8 +2.3**
comp=Z,513nm,2.7s,mb5.7
ELUQ Luque 41.31 20 P **P 08 47 52.9 +3.7**
ELUQ pmax pmax
comp=Z,48nm,1.0s,mb5.1
ELUQ Luque 41.31 20 P **P 08 47 52.9 +3.7**
comp=Z,48nm,1.0s,mb5.1
EBAD Badajoz 41.52 17 P **P 08 47 51.8 +0.7**
comp=Z,138nm,1.5s,mb5.4
ENIJ Nijar 41.55 23 P **P 08 47 51.5 +0.2**
ENIJ pmax pmax
comp=Z,38nm,0.7s,mb5.1
ENIJ Nijar 41.55 23 P **P 08 47 51.5 +0.2**
comp=Z,38nm,0.7s,mb5.1
EADA Adamuz 41.75 20 P **P 08 47 55.4 +2.5**
comp=Z,98nm,1.6s,mb5.2
EQES Quesada 41.95 22 P **P 08 47 58.5 +3.9**
comp=Z,348nm,1.9s,mb5.7
PCBR Castelo Branco 42.41 16 *e*P **P 08 48 00.4 +2.1**
comp=Z,62nm,1.5s,mb5.0
PCBR Castelo Branco 42.41 16 *e*P **P 08 47 59.4 +1.1**
CART Cartagena 42.56 24 *e*P **P 08 47 58.9 -0.7**
comp=Z,125nm,0.9s,mb5.6
EMUR La Murta 42.69 23 P **P 08 48 03.4 +2.8**
comp=Z,265nm,1.8s,mb5.7
EVIA Vianos 42.90 22 P **P 08 48 04.7 +2.4**
EVIA pmax pmax
comp=Z,36nm,0.7s,mb5.2
EVIA Vianos 42.90 22 P **P 08 48 04.7 +2.4**
comp=Z,36nm,0.7s,mb5.2
MTE Manteigas 42.91 15 *e*P **P 08 48 04.9 +2.5**
MTE *e*S **S 08 54 29.6 +2.7**
MTE *e*LQ 08 57 31.1
MTE *e*LR LR 09 00 29.4
comp=Z,39µm,17.7s
MTE Manteigas 42.91 15 *e*P **P 08 48 04.0 +1.6**
comp=Z,166nm,1.2s,mb5.6
PVIS Viseu 43.12 15 *e*P **P 08 48 12.4 +8.3**
PVIS Viseu 43.12 15 *e*P **P 08 48 05.1 +1.0**
ESDC Sonseca Array 43.31 19 P **P 08 48 05.5 -0.1**
comp=Z,11nm,0.8s,mb4.7,baz=204,slow=8.4,SNR=18
ESDC PcP PcP 08 49 54.3 -0.8
comp=Z,26nm,1.1s,baz=196,slow=9.0,SNR=3.1
ESDC S **S 08 54 34.1 +1.4**
comp=Z,0.3nm,0.4s,baz=201,slow=13,SNR=2.1
ESDC Sonseca Array 43.31 19 P **P 08 48 06.2 +0.6**
comp=Z,98nm,1.6s,mb5.3
ABA Alger-Bouzarea 43.68 28 P **P 08 48 09.0 +0.3**
PVRL Vila Real 43.69 15 *e*P **P 08 48 10.0 +1.3**
EBEN Beniarda 43.83 24 P **P 08 48 10.0 +0.1**
comp=Z,239nm,2.0s,mb5.6
GUD Guadarrama 44.12 19 P **P 08 48 13.1 +0.9**
GUD pmax pmax
comp=Z,27nm,0.7s,mb5.1
GUD Guadarrama 44.12 19 P **P 08 48 13.1 +0.9**
comp=Z,27nm,0.7s,mb5.1
CMER Merouana 44.20 32 P **P 08 48 13.0 +0.1**
CKHR Kef el Ahmar 44.30 31 P **P 08 48 15.0 +1.3**
SET Setif 44.38 31 P **P 08 48 16.0 +1.6**
PBRG Braganca 44.44 15 *e*P **P 08 48 19.2 +4.4**
comp=Z,128nm,1.7s,mb5.4
EIBI Ibiza 44.75 25 P **P 08 48 18.4 +1.0**
comp=Z,275nm,2.2s,mb5.7
CTEI Djebel Teioual 44.81 32 P **P 08 48 18.0 +0.2**
DFRA Djebel Bou Aff 44.90 31 P **P 08 48 17.5 -1.0**
CASM Ain Smara 45.00 32 P **P 08 48 19.0 -0.4**
EMOS Mosqueruela 45.16 22 P **P 08 48 20.0 -0.6**
comp=Z,390nm,2.1s,mb5.9
MART Mareth 45.23 38 ⇓*i*P **P 08 48 22.0 +0.8**
ABSA Djebel Ababsia 45.54 33 P **P 08 48 23.5 -0.1**
EPON Pontenova 45.76 14 P **P 08 48 29.4 +4.1**
comp=Z,350nm,2.1s,mb5.9
CMAH Djebel Manchou 45.77 32 P **P 08 48 26.0 +0.6**
EBR Ebro Roquetas 45.93 23 *e*P **P 08 48 28.0 +1.4**
ERTA Horta de San J 45.98 23 P **P 08 48 27.9 +0.8**
comp=Z,268nm,1.5s,mb6.0
GHAT Ghardimaou 46.15 33 ⇓*i*P **P 08 48 29.0 +0.5**
TROT Trozza 46.21 35 ⇑*i*P **P 08 48 29.5 +0.6**
EARI Arriondas 46.25 16 P **P 08 48 32.9 +3.7**
comp=Z,803nm,2.7s,mb6.2
ESAC San Caprasio 46.35 21 P **P 08 48 32.4 +2.5**
comp=Z,532nm,2.0s,mb6.1
EPOB Poblet 46.61 23 P **P 08 48 34.6 +2.6**
comp=Z,308nm,1.7s,mb6.0
BLIT Baltah 46.67 34 ⇓*i*P **P 08 48 32.5 0.0**
ELAN Lanestosa 46.70 18 P **P 08 48 36.9 +4.3**
comp=Z,387nm,2.4s,mb5.9
ZGN Zaghouan 47.07 35 ⇓*i*P **P 08 48 34.5 -1.2**
EMIR Miracle 47.27 23 P **P 08 48 38.6 +1.4**
comp=Z,556nm,2.6s,mb6.0
FDAF Les Forges d'A 47.27 21 *e*P **P 08 48 38.7 +1.5**
EALK Alkurruntz 47.30 20 P **P 08 48 41.1 +3.6**
comp=Z,583nm,3.3s
SJPF Ste Jean 47.30 20 *e*P **P 08 48 37.7 +0.2**
comp=Z,86nm,0.6s,mb5.5
SJPF Ste Jean 47.30 20 *e*P **P 08 48 37.7 +0.2**
SJPF pmax pmax
comp=Z,43nm,0.6s,mb5.6
ETSF Etsaut 47.34 21 *e*P **P 08 48 38.1 +0.3**
comp=Z,211nm,1.1s,mb5.7
ETSF Etsaut 47.34 21 *e*P **P 08 48 38.1 +0.3**
ETSF pmax pmax
comp=Z,106nm,1.1s,mb5.7
EBIE Bielsa 47.41 21 P **P 08 48 39.5 +1.1**
comp=Z,663nm,2.6s,mb6.1
OSSF Osses 47.42 20 *e*P **P 08 48 38.3 -0.1**
VIEF Viey 47.54 21 *e*P **P 08 48 39.3 0.0**
REYF Montagne du Re 47.55 21 *e*P **P 08 48 39.7 +0.2**
RESF Ens 47.59 21 *e*P **P 08 48 39.0 -0.7**
LABF Labassere 47.70 21 *e*P **P 08 48 41.1 +0.5**
EPF Esparros 47.78 21 *e*P **P 08 48 41.4 +0.2**
comp=Z,136nm,1.0s,mb5.6
EPF Esparros 47.78 21 *e*P **P 08 48 41.4 +0.2**
EPF pmax pmax
comp=Z,68nm,1.0s,mb5.6
MELF Melles 47.80 22 *e*P **P 08 48 41.9 +0.5**
SALF Salau 47.86 22 *e*P **P 08 48 42.1 +0.2**
MLS Moulis 48.00 22 *e*P **P 08 48 43.3 +0.4**
SJG San Juan 48.14 295 P **P 08 48 45.7 +1.4**
SJG S **S 08 55 46.8 +4.7**
SJG MLR MLR
comp=Z,11µm,22.0s
SJG San Juan 48.14 295 P **P 08 48 45.7 +1.3**
comp=Z,6.6nm,0.3s,mb5.2,baz=36,slow=22,SNR=3.9
SJG S **S 08 55 46.8 +4.7**
comp=Z,9.2nm,0.3s,baz=333,slow=16,SNR=2.1
FILF Fillols 48.22 23 *e*P **P 08 48 44.9 +0.2**
EJON La Jonquera 48.26 24 P **P 08 48 44.1 -0.9**
comp=Z,243nm,2.5s,mb5.8
LRDF Laroque-de-Fa 48.53 23 *e*P **P 08 48 46.4 -0.7**

MTLF Montolieu 48.75 23 *e*P **P 08 48 47.7 -1.0**
comp=Z,96nm,1.1s,mb5.5
MTLF Montolieu 48.75 23 *e*P **P 08 48 47.7 -1.0**
MTLF pmax pmax
comp=Z,48nm,1.1s,mb5.4
LPAZ La Paz 48.77 249 P **P 08 48 50.5 +1.2**
LPAZ sP tx 08 49 48.0
LPAZ P'P'df 09 19 23.9
LPAZ La Paz 48.77 249 P **P 08 48 49.7 +0.5**
comp=Z,14nm,0.9s,mb5.0,baz=67,slow=5.8,SNR=20
LPAZ S **S 08 55 54.4 +3.3**
comp=Z,1.6nm,1.0s,baz=239,slow=21,SNR=2.0
LPAZ LR LR 09 10 19.4
comp=Z,12µm,18.8s,MS5.9,baz=89,slow=37
LPAZ La Paz 48.77 249 P **P 08 48 49.7 +0.5**
LPAZ S **S 08 55 54.4 +3.3**
LPAZ LR LR 09 10 19.4
VSL Villasalto 48.93 31 *e*P **P 08 48 49.9 -0.3**
comp=Z,145nm,1.1s,mb5.9
WDD Wield Dalam 49.38 39 P **P 08 48 53.9 +0.2**
LFF La Frestale 49.59 20 *e*P **P 08 48 55.1 0.0**
comp=Z,238nm,1.2s,mb5.8
LFF La Frestale 49.59 20 *e*P **P 08 48 55.1 0.0**
LFF pmax pmax
comp=Z,119nm,1.2s,mb5.8
LASF Ste Croix 50.01 23 *e*P **P 08 48 57.7 -0.7**
comp=Z,324nm,1.5s,mb5.8
CAF Calviac 50.05 21 *e*P **P 08 48 58.2 -0.5**
comp=Z,191nm,1.0s,mb5.8
CAF Calviac 50.05 21 *e*P **P 08 48 58.2 -0.5**
CAF pmax pmax
comp=Z,96nm,1.0s,mb5.8
RJF Les Rejaudoux 50.17 21 *e*P **P 08 48 59.1 -0.5**
comp=Z,165nm,1.2s,mb5.6
RJF *e*R
comp=Z,72µm,18.5s
RJF Les Rejaudoux 50.17 21 *e*P **P 08 48 59.1 -0.5**
RJF pmax pmax
comp=Z,83nm,1.2s,mb5.6
RJF MLR MLR
comp=Z,72µm,18.5s,MS6.7
TREF Trevaresse 50.26 25 P **P 08 49 02.0 +1.7**
SDV Santo Domingo 50.27 282 P **P 08 49 01.1 +0.3**
comp=Z,7.4nm,0.6s,mb4.9,baz=186,slow=4.1,SNR=17
SDV S **S 08 56 17.4 +5.5**
comp=Z,1.9nm,0.8s,baz=9.3,slow=21,SNR=1.3
SDV Santo Domingo 50.27 282 *e*P **P 08 48 59.7 -1.1**
comp=Z,32nm,1.0s,mb5.3
SDV LR LR
comp=Z,5µm,21.0s,MS5.5
SUR Sutherland 50.39 133 *e*P **P 08 49 04.5 +3.0**
comp=Z,65nm,1.0s,mb5.6
SUR LR LR
comp=Z,10µm,22.0s,MS5.8
PZI Palazzolo 50.40 38 P **P 08 49 02.8 +1.3**
CSLB Castelbuono 50.44 36 P **P 08 49 03.0 +1.2**
USI Ustica 50.45 35 P **P 08 49 02.7 +0.9**
GIB Gibilmanna 50.46 36 P **P 08 49 02.8 +0.9**
LMR La Mourre 50.51 26 *e*P **P 08 49 01.8 -0.4**
comp=Z,147nm,1.0s,mb5.5
LMR La Mourre 50.51 26 *e*P **P 08 49 01.8 -0.4**
LMR pmax pmax
comp=Z,74nm,1.0s,mb5.6
SSY Sortino 50.54 38 P **P 08 49 03.5 +0.9**
FRNF Fournols 50.62 21 *e*P **P 08 49 04.1 +1.1**
SMRF Simiane la Rot 50.63 25 *e*P **P 08 49 01.8 -1.3**
comp=Z,82nm,1.1s,mb5.3
LSZ Lusaka 50.71 109 *e*P **P 08 49 05.2 +1.1**
LSZ pmax pmax
comp=Z,104nm,1.3s,mb5.6
LSZ MLR MLR
comp=Z,40µm,22.0s,MS6.4
LSZ Lusaka 50.71 109 *e*P **P 08 49 05.2 +1.1**
comp=Z,104nm,1.3s,mb5.6
LSZ LR LR
comp=Z,40µm,22.0s,MS6.4
LBL Lubilhac 50.74 22 *e*P **P 08 49 05.8 +1.8**
FRF La Foret Royal 50.75 26 *e*P **P 08 49 03.2 -0.9**
comp=Z,115nm,1.1s,mb5.4
FRF La Foret Royal 50.75 26 *e*P **P 08 49 03.2 -0.9**
FRF pmax pmax
comp=Z,57nm,1.1s,mb5.4
MFF Saint Martin d 50.75 19 *e*P **P 08 49 03.7 -0.3**
comp=Z,231nm,1.1s,mb5.7
MFF Saint Martin d 50.75 19 *e*P **P 08 49 03.7 -0.3**
MFF pmax pmax
comp=Z,115nm,1.1s,mb5.7
VERF Verneugheol 50.90 21 *e*P **P 08 49 05.6 +0.4**
VIVF Saint-Julien-l 50.98 23 *e*P **P 08 49 05.3 -0.5**
comp=Z,161nm,0.9s,mb5.6
VIVF Saint-Julien-l 50.98 23 *e*P **P 08 49 05.3 -0.5**
VIVF pmax pmax
comp=Z,80nm,0.9s,mb5.7
CALF Calern 51.02 26 P **P 08 49 06.1 0.0**
PGF Pioggiola 51.04 28 *e*P **P 08 49 05.6 -0.6**
comp=Z,286nm,1.4s,mb5.7
PGF Pioggiola 51.04 28 *e*P **P 08 49 05.6 -0.6**
PGF pmax pmax
comp=Z,143nm,1.4s,mb5.7
QUIF Quistinic 51.06 15 *e*P **P 08 49 05.9 -0.4**
PYM Petit Puy Mans 51.09 22 *e*P **P 08 49 08.2 +1.6**
COLF Collangettes 51.15 22 *e*P **P 08 49 07.4 +0.3**
LVC Limon Verde 51.20 241 P **P 08 49 07.9 +0.2**
comp=Z,5.7nm,1.1s,baz=67,slow=2.7,SNR=6.2
LVC S **S 08 56 31.2 +6.6**
comp=Z,1.0nm,0.6s,baz=269,slow=7.3,SNR=2.0
LVC Limon Verde 51.20 241 *e*P **P 08 49 07.5 -0.2**
comp=Z,23nm,0.9s,mb5.1
LVC LR LR
comp=Z,9µm,20.0s,MS5.8
MVIF Mont Vial 51.24 26 *e*P **P 08 49 08.3 +0.5**
TCF Toulx Ste Croi 51.27 21 *e*P **P 08 49 07.7 -0.2**
comp=Z,106nm,1.0s,mb5.4
TCF Toulx Ste Croi 51.27 21 *e*P **P 08 49 07.7 -0.2**
TCF pmax pmax
comp=Z,53nm,1.0s,mb5.4
SBF Sospel 51.34 26 *e*P **P 08 49 08.1 -0.4**
comp=Z,299nm,0.9s,mb5.9
SBF Sospel 51.34 26 *e*P **P 08 49 08.1 -0.4**
SBF pmax pmax
comp=Z,150nm,0.9s,mb5.9
TOUF Mont Tournerai 51.38 26 *e*P **P 08 49 09.0 +0.2**
AGO Saint Agoulin 51.40 21 *e*P **P 08 49 11.0 +2.1**
ROSF Rostrenen 51.41 15 *e*P **P 08 49 08.8 -0.2**
comp=Z,102nm,1.0s,mb5.4
ROSF Rostrenen 51.41 15 *e*P **P 08 49 08.8 -0.2**
ROSF pmax pmax
comp=Z,51nm,1.0s,mb5.4
AUTN L'Aution 51.44 26 *e*P **P 08 49 09.5 +0.2**
NEGI Negi 51.45 26 P **P 08 49 09.0 -0.3**
MTTG Motta San Giov 51.46 37 P **P 08 49 10.8 +1.3**
SAOF Saorge 51.49 26 *e*P **P 08 49 09.9 +0.2**
PLDF La Plantade 51.51 22 P **P 08 49 12.3 +2.5**
ORIF Oris-en-Rattie 51.52 24 *e*P **P 08 49 10.0 +0.1**
comp=Z,102nm,0.9s,mb5.5
ORIF *e*R
comp=Z,52µm,19.5s
SGMF Saint Gilles 51.53 16 *e*P **P 08 49 09.6 -0.3**
comp=Z,298nm,1.2s,mb5.8
SGMF Saint Gilles 51.53 16 *e*P **P 08 49 09.6 -0.3**
SGMF pmax pmax
comp=Z,149nm,1.2s,mb5.8
SURF Saint Ours 51.56 25 *e*P **P 08 49 11.7 +1.5**
IMI Imperia 51.58 27 P **P 08 49 10.1 -0.2**
STV Sta Anna Valdi 51.59 26 P **P 08 49 11.2 +0.8**
ENR Entracque 51.62 26 P **P 08 49 11.9 +1.3**
SCLL Scilla 51.64 37 P **P 08 49 11.2 +0.3**
GMB Gambarie 51.65 37 P **P 08 49 11.9 +0.9**
MONE Monesi 51.65 26 P **P 08 49 11.1 +0.2**
PZZ Prazzo 51.70 26 P **P 08 49 12.3 +1.0**
BGF Bois d'Agland 51.73 21 *e*P **P 08 49 11.3 -0.1**
comp=Z,343nm,1.5s,mb5.8
BGF Bois d'Agland 51.73 21 *e*P **P 08 49 11.3 -0.1**
BGF pmax pmax
comp=Z,172nm,1.5s,mb5.8
SOI Samo 51.73 37 P **P 08 49 12.4 +0.9**
GRN Grenoble 51.73 24 *e*P **P 08 49 14.2 +2.7**
MBDF Montbardon 51.74 25 *e*P **P 08 49 12.0 +0.5**
comp=Z,261nm,0.8s,mb5.9
MBDF Montbardon 51.74 25 *e*P **P 08 49 12.0 +0.5**
MBDF pmax pmax
comp=Z,130nm,0.8s,mb5.9
CEL Celeste 51.75 37 P **P 08 49 12.6 +0.9**
DOI San Damiano 51.77 26 P **P 08 49 12.0 +0.3**
GDM Grand'Maison 51.85 24 *e*P **P 08 49 13.8 +1.4**

MBAR Mbarara 51.85 90 *e*P **P 08 49 11.2 -1.6**
MBAR pmax pmax
comp=Z,155nm,1.5s,mb5.7
MBAR MLR MLR
comp=Z,40µm,20.0s,MS6.5
MBAR Mbarara 51.85 90 *e*P **P 08 49 11.2 -1.7**
comp=Z,155nm,1.5s,mb5.7
MBAR LR LR
comp=Z,40µm,20.0s,MS6.5
ROB Roburent 51.87 26 P **P 08 49 13.8 +1.2**
OG22 Abries 51.89 25 *e*P **P 08 49 13.8 +1.1**
RRL Cesana Torines 51.90 25 P **P 08 49 13.3 +0.5**
FIN Finale Ligure 51.95 27 P **P 08 49 13.7 +0.5**
ARE Arequipa 51.96 250 P **P 08 49 16.0 +2.4**
ARE *e* 09 07 23.0
ARE *e* 09 15 18.0
BNI Bardonecchia 51.96 25 *e*P **P 08 49 13.3 +0.1**
BNI pmax pmax
comp=Z,143nm,1.0s,mb5.9
BNI Bardonecchia 51.96 25 *e*P **P 08 49 13.3 +0.1**
comp=Z,143nm,1.0s,mb5.8
MAON Monte Argentar 51.99 30 P **P 08 49 15.4 +1.9**
BHB Bricherasio 52.04 25 P **P 08 49 14.6 +0.8**
AVF Avril sur Loir 52.11 21 *e*P **P 08 49 14.0 -0.3**
comp=Z,210nm,1.2s,mb5.7
AVF Avril sur Loir 52.11 21 *e*P **P 08 49 14.0 -0.3**
AVF pmax pmax
comp=Z,105nm,1.2s,mb5.6
FENE Fenestrelle 52.11 25 P **P 08 49 14.6 +0.2**
GRR Gorron 52.13 17 *e*P **P 08 49 14.0 -0.5**
comp=Z,304nm,1.2s,mb5.8
GRR Gorron 52.13 17 *e*P **P 08 49 14.0 -0.5**
GRR pmax pmax
comp=Z,152nm,1.2s,mb5.8
SMF Signal de Mont 52.16 22 *e*P **P 08 49 14.3 -0.4**
comp=Z,134nm,1.3s,mb5.4
SMF Signal de Mont 52.16 22 *e*P **P 08 49 14.3 -0.4**
SMF pmax pmax
comp=Z,67nm,1.3s,mb5.4
TOLF Tolfa 52.17 31 P **P 08 49 14.7 -0.1**
HYF Humbligny 52.26 20 *e*P **P 08 49 15.0 -0.5**
OG05 Jujurieux 52.27 23 *e*P **P 08 49 15.7 +0.1**
RSP Reno Superiore 52.29 25 P **P 08 49 16.2 +0.5**
LPG La Plagne 52.35 25 *e*P **P 08 49 16.6 +0.4**
comp=Z,251nm,0.9s,mb5.8
LPG La Plagne 52.35 25 *e*P **P 08 49 16.6 +0.4**
LPG pmax pmax
comp=Z,125nm,0.9s,mb5.8
LPL La Plagne 52.36 25 *e*P **P 08 49 16.6 +0.4**
comp=Z,256nm,0.9s,mb5.8
LPL La Plagne 52.36 25 *e*P **P 08 49 16.6 +0.4**
LPL pmax pmax
comp=Z,128nm,0.9s,mb5.8
PCP Pian Castagno 52.37 27 P **P 08 49 15.6 -0.7**
SSF Saint Saulge 52.39 21 *e*P **P 08 49 16.2 -0.2**
SSF pmax pmax
comp=Z,126nm,1.1s,mb5.8
SSF Saint Saulge 52.39 21 *e*P **P 08 49 16.2 -0.2**
comp=Z,126nm,1.1s,mb5.8
GRI Girifalco 52.43 37 P **P 08 49 16.6 -0.2**
LSD Ceresole Reale 52.49 25 P **P 08 49 18.3 +1.1**
MTCE Montecelio 52.52 32 P **P 08 49 18.4 +0.9**
LDF La Druitiere 52.53 17 *e*P **P 08 49 16.8 -0.7**
comp=Z,235nm,1.4s,mb5.6
LDF La Druitiere 52.53 17 *e*P **P 08 49 16.8 -0.7**
LDF pmax pmax
comp=Z,118nm,1.4s,mb5.6
FLN La Foliniere 52.58 17 *e*P **P 08 49 17.1 -0.7**
comp=Z,215nm,1.2s,mb5.6
FLN *e*R
comp=Z,42µm,18.0s
FLN La Foliniere 52.58 17 *e*P **P 08 49 17.1 -0.7**
FLN pmax pmax
comp=Z,107nm,1.2s,mb5.7
FLN MLR MLR
comp=Z,42µm,18.0s,MS6.5
CERT Cerreto 52.59 32 P **P 08 49 18.3 +0.3**
PII Pisa 52.65 29 P **P 08 49 18.9 +0.4**
TRQA Tornquist 52.67 221 *e*P **P 08 49 19.2 +0.5**
comp=Z,46nm,1.1s,mb5.3
TRQA LR LR
comp=Z,5µm,20.0s,MS5.6
MNS Montasola 52.75 31 P **P 08 49 18.6 -0.6**
MGR Morigerati 52.77 35 P **P 08 49 19.5 +0.1**
MAIM 52.78 28 P **P 08 49 18.2 -1.2**
TRAV 52.78 25 P **P 08 49 18.4 -1.0**
BBSR BB Station 52.78 313 P **P 08 49 18.0 -1.6**
comp=Z,70nm,1.4s,mb5.4
BBSR LR LR
comp=Z,8µm,21.0s,MS5.7
VINC Vinca 52.79 28 P **P 08 49 19.0 -0.5**
CSNT Castellina Chi 52.84 29 P **P 08 49 19.9 +0.1**
CODM 52.84 28 P **P 08 49 18.9 -1.0**
TIP Timpagrande 52.86 37 *e*P **P 08 49 18.6 -1.4**
BACM 52.86 28 P **P 08 49 19.3 -0.7**
PTQR Pietraquaria 52.87 32 P **P 08 49 20.7 +0.6**
SDI San Donato 52.87 33 P **P 08 49 20.1 0.0**
EMV Vieux Emosson 52.87 24 ⇓P **P 08 49 20.8 +0.8**
VVLD Villa Vallelon 52.88 32 P **P 08 49 20.4 +0.2**
SGO Sicignano 52.91 35 P **P 08 49 20.6 +0.2**
VLC Villacollemand 52.92 28 *e*P **P 08 49 19.0 -1.4**
comp=Z,196nm,1.0s,mb6.0
BDI Bagni Di Lucca 52.94 28 P **P 08 49 20.3 -0.3**
BOB Bobbio (Coli) 52.95 27 P **P 08 49 21.4 +0.8**
ORO Oropa 52.97 25 P **P 08 49 20.4 -0.4**
ORX Oropa 52.98 25 P **P 08 49 20.3 -0.5**
SLCN Sala Consilina 52.98 35 P **P 08 49 19.2 -1.8**
CABF La Chapelle 52.99 23 *e*P **P 08 49 20.1 -0.8**
comp=Z,327nm,1.1s,mb5.9
CABF La Chapelle 52.99 23 *e*P **P 08 49 20.1 -0.8**
CABF pmax pmax
comp=Z,164nm,1.1s,mb5.9
VALM 53.00 28 P **P 08 49 20.3 -0.7**
OG01 Vacheresse 53.00 24 *e*P **P 08 49 19.8 -1.2**
GRAM 53.02 28 P **P 08 49 21.0 -0.1**
RNI2 Rionero Sannit 53.05 33 P **P 08 49 22.7 +1.3**
PSB1 Pescosannita 53.08 34 P **P 08 49 21.4 -0.3**
AQU L'Aquila 53.10 32 *e*P **P 08 49 21.5 -0.3**
AQU pmax pmax
comp=Z,199nm,0.9s,mb6.0
AQU L'Aquila 53.10 32 *e*P **P 08 49 21.5 -0.3**
comp=Z,199nm,0.9s,mb6.0
ERBM Eremo 53.13 28 P **P 08 49 23.2 +1.2**
INTR Introdacqua 53.13 32 P **P 08 49 21.5 -0.5**
CII Carovilli 53.14 33 *e*P **P 08 49 22.5 +0.3**
comp=Z,162nm,1.0s,mb5.9
MRLC Muro Lucano 53.15 34 P **P 08 49 22.5 +0.4**
GSCL Gusciola 53.16 28 P **P 08 49 22.9 +0.7**
MCGN Macugnaga 53.24 25 P **P 08 49 23.0 +0.2**
CRE Caprese Michel 53.27 30 P **P 08 49 22.6 -0.4**
FNVD Fontana Vidola 53.27 29 P **P 08 49 24.7 +1.7**
NRCA Norcia 53.29 31 P **P 08 49 23.1 -0.1**
MURB Monte Urbino 53.30 30 P **P 08 49 22.6 -0.6**
SEI Scarperia 53.30 29 P **P 08 49 23.3 0.0**
MMK Mattmark 53.30 25 ⇓P **P 08 49 23.7 +0.5**
VMG Vicchio 53.32 29 P **P 08 49 23.1 -0.3**
ZCCA Zocca 53.34 28 P **P 08 49 23.9 +0.4**
PGD Poggio Sodo 53.35 29 P **P 08 49 23.2 -0.4**
TERO Teramo 53.40 32 P **P 08 49 24.3 +0.3**
LKBD Leukerbad 53.43 24 ⇓P **P 08 49 24.7 +0.5**
SFI Santa Sofia 53.43 29 P **P 08 49 23.7 -0.5**
ROSC El Rosal 53.46 277 P **P 08 49 25.2 +0.4**
comp=Z,7.6nm,0.9s,mb4.6,baz=279,slow=24,SNR=12
ROSC S **S 08 57 00.1 +4.5**
comp=Z,2.0nm,0.4s,baz=98,slow=22,SNR=2.4
ROSC LR LR 09 10 34.4
comp=Z,10µm,19.2s,MS5.9,baz=331,slow=34
VAI Varese 53.50 26 P **P 08 49 23.8 -0.9**
SNTG Esanatoglia 53.50 31 P **P 08 49 24.4 -0.3**
ARV Arcevia 53.68 30 P **P 08 49 26.8 +0.8**
FSSB Fossombrone 53.74 30 P **P 08 49 27.1 +0.7**
SAL Salo 54.08 27 P **P 08 49 30.2 +1.3**
MEZF Maizieres J'vi 54.17 21 *e*P **P 08 49 29.1 -0.4**
comp=Z,421nm,1.0s,mb6.0
TUE Stuetta 54.23 26 P **P 08 49 30.7 +0.7**
HAU Haudompre 54.24 22 *e*P **P 08 49 29.3 -0.7**
comp=Z,402nm,1.0s,mb6.0
HAU *e*R
comp=Z,35µm,18.0s
HAU Haudompre 54.24 22 *e*P **P 08 49 29.3 -0.7**
HAU pmax pmax
comp=Z,201nm,1.0s,mb6.0
HAU MLR MLR
comp=Z,35µm,18.0s,MS6.5

BBS	Basel-Blauen	54.25	24	eP	P	08 49 30.5	+0.4
HINF	Hinteralfeld	54.28	23	eP	P	08 49 29.2	-1.1
comp=Z,172nm,1.2s,mb5.6							
HINF	Hinteralfeld	54.28	23	eP	P	08 49 29.2	-1.1
HINF				pmax	pmax		
comp=Z,86nm,1.2s,mb5.6							
THEF	They Montfort	54.28	22	eP	P	08 49 30.7	+0.4
VDL	Val di Lei	54.29	26	⇓P	P	08 49 29.8	-0.6
MUO	Muotathal	54.31	25	⇓P	P	08 49 30.6	0.0
LLS	Linth-Limmern	54.38	25	⇓P	P	08 49 30.7	-0.4
MOF	Molkenrain	54.41	23	eP	P	08 49 31.4	+0.1
MABI	Malga Bissina	54.42	27	P	P	08 49 32.1	+0.7
SULZ	Sulz-Cheisache	54.54	24	⇑P	P	08 49 31.8	-0.5
BRMO	Bormio	54.68	26	P	P	08 49 33.3	0.0
DAVOX	Davos	54.70	26	P	P	08 49 32.8	-0.6
comp=Z,45nm,0.7s,mb5.6,baz=229,slow=6.7,SNR=36							
DAVOX				S	S	08 57 14.5	+2.6
comp=Z,1.5nm,0.5s,baz=199,slow=22,SNR=3.3							
ECH	Echery	54.72	23	eP	P	08 49 33.5	-0.1
FELD	Feldberg	54.78	24	eP	P	08 49 34.2	+0.2
FELD	Feldberg	54.78	24	⇓eP	P	08 49 34.0	0.0
WILA	Wila	54.78	25	⇓P	P	08 49 34.0	0.0
KIZ	Kirchzarten	54.81	24	⇓eP	P	08 49 34.1	-0.2
LIBD	Limburg	54.84	23	eP	P	08 49 34.7	+0.2
CGRP	Cima Grappa	54.87	28	⇓eP	P	08 49 34.0	-0.8
SLE	Schleitheim	54.89	24	⇑P	P	08 49 34.1	-0.7
CDF	Champ du Feu	54.93	23	eP	P	08 49 34.0	-1.1
comp=Z,282nm,1.1s,mb5.9							
CDF	Champ du Feu	54.93	23	eP	P	08 49 34.0	-1.1
CDF				pmax	pmax		
comp=Z,141nm,1.1s,mb5.9							
CTI	Castel Tesino	54.93	27	P	P	08 49 35.1	-0.1
ITM	Ithomi	54.94	42	P	P	08 49 36.3	+0.9
WLS	Welschbruch	54.96	23	eP	P	08 49 35.0	-0.3
DAVA	Damuels	55.09	25	⇑iP	P	08 49 35.4	-0.9
comp=Z,85nm,0.8s,mb5.8							
DAVA				i		08 49 49.7	
comp=Z,404nm,0.9s							
DAVA				i		08 50 20.9	
comp=Z,469nm,0.9s							
BAIF	Baives	55.19	20	eP	P	08 49 35.8	-1.2
comp=Z,366nm,1.1s,mb6.0							
BAIF	Baives	55.19	20	eP	P	08 49 35.8	-1.2
BAIF				pmax	pmax		
comp=Z,183nm,1.1s,mb6.0							
GVD	Gavdhos	55.20	45	eP	P	08 49 36.0	-1.3
comp=Z,119nm,0.7s,mb6.0							
FAU	Forcella Aurin	55.22	27	⇓eP	P	08 49 37.0	-0.3
DCN	Croghan	55.26	10	eP	P	08 49 31.0	-6.5
IGT	Igoumenitsa	55.26	39	eP	P	08 49 41.5	+3.8
BFO	Black Forest	55.27	24	eP	P	08 49 37.2	-0.5
BFO				eS	S	08 57 22.6	+3.0
BFO				pmax	pmax		
comp=Z,196nm,1.1s,mb6.0							
BFO	Black Forest	55.27	24	eP	P	08 49 37.2	-0.5
comp=Z,196nm,1.1s,mb6.0							
BFO				eS	S	08 57 22.6	+3.0
SPAK	Spaichingen	55.27	24	P	P	08 49 39.8	+2.1
SPAK	Spaichingen	55.27	24	eP	P	08 49 37.5	-0.2
DLF	Lyons Farm	55.35	11	eP	P	08 49 35.0	-3.1
GUT	Gutenstein	55.38	24	P	P	08 49 38.5	0.0
GUT	Gutenstein	55.38	24	eP	P	08 49 38.2	-0.3
NVLJ	Novalja	55.41	31	iP	P	08 49 36.5	-2.3
GIVF	Givet	55.44	20	eP	P	08 49 37.5	-1.3
comp=Z,291nm,1.2s,mb5.9							
GIVF	Givet	55.44	20	eP	P	08 49 37.5	-1.3
GIVF				pmax	pmax		
comp=Z,145nm,1.2s,mb5.9							
BRES	Bressanone	55.46	27	P	P	08 49 38.3	-0.7
UBR	Uberruh	55.49	25	P	P	08 49 38.6	-0.6
UBR	Uberruh	55.49	25	eP	P	08 49 38.9	-0.3
AFL	Alpe Faloria	55.53	27	⇑eP	P	08 49 41.0	+1.5
WLF	Walferdange	55.54	21	eP	P	08 49 40.7	+1.2
WLF				pmax	pmax		
comp=Z,137nm,1.3s,mb5.8							
WLF	Walferdange	55.54	21	eP	P	08 49 40.7	+1.2
comp=Z,137nm,1.3s,mb5.8							
LANF	Langenberg	55.59	23	eP	P	08 49 40.3	+0.4
SQTA	Sankt Quirin	55.62	26	⇓iP	P	08 49 39.3	-0.8
comp=Z,46nm,0.9s,mb5.5							
SQTA				i		08 49 52.9	
comp=Z,148nm,0.9s							
SQTA				i		08 50 24.3	
comp=Z,254nm,1.1s							
MOTA	Moosalm	55.66	26	⇓iP	P	08 49 39.8	-0.7
comp=Z,55nm,1.4s,mb5.4							
MOTA				i		08 49 52.6	
comp=Z,76nm,1.1s							
MOTA				i		08 50 24.5	
comp=Z,134nm,1.2s							
TRI	Trieste	55.68	29	P	P	08 49 40.7	+0.1
SEST	Monte Rota	55.71	27	P	P	08 49 41.0	+0.2
LBG	Lerchenberg	55.73	24	P	P	08 49 42.5	+1.6
LBG	Lerchenberg	55.73	24	eP	P	08 49 40.6	-0.3
BUCH	Bad Urach	55.78	24	P	P	08 49 41.9	+0.6
BUCH	Bad Urach	55.78	24	eP	P	08 49 40.9	-0.4
GMNA	Gemona	55.84	28	P	P	08 49 41.5	-0.2
WTTA	Wattenberg	55.84	26	⇑iP	P	08 49 41.2	-0.5
comp=Z,68nm,1.3s,mb5.5							
WTTA				i		08 49 54.7	
comp=Z,208nm,1.2s							
WTTA				i		08 50 26.6	
comp=Z,279nm,1.3s							
DMUB	Kingscourt	55.85	10	eP	P	08 49 35.0	-6.7
FVI	Forni Avoltri	55.86	28	P	P	08 49 41.4	-0.5
WATA	Walderalm	55.87	26	⇓iP	P	08 49 41.2	-0.7
comp=Z,74nm,1.4s,mb5.5							
WATA				i		08 49 54.0	
comp=Z,110nm,1.2s							
WATA				i		08 50 26.5	
comp=Z,81nm,1.1s							
RUP	Ruppelstein	55.90	22	eP	P	08 49 40.5	-1.6
ZOU	Zoufplan	55.92	28	⇓eP	P	08 49 42.0	-0.3
ROBS	Robic	55.95	28	eP	P	08 49 42.0	-0.5
ROBS				e		08 50 26.8	
DRE	Drenchia	55.96	29	⇓eP	P	08 49 42.0	-0.6
HCY	Herceg Novi	55.96	35	⇓iP	P	08 49 42.5	-0.1
STU	Stuttgart	55.97	24	eP	P	08 49 41.4	-1.3
STU				pmax	pmax		
comp=Z,167nm,1.1s,mb6.0							
STU	Stuttgart	55.97	24	eP	P	08 49 41.4	-1.3
comp=Z,167nm,1.1s,mb6.0							
STU				e		08 50 26.7	
KTD	Kalmit	55.98	23	eP	P	08 49 43.2	+0.5
KTD	Kalmit	55.98	23	eP	P	08 49 42.4	-0.3
VOY	Vojsko	55.98	29	eP	P	08 49 42.2	-0.5
VOY				e		08 49 55.8	
PTCC	Patocco-Chiusa	55.99	28	P	P	08 49 42.9	+0.1
IDI	Anoyia	55.99	45	P	P	08 49 43.6	+0.6
PLRO	Paularo	56.00	28	⇓eP	P	08 49 43.0	+0.1
ULC	Ulcinj	56.08	36	⇓iP	P	08 49 43.8	+0.2
BUM	Brajici-Budva	56.09	35	⇓iP	P	08 49 43.6	0.0
LSR	Lussari	56.12	28	⇓eP	P	08 49 44.0	+0.2
ABH	Alteburg	56.23	22	eP	P	08 49 44.4	-0.1
ABH	Alteburg	56.23	22	⇓eP	P	08 49 44.5	0.0
AGG	Agios Georgios	56.23	40	eP	P	08 49 44.1	-0.5
HDH	Heidenheim	56.24	25	eP	P	08 49 44.2	-0.4
FCH	Farellones	56.24	230	eP	P	08 49 49.2	+4.3
BOJS	Bojanci	56.27	30	eP	P	08 49 44.5	-0.3
BOJS				e		08 49 55.7	
BOJS				e		08 50 08.7	
BOJS				e		08 50 29.2	
BRY	Bratogost	56.27	34	⇓iP	P	08 49 45.2	+0.3
LJU	Ljubljana	56.29	29	eP	P	08 49 47.4	+2.4
LJU				e		08 49 55.7	
LJU				e		08 50 08.8	
LJU				e		08 50 16.0	
FUR	Furstenfeldbru	56.37	26	eP	P	08 49 44.9	-0.6
FUR				eS	S	08 57 37.5	+3.3
FUR				pmax	pmax		
comp=Z,352nm,1.1s,mb6.3							
FUR	Furstenfeldbru	56.37	26	eP	P	08 49 44.9	-0.6
comp=Z,352nm,1.1s,mb6.3							
FUR				eS	S	08 57 37.5	+3.3
HGN	Heimansgroeve	56.38	20	eP	P	08 49 44.9	-0.6
comp=Z,71nm,1.0s,mb5.6							
HGN				ex	x	08 49 58.9	
HGN				ePP	PP	08 51 32.7	-20
HGN				eS	S	08 57 44.0	+10
HGN				eSS	SS	09 01 50.7	+29
HGN	Heimansgroeve	56.38	20	P	P	08 49 46.2	+0.7
TTG	Podgorica	56.38	35	⇓iP	P	08 49 46.0	+0.3
NKY	Niksic	56.48	35	⇓iP	P	08 49 46.6	+0.3
KBA	Koelnbreinsper	56.48	28	⇓iP	P	08 49 46.2	-0.1
comp=Z,26nm,0.9s,mb5.2							
KBA				i		08 50 00.9	
comp=Z,100nm,1.1s							
OHR	Ohrid	56.48	37	iP	P	08 49 46.2	-0.2
OHR				iS	S	08 57 48.4	+13
OHR	Ohrid	56.48	37	iP	P	08 49 46.2	-0.2
OHR				i		08 49 57.0	
OHR				iS	S	08 57 48.4	+13
TOD	Tromm	56.48	23	eP	P	08 49 46.1	-0.2
TOD	Tromm	56.48	23	⇓eP	P	08 49 46.3	0.0
SIND	Sindeldorf	56.60	24	P	P	08 49 47.2	+0.1
SIND	Sindeldorf	56.60	24	eP	P	08 49 47.0	-0.1
OBKA	Obir	56.63	29	⇓iP	P	08 49 47.8	+0.4
comp=Z,17nm,0.8s,mb5.1							
OBKA				i		08 50 01.1	
comp=Z,98nm,1.6s							
FNA	Florina	56.64	38	eP	P	08 49 47.6	0.0
UPM	Unac-Piva	56.67	34	⇓iP	P	08 49 48.3	+0.5
PVY	Plav	56.90	35	⇓iP	P	08 49 48.9	-0.5
SANT	Santorini	56.93	44	eP	P	08 49 48.1	-1.6
comp=Z,151nm,1.1s,mb5.9							
LIT	Litokhoron	56.94	39	eP	P	08 49 48.8	-0.9
XOR	Xorichti	56.98	40	eP	P	08 49 49.3	-0.7
IVA	Berane	57.03	35	⇓iP	P	08 49 49.6	-0.7
PLE	Pljevlja	57.03	34	⇓iP	P	08 49 50.5	+0.2
AOS	Alonnisos	57.32	41	eP	P	08 49 51.6	-0.8
APE	Apeiranthos	57.33	44	iP	P	08 49 49.9	-2.6
OTAV	Otavalo	57.34	271	eP	P	08 49 53.1	+0.2
comp=Z,22nm,1.3s,mb5.0							
OTAV				LR	LR		
comp=Z,6μm,21.0s,MS5.7							
GRG	Griva	57.37	38	eP	P	08 49 52.9	+0.1
SKO	Skopje	57.38	37	iP	P	08 49 52.5	-0.3
SKO				iS	S	08 57 53.0	+5.4
SKO				iPS	PS	08 58 00.7	-0.7
SKO				pmax	pmax		
comp=Z,260nm,1.4s,mb6.1							
SKO	Skopje	57.38	37	iP	P	08 49 52.5	-0.3
comp=Z,260nm,1.4s,mb6.1							
SKO				i		08 50 20.7	
SKO				i		08 50 35.0	
SKO				iS	S	08 57 53.0	+5.4
SKO				iPS	PS	08 58 00.7	-0.7
SKO	Skopje	57.38	37	iP	P	08 49 52.5	-0.3
SKO				i		08 50 20.7	
comp=Z,0.3nm,1.4s							
SKO				i		08 50 35.0	
SKO				iS	S	08 57 53.0	+5.4
SKO				⇑iPS	PS	08 58 00.7	-0.7
MOA	Molln	57.47	28	⇓iP	P	08 49 52.4	-1.0
comp=Z,17nm,0.9s,mb5.1							
MOA				i		08 50 05.4	
comp=Z,98nm,0.9s							
MOA				i		08 50 37.4	
comp=Z,134nm,1.0s							
GRFO	Grafenberg	57.52	24	P	P	08 49 53.9	+0.2
GRA1	Grafenberg Arr	57.52	24	eP	P	08 49 53.0	-0.7
comp=Z,186nm,1.2s,mb6.0							
GRA1				e		08 50 06.5	
GRA1				e		08 50 37.7	
GRA1				eS	S	08 57 56.4	+7.1
GRA1				LR	LR		
comp=Z,76μm,41.8s,MS6.5							
GRF	Grafenberg Arr	57.52	24	eP	P	08 49 53.0	-0.7
GRF				eS	S	08 57 56.4	+7.1
GRF				pmax	pmax		
comp=Z,186nm,1.2s,mb6.0							
GRF				MLR	MLR		
comp=Z,76μm,41.8s,MS6.5							
GRF	Grafenberg Arr	57.52	24	eP	P	08 49 53.0	-0.7
GRF				eS	S	08 57 56.4	+7.1
GRF				pmax	pmax		
comp=Z,186nm,1.2s,mb6.0							
GRF				MLR	MLR		
comp=Z,76μm,41.8s,MS6.5							
GRF	Grafenberg Arr	57.52	24	eP	P	08 49 53.0	-0.7
comp=Z,186nm,1.2s,mb6.0							
GRF				e		08 50 06.5	
GRF				e		08 50 37.7	
GRF				eS	S	08 57 56.4	+7.1
GRF				LR	LR		
comp=Z,76μm,41.8s,MS6.5							
THE	Thessaloniki	57.54	39	eP	P	08 49 57.7	+3.8
PAIG	Paliouri	57.60	40	eP	P	08 49 53.7	-0.7
ARSA	Arzberg	57.63	29	⇓iP	P	08 49 54.1	-0.4
comp=Z,32nm,1.5s,mb5.1							
ARSA				i		08 50 05.7	
comp=Z,74nm,0.9s							
WTSB	Winterswijk	57.68	20	eP	P	08 49 55.6	+0.9
comp=Z,63nm,0.7s,mb5.8							
WTSB				ex	x	08 50 09.1	
WTSB				eS	S	08 57 58.7	+7.2
WTSB				eSS	SS	09 01 58.1	+15
VAY	Valandovo	57.69	38	iP	P	08 49 55.0	0.0
KNT	Kendrikon	57.80	38	eP	P	08 49 55.1	-0.7
WET	Wettzell	57.80	26	eP	P	08 49 54.9	-0.8
WET				eS	S	08 58 00.6	+7.5
WET				pmax	pmax		
comp=Z,172nm,1.0s,mb6.0							
WET	Wettzell	57.80	26	eP	P	08 49 54.9	-0.8
comp=Z,172nm,1.0s,mb6.0							
WET				eS	S	08 58 00.6	+7.5
DIVS	Divcibare	57.85	34	⇓iP	P	08 49 55.6	-0.5
SOH	Sokhos	57.89	39	eP	P	08 49 56.1	-0.3
ESK	Eskdalemuir	57.91	12	P	P	08 49 57.0	+0.7
ESK				pmax	pmax		
comp=Z,42nm,0.9s,mb5.5							
ESK				MLR	MLR		
comp=Z,5μm,19.0s,MS5.6							
ESK	Eskdalemuir	57.91	12	P	P	08 49 57.0	+0.7
comp=Z,42nm,0.9s,mb5.5							
ESK				LR	LR		
comp=Z,5μm,19.0s,MS5.6							
EKA	Eskdalemuir Ar	57.93	12	P	P	08 49 54.7	-1.8
comp=Z,3.7nm,0.8s,baz=207,slow=7.5,SNR=4.0							
GEC2	GERESS Array S	57.94	26	eP	P	08 49 55.9	-0.7
GEC2				eS	S	08 58 01.4	+6.5
GEC2				pmax	pmax		
comp=Z,103nm,1.1s,mb5.8							
GEC2	GERESS Array S	57.94	26	eP	P	08 49 55.9	-0.7
comp=Z,103nm,1.1s,mb5.8							
GEC2				eS	S	08 58 01.4	+6.5
GERES	GERESS Array B	57.94	26	P	P	08 49 55.4	-1.2
comp=Z,14nm,0.8s,mb5.0,baz=207,slow=6.0,SNR=34							
GERES				PP	PP	08 52 05.0	-1.8
comp=Z,11nm,0.8s,baz=220,slow=7.7,SNR=2.4							
GERES				S	S	08 57 58.4	+3.5
comp=Z,0.2nm,0.2s,baz=260,slow=30,SNR=2.7							
OUR	Ouranopolis	58.02	40	eP	P	08 49 57.0	-0.2
KHC	Kasperske Hory	58.10	26	eP	P	08 49 56.8	-0.9
KHC				eS	S	08 58 02.6	+5.6
KHC				MLR	MLR		
comp=Z,34μm,19.1s,MS6.5							
KHC	Kasperske Hory	58.10	26	eP	P	08 49 56.8	-0.9
KHC				ex	x	08 50 07.2	
KHC				eS	S	08 58 02.6	+5.6
KHC				AMS	AMS	09 14 00.0	
comp=Z,34μm,19.1s							
BARS	Barje	58.12	36	⇓iP	P	08 49 57.9	-0.1
GRUS	Gruza	58.12	35	⇑iP	P	08 49 58.1	+0.1
SRS	Serrai	58.21	39	eP	P	08 49 58.3	-0.3
WIT	Witteveen	58.35	19	ex	x	08 50 14.5	
comp=Z,613nm,1.7s							
KMBO	Kilima Mbogo	58.36	91	eP	P	08 50 03.5	+3.4
KMBO				pmax	pmax		
comp=Z,113nm,1.6s							
KMBO				MLR	MLR		
comp=Z,155μm,20.0s							
KMBO	Kilima Mbogo	58.36	91	P	P	08 50 02.6	+2.6
comp=Z,0.6nm,0.3s,baz=238,slow=22,SNR=3.3							
KMBO				S	S	08 58 07.2	+6.3
comp=Z,0.7nm,0.6s,baz=237,slow=22,SNR=2.3							
KMBO	Kilima Mbogo	58.36	91	eP	P	08 50 03.5	+3.4
comp=Z,114nm,1.6s,mb5.7							
KMBO				LR	LR		
comp=Z,155μm,20.0s,MS7.1							
MOX	Moxa	58.42	24	eP	P	08 49 59.0	-0.9
MOX				pmax	pmax		
comp=Z,189nm,1.3s,mb6.0							
MOX				MLR	MLR		
comp=Z,18μm,18.0s,MS6.2							
MOX	Moxa	58.42	24	eP	P	08 49 59.0	-0.9
comp=Z,189nm,1.3s,mb6.0							
MOX				LR	LR		
comp=Z,18μm,18.0s,MS6.2							
MOX	Moxa	58.42	24	iP	P	08 49 59.0	-0.9
comp=Z,logA/T=2.2,mb6.0							
MOX				S	S	08 58 08.0	+6.9
MOX				L		09 18 12.0	
NKC	Novy Kostel	58.44	25	eP	P	08 49 59.2	-0.9
NKC				eS	S	08 58 13.3	+12
NKC	Novy Kostel	58.44	25	eP	P	08 49 59.2	-0.9
NKC				ex	x	08 50 09.9	
NKC				eS	S	08 58 13.3	+12
NKC				AMS	AMS	09 22 40.0	
comp=Z,33μm,14.8s							
PKSM	Moragy	58.48	31	eP	P	08 50 02.3	+1.8
LOS	Limnos	58.51	41	eP	P	08 50 00.6	-0.2
PKS9	Tamasi	58.55	31	eP	P	08 50 05.2	+4.3
MMB	Musomiste	58.56	38	iP	P	08 50 01.0	0.0
SVIS	Svilajnac	58.66	34	eP	P	08 49 58.8	-3.0
VKA	Vienna	58.73	28	e(P)	P	08 50 02.0	-0.1
comp=Z,1μm,3.5s							
VKA				MLRZ		09 19 00.0	
comp=Z,23nm,14.0s							
VKA	Vienna	58.73	28	P	P	08 50 02.0	-0.1
VKA				pmax	pmax		
comp=Z,1μm,3.5s							
VKA				MLR	MLR		
comp=Z,23μm,14.0s,MS6.5							
BOLS	Boljevac	58.80	35	⇑iP	P	08 50 02.2	-0.5
VTS	Vitosha	58.81	37	iP	P	08 50 03.5	+0.7
CLZ	Clausthal	58.87	22	eP	P	08 50 03.0	-0.1
comp=Z,90nm,1.9s,mb5.5							
CLZ				eS	S	08 58 17.1	+10
PKS8	Sarbogard	58.94	31	⇓eP	P	08 50 03.3	-0.4
ZST	Bratislava	59.05	29	eP	P	08 50 05.1	+0.7
ZST				eS	S	08 58 16.7	+7.2
ZST				eSS	SS	09 02 08.3	+3.1
ZST				e		09 20 56.4	
PKSG		59.14	30	eP	P	08 50 04.5	-0.5
PRU	Pruhonice	59.16	26	eP	P	08 50 04.2	-0.9
PRU				eS	S	08 58 17.9	+7.1
PRU				MLR	MLR		
comp=Z,38μm,18.5s,MS6.5							
PRU	Pruhonice	59.16	26	eP	P	08 50 04.2	-0.9
PRU				ex	x	08 50 14.7	
PRU				eS	S	08 58 17.9	+7.1
PRU				AMS	AMS	09 14 50.0	
comp=Z,38μm,18.5s							
PRA	Prague	59.17	26	ex	x	08 50 17.0	
PRA				AMS	AMS	09 23 40.0	
KDAG	Bornova	59.19	43	iP	P	08 50 05.3	-0.2
RZN	Rozhen	59.23	39	iP	P	08 50 05.0	-0.7
AYDN	Tasoluk	59.25	44	iP	P	08 50 05.4	-0.6
PKS7	Kunszentmiklos	59.30	31	eP	P	08 50 10.5	+4.3
KRUC	Moravsky	59.33	28	P	P	08 50 05.9	-0.4
PGB	Panagyurishte	59.37	38	eP	P	08 50 06.0	-0.7
PLD	Plovdiv	59.45	38	eP	P	08 50 13.0	+5.8
CLL	Collm	59.49	24	iP	P	08 50 07.0	-0.4
CLL				i	pP	08 50 11.6	+1.1
CLL				eS	S	08 58 26.0	+11
CLL				pmax	pmax		
comp=Z,73nm,1.7s,mb5.4							
CLL				MLR	MLR		
comp=Z,29μm,14.1s,MS6.6							
CLL	Collm	59.49	24	iP	P	08 50 07.0	-0.4
comp=Z,73nm,1.7s,mb5.4							
CLL				i	pP	08 50 11.6	+1.1
CLL				i		08 50 20.3	
CLL				eS	S	08 58 26.0	+11
CLL				LR	LR		
comp=Z,29μm,14.1s,MS6.6							
CLL	Collm	59.49	24	P	P	08 50 07.0	-0.4
CLL				i	pP	08 50 11.6	+1.1
CLL				i		08 50 20.3	
CLL				i		08 50 39.0	
CLL				iPCP	PcP	08 50 51.9	-2.9
CLL				ePP	PP	08 52 24.0	+3.3
CLL				i		08 53 00.1	
CLL				ePPP	PPP	08 53 58.0	+12
CLL				eS	S	08 58 26.0	+11
CLL				eSS	SS	09 02 30.0	+18
BRG	Berggiesshubel	59.55	25	iP	P	08 50 07.5	-0.3
BRG				i		08 50 51.9	
BRG				i		08 52 16.9	
BRG				iS	S	08 58 21.0	+5.1
BRG				MLR	MLR		
comp=Z,27μm,13.6s,MS6.5							
BRG	Berggiesshubel	59.55	25	iP	P	08 50 07.5	-0.3
BRG				i		08 50 18.5	
BRG				iPcP	PcP	08 50 51.9	-3.1
BRG				iPP	PP	08 52 16.9	-4.4
BRG				iS	S	08 58 21.0	+5.1
BRG				iSS	SS	09 02 20.0	+7.3
BRG				LR	LR		
comp=Z,27μm,13.6s,MS6.5							
PVCC	Panska Ves	59.56	26	eP	P	08 50 12.4	+4.5
PVCC				eS	S	08 58 25.5	+9.4
PVCC				AMS	AMS	09 21 00.0	
comp=Z,38μm,14.5s							
VRAC	Vranov	59.59	28	⇑P	P	08 50 08.7	+0.6
VRAC	Vranov	59.59	28	P	P	08 50 07.0	-1.1
comp=Z,6.6nm,0.8s,mb4.7,baz=225,slow=6.8,SNR=6.1							
VRAC				S	S	08 58 20.5	+4.1
VRAC				LR	LR	09 16 01.7	
comp=Z,23μm,19.8s,MS6.3,baz=119,slow=36							
ALN	Alexandroupoli	59.64	40	eP	P	08 50 08.0	-0.6
KDZ	Kurdzhali	59.65	39	eP	P	08 50 14.0	+5.4
BZS	Buzias	59.70	33	⇑P	P	08 50 08.5	-0.4
JAVC	Velka Javorina	59.79	29	P	P	08 50 09.7	+0.2
DIM	Dimitrovgrad	59.94	39	eP	P	08 50 16.0	+5.4
KOLL	Kolacno	59.95	29	P	P	08 50 12.8	+2.2
VYHS	Vyhne	60.10	30	iP	P	08 50 11.4	-0.3
VYHS				eS	S	08 58 24.7	+1.7
VYHS				eSS	SS	09 02 26.4	+5.3
VYHS				e		09 21 59.2	
UPC	Upice	60.18	26	eP	P	08 50 11.7	-0.5
UPC				ex	x	08 50 22.8	
DPC	Dobruska-Polom	60.21	27	eP	P	08 50 11.7	-0.6
DPC				MLR	MLR		
comp=Z,46μm,15.3s,MS6.7							
DPC	Dobruska-Polom	60.21	27	eP	P	08 50 11.7	-0.6
DPC				ex	x	08 50 22.6	
DPC				AMS	AMS	09 20 30.0	
comp=Z,46μm,15.3s							
PSZ	Piszkesteto	60.25	31	eP	P	08 50 12.4	-0.3
PSZ				pmax	pmax		
comp=Z,130nm,1.1s,mb5.9							
PSZ	Piszkesteto	60.25	31	⇓eP	P	08 50 12.6	-0.1
MORC	Moravsky Berou	60.36	28	eP	P	08 50 12.1	-1.3
MORC				pmax	pmax		
comp=Z,92nm,1.0s,mb5.8							
M

OKC AMS AMS 09 22 50.0
comp=Z,38µm,14.3s
RUE Ruedersdorf 60.69 24 *e*P **P 08 50 16.1 +0.5**
comp=Z,146nm,1.1s,mb6.0
SZH Strazhica 60.84 38 *e*P **P 08 50 17.0 +0.2**
RAC Raciborz 60.88 28 *e*P **P 08 50 20.1 +3.2**
RAC *e*PP PP 08 52 32.7 -0.5
RAC *e*S **S 08 58 45.5 +13**
RAC LR LR
comp=Z,31µm,18.4s,MS6.5
RAC Raciborz 60.88 28 *e*P **P 08 50 20.1 +3.2**
RAC *e*PP PP 08 52 32.7 -0.5
RAC *e*S **S 08 58 45.5 +13**
RAC LMN 09 12 56.5
RAC LME 09 19 30.4
RAC MLR MLR 09 20 00.7
comp=Z,31µm,18.4s,MS6.5
KECS Kecovo 60.92 30 *e*P **P 08 50 18.3 +1.1**
ISP Isparta 61.18 45 P **P 08 50 18.5 -0.6**
ISP pmax pmax
comp=Z,29nm,0.9s,mb5.4
ISP Isparta 61.18 45 P **P 08 50 18.5 -0.6**
comp=Z,29nm,0.9s,mb5.4
EMMW East Machias 61.22 324 PFAKE 08 50 30.0 +11
EMMW LR LR
comp=Z,36µm,20.0s,MS6.5
ULDT Uludag 61.30 42 *i* P **P 08 50 18.8 -1.1**
KMTI Karmit 61.39 55 P **P 08 50 19.4 -1.3**
EIL Elat 61.43 55 P **P 08 50 20.1 -0.8**
EIL Elat 61.43 55 S **S 08 58 46.3 +6.0**
comp=Z,2.6nm,0.7s,baz=32,slow=38,SNR=2.5
EIL Elat 61.43 55 *e*P **P 08 50 19.5 -1.5**
comp=Z,77nm,1.3s,mb5.7
NIE Niedzica 61.45 29 *e*P **P 08 50 20.6 -0.2**
AQBJ Aqaba 61.53 55 P **P 08 50 20.3 -1.3**
YLV Yalova 61.66 42 *e*P **P 08 50 22.3 0.0**
YLV Yalova 61.66 42 P **P 08 50 22.3 -0.1**
CRVS Cervenica-Dubn 61.69 30 *e*P **P 08 50 22.0 -0.4**
CRVS *e*S **S 08 58 53.0 +10**
CRVS *e*SS SS 09 02 58.6 +12
CRVS *e* 09 20 28.2
PRD Provadia 61.71 38 *e*P **P 08 50 21.0 -1.7**
OJC Ojcow 61.73 29 *e*P **P 08 50 22.6 -0.1**
OJC *e*S **S 08 58 53.6 +10**
OJC MLR MLR 09 20 28.1
comp=Z,26µm,18.9s,MS6.4
ZFRI Zfri 61.91 54 P **P 08 50 22.5 -1.7**
UZH Uzhgorod 61.94 31 *e*P **P 08 50 23.6 -0.5**
CSS Prodhromos 62.05 49 *e*P **P 08 50 24.3 -0.8**
comp=Z,62nm,1.0s,mb5.7
MLR Muntele Rosu 62.08 36 P **P 08 50 24.2 -0.9**
comp=Z,36nm,1.2s,mb5.4,baz=158,slow=2.2,SNR=14
MLR PP PP 08 52 37.1 -6.9
comp=Z,15nm,0.9s,baz=320,slow=23,SNR=1.6
MLR S **S 08 58 49.0 +0.7**
comp=Z,0.8nm,0.4s,baz=119,slow=23,SNR=1.9
MLR LR LR 09 18 09.0
comp=Z,37µm,21.6s,MS6.5,baz=217,slow=37
KOLS Kolonicke sedl 62.12 31 *e*P sP 08 50 30.3 +0.7
KOLS Kolonicke sedl 62.12 31 *e*sP sP 08 50 30.3 +0.7
ESKT Eskisehir 62.17 44 *i* P **P 08 50 25.0 -0.9**
MUD Monsted U'grnd 62.19 18 *i* P **P 08 50 35.7 +10**
comp=Z,103nm,1.1s,mb5.9
MUD *i* 08 54 30.1
MUD *i* S **S 08 59 00.2 +11**
comp=Z,18µm,16.0s
BRYW Bryant College 62.27 319 *e*P **P 08 50 25.0 -1.4**
MZDA Masada 62.31 54 P **P 08 50 25.6 -1.3**
WES Weston 62.36 320 PFAKE 08 50 40.0 +13
WES LR LR
comp=Z,10µm,20.0s,MS6.0
SLTI Sal'it 62.37 53 P **P 08 50 26.4 -0.8**
DRGI Dragot 62.43 53 P **P 08 50 25.9 -1.7**
WVL Waterville 62.45 323 PFAKE 08 50 40.0 +12
WVL LR LR
comp=Z,28µm,22.0s,MS6.4
PSN Preselentsi 62.45 38 *e*P **P 08 50 24.0 -3.6**
OFRI 'Ofer 62.46 52 P **P 08 50 27.0 -0.8**
HRV Harvard--Oak R 62.57 320 *e*P **P 08 50 28.2 -0.2**
HRV pmax pmax
comp=Z,52nm,1.0s,mb5.6
HRV MLR MLR
comp=Z,9µm,20.0s,MS6.0
HRV Harvard--Oak R 62.57 320 *e*P **P 08 50 28.2 -0.3**
comp=Z,52nm,1.0s,mb5.6
HRV LR LR
comp=Z,9µm,20.0s,MS6.0
MKRJ Makawir 62.62 54 P **P 08 50 26.3 -2.6**
COP Copenhagen 62.66 21 *i* P **P 08 50 37.0 +8.2**
COP *i* S **S 08 59 02.3 +7.0**
COP pmax pmax
comp=Z,35nm,0.6s,mb5.7
COP MLR MLR
comp=Z,16µm,17.0s,MS6.3
COP Copenhagen 62.66 21 *i* P **P 08 50 37.0 +8.2**
comp=Z,35nm,0.6s,mb5.7
COP *i* 08 54 30.2
COP *i* S **S 08 59 02.3 +7.0**
COP *i* 09 05 54.0
comp=Z,16µm,17.0s
GKP Gorka Klasztor 62.70 25 *e*P **P 08 50 32.4 +3.3**
GKP *e*pP pP 08 50 39.8 +7.6
GKP *e*PcP PcP 08 51 01.0 -6.6
GKP MLR MLR 09 12 21.0
comp=Z,42µm,34.3s,MS6.4
MMLI Mount Malkishu 62.74 53 P **P 08 50 28.1 -1.6**
VRI Vrincioaia 62.74 36 ⇓P **P 08 50 28.5 -1.0**
VRI Vrincioaia 62.74 36 P **P 08 50 28.9 -0.6**
HMDT Nahal Hemdat 62.76 53 P **P 08 50 28.3 -1.5**
KWP Kalwaria 62.78 30 *e*P **P 08 50 29.2 -0.5**
KWP *e*pP pP 08 50 34.9 +2.1
KWP *e*PcP PcP 08 51 05.2 -2.8
KWP MLR MLR 09 12 22.9
comp=Z,44µm,37.2s,MS6.4
HENT Hendek 62.80 42 *i* P **P 08 50 28.7 -1.3**
TIRR Tirgusor 63.00 38 ⇑P **P 08 50 29.7 -1.5**
FFD Franklin Falls 63.11 321 *e*P **P 08 50 31.6 -0.4**
comp=Z,95nm,1.0s,mb5.9
BSD Bornholm Skovb 63.12 22⇑*i*P **P 08 50 44.1 +12**
comp=Z,101nm,1.1s,mb5.9
BSD *i* 08 54 37.3
BSD *i* 08 59 08.2
BSD *i* 09 06 01.7
comp=Z,17µm,17.0s
CFR Carcaliu 63.21 37 ⇑P **P 08 50 31.9 -0.6**
KSHT Keshet 63.24 52 P **P 08 50 29.8 -3.1**
MEST Erdemli 63.29 48 *i* P **P 08 50 32.3 -0.9**
PAL Palisades 63.41 318 *e*P **P 08 50 32.5 -1.4**
BHL Bhannes 63.44 51 *e*P **P 08 50 34.7 +0.4**
SGKT Sivrigoynuk 63.47 43 *i* P **P 08 50 33.1 -1.2**
LVV L'vov 63.57 31 *e*P **P 08 50 33.2 -1.7**
LVV *e* 08 51 12.2
LVV *e* 08 52 49.4
LVV *e* 08 54 24.2
LVV *e*S **S 08 59 03.8 -3.1**
LVV *e* 08 59 20.0
LVV *e* 09 00 26.6
LVV MLR MLR
comp=N,17µm,16.0s,MS6.3
LVV MLR MLR
comp=E,6µm,16.0s,MS6.3
LVV MLR MLR
comp=Z,17µm,16.0s,MS6.3
LVV L'vov 63.57 31 *e*P **P 08 50 31.0 -3.9**
HNH Hanover 63.63 321 *e*P **P 08 50 35.0 -0.5**
comp=Z,9.7nm,1.2s,mb4.7
WAR Warsaw 63.65 27 *e*P Px 08 50 53.4
WAR MLR MLR 09 14 21.2
comp=Z,23µm,27.8s,MS6.2
ASF Jabal al Asfar 63.83 53 P **P 08 50 36.6 -0.3**
comp=Z,25nm,1.1s,mb5.1,baz=130,slow=4.7,SNR=11
ASF S **S 08 59 16.0 +5.6**
comp=Z,0.9nm,0.3s,baz=292,slow=17,SNR=2.1
BRTR Keskin Array B 64.20 44 P **P 08 50 38.4 -0.8**
comp=Z,9.1nm,0.7s,mb5.0,baz=232,slow=5.3,SNR=34
BRTR PP PP 08 52 55.3 -7.0
comp=Z,9.0nm,1.1s,baz=244,slow=8.0,SNR=2.0
MDV Middlebury 64.34 321 *e*P **P 08 50 39.4 -0.7**
ACCN Adirondack Com 64.35 320 *e*P **P 08 50 39.4 -0.8**
ELDT Eldivan 64.38 44 *i* P **P 08 50 39.5 -0.9**
JTS JuntasAbangare 64.46 282 PFAKE 08 50 50.0 +8.7
JTS LR LR
comp=Z,816nm,21.0s
DWPF Disney 64.52 302 PFAKE 08 50 50.0 +8.5
DWPF LR LR
comp=Z,5µm,22.0s,MS5.7
KIS Kishinev 64.57 35 *e*P **P 08 50 43.0 +1.5**
KIS *e* 08 51 10.0
KIS *e*PPP PPP 08 54 40.0 +1.3
KIS *e*S **S 08 59 26.0 +6.6**
KIS *e*PS PS 08 59 48.0 +7.7
KIS *e*SS SS 09 03 32.0 +0.4
KIS *e*SSS SSS 09 06 15.0 -6.6
KIS pmax pmax
comp=Z,1µm,14.0s
KIS pmax pmax
comp=Z,2µm,20.0s
KIS MLR MLR
comp=Z,25µm,16.0s,MS6.5
KIS MLR MLR
comp=N,18µm,20.0s
KIS MLR MLR
comp=E,10µm,14.0s
KIS MLR MLR
comp=Z,24µm,16.0s
MIV Mineville/With 64.60 321 P **P 08 50 41.9 +0.1**
CBN Corbin 64.65 314 *e*P **P 08 50 41.1 -1.1**
comp=Z,19nm,0.5s,mb5.4
CBN LR LR
comp=Z,9µm,19.0s,MS6.0
AVNT Avonos 64.67 46 *i* P **P 08 50 41.3 -1.1**
SDMD Soldier's Deli 64.75 315 *e*P **P 08 50 42.2 -0.6**
BALT Daday 64.80 42 *i* P **P 08 50 40.8 -2.3**
COBT Iskenderun 64.84 49 *i* P **P 08 50 43.3 -0.1**
CSU Charleston Sou 64.84 307 P **P 08 50 41.4 -2.1**
KONO Kongsberg 64.95 17 PFAKE 08 51 00.0 +16
KONO LR LR
comp=Z,28µm,19.0s,MS6.5
NHSC New Hope 64.97 307 *e*P **P 08 50 44.3 0.0**
comp=Z,102nm,0.9s,mb5.8
NHSC LR LR
comp=Z,5µm,19.0s,MS5.7
NCB Newcomb 64.99 320 PFAKE 08 51 00.0 +16
NCB LR LR
comp=Z,10µm,20.0s,MS6.0
BINY Binghamton 65.33 318 *e*P **P 08 50 46.8 +0.2**
comp=Z,104nm,1.2s,mb5.7
BINY LR LR
comp=Z,7µm,20.0s,MS5.8
CTKT Corum 65.38 44 *i* P **P 08 50 46.9 +0.1**
COW Cow Castle Cre 65.47 308 P **P 08 50 45.5 -2.0**
BORG Borgarnes 65.47 360 LR LR 09 13 11.6
comp=Z,9µm,21.6s,MS5.9,baz=175,slow=30
BORG Borgarnes 65.47 360 PFAKE 08 51 00.0 +13
BORG LR LR
comp=Z,4µm,22.0s,MS5.6
BOYT Boyabat 65.78 43 *i* P **P 08 50 49.8 +0.4**
SUW Suwalki 65.80 27 *e*P **P 08 50 49.1 -0.2**
SUW *e*pP pP 08 50 56.1 +3.7
SUW *e*PcP PcP 08 51 17.0 -3.3
SUW *e*S S 08 59 41.1 +6.9
SUW MLR MLR 09 13 13.9
comp=Z,38µm,38.4s,MS6.3
MSNY Massena 65.87 321 *e*P **P 08 50 48.6 -1.3**
GZT Gaziantep 66.11 48 *i* P **P 08 50 52.0 +0.4**
JSC Jenkinsville 66.19 308 *e*P **P 08 50 50.5 -1.7**
BLA Blacksburg 66.53 312 *e*P **P 08 50 52.3 -1.9**
BLA pmax pmax
comp=Z,39nm,1.0s,mb5.4
BLA MLR MLR
comp=Z,9µm,21.0s,MS6.0
BLA Blacksburg 66.53 312 *e*P **P 08 50 52.3 -2.0**
comp=Z,39nm,1.0s,mb5.4
BLA LR LR
comp=Z,9µm,21.0s,MS6.0
NB2 NORSAR Subarra 66.56 16 P **P 08 50 53.0 -1.0**
comp=Z,69nm,1.1s,mb5.6,baz=215,slow=6.5
NB2 NORSAR Subarra 66.56 16 P **P 08 50 53.0 -1.0**
baz=215,slow=6.5
NOA NORSAR Array B 66.56 16 P **P 08 50 53.6 -0.4**
comp=Z,9.4nm,0.8s,mb4.9,baz=212,slow=6.6,SNR=15
NOA S S 08 59 47.2 +3.8
comp=Z,1.3nm,0.8s,baz=191,slow=14,SNR=2.3
NOA LR LR 09 22 52.3
comp=Z,19µm,18.2s,MS6.3,baz=215,slow=39
SVST Sivas 66.56 45 *i* P **P 08 50 56.0 +1.6**
HFS Hagfors 66.57 18 S S 08 59 48.1 +4.5
comp=Z,2.4nm,0.9s,baz=259,slow=23,SNR=1.9
ELN Prospectdale 66.78 311 *e*P **P 08 50 55.3 -0.6**
SIM Simferopol' 66.79 39*d*/*i*P **P 08 51 04.5 +8.7**
SIM *e*S S 08 59 46.8 +0.3
SIM *e*PS tx 09 00 43.0
SIM *e*SSS SSS 09 07 03.0 +0.3
SIM pmax pmax
comp=Z,2µm,18.4s
AKASG Malin Array Be 66.80 32 P **P 08 50 53.6 -2.1**
AKASG 08 53 22.7
AKASG S S 08 59 48.5 +2.0
AKASG pmax pmax
comp=Z,31nm,1.1s
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 66.80 32 P **P 08 50 53.6 -2.1**
comp=Z,31nm,1.1s,mb5.3,baz=236,slow=7.0,SNR=28
AKASG PP PP 08 53 22.7 -2.0
comp=Z,4.3nm,0.7s,baz=235,slow=9.2,SNR=2.1
AKASG S S 08 59 48.5 +2.0
comp=Z,0.2nm,0.2s,baz=228,slow=50,SNR=2.2
GENY Geneseo 66.80 318 *e*P **P 08 50 54.6 -1.3**
FWV Forest Hill 66.95 312 *e*P **P 08 50 56.9 0.0**
SCHQ Schefferville 66.95 333 P **P 08 50 55.9 -0.8**
comp=Z,6.0nm,0.7s,mb4.7,baz=146,slow=7.2,SNR=9.9
SCHQ S S 08 59 49.5 +1.2
comp=Z,2.3nm,1.0s,baz=239,slow=12,SNR=2.2
SCHQ LR LR 09 16 10.8
comp=Z,8µm,21.6s,MS5.9,baz=132,slow=32
MCWV Mont Chateau 66.98 314 P **P 08 50 55.4 -1.7**
comp=Z,34nm,1.0s,mb5.3
MCWV LR LR
comp=Z,7µm,20.0s,MS5.9
PWV Princeton 67.04 311 *e*P **P 08 50 57.3 -0.2**
ELZG Elazig 67.57 47 *i* P **P 08 51 00.6 -0.2**
GOGA Godfrey 67.68 307 P **P 08 51 03.4 +1.8**
GOGA pmax pmax
comp=Z,19nm,1.1s,mb5.0
GOGA MLR MLR
comp=Z,5µm,21.0s,MS5.7
GOGA Godfrey 67.68 307 P **P 08 51 03.4 +1.8**
comp=Z,19nm,1.1s,mb5.0
GOGA LR LR
comp=Z,5µm,21.0s,MS5.7
ALLY Alegheny Colle 67.94 316 *e*P **P 08 51 02.4 -0.8**
IIGN Ignalina 68.01 27 *e*P **P 08 51 12.4 +9.1**
IIGN AMPb AMB 08 51 18.5
comp=Z,24nm,0.9s,mb5.2
ERPA Erie 68.02 317 *e*P **P 08 51 03.1 -0.5**
comp=Z,75nm,1.0s,mb5.7
ERPA LR LR
comp=Z,8µm,20.0s,MS5.9
ISAL Salakas 68.10 27 *e*P **P 08 51 13.0 +9.1**
ISAL AMPb AMB 08 51 23.2
comp=Z,27nm,1.6s,mb5.0
IDID Didziasalis 68.22 27 *e*P **P 08 51 14.1 +9.5**
IDID AMPb AMB 08 51 19.8
comp=Z,26nm,1.2s,mb5.1
MNK Minsk 68.25 28 P **P 08 51 01.0 -3.8**
IZAR Zarasai 68.27 27 *e*P **P 08 51 14.1 +9.2**
IZAR AMPb AMB 08 51 19.9
comp=Z,23nm,1.2s,mb5.1
ANN Anapa 68.86 41 *e*P **P 08 51 21.6 +13**
ANN *e* 08 51 36.4
ANN pmax pmax
comp=Z,169nm,1.3s,mb5.8
TEIG Tepich 68.95 292 PFAKE 08 51 20.0 +10
TEIG LR LR
comp=Z,2µm,21.0s,MS5.2
BEST Besiri 69.07 49 *i* P **P 08 51 11.8 +1.7**
CPCT Cooper Cave 69.11 309 *e*P **P 08 51 09.7 -0.8**
PAYG Puerto Ayora 69.16 270 PFAKE 08 51 20.0 +8.9
PAYG LR LR
comp=Z,4µm,21.0s,MS5.6
ACSO Alum Creek Sta 69.44 314 *e*P **P 08 51 12.3 -0.1**
comp=Z,133nm,1.2s,mb5.7
ACSO LR LR
comp=Z,7µm,19.0s,MS6.0
SOC Sochi 69.91 43 *e*P **P 08 51 25.6 +10**
SOC *e* 09 01 08.4
SOC pmax pmax
comp=Z,121nm,1.2s,mb5.7
SOC pmax pmax
comp=N,107nm,1.6s
SOC pmax pmax
comp=E,56nm,1.1s
SOC MLR MLR
comp=Z,19µm,17.0s,MS6.4
SOC MLR MLR
comp=N,13µm,18.0s,MS6.3
SOC MLR MLR
comp=E,9µm,17.0s,MS6.3
VSU Vasula 70.14 24 *i* P **P 08 51 16.2 -0.1**
VSU Vasula 70.14 24 *i* P **P 08 51 16.3 0.0**
LRAL Lakeview Retre 70.43 306 *e*P **P 08 51 17.3 -1.3**
comp=E,49nm,1.3s,mb5.3
LRAL LR LR
comp=Z,6µm,21.0s,MS5.8
VNA2 Neumayer--Watz 70.50 175⇑*i*P **P 08 51 31.4 +13**
AAM Ann Arbor 70.62 316 *e*P **P 08 51 19.4 -0.1**
AAM pmax pmax
comp=Z,137nm,1.1s,mb5.8
AAM MLR MLR
comp=Z,9µm,22.0s,MS6.0
AAM Ann Arbor 70.62 316 *e*P **P 08 51 19.4 -0.2**
comp=Z,137nm,1.1s,mb5.8
AAM LR LR
comp=Z,9µm,22.0s,MS6.0
VNA3 Neumayer Olymp 70.64 176⇑*i*P **P 08 51 36.4 +17**
VANT Van 70.83 49 P **P 08 51 18.7 -2.2**
PMSA Palmer Station 70.88 198 PFAKE 08 51 30.0 +9.3
PMSA LR LR
comp=Z,5µm,22.0s,MS5.7
WCI Wyandotte Cave 71.27 311 *e*P **P 08 51 24.0 +0.5**
WCI pmax pmax
comp=Z,35nm,0.9s,mb5.3
WCI MLR MLR
comp=Z,7µm,21.0s,MS5.9
WCI Wyandotte Cave 71.27 311 *e*P **P 08 51 24.0 +0.4**
comp=Z,35nm,0.9s,mb5.3
WCI LR LR
comp=Z,7µm,21.0s,MS5.9
SNAA Sanae 71.64 174 P **P 08 51 25.9 +0.6**
comp=Z,2.0nm,1.0s,baz=188,slow=15,SNR=2.0
SNAA S S 09 00 49.4 +6.0
comp=Z,0.8nm,0.8s,baz=9.6,slow=19,SNR=1.7
BLO Bloomington 71.71 312 *e*P **P 08 51 27.9 +1.7**
BLO pmax pmax
comp=Z,90nm,1.2s,mb5.6
BLO Bloomington 71.71 312 *e*P **P 08 51 27.9 +1.8**
comp=Z,90nm,1.2s,mb5.6
FINES FINESS Array B 71.76 22 P **P 08 51 25.7 -0.4**
comp=Z,20nm,0.7s,mb5.2,baz=204,slow=6.0,SNR=22
FINES S S 09 00 49.1 +4.3
comp=Z,1.3nm,0.9s,baz=143,slow=41,SNR=2.0
FINES LR LR 09 26 01.2
comp=Z,24µm,18.3s,MS6.5,baz=236,slow=38
FINES FINESS Array B 71.76 22 P **P 08 51 25.7 -0.4**
FINES S S 09 00 49.1 +4.3
FINES LR LR 09 26 01.2
WVT Waverly 71.88 309 *e*P **P 08 51 26.1 -1.1**
WVT pmax pmax
comp=Z,41nm,1.1s,mb5.3
WVT MLR MLR
comp=Z,5µm,22.0s,MS5.8
WVT Waverly 71.88 309 *e*P **P 08 51 26.1 -1.1**
comp=Z,42nm,1.1s,mb5.3
WVT LR LR
comp=Z,5µm,22.0s,MS5.8
KIV Kislovodsk 72.05 43 *e*P **P 08 51 27.9 -0.2**
KIV pmax pmax
comp=Z,215nm,1.3s,mb5.9
KIV MLR MLR
comp=Z,3µm,20.0s,MS5.5
KIV Kislovodsk 72.05 43 *e*P **P 08 51 27.9 -0.2**
comp=Z,214nm,1.3s,mb5.9
KIV LR LR
comp=Z,3µm,20.0s,MS5.5
CCIG Comitan 72.06 287 *i* P **P 08 51 31.9 +3.3**
GNI Garni 72.33 47 P **P 08 51 29.7 -0.1**
comp=Z,2.5nm,0.4s,mb4.5,baz=261,slow=8.1,SNR=5.9
GNI S S 09 00 53.2 +1.5
comp=Z,1.4nm,0.3s,baz=16,slow=20,SNR=1.8
GNI LR LR 09 23 53.9
comp=Z,16µm,18.9s,MS6.3,baz=34,slow=36
GNI Garni 72.33 47 *e*P **P 08 51 29.8 -0.1**
comp=Z,212nm,1.4s,mb5.9
GNI LR LR
comp=Z,17µm,19.0s,MS6.3
PUL Pulkovo 72.41 25 *e*P **P 08 51 37.9 +7.9**
PUL *e* 08 54 10.9
PUL *e*S S 09 00 59.2 +6.9
PUL pmax pmax
comp=Z,98nm,0.4s,mb6.1
PUL pmax pmax
comp=N,215nm,0.8s
PUL pmax pmax
comp=E,19nm,0.3s
PUL smax
comp=N,259nm,0.8s
PUL smax
comp=E,291nm,0.9s
PUL Pulkovo 72.41 25 *i* P **P 08 51 29.3 -0.7**
ZEI Tsey 72.51 44 *e*P **P 08 51 33.4 +2.5**
ZEI pmax pmax
comp=Z,13nm,0.9s,mb4.9
OXF Oxford 72.73 307 PFAKE 08 51 40.0 +7.6
OXF LR LR
comp=Z,5µm,19.0s,MS5.8
VOR Voronezh 72.79 34 P **P 08 51 31.5 -0.8**
VOR pmax pmax
comp=Z,90nm,1.6s,mb5.5
TI2 Plekhanov 72.79 46 *e*P **P 08 51 33.2 +0.6**
TI2 *e* 08 51 33.2
TI2 *i* S S 09 01 07.2 +10
TI2 MLR MLR
comp=Z,23µm,14.0s,MS6.6
TI2 MLR MLR
comp=N,16µm,16.0s,MS6.6
TI2 MLR MLR
comp=E,19µm,16.0s,MS6.6
OBN Obninsk 72.87 31⇓*e*P **P 08 51 30.6 -2.1**
OBN *e* 08 54 23.0
OBN *i* S S 09 01 03.5 +5.9
OBN pmax pmax
comp=Z,13nm,1.0s,mb4.8
OBN MLR MLR
comp=Z,34µm,20.0s,MS6.6
OBN Obninsk 72.87 31 *e*P **P 08 51 31.7 -1.0**
comp=Z,104nm,1.3s,mb5.6
OBN LR LR
comp=Z,5µm,19.0s,MS5.8
NVL N'lazarevskaya 72.99 169⇑*e*P PcP 08 51 46.0 -4.3
NVL *e*S S 09 01 06.0 +7.2
NVL pmax pmax
comp=Z,808nm,3.0s
NVL MLR MLR
comp=Z,12µm,15.0s,MS6.3
MOS Moscow 73.69 30 *e*P **P 08 51 37.5 0.0**
MOS *e* 08 51 54.5
MOS *e* 08 54 18.5
MOS *e*S S 09 01 02.0 -4.9
MOS *e*SS SS 09 05 44.4 -8.3
MOS *e*SSS SSS 09 08 57.7 -6.4
MOS pmax pmax
comp=Z,86nm,1.4s,mb5.5
HBAR Harrisburg 73.97 307 *e*P **P 08 51 39.1 -0.5**
SUMG Summit 74.16 355 *e*P **P 08 51 42.2 +2.3**
comp=Z,111nm,1.1s,mb5.7
FVM French Village 74.35 310 *e*P **P 08 51 39.2 -2.5**
FVM pmax pmax
comp=Z,31nm,0.8s,mb5.3
FVM French Village 74.35 310 *e*P **P 08 51 39.2 -2.5**
comp=Z,31nm,0.8s,mb5.3
JOF Joensuu 74.61 22 *e*p **P 08 51 40.6 -2.1**
CCM Cathedral Cave 74.99 310 *e*P **P 08 51 44.2 -1.2**
CCM pmax pmax
comp=Z,65nm,1.1s,mb5.5
CCM MLR MLR
comp=Z,5µm,21.0s,MS5.8
CCM Cathedral Cave 74.99 310 *e*P **P 08 51 44.2 -1.3**
comp=Z,66nm,1.1s,mb5.5
CCM LR LR
comp=Z,5µm,21.0s,MS5.8
MAK Makhachkala 75.10 45 *e*P **P 08 51 50.6 +4.7**
MAK *i* 08 52 04.0
MAK *e* 08 54 34.0
MAK *e*S S 09 01 22.0 -0.9

MAK *i* PS PS 09 02 08.0 +7.9
MAK pmax pmax
comp=Z,4μm,10.0s
MAK smax
comp=E,6μm,8.0s
MAK smax
comp=N,1μm,6.0s
MAK MLR MLR
comp=N,10μm,13.0s
MAK MLR MLR
comp=Z,27μm,13.0s,MS6.7
MAK MLR MLR
comp=E,17μm,19.0s
UALR University of 75.15 306 *e*P **P 08 51 45.1 -1.3**
comp=E,30nm,0.7s,mb5.3
ABTO Aybut 75.40 72 ⇑P **P 08 51 55.1 +6.9**
JFWS Jewell Farm 75.44 315 *e*P **P 08 51 45.9 -2.0**
JFWS pmax pmax
comp=Z,100nm,1.3s,mb5.6
JFWS MLR MLR
comp=Z,7μm,20.0s,MS6.0
JFWS Jewell Farm 75.44 315 *e*P **P 08 51 45.9 -2.1**
comp=Z,100nm,1.3s,mb5.6
JFWS LR LR
comp=Z,7μm,20.0s,MS6.0
MIAR Mount Ida 76.10 306 *e*P **P 08 51 53.4 +1.6**
MIAR pmax pmax
comp=Z,39nm,1.2s,mb5.2
MIAR MLR MLR
comp=Z,3μm,21.0s,MS5.6
MIAR Mount Ida 76.10 306 *e*P **P 08 51 53.4 +1.5**
comp=Z,39nm,1.2s,mb5.2
MIAR LR LR
comp=Z,3μm,21.0s,MS5.6
RBK Rabkut 76.28 72 ⇓P **P 08 51 58.9 +5.8**
NATX Nacogdoches 76.51 303 *e*P **P 08 51 53.9 -0.3**
comp=Z,149nm,1.4s,mb5.7
NATX LR LR
comp=Z,4μm,20.0s,MS5.7
ARCES ARCESS Array B 76.87 15 P **P 08 51 54.2 -1.2**
comp=Z,6.3nm,0.9s,mb4.6,baz=256,slow=5.0,SNR=7.5
ARCES S S 09 01 46.4 +4.7
comp=Z,1.7nm,0.9s,baz=274,slow=19,SNR=2.3
ARCES LR LR 09 28 07.1
comp=Z,13μm,18.9s,MS6.3,baz=235,slow=38
ARCES ARCESS Array B 76.87 15 P **P 08 51 54.2 -1.2**
ARCES S S 09 01 46.4 +4.7
ARCES LR LR 09 28 07.1
HKT Hockley 77.22 301 P **P 08 51 56.3 -1.9**
HKT pmax pmax
comp=Z,51nm,1.6s,mb5.2
HKT MLR MLR
comp=Z,4μm,21.0s,MS5.7
HKT Hockley 77.22 301 P **P 08 51 56.3 -1.9**
comp=Z,51nm,1.6s,mb5.2
HKT LR LR
comp=Z,4μm,21.0s,MS5.7
PECR Pechory 77.23 31 *e*P **P 08 52 10.6 +13**
PECR *e*S S 09 01 52.0 +6.1
PECR *e* 09 02 15.0
PECR pmax pmax
comp=Z,2μm,12.0s
PECR smax
comp=N,7μm,15.0s
PECR MLR MLR
comp=Z,23μm,19.0s,MS6.5
PECR MLR MLR
comp=N,23μm,15.0s
PECR MLR MLR
comp=Z,22μm,19.0s
PECR MLR MLR
comp=N,28μm,15.0s
PECR MLR MLR
comp=Z,21μm,17.0s
PECR MLR MLR
comp=N,37μm,15.0s
KEV Kevo 77.41 15 *e*p **P 08 51 59.1 +0.7**
DAG Danmarks Havn 77.57 1⇑*i*P **P 08 52 03.8 +4.6**
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
DAG MLR MLR
comp=Z,10μm,18.0s,MS6.2
DAG Danmarks Havn 77.57 1⇑*i*P **P 08 52 03.8 +4.6**
comp=Z,5.2nm,0.8s,mb4.5
comp=Z,10μm,18.0s
EYMN Ely 77.62 320 *e*P **P 08 52 00.1 +0.1**
EYMN comp=Z,40nm,1.3s,mb5.2
EYMN LR LR
comp=Z,9μm,21.0s,MS6.1
APA Apatity 77.96 19⇓*i*P **P 08 52 03.0 +1.5**
APA *i* 08 52 11.8
APA *i* 08 55 03.8
APA *e*S S 09 01 57.0 +3.5
APA *i* PS PS 09 02 20.0 -16
APA pmax pmax
comp=Z,150nm,1.4s,mb5.7
APA MLR MLR
comp=Z,24μm,19.0s,MS6.5
LVZ Lovozero 78.54 19 *e*P **P 08 52 04.7 +0.1**
LVZ *e*S S 09 01 50.0 -10
LVZ pmax pmax
comp=Z,58nm,2.0s,mb5.2
LVZ pmax pmax
comp=N,27nm,1.9s
LVZ smax
comp=Z,1μm,3.9s
LVZ smax
comp=N,1μm,5.0s
LVZ smax
comp=E,1μm,5.9s
LVZ Lovozero 78.54 19 *i* P **P 08 52 04.3 -0.3**
ARQ Araqi 79.01 66 ⇑P **P 08 52 14.2 +6.1**
SYO Syowa Base 79.02 161 ⇓P **P 08 52 05.7 -1.5**
SYO Syowa Base 79.02 161 ⇑pP pP 08 52 08.9 -1.5
KSU1 Kansas State U 79.32 310 P **P 08 52 07.6 -1.9**
BSY Bisya 79.57 67 ⇑P **P 08 52 16.7 +5.6**
HOQ Hoqain 79.75 66 ⇓P **P 08 52 18.0 +5.9**
WMOK Wichita Mounta 80.37 305 *e*P **P 08 52 14.5 -0.7**
WMOK pmax pmax
comp=Z,63nm,1.6s,mb5.3
WMOK MLR MLR
comp=Z,4μm,21.0s,MS5.7
WMOK Wichita Mounta 80.37 305 *e*P **P 08 52 14.5 -0.7**
comp=Z,63nm,1.6s,mb5.3
WMOK LR LR
comp=Z,4μm,21.0s,MS5.7
JCT Junction City 80.70 301 *e*P **P 08 52 17.3 +0.3**
JCT pmax pmax
comp=Z,31nm,0.9s,mb5.2
JCT MLR MLR
comp=Z,2μm,20.0s,MS5.5
JCT Junction City 80.70 301 *e*P **P 08 52 17.2 +0.2**
comp=Z,31nm,0.9s,mb5.2
JCT LR LR
comp=Z,2μm,20.0s,MS5.5
WBK Wadi Bani Khal 81.19 67 ⇑P **P 08 52 26.1 +6.3**
FCC Fort Churchill 81.98 330 *e*P **P 08 52 20.8 -2.3**
FCC pmax pmax
comp=Z,123nm,1.2s,mb5.7
FCC Fort Churchill 81.98 330 *e*P **P 08 52 20.8 -2.3**
comp=Z,123nm,1.2s,mb5.7
AMTX Amarillo 82.76 305 PFAKE 08 52 40.0 +12
AMTX LR LR
comp=Z,4μm,22.0s,MS5.8
LTX Lajitas 83.93 299 *e*P **P 08 52 34.0 +0.1**
LTX pmax pmax
comp=Z,44nm,1.5s,mb5.4
LTX MLR MLR
comp=Z,3μm,20.0s,MS5.6
LTX Lajitas 83.93 299 *e*P **P 08 52 34.0 +0.1**
comp=Z,44nm,1.5s,mb5.4
LTX LR LR
comp=Z,3μm,20.0s,MS5.6
TXAR Lajitas Array 83.93 299 P **P 08 52 34.5 +0.6**
comp=Z,3.6nm,0.9s,mb4.5,baz=120,slow=7.3,SNR=16
TXAR S S 09 03 01.6 +5.3
comp=Z,0.1nm,0.3s,baz=169,slow=41,SNR=3.0
TXAR LR LR 09 31 42.1
comp=Z,2μm,18.9s,MS5.5,baz=130,slow=37
CLNB Carlsbad 84.34 302 P **P 08 52 35.6 -0.3**
CPRX Cap Rock 84.39 303 P **P 08 52 36.4 +0.2**
CPRX *e* 08 52 56.5
SOKR Solikamsk 84.64 30⇑*i*P **P 08 52 43.0 +6.3**
SOKR pmax pmax
comp=Z,60nm,1.1s,mb5.6
GDL2 Guadalupe Moun 84.75 302 *e*P **P 08 52 38.5 +0.6**

ARU Arti 85.02 33 *e*P **P 08 52 40.1 +1.4**
ARU *i* 08 55 54.9
ARU *e*PPP PPP 08 57 50.6 -2.8
ARU *e*S S 09 02 59.8 -6.6
ARU *i* PS PS 09 03 58.2 -5.6
ARU *e*SS SS 09 08 35.5 -7.1
ARU MLR MLR
comp=Z,12μm,16.5s,MS6.4
ARU MLR MLR
comp=N,2μm,16.0s,MS6.4
ARU MLR MLR
comp=E,12μm,17.0s,MS6.4
MNTX Cornudas Mount 85.57 302 P **P 08 52 44.4 +2.4**
comp=E,15nm,1.2s,mb5.1
MNTX LR LR
comp=Z,4μm,21.0s,MS5.7
DGMT Dagmar 86.06 319 *e*P **P 08 52 44.7 +0.6**
comp=Z,126nm,1.2s,mb6.0
DGMT LR LR
comp=Z,10μm,22.0s,MS6.2
SDCO Great Sand Dun 86.09 308 P **P 08 52 44.1 -0.4**
comp=Z,47nm,1.2s,mb5.6
SDCO LR LR
comp=Z,6μm,20.0s,MS6.0
SVE Sverdlovsk 86.21 33 *e*P **P 08 52 47.0 +2.4**
SVE *i* S S 09 03 24.6 +6.7
SVE *e* 09 04 37.0
SVE *e* 09 09 00.0
SVE pmax pmax
comp=Z,180nm,2.5s,mb5.9
SVE pmax pmax
comp=Z,460nm,3.5s
SVE smax
comp=N,4μm,16.5s
SVE smax
comp=E,7μm,16.5s
SVE MLR MLR
comp=Z,21μm,16.5s,MS6.6
PHWY Pilot Hill 86.32 311 *e*P **P 08 52 46.3 +0.8**
ISCO Idaho Springs 86.32 310 *e*P **P 08 52 47.0 +1.4**
ISCO pmax pmax
comp=Z,82nm,1.5s,mb5.7
ISCO MLR MLR
comp=Z,6μm,21.0s,MS6.0
ISCO Idaho Springs 86.32 310 *e*P **P 08 52 47.0 +1.4**
comp=Z,82nm,1.5s,mb5.7
ISCO LR LR
comp=Z,6μm,21.0s,MS6.0
RES Resolute Bay 86.59 345 P **P 08 52 48.2 +2.1**
RES pmax pmax
comp=Z,43nm,1.3s,mb5.5
RES Resolute Bay 86.59 345 P **P 08 52 48.2 +2.1**
comp=Z,43nm,1.3s,mb5.5
ANMO Albuquerque 86.68 305 *e*P **P 08 52 48.1 +0.7**
ANMO pmax pmax
comp=Z,18nm,1.0s
ANMO MLR MLR
comp=Z,4μm,22.0s
ANMO Albuquerque 86.68 305 *e*P **P 08 52 48.1 +0.7**
comp=Z,18nm,1.0s,mb5.3
ANMO LR LR
comp=Z,4μm,22.0s,MS5.8
LPM Los Pinos Moun 86.78 304 *e*P **P 08 52 48.1 +0.2**
MAW Mawson 86.89 158 P **P 08 52 49.9 +2.3**
comp=Z,2.4nm,0.8s,mb4.5,baz=101,slow=9.4,SNR=2.7
MAW S S 09 03 25.7 +1.6
comp=Z,1.0nm,0.3s,baz=67,slow=21,SNR=6.8
LENM Lemitar 87.06 304 *e*P **P 08 52 49.6 +0.3**
LAZ Ladron 87.20 304 *e*P **P 08 52 51.1 +1.1**
LAO LASA Array 87.27 317 *e*P **P 08 52 50.6 +0.6**
comp=Z,103nm,1.1s,mb6.0
LAO LR LR
comp=Z,7μm,21.0s,MS6.1
RWWY Rawlins 87.66 312 *e*P **P 08 52 53.0 +1.0**
RPN Rapa Nui 88.01 243 PFAKE 08 53 10.0 +16
RPN LR LR
comp=Z,1μm,19.0s,MS5.3
QSPA South Pole Qui 89.19 180 PFAKE 08 53 10.0 +11
QSPA LR LR
comp=Z,4μm,19.0s,MS5.8
BW06 Boulder Array 89.44 313 PFAKE 08 53 10.0 +10
BW06 LR LR
comp=Z,8μm,22.0s,MS6.1
PDAR Pinedale Array 89.44 313 P **P 08 53 00.1 -0.4**
comp=Z,0.9nm,0.6s,baz=80,slow=6.1,SNR=6.6
PDAR S S 09 03 35.8 -13
comp=Z,0.2nm,0.5s,baz=63,slow=33,SNR=2.3
PDAR LR LR 09 31 20.6
comp=Z,6μm,19.3s,MS6.0,baz=94,slow=34
SRU San Rafael 90.09 309 *e*P **P 08 53 03.0 -0.6**
SRU *e* 08 53 26.0
TUC Tucson 90.18 302 PFAKE 08 53 20.0 +16
TUC LR LR
comp=Z,2μm,19.0s,MS5.6
LOHW Long Hollow 90.23 313 *e*P **P 08 53 04.0 -0.1**
WUWY Wally Ulrich 90.33 313 *e*P **P 08 53 04.2 -0.4**
MOOW Moose Ponds 90.33 314 *e*P **P 08 53 03.9 -0.7**
SNOW Snow King Moun 90.34 313 *e*P **P 08 53 03.8 -0.8**
YMR Madison River 90.50 314 *e*P **P 08 53 06.6 +1.2**
AHID Auburn Hatcher 90.58 313 P **P 08 53 03.8 -2.0**
comp=Z,50nm,1.3s,mb5.7
AHID LR LR
comp=Z,9μm,22.0s,MS6.2
MPU Maple Canyon 90.96 310 P **P 08 53 09.6 +2.0**
BOZ Bozeman (W) 90.98 315 *e*P **P 08 53 10.0 +2.4**
comp=Z,16nm,1.2s,mb5.2
BOZ LR LR
comp=Z,7μm,20.0s,MS6.1
BHJ Bhuj 91.06 67 *e* **P 08 53 17.0 +8.6**
BHJ *e* 09 04 25.8
NLU North Lily Min 91.30 310 P **P 08 53 09.2 +0.1**
MSU Marysvale 91.37 308 *e*P **P 08 53 11.1 +1.6**
BRVK Borovoye 91.55 37 *e*P **P 08 53 12.0 +2.1**
BRVK pmax pmax
comp=Z,41nm,1.3s,mb5.6
BRVK MLR MLR
comp=Z,5μm,21.0s,MS5.9
BRVK Borovoye 91.55 37 *e*P **P 08 53 12.0 +2.0**
comp=Z,41nm,1.3s,mb5.6
BRVK LR LR
comp=Z,5μm,21.0s,MS5.9
BVAR Borovoye Array 91.61 37 P **P 08 53 11.5 +1.3**
comp=Z,1.3nm,1.0s,baz=263,slow=39,SNR=2.9
BVAR PP PP 08 56 31.7 -19
comp=Z,2.9nm,0.9s,baz=231,slow=9.2,SNR=3.3
BVAR S S 09 03 44.9 -23
comp=Z,0.3nm,0.4s,baz=234,slow=44,SNR=1.9
CHKZ Chkalovo 91.74 37 *e*P **P 08 53 12.4 +1.6**
CHKZ pmax pmax
comp=Z,37nm,1.3s,mb5.5
CHKZ Chkalovo 91.74 37 *e*P **P 08 53 12.4 +1.6**
comp=Z,37nm,1.3s,mb5.5
EDM Edmonton 92.04 323 *e*P **P 08 53 14.6 +2.4**
JASL Jaisalmer 92.20 63 *e*P **P 08 53 15.1 +1.5**
YKA Yellowknife Ar 92.39 332 P **P 08 53 13.4 -0.2**
comp=Z,2.1nm,0.8s,mb4.5,baz=91,slow=5.1,SNR=19
YKA S S 09 03 52.7 -22
comp=Z,0.1nm,0.4s,baz=56,slow=4.9,SNR=2.8
YKA PKKPbc 09 10 33.3
comp=Z,0.1nm,0.3s,baz=270,slow=2.5,SNR=3.3
YKA LR LR 09 32 30.3
comp=Z,7μm,19.3s,MS6.1,baz=85,slow=34
YKA Yellowknife Ar 92.39 332 P **P 08 53 13.4 -0.2**
YKA S S 09 03 52.7 -22
YKA PKKPbc 09 10 33.3
YKA LR LR 09 32 30.3
YKW3 Yellowknife Ar 92.40 332 *e*P **P 08 53 13.4 -0.2**
MSO Missoula 92.58 317 PFAKE 08 53 30.0 +15
MSO LR LR
comp=Z,4μm,20.0s,MS5.9
HLID Hailey 93.00 313 *e*P **P 08 53 16.6 -0.3**
comp=Z,18nm,1.1s,mb5.4
HLID LR LR
comp=Z,7μm,21.0s,MS6.1
DGAR Diego Garcia 93.43 97 PFAKE 08 53 30.0 +10
DGAR LR LR
comp=Z,12μm,20.0s,MS6.4
NEW Newport 94.66 318 PFAKE 08 53 40.0 +16
NEW LR LR
comp=Z,11μm,22.0s,MS6.3
AAK Ala-Archa 94.73 47 *e*P **P 08 53 26.0 +1.1**
AAK pmax pmax
comp=Z,40nm,1.2s,mb5.7
AAK MLR MLR
comp=Z,5μm,20.0s,MS6.0
AAK Ala-Archa 94.73 47 *e*P **P 08 53 26.0 +1.1**

comp=Z,40nm,1.2s,mb5.7
AAK LR LR
comp=Z,5μm,20.0s,MS6.0
FRU Bishkek 94.81 47 *e*P **P 08 53 38.5 +13**
FRU *i* 09 05 54.0
FRU *i* 09 11 06.0
PFO Pinyon Flat Ob 94.94 303 PFAKE 08 53 40.0 +14
PFO LR LR
comp=Z,725nm,22.0s,MS5.1
BMO Blue Mountains 95.02 315 PFAKE 08 53 40.0 +14
BMO LR LR
comp=Z,4μm,20.0s,MS5.9
MNV Mina 96.06 308 PFAKE 08 53 40.0 +8.9
MNV LR LR
comp=Z,6μm,19.0s,MS6.1
WVOR Wild Horse Val 96.15 312 P **P 08 53 30.2 -1.2**
comp=Z,25nm,1.4s,mb5.5
WVOR LR LR
comp=Z,11μm,22.0s,MS6.3
NVAR Mina Array Bea 96.18 308 P **P 08 53 33.8 +2.1**
comp=Z,0.3nm,0.5s,baz=92,slow=35,SNR=2.4
NVAR PP PP 08 57 22.8 -4.3
comp=Z,0.6nm,0.7s,baz=101,slow=4.6,SNR=2.7
NVAR PKKPbc 09 10 29.1
comp=Z,0.2nm,0.2s,baz=292,slow=8.0,SNR=2.7
KHET Khetri 96.53 62 *e*P **P 08 53 35.8 +2.3**
KUDL Kundal 97.13 62 *e*P **P 08 53 36.3 +0.2**
MOD Modoc 97.43 312 *e*P **P 08 53 40.0 +2.9**
comp=Z,38nm,1.4s,mb5.6
MOD LR LR
comp=Z,8μm,22.0s,MS6.1
SONA Sohna 97.65 62 *e* **P 08 53 44.7 +6.3**
AYAN Aya Nagar 97.67 62 *e*P **P 08 53 43.4 +4.8**
NDI New Delhi 97.74 61 *e*S S 09 05 04.0 +3.1
CMB Columbia Colle 97.85 308 PFAKE 08 53 50.0 +11
CMB LR LR
comp=Z,3μm,20.0s,MS5.8
TRD Trivandrum 98.12 82 *e* **P 08 53 49.2 +8.3**
TRD *e* 09 04 37.6
SAO San Andreas Ge 98.81 307 PFAKE 08 54 00.0 +17
SAO LR LR
comp=Z,3μm,19.0s,MS5.9
INK Inuvik 98.97 340 P **P 08 53 45.0 +1.6**
INK PP 08 57 45.9
INK pmax pmax
comp=Z,1.0nm,0.8s
INK pmax pmax
comp=Z,2.0nm,1.0s
INK pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 98.97 340 P **P 08 53 45.0 +1.5**
comp=Z,0.6nm,0.8s,baz=301,slow=7.1,SNR=1.5
INK PP PP 08 57 45.9 -1.9
comp=Z,1.7nm,1.0s,baz=79,slow=10,SNR=1.9
INK PKKPbc 09 10 21.8
comp=Z,1.0nm,0.8s,baz=19,slow=5.1,SNR=1.8
INK Inuvik 98.97 340 *e*P **P 08 53 43.5 0.0**
comp=Z,24nm,1.7s,mb5.5
YBH Yreka Blue Hor 99.24 312 P **P 08 53 46.6 +1.3**
YBH MLR MLR
comp=Z,8μm,22.0s
YBH Yreka Blue Hor 99.24 312 P **P 08 53 46.6 +1.3**
comp=Z,1.1nm,0.9s,baz=178,slow=16,SNR=1.7
WDC Whiskeytown Da 99.25 311 PFAKE 08 54 00.0 +15
WDC LR LR
comp=Z,5μm,20.0s,MS6.0
COR Corvallis 99.29 315 PFAKE 08 54 00.0 +15
COR LR LR
comp=Z,5μm,22.0s,MS6.0
HUMO Hull Mountain 99.31 313 PFAKE 08 54 00.0 +14
HUMO LR LR
comp=Z,5μm,21.0s,MS6.0
HYB Hyderabad 99.49 73 *i* P Px 08 54 04.0
HYB *e* 08 55 20.0
HYB *e* 08 58 10.0
HYB *e*SKS SKS 09 04 32.0 +2.8
HYB *e*S S 09 05 24.0 +8.1
HYB *e*SP SP 09 06 46.0 -1.8
HYB *e* 09 08 56.0
HYB *e*SS SS 09 12 20.0 +10
HYB LR LR 09 37 14.0
comp=Z,27nm,18.0s
HOPS Hopland 99.84 309 PFAKE 08 54 00.0 +12
HOPS LR LR
comp=Z,6μm,22.0s,MS6.0
SBA Scott Base 101.24 182 PFAKE 08 54 10.0 +16
SBA LR LR
comp=Z,3μm,21.0s,MS5.8
PALK Pallekele 101.84 83 PFAKE 08 54 10.0 +12
PALK LR LR
comp=Z,11μm,21.0s,MS6.3
SIT Sitka 103.70 329 PFAKE 08 54 20.0 +15
SIT LR LR
comp=Z,8μm,22.0s,MS6.2
CASY Casey 104.77 162 PFAKE 08 54 20.0 +11
CASY LR LR
comp=Z,5μm,19.0s,MS6.1
ILAR Eielson Array 105.33 339 P Pdif 08 54 19.3 +7.4
ILAR pmax pmax
comp=Z,1.0nm,1.1s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 105.33 339 Pdiff Pdif 08 54 19.3 +7.3
comp=Z,0.6nm,1.1s,baz=51,slow=4.2,SNR=4.2
ILAR PKKPab 09 10 10.6
comp=Z,0.5nm,0.9s,baz=260,slow=5.5,SNR=3.3
COLA College 105.61 339 PFAKE 08 58 40.0
COLA LR LR
comp=Z,5μm,21.0s,MS6.1
MCK McKinley 106.65 338 PFAKE 08 58 40.0
MCK LR LR
comp=Z,3μm,19.0s,MS5.8
PTCN Pitcairn Islan 106.76 244 PFAKE 08 58 40.0
PTCN LR LR
comp=Z,3μm,22.0s,MS5.8
TIXI Tiksi 106.78 10 PFAKE 08 58 40.0
TIXI LR LR
comp=Z,11μm,20.0s,MS6.4
DIV Divide 106.82 335 PFAKE 08 58 40.0
DIV LR LR
comp=Z,23μm,20.0s,MS6.7
FIB Fire Island 108.59 337 PFAKE 08 58 40.0
FIB LR LR
comp=Z,4μm,21.0s,MS6.0
LSA Lhasa 109.71 59 PFAKE 08 58 50.0
LSA LR LR
comp=Z,19μm,19.0s,MS6.7
TNA Tin City 111.22 346 PFAKE 08 58 50.0 +12
TNA LR LR
comp=Z,3μm,20.0s,MS5.8
RKT Rikitea 111.49 245 *e*PP PP 08 59 18.3 -4.1
RKT *e*PS PS 09 08 55.6 +6.2
RKT *e*SS SS 09 14 47.7 -5.7
RKT *e*LQ 09 26 06.9
RKT *e*LR LR 09 31 42.0
comp=Z,27μm,66.0s
TLY Talaya 111.53 33 PFAKE 08 58 50.0 +11
TLY LR LR
comp=Z,4μm,20.0s,MS6.0
KDAK Kodiak Island 111.57 334 PFAKE 08 58 50.0 +11
KDAK LR LR
comp=Z,2μm,20.0s,MS5.8
BILL Bilibino 112.78 357⇑*i*PKIKP PKPdf 08 58 50.7 +9.3
BILL *e*SS SS 09 15 25.3 +15
BILL pmax pmax
comp=Z,5.0nm,1.5s
BILL Bilibino 112.78 357 PFAKE 08 58 50.0 +8.6
BILL LR LR
comp=Z,8μm,21.0s,MS6.3
BOD Bodaibo 113.09 24 *e*PKIKP PKPdf 08 58 32.5 -10
SONM Songino Array 114.93 36 PKKPbc 09 09 23.6
comp=Z,0.5nm,1.1s,baz=153,slow=3.2,SNR=2.8
YAK Yakutsk 115.15 15 PFAKE 08 59 00.0 +14
YAK LR LR
comp=Z,12μm,19.0s,MS6.5
ULN Ulaanbaatar 115.30 36 *i* PKIKP PKPdf 08 58 42.3 -4.5
ULN Ulaanbaatar 115.30 36 PFAKE 08 59 00.0 +13
ULN LR LR
comp=Z,15μm,21.0s,MS6.6
LZH Lanzhou 118.23 49 *e*PKP PKPdf 08 58 46.8 -6.0
LZH XPKP 08 58 51.6
TAOE Nuku Hiva Isla 118.50 259 *e*SS SS 09 16 33.7 +7.9
TAOE *e*LQ 09 30 11.2
TAOE *e*LR LR 09 35 01.9
CMAR Chiang Mai Arr 118.70 69 PKP PKPdf 08 58 58.4 +4.2

comp=Z,1.7nm,0.4s,baz=286,slow=2.8,SNR=3.5
UNV Unalaska Valle 119.99 337 PFAKE 08 59 10.0 +14
UNV LR LR
comp=Z,13μm,19.0s,MS6.6
MA2 Magadan 121.13 5 *i* PKIKP PKPdf 08 58 59.7 +1.8
MA2 MLR MLR
comp=Z,6μm,19.0s,MS6.2
HIA Hailar 121.30 29 PFAKE 08 59 10.0 +12
HIA LR LR
comp=Z,25μm,20.0s,MS6.8
TBI Tubuai 124.34 241 *e*PP PP 09 00 48.0 -4.0
TBI *e*SS SS 09 17 37.9 -2.6
TBI *e*LQ 09 32 13.5
TBI *e*LR LR 09 37 42.6
comp=Z,17μm,54.2s
ENH Enshi 124.80 53 PKPdf PKPdf 08 59 02.4 -3.4
ENH LR LR
comp=Z,11μm,20.0s,MS6.5
BJT Baijiatuau 125.03 40 PFAKE 08 59 20.0 +14
BJT LR LR
comp=Z,12μm,20.0s,MS6.6
PPT Papeete 126.06 248 *e*PP PP 09 00 53.5 -10
PPT *e*SS SS 09 17 53.2 -8.9
PPT *e*LQ 09 32 55.7
PPT *e*LR LR 09 38 26.2
comp=Z,124μm,86.8s
PET Petropavlovsk 128.04 0 PFAKE 08 59 20.0 +8.6
PET LR LR
comp=Z,7μm,21.0s,MS6.3
NWAO Narrogin (SRO) 128.32 135 PFAKE 08 59 20.0 +7.5
NWAO LR LR
comp=Z,11μm,19.0s,MS6.6
QIZ Qiongzhong 128.69 66 PFAKE 08 59 20.0 +6.5
QIZ LR LR
comp=Z,15μm,20.0s,MS6.7
MDJ Mudanjiang 129.31 27 PKP PKPdf 08 59 11.4 -2.7
MDJ XPKP 08 59 15.6
MDJ PKS PKS 09 02 51.6 +5.3
MDJ LR LR
comp=Z,15μm,40.0s,MS6.4
MDJ Mudanjiang 129.31 27 PFAKE 08 59 20.0 +5.9
MDJ LR LR
comp=Z,11μm,19.0s,MS6.6
NJ2 Nanjing 131.17 47 *e*PKP PKPdf 08 59 17.8 -0.1
NJ2 PKS PKS 09 02 49.0 -1.1
NJ2 SKS SKS 09 06 21.0 -6.4
YSS Yuzh-Sakhalins 132.00 15 PKHKP 08 59 02.0
YSS *e*SS SS 09 19 14.0 -1.5
YSS Yuzh-Sakhalins 132.00 15 PFAKE 08 59 30.0 +11
YSS LR LR
comp=Z,10μm,19.0s,MS6.6
INCN Inchon 133.00 35 PFAKE 08 59 30.0 +8.7
INCN LR LR
comp=Z,13μm,19.0s,MS6.7
KIP Kipapa 133.29 299 PFAKE 08 59 30.0 +7.8
KIP LR LR
comp=Z,6μm,19.0s,MS6.3
RAR Rarotonga 134.02 239 PFAKE 08 59 30.0 +6.6
RAR LR LR
comp=Z,3μm,21.0s,MS6.0
QZH Quanzhou 134.33 55 *e*PKP PKPdf 08 59 22.4 -1.6
QZH PP PP 09 02 00.5 +3.4
TAU Tasmania Unive 135.18 168 PFAKE 08 59 40.0 +15
TAU LR LR
comp=Z,2μm,20.0s,MS5.9
MBWA Marble Bar 135.91 122 PFAKE 08 59 40.0 +13
MBWA LR LR
comp=Z,13μm,19.0s,MS6.7
TATO Taipei 136.67 53 PFAKE 08 59 40.0 +12
TATO LR LR
comp=Z,12μm,21.0s,MS6.6
MAJO Matsushiro 139.68 26 PFAKE 08 59 40.0 +6.5
MAJO LR LR
comp=Z,10μm,21.0s,MS6.5
RAO Raoul Island 142.72 215 PFAKE 08 59 50.0 +11
RAO LR LR
comp=Z,5μm,21.0s,MS6.2
STKA Stephens Creek 143.53 155 PKP PKPdf 08 59 39.4 -1.0
comp=Z,2.9nm,0.7s,baz=162,slow=23,SNR=6.2
STKA Stephens Creek 143.53 155 PKP PKPdf 08 59 39.4 -1.0
MIDW Midway 144.57 322 PFAKE 08 59 50.0 +11
MIDW LR LR
comp=Z,5μm,20.0s,MS6.2
ASAR Alice Springs 145.58 137 PKPbc PKPbc 08 59 43.1 +1.3
comp=Z,12nm,0.8s,baz=223,slow=3.1,SNR=11
DAV Davao City (W) 146.23 79 *e*P PKPbc 09 00 07.5 +24
AFI Afiamalu 147.43 242 PFAKE 09 00 00.0 +12
AFI LR LR
comp=Z,4μm,19.0s,MS6.2
WRA Warramunga Arr 148.26 132 PKIKP PKPdf 08 59 49.1 +0.3
WRA pmax pmax
comp=Z,3.0nm,0.9s
WRA Warramunga Arr 148.26 132 PKPbc PKPdf 08 59 49.1 +0.3
comp=Z,2.7nm,0.8s,baz=244,slow=2.3,SNR=8.3
WRAB Tennant Creek 148.28 132 *e*PKPbc PKPdf 08 59 51.5 +2.7
WRAB LR LR
comp=Z,9μm,21.0s,MS6.5
CTA Charters Tower 155.76 150 PKP PKPdf 08 59 57.8 -1.8
comp=Z,5.9nm,0.9s,baz=104,slow=4.8,SNR=2.4
CTA PKPab PKPab 09 00 25.7 0.0
comp=Z,14nm,1.1s,baz=207,slow=1.6,SNR=3.8
CTAO Charters Tower 155.76 150 PFAKE 09 00 10.0 +10
CTAO LR LR
comp=Z,17μm,20.0s,MS6.9
PMG Port Moresby 164.48 131 PFAKE 09 00 20.0 +10
PMG LR LR
comp=Z,11μm,20.0s

IDC 12 08:41:10.6±8.1, 5.45N×97.37E, mb3.3/3, mb1 3.6/4, mb1mx3.6/16, mbtmp3.4/4, ML4.2/1, Error ellipse: s-maj=272.0km s-min=26.2km az=71.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.02**	**7**	Pn	P	08 44 17.4	-2.3
	0.4nm,0.3s,baz=214,slow=13,SNR=3.8						
SONM	**Songino Array**	**42.93**	**9**	P	P	08 49 11.2	-1.7
	0.7nm,1.0s,baz=194,slow=6.9,SNR=3.7						
WRA	**Warramunga Arr**	**44.25**	**126**	P	P	08 49 21.5	-2.3
	0.2nm,0.4s,baz=306,slow=8.5,SNR=7.3						
ASAR	**Alice Springs**	**45.91**	**131**	P	P	08 49 35.8	-1.3
	0.2nm,0.8s,baz=302,slow=7.7,SNR=3.2						

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*TRN **12** 08:58:52.4, 11.07N×62.38W, h68km, MD2.9*
FUNV 12 08:58:53.1, 11.03N×62.17W, h100km, MW2.7, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.39**	**188**	⇑*i*P	P	08 59 08.2	0.0
GUIV				*e*S	S	08 59 19.0	-0.6
TRN	**Trinidad (W)**	**0.84**	**117**	*e*P	P	08 59 12.2	+0.1
TRN				*e*S	S	08 59 25.4	-0.9
ITEV	**Isla Los Testi**	**1.00**	**289**	*e*P	P	08 59 12.8	-0.9
ITEV				*e*S	S	08 59 27.5	-1.7
TPP	**Pointe-a-Pierr**	**1.00**	**135**	*e*P	P	08 59 13.4	-0.3
CRUV	**Carupano**	**1.11**	**251**	*e*P	P	08 59 14.1	-0.9
CRUV				*e*S	S	08 59 29.5	-2.0
TBH	**Brigand Hill**	**1.21**	**117**	*e*P	P	08 59 14.7	-1.6
GRW	**Mount Saint Ca**	**1.23**	**24**	*e*P	P	08 59 14.8	-1.7
GRW				*e*S	S	08 59 35.1	+1.1
TPR	**Prospect**	**1.38**	**83**	*e*P	P	08 59 18.6	+0.4
TPR				*e*S	S	08 59 38.3	+1.3
BOT	**Bacolet**	**1.43**	**84**	*e*P	P	08 59 18.9	0.0
RIOV	**Rio Grande**	**2.96**	**173**	*e*P	P	08 59 37.6	-1.7
RIOV				*e*S	S	09 00 10.5	-3.6
GURV	**El Guri**	**3.37**	**196**	*e*S	S	09 00 19.4	-4.8
CUPV	**Cœpira**	**3.69**	**255**	*e*P	P	08 59 47.4	-1.9
CUPV				*e*S	S	09 00 27.6	-4.3
CAOV	**Caicara del Or**	**5.51**	**228**	*e*P	P	09 00 10.8	-3.3
CAOV				*e*S	S	09 01 08.1	-8.6
BAUV	**El Baul**	**6.14**	**251**	*e*P	P	09 00 18.8	-4.0
BAUV				*e*S	S	09 01 23.5	-8.8

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*NEIC **12** 09:53:05.6, 17.37N×94.37W, h170km, MD3.8(MEX), After MEX.*
MEX 12 09:53:05.6±0.9, 17.37N×94.37W, h170km±10km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.56**	**241**	*i*P	P	09 53 28.6	-1.4
CMIG				*i*S	S	09 53 45.3	-3.4
OXX	**Oaxaca**	**2.26**	**263**	*i*P	P	09 53 44.3	-1.2
OXX				*i*S	S	09 54 14.2	-1.9
VHO	**Vista Hermosa**	**2.27**	**263**	*e*P	P	09 53 44.0	-1.5
VHO				*e*S	S	09 54 13.9	-2.4
HUIG	**Huatulco**	**2.30**	**227**	*e*P	P	09 53 43.0	-2.9
HUIG				*e*S	S	09 54 14.7	-2.2

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*CSEM **12** 09:54:26.5±0.2, 34.99N×2.88W, h10km, MD3.4, Error ellipse: s-maj=5.2km s-min=2.5km az=120.0*
*NEIC **12** 09:54:26.0, 34.85N×2.95W, MG4.1(MDD), After MDD.*
*MDD **12** 09:54:27.9±0.3, 34.97N×2.83W, h7km±2km, mb4.1/15, Error ellipse: s-maj=4.0km s-min=3.2km az=74.0, PRXIMO*
*CNRM **12** 09:54:27.0, 35.04N×2.80W, h7km, MD3.4*
*SFS **12** 09:54:27.0, 34.91N×2.98W, h5km*
ISC 12 09:54:26.3±0.4, 35.02N±0.02×2.89W±0.03, h7km, n72, σ1§33/117, 1C-3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.12**	**114**	P	**Pg**	**09 54 29.5**	**+0.4**
ZAI				S	**Sg**	**09 54 31.0**	**0.0**
ZAI	**Zaio**	**0.12**	**114**	*i*P	**Pg**	**09 54 29.5**	**+0.4**
MELI	**Melilla**	**0.28**	**351**	⇓P	**Pg**	**09 54 34.2**	**+2.3**
MELI				S	**Sg**	**09 54 39.0**	**+3.3**
MELI	**Melilla**	**0.28**	**351**	*i*P	**Pg**	**09 54 34.2**	**+2.2**
EMLI	**Melilla**	**0.28**	**349**	P	**Pg**	**09 54 34.3**	**+2.2**
	515nm,0.1s,SNR=18						
EMLI				S	**Sg**	**09 54 40.5**	**+4.5**
	2μm,0.1s,SNR=12						
EMEL	**Melilla**	**0.28**	**348**	⇓P	**Pg**	**09 54 34.3**	**+2.2**
	515nm,0.1s,SNR=18						
EMEL				S	**Sg**	**09 54 39.7**	**+3.7**
	2μm,0.1s,SNR=12						
TOU	**Touzarine**	**0.72**	**266**	*i*P	**Pg**	**09 54 41.5**	**+0.8**
TOU				*i*S	**Sg**	**09 54 53.0**	**+2.7**
MPAL	**Palemas**	**0.89**	**283**	*i*P	**Pb**	**09 54 45.0**	**+1.3**
MPAL				*i*S	**Sb**	**09 54 58.0**	**+2.5**
TZK	**Tazeka**	**1.42**	**229**	*i*P	**Pn**	**09 54 52.0**	**-0.6**
TZK				*i*S	**Sb**	**09 55 11.0**	**+0.1**
EBER	**Berja**	**1.87**	**360**	P	**Pn**	**09 54 59.6**	**+0.5**
EBER				S	**Sn**	**09 55 21.5**	**-1.7**
EBER	**Berja**	**1.87**	**360**	P	**Pn**	**09 54 59.2**	**+0.1**
	7.1nm,0.2s,SNR=15						
EBER				S	**Sn**	**09 55 21.0**	**-2.1**
	95nm,0.4s						
EBER	**Berja**	**1.87**	**360**	P	**Pn**	**09 54 59.6**	**+0.5**
	6.1nm,0.2s,SNR=15						
EBER				S	**Sn**	**09 55 21.5**	**-1.7**
	95nm,0.4s						
ENIJ	**Nijar**	**2.02**	**16**	P	**Pn**	**09 55 01.2**	**0.0**
	23nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	**09 55 25.2**	**-1.8**
	61nm,0.6s,SNR=7.9						
ENIJ	**Nijar**	**2.02**	**16**	S	**Sn**	**09 55 25.2**	**-1.8**
	18nm,0.3s,SNR=7.9						
TGT	**Taghat**	**2.03**	**243**	*i*P	**Pn**	**09 55 02.0**	**+0.7**
TGT				*i*S	**Sn**	**09 55 26.0**	**-1.1**
ERON	**Agron**	**2.13**	**340**	P	**Pn**	**09 55 04.2**	**+1.5**
ERON				S	**Sn**	**09 55 29.5**	**-0.2**
ERON	**Agron**	**2.13**	**340**	P	**Pn**	**09 55 02.0**	**-0.7**
	10nm,0.4s,SNR=6.3						
ERON				S	**Sn**	**09 55 29.1**	**-0.6**
	8.4nm,0.4s						
ERON	**Agron**	**2.13**	**340**	P	**Pn**	**09 55 04.2**	**+1.5**
ERON				S	**Sn**	**09 55 29.5**	**-0.2**
	6.9nm,0.4s						
EMIJ	**Mijas**	**2.17**	**316**	P	**Pn**	**09 55 02.8**	**-0.6**
EMIJ				S	**Sn**	**09 55 28.0**	**-2.8**
EMIJ	**Mijas**	**2.17**	**316**	P	**Pn**	**09 55 02.3**	**-1.1**
	5.3nm,0.1s,SNR=9.0						
EMIJ				S	**Sn**	**09 55 28.4**	**-2.4**
	16nm,0.2s						
EMIJ	**Mijas**	**2.17**	**316**	S	**Sn**	**09 55 28.0**	**-2.8**
	12nm,0.3s						
EMIJ	**Mijas**	**2.17**	**316**	P	**Pn**	**09 55 02.8**	**-0.6**
	5.3nm,0.1s,SNR=9.0						
ELOJ	**Sierra Loja**	**2.36**	**335**	P	**Pn**	**09 55 09.0**	**+3.0**
ELOJ				S	**Sn**	**09 55 36.2**	**+0.7**
ELOJ	**Sierra Loja**	**2.36**	**335**	P	**Pn**	**09 55 07.0**	**+1.0**
	9.4nm,0.2s,SNR=6.8						
ELOJ				S	**Sn**	**09 55 36.0**	**+0.5**
	7.4nm,0.4s						
ELOJ	**Sierra Loja**	**2.36**	**335**	P	**Pn**	**09 55 07.2**	**+1.2**
	9.4nm,0.2s,SNR=6.8						
ELOJ				S	**Sn**	**09 55 36.2**	**+0.7**
	6.6nm,0.4s						
MIF	**Mishlifen**	**2.52**	**231**	*i*P	**Pn**	**09 55 09.0**	**+0.6**
MIF				*i*S	**Sn**	**09 55 39.0**	**-0.7**
CZD	**Col de Zad**	**2.67**	**223**	*i*P	**Pn**	**09 55 12.0**	**+1.5**
CZD				*i*S	**Sn**	**09 55 43.0**	**-0.5**
ELUQ	**Luque**	**2.77**	**337**	P	**Pn**	**09 55 13.2**	**+1.3**
ELUQ				S	**Sn**	**09 55 45.4**	**-0.6**
ELUQ	**Luque**	**2.77**	**337**	P	**Pn**	**09 55 13.5**	**+1.6**
	17nm,0.3s,SNR=14						
ELUQ				S	**Sn**	**09 55 45.1**	**-0.8**
	4.2nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.77**	**337**	P	**Pn**	**09 55 12.0**	**+0.1**
	7.0nm,0.2s,SNR=14						
LIJA	**Lijar**	**2.78**	**313**	*i*P	**Pn**	**09 55 13.0**	**+1.0**
EQES	**Quesada**	**2.78**	**357**	⇑P	**Pn**	**09 55 14.4**	**+2.3**
EQES				S	**Sn**	**09 55 48.5**	**+2.3**
EQES	**Quesada**	**2.78**	**357**	⇓P	**Pn**	**09 55 14.3**	**+2.2**
	23nm,0.4s,SNR=18						
EQES				S	**Sn**	**09 55 47.5**	**+1.3**
	47nm,0.4s,SNR=10						
EQES	**Quesada**	**2.78**	**357**	P	**Pn**	**09 55 14.4**	**+2.3**
	8.1nm,0.2s,SNR=18						
EQES				S	**Sn**	**09 55 47.7**	**+1.5**
	38nm,0.4s,SNR=10						
ESPR	**Espera**	**3.04**	**308**	P	**Pn**	**09 55 16.4**	**+0.7**
ESPR	**Espera**	**3.04**	**308**	P	**Pn**	**09 55 16.6**	**+0.9**
	2.5nm,0.1s,SNR=7.9						
ESPR	**Espera**	**3.04**	**308**	P	**Pn**	**09 55 16.4**	**+0.7**
	1.2nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**3.11**	**25**	P	**Pn**	**09 55 17.1**	**+0.3**
EMUR				S	**Sn**	**09 55 49.9**	**-4.7**
EMUR	**La Murta**	**3.11**	**25**	P	**Pn**	**09 55 16.8**	**0.0**
	18nm,0.3s,SNR=10						
EMUR				S	**Sn**	**09 55 49.4**	**-5.2**
	5.9nm,0.3s						
EMUR	**La Murta**	**3.11**	**25**	P	**Pn**	**09 55 17.1**	**+0.3**
	13nm,0.3s,SNR=10						
ZFT	**Errachidia**	**3.22**	**203**	*i*P	**Pn**	**09 55 19.0**	**+0.7**
ZFT				*i*S	**Sn**	**09 55 55.0**	**-2.4**
EADA	**Adamuz**	**3.42**	**337**	P	**Pn**	**09 55 21.7**	**+0.5**
EADA				S	**Sn**	**09 55 59.4**	**-3.1**
EADA	**Adamuz**	**3.42**	**337**	P	**Pn**	**09 55 21.4**	**+0.2**
	16nm,0.3s,SNR=19						
EADA				S	**Sn**	**09 55 59.7**	**-2.8**
	4.8nm,0.3s						
EADA	**Adamuz**	**3.42**	**337**	P	**Pn**	**09 55 21.7**	**+0.5**
	7.8nm,0.3s,SNR=19						
EADA				S	**Sn**	**09 55 59.4**	**-3.1**
	6.2nm,0.4s						
EVIA	**Vianos**	**3.62**	**5**	P	**Pn**	**09 55 26.5**	**+2.4**
EVIA				S	**Sn**	**09 56 08.3**	**+0.8**
EVIA	**Vianos**	**3.62**	**5**	P	**Pn**	**09 55 26.0**	**+2.0**
	3.4nm,0.3s,SNR=7.9						
EVIA				S	**Sn**	**09 56 08.3**	**+0.7**
	20nm,0.4s,SNR=6.6						
EVIA	**Vianos**	**3.62**	**5**	P	**Pn**	**09 55 26.5**	**+2.5**
	SNR=7.9						
EVIA				S	**Sn**	**09 56 08.4**	**+0.8**
	21nm,0.5s,SNR=6.6						
EMIN	**Mina Concepcio**	**4.10**	**313**	P	**Pn**	**09 55 29.7**	**-1.2**
EMIN				S	**Sn**	**09 56 15.1**	**-4.7**
EMIN	**Mina Concepcio**	**4.10**	**313**	P	**Pn**	**09 55 29.7**	**-1.2**
	2.6nm,0.2s,SNR=31						
EMIN				S	**Sn**	**09 56 13.7**	**-6.1**
	1.5nm,0.2s						
EMIN	**Mina Concepcio**	**4.10**	**313**	P	**Pn**	**09 55 29.7**	**-1.2**
	2.2nm,0.2s,SNR=31						
EBEN	**Beniarda**	**4.25**	**29**	P	**Pn**	**09 55 32.7**	**-0.2**
	1.8nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**4.25**	**29**	P	**Pn**	**09 55 32.7**	**-0.2**
	SNR=7.9						
PALC	**Alcoutim**	**4.44**	**305**	*e*P	**Pn**	**09 55 34.9**	**-0.8**
EGRO	**El Granado**	**4.48**	**305**	P	**Pn**	**09 55 35.0**	**-1.2**
	12nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**09 56 26.4**	**-2.9**
	9.1nm,0.4s,SNR=4.0						
ESDC	**Sonseca Array**	**4.72**	**350**	P	**Pn**	**09 55 40.5**	**+0.8**
	2.4nm,0.3s,baz=172,slow=12,SNR=7.9						
ESDC				S	**Sn**	**09 56 33.2**	**-2.2**
	2.8nm,0.5s,baz=168,slow=24,SNR=6.2						
ESDC	**Sonseca Array**	**4.72**	**350**	P	**Pn**	**09 55 40.5**	**+0.8**
EBAD	**Badajoz**	**4.98**	**320**	P	**Pn**	**09 55 42.5**	**-0.9**
EBAD	**Badajoz**	**4.98**	**320**	P	**Pn**	**09 55 42.4**	**-1.0**
	4.3nm,0.1s,SNR=18						
EBAD				S	**Sn**	**09 56 36.3**	**-5.7**
	3.7nm,0.2s						
EBAD	**Badajoz**	**4.98**	**320**	P	**Pn**	**09 55 42.5**	**-0.9**
PBEJ	**Beja**	**5.01**	**308**	*e*P	**Pn**	**09 55 42.8**	**-0.9**
PBEJ				*e*S	**Sn**	**09 56 37.8**	**-4.8**
EIBI	**Ibiza**	**5.24**	**39**	P	**Pn**	**09 55 46.7**	**-0.2**
EIBI	**Ibiza**	**5.24**	**39**	P	**Pn**	**09 55 46.6**	**-0.3**
	4.4nm,0.4s,SNR=8.2						
EIBI				S	**Sn**	**09 56 42.8**	**-5.6**
	4.4nm,0.3s						
EIBI	**Ibiza**	**5.24**	**39**	P	**Pn**	**09 55 46.7**	**-0.2**
EMOS	**Mosqueruela**	**5.67**	**19**	P	**Pn**	**09 55 52.1**	**-0.9**
	1.1nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**5.70**	**350**	P	**Pn**	**09 55 53.5**	**0.0**
	1.0nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**6.04**	**324**	*e*P	**Pn**	**09 55 57.4**	**-0.9**
PCBR				*e*S	**Sn**	**09 57 03.2**	**-5.3**
	3.7nm,0.4s						
PCBR	**Castelo Branco**	**6.04**	**324**	P	**Pn**	**09 55 57.4**	**-0.9**
PCBR				S	**Sn**	**09 57 03.2**	**-5.3**
	1.9nm,0.4s						
PTOM	**Tomar**	**6.36**	**318**	*e*P	**Pn**	**09 56 02.2**	**-0.6**
ERTA	**Horta de San J**	**6.45**	**22**	P	**Pn**	**09 56 01.2**	**-2.8**
ERTA	**Horta de San J**	**6.45**	**22**	P	**Pn**	**09 56 01.9**	**-2.1**
	1.6nm,0.2s,SNR=4.0						
ECAL	**Calabor**	**7.54**	**338**	P	**Pn**	**09 56 18.0**	**-1.4**
	1.6nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**7.95**	**331**	P	**Pn**	**09 56 24.0**	**-1.1**
	3.1nm,0.4s,SNR=7.9						

IDC 12 09:54:26.6±6.8, 5.67S×151.39E, h63km±58km, mb3.5/3, mb1 3.9/4, mb1mx3.6/12, mbtmp3.9/4, ML3.2/1, Error ellipse: s-maj=122.2km s-min=32.3km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.60**	**228**	P	P	09 55 48.0	-1.1
	5.0nm,0.3s,baz=41,slow=11,SNR=18						
PMG				S	S	09 56 50.4	-2.5
	0.8nm,0.3s,baz=100,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**21.82**	**228**	P	P	09 59 13.8	-1.4
	0.9nm,0.3s,baz=54,slow=10.0,SNR=14						
ASAR	**Alice Springs**	**24.56**	**222**	P	P	09 59 41.2	-0.8
	2.4nm,0.8s,baz=57,slow=9.0,SNR=24						
ILAR	**Eielson Array**	**83.49**	**22**	P	P	10 06 47.0	-1.6
	0.8nm,0.7s,baz=248,slow=5.3,SNR=17						

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*IDC **12** 09:54:52.7±1.1, 32.43N×92.39E, mb3.7/4, mb1 3.8/6, mb1mx3.6/18, mbtmp3.6/6, ML4.1/1, Error ellipse: s-maj=48.6km s-min=23.1km az=52.0*
*NEIC **12** 09:54:59.0±1.9, 32.51N×92.33E, h45km±21km, mb3.7/1, Error ellipse: s-maj=20.7km s-min=12.8km az=64.0*
ISC 12 09:54:57.2±2.3, 32.6N±0.1×92.4E±0.2, h45km±26km, n8, σ1§08/8, mb3.7/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.04**	**201**	*e*P	**P**	**09 55 43.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**15.21**	**156**	Pn	**P**	**09 58 32.1**	**+1.6**
	0.3nm,0.3s,baz=328,slow=13,SNR=4.9						
SONM	**Songino Array**	**18.59**	**31**	P	**P**	**09 59 12.4**	**-0.4**
	baz=220,slow=9.6,SNR=4.5						
BVAR	**Borovoye Array**	**25.89**	**329**	P	**P**	**10 00 27.2**	**+0.8**
	1.1nm,0.9s,mb3.4,baz=127,slow=7.4,SNR=4.6						
CHKZ	**Chkalovo**	**26.25**	**330**	*e*P	**P**	**10 00 29.8**	**+0.1**
	2.2nm,1.0s,mb3.6						
BRTR	**Keskin Array B**	**47.28**	**296**	P	**P**	**10 03 27.9**	**0.0**
	0.6nm,0.7s,mb3.6,baz=112,slow=7.8,SNR=3.8						
WRA	**Warramunga Arr**	**65.81**	**136**	P	**P**	**10 05 39.3**	**-0.9**
	0.8nm,0.7s,mb3.9,baz=330,slow=6.5,SNR=6.1						
ASAR	**Alice Springs**	**68.51**	**139**	P	**P**	**10 05 56.8**	**-0.3**
	0.8nm,0.6s,mb3.8,baz=325,slow=6.6,SNR=16						

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*IDC **12** 10:13:28.6±2.6, 52.89N×174.80W, h221km±27km, mb3.3/9, mb1 3.5/11, mb1mx3.4/24, mbtmp3.9/11, Error ellipse: s-maj=27.1km s-min=13.6km az=161.0*
*NEIC **12** 10:13:28.2±0.3, 52.71N×174.77W, h220km±4km, mb3.9/2, Error ellipse: s-maj=15.9km s-min=6.4km az=153.0*
ISC 12 10:13:27.0±0.3, 52.8N±0.1×174.74W±0.08, h219km±5km, n30, σ1§02/36, mb3.6/10, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.70**	**152**	P	**P**	**10 13 57.4**	**+0.1**
ATKA				S	**S**	**10 14 19.6**	**-1.3**
GSTR	**Great Sitkin T**	**1.09**	**229**	P	**P**	**10 14 00.4**	**+0.9**
GSIG	**Igitkin Island**	**1.10**	**222**	P	**P**	**10 13 59.9**	**+0.2**
GSIG				S	**S**	**10 14 23.6**	**-1.3**
GSMY	**Great Sitkin M**	**1.12**	**227**	P	**P**	**10 14 00.2**	**+0.5**
GSTD	**Great Sitkin T**	**1.15**	**229**	P	**P**	**10 14 00.6**	**+0.6**
GSTD				S	**S**	**10 14 24.9**	**-0.6**
ADAG	**Mount Adagdak**	**1.42**	**234**	P	**P**	**10 14 02.5**	**+0.4**
KIKV	**Kanaga Island**	**1.76**	**239**	P	**P**	**10 14 05.7**	**+0.6**
KIWB	**Kanaga Island**	**1.77**	**238**	P	**P**	**10 14 05.7**	**+0.6**
KIMD	**Kanaga Island**	**1.86**	**236**	P	**P**	**10 14 06.4**	**+0.4**
KIMD				S	**S**	**10 14 35.2**	**-0.9**
MSW	**Makushin Switc**	**4.89**	**74**	P	**P**	**10 14 42.7**	**+1.6**
UNV	**Unalaska Valle**	**5.04**	**75**	P	**P**	**10 14 43.6**	**+0.6**
UNV				S	**S**	**10 15 40.7**	**-1.4**
AHB	**Akutan Harbor**	**5.49**	**73**	P	**P**	**10 14 49.8**	**+1.1**
FX1	**Attu Island--F**	**7.33**	**275**	P	**P**	**10 15 14.2**	**+1.9**
	1.6nm,0.3s,baz=261,slow=23,SNR=3.9						
FX1				S	**S**	**10 16 33.8**	**-0.9**
	1.2nm,0.3s,baz=180,slow=19,SNR=3.2						
RSO	**Redoubt South**	**14.26**	**49**	*e*P	**P**	**10 16 43.0**	**+3.0**
IMA	**Indian Mountai**	**16.93**	**30**	*e*P	**P**	**10 17 13.1**	**+0.9**
	30nm,1.0s						
MCK	**McKinley**	**17.28**	**41**	*e*P	**P**	**10 17 14.4**	**-1.5**
	3.7nm,0.7s						
THY	**Trims Highway**	**18.44**	**44**	*e*P	**P**	**10 17 28.5**	**+0.5**
ILAR	**Eielson Array**	**18.55**	**39**	P	**P**	**10 17 26.9**	**-2.2**
	0.2nm,0.3s,baz=240,slow=10,SNR=40						
INK	**Inuvik**	**24.84**	**36**	P	**P**	**10 18 30.1**	**-0.1**
	0.7nm,0.3s,mb3.8,baz=253,slow=6.9,SNR=11						
YKA	**Yellowknife Ar**	**32.41**	**49**	P	**P**	**10 19 37.2**	**-0.6**
	0.6nm,0.5s,mb3.4,baz=284,slow=8.4,SNR=14						
YKA	**Yellowknife Ar**	**32.41**	**49**	P	**P**	**10 19 37.2**	**-0.6**
YBH	**Yreka Blue Hor**	**36.24**	**86**	P	**P**	**10 20 12.3**	**+1.8**
	2.5nm,0.7s,mb3.8,baz=176,slow=4.7,SNR=4.1						
BW06	**Boulder Array**	**43.51**	**76**	*e*P	**P**	**10 21 09.7**	**-0.3**
	3.6nm,0.9s,mb3.7						
PDAR	**Pinedale Array**	**43.51**	**76

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPH				S	S	10 20 47.9	-0.9
KAIC	**Katmai Ikaglui**	**0.99**	**314**	P	P	10 20 37.5	-0.3
KAHC	**Katmai Hardscr**	**1.09**	**321**	P	P	10 20 39.1	-0.1
KAHC				S	S	10 20 52.9	-1.1
MCNL	**McNeil River**	**1.42**	**346**	P	P	10 20 44.0	+0.3
AUI	**Augustine Isla**	**1.54**	**5**	P	P	10 20 46.2	+1.0
OPT	**Oil Point**	**1.86**	**7**	P	P	10 20 50.6	+0.9
CNPM	**China Poot**	**2.15**	**36**	P	P	10 20 54.4	+0.8
ILW	**Iliamna West**	**2.27**	**7**	P	P	10 20 56.0	+0.5
INE	**Iliamna NE**	**2.28**	**8**	P	P	10 20 56.5	+1.0
ILIM	**Iliamna**	**2.31**	**9**	P	P	10 20 57.0	+1.1
BRLK	**Bradley Lake**	**2.44**	**35**	P	P	10 20 58.0	+0.2
ANPK	**Aniakchak Peak**	**2.59**	**250**	P	P	10 21 00.5	+0.5
RSO	**Redoubt South**	**2.70**	**10**	*eP*	P	10 21 02.1	+0.6
RDN	**Redoubt North**	**2.75**	**10**	P	P	10 21 03.2	+1.0
NCT	**North Crescent**	**2.79**	**8**	P	P	10 21 03.3	+0.6
DFR	**Drift River**	**2.84**	**10**	P	P	10 21 03.8	+0.4
SEW	**Seward**	**3.18**	**42**	P	P	10 21 07.1	-1.1
SLKM	**Skilak Lake**	**3.24**	**32**	*eP*	P	10 21 09.1	+0.1
SVW2	**Sparrevohn**	**3.44**	**344**	P	P	10 21 11.4	-0.3
SPU	**Mount Spurr**	**3.48**	**13**	*eP*	P	10 21 12.2	-0.2
MPA	**Moose Pass**	**3.49**	**38**	P	P	10 21 12.0	-0.5
FIB	**Fire Island**	**3.81**	**27**	*eP*	P	10 21 17.4	+0.4
STLK	**Strandline Lak**	**3.82**	**14**	P	P	10 21 17.1	0.0
RC01	**Rabbit Creek A**	**3.86**	**30**	P	P	10 21 17.1	-0.6
HIN	**Hinchinbrook I**	**4.52**	**52**	P	P	10 21 25.9	-1.0
EYAK	**Cordova Ski Ar**	**4.92**	**53**	P	P	10 21 31.5	-1.0
SCM	**Sheep Creek Mo**	**5.16**	**36**	P	P	10 21 34.8	-0.9
HAG	**Hague Volcano**	**5.18**	**245**	P	P	10 21 35.7	-0.4
TT01	**Tatalina**	**5.24**	**348**	P	P	10 21 37.0	+0.2
MCK	**McKinley**	**6.38**	**19**	*eP*	P	10 21 53.0	+0.3
BALM	**Baldy**	**6.63**	**56**	P	P	10 21 55.5	-0.6
YAH	**Yahtse**	**6.67**	**62**	P	P	10 21 56.2	-0.5
ILAR	**Eielson Array**	**7.71**	**22**	P	P	10 22 09.2	-1.9
	0.2nm,0.3s,baz=210,slow=14,SNR=13						
ILAR				S	S	10 23 28.1	-10
	0.2nm,0.3s,baz=208,slow=23,SNR=3.4						
YKA	**Yellowknife Ar**	**19.78**	**60**	P	P	10 24 46.3	+0.4
	0.1nm,0.3s,baz=268,slow=11,SNR=27						
YKA				pP		10 24 59.2	
	0.2nm,0.3s,baz=273,slow=9.9,SNR=13						
YKA	**Yellowknife Ar**	**19.78**	**60**	P	P	10 24 46.4	+0.4
YKA				pP		10 24 59.2	
SONM	**Songino Array**	**55.80**	**307**	P	P	10 29 51.2	+0.2
	0.8nm,0.7s,mb3.9,baz=42,slow=7.3,SNR=7.2						
AKASG	**Malin Array Be**	**71.83**	**358**	P	P	10 31 35.5	-0.1
	0.2nm,0.3s,mb3.5,baz=0.9,slow=6.0,SNR=4.9						

NEIC ***12*** *10:26:14.6±0.8, 18.59S×177.74W, h557km±10km, mb5.0/13, Error ellipse: s-maj=11.3km s-min=6.6km az=148.0*
IDC ***12*** *10:26:16.9±1.5, 18.62S×177.78W, h581km±18km, mb4.1/20, mb1 4.2/21, mb1mx4.2/22, mbtmp5.0/21, Error ellipse: s-maj=12.5km s-min=7.8km az=150.0*
ISC 12 10:26:14.3±0.9, 18.68S±0.06×177.81W±0.05, h568km±12km, n126, σ1§13/75, mb4.6/34, 3C-9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.48**	**52**	*eP*	P	10 28 06.3	-1.8
	387nm,0.8s						
NOUC	**Port Laguerre**	**15.28**	**254**	*eP*	P	10 29 27.1	+1.3
RAR	**Rarotonga**	**17.14**	**101**	P	P	10 29 44.4	+0.7
	2.8nm,0.3s,baz=228,slow=8.0,SNR=9.4						
KUZ	**Kuaotunu**	**18.88**	**196**	P	P	10 30 01.8	+1.7
MWZ	**Matawai**	**20.01**	**191**	P	P	10 30 09.1	-1.4
URZ	**Urewera**	**20.01**	**192**	P	P	10 30 09.1	-1.4
	22nm,0.4s,baz=352,slow=2.1,SNR=36						
URZ				S	S	10 33 14.8	-5.8
	8.3nm,0.6s,baz=198,slow=17,SNR=9.5						
NNZ	**Nelson**	**23.70**	**197**	P	P	10 30 43.1	-1.0
NNZ				S	S	10 34 17.8	-2.5
THZ	**Tophouse**	**24.34**	**197**	P	P	10 30 49.1	-0.6
THZ				S	S	10 34 25.6	-4.7
DSZ	**Denniston Nort**	**24.65**	**199**	P	P	10 30 51.8	-0.6
KHZ	**Kahutara**	**24.78**	**195**	P	P	10 30 52.3	-1.3
RPZ	**Rata Peaks**	**26.67**	**198**	P	P	10 31 10.3	+0.1
	17nm,0.6s,mb4.9,baz=52,slow=2.0,SNR=22						
RPZ				S	S	10 35 06.4	-0.5
	13nm,1.0s,baz=165,slow=22,SNR=3.0						
PPT	**Papeete**	**26.84**	**92**	*eP*	P	10 31 12.0	0.0
	86nm,1.5s,mb5.2						
PPT	**Papeete**	**26.84**	**92**	P	P	10 31 10.3	-1.7
	18nm,0.5s,mb5.0,baz=215,slow=9.5,SNR=3.5						
TBI	**Tubuai**	**26.84**	**105**	*eP*	P	10 31 12.4	+0.5
	53nm,0.7s,mb5.2						
FOZ	**Fox Glacier**	**26.96**	**200**	P	P	10 31 11.7	-1.0
TIAR	**Tiarei**	**27.06**	**92**	*eP*	P	10 31 14.1	+0.2
	115nm,1.0s,mb5.5						
TVO	**Taravao**	**27.13**	**93**	*eP*	P	10 31 14.6	+0.1
	36nm,0.7s,mb5.1						
JCZ	**Jackson Bay**	**27.72**	**201**	P	P	10 31 19.0	-0.4
CNB	**Canberra Magne**	**33.42**	**234**	⇓*iP*	P	10 32 09.6	+1.6
	1μm,1.3s						
CTA	**Charters Tower**	**33.89**	**262**	*eP*	P	10 32 13.1	+1.1
	43nm,0.6s,mb5.2						
CTA	**Charters Tower**	**33.89**	**262**	P	P	10 32 13.2	+1.1
	63nm,0.6s,mb5.3,baz=93,slow=11,SNR=75						
CTAO	**Charters Tower**	**33.89**	**262**	*eP*	P	10 32 12.7	+0.6
	66nm,0.8s,mb5.2						
PMG	**Port Moresby**	**35.16**	**280**	P	P	10 32 24.3	+1.8
	86nm,0.8s,mb5.3,baz=75,slow=4.7,SNR=23						
PMG	**Port Moresby**	**35.16**	**280**	P	P	10 32 24.3	+1.8
TOO	**Toolangi**	**37.14**	**232**	⇓*iP*	P	10 32 40.2	+1.6
	3.3nm,0.9s,mb3.9						
STKA	**Stephens Creek**	**38.77**	**242**	⇓*iP*	P	10 32 53.7	+1.7
	49nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**38.77**	**242**	P	P	10 32 53.6	+1.6
	47nm,0.6s,mb5.2,baz=90,slow=9.3,SNR=92						
RKT	**Rikitea**	**40.16**	**104**	*eP*	P	10 33 03.9	+0.7
	72nm,1.0s,mb5.2						
WB2	**Warramunga Arr**	**45.05**	**260**	⇓*iP*	P	10 33 41.6	-0.2
WB2				*eS*	S	10 39 36.5	-3.6
WRAB	**Tennant Creek**	**45.05**	**260**	*eP*	P	10 33 41.5	-0.3
	61nm,0.6s,mb5.3						
WRA	**Warramunga Arr**	**45.06**	**260**	P	P	10 33 41.7	-0.2
	35nm,0.5s,mb5.1,baz=96,slow=8.2,SNR=290						
WRA				PcP	PcP	10 35 10.6	-0.2
	3.8nm,0.5s,baz=91,slow=3.6,SNR=4.7						
WRA				S	S	10 39 39.2	-1.1
	2.5nm,0.9s,baz=94,slow=14,SNR=5.6						
ASAR	**Alice Springs**	**45.14**	**255**	P	P	10 33 43.0	+0.5
	119nm,0.9s,mb5.4,baz=87,slow=8.0,SNR=585						
ASAR				PcP	PcP	10 35 10.8	-0.3
	6.0nm,0.6s,baz=102,slow=4.4,SNR=5.6						
ASAR				S	S	10 39 40.2	-1.1
	2.0nm,0.7s,baz=91,slow=16,SNR=5.3						
ASPA	**Alice Springs**	**45.14**	**255**	⇓*iP*	P	10 33 42.9	+0.4
ASPA				*eS*	S	10 39 40.0	-1.4
KAKA	**Kakadu**	**48.15**	**269**	⇑*iP*	P	10 34 05.0	-0.4
	48nm,0.6s,mb5.2						
FORT	**Forrest**	**50.20**	**245**	⇓*iP*	P	10 34 19.9	-0.6
	136nm,0.4s,mb5.7						
FITZ	**Fitzroy Crossi**	**53.47**	**261**	⇓*iP*	P	10 34 44.1	0.0
	28nm,0.4s,mb4.9						
MBWA	**Marble Bar**	**58.45**	**256**	*eP*	P	10 35 15.0	-3.3
	20nm,0.6s,mb4.5						
NWAO	**Narrogin (SRO)**	**59.36**	**242**	P	P	10 35 24.1	-0.2
	9.7nm,0.8s,mb4.1,baz=92,slow=8.3,SNR=3.6						
VNDA	**Vanda**	**59.73**	**185**	P	P	10 35 27.6	+1.4
	2.7nm,0.7s,mb3.7,baz=351,slow=7.5,SNR=22						
QSPA	**South Pole Qui**	**71.38**	**180**	⇓*iP*	P	10 36 39.8	+1.5
	10.0nm,0.6s,mb4.5						
FX1	**Attu Island--F**	**71.69**	**354**	P	P	10 36 38.6	-1.8
	32nm,0.9s,mb4.8,baz=237,slow=19,SNR=2.5						
YBH	**Yreka Blue Hor**	**78.76**	**39**	P	P	10 37 20.8	+1.1
	4.1nm,0.6s,mb3.9,baz=111,slow=4.5,SNR=7.0						
NVAR	**Mina Array Bea**	**79.58**	**43**	P	P	10 37 25.2	+1.1
	4.1nm,0.7s,mb3.9,baz=218,slow=7.8,SNR=25						
NVAR	**Mina Array Bea**	**79.58**	**43**	P	P	10 37 25.2	+1.1
MNV	**Mina**	**79.68**	**44**	*eP*	P	10 37 24.9	+0.3
	3.1nm,0.7s,mb3.8						
SLKM	**Skilak Lake**	**82.00**	**13**	*eP*	P	10 37 35.6	-0.3
SPU	**Mount Spurr**	**82.22**	**12**	*eP*	P	10 37 35.6	-1.5
MAW	**Mawson**	**83.33**	**200**	P	P	10 37 43.6	+1.1
	2.5nm,0.5s,mb4.0,baz=126,slow=4.2,SNR=7.2						
BMO	**Blue Mountains**	**83.78**	**39**	*eP*	P	10 37 45.3	+0.1
	2.8nm,0.8s,mb3.8						
MCK	**McKinley**	**85.16**	**12**	*eP*	P	10 37 51.0	-0.5
	11nm,1.0s,mb4.3						
TXAR	**Lajitas Array**	**85.92**	**57**	P	P	10 37 57.7	+1.7
COLA	**College**	**86.40**	**12**	*eP*	P	10 37 55.8	-1.5
	11nm,0.8s,mb4.5						
ILAR	**Eielson Array**	**86.50**	**13**	P	P	10 37 56.8	-1.1
	4.3nm,0.8s,mb4.1,baz=216,slow=5.1,SNR=79						
QLMT	**Earthquake Lak**	**87.33**	**41**	*eP*	P	10 38 04.0	+1.8
PDAR	**Pinedale Array**	**87.52**	**43**	P	P	10 38 03.7	+0.5
	2.3nm,0.7s,mb4.0,baz=219,slow=2.7,SNR=23						
DAWY	**Dawson**	**87.66**	**16**	*eP*	P	10 38 03.3	-0.1
CMAR	**Chiang Mai Arr**	**89.68**	**290**	P	P	10 38 16.1	+2.3
	8.7nm,1.1s,mb4.5,baz=112,slow=2.3,SNR=4.2						
VNA3	**Neumayer Olymp**	**89.94**	**176**	*e*	P	10 38 20.7	+6.9
VNA3	**Neumayer Olymp**	**89.94**	**176**	⇑*iP*	P	10 38 14.9	+1.1
VNA3				*e*		10 38 20.7	
VNA2	**Neumayer--Watz**	**90.39**	**177**	*e*	P	10 38 21.4	+5.5
VNA2	**Neumayer--Watz**	**90.39**	**177**	⇑*iP*	P	10 38 15.6	-0.3
VNA2				*e*		10 38 21.4	
EDM	**Edmonton**	**90.49**	**33**	P	P	10 38 14.5	-2.2
INK	**Inuvik**	**92.47**	**15**	P	P	10 38 24.7	-0.8
	4.4nm,0.8s,mb4.5,baz=215,slow=4.4,SNR=16						
INK	**Inuvik**	**92.47**	**15**	P	P	10 38 24.7	-0.8
YKA	**Yellowknife Ar**	**94.79**	**25**	P	P	10 38 35.8	-0.3
	1.3nm,0.7s,mb4.2,baz=243,slow=4.5,SNR=28						
YKA	**Yellowknife Ar**	**94.79**	**25**	P	P	10 38 35.8	-0.3
BVAR	**Borovoye Array**	**117.80**	**321**	PKP	PKPdf	10 43 56.4	+0.2
	1.3nm,0.3s,SNR=9.5						
KEV	**Kevo**	**126.72**	**350**	*ep*	PKPdf	10 44 13.4	+0.4
ARCES	**ARCESS Array B**	**127.17**	**350**	PKP	PKPdf	10 44 14.6	+0.7
	2.3nm,0.5s,baz=291,slow=1.3,SNR=21						
JOF	**Joensuu**	**131.46**	**343**	*ep*	PKPdf	10 44 21.8	-0.4
FINES	**FINESS Array B**	**134.08**	**344**	PKhKP		10 44 22.7	
	3.0nm,0.9s,slow=3.8,SNR=5.1						
FINES				PKP	PKPdf	10 44 28.3	+1.2
	1.5nm,0.4s,baz=74,slow=4.3,SNR=13						
AKASG	**Malin Array Be**	**141.50**	**332**	PKhKP		10 44 36.7	
	7.5nm,0.7s,baz=42,slow=4.2,SNR=20						
AKASG				SKPbc		10 47 28.1	
	0.3nm,0.2s,baz=45,slow=2.6,SNR=4.4						
MALT	**Malatya**	**142.94**	**310**	*e*PKPdf	PKPdf	10 44 43.4	-0.2
OJC	**Ojcow**	**145.53**	**340**	*eP*	PKPdf	10 44 50.3	+2.6
BRTR	**Keskin Array B**	**145.73**	**314**	PKPbc	PKPbc	10 44 51.2	+1.4
	5.6nm,0.7s,baz=135,slow=3.5,SNR=25						
BRTR				PKPab	PKPab	10 44 54.5	0.0
	1.7nm,0.7s,slow=1.2,SNR=5.6						
KOLS	**Kolonicke sedl**	**145.73**	**336**	*i* PKP	PKPdf	10 44 51.6	+3.5
KSP	**Ksiaz**	**146.00**	**344**	*e*PKP	PKPdf	10 44 52.5	+4.1
ASF	**Jabal al Asfar**	**146.06**	**300**	PKPbc	PKPbc	10 44 53.4	+2.6
	7.3nm,0.7s,baz=300,slow=4.4,SNR=12						
CRVS	**Cervenica-Dubn**	**146.06**	**337**	*i* PKP	PKPdf	10 44 55.1	+6.5
CLZ	**Clausthal**	**146.28**	**351**	*e*PKPbc	PKPbc	10 44 53.2	+2.5
CLL	**Collm**	**146.33**	**348**	⇓*i*PKP1	PKPbc	10 44 52.9	+2.0
OKC	**Ostrava-Krasne**	**146.38**	**341**	*e*PKP	PKPdf	10 44 53.6	+4.5
UPC	**Upice**	**146.38**	**344**	*e*PKP	PKPdf	10 44 52.9	+3.8
UPC				*ex*	x	10 44 56.3	
DPC	**Dobruska-Polom**	**146.44**	**344**	*e*PKP	PKPdf	10 44 53.8	+4.6
BRG	**Berggiesshubel**	**146.54**	**346**	*i* P	PKPdf	10 44 53.6	+4.2
PVCC	**Panska Ves**	**146.72**	**346**	*e*PKP	PKPdf	10 44 54.2	+4.5
LIKS	**Likavka**	**146.76**	**340**	*i* PKP	PKPdf	10 44 53.3	+3.5
PRU	**Pruhonice**	**147.23**	**345**	*e*PKP	PKPdf	10 44 55.3	+4.8
PRU				*ex*	x	10 44 59.0	
MOX	**Moxa**	**147.23**	**349**	*e*PKP	PKPdf	10 44 55.5	+5.0
MOX	**Moxa**	**147.23**	**349**	*i* P	PKPdf	10 44 55.5	+5.0
VYHS	**Vyhne**	**147.34**	**339**	*i* PKP	PKPdf	10 44 56.1	+5.4
VYHS				*i*		10 45 00.1	
GRF	**Grafenberg Arr**	**148.22**	**349**	*e*PKP	PKPdf	10 44 58.4	+6.3
KHC	**Kasperske Hory**	**148.26**	**346**	*e*PKP	PKPdf	10 44 58.1	+5.9
KHC				*ex*	x	10 45 03.2	
EIL	**Elat**	**148.28**	**296**	PKPbc	PKPdf	10 44 58.8	+6.0
	8.7nm,0.8s,baz=41,slow=7.4,SNR=7.9						
GERES	**GERESS Array B**	**148.50**	**345**	PKPbc	PKPdf	10 44 58.8	+6.3
	6.8nm,0.8s,baz=27,slow=3.0,SNR=30						
GIVF	**Givet**	**148.58**	**357**	*e*PKP1	PKPdf	10 44 58.4	+5.8
BAIF	**Baives**	**148.65**	**358**	*e*PKP1	PKPdf	10 44 58.9	+6.2
	32nm,0.9s						
FLN	**La Foliniere**	**149.91**	**4**	*e*PKP1	PKPdf	10 45 01.4	+6.6
	36nm,0.8s						
CDF	**Champ du Feu**	**150.05**	**353**	*e*PKP1	PKPdf	10 45 02.2	+7.2
	20nm,0.8s						
ROSF	**Rostrenen**	**150.08**	**7**	*e*PKP1	PKPdf	10 45 02.1	+7.0
LDF	**La Druitiere**	**150.10**	**3**	*e*PKP1	PKPdf	10 45 01.8	+6.7
	21nm,0.8s						
MEZF	**Maizieres J'vi**	**150.16**	**356**	*e*PKP1	PKPdf	10 45 02.6	+7.4
SGMF	**Saint Gilles**	**150.25**	**6**	*e*PKP1	PKPdf	10 45 02.0	+6.7
GRR	**Gorron**	**150.26**	**4**	*e*PKP1	PKPdf	10 45 02.4	+7.1
	11nm,0.5s						
QUIF	**Quistinic**	**150.51**	**7**	*e*PKP1	PKPdf	10 45 03.4	+7.7
HAU	**Haudompre**	**150.55**	**354**	*e*PKP1	PKPdf	10 45 03.2	+7.4
	14nm,0.6s						
HINF	**Hinteralfeld**	**150.69**	**354**	*e*PKP1	PKPdf	10 45 03.3	+7.3
	16nm,0.8s						
VOY	**Vojsko**	**151.05**	**343**	*eP*	PKPdf	10 45 03.5	+6.9
HYF	**Humbligny**	**151.48**	**359**	*e*PKP1	PKPdf	10 45 06.5	+9.3
SSF	**Saint Saulge**	**151.67**	**358**	*e*PKP1	PKPdf	10 45 05.9	+8.5
	18nm,0.8s						
AVF	**Avril sur Loir**	**151.95**	**358**	*e*PKP1	PKPdf	10 45 06.1	+8.3
CABF	**La Chapelle**	**151.96**	**354**	*e*PKP1	PKPdf	10 45 07.0	+9.2
	20nm,0.8s						
SMF	**Signal de Mont**	**152.07**	**358**	*e*PKP1	PKPdf	10 45 06.1	+8.1
MFF	**Saint Martin d**	**152.08**	**3**	*e*PKP1	PKPdf	10 45 06.5	+8.5
	18nm,0.8s						
BGF	**Bois d'Agland**	**152.19**	**359**	*e*PKP1	PKPdf	10 45 07.0	+8.8
TCF	**Toulx Ste Croi**	**152.47**	**360**	*e*PKP1	PKPdf	10 45 07.4	+8.8
	14nm,0.8s						
LPG	**La Plagne**	**152.99**	**353**	*e*PKP1	PKPdf	10 45 09.6	+10
RJF	**Les Rejaudoux**	**153.44**	**1**	*e*PKP1	PKPdf	10 45 10.1	+10
MBDF	**Montbardon**	**153.75**	**353**	*e*PKP1	PKPdf	10 45 10.6	+10
	12nm,0.7s						
LFF	**La Frestale**	**153.78**	**2**	*e*PKP1	PKPdf	10 45 11.6	+11
VIVF	**Saint-Julien-l**	**153.81**	**356**	*e*PKP1	PKPdf	10 45 10.6	+10
IDI	**Anoyia**	**153.97**	**314**	PKPbc	PKPdf	10 45 11.4	+10
	3.7nm,0.9s,baz=80,slow=11,SNR=3.2						
VAE	**Valguarnera**	**158.43**	**333**	PKP	PKPdf	10 45 08.1	+1.4
	23nm,0.3s,baz=8.1,slow=9.5,SNR=2.7						
DBIC	**Dimbokro**	**166.23**	**149**	PKP	PKPdf	10 45 16.0	+1.0
	1.7nm,0.6s,baz=149,slow=6.0,SNR=3.8						
DBIC	**Dimbokro**	**166.23**	**149**	PKP	PKPdf	10 45 16.0	+1.0

CSEM ***12*** *10:28:49.7, 3.73N×97.26E, h33km, mb5.8*
IDC ***12*** *10:28:50.2±0.5, 4.78N×97.99E, mb4.6/19, mb1 4.7/20, mb1mx4.6/23, mbtmp4.6/20, ML4.3/1, MS4.8/3, Ms1 4.8/3, ms1mx4.2/18, Error ellipse: s-maj=28.7km s-min=12.0km az=42.0*
MOS ***12*** *10:28:53.5±1.6, 4.31N×97.59E, h33km, mb5.0/10, MS4.9/5, Error ellipse: s-maj=22.9km s-min=9.3km az=92.0*
BJI ***12*** *10:28:55.0, 4.00N×97.71E, h52km, mB5.5, mb4.8, Ms5.3, Msz5.1*
NEIC ***12*** *10:28:55.5±0.3, 4.38N×97.82E, h30km, mb4.9/20, Error ellipse: s-maj=10.4km s-min=6.9km az=57.0*
NEIC Felt [III] at Kualasimpang and [II] at Medan.
ISC 12 10:28:54.0±0.3, 4.34N±0.04×97.84E±0.05, h30km, n112, σ1§25/112, mb4.9/54, MS5.0/12, 6C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**8.41**	**13**	P	P	10 30 55.0	-1.9
CMAR	**Chiang Mai Arr**	**14.07**	**4**	Pn	P	10 32 13.8	+0.1
	0.5nm,0.3s,baz=199,slow=14,SNR=15						
CMAR				Lg		10 36 14.4	
	0.5nm,0.3s,baz=180,slow=32,SNR=6.0						
CMAR				LR	LR	10 37 50.1	
	comp=Z,1μm,21.7s,baz=185,slow=40						
CHG	**Chiang Mai**	**14.42**	**4**	⇓P	P	10 32 24.8	+6.5
	10.0nm,0.8s						
NANT	**Nan**	**14.64**	**11**	⇑P	P	10 32 18.0	-3.2
	94nm,1.5s						
CHRT	**Chiangrai**	**15.55**	**7**	⇑P	P	10 32 33.0	0.0
	176nm,1.0s						
PALK	**Pallekele**	**17.29**	**280**	*eP*	P	10 32 55.5	+0.3
	40nm,1.1s						
QIZ	**Qiongzhong**	**18.72**	**38**	*eP*	P	10 33 15.4	+2.6
QIZ				*eS*	S	10 36 44.5	+7.4
QIZ				LR	LR		
	comp=N,4μm,11.9s						
QIZ				LR	LR		
	comp=E,4μm,11.6s						
QIZ				LR	LR		
	comp=Z,8μm,12.2s						
KOD	**Kodaikanal**	**21.03**	**287**	*eP*	P	10 33 39.0	+1.1
KOD				*e*		10 33 47.1	
	comp=Z,80nm,2.0s						
KOD				*eS*	S	10 37 32.6	+7.1
SHL	**Shillong**	**21.86**	**345**	*eP*	P	10 33 45.9	-0.4
SHL				*e*		10 33 50.8	
	comp=Z,230nm,1.3s						
SHL				*eS*	S	10 37 48.1	+7.0
HYB	**Hyderabad**	**22.93**	**306**	*eP*	P	10 34 03.5	+6.5
HYB	**Hyderabad**	**22.93**	**306**	*i* P	P	10 34 03.5	+6.5
MNGI	**Mangalore**	**24.28**	**292**	*eP*	P	10 34 08.5	-1.6
MNGI				*e*		10 34 16.6	
	comp=Z,69nm,1.3s						
MNGI				*eS*	S	10 38 24.2	+0.1
JIRN	**Jiri**	**25.71**	**336**	*eP*	P	10 34 24.6	+1.0
	comp=Z,367nm,1.6s,mb5.7						
PKI	**Pulchoki**	**25.96**	**334**	*eP*	P	10 34 26.3	+0.4
LSA	**Lhasa**	**26.00**	**347**	P	P	10 34 27.6	+1.3
LSA	**Lhasa**	**26.00**	**347**	*eP*	P	10 34 28.1	+1.8
	comp=Z,147nm,1.4s,mb5.3						
GUN	**Gumba**	**26.06**	**335**	*eP*	P	10 34 27.6	+0.8
	comp=Z,589nm,1.7s,mb5.8						
KKN	**Kakani**	**26.21**	**334**	*eP*	P	10 34 28.5	+0.3
GKN	**Gorkha**	**26.68**	**333**	*eP*	P	10 34 32.8	+0.3
	comp=Z,234nm,1.5s,mb5.5						
KOLN	**Koldanda**	**26.96**	**331**	*eP*	P	10 34 35.1	0.0
	comp=Z,247nm,1.6s,mb5.5						
ENH	**Enshi**	**28.04**	**22**	*eP*	P	10 34 44.1	-0.8
	comp=Z,18nm,1.1s,mb4.6						
WHN	**Wuhan**	**30.36**	**29**	*eP*	P	10 35 07.2	+1.5
WHN				LR	LR		
	comp=Z,5μm,12.3s,MS5.4						
NDI	**New Delhi**	**31.14**	**323**	*eP*	P	10 35 11.0	-1.6
NDI				*eS*	S	10 40 17.6	+2.5
XAN	**Xi'an**	**31.30**	**18**	P	P	10 35 13.1	-0.8
XAN				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.7						
LZH	**Lanzhou**	**32.07**	**9**	*eP*	P	10 35 21.1	+0.5
LZH				AP	pP	10 35 34.5	+5.0
LZH				XP	sP	10 35 40.5	+7.1
LZH				PP	PP	10 36 29.5	+2.0
LZH				*eS*	S	10 40 33.0	+3.4
LZH				SS	SS	10 42 28.0	+4.6
LZH				AMB	AMB		
	comp=Z,43nm,1.6s,mb5.0						
LZH				AMB	AMB		
	comp=Z,280nm,6.4s						
LZH				LR	LR		
	comp=E,4μm,13.8s						
LZH				LR	LR		
	comp=Z,5μm,15.0s,MS5.3						
SMLA	**Simla**	**32.99**	**326**	*e*	P	10 35 40.4	+12
SMLA				*e*		10 35 46.3	
	comp=Z,27nm,1.5s						
NJ2	**Nanjing**	**33.89**	**33**	*eP*	P	10 35 38.7	+2.2
NJ2				AP	pP	10 35 48.4	+3.0
NJ2				PP	PP	10 36 56.6	+6.4
NJ2				PPP	PPP	10 37 14.8	+6.8
NJ2				S	S	10 41 06.0	+8.1
NJ2				XS		10 41 22.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,1μm,5.2s						
NJ2				LR	LR		
	comp=N,3μm,14.9s,MS5.5						
NJ2				LR	LR		
	comp=E,6μm,14.0s,MS5.5						
NJ2				LR	LR		
	comp=Z,8μm,14.9s,MS5.6						
SSE	**Sheshan**	**34.51**	**37**	P	P	10 35 43.9	+2.0
SSE				XS		10 41 34.4	
SSE				AMB	AMB		
	comp=Z,20n

	comp=E,43nm,3.0s						
KLR	Kul'dur	53.18	27⇓	iP	P	10 38 09.6	-2.1
KLR				pmax	pmax		
	comp=Z,140nm,2.0s,mb5.5						
CTA	Charters Tower	53.39	119	P	P	10 38 13.0	-0.6
	comp=Z,5.1nm,0.7s,mb4.6,baz=318,slow=5.2,SNR=5.5						
BRVK	Borovoye	53.59	340	eP	P	10 38 12.6	-2.0
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
BRVK	Borovoye	53.59	340	eP	P	10 38 12.6	-2.0
	comp=Z,3.6nm,0.7s,mb4.4						
CHKZ	Chkalovo	53.98	340	eP	P	10 38 15.3	-2.1
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
CHKZ	Chkalovo	53.98	340	eP	P	10 38 15.3	-2.1
	comp=Z,5.7nm,0.6s,mb4.7						
BOD	Bodaibo	54.83	11⇑	iP	P	10 38 24.0	+0.4
STKA	Stephens Creek	55.03	134	eP	P	10 38 25.0	-0.4
	comp=Z,37nm,0.8s,mb5.5						
STKA	Stephens Creek	55.03	134	P	P	10 38 25.1	-0.3
	comp=Z,42nm,0.8s,mb5.5,baz=312,slow=6.9,SNR=52						
CLNS	Chul'man	56.57	17	eP	P	10 38 36.1	-0.1
CLNS				e		10 39 29.3	
CLNS				e		10 40 44.4	
CLNS				eS	S	10 46 28.4	+4.3
CLNS				e		10 48 18.2	
CLNS				eSS	SS	10 50 11.6	-0.8
CLNS				eSSS	SSS	10 52 32.5	+8.8
CLNS				pmax	pmax		
	comp=N,12nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
CLNS				pmax	pmax		
	comp=E,11nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
CLNS				pmax	pmax		
	comp=N,2.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.8s						
CLNS				smax			
	comp=N,486nm,12.3s						
CLNS				smax			
	comp=Z,640nm,14.1s						
CLNS				smax			
	comp=E,52nm,12.7s						
CLNS				MLR	MLR		
	comp=Z,1μm,12.0s,MS5.2						
CLNS				MLR	MLR		
	comp=N,600nm,13.0s,MS4.9						
CLNS				MLR	MLR		
	comp=E,200nm,13.0s,MS4.9						
YSS	Yuzh-Sakhalins	57.42	35	eP	P	10 38 41.5	-0.9
YSS				pmax	pmax		
	comp=Z,100nm,1.2s,mb5.7						
YSS	Yuzh-Sakhalins	57.42	35	eP	P	10 38 41.4	-0.9
GNI	Garni	59.52	315	iP	P	10 38 51.0	-6.1
GNI				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KMBO	Kilima Mbogo	60.78	266	P	P	10 39 07.3	+1.3
	comp=Z,6.5nm,0.8s,mb4.8,baz=59,slow=10,SNR=15						
KMBO				LR	LR	11 01 44.7	
	comp=Z,1μm,18.1s,MS5.0,baz=273,slow=32						
KMBO	Kilima Mbogo	60.78	266	eP	P	10 39 06.6	+0.6
	comp=Z,6.0nm,0.9s,mb4.7						
TOO	Toolangi	60.79	138	eP	P	10 39 07.2	+1.4
	comp=Z,1.4nm,1.0s,mb4.0						
ZEI	Tsey	61.11	317	eP	P	10 39 05.5	-2.4
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
YAK	Yakutsk	62.25	16	eP	P	10 39 14.5	-0.8
YAK				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.2						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.0s						
YAK	Yakutsk	62.25	16	eP	P	10 39 13.9	-1.3
	comp=E,53nm,1.0s,mb5.6						
KIV	Kislovodsk	62.38	318	iP	P	10 39 12.1	-4.4
KIV				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.9						
MALT	Malatya	63.53	311	eP	P	10 39 21.5	-2.6
EIL	Elat	64.37	301	P	P	10 39 27.1	-2.7
	comp=Z,5.0nm,0.8s,mb4.6,baz=55,slow=17,SNR=4.0						
MBAR	Mbarara	67.22	268	eP	P	10 39 48.5	+0.2
BRTR	Keskin Array B	67.50	311	P	P	10 39 46.5	-3.2
	comp=Z,4.1nm,0.8s,mb4.5,baz=121,slow=7.2,SNR=23						
TIXI	Tiksi	70.00	10	eP	P	10 40 03.1	-1.4
TIXI				pmax	pmax		
	comp=Z,18nm,1.8s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,973nm,18.0s,MS5.1						
OBN	Obninsk	70.31	328	iP	P	10 40 02.3	-4.4
OBN				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
OBN				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.7						
LSZ	Lusaka	71.64	252	eP	P	10 40 16.3	+1.0
	comp=Z,15nm,1.3s,mb4.8						
AKASG	Malin Array Be	73.18	322	P	P	10 40 20.7	-3.2
	comp=Z,0.8nm,0.4s,mb4.0,baz=85,slow=5.1,SNR=6.9						
IDI	Anoyia	73.59	305	P	P	10 40 25.2	-1.5
	comp=Z,6.1nm,0.7s,mb4.7						
MAW	Mawson	75.90	193	P	P	10 40 40.7	+1.4
	comp=Z,5.9nm,0.7s,mb4.6,baz=19,slow=7.7,SNR=7.0						
BOSA	Boshof	76.90	239	eP	P	10 40 46.1	+0.5
	comp=Z,47nm,1.6s,mb5.2						
FINES	FINESS Array B	77.53	332	iP	P	10 40 46.1	-2.3
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	FINESS Array B	77.53	332	P	P	10 40 46.1	-2.3
	comp=Z,1.5nm,0.6s,mb4.1,baz=90,slow=7.6,SNR=9.1						
BILL	Bilibino	78.02	21⇑	iP	P	10 40 50.6	-0.4
BILL				eS	S	10 50 41.4	0.0
BILL				eSS	SS	10 55 41.0	-4.8
BILL				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.4						
BILL				MLR	MLR		
	comp=Z,800nm,18.0s,MS5.1						
ARCES	ARCESS Array B	79.81	340	P	P	10 40 59.4	-1.3
	comp=Z,1.6nm,0.5s,mb4.2,baz=93,slow=4.8,SNR=18						
ARCES	ARCESS Array B	79.81	340	P	P	10 40 59.4	-1.3
RPZ	Rata Peaks	80.97	135	P	P	10 41 07.5	+0.1
	comp=Z,13nm,0.8s,mb4.9,baz=208,slow=4.2,SNR=7.1						
GERES	GERESS Array B	82.89	319	P	P	10 41 16.0	-1.3
	comp=Z,0.3nm,0.2s,mb3.9,baz=270,slow=2.7,SNR=4.0						
SYO	Syowa Base	83.17	198	⇓P	P	10 41 20.6	+2.3
SYO	Syowa Base	83.17	198	⇓PcP	PcP	10 41 23.7	+0.5
SYO	Syowa Base	83.17	198	⇑pP	pP	10 41 27.5	-0.4
URZ	Urewera	84.28	129	P	P	10 41 24.4	-0.2
	comp=Z,7.1nm,0.9s,mb4.8,baz=238,slow=8.4,SNR=5.6						
LPG	La Plagne	87.70	315	eP	P	10 41 43.6	+2.3
	comp=Z,10nm,0.8s,mb4.8						
VNDA	Vanda	88.76	169	P	P	10 41 47.4	+1.7
	comp=Z,2.5nm,0.8s,mb4.6,baz=295,slow=5.9,SNR=8.2						
INK	Inuvik	99.31	17	LR	LR	11 30 18.8	
	comp=Z,785nm,18.1s,MS5.2,baz=155,slow=37						
YKA	Yellowknife Ar	108.91	15	PP	PP	10 47 45.5	-7.1
	comp=Z,0.6nm,0.7s,baz=330,slow=7.5,SNR=8.6						
PDAR	Pinedale Array	126.95	25	PP	PP	10 49 54.8	-2.7
	comp=Z,2.2nm,1.3s,baz=14,slow=6.1,SNR=5.7						
TXAR	Lajitas Array	140.67	30	PKP	PKPdf	10 48 22.2	-4.5
	comp=Z,0.3nm,0.9s,baz=270,slow=1.3,SNR=3.0						
BAO	Brasilia Array	144.59	249	P	PKPbc	10 48 30.1	+1.6
BAO				e		10 48 38.2	
BDFB	Brasilia	144.61	249	PKP	PKPdf	10 48 29.9	-4.0
	comp=Z,12nm,0.8s,baz=191,slow=5.4,SNR=3.1						
LVC	Limon Verde	157.76	214	PKPab	PKPab	10 49 25.0	+1.7
	comp=Z,2.9nm,0.8s,baz=185,slow=2.1,SNR=3.8						
LPAZ	La Paz	161.81	228	PKP	PKPdf	10 48 55.5	-2.5
	comp=Z,3.0nm,0.9s,baz=46,slow=3.5,SNR=10						
LPAZ				PKPab	PKPab	10 49 41.6	+0.7
	comp=Z,1.8nm,0.7s,baz=202,slow=4.0,SNR=5.9						

IDC **12** *10:33:55.1±0.7, 55.92S×26.29W, mb4.8/4, mb1 4.8/4, mb1mx4.1/13, mbtmp4.7/4, ML3.5/1, Error ellipse: s-maj=45.0km s-min=21.7km az=55.0*
NEIC **12** *10:33:56.5±0.4, 55.85S×26.20W, h10km, mb4.8/4, Error ellipse: s-maj=23.9km s-min=10.3km az=62.0*
ISC 12 10:33:53.3±1.7**, 55.6S**±0.3×**25.4W**±0.8**, h10**km**, n29,** σ**0s70**/11**, mb4.7**/8**, 1C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	Sanae	18.75	158	P	P	10 38 13.7	-0.4
	0.1nm,0.3s,baz=313,slow=14,SNR=5.0						
QSPA	South Pole Qui	34.65	180⇑	iP	P	10 40 43.4	-0.8
	16nm,0.7s,mb5.1						
LVC	Limon Verde	45.97	298	P	P	10 42 18.0	-0.1
	9.5nm,0.5s,mb5.0,baz=137,slow=4.9,SNR=24						
SBA	Scott Base	46.59	184	eP	P	10 42 23.9	+1.5
	7.4nm,0.9s,mb4.6						
VNDA	Vanda	47.06	182	P	P	10 42 25.5	-0.6
	8.2nm,0.7s,mb4.8,baz=182,slow=5.9,SNR=12						
VNDA	Vanda	47.06	182	P	P	10 42 25.5	-0.6
LPAZ	La Paz	50.97	303	P	P	10 42 56.7	-0.3
	6.7nm,0.5s,mb4.8,baz=125,slow=6.1,SNR=32						
ARE	Arequipa	52.45	299	eP	P	10 43 09.0	+0.8
OTAV	Otavalo	70.26	302	eP	P	10 45 08.0	-0.6
	13nm,1.3s,mb4.7						
SDV	Santo Domingo	74.42	313	eP	P	10 45 33.1	-0.2
	6.6nm,0.8s,mb4.6						
ASAR	Alice Springs	99.09	161	P	P	10 47 36.3	+0.7
	1.0nm,0.8s,mb4.4,baz=173,slow=3.8,SNR=8.0						
WRA	Warramunga Arr	102.81	160	P	Pdif	10 47 53.3	+0.9
	0.7nm,1.0s,baz=198,slow=4.4,SNR=4.2						
PDAR	Pinedale Array	120.97	301	PKhKP		10 52 44.6	
	0.1nm,0.4s,baz=317,slow=33,SNR=2.7						
NVAR	Mina Array Bea	122.16	292	PKP	PKPdf	10 52 50.2	-0.7
	0.6nm,0.7s,baz=146,slow=3.3,SNR=3.3						
FINES	FINESS Array B	123.52	27	PKP	PKPdf	10 52 53.6	+0.7
	1.5nm,0.6s,baz=248,slow=10,SNR=6.8						
ARCES	ARCESS Array B	130.16	21	PKP	PKPdf	10 53 05.2	-0.2
	5.9nm,1.0s,baz=117,slow=2.7,SNR=5.5						
ARCES	ARCESS Array B	130.16	21	PKP	PKPdf	10 53 05.2	-0.2
BVAR	Borovoye Array	133.69	56	PKP	PKPdf	10 53 13.5	+1.1
	0.7nm,0.6s,baz=170,slow=4.1,SNR=5.6						
CHKZ	Chkalovo	134.20	56	eP	PKPdf	10 53 15.8	+2.5
YKA	Yellowknife Ar	136.52	318	PKP	PKPdf	10 53 16.4	-0.9
	0.4nm,0.4s,baz=129,slow=2.1,SNR=14						
INK	Inuvik	146.10	321	PKPbc	PKPbc	10 53 34.3	+2.3
	6.8nm,0.7s,baz=104,slow=5.1,SNR=16						
INK	Inuvik	146.10	321	ePKPbc	PKPbc	10 53 34.3	+2.3
DAWY	Dawson	147.25	312	ePKPbc	PKPdf	10 53 37.4	+1.4
SONM	Songino Array	149.68	84	PKPbc	PKPdf	10 53 47.5	+7.0
	2.0nm,0.5s,baz=221,slow=3.3,SNR=18						
ILAR	Eielson Array	150.57	312	PKPbc	PKPdf	10 53 46.5	+5.3
	4.7nm,0.8s,baz=115,slow=0.3,SNR=42						
COLA	College	151.00	312	ePKPbc	PKPdf	10 53 47.0	+5.1
MCK	McKinley	151.27	310	ePKPbc	PKPdf	10 53 48.3	+6.0
KDAK	Kodiak Island	151.52	296	ePKPbc	PKPdf	10 53 48.4	+5.5
IMA	Indian Mountai	153.53	314	ePKPab	PKPab	10 54 06.9	+1.8

IDC 12 10:52:10.0±7.5**, 4.05N**×**97.54E, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.7**/15**, mbtmp3.7**/4**, Error ellipse: s-maj=274.6km s-min=29.6km az=69.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.31	125	P	P	11 00 13.7	-2.0
	0.4nm,0.5s,baz=302,slow=9.3,SNR=3.0						
SONM	Songino Array	44.28	9	P	P	11 00 21.4	-1.8
	0.6nm,0.5s,baz=193,slow=9.2,SNR=5.8						
ASAR	Alice Springs	44.88	130	P	P	11 00 26.1	-2.3
	0.8nm,0.9s,baz=301,slow=8.1,SNR=6.7						
STKA	Stephens Creek	55.04	134	P	P	11 01 44.5	-1.5
	2.5nm,0.8s,baz=329,slow=9.3,SNR=4.3						

IDC **12** *11:01:10.3±0.8, 4.06N×97.32E, mb4.4/9, mb1 4.5/10, mb1mx4.3/18, mbtmp4.4/10, ML4.3/1, MS3.7/1, Ms1 3.9/1, ms1mx3.7/15, Error ellipse: s-maj=44.0km s-min=15.9km az=53.0*
BJI **12** *11:01:13.6, 4.01N×97.72E, h33km, mb4.6, Ms4.9, Msz4.6*
NEIC **12** *11:01:15.0±0.5, 4.08N×97.39E, h30km, mb4.6/6, Error ellipse: s-maj=19.5km s-min=8.0km az=60.0*
ISC 12 11:01:14.1±0.6**, 4.1N**±0.1×**97.5E**±0.1**, h33**km**, n29,** σ**1s06**/26**, mb4.5**/18**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.37	6	Pn	P	11 04 34.8	-2.5
	0.4nm,0.3s,baz=198,slow=14,SNR=10						
CMAR				LR	LR	11 09 58.0	
	comp=Z,330nm,19.9s,baz=190,slow=37						
JIRN	Jiri	25.82	336	eP	P	11 06 45.5	+1.3
	55nm,1.1s,mb5.0						
PKI	Pulchoki	26.06	335	eP	P	11 06 47.3	+0.8
GUN	Gumba	26.16	336	eP	P	11 06 48.4	+0.9
	51nm,0.8s,mb5.1						
LSA	Lhasa	26.19	347	P	P	11 06 48.7	+1.0
LSA	Lhasa	26.19	347	eP	P	11 06 49.1	+1.4
	11nm,0.7s,mb4.5						
GKN	Gorkha	26.77	334	eP	P	11 06 54.1	+1.1
KOLN	Koldanda	27.03	332	eP	P	11 06 55.7	+0.2
XAN	Xi'an	31.66	18	P	P	11 07 35.8	-0.9
XAN				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.5						
FITZ	Fitzroy Crossi	35.44	129	eP	P	11 08 08.8	-0.6
	comp=Z,12nm,1.0s,mb4.8						
BJT	Baijiatuau	39.57	23	eP	P	11 08 44.3	+0.4
	comp=Z,8.4nm,0.8s,mb4.5						
WMQ	Urumqi	40.52	349	P	P	11 08 53.4	+1.7
WRA	Warramunga Arr	43.36	125	P	P	11 09 15.0	-0.3
	comp=Z,7.4nm,1.0s,mb4.4,baz=303,slow=9.0,SNR=24						
WRA				PcP	PcP	11 11 04.0	-0.1
	comp=Z,0.6nm,0.6s,baz=315,slow=2.7,SNR=12						
WRAB	Tennant Creek	43.37	125	eP	P	11 09 15.3	-0.1
	comp=Z,18nm,1.1s,mb4.7						
WB2	Warramunga Arr	43.37	125	eP	P	11 09 16.2	+0.8
SONM	Songino Array	44.27	9	P	P	11 09 23.0	+0.6
	comp=Z,4.5nm,0.7s,mb4.3,baz=189,slow=9.3,SNR=37						
ULN	Ulaanbaatar	44.40	9	eP	P	11 09 24.0	+0.6
	comp=Z,7.1nm,1.1s,mb4.3						
ASPA	Alice Springs	44.94	130	eP	P	11 09 28.5	+0.5
ASAR	Alice Springs	44.94	130	P	P	11 09 28.1	+0.1
	comp=Z,7.1nm,0.8s,mb4.5,baz=308,slow=7.8,SNR=53						
BVAR	Borovoye Array	53.66	340	P	P	11 10 33.2	-1.5
	comp=Z,0.6nm,0.5s,mb3.8,baz=141,slow=9.5,SNR=6.9						
CHKZ	Chkalovo	54.12	341	eP	P	11 10 36.0	-2.1
	comp=Z,4.1nm,1.0s,mb4.3						
STKA	Stephens Creek	55.09	134	P	P	11 10 45.8	+0.4
	comp=Z,19nm,0.9s,mb5.1,baz=305,slow=8.1,SNR=27						
BRTR	Keskin Array B	67.42	311	P	P	11 12 07.3	-1.3
	comp=Z,4.8nm,1.1s,mb4.4,baz=127,slow=6.2,SNR=7.4						
IDI	Anoyia	73.47	305	P	P	11 12 45.6	+0.2
	comp=Z,1.2nm,0.4s,mb4.2,baz=43,slow=22,SNR=2.6						
FINES	FINESS Array B	77.61	332	P	P	11 13 06.6	-1.9
	comp=Z,2.9nm,0.9s,mb4.2,baz=199,slow=34,SNR=3.9						
ARCES	ARCESS Array B	79.95	340	P	P	11 13 20.3	-0.8
	comp=Z,7.1nm,1.1s,mb4.5,baz=281,slow=6.2,SNR=7.4						
BDFB	Brasilia	144.19	249	PKP	PKPdf	11 20 48.4	+0.8
	comp=Z,6.5nm,0.9s,baz=171,slow=5.9,SNR=5.3						
LPAZ	La Paz	161.37	228	PKP	PKPdf	11 21 14.8	+2.8
	comp=Z,0.6nm,0.6s,baz=54,slow=6.0,SNR=3.3						
LPAZ	La Paz	161.37	228	PKP	PKPdf	11 21 14.8	+2.8

NEIC **12** *11:03:09.3, 14.74N×92.74W, h26km, MD4.0(MEX), After MEX.*
MEX 12 11:03:09.3±1.1**, 14.74N**×**92.74W, h26**km±150km**, MD4.0, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCIG	Comitan	1.64	21	eP	Pn	11 03 34.3	-2.6
CCIG				iS	Sn	11 03 52.5	-4.8
SCX	San Cristobal	1.99	3	iP	Pn	11 03 40.3	-1.6
SCX				iS	Sn	11 04 04.1	-2.1
CMIG	Matias Romero	3.12	319	eP	Pn	11 03 54.5	-3.5
CMIG				iS	Sn	11 04 29.9	-4.9
TEIG	Tepich	6.92	37	eP	Pn	11 04 43.0	-8.7
	41nm,0.5s						

IDC **12** *11:09:29.6±2.1, 22.73N×142.85E, h144km±17km, mb3.7/15, mb1 3.9/16, mb1mx3.9/22, mbtmp4.2/16, Error ellipse: s-maj=19.8km s-min=12.3km az=99.0*
ISC 12 11:09:28.8±1.8**, 22.75N**±0.09×**142.9E**±0.1**, h152**km±14km**, n24,** σ**0s89**/25**, mb4.1**/18**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	4.38	351	P	P	11 10 35.9	+0.9
	121nm,0.3s,baz=292,slow=23,SNR=16						
CBIJ				S	S	11 11 24.9	-1.0
	60nm,0.3s,baz=248,slow=22,SNR=5.6						
SONM	Songino Array	38.39	320	P	P	11 16 37.5	+0.7
	1.4nm,0.5s,mb3.8,baz=129,slow=7.1,SNR=13						
CMAR	Chiang Mai Arr	41.29	272	P	P	11 17 01.6	+0.7
	1.6nm,0.4s,mb4.0,baz=63,slow=7.4,SNR=8.5						
WRA	Warramunga Arr	43.25	192	P	P	11 17 15.6	-1.3
	0.5nm,0.4s,mb3.5,baz=17,slow=8.9,SNR=26						
ASAR	Alice Springs	46.97	191	P	P	11 17 45.8	-0.5
	0.3nm,0.6s,mb3.1,baz=20,slow=9.5,SNR=6.7						
JIRN	Jiri	51.21	288	eP	P	11 18 19.8	+1.0
	21nm,0.6s,mb4.9						
GUN	Gumba	51.45	288	eP	P	11 18 22.1	+1.5
PKI	Pulchoki	51.91	288	eP	P	11 18 23.6	-0.4
KKN	Kakani	51.99	288	eP	P	11 18 24.7	+0.1
	6.7nm,0.4s,mb4.7						
GKN	Gorkha	52.52	289	eP	P	11 18 28.8	+0.2
KOLN	Koldanda	53.46	288	eP	P	11 18 35.5	0.0
	5.8nm,0.5s,mb4.6						
STKA	Stephens Creek	54.33	181	P	P	11 18 42.1	+0.3
	1.7nm,0.8s,mb3.8,baz=39,slow=13,SNR=3.0						
ILAR	Eielson Array	61.21	27	P	P	11 19 28.9	-0.6
	0.8nm,0.5s,mb3.8,baz=261,slow=5.4,SNR=12						
BVAR	Borovoye Array	61.73	319	P	P	11 19 32.6	-0.5
	10nm,0.5s,mb4.9,baz=93,slow=7.1,SNR=84						
INK	Inuvik	66.70	24	P	P	11 20 05.5	+0.4
	4.5nm,0.8s,mb4.3,baz=103,slow=5.8,SNR=18						
YKA	Yellowknife Ar	75.64	28	P	P	11 20 59.2	+1.0
	3.3nm,1.1s,mb3.9,baz=291,slow=5.8,SNR=18						
KEV	Kevo	77.30	341	ep	P	11 21 05.9	-1.5
ARCES	ARCESS Array B	77.86	341	P	P	11 21 11.3	+0.8
	2.7nm,0.6s,mb4.1,baz=72,slow=8.2,SNR=23						
JOF	Joensuu	79.27	334	ep	P	11 21 17.4	-0.8
FINES	FINESS Array B	82.14	334	P	P	11 21 33.0	-0.5
	1.8nm,0.4s,mb4.1,baz=77,slow=5.5,SNR=23						
NVAR	Mina Array Bea	82.67	52	P	P	11 21 38.7	+2.1
	1.3nm,0.9s,mb3.7,baz=274,slow=7.2,SNR=5.3						
AKASG	Malin Array Be	86.52	324	P	P	11 21 54.8	-0.7
	1.9nm,0.8s,mb4.0,baz=54,slow=4.7,SNR=5.7						
HFS	Hagfors	87.67	337	P	P	11 21 59.9	-0.9
	5.4nm,0.9s,mb4.4,baz=27,slow=6.6,SNR=5.1						
BRTR	Keskin Array B	89.46	313	P	P	11 22 08.8	-0.9
	0.7nm,0.7s,mb3.7,baz=90,slow=4.9,SNR=4.2						

ATH **12** *11:09:27.7, 37.03N×28.13E, h10km, MD3.3/3*
CSEM **12** *11:09:30.5±0.4, 37.02N×27.93E, h50km±5km, MD3.1, Error ellipse: s-maj=5.1km s-min=4.2km az=56.0*
ISK **12** *11:09:31.7, 37.11N×28.01E, h62km, MD3.1*
ISC 12 11:09:30.8±0.6**, 36.92N**±0.04×**27.75E**±0.06**, h22**km±7km**, n13,** σ**1s03**/18**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.28	301	iP	Pb	11 09 37.0	-0.3
BDRM				iS	Sb	11 09 42.1	+0.4
DALT	Dalyan (Mudla)	0.73	102	PG	Pb	11 09 44.8	0.0
DALT				SG	Sb	11 09 56.0	+1.7
AYDN	Tasoluk	0.74	8	iP	Pb	11 09 44.3	-0.6
AYDN				iS	Sb	11 09 53.5	-1.1
ARG	Arkhangelos	0.77	156	ePB	Pb	11 09 44.0	-1.4
ARG	Arkhangelos	0.77	156	ePb	Pb	11 09 45.3	-0.1
SMG	Samos	1.07	318	ePB	Pb	11 09 51.8	+1.4
FETY	Fethiye	1.11	105	ePG	Pn	11 09 50.2	-0.9
DNZL	Cakiroluk	1.29	53	iP	Pn	11 09 53.8	+0.1
DNZL				iS	Sn	11 10 11.3	+0.9
DENT	Denizli	1.32	51	ePG	Pn	11 09 50.8	-3.3
KARP	Karpathos	1.45	199	ePN	Pn	11 09 57.0	+1.0
IZM	Izmir	1.52	346	ePN	Pn	11 09 56.6	-0.4
MANT	Manisa	1.69	22	iP	Pn	11 09 59.2	-0.2
MANT				iS	Sn	11 10 21.9	+1.3
ELL	Elmali	1.74	95	ePN	Pn	11 09 58.6	-1.6

IDC **12** *11:15:26.6±3.5, 10.38N×91.50E, mb3.8/3, mb1 3.9/4, mb1mx3.8/17, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=96.6km s-min=27.6km az=79.0*
ISC 12 11:15:28.8±1.1**, 10.6N**±0.1×**91.6E**±0.1**, h33**km**, n6,** σ**1s00**/8**, mb3.8**/3**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	Port Blair	1.54	48	eP	P	11 15 57.7	+3.5
PBA				eS	S	11 16 12.6	-0.7
PBA				e		11 16 17.4	
	comp=N,1μm,0.7s						
PBA				e		11 16 17.8	
	comp=E,940nm,1.0s						
CMAR	Chiang Mai Arr	10.56	42	Pn	P	11 18 01.2	+0.2
	comp=E,0.2nm,0.3s,baz=236,slow=15,SNR=7.3						
VIS	Vishakhapatnam	10.66	312	eP	P	11 18 02.0	-0.4
VIS				eS	S	11 19 55.0	-6.7
SONM	Songino Array	39.14	16	P	P	11 22 58.5	+3.6
	comp=E,1.3nm,0.6s,mb3.8,baz=204,slow=8.8,SNR=14						
WRA	Warramunga Arr	51.91	126	P	P	11 24 36.5	-0.3
	comp=E,0.7nm,0.5s,mb3.9,baz=306,slow=8.2,SNR=11						
ASAR	Alice Springs	53.61	130	P	P	11 24 49.2	-0.1
	comp=E,0.9nm,0.8s,mb3.7,baz=306,slow=6.7,SNR=6.6						

IDC 12 11:23:18.8±2.1**, 4.85N**×**94.85E, mb3.7**/5**, mb1 3.9**/6**, mb1mx3.8**/18**, mbtmp3.8**/6**, ML4.0**/1**, Error ellipse: s-maj=98.9km s-min=22.6km az=57.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.11	16	Pn	P	11 26 46.8	+4.4
	0.2nm,0.3s,baz=209,slow=12,SNR=16						
SONM	Songino Array	43.96	11	P	P	11 31 27.9	-1.5
	0.6nm,0.8s,baz=200,slow=7.0,SNR=5.8						
SONM				PcP	PcP	11 33 13.2	-2.7
	0.4nm,0.8s,baz=192,slow=4.0,SNR=3.6						
WRA	Warramunga Arr	45.97	124	P	P	11 31 44.1	-1.8
	1.8nm,1.0s,baz=303,slow=9.2,SNR=10						
ASAR	Alice Springs	47.47	128	P	P	11 31 55.9	-1.8
	0.4nm,0.7s,baz=300,slow=7.9,SNR=8.0						
BVAR	Borovoye Array	52.06	342	P	P	11 32 30.3	-2.2
	0.4nm,0.4s,baz=141,slow=9.2,SNR=5.8						
ARCES	ARCESS Array B	78.33	340	P	P	11 35 20.7	-1.5
	2.2nm,0.8s,baz=94,slow=4.5,SNR=5.1						

ATH **12** *11:25:40.6, 39.25N×27.87E, h5km, MD4.0/7*
MOS **12** *11:25:40.4±0.6, 39.22N×27.83E, h10km, mb4.0/1, Error ellipse: s-maj=9.9km s-min=6.9km az=133.3*
CSEM **12** *11:25:41.4±0.1, 39.21N×27.79E, h12km, MD3.6, Error ellipse: s-maj=1.5km s-min=1.4km az=170.0*
NEIC **12** *11:25:41.4, 39.24N×27.85E, h2km, MD4.0(ATH), After ATH.*
ISK **12** *11:25:41.4, 39.19N×27.72E, h16km, MD3.6, ML3.8*
ISC 12 11:25:41.1±0.5**, 39.20N**±0.02×**27.74E**±0.02**, h7**km±4km**, n94,** σ**0s90**/110**, 2C-3D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKS	Akhisar	0.33	170	iPG	Pg	11 25 48.3	+0.5
BALB	Balikesir	0.45	14	iPG	Pg	11 25 51.2	+1.0
BALB				iSG	Sg	11 25 58.2	+1.9
BTOK	Tokmak	0.60	22	iP	Pg	11 25 53.4	+0.2
BTOK				iS	Sg	11 26 02.7	+1.4
AYVA	Ayvalik	0.82	278	iS	Sb	11 26 08.6	+0.2
KDAG	Bornova	0.88	205	iP	Pb	11 25 58.4	0.0
KDAG				iS	Sb	11 26 11.1	+1.0
IZM	Izmir	0.89	205	iPG	Pg	11 25 58.5	-0.4
MANT	Manisa	0.95	138	iP	Pb	11 25 59.4	-0.2
MANT				iS	Sb	11 26 12.4	+0.2
BLCB	Balcova	0.98	214	iPG	Pg	11 26 00.7	-0.1
PRK	Paraskevi	1.14	273	ePg	Pg	11 26 04.4	+0.4
PRK				eSb	Sb	11 26 20.4	+2.7
PRK	Paraskevi	1.14	273	ePB	Pg	11 26 04.4	+0.4
PRK				eSB	Sb	11 26 20.0	+2.3
EDC	Edincik	1.15	5	iPN	Pn	11 26 03.9	+0.3
BNT	Bandirma	1.16	7	iPN	Pn	11 26 04.0	+0.2
KCT	Karacabey	1.16	24	iPN	Pn	11 26 04.1	+0.3
ORLT	Orhaneli	1.23	46	iPN	Pn	11 26 05.3	+0.6
LPK	Lapseki	1.39	327	PN	Pn	11 26 07.1	0.0
MRMT	Marmara Adasi	1.40	355	PN	Pn	11 26 06.9	-0.4
ULDT	Uludag	1.43	48	iP	Pn	11 26 08.2	+0.6
ULDT				iS	Sb	11 26 28.0	+2.0
BOZC	Bozcaada	1.46	297	iP	Pn	11 26 08.7	+0.7
BOZC				iS	Sb	11 26 27.7	+0.9
AYDN	Tasoluk	1.54	176	iP	Pn	11 26 08.8	-0.4
AYDN				iS	Sb	11 26 29.3	0.0
SART	Tekirdag	1.55	344	iP	Pn	11 26 10.0	+0.7

ARMT	**Armutlu**	**1.61**	**32**	PN	**Pn**	**11 26 09.7**	**-0.5**
MFT	**Murefte**	**1.62**	**348**	*e*PN	**Pn**	**11 26 09.8**	**-0.6**
KHL	**Karahalli**	**1.65**	**122**	*e*PN	**Pn**	**11 26 10.8**	**+0.1**
SMG	**Samos**	**1.65**	**206**	*e*Pn	**Pn**	**11 26 12.3**	**+1.5**
SMG				*e*Sb	**Sb**	**11 26 36.7**	**+4.2**
SMG	**Samos**	**1.65**	**206**	*e*PG	**Pg**	**11 26 13.0**	**-1.1**
SMG				*e*SN	**Sn**	**11 26 37.0**	**+4.5**
SMG	**Samos**	**1.65**	**206**	*e*Sb	**Sb**	**11 26 36.7**	**+4.2**
DENT	**Denizli**	**1.77**	**145**	*e*PN	**Pn**	**11 26 12.3**	**-0.1**
DNZL	**Cakiroluk**	**1.82**	**145**	*i* P	**Pn**	**11 26 13.1**	**-0.1**
DNZL				*i* S	**Sn**	**11 26 38.2**	**+1.4**
ALT	**Altintas**	**1.85**	**94**	*e*PN	**Pn**	**11 26 12.9**	**-0.7**
YLV	**Yalova**	**1.85**	**42**	*e*PN	**Pn**	**11 26 13.1**	**-0.6**
BADT	**Buyukada**	**1.96**	**32**	*e*PN	**Pn**	**11 26 14.7**	**-0.5**
CTT	**Catalca**	**2.01**	**15**	*e*PN	**Pn**	**11 26 15.5**	**-0.5**
LIA	**Limnos Island**	**2.10**	**290**	*e*PG	**Pg**	**11 26 21.5**	**-1.5**
ISK	**Istanbul-Kandi**	**2.12**	**28**	*e*PN	**Pn**	**11 26 17.2**	**-0.3**
ALN	**Alexandroupoli**	**2.14**	**323**	*e*P	**Pn**	**11 26 17.6**	**-0.1**
ALN	**Alexandroupoli**	**2.14**	**323**	P	**Pn**	**11 26 17.6**	**-0.1**
ALN				S	**Sn**	**11 26 50.6**	**+5.8**
BDRM	**Kayabasi**	**2.15**	**186**	*i* P	**Pn**	**11 26 17.3**	**-0.6**
BDRM				*i* S	**Sn**	**11 26 43.9**	**-1.1**
LOS	**Limnos**	**2.18**	**290**	*e*P	**Pn**	**11 26 19.9**	**+1.5**
LOS	**Limnos**	**2.18**	**290**	P	**Pn**	**11 26 19.9**	**+1.5**
LOS				S	**Sn**	**11 26 52.9**	**+6.9**
HRT	**Hereke**	**2.19**	**42**	*e*PN	**Pn**	**11 26 17.7**	**-0.8**
GPA	**Golpazari**	**2.26**	**60**	*e*PN	**Pn**	**11 26 19.3**	**-0.2**
ESKT	**Eskisehir**	**2.43**	**81**	*e*PN	**Pn**	**11 26 22.1**	**+0.2**
DALT	**Dalyan (Mudla)**	**2.53**	**164**	*e*PN	**Pn**	**11 26 23.6**	**+0.2**
ISP	**Isparta**	**2.56**	**121**	*e*PN	**Pn**	**11 26 24.5**	**+0.7**
ISP	**Isparta**	**2.56**	**121**	*i* P	**Pn**	**11 26 24.5**	**+0.7**
RDO	**Rodhopi**	**2.57**	**320**	*e*PB	**Pb**	**11 26 24.6**	**-2.7**
EDRB	**Edirne**	**2.75**	**344**	*e*PN	**Pn**	**11 26 26.0**	**-0.5**
APE	**Apeiranthos**	**2.75**	**220**	*e*PN	**Pn**	**11 26 25.6**	**-0.9**
APE	**Apeiranthos**	**2.75**	**220**	*i* P	**Pn**	**11 26 25.7**	**-0.8**
APE	**Apeiranthos**	**2.75**	**220**	*e*Pb	**Pb**	**11 26 31.7**	**+1.3**
FETY	**Fethiye**	**2.77**	**157**	*e*PN	**Pn**	**11 26 26.5**	**-0.3**
MDU	**Mudurnu**	**2.96**	**64**	*e*PN	**Pn**	**11 26 29.4**	**0.0**
AOS	**Alonnisos**	**3.00**	**271**	*e*P	**Pn**	**11 26 30.5**	**+0.4**
AOS	**Alonnisos**	**3.00**	**271**	P	**Pn**	**11 26 30.5**	**+0.4**
AOS				S	**Sn**	**11 27 14.1**	**+7.4**
KDZ	**Kurdzhali**	**3.02**	**325**	*i* P	**Pn**	**11 26 31.0**	**+0.6**
OUR	**Ouranopolis**	**3.11**	**293**	*e*P	**Pn**	**11 26 31.4**	**-0.2**
PAIG	**Paliouri**	**3.22**	**284**	*e*P	**Pn**	**11 26 34.6**	**+1.4**
KIZT	**Kizilcal**	**3.24**	**94**	*e*PN	**Pn**	**11 26 33.9**	**+0.5**
DIM	**Dimitrovgrad**	**3.31**	**330**	*i* P	**Pn**	**11 26 34.5**	**+0.1**
RZN	**Rozhen**	**3.39**	**318**	*i* P	**Pn**	**11 26 36.0**	**+0.4**
PLG	**Polygyros**	**3.51**	**291**	*e*PN	**Pn**	**11 26 37.1**	**-0.2**
XOR	**Xorichti**	**3.54**	**274**	*e*P	**Pn**	**11 26 38.0**	**+0.4**
NSAL	**Nisos Salamina**	**3.59**	**250**	*e*Pg	**Pg**	**11 26 49.6**	**-3.3**
NAIG	**Nisos Aigina**	**3.64**	**248**	*e*Pg	**Pg**	**11 26 50.0**	**-3.7**
KARP	**Karpathos**	**3.68**	**187**	*e*PN	**Pn**	**11 26 40.0**	**+0.3**
PLD	**Plovdiv**	**3.71**	**322**	*i* P	**Pn**	**11 26 40.5**	**+0.4**
SRS	**Serrai**	**3.71**	**302**	*e*P	**Pn**	**11 26 39.8**	**-0.4**
MGER	**Gerania Oros**	**3.72**	**252**	*e*Pg	**Pg**	**11 26 51.5**	**-3.8**
SOH	**Sokhos**	**3.74**	**297**	*e*P	**Pn**	**11 26 40.2**	**-0.3**
KONT	**Konya--Tatoy**	**3.83**	**108**	*e*PN	**Pn**	**11 26 42.4**	**+0.5**
MMB	**Musomiste**	**3.88**	**309**	*i* P	**Pn**	**11 26 42.5**	**-0.1**
ANTO	**Ankara**	**3.96**	**79**	*e*PN	**Pn**	**11 26 44.2**	**+0.5**
LIT	**Litokhoron**	**4.15**	**284**	*e*P	**Pn**	**11 26 46.9**	**+0.4**
KNT	**Kendrikon**	**4.20**	**299**	*e*P	**Pn**	**11 26 47.4**	**+0.3**
AGG	**Agios Georgios**	**4.21**	**269**	*e*P	**Pn**	**11 26 47.5**	**+0.2**
SAFT	**Safranbolu**	**4.30**	**60**	*e*PN	**Pn**	**11 26 48.2**	**-0.3**
PGB	**Panagyurishte**	**4.30**	**322**	*i* P	**Pn**	**11 26 48.0**	**-0.6**
GRG	**Griva**	**4.46**	**295**	*e*P	**Pn**	**11 26 51.2**	**+0.4**
VTS	**Vitosha**	**4.82**	**316**	*i* P	**Pn**	**11 26 56.0**	**0.0**
FNA	**Florina**	**5.14**	**290**	*e*P	**Pn**	**11 26 59.3**	**-1.1**
TIRR	**Tirgusor**	**5.28**	**5**	⇓P	**Pn**	**11 27 00.9**	**-1.5**
TIRR	**Tirgusor**	**5.28**	**5**	P	**Pn**	**11 27 00.9**	**-1.5**
CFR	**Carcaliu**	**5.98**	**3**	⇓P	**Pn**	**11 27 10.9**	**-1.4**
CFR	**Carcaliu**	**5.98**	**3**	P	**Pn**	**11 27 10.9**	**-1.4**
MLR	**Muntele Rosu**	**6.42**	**349**	⇓P	**Pn**	**11 27 18.4**	**-0.2**
MLR	**Muntele Rosu**	**6.42**	**349**	P	**Pn**	**11 27 18.4**	**-0.2**
VRI	**Vrincioaia**	**6.70**	**354**	⇑P	**Pn**	**11 27 22.3**	**-0.2**
VRI	**Vrincioaia**	**6.70**	**354**	P	**Pn**	**11 27 22.3**	**-0.2**
BZS	**Buzias**	**7.85**	**327**	⇑P	**Pn**	**11 27 36.6**	**-1.9**
BZS	**Buzias**	**7.85**	**327**	P	**Pn**	**11 27 36.6**	**-1.9**
SOC	**Sochi**	**10.00**	**60**	*e*P	**P**	**11 28 19.0**	**+11**
SOC				pmax	pmax		
	comp=N,14nm,1.0s						
SOC				pmax	pmax		
	comp=Z,29nm,1.0s						
SOC				pmax	pmax		
	comp=E,40nm,1.2s						
SOC				MLR	MLR		
	comp=Z,190nm,6.0s						
SOC				MLR	MLR		
	comp=N,84nm,8.0s						
SOC				MLR	MLR		
	comp=E,57nm,8.0s						
KIV	**Kislovodsk**	**12.15**	**62**	*i* P	**P**	**11 28 35.7**	**-1.9**
KIV				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,400nm,18.0s						
GNI	**Garni**	**13.13**	**80**	*i* P	**P**	**11 28 47.3**	**-3.5**
GNI				MLR	MLR		
	comp=Z,200nm,16.0s						
VSU	**Vasula**	**19.29**	**358**	*i* P	**P**	**11 30 06.9**	**-2.1**

IDC 12 11:25:50.9±3.8, 5.65N×93.65E, mb3.7/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=121.4km s-min=29.3km az=76.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.74**	**22**	Pn	P	11 29 05.5	-4.2
	baz=227,slow=14,SNR=7.1						
SONM	**Songino Array**	**43.42**	**12**	P	P	11 33 56.4	-0.8
	0.4nm,1.0s,baz=206,slow=7.5,SNR=3.8						
WRA	**Warramunga Arr**	**47.41**	**124**	P	P	11 34 27.4	-1.9
	1.0nm,0.7s,baz=304,slow=8.7,SNR=11						
WRA				pP	pP	11 34 39.4	+10
	2.4nm,1.4s,baz=304,slow=9.0,SNR=2.2						
ASAR	**Alice Springs**	**48.90**	**128**	P	P	11 34 39.5	-1.4
	1.5nm,0.9s,baz=300,slow=7.5,SNR=15						
ASAR				pP	pP	11 34 50.4	+9.5
	0.3nm,0.5s,baz=299,slow=7.8,SNR=2.1						
ASAR				PcP	PcP	11 36 02.0	-3.7
	0.3nm,0.9s,baz=302,slow=2.6,SNR=4.4						

*BJI **12** 11:35:51.8, 32.27N×101.66E, h15km, mb3.5, ML3.7, Ms4.0, Msz3.5*
*IDC **12** 11:35:51.1±2.3, 32.28N×102.31E, mb3.4/3, mb1 3.6/5, mb1mx3.5/17, mbtmp3.4/5, ML3.8/2, Error ellipse: s-maj=105.1km s-min=28.0km az=87.0*
ISC 12 11:35:49.5±0.9, 32.41N±0.06×101.99E±0.09, h10km, n7, σ1°58/11, mb3.5/3, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**3.98**	**22**	P	**Pn**	**11 36 56.7**	**+4.8**
LZH				PG	**Pg**	**11 37 08.1**	**-0.8**
LZH				SG	**Sg**	**11 38 00.8**	**-1.2**
LZH				Smax			
	comp=N,170nm,1.3s						
LZH				Smax			
	comp=E,102nm,1.0s						
LZH				LR	LR		
	comp=N,491nm,4.6s						
LZH				LR	LR		
	comp=Z,351nm,5.8s						
XAN	**Xi'an**	**6.03**	**72**	P	**Pn**	**11 37 25.2**	**+4.2**
XAN				PG	**Pg**	**11 37 47.1**	**-2.8**
XAN				SG	**Sg**	**11 39 11.8**	**+1.5**
XAN				Smax			
	comp=N,61nm,0.9s						
XAN				Smax			
	comp=E,30nm,1.1s						
CMAR	**Chiang Mai Arr**	**14.16**	**192**	Pn	**P**	**11 39 12.4**	**+0.1**
	comp=E,0.1nm,0.3s,baz=11,slow=9.2,SNR=4.9						
SONM	**Songino Array**	**15.77**	**11**	Pn	**P**	**11 39 35.1**	**+1.9**
	comp=E,0.1nm,0.3s,baz=193,slow=13,SNR=5.3						
WRA	**Warramunga Arr**	**60.56**	**145**	P	**P**	**11 46 02.0**	**-0.6**
	comp=E,1.3nm,1.0s,mb4.0,baz=338,slow=7.2,SNR=8.6						
ASAR	**Alice Springs**	**63.55**	**147**	P	**P**	**11 46 21.2**	**-1.3**
	comp=E,0.2nm,0.6s,mb3.3,baz=317,slow=5.5,SNR=3.5						
YKA	**Yellowknife Ar**	**80.97**	**16**	P	**P**	**11 48 07.7**	**+2.6**
	comp=E,0.2nm,0.6s,mb3.2,baz=335,slow=5.5,SNR=5.3						

*IDC **12** 11:59:15.1±1.1, 4.01N×97.34E, mb4.1/7, mb1 4.2/8, mb1mx4.0/17, mbtmp4.0/8, ML4.0/1, Error ellipse: s-maj=59.5km s-min=18.2km az=54.0*
*NEIC **12** 11:59:18.9±0.9, 3.82N×97.14E, h30km, mb4.2/1, Error ellipse: s-maj=35.3km s-min=13.2km az=83.0*
ISC 12 11:59:17.2±0.9, 3.8N±0.1×97.2E±0.2, h30km, n13, σ1°00/13, mb4.0/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**8.98**	**331**	*e*P	rx	12 02 54.1	
PBA				*e*S	**Sn**	**12 03 10.7**	**+1.5**
PBA				*e*		12 03 13.9	
	comp=N,327nm,0.4s						
PBA				*e*		12 03 14.2	
	comp=E,261nm,0.3s						
CMAR	**Chiang Mai Arr**	**14.66**	**6**	Pn	**P**	**12 02 45.7**	**+1.1**
	comp=E,0.3nm,0.3s,baz=203,slow=12,SNR=3.5						
CMAR				Lg		12 06 42.0	
	comp=E,0.1nm,0.3s,baz=186,slow=32,SNR=4.7						
CMAR	**Chiang Mai Arr**	**14.66**	**6**	Pn	**P**	**12 02 45.7**	**+1.1**
CMAR				Lg		12 06 42.0	
SHL	**Shillong**	**22.24**	**347**	*i*	**P**	**12 04 12.0**	**-1.2**
LSA	**Lhasa**	**26.39**	**348**	P	**P**	**12 04 52.0**	**-1.1**
	comp=E,5.1nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**43.42**	**124**	P	**P**	**12 07 19.3**	**0.0**
	comp=E,1.6nm,0.9s,mb3.8,baz=302,slow=8.9,SNR=5.9						
WRA				PcP	PcP	12 09 09.3	+1.4
	comp=E,0.4nm,0.6s,baz=315,slow=2.7,SNR=5.1						
SONM	**Songino Array**	**44.57**	**9**	P	**P**	**12 07 27.8**	**-0.6**
	comp=E,1.3nm,0.5s,mb4.0,baz=191,slow=9.9,SNR=20						
ASAR	**Alice Springs**	**44.96**	**129**	P	**P**	**12 07 32.5**	**+0.6**
	comp=E,2.3nm,0.9s,mb4.0,baz=304,slow=7.8,SNR=10						
BVAR	**Borovoye Array**	**53.82**	**340**	P	**P**	**12 08 38.0**	**-1.4**
	comp=E,0.6nm,0.6s,mb3.7,baz=127,slow=7.4,SNR=4.7						
STKA	**Stephens Creek**	**55.08**	**134**	P	**P**	**12 08 50.2**	**+1.2**
	comp=E,4.0nm,0.4s,mb4.8,baz=322,slow=6.4,SNR=9.3						
STKA	**Stephens Creek**	**55.08**	**134**	P	**P**	**12 08 50.2**	**+1.2**
BRTR	**Keskin Array B**	**67.41**	**312**	P	**P**	**12 10 12.9**	**+0.6**
	comp=E,0.5nm,0.5s,mb3.8,baz=101,slow=7.3,SNR=3.0						
ARCES	**ARCESS Array B**	**80.11**	**340**	P	**P**	**12 11 24.8**	**-0.7**
	comp=E,2.0nm,0.8s,mb4.1,baz=121,slow=5.3,SNR=4.5						

*IDC **12** 12:00:09.6±1.6, 4.83S×144.87E, mb3.9/4, mb1 4.3/5, mb1mx4.0/12, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=47.8km s-min=25.8km az=111.0*
*NEIC **12** 12:00:22.8±1.7, 5.08S×144.55E, h105km±16km, mb4.1/7, Error ellipse: s-maj=15.0km s-min=13.6km az=120.0*
ISC 12 12:00:21.4±2.6, 5.1S±0.1×144.6E±0.1, h107km±24km, n14, σ0°47/14, mb3.9/8, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.01**	**149**	*e*P	**P**	**12 01 35.9**	**+0.4**
	44nm,0.7s						
KAKA	**Kakadu**	**14.16**	**237**	*e*P	**P**	**12 03 38.0**	**-0.2**
	9.9nm,0.7s						
WRAB	**Tennant Creek**	**17.79**	**213**	*e*P	**P**	**12 04 23.7**	**0.0**
	13nm,0.8s						
WB2	**Warramunga Arr**	**17.79**	**213**	*e*P	**P**	**12 04 23.4**	**-0.4**
WRA	**Warramunga Arr**	**17.80**	**213**	P	**P**	**12 04 23.3**	**-0.5**
	0.5nm,0.3s,baz=33,slow=12,SNR=57						
ASAR	**Alice Springs**	**21.13**	**208**	P	**P**	**12 04 59.4**	**+0.1**
	1.3nm,0.7s,mb3.4,baz=33,slow=10,SNR=24						
ASPA	**Alice Springs**	**21.13**	**208**	*e*P	**P**	**12 04 59.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**50.68**	**299**	P	**P**	**12 09 13.1**	**+0.7**
	4.7nm,0.9s,mb4.5,baz=119,slow=6.1,SNR=16						
VNDA	**Vanda**	**72.97**	**176**	*e*P	**P**	**12 11 40.4**	**-0.2**
	1.4nm,1.0s,mb3.8						
BVAR	**Borovoye Array**	**84.61**	**324**	P	**P**	**12 12 44.8**	**+0.7**
	1.1nm,0.5s,mb4.1,baz=112,slow=7.8,SNR=9.8						
CHKZ	**Chkalovo**	**84.66**	**325**	*e*P	**P**	**12 12 43.9**	**-0.4**
	0.9nm,0.5s,mb4.0						
BRVK	**Borovoye**	**84.68**	**324**	*e*P	**P**	**12 12 44.5**	**0.0**
	1.2nm,0.6s,mb4.0						
QSPA	**South Pole Qui**	**84.87**	**180**	P	**P**	**12 12 45.2**	**+0.4**
	2.5nm,0.6s,mb4.3						
ILAR	**Eielson Array**	**85.61**	**24**	P	**P**	**12 12 47.7**	**-1.1**
	0.3nm,0.6s,mb3.4,baz=253,slow=5.2,SNR=11						

*CSEM **12** 12:27:26.0±0.7, 38.67N×28.50W, h15km, ML1.9, Error ellipse: s-maj=3.8km s-min=2.8km az=178.0, After PDA*
*PDA **12** 12:27:26.0±0.7, 38.67N×28.50W, h15km, MD2.9, ML1.9, Error ellipse: s-maj=3.8km s-min=2.8km az=178.0*
SVSA 12 12:27:26.0±0.7, 38.67N×28.50W, h15km, MD2.9, ML1.9, Error ellipse: s-maj=3.8km s-min=2.8km az=178.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.17**	**255**	*i* P	Pb	12 27 29.2	-1.0
PCED				*e*S	Sb	12 27 32.4	-0.6
	89nm,0.2s						
PCED	**Cedros**	**0.17**	**255**	*e*S	Sb	12 27 32.4	-0.6
	89nm,0.2s						
	89nm,0.2s						
HOR	**Horta**	**0.18**	**216**	*e*P	Pb	12 27 29.4	-1.0
HOR				*e*S	Sb	12 27 32.5	-0.8
PICO	**Pico**	**0.18**	**161**	*e*P	Pb	12 27 29.7	-0.7
PICO				*e*S	Sb	12 27 32.7	-0.7
CALA	**Caldeira**	**0.18**	**241**	*e*P	Pb	12 27 29.8	-0.7
CALA				*e*S	Sb	12 27 33.2	-0.3
ROSA	**Rosais**	**0.21**	**76**	*e*P	Pb	12 27 30.3	-0.6
PPNO	**Prainha do Nor**	**0.27**	**137**	*e*P	Pb	12 27 31.1	-0.9

*CSEM **12** 12:29:28.2±0.1, 39.20N×27.75E, h10km, MD3.3/1, Error ellipse: s-maj=1.9km s-min=1.1km az=99.0*
*ISK **12** 12:29:28.2, 39.20N×27.73E, h11km, MD3.4*
*ATH **12** 12:29:40.0, 38.77N×26.69E, h10km, MD3.4/3*
ISC 12 12:29:28.6±0.5, 39.19N±0.02×27.76E±0.04, h9km±4km, n39, σ0°77/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.31**	**172**	*i* PG	**Pg**	**12 29 35.1**	**+0.1**
AKS				*i* SG	**Sg**	**12 29 40.2**	**+0.9**
BALB	**Balikesir**	**0.46**	**12**	*i* PG	**Pg**	**12 29 37.8**	**-0.1**
BALB				*i* SG	**Sg**	**12 29 44.4**	**+0.3**
BTOK	**Tokmak**	**0.61**	**20**	*i* P	**Pg**	**12 29 40.8**	**-0.1**
BTOK				*i* S	**Sg**	**12 29 49.1**	**+0.1**
AYVA	**Ayvalik**	**0.84**	**279**	*i* P	**Pb**	**12 29 45.2**	**+0.3**
KDAG	**Bornova**	**0.87**	**206**	*i* P	**Pb**	**12 29 45.3**	**-0.2**
IZM	**Izmir**	**0.88**	**206**	*i* PG	**Pg**	**12 29 45.4**	**-0.8**
MANT	**Manisa**	**0.94**	**138**	*i* P	**Pb**	**12 29 46.7**	**+0.1**
BLCB	**Balcova**	**0.98**	**215**	*i* PG	**Pg**	**12 29 47.6**	**-0.6**
PRK	**Paraskevi**	**1.16**	**273**	*e*PB	**Pb**	**12 29 51.0**	**+0.6**
EDC	**Edincik**	**1.16**	**4**	PN	**Pn**	**12 29 50.7**	**-0.3**
KCT	**Karacabey**	**1.17**	**23**	PN	**Pn**	**12 29 50.9**	**-0.3**
BNT	**Bandirma**	**1.17**	**6**	PN	**Pn**	**12 29 50.7**	**-0.5**
ORLT	**Orhaneli**	**1.23**	**45**	PN	**Pn**	**12 29 52.1**	**+0.1**
LPK	**Lapseki**	**1.41**	**327**	*e*PN	**Pn**	**12 29 53.8**	**-0.8**
ULDT	**Uludag**	**1.43**	**48**	*i* P	**Pn**	**12 29 54.9**	**+0.1**
ULDT				*i* S	**Sb**	**12 30 14.3**	**+1.1**
BOZC	**Bozcaada**	**1.47**	**297**	*i* P	**Pn**	**12 29 55.4**	**-0.1**
BOZC				*i* S	**Sb**	**12 30 16.3**	**+1.8**
KHL	**Karahalli**	**1.63**	**122**	*e*PN	**Pn**	**12 29 57.7**	**0.0**
SMG	**Samos**	**1.65**	**206**	*e*PG	**Pg**	**12 29 59.8**	**-1.7**
DENT	**Denizli**	**1.75**	**145**	*e*PN	**Pn**	**12 29 59.4**	**0.0**
DNZL	**Cakiroluk**	**1.81**	**146**	*i* P	**Pn**	**12 30 02.1**	**+1.9**
DNZL				*i* S	**Sn**	**12 30 22.2**	**-1.3**
ALT	**Altintas**	**1.83**	**93**	*e*PN	**Pn**	**12 30 01.1**	**+0.4**
YLV	**Yalova**	**1.85**	**42**	*e*PN	**Pn**	**12 30 00.3**	**-0.7**
MLSB	**Milas**	**1.89**	**180**	*e*PN	**Pn**	**12 30 02.4**	**+0.9**
BADT	**Buyukada**	**1.96**	**32**	*e*PN	**Pn**	**12 30 02.2**	**-0.3**
CTT	**Catalca**	**2.02**	**15**	*e*PN	**Pn**	**12 30 03.3**	**-0.1**
HRT	**Hereke**	**2.19**	**41**	*e*PN	**Pn**	**12 30 06.1**	**+0.3**
GPA	**Golpazari**	**2.25**	**60**	*e*PN	**Pn**	**12 30 06.6**	**-0.1**
ESKT	**Eskisehir**	**2.42**	**81**	*e*PN	**Pn**	**12 30 09.4**	**+0.3**
DALT	**Dalyan (Mudla)**	**2.51**	**164**	*e*PN	**Pn**	**12 30 11.2**	**+0.8**
APE	**Apeiranthos**	**2.75**	**220**	*e*PN	**Pn**	**12 30 13.6**	**-0.2**
APE	**Apeiranthos**	**2.75**	**220**	*e*Pg	**Pg**	**12 30 16.1**	**-7.4**
MDU	**Mudurnu**	**2.95**	**63**	*e*PN	**Pn**	**12 30 16.9**	**+0.3**
KDZ	**Kurdzhali**	**3.04**	**325**	*e*P	**Pn**	**12 30 21.5**	**+3.6**
KIZT	**Kizilcal**	**3.23**	**94**	*e*PN	**Pn**	**12 30 20.8**	**+0.3**
RZN	**Rozhen**	**3.41**	**318**	*i* P	**Pn**	**12 30 23.0**	**-0.1**
SGKT	**Sivrigoynuk**	**3.58**	**66**	*i* P	**Pn**	**12 30 26.4**	**+0.7**
SGKT				*i* S	**Sn**	**12 31 06.7**	**-1.9**
MMB	**Musomiste**	**3.90**	**309**	*e*P	**Pn**	**12 30 29.0**	**-1.1**
PGB	**Panagyurishte**	**4.32**	**322**	*e*P	**Pn**	**12 30 35.0**	**-1.1**
VTS	**Vitosha**	**4.84**	**316**	*e*P	**Pn**	**12 30 44.0**	**+0.5**

*IDC **12** 12:42:08.7±3.7, 12.02N×92.80E, mb3.6/3, mb1 3.7/4, mb1mx3.6/17, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=99.3km s-min=29.8km az=83.0*
ISC 12 12:42:03.8±1.2, 12.6N±0.1×91.9E±0.2, h33km, n10, σ0°52/8, mb3.8/2, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.25**	**136**	*e*P	Px	12 42 32.1	
PBA				*e*S	Sx	12 42 50.8	
PBA				*e*		12 42 53.0	
	comp=E,5μm,0.5s						
PBA				*e*		12 42 53.6	
	comp=N,4μm,0.4s						
CMAR	**Chiang Mai Arr**	**9.00**	**48**	Pn	**P**	**12 44 14.6**	**+0.1**
	comp=N,0.2nm,0.3s,baz=237,slow=15,SNR=4.3						
JIRN	**Jiri**	**15.94**	**341**	*e*P	**P**	**12 45 47.2**	**-0.1**
	comp=N,12nm,0.4s						
PKI	**Pulchoki**	**16.11**	**339**	*e*P	**P**	**12 45 48.8**	**-0.7**
	comp=N,9.1nm,0.3s						
GUN	**Gumba**	**16.27**	**341**	*e*P	**P**	**12 45 51.0**	**-0.5**
	comp=N,5.0nm,0.3s						
GKN	**Gorkha**	**16.79**	**337**	*e*P	**P**	**12 45 58.0**	**0.0**
	comp=N,20nm,0.3s						
KOLN	**Koldanda**	**16.99**	**334**	*e*P	**P**	**12 46 01.8**	**+1.2**
SONM	**Songino Array**	**37.21**	**16**	P	pP	12 49 24.6	+1.0
	comp=N,0.2nm,0.5s,baz=212,slow=5.7,SNR=2.0						
WRA	**Warramunga Arr**	**52.83**	**127**	P	**P**	**12 51 18.5**	**-0.2**
	comp=N,0.7nm,0.5s,mb3.8,baz=300,slow=9.8,SNR=24						
WRA				pP	pP	12 51 28.0	-0.7
	comp=N,0.9nm,0.6s,baz=300,slow=9.8,SNR=6.1						
ASAR	**Alice Springs**	**54.65**	**131**	P	**P**	**12 51 32.1**	**+0.1**
	comp=N,1.0nm,0.9s,mb3.9,baz=309,slow=6.8,SNR=14						
ASAR				pP	pP	12 51 41.8	-0.4
	comp=N,0.7nm,0.6s,baz=308,slow=6.5,SNR=5.1						

*MOS **12** 12:59:19.5±0.9, 5.18N×94.99E, h33km, mb4.8/12, Error ellipse: s-maj=27.1km s-min=10.1km az=112.3*
*BJI **12** 12:59:20.1, 4.62N×94.61E, h60km, mB5.1, mb5.0, Ms4.7, Msz4.4*
*NEIC **12** 12:59:22.1±0.3, 5.25N×94.69E, h30km, mb4.7/12, Error ellipse: s-maj=12.6km s-min=6.4km az=224.0*
NEIC Felt [II] at Banda Aceh.
*IDC **12** 12:59:24.5±0.6, 5.25N×94.66E, h48km±4km, mb4.3/18, mb1 4.4/19, mb1mx4.3/24, mbtmp4.5/19, MS3.4/1, Ms1 3.6/1, ms1mx2.8/25, Error ellipse: s-maj=26.1km s-min=10.9km az=43.0*
ISC 12 12:59:22.8±0.4, 5.26N±0.07×94.78E±0.07, h50km, h50km±.5km:pP-P, n87, σ0°99/85, mb4.7/45, MS4.4/2, 1C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.73**	**17**	P	**P**	**13 02 43.4**	**+6.6**
	1.8nm,0.3s,baz=212,slow=12,SNR=45						
CMAR				LR	LR	13 07 36.9	
	comp=Z,148nm,20.2s,baz=200,slow=36						
HYB	**Hyderabad**	**19.95**	**309**	*e*P	**P**	**13 03 56.0**	**+2.4**
HYB	**Hyderabad**	**19.95**	**309**	*i* P	**P**	**13 03 56.0**	**+2.4**
SHL	**Shillong**	**20.38**	**352**	*e*P	**P**	**13 03 55.5**	**-2.6**
JIRN	**Jiri**	**23.73**	**341**	*e*P	**P**	**13 04 31.2**	**-0.1**
	52nm,0.5s,mb5.2						
PKI	**Pulchoki**	**23.92**	**339**	*e*P	**P**	**13 04 32.7**	**-0.4**
	17nm,0.5s,mb4.7						
GUN	**Gumba**	**24.07**	**340**	*e*P	**P**	**13 04 34.3**	**-0.3**
	48nm,0.7s,mb5.1						
KKN	**Kakani**	**24.16**	**339**	*e*P	**P**	**13 04 35.2**	**-0.3**
	43nm,0.8s,mb4.9		

NVS pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
MAJO Matsushiro 50.47 46 P **P 13 08 18.8 +0.8**
BVA0 Borovoye Array 51.65 341 *i* P **P 13 08 26.1 -0.6**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BVAR Borovoye Array 51.65 341 P **P 13 08 26.0 -0.6**
comp=Z,4.3nm,0.6s,mb4.5,baz=141,slow=9.5,SNR=42
BVAR pP pP 13 08 39.2 -1.0
comp=Z,6.0nm,0.7s,baz=143,slow=7.4,SNR=16
BRVK Borovoye 51.72 341 *eP* **P 13 08 25.9 -1.2**
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BRVK Borovoye 51.72 341 *eP* **P 13 08 25.9 -1.2**
comp=Z,3.5nm,0.6s,mb4.5
CHKZ Chkalovo 52.14 342 P **P 13 08 29.9 -0.4**
CHKZ pmax pmax
comp=Z,13nm,0.8s,mb4.9
CHKZ Chkalovo 52.14 342 *eP* **P 13 08 30.0 -0.3**
comp=Z,16nm,0.7s,mb5.0
PMG Port Moresby 54.19 105 P **P 13 08 46.8 +0.8**
comp=Z,8.6nm,0.5s,mb4.9,baz=300,slow=4.1,SNR=7.1
PMG Port Moresby 54.19 105 *eP* **P 13 08 46.2 +0.2**
BOD Bodaibo 54.54 12 *eP* **P 13 08 46.9 -1.1**
GNI Garni 56.72 315 *i P* **P 13 09 03.2 -0.8**
GNI pmax pmax
comp=Z,8.0nm,1.6s
GNI Garni 56.72 315 P **P 13 09 03.8 -0.1**
comp=Z,13nm,1.0s,mb4.9,baz=80,slow=7.7,SNR=3.1
KMBO Kilima Mbogo 57.81 265 P **P 13 09 11.2 -0.8**
comp=Z,1.2nm,0.5s,mb4.2,baz=46,slow=19,SNR=3.7
STKA Stephens Creek 57.86 133 P **P 13 09 12.2 +0.1**
comp=Z,1.8nm,0.6s,mb4.3,baz=341,slow=5.1,SNR=3.2
ARU Arti 58.53 337 *eP* **P 13 09 12.4 -4.0**
ARU Arti 58.53 337 *eP* **P 13 09 12.7 -3.8**
comp=Z,2.9nm,0.8s,mb4.4
KIV Kislovodsk 59.68 319 *i P* **P 13 09 23.5 -1.1**
KIV pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
KIV Kislovodsk 59.68 319 P **P 13 09 23.5 -1.1**
YAK Yakutsk 62.27 18*c i P* **P 13 09 40.5 -1.3**
YAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
YAK Yakutsk 62.27 18 *eP* **P 13 09 40.0 -1.8**
BRTR Keskin Array B 64.62 312 P **P 13 09 55.0 -2.7**
comp=Z,2.3nm,0.6s,mb4.4,baz=125,slow=7.2,SNR=13
BRTR pP pP 13 10 09.3 -2.4
comp=Z,2.0nm,0.8s,baz=124,slow=7.2,SNR=4.9
TIXI Tiksi 69.66 11 *i P* **P 13 10 27.2 -1.6**
TIXI pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
IDI Anoyia 70.58 305 P **P 13 10 34.2 -0.8**
comp=Z,1.8nm,0.3s,mb4.4,baz=46,slow=8.1,SNR=7.0
IDI pP pP 13 10 49.1 -0.1
comp=Z,3.7nm,0.6s,baz=43,slow=10,SNR=3.1
AKASG Malin Array Be 70.59 322 P **P 13 10 31.8 -3.0**
comp=Z,2.3nm,0.6s,mb4.3,baz=88,slow=5.5,SNR=9.3
MLR Muntele Rosu 71.48 316 ⇓P **P 13 10 40.4 +0.2**
MLR Muntele Rosu 71.48 316 P **P 13 10 40.5 +0.2**
comp=Z,5.5nm,0.8s,mb4.5,baz=157,slow=3.4,SNR=9.7
JOF Joensuu 73.47 335 *ep* **P 13 10 49.8 -1.8**
FINES FINESS Array B 75.31 332 *i P* **P 13 11 02.2 -0.1**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 75.31 332 P **P 13 11 02.2 0.0**
comp=Z,1.0nm,0.4s,mb4.1,baz=101,slow=6.3,SNR=8.6
FINES pP pP 13 11 16.7 +0.1
comp=Z,1.3nm,0.4s,baz=106,slow=7.5,SNR=2.2
FINES FINESS Array B 75.31 332 P **P 13 11 02.2 0.0**
FINES pP pP 13 11 16.7 +0.1
OJC Ojcow 76.38 320 *eP* **P 13 11 08.6 0.0**
KEV Kevo 77.50 341 *ep* **P 13 11 14.9 +0.4**
ARCES ARCESS Array B 77.93 340 P **P 13 11 17.2 +0.4**
comp=Z,4.1nm,0.8s,mb4.4,baz=102,slow=7.2,SNR=21
ARCES pP pP 13 11 31.6 +0.3
comp=Z,2.3nm,0.7s,baz=79,slow=6.2,SNR=2.6
BILL Bilibino 78.27 21 ⇓*iP* **P 13 11 18.8 0.0**
BILL *e* 13 14 16.9
BILL pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.2
DPC Dobruska-Polom 78.61 320 *eP* **P 13 11 21.3 +0.3**
PRU Pruhonice 79.72 320 *eP* **P 13 11 26.5 -0.5**
GERES GERESS Array B 80.19 319 P **P 13 11 30.2 +0.6**
comp=Z,6.4nm,0.7s,mb4.6,baz=100,slow=5.4,SNR=34
GERES pP pP 13 11 44.3 +0.3
comp=Z,1.5nm,0.7s,baz=63,slow=6.0,SNR=3.0
KHC Kasperske Hory 80.29 319 *eP* **P 13 11 30.3 +0.2**
CLL Collm 80.78 321 P **P 13 11 33.0 +0.4**
CLL *e**PP pP 13 11 38.0 -9.1
DAVOX Davos 82.71 316 P **P 13 11 43.4 +0.6**
comp=Z,11nm,0.5s,mb5.1,baz=125,slow=5.1,SNR=17
LPG La Plagne 84.91 315 *eP* **P 13 11 54.3 +0.4**
comp=Z,6.3nm,0.4s,mb4.8
EKA Eskdalemuir Ar 90.22 326 P **P 13 12 19.9 +0.8**
comp=Z,2.8nm,0.8s,mb4.7,baz=99,slow=5.9,SNR=5.3
ILAR Eielson Array 96.91 22 P **P 13 12 48.9 -0.7**
comp=Z,0.4nm,0.5s,mb4.1,baz=302,slow=4.2,SNR=13
PDAR Pinedale Array 127.34 22 PKP PKPdf 13 18 24.4 +1.9
comp=Z,1.0nm,0.8s,baz=116,slow=1.1,SNR=7.2
TXAR Lajitas Array 141.31 26 PKP PKPdf 13 18 49.5 +0.6
comp=Z,0.4nm,0.4s,baz=155,slow=0.4,SNR=4.6
JCT Junction City 141.82 21 *e*PKPpre 13 18 45.7
JCT *e*PKPdf PKPdf 13 18 52.4 +2.6

IDC 12 13:09:29.6±11.0, 2.93S×152.48E, h126km±62km, mb3.1/3, mb1 3.4/4, mb1mx3.2/13, mbtmp3.6/4, Error ellipse: s-maj=196.0km s-min=35.5km az=99.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.33**	**219**	P	P	13 11 27.7	-1.0
	0.7nm,0.3s,baz=58,slow=4.5,SNR=3.5						
WRA	**Warramunga Arr**	**24.49**	**225**	P	P	13 14 36.1	-2.4
	0.2nm,0.3s,baz=50,slow=10.0,SNR=8.6						
ASAR	**Alice Springs**	**27.35**	**219**	P	P	13 15 04.0	-0.9
	1.6nm,1.1s,baz=53,slow=8.6,SNR=7.7						
SONM	**Songino Array**	**64.58**	**327**	P	P	13 19 53.5	-2.1
	0.5nm,1.0s,baz=127,slow=6.2,SNR=3.5						

*CSEM **12** 13:20:53.0±7.2, 33.15N×2.28E, mb4.4/4, Error ellipse: s-maj=78.3km s-min=71.6km az=50.0*

MDD 12 13:20:56.8±4.7, 33.28N×1.76E, mb4.2/6, Error ellipse: s-maj=63.9km s-min=42.3km az=65.0, PRXIMO SIN SOLUCIN, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**4.92**	**320**	P	Pn	13 22 08.1	-5.7
	11nm,0.2s,SNR=7.9						
ENIJ				S	Sn	13 23 03.4	-8.9
	9.4nm,0.4s,SNR=4.0						
ENIJ	**Nijar**	**4.92**	**320**	S	Sn	13 23 10.6	-1.6
	13nm,0.2s,SNR=4.0						
EMUR	**La Murta**	**5.17**	**333**	P	Pn	13 22 15.9	-1.4
	6.7nm,0.4s,SNR=7.9						
EMUR				S	Sn	13 23 11.5	-7.1
	4.4nm,0.3s,SNR=4.0						
EMUR	**La Murta**	**5.17**	**333**	P	Pn	13 22 15.9	-1.5
	3.0nm,0.4s,SNR=7.9						
EBER	**Berja**	**5.25**	**315**	P	Pn	13 22 13.7	-4.8
	4.5nm,0.2s,SNR=22						
EBER				S	Sn	13 23 15.6	-5.1
	11nm,0.3s,SNR=4.0						
EBER	**Berja**	**5.25**	**315**	P	Pn	13 22 13.8	-4.7
	5.2nm,0.2s,SNR=22						
EQES	**Quesada**	**5.99**	**320**	P	Pn	13 22 25.6	-3.3
	4.3nm,0.2s,SNR=14						
EMIJ	**Mijas**	**6.29**	**303**	P	Pn	13 22 31.3	-1.9
	1.8nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**6.37**	**328**	P	Pn	13 22 31.4	-2.8
	2.6nm,0.3s,SNR=4.0						
EADA	**Adamuz**	**7.10**	**315**	P	Pn	13 22 42.6	-1.9
	1.4nm,0.4s,SNR=4.0						
EMIN	**Mina Concepcio**	**8.21**	**305**	P	P	13 22 56.2	-3.9
	0.4nm,0.2s,SNR=4.0						

IDC 12 13:25:11.2±1.4, 8.60N×92.77E, mb3.5/4, mb1 3.8/5, mb1mx3.7/17, mbtmp3.5/5, ML3.9/1, Error ellipse: s-maj=49.0km s-min=24.8km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.49**	**31**	Pn	P	13 27 57.4	-2.3
	0.2nm,0.3s,baz=218,slow=14,SNR=5.4						
SONM	**Songino Array**	**40.78**	**14**	P	P	13 32 53.5	-2.2
	0.2nm,0.5s,baz=200,slow=8.6,SNR=4.0						
WRA	**Warramunga Arr**	**49.78**	**125**	P	P	13 34 05.4	-2.6
	0.4nm,0.3s,baz=301,slow=10.0,SNR=16						
ASAR	**Alice Springs**	**51.42**	**130**	P	P	13 34 19.1	-1.2
	0.2nm,0.5s,baz=307,slow=8.1,SNR=6.9						
GERES	**GERESS Array B**	**76.39**	**318**	P	P	13 37 02.7	-1.4
	0.4nm,0.4s,baz=80,slow=6.0,SNR=3.5						

*IDC **12** 13:30:27.5±0.7, 16.58N×146.31E, h79km±6km, mb3.8/13, mb1 4.1/13, mb1mx3.9/21, mbtmp4.1/13, Error ellipse: s-maj=23.6km s-min=13.7km az=117.0*
*NEIC **12** 13:30:27.5±0.4, 16.59N×146.32E, mb4.8/1, Error ellipse: s-maj=13.6km s-min=9.3km az=121.0*

ISC 12 13:30:25.9±0.5, 16.59N±0.09×146.4E±0.1, h79km, h79km±.7km: pP-P, n21, σ1§15/18, mb4.0/14, 1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**0.59**	**281**	⇑*iP*	**P**	**13 30 41.5**	**+0.9**
ANA2	**Anatahan**	**0.69**	**249**	*eP*	**P**	**13 30 43.0**	**+1.5**
GUMO	**Guam**	**3.32**	**206**	*eP*	**P**	**13 31 17.5**	**+0.7**
PMG	**Port Moresby**	**25.84**	**178**	P	**P**	**13 35 52.0**	**0.0**
	9.0nm,0.8s,mb4.2,baz=4.3,slow=7.4,SNR=6.4						
ENH	**Enshi**	**36.31**	**299**	P	**P**	**13 37 22.8**	**-1.2**
	7.2nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**38.18**	**199**	P	**P**	**13 37 38.5**	**-1.1**
	2.8nm,0.7s,mb4.2,baz=28,slow=8.9,SNR=19						
ASAR	**Alice Springs**	**41.82**	**197**	P	**P**	**13 38 08.4**	**-1.3**
	1.2nm,0.7s,mb3.7,baz=26,slow=9.7,SNR=8.1						
CMAR	**Chiang Mai Arr**	**45.17**	**280**	P	**P**	**13 38 37.1**	**+0.1**
	1.1nm,0.8s,mb3.6,baz=75,slow=6.7,SNR=7.9						
CMAR				pP	pP	13 38 56.3	+0.1
	3.1nm,0.8s,baz=70,slow=7.2,SNR=8.9						
ILAR	**Eielson Array**	**65.25**	**26**	P	**P**	**13 40 59.5**	**-1.7**
	1.1nm,0.4s,mb4.0,baz=260,slow=6.0,SNR=23						
ILAR				pP	pP	13 41 19.6	-2.0
	1.1nm,1.0s,baz=278,slow=9.4,SNR=3.2						
BVAR	**Borovoye Array**	**68.51**	**321**	P	**P**	**13 41 17.2**	**-4.7**
	0.3nm,0.4s,mb3.4,baz=108,slow=9.1,SNR=3.2						
BVAR				pP	pP	13 41 38.1	-4.4
	0.8nm,0.5s,baz=103,slow=7.6,SNR=4.0						
INK	**Inuvik**	**71.05**	**23**	P	**P**	**13 41 36.8**	**-0.3**
	0.8nm,0.3s,mb4.0,baz=275,slow=5.0,SNR=8.0						
DLBC	**Dease Lake**	**72.69**	**33**	P	**P**	**13 41 48.4**	**+1.5**
	2.5nm,0.5s,mb4.3,baz=220,slow=7.4,SNR=6.4						
YKA	**Yellowknife Ar**	**79.54**	**28**	P	**P**	**13 42 25.3**	**-0.2**
	1.1nm,0.5s,mb3.9,baz=287,slow=5.5,SNR=24						
YKA				pP	pP	13 42 46.1	-0.5
	0.5nm,0.6s,baz=288,slow=5.3,SNR=2.4						
NVAR	**Mina Array Bea**	**83.93**	**52**	P	**P**	**13 42 50.7**	**+2.0**
	2.0nm,0.6s,mb4.2,baz=272,slow=4.0,SNR=18						
NVAR				pP	pP	13 43 12.4	+2.3
	2.0nm,0.7s,baz=272,slow=5.6,SNR=6.4						
NVAR	**Mina Array Bea**	**83.93**	**52**	P	**P**	**13 42 50.7**	**+1.9**
NVAR				pP	pP	13 43 12.4	+2.3
PDAR	**Pinedale Array**	**88.83**	**46**	P	**P**	**13 43 13.7**	**+1.1**
	0.4nm,0.4s,mb3.8,baz=244,slow=0.4,SNR=7.2						
FINES	**FINESS Array B**	**89.06**	**335**	P	**P**	**13 43 13.3**	**+0.1**
	1.5nm,0.8s,mb4.1,baz=63,slow=4.3,SNR=2.6						
AKASG	**Malin Array Be**	**93.40**	**325**	P	**P**	**13 43 31.6**	**-1.9**
	0.1nm,0.3s,mb3.6,baz=262,slow=40,SNR=3.9						
SDV	**Santo Domingo**	**135.49**	**58**	PKP	PKPdf	13 49 39.9	+1.9
	2.5nm,0.6s,baz=63,slow=4.4,SNR=3.9						
LPAZ	**La Paz**	**146.93**	**94**	PKPbc	PKPbc	13 50 01.4	+1.6
	2.8nm,0.5s,baz=16,slow=4.2,SNR=15						
CPUP	**Villa Florida**	**155.94**	**118**	PKPab	PKPab	13 50 42.0	+0.8
	0.0nm,0.3s,baz=218,slow=11,SNR=1.8						

*NIED **12** 13:30:00, 23.80N×120.90E, h35km, Mw4.1 Best double couple: M0:1.76×10^15 NP1:φs163°, δ74°, λ41°. NP2:φs60°, δ51°, λ159°.*
*TAP **12** 13:30:40.4, 23.69N×120.97E, h11km, ML4.5*
TAP Felt II J at Ryuetan, I J at Yuchr, I J at Alishan, II J at Tsauling, III J at Mingjian, II J at Gukeng, II J at Hungye, I J at Shilin, I J at Hehuanshan, I J at Chiayi, I J at Tachien, II J at Hualien, I J at Dacheng, I J at Szhu, I J at Nanshan.
*JMA **12** 13:30:42.6±0.4, 23.84N×120.90E, h85km, M3.9*
*BJI **12** 13:30:42.2, 23.67N×120.81E, h34km, mB4.5, mb4.5, ML4.4, Ms4.2, Msz4.0*
*NEIC **12** 13:30:45.9±1.8, 23.86N×121.25E, h54km±18km, mb4.2/5, Error ellipse: s-maj=20.9km s-min=14.6km az=62.0*
NEIC Recorded [3 TAP] in Nan-t'ou; [2 TAP] in Yun-lin and Hua-lien; [1 TAP] in Chang-hua, Chia-i and T'ai-chung Counties.
*IDC **12** 13:30:46.2±3.3, 23.80N×121.28E, h50km±35km, mb3.5/6, mb1 3.8/7, mb1mx3.6/20, mbtmp3.9/7, ML4.2/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/21, Error ellipse: s-maj=25.7km s-min=23.1km az=151.0*

ISC 12 13:30:41.4±0.2, 23.70N±0.01×120.99E±0.01, h11km±1km, n96, σ1§04/158, mb3.9/11, MS3.6/1, 23C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLT	**Sun Moon Lake**	**0.20**	**337**	⇓*iP*	**Pg**	**13 30 45.7**	**-0.2**
SMLT				S	**Sg**	**13 30 49.1**	**+0.3**
YUS	**Yu-Shan**	**0.21**	**188**	⇑*iP*	**Pg**	**13 30 46.1**	**+0.1**
YUS				S	**Sg**	**13 30 49.2**	**+0.1**
TYC	**Yuchr**	**0.24**	**330**	⇓*iP*	**Pg**	**13 30 46.2**	**-0.3**
ALS	**Alishan**	**0.25**	**222**	⇓*iP*	**Pg**	**13 30 46.4**	**-0.3**
ALS				S	**Sg**	**13 30 50.1**	**-0.1**
CHN5	**Tsauling**	**0.30**	**251**	⇓*iP*	**Pg**	**13 30 47.2**	**-0.5**
WNT	**Mingjian**	**0.33**	**303**	⇑*iP*	**Pg**	**13 30 48.4**	**+0.1**
WNT				S	**Sg**	**13 30 53.7**	**+0.8**
EHY	**Hungye**	**0.36**	**121**	⇑*iP*	**Pg**	**13 30 49.2**	**+0.3**
EHY				S	**Sg**	**13 30 55.6**	**+1.7**
WGK	**Gukeng**	**0.39**	**269**	⇑*iP*	**Pg**	**13 30 49.1**	**-0.3**
WGK				S	**Sg**	**13 30 55.6**	**+0.8**
ESL	**Shilin**	**0.43**	**74**	⇑*iP*	**Pg**	**13 30 50.4**	**+0.3**
ESL				S	**Sg**	**13 30 55.8**	**-0.2**
TWF1	**Yuli**	**0.45**	**140**	⇑*iP*	**Pg**	**13 30 50.6**	**+0.1**
TWF1				S	**Sg**	**13 30 57.6**	**+1.0**
CHN2	**Minshiung**	**0.50**	**251**	P	**Pg**	**13 30 51.1**	**-0.4**
CHN2				S	**Sg**	**13 30 58.7**	**+0.5**
CHN4	**Tsaushan**	**0.50**	**226**	⇓*iP*	**Pg**	**13 30 51.1**	**-0.4**
CHN4				S	**Sg**	**13 30 58.9**	**+0.6**
ELDTW	**Lidau**	**0.51**	**177**	⇑*iP*	**Pg**	**13 30 50.9**	**-0.8**
ELDTW				S	**Sg**	**13 30 57.6**	**-1.0**
WHF	**Hehuan Shan**	**0.52**	**30**	⇑*iP*	**Pg**	**13 30 51.8**	**-0.1**
WHF				S	**Sg**	**13 30 59.0**	**+0.1**
TCU	**Taichung**	**0.53**	**328**	⇑*iP*	**Pg**	**13 30 52.1**	**-0.1**
TCU				S	**Sg**	**13 31 00.0**	**+0.6**
CHY	**Chiayi**	**0.55**	**249**	⇑P	**Pb**	**13 30 52.0**	**-0.7**
CHY				S	**Sg**	**13 31 00.3**	**+0.2**
WTP	**Ta-pu**	**0.56**	**217**	*eP*	**Pb**	**13 30 52.0**	**-0.9**
WTP				S	**Sg**	**13 31 00.9**	**+0.5**
STYT	**Tauyuan**	**0.57**	**202**	⇑*iP*	**Pb**	**13 30 52.2**	**-0.8**
STYT				S	**Sg**	**13 31 00.1**	**-0.6**
TWT	**Tachien**	**0.58**	**17**	⇑*iP*	**Pb**	**13 30 52.2**	**-1.0**
TWT				S	**Sg**	**13 30 59.6**	**-1.5**
TWK	**Hsinying**	**0.63**	**227**	*i P*	**Pb**	**13 30 53.5**	**-0.4**
TWK				S	**Sb**	**13 31 02.5**	**+0.1**
HWA	**Hwalien**	**0.63**	**64**	⇑P	**Pb**	**13 30 54.2**	**+0.2**
HWA				S	**Sb**	**13 31 03.3**	**+0.7**
CHN1	**Nanshi**	**0.66**	**220**	⇑P	**Pb**	**13 30 54.1**	**-0.5**
CHN1				S	**Sb**	**13 31 03.8**	**+0.4**
WTCT	**Ta-ch'eng**	**0.67**	**285**	⇑P	**Pb**	**13 30 53.5**	**-1.1**
WTCT				S	**Sb**	**13 31 03.3**	**-0.3**
TWD	**Chiawan**	**0.68**	**56**	⇑*iP*	**Pb**	**13 30 54.5**	**-0.3**
TWD				S	**Sb**	**13 31 03.9**	**0.0**
TWQ1	**Liyutan**	**0.68**	**343**	⇑*iP*	**Pb**	**13 30 55.0**	**+0.1**
TWQ1				S	**Sb**	**13 31 04.8**	**+0.9**
CHKT	**Chengkung**	**0.69**	**149**	⇑*iP*	**Pb**	**13 30 55.7**	**+0.7**
CHKT				S	**Sb**	**13 31 06.3**	**+2.0**
WSF	**Szhu**	**0.70**	**265**	*eP*	**Pb**	**13 30 54.2**	**-1.0**
WSF				S	**Sb**	**13 31 04.3**	**-0.4**
SGST	**Jiashian**	**0.71**	**211**	P	**Pb**	**13 30 55.3**	**-0.2**
SGST				S	**Sb**	**13 31 05.8**	**+0.7**
NSY	**Sanyi**	**0.74**	**344**	⇑P	**Pb**	**13 30 56.5**	**+0.5**
NSY				S	**Sb**	**13 31 07.4**	**+1.5**
CHN8	**Yiju**	**0.79**	**244**	⇑P	**Pb**	**13 30 55.8**	**-1.0**
CHN8				S	**Sb**	**13 31 07.8**	**+0.5**
NNS	**Nan Shan**	**0.82**	**25**	⇑*iP*	**Pb**	**13 30 56.7**	**-0.5**
NNS				S	**Sb**	**13 31 07.9**	**-0.3**
CHN3	**Shinhua**	**0.84**	**223**	*eP*	**Pb**	**13 30 58.0**	**+0.4**
CHN3				S	**Sb**	**13 31 10.2**	**+1.5**
TWG	**Pinlang**	**0.88**	**175**	*eP*	**Pb**	**13 30 58.1**	**-0.1**
TWG				S	**Sb**	**13 31 11.3**	**+1.6**
SCLT	**Jiali**	**0.89**	**235**	*eP*	**Pb**	**13 30 58.6**	**+0.1**
SCLT				S	**Sb**	**13 31 11.5**	**+1.3**
TTN	**Taitung**	**0.95**	**171**	*eP*	**Pb**	**13 31 00.3**	**+0.9**
TTN				S	**Sb**	**13 31 14.6**	**+2.7**
SSD	**Sandimen**	**1.00**	**199**	*eP*	**Pb**	**13 31 00.2**	**-0.1**
SSD				S	**Sb**	**13 31 14.5**	**+1.2**
ENA	**Nanau**	**1.00**	**43**	*eP*	**Pb**	**13 30 59.6**	**-0.8**
ENA				S	**Sb**	**13 31 14.4**	**+1.0**
TWM1	**Shoushan**	**1.01**	**211**	*eP*	**Pb**	**13 31 01.5**	**+1.0**
NSK	**Sanguang**	**1.03**	**19**	⇑*iP*	**Pb**	**13 31 00.5**	**-0.4**
NSK				S	**Sb**	**13 31 15.0**	**+0.7**
SGLT	**Jiouru**	**1.07**	**205**	*eP*	**Pb**	**13 31 02.0**	**+0.5**
ENTT	**Nioudou**	**1.08**	**29**	*eP*	**Pb**	**13 31 01.4**	**-0.3**
ENTT				S	**Sb**	**13 31 16.8**	**+1.2**
ECL	**Taimali**	**1.09**	**182**	⇑P	**Pb**	**13 31 01.7**	**-0.2**
HSN	**Hsinchu**	**1.10**	**359**	*eP*	**Pb**	**13 31 02.7**	**+0.6**
HSN				S	**Sb**	**13 31 18.1**	**+1.8**
TWE	**Neicheng**	**1.20**	**31**	*eP*	**Pb**	**13 31 03.8**	**+0.1**
TWE				S	**Sb**	**13 31 20.5**	**+1.6**
TWC	**Suao**	**1.20**	**41**	*eP*	**Pb**	**13 31 04.0**	**+0.2**
TWC				S	**Sb**	**13 31 20.8**	**+1.6**
ILA	**Ilan**	**1.27**	**33**	*eP*	**Pb**	**13 31 04.7**	**-0.3**
ILA				S	**Sb**	**13 31 23.3**	**+2.1**
NCU	**National Centr**	**1.28**	**8**	*eP*	**Pb**	**13 31 04.7**	**-0.5**
NCU				S	**Sb**	**13 31 22.7**	**+1.2**
WDGT	**Dungji**	**1.29**	**251**	*eP*	**Pb**	**13 31 03.7**	**-1.6**
WDGT				S	**Sb**	**13 31 20.1**	**-1.7**
EAST	**Anshuo**	**1.31**	**186**	*eP*	**Pb**	**13 31 06.0**	**+0.3**
EAST				S	**Sb**	**13 31 23.8**	**+1.4**
PNG	**Penghu**	**1.32**	**265**	*eP*	**Pb**	**13 31 03.8**	**-2.0**
PNG				S	**Sb**	**13 31 20.6**	**-2.0**
TAW	**Tawu**	**1.33**	**184**	*eP*	**Pb**	**13 31 05.7**	**-0.4**
TAW				S	**Sb**	**13 31 25.3**	**+2.3**
TATO	**Taipei**	**1.35**	**20**	*eP*	**Pn**	**13 31 05.5**	**-0.8**
SCZT	**Fangliau**	**1.36**	**194**	*eP*	**Pn**	**13 31 06.3**	**-0.2**
SCZT				S	**Sb**	**13 31 26.3**	**+2.5**
TWA	**Mucha**	**1.39**	**23**	*eP*	**Pn**	**13 31 07.4**	**+0.5**
TWA				S	**Sb**	**13 31 26.9**	**+2.2**
TAP	**Taipei**	**1.42**	**19**	*eP*	**Pn**	**13 31 07.2**	**-0.1**
TAP				S	**Sb**	**13 31 26.1**	**+0.7**
TAP1	**Taipei**	**1.42**	**20**	*eP*	**Pn**	**13 31 06.2**	**-1.2**
TAP1				S	**Sb**	**13 31 26.2**	**+0.6**
TWS1	**Kuangyinshan**	**1.45**	**16**	*eP*	**Pn**	**13 31 07.4**	**-0.4**
TWS1				S	**Sb**	**13 31 27.4**	**+0.9**
NWF	**Wu-fen Shan**	**1.55**	**28**	S	**Sb**	**13 31 32.6**	**+3.3**
TWB1	**Santiao Chiao**	**1.59**	**35**	*eP*	**Pn**	**13 31 10.8**	**+1.0**
TWB1				S	**Sn**	**13 31 32.3**	**+1.7**
TWY	**Chenhua**	**1.67**	**19**	*eP*	**Pn**	**13 31 11.0**	**+0.1**
HEN	**Hengchun**	**1.70**	**188**	*eP*	**Pn**	**13 31 13.7**	**+2.4**
LAY	**Lan-yu**	**1.73**	**162**	*eP*	**Pn**	**13 31 11.1**	**-0.7**
LAY				S	**Sn**	**13 31 33.6**	**-0.4**
TWK1	**Hengchun**	**1.75**	**185**	*eP*	**Pn**	**13 31 12.1**	**0.0**
YOJ	**Yonaguni jima**	**2.00**	**67**	P	**Pn**	**13 31 15.5**	**-0.2**
YOJ				*e*S	**Sn**	**13 31 40.8**	**-0.1**
PCYT	**Pengchaiyu**	**2.16**	**27**	*eP*	**Pn**	**13 31 18.1**	**+0.2**
KNM	**Kinmen**	**2.44**	**288**	*eP*	**Pn**	**13 31 21.8**	**-0.1**
IRIF	**Iriomote-Funau**	**2.59**	**75**	P	**Pn**	**13 31 23.7**	**-0.4**
IRIF				S	**Sn**	**13 31 55.1**	**-0.8**
HATJ	**Hateruma jima**	**2.61**	**82**	P	**Pn**	**13 31 24.7**	**+0.4**
HATJ				*e*S	**Sn**	**13 31 54.9**	**-1.4**
JKRS	**Kuro-shima**	**2.82**	**78**	P	**Pn**	**13 31 27.3**	**0.0**
JKRS				*e*S	**Sn**	**13 32 01.6**	**-0.1**
JIJ	**Ishigaki jima**	**2.96**	**76**	P	**Pn**	**13 31 28.3**	**-1.1**
JIJ				S	**Sn**	**13 32 03.2**	**-2.1**
JTJ	**Tarama**	**3.52**	**74**	P	**Pn**	**13 31 36.6**	**-0.8**
JTJ				*e*S	**Sn**	**13 32 17.6**	**-1.9**
JMJ	**Miyako jima 2**	**4.09**	**73**	P	**Pn**	**13 31 44.7**	**-0.7**
JMJ				*e*S	**Sn**	**13 32 32.5**	**-1.3**
JOGS	**Gusukube**	**4.17**	**74**	*e*S	**Sn**	**13 32 35.4**	**-0.6**
JKE	**Kume jima 2**	**5.88**	**62**	P	**Pn**	**13 32 09.0**	**-1.7**
JAGN	**Aguni-jima**	**6.36**	**62**	P	**Pn**	**13 32 15.3**	**-2.2**
JIH	**Iheya**	**7.14**	**61**	P	**Pn**	**13 32 26.1**	**-2.3**
JOW	**Kunigami**	**7.30**	**63**	P	**Pn**	**13 32 26.1**	**-4.7**
	9.5nm,0.3s,baz=207,slow=12,SNR=18						
JOW				S	**Sn**	**13 33 46.4**	**-8.0**
	baz=115,slow=19,SNR=1.7						
JOW	**Kunigami**	**7.30**	**63**	P	**Pn**	**13 32 27.4**	**-3.3**
JTK	**Tokunoshima**	**8.26**	**59**	P	**P**	**13 32 39.6**	**-4.5**
NJ2	**Nanjing**	**8.53**	**348**	*eP*	**P**	**13 32 48.8**	**+0.9**
NJ2				PP	PP	13 32 55.4	-0.3
NJ2				PPP	PPP	13 33 03.3	+0.6
NJ2				S	**Sn**	**13 34 27.6**	**+2.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s						
NJ2				LR	LR		
	comp=N,810nm,8.7s						
NJ2

JEM	Erimo	0.62	85	P	P	13 35 15.1	+0.3
JEM				eS	S	13 35 25.0	-0.3
JBT2	Biratori 2	0.81	2	P	P	13 35 16.8	-0.1
JBT2				eS	S	13 35 29.2	+0.1
JKB	Kayabe	0.97	266	⇓P	P	13 35 18.8	0.0
JKB				eS	S	13 35 32.2	-0.3
JCH	Churui	1.01	49	⇑P	P	13 35 19.6	+0.3
JCH				eS	S	13 35 33.5	+0.1
JNB	Noboribetsu	1.08	298	⇓P	P	13 35 19.8	-0.5
JNB				eS	S	13 35 34.1	-0.9
JEW	Eniwo	1.09	324	P	P	13 35 20.6	+0.2
JEW				eS	S	13 35 35.0	-0.2
JOT	Ohata	1.12	239	⇓P	P	13 35 20.9	+0.1
JOT				eS	S	13 35 35.7	-0.2
JFR	Furan	1.22	9	⇓P	P	13 35 21.9	-0.1
JFR				eS	S	13 35 38.0	-0.2
JOB	Onbets	1.46	49	⇑P	P	13 35 26.3	+0.9
JOB				eS	S	13 35 44.7	+0.8
JYM2	Yakumo 2	1.47	277	P	P	13 35 25.3	-0.2
JSR	Shiriuchi	1.49	254	P	P	13 35 25.8	-0.1
JSR				eS	S	13 35 44.7	+0.1
JANG	Nango	1.70	201	P	P	13 35 29.0	+0.3
JANG				eS	S	13 35 49.6	+0.1
JAR	Ashorobuto	1.71	38	⇑P	P	13 35 29.0	+0.3
JAR				eS	S	13 35 50.2	+0.6
JHR	Hokuryu	1.83	346	⇓P	P	13 35 31.3	+0.9
ASAJ	Asahikawa	2.16	5	PN	P	13 35 36.1	+1.1
ASAJ				S	S	13 36 02.3	+1.7
ASAJ				pmax	pmax		
	comp=Z,40nm,0.3s						
ASAJ				smax			
	comp=N,47nm,0.3s						
ASAJ	Asahikawa	2.16	5	P	P	13 35 36.0	+1.1
	comp=N,40nm,0.3s,baz=240,slow=7.5,SNR=223						
ASAJ				S	S	13 36 02.3	+1.7
	comp=N,46nm,0.3s,baz=96,slow=28,SNR=15						
YUK	Yuzh-Kuril'sk	3.32	50	⇑iPN	P	13 35 50.3	-0.9
YUK				iS	S	13 36 27.1	-2.5
YUK				pmax	pmax		
	comp=N,260nm,0.4s						
YUK				pmax	pmax		
	comp=Z,490nm,0.4s						
YUK				smax			
	comp=N,1μm,0.4s						
YUK				smax			
	comp=E,390nm,0.4s						
YUK				smax			
	comp=N,5μm,1.0s						
YUK				smax			
	comp=E,2μm,1.0s						
YSS	Yuzh-Sakhalins	5.00	3	⇓ePN	P	13 36 15.3	+0.7
YSS				e		13 37 08.2	
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
YSS	Yuzh-Sakhalins	5.00	3	eP	P	13 36 16.2	+1.5
MAJO	Matsushiro	6.29	212	ePN	P	13 36 33.7	+1.2
MAJO				pmax	pmax		
	comp=Z,13nm,0.6s						
MAJO	Matsushiro	6.29	212	eP	P	13 36 33.7	+1.2
	comp=Z,13nm,0.6s						
MAT	Matsushiro	6.29	212	eP	P	13 36 35.0	+2.5
MAT	Matsushiro	6.29	212	P	P	13 36 33.3	+0.8
MDJ	Mudanjiang	9.66	290	eP	P	13 37 19.4	+0.7
	comp=Z,5.8nm,0.8s						
HIA	Hailar	17.36	303	P	P	13 38 59.1	-0.2
YAK	Yakutsk	21.48	344	eP	P	13 39 41.1	-3.3
YAK				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.3						
YAK	Yakutsk	21.48	344	eP	P	13 39 41.1	-3.3
	comp=Z,16nm,0.9s,mb4.3						
FX1	Attu Island--F	23.37	52	P	P	13 40 00.5	-2.4
FX1				pmax	pmax		
	comp=Z,19nm,0.5s						
FX1	Attu Island--F	23.37	52	P	P	13 40 00.5	-2.4
	comp=Z,19nm,0.5s,mb4.7,baz=268,slow=13,SNR=8.3						
BOD	Bodaibo	23.92	321	eP	P	13 40 06.4	-1.8
ULN	Ulaanbaatar	25.51	295	eP	P	13 40 23.4	-0.1
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.6						
ULN	Ulaanbaatar	25.51	295	eP	P	13 40 23.4	-0.2
	comp=Z,2.4nm,0.8s,mb3.7						
SONM	Songino Array	25.95	295	P	P	13 40 27.8	+0.1
	comp=Z,2.5nm,0.6s,mb3.8,baz=77,slow=8.5,SNR=16						
SONM				pP	pP	13 40 44.4	+0.1
	comp=Z,0.9nm,0.6s,baz=96,slow=7.0,SNR=3.2						
ZAK	Zakamensk	28.05	301	eP	P	13 40 45.8	-1.0
ENH	Enshi	28.81	257	P	P	13 40 51.6	-2.2
	comp=Z,2.7nm,0.4s,mb4.2						
NVS	Novosibirsk	40.09	310	iP	P	13 42 29.8	-0.3
LSA	Lhasa	42.68	270	P	P	13 42 51.3	-0.3
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
LSA	Lhasa	42.68	270	P	P	13 42 51.3	-0.3
	comp=Z,2.1nm,0.6s,mb4.0						
CMAR	Chiang Mai Arr	43.60	251	P	P	13 43 00.3	+1.0
	comp=Z,1.2nm,0.8s,mb3.6,baz=42,slow=7.2,SNR=4.5						
CMAR				pP	pP	13 43 17.6	+0.5
	comp=Z,0.6nm,0.4s,baz=308,slow=16,SNR=2.6						
ILAR	Eielson Array	45.00	35	P	P	13 43 09.8	-0.1
	comp=Z,0.8nm,0.6s,mb3.6,baz=288,slow=9.0,SNR=5.3						
ILAR				pP	pP	13 43 26.9	-0.8
	comp=Z,1.1nm,0.9s,baz=269,slow=8.8,SNR=3.1						
JIRN	Jiri	47.45	271	eP	P	13 43 30.1	+0.3
GUN	Gumba	47.55	272	eP	P	13 43 30.7	+0.2
	comp=Z,24nm,0.5s,mb5.3						
CHKZ	Chkalovo	47.57	310	eP	P	13 43 29.6	-0.7
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
CHKZ	Chkalovo	47.57	310	eP	P	13 43 29.6	-0.7
	comp=Z,3.1nm,0.6s,mb4.3						
BVAR	Borovoye Array	47.89	309	P	P	13 43 32.7	-0.1
	comp=Z,3.0nm,0.5s,mb4.4,baz=79,slow=8.6,SNR=16						
BVAR				pP	pP	13 43 50.7	-0.1
	comp=Z,0.9nm,0.3s,baz=82,slow=8.6,SNR=3.3						
BRVK	Borovoye	47.94	309	eP	P	13 43 33.0	-0.2
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
BRVK	Borovoye	47.94	309	eP	P	13 43 33.0	-0.2
	comp=Z,1.5nm,0.4s,mb4.2						
KKN	Kakani	48.06	272	eP	P	13 43 34.9	+0.4
	comp=Z,18nm,0.8s,mb5.0						
PKI	Pulchoki	48.08	272	eP	P	13 43 34.5	-0.2
GKN	Gorkha	48.42	273	eP	P	13 43 37.2	-0.1
	comp=Z,9.8nm,0.5s,mb4.9						
AAK	Ala-Archa	48.91	295	iP	P	13 43 39.5	-1.4
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
KOLN	Koldanda	49.32	273	eP	P	13 43 44.2	0.0
	comp=Z,6.4nm,0.5s,mb4.8						
INK	Inuvik	49.71	29	eP	P	13 43 45.9	-0.8
INK	Inuvik	49.71	29	P	P	13 43 45.9	-0.8
	comp=Z,1.0nm,0.4s,mb4.1,baz=325,slow=6.0,SNR=6.7						
ARU	Arti	53.21	316	eP	P	13 44 09.8	-3.4
ARU	Arti	53.21	316	eP	P	13 44 09.8	-3.4
	comp=Z,6.6nm,0.8s,mb4.7						
DLBC	Dease Lake	54.36	40	P	P	13 44 21.6	0.0
	comp=Z,2.4nm,0.5s,mb4.5,baz=191,slow=14,SNR=7.5						
DLBC				pP	pP	13 44 40.5	+0.6
	comp=Z,2.8nm,0.5s,baz=162,slow=18,SNR=4.3						
RES	Resolute Bay	57.66	15	eP	P	13 44 43.2	-1.9
RES				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
RES	Resolute Bay	57.66	15	eP	P	13 44 43.2	-1.9
	comp=Z,2.3nm,0.7s,mb4.3						
YKA	Yellowknife Ar	59.22	32	P	P	13 44 55.4	-0.6
YKA				*PP	pP	13 45 13.9	-0.7
YKA	Yellowknife Ar	59.22	32	P	P	13 44 55.3	-0.7
	comp=Z,2.7nm,1.0s,mb4.2,baz=306,slow=6.3,SNR=13						
YKA				pP	pP	13 45 13.9	-0.7
	comp=Z,0.3nm,0.6s,baz=307,slow=6.7,SNR=3.3						
WRA	Warramunga Arr	62.03	189	P	P	13 45 14.5	-1.2
	comp=Z,0.8nm,0.5s,mb4.0,baz=6.7,slow=6.9,SNR=21						
WRA				pP	pP	13 45 33.8	-0.6
	comp=Z,1.7nm,0.6s,baz=6.8,slow=6.8,SNR=7.0						
FINES	FINESS Array B	64.80	332	P	P	13 45 32.5	-0.7
	comp=Z,3.6nm,0.6s,mb4.4,baz=64,slow=7.5,SNR=24						
FINES				pP	pP	13 45 51.8	-0.2
	comp=Z,1.4nm,0.5s,baz=72,slow=7.0,SNR=2.0						
ASAR	Alice Springs	65.76	188	P	P	13 45 39.4	-0.6
	comp=Z,0.3nm,0.5s,mb3.4,baz=5.7,slow=7.7,SNR=7.0						
ASAR				pP	pP	13 45 59.4	+0.5
	comp=Z,0.7nm,0.6s,baz=1.3,slow=5.2,SNR=5.6						
ASAR	Alice Springs	65.76	188	P	P	13 45 39.4	-0.6
ASAR				pP	pP	13 45 59.4	+0.5
KIV	Kislovodsk	68.25	310	eP	P	13 45 56.8	+1.5
KIV	Kislovodsk	68.25	310	eP	P	13 45 56.8	+1.5
NB2	NORSAR Subarra	69.92	337	P	P	13 46 04.5	-0.8
	comp=Z,0.3nm,0.6s,mb3.3,baz=41,slow=6.2						
NOA	NORSAR Array B	69.92	337	P	P	13 46 04.8	-0.5
	comp=Z,2.4nm,0.7s,mb4.1,baz=37,slow=6.1,SNR=4.9						
AKASG	Malin Array Be	70.85	322	P	P	13 46 10.6	-0.5
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	Malin Array Be	70.85	322	P	P	13 46 10.6	-0.4
	comp=Z,2.5nm,0.6s,mb4.2,baz=45,slow=5.9,SNR=20						
NVAR	Mina Array Bea	71.52	55	P	P	13 46 15.1	-0.2
	comp=Z,0.8nm,0.7s,mb3.7,baz=290,slow=6.5,SNR=4.8						
PDAR	Pinedale Array	73.75	47	P	P	13 46 29.2	+1.0
	comp=Z,1.3nm,0.6s,mb3.8,baz=274,slow=2.1,SNR=15						
PDAR				pP	pP	13 46 48.8	+1.2
	comp=Z,0.3nm,0.5s,baz=90,slow=1.5,SNR=2.3						
BRTR	Keskin Array B	76.13	311	P	P	13 46 41.4	-0.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	Keskin Array B	76.13	311	P	P	13 46 41.4	-0.6
	comp=Z,1.2nm,0.7s,mb3.7,baz=78,slow=4.1,SNR=5.8						
KHC	Kasperske Hory	78.72	329	eP	P	13 46 56.5	+0.4
GERES	GERESS Array B	78.90	328	P	P	13 46 58.0	+0.9
GERES				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GERES	GERESS Array B	78.90	328	P	P	13 46 58.0	+0.9
	comp=Z,2.6nm,1.1s,mb4.0,baz=45,slow=3.8,SNR=5.3						
SSF	Saint Saulge	84.12	333	eP	P	13 47 24.7	+0.4
IDI	Anoyia	84.15	313	P	P	13 47 25.4	+0.6
	comp=Z,4.2nm,0.6s,mb4.4,baz=342,slow=9.0,SNR=6.3						
SMF	Signal de Mont	84.37	333	eP	P	13 47 26.0	+0.4
AVF	Avril sur Loir	84.41	333	eP	P	13 47 26.4	+0.6
	comp=Z,8.0nm,0.6s,mb4.4						
AVF	Avril sur Loir	84.41	333	eP	P	13 47 26.4	+0.6
AVF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
MBDF	Montbardon	84.97	330	eP	P	13 47 30.3	+1.7
	comp=Z,4.0nm,0.6s,mb4.3						
MBDF	Montbardon	84.97	330	eP	P	13 47 30.3	+1.7
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ORIF	Oris-en-Rattie	85.14	331	eP	P	13 47 30.3	+0.9
	comp=Z,13nm,1.0s,mb4.5						
ORIF	Oris-en-Rattie	85.14	331	eP	P	13 47 30.3	+0.9
ORIF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
CAF	Calviac	86.48	333	eP	P	13 47 37.6	+1.6
	comp=Z,18nm,0.8s,mb4.7						
CAF	Calviac	86.48	333	eP	P	13 47 37.6	+1.6
CAF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
LFF	La Frestale	86.91	334	eP	P	13 47 39.6	+1.5
MTLF	Montolieu	87.82	332	eP	P	13 47 43.8	+1.3

JMA ***12*** *13:46:18.3±0.2, 25.15N×122.65E*
TAP 12 13:46:18.3, 24.01N×122.44E, h22km±1km, ML2.7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.69	49	P	Pb	13 46 33.2	+1.7
YOJ				eS	Sb	13 46 43.7	+3.1
IRIF	Iriomote-Funau	1.22	74	P	Pn	13 46 42.4	+2.1
IRIF				eS	Sb	13 46 59.4	+3.4
JKRS	Kuro-shima	1.45	81	eS	Sn	13 47 08.0	+5.9
JIJ	Ishigaki jima	1.59	77	P	Pn	13 46 47.7	+2.0
JIJ				eS	Sn	13 47 07.8	+2.0

FUNV ***12*** *13:52:40.1, 8.73N×61.69W, h5km, MW3.9*
TRN ***12*** *13:52:40.5, 8.78N×61.84W, h7km, MD4.7*
BJI ***12*** *13:52:43.3, 8.90N×62.00W, h51km, mB5.5, Ms5.1, Msz4.9*
IDC ***12*** *13:52:43.8±5.7, 8.97N×62.00W, h29km±41km, mb4.2/21, mb1 4.4/23, mb1mx4.4/26, mbtmp4.5/23, ML3.8/2, MS3.7/5, Ms1 3.7/5, ms1mx3.1/22, Error ellipse: s-maj=16.1km s-min=12.3km az=94.0*
NEIC ***12*** *13:52:45.3±0.7, 8.90N×62.01W, h51km±5km, mb4.7/16, MD4.7(CAR), Error ellipse: s-maj=7.9km s-min=6.1km az=151.0*
NEIC Felt at Ciudad Guayana.
ISC 12 13:52:40.9±0.3, 8.71N±0.03×61.95W±0.03, h33km, n120, σ1§25/130, mb4.5/35, MS3.7/3, 7C-5D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIOV	Rio Grande	0.65	169	eP	P	13 52 53.2	-0.4
RIOV				eS	S	13 53 02.0	-0.8
GURV	El Guri	1.47	230	eP	P	13 53 09.7	+4.4
GURV				eS	S	13 53 31.9	+8.2
ORIV	Oritupano	1.49	284	eP	P	13 53 10.3	+4.7
ORIV	Oritupano	1.49	284	eP	P	13 53 10.3	+4.7
TPP	Pointe-a-Pierr	1.67	17	eP	P	13 53 10.3	+2.2
TPP				eS	S	13 53 28.9	+0.3
GUNV	Guanoco	1.74	326	⇓iP	P	13 53 12.3	+3.0
GUNV				eS	S	13 53 36.4	+5.9
GUNV	Guanoco	1.74	326	⇓eP	P	13 53 12.3	+3.1
GUNV				eS	S	13 53 37.0	+6.5
GUIV	Guiria	1.94	352	eP	P	13 53 13.4	+1.3
GUIV				eS	S	13 53 38.5	+2.9
GUIV	Guiria	1.94	352	eP	P	13 53 13.0	+0.9
GUIV				eS	S	13 53 39.0	+3.5
TBH	Brigand Hill	1.96	26	eP	P	13 53 13.3	+0.9
TBH				eS	S	13 53 34.3	-1.7
TRN	Trinidad (W)	2.00	15	eP	P	13 53 14.5	+1.7
TRN				eS	S	13 53 38.8	+1.9
CRUV	Carupano	2.33	327	eP	P	13 53 19.2	+1.6
CRUV	Carupano	2.33	327	eP	P	13 53 18.6	+1.0
TPR	Prospect	2.71	25	eP	P	13 53 23.0	-0.1
TPR				eS	S	13 53 54.4	-0.7
BOT	Bacolet	2.72	26	⇑iP	P	13 53 23.4	+0.2
BOT				eS	S	13 53 54.9	-0.4
ITEV	Isla Los Testi	2.87	336	⇑eP	P	13 53 26.2	+0.8
ITEV	Isla Los Testi	2.87	336	⇑eP	P	13 53 26.2	+0.8
GRW	Mount Saint Ca	3.44	5	⇑iP	P	13 53 34.4	+1.0
GRW				eS	S	13 54 12.8	-0.7
GRHS	Sauteurs	3.50	5	eP	P	13 53 35.6	+1.2
CUPV	Cepira	4.02	290	eP	P	13 53 44.1	+2.4
IBAV	Isla La Blanqu	4.03	320	⇓iP	P	13 53 43.1	+1.2
IBAV	Isla La Blanqu	4.03	320	⇓eP	P	13 53 43.1	+1.2
MERV	Las Mercedes	4.33	277	eP	P	13 53 48.2	+2.1
MERV	Las Mercedes	4.33	277	eP	P	13 53 48.2	+2.0
CAOV	Caicara del Or	4.55	253	⇑eP	P	13 53 51.3	+2.1
CAOV				eS	S	13 54 44.4	+2.8
SVB	Belmont	4.58	8	eP	P	13 53 50.6	+0.9
SVV	Soufriere Volc	4.63	9	eP	P	13 53 51.3	+0.9
ORCV	Isla La Orchil	5.19	307	eP	P	13 53 59.7	+1.4
BIM	Bigot	5.83	8	eP	P	13 54 07.5	+0.3
MVM	Montagne Vaucl	5.90	10	⇓eP	P	13 54 07.3	-0.8
BAUV	El Baul	6.03	273	eP	P	13 54 11.3	+1.3
BAUV				eS	S	13 55 18.3	-0.5
BAUV	El Baul	6.03	273	eP	P	13 54 10.6	+0.6
BAUV				eS	S	13 55 18.3	-0.5
FDF	Fort de France	6.03	7	⇑eP	P	13 54 09.7	-0.4
TURV	Turiamo	6.07	287	eP	P	13 54 12.3	+1.7
CRM	Caraveller	6.09	9	⇑eP	P	13 54 10.1	-0.8
BBL	Barber's Block	6.79	4	eP	P	13 54 20.6	-0.1
JACV	Jacura	7.18	290	eP	P	13 54 26.6	+0.4
MGG	Marie-Galante	7.19	5	eP	P	13 54 26.2	-0.1
TEPV	Terepaima	7.26	280	eP	P	13 54 28.0	+0.7
DEG	La Desirade	7.60	6	eP	P	13 54 30.0	-2.1
SEG	Port Louis	7.66	3	eP	P	13 54 32.7	-0.1
ELOV	Elorza	7.66	258	eP	P	13 54 33.3	+0.4
SIQV	Siquisique	7.99	285	eP	P	13 54 37.9	+0.5
SIQV	Siquisique	7.99	285	eP	P	13 54 37.9	+0.5
MONV	Montecano	8.53	293	eP	P	13 54 44.5	-0.5
SDV	Santo Domingo	8.59	272	Pn	P	13 54 45.6	-0.2
	9.1nm,0.3s,baz=86,slow=8.0,SNR=40						
SDV				Sn	Sn	13 56 21.8	-0.9
	48nm,0.3s,baz=34,slow=9.9,SNR=11						
SDV				LR	LR	13 58 09.3	
	comp=Z,142nm,21.8s,baz=328,slow=38						
SDV	Santo Domingo	8.59	272	eP	P	13 54 44.5	-1.3
	21nm,0.4s						
SOCV	Socops	8.82	268	eP	P	13 54 48.6	-0.5
DABV	Dabajuro	8.84	285	eP	P	13 54 48.9	-0.4
VIGV	El Vigia	9.31	271	eP	P	13 54 55.6	-0.2
CAPV	Capacho	10.30	266	eP	P	13 55 08.7	-0.8
VIRV	Villa del Rosa	10.47	281	eP	P	13 55 11.4	-0.4
ROSC	El Rosal	12.88	253	Pn	P	13 55 50.9	+6.5
	2.8nm,0.3s,baz=94,slow=15,SNR=8.6						
ROSC				Lg		13 59 30.0	
	3.5nm,0.3s,baz=93,slow=22,SNR=4.5						
ROSC				LR	LR	14 01 29.9	
	comp=Z,464nm,19.2s,baz=205,slow=41						
OTAV	Otavalo	18.47	244	eP	P	13 57 00.0	+3.7
	20nm,1.2s						
LPAZ	La Paz	25.58	194	P	P	13 58 11.9	+3.0
	5.9nm,0.7s,mb4.2,baz=16,slow=11,SNR=16						
LPAZ				LR	LR	14 09 20.7	
	comp=Z,86nm,20.8s,MS3.3,baz=196,slow=39						
BDFB	Brasilia	27.86	150	P	P	13 58 33.6	+3.7
	1.6nm,0.4s,mb4.0,baz=337,slow=11,SNR=2.7						
BDFB				LR	LR	14 09 24.9	
	comp=Z,495nm,18.4s,MS4.1,baz=224,slow=36						
RCBR	Riachuelo	29.71	118	P	P	13 58 44.5	-1.9
GOGA	Godfrey	31.60	324	P	P	13 59 02.6	-0.4
LVC	Limon Verde	31.87	192	P	P	13 59 10.6	+5.1
	3.8nm,0.9s,mb4.2,baz=7.5,slow=7.3,SNR=7.7						
LVC	Limon Verde	31.87	192	P	P	13 59 05.0	-0.4
	4.4nm,0.8s,mb4.3						
LVC				P		13 59 10.6	
BLA	Blacksburg	32.94	332	eP	P	13 59 14.1	-0.6
	30nm,0.7s,mb5.3						
ELN	Prospectdale	33.11	332	eP	P	13 59 15.0	-1.1
PWV	Princeton	33.34	332	eP	P	13 59 07.7	-10
FWV	Forest Hill	33.42	332	eP	P	13 59 12.9	-6.0
LRAL	Lakeview Retre	33.49	320	eP	P	13 59 18.5	-1.0
	4.1nm,0.9s,mb4.4						
CPCT	Cooper Cave	33.67	326	eP	P	13 59 20.2	-0.8
CPUP	Villa Florida	35.12	173	P	P	13 59 35.6	+2.1
	0.0nm,0.6s,baz=277,slow=16,SNR=1.6						
BINY	Binghamton	35.57	342	eP	P	13 59 35.0	-2.2
	25nm,1.2s,mb5.0						
WVT	Waverly	36.06	323	eP	P	13 59 39.0	-2.5
	4.8nm,0.9s,mb4.4						
ACSO	Alum Creek Sta	36.56	333	eP	P	13 59 45.2	-0.4
	24nm,0.9s,mb5.0						
WCI	Wyandotte Cave	36.67	327	eP	P	13 59 44.1	-2.5
	13nm,0.7s,mb4.9						
MIAR	Mount Ida	38.76	316	P	P	14 00 03.0	-1.0
CCM	Cathedral Cave	39.38	322	eP	P	14 00 06.0	-3.1
WMOK	Wichita Mounta	42.52	313	eP	P	14 00 32.9	-2.3
	3.6nm,1.1s,mb4.0						
TXAR	Lajitas Array	44.14	303	P	P	14 00 49.1	+0.8
	1.5nm,0.6s,mb3.9,baz=117,slow=8.4,SNR=5.3						
SCHQ	Schefferville	46.16	356	P	P	14 01 04.3	+0.2
	8.5nm,1.0s,mb4.6,baz=158,slow=2.9,SNR=7.7						
SCHQ				LR	LR	14 19 20.0	
	comp=Z,102nm,18.6s,MS3.8,baz=195,slow=35						
SCHQ	Schefferville	46.16	356	P	P	14 01 04.3	+0.2
SCHQ				LR	LR	14 19 20.0	
MNTX	Cornudas Mount	46.32	306	eP	P	14 01 05.4	-0.3
TRQA	Tornquist	46.52	180	P	P	14 01 06.7	-0.5
LPM	Los Pinos Moun	48.22	309	eP	P	14 01 20.9	+0.3
ANMO	Albuquerque	48.33	310	eP	P	14 01 19.2	-2.1
	7.1nm,1.6s,mb4.5						
BW06	Boulder Array	53.66	318	eP	P	14 01 59.5	-2.2
	6.0nm,1.2s,mb4.4						
PDAR	Pinedale Array	53.66	318	P	P	14 02 00.3	-1.4
	2.5nm,0.8s,mb4.2,baz=115,slow=9.1,SNR=23						
LOHW	Long Hollow	54.71	318	eP	P	14 02 07.9	-1.5
NEN	Nelson	55.04	308	eP	P	14 02 11.2	-0.7
QLMT	Earthquake Lak	55.76	319	eP	P	14 02 17.0	+0.1
DBIC	Dimbokro	56.57	88	P	P	14 02 25.2	+2.1
	1.9nm,0.5s,mb4.3,baz=246,slow=8.6,SNR=4.5						
MCMT	McKenzie Canyo	56.68	319	eP	P	14 02 22.7	-0.8
HLID	Hailey	57.24	317	eP	P	14 02 26.4	-1.2
	8.2nm,1.0s,mb4.7						
NVAR	Mina Array Bea	58.45	310	P	P	14 02 36.5	+0.5
	9.5nm,1.2s,mb4.7,baz=125,slow=4.3,SNR=10.0						
ESDC	Sonseca Array	59.98	49	P	P	14 02 46.7	0.0
	0.5nm,0.4s,mb3.9,baz=262,slow=6.2,SNR=4.3						
EDM	Edmonton	60.59	327	eP	P	14 02 48.8	-1.8
NEW	Newport	60.71	321	eP	P	14 02 49.5	-2.0
	10nm,1.0s,mb4.9						
OHCM	Honcut	61.07	310	eP	P	14 02 54.0	-0.1
SUMG	Summit	65.38	8	eP	P	14 03 21.9	0.0
	46nm,1.0s,mb5.5						
YKA	Yellowknife Ar	65.69	336	P	P	14 03 22.0	-2.0
	14nm,1.0s,mb4.9,baz=110,slow=7.3,SNR=83						
YKW3	Yellowknife Ar	65.73	336	eP	P	14 03 21.9	-2.5
DAVOX	Davos	71.26	44	P	P	14 03 59.4	+0.5
	6.5nm,0.8s,mb4.6,baz=322,slow=18,SNR=3.0						
CLL	Collm	73.84	39	P	P	14 04 14.0	0.0
GERES	GERESS Array B	74.05	42	P	P	14 04 15.3	0.0
	3.6nm,0.7s,mb4.4,baz=256,slow=5.5,SNR=13						
NOA	NORSAR Array B	74.28	29	P	P	14 04 17.4	+1.0
	1.0nm,0.8s,mb3.8,baz=286,slow=3.9,SNR=2.8						
INK	Inuvik	75.17	339	eP	P	14 04 19.7	-1.7
	9.7nm,1.0s,mb4.7						
HFS	Hagfors	75.34	30	P	P	14 04 24.1	+1.6
	1.8nm,0.6s

CHG	**Chiang Mai**	**13.91**	**17**	⇑P	**P**	**14 01 37.4**	**+2.0**
	36nm,0.8s						
CHTO	**Chiang Mai**	**13.91**	**17**	Pn	**P**	**14 01 37.2**	**+1.8**
CHTO				Pn	**P**	**14 01 40.8**	**+5.4**
CHTO				P		14 01 43.6	
CHTO				sSn		14 04 29.0	
PALK	**Pallekele**	**13.93**	**278**	*e*P	**P**	**14 01 34.5**	**-1.2**
	39nm,0.9s						
UBT	**Ubonrachathani**	**14.10**	**46**	P	**P**	**14 01 43.0**	**+5.1**
NANT	**Nan**	**14.51**	**24**	⇑P	**P**	**14 01 45.0**	**+1.8**
	194nm,1.0s						
CHRT	**Chiangrai**	**15.17**	**19**	⇑P	**P**	**14 01 54.0**	**+2.3**
	1μm,1.0s						
BWNR	**Bhubaneshwar**	**17.03**	**331**	*e*	Px	14 01 53.0	
KOD	**Kodaikanal**	**17.62**	**287**	*e*P	**P**	**14 02 24.6**	**+1.9**
KOD				*e*		14 02 25.0	
KOD				*e*		14 02 40.5	
	comp=Z,140nm,1.2s						
KOD				*e*		14 05 15.0	
KOD				*i*		14 05 19.3	
TRD	**Trivandrum**	**17.77**	**281**	*e*P	**P**	**14 02 25.8**	**+1.1**
TRD				*e*		14 02 27.6	
	comp=Z,149nm,1.8s						
TRD				*e*		14 05 25.6	
CAL	**Calcutta**	**18.01**	**341**	*e*P	**P**	**14 02 27.9**	**+0.3**
CAL				*e*		14 06 53.5	
HYB	**Hyderabad**	**19.68**	**308**	⇑*e*P	**P**	**14 02 47.0**	**+0.1**
HYB				*e*S	**S**	**14 06 25.0**	**+4.2**
HYB				pmax	pmax		
	comp=Z,170nm,1.0s						
HYB	**Hyderabad**	**19.68**	**308**	⇑*e*P	**P**	**14 02 47.0**	**+0.1**
	comp=Z,170nm,1.0s						
HYB				*e*S	**S**	**14 06 25.0**	**+4.2**
HYB	**Hyderabad**	**19.68**	**308**	⇑*i*P	**P**	**14 02 47.0**	**+0.1**
	comp=Z,170nm,1.0s						
HYB				*e*		14 06 12.5	
HYB				*e*S	**S**	**14 06 25.0**	**+4.2**
QIZ	**Qiongzhong**	**20.05**	**46**	⇑P	**P**	**14 02 52.4**	**+1.6**
QIZ				XP		14 03 04.7	
QIZ				S	**S**	**14 06 33.2**	**+4.9**
QIZ				XS		14 06 43.6	
QIZ				SS	SS	14 07 04.0	+5.3
QIZ				AMB	AMB		
	comp=Z,129nm,1.3s						
QIZ				AMB	AMB		
	comp=Z,1μm,3.3s						
QIZ				LR	LR		
	comp=N,4μm,17.2s,MS4.9						
QIZ				LR	LR		
	comp=E,3μm,16.9s,MS4.9						
QIZ				LR	LR		
	comp=Z,5μm,18.7s,MS4.8						
QIZ	**Qiongzhong**	**20.05**	**46**	*e*P	**P**	**14 02 52.0**	**+1.2**
	comp=Z,219nm,1.2s						
QIZ				*e*P		14 02 52.3	
SHL	**Shillong**	**20.14**	**353**	*e*P	**P**	**14 02 47.3**	**-4.5**
SHL				*e*P		14 02 48.9	
SHL				*e*		14 02 55.2	
	comp=Z,196nm,1.1s						
SHL				*e*S	**S**	**14 06 28.7**	**-1.4**
SHL				*e*S	**S**	**14 06 29.3**	**-0.8**
BLSP	**Bilaspur**	**20.48**	**325**	*e*P	**P**	**14 02 55.1**	**-0.2**
BLSP				*e*		14 02 57.3	
	comp=Z,348nm,1.1s						
BLSP				*e*S	**S**	**14 06 40.0**	**+3.2**
MNGI	**Mangalore**	**20.88**	**292**	*e*P	**P**	**14 03 01.1**	**+1.7**
GOA	**Goa**	**22.70**	**298**	⇑*e*	**P**	**14 03 12.7**	**-5.0**
GOA				*e*P		14 03 26.4	
GOA				*e*		14 03 29.1	
	comp=Z,102nm,1.1s						
GOA				*e*S	**S**	**14 07 30.1**	**+12**
GOA				*e*		14 07 35.8	
KAD	**Karad**	**23.18**	**302**	*e*P	**P**	**14 03 23.2**	**+0.9**
KAD				*e*S	**S**	**14 07 33.1**	**+6.6**
ALBI	**Allahabad**	**23.22**	**329**	*e*P	**P**	**14 03 21.0**	**-1.6**
JIRN	**Jiri**	**23.47**	**341**	*e*P	**P**	**14 03 24.5**	**-0.5**
	comp=Z,611nm,0.7s,mb6.1						
PKI	**Pulchoki**	**23.65**	**339**	*e*P	**P**	**14 03 26.2**	**-0.5**
	comp=Z,495nm,1.2s,mb5.8						
DMN	**Daman**	**23.79**	**339**	*e*P	**P**	**14 03 28.0**	**-0.1**
	comp=Z,355nm,0.9s,mb5.8						
GUN	**Gumba**	**23.80**	**341**	*e*P	**P**	**14 03 27.7**	**-0.5**
	comp=Z,857nm,0.8s,mb6.2						
KKN	**Kakani**	**23.89**	**339**	*e*P	**P**	**14 03 28.6**	**-0.5**
	comp=Z,710nm,1.0s,mb6.0						
POO	**Poona**	**24.05**	**304**	*e*P	**P**	**14 03 33.1**	**+2.4**
POO				*e*		14 03 35.7	
	comp=Z,127nm,1.1s						
BHPL	**Bhopal**	**24.21**	**319**	*e*P	**P**	**14 03 34.5**	**+2.2**
BHPL				*e*		14 03 37.2	
	comp=Z,275nm,1.1s						
BHPL				*e*		14 08 05.7	
LSA	**Lhasa**	**24.31**	**353**	P	**P**	**14 03 33.2**	**0.0**
LSA				AP		14 03 45.8	
LSA				XP		14 03 53.1	
LSA				S	**S**	**14 07 45.5**	**-0.4**
LSA				SCP		14 10 46.1	
LSA				AMB	AMB		
	comp=Z,270nm,1.0s,mb5.6						
LSA				AMB	AMB		
	comp=Z,660nm,5.5s						
LSA				LR	LR		
	comp=N,920nm,29.6s,MS4.3						
LSA				LR	LR		
	comp=E,1μm,27.6s,MS4.3						
LSA	**Lhasa**	**24.31**	**353**	*e*P	**P**	**14 03 33.2**	**0.0**
LSA				pmax	pmax		
	comp=Z,235nm,0.9s,mb5.6						
LSA				MLR	MLR		
	comp=Z,780nm,20.0s,MS4.2						
LSA	**Lhasa**	**24.31**	**353**	*e*P	**P**	**14 03 33.2**	**0.0**
	comp=Z,235nm,0.9s,mb5.6						
LSA				LR	LR		
	comp=Z,780nm,20.0s,MS4.2						
GKN	**Gorkha**	**24.32**	**338**	*e*P	**P**	**14 03 33.3**	**0.0**
	comp=Z,540nm,0.8s,mb6.0						
KOLN	**Koldanda**	**24.52**	**336**	*e*P	**P**	**14 03 35.9**	**+0.7**
	comp=Z,839nm,0.7s,mb6.4						
BOM	**Bombay**	**25.09**	**304**	*e*	Px	14 04 07.8	
	comp=Z,152nm,1.3s						
BOM				*e*S	**S**	**14 08 02.6**	**+3.7**
DGAR	**Diego Garcia**	**25.55**	**240**	PFAKE		14 04 00.0	+15
DGAR				LR	LR		
	comp=Z,641nm,20.0s,MS4.1						
TGY	**Tagaytay City**	**27.30**	**70**	P	**P**	**14 04 02.8**	**+1.5**
	comp=Z,168nm,0.5s,mb5.8,baz=227,slow=4.2,SNR=11						
TGY				LR	LR	14 14 07.1	
	comp=Z,1μm,20.2s,MS4.4,baz=160,slow=35						
PTH	**Pithoragarh**	**27.53**	**332**	*e*P	**P**	**14 04 03.0**	**-0.3**
AJM	**Ajmer**	**28.27**	**320**	*e*P	**P**	**14 04 09.0**	**-1.0**
AJM				*e*P		14 04 10.9	
AJM				*e*		14 04 13.4	
	comp=Z,74nm,1.7s						
KUDL	**Kundal**	**28.36**	**325**	*e*	**P**	**14 04 09.1**	**-1.6**
KUDL				*e*		14 04 12.6	
	comp=Z,23nm,0.3s						
NDI	**New Delhi**	**28.36**	**326**	*e*P	**P**	**14 04 09.7**	**-1.0**
NDI				*e*		14 04 14.1	
	comp=Z,73nm,1.6s						
ENH	**Enshi**	**28.37**	**28**	*e*P	**P**	**14 04 09.5**	**-1.3**
	comp=Z,29nm,0.5s,mb5.2						
KHET	**Khetri**	**28.70**	**324**	*e*P	**P**	**14 04 13.5**	**-0.3**
QZH	**Quanzhou**	**30.07**	**47**	P	**P**	**14 04 27.3**	**+1.4**
QZH				S	**S**	**14 09 22.7**	**+3.3**
QZH				LR	LR		
	comp=N,2μm,14.6s,MS5.3						
QZH				LR	LR		
	comp=E,4μm,15.0s,MS5.3						
QZH				LR	LR		
	comp=Z,6μm,22.6s						
SMLA	**Simla**	**30.32**	**329**	*e*	pP	14 04 41.4	+0.1
SMLA				*e*		14 04 43.8	
	comp=Z,97nm,2.0s						
BHK	**Bhakra**	**30.93**	**329**	*e*P	pP	14 04 45.8	-1.0
WHN	**Wuhan**	**31.09**	**34**	⇑P	**P**	**14 04 35.2**	**+0.2**
WHN				LR	LR		
	comp=Z,6μm,15.5s,MS5.4						
XAN	**Xi'an**	**31.37**	**23**	P	**P**	**14 04 36.5**	**-0.9**
XAN				AMB	AMB		
	comp=Z,76nm,1.2s,mb5.4						
XAN				LR	LR		
	comp=N,2μm,20.5s,MS4.9						
XAN				LR	LR		
	comp=E,1μm,19.1s,MS4.9						
XAN				LR	LR		
	comp=Z,1μm,18.7s,MS4.6						
LZH	**Lanzhou**	**31.62**	**14**	⇑P	**P**	**14 04 39.1**	**-0.5**
LZH				AP	pP	14 04 49.0	-3.8
LZH				XP	sP	14 04 52.7	-6.5
LZH				PP	PP	14 05 45.0	-0.3
LZH				*e*S	**S**	**14 09 45.0**	**+1.2**
LZH				XS		14 10 01.0	
LZH				SS	SS	14 11 37.0	+1.4
LZH				AMB	AMB		
	comp=Z,155nm,1.5s,mb5.6						
LZH				AMB	AMB		
	comp=Z,345nm,4.0s						
LZH				LR	LR		
	comp=N,2μm,12.9s						
LZH				LR	LR		
	comp=Z,2μm,13.4s,MS5.0						
TATO	**Taipei**	**32.26**	**50**	PFAKE		14 05 00.0	+15
TATO				LR	LR		
	comp=Z,3μm,20.0s,MS4.9						
NJ2	**Nanjing**	**34.83**	**38**	*e*P	**P**	**14 05 08.2**	**+0.9**
NJ2				AP	pP	14 05 18.1	-2.6
NJ2				XP	sP	14 05 21.4	-5.7
NJ2				PP	PP	14 06 24.3	-1.7
NJ2				PPP	PPP	14 06 42.5	-1.6
NJ2				S	**S**	**14 10 37.0**	**+3.4**
NJ2				XS		14 10 55.0	
NJ2				AMB	AMB		
	comp=Z,360nm,1.0s,mb6.3						
NJ2				AMB	AMB		
	comp=Z,650nm,5.1s						
NJ2				LR	LR		
	comp=N,4μm,16.0s,MS5.4						
NJ2				LR	LR		
	comp=E,3μm,15.1s,MS5.4						
NJ2				LR	LR		
	comp=Z,2μm,15.2s,MS5.0						
SSE	**Sheshan**	**35.66**	**41**	P	**P**	**14 05 15.9**	**+1.4**
SSE				XP	sP	14 05 28.7	-5.6
SSE				PP	PP	14 06 36.2	0.0
SSE				S	**S**	**14 10 49.6**	**+3.1**
SSE				XS		14 11 04.1	
SSE				AMB	AMB		
	comp=Z,45nm,0.9s,mb5.4						
SSE				AMB	AMB		
	comp=Z,260nm,6.3s						
SSE				LR	LR		
	comp=N,1μm,18.4s,MS4.8						
SSE				LR	LR		
	comp=E,1μm,18.4s,MS4.8						
SSE				LR	LR		
	comp=Z,2μm,20.7s,MS4.8						
TIA	**Tai'an**	**36.92**	**31**	P	**P**	**14 05 25.3**	**+0.3**
TIA				AMB	AMB		
	comp=Z,147nm,1.2s,mb5.7						
WBK	**Wadi Bani Khal**	**38.38**	**300**	⇑P	**P**	**14 05 40.2**	**+2.9**
	SNR=9.2						
JOW	**Kunigami**	**38.47**	**53**	P	**P**	**14 05 38.4**	**+0.3**
	comp=Z,31nm,0.4s,mb5.4,baz=249,slow=5.9,SNR=16						
JOW				LR	LR	14 21 21.5	
	comp=Z,2μm,20.9s,MS4.9,baz=280,slow=36						
FITZ	**Fitzroy Crossi**	**38.55**	**128**	*e*P	**P**	**14 05 38.0**	**-0.8**
	comp=Z,36nm,0.6s,mb5.3						
WMQ	**Urumqi**	**38.67**	**352**	*e*P	**P**	**14 05 39.6**	**+0.1**
WMQ				AP	pP	14 05 49.4	-3.6
WMQ				XP	sP	14 05 53.3	-5.9
WMQ				PP	PP	14 07 12.2	-0.1
WMQ				S	**S**	**14 11 33.3**	**+1.1**
WMQ				XS		14 11 49.5	
WMQ				AMB	AMB		
	comp=Z,52nm,1.2s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,376nm,5.2s						
WMQ				LR	LR		
	comp=N,9μm,20.4s,MS5.6						
WMQ				LR	LR		
	comp=E,6μm,22.4s,MS5.6						
WMQ				LR	LR		
	comp=Z,7μm,20.9s,MS5.5						
JMDO	**Jabal Madar**	**39.05**	**299**	⇑P	**P**	**14 05 45.2**	**+2.4**
	SNR=6.4						
BIDO	**Bidbid**	**39.43**	**301**	⇑P	**P**	**14 05 49.1**	**+3.1**
	SNR=15						
BJT	**Baijiatuau**	**39.49**	**26**	P	**P**	**14 05 48.0**	**+1.7**
BSY	**Bisya**	**39.96**	**299**	⇓P	**P**	**14 05 53.2**	**+2.8**
	SNR=7.5						
ULHL	**Ulahol**	**40.09**	**339**	P	**P**	**14 05 52.5**	**+1.2**
	SNR=12						
HOQ	**Hoqain**	**40.16**	**300**	⇑P	**P**	**14 05 54.5**	**+2.5**
	SNR=9.3						
KZA	**Kyzart**	**40.31**	**338**	P	**P**	**14 05 55.0**	**+1.9**
	SNR=20						
UCH	**Uchtor**	**40.72**	**337**	P	**P**	**14 05 57.7**	**+1.2**
	SNR=233						
ARQ	**Araqi**	**40.75**	**300**	⇓P	**P**	**14 05 59.3**	**+2.3**
	SNR=6.8						
TKM2	**Tokmak 2**	**40.91**	**339**	P	**P**	**14 05 58.6**	**+0.6**
	SNR=145						
KBK	**Karagaybulak**	**40.92**	**338**	P	**P**	**14 05 59.6**	**+1.5**
	SNR=269						
AML	**Almayashu**	**40.96**	**336**	P	**P**	**14 05 60.0**	**+1.4**
	SNR=14						
AAK	**Ala-Archa**	**41.07**	**337**	P	**P**	**14 06 00.7**	**+1.2**
	SNR=145						
AAK	**Ala-Archa**	**41.07**	**337**	*e*P	**P**	**14 05 59.3**	**-0.1**
AAK				pmax	pmax		
	comp=Z,148nm,1.0s,mb5.6						
AAK				MLR	MLR		
	comp=Z,159nm,20.0s,MS3.9						
AAK	**Ala-Archa**	**41.07**	**337**	*e*P	**P**	**14 05 59.3**	**-0.1**
	comp=Z,148nm,1.0s,mb5.6						
AAK				LR	LR		
	comp=Z,159nm,20.0s,MS3.9						
FRU	**Bishkek**	**41.20**	**338**	⇑*i*P	**P**	**14 06 01.5**	**+1.1**
FRU				*i*	pP	14 06 15.0	+1.0
FRU				*e*		14 12 11.5	
FRU				pmax	pmax		
	comp=Z,440nm,2.2s,mb5.7						
CHMS	**Chumysh**	**41.29**	**338**	P	**P**	**14 06 01.7**	**+0.6**
	SNR=63						
EKS2	**Erkin-Say**	**41.38**	**337**	P	**P**	**14 06 03.1**	**+1.2**
	SNR=89						
USP	**Ospenovka**	**41.61**	**338**	P	**P**	**14 06 04.4**	**+0.5**
	SNR=209						
KAKA	**Kakadu**	**41.71**	**116**	*e*P	**P**	**14 06 02.7**	**-2.4**
	comp=Z,14nm,0.4s,mb5.0						
WHFO	**Wadi Hawf**	**41.75**	**291**	⇓P	**P**	**14 06 06.5**	**+1.2**
	SNR=14						
ABTO	**Aybut**	**42.08**	**290**	⇑P	**P**	**14 06 09.5**	**+1.5**
MKAR	**Makanchi Array**	**42.51**	**347**	*i* P	**P**	**14 06 11.0**	**-0.2**
INCN	**Inchon**	**43.21**	**38**	*e*P	**P**	**14 06 16.7**	**-0.4**
	comp=Z,50nm,0.8s,mb5.3						
INCN				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
SONM	**Songino Array**	**43.39**	**12**	P	**P**	**14 06 18.3**	**-0.1**
	comp=Z,86nm,0.8s,mb5.5,baz=191,slow=7.9,SNR=452						
SONM				pP	pP	14 06 31.0	-1.0
	comp=Z,32nm,0.9s,baz=179,slow=6.9,SNR=6.1						
SONM				PcP	PcP	14 08 06.6	-0.1
	comp=Z,8.1nm,0.5s,baz=203,slow=3.8,SNR=12						
ULN	**Ulaanbaatar**	**43.56**	**12**	*e*P	**P**	**14 06 19.2**	**-0.5**
ULN				pmax	pmax		
	comp=Z,58nm,0.9s,mb5.3						
ULN				MLR	MLR		
	comp=Z,907nm,21.0s,MS4.7						
ULN	**Ulaanbaatar**	**43.56**	**12**	*e*P	**P**	**14 06 19.2**	**-0.6**
	comp=Z,58nm,0.9s,mb5.3						
ULN				LR	LR		
	comp=Z,907nm,21.0s,MS4.7						
NWAO	**Narrogin (SRO)**	**43.82**	**152**	PFAKE		14 06 30.0	+7.9
NWAO				LR	LR		
	comp=Z,1μm,19.0s,MS4.8						
SNY	**Shenyang**	**44.45**	**31**	⇑*i*P	**P**	**14 06 26.9**	**-0.1**
SNY				AP	pP	14 06 35.7	-4.9
SNY				XP	sP	14 06 39.5	-7.2
SNY				S	**S**	**14 12 58.8**	**+1.2**
SNY				AMB	AMB		
	comp=Z,110nm,1.0s,mb5.5						
SNY				AMB	AMB		
	comp=Z,270nm,3.3s						
SNY				LR	LR		
	comp=N,1μm,16.5s						
SNY				LR	LR		
	comp=Z,2μm,19.6s,MS5.0						
ZAK	**Zakamensk**	**45.34**	**8**	*e*P	**P**	**14 06 33.2**	**-0.8**
ZAK				*e*		14 08 12.4	
MOY	**Mondy**	**46.34**	**5**	*e*P	**P**	**14 06 42.0**	**+0.1**
WRA	**Warramunga Arr**	**46.52**	**124**	P	**P**	**14 06 43.3**	**-0.5**
	comp=Z,72nm,0.9s,mb5.6,baz=303,slow=9.0,SNR=200						
WRA				pP	pP	14 06 57.5	+0.1
	comp=Z,54nm,1.0s,baz=302,slow=9.4,SNR=8.6						
WRA				ScP		14 12 07.0	
	comp=Z,1.9nm,0.7s,baz=313,slow=3.6,SNR=6.2						
WRAB	**Tennant Creek**	**46.53**	**124**	*c i*P	**P**	**14 06 43.8**	**0.0**
WRAB	**Tennant Creek**	**46.53**	**124**	*e*P	**P**	**14 06 43.3**	**-0.4**
	comp=Z,155nm,0.9s,mb5.9						
WRAB				LR	LR		
	comp=Z,301nm,19.0s,MS4.3						
WB2	**Warramunga Arr**	**46.53**	**124**	*e*P	**P**	**14 06 43.3**	**-0.5**
TLY	**Talaya**	**46.66**	**8**	*e*P	**P**	**14 06 44.5**	**+0.1**
TLY				pmax	pmax		
	comp=Z,58nm,1.1s,mb5.4						
TLY				MLR	MLR		
	comp=Z,1μm,22.0s,MS4.8						
TLY	**Talaya**	**46.66**	**8**	*e*P	**P**	**14 06 44.5**	**+0.1**
	comp=Z,28nm,0.8s,mb5.2						
TLY				LR	LR		
	comp=Z,289nm,19.0s,MS4.2						
IRK	**Irkutsk**	**47.29**	**8**	*e*P	**P**	**14 06 48.8**	**-0.6**
IRK				*e*	pP	14 07 02.4	-0.7
IRK				*e*		14 08 36.4	
IRK				*e*		14 17 05.5	
ASPA	**Alice Springs**	**48.05**	**129**	*e*P	**P**	**14 06 55.1**	**-0.6**
ASAR	**Alice Springs**	**48.05**	**129**	P	**P**	**14 06 55.0**	**-0.6**
	comp=Z,18nm,0.6s,mb5.3,baz=298,slow=8.0,SNR=130						
ASAR				pP	pP	14 07 09.1	-0.3
	comp=Z,24nm,0.7s,baz=307,slow=7.7,SNR=10						
ASAR				PcP	PcP	14 08 23.1	-0.2
	comp=Z,8.6nm,0.9s,baz=304,slow=3.6,SNR=4.3						
ASAR				LR	LR	14 25 50.0	
	comp=Z,358nm,21.4s,MS4.3,baz=299,slow=34						
FORT	**Forrest**	**48.20**	**140**	*e*P	**P**	**14 06 57.5**	**+0.7**
	comp=Z,76nm,0.7s,mb5.8						
HIA	**Hailar**	**48.55**	**22**	*e*P	**P**	**14 06 58.6**	**-0.6**
HIA				pmax	pmax		
	comp=Z,34nm,0.6s						
HIA	**Hailar**	**48.55**	**22**	*e*P	**P**	**14 06 58.6**	**-0.5**
	comp=Z,34nm,0.6s,mb5.5						
MDJ	**Mudanjiang**	**49.54**	**33**	P	**P**	**14 07 07.5**	**+0.6**
MDJ				XP	sP	14 07 21.7	-4.9
MDJ				PCP	PcP	14 08 28.2	-0.2
MDJ				S	**S**	**14 14 12.7**	**+3.0**
MDJ				AMB	AMB		
	comp=Z,97nm,1.4s,mb5.6						
MDJ				AMB	AMB		
	comp=Z,236nm,6.7s						
MDJ				LR	LR		
	comp=N,428nm,19.5s,MS4.8						
MDJ				LR	LR		
	comp=E,1μm,21.1s,MS4.8						
MDJ				LR	LR		
	comp=Z,1μm,19.5s,MS4.9						
MDJ	**Mudanjiang**	**49.54**	**33**	*e*P	**P**	**14 07 07.4**	**+0.5**
	comp=Z,81nm,1.0s,mb5.7						
NVS	**Novosibirsk**	**50.07**	**351**	*i* P	**P**	**14 07 09.4**	**-1.4**
NVS				*i*	pP	14 07 23.8	-0.8
NVS				pmax	pmax		
	comp=N,171nm,1.0s						
NVS				pmax	pmax		
	comp=E,79nm,1.0s						
NVS				pmax	pmax		
	comp=Z,221nm,1.0s,mb6.1						
CBIJ	**Chichi jima**	**50.09**	**59**	LR	LR	14 29 13.5	
	comp=Z,295nm,18.2s,MS4.3,baz=256,slow=37						
GUMO	**Guam**	**50.14**	**77**	PFAKE		14 07 20.0	+8.1
GUMO				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
JHJ	**Hachijo jima 2**	**50.17**	**51**	LR	LR	14 27 03.2	
	comp=Z,751nm,22.0s,MS4.7,baz=68,slow=34						
MAJO	**Matsushiro**	**50.45**	**46**	*e*P	**P**	**14 07 13.3**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2						
MAJO				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.1						
MAJO	**Matsushiro**	**50.45**	**46**	*e*P	**P**	**14 07 13.3**	**-0.7**
	comp=Z,16nm,0.7s,mb5.2						
MAJO				LR	LR		
	comp=Z,2μm,21.0s,MS5.1						
MAT	**Matsushiro**	**50.45**	**46**	*e*P	**P**	**14 07 14.0**	**0.0**
MAT				pmax	pmax		
	comp=Z,58nm,1.3s,mb5.5						
MAT				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.8						
MAT	**Matsushiro**	**50.45**	**46**	*e*P	**P**	**14 07 14.0**	**0.0**
	comp=Z,58nm,1.3s,mb5.5						
MAT				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
MAT	**Matsushiro**	**50.45**	**46**	P	**P**	**14 07 13.5**	**-0.5**
BVA0	**Borovoye Array**	**51.39**	**342**	P	**P**	**14 07 20.4**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
BVAR	**Borovoye Array**	**51.39**	**342**	P	**P**	**14 07 20.4**	**-0.4**
	comp=Z,147nm,0.8s,mb6.0,baz=143,slow=7.4,SNR=470						
BVAR				pP	pP	14 07 34.8	+0.1
	comp=Z,105nm,0.8s,baz=166,slow=6.1,SNR=15						
BRVK	**Borovoye**	**51.45**	**341**	*e*P	**P**	**14 07 20.7**	**-0.6**
BRVK				*e**SP	sP	14 07 34.4	-6.7
BRVK				pmax	pmax		
	comp=Z,153nm,0.9s,mb5.9						
BRVK				MLR	MLR		
	comp=Z,143nm,20.0s,MS4.0						
BRVK	**Borovoye**	**51.45**	**341**	*e*P	**P**	**14 07 20.6**	**-0.7**
	comp=Z,153nm,0.9s,mb5.9						
BRVK				*e*sP	sP	14 07 34.4	-6.6
BRVK				LR	LR		
	comp=Z,143nm,20.0s,MS4.0						
CHKZ	**Chkalovo**	**51.88**	**342**	*e*P	**P**	**14 07 24.1**	**-0.4**
CHKZ				*e**SP	sP	14 07 38.2	-6.1
CHKZ				pmax	pmax		
	comp=Z,437nm,0.9s,mb6.4						
CHKZ	**Chkalovo**	**51.88**	**342**	*e*P	**P**	**14 07 24.1**	**-0.4**
	comp=Z,437nm,0.9s,mb6.4						
CHKZ				*e*sP	sP	14 07 38.2	-6.1
KLR	**Kul'dur**	**53.71**	**29**	⇓*i*P	**P**	**14 07 34.8**	**-3.4**
KLR				*e*S		14 15 30.0	
KLR				pmax	pmax		
	comp=N,33nm,1.4s						
KLR				pmax	pmax		
	comp=E,52nm,1.4s						
KLR				pmax	pmax		
	comp=Z,74nm,1.4s,mb5.4						
KLR				MLR	MLR		
	comp=N,900nm,18.0s,MS5.1						
KLR				MLR	MLR		
	comp=E,1μm,18.0s,MS5.1						
BOD	**Bodaibo**	**54.36**	**13**	⇓*i*P	**P**	**14 07 41.7**	**-1.2**
PMG	**Port Moresby**	**54.42**	**106**	*e*P	**P**	**14 07 42.0**	**-1.9**
PMG				pmax	pmax		
	comp=Z,46nm,0.9s						
PMG	**Port Moresby**	**54.42**	**106**	P	**P**	**14 07 43.5**	**-0.4**
	comp=Z,30nm,0.7s,mb5.3,baz=322,slow=5.9,SNR=25						
PMG	**Port Moresby**	**54.42**	**106**	*e*P	**P**	**14 07 42.0**	**-1.9**
	comp=Z,46nm,0.9s,mb5.4						
GNI	**Garni**	**56.44**	**315**	*e*P	**P**	**14 07 49.8**	**-8.4**
GNI	**Garni**	**56.44**	**315**	*e*P	**P**	**14 07 57.3**	**-0.8**
GNI				pmax	pmax		
	comp=Z,187nm,1.6s						
GNI				MLR	MLR		
	comp=Z,320nm,19.0s						
GNI	**Garni**	**56.44**	**315**	P	**P**	**14 07 58.0**	**-0.2**
	comp=Z,34nm,0.9s,mb5.4,baz=1,1,slow=3.0,SNR=24						
GNI	**Garni**	**56.44**	**315**	*e*P	**P**	**14 07 57.3**	**-0.8**
	comp=Z,187nm,1.6s,mb5.9						
GNI				LR	LR

comp=E,10.0nm,1.1s
CLNS smax
comp=N,91nm,11.7s
CLNS smax
comp=Z,116nm,13.0s
CLNS smax
comp=E,55nm,11.9s
CLNS MLR MLR
comp=Z,2µm,21.0s,MS5.1
CLNS MLR MLR
comp=N,1µm,17.0s,MS4.9
CLNS MLR MLR
comp=E,300nm,22.0s,MS4.9
CTA Charters Tower 56.76 118 *e*P **P 14 07 59.6 -1.1**
comp=E,21nm,1.2s,mb5.0
CTA Charters Tower 56.76 118 *e*P **P 14 07 59.6 -1.1**
CTA pmax pmax
comp=Z,21nm,1.2s
CTA Charters Tower 56.76 118 P **P 14 08 00.1 -0.5**
comp=Z,22nm,1.1s,mb5.1,baz=296,slow=9.5,SNR=6.7
CTA pP pP 14 08 14.9 +0.2
comp=Z,51nm,1.3s,baz=284,slow=10,SNR=4.8
CTA LR LR 14 32 58.6
comp=Z,848nm,18.4s,MS4.9,baz=287,slow=37
CTAO Charters Tower 56.76 118 *e*P **P 14 07 59.2 -1.5**
CTAO MLR MLR
comp=Z,696nm,19.0s,MS4.8
ASAJ Asahikawa 56.93 40 LR LR 14 33 52.2
comp=Z,942nm,18.8s,MS4.9,baz=89,slow=38
KMBO Kilima Mbogo 57.65 265 *i* P **P 14 08 08.2 +1.1**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 57.65 265 P **P 14 08 07.2 +0.1**
comp=Z,3.2nm,0.8s,baz=62,slow=20,SNR=5.8
KMBO LR LR 14 28 48.5
comp=Z,1µm,21.6s,baz=96,slow=32
KMBO Kilima Mbogo 57.65 265 *e*P **P 14 08 08.7 +1.6**
comp=Z,5.9nm,1.1s,mb4.5
KMBO LR LR
comp=Z,1µm,22.0s,MS5.0
SVE Sverdlovsk 57.78 339⇑ *e*P **P 14 08 06.9 -0.5**
SVE pmax pmax
comp=Z,340nm,1.8s,mb6.1
ADE Adelaide 57.79 138 P **P 14 08 08.1 +0.3**
ZEI Tsey 58.10 318 *e*P **P 14 08 08.9 -0.9**
ZEI pmax pmax
comp=Z,39nm,0.8s,mb5.5
STKA Stephens Creek 58.14 133 *e*P **P 14 08 09.3 -0.9**
comp=Z,21nm,0.9s,mb5.2
STKA Stephens Creek 58.14 133 P **P 14 08 09.4 -0.8**
comp=Z,18nm,1.0s,mb5.1,baz=313,slow=6.0,SNR=19
STKA pP pP 14 08 24.4 +0.1
comp=Z,30nm,0.9s,baz=312,slow=8.0,SNR=11
STKA LR LR 14 32 46.1
comp=Z,749nm,21.4s,MS4.8,baz=283,slow=36
ARU Arti 58.26 337⇑ *i*P **P 14 08 06.4 -4.3**
ARU *e* 14 08 57.3
ARU *i* S **S 14 16 05.7 -1.5**
ARU *e* 14 17 51.3
ARU pmax pmax
comp=Z,103nm,1.1s,mb5.8
ARU Arti 58.26 337 *e*P **P 14 08 06.9 -3.8**
comp=Z,2.9nm,1.1s
YSS Yuzh-Sakhalins 58.39 37 *e*P **P 14 08 11.0 -0.8**
YSS *e* pP 14 08 21.5 -4.4
YSS pmax pmax
comp=Z,110nm,1.0s,mb5.8
YSS MLR MLR
comp=Z,1µm,18.0s,MS5.0
YSS Yuzh-Sakhalins 58.39 37 *e*P **P 14 08 11.6 -0.1**
comp=Z,124nm,1.1s,mb5.8
YSS LR LR
comp=Z,1µm,20.0s,MS5.0
ERZM Erzurum 58.74 314 *i* P **P 14 08 14.3 0.0**
EZM Erzurum 58.74 314 *e*P **P 14 08 08.2 -6.1**
KIV Kislovodsk 59.40 319 P **P 14 08 18.1 -0.7**
comp=Z,592nm,0.9s,mb6.6,SNR=14
KIV Kislovodsk 59.40 319*c* *i*P **P 14 08 17.5 -1.3**
KIV *e* 14 09 06.5
KIV *e*S **S 14 16 24.9 +2.7**
KIV pmax pmax
comp=Z,97nm,0.9s,mb5.8
KIV Kislovodsk 59.40 319 *e*P **P 14 08 17.4 -1.4**
comp=Z,133nm,1.1s,mb5.9
KIV LR LR
comp=Z,66nm,19.0s
GOF Gofitskoye 59.64 320 *i* P **P 14 08 18.0 -2.4**
GOF pmax pmax
comp=Z,50nm,1.1s,mb5.5
PTK Pertek 59.83 312 *e*P **P 14 08 15.4 -6.5**
ASF Jabal al Asfar 59.92 304 P **P 14 08 23.2 +0.7**
comp=Z,40nm,1.0s,mb5.4,baz=338,slow=3.7,SNR=28
ELZG Elazig 60.01 312 *i* P **P 14 08 22.6 -0.5**
GUMT Gumushane 60.29 314 *e*P **P 14 08 18.5 -6.5**
MALT Malatya 60.37 311 *e*P **P 14 08 24.7 -0.8**
MALT pmax pmax
comp=Z,69nm,1.5s,mb5.5
MALT Malatya 60.37 311 *e*P **P 14 08 24.7 -0.8**
comp=Z,68nm,1.5s,mb5.5
GZT Gaziantep 60.73 310 *i* P **P 14 08 27.7 -0.4**
MKRJ Makawir 60.82 303 P **P 14 08 29.6 +0.9**
GAZ Gaziantep 60.95 310 *e*P **P 14 08 25.7 -3.8**
KSHT Keshet 60.99 305 P **P 14 08 31.0 +1.1**
ZFRI Zfri 61.00 302 P **P 14 08 30.5 +0.5**
EIL Elat 61.03 301 P **P 14 08 30.6 +0.5**
EIL Elat 61.03 301 P **P 14 08 30.5 +0.4**
comp=Z,25nm,0.9s,mb5.3,baz=63,slow=4.9,SNR=17
EIL Elat 61.03 301 *e*P **P 14 08 30.5 +0.4**
comp=Z,60nm,1.3s,mb5.6
DRGI Dragot 61.04 303 P **P 14 08 31.0 +0.8**
GLH Golan-Tel Qazi 61.07 304 P **P 14 08 31.6 +1.2**
HMDT Nahal Hemdat 61.07 304 P **P 14 08 31.1 +0.7**
MBH Mount Berech 61.08 301 P **P 14 08 31.1 +0.6**
SOKR Solikamsk 61.19 339⇑ *i*P **P 14 08 28.5 -2.3**
SOKR pmax pmax
comp=Z,110nm,1.1s,mb5.9
SOKR MLR MLR
comp=Z,390nm,20.0s,MS4.6
MMLI Mount Malkishu 61.19 304 P **P 14 08 32.4 +1.2**
SOC Sochi 61.23 317 *e*P **P 14 08 28.4 -2.9**
SOC *e* 14 09 13.4
SOC *e*S **S 14 16 50.4 +4.7**
SOC pmax pmax
comp=Z,56nm,0.8s,mb5.8
SOC pmax pmax
comp=N,29nm,0.9s
SOC pmax pmax
comp=E,17nm,1.0s
BHL Bhannes 61.34 306 *e*P **P 14 08 32.9 +0.7**
COBT Iskenderun 61.51 309 *i* P **P 14 08 32.9 -0.4**
OFRI 'Ofer 61.59 304 P **P 14 08 34.7 +0.8**
HAF Haifa 61.59 304 P **P 14 08 34.8 +0.9**
KZIT Kziot 61.73 302 P **P 14 08 35.4 +0.5**
YAK Yakutsk 62.11 18*c* *i*P **P 14 08 35.2 -1.7**
YAK *e**PP pP 14 08 46.5 -4.7
YAK *e* 14 09 15.4
YAK *e* 14 10 54.9
YAK *e*S **S 14 16 55.1 -1.4**
YAK *e* 14 18 19.7
YAK *e*SS SS 14 20 55.1 -6.6
YAK pmax pmax
comp=Z,51nm,0.9s,mb5.7
YAK pmax pmax
comp=N,21nm,1.2s
YAK pmax pmax
comp=E,27nm,1.4s
YAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
YAK pmax pmax
comp=N,3.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK smax
comp=N,5.0nm,1.1s
YAK smax
comp=E,5.0nm,1.5s
YAK MLR MLR
comp=Z,590nm,16.0s,MS4.8
YAK MLR MLR
comp=N,273nm,13.0s,MS4.8
YAK MLR MLR
comp=E,380nm,14.0s,MS4.8
YAK Yakutsk 62.11 18 *e*P **P 14 08 34.9 -2.1**
comp=E,106nm,0.8s,mb6.0
YAK *e*sP sP 14 08 49.3 -7.7
YAK LR LR

comp=Z,875nm,22.0s,MS4.9
AVNT Avonos 63.18 311 *i* P **P 14 08 43.3 -1.1**
NIG Nigde 63.19 310 *e*P **P 14 08 44.6 +0.1**
ANN Anapa 63.20 318 *e*P **P 14 08 43.3 -1.2**
ANN *e*S **S 14 17 25.1 +15**
ANN pmax pmax
comp=Z,69nm,1.7s,mb5.5
CSS Prodhromos 63.45 306 *e*P **P 14 08 45.9 -0.3**
comp=Z,182nm,1.3s,mb6.0
IKL Isikli 63.45 308 *e*P **P 14 08 43.1 -3.1**
CTKT Corum 63.74 313 *i* P **P 14 08 46.9 -1.2**
TOO Toolangi 63.80 137 *e*P **P 14 08 49.6 +1.0**
comp=Z,1.1nm,0.8s
TOO *e* pP 14 09 03.4 +0.5
TOO Toolangi 63.80 137 *e*P **P 14 08 49.6 +1.0**
TOO *e* pP 14 09 03.4 +0.5
TOO pmax pmax
comp=Z,1.0nm,0.8s
BOYT Boyabat 63.88 314 *i* P **P 14 08 47.9 -1.1**
MBAR Mbarara 64.06 267 *i* P **P 14 08 50.7 +0.1**
MBAR Mbarara 64.06 267 *e*P **P 14 08 50.6 0.0**
comp=Z,13nm,1.3s,mb4.8
MBAR LR LR
comp=Z,328nm,21.0s,MS4.5
KAMT Kaman 64.20 311 *e*P **P 14 08 49.5 -1.6**
BRTR Keskin Array B 64.34 312 P **P 14 08 51.2 -0.9**
comp=Z,32nm,0.7s,mb5.4,baz=125,slow=7.4,SNR=150
BRTR pP pP 14 09 06.6 +0.3
comp=Z,26nm,0.9s,baz=123,slow=4.5,SNR=7.8
TOS Tosya 64.41 313 *e*P **P 14 08 49.8 -2.6**
HDMB Hadim 64.56 308 *e*P **P 14 08 52.4 -1.1**
CANT Cankiri 64.59 313 *e*P **P 14 08 51.8 -1.8**
ELDT Eldivan 64.70 312 *i* P **P 14 08 52.7 -1.6**
VOR Voronezh 64.80 326 *e*P **P 14 08 53.0 -1.8**
VOR pmax pmax
comp=Z,200nm,1.3s,mb6.0
BALT Daday 65.01 313 *i* P **P 14 08 55.6 -0.7**
ANTO Ankara 65.01 312 *e*P **P 14 08 54.4 -1.9**
SAFT Safranbolu 65.44 313 *e*P **P 14 08 58.8 -0.3**
KIZT Kizilcal 65.46 310 *e*P **P 14 08 57.2 -2.1**
SIM Simferopol' 65.48 317*c* *i*P **P 14 08 58.7 -0.6**
SIM pmax pmax
comp=Z,80nm,0.8s,mb5.8
SGKT Sivrigoynuk 65.73 312 *i* P **P 14 08 59.9 -1.1**
ISP Isparta 66.28 309 *e*P **P 14 09 01.1 -3.4**
ISP Isparta 66.28 309 *e*P **P 14 09 02.6 -1.9**
ISP pmax pmax
comp=Z,62nm,1.0s,mb5.6
ISP Isparta 66.28 309 *e*P **P 14 09 02.6 -1.9**
comp=Z,62nm,1.0s,mb5.6
MDU Mudurnu 66.33 312 *e*P **P 14 09 02.2 -2.5**
ESKT Eskisehir 66.38 311 *e*P **P 14 09 04.8 -0.4**
ESKT Eskisehir 66.38 311 *i* P **P 14 09 03.7 -1.4**
ELL Elmali 66.53 308 *e*P **P 14 09 06.5 +0.4**
HENT Hendek 66.65 312 *i* P **P 14 09 05.4 -1.3**
ALT Altintas 66.84 310 *e*P **P 14 09 06.7 -1.3**
FETY Fethiye 67.16 307 *e*P **P 14 09 09.3 -0.8**
MOS Moscow 67.36 329*a* *i*P **P 14 09 09.7 -1.2**
MOS *e* pP 14 09 24.7 -0.7
MOS *e* 14 09 37.4
MOS *e* 14 11 39.6
MOS *e*PPP PPP 14 13 11.9 -6.8
MOS *e*S S 14 17 51.8 -9.3
MOS *e* 14 19 04.3
MOS *e*SS SS 14 22 16.1 -7.2
MOS pmax pmax
comp=Z,500nm,1.7s,mb6.3
MOS pmax pmax
comp=Z,247nm,1.0s,mb6.2
DALT Dalyan (Mudla) 67.54 307 *e*P **P 14 09 12.7 +0.3**
OBN Obninsk 67.64 328*a* *i*P **P 14 09 10.3 -2.4**
OBN *e* 14 11 39.3
OBN *e*S S 14 18 01.4 -3.1
OBN pmax pmax
comp=Z,148nm,1.2s,mb5.9
OBN MLR MLR
comp=Z,400nm,19.0s,MS4.7
OBN Obninsk 67.64 328 *e*P **P 14 09 10.3 -2.4**
OBN *e*pP pP 14 09 20.6 -6.6
YLV Yalova 67.72 312 *e*P **P 14 09 11.8 -1.6**
ULDT Uludag 67.81 311 *i* P **P 14 09 13.2 -0.8**
SKR Severo-Kuril's 67.96 37 *e*P **P 14 09 06.5 -8.3**
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.1
ISK Istanbul-Kandi 68.06 312 *e*P **P 14 09 14.5 -1.1**
MA2 Magadan 68.67 27 *e*P **P 14 09 17.7 -1.3**
MA2 *e* 14 09 43.4
MA2 *e*S S 14 18 16.7 0.0
MA2 *e* 14 19 14.8
MA2 pmax pmax
comp=Z,30nm,0.9s,mb5.2
MA2 pmax pmax
comp=E,10.0nm,1.2s
MA2 pmax pmax
comp=N,10.0nm,0.8s
MA2 MLR MLR
comp=Z,1µm,22.0s,MS5.0
MA2 Magadan 68.67 27 *i* P **P 14 09 17.3 -1.7**
MA2 LR LR
comp=Z,620nm,20.0s,MS4.8
BNT Bandirma 68.76 311 *e*P **P 14 09 19.8 -0.2**
KDAG Bornova 68.90 309 *i* P **P 14 09 20.8 -0.1**
LSZ Lusaka 68.93 251 *e*P **P 14 09 21.9 +0.5**
LSZ *e**PP pP 14 09 32.7 -3.2
LSZ pmax pmax
comp=Z,20nm,1.3s,mb4.9
LSZ MLR MLR
comp=Z,1µm,20.0s,MS5.2
LSZ Lusaka 68.93 251 *e*P **P 14 09 21.9 +0.5**
comp=Z,20nm,1.3s,mb4.9
LSZ *e*pP pP 14 09 32.7 -3.1
LSZ LR LR
comp=Z,1µm,20.0s,MS5.2
MRMT Marmara Adasi 69.05 311 *e*P **P 14 09 20.8 -1.0**
PSN Preselentsi 69.26 315 *i* P **P 14 09 23.0 0.0**
TIRR Tirgusor 69.27 316 P **P 14 09 21.9 -1.1**
MFT Murefte 69.32 312 P **P 14 09 24.7 +1.3**
TIXI Tiksi 69.48 11⇑ *i*P **P 14 09 22.1 -1.7**
TIXI pmax pmax
comp=Z,168nm,1.3s,mb5.8
TIXI pmax pmax
comp=N,34nm,1.5s
TIXI pmax pmax
comp=E,37nm,1.8s
TIXI pmax pmax
comp=Z,221nm,1.2s,mb6.0
TIXI MLR MLR
comp=Z,1µm,21.0s,MS5.1
TIXI Tiksi 69.48 11 *i* P **P 14 09 22.4 -1.4**
TIXI LR LR
comp=Z,1µm,21.0s,MS5.1
KIS Kishinev 69.60 318 *e*P **P 14 09 24.0 -1.0**
KIS *i* pP 14 09 39.0 -0.5
KIS *i* 14 09 44.0
KIS pmax pmax
comp=Z,200nm,0.8s,mb6.1
CFR Carcaliu 69.63 316⇑ *i*P **P 14 09 24.2 -1.0**
LPK Lapseki 69.64 311 *e*P **P 14 09 24.9 -0.4**
PRD Provadia 69.71 314 *i* P **P 14 09 25.5 -0.2**
SANT Santorini 70.00 307 *e*P **P 14 09 26.5 -1.1**
comp=Z,216nm,1.3s,mb5.9
APE Apeiranthos 70.04 307 P **P 14 09 27.0 -0.9**
JMB Yambol 70.16 313 *i* P **P 14 09 29.0 +0.6**
ALN Alexandroupoli 70.26 311 *e*P **P 14 09 28.3 -0.9**
AKASG Malin Array Be 70.31 322 P **P 14 09 27.4 -1.8**
comp=Z,30nm,0.7s,mb5.4,baz=89,slow=5.3,SNR=15
AKASG pP pP 14 09 42.3 -1.5
comp=Z,26nm,0.8s,baz=90,slow=5.0,SNR=7.5
IDI Anoyia 70.31 305 P **P 14 09 29.7 +0.2**
comp=Z,66nm,0.7s,mb5.7,baz=100,slow=7.2,SNR=99
IDI pP pP 14 09 44.6 +0.5
comp=Z,45nm,0.7s,baz=55,slow=8.0,SNR=8.9
ISR Istrita 70.71 316⇑ *i*P **P 14 09 31.6 -0.2**
VRI Vrincioaia 70.74 317⇑ *i*P **P 14 09 32.1 +0.2**
SZH Strazhica 70.78 314 *i* P **P 14 09 31.5 -0.7**
DIM Dimitrovgrad 70.85 313 *i* P **P 14 09 33.0 +0.4**
KDZ Kurdzhali 70.86 312 *i* P **P 14 09 33.0 +0.3**
SEY Seymchan 70.90 24 *e*P **P 14 09 32.7 +0.1**
SEY *e* pP 14 09 51.9 +4.8
SEY 14 12 05.9
SEY *e*PPP PPP 14 13 56.2 +2.9
SEY *e*S S 14 18 46.5 +3.7

SEY pmax pmax
comp=Z,30nm,0.8s,mb5.3
GVD Gavdhos 70.91 305 *e*P **P 14 09 32.5 -0.7**
comp=Z,78nm,0.9s,mb5.6
PVL Pavlikeni 71.20 314 *i* P **P 14 09 35.5 +0.8**
MLR Muntele Rosu 71.20 316 P **P 14 09 34.7 0.0**
comp=Z,80nm,0.9s,mb5.7,baz=89,slow=1.6,SNR=148
MLR pP pP 14 09 50.0 +0.8
comp=Z,38nm,0.8s,baz=17,slow=6.9,SNR=6.4
MLR Muntele Rosu 71.20 316⇑ *i*P **P 14 09 34.7 0.0**
WAKE Wake Island 71.28 72 PFAKE 14 09 50.0 +14
WAKE LR LR
comp=Z,182µm,21.0s
RZN Rozhen 71.39 312 *i* P **P 14 09 35.5 -0.4**
PLD Plovdiv 71.46 313 *i* P **P 14 09 36.0 -0.3**
AOS Alonnisos 71.63 309 *e*P **P 14 09 36.2 -1.2**
OUR Ouranopolis 71.72 311 *e*P **P 14 09 37.2 -0.7**
MTUR Matau 71.76 316⇓ *i*P **P 14 09 37.7 -0.3**
PAIG Paliouri 71.89 310 *e*P **P 14 09 37.9 -1.0**
PGB Panagyurishte 71.93 313 *i* P **P 14 09 39.0 -0.1**
MMB Musomiste 72.10 312 *i* P **P 14 09 39.0 -1.1**
SRS Serrai 72.13 311 *e*P **P 14 09 38.8 -1.6**
MNK Minsk 72.18 326 P **P 14 09 37.0 -3.3**
XOR Xorichti 72.19 309 *e*P **P 14 09 39.0 -1.4**
CASY Casey 72.51 173 PFAKE 14 09 50.0 +7.9
CASY LR LR
comp=Z,1µm,20.0s,MS5.2
THE Thessaloniki 72.53 311 *e*P **P 14 09 41.4 -1.3**
VTS Vitosha 72.64 313 P **P 14 09 43.0 -0.3**
VTS Vitosha 72.64 313 *i* P **P 14 09 42.5 -0.8**
KNT Kendrikon 72.66 311 *e*P **P 14 09 41.8 -1.6**
AGG Agios Georgios 72.81 309 *e*P **P 14 09 42.1 -2.3**
LIT Litokhoron 72.82 310 *e*P **P 14 09 42.7 -1.8**
GRG Griva 73.00 311 *e*P **P 14 09 43.7 -1.8**
JOF Joensuu 73.20 335 *e*p **P 14 09 45.0 -1.2**
LVV L'vov 73.34 320 *e*P **P 14 09 46.8 -0.5**
LVV *e* 14 12 33.2
LVV *e*S S 14 19 10.0 -0.9
LVV *e* 14 20 07.8
BOLS Boljevac 73.72 314⇑ *i*P **P 14 09 48.6 -1.0**
FNA Florina 73.75 311 *e*P **P 14 09 48.1 -1.8**
SKO Skopje 73.85 312 *i* P **P 14 09 49.2 -1.2**
SKO pmax pmax
comp=Z,26nm,0.8s,mb5.2
SKO Skopje 73.85 312 *i* P **P 14 09 49.2 -1.2**
comp=Z,0.0nm,0.8s
VSU Vasula 73.87 330 *i* P **P 14 09 49.7 -0.5**
LVZ Lovozero 73.95 340 *i* P **P 14 09 49.0 -1.5**
KWP Kalwaria 74.15 320 *e*P **P 14 09 52.0 0.0**
KWP *e* pP 14 10 07.7 +1.1
KWP Kalwaria 74.15 320 *e*P **P 14 09 52.0 -0.1**
KWP *e* pP 14 10 07.7 +1.1
BZS Buzias 74.22 316⇑ P **P 14 09 52.3 -0.2**
APA Apatity 74.24 340⇓ *i*P **P 14 09 49.8 -2.4**
APA *i* pP 14 10 05.9 -0.9
APA pmax pmax
comp=Z,56nm,0.8s,mb5.5
KOLS Kolonicke sedl 74.30 319 *i* P **P 14 09 53.3 +0.4**
KOLS *e* 14 10 01.6
SVIS Svilajnac 74.31 314⇑ *i*P **P 14 09 51.7 -1.4**
IGT Igoumenitsa 74.41 309 *e*P **P 14 09 51.9 -1.9**
GRUS Gruza 74.62 314⇓ *i*P **P 14 09 54.0 -0.8**
SUW Suwalki 74.71 325 *e*P **P 14 09 53.8 -1.4**
SUW *e**SP sP 14 10 08.9 -6.4
SUW pmax pmax
comp=Z,260nm,1.0s,mb6.1
SUW Suwalki 74.71 325 *e*P **P 14 09 54.1 -1.1**
SUW *e* pP 14 10 09.2 -0.5
SUW Suwalki 74.71 325 *e*P **P 14 09 54.1 -1.1**
SUW *e* pP 14 10 09.2 -0.6
CRVS Cervenica-Dubn 74.83 319 *i* P **P 14 09 56.2 +0.3**
CRVS *e* pP 14 10 12.4 +1.9
FINES FINESS Array B 75.03 332 P **P 14 09 56.1 -0.8**
comp=Z,38nm,1.1s,mb5.2,baz=101,slow=6.1,SNR=47
FINES pP pP 14 10 11.3 -0.1
comp=Z,33nm,0.9s,baz=104,slow=7.9,SNR=12
FINES LR LR 14 46 52.6
comp=Z,405nm,18.9s,MS4.7,baz=166,slow=39
FINES FINESS Array B 75.03 332 P **P 14 09 56.1 -0.8**
FINES pP pP 14 10 11.3 -0.1
FINES LR LR 14 46 52.6
DIVS Divcibare 75.16 314⇓ *i*P **P 14 09 57.3 -0.7**
KECS Kecovo 75.40 319 *i* P **P 14 09 59.5 +0.3**
KECS *e* pP 14 10 14.4 +0.6
NIE Niedzica 75.65 320 *e*P **P 14 10 01.0 +0.4**
PSZ Piszkesteto 75.72 318 *e*P **P 14 10 00.8 -0.2**
PSZ *e**SP sP 14 10 15.2 -6.1
PSZ pmax pmax
comp=Z,65nm,0.9s,mb5.6
PSZ Piszkesteto 75.72 318⇑ *i*P **P 14 10 01.0 0.0**
OJC Ojcow 76.10 320 *e*P **P 14 10 03.2 0.0**
OJC *e* pP 14 10 18.4 +0.6
MAW Mawson 76.30 192 P **P 14 10 05.0 +1.0**
comp=Z,5.4nm,0.9s,mb4.5,baz=36,slow=7.9,SNR=4.6
MAW LR LR 14 40 08.0
comp=Z,361nm,18.3s,MS4.7,baz=40,slow=33
VYHS Vyhne 76.49 318 *i* P **P 14 10 05.4 0.0**
VYHS *e* pP 14 10 20.3 +0.2
RHK1 Bakonya 76.74 316 *e*P **P 14 10 06.9 0.0**
KOLL Kolacno 76.79 319 *i* P **P 14 10 07.5 +0.4**
KOLL *e* pP 14 10 23.2 +1.5
OKC Ostrava-Krasne 77.10 320 *e*P **P 14 10 09.5 +0.6**
OKC *e*pP pP 14 10 16.8 -6.7
OKC *e*sP sP 14 10 24.3 -4.8
TIP Timpagrande 77.14 309 *e*P **P 14 10 09.0 -0.3**
KEV Kevo 77.23 341 *e*p **P 14 10 08.1 -1.1**
comp=Z,46nm,0.8s,mb5.5
KEV Kevo 77.23 341 *e*P **P 14 10 08.1 -1.1**
KEV pmax pmax
comp=Z,47nm,0.8s,mb5.5
SMOL Smolenice 77.42 318 *i* P **P 14 10 11.1 +0.4**
MORC Moravsky Berou 77.48 320 *e*P **P 14 10 10.5 -0.5**
MORC *PP pP 14 10 22.4 -3.2
MORC *e**SP sP 14 10 26.4 -4.9
MORC pmax pmax
comp=Z,143nm,1.3s,mb5.7
MORC Moravsky Berou 77.48 320 *e*P **P 14 10 10.5 -0.5**
comp=Z,143nm,1.3s,mb5.7
MORC pP pP 14 10 22.4 -3.2
MORC *e*sP sP 14 10 26.4 -4.9
ZST Bratislava 77.61 318 *i* P **P 14 10 12.4 +0.7**
ZST *e* pP 14 10 27.1 +0.8
ARCES ARCESS Array B 77.66 340 P **P 14 10 11.6 0.0**
comp=Z,54nm,1.0s,mb5.4,baz=91,slow=5.6,SNR=66
ARCES pP pP 14 10 26.4 +0.2
comp=Z,72nm,1.0s,baz=104,slow=5.0,SNR=12
ARCES PP PP 14 13 09.4 +0.5
comp=Z,6.8nm,0.7s,baz=117,slow=8.1,SNR=4.1
ARCES LR LR 14 50 54.1
comp=Z,408nm,20.5s,MS4.7,baz=112,slow=41
ARCES ARCESS Array B 77.66 340 P **P 14 10 11.6 0.0**
ARCES pP pP 14 10 26.4 +0.2
ARCES PP PP 14 13 09.4 +0.5
ARCES LR LR 14 50 54.1
SOP Sopron 77.92 317 *e*P **P 14 10 13.5 +0.1**
VRAC Vranov 78.05 319 P **P 14 10 14.4 +0.3**
VRAC Vranov 78.05 319 P **P 14 10 14.2 +0.2**
comp=Z,18nm,0.9s,mb5.0,baz=86,slow=6.6,SNR=14
VRAC pP pP 14 10 29.0 +0.3
comp=Z,13nm,0.9s,baz=91,slow=6.7,SNR=5.2
GKP Gorka Klasztor 78.08 323 *e*P pP 14 10 29.3 +0.5
BILL Bilibino 78.13 21⇓ *i*P **P 14 10 13.5 -0.6**
BILL pmax pmax
comp=Z,39nm,1.2s,mb5.2
BILL MLR MLR
comp=Z,2µm,19.0s,MS5.4
BILL Bilibino 78.13 21 *e*P **P 14 10 12.9 -1.3**
comp=Z,1.5nm,0.3s
BILL LR LR
comp=Z,2µm,20.0s,MS5.4
VKA Vienna 78.14 318⇑ *i*P **P 14 10 14.4 -0.2**
comp=Z,224nm,1.5s,mb5.9
VKA Vienna 78.14 318⇑ *i*P **P 14 10 14.4 -0.2**
VKA pmax pmax
comp=Z,224nm,1.5s,mb5.9
DPC Dobruska-Polom 78.33 320 *e*P **P 14 10 16.5 +0.9**
DPC *e*x x 14 10 31.5
KSP Ksiaz 78.39 321 *e*P **P 14 10 15.6 -0.3**
KSP *e**PP pP 14 10 30.1 -0.5
KSP Ksiaz 78.39 321 *e*P **P 14 10 16.3 +0.4**
KSP *e* pP 14 10 30.7 +0.1
UPC Upice 78.54 320 *e*P **P 14 10 17.3 +0.6**
UPC *e*sP sP 14 10 31.1 -6.0

ARSA Arzberg 78.59 317⇑iP P 14 10 17.4 +0.3
comp=Z,231nm,1.7s,mb5.8
BOJS Bojanci 78.65 315 eP **P 14 10 17.1 -0.4**
BOJS e pP 14 10 32.0 -0.1
VAE Valguarnera 78.91 307 P **P 14 10 20.7 +1.6**
comp=Z,96nm,1.2s,mb5.6,baz=48,slow=2.6,SNR=11
LJU Ljubljana 79.19 316 eP **P 14 10 20.6 +0.2**
LJU e pP 14 10 36.1 +1.0
OBKA Obir 79.20 316⇑iP P 14 10 21.0 +0.5
comp=Z,186nm,1.7s,mb5.7
SUR Sutherland 79.37 236 eP **P 14 10 23.4 +1.7**
comp=Z,28nm,1.0s,mb5.2
SUR LR LR
comp=Z,255nm,19.0s,MS4.6
PRU Pruhonice 79.44 320 eP **P 14 10 22.4 +0.7**
PRU esP sP 14 10 37.6 -4.4
PVCC Panska Ves 79.46 320 eP **P 14 10 22.4 +0.6**
PVCC epP pP 14 10 30.9 -5.6
PVCC esP sP 14 10 37.5 -4.6
MOA Molln 79.48 318⇑iP P 14 10 21.9 0.0
comp=Z,39nm,0.9s,mb5.3
VOY Vojsko 79.63 316 eP **P 14 10 22.4 -0.4**
VOY e pP 14 10 37.8 +0.3
AQU L'Aquila 79.83 312 eP **P 14 10 24.0 0.0**
AQU pmax pmax
comp=Z,134nm,1.2s,mb5.8
AQU L'Aquila 79.83 312 eP **P 14 10 23.9 0.0**
comp=Z,134nm,1.2s,mb5.8
BRG Berggiesshubel 79.88 321 i P **P 14 10 24.3 +0.3**
BRG i pP 14 10 39.1 +0.4
BRG e 14 12 28.5
ROBS Robic 79.91 316 eP **P 14 10 23.5 -0.8**
ROBS e pP 14 10 39.9 +0.9
GEC2 GERESS Array S 79.91 319 eP **P 14 10 24.6 +0.4**
GEC2 pmax pmax
comp=Z,120nm,0.9s,mb5.8
GEC2 GERESS Array S 79.91 319 eP **P 14 10 24.6 +0.4**
comp=Z,120nm,0.9s,mb5.8
GERES GERESS Array B 79.91 319 P **P 14 10 24.7 +0.4**
comp=Z,64nm,0.8s,mb4.6,baz=90,slow=5.3,SNR=280
GERES pP pP 14 10 40.2 +1.3
comp=Z,37nm,0.9s,baz=90,slow=6.7,SNR=9.1
KHC Kasperske Hory 80.01 319 eP **P 14 10 25.1 +0.3**
KHC epP pP 14 10 33.5 -6.0
KHC esP sP 14 10 40.0 -5.1
KBA Koelnbreinsper 80.06 317⇑iP P 14 10 25.0 -0.1
comp=Z,74nm,1.4s,mb5.4
KBA Koelnbreinsper 80.06 317⇑iP P 14 10 25.0 -0.1
KBA pmax pmax
comp=Z,74nm,1.4s,mb5.4
RUE Ruedersdorf 80.09 322 eP **P 14 10 25.2 +0.1**
comp=Z,119nm,1.0s,mb5.8
RUE pP pP 14 10 34.1 -5.8
RUE esP sP 14 10 38.8 -6.7
WET Wettzell 80.47 319 eP **P 14 10 27.4 +0.2**
WET pmax pmax
comp=Z,70nm,1.1s,mb5.5
WET Wettzell 80.47 319 eP **P 14 10 27.4 +0.2**
comp=Z,70nm,1.1s,mb5.5
CLL Collm 80.50 321⇑iP P 14 10 27.0 -0.3
CLL i pP 14 10 42.4 +0.4
CLL pmax pmax
comp=Z,52nm,1.3s,mb5.3
CLL Collm 80.50 321⇑iP P 14 10 27.0 -0.3
comp=Z,52nm,1.3s,mb5.3
CLL i pP 14 10 42.4 +0.4
CLL Collm 80.50 321 ⇑P P 14 10 27.0 -0.3
comp=Z,logA/T=1.6,mb5.3
CLL i *SP sP 14 10 42.4 -5.3
CLL e 14 11 05.0
HFS Hagfors 80.75 330 P **P 14 10 28.3 -0.2**
comp=Z,11nm,0.8s,mb4.8,baz=90,slow=4.4,SNR=8.4
HFS pP pP 14 10 42.5 -0.7
comp=Z,10nm,0.6s,baz=108,slow=4.7,SNR=4.2
NKC Novy Kostel 80.80 320 eP **P 14 10 29.4 +0.5**
NKC esP sP 14 10 44.6 -4.7
WTTA Wattenberg 81.23 317⇑iP P 14 10 31.2 -0.1
comp=Z,740nm,3.2s
WTTA Wattenberg 81.23 317⇑iP P 14 10 31.2 -0.1
WTTA pmax pmax
comp=Z,740nm,3.2s
WATA Walderalm 81.28 317⇑iP P 14 10 31.0 -0.5
comp=Z,43nm,1.0s,mb5.3
WATA Walderalm 81.28 317⇑iP P 14 10 31.0 -0.5
WATA pmax pmax
comp=Z,43nm,1.0s,mb5.3
MOX Moxa 81.34 320 eP **P 14 10 32.0 +0.2**
MOX pmax pmax
comp=Z,62nm,1.6s,mb5.3
MOX Moxa 81.34 320 eP **P 14 10 32.0 +0.2**
comp=Z,62nm,1.6s,mb5.3
MOX Moxa 81.34 320 i P **P 14 10 32.0 +0.2**
comp=Z,logA/T=1.6,mb5.3
FUR Furstenfeldbru 81.50 318 eP **P 14 10 32.4 -0.2**
FUR pmax pmax
comp=Z,153nm,1.5s,mb5.7
FUR Furstenfeldbru 81.50 318 eP **P 14 10 32.4 -0.2**
comp=Z,153nm,1.5s,mb5.7
SQTA Sankt Quirin 81.52 317⇑iP P 14 10 32.7 -0.1
comp=Z,43nm,0.9s,mb5.4
SQTA Sankt Quirin 81.52 317⇑iP P 14 10 32.7 -0.1
SQTA pmax pmax
comp=Z,43nm,0.9s,mb5.4
GRA1 Grafenberg Arr 81.57 319 eP **P 14 10 33.6 +0.6**
comp=Z,94nm,1.1s,mb5.6
GRA1 e pP 14 10 48.8 +1.1
GRF Grafenberg Arr 81.57 319 eP **P 14 10 33.6 +0.6**
GRF e pP 14 10 48.8 +1.1
GRF pmax pmax
comp=Z,94nm,1.1s,mb5.6
GRF Grafenberg Arr 81.57 319 eP **P 14 10 33.6 +0.6**
GRF e pP 14 10 48.8 +1.1
GRF pmax pmax
comp=Z,94nm,1.1s,mb5.6
GRF Grafenberg Arr 81.57 319 eP **P 14 10 33.6 +0.6**
comp=Z,94nm,1.1s,mb5.6
GRF e pP 14 10 48.8 +1.1
MOTA Moosalm 81.60 317⇑iP P 14 10 32.9 -0.3
comp=Z,42nm,1.0s,mb5.3
MOTA Moosalm 81.60 317⇑iP P 14 10 32.9 -0.3
MOTA pmax pmax
comp=Z,42nm,1.0s,mb5.3
MAIM 81.99 313 P **P 14 10 33.8 -1.5**
NB2 NORSAR Subarra 82.03 331 P **P 14 10 34.3 -0.8**
comp=Z,18nm,0.8s,mb5.0,baz=93,slow=5.6
NB2 NORSAR Subarra 82.03 331 P **P 14 10 34.3 -0.8**
baz=93,slow=5.9
NOA NORSAR Array B 82.03 331 P **P 14 10 34.6 -0.5**
comp=Z,7.3nm,0.9s,mb4.6,baz=93,slow=5.5,SNR=8.2
NOA pP pP 14 10 50.2 +0.4
comp=Z,14nm,0.9s,baz=93,slow=5.5,SNR=9.2
NOA PP PP 14 13 45.0 -0.2
comp=Z,3.7nm,0.9s,baz=91,slow=8.7,SNR=3.6
NOA LR LR 14 55 06.1
comp=Z,336nm,19.9s,MS4.7,baz=100,slow=42
SARO Sassorosso 82.06 314 P **P 14 10 34.8 -0.9**
CLZ Clausthal 82.16 321 eP **P 14 10 36.1 +0.1**
comp=Z,53nm,1.1s,mb5.4
VALM 82.17 314 P **P 14 10 35.8 -0.4**
VINC Vinca 82.24 314 P **P 14 10 35.1 -1.5**
BSEG Bad Segeberg 82.24 324 eP **P 14 10 36.7 +0.4**
BACM 82.29 314 P **P 14 10 36.1 -0.7**
GRAM 82.30 314 P **P 14 10 36.4 -0.4**
DAVA Damuels 82.43 317⇑iP P 14 10 37.8 +0.4
comp=Z,209nm,2.3s,mb5.7
DAVOX Davos 82.43 316 P **P 14 10 38.3 +0.9**
comp=Z,80nm,0.8s,mb5.7,baz=116,slow=5.8,SNR=88
DAVOX pP pP 14 10 53.7 +1.5
comp=Z,45nm,0.7s,baz=150,slow=12,SNR=6.6
DAVOX Davos 82.43 316 P **P 14 10 38.3 +0.9**
DAVOX pP pP 14 10 53.7 +1.5
CODM 82.45 314 P **P 14 10 37.2 -0.5**
VSL Villasalto 82.87 309 eP **P 14 10 39.1 -0.8**
comp=Z,112nm,1.2s,mb5.8
PGF Pioggiola 83.09 312⇑iP P 14 10 41.2 +0.3
comp=Z,95nm,1.1s,mb5.4
PGF Pioggiola 83.09 312⇑iP P 14 10 41.2 +0.3
PGF pmax pmax
comp=Z,47nm,1.1s,mb5.4
SYO Syowa Base 83.27 197 ⇓iP P 14 10 42.5 +1.2
SYO Syowa Base 83.27 197 ‖sP sP 14 10 58.5 -3.2
PCP Plan Castagno 83.39 314 P **P 14 10 41.8 -0.6**
BFO Black Forest 83.47 318 eP **P 14 10 42.5 -0.2**
BFO pmax pmax
comp=Z,41nm,1.0s,mb5.4
BFO Black Forest 83.47 318 eP **P 14 10 42.5 -0.2**
comp=Z,41nm,1.0s,mb5.4
FIN Finale Ligure 83.63 314 P **P 14 10 43.7 0.0**
ORX Oropa 83.76 315 P **P 14 10 43.0 -1.3**
LANF Langenberg 83.80 319 eP **P 14 10 45.2 +0.8**
IMI Imperia 83.87 313 P **P 14 10 45.1 +0.2**
ROB Roburent 83.87 314 P **P 14 10 44.8 -0.1**
TRAV 83.93 315 P **P 14 10 43.8 -1.3**
ABH Alteburg 83.95 319 eP **P 14 10 46.4 +1.3**
MONE Monesi 83.96 314 P **P 14 10 44.9 -0.4**
NEGI Negi 84.01 313 P **P 14 10 45.0 -0.6**
RPZ Rata Peaks 84.04 135 LR LR 14 46 16.9
comp=Z,318nm,21.8s,MS4.7,baz=245,slow=34
SAOF Saorge 84.11 314 eP **P 14 10 46.5 +0.4**
WLS Welschbruch 84.12 318 eP **P 14 10 46.7 +0.7**
CDF Champ du Feu 84.17 318⇑iP P 14 10 46.1 -0.1
comp=Z,38nm,0.9s,mb5.2
CDF Champ du Feu 84.17 318⇑iP P 14 10 46.1 -0.1
CDF pmax pmax
comp=Z,19nm,0.9s,mb5.2
ENR Entracque 84.20 314 P **P 14 10 45.7 -0.8**
SBF Sospel 84.20 313⇑iP P 14 10 46.8 +0.3
comp=Z,235nm,0.9s,mb6.0
SBF Sospel 84.20 313⇑iP P 14 10 46.8 +0.3
SBF pmax pmax
comp=Z,118nm,0.9s,mb6.0
AUTN L'Aution 84.20 314 eP **P 14 10 47.1 +0.6**
REVF Revere 84.25 313 eP **P 14 10 46.8 0.0**
STV Sta Anna Valdi 84.27 314 P **P 14 10 46.1 -0.8**
RUP Ruppelstein 84.27 319 eP **P 14 10 47.9 +1.2**
RSP Reno Superiore 84.28 315 P **P 14 10 46.3 -0.6**
BHB Bricherasio 84.29 314 P **P 14 10 45.5 -1.4**
TOUF Mont Tournerai 84.33 314 eP **P 14 10 47.8 +0.6**
LSD Ceresole Reale 84.34 315 P **P 14 10 48.0 +0.8**
MVIF Mont Vial 84.41 313 eP **P 14 10 48.3 +0.7**
PZZ Prazzo 84.42 314 P **P 14 10 46.3 -1.3**
FENE Fenestrelle 84.43 315 P **P 14 10 47.1 -0.5**
HINF Hinteralfeld 84.47 317 eP **P 14 10 47.2 -0.6**
LPG La Plagne 84.63 315 eP **P 14 10 49.2 +0.6**
comp=Z,140nm,0.9s,mb5.8
LPG La Plagne 84.63 315 eP **P 14 10 49.2 +0.6**
LPG pmax pmax
comp=Z,70nm,0.9s,mb5.8
RRL Cesana Torines 84.63 315 P **P 14 10 48.2 -0.4**
LPL La Plagne 84.64 315⇑iP P 14 10 49.3 +0.6
comp=Z,175nm,0.9s,mb5.9
LPL La Plagne 84.64 315⇑iP P 14 10 49.3 +0.6
LPL pmax pmax
comp=Z,87nm,0.9s,mb5.9
OG01 Vacheresse 84.64 316 eP **P 14 10 46.8 -1.9**
KIWB Kanaga Island 84.64 39 eP **P 14 10 47.9 -0.7**
MBDF Montbardon 84.64 314⇑iP P 14 10 48.4 -0.3
comp=Z,70nm,1.0s,mb5.4
MBDF Montbardon 84.64 314⇑iP P 14 10 48.4 -0.3
MBDF pmax pmax
comp=Z,35nm,1.0s,mb5.4
BNI Bardonecchia 84.70 315 eP **P 14 10 48.6 -0.4**
BNI pmax pmax
comp=Z,64nm,1.1s,mb5.7
BNI Bardonecchia 84.70 315 eP **P 14 10 48.6 -0.4**
comp=Z,64nm,1.1s,mb5.7
RSL Roselend 84.71 315 eP **P 14 10 49.4 +0.4**
FRF La Foret Royal 84.78 313⇑iP P 14 10 49.9 +0.4
comp=Z,177nm,0.9s,mb5.9
FRF La Foret Royal 84.78 313⇑iP P 14 10 49.9 +0.4
FRF pmax pmax
comp=Z,89nm,0.9s,mb5.9
HAU Haudompre 84.80 318⇑iP P 14 10 49.2 -0.2
comp=Z,120nm,0.9s,mb5.7
HAU eR
comp=Z,367nm,17.5s
HAU Haudompre 84.80 318⇑iP P 14 10 49.2 -0.2
HAU pmax pmax
comp=Z,60nm,0.9s,mb5.7
HAU MLR MLR
comp=Z,370nm,17.5s,MS4.8
LMR La Mourre 84.89 313⇑iP P 14 10 50.3 +0.3
comp=Z,167nm,1.2s,mb5.8
LMR La Mourre 84.89 313⇑iP P 14 10 50.3 +0.3
LMR pmax pmax
comp=Z,83nm,1.2s,mb5.7
THEF They Montfort 85.03 318 eP **P 14 10 51.0 +0.4**
CABF La Chapelle 85.04 316⇑iP P 14 10 51.1 +0.4
comp=Z,68nm,0.9s,mb5.5
CABF La Chapelle 85.04 316⇑iP P 14 10 51.1 +0.4
CABF pmax pmax
comp=Z,34nm,0.9s,mb5.5
OG25 Le Caire 85.16 314 eP **P 14 10 50.9 -0.4**
ORIF Oris-en-Rattie 85.27 315⇑iP P 14 10 52.0 +0.2
comp=Z,60nm,0.9s,mb5.4
ORIF eR
comp=Z,444nm,18.0s
OG05 Jujurieux 85.51 316 eP **P 14 10 53.5 +0.5**
SMRF Simiane la Rot 85.54 314⇑iP P 14 10 54.1 +0.9
comp=Z,87nm,1.1s,mb5.6
MEZF Maizieres J'vi 85.64 318 eP **P 14 10 53.7 +0.1**
GIVF Givet 85.70 320 eP **P 14 10 53.9 +0.1**
comp=Z,71nm,1.2s,mb5.5
GIVF Givet 85.70 320 eP **P 14 10 53.9 +0.1**
GIVF pmax pmax
comp=Z,36nm,1.2s,mb5.5
BAIF Baives 86.10 320⇑iP P 14 10 56.3 +0.6
comp=Z,61nm,0.9s,mb5.5
BAIF Baives 86.10 320⇑iP P 14 10 56.3 +0.6
BAIF pmax pmax
comp=Z,31nm,0.9s,mb5.5
VIVF Saint-Julien-l 86.13 315⇑iP P 14 10 56.4 +0.4
comp=Z,91nm,1.1s,mb5.6
VIVF Saint-Julien-l 86.13 315⇑iP P 14 10 56.4 +0.4
VIVF pmax pmax
comp=Z,46nm,1.1s,mb5.6
SMF Signal de Mont 86.58 316⇑iP P 14 10 58.2 0.0
comp=Z,109nm,1.0s,mb5.7
SMF Signal de Mont 86.58 316⇑iP P 14 10 58.2 0.0
SMF pmax pmax
comp=Z,54nm,1.0s,mb5.7
LASF Ste Croix 86.77 314⇑iP P 14 10 59.9 +0.7
comp=Z,85nm,1.1s,mb5.6
SSF Saint Saulge 86.78 317⇑iP P 14 10 59.4 +0.2
comp=Z,42nm,1.3s,mb5.5
SSF Saint Saulge 86.78 317⇑iP P 14 10 59.4 +0.2
SSF pmax pmax
comp=Z,42nm,1.3s,mb5.5
PLDF La Plantade 86.79 316 eP **P 14 11 01.3 +2.1**
AVF Avril sur Loir 86.91 317⇑iP P 14 10 59.9 +0.1
comp=Z,93nm,1.1s,mb5.6
AVF Avril sur Loir 86.91 317⇑iP P 14 10 59.9 +0.1
AVF pmax pmax
comp=Z,47nm,1.1s,mb5.6
LBL Lubilhac 87.11 315 eP **P 14 11 03.3 +2.5**
AGO Saint Agoulin 87.12 316 eP **P 14 11 03.0 +2.1**
PYM Petit Puy Mans 87.23 316 eP **P 14 11 03.3 +1.9**
BGF Bois d'Agland 87.28 316⇑iP P 14 11 02.1 +0.5
comp=Z,100nm,1.1s,mb5.7
BGF Bois d'Agland 87.28 316⇑iP P 14 11 02.1 +0.5
BGF pmax pmax
comp=Z,50nm,1.1s,mb5.7
HYF Humbligny 87.35 317 eP **P 14 11 02.7 +0.7**
URZ Urewera 87.49 129 P **P 14 11 02.1 -0.7**
comp=Z,26nm,1.1s,mb5.4,baz=223,slow=1.7,SNR=9.3
URZ LR LR 14 51 33.7
comp=Z,249nm,19.0s,MS4.6,baz=246,slow=36
EJON La Jonquera 87.61 312 P **P 14 11 04.1 +0.8**
comp=Z,23nm,1.0s,mb5.4
TCF Toulx Ste Croi 87.74 316⇑iP P 14 11 04.3 +0.5
comp=Z,92nm,1.4s,mb5.5
TCF Toulx Ste Croi 87.74 316⇑iP P 14 11 04.3 +0.5
TCF pmax pmax
comp=Z,46nm,1.4s,mb5.5
CAF Calviac 87.97 315⇑iP P 14 11 05.8 +0.8
comp=Z,58nm,1.1s,mb5.4
CAF Calviac 87.97 315⇑iP P 14 11 05.8 +0.8
CAF pmax pmax
comp=Z,29nm,1.1s,mb5.4
MTLF Montolieu 88.02 313⇑iP P 14 11 05.9 +0.7
comp=Z,70nm,1.0s,mb5.5
MTLF Montolieu 88.02 313⇑iP P 14 11 05.9 +0.7
MTLF pmax pmax
comp=Z,35nm,1.0s,mb5.5
TNA Tin City 88.14 24 eP **P 14 11 05.4 +0.1**
comp=Z,33nm,1.1s,mb5.5
TNA LR LR
comp=Z,540nm,20.0s,MS5.0
RJF Les Rejaudoux 88.32 315⇑iP P 14 11 07.5 +0.9
comp=Z,70nm,1.0s,mb5.5
RJF eR
comp=Z,569nm,17.0s
RJF Les Rejaudoux 88.32 315⇑iP P 14 11 07.5 +0.9
RJF pmax pmax
comp=Z,35nm,1.0s,mb5.5
RJF MLR MLR
comp=Z,570nm,17.0s,MS5.1
EMIR Miracle 88.67 312 P **P 14 11 09.9 +1.6**
comp=Z,68nm,0.9s,mb6.0
LFF La Frestale 88.91 315⇑iP P 14 11 10.4 +1.0
comp=Z,80nm,1.0s,mb5.7
LFF La Frestale 88.91 315⇑iP P 14 11 10.4 +1.0
LFF pmax pmax
comp=Z,40nm,1.0s,mb5.7
LDF La Druitiere 89.06 319⇑iP P 14 11 10.4 +0.4
comp=Z,58nm,0.9s,mb5.6
LDF La Druitiere 89.06 319⇑iP P 14 11 10.4 +0.4
LDF pmax pmax
comp=Z,29nm,0.9s,mb5.6
EPOB Poblet 89.07 311 P **P 14 11 11.3 +1.0**
comp=Z,70nm,0.9s,mb6.0
EIBI Ibiza 89.12 309 P **P 14 11 12.2 +1.6**
comp=Z,97nm,1.1s,mb6.0
FLN La Foliniere 89.27 319⇑iP P 14 11 11.3 +0.2
comp=Z,74nm,1.0s,mb5.7
FLN La Foliniere 89.27 319⇑iP P 14 11 11.3 +0.2
FLN pmax pmax
comp=Z,37nm,1.0s,mb5.7
MFF Saint Martin d 89.32 317⇑iP P 14 11 11.8 +0.5
comp=Z,141nm,1.4s,mb5.8
MFF Saint Martin d 89.32 317⇑iP P 14 11 11.8 +0.5
MFF pmax pmax
comp=Z,71nm,1.4s,mb5.8
EPF Esparros 89.42 313 eP **P 14 11 12.0 +0.1**
EBR Ebro Roquetas 89.57 311 eP **P 14 11 14.3 +1.7**
EBIE Bielsa 89.60 313 P **P 14 11 14.0 +1.3**
comp=Z,18nm,0.9s,mb5.4
ERTA Horta de San J 89.67 311 P **P 14 11 14.3 +1.2**
comp=Z,83nm,1.2s,mb5.9
DAG Danmarks Havn 89.90 348⇓iP P 14 11 12.9 -0.5
DAG pmax pmax
comp=Z,11nm,0.6s,mb5.4
DAG Danmarks Havn 89.90 348⇓iP P 14 11 12.9 -0.5
comp=Z,11nm,0.6s,mb5.4
EKA Eskdalemuir Ar 89.94 326 P **P 14 11 14.9 +0.9**
comp=Z,12nm,0.8s,mb5.3,baz=100,slow=6.2,SNR=13
EKA pP pP 14 11 29.8 +0.7
comp=Z,15nm,1.0s,baz=100,slow=5.1,SNR=6.4
ETSF Etsaut 90.09 313⇑iP P 14 11 16.1 +1.1
comp=Z,62nm,1.0s,mb5.6
ETSF Etsaut 90.09 313⇑iP P 14 11 16.1 +1.1
ETSF pmax pmax
comp=Z,31nm,1.0s,mb5.6
ESAC San Caprasio 90.17 312 P **P 14 11 16.5 +1.0**
comp=Z,61nm,0.9s,mb5.9
EMOS Mosqueruela 90.35 310 P **P 14 11 18.2 +1.8**
comp=Z,123nm,1.0s,mb6.2
VNDA Vanda 90.50 168 P **P 14 11 17.8 +1.5**
comp=Z,3.2nm,1.0s,mb4.6,baz=286,slow=4.6,SNR=5.7
VNDA LR LR 14 47 53.8
comp=Z,430nm,18.8s,MS4.9,baz=102,slow=33
SJPF Ste Jean 90.54 313⇑iP P 14 11 18.3 +1.1
comp=Z,64nm,1.1s,mb5.6
SJPF Ste Jean 90.54 313⇑iP P 14 11 18.3 +1.1
SJPF pmax pmax
comp=Z,32nm,1.1s,mb5.6
SGMF Saint Gilles 90.71 318 eP **P 14 11 18.3 +0.5**
EALK Alkurruntz 90.73 313 P **P 14 11 19.0 +0.9**
comp=Z,39nm,1.1s,mb5.7
QUIF Quistinic 91.17 318 eP **P 14 11 20.1 +0.1**
comp=Z,130nm,1.3s,mb5.8
QUIF Quistinic 91.17 318 eP **P 14 11 20.1 +0.1**
QUIF pmax pmax
comp=Z,65nm,1.3s,mb5.8
ROSF Rostrenen 91.17 319 eP **P 14 11 20.2 +0.2**
comp=Z,205nm,1.3s,mb6.0
ROSF Rostrenen 91.17 319 eP **P 14 11 20.2 +0.2**
ROSF pmax pmax
comp=Z,102nm,1.3s,mb6.0
SBA Scott Base 91.61 168 P **P 14 11 23.0 +1.6**
ELAN Lanestosa 92.12 314 P **P 14 11 25.5 +1.0**
comp=Z,34nm,1.2s,mb5.5
EVIA Vianos 92.15 309 P **P 14 11 26.5 +1.8**
EVIA pmax pmax
comp=Z,38nm,1.0s,mb5.7
EVIA Vianos 92.15 309 P **P 14 11 26.4 +1.7**
comp=Z,38nm,1.0s,mb5.7
EBER Berja 92.72 307 P **P 14 11 28.7 +1.4**
comp=Z,72nm,1.2s,mb6.0
EQES Quesada 92.72 308 P **P 14 11 29.7 +2.3**
comp=Z,30nm,1.0s,mb5.7
GUD Guadarrama 93.09 311 P **P 14 11 30.9 +1.9**
GUD pmax pmax
comp=Z,28nm,0.8s,mb5.7
GUD Guadarrama 93.09 311 P **P 14 11 30.9 +1.9**
comp=Z,28nm,0.8s,mb5.7
ESDC Sonseca Array 93.11 310 P **P 14 11 30.4 +1.3**
comp=Z,11nm,0.8s,mb5.3,baz=59,slow=4.3,SNR=29
ESDC Sonseca Array 93.11 310 P **P 14 11 30.3 +1.2**
comp=Z,16nm,0.6s,mb5.6
EARI Arriondas 93.39 314 P **P 14 11 31.1 +0.9**
comp=Z,39nm,1.3s,mb5.7
IMA Indian Mountai 93.65 22 eP **P 14 11 32.0 +1.1**
IMA pmax pmax
comp=Z,503nm,1.4s
IMA Indian Mountai 93.65 22 eP **P 14 11 31.9 +1.1**
comp=Z,503nm,1.4s
EADA Adamuz 93.83 309 P **P 14 11 33.4 +1.0**
comp=Z,46nm,1.4s,mb5.7
EMIJ Mijas 94.26 307 P **P 14 11 35.0 +0.6**
comp=Z,18nm,1.0s,mb5.5
ESPR Espera 95.07 308 P **P 14 11 39.1 +1.0**
comp=Z,20nm,1.2s,mb5.4
QSPA South Pole Qui 95.40 180 PFAKE 14 11 50.0 +11
QSPA LR LR
comp=Z,1μm,20.0s,MS5.3
SPU Mount Spurr 96.21 27 eP **P 14 11 42.2 -0.4**
COLA College 96.36 22 PFAKE 14 11 50.0 +6.8
COLA LR LR
comp=Z,467nm,22.0s,MS4.9
MCK McKinley 96.45 24 eP **P 14 11 43.3 -0.4**
MCK pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
MCK MLR MLR
comp=Z,375nm,22.0s,MS4.8
MCK McKinley 96.45 24 eP **P 14 11 43.3 -0.4**
comp=Z,9.4nm,1.1s,mb5.1
MCK LR LR
comp=Z,375nm,22.0s,MS4.8
SUMG Summit 96.56 347 eP **P 14 11 44.9 +0.8**
comp=Z,23nm,1.0s,mb5.6
ILAR Eielson Array 96.77 22 P **P 14 11 45.0 -0.1**
comp=Z,2.4nm,0.9s,mb4.7,baz=293,slow=4.4,SNR=22
ILAR PP PP 14 15 38.8 -4.2
comp=Z,2.0nm,0.9s,baz=288,slow=7.0,SNR=4.1
ILAR LR LR 15 00 25.6
comp=Z,220nm,19.3s,MS4.7,baz=324,slow=38
FIB Fire Island 97.05 26 PFAKE 14 12 00.0 +14
FIB LR LR
comp=Z,834nm,20.0s,MS5.2
KDAK Kodiak Island 97.28 30 PFAKE 14 12 00.0 +12
KDAK LR LR
comp=Z,164nm,20.0s,MS4.5
DBIC Dimbokro 98.72 278 P **P 14 11 56.6 +1.5**
comp=Z,2.7nm,0.7s,mb4.9,baz=59,slow=8.7,SNR=5.4
DBIC pP pP 14 12 12.4 +2.2
comp=Z,4.2nm,0.7s,baz=68,slow=4.2,SNR=5.5
DIV Divide 98.97 25 PFAKE 14 12 10.0 +15
DIV LR LR
comp=Z,2μm,20.0s,MS5.6
INK Inuvik 99.15 16 eP **P 14 11 55.6 -0.2**
INK pmax pmax
comp=Z,25nm,1.2s
INK Inuvik 99.15 16 LR LR 15 03 48.7
comp=Z,474nm,20.9s,MS5.0,baz=242,slow=40
INK Inuvik 99.15 16 eP **P 14 11 55.6 -0.3**
comp=Z,25nm,1.2s,mb5.6
RES Resolute Bay 99.76 3 eP **P 14 11 59.0 +0.5**
RES pmax pmax
comp=Z,36nm,0.9s,mb5.8
RES Resolute Bay 99.76 3 eP **P 14 11 59.0 +0.5**
comp=Z,36nm,0.9s,mb5.8
DAWY Dawson 99.91 21 eP **P 14 11 59.5 +0.1**
SIT Sitka 105.70 26 PFAKE 14 16 50.0
SIT LR LR
comp=Z,695nm,20.0s,MS5.2
YKW3 Yellowknife Ar 108.57 14 P 14 16 43.1

YKA Yellowknife Ar 108.63 14 Pdiff Pdif 14 12 40.0 +2.0
comp=Z,2.2nm,1.1s,baz=327,slow=4.3,SNR=16
YKA PKiKP 14 16 42.7
comp=Z,2.9nm,1.1s,baz=332,slow=2.1,SNR=9.4
YKA PP PP 14 17 05.6 -7.4
comp=Z,2.4nm,0.8s,baz=339,slow=7.3,SNR=4.4
YKA Yellowknife Ar 108.63 14 Pdif Pdif 14 12 40.0 +2.0
YKA PKPdf 14 16 42.7
YKA PP PP 14 17 05.6 -7.4
FCC Fort Churchill 115.59 5 *e*PKIKP PKPdf 14 16 56.2 +0.7
EDM Edmonton 116.93 18 *e*PKIKP PKPdf 14 16 59.5 +1.3
SCHQ Schefferville 117.95 348 PKP PKPdf 14 17 02.2 +2.1
comp=Z,3.8nm,0.5s,baz=58,slow=9.1,SNR=15
PMSA Palmer Station 118.89 190 PFAKE 14 17 20.0 +18
PMSA LR LR
comp=Z,3μm,20.0s,MS5.9
NEW Newport 119.68 24 PFAKE 14 17 20.0 +16
NEW LR LR
comp=Z,543nm,19.0s,MS5.2
HUMO Hull Mountain 121.24 32 *e*P PKPdf 14 17 08.7 +1.8
HUMO *e*pP 14 17 27.0
HUMO LR LR
comp=Z,344nm,20.0s,MS5.0
YBH Yreka Blue Hor 121.98 32 PFAKE 14 17 20.0 +12
YBH LR LR
comp=Z,274nm,21.0s,MS4.9
MSO Missoula 122.11 23 *e*P PKPdf 14 17 09.5 +1.1
MSO *e*pP 14 17 26.7
MSO LR LR
comp=Z,381nm,20.0s,MS5.0
BMO Blue Mountains 122.30 26 *e*P PKPdf 14 17 09.0 +0.1
BMO LR LR
comp=Z,332nm,20.0s,MS5.0
WDC Whiskeytown Da 122.88 33 PFAKE 14 17 20.0 +10
WDC LR LR
comp=Z,184nm,19.0s,MS4.8
MOD Modoc 123.11 31 *e*P PKPdf 14 17 12.3 +1.8
MOD LR LR
comp=Z,309nm,20.0s,MS5.0
WVOR Wild Horse Val 123.55 29 *e*PKIKP PKPdf 14 17 13.4 +2.1
WVOR MLR MLR
comp=Z,298nm,19.0s,MS5.0
DGMT Dagmar 123.81 15 *e*P PKPdf 14 17 13.1 +1.4
DGMT LR LR
comp=Z,698nm,19.0s,MS5.3
BOZ Bozeman (W) 123.97 22 *e*PKIKP PKPdf 14 17 13.5 +1.4
BOZ MLR MLR
comp=Z,571nm,22.0s,MS5.2
MCMT McKenzie Canyo 124.19 23 *e*PKPdf PKPdf 14 17 14.7 +2.2
GCMT Greycliff 124.55 20 *e*PKPdf PKPdf 14 17 13.7 +0.5
HLID Hailey 124.59 25 PFAKE 14 17 30.0 +17
HLID LR LR
comp=Z,600nm,19.0s,MS5.3
QLMT Earthquake Lak 124.74 22 *e*PKPdf PKPdf 14 17 16.2 +2.6
LAO LASA Array 124.87 17 *e*PKPdf PKPdf 14 17 15.9 +2.1
LAO LR LR
comp=Z,755nm,20.0s,MS5.4
YMR Madison River 125.05 22 *e*PKPdf PKPdf 14 17 16.4 +2.2
YFT Old Faithful 125.28 22 *e*PKPdf PKPdf 14 17 18.6 +3.9
WCN Washoe City 125.29 32 *e*PKIKP PKPdf 14 17 17.2 +2.4
CMB Columbia Colle 125.86 34 *e*PKIKP PKPdf 14 17 16.9 +1.0
CMB MLR MLR
comp=Z,252nm,20.0s,MS4.9
MOOW Moose Ponds 125.92 23 *e*PKPdf PKPdf 14 17 17.8 +1.9
LOHW Long Hollow 126.09 23 *e*PKPdf PKPdf 14 17 18.1 +1.9
WUWY Wally Ulrich 126.09 23 *e*PKPdf PKPdf 14 17 18.0 +1.8
SNOW Snow King Moun 126.16 23 *e*PKPdf PKPdf 14 17 18.8 +2.5
AHID Auburn Hatcher 126.61 23 PFAKE 14 17 30.0 +13
AHID LR LR
comp=Z,454nm,19.0s,MS5.2
NVAR Mina Array Bea 126.70 32 PKP PKPdf 14 17 20.1 +2.5
comp=Z,11nm,0.8s,baz=11,slow=0.6,SNR=60
NVAR pPKP 14 17 35.2
comp=Z,2.7nm,0.8s,baz=358,slow=0.9,SNR=3.5
NVAR sPKP 14 17 41.5
comp=Z,5.6nm,0.9s,baz=264,slow=1.8,SNR=4.3
MNV Mina 126.78 32 *e*PKIKP PKPdf 14 17 19.9 +2.2
MNV MLR MLR
comp=Z,332nm,21.0s,MS5.0
BW06 Boulder Array 127.20 22 PFAKE 14 17 30.0 +12
BW06 LR LR
comp=Z,674nm,19.0s,MS5.3
PDAR Pinedale Array 127.21 22 PKP PKPdf 14 17 19.7 +1.3
comp=Z,13nm,0.8s,SNR=18
PDAR pPKP 14 17 35.9
comp=Z,4.9nm,0.8s,baz=117,slow=3.3,SNR=4.4
PDAR PP PP 14 19 17.8 -4.1
comp=Z,2.0nm,1.1s,baz=349,slow=4.6,SNR=2.9
BGU Big Grassy Mou 127.33 26 *e*PKPdf PKPdf 14 17 20.5 +1.8
EMMW East Machias 127.50 344 PFAKE 14 17 30.0 +11
EMMW LR LR
comp=Z,125μm,20.0s
TRCR Troy Canyon 128.17 30 *e*PKPdf PKPdf 14 17 21.8 +1.4
WVL Waterville 128.21 346 PFAKE 14 17 30.0 +10
WVL LR LR
comp=Z,5μm,20.0s
NLU North Lily Min 128.54 26 *e*PKPdf PKPdf 14 17 23.1 +2.1
RWWY Rawlins 129.00 21 *e*PKPdf PKPdf 14 17 23.2 +1.4
MIV Mineville/With 129.53 349 *e*PKPdf PKPdf 14 17 23.3 +0.5
MDV Middlebury 129.53 349 *e*PKPdf PKPdf 14 17 24.2 +1.4
MSU Marysvale 129.67 27 *e*PKIKP PKPdf 14 17 25.9 +2.6
NCB Newcomb 129.76 350 PFAKE 14 17 40.0 +17
NCB LR LR
comp=Z,593nm,19.0s,MS5.3
PHWY Pilot Hill 129.95 20 *e*PKPdf PKPdf 14 17 24.9 +1.2
NEN Nelson 130.62 32 *e*PKPdf PKPdf 14 17 26.8 +1.6
WES Weston 130.67 346 PFAKE 14 17 40.0 +15
WES LR LR
comp=Z,1μm,22.0s,MS5.5
RCBR Riachuelo 130.76 267 PFAKE 14 17 40.0 +14
RCBR LR LR
comp=Z,329nm,22.0s,MS5.0
ISCO Idaho Springs 131.24 21 *e*PKIKP PKPdf 14 17 26.1 -0.1
ISCO MLR MLR
comp=Z,441nm,21.0s,MS5.1
PFO Pinyon Flat Ob 131.25 35 PFAKE 14 17 40.0 +14
PFO LR LR
comp=Z,108nm,20.0s,MS4.5
JFWS Jewell Farm 131.63 5 PFAKE 14 17 40.0 +13
JFWS LR LR
comp=Z,420nm,19.0s,MS5.2
AAM Ann Arbor 132.42 358 PFAKE 14 17 40.0 +12
AAM LR LR
comp=Z,495nm,21.0s,MS5.2
SDCO Great Sand Dun 133.10 22 PFAKE 14 17 40.0 +10
SDCO LR LR
comp=Z,471nm,20.0s,MS5.2
KSU1 Kansas State U 134.45 12 *e*PKPdf PKPdf 14 17 33.7 +1.5
ACSO Alum Creek Sta 134.46 357 *e*PKPdf PKPdf 14 17 33.5 +1.3
ACSO LR LR
comp=Z,875nm,20.0s,MS5.5
MCWV Mont Chateau 134.80 354 PFAKE 14 17 50.0 +17
MCWV LR LR
comp=Z,410nm,19.0s,MS5.2
ANMO Albuquerque 135.15 25 *e*PKIKP PKPdf 14 17 35.9 +2.2
ANMO MLR MLR
comp=Z,392nm,20.0s
TUC Tucson 135.32 31 *e*PKIKP PKPdf 14 17 35.8 +1.8
TUC MLR MLR
comp=Z,258nm,20.0s,MS5.0
LENM Lemitar 135.61 26 *e*PKPdf PKPdf 14 17 37.0 +2.5
LPM Los Pinos Moun 135.63 25 *e*PKPdf PKPdf 14 17 36.6 +2.1
CBN Corbin 135.91 351 PFAKE 14 17 50.0 +15
CBN LR LR
comp=Z,473nm,20.0s,MS5.2
CCM Cathedral Cave 136.35 7 *e*PKIKP PKPdf 14 17 35.0 -0.7
CCM MLR MLR
comp=Z,475nm,19.0s,MS5.2
WCI Wyandotte Cave 136.51 1 *e*PKIKP PKPdf 14 17 36.9 +0.9
WCI MLR MLR
comp=Z,453nm,21.0s,MS5.2
FWV Forest Hill 136.95 355 *e*PKPdf PKPdf 14 17 37.7 +0.9
AMTX Amarillo 137.02 20 PFAKE 14 17 50.0 +13
AMTX LR LR
comp=Z,610nm,22.0s,MS5.3
PWV Princeton 137.22 355 *e*PKPdf PKPdf 14 17 39.4 +2.1
BLA Blacksburg 137.28 354 PFAKE 14 17 50.0 +13
BLA LR LR
comp=Z,395nm,21.0s,MS5.1
ELN Prospectdale 137.29 355 *e*PKPdf PKPdf 14 17 36.3 -1.2
CPRX Cap Rock 137.88 23 *e*PKPdf PKPdf 14 17 42.1 +3.4
WMOK Wichita Mounta 138.05 17 *e*PKHKP 14 17 29.2
WMOK MLR MLR
comp=Z,668nm,22.0s,MS5.3

GDL2 Guadalupe Moun 138.40 25 *e*PKPdf PKPdf 14 17 41.4 +1.7
MNTX Cornudas Mount 138.40 26 *e*PKPdf PKPdf 14 17 41.4 +1.7
MNTX LR LR
comp=Z,455nm,22.0s,MS5.2
CLNB Carlsbad 138.55 24 *e*PKPdf PKPdf 14 17 42.4 +2.4
WVT Waverly 138.55 3 *e*PKHKP 14 17 31.2
WVT *e* 14 17 40.2
WVT MLR MLR
comp=Z,429nm,19.0s,MS5.2
CPCT Cooper Cave 139.28 359 *e*PKPdf PKPdf 14 17 42.6 +1.4
MIAR Mount Ida 139.45 10 *e*PKIKP PKPdf 14 17 43.0 +1.5
MIAR MLR MLR
comp=Z,425nm,20.0s,MS5.2
OXF Oxford 140.04 5 PFAKE 14 18 00.0 +17
OXF LR LR
comp=Z,616nm,20.0s,MS5.3
LTX Lajitas 141.19 26 *e*PKHKP 14 17 40.7
LTX MLR MLR
comp=Z,432nm,19.0s,MS5.2
TXAR Lajitas Array 141.19 26 PKhKP 14 17 40.7
comp=Z,0.7nm,0.4s,baz=270,slow=3.6,SNR=7.1
TXAR PKP PKPdf 14 17 46.7 +1.9
comp=Z,6.8nm,0.7s,baz=326,slow=1.9,SNR=20
TXAR pPKP 14 18 01.0
comp=Z,6.2nm,1.0s,baz=225,slow=1.8,SNR=3.8
TXAR PP PP 14 20 47.0 -3.7
comp=Z,2.2nm,0.9s,baz=342,slow=4.0,SNR=3.4
TXAR Lajitas Array 141.19 26 PKP PKPdf 14 17 46.7 +1.9
TXAR pPKP 14 18 01.0
TXAR PP PP 14 20 47.0 -3.7
GOGA Godfrey 141.28 357 PFAKE 14 18 00.0 +15
GOGA LR LR
comp=Z,433nm,19.0s,MS5.2
NHSC New Hope 141.31 353 PFAKE 14 18 00.0 +15
NHSC LR LR
comp=Z,407nm,19.0s,MS5.2
LRAL Lakeview Retre 141.67 2 *e*PKPdf PKPdf 14 17 47.2 +1.7
LRAL LR LR
comp=Z,411nm,20.0s,MS5.2
JCT Junction City 141.68 20 *e*PKHKP 14 17 40.7
JCT MLR MLR
comp=Z,496nm,20.0s,MS5.3
NATX Nacogdoches 141.93 13 PFAKE 14 18 00.0 +14
NATX LR LR
comp=Z,634nm,21.0s,MS5.3
BDFB Brasilia 141.96 252 PKP PKPdf 14 17 52.8 +6.3
comp=Z,3.3nm,0.5s,baz=155,slow=3.5,SNR=3.4
HKT Hockley 143.38 15 PFAKE 14 18 00.0 +13
HKT LR LR
comp=Z,453nm,20.0s,MS5.2
CPUP Villa Florida 146.12 229 PKPbc PKPbc 14 17 55.9 +1.4
DWPF Disney 146.39 354 *e*PKPdf PKPdf 14 17 56.3 +2.5
DWPF LR LR
comp=Z,389nm,20.0s,MS5.2
SJG San Juan 149.83 321 PFAKE 14 18 10.0 +10
SJG LR LR
comp=Z,273nm,20.0s,MS5.0
TEIG Tepich 154.30 6 *e*PKPbc PKPdf 14 18 16.3 +10
TEIG *e*PKPab PKPab 14 18 29.5 -1.4
TEIG LR LR
comp=Z,147nm,20.0s,MS4.8
LVC Limon Verde 156.68 221 PFAKE 14 18 20.0 +11
LVC LR LR
comp=Z,558nm,19.0s,MS5.4
SDV Santo Domingo 159.50 314 *e*PKPdf PKPdf 14 18 14.5 +1.7
SDV LR LR
comp=Z,425nm,20.0s,MS5.3
LPAZ La Paz 159.95 236 PKP PKPdf 14 18 16.1 +2.9
comp=Z,4.6nm,1.0s,baz=39,slow=2.8,SNR=12
JTS JuntasAbangare 164.33 358 PFAKE 14 18 30.0 +12
JTS LR LR
comp=Z,73nm,20.0s
ROSC El Rosal 164.92 313 PKP PKPdf 14 18 21.7 +3.3
comp=Z,19nm,0.9s,baz=88,slow=21,SNR=9.6
OTAV Otavalo 171.04 309 *e*PKPdf PKPdf 14 18 24.7 +2.3
OTAV LR LR
comp=Z,546nm,20.0s

*ISK **12** 14:00:17.3,34.52N×33.24E,h28km,ML3.8*
*CSEM **12** 14:00:19.3±0.1,34.77N×33.06E,h10km,Mw3.6,Error ellipse: s-maj=2.2km s-min=1.1km az=55.0*
*IDC **12** 14:00:19.8±1.4,34.54N×32.93E,mb3.4/2,mb1 3.7/7, mb1mx3.6/19,mbtmp3.5/7,ML3.3/5,MS2.9/1,Ms1 2.9/1, ms1mx2.7/12,Error ellipse: s-maj=37.8km s-min=18.4km az=58.0*
*NIC **12** 14:00:21.4±0.3,34.86N×33.04E,h5km,ML3.8,MW3.6*
NIC Felt earthquake; Maximum Intensity 3; Felt I=III MM at Kalo Chorio , Limasol.
*GII **12** 14:00:21.9±0.5,34.69N×32.93E,h25km±30km,ML3.5/6, Mw3.6/5*
*NEIC **12** 14:00:21.4,34.86N×33.04E,h5km,ML3.8(NIC),After NIC.*
NEIC Felt [III] at Kalokhorio. Felt at Akrotiri.

ISC 12 14:00:19.8±0.5,34.69N±0.02×33.08E±0.04,h20km±5km, n55,σ1°§05/70,mb3.5/1,1C,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.17**	**292**	⇑P	**Pb**	**14 00 25.3**	**+0.8**
CSS	**Prodhromos**	**0.34**	**38**	P	**Pb**	**14 00 26.5**	**-0.6**
CSS				S	**Sb**	**14 00 31.0**	**-1.1**
CSS	**Prodhromos**	**0.34**	**38**	*i* P	**Pb**	**14 00 26.6**	**-0.6**
LEF	**Lefka**	**0.45**	**340**	PG	**Pb**	**14 00 30.5**	**+1.5**
MAMC	**Mammari**	**0.49**	**14**	P	**Pb**	**14 00 28.9**	**-0.7**
ALFC	**Alevga**	**0.61**	**320**	P	**Pb**	**14 00 31.0**	**-0.6**
AKMC	**Akamas**	**0.70**	**299**	P	**Pb**	**14 00 32.9**	**-0.2**
PHNC	**Paralimni**	**0.85**	**68**	P	**Pb**	**14 00 37.7**	**+2.1**
EREN	**Erenkoy**	**1.23**	**47**	PN	**Pn**	**14 00 40.5**	**-1.5**
IKL	**Isikli**	**1.62**	**18**	PN	**Pn**	**14 00 45.8**	**-1.8**
IKL				SN	**Sn**	**14 01 07.9**	**-0.2**
MEST	**Erdemli**	**2.08**	**24**	*i* P	**Pn**	**14 00 53.0**	**-1.2**
BHL	**Bhannes**	**2.27**	**110**	SN	**Sn**	**14 01 21.9**	**-2.8**
HDMB	**Hadim**	**2.32**	**348**	PN	**Pn**	**14 00 57.9**	**+0.3**
HDMB				SN	**Sn**	**14 01 27.2**	**+1.4**
HNTI	**Hanita**	**2.37**	**132**	Pn	**Pn**	**14 00 58.4**	**0.0**
HWQ	**Hawqa**	**2.41**	**99**	*e*PN	**Pn**	**14 00 59.2**	**+0.4**
HWQ				SN	**Sn**	**14 01 27.7**	**-0.3**
HWQ	**Hawqa**	**2.41**	**99**	*e*Pn	**Pn**	**14 00 59.2**	**+0.3**
HWQ				Sn	**Sn**	**14 01 27.7**	**-0.4**
HAF	**Haifa**	**2.51**	**139**	Pn	**Pn**	**14 01 00.6**	**+0.3**
OFRI	**'Ofer**	**2.61**	**142**	Pn	**Pn**	**14 01 01.8**	**0.0**
KSDI	**Kefar Szold**	**2.62**	**124**	Pn	**Pn**	**14 01 02.8**	**+0.9**
KSHT	**Keshet**	**2.85**	**126**	Pn	**Pn**	**14 01 06.2**	**+1.1**
HTY	**Hatay**	**2.88**	**59**	*e*PN	**Pn**	**14 01 02.3**	**-3.3**
GLH	**Golan-Tel Qazi**	**2.92**	**132**	Pn	**Pn**	**14 01 07.2**	**+1.0**
SLTI	**Sal'it**	**2.95**	**146**	Pn	**Pn**	**14 01 07.1**	**+0.5**
SLTI				Sn	**Sn**	**14 01 41.3**	**-0.4**
MMLI	**Mount Malkishu**	**2.98**	**138**	Pn	**Pn**	**14 01 07.1**	**0.0**
COBT	**Iskenderun**	**3.17**	**54**	*i* P	**Pn**	**14 01 09.7**	**-0.1**
HMDT	**Nahal Hemdat**	**3.18**	**139**	Pn	**Pn**	**14 01 10.3**	**+0.4**
HMDT				Sn	**Sn**	**14 01 48.5**	**+0.8**
ELL	**Elmali**	**3.29**	**309**	*e*PN	**Pn**	**14 01 11.7**	**+0.2**
NIG	**Nigde**	**3.63**	**20**	*e*PN	**Pn**	**14 01 15.5**	**-0.7**
DRGI	**Dragot**	**3.65**	**147**	Pn	**Pn**	**14 01 17.1**	**+0.5**
FETY	**Fethiye**	**3.78**	**302**	*e*PN	**Pn**	**14 01 18.5**	**+0.1**
MKRJ	**Makawir**	**3.80**	**145**	Pn	**Pn**	**14 01 19.6**	**+0.9**
RTMM	**Retamin**	**3.88**	**159**	Pn	**Pn**	**14 01 19.3**	**-0.5**
MZDA	**Masada**	**3.88**	**150**	Pn	**Pn**	**14 01 20.1**	**+0.3**
MZDA				Sn	**Sn**	**14 02 05.5**	**+0.1**
KZIT	**Kziot**	**3.94**	**163**	Pn	**Pn**	**14 01 20.9**	**+0.3**
KZIT				Sn	**Sn**	**14 02 05.9**	**-0.9**
ASF	**Jabal al Asfar**	**4.07**	**127**	Pn	**Pn**	**14 01 22.8**	**+0.3**
	2.1nm,0.3s,baz=184,slow=9.8,SNR=9.3						
ASF				Sn	**Sn**	**14 02 12.4**	**+2.3**
	2.9nm,0.3s,baz=333,slow=17,SNR=5.1						
ASF				LR	LR	14 03 24.4	
	comp=Z,151nm,18.6s,baz=114,slow=45						
DALT	**Dalyan (Mudla)**	**4.16**	**301**	*e*PN	**Pn**	**14 01 24.3**	**+0.5**
GAZ	**Gaziantep**	**4.17**	**52**	*e*PN	**Pn**	**14 01 20.8**	**-3.1**
KAHT	**Ahir Dag**	**4.25**	**45**	*e*P	**Pn**	**14 01 27.6**	**+2.6**
KIZT	**Kizilcal**	**4.29**	**347**	*e*PN	**Pn**	**14 01 25.6**	**0.0**
AVNT	**Avonos**	**4.32**	**19**	*i* P	**Pn**	**14 01 26.9**	**+0.8**
ZFRI	**Zfri**	**4.49**	**156**	Pn	**Pn**	**14 01 27.8**	**-0.7**
GZT	**Gaziantep**	**4.50**	**53**	*i* P	**Pn**	**14 01 36.3**	**+7.6**
BRTR	**Keskin Array B**	**5.04**	**5**	Pn	**Pn**	**14 01 37.0**	**+0.7**
	0.4nm,0.3s,baz=183,slow=15,SNR=9.6						
BRTR				Sn	**Sn**	**14 02 37.0**	**+2.2**
	0.2nm,0.3s,baz=180,slow=27,SNR=4.8						
BRTR	**Keskin Array B**	**5.04**	**5**	Pn	**Pn**	**14 01 37.0**	**+0.7**
BRTR				Sn	**Sn**	**14 02 37.0**	**+2.2**
BRTR	**Keskin Array B**	**5.04**	**5**	Pn	**Pn**	**14 01 37.0**	**+0.7**
MBH	**Mount Berech**	**5.13**	**162**	Pn	**Pn**	**14 01 37.2**	**-0.4**
EIL	**Elat**	**5.25**	**162**	Pn	**Pn**	**14 01 38.1**	**-1.2**
	2.5nm,0.3s,baz=319,slow=18,SNR=11						
EIL				Sn	**Sn**	**14 02 38.9**	**-1.1**
	3.7nm,0.3s,baz=99,slow=32,SNR=6.9						
EIL	**Elat**	**5.25**	**162**	Pn	**Pn**	**14 01 38.1**	**-1.2**
EIL				Sn	**Sn**	**14 02 38.9**	**-1.1**
MALT	**Malatya**	**5.62**	**48**	*e*P	**Pn**	**14 01 43.6**	**-0.9**
	6.3nm,0.8s						
MALT	**Malatya**	**5.62**	**48**	*e*P	**Pn**	**14 01 43.6**	**-0.9**
	6.3nm,0.8s						
SGKT	**Sivrigoynuk**	**5.92**	**352**	*i* P	**Pn**	**14 01 47.5**	**-1.3**
IDI	**Anoyia**	**6.74**	**277**	Pn	**Pn**	**14 01 57.7**	**-2.6**
	0.5nm,0.3s,baz=103,slow=22,SNR=6.7						
IDI				Sn	**Sn**	**14 03 11.4**	**-5.9**
	0.9nm,0.3s,baz=351,slow=22,SNR=5.2						
AKASG	**Malin Array Be**	**16.24**	**351**	Pn	**P**	**14 04 08.8**	**+0.5**
	0.3nm,0.3s,baz=174,slow=10,SNR=10.0						
GERES	**GERESS Array B**	**20.14**	**320**	P	**P**	**14 04 55.0**	**-0.4**
	1.2nm,0.6s,baz=131,slow=9.0,SNR=4.9						
YKA	**Yellowknife Ar**	**79.72**	**345**	P	**P**	**14 12 31.4**	**+4.3**
	0.8nm,1.2s,mb3.5,baz=30,slow=5.5,SNR=4.6						

*BJI **12** 14:03:40.4,7.50N×92.27E,h30km,mb4.8,Ms4.9,Msz4.2*
*NEIC **12** 14:03:40.1±0.3,7.36N×92.40E,h30km,mb4.7/9,Error ellipse: s-maj=12.6km s-min=8.7km az=52.0*
*IDC **12** 14:03:44.8±5.1,7.38N×92.37E,h69km±45km,mb4.1/17, mb1 4.3/18,mb1mx4.2/23,mbtmp4.5/18,ML4.2/1,Error ellipse: s-maj=27.5km s-min=12.7km az=45.0*

ISC 12 14:03:38.1±0.4,7.36N±0.09×92.41E±0.10,h30km,n33, σ0§71/31,mb4.5/26,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.73**	**29**	P	**P**	**14 06 44.9**	**+4.8**
	0.4nm,0.3s,baz=228,slow=15,SNR=10						
SONM	**Songino Array**	**42.05**	**14**	P	**P**	**14 11 30.4**	**+1.6**
	3.2nm,0.8s,mb4.0,baz=199,slow=7.3,SNR=6.7						
ULN	**Ulaanbaatar**	**42.24**	**15**	P	**P**	**14 11 30.3**	**-0.1**
	0.9nm,0.5s,mb3.7						
HIA	**Hailar**	**47.67**	**24**	*e*P	**P**	**14 12 13.6**	**-0.2**
	13nm,1.3s,mb4.8						
BVAR	**Borovoye Array**	**48.94**	**343**	P	**P**	**14 12 23.4**	**-0.2**
	5.3nm,0.8s,mb4.6,baz=146,slow=5.3,SNR=3.8						
BRVK	**Borovoye**	**49.00**	**342**	*e*P	**P**	**14 12 23.7**	**-0.3**
	6.6nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**49.37**	**124**	P	**P**	**14 12 27.3**	**0.0**
	5.0nm,0.7s,mb4.6,baz=301,slow=8.8,SNR=10						
CHKZ	**Chkalovo**	**49.44**	**343**	*e*P	**P**	**14 12 27.4**	**0.0**
	13nm,0.7s,mb5.1						
ASAR	**Alice Springs**	**50.92**	**129**	P	**P**	**14 12 38.7**	**-0.4**
	3.6nm,0.9s,mb4.3,baz=301,slow=7.9,SNR=7.7						
ASAR				PcP	PcP	14 13 55.6	+0.2
	2.1nm,0.6s,baz=313,slow=3.3,SNR=5.2						
KMBO	**Kilima Mbogo**	**55.67**	**264**	P	**P**	**14 13 14.9**	**+0.5**
	0.9nm,0.4s,mb4.2,baz=54,slow=23,SNR=4.4						
ASF	**Jabal al Asfar**	**57.07**	**304**	P	**P**	**14 13 25.0**	**+0.8**
	1.3nm,0.3s,mb4.4,baz=104,slow=4.2,SNR=3.7						
MALT	**Malatya**	**57.50**	**311**	*e*P	**P**	**14 13 27.2**	**+0.1**
EIL	**Elat**	**58.20**	**300**	*e*P	**P**	**14 13 33.0**	**+0.8**
	11nm,0.8s,mb4.9						
CTA	**Charters Tower**	**59.56**	**118**	P	**P**	**14 13 42.2**	**+0.5**
	4.8nm,0.9s,mb4.5,baz=212,slow=15,SNR=2.6						
STKA	**Stephens Creek**	**61.01**	**133**	P	**P**	**14 13 51.4**	**0.0**
	2.6nm,0.5s,mb4.6,baz=292,slow=9.6,SNR=4.0						
STKA	**Stephens Creek**	**61.01**	**133**	P	**P**	**14 13 51.4**	**0.0**
BRTR	**Keskin Array B**	**61.47**	**311**	P	**P**	**14 13 53.1**	**-1.4**
	2.4nm,0.9s,mb4.3,baz=117,slow=5.5,SNR=4.5						
IDI	**Anoyia**	**67.46**	**305**	P	**P**	**14 14 33.5**	**-0.1**
	9.1nm,0.7s,mb4.9,baz=100,slow=7.4,SNR=11						
LSZ	**Lusaka**	**67.48**	**250**	P	**P**	**14 14 33.8**	**-0.3**
	2.1nm,0.7s,mb4.3						
MLR	**Muntele Rosu**	**68.35**	**316**	P	**P**	**14 14 38.5**	**-0.4**
	12nm,0.9s,mb4.9,baz=89,slow=2.9,SNR=6.0						
FINES	**FINESS Array B**	**72.37**	**332**	P	**P**	**14 15 02.1**	**-0.9**
	3.3nm,0.7s,mb4.4,baz=104,slow=7.9,SNR=4.8						
BOSA	**Boshof**	**73.86**	**238**	*e*P	**P**	**14 15 12.1**	**-0.4**
	5.2nm,0.9s,mb4.5						
MORC	**Moravsky Berou**	**74.65**	**320**	P	**P**	**14 15 16.3**	**-0.3**
GERES	**GERESS Array B**	**77.07**	**318**	P	**P**	**14 15 30.7**	**+0.5**
	2.4nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=7.5						
CLL	**Colln**	**77.67**	**321**	P	**P**	**14 15 33.0**	**-0.5**
MAW	**Mawson**	**77.69**	**191**	P	**P**	**14 15 34.6**	**+1.3**
	3.4nm,0.8s,mb4.4,baz=12,slow=12,SNR=4.9						
NOA	**NORSAR Array B**	**79.34**	**331**	P	**P**	**14 15 41.1**	**-1.3**
	1.3nm,0.9s,mb3.9,baz=233,slow=18,SNR=2.7						
DAVOX	**Davos**	**79.57**	**316**	P	**P**	**14 15 44.5**	**+0.5**
	10nm,1.0s,mb4.7,baz=94,slow=8.7,SNR=6.3						
LPG	**La Plagne**	**81.77**	**315**	*e*P	**P**	**14 15 56.4**	**+0.8**
	9.4nm,0.6s,mb4.6						
ESDC	**Sonseca Array**	**90.24**	**310**	P	**P**	**14 16 38.3**	**+0.7**
	0.3nm,0.3s,mb4.1,baz=82,slow=4.6,SNR=4.9						
VNDA	**Vanda**	**92.78**	**168**	P	**P**	**14 16 47.0**	**-1.3**
	4.3nm,1.2s,mb4.8						
NVAR	**Mina Array Bea**	**126.22**	**30**	PKP	PKPdf	14 22 42.3	-1.2
	2.3nm,0.7s,baz=287,slow=2.3,SNR=7.9						
PDAR	**Pinedale Array**	**126.25**	**20**	PKP	PKPdf	14 22 40.5	-2.9
	2.1nm,0.9s,baz=13,slow=1.2,SNR=10						

*CSEM **12** 14:08:47.3,37.16N×26.65E,h5km,MD3.6/7,After ATH*
*NEIC **12** 14:08:47.3,37.16N×26.65E,h5km,MD3.7(ATH),After ATH.*

ATH 12 14:08:47.3,37.16N×26.65E,h5km,MD3.7/7, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.66**	**165**	*e*PB	Pb	14 09 18.6	+0.6
AKS	**Akhisar**	**1.95**	**28**	*e*P	Pn	14 09 17.0	-4.4
NPS	**Neapolis**	**2.07**	**204**	*e*PG	Pg	14 09 26.0	-2.7
PRK	**Paraskevi**	**2.10**	**352**	*e*PN	Pn	14 09 26.0	+2.4
VAM	**Vamos**	**2.64**	**229**	*e*PN	Pn	14 09 33.2	+1.9
BOZC	**Bozcaada**	**2.72**	**350**	*i* P	Pn	14 09 26.8	-5.6
VLI	**Veliai**	**3.01**	**263**	*e*PN	Pn	14 09 38.9	+2.4
KYTH	**Kithira**	**3.03**	**254**	*e*PN	Pn	14 09 39.5	+2.6
ITM	**Ithomi**	**3.77**	**272**	*e*PN	Pn	14 09 44.1	-3.3

*IDC **12** 14:13:09.2±2.5,5.95N×93.47E,mb3.9/4,mb1 4.1/5, mb1mx3.8/17,mbtmp3.9/5,ML3.9/1,Error ellipse: s-maj=107.0km s-min=26.5km az=60.0*

ISC 12 14:13:05.6±1.2,5.4N±0.1×92.0E±0.2,h33km,n6,σ0§17/6, mb3.9/4,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.62**	**27**	Pn	**P**	**14 16 32.3**	**+0.1**
	0.2nm,0.3s,baz=228,slow=12,SNR=5.6						
HYB	**Hyderabad**	**17.79**	**313**	*e*P	**P**	**14 17 12.5**	**+0.1**
SONM	**Songino Array**	**44.03**	**14**	P	**P**	**14 21 11.7**	**-0.2**
	0.2nm,0.7s,mb3.0,baz=198,slow=7.8,SNR=4.0						
WRA	**Warramunga Arr**	**48.62**	**122**	P	**P**	**14 21 48.5**	**0.0**
	2.1nm,0.6s,mb4.4,baz=302,slow=9.1,SNR=19						
ASAR	**Alice Springs**	**50.03**	**127**	P	**P**	**14 21 59.4**	**+0.1**
	0.8nm,0.5s,mb4.0,baz=299,slow=7.9,SNR=9.1						
ARCES	**ARCESS Array B**	**76.88**	**341**	P	**P**	**14 25 02.7**	**+6.9**
	3.0nm,0.9s,mb4.2,baz=90,slow=5.4,SNR=4.4						

*IDC **12** 14:

ARCES ARCESS Array B 80.83 340 P P 14 48 23.3 -0.1
10.0nm,1.3s,mb4.6,baz=108,slow=2.9,SNR=3.9

*IDC **12** 14:46:35.5±0.5, 60.32S×27.56W, mb4.5/11, mb1 4.6/12, mb1mx4.4/15, mbtmp4.6/12, ML4.9/1, MS4.4/6, Ms1 4.4/6, ms1mx3.8/15, Error ellipse: s-maj=27.0km s-min=16.0km az=63.0*

*HRVD **12** 14:46:41.8±0.5, 60.50S×27.72W, h17km±2km, MW5.2/32, Centroid moment Tensor Solution. LP body waves: s8,c10;Mantle waves: s32,c41; Half duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr=4.25±.88; Mθθ2.42±.55; Mφφ1.83±.51; Mrθ-0.40±1.49; Mθφ-3.36±.29; Mφr5.49±1.84; Best double couple: M0=7.417×10^16 NP1: φs287°, δ31°, λ-141°. NP2:φs162°, δ71°, λ-65°. Principal axes: T 7.149, Plg22°, Azm233°; N .535, Plg24°, Azm333°; P -7.684, Plg57°, Azm105°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **12** 14:46:41.9±1.4, 60.38S×27.68W, h45km±12km, mb4.9/6 Error ellipse: s-maj=12.6km s-min=9.3km az=224.0*

ISC 12 14:46:37.2±4.1, 60.34S±0.08×27.6W±0.2, h20km±29km, n47, σ0°90/28, mb4.6/15, MS4.5/5, 3C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.01**	**151**	⇑*i*P	**P**	**14 49 44.6**	**+1.1**
VNA3	**Neumayer Olymp**	**13.11**	**154**	⇑*i*P	**P**	**14 49 44.3**	**-0.5**
VNA2	**Neumayer--Watz**	**13.41**	**151**	⇑*i*P	**P**	**14 49 49.7**	**+0.9**
SNAA	**Sanae**	**15.02**	**149**	Pn	**P**	**14 50 07.6**	**-2.1**
	5.6nm,0.3s,baz=319,slow=15,SNR=133						
SNAA				LR	LR	14 54 39.3	
	comp=Z,498nm,18.2s,baz=7.7,slow=32						
PMSA	**Palmer Station**	**17.20**	**239**	*e*P	**P**	**14 50 36.9**	**-0.6**
	90nm,1.1s						
USHA	**Ushuaia**	**22.28**	**266**	LR	LR	14 58 03.3	
	comp=Z,2μm,19.6s,MS4.6,baz=248,slow=31						
QSPA	**South Pole Qui**	**29.90**	**180**	⇓*i*P	**P**	**14 52 46.1**	**+0.9**
	39nm,1.1s,mb5.0						
MAW	**Mawson**	**36.90**	**140**	P	**P**	**14 53 46.0**	**+0.2**
	15nm,1.1s,mb4.7,baz=221,slow=7.2,SNR=9.3						
MAW				LR	LR	15 07 26.1	
	comp=Z,361nm,18.0s,MS4.2,baz=242,slow=34						
SBA	**Scott Base**	**41.78**	**185**	P	**P**	**14 54 25.5**	**-0.5**
SUR	**Sutherland**	**42.13**	**71**	P	**P**	**14 54 23.6**	**-5.9**
VNDA	**Vanda**	**42.27**	**183**	P	**P**	**14 54 31.3**	**+1.2**
	3.2nm,0.8s,mb4.0,baz=197,slow=6.1,SNR=12						
VNDA				LR	LR	15 09 24.6	
	comp=Z,240nm,20.7s,MS4.1,baz=177,slow=32						
VNDA	**Vanda**	**42.27**	**183**	*e*P	**P**	**14 54 30.5**	**+0.5**
	11nm,1.0s,mb4.4						
VNDA				LR	LR	15 09 24.6	
BDFB	**Brasilia**	**47.03**	**333**	P	**P**	**14 55 10.0**	**+1.0**
	10nm,1.0s,mb4.7,baz=155,slow=3.4,SNR=8.1						
BAO	**Brasilia Array**	**47.03**	**333**	P	**P**	**14 55 09.8**	**+0.8**
BOSA	**Boshof**	**47.37**	**72**	*e*P	**P**	**14 55 12.0**	**+0.4**
	25nm,1.3s,mb5.0						
LVC	**Limon Verde**	**47.39**	**304**	P	**P**	**14 55 12.4**	**+0.6**
	7.0nm,0.8s,mb4.7,baz=150,slow=5.7,SNR=11						
LPAZ	**La Paz**	**52.78**	**308**	P	**P**	**14 55 52.0**	**-1.1**
	2.2nm,0.6s,mb4.3,baz=138,slow=4.5,SNR=11						
LPAZ	**La Paz**	**52.78**	**308**	P	**P**	**14 55 52.0**	**-1.1**
ARE	**Arequipa**	**53.96**	**305**	*e*P	**P**	**14 56 03.0**	**+1.2**
LSZ	**Lusaka**	**60.20**	**67**	*e*P	**P**	**14 56 45.5**	**-0.6**
	19nm,0.8s,mb5.2						
DBIC	**Dimbokro**	**69.17**	**24**	P	**P**	**14 57 44.0**	**-0.4**
	4.6nm,0.8s,mb4.4,baz=158,slow=5.0,SNR=5.4						
DBIC				LR	LR	15 20 44.8	
	comp=Z,442nm,21.7s,MS4.7,baz=174,slow=30						
OTAV	**Otavalo**	**71.91**	**305**	*e*P	**P**	**14 57 58.8**	**-2.2**
	6.2nm,0.9s,mb4.5						
KMBO	**Kilima Mbogo**	**76.81**	**68**	P	**P**	**14 58 28.7**	**-0.5**
	0.3nm,0.3s,mb3.7,baz=355,slow=12,SNR=2.1						
KMBO				LR	LR	15 29 39.3	
	comp=Z,704nm,19.0s,MS5.0,baz=97,slow=34						
KMBO	**Kilima Mbogo**	**76.81**	**68**	P	**P**	**14 58 28.7**	**-0.5**
KMBO				LR	LR	15 29 39.3	
URZ	**Urewera**	**79.67**	**200**	P	**P**	**14 58 44.2**	**-0.2**
	10nm,1.1s,mb4.7,baz=28,slow=15,SNR=3.5						
STKA	**Stephens Creek**	**87.70**	**171**	P	**P**	**14 59 25.8**	**+0.5**
	4.1nm,0.8s,mb4.7,baz=210,slow=6.6,SNR=5.7						
STKA	**Stephens Creek**	**87.70**	**171**	P	**P**	**14 59 25.8**	**+0.5**
ASAR	**Alice Springs**	**94.95**	**163**	P	**P**	**14 59 59.2**	**+0.1**
	2.2nm,0.7s,mb4.7,baz=182,slow=4.1,SNR=22						
WRA	**Warramunga Arr**	**98.67**	**163**	P	**P**	**15 00 15.6**	**-0.4**
	0.7nm,0.7s,mb4.3,baz=194,slow=3.9,SNR=6.1						
LENM	**Lemitar**	**114.13**	**297**	*e*PKiKP		15 05 13.9	
CMAR	**Chiang Mai Arr**	**123.66**	**114**	PKP	PKPdf	15 05 34.5	-3.1
	1.0nm,0.8s,baz=229,slow=3.3,SNR=8.9						
FINES	**FINESS Array B**	**128.26**	**30**	PKP	PKPdf	15 05 41.7	-3.5
	3.0nm,0.8s,baz=153,slow=4.3,SNR=6.2						
LSA	**Lhasa**	**129.48**	**99**	*e*PKPdf	PKPdf	15 05 46.1	-2.4
JMIC	**Jan Mayen**	**131.72**	**8**	PKP	PKPdf	15 05 48.5	-3.1
	87nm,0.4s,baz=166,slow=10,SNR=3.4						
ARCES	**ARCESS Array B**	**135.00**	**23**	PKP	PKPdf	15 05 53.8	-4.0
	4.0nm,1.0s,baz=225,slow=1.3,SNR=5.7						
BRVK	**Borovoye**	**137.13**	**61**	*e*PKPdf	PKPdf	15 05 57.6	-4.4
BVAR	**Borovoye Array**	**137.15**	**62**	PKP	PKPdf	15 05 57.3	-4.7
	2.4nm,0.9s,baz=225,slow=2.0,SNR=6.5						
CHKZ	**Chkalovo**	**137.70**	**61**	*e*PKPdf	PKPdf	15 05 59.0	-4.1
YKA	**Yellowknife Ar**	**139.13**	**315**	PKP	PKPdf	15 06 00.7	-4.7
	0.3nm,0.5s,baz=122,slow=2.6,SNR=7.1						
INK	**Inuvik**	**148.87**	**316**	PKPbc	PKPdf	15 06 21.4	-0.4
	3.6nm,0.7s,baz=107,slow=2.4,SNR=9.6						
INK				PKPab	PKPab	15 06 27.7	-0.1
	3.7nm,0.8s,baz=100,slow=3.1,SNR=9.8						
INK	**Inuvik**	**148.87**	**316**	*e*PKPdf	PKPdf	15 06 19.7	-2.0
INK				PKPbc	PKPdf	15 06 21.4	-0.4
INK				PKPab	PKPab	15 06 27.7	-0.1
DAWY	**Dawson**	**149.35**	**307**	*e*PKPdf	PKPdf	15 06 20.9	-1.8
SONM	**Songino Array**	**150.91**	**95**	PKPbc	PKPdf	15 06 28.8	+3.2
	3.9nm,0.5s,baz=216,slow=3.1,SNR=40						
ULN	**Ulaanbaatar**	**151.26**	**95**	*e*PKPbc	PKPdf	15 06 29.7	+3.6
TLY	**Talaya**	**152.01**	**86**	*e*PKPbc	PKPdf	15 06 31.7	+4.6
ILAR	**Eielson Array**	**152.63**	**306**	PKPbc	PKPdf	15 06 30.3	+2.7
	1.4nm,0.9s,baz=163,slow=1.5,SNR=11						
COLA	**College**	**153.05**	**306**	*e*PKPbc	PKPdf	15 06 32.2	+4.1

*PGC **12** 14:58:11.1, 58.15N×142.62W, h10km, MLSn3.5/8, Gulf of Alaska.*

NEIC 12 14:58:14.3, 58.13N×142.69W, h12km, ML3.4(AEIC), After AEIC., Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YKU2	**Yakutat**	**2.10**	**47**	P	Pn	14 58 44.8	-4.9
MID	**Middleton Isla**	**2.31**	**306**	P	Pn	14 58 47.5	-5.2
EYAK	**Cordova Ski Ar**	**2.89**	**328**	P	Pn	14 58 55.2	-5.8
EYAK				S	Sn	14 59 27.6	-8.4
DIV	**Divide**	**3.39**	**334**	P	Pn	14 59 02.1	-6.1
DIV				S	Sn	14 59 39.5	-9.2
HYT	**Haines Junctio**	**3.78**	**42**	Pn	Pn	14 59 08.3	-5.4
HYT				Trac		15 00 10.0	
	comp=Z,16nm,0.5s						
SEW	**Seward**	**4.01**	**302**	P	Pn	14 59 10.6	-6.3
SEW				S	Sn	14 59 53.8	-11
BESE	**Bessie Mountai**	**4.15**	**80**	P	Pn	14 59 12.7	-6.2
BESE				S	Sn	14 59 56.8	-11
SLKM	**Skilak Lake**	**4.54**	**305**	*e*P	Pn	14 59 18.1	-6.3
RC01	**Rabbit Creek A**	**4.65**	**313**	P	Pn	14 59 19.5	-6.5
RC01				S	Sn	15 00 09.7	-11
WHY	**Whitehorse**	**4.73**	**54**	P	Pn	14 59 21.3	-5.9
WHY	**Whitehorse**	**4.73**	**54**	Pn	Pn	14 59 21.1	-6.0
WHY				Sn	Sn	15 00 13.0	-10
WHY				Trac		15 00 15.2	
	comp=Z,11nm,0.4s						
GHO	**Glory Hole Cre**	**4.81**	**322**	P	Pn	14 59 22.6	-5.8
MENT	**Mentasta**	**4.85**	**354**	P	Pn	14 59 22.9	-6.0
BCA3	**Beaver Creek A**	**4.97**	**5**	P	Pn	14 59 24.6	-6.0
PAX	**Paxson**	**5.05**	**345**	P	Pn	14 59 25.4	-6.3
KDAK	**Kodiak Island**	**5.28**	**270**	P	Pn	14 59 31.1	-3.9
KDAK				S	Sn	15 00 26.6	-10
DOT	**Dot Lake**	**5.58**	**354**	P	Pn	14 59 33.1	-6.1
SPU	**Mount Spurr**	**5.65**	**307**	*e*P	Pn	14 59 33.6	-6.5
RSO	**Redoubt South**	**5.66**	**299**	*e*P	Pn	14 59 35.5	-4.8
OPT	**Oil Point**	**5.68**	**290**	P	Pn	14 59 35.8	-4.8
STLK	**Strandline Lak**	**5.72**	**310**	P	Pn	14 59 34.7	-6.4
DAWY	**Dawson**	**6.17**	**14**	P	Pn	14 59 41.7	-5.8
DAWY	**Dawson**	**6.17**	**14**	Pn	Pn	14 59 41.9	-5.6
DAWY				Sn	Sn	15 00 45.8	-13
DAWY				Trac		15 01 02.2	
	comp=Z,5.0nm,0.5s						
MCK	**McKinley**	**6.39**	**334**	P	Pn	14 59 44.5	-6.1
TRF	**Thorofare Moun**	**6.50**	**328**	P	Pn	14 59 46.1	-6.1
DLBC	**Dease Lake**	**6.69**	**82**	P	Pn	14 59 48.2	-6.6
DLBC	**Dease Lake**	**6.69**	**82**	Pn	Pn	14 59 48.7	-6.1
DLBC				Sn	Sn	15 00 59.1	-12
DLBC				Trac		15 01 01.1	
	comp=Z,5.0nm,0.4s						
KTH	**Kantishna Hill**	**6.76**	**327**	P	Pn	14 59 49.5	-6.4
NDB	**Naden**	**6.88**	**123**	Pn	Pn	14 59 49.5	-7.9
NDB				Sn	Sn	15 01 04.2	-12
	comp=Z,9.0nm,0.3s						
NDB				Trac		15 01 05.6	
	comp=Z,9.0nm,0.3s						
IL1	**Eielson Array**	**6.96**	**345**	P	Pn	14 59 51.1	-7.6
VIB	**Van Inlet**	**7.53**	**126**	Pn	Pn	14 59 58.9	-7.7
VIB				Sn	Sn	15 01 18.6	-14
	comp=Z,23nm,0.1s						
VIB				Trac		15 01 20.1	
	comp=Z,23nm,0.1s						
MOBC	**Moresby Island**	**7.85**	**124**	Pn	Pn	15 00 03.3	-7.7
MOBC				Sn	Sn	15 01 27.2	-13
MOBC				Trac		15 01 31.7	
	comp=Z,6.0nm,0.3s						
RUBB	**Prince Rupert**	**7.91**	**113**	Pn	Pn	15 00 03.6	-8.3
TT01	**Tatalina**	**8.13**	**312**	P	P	15 00 07.4	-7.5
BNB	**Barry Inlet**	**8.35**	**127**	Pn	P	15 00 10.1	-7.9
BNB				Sn	Sn	15 01 38.8	-14
	comp=Z,2.0nm,0.2s						
BNB				Trac		15 01 41.6	
	comp=Z,2.0nm,0.2s						
BM3	**Burnt Mountain**	**9.37**	**355**	P	P	15 00 25.1	-7.0
IM3	**Indian Mountai**	**9.42**	**331**	P	P	15 00 24.9	-8.0
IMA	**Indian Mountai**	**9.47**	**332**	*e*P	P	15 00 25.8	-7.7

MAN 12 15:00:24.4, 9.69N×126.23E, h7km, mb4.5, ML3.4, MS3.2, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.74**	**277**	⇓*e*P	Pb	15 00 38.9	-0.2
	4220μm,65.0s						
SCPH				*e*S	Sg	15 00 49.0	0.0
TBP	**Tagbilaran**	**2.34**	**270**	⇓*e*P	Pn	15 01 02.8	-1.0
TBP				*i* S	Sn	15 01 30.2	-2.8

IDC 12 15:35:56.3±2.0, 3.78N×94.30E, h32km±6km, mb3.0/4, mb1 3.3/5, mb1mx3.2/18, mbtmp3.2/5, ML3.3/1, Error ellipse: s-maj=73.7km s-min=17.6km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.28**	**17**	Pn	P	15 39 30.9	-0.8
	0.0nm,0.3s,baz=212,slow=12,SNR=13						
SONM	**Songino Array**	**45.11**	**1**	P	P	15 44 09.3	-2.2
	0.1nm,0.5s,baz=191,slow=7.3,SNR=3.2						
SONM				pP	pP	15 44 19.4	-1.8
	0.4nm,0.8s,baz=198,slow=3.8,SNR=2.8						
WRA	**Warramunga Arr**	**45.85**	**122**	P	P	15 44 14.6	-3.1
	0.4nm,0.9s,baz=300,slow=9.2,SNR=3.5						
WRA				pP	pP	15 44 25.3	-2.1
	0.7nm,0.7s,baz=299,slow=9.2,SNR=5.6						
ASAR	**Alice Springs**	**47.25**	**127**	P	P	15 44 28.1	-0.7
	0.2nm,0.8s,baz=311,slow=8.3,SNR=2.8						
ASAR				pP	pP	15 44 36.1	-2.4
	0.2nm,0.5s,baz=296,slow=7.4,SNR=1.5						
BVAR	**Borovoye Array**	**52.90**	**342**	P	P	15 45 08.9	-2.6
	0.1nm,0.4s,baz=222,slow=46,SNR=3.2						
BVAR				pP	pP	15 45 19.3	-2.2
	0.6nm,0.8s,baz=135,slow=8.2,SNR=3.1						

IDC 12 15:41:44.8±4.8, 2.13N×96.50W, mb3.7/5, mb1 4.1/5, mb1mx3.8/16, mbtmp3.7/5, MS3.3/1, Ms1 3.3/1, ms1mx2.3/19, Error ellipse: s-maj=236.2km s-min=24.2km az=53.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**27.90**	**347**	P	P	15 47 36.0	-2.6
	0.7nm,0.6s,baz=163,slow=9.4,SNR=5.3						
LPAZ	**La Paz**	**33.47**	**124**	P	P	15 48 26.5	-1.6
	1.1nm,0.3s,baz=319,slow=11,SNR=15						
SJG	**San Juan**	**33.74**	**60**	LR	LR	15 59 56.1	
	comp=Z,54nm,19.5s,baz=256,slow=32						
NVAR	**Mina Array Bea**	**41.27**	**334**	P	P	15 49 31.7	-1.7
	1.6nm,1.1s,baz=127,slow=9.0,SNR=3.8						
PDAR	**Pinedale Array**	**42.11**	**346**	P	P	15 49 38.5	-1.9
	0.7nm,0.8s,baz=157,slow=6.9,SNR=4.9						
YKA	**Yellowknife Ar**	**61.72**	**351**	P	P	15 52 05.9	-1.2
	0.3nm,0.8s,baz=160,slow=7.1,SNR=5.5						

*NEIC **12** 15:42:30.7±1.2, 24.06S×179.91W, h488km±15km, mb4.6/6, Error ellipse: s-maj=13.8km s-min=9.1km az=162.0*

*IDC **12** 15:42:33.7±2.5, 24.12S×179.94W, h521km±30km, mb3.7/13, mb1 3.8/15, mb1mx3.8/17, mbtmp4.6/15, Error ellipse: s-maj=18.4km s-min=11.7km az=174.0*

ISC 12 15:42:28.7±1.6, 24.05S±0.07×179.96W±0.08, h469km±22km, n34, σ0°74/29, mb4.2/16, 1C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**12.71**	**39**	*e*P	**P**	**15 45 15.6**	**-0.9**
URZ	**Urewera**	**14.38**	**189**	P	**P**	**15 45 33.3**	**-0.6**
	2.5nm,0.3s,baz=7.8,slow=3.2,SNR=18						
URZ				S	**S**	**15 48 03.9**	**+0.7**
	1.5nm,0.3s,baz=261,slow=23,SNR=12						
URZ	**Urewera**	**14.38**	**189**	P	**P**	**15 45 33.1**	**-0.8**
BKZ	**Black Stump Fm**	**15.37**	**190**	P	**P**	**15 45 43.7**	**-0.2**
THZ	**Tophouse**	**18.64**	**197**	P	**P**	**15 46 16.5**	**+0.1**
RAR	**Rarotonga**	**18.85**	**85**	P	**P**	**15 46 19.6**	**+1.0**
	0.6nm,0.3s,baz=226,slow=5.4,SNR=3.9						
KHZ	**Kahutara**	**19.10**	**195**	P	**P**	**15 46 21.0**	**+0.2**
RPZ	**Rata Peaks**	**20.96**	**198**	P	**P**	**15 46 39.1**	**+0.6**
	8.2nm,0.5s,baz=322,slow=2.4,SNR=12						
PPT	**Papeete**	**29.09**	**83**	P	**P**	**15 47 51.4**	**-0.2**
	18nm,0.6s,mb4.7,baz=270,slow=3.0,SNR=2.8						
CTA	**Charters Tower**	**31.51**	**270**	*e*P	**P**	**15 48 13.7**	**+1.3**
	11nm,0.4s,mb4.7						
CTA	**Charters Tower**	**31.51**	**270**	P	**P**	**15 48 13.7**	**+1.3**
	16nm,0.4s,mb4.8,baz=96,slow=10,SNR=53						
CTAO	**Charters Tower**	**31.51**	**270**	*e*P	**P**	**15 48 12.9**	**+0.5**
	16nm,0.5s,mb4.7						
PMG	**Port Moresby**	**34.58**	**289**	P	**P**	**15 48 39.3**	**+1.0**
	20nm,0.7s,mb4.7,baz=127,slow=8.8,SNR=6.6						
STKA	**Stephens Creek**	**34.70**	**248**	P	**P**	**15 48 40.0**	**+0.9**
	2.7nm,0.9s,mb3.7,baz=107,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**42.04**	**261**	P	**P**	**15 49 39.5**	**0.0**
	2.8nm,0.6s,mb3.9,baz=96,slow=6.5,SNR=49						
ASPA	**Alice Springs**	**42.05**	**261**	*e*P	**P**	**15 49 39.5**	**+0.1**
WB2	**Warramunga Arr**	**42.42**	**266**	*e*P	**P**	**15 49 42.0**	**-0.4**
WRAB	**Tennant Creek**	**42.42**	**266**	*e*P	**P**	**15 49 41.6**	**-0.8**
	9.1nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**42.43**	**266**	P	**P**	**15 49 42.1**	**-0.4**
	9.7nm,0.6s,mb4.4,baz=97,slow=8.4,SNR=113						
KAKA	**Kakadu**	**46.36**	**275**	*e*P	**P**	**15 50 12.3**	**-0.9**
	12nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**50.85**	**266**	*e*P	**P**	**15 50 46.7**	**-0.4**
	12nm,0.8s,mb4.3						
VNDA	**Vanda**	**54.23**	**185**	P	**P**	**15 51 10.2**	**-0.5**
	1.8nm,0.8s,mb3.5,baz=1.5,slow=5.5,SNR=7.4						
QSPA	**South Pole Qui**	**66.03**	**180**	⇑*i*P	**P**	**15 52 28.7**	**-0.2**
	15nm,0.7s,mb4.7						
MAW	**Mawson**	**77.62**	**200**	P	**P**	**15 53 34.0**	**-2.2**
	2.6nm,0.8s,mb3.7,baz=97,slow=8.1,SNR=3.8						
NVAR	**Mina Array Bea**	**84.83**	**44**	P	**P**	**15 54 14.1**	**+0.3**
	1.4nm,0.6s,mb3.7,baz=214,slow=5.9,SNR=10						
CMAR	**Chiang Mai Arr**	**89.61**	**290**	P	**P**	**15 54 38.0**	**+1.1**
	0.9nm,0.9s,mb3.6,baz=127,slow=2.9,SNR=4.6						
TXAR	**Lajitas Array**	**90.48**	**58**	P	**P**	**15 54 41.3**	**+0.7**
	3.5nm,0.7s,mb4.3,baz=213,slow=6.3,SNR=21						
PDAR	**Pinedale Array**	**92.77**	**44**	P	**P**	**15 54 50.7**	**-0.2**
	1.0nm,0.8s,mb3.9,baz=203,slow=4.6,SNR=9.1						
ARCES	**ARCESS Array B**	**132.04**	**348**	PKP	PKPdf	16 00 46.2	-1.2
	3.1nm,0.8s,baz=18,slow=3.8,SNR=4.9						
ARCES	**ARCESS Array B**	**132.04**	**348**	PKP	PKPdf	16 00 46.2	-1.2
AKASG	**Malin Array Be**	**145.11**	**327**	PKPbc	PKPbc	16 01 11.5	-0.6
	1.1nm,0.5s,baz=45,slow=4.3,SNR=10						
BRTR	**Keskin Array B**	**147.69**	**307**	PKPbc	PKPdf	16 01 17.9	+2.0
	0.4nm,0.7s,baz=45,slow=5.8,SNR=2.8						
CLL	**Collm**	**151.01**	**343**	⇓*i*PKP1	PKPdf	16 01 27.5	+6.8
DBIC	**Dimbokro**	**162.09**	**164**	PKP	PKPdf	16 01 35.3	-0.3
	0.7nm,0.4s,baz=310,slow=21,SNR=3.6						

IDC 12 15:48:28.1±5.7, 6.99N×94.46E, mb3.3/3, mb1 3.5/4, mb1mx3.4/17, mbtmp3.3/4, Error ellipse: s-maj=173.6km s-min=28.0km az=76.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.21**	**21**	Pn	P	15 51 23.3	-2.9
	baz=231,slow=13,SNR=9.5						
SONM	**Songino Array**	**41.95**	**12**	P	P	15 56 20.7	-1.6
	0.6nm,0.7s,baz=207,slow=6.4,SNR=6.1						
WRA	**Warramunga Arr**	**47.50**	**125**	P	P	15 57 04.4	-2.8
	0.3nm,0.7s,baz=302,slow=9.0,SNR=4.7						
ASAR	**Alice Springs**	**49.11**	**130**	P	P	15 57 18.4	-1.2
	0.3nm,0.8s,baz=305,slow=7.5,SNR=3.8						

*CSEM **12** 15:53:02.7±0.1, 39.21N×27.83E, h5km, MD3.5, Error ellipse: s-maj=1.4km s-min=1.3km az=115.0*

*THE **12** 15:53:03.4, 39.10N×28.00E, h15km, ML3.8*

*ATH **12** 15:53:03.2, 39.28N×27.83E, h16km±9km, MD3.8/5*

*NEIC **12** 15:53:03.2, 39.28N×27.83E, h16km, MD3.8(ATH), After ATH.*

*ISK **12** 15:53:03.4, 39.19N×27.76E, h15km, MD3.5, ML3.6*

ISC 12 15:53:03.0±0.5, 39.19N±0.02×27.77E±0.02, h5km±4km, n65, σ0°90/82, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKS	**Akhisar**	**0.31**	**175**	*i* PG	**Pg**	**15 53 10.2**	**+0.9**
BALB	**Balikesir**	**0.46**	**10**	*i* Pg	**Pg**	**15 53 13.1**	**+1.0**
BTOK	**Tokmak**	**0.60**	**19**	*i* P	**Pg**	**15 53 15.6**	**+0.5**
BTOK				*i* S	**Sg**	**15 53 24.4**	**+1.3**
AYVA	**Ayvalik**	**0.85**	**278**	*i* P	**Pb**	**15 53 20.4**	**+0.5**
AYVA				*i* S	**Sb**	**15 53 32.5**	**+1.1**
KDAG	**Bornova**	**0.88**	**207**	*i* P	**Pb**	**15 53 20.6**	**+0.2**
KDAG				*i* S	**Sb**	**15 53 33.1**	**+0.8**
IZM	**Izmir**	**0.89**	**207**	PG	**Pg**	**15 53 20.6**	**-0.2**
IZM				SG	**Sg**	**15 53 33.4**	**+0.8**
MANT	**Manisa**	**0.93**	**139**	*i* P	**Pb**	**15 53 21.7**	**+0.5**
MANT				*i* S	**Sb**	**15 53 34.2**	**+0.4**
BLCB	**Balcova**	**0.99**	**216**	*i* PG	**Pg**	**15 53 22.7**	**-0.1**
EDC	**Edincik**	**1.16**	**3**	PN	**Pn**	**15 53 25.7**	**-0.1**
KCT	**Karacabey**	**1.16**	**23**	*i* PN	**Pn**	**15 53 25.8**	**-0.1**
BNT	**Bandirma**	**1.17**	**5**	*i* PN	**Pn**	**15 53 26.1**	**+0.1**
PRK	**Paraskevi**	**1.17**	**273**	*e*PN	**Pn**	**15 53 26.4**	**+0.4**
PRK				*e*SN	**Sn**	**15 53 42.5**	**0.0**
ORLT	**Orhaneli**	**1.22**	**45**	PN	**Pn**	**15 53 27.0**	**+0.3**
MRMT	**Marmara Adasi**	**1.42**	**354**	PN	**Pn**	**15 53 29.5**	**0.0**
ULDT	**Uludag**	**1.42**	**47**	*i* P	**Pn**	**15 53 30.3**	**+0.7**
ULDT				*i* S	**Sb**	**15 53 50.5**	**+2.6**
BOZC	**Bozcaada**	**1.48**	**297**	*i* P	**Pn**	**15 53 30.6**	**+0.1**
BOZC				S	**Sb**	**15 53 53.0**	**+3.3**
AYDN	**Tasoluk**	**1.53**	**177**	*i* P	**Pn**	**15 53 31.0**	**-0.2**
AYDN				*i* S	**Sb**	**15 53 51.3**	**+0.1**
SART	**Tekirdag**	**1.56**	**343**	P	**Pn**	**15 53 32.3**	**+0.6**
MFT	**Murefte**	**1.64**	**347**	PN	**Pn**	**15 53 32.2**	**-0.5**
SMG	**Samos**	**1.65**	**207**	*e*PN	**Pn**	**15 53 34.5**	**+1.6**
SMG				*e*SN	**Sn**	**15 53 58.5**	**+3.7**
DNZL	**Cakiroluk**	**1.80**	**146**	*i* P	**Pn**	**15 53 35.0**	**0.0**
DNZL				*i* S	**Sn**	**15 53 56.6**	**-2.0**
ALT	**Altintas**	**1.82**	**94**	PN	**Pn**	**15 53 35.3**	**0.0**
YLV	**Yalova**	**1.84**	**41**	PN	**Pn**	**15 53 35.2**	**-0.4**
MLSB	**Milas**	**1.89**	**180**	*e*PN	**Pn**	**15 53 36.3**	**-0.1**
BADT	**Buyukada**	**1.95**	**31**	PN	**Pn**	**15 53 36.8**	**-0.4**
ISK	**Istanbul-Kandi**	**2.11**	**27**	*e*PN	**Pn**	**15 53 39.5**	**0.0**
LIA	**Limnos Island**	**2.12**	**290**	*e*PB	**Pb**	**15 53 39.6**	**-2.1**
BDRM	**K

PLV					*e*Pg	Pg	16 01 18.0	-0.9
PLV					*e*Sg	Sg	16 01 42.7	-3.9
YTV	**Yen Tu**	**2.41**	**31**		*e*Pn	Pn	16 01 17.5	-0.6
YTV					*e*Pg	Pg	16 01 24.1	-1.6
YTV					*e*Sg	Sg	16 01 55.0	-2.9
DHV	**Doan Hung**	**2.53**	**356**		*e*Pn	Pn	16 01 18.3	-1.5
DHV					*e*Pg	Pg	16 01 25.4	-2.8
DHV					*e*Sg	Sg	16 02 00.2	-1.7
MTZV	**Met**	**2.61**	**20**		*e*Pn	Pn	16 01 20.6	-0.3
MTZV					*e*Pg	Pg	16 01 27.1	-2.6
MTZV					*e*Sg	Sg	16 02 01.6	-2.8
UBT	**Ubonrachathani**	**3.84**	**185**		P	Pn	16 01 36.0	-2.4
NANT	**Nan**	**4.44**	**267**		PN	Pn	16 01 42.0	-5.0
NANT					PG	Sn	16 02 50.0	+10
NANT					SG	Sg	16 02 56.5	-9.0
NST	**Nakhon Sawan**	**6.05**	**237**		PN	Pn	16 02 35.4	+26
NST					PG	Pg	16 02 42.0	+3.5
NST					SG	Sg	16 03 43.8	-15
CHG	**Chiang Mai**	**6.10**	**268**		⇑P	Pg	16 02 29.8	-10

*MOS **12** 16:05:22.8±1.3,53.16N×159.73E,h64km,mb4.1/1,Error ellipse: s-maj=25.7km s-min=11.6km az=81.5*
*KRSC **12** 16:05:23.7±1.3,53.11N×159.96E,h53km±2km,ML4.1*
ISC 12 16:05:23.6±0.6,53.11N±0.03×159.98E±0.06,h59km±5km, n37,σ0°76/69,1D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.03**	**105**	P	**P**	**16 05 32.3**	**0.0**
SPN				S	**S**	**16 05 38.2**	**-0.6**
SPN	**Mys Shipunski**	**0.03**	**105**	*i* P	**P**	**16 05 32.2**	**-0.1**
SPN				*i* S	**S**	**16 05 38.3**	**-0.5**
NLC	**Nalytchevo**	**0.39**	**280**	*i* P	**P**	**16 05 34.2**	**-0.2**
NLC				*i* S	**S**	**16 05 42.0**	**-0.4**
SDLR	**Sedlovina**	**0.68**	**285**	*i* P	**P**	**16 05 37.6**	**0.0**
SDLR				*e*S	**S**	**16 05 48.0**	**0.0**
UGLR	**Uglovaya**	**0.70**	**279**	*i* P	**P**	**16 05 38.3**	**+0.4**
UGLR				*i* S	**S**	**16 05 49.2**	**+0.7**
SMAR	**Somma**	**0.72**	**283**	*i* P	**P**	**16 05 38.2**	**0.0**
SMAR				*e*S	**S**	**16 05 48.7**	**-0.3**
AVH	**Avacha**	**0.76**	**283**	*i* P	**P**	**16 05 38.9**	**+0.2**
AVH				*i* S	**S**	**16 05 50.1**	**+0.3**
PET	**Petropavlovsk**	**0.80**	**265**	P	**P**	**16 05 39.1**	**-0.1**
PET				S	**S**	**16 05 50.1**	**-0.6**
PET	**Petropavlovsk**	**0.80**	**265**	*d i* PN	**P**	**16 05 38.9**	**-0.3**
PET				*i* S	**S**	**16 05 50.0**	**-0.7**
PET	**Petropavlovsk**	**0.80**	**265**	PN	**P**	**16 05 39.1**	**-0.1**
PET				S	**S**	**16 05 50.1**	**-0.6**
PET	**Petropavlovsk**	**0.80**	**265**	*i* P	**P**	**16 05 39.1**	**-0.1**
PET				*i* S	**S**	**16 05 50.2**	**-0.5**
KOK	**Koryaka**	**0.83**	**284**	*i* P	**P**	**16 05 39.5**	**0.0**
KOK				*e*S	**S**	**16 05 51.0**	**-0.3**
RUS	**Russkaya**	**1.11**	**233**	P	**P**	**16 05 43.3**	**-0.1**
RUS				S	**S**	**16 05 57.4**	**-0.7**
RUS	**Russkaya**	**1.11**	**233**	*i* P	**P**	**16 05 43.2**	**-0.2**
RUS				*i* S	**S**	**16 05 57.6**	**-0.5**
KRMR	**Karymshinskiy**	**1.15**	**257**	*i* P	**P**	**16 05 44.0**	**+0.1**
KRMR				*i* S	**S**	**16 05 59.0**	**+0.1**
GRL	**Gorelyy**	**1.28**	**245**	*i* P	**P**	**16 05 46.3**	**+0.5**
GRL				*e*S	**S**	**16 06 02.4**	**+0.2**
GNL	**Ganaly**	**1.35**	**297**	*i* P	**P**	**16 05 46.6**	**-0.3**
GNL				*e*S	**S**	**16 06 03.5**	**-0.5**
APC	**Apacha**	**1.71**	**265**	*i* P	**P**	**16 05 52.4**	**+0.7**
APC				*e*S	**S**	**16 06 13.0**	**+0.5**
APC				Smax			
	600nm,0.8s						
TUMR	**Tumrok**	**2.18**	**3**	*i* P	**P**	**16 05 58.8**	**+0.4**
TUMR				*e*S	**S**	**16 06 25.3**	**+1.1**
PAU	**Pauzhetka**	**2.54**	**231**	*e*P	**P**	**16 06 04.0**	**+0.5**
PAU				*e*S	**S**	**16 06 33.5**	**+0.2**
PAU				Smax			
	240nm,0.7s						
KMNR	**Kamenistaya**	**2.66**	**3**	*e*P	**P**	**16 06 05.6**	**+0.5**
KMNR				*e*S	**S**	**16 06 36.9**	**+0.6**
KPT	**Kopyto**	**2.87**	**3**	*e*P	**P**	**16 06 08.2**	**+0.1**
KPT				*e*S	**S**	**16 06 42.1**	**+0.5**
ESO	**Esso**	**2.92**	**346**	*i* P	**P**	**16 06 09.4**	**+0.6**
ESO				*e*S	**S**	**16 06 42.2**	**-0.7**
ESO				Smax			
	50nm,0.9s						
KOZ	**Kozyrevsk**	**2.96**	**359**	P	**P**	**16 06 09.0**	**-0.4**
KOZ	**Kozyrevsk**	**2.96**	**359**	*e*P	**P**	**16 06 09.3**	**-0.1**
KOZ				*e*S	**S**	**16 06 43.7**	**-0.1**
KOZR	**Kozyr**	**2.97**	**359**	PN	**P**	**16 06 09.0**	**-0.5**
SRDR	**Sredinnyy**	**3.22**	**357**	*e*P	**P**	**16 06 12.1**	**-1.0**
SRDR				*e*S	**S**	**16 06 48.3**	**-2.1**
KLY	**Klyuchi**	**3.24**	**7**	P	**P**	**16 06 13.7**	**+0.4**
KLY				S	**S**	**16 06 50.8**	**0.0**
KLY	**Klyuchi**	**3.24**	**7**	*e*P	**P**	**16 06 13.7**	**+0.4**
KLY				*e*S	**S**	**16 06 52.2**	**+1.4**
KBTR	**Krutoberegovo**	**3.52**	**27**	P	**P**	**16 06 18.0**	**+0.8**
KBTR				S	**S**	**16 06 57.2**	**-0.7**
KBTR	**Krutoberegovo**	**3.52**	**27**	*e*P	**P**	**16 06 17.9**	**+0.7**
KBTR				*e*S	**S**	**16 06 57.0**	**-0.9**
KBG	**Krutoberegovo**	**3.53**	**26**	*e*P	**P**	**16 06 20.4**	**+3.0**
KBG				*e*S	**S**	**16 07 00.6**	**+2.4**
KBG				Smax			
	500nm,1.0s						
SVLR	**Shiveluch**	**3.55**	**11**	*e*P	**P**	**16 06 18.6**	**+0.9**
SVLR				*e*S	**S**	**16 06 57.7**	**-1.1**
BKI	**Bering**	**4.10**	**57**	*e*P	**P**	**16 06 24.3**	**-1.1**
BKI				*i* S	**S**	**16 07 06.1**	**-6.5**
BKI				Smax			
	20nm,0.5s						
MA2	**Magadan**	**8.25**	**325**	*i* PN	**P**	**16 07 17.9**	**-5.2**
MA2				pmax	pmax		
	comp=Z,11nm,1.2s						
BILL	**Bilibino**	**15.29**	**9**	*e*P	**P**	**16 08 54.9**	**-1.9**
BILL				MLR	MLR		
	comp=Z,100nm,19.0s						
YKA	**Yellowknife Ar**	**43.20**	**43**	*i* P	**P**	**16 13 19.0**	**-0.8**

*LDG **12** 16:12:21.2±0.3,13.63S×167.36E,h10km,Mb4.7/4,Error ellipse: s-maj=39.8km s-min=17.8km az=92.0*
*IDC **12** 16:12:38.5±2.9,14.60S×167.35E,h163km±26km, mb4.1/17,mb1 4.2/17,mb1mx4.2/20,mbtmp4.5/17,Error ellipse: s-maj=14.8km s-min=12.9km az=139.0*
*BJI **12** 16:12:39.0,14.60S×167.30E,h167km,mB5.1,mb4.2*
*NEIC **12** 16:12:39.0±3.4,14.62S×167.28E,h168km±29km, mb4.6/12,Error ellipse: s-maj=14.8km s-min=9.4km az=58.0*
ISC 12 16:12:35.1±3.3,14.62S±0.09×167.34E±0.09, h148km±30km,n74,σ0°92/37,mb4.4/25,25C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**20.40**	**282**	P	**P**	**16 17 03.6**	**+1.3**
	21nm,1.1s,baz=347,slow=7.0,SNR=3.8						
CTA	**Charters Tower**	**20.84**	**252**	P	**P**	**16 17 08.0**	**+1.4**
	7.1nm,0.6s,baz=69,slow=14,SNR=8.1						
CTA	**Charters Tower**	**20.84**	**252**	P	**P**	**16 17 08.0**	**+1.4**
CTAO	**Charters Tower**	**20.84**	**252**	*e*P	**P**	**16 17 06.3**	**-0.3**
	6.7nm,0.5s						
URZ	**Urewera**	**25.09**	**162**	P	**P**	**16 17 49.5**	**+2.0**
	1.9nm,0.4s,mb4.0,baz=181,slow=20,SNR=2.7						
STKA	**Stephens Creek**	**29.12**	**229**	*e*P	**P**	**16 18 24.8**	**+0.6**
	9.5nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**29.12**	**229**	P	**P**	**16 18 24.9**	**+0.6**
	11nm,0.5s,mb4.8,baz=45,slow=8.0,SNR=44						
STKA				PcP	PcP	16 21 27.7	-0.7
	6.3nm,0.7s,baz=88,slow=3.4,SNR=7.9						
RPZ	**Rata Peaks**	**29.18**	**174**	P	**P**	**16 18 25.0**	**+0.4**
	11nm,1.1s,mb4.5,baz=349,slow=3.8,SNR=4.3						
WRAB	**Tennant Creek**	**31.91**	**256**	*e*P	**P**	**16 18 47.5**	**-1.4**
	1.8nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**31.92**	**256**	P	**P**	**16 18 47.7**	**-1.3**
	0.8nm,0.3s,mb3.9,baz=85,slow=8.7,SNR=8.9						
WRA				S	**S**	**16 23 49.3**	**+1.5**
	1.4nm,0.9s,baz=76,slow=15,SNR=5.5						
ASAR	**Alice Springs**	**32.78**	**249**	P	**P**	**16 18 55.4**	**-1.0**
	4.0nm,0.5s,mb4.4,baz=79,slow=9.0,SNR=51						
ASAR				PcP	PcP	16 21 37.0	-1.1
	1.4nm,0.7s,baz=68,slow=2.9,SNR=7.6						
FORT	**Forrest**	**39.41**	**239**	*e*P	**P**	**16 19 52.2**	**+0.1**
	54nm,0.7s,mb5.3						
FITZ	**Fitzroy Crossi**	**40.10**	**259**	*e*P	**P**	**16 19 58.2**	**+0.3**
	7.3nm,0.6s,mb4.5						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**45.64**	**255**	*e*P	**P**	**16 20 42.1**	**-0.6**
	16nm,0.9s,mb4.6						
NWAO	**Narrogin (SRO)**	**48.87**	**239**	P	**P**	**16 21 06.7**	**-1.0**
	14nm,0.8s,mb4.7,baz=65,slow=9.6,SNR=7.0						
VNDA	**Vanda**	**62.98**	**181**	P	**P**	**16 22 46.7**	**-1.2**
	3.2nm,0.5s,mb4.4,baz=355,slow=7.2,SNR=32						
VNDA	**Vanda**	**62.98**	**181**	*e*P	**P**	**16 22 46.5**	**-1.4**
	2.9nm,0.6s,mb4.3						
SBA	**Scott Base**	**63.25**	**180**	*e*P	**P**	**16 22 49.2**	**-0.5**
	10nm,0.8s,mb4.7						
FX1	**Attu Island--F**	**67.41**	**4**	P	**P**	**16 23 16.9**	**+0.3**
	14nm,0.6s,mb5.0,baz=316,slow=10,SNR=2.8						
ENH	**Enshi**	**71.35**	**309**	*e*P	**P**	**16 23 39.9**	**-1.0**
	8.6nm,1.0s,mb4.4						
CMAR	**Chiang Mai Arr**	**74.97**	**294**	P	**P**	**16 24 03.2**	**+1.0**
	2.3nm,0.7s,mb3.9,baz=126,slow=4.8,SNR=16						
QSPA	**South Pole Qui**	**75.41**	**180**	⇑*i*P	**P**	**16 24 03.3**	**-0.3**
	8.1nm,0.7s,mb4.5						
YAK	**Yakutsk**	**81.94**	**343**	*e*P	**P**	**16 24 38.8**	**-0.5**
	32nm,0.9s,mb5.0						
MAW	**Mawson**	**82.02**	**202**	P	**P**	**16 24 40.0**	**+0.4**
	4.6nm,0.7s,mb4.2,baz=106,slow=7.5,SNR=8.0						
SONM	**Songino Array**	**82.45**	**324**	P	**P**	**16 24 43.3**	**+1.1**
	1.1nm,0.5s,mb3.7,baz=139,slow=5.3,SNR=22						
LSA	**Lhasa**	**85.56**	**302**	*e*P	**P**	**16 24 59.3**	**+1.1**
	2.3nm,0.7s,mb4.0						
ILAR	**Eielson Array**	**86.40**	**18**	P	**P**	**16 25 00.1**	**-1.3**
	2.7nm,0.7s,mb4.1,baz=239,slow=4.8,SNR=33						
NVAR	**Mina Array Bea**	**87.14**	**49**	P	**P**	**16 25 06.5**	**+0.8**
	0.6nm,0.8s,mb3.5,baz=226,slow=6.8,SNR=4.7						
NVAR	**Mina Array Bea**	**87.14**	**49**	P	**P**	**16 25 06.5**	**+0.8**
JIRN	**Jiri**	**89.07**	**299**	*e*P	**P**	**16 25 15.4**	**+0.4**
	6.3nm,0.7s,mb4.6						
GUN	**Gumba**	**89.40**	**299**	*e*P	**P**	**16 25 17.1**	**+0.5**
PKI	**Pulchoki**	**89.70**	**298**	*e*P	**P**	**16 25 17.8**	**-0.2**
GKN	**Gorkha**	**90.48**	**299**	*e*P	**P**	**16 25 21.0**	**-0.7**
ZAL	**Zalesovo**	**97.35**	**324**	P	**P**	**16 25 53.1**	**+0.6**
	1.5nm,0.5s,mb4.6,baz=251,slow=3.6,SNR=10						
YKA	**Yellowknife Ar**	**97.41**	**27**	P	**P**	**16 25 51.7**	**-0.9**
	0.4nm,0.8s,mb3.8,baz=255,slow=4.5,SNR=7.0						
YKA	**Yellowknife Ar**	**97.41**	**27**	P	**P**	**16 25 51.7**	**-0.9**
ARCES	**ARCESS Array B**	**120.16**	**345**	PKP	PKPdf	16 31 08.7	+0.7
	3.5nm,0.7s,baz=62,slow=1.4,SNR=30						
FINES	**FINESS Array B**	**125.64**	**338**	PKP	PKPdf	16 31 20.0	+1.3
	2.1nm,0.8s,baz=63,slow=4.3,SNR=7.9						
AKASG	**Malin Array Be**	**130.68**	**326**	PKP	PKPdf	16 31 31.2	+2.5
	0.2nm,0.3s,baz=40,slow=1.7,SNR=4.2						
GERES	**GERESS Array B**	**139.57**	**333**	PKP	PKPdf	16 31 45.8	+0.7
	0.7nm,0.7s,slow=1.3,SNR=5.6						
HAU	**Haudompre**	**143.17**	**339**	*e*PKP1	PKPbc	16 31 50.7	+1.0
	12nm,0.8s						
TIP	**Timpagrande**	**144.41**	**319**	*e*PKPdf	PKPdf	16 31 54.9	+1.0
CABF	**La Chapelle**	**144.45**	**338**	⇑*i*PKP1	PKPbc	16 31 55.0	+1.6
	26nm,0.8s						
FLN	**La Foliniere**	**144.50**	**346**	*e*PKP1	PKPbc	16 31 54.0	+0.5
	30nm,0.8s						
LDF	**La Drutiere**	**144.57**	**346**	*e*PKP1	PKPbc	16 31 54.3	+0.6
	50nm,1.0s						
GRR	**Gorron**	**144.94**	**346**	⇑*i*PKP1	PKPbc	16 31 55.8	+1.0
	79nm,0.8s						
SSF	**Saint Saulge**	**144.95**	**341**	⇑*i*PKP1	PKPbc	16 31 56.3	+1.5
	86nm,0.8s						
HYF	**Humbligny**	**145.04**	**342**	⇑*i*PKP1	PKPbc	16 31 56.9	+1.8
LPL	**La Plagne**	**145.12**	**336**	⇑*i*PKP1	PKPbc	16 31 57.3	+2.0
	38nm,0.8s						
LPG	**La Plagne**	**145.13**	**336**	⇑*i*PKP1	PKPbc	16 31 57.5	+2.2
	41nm,0.7s						
SMF	**Signal de Mont**	**145.21**	**340**	⇑*i*PKP1	PKPbc	16 31 56.9	+1.4
	88nm,1.1s						
AVF	**Avril sur Loir**	**145.24**	**341**	⇑*i*PKP1	PKPbc	16 31 57.0	+1.4
	35nm,1.0s						
SGMF	**Saint Gilles**	**145.43**	**348**	⇑*i*PKP1	PKPbc	16 31 57.4	+1.4
BNI	**Bardonecchia**	**145.52**	**336**	*e*PKPdf	PKPdf	16 31 58.1	+2.5
BGF	**Bois d'Agland**	**145.61**	**341**	⇑*i*PKP1	PKPbc	16 31 58.2	+1.7
	24nm,0.6s						
MBDF	**Montbardon**	**145.75**	**335**	⇑*i*PKP1	PKPbc	16 31 58.6	+1.7
	13nm,0.6s						
QUIF	**Quistinic**	**145.88**	**349**	*e*PKP1	PKPbc	16 31 58.4	+1.3
ORIF	**Oris-en-Rattie**	**145.95**	**336**	⇑*i*PKP1	PKPbc	16 31 59.6	+2.2
	54nm,0.8s						
TCF	**Toulx Ste Croi**	**146.05**	**341**	⇑*i*PKP1	PKPbc	16 31 59.5	+1.9
	66nm,1.3s						
SBF	**Sospel**	**146.17**	**333**	*e*PKP1	PKPbc	16 31 59.6	+1.6
	62nm,0.8s						
MFF	**Saint Martin d**	**146.43**	**344**	⇑*i*PKP1	PKPbc	16 32 00.4	+1.9
	59nm,0.8s						
VIVF	**Saint-Julien-l**	**146.46**	**337**	⇑*i*PKP1	PKPbc	16 32 01.0	+2.4
	16nm,0.8s						
PGF	**Pioggiola**	**146.49**	**330**	⇑*i*PKP1	PKPbc	16 32 00.7	+1.9
	17nm,0.5s						
FRF	**La Foret Royal**	**146.76**	**334**	⇑*i*PKP1	PKPbc	16 32 01.3	+2.0
	70nm,1.1s						
SMRF	**Simiane la Rot**	**146.86**	**336**	⇑*i*PKP1	PKPbc	16 32 02.2	+2.6
	46nm,1.1s						
LMR	**La Mourre**	**147.00**	**334**	⇑*i*PKP1	PKPdf	16 32 02.0	+3.9
	63nm,1.2s						
RJF	**Les Rejaudoux**	**147.14**	**341**	⇑*i*PKP1	PKPdf	16 32 02.8	+4.5
	31nm,0.9s						
CAF	**Calviac**	**147.31**	**340**	⇑*i*PKP1	PKPdf	16 32 03.4	+4.8
	12nm,0.8s						
LASF	**Ste Croix**	**147.43**	**338**	⇑*i*PKP1	PKPdf	16 32 03.7	+4.9
	59nm,1.2s						
LFF	**La Frestale**	**147.71**	**342**	⇑*i*PKP1	PKPdf	16 32 04.3	+5.0
	46nm,0.8s						
MTLF	**Montolieu**	**148.66**	**339**	⇑*i*PKP1	PKPdf	16 32 06.8	+5.9
	41nm,0.9s						
EPF	**Esparros**	**149.56**	**341**	*e*PKP1	PKPdf	16 32 10.3	+8.1
	5.5nm,0.5s						
SJPF	**Ste Jean**	**149.95**	**343**	*e*PKP1	PKPdf	16 32 11.0	+8.2
ETSF	**Etsaut**	**149.95**	**342**	*e*PKP1	PKPdf	16 32 10.5	+7.7
	14nm,0.6s						

*IDC **12** 16:26:22.2±5.1,5.85S×133.77E,mb3.9/1,mb1 4.3/4, mb1mx3.9/12,mbtmp4.1/4,ML3.8/3,Error ellipse: s-maj=92.7km s-min=35.7km az=105.0*
*NEIC **12** 16:26:24.4±4.2,6.01S×133.65E,h10km,mb4.3/1,Error ellipse: s-maj=54.9km s-min=21.6km az=160.0*
ISC 12 16:26:18.8±2.0,5.4S±0.1×133.6E±0.2,h33km,n10, σ1°21/12,mb3.6/1,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.34**	**189**	*e*P	**P**	**16 28 08.2**	**+1.8**
	25nm,0.6s						
WRAB	**Tennant Creek**	**14.46**	**177**	*e*P	**P**	**16 29 39.0**	**-4.2**
	13nm,0.9s						
WRA	**Warramunga Arr**	**14.47**	**177**	Pn	**P**	**16 29 41.3**	**-2.0**
	0.9nm,0.3s,baz=358,slow=13,SNR=75						
WRA				Sn	**S**	**16 32 22.8**	**-0.6**
	1.2nm,0.3s,baz=358,slow=23,SNR=5.5						
WB2	**Warramunga Arr**	**14.47**	**177**	*e*P	**P**	**16 29 41.6**	**-1.7**
FITZ	**Fitzroy Crossi**	**14.80**	**211**	*e*P	**P**	**16 29 47.1**	**-0.5**
	9.1nm,0.6s						
ASAR	**Alice Springs**	**18.16**	**179**	P	**P**	**16 30 30.4**	**+0.2**
	0.9nm,0.3s,baz=349,slow=14,SNR=54						
ASAR				S	**S**	**16 33 49.7**	**+1.1**
	0.3nm,0.3s,baz=4.7,slow=27,SNR=5.3						
ASPA	**Alice Springs**	**18.16**	**179**	*e*P	**P**	**16 30 30.7**	**+0.5**
CTA	**Charters Tower**	**19.12**	**141**	P	**P**	**16 30 42.2**	**+0.4**
	0.1nm,0.3s,baz=319,slow=18,SNR=2.7						
CTAO	**Charters Tower**	**19.12**	**141**	*e*P	**P**	**16 30 41.2**	**-0.7**
	27nm,1.4s						
STKA	**Stephens Creek**	**27.39**	**165**	P	**P**	**16 32 04.9**	**+1.5**
	1.4nm,0.8s,mb3.6,baz=321,slow=13,SNR=3.4						

*NEIC **12** 16:31:06.6,32.94S×71.98W,h22km,ML3.5(GUC),After GUC.*
GUC 12 16:31:06.6±0.6,32.94S×71.98W,h22km±7km,MD4.1, ML3.5,4C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.29**	**106**	⇓*i*P	Pb	16 31 13.4	0.0
IHA				*i* S	Sb	16 31 18.1	+0.2
PACH	**Papudo**	**0.61**	**49**	⇓*i*P	Pb	16 31 18.4	-0.1
PACH				*i* S	Sb	16 31 27.0	+0.3
LCCH	**Las Cruces**	**0.63**	**147**	⇑*i*P	Pb	16 31 18.3	-0.5
ROCH	**El Roble**	**0.81**	**92**	⇑*i*P	Pb	16 31 21.6	-0.3
LNV	**Longovilo**	**1.11**	**155**	*e*P	Pb	16 31 25.9	-1.2
LNV				*i* S	Sb	16 31 41.1	-0.1
RCDM	**Rinconada Maip**	**1.12**	**119**	*e*P	Pn	16 31 25.9	-1.2
TACH	**Talagante**	**1.12**	**129**	⇑*i*P	Pn	16 31 26.3	-0.8
TACH				*i* S	Sb	16 31 41.0	-0.4
JACH	**Jahuel**	**1.20**	**78**	⇓*i*P	Pn	16 31 27.6	-0.6
JACH				*i* S	Sb	16 31 43.5	0.0
STL	**Santa Lucia**	**1.23**	**114**	*e*P	Pn	16 31 28.0	-0.6
STL				*i* S	Sb	16 31 44.0	-0.4
DSCH	**Colegio Aleman**	**1.27**	**111**	*e*P	Pn	16 31 28.9	-0.3
DSCH				*i* S	Sb	16 31 45.5	0.0
DSCH				AMP		16 31 51.5	
	comp=N,2μm,0.8s						
CLCH	**Cerro Calan**	**1.29**	**111**	⇓*i*P	Pn	16 31 29.5	-0.1
CLCH				*i* S	Sb	16 31 46.3	0.0
CLCH				AMP		16 31 52.3	
	comp=E,2μm,0.2s						
PCH	**Pirque**	**1.40**	**119**	*e*P	Pn	16 31 30.8	-0.3
PCH				*i* S	Sn	16 31 49.6	+0.5
FCH	**Farellones**	**1.47**	**106**	⇓*i*P	Pn	16 31 32.3	+0.2
FCH				*i* S	Sn	16 31 51.5	+0.7
FCH				AMP		16 31 57.2	
	comp=E,887nm,0.5s						
CHCH	**Chadas Angostu**	**1.48**	**132**	*e*P	Pn	16 31 32.2	-0.2
CHCH				*i* S	Sn	16 31 51.7	+0.5
SJCH	**San Jose de Ma**	**1.53**	**117**	*e*P	Pn	16 31 32.6	-0.3
SJCH				*i* S	Sn	16 31 52.6	+0.3
CACH	**El Canelo**	**1.64**	**136**	⇑*i*P	Pn	16 31 35.1	+0.5
CACH				*i* S	Sn	16 31 57.5	+2.3
LMEL	**Las Melosas**	**1.74**	**122**	*e*P	Pn	16 31 36.4	+0.4
LMEL				*i* S	Sn	16 31 58.9	+1.3
LMEL				AMP		16 32 03.7	
	comp=N,1μm,0.3s						
SFDO	**San Fernando**	**1.85**	**155**	*e*P	Pn	16 31 37.0	-0.5

IDC 12 16:42:45.3±12.0,7.43N×93.69E,h61km±97km,mb3.4/5, mb1 3.6/6,mb1mx3.4/18,mbtmp3.6/6,ML3.3/1,Error ellipse: s-maj=119.7km s-min=21.7km az=59.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.10**	**24**	P	P	16 45 35.0	-2.1
	0.1nm,0.3s,baz=210,slow=14,SNR=3.8						
SONM	**Songino Array**	**41.69**	**13**	P	P	16 50 28.1	-1.5
	0.2nm,0.5s,baz=175,slow=11,SNR=3.0						
ZAL	**Zalesovo**	**46.93**	**353**	P	P	16 51 09.7	-2.0
	0.6nm,0.5s,baz=14,slow=2.7,SNR=3.6						
WRA	**Warramunga Arr**	**48.37**	**125**	P	P	16 51 21.2	-2.2
	0.3nm,0.5s,baz=307,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**49.97**	**129**	P	P	16 51 33.8	-1.9
	0.4nm,0.6s,baz=305,slow=7.2,SNR=7.5						
FINES	**FINESS Array B**	**72.90**	**332**	P	P	16 54 07.8	-1.8
	8.1nm,1.2s,baz=100,slow=8.5,SNR=3.4						

IDC 12 16:52:49.8±6.6,12.73N×92.65E,mb3.6/2,mb1 3.7/3, mb1mx3.4/18,mbtmp3.4/3,ML3.3/1,Error ellipse: s-maj=139.6km s-min=46.0km az=103.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.31**	**46**	Pn	P	16 54 50.3	-4.2
	0.1nm,0.3s,baz=236,slow=16,SNR=7.1						
WRA	**Warramunga Arr**	**52.32**	**128**	P	P	17 02 03.6	-2.2
	0.5nm,0.5s,baz=298,slow=9.7,SNR=10						
ASAR	**Alice Springs**	**54.18**	**132**	P	P	17 02 17.7	-1.8
	0.4nm,0.6s,baz=310,slow=6.8,SNR=8.2						

IDC 12 17:02:04.1±9.0,6.73S×155.23E,h81km±66km,mb3.2/4, mb1 3.4/5,mb1mx3.4/14,mbtmp3.5/5,ML2.9/1,Error ellipse: s-maj=67.6km s-min=32.9km az=97.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.42**	**251**	P	P	17 04 03.9	-1.4
	0.9nm,0.3s,baz=129,slow=18,SNR=6.0						
PMG				S	S	17 05 38.3	-1.3
	0.9nm,0.3s,baz=324,slow=7.2,SNR=4.9						
WRA	**Warramunga Arr**	**24.15**	**235**	P	P	17 07 12.8	-1.1
	0.3nm,0.4s,baz=60,slow=9.7,SNR=8.6						
WRA				PcP	PcP	17 10 52.8	-1.5
	0.2nm,0.5s,baz=65,slow=2.4,SNR=4.8						
ASAR	**Alice Springs**	**26.52**	**228**	P	P	17 07 33.3	-2.8
	0.2nm,0.5s,baz

WRA	**Warramunga Arr**	**16.86 139**	Pn	P		17 47 24.1	-0.5
	0.1nm,0.3s,baz=335,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**19.45 147**	P	P		17 47 53.3	-3.2
	0.1nm,0.3s,baz=333,slow=10.0,SNR=12						
CBIJ	**Chichi jima**	**39.19 28**	LR	LR		18 04 34.2	
	comp=Z,382nm,20.6s,baz=260,slow=32						
SONM	**Songino Array**	**56.85 347**	P	P		17 53 11.9	-2.3
	0.3nm,0.6s,baz=158,slow=8.3,SNR=3.6						

IDC 12 17:55:36.3±2.2, 2.64N×95.12E, mb3.8/5, mb1 4.0/6, mb1mx3.7/19, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=76.3km s-min=30.5km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.16**	**13**	Pn	P	17 59 26.8	+0.1
	0.2nm,0.3s,baz=201,slow=11,SNR=32						
WRA	**Warramunga Arr**	**44.56**	**122**	P	P	18 03 50.5	-1.7
	0.4nm,0.7s,baz=301,slow=9.0,SNR=3.7						
SONM	**Songino Array**	**46.07**	**11**	P	P	18 04 01.3	-2.4
	1.0nm,0.7s,baz=189,slow=8.6,SNR=14						
ZAL	**Zalesovo**	**51.83**	**352**	P	P	18 04 46.5	-1.7
	0.8nm,0.4s,baz=229,slow=10,SNR=5.0						
BVAR	**Borovoye Array**	**54.23**	**342**	P	P	18 05 03.8	-2.3
	0.5nm,0.6s,baz=135,slow=6.3,SNR=4.2						
ARCES	**ARCESS Array B**	**80.49**	**340**	P	P	18 07 49.8	-1.6
	2.4nm,1.0s,baz=98,slow=6.4,SNR=2.6						

IDC 12 18:01:28.0±3.2, 24.18S×176.74W, mb4.3/4, mb1 4.4/4, mb1mx4.0/15, mbtmp4.3/4, 1C, Error ellipse: s-maj=133.2km s-min=38.0km az=149.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.46**	**269**	*e*P	P	18 08 19.1	-0.6
	3.0nm,0.4s						
CTA	**Charters Tower**	**34.46**	**269**	P	P	18 08 19.1	-0.6
	4.2nm,0.4s,baz=93,slow=12,SNR=18						
STKA	**Stephens Creek**	**37.39**	**249**	P	P	18 08 42.9	-1.6
	3.0nm,1.1s,baz=109,slow=10,SNR=4.3						
ASAR	**Alice Springs**	**44.93**	**260**	*e*P	P	18 09 44.1	-2.5
	2.1nm,0.5s,baz=94,slow=7.1,SNR=69						
ASPA	**Alice Springs**	**44.93**	**260**	*e*P	P	18 09 45.0	-1.6
WB2	**Warramunga Arr**	**45.35**	**265**	⇑*i*P	P	18 09 47.1	-2.9
WRA	**Warramunga Arr**	**45.36**	**265**	P	P	18 09 47.2	-2.9
	2.2nm,0.5s,baz=102,slow=8.2						
AKASG	**Malin Array Be**	**146.78**	**329**	PKPbc	PKPbc	18 21 11.0	-0.4
	0.9nm,0.3s,baz=42,slow=3.9,SNR=12						
BRTR	**Keskin Array B**	**150.11**	**309**	PKPbc	PKPdf	18 21 20.4	+2.8
	0.5nm,0.6s,baz=136,slow=3.8,SNR=4.8						
BRTR				PKPab	PKPab	18 21 27.2	-1.6
	0.8nm,0.5s,baz=78,slow=4.7,SNR=6.1						

CASC 12 18:21:19.1±2.2, 10.19N×86.90W, h20km±46km, MD3.8, 5C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**1.50**	**43**	*e*P	Pn	18 21 45.2	0.0
SSNN				*e*S	Sn	18 22 05.7	+1.3
MADN	**Villa Maderas**	**1.81**	**48**	⇑*e*P	Pn	18 21 46.2	-3.4
CONN	**Concepcion**	**1.85**	**42**	⇑*e*P	Pn	18 21 46.5	-3.7
TICN	**Ticuantepe**	**1.95**	**23**	⇓*e*P	Pn	18 21 50.5	-1.1
COPN	**Copaltepe**	**2.00**	**9**	⇑*e*P	Pn	18 21 52.7	+0.3
MGAN	**Managua**	**2.05**	**18**	*e*P	Pn	18 21 51.2	-1.9
APYN	**Apoyeque**	**2.10**	**15**	*e*P	Pn	18 21 52.4	-1.5
LEON	**Leon**	**2.21**	**0**	*e*P	Pn	18 21 55.8	+0.4
MOMJ	**Momotombo**	**2.23**	**9**	*e*P	Pn	18 21 53.9	-1.8
MIRN	**Miramar**	**2.24**	**5**	⇑*e*P	Pn	18 21 55.4	-0.5
CNGN	**Cerro Negro**	**2.30**	**5**	*e*P	Pn	18 21 55.4	-1.3
TEL3	**Telica 3**	**2.37**	**1**	⇑*e*P	Pn	18 21 57.2	-0.5
CGA2	**Cerro Gallo 2**	**2.40**	**94**	*e*P	Pn	18 21 56.9	-1.3
PRS1	**Puriscal**	**2.56**	**94**	*e*P	Pn	18 21 59.5	-0.9
LAJ	**Bijagual**	**2.76**	**97**	*e*P	Pn	18 21 58.8	-4.4
LAJ				*e*S	Sn	18 22 24.6	-12

IDC 12 18:25:14.2±5.4, 13.28N×93.14E, mb3.3/2, mb1 3.4/3, mb1mx3.2/18, mbtmp3.1/3, ML3.1/1, Error ellipse: s-maj=123.7km s-min=36.0km az=114.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.59**	**47**	Pn	Pn	18 27 07.3	-1.5
	0.1nm,0.3s,baz=242,slow=15,SNR=3.5						
CMAR				Sn	Sn	18 28 31.9	-4.8
	0.0nm,0.3s,baz=238,slow=26,SNR=3.5						
WRA	**Warramunga Arr**	**52.29**	**128**	P	P	18 34 28.2	-1.8
	0.5nm,1.0s,baz=313,slow=8.2,SNR=5.2						
WRA				PcP	PcP	18 35 38.7	-2.7
	0.1nm,0.4s,baz=326,slow=3.3,SNR=4.7						
ASAR	**Alice Springs**	**54.20**	**132**	P	P	18 34 41.6	-2.4
	0.2nm,0.6s,baz=306,slow=6.8,SNR=7.1						

IDC 12 18:30:01.1±9.4, 5.22N×94.78E, h114km±83km, mb3.4/5, mb1 3.6/6, mb1mx3.4/18, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=53.8km s-min=19.4km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.77**	**17**	P	P	18 33 12.2	-0.4
	0.2nm,0.3s,baz=215,slow=12,SNR=7.7						
SONM	**Songino Array**	**43.61**	**11**	P	P	18 37 53.2	-2.6
	0.5nm,0.6s,baz=191,slow=8.5,SNR=5.8						
WRA	**Warramunga Arr**	**46.23**	**124**	P	P	18 38 15.1	-1.8
	0.9nm,0.7s,baz=303,slow=9.2,SNR=8.4						
ASAR	**Alice Springs**	**47.75**	**129**	P	P	18 38 26.8	-2.1
	0.3nm,0.4s,baz=299,slow=8.0,SNR=9.9						
ZAL	**Zalesovo**	**49.25**	**352**	P	P	18 38 37.9	-2.1
	2.1nm,0.3s,baz=14,slow=1.8,SNR=6.2						
CBIJ	**Chichi jima**	**50.07**	**59**	P	P	18 38 45.1	-1.5
	74nm,0.5s,baz=267,slow=17,SNR=3.2						
GERES	**GERESS Array B**	**80.22**	**319**	P	P	18 41 59.9	-0.7
	0.3nm,0.4s,baz=45,slow=4.2,SNR=2.7						

NIED ***12*** *18:41:00, 34.10N×141.70E, h8km, Mw4.9 Best double couple: M₀2.58×10¹⁶ NP1:φs15°, δ46°, λ96°. NP2:φs186°, δ44°, λ84°.*

BJI ***12*** *18:41:45.2, 34.11N×141.54E, h17km, mB5.2, mb4.9, Ms5.2, Msz5.2*

IDC ***12*** *18:41:46.1±0.5, 34.10N×141.59E, mb4.8/24, mb1 4.9/26, mb1mx4.9/29, mbtmp4.8/26, ML4.5/2, MS4.8/10, Ms1 4.8/10, ms1mx4.3/26, Error ellipse: s-maj=15.4km s-min=11.9km az=102.0*

JMA ***12*** *18:41:48.6±0.4, 34.10N×141.66E, h41km±3km, M5.4*

NEIC ***12*** *18:41:49.0±2.1, 34.09N×141.56E, h20km±14km, mb5.2/58, MS5.1/10, MW4.9(NIED), Error ellipse: s-maj=4.8km s-min=4.5km az=110.0*

MOS ***12*** *18:41:49.5±0.9, 34.13N×141.52E, h33km, mb5.5/59, MS5.1/20, Error ellipse: s-maj=10.5km s-min=4.6km az=113.6*

HRVD ***12*** *18:41:49.0±0.4, 34.08N×141.75E, h19km, MW5.0/59, Centroid moment Tensor Solution. LP body waves: s29,c40; Mantle waves: s59,c103; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.70±.19; Mθθ-0.01±.12; Mφφ-3.68±.14; Mrθ0.44±.33; Mθφ-0.49±.09; Mφr2.43±.27; Best double couple: M₀4.467×10¹⁶ NP1: φs186°, δ28°, λ87°. NP2:φs9°, δ62°, λ91°. Principal axes: T 4.446, Plg73°, Azm283°; N .048, Plg1°, Azm188°; P -4.487, Plg17°, Azm98°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

CSEM ***12*** *18:41:53.8, 34.77N×141.30E, h33km, mb5.7*

ISC 12 18:41:49.6±0.2, 34.08N±0.03×141.58E±0.03, h34km, h34km±1.3km: pP-P, n309, σ0.98/319, mb5.0/99, MS5.0/33, 52C-11D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.76**	**319**	⇑P	P	**18 42 03.3**	**-0.5**
BSO3	**Boso 3**	**1.14**	**310**	⇑P	P	**18 42 09.5**	**+0.3**
BSO4	**Boso 4**	**1.37**	**312**	⇑P	P	**18 42 13.3**	**+0.7**
KTR	**Katsuura**	**1.49**	**316**	P	P	**18 42 14.6**	**+0.3**
JMY	**Miyakejima3**	**1.71**	**270**	P	P	**18 42 17.5**	**0.0**
JMY				S	S	**18 42 39.3**	**+0.9**
CHOJ	**Chosi**	**1.73**	**340**	⇑P	P	**18 42 17.0**	**-0.6**
CHOJ				S	S	**18 42 37.7**	**-1.0**
JHJ2	**Mitsune**	**1.76**	**237**	⇑P	P	**18 42 19.0**	**+0.9**
JHJ	**Hachijo jima 2**	**1.78**	**238**	Pn	P	**18 42 19.4**	**+1.0**
	1μm,0.3s,baz=157,slow=3.3,SNR=97						
JHJ				Sn	S	**18 42 40.6**	**+0.6**
	873nm,0.3s,baz=77,slow=21,SNR=11						
JIM2	**Oshima 3**	**1.89**	**290**	⇑P	P	**18 42 19.5**	**-0.5**
JIZS	**Izushimoda**	**2.32**	**287**	⇑P	P	**18 42 25.9**	**-0.3**
JOD2	**Odawara 2**	**2.37**	**301**	P	P	**18 42 26.2**	**-0.6**
JYN	**Shimob**	**2.87**	**300**	P	P	**18 42 33.7**	**-0.3**
JAG	**Ashikaga**	**2.92**	**324**	⇑P	P	**18 42 34.3**	**-0.4**
JAG				S	S	**18 43 08.6**	**-0.3**
JRY	**Ryogami san**	**2.93**	**312**	⇑P	P	**18 42 33.8**	**-1.0**
JGK	**Kuni**	**3.45**	**317**	⇓P	P	**18 42 42.7**	**+0.4**
MAJO	**Matsushiro**	**3.69**	**313**	*e*P	P	**18 42 44.8**	**-0.9**
MAT	**Matsushiro**	**3.69**	**313**	*e*P	P	**18 42 46.0**	**+0.3**
MAT				*e*S	S	**18 43 32.0**	**+3.3**
MAT	**Matsushiro**	**3.69**	**313**	P	P	**18 42 45.1**	**-0.6**
MAT				S	S	**18 43 30.8**	**+2.1**
MAT	**Matsushiro**	**3.69**	**313**	P	P	**18 42 46.3**	**+0.6**
JIZZ	**Izumozaki**	**4.16**	**327**	P	P	**18 42 53.7**	**+1.4**
JIO	**Ouri**	**4.37**	**358**	⇑P	P	**18 42 51.8**	**-3.5**
CBIJ	**Chichi jima**	**6.98**	**176**	Pn	P	**18 43 28.7**	**-3.4**
	22nm,0.3s,baz=282,slow=20,SNR=4.0						
CBIJ				Sn	S	**18 44 40.4**	**-11**
	55nm,0.3s,baz=276,slow=23,SNR=5.0						
JKD	**Kudamatsu**	**8.05**	**273**	P	P	**18 43 48.1**	**+1.1**
JFA	**Akaike**	**8.97**	**271**	P	P	**18 44 00.4**	**+0.6**
ASAJ	**Asahikawa**	**10.05**	**4**	Pn	P	**18 44 08.3**	**-6.3**
	5.2nm,0.3s,baz=234,slow=9.3,SNR=31						
ASAJ				Sn	S	**18 45 55.0**	**-12**
	2.8nm,0.3s,baz=116,slow=26,SNR=4.8						
YUK	**Yuzh-Kuril'sk**	**10.48**	**17**	*e*P	P	**18 44 16.0**	**-4.5**
YUK				MLR	MLR		
	comp=E,7μm,16.0s						
YUK				MLR	MLR		
	comp=Z,9μm,16.0s						
YUK				MLR	MLR		
	comp=N,8μm,17.0s						
VLA	**Vladivostok**	**11.78**	**323**	*e*P	P	**18 44 37.0**	**-1.1**
VLA				*i* SS	SS	18 46 51.0	-13
VLA				pmax	pmax		
	comp=Z,1μm,3.6s						
VLA				pmax	pmax		
	comp=N,600nm,4.0s						
VLA				pmax	pmax		
	comp=E,700nm,4.0s						
VLA				MLR	MLR		
	comp=E,8μm,16.0s						
VLA				MLR	MLR		
	comp=Z,12μm,16.0s						
VLA				MLR	MLR		
	comp=N,9μm,17.0s						
YSS	**Yuzh-Sakhalins**	**12.89**	**4**	⇓*e*P	P	**18 44 47.0**	**-6.0**
YSS				pmax	pmax		
	comp=N,90nm,1.1s						
YSS				pmax	pmax		
	comp=Z,100nm,1.1s						
YSS				MLR	MLR		
	comp=N,8μm,15.0s						
YSS				MLR	MLR		
	comp=Z,11μm,15.0s						
YSS				MLR	MLR		
	comp=E,5μm,14.0s						
YSS	**Yuzh-Sakhalins**	**12.89**	**4**	*e*P	P	**18 44 46.5**	**-6.6**
	comp=E,101nm,1.0s						
JOW	**Kunigami**	**13.55**	**241**	LR	LR	18 50 24.1	
	comp=E,3μm,18.6s,baz=234,slow=38						
MDJ	**Mudanjiang**	**14.01**	**322**	P	P	**18 45 04.9**	**-2.8**
MDJ				AP		18 45 15.0	
MDJ				PP	PP	18 45 16.3	-2.3
MDJ				S	S	**18 47 37.5**	**-5.5**
MDJ				AMB	AMB		
	comp=Z,26nm,1.8s						
MDJ				AMB	AMB		
	comp=Z,463nm,12.9s						
MDJ				LR	LR		
	comp=N,8μm,16.2s						
MDJ				LR	LR		
	comp=E,4μm,16.6s						
MDJ				LR	LR		
	comp=Z,11μm,16.2s						
MDJ	**Mudanjiang**	**14.01**	**322**	*e*P	P	**18 45 03.6**	**-4.0**
	comp=Z,49nm,1.2s						
SNY	**Shenyang**	**16.15**	**304**	⇑P	P	**18 45 33.6**	**-1.9**
SNY				AP		18 45 42.8	
SNY				AMB	AMB		
	comp=Z,30nm,2.1s						
SNY				AMB	AMB		
	comp=Z,860nm,12.1s						
SNY				LR	LR		
	comp=N,5μm,15.9s						
SNY				LR	LR		
	comp=E,2μm,14.9s						
SNY				LR	LR		
	comp=Z,3μm,16.2s						
KLR	**Kul'dur**	**16.80**	**337**	*e*P	P	**18 45 37.3**	**-6.3**
KLR				MLR	MLR		
	comp=E,4μm,17.0s						
NJ2	**Nanjing**	**19.15**	**270**	*e*P	P	**18 46 10.0**	**-2.7**
NJ2				AP		18 46 18.0	
NJ2				S	S	**18 49 38.0**	**-3.5**
NJ2				XS		18 49 53.0	
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,1μm,4.2s						
NJ2				LR	LR		
	comp=N,2μm,13.1s						
NJ2				LR	LR		
	comp=E,9μm,15.8s						
NJ2				LR	LR		
	comp=Z,10μm,17.0s						
HIA	**Hailar**	**22.16**	**320**	*e*P	P	**18 46 40.0**	**-3.9**
	comp=Z,169nm,1.2s,mb5.3						
PET	**Petropavlovsk**	**22.52**	**28**	*e*P	P	**18 46 57.1**	**+10**
PET				*e*S	S	**18 50 55.4**	**+8.1**
PET				pmax	pmax		
	comp=Z,59nm,1.8s,mb4.7						
PET				pmax	pmax		
	comp=Z,200nm,8.8s						
PET				smax			
	comp=N,1μm,15.4s						
PET				smax			
	comp=E,1μm,17.6s						
PET				MLR	MLR		
	comp=Z,2μm,19.0s,MS4.4						
WHN	**Wuhan**	**23.25**	**269**	P	P	**18 46 53.2**	**-1.6**
WHN				LR	LR		
	comp=Z,11μm,15.2s,MS5.4						
TIY	**Taiyuan**	**23.84**	**287**	*e*P	P	**18 47 01.6**	**+1.2**
TIY				LR	LR		
	comp=N,4μm,14.0s						
TIY				LR	LR		
	comp=Z,887nm,11.0s,MS4.5						
CLNS	**Chul'man**	**25.45**	**338**	*e*P	P	**18 47 15.6**	**-0.1**
CLNS				*e**PP	pP	18 47 22.4	-2.9
CLNS				*e*PPP	PPP	18 47 58.2	-8.5
CLNS				*e*		18 50 48.3	
CLNS				*e*S	S	**18 51 37.9**	**-0.1**
CLNS				pmax	pmax		
	comp=Z,58nm,0.9s,mb5.1						
CLNS				pmax	pmax		
	comp=N,22nm,0.8s						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.0s						
CLNS				smax			
	comp=N,882nm,13.1s						
CLNS				smax			
	comp=Z,614nm,12.0s						
CLNS				smax			
	comp=E,158nm,12.5s						
MA2	**Magadan**	**26.22**	**11**	*e*P	P	**18 47 22.5**	**-0.3**
MA2				*e*		18 47 59.2	
MA2				*e*PPP	PPP	18 48 23.8	+6.5
MA2				*e*S	S	**18 51 49.8**	**-0.7**
MA2				*e*SS	SS	18 53 23.9	+24
MA2				pmax	pmax		
	comp=Z,40nm,1.2s,mb4.8						
MA2				MLR	MLR		
	comp=Z,12μm,19.0s,MS5.5						
MA2	**Magadan**	**26.22**	**11**	*e*P	P	**18 47 20.8**	**-2.0**
	comp=Z,29nm,1.0s,mb4.8						
XAN	**Xi'an**	**27.00**	**279**	P	P	**18 47 27.2**	**-3.1**
XAN				AMB	AMB		
	comp=Z,24nm,1.0s,mb4.7						
XAN				LR	LR		
	comp=N,1μm,15.2s,MS5.1						
XAN				LR	LR		
	comp=E,4μm,14.7s,MS5.1						
XAN				LR	LR		
	comp=Z,6μm,14.9s,MS5.3						
ENH	**Enshi**	**27.37**	**271**	*e*P	P	**18 47 30.1**	**-3.6**
	comp=Z,24nm,0.8s,mb4.8						
YAK	**Yakutsk**	**28.98**	**348**	*e*P	P	**18 47 46.5**	**-1.3**
YAK				*e**PP	pP	18 47 56.4	-1.2
YAK				*e*		18 48 40.5	
YAK				*e*S	S	**18 52 37.4**	**+2.3**
YAK				*e*SS	SS	18 54 07.4	+2.6
YAK				*e*		18 58 26.3	
YAK				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.9						
YAK				pmax	pmax		
	comp=N,15nm,1.2s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
YAK				pmax	pmax		
	comp=N,10.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK				smax			
	comp=E,164nm,10.3s						
YAK				MLR	MLR		
	comp=N,1μm,14.0s,MS4.7						
YAK				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.7						
YAK				MLR	MLR		
	comp=E,618nm,13.0s,MS4.7						
YAK	**Yakutsk**	**28.98**	**348**	*e*P	P	**18 47 45.4**	**-2.5**
	comp=E,64nm,1.1s,mb5.3						
FX1	**Attu Island--F**	**29.29**	**40**	P	P	**18 47 50.1**	**-0.6**
FX1				pmax	pmax		
	comp=Z,22nm,1.0s						
FX1				MLR	MLR		
	comp=Z,105nm,18.7s						
FX1	**Attu Island--F**	**29.29**	**40**	P	P	**18 47 50.1**	**-0.5**
	comp=Z,22nm,1.0s,mb4.8						
FX1				LR	LR	18 59 04.5	
	comp=Z,105nm,18.7s,baz=257,slow=36						
SONM	**Songino Array**	**29.63**	**308**	P	P	**18 47 53.9**	**+0.1**
	comp=Z,29nm,0.8s,mb5.0,baz=111,slow=7.8,SNR=154						
SEY	**Seymchan**	**29.66**	**10**	*e*P	P	**18 47 54.5**	**+0.6**
SEY				*e*		18 48 57.9	
SEY				*e*S	S	**18 52 47.5**	**+1.5**
SEY				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8						
SEY				smax			
	comp=N,880nm,17.8s						
SEY				smax			
	comp=E,320nm,16.6s						
SEY				MLR	MLR		
	comp=N,2μm,18.0s,MS5.0						
SEY				MLR	MLR		
	comp=Z,4μm,18.0s,MS5.1						
SEY				MLR	MLR		
	comp=E,2μm,17.0s,MS5.0						
BOD	**Bodaibo**	**30.13**	**330**	⇓*i*P	P	**18 47 56.3**	**-1.8**
LZH	**Lanzhou**	**30.82**	**285**	*e*P	P	**18 48 02.6**	**-1.9**
LZH				AP	pP	18 48 14.5	+0.2
LZH				PP	PP	18 49 04.0	-2.2
LZH				PCP	PcP	18 51 02.0	+0.8
LZH				AMB	AMB		
	comp=Z,89nm,1.7s,mb5.3						
LZH				AMB	AMB		
	comp=Z,180nm,4.5s						
LZH				LR	LR		
	comp=E,3μm,14.2s						
LZH				LR	LR		
	comp=Z,3μm,14.5s,MS5.2						
IRK	**Irkutsk**	**32.24**	**316**	*e*P	P	**18 48 16.1**	**-0.7**
IRK				*e*		18 53 26.1	
ZAK	**Zakamensk**	**32.28**	**312**	⇓*i*P	P	**18 48 16.3**	**-0.8**
TLY	**Talaya**	**32.43**	**314**	*e*P	P	**18 48 17.5**	**-1.0**
TLY				*e*		18 48 34.8	
TLY				*e*		18 49 20.6	
TLY				*e*S	S	**18 53 38.1**	**+8.5**
TLY				pmax	pmax		
	comp=Z,76nm,1.4s,mb5.3						
TLY				MLR	MLR		
	comp=Z,3μm,17.0s,MS5.0						
TLY	**Talaya**	**32.43**	**314**	*e*P	P	**18 48 18.1**	**-0.4**
	comp=Z,83nm,1.4s,mb5.4						
MOY	**Mondy**	**34.01**	**314**	*e*P	P	**18 48 32.3**	**+0.2**
BILL	**Bilibino**	**36.83**	**15**	⇓*i*P	P	**18 48 55.4**	**-0.5**
BILL				*e*S	S	**18 54 40.3**	**+2.9**
BILL				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.9						
BILL	**Bilibino**	**36.83**	**15**	*e*P	P	**18 48 53.9**	**-2.0**
	comp=Z,22nm,1.3s,mb4.8						
TIXI	**Tiksi**	**38.23**	**354**	*e*P	P	**18 49 06.7**	**-1.0**
TIXI				*e*S	S	**18 55 00.4**	**+1.6**
TIXI				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,3μm,16.0s,MS5.2						
CMAR	**Chiang Mai Arr**	**40.97**	**259**	LR	LR	19 09 34.2	
	comp=Z,700nm,18.8s,MS4.5,baz=67,slow=41						
WMQ	**Urumqi**	**42.36**	**300**	*e*P	P	**18 49 42.1**	**+0.1**
WMQ				PP	PP	18 51 23.5	+0.5
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,76nm,5.3s						
WMQ				LR	LR		
	comp=N,1μm,20.1s,MS4.8						
WMQ				LR	LR		
	comp=E,915nm,21.2s,MS4.8						
WMQ				LR	LR		
	comp=Z,1μm,21.0s,MS4.8						
ZAL	**Zalesovo**	**44.06**	**315**	P	P	**18 49 55.9**	**+0.3**
	comp=Z,12nm,0.9s,mb4.6,baz=287,slow=8.1,SNR=64						
ZAL				LR	LR	19 10 51.7	
	comp=Z,2μm,18.1s,MS5.0,baz=111,slow=40						
ZAL	**Zalesovo**	**44.06**	**315**	P	P	**18 49 55.9**	**+0.3**
ZAL				LR	LR	19 10 51.7	
NVS	**Novosibirsk**	**45.01**	**316**	*i* P	P	**18 50 02.1**	**-1.2**
NVS				pmax	pmax		
	comp=Z,247nm,2.1s,mb5.7						
NVS				pmax	pmax		
	comp=E,105nm,1.8s						
NVS				pmax	pmax		
	comp=N,33nm,2.0s						
MKAR	**Makanchi Array**	**45.85**	**305**	*i* P	P	**18 50 09.7**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,129nm,1.4s						
KAKA	**Kakadu**	**47.34**	**192**	⇓*i*P	P	**18 50 21.4**	**-0.8**
	comp=Z,26nm,0.8s,mb5.2						
IMA	**Indian Mountai**	**49.18**	**29**	*e*P	P	**18 50 35.7**	**-0.1**
IMA				pmax	pmax		
	comp=Z,68nm,1.4s,mb5.5						
IMA	**Indian Mountai**	**49.18**	**29**	*e*P	P	**18 50 35.7**	**-0.1**
	comp=Z,68nm,1.4s,mb5.5						
KDAK	**Kodiak Island**	**49.23**	**40**	*e*P	P	**18 50 35.6**	**-0.7**
SPU	**Mount Spurr**	**49.52**	**36**	*e*P	P	**18 50 37.9**	**-0.7**
MCK	**McKinley**	**51.03**	**32**	*e*P	P	**18 50 48.6**	**-1.4**
MCK				pmax	pmax		
	comp=Z,17nm,1.6s,mb4.7						
MCK	**McKinley**	**51.03**	**32**	*e*P	P	**18 50 48.6**	**-1.4**
	comp=Z,17nm,1.6s,mb4.7						
TKM2	**Tokmak 2**	**51.20**	**301**	P	P	**18 50 52.0**	**+0.4**
	SNR=22						
COLA	**College**	**51.52**	**31**	*e*P	P	**18 50 53.0**	**-0.7**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
COLA				MLR	MLR		
	comp=Z,750nm,19.0s,MS4.7						
COLA	**College**	**51.52**	**31**	*e*P	P	**18 50 53.0**	**-0.7**
	comp=Z,4.2nm,0.8s,mb4.4						
COLA				LR	LR		
	comp=Z,750nm,19.0s,MS4.7						
KZA	**Kyzart**	**51.65**	**300**	P	P	**18 50 56.0**	**+1.0**
	SNR=10						
KBK	**Karagaybulak**	**51.73**	**300**	P	P	**18 50 55.7**	**+0.2**
	SNR=28						
CHMS	**Chumysh**	**51.78**	**301**	P	P	**18 50 55.7**	**

SNR=10
ILAR Eielson Array 51.93 31 P **P 18 50 55.8 -1.0**
comp=Z,6.3nm,0.8s,mb4.6,baz=268,slow=6.1,SNR=53
AAK Ala-Archa 52.06 300 P **P 18 50 57.8 -0.2**
SNR=17
AAK Ala-Archa 52.06 300 *e*P **P 18 50 56.5 -1.5**
AAK pmax pmax
comp=Z,15nm,1.0s,mb4.9
AAK Ala-Archa 52.06 300 *e*P **P 18 50 56.5 -1.5**
comp=Z,15nm,1.0s,mb4.9
UCH Uchtor 52.14 300 P **P 18 50 59.3 +0.6**
SNR=8.3
CHKZ Chkalovo 52.46 315 *i* P **P 18 50 59.8 -1.0**
CHKZ pmax pmax
comp=Z,66nm,1.4s,mb5.4
CHKZ Chkalovo 52.46 315 *e*P **P 18 50 59.5 -1.3**
comp=Z,59nm,1.1s,mb5.4
EKS2 Erkin-Say 52.56 301 P **P 18 51 00.8 -1.0**
SNR=9.5
BVA0 Borovoye Array 52.69 314 *i* P **P 18 51 00.9 -1.7**
BVA0 pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
BVAR Borovoye Array 52.69 314 P **P 18 51 01.9 -0.7**
comp=Z,16nm,0.9s,mb4.9,baz=90,slow=7.4,SNR=68
BRVK Borovoye 52.75 314 *e*P **P 18 51 01.8 -1.2**
BRVK pmax pmax
comp=Z,39nm,1.0s,mb5.3
BRVK Borovoye 52.75 314 *e*P **P 18 51 01.8 -1.2**
comp=Z,39nm,1.0s,mb5.3
AML Almayashu 52.76 300 P **P 18 51 03.9 +0.6**
SNR=48
CTA Charters Tower 54.05 175 P **P 18 51 12.9 -0.2**
comp=Z,5.3nm,0.7s,mb4.6,baz=340,slow=13,SNR=3.8
FITZ Fitzroy Crossi 54.07 199⇑ *i*P **P 18 51 12.7 -0.6**
comp=Z,26nm,0.6s,mb5.3
WRAB Tennant Creek 54.15 188 *e*P **P 18 51 11.2 -2.7**
WB2 Warramunga Arr 54.16 188 *e*P **P 18 51 12.2 -1.7**
WRA Warramunga Arr 54.16 188 P **P 18 51 12.5 -1.4**
comp=Z,11nm,0.5s,mb5.0,baz=5.9,slow=7.6,SNR=92
INK Inuvik 56.96 26 *e*P **P 18 51 32.1 -1.4**
INK pmax pmax
comp=Z,11nm,1.1s
INK Inuvik 56.96 26 *e*P **P 18 51 32.0 -1.5**
comp=Z,11nm,1.1s,mb4.8
SVE Sverdlovsk 57.47 320⇑ *e*P **P 18 51 36.0 -1.3**
SVE pmax pmax
comp=Z,200nm,2.5s,mb5.7
ASAR Alice Springs 57.89 188 P **P 18 51 39.5 -1.2**
comp=Z,8.4nm,0.8s,mb4.8,baz=11,slow=7.3,SNR=68
ASPA Alice Springs 57.89 188⇑ *i*P **P 18 51 39.4 -1.2**
HYB Hyderabad 58.31 270 *e*P **P 18 51 42.0 -1.6**
HYB pmax pmax
comp=Z,100nm,1.2s,mb5.7
HYB Hyderabad 58.31 270 *e*P **P 18 51 42.0 -1.6**
comp=Z,100nm,1.2s,mb5.7
HYB Hyderabad 58.31 270 *i* P **P 18 51 42.0 -1.6**
comp=Z,100nm,1.2s,mb5.7
ARU Arti 58.68 320⇑ *i*P **P 18 51 41.5 -4.2**
ARU *e* 18 52 29.5
ARU *e* 18 53 51.5
ARU *e*S **S 18 59 43.1 -3.1**
ARU *e*SS SS 19 03 40.5 -0.5
ARU pmax pmax
comp=Z,52nm,1.1s,mb5.5
ARU MLR MLR
comp=E,2μm,17.0s,MS5.2
ARU MLR MLR
comp=Z,2μm,17.0s,MS5.4
ARU MLR MLR
comp=N,400nm,18.0s,MS5.2
MBWA Marble Bar 58.74 204 P **P 18 51 44.9 -1.7**
SOKR Solikamsk 58.77 324 *i* P **P 18 51 43.9 -2.4**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
DLBC Dease Lake 60.88 37 *e*P **P 18 51 59.8 -1.0**
BBB Bella Bella 64.10 43 LR LR 19 20 13.2
comp=Z,412nm,18.6s,MS4.7,baz=84,slow=36
RES Resolute Bay 65.43 14 *e*P **P 18 52 28.9 -1.6**
RES pmax pmax
comp=Z,22nm,1.2s,mb5.1
RES Resolute Bay 65.43 14 *e*P **P 18 52 28.9 -1.6**
comp=Z,22nm,1.2s,mb5.1
APA Apatity 65.44 336⇑ *e*P **P 18 52 30.3 -0.3**
APA *i* 18 52 45.4
STKA Stephens Creek 65.60 180 *e*P **P 18 52 32.0 -0.3**
comp=Z,5.3nm,0.8s,mb4.6
STKA Stephens Creek 65.60 180 P **P 18 52 32.1 -0.2**
comp=Z,6.9nm,1.1s,mb4.6,baz=345,slow=8.4,SNR=4.7
FORT Forrest 65.76 193⇑ *i*P **P 18 52 32.8 -0.5**
comp=Z,147nm,0.6s
PECR Pechory 66.25 323 *e*P **P 18 52 34.4 -1.6**
PECR MLR MLR
comp=Z,6μm,17.0s,MS5.8
PECR MLR MLR
comp=N,4μm,16.0s
YKA Yellowknife Ar 66.30 29 P **P 18 52 35.5 -0.7**
comp=N,1.3nm,0.8s,mb4.0,baz=299,slow=6.3,SNR=18
ARCES ARCESS Array B 66.81 340 P **P 18 52 38.9 -0.4**
comp=N,1.0nm,0.6s,mb4.0,baz=45,slow=5.1,SNR=4.8
ARCES LR LR 19 24 23.9
comp=N,892nm,18.7s,MS5.0,baz=58,slow=38
ARCES ARCESS Array B 66.81 340 P **P 18 52 38.9 -0.4**
ARCES LR LR 19 24 23.9
JOF Joensuu 68.64 333 *e*p **P 18 52 49.0 -1.8**
MOS Moscow 69.71 324 *e*P **P 18 52 57.3 -0.2**
MOS *e* 18 53 12.9
MOS *e* 18 55 29.7
MOS *e*PPP PPP 18 57 14.4 +1.2
MOS *e*S S 19 02 04.7 +2.1
MOS *e* 19 02 34.1
MOS pmax pmax
comp=Z,46nm,0.7s,mb5.5
MOS MLR MLR
comp=Z,2μm,15.5s,MS5.4
MOS MLR MLR
comp=N,2μm,15.9s
NWAO Narrogin (SRO) 70.47 202 P **P 18 53 03.4 +0.8**
comp=N,9.5nm,0.6s,mb4.9,baz=349,slow=5.3,SNR=7.5
OBN Obninsk 70.55 324⇓ *e*P **P 18 53 01.0 -1.7**
OBN *e* 18 55 35.3
OBN pmax pmax
comp=Z,33nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,2μm,18.0s,MS5.3
FINES FINESS Array B 71.49 333 P **P 18 53 07.9 -0.3**
comp=Z,16nm,0.9s,mb4.9,baz=76,slow=7.9,SNR=19
FINES LR LR 19 28 08.0
comp=Z,640nm,19.0s,MS4.9,baz=31,slow=39
EDM Edmonton 71.59 38 *e*P **P 18 53 08.6 -0.3**
NEW Newport 72.16 43 *e*P **P 18 53 12.1 -0.3**
NEW pmax pmax
comp=Z,20nm,1.5s
NEW MLR MLR
comp=Z,740nm,19.0s
NEW Newport 72.16 43 *e*P **P 18 53 12.1 -0.3**
comp=Z,20nm,1.5s,mb4.8
NEW LR LR
comp=Z,740nm,19.0s,MS5.0
GOF Gofitskoye 72.18 313⇓ *i*P **P 18 53 12.0 -0.6**
GOF pmax pmax
comp=Z,50nm,1.4s,mb5.2
TI2 Plekhanov 72.78 309 *e*P **P 18 53 17.2 +1.0**
TI2 MLR MLR
comp=Z,2μm,12.0s,MS5.5
ZEI Tsey 72.80 310 *e*P **P 18 53 15.4 -0.9**
KIV Kislovodsk 72.96 312 P **P 18 53 18.7 +1.5**
comp=Z,313nm,1.1s,SNR=16
KIV Kislovodsk 72.96 312 *e*P **P 18 53 17.2 0.0**
KIV pmax pmax
comp=Z,80nm,1.2s,mb5.5
KIV Kislovodsk 72.96 312 *e*P **P 18 53 17.2 0.0**
comp=Z,80nm,1.2s,mb5.5
VSU Vasula 73.07 330 *i* P **P 18 53 17.6 0.0**
WALA Waterton Lakes 73.54 42 *e*P **P 18 53 20.2 -0.4**
comp=Z,12nm,1.1s,mb4.7
GNI Garni 73.59 307 *e*P **P 18 53 21.8 +0.8**
GNI pmax pmax
comp=Z,20nm,1.0s
GNI Garni 73.59 307 P **P 18 53 21.8 +0.8**
comp=Z,14nm,1.1s,mb4.8,baz=162,slow=3.2,SNR=9.4
GNI Garni 73.59 307 *e*P **P 18 53 21.8 +0.8**
comp=Z,20nm,1.0s,mb5.0
SUMG Summit 73.64 0 *e*P **P 18 53 20.6 -0.1**
BMO Blue Mountains 73.85 47 *e*P **P 18 53 22.8 +0.4**
comp=Z,1.4nm,0.4s,mb4.2
BMO LR LR
comp=Z,443nm,20.0s,MS4.8
OHCM Honcut 74.08 53 *e*P **P 18 53 23.3 -0.5**
SOC Sochi 74.98 313 *e*P **P 18 53 27.0 -2.0**
SOC *e*S S 19 03 08.2 +5.2
SOC pmax pmax
comp=Z,29nm,1.2s,mb5.1
SOC pmax pmax
comp=N,76nm,1.8s
SOC pmax pmax
comp=E,12nm,1.0s
SOC MLR MLR
comp=Z,981nm,20.0s,MS5.1
SOC MLR MLR
comp=N,198nm,13.0s
SOC MLR MLR
comp=E,642nm,17.0s
MNK Minsk 75.04 326 P **P 18 53 27.0 -2.1**
CMB Columbia Colle 75.49 54 *e*P **P 18 53 31.5 -0.5**
CMB MLR MLR
comp=Z,868nm,20.0s,MS5.0
ANN Anapa 75.69 315 *e*P **P 18 53 42.1 +9.1**
ANN pmax pmax
comp=Z,48nm,1.1s,mb5.3
ERZM Erzurum 75.93 309 P **P 18 53 35.5 +1.1**
HLID Hailey 76.29 47 *e*P **P 18 53 37.3 +0.8**
comp=Z,8.3nm,1.2s,mb4.5
HLID LR LR
comp=Z,688nm,20.0s,MS5.0
FCC Fort Churchill 76.58 26 *e*P **P 18 53 36.3 -1.5**
FCC pmax pmax
comp=Z,19nm,1.3s,mb4.9
FCC Fort Churchill 76.58 26 *e*P **P 18 53 36.3 -1.4**
comp=Z,19nm,1.3s,mb4.9
NVAR Mina Array Bea 76.66 53 P **P 18 53 40.1 +1.4**
comp=Z,3.4nm,1.0s,mb4.2,baz=277,slow=6.9,SNR=10
NVAR LR LR 19 23 48.2
comp=Z,915nm,19.8s,MS5.1,baz=265,slow=33
NVAR Mina Array Bea 76.66 53 P **P 18 53 40.1 +1.5**
NVAR LR LR 19 23 48.2
AKASG Malin Array Be 76.72 323 P **P 18 53 38.2 -0.5**
AKASG pmax pmax
comp=Z,14nm,0.8s
AKASG Malin Array Be 76.72 323 P **P 18 53 38.1 -0.6**
comp=Z,14nm,0.8s,mb4.9,baz=45,slow=5.9,SNR=45
MNV Mina 76.76 53 *e*P **P 18 53 40.0 +0.8**
NB2 NORSAR Subarra 76.96 338 P **P 18 53 39.4 -0.5**
comp=Z,28nm,1.1s,mb5.1,baz=39,slow=5.3
NB2 NORSAR Subarra 76.96 338 P **P 18 53 39.4 -0.5**
baz=39,slow=5.6
NOA NORSAR Array B 76.96 338 P **P 18 53 40.0 +0.1**
comp=Z,7.7nm,0.8s,mb4.7,baz=39,slow=5.7,SNR=11
NOA LR LR 19 31 31.6
comp=Z,1μm,18.0s,MS5.2,baz=20,slow=39
QLMT Earthquake Lak 77.33 44 *e*P **P 18 53 43.1 +0.8**
SIM Simferopol' 77.54 316 *e*P **P 18 53 44.1 +0.7**
SIM pmax pmax
comp=Z,20nm,0.7s,mb5.2
YMR Madison River 77.70 44 *e*P **P 18 53 44.3 0.0**
ELZG Elazig 78.24 309 P **P 18 53 47.2 -0.3**
KONO Kongsberg 78.55 337 P **P 18 53 47.2 -1.5**
BGU Big Grassy Mou 78.64 48 *e*P **P 18 53 49.7 +0.2**
MALT Malatya 78.71 309 *e*P **P 18 53 50.6 +0.6**
MALT pmax pmax
comp=Z,19nm,1.1s,mb4.9
MALT Malatya 78.71 309 *e*P **P 18 53 50.6 +0.6**
comp=Z,18nm,1.1s,mb4.9
AHID Auburn Hatcher 78.73 46 *e*P **P 18 53 50.5 +0.4**
TPNV Topopah Spring 78.84 53 *e*P **P 18 53 51.3 +0.6**
TPNV MLR MLR
comp=Z,989nm,20.0s,MS5.1
BOYT Boyabat 79.14 313 P **P 18 53 52.6 +0.3**
NOQ North Oquirrh 79.36 48 *e*P **P 18 53 52.4 -1.1**
BW06 Boulder Array 79.65 45 *e*P **P 18 53 55.0 0.0**
comp=Z,5.8nm,1.2s,mb4.4
BW06 LR LR
comp=Z,404nm,19.0s,MS4.8
PDAR Pinedale Array 79.65 45 P **P 18 53 55.7 +0.7**
comp=Z,2.1nm,0.8s,mb4.1,baz=296,slow=2.0,SNR=20
GZT Gaziantep 79.82 308 P **P 18 53 57.3 +1.3**
BALT Daday 79.99 314 P **P 18 53 57.5 +0.7**
MPU Maple Canyon 80.03 48 *e*P **P 18 53 57.8 +0.6**
KAHT Ahir Dag 80.11 309 P **P 18 53 59.1 +1.5**
ARUT Antelope Range 80.19 51 *e*P **P 18 53 58.9 +0.8**
NEN Nelson 80.51 53 *e*P **P 18 53 59.3 -0.5**
MSU Marysvale 80.58 50 *e*P **P 18 54 01.3 +1.2**
PFO Pinyon Flat Ob 80.58 56 P **P 18 54 01.0 +0.8**
ELDT Eldivan 80.59 313 P **P 18 54 00.7 +0.6**
KWP Kalwaria 80.61 325 *e*P **P 18 54 00.2 +0.2**
KWP pmax pmax
comp=Z,49nm,1.1s,mb5.3
KWP Kalwaria 80.61 325 *e*P **P 18 54 00.2 +0.2**
comp=Z,49nm,1.1s,mb5.3
AVNT Avonos 80.72 311 P **P 18 54 01.4 +0.5**
CFR Carcaliu 80.75 319⇑ P **P 18 54 01.1 +0.3**
BRTR Keskin Array B 80.92 312 P **P 18 54 02.5 +0.7**
comp=Z,16nm,1.0s,mb4.9,baz=108,slow=3.9,SNR=47
VRI Vrincioaia 81.07 320⇑ P **P 18 54 04.5 +2.0**
COBT Iskenderun 81.16 308 P **P 18 54 04.0 +0.8**
KOLS Kolonicke sedl 81.29 324 *i* P **P 18 54 05.0 +1.4**
SGKT Sivrigoynuk 81.37 313 P **P 18 54 04.8 +0.7**
OJC Ojcow 81.57 326 *e*P **P 18 54 05.4 +0.4**
CRVS Cervenica-Dubn 81.70 325 *i* P **P 18 54 06.2 +0.4**
MLR Muntele Rosu 81.73 320 P **P 18 54 06.5 +0.6**
comp=Z,1.8nm,0.6s,mb4.2,baz=31,slow=3.8,SNR=9.4
NIE Niedzica 81.89 326 *e*P **P 18 54 08.0 +1.3**
PRD Provadia 82.42 318 *e*P **P 18 54 11.5 +1.9**
MEST Erdemli 82.48 309 P **P 18 54 09.9 -0.1**
OKC Ostrava-Krasne 82.59 327 *e*P **P 18 54 11.7 +1.4**
OKC AMS AMS 19 35 30.0
comp=Z,1μm,18.6s
KSP Ksiaz 82.68 329 *e*P **P 18 54 11.3 +0.6**
ESKT Eskisehir 82.75 313 P **P 18 54 10.8 -0.5**
BSEG Bad Segeberg 82.75 333 *e*P **P 18 54 11.6 +0.6**
MORC Moravsky Berou 82.91 327⇓ P **P 18 54 12.5 +0.6**
DPC Dobruska-Polom 83.03 328 *e*P **P 18 54 13.2 +0.7**
DPC *e*pP pP 18 54 24.9 +1.7
DPC AMS AMS 19 36 00.0
comp=Z,2μm,18.1s
UPC Upice 83.05 328 *e*P **P 18 54 13.2 +0.6**
PSZ Piszkesteto 83.14 325⇑ *e*P **P 18 54 14.5 +1.4**
PSZ *i* 18 56 25.5
SZH Strazhica 83.19 318 *e*P **P 18 54 15.0 +1.5**
PPT Papeete 83.20 116 *e*LR LR 19 19 37.9
comp=Z,608nm,22.8s,baz=325
VYHS Vyhne 83.23 326 *i* P **P 18 54 14.3 +0.7**
ASF Jabal al Asfar 83.27 304 P **P 18 54 15.1 +1.0**
comp=Z,12nm,0.9s,mb4.9,baz=244,slow=0.3,SNR=19
JMB Yambol 83.36 318 *e*P **P 18 54 16.0 +1.7**
ULDT Uludag 83.38 314 P **P 18 54 15.0 +0.5**
KSHT Keshet 83.53 306 P **P 18 54 16.4 +0.9**
PVCC Panska Ves 83.66 329 *e*P **P 18 54 16.7 +1.1**
PVCC *e*pP pP 18 54 28.6 +2.2
PVCC AMS AMS 19 35 30.0
comp=Z,2μm,19.8s
BRG Berggiesshubel 83.66 330 *e*P **P 18 54 15.9 +0.2**
BRG *e* pP 18 54 26.3 -0.1
CLL Collm 83.72 330⇑ *i*P **P 18 54 16.1 +0.1**
CLL pmax pmax
comp=Z,35nm,1.2s,mb5.4
CLL Collm 83.72 330⇑ *i*P **P 18 54 16.1 +0.1**
comp=Z,35nm,1.2s,mb5.4
CLL Collm 83.72 330 ⇑P **P 18 54 16.1 +0.1**
comp=Z,logA/T=1.5,mb5.4
CLL *e* 18 54 33.0
SMOL Smolenice 83.87 326 *i* P **P 18 54 18.2 +1.4**
CSS Prodhromos 83.99 308 *e*P **P 18 54 17.0 -0.8**
comp=Z,25nm,1.0s,mb5.3
PRU Pruhonice 84.07 329 *e*P **P 18 54 18.6 +0.8**
PRU *e*pP pP 18 54 28.9 +0.4
PRU AMS AMS 19 35 50.0
comp=Z,2μm,18.7s
MMLI Mount Malkishu 84.12 305 P **P 18 54 19.4 +0.9**
HMDT Nahal Hemdat 84.16 305 P **P 18 54 19.5 +0.8**
ZST Bratislava 84.25 326 *i* P **P 18 54 19.6 +0.9**
BTOK Tokmak 84.28 315 P **P 18 54 19.1 +0.1**
OFRI 'Ofer 84.31 306 P **P 18 54 19.7 +0.3**
CLZ Clausthal 84.36 332 *e*P **P 18 54 20.1 +0.9**
comp=Z,39nm,1.2s,mb5.4
SLTI Sal'it 84.50 305 P **P 18 54 20.9 +0.5**
MKRJ Makawir 84.50 304 P **P 18 54 21.0 +0.6**
PGB Panagyurishte 84.64 319 *e*P **P 18 54 23.0 +2.2**
DRGI Dragot 84.65 305 P **P 18 54 21.6 +0.5**
NKC Novy Kostel 84.77 330 *e*P **P 18 54 21.6 +0.3**
NKC *e*pP pP 18 54 32.7 +0.7
NKC AMS AMS 19 36 20.0
comp=Z,1μm,19.1s
MANT Manisa 84.78 314 P **P 18 54 21.4 -0.2**
MOX Moxa 84.80 331 *e*P **P 18 54 22.0 +0.6**
MOX *e* pP 18 54 32.3 +0.2
MOX pmax pmax
comp=Z,37nm,1.6s,mb5.3
MOX Moxa 84.80 331 *e*P **P 18 54 22.0 +0.6**
comp=Z,37nm,1.6s,mb5.3
MOX *e* pP 18 54 32.3 +0.2
MOX Moxa 84.80 331 *i* P **P 18 54 22.0 +0.6**
comp=Z,logA/T=1.4,mb5.3
MOX pP pP 18 54 32.0 -0.1
RZN Rozhen 84.92 318 *i* P **P 18 54 24.0 +1.8**
PKSM Moragy 84.95 324⇑ *i*P **P 18 54 22.4 +0.1**
PKSM *i* 18 56 28.6
KHC Kasperske Hory 85.13 329 *e*P **P 18 54 23.6 +0.5**
KHC *e*pP pP 18 54 34.2 +0.4
KHC AMS AMS 19 37 20.0
comp=Z,2μm,15.8s
VTS Vitosha 85.13 319⇓ P **P 18 54 24.6 +1.3**
VTS Vitosha 85.13 319 *i* P **P 18 54 24.0 +0.7**
SDCO Great Sand Dun 85.20 47 *e*P **P 18 54 24.0 +0.4**
comp=Z,24nm,1.8s,mb5.0
GEC2 GERESS Array S 85.29 328 *e*P **P 18 54 24.1 +0.2**
GEC2 pmax pmax
comp=Z,18nm,1.3s,mb5.0
GEC2 GERESS Array S 85.29 328 *e*P **P 18 54 24.1 +0.2**
comp=Z,18nm,1.3s,mb5.0
GERES GERESS Array B 85.29 328 P **P 18 54 24.0 +0.1**
comp=Z,3.4nm,0.7s,mb4.6,baz=34,slow=4.8,SNR=22
TAOE Nuku Hiva Isla 85.33 104 *e*LR LR 19 20 38.2
WET Wettzell 85.42 329 *e*P **P 18 54 24.8 +0.3**
WET pmax pmax
comp=Z,22nm,1.4s,mb5.1
WET Wettzell 85.42 329 *e*P **P 18 54 24.8 +0.3**
comp=Z,22nm,1.4s,mb5.1
MMB Musomiste 85.53 318 *i* P **P 18 54 27.0 +1.8**
WTSB Winterswijk 85.61 334 *e*P **P 18 54 25.3 0.0**
comp=Z,30nm,1.0s,mb5.5
GRA1 Grafenberg Arr 85.69 330 *e*P **P 18 54 26.6 +0.8**
comp=Z,53nm,1.2s,mb5.7
GRA1 *e*pP pP 18 54 37.1 +0.5
GRF Grafenberg Arr 85.69 330 *e*P **P 18 54 26.6 +0.8**
GRF *e**PP pP 18 54 37.1 +0.5
GRF pmax pmax
comp=Z,53nm,1.2s,mb5.7
GRF Grafenberg Arr 85.69 330 *e*P **P 18 54 26.6 +0.8**
GRF *e**PP pP 18 54 37.1 +0.5
GRF pmax pmax
comp=Z,53nm,1.2s,mb5.7
GRF Grafenberg Arr 85.69 330 *e*P **P 18 54 26.6 +0.8**
comp=Z,53nm,1.2s,mb5.7
GRF *e*pP pP 18 54 37.1 +0.5
KKB Krupnik 85.69 319 *i* P **P 18 54 27.0 +1.0**
DIVS Divcibare 85.78 322⇓ *i*P **P 18 54 26.6 +0.2**
MBH Mount Berech 86.05 303 P **P 18 54 29.6 +1.5**
EIL Elat 86.10 303 P **P 18 54 28.4 +0.1**
EIL Elat 86.10 303 *e*P **P 18 54 27.0 -1.3**
comp=Z,12nm,1.0s,mb5.1
ANMO Albuquerque 86.38 50 P **P 18 54 31.0 +1.4**
TBI Tubuai 86.90 121 *e*LR LR 19 21 20.8
comp=Z,897nm,21.8s,baz=319
HGN Heimansgroeve 86.91 334 *e*P **P 18 54 29.9 -1.8**
comp=Z,36nm,1.5s,mb5.4
BFO Black Forest 87.94 331 *e*P **P 18 54 36.9 +0.1**
BFO pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
BFO Black Forest 87.94 331 *e*P **P 18 54 36.9 +0.1**
comp=Z,10.0nm,1.1s,mb5.0
SCHQ Schefferville 88.14 16 P **P 18 54 39.1 +1.5**
comp=Z,6.3nm,1.0s,mb4.8,baz=26,slow=9.2,SNR=3.2
SCHQ LR LR 19 38 16.3
comp=Z,447nm,18.2s,MS4.9,baz=215,slow=38
CDF Champ du Feu 88.30 332⇑ *i*P **P 18 54 38.6 +0.1**
comp=Z,11nm,1.0s,mb4.7
CDF Champ du Feu 88.30 332⇑ *i*P **P 18 54 38.6 +0.1**
CDF pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
LPL La Plagne 90.86 330 *e*P **P 18 54 51.0 +0.4**
comp=Z,13nm,1.0s,mb4.9
LPL La Plagne 90.86 330 *e*P **P 18 54 51.0 +0.4**
LPL pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
LPG La Plagne 90.86 330⇑ *i*P **P 18 54 51.0 +0.3**
comp=Z,15nm,1.0s,mb5.0
LPG La Plagne 90.86 330⇑ *i*P **P 18 54 51.0 +0.3**
LPG pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
SSF Saint Saulge 90.87 333⇑ *i*P **P 18 54 50.7 0.0**
SSF pmax pmax
comp=Z,18nm,1.2s,mb5.3
SSF Saint Saulge 90.87 333⇑ *i*P **P 18 54 50.7 0.0**
comp=Z,18nm,1.2s,mb5.3
LDF La Druitiere 90.88 336⇑ *i*P **P 18 54 50.5 -0.2**
comp=Z,52nm,1.3s,mb5.4
LDF La Druitiere 90.88 336⇑ *i*P **P 18 54 50.5 -0.2**
LDF pmax pmax
comp=Z,26nm,1.3s,mb5.4
SMF Signal de Mont 91.09 332 *e*P **P 18 54 51.7 0.0**
comp=Z,28nm,1.2s,mb5.2
SMF Signal de Mont 91.09 332 *e*P **P 18 54 51.7 0.0**
SMF pmax pmax
comp=Z,14nm,1.2s,mb5.2
AVF Avril sur Loir 91.15 333⇑ *i*P **P 18 54 51.9 -0.1**
comp=Z,62nm,1.3s,mb5.5
AVF Avril sur Loir 91.15 333⇑ *i*P **P 18 54 51.9 -0.1**
AVF pmax pmax
comp=Z,31nm,1.3s,mb5.5
GRR Gorron 91.31 336⇑ *i*P **P 18 54 52.2 -0.5**
comp=Z,82nm,1.2s,mb5.6
GRR Gorron 91.31 336⇑ *i*P **P 18 54 52.2 -0.5**
GRR pmax pmax
comp=Z,41nm,1.2s,mb5.6
MBDF Montbardon 91.48 330⇑ *i*P **P 18 54 53.0 -0.6**
comp=Z,20nm,1.0s,mb5.1
MBDF Montbardon 91.48 330⇑ *i*P **P 18 54 53.0 -0.6**
MBDF pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
ORIF Oris-en-Rattie 91.69 330 *e*P **P 18 54 54.6 +0.1**
comp=Z,20nm,1.1s,mb5.0
ORIF Oris-en-Rattie 91.69 330 *e*P **P 18 54 54.6 +0.1**
ORIF pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
TXAR Lajitas Array 91.81 52 P **P 18 54 56.4 +0.9**
comp=Z,2.0nm,0.9s,mb4.5,baz=270,slow=1.3,SNR=5.9
SBF Sospel 91.89 329⇑ *i*P **P 18 54 54.8 -0.7**
comp=Z,47nm,1.1s,mb5.5
SBF Sospel 91.89 329⇑ *i*P **P 18 54 54.8 -0.7**
SBF pmax pmax
comp=Z,24nm,1.1s,mb5.4
TCF Toulx Ste Croi 92.00 333 *e*P **P 18 54 56.1 +0.2**
VIVF Saint-Julien-l 92.24 331⇑ *i*P **P 18 54 57.0 0.0**
comp=Z,39nm,1.2s,mb5.3
VIVF Saint-Julien-l 92.24 331⇑ *i*P **P 18 54 57.0 0.0**
VIVF pmax pmax
comp=Z,20nm,1.2s,mb5.3
PGF Pioggiola 92.25 327 *e*P **P 18 54 56.7 -0.4**
FRF La Foret Royal 92.47 329⇑ *i*P **P 18 54 57.4 -0.7**
comp=Z,29nm,1.1s,mb5.2
FRF La Foret Royal 92.47 329⇑ *i*P **P 18 54 57.4 -0.7**
FRF pmax pmax
comp=Z,15nm,1.1s,mb5.2
SMRF Simiane la Rot 92.59 330 *e*P **P 18 54 58.7 0.0**
comp=Z,90nm,1.6s,mb5.7
MFF Saint Martin d 92.60 335⇑ *i*P **P 18 54 59.0 +0.4**
comp=Z,37nm,1.2s,mb5.4
MFF Saint Martin d 92.60 335⇑ *i*P **P 18 54 59.0 +0.4**
MFF pmax pmax
comp=Z,18nm,1.2s,mb5.4
LMR La Mourre 92.72 329⇑ *i*P **P 18 54 58.7 -0.6**
comp=Z,40nm,1.2s,mb5.4
LMR La Mourre 92.72 329⇑ *i*P **P 18 54 58.7 -0.6**
LMR pmax pmax
comp=Z,20nm,1.2s,mb5.4
RJF Les Rejaudoux 93.09 333⇑ *i*P **P 18 55 01.4 +0.4**
comp=Z,32nm,1.2s,mb5.3
RJF Les Rejaudoux 93.09 333⇑ *i*P **P 18 55 01.4 +0.4**
RJF pmax pmax
comp=Z,16nm,1.2s,mb5.3
CAF Calviac 93.21 332 *e*P **P 18 55 02.3 +0.8**
comp=Z,29nm,1.1s,mb5.3
CAF Calviac 93.21 332 *e*P **P 18 55 02.3 +0.8**
CAF pmax pmax
comp=Z,14nm,1.1s,mb5.3
LASF Ste Croix 93.21 331⇑ *i*P **P 18 55 01.8 +0.3**

comp=Z,34nm,1.2s,mb5.3
SADO Sadowa 93.25 28 LR LR 19 35 47.9
comp=Z,109nm,20.7s,MS4.3,baz=325,slow=35
LFF La Frestale 93.69 333⇑*i*P **P 18 55 04.4 +0.7**
MTLF Montolieu 94.48 332 *e*P **P 18 55 07.7 +0.4**
comp=Z,43nm,1.4s,mb5.4
MTLF Montolieu 94.48 332 *e*P **P 18 55 07.7 +0.4**
MTLF pmax pmax
comp=Z,22nm,1.4s,mb5.4
RKT Rikitea 97.50 113 *e*LR LR 19 26 15.9
comp=Z,573nm,22.5s,baz=309
LPAZ La Paz 147.97 64 PKP PKPdf 19 01 31.1 +2.3
comp=Z,7.0nm,1.0s,baz=350,slow=4.0,SNR=19
LPAZ PKPbc PKPdf 19 01 33.8 +5.1
comp=Z,4.8nm,0.8s,baz=341,slow=2.9,SNR=20

BJI ***12*** *18:44:39.0,4.89N×94.55E,h54km,mB5.1,mb5.3,Ms5.1, Msz4.9*
MOS ***12*** *18:44:39.4±0.9,5.21N×94.80E,h33km,mb5.2/26,Error ellipse: s-maj=11.3km s-min=5.9km az=118.2*
IDC ***12*** *18:44:41.9±0.5,5.17N×94.74E,h38km±3km,mb4.6/25, mb1 4.6/26,mb1mx4.6/26,mbtmp4.8/26,ML5.0/1,MS4.4/10, Ms1 4.4/10,ms1mx4.3/19,Error ellipse: s-maj=14.5km s-min=8.2km az=48.0*
NEIC ***12*** *18:44:41.2±0.2,5.12N×94.74E,mb5.0/30,MS4.9/3,Error ellipse: s-maj=7.3km s-min=4.8km az=218.0*
HRVD ***12*** *18:44:41.2±0.4,5.16N×94.41E,h47km±2km,MW5.1/47, Centroid moment Tensor Solution. LP body waves: s33,c50;Mantle waves: s47,c85; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.94±.26; $M_{\theta\theta}$-0.85±.16; $M_{\phi\phi}$-3.09±.19; $M_{r\theta}$1.76±.15; $M_{\theta\phi}$1.45±.14; $M_{\phi r}$-2.72±.20; Best double couple: $M_0$5.048×10^{16} NP1:ϕ_s338°,δ25°,λ97°. NP2:ϕ_s150°,δ65°,λ87°. Principal axes: T 5.127, Plg70°, Azm53°; N -.16, Plg3°, Azm151°; P -4.968, Plg20°, Azm242°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 12 18:44:39.7±1.0,5.12N±0.04×94.78E±0.04,h37km±8km, h32km±1.7km:pP-P,n210,σ0°95/208,mb5.0/74,MS4.8/20, 26C-7D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**6.80**	**343**	*e*		**P**	**18 46 08.4**	**-11**
PBA				*e*S		**S**	**18 47 27.6**	**-9.0**
KKTK	**Khon Kaen**	**13.66**	**35**	P		**P**	**18 48 02.0**	**+8.6**
	988nm,0.7s							
CMAR	**Chiang Mai Arr**	**13.87**	**17**	Pn		**P**	**18 47 59.8**	**+3.7**
	2.4nm,0.3s,baz=214,slow=11,SNR=68							
CMAR				LR		LR	18 53 08.7	
	comp=Z,600nm,20.2s,baz=200,slow=37							
CMAR				ScP			18 56 47.1	
	0.1nm,0.3s,baz=230,slow=3.3,SNR=23							
CMAR	**Chiang Mai Arr**	**13.87**	**17**	Pn		**P**	**18 47 59.8**	**+3.7**
CMAR				LR		LR	18 53 08.7	
CMAR				ScP			18 56 47.1	
PALK	**Pallekele**	**14.16**	**279**	*e*P		**P**	**18 47 58.5**	**-1.4**
	37nm,1.0s							
NANT	**Nan**	**14.77**	**23**	⇑P		**P**	**18 48 11.0**	**+3.0**
	62nm,1.0s							
MDRS	**Chennai**	**16.37**	**300**	*e*P		**P**	**18 48 28.2**	**-0.3**
MDRS				*e*			18 48 33.9	
	comp=Z,49nm,1.6s							
MDRS				*e*			18 48 47.0	
VIS	**Vishakhapatnam**	**16.80**	**319**	*i* P		**P**	**18 48 35.1**	**+1.1**
VIS				*i*			18 51 10.5	
BWNR	**Bhubaneshwar**	**17.43**	**331**	*e*P		**P**	**18 48 40.0**	**-1.7**
BWNR				*e*			18 48 45.0	
	comp=Z,37nm,0.4s							
BWNR				*e*S		**S**	**18 51 41.9**	**-11**
BWNR				*e*			18 51 41.9	
KOD	**Kodaikanal**	**17.89**	**288**	*e*P		**P**	**18 48 46.7**	**-0.9**
KOD				*e*			18 48 49.0	
KOD				*e*			18 49 07.4	
	comp=Z,105nm,1.9s							
TRD	**Trivandrum**	**18.01**	**282**	*e*P		**P**	**18 48 48.6**	**-0.5**
TRD				*e*P			18 48 49.9	
TRD				*e*			18 48 52.0	
	comp=Z,111nm,1.7s							
TRD				*i*			18 52 21.6	
HYB	**Hyderabad**	**20.04**	**309**	*e*P		**P**	**18 49 15.0**	**+2.4**
HYB				*e*S		**S**	**18 52 55.0**	**+4.2**
HYB				pmax	pmax			
	comp=Z,40nm,1.0s							
HYB	**Hyderabad**	**20.04**	**309**	*e*P		**P**	**18 49 15.0**	**+2.4**
	comp=Z,40nm,1.0s							
HYB				*e*S		**S**	**18 52 55.0**	**+4.2**
HYB	**Hyderabad**	**20.04**	**309**	*i* P		**P**	**18 49 15.0**	**+2.4**
	comp=Z,40nm,1.0s							
HYB				*e*S		**S**	**18 52 55.0**	**+4.2**
QIZ	**Qiongzhong**	**20.17**	**45**	P		**P**	**18 49 14.9**	**+0.9**
QIZ				XP			18 49 31.5	
QIZ				*e*S		**S**	**18 52 56.1**	**+2.7**
QIZ				AMB	AMB			
	comp=Z,33nm,1.6s							
QIZ				LR	LR			
	comp=N,1μm,16.8s							
QIZ				LR	LR			
	comp=Z,2μm,18.5s,MS4.5							
QIZ	**Qiongzhong**	**20.17**	**45**	*e*P		**P**	**18 49 12.9**	**-1.0**
SHL	**Shillong**	**20.52**	**353**	*e*P		**P**	**18 49 13.9**	**-3.7**
SHL				*e*			18 49 21.4	
	comp=Z,42nm,0.8s							
SHL				*e*S		**S**	**18 53 04.0**	**+3.9**
BLSP	**Bilaspur**	**20.88**	**325**	*e*P		**P**	**18 49 21.4**	**+0.1**
BLSP				*e*			18 49 25.8	
	comp=Z,80nm,0.9s							
BLSP				*e*S		**S**	**18 53 09.7**	**+2.7**
MNGI	**Mangalore**	**21.17**	**293**	*e*		**P**	**18 49 25.6**	**+1.3**
MNGI				*i* P			18 49 27.6	
MNGI				*i*			18 52 17.4	
LATR	**Latur**	**22.16**	**308**	*e*P		**P**	**18 49 35.0**	**+0.8**
GOA	**Goa**	**23.02**	**298**⇑	*e*		**P**	**18 49 52.9**	**+10**
	comp=Z,94nm,1.8s,mb4.9							
GOA				*e*			18 49 53.1	
GOA				*e*S		**S**	**18 53 57.4**	**+11**
GOA				*e*			18 53 57.4	
KAD	**Karad**	**23.52**	**303**	*e*P		**P**	**18 49 50.4**	**+2.8**
KAD				*e*			18 50 07.0	
	comp=Z,37nm,1.1s							
KAD				*e*			18 50 07.0	
	comp=Z,37nm,1.1s							
JIRN	**Jiri**	**23.86**	**341**	*e*P		**P**	**18 49 50.4**	**-0.4**
	comp=Z,129nm,0.8s,mb5.4							
PKI	**Pulchoki**	**24.04**	**339**	*e*P		**P**	**18 49 52.3**	**-0.3**
DMN	**Daman**	**24.19**	**339**	*e*P		**P**	**18 49 53.8**	**-0.2**
	comp=Z,69nm,0.8s,mb5.1							
GUN	**Gumba**	**24.19**	**340**	*e*P		**P**	**18 49 53.7**	**-0.3**
	comp=Z,122nm,0.8s,mb5.4							
KKN	**Kakani**	**24.29**	**339**	*e*P		**P**	**18 49 54.7**	**-0.3**
POO	**Poona**	**24.40**	**305**	*e*P		**P**	**18 49 58.7**	**+2.6**
POO				*e*			18 50 03.5	
	comp=Z,18nm,1.1s							
POO				*e*			18 50 15.2	
	comp=Z,43nm,1.3s							
POO				*i*			18 54 27.0	
BHPL	**Bhopal**	**24.60**	**319**	*e*P		**P**	**18 49 59.6**	**+1.6**
BHPL				*e*			18 50 04.4	
	comp=Z,42nm,1.4s							
BHPL				*e*			18 54 36.9	
BHPL				*i*			18 54 37.4	
LSA	**Lhasa**	**24.69**	**352**	*e*P		**P**	**18 50 00.1**	**+1.3**
GKN	**Gorkha**	**24.72**	**338**	*e*P		**P**	**18 49 59.7**	**+0.6**
KOLN	**Koldanda**	**24.91**	**336**	*e*P		**P**	**18 50 01.7**	**+0.7**
	comp=Z,143nm,0.7s,mb5.6							
TGY	**Tagaytay City**	**27.26**	**69**	P		**P**	**18 50 24.6**	**+1.6**
	comp=Z,133nm,0.4s,mb5.9,baz=175,slow=1.0,SNR=11							
TGY				LR		LR	18 59 45.0	
	comp=Z,1μm,19.7s,MS4.5,baz=302,slow=33							
ENH	**Enshi**	**28.61**	**27**	*e*P		**P**	**18 50 33.9**	**-1.0**
AJM	**Ajmer**	**28.66**	**320**⇑	*i*P		**P**	**18 50 36.0**	**+0.6**
AJM				*i*			18 51 34.0	
NDI	**New Delhi**	**28.75**	**327**	*e*		**P**	**18 50 32.0**	**-4.2**
NDI				*e*			18 51 14.6	
DDI	**Dehra Dun**	**29.61**	**330**	*e*		**P**	**18 50 43.1**	**-0.8**
WHN	**Wuhan**	**31.29**	**34**	P		**P**	**18 50 59.1**	**+0.3**
XAN	**Xi'an**	**31.63**	**23**	P		**P**	**18 51 00.9**	**-0.8**
XAN				AMB	AMB			
	comp=Z,103nm,1.0s,mb5.6							
LZH	**Lanzhou**	**31.93**	**14**	*e*P		**P**	**18 51 03.6**	**-0.7**
LZH				AP	pP		18 51 14.0	-0.7
LZH				PP	PP		18 52 09.0	-1.7
LZH				*e*S		**S**	**18 56 09.0**	**-2.7**
LZH				SS	SS		18 58 04.0	-0.8
LZH				AMB	AMB			
	comp=Z,51nm,1.0s,mb5.3							
LZH				AMB	AMB			
	comp=Z,242nm,4.3s							
LZH				LR	LR			
	comp=E,2μm,12.8s							
LZH				LR	LR			
	comp=Z,3μm,14.1s,MS5.1							
NJ2	**Nanjing**	**35.01**	**37**	*e*P		**P**	**18 51 32.2**	**+1.3**
NJ2				AP	pP		18 51 41.9	+0.5
NJ2				XP	sP		18 51 45.8	-0.4
NJ2				PP	PP		18 52 48.3	-1.5
NJ2				S	**S**		**18 56 57.0**	**-2.6**
NJ2				AMB	AMB			
	comp=Z,140nm,1.0s,mb5.8							
NJ2				AMB	AMB			
	comp=Z,1μm,4.6s							
NJ2				LR	LR			
	comp=N,1μm,15.2s,MS4.8							
NJ2				LR	LR			
	comp=E,1μm,16.4s,MS4.8							
NJ2				LR	LR			
	comp=Z,4μm,14.6s,MS5.3							
MBWA	**Marble Bar**	**35.79**	**138**	*e*P		**P**	**18 51 37.5**	**-0.2**
JOW	**Kunigami**	**38.55**	**52**	P		**P**	**18 52 01.9**	**+1.1**
	comp=Z,31nm,1.0s,mb5.0,baz=246,slow=10,SNR=3.0							
WMQ	**Urumqi**	**39.05**	**352**	*e*P		**P**	**18 52 04.7**	**0.0**
WMQ				AP	pP		18 52 14.5	-0.8
WMQ				XP	sP		18 52 18.5	-1.5
WMQ				PP	PP		18 53 39.0	+0.5
WMQ				S	**S**		**18 58 01.8**	**+0.6**
WMQ				AMB	AMB			
	comp=Z,11nm,1.0s,mb4.5							
WMQ				AMB	AMB			
	comp=Z,84nm,4.6s							
WMQ				LR	LR			
	comp=N,3μm,20.4s,MS5.1							
WMQ				LR	LR			
	comp=E,1μm,21.8s,MS5.1							
WMQ				LR	LR			
	comp=Z,2μm,21.4s,MS5.0							
ULHL	**Ulahol**	**40.48**	**339**	P		**P**	**18 52 18.5**	**+1.9**
	SNR=5.8							
KAKA	**Kakadu**	**41.40**	**116**	*e*P		**P**	**18 52 24.2**	**-0.3**
AAK	**Ala-Archa**	**41.47**	**337**	*i* P		**P**	**18 52 26.3**	**+1.5**
AAK				pmax	pmax			
	comp=Z,31nm,1.2s,mb4.8							
AAK	**Ala-Archa**	**41.47**	**337**	*e*P		**P**	**18 52 23.2**	**-1.6**
MKAR	**Makanchi Array**	**42.90**	**347**	*i* P		**P**	**18 52 36.6**	**+0.1**
MKAR				pmax	pmax			
	comp=Z,137nm,1.0s							
NWAO	**Narrogin (SRO)**	**43.43**	**152**	P		**P**	**18 52 41.5**	**+0.5**
	comp=Z,8.0nm,0.9s,mb4.4,baz=286,slow=18,SNR=3.1							
SONM	**Songino Array**	**43.71**	**11**	P		**P**	**18 52 43.0**	**-0.1**
	comp=Z,26nm,0.8s,mb5.0,baz=190,slow=8.4,SNR=57							
SONM				pP	pP		18 52 54.5	+0.8
	comp=Z,17nm,0.9s,baz=192,slow=8.2,SNR=9.4							
SONM				PcP	PcP		18 54 30.0	-0.2
	comp=Z,12nm,0.8s,baz=204,slow=3.8,SNR=8.8							
SONM				pPcP			18 54 45.0	
	comp=Z,18nm,0.9s,baz=192,slow=3.6,SNR=9.7							
SONM				ScP			18 58 16.7	
	comp=Z,2.8nm,0.8s,baz=180,slow=3.7,SNR=7.3							
SNY	**Shenyang**	**44.66**	**31**	⇑P		**P**	**18 52 51.2**	**+0.4**
SNY				AMB	AMB			
	comp=Z,30nm,1.4s,mb4.9							
SNY				LR	LR			
	comp=N,860nm,15.0s,MS4.9							
SNY				LR	LR			
	comp=E,480nm,14.7s,MS4.9							
SNY				LR	LR			
	comp=Z,970nm,15.7s,MS4.8							
ZAK	**Zakamensk**	**45.67**	**8**	*e*P		**P**	**18 52 58.4**	**-0.3**
ZAK				*e*			18 54 31.2	
WRA	**Warramunga Arr**	**46.18**	**124**	P		**P**	**18 53 03.9**	**+0.7**
	comp=Z,99nm,0.7s,mb5.9,baz=303,slow=9.1,SNR=62							
WRA				pP	pP		18 53 16.4	+2.5
	comp=Z,48nm,0.9s,baz=301,slow=9.0,SNR=8.2							
WRA				S	**S**		**18 59 44.5**	**-1.5**
	comp=Z,2.0nm,1.1s,baz=296,slow=16,SNR=3.5							
WRAB	**Tennant Creek**	**46.19**	**124**	*e*P		**P**	**18 53 03.7**	**+0.5**
WRAB				pmax	pmax			
	comp=Z,44nm,1.0s,mb5.3							
WRAB	**Tennant Creek**	**46.19**	**124**	*e*P		**P**	**18 53 03.7**	**+0.5**
	comp=Z,44nm,1.0s,mb5.3							
WB2	**Warramunga Arr**	**46.19**	**124**⇑	*i*P		**P**	**18 53 04.0**	**+0.7**
TLY	**Talaya**	**46.99**	**8**	*e*P		**P**	**18 53 09.0**	**-0.1**
TLY				pmax	pmax			
	comp=Z,12nm,0.8s,mb4.9							
TLY	**Talaya**	**46.99**	**8**	*e*P		**P**	**18 53 09.0**	**-0.1**
	comp=Z,12nm,0.8s,mb4.9							
ASPA	**Alice Springs**	**47.69**	**129**⇑	*i*P		**P**	**18 53 15.6**	**+0.6**
ASAR	**Alice Springs**	**47.69**	**129**	P		**P**	**18 53 15.0**	**0.0**
	comp=Z,20nm,0.7s,mb5.2,baz=306,slow=7.8,SNR=26							
ASAR				pP	pP		18 53 27.2	+1.5
	comp=Z,25nm,0.7s,baz=305,slow=7.7,SNR=10							
ASAR				S	**S**		**19 00 08.1**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=295,slow=12,SNR=7.3							
ASAR	**Alice Springs**	**47.69**	**129**	P		**P**	**18 53 15.1**	**0.0**
ASAR				pP	pP		18 53 27.2	+1.5
ASAR				S	**S**		**19 00 08.1**	**+0.6**
HIA	**Hailar**	**48.81**	**22**	*e*P		**P**	**18 53 22.6**	**-0.7**
HIA				pmax	pmax			
	comp=Z,16nm,0.8s							
HIA	**Hailar**	**48.81**	**22**	*e*P		**P**	**18 53 22.6**	**-0.8**
	comp=Z,16nm,0.8s,mb5.1							
ZAL	**Zalesovo**	**49.34**	**352**	P		**P**	**18 53 28.0**	**+0.6**
	comp=Z,25nm,0.5s,mb5.5,baz=210,slow=5.7,SNR=50							
MDJ	**Mudanjiang**	**49.75**	**32**	P		**P**	**18 53 31.1**	**+0.5**
MDJ				AP	pP		18 53 40.2	-1.2
MDJ				PCP	PcP		18 54 51.1	-0.4
MDJ				S	**S**		**19 00 38.0**	**+2.0**
MDJ				AMB	AMB			
	comp=Z,40nm,1.6s,mb5.2							
MDJ				AMB	AMB			
	comp=Z,2μm,12.1s							
MDJ				LR	LR			
	comp=N,371nm,18.8s,MS4.5							
MDJ				LR	LR			
	comp=E,340nm,19.3s,MS4.5							
MDJ				LR	LR			
	comp=Z,533nm,21.8s,MS4.5							
NVS	**Novosibirsk**	**50.44**	**351**	*i* P		**P**	**18 53 34.4**	**-1.4**
NVS				pmax	pmax			
	comp=N,9.0nm,0.5s							
NVS				pmax	pmax			
	comp=E,9.0nm,0.5s							
NVS				pmax	pmax			
	comp=Z,14nm,0.5s,mb5.2							
MAT	**Matsushiro**	**50.57**	**46**	*e*P		**P**	**18 53 38.0**	**+1.0**
MAT	**Matsushiro**	**50.57**	**46**	P		**P**	**18 53 36.7**	**-0.3**
BVA0	**Borovoye Array**	**51.78**	**341**	*i* P		**P**	**18 53 45.3**	**-0.6**
BVA0				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
BVAR	**Borovoye Array**	**51.78**	**341**	P		**P**	**18 53 45.4**	**-0.6**
	comp=Z,16nm,0.8s,mb5.0,baz=141,slow=9.5,SNR=12							
BVAR				S	**S**		**19 01 03.3**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=153,slow=20,SNR=6.8							
BRVK	**Borovoye**	**51.85**	**341**	*e*P		**P**	**18 53 44.3**	**-2.1**
CHKZ	**Chkalovo**	**52.27**	**342**	*i* P		**P**	**18 53 49.4**	**-0.2**
CHKZ				pmax	pmax			
	comp=Z,119nm,1.4s,mb5.6							
CHKZ	**Chkalovo**	**52.27**	**342**	*e*P		**P**	**18 53 48.5**	**-1.0**
	comp=Z,73nm,0.9s,mb5.6							
KLR	**Kul'dur**	**53.94**	**29**	*e*P		**P**	**18 53 57.6**	**-4.4**
PMG	**Port Moresby**	**54.16**	**105**	*e*P		**P**	**18 54 02.4**	**-1.7**
PMG				pmax	pmax			
	comp=Z,20nm,0.6s							
PMG	**Port Moresby**	**54.16**	**105**	P		**P**	**18 54 04.0**	**-0.1**
	comp=Z,21nm,0.6s,mb5.3,baz=290,slow=3.2,SNR=18							
PMG	**Port Moresby**	**54.16**	**105**	*e*P		**P**	**18 54 02.4**	**-1.8**
	comp=Z,20nm,0.6s,mb5.2							
BOD	**Bodaibo**	**54.67**	**12**	*e*P		**P**	**18 54 05.2**	**-2.1**
CTA	**Charters Tower**	**56.44**	**118**⇑	*i*P		**P**	**18 54 20.3**	**-0.2**
	comp=Z,9.1nm,0.4s,mb5.2							
CTA	**Charters Tower**	**56.44**	**118**	P		**P**	**18 54 20.5**	**0.0**
	comp=Z,20nm,0.8s,mb5.2,baz=300,slow=7.3,SNR=10							
CTA				LR	LR		19 18 23.6	
	comp=Z,522nm,20.5s,MS4.6,baz=292,slow=36							
CTAO	**Charters Tower**	**56.44**	**118**	*e*P		**P**	**18 54 19.6**	**-0.9**
GNI	**Garni**	**56.82**	**315**	P		**P**	**18 54 21.2**	**-1.8**
	comp=Z,5.3nm,0.7s,mb4.7,baz=15,slow=20,SNR=3.8							
ASAJ	**Asahikawa**	**57.09**	**39**	P		**P**	**18 54 25.4**	**+0.5**
	comp=Z,9.1nm,0.4s,mb5.2,baz=232,slow=3.6,SNR=21							
ASAJ				LR	LR		19 18 09.1	
	comp=Z,474nm,19.6s,MS4.6,baz=221,slow=35							
STKA	**Stephens Creek**	**57.77**	**133**	*e*P		**P**	**18 54 30.0**	**+0.2**
	comp=Z,8.2nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**57.77**	**133**	P		**P**	**18 54 30.0**	**+0.2**
	comp=Z,6.6nm,0.7s,mb4.8,baz=321,slow=9.2,SNR=3.9							
KMBO	**Kilima Mbogo**	**57.80**	**265**	*e*P		**P**	**18 54 30.4**	**+0.1**
KMBO				*e**PP	pP		18 54 40.4	-0.8
KMBO				pmax	pmax			
	comp=Z,14nm,1.0s							
KMBO				MLR	MLR			
	comp=Z,523nm,22.0s							
KMBO	**Kilima Mbogo**	**57.80**	**265**	P		**P**	**18 54 31.3**	**+1.0**
	comp=Z,9.4nm,0.8s,mb4.8,baz=56,slow=10,SNR=27							
KMBO				LR	LR		19 15 10.5	
	comp=Z,444nm,21.8s,MS4.5,baz=277,slow=32							
KMBO	**Kilima Mbogo**	**57.80**	**265**	*e*P		**P**	**18 54 30.4**	**+0.1**
	comp=Z,14nm,1.0s,mb5.0							
KMBO				*e*pP	pP		18 54 40.4	-0.8
KMBO				LR	LR			
	comp=Z,523nm,22.0s,MS4.6							
YSS	**Yuzh-Sakhalins**	**58.58**	**37**⇑	*i*P		**P**	**18 54 35.0**	**-0.2**
YSS				*e*		pP	18 54 43.0	-3.2
ARU	**Arti**	**58.66**	**337**⇓	*i*P		**P**	**18 54 30.5**	**-5.2**
ARU				*e*			18 55 18.2	
ARU				*e*S		**S**	**19 02 28.6**	**-7.1**
ARU				*e*			19 04 11.8	
ARU				*e*SS		SS	19 06 23.1	-7.4
ARU				pmax	pmax			
	comp=Z,25nm,1.5s,mb5.0							
KIV	**Kislovodsk**	**59.78**	**319**	*e*P		sP	18 54 59.4	+0.4
KIV				pmax	pmax			
	comp=Z,25nm,1.0s,mb5.2							
ASF	**Jabal al Asfar**	**60.26**	**304**	LR		LR	19 23 18.5	
	comp=Z,323nm,18.1s,MS4.5,baz=136,slow=38							
EIL	**Elat**	**61.36**	**301**	LR		LR	19 22 18.0	
	comp=Z,434nm,18.4s,MS4.6,baz=235,slow=37							
SOKR	**Solikamsk**	**61.58**	**339**⇑	*i*P		sP	18 55 09.4	-1.6
SOKR				pmax	pmax			
	comp=Z,30nm,1.0s,mb5.4							
SOC	**Sochi**	**61.61**	**317**	*e*P		**P**	**18 54 54.9**	**-1.2**
SOC				*e*			18 55 38.2	
SOC				*e*PPP	PPP		18 58 42.7	0.0
SOC				*e*S		**S**	**19 03 14.9**	**+1.0**
SOC				*e*SSS	SSS		19 09 59.7	+2.1
SOC				pmax	pmax			
	comp=N,13nm,0.9s							
SOC				pmax	pmax			
	comp=E,21nm,0.9s							
SOC				pmax	pmax			
	comp=Z,30nm,0.9s,mb5.4							
YAK	**Yakutsk**	**62.40**	**18**	*e*P		**P**	**18 54 59.2**	**-1.9**
YAK				pmax	pmax			
	comp=Z,73nm,0.8s,mb5.9							
YAK	**Yakutsk**	**62.40**	**18**	*e*P		**P**	**18 54 59.2**	**-1.8**
	comp=Z,73nm,0.8s,mb5.9							
MBAR	**Mbarara**	**64.21**	**267**	*e*P		**P**	**18 55 12.4**	**-1.3**
	comp=Z,20nm,1.3s,mb5.0							
BRTR	**Keskin Array B**	**64.71**	**312**	P		**P**	**18 55 15.0**	**-1.6**
	comp=Z,4.0nm,0.7s,mb4.5,baz=121,slow=6.9,SNR=6.2							
BRTR				pP	pP		18 55 25.1	-2.6
	comp=Z,6.1nm,0.8s,baz=131,slow=7.1,SNR=4.1							
SIM	**Simferopol'**	**65.86**	**317**	*e*P		sP	18 55 40.7	+1.5
SIM				pmax	pmax			
	comp=Z,30nm,0.9s,mb5.3							
OBN	**Obninsk**	**68.04**	**328**⇓	*e*P		**P**	**18 55 41.2**	**+3.8**
OBN				*e*			18 58 07.2	
OBN				*e*S		S	19 04 27.0	-5.7
OBN				pmax	pmax			
	comp=Z,20nm,1.2s,mb5.0							
OBN				MLR	MLR			
	comp=Z,1μm,13.0s,MS5.3							
MA2	**Magadan**	**68.91**	**27**	*e*P		**P**	**18 55 42.4**	**-0.3**
MA2				*e*S		S	19 04 40.3	-2.7
MA2				pmax	pmax			
	comp=Z,10.0nm,0.7s,mb4.8							
MA2				MLR	MLR			
	comp=Z,600nm,21.0s,MS4.8							
LSZ	**Lusaka**	**68.98**	**252**	*e*P		**P**	**18 55 43.2**	**-0.7**
LSZ				*e**PP	pP		18 55 53.2	-1.9
LSZ				pmax	pmax			
	comp=Z,15nm,1.4s,mb4.7							
LSZ				MLR	MLR			
	comp=Z,538nm,19.0s,MS4.8							
LSZ	**Lusaka**	**68.98**	**252**	*e*P		**P**	**18 55 43.2**	**-0.7**
	comp=Z,15nm,1.4s,mb4.7							
LSZ				*e*pP	pP		18 55 53.2	-2.0
LSZ				LR	LR			
	comp=Z,538nm,19.0s,MS4.8							
TIXI	**Tiksi**	**69.79**	**11**⇑	*i*P		**P**	**18 55 46.4**	**-1.6**
TIXI				pmax	pmax			
	comp=Z,45nm,1.0s,mb5.3							
CFR	**Carcaliu**	**70.00**	**316**⇑	*i*P		**P**	**18 55 48.9**	**-0.8**
SANT	**Santorini**	**70.35**	**307**	*e*P		**P**	**18 55 49.5**	**-2.5**
	comp=Z,8.3nm,0.6s,mb4.8							
AKASG	**Malin Array Be**	**70.70**	**322**	P		**P**	**18 55 51.9**	**-2.0**
	comp=Z,2.3nm,0.5s,mb4.4,baz=83,slow=5.1,SNR=10.0							
ISR	**Istrita**	**71.09**	**316**⇑	*i*P		**P**	**18 55 56.2**	**-0.1**
VRI	**Vrincioaia**	**71.12**	**317**⇑	*i*P		**P**	**18 55 56.8**	**+0.3**
MLR	**Muntele Rosu**	**71.58**	**316**⇓	*i*P		**P**	**18 55 59.6**	**+0.4**
MLR	**Muntele Rosu**	**71.58**	**316**	P		**P**	**18 55 59.7**	**+0.5**
	comp=Z,13nm,0.9s,mb4.8,baz=93,slow=4.8,SNR=9.2							
MLR	**Muntele Rosu**	**71.58**	**316**⇓	*i*P		**P**	**18 55 59.5**	**+0.3**
JOF	**Joensuu**	**73.59**	**335**	*e*p		**P**	**18 56 11.0**	**+0.2**
KWP	**Kalwaria**	**74.53**	**320**	*e*P		**P**	**18 56 16.5**	**0.0**
APA	**Apatity**	**74.63**	**340**⇑	*i*P		**P**	**18 56 16.1**	**-0.6**
APA				*i*			18 56 31.8	
AP

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BRG e pP 18 56 58.3 -1.4
BRG MLR MLR
comp=Z,3μm,19.8s,MS5.6
ROBS Robic 80.28 316 eP **P 18 56 48.3 -0.3**
GEC2 GERESS Array S 80.29 319 eP **P 18 56 48.9 +0.3**
GEC2 pmax pmax
comp=Z,11nm,0.8s,mb4.8
GEC2 GERESS Array S 80.29 319 eP **P 18 56 48.9 +0.3**
comp=Z,11nm,0.8s,mb4.8
GERES GERESS Array B 80.29 319 P **P 18 56 49.0 +0.5**
comp=Z,12nm,0.8s,mb4.9,baz=100,slow=5.3,SNR=30
GERES pP pP 18 56 58.9 -1.0
comp=Z,13nm,0.9s,baz=90,slow=2.7,SNR=5.7
KHC Kasperske Hory 80.39 319 eP **P 18 56 49.2 +0.1**
KHC epP pP 18 56 55.8 -4.6
KHC ex x 18 57 04.7
WET Wettzell 80.85 319 eP **P 18 56 51.9 +0.4**
CLL Collm 80.88 321 eP **P 18 56 51.0 -0.6**
CLL e 18 57 07.0
CLL Collm 80.88 321 P **P 18 56 51.0 -0.6**
CLL e*SP sP 18 57 07.0 0.0
CLL e 18 57 29.0
NKC Novy Kostel 81.18 320 eP **P 18 56 54.0 +0.8**
NKC ex x 18 57 08.1
WTTA Wattenberg 81.61 317⇑ iP **P 18 56 55.3 -0.2**
comp=Z,21nm,1.1s,mb5.0
WTTA Wattenberg 81.61 317⇑ iP **P 18 56 55.3 -0.2**
WTTA pmax pmax
comp=Z,21nm,1.1s,mb5.0
WATA Walderalm 81.65 317⇑ iP **P 18 56 55.2 -0.5**
comp=Z,10nm,1.2s,mb4.6
WATA Walderalm 81.65 317⇑ iP **P 18 56 55.2 -0.5**
WATA pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
MOX Moxa 81.73 320 eP **P 18 56 56.5 +0.4**
MOX pmax pmax
comp=Z,31nm,1.8s,mb4.9
MOX Moxa 81.73 320 eP **P 18 56 56.5 +0.4**
comp=Z,31nm,1.8s,mb4.9
MOX Moxa 81.73 320 i P **P 18 56 56.5 +0.4**
comp=Z,logA/T=1.2,mb4.9
SQTA Sankt Quirin 81.90 317⇑ iP **P 18 56 56.8 -0.2**
comp=Z,6.7nm,0.8s,mb4.6
SQTA Sankt Quirin 81.90 317⇑ iP **P 18 56 56.8 -0.2**
SQTA pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
GRA1 Grafenberg Arr 81.95 319 eP **P 18 56 58.3 +1.1**
comp=Z,8.0nm,0.8s,mb4.7
GRA1 e 18 57 13.2
GRF Grafenberg Arr 81.95 319 eP **P 18 56 58.3 +1.1**
GRF e 18 57 13.2
GRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
GRF Grafenberg Arr 81.95 319 eP **P 18 56 58.3 +1.1**
GRF e 18 57 13.2
GRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
GRF Grafenberg Arr 81.95 319 eP **P 18 56 58.3 +1.1**
comp=Z,8.0nm,0.8s,mb4.7
GRF e 18 57 13.2
MOTA Moosalm 81.97 317⇓ iP **P 18 56 57.1 -0.3**
comp=Z,6.9nm,1.0s,mb4.5
MOTA Moosalm 81.97 317⇓ iP **P 18 56 57.1 -0.3**
MOTA pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
NB2 NORSAR Subarra 82.43 331 P **P 18 56 59.3 -0.1**
comp=Z,14nm,1.1s,mb4.8,baz=90,slow=5.3
NB2 NORSAR Subarra 82.43 331 P **P 18 56 59.3 -0.1**
NB2 pmax pmax
comp=Z,14nm,1.1s,mb4.8
NOA NORSAR Array B 82.43 331 P **P 18 56 59.0 -0.4**
comp=Z,2.8nm,1.1s,mb4.1,baz=66,slow=5.5,SNR=2.8
NOA sP sP 18 57 14.9 +0.1
comp=Z,6.8nm,0.9s,baz=94,slow=5.2,SNR=5.9
CLZ Clausthal 82.55 321 eP **P 18 57 00.9 +0.7**
comp=Z,6.0nm,0.8s,mb4.7
DAVA Damuels 82.81 317⇑ iP **P 18 57 02.3 +0.6**
comp=Z,32nm,1.2s,mb5.2
SYO Syowa Base 82.98 197 ⇓P **P 18 57 02.0 -0.1**
SYO Syowa Base 82.98 197 ⇑PcP PcP 18 57 08.9 +1.7
SYO Syowa Base 82.98 197 ⇑sP sP 18 57 20.0 +2.5
VSL Villasalto 83.23 309 eP **P 18 57 04.6 +0.6**
BFO Black Forest 83.85 318 eP **P 18 57 06.5 -0.4**
BFO pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
BFO Black Forest 83.85 318 eP **P 18 57 06.5 -0.4**
comp=Z,4.0nm,0.8s,mb4.6
LPG La Plagne 85.00 315 eP **P 18 57 12.9 +0.1**
comp=Z,39nm,1.1s,mb5.1
LPG La Plagne 85.00 315 eP **P 18 57 12.9 +0.1**
LPG pmax pmax
comp=Z,20nm,1.1s,mb5.2
TNA Tin City 88.40 24 eP **P 18 57 28.3 -0.5**
comp=Z,16nm,1.3s,mb5.1
VNDA Vanda 90.12 168 P **P 18 57 38.2 +1.4**
comp=Z,3.6nm,1.2s,mb4.6,baz=263,slow=4.1,SNR=3.7
VNDA LR LR 19 34 49.3
comp=Z,170nm,18.0s,MS4.5,baz=324,slow=33
VNDA Vanda 90.12 168 P **P 18 57 38.2 +1.4**
VNDA LR LR 19 34 49.3
SBA Scott Base 91.22 168 P **P 18 57 40.4 -1.6**
ESDC Sonseca Array 93.47 310 P **P 18 57 54.1 +1.0**
comp=Z,0.5nm,0.5s,mb4.2,baz=45,slow=6.3,SNR=5.0
IMA Indian Mountai 93.91 22 eP **P 18 57 55.1 +0.7**
IMA pmax pmax
comp=Z,27nm,0.6s,mb5.8
IMA Indian Mountai 93.91 22 eP **P 18 57 55.1 +0.7**
comp=Z,27nm,0.6s,mb5.9
QSPA South Pole Qui 95.04 180 P **P 18 57 58.2 -1.1**
ILAR Eielson Array 97.04 22 P **P 18 58 08.2 -0.5**
comp=Z,1.0nm,0.8s,mb4.3,baz=285,slow=4.1,SNR=13
ILAR PP PP 19 01 58.6 -8.7
comp=Z,0.6nm,0.8s,baz=306,slow=7.1,SNR=4.4
DBIC Dimbokro 98.94 278 P **P 18 58 18.9 +0.4**
comp=Z,1.4nm,0.8s,mb4.5,baz=338,slow=6.8,SNR=2.4
DBIC LR LR 19 39 15.1
comp=Z,212nm,21.4s,MS4.6,baz=26,slow=33
INK Inuvik 99.44 16 eP **P 18 58 18.2 -1.3**
INK Inuvik 99.44 16 P **P 18 58 19.4 -0.1**
comp=Z,4.0nm,1.1s,mb4.9,baz=320,slow=4.4,SNR=5.9
YKA Yellowknife Ar 108.93 14 PKiKP 19 03 08.5
comp=Z,0.2nm,0.8s,baz=342,slow=2.0,SNR=3.3
YKA PP PP 19 03 30.0 -7.6
comp=Z,0.4nm,0.8s,baz=338,slow=7.8,SNR=4.5
YKA PKKPbc 19 14 23.1
comp=Z,0.3nm,0.6s,baz=150,slow=3.3,SNR=5.6
YKA Yellowknife Ar 108.93 14 PKPdf 19 03 08.6
YKA PP PP 19 03 30.0 -7.6
YKA PKKPbc 19 14 23.1
SCHQ Schefferville 118.33 348 PKP PKPdf 19 03 24.6 +1.3
comp=Z,4.8nm,1.1s,baz=284,slow=2.5,SNR=3.1
WVOR Wild Horse Val 123.77 29 ePKP PKPdf 19 03 34.8 +0.6
QLMT Earthquake Lak 125.00 23 ePKP PKPdf 19 03 37.0 +0.5
NVAR Mina Array Bea 126.91 32 PKP PKPdf 19 03 42.4 +2.0
comp=Z,3.1nm,0.8s,baz=304,slow=0.8,SNR=16
NVAR sPKP 19 03 57.7
comp=Z,4.9nm,0.9s,baz=246,slow=0.7,SNR=12
NVAR SKP 19 07 14.4
comp=Z,0.7nm,0.8s,baz=296,slow=1.3,SNR=3.6
PDAR Pinedale Array 127.47 22 PKP PKPdf 19 03 43.1 +1.8
comp=Z,3.1nm,0.9s,slow=1.5,SNR=19
PDAR sPKP 19 03 57.6
comp=Z,7.1nm,1.1s,baz=82,slow=1.1,SNR=9.5
MSU Marysvale 129.91 28 ePKP PKPdf 19 03 48.4 +2.3
MCWV Mont Chateau 135.17 354 ePKP PKPdf 19 03 54.9 -1.1
TXAR Lajitas Array 141.43 26 PKhKP 19 04 05.2
comp=Z,0.5nm,0.3s,baz=153,slow=2.8,SNR=5.3
TXAR PKP PKPdf 19 04 09.9 +2.2
comp=Z,2.9nm,0.9s,baz=270,slow=1.3,SNR=6.7
TXAR SKP 19 07 41.9
comp=Z,1.8nm,0.7s,baz=270,slow=1.3,SNR=5.0
BDFB Brasilia 142.01 251 PKP PKPdf 19 04 09.1 +0.1
comp=Z,1.8nm,0.6s,baz=145,slow=11,SNR=2.6
CPUP Villa Florida 146.01 229 PKPbc PKPbc 19 04 18.6 +2.0
comp=Z,0.0nm,0.6s,baz=220,slow=15,SNR=1.4
CPUP pPKPbc 19 04 29.0
comp=Z,0.0nm,0.3s,baz=70,slow=16,SNR=1.5
LPAZ La Paz 159.90 235 sPKP 19 04 54.9
comp=Z,2.9nm,0.8s,baz=357,slow=2.1,SNR=5.5
LPAZ PKPab PKPab 19 05 16.7 -0.7
comp=Z,2.9nm,0.8s,baz=225,slow=4.3,SNR=4.3
LPAZ pPKPab 19 05 26.2
comp=Z,5.6nm,1.0s,baz=118,slow=3.1,SNR=4.3
OTAV Otavalo 171.40 308 ePKP PKPdf 19 04 45.6 +0.4

IDC 12 18:56:55.0±4.0, 9.14N×92.02E, mb3.3/3, mb1 3.5/4, mb1mx3.3/18, mbtmp3.3/4, ML3.6/1, Error ellipse: s-maj=113.3km s-min=29.1km az=79.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.44**	**35**	Pn	P	18 59 39.9	-2.9
	0.1nm,0.3s,baz=223,slow=15,SNR=5.0						
SONM	**Songino Array**	**40.44**	**15**	P	P	19 04 35.2	-1.6
	0.5nm,0.8s,baz=207,slow=6.4,SNR=3.1						
WRA	**Warramunga Arr**	**50.70**	**125**	P	P	19 05 56.8	-2.0
	0.3nm,0.8s,baz=306,slow=8.4,SNR=4.9						
ASAR	**Alice Springs**	**52.33**	**129**	P	P	19 06 08.8	-2.3
	0.2nm,0.6s,baz=306,slow=7.2,SNR=5.6						

*MDD **12** 19:13:03.7±0.3, 38.84N×0.55W, h2km±3km, mbLg3.0/25, Error ellipse: s-maj=2.8km s-min=2.2km az=1.0, II AIELO DE MALFERIT OLLERIA BOCAIRENT PRXIMO*
MDD EMS: III ONTINYENT ALCOY ALBAIDA.
*LDG **12** 19:13:04.2±0.2, 38.76N×0.56W, h10km, Ml3.3/13, Error ellipse: s-maj=4.2km s-min=2.9km az=153.0*
*CSEM **12** 19:13:04.3±0.1, 38.79N×0.53W, h8km, ML3.4/17, Error ellipse: s-maj=2.3km s-min=1.0km az=131.0*
*NEIC **12** 19:13:04.2, 38.76N×0.56W, h10km, ML3.3(LDG), MN3.0(MDD), After LDG.*
NEIC Felt [III] at Albaida, Alcoy and Onteniente; [II] at Bocairente and L'Olleria.

ISC 12 19:13:01.6±0.4, 38.90N±0.02×0.60W±0.03, h10km±2km, n134, σ1§47/241, 6C-3D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBEN	**Beniarda**	**0.35**	**124**	⇑Pg	**Pg**	**19 13 08.9**	**0.0**
EBEN				Lg		19 13 13.1	
EBEN	**Beniarda**	**0.35**	**124**	⇑Pg	**Pg**	**19 13 08.9**	**0.0**
	321nm,0.5s,SNR=18						
EBEN				Lg		19 13 13.2	
	2μm,0.3s,SNR=13						
EBEN	**Beniarda**	**0.35**	**124**	Pg	**Pg**	**19 13 08.9**	**0.0**
	321nm,0.5s,SNR=18						
EBEN				Lg		19 13 13.1	
	2μm,0.3s,SNR=13						
EMUR	**La Murta**	**1.17**	**206**	⇑Pg	**Pg**	**19 13 24.2**	**-0.8**
EMUR				Lg		19 13 39.5	
EMUR	**La Murta**	**1.17**	**206**	⇑Pg	**Pg**	**19 13 24.2**	**-0.8**
	156nm,0.3s,SNR=18						
EMUR				Lg		19 13 39.9	
	324nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**1.17**	**206**	Pg	**Pg**	**19 13 24.2**	**-0.8**
	151nm,0.4s,SNR=18						
CART	**Cartagena**	**1.35**	**194**	eP	**Pb**	**19 13 25.0**	**-1.5**
CART	**Cartagena**	**1.35**	**194**	eP	**Pb**	**19 13 25.0**	**-1.5**
EMOS	**Mosqueruela**	**1.46**	**4**	Pg	**Pg**	**19 13 30.8**	**0.0**
EMOS				Lg		19 13 52.9	
EMOS	**Mosqueruela**	**1.46**	**4**	Pg	**Pg**	**19 13 30.9**	**+0.1**
	90nm,0.4s,SNR=7.9						
EMOS				Lg		19 13 52.3	
	71nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**1.46**	**4**	Pg	**Pg**	**19 13 30.8**	**0.0**
	SNR=7.9						
EVIA	**Vianos**	**1.51**	**261**	Pn	**Pn**	**19 13 31.0**	**+2.2**
EVIA				Sn	**Sn**	**19 13 50.7**	**+2.1**
EVIA				Lg		19 13 56.8	
EVIA	**Vianos**	**1.51**	**261**	Pg	**Pg**	**19 13 30.9**	**-0.9**
	53nm,0.4s,SNR=42						
EVIA				Sn	**Sn**	**19 13 50.7**	**+2.1**
	152nm,0.5s,SNR=9.9						
EVIA				Lg		19 13 53.5	
	535nm,0.8s,SNR=4.0						
EVIA	**Vianos**	**1.51**	**261**	Pn	**Pn**	**19 13 31.0**	**+2.2**
	35nm,0.3s,SNR=42						
EVIA				Sn	**Sn**	**19 13 50.7**	**+2.1**
	152nm,0.5s,SNR=9.9						
EIBI	**Ibiza**	**1.52**	**85**	⇓Pn	**Pn**	**19 13 29.3**	**+0.4**
EIBI				Sn	**Sn**	**19 13 47.5**	**-1.4**
EIBI	**Ibiza**	**1.52**	**85**	⇓Pn	**Pn**	**19 13 29.4**	**+0.4**
	43nm,0.1s,SNR=18						
EIBI				Sn	**Sn**	**19 13 47.6**	**-1.3**
	159nm,0.3s,SNR=8.4						
EIBI	**Ibiza**	**1.52**	**85**	Pn	**Pn**	**19 13 29.3**	**+0.3**
	43nm,0.1s,SNR=18						
EIBI				Sn	**Sn**	**19 13 47.5**	**-1.4**
	77nm,0.4s,SNR=8.4						
EHUE	**Huescar**	**1.91**	**236**	Pn	**Pn**	**19 13 36.1**	**+1.6**
	SNR=4.0						
EBR	**Ebro Roquetas**	**2.09**	**23**	ePN	**Pn**	**19 13 39.5**	**+2.4**
EBR				eSG	**Sg**	**19 14 12.5**	**+1.2**
ERTA	**Horta de San J**	**2.17**	**19**	Pn	**Pn**	**19 13 40.7**	**+2.4**
ERTA				Sn	**Sn**	**19 14 08.7**	**+3.2**
ERTA				Lg		19 14 13.8	
ERTA	**Horta de San J**	**2.17**	**19**	⇓Pn	**Pn**	**19 13 40.8**	**+2.5**
	16nm,0.1s,SNR=18						
ERTA				Sn	**Sn**	**19 14 08.7**	**+3.2**
	25nm,0.2s,SNR=4.0						
ERTA				Lg		19 14 13.4	
	95nm,0.4s,SNR=4.0						
ERTA	**Horta de San J**	**2.17**	**19**	Pn	**Pn**	**19 13 40.7**	**+2.4**
	22nm,0.2s,SNR=74						
ERTA				Sn	**Sn**	**19 14 08.7**	**+3.2**
	48nm,0.4s,SNR=4.0						
EQES	**Quesada**	**2.23**	**241**	Pn	**Pn**	**19 13 41.0**	**+1.8**
EQES				Pg	**Pg**	**19 13 44.4**	**-1.8**
EQES				Sn	**Sn**	**19 14 09.2**	**+2.2**
EQES				Lg		19 14 16.0	
EQES	**Quesada**	**2.23**	**241**	Pn	**Pn**	**19 13 40.9**	**+1.8**
	7.8nm,0.1s,SNR=35						
EQES				Pg	**Pg**	**19 13 44.5**	**-1.7**
	47nm,0.3s,SNR=7.9						
EQES				Sn	**Sn**	**19 14 08.8**	**+1.9**
	23nm,0.2s,SNR=4.0						
EQES				Lg		19 14 15.7	
	146nm,0.5s,SNR=7.9						
EQES	**Quesada**	**2.23**	**241**	Pn	**Pn**	**19 13 40.9**	**+1.8**
	6.9nm,0.1s,SNR=35						
EQES	**Quesada**	**2.23**	**241**	Pg	**Pg**	**19 13 44.4**	**-1.8**
	SNR=7.9						
EQES				Sn	**Sn**	**19 14 09.2**	**+2.3**
	49nm,0.4s,SNR=4.0						
ENIJ	**Nijar**	**2.31**	**214**	Pn	**Pn**	**19 13 40.5**	**+0.3**
ENIJ				Sn	**Sn**	**19 14 07.6**	**-1.3**
ENIJ	**Nijar**	**2.31**	**214**	Pn	**Pn**	**19 13 40.7**	**+0.5**
	33nm,0.4s,SNR=7.9						
ENIJ				Sn	**Sn**	**19 14 07.6**	**-1.3**
	22nm,0.4s,SNR=4.0						
ENIJ	**Nijar**	**2.31**	**214**	Pn	**Pn**	**19 13 40.5**	**+0.3**
	SNR=7.9						
ENIJ				Sn	**Sn**	**19 14 07.6**	**-1.3**
	SNR=4.0						
EBER	**Berja**	**2.70**	**223**	Pn	**Pn**	**19 13 47.2**	**+1.4**
EBER				Pg	**Pg**	**19 13 53.9**	**-1.5**
EBER				Sn	**Sn**	**19 14 18.6**	**-0.2**
EBER				Lg		19 14 30.5	
EBER	**Berja**	**2.70**	**223**	Pn	**Pn**	**19 13 47.0**	**+1.2**
	14nm,0.4s,SNR=16						
EBER				Pg	**Pg**	**19 13 53.6**	**-1.9**
	20nm,0.4s,SNR=11						
EBER				Sn	**Sn**	**19 14 18.7**	**-0.1**
	42nm,0.5s,SNR=4.0						
EBER				Lg		19 14 30.5	
	35nm,0.5s,SNR=4.0						
EBER	**Berja**	**2.70**	**223**	Pn	**Pn**	**19 13 47.2**	**+1.4**
	12nm,0.4s,SNR=16						
EBER	**Berja**	**2.70**	**223**	Pg	**Pg**	**19 13 53.9**	**-1.6**
	13nm,0.4s,SNR=11						
EBER				Sn	**Sn**	**19 14 18.6**	**-0.2**
	39nm,0.6s,SNR=4.0						
ESDC	**Sonseca Array**	**2.72**	**288**	Pn	**Pn**	**19 13 48.1**	**+1.9**
ESDC				Pg	**Pg**	**19 13 56.1**	**+0.2**
ESDC				Sn	**Sn**	**19 14 20.7**	**+1.3**
ESDC				Lg		19 14 32.3	
ESDC	**Sonseca Array**	**2.72**	**288**	Pn	**Pn**	**19 13 48.1**	**+1.9**
	13nm,0.1s,baz=104,slow=14,SNR=61						
ESDC				Pg	**Pg**	**19 13 56.1**	**+0.2**
	29nm,0.3s,baz=104,slow=18,SNR=7.9						
ESDC				Sn	**Sn**	**19 14 20.7**	**+1.3**
	14nm,0.4s,baz=106,slow=25,SNR=7.9						
ESDC				Lg		19 14 31.9	
	42nm,0.4s,baz=98,slow=30,SNR=386						
ESDC	**Sonseca Array**	**2.72**	**288**	Pn	**Pn**	**19 13 48.1**	**+2.0**
	4.8nm,0.2s,SNR=61						
ESDC	**Sonseca Array**	**2.72**	**288**	Pg	**Pg**	**19 13 56.1**	**+0.2**
	SNR=7.9						
ESDC				Sn	**Sn**	**19 14 20.7**	**+1.3**
	SNR=7.9						
EPOB	**Poblet**	**2.77**	**27**	Pn	**Pn**	**19 13 48.5**	**+1.7**
EPOB				Pg	**Pg**	**19 13 56.2**	**-0.6**
EPOB				Sn	**Sn**	**19 14 20.6**	**+0.1**
EPOB				Lg		19 14 31.8	
EPOB	**Poblet**	**2.77**	**27**	⇑Pn	**Pn**	**19 13 48.5**	**+1.7**
	26nm,0.2s,SNR=18						
EPOB				Pg	**Pg**	**19 13 55.8**	**-1.0**
	27nm,0.3s,SNR=6.6						
EPOB				Sn	**Sn**	**19 14 20.6**	**+0.1**
	13nm,0.4s,SNR=7.9						
EPOB				Lg		19 14 32.8	
	15nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**2.77**	**27**	Pn	**Pn**	**19 13 48.5**	**+1.7**
	26nm,0.2s,SNR=133						
EPOB	**Poblet**	**2.77**	**27**	Pg	**Pg**	**19 13 56.2**	**-0.6**
	10nm,0.3s,SNR=6.6						
EPOB				Sn	**Sn**	**19 14 20.6**	**+0.1**
	11nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**2.82**	**2**	Pn	**Pn**	**19 13 52.2**	**+4.7**
ESAC				Pg	**Pg**	**19 14 00.0**	**+2.2**
ESAC				Sn	**Sn**	**19 14 22.1**	**+0.2**
ESAC				Lg		19 14 36.6	
ESAC	**San Caprasio**	**2.82**	**2**	Pn	**Pn**	**19 13 51.7**	**+4.2**
	20nm,0.3s,SNR=9.1						
ESAC				Pg	**Pg**	**19 13 56.2**	**-1.7**
	82nm,0.2s,SNR=14						
ESAC				Sn	**Sn**	**19 14 21.8**	**-0.1**
	104nm,0.3s,SNR=4.0						
ESAC				Lg		19 14 35.8	
	337nm,0.3s,SNR=4.0						
ESAC	**San Caprasio**	**2.82**	**2**	Pn	**Pn**	**19 13 52.2**	**+4.7**
	18nm,0.2s,SNR=9.1						
ESAC	**San Caprasio**	**2.82**	**2**	Pg	**Pg**	**19 14 00.0**	**+2.1**
	86nm,0.3s,SNR=14						
ESAC				Sn	**Sn**	**19 14 22.1**	**+0.2**
	SNR=4.0						
ELUQ	**Luque**	**3.18**	**246**	Pn	**Pn**	**19 13 53.9**	**+1.2**
ELUQ				Sn	**Sn**	**19 14 31.6**	**+0.5**
ELUQ				Lg		19 14 51.0	
ELUQ	**Luque**	**3.18**	**246**	Pn	**Pn**	**19 13 53.9**	**+1.2**
	16nm,0.2s,SNR=12						
ELUQ				Sn	**Sn**	**19 14 31.6**	**+0.5**
	18nm,0.4s,SNR=4.0						
ELUQ				Lg		19 14 47.5	
	23nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.20**	**258**	Pn	**Pn**	**19 13 53.2**	**+0.2**
EADA				Pg	**Pg**	**19 14 03.3**	**-2.2**
EADA				Sn	**Sn**	**19 14 30.7**	**-0.9**
EADA				Lg		19 14 45.7	
EADA	**Adamuz**	**3.20**	**258**	Pn	**Pn**	**19 13 53.2**	**+0.2**
	3.7nm,0.2s,SNR=23						
EADA				Pg	**Pg**	**19 14 03.3**	**-2.2**
	6.6nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**19 14 31.0**	**-0.6**
	4.0nm,0.1s,SNR=7.9						
EADA				Lg		19 14 45.7	
	29nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.20**	**258**	Pn	**Pn**	**19 13 53.2**	**+0.2**
	3.7nm,0.2s,SNR=23						
EADA	**Adamuz**	**3.20**	**258**	Pg	**Pg**	**19 14 03.3**	**-2.3**
	SNR=7.9						
EADA				Sn	**Sn**	**19 14 30.7**	**-0.9**
	SNR=7.9						
GUD	**Guadarrama**	**3.24**	**304**	Pn	**Pn**	**19 13 55.8**	**+2.2**
	1.8nm,0.2s,SNR=7.9						
GUD				Pg	**Pg**	**19 14 06.7**	**+0.4**
	19nm,0.6s,SNR=4.0						
GUD				Lg		19 14 49.0	
	14nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**3.31**	**239**	Pn	**Pn**	**19 13 56.1**	**+1.7**
	19nm,0.7s,SNR=16						
ELOJ				Sn	**Sn**	**19 14 34.2**	**0.0**
	6.1nm,0.3s,SNR=4.0						
ELOJ				Lg		19 14 53.7	
	15nm,0.6s,SNR=4.0						
EMIR	**Miracle**	**3.42**	**28**	Pn	**Pn**	**19 13 58.3**	**+2.3**
EMIR				Pg	**Pg**	**19 14 07.7**	**-2.2**
EMIR				Sn	**Sn**	**19 14 35.8**	**-1.2**
EMIR				Lg		19 14 53.2	
EMIR	**Miracle**	**3.42**	**28**	⇑Pn	**Pn**	**19 13 58.3**	**+2.3**
	20nm,0.3s,SNR=35						
EMIR				Pg	**Pg**	**19 14 07.7**	**-2.2**
	24nm,0.4s,SNR=8.5						
EMIR				Sn	**Sn**	**19 14 36.1**	**-0.9**
	14nm,0.4s,SNR=7.9						
EMIR				Lg		19 14 53.6	
	52nm,0.5s,SNR=7.9						
EMIR	**Miracle**	**3.42**	**28**	Pn	**Pn**	**19 13 58.3**	**+2.3**
	20nm,0.2s,SNR=35						
EMIR	**Miracle**	**3.42**	**28**	Pg	**Pg**	**19 14 07.7**	**-2.2**
	20nm,0.3s,SNR=8.5						
EMIR				Sn	**Sn**	**19 14 35.8**	**-1.2**
	SNR=7.9						
EBIE	**Bielsa**	**3.82**	**8**	Pn	**Pn**	**19 14 04.7**	**+2.9**
EBIE				Pg	**Pg**	**19 14 18.9**	**+1.0**
EBIE				Sn	**Sn**	**19 14 50.2**	**+3.0**
EBIE				Lg		19 15 07.8	
EBIE	**Bielsa**	**3.82**	**8**	Pn	**Pn**	**19 14 04.7**	**+2.9**
	3.2nm,0.4s,SNR=7.9						
EBIE				Pg	**Pg**	**19 14 15.9**	**-2.0**
	20nm,0.6s,SNR=7.9						
EBIE				Sn	**Sn**	**19 14 47.0**	**-0.2**
	8.2nm,0.5s,SNR=4.0						
EBIE				Lg		19 15 07.8	
	12nm,0.4s,SNR=4.0						
EBIE	**Bielsa**	**3.82**	**8**	Pn	**Pn**	**19 14 04.7**	**+2.9**
	SNR=7.9						
EBIE				Sn	**Sn**	**19 14 50.2**	**+3.0**
	SNR=4.0						
EBIE	**Bielsa**	**3.82**	**8**	Pg	**Pg**	**19 14 18.9**	**+1.0**
	SNR=7.9						
ETSF	**Etsaut**	**3.99**	**0**	ePn	**Pn**	**19 14 06.8**	**+2.6**
ETSF				ePg	**Pg**	**19 14 22.3**	**+1.0**
ETSF				eSn	**Sn**	**19 14 52.0**	**+0.4**
	14nm,0.4s						
ETSF				eSg	**Sg**	**19 15 13.6**	**-0.9**
	31nm,0.6s						
ETSF	**Etsaut**	**3.99**	**0**	ePn	**Pn**	**19 14 06.8**	**+2.6**
ETSF				eSn	**Sn**	**19 14 52.0**	**+0.4**
	7.1nm,0.4s						
ETSF				eSg	**Sg**	**19 15 13.6**	**-0.9**
	15nm,0.6s						
VIEF	**Viey**	**4.01**	**7**	P	**Pn**	**19 14 06.9**	**+2.5**
EMIJ	**Mijas**	**4.05**	**236**	Pn	**Pn**	**19 14 05.8**	**+0.8**
EMIJ				Sn	**Sn**	**19 14 51.1**	**-1.9**
EMIJ				Lg		19 15 15.6	
EMIJ	**Mijas**	**4.05**	**236**	Pn	**Pn**	**19 14 05.9**	**+1.0**
	14nm,0.5s,SNR=6.7						
EMIJ				Sn	**Sn**	**19 14 50.5**	**-2.4**
	9.5nm,0.4s,SNR=7.9						
EMIJ				Lg		19 15 14.0	
	11nm,0.5s,SNR=4.0						
EMIJ	**Mijas**	**4.05**	**236**	Pn	**Pn**	**19 14 05.8**	**+0.8**
	14nm,0.7s,SNR=6.7						
EMIJ				Sn	**Sn**	**19 14 51.1**	**-1.9**
	SNR=7.9						
LARF	**Larrau**	**4.14**	**356**	P	**Pn**	**19 14 09.0**	**+2.7**
EPF	**Esparros**	**4.19**	**9**	ePn	**Pn**	**19 14 09.3**	**+2.4**
EPF				eSn	**Sn**	**19 14 54.5**	**-2.0**
	24nm,0.5s						
EPF				eSg	**Sg**	**19 15 19.4**	**-1.6**
	42nm,0.6s						
EPF	**Esparros**	**4.19**	**9**	ePn	**Pn**	**19 14 09.3**	**+2.4**
EPF				eSg	**Sg**	**19 15 19.4**	**-1.6**
	21nm,0.6s						
SJPF	**Ste Jean**	**4.23**	**354**	ePn	**Pn**	**19 14 10.3**	**+2.7**
SJPF				eSn	**Sn**	**19 14 57.1**	**-0.6**
SJPF				eSg	**Sg**	**19 15 21.6**	**-1.0**
	45nm,0.6s						
EALK	**Alkurruntz**	**4.37**	**351**	Pn	**Pn**

EJON	**La Jonquera**	**4.43**	**36**	Pn	**Pn**	**19 14 11.4**	**+1.1**
EJON				Sn	**Sn**	**19 15 01.9**	**-0.7**
EJON				Lg		19 15 28.4	
EJON	**La Jonquera**	**4.43**	**36**	Pn	**Pn**	**19 14 11.3**	**+1.0**
	4.8nm,0.3s,SNR=7.9						
EJON				Sn	**Sn**	**19 15 00.2**	**-2.4**
	2.4nm,0.2s,SNR=4.0						
EJON				Lg		19 15 26.8	
	4.1nm,0.3s,SNR=4.0						
EJON	**La Jonquera**	**4.43**	**36**	Pn	**Pn**	**19 14 11.4**	**+1.0**
	SNR=7.9						
EJON				Sn	**Sn**	**19 15 01.9**	**-0.6**
SJAF	**Saint Jean de**	**4.45**	**35**	P	**Pn**	**19 14 11.7**	**+1.0**
LPEF	**Le Peyrat**	**4.47**	**24**	P	**Pn**	**19 14 13.6**	**+2.7**
ESPR	**Espera**	**4.63**	**246**	Pn	**Pn**	**19 14 13.8**	**+0.6**
ESPR				Sn	**Sn**	**19 15 05.0**	**-2.6**
ESPR				Lg		19 15 33.5	
ESPR	**Espera**	**4.63**	**246**	Pn	**Pn**	**19 14 13.4**	**+0.2**
	5.8nm,0.4s,SNR=7.3						
ESPR				Sn	**Sn**	**19 15 06.3**	**-1.3**
	6.2nm,0.4s,SNR=7.9						
ESPR				Lg		19 15 33.5	
	19nm,0.6s,SNR=7.9						
ESPR	**Espera**	**4.63**	**246**	Pn	**Pn**	**19 14 13.8**	**+0.6**
	7.8nm,0.5s,SNR=7.3						
ESPR				Sn	**Sn**	**19 15 05.0**	**-2.6**
	SNR=7.9						
ELAN	**Lanestosa**	**4.83**	**335**	Pn	**Pn**	**19 14 17.6**	**+1.6**
ELAN				Sn	**Sn**	**19 15 09.6**	**-3.1**
ELAN				Lg		19 15 42.4	
ELAN	**Lanestosa**	**4.83**	**335**	Pn	**Pn**	**19 14 18.4**	**+2.4**
	10nm,0.3s,SNR=17						
ELAN				Sn	**Sn**	**19 15 12.2**	**-0.4**
	4.9nm,0.2s,SNR=4.0						
ELAN				Lg		19 15 42.4	
	6.7nm,0.4s,SNR=4.0						
ELAN	**Lanestosa**	**4.83**	**335**	Pn	**Pn**	**19 14 17.6**	**+1.6**
	3.7nm,0.5s,SNR=17						
EMIN	**Mina Concepcio**	**4.91**	**259**	Pn	**Pn**	**19 14 16.5**	**-0.7**
EMIN				Sn	**Sn**	**19 15 12.6**	**-2.0**
EMIN				Lg		19 15 37.5	
EMIN	**Mina Concepcio**	**4.91**	**259**	Pn	**Pn**	**19 14 16.4**	**-0.8**
	0.3nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**19 15 12.4**	**-2.3**
	3.3nm,0.3s,SNR=7.9						
EMIN				Lg		19 15 40.7	
	17nm,0.6s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.91**	**259**	Pn	**Pn**	**19 14 16.5**	**-0.7**
EMIN				Sn	**Sn**	**19 15 12.6**	**-2.1**
MTLF	**Montolieu**	**4.92**	**25**	*e*Pn	**Pn**	**19 14 18.4**	**+1.1**
MTLF				*e*Sn	**Sn**	**19 15 12.2**	**-2.8**
MTLF				*e*Sg	**Sg**	**19 15 41.6**	**-3.8**
	14nm,0.5s						
EBAD	**Badajoz**	**5.01**	**270**	Pn	**Pn**	**19 14 18.6**	**0.0**
EBAD				Sn	**Sn**	**19 15 15.0**	**-2.3**
EBAD				Lg		19 15 42.5	
EBAD	**Badajoz**	**5.01**	**270**	Pn	**Pn**	**19 14 18.6**	**-0.1**
	0.5nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**19 15 14.2**	**-3.1**
	4.8nm,0.2s,SNR=7.9						
EBAD				Lg		19 15 43.4	
	11nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.01**	**270**	Pn	**Pn**	**19 14 18.6**	**0.0**
EBAD				Sn	**Sn**	**19 15 15.0**	**-2.3**
ECAL	**Calabor**	**5.58**	**305**	Pn	**Pn**	**19 14 26.9**	**+0.3**
ECAL				Sn	**Sn**	**19 15 29.2**	**-2.4**
ECAL				Lg		19 16 03.1	
ECAL	**Calabor**	**5.58**	**305**	Pn	**Pn**	**19 14 27.2**	**+0.5**
	12nm,0.4s,SNR=9.8						
ECAL				Sn	**Sn**	**19 15 28.8**	**-2.8**
	11nm,0.4s,SNR=7.9						
ECAL				Lg		19 16 03.0	
	29nm,0.6s,SNR=7.9						
ECAL	**Calabor**	**5.58**	**305**	Pn	**Pn**	**19 14 27.0**	**+0.3**
EGRO	**El Granado**	**5.59**	**258**	Pn	**Pn**	**19 14 25.2**	**-1.6**
EGRO				Sn	**Sn**	**19 15 28.8**	**-3.0**
EGRO				Lg		19 16 00.6	
EGRO	**El Granado**	**5.59**	**258**	Pn	**Pn**	**19 14 25.3**	**-1.5**
	1.2nm,0.3s,SNR=7.9						
EGRO				Sn	**Sn**	**19 15 26.6**	**-5.3**
	3.7nm,0.4s,SNR=4.0						
EGRO				Lg		19 16 04.3	
	8.3nm,0.4s,SNR=4.0						
EGRO	**El Granado**	**5.59**	**258**	Pn	**Pn**	**19 14 25.2**	**-1.6**
EGRO				Sn	**Sn**	**19 15 28.8**	**-3.0**
EARI	**Arriondas**	**5.61**	**323**	Pn	**Pn**	**19 14 30.1**	**+3.0**
EARI				Pg	**Pg**	**19 14 53.5**	**0.0**
EARI				Sn	**Sn**	**19 15 29.6**	**-2.7**
EARI				Lg		19 16 06.3	
EARI	**Arriondas**	**5.61**	**323**	Pn	**Pn**	**19 14 29.6**	**+2.6**
	1.2nm,0.3s,SNR=4.0						
EARI				Pg	**Pg**	**19 14 48.1**	**-5.4**
	6.5nm,0.6s,SNR=4.0						
EARI				Sn	**Sn**	**19 15 29.6**	**-2.7**
	2.0nm,0.3s,SNR=4.0						
EARI				Lg		19 16 05.0	
	12nm,0.8s,SNR=4.0						
EARI	**Arriondas**	**5.61**	**323**	Pn	**Pn**	**19 14 30.1**	**+3.1**
EVO	**Evora**	**5.81**	**269**	*e*Pn	**Pn**	**19 14 29.4**	**-0.5**
EVO				*e*Sg	**Sg**	**19 16 09.3**	**-5.7**
	47nm,0.6s						
LFF	**La Frestale**	**6.12**	**9**	*e*Pn	**Pn**	**19 14 34.3**	**+0.1**
LFF				*e*Sn	**Sn**	**19 15 40.8**	**-4.2**
	6.9nm,0.3s						
LASF	**Ste Croix**	**6.16**	**31**	*e*Pn	**Pn**	**19 14 36.4**	**+1.6**
CAEH	**'Ain El Ouahch**	**6.26**	**107**	Pn	**Pn**	**19 14 37.0**	**+0.7**
CAF	**Calviac**	**6.34**	**17**	*e*Pn	**Pn**	**19 14 37.4**	**0.0**
CAF				*e*Sn	**Sn**	**19 15 47.7**	**-2.9**
	3.1nm,0.3s						
ELOB	**Lobios**	**6.42**	**300**	Pn	**Pn**	**19 14 38.4**	**-0.1**
ELOB				Sn	**Sn**	**19 15 49.0**	**-3.6**
ELOB				Lg		19 16 27.9	
ELOB	**Lobios**	**6.42**	**300**	Pn	**Pn**	**19 14 38.6**	**+0.1**
	1.9nm,0.2s,SNR=9.3						
ELOB				Sn	**Sn**	**19 15 48.7**	**-3.9**
	1.8nm,0.2s,SNR=7.9						
ELOB				Lg		19 16 28.9	
	17nm,0.5s,SNR=7.9						
ELOB	**Lobios**	**6.42**	**300**	Pn	**Pn**	**19 14 38.4**	**-0.1**
RJF	**Les Rejaudoux**	**6.59**	**13**	*e*Pn	**Pn**	**19 14 40.9**	**0.0**
RJF				*e*Sn	**Sn**	**19 15 52.6**	**-4.2**
	2.6nm,0.4s						
CMAH	**Djebel Manchou**	**6.75**	**107**	Pn	**Pn**	**19 14 44.5**	**+1.4**
SMRF	**Simiane la Rot**	**6.87**	**40**	*e*Pn	**Pn**	**19 14 43.6**	**-1.3**
LMR	**La Mourre**	**6.96**	**48**	*e*Pn	**Pn**	**19 14 45.1**	**-1.0**
LMR				*e*Sn	**Sn**	**19 16 00.9**	**-5.1**
	2.3nm,0.3s						
VIVF	**Saint-Julien-l**	**7.13**	**32**	*e*Pn	**Pn**	**19 14 47.9**	**-0.6**
FRF	**La Foret Royal**	**7.17**	**47**	*e*Pn	**Pn**	**19 14 48.3**	**-0.8**
FRF				*e*Sn	**Sn**	**19 16 05.4**	**-6.1**
	2.7nm,0.4s						
TCF	**Toulx Ste Croi**	**7.67**	**15**	*e*Pn	**Pn**	**19 14 55.6**	**-0.4**
MFF	**Saint Martin d**	**7.70**	**2**	*e*Pn	**Pn**	**19 14 56.9**	**+0.4**
BGF	**Bois d'Agland**	**8.06**	**17**	*e*Pn	**P**	**19 15 00.7**	**-0.8**
PGF	**Pioggiola**	**8.15**	**60**	*e*Pn	**P**	**19 15 02.1**	**-0.6**
PGF				*e*Sn	**Sn**	**19 16 27.6**	**-8.2**
	1.1nm,0.3s						
SMF	**Signal de Mont**	**8.40**	**21**	*e*Pn	**P**	**19 15 05.4**	**-0.8**
AVF	**Avril sur Loir**	**8.40**	**19**	*e*Pn	**P**	**19 15 05.6**	**-0.6**
LPG	**La Plagne**	**8.55**	**37**	*e*Pn	**P**	**19 15 07.0**	**-1.4**
LPL	**La Plagne**	**8.56**	**37**	*e*Pn	**P**	**19 15 06.6**	**-1.8**
CABF	**La Chapelle**	**9.14**	**30**	*e*Pn	**P**	**19 15 14.7**	**-1.8**
QUIF	**Quistinic**	**9.20**	**349**	*e*Pn	**P**	**19 15 16.9**	**-0.4**
SGMF	**Saint Gilles**	**9.46**	**352**	*e*Pn	**P**	**19 15 21.4**	**+0.6**
GRR	**Gorron**	**9.48**	**359**	*e*Pn	**P**	**19 15 19.9**	**-1.4**
ROSF	**Rostrenen**	**9.63**	**349**	*e*Pn	**P**	**19 15 22.8**	**-0.4**
LDF	**La Druitiere**	**9.70**	**2**	*e*Pn	**P**	**19 15 22.7**	**-1.4**
FLN	**La Foliniere**	**9.86**	**0**	*e*Pn	**P**	**19 15 25.1**	**-1.2**
MEZF	**Maizieres J'vi**	**10.43**	**21**	*e*Pn	**P**	**19 15 32.7**	**-1.5**
BAIF	**Baives**	**11.67**	**15**	*e*Pn	**P**	**19 15 49.6**	**-1.5**

*IDC **12** 19:17:11.4±3.6,23.04S×127.80E,mb1 3.9/4, mb1mx3.7/11,mbtmp3.9/4,ML3.6/3,Error ellipse: s-maj=49.9km s-min=27.3km az=147.0*
*AUST **12** 19:17:17.2,23.00S×127.88E,h1km,ML2.8*
*NEIC **12** 19:17:17.0,23.00S×127.88E,h1km,ML2.8(AUST),After AUST.*

ISC 12 19:17:10.1±0.6,**23.03S**±0.04×**127.91E**±0.04,**h10**km,**n17**, σ**1**§**50**/**34**,**Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**5.34**	**336**	*e*P	**Pn**	**19 18 35.8**	**+3.9**
FITZ				*e*S	**Sn**	**19 19 33.0**	**-1.2**
	9.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**5.34**	**336**	*e*P	**Pn**	**19 18 35.8**	**+3.9**
	9.0nm,0.4s						
FITZ				*e*S	**Sn**	**19 19 33.0**	**-1.2**
ASPA	**Alice Springs**	**5.54**	**98**	*e*P	**Pn**	**19 18 38.1**	**+3.4**
ASPA				*e*S	**Sn**	**19 19 39.6**	**+0.3**
ASAR	**Alice Springs**	**5.55**	**98**	Pn	**Pn**	**19 18 38.4**	**+3.6**
	1.3nm,0.3s,baz=280,slow=12,SNR=193						
ASAR				Sn	**Sn**	**19 19 39.1**	**-0.3**
	3.1nm,0.3s,baz=274,slow=23,SNR=9.4						
ASAR				Lg		19 20 02.9	
	7.5nm,0.3s,baz=298,slow=26,SNR=7.5						
WRA	**Warramunga Arr**	**6.73**	**64**	Pn	**Pn**	**19 18 52.1**	**+0.6**
	1.1nm,0.3s,baz=241,slow=13,SNR=40						
WRA				Sn	**Sn**	**19 20 07.6**	**-1.4**
	2.7nm,0.3s,baz=244,slow=20,SNR=11						
WRA				Lg		19 20 40.3	
	5.3nm,0.3s,baz=247,slow=28,SNR=16						
WRA	**Warramunga Arr**	**6.73**	**64**	Pn	**Pn**	**19 18 52.1**	**+0.6**
WRA				Sn	**Sn**	**19 20 07.5**	**-1.4**
WRA				Lg		19 20 40.3	
WB2	**Warramunga Arr**	**6.74**	**64**	*e*P	**Pn**	**19 18 53.1**	**+1.5**
WB2				*e*S	**Sn**	**19 20 07.1**	**-2.1**
KNA	**Kununurra**	**7.28**	**7**	*e*P	**Pn**	**19 19 00.3**	**+1.1**
KNA				*e*S	**Sn**	**19 20 18.0**	**-4.8**
	2.8nm,0.2s						
KNA	**Kununurra**	**7.28**	**7**	*e*P	**Pn**	**19 19 00.3**	**+1.1**
	2.8nm,0.2s						
KNA				*e*S	**Sn**	**19 20 18.0**	**-4.8**
FORT	**Forrest**	**7.72**	**179**	*e*P	**Pn**	**19 19 08.8**	**+3.4**
FORT				*e*S	**Sn**	**19 20 33.1**	**-0.7**
	37nm,0.5s						
FORT	**Forrest**	**7.72**	**179**	*e*P	**Pn**	**19 19 08.8**	**+3.4**
	37nm,0.5s						
FORT				*e*S	**Sn**	**19 20 33.1**	**-0.7**
MBWA	**Marble Bar**	**7.81**	**282**	*e*P	**Pn**	**19 19 08.3**	**+1.8**
MBWA				*e*S	**Sn**	**19 20 31.3**	**-4.6**
MEEK	**Meekatharra**	**9.17**	**245**	*e*P	**P**	**19 19 27.8**	**+2.2**
MEEK				*e*S	**Sn**	**19 21 07.0**	**-2.9**
	93nm,0.5s						
MEEK	**Meekatharra**	**9.17**	**245**	*e*P	**P**	**19 19 27.8**	**+2.2**
	93nm,0.5s						
MEEK				*e*S	**Sn**	**19 21 07.0**	**-2.9**
NWAO	**Narrogin (SRO)**	**13.64**	**221**	Pn	**P**	**19 20 25.7**	**-0.4**
	0.4nm,0.3s,baz=50,slow=16,SNR=3.2						
NWAO				Sn	**S**	**19 22 50.4**	**-8.3**
	1.2nm,0.3s,baz=195,slow=14,SNR=6.4						
NWAO				Lg		19 24 20.7	
	0.7nm,0.3s,baz=170,slow=17,SNR=3.2						
NWAO	**Narrogin (SRO)**	**13.64**	**221**	Pn	**P**	**19 20 25.7**	**-0.4**
NWAO				Sn	**S**	**19 22 50.4**	**-8.3**
NWAO				Lg		19 24 20.7	
STKA	**Stephens Creek**	**15.00**	**129**	Pn	**P**	**19 20 43.9**	**-0.1**
	0.4nm,0.3s,baz=307,slow=12,SNR=7.7						
STKA				Sn	**S**	**19 23 23.1**	**-7.9**
	0.4nm,0.3s,baz=115,slow=4.5,SNR=6.8						
STKA				Lg		19 25 09.7	
	0.1nm,0.3s,baz=185,slow=13,SNR=2.7						

*IDC **12** 19:37:50.2±0.9,2.10N×100.43W,mb4.0/9,mb1 4.3/9, mb1mx4.2/17,mbtmp4.0/9,Error ellipse: s-maj=34.2km s-min=17.2km az=56.0*
*NEIC **12** 19:37:52.1±0.6,2.12N×100.37W,h10km,mb4.0/6,Error ellipse: s-maj=17.7km s-min=9.9km az=224.0*

ISC 12 19:37:51.0±1.1,**2.2N**±0.2×**100.3W**±0.1,**h10**km,**n23**, σ**1**§**03**/**18**,**mb4.0**/**14**,**Galapagos Triple Junction region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**17.25**	**62**	*e*P	**P**	**19 41 53.4**	**-0.5**
OTAV	**Otavalo**	**21.95**	**95**	*e*P	**P**	**19 42 48.2**	**+1.4**
	17nm,1.3s,mb4.3						
LTX	**Lajitas**	**27.18**	**354**	P	**P**	**19 43 37.3**	**+0.5**
	1.8nm,0.6s,mb3.8						
TXAR	**Lajitas Array**	**27.18**	**354**	P	**P**	**19 43 37.5**	**+0.7**
	2.2nm,0.8s,mb3.7,baz=174,slow=11,SNR=8.4						
JCT	**Junction City**	**28.13**	**1**	*e*P	**P**	**19 43 45.6**	**+0.1**
	11nm,0.8s,mb4.5						
SDV	**Santo Domingo**	**30.27**	**76**	P	**P**	**19 44 04.9**	**+0.1**
	2.4nm,0.7s,mb4.1,baz=319,slow=19,SNR=2.4						
ANMO	**Albuquerque**	**33.09**	**351**	P	**P**	**19 44 29.1**	**-0.1**
	0.5nm,0.3s,mb3.9,baz=355,slow=18,SNR=2.5						
LPAZ	**La Paz**	**36.72**	**121**	P	**P**	**19 45 01.0**	**+0.5**
	0.9nm,0.8s,mb3.7,baz=284,slow=6.9,SNR=3.3						
ISCO	**Idaho Springs**	**37.74**	**353**	P	**P**	**19 45 09.4**	**+0.5**
	1.6nm,0.9s,mb3.8						
NVAR	**Mina Array Bea**	**39.64**	**338**	P	**P**	**19 45 26.2**	**+1.5**
	0.9nm,0.9s,mb3.5,baz=169,slow=7.7,SNR=5.0						
PDAR	**Pinedale Array**	**41.23**	**350**	P	**P**	**19 45 38.1**	**+0.4**
	2.1nm,0.8s,mb3.8,baz=148,slow=7.8,SNR=15						
HLID	**Hailey**	**43.06**	**345**	*e*P	**P**	**19 45 53.4**	**+0.6**
	1.6nm,0.8s,mb3.8						
CPUP	**Villa Florida**	**50.27**	**127**	P	**P**	**19 46 49.4**	**-0.6**
	0.0nm,0.3s,baz=243,slow=19,SNR=1.6						
SCHQ	**Schefferville**	**59.12**	**22**	P	**P**	**19 47 51.5**	**-2.6**
	2.9nm,0.9s,mb4.3,baz=214,slow=1.9,SNR=3.0						
SCHQ	**Schefferville**	**59.12**	**22**	P	**P**	**19 47 51.5**	**-2.6**
YKA	**Yellowknife Ar**	**61.10**	**352**	P	**P**	**19 48 05.6**	**-1.9**
	1.3nm,0.9s,mb4.1,baz=158,slow=6.7,SNR=14						
YKA				PcP	PcP	19 48 49.0	-1.3
	0.2nm,0.8s,baz=160,slow=2.1,SNR=4.5						
YKA	**Yellowknife Ar**	**61.10**	**352**	P	**P**	**19 48 05.6**	**-1.9**
YKA				PcP	PcP	19 48 49.0	-1.3
ILAR	**Eielson Array**	**70.80**	**341**	P	**P**	**19 49 07.9**	**-1.6**
	2.4nm,0.8s,mb4.2,baz=151,slow=4.9,SNR=28						
ASAR	**Alice Springs**	**123.42**	**243**	PKP	PKPdf	19 56 49.1	-3.3
	0.3nm,0.8s,baz=62,slow=1.5,SNR=4.4						
WRA	**Warramunga Arr**	**123.83**	**247**	PKP	PKPdf	19 56 49.7	-3.6
	0.9nm,1.0s,baz=93,slow=1.9,SNR=5.8						
BVAR	**Borovoye Array**	**124.43**	**7**	PKP	PKPdf	19 56 51.5	-2.2
	1.3nm,1.1s,baz=297,slow=3.2,SNR=2.8						
SONM	**Songino Array**	**124.98**	**338**	PKP	PKPdf	19 56 52.8	-2.1
	0.4nm,1.0s,baz=63,slow=3.2,SNR=2.6						
CMAR	**Chiang Mai Arr**	**152.06**	**318**	PKPbc	PKPdf	19 57 49.6	+5.7
	0.9nm,1.0s,slow=2.9,SNR=4.9						

*IDC **12** 19:37:52.0±1.7,7.45N×92.93E,mb3.8/6,mb1 4.0/7, mb1mx3.8/18,mbtmp3.8/7,ML3.8/1,Error ellipse: s-maj=65.5km s-min=20.0km az=67.0*

ISC 12 19:37:55.7±0.9,**7.5N**±0.1×**93.1E**±0.2,**h33**km,**n13**, σ**0**§**78**/**13**,**mb4.0**/**10**,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.29**	**27**	Pn	**P**	**19 40 51.3**	**0.0**
	0.2nm,0.3s,baz=212,slow=15,SNR=14						
JIRN	**Jiri**	**21.12**	**343**	*e*P	**P**	**19 42 41.6**	**+1.6**
	5.1nm,0.3s,mb4.3						
PKI	**Pulchoki**	**21.28**	**341**	*e*P	**P**	**19 42 41.7**	**+0.1**
	5.1nm,0.6s,mb4.0						
GUN	**Gumba**	**21.45**	**342**	*e*P	**P**	**19 42 44.6**	**+1.3**
	12nm,0.6s,mb4.4						
KKN	**Kakani**	**21.53**	**341**	*e*P	**P**	**19 42 44.4**	**+0.4**
GKN	**Gorkha**	**21.94**	**340**	*e*P	**P**	**19 42 47.0**	**-1.2**
	5.2nm,0.5s,mb4.2						
KOLN	**Koldanda**	**22.11**	**337**	*e*P	**P**	**19 42 48.9**	**-0.9**
SONM	**Songino Array**	**41.77**	**13**	P	**P**	**19 45 43.4**	**-0.2**
	0.2nm,0.4s,mb3.1,baz=195,slow=11,SNR=3.3						
ZAL	**Zalesovo**	**46.81**	**353**	P	**P**	**19 46 23.2**	**-0.8**
	1.1nm,0.4s,mb4.1,baz=222,slow=9.2,SNR=5.3						
WRA	**Warramunga Arr**	**48.85**	**125**	P	**P**	**19 46 40.2**	**-0.2**
	0.9nm,0.3s,mb4.2,baz=301,slow=9.7,SNR=46						
ASAR	**Alice Springs**	**50.44**	**129**	P	**P**	**19 46 52.5**	**-0.1**
	0.4nm,0.4s,mb3.9,baz=305,slow=8.0,SNR=18						
ASAR				PcP	PcP	19 48 11.5	+0.8
	0.2nm,0.6s,baz=312,slow=3.4,SNR=4.8						
STKA	**Stephens Creek**	**60.56**	**133**	P	**P**	**19 48 06.2**	**+0.6**
	2.1nm,1.1s,mb4.2,baz=304,slow=7.3,SNR=2.9						
ARCES	**ARCESS Array B**	**75.30**	**340**	P	**P**	**19 49 36.3**	**-0.6**
	1.8nm,0.8s,mb4.1,baz=90,slow=7.2,SNR=4.0						

JMA 12 19:45:19.1,43.62N×144.70E,h6km±1km,**M3.5,3C-1D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNK	**Nakash**	**0.04**	**158**	⇑P	Pg	19 45 20.1	-0.3
JNK				S	Sg	19 45 21.2	-0.1
JRA	**Rausu**	**0.44**	**44**	P	Pg	19 45 27.5	-0.5
JRA				S	Sg	19 45 33.7	-0.2
JAK	**Akkeshi**	**0.62**	**180**	⇑P	Pg	19 45 30.2	-1.4
JAK				S	Sg	19 45 39.2	-0.7
JTKR	**Abashiri--Toko**	**0.67**	**302**	⇓P	Pg	19 45 31.6	-1.0
JTKR				S	Sg	19 45 40.8	-0.7
JAR	**Ashorobuto**	**0.75**	**245**	P	Pg	19 45 33.0	-1.1
JAR				S	Sg	19 45 43.9	-0.3
JOB	**Onbets**	**0.95**	**222**	⇑P	Pb	19 45 36.3	-1.4
JOB				S	Sb	19 45 50.0	-0.4

*IDC **12** 19:50:01.6±0.8,13.48N×92.74E,h30km±5km,mb4.1/15, mb1 4.2/16,mb1mx4.0/22,mbtmp4.2/16,ML3.7/1,MS2.8/1, Ms1 3.0/1,ms1mx2.4/26,Error ellipse: s-maj=27.6km s-min=11.2km az=50.0*
*BJI **12** 19:50:02.1,13.60N×92.90E,h31km,mb4.0*
*NEIC **12** 19:50:02.1±0.4,13.56N×92.94E,mb4.5/5,Error ellipse: s-maj=10.5km s-min=8.5km az=61.0*

ISC 12 19:49:59.4±0.4,**13.51N**±0.04×**92.77E**±0.06,**h31**km, **h31**km±1.2km:**pP-P**,**n45**,σ**0**§**91**/**48**,**mb4.3**/**21**,**1C**,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.85**	**181**	*e*P	**Pn**	**19 50 35.0**	**+5.5**
PBA				*e*S	**Sn**	**19 50 52.4**	**+0.4**
NST	**Nakhon Sawan**	**7.45**	**72**	P	**Pn**	**19 51 43.5**	**-5.2**
CMAR	**Chiang Mai Arr**	**7.71**	**50**	Pn	**Pn**	**19 51 51.5**	**-0.9**
	0.3nm,0.3s,baz=241,slow=16,SNR=9.4						
CMAR				Sn	**Sn**	**19 53 12.8**	**-6.7**
	1.0nm,0.3s,baz=242,slow=27,SNR=5.5						
CMAR				LR	LR	19 55 19.9	
	comp=Z,74nm,19.9s,baz=240,slow=41						
CHG	**Chiang Mai**	**7.94**	**48**	⇑P	**Pn**	**19 52 07.7**	**+12**
	17nm,0.8s						
VIS	**Vishakhapatnam**	**10.01**	**296**	*i* P	**P**	**19 52 22.0**	**-2.3**
	10.0nm,0.8s						
VIS				*i* S	**S**	**19 54 00.8**	**-16**
VIS				*e*		19 59 16.2	
SHL	**Shillong**	**12.02**	**356**	*e*	**P**	**19 53 03.0**	**+11**
SHL				*e*S	**S**	**19 54 54.0**	**-12**
PALK	**Pallekele**	**13.39**	**244**	*e*P	**P**	**19 53 14.9**	**+5.1**
HYB	**Hyderabad**	**14.24**	**288**	*i* P	**P**	**19 53 30.0**	**+8.8**
HYB				*e*		19 55 47.0	
HYB				*e*S	**S**	**19 55 58.5**	**-0.4**
JIRN	**Jiri**	**15.36**	**337**	*e*P	**P**	**19 53 35.3**	**-0.4**
PKI	**Pulchoki**	**15.58**	**335**	*e*P	**P**	**19 53 37.5**	**-1.1**
GUN	**Gumba**	**15.70**	**337**	*e*P	**P**	**19 53 39.5**	**-0.6**
	13nm,0.4s						
KKN	**Kakani**	**15.83**	**335**	*e*P	**P**	**19 53 41.4**	**-0.4**
LSA	**Lhasa**	**16.18**	**355**	P	**P**	**19 53 51.0**	**+4.8**
LSA	**Lhasa**	**16.18**	**355**	*e*P	**P**	**19 53 48.9**	**+2.7**
	3.1nm,0.4s						
GKN	**Gorkha**	**16.29**	**334**	*e*P	**P**	**19 53 47.1**	**-0.5**
	19nm,0.3s						
KOLN	**Koldanda**	**16.56**	**330**	*e*P	**P**	**19 53 52.2**	**+1.1**
	22nm,0.5s						
ENH	**Enshi**	**22.73**	**40**	*e*P	**P**	**19 54 59.3**	**-0.7**
	22nm,1.3s,mb4.4						
LZH	**Lanzhou**	**24.58**	**22**	*e*P	**P**	**19 55 21.0**	**+3.0**
LZH				AP		19 55 29.8	
LZH				XP		19 55 32.8	
LZH				AMB	AMB		
	comp=Z,29nm,1.6s,mb4.6						
XAN	**Xi'an**	**25.15**	**33**	P	**P**	**19 55 23.7**	**+0.2**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.1						
SONM	**Songino Array**	**36.05**	**16**	P	**P**	**19 57 00.1**	**+0.2**
	comp=Z,2.0nm,1.1s,mb4.0,baz=201,slow=7.1,SNR=9.1						
SONM				PcP	PcP	19 59 27.2	+1.2
	comp=Z,0.8nm,0.7s,baz=214,slow=3.8,SNR=5.7						
SONM	**Songino Array**	**36.05**	**16**	P	**P**	**19 57 00.1**	**+0.2**
SONM				PcP	PcP	19 59 27.2	+1.2
ZAL	**Zalesovo**	**40.82**	**353**	P	**P**	**19 57 40.6**	**+1.1**
	comp=Z,1.9nm,0.6s,mb3.9,baz=192,slow=4.3,SNR=12						
BVAR	**Borovoye Array**	**43.25**	**340**	pP	pP	19 58 10.4	+1.5
	comp=Z,0.6nm,0.5s,baz=143,slow=7.4,SNR=2.1						
CHKZ	**Chkalovo**	**43.73**	**341**	*e*P	**P**	**19 58 04.2**	**+0.7**
	comp=Z,2.8nm,0.5s,mb4.2						
NWAO	**Narrogin (SRO)**	**51.76**	**154**	P	**P**	**19 59 06.3**	**-0.1**
	comp=Z,12nm,1.0s,mb4.8,baz=331,slow=9.5,SNR

SONM	**Songino Array**	**40.51**	**14**	P	**P**	**20 01 45.2**	**-0.1**
	1.4nm,0.7s,mb3.7,baz=197,slow=11,SNR=12						
SONM				PcP	PcP	20 03 47.9	-0.2
	0.3nm,0.5s,baz=215,slow=3.3,SNR=3.6						
ZAL	**Zalesovo**	**45.40**	**353**	P	**P**	**20 02 25.4**	**+0.4**
	1.0nm,0.5s,mb4.0,baz=198,slow=8.9,SNR=5.0						
BVAR	**Borovoye Array**	**47.63**	**342**	P	**P**	**20 02 41.5**	**-1.2**
	0.7nm,0.7s,mb3.8,baz=140,slow=9.0,SNR=4.3						
CHKZ	**Chkalovo**	**48.12**	**342**	*e*P	**P**	**20 02 45.2**	**-1.3**
	1.3nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**49.92**	**125**	P	**P**	**20 03 00.2**	**-0.6**
	0.2nm,0.5s,mb3.5,baz=306,slow=8.5,SNR=5.7						
ASAR	**Alice Springs**	**51.58**	**130**	P	**P**	**20 03 14.6**	**+1.3**
	0.3nm,0.9s,mb3.2,baz=296,slow=6.7,SNR=3.7						
ASAR				PcP	PcP	20 04 27.9	+0.8
	0.4nm,0.6s,baz=306,slow=3.3,SNR=5.1						
BRTR	**Keskin Array B**	**60.77**	**311**	P	**P**	**20 04 15.8**	**-3.2**
	0.3nm,0.4s,mb3.8,baz=104,slow=5.9,SNR=3.2						
BRTR	**Keskin Array B**	**60.77**	**311**	P	**P**	**20 04 15.8**	**-3.2**
FINES	**FINESS Array B**	**71.21**	**332**	P	**P**	**20 05 24.4**	**-1.0**
	3.1nm,1.0s,mb4.2,baz=101,slow=7.1,SNR=2.6						
ARCES	**ARCESS Array B**	**73.88**	**340**	P	**P**	**20 05 40.7**	**-0.3**
	2.0nm,0.9s,mb4.0,baz=97,slow=7.3,SNR=3.3						

NIED ***12*** *20:03:00,42.40N×145.50E,h17km,Mw4.9 Best double couple: M₀2.79×10¹⁶ NP1:φs225°,δ48°,λ90°. NP2:φs45°, δ42°,λ91°.*
SKHL ***12*** *20:03:30.3±3.2,42.34N×145.83E,h58km±17km,mb5.9/2, mbh5.8/1,Ms4.9/10,msh5.2/3*
SKHL Felt (II) at Yushno-Kurilsk.
JMA ***12*** *20:03:32.1±0.1,42.41N×145.52E,h43km±2km,M5.1*
JMA Felt II J1.
BJI ***12*** *20:03:32.9,42.57N×145.35E,h38km,mB5.3,mb5.1, Ms4.8,Msz4.7*
HRVD ***12*** *20:03:34.6±0.6,42.50N×145.52E,h26km±1km,MW4.9/42, Centroid moment Tensor Solution. LP body waves: s24,c30;Mantle waves: s42,c71; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.70±.21; Mθθ-1.63±.15; Mφφ-1.07±.12; Mrθ0.48±.27; Mθφ-1.31±.07; Mφr0.34±.22; Best double couple: M₀2.758×10¹⁶ NP1:φs230°,δ39°,λ89°. NP2:φs52°,δ51°,λ91°. Principal axes: T2.764, Plg84°, Azm328°; N -.011, Plg1°, Azm231°; P -2.753, Plg6°, Azm141°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***12*** *20:03:34.6±0.6,42.44N×145.33E,h38km±5km,mb5.3/113, MS4.6/21,MW4.9(NIED) Error ellipse: s-maj=3.7km s-min=2.9km az=161.0*
NEIC Felt [II] at Yuzhno-Kuril'sk, Kunashir. Recorded [2 JMA] in eastern Hokkaido and [1 JMA] in the Obihiro area.
MOS ***12*** *20:03:35.6±0.8,42.80N×145.36E,h46km,mb5.5/91, MS4.7/20,Error ellipse: s-maj=7.9km s-min=4.0km az=104.7*
MOS Felt (II) at Yuzhno-Kuril'sk.
IDC ***12*** *20:03:36.7±2.1,42.44N×145.43E,h56km±18km,mb4.7/30, mb1 4.9/32,mb1mx4.9/33,mbtmp5.0/32,ML5.0/2,MS4.3/8, Ms1 4.4/8,ms1mx3.8/30,Error ellipse: s-maj=12.0km s-min=9.5km az=100.0*
ISC 12 20:03:31.5±0.1,42.38N±0.02×145.40E±0.03,h28km, h28km±3.1km:pP-P,n558,σ0º96/558,mb5.2/164,MS4.6/35, 61C-31D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.81**	**320**		⇓P		**Pb**	**20 03 47.7**	**+0.9**
JAK					*e*S		**Sb**	**20 04 00.0**	**+2.7**
NEM2	**Nemuro 2**	**1.02**	**14**		⇓P		**Pn**	**20 03 49.9**	**-0.1**
NEM2					*e*S		**Sb**	**20 04 02.9**	**-0.5**
JOB	**Onbets**	**1.27**	**295**		⇓P		**Pn**	**20 03 55.0**	**+1.4**
JNK	**Nakash**	**1.30**	**338**		⇓P		**Pn**	**20 03 53.9**	**-0.2**
JAR	**Ashorobuto**	**1.51**	**308**		⇓P		**Pn**	**20 03 57.7**	**+0.6**
JAR					*e*S		**Sn**	**20 04 17.8**	**+1.9**
JCH	**Churui**	**1.52**	**280**		⇑P		**Pn**	**20 03 59.0**	**+1.7**
JCH					*e*S		**Sn**	**20 04 19.5**	**+3.2**
JRA	**Rausu**	**1.57**	**353**		⇓P		**Pn**	**20 03 57.9**	**-0.1**
JRA					*e*S		**Sn**	**20 04 18.0**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**1.69**	**11**	α	*i*PN		**Pn**	**20 03 57.9**	**-1.7**
YUK					*i* S		**Sn**	**20 04 18.6**	**-1.9**
YUK	comp=Z,15μm,0.8s				pmax		pmax		
YUK	comp=Z,7μm,0.3s				pmax		pmax		
YUK	comp=N,2μm,0.4s				pmax		pmax		
YUK	comp=E,2μm,0.4s				pmax		pmax		
YUK	comp=N,27μm,0.8s				smax				
YUK	comp=E,92μm,1.0s				smax				
YUK	**Yuzh-Kuril'sk**	**1.69**	**11**		*i* P		**Pn**	**20 03 57.9**	**-1.7**
YUK					*i* P			20 03 58.0	
YUK	comp=E,15μm,0.8s				AMB		AMB	20 03 59.0	
YUK	comp=E,2μm,0.4s				AMB		AMB	20 04 01.4	
YUK	comp=E,2μm,0.4s				AMB		AMB	20 04 01.4	
YUK	comp=E,6μm,0.4s				AMB		AMB	20 04 01.4	
YUK					*i* S		**Sn**	**20 04 18.6**	**-1.9**
YUK	comp=E,27μm,1.0s				A			20 04 21.0	
YUK	comp=E,92μm,1.0s				A			20 04 21.0	
JEM	**Erimo**	**1.71**	**258**		P		**Pn**	**20 04 02.1**	**+2.2**
JTKR	**Abashiri--Toko**	**1.93**	**326**		⇓P		**Pn**	**20 04 03.8**	**+0.7**
JTKR					*e*S		**Sn**	**20 04 28.8**	**+2.2**
ASAJ	**Asahikawa**	**2.68**	**311**		P		**Pn**	**20 04 15.8**	**+1.9**
ASAJ	comp=E,244nm,0.3s,baz=118,slow=12,SNR=183				S		**Sn**	**20 04 50.4**	**+4.6**
	comp=E,66nm,0.3s,baz=79,slow=30,SNR=4.6								
KUR	**Kuril'sk**	**3.37**	**31**	⇓	*i*PN		**Pn**	**20 04 21.6**	**-2.0**
KUR					*i* S		**Sn**	**20 05 03.0**	**0.0**
KUR	comp=Z,1μm,0.8s				pmax		pmax		
KUR	**Kuril'sk**	**3.37**	**31**	⇓	*i*P		**Pn**	**20 04 21.2**	**-2.4**
KUR	comp=Z,230nm,0.5s				AMB		AMB	20 04 23.2	
KUR	comp=Z,220nm,0.5s				AMB		AMB	20 04 23.2	
KUR	comp=Z,760nm,0.5s				AMB		AMB	20 04 23.2	
KUR	comp=Z,2μm,3.0s				AMB		AMB	20 04 23.2	
KUR	comp=Z,4μm,3.0s				*e*S		**Sn**	**20 05 00.5**	**-2.5**
KUR					A			20 05 16.0	
KUR	comp=Z,12μm,4.0s				A			20 05 16.0	
KUR	comp=Z,14μm,4.0s				A			20 05 22.0	
KUR	comp=Z,3μm,0.6s				A			20 05 22.0	
YSS	**Yuzh-Sakhalins**	**4.95**	**339**	⇓	*e*PN		**Pn**	**20 04 45.2**	**-0.8**
YSS					*e*S		**Sn**	**20 05 34.2**	**-8.8**
YSS	comp=Z,80nm,0.8s				pmax		pmax		
YSS	comp=E,660nm,1.3s				smax				
YSS	comp=N,6μm,16.0s				MLR		MLR		
YSS	comp=Z,16μm,16.0s				MLR		MLR		
YSS	comp=E,9μm,14.0s				MLR		MLR		
YSS	**Yuzh-Sakhalins**	**4.95**	**339**		*e*P		**Pn**	**20 04 46.3**	**+0.3**
YSS	**Yuzh-Sakhalins**	**4.95**	**339**		*e*P		**Pn**	**20 04 45.2**	**-0.8**
YSS					AMB		AMB	20 04 48.2	
YSS	comp=E,80nm,0.8s				*e*S		**Sn**	**20 05 34.2**	**-8.8**
YSS					A			20 05 37.2	
YSS	comp=E,660nm,1.3s				AMS		AMS	20 07 05.0	
YSS	comp=E,6μm,15.0s				AMS		AMS	20 07 05.0	
YSS	comp=E,9μm,15.0s				AMS		AMS	20 07 05.0	
YSS	comp=E,16μm,15.0s				AMS		AMS	20 07 05.0	
YSS	comp=E,9μm,15.0s				AMS		AMS	20 07 05.0	
YSS	comp=E,8μm,15.0s				AMS		AMS	20 07 05.0	
YSS	comp=E,12μm,15.0s				AMS		AMS	20 07 05.0	
TEY	**Ternei**	**6.90**	**296**		*e*P		**Pn**	**20 05 16.0**	**+2.4**
TEY					AMB		AMB	20 05 19.0	
TEY	comp=E,60nm,0.9s				AMB		AMB	20 05 19.0	
TEY	comp=E,170nm,0.9s				AMB		AMB	20 05 19.0	
TEY	comp=E,130nm,0.9s				AMS		AMS	20 08 23.0	
TEY	comp=E,2μm,13.0s				AMS		AMS	20 08 23.0	
TEY	comp=E,3μm,13.0s				AMS		AMS	20 08 23.0	
TEY	comp=E,5μm,13.0s				AMS		AMS	20 08 23.0	
UGL	**Uglegorsk**	**7.09**	**342**		*e*P		**Pn**	**20 05 14.5**	**-1.7**
UGL					AMB		AMB	20 05 21.0	
UGL	comp=E,130nm,0.8s				AMB		AMB	20 05 21.0	
UGL	comp=E,110nm,0.8s				AMB		AMB	20 05 21.0	
UGL	comp=E,150nm,0.8s				AMS		AMS	20 08 28.0	
UGL	comp=E,10μm,15.0s				AMS		AMS	20 08 28.0	
UGL	comp=E,5μm,15.0s				AMS		AMS	20 08 28.0	
UGL	comp=E,9μm,15.0s								
JAG	**Ashikaga**	**7.52**	**220**		P		**Pn**	**20 05 19.8**	**-2.4**
MAJO	**Matsushiro**	**8.05**	**226**	⇑	*i*PN		**P**	**20 05 28.0**	**-1.6**
MAJO	comp=Z,150nm,0.8s				pmax		pmax		
MAJO	**Matsushiro**	**8.05**	**226**	⇑	*i*P		**P**	**20 05 27.9**	**-1.7**
	comp=Z,150nm,0.8s								
MAT	**Matsushiro**	**8.05**	**226**		*e*PN		**P**	**20 05 28.0**	**-1.6**
MAT	comp=Z,134nm,0.8s				pmax		pmax		
MAT	**Matsushiro**	**8.05**	**226**		*e*P		**P**	**20 05 28.0**	**-1.6**
MAT	comp=Z,134nm,0.8s				*e*S		**Sn**	**20 07 08.0**	**+7.3**
MAT	**Matsushiro**	**8.05**	**226**		P		**P**	**20 05 28.1**	**-1.5**
MAT					*e*S		**Sn**	**20 06 59.4**	**-1.3**
JNG	**Nsakai**	**8.21**	**226**		P		**P**	**20 05 30.9**	**-1.0**
TYV	**Tymovskoe**	**8.69**	**348**		*e*P		**P**	**20 05 35.0**	**-3.5**
TYV					AMB		AMB	20 05 45.0	
TYV	comp=Z,610nm,3.0s				AMB		AMB	20 05 47.5	
TYV	comp=Z,60nm,0.8s				A			20 08 25.0	
TYV	comp=Z,1μm,5.0s				AMS		AMS	20 10 23.0	
TYV	comp=Z,3μm,12.0s				AMS		AMS	20 10 23.0	
TYV	comp=Z,4μm,12.0s								
VLA	**Vladivostok**	**9.96**	**279**		*e*rx		rx	20 07 00.0	
VLA					*e*rx		rx	20 10 25.0	
VLA	comp=Z,2μm,15.0s				AMS		AMS	20 10 25.0	
VLA	comp=Z,4μm,15.0s				AMS		AMS	20 10 25.0	
JHJ	**Hachijo jima 2**	**10.25**	**207**		P		**P**	**20 05 57.0**	**-2.9**
JHJ	comp=Z,19nm,0.3s,baz=73,slow=19,SNR=3.0				S		**S**	**20 07 42.5**	**-12**
	comp=Z,77nm,0.3s,baz=77,slow=23,SNR=6.5								
GRNR	**Gornyy**	**10.41**	**327**		*e*P		**P**	**20 06 02.8**	**+0.7**
GRNR					AMB		AMB	20 06 04.0	
	comp=E,80nm,1.0s								
SKR	**Severo-Kuril's**	**11.10**	**38**		*e*P		**P**	**20 06 04.5**	**-7.0**
SKR					AMB		AMB	20 06 07.4	
SKR	comp=Z,80nm,0.6s				AMB		AMB	20 06 07.4	
SKR	comp=Z,60nm,0.6s				AMB		AMB	20 06 07.4	
SKR	comp=Z,110nm,0.6s				AMS		AMS	20 11 14.0	
SKR	comp=Z,3μm,15.0s				AMS		AMS	20 11 14.0	
SKR	comp=Z,3μm,15.0s				AMS		AMS	20 11 14.0	
SKR	comp=Z,3μm,14.0s								
NKL	**Nikolayevsk**	**11.23**	**345**		*e*P		**P**	**20 06 07.0**	**-6.3**
NKL					AMB		AMB	20 06 12.5	
NKL	comp=Z,20nm,1.0s				AMB		AMB	20 06 12.5	
NKL	comp=Z,50nm,1.0s				AMS		AMS	20 11 24.0	
NKL	comp=Z,1μm,15.0s				AMS		AMS	20 11 24.0	
NKL	comp=Z,1μm,15.0s				AMS		AMS	20 11 24.0	
NKL	comp=Z,2μm,15.0s								
OKH	**Okha**	**11.30**	**352**		AMS		AMS	20 11 10.2	
OKH	comp=Z,4μm,15.0s				AMS		AMS	20 11 10.2	
OKH	comp=Z,3μm,15.0s				AMS		AMS	20 11 10.2	
OKH	comp=Z,4μm,15.0s								
MDJ	**Mudanjiang**	**11.70**	**286**		P		**P**	**20 06 21.5**	**+1.9**
MDJ					XP			20 06 37.9	
MDJ					S		**S**	**20 08 27.5**	**-2.8**
MDJ					PCP		PcP	20 12 07.7	+0.1
MDJ					PCS			20 15 41.5	
MDJ	comp=Z,47nm,1.0s				AMB		AMB		
MDJ	comp=Z,108nm,3.7s				AMB		AMB		
MDJ	comp=N,443nm,13.0s				LR		LR		
MDJ	comp=E,1μm,14.4s				LR		LR		
MDJ	comp=Z,2μm,14.6s				LR		LR		
MDJ	**Mudanjiang**	**11.70**	**286**		*e*P		**P**	**20 06 20.9**	**+1.3**
	comp=Z,39nm,0.8s								
KLR	**Kul'dur**	**11.72**	**310**		*e*PN		**P**	**20 06 18.0**	**-1.9**
KLR	comp=E,4μm,15.0s				MLR		MLR		
KLR	**Kul'dur**	**11.72**	**310**		*e*P		**P**	**20 06 18.0**	**-1.9**
KLR					*e*P			20 06 18.5	
KLR	comp=E,4μm,15.0s				AMS		AMS	20 11 28.0	
PAU	**Pauzhetka**	**11.96**	**37**	⇓	*i*P		**P**	**20 06 18.1**	**-5.1**
EKMR	**Ekimchan**	**13.56**	**326**		*e*P		**P**	**20 06 42.2**	**-2.1**
EKMR	comp=E,40nm,0.9s				AMB		AMB	20 06 46.5	
PET	**Petropavlovsk**	**13.87**	**35**		*e*P		**P**	**20 06 55.8**	**+7.5**
PET					*e*S		**S**	**20 09 23.9**	**+1.6**
PET	comp=E,300nm,13.1s				smax				
PET	comp=Z,2μm,17.0s				MLR		MLR		
YASR	**Yasnyy**	**15.95**	**319**		*e*P		**P**	**20 07 13.8**	**-1.6**
YASR					AMB		AMB	20 07 21.3	
YASR	comp=Z,10.0nm,0.7s				AMB		AMB	20 07 21.3	
YASR	comp=Z,20nm,0.7s								
SNY	**Shenyang**	**16.20**	**275**	⇑	P		**P**	**20 07 18.3**	**-0.4**
SNY					PP		PP	20 07 33.4	+1.6
SNY	comp=Z,20nm,0.9s				AMB		AMB		
SNY	comp=Z,110nm,5.4s				AMB		AMB		
SNY	comp=E,860nm,13.9s				LR		LR		
SNY	comp=Z,1μm,13.9s				LR		LR		
BMKR	**Bomnak**	**16.45**	**324**		*e*P		**P**	**20 07 18.5**	**-3.3**
BMKR					AMB		AMB	20 07 21.0	
	comp=Z,40nm,0.9s								
ZEA	**Zeya**	**16.57**	**320**		*e*P		**P**	**20 07 21.1**	**-2.2**
ZEA					AMB		AMB	20 07 22.1	
ZEA	comp=Z,30nm,0.8s				AMB		AMB	20 07 22.1	
ZEA	comp=Z,20nm,0.8s				AMB		AMB	20 07 22.1	
ZEA	comp=Z,40nm,0.8s				AMS		AMS	20 14 30.0	
ZEA	comp=Z,4μm,14.0s				AMS		AMS	20 14 30.0	
ZEA	comp=Z,3μm,14.0s				AMS		AMS	20 14 30.0	
ZEA	comp=Z,4μm,14.0s								
KROS	**Kirovskiy**	**17.11**	**321**		*e*P		**P**	**20 07 27.1**	**-3.0**
KROS	comp=Z,10.0nm,0.6s				AMB		AMB	20 07 29.2	
MA2	**Magadan**	**17.54**	**9**		*e*P		**P**	**20 07 32.0**	**-3.4**
MA2					*e*S		**S**	**20 10 32.0**	**-16**
MA2	comp=Z,20nm,1.2s				pmax		pmax		
MA2	**Magadan**	**17.54**	**9**		*e*P		**P**	**20 07 33.4**	**-2.0**
	comp=Z,9.4nm,0.6s								
HIA	**Hailar**	**19.10**	**300**		*e*P		**P**	**20 07 51.4**	**-3.2**
HIA	comp=Z,43nm,0.8s				pmax		pmax		
HIA	**Hailar**	**19.10**	**300**		*e*P		**P**	**20 07 51.4**	**-3.2**
	comp=Z,43nm,0.8s								
CLNS	**Chul'man**	**19.53**	**325**		*e*P		**P**	**20 07 56.4**	**-3.1**
CLNS					*e*S		**S**	**20 11 23.6**	**-9.0**
CLNS	comp=Z,22nm,0.8s				pmax		pmax		
CLNS	comp=N,13nm,1.1s				pmax		pmax		
CLNS	comp=E,6.0nm,1.2s				pmax		pmax		
CLNS	comp=Z,46nm,0.9s				pmax		pmax		
CLNS	comp=N,28nm,1.0s				pmax		pmax		
CLNS	comp=E,20nm,0.8s				pmax		pmax		
CLNS	comp=N,13nm,0.9s				smax				
CLNS	comp=Z,8.0nm,0.9s				smax				
CLNS	comp=E,9.0nm,1.0s				smax				
CLNS	comp=N,2μm,13.0s				MLR		MLR		
CLNS	comp=E,300nm,13.0s				MLR		MLR		
CLNS	comp=Z,2μm,13.0s				MLR		MLR		
JOW	**Kunigami**	**20.90**	**228**		P		**P**	**20 08 14.3**	**+0.2**
	comp=Z,40nm,0.8s,baz=48,slow=10,SNR=5.8								
SEY	**Seymchan**	**20.99**	**9**		*e*P		**P**	**20 08 11.1**	**-3.7**
SEY					*e*			20 08 47.5	
SEY					*e*S		**S**	**20 11 47.1**	**-15**
SEY					*SS			20 12 27.4	
SEY	comp=E,7.0nm,0.7s				pmax		pmax		
SEY	comp=Z,60nm,0.7s				pmax		pmax		
SEY	comp=N,20nm,0.8s				pmax		pmax		
SEY	comp=N,3μm,16.0s,MS4.8				MLR		MLR		
SEY	comp=Z,4μm,16.0s,MS4.9				MLR		MLR		
SEY	comp=E,550nm,14.0s,MS4.8				MLR		MLR		
FX1	**Attu Island--F**	**21.33**	**51**		P		**P**	**20 08 18.3**	**+0.1**
FX1	comp=Z,129nm,0.8s				pmax		pmax		
FX1	**Attu Island--F**	**21.33**	**51**		P		**P**	**20 08 18.3**	**+0.1**
	comp=Z,129nm,0.8s,mb5.3,baz=246,slow=2.5,SNR=16								
FX1	**Attu Island--F**	**21.33**	**51**		*e*P		**P**	**20 08 18.1**	**-0.1**
YAK	**Yakutsk**	**21.80**	**340**		*e*P		**P**	**20 08 17.5**	**-5.4**
YAK					*e*			20 08 35.3	
YAK					*e*S		PcP	20 12 08.8	-14
YAK					*e*			20 12 25.5	
YAK					*e*SS		**S**	**20 12 30.0**	**+13**
YAK					*e*			20 19 42.1	
YAK	comp=E,7.0nm,0.8s				pmax		pmax		
YAK	comp=Z,47nm,0.8s,mb5.0				pmax		pmax		
YAK	comp=N,5.0nm,1.0s				pmax		pmax		
YAK	comp=N,57nm,1.0s				smax				
YAK	comp=E,29nm,1.1s				smax				
YAK	comp=N,1μm,17.0s,MS4.4				MLR		MLR		
YAK	comp=Z,1μm,17.0s,MS4.4				MLR		MLR		
YAK	comp=E,600nm,13.0s,MS4.4				MLR		MLR		
YAK	**Yakutsk**	**21.80**	**340**		*e*P		**P**	**20 08 17.6**	**-5.3**
YAK	comp=E,62nm,0.7s,mb5.2				LR		LR		
	comp=Z,1μm,19.0s,MS4.3								
SSE	**Sheshan**	**22.36**	**248**		P		**P**	**20 08 32.7**	**+4.0**
SSE					S		**S**	**20 12 23.3**	**-4.5**
SSE	comp=Z,58nm,0.8s,mb5.1				AMB		AMB		
SSE	comp=Z,116nm,3.1s				AMB		AMB		
SSE	comp=N,1μm,16.5s,MS4.5				LR		LR		
SSE	comp=E,626nm,16.5s,MS4.5				LR		LR		
SSE	comp=Z,1μm,16.0s,MS4.5				LR		LR		
TIA	**Tai'an**	**22.67**	**264**		*e*P		**P**	**20 08 33.1**	**+1.4**
TIA	comp=Z,97nm,1.1s,mb5.2				AMB		AMB		
NJ2	**Nanjing**	**23.43**	**253**		*e*P		**P**	**20 08 38.4**	**-0.8**
NJ2					AP			20 08 55.5	
NJ2					PP		PP	20 09 15.2	+4.1
NJ2					XS			20 13 05.0	
NJ2	comp=Z,30nm,0.8s,mb4.8				AMB		AMB		
NJ2	comp=Z,2μm,4.2s				AMB		AMB		
NJ2	comp=N,3μm,15.2s,MS5.2				LR		LR		
NJ2	comp=E,5μm,15.8s,MS5.2				LR		LR		
NJ2	comp=Z,5μm,17.0s,MS5.1				LR		LR		
BOD	**Bodaibo**	**25.07**	**319**		*e*P		**P**	**20 08 51.6**	**-3.1**
WHN	**Wuhan**	**27.47**	**255**	⇓	*i*P		**P**	**20 09 18.2**	**+1.0**
WHN					S		**S**	**20 13 45.7**	**-8.7**
WHN	comp=Z,3μm,16.6s,MS4.9				LR		LR		
SONM	**Songino Array**	**27.85**	**295**		P		**P**	**20 09 19.9**	**-0.6**
	comp=Z,36nm,0.8s,mb5.1,baz=80,slow=8.6,SNR=87								
SONM					PcP		PcP	20 12 36.3	0.0
	comp=Z,3.6nm,0.7s,baz=142,slow=1.5,SNR=5.3								
BILL	**Bilibino**	**28.04**	**17**		*e*P		**P**	**20 09 17.5**	**-4.4**
BILL	comp=Z,6.0nm,1.2s				pmax		pmax		
BILL	comp=Z,500nm,18.0s,MS4.2				MLR		MLR		
BILL	**Bilibino**	**28.04**	**17**		PFAKE			20 09 30.0	+8.1
BILL	comp=Z,563nm,20.0s,MS4.2				LR		LR		
IRK	**Irkutsk**	**29.22**	**304**		*e*P		**P**	**20 09 30.5**	**-2.2**
IRK					*e*			20 12 38.6	
TLY	**Talaya**	**29.58**	**303**		*e*P		**P**	**20 09 35.1**	**-0.9**
TLY					*e*			20 10 29.0	
TLY					*e*SS			20 16 19.7	
TLY	comp=Z,13nm,1.0s,mb4.6				pmax		pmax		
TLY	comp=Z,1μm,15.0s,MS4.7				MLR		MLR		
TLY	**Talaya**	**29.58**	**303**		PFAKE			20 09 50.0	+14
TLY	comp=Z,390nm,21.0s,MS4.0				LR		LR		
XAN	**Xi'an**	**29.67**	**266**		P		**P**	**20 09 36.8**	**-0.2**
XAN	comp=Z,16nm,1.3s,mb4.6				AMB		AMB		
XAN	comp=N,192nm,14.8s,MS4.3				LR		LR		
XAN	comp=E,542nm,18.6s,MS4.3				LR		LR		
XAN	comp=Z,594nm,18.6s,MS4.2				LR		LR		
ZAK	**Zakamensk**	**29.80**	**300**	⇑	*i*P		**P**	**20 09 37.4**	**-0.6**
ZAK					*e*			20 12 39.4	
TIXI	**Tiksi**	**30.46**	**350**		*e*P		**P**	**20 09 37.1**	**-6.5**
TIXI	comp=Z,3.0nm,1.0s				pmax		pmax		
TIXI	**Tiksi**	**30.46**	**350**		PFAKE			20 09 50.0	+6.4
TIXI	comp=Z,655nm,19.0s,MS4.3				LR		LR		
ENH	**Enshi**	**31.13**	**259**		*e*P		**P**	**20 09 49.4**	**-0.5**
	comp=Z,17nm,0.8s,mb4.9								

MOY	Mondy	31.23	303	eP	P	20 09 50.4	-0.2
LZH	Lanzhou	32.55	273	⇑P	P	20 10 03.0	+0.7
LZH				AMB	AMB		
	comp=Z,83nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,220nm,4.9s						
LZH				LR	LR		
	comp=N,1μm,16.0s						
LZH				LR	LR		
	comp=Z,2μm,17.8s,MS4.8						
TNA	Tin City	34.70	32	eP	P	20 10 19.6	-0.9
	comp=Z,38nm,1.0s,mb5.3						
TNA				LR	LR		
	comp=Z,214nm,22.0s,MS3.8						
TGY	Tagaytay City	35.22	224	P	P	20 10 27.2	+1.7
	comp=Z,157nm,0.3s,mb6.3,baz=117,slow=12,SNR=3.7						
ANM	Nome	35.45	34	eP	P	20 10 26.9	-0.1
SVW2	Sparrevohn	39.44	41	eP	P	20 11 01.3	+0.8
IMA	Indian Mountai	40.53	33	eP	P	20 11 09.5	0.0
ZAL	Zalesovo	40.83	308	P	P	20 11 12.2	+0.2
	comp=Z,11nm,0.6s,mb4.7,baz=296,slow=9.1,SNR=76						
ZAL				PcP	PcP	20 13 13.6	+0.3
	comp=Z,15nm,0.6s,baz=294,slow=3.6,SNR=12						
ZAL				LR	LR	20 30 10.7	
	comp=Z,1μm,20.0s,MS4.8,baz=304,slow=39						
RSO	Redoubt South	40.84	42	eP	P	20 11 12.2	+0.2
KDAK	Kodiak Island	41.12	46	eP	P	20 11 13.1	-1.2
	comp=Z,96nm,0.8s,mb5.5						
KDAK				LR	LR		
	comp=Z,132nm,21.0s,MS3.8						
SPU	Mount Spurr	41.15	41	eP	P	20 11 14.7	+0.1
WMQ	Urumqi	41.42	292	P	P	20 11 17.4	+0.4
WMQ				AP	pP	20 11 23.3	-2.1
WMQ				PP	PP	20 12 56.5	+0.8
WMQ				S	S	20 17 31.1	+1.2
WMQ				AMB	AMB		
	comp=Z,24nm,1.1s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,185nm,5.1s						
WMQ				LR	LR		
	comp=N,3μm,20.5s,MS5.3						
WMQ				LR	LR		
	comp=E,4μm,21.6s,MS5.3						
WMQ				LR	LR		
	comp=Z,3μm,20.7s,MS5.2						
NVS	Novosibirsk	41.59	310	i P	P	20 11 16.9	-1.2
NVS				i PPP	PcP	20 13 13.8	-1.8
NVS				i S	S	20 17 31.7	-0.5
NVS				pmax	pmax		
	comp=Z,36nm,1.5s,mb4.8						
NVS				pmax	pmax		
	comp=E,33nm,1.6s						
NVS				pmax	pmax		
	comp=N,8.0nm,1.1s						
NVS				smax			
	comp=N,23nm,2.0s						
NVS				smax			
	comp=E,16nm,2.0s						
FIB	Fire Island	42.06	41	eP	P	20 11 22.4	+0.5
SLKM	Skilak Lake	42.09	42	eP	P	20 11 20.9	-1.3
MCK	McKinley	42.50	37	eP	P	20 11 24.9	-0.6
	comp=E,9μm,1.2s						
MCK				LR	LR		
	comp=Z,107nm,20.0s						
SML	Sawmill	42.89	40	eP	P	20 11 28.4	-0.4
COLA	College	42.93	35	eP	P	20 11 28.7	-0.3
COLA				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.2						
COLA				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.0						
COLA	College	42.93	35	eP	P	20 11 28.7	-0.4
	comp=Z,49nm,1.0s,mb5.2						
COLA				LR	LR		
	comp=Z,200nm,21.0s,MS4.0						
ILAR	Eielson Array	43.35	35	P	P	20 11 32.0	-0.4
	comp=Z,19nm,0.8s,mb4.9,baz=261,slow=5.8,SNR=141						
ILAR				LR	LR	20 31 18.4	
	comp=Z,164nm,19.2s,MS4.0,baz=97,slow=38						
DIV	Divide	44.19	40	eP	P	20 11 38.6	-0.7
	comp=Z,173nm,1.1s,mb5.7						
EYAK	Cordova Ski Ar	44.28	41	eP	P	20 11 40.5	+0.5
CHRT	Chiangrai	44.38	254	⇑P	P	20 11 42.0	+0.6
	comp=Z,160nm,0.8s,mb5.8						
KKTK	Khon Kaen	44.63	248	⇑P	P	20 11 44.5	+1.0
	comp=Z,556nm,0.6s						
LSA	Lhasa	44.95	272	P	P	20 11 47.1	+1.2
LSA	Lhasa	44.95	272	eP	P	20 11 47.3	+1.4
LSA				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
LSA	Lhasa	44.95	272	eP	P	20 11 47.3	+1.4
	comp=Z,3.4nm,0.5s,mb4.4						
CHG	Chiang Mai	45.67	254	⇑P	P	20 11 52.4	+0.7
	comp=Z,22nm,0.8s,mb5.1						
CMAR	Chiang Mai Arr	45.91	253	P	P	20 11 54.0	+0.4
	comp=Z,5.2nm,0.8s,mb4.5,baz=44,slow=7.0,SNR=37						
CMAR				PcP	PcP	20 13 31.6	+0.8
	comp=Z,3.0nm,0.9s,baz=20,slow=3.1,SNR=4.6						
CMAR				LR	LR	20 32 22.8	
	comp=Z,727nm,19.8s,MS4.6,baz=55,slow=38						
DAWY	Dawson	46.66	36	eP	P	20 11 58.2	-0.6
SHL	Shillong	46.67	267	eP	P	20 11 57.0	-2.5
SHL				e		20 17 46.0	
INK	Inuvik	48.23	30	eP	P	20 12 10.5	-0.7
INK				pmax	pmax		
	comp=Z,52nm,0.6s						
INK	Inuvik	48.23	30	P	P	20 12 10.8	-0.4
	comp=Z,55nm,0.7s,mb5.7,baz=298,slow=6.9,SNR=193						
INK				LR	LR	20 33 38.5	
	comp=Z,400nm,20.5s,MS4.4,baz=104,slow=37						
INK	Inuvik	48.23	30	eP	P	20 12 10.5	-0.7
	comp=Z,52nm,0.6s,mb5.7						
CHKZ	Chkalovo	49.04	311	eP	P	20 12 16.1	-1.5
CHKZ				pmax	pmax		
	comp=Z,42nm,0.8s,mb5.5						
CHKZ	Chkalovo	49.04	311	eP	P	20 12 16.1	-1.5
	comp=Z,42nm,0.8s,mb5.5						
NNT	Nongplab	49.38	247	P	P	20 12 22.6	+1.8
BVAR	Borovoye Array	49.39	310	P	P	20 12 19.6	-0.6
	comp=Z,11nm,0.5s,mb5.2,baz=82,slow=8.7,SNR=124						
BVAR				PcP	PcP	20 13 42.5	-0.3
	comp=Z,14nm,0.9s,baz=45,slow=2.1,SNR=4.6						
BRVK	Borovoye	49.44	310	eP	P	20 12 19.9	-0.7
BRVK				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.4						
BRVK	Borovoye	49.44	310	eP	P	20 12 19.9	-0.8
	comp=Z,38nm,0.9s,mb5.4						
JIRN	Jiri	49.72	273	eP	P	20 12 23.6	+0.4
	comp=Z,20nm,0.5s,mb5.4						
GUN	Gumba	49.81	273	eP	P	20 12 24.1	+0.2
	comp=Z,129nm,0.7s,mb6.1						
TKM2	Tokmak 2	49.94	296	P	P	20 12 24.9	+0.2
	SNR=24						
KKN	Kakani	50.32	274	eP	P	20 12 27.6	-0.2
	comp=Z,120nm,1.0s,mb5.9						
PKI	Pulchoki	50.34	273	eP	P	20 12 27.8	-0.2
	comp=Z,66nm,0.8s,mb5.7						
KBK	Karagaybulak	50.48	296	P	P	20 12 28.8	0.0
	SNR=24						
USP	Ospenovka	50.52	297	P	P	20 12 28.9	-0.3
	SNR=14						
KZA	Kyzart	50.53	295	P	P	20 12 30.5	+1.4
	SNR=9.3						
DMN	Daman	50.55	273	eP	P	20 12 29.6	+0.1
	comp=Z,70nm,0.8s,mb5.6						
GKN	Gorkha	50.68	274	eP	P	20 12 30.3	-0.2
	comp=Z,58nm,0.7s,mb5.6						
AAK	Ala-Archa	50.80	296	P	P	20 12 31.2	0.0
	SNR=7.6						
AAK	Ala-Archa	50.80	296	eP	P	20 12 29.5	-1.7
AAK				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
AAK				MLR	MLR		
	comp=Z,195nm,19.0s,MS4.1						
AAK	Ala-Archa	50.80	296	eP	P	20 12 29.5	-1.7
	comp=Z,16nm,1.3s,mb4.8						
AAK				LR	LR		
	comp=Z,195nm,19.0s,MS4.1						
UCH	Uchtor	50.96	295	P	P	20 12 33.1	+0.7
	SNR=7.8						
EKS2	Erkin-Say	51.26	296	P	P	20 12 34.8	+0.1
	SNR=9.1						
AML	Almayashu	51.55	296	P	P	20 12 37.7	+0.8
	SNR=12						
PMG	Port Moresby	51.56	178	P	P	20 12 37.3	0.0
	comp=Z,10nm,0.8s,mb4.8,baz=35,slow=6.9,SNR=3.4						
KOLN	Koldanda	51.57	275	eP	P	20 12 37.4	+0.1
	comp=Z,83nm,0.8s,mb5.7						
DLBC	Dease Lake	52.55	41	eP	P	20 12 44.9	+0.6
SVE	Sverdlovsk	53.26	317	⇑eP	P	20 12 48.8	-0.7
SVE				pmax	pmax		
	comp=Z,140nm,2.0s,mb5.5						
SVE				MLR	MLR		
	comp=Z,2μm,15.0s,MS5.4						
KLP	Kalpa	53.47	282	eP	P	20 12 51.1	-0.3
KLP				e		20 12 53.0	
	comp=Z,78nm,0.8s						
SOKR	Solikamsk	54.04	321	⇑iP	P	20 12 52.7	-2.4
SOKR				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
SOKR				MLR	MLR		
	comp=Z,480nm,18.0s,MS4.6						
ARU	Arti	54.47	317	⇑iP	P	20 12 53.8	-4.6
ARU				e		20 13 56.2	
ARU				eSSS	SSS	20 26 08.7	-5.1
ARU				pmax	pmax		
	comp=Z,55nm,0.9s,mb5.5						
ARU				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.9						
ARU				MLR	MLR		
	comp=N,400nm,16.5s,MS4.9						
ARU				MLR	MLR		
	comp=E,700nm,17.0s,MS4.9						
KKR	Kurukshetra	55.35	281	eP	P	20 13 03.6	-1.6
NDI	New Delhi	55.76	279	eP	P	20 13 06.0	-2.2
BHGR	Bahadurgarh	55.96	280	eP	P	20 13 08.6	-1.0
KAKA	Kakadu	56.10	195	⇑iP	P	20 13 09.7	-1.0
	comp=E,30nm,0.8s,mb5.4						
RTK	Rohtak	56.16	280	eP	P	20 13 09.5	-1.5
RTK				e		20 13 10.7	
	comp=Z,35nm,0.3s						
KUDL	Kundal	56.59	279	eP	P	20 13 13.0	-1.1
RES	Resolute Bay	56.64	16	eP	P	20 13 11.7	-2.2
RES				pmax	pmax		
	comp=Z,60nm,0.7s,mb5.7						
RES	Resolute Bay	56.64	16	eP	P	20 13 11.7	-2.2
	comp=Z,60nm,0.7s,mb5.7						
KHET	Khetri	57.13	280	eP	P	20 13 16.1	-1.9
KHET				e		20 13 18.4	
	comp=Z,27nm,0.7s						
YKW3	Yellowknife Ar	57.61	33	eP	P	20 13 18.9	-2.0
YKA	Yellowknife Ar	57.65	33	P	P	20 13 19.9	-1.3
	comp=Z,12nm,0.7s,mb5.0,baz=302,slow=7.2,SNR=67						
YKA				PKPPKP		20 43 08.4	
	comp=Z,0.4nm,0.7s,baz=128,slow=3.0,SNR=3.9						
YKA	Yellowknife Ar	57.65	33	P	P	20 13 19.9	-1.3
YKA				P'P'		20 43 08.4	
BHPL	Bhopal	58.73	274	eP	P	20 13 28.0	-1.2
BHPL				e		20 13 30.3	
	comp=Z,60nm,1.2s						
AJM	Ajmer	58.89	279	i P	P	20 13 29.0	-1.3
KEV	Kevo	59.54	339	ep	P	20 13 31.3	-2.9
	comp=Z,21nm,0.8s,mb5.2						
KEV	Kevo	59.54	339	eP	P	20 13 31.3	-2.9
KEV				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.2						
ARCES	ARCESS Array B	60.08	339	P	P	20 13 36.6	-1.3
	comp=Z,8.7nm,0.8s,mb4.8,baz=37,slow=6.9,SNR=20						
DAG	Danmarks Havn	60.70	356	⇓eP	P	20 13 39.9	-2.2
DAG				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.4						
DAG	Danmarks Havn	60.70	356	⇓eP	P	20 13 39.9	-2.2
	comp=Z,31nm,1.0s,mb5.4						
DAG	Danmarks Havn	60.70	356	⇓iP	P	20 13 39.9	-2.2
	comp=Z,31nm,1.0s,mb5.4						
KTK1	Kautokeino	61.03	340	eP	P	20 13 44.3	-0.1
	comp=Z,92nm,1.8s,mb5.6						
KTK1	Kautokeino	61.03	340	⇓iP	P	20 13 44.0	-0.4
KTK1				AMb	AMB	20 13 45.9	
	comp=Z,92nm,1.8s,mb5.6						
JASL	Jaisalmer	61.36	281	eP	P	20 13 46.0	-1.2
HYB	Hyderabad	61.45	268	eP	P	20 13 47.0	-0.9
HYB				pmax	pmax		
	comp=Z,45nm,1.0s,mb5.5						
HYB	Hyderabad	61.45	268	eP	P	20 13 47.0	-0.9
	comp=Z,45nm,1.0s,mb5.5						
HYB	Hyderabad	61.45	268	i P	P	20 13 47.0	-0.9
	comp=Z,45nm,1.0s,mb5.5						
TRO	Tromso	61.65	341	eP	P	20 13 46.2	-2.4
	comp=Z,105nm,1.9s,mb5.6						
TRO	Tromso	61.65	341	eP	P	20 13 46.2	-2.4
TRO				AMb	AMB	20 13 49.6	
	comp=Z,105nm,1.9s,mb5.6						
TRO				epP	pP	20 13 56.3	-1.0
RPW	Rockport	61.67	49	P	P	20 13 48.5	-0.5
CTA	Charters Tower	62.16	179	P	P	20 13 52.8	+0.1
	comp=Z,11nm,1.0s,mb4.9,baz=14,slow=6.6,SNR=6.2						
CTAO	Charters Tower	62.16	179	eP	P	20 13 51.4	-1.3
PNT	Penticton	62.25	47	P	P	20 13 52.3	-0.6
JOF	Joensuu	62.70	332	ep	P	20 13 53.1	-2.5
WRAB	Tennant Creek	62.83	192	i P	P	20 13 56.2	-0.9
WRAB	Tennant Creek	62.83	192	eP	P	20 13 55.5	-1.6
	comp=Z,27nm,0.9s,mb5.4						
WB2	Warramunga Arr	62.84	192	⇑iP	P	20 13 55.5	-1.7
WRA	Warramunga Arr	62.84	192	P	P	20 13 55.7	-1.5
	comp=Z,11nm,0.8s,mb5.1,baz=10,slow=6.9,SNR=50						
WRA				PcP	PcP	20 14 34.4	-0.7
	comp=Z,5.0nm,1.0s,baz=10,slow=4.9,SNR=2.9						
WRA				PKPPKP		20 43 05.2	
	comp=Z,1.3nm,0.8s,baz=203,slow=2.4,SNR=6.3						
FITZ	Fitzroy Crossi	62.88	201	⇑iP	P	20 13 56.9	-0.5
	comp=Z,33nm,0.9s,mb5.5						
EBG	Ellensburg	63.05	50	P	P	20 13 58.5	+0.3
EDM	Edmonton	63.28	41	eP	P	20 13 58.8	-0.8
OD2	Odessa Site #2	63.83	49	P	P	20 14 02.9	-0.4
WRD	Warden	63.92	50	P	P	20 14 03.3	-0.6
HUMO	Hull Mountain	64.07	55	eP	P	20 14 05.1	+0.2
	comp=Z,18nm,1.1s,mb5.0						
POO	Poona	64.24	272	eP	P	20 14 06.0	-0.4
POO				e		20 14 09.8	
	comp=Z,42nm,1.9s						
KHMM	Horse Mountain	64.58	57	eP	P	20 14 09.3	+1.0
YBH	Yreka Blue Hor	64.72	56	eP	P	20 14 09.7	+0.5
YBH				pmax	pmax		
	comp=Z,34nm,1.0s						
YBH	Yreka Blue Hor	64.72	56	eP	P	20 14 09.7	+0.6
	comp=Z,34nm,1.0s,mb5.3						
KAD	Karad	64.75	271	eP	P	20 14 08.7	-1.0
KAD				e		20 14 09.7	
	comp=Z,45nm,0.3s						
MOS	Moscow	64.79	323	eP	P	20 14 08.2	-1.2
MOS				e*PP	PcP	20 14 38.1	-4.4
MOS				e		20 16 36.5	
MOS				pmax	pmax		
	comp=Z,138nm,1.6s,mb5.7						
SUMG	Summit	65.31	1	eP	P	20 14 12.1	-0.4
	comp=Z,57nm,0.8s,mb5.7						
MOR8	Moi Rana	65.40	340	eP	P	20 14 10.8	-2.3
MOR8	Moi Rana	65.40	340	⇓iP	P	20 14 10.8	-2.3
WDC	Whiskeytown Da	65.49	57	eP	P	20 14 14.2	+0.1
WDC				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.3						
WDC	Whiskeytown Da	65.49	57	eP	P	20 14 14.2	+0.1
	comp=Z,39nm,1.1s,mb5.3						
FINES	FINESS Array B	65.51	333	P	P	20 14 12.7	-1.1
	comp=Z,49nm,0.7s,mb5.7,baz=52,slow=8.1,SNR=218						
OBN	Obninsk	65.65	323	ceP	P	20 14 12.4	-2.5
OBN				pmax	pmax		
	comp=Z,57nm,1.2s,mb5.5						
OBN				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.4						
OBN	Obninsk	65.65	323	eP	P	20 14 12.3	-2.6
	comp=Z,98nm,1.3s,mb5.7						
LBCM	Butte Creek Ri	66.07	56	P	P	20 14 18.1	+0.3
MOD	Modoc	66.09	55	eP	P	20 14 17.9	-0.1
	comp=Z,44nm,1.2s,mb5.4						
BMO	Blue Mountains	66.10	51	eP	P	20 14 17.8	-0.1
	comp=Z,24nm,1.0s,mb5.2						
ASAR	Alice Springs	66.57	191	P	P	20 14 20.6	-0.7
	comp=Z,11nm,1.1s,mb4.8,baz=8.0,slow=5.0,SNR=29						
ASAR				LR	LR	20 40 44.0	
	comp=Z,74nm,19.2s,MS3.9,baz=251,slow=33						
ASAR				PKPPKP		20 42 56.9	
	comp=Z,1.6nm,1.0s,baz=180,slow=3.6,SNR=6.8						
ASPA	Alice Springs	66.57	191	⇑iP	P	20 14 20.3	-1.0
WVOR	Wild Horse Val	66.77	53	eP	P	20 14 22.5	+0.2
WVOR				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.4						
WVOR	Wild Horse Val	66.77	53	eP	P	20 14 22.5	+0.2
	comp=Z,37nm,1.0s,mb5.4						
OHCM	Honcut	66.88	57	eP	P	20 14 22.7	-0.3
SCO	Scoresbysund	67.08	355	i P	P	20 14 22.9	-0.9
SCO				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
SCO	Scoresbysund	67.08	355	i P	P	20 14 22.9	-0.9
	comp=Z,11nm,0.6s,mb5.1						
NSS	Namsos	67.34	340	eP	P	20 14 23.5	-2.0
VSU	Vasula	67.39	330	d iP	P	20 14 24.3	-1.6
MBWA	Marble Bar	67.52	206	eP	P	20 14 24.0	-3.3
	comp=Z,16nm,0.9s,mb5.0						
FCC	Fort Churchill	67.85	29	eP	P	20 14 27.5	-1.3
FCC				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.2						
FCC	Fort Churchill	67.85	29	eP	P	20 14 27.5	-1.3
	comp=Z,21nm,0.9s,mb5.2						
WCN	Washoe City	67.97	57	eP	P	20 14 30.4	+0.5
WCN				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.5						
WCN	Washoe City	67.97	57	eP	P	20 14 30.4	+0.5
	comp=Z,50nm,1.1s,mb5.5						
HRY	Holter Researc	68.00	46	eP	P	20 14 30.1	+0.1
CMB	Columbia Colle	68.34	58	eP	P	20 14 31.7	-0.6
CMB				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
CMB	Columbia Colle	68.34	58	eP	P	20 14 31.7	-0.6
	comp=Z,24nm,1.0s,mb5.2						
HLID	Hailey	68.54	50	eP	P	20 14 33.5	+0.2
	comp=Z,29nm,1.1s,mb5.1						
MCMT	McKenzie Canyo	68.63	48	eP	P	20 14 33.6	-0.3
BOZ	Bozeman (W)	68.78	47	eP	P	20 14 35.1	+0.3
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BOZ	Bozeman (W)	68.78	47	eP	P	20 14 35.1	+0.3
	comp=Z,2.6nm,0.5s,mb4.4						
GOF	Gofitskoye	68.82	312	⇓iP	P	20 14 34.5	-0.6
GOF				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
NVAR	Mina Array Bea	69.40	57	P	P	20 14 39.4	+0.7
	comp=Z,26nm,0.8s,mb5.2,baz=300,slow=5.1,SNR=151						
NVAR				LR	LR	20 45 43.6	
	comp=Z,100nm,18.1s,MS4.1,baz=20,slow=36						
NVAR	Mina Array Bea	69.40	57	P	P	20 14 39.4	+0.7
NVAR				LR	LR	20 45 43.6	
QLMT	Earthquake Lak	69.41	48	eP	P	20 14 39.0	+0.4
MNV	Mina	69.49	56	eP	P	20 14 39.8	+0.5
MNV				pmax	pmax		
	comp=Z,45nm,1.2s,mb5.3						
MNV	Mina	69.49	56	eP	P	20 14 39.8	+0.5
	comp=Z,45nm,1.2s,mb5.3						
KIV	Kislovodsk	69.71	311	P	P	20 14 41.2	+0.7
	comp=Z,398nm,0.9s,mb6.3,SNR=17						
KIV	Kislovodsk	69.71	311	eP	P	20 14 41.0	+0.5
KIV				pmax	pmax		
	comp=Z,85nm,1.0s,mb5.6						
KIV	Kislovodsk	69.71	311	eP	P	20 14 41.0	+0.4
	comp=Z,85nm,1.0s,mb5.6						
YMR	Madison River	69.77	48	eP	P	20 14 41.7	+0.8
ZEI	Tsey	69.78	310	i P	P	20 14 40.2	-0.8
YNR	Norris Junctio	69.89	47	eP	P	20 14 42.8	+1.1
TI2	Plekhanov	69.95	308	⇑iP	P	20 14 43.8	+1.8
TI2				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.5						
YFT	Old Faithful	69.98	48	eP	P	20 14 43.9	+1.8
DOMB	Dombas	70.14	340	eP	P	20 14 42.1	-0.8
	comp=Z,60nm,1.8s,mb5.2						
DOMB	Dombas	70.14	340	⇓iP	P	20 14 42.2	-0.7
DOMB				AMb	AMB	20 14 56.1	
	comp=Z,60nm,1.8s,mb5.2						
NB2	NORSAR Subarra	70.41	338	P	P	20 14 43.2	-1.3
	comp=Z,18nm,0.7s,mb5.1,baz=34,slow=6.2						
NB2	NORSAR Subarra	70.41	338	P	P	20 14 43.2	-1.3
	baz=34,slow=6.5						
NOA	NORSAR Array B	70.41	338	P	P	20 14 43.8	-0.7
	comp=Z,19nm,0.8s,mb5.1,baz=35,slow=6.1,SNR=31						
NOA				LR	LR	20 49 22.3	
	comp=Z,546nm,19.5s,MS4.8,baz=20,slow=39						
MOOW	Moose Ponds	70.48	48	eP	P	20 14 46.0	+0.8
HVU	Hansel Valley	70.60	51	eP	P	20 14 46.5	+0.5
WUWY	Wally Ulrich	70.62	48	eP	P	20 14 47.1	+1.1
LOHW	Long Hollow	70.65	48	eP	P	20 14 46.9	+0.7
SNOW	Snow King Moun	70.66	49	eP	P	20 14 47.4	+1.1
DGMT	Dagmar	70.77	41	eP	P	20 14 46.4	-0.5
DGMT				LR	LR		
	comp=Z,598nm,21.0s,MS4.8						
AHID	Auburn Hatcher	70.92	49	eP	P	20 14 48.1	+0.2
	comp=Z,45nm,1.1s,mb5.3						
AHID				LR	LR		
	comp=Z,230nm,19.0s,MS4.5						
GNI	Garni	70.96	307	eP	P	20 14 49.3	+1.1
GNI				pmax	pmax		
	comp=Z,71nm,1.4s						
GNI				MLR	MLR		
	comp=Z,334nm,20.0s						
GNI	Garni	70.96	307	P	P	20 14 49.6	+1.4
	comp=Z,8.3nm,0.7s,mb4.8,baz=80,slow=2.4,SNR=8.4						
GNI	Garni	70.96	307	eP	P	20 14 49.2	+1.1
	comp=Z,71nm,1.4s,mb5.4						
GNI				LR	LR		
	comp=Z,334nm,20.0s,MS4.6						
LAO	LASA Array	70.96	44	eP	P	20 14 48.0	-0.1
	comp=Z,66nm,1.0s,mb5.5						
BGU	Big Grassy Mou	71.00	52	eP	P	20 14 48.7	+0.3
SPUT	South Promonto	71.09	51	eP	P	20 14 49.4	+0.5
SOC	Sochi	71.59	312	eP	P	20 14 59.6	+7.7
SOC				eSS	SS	20 28 35.0	-10
SOC				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.2						
SOC				pmax	pmax		
	comp=N,23nm,1.3s						
SOC				pmax	pmax		
	comp=E,28nm,0.9s						
SOC				MLR	MLR		
	comp=Z,1μm,18.0s,MS5.2						
SOC				MLR	MLR		
	comp=N,481nm,17.0s,MS4.9						
SOC				MLR	MLR		
	comp=E,284nm,17.0s,MS4.9						
TPNV	Topopah Spring	71.60	57	eP	P	20 14 52.3	+0.2
TPNV				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.4						
TPNV				MLR	MLR		
	comp=Z,229nm,19.0s,MS4.5						
TPNV	Topopah Spring	71.60	57	eP	P	20 14 52.3	+0.2
	comp=Z,49nm,1.0s,mb5.4						
TPNV				LR	LR		
	comp=Z,229nm,19.0s,MS4.5						
NOQ	North Oquirrh	71.70	51	eP	P	20 14 52.7	0.0
PDAR	Pinedale Array	71.78	48	P	P	20 14 53.1	+0.1
	comp=Z,27nm,0.8s,

KWP Kalwaria 75.52 326 P **P 20 15 15.3 +0.6**
KWP pmax pmax
comp=Z,62nm,0.6s,mb5.7
KWP Kalwaria 75.52 326 P **P 20 15 15.3 +0.6**
comp=Z,62nm,0.6s,mb5.7
BOYT Boyabat 75.67 313 *i* P **P 20 15 16.4 +0.8**
SVST Sivas 75.69 311 *i* P **P 20 15 17.1 +1.3**
MALT Malatya 75.85 309 *eP* **P 20 15 17.6 +0.8**
MALT pmax pmax
comp=Z,15nm,0.8s,mb5.0
MALT Malatya 75.85 309 *eP* **P 20 15 17.6 +0.8**
comp=Z,15nm,0.8s,mb5.0
ISCO Idaho Springs 75.97 49 *eP* **P 20 15 18.2 +0.8**
ISCO pmax pmax
comp=Z,43nm,1.3s,mb5.2
ISCO Idaho Springs 75.97 49 *eP* **P 20 15 18.2 +0.8**
comp=Z,43nm,1.3s,mb5.2
KOLS Kolonicke sedl 76.24 325 *i* P **P 20 15 19.0 +0.3**
OJC Ojcow 76.26 327 *eP* **P 20 15 19.1 +0.3**
CTKT Corum 76.29 313 *i* P **P 20 15 20.0 +0.8**
BALT Daday 76.40 314 *i* P **P 20 15 20.8 +1.0**
CFR Carcaliu 76.43 320⇑*i*P **P 20 15 19.8 -0.1**
VRI Vrincioaia 76.58 321⇓*i*P **P 20 15 21.4 +0.7**
CRVS Cervenica-Dubn 76.61 326 *i* P **P 20 15 20.9 +0.1**
CRVS *ep*P pP 20 15 32.2 +2.5
BSEG Bad Segeberg 76.62 335 *eP* **P 20 15 20.9 +0.1**
NIE Niedzica 76.68 327 *eP* **P 20 15 22.2 +1.0**
EYMN Ely 77.00 35 *eP* **P 20 15 21.9 -1.0**
comp=Z,60nm,0.9s,mb5.5
GZT Gaziantep 77.00 309 *i* P **P 20 15 24.5 +1.3**
KSP Ksiaz 77.11 330 *eP* **P 20 15 23.8 +0.2**
ELDT Eldivan 77.12 313 *i* P **P 20 15 24.6 +0.8**
KAHT Ahir Dag 77.21 309 *i* P **P 20 15 25.8 +1.4**
OKC Ostrava-Krasne 77.21 328 *eP* **P 20 15 24.8 +0.7**
OKC AMS AMS 20 52 20.0
comp=Z,900nm,22.0s
ISR Istrita 77.23 321⇓*i*P **P 20 15 25.4 +1.1**
MLR Muntele Rosu 77.23 321⇓*eP* **P 20 15 24.8 +0.5**
UPC Upice 77.49 330 *eP* **P 20 15 26.3 +0.7**
DPC Dobruska-Polom 77.50 329 *eP* **P 20 15 26.3 +0.6**
DPC *ep*P pP 20 15 37.2 +2.6
DPC AMS AMS 20 52 40.0
comp=Z,1µm,21.0s
AVNT Avonos 77.55 311 *i* P **P 20 15 26.6 +0.4**
BRTR Keskin Array B 77.55 313 P **P 20 15 26.4 +0.3**
comp=Z,8.0nm,0.7s,mb4.8,baz=74,slow=3.5,SNR=52
BRTR PP PP 20 18 21.6 -1.4
comp=Z,1.1nm,0.7s,baz=51,slow=7.9,SNR=4.5
SGKT Sivrigoynuk 77.79 314 *i* P **P 20 15 28.3 +0.8**
CLL Collm 77.93 332⇑*i*P **P 20 15 27.5 -0.5**
CLL *i* pP 20 15 35.8 -1.1
CLL pmax pmax
comp=Z,30nm,0.9s,mb5.2
CLL Collm 77.93 332⇑*i*P **P 20 15 27.5 -0.5**
comp=Z,30nm,0.9s,mb5.2
CLL *i* pP 20 15 35.8 -1.1
CLL Collm 77.93 332 ⇑P **P 20 15 27.5 -0.5**
comp=Z,logA/T=1.5,mb5.2
CLL *i* *PP pP 20 15 35.8 -1.1
CLL *i* *SP sP 20 15 41.4 +1.5
CLL *e* 20 15 59.0
BRG Berggiesshubel 77.95 331 *eP* **P 20 15 28.0 -0.2**
BRG MLR MLR
comp=Z,2µm,20.6s,MS5.4
VYHS Vyhne 78.00 327 *i* P **P 20 15 28.7 +0.2**
PVCC Panska Ves 78.01 330 *eP* **P 20 15 28.9 +0.4**
PVCC *ep*P pP 20 15 41.1 +3.7
PVCC AMS AMS 20 53 30.0
comp=Z,2µm,19.4s
PSZ Piszkesteto 78.03 326⇑*i*P **P 20 15 29.3 +0.7**
TUC Tucson 78.03 57 *eP* **P 20 15 29.6 +0.6**
TUC pmax pmax
comp=Z,31nm,1.3s,mb5.1
TUC Tucson 78.03 57 *eP* **P 20 15 29.6 +0.6**
comp=Z,31nm,1.3s,mb5.1
PRD Provadia 78.25 319 *eP* **P 20 15 31.0 +1.0**
COBT Iskenderun 78.34 309 *i* P **P 20 15 31.5 +0.9**
CLZ Clausthal 78.38 333 *eP* **P 20 15 30.9 +0.4**
comp=Z,128nm,2.1s,mb5.5
PRU Pruhonice 78.46 330 *eP* **P 20 15 31.6 +0.6**
PRU AMS AMS 20 53 30.0
comp=Z,1µm,19.6s
SMOL Smolenice 78.55 328 *i* P **P 20 15 32.6 +1.1**
LAZ Ladron 78.82 54 *eP* **P 20 15 34.8 +1.5**
ANMO Albuquerque 78.85 53 *eP* **P 20 15 34.6 +1.2**
ANMO pmax pmax
comp=Z,27nm,1.0s
ANMO Albuquerque 78.85 53 *eP* **P 20 15 34.6 +1.1**
comp=Z,27nm,1.0s,mb5.1
SZH Strazhica 78.91 320 *eP* **P 20 15 34.0 +0.4**
ZST Bratislava 78.94 328 *i* P **P 20 15 34.7 +1.1**
MOX Moxa 78.96 332 *eP* **P 20 15 33.4 -0.3**
MOX pmax pmax
comp=Z,32nm,1.5s,mb5.0
MOX Moxa 78.96 332 *eP* **P 20 15 33.4 -0.3**
comp=Z,32nm,1.5s,mb5.0
MOX Moxa 78.96 332 *i* P **P 20 15 33.4 -0.3**
comp=Z,logA/T=1.3,mb5.0
NKC Novy Kostel 79.02 331 *eP* **P 20 15 33.7 -0.3**
NKC *ep*P pP 20 15 39.4 -3.5
NKC *ex* x 20 15 47.9
NKC AMS AMS 20 54 00.0
comp=Z,1µm,19.2s
ESKT Eskisehir 79.19 314 *i* P **P 20 15 35.2 0.0**
JMB Yambol 79.19 319 *eP* **P 20 15 36.0 +0.8**
NWAO Narrogin (SRO) 79.28 204 *eP* **P 20 15 36.1 +0.3**
NWAO Narrogin (SRO) 79.28 204 P **P 20 15 36.5 +0.6**
comp=Z,24nm,0.8s,mb5.2,baz=57,slow=1.9,SNR=7.2
RBK Rabkut 79.28 284 ⇑P **P 20 15 35.6 -0.5**
WHFO Wadi Hawf 79.32 284 ⇑P **P 20 15 36.0 -0.3**
SNR=9.1
SCHQ Schefferville 79.33 18 P **P 20 15 35.0 -0.6**
comp=Z,16nm,0.7s,mb5.1,baz=352,slow=6.7,SNR=27
MEST Erdemli 79.49 310 *i* P **P 20 15 37.0 +0.1**
KHC Kasperske Hory 79.52 330 *eP* **P 20 15 37.2 +0.4**
KHC *ep*P pP 20 15 42.9 -2.8
KHC AMS AMS 20 54 00.0
comp=Z,1µm,19.5s
GEC2 GERESS Array S 79.71 330 *eP* **P 20 15 37.9 +0.1**
GEC2 pmax pmax
comp=Z,11nm,1.0s,mb4.7
GEC2 GERESS Array S 79.71 330 *eP* **P 20 15 37.9 +0.1**
comp=Z,11nm,1.0s,mb4.7
GERES GERESS Array B 79.71 330 P **P 20 15 38.1 +0.3**
comp=Z,4.2nm,0.7s,mb4.5,baz=37,slow=5.3,SNR=28
WET Wettzell 79.77 331 *eP* **P 20 15 38.7 +0.6**
WET pmax pmax
comp=Z,25nm,1.0s,mb5.1
WET Wettzell 79.77 331 *eP* **P 20 15 38.7 +0.6**
comp=Z,25nm,1.0s,mb5.1
GRA1 Grafenberg Arr 79.90 332 *eP* **P 20 15 39.5 +0.7**
comp=Z,52nm,1.2s,mb5.3
GRA1 LR LR
comp=Z,900nm,18.1s,MS5.2
GRF Grafenberg Arr 79.90 332 *eP* **P 20 15 39.5 +0.7**
GRF pmax pmax
comp=Z,52nm,1.2s,mb5.3
GRF MLR MLR
comp=Z,900nm,18.1s,MS5.2
GRF Grafenberg Arr 79.90 332 *eP* **P 20 15 39.5 +0.7**
GRF pmax pmax
comp=Z,52nm,1.2s,mb5.3
GRF MLR MLR
comp=Z,900nm,18.1s,MS5.2
GRF Grafenberg Arr 79.90 332 *eP* **P 20 15 39.5 +0.7**
comp=Z,52nm,1.2s,mb5.3
GRF LR LR
comp=Z,900nm,18.1s,MS5.2
PKSM Moragy 79.90 326⇓*eP* **P 20 15 38.8 -0.1**
RHK1 Bakonya 80.23 326 *eP* **P 20 15 41.0 +0.3**
PGB Panagyurishte 80.30 320 *eP* **P 20 15 41.0 -0.1**
MOA Molln 80.32 329⇑*i*P **P 20 15 41.5 +0.4**
comp=Z,6.1nm,1.0s,mb4.5
ARSA Arzberg 80.33 328⇑*i*P **P 20 15 41.7 +0.6**
comp=Z,10nm,1.1s,mb4.7
ALN Alexandroupoli 80.64 318 *eP* **P 20 15 43.0 0.0**
VTS Vitosha 80.72 321 ⇓P **P 20 15 44.3 +1.0**
VTS Vitosha 80.72 321 *i* P **P 20 15 44.0 +0.7**
GRUS Gruza 80.85 323⇓*i*P **P 20 15 43.8 -0.1**
ASF Jabal al Asfar 81.00 305 P **P 20 15 45.9 +0.9**
comp=Z,5.9nm,0.7s,mb4.7,baz=274,slow=3.5,SNR=14
DIVS Divcibare 81.00 324⇓*i*P **P 20 15 44.6 -0.2**
KSHT Keshet 81.08 307 P **P 20 15 46.1 +0.7**
CSS Prodhromos 81.12 310 *eP* **P 20 15 45.7 +0.1**
comp=Z,19nm,0.7s,mb5.1
FUR Furstenfeldbru 81.17 331 *eP* **P 20 15 46.2 +0.6**
FUR pmax pmax
comp=Z,34nm,1.0s,mb5.2
FUR Furstenfeldbru 81.17 331 *eP* **P 20 15 46.2 +0.6**
comp=Z,34nm,1.0s,mb5.2
DMUB Kingscourt 81.19 344 *eP* **P 20 15 44.0 -1.6**
MMB Musomiste 81.24 320 *i* P **P 20 15 47.0 +0.9**
KSU1 Kansas State U 81.30 44 *eP* **P 20 15 45.7 -0.7**
KBA Koelnbreinsper 81.31 329⇑*i*P **P 20 15 47.3 +1.0**
comp=Z,26nm,0.9s,mb5.2
KBA Koelnbreinsper 81.31 329⇑*i*P **P 20 15 47.3 +1.0**
KBA pmax pmax
comp=Z,27nm,0.9s,mb5.2
OBKA Obir 81.32 328⇑*i*P **P 20 15 46.4 0.0**
comp=Z,12nm,0.8s,mb4.9
KKB Krupnik 81.33 320 *i* P **P 20 15 48.0 +1.4**
AMTX Amarillo 81.66 50 P **P 20 15 47.5 -0.8**
comp=Z,27nm,0.8s,mb5.2
SRS Serrai 81.67 320 *eP* **P 20 15 48.3 0.0**
DLF Lyons Farm 81.68 343 *eP* **P 20 15 45.0 -3.1**
MMLI Mount Malkishu 81.70 307 P **P 20 15 49.5 +0.9**
WATA Walderalm 81.76 330⇓*i*P **P 20 15 49.1 +0.5**
comp=Z,16nm,1.0s,mb4.9
WATA Walderalm 81.76 330⇓*i*P **P 20 15 49.1 +0.5**
WATA pmax pmax
comp=Z,16nm,1.0s,mb4.9
HMDT Nahal Hemdat 81.77 306 P **P 20 15 49.6 +0.6**
MNTX Cornudas Mount 81.77 54 *eP* **P 20 15 49.6 +0.6**
comp=Z,45nm,1.4s,mb5.2
DCN Croghan 81.79 344 *eP* **P 20 15 43.0 -5.7**
WTTA Wattenberg 81.80 330⇑*i*P **P 20 15 49.5 +0.7**
comp=Z,23nm,1.1s,mb5.0
WTTA Wattenberg 81.80 330⇑*i*P **P 20 15 49.5 +0.7**
WTTA pmax pmax
comp=Z,23nm,1.1s,mb5.0
LOS Limnos 81.85 318 *eP* **P 20 15 49.6 +0.3**
PLE Pljevlja 81.88 323⇑*i*P **P 20 15 50.3 +1.0**
MOTA Moosalm 81.92 331⇑*i*P **P 20 15 50.0 +0.5**
comp=Z,19nm,1.0s,mb5.0
MOTA Moosalm 81.92 331⇑*i*P **P 20 15 50.0 +0.5**
MOTA pmax pmax
comp=Z,19nm,1.0s,mb5.0
KNT Kendrikon 81.97 320 *eP* **P 20 15 50.1 +0.3**
SQTA Sankt Quirin 81.99 330⇑*i*P **P 20 15 50.5 +0.7**
comp=Z,13nm,1.0s,mb4.8
SQTA Sankt Quirin 81.99 330⇑*i*P **P 20 15 50.5 +0.7**
SQTA pmax pmax
comp=Z,13nm,1.0s,mb4.8
IVA Berane 82.02 323⇑*i*P **P 20 15 50.4 +0.3**
GDL2 Guadalupe Moun 82.02 53 *eP* **P 20 15 51.4 +1.1**
SKO Skopje 82.02 321 *i* P **P 20 15 51.0 +0.9**
SKO pmax pmax
comp=Z,36nm,0.8s,mb5.3
SKO Skopje 82.02 321 *i* P **P 20 15 51.0 +0.9**
comp=Z,0.0nm,0.8s
BFO Black Forest 82.06 333 *eP* **P 20 15 51.4 +1.2**
BFO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BFO Black Forest 82.06 333 *eP* **P 20 15 51.4 +1.2**
comp=Z,10.0nm,0.9s,mb4.8
SLTI Sal'it 82.06 307 P **P 20 15 50.4 -0.1**
OUR Ouranopolis 82.08 319 *eP* **P 20 15 50.5 0.0**
UPM Unac-Piva 82.19 324⇑*i*P **P 20 15 50.4 -0.5**
MKRJ Makawir 82.19 306 P **P 20 15 52.4 +1.2**
PVY Plav 82.20 323⇑*i*P **P 20 15 51.1 0.0**
CDF Champ du Feu 82.34 333 *eP* **P 20 15 51.4 -0.2**
comp=Z,37nm,1.0s,mb5.0
CDF Champ du Feu 82.34 333 *eP* **P 20 15 51.4 -0.2**
CDF pmax pmax
comp=Z,18nm,1.0s,mb5.0
GRG Griva 82.36 320 *eP* **P 20 15 52.0 +0.1**
DAVA Damuels 82.42 331⇑*i*P **P 20 15 52.5 +0.5**
comp=Z,25nm,1.1s,mb5.1
NKY Niksic 82.46 323⇑*i*P **P 20 15 52.2 -0.2**
PAIG Paliouri 82.55 319 *eP* **P 20 15 52.5 -0.4**
BRY Bratogost 82.59 324⇑*i*P **P 20 15 52.5 -0.6**
TTG Podgorica 82.65 323⇑*i*P **P 20 15 52.6 -0.7**
BUM Brajici-Budva 82.92 323⇑*i*P **P 20 15 54.8 +0.1**
HCY Herceg Novi 82.97 323⇑*i*P **P 20 15 54.6 -0.4**
FNA Florina 82.98 321 *eP* **P 20 15 55.3 +0.1**
LIT Litokhoron 82.99 320 *eP* **P 20 15 54.6 -0.5**
MEZF Maizieres J'vi 82.99 335 *eP* **P 20 15 54.9 -0.1**
comp=Z,36nm,1.1s,mb5.0
HINF Hinteralfeld 83.00 333 *eP* **P 20 15 54.3 -0.8**
HAU Haudompre 83.00 334 *eP* **P 20 15 54.6 -0.5**
comp=Z,17nm,0.9s,mb4.8
HAU Haudompre 83.00 334 *eP* **P 20 15 54.6 -0.5**
HAU pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ULC Ulcinj 83.03 323⇑*i*P **P 20 15 55.4 0.0**
AOS Alonnisos 83.03 318 *eP* **P 20 15 55.6 +0.2**
XOR Xorichti 83.22 319 *eP* **P 20 15 56.1 -0.3**
WMOK Wichita Mounta 83.39 48 *eP* **P 20 15 57.1 -0.2**
WMOK pmax pmax
comp=Z,33nm,1.2s,mb5.2
WMOK Wichita Mounta 83.39 48 *eP* **P 20 15 57.1 -0.2**
comp=Z,33nm,1.2s,mb5.2
KZIT Kziot 83.40 306 P **P 20 15 58.3 +0.8**
APE Apeiranthos 83.81 316 *i* P **P 20 15 58.1 -1.3**
MBH Mount Berech 83.88 305 P **P 20 16 00.9 +1.0**
AGG Agios Georgios 83.91 319 *eP* **P 20 15 59.0 -0.8**
EIL Elat 83.95 305 P **P 20 16 01.0 +0.7**
EIL Elat 83.95 305 *eP* **P 20 16 01.0 +0.7**
comp=Z,20nm,0.9s,mb5.2
CABF La Chapelle 84.31 333 *eP* **P 20 16 01.6 -0.1**
SANT Santorini 84.37 315 *eP* **P 20 15 59.8 -2.5**
comp=Z,41nm,1.3s,mb5.4
FLN La Foliniere 84.40 338 *eP* **P 20 16 01.6 -0.5**
PPT Papeete 84.44 120 *e*LR LR 20 41 53.6
comp=Z,248nm,22.0s,baz=325
LDF La Druitiere 84.45 338 *eP* **P 20 16 02.4 +0.1**
comp=Z,8.3nm,0.6s,mb4.7
LDF La Druitiere 84.45 338 *eP* **P 20 16 02.4 +0.1**
LDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
IGT Igoumenitsa 84.46 321 *eP* **P 20 16 02.7 +0.1**
LTX Lajitas 84.48 55 *eP* **P 20 16 03.6 +0.6**
LTX pmax pmax
comp=Z,24nm,0.9s,mb5.3
LTX Lajitas 84.48 55 *eP* **P 20 16 03.6 +0.6**
comp=Z,24nm,0.9s,mb5.3
TXAR Lajitas Array 84.48 55 P **P 20 16 04.0 +1.0**
comp=Z,13nm,0.7s,mb5.2,baz=298,slow=3.7,SNR=64
ORX Oropa 84.51 332 P **P 20 16 02.9 +0.2**
TAOE Nuku Hiva Isla 84.63 107 *e*LR LR 20 41 59.1
TRAV 84.69 332 P **P 20 16 03.2 -0.4**
GRAM 84.73 330 P **P 20 16 04.2 +0.4**
SSF Saint Saulge 84.75 335 *eP* **P 20 16 03.7 -0.2**
SSF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
SSF Saint Saulge 84.75 335 *eP* **P 20 16 03.7 -0.2**
comp=Z,8.9nm,0.9s,mb4.9
VALM 84.78 329 P **P 20 16 04.8 +0.7**
CCM Cathedral Cave 84.80 41 *eP* **P 20 16 04.5 +0.2**
CCM pmax pmax
comp=Z,62nm,0.9s,mb5.7
CCM Cathedral Cave 84.80 41 *eP* **P 20 16 04.5 +0.1**
comp=Z,62nm,0.9s,mb5.7
HYF Humbligny 84.83 336 *eP* **P 20 16 04.5 +0.2**
SLM Saint Louis 84.83 40 *eP* **P 20 16 04.1 -0.4**
GRR Gorron 84.84 338 *eP* **P 20 16 04.5 +0.2**
comp=Z,30nm,0.7s,mb5.2
GRR Gorron 84.84 338 *eP* **P 20 16 04.5 +0.2**
GRR pmax pmax
comp=Z,15nm,0.7s,mb5.2
CODM 84.90 330 P **P 20 16 04.7 0.0**
BACM 84.91 330 P **P 20 16 04.7 0.0**
LSD Ceresole Reale 84.95 332 P **P 20 16 06.3 +1.4**
VINC Vinca 85.00 329 P **P 20 16 04.4 -0.7**
SMF Signal de Mont 85.01 335 *eP* **P 20 16 05.4 +0.2**
comp=Z,42nm,0.9s,mb5.3
SMF Signal de Mont 85.01 335 *eP* **P 20 16 05.4 +0.2**
SMF pmax pmax
comp=Z,21nm,0.9s,mb5.3
AVF Avril sur Loir 85.04 335 *eP* **P 20 16 05.3 0.0**
comp=Z,33nm,0.8s,mb5.2
AVF Avril sur Loir 85.04 335 *eP* **P 20 16 05.3 0.0**
AVF pmax pmax
comp=Z,17nm,0.8s,mb5.2
LPL La Plagne 85.05 332 *eP* **P 20 16 06.0 +0.6**
comp=Z,22nm,0.8s,mb5.1
LPL La Plagne 85.05 332 *eP* **P 20 16 06.0 +0.6**
LPL pmax pmax
comp=Z,11nm,0.8s,mb5.0
LPG La Plagne 85.06 332 *eP* **P 20 16 06.1 +0.7**
comp=Z,44nm,0.9s,mb5.3
LPG La Plagne 85.06 332 *eP* **P 20 16 06.1 +0.7**
LPG pmax pmax
comp=Z,22nm,0.9s,mb5.3
MAIM 85.06 329 P **P 20 16 04.4 -1.1**
RSP Reno Superiore 85.18 332 P **P 20 16 06.6 +0.5**
AQU L'Aquila 85.22 326 *eP* **P 20 16 07.5 +1.2**
AQU pmax pmax
comp=Z,17nm,0.8s,mb5.2
AQU L'Aquila 85.22 326 *eP* **P 20 16 07.5 +1.2**
comp=Z,17nm,0.8s,mb5.2
PCP Pian Castagno 85.25 331 P **P 20 16 06.8 +0.4**
FVM French Village 85.26 41 *eP* **P 20 16 06.9 +0.3**
FVM pmax pmax
comp=Z,27nm,0.9s,mb5.4
FVM French Village 85.26 41 *eP* **P 20 16 06.9 +0.3**
comp=Z,27nm,0.9s,mb5.4
URZ Urewera 85.29 155 P **P 20 16 07.1 +0.3**
comp=Z,4.5nm,0.8s,mb4.7,baz=315,slow=7.0,SNR=4.2
URZ LR LR 20 50 07.3
comp=Z,168nm,18.7s,MS4.5,baz=198,slow=33
FENE Fenestrelle 85.35 332 P **P 20 16 06.9 -0.1**
CII Carovilli 85.37 326 *eP* **P 20 16 10.3 +3.2**
BGF Bois d'Agland 85.41 335 *eP* **P 20 16 07.7 +0.6**
comp=Z,30nm,1.0s,mb5.1
BGF Bois d'Agland 85.41 335 *eP* **P 20 16 07.7 +0.6**
BGF pmax pmax
comp=Z,15nm,1.0s,mb5.1
SGMF Saint Gilles 85.42 339 *eP* **P 20 16 07.3 +0.1**
BHB Bricherasio 85.45 332 P **P 20 16 07.1 -0.3**
BNI Bardonecchia 85.47 332 *eP* **P 20 16 08.0 +0.5**
BNI pmax pmax
comp=Z,15nm,0.9s,mb5.1
BNI Bardonecchia 85.47 332 *eP* **P 20 16 08.0 +0.5**
comp=Z,15nm,0.9s,mb5.1
ROSF Rostrenen 85.53 340 *eP* **P 20 16 08.2 +0.5**
comp=Z,95nm,1.0s,mb5.7
ROSF Rostrenen 85.53 340 *eP* **P 20 16 08.2 +0.5**
ROSF pmax pmax
comp=Z,48nm,1.0s,mb5.7
RRL Cesana Torines 85.55 332 P **P 20 16 08.5 +0.6**
FIN Finale Ligure 85.66 331 P **P 20 16 07.4 -1.1**
ROB Roburent 85.70 331 P **P 20 16 08.1 -0.6**
MBDF Montbardon 85.72 332 *eP* **P 20 16 08.8 0.0**
comp=Z,13nm,0.6s,mb5.0
MBDF Montbardon 85.72 332 *eP* **P 20 16 08.8 0.0**
MBDF pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
PZZ Prazzo 85.80 331 P **P 20 16 08.2 -1.0**
TCF Toulx Ste Croi 85.84 335 *eP* **P 20 16 09.7 +0.4**
comp=Z,49nm,1.4s,mb5.3
TCF Toulx Ste Croi 85.84 335 *eP* **P 20 16 09.7 +0.4**
TCF pmax pmax
comp=Z,25nm,1.4s,mb5.2
ORIF Oris-en-Rattie 85.86 332 *eP* **P 20 16 09.9 +0.4**
comp=Z,31nm,0.8s,mb5.3
ORIF Oris-en-Rattie 85.86 332 *eP* **P 20 16 09.9 +0.4**
ORIF pmax pmax
comp=Z,16nm,0.8s,mb5.3
QUIF Quistinic 85.89 339 *eP* **P 20 16 09.8 +0.3**
comp=Z,74nm,1.1s,mb5.5
QUIF Quistinic 85.89 339 *eP* **P 20 16 09.8 +0.3**
QUIF pmax pmax
comp=Z,37nm,1.1s,mb5.5
ENR Entracque 85.93 331 P **P 20 16 08.1 -1.7**
MONE Monesi 85.93 331 P **P 20 16 08.9 -0.9**
STV Sta Anna Valdi 85.94 331 P **P 20 16 08.6 -1.3**
JCT Junction City 85.95 52 *eP* **P 20 16 10.6 +0.3**
JCT pmax pmax
comp=Z,58nm,1.6s,mb5.6
JCT Junction City 85.95 52 *eP* **P 20 16 10.6 +0.4**
comp=Z,58nm,1.6s,mb5.6
IMI Imperia 86.03 331 P **P 20 16 10.0 -0.3**
SBF Sospel 86.24 331 *eP* **P 20 16 10.9 -0.4**
comp=Z,63nm,0.9s,mb5.6
SBF Sospel 86.24 331 *eP* **P 20 16 10.9 -0.4**
SBF pmax pmax
comp=Z,31nm,0.9s,mb5.5
MFF Saint Martin d 86.27 337 *eP* **P 20 16 11.8 +0.4**
comp=Z,38nm,0.8s,mb5.4
MFF Saint Martin d 86.27 337 *eP* **P 20 16 11.8 +0.4**
MFF pmax pmax
comp=Z,19nm,0.8s,mb5.4
VIVF Saint-Julien-l 86.33 333 *eP* **P 20 16 12.1 +0.3**
comp=Z,61nm,1.1s,mb5.5
VIVF Saint-Julien-l 86.33 333 *eP* **P 20 16 12.1 +0.3**
VIVF pmax pmax
comp=Z,31nm,1.1s,mb5.5
MIAR Mount Ida 86.34 45 *eP* **P 20 16 12.5 +0.4**
MIAR pmax pmax
comp=Z,64nm,1.1s,mb5.8
MIAR Mount Ida 86.34 45 *eP* **P 20 16 12.5 +0.4**
comp=Z,64nm,1.1s,mb5.8
TIP Timpagrande 86.39 323 *eP* **P 20 16 12.2 -0.1**
FRF La Foret Royal 86.78 331 *eP* **P 20 16 13.6 -0.4**
comp=Z,52nm,1.2s,mb5.3
FRF La Foret Royal 86.78 331 *eP* **P 20 16 13.6 -0.4**
FRF pmax pmax
comp=Z,26nm,1.2s,mb5.3
PGF Pioggiola 86.79 329 *eP* **P 20 16 13.7 -0.4**
comp=Z,23nm,0.9s,mb5.1
PGF Pioggiola 86.79 329 *eP* **P 20 16 13.7 -0.4**
PGF pmax pmax
comp=Z,12nm,0.9s,mb5.1
SMRF Simiane la Rot 86.79 332 *eP* **P 20 16 13.4 -0.7**
RJF Les Rejaudoux 86.94 335 *eP* **P 20 16 15.4 +0.6**
comp=Z,64nm,1.1s,mb5.5
RJF Les Rejaudoux 86.94 335 *eP* **P 20 16 15.4 +0.6**
RJF pmax pmax
comp=Z,32nm,1.1s,mb5.5
LMR La Mourre 87.03 331 *eP* **P 20 16 15.2 0.0**
comp=Z,64nm,1.0s,mb5.5
LMR La Mourre 87.03 331 *eP* **P 20 16 15.2 0.0**
LMR pmax pmax
comp=Z,32nm,1.0s,mb5.5
HBAR Harrisburg 87.05 43 P **P 20 16 16.6 +1.1**
CAF Calviac 87.11 335 *eP* **P 20 16 16.4 +0.8**
comp=Z,104nm,1.0s,mb5.7
CAF Calviac 87.11 335 *eP* **P 20 16 16.4 +0.8**
CAF pmax pmax
comp=Z,52nm,1.0s,mb5.7
GLAT Glass 87.17 41 *eP* **P 20 16 17.3 +1.2**
LASF Ste Croix 87.29 333 *eP* **P 20 16 17.2 +0.7**
comp=Z,39nm,1.0s,mb5.3
LFF La Frestale 87.51 336 *eP* **P 20 16 18.2 +0.7**
comp=Z,115nm,1.2s,mb5.7
LFF La Frestale 87.51 336 *eP* **P 20 16 18.2 +0.7**
LFF pmax pmax
comp=Z,57nm,1.2s,mb5.7
WVT Waverly 87.99 40 *eP* **P 20 16 20.4 +0.4**
WVT pmax pmax
comp=Z,24nm,0.9s,mb5.4
WVT Waverly 87.99 40 *eP* **P 20 16 20.4 +0.4**
comp=Z,24nm,0.9s,mb5.4
MTLF Montolieu 88.48 334 *eP* **P 20 16 22.9 +0.7**
comp=Z,19nm,0.8s,mb5.1
MTLF Montolieu 88.48 334 *eP* **P 20 16 22.9 +0.7**
MTLF pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
OXF Oxford 88.50 42 *eP* **P 20 16 23.1 +0.6**
OXF pmax pmax
comp=Z,92nm,1.3s,mb6.0
OXF MLR MLR
comp=Z,494nm,19.0s,MS5.0
OXF Oxford 88.50 42 *eP* **P 20 16 23.1 +0.6**
comp=Z,92nm,1.3s,mb6.0
OXF LR LR
comp=Z,494nm,19.0s,MS5.0
MCWV Mont Chateau 88.62 33 *eP* **P 20 16 23.8 +0.8**
comp=Z,52nm,1.0s,mb5.8
RPZ Rata Peaks 88.75 162 P **P 20 16 25.8 +2.3**
comp=Z,5.6nm,0.8s,mb5.0,baz=26,slow=15,SNR=2.6
TBI Tubuai 88.76 123 *e*LR LR 20 43 53.6
comp=Z,140nm,23.2s,baz=320
EPF Esparros 89.36 335 *eP* **P 20 16 26.3 -0.1**
ETSF Etsaut 89.75 336 *eP* **P 20 16 28.9 +0.7**
comp=Z,13nm,0.7s,mb5.1
ETSF Etsaut 89.75 336 *eP* **P 20 16 28.9 +0.7**
ETSF pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
PWV Princeton 90.08 35 *eP* **P 20 16 30.5 +0.6**
CPCT Cooper Cave 90.10 39 *eP* **P 20 16 30.2 +0.2**
ELN Prospectdale 90.30 35 *eP* **P 20 16 30.9 -0.1**
ESDC Sonseca Array 93.73 337 P **P 20 16 46.9 +0.3**

comp=Z,2.5nm,0.6s,mb4.8,baz=12,slow=4.3,SNR=13
RKT Rikitea 98.01 114 eLR LR 20 48 10.9
comp=Z,147nm,24.0s,baz=319
SDV Santo Domingo 119.28 42 ePKPdf PKPdf 20 22 19.8 -3.6
VNDA Vanda 120.06 176 PKP PKPdf 20 22 20.1 -3.5
comp=Z,2.1nm,0.7s,baz=317,slow=4.7,SNR=19
SBA Scott Base 120.67 175 ePKIKP PKPdf 20 22 20.9 -3.9
DBIC Dimbokro 124.16 323 PKP PKPdf 20 22 29.1 -3.8
comp=Z,7.7nm,0.7s,baz=11,slow=2.7,SNR=15
MAW Mawson 125.69 208 PKP PKPdf 20 22 31.6 -2.8
comp=Z,7.0nm,0.8s,baz=75,slow=3.5,SNR=11
QSPA South Pole Qui 132.12 180 ⇓iP PKPdf 20 22 44.3 -2.2
SYO Syowa Base 134.36 209 ⇑PP PP 20 25 21.0 -1.3
LPAZ La Paz 141.29 58 PKHKP 20 22 56.9
LPAZ 20 23 02.7
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
LPAZ pmax pmax
comp=Z,5.0nm,0.8s
LPAZ La Paz 141.29 58 PKhKP 20 22 56.9
comp=Z,1.3nm,0.6s,baz=343,slow=5.2,SNR=7.9
LPAZ PKP PKPdf 20 23 02.6 -2.2
comp=Z,4.5nm,0.8s,baz=26,slow=8.3,SNR=12
LPAZ La Paz 141.29 58 PKP PKPdf 20 23 02.6 -2.2
LVC Limon Verde 145.31 66 ePKPdf PKPdf 20 23 09.5 -2.2
VNA2 Neumayer--Watz 148.31 197 ⇑iP PKPdf 20 23 19.8 +4.6
VNA2 Neumayer--Watz 148.31 197 ⇑i PKPdf 20 23 31.5 +16
VNA3 Neumayer Olymp 148.52 195 ⇑iP PKPdf 20 23 20.1 +4.6
VNA1 Neumayer--Stat 148.70 197 ⇑iP PKPdf 20 23 21.5 +5.7
BDFB Brasilia 150.97 27 PKP PKPdf 20 23 18.4 -2.5
comp=Z,32nm,0.7s,baz=15,slow=1.6,SNR=3.8
BDFB PKPbc PKPdf 20 23 24.0 +3.0
comp=Z,32nm,0.7s,baz=283,slow=1.8,SNR=38
CPUP Villa Florida 155.45 57 PKP PKPdf 20 23 22.7 -4.2
comp=Z,0.0nm,0.2s,baz=207,slow=12,SNR=1.7
CPUP PKPab PKPab 20 23 49.7 -0.5
comp=Z,0.0nm,0.3s,baz=221,slow=15,SNR=1.9

*IDC **12** 20:04:12.7±1.1,2.03N×126.93E,mb4.2/8,mb1 4.4/8, mb1mx4.1/17,mbtmp4.2/8, Error ellipse: s-maj=62.6km s-min=16.4km az=67.0*
*NEIC **12** 20:04:17.2±0.7,2.04N×126.99E,h30km,mb4.4/3, Error ellipse: s-maj=33.5km s-min=8.9km az=67.0*
ISC 12 20:04:15.9±0.9,2.0N±0.1×126.9E±0.3,h33km,n13, σ0§44/13,mb4.2/9,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.64**	**159**	*e*P	**P**	**20 08 00.9**	**+5.2**
	17nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.02**	**183**	*e*P	**P**	**20 08 49.1**	**+0.2**
	8.9nm,0.5s						
WRAB	**Tennant Creek**	**23.02**	**162**	*e*P	**P**	**20 09 19.1**	**-0.1**
	9.9nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**23.02**	**162**	P	**P**	**20 09 19.5**	**+0.2**
	5.8nm,0.4s,mb4.3,baz=341,slow=11,SNR=53						
WB2	**Warramunga Arr**	**23.03**	**162**	*e*P	**P**	**20 09 19.7**	**+0.4**
ASAR	**Alice Springs**	**26.43**	**165**	P	**P**	**20 09 51.4**	**-0.4**
	2.4nm,0.5s,mb4.0,baz=345,slow=12,SNR=41						
ASPA	**Alice Springs**	**26.43**	**165**	*e*P	**P**	**20 09 51.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**31.87**	**303**	P	**P**	**20 10 40.1**	**-0.4**
	1.0nm,0.9s,mb3.7,baz=116,slow=5.7,SNR=6.3						
NWAO	**Narrogin (SRO)**	**35.92**	**194**	P	**P**	**20 11 15.8**	**+0.6**
	9.9nm,0.9s,mb4.7,baz=44,slow=6.6,SNR=7.2						
STKA	**Stephens Creek**	**36.49**	**159**	P	**P**	**20 11 19.6**	**-0.5**
	4.8nm,0.5s,mb4.7,baz=338,slow=6.7,SNR=20						
SONM	**Songino Array**	**48.95**	**342**	P	**P**	**20 13 01.9**	**+0.9**
	0.6nm,0.5s,mb3.9,baz=157,slow=9.2,SNR=4.7						
BVAR	**Borovoye Array**	**68.82**	**327**	P	**P**	**20 15 18.4**	**-0.6**
	3.5nm,0.7s,mb4.4,baz=89,slow=4.9,SNR=5.2						
VNDA	**Vanda**	**81.72**	**173**	P	**P**	**20 16 32.3**	**+0.1**
	1.8nm,1.0s,mb4.0,baz=319,slow=6.8,SNR=9.8						

*IDC **12** 20:12:46.4±0.7,3.03N×93.86E,mb4.2/11,mb1 4.4/12, mb1mx4.2/21,mbtmp4.2/12,ML4.0/1,MS3.9/2,Ms1 4.0/2, ms1mx3.3/22, Error ellipse: s-maj=28.0km s-min=16.0km az=47.0*
*BJI **12** 20:12:48.8,2.72N×94.07E,h47km,mB5.0,mb4.4,Ms4.6, Msz4.6*
*NEIC **12** 20:12:50.8±0.5,3.03N×93.89E,h30km,mb4.6/6, Error ellipse: s-maj=13.1km s-min=9.5km az=66.0*
ISC 12 20:12:49.5±0.6,3.06N±0.08×93.94E±0.09,h33km,n34, σ0§86/30,mb4.4/23,MS4.5/1,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**16.07**	**17**	*e*P	**P**	**20 16 37.0**	**+2.4**
	1.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**16.07**	**17**	Pn	**P**	**20 16 33.7**	**-1.0**
	0.2nm,0.3s,baz=215,slow=11,SNR=25						
CMAR				LR	LR	20 22 25.3	
	comp=Z,121nm,18.8s,baz=195,slow=36						
HYB	**Hyderabad**	**20.78**	**314**	*i* P	**P**	**20 17 31.5**	**+1.2**
JIRN	**Jiri**	**25.56**	**344**	*e*P	**P**	**20 18 17.7**	**+0.5**
	22nm,0.9s,mb4.7						
PKI	**Pulchoki**	**25.70**	**342**	*e*P	**P**	**20 18 18.5**	**-0.1**
DMN	**Daman**	**25.83**	**342**	*e*P	**P**	**20 18 20.6**	**+0.8**
GUN	**Gumba**	**25.88**	**343**	*e*P	**P**	**20 18 20.4**	**+0.1**
	31nm,1.0s,mb4.8						
KKN	**Kakani**	**25.95**	**342**	*e*P	**P**	**20 18 20.6**	**-0.3**
	18nm,1.1s,mb4.5						
GKN	**Gorkha**	**26.35**	**341**	*e*P	**P**	**20 18 24.4**	**-0.2**
	15nm,0.8s,mb4.6						
KOLN	**Koldanda**	**26.48**	**339**	*e*P	**P**	**20 18 25.8**	**0.0**
	11nm,0.9s,mb4.4						
LSA	**Lhasa**	**26.63**	**355**	*e*P	**P**	**20 18 28.8**	**+1.7**
	29nm,1.0s,mb4.8						
ENH	**Enshi**	**30.81**	**27**	*e*P	**P**	**20 19 03.0**	**-1.7**
	2.9nm,0.7s,mb4.2						
XAN	**Xi'an**	**33.84**	**23**	P	**P**	**20 19 29.9**	**-1.1**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
WRA	**Warramunga Arr**	**45.77**	**122**	P	**P**	**20 21 10.8**	**+0.6**
	comp=Z,5.7nm,0.8s,mb4.6,baz=300,slow=8.9,SNR=25						
WRAB	**Tennant Creek**	**45.78**	**122**	*e*P	**P**	**20 21 10.6**	**+0.4**
	comp=Z,12nm,1.0s,mb4.8						
SONM	**Songino Array**	**45.88**	**12**	P	**P**	**20 21 10.9**	**+0.3**
	comp=Z,2.7nm,0.8s,mb4.2,baz=193,slow=8.3,SNR=22						
ASAR	**Alice Springs**	**47.11**	**127**	P	**P**	**20 21 21.2**	**+0.6**
	comp=Z,3.7nm,0.9s,mb4.3,baz=301,slow=7.5,SNR=19						
HIA	**Hailar**	**51.02**	**22**	*e*P	**P**	**20 21 50.4**	**-0.1**
	comp=Z,12nm,1.1s,mb4.7						
ZAL	**Zalesovo**	**51.27**	**353**	P	**P**	**20 21 52.4**	**+0.2**
	comp=Z,1.8nm,0.7s,mb4.1,baz=202,slow=9.9,SNR=11						
ZAL	**Zalesovo**	**51.27**	**353**	P	**P**	**20 21 52.4**	**+0.2**
BVAR	**Borovoye Array**	**53.47**	**343**	P	**P**	**20 22 07.9**	**-0.8**
	comp=Z,2.7nm,0.8s,mb4.2,baz=135,slow=8.4,SNR=15						
BRVK	**Borovoye**	**53.53**	**342**	*e*P	**P**	**20 22 08.0**	**-1.1**
	comp=Z,4.1nm,0.9s,mb4.4						
CHKZ	**Chkalovo**	**53.97**	**343**	*e*P	**P**	**20 22 11.6**	**-0.8**
	comp=Z,5.7nm,1.0s,mb4.5						
KMBO	**Kilima Mbogo**	**56.82**	**267**	P	**P**	**20 22 32.7**	**-0.8**
	comp=Z,1.6nm,1.0s,mb4.0,baz=117,slow=6.8,SNR=2.6						
KMBO	**Kilima Mbogo**	**56.82**	**267**	P	**P**	**20 22 32.7**	**-0.8**
STKA	**Stephens Creek**	**57.01**	**131**	P	**P**	**20 22 34.1**	**-0.6**
	comp=Z,2.1nm,0.7s,mb4.3,baz=324,slow=11,SNR=4.8						
GNI	**Garni**	**57.71**	**317**	LR	LR	20 49 14.3	
	comp=Z,329nm,18.1s,MS4.5,baz=7.5,slow=38						
ASF	**Jabal al Asfar**	**60.74**	**305**	P	**P**	**20 23 00.7**	**+0.1**
	comp=Z,0.9nm,0.6s,mb4.1,baz=239,slow=8.0,SNR=2.5						
BRTR	**Keskin Array B**	**65.46**	**313**	P	**P**	**20 23 30.8**	**-0.9**
	comp=Z,1.4nm,0.9s,mb4.0,baz=129,slow=7.9,SNR=5.8						
IDI	**Anoyia**	**71.18**	**306**	P	**P**	**20 24 07.3**	**+0.1**
	comp=Z,3.0nm,0.7s,mb4.3,baz=75,slow=8.4,SNR=5.9						
GERES	**GERESS Array B**	**81.28**	**319**	P	**P**	**20 25 04.9**	**+1.0**
	comp=Z,2.1nm,0.8s,mb4.1,baz=90,slow=5.3,SNR=12						
CPUP	**Villa Florida**	**144.02**	**227**	PKP	PKPdf	20 32 23.0	+0.6
	comp=Z,0.0nm,0.3s,baz=171,slow=19,SNR=1.3						
CPUP	**Villa Florida**	**144.02**	**227**	PKP	PKPdf	20 32 23.0	+0.6
LPAZ	**La Paz**	**158.01**	**232**	PKPab	PKPab	20 33 19.6	+0.1
	comp=Z,0.4nm,0.4s,baz=161,slow=5.1,SNR=3.6						

*IDC **12** 20:27:05.7±0.7,8.90N×93.70E,mb4.0/13,mb1 4.1/14, mb1mx4.0/22,mbtmp4.0/14,ML3.4/1, Error ellipse: s-maj=37.0km s-min=16.2km az=52.0*
*NEIC **12** 20:27:10.5±0.5,8.94N×93.82E,h30km,mb4.5/4, Error ellipse: s-maj=19.3km s-min=10.9km az=62.0*
ISC 12 20:27:08.5±0.6,8.88N±0.09×93.8E±0.1,h30km,n29, σ1§01/27,mb4.1/17,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.76**	**27**	Pn	**P**	**20 29 48.5**	**+4.6**
	0.1nm,0.3s,baz=212,slow=15,SNR=6.6						
SHL	**Shillong**	**16.69**	**354**	*e*	**P**	**20 31 04.0**	**+2.0**
HYB	**Hyderabad**	**17.06**	**301**	*i* P	**P**	**20 31 13.5**	**+6.8**
PKI	**Pulchoki**	**20.20**	**338**	*e*P	**P**	**20 31 43.5**	**-0.3**
GUN	**Gumba**	**20.34**	**340**	*e*P	**P**	**20 31 45.2**	**-0.1**
	48nm,0.9s						
DMN	**Daman**	**20.35**	**337**	*e*P	**P**	**20 31 45.5**	**+0.2**
	26nm,0.9s						
KKN	**Kakani**	**20.45**	**338**	*e*P	**P**	**20 31 46.2**	**-0.1**
	22nm,0.9s						
LSA	**Lhasa**	**20.86**	**354**	*e*P	**P**	**20 31 50.0**	**-0.6**
	4.2nm,0.5s						
GKN	**Gorkha**	**20.88**	**337**	*e*P	**P**	**20 31 50.7**	**-0.1**
	45nm,0.8s						
KOLN	**Koldanda**	**21.10**	**334**	*e*P	**P**	**20 31 53.3**	**+0.2**
	34nm,0.8s,mb4.7						
SONM	**Songino Array**	**40.27**	**13**	P	**P**	**20 34 44.2**	**-0.4**
	0.3nm,1.0s,mb3.0,baz=201,slow=12,SNR=3.2						
SONM				PcP	PcP	20 36 48.4	-0.1
	0.7nm,1.0s,baz=198,slow=4.6,SNR=3.5						
ZAL	**Zalesovo**	**45.51**	**353**	P	**P**	**20 35 27.5**	**+0.5**
	2.5nm,1.0s,mb4.1,baz=250,slow=7.3,SNR=6.0						
NWAO	**Narrogin (SRO)**	**47.20**	**153**	P	**P**	**20 35 41.4**	**+0.6**
	12nm,0.8s,mb4.9,baz=329,slow=5.9,SNR=3.5						
CHKZ	**Chkalovo**	**48.41**	**342**	*e*P	**P**	**20 35 47.9**	**-1.9**
	4.0nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**49.14**	**126**	P	**P**	**20 35 55.7**	**-0.2**
	0.5nm,0.7s,mb3.7,baz=306,slow=8.5,SNR=9.3						
ASAR	**Alice Springs**	**50.84**	**130**	P	**P**	**20 36 08.1**	**-0.8**
	0.8nm,0.7s,mb3.8,baz=297,slow=7.0,SNR=9.6						
GNI	**Garni**	**53.48**	**314**	P	**P**	**20 36 33.0**	**+4.6**
	1.6nm,0.5s,mb4.2,baz=228,slow=5.0,SNR=3.4						
ASF	**Jabal al Asfar**	**57.37**	**303**	P	**P**	**20 36 58.5**	**+1.8**
	0.8nm,0.3s,mb4.2,baz=14,slow=5.2,SNR=2.7						
BRTR	**Keskin Array B**	**61.50**	**310**	P	**P**	**20 37 23.2**	**-1.8**
	2.0nm,0.9s,mb4.3,baz=121,slow=7.2,SNR=8.3						
AKASG	**Malin Array Be**	**67.14**	**321**	P	**P**	**20 37 59.6**	**-2.1**
	0.3nm,0.3s,mb3.7,baz=83,slow=5.1,SNR=5.6						
IDI	**Anoyia**	**67.70**	**304**	P	**P**	**20 38 04.5**	**-0.9**
	baz=95,slow=8.4,SNR=1.5						
ARCES	**ARCESS Array B**	**74.20**	**340**	P	**P**	**20 38 43.9**	**0.0**
	2.7nm,0.9s,mb4.2,baz=98,slow=7.4,SNR=8.0						
BOSA	**Boshof**	**75.81**	**238**	P	**P**	**20 38 54.4**	**+0.4**
	4.0nm,1.0s,mb4.3						
GERES	**GERESS Array B**	**76.84**	**318**	P	**P**	**20 39 00.5**	**+1.2**
	1.8nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=15						
HFS	**Hagfors**	**77.41**	**330**	P	**P**	**20 39 01.9**	**-0.4**
	3.5nm,0.8s,mb4.3,baz=104,slow=6.1,SNR=5.7						
LPG	**La Plagne**	**81.65**	**315**	*e*P	**P**	**20 39 26.9**	**+1.5**
	13nm,1.0s,mb4.5						
ILAR	**Eielson Array**	**93.96**	**22**	P	**P**	**20 40 25.3**	**+0.9**
	0.3nm,0.8s,mb3.8,baz=315,slow=5.1,SNR=3.9						
PDAR	**Pinedale Array**	**124.36**	**21**	PKP	PKPdf	20 46 07.2	-2.9
	0.4nm,0.7s,baz=90,slow=1.5,SNR=3.6						
CPUP	**Villa Florida**	**147.57**	**234**	PKPbc	PKPdf	20 46 52.9	-0.2
	0.0nm,0.3s,baz=188,slow=8.6,SNR=2.0						

*IDC **12** 20:39:31.5±1.6,3.48S×135.97E,mb3.8/3,mb1 4.1/4, mb1mx3.9/11,mbtmp3.8/4,ML3.6/1, Error ellipse: s-maj=101.0km s-min=32.4km az=90.0*
ISC 12 20:39:34.4±1.0,3.69S±0.09×135.3E±0.3,h33km,n8, σ1§14/10,mb3.6/2,1D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.39**	**197**	*e*P	**P**	**20 41 50.5**	**0.0**
	9.4nm,0.6s						
KAKA				*e*S	**S**	**20 43 35.4**	**-0.7**
WB2	**Warramunga Arr**	**16.18**	**183**	*e*P	**P**	**20 43 21.2**	**+0.2**
WRA	**Warramunga Arr**	**16.18**	**183**	Pn	**P**	**20 43 18.4**	**-2.6**
	0.2nm,0.3s,baz=7.2,slow=12,SNR=8.4						
WRA				Sn	**S**	**20 46 11.9**	**-7.1**
	0.2nm,0.3s,baz=7.7,slow=22,SNR=4.6						
FITZ	**Fitzroy Crossi**	**17.16**	**213**	*e*P	**P**	**20 43 33.5**	**+0.2**
	8.5nm,0.9s						
ASAR	**Alice Springs**	**19.90**	**184**	P	**P**	**20 44 07.7**	**+1.6**
	7.7nm,0.6s,baz=9.6,slow=11,SNR=99						
ASPA	**Alice Springs**	**19.91**	**184**	⇓*i*P	**P**	**20 44 07.7**	**+1.6**
SONM	**Songino Array**	**57.22**	**337**	P	**P**	**20 49 21.1**	**+0.2**
	0.4nm,0.8s,mb3.5,baz=162,slow=5.3,SNR=4.3						
ILAR	**Eielson Array**	**88.14**	**25**	P	**P**	**20 52 21.7**	**-1.1**
	0.4nm,0.8s,mb3.7,baz=261,slow=4.4,SNR=6.0						

*IDC **12** 20:44:52.8±3.9,20.87N×97.91E,h16km±26km,mb3.5/5, mb1 3.7/6,mb1mx3.4/19,mbtmp3.6/6,ML3.8/1,MS3.0/1, Ms1 3.2/1,ms1mx2.8/18, Error ellipse: s-maj=34.7km s-min=17.8km az=66.0*
*NEIC **12** 20:44:53.4±0.7,20.90N×98.03E,h20km,mb3.8/2, Error ellipse: s-maj=48.5km s-min=9.8km az=70.0*
ISC 12 20:44:49.7±0.6,20.89N±0.06×97.90E±0.09,h10km,n14, σ1§36/24,mb3.6/7,1C,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHRT	**Chiangrai**	**2.04**	**119**	⇑PN	**Pn**	**20 45 25.7**	**+1.2**
CHRT				PG	**Pg**	**20 45 27.0**	**-3.4**
CHRT				SG	**Sg**	**20 45 57.0**	**-0.5**
CHG	**Chiang Mai**	**2.28**	**154**	PN	**Pn**	**20 45 29.0**	**+1.0**
CHG				PG	**Pg**	**20 45 34.9**	**-0.4**
CHG				SG	**Sg**	**20 46 05.8**	**0.0**
CM31	**Chiang Mai Arr**	**2.61**	**158**	*e*P	**Pn**	**20 45 33.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**2.61**	**158**	Pn	**Pn**	**20 45 34.2**	**+1.5**
	4.5nm,0.3s,baz=331,slow=13,SNR=103						
CMAR				Pg	**Pg**	**20 45 40.3**	**-1.5**
	36nm,0.3s,baz=331,slow=16,SNR=134						
CMAR				Lg		20 46 15.0	
	40nm,0.3s,baz=328,slow=31,SNR=5.4						
CMAR				LR	LR	20 46 50.0	
	comp=Z,313nm,19.3s,baz=152,slow=45						
NANT	**Nan**	**3.35**	**128**	PN	**Pn**	**20 45 42.5**	**-0.8**
NANT				PG	**Sn**	**20 46 39.0**	**+15**
NANT				SG	**Sg**	**20 46 46.0**	**+4.6**
NST	**Nakhon Sawan**	**5.60**	**157**	PN	**Pn**	**20 46 13.0**	**-2.1**
	128nm,0.6s						
NST				PG	**Pg**	**20 46 34.2**	**-7.4**
NST				SG	**Sg**	**20 47 50.5**	**-5.7**
KKTK	**Khon Kaen**	**6.50**	**133**	PG	**Pn**	**20 46 31.0**	**+3.2**
KKTK				SG	**Sg**	**20 48 31.5**	**+5.4**
SONM	**Songino Array**	**27.75**	**12**	P	**P**	**20 50 40.0**	**-0.4**
	0.2nm,0.6s,mb3.0,baz=207,slow=6.4,SNR=3.6						
ZAL	**Zalesovo**	**34.48**	**346**	P	**P**	**20 51 39.4**	**-0.4**
	1.1nm,0.5s,mb4.1,baz=234,slow=7.7,SNR=6.8						
BVAR	**Borovoye Array**	**38.42**	**333**	P	**P**	**20 52 14.6**	**+1.5**
	0.8nm,0.6s,mb3.6,baz=149,slow=8.6,SNR=4.8						
BRVK	**Borovoye**	**38.49**	**333**	*e*P	**P**	**20 52 10.6**	**-3.1**
	2.5nm,1.0s,mb3.9						
CHKZ	**Chkalovo**	**38.80**	**334**	*e*P	**P**	**20 52 16.7**	**+0.4**
	0.6nm,0.5s,mb3.6						
WRA	**Warramunga Arr**	**54.02**	**136**	P	**P**	**20 54 14.9**	**-1.8**
	0.6nm,0.7s,mb3.6,baz=320,slow=7.5,SNR=8.0						
ASAR	**Alice Springs**	**56.49**	**140**	P	**P**	**20 54 35.5**	**+1.0**
	0.4nm,0.5s,mb3.7,baz=325,slow=7.2,SNR=6.9						

*CSEM **12** 20:57:19.9±0.1,37.00N×27.81E,h15km,MD3.2, Error ellipse: s-maj=2.5km s-min=1.9km az=42.0*
*ISK **12** 20:57:19.4,36.98N×27.77E,h15km,MD3.2*
*ATH **12** 20:57:20.5,36.85N×27.59E,h5km,MD3.4/4*
ISC 12 20:57:19.8±0.7,36.91N±0.04×27.77E±0.04,h11km±6km, n17,σ1§01/23,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.30**	**300**	*i* P	**Pg**	**20 57 26.3**	**+0.1**
BDRM				*i* S	**Sg**	**20 57 31.8**	**+1.4**
MLSB	**Milas**	**0.38**	**1**	*i* PG	**Pg**	**20 57 26.4**	**-1.3**
DALT	**Dalyan (Mudla)**	**0.71**	**101**	PG	**Pg**	**20 57 33.8**	**-0.3**
DALT				SG	**Sg**	**20 57 44.6**	**+1.0**
ARG	**Arkhangelos**	**0.75**	**158**	*e*PB	**Pb**	**20 57 34.7**	**+0.3**
AYDN	**Tasoluk**	**0.75**	**7**	*i* P	**Pb**	**20 57 33.3**	**-1.1**
AYDN				*i* S	**Sb**	**20 57 43.1**	**-1.3**
SMG	**Samos**	**1.09**	**317**	*e*PN	**Pn**	**20 57 40.5**	**-0.4**
FETY	**Fethiye**	**1.09**	**104**	*e*PN	**Pn**	**20 57 41.1**	**+0.2**
DNZL	**Cakiroluk**	**1.28**	**52**	P	**Pb**	**20 57 42.5**	**-0.9**
DNZL				S	**Sb**	**20 58 01.2**	**+1.5**
DENT	**Denizli**	**1.31**	**50**	*e*PN	**Pn**	**20 57 43.5**	**-0.6**
KARP	**Karpathos**	**1.45**	**200**	*e*PB	**Pb**	**20 57 46.5**	**+0.2**
IZM	**Izmir**	**1.54**	**345**	*e*PN	**Pn**	**20 57 46.4**	**-1.0**
KDAG	**Bornova**	**1.54**	**345**	P	**Pn**	**20 57 48.5**	**+1.1**
KDAG				S	**Sb**	**20 58 09.4**	**+2.1**
MANT	**Manisa**	**1.69**	**21**	P	**Pn**	**20 57 49.8**	**+0.2**
MANT				S	**Sn**	**20 58 12.9**	**+1.5**
ELL	**Elmali**	**1.72**	**95**	*e*PN	**Pn**	**20 57 49.7**	**-0.3**
APE	**Apeiranthos**	**1.80**	**276**	*e*PN	**Pn**	**20 57 50.7**	**-0.4**
APE	**Apeiranthos**	**1.80**	**276**	*e*Pg	**Pn**	**20 57 51.3**	**+0.2**
AKS	**Akhisar**	**1.96**	**1**	PN	**Pn**	**20 57 51.7**	**-1.7**

IDC 12 21:04:18.4±2.2,20.67S×172.75W,mb4.1/4,mb1 4.2/6, mb1mx3.9/18,mbtmp4.1/6,ML4.2/2,Error ellipse: s-maj=60.6km s-min=35.1km az=5.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**12.14**	**95**	Pn	P	21 07 12.8	-3.0
	2.0nm,0.3s,baz=311,slow=19,SNR=3.2						
URZ	**Urewera**	**19.61**	**204**	P	P	21 08 48.2	-3.0
	0.4nm,0.3s,baz=133,slow=16,SNR=2.7						
CTA	**Charters Tower**	**38.36**	**263**	P	P	21 11 41.8	-1.4
	3.6nm,0.6s,baz=98,slow=10,SNR=4.8						
STKA	**Stephens Creek**	**42.16**	**245**	P	P	21 12 12.9	-1.5
	2.2nm,0.7s,baz=92,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**49.26**	**256**	P	P	21 13 08.9	-2.2
	1.5nm,0.7s,baz=102,slow=7.1,SNR=12						
WRA	**Warramunga Arr**	**49.44**	**261**	P	P	21 13 10.6	-1.9
	0.4nm,0.3s,baz=96,slow=8.2,SNR=33						

*ATH **12** 21:04:38.1,37.26N×28.74E,h37km±16km,MD3.5/4*
*CSEM **12** 21:04:45.4±0.1,36.97N×27.80E,h10km,MD3.3, Error ellipse: s-maj=3.0km s-min=2.4km az=44.0*
*ISK **12** 21:04:46.0,37.02N×27.81E,h16km,MD3.3*
ISC 12 21:04:46.0±0.7,36.97N±0.03×27.81E±0.04,h11km±6km, n19,σ0§68/26,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.30**	**288**	*i* P	**Pg**	**21 04 52.3**	**0.0**
BDRM				*i* S	**Sg**	**21 04 57.7**	**+1.1**
MLSB	**Milas**	**0.33**	**356**	*i* PG	**Pg**	**21 04 52.4**	**-0.4**
AYDN	**Tasoluk**	**0.69**	**5**	*i* P	**Pb**	**21 04 59.4**	**-0.2**
AYDN				*i* S	**Sb**	**21 05 08.7**	**-0.1**
DALT	**Dalyan (Mudla)**	**0.70**	**106**	PG	**Pg**	**21 05 00.1**	**+0.1**
ARG	**Arkhangelos**	**0.80**	**161**	*e*PN	**Pn**	**21 05 00.3**	**-2.6**
ARG				*e*SN	**Sn**	**21 05 15.3**	**+0.6**
SMG	**Samos**	**1.07**	**314**	*e*PB	**Pb**	**21 05 06.6**	**+0.6**
FETY	**Fethiye**	**1.08**	**108**	*i* PN	**Pn**	**21 05 07.3**	**+0.4**
FETY				SN	**Sn**	**21 05 22.6**	**+0.7**
DNZL	**Cakiroluk**	**1.22**	**54**	*i* P	**Pb**	**21 05 08.9**	**+0.3**
DNZL				S	**Sb**	**21 05 24.4**	**+0.2**
DENT	**Denizli**	**1.25**	**51**	PN	**Pn**	**21 05 08.6**	**-0.9**
IZM	**Izmir**	**1.49**	**343**	*e*PN	**Pn**	**21 05 11.8**	**-1.0**
KDAG	**Bornova**	**1.49**	**344**	P	**Pn**	**21 05 13.3**	**+0.5**
KARP	**Karpathos**	**1.51**	**200**	*e*P	**Pn**	**21 05 12.5**	**-0.6**
KARP				*e*S	**Sb**	**21 05 33.0**	**+0.4**
BLCB	**Balcova**	**1.54**	**337**	*e*PN	**Pn**	**21 05 13.1**	**-0.4**
MANT	**Manisa**	**1.63**	**21**	*i* P	**Pn**	**21 05 14.8**	**0.0**
MANT				S	**Sn**	**21 05 36.7**	**+0.8**
ELL	**Elmali**	**1.70**	**97**	*e*PN	**Pn**	**21 05 15.9**	**+0.1**
APE	**Apeiranthos**	**1.82**	**274**	*e*PN	**Pn**	**21 05 17.4**	**-0.2**
APE	**Apeiranthos**	**1.82**	**274**	*e*P	**Pn**	**21 05 17.5**	**-0.1**
AKS	**Akhisar**	**1.91**	**0**	PN	**Pn**	**21 05 18.1**	**-0.7**
BCK	**Bucak**	**2.28**	**77**	*e*PN	**Pn**	**21 05 24.6**	**+0.5**

*IDC **12** 21:10:47.0±0.7,2.61N×95.41E,mb4.1/15,mb1 4.3/16, mb1mx4.2/22,mbtmp4.2/16,ML4.5/1,Error ellipse: s-maj=29.9km s-min=14.7km az=45.0*
*BJI **12** 21:10:50.8,2.82N×95.44E,h24km,mB4.8,mb4.7,Ms4.5, Msz4.1*
*MOS **12** 21:10:50.0±1.2,2.65N×95.54E,h33km,mb4.9/13,Error ellipse: s-maj=19.3km s-min=9.0km az=107.4*
*NEIC **12** 21:10:51.8±0.4,2.66N×95.53E,h30km,mb4.8/6,Error ellipse: s-maj=12.7km s-min=8.2km az=52.0*
**ISC 12 21:10:50.2±0.5,2.63N±0.08×95.53E±0.08,h33km,n57, σ

comp=Z,5.5nm,0.9s,mb4.6,baz=19,slow=15,SNR=2.2
CHKZ Chkalovo 54.86 342 *i* P **P 21 20 19.6 0.0**
CHKZ pmax pmax
comp=Z,17nm,0.9s,mb5.1
CHKZ Chkalovo 54.86 342 *e*P **P 21 20 19.4 -0.1**
comp=Z,17nm,0.8s,mb5.1
STKA Stephens Creek 55.54 132 P **P 21 20 26.4 +1.6**
comp=Z,2.0nm,0.7s,mb4.2,baz=307,slow=10,SNR=3.5
BOD Bodaibo 56.94 12 *e*P **P 21 20 32.4 -2.1**
KMBO Kilima Mbogo 58.38 267 P **P 21 20 44.9 -0.4**
comp=Z,1.5nm,0.8s,mb4.1,baz=40,slow=11,SNR=3.8
GNI Garni 59.12 316 *i* P **P 21 20 46.2 -3.8**
GNI pmax pmax
comp=Z,4.0nm,1.3s
ARU Arti 61.23 338⇓ *i*P **P 21 21 00.4 -3.8**
ARU *e* 21 23 18.9
ARU *e*S **S 21 29 13.8 -6.3**
ARU *e*SS SS 21 33 19.8 -2.1
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
KIV Kislovodsk 62.15 319 *i* P **P 21 21 05.6 -4.9**
KIV pmax pmax
comp=Z,6.0nm,1.2s,mb4.6
KIV MLR MLR
comp=Z,100nm,15.0s,MS4.1
ASF Jabal al Asfar 62.28 305 P **P 21 21 11.1 -0.5**
comp=Z,0.8nm,0.5s,mb4.2,baz=62,slow=5.3,SNR=4.5
MALT Malatya 62.94 312 *e*P **P 21 21 16.1 +0.2**
MALT pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
MALT Malatya 62.94 312 *e*P **P 21 21 16.1 +0.2**
comp=Z,3.5nm,1.0s,mb4.4
YAK Yakutsk 64.54 17 *e*P **P 21 21 25.0 -0.9**
YAK pmax pmax
comp=Z,17nm,1.0s,mb5.0
YAK Yakutsk 64.54 17 *e*P **P 21 21 25.0 -0.9**
comp=Z,17nm,1.0s,mb5.0
ANN Anapa 65.93 319 *e*P **P 21 21 33.7 -1.5**
ANN pmax pmax
comp=Z,39nm,1.0s,mb5.4
BRTR Keskin Array B 66.92 312 P **P 21 21 40.6 -1.0**
comp=Z,0.8nm,0.6s,mb3.9,baz=127,slow=6.2,SNR=5.9
OBN Obninsk 70.54 329⇓ *e*P **P 21 22 01.1 -2.5**
OBN pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.5
TIXI Tiksi 72.09 11 *e*P **P 21 22 11.6 -1.0**
TIXI pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
IDI Anoyia 72.72 306 P **P 21 22 17.1 0.0**
comp=Z,2.3nm,0.8s,mb4.1,baz=281,slow=16,SNR=2.7
AKASG Malin Array Be 73.12 323 P **P 21 22 18.1 -1.0**
comp=Z,1.0nm,0.6s,mb3.9,baz=115,slow=3.5,SNR=5.2
FINES FINESS Array B 77.97 333 P **P 21 22 46.6 0.0**
comp=Z,1.9nm,0.9s,mb4.0,baz=117,slow=6.2,SNR=2.5
ARCES ARCESS Array B 80.64 340 P **P 21 23 00.8 0.0**
comp=Z,4.2nm,1.2s,mb4.3,baz=68,slow=15,SNR=3.5
GERES GERESS Array B 82.65 319 P **P 21 23 12.0 +0.3**
comp=Z,2.1nm,1.0s,mb4.1,baz=104,slow=5.5,SNR=7.8
CPUP Villa Florida 144.87 225 PKP PKPdf 21 30 26.4 +1.7
comp=Z,0.0nm,0.5s,baz=229,slow=18,SNR=1.8

IDC 12 21:28:53.6±7.7, 12.99N×93.71E, mb3.7/3, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, ML2.9/1, Error ellipse: s-maj=168.2km s-min=35.3km az=109.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.63**	**215**	*e*P	Pn	21 29 21.7	-2.0
PBA				*e*S	Sb	21 29 46.1	+0.8
PBA				*e*		21 29 47.7	
	comp=N,382nm,0.3s						
PBA				*e*		21 29 48.0	
	comp=E,482nm,0.4s						
CMAR	**Chiang Mai Arr**	**7.41**	**42**	Pn	Pn	21 30 43.1	-2.5
	comp=E,0.1nm,0.3s,baz=235,slow=14,SNR=2.9						
CMAR				Sn	Sn	21 32 09.3	-2.1
	comp=E,0.1nm,0.3s,baz=235,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**51.67**	**129**	P	P	21 38 02.5	-2.2
	comp=E,0.5nm,0.8s,baz=308,slow=8.4,SNR=6.3						
ASAR	**Alice Springs**	**53.59**	**133**	P	P	21 38 15.8	-3.2
	comp=E,0.3nm,0.5s,baz=309,slow=6.9,SNR=5.2						
STKA	**Stephens Creek**	**63.98**	**135**	P	P	21 39 30.1	-1.2
	comp=E,0.7nm,0.3s,baz=315,slow=8.6,SNR=2.8						

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*CSEM **12** 21:39:16.6±0.2, 50.27N×19.20E, h2km, ML2.9/4, Error ellipse: s-maj=4.4km s-min=2.1km az=23.0*
*PRU **12** 21:39:18.4, 50.15N×19.21E*
*IPEC **12** 21:39:19.8±0.3, 50.24N×19.08E, ML2.0/3, Error ellipse: s-maj=2.7km s-min=2.1km az=152.0*
*NEIC **12** 21:39:20.6±1.4, 50.12N×19.05E, h5km, ML2.7(VIE), Error ellipse: s-maj=21.7km s-min=9.2km az=202.0*
WAR 12 21:39:18.0, 50.16N×19.31E, h0km, ML2.6, 2C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.32**	**79**	*e*PG	Pg	21 39 25.0	+0.6
OJC				*e*SG	Sg	21 39 29.0	+0.4
OKC	**Ostrava-Krasne**	**0.82**	**247**	*e*PG	Pg	21 39 33.8	-0.5
OKC				*e*SG	Sg	21 39 44.7	-0.5
NIE	**Niedzica**	**0.99**	**138**	*e*PG	Pg	21 39 37.0	-0.7
NIE				*e*(SG)	Sg	21 39 53.0	+2.1
MORC	**Moravsky Berou**	**1.21**	**252**	*e*Pg	Pg	21 39 40.6	-1.5
MORC				*e*Sg	Sg	21 39 54.8	-3.3
	20nm,0.2s						
VYHS	**Vyhne**	**1.70**	**191**	*i* PG	Pg	21 39 48.4	-3.5
VYHS				*e*SG	Sg	21 40 10.9	-3.6
KECS	**Kecovo**	**1.85**	**155**	*e*PN	Pn	21 39 54.3	+3.1
KECS				*e*SG	Sg	21 40 17.4	-2.1
CRVS	**Cervenica-Dubn**	**1.89**	**131**	*e*PN	Pn	21 39 54.9	+3.2
CRVS				*e*SG	Sg	21 40 20.2	-0.6
DPC	**Dobruska-Polom**	**1.93**	**277**	*e*PG	Pg	21 39 51.2	-5.3
DPC				*e*SG	Sg	21 40 16.7	-5.5
DPC	**Dobruska-Polom**	**1.93**	**277**	*e*Pn	Pn	21 39 51.1	-1.2
DPC	**Dobruska-Polom**	**1.93**	**277**	Pg	Pg	21 39 51.2	-5.3
DPC				*e*Sg	Sg	21 40 15.6	-6.6
VRAC	**Vranov**	**1.96**	**245**	*e*Sg	Sg	21 40 17.6	-5.6
	10nm,0.4s						
VRAC	**Vranov**	**1.96**	**245**	*e*Pn	Pn	21 39 53.0	+0.2
KSP	**Ksiaz**	**2.04**	**291**	*e*PG	Pg	21 39 56.0	-2.8
KSP				*e*SN	Sn	21 40 21.0	+0.5
KSP				*e*SG	Sg	21 40 22.0	-4.0
UPC	**Upice**	**2.14**	**281**	*e*PG	Pg	21 39 55.0	-5.8
UPC				*e*SG	Sg	21 40 24.4	-4.9
KRUC	**Moravsky**	**2.19**	**241**	*e*Pn	Pn	21 39 57.1	+1.0
KRUC				*e*Sg	Sg	21 40 25.7	-5.3
	7.1nm,0.4s						
PSZ	**Piszkesteto**	**2.28**	**170**⇑	*e*PB	Pb	21 40 02.0	+2.3
KOLS	**Kolonicke sedl**	**2.29**	**121**	*e*PB	Pb	21 40 03.8	+3.9
KOLS				*e*SN	Sn	21 40 32.2	+5.5
PRU	**Pruhonice**	**3.08**	**269**	*e*SG	Sg	21 40 55.0	-5.5
KHC	**Kasperske Hory**	**3.87**	**257**	*e*PG	Pg	21 40 27.3	-7.9
KHC				*e*SG	Sg	21 41 20.3	-6.4
MOA	**Molln**	**4.05**	**237**⇑	*i*PN	Pn	21 40 21.1	-1.4
MOA				*i* SG	Sg	21 41 25.9	-6.9
	3.9nm,0.5s						
CLL	**Collm**	**4.17**	**288**	*e*SG	Sg	21 41 33.0	-3.8
NKC	**Novy Kostel**	**4.41**	**274**	*e*PG	Pg	21 40 36.5	-10
NKC				*e*SG	Sg	21 41 36.9	-7.9

IDC 12 22:02:58.9±24.0, 15.60S×177.78W, h370km±203km, mb3.0/3, mb1 3.3/3, mb1mx3.0/13, mbtmp3.7/3, Error ellipse: s-maj=275.8km s-min=50.1km az=134.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.69**	**257**	P	P	22 10 44.0	-2.3
	0.1nm,0.5s,baz=92,slow=8.3,SNR=5.9						
ASAR	**Alice Springs**	**46.03**	**252**	P	P	22 10 47.6	-1.3
	1.3nm,0.5s,baz=84,slow=8.3,SNR=20						
ILAR	**Eielson Array**	**83.51**	**13**	P	P	22 14 45.5	-1.3
	1.3nm,0.8s,baz=225,slow=5.3,SNR=14						
BRTR	**Keskin Array B**	**143.54**	**317**	PKP	PKPdf	22 21 49.2	-0.9
	0.2nm,0.4s,baz=90,slow=2.9,SNR=5.1						
GERES	**GERESS Array B**	**145.53**	**347**	PKPbc	PKPbc	22 21 54.1	-0.2
	0.5nm,0.8s,baz=326,slow=3.5,SNR=3.0						

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*IDC **12** 22:08:15.7±0.7, 30.76S×71.25W, h48km±5km, mb4.0/9, mb1 4.2/11, mb1mx4.0/16, mbtmp4.2/11, Error ellipse: s-maj=23.2km s-min=18.2km az=60.0*
*GUC **12** 22:08:16.1±0.7, 30.70S×71.27W, h48km±3km, ML4.8*
*NEIC **12** 22:08:16.1, 30.70S×71.27W, h48km, mb4.2/1, After GUC.*
ISC 12 22:08:15.6±0.4, 30.69S±0.02×71.27W±0.10, h60km±3km, h49km±1.2km: pP-P, n44, σ0°84/54, mb4.1/10, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.10**	**38**⇑	*i*P	P	22 08 24.1	-0.5
OVCH				*i* S	S	22 08 29.9	-1.3
OVCH				AMP		22 08 30.5	
	comp=E,121μm,0.3s						
CMCH	**Combarbala**	**0.54**	**154**⇑	*i*P	P	22 08 28.0	0.0
CMCH				*i* S	S	22 08 36.8	-0.3
CMCH				AMP		22 08 38.1	
	comp=E,288μm,0.7s						
TLL	**Tololo Astrono**	**0.66**	**38**⇓	*i*P	P	22 08 30.4	+1.0
TLL				*i* S	S	22 08 41.0	+1.4
TLL				AMP		22 08 42.5	
	comp=N,21μm,0.7s						
LSCH	**La Serena**	**0.78**	**2**	*e*P	P	22 08 31.1	+0.2
LSCH				*i* S	S	22 08 42.4	+0.2
LSCH				AMP		22 08 43.8	
	comp=N,12μm,0.5s						
ILCH	**Illapel**	**0.95**	**175**	*i* P	P	22 08 32.8	-0.3
ILCH				*i* S	S	22 08 45.2	-1.0
ILCH				AMP		22 08 46.3	
	comp=E,29μm,0.6s						
PTCH	**Petorca**	**1.60**	**170**⇑	*i*P	P	22 08 42.1	0.0
PTCH				*i* S	S	22 09 01.8	0.0
PTCH				AMP		22 09 06.9	
	comp=E,27μm,0.3s						
PACH	**Papudo**	**1.85**	**184**	*e*P	P	22 08 45.2	-0.4
JACH	**Jahuel**	**2.07**	**164**	*e*P	P	22 08 49.2	+0.5
VACH	**Vallenar**	**2.15**	**12**	*e*P	P	22 08 50.5	+0.6
VACH				AMP		22 09 27.6	
	comp=N,11μm,0.3s						
PEL	**Peldehue**	**2.50**	**169**	*e*P	P	22 08 55.3	+0.5
PEL				*i* S	S	22 09 24.1	0.0
PEL				AMP		22 09 37.3	
	comp=N,6μm,0.7s						
FCH	**Farellones**	**2.76**	**163**	*e*P	P	22 08 59.4	+0.9
FCH				*i* S	S	22 09 31.7	+1.0
FCH				AMP		22 09 40.9	
	comp=E,2μm,0.5s						
CLCH	**Cerro Calan**	**2.77**	**167**⇑	*i*P	P	22 08 59.2	+0.5
CLCH				*i* S	S	22 09 31.5	+0.5
CLCH				AMP		22 09 46.4	
	comp=N,7μm,1.0s						
RCDM	**Rinconada Maip**	**2.82**	**172**	*e*P	P	22 08 59.5	+0.2
RCDM				*i* S	S	22 09 32.2	0.0
RCDM				AMP		22 09 39.1	
	comp=E,3μm,0.1s						
FSR	**Penalolen**	**2.85**	**167**	*e*P	P	22 08 59.8	0.0
FSR				*i* S	S	22 09 32.9	-0.2
FSR				AMP		22 09 50.7	
	comp=N,4μm,0.8s						
ANTU	**Antumapu**	**2.92**	**169**	*e*P	P	22 09 00.7	-0.1
ANTU				AMP		22 09 48.6	
	comp=E,4μm,0.5s						
TACH	**Talagante**	**2.97**	**175**	*e*P	P	22 09 01.0	-0.5
PCH	**Pirque**	**2.99**	**168**	*e*P	P	22 09 01.6	-0.2
MDZ	**Mendoza**	**3.01**	**137**	*i* P	P	22 09 03.4	+1.4
MDZ				*i*		22 09 47.8	
MDZ				*i* S	rx	22 09 58.4	
SJCH	**San Jose de Ma**	**3.04**	**165**	*e*P	P	22 09 02.2	-0.4
SJCH				*i* S	S	22 09 37.5	-0.4
SJCH				AMP		22 09 52.2	
	comp=N,1μm,0.4s						
CHCH	**Chadas Angostu**	**3.28**	**171**	*e*P	P	22 09 05.5	-0.3
LMEL	**Las Melosas**	**3.28**	**164**	*e*P	P	22 09 07.0	+1.3
LMEL				*i* S	S	22 09 44.7	+0.9
LMEL				AMP		22 10 02.0	
	comp=N,2μm,0.4s						
CPCH	**Copiapo**	**3.42**	**14**	*e*P	P	22 09 05.8	-2.0
CACH	**El Canelo**	**3.47**	**171**	*e*P	P	22 09 08.9	+0.4
SFDO	**San Fernando**	**3.92**	**177**	*e*P	P	22 09 14.4	-0.4
LVC	**Limon Verde**	**8.31**	**15**	P	P	22 10 12.0	-3.9
	comp=N,0.9nm,0.3s,baz=183,slow=7.9,SNR=19						
LVC	**Limon Verde**	**8.31**	**15**	*e*P	P	22 10 11.9	-4.0
	comp=N,2.8nm,0.6s						
TRQA	**Tornquist**	**10.62**	**136**	*e*P	P	22 10 45.1	-2.4
	comp=N,26nm,0.9s						
CPUP	**Villa Florida**	**13.01**	**74**	P	P	22 11 16.5	-2.9
LPAZ	**La Paz**	**14.62**	**12**	P	P	22 11 40.7	+0.1
	comp=N,0.2nm,0.3s,baz=179,slow=8.2,SNR=14						
LPAZ	**La Paz**	**14.62**	**12**	*e*P	P	22 11 40.6	0.0
	comp=N,5.4nm,0.7s						
BDFB	**Brasilia**	**26.03**	**60**	P	P	22 13 44.4	-0.7
	comp=N,10nm,0.6s,mb4.5,baz=240,slow=8.6,SNR=16						
BAO	**Brasilia Array**	**26.05**	**60**	*e*P	P	22 13 45.0	-0.2
OTAV	**Otavalo**	**31.50**	**346**	P	P	22 14 35.9	+1.7
	comp=N,6.0nm,1.5s,mb4.2						
SNAA	**Sanae**	**54.41**	**159**	P	P	22 17 37.0	-1.4
	comp=N,1.4nm,0.7s,mb4.0,baz=289,slow=12,SNR=6.0						
SNAA				pP	pP	22 17 51.3	-3.0
	comp=N,1.3nm,0.8s,baz=286,slow=13,SNR=1.5						
TXAR	**Lajitas Array**	**67.19**	**330**	P	P	22 19 05.2	-0.4
	comp=N,1.1nm,0.6s,mb4.0,baz=153,slow=8.4,SNR=6.0						
ANMO	**Albuquerque**	**73.22**	**330**	P	P	22 19 43.5	+1.5
	comp=N,0.9nm,0.5s,mb4.0,baz=158,slow=11,SNR=1.6						
DBIC	**Dimbokro**	**73.52**	**72**	P	P	22 19 44.3	+0.1
	comp=N,7.1nm,0.6s,mb4.8,baz=205,slow=7.1,SNR=19						
DBIC				pP	pP	22 19 57.6	-3.1
	comp=N,2.0nm,0.5s,baz=196,slow=8.1,SNR=3.5						
MAW	**Mawson**	**76.16**	**164**	P	P	22 19 58.1	-0.3
	comp=N,1.3nm,0.3s,mb4.3,baz=65,slow=12,SNR=5.1						
PDAR	**Pinedale Array**	**81.12**	**332**	P	P	22 20 25.3	-0.6
	comp=N,1.2nm,1.1s,mb3.7,baz=135,slow=4.2,SNR=3.6						
NVAR	**Mina Array Bea**	**81.56**	**324**	P	P	22 20 29.0	+0.7
	comp=N,0.8nm,0.8s,mb3.7,baz=155,slow=5.9,SNR=5.3						
NVAR				pP	pP	22 20 43.4	-1.7
	comp=N,0.5nm,0.8s,baz=154,slow=7.3,SNR=3.0						
YKA	**Yellowknife Ar**	**99.14**	**341**	P	P	22 21 50.4	-0.6
	comp=N,0.1nm,0.4s,mb3.7,baz=134,slow=4.2,SNR=3.6						
YKA				pP	pP	22 22 05.1	-3.0
	comp=N,0.2nm,0.5s,baz=142,slow=4.6,SNR=3.4						
WRA	**Warramunga Arr**	**123.96**	**209**	PKP	PKPdf	22 27 07.1	-0.5
	comp=N,0.3nm,0.6s,baz=168,slow=1.5,SNR=5.2						
WRA				pPKP		22 27 22.0	
	comp=N,0.6nm,0.6s,baz=164,slow=1.6,SNR=4.7						
ZAL	**Zalesovo**	**151.06**	**30**	PKPbc	PKPdf	22 28 03.1	+7.8
	comp=N,5.1nm,0.6s,baz=66,slow=3.0,SNR=3.1						
ZAL				pPKPbc		22 28 17.7	
	comp=N,2.8nm,0.5s,baz=77,slow=3.5,SNR=8.0						
SONM	**Songino Array**	**162.78**	**5**	PKPab	PKPab	22 29 02.5	+0.9
	baz=346,slow=5.9						

IDC 12 22:26:15.6±4.4, 10.76N×94.52E, mb3.5/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=126.8km s-min=28.0km az=80.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.96**	**297**	*e*P	Pn	22 26 37.5	-13
PBA				*e*S	Sn	22 26 55.2	-21
PBA				*e*		22 27 03.5	
	comp=E,453nm,0.3s						
PBA				*e*		22 27 03.6	
	comp=N,282nm,0.5s						
CMAR	**Chiang Mai Arr**	**8.76**	**29**	Pn	P	22 28 22.8	-3.7
	baz=215,slow=12,SNR=5.4						
SONM	**Songino Array**	**38.28**	**13**	P	P	22 33 37.8	-1.5
	comp=N,0.3nm,0.7s,baz=206,slow=8.0,SNR=4.1						
WRA	**Warramunga Arr**	**49.67**	**128**	P	P	22 35 09.7	-1.8
	comp=N,0.5nm,0.5s,baz=304,slow=8.9,SNR=11						
ASAR	**Alice Springs**	**51.51**	**132**	P	P	22 35 23.2	-2.2
	comp=N,0.4nm,0.4s,baz=307,slow=7.0,SNR=7.6						

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*CSEM **12** 22:34:19.0±0.1, 38.95N×27.44E, h10km, MD3.3, Error ellipse: s-maj=3.0km s-min=1.5km az=101.0*
*ISK **12** 22:34:19.1, 38.95N×27.46E, h11km, MD3.3*
*ATH **12** 22:34:24.8, 38.49N×26.08E, h10km, MD3.4/3*
ISC 12 22:34:19.6±0.3, 38.93N±0.02×27.50E±0.03, h10km, n36, σ0°97/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.25**	**101**	*i* PG	Pg	22 34 25.1	+0.2
KDAG	**Bornova**	**0.56**	**199**	*i* P	Pg	22 34 30.6	-0.1
KDAG				*i* S	Sg	22 34 39.1	+0.9
IZM	**Izmir**	**0.56**	**199**	PG	Pg	22 34 30.4	-0.5
IZM				SG	Sg	22 34 39.2	+0.7
BLCB	**Balcova**	**0.65**	**213**	PG	Pg	22 34 32.3	-0.3
AYVA	**Ayvalik**	**0.73**	**301**	*i* P	Pb	22 34 34.3	+0.4
AYVA				*i* S	Sb	22 34 45.1	+1.3
BALB	**Balikesir**	**0.77**	**23**	PG	Pg	22 34 34.6	-0.5
BTOK	**Tokmak**	**0.93**	**26**	*i* P	Pb	22 34 37.5	+0.2
BTOK				*i* S	Sb	22 34 50.6	+1.1
MANT	**Manisa**	**0.94**	**117**	*i* P	Pb	22 34 38.5	+1.0
MANT				*i* S	Sb	22 34 51.3	+1.5
PRK	**Paraskevi**	**1.00**	**289**	*e*PG	Pg	22 34 39.0	-0.7
AYDN	**Tasoluk**	**1.30**	**166**	*i* P	Pb	22 34 43.7	+0.1
AYDN				*i* S	Sb	22 35 01.3	+1.0
SMG	**Samos**	**1.32**	**203**	*e*PB	Pb	22 34 43.5	-0.6
BOZC	**Bozcaada**	**1.44**	**310**	P	Pn	22 34 46.3	+0.4
BOZC				*i* S	Sb	22 35 05.8	+1.4
EDC	**Edincik**	**1.45**	**11**	PN	Pn	22 34 45.9	0.0
BNT	**Bandirma**	**1.46**	**13**	PN	Pn	22 34 45.8	-0.4
KCT	**Karacabey**	**1.49**	**26**	PN	Pn	22 34 46.6	0.0
ORLT	**Orhaneli**	**1.56**	**44**	PN	Pn	22 34 47.8	+0.3
MRMT	**Marmara Adasi**	**1.67**	**3**	PN	Pn	22 34 48.9	-0.3
DENT	**Denizli**	**1.68**	**134**	PN	Pn	22 34 49.6	+0.3
ULDT	**Uludag**	**1.75**	**46**	P	Pn	22 34 50.4	0.0
ULDT				*i* S	Sn	22 35 15.7	+2.8
SART	**Tekirdag**	**1.77**	**352**	P	Pn	22 34 50.8	+0.2
BDRM	**Kayabasi**	**1.86**	**181**	P	Pg	22 34 54.9	-1.9
BDRM				*i* S	Sg	22 35 19.1	-2.5
MFT	**Murefte**	**1.86**	**355**	PN	Pn	22 34 51.3	-0.6
LIA	**Limnos Island**	**2.04**	**299**	*e*PB	Pb	22 34 54.5	-1.8
ALT	**Altintas**	**2.04**	**86**	*e*PN	Pn	22 34 55.1	+0.6
YLV	**Yalova**	**2.18**	**41**	*e*PN	Pn	22 34 55.8	-0.7
BADT	**Buyukada**	**2.29**	**32**	*e*PN	Pn	22 34 57.5	-0.5
DALT	**Dalyan (Mudla)**	**2.34**	**157**	*e*PN	Pn	22 34 59.6	+0.9
APE	**Apeiranthos**	**2.42**	**221**	*e*PN	Pn	22 34 59.3	-0.6
ISK	**Istanbul-Kandi**	**2.45**	**29**	*e*PN	Pn	22 34 59.9	-0.4
HRT	**Hereke**	**2.52**	**41**	*e*PN	Pn	22 35 01.8	+0.4
FETY	**Fethiye**	**2.61**	**151**	*e*PN	Pn	22 35 03.0	+0.4
ESKT	**Eskisehir**	**2.67**	**76**	*e*PN	Pn	22 35 04.5	+1.0
ESKT	**Eskisehir**	**2.67**	**76**	P	Pg	22 35 11.8	-1.2
ESKT				*i* S	Sg	22 35 45.9	-2.6
EDRB	**Edirne**	**2.97**	**349**	*e*PN	Pn	22 35 06.9	-0.8
HENT	**Hendek**	**3.23**	**53**	P	Pg	22 35 21.0	-3.1
HENT				*i* S	Sg	22 36 06.3	-0.9
MDU	**Mudurnu**	**3.25**	**61**	*e*PN	Pn	22 35 12.7	+1.0

IDC 12 22:39:01.4±9.6, 24.15S×177.15W, h219km±91km, mb3.3/7, mb1 3.5/8, mb1mx3.4/17, mbtmp4.0/8, Error ellipse: s-maj=46.3km s-min=31.1km az=10.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.89**	**198**	P	P	22 42 22.8	+0.2
	1.7nm,0.3s,baz=9.9,slow=14,SNR=10						
URZ				S	S	22 45 05.3	+3.3
	1.3nm,0.3s,baz=57,slow=20,SNR=7.1						
CTA	**Charters Tower**	**34.08**	**269**	P	P	22 45 25.9	-1.2
	4.0nm,0.8s,baz=102,slow=14,SNR=2.8						
PMG	**Port Moresby**	**37.05**	**287**	P	P	22 45 50.5	-1.7
	7.1nm,0.8s,baz=180,slow=6.8,SNR=2.4						
STKA	**Stephens Creek**	**37.05**	**249**	P	P	22 45 48.9	-3.2
	0.5nm,0.3s,baz=74,slow=7.4,SNR=3.2						
ASAR	**Alice Springs**	**44.56**	**260**	P	P	22 46 53.0	-0.5
	0.4nm,0.5s,baz=95,slow=8.6,SNR=5.3						
WRA	**Warramunga Arr**	**44.99**	**265**	P	P	22 46 54.8	-2.0
	0.3nm,0.3s,baz=102,slow=8.5,SNR=14						
PDAR	**Pinedale Array**	**91.08**	**43**	P	P	22 51 40.8	-1.4
	0.3nm,0.5s,baz=153,slow=6.6,SNR=3.6						
ILAR	**Eielson Array**	**91.68**	**12**	P	P	22 51 42.5	-2.0
	0.3nm,0.8s,baz=221,slow=5.7,SNR=4.3						
AKASG	**Malin Array Be**	**146.55**	**329**	PKPbc	PKPbc	22 58 16.5	+0.2
	4.0nm,0.4s,baz=38,slow=4.3,SNR=37						

IDC 12 22:56:17.7±1.4, 13.05N×92.54E, mb3.4/3, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=49.5km s-min=26.6km az=40.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.18**	**48**	Pn	P	22 58 16.0	-4.5
	0.2nm,0.3s,baz=238,slow=15,SNR=10						
CMAR				Sn	Sn	22 59 34.5	-20
	0.2nm,0.3s,baz=219,slow=31,SNR=5.0						
WRA	**Warramunga Arr**	**52.59**	**128**	P	P	23 05 33.6	-2.2
	0.3nm,0.6s,baz=296,slow=9.5,SNR=7.7						
ASAR	**Alice Springs**	**54.47**	**132**	P	P	23 05 47.8	-1.7
	0.3nm,0.5s,baz=297,slow=6.8,SNR=3.6						
BRTR	**Keskin Array B**	**57.93**	**309**	P	P	23 06 12.1	-2.1
	0.4nm,0.8s,baz=53,slow=7.2,SNR=2.0						

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*BJI **12** 23:11:01.5, 51.32N×178.46W, h22km, mB5.1, mb4.8, Ms4.4, Msz4.2*
*MOS **12** 23:11:03.1±1.0, 51.33N×178.31W, h33km, mb5.0/39, Error ellipse: s-maj=10.3km s-min=6.0km az=89.2*
*IDC **12** 23:11:03.8±2.6, 51.36N×178.30W, h26km±16km, mb4.3/30, mb1 4.4/31, mb1mx4.4/34, mbtmp4.4/31, ML2.7/1, MS3.8/5, Ms1 3.8/5, ms1mx3.3/28, Error ellipse: s-maj=14.9km s-min=10.7km az=163.0*
*NEIC **12** 23:11:03.7±0.3, 51.26N×178.31W, mb4.8/51, ML4.5(AEIC), Error ellipse: s-maj=7.6km s-min=4.2km az=176.0*
*CSEM **12** 23:11:19.3, 53.14N×178.81W, h80km, mb5.9*
ISC 12 23:11:05.9±0.9, 51.28N±0.06×178.22W±0.04, h58km±6km, h24km±2.3km: pP-P, n216, σ1°04/217, mb4.7/90, MS4.0/12, 5C-3D, Andreanof Islands

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

COLA College 20.77 38 eP **P 23 15 43.1 -0.8**
COLA pmax pmax
comp=Z,13nm,0.8s
COLA College 20.77 38 eP **P 23 15 43.1 -0.7**
comp=Z,13nm,0.8s
THY Trims Highway 21.04 42 eP **P 23 15 45.8 -0.8**
ILAR Eielson Array 21.09 38 P **P 23 15 45.2 -2.0**
comp=Z,1.8nm,0.6s,baz=243,slow=9.4,SNR=29
ILAR PcP PcP 23 19 50.0 -2.1
comp=Z,0.6nm,0.7s,baz=306,slow=3.9,SNR=4.8
ILAR ScP 23 23 25.6
comp=Z,0.3nm,0.5s,baz=248,slow=4.9,SNR=7.6
DAWY Dawson 23.93 43 eP **P 23 16 14.8 0.0**
YSS Yuzh-Sakhalins 25.69 276 ⇑iP **P 23 16 31.5 -0.3**
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 25.69 276 eP **P 23 16 31.2 -0.6**
comp=Z,37nm,0.8s,mb5.0
ASAJ Asahikawa 27.07 270 LR LR 23 26 53.0
comp=Z,92nm,18.2s,MS3.4,baz=156,slow=35
INK Inuvik 27.33 35 P **P 23 16 45.0 -1.8**
comp=Z,1.4nm,0.5s,mb3.8,baz=252,slow=9.5,SNR=5.2
INK PcP PcP 23 20 03.5 -1.7
comp=Z,1.6nm,0.6s,baz=271,slow=1.9,SNR=6.4
YAK Yakutsk 29.76 311 iP **P 23 17 07.0 -1.5**
YAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
BBB Bella Bella 30.55 68 LR LR 23 26 34.7
comp=Z,119nm,21.9s,MS3.5,baz=305,slow=30
TIXI Tiksi 30.90 331 iP **P 23 17 18.9 +0.3**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
TIXI MLR MLR
comp=Z,200nm,18.0s,MS3.8
KLR Kul'dur 31.56 286 ⇓iP **P 23 17 20.8 -3.7**
MDJ Mudanjiang 34.95 280 P **P 23 17 51.6 -2.3**
MDJ AP pP 23 17 57.8 -11
MDJ XP sP 23 18 00.6 -15
MDJ PP PP 23 19 07.3 -6.0
MDJ S **S 23 23 21.9 +1.4**
MDJ XS 23 23 33.1
MDJ AMB AMB
comp=Z,14nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,127nm,4.3s
MDJ LR LR
comp=N,21nm,20.5s,MS3.4
MDJ LR LR
comp=E,68nm,19.4s,MS3.4
MDJ LR LR
comp=Z,106nm,21.3s,MS3.6
YKW3 Yellowknife Ar 35.02 46 eP **P 23 17 52.9 -1.5**
YKA Yellowknife Ar 35.04 46 P **P 23 17 53.2 -1.3**
comp=Z,2.0nm,0.6s,mb4.2,baz=281,slow=8.3,SNR=19
YKA PcP PcP 23 20 25.1 -0.6
comp=Z,0.6nm,0.5s,baz=287,slow=3.2,SNR=8.6
YKA ScP 23 24 08.3
comp=Z,0.2nm,0.8s,baz=296,slow=3.4,SNR=3.6
YKA LR LR 23 34 20.2
comp=Z,118nm,19.2s,MS3.6,baz=265,slow=40
YKA Yellowknife Ar 35.04 46 P **P 23 17 53.2 -1.3**
YKA PcP PcP 23 20 25.1 -0.6
YKA ScP 23 24 08.3
YKA LR LR 23 34 20.2
BOD Bodaibo 38.33 307 eP **P 23 18 18.9 -3.3**
YBH Yreka Blue Hor 38.53 82 P **P 23 18 25.6 +1.6**
comp=Z,1.1nm,0.5s,mb3.9,baz=300,slow=14,SNR=3.2
EDM Edmonton 38.54 61 eP **P 23 18 23.9 -0.1**
NEW Newport 38.58 70 eP **P 23 18 24.6 +0.3**
NEW e*PP pP 23 18 32.3 -6.9
NEW pmax pmax
comp=Z,6.0nm,0.8s
NEW Newport 38.58 70 eP **P 23 18 24.6 +0.2**
comp=Z,5.7nm,0.8s,mb4.3
NEW epP pP 23 18 32.3 -6.9
HIA Hailar 38.66 292 eP **P 23 18 23.1 -1.9**
HIA pmax pmax
comp=Z,20nm,1.0s
HIA Hailar 38.66 292 eP **P 23 18 23.1 -1.9**
comp=Z,20nm,1.0s,mb4.8
SNY Shenyang 40.15 280 ⇑P **P 23 18 37.8 +0.3**
SNY AP pP 23 18 43.8 -8.6
SNY XP sP 23 18 46.8 -13
SNY AMB AMB
comp=Z,20nm,1.0s,mb4.8
SNY AMB AMB
comp=Z,100nm,4.9s
SNY LR LR
comp=N,250nm,16.5s
SNY LR LR
comp=Z,190nm,19.6s,MS4.0
BMO Blue Mountains 40.17 74 eP **P 23 18 38.4 +0.8**
comp=Z,2.2nm,0.8s,mb3.9
WVOR Wild Horse Val 40.67 78 eP **P 23 18 42.4 +0.7**
WVOR pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
WVOR Wild Horse Val 40.67 78 eP **P 23 18 42.4 +0.7**
comp=Z,5.8nm,0.8s,mb4.3
OHCM Honcut 40.68 84 P **P 23 18 41.6 -0.3**
MSO Missoula 41.16 70 eP **P 23 18 44.9 -0.9**
comp=Z,5.2nm,0.9s,mb4.2
HLID Hailey 42.62 74 eP **P 23 18 57.7 0.0**
comp=Z,6.1nm,1.0s,mb4.3
MCMT McKenzie Canyo 42.87 72 eP **P 23 18 59.8 +0.1**
MCMT epP pP 23 19 08.5 -6.2
BOZ Bozeman (W) 43.15 70 eP **P 23 19 01.0 -0.9**
BOZ pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
BOZ Bozeman (W) 43.15 70 eP **P 23 19 01.0 -1.0**
comp=Z,2.4nm,0.5s,mb4.2
NVAR Mina Array Bea 43.20 83 P **P 23 19 03.6 +1.1**
comp=Z,3.4nm,1.1s,mb4.0,baz=299,slow=7.2,SNR=6.0
MNV Mina 43.30 83 eP **P 23 19 03.8 +0.5**
QLMT Earthquake Lak 43.71 71 eP **P 23 19 06.9 +0.4**
BGU Big Grassy Mou 44.97 77 eP **P 23 19 16.1 -0.6**
TPNV Topopah Spring 45.40 83 eP **P 23 19 20.6 +0.4**
TPNV pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
TPNV Topopah Spring 45.40 83 eP **P 23 19 20.6 +0.4**
comp=Z,5.8nm,0.7s,mb4.5
BW06 Boulder Array 45.99 72 eP **P 23 19 24.9 0.0**
comp=Z,3.4nm,0.6s,mb4.5
PDAR Pinedale Array 45.99 72 P **P 23 19 25.5 +0.7**
comp=Z,8.7nm,0.8s,mb4.7,baz=303,slow=4.5,SNR=33
NLU North Lily Min 46.13 77 eP **P 23 19 25.9 0.0**
TLY Talaya 46.42 303 iP **P 23 19 28.0 -0.1**
TLY pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
TLY MLR MLR
comp=Z,100nm,18.0s,MS3.8
ULN Ulaanbaatar 46.63 297 eP **P 23 19 29.7 0.0**
MSU Marysvale 46.95 79 eP **P 23 19 31.2 -1.2**
SONM Songino Array 47.02 297 P **P 23 19 33.3 +0.5**
comp=Z,5.0nm,0.6s,mb4.6,baz=70,slow=6.6,SNR=62
SONM PcP PcP 23 21 04.6 -0.1
comp=Z,0.8nm,0.6s,baz=103,slow=1.8,SNR=3.8
SONM ScP 23 24 56.7
comp=Z,1.2nm,1.1s,baz=90,slow=2.5,SNR=4.4
ZAK Zakamensk 47.32 301 eP **P 23 19 34.0 -1.1**
ZAK e 23 21 05.5
NJ2 Nanjing 49.18 272 eP **P 23 19 48.0 -1.8**
NJ2 AP pP 23 19 57.8 -7.2
NJ2 XP sP 23 20 01.8 -10
NJ2 PP PP 23 21 42.0 -2.2
NJ2 PPP PPP 23 22 36.0 -3.2
NJ2 S **S 23 26 50.0 +0.2**
NJ2 XS 23 27 06.0
NJ2 AMB AMB
comp=Z,40nm,1.2s,mb5.3
NJ2 AMB AMB
comp=Z,420nm,5.2s
NJ2 LR LR
comp=N,742nm,24.0s,MS4.8
NJ2 LR LR
comp=E,876nm,23.4s,MS4.8
NJ2 LR LR
comp=Z,1μm,18.4s,MS4.9
SDCO Great Sand Dun 51.52 75 eP **P 23 20 06.1 -1.4**
comp=Z,2.9nm,0.7s,mb4.3
ANMO Albuquerque 52.76 79 eP **P 23 20 16.7 -0.2**
ANMO Albuquerque 52.76 79 P **P 23 20 17.5 +0.6**
comp=Z,1.3nm,0.8s,mb3.9,baz=30,slow=4.5,SNR=3.4
FRB Frobisher Bay 52.92 32 P **P 23 20 16.2 -1.5**
comp=Z,3.9nm,0.4s,mb4.7,baz=313,slow=7.7,SNR=20
FRB LR LR 23 45 53.6
comp=Z,146nm,19.1s,MS4.0,baz=134,slow=40

ZAL Zalesovo 54.38 314 P **P 23 20 28.9 +0.4**
comp=Z,0.6nm,0.3s,mb4.0,baz=290,slow=6.6,SNR=3.7
ZAL PcP PcP 23 21 32.1 +0.5
comp=Z,3.4nm,0.7s,baz=349,slow=4.2,SNR=20
ZAL LR LR 23 44 47.1
comp=Z,130nm,18.1s,MS4.0,baz=74,slow=37
MNTX Cornudas Mount 55.61 81 P **P 23 20 37.1 -0.7**
LZH Lanzhou 55.76 287 eP **P 23 20 39.4 +0.6**
LZH AP pP 23 20 47.9 -6.4
LZH XP sP 23 20 51.2 -10
LZH PP PP 23 22 44.5 -0.6
LZH AMB AMB
comp=Z,40nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,150nm,4.0s
LZH LR LR
comp=E,262nm,12.9s
LZH LR LR
comp=Z,355nm,14.4s,MS4.6
ENH Enshi 56.25 278 eP **P 23 20 40.3 -2.1**
comp=Z,7.1nm,0.7s,mb4.8
WMOK Wichita Mounta 57.58 74 eP **P 23 20 50.7 -1.1**
WMOK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
WMOK Wichita Mounta 57.58 74 eP **P 23 20 50.6 -1.1**
comp=Z,3.2nm,0.8s,mb4.4
KEV Kevo 57.88 350 ep **P 23 20 49.4 -4.0**
ARCES ARCESS Array B 58.25 350 P **P 23 20 54.4 -1.6**
comp=Z,3.8nm,0.7s,mb4.5,baz=24,slow=7.8,SNR=16
ARCES PcP PcP 23 21 45.3 -1.2
comp=Z,4.4nm,1.0s,baz=28,slow=18,SNR=3.9
TXAR Lajitas Array 58.31 82 P **P 23 20 56.3 -0.7**
comp=Z,0.4nm,0.4s,mb3.8,baz=349,slow=4.6,SNR=2.8
WMQ Urumqi 59.70 303 P **P 23 21 07.5 +1.1**
WMQ AP pP 23 21 15.1 -6.9
WMQ XP sP 23 21 18.4 -10
WMQ PP PP 23 23 21.4 +1.0
WMQ S **S 23 29 15.6 +4.7**
WMQ XS 23 29 28.3
WMQ AMB AMB
comp=Z,5.0nm,1.5s,mb4.3
WMQ AMB AMB
comp=Z,33nm,5.7s
WMQ LR LR
comp=N,245nm,21.1s,MS4.4
WMQ LR LR
comp=E,211nm,22.2s,MS4.4
WMQ LR LR
comp=Z,381nm,22.3s,MS4.5
MIAR Mount Ida 60.82 70 eP **P 23 21 13.0 -1.1**
BVAR Borovoye Array 61.20 320 P **P 23 21 14.4 -2.1**
comp=Z,3.7nm,0.4s,mb4.9,baz=52,slow=5.9,SNR=70
BVAR PcP PcP 23 21 58.1 -0.3
comp=Z,2.2nm,0.6s,baz=63,slow=3.3,SNR=6.9
BRVK Borovoye 61.22 320 eP **P 23 21 15.0 -1.6**
BRVK pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
BRVK Borovoye 61.22 320 eP **P 23 21 15.0 -1.5**
comp=Z,3.4nm,0.5s,mb4.7
SADO Sadowa 61.60 53 P **P 23 21 18.9 -0.4**
comp=Z,6.7nm,0.8s,mb4.8,baz=156,slow=4.4,SNR=3.0
WCI Wyandotte Cave 62.43 63 eP **P 23 21 23.9 -1.0**
WCI e*PP pP 23 21 32.9 -7.7
ARU Arti 62.88 329 ⇓iP **P 23 21 23.4 -4.2**
ARU e 23 22 00.8
ARU eS **S 23 29 50.1 -1.0**
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
JOF Joensuu 63.78 345 ep **P 23 21 30.5 -2.8**
PWV Princeton 65.96 60 eP **P 23 21 47.9 +0.1**
FINES FINESS Array B 65.96 347 P **P 23 21 45.7 -1.7**
comp=Z,5.4nm,0.8s,mb4.6,baz=34,slow=6.9,SNR=12
FINES PcP PcP 23 22 16.6 -1.1
comp=Z,2.8nm,0.8s,baz=56,slow=5.0,SNR=3.3
ELN Prospectdale 66.20 60 eP **P 23 21 48.7 -0.7**
AAK Ala-Archa 67.21 310 iP **P 23 21 53.6 -2.0**
AAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
PMG Port Moresby 67.44 217 P **P 23 21 56.7 -0.8**
comp=Z,11nm,0.9s,mb4.9,baz=266,slow=10,SNR=2.5
NOA NORSAR Array B 67.78 355 P **P 23 21 58.3 -0.5**
comp=Z,1.3nm,0.6s,mb4.2,baz=6.5,slow=6.3,SNR=3.3
LSA Lhasa 67.82 290 P **P 23 22 01.2 +1.6**
LSA Lhasa 67.82 290 eP **P 23 22 01.1 +1.5**
LSA pmax pmax
comp=Z,35nm,0.8s,mb5.4
LSA Lhasa 67.82 290 eP **P 23 22 01.1 +1.5**
comp=Z,35nm,0.8s,mb5.4
JSC Jenkinsville 68.08 62 eP **P 23 22 00.9 -0.3**
JSC e*PP pP 23 22 09.5 -7.7
OBN Obninsk 70.09 340 eP **P 23 22 12.5 -0.7**
OBN pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CMAR Chiang Mai Arr 71.38 276 P **P 23 22 21.4 -0.1**
comp=Z,4.8nm,0.9s,mb4.4,baz=28,slow=6.8,SNR=19
GUN Gumba 72.23 292 eP **P 23 22 27.8 +1.3**
comp=Z,245nm,0.7s
JIRN Jiri 72.24 292 eP **P 23 22 28.0 +1.5**
comp=Z,197nm,0.7s
KKN Kakani 72.67 293 eP **P 23 22 30.2 +1.2**
comp=Z,87nm,0.7s,mb5.8
PKI Pulchoki 72.76 293 eP **P 23 22 30.6 +1.0**
comp=Z,63nm,0.7s,mb5.6
GKN Gorkha 72.88 293 eP **P 23 22 31.1 +0.9**
comp=Z,126nm,1.0s,mb5.8
DMN Daman 72.91 293 eP **P 23 22 31.6 +1.2**
comp=Z,90nm,0.9s,mb5.7
KOLN Koldanda 73.65 294 eP **P 23 22 35.7 +0.9**
comp=Z,65nm,0.9s,mb5.5
KLP Kalpa 73.77 300 eP **P 23 22 35.5 +0.1**
KLP e 23 22 38.3
comp=Z,14nm,1.3s
AKASG Malin Array Be 75.75 342 P **P 23 22 45.4 -1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 75.75 342 P **P 23 22 45.4 -1.0**
comp=Z,2.7nm,0.4s,mb4.5,baz=20,slow=6.0,SNR=15
CLL Collm 77.35 353 eP **P 23 22 56.0 +0.6**
CLL Collm 77.35 353 P **P 23 22 56.0 +0.6**
KUDL Kundal 77.36 299 eP **P 23 22 52.8 -3.1**
KUDL e 23 22 57.0
comp=Z,12nm,1.3s
CTA Charters Tower 77.60 214 P **P 23 22 57.8 +0.5**
comp=Z,5.7nm,0.9s,mb4.5,baz=274,slow=12,SNR=3.0
GOF Gofitskoye 77.63 331 ⇓iP **P 23 22 56.5 -0.5**
GOF pmax pmax
comp=Z,40nm,1.1s,mb5.3
BRG Berggiesshubel 77.70 352 eP **P 23 22 56.1 -1.2**
BRG pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
BRG Berggiesshubel 77.70 352 P **P 23 22 56.1 -1.2**
comp=Z,6.1nm,1.1s,mb4.4
KHET Khetri 77.79 300 eP **P 23 22 56.7 -1.5**
KHET e 23 22 59.1
comp=Z,4.0nm,0.7s
UPC Upice 77.87 351 eP **P 23 21 01.3 +3.1**
KWP Kalwaria 77.89 346 eP **P 23 22 58.9 +0.5**
KWP pmax pmax
comp=Z,23nm,0.9s,mb5.1
KWP Kalwaria 77.89 346 eP **P 23 22 58.9 +0.5**
comp=Z,23nm,0.9s,mb5.1
PRU Pruhonice 78.53 352 eP pP 23 23 10.2 -7.9
PRU Pruhonice 78.53 352 epP pP 23 23 10.2 -7.9
KOLS Kolonicke sedl 78.64 346 iP **P 23 23 02.8 +0.3**
KIV Kislovodsk 78.73 331 iP **P 23 23 03.0 -0.1**
KIV pmax pmax
comp=Z,14nm,1.3s,mb4.7
KIV Kislovodsk 78.73 331 eP **P 23 23 02.1 -1.0**
comp=Z,6.5nm,0.8s,mb4.6
CRVS Cervenica-Dubn 78.79 347 iP **P 23 23 04.7 +1.4**
BAIF Baives 79.02 358 eP **P 23 23 03.9 -0.7**
comp=Z,16nm,1.0s,mb4.6
BAIF Baives 79.02 358 eP **P 23 23 03.9 -0.7**
BAIF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
GRA1 Grafenberg Arr 79.08 354 eP **P 23 23 05.9 +1.0**
comp=Z,4.0nm,0.8s,mb4.4
GRF Grafenberg Arr 79.08 354 eP **P 23 23 05.9 +1.0**
GRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
GRF Grafenberg Arr 79.08 354 eP **P 23 23 05.9 +1.0**
GRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
GRF Grafenberg Arr 79.08 354 eP **P 23 23 05.9 +1.0**
comp=Z,4.0nm,0.8s,mb4.4
ZEI Tsey 79.43 330 iP **P 23 23 07.2 +0.2**

KHC Kasperske Hory 79.46 352 eP **P 23 23 08.1 +1.1**
VYHS Vyhne 79.54 349 iP **P 23 23 08.4 +1.0**
GERES GERESS Array B 79.73 352 P **P 23 23 08.6 +0.1**
comp=Z,2.0nm,0.8s,mb4.1,baz=27,slow=5.4,SNR=13
ZST Bratislava 80.04 350 eP **P 23 23 11.5 +1.4**
TI2 Plekhanov 80.09 329 iP **P 23 23 12.4 +1.9**
FLN La Foliniere 80.32 2 eP **P 23 23 11.1 -0.5**
LDF La Druitiere 80.49 1 eP **P 23 23 12.0 -0.5**
comp=Z,44nm,1.1s,mb5.0
LDF La Druitiere 80.49 1 eP **P 23 23 12.0 -0.5**
LDF pmax pmax
comp=Z,22nm,1.1s,mb5.0
CDF Champ du Feu 80.58 356 eP **P 23 23 12.6 -0.4**
BHPL Bhopal 80.67 295 eP **P 23 23 13.6 -0.4**
BHPL e 23 23 14.9
comp=Z,29nm,1.0s
VRI Vrincioaia 80.87 343 ⇑P **P 23 23 15.3 +0.7**
HAU Haudompre 81.02 357 eP **P 23 23 15.1 -0.2**
comp=Z,42nm,1.4s,mb4.9
HAU Haudompre 81.02 357 eP **P 23 23 15.1 -0.2**
HAU pmax pmax
comp=Z,21nm,1.4s,mb4.9
MLR Muntele Rosu 81.37 343 ⇑P **P 23 23 19.1 +1.9**
GNI Garni 81.52 328 P **P 23 23 19.1 +1.0**
comp=Z,3.1nm,0.8s,mb4.3,baz=9.0,slow=12,SNR=4.4
SSF Saint Saulge 82.03 359 eP **P 23 23 19.7 -0.9**
SSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
SSF Saint Saulge 82.03 359 eP **P 23 23 19.7 -0.9**
comp=Z,4.9nm,0.8s,mb4.5
WRA Warramunga Arr 82.19 224 P **P 23 23 21.4 -0.6**
comp=Z,1.6nm,0.6s,mb4.1,baz=31,slow=5.8,SNR=18
AVF Avril sur Loir 82.30 359 eP **P 23 23 22.3 +0.3**
comp=Z,73nm,1.5s,mb5.1
AVF Avril sur Loir 82.30 359 eP **P 23 23 22.3 +0.3**
AVF pmax pmax
comp=Z,37nm,1.5s,mb5.1
CABF La Chapelle 82.42 357 eP **P 23 23 23.0 +0.4**
comp=Z,125nm,1.8s,mb5.2
CABF La Chapelle 82.42 357 eP **P 23 23 23.0 +0.4**
CABF pmax pmax
comp=Z,63nm,1.8s,mb5.2
SMF Signal de Mont 82.44 359 eP **P 23 23 22.8 +0.1**
comp=Z,50nm,1.2s,mb5.0
SMF Signal de Mont 82.44 359 eP **P 23 23 22.8 +0.1**
SMF pmax pmax
comp=Z,25nm,1.2s,mb5.0
MFF Saint Martin d 82.48 1 eP **P 23 23 23.2 +0.3**
comp=Z,21nm,0.9s,mb4.8
MFF Saint Martin d 82.48 1 eP **P 23 23 23.2 +0.3**
MFF pmax pmax
comp=Z,11nm,0.9s,mb4.8
BGF Bois d'Agland 82.54 359 eP **P 23 23 23.3 +0.1**
comp=Z,29nm,1.1s,mb4.9
BGF Bois d'Agland 82.54 359 eP **P 23 23 23.3 +0.1**
BGF pmax pmax
comp=Z,15nm,1.1s,mb4.9
TCF Toulx Ste Croi 82.81 360 eP **P 23 23 24.7 +0.1**
comp=Z,16nm,1.1s,mb4.7
TCF Toulx Ste Croi 82.81 360 eP **P 23 23 24.7 +0.1**
TCF pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
LPL La Plagne 83.49 356 eP **P 23 23 27.3 -0.8**
LPG La Plagne 83.51 356 eP **P 23 23 27.7 -0.3**
RJF Les Rejaudoux 83.80 0 eP **P 23 23 29.9 +0.4**
ORIF Oris-en-Rattie 84.12 357 eP **P 23 23 31.3 +0.2**
comp=Z,19nm,1.1s,mb4.8
ORIF Oris-en-Rattie 84.12 357 eP **P 23 23 31.3 +0.2**
ORIF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
LFF La Frestale 84.16 1 eP **P 23 23 32.0 +0.7**
comp=Z,16nm,0.7s,mb5.0
LFF La Frestale 84.16 1 eP **P 23 23 32.0 +0.7**
LFF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
CAF Calviac 84.18 360 eP **P 23 23 32.2 +0.8**
comp=Z,11nm,0.8s,mb4.8
CAF Calviac 84.18 360 eP **P 23 23 32.2 +0.8**
CAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
VIVF Saint-Julien-l 84.21 358 eP **P 23 23 32.4 +0.8**
comp=Z,5.5nm,0.8s,mb4.4
VIVF Saint-Julien-l 84.21 358 eP **P 23 23 32.4 +0.8**
VIVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
MBDF Montbardon 84.28 356 eP **P 23 23 33.3 +1.4**
comp=Z,20nm,1.0s,mb4.9
MBDF Montbardon 84.28 356 eP **P 23 23 33.3 +1.4**
MBDF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
HYB Hyderabad 84.59 291 eP **P 23 23 35.0 +0.9**
HYB Hyderabad 84.59 291 iP **P 23 23 35.0 +0.9**
SMRF Simiane la Rot 85.07 357 eP **P 23 23 36.5 +0.6**
comp=Z,25nm,1.0s,mb5.0
SBF Sospel 85.11 356 eP **P 23 23 36.4 +0.3**
comp=Z,66nm,1.0s,mb5.4
SBF Sospel 85.11 356 eP **P 23 23 36.4 +0.3**
SBF pmax pmax
comp=Z,33nm,1.0s,mb5.4
MALT Malatya 85.18 332 eP **P 23 23 37.1 +0.5**
MALT pmax pmax
comp=Z,12nm,1.1s,mb4.9
MALT Malatya 85.18 332 eP **P 23 23 37.1 +0.5**
comp=Z,12nm,1.1s,mb4.9
BRTR Keskin Array B 85.19 336 P **P 23 23 37.0 +0.4**
comp=Z,7.7nm,0.8s,mb4.9,baz=47,slow=2.8,SNR=42
FRF La Foret Royal 85.45 356 eP **P 23 23 38.2 +0.4**
comp=Z,12nm,0.8s,mb4.8
FRF La Foret Royal 85.45 356 eP **P 23 23 38.2 +0.4**
FRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
ASAR Alice Springs 85.66 223 P **P 23 23 39.7 +0.4**
comp=Z,3.5nm,0.9s,mb4.6,baz=26,slow=4.7,SNR=19
LMR La Mourre 85.68 357 eP **P 23 23 39.5 +0.6**
comp=Z,10.0nm,0.8s,mb4.8
LMR La Mourre 85.68 357 eP **P 23 23 39.5 +0.6**
LMR pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
MTLF Montolieu 85.76 360 eP **P 23 23 40.1 +0.8**
comp=Z,8.8nm,0.7s,mb4.8
MTLF Montolieu 85.76 360 eP **P 23 23 40.1 +0.8**
MTLF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
SJPF Ste Jean 85.95 2 eP **P 23 23 41.4 +1.1**
comp=Z,13nm,0.8s,mb4.9
SJPF Ste Jean 85.95 2 eP **P 23 23 41.4 +1.1**
SJPF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
ETSF Etsaut 86.18 2 eP **P 23 23 42.5 +1.1**
comp=Z,14nm,0.8s,mb4.9
ETSF Etsaut 86.18 2 eP **P 23 23 42.5 +1.1**
ETSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
AQU L'Aquila 86.20 351 eP **P 23 23 42.2 +0.7**
AQU pmax pmax
comp=Z,13nm,0.9s,mb5.2
AQU L'Aquila 86.20 351 eP **P 23 23 42.2 +0.7**
comp=Z,13nm,0.9s,mb5.2
PGF Pioggiola 86.34 355 eP **P 23 23 42.6 +0.4**
comp=Z,28nm,0.7s,mb5.3
PGF Pioggiola 86.34 355 eP **P 23 23 42.6 +0.4**
PGF pmax pmax
comp=Z,14nm,0.7s,mb5.3
POO Poona 86.42 295 eP **P 23 23 40.3 -2.8**
POO e 23 23 44.6
comp=Z,20nm,0.5s
BOM Bombay 86.72 296 eP **P 23 23 38.6 -5.9**
BOM e 23 23 45.8
comp=Z,66nm,0.6s
CII Carovilli 86.73 351 eP **P 23 23 45.0 +0.9**
comp=Z,8.5nm,0.9s,mb5.0
SJG San Juan 89.08 62 P **P 23 23 56.8 +0.9**
comp=Z,18nm,1.0s,mb5.3,baz=350,slow=6.9,SNR=2.6
ESDC Sonseca Array 89.28 4 P **P 23 23 56.4 0.0**
comp=Z,1.8nm,0.6s,mb4.6,baz=346,slow=4.1,SNR=12
STKA Stephens Creek 90.04 213 P **P 23 24 01.0 +0.9**
comp=Z,4.7nm,0.8s,mb4.9,baz=356,slow=5.5,SNR=8.3
ASF Jabal al Asfar 91.34 331 P **P 23 24 06.1 -0.1**
comp=Z,2.9nm,0.8s,mb4.7,baz=244,slow=5.8,SNR=6.1
IDI Anoyia 91.44 341 P **P 23 24 08.3 +1.7**
comp=Z,2.3nm,1.0s,mb4.5,baz=6.7,slow=20,SNR=3.7
DBIC Dimbokro 122.00 8 PKP PKPdf 23 29 55.3 +1.3
comp=Z,1.8nm,0.5s,baz=292,slow=1.7,SNR=13
MAW Mawson 146.63 218 PKPbc PKPbc 23 30 41.1 +2.0
comp=Z,5.0nm,0.8s,baz=86,slow=5.2,SNR=6.6
BOSA Boshof 151.31 313 ePKIKP PKPdf 23 30 54.7 +8.3

IDC 12 23:17:02.2±1.2, 55.21S×28.26W, mb4.0/3, mb1 4.2/3, mb1mx3.9/12, mbtmp4.0/3, Error ellipse: s-maj=58.3km s-min=25.3km az=55.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	Villa Florida	35.80	312	P	P	23 24 02.2	-2.8
	0.0nm,0.6s,baz=222,slow=11,SNR=1.9						
LVC	Limon Verde	44.35	301	P	P	23 25 15.5	-0.2
	1.0nm,0.5s,baz=126,slow=8.8,SNR=3.8						
VNDA	Vanda	47.38	183	P	P	23 25 37.0	-2.1
	1.2nm,0.6s,baz=182,slow=7.3,SNR=13						
LPAZ	La Paz	49.40	306	P	P	23 25 53.6	-1.9
	2.3nm,0.8s,baz=170,slow=7.3,SNR=7.1						
YKA	Yellowknife Ar	135.14	319	PKP	PKPdf	23 36 22.2	-2.1
	0.3nm,0.7s,baz=124,slow=2.2,SNR=4.5						
ILAR	Eielson Array	149.10	313	PKPbc	PKPdf	23 36 50.0	+1.7
	2.2nm,0.5s,baz=118,slow=1.7,SNR=32						
SONM	Songino Array	151.27	86	PKPbc	PKPdf	23 36 56.7	+4.4
	1.0nm,0.7s,baz=241,slow=2.8,SNR=9.1						

IDC 12 23:25:02.1±1.1, 2.16N×100.28W, mb4.2/12, mb1 4.4/12, mb1mx4.3/19, mbtmp4.2/12, MS3.6/4, Ms1 3.6/4, ms1mx2.9/18, Error ellipse: s-maj=35.3km s-min=16.1km az=46.0

NEIC 12 23:25:03.7±0.8, 2.14N×100.35W, h10km, mb4.2/2, Error ellipse: s-maj=26.2km s-min=11.3km az=222.0

ISC 12 23:25:02.9±1.3, 2.3N±0.2×100.2W±0.2, h10km, n20, σ1§11/18, mb4.1/13, MS3.5/4, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	Otavalo	21.84	95	eP	P	23 30 00.4	+2.8
	22nm,1.6s,mb4.3						
ROSC	El Rosal	25.95	84	P	P	23 30 37.0	-0.5
	3.1nm,0.4s,mb4.2,baz=90,slow=21,SNR=2.4						
TXAR	Lajitas Array	27.11	353	P	P	23 30 49.3	+1.3
	2.7nm,0.9s,mb3.8,baz=186,slow=11,SNR=8.0						
TXAR				LR	LR	23 40 41.6	
	comp=Z,145nm,18.3s,MS3.6,baz=155,slow=34						
SDV	Santo Domingo	30.14	76	P	P	23 31 14.8	-0.7
	1.7nm,0.5s,mb4.1,baz=71,slow=16,SNR=2.9						
ANMO	Albuquerque	33.02	351	P	P	23 31 41.1	+0.6
	0.4nm,0.4s,mb3.8,baz=120,slow=4.5,SNR=3.3						
LPAZ	La Paz	36.67	121	P	P	23 32 11.9	0.0
	1.5nm,0.9s,mb3.8,baz=341,slow=9.3,SNR=4.1						
LPAZ				LR	LR	23 45 50.6	
	comp=Z,39nm,19.0s,MS3.2,baz=330,slow=34						
LPAZ	La Paz	36.67	121	eP	P	23 32 12.8	+0.8
	3.6nm,1.4s,mb4.0						
LPAZ				LR	LR	23 45 50.6	
NVAR	Mina Array Bea	39.61	337	P	P	23 32 37.6	+1.2
	1.0nm,0.8s,mb3.6,baz=145,slow=8.3,SNR=7.1						
PDAR	Pinedale Array	41.17	350	P	P	23 32 49.6	+0.5
	2.5nm,1.0s,mb3.8,baz=158,slow=8.0,SNR=12						
PDAR				LR	LR	23 48 11.6	
	comp=Z,78nm,19.1s,MS3.6,baz=154,slow=34						
MCMT	McKenzie Canyo	43.82	347	eP	P	23 33 12.7	+1.9
YBH	Yreka Blue Hor	44.18	336	P	P	23 33 13.5	-0.3
	baz=149,slow=5.9						
CPUP	Villa Florida	50.23	127	P	P	23 34 01.5	+0.1
	0.0nm,0.3s,baz=231,slow=15,SNR=1.7						
CPUP	Villa Florida	50.23	127	P	P	23 34 01.5	+0.1
SCHQ	Schefferville	59.00	22	P	P	23 35 04.4	-0.7
	3.3nm,0.9s,mb4.4,baz=201,slow=19,SNR=2.8						
YKA	Yellowknife Ar	61.03	352	P	P	23 35 17.2	-1.6
	3.5nm,1.1s,mb4.4,baz=159,slow=6.6,SNR=14						
YKA				LR	LR	00 02 01.5	
	comp=Z,59nm,18.1s,MS3.8,baz=160,slow=36						
FRB	Frobisher Bay	65.56	15	P	P	23 35 47.5	-1.2
	2.1nm,0.8s,mb4.2,baz=146,slow=7.0,SNR=3.2						
INK	Inuvik	69.69	347	P	P	23 36 13.5	-1.1
	7.3nm,1.2s,mb4.5,baz=137,slow=7.5,SNR=7.2						
ILAR	Eielson Array	70.76	341	P	P	23 36 19.9	-1.2
	2.7nm,0.8s,mb4.2,baz=155,slow=4.7,SNR=30						
WRA	Warramunga Arr	123.97	248	PKP	PKPdf	23 44 01.9	-3.6
	0.7nm,0.8s,baz=114,slow=0.3,SNR=5.0						
CMAR	Chiang Mai Arr	152.07	318	PKPbc	PKPdf	23 45 00.1	+4.3
	1.0nm,0.4s,baz=355,slow=1.2,SNR=5.5						

MOS 12 23:25:18.6±0.4, 36.73N×71.61E, h65km, mb4.0/1, Error ellipse: s-maj=41.6km s-min=14.3km az=90.4

NEIC 12 23:25:18.5±3.5, 36.65N×71.44E, h50km±28km, mb3.3/2, Error ellipse: s-maj=28.9km s-min=14.4km az=210.0

IDC 12 23:25:20.6±11.0, 36.67N×71.49E, h69km±96km, mb3.3/6, mb1 3.6/8, mb1mx3.4/18, mbtmp3.6/8, ML3.8/2, Error ellipse: s-maj=54.0km s-min=24.6km az=28.0

NNC 12 23:25:28.9±7.5, 37.11N×71.68E, h122km±138km, mpv4.2, Error ellipse: s-maj=269.6km s-min=76.2km az=109.0

ISC 12 23:25:21.2±2.0, 36.71N±0.09×71.5E±0.2, h91km±17km, n35, σ0§81/37, mb3.5/7, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.67	17	P	P	23 26 44.9	+0.3
	SNR=388						
UCH	Uchtor	5.98	22	P	P	23 26 49.5	+0.8
	SNR=19						
KZA	Kyzart	6.10	27	P	P	23 26 50.7	+0.4
	SNR=28						
EKS2	Erkin-Say	6.20	16	P	P	23 26 52.3	+0.5
	SNR=70						
AAK	Ala-Archa	6.35	20	⇑P	P	23 26 54.4	+0.5
	10nm,0.4s						
AAK				⇑S	S	23 28 01.7	-3.9
	13nm,0.7s						
AAK	Ala-Archa	6.35	20	P	P	23 26 54.4	+0.5
	SNR=46						
AAK	Ala-Archa	6.35	20	ePN	P	23 26 51.1	-2.8
AAK				pmax	pmax		
	comp=Z,18nm,0.4s						
AAK	Ala-Archa	6.35	20	eP	P	23 26 51.0	-2.8
	comp=Z,18nm,0.4s						
AAK				eS	S	23 27 57.9	-7.7
KBK	Karagaybulak	6.51	23	P	P	23 26 57.1	+1.1
	SNR=9.1						
ULHL	Ulahol	6.64	32	P	P	23 26 58.7	+0.9
	SNR=11						
CHMS	Chumysh	6.76	21	P	P	23 26 59.6	0.0
	SNR=36						
USP	Ospenovka	6.94	18	P	P	23 27 01.6	-0.5
	SNR=21						
TKM2	Tokmak 2	6.96	26	P	P	23 27 02.5	+0.2
	SNR=16						
MK31	Makanchi Array	12.89	35	P	P	23 28 22.1	0.0
	comp=Z,0.8nm,0.8s,baz=221,slow=14,SNR=10						
KOLN	Koldanda	13.57	128	eP	P	23 28 31.1	+0.1
	comp=Z,3.1nm,0.3s						
GKN	Gorkha	14.09	124	eP	P	23 28 37.4	-0.3
KKN	Kakani	14.66	123	eP	P	23 28 41.4	-3.7
GUN	Gumba	14.99	122	eP	P	23 28 49.1	-0.2
JIRN	Jiri	15.36	122	eP	P	23 28 53.4	-0.6
	comp=Z,10nm,0.5s						
BVAR	Borovoye Array	16.33	358	P	P	23 29 04.2	-1.8
	comp=Z,0.3nm,0.3s,baz=158,slow=11,SNR=16						
BVAR				S	S	23 31 56.7	-7.0
	comp=Z,0.1nm,0.3s,baz=168,slow=23,SNR=4.7						
BRVK	Borovoye	16.37	357	⇓P	P	23 29 05.4	-1.1
	comp=Z,16nm,4.0s						
BRVK	Borovoye	16.37	357	eP	P	23 29 05.5	-1.0
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.6s						
BRVK	Borovoye	16.37	357	eP	P	23 29 05.5	-1.0
	comp=Z,5.2nm,1.6s						
CHKZ	Chkalovo	16.98	358	⇓P	P	23 29 14.4	+0.4
	comp=Z,46nm,4.3s						
CHKZ	Chkalovo	16.98	358	eP	P	23 29 12.4	-1.6
CHKZ				pmax	pmax		
	comp=Z,2.0nm,1.2s						
CHKZ	Chkalovo	16.98	358	eP	P	23 29 12.3	-1.6
	comp=Z,2.1nm,1.2s						
ZAL	Zalesovo	19.54	24	P	P	23 29 42.9	-1.0
	comp=Z,0.8nm,0.3s,baz=157,slow=4.9,SNR=7.9						
SONM	Songino Array	27.89	56	P	P	23 31 05.1	+0.7
	comp=Z,0.1nm,0.4s,mb2.7,baz=119,slow=16,SNR=2.6						
FINES	FINESS Array B	37.53	326	P	P	23 32 28.7	+1.0
	comp=Z,20nm,1.4s,mb4.8,baz=117,slow=9.3,SNR=3.8						
ARCES	ARCESS Array B	41.10	337	P	P	23 32 57.3	+0.2
	comp=Z,3.5nm,0.9s,mb4.2,baz=90,slow=9.9,SNR=3.6						
GERES	GERESS Array B	43.13	305	P	P	23 33 14.3	+0.4
	comp=Z,0.1nm,0.4s,mb2.9,baz=38,slow=11,SNR=2.1						
YKA	Yellowknife Ar	81.02	3	P	P	23 37 26.9	+0.1
	comp=Z,0.1nm,0.4s,mb3.0,baz=349,slow=5.5,SNR=4.1						
WRA	Warramunga Arr	81.77	122	P	P	23 37 31.7	0.0
	comp=Z,0.4nm,0.4s,mb3.6,baz=325,slow=4.9,SNR=7.2						
ASAR	Alice Springs	84.05	125	P	P	23 37 43.8	+0.6
	comp=Z,1.0nm,0.9s,mb3.6,baz=310,slow=4.8,SNR=6.6						
TAOE	Nuku Hiva Isla	140.10	54	eLR	LR	23 41 26.6	

ATH 12 23:53:14.0, 36.96N×28.13E, h30km±18km, MD3.2/4

NEIC 12 23:53:14.0, 36.96N×28.13E, h30km, MD3.2(ATH), After ATH.

CSEM 12 23:53:15.6±0.1, 36.99N×27.93E, h20km, MD3.2, Error ellipse: s-maj=3.3km s-min=2.5km az=34.0

ISK 12 23:53:15.3, 36.96N×27.90E, h23km, MD3.2

ISC 12 23:53:15.1±0.7, 36.88N±0.04×27.88E±0.04, h10km±5km, n17, σ1§20/24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.39	298	iP	Pg	23 53 23.3	+0.2
BDRM				iS	Sg	23 53 29.6	+1.1
MLSB	Milas	0.42	349	PG	Pg	23 53 22.7	-0.9
DALT	Dalyan (Mudla)	0.62	100	iPG	Pg	23 53 28.2	+0.7
DALT				SG	Sg	23 53 37.8	+1.9
NISR	Nisiros	0.66	246	ePN	Pn	23 53 29.9	-0.2
ARG	Arkhangelos	0.70	163	ePN	Pn	23 53 29.8	-0.8
AYDN	Tasoluk	0.78	0	iP	Pb	23 53 29.3	-0.8
AYDN				iS	Sb	23 53 38.9	-1.5
FETY	Fethiye	1.00	104	iPG	Pg	23 53 33.9	-1.2
SMG	Samos	1.17	315	ePB	Pb	23 53 36.9	0.0
SMG				eSN	Sn	23 53 55.7	+2.2
DNZL	Cakiroluk	1.23	49	P	Pb	23 53 37.5	-0.4
DNZL				S	Sb	23 53 55.6	+1.9
DENT	Denizli	1.27	46	ePN	Pn	23 53 37.4	-1.4
KARP	Karpathos	1.46	204	ePN	Pn	23 53 42.4	+0.9
IZM	Izmir	1.59	342	ePN	Pn	23 53 41.9	-1.5
KDAG	Bornova	1.59	342	P	Pn	23 53 44.7	+1.2
KDAG				S	Sb	23 54 07.2	+3.0
BLCB	Balcova	1.64	336	ePN	Pn	23 53 43.4	-0.7
MANT	Manisa	1.69	18	P	Pn	23 53 44.2	-0.7
MANT				S	Sn	23 54 08.1	+1.3
APE	Apeiranthos	1.89	276	ePN	Pn	23 53 47.7	0.0
AKS	Akhisar	1.99	359	PN	Pn	23 53 47.8	-1.4

NEIC 12 23:55:09.1, 28.75S×70.49W, h84km±8km, MD3.5(GUC), After GUC.

GUC 12 23:55:09.1±0.7, 28.75S×70.49W, h84km±8km, MD3.5, ML3.8, 1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	Vallenar	0.29	306	⇓iP	P	23 55 22.3	+0.4
VACH				iS	S	23 55 31.6	+0.1
VACH				AMP		23 55 32.2	
	comp=N,13μm,0.1s						
LSCH	La Serena	1.33	209	eP	P	23 55 32.9	0.0
LSCH				iS	S	23 55 50.4	-0.2
LSCH				AMP		23 55 52.9	
	comp=E,577nm,0.6s						
CPCH	Copiapo	1.39	5	eP	P	23 55 33.4	-0.2
CPCH				iS	S	23 55 52.2	+0.3
CPCH				AMP		23 55 55.4	
	comp=E,12μm,0.1s						
TLL	Tololo Astrono	1.44	191	eP	P	23 55 34.8	+0.4
TLL				iS	S	23 55 54.4	+1.4
TLL				AMP		23 56 00.2	
	comp=N,439nm,0.3s						
CMCH	Combarbala	2.46	190	eP	P	23 55 47.8	-0.3
CMCH				iS	S	23 56 17.8	+0.6
CMCH				AMP		23 56 25.4	
	comp=E,692nm,0.8s						
FCH	Farellones	4.57	178	eP	P	23 56 16.8	-0.5

MAN 13 00:07:17.5, 5.78N×126.29E, h1km, mb5.6, ML4.6, MS5.0

MOS 13 00:07:20.1±1.3, 5.84N×126.00E, h45km, mb5.3/19, Error ellipse: s-maj=24.0km s-min=8.6km az=107.1

BJI 13 00:07:22.5, 5.75N×126.49E, h69km, mB5.5, mb5.1, Ms4.9, Msz4.8

HRVD 13 00:07:22.1±0.2, 5.93N×126.43E, h24km, MW5.4/66, Centroid moment Tensor Solution. LP body waves: s62, c110; Mantle waves: s66, c133; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.13±.03; $M_{\theta\theta}$0.42±.02; $M_{\phi\phi}$-1.55±.03; $M_{r\theta}$0.70±.04; $M_{\theta\phi}$0.06±.02; $M_{\phi r}$0.89±.05; Best double couple: $M_0$1.793×10^{17} NP1:φs151°, δ35°, λ43°. NP2:φs24°, δ67°, λ117°. Principal axes: T 1.755, Plg59°, Azm332°; N .073, Plg25°, Azm193°; P -1.831, Plg18°, Azm94°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC 13 00:07:22.1±0.2, 6.04N×126.30E, mb5.0/30 Error ellipse: s-maj=12.2km s-min=5.4km az=74.0

IDC 13 00:07:22.8±4.0, 5.97N×126.40E, h49km±37km, mb4.5/21, mb1 4.6/21, mb1mx4.6/22, mbtmp4.7/21, ML5.4/1, MS4.7/19, Ms1 4.7/19, ms1mx4.6/24, Error ellipse: s-maj=22.8km s-min=11.2km az=80.0

ISC 13 00:07:20.2±0.2, 5.88N±0.03×126.46E±0.04, h43km, h43km±1.5km: pP-P, n186, σ1§34/183, mb4.9/63, MS4.7/32, 8C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.07	349	eP	P	00 07 37.8	-1.2
MATI				eS	S	00 07 59.8	+6.8
DAV	Davao City (W)	1.47	324	⇓iP	P	00 07 45.5	+0.9
KCP	Kidapawan	1.76	310	⇓eP	P	00 07 51.0	+2.3
KCP				iS	S	00 08 11.9	+1.8
BIPH	Bislig	2.29	358	⇑iP	P	00 07 59.0	+2.7
BIPH				iS	S	00 08 33.6	+10
BUKP	Musuan	2.42	325	eP	P	00 07 58.6	+0.5
BUKP				eS	S	00 08 30.5	+3.8
CGP	Cagayan de Oro	3.10	326	eP	P	00 08 08.2	+0.4
CGP				eS	S	00 08 50.0	+6.1
BUTP	Butuan	3.17	345	eP	P	00 08 11.2	+2.3
BUTP				eS	S	00 09 02.1	+16
PAGZ	Pagadian	3.62	303	eP	P	00 08 14.4	-0.9
SCPH	Surigao	3.99	346	⇑eP	P	00 08 21.2	+0.8
DCPH	Dipolog City	4.08	311	⇑eP	P	00 08 22.7	+0.9
IPIL	Ipil	4.30	296	eP	P	00 08 24.3	-0.5
MSLP	Maasin	4.51	340	eP	P	00 08 30.1	+2.3
TBP	Tagbilaran	4.57	326	eP	P	00 08 28.4	-0.3
SNPH	Sibulan	4.69	317	eP	P	00 08 40.5	+10
LLP	Lapu-Lapu	5.05	331	iP	P	00 08 35.7	+0.4
LLP				eS	S	00 09 26.8	-6.4
OCLP	Ormoc	5.45	341	eP	P	00 08 43.9	+3.0
BESP	Borongan	5.77	350	eP	P	00 08 49.3	+3.9
GUIM	Jordan	6.07	321	eP	P	00 08 50.5	+0.8
RCP	Roxas	6.73	327	eP	P	00 08 58.2	-0.7
CUYO	Cuyo Island	7.30	313	eP	P	00 09 07.1	+0.2
OTRP	Odiongan	7.79	326	eP	P	00 09 15.3	+1.7
PVCP	Virac	7.99	344	eP	P	00 09 18.4	+1.9
AUQP	San Andres	8.28	334	eP	P	00 09 30.3	+10
SJMP	San Jose	8.39	322	eP	P	00 09 30.9	+8.9
BUSP	Coron	8.67	315	eP	P	00 09 27.7	+1.8
ENPP	El Nido	8.73	308	eP	P	00 09 24.9	-1.8
BOAC	Boac	8.79	329	eP	P	00 09 32.2	+4.7
BATP	Bataraza	9.06	289	eP	P	00 09 33.0	+1.8
LQP	Lukban	9.50	330	⇓eP	P	00 09 42.6	+5.2
TGY	Tagaytay City	9.81	327	P	P	00 09 46.8	+5.1
	38nm,0.3s,baz=349,slow=20,SNR=15						
TGY				LR	LR	00 14 16.9	
	comp=Z,7μm,18.8s,baz=176,slow=43						
POLP	Polillo Island	9.85	334	eP	P	00 09 43.4	+1.2
LUBP	Lubang	9.91	322	eP	P	00 09 46.5	+3.4
BALP	Baler	10.90	334	eP	P	00 10 07.5	+11
SCZP	Santa Cruz	11.74	327	eP	P	00 10 06.8	-1.1
BOLP	Bolinao	12.24	329	eP	P	00 10 29.2	+14
APYP	Conner	12.95	337	eP	P	00 10 34.6	+11
ABRA	Dolores	12.97	335	eP	P	00 10 29.3	+4.8
KAKA	Kakadu	19.41	162	eP	P	00 11 46.5	+0.9
	84nm,0.6s						
QIZ	Qiongzhong	20.80	310	P	P	00 11 59.9	-0.5
QIZ				S	S	00 15 43.0	-2.1
QIZ				LR	LR		
	comp=N,1μm,18.7s						
QIZ				LR	LR		
	comp=Z,2μm,25.2s						
QIZ	Qiongzhong	20.80	310	eP	P	00 11 57.9	-2.4
	comp=Z,59nm,0.9s						
JOW	Kunigami	20.91	5	P	P	00 12 01.6	+0.3
	comp=Z,7.3nm,0.5s,baz=222,slow=14,SNR=2.4						
JOW				LR	LR	00 18 49.3	
	comp=Z,2μm,21.9s,MS4.4,baz=348,slow=33						
FITZ	Fitzroy Crossi	23.85	182	eP	P	00 12 33.1	+2.6
	comp=Z,51nm,0.5s,mb5.2						
SSE	Sheshan	25.56	349	P	P	00 12 45.8	-1.2
SSE				S	S	00 17 13.0	+3.8
SSE				AMB	AMB		
	comp=Z,43nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,441nm,9.7s						
SSE				LR	LR		
	comp=N,438nm,25.3s,MS4.3						
SSE				LR	LR		
	comp=E,1μm,25.3s,MS4.3						
SSE				LR	LR		
	comp=Z,685nm,19.7s						
CBIJ	Chichi jima	25.87	34	P	P	00 12 48.3	-1.6
	comp=Z,97nm,0.5s,mb5.6,baz=283,slow=22,SNR=4.1						
CBIJ				LR	LR	00 21 15.0	
	comp=Z,1μm,20.2s,MS4.4,baz=238,slow=32						
WRAB	Tennant Creek	26.80	163	eP	P	00 13 00.5	+2.0
WRAB				pmax	pmax		
	comp=Z,21nm,0.6s,mb4.8						
WRAB	Tennant Creek	26.80	163	eP	P	00 13 00.5	+1.9
	comp=Z,21nm,0.6s,mb4.8						
WRA	Warramunga Arr	26.81	163	P	P	00 12 58.8	+0.2
	comp=Z,16nm,0.7s,mb4.7,baz=341,slow=10,SNR=32						
WRA				ScP		00 19 59.1	
	comp=Z,1.9nm,0.7s,baz=344,slow=3.1,SNR=4.8						
WB2	Warramunga Arr	26.81	163	eP	P	00 13 01.5	+2.9
NJ2	Nanjing	26.99	346	eP	P	00 13 03.9	+3.8
NJ2				AP	pP	00 13 13.4	+1.9
NJ2				PP	PP	00 13 53.1	+6.4
NJ2				PPP	PPP	00 14 03.2	+4.4
NJ2				S	S	00 17 39.0	+6.4
NJ2				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,2μm,6.2s						
NJ2				LR	LR		
	comp=N,2μm,16.5s						
NJ2				LR	LR		
	comp=E,2μm,29.0s						
NJ2				LR	LR		
	comp=Z,2μm,21.1s,MS4.6						
WHN	Wuhan	27.05	337	eP	P	00 13 03.7	+3.1
WHN				S	S	00 17 30.0	-3.5
WHN				LR	LR		
	comp=Z,7μm,22.7s,MS5.2						
NST	Nakhon Sawan	27.59	293	P	P	00 13 07.0	+1.2
MBWA	Marble Bar	27.67	194	eP	P	00 13 07.2	+0.7
	comp=Z,56nm,0.9s,mb5.2						
ENH	Enshi	29.05	329	eP	P	00 13 17.1	-1.6
	comp=Z,58nm,1.4s,mb5.1						
CHRT	Chiangrai	29.42	301	⇑P	P	00 13 22.5	+0.5
CMAR	Chiang Mai Arr	29.60	297	P	P	00 13 23.2	-0.4
	comp=Z,2.8nm,0.7s,mb4.1,baz=121,slow=8.1,SNR=9.0						
CMAR				PcP	PcP	00 16 28.4	+0.5
	comp=Z,2.3nm,0.7s,baz=128,slow=1.5,SNR=6.5						
CMAR				ScP		00 20 08.2	
	comp=Z,2.1nm,0.8s,baz=117,slow=1.8,SNR=6.8						
CMAR				LR	LR	00 27 08.5	
	comp=Z,722nm,18.9s,MS4.3,baz=100,slow=40						
ASPA	Alice Springs	30.25	166	eP	P	00 13 31.6	+2.1
ASAR	Alice Springs	30.26	166	P	P	00 13 29.7	+0.2
	comp=Z,2.6nm,0.4s,mb4.3,baz=342,slow=6.9,SNR=17						
ASAR				PcP	PcP	00 16 29.8	+0.3
	comp=Z,9.1nm,0.6s,baz=348,slow=2.3,SNR=13						
CTA	Charters Tower	32.33	143	eP	P	00 13 50.6	+2.8
	comp=Z,13nm,0.7s,mb4.9						
CTA	Charters Tower	32.33	143	LR	LR	00 28 34.2	
	comp=Z,963nm,19.3s,MS4.5,baz=324,slow=39						
CTAO	Charters Tower	32.33	143	eP	P	00 13 49.3	+1.5
	comp=Z,16nm,0.8s,mb4.9						
XAN	Xi'an	32.39	332	P	P	00 13 49.0	+0.8
XAN				AMB	AMB		
	comp=Z,87nm,0.9s,mb5.6						
XAN				LR	LR		
	comp=N,1μm,26.9s,MS4.6						
XAN				LR	LR		
	comp=E,1μm,24.0s,MS4.6						
XAN				LR	LR		
	comp=Z,3μm,26.0s,MS4.8						
SNY	Shenyang	35.88	356	⇓P	P	00 14 18.6	+0.5
SNY				S	S	00 19 51.6	-0.7
SNY				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
SNY				LR	LR		
	comp=N,1μm,21.5s,MS4.6						
SNY				LR	LR		
	comp=E,870nm,26.4s,MS4.6						
SNY				LR	LR		
	comp=Z,940nm,18.2s						
FORT	Forrest	36.49	178	eP	P	00 14 23.8	+0.5
	comp=Z,107nm,0.6s						
LZH	Lanzhou	36.53	328	eP	P	00 14 21.6	-2.0
LZH				PCP	PcP	00 16 51.4	+4.5
LZH				S	S	00 19 59.0	-3.2
LZH				AMB	AMB		
	comp=Z,83nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,200nm,5.1s						
LZH				LR	LR		
	comp=N,2μm,17.4s						
LZH				LR	LR		
	comp=Z,3μm,18.4s,MS5.1						
SHL	Shillong	38.41	304	eP	P	00 14 39.0	-0.4
SHL				eS	S	00 20 36.0	+4.9
MDJ	Mudanjiang	38.68	4	P	P	00 14 42.7	+1.3
MDJ				PP	PP	00 16 12.2	-1.9
MDJ				S	S	00 20 34.1	-0.8
MDJ				PCS		00 20 42.4	
MDJ				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,192nm,10.3s						
MDJ				LR	LR		
	comp=N,577nm,19.5s,MS4.6						
MDJ				LR	LR		
	comp=E,765nm,24.4s,MS4.6						
MDJ				LR	LR		
	comp=Z,775nm,22.2s,MS4.5						
MDJ	Mudanjiang	38.68	4	eP	P	00 14 41.4	0.0
	comp=Z,18nm,0.8s,mb4.9						
NWAO	Narrogin (SRO)	39.58	192	P	P	00 14 49.8	+0.7
	comp=Z,15nm,0.4s,mb5.0,baz=27,slow=9.6,SNR=18						
NWAO	Narrogin (SRO)	39.58	192	eP	P	00 14 51.8	+2.8
	comp=Z,53nm,1.1s,mb5.2						
STKA	Stephens Creek	40.23	160	eP	P	00 14 55.4	+1.0
	comp=Z,30nm,0.7s,mb5.1						
STKA	Stephens Creek	40.23	160	P	P	00 14 56.1	+1.6
	comp=Z,14nm,0.7s,mb4.8,baz=335,slow=7

TLY *e*S **S** **00 23 12.2 +1.8**
TLY *e*SS ScS 00 25 59.0 +6.3
TLY pmax pmax
comp=Z,15nm,0.9s,mb5.0
TLY MLR MLR
comp=Z,441nm,17.0s,MS4.5
IRK Irkutsk 49.71 342 *e*P **P** **00 16 09.8 -0.2**
MOY Mondy 50.28 340 *e*P **P** **00 16 15.6 +1.2**
WMQ Urumqi 50.82 324 *e*P **P** **00 16 18.4 -0.2**
WMQ PP PP 00 18 15.5 -0.3
WMQ S **S** **00 23 28.3 -1.7**
WMQ AMB AMB
comp=Z,14nm,1.6s,mb4.6
WMQ AMB AMB
comp=Z,81nm,5.6s
WMQ LR LR
comp=N,1μm,20.1s,MS5.0
WMQ LR LR
comp=E,965nm,21.1s,MS5.0
WMQ LR LR
comp=Z,1μm,21.1s,MS5.0
CLNS Chul'man 50.83 359 *e*P **P** **00 16 17.8 -0.7**
CLNS *e*PPP PPP 00 19 12.2 -3.1
CLNS *e*S **S** **00 23 31.0 +1.1**
CLNS pmax pmax
comp=Z,34nm,0.7s,mb5.4
CLNS pmax pmax
comp=N,12nm,0.8s
CLNS pmax pmax
comp=E,4.0nm,0.7s
CLNS pmax pmax
comp=Z,12nm,0.9s,mb4.8
CLNS pmax pmax
comp=N,6.0nm,1.1s
CLNS smax
comp=N,5.0nm,1.0s
DDI Dehra Dun 51.52 304 *e* **P** **00 16 21.1 -2.9**
NDI New Delhi 51.73 302 *e* **P** **00 16 23.0 -2.7**
BOD Bodaibo 52.71 352 *e*P **P** **00 16 31.9 -0.6**
PET Petropavlovsk 53.87 23 *e*P **P** **00 16 43.7 +2.5**
PET *e*S **S** **00 24 11.7 +0.2**
PET *e*SS SS 00 27 50.7 -1.6
PET pmax pmax
comp=Z,100nm,9.2s
PET smax
comp=N,800nm,22.2s
YAK Yakutsk 56.08 2 *e*P **P** **00 16 58.2 +1.1**
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=Z,13nm,0.9s,mb5.0
YAK Yakutsk 56.08 2 *e*P **P** **00 16 56.0 -1.1**
comp=Z,35nm,0.8s,mb5.4
YAK *e*pP pP 00 17 09.7 +0.2
MA2 Magadan 56.70 15 *e*P **P** **00 17 02.8 +1.2**
MA2 *e*S **S** **00 24 53.6 +4.4**
MA2 *e*SS SS 00 28 38.5 +0.3
MA2 pmax pmax
comp=Z,500nm,27.0s
MA2 MLR MLR
comp=Z,800nm,24.0s,MS4.7
ZAL Zalesovo 58.56 333 P **P** **00 17 14.6 -0.2**
comp=Z,4.9nm,0.3s,mb5.0,baz=263,slow=6.1,SNR=20
ZAL LR LR 00 44 34.4
comp=Z,1μm,21.1s,MS5.0,baz=246,slow=38
AAK Ala-Archa 58.59 317 *i* P **P** **00 17 13.7 -1.5**
AAK pmax pmax
comp=Z,3.0nm,1.8s,mb4.0
AAK Ala-Archa 58.59 317 *e*P **P** **00 17 12.5 -2.7**
comp=Z,1.0nm,0.6s,mb4.0
AAK *e*pP pP 00 17 24.7 -2.8
NVS Novosibirsk 59.84 333 *i* P **P** **00 17 22.0 -1.6**
NVS *i* S **S** **00 25 32.0 +1.7**
NVS pmax pmax
comp=Z,35nm,1.8s,mb5.1
NVS pmax pmax
comp=N,22nm,1.6s
NVS pmax pmax
comp=E,27nm,1.6s
NVS pmax pmax
comp=Z,52nm,2.9s,mb5.0
NVS pmax pmax
comp=E,2.0nm,1.2s
NVS pmax pmax
comp=N,8.0nm,1.4s
NVS smax
comp=N,17nm,2.1s
NVS smax
comp=E,36nm,3.0s
FX1 Attu Island--F 60.37 30 P **P** **00 17 27.7 +0.4**
comp=E,24nm,0.6s,mb5.4,baz=97,slow=7.1,SNR=6.5
RPZ Rata Peaks 63.67 145 LR LR 00 43 07.4
comp=E,667nm,20.0s,MS4.8,baz=24,slow=34
URZ Urewera 64.30 137 LR LR 00 43 49.7
comp=E,564nm,22.0s,MS4.7,baz=304,slow=34
BVAR Borovoye Array 65.38 327 P **P** **00 17 59.6 -0.8**
comp=E,5.3nm,0.5s,mb4.8,baz=54,slow=3.5,SNR=42
BRVK Borovoye 65.45 327 *e*P **P** **00 17 58.8 -2.0**
comp=E,7.0nm,0.6s,mb4.9
BRVK *e*pP pP 00 18 11.3 -2.2
TIXI Tiksi 65.71 1 *e*P **P** **00 18 02.0 -0.2**
TIXI *e*S S 00 26 44.1 +0.6
TIXI pmax pmax
comp=Z,61nm,1.9s,mb5.3
TIXI MLR MLR
comp=Z,332nm,19.0s,MS4.6
BILL Bilibino 67.56 15 *e*P **P** **00 18 14.1 +0.2**
BILL pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
SVE Sverdlovsk 72.00 328 *e*P **P** **00 18 41.4 +0.2**
CASY Casey 72.91 187 *e*P **P** **00 18 47.7 +1.3**
CASY *e*pP pP 00 19 00.6 +1.4
ARU Arti 72.98 327 *e*P **P** **00 18 43.8 -3.2**
ARU *e* pP 00 18 56.1 -3.6
ARU *e*PPP PPP 00 23 08.3 -6.7
ARU *e*S S 00 28 08.9 -0.5
ARU *e*SS SS 00 32 53.1 +0.1
ARU Arti 72.98 327 *e*P **P** **00 18 43.2 -3.8**
comp=Z,12nm,0.5s,mb5.1
RAR Rarotonga 77.13 113 LR LR 00 47 18.4
comp=Z,478nm,21.3s,MS4.8,baz=264,slow=31
GNI Garni 79.90 310 *i* P **P** **00 19 24.8 -1.6**
GNI pmax pmax
comp=Z,4.0nm,1.6s
GNI Garni 79.90 310 LR LR 01 00 29.0
comp=Z,364nm,21.2s,MS4.7,baz=90,slow=40
GNI Garni 79.90 310 *e*P **P** **00 19 24.8 -1.5**
comp=Z,24nm,1.4s,mb4.9
TI2 Plekhanov 79.92 311 *e*P **P** **00 19 25.4 -1.1**
IMA Indian Mountai 80.54 24 *e*P **P** **00 19 30.1 +0.9**
comp=Z,19nm,0.6s,mb5.2
ZEI Tsey 80.57 312 *e*P **P** **00 19 25.2 -4.7**
ZEI pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
SPU Mount Spurr 80.77 29 P **P** **00 19 30.3 -0.2**
GOF Gofitskoye 81.22 315 *e*P pP 00 19 45.0 -1.1
KIV Kislovodsk 81.47 313 *e*P **P** **00 19 33.7 -0.8**
KIV pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
KIV pmax pmax
comp=E,3.0nm,0.8s
KIV Kislovodsk 81.47 313 *e*P **P** **00 19 32.8 -1.8**
comp=E,8.1nm,0.8s,mb4.7
SLKM Skilak Lake 81.62 30 *e*P **P** **00 19 35.8 +0.8**
MCK McKinley 82.37 27 *e*P **P** **00 19 39.0 +0.2**
comp=E,4.7nm,0.7s,mb4.5
SML Sawmill 82.58 29 *e*P **P** **00 19 38.9 -1.0**
COLA College 82.88 25 *e*P **P** **00 19 40.9 -0.4**
comp=E,4.0nm,0.7s,mb4.6
ILAR Eielson Array 83.29 26 P **P** **00 19 43.2 -0.2**
comp=E,1.9nm,0.4s,mb4.4,baz=259,slow=4.8,SNR=49
ILAR LR LR 00 53 53.6
comp=E,213nm,20.4s,MS4.5,baz=322,slow=34
SOC Sochi 83.62 313 *e*P **P** **00 19 42.5 -3.1**
SOC *e* pP 00 19 55.6 -2.9
SOC *e* 00 23 01.3
SOC *e*PPP PPP 00 24 47.4 -7.3
SOC *e*S S 00 30 00.9 -2.3
SOC *e*SS SS 00 35 24.7 -8.5
SOC pmax pmax
comp=Z,31nm,1.1s,mb5.3
SOC pmax pmax
comp=N,18nm,0.8s
SOC pmax pmax
comp=E,15nm,0.8s

THY Trims Highway 83.79 27 P **P** **00 19 46.7 +0.8**
DIV Divide 83.81 29 P **P** **00 19 44.9 -1.3**
comp=E,60nm,1.1s,mb5.6
MOS Moscow 84.52 325 *e*P pP 00 20 00.7 -2.1
MOS pmax pmax
comp=Z,73nm,1.6s,mb5.6
MOS MLR MLR
comp=Z,1μm,21.0s,MS5.2
MALT Malatya 84.85 308 *e*P **P** **00 19 50.4 -1.5**
comp=Z,11nm,1.3s,mb4.8
OBN Obninsk 85.16 325 ⇓ *i*P **P** **00 19 53.2 +0.2**
OBN pmax pmax
comp=Z,35nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,500nm,20.0s,MS4.9
OBN Obninsk 85.16 325 *e*P **P** **00 19 51.0 -2.0**
comp=Z,15nm,0.6s,mb5.3
OBN *e*pP pP 00 20 06.0 0.0
ANN Anapa 85.21 314 P **P** **00 19 50.4 -3.1**
ANN *e* pP 00 20 02.5 -4.0
ANN pmax pmax
comp=Z,28nm,0.7s,mb5.5
VNDA Vanda 85.58 173 P **P** **00 19 55.6 +0.9**
comp=Z,3.8nm,0.6s,mb4.8,baz=323,slow=6.6,SNR=26
VNDA LR LR 00 57 08.2
comp=Z,421nm,21.7s,MS4.8,baz=337,slow=35
GZT Gaziantep 85.59 307 *i* P **P** **00 19 55.8 +0.2**
MAW Mawson 85.67 200 P **P** **00 19 56.8 +1.6**
comp=Z,2.8nm,0.7s,mb4.6,baz=38,slow=7.5,SNR=4.3
MAW LR LR 00 54 50.0
comp=Z,203nm,19.5s,MS4.5,baz=66,slow=33
APA Apatity 85.77 337 ⇑ *i*P **P** **00 19 55.3 -0.5**
APA MLR MLR
comp=Z,2μm,19.0s,MS5.4
PPT Papeete 86.03 108 *e*S S 00 30 35.0 +7.6
PPT *e*LR LR 00 47 28.7
comp=Z,769nm,24.0s,baz=291
KAHT Ahir Dag 86.12 307 *i* P **P** **00 19 57.8 -0.4**
ASF Jabal al Asfar 86.53 302 LR LR 01 02 21.4
comp=Z,190nm,21.9s,MS4.5,baz=107,slow=38
DAWY Dawson 86.57 26 *e*P **P** **00 19 59.5 -0.3**
COBT Iskenderun 86.70 306 *i* P **P** **00 20 00.2 -0.8**
TBI Tubuai 86.90 114 *e*S S 00 30 43.3 +7.7
TBI *e*LR LR 00 47 55.5
comp=Z,791nm,24.8s,baz=303
JOF Joensuu 87.15 333 *e*p **P** **00 20 01.4 -1.2**
comp=Z,14nm,0.5s,mb5.4
JOF Joensuu 87.15 333 *e*P **P** **00 20 01.4 -1.2**
JOF pmax pmax
comp=Z,14nm,0.5s,mb5.5
BOYT Boyabat 87.32 311 *i* P **P** **00 20 02.7 -1.3**
SIM Simferopol' 87.54 315 P pP 00 20 17.8 -0.2
SIM pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
AVNT Avonos 87.61 309 *i* P **P** **00 20 04.1 -1.3**
KEV Kevo 87.79 340 *e*p **P** **00 20 04.1 -1.4**
INK Inuvik 88.27 21 P **P** **00 20 07.6 -0.3**
comp=Z,3.7nm,0.7s,mb4.8,baz=307,slow=2.7,SNR=10
ARCES ARCESS Array B 88.35 340 P **P** **00 20 07.6 -0.6**
comp=Z,13nm,0.5s,mb5.4,baz=80,slow=4.9,SNR=86
ARCES LR LR 01 01 38.9
comp=Z,546nm,19.0s,MS5.0,baz=322,slow=37
ARE0 ARCESS Array S 88.35 340 *e*P **P** **00 20 06.9 -1.3**
MEST Erdemli 88.39 306 *i* P **P** **00 20 08.7 -0.5**
BALT Daday 88.44 311 *i* P **P** **00 20 08.0 -1.3**
BRTR Keskin Array B 88.45 310 P **P** **00 20 07.2 -2.2**
comp=Z,1.4nm,0.5s,mb4.5,baz=104,slow=4.5,SNR=11
KMBO Kilima Mbogo 89.32 269 P **P** **00 20 12.9 -1.2**
comp=Z,0.4nm,0.4s,mb4.1,baz=40,slow=18,SNR=2.9
KMBO LR LR 01 00 18.9
comp=Z,210nm,20.0s,MS4.6,baz=280,slow=36
KAF Kangasniemi 89.57 332 *e*p **P** **00 20 12.3 -1.9**
comp=Z,6.3nm,0.7s,mb5.0,baz=88,slow=5.8
KAF Kangasniemi 89.57 332 *e*P **P** **00 20 12.3 -1.9**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
FINES FINESS Array B 89.82 332 *e*P **P** **00 20 14.0 -1.3**
FINES FINESS Array B 89.82 332 P **P** **00 20 13.8 -1.5**
comp=Z,5.7nm,0.6s,mb5.1,baz=86,slow=6.4,SNR=47
FINES LR LR 01 04 43.2
comp=Z,784nm,19.3s,MS5.2,baz=172,slow=38
FINES FINESS Array B 89.82 332 P **P** **00 20 13.8 -1.5**
AKASG Malin Array Be 90.06 321 P **P** **00 20 14.6 -2.1**
comp=Z,1.8nm,0.5s,mb4.7,baz=64,slow=5.2,SNR=9.5
SUW Suwalki 93.02 325 *e*P **P** **00 20 27.1 -3.2**
SYO Syowa Base 94.32 201 ⇑ P **P** **00 20 39.7 +3.8**
SYO Syowa Base 94.32 201 ⇓ pP pP 00 20 49.0 0.0
DAG Danmarks Havn 95.10 352 ⇑ *i*P **P** **00 20 39.1 -0.2**
DAG pmax pmax
comp=Z,5.0nm,0.5s,mb5.2
DAG Danmarks Havn 95.10 352 ⇑ *i*P **P** **00 20 39.1 -0.2**
comp=Z,4.9nm,0.5s,mb5.2
RES Resolute Bay 95.76 10 *e*P **P** **00 20 42.1 -0.2**
comp=Z,6.5nm,1.1s,mb5.0
NB2 NORSAR Subarra 96.75 334 P **P** **00 20 45.2 -1.9**
comp=Z,2.7nm,0.6s,mb4.8,baz=65,slow=4.5
NB2 NORSAR Subarra 96.75 334 P **P** **00 20 45.2 -1.9**
baz=65,slow=4.6
NOA NORSAR Array B 96.75 334 P **P** **00 20 45.5 -1.6**
comp=Z,2.8nm,0.7s,mb4.8,baz=66,slow=4.5,SNR=9.9
NOA LR LR 01 08 03.7
comp=Z,965nm,20.0s,MS5.3,baz=50,slow=38
YKA Yellowknife Ar 97.66 24 P **P** **00 20 51.2 0.0**
comp=Z,0.6nm,0.5s,mb4.4,baz=299,slow=4.4,SNR=14
YKA PKKPbc 00 37 27.5
comp=Z,0.3nm,0.5s,baz=119,slow=2.8,SNR=7.2
YKA Yellowknife Ar 97.66 24 P **P** **00 20 51.2 0.0**
YKA PKKPbc 00 37 27.5
GERESS Array B 100.24 322 P P 00 21 01.8 -1.5
comp=Z,0.5nm,0.8s,baz=101,slow=5.0,SNR=3.5
NVAR Mina Array Bea 105.67 48 PKKPbc 00 37 06.3
comp=Z,0.6nm,0.6s,baz=127,slow=4.8,SNR=5.4
SCHQ Schefferville 118.50 9 PKP PKPdf 00 26 05.2 +2.0
comp=Z,3.2nm,0.6s,baz=340,slow=1.5,SNR=13
TXAR Lajitas Array 120.48 51 PKP PKPdf 00 26 10.3 +2.5
comp=Z,0.6nm,0.5s,baz=218,slow=1.1,SNR=6.0
TXAR Lajitas Array 120.48 51 PKP PKPdf 00 26 10.3 +2.5
JCT Junction City 122.85 48 *e*PKP PKPdf 00 26 14.6 +2.2
DBIC Dimbokro 129.84 284 PKP PKPdf 00 26 27.9 +1.6
comp=Z,4.9nm,0.6s,baz=62,slow=2.3,SNR=23
DBIC SKPbc 00 29 48.4
comp=Z,3.4nm,0.7s,baz=59,slow=6.0,SNR=6.0
DBIC SKP 00 30 01.8
comp=Z,5.4nm,0.9s,baz=50,slow=3.8,SNR=3.9
DBIC Dimbokro 129.84 284 PKP PKPdf 00 26 27.9 +1.6
DBIC SKPbc 00 29 48.4
DBIC SKP 00 30 01.8
TRQA Tornquist 147.07 168 *e*PKPdf PKPdf 00 26 58.6 +1.9
TRQA *e*PKPbc PKPdf 00 27 01.5 +4.8
ROSC El Rosal 156.66 63 PKP PKPdf 00 27 16.2 +4.8
comp=Z,3.2nm,0.3s,baz=88,slow=20,SNR=3.0
SDV Santo Domingo 157.52 49 *e*PKPdf PKPdf 00 27 14.5 +1.9
LPAZ La Paz 162.36 127 PKP PKPdf 00 27 20.7 +3.0
comp=Z,1.3nm,0.6s,baz=269,slow=2.4,SNR=6.0

MAN 13 00:15:52.8, 5.92N×126.31E, h1km, mb4.5, ML3.3, MS3.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.02**	**357**	*e*P	Pb	00 16 12.1	-0.9
MATI				*e*S	Sb	00 16 29.1	+2.5
KCP	**Kidapawan**	**1.62**	**312**	⇑ *i*P	Pn	00 16 23.3	+0.7
KCP				*i* S	Sb	00 16 43.8	-0.3
BIPH	**Bislig**	**2.25**	**1**	*e*P	Pn	00 16 33.1	+1.4
BIPH				*e*S	Sn	00 16 59.3	-1.2
BUKP	**Musuan**	**2.30**	**328**	*e*P	Pn	00 16 31.7	-0.8
BUKP				*e*S	Sn	00 16 59.9	-2.0
BUTP	**Butuan**	**3.10**	**347**	*e*P	Pn	00 16 40.2	-3.7
BUTP				*e*S	Sn	00 17 28.4	+6.2
PAGZ	**Pagadian**	**3.48**	**304**	*e*P	Pn	00 16 48.7	-0.5

IDC 13 00:18:10.7±2.1, 5.65N×120.97E, mb3.6/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=229.7km s-min=28.0km az=70.0, Sulu Archipelago

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.63**	**153**	P	P	00 24 08.3	-2.9
	1.7nm,0.6s,baz=331,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**31.75**	**157**	P	P	00 24 37.7	-1.2
	0.4nm,0.3s,baz=340,slow=9.6,SNR=5.0						
SONM	**Songino Array**	**43.84**	**346**	P	P	00 26 18.6	-1.7
	0.6nm,0.9s,baz=145,slow=8.4,SNR=3.6						
BVAR	**Borovoye Array**	**62.63**	**328**	pP	pP	00 28 52.5	+13
	0.9nm,0.6s,baz=112,slow=7.8,SNR=6.7						
BVAR				sP	sP	00 28 59.1	+20
	0.8nm,0.7s,baz=108,slow=9.4,SNR=4.2						

IDC 13 00:26:20.5±5.0, 22.56S×148.39E, mb1 3.6/4, mb1mx3.5/10, mbtmp3.5/4, ML3.1/4, Error ellipse: s-maj=50.6km s-min=20.2km az=82.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**3.16**	**321**	Pn	Pn	00 27 13.8	+1.3
	1.2nm,0.3s,baz=126,slow=14,SNR=7.9						
CTA				Lg		00 28 02.0	
	7.0nm,0.3s,baz=243,slow=19,SNR=9.5						
STKA	**Stephens Creek**	**11.07**	**212**	Pn	P	00 28 59.7	-3.6
	0.2nm,0.3s,baz=72,slow=9.6,SNR=1.7						
STKA				Sn	S	00 31 03.8	-5.2
	0.2nm,0.3s,baz=133,slow=21,SNR=2.0						
STKA				Lg		00 32 12.2	
	0.3nm,0.3s,baz=276,slow=13,SNR=2.7						
WRA	**Warramunga Arr**	**13.36**	**279**	Pn	P	00 29 30.0	-4.0
	0.1nm,0.3s,baz=98,slow=12,SNR=7.7						
WRA				Sn	S	00 31 54.5	-10
	0.1nm,0.3s,baz=94,slow=21,SNR=2.9						
WRA				Lg		00 33 24.1	
	0.1nm,0.3s,baz=97,slow=28,SNR=4.6						
ASAR	**Alice Springs**	**13.38**	**262**	Pn	P	00 29 30.5	-3.8
	0.1nm,0.3s,baz=90,slow=14,SNR=8.6						
ASAR				Sn	S	00 32 01.4	-3.5
	0.1nm,0.3s,baz=92,slow=24,SNR=3.5						
ASAR				Lg		00 33 28.4	
	0.0nm,0.3s,baz=75,slow=28,SNR=3.3						

WEL 13 00:27:26.7±0.7, 38.81S×175.42E, h210km±4km, ML3.5/3, Error ellipse: s-maj=5.0km s-min=4.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIZ	**Hauiti**	**0.53**	**304**	PN	P	00 27 54.3	-1.1
HIZ				*e*SN	S	00 28 16.7	-0.8
BKZ	**Black Stump Fm**	**0.91**	**113**	PN	P	00 27 56.0	-1.1
BKZ				SN	S	00 28 20.4	-0.3
BKZ				*e*SN	S	00 28 20.8	+0.1
WAZ	**Wanganui**	**1.00**	**199**	PN	P	00 27 57.6	0.0
WAZ				SN	S	00 28 19.8	-1.8
URZ	**Urewera**	**1.44**	**68**	SN	S	00 28 27.0	-0.7
MWZ	**Matawai**	**1.72**	**75**	PN	P	00 28 04.3	+0.6
MWZ				SN	S	00 28 32.0	-0.1
MRZ	**Mangatainoka R**	**1.85**	**176**	SN	S	00 28 32.4	-1.9
KIW	**Kapiti Island**	**2.08**	**191**	PN	P	00 28 05.5	-1.6
KIW				*e*SN	S	00 28 35.0	-3.4
CAW	**Cannon Point**	**2.31**	**187**	PN	P	00 28 07.9	-1.7
NNZ	**Nelson**	**2.87**	**212**	SN	S	00 28 48.2	-5.6
THZ	**Tophouse**	**3.52**	**212**	PN	P	00 28 19.3	-4.3
THZ				SN	S	00 29 02.4	-5.2
KHZ	**Kahutara**	**3.87**	**201**	PN	P	00 28 24.5	-3.4

*CSEM **13** 00:28:48.6±0.1, 37.01N×27.88E, h10km, MD3.4, Error ellipse: s-maj=2.5km s-min=2.2km az=38.0*
*ISK **13** 00:28:48.5, 36.98N×27.84E, h14km, MD3.4*
*ATH **13** 00:28:49.7, 36.95N×27.86E, h27km±12km, MD3.6/6*
*NEIC **13** 00:28:49.8, 36.95N×27.86E, h27km, MD3.6(ATH), After ATH.*

ISC 13 00:28:48.7±0.6, 36.96N±0.03×27.86E±0.04, h11km±4km, n24, σ0=72/34, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.34**	**349**	PG	**Pg**	**00 28 55.6**	**-0.2**
BDRM	**Kayabasi**	**0.35**	**288**	*i* P	**Pg**	**00 28 55.9**	**0.0**
BDRM				*i* S	**Sg**	**00 29 01.7**	**+1.0**
DALT	**Dalyan (Mudla)**	**0.65**	**107**	PG	**Pg**	**00 29 02.1**	**+0.2**
AYDN	**Tasoluk**	**0.70**	**1**	*i* P	**Pb**	**00 29 02.4**	**-0.1**
AYDN				*i* S	**Sb**	**00 29 11.9**	**0.0**
ARG	**Arkhangelos**	**0.77**	**164**	*e*PN	**Pn**	**00 29 04.2**	**-1.2**
ARG				*e*SN	**Sn**	**00 29 17.0**	**0.0**
ARG	**Arkhangelos**	**0.77**	**164**	*e*Pn	**Pn**	**00 29 04.2**	**-1.2**
ARG				*e*Sn	**Sn**	**00 29 17.5**	**+0.5**
FETY	**Fethiye**	**1.04**	**108**	PG	**Pg**	**00 29 08.7**	**-0.8**
FETY				SG	**Sg**	**00 29 24.3**	**+0.9**
SMG	**Samos**	**1.10**	**313**	*e*PN	**Pn**	**00 29 10.3**	**+0.2**
SMG				*e*SN	**Sn**	**00 29 26.8**	**+1.4**
DNZL	**Cakiroluk**	**1.20**	**52**	P	**Pb**	**00 29 11.2**	**+0.3**
DNZL				S	**Sb**	**00 29 30.1**	**+3.8**
DENT	**Denizli**	**1.23**	**49**	*e*PN	**Pn**	**00 29 12.0**	**+0.1**
IZM	**Izmir**	**1.51**	**342**	*e*PN	**Pn**	**00 29 16.1**	**+0.2**
KDAG	**Bornova**	**1.51**	**342**	P	**Pn**	**00 29 16.0**	**0.0**
KARP	**Karpathos**	**1.52**	**202**	*e*PN	**Pn**	**00 29 16.7**	**+0.7**
KARP				*e*SN	**Sn**	**00 29 36.8**	**+0.9**
BLCB	**Balcova**	**1.56**	**336**	*e*PN	**Pn**	**00 29 16.6**	**0.0**
MANT	**Manisa**	**1.63**	**20**	P	**Pn**	**00 29 17.8**	**+0.2**
MANT				S	**Sn**	**00 29 38.1**	**-0.5**
ELL	**Elmali**	**1.66**	**97**	*e*PN	**Pn**	**00 29 18.1**	**+0.1**
APE	**Apeiranthos**	**1.86**	**274**	*e*PN	**Pn**	**00 29 20.7**	**-0.3**
APE	**Apeiranthos**	**1.86**	**274**	*e*PB	**Pb**	**00 29 20.9**	**-1.5**
AKS	**Akhisar**	**1.92**	**359**	PN	**Pn**	**00 29 21.2**	**-0.5**
BCK	**Bucak**	**2.24**	**76**	*e*PN	**Pn**	**00 29 26.8**	**+0.5**
NPS	**Neapolis**	**2.48**	**228**	*e*PB	**Pb**	**00 29 31.5**	**-1.5**
PRK	**Paraskevi**	**2.60**	**332**	*e*PN	**Pn**	**00 29 32.2**	**+0.7**
PRK				*e*SB	**Sb**	**00 30 14.8**	**+7.7**
BTOK	**Tokmak**	**2.80**	**3**	P	**Pn**	**00 29 33.6**	**-0.8**
KCT	**Karacabey**	**3.32**	**7**	*e*PN	**Pn**	**00 29 40.9**	**-0.9**

IDC 13 00:34:16.1±1.2, 15.12S×173.14W, mb3.7/5, mb1 4.0/5, mb1mx3.8/15, mbtmp3.7/5, Error ellipse: s-maj=50.5km s-min=29.1km az=128.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.15**	**257**	P	P	00 43 13.3	-2.4
	0.3nm,0.8s,baz=97,slow=6.0,SNR=4.6						
ASAR	**Alice Springs**	**50.44**	**252**	P	P	00 43 15.9	-1.9
	0.8nm,0.7s,baz=88,slow=7.9,SNR=8.8						
VNDA	**Vanda**	**63.67**	**186**	P	P	00 44 49.1	-2.0
	2.0nm,1.0s,baz=1.8,slow=4.6,SNR=5.1						
ILAR	**Eielson Array**	**82.13**	**11**	P	P	00 46 38.2	-1.5
	0.4nm,0.6s,baz=221,slow=6.2,SNR=5.7						
YKA	**Yellowknife Ar**	**89.75**	**23**	P	P	00 47 15.9	-1.4
	0.3nm,0.7s,baz=240,slow=4.4,SNR=7.1						

*ATH **13** 00:35:50.8, 36.97N×27.84E, h27km±3km, MD3.7/7*
*CSEM **13** 00:35:50.8±0.1, 37.04N×27.82E, h12km, MD3.6, Error ellipse: s-maj=2.1km s-min=1.8km az=7.0*
*ISK **13** 00:35:50.5, 36.99N×27.79E, h16km, MD3.6, ML3.6*
*NEIC **13** 00:35:50.8, 36.97N×27.84E, h27km, MD3.7(ATH), After ATH.*

ISC 13 00:35:51.6±0.5, 36.98N±0.03×27.77E±0.03, h22km±5km, n46, σ0=79/55, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.28**	**289**	*i* P	**Pb**	**00 35 57.8**	**-0.2**
BDRM				*i* S	**Sb**	**00 36 03.5**	**+1.1**
MLSB	**Milas**	**0.32**	**1**	PG	**Pb**	**00 35 57.4**	**-1.3**
NISR	**Nisiros**	**0.63**	**235**	*e*PN	**Pn**	**00 36 04.5**	**-0.6**
AYDN	**Tasoluk**	**0.69**	**7**	*i* P	**Pb**	**00 36 04.3**	**-0.5**
AYDN				*i* S	**Sb**	**00 36 13.6**	**-0.3**
DALT	**Dalyan (Mudla)**	**0.72**	**106**	PG	**Pb**	**00 36 04.6**	**-0.8**
DALT				SG	**Sb**	**00 36 15.4**	**+0.5**
ARG	**Arkhangelos**	**0.81**	**159**	*e*PN	**Pn**	**00 36 06.2**	**-1.4**
ARG	**Arkhangelos**	**0.81**	**159**	*e*PN	**Pn**	**00 36 06.3**	**-1.3**
ARG	**Arkhangelos**	**0.81**	**159**	*e*Pn	**Pn**	**00 36 06.3**	**-1.3**
SMG	**Samos**	**1.04**	**315**	*e*PN	**Pn**	**00 36 11.2**	**+0.2**
FETY	**Fethiye**	**1.11**	**107**	PN	**Pn**	**00 36 11.4**	**-0.5**
DNZL	**Cakiroluk**	**1.24**	**55**	P	**Pn**	**00 36 13.2**	**-0.6**
DNZL				S	**Sb**	**00 36 32.0**	**+2.2**
DENT	**Denizli**	**1.27**	**52**	PN	**Pn**	**00 36 14.1**	**-0.1**
IZM	**Izmir**	**1.48**	**344**	PN	**Pn**	**00 36 17.5**	**+0.4**
KDAG	**Bornova**	**1.48**	**345**	P	**Pn**	**00 36 17.4**	**+0.2**
KDAG				S	**Sn**	**00 36 38.1**	**+2.1**
KARP	**Karpathos**	**1.51**	**199**	*e*PN	**Pn**	**00 36 18.4**	**+0.8**
BLCB	**Balcova**	**1.52**	**338**	*e*PN	**Pn**	**00 36 17.3**	**-0.5**
MANT	**Manisa**	**1.64**	**22**	P	**Pn**	**00 36 19.4**	**0.0**
MANT				S	**Sn**	**00 36 39.8**	**-0.3**

ELL	Elmali	1.73	97	*e*PN	Pn	00 36 21.2	+0.4
APE	Apeiranthos	1.79	274	PN	Pn	00 36 22.2	+0.5
APE	Apeiranthos	1.79	274	*e*PN	Pn	00 36 23.3	+1.6
AKS	Akhisar	1.90	1	PN	Pn	00 36 23.1	-0.1
KHL	Karahalli	1.94	45	*e*PN	Pn	00 36 23.7	-0.1
BCK	Bucak	2.30	77	*e*PN	Pn	00 36 29.2	+0.2
ANTB	Antalya	2.31	91	*e*PN	Pn	00 36 29.4	+0.2
ISP	Isparta	2.35	68	*e*PN	Pn	00 36 29.9	+0.2
NPS	Neapolis	2.44	226	*e*PB	Pb	00 36 34.7	+0.1
PRK	Paraskevi	2.56	333	*e*PN	Pn	00 36 33.6	+1.0
BALB	Balikesir	2.66	2	*e*PN	Pn	00 36 33.6	-0.5
ALT	Altintas	2.78	41	*e*PN	Pn	00 36 35.8	0.0
BTOK	Tokmak	2.79	4	P	Pn	00 36 35.5	-0.5
ORLT	Orhaneli	3.19	16	*e*PN	Pn	00 36 41.9	+0.2
KCT	Karacabey	3.32	8	*e*PN	Pn	00 36 42.6	-0.8
ULDT	Uludag	3.34	18	P	Pn	00 36 45.0	+1.3
ULDT				S		00 37 42.5	
EDC	Edincik	3.37	1	*e*PN	Pn	00 36 43.9	-0.2
BNT	Bandirma	3.38	2	*e*PN	Pn	00 36 43.7	-0.6
ESKT	Eskisehir	3.51	43	*e*PN	Pn	00 36 45.3	-0.9
MRMT	Marmara Adasi	3.62	358	*e*PN	Pn	00 36 47.0	-0.8
SART	Tekirdag	3.74	353	P	Pn	00 36 49.4	0.0
KIZT	Kizilcal	3.77	58	*e*PN	Pn	00 36 50.4	+0.6
HDMB	Hadim	3.78	89	*e*PN	Pn	00 36 49.4	-0.6
KONT	Konya--Tatoy	3.78	74	*e*PN	Pn	00 36 49.4	-0.6
YLV	Yalova	3.80	19	*e*PN	Pn	00 36 49.4	-0.9
MFT	Murefte	3.83	354	*e*PN	Pn	00 36 49.9	-0.8
CSS	Prodhromos	4.94	112	*e*Pn	Pn	00 37 01.5	-4.9
CSS				*e*Sn	Sn	00 37 54.8	-8.8
CSS	Prodhromos	4.94	112	*e*Pn	Pn	00 37 01.5	-4.9
CSS				*e*Sn	Sn	00 37 54.8	-8.8
MEST	Erdemli	5.13	92	P	Pn	00 37 11.2	+2.1
MEST				S	Sn	00 38 09.2	+0.8

IDC 13 00:37:16.7±15.0, 6.01N×91.21E, mb3.6/2, mb1 3.9/3, mb1mx3.4/18, mbtmp3.6/3, ML4.0/1, Error ellipse: s-maj=343.1km s-min=54.9km az=93.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.49	31	Pn	P	00 40 43.9	-1.5
	0.3nm,0.3s,baz=228,slow=15,SNR=4.4						
WRA	Warramunga Arr	49.64	122	P	P	00 46 10.0	-2.4
	0.6nm,0.7s,baz=304,slow=8.8,SNR=5.5						
ASAR	Alice Springs	51.04	127	P	P	00 46 21.3	-1.8
	0.6nm,0.6s,baz=300,slow=7.7,SNR=5.6						

IDC 13 00:45:40.9±1.2, 16.44S×173.70W, mb4.0/5, mb1 4.3/5, mb1mx3.9/15, mbtmp4.1/5, Error ellipse: s-maj=52.6km s-min=23.9km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	23.19	199	P	P	00 50 49.4	-0.9
	7.0nm,0.4s,baz=65,slow=2.7,SNR=11						
WRA	Warramunga Arr	49.34	258	P	P	00 54 32.2	-2.0
	0.3nm,0.4s,baz=96,slow=7.7,SNR=7.9						
ASAR	Alice Springs	49.52	253	P	P	00 54 33.7	-1.9
	5.6nm,0.6s,baz=88,slow=8.4,SNR=63						
NVAR	Mina Array Bea	75.29	42	P	P	00 57 27.0	-0.7
	0.6nm,0.8s,baz=217,slow=8.4,SNR=4.9						
PDAR	Pinedale Array	83.22	42	P	P	00 58 08.6	-2.0
	1.2nm,1.1s,baz=205,slow=2.7,SNR=5.0						

*IDC **13** 00:46:34.2±2.8, 6.62S×103.40E, mb4.0/5, mb1 4.2/5, mb1mx3.9/16, mbtmp4.0/5, Error ellipse: s-maj=106.8km s-min=26.3km az=52.0*

ISC 13 00:46:39.0±2.0, 6.3S±0.4×103.9E±0.4, h33km, n12, σ0§51/11, mb4.5/11, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	25.07	349	P	P	00 52 01.8	-0.4
	3.4nm,0.5s,mb4.1,baz=182,slow=9.0,SNR=20						
WRA	Warramunga Arr	32.52	118	P	P	00 53 09.4	+0.1
	0.8nm,0.7s,mb3.8,baz=286,slow=12,SNR=6.7						
JIRN	Jiri	37.85	334	*e*P	P	00 53 54.7	+0.1
	15nm,0.6s,mb4.9						
PKI	Pulchoki	38.12	333	*e*P	P	00 53 56.8	0.0
	4.6nm,0.5s,mb4.4						
GUN	Gumba	38.20	334	*e*P	P	00 53 58.1	+0.6
	24nm,0.8s,mb5.0						
KKN	Kakani	38.36	333	*e*P	P	00 53 58.8	-0.1
	14nm,0.7s,mb4.8						
GKN	Gorkha	38.84	332	*e*P	P	00 54 03.1	+0.3
	10.0nm,0.3s,mb5.0						
KOLN	Koldanda	39.13	331	*e*P	P	00 54 05.7	+0.4
	12nm,0.8s,mb4.7						
SONM	Songino Array	53.94	2	P	P	00 56 02.3	+0.6
	2.5nm,0.9s,mb4.1,baz=176,slow=9.0,SNR=18						
ZAL	Zalesovo	62.12	347	P	P	00 56 58.6	-0.4
	2.0nm,1.0s,mb4.2,baz=221,slow=1.8,SNR=9.8						
BVAR	Borovoye Array	65.55	339	P	P	00 57 20.2	-1.3
	0.9nm,0.4s,mb4.2,baz=136,slow=8.7,SNR=9.2						
TXAR	Lajitas Array	145.34	45	PKPbc	PKPbc	01 06 16.3	+1.7
	2.0nm,0.9s,baz=306,slow=1.8,SNR=11						

*TAP **13** 00:54:52.9, 24.08N×122.22E, h8km±1km, ML3.2*

JMA 13 00:54:50.7±0.2, 24.45N×122.23E, h59km, M2.7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.71	89	P	P	00 55 05.1	0.0
YOJ				S	S	00 55 15.8	0.0
IRIF	Iriomote-Funau	1.37	94	P	P	00 55 14.4	+0.2
IRIF				S	S	00 55 31.6	0.0
HATJ	Hateruma jima	1.49	105	*e*S	S	00 55 33.6	-0.7
JKRS	Kuro-shima	1.64	97	*e*S	S	00 55 37.5	-0.3
JIJ	Ishigaki jima	1.75	92	P	P	00 55 19.2	-0.1
JIJ				S	S	00 55 40.5	+0.1

TRN 13 00:59:36.8, 14.32N×58.56W, h35km, MD3.8, M3.9(FDF), Md3.5(FDF), 3C-1D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVM	Montagne Vaucl	2.28	276	⇑*e*P	P	01 00 13.4	+0.5
BIM	Bigot	2.44	275	⇑*e*P	P	01 00 16.0	+0.8
BIM				*e*S	S	01 00 44.0	-0.1
FDF	Fort de France	2.55	280	⇑*e*P	P	01 00 17.1	+0.5
FDF				*e*S	S	01 00 46.8	0.0
MGG	Marie-Galante	3.10	301	*e*P	P	01 00 25.4	+0.8
DEG	La Desirade	3.12	310	*e*P	P	01 00 24.1	-0.8
SCG	Saint Claude	3.46	300	*e*P	P	01 00 30.7	+1.0
SCG				*e*S	S	01 01 08.9	-1.2
SEG	Port Louis	3.52	306	*e*P	P	01 00 30.9	+0.4
GRW	Mount Saint Ca	3.71	235	*e*P	P	01 00 33.2	0.0
GRW				*e*S	S	01 01 15.4	-0.9
TPR	Prospect	3.79	215	⇓*e*P	P	01 00 34.4	0.0
TRN	Trinidad (W)	4.59	218	*e*P	P	01 00 45.6	-0.1
TRN				*e*S	S	01 01 32.7	-5.8

*ISK **13** 01:11:26.5, 36.97N×27.75E, h14km, MD3.6*
*HLW **13** 01:11:26.6, 37.32N×27.36E, h30km, Mb3.2*
*CSEM **13** 01:11:27.7±0.1, 37.00N×27.82E, h20km, MD3.6, Error ellipse: s-maj=2.2km s-min=1.8km az=23.0*
*ATH **13** 01:11:28.5, 36.87N×27.74E, h26km±7km, MD3.7/5*
*NEIC **13** 01:11:28.5, 36.87N×27.74E, h26km, MD3.7(ATH), After ATH.*

ISC 13 01:11:27.6±0.5, 36.93N±0.03×27.78E±0.03, h20km±5km, n49, σ1§01/57, 2C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.29	296	*i* P	Pb	01 11 34.2	0.0
BDRM				*i* S	Sb	01 11 39.7	+1.0
MLSB	Milas	0.36	0	PG	Pb	01 11 33.6	-1.7
NISR	Nisiros	0.61	238	*e*PN	Pn	01 11 40.5	-0.5
DALT	Dalyan (Mudla)	0.71	103	PG	Pb	01 11 40.9	-0.3
DALT				SG	Sb	01 11 52.3	+1.8
AYDN	Tasoluk	0.73	7	*i* P	Pb	01 11 40.5	-1.0
AYDN				*i* S	Sb	01 11 50.1	-0.9
ARG	Arkhangelos	0.77	158	*e*PB	Pb	01 11 42.0	-0.2
FETY	Fethiye	1.09	105	PN	Pn	01 11 48.0	+0.1
DNZL	Cakiroluk	1.26	53	P	Pn	01 11 49.6	-0.7
DNZL				S	Sb	01 12 08.3	+1.9
KARP	Karpathos	1.47	200	*e*PN	Pn	01 11 54.3	+1.0
IZM	Izmir	1.52	345	PN	Pn	01 11 53.8	-0.1
KDAG	Bornova	1.52	345	P	Pn	01 11 53.7	-0.3
BLCB	Balcova	1.56	338	PN	Pn	01 11 54.0	-0.6
KSL	Kastellorizon	1.65	118	*e*PN	Pn	01 11 58.7	+2.8
MANT	Manisa	1.67	22	P	Pn	01 11 56.0	-0.2
MANT				S	Sn	01 12 18.7	+1.5
ELL	Elmali	1.72	96	*e*PN	Pn	01 11 57.4	+0.5
APE	Apeiranthos	1.80	275	*e*PN	Pn	01 11 57.6	-0.4
APE	Apeiranthos	1.80	275	*e*Pb	Pb	01 11 59.3	-0.4
AKS	Akhisar	1.94	1	PN	Pn	01 11 59.2	-0.8
ANTB	Antalya	2.31	90	*e*PN	Pn	01 12 05.6	+0.3
BCK	Bucak	2.31	76	*e*PN	Pn	01 12 05.5	+0.2
ISP	Isparta	2.36	67	*e*PN	Pn	01 12 05.6	-0.4
ISP	Isparta	2.36	67	*e*Pn	Pn	01 12 02.8	-3.2
PRK	Paraskevi	2.59	333	*e*PN	Pn	01 12 11.0	+1.6
BALB	Balikesir	2.70	2	*e*PN	Pn	01 12 09.9	-1.0
ALT	Altintas	2.81	40	*e*PN	Pn	01 12 12.0	-0.4
BTOK	Tokmak	2.83	4	P	Pn	01 12 12.4	-0.3
KCT	Karacabey	3.36	8	*e*PN	Pn	01 12 19.1	-1.1
ULDT	Uludag	3.38	18	P	Pn	01 12 29.9	+9.5
ULDT				S	Sn	01 13 18.1	+18
EDC	Edincik	3.41	1	*e*PN	Pn	01 12 20.5	-0.4
BNT	Bandirma	3.42	2	*e*PN	Pn	01 12 19.7	-1.4
ESKT	Eskisehir	3.54	42	*e*PN	Pn	01 12 22.5	-0.3
LOS	Limnos	3.67	326	*e*P	Pn	01 12 25.5	+0.9
HDMB	Hadim	3.77	88	*e*PN	Pn	01 12 26.5	+0.4
KIZT	Kizilcal	3.78	58	*e*PN	Pn	01 12 26.6	+0.3
AOS	Alonnisos	3.80	307	*e*P	Pn	01 12 28.0	+1.5
ALN	Alexandroupoli	4.18	342	*e*P	Pn	01 12 30.9	-1.0
PAIG	Paliouri	4.39	314	*e*P	Pn	01 12 35.2	+0.3
OUR	Ouranopolis	4.51	320	*e*P	Pn	01 12 36.2	-0.4
AGG	Agios Georgios	4.78	298	*e*P	Pn	01 12 41.8	+1.4
CSS	Prodhromos	4.92	112	*e*Pn	Pn	01 12 40.1	-2.3
CSS	Prodhromos	4.92	112	*e*Pn	Pn	01 12 40.1	-2.3
LIT	Litokhoron	5.21	309	*e*P	Pn	01 12 48.6	+2.1
SRS	Serrai	5.30	323	*e*P	Pn	01 12 47.9	+0.2
KNT	Kendrikon	5.68	320	*e*P	Pn	01 12 53.7	+0.7
GRG	Griva	5.80	315	*e*P	Pn	01 12 56.3	+1.5
SLUM		5.83	202	P	Pn	01 12 54.6	-0.6
SLUM				S	Sn	01 13 57.5	-4.7
HMAT	Matruh	5.85	186	⇑P	Pn	01 12 55.6	0.0
SWA1		7.84	193	P	Pn	01 13 22.7	-0.8
SWA1				S	Sn	01 14 47.9	-4.7
SWA2		7.91	195	⇑P	Pn	01 13 23.0	-1.5

IDC 13 01:13:56.7±3.7, 6.83S×103.62E, mb3.7/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=144.2km s-min=27.5km az=52.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	25.55	350	P	P	01 19 26.7	-2.4
	1.7nm,0.4s,baz=184,slow=8.3,SNR=8.4						
WRA	Warramunga Arr	32.53	117	P	P	01 20 28.9	-2.9
	0.3nm,0.6s,baz=303,slow=7.7,SNR=4.0						
SONM	Songino Array	54.48	2	P	P	01 23 26.8	-1.6
	0.6nm,1.1s,baz=180,slow=8.4,SNR=6.9						
BVAR	Borovoye Array	65.95	339	P	P	01 24 44.0	-2.8
	1.1nm,0.7s,baz=135,slow=8.2,SNR=5.0						
TXAR	Lajitas Array	145.91	46	PKPbc	PKPbc	01 33 40.1	+1.0
	0.4nm,0.6s,baz=288,slow=2.9,SNR=4.4						

*JMA **13** 01:18:30.4±0.4, 24.21N×122.31E, h37km, M2.7*

TAP 13 01:18:29.3, 24.03N×122.35E, h19km±1km, ML3.2, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.74	54	P	Pb	01 18 43.6	+0.3
YOJ				S	Sb	01 18 53.1	+0.1
IRIF	Iriomote-Funau	1.30	76	P	Pn	01 18 52.7	+0.1
IRIF				S	Sb	01 19 10.1	+1.1
HATJ	Hateruma jima	1.33	89	*e*S	Sb	01 19 09.6	-0.4
JKRS	Kuro-shima	1.53	82	P	Pn	01 18 57.2	+1.3
JKRS				S	Sn	01 19 15.9	+0.5
JIJ	Ishigaki jima	1.67	78	P	Pn	01 18 57.6	-0.3
JIJ				S	Sn	01 19 17.9	-1.1

PRE 13 01:40:17.2±0.7, 25.97S×27.49E, h5km, ML3.8, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	Silverton	0.75	72	*e*P	Pg	01 40 21.3	-11
SLR				*e*S	Sg	01 40 31.1	-11
SLR				*e*		01 40 33.2	
	comp=Z,2μm,0.5s						
SEK	Senekal	2.34	177	*e*P	Pn	01 40 55.4	-1.6
SEK				*e*S	Sn	01 41 18.8	-7.6
SEK				*e*		01 41 21.4	
	comp=Z,500nm,0.5s						
NWL	Newcastle	2.81	129	*e*P	Pn	01 41 02.0	-1.5
NWL				*e*S	Sn	01 41 35.3	-2.9
NWL				*e*		01 41 40.4	
	comp=Z,686nm,0.6s						
BOSA	Boshof	3.29	217	*e*P	Pn	01 41 08.6	-1.9
BOSA				*e*S	Sn	01 41 46.3	-4.3
CVNA	Calvinia	8.72	229	*e*S	Sn	01 43 53.9	-13

*NIED **13** 01:48:00, 34.60N×139.20E, h5km, Mw3.5 Best double couple: M0:1.98×10^14 NP1:φs107°, δ60°, λ-136°. NP2: φs351°, δ53°, λ-39°.*
*JMA **13** 01:48:21.1, 34.61N×139.22E, h13km±1km, M3.2*
JMA Felt I J1.

ISC 13 01:48:21.4±0.6, 34.62N±0.03×139.24E±0.05, h6km±6km, n9, σ0§75/16, 3C-4D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIM2	Oshima 3	0.19	60	⇑P	Pg	01 48 25.4	+0.1
JIM2				S	Sg	01 48 28.9	+1.0
NJJJ	Nii jima 2	0.22	170	⇑P	Pg	01 48 26.2	+0.1
NJJJ				S	Sg	01 48 30.1	+1.0
JIZS	Izushimoda	0.31	288	⇓P	Pg	01 48 27.4	-0.3
JIZS				S	Sg	01 48 32.1	+0.2
KTJJ	Kamata 2	0.33	335	⇓P	Pg	01 48 27.9	-0.3
KTJJ				S	Sg	01 48 32.9	+0.2
JKO	Kozu shima	0.44	191	⇑P	Pg	01 48 29.5	-0.9
JOD2	Odawara 2	0.65	349	⇓P	Pg	01 48 33.6	-0.9
JOD2				S	Sg	01 48 42.9	-0.3
SHZ3	Shizuoka 3	0.95	298	⇓P	Pb	01 48 39.3	-0.6
SHZ3				S	Sb	01 48 53.4	+0.8
BSO4	Boso 4	0.98	68	P	Pb	01 48 39.3	-1.1
MAT	Matsushiro	2.09	337	P	Pn	01 48 57.0	-0.4
MAT				S	Sn	01 49 25.6	+1.6

*MAN **13** 02:29:37.0, 6.14N×126.42E, h15km, mb4.8, ML3.7, MS3.7*
*IDC **13** 02:29:42.6±7.4, 6.00N×126.32E, h100km±67km, mb3.9/11, mb1 4.1/11, mb1mx3.9/17, mbtmp4.2/11, Error ellipse: s-maj=51.1km s-min=16.8km az=72.0*
*BJI **13** 02:29:46.4, 5.90N×126.10E, h138km, mB5.1, mb4.7*
*NEIC **13** 02:29:46.4±5.1, 5.93N×126.15E, h138km±48km, mb4.5/10, Error ellipse: s-maj=24.8km s-min=11.2km az=74.0*

ISC 13 02:29:37.8±0.8, 6.01N±0.05×126.35E±0.09, h73km±7km, n38, σ1§11/41, mb4.3/22, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.94	355	*e*P	P	02 29 52.4	-3.6
MATI				*e*S	S	02 30 10.3	+0.8
KCP	Kidapawan	1.60	309	⇓*i*P	P	02 30 04.6	-0.2
KCP				*i* S	S	02 30 25.4	+0.8
BIPH	Bislig	2.17	0	⇓*e*P	P	02 30 11.5	-1.0
BIPH				*i* S	S	02 30 38.0	-0.1
BUKP	Musuan	2.26	326	*e*P	P	02 30 12.4	-1.3
BUKP				*e*S	S	02 30 42.6	+2.2
BUTP	Butuan	3.03	346	*e*P	P	02 30 23.6	-1.1
PAGZ	Pagadian	3.47	302	*e*P	P	02 30 30.9	+0.2
SCPH	Surigao	3.85	347	⇑*e*P	P	02 30 36.7	+0.7
TBP	Tagbilaran	4.41	326	*e*P	P	02 30 41.1	-2.8
SNPH	Sibulan	4.53	317	*e*P	P	02 30 51.0	+5.5
FITZ	Fitzroy Crossi	23.96	182	*e*P	P	02 34 47.5	+1.0
	9.8nm,0.8s,mb4.2						
WRAB	Tennant Creek	26.95	163	*e*P	P	02 35 14.9	+0.3
	18nm,0.9s,mb4.6						
WRA	Warramunga Arr	26.96	163	P	P	02 35 15.9	+1.2
	1.1nm,0.4s,mb3.8,baz=335,slow=11,SNR=22						
WB2	Warramunga Arr	26.96	163	*e*P	P	02 35 14.9	+0.2
MBWA	Marble Bar	27.76	193	*e*P	P	02 35 21.0	-1.1
	21nm,1.0s,mb4.6						
ASAR	Alice Springs	30.40	166	P	P	02 35 44.5	-0.9
	1.0nm,0.5s,mb3.7,baz=342,slow=7.0,SNR=9.7						
ASAR				PcP	PcP	02 38 43.4	-0.3
	1.3nm,0.5s,baz=337,slow=1.6,SNR=10						
XAN	Xi'an	32.23	332	P	P	02 36 02.6	+1.2
XAN				AMB	AMB		
	comp=Z,24nm,1.0s,mb4.9						
MDJ	Mudanjiang	38.56	4	P	P	02 36 58.8	+3.7
	comp=Z,15nm,1.0s,mb4.8						
NWAO	Narrogin (SRO)	39.67	192	P	P	02 37 05.0	+0.6
	comp=Z,65nm,1.5s,mb5.2						
STKA	Stephens Creek	40.38	160	P	P	02 37 10.2	0.0
	comp=Z,2.4nm,0.8s,mb4.1,baz=336,slow=1.6,SNR=4.5						
ULN	Ulaanbaatar	44.85	342	*e*P	P	02 37 47.0	+0.5
	comp=Z,4.8nm,0.6s,mb4.4						
ULN				*e*PcP	PcP	02 39 27.6	0.0
SONM	Songino Array	45.03	341	P	P	02 37 47.9	-0.1
	comp=Z,1.5nm,0.5s,mb4.0,baz=156,slow=7.8,SNR=14						
SONM				PcP	PcP	02 39 28.4	+0.2
	comp=Z,2.3nm,0.8s,baz=160,slow=3.6,SNR=10						
ZAL	Zalesovo	58.41	333	P	P	02 39 29.1	+1.1
	comp=Z,1.2nm,0.3s,mb4.3,baz=278,slow=4.0,SNR=5.1						
ZAL				PcP	PcP	02 40 17.6	-0.3
	comp=Z,0.5nm,0.3s,baz=202,slow=3.8,SNR=3.6						
BRVK	Borovoye	65.29	327	*e*P	P	02 40 12.1	-2.1
	comp=Z,4.9nm,0.9s,mb4.3						
CHKZ	Chkalovo	65.37	327	P	P	02 40 11.6	-3.1
	comp=Z,3.0nm,1.1s,mb4.0						
ARU	Arti	72.82	327	*e*P	P	02 40 56.4	-3.9
	comp=Z,3.5nm,0.6s,mb4.4						
MCK	McKinley	82.31	27	*e*P	P	02 41 54.2	+1.6
ILAR	Eielson Array	83.23	26	P	P	02 41 57.5	+0.3
	comp=Z,0.7nm,0.5s,mb3.7,baz=251,slow=5.1,SNR=24						
JOF	Joensuu	86.99	333	*e*p	P	02 42 14.0	-1.9
ARCES	ARCESS Array B	88.20	340	P	P	02 42 21.9	+0.3
	comp=Z,5.5nm,0.8s,mb4.7,baz=80,slow=6.8,SNR=26						
BRTR	Keskin Array B	88.29	310	P	P	02 42 22.8	+0.1
	comp=Z,0.6nm,0.6s,mb3.8,baz=109,slow=5.6,SNR=4.2						
KAF	Kangasniemi	89.42	332	*e*p	P	02 42 26.7	-0.7
FINES	FINESS Array B	89.66	332	P	P	02 42 27.8	-0.8
	comp=Z,0.9nm,0.6s,mb4.1,baz=108,slow=6.0,SNR=9.5						
FINES	FINESS Array B	89.66	332	P	P	02 42 27.8	-0.8
RES	Resolute Bay	95.66	10	*e*P	P	02 42 56.7	+0.7
	comp=Z,2.1nm,0.9s,mb4.6						
NOA	NORSAR Array B	96.59	334	P	P	02 42 59.9	-0.5
	comp=Z,1.4nm,0.7s,mb4.5,baz=68,slow=4.5,SNR=3.3						
YKA	Yellowknife Ar	97.60	24	P	P	02 43 05.8	+0.9
	comp=Z,0.3nm,0.7s,mb3.9,baz=298,slow=4.8,SNR=7.1						
YKA	Yellowknife Ar	97.60	24	P	P	02 43 05.8	+0.9
DBIC	Dimbokro	129.70	284	PKP	PKPdf	02 48 41.0	+1.1
	comp=Z,1.1nm,0.5s,baz=158,slow=21,SNR=6.2						

*NEIC **13** 02:44:42.2, 30.66S×71.62W, h16km, ML2.7(GUC), After GUC.*

GUC 13 02:44:42.2±0.5, 30.66S×71.62W, h16km±4km, MD3.8, ML2.7, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	0.74	135	⇑*i*P	Pb	02 44 56.0	-0.2
CMCH				*i* S	Sb	02 45 06.3	+0.5
CMCH				AMP		02 45 09.3	
	comp=E,567nm,0.4s						
LSCH	La Serena	0.81	23	*e*P	Pb	02 44 56.6	-0.8
LSCH				*i* S	Sb	02 45 07.9	0.0
LSCH				AMP		02 45 11.2	
	comp=N,363nm,0.5s						
TLL	Tololo Astrono	0.85	55	*e*P	Pb	02 44 58.1	0.0
TLL				*i* S	Sb	02 45 10.2	+1.0
TLL				AMP		02 45 11.3	
	comp=N,712nm,0.4s						
ILCH	Illapel	1.05	159	⇑*i*P	Pb	02 45 00.7	-0.9
ILCH				*i* S	Sb	02 45 14.6	-0.3
ILCH				AMP		02 45 17.7	
	comp=N,302nm,0.6s						
PTCH	Petorca	1.71	160	*e*P	Pn	02 45 11.3	-0.4
PTCH				*i* S	Sn	02 45 32.8	-0.5
PTCH				AMP		02 45 37.8	
	comp=E,254nm,0.3s						

*IDC **13** 02:56:44.4±1.0, 12.14N×143.90E, mb4.0/9, mb1 4.2/9, mb1mx4.0/20, mbtmp4.0/9, Error ellipse: s-maj=37.6km s-min=27.3km az=104.0*

ISC 13 02:56:47.8±0.9, 12.1N±0.2×143.8E±0.3, h33km, n9, σ0§89/9, mb4.0/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	33.14	196	P	P	03 03 23.2	-0.3
	0.7nm,1.1s,mb3.5,baz=16,slow=9.0,SNR=3.9						
SONM	Songino Array	47.38	326	P	P	03 05 20.9	+0.2
	0.3nm,0.6s,mb3.4,baz=133,slow=8.1,SNR=2.9						
ILAR	Eielson Array	70.39	25	P	P	03 07 58.5	-1.7
	0.5nm,0.4s,mb3.8,baz=251,slow=5.6,SNR=24						
BVAR	Borovoye Array	70.46	322	P	P	03 08 01.4	+0.5
	1.0nm,0.3s,mb4.2,baz=109,slow=8.4,SNR=11						
INK	Inuvik	76.17	22	P	P	03 08 33.6	-0.4
	0.7nm,0.6s,mb3.8,baz=264,slow=12,SNR=3.8						
YKA	Yellowknife Ar	84.69	27	P	P	03 09 19.4	+0.1
	0.6nm,0.4s,mb4.1,baz=286,slow=5.1,SNR=7.5						
ARCES	ARCESS Array B	88.19	342	P	P	03 09 36.5	+0.3
	5.7nm,1.1s,mb4.7,baz=31

IMHD	**Mahdasht**	**4.97**	**4**	Pn	**P**	**03 00 40.0**	**-0.7**
IDMV	**Damavand**	**5.07**	**16**	Pn	**P**	**03 00 41.9**	**-0.2**
DAMV	**Damavand**	**5.10**	**16**	*e*PN	**P**	**03 00 43.1**	**+0.5**
IDHR	**Dehrash**	**5.16**	**321**	Pn	**P**	**03 00 40.5**	**-2.9**
IAFJ	**Afjeh**	**5.26**	**13**	Pn	**P**	**03 00 45.3**	**+0.5**
IAFJ				Sn	**S**	**03 01 42.7**	**-2.2**
IFIR	**Firoozkooh**	**5.33**	**22**	Pn	**P**	**03 00 45.9**	**+0.2**
IFIR				Sn	**S**	**03 01 45.2**	**-1.3**
BHD	**Baghdad**	**5.63**	**298**	*e*Pn	**P**	**03 01 07.0**	**+17**
BHD				*e*Pg	P	03 01 34.5	+45
BHD				*e*Sn	S	03 02 19.0	+25
KRBR	**Kerman**	**5.64**	**96**	*e*PN	**P**	**03 00 51.6**	**+1.6**
ARQ	**Araqi**	**9.21**	**141**	⇑P	**P**	**03 01 38.2**	**-1.2**
	SNR=12						
HOQ	**Hoqain**	**9.46**	**137**	⇓P	**P**	**03 01 41.7**	**-1.1**
BSY	**Bisya**	**10.05**	**140**	⇑P	**P**	**03 01 49.4**	**-1.5**
	SNR=12						
BSYO	**Bisya**	**10.09**	**140**	P	**P**	**03 01 49.4**	**-2.0**
	SNR=12						
SMDO	**Samad**	**10.29**	**136**	⇑P	**P**	**03 01 52.7**	**-1.5**
	SNR=26						
JMDO	**Jabal Madar**	**10.86**	**138**	⇑P	**P**	**03 02 01.4**	**-0.4**
	SNR=9.8						
WBK	**Wadi Bani Khal**	**11.19**	**134**	⇓P	**P**	**03 02 04.0**	**-2.4**
ASF	**Jabal al Asfar**	**11.53**	**281**	Pn	**P**	**03 02 06.1**	**-4.8**
	comp=N,1.5nm,0.3s,baz=153,slow=9.0,SNR=7.9						
ASF				Sn	**S**	**03 04 09.2**	**-10**
	comp=N,0.3nm,0.3s,baz=150,slow=20,SNR=2.2						
ASF				Lg		03 05 29.8	
	comp=N,0.2nm,0.3s,baz=124,slow=18,SNR=2.1						
WHFO	**Wadi Hawf**	**13.12**	**165**	⇑P	**P**	**03 02 31.4**	**-0.7**
ABTO	**Aybut**	**13.58**	**168**	⇑P	**P**	**03 02 37.0**	**-1.1**
KIV	**Kislovodsk**	**14.53**	**338**	P	**P**	**03 02 42.1**	**-8.2**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KIV	**Kislovodsk**	**14.53**	**338**	P	**P**	**03 02 42.1**	**-8.2**
	comp=Z,2.7nm,0.6s						
BRTR	**Keskin Array B**	**16.29**	**308**	Pn	**P**	**03 03 14.8**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=126,slow=12,SNR=5.3						
IDI	**Anoyia**	**21.77**	**289**	P	**P**	**03 04 15.2**	**+0.4**
	comp=Z,5.7nm,0.6s,mb4.2,baz=93,slow=13,SNR=20						
MLR	**Muntele Rosu**	**24.06**	**315**	P	**P**	**03 04 40.4**	**+3.5**
	comp=Z,1.1nm,0.4s,mb3.6,baz=258,slow=14,SNR=5.1						
AKASG	**Malin Array Be**	**25.41**	**328**	P	**P**	**03 04 50.3**	**+0.4**
	comp=Z,0.9nm,0.5s,mb3.6,baz=136,slow=9.0,SNR=6.6						
BVAR	**Borovoye Array**	**26.68**	**28**	P	**P**	**03 05 06.1**	**+4.5**
	comp=Z,2.0nm,0.9s,mb3.7,baz=219,slow=9.5,SNR=6.6						
TIP	**Timpagrande**	**28.63**	**296**	P	**P**	**03 05 21.1**	**+1.6**
FINES	**FINESS Array B**	**34.60**	**340**	P	**P**	**03 06 11.1**	**-0.4**
	comp=Z,5.7nm,1.0s,mb4.5,baz=137,slow=8.5,SNR=6.9						
ARCES	**ARCESS Array B**	**41.35**	**347**	P	**P**	**03 07 08.9**	**+1.2**
	comp=Z,3.8nm,1.1s,mb4.0,baz=163,slow=9.4,SNR=2.7						
DBIC	**Dimbokro**	**56.80**	**257**	P	**P**	**03 09 08.0**	**+0.7**
	comp=Z,1.2nm,0.5s,mb4.2,baz=22,slow=8.2,SNR=5.0						
RES	**Resolute Bay**	**72.42**	**351**	*e*P	**P**	**03 10 47.9**	**+0.3**
RES				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
RES	**Resolute Bay**	**72.42**	**351**	*e*P	**P**	**03 10 47.9**	**+0.2**
	comp=Z,4.2nm,0.8s,mb4.4						
RES	**Resolute Bay**	**72.42**	**351**	*e*P	**P**	**03 10 47.9**	**+0.3**
	comp=Z,2.0nm,0.8s,mb4.1						
ILAR	**Eielson Array**	**83.89**	**7**	P	**P**	**03 11 55.0**	**+4.6**
	comp=Z,0.2nm,0.6s,mb3.4,baz=326,slow=3.3,SNR=4.6						

BJI ***13*** *03:05:29.1, 16.90S×173.60W, h15km, mB5.5, mb5.0, Ms5.0, Msz4.7*

HRVD ***13*** *03:05:29.1±0.2, 17.07S×173.01W, h77km±2km, MW5.2/57, Centroid moment Tensor Solution. LP body waves: s45,c65;Mantle waves: s57,c103; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}1.30±.25; $M_{\theta\theta}$-4.02±.21; $M_{\phi\phi}$2.71±.22; $M_{r\theta}$-4.99±.13; $M_{\theta\phi}$0.08±.20; $M_{\phi r}$4.26±.12; Best double couple: $M_0$7.458×10^16^ NP1: ϕ_s50°, δ27°, λ13°. NP2:ϕ_s309°, δ84°, λ116°. Principal axes: T 7.345, Plg45°, Azm245°; N .215, Plg26°, Azm126°; P -7.57, Plg34°, Azm17°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***13*** *03:05:29.1±0.2, 16.88S×173.58W, h15km, mb5.2/39, MS4.6/24 Error ellipse: s-maj=11.4km s-min=5.3km az=133.0*

MOS ***13*** *03:05:30.3±1.5, 17.04S×174.33W, h10km, mb5.4/18, MS4.7/8, Error ellipse: s-maj=16.2km s-min=13.0km az=135.6*

IDC ***13*** *03:05:34.5±0.5, 16.99S×173.50W, h54km±3km, mb4.7/17, mb1 4.9/18, mb1mx4.7/21, mbtmp5.0/18, MS4.3/11, Ms1 4.3/11, ms1mx4.0/21, Error ellipse: s-maj=24.9km s-min=11.1km az=136.0*

ORF ***13*** *03:05:37.7, 15.77S×172.71W, h30km, mb5.8*

ISC 13 03:05:32.5±0.2, 16.91S±0.06×173.65W±0.07, h54km, h54km±.9km:pP-P, n273, σ0=95/126, mb5.1/62, MS4.5/36, 13C-16D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.49**	**31**	*e*Pn	**P**	**03 06 19.6**	**-6.1**
AFI				*e*Sn	**S**	**03 06 52.9**	**-13**
RAR	**Rarotonga**	**13.80**	**110**	P	**P**	**03 08 37.9**	**-9.2**
	9.8nm,0.3s,baz=256,slow=7.3,SNR=24						
RAR				S	S	03 10 52.0	-27
	1.5nm,0.3s,baz=133,slow=19,SNR=2.1						
RAR				LR	LR	03 12 34.9	
	comp=Z,625nm,18.3s,baz=260,slow=31						
RAR	**Rarotonga**	**13.80**	**110**	*e*P	**P**	**03 08 37.4**	**-10**
	66nm,0.5s						
RAR				*e*S	S	03 10 51.4	-28
URZ	**Urewera**	**22.76**	**199**	P	**P**	**03 10 30.7**	**-0.4**
	40nm,0.3s,mb5.3,baz=48,slow=4.2,SNR=32						
URZ				S	**S**	**03 14 31.6**	**-0.1**
	4.3nm,0.4s,baz=114,slow=16,SNR=4.1						
PAE	**Paea**	**23.00**	**95**	*e*P	**P**	**03 10 40.5**	**+6.9**
	140nm,1.4s,mb5.2						
PPT	**Papeete**	**23.00**	**95**	*e*P	**P**	**03 10 40.5**	**+6.9**
	55nm,1.4s,mb4.8						
PPT	**Papeete**	**23.00**	**95**	*e*LQ		03 15 01.3	
PPT				*e*LR	LR	03 15 26.1	
	3μm,28.2s,baz=271						
TIAR	**Tiarei**	**23.22**	**95**	*e*P	**P**	**03 10 42.5**	**+6.8**
	147nm,1.2s,mb5.3						
TVO	**Taravao**	**23.30**	**96**	*e*P	**P**	**03 10 43.5**	**+7.0**
	49nm,0.9s,mb5.0						
TBI	**Tubuai**	**23.58**	**110**	*e*LQ		03 14 59.2	
TBI				*e*LR	LR	03 15 48.9	
	2μm,29.8s						
RPZ	**Rata Peaks**	**29.70**	**203**	P	**P**	**03 11 38.4**	**+2.9**
	20nm,0.4s,mb5.2,baz=23,slow=4.7,SNR=13						
TAOE	**Nuku Hiva Isla**	**33.59**	**80**	*e*LR	LR	03 20 15.0	
RKT	**Rikitea**	**36.79**	**106**	*e*LR	LR	03 21 51.2	
	998nm,29.2s,baz=280						
CNB	**Canberra Magne**	**37.65**	**234**	*e*P	**P**	**03 12 44.6**	**+0.5**
	365nm,0.7s,mb6.2						
CTA	**Charters Tower**	**38.09**	**259**	*e*P	**P**	**03 12 45.3**	**-2.6**
	3.8nm,0.3s,mb4.6						
CTA	**Charters Tower**	**38.09**	**259**	*e*P	**P**	**03 12 45.3**	**-2.6**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
CTA	**Charters Tower**	**38.09**	**259**	P	**P**	**03 12 48.1**	**+0.2**
	comp=Z,5.9nm,0.5s,mb4.6,baz=100,slow=11,SNR=4.4						
CTA				LR	LR	03 24 09.4	
	comp=Z,89nm,21.7s,MS3.5,baz=57,slow=29						
CTAO	**Charters Tower**	**38.09**	**259**	*e*P	**P**	**03 12 44.6**	**-3.3**
CTAO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
CTAO				MLR	MLR		
	comp=Z,1μm,21.0s,MS4.6						
CTAO	**Charters Tower**	**38.09**	**259**	*e*P	**P**	**03 12 44.6**	**-3.3**
	comp=Z,8.5nm,0.7s,mb4.6						
CTAO				LR	LR		
	comp=Z,1μm,21.0s,MS4.6						
PMG	**Port Moresby**	**38.83**	**276**	P	**P**	**03 13 01.2**	**+7.1**
PMG				pmax	pmax		
	comp=Z,23nm,1.0s						
PMG	**Port Moresby**	**38.83**	**276**	P	**P**	**03 13 01.2**	**+7.1**
	comp=Z,23nm,1.0s,mb4.9						
TOO	**Toolangi**	**41.34**	**232**	*e*P	**P**	**03 13 14.5**	**-0.1**
	comp=Z,22nm,0.8s,mb4.8						
TOO	**Toolangi**	**41.34**	**232**	*e*P	**P**	**03 13 14.5**	**-0.1**
TOO				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.8						
TAU	**Tasmania Unive**	**42.06**	**224**	P	**P**	**03 13 19.3**	**-1.2**
TAU				pmax	pmax		
	comp=Z,90nm,1.3s,mb5.2						
TAU	**Tasmania Unive**	**42.06**	**224**	P	**P**	**03 13 19.3**	**-1.2**
	comp=Z,90nm,1.3s,mb5.2						
STKA	**Stephens Creek**	**43.09**	**241**	⇑*i*P	**P**	**03 13 29.4**	**+0.3**
	comp=Z,10nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**43.09**	**241**	P	**P**	**03 13 29.5**	**+0.3**
	comp=Z,12nm,0.6s,mb4.8,baz=83,slow=9.4,SNR=26						
WB2	**Warramunga Arr**	**49.27**	**258**	⇓*i*P	**P**	**03 14 17.8**	**-0.3**
WRAB	**Tennant Creek**	**49.27**	**258**	*i* P	**P**	**03 14 17.9**	**-0.2**
WRAB	**Tennant Creek**	**49.27**	**258**	*e*P	**P**	**03 14 17.3**	**-0.8**
	comp=Z,37nm,1.0s,mb5.4						
WRAB				LR	LR		
	comp=Z,431nm,22.0s,MS4.4						
WRA	**Warramunga Arr**	**49.28**	**258**	P	**P**	**03 14 17.6**	**-0.6**
	comp=Z,8.9nm,0.5s,mb5.0,baz=96,slow=7.6,SNR=172						
ASAR	**Alice Springs**	**49.43**	**253**	P	**P**	**03 14 19.2**	**-0.1**
	comp=Z,51nm,0.6s,mb5.8,baz=88,slow=8.7,SNR=460						
ASAR				pP	pP	03 14 34.5	+0.8
	comp=Z,53nm,0.9s,baz=88,slow=7.6,SNR=12						
ASAR				S	**S**	**03 21 20.6**	**-0.5**
	comp=Z,1.0nm,1.0s,baz=82,slow=14,SNR=3.4						
ASAR				LR	LR	03 33 42.2	
	comp=Z,247nm,18.2s,MS4.2,baz=93,slow=34						
ASPA	**Alice Springs**	**49.43**	**253**	⇑*i*P	**P**	**03 14 19.1**	**-0.2**
GUMO	**Guam**	**50.96**	**304**	*e*P	**P**	**03 14 23.9**	**-7.2**
GUMO				pmax	pmax		
	comp=Z,344nm,1.3s,mb6.1						
GUMO				MLR	MLR		
	comp=Z,939nm,19.0s,MS4.8						
GUMO	**Guam**	**50.96**	**304**	*e*P	**P**	**03 14 23.9**	**-7.2**
	comp=Z,344nm,1.3s,mb6.1						
GUMO				LR	LR		
	comp=Z,939nm,19.0s,MS4.8						
FORT	**Forrest**	**54.53**	**244**	*e*P	**P**	**03 14 56.0**	**-1.5**
	comp=Z,38nm,0.5s,mb5.7						
FITZ	**Fitzroy Crossi**	**57.67**	**259**	*e*P	**P**	**03 15 19.5**	**-0.6**
	comp=Z,9.2nm,1.4s,mb4.6						
CBIJ	**Chichi jima**	**61.23**	**315**	LR	LR	03 35 31.6	
	comp=Z,319nm,21.9s,MS4.4,baz=129,slow=29						
SBA	**Scott Base**	**61.73**	**185**	*e*P	**P**	**03 15 48.0**	**+0.8**
SBA				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
SBA	**Scott Base**	**61.73**	**185**	*e*P	**P**	**03 15 48.0**	**+0.7**
	comp=Z,20nm,0.9s,mb5.2						
VNDA	**Vanda**	**61.86**	**186**	P	**P**	**03 15 48.2**	**+0.1**
	comp=Z,9.5nm,1.1s,mb4.8,baz=11,slow=7.0,SNR=18						
VNDA				LR	LR	03 38 51.2	
	comp=Z,154nm,19.6s,MS4.2,baz=339,slow=32						
MBWA	**Marble Bar**	**62.72**	**255**	*e*P	**P**	**03 15 53.7**	**-0.8**
	comp=Z,21nm,1.2s,mb5.1						
NWAO	**Narrogin (SRO)**	**63.68**	**241**	P	**P**	**03 15 57.9**	**-2.9**
NWAO				pmax	pmax		
	comp=Z,50nm,1.2s						
NWAO	**Narrogin (SRO)**	**63.68**	**241**	P	**P**	**03 16 01.6**	**+0.9**
	comp=Z,33nm,1.1s,mb5.3,baz=43,slow=6.1,SNR=6.7						
NWAO	**Narrogin (SRO)**	**63.68**	**241**	P	**P**	**03 15 57.9**	**-2.9**
	comp=Z,50nm,1.2s,mb5.4						
CASY	**Casey**	**68.94**	**205**	*e*P	**P**	**03 16 31.7**	**-1.9**
	comp=Z,48nm,1.1s,mb5.3						
QSPA	**South Pole Qui**	**73.14**	**180**	⇓*i*P	**P**	**03 16 59.1**	**+0.6**
	comp=Z,40nm,1.2s,mb5.2						
PET	**Petropavlovsk**	**73.64**	**343**	*e*P	**P**	**03 17 01.6**	**-0.3**
PET				*e*S	S	03 26 27.9	+1.0
PET				pmax	pmax		
	comp=Z,39nm,1.3s,mb5.2						
PET				pmax	pmax		
	comp=Z,100nm,10.3s						
PET				smax			
	comp=E,200nm,9.8s						
CMB	**Columbia Colle**	**74.05**	**41**	*e*P	**P**	**03 17 04.1**	**-0.5**
CMB				*e*	pP	03 17 19.8	-0.1
CMB				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
CMB				MLR	MLR		
	comp=Z,603nm,21.0s,MS4.9						
CMB	**Columbia Colle**	**74.05**	**41**	*e*P	**P**	**03 17 04.1**	**-0.5**
	comp=Z,19nm,1.3s,mb4.9						
CMB				*e*	pP	03 17 19.8	-0.1
CMB				LR	LR		
	comp=Z,603nm,21.0s,MS4.9						
YSS	**Yuzh-Sakhalins**	**74.67**	**331**	*e*P	**P**	**03 17 16.2**	**+8.2**
YSS				*e*	pP	03 17 30.0	+6.7
YBH	**Yreka Blue Hor**	**74.94**	**37**	P	**P**	**03 17 10.1**	**+0.4**
	comp=Z,13nm,1.0s,mb4.8,baz=226,slow=2.6,SNR=9.1						
YBH				pP	pP	03 17 25.4	+0.4
	comp=Z,11nm,0.8s,baz=238,slow=2.7,SNR=6.5						
YBH	**Yreka Blue Hor**	**74.94**	**37**	*e*P	**P**	**03 17 09.8**	**+0.2**
	comp=Z,26nm,1.2s,mb5.0						
YBH				*e*	pP	03 17 23.5	-1.5
WCN	**Washoe City**	**75.21**	**40**	*e*P	**P**	**03 17 10.3**	**-1.0**
	comp=Z,23nm,1.1s,mb5.0						
WCN				*e*	pP	03 17 23.8	-2.7
NVAR	**Mina Array Bea**	**75.61**	**42**	P	**P**	**03 17 13.1**	**-0.5**
	comp=Z,9.0nm,1.0s,mb4.7,baz=218,slow=7.3,SNR=43						
NVAR				pP	pP	03 17 28.9	0.0
	comp=Z,5.7nm,0.8s,baz=231,slow=10,SNR=8.7						
NVAR				LR	LR	03 43 40.7	
	comp=Z,322nm,20.1s,MS4.6,baz=170,slow=30						
NVAR	**Mina Array Bea**	**75.61**	**42**	P	**P**	**03 17 13.1**	**-0.5**
NVAR				pP	pP	03 17 28.9	0.0
NVAR				LR	LR	03 43 40.7	
MNV	**Mina**	**75.70**	**42**	*e*P	**P**	**03 17 13.3**	**-0.8**
	comp=Z,37nm,1.3s,mb5.2						
MNV				*e*	pP	03 17 29.7	+0.3
MIR	**Mirnyy**	**75.96**	**204**	⇓*e*P	**P**	**03 17 16.4**	**+1.4**
MIR				pmax	pmax		
	comp=Z,100nm,1.2s,mb5.6						
TPNV	**Topopah Spring**	**76.11**	**44**	*e*P	**P**	**03 17 15.7**	**-0.7**
	comp=Z,12nm,1.0s,mb4.8						
TPNV				*e*	pP	03 17 30.6	-1.2
NEN	**Nelson**	**76.35**	**46**	*e*P	**P**	**03 17 17.3**	**-0.5**
NEN				*e*	pP	03 17 31.9	-1.3
MOD	**Modoc**	**76.45**	**38**	*e*P	**P**	**03 17 17.8**	**-0.4**
	comp=Z,39nm,1.4s,mb5.1						
MOD				*e*	pP	03 17 33.2	-0.4
TRCR	**Troy Canyon**	**77.32**	**43**	*e*P	**P**	**03 17 22.5**	**-0.7**
TRCR				*e*	pP	03 17 37.6	-1.0
TUC	**Tucson**	**77.53**	**51**	*e*P	**P**	**03 17 24.2**	**-0.3**
	comp=Z,16nm,1.2s,mb4.8						
TUC				*e*	pP	03 17 40.5	+0.6
WVOR	**Wild Horse Val**	**77.76**	**38**	*e*P	**P**	**03 17 25.3**	**-0.3**
	comp=Z,28nm,1.2s,mb5.1						
WVOR				*e*	pP	03 17 40.4	-0.5
ARUT	**Antelope Range**	**78.44**	**45**	*e*P	**P**	**03 17 29.6**	**+0.2**
ARUT				*e*	pP	03 17 46.8	+2.1
SSE	**Sheshan**	**78.67**	**307**	P	**P**	**03 17 33.6**	**+2.8**
SSE				XP	sP	03 17 46.8	-5.4
SSE				S	S	03 27 31.0	+8.7
SSE				SS	SS	03 32 37.5	+7.5
SSE				AMB	AMB		
	comp=Z,55nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,109nm,4.9s						
SSE				LR	LR		
	comp=N,63nm,24.4s,MS4.1						
SSE				LR	LR		
	comp=E,97nm,24.4s,MS4.1						
SSE				LR	LR		
	comp=Z,115nm,24.2s,MS4.1						
MSU	**Marysvale**	**79.67**	**44**	*e*P	**P**	**03 17 36.5**	**+0.4**
SPU	**Mount Spurr**	**79.72**	**10**	*e*P	**P**	**03 17 36.4**	**+0.5**
SPU				*e*	pP	03 17 51.3	0.0
BMO	**Blue Mountains**	**79.97**	**37**	*e*P	**P**	**03 17 36.9**	**-0.6**
	comp=Z,19nm,1.2s,mb4.9						
MDJ	**Mudanjiang**	**80.07**	**323**	P	**P**	**03 17 38.4**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,272nm,4.6s						
MDJ	**Mudanjiang**	**80.07**	**323**	PFAKE		03 17 50.0	+12
MDJ				LR	LR		
	comp=Z,333nm,19.0s,MS4.7						
EYAK	**Cordova Ski Ar**	**80.40**	**14**	P	**P**	**03 17 38.8**	**-0.8**
NJ2	**Nanjing**	**80.88**	**307**	*e*P	**P**	**03 17 47.5**	**+4.8**
NJ2				AP	pP	03 17 57.3	-0.8
NJ2				S	S	03 27 55.0	+10
NJ2				SKS	SKS	03 28 03.0	+11
NJ2				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,590nm,4.6s						
NJ2				LR	LR		
	comp=N,370nm,22.7s,MS4.8						
NJ2				LR	LR		
	comp=E,360nm,27.1s,MS4.8						
NJ2				LR	LR		
	comp=Z,260nm,22.2s,MS4.5						
DIV	**Divide**	**80.91**	**13**	*e*P	**P**	**03 17 42.3**	**+0.1**
	comp=Z,96nm,1.0s,mb5.7						
HLID	**Hailey**	**80.94**	**39**	*e*P	**P**	**03 17 42.5**	**-0.2**
	comp=Z,19nm,1.1s,mb4.9						
HLID				*e*	pP	03 17 56.6	-1.6
HLID				LR	LR		
	comp=Z,516nm,20.0s,MS4.9						
HVU	**Hansel Valley**	**80.99**	**41**	*e*P	**P**	**03 17 42.1**	**-0.9**
HVU				*e*	pP	03 17 57.7	-0.8
LAZ	**Ladron**	**81.20**	**50**	*e*P	**P**	**03 17 44.6**	**+0.2**
LAZ				*e*	pP	03 17 59.7	-0.1
MA2	**Magadan**	**81.52**	**343**	PFAKE		03 18 00.0	+15
MA2				LR	LR		
	comp=Z,179nm,19.0s,MS4.5						
LPM	**Los Pinos Moun**	**81.54**	**50**	*e*P	**P**	**03 17 46.1**	**0.0**
LPM				*e*	pP	03 17 59.2	-2.4
TXAR	**Lajitas Array**	**81.65**	**56**	P	**P**	**03 17 46.3**	**-0.4**
	comp=Z,12nm,1.1s,mb4.7,baz=225,slow=5.3,SNR=36						
TXAR				LR	LR	03 45 09.5	
	comp=Z,190nm,20.3s,MS4.5,baz=185,slow=29						
ANMO	**Albuquerque**	**81.95**	**50**	*e*P	**P**	**03 17 48.0**	**-0.2**
	comp=Z,22nm,1.4s,mb4.9						
ANMO				*e*	pP	03 18 03.6	-0.1
ANMO				LR	LR		
	comp=Z,247nm,19.0s,MS4.6						
NEW	**Newport**	**82.08**	**34**	*e*P	**P**	**03 17 47.9**	**-0.7**
NEW				*e*	pP	03 18 02.8	-1.3
NEW				LR	LR		
	comp=Z,693nm,22.0s,MS5.0						
GDL2	**Guadalupe Moun**	**82.31**	**53**	P	**P**	**03 17 50.3**	**+0.2**
GDL2				*e*	pP	03 18 05.7	+0.1
TNA	**Tin City**	**82.33**	**2**	*e*P	**P**	**03 17 50.8**	**+1.3**
	comp=Z,22nm,1.0s,mb5.0						
TNA				*e*	pP	03 18 06.6	+1.6
MCMT	**McKenzie Canyo**	**82.58**	**39**	*e*P	**P**	**03 17 50.2**	**-1.0**
MCMT				*e*	pP	03 18 07.8	+1.1
MCK	**McKinley**	**82.64**	**11**	*e*P	**P**	**03 17 50.5**	**-0.6**
	comp=Z,20nm,0.9s,mb5.1						
MCK				*e*	pP	03 18 04.7	-2.0
MCK				LR	LR		
	comp=Z,294nm,20.0s,MS4.7						
PMSA	**Palmer Station**	**82.90**	**156**	*e*P	**P**	**03 17 55.1**	**+2.7**
	comp=Z,38nm,1.2s,mb5.3						
THY	**Trims Highway**	**82.97**	**12**	P	**P**	**03 17 48.0**	**-4.8**
THY				*e*		03 18 08.7	
LOHW	**Long Hollow**	**83.31**	**41**	*e*P	**P**	**03 17 55.0**	**0.0**
LOHW				*e*	pP	03 18 06.8	-3.7
QLMT	**Earthquake Lak**	**83.43**	**39**	*e*P	**P**	**03 17 56.3**	**+0.8**
QLMT				*e*	pP	03 18 13.1	+2.0
PDAR	**Pinedale Array**	**83.55**	**42**	P	**P**	**03 17 55.5**	**-0.6**
	comp=Z,8.1nm,0.9s,mb4.8,baz=207,slow=3.3,SNR=48						
PDAR				pP	pP	03 18 11.7	0.0
	comp=Z,10nm,1.0s,baz=216,slow=2.9,SNR=9.2						
PDAR				LR	LR	03 46 56.3	
	comp=Z,324nm,20.7s,MS4.7,baz=254,slow=30						
YFT	**Old Faithful**	**83.60**	**40**	*e*P	**P**	**03 17 57.8**	**+1.4**
YFT				*e*	pP	03 18 14.4	+2.4
YMR	**Madison River**	**83.63**	**40**	*e*P	**P**	**03 17 57.2**	**+0.7**
YMR				*e*	pP	03 18 13.9	+1.8
YNR	**Norris Junctio**	**83.83**	**40**	*e*P	**P**	**03 17 58.6**	**+1.0**
YNR				*e*	pP	03 18 13.2	+0.1
COLA	**College**	**83.88**	**11**	*d i*P	**P**	**03 17 56.9**	**-0.4**
COLA	**College**	**83.88**	**11**	*e*P	**P**	**03 17 57.6**	**+0.3**
SDCO	**Great Sand Dun**	**83.90**	**48**	*e*P	**P**	**03 17 57.6**	**-0.5**
	comp=Z,17nm,1.3s,mb5.0						
SDCO				*e*	pP	03 18 14.1	+0.5
SDCO				LR	LR		
	comp=Z,188nm,20.0s,MS4.5						
SEY	**Seymchan**	**83.91**	**345**	*e*P	**P**	**03 17 59.1**	**+1.6**
SEY						03 21 14.1	
SEY				*e*PPP	PPP	03 23 13.2	+5.0
SEY				*e*S	S	03 28 22.2	+6.8
SEY				PS	PS	03 29 14.1	-2.6
SEY				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.5						
SEY				smax			
	comp=N,230nm,17.0s						
SEY				smax			
	comp=E,320nm,17.0s						
SEY				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.5						
SEY				MLR	MLR		
	comp=N,100nm,14.0s,MS4.5						
SEY				MLR	MLR		
	comp=E,110nm,16.0s,MS4.5						
ILAR	**Eielson Array**	**83.96**	**11**	P	**P**	**03 17 57.5**	**-0.2**
	comp=E,4.6nm,1.1s,mb4.5,baz=221,slow=5.3,SNR=24						
ILAR				LR	LR	03 47 43.2	
	comp=E,194nm,21.7s,MS4.5,baz=194,slow=30						
IMA	**Indian Mountai**	**84.08**	**8**	*e*P	**P**	**03 17 59.4**	**+1.1**
	comp=E,155nm,1.4s,mb5.9						
IMA				*e*	pP	03 18 13.1	-0.7
HRY	**Holter Researc**	**84.18**	**38**	*e*P	**P**	**03 17 59.2**	**0.0**
HRY				*e*	pP	03 18 16.2	+1.4
WALA	**Waterton Lakes**	**84.28**	**35**	*e*P	**P**	**03 17 59.0**	**-0.8**
	comp=E,20nm,1.1s,mb5.2						
WALA				*e*	pP	03 18 16.3	+1.0
DAWY	**Dawson**	**84.

LZH	**Lanzhou**	**93.92**	**306**	*eP*	**P**	**03 18 46.9**	**+1.2**
LZH				AP	pP	03 18 51.8	-10
LZH				XP	sP	03 18 53.9	-13
LZH				PP	PP	03 22 35.0	+0.1
LZH				*e*S	S	03 29 53.0	+4.6
LZH				SS	SS	03 36 16.0	+3.3
LZH				AMB	AMB		
	comp=Z,19nm,1.4s,mb5.3						
LZH				AMB	AMB		
	comp=Z,136nm,5.3s						
LZH				LR	LR		
	comp=E,210nm,16.2s						
LZH				LR	LR		
	comp=Z,349nm,17.3s,MS4.9						
OTAV	**Otavalo**	**95.05**	**91**	PFAKE		03 19 00.0	+8.6
OTAV				LR	LR		
	comp=Z,106nm,22.0s,MS4.3						
ULN	**Ulaanbaatar**	**95.39**	**318**	*i* P	**P**	**03 18 55.3**	**+3.1**
ULN	**Ulaanbaatar**	**95.39**	**318**	PFAKE		03 19 00.0	+7.8
ULN				LR	LR		
	comp=Z,218nm,22.0s,MS4.6						
TIXI	**Tiksi**	**96.38**	**344**	*i* P	**P**	**03 18 57.3**	**+1.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.7						
TLY	**Talaya**	**98.66**	**321**	PFAKE		03 19 20.0	+13
TLY				LR	LR		
	comp=Z,37nm,19.0s,MS3.9						
LSA	**Lhasa**	**102.59**	**297**	PFAKE		03 19 40.0	+15
LSA				LR	LR		
	comp=Z,140nm,19.0s,MS4.5						
SDV	**Santo Domingo**	**104.92**	**85**	PFAKE		03 19 50.0	+14
SDV				LR	LR		
	comp=Z,93nm,19.0s,MS4.3						
PALK	**Pallekele**	**107.01**	**273**	PFAKE		03 24 10.0	
PALK				LR	LR		
	comp=Z,44nm,20.0s,MS4.0						
AAK	**Ala-Archa**	**117.26**	**310**	*i* PKIKP	PKPdf	03 24 14.9	+2.9
BVAR	**Borovoye Array**	**118.91**	**322**	PKP	PKPdf	03 24 16.7	+1.7
	comp=Z,2.4nm,0.5s,baz=114,slow=1.7,SNR=18						
BVAR				pPKP		03 24 33.1	
	comp=Z,4.6nm,0.9s,baz=135,slow=2.1,SNR=5.9						
BRVK	**Borovoye**	**118.97**	**322**	*e*PKIKP	PKPdf	03 24 15.4	+0.3
ARU	**Arti**	**124.49**	**328**	*i* PKIKP	PKPdf	03 24 24.2	-1.5
ARU				*e*		03 31 33.2	
ARCES	**ARCESS Array B**	**126.06**	**352**	PKP	PKPdf	03 24 31.1	+2.8
	comp=Z,2.7nm,0.8s,baz=27,slow=4.0,SNR=3.5						
ARCES				sPKP		03 24 50.2	
	comp=Z,7.1nm,0.9s,slow=1.2,SNR=4.5						
ARCES	**ARCESS Array B**	**126.06**	**352**	PKP	PKPdf	03 24 31.1	+2.8
ARCES				sPKP		03 24 50.2	
FINES	**FINESS Array B**	**133.35**	**347**	sPKP		03 25 04.7	
	comp=Z,6.8nm,1.1s,SNR=2.4						
OBN	**Obninsk**	**135.39**	**336**	*i* PKIKP	PKPdf	03 24 49.3	+3.0
OBN				pmax	pmax		
	comp=Z,41nm,2.0s						
KIV	**Kislovodsk**	**139.19**	**319**	*i* PKIKP	PKPdf	03 24 57.8	+4.2
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=N,95nm,23.0s						
KIV				MLR	MLR		
	comp=Z,128nm,23.0s,MS4.6						
KIV				MLR	MLR		
	comp=E,99nm,17.0s						
KIV	**Kislovodsk**	**139.19**	**319**	PFAKE		03 25 10.0	+16
KIV				LR	LR		
	comp=Z,41nm,20.0s,MS4.2						
GNI	**Garni**	**139.53**	**313**	*i* PKIKP	PKPdf	03 24 58.8	+4.5
GNI				MLR	MLR		
	comp=Z,100nm,22.0s						
SOC	**Sochi**	**141.22**	**320**	*i* PKIKP	PKPdf	03 25 04.9	+7.6
SOC				*e*		03 28 05.4	
SOC				*e*SS	SS	03 46 33.6	+8.2
SOC				*e*SSS	SSS	03 51 48.9	+5.9
SOC				pmax	pmax		
	comp=Z,22nm,0.9s						
SOC				pmax	pmax		
	comp=N,4.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,13nm,0.8s						
SOC				MLR	MLR		
	comp=Z,219nm,15.0s,MS5.0						
LSZ	**Lusaka**	**141.44**	**215**	PFAKE		03 25 10.0	+12
LSZ				LR	LR		
	comp=Z,198nm,20.0s,MS4.9						
AKASG	**Malin Array Be**	**141.63**	**337**	PKP	PKPdf	03 24 59.9	+2.2
	comp=Z,1.5nm,0.7s,baz=23,slow=2.1,SNR=7.6						
AKASG				pPKP		03 25 15.2	
	comp=Z,2.0nm,0.8s,baz=37,slow=2.9,SNR=3.3						
ANN	**Anapa**	**141.88**	**323**	*e*PKHKP		03 24 52.2	
ANN				pmax	pmax		
	comp=Z,19nm,0.9s						
LVV	**L'vov**	**144.20**	**340**	*e*PKHKP		03 25 02.7	
KMBO	**Kilima Mbogo**	**144.65**	**243**	PKP	PKPdf	03 25 06.1	+2.0
	comp=Z,17nm,0.8s,baz=76,slow=3.2,SNR=36						
KMBO	**Kilima Mbogo**	**144.65**	**243**	*e*PKPdf	PKPdf	03 25 06.4	+2.3
KMBO				*e*		03 25 24.6	
MALT	**Malatya**	**144.74**	**314**	*e*PKPdf	PKPdf	03 25 06.5	+3.0
KWP	**Kalwaria**	**144.78**	**341**	*e*PKP	PKPdf	03 25 05.2	+1.9
CLZ	**Clausthal**	**145.00**	**356**	*e*PKPbc	PKPbc	03 25 05.8	+2.0
WTSB	**Winterswijk**	**145.02**	**360**	*e*PKP	Px	03 25 25.5	
	comp=Z,34nm,1.5s						
OJC	**Ojcow**	**145.05**	**345**	*e*PKP	PKPdf	03 25 06.1	+2.4
KSP	**Ksiaz**	**145.22**	**349**	*e*PKP	PKPdf	03 25 06.6	+2.7
KSP				*ep*PKP		03 25 23.2	
KSP	**Ksiaz**	**145.22**	**349**	*e*PKP	PKPdf	03 25 06.8	+2.9
CLL	**Collm**	**145.27**	**353**	*i* PKIKP	PKPdf	03 25 05.8	+1.8
	comp=Z,logA/T=1.4						
CLL				*i*		03 25 22.9	
KOLS	**Kolonicke sedl**	**145.53**	**341**	*i* PKP	PKPdf	03 25 08.5	+4.0
BRG	**Berggiesshubel**	**145.57**	**351**	*i* PKP	PKPdf	03 25 07.4	+2.9
BRG				*i*		03 25 24.6	
UPC	**Upice**	**145.59**	**349**	*e*PKP	PKPdf	03 25 08.0	+3.4
UPC				*ex*	x	03 25 24.5	
NIE	**Niedzica**	**145.65**	**344**	*e*PKP	PKPdf	03 25 09.1	+4.4
DPC	**Dobruska-Polom**	**145.69**	**349**	*e*PKP	PKPdf	03 25 08.0	+3.2
DPC				*ex*	x	03 25 25.4	
CRVS	**Cervenica-Dubn**	**145.80**	**342**	*i* PKP	PKPdf	03 25 09.8	+4.8
OKC	**Ostrava-Krasne**	**145.80**	**346**	*e*PKP	PKPdf	03 25 08.4	+3.4
OKC				*e*		03 25 25.2	
PVCC	**Panska Ves**	**145.82**	**351**	*e*PKP	PKPdf	03 25 08.5	+3.5
PVCC				*ex*	x	03 25 25.0	
MORC	**Moravsky Berou**	**145.99**	**347**	*e*PKPdf	PKPdf	03 25 08.9	+3.7
MORC				*e*		03 25 26.0	
MOX	**Moxa**	**146.08**	**354**	*e*PKP	PKPdf	03 25 09.0	+3.6
MOX				*e*		03 25 25.5	
MOX	**Moxa**	**146.08**	**354**	*i* P	PKPdf	03 25 09.0	+3.6
	comp=Z,logA/T=1.4						
MOX				pPKP		03 25 26.0	
HGN	**Heimansgroeve**	**146.23**	**0**	*e*PKP	Px	03 25 25.4	
	comp=Z,53nm,1.3s						
PRU	**Pruhonice**	**146.35**	**350**	*e*PKP	PKPdf	03 25 10.1	+4.2
PRU				*ex*	x	03 25 23.1	
NKC	**Novy Kostel**	**146.40**	**353**	*e*PKP	PKPdf	03 25 10.7	+4.7
NKC				*ex*	x	03 25 25.8	
CFR	**Carcaliu**	**146.42**	**332**	⇓*i*P	PKPdf	03 25 11.0	+4.8
KECS	**Kecovo**	**146.46**	**343**	*i* PKP	PKPdf	03 25 11.5	+5.4
VRI	**Vrincioaia**	**146.50**	**334**	⇑*i*P	PKPdf	03 25 09.9	+3.6
VRAC	**Vranov**	**146.63**	**348**	PKPbc	PKPbc	03 25 10.7	+2.9
	comp=Z,9.1nm,1.0s,baz=132,slow=0.3,SNR=7.8						
VRAC				pPKPbc		03 25 28.6	
	comp=Z,11nm,1.0s,baz=353,slow=3.4,SNR=6.2						
GIVF	**Givet**	**146.87**	**2**	*e*PKP1	PKPbc	03 25 10.2	+1.9
HARR	**Harsova**	**146.88**	**331**	⇑*i*P	PKPdf	03 25 12.2	+5.2
HARR	**Harsova**	**146.88**	**331**	⇑*i*P	PKPdf	03 25 12.1	+5.1
VYHS	**Vyhne**	**146.88**	**345**	*i* PKP	PKPdf	03 25 12.3	+5.4
BAIF	**Baives**	**146.89**	**3**	*e*PKP1	PKPbc	03 25 10.3	+1.9
	comp=Z,42nm,1.2s						
GRA1	**Grafenberg Arr**	**147.06**	**354**	*e*PKPbc	PKPdf	03 25 12.6	+5.5
GRA1				*ep*PKPbc		03 25 30.5	
GRF	**Grafenberg Arr**	**147.06**	**354**	*e*PKP	PKPdf	03 25 12.6	+5.5
GRF				pPKPbc		03 25 30.5	
ABH	**Alteburg**	**147.10**	**359**	*e*P	PKPdf	03 25 12.2	+5.0
MLR	**Muntele Rosu**	**147.12**	**334**	PKPbc	PKPdf	03 25 12.5	+5.1
	comp=Z,15nm,1.1s,baz=20,slow=2.6,SNR=21						
MLR	**Muntele Rosu**	**147.12**	**334**	⇑*i*P	PKPdf	03 25 12.3	+4.9
PSZ	**Piszkesteto**	**147.13**	**343**	⇓*e*PKP2	PKPab	03 25 13.1	-0.2
PSZ	**Piszkesteto**	**147.13**	**343**	⇓*e*PKP/p	PKPab	03 25 13.1	-0.2
BRTR	**Keskin Array B**	**147.15**	**319**	PKP	PKPdf	03 25 09.8	+2.3
	comp=Z,5.8nm,0.8s,baz=180,slow=2.5,SNR=22						
BRTR				PKPbc	PKPdf	03 25 12.7	+5.1
	comp=Z,9.5nm,1.0s,baz=135,slow=1.7,SNR=32						
BRTR				pPKPbc		03 25 30.4	
	comp=Z,13nm,0.8s,baz=100,slow=2.6,SNR=8.8						
ISR	**Istrita**	**147.17**	**333**	⇓*i*P	PKPdf	03 25 13.3	+5.9
SMOL	**Smolenice**	**147.20**	**346**	*i* PKP	PKPdf	03 25 14.0	+6.6
RUP	**Ruppelstein**	**147.29**	**359**	*e*PKIKP	PKPdf	03 25 13.2	+5.7
KHC	**Kasperske Hory**	**147.33**	**351**	*e*PKP	PKPdf	03 25 12.8	+5.2
KHC				*ex*	x	03 25 31.2	
WLF	**Walferdange**	**147.33**	**0**	*e*PKPbc	PKPdf	03 25 12.4	+4.8
WLF				*e*		03 25 29.4	
WET	**Wettzell**	**147.41**	**352**	*e*PKIKP	PKPdf	03 25 13.5	+5.8
ZST	**Bratislava**	**147.57**	**347**	*e*PKP	PKPdf	03 25 14.8	+6.8
GEC2	**GERESS Array S**	**147.59**	**351**	*e*PKIKP	PKPdf	03 25 13.5	+5.5
GERES	**GERESS Array B**	**147.59**	**351**	PKPbc	PKPdf	03 25 13.5	+5.6
	comp=Z,5.6nm,1.0s,slow=1.3,SNR=30						
GERES				pPKPbc		03 25 29.7	
	comp=Z,4.2nm,0.6s,baz=23,slow=2.7,SNR=11						
SRO	**Srobarova**	**147.65**	**345**	*e*PKP	PKPdf	03 25 14.8	+6.7
ROSF	**Rostrenen**	**147.68**	**12**	*e*PKP1	PKPdf	03 25 12.6	+4.5
FLN	**La Foliniere**	**147.75**	**8**	*e*PKP1	PKPdf	03 25 13.1	+4.9
	comp=Z,79nm,1.2s						
FLN				*e*R			
	comp=Z,375nm,22.0s						
SGMF	**Saint Gilles**	**147.90**	**11**	*e*PKP1	PKPdf	03 25 13.2	+4.7
LDF	**La Druitiere**	**147.96**	**8**	*e*PKP1	PKPdf	03 25 13.7	+5.1
	comp=Z,84nm,1.3s						
GRR	**Gorron**	**148.06**	**9**	*e*PKP1	PKPdf	03 25 14.1	+5.4
	comp=Z,89nm,1.3s						
QUIF	**Quistinic**	**148.10**	**12**	*e*PKP1	PKPdf	03 25 13.8	+5.0
	comp=Z,113nm,1.6s						
PRD	**Provadia**	**148.27**	**330**	*e*P	PKPdf	03 25 14.0	+4.7
MOA	**Molln**	**148.47**	**350**	⇑*i*P	PKPdf	03 25 16.0	+6.6
	comp=Z,16nm,1.4s						
MOA				*i*		03 25 36.5	
	comp=Z,17nm,1.3s						
ASF	**Jabal al Asfar**	**148.47**	**304**	PKPbc	PKPdf	03 25 17.3	+7.3
	comp=Z,4.9nm,0.9s,baz=344,slow=2.4,SNR=9.0						
MEZF	**Maizieres J'vi**	**148.47**	**2**	*e*PKP1	PKPdf	03 25 16.0	+6.6
FUR	**Furstenfeldbru**	**148.57**	**354**	*e*PKIKP	PKPdf	03 25 16.5	+6.9
WLS	**Welschbruch**	**148.57**	**359**	PKP	PKPdf	03 25 15.9	+6.3
WLS	**Welschbruch**	**148.57**	**359**	*e*P	PKPdf	03 25 15.9	+6.3
CDF	**Champ du Feu**	**148.57**	**359**	*e*PKP1	PKPdf	03 25 15.9	+6.3
	comp=Z,52nm,1.4s						
BFO	**Black Forest**	**148.62**	**357**	*e*PKIKP	PKPdf	03 25 16.3	+6.7
THEF	**They Montfort**	**148.77**	**0**	PKP	PKPdf	03 25 16.3	+6.4
ARSA	**Arzberg**	**148.81**	**348**	⇑*i*P	PKPdf	03 25 15.9	+5.9
	comp=Z,18nm,1.7s						
ARSA				*i*		03 25 37.2	
	comp=Z,24nm,1.6s						
HAU	**Haudompre**	**148.99**	**360**	*e*PKP1	PKPdf	03 25 17.0	+6.8
	comp=Z,37nm,1.2s						
HAU				*e*R			
	comp=Z,274nm,17.0s						
PKSM	**Moragy**	**149.04**	**343**	⇓*e*P	PKPdf	03 25 17.5	+7.1
FELD	**Feldberg**	**149.09**	**358**	*e*P	PKPdf	03 25 15.6	+5.2
HINF	**Hinteralfeld**	**149.18**	**359**	*e*PKP1	PKPdf	03 25 17.2	+6.6
	comp=Z,33nm,1.3s						
KBA	**Koelnbreinsper**	**149.36**	**351**	⇑*i*P	PKPdf	03 25 17.7	+6.8
	comp=Z,11nm,1.2s						
KBA				*i*		03 25 38.2	
	comp=Z,24nm,1.6s						
MOTA	**Moosalm**	**149.40**	**354**	⇑*i*P	PKPdf	03 25 18.2	+7.3
	comp=Z,12nm,1.1s						
MOTA				*i*		03 25 38.0	
	comp=Z,18nm,1.3s						
WTTA	**Wattenberg**	**149.42**	**353**	⇑*i*P	PKPdf	03 25 18.4	+7.4
	comp=Z,17nm,1.0s						
WTTA				*i*		03 25 38.3	
	comp=Z,31nm,1.0s						
SQTA	**Sankt Quirin**	**149.51**	**353**	⇑*i*P	PKPdf	03 25 18.7	+7.6
	comp=Z,41nm,1.7s						
SQTA				*i*		03 25 38.4	
	comp=Z,23nm,1.1s						
DAVA	**Damuels**	**149.57**	**355**	⇑*i*P	PKPdf	03 25 19.0	+7.8
	comp=Z,18nm,1.1s						
DAVA				*i*		03 25 39.0	
	comp=Z,23nm,1.1s						
HYF	**Humbligny**	**149.57**	**5**	*e*PKP1	PKPdf	03 25 18.7	+7.5
SSF	**Saint Saulge**	**149.84**	**4**	*e*PKP1	PKPdf	03 25 19.1	+7.4
	comp=Z,48nm,1.1s						
MFF	**Saint Martin d**	**149.91**	**9**	*e*PKP1	PKPdf	03 25 18.8	+7.0
	comp=Z,171nm,1.6s						
CSS	**Prodhromos**	**149.95**	**312**	*e*PKPdf	PKPdf	03 25 12.5	+0.3
CSS				*e*PKPdf	PKPdf	03 25 19.5	+7.3
PDKS	**Podkum**	**150.05**	**348**	*e*PKPbc	PKPdf	03 25 19.4	+7.4
AVF	**Avril sur Loir**	**150.10**	**4**	*e*PKP1	PKPdf	03 25 19.5	+7.4
	comp=Z,38nm,1.3s						
CADS	**Cadrg**	**150.13**	**350**	*e*PKPbc	PKPdf	03 25 19.1	+7.0
LJU	**Ljubljana**	**150.16**	**349**	*e*PKPbc	PKPdf	03 25 20.0	+7.8
LJU				*e*		03 25 25.6	
PGB	**Panagyurishte**	**150.25**	**333**	*e*P	PKPdf	03 25 22.0	+10
SMF	**Signal de Mont**	**150.28**	**3**	*e*PKP1	PKPdf	03 25 20.0	+7.7
	comp=Z,24nm,1.2s						
BGF	**Bois d'Agland**	**150.29**	**5**	*e*PKP1	PKPdf	03 25 20.0	+7.6
	comp=Z,58nm,1.3s						
MBAR	**Mbarara**	**150.32**	**237**	PKPdf	PKPdf	03 25 14.0	+0.5
MBAR				*e*PKPbc	PKPdf	03 25 20.8	+7.4
MBAR				*e*PKPab	PKPab	03 25 27.0	-0.3
CABF	**La Chapelle**	**150.38**	**0**	*e*PKP1	PKPdf	03 25 21.0	+8.5
	comp=Z,93nm,1.3s						
GRUS	**Gruza**	**150.48**	**339**	⇓*i*PKP	PKPdf	03 25 21.1	+8.4
TCF	**Toulx Ste Croi**	**150.50**	**6**	*e*PKP1	PKPdf	03 25 20.4	+7.7
	comp=Z,47nm,1.4s						
BOJS	**Bojanci**	**150.53**	**347**	*e*PKPbc	PKPdf	03 25 21.2	+8.4
BOJS				*e*		03 25 27.4	
DIVS	**Divcibare**	**150.54**	**340**	⇓*i*PKP	PKPdf	03 25 21.2	+8.4
VTS	**Vitosha**	**150.63**	**334**	*i* P	PKPdf	03 25 22.0	+9.0
RZN	**Rozhen**	**150.69**	**331**	*i* P	PKPdf	03 25 22.0	+8.9
EIL	**Elat**	**150.91**	**301**	*e*PKPdf	PKPdf	03 25 16.8	+2.9
EIL				*e*PKPbc	PKPdf	03 25 22.7	+8.8
PLDF	**La Plantade**	**150.94**	**4**	PKP	PKPdf	03 25 22.5	+9.1
PLDF	**La Plantade**	**150.94**	**4**	*e*P	PKPdf	03 25 22.5	+9.1
PYM	**Petit Puy Mans**	**151.11**	**5**	PKP	PKPdf	03 25 21.5	+7.9
PYM	**Petit Puy Mans**	**151.11**	**5**	*e*P	PKPdf	03 25 21.5	+7.9
MMB	**Musomiste**	**151.22**	**332**	*i* P	PKPdf	03 25 23.0	+9.1
KKB	**Krupnik**	**151.28**	**333**	*i* P	PKPdf	03 25 23.0	+9.0
RJF	**Les Rejaudoux**	**151.40**	**7**	*e*PKP1	PKPdf	03 25 22.5	+8.4
RJF				*e*R			
	comp=Z,560nm,19.2s						
LPL	**La Plagne**	**151.48**	**359**	*e*PKP1	PKPdf	03 25 23.8	+10
	comp=Z,12nm,1.0s						
LPG	**La Plagne**	**151.50**	**359**	*e*PKP1	PKPdf	03 25 23.9	+10
	comp=Z,16nm,1.2s						
LBL	**Lubilhac**	**151.64**	**5**	PKP	PKPdf	03 25 24.9	+10
LBL	**Lubilhac**	**151.64**	**5**	*e*P	PKPdf	03 25 24.9	+10
LFF	**La Frestale**	**151.66**	**8**	*e*PKP1	PKPdf	03 25 22.9	+8.4
	comp=Z,46nm,1.3s						
CAF	**Calviac**	**151.84**	**6**	*e*PKP1	PKPdf	03 25 23.5	+8.8
SKO	**Skopje**	**151.87**	**336**	*e*PKP	PKPdf	03 25 24.0	+9.1
BNI	**Bardonecchia**	**151.94**	**360**	*e*PKPbc	PKPdf	03 25 24.3	+9.4
ORIF	**Oris-en-Rattie**	**152.07**	**1**	*e*PKP1	PKPdf	03 25 24.6	+10
	comp=Z,8.8nm,1.0s						
ORIF				*e*R			
	comp=Z,218nm,20.2s						
VIVF	**Saint-Julien-l**	**152.10**	**3**	*e*PKP1	PKPdf	03 25 24.6	+9.5
MBDF	**Montbardon**	**152.27**	**359**	*e*PKP1	PKPdf	03 25 23.4	+8.0
	comp=Z,18nm,1.1s						
MTLF	**Montolieu**	**153.42**	**7**	*e*PKP1	PKPdf	03 25 27.6	+11
EPF	**Esparros**	**153.47**	**10**	*e*PKP1	PKPdf	03 25 27.7	+11
LMR	**La Mourre**	**153.66**	**360**	*e*PKP1	PKPdf	03 25 27.7	+10
	comp=Z,21nm,1.4s						
PGF	**Pioggiola**	**154.35**	**355**	*e*PKP1	PKPdf	03 25 30.5	+12
	comp=Z,60nm,1.4s						
ESDC	**Sonseca Array**	**155.61**	**20**	PKPab	PKPab	03 25 50.2	+1.4
	comp=Z,0.8nm,0.6s,baz=311,slow=2.1,SNR=7.5						

*IDC **13** 03:34:37.4±0.9, 43.08N×139.46E, mb3.7/5, mb1 4.1/5, mb1mx3.8/20, mbtmp3.7/5, ML3.0/1, MS4.3/2, Ms1 4.3/2, ms1mx2.7/28, Error ellipse: s-maj=31.8km s-min=21.0km az=126.0*

*JMA **13** 03:34:38.3±0.1, 43.21N×139.32E, h31km±3km, M3.8*

ISC 13 03:34:39.1±1.1, 43.15N±0.05×139.40E±0.07, h22km±7km, n17, σ0°78/21, mb3.5/6, MS4.4/2, 1C-1D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSH	**Shimam**	**0.70**	**137**	⇑P	**Pb**	**03 34 52.7**	**+0.2**
JSH				*e*S	**Sb**	**03 35 03.1**	**+1.4**
JSK	**Shakotan**	**0.81**	**75**	⇓P	**Pb**	**03 34 54.0**	**-0.5**
JSK				*e*S	**Sb**	**03 35 04.6**	**-0.4**
JOSM	**Okushiri--Mats**	**1.07**	**177**	P	**Pb**	**03 34 58.0**	**-0.8**
JOSM				*e*S	**Sb**	**03 35 12.2**	**-0.2**
JYM2	**Yakumo 2**	**1.26**	**145**	P	**Pn**	**03 35 01.9**	**+0.3**
JNB	**Noboribetsu**	**1.39**	**119**	P	**Pn**	**03 35 03.3**	**-0.2**
JNB				*e*S	**Sn**	**03 35 20.8**	**-0.5**
JKB	**Kayabe**	**1.75**	**136**	P	**Pn**	**03 35 08.5**	**-0.1**
JKB				*e*S	**Sn**	**03 35 30.8**	**+0.4**
JSR	**Shiriuchi**	**1.79**	**155**	P	**Pn**	**03 35 09.5**	**+0.3**
JHR	**Hokuryu**	**1.80**	**70**	P	**Pn**	**03 35 09.3**	**0.0**
JHR				*e*S	**Sn**	**03 35 31.8**	**+0.2**
ASAJ	**Asahikawa**	**2.52**	**66**	Pn	**Pn**	**03 35 19.6**	**0.0**
	2.4nm,0.3s,baz=243,slow=11,SNR=10						
SONM	**Songino Array**	**23.49**	**293**	P	**P**	**03 39 49.8**	**+1.9**
	0.2nm,0.6s,mb2.7,baz=80,slow=8.8,SNR=2.8						
ARCES	**ARCESS Array B**	**57.74**	**338**	LR	LR	04 10 05.7	
	comp=Z,271nm,21.6s,MS4.3,baz=21,slow=37						
YKA	**Yellowknife Ar**	**59.34**	**31**	P	**P**	**03 44 40.3**	**-1.0**
	0.1nm,0.4s,mb3.2,baz=305,slow=6.5,SNR=5.3						
WRA	**Warramunga Arr**	**62.95**	**185**	P	**P**	**03 45 04.8**	**-1.5**
	1.3nm,0.7s,mb4.2,baz=1.5,slow=7.1,SNR=11						
JMIC	**Jan Mayen**	**63.85**	**349**	LR	LR	04 10 15.3	
	comp=Z,267nm,20.3s,MS4.4,baz=76,slow=33						
ASAR	**Alice Springs**	**66.68**	**185**	P	**P**	**03 45 29.9**	**-0.6**
	1.1nm,0.8s,mb3.9,baz=0.4,slow=4.6,SNR=9.4						
NVAR	**Mina Array Bea**	**72.58**	**54**	P	**P**	**03 46 07.9**	**+1.6**
	0.4nm,0.6s,mb3.5,baz=313,slow=5.2,SNR=3.9						
PDAR	**Pinedale Array**	**74.48**	**46**	P	**P**	**03 46 17.2**	**-0.1**
	0.6nm,0.6s,mb3.7,baz=333,slow=3.3,SNR=4.8						

*TIR **13** 03:42:57.6, 40.92N×20.14E, h3km*
*PDG **13** 03:42:58.8±0.3, 40.82N×20.02E, h1km±1km*
*NEIC **13** 03:42:58.8, 40.82N×20.02E, h1km, MD3.0(PDG), After PDG.*
*THE **13** 03:42:59.9, 41.04N×20.29E, h10km, ML3.2*
*CSEM **13** 03:43:01.2±0.1, 40.99N×20.38E, h2km, ML3.2, Error ellipse: s-maj=2.6km s-min=1.3km az=35.0*

ISC 13 03:42:59.8±0.4, 40.93N±0.02×20.29E±0.03, h1km, n37, σ1°37/61, 1C-11D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.43**	**64**	⇓*i*Pg	**Pg**	**03 43 08.0**	**-0.3**
OHR				*e*Sg	**Sg**	**03 43 14.9**	**+0.9**
KBN	**Korca**	**0.48**	**129**	*i* Pg	**Pg**	**03 43 09.5**	**0.0**
KBN				*i* Sg	**Sg**	**03 43 18.6**	**+2.7**
TIR	**Tirane**	**0.53**	**323**	⇓*i*Pg	**Pg**	**03 43 05.9**	**-4.5**
QSH	**Qafa e Shtames**	**0.66**	**334**	*i* Pg	**Pg**	**03 43 10.2**	**-2.8**
QSH				*i* Sg	**Sg**	**03 43 21.2**	**-0.6**
BIA	**Bitola**	**0.79**	**83**	*i* Pg	**Pg**	**03 43 15.2**	**-0.3**
BIA				*i*		03 43 15.6	
BIA				*i* Sg	**Sg**	**03 43 27.6**	**+1.5**
BIA	**Bitola**	**0.79**	**83**	*i* Pg	**Pg**	**03 43 15.2**	**-0.3**
BIA				*i* Sg	**Sg**	**03 43 27.6**	**+1.5**
LSK	**Leskovik**	**0.81**	**163**	*e*Pg	**Pg**	**03 43 14.4**	**-1.6**
LSK				*i* Sg	**Sg**	**03 43 28.4**	**+1.6**
FNA	**Florina**	**0.84**	**100**	*e*Pg	**Pg**	**03 43 15.8**	**-0.7**
FNA				*e*Sg	**Sg**	**03 43 28.7**	**+1.0**
PUK	**Puka**	**1.15**	**345**	*i* Pg	**Pg**	**03 43 20.4**	**-2.4**
PUK				*i* Sg	**Sg**	**03 43 38.7**	**+0.5**
ULC	**Ulcinj**	**1.30**	**323**	⇓*i*Pg	**Pg**	**03 43 22.6**	**-3.1**
ULC				*e*Sg	**Sg**	**03 43 42.7**	**-0.3**
SKO	**Skopje**	**1.35**	**39**	*i* Pg	**Pg**	**03 43 25.1**	**-1.8**
SKO				⇑*i*Sg	**Sg**	**03 43 43.0**	**-1.9**
SKO				Lg		03 43 47.0	
	comp=Z,0.1nm,0.4s						
IGT	**Igoumenitsa**	**1.39**	**179**	*e*Pb	**Pb**	**03 43 27.2**	**+0.8**
IGT				*e*Sb	**Sb**	**03 43 48.5**	**+3

KZA			⇑S	Sb	03 51 40.8	-0.1
	14nm,0.3s					
USP	**Ospenovka**	**1.71 276**	⇓P	Pn	03 51 22.8	-0.2
	7.9nm,0.2s,SNR=5.9					
USP			⇓S	Sn	03 51 44.7	-0.4
	24nm,0.1s					
AAK	**Ala-Archa**	**1.78 255**	⇑Pn	Pn	03 51 24.2	+0.2
	2.8nm,0.3s					
AAK			⇑Lg		03 51 47.3	
	11nm,0.5s					
AAK	**Ala-Archa**	**1.78 255**	⇓P	Pn	03 51 24.4	+0.5
	7.8nm,0.2s,SNR=10					
AAK			⇓S	Sn	03 51 47.5	+0.7
	16nm,0.3s					
UCH	**Uchtor**	**1.92 244**	⇓P	Pn	03 51 27.1	+1.1
	4.2nm,0.2s,SNR=8.9					
UCH			⇓S	Sn	03 51 52.6	+2.2
	5.2nm,0.2s					
EKS2	**Erkin-Say**	**2.28 260**	⇓P	Pn	03 51 32.6	+1.3
	3.1nm,0.1s,SNR=29					
EKS2			⇓S	Sn	03 52 03.7	+4.0
	7.5nm,0.2s					
AML	**Almayashu**	**2.51 248**	⇑P	Pn	03 51 37.4	+3.0
	11nm,0.4s,SNR=11					
MK31	**Makanchi Array**	**5.35 45**	⇑Pn	Pn	03 52 14.6	-0.2
	0.1nm,0.2s,baz=224,slow=16,SNR=4.7					
MK31			⇑Lg		03 53 37.7	
	0.5nm,0.6s,baz=228,slow=27,SNR=6.0					

IDC 13 04:07:40.2±15.0, 8.11S×127.89E, h116km±116km, mb3.7/1, mb1 3.8/3, mb1mx3.5/12, mbtmp4.1/3, ML4.1/2, 1C, Error ellipse: s-maj=128.0km s-min=97.2km az=76.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.40**	**136**	⇑*i*P	P	04 09 15.1	+1.9
	55nm,0.4s						
KAKA				*e*S	S	04 10 26.9	+1.5
FITZ	**Fitzroy Crossi**	**10.17**	**192**	*e*P	P	04 10 02.8	-1.4
	13nm,1.3s						
FITZ				*e*S	S	04 11 53.6	-3.2
WRA	**Warramunga Arr**	**13.32**	**153**	P	P	04 10 44.1	-1.5
	1.5nm,0.3s,baz=324,slow=13,SNR=36						
WRA				S	S	04 13 11.7	+0.5
	0.8nm,0.3s,baz=330,slow=22,SNR=5.6						
WB2	**Warramunga Arr**	**13.32**	**153**	*e*P	P	04 10 44.1	-1.6
WB2				*e*S	S	04 13 08.4	-3.0
ASAR	**Alice Springs**	**16.51**	**160**	P	P	04 11 26.8	+0.6
	0.6nm,0.3s,baz=337,slow=10,SNR=27						
ASAR				S	S	04 14 28.4	+3.6
	0.2nm,0.3s,baz=344,slow=23,SNR=3.7						
ASPA	**Alice Springs**	**16.51**	**160**	*e*P	P	04 11 27.0	+0.8
STKA	**Stephens Creek**	**26.87**	**154**	P	P	04 13 09.9	-2.2
	1.3nm,0.5s,baz=315,slow=10,SNR=4.4						

*TIR **13** 04:15:45.5, 40.82N×20.72E, h11km*
*SKO **13** 04:15:49.0, 41.06N×20.63E, h6km*
*NEIC **13** 04:15:49.0, 41.06N×20.63E, h6km, MD2.6(PDG), ML2.2(SKO), After SKO.*
*THE **13** 04:15:52.2, 41.18N×20.97E, h2km, ML2.8*
*CSEM **13** 04:15:53.6±0.1, 41.09N×20.97E, h10km, ML2.8, Error ellipse: s-maj=3.4km s-min=1.6km az=35.0*
*PDG **13** 04:15:54.2±0.3, 41.23N×20.42E, h10km±1km*
ISC 13 04:15:50.7±0.3, 41.15N±0.03×20.82E±0.04, h6km, n27, σ1§45/49, 3C, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.04**	**206**	⇑*i*Pg	**Pg**	**04 15 51.3**	**-0.7**
OHR				⇑*i*Sg	**Sg**	**04 15 52.8**	**-0.1**
BIA	**Bitola**	**0.40**	**108**	⇑*i*Pg	**Pg**	**04 15 59.2**	**+0.4**
BIA				*i* Sg	**Sg**	**04 16 06.8**	**+2.6**
FNA	**Florina**	**0.55**	**130**	*e*Pg	**Pg**	**04 16 01.1**	**-0.7**
FNA				*e*Sg	**Sg**	**04 16 09.9**	**+0.6**
TIR	**Tirane**	**0.75**	**286**	*e*Pg	**Pg**	**04 16 02.8**	**-2.9**
QSH	**Qafa e Shtames**	**0.79**	**299**	*i* Pg	**Pg**	**04 16 03.0**	**-3.4**
QSH				*i* Sg	**Sg**	**04 16 14.0**	**-2.9**
SKO	**Skopje**	**0.95**	**29**	*i* Pg	**Pg**	**04 16 10.6**	**+1.0**
SKO				*i* Sg	**Sg**	**04 16 22.0**	**-0.3**
SKO				Lg		04 16 24.5	
	comp=Z,0.0nm,0.3s						
PUK	**Puka**	**1.14**	**323**	*i* Pg	**Pg**	**04 16 14.0**	**+0.6**
PUK				*i* Sg	**Sg**	**04 16 27.2**	**-1.3**
GRG	**Griva**	**1.21**	**98**	*e*Pg	**Pg**	**04 16 12.9**	**-1.9**
GRG				*e*Sg	**Sg**	**04 16 29.0**	**-2.0**
GRG	**Griva**	**1.21**	**98**	*e*Pg	**Pg**	**04 16 12.9**	**-2.0**
GRG				*e*Sg	**Sg**	**04 16 29.0**	**-2.0**
ULC	**Ulcinj**	**1.44**	**305**	*e*Pg	**Pn**	**04 16 14.7**	**-2.6**
ULC				*e*Sg	**Sn**	**04 16 33.0**	**-3.7**
KNT	**Kendrikon**	**1.57**	**89**	*e*Pb	**Pb**	**04 16 19.3**	**-0.5**
PVY	**Plav**	**1.58**	**337**	*e*Pg	**Pg**	**04 16 19.7**	**-2.5**
PVY				*e*Sg	**Sg**	**04 16 42.3**	**-1.0**
LIT	**Litokhoron**	**1.64**	**129**	*e*Pb	**Pb**	**04 16 20.8**	**-0.2**
IGT	**Igoumenitsa**	**1.65**	**193**	*e*Pb	**Pb**	**04 16 21.9**	**+0.7**
IGT				*e*Sb	**Sb**	**04 16 46.5**	**+4.3**
TTG	**Podgorica**	**1.73**	**318**	*e*Pg	**Pg**	**04 16 21.3**	**-4.0**
TTG				*e*Sg	**Sg**	**04 16 45.7**	**-2.8**
BUM	**Brajici-Budva**	**1.84**	**309**	*e*Pg	**Pn**	**04 16 23.1**	**0.0**
BUM				*e*Sg	**Sn**	**04 16 48.0**	**+0.9**
BUM	**Brajici-Budva**	**1.84**	**309**	*e*Pg	**Pn**	**04 16 23.1**	**-0.1**
BUM				*e*Sg	**Sn**	**04 16 48.0**	**+0.9**
IVA	**Berane**	**1.86**	**339**	*e*Pn	**Pn**	**04 16 24.4**	**+1.1**
IVA				*e*Sn	**Sg**	**04 16 51.9**	**-0.6**
NKY	**Niksic**	**2.15**	**321**	*e*Pn	**Pn**	**04 16 29.1**	**+1.5**
NKY				*e*Sn	**Sn**	**04 16 56.1**	**+1.2**
HCY	**Herceg Novi**	**2.17**	**308**	*e*Pn	**Pn**	**04 16 28.9**	**+1.1**
HCY				*e*Sn	**Sn**	**04 16 56.8**	**+1.4**
AGG	**Agios Georgios**	**2.42**	**151**	*e*Pn	**Pn**	**04 16 31.2**	**-0.2**
AGG				*e*Sn	**Sn**	**04 17 01.9**	**+0.3**
PLE	**Pljevlja**	**2.43**	**335**	*e*Pn	**Pn**	**04 16 33.5**	**+2.0**
PLE				*e*Sn	**Sn**	**04 17 04.8**	**+2.9**
BRY	**Bratogost**	**2.44**	**317**	*e*Pn	**Pn**	**04 16 33.2**	**+1.5**
BRY				*e*Sn	**Sn**	**04 17 03.1**	**+0.9**
BRY	**Bratogost**	**2.44**	**317**	*e*Pn	**Pn**	**04 16 33.2**	**+1.5**
BRY				*e*Sn	**Sn**	**04 17 03.1**	**+0.9**
PAIG	**Paliouri**	**2.50**	**118**	*e*Pn	**Pn**	**04 16 31.8**	**-0.7**
UPM	**Unac-Piva**	**2.50**	**326**	*e*Pn	**Pn**	**04 16 34.4**	**+1.8**
UPM				*e*Sn	**Sn**	**04 17 06.5**	**+2.8**
OUR	**Ouranopolis**	**2.54**	**108**	*e*Pn	**Pn**	**04 16 32.5**	**-0.6**

*IDC **13** 04:20:51.0±0.9, 13.47N×145.17E, mb3.7/7, mb1 4.0/7, mb1mx3.9/18, mbtmp3.7/7, Error ellipse: s-maj=47.9km s-min=18.9km az=103.0*
*NEIC **13** 04:20:56.9±1.9, 13.41N×145.17E, h42km±18km, mb4.6/1, Error ellipse: s-maj=37.2km s-min=12.1km az=100.0*
ISC 13 04:20:56.7±1.4, 13.4N±0.1×145.0E±0.3, h55km±12km, n10, σ0§72/11, mb3.8/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.23**	**318**	*e*Pg	**P**	**04 21 05.8**	**0.0**
GUMO				*e*Sg	**S**	**04 21 12.4**	**0.0**
WRAB	**Tennant Creek**	**34.76**	**198**	*e*P	**P**	**04 27 43.8**	**-0.2**
	8.4nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**34.78**	**198**	P	**P**	**04 27 44.1**	**-0.1**
	2.8nm,0.7s,mb4.3,baz=23,slow=9.5,SNR=19						
ASAR	**Alice Springs**	**38.42**	**197**	P	**P**	**04 28 15.3**	**+0.6**
	1.5nm,0.6s,mb3.9,baz=22,slow=11,SNR=18						
STKA	**Stephens Creek**	**45.15**	**184**	P	**P**	**04 29 09.7**	**-0.2**
	4.3nm,1.0s,mb4.2,baz=37,slow=4.7,SNR=5.9						
STKA	**Stephens Creek**	**45.15**	**184**	*e*P	**P**	**04 29 09.0**	**-0.9**
SONM	**Songino Array**	**46.96**	**325**	P	**P**	**04 29 24.2**	**+0.3**
	0.2nm,0.6s,mb3.2,baz=124,slow=7.2,SNR=3.4						
ILAR	**Eielson Array**	**68.66**	**25**	P	**P**	**04 31 54.6**	**-1.3**
	0.1nm,0.5s,mb3.0,baz=256,slow=5.9,SNR=4.3						
YKA	**Yellowknife Ar**	**82.94**	**27**	P	**P**	**04 33 16.5**	**-0.3**
	0.1nm,0.5s,mb3.1,baz=285,slow=5.1,SNR=4.6						
NVAR	**Mina Array Bea**	**86.91**	**51**	P	**P**	**04 33 38.6**	**+1.6**
	0.2nm,0.5s,mb3.6,baz=252,slow=5.7,SNR=2.7						

*TIR **13** 04:47:42.9, 40.78N×20.74E, h11km*
*SKO **13** 04:47:47.4, 41.06N×20.63E, h6km, ML2.6*
*NEIC **13** 04:47:47.4, 41.06N×20.63E, h6km, MD2.8(PDG), ML2.6(SKO), After SKO.*
NEIC Felt [III] at Struga, Macedonia.
*THE **13** 04:47:49.7, 41.19N×20.91E, h10km, ML3.2*
*CSEM **13** 04:47:49.8±0.2, 41.11N×20.84E, ML2.6, Error ellipse: s-maj=3.6km s-min=2.3km az=39.0*
*PDG **13** 04:47:50.4±0.2, 41.14N×20.40E, h10km±1km*
ISC 13 04:47:48.8±0.3, 41.13N±0.03×20.80E±0.03, h6km, n25, σ1§15/43, 3C, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.02**	**189**	⇑*i*Pg	**Pg**	**04 47 49.7**	**-0.2**
OHR				⇑*i*Sg	**Sg**	**04 47 51.1**	**+0.4**
BIA	**Bitola**	**0.41**	**105**	⇑*i*Pg	**Pg**	**04 47 57.6**	**+0.6**
BIA				*i* Sg	**Sg**	**04 48 04.9**	**+2.4**
FNA	**Florina**	**0.56**	**128**	*e*Pg	**Pg**	**04 47 59.4**	**-0.5**
FNA				*e*Sg	**Sg**	**04 48 08.0**	**+0.7**
TIR	**Tirane**	**0.74**	**287**	*e*Pg	**Pg**	**04 48 00.5**	**-3.1**
TIR				*i* Sg	**Sg**	**04 48 12.0**	**-1.5**
SKO	**Skopje**	**0.97**	**29**	*i* Pg	**Pg**	**04 48 08.8**	**+0.6**
SKO				*i* Sg	**Sg**	**04 48 19.9**	**-1.2**
SKO				Lg		04 48 23.5	
	comp=Z,0.1nm,0.4s						
GRG	**Griva**	**1.22**	**98**	*e*Pg	**Pg**	**04 48 11.1**	**-2.1**
GRG				*e*Sg	**Sg**	**04 48 28.7**	**-0.8**
ULC	**Ulcinj**	**1.43**	**306**	*e*Pg	**Pn**	**04 48 12.1**	**-3.3**
ULC				*e*Sg	**Sn**	**04 48 31.5**	**-3.3**
KNT	**Kendrikon**	**1.58**	**88**	*e*Pb	**Pb**	**04 48 17.6**	**-0.5**
PVY	**Plav**	**1.59**	**337**	*e*Pg	**Pg**	**04 48 17.7**	**-2.8**
PVY				*e*Sg	**Sg**	**04 48 41.1**	**-0.7**
IGT	**Igoumenitsa**	**1.64**	**193**	*e*Pb	**Pb**	**04 48 20.1**	**+1.1**
IGT				*e*Sb	**Sb**	**04 48 44.5**	**+4.7**
LIT	**Litokhoron**	**1.65**	**128**	*e*Pb	**Pb**	**04 48 18.9**	**-0.2**
LIT				*e*Sb	**Sb**	**04 48 41.0**	**+0.9**
THE	**Thessaloniki**	**1.71**	**106**	*e*Pb	**Pb**	**04 48 19.2**	**-1.1**
TTG	**Podgorica**	**1.74**	**319**	*e*Pg	**Pn**	**04 48 18.8**	**-1.0**
TTG				*e*Sg	**Sn**	**04 48 43.4**	**+0.9**
BUM	**Brajici-Budva**	**1.84**	**310**	*e*Pn	**Pn**	**04 48 20.3**	**-1.0**
BUM				*e*Sn	**Sn**	**04 48 45.3**	**+0.1**
IVA	**Berane**	**1.87**	**339**	*e*Pn	**Pn**	**04 48 22.8**	**+1.2**
IVA				*e*Sn	**Sn**	**04 48 49.2**	**+3.5**
NKY	**Niksic**	**2.15**	**322**	*e*Pn	**Pn**	**04 48 26.1**	**+0.4**
NKY				*e*Sn	**Sn**	**04 48 54.6**	**+1.5**
HCY	**Herceg Novi**	**2.17**	**308**	*e*Pn	**Pn**	**04 48 25.5**	**-0.4**
HCY				*e*Sn	**Sn**	**04 48 53.6**	**+0.2**
AGG	**Agios Georgios**	**2.41**	**150**	*e*Pn	**Pn**	**04 48 29.4**	**0.0**
PLE	**Pljevlja**	**2.44**	**335**	*e*Pn	**Pn**	**04 48 30.2**	**+0.5**
PLE				*e*Sn	**Sn**	**04 49 02.7**	**+2.5**
BRY	**Bratogost**	**2.44**	**317**	*e*Pn	**Pn**	**04 48 29.7**	**-0.2**
BRY				*e*Sn	**Sn**	**04 49 01.1**	**+0.7**
PAIG	**Paliouri**	**2.50**	**118**	*e*Pn	**Pn**	**04 48 29.9**	**-0.8**
UPM	**Unac-Piva**	**2.50**	**326**	*e*Pn	**Pn**	**04 48 31.4**	**+0.7**
UPM				*e*Sn	**Sn**	**04 49 03.6**	**+1.7**
XOR	**Xorichti**	**2.54**	**133**	*e*Pn	**Pn**	**04 48 31.6**	**+0.3**
XOR	**Xorichti**	**2.54**	**133**	*e*Pn	**Pn**	**04 48 31.5**	**+0.3**
OUR	**Ouranopolis**	**2.54**	**107**	*e*Pn	**Pn**	**04 48 30.9**	**-0.3**

*IDC **13** 04:50:35.1±5.9, 35.28S×180.00E, h72km±49km, mb4.3/5, mb1 4.4/7, mb1mx4.1/14, mbtmp4.5/7, ML4.2/2, MS3.6/4, Ms1 3.6/4, ms1mx3.0/20, Error ellipse: s-maj=42.7km s-min=29.6km az=16.0*
*NEIC **13** 04:50:35.3±2.1, 35.40S×179.98E, h75km±16km, mb5.0/4, Error ellipse: s-maj=24.2km s-min=13.0km az=221.0*
ISC 13 04:50:34.1±1.5, 35.39S±0.08×180.0E±0.1, h76km±11km, n66, σ1§11/63, mb4.6/8, 1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.54**	**211**	P	**P**	**04 51 13.8**	**-0.3**
MXZ				S	**S**	**04 51 51.3**	**+7.3**
PUZ	**Puketiti**	**3.01**	**206**	*e*P	**P**	**04 51 21.6**	**+1.0**
PUZ				S	**S**	**04 52 01.1**	**+5.5**
PUZ	**Puketiti**	**3.01**	**206**	P	**P**	**04 51 21.4**	**+0.8**
PUZ				S	**S**	**04 52 01.5**	**+5.9**
WIZ	**White Island**	**3.09**	**225**	P	**P**	**04 51 21.3**	**-0.4**
MWZ	**Matawai**	**3.53**	**213**	P	**P**	**04 51 28.4**	**+0.6**
MWZ				S	**S**	**04 52 13.8**	**+5.3**
URZ	**Urewera**	**3.66**	**218**	P	**P**	**04 51 30.2**	**+0.5**
	30nm,0.3s,baz=35,slow=6.0,SNR=155						
URZ				S	**S**	**04 52 14.2**	**+2.3**
	26nm,0.3s,baz=102,slow=24,SNR=3.9						
URZ				LR	LR	04 52 56.7	
	comp=Z,219nm,21.7s,baz=351,slow=38						
URZ	**Urewera**	**3.66**	**218**	P	**P**	**04 51 30.3**	**+0.6**
URZ	**Urewera**	**3.66**	**218**	P	**P**	**04 51 30.1**	**+0.4**
KUZ	**Kuaotunu**	**3.69**	**247**	P	**P**	**04 51 30.1**	**0.0**
MARZ	**Manawahe**	**3.70**	**225**	P	**P**	**04 51 30.4**	**+0.2**
MARZ	**Manawahe**	**3.70**	**225**	P	**P**	**04 51 29.9**	**-0.3**
EDRZ	**Edgecumbe**	**3.75**	**223**	P	**P**	**04 51 32.0**	**+1.1**
TGRZ	**Tauranga**	**3.78**	**231**	P	**P**	**04 51 32.0**	**+0.6**
TAZ	**Tarawera**	**3.96**	**223**	P	**P**	**04 51 35.5**	**+1.6**
KNZ	**Kokohu**	**4.06**	**206**	P	**P**	**04 51 34.8**	**-0.4**
UTU	**Utuhina**	**4.11**	**226**	P	**P**	**04 51 39.1**	**+3.2**
UTU	**Utuhina**	**4.11**	**226**	P	**P**	**04 51 38.6**	**+2.7**
WCZ	**Waipu Caves**	**4.60**	**262**	P	**P**	**04 51 42.3**	**-0.5**
BKZ	**Black Stump Fm**	**4.67**	**215**	P	**P**	**04 51 43.2**	**-0.6**
BKZ				S	**S**	**04 52 41.5**	**+4.3**
MGZ	**Maungaku**	**5.04**	**223**	P	**P**	**04 51 56.2**	**+7.3**
MGZ	**Maungaku**	**5.04**	**223**	P	**P**	**04 51 49.2**	**+0.3**
NGZ	**Ngauruhoe**	**5.13**	**221**	P	**P**	**04 51 50.3**	**+0.2**
HIZ	**Hauiti**	**5.14**	**231**	P	**P**	**04 51 51.4**	**+1.2**
TUVZ	**Tukino**	**5.17**	**220**	P	**P**	**04 51 51.1**	**+0.5**
TUVZ	**Tukino**	**5.17**	**220**	P	**P**	**04 51 51.2**	**+0.6**
OUZ	**Omahuta**	**5.20**	**270**	P	**P**	**04 51 49.5**	**-1.5**
FWVZ	**Far West T-bar**	**5.21**	**221**	P	**P**	**04 51 52.0**	**+0.8**
MOVZ	**Moawhango**	**5.22**	**219**	P	**P**	**04 51 50.0**	**-1.3**
PWZ	**Pawanui**	**5.24**	**207**	P	**P**	**04 51 49.8**	**-1.8**
PWZ				S	**S**	**04 52 51.2**	**-0.1**
WNVZ	**Wahianoa**	**5.24**	**220**	P	**P**	**04 51 50.6**	**-1.0**
TSZ	**Takapari Road**	**5.63**	**213**	*e*P	**P**	**04 51 56.9**	**-0.1**
TSZ	**Takapari Road**	**5.63**	**213**	P	**P**	**04 51 56.9**	**-0.1**
TSZ				S	**S**	**04 53 00.6**	**-0.5**
WAZ	**Wanganui**	**5.88**	**221**	P	**P**	**04 52 00.6**	**+0.3**
MRZ	**Mangatainoka R**	**6.29**	**212**	P	**P**	**04 52 04.2**	**-2.0**
CAW	**Cannon Point**	**6.88**	**212**	P	**P**	**04 52 10.8**	**-3.6**
THZ	**Tophouse**	**8.42**	**219**	*e*P	**P**	**04 52 32.6**	**-2.9**
THZ	**Tophouse**	**8.42**	**219**	P	**P**	**04 52 32.6**	**-2.9**
KHZ	**Kahutara**	**8.61**	**214**	*e*P	**P**	**04 52 35.0**	**-3.1**
KHZ	**Kahutara**	**8.61**	**214**	P	**P**	**04 52 35.0**	**-3.1**
DSZ	**Denniston Nort**	**9.00**	**223**	P	**P**	**04 52 39.0**	**-4.3**
MQZ	**McQueen's Vall**	**10.04**	**212**	P	**P**	**04 52 52.3**	**-5.1**
RPZ	**Rata Peaks**	**10.78**	**217**	P	**P**	**04 53 03.6**	**-3.9**
	1.1nm,0.3s,baz=118,slow=19,SNR=3.1						
RPZ				S	**S**	**04 54 58.3**	**-8.8**
	2.2nm,0.3s,baz=337,slow=19,SNR=5.0						
STKA	**Stephens Creek**	**32.00**	**265**	P	**P**	**04 56 56.4**	**+1.2**
	7.2nm,1.1s,mb4.3,baz=110,slow=13,SNR=4.8						
STKA				LR	LR	05 07 22.4	
	comp=Z,167nm,20.0s,baz=18,slow=31						
STKA	**Stephens Creek**	**32.00**	**265**	*e*P	**P**	**04 56 55.9**	**+0.7**
ASAR	**Alice Springs**	**41.40**	**274**	P	**P**	**04 58 14.9**	**+0.4**
	9.8nm,0.6s,mb4.8,baz=117,slow=7.5,SNR=48						
ASAR				LR	LR	05 14 25.7	
	comp=Z,133nm,21.7s,baz=149,slow=34						
ASPA	**Alice Springs**	**41.41**	**274**	*e*P	**P**	**04 58 14.9**	**+0.4**
WB2	**Warramunga Arr**	**42.84**	**279**	*e*P	**P**	**04 58 26.2**	**-0.2**
WRAB	**Tennant Creek**	**42.84**	**279**	*e*P	**P**	**04 58 26.6**	**+0.1**
	16nm,0.6s,mb4.9						
WRA	**Warramunga Arr**	**42.85**	**279**	P	**P**	**04 58 26.7**	**+0.2**
	8.2nm,0.6s,mb4.7,baz=120,slow=7.5,SNR=46						
SBA	**Scott Base**	**42.95**	**184**	P	pP	04 58 42.7	-2.5
NWAO	**Narrogin (SRO)**	**51.18**	**254**	P	**P**	**04 59 31.2**	**-0.5**
	7.2nm,0.7s,mb4.8,baz=68,slow=11,SNR=3.9						
NWAO	**Narrogin (SRO)**	**51.18**	**254**	P	**P**	**04 59 31.2**	**-0.4**
	27nm,1.2s,mb5.2						
MBWA	**Marble Bar**	**54.15**	**268**	*e*P	**P**	**04 59 52.1**	**-1.8**
	10nm,0.7s,mb5.0						
QSPA	**South Pole Qui**	**54.73**	**180**	⇓*i*P	**P**	**05 00 01.6**	**+4.2**
	4.8nm,0.8s,mb4.6						
NVAR	**Mina Array Bea**	**93.04**	**44**	P	**P**	**05 03 41.9**	**+1.5**
	0.6nm,0.8s,mb4.0,baz=236,slow=11,SNR=3.2						
ARCES	**ARCESS Array B**	**143.03**	**345**	PKhKP		05 09 55.3	
	3.1nm,0.8s,baz=20,slow=2.5,SNR=9.5						
JOF	**Joensuu**	**146.30**	**335**	*e*pkp	PKPdf	05 10 03.3	-0.5
	2.0nm,0.5s						
KAF	**Kangasniemi**	**148.55**	**336**	*e*pkp	PKPdf	05 10 10.8	+3.3
	baz=47,slow=2.8						
FINES	**FINESS Array B**	**149.11**	**336**	PKPbc	PKPdf	05 10 13.2	+4.8
	3.6nm,0.6s,baz=55,slow=4.7,SNR=15						
DBIC	**Dimbokro**	**151.08**	**170**	PKPbc	PKPdf	05 10 21.7	+8.7
	5.0nm,0.7s,baz=155,slow=4.0,SNR=17						
DBIC	**Dimbokro**	**151.08**	**170**	PKPbc	PKPdf	05 10 21.7	+8.7
BRTR	**Keskin Array B**	**153.04**	**289**	PKPbc	PKPdf	05 10 22.8	+7.7
	2.3nm,0.7s,baz=127,slow=3.4,SNR=13						
NB2	**NORSAR Subarra**	**153.34**	**348**	PKP	PKPdf	05 10 23.4	+8.7
	2.3nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**153.34**	**348**	PKPbc	PKPdf	05 10 23.5	+8.8
	3.2nm,0.7s,baz=28,slow=2.0,SNR=7.8						
NOA	**NORSAR Array B**	**153.34**	**348**	PKPbc	PKPdf	05 10 23.5	+8.8
AKASG	**Malin Array Be**	**153.92**	**315**	PKPbc	PKPdf	05 10 24.6	+8.8
	1.6nm,0.6s,baz=57,slow=2.3,SNR=11						

*CSEM **13** 04:54:33.7±0.2, 41.20N×20.74E, h2km, ML2.6, Error ellipse: s-maj=3.3km s-min=1.4km az=98.0*
*THE **13** 04:54:35.5, 41.15N×20.82E, h10km, ML2.6*
SKO 13 04:54:33.7, 41.06N×20.63E, h6km, 2C, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.14**	**68**	⇑*i*Pg	Pg	04 54 36.0	-0.7
OHR				*i* Sg	Sg	04 54 37.5	-1.1
BIA	**Bitola**	**0.53**	**94**	⇑*i*Pg	Pg	04 54 44.1	-0.2
BIA				*i* Sg	Sg	04 54 51.5	+0.2
FNA	**Florina**	**0.63**	**116**	*e*Pg	Pg	04 54 45.8	-0.5
FNA				*e*Sg	Sg	04 54 54.4	-0.3
SKO	**Skopje**	**1.10**	**33**	*e*Pg	Pg	04 54 55.0	-0.6
SKO				*i* Sg	Sg	04 55 06.8	-3.4
GRG	**Griva**	**1.34**	**94**	*e*Pb	Pb	04 54 57.5	-1.4
GRG				*e*Sb	Sb	04 55 16.4	+0.1
LIT	**Litokhoron**	**1.71**	**123**	*e*Pb	Pb	04 55 05.3	+0.1
KNT	**Kendrikon**	**1.72**	**86**	*e*Pb	Pb	04 55 04.0	-1.3
AGG	**Agios Georgios**	**2.42**	**147**	*e*Pn	Pn	04 55 15.9	+1.5

*SKO **13** 04:57:47.7, 41.06N×20.63E, h6km, ML1.8*
*CSEM **13** 04:57:48.1±0.1, 41.19N×20.75E, h2km, ML1.8, Error ellipse: s-maj=3.7km s-min=1.7km az=54.0*
*THE **13** 04:57:50.0, 41.15N×20.88E, h10km, ML2.8*
ISC 13 04:57:48.5±0.6, 41.17N±0.03×20.76E±0.05, h3km±6km, n11, σ1§15/18, 1C, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.06**	**151**	⇑*i*Pg	**Pg**	**04 57 50.0**	**0.0**
OHR				*i* Sg	**Sg**	**04 57 51.4**	**+0.5**
BIA	**Bitola**	**0.45**	**109**	*i* Pg	**Pg**	**04 57 57.8**	**+0.2**
BIA				*i* Sg	**Sg**	**04 58 05.1**	**+1.4**
BIA				*i*		04 58 05.5	
FNA	**Florina**	**0.60**	**129**	*e*Pg	**Pg**	**04 57 59.6**	**-1.0**
FNA				*e*Sg	**Sg**	**04 58 08.5**	**-0.3**
TIR	**Tirane**	**0.70**	**285**	*i* Pg	**Pg**	**04 58 01.0**	**-1.5**
SKO	**Skopje**	**0.95**	**32**	*i* Pg	**Pg**	**04 58 09.2**	**+1.6**
SKO				*i* Sg	**Sg**	**04 58 21.0**	**+0.7**
SKO				Lg		04 58 21.5	
	comp=Z,0.0nm,0.4s						
PUK	**Puka**	**1.09**	**324**	*i* Pg	**Pg**	**04 58 08.4**	**-1.9**
PUK				*i* Sg	**Sg**	**04 58 26.3**	**+1.5**
GRG	**Griva**	**1.26**	**99**	*e*Pg	**Pg**	**04 58 11.2**	**-2.5**
KNT	**Kendrikon**	**1.62**	**89**	*e*Pb	**Pb**	**04 58 17.9**	**-0.7**
IGT	**Igoumenitsa**	**1.67**	**191**	*e*Pb	**Pb**	**04 58 20.5**	**+1.0**
IGT				*e*Sb	**Sb**	**04 58 42.4**	**+1.7**
LIT	**Litokhoron**	**1.69**	**128**	*e*Pb	**Pb**	**04 58 19.2**	**-0.8**
LIT				*e*Sb	**Sb**	**04 58 41.4**	**-0.3**
AGG	**Agios Georgios**	**2.46**	**150**	*e*Pn	**Pn**	**04 58 29.7**	**-0.4**

IDC 13 04:59:58.7±4.3, 30.41S×138.40E, mb1 3.2/3, mb1mx3.2/10, mbtmp3.0/3, ML2.8/3, Error ellipse: s-maj=115.1km s-min=15.9km az=42.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.10**	**119**	Pn	Pn	05 00 48.9	-1.0
	0.

GDL2 **Guadalupe Moun** 83.57 54 *eP* P P 05 39 42.2 -0.6
BILL **Bilibino** 84.00 354 P P 05 39 43.9 -0.3
comp=Z,6.3nm,0.9s,mb4.5
PDAR **Pinedale Array** 84.19 43 P P 05 39 45.0 -0.7
comp=Z,0.6nm,0.8s,mb3.5,baz=217,slow=7.4,SNR=4.4
ENH **Enshi** 84.31 303 *eS* P 05 39 45.2 -1.4
PMSA **Palmer Station** 85.52 157 *eP* P 05 39 53.1 +1.4
comp=Z,43nm,1.4s,mb5.1
YKA **Yellowknife Ar** 91.19 24 P P 05 40 18.9 +0.4
comp=Z,0.3nm,0.8s,mb3.2,baz=244,slow=4.7,SNR=5.2
KMBO **Kilima Mbogo** 142.85 247 PKP PKPdf 05 46 42.4 -2.9
comp=Z,0.7nm,0.5s,baz=233,slow=23,SNR=4.5
BRTR **Keskin Array B** 144.10 319 PKPbc PKPbc 05 46 47.4 +1.1
comp=Z,2.9nm,0.8s,baz=135,slow=1.7,SNR=14
MLR **Muntele Rosu** 144.42 332 PKPbc PKPbc 05 46 48.7 +1.8
comp=Z,2.3nm,0.8s,baz=19,slow=6.5,SNR=4.7
GERES **GERESS Array B** 145.47 348 PKPbc PKPbc 05 46 50.5 +0.9
comp=Z,0.4nm,0.5s,baz=63,slow=3.0,SNR=5.8
CSS **Prodhromos** 146.80 312 *e*PKPdf PKPdf 05 46 52.9 +1.4
DAVOX **Davos** 148.12 352 PKPbc PKPdf 05 46 58.8 +5.6
comp=Z,3.2nm,0.7s,baz=319,slow=13,SNR=5.0

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*MOS **13** 05:30:20.1±1.0, 11.71N×92.07E, h33km, mb5.1/10, Error ellipse: s-maj=14.9km s-min=10.0km az=117.3*
*BJI **13** 05:30:21.5, 11.95N×92.33E, h24km, mB4.7, mb4.7, Ms4.1, Msz4.0*
*IDC **13** 05:30:21.2±0.6, 11.75N×92.10E, h26km±2km, mb4.0/13, mb1 4.3/14, mb1mx4.1/20, mbtmp4.2/14, ML4.4/1, MS3.9/12, Ms1 3.9/12, ms1mx3.7/24, Error ellipse: s-maj=28.0km s-min=11.2km az=52.0*
*NEIC **13** 05:30:22.0±0.3, 11.85N×92.21E, h30km, mb4.9/17, Error ellipse: s-maj=10.9km s-min=7.0km az=45.0*
*HRVD **13** 05:30:22.0±0.8, 11.90N×92.28E, h23km±2km, MW4.7/44, Centroid moment Tensor Solution. LP body waves: s11,c14;Mantle waves: s44,c63; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.36±.17; Mθθ-1.55±.12; Mφφ1.19±.11; Mrθ-0.23±.16; Mθφ0.76±.09; Mφr-0.21±.20; Best double couple: M0 1.603×10^16 NP1:φs149°, δ77°, λ174°. NP2:φs240°, δ84°, λ13°. Principal axes: T 1.448, Plg14°, Azm105°; N .309, Plg76°, Azm266°; P -1.758, Plg5°, Azm14°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 05:30:19.3±0.4, 11.82N±0.05×92.15E±0.05, h27km, h27km±.7km:pP-P, n91, σ1s06/81, mb4.5/31, MS4.0/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.61**	**106**	*eP*	Px	05 30 34.4	
PBA				*eS*	Sx	05 30 44.8	
PBA				*e*		05 30 45.8	
	comp=N,60μm,0.2s						
PBA				*e*		05 30 46.1	
	comp=E,80μm,0.3s						
NST	**Nakhon Sawan**	**8.65**	**63**	P	**P**	**05 32 27.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**9.30**	**44**	Pn	**P**	**05 32 38.0**	**+3.1**
	comp=E,1.0nm,0.3s,baz=233,slow=15,SNR=8.8						
CMAR				Sn	**Sn**	**05 34 14.2**	**-5.4**
	comp=E,1.5nm,0.3s,baz=238,slow=28,SNR=5.0						
CMAR				LR	LR	05 36 33.2	
	comp=E,297nm,20.6s,baz=235,slow=40						
VIS	**Vishakhapatnam**	**10.35**	**306**	*eP*	**P**	**05 32 46.5**	**-2.8**
	comp=Z,142nm,1.1s						
VIS				*e*		05 32 48.6	
VIS				*eS*	**S**	**05 34 32.1**	**-13**
BWNR	**Bhubaneshwar**	**10.40**	**325**	*eP*	**P**	**05 32 44.7**	**-5.3**
	comp=Z,76nm,0.6s						
BWNR				*e*		05 34 07.0	
	comp=Z,57nm,0.5s						
PALK	**Pallekele**	**12.16**	**249**	*eP*	**P**	**05 33 14.5**	**+0.6**
PALK				*eS*	**S**	**05 35 16.4**	**-13**
IMP	**Imphal**	**13.00**	**7**	*e*	**P**	**05 33 17.5**	**-7.7**
SHL	**Shillong**	**13.67**	**359**	*eP*	**P**	**05 33 26.4**	**-7.7**
	comp=Z,14nm,0.5s						
SHL				*e*		05 35 51.0	
BLSP	**Bilaspur**	**14.02**	**318**	*eP*	**P**	**05 33 37.1**	**-1.5**
	comp=Z,10nm,0.5s						
BLSP				*e*		05 35 59.2	
BLSP				*e*		05 36 00.5	
HYB	**Hyderabad**	**14.28**	**295**	*i* P	**P**	**05 33 41.5**	**-0.6**
HYB				*e*		05 35 52.0	
HYB				*eS*	**S**	**05 36 05.5**	**-15**
JIRN	**Jiri**	**16.72**	**341**	*eP*	**P**	**05 34 12.6**	**-0.9**
	comp=Z,59nm,0.6s						
PKI	**Pulchoki**	**16.89**	**339**	*eP*	**P**	**05 34 14.3**	**-1.4**
	comp=Z,148nm,1.0s						
DMN	**Daman**	**17.04**	**338**	*eP*	**P**	**05 34 16.6**	**-0.9**
	comp=Z,108nm,0.8s						
GUN	**Gumba**	**17.05**	**341**	*eP*	**P**	**05 34 17.4**	**-0.3**
	comp=Z,72nm,0.6s						
KKN	**Kakani**	**17.14**	**339**	*eP*	**P**	**05 34 18.6**	**-0.2**
	comp=Z,54nm,0.7s						
GKN	**Gorkha**	**17.57**	**337**	*eP*	**P**	**05 34 23.7**	**-0.4**
	comp=Z,67nm,0.4s						
KOLN	**Koldanda**	**17.77**	**334**	*eP*	**P**	**05 34 26.5**	**-0.2**
	comp=Z,66nm,0.6s						
LSA	**Lhasa**	**17.81**	**357**	P	**P**	**05 34 28.8**	**+1.6**
LSA				AP		05 34 36.1	
LSA				XP		05 34 39.6	
LSA				S	**S**	**05 37 47.0**	**+4.7**
LSA	**Lhasa**	**17.81**	**357**	*eP*	**P**	**05 34 22.9**	**-4.3**
LSA				pmax	pmax		
	comp=Z,37nm,0.9s						
LSA	**Lhasa**	**17.81**	**357**	*eP*	**P**	**05 34 22.9**	**-4.2**
	comp=Z,37nm,0.9s						
LSA				*eS*	S	05 37 20.3	-22
BHPL	**Bhopal**	**18.04**	**311**	*eP*	**P**	**05 34 30.3**	**+0.2**
BHPL				*e*		05 34 34.5	
	comp=Z,21nm,1.3s						
BHPL				*e*		05 37 37.9	
KAD	**Karad**	**18.22**	**290**	*eP*	**P**	**05 34 33.2**	**+0.9**
KAD				*e*		05 37 46.1	
POO	**Poona**	**18.87**	**293**	*eP*	**P**	**05 34 41.0**	**+0.8**
POO				*i*		05 37 56.0	
NDI	**New Delhi**	**21.81**	**322**	*eP*	**P**	**05 35 12.7**	**+1.2**
NDI				*e*		05 39 03.0	
DDI	**Dehra Dun**	**22.58**	**327**	*e*	**P**	**05 35 21.9**	**+2.8**
DDI				*eS*	**S**	**05 39 23.0**	**+2.8**
SMLA	**Simla**	**23.68**	**327**	*e*	**P**	**05 35 45.9**	**+16**
COCO	**West Island**	**24.30**	**169**	*eP*	**P**	**05 35 40.1**	**+4.0**
	comp=Z,159nm,1.0s,mb5.4						
ENH	**Enshi**	**24.41**	**39**	*eP*	**P**	**05 35 36.3**	**-0.7**
	comp=Z,45nm,0.7s,mb5.0						
XAN	**Xi'an**	**26.90**	**32**	P	**P**	**05 36 00.9**	**+0.7**
XAN				AP	pP	05 36 09.5	+1.5
XAN				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8						
AAK	**Ala-Archa**	**34.32**	**337**	*i* P	**P**	**05 37 07.0**	**+1.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
JOW	**Kunigami**	**37.06**	**61**	LR	LR	05 53 30.7	
	comp=Z,201nm,22.0s,MS3.9,baz=95,slow=37						
SONM	**Songino Array**	**37.84**	**16**	P	**P**	**05 37 35.6**	**+0.1**
	comp=Z,2.1nm,0.8s,mb3.9,baz=201,slow=8.0,SNR=16						
SONM				pP	pP	05 37 44.5	+1.0
	comp=Z,5.4nm,0.9s,baz=196,slow=9.1,SNR=17						
ULN	**Ulaanbaatar**	**38.04**	**16**	P	**P**	**05 37 35.6**	**-1.6**
ULN				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.6						
ULN	**Ulaanbaatar**	**38.04**	**16**	P	**P**	**05 37 35.6**	**-1.6**
	comp=Z,16nm,1.4s,mb4.5						
ZAK	**Zakamensk**	**39.52**	**11**	*eP*	**P**	**05 37 49.3**	**-0.3**
ZAK				*e*		05 39 55.3	
MOY	**Mondy**	**40.38**	**9**	*eP*	**P**	**05 38 02.8**	**+6.2**
TLY	**Talaya**	**40.83**	**11**	*i* P	**P**	**05 37 59.0**	**-1.3**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
ZAL	**Zalesovo**	**42.41**	**354**	P	**P**	**05 38 13.3**	**+0.1**
	comp=Z,1.6nm,0.8s,mb3.7,baz=200,slow=7.4,SNR=7.2						
ZAL				pP	pP	05 38 22.5	+1.2
	comp=Z,4.3nm,0.8s,baz=208,slow=10,SNR=6.9						
MBWA	**Marble Bar**	**42.53**	**140**	*eP*	**P**	**05 38 14.6**	**-0.1**
	comp=Z,23nm,1.1s,mb4.8						
NVS	**Novosibirsk**	**43.49**	**353**	*i* P	pP	05 38 29.3	-0.7
BVAR	**Borovoye Array**	**44.64**	**341**	P	**P**	**05 38 31.6**	**+0.2**
	comp=Z,1.1nm,0.7s,mb3.8,baz=146,slow=5.3,SNR=6.7						
BVAR				pP	pP	05 38 39.5	+0.1
	comp=Z,3.2nm,0.6s,baz=141,slow=8.8,SNR=13						
BRVK	**Borovoye**	**44.70**	**341**	P	**P**	**05 38 31.2**	**-0.7**
BRVK				*e*	pP	05 38 39.8	-0.1
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
BRVK	**Borovoye**	**44.70**	**341**	P	**P**	**05 38 31.2**	**-0.7**
	comp=Z,5.9nm,0.8s,mb4.5						
BRVK				*e*	pP	05 38 39.8	-0.1
CHKZ	**Chkalovo**	**45.13**	**342**	*eP*	**P**	**05 38 35.3**	**0.0**
CHKZ				*e*	pP	05 38 43.3	0.0
CHKZ				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.1						
CHKZ	**Chkalovo**	**45.13**	**342**	*eP*	**P**	**05 38 35.3**	**0.0**
	comp=Z,23nm,0.8s,mb5.0						
CHKZ				*e*	pP	05 38 43.3	0.0
BOD	**Bodaibo**	**48.83**	**15**	*eP*	**P**	**05 39 00.5**	**-3.8**
CBIJ	**Chichi jima**	**49.25**	**64**	LR	LR	05 58 45.5	
	comp=Z,90nm,21.5s,MS3.7,baz=87,slow=35						
GNI	**Garni**	**50.31**	**313**	*eP*	**P**	**05 39 11.5**	**-4.4**
GNI				*e*		05 39 25.1	
GNI				pmax	pmax		
	comp=Z,13nm,0.8s						
GNI	**Garni**	**50.31**	**313**	LR	LR	06 01 44.6	
	comp=Z,113nm,20.8s,MS3.9,baz=274,slow=37						
GNI	**Garni**	**50.31**	**313**	*eP*	**P**	**05 39 11.5**	**-4.3**
	comp=Z,13nm,0.8s,mb5.0						
GNI				*e*		05 39 25.1	
NWAO	**Narrogin (SRO)**	**50.53**	**152**	P	**P**	**05 39 17.8**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,125nm,1.7s						
NWAO	**Narrogin (SRO)**	**50.53**	**152**	P	**P**	**05 39 17.8**	**+0.1**
	comp=Z,125nm,1.7s,mb5.6						
GUMO	**Guam**	**51.38**	**82**	*eP*	**P**	**05 39 25.5**	**+1.2**
GUMO				pmax	pmax		
	comp=Z,403nm,1.3s						
GUMO	**Guam**	**51.38**	**82**	*eP*	**P**	**05 39 25.5**	**+1.2**
	comp=Z,403nm,1.3s						
ZEI	**Tsey**	**51.84**	**316**	*eP*	pP	05 39 36.3	+0.6
ZEI				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**52.16**	**127**	P	**P**	**05 39 29.5**	**-0.7**
	comp=Z,3.9nm,0.4s,mb4.7,baz=301,slow=10,SNR=40						
WRA				pP	pP	05 39 37.6	-0.8
	comp=Z,9.1nm,0.6s,baz=305,slow=8.6,SNR=22						
WRAB	**Tennant Creek**	**52.17**	**127**	*eP*	**P**	**05 39 29.3**	**-0.9**
WRAB				*e*	pP	05 39 36.7	-1.7
WRAB				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.3						
WRAB	**Tennant Creek**	**52.17**	**127**	*i* P	**P**	**05 39 29.9**	**-0.3**
WRAB	**Tennant Creek**	**52.17**	**127**	*eP*	**P**	**05 39 29.3**	**-1.0**
	comp=Z,24nm,0.6s,mb5.3						
WRAB				*e*	pP	05 39 36.7	-1.7
WB2	**Warramunga Arr**	**52.17**	**127**	*eP*	**P**	**05 39 29.3**	**-1.0**
KIV	**Kislovodsk**	**53.10**	**317**	*eP*	**P**	**05 39 41.6**	**+4.7**
KIV				pmax	pmax		
	comp=N,14nm,1.2s						
KIV				pmax	pmax		
	comp=E,14nm,1.2s						
KIV				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
KIV	**Kislovodsk**	**53.10**	**317**	*eP*	**P**	**05 39 42.0**	**+5.1**
	comp=Z,19nm,0.8s,mb5.1						
ASPA	**Alice Springs**	**53.95**	**131**	*eP*	**P**	**05 39 42.5**	**-0.9**
ASAR	**Alice Springs**	**53.96**	**131**	P	**P**	**05 39 42.8**	**-0.6**
	comp=Z,3.3nm,0.7s,mb4.4,baz=306,slow=6.6,SNR=28						
ASAR				PcP	PcP	05 40 46.4	-2.0
	comp=Z,0.7nm,0.6s,baz=309,slow=5.8,SNR=2.5						
ASAR				pPcP		05 40 57.9	
	comp=Z,1.8nm,0.8s,baz=316,slow=3.7,SNR=5.5						
ASAR				LR	LR	06 04 00.0	
	comp=Z,100nm,20.2s,MS3.9,baz=306,slow=37						
MALT	**Malatya**	**54.45**	**309**	*eP*	pP	05 39 54.4	-0.6
	comp=Z,8.8nm,1.2s						
ASF	**Jabal al Asfar**	**54.47**	**301**	LR	LR	06 07 13.9	
	comp=Z,66nm,18.3s,MS3.7,baz=121,slow=41						
YSS	**Yuzh-Sakhalins**	**54.98**	**40**	P	**P**	**05 39 46.5**	**-4.1**
YSS				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.2						
YSS	**Yuzh-Sakhalins**	**54.98**	**40**	P	**P**	**05 39 46.5**	**-4.1**
	comp=Z,28nm,1.2s,mb5.2						
EIL	**Elat**	**55.81**	**298**	LR	LR	06 05 24.1	
	comp=Z,40nm,18.0s,MS3.5,baz=219,slow=38						
EIL	**Elat**	**55.81**	**298**	P	pP	05 40 03.6	-1.5
	comp=Z,7.9nm,1.0s						
BRTR	**Keskin Array B**	**58.40**	**309**	P	**P**	**05 40 14.5**	**-0.5**
	comp=Z,0.8nm,0.8s,mb3.8,baz=117,slow=8.3,SNR=4.7						
BRTR				pP	pP	05 40 22.1	-1.3
	comp=Z,3.8nm,1.0s,baz=121,slow=7.2,SNR=13						
CTAO	**Charters Tower**	**61.97**	**120**	P	**P**	**05 40 39.1**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,19nm,1.3s,mb5.1						
CTAO	**Charters Tower**	**61.97**	**120**	P	**P**	**05 40 39.1**	**-0.7**
	comp=Z,20nm,1.3s,mb5.1						
AKASG	**Malin Array Be**	**63.86**	**321**	P	**P**	**05 40 51.3**	**-0.6**
	comp=Z,0.2nm,0.4s,mb3.5,baz=90,slow=4.9,SNR=3.5						
AKASG				pP	pP	05 40 58.5	-1.7
	comp=Z,1.2nm,0.6s,baz=84,slow=5.3,SNR=6.1						
MA2	**Magadan**	**64.24**	**29**	P	pP	05 41 04.1	+1.6
STKA	**Stephens Creek**	**64.24**	**134**	*eP*	**P**	**05 40 54.8**	**+0.1**
	comp=Z,3.0nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**64.24**	**134**	P	**P**	**05 40 54.6**	**0.0**
	comp=Z,3.5nm,0.5s,mb4.7,baz=294,slow=6.4,SNR=11						
STKA				pP	pP	05 41 02.5	-0.5
	comp=Z,4.3nm,0.6s,baz=326,slow=6.3,SNR=5.1						
STKA				LR	LR	06 09 40.4	
	comp=Z,152nm,21.4s,MS4.2,baz=209,slow=37						
MLR	**Muntele Rosu**	**65.00**	**315**	P	**P**	**05 41 00.6**	**+1.3**
	comp=Z,1.8nm,0.8s,mb4.2,baz=158,slow=5.9,SNR=4.6						
MLR				pP	pP	05 41 08.5	+0.8
	comp=Z,8.8nm,0.9s,baz=84,slow=2.3,SNR=12						
FINES	**FINESS Array B**	**68.33**	**332**	P	**P**	**05 41 20.6**	**+0.4**
	comp=Z,5.2nm,1.0s,mb4.5,baz=191,slow=9.7,SNR=3.7						
FINES				pP	pP	05 41 28.5	0.0
	comp=Z,7.4nm,1.1s,baz=90,slow=5.6,SNR=1.9						
ARCES	**ARCESS Array B**	**70.91**	**340**	P	**P**	**05 41 35.7**	**-0.2**
	comp=Z,3.5nm,1.0s,mb4.2,baz=100,slow=5.5,SNR=6.7						
ARCES				pP	pP	05 41 44.8	+0.6
	comp=Z,2.8nm,0.7s,baz=79,slow=6.2,SNR=3.7						
ARCES				LR	LR	06 16 53.1	
	comp=Z,174nm,20.4s,MS4.3,baz=293,slow=39						
ARCES	**ARCESS Array B**	**70.91**	**340**	P	**P**	**05 41 35.7**	**-0.2**
ARCES				pP	pP	05 41 44.8	+0.6
ARCES				LR	LR	06 16 53.1	
GERES	**GERESS Array B**	**73.60**	**318**	P	**P**	**05 41 52.9**	**+0.8**
	comp=Z,0.7nm,0.7s,mb3.7,baz=76,slow=5.5,SNR=6.6						
HFS	**Hagfors**	**74.08**	**329**	P	**P**	**05 41 55.7**	**+1.1**
	comp=Z,2.4nm,0.8s,mb4.2,baz=117,slow=17,SNR=2.7						
NOA	**NORSAR Array B**	**75.35**	**330**	LR	LR	06 19 16.7	
	comp=Z,132nm,19.5s,MS4.2,baz=220,slow=39						
MAW	**Mawson**	**82.00**	**191**	LR	LR	06 10 25.0	
	comp=Z,76nm,21.1s,MS4.0,baz=63,slow=29						
MCK	**McKinley**	**91.63**	**23**	P	**P**	**05 43 27.5**	**+2.5**
MCK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.4						
MCK	**McKinley**	**91.63**	**23**	P	**P**	**05 43 27.5**	**+2.5**
	comp=Z,2.0nm,1.0s,mb4.4						
ILAR	**Eielson Array**	**91.83**	**22**	P	**P**	**05 43 27.6**	**+1.7**
	comp=Z,0.4nm,0.6s,mb3.9,baz=301,slow=4.6,SNR=9.0						
ILAR				pP	pP	05 43 36.4	+1.9
	comp=Z,0.8nm,0.7s,baz=294,slow=4.2,SNR=7.0						
DBIC	**Dimbokro**	**95.46**	**278**	LR	LR	06 25 42.3	
	comp=Z,52nm,18.1s,MS4.0,baz=29,slow=35						
NVAR	**Mina Array Bea**	**122.47**	**28**	PKP	PKPdf	05 49 16.4	-1.1
	comp=Z,0.3nm,0.5s,baz=287,slow=1.6,SNR=4.4						
TXAR	**Lajitas Array**	**136.33**	**20**	PKP	PKPdf	05 49 43.0	-1.2
	comp=Z,0.2nm,0.5s,slow=2.5,SNR=3.0						
TXAR				pPKP		05 49 50.1	
	comp=Z,0.2nm,0.4s,baz=327,slow=0.1,SNR=3.7						

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*IDC **13** 05:38:39.1±1.1, 7.08N×93.62E, mb4.1/9, mb1 4.2/10, mb1mx4.0/19, mbtmp4.0/10, ML3.8/1, Error ellipse: s-maj=47.1km s-min=20.1km az=54.0*
*NEIC **13** 05:38:43.8±0.6, 7.08N×93.63E, h30km, mb4.4/2, Error ellipse: s-maj=16.7km s-min=11.0km az=49.0*

ISC 13 05:38:42.4±0.8, 7.1N±0.1×93.7E±0.1, h33km, n18, σ0s68/17, mb4.1/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.39**	**24**	Pn	**P**	**05 41 39.4**	**0.0**
	0.2nm,0.3s,baz=214,slow=14,SNR=8.3						
HYB	**Hyderabad**	**17.96**	**306**	*eP*	**P**	**05 42 51.0**	**-0.4**
HYB	**Hyderabad**	**17.96**	**306**	*i* P	**P**	**05 42 51.0**	**-0.4**
HYB				*eS*	rx	05 45 14.0	
LSA	**Lhasa**	**22.60**	**354**	P	**P**	**05 43 47.4**	**+6.0**
ENH	**Enshi**	**27.41**	**31**	*eP*	**P**	**05 44 30.7**	**+3.5**
	19nm,1.5s,mb4.4						
SONM	**Songino Array**	**42.01**	**13**	P	**P**	**05 46 31.4**	**-0.8**
	0.3nm,0.4s,mb3.3,baz=201,slow=8.6,SNR=4.8						
SONM				PcP	PcP	05 48 28.1	+0.6
	0.3nm,0.5s,baz=206,slow=5.7,SNR=3.6						
SONM	**Songino Array**	**42.01**	**13**	P	**P**	**05 46 31.4**	**-0.8**
SONM				PcP	PcP	05 48 28.1	+0.5
ZAL	**Zalesovo**	**47.24**	**353**	P	**P**	**05 47 14.3**	**+0.2**
	3.9nm,0.3s,mb4.8,baz=225,slow=5.5,SNR=9.6						
ZAL	**Zalesovo**	**47.24**	**353**	P	**P**	**05 47 14.3**	**+0.2**
WRA	**Warramunga Arr**	**48.20**	**125**	P	**P**	**05 47 22.0**	**-0.1**
	1.6nm,0.8s,mb4.1,baz=304,slow=8.6,SNR=16						
ASAR	**Alice Springs**	**49.79**	**129**	P	**P**	**05 47 34.0**	**-0.3**
	0.6nm,0.8s,mb3.7,baz=302,slow=7.8,SNR=5.8						
CHKZ	**Chkalovo**	**50.05**	**342**	*eP*	**P**	**05 47 35.0**	**-0.9**
	1.6nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**73.17**	**332**	P	**P**	**05 50 11.2**	**-0.2**
	2.0nm,0.7s,mb4.1,baz=127,slow=9.5,SNR=4.7						
ARCES	**ARCESS Array B**	**75.83**	**340**	P	**P**	**05 50 26.8**	**+0.2**
	1.2nm,0.5s,mb4.1,baz=90,slow=6.1,SNR=7.4						
GERES	**GERESS Array B**	**78.09**	**318**	P	**P**	**05 50 40.5**	**+0.9**
	0.4nm,0.5s,mb3.6,baz=63,slow=3.0,SNR=4.3						
HFS	**Hagfors**	**78.88**	**330**	P	**P**	**05 50 44.5**	**+0.7**
	5.9nm,1.0s,mb4.5,baz=117,slow=3.3,SNR=5.6						
NOA	**NORSAR Array B**	**80.17**	**331**	P	**P**	**05 50 50.7**	**0.0**
	0.8nm,0.7s,mb3.8,baz=115,slow=5.6,SNR=2.8						
TXAR	**Lajitas Array**	**140.11**	**24**	PKP	PKPdf	05 58 11.7	+3.3
	0.1nm,0.4s,baz=310,slow=0.3,SNR=4.0						

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*BJI **13** 05:51:45.8, 9.90N×91.86E, h38km, mb4.1*
*IDC **13** 05:51:47.5±0.7, 10.02N×91.72E, h29km±4km, mb3.9/13, mb1 4.1/14, mb1mx3.9/20, mbtmp4.0/14, ML3.7/1, MS3.1/1, Ms1 3.3/1, ms1mx3.0/17, Error ellipse: s-maj=30.3km s-min=12.2km az=56.0*
*NEIC **13** 05:51:47.9±0.4, 10.13N×91.85E, mb4.6/7, Error ellipse: s-maj=12.7km s-min=7.7km az=46.0*

ISC 13 05:51:45.8±0.5, 10.13N±0.07×91.88E±0.06, h29km, h29km±.1km:pP-P, n42, σ0s88/48, mb4.2/19, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.74**	**29**	*eP*	**Pn**	**05 52 23.3**	**+8.7**
PBA				*eS*	**Sn**	**05 52 37.0**	**+1.1**
PBA				*eS*	**Sn**	**05 52 48.7**	**+13**
PBA				*eS*	**Sn**	**05 52 49.4**	**+13**
PBA				*e*		05 52 56.9	
	comp=E,3μm,1.3s						
PBA				*e*		05 52 57.5	
	comp=N,3μm,1.2s						
CMAR	**Chiang Mai Arr**	**10.74**	**39**	Pn	**P**	**05 54 20.6**	**-0.4**
	comp=N,0.2nm,0.3s,baz=225,slow=16,SNR=4.3						
CMAR				LR	LR	05 58 39.5	
	comp=N,98nm,21.8s,baz=225,slow=38						
VIS	**Vishakhapatnam**	**11.21**	**313**	*eP*	**P**	**05 54 25.3**	**-2.1**
VIS				*e*		05 54 26.0	
	comp=Z,129nm,0.4s						
VIS				*eS*	**S**	**05 56 18.8**	**-14**
VIS				*e*		05 59 47.2	
BWNR	**Bhubaneshwar**	**11.68**	**331**	*eP*	**P**	**05 54 26.9**	**-6.8**
BWNR				*e*		05 54 29.0	
	comp=Z,18nm,0.3s						
HYB	**Hyderabad**	**14.82**	**301**	*eP*	**P**	**05 55 15.0**	**-0.4**
HYB				*eS*	**S**	**05 57 49.5**	**-10**
HYB	**Hyderabad**	**14.82**	**301**	*i* P	**P**	**05 55 15.0**	**-0.4**
HYB				*eS*	**S**	**05 57 49.5**	**-10**
HYB				*eS*	**S**	**05 57 58.0**	**-1.4**
SHL	**Shillong**	**15.35**	**0**	*eP*	**P**	**05 55 26.0**	**+3.7**
JIRN	**Jiri**	**18.24**	**344**	*eP*	**P**	**05 55 59.2**	**+0.4**
	comp=Z,13nm,0.5s						
PKI	**Pulchoki**	**18.39**	**342**	*eP*	**P**	**05 56 00.0**	**-0.6**
	comp=Z,30nm,1.0s						
DMN	**Daman**	**18.52**	**341**	*eP*	**P**	**05 56 02.7**	**+0.5**
GUN	**Gumba**	**18.56**	**343**	*eP*	**P**	**05 56 02.8**	**+0.1**
	comp=Z,36nm,0.9s						
KAD	**Karad**	**18.60**	**294**	*eP*	**P**	**05 56 05.0**	**+1.8**
BHPL	**Bhopal**	**18.99**	**315**	*eP*	**P**	**05 56 08.0**	**+0.2**
BHPL				*e*		05 56 11.5	
	comp=Z,27nm,1.5s						
BHPL				*e*		05 59 42.3	
GKN	**Gorkha**	**19.04**	**340**	*eP*	**P**	**05 56 08.2**	**-0.2**
	comp=Z,26nm,0.7s						
KOLN	**Koldanda**	**19.20**	**337**	*eP*	**P**	**05 56 09.8**	**-0.5**
	comp=Z,18nm,0.7s						
POO	**Poona**	**19.34**	**298**	*eP*	**P**	**05 56 22.0**	**+10**
POO				*eS*	**S**	**05 59 44.0**	**+0.9**
LSA	**Lhasa**	**19.48**	**358**	P	**P**	**05 56 13.9**	**+0.4**
LSA	**Lhasa**	**19.48**	**358**	*eP*	**P**	**05 56 13.9**	**+0.4**
	comp=Z,14nm,0.7s						
ENH	**Enshi**	**25.90**	**37**	*eP*	**P**	**05 57 15.8**	**-1.5**
	comp=Z,14nm,0.7s,mb4.6						
AAK	**Ala-Archa**	**35.77**	**338**	*eP*	**P**	**05 58 45.4**	**+1.0**
	comp=Z,6.4nm,1.1s,mb4.5						
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IFIR Sg **Sg** **06 13 21.6 +0.4**
IANJ Anjiloo 0.51 96 Pg **Pg** **06 13 16.1 0.0**
IGLO Galoogah 0.80 12 Pn **Pn** **06 13 28.3 +5.5**
IDMV Damavand 1.03 273 Pg **Pg** **06 13 25.1 -1.2**
DAMV Damavand 1.08 276 *e*PG **Pg** **06 13 25.8 -1.6**
IPRN Paran-Amol 1.11 310 Pn **Pn** **06 13 25.9 -1.4**
IAFJ Afjeh 1.33 285 Pn **Pn** **06 13 30.4 0.0**
IVRN Varamin 1.39 248 Pg **Pg** **06 13 31.3 -2.1**
IQOM Qom 1.94 250 Pn **Pn** **06 13 40.3 +1.1**
IQOM Sn **Sn** **06 14 05.3 +1.5**
QAM Qamsar 2.03 218 Pn **Pg** **06 13 46.0 -0.4**
IMHD Mahdasht 2.15 275 Pn **Pn** **06 13 43.6 +1.5**
IMHD Mahdasht 2.15 275 Lg 06 14 13.6
IMIN Minoodasht 2.25 44 Pn **Pn** **06 13 47.5 +3.9**
NASN Na'in 2.75 189 *e*PN **Pn** **06 13 51.3 +0.6**
NASN *e*SG **Sg** **06 14 31.7 -5.5**
NASN AML AML 06 14 34.4
comp=N,198nm,0.3s
IRAZ Razeghan 2.75 268 Pn **Pn** **06 13 51.4 +0.7**
IRAZ Sn **Sn** **06 14 24.4 +0.1**
ASAO Ashtian 2.85 251 *e*PN **Pn** **06 13 52.4 +0.2**
ASAO AML AML 06 14 39.9
comp=E,192nm,0.5s
ASAO Ashtian 2.85 251 *e*Pn **Pn** **06 13 52.3 +0.1**
SNR=52
ICHK Chekchek 3.40 164 Pn **Pn** **06 13 59.9 -0.1**
IMEH Mehriz 4.27 165 Pn **Pn** **06 14 12.1 -0.2**
IBAF Bafgh 4.36 154 Pn **Pn** **06 14 13.2 -0.4**
IKRD Kardeh 4.41 72 Pn **Pb** **06 14 24.1 +1.1**
IMOG Moghan 4.95 81 Pn **Pn** **06 14 21.5 -0.4**
GRMI Germi 5.42 309 *e*PN **Pn** **06 14 28.2 -0.3**
IMYA Miamay 5.58 80 Pn **Pn** **06 14 30.2 -0.7**

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*ISK **13** 06:48:56.7, 36.80N×27.65E, h28km, MD3.3*
*ATH **13** 06:48:57.8, 37.00N×27.95E, h29km±3km, MD3.6/5*
*NEIC **13** 06:48:57.8, 37.00N×27.95E, h29km, MD3.6(ATH), After ATH.*
*CSEM **13** 06:48:59.4±0.2, 37.03N×27.94E, h30km, MD3.3, Error ellipse: s-maj=6.9km s-min=4.0km az=41.0*
ISC 13 06:48:59.3±0.7, 36.96N±0.03×27.85E±0.04, h22km±7km, n17, σ1§17/27, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.34**	**288**	*i* P	**Pb**	**06 49 05.6**	**-1.2**
BDRM				*i* S	**Sb**	**06 49 12.3**	**+0.5**
DALT	**Dalyan (Mudla)**	**0.66**	**107**	*i* PG	**Pb**	**06 49 11.9**	**0.0**
DALT				*i* SG	**Sb**	**06 49 23.8**	**+3.1**
AYDN	**Tasoluk**	**0.70**	**2**	*i* P	**Pb**	**06 49 11.5**	**-1.1**
AYDN				*i* S	**Sb**	**06 49 21.3**	**-0.5**
ARG	**Arkhangelos**	**0.78**	**163**	*e*PN	**Pn**	**06 49 13.6**	**-1.3**
FETY	**Fethiye**	**1.04**	**108**	PN	**Pn**	**06 49 17.8**	**-0.8**
FETY				SN	**Sn**	**06 49 32.5**	**-0.1**
SMG	**Samos**	**1.10**	**313**	*e*PN	**Pn**	**06 49 19.7**	**+0.2**
SMG				*e*SB	**Sb**	**06 49 35.0**	**+1.6**
DNZL	**Cakiroluk**	**1.20**	**52**	*i* P	**Pn**	**06 49 20.1**	**-0.8**
DNZL				*i* S	**Sb**	**06 49 39.1**	**+2.9**
DENT	**Denizli**	**1.23**	**50**	PN	**Pn**	**06 49 21.8**	**+0.5**
IZM	**Izmir**	**1.51**	**342**	PN	**Pn**	**06 49 23.9**	**-1.4**
KDAG	**Bornova**	**1.51**	**342**	*i* P	**Pn**	**06 49 25.8**	**+0.4**
KDAG				*i* S	**Sn**	**06 49 46.3**	**+1.8**
KARP	**Karpathos**	**1.52**	**202**	*e*PN	**Pn**	**06 49 25.8**	**+0.3**
KARP				*e*SN	**Sn**	**06 49 46.4**	**+1.7**
BLCB	**Balcova**	**1.56**	**336**	PN	**Pn**	**06 49 25.0**	**-1.1**
MANT	**Manisa**	**1.63**	**20**	*i* P	**Pn**	**06 49 27.7**	**+0.7**
MANT				*i* S	**Sn**	**06 49 51.4**	**+4.0**
APE	**Apeiranthos**	**1.86**	**274**	*e*PN	**Pn**	**06 49 30.5**	**+0.1**
AKS	**Akhisar**	**1.91**	**359**	*e*PN	**Pn**	**06 49 29.7**	**-1.4**
PRK	**Paraskevi**	**2.60**	**332**	*e*PN	**Pn**	**06 49 40.0**	**-0.9**
ULDT	**Uludag**	**3.33**	**17**	*i* P	**Pn**	**06 49 59.4**	**+8.1**
ULDT				*i* S	**Sn**	**06 50 45.7**	**+15**

IDC 13 07:00:08.9±2.0, 3.66S×150.64E, mb3.6/3, mb1 3.9/3, mb1mx3.6/13, mbtmp3.6/3, Error ellipse: s-maj=158.8km s-min=28.9km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.68**	**223**	P	P	07 05 13.5	0.0
1.5nm,0.4s,baz=46,slow=8.3,SNR=43							
ASAR	**Alice Springs**	**25.63**	**218**	P	P	07 05 39.1	-2.8
0.8nm,0.3s,baz=52,slow=8.6,SNR=15							
ILAR	**Eielson Array**	**81.93**	**23**	P	P	07 12 30.6	-0.9
0.9nm,1.2s,baz=247,slow=6.9,SNR=4.6							

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*ROM **13** 07:15:38.1±0.4, 43.14N×15.55E, h10km, MD3.4/5, ML3.0/13, Error ellipse: s-maj=4.4km s-min=2.4km az=90.0*
*IDC **13** 07:15:38.0±1.8, 43.31N×15.56E, mb3.7/5, mb1 3.9/8, mb1mx3.7/20, mbtmp3.7/8, ML3.5/3, Error ellipse: s-maj=34.0km s-min=17.0km az=49.0*
*NEIC **13** 07:15:38.9±0.5, 43.15N×15.30E, h10km, ML3.8(VIE), Error ellipse: s-maj=6.3km s-min=5.2km az=121.0*
*CSEM **13** 07:15:39.2±0.1, 43.22N×15.29E, h10km, ML3.6/6, Error ellipse: s-maj=2.5km s-min=1.7km az=97.0*
*LDG **13** 07:15:41.5±0.4, 43.19N×15.31E, h10km, Ml3.6/8, Error ellipse: s-maj=10.4km s-min=4.6km az=71.0*
ISC 13 07:15:37.7±0.3, 43.19N±0.02×15.37E±0.05, h10km, n95, σ1§48/125, mb3.6/5, 2C-5D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TERO	**Teramo**	**1.42**	**247**	*e*PN	**Pn**	**07 16 04.9**	**+1.3**
NVLJ	**Novalja**	**1.42**	**345**	*i* Pn	**Pn**	**07 16 04.6**	**+0.9**
NVLJ				*i* Sn	**Sn**	**07 16 26.0**	**+3.4**
NVLJ				*i* Sg	**Sg**	**07 16 26.3**	**+1.2**
NVLJ	**Novalja**	**1.42**	**345**	*i* Pn	**Pn**	**07 16 04.6**	**+0.9**
NVLJ				*i* Sn	**Sn**	**07 16 26.0**	**+3.4**
NVLJ				*i* Sg	**Sg**	**07 16 26.2**	**+1.1**
RGNG	**Rignano Grg**	**1.52**	**174**	*e*PN	**Pn**	**07 16 03.1**	**-2.0**
FGMS	**Monte Sant'Ang**	**1.54**	**164**	*e*PN	**Pn**	**07 16 04.7**	**-0.7**
MS1	**Monte Sant'Ang**	**1.54**	**164**	*e*Pn	**Pn**	**07 16 05.6**	**+0.2**
INTR	**Introdacqua**	**1.60**	**223**	‖ *i* Pn	**Pn**	**07 16 06.7**	**+0.5**
CING	**Cingoli**	**1.60**	**278**	*e*PN	**Pn**	**07 16 06.9**	**+0.7**
CII	**Carovilli**	**1.66**	**209**	*e*Pn	**Pn**	**07 16 07.2**	**+0.1**
AQU	**L'Aquila**	**1.67**	**241**	*e*PN	**Pn**	**07 16 09.0**	**+1.8**
72nm,0.6s							
AQU	**L'Aquila**	**1.67**	**241**	*e*Pn	**Pn**	**07 16 08.2**	**+0.9**
AQU	**L'Aquila**	**1.67**	**241**	*e*Pn	**Pn**	**07 16 08.1**	**+0.9**
NRCA	**Norcia**	**1.69**	**259**	*e*PN	**Pn**	**07 16 08.1**	**+0.6**
SNTG	**Esanatoglia**	**1.78**	**273**	*e*PN	**Pn**	**07 16 09.0**	**+0.3**
138nm,0.6s							
SNTG	**Esanatoglia**	**1.78**	**273**	*e*Pn	**Pn**	**07 16 09.0**	**+0.3**
138nm,0.6s							
ARV	**Arcevia**	**1.80**	**281**	*e*PN	**Pn**	**07 16 09.4**	**+0.3**
76nm,0.7s							
ARV	**Arcevia**	**1.80**	**281**	*e*Pn	**Pn**	**07 16 09.4**	**+0.3**
76nm,0.7s							
PTQR	**Pietraquaria**	**1.86**	**232**	*e*PN	**Pn**	**07 16 10.8**	**+0.8**
SDI	**San Donato**	**1.87**	**219**	*e*PN	**Pn**	**07 16 08.8**	**-1.3**
FG5	**Orsara di Pugl**	**1.91**	**182**	*e*PN	**Pn**	**07 16 11.6**	**+1.0**
SGG	**Gregorio Mates**	**1.94**	**203**	*e*PN	**Pn**	**07 16 11.9**	**+0.8**
FSSB	**Fossombrone**	**1.96**	**286**	*e*PN	**Pn**	**07 16 12.2**	**+0.9**
72nm,0.5s							
FSSB	**Fossombrone**	**1.96**	**286**	*e*Pn	**Pn**	**07 16 12.2**	**+0.9**
72nm,0.5s							
BLY	**Banja Luka**	**2.04**	**39**	Pn	**Pn**	**07 16 15.9**	**+3.4**
MNS	**Montasola**	**2.14**	**249**	*e*PN	**Pn**	**07 16 15.6**	**+1.7**
60nm,0.6s							
MNS	**Montasola**	**2.14**	**249**	*e*Pn	**Pn**	**07 16 15.6**	**+1.7**
60nm,0.6s							
CERT	**Cerreto**	**2.15**	**236**	*e*PN	**Pn**	**07 16 16.3**	**+2.1**
TREB	**Trebinje**	**2.24**	**101**	Pn	**Pn**	**07 16 15.2**	**-0.1**
MSC	**Monte Massico**	**2.25**	**208**	*e*PN	**Pn**	**07 16 17.1**	**+1.6**
RSM	**Repubblica di**	**2.25**	**290**	*e*PN	**Pn**	**07 16 16.1**	**+0.6**
63nm,0.7s							
RSM	**Repubblica di**	**2.25**	**290**	*e*Pn	**Pn**	**07 16 16.1**	**+0.6**
63nm,0.7s							
BOJS	**Bojanci**	**2.32**	**358**	*i* Pn	**Pn**	**07 16 18.6**	**+2.1**
BOJS				*i*		07 16 19.5	
BOJS				*i* Sn	**Sn**	**07 16 50.0**	**+4.7**
CSSN	**Cassano Irpino**	**2.34**	**186**	*e*PN	**Pn**	**07 16 15.0**	**-1.8**
MRLC	**Muro Lucano**	**2.43**	**178**	*e*PN	**Pn**	**07 16 15.4**	**-2.7**
19nm,0.4s							
CRE	**Caprese Michel**	**2.53**	**281**	*e*PN	**Pn**	**07 16 21.5**	**+2.0**
34nm,0.6s							
CRE	**Caprese Michel**	**2.53**	**281**	*e*Pn	**Pn**	**07 16 21.5**	**+2.0**
34nm,0.6s							
CEY	**Cerknica**	**2.64**	**345**	*e*Pn	**Pn**	**07 16 22.7**	**+1.6**
VISS	**Visnje**	**2.64**	**352**	*i* Pn	**Pn**	**07 16 23.0**	**+1.9**
SFI	**Santa Sofia**	**2.66**	**287**	*e*PN	**Pn**	**07 16 22.6**	**+1.2**
36nm,0.6s							
SFI	**Santa Sofia**	**2.66**	**287**	*e*Pn	**Pn**	**07 16 22.6**	**+1.2**
36nm,0.6s							
PGD	**Poggio Sodo**	**2.74**	**286**	*e*PN	**Pn**	**07 16 24.4**	**+1.9**
43nm,0.8s							
PGD	**Poggio Sodo**	**2.74**	**286**	*e*Pn	**Pn**	**07 16 24.4**	**+1.9**
43nm,0.8s							
TRI	**Trieste**	**2.77**	**336**	*e*PN	**Pn**	**07 16 23.8**	**+0.8**
JAVS	**Javornik**	**2.86**	**341**	*e*Pn	**Pn**	**07 16 25.1**	**+0.8**
VMG	**Vicchio**	**2.89**	**287**	*e*PN	**Pn**	**07 16 26.3**	**+1.7**
VOY	**Vojsko**	**3.03**	**340**	*e*(Pn)	**Pn**	**07 16 27.3**	**+0.6**
VOY				*e*(Sn)	**Sn**	**07 17 11.0**	**+7.5**
OBKA	**Obir**	**3.37**	**350**	‖ *i*PN	**Pn**	**07 16 32.7**	**+1.2**
OBKA				*i* SN	**Sn**	**07 17 15.2**	**+3.2**
OBKA				*i* SG	**Sg**	**07 17 34.9**	**+4.9**
97nm,0.7s							
GMNA	**Gemona**	**3.44**	**335**	*e*PN	**Pn**	**07 16 33.2**	**+0.7**
178nm,0.7s							
GMNA	**Gemona**	**3.44**	**335**	*e*Pn	**Pn**	**07 16 33.2**	**+0.7**
178nm,0.7s							
PERS	**Pernice**	**3.45**	**357**	*e*PN	**Pn**	**07 16 34.9**	**+2.3**
DIVS	**Divcibare**	**3.48**	**73**	*e*PN	**Pn**	**07 16 38.7**	**+5.7**
DIVS				Sg	**Sg**	**07 17 28.4**	**-5.0**
PTCC	**Patocco-Chiusa**	**3.52**	**337**	*e*PN	**Pn**	**07 16 34.1**	**+0.4**
83nm,0.8s							
PTCC	**Patocco-Chiusa**	**3.52**	**337**	*e*Pn	**Pn**	**07 16 34.1**	**+0.4**
83nm,0.8s							
FVI	**Forni Avoltri**	**3.87**	**333**	*e*PN	**Pn**	**07 16 38.8**	**+0.2**
74nm,0.8s							
FVI	**Forni Avoltri**	**3.87**	**333**	*e*Pn	**Pn**	**07 16 38.8**	**+0.2**
74nm,0.8s							
ARSA	**Arzberg**	**4.07**	**1**	‖ *i*PN	**Pn**	**07 16 43.1**	**+1.7**
ARSA				*i* SN	**Sn**	**07 17 33.0**	**+3.4**
TIP	**Timpagrande**	**4.14**	**165**	*e*PN	**Pn**	**07 16 43.2**	**+0.8**
TIP	**Timpagrande**	**4.14**	**165**	*e*Pn	**Pn**	**07 16 43.2**	**+0.8**
KBA	**Koelnbreinsper**	**4.15**	**340**	‖ *i*PN	**Pn**	**07 16 43.0**	**+0.5**
KBA				*i* SN	**Sn**	**07 17 33.9**	**+2.3**
KBA	**Koelnbreinsper**	**4.15**	**340**	*e*Pn	**Pn**	**07 16 43.5**	**+1.0**
PGF	**Pioggiola**	**4.73**	**264**	*e*Pn	**Pn**	**07 16 49.6**	**-1.1**
MOA	**Molln**	**4.73**	**351**	‖ *i*PN	**Pn**	**07 16 51.6**	**+0.8**
MOA				*i* SN	**Sn**	**07 17 49.1**	**+2.8**
MOA	**Molln**	**4.73**	**351**	*e*Pn	**Pn**	**07 16 52.1**	**+1.3**
MOA				*i* Sn	**Sn**	**07 17 49.1**	**+2.8**
WTTA	**Wattenberg**	**4.86**	**328**	‖ *i*PN	**Pn**	**07 16 51.7**	**-0.9**
WTTA				*i* SN	**Sn**	**07 17 49.6**	**+0.1**
SQTA	**Sankt Quirin**	**4.99**	**325**	‖ *i*PN	**Pn**	**07 16 53.7**	**-0.8**
SQTA				*i* SN	**Sn**	**07 17 52.6**	**-0.4**
DAVOX	**Davos**	**5.30**	**315**	Pn	**Pn**	**07 16 59.8**	**+0.9**
0.9nm,0.3s,baz=144,slow=15,SNR=14							
DAVOX				Sn	**Sn**	**07 18 04.1**	**+3.4**
0.6nm,0.3s,baz=357,slow=17,SNR=4.7							
GEC2	**GERESS Array S**	**5.78**	**349**	*e*Pn	**Pn**	**07 17 05.3**	**-0.3**
GEC2				*e*Sn	**Sn**	**07 18 11.4**	**-1.3**
GERES	**GERESS Array B**	**5.78**	**349**	Pn	**Pn**	**07 17 04.8**	**-0.8**
1.1nm,0.3s,baz=170,slow=13,SNR=38							
GERES				Sn	**Sn**	**07 18 10.7**	**-2.0**
0.9nm,0.3s,baz=167,slow=23,SNR=11							
SBF	**Sospel**	**5.81**	**279**	*e*Pn	**Pn**	**07 17 04.8**	**-1.2**
KHC	**Kasperske Hory**	**6.07**	**349**	*e*Pn	**Pn**	**07 17 09.2**	**-0.6**
KHC				*e*		07 17 20.8	
KHC				*e*		07 17 41.0	
KHC				*e*Sn	**Sn**	**07 18 18.0**	**-2.1**
KHC				*e*		07 18 58.5	
KHC	**Kasperske Hory**	**6.07**	**349**	*e*PN	**Pn**	**07 17 09.2**	**-0.6**
KHC				*ex*	x	07 17 20.8	
KHC				x	x	07 17 41.0	
KHC				*e*SN	**Sn**	**07 18 18.0**	**-2.1**
KHC				*e*SG	**Sg**	**07 18 58.5**	**-1.4**
WET	**Wettzell**	**6.20**	**345**	*e*Pn	**Pn**	**07 17 10.8**	**-0.8**
WET				*e*Sn	**Sn**	**07 18 20.2**	**-3.2**
MBDF	**Montbardon**	**6.39**	**287**	*e*Pn	**Pn**	**07 17 11.8**	**-2.5**
MBDF				*e*Sn	**Sn**	**07 18 21.2**	**-6.9**
14nm,0.6s							
LMR	**La Mourre**	**6.47**	**274**	*e*Pn	**Pn**	**07 17 13.6**	**-1.8**
LPG	**La Plagne**	**6.60**	**293**	*e*Pn	**Pn**	**07 17 15.2**	**-1.9**
LPG				*e*Sn	**Sn**	**07 18 26.6**	**-6.6**
31nm,0.6s							
LPL	**La Plagne**	**6.62**	**294**	*e*Pn	**Pn**	**07 17 15.2**	**-2.2**
LPL				*e*Sn	**Sn**	**07 18 26.6**	**-7.1**
13nm,0.4s							
NOTT	**Nottersdorf**	**6.99**	**342**	*e*Pn	**Pn**	**07 17 20.5**	**-2.2**
ORIF	**Oris-en-Rattie**	**7.05**	**287**	*e*Pn	**Pn**	**07 17 22.0**	**-1.6**
ORIF				*e*Sn	**Sn**	**07 18 37.0**	**-7.6**
7.6nm,0.5s							
NKC	**Novy Kostel**	**7.33**	**345**	*e*SN	**Sn**	**07 18 46.6**	**-4.9**
CABF	**La Chapelle**	**7.43**	**301**	*e*Pn	**Pn**	**07 17 26.0**	**-2.8**
CABF				*e*Sn	**Sn**	**07 18 44.5**	**-9.4**
1.7nm,0.3s							
GUNZ	**Gunzen**	**7.47**	**345**	*e*Pn	**Pn**	**07 17 28.7**	**-0.8**
HINF	**Hinteralfeld**	**7.56**	**311**	*e*Pn	**Pn**	**07 17 28.5**	**-2.2**
HINF				*e*Sn	**Sn**	**07 18 49.4**	**-8.0**
6.4nm,0.4s							
MOX	**Moxa**	**7.89**	**342**	*e*P	**Pn**	**07 17 34.0**	**-1.3**
HAU	**Haudompre**	**7.95**	**310**	*e*Pn	**Pn**	**07 17 33.9**	**-2.2**
HAU				*e*Sn	**Sn**	**07 18 59.6**	**-7.4**
20nm,0.5s							
CLL	**Collm**	**8.28**	**350**	*e*SG	**Sg**	**07 20 12.0**	**-1.4**
SMF	**Signal de Mont**	**8.88**	**297**	*e*Pn	**P**	**07 17 46.5**	**-2.5**
SMF				*e*Sn	**Sn**	**07 19 20.2**	**-10**
14nm,0.6s							
AVF	**Avril sur Loir**	**9.25**	**297**	*e*Pn	**P**	**07 17 51.6**	**-2.5**
FINES	**FINESS Array B**	**19.37**	**16**	P	**P**	**07 20 04.1**	**-1.9**
0.1nm,0.3s,baz=180,slow=9.5,SNR=4.1							
BVAR	**Borovoye Array**	**37.18**	**55**	P	**P**	**07 22 48.9**	**-1.4**
1.8nm,0.8s,mb4.0,baz=288,slow=4.7,SNR=10							
ZAL	**Zalesovo**	**45.42**	**51**	P	**P**	**07 23 56.9**	**-1.0**
1.3nm,0.9s,mb3.8,baz=133,slow=4.0,SNR=5.1							
ZAL	**Zalesovo**	**45.42**	**51**	P	**P**	**07 23 56.9**	**-1.0**
SONM	**Songino Array**	**60.32**	**51**	P	**P**	**07 25 47.1**	**-1.6**
1.0nm,0.8s,mb3.9,baz=286,slow=9.6,SNR=8.7							
YKA	**Yellowknife Ar**	**67.31**	**337**	P	**P**	**07 26 33.0**	**-1.1**
0.1nm,0.7s,mb3.0,baz=43,slow=5.8,SNR=4.2							
YKA	**Yellowknife Ar**	**67.31**	**337**	P	**P**	**07 26 33.0**	**-1.1**
PDAR	**Pinedale Array**	**81.20**	**322**	P	**P**	**07 27 56.2**	**+1.5**
0.2nm,0.6s,mb3.2,baz=40,slow=7.0,SNR=2.9							

OTT 13 07:21:53.6±0.7, 62.94N×67.41W, h18km, MN2.8/2, 106km southeast from Iqaluit, Nu, Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**0.96**	**328**	PG	Pb	07 22 12.2	+0.9
FRB				SG	Sb	07 22 24.4	+0.8
FRB				Trac		07 22 25.5	
comp=Z,47nm,0.1s							
KUQ	**Kuujjuuaa**	**4.87**	**186**	PN	Pn	07 23 03.6	-4.3
KUQ				SN	Sn	07 23 58.7	-5.8
KUQ				SG	Sn	07 24 23.1	+19
KUQ				Trac		07 24 29.1	
comp=Z,3.7nm,0.2s							
SCHQ	**Schefferville**	**8.14**	**178**	PN	P	07 23 50.0	-3.7
SCHQ				SN	Sn	07 25 15.8	-10
SCHQ				Trac		07 25 32.9	
comp=Z,0.7nm,0.2s							
IGLN	**Igloolik**	**8.68**	**324**	PN	P	07 23 55.5	-5.8
IGLN				SN	Sn	07 25 28.1	-12
IGLN				LG		07 26 21.2	
IGL	**Igloolik**	**8.68**	**324**	PN	P	07 23 59.7	-1.7
IGL				LG		07 26 26.6	
LG4Q	**La Grande 4**	**9.97**	**204**	PN	P	07 24 15.4	-3.5
LG4Q				SN	Sn	07 25 59.6	-12
PINU	**Pond Inlet**	**10.56**	**343**	PN	P	07 24 21.4	-5.5
PINU				SN	S	07 26 08.8	-17
PINU				LG		07 27 16.7	

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*IDC **13** 07:23:29.0±0.6, 22.22N×143.69E, mb4.2/12, mb1 4.4/12, mb1mx4.2/20, mbtmp4.2/12, Error ellipse: s-maj=27.2km s-min=16.0km az=93.0*
*NEIC **13** 07:23:41.4±1.2, 22.19N×143.65E, h98km±12km, mb4.2/9, Error ellipse: s-maj=13.2km s-min=6.8km az=87.0*
ISC 13 07:23:40.1±2.0, 22.18N±0.06×143.6E±0.1, h103km±19km, n27, σ0§84/26, mb4.1/19, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.62**	**172**	Pn	**P**	**07 25 43.4**	**-0.2**
MAJO	**Matsushiro**	**15.07**	**343**	*e*P	**P**	**07 27 09.2**	**+0.5**
22nm,0.9s							
ULN	**Ulaanbaatar**	**38.86**	**320**	*e*P	**P**	**07 30 56.1**	**-0.6**
2.1nm,0.7s,mb4.1							
SONM	**Songino Array**	**39.24**	**320**	P	**P**	**07 31 00.6**	**+0.8**
1.1nm,0.5s,mb4.0,baz=129,slow=7.2,SNR=14							
WRAB	**Tennant Creek**	**42.83**	**193**	*e*P	**P**	**07 31 29.8**	**+0.1**
11nm,0.8s,mb4.6							
WB2	**Warramunga Arr**	**42.84**	**193**	*e*P	**P**	**07 31 30.1**	**+0.3**
WRA	**Warramunga Arr**	**42.84**	**193**	P	**P**	**07 31 29.6**	**-0.2**
1.6nm,0.3s,mb4.3,baz=10,slow=8.1,SNR=114							
WRA				PcP	PcP	07 33 19.1	-0.5
1.2nm,0.8s,baz=3.1,slow=3.5,SNR=6.6							
ASAR	**Alice Springs**	**46.54**	**192**	P	**P**	**07 31 59.5**	**+0.2**
0.9nm,0.4s,mb3.9,baz=11,slow=7.3,SNR=26							
BILL	**Bilibino**	**47.97**	**11**	P	**P**	**07 32 10.4**	**+0.5**
4.0nm,0.8s,mb4.3							
STKA	**Stephens Creek**	**53.78**	**182**	P	**P**	**07 32 52.9**	**-1.5**
1.4nm,0.8s,mb4.0,baz=10.0,slow=7.1,SNR=3.1							
ZAL	**Zalesovo**	**54.11**	**321**	P	**P**	**07 32 55.5**	**-0.8**
1.3nm,0.4s,mb4.3,baz=263,slow=3.0,SNR=4.2							
COCO	**West Island**	**57.21**	**238**	*e*P	**P**	**07 33 20.8**	**+1.7**
293nm,1.3s							
ILAR	**Eielson Array**	**61.42**	**27**	P	**P**	**07 33 46.4**	**-1.1**
1.2nm,0.6s,mb4.1,baz=260,slow=5.5,SNR=24							
BVAR	**Borovoye Array**	**62.58**	**319**	P	**P**	**07 33 55.1**	**-0.3**
1.4nm,0.3s,mb4.3,baz=104,slow=7.9,SNR=15							
BRVK	**Borovoye**	**62.64**	**319**	P	**P**	**07 33 55.3**	**-0.5**
2.6nm,0.9s,mb4.2							
BRVK				*e*	pP	07 34 25.2	+3.6
INK	**Inuvik**	**66.96**	**24**	P	**P**	**07 34 23.3**	**-0.1**
2.3nm,0.8s,mb4.1,baz=285,slow=4.9,SNR=5.2							
INK	**Inuvik**	**66.96**	**24**	*e*P	**P**	**07 34 23.1**	**-0.3**
4.5nm,1.0s,mb4.2							
DLBC	**Dease Lake**	**69.49**	**34**	*e*P	**P**	**07 34 36.2**	**-3.0**
YKA	**Yellowknife Ar**	**75.83**	**28**	P	**P**	**07 35 16.7**	**+0.5**
1.2nm,0.4s,mb4.0,baz=293,slow=5.9,SNR=41							
RES	**Resolute Bay**	**76.51**	**13**	*e*P	**P**	**07 35 19.9**	**0.0**
3.5nm,0.9s,mb4.1							
ARCES	**ARCESS Array B**	**78.60**	**342**	P	**P**	**07 35 31.2**	**-0.3**
1.7nm,0.7s,mb4.0,baz=72,slow=7.7,SNR=6.5							
ARCES				sP	PcP	07 35 39.7	-0.8
3.5nm,0.9s,baz=74,slow=8.8,SNR=2.0							
CMB	**Columbia Colle**	**81.14**	**53**	*e*P	**P**	**07 35 46.4**	**+0.6**
1.7nm,0.6s,mb4.0							
NVAR	**Mina Array Bea**	**82.52**	**52**	P	**P**	**07 35 54.5**	**+1.7**
1.1nm,0.8s,mb3.7,baz=265,slow=7.7,SNR=9.3							
FINES	**FINESS Array B**	**82.93**	**335**	P	**P**	**07 35 53.9**	**-0.5**
0.7nm,0.4s,mb3.8,baz=65,slow=3.7,SNR=7.0							
FINES				pP	PcP	07 36 00.5	+1.2
2.1nm,0.5s,baz=76,slow=5.7,SNR=2.4							
FINES	**FINESS Array B**	**82.93**	**335**	P	**P**	**07 35 53.9**	**-0.5**
FINES				pP	PcP	07 36 00.5	+1.2
FCC	**Fort Churchill**	**86.42**	**26**	P	**P**	**07 36 12.4**	**+0.6**
1.4nm,0.8s,mb3.9							
LPAZ	**La Paz**	**149.48**	**85**	PKPbc	PKPdf	07 43 21.1	+7.8
0.8nm,0.5s,baz=342,slow=3.2,SNR=6.0							

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*BJI **13** 07:28:33.4, 7.24N×92.37E, h41km, mB4.5, mb4.8, Ms4.7, Msz4.5*
*IDC **13** 07:28:36.6±0.7, 7.35N×92.39E, h32km±4km, mb4.0/11, mb1 4.2/12, mb1mx4.0/21, mbtmp4.2/12, ML4.3/1, Error ellipse: s-maj=32.4km s-min=12.3km az=50.0*
*NEIC **13** 07:28:36.4±0.3, 7.28N×92.42E, mb4.8/8, Error ellipse: s-maj=11.2km s-min=7.7km az=57.0*
ISC 13 07:28:34.4±1.9, 7.29N±0.07×92.42E±0.07, h34km±17km, h32km±2.5km: pP-P, n37, σ0§81/37, mb4.5/25, MS4.7/2, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.62**	**271**	*e*P	**P**	**07 31 20.5**	**-0.5**
PALK				*e*S	**S**	**07 33 15.8**	**-15**
CMAR	**Chiang Mai Arr**	**12.79**	**29**	Pn	**P**	**07 31 35.8**	**-0.9**
0.5nm,0.3s,baz=231,slow=14,SNR=19							
HYB	**Hyderabad**	**16.86**	**308**	*e*P	**P**	**

comp=Z,26nm,1.6s,mb5.4
MCK McKinley 95.67 23 P **P 07 42 02.2 +4.6**
comp=Z,6.1nm,1.5s,mb4.8
NVAR Mina Array Bea 126.28 30 PKP PKPdf 07 47 37.6 +3.3
comp=Z,0.6nm,0.6s,baz=1.2,slow=0.7,SNR=6.0
NVAR pPKP 07 47 47.8
comp=Z,0.4nm,0.7s,baz=2.3,slow=2.0,SNR=4.0
PDAR Pinedale Array 126.31 20 PKP PKPdf 07 47 36.6 +2.4
comp=Z,0.5nm,0.6s,baz=24,slow=1.6,SNR=5.9
PDAR pPKP 07 47 46.2
comp=Z,0.4nm,0.6s,baz=45,slow=2.1,SNR=3.4
TXAR Lajitas Array 140.43 22 PKP PKPdf 07 48 04.1 +3.2
comp=Z,0.4nm,0.4s,baz=161,SNR=15

IDC 13 07:40:40.7±11.0, 4.22N×98.01E, h49km±86km, mb3.7/5, mb1 3.9/6, mb1mx3.6/17, mbtmp3.9/6, ML4.2/1, Error ellipse: s-maj=172.2km s-min=20.8km az=64.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.18**	**4**	P		P	07 43 58.9	-1.7
	0.4nm,0.3s,baz=202,slow=15,SNR=3.3							
WRA	**Warramunga Arr**	**43.03**	**125**	P		P	07 48 35.3	-2.2
	0.8nm,0.8s,baz=300,slow=8.9,SNR=5.3							
SONM	**Songino Array**	**44.04**	**8**	P		P	07 48 43.7	-1.7
	0.9nm,0.6s,baz=190,slow=9.0,SNR=9.8							
ASAR	**Alice Springs**	**44.64**	**130**	P		P	07 48 48.9	-1.6
	1.5nm,1.0s,baz=307,slow=7.9,SNR=6.5							
ZAL	**Zalesovo**	**50.72**	**350**	P		P	07 49 35.1	-2.4
	2.0nm,0.6s,baz=220,slow=8.1,SNR=5.7							
STKA	**Stephens Creek**	**54.82**	**134**	P		P	07 50 06.0	-2.4
	2.3nm,0.6s,baz=310,slow=8.8,SNR=6.1							

IDC 13 08:01:47.9±1.6, 6.35N×93.60E, mb3.9/4, mb1 4.2/5, mb1mx3.9/18, mbtmp3.9/5, ML4.2/1, Error ellipse: s-maj=64.9km s-min=26.4km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**5.34**	**351**	*e*P		Pn	08 03 10.8	0.0
PBA				*e*S		Sn	08 03 27.7	-46
PBA				*e*			08 03 27.9	
	comp=E,452nm,0.3s							
PBA				*e*			08 03 27.9	
	comp=N,600nm,0.2s							
CMAR	**Chiang Mai Arr**	**13.12**	**23**	Pn		P	08 04 53.7	-4.6
	comp=N,0.4nm,0.3s,baz=228,slow=14,SNR=15							
VIS	**Vishakhapatnam**	**15.11**	**319**	*e*P		P	08 05 03.0	-22
WRA	**Warramunga Arr**	**47.84**	**124**	P		P	08 10 27.8	-1.9
	comp=N,1.0nm,0.8s,baz=302,slow=8.7,SNR=5.4							
ZAL	**Zalesovo**	**47.98**	**353**	P		P	08 10 29.5	-0.8
	comp=N,1.5nm,0.3s,baz=192,slow=3.5,SNR=3.6							
ASAR	**Alice Springs**	**49.37**	**129**	P		P	08 10 39.4	-2.1
	comp=N,1.1nm,0.9s,baz=301,slow=7.2,SNR=3.9							
GERES	**GERESS Array B**	**78.60**	**318**	P		P	08 13 51.1	-2.0
	comp=N,0.4nm,0.5s,baz=104,slow=4.0,SNR=3.7							

IDC 13 08:05:52.8±0.8, 57.07S×25.84W, h61km±7km, mb3.6/2, mb1 3.7/3, mb1mx3.3/13, mbtmp3.8/3, Error ellipse: s-maj=53.2km s-min=24.9km az=58.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**17.50**	**156**	P		P	08 09 51.9	-1.8
	0.4nm,0.3s,baz=322,slow=15,SNR=9.7							
VNDA	**Vanda**	**45.58**	**182**	P		P	08 14 06.0	-1.7
	0.8nm,0.6s,baz=188,slow=8.6,SNR=7.7							
LPAZ	**La Paz**	**51.58**	**304**	P		P	08 14 53.3	-1.5
	0.9nm,0.4s,baz=66,slow=7.9,SNR=11							
YKA	**Yellowknife Ar**	**137.43**	**317**	PKP		PKPdf	08 25 08.0	-0.3
	0.5nm,0.5s,baz=127,slow=2.3,SNR=18							
YKA				pPKP			08 25 25.0	
	0.3nm,0.5s,baz=126,slow=2.4,SNR=6.0							
SONM	**Songino Array**	**150.04**	**87**	PKPbc		PKPdf	08 25 35.0	+4.8
	0.8nm,0.5s,baz=223,slow=3.1,SNR=7.8							
SONM				pPKPbc			08 25 53.0	
	0.6nm,0.5s,baz=249,slow=2.8,SNR=4.7							
ILAR	**Eielson Array**	**151.35**	**310**	PKPbc		PKPdf	08 25 37.6	+6.0
	0.9nm,0.5s,baz=135,slow=2.6,SNR=24							
ILAR				pPKPbc			08 25 55.4	
	1.6nm,0.9s,baz=150,slow=2.5,SNR=7.2							

*BJI **13** 08:14:22.9, 32.39N×47.96E, h35km, mb4.1, Ms4.9, Msz4.5*
*IDC **13** 08:14:26.1±1.2, 33.30N×48.31E, mb4.0/14, mb1 4.2/18, mb1mx4.1/24, mbtmp4.1/18, ML3.1/2, MS3.7/2, Ms1 3.7/2, ms1mx3.0/21, Error ellipse: s-maj=28.1km s-min=16.9km az=4.0*
*MOS **13** 08:14:29.0±1.2, 33.27N×48.20E, h33km, mb4.5/8, MS3.4/4, Error ellipse: s-maj=13.3km s-min=7.1km az=118.8*
*THR **13** 08:14:29.0±0.9, 33.42N×48.42E, h14km±8km, ML4.0*
*CSEM **13** 08:14:30.0±0.1, 33.37N×48.25E, h40km, mb4.1/11, ML5.2/1, Error ellipse: s-maj=2.3km s-min=2.1km az=95.0*
*ZUR_RM **13** 08:14:31, 33.32N×48.29E, h27km, Mw4.5/8, Moment Tensor Solution. s8 Moment tensor: Scale 10^{15}Nm; M_{rr}=5.48; $M_{\theta\theta}$=-7.88; $M_{\phi\phi}$=2.40; $M_{r\theta}$=0.77; $M_{\theta\phi}$=3.55; $M_{\phi r}$=-1.25; Best double couple: M_0=7.5×10^{15} NP1:ϕ_s=127°, δ53°, λ117°. NP2:ϕ_s=266°, δ45°, λ59°. Principal axes: T 5.938, Plg68°, Azm97°; N 3.128, Plg21°, Azm289°; P -9.066, Plg4°, Azm198°;*
*NEIC **13** 08:14:31.4±1.6, 33.32N×48.29E, h35km±12km, mb4.6/6 Error ellipse: s-maj=16.3km s-min=9.6km az=166.0*
*TEH **13** 08:14:32.0, 33.30N×48.28E, h26km, Mn4.1*

ISC 13 08:14:27.3±0.3, 33.36N±0.02×48.20E±0.03, h14km, n93, σ1§23/101, mb4.2/24, MS3.7/5, 4D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**0.99**	**325**	Pg		**Pg**	**08 14 48.1**	**+0.8**
SHGR	**Shooshtar-Gavs**	**1.35**	**158**	*e*PG		**Pg**	**08 14 53.4**	**-1.0**
SHGR				*e*SG		**Sg**	**08 15 12.0**	**-0.5**
SHGR				AML		AML	08 15 14.1	
	comp=E,2μm,0.7s							
SHGR				AML		AML	08 15 17.7	
	comp=N,4μm,0.4s							
SHGR	**Shooshtar-Gavs**	**1.35**	**158**	*e*Pg		**Pg**	**08 14 53.4**	**-1.0**
	SNR=90							
SHGR				*e*Sg		**Sg**	**08 15 12.0**	**-0.5**
	comp=N,4μm,0.4s,SNR=90							
IVIS	**Veys**	**1.61**	**316**	Pn		**Pg**	**08 15 00.2**	**+0.6**
IGHG	**Ghaleghazi**	**1.67**	**306**	Pn		**Pg**	**08 15 00.2**	**-0.5**
SNGE	**Sanandaj**	**1.86**	**338**	*e*PG		**Pg**	**08 15 03.5**	**-1.2**
SNGE				AML		AML	08 15 44.2	
	comp=N,1μm,0.7s							
ASAO	**Ashtian**	**1.92**	**52**	*e*PG		**Pn**	**08 15 00.9**	**+0.9**
ASAO				AML		AML	08 15 33.9	
	comp=N,1μm,0.7s							
ASAO				AML		AML	08 15 34.2	
	comp=E,1μm,0.5s							
IDHR	**Dehrash**	**2.01**	**312**	Pn		**Pg**	**08 15 05.5**	**-2.1**
IRAZ	**Razeghan**	**2.49**	**35**	Lg			08 15 50.3	
IRAZ	**Razeghan**	**2.49**	**35**	Pn		**Pb**	**08 15 11.6**	**+0.3**
IQOM	**Qom**	**2.80**	**57**	Pn		**Pn**	**08 15 13.9**	**+1.3**
IBRJ	**Borojen**	**3.04**	**121**	Pn		**Pn**	**08 15 17.3**	**+1.4**
QAM	**Qamsar**	**3.05**	**79**	Pn		**Pn**	**08 15 14.0**	**-2.1**
IMHD	**Mahdasht**	**3.08**	**41**	Pn		**Pn**	**08 15 18.6**	**+2.0**
BHD	**Baghdad**	**3.20**	**269**	*e*Pn		**Pn**	**08 15 09.0**	**-9.3**
BHD				*e*Pb		**Pn**	**08 15 19.5**	**+1.2**
BHD				*i* Sn		**Sn**	**08 16 01.5**	**+4.9**
BHD				*i* Sb		**Sb**	**08 16 15.0**	**+12**
BHD				*i* sg		**Sg**	**08 16 25.0**	**+11**
BHD	**Baghdad**	**3.20**	**269**	*e*P		**Pn**	**08 15 19.5**	**+1.2**
IGZV	**Gazvin**	**3.44**	**28**	Pn		**Pn**	**08 15 23.9**	**+2.2**
UMR	**Umm Al-Rimmam**	**3.82**	**186**	*e*P		**Pn**	**08 15 28.4**	**+1.3**
UMR				*e*S		**Sn**	**08 16 12.7**	**+0.4**
DAMV	**Damavand**	**3.84**	**53**	*e*PN		**Pn**	**08 15 27.9**	**+0.5**
IDMV	**Damavand**	**3.86**	**54**	Pn		**Pn**	**08 15 28.3**	**+0.7**
NASN	**Na'in**	**3.91**	**97**	*e*PN		**Pn**	**08 15 28.5**	**+0.2**
RST	**Umm Al-Ruwaisa**	**3.99**	**195**	*e*P		**Pn**	**08 15 31.3**	**+1.9**
RST				*e*S		**Sn**	**08 16 17.4**	**+0.9**
IFIR	**Firoozkooh**	**4.39**	**58**	Pn		**Pn**	**08 15 35.5**	**+0.3**
GRMI	**Germi**	**5.44**	**357**	*e*PN		**Pn**	**08 15 51.9**	**+1.9**
ISRV	**Sarvestan**	**5.78**	**132**	Pn		**Pn**	**08 15 48.9**	**-5.9**
IMOK	**Mook**	**5.78**	**137**	Pn		**Pn**	**08 15 53.4**	**-1.5**
GNI	**Garni**	**7.32**	**339**	Pn		**Pn**	**08 16 17.8**	**+1.3**
GNI				Lg			08 18 29.6	
GNI	**Garni**	**7.32**	**339**	P		**Pn**	**08 16 17.8**	**+1.3**
MALT	**Malatya**	**9.35**	**305**	*e*P		**P**	**08 16 43.4**	**-1.2**
ASF	**Jabal al Asfar**	**9.60**	**266**	Pn		**P**	**08 16 47.3**	**-0.8**
	comp=E,0.4nm,0.3s,baz=42,slow=15,SNR=3.6							
ASF				Lg			08 19 44.5	
	comp=E,0.4nm,0.3s,baz=138,slow=24,SNR=3.2							
ZEI	**Tsey**	**9.98**	**341**	*e*P		**P**	**08 17 00.4**	**+7.0**
KIV	**Kislovodsk**	**11.42**	**339**	*e*P		**P**	**08 17 11.7**	**-1.3**
KIV				pmax		pmax		
	comp=Z,42nm,1.6s							
KIV	**Kislovodsk**	**11.42**	**339**	*e*P		**P**	**08 17 11.7**	**-1.3**
	comp=Z,42nm,1.6s							
KIV	**Kislovodsk**	**11.42**	**339**	*e*P		**P**	**08 17 11.7**	**-1.3**
	comp=Z,21nm,1.6s							
EIL	**Elat**	**11.89**	**256**	Lg			08 21 05.7	
	comp=Z,0.1nm,0.3s,baz=252,slow=20,SNR=3.5							
SOC	**Sochi**	**12.17**	**329**	*e*P		**P**	**08 17 25.2**	**+2.0**
SOC				*e*			08 19 32.7	
SOC				pmax		pmax		
	comp=Z,25nm,1.0s							
SOC				pmax		pmax		
	comp=N,2.0nm,0.4s							
SOC				pmax		pmax		
	comp=E,22nm,1.0s							
SOC				MLR		MLR		
	comp=Z,337nm,16.0s							
SOC				MLR		MLR		
	comp=N,279nm,12.0s							
SOC				MLR		MLR		
	comp=E,358nm,13.0s							
SOC	**Sochi**	**12.17**	**329**	*e*P		**P**	**08 17 25.2**	**+2.0**
	comp=E,1.0nm,0.4s							
BRTR	**Keskin Array B**	**13.31**	**303**	Pn		**P**	**08 17 40.5**	**+2.1**
	comp=E,0.0nm,0.3s,baz=119,slow=16,SNR=6.5							
ISP	**Isparta**	**15.07**	**292**	||*i*P	**P**	**08 17 59.8**	**-1.7**
APE	**Apeiranthos**	**18.88**	**288**	||*i*P	**P**	**08 18 48.3**	**-1.2**
APE	**Apeiranthos**	**18.88**	**288**	*i* P		**P**	**08 18 48.3**	**-1.2**
IDI	**Anoyia**	**19.34**	**282**	P		**P**	**08 18 56.0**	**+1.0**
	comp=E,0.6nm,0.3s,baz=84,slow=8.5,SNR=8.7							
MLR	**Muntele Rosu**	**20.95**	**312**	P		**P**	**08 19 13.8**	**+1.6**
	comp=E,4.4nm,0.7s,baz=37,slow=9.7,SNR=4.3							
AKASG	**Malin Array Be**	**22.23**	**327**	P		**P**	**08 19 24.6**	**-0.3**
AKASG				pmax		pmax		
	comp=Z,5.0nm,1.0s							
AKASG	**Malin Array Be**	**22.23**	**327**	P		**P**	**08 19 24.6**	**-0.3**
	comp=Z,5.2nm,1.0s,mb3.9,baz=135,slow=8.9,SNR=8.1							
AAK	**Ala-Archa**	**22.62**	**58**	*e*P		**P**	**08 19 29.9**	**+1.1**
AAK				pmax		pmax		
	comp=Z,5.0nm,1.2s,mb3.8							
AAK				MLR		MLR		
	comp=Z,100nm,21.0s,MS3.2							
AAK	**Ala-Archa**	**22.62**	**58**	*e*P		**P**	**08 19 29.9**	**+1.1**
	comp=Z,50nm,21.0s							
OBN	**Obninsk**	**23.23**	**343**	||*i*P	**P**	**08 19 34.3**	**-0.3**
OBN				pmax		pmax		
	comp=Z,59nm,1.6s,mb4.8							
OBN				MLR		MLR		
	comp=Z,100nm,14.0s,MS3.4							
OBN	**Obninsk**	**23.23**	**343**	*i* P		**P**	**08 19 34.3**	**-0.3**
	comp=Z,50nm,14.0s							
MOS	**Moscow**	**23.55**	**345**	*e*P		**P**	**08 19 41.3**	**+3.5**
MOS				pmax		pmax		
	comp=Z,45nm,0.7s,mb5.0							
ARU	**Arti**	**24.15**	**14**	||*i*P	**P**	**08 19 42.0**	**-1.6**
ARU				*e*			08 20 13.1	
ARU				*e*S		**S**	**08 23 55.2**	**-2.7**
ARU				pmax		pmax		
	comp=Z,11nm,1.4s,mb4.1							
ARU	**Arti**	**24.15**	**14**	*i* P		**P**	**08 19 42.0**	**-1.6**
	comp=Z,5.5nm,1.4s,mb3.8							
ARU				*e*S		**S**	**08 23 55.2**	**-2.7**
KWP	**Kalwaria**	**24.90**	**318**	P		**P**	**08 19 50.4**	**-0.6**
BRVK	**Borovoye**	**25.24**	**32**	*e*P		**P**	**08 19 54.4**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,21nm,1.2s,mb4.5							
BRVK	**Borovoye**	**25.24**	**32**	*e*P		**P**	**08 19 54.4**	**+0.2**
	comp=Z,21nm,1.2s,mb4.5							
BRVK	**Borovoye**	**25.24**	**32**	*e*P		**P**	**08 19 54.4**	**+0.3**
	comp=Z,10nm,1.2s,mb4.2							
BVAR	**Borovoye Array**	**25.27**	**32**	P		**P**	**08 19 54.5**	**+0.1**
	comp=Z,5.4nm,0.6s,mb4.2,baz=225,slow=6.3,SNR=38							
BVAR				PcP		PcP	08 23 26.0	-2.4
	comp=Z,0.7nm,0.5s,baz=225,slow=2.1,SNR=4.4							
BVAR	**Borovoye Array**	**25.27**	**32**	PcP		PcP	08 23 26.0	-2.4
PSZ	**Piszkesteto**	**25.76**	**313**	*e*P		**P**	**08 20 01.5**	**+2.5**
PSZ				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.3							
PSZ	**Piszkesteto**	**25.76**	**313**	*e*P		**P**	**08 20 01.5**	**+2.5**
	comp=Z,4.0nm,0.8s,mb4.0							
TIP	**Timpagrande**	**25.93**	**292**	*e*P		**P**	**08 20 01.2**	**+0.5**
TIP				*e*S		Sx	08 24 49.6	
TIP	**Timpagrande**	**25.93**	**292**	*e*P		**P**	**08 20 01.2**	**+0.5**
NIE	**Niedzica**	**26.16**	**316**	*e*P		**P**	**08 20 07.0**	**+4.3**
OJC	**Ojcow**	**26.83**	**317**	*e*P		**P**	**08 20 09.6**	**+0.7**
GERES	**GERESS Array B**	**29.94**	**311**	P		**P**	**08 20 35.7**	**-1.4**
	comp=Z,0.3nm,0.4s,mb3.4,baz=112,slow=7.2,SNR=4.2							
FINES	**FINESS Array B**	**31.51**	**340**	P		**P**	**08 20 50.2**	**-0.5**
	comp=Z,2.3nm,0.8s,mb4.1,baz=141,slow=9.5,SNR=8.8							
ZAL	**Zalesovo**	**32.99**	**40**	P		**P**	**08 21 03.5**	**-0.2**
	comp=Z,1.1nm,0.7s,mb3.9,baz=136,slow=8.9,SNR=6.2							
HFS	**Hagfors**	**35.01**	**330**	P		**P**	**08 21 21.1**	**0.0**
	comp=Z,2.2nm,0.3s,mb4.5,baz=124,slow=11,SNR=18							
NOA	**NORSAR Array B**	**36.53**	**331**	P		**P**	**08 21 33.6**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.7,baz=130,slow=9.4,SNR=2.9							
ARCES	**ARCESS Array B**	**38.38**	**347**	P		**P**	**08 21 49.2**	**-0.2**
ARCES				pmax		pmax		
	comp=Z,2.0nm,0.9s							
ARCES				MLR		MLR		
	comp=Z,100nm,18.5s							
ARCES	**ARCESS Array B**	**38.38**	**347**	P		**P**	**08 21 49.2**	**-0.2**
	comp=Z,2.4nm,0.9s,mb3.9,baz=117,slow=2.7,SNR=4.4							
ARCES				LR		LR	08 38 49.1	
	comp=Z,100nm,18.5s,MS3.7,baz=26,slow=38							
SONM	**Songino Array**	**45.44**	**53**	P		**P**	**08 22 46.7**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.4,baz=270,slow=7.4,SNR=4.4							
ULN	**Ulaanbaatar**	**45.88**	**53**	*e*P		**P**	**08 22 50.5**	**-0.3**
ULN				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.4							
ULN	**Ulaanbaatar**	**45.88**	**53**	*e*P		**P**	**08 22 50.5**	**-0.3**
	comp=Z,4.6nm,1.0s,mb4.4							
ULN	**Ulaanbaatar**	**45.88**	**53**	*e*P		**P**	**08 22 50.5**	**-0.3**
	comp=Z,2.5nm,1.0s,mb4.1							
CMAR	**Chiang Mai Arr**	**47.55**	**95**	P		**P**	**08 23 02.8**	**-1.7**
	comp=Z,2.2nm,0.6s,mb4.4,baz=291,slow=8.4,SNR=9.3							
DBIC	**Dimbokro**	**55.75**	**254**	P		**P**	**08 24 05.5**	**-0.8**
	comp=Z,1.2nm,0.6s,mb4.1,baz=46,slow=12,SNR=3.6							
DBIC				LR		LR	08 48 54.5	
	comp=Z,67nm,19.4s,MS3.7,baz=30,slow=37							
DBIC	**Dimbokro**	**55.75**	**254**	P		**P**	**08 24 05.4**	**-0.8**
TIXI	**Tiksi**	**55.79**	**22**	*e*P		**P**	**08 24 04.5**	**-1.2**
TIXI				pmax		pmax		
	comp=Z,5.0nm,1.1s,mb4.5							
TIXI	**Tiksi**	**55.79**	**22**	*e*P		**P**	**08 24 04.5**	**-1.2**
	comp=Z,2.5nm,1.1s,mb4.2							
SUMG	**Summit**	**57.55**	**339**	P		**P**	**08 24 16.9**	**-1.4**
	comp=Z,4.9nm,0.8s,mb4.6							
SUMG	**Summit**	**57.55**	**339**	P		**P**	**08 24 16.9**	**-1.3**
	comp=Z,4.9nm,0.8s,mb4.6							
NJ2	**Nanjing**	**58.36**	**70**	*e*P		**P**	**08 24 22.3**	**-2.2**
NJ2				PCP		PcP	08 25 12.3	-2.9
NJ2				S		**S**	**08 32 20.0**	**-4.9**
NJ2				LR		LR		
	comp=N,420nm,24.2s,MS4.7							
NJ2				LR		LR		
	comp=E,450nm,19.8s,MS4.7							
NJ2				LR		LR		
	comp=Z,390nm,20.8s,MS4.5							
SSE	**Sheshan**	**60.57**	**70**	P		**P**	**08 24 35.5**	**-4.2**
FRB	**Frobisher Bay**	**71.17**	**335**	P		**P**	**08 25 46.9**	**-0.2**
	comp=Z,3.9nm,0.6s,mb4.5,baz=50,slow=7.2,SNR=14							
SCHQ	**Schefferville**	**76.02**	**327**	P		**P**	**08 26 20.1**	**+4.7**
	comp=Z,7.6nm,1.0s,mb4.6							
FCC	**Fort Churchill**	**82.99**	**341**	P		**P**	**08 26 51.5**	**-1.4**
FCC				pmax		pmax		
	comp=Z,8.0nm,1.3s,mb4.6							
FCC	**Fort Churchill**	**82.99**	**341**	P		**P**	**08 26 51.5**	**-1.3**
	comp=Z,8.3nm,1.3s,mb4.6							
FCC	**Fort Churchill**	**82.99**	**341**	P		**P**	**08 26 51.5**	**-1.4**
	comp=Z,4.0nm,1.3s,mb4.3							
YKW3	**Yellowknife Ar**	**83.41**	**352**	P		**P**	**08 26 54.2**	**-0.7**
YKW3	**Yellowknife Ar**	**83.41**	**352**	P		**P**	**08 26 54.2**	**-0.8**
YKA	**Yellowknife Ar**	**83.48**	**352**	P		**P**	**08 26 54.5**	**-0.8**
	comp=Z,0.3nm,0.5s,mb3.6,baz=15,slow=5.7,SNR=10							
DLBC	**Dease Lake**	**88.54**	**359**	*e*P		**P**	**08 27 21.5**	**+1.3**

IDC 13 08:20:49.0±1.1, 7.01N×93.21E, mb4.0/6, mb1 4.2/7, mb1mx4.0/20, mbtmp4.0/7, ML3.9/1, MS3.6/2, Ms1 3.7/2, ms1mx3.5/7, Error ellipse: s-maj=57.3km s-min=21.9km az=44.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.68**	**26**	Pn		P	08 24 00.8	+7.3
	0.2nm,0.3s,baz=234,slow=14,SNR=12							
CMAR				LR		LR	08 29 29.9	
	comp=Z,70nm,19.7s,baz=215,slow=41							
SONM	**Songino Array**	**42.21**	**13**	P		P	08 28 44.0	-1.3
	0.4nm,0.8s,baz=202,slow=7.8,SNR=4.4							
WRA	**Warramunga Arr**	**48.52**	**124**	P		P	08 29 34.3	-1.9
	1.4nm,0.8s,baz=306,slow=9.0,SNR=9.7							
ASAR	**Alice Springs**	**50.08**	**129**	P		P	08 29 45.9	-2.2
	0.8nm,0.5s,baz=302,slow=7.8,SNR=8.0							
IDI	**Anoyia**	**68.30**	**305**	P		P	08 31 52.5	-1.8
	3.5nm,0.5s,baz=78,slow=14,SNR=3.9							
MLR	**Muntele Rosu**	**69.15**	**316**	P		P	08 31 56.8	-2.6
	1.6nm,0.6s,baz=105,slow=12,SNR=4.1							
FINES	**FINESS Array B**	**73.05**	**332**	LR		LR	09 09 49.0	
	comp=Z,140nm,18.8s,baz=30,slow=40							
GERES	**GERESS Array B**	**77.86**	**318**	P		P	08 32 49.2	-0.9
	0.7nm,0.6s,baz=90,slow=5.3,SNR=5.2							

*IDC **13** 08:21:22.5±1.3, 3.32S×148.80E, mb4.0/8, mb1 4.2/9, mb1mx4.1/14, mbtmp4.0/9, ML2.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.9/15, Error ellipse: s-maj=46.5km s-min=20.3km az=108.0*
*NEIC **13** 08:21:26.4±0.7, 3.32S×148.74E, h25km, mb4.6/4, Error ellipse: s-maj=23.8km s-min=8.0km az=105.0*

ISC 13 08:21:24.7±0.9, 3.31S±0.09×148.7E±0.2, h25km, n17, σ0§65/17, mb4.2/12, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.24**	**194**	Pn		**Pn**	**08 22 57.3**	**-0.4**
	0.3nm,0.3s,baz=73,slow=17,SNR=2.1							
PMG				LR		LR	08 25 33.9	
	comp=Z,176nm,20.7s,baz=330,slow=40							
PMG	**Port Moresby**	**6.24**	**194**	Pn		**Pn**	**08 22 57.3**	**-0.4**
WRAB	**Tennant Creek**	**21.63**	**219**	*e*P		**P**	**08 26 15.3**	**-0.1**
	12nm,0.8s,mb4.4							
WB2	**Warramunga Arr**	**21.64**	**219**	*e*P		**P**	**08 26 15.3**	**-0.1**
WRA	**Warramunga Arr**	**21.65**	**219**	P		**P**	**08 26 15.0**	**-0.5**
	12nm,1.2s,mb4.2,baz=46,slow=10,SNR=17							
ASAR	**Alice Springs**	**24.76**	**214**	P		**P**	**08 26 46.7**	**+0.7**
	4.4nm,0.9s,mb4.0,baz=47,slow=7.8,SNR=18							
ASPA	**Alice Springs**	**24.76**	**214**	*e*P		**P**	**08 26 50.7**	**+4.6**
MBWA	**Marble Bar**	**33.26**	**235**	P		**P**	**08 28 02.7**	**+0.1**
	24nm,1.3s,mb5.0							
BJT	**Baijiatuau**	**52.41**	**329**	P		**P**	**08 30 36.1**	**-1.4**
	5.7nm,0.7s,mb4.6							
CMAR	**Chiang Mai Arr**	**53.51**	**296**	P		**P**	**08 30 47.0**	**+1.1**
	0.7nm,0.4s,mb3.9,baz=104,slow=5.9,SNR=4.8							
HIA	**Hailar**	**58.05**	**338**	*e*P		**P**	**08 31 17.5**	**-0.7**
	5.1nm,0.8s,mb4.6							
SONM	**Songino Array**	**62.91**	**329**	P		**P**	**08 31 51.7**	**+0.4**
	0.9nm,0.9s,mb3.9,baz=147,slow=5.2,SNR=5.7							
ZAL	**Zalesovo**	**77.65**	**327**	P		**P**	**08 33 20.1**	**-0.7**
	0.9nm,0.4s,mb4.0,baz=267,slow=0.4,SNR=4.3							
ILAR	**Eielson Array**	**82.37**	**23**	P		**P**	**08 33 46.1**	**+0.4**
	1.2nm,1.3s,mb3.7,baz=253,slow=4.8,SNR=5.6							
BVAR	**Borovoye Array**	**85.59**	**324**	P		**P**	**08 34 03.1**	**+0.8**
	0.4nm,0.5s,mb3.9,baz=98,slow=10,SNR=3.1							
YKA	**Yellowknife Ar**	**96.03**	**28**	P		**P**	**08 34 51.2**	**+0.2**
	0.3nm,0.7s,mb3.8,baz=273,slow=4.9,SNR=7.0							
YKA	**Yellowknife Ar**	**96.03**	**28**	P		**P**	**08 34 51.2**	**+0.2**

*IDC **13** 08:25:24.1±0.8, 10.30S×162.11E, mb4.5/9, mb1 4.7/10, mb1mx4.5/16, mbtmp4.5/10, ML4.7/1, MS3.6/5, Ms1 3.6/5, ms1mx3.3/21, Error ellipse: s-maj=32.8km s-min=18.2km az=120.0*
*NEIC **13** 08:25:43.2±6.5, 10.29S×161.80E, h158km±58km, mb4.5/17, Error ellipse: s-maj=25.4km s-min=17.6km az=92.0*

**ISC 13 08:25:32.4±5.8, 10.3S±0.1×161.9E±0.2, h78km±49km, n36, σ0§85/30, mb4.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOR1	**San Jorge 1**	**2.40**	**95**	⇑P	Pn	08 32 34.1	+1.3
PINO	**Pino**	**2.45**	**98**	⇑P	Pn	08 32 34.9	+1.4
TERV	**Terraza Guagua**	**2.46**	**99**	⇑P	Pn	08 32 35.1	+1.4
TERV				S	Sn	08 33 03.4	+0.3
JUA2	**San Juan 2**	**2.46**	**100**	⇑P	Pn	08 32 35.3	+1.6
GGP	**Refugio Guagua**	**2.47**	**99**	P	Pn	08 32 36.1	+2.4
YANA	**Yana**	**2.48**	**97**	⇑P	Pn	08 32 35.4	+1.4
YANA				S	Sn	08 33 05.4	+1.6
NAS1	**Nasa**	**2.69**	**108**	P	Pn	08 32 38.9	+2.0
COTA	**Cotacachi**	**2.70**	**87**	⇑P	Pn	08 32 39.8	+2.7
MARY	**Rancho Maria**	**2.71**	**110**	⇓P	Pn	08 32 39.2	+2.0
VC1	**Cotopaxi 1**	**2.76**	**108**	⇑P	Pn	08 32 40.2	+2.2
VC1				S	Sn	08 33 12.8	+1.9
TAMB	**Tambo**	**2.81**	**108**	⇑P	Pn	08 32 40.9	+2.2
IGUA	**Igualata**	**2.93**	**125**	P	Pn	08 32 41.4	+1.1
PISA	**Pisayambo**	**2.93**	**115**	P	Pn	08 32 42.1	+1.8
ANTI	**Antisana**	**2.94**	**103**	P	Pn	08 32 43.2	+2.6
CAYR	**Refugio Cayamb**	**3.03**	**94**	⇑P	Pn	08 32 45.6	+3.8
CAYA	**Cayambe**	**3.05**	**92**	P	Pn	08 32 45.6	+3.6
CAYA				S	Sn	08 33 23.2	+5.2
RETU	**Refugio**	**3.07**	**122**	P	Pn	08 32 44.0	+1.7
RUN2	**Runtun**	**3.08**	**122**	P	Pn	08 32 44.0	+1.6
ARRY	**Arrayan**	**3.09**	**123**	P	Pn	08 32 43.5	+1.0
ULBA	**Ulba**	**3.10**	**122**	P	Pn	08 32 44.0	+1.3
CONE	**Cono NE Rev Vo**	**3.40**	**95**	P	Pn	08 32 51.0	+4.0

IDC 13 08:40:01.0±11.0, 6.72N×94.33E, mb3.6/2, mb1 3.9/3, mb1mx3.5/18, mbtmp3.6/3, ML3.5/1, MS2.9/1, Ms1 3.1/1, ms1mx2.5/21, Error ellipse: s-maj=294.1km s-min=43.8km az=86.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.51**	**21**	Pn	P	08 43 00.4	-2.8
	0.1nm,0.3s,baz=212,slow=14,SNR=2.7						
CMAR				LR	LR	08 48 05.8	
	comp=Z,49nm,19.1s,baz=210,slow=39						
WRA	**Warramunga Arr**	**47.44**	**125**	P	P	08 48 38.0	-1.7
	0.3nm,0.4s,baz=305,slow=8.8,SNR=7.8						
ASAR	**Alice Springs**	**49.03**	**129**	P	P	08 48 49.8	-2.2
	0.5nm,0.4s,baz=298,slow=8.0,SNR=5.8						

IDC 13 08:45:48.6±1.8, 5.40N×94.69E, mb3.8/5, mb1 4.1/6, mb1mx3.8/18, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=73.7km s-min=23.4km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.63**	**17**	Pn	P	08 49 14.2	+8.4
	0.3nm,0.3s,baz=213,slow=11,SNR=12						
SONM	**Songino Array**	**43.46**	**11**	P	P	08 53 52.8	-2.3
	0.9nm,0.7s,baz=189,slow=8.2,SNR=8.7						
WRA	**Warramunga Arr**	**46.41**	**124**	P	P	08 54 16.5	-2.6
	0.7nm,0.7s,baz=308,slow=9.4,SNR=13						
ASAR	**Alice Springs**	**47.94**	**129**	P	P	08 54 30.2	-0.9
	0.4nm,0.6s,baz=306,slow=7.7,SNR=5.1						
ZAL	**Zalesovo**	**49.06**	**352**	P	P	08 54 38.7	-0.6
	1.1nm,0.4s,baz=213,slow=8.9,SNR=5.3						
GERES	**GERESS Array B**	**80.03**	**319**	P	P	08 57 59.4	-2.1
	0.3nm,0.4s,baz=74,slow=7.1,SNR=3.8						

*CSEM **13** 08:52:40.0, 5.46N×94.96E, h33km, mb5.7*
*BJI **13** 08:52:42.1, 5.18N×94.31E, h54km, mB5.0, mb4.9, Ms4.6, Msz4.3*
*MOS **13** 08:52:42.0±0.8, 5.61N×94.39E, h33km, mb5.0/33, Error ellipse: s-maj=12.6km s-min=6.0km az=120.4*
*HRVD **13** 08:52:43.3±1.4, 5.43N×94.03E, h48km±3km, MW4.7/25, Centroid moment Tensor Solution, LP body waves: s11,c14;Mantle waves: s25,c38; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.18±.19; $M_{\theta\theta}$-0.17±.13; $M_{\phi\phi}$-1.01±.20; $M_{r\theta}$0.68±.08; $M_{\theta\phi}$0.45±.11; $M_{\phi r}$-0.09±.10; Best double couple: M_0=1.362×10^{16} NP1:φs356°,δ40°, λ124°. NP2:φs135°,δ57°,λ65°. Principal axes: T 1.465, Plg67°, Azm355°; N -.207, Plg21°, Azm149°; P -1.259, Plg9°, Azm242°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **13** 08:52:43.3±0.2, 5.62N×94.38E, h30km, mb4.9/33 Error ellipse: s-maj=7.5km s-min=4.8km az=38.0*
*IDC **13** 08:52:46.0±0.7, 5.60N×94.32E, h52km±5km, mb4.5/19, mb1 4.5/20, mb1mx4.4/24, mbtmp4.7/20, MS3.9/8, Ms1 4.0/8, ms1mx3.6/21, Error ellipse: s-maj=22.6km s-min=11.7km az=42.0*

ISC 13 08:52:44.4±1.1, 5.57N±0.05×94.36E±0.04, h53km±8km, **h47**km±2.8km**:pP-P, n184,σ0s98/190, mb4.9/70, MS4.2/12, 9C-6D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**6.26**	**345**	*e*P	**P**	**08 54 18.8**	**+2.4**
PBA				*e*S	**S**	**08 55 26.3**	**-1.1**
PBA				*e*		08 55 26.3	
PBA				*e*		08 55 29.2	
	comp=N,106nm,0.5s						
PBA				*e*		08 55 29.4	
	comp=E,82nm,0.7s						
SNG	**Songkhla**	**6.42**	**75**	P	**P**	**08 54 19.0**	**+0.4**
	comp=E,306nm,0.8s						
NNT	**Nongplab**	**8.76**	**37**	P	**P**	**08 54 54.3**	**+3.2**
KKTK	**Khon Kaen**	**13.54**	**37**	⇑P	**P**	**08 56 05.5**	**+10**
	comp=E,1μm,0.4s						
CMAR	**Chiang Mai Arr**	**13.57**	**19**	P	**P**	**08 55 58.2**	**+2.2**
	comp=E,3.7nm,0.3s,baz=206,slow=14,SNR=55						
CMAR				LR	LR	09 00 49.5	
	comp=E,229nm,20.3s,baz=205,slow=36						
CHG	**Chiang Mai**	**13.90**	**18**	⇑P	**P**	**08 56 05.7**	**+5.3**
	comp=E,23nm,0.8s						
CHRT	**Chiangrai**	**15.17**	**20**	⇑P	**P**	**08 56 17.0**	**+0.1**
	comp=E,445nm,0.8s						
VIS	**Vishakhapatnam**	**16.20**	**319**	*e*P	**P**	**08 56 29.0**	**-1.0**
VIS				*e*		08 56 29.0	
VIS				*e*		08 56 31.3	
	comp=Z,30nm,0.3s						
VIS				*e*		08 59 12.9	
VIS				*e*		08 59 12.9	
BWNR	**Bhubaneshwar**	**16.84**	**331**	*e*P	**P**	**08 56 34.7**	**-3.3**
BWNR				*e*		08 56 36.0	
	comp=Z,98nm,0.5s						
BWNR				*e*	**S**	**08 59 29.8**	**-13**
KOD	**Kodaikanal**	**17.36**	**287**	*e*P	**P**	**08 56 39.9**	**-4.8**
HYB	**Hyderabad**	**19.44**	**309**	*i* P	**P**	**08 57 09.5**	**+0.2**
HYB				*e*S	**S**	**09 00 33.0**	**-7.6**
SHL	**Shillong**	**20.03**	**353**	*e*	**P**	**08 57 12.0**	**-3.6**
SHL				*e*P		08 57 12.2	
SHL				*e*		08 57 19.7	
	comp=Z,18nm,0.6s						
QIZ	**Qiongzhong**	**20.17**	**47**	⇓P	**P**	**08 57 19.0**	**+1.9**
QIZ				S	**S**	**09 00 55.9**	**+0.3**
QIZ				LR	LR		
	comp=N,591nm,15.3s,MS4.2						
QIZ				LR	LR		
	comp=E,492nm,16.3s,MS4.2						
QIZ				LR	LR		
	comp=Z,578nm,16.9s,MS4.0						
KAD	**Karad**	**22.93**	**302**	*e*P	**P**	**08 57 45.0**	**0.0**
KAD				*e*		08 57 47.7	
	comp=Z,11nm,0.9s						
JIRN	**Jiri**	**23.31**	**341**	*e*P	**P**	**08 57 48.2**	**-0.3**
PKI	**Pulchoki**	**23.48**	**340**	*e*P	**P**	**08 57 50.3**	**+0.1**
	comp=Z,109nm,1.0s,mb5.2						
DMN	**Daman**	**23.63**	**339**	*e*P	**P**	**08 57 51.1**	**-0.5**
	comp=Z,63nm,0.6s,mb5.2						
GUN	**Gumba**	**23.64**	**341**	*e*P	**P**	**08 57 51.6**	**-0.1**
KKN	**Kakani**	**23.73**	**340**	*e*P	**P**	**08 57 52.1**	**-0.5**
	comp=Z,104nm,0.8s,mb5.3						
POO	**Poona**	**23.80**	**305**	*e*P	**P**	**08 57 55.0**	**+1.6**
POO				*e*S	**S**	**09 02 19.0**	**+17**
BHPL	**Bhopal**	**23.99**	**319**	*e*P	**P**	**08 57 56.7**	**+1.6**
BHPL				*e*P		08 57 56.9	
BHPL				*e*		08 57 57.9	
	comp=Z,28nm,0.3s						
BHPL				*e*	**S**	**09 01 57.6**	**-7.7**
GKN	**Gorkha**	**24.15**	**339**	*e*P	**P**	**08 57 56.9**	**+0.2**
	comp=Z,214nm,0.8s,mb5.6						
LSA	**Lhasa**	**24.20**	**353**	*e*P	**P**	**08 57 57.2**	**+0.1**
	comp=Z,51nm,0.6s,mb5.1						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLN	**Koldanda**	**24.34**	**336**	*e*P	**P**	**08 57 59.1**	**+0.6**
	comp=Z,172nm,1.0s,mb5.4						
NDI	**New Delhi**	**28.15**	**327**	*e*	**P**	**08 58 31.0**	**-2.9**
NDI				*e*P		08 58 33.5	
NDI				*e*		08 58 33.6	
	comp=Z,13nm,0.4s						
ENH	**Enshi**	**28.41**	**28**	*e*P	**P**	**08 58 32.6**	**-3.6**
	comp=Z,20nm,0.6s,mb4.9						
WHN	**Wuhan**	**31.16**	**35**	P	**P**	**08 59 01.5**	**+0.9**
XAN	**Xi'an**	**31.39**	**24**	P	**P**	**08 59 01.6**	**-1.0**
XAN				AMB	AMB		
	comp=Z,38nm,0.9s,mb5.2						
LZH	**Lanzhou**	**31.60**	**15**	*e*P	**P**	**08 59 03.9**	**-0.5**
LZH				PP	PP	09 00 09.0	-1.2
LZH				*e*S	**S**	**09 04 12.0**	**+3.7**
LZH				SS	SS	09 06 01.0	+0.9
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,112nm,4.2s						
LZH				LR	LR		
	comp=E,536nm,12.5s						
LZH				LR	LR		
	comp=Z,733nm,14.0s,MS4.5						
NJ2	**Nanjing**	**34.91**	**38**	*e*P	**P**	**08 59 34.4**	**+1.3**
NJ2				AP	pP	08 59 43.9	-3.0
NJ2				XP	sP	08 59 48.8	-4.8
NJ2				PP	PP	09 00 49.1	-3.1
NJ2				PPP	PPP	09 01 08.1	-2.2
NJ2				S	**S**	**09 05 06.0**	**+6.3**
NJ2				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,1μm,4.1s						
NJ2				LR	LR		
	comp=N,680nm,22.7s,MS4.7						
NJ2				LR	LR		
	comp=E,1μm,24.4s,MS4.7						
NJ2				LR	LR		
	comp=Z,960nm,21.3s,MS4.5						
SSE	**Sheshan**	**35.76**	**41**	P	**P**	**08 59 36.5**	**-3.8**
SSE				PP	PP	09 00 58.3	-4.1
SSE				S	**S**	**09 05 13.8**	**+1.0**
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,128nm,4.3s						
WMQ	**Urumqi**	**38.55**	**352**	P	**P**	**09 00 02.8**	**-0.7**
WMQ				PP	PP	09 01 35.0	-1.0
WMQ				S	**S**	**09 05 55.8**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,46nm,5.0s						
WMQ				LR	LR		
	comp=N,1μm,19.6s,MS4.8						
WMQ				LR	LR		
	comp=E,887nm,20.8s,MS4.8						
WMQ				LR	LR		
	comp=Z,1μm,20.3s,MS4.7						
JOW	**Kunigami**	**38.61**	**53**	P	**P**	**09 00 04.7**	**+0.5**
	comp=Z,17nm,0.6s,mb5.0,baz=279,slow=10,SNR=5.0						
JOW				LR	LR	09 16 03.2	
	comp=Z,165nm,22.0s,MS3.8,baz=275,slow=36						
FITZ	**Fitzroy Crossi**	**38.80**	**128**	*e*P	**P**	**09 00 05.6**	**-0.2**
	comp=Z,8.1nm,0.6s,mb4.6						
BJT	**Baijiatuan**	**39.52**	**27**	*e*P	**P**	**09 00 11.4**	**-0.2**
BJT				pmax	pmax		
	comp=Z,14nm,0.8s						
BJT	**Baijiatuan**	**39.52**	**27**	*e*P	**P**	**09 00 11.4**	**-0.2**
	comp=Z,14nm,0.8s,mb4.7						
UCH	**Uchtor**	**40.55**	**337**	P	**P**	**09 00 21.3**	**+1.2**
	SNR=14						
TKM2	**Tokmak 2**	**40.74**	**339**	P	**P**	**09 00 22.4**	**+0.7**
	SNR=11						
KBK	**Karagaybulak**	**40.75**	**338**	P	**P**	**09 00 23.1**	**+1.3**
	SNR=17						
AML	**Almayashu**	**40.79**	**336**	P	**P**	**09 00 23.3**	**+1.2**
	SNR=19						
AAK	**Ala-Archa**	**40.90**	**337**	P	**P**	**09 00 23.8**	**+0.8**
	SNR=8.9						
AAK	**Ala-Archa**	**40.90**	**337**	⇓*i*P	**P**	**09 00 22.4**	**-0.6**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3						
AAK	**Ala-Archa**	**40.90**	**337**	*e*P	**P**	**09 00 22.6**	**-0.4**
	comp=Z,5.8nm,0.7s,mb4.3						
EKS2	**Erkin-Say**	**41.20**	**337**	P	**P**	**09 00 26.6**	**+1.1**
	SNR=5.9						
USP	**Ospenovka**	**41.44**	**338**	P	**P**	**09 00 27.8**	**+0.3**
	SNR=21						
MKAR	**Makanchi Array**	**42.38**	**348**	*i* P	**P**	**09 00 35.3**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,14nm,0.6s						
SONM	**Songino Array**	**43.36**	**12**	P	**P**	**09 00 43.2**	**0.0**
	comp=Z,15nm,0.8s,mb4.8,baz=195,slow=8.1,SNR=114						
SONM				pP	pP	09 00 56.7	-0.5
	comp=Z,8.5nm,0.8s,baz=202,slow=10.0,SNR=7.4						
SONM				PcP	PcP	09 02 31.9	+0.4
	comp=Z,2.2nm,0.6s,baz=190,slow=3.6,SNR=6.7						
ULN	**Ulaanbaatar**	**43.52**	**12**	⇓*e*P	**P**	**09 00 42.5**	**-2.0**
ULN	**Ulaanbaatar**	**43.52**	**12**	*e*P	**P**	**09 00 43.9**	**-0.6**
	comp=Z,11nm,1.0s,mb4.5						
ZAK	**Zakamensk**	**45.29**	**8**	*e*P	**P**	**09 00 58.1**	**-0.5**
ZAK				*e*		09 02 35.9	
TLY	**Talaya**	**46.61**	**8**	*c i*P	**P**	**09 01 08.5**	**-0.5**
TLY				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
TLY	**Talaya**	**46.61**	**8**	*e*P	**P**	**09 01 09.1**	**+0.1**
	comp=Z,6.2nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**46.77**	**124**	P	**P**	**09 01 10.6**	**-0.1**
	comp=Z,7.0nm,0.7s,mb4.7,baz=303,slow=9.4,SNR=139						
WRA				pP	pP	09 01 25.5	+0.6
	comp=Z,16nm,0.8s,baz=303,slow=9.2,SNR=13						
WRAB	**Tennant Creek**	**46.78**	**124**	*e*P	**P**	**09 01 09.9**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
WRAB	**Tennant Creek**	**46.78**	**124**	*e*P	**P**	**09 01 09.9**	**-0.9**
	comp=Z,11nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**46.78**	**124**	⇓*i*P	**P**	**09 01 10.9**	**+0.1**
ASPA	**Alice Springs**	**48.29**	**129**	*e*P	**P**	**09 01 22.5**	**-0.1**
ASAR	**Alice Springs**	**48.29**	**129**	P	**P**	**09 01 22.3**	**-0.3**
	comp=Z,3.9nm,0.7s,mb4.5,baz=300,slow=7.7,SNR=42						
HIA	**Hailar**	**48.56**	**22**	*e*P	**P**	**09 01 23.1**	**-1.2**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HIA	**Hailar**	**48.56**	**22**	*e*P	**P**	**09 01 23.1**	**-1.1**
	comp=Z,4.9nm,0.7s,mb4.7						
ZAL	**Zalesovo**	**48.85**	**353**	P	**P**	**09 01 27.4**	**+1.0**
	comp=Z,22nm,0.8s,mb5.3,baz=210,slow=6.0,SNR=89						
ZAL				LR	LR	09 26 40.3	
	comp=Z,211nm,18.4s,MS4.2,baz=106,slow=42						
MDJ	**Mudanjiang**	**49.60**	**33**	P	**P**	**09 01 30.5**	**-1.9**
MDJ				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,100nm,4.6s						
BVA0	**Borovoye Array**	**51.23**	**342**	P	**P**	**09 01 44.0**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BVAR	**Borovoye Array**	**51.23**	**342**	P	**P**	**09 01 44.0**	**-0.7**
	comp=Z,10nm,0.6s,mb5.0,baz=141,slow=9.5,SNR=65						
BRVK	**Borovoye**	**51.30**	**342**	*e*P	**P**	**09 01 42.7**	**-2.5**
BRVK				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
BRVK	**Borovoye**	**51.30**	**342**	*e*P	**P**	**09 01 42.7**	**-2.4**
	comp=Z,13nm,0.7s,mb5.0						
CHKZ	**Chkalovo**	**51.72**	**342**	*e*P	**P**	**09 01 47.5**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,38nm,0.7s,mb5.4						
CHKZ	**Chkalovo**	**51.72**	**342**	*e*P	**P**	**09 01 47.5**	**-0.8**
	comp=Z,38nm,0.7s,mb5.4						
BOD	**Bodaibo**	**54.33**	**13**	⇑*i*P	**P**	**09 02 07.3**	**-0.4**
PMG	**Port Moresby**	**54.67**	**106**	*e*P	**P**	**09 02 09.4**	**-1.3**
PMG				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PMG	**Port Moresby**	**54.67**	**106**	P	**P**	**09 02 10.1**	**-0.6**
	comp=Z,6.2nm,0.7s,mb4.8,baz=310,slow=8.8,SNR=3.7						
PMG	**Port Moresby**	**54.67**	**106**	*e*P	**P**	**09 02 09.4**	**-1.4**
	comp=Z,7.3nm,0.7s,mb4.8						
GNI	**Garni**	**56.21**	**315**	⇑*i*P	**P**	**09 02 19.1**	**-2.4**
GNI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GNI	**Garni**	**56.21**	**315**	P	**P**	**09 02 23.3**	**+1.8**
	comp=Z,2.7nm,0.4s,mb4.6,baz=176,slow=21,SNR=3.1						
GNI				LR	LR	09 26 57.1	
	comp=Z,30nm,18.2s,MS3.4,baz=270,slow=36						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**57.01**	**118**	LR	LR	09 27 16.0	
	comp=Z,131nm,19.3s,MS4.0,baz=45,slow=36						
KMBO	**Kilima Mbogo**	**57.42**	**265**	*e*P	**P**	**09 02 30.6**	**+0.1**
KMBO	**Kilima Mbogo**	**57.42**	**265**	P	**P**	**09 02 31.4**	**+1.0**
	comp=Z,1.2nm,0.6s,mb4.1,baz=59,slow=21,SNR=4.7						
ZEI	**Tsey**	**57.88**	**318**	*e*P	**P**	**09 02 30.7**	**-2.6**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
ARU	**Arti**	**58.09**	**337**	⇑*i*P	**P**	**09 02 29.8**	**-4.7**
ARU				*e*		09 04 39.1	
ARU				*e*S	**S**	**09 10 31.3**	**+1.6**
ARU				*e*SS	SS	09 14 22.9	-0.3
ARU				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**58.37**	**133**	*e*P	**P**	**09 02 36.5**	**-0.4**
	comp=Z,3.0nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**58.37**	**133**	P	**P**	**09 02 36.3**	**-0.5**
	comp=Z,2.6nm,0.6s,mb4.4,baz=275,slow=4.4,SNR=7.4						
YSS	**Yuzh-Sakhalins**	**58.47**	**37**	*e*P	**P**	**09 02 37.0**	**-0.3**
KIV	**Kislovodsk**	**59.18**	**319**	*e*P	**P**	**09 02 40.1**	**-2.2**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
KIV				pmax	pmax		
	comp=N,10.0nm,1.2s						
SOC	**Sochi**	**61.01**	**317**	*e*P	**P**	**09 02 49.5**	**-5.3**
SOC				*e*		09 03 30.8	
SOC				*e*		09 05 06.9	
SOC				*e*PPP	PPP	09 06 38.2	-1.8
SOC				*e*S	**S**	**09 11 06.7**	**-0.9**
SOC				*e*SS	SS	09 15 08.5	-0.6
SOC				pmax	pmax		
	comp=N,13nm,0.7s						
SOC				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.1						
SOC				pmax	pmax		
	comp=E,5.0nm,0.6s						
YAK	**Yakutsk**	**62.10**	**18**	⇑*i*P	**P**	**09 02 59.9**	**-2.0**
YAK				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.5						
ANN	**Anapa**	**62.98**	**318**	*e*P	**P**	**09 03 03.3**	**-4.7**
ANN				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.9						
MBAR	**Mbarara**	**63.82**	**267**	P	**P**	**09 03 14.3**	**+0.2**
BRTR	**Keskin Array B**	**64.11**	**312**	P	**P**	**09 03 13.8**	**-1.6**
	comp=Z,3.7nm,0.6s,mb4.6,baz=134,slow=6.9,SNR=21						
BRTR				pP	pP	09 03 30.4	0.0
	comp=Z,2.2nm,0.7s,baz=123,slow=7.0,SNR=4.3						
ISP	**Isparta**	**66.04**	**309**	*e*P	**P**	**09 03 25.2**	**-2.8**
OBN	**Obninsk**	**67.44**	**328**	⇓*e*P	**P**	**09 03 31.9**	**-4.6**
OBN				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
MA2	**Magadan**	**68.70**	**27**	*e*P	**P**	**09 03 43.9**	**-0.3**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
LSZ	**Lusaka**	**68.73**	**251**	*e*P	**P**	**09 03 44.3**	**-0.8**
TIXI	**Tiksi**	**69.44**	**11**	*e*P	**P**	**09 03 47.4**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.4						
TIXI				MLR	MLR		
	comp=Z,91nm,17.0s,MS4.1						
APE	**Apeiranthos**	**69.80**	**307**	⇑*i*P	**P**	**09 03 48.5**	**-2.9**
IDI	**Anoyia**	**70.07**	**305**	P	**P**	**09 03 53.0**	**-0.1**
	comp=Z,7.0nm,0.6s,mb4.8,baz=81,slow=8.1,SNR=12						
AKASG	**Malin Array Be**	**70.10**	**322**	P	**P**	**09 03 50.9**	**-2.1**
	comp=Z,3.1nm,0.6s,mb4.5,baz=88,slow=5.2,SNR=19						
JOF	**Joensuu**	**73.02**	**335**	*e*p	**P**	**09 04 08.9**	**-1.2**
	comp=Z,8.7nm,0.7s,mb4.8						
KWP	**Kalwaria**	**73.93**	**320**	*e*P	**P**	**09 04 15.4**	**-0.3**
KOLS	**Kolonicke sedl**	**74.08**	**319**	*i* P	**P**	**09 04 18.0**	**+1.4**
SUW	**Suwalki**	**74.50**	**325**	*e*P	**P**	**09 04 17.9**	**-1.1**
CRVS	**Cervenica-Dubn**	**74.60**	**319**	*e*P	**P**	**09 04 20.3**	**+0.6**
FINES	**FINESS Array B**	**74.84**	**332**	P	**P**	**09 04 20.2**	**-0.5**
	comp=Z,5.3nm,0.5s,mb4.7,baz=101,slow=6.2,SNR=36						
FINES				LR	LR	09 41 57.1	
	comp=Z,125nm,19.5s,MS4.2,baz=258,slow=40						
KAF	**Kangasniemi**	**74.94**	**333**	*e*p	**P**	**09 04 20.3**	**-1.0**
	comp=Z,3.3nm,0.5s,mb4.5,baz=106,slow=5.5						
KAF	**Kangasniemi**	**74.94**	**333**	*e*P	**P**	**09 04 20.3**	**-1.0**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
OJC	**Ojcow**	**75.88**	**320**	*e*P	**P**	**09 04 26.1**	**-0.8**
VYHS	**Vyhne**	**76.27**	**318**	*e*P	**P**	**09 04 29.5**	**+0.3**
MAW	**Mawson**	**76.33**	**192**	LR	LR	09 31 49.7	
	comp=Z,120nm,18.3s,MS4.2,baz=244,slow=31						
OKC	**Ostrava-Krasne**	**76.88**	**320**	*e*P	**P**	**09 04 33.0**	**+0.4**
KEV	**Kevo**	**77.07**	**341**	*e*p	**P**	**09 04 32.5**	**-0.8**
MORC	**Moravsky Berou**	**77.26**	**320**	*e*P	**P**	**09 04 33.9**	**-0.8**
ZST	**Bratislava**	**77.38**	**318**	*e*P	**P**	**09 04 36.0**	**+0.6**
ARCES	**ARCESS Array B**	**77.50**	**340**	P	**P**	**09 04 35.8**	**+0.1**
	comp=Z,1.8nm,0.5s,mb4.3,baz=90,slow=4.9,SNR=17						
ARCES				pP	pP	09 04 49.2	-1.7
	comp=Z,3.1nm,0.7s,baz=100,slow=5.8,SNR=3.0						
ARCES				LR	LR	09 41 17.8	
	comp=Z,173nm,18.4s,MS4.4,baz=196,slow=38						
DPC	**Dobruska-Polom**	**78.11**	**320**	*e*P	**P**	**09 04 39.9**	**+0.6**
DPC				*e*pP	pP	09 04 52.4	-2.2
KSP	**Ksiaz**	**78.17**	**321**	*e*P	**P**	**09 04 40.8**	**+1.1**
UPC	**Upice**	**78.32**	**320**	*e*P	**P**	**09 04 41.2**	**+0.7**
PRU	**Pruhonice**	**79.22

LPL	La Plagne	84.41	315	eP	P	09 05 13.1	+0.6
	comp=Z,27nm,0.9s,mb5.1						
LPL	La Plagne	84.41	315	eP	P	09 05 13.1	+0.6
LPL				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.1						
MBDF	Montbardon	84.41	314	eP	P	09 05 12.3	-0.3
	comp=Z,12nm,0.9s,mb4.7						
MBDF	Montbardon	84.41	314	eP	P	09 05 12.3	-0.3
MBDF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
FRF	La Foret Royal	84.55	313	eP	P	09 05 13.7	+0.4
	comp=Z,11nm,0.6s,mb4.9						
FRF	La Foret Royal	84.55	313	eP	P	09 05 13.7	+0.4
FRF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.9						
HAU	Haudompre	84.58	318	eP	P	09 05 13.2	-0.1
	comp=Z,20nm,0.7s,mb5.1						
HAU	Haudompre	84.58	318	eP	P	09 05 13.2	-0.1
HAU				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
CABF	La Chapelle	84.81	316	eP	P	09 05 15.0	+0.5
	comp=Z,6.6nm,0.5s,mb4.7						
CABF	La Chapelle	84.81	316	eP	P	09 05 15.0	+0.5
CABF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.7						
ORIF	Oris-en-Rattie	85.04	315	eP	P	09 05 16.3	+0.6
SMRF	Simiane la Rot	85.31	314	eP	P	09 05 18.0	+1.0
BAIF	Baives	85.88	320	eP	P	09 05 20.2	+0.6
VIVF	Saint-Julien-I	85.90	315	eP	P	09 05 20.3	+0.4
SMF	Signal de Mont	86.36	316	eP	P	09 05 22.2	+0.1
	comp=Z,14nm,0.7s,mb5.0						
SMF	Signal de Mont	86.36	316	eP	P	09 05 22.2	+0.1
SMF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb5.0						
LASF	Ste Croix	86.53	314	eP	P	09 05 23.6	+0.6
	comp=Z,51nm,1.4s,mb5.2						
SSF	Saint Saulge	86.55	317	eP	P	09 05 23.2	+0.2
AVF	Avril sur Loir	86.68	317	eP	P	09 05 23.8	+0.1
	comp=Z,17nm,1.1s,mb4.9						
AVF	Avril sur Loir	86.68	317	eP	P	09 05 23.8	+0.1
AVF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.9						
TCF	Toulx Ste Croi	87.51	316	eP	P	09 05 28.2	+0.5
LDF	La Druitiere	88.83	319	eP	P	09 05 34.3	+0.3
	comp=Z,23nm,0.9s,mb5.2						
LDF	La Druitiere	88.83	319	eP	P	09 05 34.3	+0.3
LDF				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.2						
FLN	La Foliniere	89.05	319	eP	P	09 05 35.4	+0.4
SGMF	Saint Gilles	90.49	318	eP	P	09 05 42.3	+0.6
QUIF	Quistinic	90.94	318	eP	P	09 05 44.1	+0.2
ROSF	Rostrenen	90.95	319	eP	P	09 05 43.9	0.0
IMA	Indian Mountai	93.66	22	eP	P	09 05 57.1	+1.2
IMA				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.7						
IMA	Indian Mountai	93.66	22	eP	P	09 05 57.1	+1.1
	comp=Z,17nm,0.6s,mb5.7						
BORG	Borgarnes	95.63	337	P	P	09 06 03.9	-1.0
ILAR	Eielson Array	96.78	22	P	P	09 06 09.8	-0.4
	comp=Z,1.1nm,0.5s,mb4.5,baz=317,slow=4.7,SNR=33						
ILAR				PP	PP	09 09 59.8	-8.4
	comp=Z,0.4nm,0.8s,baz=298,slow=7.0,SNR=4.6						
INK	Inuvik	99.14	16	P	P	09 06 21.2	+0.5
	comp=Z,1.1nm,0.7s,mb4.5,baz=115,slow=3.5,SNR=3.6						
YKA	Yellowknife Ar	108.60	14	PP	PP	09 11 29.0	-8.8
	comp=Z,0.6nm,0.7s,baz=334,slow=7.3,SNR=8.3						
NVAR	Mina Array Bea	126.76	32	PKP	PKPdf	09 11 46.1	+3.5
	comp=Z,1.0nm,0.6s,baz=3.5,slow=2.6,SNR=8.4						
PDAR	Pinedale Array	127.22	22	PKP	PKPdf	09 11 45.9	+2.4
	comp=Z,1.1nm,0.8s,slow=1.5,SNR=7.8						
TXAR	Lajitas Array	141.21	26	PKhKP		09 12 05.5	
	comp=Z,0.5nm,0.7s,baz=270,slow=2.7,SNR=3.8						
TXAR				PKP	PKPdf	09 12 09.7	-0.2
	comp=Z,0.8nm,0.5s,baz=203,slow=0.7,SNR=11						

*INET **13** 08:57:42.8, 11.11N×87.55W, h15km, MD4.0*
*CASC **13** 08:57:46.9±2.6, 11.40N×87.45W, h23km±12km, MD4.3*
*IDC **13** 08:57:46.0±5.2, 12.36N×86.40W, mb3.6/4, mb1 3.9/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=102.8km s-min=54.4km az=2.0*
*SSS **13** 08:57:51.0, 12.04N×87.20W, h120km, MD4.7*
*UCR **13** 08:57:52.0, 10.80N×87.39W, h92km, MD4.4*

ISC 13 08:57:46.8±0.6, 11.34N±0.04×87.50W±0.03, h33km, n32, σ1§25/43, mb3.5/4, 3C-9D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.22	47	⇓eP	P	08 58 06.8	-0.8
COPN				eS	S	08 58 24.2	+0.9
LEON	Leon	1.23	29	eP	P	08 58 07.2	-0.4
LEON				eS	S	08 58 26.2	+2.8
MIRN	Miramar	1.34	35	⇓eP	P	08 58 08.5	-0.8
MIRN				eS	S	08 58 26.8	+0.6
TEL3	Telica 3	1.39	27	eP	P	08 58 09.4	-0.6
CNGN	Cerro Negro	1.40	34	⇑eP	P	08 58 09.2	-1.0
MOMJ	Momotombo	1.42	41	⇑eP	P	08 58 09.3	-1.2
TICN	Ticuantepe	1.42	61	eP	P	08 58 08.7	-1.8
TICN				eS	S	08 58 28.3	0.0
CRIN	San Cristobal	1.43	18	⇓eP	P	08 58 10.7	+0.1
APYN	Apoyeque	1.44	51	⇓eP	P	08 58 09.3	-1.4
MGAN	Managua	1.47	57	eP	P	08 58 09.6	-1.6
MGAN				eS	S	08 58 30.7	+1.3
APON	Apoyo	1.52	67	⇑eP	P	08 58 10.4	-1.5
WILN	Americas 2	1.52	57	eS	S	08 58 31.7	+0.9
PYTN	Playitas	1.85	50	⇓eP	P	08 58 15.3	-1.3
PYTN				eS	S	08 58 41.4	+2.3
CONN	Concepcion	1.85	83	⇓eP	P	08 58 14.8	-1.9
CNCH	Conchagua	1.96	350	⇓eP	P	08 58 18.0	-0.2
VCR	Vista de Mar	2.19	123	eP	P	08 58 20.8	-0.7
SNVI	San Vicente	2.62	330	eP	P	08 58 28.9	+1.3
SNVI				eS	S	08 58 56.9	-1.6
LCBS	La Ceiba	2.72	328	⇓eP	P	08 58 29.6	+0.5
LCBS				eS	S	08 58 59.2	-2.0
LFRS	El Faro	2.74	326	⇓eP	P	08 58 30.5	+1.1
LFRS				eS	S	08 59 01.3	-0.4
JCR	Jicaral	2.77	122	eP	P	08 58 29.7	-0.1
SBLS	San Blas	3.24	320	eP	P	08 58 37.8	+1.3
SBLS				eS	S	08 59 15.6	+1.2
RTR	El Retiro	3.30	321	eP	P	08 58 38.9	+1.6
RTR				eS	S	08 59 16.5	+0.6
PRS1	Puriscal	3.41	113	eP	P	08 58 40.4	+1.5
LAJ	Bijagual	3.63	113	eP	P	08 58 38.2	-3.8
LCR2	La Lucha 2	3.78	114	eP	P	08 58 44.4	+0.2
URSC	Urasca	3.95	112	eP	P	08 58 48.2	+1.7
BUS	Buena Vista	4.08	115	eP	P	08 58 49.5	+1.0
BUS				eS	S	08 59 36.5	+0.8
TXAR	Lajitas Array	23.41	322	P	P	09 02 55.5	+1.7
	0.5nm,0.5s,mb3.2,baz=135,slow=10.0,SNR=13						
PDAR	Pinedale Array	36.73	332	P	P	09 04 52.0	-0.8
	0.3nm,0.5s,mb3.4,baz=124,slow=11,SNR=4.4						
SCHQ	Schefferville	46.35	16	P	P	09 06 03.5	-8.0
	3.4nm,1.1s,mb4.2,baz=196,slow=15,SNR=3.4						
YKA	Yellowknife Ar	54.67	345	P	P	09 07 11.8	-2.9
	0.2nm,0.5s,mb3.5,baz=136,slow=8.0,SNR=6.7						
WRA	Warramunga Arr	138.91	253	PKP	PKPdf	09 17 17.2	+6.4
	0.8nm,1.1s,baz=82,slow=2.4,SNR=5.5						

*IDC **13** 09:02:39.4±1.6, 13.04N×92.65E, mb3.7/4, mb1 3.9/5, mb1mx3.7/18, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=50.0km s-min=24.2km az=66.0*

ISC 13 09:02:44.2±0.7, 13.52N±0.06×92.5E±0.1, h33km, n12, σ0§97/13, mb3.9/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.86	173	eP	P	09 03 12.6	-1.6
PBA				eS	S	09 03 37.6	+0.7
PBA				e		09 03 47.1	
	comp=E,4μm,1.0s						
PBA				e		09 03 47.8	
	comp=N,3μm,0.7s						
CMAR	Chiang Mai Arr	7.88	51	Pn	Pn	09 04 39.1	-0.4
	comp=N,0.6nm,0.3s,baz=240,slow=15,SNR=9.7						
VIS	Vishakhapatnam	9.79	296	e	S	09 06 47.0	-8.8
JIRN	Jiri	15.26	338	eP	P	09 06 18.3	-0.6
	comp=N,29nm,0.9s						
PKI	Pulchoki	15.48	336	eP	P	09 06 21.3	-0.5
	comp=N,21nm,0.9s						
GUN	Gumba	15.60	338	eP	P	09 06 22.7	-0.7
	comp=N,25nm,1.0s						
GKN	Gorkha	16.18	334	eP	P	09 06 31.0	+0.3
	comp=N,9.9nm,0.3s						
KOLN	Koldanda	16.44	331	eP	P	09 06 34.0	0.0
	comp=N,17nm,0.6s						
SONM	Songino Array	36.11	16	P	P	09 09 46.0	+1.1
	comp=N,0.4nm,0.7s,mb3.4,baz=207,slow=3.2,SNR=2.7						
WRA	Warramunga Arr	52.90	128	P	P	09 11 54.6	-4.9
	comp=N,0.4nm,0.7s,mb3.4,baz=305,slow=9.2,SNR=5.9						
ASAR	Alice Springs	54.80	132	P	P	09 12 08.2	-5.2
	comp=N,0.5nm,0.4s,mb3.9,baz=308,slow=6.8,SNR=11						
FINES	FINESS Array B	67.02	331	P	P	09 13 37.8	+2.1
	comp=N,9.8nm,1.2s,mb4.7,baz=141,slow=8.9,SNR=3.8						

*IDC **13** 09:22:09.2±4.8, 13.76N×92.86E, mb3.9/3, mb1 4.1/3, mb1mx3.7/17, mbtmp3.9/3, Error ellipse: s-maj=548.3km s-min=28.9km az=50.0*

ISC 13 09:22:12.3±1.3, 13.88N±0.10×93.0E±0.2, h33km, n4, σ0§52/5, mb4.0/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	2.23	187	eP	P	09 22 46.9	-0.7
PBA				eS	S	09 23 14.7	+0.4
PBA				e		09 23 37.4	
	comp=E,661nm,0.9s						
PBA				e		09 23 38.0	
	comp=N,589nm,0.8s						
WRA	Warramunga Arr	52.73	129	P	P	09 31 26.6	+0.2
	comp=N,1.1nm,0.6s,mb4.0,baz=308,slow=8.0,SNR=8.4						
ASAR	Alice Springs	54.67	133	P	P	09 31 40.6	-0.1
	comp=N,0.6nm,0.4s,mb4.0,baz=309,slow=6.8,SNR=16						
FINES	FINESS Array B	66.94	331	P	P	09 33 03.5	+0.2
	comp=N,1.5nm,0.6s,mb4.2,baz=104,slow=12,SNR=5.2						

*NEIC **13** 09:23:50.7±0.7, 6.54N×92.44E, h30km, mb4.6/4, Error ellipse: s-maj=15.3km s-min=13.7km az=203.0*
*IDC **13** 09:23:51.6±1.0, 6.54N×92.41E, h38km±6km, mb3.9/8, mb1 4.2/9, mb1mx4.0/18, mbtmp4.2/9, ML4.7/1, MS3.1/1, Ms1 3.3/1, ms1mx2.8/20, Error ellipse: s-maj=36.2km s-min=15.5km az=54.0*
*BJI **13** 09:23:55.7, 6.50N×92.40E, h30km, mB5.1, mb4.4*

ISC 13 09:23:49.8±0.8, 6.50N±0.10×92.43E±0.10, h39km, h39km±2.0km: pP-P, n28, σ0§82/28, mb4.5/20, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	5.13	3	eP	Px	09 25 19.2	
PBA				eS	Px	09 25 26.4	
PBA				i		09 25 32.8	
	comp=N,785nm,0.7s						
PBA				e		09 25 34.2	
	comp=E,855nm,0.4s						
PALK	Pallekele	11.67	274	eP	P	09 26 37.2	+0.4
PALK				eS	S	09 28 34.9	-12
CMAR	Chiang Mai Arr	13.47	28	Pn	P	09 27 01.9	+1.1
	comp=E,1.1nm,0.3s,baz=230,slow=14,SNR=25						
CMAR				LR	LR	09 32 11.1	
	comp=E,78nm,19.6s,baz=215,slow=37						
HYB	Hyderabad	17.37	310	eP	P	09 27 40.0	-11
KAD	Karad	20.82	303	eP	P	09 28 34.0	+3.5
POO	Poona	21.70	305	eP	P	09 28 40.0	+0.6
JIRN	Jiri	21.86	345	eP	P	09 28 41.1	+0.1
	comp=E,50nm,0.9s,mb5.0						
PKI	Pulchoki	21.99	343	eP	P	09 28 42.3	0.0
	comp=E,49nm,1.0s,mb4.9						
DMN	Daman	22.12	343	eP	P	09 28 45.1	+1.6
	comp=E,24nm,0.6s,mb4.8						
GUN	Gumba	22.18	344	eP	P	09 28 43.8	-0.4
	comp=E,40nm,0.8s,mb4.9						
KKN	Kakani	22.24	343	eP	P	09 28 45.2	+0.5
	comp=E,18nm,0.6s,mb4.7						
GKN	Gorkha	22.63	342	eP	P	09 28 48.8	+0.1
	comp=E,60nm,1.0s,mb5.0						
KOLN	Koldanda	22.76	339	eP	P	09 28 49.5	-0.4
	comp=E,20nm,0.7s,mb4.7						
LSA	Lhasa	23.11	357	eP	P	09 28 54.4	+1.1
	comp=E,13nm,0.5s,mb4.6						
AAK	Ala-Archa	39.33	339	eP	P	09 31 12.9	-4.0
	comp=E,8.1nm,1.1s,mb4.4						
SONM	Songino Array	42.88	14	P	P	09 31 45.3	-0.8
	comp=E,1.5nm,1.1s,mb3.6,baz=198,slow=8.4,SNR=6.1						
SONM				pP	pP	09 31 56.5	-0.7
	comp=E,1.4nm,0.8s,baz=199,slow=6.9,SNR=7.1						
ZAL	Zalesovo	47.70	354	P	P	09 32 24.1	-0.4
	comp=E,1.2nm,0.3s,mb4.4,baz=239,slow=4.2,SNR=5.2						
ZAL				pP	pP	09 32 36.2	+0.6
	comp=E,0.9nm,0.8s,baz=197,slow=8.3,SNR=2.2						
ZAL	Zalesovo	47.70	354	P	P	09 32 24.1	-0.4
ZAL				pP	pP	09 32 36.2	+0.6
WRA	Warramunga Arr	48.88	123	P	P	09 32 34.1	0.0
	comp=E,1.4nm,0.5s,mb4.2,baz=303,slow=9.3,SNR=12						
BVAR	Borovoye Array	49.76	343	P	P	09 32 39.6	-0.9
	comp=E,2.8nm,0.8s,mb4.4,baz=153,slow=6.6,SNR=10						
BRVK	Borovoye	49.82	343	eP	P	09 32 39.2	-1.7
	comp=E,4.9nm,0.9s,mb4.5						
CHKZ	Chkalovo	50.27	343	eP	P	09 32 43.4	-0.9
	comp=E,7.5nm,0.6s,mb4.9						
ASAR	Alice Springs	50.37	128	P	P	09 32 46.1	+0.6
	comp=E,1.6nm,0.6s,mb4.2,baz=300,slow=7.1,SNR=10						
ASAR				pP	pP	09 32 56.5	-0.2
	comp=E,3.1nm,0.7s,baz=302,slow=7.0,SNR=10						
BRTR	Keskin Array B	62.05	312	P	P	09 34 08.5	-0.4
	comp=E,0.4nm,0.4s,mb3.9,baz=104,slow=5.1,SNR=3.7						
FINES	FINESS Array B	73.14	333	P	P	09 35 17.2	-0.8
	comp=E,3.8nm,0.9s,mb4.3,baz=146,slow=6.9,SNR=4.4						
FINES	FINESS Array B	73.14	333	P	P	09 35 17.2	-0.8
ARCES	ARCESS Array B	75.98	341	P	P	09 35 34.1	-0.1
	comp=E,2.0nm,0.7s,mb4.2,baz=112,slow=6.5,SNR=4.3						
GERES	GERESS Array B	77.72	318	P	P	09 35 44.8	+0.4
	comp=E,1.7nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=9.1						
GERES				pP	pP	09 35 56.1	+0.1
	comp=E,1.7nm,0.9s,baz=59,slow=5.7,SNR=4.0						

*BJI **13** 09:56:20.6, 12.70N×88.20W, h49km, mB5.7, Ms5.3, Msz4.9*
*CASC **13** 09:56:20.9±2.7, 12.65N×88.34W, h35km±999km, MD4.9, ML5.0, mb5.0(NEIC)*
*IDC **13** 09:56:20.1±0.5, 12.77N×88.08W, h41km±3km, mb4.4/18, mb1 4.6/19, mb1mx4.4/23, mbtmp4.7/19, ML4.5/1, MS4.4/15, Ms1 4.4/15, ms1mx4.1/22, Error ellipse: s-maj=19.3km s-min=10.4km az=57.0*
*NEIC **13** 09:56:20.6±0.2, 12.69N×88.22W, mb5.0/51, MD5.1(SNET), MD5.0(CASC), Error ellipse: s-maj=5.7km s-min=3.0km az=225.0*
NEIC Felt [II] at San Salvador.
*HRVD **13** 09:56:20.6±0.2, 12.43N×88.52W, h44km, MW5.3/57, Centroid moment Tensor Solution. LP body waves: s57,c99;Mantle waves: s54,c92; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.92±.03; $M_{\theta\theta}$-0.75±.02; $M_{\phi\phi}$-0.17±.02; $M_{r\theta}$0.19±.01; $M_{\theta\phi}$0.47±.01; $M_{\phi r}$-0.12±.02; Best double couple: M_0.99×10^{17} NP1: ϕ_s298°, δ39°, λ.89°. NP2:ϕ_s120°, δ51°, λ.91°. Principal axes: T.944, Plg84°, Azm36°; N.093, Plg1°, Azm299°; P -1.037, Plg6°, Azm209°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 09:56:19.3±0.2, 12.67N±0.03×88.33W±0.02, h48km, h48km±1.0km: pP-P, n243, σ1§33/241, mb4.9/58, MS4.5/15, 11C-29D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	San Miguel	0.76	4	⇓iP	P	09 56 36.4	+2.6
VSM				eS	S	09 56 48.1	+3.7
BLLM	Bellamira	0.77	7	⇓iP	P	09 56 36.3	+2.3
CNCH	Conchagua	0.78	39	⇓iP	P	09 56 35.9	+1.9
SNVI	San Vicente	1.06	332	⇓eP	P	09 56 40.0	+2.0
CAHU	Cacacuatique	1.10	6	⇓eP	P	09 56 41.4	+2.8
CAHU				eS	S	09 56 58.0	+5.1
LCBS	La Ceiba	1.16	327	⇓iP	P	09 56 41.4	+2.0
LFRS	El Faro	1.18	323	⇓iP	P	09 56 41.5	+1.7
CRIN	San Cristobal	1.25	89	⇓eP	P	09 56 42.5	+1.8
CRIN				eS	S	09 56 56.8	+0.1
LBRS	Las Brisas	1.27	327	⇓eP	P	09 56 43.1	+2.1
CHIN	Chinandega	1.27	91	⇓eP	P	09 56 36.8	-4.3
CHIN				eS	S	09 56 48.9	-8.4
LFU	La Fuente	1.31	325	⇓iP	P	09 56 43.7	+2.0
SNET	Serv Nac Est T	1.34	319	eP	P	09 56 43.3	+1.3
SNET				eS	S	09 57 01.3	+2.4
SNET	Serv Nac Est T	1.34	319	⇑eP	P	09 56 43.4	+1.4
SNET				eS	S	09 57 00.5	+1.6
SNET				i		09 57 04.7	
	comp=Z,23μm,0.4s						
BOQS	Boqueron	1.40	319	eP	P	09 56 44.5	+1.5
LEON	Leon	1.43	100	⇓iP	P	09 56 43.5	+0.1
TEL3	Telica 3	1.46	94	⇓iP	P	09 56 44.5	+0.7
TELN	Telica	1.47	92	⇓eP	P	09 56 44.7	+0.8
MIRN	Miramar	1.60	98	⇑eP	P	09 56 46.0	+0.3
CNGN	Cerro Negro	1.60	96	⇓eP	P	09 56 46.3	+0.5
CNGN				eS	S	09 57 07.8	+2.3
SBLS	San Blas	1.71	313	⇓eP	P	09 56 49.0	+1.7
SNJE	San Jose	1.72	314	⇓eP	P	09 56 49.0	+1.6
RTR	El Retiro	1.77	314	⇓eP	P	09 56 50.0	+2.0
COPN	Copaltepe	1.77	106	⇑eP	P	09 56 48.2	+0.1
MOMJ	Momotombo	1.77	98	⇓eP	P	09 56 48.5	+0.4
MOMJ				eS	S	09 57 09.8	+0.3
RBDL	Robledal	1.95	318	⇑eP	P	09 56 52.5	+2.0
APYN	Apoyeque	1.98	102	⇑eP	P	09 56 51.5	+0.4
MTO2	Montecristo 2	1.99	330	⇓eP	P	09 56 53.6	+2.4
XAVN	Gruta Xavier	2.03	105	⇑eP	P	09 56 52.1	+0.3
MGAN	Managua	2.10	104	⇓eP	P	09 56 53.0	+0.2
MGAN				eS	S	09 57 17.6	-0.2
	comp=N,15μm,0.5s						
TICN	Ticuantepe	2.15	107	⇓eP	P	09 56 53.7	+0.3
WILN	Americas 2	2.16	103	⇓eP	P	09 56 53.7	+0.2
PYTN	Playitas	2.23	93	⇓eP	P	09 56 55.0	+0.4
APON	Apoyo	2.34	108	⇑eP	P	09 56 56.2	0.0
IXG	Ixpaco	2.55	306	⇑eP	P	09 57 00.0	+0.9
IXG				eS	S	09 57 28.8	-0.4
NBG	Las Nubes	2.73	314	eP	P	09 57 03.9	+2.1
NBG				eS	S	09 57 36.6	+2.8
SSNN	San Juan del S	2.79	119	eP	P	09 57 02.8	+0.2
CONN	Concepcion	2.87	112	⇑eP	P	09 57 05.3	+1.6
MADN	Villa Maderas	3.01	114	⇓eP	P	09 57 05.2	-0.6
JAT	Jato	3.61	297	eP	P	09 57 14.4	+0.3
JAT				eS	S	09 57 54.2	-1.7
VCR	Vista de Mar	3.66	133	eP	P	09 57 15.4	+0.5
VCR	Vista de Mar	3.66	133	eP	P	09 57 15.3	+0.4
JTS	JuntasAbangare	4.07	125	S	S	09 58 14.9	+7.3
	comp=N,0.1nm,0.3s,baz=204,slow=19,SNR=5.8						
JTS	JuntasAbangare	4.07	125	eP	P	09 57 19.7	-1.0
FORC	Fortuna	4.20	121	eP	P	09 57 24.0	+1.4
FORC	Fortuna	4.20	121	eP	P	09 57 24.1	+1.5
JCR	Jicaral	4.22	131	eP	P	09 57 23.6	+0.7
JCR	Jicaral	4.22	131	eP	P	09 57 23.4	+0.5
CGA2	Cerro Gallo 2	4.62	124	eP	P	09 57 30.6	+2.1
CGA2	Cerro Gallo 2	4.62	124	eP	P	09 57 30.7	+2.3
VPS2	Volcan Poas 2	4.71	121	eP	P	09 57 31.9	+2.2
VPS2	Volcan Poas 2	4.71	121	eP	P	09 57 32.7	+3.0
PRS1	Puriscal	4.76	124	eP	P	09 57 32.4	+2.0
PRS1				eS	S	09 58 24.1	-0.9
TRTC	Tortuguero	4.98	114	eP	P	09 57 33.5	-0.1
TRTC	Tortuguero	4.98	114	eP	P	09 57 33.2	-0.4
LAJ	Bijagual	4.99	124	eP	P	09 57 31.2	-2.4
LAJ	Bijagual	4.99	124	eP	P	09 57 31.0	-2.5
LAJ				eS	S	09 58 26.2	-4.4
SJS	Escuela Geolog	5.00	122	eP	P	09 57 34.2	+0.4
SJS				eS	S	09 58 34.3	+3.3
SJS	Escuela Geolog	5.00	122	eP	P	09 57 34.6	+0.8
SJS				eS	S	09 58 30.4	-0.6
CCIG	Comitan	5.14	315	⇓iP	P	09 57 38.0	+2.2
CCIG				i S	S	09 58 40.0	+5.3
LCR2	La Lucha 2	5.15	124	eP	P	09 57 37.3	+1.4
LCR2	La Lucha 2	5.15	124	⇓eP	P	09 57 37.1	+1.3
LCR2				eS	S	09 58 34.7	-0.1
ICR	Volcan Irazu	5.16	121	eP	P	09 57 39.6	+3.6
ICR	Volcan Irazu	5.16	121	eP	P	09 57 39.7	+3.6
ICR				eS	S	09 58 37.5	+2.4
QCR	Quepos	5.21	128	eP	P	09 57 37.9	+1.2
URSC	Urasca	5.28	122	eP	P	09 57 39.6	+1.9
URSC	Urasca	5.28	122	eP	P	09 57 39.6	+1.9
URSC				eS	S	09 58 39.7	+1.6
BUS	Buena Vista	5.45	124	eP	P	09 57 42.5	+2.4
BUS	Buena Vista	5.45	124	⇓eP	P	09 57 42.5	+2.5
BUS				⇑iP		09 57 42.7	
BUS				eS	S	09 58 42.6	+0.2
ACR	Cerro Adams	6.46	128	eP	P	09 57 54.6	+0.5
ACR	Cerro Adams	6.46	128	⇓eP	P	09 57 55.0	+0.9
ACR				eS	S	09 59 06.2	-1.2
TEIG	Tepich	7.51	0	eP	P	09 58 10.2	+1.3
	comp=N,115nm,0.9s						
CMIG	Matias Romero	7.71	306	i P	P	09 58 11.9	+0.3
CMIG				i S	S	09 59 37.0	-1.5
HUIG	Huatulco	8.14	293	i P	P	09 58 17.3	-0.2
OXX	Oaxaca	9.22	299	eP	P	09 58 36.0	+3.6
VHO	Vista Hermosa	9.22	299	i P	P	09 58 35.2	+2.7
PPM	Popocatepetl	11.77	304	i P	P	09 59 10.5	+3.3
PLIG	Platanillo	12.17	299	i P	P	09 59 13.5	+0.9
UNM	Universidad Na	12.35	304	eP	P	09 59 21.0	+6.0
PAYG	Puerto Ayora	13.40	188	eP	P	09 59 28.0	-0.9
	comp=N,123nm,0.9s						
MOIG	Morelia	14.17	301	i P	P	09 59 42.5	+3.3
OTAV	Otavalo	15.77	141	P	P	09 59 57.9	-1.9
	comp=N,18nm,1.0s						
SFJM	Santa Fe	16.09	301

CPRX Cap Rock 24.75 327 *eP* **P 10 01 38.0 +0.2**
USIN University of 25.20 1 *eP* **P 10 01 40.8 -1.3**
USIN *e* pP 10 01 51.8 -2.4
AMTX Amarillo 25.21 334 *eP* **P 10 01 42.1 -0.2**
comp=N,83nm,0.6s,mb5.4
FVM French Village 25.28 356 *eP* **P 10 01 40.7 -2.1**
comp=N,10nm,0.8s,mb4.4
ELN Prospectdale 25.38 14 *eP* **P 10 01 43.7 -0.1**
CCM Cathedral Cave 25.41 355 *eP* **P 10 01 42.7 -1.5**
comp=N,33nm,0.6s,mb5.0
CCM *epP* pP 10 01 55.7 -0.6
PWV Princeton 25.41 14 *eP* **P 10 01 43.8 -0.3**
BLA Blacksburg 25.45 15 *eP* **P 10 01 44.1 -0.3**
comp=N,25nm,0.6s,mb4.9
WCI Wyandotte Cave 25.52 4 *eP* **P 10 01 43.5 -1.6**
comp=N,43nm,0.6s,mb5.2
WCI *epP* pP 10 01 56.9 -0.4
FWV Forest Hill 25.70 14 *eP* **P 10 01 46.2 -0.7**
SLM Saint Louis 25.91 357 P **P 10 01 47.2 -1.5**
BLO Bloomington 26.44 3 *eP* **P 10 01 51.4 -2.3**
comp=N,16nm,0.7s,mb4.7
BLO *e* pP 10 02 05.1 -0.9
LPM Los Pinos Moun 27.22 325 *eP* **P 10 02 00.3 -0.5**
CBN Corbin 27.24 19 *eP* **P 10 02 00.2 -0.8**
comp=N,36nm,0.6s,mb5.1
CBN *e* pP 10 02 12.5 -0.9
LENM Lemitar 27.30 325 *eP* **P 10 02 02.0 +0.4**
KSU1 Kansas State U 27.33 346 *eP* **P 10 02 00.3 -1.5**
KSU1 *e* pP 10 02 13.9 -0.3
LAZ Ladron 27.57 325 *eP* **P 10 02 04.5 +0.5**
LAZ *e*PcP PcP 10 05 21.1 0.0
LAZ *ep*PcP 10 05 34.9
ANMO Albuquerque 27.60 327 P **P 10 02 05.5 +1.2**
comp=N,8.4nm,0.8s,mb4.4,baz=142,slow=8.8,SNR=36
ANMO PcP PcP 10 05 21.6 +0.4
comp=N,3.8nm,0.7s,baz=213,slow=7.4,SNR=3.3
ANMO *e*PcP 10 05 35.9
comp=N,8.3nm,0.7s,baz=150,slow=5.1,SNR=7.4
ANMO LR LR 10 14 35.1
comp=N,329nm,21.5s,MS3.9,slow=40
ANMO Albuquerque 27.60 327 *eP* **P 10 02 04.5 +0.1**
comp=N,9.3nm,0.8s,mb4.5
ANMO *e*PcP PcP 10 05 20.5 -0.7
ANMO *ep*PcP 10 05 34.2
ACSO Alum Creek Sta 27.86 9 *eP* **P 10 02 04.5 -2.0**
comp=N,41nm,0.7s,mb5.2
ACSO *ep*P pP 10 02 18.4 -0.6
MCWV Mont Chateau 27.91 14 *eP* **P 10 02 05.8 -1.2**
comp=N,18nm,0.7s,mb4.8
MCWV *ep*P pP 10 02 19.0 -0.5
TUC Tucson 28.39 317 *eP* **P 10 02 11.8 +0.3**
comp=N,14nm,0.8s,mb4.7
TUC *e*PcP PcP 10 05 22.8 -0.4
TUC *ep*PcP 10 05 36.2
SDMD Soldier's Deli 28.51 19 *eP* **P 10 02 11.0 -1.4**
SDMD *ep*P pP 10 02 24.5 -0.3
SDCO Great Sand Dun 29.30 331 *eP* **P 10 02 19.6 +0.1**
comp=N,22nm,0.8s,mb5.0
SDCO *e*PcP PcP 10 05 24.2 -1.2
SDCO *ep*PcP 10 05 38.6
AAM Ann Arbor 29.80 7 *eP* **P 10 02 22.2 -1.7**
comp=N,41nm,0.6s,mb5.3
AAM *ep*P pP 10 02 34.8 -1.6
PAL Palisades 30.93 22 *eP* **P 10 02 32.2 -1.7**
comp=N,14nm,0.6s,mb5.0
PAL *ep*P pP 10 02 45.5 -1.0
ISCO Idaho Springs 31.03 334 *eP* **P 10 02 34.5 -0.3**
comp=N,21nm,0.8s,mb5.0
ISCO *e*PcP PcP 10 05 29.8 0.0
ISCO *ep*PcP 10 05 42.8
BINY Binghamton 31.32 18 *eP* **P 10 02 35.8 -1.6**
comp=N,17nm,0.8s,mb4.9
BINY *ep*P pP 10 02 49.1 -0.8
GENY Geneseo 31.34 15 *eP* **P 10 02 35.7 -1.9**
GENY *ep*P pP 10 02 48.1 -2.0
SADO Sadowa 32.94 12 P **P 10 02 49.5 -2.0**
comp=N,18nm,0.5s,mb5.3,baz=214,slow=8.7,SNR=34
SADO pP pP 10 03 03.4 -0.8
comp=N,18nm,0.5s,baz=209,slow=9.8,SNR=6.3
NEN Nelson 33.10 318 *eP* **P 10 02 53.0 +0.2**
NEN *e*PcP PcP 10 05 34.6 -0.8
NEN *ep*PcP 10 05 48.6
RWWY Rawlins 33.27 334 *eP* **P 10 02 53.3 -1.0**
RWWY *ep*P pP 10 03 07.6 +0.5
MSU Marysvale 33.34 325 *eP* **P 10 02 55.4 +0.5**
MSU *e*PcP PcP 10 05 36.0 -0.1
MSU *ep*PcP 10 05 50.1
TMUT Trail Mountain 33.36 327 *eP* **P 10 02 55.1 0.0**
TMUT *e*PcP PcP 10 05 35.5 -0.7
ARUT Antelope Range 33.58 323 *eP* **P 10 02 57.4 +0.4**
MPU Maple Canyon 34.11 327 *eP* **P 10 03 01.2 -0.3**
MPU *e*PcP PcP 10 05 38.1 -0.2
MPU *ep*PcP 10 05 51.9
TPNV Topopah Spring 34.78 319 *eP* **P 10 03 07.7 +0.3**
comp=N,7.9nm,0.8s,mb4.7
TPNV *e*PcP PcP 10 05 39.8 -0.4
TPNV *ep*PcP 10 05 54.0
NOQ North Oquirrh 34.83 327 *eP* **P 10 03 07.7 0.0**
NOQ *ep*P pP 10 03 20.2 -0.2
LPAZ La Paz 35.03 145 P **P 10 03 08.6 -1.0**
comp=N,3.4nm,0.8s,mb4.4,baz=336,slow=9.0,SNR=14
LPAZ LR LR 10 18 08.2
comp=N,442nm,19.9s,MS4.2,baz=305,slow=37
BW06 Boulder Array 35.17 332 *eP* **P 10 03 09.7 -0.9**
comp=N,14nm,0.8s,mb4.9
PDAR Pinedale Array 35.17 332 P **P 10 03 10.4 -0.3**
comp=N,14nm,0.6s,mb5.1,baz=127,slow=10,SNR=120
PDAR PcP PcP 10 05 40.5 -0.9
comp=N,3.7nm,0.6s,baz=142,slow=4.8,SNR=5.7
PDAR pPcP 10 05 54.1
comp=N,7.5nm,0.8s,baz=142,slow=5.1,SNR=8.3
PDAR LR LR 10 21 57.9
comp=N,607nm,19.7s,MS4.4,baz=241,slow=44
SPUT South Promonto 35.47 328 *eP* **P 10 03 13.1 -0.1**
BGU Big Grassy Mou 35.50 327 *eP* **P 10 03 13.4 0.0**
BGU *e*PcP PcP 10 05 40.8 -1.5
HVU Hansel Valley 35.98 328 *eP* **P 10 03 17.6 0.0**
SNOW Snow King Moun 36.27 332 *eP* **P 10 03 20.4 +0.5**
LOHW Long Hollow 36.31 332 *eP* **P 10 03 19.9 -0.4**
WUWY Wally Ulrich 36.32 332 *eP* **P 10 03 20.4 +0.1**
MOOW Moose Ponds 36.48 332 *eP* **P 10 03 21.6 -0.1**
MNV Mina 36.88 319 *eP* **P 10 03 25.7 +0.6**
comp=N,4.9nm,0.7s,mb4.5
NVAR Mina Array Bea 36.97 319 P **P 10 03 27.1 +1.2**
comp=N,8.2nm,0.7s,mb4.7,baz=118,slow=9.3,SNR=72
NVAR PcP PcP 10 05 47.5 +0.8
comp=N,8.3nm,0.6s,baz=142,slow=2.4,SNR=18
NVAR *p*PcP 10 06 01.7
comp=N,18nm,0.6s,baz=118,slow=5.1,SNR=21
NVAR ScP 10 09 31.6
comp=N,1.3nm,0.8s,baz=131,slow=5.4,SNR=4.4
NVAR LR LR 10 20 16.6
comp=N,595nm,19.7s,MS4.4,baz=140,slow=39
NVAR Mina Array Bea 36.97 319 P **P 10 03 27.1 +1.2**
NVAR PcP PcP 10 05 47.5 +0.8
NVAR *p*PcP 10 06 01.7
NVAR ScP 10 09 31.6
NVAR LR LR 10 20 16.6
YFT Old Faithful 37.07 333 *eP* **P 10 03 27.9 +1.2**
YFT *e*PcP PcP 10 05 47.0 +0.1
YFT *ep*PcP 10 06 01.3
YNR Norris Junctio 37.21 333 *eP* **P 10 03 28.5 +0.7**
YMR Madison River 37.30 333 *eP* **P 10 03 29.3 +0.8**
QLMT Earthquake Lak 37.63 333 *eP* **P 10 03 32.1 +0.8**
GCMT Greycliff 37.65 335 *eP* **P 10 03 31.0 -0.4**
DGMT Dagmar 38.05 343 *eP* **P 10 03 34.5 -0.3**
comp=N,99nm,0.6s,mb5.7
HLID Hailey 38.10 329 *eP* **P 10 03 35.2 0.0**
comp=N,8.8nm,0.7s,mb4.6
HLID *e*PcP PcP 10 05 49.4 -0.7
HLID *ep*PcP 10 06 03.3
MCMT McKenzie Canyo 38.28 332 *eP* **P 10 03 37.9 +1.2**
BOZ Bozeman (W) 38.36 333 *eP* **P 10 03 37.9 +0.6**
comp=N,45nm,0.7s,mb5.3
HRY Holter Researc 39.28 334 *eP* **P 10 03 45.2 +0.2**
OHCM Honcut 39.53 318 *eP* **P 10 03 47.4 +0.2**
OHCM *ep*P pP 10 04 00.3 +0.3
WVOR Wild Horse Val 39.62 324 *eP* **P 10 03 47.8 -0.1**
comp=N,17nm,0.9s,mb4.8
LVC Limon Verde 39.90 151 P **P 10 03 51.6 +1.2**
comp=N,11nm,0.9s,mb4.6,baz=295,slow=8.1,SNR=11
LVC Limon Verde 39.90 151 *eP* **P 10 03 50.8 +0.4**
comp=N,54nm,1.8s,mb5.0
CHMT Chamberlain Mo 40.05 333 *eP* **P 10 03 49.6 -1.8**

MOD Modoc 40.26 322 *eP* **P 10 03 52.5 -0.7**
comp=N,5.6nm,0.9s,mb4.3
MOD *e*PcP PcP 10 05 56.6 -0.4
MSO Missoula 40.29 333 *eP* **P 10 03 53.1 -0.3**
comp=N,26nm,1.0s,mb4.9
MSO *ep*P pP 10 04 05.8 -0.6
BMO Blue Mountains 40.49 328 *eP* **P 10 03 53.7 -1.4**
comp=N,5.8nm,0.7s,mb4.4
NEW Newport 42.80 332 *eP* **P 10 04 12.9 -1.1**
comp=N,11nm,0.7s,mb4.7
WTV Waterville 43.77 329 P **P 10 04 22.4 +0.4**
PNT Penticton 44.72 331 P **P 10 04 29.1 -0.4**
RPW Rockport 45.05 329 P **P 10 04 31.1 -1.1**
EDM Edmonton 45.09 339 *eP* **P 10 04 31.1 -1.4**
EDM *ep*P pP 10 04 43.6 -1.9
SCHQ Schefferville 45.32 17 P **P 10 04 31.9 -2.3**
comp=N,19nm,0.6s,mb5.1,baz=217,slow=6.7,SNR=54
SCHQ pP pP 10 04 45.2 -2.0
comp=N,50nm,0.8s,baz=213,slow=6.9,SNR=22
SCHQ PcP PcP 10 06 11.8 -1.9
comp=N,2.1nm,0.4s,baz=237,slow=8.1,SNR=3.9
SCHQ LR LR 10 24 40.6
comp=N,944nm,19.8s,MS4.7,baz=205,slow=38
SCHQ Schefferville 45.32 17 P **P 10 04 31.9 -2.3**
SCHQ pP pP 10 04 45.2 -2.0
SCHQ PcP PcP 10 06 11.8 -1.9
SCHQ LR LR 10 24 40.6
CMW Cultus Mountai 45.34 329 P **P 10 04 33.3 -1.2**
VDB Vedder Mountai 45.73 329 P **P 10 04 36.2 -1.4**
PGC Sidney 46.17 328 *eP* **P 10 04 40.2 -0.9**
FCC Fort Churchill 46.21 356 *eP* **P 10 04 38.9 -2.3**
comp=N,38nm,0.6s,mb5.5
FCC *ep*P pP 10 04 52.0 -2.2
BDFB Brasilia 48.81 124 P **P 10 05 00.1 -2.1**
comp=N,9.2nm,0.7s,mb4.9,baz=289,slow=7.9,SNR=12
BDFB pP pP 10 05 11.3 -3.9
comp=N,16nm,0.9s,baz=299,slow=6.3,SNR=6.9
BDFB PcP PcP 10 06 26.3 -0.3
comp=N,6.4nm,0.7s,baz=242,slow=2.6,SNR=2.6
BDFB *p*PcP 10 06 39.6
comp=N,9.4nm,0.8s,baz=236,slow=6.8,SNR=4.3
BDFB LR LR 10 26 07.7
comp=N,547nm,21.4s,MS4.5,baz=308,slow=37
BAO Brasilia Array 48.83 124 P **P 10 04 59.8 -2.4**
BAO *e* pP 10 05 09.3 -6.0
BAO *e* 10 06 26.8
BAO *e* 10 06 40.0
YKA Yellowknife Ar 53.18 345 P **P 10 05 32.4 -2.1**
comp=N,13nm,0.6s,mb5.0,baz=141,slow=7.5,SNR=365
YKA pP pP 10 05 46.0 -1.8
comp=N,56nm,1.1s,baz=143,slow=6.1,SNR=22
YKA PcP PcP 10 06 40.1 -1.9
comp=N,5.5nm,0.9s,baz=137,slow=4.2,SNR=4.0
YKA *p*PcP 10 06 53.7
comp=N,4.8nm,0.6s,baz=142,slow=4.4,SNR=6.5
YKA LR LR 10 32 04.4
comp=N,275nm,19.3s,MS4.3,baz=180,slow=40
YKA Yellowknife Ar 53.18 345 P **P 10 05 32.4 -2.1**
YKA pP pP 10 05 46.0 -1.8
YKA PcP PcP 10 06 40.1 -1.9
YKA *p*PcP 10 06 53.7
YKA LR LR 10 32 04.4
YKW3 Yellowknife Ar 53.24 345 *eP* **P 10 05 32.5 -2.6**
YKW3 *ep*P pP 10 05 45.1 -3.2
DLBC Dease Lake 55.34 335 *eP* **P 10 05 49.3 -1.1**
DLBC *ep*P pP 10 06 02.5 -1.4
TAOE Nuku Hiva Isla 55.74 250 *eLR* LR 10 21 49.2
baz=70
TRQA Tornquist 56.18 155 *eP* **P 10 05 54.3 -2.5**
RKT Rikitea 57.87 232 *eS* **S 10 14 05.5 +2.2**
RKT *e*SS SS 10 18 03.0 +7.0
RKT *e*LQ 10 20 50.6
RKT *e*LR LR 10 23 19.6
comp=N,726nm,26.5s,baz=47
RES Resolute Bay 62.11 358 *eP* **P 10 06 34.0 -3.3**
comp=N,7.8nm,0.6s,mb5.0
DAWY Dawson 62.26 337 *eP* **P 10 06 35.5 -2.9**
DAWY *ep*P pP 10 06 46.5 -5.5
INK Inuvik 62.74 343 LR LR 10 36 07.6
comp=N,510nm,21.7s,MS4.7,baz=127,slow=38
INK Inuvik 62.74 343 *eP* **P 10 06 38.6 -3.0**
comp=N,24nm,0.9s,mb5.3
INK *ep*P pP 10 06 51.9 -3.2
EYAK Cordova Ski Ar 63.31 332 *eP* **P 10 06 44.1 -1.3**
MENT Mentasta 63.42 335 *eP* **P 10 06 44.6 -1.6**
DIV Divide 63.55 333 *eP* **P 10 06 44.9 -2.0**
comp=N,60nm,1.1s,mb5.5
SLKM Skilak Lake 65.36 331 *eP* **P 10 06 56.4 -2.3**
ILAR Eielson Array 65.47 336 P **P 10 06 57.3 -2.1**
comp=N,11nm,0.7s,mb5.0,baz=150,slow=4.5,SNR=118
ILAR pP pP 10 07 10.9 -2.2
comp=N,15nm,0.7s,baz=168,slow=4.7,SNR=15
ILAR LR LR 10 37 39.4
comp=N,482nm,22.0s,MS4.7,baz=134,slow=38
COLA College 65.89 336 *eP* **P 10 06 59.3 -2.7**
comp=N,6.3nm,0.6s,mb4.8
COLA *ep*P pP 10 07 12.1 -3.7
MCK McKinley 65.90 335 *eP* **P 10 06 59.7 -2.4**
comp=N,10nm,0.9s,mb4.9
RSO Redoubt South 66.54 331 *eP* **P 10 07 04.3 -1.9**
SUMG Summit 66.59 15 *eP* **P 10 07 03.3 -3.1**
comp=N,9.8nm,0.8s,mb4.9
SUMG *ep*P pP 10 07 17.4 -2.7
PPT Papeete 67.51 245 *eS* S 10 16 05.8 +1.5
PPT *e*SS SS 10 20 38.6 +12
PPT *e*LQ 10 25 01.8
PPT *e*LR LR 10 27 19.4
comp=N,1μm,25.8s,baz=60
USHA Ushuaia 69.32 168 P **P 10 07 23.5 -0.1**
comp=N,14nm,1.2s,mb4.8,baz=333,slow=9.0,SNR=2.6
TBI Tubuai 69.68 239 *eS* S 10 16 31.5 +1.4
TBI *e*SS SS 10 20 57.7 -2.7
TBI *e*LR LR 10 28 35.2
comp=N,858nm,26.5s,baz=57
ESDC Sonseca Array 77.73 52 P **P 10 08 11.9 -1.2**
comp=N,0.3nm,0.4s,baz=282,slow=4.5,SNR=3.1
DBIC Dimbokro 82.22 85 P **P 10 08 35.6 -2.0**
comp=N,0.8nm,0.4s,mb4.0,baz=242,slow=5.8,SNR=3.7
DBIC LR LR 10 42 15.0
comp=N,253nm,20.3s,MS4.6,baz=288,slow=34
NOA NORSAR Array B 83.59 29 P **P 10 08 42.6 -0.9**
comp=N,2.1nm,0.9s,mb4.3,baz=306,slow=5.5,SNR=3.4
NOA LR LR 10 42 06.6
comp=N,274nm,21.8s,MS4.6,baz=290,slow=33
BILL Bilibino 84.00 339 *eP* **P 10 08 44.3 -1.2**
comp=N,12nm,0.7s,mb5.1
BILL *ep*P pP 10 08 57.2 -2.4
ARCES ARCESS Array B 86.26 19 P **P 10 08 55.0 -1.6**
comp=N,1.7nm,0.7s,mb4.4,baz=293,slow=4.4,SNR=10
ARCES pP pP 10 09 09.5 -1.3
comp=N,2.6nm,0.8s,baz=270,slow=4.9,SNR=2.4
ARCES LR LR 10 46 25.3
comp=N,248nm,18.8s,MS4.6,baz=348,slow=35
GERES GERESS Array B 88.33 40 P **P 10 09 08.4 +1.4**
comp=N,0.2nm,0.3s,baz=346,slow=4.0,SNR=4.3
FINES FINESS Array B 90.15 26 LR LR 10 48 04.0
comp=N,151nm,18.7s,MS4.5,baz=346,slow=34
ULN Ulaanbaatar 118.20 348 *ePKP* PKPdf 10 15 01.7 +0.4
ULN *epPKP* 10 15 15.7
SONM Songino Array 118.35 349 PKP PKPdf 10 15 02.3 +0.7
comp=N,2.2nm,0.6s,baz=334,slow=2.1,SNR=20
SONM *p*PKP 10 15 16.5
comp=N,3.2nm,0.7s,baz=349,slow=1.7,SNR=16
SONM PKKPbc 10 25 20.1
comp=N,1.1nm,0.9s,baz=161,slow=5.6,SNR=6.3
MAW Mawson 121.94 167 PKP PKPdf 10 15 08.2 +0.1
comp=N,1.1nm,0.4s,baz=225,slow=1.4,SNR=3.7
LZH Lanzhou 130.16 347 *ePKP* PKPdf 10 15 27.0 +2.2
LZH XPKP 10 15 46.8
LZH PP PP 10 17 43.9 +1.7
LZH SKKS 10 24 32.0
LZH SS SS 10 35 03.1 +1.5
LZH PP PP
comp=Z,112nm,6.4s
LZH LR LR
comp=E,360nm,18.6s
LZH LR LR
comp=Z,591nm,19.9s,MS5.3
STKA Stephens Creek 130.47 239 PKP PKPdf 10 15 27.2 +1.7
comp=Z,4.2nm,0.6s,baz=84,slow=2.3,SNR=6.9
XAN Xi'an 130.73 341 PKP PKPdf 10 15 27.6 +1.7
ENH Enshi 133.99 338 *eP* PKPdf 10 15 32.6 +0.4
ENH *ep*PKP 10 15 46.2
WB2 Warramunga Arr 138.49 254 *eP* PKPdf 10 15 32.2 -8.4
WRAB Tennant Creek 138.49 254 *ePKP*df PKPdf 10 15 41.6 +1.0

WRA Warramunga Arr 138.50 254 PKhKP 10 15 31.2
comp=Z,1.7nm,1.0s,baz=94,slow=3.1,SNR=10
WRA PKP PKPdf 10 15 42.6 +1.9
comp=Z,4.6nm,0.7s,baz=87,slow=2.4,SNR=26
WRA *p*PKP 10 15 56.7
comp=Z,4.3nm,0.6s,baz=89,slow=2.8,SNR=5.7
ASAR Alice Springs 138.55 249 PKhKP 10 15 34.5
comp=Z,0.9nm,0.5s,baz=104,slow=2.4,SNR=10
ASAR PKP PKPdf 10 15 42.8 +2.1
comp=Z,3.2nm,0.6s,baz=108,slow=2.9,SNR=16
SHL Shillong 142.00 360 *e* PKPdf 10 15 47.0 +0.2
CHRT Chiangrai 146.69 346 ⇑P PKPdf 10 15 56.0 +0.9
comp=Z,126nm,0.9s
FITZ Fitzroy Crossi 146.84 256 *eP* PKPdf 10 15 58.9 +3.6
comp=Z,28nm,0.6s
HYB Hyderabad 147.42 24 *eP* PKPdf 10 15 58.0 +1.7
HYB Hyderabad 147.42 24 *i* PKP PKPdf 10 15 58.0 +1.7
HYB *e* 10 16 11.0
NANT Nan 147.49 344 P PKPdf 10 15 57.0 +0.6
CMAR Chiang Mai Arr 148.25 347 PKP PKPdf 10 15 59.2 +1.7
comp=Z,10nm,0.6s,baz=328,slow=2.3,SNR=27
CMAR PKPbc PKPdf 10 16 01.6 +4.0
comp=Z,9.9nm,0.6s,baz=313,slow=2.3,SNR=29
CMAR pPKPbc 10 16 13.8
comp=Z,18nm,0.8s,baz=318,slow=2.4,SNR=13
NWAO Narrogin (SRO) 149.13 225 PKPbc PKPdf 10 16 04.1 +5.5
comp=Z,60nm,1.4s,baz=127,slow=5.1,SNR=3.7
KKTK Khon Kaen 149.14 339 P PKPdf 10 16 02.0 +2.9
comp=Z,617nm,0.6s

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*IDC **13** 09:57:19.4±1.2, 6.01N×92.76E, mb3.9/6, mb1 4.2/7, mb1mx4.0/18, mbtmp4.0/7, ML4.6/1, Error ellipse: s-maj=51.8km s-min=20.2km az=51.0*
*NEIC **13** 09:57:23.5±0.6, 5.87N×92.71E, h30km, mb4.5/2, Error ellipse: s-maj=15.5km s-min=12.4km az=211.0*
ISC 13 09:57:21.9±0.7, 5.9N±0.1×92.69E±0.10, h33km, n16, σ0§91/16, mb4.1/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.99**	**277**	*eP*	**P**	**10 00 13.8**	**+0.4**
PALK				*eS*	**S**	**10 02 13.6**	**-13**
CMAR	**Chiang Mai Arr**	**13.91**	**25**	Pn	**P**	**10 00 40.3**	**+1.3**
	0.9nm,0.3s,baz=230,slow=14,SNR=61						
ENH	**Enshi**	**28.96**	**31**	P	**P**	**10 03 20.7**	**+0.1**
SONM	**Songino Array**	**43.42**	**13**	P	**P**	**10 05 21.9**	**-1.3**
	0.8nm,0.7s,mb3.6,baz=189,slow=8.3,SNR=7.0						
SONM				PcP	PcP	10 07 12.5	+0.7
	0.7nm,0.7s,baz=186,slow=3.6,SNR=4.9						
WRA	**Warramunga Arr**	**48.33**	**123**	P	**P**	**10 06 02.8**	**+0.2**
	1.3nm,0.9s,mb4.0,baz=306,slow=8.7,SNR=12						
WRA	**Warramunga Arr**	**48.33**	**123**	P	**P**	**10 06 02.8**	**+0.2**
WRAB	**Tennant Creek**	**48.34**	**123**	P	**P**	**10 06 01.6**	**-1.1**
	10nm,1.0s,mb4.8						
ZAL	**Zalesovo**	**48.34**	**354**	P	**P**	**10 06 02.5**	**+0.4**
	2.0nm,0.4s,mb4.5,baz=242,slow=7.8,SNR=9.0						
ASAR	**Alice Springs**	**49.80**	**128**	P	**P**	**10 06 14.7**	**+0.9**
	1.2nm,0.7s,mb4.0,baz=298,slow=7.7,SNR=12						
BVAR	**Borovoye Array**	**50.42**	**343**	P	**P**	**10 06 17.7**	**-0.5**
	0.2nm,0.5s,mb3.5,baz=117,slow=9.9,SNR=4.0						
CHKZ	**Chkalovo**	**50.93**	**343**	*eP*	**P**	**10 06 20.9**	**-1.1**
	2.5nm,0.7s,mb4.2						
BRTR	**Keskin Array B**	**62.65**	**312**	P	**P**	**10 07 45.0**	**-0.7**
	1.2nm,0.8s,mb4.1,baz=122,slow=6.8,SNR=4.4						
GERES	**GERESS Array B**	**78.35**	**319**	P	**P**	**10 09 22.5**	**+1.9**
	1.7nm,0.9s,mb4.0,baz=72,slow=3.1,SNR=6.2						
KHC	**Kasperske Hory**	**78.45**	**319**	*eP*	**P**	**10 09 21.0**	**-0.2**
KHC	**Kasperske Hory**	**78.45**	**319**	*epP*	**P**	**10 09 21.0**	**-0.2**
TXAR	**Lajitas Array**	**141.62**	**23**	PKP	PKPdf	10 16 56.6	+6.0
	0.2nm,0.4s,baz=201,slow=0.9,SNR=7.9						

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*MAN **13** 09:59:53.3, 8.36N×127.65E, h62km, mb5.0, ML3.9, MS4.0*
*IDC **13** 09:59:54.4±0.9, 8.43N×126.86E, mb4.0/9, mb1 4.2/9, mb1mx4.0/20, mbtmp4.0/9, Error ellipse: s-maj=39.7km s-min=19.8km az=67.0*
*NEIC **13** 09:59:56.0±0.5, 8.44N×126.83E, h10km, mb4.6/7, Error ellipse: s-maj=19.6km s-min=11.7km az=70.0*
ISC 13 09:59:54.1±0.6, 8.36N±0.05×127.27E±0.04, h10km, n33, σ1§57/41, mb4.2/16, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.91**	**259**	⇑*iP*	**Pb**	**10 00 09.1**	**-2.4**
BIPH				*i* S	**Sb**	**10 00 17.3**	**-6.1**
MATI	**Mati**	**1.72**	**216**	*eP*	**Pn**	**10 00 23.1**	**-1.2**
BUTP	**Butuan**	**1.74**	**291**	*eP*	**Pn**	**10 00 25.5**	**+0.9**
BUTP				*eS*	**Sn**	**10 00 47.9**	**+1.0**
BUKP	**Musuan**	**2.23**	**258**	*eP*	**Pn**	**10 00 31.8**	**+0.1**
BUKP				*eS*	**Sn**	**10 01 00.1**	**+0.6**
SCPH	**Surigao**	**2.25**	**309**	⇑*eP*	**Pn**	**10 00 32.0**	**0.0**
SCPH				*eS*	**Sn**	**10 01 02.4**	**+2.3**
KCP	**Kidapawan**	**2.54**	**230**	⇓*iP*	**Pn**	**10 00 36.5**	**+0.4**
KCP				*i* S	**Sn**	**10 01 07.7**	**+0.4**
CGP	**Cagayan de Oro**	**2.54**	**272**	*eP*	**Pn**	**10 00 34.3**	**-1.9**
CGP				*eS*	**Sn**	**10 00 55.6**	**-12**
MSLP	**Maasin**	**2.96**	**307**	*eP*	**Pn**	**10 00 43.1**	**+1.0**
MSLP				*eS*	**Sn**	**10 01 21.7**	**+3.7**
TBP	**Tagbilaran**	**3.61**	**292**	*eP*	**Pn**	**10 00 50.4**	**-0.9**
TBP				*eS*	**Sn**	**10 01 32.9**	**-1.6**
BESP	**Borongan**	**3.69**	**331**	*eP*	**Pn**	**10 01 00.5**	**+8.0**
OCLP	**Ormoc**	**3.75**	**316**	*eP*	**Pn**	**10 00 56.0**	**+2.8**
PAGZ	**Pagadian**	**3.88**	**263**	*eP*	**Pn**	**10 00 56.5**	**+1.4**
SNPH	**Sibulan**	**4.10**	**284**	*eP*	**Pn**	**10 01 01.0**	**+2.7**
GUIM	**Jordan**	**5.13**	**296**	*eP*	**Pn**	**10 01 11.7**	**-1.3**
WRA	**Warramunga Arr**	**28.97**	**166**	P	**P**	**10 05 56.3**	**+0.2**
	0.8nm,1.0s,mb3.4,baz=348,slow=9.1,SNR=8.7						
WRA	**Warramunga Arr**	**28.97**	**166**	P	**P**	**10 05 56.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**29.28**	**293**	P	**P**	**10 05 55.0**	**-3.9**
	0.9nm,0.7s,mb3.6,baz=112,slow=7.9,SNR=6.1						
ASAR	**Alice Springs**	**32.48**	**169**	P	**P**	**10 06 29.3**	**+2.2**
	1.2nm,0.9s,mb3.7,baz=338,slow=7.2,SNR=5.7						
BJT	**Baijiatuau**	**33.05**	**344**	P	**P**	**10 06 29.8**	**-2.2**
	12nm,0.9s,mb4.8						
PBA	**Port Blair**	**34.14**	**278**	*eP*	**P**	**10 06 43.6**	**+1.9**
PBA				*eS*	rx	10 07 03.6	
PBA				*eS*	rx	10 07 24.0	
	comp=E,190nm,0.6s						
PBA				*e*		10 07 24.6	
	comp=N,171nm,0.6s						
ULN	**Ulaanbaatar**	**42.95**	**340**	*eP*	**P**	**10 07 53.5**	**-1.4**
	comp=N,2.7nm,0.7s,mb4.1						
SONM	**Songino Array**	**43.14**	**339**	P	**P**	**10 07 55.3**	**-1.2**
	comp=N,0.6nm,0.6s,mb3.5,baz=160,slow=10,SNR=4.6						
PALK	**Pallekele**	**46.12**	**272**	P	**P**	**10 08 18.1**	**-2.8**
	comp=N,10nm,0.9s,mb4.8						
BVAR	**Borovoye Array**	**63.79**	**326**	P	**P**	**10 10 26.2**	**-2.4**
	comp=N,3.6nm,0.8s,mb4.5,baz=127,slow=7.4,SNR=14						
BRVK	**Borovoye**	**63.86**	**326**	*eP*	**P**	**10 10 25.9**	**-3.1**
	comp=N,5.4nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**63.92**	**326**	*eP*	**P**	**10 10 25.8**	**-3.6**
	comp=N,1.6nm,0.6s,mb4.2						
ARU	**Arti**	**71.36**	**327**	P	**P**	**10 11 10.2**	**-5.8**
	comp=N,3.6nm,0.5s,mb4.6						
GNI	**Garni**	**78.96**	**309**	P	**P**	**10 11 59.9**	**0.0**
	comp=N,6.4nm,0.8s,mb4.6,baz=90,slow=5.1,SNR=3.0						
MCK	**McKinley**	**79.81**	**27**	*eP*	**P**	**10 12 05.5**	**+1.6**
	comp=N,4.2nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**80.73**	**26**	P	**P**	**10 12 10.2**	**+1.5**
	comp=N,0.7nm,0.8s,mb3.6,baz=238,slow=5.1,SNR=8.3						
FINES	**FINESS Array B**	**88.03**	**332**	P	**P**	**10 12 43.8**	**-1.7**
	comp=N,1.6nm,0.8s,mb4.3,baz=72,slow=6.0,SNR=8.1						
YKA	**Yellowknife Ar**	**95.09**	**24**	P	**P**	**10 13 19.8**	**+1.5**
	comp=N,0.4nm,0.7s,mb3.9,baz=305,slow=5.1,SNR=5.0						
YKA	**Yellowknife Ar**	**95.09**	**24**	P	**P**	**10 13 19.8**	**+1.5**

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*IDC **13** 10:04:56.4±2.0, 0.69N×17.29E, mb4.1/6, mb1 4.2/6, mb1mx3.8/17, mbtmp4.1/6, Error ellipse: s-maj=48.2km s-min=31.4km az=160.0*
*NEIC **13** 10:04:57.7±0.8, 0.64N×17.39E, h10km, mb4.6/5, Error ellipse: s-maj=19.5km s-min=14.0km az=59.0*
ISC 13 10:04:54.8±0.9, 0.5N±0.1×17.5E±0.1, h10km, n16, σ0§75/16, mb4.3/11, Congo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**13.34**	**95**	*eP*	**P**	**10 08 06.3**	**-0.6**
	7.1nm,0.6s						
MBAR				*eS*	**S**	**10 10 24.0**	**-12**
LSZ	**Lusaka**	**18.92**	**146**	*eP*	**P**	**10 09 23.4**	**+5.1

2.2nm,0.3s,mb4.1,baz=83,slow=11,SNR=12
BOSA Boshof 29.88 166 *eP* **P 10 11 05.5 +0.5**
11nm,1.2s,mb4.5
EIL Elat 33.48 28 P **P 10 11 37.5 +1.0**
baz=197,slow=11
EIL Elat 33.48 28 *eP* **P 10 11 36.7 +0.2**
7.0nm,0.7s,mb4.7
BRTR Keskin Array B 41.76 19 P **P 10 12 46.8 +0.8**
1.7nm,0.7s,mb3.8,baz=180,slow=9.9,SNR=6.5
GERES GERESS Array B 48.28 357 P **P 10 13 37.8 -0.3**
0.3nm,0.3s,mb3.8,baz=180,slow=6.7,SNR=4.6
KIV Kislovodsk 48.77 24 P **P 10 13 43.7 +1.7**
8.2nm,0.6s,mb4.9
MORC Moravsky Berou 49.11 0 P **P 10 13 39.4 -5.1**
6.8nm,1.2s,mb4.5
NOA NORSAR Array B 60.59 357 P **P 10 15 07.1 -0.7**
0.6nm,0.5s,mb4.0,baz=174,slow=7.0,SNR=2.9
FINES FINESS Array B 61.16 5 P **P 10 15 10.9 -0.8**
5.0nm,1.0s,mb4.6,baz=180,slow=7.6,SNR=5.8
BVAR Borovoye Array 68.24 31 P **P 10 15 57.2 -0.7**
0.9nm,0.5s,mb4.1,baz=260,slow=8.6,SNR=4.6
ARCES ARCESS Array B 69.14 3 P **P 10 16 02.9 -0.2**
2.6nm,0.7s,mb4.2,baz=196,slow=8.8,SNR=9.9
ARCES ARCESS Array B 69.14 3 P **P 10 16 02.9 -0.2**
WRA Warramunga Arr 115.36 112 PKP PKPdf 10 23 41.8 +1.2
0.3nm,0.5s,baz=272,slow=1.7,SNR=8.2

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*IDC **13** 10:11:29.5±1.6,2.53N×95.84E,mb4.0/6,mb1 4.2/7, mb1mx3.9/18,mbtmp4.0/7,Error ellipse: s-maj=65.1km s-min=21.5km az=57.0*

ISC 13 10:11:32.9±1.0,2.6N±0.2×95.9E±0.2,h33km,n14, σ0§44/14,mb4.3/11,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.05**	**10**	Pn	**P**	**10 15 18.3**	**+0.4**
	baz=195,slow=11,SNR=9.1						
JIRN	**Jiri**	**26.62**	**340**	*eP*	**P**	**10 17 11.1**	**+0.6**
	39nm,0.8s,mb5.0						
PKI	**Pulchoki**	**26.81**	**339**	*eP*	**P**	**10 17 12.1**	**-0.2**
	15nm,0.8s,mb4.5						
DMN	**Daman**	**26.96**	**338**	*eP*	**P**	**10 17 13.4**	**-0.2**
GUN	**Gumba**	**26.96**	**340**	*eP*	**P**	**10 17 13.8**	**+0.2**
KKN	**Kakani**	**27.06**	**339**	*eP*	**P**	**10 17 14.3**	**-0.2**
	34nm,0.9s,mb4.9						
GKN	**Gorkha**	**27.49**	**338**	*eP*	**P**	**10 17 18.5**	**0.0**
	30nm,0.9s,mb4.8						
KOLN	**Koldanda**	**27.68**	**336**	*eP*	**P**	**10 17 20.4**	**+0.2**
	14nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**43.84**	**122**	P	**P**	**10 19 37.9**	**-0.2**
	0.9nm,0.8s,mb3.6,baz=300,slow=9.5,SNR=4.6						
ASAR	**Alice Springs**	**45.23**	**127**	P	**P**	**10 19 49.4**	**+0.2**
	0.7nm,0.7s,mb3.6,baz=302,slow=8.6,SNR=4.1						
SONM	**Songino Array**	**45.98**	**10**	P	**P**	**10 19 54.7**	**-0.1**
	2.7nm,0.9s,mb4.2,baz=189,slow=9.0,SNR=15						
ZAL	**Zalesovo**	**52.00**	**352**	P	**P**	**10 20 41.0**	**-0.1**
	1.9nm,0.5s,mb4.3,baz=180,slow=7.2,SNR=9.8						
BVAR	**Borovoye Array**	**54.54**	**341**	P	**P**	**10 20 58.8**	**-1.2**
	1.3nm,0.7s,mb4.1,baz=141,slow=9.5,SNR=7.0						
GERES	**GERESS Array B**	**82.95**	**319**	P	**P**	**10 23 56.7**	**+0.7**
	0.9nm,0.9s,mb3.8,baz=90,slow=1.3,SNR=4.1						

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*IDC **13** 10:23:12.4±0.8,8.49N×126.70E,mb3.8/8,mb1 4.0/8, mb1mx3.9/19,mbtmp3.8/8,Error ellipse: s-maj=61.7km s-min=17.4km az=72.0*
*MAN **13** 10:23:13.3,8.30N×126.94E,h1km,mb5.1,ML4.0,MS4.1*
*NEIC **13** 10:23:17.2±0.5,8.47N×126.76E,h35km,mb4.6/9,Error ellipse: s-maj=29.7km s-min=9.1km az=70.0*

ISC 13 10:23:10.9±0.5,8.50N±0.04×127.23E±0.04,h1km,n38, σ1§50/45,mb4.2/17,1C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.92**	**250**	⇓*iP*	**Pg**	**10 23 26.5**	**-2.7**
BIPH				*i* S	**Sg**	**10 23 35.0**	**-6.4**
BUTP	**Butuan**	**1.66**	**286**	*eP*	**Pn**	**10 23 41.0**	**-0.3**
BUTP				*e*S	**Sb**	**10 24 02.9**	**-0.4**
MATI	**Mati**	**1.82**	**212**	*eP*	**Pn**	**10 23 41.3**	**-2.4**
SCPH	**Surigao**	**2.14**	**307**	⇑*eP*	**Pn**	**10 23 49.5**	**+1.3**
BUKP	**Musuan**	**2.23**	**254**	*eP*	**Pn**	**10 23 48.3**	**-1.2**
CGP	**Cagayan de Oro**	**2.51**	**269**	*eP*	**Pn**	**10 23 54.3**	**+0.8**
CGP				*e*S	**Sn**	**10 24 27.2**	**+2.0**
KCP	**Kidapawan**	**2.59**	**235**	⇓*eP*	**Pn**	**10 23 55.7**	**+1.1**
KCP				*i* S	**Sn**	**10 24 29.0**	**+1.8**
MSLP	**Maasin**	**2.85**	**305**	*eP*	**Pn**	**10 23 59.2**	**+0.9**
PLP	**Palo**	**3.45**	**320**	*eP*	**Pn**	**10 24 11.2**	**+4.2**
PLP				*e*S	**Sn**	**10 24 52.9**	**+3.9**
TBP	**Tagbilaran**	**3.53**	**290**	*eP*	**Pn**	**10 24 08.3**	**+0.3**
TBP				*e*S	**Sn**	**10 24 57.6**	**+6.6**
BESP	**Borongan**	**3.55**	**330**	*eP*	**Pg**	**10 24 15.0**	**-6.7**
BESP				*e*S	**Sg**	**10 25 08.1**	**-1.0**
OCLP	**Ormoc**	**3.62**	**315**	*eP*	**Pn**	**10 24 17.7**	**+8.5**
PAGZ	**Pagadian**	**3.87**	**261**	*eP*	**Pn**	**10 24 12.1**	**-0.6**
SNPH	**Sibulan**	**4.04**	**282**	*eP*	**Pn**	**10 24 18.5**	**+3.3**
GUIM	**Jordan**	**5.04**	**295**	*eP*	**Pn**	**10 24 29.2**	**-0.2**
PVCP	**Virac**	**5.89**	**329**	*eP*	**Pn**	**10 24 50.5**	**+9.0**
OTRP	**Odiongan**	**6.40**	**307**	*eP*	**Pn**	**10 24 52.6**	**+4.0**
BOAC	**Boac**	**7.23**	**313**	*eP*	**Pn**	**10 24 55.7**	**-4.6**
WRAB	**Tennant Creek**	**29.11**	**166**	P	**P**	**10 29 15.6**	**0.0**
	22nm,1.5s,mb4.8						
WRA	**Warramunga Arr**	**29.12**	**166**	P	**P**	**10 29 15.5**	**-0.1**
	0.5nm,0.8s,mb3.4,baz=343,slow=8.6,SNR=4.6						
ASAR	**Alice Springs**	**32.63**	**169**	P	**P**	**10 29 46.8**	**+0.2**
	0.2nm,0.4s,mb3.4,baz=355,slow=8.5,SNR=6.0						
BJT	**Baijiatuau**	**32.90**	**344**	*eP*	**P**	**10 29 47.5**	**-1.4**
	13nm,1.2s,mb4.8						
CTAO	**Charters Tower**	**34.02**	**147**	*eP*	**P**	**10 29 58.0**	**-0.8**
	8.1nm,1.0s,mb4.6						
MDJ	**Mudanjiang**	**36.04**	**3**	P	**P**	**10 30 18.1**	**+2.4**
	7.7nm,0.8s,mb4.6						
LSA	**Lhasa**	**39.83**	**307**	*eP*	**P**	**10 30 46.3**	**-1.4**
	30nm,2.2s,mb4.5						
HIA	**Hailar**	**41.11**	**353**	P	**P**	**10 30 57.3**	**-0.7**
STKA	**Stephens Creek**	**42.43**	**162**	P	**P**	**10 31 11.2**	**+2.1**
	1.0nm,0.7s,mb3.6,baz=5.7,slow=10,SNR=2.5						
ULN	**Ulaanbaatar**	**42.80**	**340**	*eP*	**P**	**10 31 11.0**	**-0.8**
	4.6nm,1.0s,mb4.2						
SONM	**Songino Array**	**43.00**	**339**	P	**P**	**10 31 12.7**	**-0.8**
	0.8nm,0.9s,mb3.4,baz=169,slow=7.9,SNR=11						
TLY	**Talaya**	**47.21**	**340**	P	**P**	**10 31 44.1**	**-3.0**
ZAL	**Zalesovo**	**56.62**	**331**	P	**P**	**10 32 54.8**	**-3.0**
	0.9nm,0.6s,mb4.0,baz=256,slow=16,SNR=3.5						
BVAR	**Borovoye Array**	**63.65**	**326**	P	**P**	**10 33 43.6**	**-2.4**
	3.7nm,0.8s,mb4.7,baz=121,slow=8.6,SNR=16						
BRVK	**Borovoye**	**63.72**	**326**	*eP*	**P**	**10 33 43.6**	**-2.8**
	7.9nm,0.8s,mb5.0						
CHKZ	**Chkalovo**	**63.78**	**326**	*eP*	**P**	**10 33 42.0**	**-4.8**
	4.1nm,1.1s,mb4.6						
MCK	**McKinley**	**79.70**	**27**	P	**P**	**10 35 23.2**	**+1.6**
	3.1nm,0.9s,mb4.2						
ILAR	**Eielson Array**	**80.61**	**26**	P	**P**	**10 35 27.9**	**+1.5**
	0.4nm,0.7s,mb3.6,baz=239,slow=5.0,SNR=5.3						
YKA	**Yellowknife Ar**	**94.97**	**24**	P	**P**	**10 36 37.4**	**+1.4**
	0.5nm,0.8s,mb4.0,baz=304,slow=4.9,SNR=7.8						
YKA	**Yellowknife Ar**	**94.97**	**24**	P	**P**	**10 36 37.4**	**+1.4**

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*IDC **13** 10:24:32.6±3.2,14.23N×91.61E,mb4.1/3,mb1 4.2/4, mb1mx3.8/18,mbtmp3.9/4,ML3.9/1,Error ellipse: s-maj=81.8km s-min=30.3km az=84.0*

ISC 13 10:24:35.3±1.2,14.3N±0.1×91.7E±0.2,h33km,n11, σ0§71/11,mb4.1/3,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.09**	**59**	Pn	**P**	**10 26 33.0**	**-0.2**
	0.4nm,0.3s,baz=245,slow=14,SNR=7.3						
JIRN	**Jiri**	**14.21**	**340**	*eP*	**P**	**10 27 55.8**	**-0.5**
	12nm,0.5s						
PKI	**Pulchoki**	**14.41**	**337**	*eP*	**P**	**10 27 57.9**	**-1.0**
	18nm,0.6s						
GUN	**Gumba**	**14.55**	**339**	*eP*	**P**	**10 27 59.8**	**-0.9**
	13nm,0.5s						
DMN	**Daman**	**14.56**	**336**	*eP*	**P**	**10 28 01.1**	**+0.2**
	32nm,0.6s						
KKN	**Kakani**	**14.65**	**337**	*eP*	**P**	**10 28 02.0**	**-0.1**
GKN	**Gorkha**	**15.10**	**335**	*eP*	**P**	**10 28 08.4**	**+0.5**
	27nm,0.5s						
KOLN	**Koldanda**	**15.34**	**332**	*eP*	**P**	**10 28 12.2**	**+1.2**
	26nm,0.6s						
SONM	**Songino Array**	**35.57**	**17**	P	**P**	**10 31 32.7**	**+1.2**
	1.1nm,0.9s,mb3.8,baz=205,slow=7.8,SNR=4.5						
WRA	**Warramunga Arr**	**54.05**	**128**	P	**P**	**10 33 58.7**	**-0.4**
	3.2nm,0.8s,mb4.3,baz=309,slow=7.6,SNR=19						
ASAR	**Alice Springs**	**55.95**	**132**	P	**P**	**10 34 13.1**	**+0.1**
	1.4nm,0.5s,mb4.2,baz=309,slow=6.9,SNR=18						

ISC 13 10:28:28.2±2.0,43.05N±0.10×14.8E±0.5,h10km,n7, σ0§91/12,2C,Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**1.51**	**3**	*i* Pn	**Pn**	**10 28 54.9**	**-0.6**
NVLJ				*i* Sn	**Sn**	**10 29 16.3**	**+0.9**
NVLJ				*i* Sg	**Sg**	**10 29 16.6**	**-2.1**
BOJS	**Bojanci**	**2.48**	**8**	*i* Pn	**Pn**	**10 29 08.9**	**-0.4**
BOJS				*e*Sn	**Sn**	**10 29 41.4**	**+1.5**
KNDS	**Knezji Dol**	**2.49**	**354**	*i* Pn	**Pn**	**10 29 09.5**	**-0.1**
VISS	**Visnje**	**2.75**	**1**	*i* Pn	**Pn**	**10 29 13.2**	**-0.1**
VOY	**Vojsko**	**3.04**	**349**	*e*Pn	**Pn**	**10 29 18.2**	**+0.8**
OBKA	**Obir**	**3.46**	**358**	⇑*i*PN	**Pn**	**10 29 23.2**	**-0.1**
OBKA				*i* SN	**Sn**	**10 30 06.0**	**+1.2**
MOA	**Molln**	**4.81**	**356**	⇑*i*PN	**Pn**	**10 29 41.9**	**-0.6**
MOA				*i* SN	**Sn**	**10 30 38.5**	**-0.5**

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*MAN **13** 10:35:26.9,8.37N×127.22E,h19km,mb5.1,ML4.1,MS4.2*
*BJI **13** 10:35:28.2,8.46N×126.67E,h20km,mB5.2,mb4.9,Ms4.4, Msz4.3*
*MOS **13** 10:35:28.0±1.4,8.30N×126.75E,h33km,mb5.1/27,Error ellipse: s-maj=16.4km s-min=6.9km az=107.4*
*IDC **13** 10:35:30.7±0.7,8.27N×126.79E,h40km±5km,mb4.3/18, mb1 4.5/18,mb1mx4.4/20,mbtmp4.5/18,MS4.1/2, Ms1 4.1/2,ms1mx3.3/26,Error ellipse: s-maj=27.1km s-min=12.4km az=69.0*
*NEIC **13** 10:35:30.8±2.8,8.25N×126.81E,h43km±26km,mb4.9/29, Error ellipse: s-maj=13.6km s-min=6.2km az=72.0*
*HRVD **13** 10:35:30.8±0.7,8.19N×127.15E,h34km±1km,MW4.9/38, Centroid moment Tensor Solution. LP body waves: s10,c10;Mantle waves: s38,c51; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.74±.34; $M_{\theta\theta}$-0.22±.18; $M_{\phi\phi}$-2.52±.19; $M_{r\theta}$0.33±.17; $M_{\theta\phi}$0.09±.08; $M_{\phi r}$0.62±.16; Best double couple: $M_0$2.72×10^{16} NP1:φs172°,δ39°,λ80°. NP2:φs5°,δ52°,λ98°. Principal axes: T 2.848, Plg81°, Azm313°; N -.252, Plg6°, Azm180°; P -2.593, Plg7°, Azm89°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 10:35:28.5±0.3,8.33N±0.04×127.11E±0.04,h42km, h42km±2.1km:pP-P,n136,σ1§22/144,mb4.8/68,MS4.4/6, 5C-6D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.76**	**259**	⇓*iP*	**P**	**10 35 40.5**	**-2.3**
BIPH				*i* S	**S**	**10 35 48.9**	**-4.3**
BUTP	**Butuan**	**1.60**	**294**	*eP*	**P**	**10 35 55.6**	**+0.7**
MATI	**Mati**	**1.61**	**212**	*eP*	**P**	**10 35 54.5**	**-0.5**
DAV	**Davao City (W)**	**1.97**	**231**	*eP*	**P**	**10 36 03.0**	**+3.0**
BUKP	**Musuan**	**2.08**	**258**	*eP*	**P**	**10 36 03.2**	**+1.6**
SCPH	**Surigao**	**2.16**	**312**	⇓*eP*	**P**	**10 36 03.4**	**+0.6**
SCPH				*e*S	**S**	**10 36 34.1**	**+5.6**
KCP	**Kidapawan**	**2.39**	**237**	⇓*eP*	**P**	**10 36 07.7**	**+1.6**
KCP				*i* S	**S**	**10 36 39.1**	**+4.7**
MSLP	**Maasin**	**2.86**	**309**	*eP*	**P**	**10 36 14.1**	**+1.4**
TBP	**Tagbilaran**	**3.48**	**293**	*eP*	**P**	**10 36 22.1**	**+0.4**
TBP				*e*S	**S**	**10 37 04.4**	**+2.2**
PLP	**Palo**	**3.52**	**323**	*eP*	**P**	**10 36 21.5**	**-0.6**
PLP				*e*S	**S**	**10 37 07.4**	**+4.5**
BESP	**Borongan**	**3.65**	**333**	*eP*	**P**	**10 36 31.6**	**+7.7**
OCLP	**Ormoc**	**3.66**	**318**	*eP*	**P**	**10 36 25.9**	**+1.7**
LLP	**Lapu-Lapu**	**3.68**	**303**	*eP*	**P**	**10 36 25.7**	**+1.3**
LLP				*e*S	**S**	**10 37 05.6**	**-1.5**
PAGZ	**Pagadian**	**3.72**	**263**	*eP*	**P**	**10 36 26.6**	**+1.6**
DCPH	**Dipolog City**	**3.73**	**274**	⇑*eP*	**P**	**10 36 25.5**	**+0.4**
SNPH	**Sibulan**	**3.96**	**285**	*eP*	**P**	**10 36 30.0**	**+1.6**
SNPH						10 37 16.0	
GUIM	**Jordan**	**5.01**	**297**	*eP*	**P**	**10 36 43.6**	**+0.3**
RCP	**Roxas**	**5.37**	**307**	*eP*	**P**	**10 36 49.1**	**+0.9**
PVCP	**Virac**	**5.99**	**331**	*eP*	**P**	**10 37 02.0**	**+5.2**
OTRP	**Odiongan**	**6.42**	**309**	*eP*	**P**	**10 37 02.9**	**0.0**
QIZ	**Qiongzhong**	**19.84**	**304**	⇓*P*	**P**	**10 39 57.3**	**-1.5**
QIZ				*e*S	**S**	**10 43 33.5**	**-1.4**
QIZ				LR	LR		
	comp=E,521nm,14.3s						
QIZ				LR	LR		
	comp=Z,654nm,19.6s						
QIZ	**Qiongzhong**	**19.84**	**304**	P	**P**	**10 39 57.2**	**-1.6**
	comp=Z,113nm,1.3s						
KAKA	**Kakadu**	**21.56**	**166**	*eP*	**P**	**10 40 16.2**	**-0.3**
	comp=Z,43nm,0.8s,mb4.9						
SSE	**Sheshan**	**23.32**	**347**	P	**P**	**10 40 31.1**	**-2.7**
SSE				S	**S**	**10 44 35.6**	**-4.1**
SSE				AMB	AMB		
	comp=Z,23nm,0.8s,mb4.7						
SSE				AMB	AMB		
	comp=Z,139nm,5.1s						
NJ2	**Nanjing**	**24.82**	**343**	*eP*	**P**	**10 40 46.5**	**-1.9**
NJ2				PP	PP	10 41 25.5	-0.5
NJ2				PPP	PPP	10 41 36.3	-0.7
NJ2				S	**S**	**10 45 01.0**	**-4.5**
NJ2				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,720nm,3.8s						
NJ2				LR	LR		
	comp=N,280nm,12.4s,MS4.2						
NJ2				LR	LR		
	comp=E,530nm,15.6s,MS4.2						
NJ2				LR	LR		
	comp=Z,980nm,15.3s,MS4.4						
FITZ	**Fitzroy Crossi**	**26.30**	**183**	*eP*	**P**	**10 41 02.5**	**+0.1**
	comp=Z,9.2nm,0.3s,mb4.8						
FITZ				*e*		10 41 16.9	
ENH	**Enshi**	**27.36**	**325**	P	**P**	**10 41 09.1**	**-3.0**
	comp=Z,9.5nm,1.2s,mb4.2						
WRAB	**Tennant Creek**	**28.97**	**166**	*eP*	**P**	**10 41 26.7**	**+0.2**
WRAB	**Tennant Creek**	**28.97**	**166**	*eP*	**P**	**10 41 25.6**	**-1.0**
	comp=Z,20nm,0.9s,mb4.9						
WRA	**Warramunga Arr**	**28.98**	**166**	P	**P**	**10 41 25.8**	**-0.8**
	comp=Z,1.2nm,0.6s,mb3.8,baz=343,slow=8.3,SNR=16						
WB2	**Warramunga Arr**	**28.98**	**166**	*eP*	**P**	**10 41 25.1**	**-1.5**
CMAR	**Chiang Mai Arr**	**29.15**	**293**	P	**P**	**10 41 27.6**	**-0.5**
	comp=Z,4.2nm,0.9s,mb4.2,baz=105,slow=6.5,SNR=20						
CMAR				PcP	PcP	10 44 36.2	+1.0
	comp=Z,1.5nm,0.9s,baz=129,slow=1.0,SNR=5.5						
CMAR				pPcP		10 44 47.0	
	comp=Z,0.9nm,0.5s,baz=75,slow=1.0,SNR=4.8						
MBWA	**Marble Bar**	**30.18**	**194**	*eP*	**P**	**10 41 36.2**	**-1.1**
	comp=Z,36nm,1.1s,mb5.0						
MBWA				*e*	pP	10 41 46.5	-2.2
XAN	**Xi'an**	**30.59**	**329**	P	**P**	**10 41 38.6**	**-2.2**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.7						
ASAR	**Alice Springs**	**32.48**	**168**	P	**P**	**10 41 57.4**	**-0.2**
	comp=Z,1.4nm,0.3s,mb4.2,baz=340,slow=7.3,SNR=26						
ASAR				PcP	PcP	10 44 44.6	+0.7
	comp=Z,1.0nm,0.6s,baz=351,slow=2.3,SNR=4.4						
ASAR				pPcP		10 44 56.4	
	comp=Z,2.1nm,0.6s,baz=348,slow=2.6,SNR=6.7						
ASPA	**Alice Springs**	**32.48**	**168**	*eP*	**P**	**10 42 01.1**	**+3.6**
BJT	**Baijiatuau**	**33.04**	**344**	*eP*	**P**	**10 42 01.5**	**-0.7**
BJT				*e*	pP	10 42 15.5	+1.8
BJT				pmax	pmax		
	comp=Z,25nm,0.9s						
BJT	**Baijiatuau**	**33.04**	**344**	*eP*	**P**	**10 42 01.5**	**-0.7**
	comp=Z,26nm,0.9s,mb5.2						
BJT				*e*	pP	10 42 15.5	+1.9
SNY	**Shenyang**	**33.51**	**355**	⇑*P*	**P**	**10 42 07.8**	**+1.6**
SNY				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
CTA	**Charters Tower**	**33.95**	**146**	P	**P**	**10 42 12.0**	**+1.8**
	comp=Z,5.7nm,0.9s,mb4.5,baz=352,slow=14,SNR=3.1						
CTAO	**Charters Tower**	**33.95**	**146**	P	**P**	**10 42 07.3**	**-2.9**
CTAO				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
CTAO	**Charters Tower**	**33.95**	**146**	P	**P**	**10 42 07.3**	**-2.9**
	comp=Z,21nm,1.1s,mb5.0						
LZH	**Lanzhou**	**34.84**	**326**	*eP*	**P**	**10 42 17.3**	**-0.4**
LZH				PP	PP	10 43 35.0	-1.1
LZH				*e*S	**S**	**10 47 47.0**	**+2.2**
LZH				SS	SS	10 49 59.9	-0.2
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,140nm,5.3s						
LZH				LR	LR		
	comp=N,435nm,12.2s						
LZH				LR	LR		
	comp=Z,584nm,13.3s,MS4.5						
MDJ	**Mudanjiang**	**36.22**	**3**	*eP*	**P**	**10 42 31.3**	**+1.9**
	comp=Z,43nm,1.3s,mb5.2						
SHL	**Shillong**	**37.64**	**301**	*i*	**P**	**10 42 40.6**	**-0.9**
SHL				*e*		10 48 27.0	
LSA	**Lhasa**	**39.84**	**307**	*eP*	**P**	**10 43 00.7**	**+1.0**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
LSA	**Lhasa**	**39.84**	**307**	*eP*	**P**	**10 43 00.7**	**+1.0**
	comp=Z,6.3nm,0.7s,mb4.5						
HIA	**Hailar**	**41.27**	**353**	*eP*	**P**	**10 43 12.2**	**+0.9**
HIA				pmax	pmax		
	comp=Z,16nm,1.1s						
HIA	**Hailar**	**41.27**	**353**	*eP*	**P**	**10 43 12.2**	**+0.9**
	comp=Z,16nm,1.1s,mb4.6						
MUN	**Mundaring**	**41.41**	**194**	*eP*	**P**	**10 43 13.3**	**+0.6**
	comp=Z,13nm,0.7s,mb4.7						
MUN	**Mundaring**	**41.41**	**194**	*eP*	**P**	**10 43 13.3**	**+0.6**
MUN				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.7						
NWAO	**Narrogin (SRO)**	**42.09**	**192**	*eP*	**P**	**10 43 14.9**	**-3.4**
NWAO				pmax	pmax		
	comp=Z,38nm,1.1s						
NWAO	**Narrogin (SRO)**	**42.09**	**192**	*eP*	**P**	**10 43 14.9**	**-3.4**
	comp=Z,38nm,1.1s,mb4.9						
STKA	**Stephens Creek**	**42.31**	**162**	*eP*	**P**	**10 43 22.2**	**+2.1**
	comp=Z,5.2nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**42.31**	**162**	P	**P**	**10 43 21.9**	**+1.8**
	comp=Z,1.9nm,0.5s,mb4.0,baz=332,slow=11,SNR=4.4						
STKA				LR	LR	11 00 22.8	
	comp=Z,313nm,21.8s,MS4.2,baz=286,slow=35						
ULN	**Ulaanbaatar**	**42.92**	**340**	*eP*	**P**	**10 43 25.0**	**+0.1**
ULN				*e*		10 45 16.1	
ULN				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
ULN	**Ulaanbaatar**	**42.92**	**340**	*eP*	**P**	**10 43 25.0**	**+0.1**
	comp=Z,10nm,0.7s,mb4.7						
ULN				*e*PcP	PcP	10 45 16.1	+0.4
SONM	**Songino Array**	**43.12**	**340**	P	**P**	**10 43 26.6**	**0.0**
	comp=Z,2.8nm,0.7s,mb4.1,baz=157,slow=9.2,SNR=24						
SONM				PcP	PcP	10 45 16.5	+0.2
	comp=Z,2.0nm,0.9s,baz=153,slow=4.2,SNR=4.4						
SONM				pPcP		10 45 27.7	
	comp=Z,2.2nm,0.7s,baz=152,slow=3.0,SNR=6.6						
JIRN	**Jiri**	**43.14**	**302**	*eP*	**P**	**10 43 26.8**	**-0.2**
	comp=Z,63nm,0.7s,mb5.5						
GUN	**Gumba**	**43.48**	**302**	*eP*	**P**	**10 43 29.3**	**-0.4**
	comp=Z,81nm,0.8s,mb5.5						
PKI	**Pulchoki**	**43.77**	**301**	*eP*	**P**	**10 43 31.0**	**-1.1**
	comp=Z,40nm,0.9s,mb5.1						
KKN	**Kakani**	**43.95**	**302**	*eP*	**P**	**10 43 32.7**	**-0.8**
	comp=Z,44nm,1.0s,mb5.2						
DMN	**Daman**	**44.04**	**301**	*eP*	**P**	**10 43 33.4**	**-0.8**
	comp=Z,43nm,0.9s,mb5.2						
GKN	**Gorkha**	**44.55**	**302**	*eP*	**P**	**10 43 37.2**	**-1.2**
	comp=Z,23nm,0.7s,mb5.2						
KOLN	**Koldanda**	**45.36**	**301**	*eP*	**P**	**10 43 44.2**	**-0.6**
	comp=Z,63nm,0.7s,mb5.5						
ZAK	**Zakamensk**	**46.37**	**339**	*eP*	**P**	**10 43 50.7**	**-1.8**
ZAK				*e*		10 45 27.3	
TLY	**Talaya**	**47.33**	**340**	*eP*	**P**	**10 43 59.7**	**-0.3**
TLY				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
TLY	**Talaya**	**47.33**	**340**	*eP*	**P**	**10 43 59.7**	**-0.3**
	comp=Z,11nm,0.7s,mb4.9						
MOY	**Mondy**	**48.24**	**338**	*eP*	**P**	**10 44 07.4**	**+0.2**
CLNS	**Chul'man**	**48.42**	**358**	*eP*	**P**	**10 44 08.4**	**0.0**
CLNS				*e*PP	pP	10 44 15.1	-5.1
CLNS				*e*		10 44 27.1	
CLNS				*e*		10 55 48.6	
CLNS				pmax	pmax		
	comp=N,10.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.8s						
WMQ	**Urumqi**	**49.26**	**323**	*eP*	**P**	**10 44 15.3**	**+0.2**
WMQ				PP	PP	10 46 06.4	-3.0
WMQ				S	**S**	**10 51 19.4**	**+2.5**
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,60nm,5.2s						
WMQ				LR	LR		
	comp=N,1μm,20.8s,MS4.9						
WMQ				LR	LR		
	comp=E,934nm,21.7s,MS4.9						
WMQ				LR	LR		
	comp=Z,2μm,21.8s,MS5.

BILL e pP 10 46 20.1 +1.3
RPZ Rata Peaks 65.32 146 LR LR 11 11 49.6
comp=Z,135nm,21.0s,MS4.1,baz=209,slow=33
ARU Arti 71.30 327 ⇑*iP* **P 10 46 41.7 -3.8**
ARU e pP 10 46 55.7 -2.2
ARU e 10 49 17.8
ARU *e*SS S 10 55 53.6 -5.1
ARU *e*SS SS 11 00 27.4 -7.9
ARU *e*SSS SSS 11 03 46.7 +4.3
ARU pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
IMA Indian Mountai 78.06 24 *eP* **P 10 47 28.3 +4.1**
IMA e pP 10 47 39.3 +2.6
IMA pmax pmax
comp=Z,69nm,1.1s,mb5.5
IMA Indian Mountai 78.06 24 *eP* **P 10 47 28.3 +4.1**
comp=Z,69nm,1.1s,mb5.5
IMA e pP 10 47 39.3 +2.6
SLKM Skilak Lake 79.19 30 *eP* **P 10 47 30.9 +0.3**
SLKM e pP 10 47 44.5 +1.4
SLKM e 10 48 03.6
ZEI Tsey 79.43 312 *eP* **P 10 47 31.9 -0.3**
ZEI pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MCK McKinley 79.91 27 *eP* **P 10 47 37.2 +2.8**
MCK e 10 47 45.8
MCK pmax pmax
comp=Z,21nm,1.0s,mb5.0
MCK McKinley 79.91 27 *eP* **P 10 47 37.1 +2.8**
comp=Z,21nm,1.0s,mb5.0
MCK e 10 47 45.8
KIV Kislovodsk 80.27 313 *eP* **P 10 47 34.5 -2.2**
KIV pmax pmax
comp=N,14nm,1.3s
KIV pmax pmax
comp=Z,11nm,1.3s,mb4.6
KIV MLR MLR
comp=N,40nm,17.0s,MS4.2
KIV MLR MLR
comp=E,79nm,17.0s,MS4.2
KIV MLR MLR
comp=Z,82nm,17.0s,MS4.1
KIV Kislovodsk 80.27 313 *eP* **P 10 47 37.3 +0.6**
comp=Z,8.3nm,0.7s,mb4.8
COLA College 80.41 26 *eP* **P 10 47 39.2 +2.2**
COLA e pP 10 47 50.4 +0.8
COLA pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
COLA College 80.41 26 *eP* **P 10 47 39.2 +2.2**
comp=Z,6.4nm,0.9s,mb4.5
COLA e pP 10 47 50.4 +0.8
ILAR Eielson Array 80.82 26 P **P 10 47 41.4 +2.2**
comp=Z,2.9nm,0.7s,mb4.3,baz=237,slow=4.8,SNR=24
ILAR pP pP 10 47 53.0 +1.3
comp=Z,9.3nm,1.1s,baz=242,slow=6.3,SNR=13
SOC Sochi 82.44 313 *eP* **P 10 47 42.9 -5.2**
SOC *e*S S 10 57 53.0 -6.8
SOC pmax pmax
comp=Z,12nm,0.7s,mb4.9
SOC pmax pmax
comp=N,4.0nm,0.5s
SOC pmax pmax
comp=E,5.0nm,0.6s
OBN Obninsk 83.55 325 ⇑*iP* **P 10 47 50.2 -3.2**
OBN pmax pmax
comp=Z,11nm,1.1s,mb4.9
MALT Malatya 83.88 308 *eP* **P 10 47 56.2 +0.7**
comp=Z,3.1nm,0.7s,mb4.5
MALT e pP 10 48 09.7 +1.5
ANN Anapa 83.97 314 *eP* **P 10 47 55.3 -0.5**
ANN pmax pmax
comp=Z,17nm,0.8s,mb5.2
DAWY Dawson 84.11 26 *eP* **P 10 47 60.0 +3.9**
DAWY e pP 10 48 11.4 +2.7
JOF Joensuu 85.29 333 *ep* **P 10 48 01.8 -0.1**
comp=Z,17nm,0.6s,mb5.3
INK Inuvik 85.78 22 *eP* **P 10 48 05.3 +1.1**
INK e pP 10 48 20.0 +3.1
INK pmax pmax
comp=Z,16nm,1.4s
INK Inuvik 85.78 22 P **P 10 48 06.5 +2.3**
comp=Z,20nm,1.4s,mb5.2,baz=312,slow=4.4,SNR=6.2
INK Inuvik 85.78 22 *eP* **P 10 48 05.3 +1.1**
comp=Z,16nm,1.4s,mb5.1
INK e pP 10 48 20.0 +3.1
ARCES ARCESS Array B 86.29 340 P **P 10 48 07.0 +0.2**
comp=Z,8.9nm,0.8s,mb5.0,baz=68,slow=6.5,SNR=12
SIM Simferopol' 86.30 315 P **P 10 48 07.9 +0.6**
SIM pmax pmax
comp=Z,20nm,0.8s,mb5.4
BRTR Keskin Array B 87.40 310 P **P 10 48 12.8 -0.1**
comp=Z,41nm,0.9s,mb5.6,baz=110,slow=3.7,SNR=3.0
VNDA Vanda 87.91 173 P **P 10 48 15.7 +1.2**
comp=Z,1.8nm,0.9s,mb4.3,baz=269,slow=2.2,SNR=4.2
VNDA pP pP 10 48 27.7 +0.5
comp=Z,3.1nm,0.7s,baz=319,slow=5.7,SNR=6.3
FINES FINESS Array B 87.98 332 P **P 10 48 15.5 +0.4**
comp=Z,5.6nm,0.6s,mb4.9,baz=76,slow=5.6,SNR=28
AKASG Malin Array Be 88.59 321 P **P 10 48 17.8 -0.5**
comp=Z,3.5nm,0.6s,mb4.9,baz=57,slow=5.2,SNR=23
KMBO Kilima Mbogo 90.02 269 P **P 10 48 26.1 +0.2**
comp=Z,2.3nm,0.9s,mb4.5,baz=76,slow=8.8,SNR=5.0
RES Resolute Bay 93.25 10 *eP* **P 10 48 41.5 +2.1**
RES *e* pP 10 48 54.0 +1.7
RES pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
RES Resolute Bay 93.25 10 *eP* **P 10 48 41.5 +2.0**
comp=Z,4.3nm,0.9s,mb4.9
RES *e* pP 10 48 54.0 +1.8
NB2 NORSAR Subarra 94.86 334 P **P 10 48 46.3 -0.7**
comp=Z,5.5nm,1.0s,mb4.9,baz=65,slow=4.5
NB2 NORSAR Subarra 94.86 334 P **P 10 48 46.3 -0.7**
baz=65,slow=4.6
NOA NORSAR Array B 94.86 334 P **P 10 48 46.9 -0.1**
comp=Z,1.8nm,0.8s,mb4.6,baz=65,slow=4.6,SNR=3.4
YKA Yellowknife Ar 95.18 24 P **P 10 48 51.2 +2.8**
comp=Z,1.9nm,0.7s,mb4.6,baz=300,slow=4.6,SNR=37
YKA pP pP 10 49 03.4 +2.1
comp=Z,2.5nm,0.8s,baz=300,slow=4.7,SNR=14
SYO Syowa Base 96.82 201 ⇓P **P 10 48 54.9 -0.9**
SYO Syowa Base 96.82 201 ⇓pP pP 10 49 02.0 -6.6
GERES GERESS Array B 98.73 322 P **P 10 49 05.5 +0.6**
comp=Z,0.4nm,0.6s,mb4.2,baz=72,slow=4.2,SNR=6.8
TXAR Lajitas Array 118.44 50 PKP PKPdf 10 54 16.6 +4.3
comp=Z,0.5nm,0.8s,baz=251,slow=1.3,SNR=4.9
TXAR pPKP 10 54 27.6
comp=Z,0.6nm,0.7s,baz=277,slow=1.4,SNR=5.0
TXAR PKKPbc 11 04 33.0
comp=Z,0.5nm,1.0s,baz=124,slow=3.3,SNR=3.5

MAN ***13*** *10:49:03.0, 8.23N×127.24E, h2km, mb4.8, ML3.7, MS3.8*
IDC ***13*** *10:49:03.6±0.9, 8.38N×126.87E, mb4.0/8, mb1 4.2/8, mb1mx4.0/19, mbtmp4.0/8, MS3.7/1, Ms1 3.7/1, ms1mx2.9/23, Error ellipse: s-maj=51.8km s-min=19.4km az=68.0*
ISC 13 10:49:05.6±0.7, 8.33N±0.05×127.30E±0.06, h33km, n31, σ1§48/38, mb4.2/10, MS3.6/1, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MATI	**Mati**	**1.72**	**217**	*eP*		**P**	**10 49 32.6**	**-1.0**
MATI				*e*S		**S**	**10 49 53.9**	**-0.7**
BUTP	**Butuan**	**1.77**	**291**	*eP*		**P**	**10 49 33.4**	**-1.0**
BUTP				*e*S		**S**	**10 49 58.2**	**+2.2**
BUKP	**Musuan**	**2.26**	**259**	*eP*		**P**	**10 49 41.1**	**-0.2**
SCPH	**Surigao**	**2.30**	**309**	⇓*eP*		**P**	**10 49 42.1**	**+0.3**
SCPH				*e*S		**S**	**10 50 12.9**	**+3.6**
KCP	**Kidapawan**	**2.55**	**239**	⇓*iP*		**P**	**10 49 47.6**	**+2.0**
KCP				*i* S		**S**	**10 50 17.6**	**+1.8**
CGP	**Cagayan de Oro**	**2.58**	**273**	*eP*		**P**	**10 49 45.8**	**-0.1**
MSLP	**Maasin**	**3.00**	**307**	*eP*		**P**	**10 49 52.5**	**+0.6**
PLP	**Palo**	**3.63**	**321**	*eP*		**P**	**10 50 01.7**	**+0.8**
PLP				*e*S		**S**	**10 50 48.8**	**+5.7**
TBP	**Tagbilaran**	**3.65**	**292**	*eP*		**P**	**10 50 00.7**	**-0.5**
TBP				*e*S		**S**	**10 50 42.9**	**-0.8**
BESP	**Borongan**	**3.73**	**331**	*eP*		**P**	**10 50 08.0**	**+5.7**
BESP				*e*S		**S**	**10 51 00.6**	**+15**
OCLP	**Ormoc**	**3.79**	**316**	*eP*		**P**	**10 50 06.4**	**+3.3**
LLP	**Lapu-Lapu**	**3.83**	**301**	*eP*		**P**	**10 50 05.4**	**+1.6**
LLP				*e*S		**S**	**10 50 47.9**	**-0.5**
PAGZ	**Pagadian**	**3.91**	**263**	*eP*		**P**	**10 50 04.6**	**-0.2**
SNPH	**Sibulan**	**4.14**	**284**	*eP*		**P**	**10 50 04.5**	**-3.6**
GUIM	**Jordan**	**5.17**	**297**	*eP*		**P**	**10 50 20.5**	**-2.2**
PVCP	**Virac**	**6.08**	**330**	*eP*		**P**	**10 50 43.4**	**+8.0**
OTRP	**Odiongan**	**6.56**	**308**	*eP*		**P**	**10 50 43.1**	**+0.9**
WRA	**Warramunga Arr**	**28.94**	**166**	P		**P**	**10 55 04.9**	**+0.6**
	0.3nm,0.5s,mb3.3,baz=346,slow=9.4,SNR=6.9							
CMAR	**Chiang Mai Arr**	**29.32**	**293**	P		**P**	**10 55 05.1**	**-2.5**
	0.6nm,0.4s,mb3.7,baz=101,slow=7.3,SNR=6.1							
ASAR	**Alice Springs**	**32.45**	**169**	P		**P**	**10 55 38.2**	**+3.0**
	0.5nm,0.5s,mb3.6,baz=344,slow=7.3,SNR=9.2							
ASAJ	**Asahikawa**	**38.06**	**18**	LR		LR	11 11 06.9	
	comp=Z,90nm,18.4s,MS3.6,baz=346,slow=35							
SONM	**Songino Array**	**43.18**	**339**	P		**P**	**10 57 04.8**	**-0.3**
	0.9nm,0.9s,mb3.5,baz=154,slow=8.6,SNR=5.3							
JIRN	**Jiri**	**43.30**	**302**	*eP*		**P**	**10 57 04.8**	**-1.5**
	18nm,0.6s,mb5.0							
GUN	**Gumba**	**43.63**	**302**	*eP*		**P**	**10 57 07.7**	**-1.4**
	15nm,0.6s,mb4.9							
PKI	**Pulchoki**	**43.93**	**301**	*eP*		**P**	**10 57 09.7**	**-1.7**
KKN	**Kakani**	**44.10**	**302**	*eP*		**P**	**10 57 10.0**	**-2.8**
KOLN	**Koldanda**	**45.52**	**301**	*eP*		**P**	**10 57 22.4**	**-1.8**
BVAR	**Borovoye Array**	**63.83**	**326**	P		**P**	**10 59 35.9**	**-1.0**
	3.0nm,0.6s,mb4.5,baz=127,slow=7.4,SNR=16							
ARCES	**ARCESS Array B**	**86.35**	**340**	P		**P**	**11 01 46.2**	**+1.0**
	2.0nm,0.7s,mb4.4,baz=72,slow=5.7,SNR=3.8							
FINES	**FINESS Array B**	**88.07**	**332**	P		**P**	**11 01 53.9**	**+0.2**
	1.8nm,0.6s,mb4.5,baz=90,slow=3.8,SNR=8.6							
YKA	**Yellowknife Ar**	**95.10**	**24**	P		**P**	**11 02 29.8**	**+3.5**
	0.8nm,1.0s,mb4.1,baz=298,slow=4.5,SNR=8.0							

IDC ***13*** *11:00:27.6±1.1, 33.30N×48.36E, mb4.0/15, mb1 4.1/18, mb1mx4.1/23, mbtmp4.1/18, ML3.8/3, Error ellipse: s-maj=27.0km s-min=16.2km az=177.0*
TEH ***13*** *11:00:30.0, 33.23N×48.31E, Mn4.1*
CSEM ***13*** *11:00:30.4±0.1, 33.38N×48.34E, h18km, ML5.1/1, Error ellipse: s-maj=4.8km s-min=2.9km az=91.0*
MOS ***13*** *11:00:30.1±1.4, 33.21N×48.37E, h33km, mb4.7/5, Error ellipse: s-maj=18.4km s-min=9.4km az=99.2*
THR ***13*** *11:00:30.5±0.8, 33.41N×48.42E, h14km±8km, ML4.1*
ZUR_RM ***13*** *11:00:31, 33.19N×48.23E, h9km, Mw4.5/3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr1.75; Mθθ-2.81; Mφφ1.06; Mrθ3.07; Mφr-1.38; Mφr-3.61; Best double couple: M0=5.5×10^15^ NP1:φs=138°, δ79°, λ112°. NP2:φs=253°, δ24°, λ27°. Principal axes: T 5.287, Plg51°, Azm72°; N .418, Plg21°, Azm313°; P -5.705, Plg31°, Azm210°;*
NEIC ***13*** *11:00:32.0±0.5, 33.19N×48.23E, h35km, mb4.5/7 Error ellipse: s-maj=11.9km s-min=9.1km az=166.0*
ISC 13 11:00:28.3±0.8, 33.38N±0.03×48.27E±0.04, h10km±5km, n68, σ1§41/72, mb4.1/22, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.01**	**322**	Pg		**Pg**	**11 00 48.6**	**+0.1**
SHGR	**Shooshtar-Gavs**	**1.35**	**160**	*e*PG		**Pg**	**11 00 55.1**	**-0.1**
SHGR				*e*SG		**Sg**	**11 01 13.0**	**-0.3**
SHGR				AML		AML	11 01 18.1	
	comp=N,4μm,0.5s							
SHGR				AML		AML	11 01 18.7	
	comp=E,3μm,0.5s							
SHGR	**Shooshtar-Gavs**	**1.35**	**160**	*e*Pg		**Pg**	**11 00 55.2**	**-0.1**
	SNR=90							
SHGR				*e*Sg		**Sg**	**11 01 13.0**	**-0.3**
	comp=E,3μm,0.5s,SNR=90							
IVIS	**Veys**	**1.64**	**315**	Pn		**Pn**	**11 01 01.6**	**+4.2**
IGHG	**Ghaleghazi**	**1.70**	**304**	Pn		**Pn**	**11 01 02.4**	**+4.1**
SNGE	**Sanandaj**	**1.87**	**336**	*e*PG		**Pg**	**11 01 05.1**	**-0.5**
ASAO	**Ashtian**	**1.87**	**51**	*e*PG		**Pg**	**11 01 02.3**	**-3.3**
ASAO				AML		AML	11 01 40.1	
	comp=N,2μm,0.6s							
IDHR	**Dehrash**	**2.04**	**311**	Pn		**Pn**	**11 01 07.1**	**+3.9**
IRAZ	**Razeghan**	**2.44**	**34**	Pn		**Pn**	**11 01 13.5**	**+4.6**
IRAZ	**Razeghan**	**2.44**	**34**	Lg			11 01 49.3	
IQOM	**Qom**	**2.75**	**57**	Pn		**Pn**	**11 01 15.5**	**+2.2**
IBRJ	**Borojen**	**3.00**	**122**	Pn		**Pn**	**11 01 18.5**	**+1.6**
IMHD	**Mahdasht**	**3.03**	**40**	Pn		**Pn**	**11 01 20.0**	**+2.6**
BHD	**Baghdad**	**3.25**	**269**	*e*Pn		**Pn**	**11 01 17.5**	**-3.0**
BHD				*i* Lg			11 01 19.0	
BHD				*e*Sn		**Sn**	**11 02 02.5**	**+2.7**
BHD				*i* Sb		**Sb**	**11 02 15.5**	**+10**
DAMV	**Damavand**	**3.79**	**53**	*e*PN		**Pn**	**11 01 29.7**	**+1.5**
IDMV	**Damavand**	**3.80**	**54**	Pn		**Pn**	**11 01 30.0**	**+1.7**
UMR	**Umm Al-Rimmam**	**3.85**	**187**	*e*P		**Pn**	**11 01 29.7**	**+0.8**
NASN	**Na'in**	**3.86**	**97**	*e*PN		**Pn**	**11 01 29.9**	**+0.8**
RST	**Umm Al-Ruwaisa**	**4.02**	**196**	*e*P		**Pn**	**11 01 32.7**	**+1.3**
NAY	**Al-Naaiem**	**4.21**	**192**	*e*P		**Pn**	**11 01 35.4**	**+1.3**
NAY				*e*S		**Sn**	**11 02 25.8**	**+1.8**
IFIR	**Firoozkooh**	**4.34**	**57**	Pn		**Pn**	**11 01 37.3**	**+1.4**
GRMI	**Germi**	**5.42**	**357**	*e*PN		**Pn**	**11 01 53.3**	**+2.1**
ISRV	**Sarvestan**	**5.75**	**133**	Pn		**Pn**	**11 01 53.9**	**-2.0**
IMOK	**Mook**	**5.76**	**137**	Pn		**Pn**	**11 01 53.8**	**-2.2**
GNI	**Garni**	**7.32**	**338**	*e*P		**Pn**	**11 02 12.3**	**-5.7**
MALT	**Malatya**	**9.38**	**304**	*e*Pn		**P**	**11 02 35.2**	**-11**
MALT				*e*			11 03 29.2	
MALT				*e*			11 05 23.2	
GZT	**Gaziantep**	**9.59**	**297**	*i* P		**P**	**11 02 46.7**	**-2.8**
ASF	**Jabal al Asfar**	**9.65**	**266**	Pn		**P**	**11 02 49.0**	**-1.4**
	comp=N,1.1nm,0.3s,baz=24,slow=12,SNR=3.9							
ASF				Lg			11 05 51.5	
	comp=N,0.2nm,0.3s,baz=135,slow=20,SNR=3.0							
KIV	**Kislovodsk**	**11.42**	**339**	*eP*		**P**	**11 03 14.7**	**+0.2**
KIV				pmax		pmax		
	comp=Z,18nm,1.5s							
KIV	**Kislovodsk**	**11.42**	**339**	*eP*		**P**	**11 03 14.7**	**+0.1**
	comp=Z,18nm,1.5s							
EIL	**Elat**	**11.95**	**256**	Pn		**P**	**11 03 20.9**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=29,slow=10,SNR=3.0							
EIL				Lg			11 06 55.0	
	comp=Z,0.3nm,0.3s,baz=13,slow=18,SNR=1.9							
EIL	**Elat**	**11.95**	**256**	*eP*		**P**	**11 03 16.5**	**-5.3**
	comp=Z,6.3nm,0.7s							
EIL				Lg			11 06 55.0	
CSS	**Prodhromos**	**12.47**	**281**	P		**P**	**11 03 31.3**	**+2.5**
SIM	**Simferopol'**	**15.90**	**321**	P		**P**	**11 04 05.0**	**-8.8**
IDI	**Anoyia**	**19.39**	**282**	P		**P**	**11 04 57.4**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=92,slow=13,SNR=2.2							
AKASG	**Malin Array Be**	**22.24**	**327**	P		**P**	**11 05 28.6**	**+1.9**
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.8s							
AKASG	**Malin Array Be**	**22.24**	**327**	P		**P**	**11 05 28.6**	**+1.9**
	comp=Z,2.5nm,0.8s,mb3.7,baz=137,slow=9.7,SNR=6.4							
OBN	**Obninsk**	**23.22**	**343**	*eP**		**P**	**11 05 36.8**	**+0.6**
ARU	**Arti**	**24.12**	**14**	*eP**		**P**	**11 05 42.0**	**-2.9**
BRVK	**Borovoye**	**25.20**	**32**	*eP**		**P**	**11 05 55.2**	**-0.2**
BRVK				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.4							
BRVK	**Borovoye**	**25.20**	**32**	*eP**		**P**	**11 05 55.2**	**-0.2**
	comp=Z,9.7nm,0.8s,mb4.4							
BVAR	**Borovoye Array**	**25.22**	**32**	P		**P**	**11 05 55.8**	**+0.2**
	comp=Z,7.0nm,0.6s,mb4.4,baz=225,slow=8.4,SNR=55							
PSZ	**Piszkesteto**	**25.78**	**313**	P		**P**	**11 06 04.1**	**+3.2**
PSZ				pmax		pmax		
	comp=Z,14nm,1.0s,mb4.5							
PSZ	**Piszkesteto**	**25.78**	**313**	P		**P**	**11 06 04.1**	**+3.2**
	comp=Z,14nm,1.0s,mb4.5							
GERES	**GERESS Array B**	**29.97**	**311**	P		**P**	**11 06 38.3**	**-0.6**
	comp=Z,0.3nm,0.4s,mb3.4,baz=120,slow=7.9,SNR=3.9							
FINES	**FINESS Array B**	**31.51**	**340**	P		**P**	**11 06 51.6**	**-0.8**
	comp=Z,3.1nm,0.8s,mb4.2,baz=134,slow=10,SNR=5.5							
ZAL	**Zalesovo**	**32.95**	**40**	P		**P**	**11 07 04.5**	**-0.5**
	comp=Z,1.2nm,0.6s,mb4.0,baz=128,slow=7.8,SNR=9.4							
HFS	**Hagfors**	**35.02**	**330**	P		**P**	**11 07 22.1**	**-0.7**
	comp=Z,2.4nm,0.4s,mb4.5,baz=123,slow=8.2,SNR=14							
NOA	**NORSAR Array B**	**36.54**	**330**	P		**P**	**11 07 35.1**	**-0.6**
	comp=Z,0.6nm,0.8s,mb3.5,baz=104,slow=11,SNR=2.8							
ARCES	**ARCESS Array B**	**38.37**	**347**	P		**P**	**11 07 51.6**	**+0.6**
	comp=Z,2.1nm,0.9s,mb3.9,baz=141,slow=7.8,SNR=3.8							
PALK	**Palekele**	**39.70**	**124**	*eP*		**P**	**11 08 01.0**	**-1.6**
	comp=Z,1.1nm,1.0s,mb4.5							
EKA	**Eskdalemuir Ar**	**41.62**	**318**	P		**P**	**11 08 18.6**	**+0.7**
	comp=Z,2.0nm,0.9s,mb3.8,baz=105,slow=8.1,SNR=3.9							
SONM	**Songino Array**	**45.38**	**53**	P		**P**	**11 08 48.3**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.3,baz=282,slow=13,SNR=4.4							
ULN	**Ulaanbaatar**	**45.83**	**53**	*eP*		**P**	**11 08 51.9**	**-0.2**
ULN				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.3							
ULN	**Ulaanbaatar**	**45.83**	**53**	*eP*		**P**	**11 08 51.9**	**-0.2**
	comp=Z,3.8nm,0.9s,mb4.3							
CMAR	**Chiang Mai Arr**	**47.50**	**95**	P		**P**	**11 09 03.7**	**-2.0**
	comp=Z,2.0nm,0.7s,mb4.2,baz=290,slow=8.2,SNR=12							
LSZ	**Lusaka**	**52.04**	**205**	P		**P**	**11 09 36.4**	**-4.2**
LSZ				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
LSZ	**Lusaka**	**52.04**	**205**	P		**P**	**11 09 36.4**	**-4.1**
	comp=Z,2.5nm,0.9s,mb4.1							
DBIC	**Dimbokro**	**55.81**	**254**	P		**P**	**11 10 07.7**	**-0.6**
	comp=Z,2.0nm,0.6s,mb4.3,baz=42,slow=7.1,SNR=4.4							
SUMG	**Summit**	**57.55**	**339**	P		**P**	**11 10 19.2**	**-0.7**
	comp=Z,6.0nm,0.9s,mb4.6							
MA2	**Magadan**	**67.71**	**32**	P		**P**	**11 11 17.3**	**-10**
MA2				pmax		pmax		
	comp=Z,11nm,0.9s,mb4.9							
MA2	**Magadan**	**67.71**	**32**	P		**P**	**11 11 17.3**	**-10**
	comp=Z,11nm,0.9s,mb4.9							
BILL	**Bilibino**	**68.92**	**21**	P		**P**	**11 11 34.0**	**-1.0**
BILL	**Bilibino**	**68.92**	**21**	P		**P**	**11 11 34.0**	**-1.0**
FRB	**Frobisher Bay**	**71.18**	**335**	P		**P**	**11 11 48.1**	**-0.7**
	comp=Z,2.1nm,0.3s,mb4.5,baz=53,slow=5.8,SNR=12							
SCHQ	**Schefferville**	**76.03**	**327**	P		**P**	**11 12 16.2**	**-1.0**
	comp=Z,2.4nm,1.0s,mb4.1,baz=18,slow=16,SNR=4.1							
YKA	**Yellowknife Ar**	**83.47**	**352**	P		**P**	**11 12 55.5**	**-1.4**
	comp=Z,0.2nm,0.4s,mb3.5,baz=5.3,slow=5.5,SNR=5.6							
BRNJ	**Basking Ridge**	**89.39**	**320**	*eP*		**P**	**11 13 23.2**	**-3.3**

ATH ***13*** *11:00:46.7, 39.25N×27.86E, h10km, MD4.1/14, ML4.3*
SOF ***13*** *11:00:47.9, 39.32N×27.76E, h8km, MD3.9*
CSEM ***13*** *11:00:47.0±0.0, 39.23N×27.82E, h2km, MD3.9, Error ellipse: s-maj=1.1km s-min=1.0km az=91.0*
MOS ***13*** *11:00:47.1±1.1, 39.26N×27.89E, h10km, mb4.1/1, Error ellipse: s-maj=7.9km s-min=5.5km az=133.4*
IDC ***13*** *11:00:47.5±1.3, 39.21N×27.57E, mb3.3/1, mb1 3.9/5, mb1mx3.6/20, mbtmp3.6/5, ML3.7/4, MS3.7/1, Ms1 3.7/1, ms1mx3.0/12, Error ellipse: s-maj=18.2km s-min=14.5km az=104.0*
ISK ***13*** *11:00:47.8, 39.19N×27.72E, h13km, MD3.9, ML4.2*
NEIC ***13*** *11:00:48.9±0.4, 39.12N×27.73E, h10km, mb3.8/1, ML4.3(ATH), ML4.1(THE), Error ellipse: s-maj=5.2km s-min=4.2km az=59.0*
THE ***13*** *11:00:51.6, 39.22N×27.68E, h16km, ML4.2*
ISC 13 11:00:47.7±0.5, 39.19N±0.01×27.74E±0.02, h9km±3km, n141, σ1§05/168, mb3.6/2, MS3.6/2, 8C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.31**	**169**	*i* PG		**Pg**	**11 00 54.5**	**+0.3**
BALB	**Balikesir**	**0.47**	**14**	*i* PG		**Pg**	**11 00 57.5**	**+0.3**
BALB				*i* SG		**Sg**	**11 01 05.0**	**+1.5**
BTOK	**Tokmak**	**0.62**	**22**	*i* P		**Pg**	**11 00 60.0**	**-0.2**
BTOK				*i* S		**Sg**	**11 01 09.1**	**+0.6**
AYVA	**Ayvalik**	**0.82**	**279**	*i* P		**Pb**	**11 01 05.0**	**+1.3**
AYVA				*i* S		**Sb**	**11 01 16.8**	**+2.2**
KDAG	**Bornova**	**0.86**	**205**	*i* P		**Pb**	**11 01 04.8**	**+0.4**
KDAG				*i* S		**Sb**	**11 01 18.1**	**+2.2**
IZM	**Izmir**	**0.87**	**205**	*i* PG		**Pg**	**11 01 04.9**	**-0.3**
MANT	**Manisa**	**0.95**	**137**	*i* P		**Pb**	**11 01 05.9**	**0.0**
MANT				*i* S		**Sb**	**11 01 18.4**	**+0.1**
BLCB	**Balcova**	**0.97**	**214**	*i* PG		**Pg**	**11 01 06.9**	**-0.2**
BLCB				*i* SG		**Sg**	**11 01 19.9**	**-0.1**
PRK	**Paraskevi**	**1.14**	**273**	⇓*i*PB		**Pb**	**11 01 10.8**	**+1.6**
PRK				*e*SB		**Sb**	**11 01 27.4**	**+3.5**
EDC	**Edincik**	**1.16**	**5**	PN		**Pn**	**11 01 10.7**	**+0.5**
EDC				SN		**Sn**	**11 01 26.2**	**0.0**
BNT	**Bandirma**	**1.18**	**7**	PN		**Pn**	**11 01 10.3**	**-0.1**
KCT	**Karacabey**	**1.18**	**24**	PN		**Pn**	**11 01 10.3**	**-0.1**
ORLT	**Orhaneli**	**1.24**	**46**	PN		**Pn**	**11 01 11.8**	**+0.5**
EZN	**Ezine**	**1.26**	**301**	PN		**Pn**	**11 01 12.2**	**+0.6**
LPK	**Lapseki**	**1.40**	**328**	PN		**Pn**	**11 01 14.1**	**+0.5**
MRMT	**Marmara Adasi**	**1.42**	**356**	PN		**Pn**	**11 01 14.6**	**+0.8**
ULDT	**Uludag**	**1.44**	**48**	*i* P		**Pn**	**11 01 14.6**	**+0.5**
ULDT				*i* S		**Sb**	**11 01 34.2**	**+1.5**
BOZC	**Bozcaada**	**1.46**	**297**	*i* P		**Pn**	**11 01 15.1**	**+0.7**
BOZC				*i* S		**Sb**	**11 01 27.2**	**-5.9**
AYDN	**Tasoluk**	**1.53**	**176**	*i* P		**Pn**	**11 01 15.1**	**-0.3**
AYDN				*i* S		**Sb**	**11 01 35.8**	**+0.7**
SART	**Tekirdag**	**1.56**	**344**	*i* P		**Pn**	**11 01 16.8**	**+1.0**
SART				*i* S		**Sb**	**11 01 37.7**	**+1.6**
ARMT	**Armutlu**	**1.63**	**32**	PN		**Pn**	**11 01 16.5**	**-0.3**
MFT	**Murefte**	**1.64**	**348**	PN		**Pn**	**11 01 16.5**	**-0.4**
SMG	**Samos**	**1.64**	**206**	*e*PG		**Pg**	**11 01 18.8**	**-1.6**
SMG				*e*SN		**Sn**	**11 01 42.8**	**+4.6**
KHL	**Karahalli**	**1.64**	**121**	PN		**Pn**	**11 01 17.7**	**+0.7**
DENT	**Denizli**	**1.76**	**144**	PN		**Pn**	**11 01 19.4**	**+0.8**
DNZL	**Cakiroluk**	**1.81**	**145**	*i* P		**Pn**	**11 01 19.4**	**-0.1**
DNZL				*i* S		**Sn**	**11 01 47.1**	**+4.3**
ALT	**Altintas**	**1.85**	**93**	PN		**Pn**	**11 01 20.4**	**+0.4**
YLV	**Yalova**	**1.87**	**42**	PN		**Pn**	**11 01 19.9**	**-0.3**
MLSB	**Milas**	**1.89**	**179**	*e*PN		**Pn**	**11 01 21.0**	**+0.5**
BADT	**Buyukada**	**1.97**	**32**	PN		**Pn**	**11 01 21.4**	**-0.3**
CTT	**Catalca**	**2.03**	**15**	PN		**Pn**	**11 01 22.8**	**+0.2**
LIA	**Limnos Island**	**2.10**	**291**	*e*PB		**Pb**	**11 01 24.1**	**-1.5**
BDRM	**Kayabasi**	**2.13**	**186**	*i* P	

BRTR			Pg		Pg	11 02 14.8	-4.8
	4.1nm,0.3s,baz=249,slow=16,SNR=3.5						
BRTR			Sn		Sn	11 02 51.0	-2.5
	6.8nm,0.3s,baz=291,slow=20,SNR=2.2						
BRTR			Lg			11 03 17.0	
	6.9nm,0.3s,baz=259,slow=24,SNR=3.9						
BRTR	**Keskin Array B**	**4.60**	**81**	Pn	**Pn**	**11 01 59.4**	**+0.2**
BRTR				Pg	**Pg**	**11 02 14.8**	**-4.8**
BRTR				Sn	**Sn**	**11 02 51.0**	**-2.5**
BRTR				Lg		11 03 17.0	
BRTR	**Keskin Array B**	**4.60**	**81**	Pg	**Pg**	**11 02 14.8**	**-4.8**
BRTR				S	**Sn**	**11 02 51.0**	**-2.4**
EVR	**Evrytania**	**4.62**	**269**	*e*PB	**Pb**	**11 02 05.3**	**-3.4**
KAMT	**Kaman**	**4.64**	**86**	*e*PN	**Pn**	**11 01 59.9**	**+0.1**
VAM	**Vamos**	**4.71**	**218**	*e*PB	**Pb**	**11 02 08.0**	**-2.2**
VTS	**Vitosha**	**4.83**	**316**	⇑P	**Pn**	**11 02 02.8**	**+0.4**
VTS	**Vitosha**	**4.83**	**316**	*i* P	**Pn**	**11 02 02.5**	**+0.1**
VTS	**Vitosha**	**4.83**	**316**	P	**Pn**	**11 02 02.8**	**+0.4**
FNA	**Florina**	**5.14**	**290**	*e*Pn	**Pn**	**11 02 07.5**	**+0.8**
TOS	**Tosya**	**5.16**	**67**	*e*PN	**Pn**	**11 02 07.4**	**+0.3**
GVD	**Gavdhos**	**5.23**	**215**	*e*Pn	**Pn**	**11 02 07.2**	**-0.8**
GVD	**Gavdhos**	**5.23**	**215**	*e*Pn	**Pn**	**11 02 07.2**	**-0.8**
NIG	**Nigde**	**5.49**	**99**	*e*PN	**Pn**	**11 02 12.3**	**+0.6**
HARR	**Harsova**	**5.50**	**1**	⇑*i*P	**Pn**	**11 02 11.0**	**-0.9**
SKO	**Skopje**	**5.54**	**302**	*i* Pn	**Pn**	**11 02 12.5**	**+0.1**
IKL	**Isikli**	**5.56**	**120**	*e*PN	**Pn**	**11 02 13.7**	**+1.0**
MEST	**Erdemli**	**5.70**	**115**	*i* P	**Pn**	**11 02 17.0**	**+2.4**
BARS	**Barje**	**5.76**	**311**	⇓*i*P	**Pn**	**11 02 15.3**	**-0.2**
ISR	**Istrita**	**5.99**	**352**	⇑P	**Pn**	**11 02 24.7**	**+5.8**
ISR	**Istrita**	**5.99**	**352**	⇓*i*P	**Pn**	**11 02 18.1**	**-0.7**
CFR	**Carcaliu**	**6.00**	**3**	⇑*i*P	**Pn**	**11 02 17.2**	**-1.6**
CSS	**Prodhromos**	**6.15**	**132**	*e*Pn	**Pn**	**11 02 17.8**	**-3.2**
CSS	**Prodhromos**	**6.15**	**132**	*e*Pn	**Pn**	**11 02 17.8**	**-3.2**
BOLS	**Boljevac**	**6.35**	**319**	⇑*i*P	**Pn**	**11 02 23.1**	**-0.8**
MLR	**Muntele Rosu**	**6.44**	**349**	Pn	**Pn**	**11 02 25.0**	**-0.1**
	1.1nm,0.3s,baz=166,slow=6.4,SNR=15						
MLR			Sn		**Sn**	**11 03 36.9**	**-2.7**
	1.5nm,0.3s,baz=264,slow=17,SNR=2.6						
MLR			Lg			11 04 19.2	
	0.2nm,0.3s,baz=48,slow=15,SNR=3.4						
MLR	**Muntele Rosu**	**6.44**	**349**	⇑*i*P	**Pn**	**11 02 25.2**	**+0.1**
MLR	**Muntele Rosu**	**6.44**	**349**	⇑*i*P	**Pn**	**11 02 25.2**	**+0.1**
VRI	**Vrincioaia**	**6.72**	**354**	⇓*i*P	**Pn**	**11 02 28.8**	**-0.2**
KIS	**Kishinev**	**7.85**	**5**	*e*P	**Pn**	**11 02 46.0**	**+1.1**
KIS				*e*S	**Sn**	**11 04 14.0**	**-0.8**
TIP	**Timpagrande**	**8.53**	**273**	*e*P	**P**	**11 02 53.7**	**-0.6**
TIP	**Timpagrande**	**8.53**	**273**	*e*P	**P**	**11 02 53.7**	**-0.6**
PKSM	**Moragy**	**9.70**	**319**	⇑*e*P	**P**	**11 03 08.4**	**-2.0**
PKSM	**Moragy**	**9.70**	**319**	*e*P	**P**	**11 03 08.4**	**-2.0**
SOC	**Sochi**	**10.02**	**60**	*e*P	**P**	**11 03 09.3**	**-5.6**
SOC				*e*		11 05 02.6	
SOC				pmax	pmax		
	comp=Z,12nm,0.7s						
SOC				pmax	pmax		
	comp=N,3.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.5s						
SOC				smax			
	comp=N,18nm,0.9s						
CII	**Carovilli**	**10.54**	**288**	Pn	**P**	**11 03 19.4**	**-2.7**
	comp=N,27nm,0.6s						
EIL	**Elat**	**11.20**	**146**	P	**P**	**11 03 29.5**	**-1.7**
	comp=N,11nm,0.9s						
KIV	**Kislovodsk**	**12.17**	**62**	*e*P	**P**	**11 03 40.1**	**-4.0**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GNI	**Garni**	**13.14**	**80**	*i* P	**P**	**11 03 55.2**	**-2.0**
GERES	**GERESS Array B**	**13.95**	**318**	Pn	**P**	**11 04 04.0**	**-3.7**
	comp=Z,0.2nm,0.3s,baz=113,slow=13,SNR=3.5						
KHC	**Kasperske Hory**	**14.19**	**319**	*e*P	**P**	**11 04 04.2**	**-6.7**
MBDF	**Montbardon**	**16.53**	**296**	*e*P	**P**	**11 04 48.0**	**+6.7**
	comp=Z,15nm,1.0s						
MBDF	**Montbardon**	**16.53**	**296**	*e*P	**P**	**11 04 48.0**	**+6.7**
MBDF				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LPG	**La Plagne**	**16.73**	**299**	*e*P	**P**	**11 04 45.7**	**+2.0**
LPL	**La Plagne**	**16.74**	**299**	*e*P	**P**	**11 04 46.0**	**+2.1**
OBN	**Obninsk**	**17.00**	**18**	*e*P	**P**	**11 04 43.8**	**-3.4**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,200nm,20.0s						
SMF	**Signal de Mont**	**18.98**	**301**	*e*P	**P**	**11 05 10.5**	**-1.1**
AVF	**Avril sur Loir**	**19.34**	**301**	*e*P	**P**	**11 05 14.5**	**-1.4**
ARCES	**ARCESS Array B**	**30.43**	**358**	LR	LR	11 19 08.5	
	comp=Z,128nm,19.6s,MS3.6,baz=24,slow=36						
AAK	**Ala-Archa**	**35.16**	**69**	*e*P	**P**	**11 07 39.4**	**-4.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
AAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.7						
NVS	**Novosibirsk**	**39.83**	**48**	*e*P	**P**	**11 08 28.7**	**+5.9**
YKA	**Yellowknife Ar**	**74.24**	**343**	P	**P**	**11 12 24.2**	**-2.0**
	comp=Z,0.3nm,1.1s,mb3.1,baz=18,slow=5.9,SNR=3.9						

IDC 13 11:18:56.3±1.5, 13.23N×92.85E, mb3.6/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=51.2km s-min=29.8km az=42.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.57**	**184**	*e*P	Pn	11 19 34.7	+9.1
PBA				*e*S	Sb	11 19 58.4	+12
PBA				*e*		11 20 02.2	
	comp=N,628nm,0.4s						
PBA				*e*		11 20 02.9	
	comp=E,604nm,0.5s						
CMAR	**Chiang Mai Arr**	**7.84**	**48**	Pn	Pn	11 20 51.5	-2.8
	comp=E,0.2nm,0.3s,baz=242,slow=15,SNR=4.2						
WRA	**Warramunga Arr**	**52.48**	**128**	P	P	11 28 10.9	-2.6
	comp=E,0.4nm,0.6s,baz=306,slow=8.3,SNR=5.7						
ASAR	**Alice Springs**	**54.37**	**132**	P	P	11 28 25.6	-1.9
	comp=E,0.4nm,0.8s,baz=317,slow=6.3,SNR=3.8						
BRTR	**Keskin Array B**	**58.05**	**309**	P	P	11 28 51.5	-2.1
	comp=E,1.1nm,0.9s,baz=90,slow=7.4,SNR=4.0						

*MAN **13** 11:28:03.8, 8.38N×127.55E, h1km, mb4.8, ML3.7, MS3.7*
*IDC **13** 11:28:07.7±0.7, 8.23N×126.73E, mb4.1/12, mb1 4.2/12, mb1mx4.1/19, mbtmp4.1/12, MS3.6/1, Ms1 3.6/1, ms1mx2.5/26, Error ellipse: s-maj=41.2km s-min=15.9km az=69.0*
*NEIC **13** 11:28:09.3±0.5, 8.36N×126.92E, h10km, mb4.5/9, Error ellipse: s-maj=16.3km s-min=9.6km az=67.0*
ISC 13 11:28:05.1±0.5, 8.37N±0.04×127.37E±0.04, h1km, n48, σ1§39/57, mb4.4/23, 1C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.02**	**260**	⇓*i*P	**Pb**	**11 28 23.6**	**-1.6**
BIPH				*i* S	**Sb**	**11 28 32.4**	**-6.6**
MATI	**Mati**	**1.79**	**218**	*e*P	**Pn**	**11 28 37.6**	**+0.1**
MATI				*e*S	**Sn**	**11 28 58.6**	**-2.6**
BUTP	**Butuan**	**1.83**	**289**	*e*P	**Pn**	**11 28 39.2**	**+1.2**
BUTP				*e*S	**Sn**	**11 29 04.5**	**+2.4**
SCPH	**Surigao**	**2.33**	**307**	⇓*e*P	**Pn**	**11 28 46.4**	**+1.2**
SCPH				*e*S	**Sn**	**11 29 15.1**	**+0.3**
BUKP	**Musuan**	**2.34**	**258**	*e*P	**Pn**	**11 28 46.4**	**+1.1**
BUKP				*e*S	**Sn**	**11 29 14.9**	**-0.2**
KCP	**Kidapawan**	**2.63**	**239**	⇓*i*P	**Pn**	**11 28 50.9**	**+1.4**
CGP	**Cagayan de Oro**	**2.65**	**272**	*e*P	**Pn**	**11 28 50.9**	**+1.1**
CGP				*e*S	**Sn**	**11 29 23.6**	**+0.6**
MSLP	**Maasin**	**3.04**	**305**	*e*P	**Pn**	**11 28 57.6**	**+2.3**
PLP	**Palo**	**3.65**	**320**	*e*P	**Pn**	**11 29 03.4**	**-0.5**
PLP				*e*S	**Sn**	**11 29 53.2**	**+5.0**
TBP	**Tagbilaran**	**3.71**	**291**	*e*P	**Pn**	**11 29 04.5**	**-0.3**
TBP				*e*S	**Sn**	**11 29 48.9**	**-0.9**
BESP	**Borongan**	**3.74**	**329**	*e*P	**Pn**	**11 29 15.8**	**+11**
BESP				*e*S	**Sn**	**11 30 06.3**	**+16**
OCLP	**Ormoc**	**3.81**	**315**	*e*P	**Pn**	**11 29 13.6**	**+7.4**
LLP	**Lapu-Lapu**	**3.88**	**300**	*e*P	**Pn**	**11 29 08.2**	**+1.0**
LLP				*e*S	**Sn**	**11 29 52.6**	**-1.5**
DCPH	**Dipolog City**	**3.98**	**273**	⇑*e*P	**Pn**	**11 29 08.7**	**0.0**
PAGZ	**Pagadian**	**3.99**	**263**	*e*P	**Pn**	**11 29 11.7**	**+3.1**
GUIM	**Jordan**	**5.23**	**296**	*e*P	**Pn**	**11 29 27.5**	**+1.2**
TGY	**Tagaytay City**	**8.50**	**313**	LR	LR	11 32 59.2	
	comp=Z,460nm,21.3s,baz=354,slow=36						
GUMO	**Guam**	**17.94**	**72**	P	**P**	**11 32 23.2**	**+5.5**
QIZ	**Qiongzhong**	**20.04**	**304**	P	**P**	**11 32 37.0**	**-5.6**
	225nm,1.8s						
WRAB	**Tennant Creek**	**28.95**	**166**	*e*P	**P**	**11 34 12.6**	**+4.3**
	3.9nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**28.95**	**166**	P	**P**	**11 34 07.3**	**-1.0**
	0.5nm,0.8s,mb3.4,baz=344,slow=9.7,SNR=4.0						
CMAR	**Chiang Mai Arr**	**29.37**	**293**	P	**P**	**11 34 09.0**	**-3.2**
	0.6nm,0.5s,mb3.7,baz=110,slow=5.8,SNR=5.1						
MBWA	**Marble Bar**	**30.29**	**194**	P	**P**	**11 34 19.3**	**-1.0**
	6.2nm,0.9s,mb4.4						
ASAR	**Alice Springs**	**32.47**	**169**	P	**P**	**11 34 41.4**	**+1.9**
	0.6nm,0.4s,mb3.9,baz=347,slow=6.9,SNR=19						
ASAR				PcP	PcP	11 37 27.4	+0.6
	0.5nm,0.7s,baz=344,slow=2.2,SNR=5.1						
BJT	**Baijiatuan**	**33.07**	**344**	P	**P**	**11 34 42.4**	**-2.1**
	8.4nm,1.0s,mb4.6						
CTAO	**Charters Tower**	**33.84**	**147**	P	**P**	**11 34 53.5**	**+2.2**
	4.2nm,0.9s,mb4.4						
HIA	**Hailar**	**41.26**	**352**	P	**P**	**11 35 54.6**	**+1.2**
STKA	**Stephens Creek**	**42.26**	**162**	P	**P**	**11 36 04.1**	**+2.2**
	5.3nm,1.2s,mb4.2,baz=337,slow=13,SNR=3.7						
ULN	**Ulaanbaatar**	**42.97**	**340**	*e*P	**P**	**11 36 08.4**	**+0.9**
	3.4nm,0.6s,mb4.2						
SONM	**Songino Array**	**43.17**	**339**	P	**P**	**11 36 09.8**	**+0.7**
	0.7nm,0.5s,mb3.6,baz=159,slow=9.8,SNR=8.2						
JIRN	**Jiri**	**43.34**	**302**	*e*P	**P**	**11 36 09.8**	**-1.0**
	24nm,0.7s,mb5.0						
GUN	**Gumba**	**43.68**	**302**	*e*P	**P**	**11 36 12.3**	**-1.2**
	17nm,0.6s,mb4.9						
PKI	**Pulchoki**	**43.97**	**301**	*e*P	**P**	**11 36 13.8**	**-2.1**
KKN	**Kakani**	**44.15**	**301**	*e*P	**P**	**11 36 15.8**	**-1.5**
KOLN	**Koldanda**	**45.56**	**301**	*e*P	**P**	**11 36 27.1**	**-1.6**
	17nm,0.7s,mb5.2						
ZAL	**Zalesovo**	**56.81**	**331**	P	**P**	**11 37 52.5**	**-0.8**
	0.8nm,0.6s,mb3.9,baz=259,slow=7.9,SNR=5.3						
DGAR	**Diego Garcia**	**56.95**	**256**	P	**P**	**11 37 53.8**	**-1.1**
BVAR	**Borovoye Array**	**63.84**	**326**	P	**P**	**11 38 40.4**	**-0.9**
	5.9nm,0.8s,mb4.9,baz=127,slow=7.4,SNR=24						
BRVK	**Borovoye**	**63.91**	**326**	*e*P	**P**	**11 38 40.7**	**-1.2**
	7.8nm,0.8s,mb5.0						
BRVK				*e*		11 38 53.5	
CHKZ	**Chkalovo**	**63.97**	**326**	*e*P	**P**	**11 38 40.1**	**-2.1**
	5.1nm,1.0s,mb4.7						
ILAR	**Eielson Array**	**80.67**	**26**	P	**P**	**11 40 24.8**	**+3.8**
	0.8nm,0.7s,mb3.9,baz=262,slow=6.1,SNR=7.3						
ARCES	**ARCESS Array B**	**86.34**	**340**	P	**P**	**11 40 50.7**	**+0.9**
	2.7nm,0.8s,mb4.4,baz=51,slow=7.8,SNR=5.3						
ARCES	**ARCESS Array B**	**86.34**	**340**	P	**P**	**11 40 50.7**	**+0.9**
FINES	**FINESS Array B**	**88.07**	**332**	P	**P**	**11 40 58.4**	**+0.1**
	3.6nm,0.8s,mb4.8,baz=86,slow=4.1,SNR=13						
FINES	**FINESS Array B**	**88.07**	**332**	P	**P**	**11 40 58.4**	**+0.1**
AKASG	**Malin Array Be**	**88.72**	**321**	P	**P**	**11 41 00.7**	**-0.9**
	1.3nm,0.7s,mb4.3,baz=48,slow=3.9,SNR=5.7						
RES	**Resolute Bay**	**93.17**	**10**	*e*P	**P**	**11 41 27.8**	**+6.1**
	1.2nm,0.5s,mb4.6						
YKA	**Yellowknife Ar**	**95.04**	**24**	P	**P**	**11 41 34.4**	**+3.8**
	1.6nm,1.0s,mb4.4,baz=300,slow=4.4,SNR=14						

*BJI **13** 11:31:43.6, 3.80N×94.40E, h30km, mb4.5*
*IDC **13** 11:31:45.6±0.8, 3.72N×94.31E, h28km±4km, mb3.9/9, mb1 4.1/10, mb1mx4.0/19, mbtmp4.1/10, ML4.2/1, MS2.8/1, Ms1 3.0/1, ms1mx2.9/18, Error ellipse: s-maj=31.0km s-min=16.6km az=48.0*
*NEIC **13** 11:31:45.6±0.6, 3.77N×94.38E, h30km, mb4.8/8, Error ellipse: s-maj=20.8km s-min=8.8km az=58.0*
ISC 13 11:31:43.4±0.6, 3.71N±0.09×94.3E±0.1, h29km, h29km±.7km:pP-P, n35, σ1§19/32, mb4.5/23, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.34**	**17**	Pn	**P**	**11 35 18.8**	**-1.0**
	0.4nm,0.3s,baz=212,slow=12,SNR=18						
CMAR				LR	LR	11 41 43.8	
	comp=Z,41nm,21.7s,baz=104,slow=39						
CMAR	**Chiang Mai Arr**	**15.34**	**17**	Pn	**P**	**11 35 18.8**	**-1.0**
CMAR				LR	LR	11 41 43.8	
CHG	**Chiang Mai**	**15.68**	**16**	P	**P**	**11 35 26.1**	**+1.9**
HYB	**Hyderabad**	**20.61**	**313**	*i* P	**P**	**11 36 33.5**	**+10**
JIRN	**Jiri**	**25.05**	**343**	*e*P	**P**	**11 37 16.1**	**+9.1**
	22nm,0.7s,mb4.8						
PKI	**Pulchoki**	**25.21**	**341**	*e*P	**P**	**11 37 14.8**	**+6.3**
	14nm,0.7s,mb4.6						
GUN	**Gumba**	**25.38**	**342**	*e*P	**P**	**11 37 18.8**	**+8.7**
	38nm,0.8s,mb5.0						
KKN	**Kakani**	**25.46**	**341**	*e*P	**P**	**11 37 18.1**	**+7.3**
	37nm,0.8s,mb5.0						
GKN	**Gorkha**	**25.87**	**340**	*e*P	**P**	**11 37 21.4**	**+6.8**
	46nm,0.9s,mb5.0						
KOLN	**Koldanda**	**26.03**	**338**	*e*P	**P**	**11 37 22.9**	**+6.8**
LSA	**Lhasa**	**26.03**	**354**	P	**P**	**11 37 17.0**	**+1.0**
LSA	**Lhasa**	**26.03**	**354**	*e*P	**P**	**11 37 17.9**	**+1.9**
	31nm,0.7s,mb4.9						
LSA				*e*	pP	11 37 26.4	+1.8
XAN	**Xi'an**	**33.10**	**23**	P	**P**	**11 38 16.8**	**-2.3**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.5						
BJT	**Baijiatuan**	**41.19**	**26**	P	**P**	**11 39 33.7**	**+6.5**
	comp=Z,20nm,0.9s,mb4.7						
AAK	**Ala-Archa**	**42.60**	**338**	P	**P**	**11 39 41.6**	**+2.9**
	comp=Z,12nm,1.1s,mb4.6						
SONM	**Songino Array**	**45.17**	**11**	P	**P**	**11 40 00.1**	**+0.6**
	comp=Z,0.7nm,0.8s,mb3.6,baz=188,slow=8.7,SNR=5.3						
SONM				pP	pP	11 40 07.6	-0.7
	comp=Z,1.2nm,0.6s,baz=188,slow=8.9,SNR=8.2						
SONM				PcP	PcP	11 41 40.3	+0.4
	comp=Z,0.8nm,0.9s,baz=206,slow=3.0,SNR=2.9						
WRA	**Warramunga Arr**	**45.79**	**122**	P	**P**	**11 40 05.0**	**+0.2**
	comp=Z,6.7nm,0.6s,mb4.7,baz=300,slow=9.0,SNR=45						
WRAB	**Tennant Creek**	**45.79**	**122**	*e*P	**P**	**11 40 04.6**	**-0.2**
	comp=Z,14nm,0.8s,mb4.9						
WB2	**Warramunga Arr**	**45.80**	**122**	⇓*i*P	**P**	**11 40 05.0**	**+0.2**
ASPA	**Alice Springs**	**47.18**	**127**	*e*P	**P**	**11 40 15.9**	**+0.2**
ASAR	**Alice Springs**	**47.19**	**127**	P	**P**	**11 40 15.9**	**+0.2**
	comp=Z,3.5nm,0.6s,mb4.5,baz=295,slow=7.8,SNR=39						
HIA	**Hailar**	**50.28**	**21**	P	**P**	**11 40 36.9**	**-2.4**
	comp=Z,5.4nm,0.7s,mb4.7						
ZAL	**Zalesovo**	**50.68**	**353**	P	**P**	**11 40 42.6**	**+0.4**
	comp=Z,1.0nm,0.3s,mb4.2,baz=93,slow=3.1,SNR=4.0						
ZAL				pP	pP	11 40 51.6	+0.3
	comp=Z,2.8nm,0.6s,baz=217,slow=7.8,SNR=7.0						
BVAR	**Borovoye Array**	**52.98**	**342**	P	**P**	**11 40 59.1**	**-0.5**
	comp=Z,1.1nm,0.8s,mb3.9,baz=158,slow=8.0,SNR=3.6						
BVAR				pP	pP	11 41 07.9	-0.7
	comp=Z,5.3nm,0.8s,baz=149,slow=8.6,SNR=18						
BRVK	**Borovoye**	**53.04**	**342**	*e*P	**P**	**11 40 58.6**	**-1.5**
	comp=Z,10nm,1.1s,mb4.7						
CHKZ	**Chkalovo**	**53.47**	**343**	*e*P	**P**	**11 41 02.0**	**-1.3**
	comp=Z,19nm,1.1s,mb4.9						
CHKZ				*e*	pP	11 41 11.7	-0.6
CTAO	**Charters Tower**	**56.19**	**117**	P	**P**	**11 41 18.6**	**-4.9**
STKA	**Stephens Creek**	**57.15**	**132**	P	**P**	**11 41 30.3**	**0.0**
	comp=Z,1.1nm,0.7s,mb4.0,baz=306,slow=14,SNR=3.2						
KMBO	**Kilima Mbogo**	**57.24**	**266**	P	**P**	**11 41 25.3**	**-5.9**
	comp=Z,2.3nm,0.9s,mb4.2						
BRTR	**Keskin Array B**	**65.31**	**312**	P	**P**	**11 42 24.2**	**-1.1**
	comp=Z,1.3nm,0.9s,mb4.0,baz=135,slow=8.7,SNR=5.0						
BRTR				pP	pP	11 42 33.6	-0.8
	comp=Z,4.9nm,1.2s,baz=135,slow=7.0,SNR=5.7						
IDI	**Anoyia**	**71.12**	**306**	P	**P**	**11 43 01.6**	**+0.1**
	comp=Z,4.4nm,0.9s,mb4.4,baz=73,slow=14,SNR=2.1						
IDI				pP	pP	11 43 11.3	+0.6
	comp=Z,7.2nm,0.6s,baz=90,slow=7.9,SNR=4.3						
MLR	**Muntele Rosu**	**72.29**	**317**	pP	pP	11 43 18.2	+0.7
	comp=Z,2.5nm,0.7s,baz=151,slow=10,SNR=3.9						
ARCES	**ARCESS Array B**	**79.23**	**340**	pP	pP	11 43 57.9	+1.5
	comp=Z,2.0nm,0.8s,baz=90,slow=8.1,SNR=2.0						
GERES	**GERESS Array B**	**81.05**	**319**	P	**P**	**11 43 58.3**	**+1.0**
	comp=Z,0.3nm,0.5s,mb3.5,baz=100,slow=8.1,SNR=5.8						
GERES				pP	pP	11 44 07.6	+1.0
	comp=Z,1.9nm,0.8s,baz=90,slow=2.7,SNR=7.5						
NVAR	**Mina Array Bea**	**128.34**	**33**	PKP	PKPdf	11 50 51.3	-1.7
	comp=Z,0.4nm,0.8s,baz=270,slow=4.4,SNR=3.9						

IDC 13 11:52:14.0±4.8, 12.97N×91.95E, mb3.8/2, mb1 4.0/3, mb1mx3.6/18, mbtmp3.7/3, ML4.1/1, Error ellipse: s-maj=110.8km s-min=48.3km az=108.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.66**	**50**	Pn	P	11 54 20.8	-2.7
	0.6nm,0.3s,baz=242,slow=14,SNR=7.4						
WRA	**Warramunga Arr**	**53.01**	**127**	P	P	12 01 32.1	-3.1
	0.7nm,0.5s,baz=307,slow=8.2,SNR=26						
WRA				PcP	PcP	12 02 42.3	-1.6
	0.2nm,0.4s,baz=320,slow=3.2,SNR=6.9						
ASAR	**Alice Springs**	**54.85**	**131**	P	P	12 01 46.7	-2.0
	0.5nm,0.5s,baz=307,slow=6.7,SNR=14						

MAN 13 11:54:09.5, 16.30N×120.34E, h3km, mb4.3, ML3.2, MS3.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.24**	**71**	⇑*i*P	Pg	11 54 15.3	+0.9
BCPH				*i* S	Sg	11 54 19.9	+2.3
BOLP	**Bolinao**	**0.42**	**281**	*e*P	Pg	11 54 17.8	-0.1
BOLP				*e*S	Sg	11 54 26.5	+2.9
SCZP	**Santa Cruz**	**0.67**	**219**	*e*P	Pg	11 54 22.9	0.0
BALP	**Baler**	**1.31**	**115**	*e*P	Pb	11 54 33.5	-0.9
ABRA	**Dolores**	**1.39**	**15**	*e*P	Pb	11 54 35.3	-0.4
CAUP	**Cauayan**	**1.56**	**66**	*e*P	Pn	11 54 37.9	-0.3
CAUP				*e*S	Sb	11 55 02.0	+3.4
APYP	**Conner**	**1.77**	**29**	*e*P	Pn	11 54 43.5	+2.1

*IDC **13** 11:59:43.8±5.1, 3.47S×149.25E, mb4.0/4, mb1 4.2/5, mb1mx3.9/13, mbtmp4.0/5, ML2.3/1, MS3.8/3, Ms1 3.8/3, ms1mx3.4/15, Error ellipse: s-maj=135.0km s-min=28.7km az=96.0*
*NEIC **13** 11:59:53.9±1.3, 3.19S×148.03E, h35km, mb4.3/4, Error ellipse: s-maj=35.7km s-min=11.2km az=98.0*
ISC 13 11:59:51.0±1.5, 3.16S±0.07×148.1E±0.3, h33km, n13, σ0§69/13, mb4.1/7, MS3.7/3, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.28**	**189**	Pn	**Pn**	**12 01 24.5**	**+0.6**
	0.4nm,0.3s,baz=30,slow=16,SNR=3.4						
PMG				Sn	**Sn**	**12 02 35.6**	**+0.3**
	0.6nm,0.3s,baz=166,slow=18,SNR=4.1						
PMG	**Port Moresby**	**6.28**	**189**	Pn	**Pn**	**12 01 24.5**	**+0.6**
PMG				Sn	**Sn**	**12 02 35.6**	**+0.3**
KAKA	**Kakadu**	**18.20**	**238**	*e*P	**P**	**12 04 04.0**	**+0.9**
	11nm,0.8s						
WRAB	**Tennant Creek**	**21.43**	**218**	*e*P	**P**	**12 04 37.5**	**-0.9**
	22nm,1.0s,mb4.5						
WB2	**Warramunga Arr**	**21.43**	**218**	*e*P	**P**	**12 04 37.7**	**-0.8**
WRA	**Warramunga Arr**	**21.44**	**218**	P	**P**	**12 04 37.8**	**-0.8**
	8.0nm,1.0s,mb4.0,baz=41,slow=11,SNR=28						
ASAR	**Alice Springs**	**24.60**	**213**	P	**P**	**12 05 09.7**	**0.0**
	5.1nm,1.1s,mb4.0,baz=47,slow=8.1,SNR=19						
ASAR				LR	LR	12 15 02.4	
	comp=Z,110nm,20.6s,MS3.3,baz=35,slow=37						
CBIJ	**Chichi jima**	**30.62**	**350**	LR	LR	12 15 58.2	
	comp=Z,313nm,21.2s,MS3.9,baz=173,slow=31						
URZ	**Urewera**	**43.82**	**147**	LR	LR	12 23 12.2	
	comp=Z,127nm,20.9s,MS3.8,baz=160,slow=33						
CMAR	**Chiang Mai Arr**	**52.98**	**296**	P	**P**	**12 09 11.5**	**+4.4**
	0.9nm,0.7s,mb3.8,baz=118,slow=5.9,SNR=6.5						
HIA	**Hailar**	**57.73**	**338**	P	**P**	**12 09 40.4**	**-0.6**
	6.0nm,1.1s,mb4.5						
ULN	**Ulaanbaatar**	**62.21**	**330**	P	**P**	**12 10 12.2**	**+0.5**
	1.1nm,0.7s,mb4.1						
SONM	**Songino Array**	**62.52**	**330**	P	**P**	**12 10 14.5**	**+0.7**
	0.6nm,0.7s,mb3.8,baz=148,slow=5.1,SNR=4.4						

*NEIC **13** 12:00:58.0, 45.69N×74.83W, h18km, MN2.7(OTT), After OTT.*
NEIC Felt at Alfred, Ontario.

RSPO	**Restoule Provi**	**3.47 278**	PN	Pn	12 01 51.4	-2.7
RSPO			SN	Sn	12 02 30.8	-5.1
RSPO			Trac		12 02 46.3	
	comp=Z,5.9nm,0.2s					
A54	**Misere**	**3.52 58**	PN	Pn	12 01 52.3	-2.4
A54			SN	Sn	12 02 32.2	-5.0
A54			Trac		12 02 53.2	
	comp=Z,4.6nm,0.2s					
BINY	**Binghamton**	**3.58 194**	Pn	Pn	12 01 52.9	-2.8
LMQ	**La Malbaie**	**3.62 57**	PN	Pn	12 01 53.6	-2.5
LMQ			SN	Sn	12 02 34.7	-4.9
LMQ			Trac		12 02 53.6	
	comp=Z,6.6nm,0.2s					
A61	**Sainte Mathild**	**3.83 57**	PN	Pn	12 01 56.6	-2.6
A61			SN	Sn	12 02 42.9	-2.1
A61			Trac		12 02 58.3	
	comp=Z,2.1nm,0.1s					
A21	**Saint Andre**	**4.07 58**	PN	Pn	12 01 59.9	-2.6
A21			SN	Sn	12 02 45.5	-5.6
A21			Trac		12 03 08.9	
	comp=Z,5.6nm,0.3s					
ACTO	**Acton**	**4.28 243**	PN	Pn	12 02 03.4	-2.1
ACTO			Trac		12 03 16.6	
	comp=Z,6.6nm,0.2s					
KILO	**Kirkland Lake**	**4.37 312**	SN	Sn	12 02 52.9	-5.9
SUNO	**Sudbury Onapin**	**4.63 284**	PN	Pn	12 02 07.6	-2.9
SUNO			Trac		12 03 23.5	
	comp=Z,2.5nm,0.2s					
TOBO	**Tobermory, Bru**	**4.74 267**	PN	Pn	12 02 10.3	-1.7
TOBO			Trac		12 03 30.3	
	comp=Z,2.6nm,0.2s					
MALO	**McAlpine Lake**	**5.47 324**	PN	Pn	12 02 18.8	-3.6
MALO			SN	Sn	12 03 18.5	-7.9
MALO			Trac		12 03 50.0	
	comp=Z,2.0nm,0.2s					
PLIO	**Pelee Island,**	**6.89 238**	PN	Pn	12 02 36.7	-5.7
PLIO			Trac		12 04 34.1	
	comp=Z,1.0nm,0.1s					
LG4Q	**La Grande 4**	**7.96 3**	PN	Pn	12 02 52.4	-5.1
LG4Q			SN	Sn	12 04 17.2	-12
LG4Q			Trac		12 04 23.0	
	comp=Z,0.5nm,0.1s					
VIMO	**Victor Mine**	**9.21 324**	PN	P	12 03 09.4	-5.4
VIMO			SN	Sn	12 04 47.2	-13
VIMO			Trac		12 05 43.2	
	comp=Z,0.3nm,0.3s					
SILO	**Sutton Inlier**	**10.92 327**	PN	P	12 03 29.9	-8.2
SILO			Trac		12 05 44.8	
	comp=Z,0.2nm,0.2s					

*MAN **13** 12:27:17.0,6.80N×126.54E,h21km,mb4.4,ML3.2,MS3.0*
*IDC **13** 12:27:47.4±8.9,2.34N×127.42E,mb3.9/3,mb1 4.1/3, mb1mx3.7/15,mbtmp3.9/3,MS4.1/1,Ms1 4.3/1, ms1mx3.0/21,Error ellipse: s-maj=148.2km s-min=137.1km az=83.0*

ISC 13 12:27:13.3±1.5,6.7N±0.1×126.8E±0.1,h47km±20km,n9, σ1§04/12,mb3.9/3,MS4.0/1,2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.55**	**293**	*eP*	**P**	**12 27 25.3**	**+0.2**
MATI				*eS*	**S**	**12 27 32.2**	**-1.2**
BIPH	**Bislig**	**1.50**	**345**	⇓*iP*	**P**	**12 27 38.2**	**-0.1**
BIPH				*i* S	**S**	**12 27 53.7**	**-3.2**
KCP	**Kidapawan**	**1.69**	**280**	⇓*iP*	**P**	**12 27 41.7**	**+0.8**
KCP				*i* S	**S**	**12 28 01.2**	**-0.2**
BUKP	**Musuan**	**2.04**	**304**	*eP*	**P**	**12 27 46.7**	**+0.8**
BUKP				*eS*	**S**	**12 28 10.3**	**+0.1**
BUTP	**Butuan**	**2.50**	**333**	*eP*	**P**	**12 27 55.0**	**+2.6**
WRA	**Warramunga Arr**	**27.53**	**164**	P	**P**	**12 32 57.3**	**-0.6**
	0.9nm,0.3s,mb3.9,baz=342,slow=11,SNR=24						
CMAR	**Chiang Mai Arr**	**29.50**	**296**	LR	LR	12 48 27.9	
	comp=Z,322nm,18.5s,MS4.0,baz=15,slow=39						
ASAR	**Alice Springs**	**31.00**	**167**	P	**P**	**12 33 28.1**	**-0.8**
	0.8nm,0.4s,mb3.9,baz=345,slow=7.4,SNR=20						
STKA	**Stephens Creek**	**40.92**	**161**	P	**P**	**12 34 53.3**	**+0.4**
	1.5nm,0.5s,mb3.9,baz=337,slow=5.0,SNR=4.6						

*ATH **13** 12:33:19.0,39.55N×25.96E,h22km±3km,MD3.6/9*
*CSEM **13** 12:33:19.7±0.1,39.48N×25.99E,h10km,MD3.6,Error ellipse: s-maj=1.5km s-min=1.0km az=177.0*
*ISK **13** 12:33:19.2,39.48N×25.89E,h14km,MD3.5*
*NEIC **13** 12:33:19.0,39.55N×25.96E,h22km,MD3.6(ATH),After ATH.*
*THE **13** 12:33:20.4,39.47N×25.90E,h7km,ML3.6*

ISC 13 12:33:19.5±0.6,39.47N±0.02×25.87E±0.02,h13km±4km, n55,σ0§80/66,1C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.39**	**126**	⇑*iPB*	**Pb**	**12 33 27.4**	**-0.3**
PRK				*eSB*	**Sb**	**12 33 33.1**	**-0.1**
BOZC	**Bozcaada**	**0.39**	**21**	*i* P	**Pg**	**12 33 27.4**	**-0.3**
BOZC				*i* S	**Sg**	**12 33 33.4**	**+0.2**
EZN	**Ezine**	**0.50**	**45**	*i* PG	**Pg**	**12 33 29.5**	**-0.2**
EZN				*i* SG	**Sg**	**12 33 36.3**	**-0.2**
AYVA	**Ayvalik**	**0.66**	**104**	*i* P	**Pb**	**12 33 32.9**	**+0.6**
AYVA				*i* S	**Sb**	**12 33 42.5**	**+1.5**
LIA	**Limnos Island**	**0.68**	**309**	*e*PN	**Pn**	**12 33 32.6**	**-1.9**
LIA				*e*SN	**Sn**	**12 33 42.4**	**-2.5**
LOS	**Limnos**	**0.76**	**307**	*e*Pg	**Pg**	**12 33 35.5**	**+0.6**
LOS				*e*Sg	**Sg**	**12 33 46.1**	**+0.9**
LOS	**Limnos**	**0.76**	**307**	*e*Pg	**Pg**	**12 33 35.5**	**+0.6**
LOS				*e*Sg	**Sg**	**12 33 46.1**	**+0.9**
LPK	**Lapseki**	**1.13**	**37**	PN	**Pn**	**12 33 40.7**	**-0.3**
BLCB	**Balcova**	**1.42**	**140**	PN	**Pn**	**12 33 45.5**	**+0.4**
ALN	**Alexandroupoli**	**1.43**	**5**	*e*Pb	**Pb**	**12 33 45.3**	**-0.2**
ALN				*e*Sb	**Sb**	**12 34 04.8**	**+1.4**
IZM	**Izmir**	**1.53**	**134**	PN	**Pn**	**12 33 47.3**	**+0.6**
BALB	**Balikesir**	**1.56**	**83**	PN	**Pn**	**12 33 47.0**	**-0.2**
AOS	**Alonnisos**	**1.57**	**260**	*e*Pb	**Pb**	**12 33 48.1**	**+0.1**
AOS				*e*Sb	**Sb**	**12 34 08.8**	**+1.1**
SART	**Tekirdag**	**1.57**	**39**	*i* P	**Pn**	**12 33 47.6**	**+0.2**
SART				*i* S	**Sn**	**12 34 08.6**	**+1.0**
OUR	**Ouranopolis**	**1.69**	**301**	*e*Pb	**Pb**	**12 33 49.6**	**-0.4**
RDO	**Rodhopi**	**1.69**	**351**	*e*PN	**Pn**	**12 33 48.6**	**-0.4**
BTOK	**Tokmak**	**1.69**	**80**	*i* P	**Pn**	**12 33 50.2**	**+1.1**
MFT	**Murefte**	**1.70**	**39**	PN	**Pn**	**12 33 49.6**	**+0.5**
MRMT	**Marmara Adasi**	**1.74**	**49**	PN	**Pn**	**12 33 49.8**	**+0.1**
PAIG	**Paliouri**	**1.75**	**286**	*e*Pb	**Pb**	**12 33 49.9**	**-1.1**
PAIG				*e*Sb	**Sb**	**12 34 14.6**	**+1.8**
EDC	**Edincik**	**1.76**	**60**	PN	**Pn**	**12 33 50.2**	**+0.2**
BNT	**Bandirma**	**1.81**	**60**	PN	**Pn**	**12 33 50.6**	**0.0**
SMG	**Samos**	**1.92**	**156**	*e*PB	**Pb**	**12 33 52.2**	**-1.7**
NEO	**Neokhori**	**2.06**	**266**	*e*PN	**Pn**	**12 33 53.4**	**-0.9**
KCT	**Karacabey**	**2.07**	**67**	PN	**Pn**	**12 33 53.7**	**-0.7**
PLG	**Polygyros**	**2.07**	**297**	*e*PB	**Pb**	**12 33 56.0**	**-0.5**
XOR	**Xorichti**	**2.08**	**268**	*e*Pn	**Pn**	**12 33 54.5**	**0.0**
MPAR	**Parnis Oros**	**2.13**	**232**	*e*PB	**Pb**	**12 33 58.0**	**+0.5**
SOH	**Sokhos**	**2.35**	**306**	*e*Pn	**Pn**	**12 33 59.0**	**+0.5**
RZN	**Rozhen**	**2.38**	**339**	*i* P	**Pn**	**12 33 59.0**	**+0.1**
SRS	**Serrai**	**2.39**	**314**	*e*Pn	**Pn**	**12 33 59.3**	**+0.2**
ORLT	**Orhaneli**	**2.40**	**75**	*e*PN	**Pn**	**12 33 59.1**	**-0.1**
APE	**Apeiranthos**	**2.42**	**186**	PN	**Pn**	**12 33 58.7**	**-0.7**
APE	**Apeiranthos**	**2.42**	**186**	*e*PN	**Pn**	**12 33 57.9**	**-1.5**
NVR	**Nevrokopi**	**2.42**	**321**	*e*PN	**Pn**	**12 33 58.8**	**-0.7**
NSAL	**Nisos Salamina**	**2.45**	**231**	*e*PB	**Pb**	**12 34 04.0**	**+1.0**
EDRB	**Edirne**	**2.46**	**15**	*e*PN	**Pn**	**12 34 00.6**	**+0.6**
MGER	**Gerania Oros**	**2.52**	**235**	*e*PN	**Pn**	**12 34 02.0**	**+1.1**
NAIG	**Nisos Aigina**	**2.53**	**228**	*e*PB	**Pb**	**12 34 05.2**	**+0.8**
CTT	**Catalca**	**2.57**	**49**	*e*PN	**Pn**	**12 34 01.2**	**-0.4**
DIM	**Dimitrovgrad**	**2.59**	**354**	*i* P	**Pn**	**12 34 02.0**	**+0.2**
MMB	**Musomiste**	**2.67**	**323**	*e*P	**Pn**	**12 34 02.0**	**-1.0**
AGG	**Agios Georgios**	**2.79**	**262**	*e*Pn	**Pn**	**12 34 05.0**	**+0.4**
KNT	**Kendrikon**	**2.83**	**308**	*e*Pn	**Pn**	**12 34 05.8**	**+0.5**
BADT	**Buyukada**	**2.84**	**60**	*e*PN	**Pn**	**12 34 04.4**	**-1.1**
YLV	**Yalova**	**2.90**	**67**	*e*PN	**Pn**	**12 34 06.4**	**+0.1**
ISK	**Istanbul-Kandi**	**2.91**	**56**	*e*PN	**Pn**	**12 34 06.7**	**+0.2**
KKB	**Krupnik**	**3.19**	**319**	*e*P	**Pn**	**12 34 10.0**	**-0.5**
HRT	**Hereke**	**3.21**	**64**	*e*PN	**Pn**	**12 34 10.4**	**-0.2**
PGB	**Panagyurishte**	**3.33**	**338**	*i* P	**Pn**	**12 34 12.0**	**-0.4**
VLI	**Veliai**	**3.59**	**221**	*e*PN	**Pn**	**12 34 14.5**	**-1.7**
FNA	**Florina**	**3.69**	**292**	*e*Pn	**Pn**	**12 34 18.4**	**+0.9**
VTS	**Vitosha**	**3.71**	**328**	*e*P	**Pn**	**12 34 17.0**	**-0.8**
ESKT	**Eskisehir**	**3.85**	**88**	*e*PN	**Pn**	**12 34 19.3**	**-0.5**
KIZT	**Kizilcal**	**4.71**	**95**	*e*PN	**Pn**	**12 34 32.0**	**0.0**

*MOS **13** 12:35:02.1±1.4,2.54N×94.17E,h33km,mb5.0/14,Error ellipse: s-maj=17.1km s-min=9.3km az=95.6*
*BJI **13** 12:35:03.8,2.60N×94.20E,h30km,mB5.1,mb4.6,Ms4.8, Msz4.3*
*NEIC **13** 12:35:03.9±0.4,2.55N×94.25E,h30km,mb4.8/17,Error ellipse: s-maj=13.3km s-min=7.7km az=58.0*
*IDC **13** 12:35:04.3±0.7,2.58N×94.30E,h27km±3km,mb4.1/11, mb1 4.2/12,mb1mx4.1/20,mbtmp4.3/12,ML4.3/1,MS2.9/1, Ms1 2.9/1,ms1mx2.6/21,Error ellipse: s-maj=28.0km s-min=11.3km az=51.0*

ISC 13 12:35:01.5±0.4,2.53N±0.06×94.23E±0.08,h27km, h27km±.6km:pP-P,n62,σ1§11/61,mb4.5/32,MS4.6/2,2C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.28**	**290**	*eP*	**P**	**12 38 23.4**	**-0.8**
	9.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**16.49**	**16**	Pn	**P**	**12 38 52.0**	**-0.7**
	0.4nm,0.3s,baz=210,slow=11,SNR=44						
HYB	**Hyderabad**	**21.35**	**315**	*eP*	**P**	**12 39 54.0**	**+5.0**
HYB	**Hyderabad**	**21.35**	**315**	*i* P	**P**	**12 39 51.5**	**+2.5**
SHL	**Shillong**	**23.01**	**355**	⇑*iP*	**P**	**12 40 05.0**	**-0.6**
SHL				⇑*iP*		12 42 03.0	
LSA	**Lhasa**	**27.18**	**354**	P	**P**	**12 40 47.0**	**+2.1**
LSA	**Lhasa**	**27.18**	**354**	*eP*	**P**	**12 40 43.1**	**-1.8**
LSA				pmax	pmax		
	comp=Z,21nm,0.6s,mb4.8						
LSA	**Lhasa**	**27.18**	**354**	*eP*	**P**	**12 40 43.1**	**-1.9**
	comp=Z,21nm,0.6s,mb4.8						
ENH	**Enshi**	**31.15**	**26**	*eP*	**P**	**12 41 18.7**	**-1.8**
	comp=Z,9.4nm,1.0s,mb4.6						
MBWA	**Marble Bar**	**34.32**	**135**	P	**P**	**12 41 46.9**	**-1.3**
	comp=Z,21nm,1.3s,mb4.9						
LZH	**Lanzhou**	**34.55**	**14**	*eP*	**P**	**12 41 50.0**	**-0.1**
LZH				AP	pP	12 41 56.9	-1.2
LZH				XP	sP	12 41 59.8	-1.7
LZH				*e*S	**S**	**12 47 18.0**	**+1.7**
LZH				AMB	AMB		
	comp=Z,30nm,1.7s,mb5.0						
LZH				AMB	AMB		
	comp=Z,110nm,4.0s						
LZH				LR	LR		
	comp=E,735nm,16.4s						
LZH				LR	LR		
	comp=Z,1μm,17.0s,MS4.6						
NJ2	**Nanjing**	**37.40**	**36**	*eP*	**P**	**12 42 16.4**	**+2.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NWAO	**Narrogin (SRO)**	**41.44**	**150**	*eP*	**P**	**12 42 48.0**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,57nm,1.4s						
NWAO	**Narrogin (SRO)**	**41.44**	**150**	*eP*	**P**	**12 42 48.0**	**+0.3**
	comp=Z,57nm,1.4s,mb5.0						
WMQ	**Urumqi**	**41.52**	**353**	*eP*	**P**	**12 42 48.8**	**+0.5**
WMQ				AP	pP	12 42 56.1	-0.2
WMQ				XP	sP	12 42 59.5	-0.2
WMQ				PP	PP	12 44 28.1	+0.8
WMQ				S	**S**	**12 49 02.5**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,47nm,5.2s						
WMQ				LR	LR		
	comp=N,764nm,20.1s,MS4.7						
WMQ				LR	LR		
	comp=E,644nm,21.2s,MS4.7						
WMQ				LR	LR		
	comp=Z,779nm,20.2s,MS4.6						
BJT	**Baijiatuau**	**42.29**	**25**	*eP*	**P**	**12 42 56.0**	**+1.4**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BJT	**Baijiatuau**	**42.29**	**25**	*eP*	**P**	**12 42 56.0**	**+1.4**
	comp=Z,10.0nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**45.26**	**121**	P	**P**	**12 43 19.1**	**+0.2**
	comp=Z,2.6nm,0.7s,mb4.2,baz=300,slow=8.9,SNR=21						
WRA				pP	pP	12 43 27.2	+0.2
	comp=Z,8.8nm,1.1s,baz=301,slow=8.7,SNR=19						
WRAB	**Tennant Creek**	**45.26**	**121**	*eP*	**P**	**12 43 19.4**	**+0.5**
WRAB				*e*	pP	12 43 27.1	+0.1
WRAB				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**45.26**	**121**	*eP*	**P**	**12 43 19.4**	**+0.5**
	comp=Z,11nm,0.8s,mb4.7						
WRAB				*e*	pP	12 43 27.1	+0.1
WB2	**Warramunga Arr**	**45.27**	**121**	*eP*	**P**	**12 43 19.6**	**+0.6**
MKAR	**Makanchi Array**	**45.30**	**348**	*eP*	**P**	**12 43 19.4**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,11nm,1.1s						
SONM	**Songino Array**	**46.34**	**11**	P	**P**	**12 43 27.3**	**+0.2**
	comp=Z,3.5nm,1.1s,mb4.2,baz=193,slow=8.6,SNR=18						
SONM				pP	pP	12 43 35.9	+0.7
	comp=Z,1.5nm,0.6s,baz=190,slow=7.8,SNR=8.4						
SONM				PcP	PcP	12 45 03.5	+1.1
	comp=Z,0.9nm,0.7s,baz=189,slow=3.6,SNR=3.4						
SONM				pPcP		12 45 11.7	
	comp=Z,5.0nm,1.4s,baz=197,slow=4.1,SNR=3.7						
ULN	**Ulaanbaatar**	**46.50**	**12**	P	**P**	**12 43 26.9**	**-1.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**46.50**	**12**	P	**P**	**12 43 26.9**	**-1.4**
	comp=Z,2.0nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**46.56**	**126**	P	**P**	**12 43 29.6**	**+0.4**
	comp=Z,1.0nm,0.5s,mb4.0,baz=294,slow=7.8,SNR=17						
ASAR				pP	pP	12 43 37.9	+0.5
	comp=Z,2.2nm,0.5s,baz=296,slow=7.8,SNR=13						
ASAR				PcP	PcP	12 45 04.4	+0.8
	comp=Z,0.9nm,0.7s,baz=301,slow=3.9,SNR=4.5						
ASAR				pPcP		12 45 12.8	
	comp=Z,1.7nm,0.7s,baz=300,slow=3.3,SNR=8.0						
ZAK	**Zakamensk**	**48.29**	**8**	*eP*	**P**	**12 43 42.6**	**+0.2**
ZAK				*e*		12 45 35.9	
TLY	**Talaya**	**49.61**	**8**	*eP*	**P**	**12 43 54.0**	**+1.5**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
TLY	**Talaya**	**49.61**	**8**	*eP*	**P**	**12 43 54.0**	**+1.5**
	comp=Z,3.6nm,0.7s,mb4.5						
HIA	**Hailar**	**51.41**	**21**	*eP*	**P**	**12 44 05.8**	**-0.4**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HIA	**Hailar**	**51.41**	**21**	*eP*	**P**	**12 44 05.8**	**-0.4**
	comp=Z,8.8nm,0.8s,mb4.7						
ZAL	**Zalesovo**	**51.82**	**353**	P	**P**	**12 44 10.2**	**+0.9**
	comp=Z,3.4nm,0.5s,mb4.6,baz=203,slow=4.7,SNR=12						
ZAL				pP	pP	12 44 18.1	+0.6
	comp=Z,1.9nm,0.4s,baz=236,slow=4.7,SNR=4.3						
CBIJ	**Chichi jima**	**51.95**	**57**	LR	LR	13 05 43.5	
	comp=Z,11nm,18.2s,baz=285,slow=36						
MDJ	**Mudanjiang**	**52.22**	**32**	P	**P**	**12 44 12.5**	**0.0**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,264nm,5.5s						
NVS	**Novosibirsk**	**52.91**	**352**	*eP*	**P**	**12 44 15.2**	**-2.3**
NVS				*e*		12 46 19.8	
NVS				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.5						
NVS				pmax	pmax		
	comp=N,4.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,3.0nm,1.1s						
PMG	**Port Moresby**	**54.05**	**103**	*eP*	**P**	**12 44 25.3**	**-1.0**
PMG				pmax	pmax		
	comp=Z,21nm,1.1s						
PMG	**Port Moresby**	**54.05**	**103**	P	**P**	**12 44 26.4**	**+0.1**
	comp=Z,6.1nm,0.8s,mb4.6,baz=326,slow=3.6,SNR=3.2						
PMG				pP	pP	12 44 34.9	+0.4
	comp=Z,12nm,0.8s,baz=290,slow=9.0,SNR=4.1						
PMG	**Port Moresby**	**54.05**	**103**	*eP*	**P**	**12 44 25.3**	**-1.0**
	comp=Z,21nm,1.1s,mb5.0						
BVAR	**Borovoye Array**	**54.06**	**342**	P	**P**	**12 44 26.0**	**+0.1**
	comp=Z,1.6nm,0.6s,mb4.2,baz=143,slow=9.5,SNR=9.3						
BRVK	**Borovoye**	**54.12**	**342**	*eP*	**P**	**12 44 26.2**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.5						
BRVK	**Borovoye**	**54.12**	**342**	*eP*	**P**	**12 44 26.1**	**-0.2**
	comp=Z,8.1nm,1.4s,mb4.5						
CHKZ	**Chkalovo**	**54.56**	**343**	*eP*	**P**	**12 44 29.7**	**+0.1**
CHKZ				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
CHKZ	**Chkalovo**	**54.56**	**343**	*eP*	**P**	**12 44 29.7**	**+0.1**
	comp=Z,14nm,1.2s,mb4.9						
STKA	**Stephens Creek**	**56.45**	**131**	*eP*	**P**	**12 44 44.0**	**+0.4**
	comp=Z,4.5nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**56.45**	**131**	P	**P**	**12 44 43.5**	**0.0**
	comp=Z,3.0nm,0.8s,mb4.4,baz=278,slow=5.9,SNR=8.2						
STKA				pP	pP	12 44 52.7	+0.8
	comp=Z,5.1nm,0.6s,baz=305,slow=8.8,SNR=7.0						
KLR	**Kul'dur**	**56.46**	**29**	*eP*	**P**	**12 44 40.8**	**-2.6**
KMBO	**Kilima Mbogo**	**57.08**	**267**	P	**P**	**12 44 45.2**	**-3.1**
KMBO				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KMBO	**Kilima Mbogo**	**57.08**	**267**	P	**P**	**12 44 45.2**	**-3.1**
	comp=Z,5.6nm,1.3s,mb4.4						
BOD	**Bodaibo**	**57.30**	**12**	*eP*	**P**	**12 44 48.2**	**-1.1**
KIV	**Kislovodsk**	**61.38**	**320**	P	**P**	**12 45 14.9**	**-2.7**
KIV				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.0						
KIV	**Kislovodsk**	**61.38**	**320**	P	**P**	**12 45 14.9**	**-2.7**
	comp=Z,13nm,1.1s,mb5.0						
MALT	**Malatya**	**62.04**	**313**	*eP*	**P**	**12 45 23.6**	**+1.4**
	comp=Z,5.4nm,1.1s,mb4.6						
MALT				*e*	pP	12 45 32.7	+2.1
BRTR	**Keskin Array B**	**66.03**	**313**	P	**P**	**12 45 48.8**	**+0.5**
	comp=Z,1.5nm,0.8s,mb4.1,baz=117,slow=5.5,SNR=8.2						
BRTR				pP	pP	12 45 57.1	+0.5
	comp=Z,2.7nm,1.1s,baz=108,slow=7.8,SNR=4.0						
CASY	**Casey**	**69.65**	**173**	P	**P**	**12 46 09.7**	**-0.6**
	comp=Z,39nm,1.3s,mb5.2						
TIXI	**Tiksi**	**72.42**	**11**	*eP*	**P**	**12 46 26.7**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
FINES	**FINESS Array B**	**77.46**	**333**	P	**P**	**12 46 56.1**	**+0.2**
	comp=Z,3.2nm,0.8s,mb4.3,baz=104,slow=7.9,SNR=8.2						
ARCES	**ARCESS Array B**	**80.30**	**341**	P	**P**	**12 47 11.9**	**+0.7**
	comp=Z,2.5nm,0.9s,mb4.2,baz=90,slow=6.1,SNR=7.3						
GERES	**GERESS Array B**	**81.86**	**319**	P	**P**	**12 47 21.6**	**+1.8**
	comp=Z,3.5nm,1.1s,mb4.2,baz=90,slow=4.0,SNR=7.7						
GERES				pP	pP	12 47 30.2	+1.8
	comp=Z,1.2nm,0.6s,baz=108,slow=4.2,SNR=5.5						
SNAA	**Sanae**	**94.62**	**198**	*eP*	**P**	**12 48 21.5**	**+0.7**
SNAA				pmax	pmax		
	comp=Z,247nm,1.2s						
SNAA	**Sanae**	**94.62**	**198**	*eP*	**P**	**12 48 21.5**	**+0.8**
	comp=Z,247nm,1.2s						
TXAR	**Lajitas Array**	**143.97**	**27**	PKP	PKPdf	12 54 36.6	-3.4
	comp=Z,0.6nm,0.6s,baz=257,slow=0.7,SNR=10						
LPAZ	**La Paz**	**157.91**	**231**	PKPab	PKPab	12 55 34.0	+2.0
	comp=Z,0.6nm,0.5s,baz=162,slow=3.2,SNR=3.4						

*IDC **13** 12:36:58.9±0.9,2.92N×94.53E,mb4.1/11,mb1 4.3/12, mb1mx4.2/20,mbtmp4.1/12,ML4.5/1,MS3.7/2,Ms1 3.7/2, ms1mx3.0/21,Error ellipse: s-maj=41.4km s-min=16.9km az=50.0*
*MOS **13** 12:36:59.8±2.2,2.66N×94.91E,h33km,mb5.1/11,Error ellipse: s-maj=26.3km s-min=10.9km az=90.1*
*NEIC **13** 12:37:03.5±0.6,3.02N×94.67E,h30km,mb4.8/13,Error ellipse: s-maj=19.9km s-min=11.0km az=60.0*
*BJI **13** 12:37:04.0,2.76N×94.37E,h46km,mB5.3,mb4.7,Ms4.5, Msz4.2*

ISC 13 12:37:02.3±0.6,3.02N±0.09×94.8E±0.1,h33km,n55, σ1§26/50,mb4.5/32,MS3.7/2,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.89**	**15**	Pn	**P**	**12 40 46.7**	**+1.5**
	0.7nm,0.3s,baz=210,slow=12,SNR=9.9						
HYB	**Hyderabad**	**21.39**	**313**	*i* P	**P**	**12 41 49.0**	**-0.4**
JIRN	**Jiri**	**25.84**	**342**	*eP*	**P**	**12 42 32.9**	**+0.2**
	34nm,0.6s,mb5.0						
PKI	**Pulchoki**	**26.00**	**341**	*eP*	**P**	**12 42 38.3**	**+4.1**
DMN	**Daman**	**26.14**	**340**	*eP*	**P**	**12 42 39.8**	**+4.3**
	25nm,0.7s,mb4.9						
GUN	**Gumba**	**26.16**	**342**	*eP*	**P**	**12 42 35.6**	**-0.2**
	30nm,0.6s,mb5.0						
KKN	**Kakani**	**26.25**	**341**	*eP*	**P**	**12 42 39.1**	**+2.6**
	22nm,0.7s,mb4.8						
GKN	**Gorkha**	**26.66**	**340**	*eP*	**P**	**12 42 41.5**	**+1.2**
	44nm,0.8s,mb5.0						
LSA	**Lhasa**	**26.76**	**353**	*eP*	**P**	**12 42 38.9**	**-2.3**
LSA				pmax	pmax		
	comp=Z,52nm,1.0s,mb5.0						
LSA	**Lhasa**	**26.76**	**353**	*eP*	**P**	**12 42 38.9**	**-2.3**
	comp=Z,52nm,1.0s,mb5.0						
KOLN	**Koldanda**	**26.82**	**338**	*eP*	**P**	**12 42 45.9**	**+4.1**
	comp=Z,25nm,0.7s,mb4.9						
ENH	**Enshi**	**30.49**	**26**	*eP*	**P**	**12 43 14.2**	**-0.5**
	comp=Z,8.9nm,0.9s,mb4.5						
DDI	**Dehra Dun**	**31.42**	**332**	*e*	**P**	**12 43 28.0**	**+5.1**
**M

IDI	**Anoyia**	**71.86**	**306**	P	**P**	**12 48 23.9**	**-0.2**	
	comp=Z,1.9nm,0.4s,mb4.4,baz=105,slow=16,SNR=2.6							
FINES	**FINESS Array B**	**77.27**	**333**	P	**P**	**12 48 53.6**	**-1.3**	
	comp=Z,2.5nm,1.0s,mb4.1,baz=180,slow=5.6,SNR=3.2							
SUR	**Sutherland**	**78.12**	**236**	*e*P	**P**	**12 49 06.8**	**+6.6**	
	comp=Z,24nm,1.2s,mb5.0							
ARCES	**ARCESS Array B**	**80.02**	**340**	P	**P**	**12 49 09.3**	**-0.5**	
	comp=Z,1.7nm,0.8s,mb4.0,baz=104,slow=5.0,SNR=3.8							
ARCES	**ARCESS Array B**	**80.02**	**340**	P	**P**	**12 49 09.3**	**-0.5**	
GERES	**GERESS Array B**	**81.84**	**319**	P	**P**	**12 49 20.1**	**+0.3**	
	comp=Z,0.5nm,0.7s,mb3.6,baz=63,slow=4.4,SNR=1.8							
NVAR	**Mina Array Bea**	**128.69**	**33**	PKP	PKPdf	12 56 09.5	+2.6	
	comp=Z,0.4nm,0.8s,baz=315,slow=2.6,SNR=2.6							
NVAR	**Mina Array Bea**	**128.69**	**33**	PKP	PKPdf	12 56 09.5	+2.6	
TXAR	**Lajitas Array**	**143.31**	**27**	PKP	PKPdf	12 56 37.1	+3.1	
	comp=Z,0.7nm,0.7s,baz=281,slow=1.0,SNR=5.4							

*ATH **13** 12:53:04.9, 37.00N×28.07E, h54km±16km, MD3.2/4*
*CSEM **13** 12:53:04.9±0.1, 36.96N×27.91E, h15km, MD3.1, Error ellipse: s-maj=2.8km s-min=2.0km az=46.0*
*ISK **13** 12:53:04.8, 36.94N×27.86E, h18km, MD3.1*
*NEIC **13** 12:53:04.9, 37.00N×28.07E, h54km, MD3.2(ATH), After ATH.*

ISC 13 12:53:05.6±0.6, 36.97N±0.03×27.91E±0.04, h12km±4km, n16, σ0s89/25, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.34**	**342**	*e*PG	**Pg**	**12 53 12.8**	**0.0**
MLSB				*e*SG	**Sg**	**12 53 18.1**	**+0.5**
BDRM	**Kayabasi**	**0.38**	**285**	*i* P	**Pg**	**12 53 13.6**	**0.0**
BDRM				*i* S	**Sg**	**12 53 19.6**	**+0.7**
DALT	**Dalyan (Mudla)**	**0.62**	**108**	*e*PG	**Pg**	**12 53 17.6**	**-0.5**
DALT				*e*SG	**Sg**	**12 53 28.1**	**+1.6**
AYDN	**Tasoluk**	**0.69**	**358**	*i* P	**Pb**	**12 53 18.9**	**-0.3**
AYDN				*i* S	**Sb**	**12 53 28.0**	**-0.5**
ARG	**Arkhangelos**	**0.77**	**167**	*e*P	**Pb**	**12 53 20.5**	**0.0**
ARG				*e*S	**Sb**	**12 53 32.5**	**+1.8**
FETY	**Fethiye**	**1.00**	**109**	PG	**Pg**	**12 53 24.3**	**-1.4**
SMG	**Samos**	**1.13**	**311**	*e*P	**Pb**	**12 53 26.9**	**+0.2**
SMG				*e*S	**Sb**	**12 53 42.6**	**+1.4**
DNZL	**Cakiroluk**	**1.16**	**51**	*i* P	**Pb**	**12 53 26.9**	**-0.2**
DNZL				*i* S	**Sb**	**12 53 41.8**	**-0.2**
DENT	**Denizli**	**1.19**	**48**	*e*PN	**Pn**	**12 53 28.0**	**-0.2**
IZM	**Izmir**	**1.52**	**340**	*e*PN	**Pn**	**12 53 31.9**	**-0.9**
KARP	**Karpathos**	**1.54**	**203**	*e*P	**Pn**	**12 53 32.7**	**-0.4**
KARP				*e*S	**Sb**	**12 53 52.7**	**-0.3**
BLCB	**Balcova**	**1.57**	**334**	PN	**Pn**	**12 53 33.0**	**-0.6**
MANT	**Manisa**	**1.61**	**19**	*i* P	**Pn**	**12 53 33.9**	**-0.2**
MANT				*i* S	**Sn**	**12 53 57.4**	**+2.5**
ELL	**Elmali**	**1.62**	**97**	*e*PN	**Pn**	**12 53 34.0**	**-0.3**
APE	**Apeiranthos**	**1.91**	**274**	*e*PN	**Pn**	**12 53 36.7**	**-1.7**
APE	**Apeiranthos**	**1.91**	**274**	*e*P	**Pn**	**12 53 37.3**	**-1.1**

*MOS **13** 12:56:32.3±1.3, 13.57N×92.31E, h33km, mb4.9/16, Error ellipse: s-maj=15.4km s-min=9.0km az=103.4*
*IDC **13** 12:56:40.7±0.6, 14.53N×92.30E, h24km±3km, mb4.2/18, mb1 4.3/19, mb1mx4.2/24, mbtmp4.3/19, ML3.6/1, MS4.1/11, Ms1 4.2/11, ms1mx3.9/22, Error ellipse: s-maj=24.0km s-min=11.2km az=50.0*
*NEIC **13** 12:56:40.3±0.3, 14.51N×92.26E, mb4.8/12, Error ellipse: s-maj=7.8km s-min=5.9km az=58.0*
*BJI **13** 12:56:41.7, 15.16N×92.09E, h5km, mB5.0, mb4.6, Ms4.6, Msz4.4*

ISC 13 12:56:38.4±0.3, 14.57N±0.04×92.27E±0.04, h25km, h25km±1.2km: pP-P, n108, σ1s32/114, mb4.6/41, MS4.3/16, 2C-6D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.93**	**171**	*e*P	**Pn**	**12 57 28.0**	**+3.4**
PBA				*e*		12 58 17.6	
PBA				*e*		12 58 29.5	
	comp=E,3μm,0.6s						
PBA				*e*		12 58 31.3	
	comp=N,4μm,1.1s						
CMAR	**Chiang Mai Arr**	**7.47**	**58**	Pn	**Pn**	**12 58 27.1**	**-1.6**
	comp=N,0.2nm,0.3s,baz=246,slow=15,SNR=8.7						
CMAR				Sn	**Sn**	**12 59 46.2**	**-7.4**
	comp=N,0.8nm,0.3s,baz=242,slow=23,SNR=3.2						
CMAR				LR	LR	13 02 01.5	
	comp=N,422nm,18.6s,baz=245,slow=43						
NNT	**Nongplab**	**7.52**	**104**	P	**Pn**	**12 58 28.0**	**-1.3**
CHG	**Chiang Mai**	**7.66**	**56**	PN	**Pn**	**12 58 30.3**	**-1.0**
CHG				SG	**Sn**	**13 00 03.7**	**+5.5**
CHRT	**Chiangrai**	**8.90**	**53**	||P	**P**	**12 58 50.0**	**+1.4**
	comp=N,195nm,0.9s						
VIS	**Vishakhapatnam**	**9.14**	**291**	*e*P	**P**	**12 58 50.4**	**-1.5**
VIS				*e*P		12 58 50.4	
VIS				*e*S	**Sn**	**13 00 24.6**	**-10**
VIS				*e*		13 00 43.8	
	comp=E,187nm,0.3s						
VIS				*e*		13 00 43.8	
	comp=N,311nm,0.4s						
IMP	**Imphal**	**10.28**	**8**	*e*P	**P**	**12 59 05.5**	**-2.1**
SHL	**Shillong**	**10.95**	**358**	*e*	**P**	**12 59 10.5**	**-6.2**
SHL				*i* S	**S**	**13 01 10.5**	**-8.9**
BLSP	**Bilaspur**	**12.21**	**309**	*e*P	**P**	**12 59 33.2**	**-0.6**
BLSP				*e*		13 01 54.0	
PALK	**Pallekele**	**13.47**	**239**	P	**P**	**12 59 47.2**	**-3.4**
HYB	**Hyderabad**	**13.49**	**284**	*e*P	**P**	**12 59 46.0**	**-4.9**
HYB				*e*S	**S**	**13 02 03.0**	**-18**
HYB	**Hyderabad**	**13.49**	**284**	*i* P	**P**	**12 59 50.0**	**-0.9**
HYB				*e*		13 02 03.0	
HYB				*e*S	**S**	**13 02 10.0**	**-11**
NGP	**Nagpur**	**14.18**	**299**	*e*	**P**	**13 00 05.2**	**+5.1**
NGP				*e*		13 02 51.5	
JIRN	**Jiri**	**14.20**	**337**	*e*P	**P**	**12 59 57.6**	**-2.7**
	comp=N,106nm,0.7s						
PKI	**Pulchoki**	**14.43**	**335**	*e*P	**P**	**13 00 00.3**	**-2.9**
	comp=N,113nm,0.7s						
ALBI	**Allahabad**	**14.51**	**319**	*e*	**S**	**13 02 38.5**	**-6.8**
GUN	**Gumba**	**14.54**	**337**	*e*P	**P**	**13 00 02.6**	**-2.1**
	comp=N,82nm,0.7s						
DMN	**Daman**	**14.59**	**334**	*e*P	**P**	**13 00 01.7**	**-3.6**
	comp=N,194nm,0.6s						
KKN	**Kakani**	**14.67**	**335**	*e*P	**P**	**13 00 03.7**	**-2.7**
	comp=N,107nm,0.8s						
LSA	**Lhasa**	**15.09**	**356**	P	**P**	**13 00 12.0**	**+0.1**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
LSA				AMB	AMB		
	comp=Z,140nm,7.6s						
LSA				LR	LR		
	comp=N,400nm,14.5s						
LSA				LR	LR		
	comp=E,1μm,14.3s						
LSA	**Lhasa**	**15.09**	**356**	*e*P	**P**	**13 00 11.5**	**-0.4**
	comp=E,8.4nm,0.8s						
GKN	**Gorkha**	**15.13**	**333**	*e*P	**P**	**13 00 10.5**	**-2.0**
	comp=E,61nm,0.3s						
KOLN	**Koldanda**	**15.41**	**330**	*e*P	**P**	**13 00 14.1**	**-2.0**
	comp=E,164nm,0.7s						
LATR	**Latur**	**15.54**	**286**	*e*P	**P**	**13 00 17.5**	**-0.3**
BHPL	**Bhopal**	**16.47**	**304**	*e*P	**P**	**13 00 30.9**	**+1.2**
BHPL				*e*		13 00 36.3	
	comp=Z,38nm,1.0s						
BHPL				*e*		13 03 15.8	
KAD	**Karad**	**17.61**	**281**	*e*P	**P**	**13 00 45.0**	**+1.1**
KAD				*e*		13 03 42.0	
POO	**Poona**	**18.09**	**285**	*i* P	**P**	**13 00 53.0**	**+3.0**
POO				*i* S	**S**	**13 04 12.0**	**+3.9**
BOM	**Bombay**	**19.12**	**286**	*e*S	**S**	**13 04 40.6**	**+9.1**
NDI	**New Delhi**	**19.80**	**318**	*e*P	**P**	**13 01 11.0**	**+1.0**
NDI				*e*	**S**	**13 04 32.0**	**-14**
DDI	**Dehra Dun**	**20.42**	**323**	*e*P	**P**	**13 01 17.5**	**+0.9**
DDI				*e*	**S**	**13 04 56.2**	**-2.8**
ENH	**Enshi**	**22.26**	**43**	*e*P	**P**	**13 01 36.5**	**+1.4**
	comp=Z,140nm,1.4s,mb5.2						
LZH	**Lanzhou**	**23.80**	**24**	*e*P	**P**	**13 01 52.5**	**+2.2**
LZH				AP		13 01 55.6	
LZH				XP		13 01 57.3	
LZH				PP	PP	13 02 26.8	+3.0
LZH				S	**S**	**13 06 06.0**	**+4.9**
LZH				XS		13 06 11.0	
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,137nm,4.0s						
LZH				LR	LR		
	comp=N,1μm,15.7s						
LZH				LR	LR		
	comp=Z,2μm,16.8s,MS4.6						
XAN	**Xi'an**	**24.55**	**35**	P	**P**	**13 01 57.5**	**-0.1**
WMQ	**Urumqi**	**29.41**	**353**	*e*P	**P**	**13 02 43.5**	**+1.3**
WMQ				AP	pP	13 02 46.0	-3.4
WMQ				XP	sP	13 02 48.5	-4.1
WMQ				PP	PP	13 03 39.3	+1.5
WMQ				S	**S**	**13 07 35.5**	**+2.2**
WMQ				XS		13 07 43.6	
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,29nm,4.8s						
WMQ				LR	LR		
	comp=N,1μm,16.1s,MS4.7						
WMQ				LR	LR		
	comp=E,1μm,17.3s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,17.4s,MS4.5						
NJ2	**Nanjing**	**29.85**	**50**	*e*P	**P**	**13 02 45.9**	**-0.3**
NJ2				AP	pP	13 02 54.4	+0.9
NJ2				XP	sP	13 02 58.6	+1.9
NJ2				PP	PP	13 03 45.6	+1.9
NJ2				PPP	PPP	13 04 00.6	+3.1
NJ2				S	**S**	**13 07 41.0**	**+0.7**
NJ2				XS		13 07 56.0	
NJ2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,570nm,10.0s						
NJ2				LR	LR		
	comp=N,2μm,21.2s,MS4.7						
NJ2				LR	LR		
	comp=E,1μm,22.9s,MS4.7						
NJ2				LR	LR		
	comp=Z,1μm,24.7s,MS4.4						
KZA	**Kyzart**	**31.11**	**335**	P	**P**	**13 02 59.2**	**+2.0**
	SNR=5.5						
AML	**Almayashu**	**31.81**	**333**	P	**P**	**13 03 05.2**	**+1.8**
	SNR=5.9						
AAK	**Ala-Archa**	**31.88**	**335**	P	**P**	**13 03 05.9**	**+1.9**
	SNR=5.0						
AAK	**Ala-Archa**	**31.88**	**335**	*e*P	**P**	**13 03 01.5**	**-2.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**31.88**	**335**	*e*P	**P**	**13 03 04.4**	**+0.4**
	comp=Z,8.5nm,1.2s,mb4.5						
EKS2	**Erkin-Say**	**32.21**	**334**	P	**P**	**13 03 09.1**	**+2.3**
	SNR=5.3						
USP	**Ospenovka**	**32.41**	**335**	P	**P**	**13 03 10.1**	**+1.6**
	SNR=5.4						
MKAR	**Makanchi Array**	**33.19**	**347**	*i* P	**P**	**13 03 16.2**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,19nm,0.9s						
SONM	**Songino Array**	**35.18**	**17**	P	**P**	**13 03 33.3**	**+0.9**
	comp=Z,3.9nm,0.8s,mb4.4,baz=203,slow=9.0,SNR=21						
ULN	**Ulaanbaatar**	**35.39**	**17**	||*i*P	**P**	**13 03 33.9**	**-0.3**
ULN	**Ulaanbaatar**	**35.39**	**17**	*e*P	**P**	**13 03 34.1**	**-0.2**
	comp=Z,29nm,1.4s,mb5.0						
ZAK	**Zakamensk**	**36.82**	**12**	||*i*P	**P**	**13 03 45.5**	**-0.8**
TLY	**Talaya**	**38.13**	**11**	*e*P	**P**	**13 03 59.1**	**+1.9**
TLY				pmax	pmax		
	comp=Z,19nm,1.8s,mb4.5						
ZAL	**Zalesovo**	**39.71**	**353**	*i* P	**P**	**13 04 12.0**	**+1.5**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZAL	**Zalesovo**	**39.71**	**353**	P	**P**	**13 04 11.9**	**+1.5**
	comp=Z,3.4nm,0.7s,mb4.2,baz=206,slow=8.1,SNR=20						
ZAL				pP	pP	13 04 19.6	+1.8
	comp=Z,5.3nm,0.6s,baz=226,slow=8.0,SNR=11						
ZAL				LR	LR	13 24 28.2	
	comp=Z,401nm,18.1s,MS4.3,baz=201,slow=42						
NVS	**Novosibirsk**	**40.80**	**352**	*e*P	**P**	**13 04 20.4**	**+1.1**
NVS				pmax	pmax		
	comp=N,19nm,1.6s						
NVS				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.4						
HIA	**Hailar**	**41.27**	**27**	*e*P	**P**	**13 04 24.8**	**+1.5**
BVA0	**Borovoye Array**	**42.10**	**340**	P	**P**	**13 04 30.7**	**+0.7**
BVA0				pmax	pmax		
	comp=Z,3.0nm,2.1s,mb3.5						
BVAR	**Borovoye Array**	**42.10**	**340**	P	**P**	**13 04 30.5**	**+0.4**
	comp=Z,1.7nm,0.6s,mb3.9,baz=135,slow=8.4,SNR=14						
BVAR				pP	pP	13 04 39.0	+1.6
	comp=Z,1.3nm,0.5s,baz=134,slow=10,SNR=6.1						
BRVK	**Borovoye**	**42.16**	**340**	*e*P	**P**	**13 04 30.6**	**0.0**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.2						
BRVK	**Borovoye**	**42.16**	**340**	*e*P	**P**	**13 04 30.6**	**0.0**
	comp=Z,7.1nm,1.2s,mb4.2						
CHKZ	**Chkalovo**	**42.58**	**341**	*e*P	**P**	**13 04 34.5**	**+0.5**
CHKZ				*e*	pP	13 04 42.1	+0.7
CHKZ				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
CHKZ	**Chkalovo**	**42.58**	**341**	*e*P	**P**	**13 04 34.5**	**+0.5**
	comp=Z,13nm,0.9s,mb4.7						
CHKZ				*e*	pP	13 04 42.1	+0.7
MBWA	**Marble Bar**	**44.58**	**142**	P	**P**	**13 04 49.5**	**-1.2**
BOD	**Bodaibo**	**46.17**	**16**	*e*P	**P**	**13 05 03.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**46.22**	**134**	||*i*P	**P**	**13 05 03.1**	**-0.6**
SVE	**Sverdlovsk**	**48.55**	**337**	*e*P	**P**	**13 05 23.0**	**+1.6**
GNI	**Garni**	**48.57**	**311**	*e*P	**P**	**13 05 21.2**	**-0.6**
GNI				pmax	pmax		
	comp=Z,14nm,0.8s						
GNI	**Garni**	**48.57**	**311**	P	**P**	**13 05 23.7**	**+1.9**
	comp=Z,12nm,0.9s,mb4.9,baz=139,slow=11,SNR=6.8						
GNI	**Garni**	**48.57**	**311**	*e*P	**P**	**13 05 22.8**	**+0.9**
	comp=Z,21nm,1.0s,mb5.1						
ARU	**Arti**	**49.06**	**336**	||*i*P	**P**	**13 05 22.9**	**-2.4**
ARU				*e*		13 06 44.2	
ARU				*e*S	**S**	**13 12 26.7**	**-0.8**
ARU				*e*SS	SS	13 16 01.8	+7.5
ARU				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
ZEI	**Tsey**	**50.00**	**314**	*i* P	**P**	**13 05 30.6**	**-2.2**
ZEI				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
KIV	**Kislovodsk**	**51.23**	**315**	*e*P	**P**	**13 05 42.3**	**+0.2**
KIV				pmax	pmax		
	comp=N,12nm,1.4s						
KIV				pmax	pmax		
	comp=E,13nm,1.4s						
KIV				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.8						
KIV				MLR	MLR		
	comp=N,90nm,17.0s,MS4.1						
KIV				MLR	MLR		
	comp=E,134nm,17.0s,MS4.1						
KIV				MLR	MLR		
	comp=Z,167nm,17.0s,MS4.1						
GOF	**Gofitskoye**	**51.36**	**317**	*e*P	pP	13 05 50.0	-0.6
MUN	**Mundaring**	**51.66**	**154**	*e*P	**P**	**13 05 46.2**	**+0.6**
	comp=Z,19nm,0.6s,mb5.2						
ASAJ	**Asahikawa**	**51.78**	**45**	LR	LR	13 31 29.8	
	comp=Z,116nm,18.8s,MS3.9,baz=263,slow=40						
NWAO	**Narrogin (SRO)**	**52.91**	**154**	P	**P**	**13 05 55.1**	**+0.1**
	comp=Z,18nm,0.7s,mb5.1,baz=320,slow=9.8,SNR=8.4						
SOC	**Sochi**	**53.16**	**314**	*e*P	**P**	**13 05 52.8**	**-3.9**
SOC				*e*		13 06 59.1	
SOC				*e*		13 07 52.9	
SOC				*e*S	**S**	**13 13 22.9**	**-1.3**
SOC				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
SOC				pmax	pmax		
	comp=N,5.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,12nm,0.6s						
ASF	**Jabal al Asfar**	**53.20**	**299**	LR	LR	13 32 20.3	
	comp=E,176nm,19.2s,MS4.1,baz=326,slow=40						
WRA	**Warramunga Arr**	**53.74**	**129**	P	**P**	**13 06 00.6**	**-0.6**
	comp=E,19nm,0.8s,mb5.1,baz=309,slow=7.9,SNR=115						
WRA				PcP	PcP	13 07 07.5	+0.5
	comp=E,4.0nm,0.8s,baz=313,slow=3.6,SNR=8.4						
WRAB	**Tennant Creek**	**53.74**	**129**	*e*P	**P**	**13 05 59.8**	**-1.4**
	comp=E,37nm,0.8s,mb5.4						
WB2	**Warramunga Arr**	**53.75**	**129**	||*i*P	**P**	**13 06 00.6**	**-0.6**
YAK	**Yakutsk**	**54.34**	**21**	*e*P	**P**	**13 06 04.9**	**-0.1**
YAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
ASPA	**Alice Springs**	**55.68**	**132**	||*i*P	**P**	**13 06 15.2**	**-0.1**
ASPA				*i*		13 14 09.8	
ASAR	**Alice Springs**	**55.68**	**132**	P	**P**	**13 06 14.9**	**-0.4**
	comp=Z,12nm,0.9s,mb5.0,baz=309,slow=6.7,SNR=85						
ASAR				PcP	PcP	13 07 14.8	+0.4
	comp=Z,4.4nm,0.8s,baz=316,slow=3.2,SNR=9.4						
KMBO	**Kilima Mbogo**	**56.62**	**259**	P	**P**	**13 06 22.0**	**-0.2**
BRTR	**Keskin Array B**	**56.78**	**308**	P	**P**	**13 06 23.4**	**+0.4**
	comp=Z,2.1nm,0.8s,mb4.2,baz=129,slow=7.9,SNR=13						
BRTR				pP	pP	13 06 30.4	-0.2
	comp=Z,2.2nm,0.5s,baz=119,slow=7.9,SNR=8.1						
OBN	**Obninsk**	**58.80**	**326**	*e*P	**P**	**13 06 34.2**	**-2.7**
OBN				*e*		13 07 17.7	
OBN				pmax	pmax		
	comp=Z,23nm,1.6s,mb5.0						
OBN				MLR	MLR		
	comp=Z,200nm,14.0s,MS4.4						
PMG	**Port Moresby**	**59.41**	**110**	P	**P**	**13 06 41.5**	**-0.2**
	comp=Z,10nm,0.9s,mb4.9,baz=277,slow=8.1,SNR=4.5						
TIXI	**Tiksi**	**61.10**	**12**	*e*P	**P**	**13 06 52.2**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,15nm,1.1s,mb5.0						
AKASG	**Malin Array Be**	**61.84**	**320**	P	**P**	**13 06 57.6**	**-0.2**
	comp=Z,0.3nm,0.3s,mb3.9,baz=82,slow=5.3,SNR=7.0						
AKASG				pP	pP	13 07 05.2	-0.3
	comp=Z,0.7nm,0.3s,baz=80,slow=6.5,SNR=4.5						
MBAR	**Mbarara**	**62.69**	**262**	*e*P	**P**	**13 07 02.6**	**-1.3**
MLR	**Muntele Rosu**	**63.18**	**314**	LR	LR	13 39 37.8	
	comp=Z,203nm,19.4s,MS4.3,baz=132,slow=41						
CTA	**Charters Tower**	**63.27**	**122**	P	**P**	**13 07 06.9**	**-0.7**
	comp=Z,6.4nm,0.9s,mb4.7,baz=276,slow=10,SNR=3.5						
CTAO	**Charters Tower**	**63.27**	**122**	P	**P**	**13 07 06.5**	**-1.2**
IDI	**Anoyia**	**63.36**	**302**	P	**P**	**13 07 08.4**	**+0.3**
	comp=Z,1.4nm,0.3s,mb4.5,baz=255,slow=8.4,SNR=2.3						
IDI				pP	pP	13 07 16.0	+0.2
	comp=Z,8.9nm,1.0s,baz=104,slow=7.2,SNR=2.6						
FINES	**FINESS Array B**	**65.98**	**331**	*i* P	**P**	**13 07 23.5**	**-1.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**65.98**	**331**	P	**P**	**13 07 24.9**	**+0.3**
	comp=Z,1.4nm,0.6s,mb4.2,baz=72,slow=6.0,SNR=7.8						
FINES				pP	pP	13 07 33.2	+0.8
	comp=Z,3.3nm,0.6s,baz=104,slow=7.9,SNR=3.6						
FINES				LR	LR	13 39 30.0	
	comp=Z,185nm,21.5s,MS4.2,baz=178,slow=39						
STKA	**Stephens Creek**	**66.08**	**135**	*e*P	**P**	**13 07 25.9**	**+0.1**
	comp=Z,8.5nm,1.6s,mb4.5						
STKA	**Stephens Creek**	**66.08**	**135**	P	**P**	**13 07 26.0**	**+0.2**
	comp=Z,3.4nm,0.8s,mb4.4,baz=296,slow=10.0,SNR=6.6						
STKA				LR	LR	13 38 08.4	
	comp=Z,302nm,21.7s,MS4.5,baz=116,slow=38						
ARCES	**ARCESS Array B**	**68.39**	**340**	P	**P**	**13 07 40.2**	**+0.5**
	comp=Z,3.2nm,0.8s,mb4.4,baz=68,slow=6.5,SNR=8.1						
ARCES				pP	pP	13 07 47.9	+0.5
	comp=Z,1.7nm,0.5s,baz=86,slow=6.6,SNR=3.2						
ARCES				LR	LR	13 40 58.0	
	comp=Z,228nm,19.1s,MS4.4,baz=294,slow=39						
ARCES	**ARCESS Array B**	**68.39**	**340**	P	**P**	**13 07 40.2**	**+0.5**
ARCES				pP	pP	13 07 47.9	+0.5
ARCES				LR	LR	13 40 58.0	
LSZ	**Lusaka**	**69.94**	**248**	*e*P	**P**	**13 07 51.5**	**+1.4**
BILL	**Bilibino**	**70.61**	**23**	*e*P	pP	13 08 01.4	+0.3
BILL				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
BILL				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.4						
BRG	**Berggiesshubel**	**71.49**	**319**	*e*P	pP	13 08 09.2	+2.5
BRG				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
GERES	**GERESS Array B**	**71.67**	**317**	P	**P**	**13 08 00.8**	**+0.6**
	comp=Z,1.3nm,0.7s,mb4.0,baz=117,slow=6.0,SNR=6.9						
GERES				pP	pP	13 08 09.2	+1.3
	comp=Z,1.6nm,0.6s,baz=91,slow=5.5,SNR=7.5						
NB2	**NORSAR Subarra**	**73.04**	**330**	P	pP	13 08 16.0	+0.3
	comp=Z,5.9nm,1.0s,baz=91,slow=5.8						
NOA	**NORSAR Array B**	**73.04**	**330**	P	**P**	**13 08 09.5**	**+1.6**
	comp=Z,1.3nm,0.8s,mb3.9,baz=94,slow=6.0,SNR=2.7						
NOA				pP	pP	13 08 15.9	+0.2
	comp=Z,1.8nm,0.8s,baz=90,slow=5.8,SNR=3.3						
NOA				LR	LR	13 42 27.3	
	comp=Z,160nm,19.5s,MS4.3,baz=75,slow=38						
NOA	**NORSAR Array B**	**73.04**	**330**	P	**P**	**13 08 09.5**	**+1.6**
NOA				pP	pP	13 08 15.9	+0.2
NOA				LR	LR	13 42 27.3	
LPG	**La Plagne**	**76.65**	**314**	*e*P	**P**	**13 08 34.1**	**+5.1**
	comp=Z,12nm,0.7s,mb4.6						
ILAR	**Eielson Array**	**89.25**	**22**	P	**P**	**13 09 33.2**	**-0.1**
	comp=Z,0.6nm,0.9s,mb3.9,baz=295,slow=4.2,SNR=6.7						
ILAR				LR	LR	13 52 39.8	
	comp=Z,71nm,18.7s,MS4.1,baz=174,slow=38						
SYO	**Syowa Base**	**91.24**	**197**	||P	**P**	**13 09 43.3**	**+0.9**
URZ	**Urewera**	**94.91**	**128**	LR	LR	13 51 08.0	
	comp=Z,111nm,20.3s,MS4.3,baz=243,slow=34						

IDC 13 13:04:34.1±24.0, 9.57N×94.52E, mb3.4/2, mb1 3.5/3, mb1mx3.3/18, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=604.9km s-min=41.9km az=90.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.82**	**25**	Pn	P	13 06 56.8	-2.9
	0.1nm,0.3s,baz=236,slow=16,SNR=2.4						
WRA	**Warramunga Arr**	**48.96**	**127**	P	P	13 13 22.1	-2.4
	0.4nm,0.7s,baz=306,slow=8.2,SNR=4.3						
ASAR	**Alice Springs**	**50.73**

ZAL Zalesovo 39.77 353 P P 13 30 14.5 +0.6
comp=Z,2.3nm,0.9s,mb3.9,baz=218,slow=8.0,SNR=11
BVAR Borovoye Array 42.18 340 P P 13 30 34.0 +0.3
comp=Z,0.9nm,0.7s,mb3.5,baz=153,slow=6.4,SNR=6.0
BRVK Borovoye 42.25 340 *eP* **P 13 30 34.0 -0.2**
BRVK *e* pP 13 30 42.1 -1.1
BRVK pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
BRVK Borovoye 42.25 340 *eP* **P 13 30 34.0 -0.2**
comp=Z,3.9nm,0.9s,mb4.0
BRVK *e* pP 13 30 42.1 -1.1
CHKZ Chkalovo 42.66 341 P **P 13 30 37.4 -0.2**
CHKZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
CHKZ Chkalovo 42.66 341 *eP* **P 13 30 37.5 -0.1**
comp=Z,9.8nm,0.8s,mb4.6
CHKZ *e* pP 13 30 45.6 -1.1
MBWA Marble Bar 44.47 142 *eP* **P 13 30 52.6 -0.1**
comp=Z,56nm,1.6s,mb5.0
BOD Bodaibo 46.17 16 *eP* **P 13 31 04.3 -1.4**
GNI Garni 48.70 311 *eP* **P 13 31 27.1 +1.3**
GNI pmax pmax
comp=Z,17nm,1.1s
GNI Garni 48.70 311 P **P 13 31 27.1 +1.3**
comp=Z,2.5nm,0.4s,mb4.6,baz=16,slow=16,SNR=4.9
GNI Garni 48.70 311 *eP* **P 13 31 27.1 +1.2**
comp=Z,18nm,1.1s,mb5.0
ZEI Tsey 50.13 314 *i P* **P 13 31 37.2 +0.4**
ZEI *i* *PP pP 13 31 44.4 -1.5
ZEI pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
KIV Kislovodsk 51.35 315 P **P 13 31 46.1 +0.1**
KIV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KIV Kislovodsk 51.35 315 P **P 13 31 46.1 +0.1**
comp=Z,8.0nm,0.8s,mb4.7
NWAO Narrogin (SRO) 52.82 154 P **P 13 31 57.3 +0.1**
comp=Z,8.8nm,0.8s,mb4.7,baz=73,slow=13,SNR=3.2
NWAO Narrogin (SRO) 52.82 154 P **P 13 31 54.9 -2.3**
comp=Z,64nm,1.6s,mb5.3
WRA Warramunga Arr 53.61 129 P **P 13 32 03.0 -0.2**
comp=Z,6.0nm,1.0s,mb4.5,baz=307,slow=11,SNR=56
WRA PcP PcP 13 33 10.0 +0.6
comp=Z,0.8nm,0.5s,baz=320,slow=3.4,SNR=7.6
WRAB Tennant Creek 53.61 129 *eP* **P 13 32 03.4 +0.2**
comp=Z,25nm,1.0s,mb5.1
WB2 Warramunga Arr 53.62 129 *eP* **P 13 32 03.2 -0.1**
YAK Yakutsk 54.32 21 *eP* **P 13 32 11.7 +3.9**
YAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
YAK Yakutsk 54.32 21 *eP* **P 13 32 11.7 +3.9**
comp=Z,10nm,1.0s,mb4.7
ASAR Alice Springs 55.55 133 P **P 13 32 17.6 +0.1**
comp=Z,3.5nm,0.7s,mb4.5,baz=309,slow=6.8,SNR=71
ASAR PcP PcP 13 33 17.0 +0.2
comp=Z,1.3nm,0.8s,baz=314,slow=4.3,SNR=5.4
BRTR Keskin Array B 56.91 308 P **P 13 32 25.9 -1.1**
comp=Z,2.4nm,1.0s,mb4.2,baz=120,slow=7.4,SNR=8.7
AKASG Malin Array Be 61.95 320 P **P 13 33 01.0 -0.5**
comp=Z,0.6nm,0.4s,mb4.1,baz=87,slow=4.2,SNR=4.2
MLR Muntele Rosu 63.31 314 P **P 13 33 10.8 +0.3**
comp=Z,2.3nm,0.7s,mb4.4,baz=76,slow=3.3,SNR=5.4
FINES FINESS Array B 66.08 331 P **P 13 33 27.8 -0.5**
comp=Z,6.0nm,1.1s,mb4.5,baz=135,slow=5.9,SNR=4.4
ARCES ARCESS Array B 68.47 340 P **P 13 33 43.0 -0.2**
comp=Z,3.3nm,1.0s,mb4.3,baz=83,slow=7.3,SNR=3.8
GERES GERESS Array B 71.80 317 P **P 13 34 03.2 -0.6**
comp=Z,1.0nm,0.7s,mb3.9,baz=14,slow=5.5,SNR=4.2
LPG La Plagne 76.78 314 *eP* **P 13 34 32.8 +0.2**
comp=Z,17nm,1.0s,mb4.7
BOSA Boshof 77.78 236 *eP* **P 13 34 39.4 +0.9**
comp=Z,6.1nm,1.0s,mb4.5
ILAR Eielson Array 89.23 22 P **P 13 35 40.5 +4.4**
comp=Z,0.2nm,0.7s,mb3.6,baz=290,slow=4.7,SNR=4.5

*MOS **13** 13:25:27.0±1.0, 14.49N×92.30E, h33km, mb5.0/23, Error ellipse: s-maj=13.4km s-min=9.1km az=91.9*
*IDC **13** 13:25:27.2±0.8, 14.49N×92.29E, h23km±4km, mb4.1/16, mb1 4.2/17, mb1mx4.2/21, mbtmp4.2/17, ML3.4/1, MS3.8/5, Ms1 3.9/5, ms1mx3.6/21, Error ellipse: s-maj=29.7km s-min=13.0km az=54.0*
*BJI **13** 13:25:28.2, 14.92N×92.23E, h5km, mB4.9, mb4.5, Ms4.4, Msz4.0*
*NEIC **13** 13:25:28.5±0.3, 14.54N×92.39E, h30km, mb4.8/26, Error ellipse: s-maj=9.8km s-min=7.9km az=69.0*
ISC 13 13:25:25.9±0.3, 14.49N±0.04×92.44E±0.05, h26km, h26km±1.3km; pP-P, n93, σ1°26/94, mb4.5/44, MS4.2/6, 3C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**2.83**	**174**	*eP*	**Pn**	**13 26 09.6**	**-1.0**
PBA				*e*		13 26 25.6	
PBA				*e*	**Sn**	**13 26 42.9**	**-1.4**
	comp=N,3μm,1.0s						
PBA				*e*		13 26 42.9	
	comp=E,3μm,0.9s						
CMAR	**Chiang Mai Arr**	**7.38**	**57**	Pn	**Pn**	**13 27 15.7**	**+0.8**
	comp=E,0.1nm,0.3s,baz=245,slow=15,SNR=2.1						
CMAR				Sn	**Sn**	**13 28 36.0**	**-2.6**
	comp=E,0.7nm,0.3s,baz=246,slow=16,SNR=4.3						
CMAR				LR	LR	13 30 57.3	
	comp=E,219nm,18.4s,baz=245,slow=44						
CAL	**Calcutta**	**8.90**	**335**	*e*	**P**	**13 27 36.5**	**+0.5**
CAL				*e*		13 30 49.3	
CAL				*e*		13 30 56.4	
VIS	**Vishakhapatnam**	**9.33**	**291**	*i P*	**P**	**13 27 36.0**	**-5.8**
VIS				*i* S	**Sn**	**13 29 11.3**	**-16**
HYB	**Hyderabad**	**13.67**	**284**	*i P*	**P**	**13 28 44.0**	**+3.3**
HYB				*e*		13 30 56.0	
HYB				*e*S	**S**	**13 31 08.0**	**-4.6**
LSA	**Lhasa**	**15.18**	**356**	*eP*	**P**	**13 28 56.1**	**-4.4**
LSA				pmax	pmax		
	comp=Z,44nm,1.0s						
LSA	**Lhasa**	**15.18**	**356**	*eP*	**P**	**13 28 56.1**	**-4.4**
	comp=Z,44nm,1.0s						
LATR	**Latur**	**15.72**	**287**	*eP*	**P**	**13 29 00.0**	**-7.5**
QIZ	**Qiongzhong**	**17.26**	**72**	P	**P**	**13 29 21.3**	**-5.7**
	comp=Z,67nm,1.3s						
KAD	**Karad**	**17.78**	**281**	*e*	**P**	**13 29 47.5**	**+14**
NDI	**New Delhi**	**19.96**	**317**	*eP*	**P**	**13 29 57.0**	**-2.3**
NDI				*e*		13 33 24.0	
DDI	**Dehra Dun**	**20.58**	**322**	*e*	**P**	**13 30 03.8**	**-1.8**
ENH	**Enshi**	**22.20**	**42**	*eP*	**P**	**13 30 20.8**	**-1.2**
	comp=Z,57nm,1.2s,mb4.9						
LZH	**Lanzhou**	**23.81**	**23**	*eP*	**P**	**13 30 41.0**	**+3.3**
LZH				AP		13 30 46.1	
LZH				XP		13 30 49.0	
LZH				PP	PP	13 31 14.5	+3.2
LZH				AMB	AMB		
	comp=Z,34nm,1.6s,mb4.5						
LZH				AMB	AMB		
	comp=Z,117nm,4.6s						
LZH				LR	LR		
	comp=E,461nm,15.0s						
LZH				LR	LR		
	comp=Z,641nm,16.4s,MS4.2						
XAN	**Xi'an**	**24.52**	**35**	P	**P**	**13 30 43.6**	**-1.1**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.0						
DGAR	**Diego Garcia**	**29.44**	**224**	P	**P**	**13 31 31.3**	**+1.2**
WMQ	**Urumqi**	**29.51**	**353**	*eP*	**P**	**13 31 31.3**	**+0.9**
WMQ				AP	pP	13 31 40.8	+2.9
WMQ				S	**S**	**13 36 22.3**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,32nm,4.4s						
WMQ				LR	LR		
	comp=N,1μm,17.8s,MS4.7						
WMQ				LR	LR		
	comp=E,1μm,18.9s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,18.6s,MS4.5						
BJT	**Baijiatuau**	**32.84**	**35**	P	**P**	**13 32 02.7**	**+3.0**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJT	**Baijiatuau**	**32.84**	**35**	P	**P**	**13 32 02.7**	**+3.0**
	comp=Z,7.4nm,0.6s,mb4.8						
SONM	**Songino Array**	**35.21**	**16**	P	**P**	**13 32 20.3**	**+0.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=205,slow=8.5,SNR=9.9						
ULN	**Ulaanbaatar**	**35.42**	**17**	*eP*	**P**	**13 32 23.7**	**+1.9**
ULN				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
ULN	**Ulaanbaatar**	**35.42**	**17**	*eP*	**P**	**13 32 23.6**	**+1.8**
	comp=Z,16nm,1.1s,mb4.9						
ZAK	**Zakamensk**	**36.87**	**12**	*eP*	**P**	**13 32 34.5**	**+0.5**
TLY	**Talaya**	**38.17**	**11**	*eP*	**P**	**13 32 46.7**	**+1.7**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.3						
TLY	**Talaya**	**38.17**	**11**	*eP*	**P**	**13 32 46.7**	**+1.7**
	comp=Z,8.4nm,1.2s,mb4.3						
ZAL	**Zalesovo**	**39.81**	**353**	P	**P**	**13 32 58.6**	**0.0**
	comp=Z,3.0nm,0.7s,mb4.1,baz=222,slow=7.6,SNR=14						
ZAL				LR	LR	13 53 33.8	
	comp=Z,159nm,18.2s,MS3.9,baz=304,slow=42						
NVS	**Novosibirsk**	**40.90**	**352**	*eP*	**P**	**13 33 08.1**	**+0.6**
HIA	**Hailar**	**41.26**	**27**	P	**P**	**13 33 12.4**	**+1.8**
HIA				pmax	pmax		
	comp=Z,16nm,1.7s						
HIA	**Hailar**	**41.26**	**27**	P	**P**	**13 33 12.4**	**+1.8**
	comp=Z,16nm,1.7s,mb4.4						
BVAR	**Borovoye Array**	**42.23**	**340**	P	**P**	**13 33 19.8**	**+1.3**
	comp=Z,1.6nm,0.8s,mb3.7,baz=170,slow=8.8,SNR=6.1						
BRVK	**Borovoye**	**42.29**	**340**	*eP*	**P**	**13 33 18.0**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.4						
BRVK	**Borovoye**	**42.29**	**340**	*eP*	**P**	**13 33 18.0**	**-1.0**
	comp=Z,11nm,1.1s,mb4.4						
CHKZ	**Chkalovo**	**42.71**	**341**	*eP*	**P**	**13 33 21.7**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.8						
CHKZ	**Chkalovo**	**42.71**	**341**	*eP*	**P**	**13 33 21.7**	**-0.7**
	comp=Z,17nm,0.9s,mb4.8						
MDJ	**Mudanjiang**	**43.50**	**39**	*eP*	**P**	**13 33 27.2**	**-1.7**
FITZ	**Fitzroy Crossi**	**46.05**	**134**	⇑*iP*	**P**	**13 33 49.9**	**+0.2**
	comp=Z,8.1nm,0.5s,mb4.9						
BOD	**Bodaibo**	**46.20**	**16**	*eP*	**P**	**13 33 50.3**	**-0.1**
MAJO	**Matsushiro**	**46.25**	**53**	*eP*	**P**	**13 33 51.9**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,53nm,1.7s,mb5.2						
MAJO	**Matsushiro**	**46.25**	**53**	*eP*	**P**	**13 33 51.9**	**+0.9**
	comp=Z,53nm,1.7s,mb5.2						
GNI	**Garni**	**48.75**	**311**	P	**P**	**13 34 12.9**	**+2.3**
GNI				pmax	pmax		
	comp=Z,20nm,1.0s						
GNI	**Garni**	**48.75**	**311**	P	**P**	**13 34 12.9**	**+2.3**
	comp=Z,20nm,1.0s,mb5.1						
ZEI	**Tsey**	**50.17**	**314**	*eP*	**P**	**13 34 21.6**	**+0.1**
ZEI				*i* *PP	pP	13 34 28.8	-0.5
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
GUMO	**Guam**	**50.78**	**84**	P	**P**	**13 34 19.2**	**-7.2**
GUMO				pmax	pmax		
	comp=Z,567nm,1.5s						
GUMO	**Guam**	**50.78**	**84**	P	**P**	**13 34 19.2**	**-7.3**
	comp=Z,567nm,1.5s						
KIV	**Kislovodsk**	**51.40**	**315**	*eP*	**P**	**13 34 31.3**	**+0.5**
KIV				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.8						
KIV				pmax	pmax		
	comp=N,6.0nm,0.9s						
KIV	**Kislovodsk**	**51.40**	**315**	P	**P**	**13 34 31.4**	**+0.6**
	comp=N,21nm,1.3s,mb4.9						
MUN	**Mundaring**	**51.52**	**154**	*eP*	**P**	**13 34 33.0**	**+1.2**
	comp=N,13nm,0.5s,mb5.1						
MUN	**Mundaring**	**51.52**	**154**	*eP*	**P**	**13 34 33.0**	**+1.2**
MUN				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.1						
NWAO	**Narrogin (SRO)**	**52.77**	**154**	P	**P**	**13 34 41.4**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**52.77**	**154**	P	**P**	**13 34 41.5**	**+0.2**
	comp=Z,7.5nm,0.7s,mb4.7,baz=19,slow=12,SNR=6.8						
NWAO	**Narrogin (SRO)**	**52.77**	**154**	P	**P**	**13 34 41.4**	**+0.1**
	comp=Z,9.8nm,0.7s,mb4.8						
YSS	**Yuzh-Sakhalins**	**52.78**	**41**	P	**P**	**13 34 42.8**	**+1.6**
MALT	**Malatya**	**53.04**	**307**	P	**P**	**13 34 47.4**	**+4.2**
	comp=Z,3.8nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**53.56**	**129**	P	**P**	**13 34 47.2**	**-0.1**
	comp=Z,9.8nm,0.7s,mb4.8,baz=309,slow=7.6,SNR=54						
WRA				PcP	PcP	13 35 54.1	+0.4
	comp=Z,2.7nm,0.7s,baz=316,slow=3.6,SNR=11						
WRAB	**Tennant Creek**	**53.57**	**129**	*eP*	**P**	**13 34 47.0**	**-0.3**
	comp=Z,23nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**53.57**	**129**	⇓*iP*	**P**	**13 34 47.3**	**0.0**
YAK	**Yakutsk**	**54.35**	**21**	*eP*	**P**	**13 34 54.3**	**+1.8**
YAK				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.2						
YAK	**Yakutsk**	**54.35**	**21**	*eP*	**P**	**13 34 54.3**	**+1.8**
	comp=Z,23nm,0.8s,mb5.2						
ASPA	**Alice Springs**	**55.51**	**133**	⇓*iP*	**P**	**13 35 01.6**	**+0.1**
ASAR	**Alice Springs**	**55.51**	**133**	P	**P**	**13 35 01.6**	**+0.1**
	comp=Z,6.0nm,0.7s,mb4.8,baz=308,slow=6.8,SNR=56						
ASAR				PcP	PcP	13 36 01.5	+0.4
	comp=Z,2.5nm,0.6s,baz=316,slow=3.6,SNR=9.5						
KMBO	**Kilima Mbogo**	**56.77**	**259**	LR	LR	13 55 31.4	
	comp=Z,75nm,19.1s,MS3.8,baz=71,slow=32						
BRTR	**Keskin Array B**	**56.96**	**308**	P	**P**	**13 35 10.7**	**-1.0**
	comp=Z,1.4nm,0.8s,mb4.0,baz=126,slow=6.0,SNR=4.6						
OBN	**Obninsk**	**58.95**	**326**	*eP*	**P**	**13 35 29.3**	**+3.9**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
TIXI	**Tiksi**	**61.14**	**12**	*eP*	**P**	**13 35 37.3**	**-2.8**
TIXI				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.9						
MA2	**Magadan**	**61.78**	**29**	P	**P**	**13 35 39.3**	**-5.3**
MA2				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.9						
MA2	**Magadan**	**61.78**	**29**	P	**P**	**13 35 39.3**	**-5.3**
	comp=Z,11nm,1.0s,mb4.9						
AKASG	**Malin Array Be**	**62.00**	**320**	P	**P**	**13 35 44.6**	**-1.6**
	comp=Z,0.2nm,0.3s,mb3.7,baz=87,slow=5.4,SNR=3.0						
MLR	**Muntele Rosu**	**63.35**	**314**	P	**P**	**13 35 54.3**	**-1.0**
	comp=Z,2.5nm,0.7s,mb4.4,baz=92,slow=8.8,SNR=4.9						
STKA	**Stephens Creek**	**65.90**	**135**	P	**P**	**13 36 11.8**	**-0.3**
	comp=Z,2.4nm,0.8s,mb4.3,baz=311,slow=8.8,SNR=3.3						
STKA	**Stephens Creek**	**65.90**	**135**	P	**P**	**13 36 11.8**	**-0.3**
FINES	**FINESS Array B**	**66.13**	**331**	P	**P**	**13 36 11.8**	**-1.2**
	comp=Z,3.2nm,1.0s,mb4.3,baz=63,slow=4.3,SNR=3.4						
FINES				pP	pP	13 36 19.4	-1.6
	comp=Z,7.6nm,1.0s,baz=117,slow=8.5,SNR=3.1						
ARCES	**ARCESS Array B**	**68.52**	**340**	P	**P**	**13 36 26.9**	**-1.0**
	comp=Z,3.1nm,0.9s,mb4.2,baz=45,slow=5.1,SNR=4.6						
ARCES				pP	pP	13 36 35.1	-0.8
	comp=Z,1.3nm,0.6s,baz=96,slow=8.1,SNR=1.4						
LSZ	**Lusaka**	**70.06**	**248**	*eP*	**P**	**13 36 38.4**	**+0.1**
LSZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
LSZ	**Lusaka**	**70.06**	**248**	*eP*	**P**	**13 36 38.4**	**+0.1**
	comp=Z,3.2nm,0.8s,mb4.3						
BILL	**Bilibino**	**70.62**	**23**	*eP*	**P**	**13 36 39.2**	**-1.6**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
BILL	**Bilibino**	**70.62**	**23**	*eP*	**P**	**13 36 39.2**	**-1.6**
	comp=Z,10nm,1.3s,mb4.6						
GERES	**GERESS Array B**	**71.84**	**317**	P	**P**	**13 36 47.7**	**-0.8**
	comp=Z,1.1nm,0.7s,mb3.9,baz=117,slow=9.0,SNR=5.2						
GERES				pP	pP	13 36 55.2	-1.3
	comp=Z,2.5nm,0.7s,baz=90,slow=5.3,SNR=8.9						
NB2	**NORSAR Subarra**	**73.19**	**330**	P	**P**	**13 37 01.9**	**+5.7**
	comp=Z,6.5nm,1.0s,mb4.5,baz=91,slow=4.8						
NB2	**NORSAR Subarra**	**73.19**	**330**	P	**P**	**13 37 01.9**	**+5.7**
NB2				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
NOA	**NORSAR Array B**	**73.19**	**330**	P	**P**	**13 36 55.2**	**-1.0**
	comp=Z,1.5nm,0.8s,mb4.0,baz=94,slow=5.9,SNR=3.0						
NOA				pP	pP	13 37 02.8	-1.4
	comp=Z,2.7nm,0.8s,baz=90,slow=5.8,SNR=4.4						
LPG	**La Plagne**	**76.82**	**314**	*eP*	**P**	**13 37 15.3**	**-2.0**
	comp=Z,6.6nm,0.5s,mb4.5						
LPG	**La Plagne**	**76.82**	**314**	*eP*	**P**	**13 37 15.3**	**-2.0**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BOSA	**Boshof**	**77.77**	**236**	*eP*	**P**	**13 37 23.5**	**+0.6**
BOSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
BOSA	**Boshof**	**77.77**	**236**	*eP*	**P**	**13 37 23.5**	**+0.6**
	comp=Z,5.1nm,0.6s,mb4.6						
SUR	**Sutherland**	**82.77**	**234**	P	**P**	**13 37 51.2**	**+1.8**
	comp=Z,14nm,1.0s,mb4.9						
ESDC	**Sonseca Array**	**85.71**	**310**	P	**P**	**13 38 04.0**	**-0.2**
	comp=Z,0.8nm,0.7s,mb4.0,baz=56,slow=4.6,SNR=3.2						
BORG	**Borgarnes**	**86.72**	**337**	LR	LR	14 22 54.8	
	comp=Z,92nm,20.1s,MS4.2,baz=264,slow=40						
ILAR	**Eielson Array**	**89.26**	**22**	P	**P**	**13 38 19.8**	**-1.0**
	comp=Z,0.5nm,0.8s,mb3.9,baz=288,slow=4.3,SNR=4.4						
RES	**Resolute Bay**	**90.89**	**2**	*eP*	**P**	**13 38 33.7**	**+5.6**
RES				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.0						
RES	**Resolute Bay**	**90.89**	**2**	*eP*	**P**	**13 38 33.7**	**+5.6**
	comp=Z,5.7nm,0.8s,mb5.0						
SYO	**Syowa Base**	**91.21**	**197**	⇑P	**P**	**13 38 31.6**	**+1.9**
SYO	**Syowa Base**	**91.21**	**197**	⇑pP	pP	13 38 40.8	+2.9
URZ	**Urewera**	**94.73**	**128**	LR	LR	14 26 38.3	
	comp=Z,94nm,20.1s,MS4.2,baz=221,slow=39						

IDC 13 13:28:37.2±9.6, 10.89N×91.81E, mb3.8/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.7/3, MS3.7/2, Ms1 3.7/2, ms1mx3.3/25, Error ellipse: s-maj=409.9km s-min=43.8km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**49.86**	**152**	LR	LR	13 54 45.5	
	comp=Z,48nm,21.6s,baz=135,slow=31						
WRA	**Warramunga Arr**	**51.87**	**126**	P	P	13 37 47.6	-2.3
	1.1nm,0.7s,baz=306,slow=8.5,SNR=5.6						
ASAR	**Alice Springs**	**53.60**	**130**	P	P	13 38 00.7	-2.1
	0.4nm,0.5s,baz=308,slow=6.7,SNR=5.6						
PMG	**Port Moresby**	**58.62**	**108**	LR	LR	14 08 45.7	
	comp=Z,90nm,18.4s,baz=48,slow=41						
ILAR	**Eielson Array**	**92.82**	**22**	P	P	13 41 51.5	-1.1
	0.4nm,0.8s,baz=307,slow=4.5,SNR=3.4						

*IDC **13** 13:31:32.2±7.6, 5.62S×146.48E, h92km±79km, mb3.3/3, mb1 3.5/5, mb1mx3.3/14, mbtmp3.7/5, ML3.4/2, Error ellipse: s-maj=66.4km s-min=33.4km az=140.0*
ISC 13 13:31:30.1±5.4, 5.6S±0.3×146.3E±0.3, h82km±55km, n5, σ0°47/6, mb3.5/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.89**	**168**	P	**P**	**13 32 29.1**	**+0.1**
	5.8nm,0.3s,baz=354,slow=3.6,SNR=18						
PMG				S	**S**	**13 33 13.6**	**-0.1**
	14nm,0.3s,baz=13,slow=9.8,SNR=15						
WRA	**Warramunga Arr**	**18.44**	**218**	P	**P**	**13 35 41.2**	**-0.4**
	0.2nm,0.3s,baz=38,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**21.61**	**212**	P	**P**	**13 36 15.3**	**+0.4**
	0.4nm,0.4s,mb3.1,baz=47,slow=8.0,SNR=7.7						
ILAR	**Eielson Array**	**85.36**	**23**	P	**P**	**13 43 59.0**	**-0.2**
	0.8nm,0.6s,mb3.9,baz=252,slow=5.1,SNR=24						
BVAR	**Borovoye Array**	**86.04**	**324**	P	**P**	**13 44 02.9**	**+0.1**
	0.5nm,0.8s,mb3.5,baz=117,slow=3.2,SNR=2.9						

CASC 13 13:32:40.8±1.2, 12.70N×88.01W, h57km±17km, MD3.9, 9C-12D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.60**	**17**	⇓*eP*	P	13 32 53.8	+0.2
CNCH				*e*S	S	13 33 03.9	+0.7
VSM	**San Miguel**	**0.77**	**340**	⇑*eP*	P	13 32 56.4	+0.6
VSM				*e*S	S	13 33 08.2	+1.2
BLLM	**Bellamira**	**0.77**	**343**	⇓*eP*	P	13 32 55.9	+0.1
BLLM				*e*S	S	13 33 07.8	+0.8
CRIN	**San Cristobal**	**0.94**	**90**	⇓*eP*	P	13 32 58.6	+0.5
CRIN				*e*S	S	13 33 12.0	+1.1
CAHU	**Cacacuatique**	**1.08**	**350**	⇓*eP*	P	13 32 59.8	-0.3
CAHU				*e*S	S	13 33 15.8	+1.5
LEON	**Leon**	**1.13**	**104**	⇑*eP*	P	13 33 00.2	-0.5
LEON				*e*S	S	13 33 15.2	-0.3
TEL3	**Telica 3**	**1.15**	**96**	⇓*eP*	P	13 33 00.5	-0.4
TEL3				*e*S	S	13 33 15.8	-0.1
TELN	**Telica**	**1.16**	**95**	⇑*eP*	P	13 33 00.6	-0.4
TELN				*e*S	S	13 33 16.8	+0.6
SNVI	**San Vicente**	**1.21**	**318**	*eP*	P	13 33 02.4	+0.5
SNVI				*e*S	S	13 33 17.8	+0.3
MIRN	**Miramar**	**1.29**	**101**	⇓*eP*	P	13 33 02.7	-0.4
MIRN				*e*S	S	13 33 19.3	-0.3
CNGN	**Cerro Negro**	**1.30**	**99**	⇑*eP*	P	13 33 02.4	-0.7
CNGN				*e*S	S	13 33 20.7	+1.0
LCBS	**La Ceiba**	**1.34**	**315**	⇑*eP*	P	13 33 03.4	-0.3
LCBS				*e*S	S	13 33 20.3	-0.4
LFRS	**El Faro**	**1.37**	**312**	⇓*eP*	P	13 33 04.1	-0.1
LFRS				*e*S	S	13 33 21.6	0.0
LBRS	**Las Brisas**	**1.44**	**316**	*eP*	P	13 33 04.4	-0.8
MOMJ	**Momotombo**	**1.47**	**101**	⇓*eP*	P	13 33 04.9	-0.6
MOMJ				*e*S	S	13 33 24.0	+0.2
COPN	**Copaltepe**	**1.48**	**110**	⇓*eP*	P	13 33 05.3	-0.4
COPN				*e*S	S	13 33 23.4	-0.8
LFU	**La Fuente**	**1.50**	**314**	*eP*	P	13 33 04.9	-1.0
LFU				*e*S	S	13 33 23.9	-0.6
BOQS	**Boqueron**	**1.61**	**310**	⇓*eP*	P	13 33 07.8	+0.3
APYN	**Apoyeque**	**1.69**	**106**	⇑*eP*	P	13 33 08.2	-0.4
APYN				*e*S	S	13 33 29.8	+0.7
XAVN	**Gruta Xavier**	**1.73**	**108**	⇓*eP*	P	13 33 09.1	-0.1
MGAN	**Managua**	**1.81**	**108**	*eP*	P	13 33 09.6	-0.7
MGAN				*e*S	S	13 33 32.0	0.0
TICN	**Ticuantepe**	**1.86**	**111**	⇑*eP*	P	13 33 10.8	-0.2
TICN				*e*S	S	13 33 33.5	+0.2
PYTN	**Playitas**	**1.91**	**95**	⇑*eP*	P	13 33 10.5	-1.2
PYTN				*e*S	S	13 33 34.2	-0.3
SBLS	**San Blas**	**1.93**	**306**	⇑*eP*	P	13 33 12.4	+0.4
S

SGKT	Sivrigoynuk	3.52	66	*i* P	Pg	13 38 30.3	-4.1
SGKT				*i* S	Sg	13 39 19.8	-1.5
NSAL	Nisos Salamina	3.67	251	*e*PG	Pg	13 38 32.5	-4.7
KARP	Karpathos	3.68	189	*e*PN	Pn	13 38 22.5	+0.3

*IDC **13** 13:38:57.6±1.4, 38.61N×27.41E, mb3.1/1, mb1 3.5/5, mb1mx3.3/20, mbtmp3.4/5, ML3.9/5, MS2.7/1, Ms1 2.7/1, ms1mx2.5/10, Error ellipse: s-maj=18.5km s-min=15.3km az=128.0*
*THE **13** 13:39:01.7, 39.15N×27.99E, h1km, ML4.2*
*MOS **13** 13:39:02.4±1.4, 39.23N×27.82E, h10km, mb4.3/2, Error ellipse: s-maj=9.7km s-min=7.5km az=76.7*
*ISK **13** 13:39:02.8, 39.18N×27.73E, h16km, MD3.8*
*CSEM **13** 13:39:03.0±0.1, 39.21N×27.84E, h10km, MD3.8, Error ellipse: s-maj=1.6km s-min=1.4km az=174.0*
*NEIC **13** 13:39:03.4±0.5, 39.18N×27.71E, h10km, mb3.9/2, MD4.1(ATH), Error ellipse: s-maj=7.8km s-min=5.8km az=37.0*
*ZUR_RM **13** 13:39:03, 39.18N×27.71E, h15km, Mw4.3/18, Moment Tensor Solution. s18 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.79; $M_{\theta\theta}$1.77; $M_{\phi\phi}$-0.98; $M_{r\theta}$-0.76; $M_{\theta\phi}$-2.78; $M_{\phi r}$0.30; Best double couple: $M_0$3.18×10^{15} NP1:ϕ_s257°, δ86°, λ169°. NP2:ϕ_s347°, δ79°, λ4°. Principal axes: T 3.645, Plg10°, Azm212°; N -.923, Plg79°, Azm56°; P -2.722, Plg5°, Azm302°;*
*ATH **13** 13:39:04.7, 39.37N×27.79E, h38km±37km, MD4.1/7*
ISC 13 13:39:02.1±0.5, 39.19N±0.01×27.77E±0.02, h4km±4km, n120, σ1§01/145, mb3.4/2, 3C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	Balikesir	0.46	11	*i* PG	Pg	13 39 12.6	+1.2
BALB				*i* SG	Sg	13 39 20.1	+2.6
BTOK	Tokmak	0.61	19	*i* P	Pg	13 39 15.1	+0.8
BTOK				*i* S	Sg	13 39 23.0	+0.6
AYVA	Ayvalik	0.85	279	*i* P	Pb	13 39 19.5	+0.5
AYVA				*i* S	Sg	13 39 33.8	+3.5
KDAG	Bornova	0.88	207	*i* P	Pb	13 39 19.9	+0.3
KDAG				*i* S	Sg	13 39 31.4	+0.1
IZM	Izmir	0.88	207	*i* PG	Pg	13 39 19.7	-0.1
MANT	Manisa	0.93	138	*i* P	Pb	13 39 20.9	+0.4
MANT				*i* S	Sb	13 39 33.5	+0.6
BLCB	Balcova	0.98	216	*i* PG	Pg	13 39 21.8	+0.1
BLCB				*i* SG	Sg	13 39 35.2	+0.4
EDC	Edincik	1.16	4	PN	Pn	13 39 25.8	+0.7
PRK	Paraskevi	1.16	273	*e*PB	Pb	13 39 26.0	+1.5
PRK	Paraskevi	1.16	273	*e*Pn	Pn	13 39 25.7	+0.6
PRK				*e*Sb	Sb	13 39 42.8	+3.1
KCT	Karacabey	1.17	23	PN	Pn	13 39 25.3	+0.1
BNT	Bandirma	1.17	6	PN	Pn	13 39 25.5	+0.2
ORLT	Orhaneli	1.22	45	PN	Pn	13 39 26.1	+0.1
EZN	Ezine	1.29	300	PN	Pn	13 39 27.3	+0.4
LPK	Lapseki	1.42	327	PN	Pn	13 39 28.7	0.0
MRMT	Marmara Adasi	1.42	355	PN	Pn	13 39 28.2	-0.6
ULDT	Uludag	1.42	47	*i* P	Pn	13 39 29.6	+0.7
ULDT				*i* S	Sb	13 39 48.1	+0.8
BOZC	Bozcaada	1.48	297	*i* P	Pn	13 39 30.3	+0.6
BOZC				*i* S	Sb	13 39 49.9	+0.9
AYDN	Tasoluk	1.53	177	*i* P	Pn	13 39 30.2	-0.1
AYDN				*i* S	Sb	13 39 50.5	+0.2
SART	Tekirdag	1.57	343	*i* P	Pn	13 39 31.6	+0.7
SART				*i* S	Sb	13 39 51.9	+0.5
ARMT	Armutlu	1.61	31	PN	Pn	13 39 32.0	+0.4
KHL	Karahalli	1.62	122	PN	Pn	13 39 32.3	+0.6
MFT	Murefte	1.64	347	PN	Pn	13 39 31.6	-0.4
SMG	Samos	1.65	207	*e*PN	Pb	13 39 34.0	+1.3
SMG				*e*SN	Sn	13 39 58.3	+4.4
SMG	Samos	1.65	207	*e*Pb	Pb	13 39 34.0	+1.3
SMG				*e*Sg	Sg	13 39 58.0	+1.0
DENT	Denizli	1.74	145	PN	Pn	13 39 33.9	+0.5
DNZL	Cakiroluk	1.80	146	*i* P	Pn	13 39 34.8	+0.6
DNZL				*i* S	Sn	13 39 57.1	-0.6
ALT	Altintas	1.83	93	PN	Pn	13 39 35.2	+0.6
YLV	Yalova	1.85	41	PN	Pn	13 39 34.5	-0.4
MLSB	Milas	1.89	180	PN	Pn	13 39 34.7	-0.8
BADT	Buyukada	1.96	31	PN	Pn	13 39 36.4	-0.1
CTT	Catalca	2.02	14	PN	Pn	13 39 37.0	-0.4
LIA	Limnos Island	2.12	290	*e*PN	Pn	13 39 39.0	+0.2
ISK	Istanbul-Kandi	2.12	27	PN	Pn	13 39 38.3	-0.5
BDRM	Kayabasi	2.13	187	*i* P	Pn	13 39 39.7	+0.7
ALN	Alexandroupoli	2.16	323	*e*Pn	Pn	13 39 40.0	+0.6
ALN				*e*Sn	Sn	13 40 08.3	+1.4
HRT	Hereke	2.19	41	PN	Pn	13 39 39.0	-0.8
LOS	Limnos	2.21	291	*e*Pn	Pn	13 39 40.7	+0.7
GPA	Golpazari	2.25	60	*e*PN	Pn	13 39 40.9	+0.3
ESKT	Eskisehir	2.41	81	*i* P	Pn	13 39 43.6	+0.6
ESKT				*i* S	Sn	13 40 17.3	+3.9
ESKT	Eskisehir	2.41	81	*e*Pn	Pn	13 39 43.4	+0.4
DALT	Dalyan (Mudla)	2.51	164	*e*PN	Pn	13 39 44.4	0.0
ISP	Isparta	2.53	121	*e*PN	Pn	13 39 44.4	-0.3
ISP	Isparta	2.53	121	*e*Pn	Pn	13 39 44.9	+0.2
RDO	Rodhopi	2.60	320	*e*PB	Pb	13 39 46.2	-2.8
FETY	Fethiye	2.75	157	*e*PN	Pn	13 39 48.4	+0.6
APE	Apeiranthos	2.75	221	*e*PN	Pn	13 39 47.7	-0.2
APE	Apeiranthos	2.75	221	*e*P	Pn	13 39 47.6	-0.3
APE	Apeiranthos	2.75	221	*e*PB	Pb	13 39 52.5	+0.8
EDRB	Edirne	2.77	344	*e*PN	Pn	13 39 47.9	-0.2
BCK	Bucak	2.81	127	*e*PN	Pn	13 39 48.5	-0.2
HENT	Hendek	2.91	55	*i* P	Pn	13 39 50.0	-0.1
HENT				*i* S	Sn	13 40 33.3	+7.4
MDU	Mudurnu	2.94	63	*e*PN	Pn	13 39 51.4	+0.8
ELL	Elmali	2.96	145	*e*PN	Pn	13 39 50.5	-0.4
ARG	Arkhangelos	2.98	174	*e*PN	Pn	13 39 54.0	+2.9
AOS	Alonnisos	3.02	271	*e*Pn	Pn	13 39 51.6	-0.1
KDZ	Kurdzhali	3.05	325	*i* P	Pn	13 39 52.0	0.0
OUR	Ouranopolis	3.13	293	*e*Pn	Pn	13 39 53.2	-0.1
KIZT	Kizilcal	3.22	94	*e*PN	Pn	13 39 54.9	+0.4
PAIG	Paliouri	3.25	284	*e*Pn	Pn	13 39 54.6	-0.2
PAIG				*e*Sn	Sn	13 40 37.1	+2.6
DIM	Dimitrovgrad	3.33	330	*i* P	Pn	13 39 55.5	-0.5
SANT	Santorini	3.35	214	*e*Pn	Pn	13 39 56.1	-0.3
SANT				*e*		13 40 05.2	
SANT	Santorini	3.35	214	*e*Pn	Pn	13 39 56.1	-0.3
KSL	Kastellorizon	3.36	154	*e*Pg	Pg	13 40 07.0	-2.1
JMB	Yambol	3.40	345	*i* P	Pn	13 39 58.0	+1.0
RZN	Rozhen	3.42	318	*i* P	Pn	13 39 57.0	-0.3
PLG	Polygyros	3.54	291	*e*PN	Pn	13 39 57.8	-1.2
XOR	Xorichti	3.56	274	*e*Pn	Pn	13 39 58.9	-0.4
SGKT	Sivrigoynuk	3.58	66	*i* P	Pn	13 40 00.4	+0.8
SGKT				*i* S	Sb	13 40 54.9	+5.1
NSAL	Nisos Salamina	3.61	251	*e*Pg	Pg	13 40 11.5	-2.7
NAIG	Nisos Aigina	3.65	248	*e*Pg	Pg	13 40 12.5	-2.5
KARP	Karpathos	3.67	188	*e*PN	Pn	13 40 00.5	-0.3
NVR	Nevrokopi	3.69	307	*e*PN	Pn	13 39 59.9	-1.2
MGER	Gerania Oros	3.73	253	*e*Pg	Pg	13 40 14.0	-2.6
PLD	Plovdiv	3.73	322	*i* P	Pn	13 40 02.0	+0.2
SRS	Serrai	3.74	302	*e*Pn	Pn	13 40 01.4	-0.4
SOH	Sokhos	3.76	297	*e*Pn	Pn	13 40 01.5	-0.7
KONT	Konya--Tatoy	3.81	108	*e*PN	Pn	13 40 02.8	0.0
MMB	Musomiste	3.91	309	*i* P	Pn	13 40 03.0	-1.3
ANTO	Ankara	3.94	78	*e*PN	Pn	13 40 05.2	+0.4
LIT	Litokhoron	4.18	284	*e*Pn	Pn	13 40 08.5	+0.5
KNT	Kendrikon	4.22	299	*e*Pn	Pn	13 40 08.7	0.0
AGG	Agios Georgios	4.23	269	*e*Pn	Pn	13 40 09.4	+0.5
NPS	Neapolis	4.28	204	*e*P	Pn	13 40 09.9	+0.4
SZH	Strazhica	4.30	342	*i* P	Pn	13 40 10.0	+0.1
PGB	Panagyurishte	4.33	322	*i* P	Pn	13 40 10.0	-0.3
PVL	Pavlikeni	4.42	336	*i* P	Pn	13 40 10.0	-1.6
GRG	Griva	4.48	295	*e*Pn	Pn	13 40 13.0	+0.5
PSN	Preselentsi	4.50	4	*i* P	Pn	13 40 11.0	-1.7
IDI	Anoyia	4.52	211	Pn	Pn	13 39 58.7	-14
	0.9nm,0.3s,baz=294,slow=19,SNR=3.1						
IDI				Lg		13 40 59.2	
	1.1nm,0.3s,baz=53,slow=10,SNR=2.2						
BRTR	Keskin Array B	4.58	81	P	Pn	13 40 14.2	+0.4
BRTR						13 41 12.9	
BRTR	Keskin Array B	4.58	81	Pn	Pn	13 40 14.2	+0.4
	3.3nm,0.3s,baz=254,slow=13,SNR=21						
BRTR				Pg	Pg	13 40 29.6	-3.9
	3.4nm,0.3s,baz=257,slow=15,SNR=12						
BRTR				Sn	Sn	13 41 12.9	+4.8
	2.7nm,0.3s,baz=266,slow=22,SNR=4.4						
BRTR				Lg		13 41 33.9	
	4.3nm,0.3s,baz=260,slow=26,SNR=14						
BRTR	Keskin Array B	4.58	81	Pn	Pn	13 40 14.1	+0.3
BALT	Daday	4.89	60	*i* P	Pn	13 40 05.6	-13
BALT				*i* S	Sb	13 41 31.7	+3.8
FNA	Florina	5.16	290	*e*Pn	Pn	13 40 22.6	+0.5
GVD	Gavdhos	5.24	215	*e*Pn	Pn	13 40 23.0	-0.2
	22nm,0.8s						
SKO	Skopje	5.56	302	⇑*i*Pn	Pn	13 40 29.6	+1.9
BOYT	Boyabat	5.89	65	*i* P	Pn	13 40 31.4	-0.9
BOYT				*i* S	Sb	13 42 01.3	+4.3
CSS	Prodhromos	6.13	132	*e*P	Pn	13 40 30.6	-5.1
	15nm,0.6s						
BOLS	Boljevac	6.37	319	⇓*i*Pn	Pn	13 40 37.6	-1.5
MLR	Muntele Rosu	6.44	348	Pn	Pn	13 40 40.9	+0.8
	3.7nm,0.3s,baz=141,slow=2.3,SNR=13						
MLR				Sn	Sn	13 41 51.4	-3.6
	4.3nm,0.3s,baz=140,slow=19,SNR=3.2						
MLR				Lg		13 42 37.9	
	baz=315,slow=20,SNR=4.5						
SIM	Simferopol'	7.45	37	*e*P	Pn	13 40 53.5	-0.7
SIM				*e*S	Sn	13 42 12.8	-7.3
SIM				pmax	pmax		
	comp=Z,234nm,0.3s						
SIM				MLR	MLR		
	comp=Z,200nm,16.0s						
SIM	Simferopol'	7.45	37	*e*P	Pn	13 40 53.5	-0.7
	comp=Z,117nm,0.3s						
KIS	Kishinev	7.84	5	*e*P	Pn	13 41 09.0	+9.2
TIP	Timpagrande	8.55	273	*e*P	P	13 41 07.3	-2.4
PKSM	Moragy	9.71	319	⇑*e*P	P	13 41 23.5	-2.1
SOC	Sochi	9.99	60	*e*P	P	13 41 26.1	-3.4
SOC				*e*		13 43 18.1	
SOC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SOC				pmax	pmax		
	comp=N,2.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,8.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,154nm,9.0s						
SOC				MLR	MLR		
	comp=N,98nm,10.0s						
SOC				MLR	MLR		
	comp=E,125nm,8.0s						
ASF	Jabal al Asfar	10.20	131	LR	LR	13 45 33.6	
	comp=E,41nm,19.0s,baz=175,slow=39						
AKASG	Malin Array Be	11.56	5	P	P	13 41 51.5	+0.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	11.56	5	Pn	P	13 41 51.5	+0.5
	comp=Z,0.9nm,0.3s,baz=192,slow=12,SNR=5.6						
KIV	Kislovodsk	12.14	62	*e*P	P	13 41 58.3	-0.5
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KIV				pmax	pmax		
	comp=E,4.0nm,0.8s						
KIV				MLR	MLR		
	comp=Z,68nm,15.0s						
KIV	Kislovodsk	12.14	62	*e*P	P	13 41 58.3	-0.5
	comp=Z,34nm,15.0s						
GNI	Garni	13.12	80	*e*P	P	13 42 09.7	-2.2
GNI				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GNI				MLR	MLR		
	comp=Z,100nm,16.0s						
GNI	Garni	13.12	80	*e*P	P	13 42 09.7	-2.2
	comp=Z,50nm,16.0s						
GERES	GERESS Array B	13.97	318	Pn	P	13 42 22.1	-0.9
	comp=Z,0.1nm,0.3s,baz=133,slow=13,SNR=2.5						
OBN	Obninsk	17.00	17	⇓*i*P	P	13 43 01.8	-0.3
OBN				pmax	pmax		
	comp=Z,4.0nm,0.4s						
OBN	Obninsk	17.00	17	*i* P	P	13 43 01.8	-0.3
	comp=Z,2.0nm,0.4s						
SSF	Saint Saulge	19.33	302	*e*P	P	13 43 22.9	-8.0
	comp=Z,16nm,1.4s						
ARU	Arti	26.60	39	⇑*i*P	P	13 44 40.0	-3.0
ARU				*e*PPP	PPP	13 45 33.7	-5.1
ARU				*e*S	S	13 49 13.4	-3.0
ARU				*e*SSS	SSS	13 50 32.1	-12
ARU				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
YKA	Yellowknife Ar	74.24	343	P	P	13 50 39.1	-2.3
	comp=Z,0.2nm,0.9s,mb3.1,baz=36,slow=5.3,SNR=2.4						

IDC 13 14:08:50.2±8.1, 19.75S×177.38W, h532km±94km, mb3.1/5, mb1 3.3/6, mb1mx3.1/15, mbtmp4.1/6, Error ellipse: s-maj=48.7km s-min=31.1km az=25.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	19.06	193	P	P	14 12 38.2	-0.9
	1.1nm,0.3s,baz=246,slow=12,SNR=6.5						
CTA	Charters Tower	34.15	263	P	P	14 14 51.4	-0.8
	3.9nm,1.1s,baz=94,slow=10,SNR=7.5						
STKA	Stephens Creek	38.64	243	P	P	14 15 28.6	-0.4
	0.9nm,0.5s,baz=73,slow=14,SNR=3.7						
ASAR	Alice Springs	45.26	256	P	P	14 16 20.3	-1.4
	3.5nm,0.8s,baz=89,slow=8.1,SNR=40						
ASAR				PcP	PcP	14 17 49.0	-1.7
	0.3nm,0.4s,baz=111,slow=3.9,SNR=4.3						
WRA	Warramunga Arr	45.29	261	P	P	14 16 20.1	-1.9
	1.5nm,0.7s,baz=98,slow=7.8,SNR=39						
ILAR	Eielson Array	87.45	13	P	P	14 20 40.5	-0.8
	0.4nm,0.7s,baz=227,slow=5.5,SNR=5.1						

*IDC **13** 14:15:39.3±1.0, 14.42N×92.47E, mb3.9/6, mb1 4.0/7, mb1mx3.9/19, mbtmp3.8/7, ML3.1/1, Error ellipse: s-maj=38.5km s-min=18.2km az=58.0*
ISC 13 14:15:43.2±2.6, 15.05N±0.04×92.34E±0.05, h32km±22km, n18, σ1§01/22, mb3.9/6, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	3.39	173	*e*P	Pn	14 16 36.0	+0.7
PBA				*e*S	Sn	14 17 14.4	-0.5
PBA				*e*		14 17 30.9	
	comp=E,441nm,1.2s						
PBA				*e*		14 17 31.3	
	comp=N,337nm,1.0s						
CMAR	Chiang Mai Arr	7.18	61	Pn	Pn	14 17 28.9	+0.1
	comp=N,0.1nm,0.3s,baz=245,slow=15,SNR=5.3						
CMAR				Sn	Sn	14 18 48.7	-1.4
	comp=N,0.3nm,0.3s,baz=246,slow=29,SNR=5.0						
SHL	Shillong	10.48	358	*e*P	P	14 18 14.0	-0.5
SHL				*e*S	S	14 20 12.5	+0.7
HYB	Hyderabad	13.45	282	*e*P	P	14 19 06.0	+12
HYB				*e*S	S	14 21 23.5	-0.1
JIRN	Jiri	13.79	337	*e*P	P	14 18 58.3	-0.7
	comp=N,3.7nm,0.3s						
PKI	Pulchoki	14.03	334	*e*P	P	14 19 02.0	-0.1
	comp=N,15nm,0.6s						
GUN	Gumba	14.14	336	*e*P	P	14 19 03.1	-0.4
	comp=N,16nm,0.6s						
DMN	Daman	14.20	333	*e*P	P	14 19 04.2	-0.1
	comp=N,33nm,0.7s						
KKN	Kakani	14.28	334	*e*P	P	14 19 05.7	+0.3
GKN	Gorkha	14.74	332	*e*P	P	14 19 11.6	+0.1
	comp=N,30nm,0.6s						
KOLN	Koldanda	15.04	329	*e*P	P	14 19 15.3	-0.1
	comp=N,24nm,0.6s						
POO	Poona	18.04	284	*e*P	S	14 23 09.0	-1.5
SONM	Songino Array	34.71	17	P	P	14 22 35.8	+3.6
	comp=N,1.0nm,0.9s,mb3.8,baz=224,slow=6.1,SNR=5.1						
ZAL	Zalesovo	39.25	353	P	P	14 23 14.9	+4.4
	comp=N,1.5nm,0.5s,mb4.0,baz=181,slow=3.3,SNR=7.0						
BVAR	Borovoye Array	41.68	340	P	P	14 23 33.9	+3.5
	comp=N,0.2nm,0.4s,mb3.1,baz=104,slow=5.9,SNR=2.6						
WRA	Warramunga Arr	53.99	129	P	P	14 25 01.9	-4.9
	comp=N,3.8nm,0.8s,mb4.4,baz=315,slow=8.3,SNR=30						
WRA				PcP	PcP	14 26 08.5	-3.1
	comp=N,0.6nm,0.8s,baz=316,slow=3.9,SNR=6.4						
ASAR	Alice Springs	55.96	133	P	P	14 25 16.0	-5.1
	comp=N,2.3nm,0.7s,mb4.3,baz=311,slow=6.8,SNR=17						
ASAR				PcP	PcP	14 26 16.1	-3.1
	comp=N,0.9nm,1.1s,baz=302,slow=2.4,SNR=5.0						
BRTR	Keskin Array B	56.54	308	P	P	14 25 27.7	+2.6
	comp=N,0.5nm,0.7s,mb3.7,baz=130,slow=11,SNR=2.4						

MAN 13 14:18:05.2, 9.23N×122.90E, h4km, mb2.9, ML2.6, MS4.1, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.35	71	*e*P	Pg	14 18 13.0	+0.8
SNPH				*e*S	Sg	14 18 20.5	+3.6
DCPH	Dipolog City	0.78	145	⇓*i*P	Pg	14 18 20.1	-0.6
DCPH				*i* S	Sg	14 18 30.8	-0.3
GUIM	Jordan	1.42	348	*e*P	Pn	14 18 31.9	+0.1
GUIM				*e*S	Sb	14 18 50.7	+0.3
PAGZ	Pagadian	1.45	161	*e*P	Pn	14 18 31.8	-0.4
PAGZ				*e*S	Sb	14 18 51.7	+0.6
IPIL	Ipil	1.47	193	*e*P	Pn	14 18 32.6	+0.2
IPIL				*e*S	Sb	14 18 52.7	+1.2
MSLP	Maasin	2.13	65	*e*P	Pn	14 18 47.6	+5.6
CUYO	Cuyo Island	2.46	311	*e*P	Pn	14 18 46.7	+0.1

*CSEM **13** 14:27:22.8±0.1, 39.47N×25.98E, h10km, MD3.3, Error ellipse: s-maj=2.6km s-min=2.2km az=147.0*
*ISK **13** 14:27:22.7, 39.48N×25.95E, h12km, MD3.3*
*THE **13** 14:27:23.8, 39.48N×25.88E, h13km, ML2.8*
ISC 13 14:27:22.4±0.8, 39.50N±0.03×25.84E±0.04, h10km±5km, n24, σ1§00/34, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	Bozcaada	0.38	26	*i* P	Pg	14 27 30.0	-0.2
BOZC				*i* S	Sg	14 27 35.9	+0.5
EZN	Ezine	0.50	49	*i* PG	Pg	14 27 32.0	-0.5
EZN				*i* SG	Sg	14 27 39.1	-0.1
AYVA	Ayvalik	0.69	106	*i* P	Pb	14 27 37.0	+0.8
AYVA				*i* S	Sb	14 27 47.6	+2.2
LOS	Limnos	0.72	307	*e*Pg	Pg	14 27 38.4	+1.4
ALN	Alexandroupoli	1.40	6	*e*Pb	Pb	14 27 48.6	+0.3
ALN				*e*Sb	Sb	14 28 06.8	+0.7
ALN	Alexandroupoli	1.40	6	*e*Pb	Pb	14 27 48.6	+0.3
ALN				*e*Sb	Sb	14 28 06.8	+0.6
BLCB	Balcova	1.46	139	*e*PN	Pn	14 27 49.1	+0.1
AOS	Alonnisos	1.55	258	*e*Pb	Pb	14 27 50.8	-0.1
KDAG	Bornova	1.56	134	*i* P	Pn	14 27 52.2	+1.7
KDAG				*i* S	Sb	14 28 13.7	+2.8
IZM	Izmir	1.57	134	*e*PN	Pn	14 27 50.5	0.0
SART	Tekirdag	1.57	41	*i* P	Pn	14 27 51.0	+0.3
SART				*i* S	Sb	14 28 12.9	+1.9
BALB	Balikesir	1.59	84	*e*PN	Pn	14 27 49.2	-1.7
BALB				*e*SN	Sn	14 28 10.6	-0.9
OUR	Ouranopolis	1.65	301	*e*Pb	Pb	14 27 51.8	-0.8
AKS	Akhisar	1.66	111	*e*PN	Pn	14 27 50.6	-1.2
MFT	Murefte	1.69	40	PN	Pn	14 27 52.3	-0.1
MFT				SN	Sn	14 28 14.2	-0.2
PAIG	Paliouri	1.72	285	*e*Pb	Pb	14 27 52.5	-1.2
PAIG				*e*Sb	Sb	14 28 16.1	+0.8
MRMT	Marmara Adasi	1.74	50	*i* PN	Pn	14 27 53.3	+0.2
EDC	Edincik	1.77	61	*e*PN	Pn	14 27 52.3	-1.2
BNT	Bandirma	1.81	61	*e*PN	Pn	14 27 53.3	-0.8
KCT	Karacabey	2.08	68	*e*PN	Pn	14 27 56.7	-1.2
APE	Apeiranthos	2.44	186	*e*PN	Pn	14 28 03.0	-0.1
EDRB	Edirne	2.44	16	*e*PN	Pn	14 28 04.0	+0.9
BADT	Buyukada	2.85	61	*e*PN	Pn	14 28 08.4	-0.5
YLV	Yalova	2.92	67	*e*PN	Pn	14 28 08.4	-1.4

*NEIC **13** 14:51:11.5, 31.66S×68.41W, h150km, MD3.9(GUC), After GUC.*
GUC 13 14:51:11.5±0.6, 31.66S×68.41W, h150km, MD3.9, ML3.4, 3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	Jahuel	2.11	241	*e*P	P	14 51 48.7	+0.4
JACH				*i* S	S	14 52 18.8	+2.2
FCH	Farellones	2.30	223	*e*P	P	14 51 51.3	+0.6
FCH				*i* S	S	14 52 22.1	+1.4
FCH				AMP		14 52 25.4	
	comp=E,70nm,0.2s						
TLL	Tololo Astrono	2.54	305	*e*P	P	14 51 54.1	+0.4
TLL				*i* S	S	14 52 26.8	+0.8
TLL				AMP		14 52 33.7	
	comp=E,194nm,0.3s						
ROCH	El Roble	2.56	239	⇓*i*P	P	14 51 54.3	+0.4
ROCH				*i* S	S	14 52 26.9	+0.4
PCH	Pirque	2.64	222	*e*P	P	14 51 55.3	+0.3
PACH	Papudo	2.71	250	⇓*i*P	P	14 51 54.9	-1.1
PACH				*i* S	S	14 52 28.2	-1.6
RCDM	Rinconada Maip	2.73	227	⇓*i*P	P	14 51 56.3	+0.3
RCDM				*i* S	S	14 52 30.3	+0.2
RCDM				AMP		14 52 33.6	
	comp=N,161nm,0.1s						
TACH	Talagante	2.92	226	*i* P	P	14 51 58.0	-0.5
TACH				*i* S	S	14 52 33.9	-0.5
CHCH	Chadas Angostu	2.95	219	*e*P	P	14 51 59.0	+0.1

*ATH **13** 14:51:50.7, 37.06N×28.13E, h40km, MD3.2/3*
*CSEM **13** 14:51:52.1±0.1, 37.03N×27.84E, h25km, MD3.2, Error ellipse: s-maj=3.7km s-min=2.2km az=57.0*
*ISK **13** 14:51:52.0, 37.02N×27.80E, h28km, MD3.2*
ISC 13 14:51:52.6±0.5, 36.98N±0.04×27.76E±0.05, h27km±5km, n15, σ0§85/21, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.27	289	*i* P	Pb	14 51 58.9	-0.5
BDRM				*i* S	Sb	14 52 03.8	-0.2
MLSB	Milas	0.32	2	*i* PG	Pb	14 51 59.3	-0.7
MLSB				*i*

MAN 13 15:05:40.5, 17.73N×120.79E, h35km, mb4.0, ML2.8, MS2.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.11**	**222**	*eP*	P	15 05 46.9	+0.4
ABRA				*eS*	S	15 05 51.1	+0.3
APYP	**Conner**	**0.45**	**73**	*eP*	P	15 05 51.6	+1.2
APYP				*eS*	S	15 05 59.8	+2.4
CVP	**Callao Caves**	**0.98**	**91**	*eP*	P	15 05 59.0	+1.0
CVP				*eS*	S	15 06 11.0	+0.1
CAUP	**Cauayan**	**1.26**	**128**	*eP*	P	15 06 01.8	-0.1
CAUP				*eS*	S	15 06 18.7	+0.8
BCPH	**Baguio City Da**	**1.36**	**188**	⇑*iP*	P	15 06 03.5	+0.2
BCPH				*i* S	S	15 06 12.8	-7.5
BALP	**Baler**	**2.12**	**159**	*eP*	P	15 06 12.1	-2.1
BALP				*eS*	S	15 06 36.7	-2.9

IDC 13 15:06:36.3±9.3, 5.00S×103.23E, mb3.4/3, mb1 3.6/3, mb1mx3.4/15, mbtmp3.4/3, Error ellipse: s-maj=331.4km s-min=32.5km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.72**	**119**	P	P	15 13 20.0	-1.7
	0.2nm,0.5s,baz=294,slow=9.8,SNR=2.9						
ASAR	**Alice Springs**	**34.90**	**125**	P	P	15 13 29.6	-2.3
	0.6nm,1.1s,baz=298,slow=7.7,SNR=4.2						
SONM	**Songino Array**	**52.68**	**3**	P	P	15 15 52.5	-2.2
	0.6nm,0.8s,baz=182,slow=7.9,SNR=4.3						

SNSN 13 15:19:35.9, 24.95N×36.28E, Ml2.3
CSEM 13 15:19:37.1±0.1, 25.05N×36.41E, h2km, ML3.2, Error ellipse: s-maj=4.3km s-min=2.2km az=3.0
HLW 13 15:19:37.8, 25.00N×36.42E, h2km, Mb3.2

ISC 13 15:19:38.1±0.7, 25.1N±0.1×36.40E±0.05, h10km, n10, σ0°59/11, 4C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMJS	**Umm Lajj**	**0.85**	**77**	P	**Pb**	**15 19 54.6**	**+0.1**
EMRS	**Mersa Alam**	**1.42**	**269**	⇑P	**Pn**	**15 20 04.2**	**+0.2**
HAGS	**Hagol**	**1.45**	**243**	⇑P	**Pn**	**15 20 04.4**	**-0.1**
YNBS	**Yanbu' al Bahr**	**1.61**	**116**	P	**Pn**	**15 20 06.4**	**-0.5**
HADB		**1.64**	**281**	⇑P	**Pn**	**15 20 07.6**	**+0.4**
HQSR		**1.95**	**292**	⇑P	**Pn**	**15 20 11.8**	**+0.1**
DBAS	**Duba**	**2.19**	**350**	P	**Pn**	**15 20 14.7**	**-0.3**
HSFG		**2.69**	**305**	P	**Pn**	**15 20 22.2**	**-0.1**
KBRS	**Khaybar**	**2.69**	**74**	P	**Pn**	**15 20 22.4**	**0.0**
HEDF	**Idfu**	**2.92**	**272**	P	**Pn**	**15 20 26.9**	**+1.4**
HEDF				S	**Sn**	**15 20 59.8**	**-1.2**

BJI 13 15:32:36.8, 3.87N×95.42E, h58km, mB5.0, mb4.8, Ms4.7, Msz4.3
MOS 13 15:32:37.8±1.0, 4.58N×95.59E, h33km, mb5.1/15, Error ellipse: s-maj=15.0km s-min=8.6km az=111.0
IDC 13 15:32:39.7±0.6, 4.47N×95.44E, h32km±3km, mb4.2/18, mb1 4.4/19, mb1mx4.3/25, mbtmp4.4/19, ML4.8/1, MS3.1/1, Ms1 3.3/1, ms1mx2.6/24, Error ellipse: s-maj=24.6km s-min=12.1km az=41.0
NEIC 13 15:32:39.3±0.3, 4.45N×95.46E, h30km, mb4.8/19, Error ellipse: s-maj=9.3km s-min=5.5km az=46.0

ISC 13 15:32:37.2±0.3, 4.39N±0.05×95.44E±0.05, h30km, n97, σ1°14/98, mb4.6/49, MS4.6/1, 4C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**5.84**	**62**	P	**Sn**	**15 35 12.0**	**+1.1**
	344nm,0.9s						
NNT	**Nongplab**	**9.18**	**27**	P	**P**	**15 34 55.5**	**+4.7**
KKTK	**Khon Kaen**	**13.90**	**31**	P	**P**	**15 36 05.0**	**+10**
	370nm,0.8s						
CMAR	**Chiang Mai Arr**	**14.39**	**13**	Pn	**P**	**15 36 06.1**	**+5.0**
	1.3nm,0.3s,baz=206,slow=12,SNR=114						
CMAR				LR	LR	15 41 59.3	
	comp=Z,79nm,20.8s,baz=200,slow=39						
CHG	**Chiang Mai**	**14.73**	**13**	⇑P	**P**	**15 36 12.6**	**+7.0**
	20nm,0.9s						
PALK	**Pallekele**	**14.94**	**282**	*eP*	**P**	**15 36 13.5**	**+5.1**
	23nm,0.8s						
NANT	**Nan**	**15.21**	**19**	P	**P**	**15 36 18.5**	**+6.6**
COCO	**West Island**	**16.53**	**175**	P	**P**	**15 36 33.9**	**+5.0**
HYB	**Hyderabad**	**21.01**	**309**	*eP*	**P**	**15 37 22.5**	**+1.6**
HYB	**Hyderabad**	**21.01**	**309**	*i P*	**P**	**15 37 18.5**	**-2.4**
HYB				*eS*	**S**	**15 41 12.0**	**+3.6**
JIRN	**Jiri**	**24.76**	**340**	*eP*	**P**	**15 37 58.6**	**+0.7**
	33nm,0.6s,mb5.0						
PKI	**Pulchoki**	**24.95**	**338**	*eP*	**P**	**15 38 00.9**	**+1.2**
	8.0nm,0.6s,mb4.5						
GUN	**Gumba**	**25.10**	**340**	*eP*	**P**	**15 38 02.3**	**+1.2**
	38nm,0.5s,mb5.2						
DMN	**Daman**	**25.10**	**338**	*eP*	**P**	**15 38 02.3**	**+1.2**
KKN	**Kakani**	**25.20**	**338**	*eP*	**P**	**15 38 02.3**	**+0.2**
	19nm,0.7s,mb4.7						
LSA	**Lhasa**	**25.50**	**351**	P	**P**	**15 38 05.0**	**+0.2**
LSA	**Lhasa**	**25.50**	**351**	*eP*	**P**	**15 38 05.8**	**+1.0**
LSA				pmax	pmax		
	comp=Z,23nm,0.5s,mb5.0						
LSA	**Lhasa**	**25.50**	**351**	*eP*	**P**	**15 38 05.8**	**+0.9**
	comp=Z,23nm,0.5s,mb5.0						
LSA				*eS*	**S**	**15 42 36.0**	**+8.4**
GKN	**Gorkha**	**25.63**	**337**	*eP*	**P**	**15 38 06.5**	**+0.4**
	comp=Z,12nm,0.3s,mb4.9						
KOLN	**Koldanda**	**25.84**	**335**	*eP*	**P**	**15 38 07.0**	**-1.0**
	comp=Z,31nm,0.6s,mb5.0						
ENH	**Enshi**	**28.95**	**26**	*eP*	**P**	**15 38 35.6**	**-0.7**
	comp=Z,13nm,1.1s,mb4.6						
XAN	**Xi'an**	**32.05**	**21**	P	**P**	**15 39 02.4**	**-1.3**
XAN				AMB	AMB		
	comp=Z,38nm,0.8s,mb5.3						
FITZ	**Fitzroy Crossi**	**37.23**	**128**	*eP*	**P**	**15 39 47.7**	**-0.5**
	comp=Z,10nm,0.7s,mb4.8						
JOW	**Kunigami**	**38.48**	**51**	P	**P**	**15 40 00.1**	**+1.5**
	comp=Z,13nm,0.5s,mb4.9,baz=286,slow=29,SNR=4.7						
WMQ	**Urumqi**	**39.86**	**351**	*eP*	**P**	**15 40 10.8**	**+0.9**
WMQ				AP	pP	15 40 20.5	+1.6
WMQ				PP	PP	15 41 46.8	+1.5
WMQ				S	**S**	**15 46 11.8**	**-0.5**
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,38nm,5.2s						
WMQ				LR	LR		
	comp=N,658nm,20.3s,MS4.6						
WMQ				LR	LR		
	comp=E,661nm,21.4s,MS4.6						
WMQ				LR	LR		
	comp=Z,872nm,21.6s,MS4.6						
BJT	**Baijiatuau**	**40.10**	**25**	*eP*	**P**	**15 40 13.4**	**+1.5**
BJT				pmax	pmax		
	comp=Z,29nm,0.7s						
BJT	**Baijiatuau**	**40.10**	**25**	*eP*	**P**	**15 40 13.4**	**+1.5**
	comp=Z,29nm,0.7s,mb5.1						
KZA	**Kyzart**	**41.63**	**337**	P	**P**	**15 40 26.3**	**+1.8**
	SNR=6.1						
UCH	**Uchtor**	**42.04**	**337**	P	**P**	**15 40 29.8**	**+1.9**
	SNR=20						
TKM2	**Tokmak 2**	**42.22**	**338**	P	**P**	**15 40 30.6**	**+1.3**
	SNR=6.2						
KBK	**Karagaybulak**	**42.24**	**337**	P	**P**	**15 40 31.1**	**+1.6**
	SNR=21						
AML	**Almayashu**	**42.29**	**336**	P	**P**	**15 40 31.8**	**+1.9**
	SNR=29						
AAK	**Ala-Archa**	**42.39**	**337**	P	**P**	**15 40 33.2**	**+2.4**
	SNR=12						
AAK	**Ala-Archa**	**42.39**	**337**	*eP*	**P**	**15 40 31.3**	**+0.5**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**42.39**	**337**	*eP*	**P**	**15 40 31.3**	**+0.6**
	comp=Z,9.0nm,0.8s,mb4.5						
CHMS	**Chumysh**	**42.60**	**337**	P	**P**	**15 40 33.6**	**+1.1**
	SNR=5.2						
EKS2	**Erkin-Say**	**42.70**	**336**	P	**P**	**15 40 35.1**	**+1.8**
	SNR=14						
USP	**Ospenovka**	**42.93**	**337**	P	**P**	**15 40 36.1**	**+1.0**
	SNR=24						
MKAR	**Makanchi Array**	**43.75**	**347**	*eP*	**P**	**15 40 41.1**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**44.29**	**11**	P	**P**	**15 40 45.4**	**-0.8**
	comp=Z,0.8nm,0.4s,mb3.8,baz=191,slow=8.5,SNR=12						
SONM				PcP	PcP	15 42 30.4	-0.2
	comp=Z,0.8nm,0.5s,baz=192,slow=3.6,SNR=6.2						
ULN	**Ulaanbaatar**	**44.44**	**11**	*eP*	**P**	**15 40 46.6**	**-0.8**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
ULN	**Ulaanbaatar**	**44.44**	**11**	*eP*	**P**	**15 40 46.6**	**-0.8**
	comp=Z,2.4nm,0.9s,mb3.9						
WRA	**Warramunga Arr**	**45.23**	**124**	P	**P**	**15 40 54.6**	**+0.5**
	comp=Z,17nm,0.7s,mb5.0,baz=301,slow=9.3,SNR=128						
WRA				pP	pP	15 41 03.5	+0.5
	comp=Z,27nm,0.8s,baz=302,slow=9.2,SNR=11						
WRAB	**Tennant Creek**	**45.23**	**124**	*eP*	**P**	**15 40 54.7**	**+0.6**
WRAB				*e*		15 41 08.2	
WRAB				pmax	pmax		
	comp=Z,122nm,1.1s,mb5.6						
WRAB	**Tennant Creek**	**45.23**	**124**	*eP*	**P**	**15 40 54.6**	**+0.6**
	comp=Z,122nm,1.1s,mb5.6						
WRAB				*e*		15 41 08.2	
WB2	**Warramunga Arr**	**45.24**	**124**	*eP*	**P**	**15 40 54.7**	**+0.6**
WB2	**Warramunga Arr**	**45.24**	**124**	*eP*	pP	15 41 03.4	+0.3
ASPA	**Alice Springs**	**46.72**	**128**	⇑*iP*	**P**	**15 41 06.4**	**+0.6**
ASAR	**Alice Springs**	**46.73**	**128**	P	**P**	**15 41 06.5**	**+0.7**
	comp=Z,6.4nm,0.5s,mb4.8,baz=298,slow=7.7,SNR=121						
ASAR				sP	sP	15 41 20.0	+1.5
	comp=Z,6.6nm,0.5s,baz=299,slow=8.0,SNR=11						
TLY	**Talaya**	**47.62**	**7**	*eP*	**P**	**15 41 12.4**	**-0.1**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
TLY	**Talaya**	**47.62**	**7**	*eP*	**P**	**15 41 12.4**	**-0.1**
	comp=Z,2.7nm,0.9s,mb4.3						
HIA	**Hailar**	**49.25**	**21**	*eP*	**P**	**15 41 25.0**	**-0.1**
HIA				*e*		15 41 38.0	
HIA				pmax	pmax		
	comp=Z,20nm,0.7s						
HIA	**Hailar**	**49.25**	**21**	*eP*	**P**	**15 41 25.0**	**-0.1**
	comp=Z,20nm,0.7s,mb5.2						
HIA				*e*		15 41 38.0	
ZAL	**Zalesovo**	**50.15**	**352**	P	**P**	**15 41 31.7**	**-0.2**
	comp=Z,4.9nm,0.3s,mb5.0,baz=224,slow=7.1,SNR=30						
MAJO	**Matsushiro**	**50.61**	**45**	P	**P**	**15 41 31.8**	**-3.9**
MAJO				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.1						
MAJO	**Matsushiro**	**50.61**	**45**	P	**P**	**15 41 31.8**	**-3.9**
	comp=Z,40nm,1.6s,mb5.1						
NVS	**Novosibirsk**	**51.26**	**351**	*i P*	**P**	**15 41 38.1**	**-2.3**
NVS				*eS*	**S**	**15 49 01.8**	**+6.2**
NVS				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
NVS				pmax	pmax		
	comp=N,2.0nm,0.4s						
NVS				smax			
	comp=N,12nm,1.8s						
BVA0	**Borovoye Array**	**52.68**	**341**	P	**P**	**15 41 49.6**	**-1.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
BVAR	**Borovoye Array**	**52.68**	**341**	P	**P**	**15 41 50.2**	**-0.9**
	comp=Z,5.7nm,0.7s,mb4.6,baz=135,slow=8.4,SNR=36						
BRVK	**Borovoye**	**52.74**	**341**	*eP*	**P**	**15 41 50.2**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
BRVK	**Borovoye**	**52.74**	**341**	*eP*	**P**	**15 41 50.2**	**-1.4**
	comp=Z,7.8nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**53.16**	**342**	*eP*	**P**	**15 41 53.5**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
CHKZ	**Chkalovo**	**53.16**	**342**	*eP*	**P**	**15 41 53.5**	**-1.2**
	comp=Z,16nm,0.8s,mb5.0						
KLR	**Kul'dur**	**54.25**	**29**	*eP*	**P**	**15 42 00.0**	**-2.7**
BOD	**Bodaibo**	**55.24**	**12**	*eP*	**P**	**15 42 07.8**	**-2.0**
CTAO	**Charters Tower**	**55.51**	**118**	*eP*	**P**	**15 42 12.4**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
CTAO	**Charters Tower**	**55.51**	**118**	*eP*	**P**	**15 42 12.3**	**0.0**
	comp=Z,10nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**56.79**	**133**	P	**P**	**15 42 21.2**	**-0.2**
	comp=Z,2.7nm,0.8s,mb4.3,baz=104,slow=10.0,SNR=3.0						
GNI	**Garni**	**57.80**	**315**	P	**P**	**15 42 28.5**	**+0.2**
	comp=Z,2.5nm,0.5s,mb4.5,baz=117,slow=16,SNR=2.0						
KMBO	**Kilima Mbogo**	**58.40**	**266**	P	**P**	**15 42 34.0**	**+1.2**
	comp=Z,2.9nm,0.7s,mb4.5,baz=57,slow=11,SNR=13						
ZEI	**Tsey**	**59.46**	**318**	*eP*	sP	15 42 55.2	+2.6
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
KIV	**Kislovodsk**	**60.76**	**319**	P	**P**	**15 42 47.6**	**-1.1**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.9						
KIV	**Kislovodsk**	**60.76**	**319**	P	**P**	**15 42 47.6**	**-1.2**
	comp=Z,11nm,1.1s,mb4.9						
MALT	**Malatya**	**61.70**	**311**	*eP*	**P**	**15 42 54.9**	**-0.3**
	comp=Z,4.2nm,1.1s,mb4.5						
EIL	**Elat**	**62.30**	**301**	P	**P**	**15 42 56.5**	**-2.8**
YAK	**Yakutsk**	**62.89**	**17**	*eP*	**P**	**15 43 00.7**	**-2.0**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.2						
YAK	**Yakutsk**	**62.89**	**17**	*eP*	**P**	**15 43 00.7**	**-2.0**
	comp=Z,8.5nm,0.5s,mb5.1						
BRTR	**Keskin Array B**	**65.68**	**312**	P	**P**	**15 43 20.2**	**-1.1**
	comp=Z,1.7nm,0.7s,mb4.2,baz=131,slow=7.5,SNR=9.2						
BRTR				sP	sP	15 43 33.8	-0.2
	comp=Z,1.5nm,0.5s,baz=132,slow=8.6,SNR=4.9						
MA2	**Magadan**	**69.25**	**27**	*eP*	**P**	**15 43 42.5**	**-0.9**
MA2				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
MA2	**Magadan**	**69.25**	**27**	*eP*	**P**	**15 43 42.5**	**-0.9**
	comp=Z,20nm,1.2s,mb4.9						
LSZ	**Lusaka**	**69.38**	**252**	*eP*	**P**	**15 43 45.1**	**+0.2**
LSZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
LSZ	**Lusaka**	**69.38**	**252**	*eP*	**P**	**15 43 45.1**	**+0.2**
	comp=Z,3.4nm,0.7s,mb4.4						
TIXI	**Tiksi**	**70.38**	**11**	*eP*	**P**	**15 43 47.4**	**-2.7**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
IDI	**Anoyia**	**71.62**	**306**	P	**P**	**15 43 57.9**	**-0.3**
	comp=Z,7.1nm,1.0s,mb4.5,baz=69,slow=9.0,SNR=7.0						
AKASG	**Malin Array Be**	**71.67**	**322**	P	**P**	**15 43 56.5**	**-1.8**
	comp=Z,0.8nm,0.4s,mb4.0,baz=84,slow=5.8,SNR=5.0						
MLR	**Muntele Rosu**	**72.56**	**316**	P	**P**	**15 44 03.5**	**-0.1**
	comp=Z,1.9nm,0.6s,mb4.2,baz=167,slow=7.1,SNR=7.1						
JOF	**Joensuu**	**74.53**	**335**	*ep*	**P**	**15 44 14.0**	**-0.7**
FINES	**FINESS Array B**	**76.37**	**332**	P	**P**	**15 44 24.7**	**-0.6**
	comp=Z,1.7nm,0.4s,mb4.3,baz=108,slow=6.8,SNR=19						
FINES				sP	sP	15 44 39.2	+1.2
	comp=Z,2.7nm,0.5s,baz=107,slow=6.5,SNR=2.6						
KAF	**Kangasniemi**	**76.46**	**333**	*ep*	**P**	**15 44 25.5**	**-0.2**
BILL	**Bilibino**	**78.83**	**21**	*eP*	**P**	**15 44 38.1**	**-0.6**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BILL	**Bilibino**	**78.83**	**21**	*eP*	**P**	**15 44 38.1**	**-0.6**
	comp=Z,2.4nm,0.6s,mb4.3						
ARCES	**ARCESS Array B**	**78.96**	**340**	P	**P**	**15 44 39.5**	**+0.1**
	comp=Z,1.7nm,0.4s,mb4.4,baz=98,slow=6.2,SNR=26						
GERES	**GERESS Array B**	**81.27**	**319**	P	**P**	**15 44 52.9**	**+0.8**
	comp=Z,1.7nm,0.9s,mb4.0,baz=90,slow=4.0,SNR=7.4						
GERES				sP	sP	15 45 08.7	+3.8
	comp=Z,1.6nm,0.6s,baz=90,slow=4.0,SNR=6.5						
HFS	**Hagfors**	**82.10**	**330**	P	**P**	**15 44 56.1**	**0.0**
	comp=Z,1.5nm,0.5s,mb4.2,baz=153,slow=6.6,SNR=7.4						
HFS				sP	sP	15 45 11.9	+3.0
	comp=Z,3.0nm,0.8s,baz=108,slow=4.7,SNR=1.7						
SYO	**Syowa Base**	**82.49**	**198**	⇑X	**P**	**15 44 57.7**	**-0.3**
SYO	**Syowa Base**	**82.49**	**198**	⇑PcP	PcP	15 45 06.3	+2.7
DAVOX	**Davos**	**83.78**	**316**	P	**P**	**15 45 06.0**	**+0.9**
	comp=Z,3.2nm,0.6s,mb4.6,baz=359,slow=2.5,SNR=6.2						

IDC 13 15:41:55.6±0.7, 13.96N×93.15E, mb4.2/15, mb1 4.3/16, mb1mx4.2/22, mbtmp4.2/16, ML4.0/1, MS3.9/9, Ms1 3.9/9, ms1mx3.7/23, Error ellipse: s-maj=28.9km s-min=14.8km az=52.0
BJI 13 15:41:58.9, 13.78N×93.11E, h46km, mB5.0, mb4.5, Ms4.4, Msz4.1
MOS 13 15:41:58.8±1.0, 14.06N×93.22E, h33km, mb4.8/18, Error ellipse: s-maj=13.0km s-min=9.0km az=103.4
NEIC 13 15:42:00.3±0.3, 14.00N×93.20E, h30km, mb4.7/16, Error ellipse: s-maj=9.2km s-min=7.7km az=138.0

ISC 13 15:41:57.7±1.8, 14.10N±0.05×93.19E±0.04, h24km±13km, n88, σ1°19/93, mb4.5/35, MS4.1/12, 2C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.47**	**190**	*eP*	**Pn**	**15 42 40.5**	**+3.1**
PBA				*e*		15 42 51.5	
NNT	**Nongplab**	**6.55**	**102**	P	**Pn**	**15 43 39.0**	**+3.9**
NST	**Nakhon Sawan**	**6.89**	**76**	P	**Pn**	**15 43 40.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**7.02**	**51**	Pn	**Pn**	**15 43 42.6**	**+0.8**
	0.7nm,0.3s,baz=240,slow=15,SNR=20						
CMAR				Sn	**Sn**	**15 45 00.7**	**-1.1**
	2.3nm,0.3s,baz=246,slow=22,SNR=5.9						
CHG	**Chiang Mai**	**7.24**	**49**	PN	**Pn**	**15 43 49.5**	**+4.6**
CHG				SG	**Sn**	**15 45 06.0**	**-1.3**
CHRT	**Chiangrai**	**8.53**	**47**	P	**P**	**15 44 05.0**	**+2.2**
NANT	**Nan**	**8.59**	**56**	P	**Sn**	**15 45 40.0**	**-0.9**
BWNR	**Bhubaneshwar**	**9.36**	**312**	*eP*	**P**	**15 44 11.5**	**-2.9**
BWNR				*e*		15 45 45.3	
BWNR				*e*		15 46 05.9	
	comp=E,185nm,0.4s						
BWNR				*e*		15 46 06.0	
	comp=N,138nm,0.5s						
VIS	**Vishakhapatnam**	**10.14**	**292**	*eP*	**P**	**15 44 22.9**	**-2.4**
VIS				*eS*	**S**	**15 46 07.1**	**-12**
VIS				*e*		15 46 10.6	
	comp=E,108nm,0.3s						
VIS				*e*		15 46 10.6	
	comp=N,171nm,0.3s						
SHL	**Shillong**	**11.47**	**354**	⇑*iP*	**P**	**15 44 39.0**	**-4.4**
SHL				*i* S	**S**	**15 46 45.0**	**-6.8**
BLSP	**Bilaspur**	**13.19**	**309**	*e*	**P**	**15 45 01.5**	**-4.9**
BLSP				*eS*	**S**	**15 47 24.2**	**-9.1**
PALK	**Pallekele**	**14.01**	**242**	*eP*	**P**	**15 45 14.1**	**-3.3**
PALK				*eS*	**S**	**15 47 32.7**	**-20**
HYB	**Hyderabad**	**14.47**	**285**	*eP*	**P**	**15 45 17.0**	**-6.2**
HYB				*eS*	**S**	**15 47 43.5**	**-20**
HYB	**Hyderabad**	**14.47**	**285**	*i P*	**P**	**15 45 17.0**	**-6.2**
HYB				*e*		15 47 43.5	
HYB				*eS*	**S**	**15 48 04.5**	**+0.8**
JIRN	**Jiri**	**14.99**	**335**	*eP*	**P**	**15 45 30.8**	**+0.8**
	comp=N,58nm,0.8s						
NGP	**Nagpur**	**15.18**	**299**	*e*	**P**	**15 45 48.5**	**+16**
NGP				*e*		15 48 42.0	
PKI	**Pulchoki**	**15.24**	**333**	*eP*	**P**	**15 45 32.7**	**-0.6**
	comp=N,40nm,0.8s						
GUN	**Gumba**	**15.34**	**335**	*eP*	**P**	**15 45 35.2**	**+0.7**
	comp=N,35nm,0.7s						
DMN	**Daman**	**15.41**	**332**	*eP*	**P**	**15 45 35.5**	**0.0**
	comp=N,50nm,0.8s						
LSA	**Lhasa**	**15.64**	**353**	*eP*	**P**	**15 45 44.1**	**+5.6**
LSA				pmax	pmax		
	comp=Z,46nm,1.1s						
LSA	**Lhasa**	**15.64**	**353**	*eP*	**P**	**15 45 44.1**	**+5.7**
	comp=Z,46nm,1.1s						
KOLN	**Koldanda**	**16.27**	**328**	*eP*	**P**	**15 45 45.8**	**-0.8**
BHPL	**Bhopal**	**17.47**	**304**	*eP*	**P**	**15 46 02.0**	**+0.3**
BHPL				*e*		15 46 04.4	
	comp=Z,6.2nm,0.5s						
BHPL				*e*		15 49 08.4	
KAD	**Karad**	**18.57**	**282**	*e*	**P**	**15 46 26.0**	**+11**
POO	**Poona**	**19.07**	**286**	*eP*	**P**	**15 46 22.0**	**+0.7**
POO				*i*		15 49 38.0	
NDI	**New Delhi**	**20.74**	**317**	*eP*	**P**	**15 46 37.5**	**-1.9**
NDI				*e*		15 50 22.0	
DDI	**Dehra Dun**	**21.34**	**322**	*e*	**P**	**15 46 44.3**	**-1.1**
ENH	**Enshi**	**22.02**	**40**	*eP*	**P**	**15 46 52.6**	**+0.3**
	comp=Z,36nm,1.2s,mb4.7						
LZH	**Lanzhou**	**23.89**	**22**	*eP*	**P**	**15 47 12.5**	**+1.9**
LZH				PP	PP	15 47 46.5	+2.0
LZH				AMB	AMB		
	comp=Z,72nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,126nm,4.0s						
LZH				LR	LR		
	comp=E,617nm,14.7s						
LZH				LR	LR		
	comp=Z,866nm,15.4s,MS4.3						
WMQ	**Urumqi**	**29.99**	**352**	*eP*	**P**	**15 48 08.6**	**+1.8**
WMQ				AP	pP	15 48 18.3	+4.4
WMQ				PP	PP	15 49 07.3	+2.5
WMQ				S	**S**	**15 53 03.8**	**+1.8**
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,33nm,4.5s						
WMQ				LR	LR		
	comp=N,987nm,17.7s,MS4.6						
WMQ				LR	LR		
	comp=E,912nm,18.8s,MS4.6						
WMQ				LR	LR		
	comp=Z,1μm,18.2s,MS4.5						
AAK	**Ala-Archa**	**32.69**	**334**	⇑*iP*	**P**	**15 48 30.5**	**0.0**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.5						
MKAR	**Makanchi Array**	**33.85**	**347**	*i P*	**P**	**15 48 40.9**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SONM	**Songino Array**	**35.38**	**15**	P	**P**	**15 48 54.8**	**+1.1**
	comp=Z,10nm,1.2s,mb4.6,baz=198,slow=7.8,SNR=23						
ULN	**Ulaanbaatar**	**35.59**	**16**	*eP*	**P**	**15 48 56.3**	**+0.9**
ULN				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7						
ULN	**Ulaanbaatar**	**35.59**	**16**	*eP*	**P**	**15 48 56.3**	**+1.0**
	comp=Z,13nm,1.4s,mb4.7						
ZAK	**Zakamensk**	**37.11**	**11**	*eP*	**P**	**15 49 09.1**	**+1.0**
TLY	**Talaya**	**38.42**	**10**	⇓*iP*	**P**	**15 49 18.5**	**-0.7**
TLY				pmax	pmax	

SOC *e*PPP PPP 15 54 32.8 -3.7
SOC *e*S **S** **15 59 02.6 +5.8**
SOC pmax pmax
comp=Z,13nm,0.8s,mb4.9
SOC pmax pmax
comp=N,8.0nm,0.5s
SOC pmax pmax
comp=E,4.0nm,0.5s
ASF Jabal al Asfar 54.20 300 LR LR 16 14 53.7
comp=E,73nm,21.8s,MS3.7,baz=164,slow=36
YAK Yakutsk 54.47 20 *e*P **P** **15 51 23.4 -2.0**
YAK pmax pmax
comp=Z,11nm,1.0s,mb4.7
YAK Yakutsk 54.47 20 *e*P **P** **15 51 23.4 -2.0**
comp=Z,11nm,1.0s,mb4.7
ASAR Alice Springs 54.71 133 P **P** **15 51 26.6 -1.1**
comp=Z,0.7nm,0.4s,mb4.0,baz=308,slow=6.8,SNR=15
EIL Elat 55.69 296 LR LR 16 17 25.8
comp=Z,104nm,21.7s,MS3.9,baz=282,slow=38
KMBO Kilima Mbogo 57.41 259 P **P** **15 51 48.0 +0.7**
KMBO Kilima Mbogo 57.41 259 LR LR 16 16 02.5
comp=Z,93nm,19.3s,MS3.9,baz=94,slow=36
BRTR Keskin Array B 57.77 308 P **P** **15 51 49.1 -0.4**
comp=Z,2.4nm,0.9s,mb4.2,baz=121,slow=7.2,SNR=12
TIXI Tiksi 61.37 12 ⇓*i*P **P** **15 52 13.3 -0.5**
TIXI pmax pmax
comp=Z,14nm,1.3s,mb4.9
TIXI MLR MLR
comp=Z,145nm,17.0s,MS4.2
AKASG Malin Array Be 62.77 320 P **P** **15 52 21.6 -1.8**
comp=Z,0.2nm,0.3s,mb3.7,baz=84,slow=5.6,SNR=4.1
MLR Muntele Rosu 64.15 314 P **P** **15 52 33.0 +0.4**
comp=Z,5.3nm,1.1s,mb4.5,baz=51,slow=7.8,SNR=6.5
FINES FINESS Array B 66.82 331 P **P** **15 52 49.1 -0.4**
comp=Z,2.4nm,0.8s,mb4.3,baz=108,slow=4.4,SNR=5.4
ARCES ARCESS Array B 69.14 340 P **P** **15 53 04.0 +0.2**
comp=Z,2.5nm,0.8s,mb4.2,baz=76,slow=5.0,SNR=4.1
LSZ Lusaka 70.59 248 *e*P **P** **15 53 14.3 +0.7**
LSZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
LSZ Lusaka 70.59 248 *e*P **P** **15 53 14.3 +0.7**
comp=Z,4.6nm,0.9s,mb4.4
GERES GERESS Array B 72.62 317 P **P** **15 53 25.9 +0.7**
comp=Z,1.7nm,0.8s,mb4.0,baz=90,slow=5.3,SNR=11
NOA NORSAR Array B 73.90 330 P **P** **15 53 32.6 +0.2**
comp=Z,0.9nm,0.8s,mb3.7,baz=135,slow=3.9,SNR=2.5
NOA LR LR 16 31 59.5
comp=Z,114nm,19.9s,MS4.2,baz=120,slow=41
LPG La Plagne 77.61 314 *e*P **P** **15 53 51.5 -2.3**
comp=Z,8.6nm,0.8s,mb4.5
LPG La Plagne 77.61 314 *e*P **P** **15 53 51.5 -2.3**
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BOSA Boshof 78.16 236 *e*P **P** **15 53 57.9 +0.8**
BOSA pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BOSA Boshof 78.16 236 *e*P **P** **15 53 57.9 +0.8**
comp=Z,2.6nm,0.6s,mb4.3
SUR Sutherland 83.13 234 P **P** **15 54 24.1 +0.7**
comp=Z,75nm,1.7s,mb5.4
MAW Mawson 84.41 191 LR LR 16 28 24.9
comp=Z,100nm,18.4s,MS4.2,baz=250,slow=33
MCK McKinley 89.15 23 *e*P **P** **15 54 53.0 +0.7**
MCK pmax pmax
comp=Z,7.0nm,1.5s,mb4.8
MCK McKinley 89.15 23 *e*P **P** **15 54 53.0 +0.7**
comp=Z,6.8nm,1.5s,mb4.8
ILAR Eielson Array 89.36 22 P **P** **15 54 53.5 +0.3**
comp=Z,0.4nm,0.7s,mb3.9,baz=288,slow=6.6,SNR=4.4
ILAR LR LR 16 40 51.8
comp=Z,76nm,18.2s,MS4.2,baz=165,slow=40

*IDC **13** 15:48:51.2±0.7,4.59N×95.80E,mb4.3/14,mb1 4.4/15, mb1mx4.3/21,mbtmp4.3/15,ML4.2/1,MS3.7/2,Ms1 3.8/2, ms1mx3.0/22,Error ellipse: s-maj=36.9km s-min=13.4km az=52.0*
*BJI **13** 15:48:56.7,4.98N×95.70E,h12km,mB5.1,mb4.4,Ms4.7, Msz4.2*
*NEIC **13** 15:48:56.3±0.4,4.64N×95.98E,h30km,mb4.7/17,Error ellipse: s-maj=13.8km s-min=7.3km az=60.0*
ISC 13 15:48:54.5±0.4,4.63N±0.06×95.98E±0.09,h30km,n49, σ1§18/50,mb4.5/34,MS4.2/2,2C-3D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.05**	**12**	Pn	**P**	**15 52 14.7**	**+0.8**
	0.3nm,0.3s,baz=198,slow=14,SNR=22						
CMAR				LR	LR	15 58 08.6	
	comp=Z,213nm,19.2s,baz=205,slow=40						
PALK	**Pallekele**	**15.42**	**281**	*e*P	**P**	**15 52 37.6**	**+5.7**
	25nm,0.9s						
QIZ	**Qiongzhong**	**19.70**	**42**	*e*P	**P**	**15 53 22.2**	**-2.4**
	128nm,1.6s						
IMP	**Imphal**	**20.14**	**355**	*e*	**P**	**15 53 29.3**	**+0.1**
SHL	**Shillong**	**21.19**	**350**	*e*P	**P**	**15 53 41.0**	**+1.0**
HYB	**Hyderabad**	**21.28**	**308**	*i* P	**P**	**15 53 43.0**	**+2.1**
	35nm,1.0s,mb4.6						
JIRN	**Jiri**	**24.73**	**339**	*e*P	**P**	**15 54 14.8**	**-0.1**
PKI	**Pulchoki**	**24.95**	**337**	*e*P	**P**	**15 54 16.1**	**-0.8**
GUN	**Gumba**	**25.07**	**339**	*e*P	**P**	**15 54 18.3**	**+0.2**
	31nm,1.0s,mb4.8						
DMN	**Daman**	**25.10**	**337**	*e*P	**P**	**15 54 17.6**	**-0.7**
KKN	**Kakani**	**25.19**	**337**	*e*P	**P**	**15 54 18.4**	**-0.8**
	19nm,0.9s,mb4.6						
LSA	**Lhasa**	**25.36**	**350**	*e*P	**P**	**15 54 21.7**	**+1.0**
	13nm,0.8s,mb4.5						
GKN	**Gorkha**	**25.63**	**336**	*e*P	**P**	**15 54 24.3**	**+0.9**
KOLN	**Koldanda**	**25.86**	**334**	*e*P	**P**	**15 54 25.3**	**-0.2**
	16nm,0.8s,mb4.6						
ENH	**Enshi**	**28.52**	**25**	*e*P	**P**	**15 54 51.0**	**+1.3**
	30nm,1.6s,mb4.8						
LZH	**Lanzhou**	**32.14**	**12**	*e*P	**P**	**15 55 25.0**	**+3.3**
LZH				AP	pP	15 55 30.4	-0.1
LZH				XP	sP	15 55 32.5	-1.9
LZH				PP	PP	15 56 32.0	+3.2
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**36.95**	**128**	⇑*i*P	**P**	**15 56 02.7**	**-0.4**
	comp=Z,14nm,0.8s,mb4.8						
BJT	**Baijiatuau**	**39.67**	**25**	*e*P	**P**	**15 56 27.9**	**+2.3**
	comp=Z,17nm,1.3s,mb4.6						
WMQ	**Urumqi**	**39.72**	**351**	*e*P	**P**	**15 56 27.8**	**+1.8**
WMQ				AP	pP	15 56 37.5	+2.5
WMQ				XP	sP	15 56 41.3	+2.6
WMQ				PP	PP	15 58 03.8	+2.8
WMQ				S	**S**	**16 02 28.8**	**+1.4**
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,29nm,5.1s						
WMQ				LR	LR		
	comp=N,725nm,19.6s,MS4.6						
WMQ				LR	LR		
	comp=E,631nm,20.2s,MS4.6						
WMQ				LR	LR		
	comp=Z,831nm,20.3s,MS4.6						
NWAO	**Narrogin (SRO)**	**42.44**	**153**	P	**P**	**15 56 48.1**	**-0.4**
	comp=Z,16nm,1.1s,mb4.6,baz=154,slow=13,SNR=5.4						
SONM	**Songino Array**	**43.97**	**10**	P	**P**	**15 57 00.3**	**-0.5**
	comp=Z,0.9nm,0.4s,mb3.8,baz=194,slow=9.6,SNR=11						
ULN	**Ulaanbaatar**	**44.12**	**11**	*e*P	**P**	**15 57 01.2**	**-0.8**
	comp=Z,2.8nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**44.91**	**124**	P	**P**	**15 57 08.7**	**-0.1**
	comp=Z,3.9nm,0.6s,mb4.4,baz=301,slow=9.2,SNR=48						
WRAB	**Tennant Creek**	**44.92**	**124**	*e*P	**P**	**15 57 08.9**	**+0.1**
	comp=Z,11nm,0.5s,mb4.9						
WB2	**Warramunga Arr**	**44.92**	**124**	⇓*i*P	**P**	**15 57 08.8**	**0.0**
ASPA	**Alice Springs**	**46.45**	**129**	⇓*i*P	**P**	**15 57 21.4**	**+0.6**
ASAR	**Alice Springs**	**46.45**	**129**	P	**P**	**15 57 21.4**	**+0.6**
	comp=Z,7.2nm,0.5s,mb4.9,baz=300,slow=7.4,SNR=114						
ASAR				LR	LR	16 15 36.5	
	comp=Z,144nm,21.2s,MS3.9,baz=302,slow=34						
FORT	**Forrest**	**46.67**	**141**	*e*P	**P**	**15 57 24.0**	**+1.4**
	comp=Z,54nm,0.5s,mb5.7						
TLY	**Talaya**	**47.33**	**6**	*e*P	**P**	**15 57 27.4**	**-0.1**
	comp=Z,1.4nm,0.6s,mb4.1						
ZAL	**Zalesovo**	**50.00**	**351**	P	**P**	**15 57 47.9**	**-0.2**
	comp=Z,1.5nm,0.5s,mb4.3,baz=274,slow=8.2,SNR=5.8						
BVAR	**Borovoye Array**	**52.64**	**341**	P	**P**	**15 58 06.8**	**-1.2**
	comp=Z,1.2nm,0.9s,mb3.8,baz=153,slow=7.1,SNR=4.4						
CHKZ	**Chkalovo**	**53.11**	**341**	*e*P	**P**	**15 58 09.0**	**-2.5**
	comp=Z,5.5nm,0.7s,mb4.6						
CTA	**Charters Tower**	**55.15**	**118**	P	**P**	**15 58 26.4**	**-0.5**
	comp=Z,6.2nm,0.9s,mb4.7,baz=279,slow=7.2,SNR=3.2						
CTAO	**Charters Tower**	**55.15**	**118**	*e*P	**P**	**15 58 26.4**	**-0.6**
	comp=Z,20nm,1.3s,mb5.0						
STKA	**Stephens Creek**	**56.56**	**133**	⇑*i*P	**P**	**15 58 37.3**	**+0.4**
	comp=Z,5.0nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**56.56**	**133**	P	**P**	**15 58 37.0**	**+0.1**
	comp=Z,7.0nm,0.7s,mb4.8,baz=314,slow=7.7,SNR=10						
KMBO	**Kilima Mbogo**	**58.95**	**266**	*e*P	**P**	**15 58 58.1**	**+4.1**
	comp=Z,5.1nm,0.8s,mb4.6						
BRTR	**Keskin Array B**	**65.93**	**312**	P	**P**	**15 59 38.2**	**-2.0**
	comp=Z,1.4nm,0.8s,mb4.0,baz=121,slow=7.2,SNR=4.8						
TAU	**Tasmania Unive**	**66.22**	**141**	P	**P**	**15 59 47.3**	**+5.4**
	comp=Z,38nm,1.2s,mb5.3						
LSZ	**Lusaka**	**69.96**	**252**	*e*P	**P**	**16 00 07.8**	**+2.2**
	comp=Z,5.7nm,1.2s,mb4.4						
CASY	**Casey**	**71.51**	**174**	P	**P**	**16 00 12.3**	**-1.9**
	comp=Z,30nm,1.4s,mb5.0						
AKASG	**Malin Array Be**	**71.82**	**322**	P	**P**	**16 00 14.2**	**-2.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=91,slow=5.0,SNR=4.3						
IDI	**Anoyia**	**71.92**	**305**	P	**P**	**16 00 16.9**	**-0.4**
	comp=Z,5.7nm,0.8s,mb4.6						
MLR	**Muntele Rosu**	**72.76**	**316**	P	**P**	**16 00 21.6**	**-0.5**
	comp=Z,1.9nm,0.8s,mb4.1						
FINES	**FINESS Array B**	**76.42**	**332**	P	**P**	**16 00 41.7**	**-1.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=135,slow=8.1,SNR=3.9						
FINES	**FINESS Array B**	**76.42**	**332**	P	**P**	**16 00 41.7**	**-1.1**
ARCES	**ARCESS Array B**	**78.92**	**340**	P	**P**	**16 00 55.6**	**-0.8**
	comp=Z,2.8nm,0.8s,mb4.2,baz=94,slow=6.4,SNR=8.6						
GERES	**GERESS Array B**	**81.45**	**319**	P	**P**	**16 01 10.6**	**+0.4**
	comp=Z,0.7nm,0.7s,mb3.7,baz=79,slow=6.8,SNR=3.3						
SYO	**Syowa Base**	**82.87**	**198**	⇓P	**P**	**16 01 20.9**	**+3.7**

IDC 13 16:03:40.5±2.1,6.75N×92.93E,mb3.8/5,mb1 3.9/6, mb1mx3.8/19,mbtmp3.7/6,Error ellipse: s-maj=75.5km s-min=21.6km az=63.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.03**	**26**	Pn	P	16 06 48.6	-1.1
	baz=196,slow=13,SNR=2.9						
SONM	**Songino Array**	**42.52**	**13**	P	P	16 11 36.2	-3.2
	0.3nm,0.6s,baz=194,slow=10,SNR=4.3						
ZAL	**Zalesovo**	**47.51**	**353**	P	P	16 12 18.8	-0.5
	0.7nm,0.3s,baz=227,slow=8.7,SNR=4.3						
WRA	**Warramunga Arr**	**48.61**	**124**	P	P	16 12 27.0	-1.3
	2.0nm,0.8s,baz=303,slow=9.2,SNR=16						
BVAR	**Borovoye Array**	**49.67**	**342**	P	P	16 12 33.5	-2.5
	0.9nm,1.0s,baz=153,slow=3.2,SNR=2.9						
ASAR	**Alice Springs**	**50.14**	**128**	P	P	16 12 37.4	-2.6
	1.0nm,0.8s,baz=301,slow=7.3,SNR=9.4						

*NEIC **13** 16:08:39.8,49.38N×6.86E,h1km,ML2.8(LDG), ML2.3(STR),After STR.*
*LDG **13** 16:08:40.6±0.1,49.39N×6.90E,h1km,Md2.7/1,Ml2.8/10, Error ellipse: s-maj=1.2km s-min=1.0km az=88.0, Suspected Mining induced.*
*CSEM **13** 16:08:40.2±0.1,49.39N×6.93E,h2km,ML2.8/9,Error ellipse: s-maj=1.0km s-min=1.0km az=138.0*
*BGR **13** 16:08:40.8±0.4,49.40N×6.92E,h1km,ML2.1/3,Error ellipse: s-maj=7.8km s-min=4.4km az=9.0*
*BNS **13** 16:08:42.6±1.2,49.47N×6.90E,h1km,ML2.1*
ISC 13 16:08:38.5±0.3,49.37N±0.01×6.89E±0.03,n41,σ1§16/72, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.36**	**18**	Pg	**Pg**	**16 08 46.7**	**+1.1**
RUP				Sg	**Sg**	16 08 51.8	+1.5
WLF	**Walferdange**	**0.56**	**302**	*e*Pg	**Pg**	**16 08 51.7**	**+1.9**
	SNR=5.0						
WLF				*e*Sg	**Sg**	**16 08 58.3**	**+1.0**
	SNR=11						
WLF	**Walferdange**	**0.56**	**302**	*e*Pn	**Pn**	**16 08 51.5**	**-1.8**
WLF	**Walferdange**	**0.56**	**302**	*e*Pn	**Pn**	**16 08 51.5**	**-1.8**
WLF				Sg	**Sg**	**16 08 58.3**	**+1.0**
	SNR=11						
ABH	**Alteburg**	**0.67**	**39**	Pg	**Pg**	**16 08 52.3**	**+0.4**
ABH				Sg	**Sg**	**16 09 01.2**	**+0.4**
LANF	**Langenberg**	**0.71**	**122**	Pg	**Pg**	**16 08 53.4**	**+0.7**
LANF				Sg	**Sg**	**16 09 04.7**	**+2.5**
BGG	**Burgeitz**	**0.89**	**19**	*e*Pg	**Pg**	**16 08 58.1**	**+1.9**
BGG				*e*Sg	**Sg**	**16 09 08.4**	**+0.3**
	54nm,0.3s						
CDF	**Champ du Feu**	**0.99**	**165**	*e*Pg	**Pg**	**16 08 59.2**	**+1.0**
CDF				*e*Sg	**Sg**	**16 09 13.0**	**+1.7**
	28nm,0.2s						
WLS	**Welschbruch**	**1.00**	**162**	Pg	**Pg**	**16 08 59.1**	**+0.7**
WLS				Sg	**Sg**	**16 09 13.3**	**+1.5**
ECH	**Echery**	**1.16**	**171**	Pg	**Pg**	**16 09 02.6**	**+0.9**
RFYF	**Reffroy**	**1.19**	**232**	*e*Pg	**Pg**	**16 09 03.3**	**+1.2**
	baz=54						
RFYF				*e*Sg	**Sg**	**16 09 19.1**	**+1.1**
	41nm,0.3s,baz=54						
STB	**Steinbach**	**1.23**	**359**	*e*Sg	**Sg**	**16 09 19.5**	**+0.1**
	36nm,0.6s						
THEF	**They Montfort**	**1.28**	**208**	Pg	**Pg**	**16 09 04.3**	**+0.2**
KLL	**Kalltalsperre**	**1.34**	**344**	*e*Pg	**Pg**	**16 09 04.8**	**-0.3**
MEM	**Membach**	**1.37**	**336**	P	**Pb**	**16 09 05.1**	**+0.4**
MEM				S	**Sb**	**16 09 22.9**	**+0.3**
HAU	**Haudompre**	**1.41**	**195**	*e*Pg	**Pg**	**16 09 07.5**	**+1.0**
HAU				*e*Sg	**Sg**	**16 09 25.9**	**+0.6**
	16nm,0.3s						
BFO	**Black Forest**	**1.41**	**137**	*e*Pg	**Pg**	**16 09 06.9**	**+0.4**
	SNR=5.9						
BFO				*e*Sg	**Sg**	**16 09 24.3**	**-1.0**
	SNR=17						
BFO	**Black Forest**	**1.41**	**137**	*e*Pg	**Pg**	**16 09 06.9**	**+0.4**
BFO				*e*Sg	**Sg**	**16 09 25.5**	**+0.2**
BFO	**Black Forest**	**1.41**	**137**	Pg	**Pg**	**16 09 06.9**	**+0.4**
	SNR=5.9						
BFO				*e*Sg	**Sg**	**16 09 25.5**	**+0.2**
MEZF	**Maizieres J'vi**	**1.49**	**235**	*e*Pg	**Pg**	**16 09 08.6**	**+0.5**
MEZF				*e*Sg	**Sg**	**16 09 28.5**	**+0.5**
	26nm,0.4s						
MOF	**Molkenrain**	**1.52**	**174**	Pg	**Pg**	**16 09 08.1**	**-0.8**
GIVF	**Givet**	**1.53**	**300**	*e*Pn	**Pn**	**16 09 07.5**	**+0.4**
GIVF				*e*Pg	**Pg**	**16 09 08.8**	**-0.2**
GIVF				*e*Sg	**Sg**	**16 09 28.6**	**-0.8**
	30nm,0.4s						
HINF	**Hinteralfeld**	**1.55**	**181**	*e*Pg	**Pg**	**16 09 09.3**	**-0.1**
HINF				*e*Sg	**Sg**	**16 09 30.0**	**0.0**
	37nm,0.3s						
DOU	**Dourbes**	**1.66**	**297**	P	**Pn**	**16 09 09.0**	**0.0**
FELD	**Feldberg**	**1.66**	**153**	Pg	**Pg**	**16 09 11.3**	**-0.4**
SFTF	**Sexfontaines**	**1.69**	**227**	*e*Pn	**Pn**	**16 09 09.9**	**+0.5**
SFTF				*e*Pg	**Pg**	**16 09 11.6**	**-0.5**
SFTF				*e*Sg	**Sg**	**16 09 34.5**	**-0.1**
	13nm,0.3s						
BAIF	**Baives**	**1.87**	**293**	*e*Pn	**Pn**	**16 09 12.0**	**0.0**
BAIF				*e*Pg	**Pg**	**16 09 15.5**	**-0.3**
BAIF				*e*Sg	**Sg**	**16 09 39.6**	**-1.2**
	4.7nm,0.3s						
CABF	**La Chapelle**	**2.81**	**191**	*e*Pn	**Pn**	**16 09 25.1**	**-0.3**
CABF				*e*Pg	**Pg**	**16 09 32.9**	**-1.6**
CABF				*e*Sg	**Sg**	**16 10 09.9**	**-2.0**
	6.3nm,0.4s						
GRA1	**Grafenberg Arr**	**2.84**	**82**	*e*Pg	**Pg**	**16 09 33.0**	**-2.2**
GRA1	**Grafenberg Arr**	**2.84**	**82**	Pg	**Pg**	**16 09 33.0**	**-2.2**
GRF	**Grafenberg Arr**	**2.84**	**82**	*e*Pg	**Pg**	**16 09 33.0**	**-2.2**
SSF	**Saint Saulge**	**3.23**	**226**	*e*Pn	**Pn**	**16 09 30.1**	**-1.3**
SSF				*e*Sn	**Sn**	**16 10 07.3**	**-3.8**
SSF				*e*Sg	**Sg**	**16 10 22.6**	**-3.3**
	4.0nm,0.3s						
MOX	**Moxa**	**3.31**	**65**	*e*Pn	**Pn**	**16 09 33.3**	**+0.8**
	SNR=1.2						
MOX				*e*Pg	**Pg**	**16 09 41.1**	**-3.4**
	SNR=2.3						
MOX				*e*Sg	**Sg**	**16 10 24.9**	**-3.7**
	SNR=1.5						
SMF	**Signal de Mont**	**3.40**	**218**	*e*Pn	**Pn**	**16 09 32.9**	**-1.0**
AVF	**Avril sur Loir**	**3.50**	**224**	*e*Pn	**Pn**	**16 09 34.3**	**-0.9**
GUNZ	**Gunzen**	**3.66**	**72**	*e*Pg	**Pg**	**16 09 48.5**	**-3.1**
	SNR=1.8						
GUNZ				*e*Sg	**Sg**	**16 10 36.1**	**-4.2**
	SNR=1.5						
WERD	**Werda**	**3.67**	**71**	*e*Pg	**Pg**	**16 09 48.5**	**-3.1**
	SNR=1.6						
WERD				*e*Sg	**Sg**	**16 10 35.6**	**-4.9**
	SNR=2.4						
TANN	**Tannenbergstha**	**3.75**	**72**	*e*Sg	**Sg**	**16 10 37.8**	**-5.6**
	SNR=2.1						
BGF	**Bois d'Agland**	**3.91**	**226**	*e*Pn	**Pn**	**16 09 39.9**	**-1.1**
WET	**Wettzell**	**3.93**	**91**	*e*Pn	**Pn**	**16 09 41.5**	**+0.2**
	SNR=2.4						
GEC2	**GERESS Array S**	**4.51**	**94**	*e*Pn	**Pn**	**16 09 49.2**	**-0.4**
	SNR=10						
GEC2				*e*Sn	**Sn**	**16 10 40.7**	**-2.8**
	SNR=2.6						

BJI 13 16:11:46.5,39.50N×117.58E,h17km,ML3.7,1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIA	**Tai'an**	**3.30**	**186**	P	Pn	16 12 37.8	-0.8
TIA				PG	Pn	16 12 45.8	+7.2
TIA				S	Sn	16 13 18.3	+0.4
TIA				SG	Sn	16 13 29.8	+12
TIA				Smax			
	comp=N,178nm,0.7s						
TIA				Smax			
	comp=E,266nm,0.7s						
SNY	**Shenyang**	**5.12**	**61**	⇑PG	Pn	16 13 19.5	+15
SNY				SG	Sn	16 14 27.6	+24
SNY				Smax			
	comp=N,100nm,0.4s						
SNY				Smax			
	comp=E,60nm,0.4s						

*ATH **13** 16:12:42.3,39.25N×27.87E,h10km,MD3.8/7*
*NEIC **13** 16:12:42.3,39.25N×27.87E,h10km,MD3.8(ATH),After ATH.*
*CSEM **13** 16:12:43.2±0.1,39.16N×27.81E,h12km,MD3.6,Error ellipse: s-maj=1.4km s-min=1.0km az=174.0*
*ISK **13** 16:12:43.5,39.16N×27.76E,h17km,MD3.6*
ISC 13 16:12:43.2±0.6,39.17N±0.02×27.79E±0.03,h6km±5km, n55,σ0§83/64,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.30**	**176**	*i* PG	**Pg**	**16 12 50.2**	**+1.0**
BALB	**Balikesir**	**0.47**	**9**	*i* PG	**Pg**	**16 12 53.4**	**+0.7**
BTOK	**Tokmak**	**0.62**	**18**	*i* P	**Pg**	**16 12 56.0**	**+0.4**
BTOK				*i* S	**Sg**	**16 13 04.9**	**+1.1**
AYVA	**Ayvalik**	**0.86**	**279**	*i* P	**Pb**	**16 13 00.6**	**+0.4**
AYVA				*i* S	**Sg**	**16 13 12.1**	**+0.1**
KDAG	**Bornova**	**0.87**	**208**	*i* P	**Pb**	**16 13 00.5**	**+0.2**
KDAG				*i* S	**Sg**	**16 13 14.6**	**+2.2**
IZM	**Izmir**	**0.88**	**208**	*i* PG	**Pg**	**16 13 00.4**	**-0.4**
MANT	**Manisa**	**0.91**	**138**	*i* P	**Pb**	**16 13 01.7**	**+0.7**
MANT				*i* S	**Sb**	**16 13 14.2**	**+1.1**
EDC	**Edincik**	**1.17**	**3**	PN	**Pn**	**16 13 06.1**	**0.0**
KCT	**Karacabey**	**1.18**	**22**	PN	**Pn**	**16 13 06.5**	**+0.4**
PRK	**Paraskevi**	**1.18**	**274**	*e*PB	**Pb**	**16 13 06.3**	**+0.7**
PRK				*e*SB	**Sb**	**16 13 22.4**	**+1.4**
BNT	**Bandirma**	**1.19**	**5**	PN	**Pn**	**16 13 06.3**	**0.0**
ORLT	**Orhaneli**	**1.22**	**44**	PN	**Pn**	**16 13 07.3**	**+0.5**
EZN	**Ezine**	**1.30**	**300**	PN	**Pn**	**16 13 07.8**	**-0.2**
ULDT	**Uludag**	**1.42**	**47**	*i* P	**Pn**	**16 13 10.5**	**+0.8**
ULDT				*i* S	**Sb**	**16 13 29.4**	**+1.4**
MRMT	**Marmara Adasi**	**1.44**	**354**	PN	**Pn**	**16 13 09.2**	**-0.7**
BOZC	**Bozcaada**	**1.50**	**297**	*i* P	**Pn**	**16 13 11.0**	**+0.2**
BOZC				*i* S	**Sb**	**16 13 32.3**	**+2.0**
KHL	**Karahalli**	**1.60**	**122**	PN	**Pn**	**16 13 11.8**	**-0.4**
ARMT	**Armutlu**	**1.62**	**30**	PN	**Pn**	**16 13 12.4**	**-0.1**
SMG	**Samos**	**1.64**	**207**	*e*PG	**Pg**	**16 13 14.5**	**-1.6**
SMG				*e*SN	**Sn**	**16 13 37.6**	**+3.1**
MFT	**Murefte**	**1.66**	**347**	PN	**Pn**	**16 13 12.2**	**-0.8**
DENT	**Denizli**	**1.72**	**145**	*e*PN	**Pn**	**16 13 12.8**	**-1.2**
DNZL	**Cakiroluk**	**1.78**	**146**	*i* P	**Pn**	**16 13 15.1**	**+0.3**
DNZL				*i* S	**Sn**	**16 13 43.9**	**+5.9**
ALT	**Altintas**	**1.81**	**93**	*e*PN	**Pn**	**16 13 15.0**	**-0.2**
YLV	**Yalova**	**1.85**	**41**	*e*PN	**Pn**	**16 13 15.7**	**-0.1**
BADT	**Buyukada**	**1.96**	**31**	*e*PN	**Pn**	**16 13 17.3**	**-0.1**
ISK	**Istanbul-Kandi**	**2.13**	**27**	*e*PN	**Pn**	**16 13 19.0**	**-0.8**
LIA	**Limnos Island**	**2.14**	**291**	*e*PB	**Pb**	**16 13 19.9**	**-2.2**
ALN	**Alexandroupoli**	**2.18**	**323**	*e*P	**Pn**	**16 13 20.4**	**-0.1**
HRT	**Hereke**	**2.19**	**41**	*e*PN	**Pn**	**16 13 20.7**	**0.0**
LOS	**Limnos**	**2.23**	**291**	*e*P	**Pn**	**16 13 21.6**	**+0.4**
GPA	**Golpazari**	**2.24**	**59**	*e*PN	**Pn**	**16 13 21.5**	**+0.1**
ESKT	**Eskisehir**	**2.40**	**81**	*e*PN	**Pn**	**16 13 23.6**	**-0.1**
DALT	**Dalyan (Mudla)**	**2.49**	**164**	*e*PN	**Pn**	**16 13 24.2**	**-0.8**
RDO	**Rodhopi**	**2.62**	**320**	*e*PN	**Pn**	**16 13 26.9**	**+0.1**
FETY	**Fethiye**	**2.73**	**158**	*e*PN	**Pn**	**16 13 27.9**	**-0.6**
APE	**Apeiranthos**	**2.75**	**221**	*e*PG	**Pg**	**16 13 34.0**	**-4.2**
EDRB	**Edirne**	**2.79**	**344**	*e*PN	**Pn**	**16 13 28.7**	**-0.5**
MDU	**Mudurnu**	**2.94**	**63**	*e*PN	**Pn**	**16 13 30.7**	**-0.6**
ELL	**Elmali**	**2.94**	**145**	*e*PN	**Pn**	**16 13 30.4**	**-1.1**
ARG	**Arkhangelos**	**2.96**	**175**	*e*PN	**Pn**	**16 13 31.9**	**+0.1**
AOS	**Alonnisos**	**3.04**	**271**	*e*P	**Pn**	**16 13 31.9**	**-0.9**
OUR	**Ouranopolis**	**3.15**	**293**	*e*P	**Pn**	**16 13 33.7**	**-0.7**
KIZT	**Kizilcal**	**3.20**	**94**	*e*PN	**Pn**	**16 13 35.4**	**+0.3**
PAIG	**Paliouri**	**3.26**	**285**	*e*P	**Pn**	**16 13 35.8**	**-0.2**
XOR	**Xorichti**	**3.57**	**275**	*e*P	**Pn**	**16 13 40.1**	**-0.3**
NSAL	**Nisos Salamina**	**3.62**	**251**	*e*PG	**Pg**	**16 13

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.44**	**21**	Pn	P	16 52 36.1	-1.5
	0.1nm,0.3s,baz=217,slow=14,SNR=3.9						
SONM	**Songino Array**	**44.16**	**12**	P	P	16 57 19.8	-2.1
	0.4nm,0.7s,baz=208,slow=9.1,SNR=4.2						
WRA	**Warramunga Arr**	**47.01**	**123**	P	P	16 57 43.1	-1.9
	0.3nm,0.5s,baz=300,slow=9.4,SNR=5.7						
BVAR	**Borovoye Array**	**51.64**	**342**	P	P	16 58 18.2	-2.0
	0.5nm,0.9s,baz=141,slow=9.2,SNR=4.0						

*IDC **13** 16:53:53.7±1.0,51.32N×168.44W,mb4.1/11,mb1 4.2/12, mb1mx4.0/22,mbtmp4.0/12,ML3.2/1,MS3.0/1,Ms1 3.1/1, ms1mx2.6/34,Error ellipse: s-maj=30.3km s-min=18.8km az=178.0*

*NEIC **13** 16:53:56.8,51.36N×168.43W,h40km,ML3.1(AEIC),After AEIC.*

ISC 13 16:53:55.5±2.5,51.44N±0.06×168.52W±0.09, h22km±18km,n22,σ1§01/27,mb4.0/11,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.55**	**352**	P	**Pn**	**16 54 21.9**	**-0.3**
NIKO				S	**Sn**	**16 54 41.8**	**-0.1**
OKCE	**Okmok Cone E**	**2.00**	**6**	P	**Pn**	**16 54 29.4**	**+0.7**
OKCE				S	**Sn**	**16 54 55.1**	**+1.8**
OKFG	**Magazine Ridge**	**2.01**	**10**	P	**Pn**	**16 54 28.8**	**0.0**
OKFG				S	**Sn**	**16 54 53.1**	**-0.4**
MSW	**Makushin Switc**	**2.70**	**22**	P	**Pn**	**16 54 38.1**	**-0.5**
UNV	**Unalaska Valle**	**2.71**	**26**	P	**Pn**	**16 54 38.0**	**-0.7**
UNV				S	**Sn**	**16 55 08.2**	**-3.0**
MTBL	**Makushin Table**	**2.77**	**23**	P	**Pn**	**16 54 39.8**	**+0.1**
ATKA	**Atka Island**	**3.60**	**284**	P	**Pn**	**16 54 52.1**	**+0.6**
ATKA				S	**Sn**	**16 55 31.9**	**-2.0**
IMA	**Indian Mountai**	**16.49**	**22**	*e*P	**P**	**16 57 47.8**	**+1.0**
ILAR	**Eielson Array**	**17.45**	**32**	P	**P**	**16 57 55.2**	**-3.6**
	0.0nm,0.3s,baz=218,slow=13,SNR=4.7						
ILAR				LR	LR	17 03 50.4	
	comp=Z,50nm,19.3s,baz=360,slow=34						
INK	**Inuvik**	**23.85**	**32**	P	**P**	**16 59 08.7**	**+1.1**
	6.1nm,0.8s,mb4.1,baz=243,slow=9.0,SNR=11						
YKA	**Yellowknife Ar**	**30.47**	**48**	P	**P**	**17 00 08.9**	**+0.4**
	0.8nm,0.6s,mb3.6,baz=271,slow=7.7,SNR=17						
NVAR	**Mina Array Bea**	**37.12**	**90**	P	**P**	**17 01 06.6**	**+0.5**
	1.4nm,0.8s,mb3.9,baz=302,slow=7.2,SNR=7.7						
NVAR	**Mina Array Bea**	**37.12**	**90**	P	**P**	**17 01 06.6**	**+0.4**
SONM	**Songino Array**	**52.24**	**302**	P	**P**	**17 03 07.1**	**+0.3**
	0.4nm,0.5s,mb3.6,baz=53,slow=5.8,SNR=5.6						
SONM				PcP	PcP	17 04 18.3	+0.1
	0.5nm,1.0s,baz=90,slow=4.3,SNR=3.7						
TXAR	**Lajitas Array**	**52.24**	**89**	P	**P**	**17 03 04.7**	**-2.3**
	0.8nm,0.6s,mb3.8,baz=315,slow=7.1,SNR=4.4						
TXAR	**Lajitas Array**	**52.24**	**89**	P	**P**	**17 03 04.7**	**-2.3**
ZAL	**Zalesovo**	**58.49**	**318**	P	**P**	**17 03 52.8**	**+0.9**
	0.4nm,0.3s,mb3.9,baz=264,slow=9.5,SNR=3.2						
BVAR	**Borovoye Array**	**64.77**	**325**	P	**P**	**17 04 34.5**	**+0.5**
	2.4nm,0.6s,mb4.4,baz=53,slow=7.4,SNR=23						
FINES	**FINESS Array B**	**66.87**	**352**	P	**P**	**17 04 46.5**	**-0.8**
	5.4nm,1.1s,mb4.5,baz=14,slow=7.9,SNR=4.3						
NOA	**NORSAR Array B**	**67.88**	**0**	P	**P**	**17 04 53.6**	**0.0**
	1.7nm,0.9s,mb4.1,baz=5.1,slow=6.8,SNR=3.2						
CMAR	**Chiang Mai Arr**	**77.34**	**284**	P	**P**	**17 05 50.9**	**+0.7**
	2.2nm,1.0s,mb4.0,baz=27,slow=6.4,SNR=9.6						
ASAR	**Alice Springs**	**90.20**	**231**	P	**P**	**17 06 55.4**	**-0.1**
	1.3nm,0.8s,mb4.3,baz=34,slow=4.8,SNR=13						

OTT 13 16:58:13.9±0.2,52.76N×67.32W,MN3.0/6,Blast, Mount Wright, Qc Mining explosion.,Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**2.10**	**8**	PN	Pn	16 58 50.6	-0.1
SCHQ				SG	Sg	16 59 19.0	-4.7
SCHQ				Trac		16 59 22.2	
	comp=Z,24nm,0.1s						
MNQ	**Manicouagan**	**2.41**	**203**	PN	Pn	16 58 55.3	+0.1
MNQ				Trac		16 59 32.0	
	comp=Z,43nm,0.2s						
SMQ	**Clarke City**	**2.57**	**171**	PN	Pn	16 58 56.2	-1.3
SMQ				SG	Sg	16 59 33.6	-5.9
SMQ				Trac		16 59 35.4	
	comp=Z,15nm,0.1s						
ICQ	**Pointe Anglais**	**3.24**	**179**	PN	Pn	16 59 05.6	-1.5
ICQ				SN	Sn	16 59 44.2	-2.7
ICQ				Trac		17 00 04.2	
	comp=Z,12nm,0.2s						
CNQ	**Baie Comeau**	**3.50**	**188**	PN	Pn	16 59 08.2	-2.4
CNQ				SN	Sn	16 59 50.7	-2.7
CNQ				Trac		17 00 05.7	
	comp=Z,15nm,0.2s						
GSQ	**Grosses Roches**	**3.86**	**178**	PN	Pn	16 59 15.2	-0.6
LG4Q	**La Grande 4**	**4.17**	**285**	PN	Pn	16 59 17.7	-2.5
LG4Q				PG	Pg	16 59 26.2	-11
LG4Q				SN	Sn	17 00 10.0	-0.4
LG4Q				SG	Sg	17 00 24.1	-8.6
LG4Q				Trac		17 00 26.4	
	comp=Z,8.2nm,0.2s						
LMQ	**La Malbaie**	**5.56**	**202**	PN	Pn	16 59 36.2	-3.8
LMQ				SG	Sg	17 00 44.7	-34
DRLN	**Deer Lake**	**7.12**	**116**	PN	Pn	16 59 57.6	-4.2
DRLN				SN	Sn	17 01 14.4	-10
VLDQ	**Val d'Or**	**7.97**	**238**	PN	Pn	17 00 11.2	-2.6
MALO	**McAlpine Lake**	**8.25**	**256**	PN	P	17 00 13.0	-4.7
VIMO	**Victor Mine**	**9.96**	**277**	PN	P	17 00 35.8	-5.4
SILO	**Sutton Inlier**	**10.59**	**286**	PN	P	17 00 44.4	-5.5

KRSC 13 17:00:26.2±1.0,53.03N×160.47E,h37km±2km,ML4.1, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.28**	**284**	*i*P	P	17 00 34.7	+0.7
SPN				*i*S	S	17 00 40.5	+1.1
NLC	**Nalytchevo**	**0.69**	**282**	*i*P	P	17 00 39.7	+0.2
NLC				*e*S	S	17 00 48.8	-0.4
SDLR	**Sedlovina**	**0.99**	**285**	*i*P	P	17 00 44.2	+0.5
SDLR				*i*S	S	17 00 57.4	+0.7
UGLR	**Uglovaya**	**1.01**	**281**	*i*P	P	17 00 44.8	+0.8
UGLR				*i*S	S	17 00 58.2	+1.0
SMAR	**Somma**	**1.03**	**284**	*i*P	P	17 00 44.9	+0.6
SMAR				*i*S	S	17 00 58.3	+0.5
AVH	**Avacha**	**1.07**	**283**	*i*P	P	17 00 45.6	+0.7
AVH				*e*S	S	17 00 59.7	+1.0
PET	**Petropavlovsk**	**1.10**	**270**	*i*P	P	17 00 45.6	+0.3
PET				*e*S	S	17 00 59.2	-0.3
KOK	**Koryaka**	**1.14**	**284**	*i*P	P	17 00 46.3	+0.5
KOK				*e*S	S	17 01 00.8	+0.4
RUS	**Russkaya**	**1.33**	**244**	*i*P	P	17 00 48.9	+0.2
RUS				*e*S	S	17 01 05.9	+0.5
KRMR	**Karymshinskiy**	**1.43**	**263**	*i*P	P	17 00 50.5	+0.4
KRMR				*i*S	S	17 01 08.6	+0.7
GRL	**Gorelyy**	**1.53**	**253**	*i*P	P	17 00 52.6	+1.1
GRL				*e*S	S	17 01 11.9	+1.5
GNL	**Ganaly**	**1.66**	**295**	*i*P	P	17 00 54.0	+0.7
GNL				*e*S	S	17 01 14.2	+0.7
APC	**Apacha**	**2.00**	**268**	*e*P	P	17 01 00.5	+2.2
APC				*e*S	S	17 01 24.7	+2.4
APC				Smax			
	420nm,1.1s						
TUMR	**Tumrok**	**2.27**	**355**	*i*P	P	17 01 02.7	+0.7
TUMR				*e*S	S	17 01 29.3	+0.3
KMNR	**Kamenistaya**	**2.73**	**357**	*i*P	P	17 01 10.0	+1.3
KMNR				*e*S	S	17 01 41.8	+0.9
PAU	**Pauzhetka**	**2.74**	**237**	*e*P	P	17 01 09.0	+0.2
PAU				*e*S	S	17 01 39.5	-1.5
PAU				Smax			
	200nm,0.9s						
KPT	**Kopyto**	**2.95**	**357**	P	P	17 01 12.3	+0.6
KPT				*e*S	S	17 01 45.1	-1.1
KOZ	**Kozyrevsk**	**3.05**	**354**	*e*P	P	17 01 13.5	+0.2
KOZ				*e*S	S	17 01 47.7	-1.3
LGNR	**Loginova**	**3.06**	**2**	P	P	17 01 15.0	+1.6
LGNR				*e*S	S	17 01 50.4	+1.2
ESO	**Esso**	**3.08**	**341**	*e*P	P	17 01 14.2	+0.6
ESO				*e*S	S	17 01 48.5	-1.1
KRSR	**Krestovskiy**	**3.19**	**1**	P	P	17 01 16.4	+1.2
KRSR				*e*S	S	17 01 53.0	+0.4
KLY	**Klyuchi**	**3.29**	**2**	*e*P	P	17 01 17.4	+0.8
KLY				*e*S	S	17 01 54.8	-0.2
SRDR	**Sredinnyy**	**3.32**	**353**	*e*P	P	17 01 17.0	-0.1
SRDR				*e*S	S	17 01 54.1	-1.7
KBTR	**Krutoberegovo**	**3.46**	**22**	*e*P	P	17 01 19.1	0.0
KBTR				*e*S	S	17 01 58.1	-1.3
KBG	**Krutoberegovo**	**3.48**	**21**	*e*S	S	17 01 56.9	-3.0
KBG				Smax			
	130nm,0.7s						
SKR	**Severo-Kuril's**	**3.58**	**231**	*e*P	P	17 01 20.5	-0.2
SKR				*e*S	S	17 02 03.0	+0.7
SVLR	**Shiveluch**	**3.58**	**7**	P	P	17 01 21.9	+1.2
BKI	**Bering**	**3.90**	**54**	*e*P	P	17 01 23.7	-1.6
BKI				*e*S	S	17 02 03.4	-7.1
BKI				Smax			
	40nm,0.9s						

IDC 13 17:10:18.7±12.0,1.18S×133.47E,mb3.7/2,mb1 3.7/3, mb1mx3.5/15,mbtmp3.6/3,ML3.4/1,Error ellipse: s-maj=178.9km s-min=113.8km az=156.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.67**	**177**	P	P	17 14 38.3	-2.1
	0.1nm,0.3s,baz=356,slow=12,SNR=12						
ASAR	**Alice Springs**	**22.36**	**179**	P	P	17 15 19.4	-0.5
	1.2nm,0.7s,baz=355,slow=10,SNR=29						
STKA	**Stephens Creek**	**31.49**	**167**	P	P	17 16 41.4	-3.1
	1.8nm,0.9s,baz=347,slow=13,SNR=3.9						

*BJI **13** 17:14:03.8,26.81S×176.33W,h2km,mB5.7,mb5.4,Ms5.2, Msz4.9*

*HRVD **13** 17:14:05.3±0.3,27.14S×175.97W,h20km,MW5.1/57, Centroid moment Tensor Solution. LP body waves: s40,c66;Mantle waves: s57,c91; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.81±.20; $M_{\theta\theta}$0.07±.14; $M_{\phi\phi}$-3.89±.14; $M_{r\theta}$1.60±.29; $M_{\theta\phi}$-0.57±.10; $M_{\phi r}$2.56±.26; Best double couple: $M_0$4.925×10^{16} NP1:ϕ_s174°,δ29°,λ65°. NP2:ϕ_s22°,δ64°,λ103°. Principal axes: T 4.974, Plg68°, Azm318°; N -.102, Plg12°, Azm196°; P -4.876, Plg18°, Azm103°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **13** 17:14:05.3±0.2,27.05S×176.48W,h10km,mb5.2/33 Error ellipse: s-maj=10.8km s-min=6.7km az=151.0*

*MOS **13** 17:14:07.9±1.4,27.07S×176.55W,h33km,mb5.5/15, Error ellipse: s-maj=14.3km s-min=13.5km az=117.9*

*IDC **13** 17:14:10.9±2.8,27.14S×176.53W,h49km±24km,mb4.5/17, mb1 4.6/20,mb1mx4.6/22,mbtmp4.7/20,ML4.0/3,MS4.5/8, Ms1 4.4/8,ms1mx4.1/21,Error ellipse: s-maj=19.7km s-min=12.2km az=160.0*

ISC 13 17:14:06.5±3.0,27.17S±0.07×176.50W±0.06, h27km±20km,n180,σ1§13/100,mb5.1/57,MS4.5/10,10C-5D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.30**	**204**	P	**P**	**17 16 52.9**	**-10**
	0.3nm,0.3s,baz=342,slow=14,SNR=2.4						
URZ				S	**S**	**17 19 11.0**	**-9.1**
	1.8nm,0.3s,baz=119,slow=21,SNR=6.7						
RAR	**Rarotonga**	**16.36**	**72**	P	**P**	**17 17 44.9**	**-11**
	2.8nm,0.3s,baz=213,slow=9.9,SNR=8.8						
RAR				S	S	17 20 34.2	-22
	1.4nm,0.3s,baz=135,slow=19,SNR=2.7						
RAR				LR	LR	17 23 02.1	
	comp=Z,814nm,19.7s,baz=255,slow=32						
NOUC	**Port Laguerre**	**16.43**	**284**	*e*P	**P**	**17 18 02.8**	**+5.8**
RPZ	**Rata Peaks**	**19.34**	**208**	P	**P**	**17 18 26.9**	**-5.8**
	0.4nm,0.3s,baz=307,slow=18,SNR=2.2						
RPZ				S	**S**	**17 21 53.6**	**-10**
	0.5nm,0.3s,baz=11,slow=8.0,SNR=3.0						
TBI	**Tubuai**	**24.73**	**87**	*e*P	**P**	**17 19 24.7**	**-2.5**
	99nm,1.0s,mb5.3						
TBI				*e*LQ		17 24 02.5	
TBI				*e*LR	LR	17 25 00.7	
	1μm,29.8s,baz=258						
PAE	**Paea**	**26.57**	**75**	*e*P	**P**	**17 19 44.3**	**-0.2**
	171nm,1.2s,mb5.5						
PPT	**Papeete**	**26.62**	**75**	*e*P	**P**	**17 19 45.1**	**+0.2**
	68nm,1.3s,mb5.0						
PPT	**Papeete**	**26.62**	**75**	*e*LQ		17 24 46.9	
PPT				*e*LR	LR	17 25 50.6	
	1μm,29.2s,baz=242						
TVO	**Taravao**	**26.80**	**75**	*e*P	**P**	**17 19 46.8**	**+0.2**
	24nm,0.8s,mb4.8						
TIAR	**Tiarei**	**26.82**	**75**	*e*P	**P**	**17 19 47.2**	**+0.5**
	149nm,1.1s,mb5.4						
TAU	**Tasmania Unive**	**33.23**	**232**	P	**P**	**17 20 45.0**	**+1.5**
TAU				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
TAU	**Tasmania Unive**	**33.23**	**232**	P	**P**	**17 20 45.0**	**+1.4**
	comp=Z,28nm,1.0s,mb5.2						
CTA	**Charters Tower**	**34.75**	**274**	*e*P	**P**	**17 20 58.3**	**+1.4**
	comp=Z,28nm,0.7s,mb5.3						
CTA	**Charters Tower**	**34.75**	**274**	*e*P	**P**	**17 20 58.3**	**+1.4**
CTA				pmax	pmax		
	comp=Z,28nm,0.7s						
CTA	**Charters Tower**	**34.75**	**274**	P	**P**	**17 20 57.1**	**+0.3**
	comp=Z,40nm,0.7s,mb5.4,baz=97,slow=11,SNR=33						
CTA				LR	LR	17 34 09.6	
	comp=Z,2μm,18.2s,MS4.8,baz=116,slow=34						
CTAO	**Charters Tower**	**34.75**	**274**	*e*P	**P**	**17 20 58.1**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,51nm,0.9s,mb5.5						
CTAO	**Charters Tower**	**34.75**	**274**	*e*P	**P**	**17 20 58.1**	**+1.2**
	comp=Z,52nm,0.9s,mb5.5						
STKA	**Stephens Creek**	**36.60**	**252**	⇓*i*P	**P**	**17 21 12.8**	**+0.4**
	comp=Z,6.3nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**36.60**	**252**	P	**P**	**17 21 11.7**	**-0.8**
	comp=Z,5.3nm,0.8s,mb4.4,baz=78,slow=11,SNR=8.2						
STKA				PcP	PcP	17 23 35.3	-0.3
	comp=Z,7.6nm,1.0s,baz=91,slow=7.5,SNR=3.9						
STKA				LR	LR	17 35 19.6	
	comp=Z,1μm,18.3s,MS4.7,baz=87,slow=35						
RKT	**Rikitea**	**37.69**	**93**	*e*LR	LR	17 31 02.2	
	comp=Z,698nm,29.8s,baz=253						
PMG	**Port Moresby**	**38.57**	**290**	P	**P**	**17 21 28.2**	**-0.9**
	comp=Z,14nm,0.8s,mb4.7,baz=117,slow=7.2,SNR=9.4						
TAOE	**Nuku Hiva Isla**	**38.87**	**69**	*e*LR	LR	17 31 28.9	
ASAR	**Alice Springs**	**44.70**	**263**	P	**P**	**17 22 18.8**	**-0.6**
	comp=Z,7.1nm,0.8s,mb4.5,baz=92,slow=7.2,SNR=56						
ASAR				S	**S**	**17 28 52.4**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=103,slow=15,SNR=3.4						
ASAR				LR	LR	17 41 00.8	
	comp=Z,528nm,18.5s,MS4.5,baz=112,slow=36						
ASPA	**Alice Springs**	**44.71**	**263**	⇑*i*P	**P**	**17 22 18.8**	**-0.6**
WB2	**Warramunga Arr**	**45.40**	**268**	⇑*i*P	**P**	**17 22 24.0**	**-0.9**
WRAB	**Tennant Creek**	**45.40**	**268**	*e*P	**P**	**17 22 24.2**	**-0.8**
WRAB				*e*		17 24 03.9	
WRAB				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.2						
WRAB	**Tennant Creek**	**45.40**	**268**	*e*P	**P**	**17 22 24.2**	**-0.8**
	comp=Z,36nm,1.0s,mb5.2						
WRAB				*e*PcP	PcP	17 24 03.9	-0.6
WRA	**Warramunga Arr**	**45.41**	**268**	P	**P**	**17 22 24.1**	**-0.9**
	comp=Z,16nm,0.9s,mb4.8,baz=108,slow=7.5,SNR=69						
WRA				PcP	PcP	17 24 04.1	-0.4
	comp=Z,7.3nm,0.9s,baz=108,slow=3.1,SNR=7.5						
WRA				S	**S**	**17 29 03.2**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=104,slow=13,SNR=3.6						
KAKA	**Kakadu**	**49.78**	**276**	*e*P	**P**	**17 22 58.4**	**-0.9**
	comp=Z,15nm,0.7s,mb5.1						
SBA	**Scott Base**	**51.35**	**184**	*e*P	**P**	**17 23 12.4**	**+2.0**
SBA				pmax	pmax		
	comp=Z,44nm,1.2s,mb5.3						
SBA	**Scott Base**	**51.35**	**184**	*e*P	**P**	**17 23 12.3**	**+2.0**
	comp=Z,44nm,1.2s,mb5.3						
VNDA	**Vanda**	**51.43**	**186**	P	**P**	**17 23 10.8**	**-0.2**
	comp=Z,4.6nm,1.1s,mb4.3,baz=359,slow=9.8,SNR=8.0						
VNDA				LR	LR	17 41 10.7	
	comp=Z,367nm,19.1s,MS4.4,baz=354,slow=32						
FITZ	**Fitzroy Crossi**	**53.77**	**267**	*e*P	**P**	**17 23 28.5**	**-0.7**
	comp=Z,16nm,0.9s,mb5.0						
MBWA	**Marble Bar**	**57.96**	**261**	*e*P	**P**	**17 23 56.6**	**-2.7**
	comp=Z,22nm,1.1s,mb5.1						
CASY	**Casey**	**58.61**	**207**	*e*P	**P**	**17 24 01.9**	**-1.3**
	comp=Z,64nm,1.3s,mb5.5						
CASY				*e*		17 24 15.6	
QSPA	**South Pole Qui**	**62.93**	**180**	⇓*i*P	**P**	**17 24 33.4**	**+1.0**
	comp=Z,44nm,1.0s,mb5.5						
MIR	**Mirnyy**	**65.59**	**206**	⇑*e*P	**P**	**17 24 50.3**	**+0.5**
MIR				pmax	pmax		
	comp=Z,100nm,1.2s,mb5.7						
CBIJ	**Chichi jima**	**67.00**	**320**	LR	LR	17 51 40.8	
	comp=Z,187nm,18.5s,MS4.3,baz=125,slow=34						
JOW	**Kunigami**	**75.52**	**311**	P	**P**	**17 25 49.9**	**-0.8**
	comp=Z,37nm,0.8s,mb5.4,baz=95,slow=25,SNR=3.8						
MAW	**Mawson**	**75.79**	**200**	⇑*i*P	**P**	**17 25 52.3**	**+0.9**
	comp=Z,15nm,0.9s,mb4.9						
MAW	**Mawson**	**75.79**	**200**	⇑*i*P	**P**	**17 25 52.3**	**+0.9**
MAW				pmax	pmax		
	comp=Z,15nm,0.9s						
MAW	**Mawson**	**75.79**	**200**	P	**P**	**17 25 52.2**	**+0.8**
	comp=Z,18nm,1.1s,mb4.9,baz=125,slow=7.1,SNR=12						
MAW				LR	LR	17 59 19.4	
	comp=Z,436nm,18.7s,MS4.8,baz=330,slow=36						
MAJO	**Matsushiro**	**76.38**	**324**	*e*P	**P**	**17 25 55.2**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,77nm,1.2s,mb5.5						
MAJO	**Matsushiro**	**76.38**	**324**	*e*P	**P**	**17 25 55.1**	**-0.2**
	comp=Z,77nm,1.2s,mb5.5						
MAT	**Matsushiro**	**76.38**	**324**	*e*P	**P**	**17 25 54.0**	**-1.3**
MAT				pmax	pmax		
	comp=Z,81nm,1.3s,mb5.5						
MAT	**Matsushiro**	**76.38**	**324**	*e*P	**P**	**17 25 54.0**	**-1.3**
	comp=Z,81nm,1.3s,mb5.5						
MAT	**Matsushiro**	**76.38**	**324**	P	**P**	**17 25 53.8**	**-1.5**
ASAJ	**Asahikawa**	**80.22**	**331**	P	**P**	**17 26 17.1**	**+0.9**
	comp=Z,14nm,0.8s,mb5.0,baz=210,slow=12,SNR=4.5						
SYO	**Syowa Base**	**80.55**	**192**	⇓P	**P**	**17 26 14.9**	**-2.5**
SYO	**Syowa Base**	**80.55**	**192**	⇓PcP	PcP	17 26 25.1	+0.4
SNAA	**Sanae**	**81.33**	**178**	P	**P**	**17 26 20.1**	**-1.4**
	comp=Z,3.5nm,0.9s,mb4.3,baz=101,slow=16,SNR=3.1						
YSS	**Yuzh-Sakhalins**	**82.44**	**333**	⇑*i*P	**P**	**17 26 28.8**	**+1.1**
YSS				*e*		17 26 42.0	
YSS				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3						
YSS	**Yuzh-Sakhalins**	**82.44**	**333**	*e*P	**P**	**17 26 29.0**	**+1.3**
	comp=Z,38nm,1.0s,mb5.3						
SSE	**Sheshan**	**83.01**	**310**	P	**P**	**17 26 30.5**	**-0.5**
SSE				XP	sP	17 26 43.8	+1.4
SSE				S	S	17 36 48.4	+1.3
SSE				XS		17 37 04.6	
SSE				SS	SS	17 42 15.8	+1.4
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,30nm,2.6s,mb4.9						
SSE				LR	LR		
	comp=N,49nm,22.3s,MS3.9						
SSE				LR	LR		
	comp=E,41nm,22.2s,MS3.9						
SSE				LR	LR		
	comp=Z,68nm,19.8s,MS4.0						
CMB	**Columbia Colle**	**83.48**	**41**	*e*P	**P**	**17 26 31.5**	**-1.8**
	comp=Z,24nm,1.3s,mb5.1						
OHCM	**Honcut**	**83.72**	**40**	*e*P	**P**	**17 26 33.8**	**-0.7**
WDC	**Whiskeytown Da**	**83.97**	**38**	*e*P	**P**	**17 26 35.8**	**0.0**
	comp=Z,16nm,1.1s,mb5.0						
YBH	**Yreka Blue Hor**	**84.68**	**37**	P	**P**	**17 26 39.5**	**+0.3**
	comp=Z,10.0nm,1.1s,mb4.8,baz=191,slow=4.5,SNR=10						
YBH	**Yreka Blue Hor**	**84.68**	**37**	*e*P	**P**	**17 26 40.0**	**+0.8**
	comp=Z,14nm,1.1s,mb5.0						
NVAR	**Mina Array Bea**	**84.97**	**42**	P	**P**	**17 26 40.6**	**-0.2**
	comp=Z,6.4nm,1.0s,mb4.7,baz=210,slow=6.0,SNR=23						
MNV	**Mina**	**85.06**	**42**	*e*P	**P**	**17 26 41.2**	**0.0**
	comp=Z,24nm,1.4s,mb5.1						
HUMO	**Hull Mountain**	**85.15**	**37**	*e*P	**P**	**17 26 42.0**	**+0.5**
	comp=Z,20nm,1.3s,mb5.1						
NJ2	**Nanjing**	**85.18**	**310**	*e*P	**P**	**17 26 43.5**	**+1.5**
NJ2				AP	pP	17 26 53.0	+2.4
NJ2				S	S	17 37 10.0	+1.4
NJ2				XS		17 37 26.0	
NJ2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,540nm,5.3s						
NJ2				LR	LR		
	comp=N,850nm,24.2s,MS5.2						
NJ2				LR	LR		
	comp=E,530nm,20.1s,MS5.2						
NJ2				LR	LR		
	comp=Z,580nm,25.4s						
TPNV	**Topopah Spring**	**85.28**	**44**	*e*P	**P**	**17 26 42.2**	**-0.1**
	comp=Z,19nm,1.2s,mb5.1						
TPNV				*e*		17 26 53.8	
NEN	**Nelson**	**85.35**	**46**	*e*P	**P**	**17 26 43.1**	**+0.3**
TPH	**Tonopah**	**85.39**	**43**	*e*P	**P**	**17 26 42.4**	**-0.6**
	comp=Z,25nm,1.2s,mb5.2						
TUC	**Tucson**	**86.06**	**51**	*e*P	**P**	**17 26 46.5**	**+0.2**
	comp=Z,40nm,1.5s,mb5.4						
MDJ	**Mudanjiang**	**86.74**	**325**	P	**P**	**17 26 50.1**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,17nm,1.1s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,192nm,4.2s						
WHN	**Wuhan**	**87.48**	**306**	⇑P	**P**	**17 26 55.0**	**+1.7**
WHN				AMB	AMB		
	comp=Z,45nm,1.0s,mb5.7						
TIA	**Tai'an**	**88.76**	**312**	P	**P**	**17 27 00.4**	**+1.1**
TIA				AMB	AMB		
	comp=Z,71nm,1.3s,mb5.8						
KLR	**Kul'dur**	**88.93**	**329**	*e*P	**P**	**17 26 56.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
INK	**Inuvik**	**100.33**	**15**	P	P	17 27 54.3	+2.7
	comp=Z,4.5nm,1.1s						
ZAK	**Zakamensk**	**104.60**	**319**	*e*P	Pdif	17 28 02.9	-8.0
ZAL	**Zalesovo**	**116.49**	**319**	PKP	PKPdf	17 32 48.1	-4.4
	comp=Z,1.1nm,0.7s,baz=234,slow=8.7,SNR=6.8						
NVS	**Novosibirsk**	**117.54**	**320**	*i* PKIKP	PKPdf	17 32 49.4	-5.1
AAK	**Ala-Archa**	**121.37**	**305**	*i* PKIKP	PKPdf	17 32 57.1	-5.2
AAK				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.5						
BVAR	**Borovoye Array**	**124.97**	**317**	PKP	PKPdf	17 33 05.1	-3.9
	comp=Z,3.4nm,0.8s,baz=90,slow=3.0,SNR=20						
BRVK	**Borovoye**	**125.04**	**317**	*e*PKIKP	PKPdf	17 33 04.7	-4.4
ARU	**Arti**	**131.38**	**323**	*i* PKIKP	PKPdf	17 33 14.0	-7.2
ARCES	**ARCESS Array B**	**135.70**	**349**	PKP	PKPdf	17 33 24.8	-4.1
	comp=Z,3.3nm,0.7s,baz=27,slow=2.7,SNR=5.9						
FINES	**FINESS Array B**	**142.52**	**342**	PKhKP		17 33 32.4	
	comp=Z,2.0nm,0.7s,slow=7.6,SNR=5.4						
FINES				PKP	PKPdf	17 33 37.9	-3.3
	comp=Z,3.1nm,0.8s,slow=4.2,SNR=6.6						
OBN	**Obninsk**	**143.19**	**328**	*i* PKIKP	PKPdf	17 33 35.4	-7.2
OBN				*e*		17 36 46.4	
OBN				pmax	pmax		
	comp=Z,36nm,1.8s						
GNI	**Garni**	**143.63**	**302**	*e*PKIKP	PKPdf	17 33 38.0	-5.8
GNI				*e*		17 33 43.5	
GNI				*e*		17 33 49.7	
ZEI	**Tsey**	**143.79**	**306**	*e*PKIKP	PKPdf	17 33 39.2	-4.8
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KIV	**Kislovodsk**	**144.38**	**308**	*i* PKIKP	PKPdf	17 33 39.8	-5.2
KIV				pmax	pmax		
	comp=N,8.0nm,1.1s						
KIV				pmax	pmax		
	comp=E,5.0nm,1.1s						
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
KIV	**Kislovodsk**	**144.38**	**308**	*e*PKPdf	PKPdf	17 33 40.4	-4.6
NB2	**NORSAR Subarra**	**145.73**	**353**	PKP	PKPdf	17 33 43.3	-3.5
	comp=Z,52nm,1.2s,baz=14,slow=2.8						
NB2	**NORSAR Subarra**	**145.73**	**353**	PKPa		17 33 43.3	
	baz=14,slow=2.9						
NOA	**NORSAR Array B**	**145.73**	**353**	PKPbc	PKPbc	17 33 42.5	-0.3
	comp=Z,18nm,1.0s,baz=10,slow=2.5,SNR=16						
HFS	**Hagfors**	**146.31**	**351**	PKPbc	PKPbc	17 33 44.3	+0.1
	comp=Z,29nm,0.9s,baz=45,slow=2.1,SNR=17						
SOC	**Sochi**	**146.55**	**309**	*i* PKP2	PKPab	17 33 45.6	-2.9
SOC				*e*PPP	PPP	17 40 31.8	+2.0
SOC				pmax	pmax		
	comp=Z,27nm,1.1s						
SOC				pmax	pmax		
	comp=N,11nm,0.8s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.9s						
BEST	**Besiri**	**146.61**	**298**	*i* P	PKPbc	17 33 48.3	+2.7
MNK	**Minsk**	**147.40**	**334**	PKIKP	PKPdf	17 33 46.0	-3.8
ELZG	**Elazig**	**148.30**	**300**	*i* P	PKPdf	17 33 53.7	+2.0
MALT	**Malatya**	**148.76**	**300**	*e*PKPdf	PKPdf	17 33 49.5	-3.0
MALT				*e*PKPbc	PKPdf	17 33 53.9	+1.4
AKASG	**Malin Array Be**	**149.42**	**327**	PKP	PKPdf	17 33 48.7	-4.4
	comp=E,0.2nm,0.3s,baz=41,slow=1.5,SNR=8.6						
AKASG				PKPbc	PKPdf	17 33 54.1	+1.0
	comp=E,11nm,0.7s,baz=38,slow=3.4,SNR=9.2						
SUW	**Suwalki**	**149.51**	**337**	*e*PKP	PKPdf	17 33 54.9	+1.7
GZT	**Gaziantep**	**149.60**	**298**	*i* P	PKPdf	17 33 55.6	+1.7
SIM	**Simferopol'**	**149.80**	**314**	*i* PKP2	PKPab	17 33 57.0	-4.5
SIM				pmax	pmax		
	comp=Z,24nm,0.9s						
KAHT	**Ahir Dag**	**150.09**	**299**	*i* P	PKPdf	17 33 57.1	+2.5
BOYT	**Boyabat**	**150.60**	**307**	*i* P	PKPdf	17 33 57.9	+2.6
ASF	**Jabal al Asfar**	**150.63**	**288**	PKP	PKPdf	17 33 52.5	-3.2
	comp=Z,1.0nm,0.3s,baz=152,slow=3.7,SNR=2.1						
ASF				PKPbc	PKPdf	17 33 58.2	+2.5
	comp=Z,6.7nm,0.7s,baz=28,slow=0.9,SNR=12						
COBT	**Iskenderun**	**150.77**	**297**	*i* P	PKPdf	17 33 58.9	+3.2
CTKT	**Corum**	**150.93**	**306**	*i* P	PKPdf	17 33 59.0	+3.1
AVNT	**Avonos**	**151.40**	**302**	*i* P	PKPdf	17 33 59.7	+3.1
EKA	**Eskdalemuir Ar**	**151.44**	**8**	PKPbc	PKPdf	17 33 58.6	+2.6
	comp=Z,2.0nm,0.8s,slow=0.8,SNR=3.8						
KSHT	**Keshet**	**151.52**	**290**	P	PKPdf	17 34 00.8	+3.9
BALT	**Daday**	**151.63**	**308**	*i* P	PKPdf	17 33 59.9	+3.0
MKRJ	**Makawir**	**151.71**	**287**	P	PKPdf	17 34 01.0	+3.7
WAR	**Warsaw**	**151.71**	**337**	*e*PKP	PKPab	17 34 17.9	+8.6
HMDT	**Nahal Hemdat**	**151.79**	**288**	P	PKPdf	17 34 01.4	+4.0
MMLI	**Mount Malkishu**	**151.87**	**289**	P	PKPdf	17 34 01.9	+4.4
ELDT	**Eldivan**	**151.96**	**306**	*i* P	PKPdf	17 34 01.4	+4.1
BRTR	**Keskin Array B**	**152.05**	**304**	PKP	PKPdf	17 33 53.5	-4.0
	comp=Z,0.5nm,0.8s,baz=180,slow=1.2,SNR=5.1						
BRTR				PKPbc	PKPdf	17 34 01.0	+3.5
	comp=Z,4.2nm,1.0s,baz=135,slow=1.7,SNR=16						
EIL	**Elat**	**152.27**	**283**	P	PKPdf	17 34 02.2	+4.1
EIL	**Elat**	**152.27**	**283**	*e*PKPdf	PKPdf	17 33 54.0	-4.1
EIL				*e*PKPbc	PKPdf	17 34 02.2	+4.1
EIL				*e*PKPab	PKPab	17 34 13.4	+1.1
MBH	**Mount Berech**	**152.31**	**283**	P	PKPdf	17 34 02.3	+4.1
LVV	**L'vov**	**152.43**	**331**	*e*PKIKP	PKPdf	17 34 01.1	+3.4
MEST	**Erdemli**	**152.43**	**298**	*i* P	PKPdf	17 34 01.9	+3.7
KZIT	**Kziot**	**152.78**	**285**	P	PKPdf	17 34 03.3	+4.5
KWP	**Kalwaria**	**153.14**	**332**	*e*PKP	PKPdf	17 34 03.7	+5.0
KOLS	**Kolonicke sedl**	**153.85**	**331**	*e*PKP	PKPdf	17 33 57.6	-2.1
KOLS				*e*		17 34 02.7	
KOLS				*e*		17 34 11.0	
KOLS				*e*		17 34 19.0	
CRVS	**Cervenica-Dubn**	**154.22**	**332**	*e*PKP	PKPdf	17 33 57.8	-2.4
CRVS				*e*		17 34 07.0	
MLR	**Muntele Rosu**	**154.43**	**322**	PKPbc	PKPdf	17 34 05.2	+4.6
	comp=Z,2.5nm,0.9s,baz=298,slow=5.5,SNR=4.0						
KSP	**Ksiaz**	**154.43**	**341**	*e*PKP	PKPdf	17 34 07.2	+6.8
CLL	**Collm**	**154.84**	**346**	*e*PKP1	PKPdf	17 34 07.0	+6.1
CLL				*e*PKP2	PKPab	17 34 20.0	-2.5
CLL				*i* *PPKP2		17 34 27.8	
BRG	**Berggiesshubel**	**155.03**	**344**	*e*PKIKP	PKPdf	17 34 00.0	-1.2
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
VYHS	**Vyhne**	**155.59**	**335**	*e*PKP	PKPab	17 34 25.7	-0.1
VYHS				*e*		17 34 31.4	
PRU	**Pruhonice**	**155.69**	**343**	*e*PKPab	PKPab	17 34 26.0	-5.6
MOX	**Moxa**	**155.75**	**347**	*e*P	PKPdf	17 33 59.0	-3.1
MOX				PP2		17 34 08.0	
MOX				PKP2	PKPab	17 34 28.0	+1.6
MANT	**Manisa**	**156.18**	**305**	*i* P	PKPab	17 34 28.3	-0.4
ZST	**Bratislava**	**156.48**	**337**	*e*	PKPdf	17 33 59.2	-4.0
ZST	**Bratislava**	**156.48**	**337**	*e*PKP	PKPdf	17 33 59.2	-4.0
KHC	**Kasperske Hory**	**156.72**	**343**	*e*PKPab	PKPab	17 34 30.5	-0.1
GERES	**GERESS Array B**	**156.96**	**343**	PKPbc	PKPdf	17 34 12.1	+8.3
	comp=Z,0.5nm,0.7s,baz=207,slow=3.0,SNR=4.4						
GERES				PKPab	PKPab	17 34 31.2	-0.5
	comp=Z,1.8nm,1.0s,baz=63,slow=3.0,SNR=5.7						
DBIC	**Dimbokro**	**158.12**	**157**	PKP	PKPdf	17 34 02.5	-3.9
	comp=Z,3.6nm,1.1s,baz=152,slow=3.1,SNR=3.8						
FLN	**La Foiniere**	**158.22**	**7**	*e*PKP2	PKPab	17 34 34.1	-3.0
	comp=Z,71nm,1.3s						
DIVS	**Divcibare**	**158.50**	**326**	⇑*i*PKP	PKPdf	17 34 02.2	-3.8
CDF	**Champ du Feu**	**158.59**	**353**	*e*PKP2	PKPab	17 34 37.0	-1.7
SKO	**Skopje**	**159.17**	**320**	*e*PKP	PKPab	17 34 43.2	+1.8
DAVOX	**Davos**	**159.78**	**347**	PKPab	PKPab	17 34 43.3	-0.6
	comp=Z,5.0nm,0.9s,baz=145,slow=11,SNR=3.3						
IDI	**Anoyia**	**160.02**	**299**	PKP	PKPdf	17 34 04.8	-3.2
	comp=Z,3.7nm,1.0s,baz=9.9,slow=4.9,SNR=3.1						
IDI				PKPab	PKPab	17 34 45.8	+0.5
	comp=Z,4.5nm,0.9s,baz=357,slow=16,SNR=3.9						
SSF	**Saint Saulge**	**160.14**	**360**	*e*PKP2	PKPab	17 34 43.3	-2.1
AVF	**Avril sur Loir**	**160.41**	**0**	*e*PKP2	PKPab	17 34 43.5	-3.1
LPL	**La Plagne**	**161.51**	**353**	*e*PKP2	PKPab	17 34 43.7	-7.7
LPG	**La Plagne**	**161.52**	**353**	*e*PKP2	PKPab	17 34 43.9	-7.6
	comp=Z,10nm,0.9s						
ORIF	**Oris-en-Rattie**	**162.18**	**354**	*e*PKP2	PKPab	17 34 45.0	-9.4
	comp=Z,5.2nm,0.7s						
ESDC	**Sonseca Array**	**166.06**	**25**	PKP	PKPdf	17 34 09.9	-3.8
	comp=Z,0.6nm,0.5s,baz=320,slow=3.7,SNR=5.5						
ESDC				PKPab	PKPab	17 35 10.7	-0.7
	comp=Z,0.7nm,0.6s,baz=325,slow=3.0,SNR=5.5						

*THE **13** 17:30:19.4, 40.28N×24.80E, h13km, ML2.8*
*ATH **13** 17:30:19.3, 40.33N×24.78E, h14km±4km, MD3.1/3*
*CSEM **13** 17:30:19.2±0.1, 40.34N×24.77E, h10km, ML2.8, Error ellipse: s-maj=2.2km s-min=1.8km az=31.0*
*NEIC **13** 17:30:19.3, 40.33N×24.78E, h14km, MD3.1(ATH), After ATH.*
ISC 13 17:30:18.0±0.6, 40.30N±0.03×24.78E±0.03, h2km±6km, n27, σ0.9±91/39, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.44**	**147**	*e*Pg	**Pg**	**17 30 27.7**	**+0.9**
LOS				*e*Sg	**Sg**	**17 30 33.3**	**+0.7**
LIA	**Limnos Island**	**0.51**	**142**	*e*PB	**Pb**	**17 30 29.5**	**+0.2**
OUR	**Ouranopolis**	**0.61**	**273**	*e*Pg	**Pg**	**17 30 31.1**	**+1.0**
OUR	**Ouranopolis**	**0.61**	**273**	*e*Pg	**Pg**	**17 30 31.1**	**+0.9**
PAIG	**Paliouri**	**0.92**	**246**	*e*Pg	**Pg**	**17 30 36.7**	**+0.3**
PAIG				*e*Sg	**Sg**	**17 30 49.7**	**+1.1**
PLG	**Polygyros**	**1.02**	**274**	*e*PG	**Pg**	**17 30 38.3**	**-0.1**
RDO	**Rodhopi**	**1.02**	**34**	*e*PG	**Pg**	**17 30 37.8**	**-0.7**
RDO				*e*SB	**Sb**	**17 30 52.2**	**+0.4**
ALN	**Alexandroupoli**	**1.14**	**58**	*e*Pg	**Pg**	**17 30 40.3**	**-0.4**
ALN				*e*Sg	**Sg**	**17 30 55.7**	**-0.2**
SOH	**Sokhos**	**1.20**	**296**	*e*Pb	**Pb**	**17 30 41.1**	**0.0**
SOH				*e*Sb	**Sb**	**17 30 58.8**	**+1.8**
SRS	**Serrai**	**1.21**	**313**	*e*Pb	**Pb**	**17 30 41.0**	**-0.3**
SRS				*e*Sb	**Sb**	**17 30 58.1**	**+0.8**
SRS	**Serrai**	**1.21**	**313**	*e*Pb	**Pb**	**17 30 41.0**	**-0.4**
SRS				*e*Sb	**Sb**	**17 30 58.1**	**+0.8**
NVR	**Nevrokopi**	**1.26**	**327**	*e*PN	**Pn**	**17 30 42.0**	**-0.5**
NVR				*e*SB	**Sb**	**17 30 59.9**	**+1.3**
AOS	**Alonnisos**	**1.32**	**212**	*e*Pb	**Pb**	**17 30 42.5**	**-0.7**
AOS				*e*Sb	**Sb**	**17 31 00.4**	**-0.2**
AOS	**Alonnisos**	**1.32**	**212**	*e*Pb	**Pb**	**17 30 42.5**	**-0.8**
RZN	**Rozhen**	**1.39**	**358**	*i* P	**Pb**	**17 30 44.0**	**-0.3**
RZN	**Rozhen**	**1.39**	**358**	*i* S	**Sb**	**17 31 03.0**	**+0.7**
KDZ	**Kurdzhali**	**1.43**	**20**	*i* P	**Pn**	**17 30 43.5**	**-1.6**
KDZ				*i* S	**Sb**	**17 31 04.0**	**+0.3**
MMB	**Musomiste**	**1.51**	**329**	*i* P	**Pn**	**17 30 46.0**	**-0.2**
MMB				*i* S	**Sb**	**17 31 05.5**	**-0.5**
XOR	**Xorichti**	**1.54**	**233**	*e*Pb	**Pb**	**17 30 45.9**	**-1.0**
PRK	**Paraskevi**	**1.56**	**132**	*e*PB	**Pb**	**17 30 49.0**	**+1.7**
KNT	**Kendrikon**	**1.67**	**302**	*e*Pb	**Pb**	**17 30 48.1**	**-1.0**
KNT				*e*Sb	**Sb**	**17 31 11.1**	**+0.6**
LIT	**Litokhoron**	**1.76**	**264**	*e*Pb	**Pb**	**17 30 48.8**	**-2.0**
GRG	**Griva**	**1.92**	**291**	*e*Pb	**Pb**	**17 30 51.7**	**-1.8**
KKB	**Krupnik**	**2.02**	**321**	*i* P	**Pn**	**17 30 53.0**	**-0.5**
AGG	**Agios Georgios**	**2.28**	**237**	*e*Pn	**Pn**	**17 30 56.7**	**-0.5**
PGB	**Panagyurishte**	**2.29**	**349**	*i* S	**Sn**	**17 31 30.0**	**+3.5**
FNA	**Florina**	**2.63**	**282**	*e*Pn	**Pn**	**17 31 02.0**	**-0.3**

MAN 13 17:33:21.8, 7.85N×125.67E, h1km, mb4.1, ML3.0, MS2.7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.61**	**272**	*e*P	Pg	17 33 33.4	-0.5
BUKP				*e*S	Sg	17 33 45.0	+3.1
BIPH	**Bislig**	**0.76**	**64**	*e*P	Pg	17 33 35.2	-1.6
BIPH				*i* S	Sg	17 33 45.6	-1.4
KCP	**Kidapawan**	**1.02**	**215**	⇓*e*P	Pb	17 33 42.0	+0.1
KCP				*i* S	Sb	17 34 00.1	+4.5
MATI	**Mati**	**1.07**	**147**	*e*P	Pb	17 33 42.7	-0.1
MATI				*e*S	Sb	17 33 59.6	+2.5
BUTP	**Butuan**	**1.11**	**357**	*e*P	Pb	17 33 43.5	+0.1
BUTP				*e*S	Sb	17 34 00.3	+2.1
CGP	**Cagayan de Oro**	**1.14**	**302**	*e*P	Pb	17 33 40.5	-3.4
CGP				*e*S	Sb	17 33 58.4	-0.7
PAGZ	**Pagadian**	**2.27**	**270**	*e*P	Pn	17 34 01.2	+0.3

*IPEC **13** 17:34:37.7±0.4, 50.10N×18.50E, ML3.2/2, Error ellipse: s-maj=2.4km s-min=1.7km az=94.0*
*MOS **13** 17:34:37.2±1.3, 50.24N×18.48E, h10km, mb4.0/1, Error ellipse: s-maj=7.5km s-min=5.7km az=82.0*
*IDC **13** 17:34:38.8±0.7, 50.02N×18.45E, mb3.7/1, mb1 3.6/8, mb1mx3.5/20, mbtmp3.5/8, ML3.4/7, Error ellipse: s-maj=11.1km s-min=6.0km az=144.0*
*NEIC **13** 17:34:38.5±0.3, 50.15N×18.40E, h5km, ML3.8(SZGRF), ML3.4(VIE), Error ellipse: s-maj=4.0km s-min=3.3km az=24.0*
NEIC Felt at Raciborz.
*PRU **13** 17:34:39.2, 50.10N×18.38E*
*CSEM **13** 17:34:39.2±0.2, 50.09N×18.36E, ML4.1/4, Error ellipse: s-maj=3.0km s-min=2.1km az=17.0*
*BGR **13** 17:34:40.3±0.8, 50.03N×18.31E, h1km, ML3.8/9, Error ellipse: s-maj=8.9km s-min=7.8km az=173.0*
WAR 13 17:34:38.8, 50.07N×18.43E, h0km, ML3.3, 9C-2D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.15**	**277**	⇑*i*PG	Pg	17 34 42.7	+0.9
RAC				⇑*e*SG	Sg	17 34 46.7	+2.9
RAC	**Raciborz**	**0.15**	**277**	⇑*i*Pg	Pg	17 34 42.7	+0.9
RAC				*e*Sg	Sg	17 34 45.8	+2.0
RAC	**Raciborz**	**0.15**	**277**	*e*Sg	Sg	17 34 45.8	+2.0
OKC	**Ostrava-Krasne**	**0.29**	**218**	*e*PG	Pg	17 34 45.0	+0.4
OKC				*e*SG	Sg	17 34 49.6	+1.1
	1μm,0.5s						
OKC	**Ostrava-Krasne**	**0.29**	**218**	Pg	Pg	17 34 45.0	+0.4
OKC				*e*Sg	Sg	17 34 49.3	+0.8
MORC	**Moravsky Berou**	**0.64**	**243**	*e*Pg	Pg	17 34 50.6	-1.0
MORC				*e*Sg	Sg	17 34 58.0	-2.0
MORC	**Moravsky Berou**	**0.64**	**243**	*e*Pg	Pg	17 34 50.6	-1.0
MORC				*e*Sg	Sg	17 34 59.9	-0.2
OJC	**Ojcow**	**0.90**	**80**	⇓*i*PG	Pg	17 34 55.7	-1.0
OJC				⇓*e*SG	Sg	17 35 09.7	+1.0
OJC	**Ojcow**	**0.90**	**80**	*e*Pg	Pg	17 34 55.7	-1.0
OJC				*e*Sg	Sg	17 35 08.6	-0.1
LIKS	**Likavka**	**1.11**	**156**	*e*PG	Pg	17 35 01.2	+0.2
LIKS				*e*SG	Sg	17 35 17.7	+2.0
DPC	**Dobruska-Polom**	**1.38**	**283**	*e*PG	Pg	17 35 04.3	-2.1
DPC				*e*SG	Sg	17 35 22.9	-1.9
	784nm,0.6s						
DPC	**Dobruska-Polom**	**1.38**	**283**	*e*Pn	Pn	17 35 04.4	-0.9
DPC				*e*Sg	Sg	17 35 22.7	-2.1
NIE	**Niedzica**	**1.39**	**117**	*e*PG	Pg	17 35 05.0	-1.5
NIE				*e*SG	Sg	17 35 25.0	+0.1
VRAC	**Vranov**	**1.41**	**238**	Pg	Pg	17 35 05.0	-1.9
	40nm,0.3s,baz=62,slow=13,SNR=213						
VRAC				Lg		17 35 23.5	
	96nm,0.3s,baz=135,slow=22,SNR=30						
VRAC	**Vranov**	**1.41**	**238**	Pg	Pg	17 35 05.0	-2.0
VRAC				*e*Sg	Sg	17 35 23.0	-2.8
	202nm,0.3s						
KSP	**Ksiaz**	**1.57**	**301**	*e*PN	Pn	17 35 07.0	-1.0
KSP				*e*PG	Pg	17 35 08.0	-2.1
KSP				*e*SN	Sn	17 35 28.0	-1.3
KSP				*e*SG	Sg	17 35 29.0	-2.0
KSP	**Ksiaz**	**1.57**	**301**	*e*P	Pn	17 35 06.7	-1.3
KSP				*e*		17 35 27.5	
KSP	**Ksiaz**	**1.57**	**301**	*e*Pn	Pn	17 35 06.7	-1.3
KSP				*e*Pg	Pg	17 35 08.0	-2.1
KSP				*e*Sn	Sn	17 35 27.5	-1.8
KSP				*e*Sg	Sg	17 35 29.0	-2.0
KSP	**Ksiaz**	**1.57**	**301**	*e*Pn	Pn	17 35 06.8	-1.1
KSP				*e*Sn	Sn	17 35 28.4	-0.8
KSP				*e*Sg	Sg	17 35 34.4	+3.3
KSP	**Ksiaz**	**1.57**	**301**	*e*Pg	Pg	17 35 08.0	-2.1
KSP				*e*Sn	Sn	17 35 27.5	-1.8
KSP				*e*Sg	Sg	17 35 29.0	-2.0
VYHS	**Vyhne**	**1.60**	**170**	*e*PN	Pn	17 35 08.0	-0.4
VYHS				*e*SN	Sn	17 35 28.7	-1.3
UPC	**Upice**	**1.61**	**287**	*e*PG	Pg	17 35 08.0	-2.9
KRUC	**Moravsky**	**1.66**	**234**	*e*Sg	Sg	17 35 30.3	-3.8
	181nm,0.3s						
ZST	**Bratislava**	**2.06**	**205**	*e*PN	Pn	17 35 14.2	-0.9
ZST				*e*SN	Sn	17 35 39.6	-2.2
KECS	**Kecovo**	**2.08**	**139**	*e*PN	Pn	17 35 14.3	-1.0
KECS				*e*SN	Sn	17 35 42.7	+0.4
SRO	**Srobarova**	**2.26**	**182**	*e*PG	Pg	17 35 23.0	-0.8
VKA	**Vienna**	**2.27**	**218**	⇑*i*PN	Pn	17 35 17.5	-0.5
VKA				*i*		17 35 23.6	
VKA				*i*		17 35 53.4	
VKA	**Vienna**	**2.27**	**218**	⇑*i*P	Pn	17 35 17.5	-0.5
VKA				*i*		17 35 53.4	
CRVS	**Cervenica-Dubn**	**2.30**	**119**	*e*P	Pn	17 35 19.3	+0.9
CRVS				*e*		17 35 53.3	
CRVS	**Cervenica-Dubn**	**2.30**	**119**	*e*PN	Pn	17 35 19.3	+0.9
CRVS				*e*PB	Pb	17 35 21.8	+1.0
CRVS				*e*SG	Sg	17 35 53.3	-2.0
CRVS	**Cervenica-Dubn**	**2.30**	**119**	*e*Pg	Pg	17 35 21.8	-2.9
CRVS				*e*Sg	Sg	17 35 53.3	-2.0
PSZ	**Piszkesteto**	**2.36**	**155**	⇑*e*Pn	Pn	17 35 19.3	0.0
PSZ				*e*Sn	Sn	17 35 50.0	+0.7
PRU	**Pruhonice**	**2.51**	**270**	*e*P	Pn	17 35 19.3	-2.1
PRU				*e*		17 35 56.0	
PRU	**Pruhonice**	**2.51**	**270**	*e*Pn	Pn	17 35 19.3	-2.1
PRU				*e*Pg	Pg	17 35 24.0	-4.8
PRU				*e*Sg	Sg	17 35 56.0	-6.2
PRU	**Pruhonice**	**2.51**	**270**	PN	Pn	17 35 18.9	-2.5
PRU				PG	Pg	17 35 24.1	-4.7
PRU				*e*SG	Sg	17 35 56.0	-6.2
	60nm,0.2s						
PVCC	**Panska Ves**	**2.52**	**282**	*e*PN	Pn	17 35 20.0	-1.5
PVCC				*e*PG	Pg	17 35 25.4	-3.6
KOLS	**Kolonicke sedl**	**2.75**	**113**	*e*PN	Pn	17 35 23.6	-1.3
KOLS				*e*SN	Sn	17 35 58.9	-0.4
KWP	**Kalwaria**	**2.81**	**97**	*e*PN	Pn	17 35 26.1	+0.4
KWP				*e*P*	Pn	17 35 30.8	+1.2
KWP				*e*Pg	Pg	17 35 37.8	+2.9
KWP				*e*Sn	Sg	17 36 16.9	+4.6
BRG	**Berggiesshubel**	**2.98**	**287**	*e*Pg	Pg	17 35 33.6	-4.6
BRG				*e*Sg	Sg	17 36 12.2	-5.6
BRG	**Berggiesshubel**	**2.98**	**287**	*i* Pg	Pg	17 35 33.7	-4.5
BRG				*i* Sg	Sg	17 36 12.1	-5.8
BRG	**Berggiesshubel**	**2.98**	**287**	*i* Pg	Pg	17 35 33.7	-4.5
BRG				Sg	Sg	17 36 12.2	-5.7
KHC	**Kasperske Hory**	**3.29**	**255**	*e*PN	Pn	17 35 31.0	-1.5
KHC				*e*PG	Pg	17 35 39.2	-5.3
KHC				*e*SG	Sg	17 36 21.9	-6.4
KHC	**Kasperske Hory**	**3.29**	**255**	*e*Pg	Pg	17 35 39.2	-5.3
KHC				*e*Sg	Sg	17 36 21.9	-6.4
GKP	**Gorka Klasztor**	**3.29**	**347**	*e*PN	Pn	17 35 30.0	-2.6
GKP				*e*PG	Pg	17 35 46.0	+1.5
GKP				*e*SN	Sn	17 36 19.0	+6.0
GKP	**Gorka Klasztor**	**3.29**	**347**	*e*Pn	Pn	17 35 30.0	-2.6
GKP				*e*Pg	Pg	17 35 46.5	+2.0
GKP				*e*Sn	Sn	17 36 19.1	+6.1
GEC2	**GERESS Array S**	**3.31**	**250**	*e*Pn	Pn	17 35 33.0	+0.1
GEC2				*e*Sg	Sg	17 36 23.1	-6.0
GEC2	**GERESS Array S**	**3.31**	**250**	*e*Pn	Pn	17 35 33.0	+0.1
GEC2				*e*Sg	Sg	17 36 23.1	-6.1
GERES	**GERESS Array B**	**3.31**	**250**	P	Pn	17 35 31.4	-1.5
GERES						17 36 12.1	
GERES	**GERESS Array B**	**3.31**	**250**	Pn	Pn	17 35 31.4	-1.6
	0.8nm,0.3s,baz=63,slow=14,SNR=18						
GERES				Pg	Pg	17 35 40.5	-4.5
	6.0nm,0.3s,baz=66,slow=18,SNR=47						
GERES				Sn	Sn	17 36 12.1	-1.5
	6.3nm,0.3s,baz=61,slow=18,SNR=6.1						
GERES				Lg		17 36 21.9	
	11nm,0.3s,baz=61,slow=28,SNR=7.5						
GERES	**GERESS Array B**	**3.31**	**250**	Pg	Pg	17 35 40.5	-4.5
ARSA	**Arzberg**	**3.41**	**215**	⇑*i*PN	Pn	17 35 33.0	-1.3
ARSA				*i* SG	Sg	17 36 30.0	-2.4
	20nm,0.4s						
MOA	**Molln**	**3.53**	**233**	⇑*i*PN	Pn	17 35 33.9	-2.0
MOA				*i* SG	Sg	17 36 30.4	-5.8
	78nm,0.6s						
CLL	**Collm**	**3.67**	**292**	*e*PG	Pg	17 35 49.0	-3.0
CLL				*e*SG	Sg	17 36 37.0	-3.8
WET	**Wettzell**	**3.72**	**258**	*e*Pn	Pn	17 35 36.8	-2.0
WET				*e*Sg	S

6C-3D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIN	Hinchinbrook I	0.53	102	P	Pb	17 36 44.4	+0.7
EYAK	Cordova Ski Ar	0.89	87	P	Pn	17 36 49.7	+0.2
EYAK				S	Sb	17 37 02.1	+0.9
MPA	Moose Pass	0.90	270	P	Pn	17 36 50.4	+0.8
KNK	Knik Glacier	1.01	334	P	Pn	17 36 52.5	+1.2
SEW	Seward	1.03	248	P	Pn	17 36 52.1	+0.5
SEW				S	Sn	17 37 06.0	+0.9
DIV	Divide	1.07	54	P	Pn	17 36 52.4	+0.4
DIV				S	Sn	17 37 06.2	+0.2
SGAM	Sherman Glacie	1.16	89	P	Pn	17 36 54.0	+0.7
RC01	Rabbit Creek A	1.22	299	P	Pn	17 36 55.7	+1.4
RC01				S	Sn	17 37 12.1	+2.1
MID	Middleton Isla	1.24	150	P	Pn	17 36 55.0	+0.5
SLKM	Skilak Lake	1.33	271	P	Pn	17 36 56.9	+1.1
SCM	Sheep Creek Mo	1.33	4	P	Pn	17 36 57.4	+1.6
PMR	Palmer	1.33	325	*e*P	Pn	17 36 57.2	+1.3
SML	Sawmill	1.36	344	P	Pn	17 36 58.0	+1.8
SML				S	Sn	17 37 15.7	+2.3
RAGM	Ragged Mountai	1.43	94	P	Pn	17 36 57.6	+0.4
GHO	Glory Hole Cre	1.44	333	P	Pn	17 36 59.1	+1.8
FIB	Fire Island	1.45	298	P	Pn	17 36 59.2	+1.6
VOGL	Vogel Lake	1.50	290	P	Pn	17 37 00.2	+1.9
PWA	Palmer West	1.61	316	P	Pn	17 37 01.4	+1.5
KAIM	Kayak Island	1.67	109	P	Pn	17 37 00.6	0.0
BRLK	Bradley Lake	1.83	247	P	Pn	17 37 03.6	+0.6
NKA	Nikishka	1.84	279	P	Pn	17 37 04.7	+1.6
TZL	Tazlina	1.85	33	P	Pn	17 37 05.8	+2.6
NNL	Niniilchik	1.93	258	P	Pn	17 37 05.7	+1.4
GLB	Gilahina Butte	2.05	61	P	Pn	17 37 06.8	+0.8
GLB				S	Sn	17 37 32.7	+1.8
CNPM	China Poot	2.10	244	P	Pn	17 37 07.2	+0.4
HOM	Homer	2.23	249	P	Pn	17 37 09.2	+0.6
CUT	Chulitna	2.31	327	P	Pn	17 37 11.3	+1.5
SPU	Mount Spurr	2.31	289	P	Pn	17 37 10.1	+0.3
STLK	Strandline Lak	2.31	297	P	Pn	17 37 10.6	+0.7
RDT	Redoubt	2.41	274	P	Pn	17 37 11.2	0.0
DFR	Drift River	2.54	274	P	Pn	17 37 13.0	-0.2
RSO	Redoubt South	2.58	271	*e*P	Pn	17 37 13.4	-0.3
RDN	Redoubt North	2.58	272	P	Pn	17 37 13.4	-0.3
BALM	Baldy	2.60	76	P	Pn	17 37 14.2	+0.2
PAX	Paxson	2.66	21	P	Pn	17 37 16.3	+1.5
PAX				S	Sn	17 37 49.9	+3.4
NCT	North Crescent	2.66	273	P	Pn	17 37 14.7	-0.2
HUR	Hurricane	2.67	339	P	Pn	17 37 16.9	+2.0
ILIM	Iliamna	2.73	263	P	Pn	17 37 15.6	-0.3
INE	Iliamna NE	2.79	263	P	Pn	17 37 16.3	-0.3
ILW	Iliamna West	2.82	263	P	Pn	17 37 17.0	-0.2
YAH	Yahtse	2.88	90	P	Pn	17 37 17.7	-0.2
RND	Reindeer	2.97	349	P	Pn	17 37 20.9	+1.6
OPT	Oil Point	2.98	256	P	Pn	17 37 19.2	-0.2
THY	Trims Highway	3.04	15	P	Pn	17 37 21.6	+1.3
MENT	Mentasta	3.04	35	P	Pn	17 37 21.6	+1.3
SYI	Shuyak Island	3.12	234	P	Pn	17 37 21.8	+0.5
AUE	Augustine Isla	3.15	251	P	Pn	17 37 22.2	+0.4
AUI	Augustine Isla	3.19	251	P	Pn	17 37 22.8	+0.4
AUW	Augustine West	3.19	252	P	Pn	17 37 22.9	+0.4
TRF	Thorofare Moun	3.23	338	P	Pn	17 37 24.3	+1.4
TRF				S	Sn	17 38 02.4	+1.6
MCK	McKinley	3.30	349	P	Pn	17 37 25.4	+1.5
KTH	Kantishna Hill	3.45	334	P	Pn	17 37 27.2	+1.2
MCNL	McNeil River	3.68	252	P	Pn	17 37 28.5	-0.8
BCA3	Beaver Creek A	3.75	44	P	Pn	17 37 31.1	+0.9
KDAK	Kodiak Island	3.77	226	P	Pn	17 37 29.9	-0.7
BWN	Browne	3.79	347	P	Pn	17 37 31.7	+0.9
KAPH	Katmai Pasha	3.96	244	P	Pn	17 37 33.2	-0.1
SVW2	Sparrevohn	3.98	282	P	Pn	17 37 31.9	-1.7
NEA	Nenana	4.15	351	P	Pn	17 37 36.0	+0.1
CCB	Clear Creek Bu	4.16	358	P	Pn	17 37 36.4	+0.3
PNL	Peninsula	4.17	98	P	Pn	17 37 34.7	-1.5
KAHC	Katmai Hardscr	4.23	247	P	Pn	17 37 36.7	-0.4
ILAR	Eielson Array	4.29	4	Pn	Pn	17 37 37.5	-0.5
	14nm,0.3s,baz=181,slow=13,SNR=255						
ILAR				Sn	Sn	17 38 27.7	0.0
	37nm,0.3s,baz=188,slow=16,SNR=5.1						
ILAR				Lg		17 38 42.2	
	68nm,0.3s,baz=190,slow=27,SNR=6.8						
ILAR				LR	LR	17 39 29.1	
	comp=Z,1μm,19.3s,baz=90,slow=42						
IL1	Eielson Array	4.29	4	P	Pn	17 37 38.0	0.0
COLA	College	4.38	358⇑	*e*P	Pn	17 37 38.2	-1.1
COLA	College	4.38	358	P	Pn	17 37 39.4	+0.1
MDM	Murphy Dome	4.48	356	P	Pn	17 37 40.8	+0.2
GLM	Gilmore Dome	4.50	1	P	Pn	17 37 41.2	+0.3
TT01	Tatalina	4.70	304	P	Pn	17 37 42.1	-1.6
DAWY	Dawson	5.21	43	P	Pn	17 37 51.5	+0.4
IM3	Indian Mountai	6.17	336	P	Pn	17 38 03.5	-0.9
IMA	Indian Mountai	6.23	336	*e*P	Pn	17 38 04.5	-0.8
WHY	Whitehorse	6.24	83	P	Pn	17 38 04.5	-1.0
BESE	Bessie Mountai	6.73	101	P	Pn	17 38 10.9	-1.6
SIT	Sitka	7.23	113	P	Pn	17 38 16.5	-2.9
DLBC	Dease Lake	9.15	95	Pn	P	17 38 43.4	-2.7
	1.0nm,0.3s,baz=260,slow=12,SNR=8.0						
DLBC				Lg		17 41 19.0	
	1.0nm,0.3s,baz=166,slow=16,SNR=2.4						
DLBC				LR	LR	17 42 44.5	
	comp=Z,1μm,19.9s,baz=173,slow=40						
DLBC	Dease Lake	9.15	95	*e*P	P	17 38 43.5	-2.6
INK	Inuvik	9.87	32	*e*P	P	17 38 53.4	-2.5
INK	Inuvik	9.87	32	Pn	P	17 38 53.4	-2.4
	1.0nm,0.3s,baz=216,slow=15,SNR=18						
INK				Lg		17 41 41.6	
	1.4nm,0.3s,baz=254,slow=32,SNR=3.1						
INK				LR	LR	17 43 18.3	
	comp=Z,395nm,19.6s,baz=47,slow=41						
TNA	Tin City	10.52	307	*e*P	P	17 39 02.1	-2.6
	8.3nm,0.7s						
BBB	Bella Bella	13.57	119	LR	LR	17 44 22.5	
	comp=Z,503nm,18.4s,baz=132,slow=34						
YKW3	Yellowknife Ar	15.73	68	*e*P	P	17 40 12.3	-1.5
YKA	Yellowknife Ar	15.75	68	Pn	P	17 40 12.6	-1.3
	0.3nm,0.3s,baz=277,slow=12,SNR=49						
YKA				PcP	PcP	17 45 10.6	-3.1
	0.2nm,0.3s,baz=266,slow=0.9,SNR=5.5						
YKA				LR	LR	17 47 00.5	
	comp=Z,578nm,18.4s,baz=270,slow=40						
EDM	Edmonton	19.87	96	*e*P	P	17 41 02.8	-1.6
BILL	Bilibino	20.93	311	*e*P	P	17 41 13.5	-1.7
BILL				pmax	pmax		
	comp=Z,49nm,0.6s						
BILL	Bilibino	20.93	311	*e*P	P	17 41 13.5	-1.7
	comp=Z,49nm,0.6s						
MXC	Moxie City	21.16	119	P	P	17 41 18.7	+1.1
OD2	Odessa Site #2	21.23	115	P	P	17 41 18.9	+0.4
NEW	Newport	21.31	111	*e*P	P	17 41 19.6	+0.4
	comp=Z,22nm,0.9s,mb4.5						
VFP	Flag Point	21.66	123	P	P	17 41 24.2	+1.4
PRW	Prosser	21.70	119	P	P	17 41 24.8	+1.6
CROR	Criterion Ridg	22.13	123	P	P	17 41 28.8	+1.3
FRIS	Frissel Point	22.30	126	P	P	17 41 30.9	+1.7
FX1	Attu Island--F	22.59	268	*e*P	P	17 41 29.5	-2.2
HUMO	Hull Mountain	23.32	129	*e*P	P	17 41 40.4	+1.4
	comp=Z,13nm,0.8s,mb4.4						
RES	Resolute Bay	23.43	32	*e*P	P	17 41 39.1	-0.6
	comp=Z,2.3nm,0.5s,mb3.9						
BMO	Blue Mountains	23.81	117	*e*P	P	17 41 44.3	+0.5
	comp=Z,18nm,1.0s,mb4.5						
YBH	Yreka Blue Hor	24.16	130	P	P	17 41 49.5	+2.3
	comp=Z,15nm,0.8s,mb4.5,baz=356,slow=3.6,SNR=35						
YBH	Yreka Blue Hor	24.16	130	*e*P	P	17 41 48.9	+1.7
	comp=Z,15nm,0.9s,mb4.4						
HRY	Holter Researc	24.90	107	*e*P	P	17 41 54.3	0.0
MOD	Modoc	24.96	126	*e*P	P	17 41 56.3	+1.4
	comp=Z,20nm,0.9s,mb4.7						
WDC	Whiskeytown Da	25.22	131	*e*P	P	17 41 58.4	+1.0
	comp=Z,34nm,1.3s,mb4.7						
LBCM	Butte Creek Ri	25.45	129	P	P	17 42 01.2	+1.7
BOZ	Bozeman (W)	25.78	109	*e*P	P	17 42 03.2	+0.6
	comp=Z,10nm,1.0s,mb4.3						
HLID	Hailey	26.11	115	*e*P	P	17 42 06.2	+0.6
	comp=Z,2.9nm,0.7s,mb3.9						
FCC	Fort Churchill	26.46	70	*e*P	P	17 42 07.8	-1.0
	comp=Z,3.8nm,1.0s,mb3.9						
QLMT	Earthquake Lak	26.49	110	*e*P	P	17 42 09.9	+0.8
DGMT	Dagmar	27.37	96	*e*P	P	17 42 15.7	-1.4
SEY	Seymchan	27.67	301	*e*P	P	17 42 17.3	-2.4
SEY				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.2						
SEY				pmax	pmax		
	comp=E,20nm,0.6s						
CMB	Columbia Colle	28.26	130	*e*P	P	17 42 25.6	+0.4
	comp=E,2.5nm,0.8s,mb3.9						
HVU	Hansel Valley	28.26	116	*e*P	P	17 42 26.2	+1.0
NVAR	Mina Array Bea	28.72	127	P	P	17 42 29.8	+0.4
	comp=E,5.4nm,0.7s,mb4.4,baz=329,slow=9.0,SNR=33						
NVAR				PcP	PcP	17 45 38.5	-1.0
	comp=E,2.3nm,0.7s,baz=288,slow=3.2,SNR=7.6						
NVAR				LR	LR	17 52 25.4	
	comp=E,332nm,19.6s,MS4.0,baz=325,slow=33						
MNV	Mina	28.77	127	*e*P	P	17 42 30.0	+0.1
	comp=E,12nm,1.2s,mb4.5						
SPUT	South Promonto	28.78	116	*e*P	P	17 42 30.1	+0.1
BW06	Boulder Array	28.94	111	*e*P	P	17 42 31.4	+0.1
	comp=E,10nm,1.2s,mb4.4						
PDAR	Pinedale Array	28.94	111	P	P	17 42 31.7	+0.3
	comp=E,2.8nm,0.6s,mb4.2,baz=329,slow=4.2,SNR=25						
PDAR				PcP	PcP	17 45 37.9	-2.2
	comp=E,0.9nm,0.6s,baz=147,slow=2.5,SNR=3.8						
MA2	Magadan	29.84	296	*e*P	P	17 42 36.2	-3.0
MA2				*e*S	S	17 47 26.6	-6.2
MA2				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
MA2				MLR	MLR		
	comp=Z,600nm,21.0s,MS4.2						
NLU	North Lily Min	30.05	117	*e*P	P	17 42 41.0	-0.3
TPNV	Topopah Spring	30.81	126	*e*P	P	17 42 48.4	+0.4
	comp=Z,5.7nm,0.8s,mb4.5						
MVU	Marysvale	31.18	119	*e*P	P	17 42 52.2	+0.9
	comp=Z,4.9nm,0.8s,mb4.4						
MSU	Marysvale	31.19	119	*e*P	P	17 42 52.4	+1.0
ARUT	Antelope Range	31.26	121	*e*P	P	17 42 52.7	+0.7
ARUT				*e*	pP	17 43 03.0	+2.4
NEN	Nelson	32.50	125	*e*P	P	17 43 03.5	+0.6
TIXI	Tiksi	32.67	324	*e*P	P	17 43 03.9	-0.1
TIXI				pmax	pmax		
	comp=Z,12nm,2.1s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,229nm,17.0s,MS3.9						
SDCO	Great Sand Dun	34.81	112	*e*P	P	17 43 23.2	+0.4
	comp=Z,17nm,1.2s,mb4.9						
SDCO				*e*	pP	17 43 32.0	+0.4
ANMO	Albuquerque	36.68	115⇑	*i*P	P	17 43 40.3	+1.6
ANMO	Albuquerque	36.68	115	*e*P	P	17 43 39.8	+1.1
	comp=Z,4.8nm,1.1s,mb4.2						
LAZ	Ladron	36.84	117	*e*P	P	17 43 41.4	+1.4
YAK	Yakutsk	37.28	309	*e*P	P	17 43 41.4	-2.0
YAK				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
YAK	Yakutsk	37.28	309	*e*P	P	17 43 41.5	-1.9
	comp=Z,37nm,0.9s,mb5.2						
KSU1	Kansas State U	37.95	101	*e*P	P	17 43 49.3	0.0
SUMG	Summit	38.75	27	*e*P	P	17 43 56.4	+0.7
	comp=Z,16nm,0.9s,mb4.7						
AMTX	Amarillo	38.92	110	*e*P	P	17 43 58.4	+0.9
	comp=Z,11nm,0.8s,mb4.7						
AMTX				*e*	pP	17 44 08.2	+1.8
DAG	Danmarks Havn	39.28	16	*e*P	P	17 44 00.0	-0.1
DAG	Danmarks Havn	39.28	16	*i*P	P	17 44 00.0	-0.1
GDL2	Guadalupe Moun	39.94	115	*e*P	P	17 44 07.1	+1.1
GDL2				*e*	pP	17 44 15.0	+0.2
WMOK	Wichita Mounta	40.40	107	*e*P	P	17 44 09.4	-0.4
	comp=Z,12nm,0.8s,mb4.7						
SCHQ	Schefferville	40.97	61	P	P	17 44 14.0	-0.2
	comp=Z,5.5nm,0.8s,mb4.2,baz=320,slow=9.8,SNR=6.9						
SCHQ				pP	pP	17 44 23.2	+0.2
	comp=Z,9.2nm,0.6s,baz=312,slow=7.8,SNR=10.0						
SCHQ				LR	LR	18 01 41.6	
	comp=Z,252nm,19.4s,MS4.1,baz=13,slow=37						
YSS	Yuzh-Sakhalins	41.35	283	*e*P	P	17 44 17.0	-0.4
SADO	Sadowa	42.30	80	P	P	17 44 24.5	-0.6
	comp=Z,8.3nm,1.1s,mb4.3,baz=313,slow=9.3,SNR=4.7						
SADO				PcP	PcP	17 46 17.3	-1.8
	comp=Z,12nm,1.0s,baz=287,slow=3.8,SNR=3.0						
SADO	Sadowa	42.30	80	P	P	17 44 24.5	-0.6
SADO				PcP	PcP	17 46 17.3	-1.8
CLNS	Chul'man	42.48	306	*e*P	P	17 44 24.2	-2.2
CLNS				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.5s						
TXAR	Lajitas Array	42.69	117	P	P	17 44 29.6	+1.1
	comp=N,2.8nm,0.7s,mb4.1,baz=338,slow=6.7,SNR=14						
TXAR				sP	sP	17 44 40.3	-0.7
	comp=N,2.1nm,0.8s,baz=326,slow=4.5,SNR=4.2						
TXAR				PcP	PcP	17 46 19.9	-0.7
	comp=N,2.9nm,1.0s,slow=2.7,SNR=3.1						
JCT	Junction City	43.46	112	*e*P	P	17 44 35.0	+0.3
	comp=N,24nm,0.7s,mb5.0						
ASAJ	Asahikawa	43.49	281	P	P	17 44 33.0	-1.7
	comp=N,5.2nm,0.5s,mb4.5,baz=102,slow=32,SNR=7.9						
SCO	Scoresbysund	43.81	23	*i*P	P	17 44 37.7	+0.7
SCO				*i*S	pP	17 44 46.5	+0.6
ALLY	Alegheny Colle	44.12	84	*e*P	P	17 44 39.5	-0.4
WVT	Waverly	44.59	95	*e*P	P	17 44 43.1	-0.7
	comp=N,4.2nm,0.6s,mb4.5						
KLR	Kul'dur	44.88	294	*e*P	P	17 44 41.7	-4.3
OXF	Oxford	45.10	98	*e*P	P	17 44 47.5	-0.5
BOD	Bodaibo	45.96	313⇑	*i*P	P	17 44 53.2	-1.2
ELN	Prospectdale	47.22	88	*e*P	P	17 45 03.7	-1.0
LRAL	Lakeview Retre	47.48	97	*e*P	P	17 45 05.3	-1.4
	comp=N,11nm,0.8s,mb4.8						
LRAL				*e*	pP	17 45 15.1	-0.6
JSC	Jenkinsville	49.30	91	*e*P	P	17 45 20.3	-0.6
ARCES	ARCESS Array B	50.15	3	P	P	17 45 25.6	-1.3
	comp=N,5.5nm,1.0s,mb4.5,baz=11,slow=6.2,SNR=8.4						
ARCES				pP	pP	17 45 34.2	-1.7
	comp=N,4.5nm,0.6s,baz=4.9,slow=6.9,SNR=3.8						
ARCES	ARCESS Array B	50.15	3	P	P	17 45 25.6	-1.3
ARCES				pP	pP	17 45 34.2	-1.7
MAT	Matsushiro	51.44	278	*e*P	P	17 45 35.0	-2.1
MAT	Matsushiro	51.44	278	P	P	17 45 36.2	-0.9
TLY	Talaya	54.50	314	*e*P	P	17 45 59.4	-0.2
TLY				*e*		17 46 13.8	
TLY				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.5						
MOY	Mondy	55.45	315	*e*P	P	17 46 07.0	+0.4
ZAK	Zakamensk	55.70	313⇑	*i*P	P	17 46 07.6	-0.8
ULN	Ulaanbaatar	56.36	309	*j*P	P	17 46 11.0	-2.2
ULN	Ulaanbaatar	56.36	309	*e*P	P	17 46 11.9	-1.2
	comp=Z,16nm,0.6s,mb5.2						
ULN				*e*	pP	17 46 20.3	-2.0
SONM	Songino Array	56.64	309	P	P	17 46 15.1	-0.1
	comp=Z,21nm,0.6s,mb5.3,baz=36,slow=7.6,SNR=205						
SONM				pP	pP	17 46 23.5	-0.7
	comp=Z,10nm,0.8s,baz=36,slow=7.4,SNR=13						
NB2	NORSAR Subarra	57.68	12	P	P	17 46 20.1	-2.2
	comp=Z,12nm,1.4s,mb4.7,baz=348,slow=7.0						
NOA	NORSAR Array B	57.68	12	P	P	17 46 20.1	-2.2
	comp=Z,1.5nm,1.0s,mb4.0,baz=348,slow=6.9,SNR=3.6						
NVS	Novosibirsk	58.14	328	*e*P	P	17 46 22.2	-3.4
NVS				pmax	pmax		
	comp=N,2.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
FINES	FINESS Array B	58.28	4	P	P	17 46 24.1	-2.4
	comp=Z,6.8nm,0.8s,mb4.8,baz=7.7,slow=8.2,SNR=22						
FINES				pP	pP	17 46 33.5	-2.2
	comp=Z,3.6nm,0.5s,baz=7.9,slow=9.3,SNR=4.4						
ZAL	Zalesovo	58.53	327	P	P	17 46 26.9	-1.4
	comp=Z,2.9nm,0.4s,mb4.7,baz=360,slow=7.8,SNR=12						
ZAL				pP	pP	17 46 35.5	-2.0
	comp=Z,2.2nm,0.4s,baz=360,slow=5.7,SNR=5.3						
HFS	Hagfors	58.81	11	P	P	17 46 27.6	-2.6
	comp=Z,2.3nm,0.8s,mb4.2,baz=288,slow=14,SNR=3.9						
SVE	Sverdlovsk	60.91	343	*e*P	P	17 46 44.2	-0.5
EKA	Eskdalemuir Ar	61.10	22	P	P	17 46 44.4	-1.6
	comp=Z,5.8nm,0.5s,mb5.0,baz=330,slow=5.1,SNR=25						
EKA				pP	pP	17 46 52.6	-2.6
	comp=Z,15nm,1.0s,baz=344,slow=6.1,SNR=9.2						
ARU	Arti	61.59	344⇓	*i*P	P	17 46 45.2	-4.1
ARU				*e*		17 47 23.6	
ARU				*e*S	S	17 55 03.6	-4.0
ARU				*e*SS	SS	17 59 03.8	-6.8
ARU				*e*SSS	SSS	18 01 51.1	+0.2
ARU				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.3						
DMUB	Kingscourt	61.70	25	*e*P	P	17 46 51.0	+0.9
DCN	Croghan	62.14	26	*e*P	P	17 46 49.0	-4.1
BRVK	Borovoye	62.81	335	*e*P	P	17 46 55.8	-1.7
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.8						
BRVK	Borovoye	62.81	335	*e*P	P	17 46 55.8	-1.7
	comp=Z,3.8nm,0.5s,mb4.8						
BVAR	Borovoye Array	62.82	335	P	P	17 46 55.6	-2.0
	comp=Z,4.1nm,0.5s,mb4.8,baz=45,slow=6.3,SNR=42						
OBN	Obninsk	64.68	357⇑	*i*P	P	17 47 06.5	-3.0
OBN				*e*	pP	17 47 16.5	-2.2
OBN				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
WMQ	Urumqi	66.71	320	*e*P	P	17 47 27.3	+4.5
WMQ				S	S	17 56 16.3	+5.2
WMQ				XS		17 56 24.9	
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.7s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,42nm,5.8s						
WMQ				LR	LR		
	comp=N,211nm,21.4s,MS4.5						
WMQ				LR	LR		
	comp=E,255nm,22.6s,MS4.5						
WMQ				LR	LR		
	comp=Z,404nm,22.5s,MS4.6						
CLL	Collm	67.44	13	*e*P	P	17 47 26.0	-1.3
CLL	Collm	67.44	13	P	P	17 47 26.0	-1.3
BAIF	Baives	67.45	19	*e*P	P	17 47 26.9	-0.4
GIVF	Givet	67.51	19	*e*P	P	17 47 27.3	-0.4
LZH	Lanzhou	67.56	304	*e*P	P	17 47 28.4	+0.1
LZH				PP	PP	17 49 57.5	-1.6
LZH				AMB	AMB		
	comp=Z,17nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,723nm,4.0s						
LZH				LR	LR		
	comp=E,296nm,15.9s						
LZH				LR	LR		
	comp=Z,359nm,17.6s,MS4.7						
FLN	La Foliniere	67.87	23	*e*P	P	17 47 29.0	-1.0
	comp=Z,33nm,1.1s,mb5.0						
FLN	La Foliniere	67.87	23	*e*P	P	17 47 29.0	-1.0
FLN				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
MOX	Moxa	67.93	14	*e*P	P	17 47 30.0	-0.3
MOX	Moxa	67.93	14	*i*P	P	17 47 30.0	-0.3
BRG	Berggiesshubel	67.97	13	*i*P	P	17 47 28.6	-2.0
BRG				pmax	pmax		
	comp=Z,15nm,1.7s,mb4.8						
BRG	Berggiesshubel	67.97	13	*i*P	P	17 47 28.6	-2.0
	comp=Z,15nm,1.7s,mb4.8						
LDF	La Druitiere	68.10	23	*e*P	P	17 47 30.4	-1.0
GRR	Gorron	68.15	23	*e*P	P	17 47 31.0	-0.8
	comp=Z,15nm,0.8s,mb4.8						
GRR	Gorron	68.15	23	*e*P	P	17 47 31.0	-0.8
GRR				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
GRA1	Grafenberg Arr	68.82	15	*e*P	P	17 47 35.8	-0.1
	comp=Z,6.0nm,1.1s,mb4.4						
GRF	Grafenberg Arr	68.82	15	*e*P	P	17 47 35.8	-0.1
GRF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
GRF	Grafenberg Arr	68.82	15	*e*P	P	17 47 35.8	-0.1
GRF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
GRF	Grafenberg Arr	68.82	15	*e*P	P	17 47 35.8	-0.1
	comp=Z,6.0nm,1.1s,mb4.4						
MEZF	Maizieres J'vi	69.10	19	*e*P	P	17 47 37.1	-0.5
AKASG	Malin Array Be	69.11	2	P	P	17 47 36.2	-1.4
	comp=Z,2.5nm,0.4s,mb4.5,baz=360,slow=6.1,SNR=21						
AKASG				pP	pP	17 47 44.5	-2.4
	comp=Z,3.0nm,0.5s,baz=359,slow=6.0,SNR=8.2						
CDF	Champ du Feu	69.53	18	*e*P	P	17 47 39.8	-0.5
	comp=Z,4.8nm,0.8s,mb4.2						
KHC	Kasperske Hory	69.65	13	*e*P	P	17 47 40.5	-0.5
KHC				*e*	pP	17 47 49.5	-0.7
KHC	Kasperske Hory	69.65	13	*e*P	P	17 47 40.5	-0.5
KHC				pP	pP	17 47 49.5	-0.7
HAU	Haudompre	69.79	18	*e*P	P	17 47 41.1	-0.7
GERES	GERESS Array B	69.95	13	P	P	17 47 42.2	-0.6
	comp=Z,0.9nm,0.5s,mb4.0,baz=341,slow=5.1,SNR=12						
GERES				pP	pP	17 47 51.2	-0.8
	comp=Z,0.7nm,0.5s,slow=1.3,SNR=4.4						
MFF	Saint Martin d	70.00	23	*e*P	P	17 47 42.6	-0.5
	comp=Z,10nm,0.8s,mb4.5						
HINF	Hinteralfeld	70.05	18	*e*P	P	17 47 42.7	-0.7
SSF	Saint Saulge	70.23	21	*e*P	P	17 47 43.9	-0.6

CMAR Chiang Mai Arr 85.06 299 *i* P **P 17 49 06.8 0.0**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 85.06 299 P **P 17 49 06.0 -0.8**
comp=Z,1.7nm,0.7s,mb4.3,baz=5.3,slow=4.1,SNR=17
CMAR LR LR 18 30 33.9
comp=Z,120nm,18.1s,MS4.3,baz=165,slow=38
WRAB Tennant Creek 101.45 250 *i* P P 17 50 22.0 -0.9
KMBO Kilima Mbogo 120.66 354 PKP PKPdf 17 55 22.8 -4.3
comp=Z,0.5nm,0.3s,baz=44,slow=23,SNR=4.5
QSPA South Pole Qui 150.31 180 ⇓ *i* P PKPdf 17 56 20.3 +1.4

IDC 13 17:38:13.1±1.9, 4.76N×93.64E, mb4.1/3, mb1 4.2/4, mb1mx3.9/18, mbtmp4.0/4, ML4.3/1, Error ellipse: s-maj=80.3km s-min=28.2km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.56**	**20**	Pn	P	17 41 40.7	-2.0
	0.5nm,0.3s,baz=215,slow=12,SNR=21						
WRA	**Warramunga Arr**	**46.93**	**123**	P	P	17 46 45.7	-2.1
	2.8nm,0.6s,baz=302,slow=9.2,SNR=25						
ASAR	**Alice Springs**	**48.37**	**128**	P	P	17 46 57.2	-1.8
	1.3nm,0.8s,baz=302,slow=7.8,SNR=14						
FINES	**FINESS Array B**	**75.22**	**333**	P	P	17 49 57.6	-1.6
	1.2nm,0.5s,baz=90,slow=5.7,SNR=4.7						

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*ATH **13** 17:45:56.9, 39.25N×27.80E, h19km±4km, MD3.2/3*
*CSEM **13** 17:45:56.8±0.1, 39.17N×27.81E, h10km, MD3.2, Error ellipse: s-maj=3.0km s-min=1.9km az=119.0*
*ISK **13** 17:45:56.9, 39.16N×27.78E, h16km, MD3.2*
*THE **13** 17:45:58.9, 39.17N×27.69E, h6km*
ISC 13 17:45:56.9±0.6, 39.18N±0.02×27.78E±0.03, h6km±5km, n31, σ0§81/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.30**	**175**	*i* PG	**Pg**	**17 46 03.5**	**+0.4**
BALB	**Balikesir**	**0.46**	**9**	*i* PG	**Pg**	**17 46 07.0**	**+0.8**
BTOK	**Tokmak**	**0.61**	**18**	*i* P	**Pg**	**17 46 09.1**	**0.0**
BTOK				*i* S	**Sg**	**17 46 18.6**	**+1.4**
AYVA	**Ayvalik**	**0.86**	**279**	*i* P	**Pb**	**17 46 13.7**	**0.0**
AYVA				*i* S	**Sb**	**17 46 27.1**	**+1.8**
KDAG	**Bornova**	**0.88**	**207**	*i* P	**Pb**	**17 46 13.8**	**-0.3**
KDAG				*i* S	**Sb**	**17 46 26.5**	**+0.7**
IZM	**Izmir**	**0.88**	**208**	*i* PG	**Pg**	**17 46 13.7**	**-0.9**
IZM				*i* SG	**Sg**	**17 46 26.2**	**-0.2**
MANT	**Manisa**	**0.92**	**139**	*i* P	**Pb**	**17 46 15.1**	**+0.3**
MANT				*i* S	**Sb**	**17 46 27.5**	**+0.5**
BLCB	**Balcova**	**0.98**	**216**	*i* PG	**Pg**	**17 46 16.0**	**-0.6**
EDC	**Edincik**	**1.16**	**3**	PN	**Pn**	**17 46 19.6**	**0.0**
KCT	**Karacabey**	**1.17**	**22**	PN	**Pn**	**17 46 19.5**	**-0.2**
PRK	**Paraskevi**	**1.18**	**274**	*e*PN	**Pn**	**17 46 19.5**	**-0.3**
PRK				*e*SN	**Sn**	**17 46 35.6**	**-0.6**
BNT	**Bandirma**	**1.18**	**5**	PN	**Pn**	**17 46 19.6**	**-0.2**
ORLT	**Orhaneli**	**1.22**	**45**	PN	**Pn**	**17 46 20.6**	**+0.2**
EZN	**Ezine**	**1.30**	**300**	PN	**Pn**	**17 46 21.6**	**+0.1**
ULDT	**Uludag**	**1.42**	**47**	*i* P	**Pn**	**17 46 23.7**	**+0.4**
ULDT				*i* S	**Sb**	**17 46 42.9**	**+1.4**
MRMT	**Marmara Adasi**	**1.43**	**354**	PN	**Pn**	**17 46 23.1**	**-0.3**
BOZC	**Bozcaada**	**1.49**	**297**	*i* P	**Pn**	**17 46 24.2**	**-0.1**
BOZC				*i* S	**Sb**	**17 46 46.0**	**+2.4**
AYDN	**Tasoluk**	**1.52**	**177**	*i* P	**Pn**	**17 46 24.8**	**0.0**
AYDN				*i* S	**Sb**	**17 46 44.8**	**+0.3**
MFT	**Murefte**	**1.65**	**347**	*e*PN	**Pn**	**17 46 26.2**	**-0.3**
SMG	**Samos**	**1.65**	**207**	*e*PN	**Pn**	**17 46 27.6**	**+1.0**
SMG				*e*SN	**Sn**	**17 46 50.6**	**+2.4**
DNZL	**Cakiroluk**	**1.79**	**146**	*i* P	**Pn**	**17 46 28.1**	**-0.5**
DNZL				*i* S	**Sn**	**17 46 50.8**	**-1.0**
YLV	**Yalova**	**1.85**	**41**	PN	**Pn**	**17 46 28.2**	**-1.2**
BADT	**Buyukada**	**1.96**	**31**	*e*PN	**Pn**	**17 46 30.9**	**-0.1**
ALN	**Alexandroupoli**	**2.17**	**323**	*e*Pn	**Pn**	**17 46 33.7**	**-0.3**
ALN				*e*Sn	**Sn**	**17 47 00.7**	**-0.7**
HRT	**Hereke**	**2.19**	**41**	*e*PN	**Pn**	**17 46 33.3**	**-0.9**
LOS	**Limnos**	**2.22**	**291**	*e*Pn	**Pn**	**17 46 34.4**	**-0.3**
ESKT	**Eskisehir**	**2.40**	**81**	*e*PN	**Pn**	**17 46 37.3**	**0.0**
RDO	**Rodhopi**	**2.61**	**319**	*e*PN	**Pn**	**17 46 40.0**	**-0.3**
OUR	**Ouranopolis**	**3.15**	**293**	*e*Pn	**Pn**	**17 46 46.9**	**-1.0**
PAIG	**Paliouri**	**3.26**	**284**	*e*Pn	**Pn**	**17 46 48.4**	**-1.1**
SRS	**Serrai**	**3.75**	**302**	*e*Pn	**Pn**	**17 46 55.3**	**-1.2**

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*IGIL **13** 18:07:13.5, 36.90N×10.40W, h20km, ML3.0*
*NEIC **13** 18:07:13.8, 37.10N×10.22W, MG3.9(MDD), After MDD.*
*INMG **13** 18:07:15.1±1.4, 36.92N×10.41W, h31km, MD2.6, ML2.7, Error ellipse: s-maj=5.7km s-min=3.5km az=64.0*
*CSEM **13** 18:07:15.6±0.5, 37.21N×10.11W, h2km, ML3.4/13, Error ellipse: s-maj=9.3km s-min=5.6km az=49.0*
MDD 13 18:07:14.0±1.4, 37.07N×10.21W, mbLg3.0/19, Error ellipse: s-maj=12.8km s-min=8.5km az=47.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.28**	**68**	*e*P	Pb	18 07 38.1	-0.5
PTEO				*e*S	Sb	18 07 54.9	-0.6
	54nm,0.2s						
PTEO	**Sao Teotonio**	**1.28**	**68**	*e*P	Pb	18 07 38.1	-0.5
PTEO				*e*S	Sb	18 07 54.9	-0.6
	54nm,0.2s						
PLOU	**Loures**	**2.00**	**24**	*e*Pn	Pn	18 07 48.0	-1.4
PLOU				*e*Sn	Sn	18 08 12.9	-2.6
	41nm,0.1s						
PLOU	**Loures**	**2.00**	**24**	P	Pn	18 07 48.0	-1.4
PLOU				S	Sn	18 08 12.9	-2.6
	21nm,0.1s						
MOE	**Montemor**	**2.07**	**45**	*e*Pn	Pn	18 07 49.4	-1.0
MOE				*e*Sn	Sn	18 08 15.0	-2.3
PALC	**Alcoutim**	**2.22**	**79**	*e*Pn	Pn	18 07 51.0	-1.5
PALC				*e*Sn	Sn	18 08 17.7	-3.3
	30nm,0.1s						
PALC	**Alcoutim**	**2.22**	**79**	*e*Pn	Pn	18 07 51.0	-1.5
PALC				*e*Sn	Sn	18 08 17.7	-3.3
	30nm,0.1s						
EGRO	**El Granado**	**2.22**	**77**	Pn	Pn	18 07 51.1	-1.5
EGRO				Sn	Sn	18 08 17.7	-3.5
EGRO	**El Granado**	**2.22**	**77**	P	Pn	18 07 51.1	-1.5
	0.8nm,0.0s,SNR=7.9						
EGRO				S	Sn	18 08 17.1	-4.1
	14nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.22**	**77**	Pn	Pn	18 07 51.1	-1.5
	0.8nm,0.0s,SNR=7.9						
EGRO				Sn	Sn	18 08 17.7	-3.5
	8.7nm,0.1s,SNR=7.9						
ALMR	**Almeirim**	**2.45**	**31**	*e*P	Pn	18 07 54.0	-1.9
ALMR				AML	AML	18 07 54.8	
	comp=Z,69nm,0.1s						
ALMR				*e*S	Sn	18 08 23.5	-3.5
ALMR				*e*S	Sn	18 08 23.5	-3.5
ALMR	**Almeirim**	**2.45**	**31**	P	Pn	18 07 54.0	-1.9
	comp=Z,34nm,0.1s						
ALMR				S	Sn	18 08 23.5	-3.5
EMIN	**Mina Concepcio**	**2.90**	**75**	Pn	Pn	18 08 00.1	-2.2
EMIN				Sn	Sn	18 08 33.5	-4.9
EMIN	**Mina Concepcio**	**2.90**	**75**	P	Pn	18 08 00.0	-2.3
	comp=Z,2.0nm,0.2s,SNR=32						
EMIN				S	Sn	18 08 33.5	-4.9
	comp=Z,18nm,0.3s						
EMIN	**Mina Concepcio**	**2.90**	**75**	Pn	Pn	18 08 00.1	-2.2
	comp=Z,2.0nm,0.2s,SNR=32						
EMIN				Sn	Sn	18 08 33.5	-4.9
	comp=Z,6.2nm,0.1s						
PTOM	**Tomar**	**2.91**	**29**	*e*Pn	Pn	18 08 01.9	-0.6
PTOM				*e*Sn	Sn	18 08 35.9	-2.8
	comp=Z,20nm,0.1s						
PTOM	**Tomar**	**2.91**	**29**	P	Pn	18 08 01.9	-0.6
PTOM				S	Sn	18 08 35.9	-2.8
	comp=Z,9.9nm,0.1s						
EBAD	**Badajoz**	**3.04**	**55**	Pn	Pn	18 08 01.9	-2.3
EBAD				Sn	Sn	18 08 37.5	-4.3
EBAD	**Badajoz**	**3.04**	**55**	P	Pn	18 08 01.9	-2.3
	comp=Z,4.5nm,0.1s,SNR=13						
EBAD				S	Sn	18 08 37.2	-4.7
	comp=Z,33nm,0.2s						
EBAD	**Badajoz**	**3.04**	**55**	Pn	Pn	18 08 01.9	-2.3
	comp=Z,4.5nm,0.1s,SNR=13						
EBAD				Sn	Sn	18 08 37.5	-4.4
	comp=Z,12nm,0.1s						
ESPR	**Espera**	**3.49**	**92**	Pn	Pn	18 08 08.0	-2.7
ESPR				Sn	Sn	18 08 47.2	-6.2
ESPR	**Espera**	**3.49**	**92**	P	Pn	18 08 08.0	-2.7
	comp=Z,1.7nm,0.1s,SNR=7.5						
ESPR				S	Sn	18 08 47.7	-5.7
	comp=Z,27nm,0.2s						
ESPR	**Espera**	**3.49**	**92**	Pn	Pn	18 08 08.0	-2.7
	comp=Z,2.2nm,0.1s,SNR=7.5						
ESPR				Sn	Sn	18 08 47.2	-6.2
	comp=Z,1.4nm,0.1s						
PCBR	**Castelo Branco**	**3.50**	**37**	*e*Pn	Pn	18 08 08.1	-2.7
PCBR				*e*Sn	Sn	18 08 48.7	-4.9
	comp=Z,6.9nm,0.1s						
PCBR	**Castelo Branco**	**3.50**	**37**	P	Pn	18 08 08.1	-2.7
PCBR				S	Sn	18 08 48.7	-4.9
	comp=Z,3.5nm,0.1s						
MTE	**Manteigas**	**3.93**	**31**	*e*Pn	Pn	18 08 14.1	-2.8
MTE				*e*Sn	Sn	18 08 59.0	-5.3
	comp=Z,12nm,0.6s						
MTE	**Manteigas**	**3.93**	**31**	P	Pn	18 08 14.1	-2.8
MTE				S	Sn	18 08 59.0	-5.3
	comp=Z,5.8nm,0.6s						
PVIS	**Viseu**	**4.07**	**26**	*e*Pn	Pn	18 08 16.1	-2.7
PVIS				*e*Sn	Sn	18 09 02.2	-5.7
	comp=Z,16nm,0.1s						
PVIS	**Viseu**	**4.07**	**26**	P	Pn	18 08 16.1	-2.7
PVIS				S	Sn	18 09 02.2	-5.7
	comp=Z,7.9nm,0.1s						
EADA	**Adamuz**	**4.61**	**75**	Pn	Pn	18 08 23.3	-3.2
EADA				Sn	Sn	18 09 14.4	-7.1
EADA	**Adamuz**	**4.61**	**75**	P	Pn	18 08 23.3	-3.2
	comp=Z,1.8nm,0.1s,SNR=9.9						
EADA				S	Sn	18 09 14.2	-7.4
	comp=Z,11nm,0.3s,SNR=12						
EADA	**Adamuz**	**4.61**	**75**	Pn	Pn	18 08 23.3	-3.2
	comp=Z,0.4nm,0.1s,SNR=9.9						
EADA				Sn	Sn	18 09 14.4	-7.1
	comp=Z,0.6nm,0.1s,SNR=12						
PVRL	**Vila Real**	**4.63**	**24**	*e*Pn	Pn	18 08 23.7	-3.1
PVRL				*e*Sn	Sn	18 09 16.0	-6.1
	comp=Z,13nm,0.1s						
PVRL	**Vila Real**	**4.63**	**24**	P	Pn	18 08 23.7	-3.1
PVRL				S	Sn	18 09 16.0	-6.1
	comp=Z,6.3nm,0.1s						
ELOJ	**Sierra Loja**	**4.84**	**87**	Sn	Sn	18 09 19.4	-8.1
	comp=Z,0.7nm,0.2s,SNR=7.2						
ELOB	**Lobios**	**5.07**	**18**	Pn	Pn	18 08 29.5	-3.6
ELOB				Sn	Sn	18 09 25.0	-8.3
ELOB	**Lobios**	**5.07**	**18**	P	Pn	18 08 29.5	-3.6
	comp=Z,1.4nm,0.1s,SNR=9.2						
ELOB				S	Sn	18 09 25.4	-8.0
	comp=Z,5.1nm,0.1s						
ELOB	**Lobios**	**5.07**	**18**	Pn	Pn	18 08 29.5	-3.6
	comp=Z,1.2nm,0.1s,SNR=9.2						
ELOB				Sn	Sn	18 09 25.0	-8.4
	comp=Z,0.8nm,0.1s						
PBRG	**Braganca**	**5.44**	**29**	*e*Pn	Pn	18 08 34.6	-3.7
PBRG				*e*Sn	Sn	18 09 34.6	-8.0
	comp=Z,4.6nm,0.2s						
PBRG	**Braganca**	**5.44**	**29**	P	Pn	18 08 34.6	-3.7
PBRG				S	Sn	18 09 34.6	-8.0
	comp=Z,2.3nm,0.2s						
ESDC	**Sonseca Array**	**5.56**	**60**	P	Pn	18 08 36.7	-3.2
	comp=Z,0.7nm,0.2s,baz=246,slow=13,SNR=6.3						
ESDC				S	Sn	18 09 38.3	-7.1
	comp=Z,3.5nm,0.3s,baz=244,slow=23,SNR=18						
ESDC	**Sonseca Array**	**5.56**	**60**	Pn	Pn	18 08 36.7	-3.2
	comp=Z,0.7nm,0.2s,SNR=6.3						
ESDC				Sn	Sn	18 09 38.3	-7.2
	comp=Z,3.5nm,0.3s,SNR=18						
ECAL	**Calabor**	**5.56**	**28**	P	Pn	18 08 36.4	-3.6
	comp=Z,1.7nm,0.2s,SNR=10						
ECAL				S	Sn	18 09 37.5	-8.1
	comp=Z,12nm,0.3s						
ECAL	**Calabor**	**5.56**	**28**	Pn	Pn	18 08 36.7	-3.3
	comp=Z,0.9nm,0.1s,SNR=10						
ECAL				Sn	Sn	18 09 37.1	-8.4
	comp=Z,63nm,1.4s						
EQES	**Quesada**	**5.73**	**80**	Pn	Pn	18 08 38.0	-4.4
EQES				Sn	Sn	18 09 42.0	-7.8
EQES	**Quesada**	**5.73**	**80**	P	Pn	18 08 38.3	-4.1
	comp=Z,0.7nm,0.2s,SNR=7.9						
EQES				S	Sn	18 09 42.3	-7.5
	comp=Z,3.5nm,0.2s,SNR=7.2						
EQES	**Quesada**	**5.73**	**80**	Pn	Pn	18 08 38.0	-4.4
	SNR=7.9						
EQES				Sn	Sn	18 09 42.0	-7.8
	comp=Z,1.2nm,0.1s,SNR=7.2						
GUD	**Guadarrama**	**5.92**	**51**	S	Sn	18 09 46.2	-8.5
	comp=Z,2.8nm,0.3s,SNR=8.0						
GUD	**Guadarrama**	**5.92**	**51**	Sn	Sn	18 09 45.7	-9.0
	SNR=8.0						
EMAZ	**Mazaricos**	**5.95**	**9**	Pn	Pn	18 08 40.8	-4.7
EMAZ				Sn	Sn	18 09 45.4	-10
EMAZ	**Mazaricos**	**5.95**	**9**	P	Pn	18 08 40.6	-4.9
	comp=Z,6.6nm,0.2s,SNR=8.4						
EMAZ				S	Sn	18 09 45.3	-10
	comp=Z,3.1nm,0.1s,SNR=5.0						
EMAZ	**Mazaricos**	**5.95**	**9**	Pn	Pn	18 08 40.8	-4.7
	comp=Z,5.1nm,0.1s,SNR=8.4						
EMAZ				Sn	Sn	18 09 45.4	-10
	comp=Z,0.7nm,0.1s,SNR=5.0						
EPON	**Pontenova**	**6.68**	**20**	Pn	Pn	18 08 50.9	-4.9
EPON				Sn	Sn	18 10 01.9	-12
EPON	**Pontenova**	**6.68**	**20**	P	Pn	18 08 51.8	-4.0
	comp=Z,1.0nm,0.1s,SNR=7.9						
EPON				S	Sn	18 10 03.7	-10
	comp=Z,0.9nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**6.68**	**20**	Pn	Pn	18 08 50.9	-4.8
	SNR=7.9						
EARI	**Arriondas**	**7.31**	**30**	Pn	Pn	18 09 00.2	-4.4
EARI				Sn	Sn	18 10 19.0	-10
EARI	**Arriondas**	**7.31**	**30**	P	Pn	18 09 01.2	-3.5
	comp=Z,0.4nm,0.2s,SNR=7.9						
EARI				S	Sn	18 10 19.3	-10
	comp=Z,0.3nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**7.31**	**30**	Pn	Pn	18 09 00.2	-4.4
	SNR=7.9						
EARI				Sn	Sn	18 10 19.0	-10
	SNR=7.9						
ELAN	**Lanestosa**	**8.05**	**38**	P	P	18 09 10.8	-4.2
	comp=Z,0.5nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**8.29**	**64**	S	Sn	18 10 43.5	-10
	comp=Z,2.3nm,0.3s,SNR=8.5						
EMOS	**Mosqueruela**	**8.29**	**64**	Sn	Sn	18 10 42.7	-11
	comp=Z,2.5nm,0.6s,SNR=8.5						
EBIE	**Bielsa**	**9.73**	**52**	Pn	P	18 09 34.5	-3.8
EBIE				Sn	Sn	18 11 17.4	-12
EBIE	**Bielsa**	**9.73**	**52**	P	P	18 09 34.6	-3.7
	comp=Z,0.7nm,0.3s,SNR=7.9						
EBIE				S	Sn	18 11 18.2	-11
	comp=Z,0.3nm,0.1s,SNR=7.9						

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*BJI **13** 18:09:09.7, 4.76N×94.34E, h56km, mb4.4*
*NEIC **13** 18:09:12.2±0.5, 5.33N×94.46E, h30km, mb4.5/7, Error ellipse: s-maj=15.9km s-min=8.4km az=59.0*
*IDC **13** 18:09:14.9±1.0, 5.40N×94.50E, h50km±6km, mb3.9/14, mb1 4.0/14, mb1mx3.9/21, mbtmp4.2/14, Error ellipse: s-maj=31.2km s-min=13.6km az=46.0*
ISC 13 18:09:12.6±0.5, 5.35N±0.09×94.5E±0.1, h49km, h49km±1.0km: pP-P, n36, σ0§78/33, mb4.4/28, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.72**	**18**	P	**P**	**18 12 27.4**	**+0.9**
	baz=208,slow=15,SNR=0.8						
JIRN	**Jiri**	**23.56**	**341**	*e*P	**P**	**18 14 19.3**	**-0.3**
	25nm,0.6s,mb4.8						
PKI	**Pulchoki**	**23.74**	**340**	*e*P	**P**	**18 14 20.8**	**-0.5**
	9.3nm,0.7s,mb4.3						
DMN	**Daman**	**23.88**	**339**	*e*P	**P**	**18 14 22.8**	**+0.1**
	12nm,0.9s,mb4.4						
GUN	**Gumba**	**23.89**	**341**	*e*P	**P**	**18 14 22.8**	**0.0**
	24nm,0.8s,mb4.7						
KKN	**Kakani**	**23.98**	**340**	*e*P	**P**	**18 14 23.5**	**-0.2**
	6.8nm,0.4s,mb4.4						
GKN	**Gorkha**	**24.41**	**338**	*e*P	**P**	**18 14 28.3**	**+0.5**
	8.7nm,0.3s,mb4.7						
LSA	**Lhasa**	**24.43**	**353**	P	**P**	**18 14 30.0**	**+2.0**
LSA	**Lhasa**	**24.43**	**353**	*e*P	**P**	**18 14 28.2**	**+0.2**
	10.0nm,0.8s,mb4.3						
KOLN	**Koldanda**	**24.60**	**336**	*e*P	**P**	**18 14 30.9**	**+1.2**
	17nm,0.6s,mb4.8						
ENH	**Enshi**	**28.52**	**28**	*e*P	**P**	**18 15 04.5**	**-1.3**
	4.2nm,0.4s,mb4.5						
SONM	**Songino Array**	**43.53**	**12**	P	**P**	**18 17 12.8**	**-0.5**
	2.5nm,0.7s,mb4.0,baz=191,slow=8.1,SNR=26						
SONM				pP	pP	18 17 25.6	-0.8
	0.8nm,0.8s,baz=193,slow=8.8,SNR=3.4						
SONM				PcP	PcP	18 19 01.4	+0.5
	0.8nm,0.6s,baz=200,slow=3.7,SNR=11						
SONM				pPcP		18 19 16.5	
	1.0nm,1.1s,baz=171,slow=2.7,SNR=4.1						
ULN	**Ulaanbaatar**	**43.70**	**12**	*e*P	**P**	**18 17 13.6**	**-1.0**
	2.2nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**46.52**	**124**	P	**P**	**18 17 38.0**	**+0.6**
	3.8nm,0.7s,mb4.5,baz=304,slow=9.2,SNR=32						
WRAB	**Tennant Creek**	**46.53**	**124**	*e*P	**P**	**18 17 38.2**	**+0.7**
	8.3nm,0.7s,mb4.8						
ASAR	**Alice Springs**	**48.03**	**129**	P	**P**	**18 17 49.8**	**+0.5**
	0.9nm,0.5s,mb4.0,baz=298,slow=7.7,SNR=19						
HIA	**Hailar**	**48.69**	**22**	*e*P	**P**	**18 17 53.7**	**-0.3**
	2.5nm,0.6s,mb4.4						
ZAL	**Zalesovo**	**49.08**	**352**	P	**P**	**18 17 57.2**	**+0.3**
	3.5nm,0.8s,mb4.5,baz=212,slow=6.6,SNR=20						
ZAL				pP	pP	18 18 11.2	+1.0
	1.6nm,0.6s,baz=226,slow=5.9,SNR=4.5						
BVAR	**Borovoye Array**	**51.48**	**342**	P	**P**	**18 18 14.8**	**-0.4**
	1.5nm,0.5s,mb4.2,baz=141,slow=8.8,SNR=21						
BVAR				pP	pP	18 18 28.8	0.0
	2.9nm,0.8s,baz=135,slow=8.4,SNR=7.8						
BRVK	**Borovoye**	**51.55**	**342**	*e*P	**P**	**18 18 15.1**	**-0.6**
	3.9nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**51.97**	**342**	*e*P	**P**	**18 18 19.1**	**+0.2**
	10nm,0.8s,mb4.8						
CHKZ				*e*	pP	18 18 32.1	-0.3
PMG	**Port Moresby**	**54.47**	**105**	P	**P**	**18 18 37.9**	**0.0**
	6.2nm,0.9s,mb4.5,baz=252,slow=20,SNR=2.7						
STKA	**Stephens Creek**	**58.11**	**133**	P	**P**	**18 19 04.0**	**+0.2**
	1.6nm,0.8s,mb4.1,baz=334,slow=21,SNR=3.0						
STKA	**Stephens Creek**	**58.11**	**133**	P	**P**	**18 19 04.0**	**+0.2**
ASF	**Jabal al Asfar**	**59.92**	**304**	P	**P**	**18 19 15.3**	**-1.0**
	1.9nm,0.8s,mb4.2,baz=108,slow=5.9,SNR=3.5						
BRTR	**Keskin Array B**	**64.37**	**312**	P	**P**	**18 19 45.6**	**-0.3**
	1.0nm,0.7s,mb4.0,baz=127,slow=6.8,SNR=6.5						
TAU	**Tasmania Unive**	**67.70**	**141**	P	**P**	**18 20 05.2**	**-1.8**
IDI	**Anoyia**	**70.32**	**305**	P	**P**	**18 20 24.2**	**+0.9**
	2.1nm,0.4s,mb4.4,baz=118,slow=3.8,SNR=6.8						
AKASG	**Malin Array Be**	**70.36**	**322**	P	**P**	**18 20 22.0**	**-1.3**
	0.4nm,0.3s,mb3.8,baz=89,slow=5.4,SNR=7.2						
FINES	**FINESS Array B**	**75.11**	**332**	P	**P**	**18 20 50.7**	**-0.3**
	5.0nm,1.0s,mb4.4,baz=90,slow=1.9,SNR=8.8						
FINES				pP	pP	18 21 05.2	0.0
	3.7nm,1.0s,baz=143,slow=9.5,SNR=1.7						
FINES	**FINESS Array B**	**75.11**	**332**	P	**P**	**18 20 50.7**	**-0.3**
FINES				pP	pP	18 21 05.2	0.0
ARCES	**ARCESS Array B**	**77.75**	**340**	P	**P**	**18 21 06.8**	**+1.0**
	1.3nm,0.5s,mb4.1,baz=93,slow=6.3,SNR=8.7						
ARCES				pP	pP	18 21 20.5	+0.5
	1.0nm,0.5s,baz=72,slow=3.8,SNR=1.3						
GERES	**GERESS Array B**	**79.95**	**319**	P	**P**	**18 21 19.5**	**+1.3**
	1.8nm,0.7s,mb4.1,baz=101,slow=6.8,SNR=17						
NVAR	**Mina Array Bea**	**126.86**	**32**	PKP	PKPdf	18 28 15.1	+3.5
	0.1nm,0.3s,baz=346,slow=1.4,SNR=3.9						
PDAR	**Pinedale Array**	**127.35**	**22**	PKP	PKPdf	18 28 13.6	+1.1
	0.6nm,0.6s,baz=315,slow=2.1,SNR=3.9						
TXAR	**Lajitas Array**	**141.34**	**26**	PKP	PKPdf	18 28 41.5	+2.6
	0.4nm,0.5s,baz=194,slow=0.5,SNR=4.7						

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*CSEM **13** 18:33:14.6±0.1, 35.58N×22.10E, h40km, MD3.4, Error ellipse: s-maj=5.1km s-min=1.6km az=84.0*
*ATH **13** 18:33:15.7, 35.70N×22.17E, h44km, MD3.5/4*
*HLW **13** 18:33:17.5, 35.55N×22.19E, h25km, Mb3.2*
ISC 13 18:33:12.0±1.6, 35.54N±0.07×22.0E±0.2, h10km, n8, σ0§46/9, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.12**	**48**	*e*P	**Pb**	**18 33 32.6**	**-0.5**
KYTH	**Kithira**	**1.12**	**48**	*e*Pb	**Pb**	**18 33 33.0**	**-0.1**
VLI	**Veliai**	**1.40**	**33**	*e*P	**Pn**	**18 33 37.2**	**-0.5**
ITM	**Ithomi**	**1.64**	**358**	*e*P	**Pn**	**18 33 41.5**	**+0.4**
VAM	**Vamos**	**1.80**	**94**	*e*P	**Pn**	**18 33 44.3**	**+0.8**
HMAT	**Matruh**	**6.15**	**135**	P	**Pn**	**18 34 44.8**	**-0.4**
SWA2		**6.92**	**154**	P	**Pn**	**18 34 56.0**	**-0.1**
SWA1		**7.00**	**152**	P	**Pn**	**18 34 57.3**	**+0.1**
SWA1				S	**Sn**	**18 36 10.0**	**-7.6**

IDC 13 18:37:06.4±3.2, 13.96N×92.53E, mb3.7/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.4/4, ML3.1/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/21, Error ellipse: s-maj=86.5km s-min=28.4km az=82.0, Andaman Islands region

| Code | Station Name |

KKN	Kakani	12.94	326	eP	P	19 05 10.9	-14
	4.0nm,0.2s						
GKN	Gorkha	13.46	324	eP	P	19 05 16.9	-15
	12nm,0.3s						
GKN				eS	S	19 07 30.9	-33
KOLN	Koldanda	13.89	321	eP	P	19 05 21.8	-16
	10nm,0.3s						
ZAL	Zalesovo	37.25	352	P	P	19 09 31.0	-1.2
	0.3nm,0.4s,baz=228,slow=21,SNR=3.2						
WRA	Warramunga Arr	54.55	131	P	P	19 11 47.7	-2.1
	0.4nm,0.5s,baz=313,slow=7.3,SNR=13						
WRA				PcP	PcP	19 12 48.7	-4.2
	0.2nm,0.5s,baz=324,slow=3.6,SNR=5.2						
ASAR	Alice Springs	56.68	135	P	P	19 12 03.4	-1.7
	0.4nm,0.6s,baz=313,slow=6.6,SNR=10						

*IDC **13** 19:15:26.1±0.9, 4.69N×94.96E, mb4.1/12, mb1 4.2/13, mb1mx4.1/21, mbtmp4.0/13, Error ellipse: s-maj=41.2km s-min=17.7km az=49.0*
*BJI **13** 19:15:29.6, 4.76N×94.98E, h22km, mB4.7, mb4.4, Ms4.5, Msz4.4*
*NEIC **13** 19:15:30.8±0.4, 4.64N×94.95E, h30km, mb4.5/6, Error ellipse: s-maj=11.1km s-min=8.8km az=48.0*
ISC 13 19:15:27.0±3.2, 4.58N±0.09×94.97E±0.10, h15km±23km, n29, σ1°15/30, mb4.2/19, MS4.4/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.33	15	Pn	P	19 18 50.1	-1.5
	baz=156,slow=11,SNR=1.6						
PALK	Pallekele	14.44	281	P	P	19 18 52.7	-0.3
	15nm,1.1s						
LSA	Lhasa	25.25	352	eP	P	19 20 53.9	-0.2
	2.3nm,0.7s,mb3.8						
WMQ	Urumqi	39.60	352	eP	P	19 23 00.8	+1.2
WMQ				AP	pP	19 23 10.5	+6.3
WMQ				XP	sP	19 23 14.5	+8.4
WMQ				PP	PP	19 24 36.4	+1.9
WMQ				S	S	19 29 01.3	-0.3
WMQ				XS		19 29 17.4	
WMQ				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,23nm,5.0s						
WMQ				LR	LR		
	comp=N,448nm,20.1s,MS4.4						
WMQ				LR	LR		
	comp=E,412nm,21.2s,MS4.4						
WMQ				LR	LR		
	comp=Z,548nm,21.4s,MS4.4						
BJT	Baijiatuan	40.14	26	eP	P	19 23 04.2	+0.2
	comp=Z,11nm,0.9s,mb4.6						
UCH	Uchtor	41.68	337	P	P	19 23 18.8	+2.1
	SNR=8.3						
KBK	Karagaybulak	41.88	338	P	P	19 23 20.2	+1.9
	SNR=10						
AML	Almayashu	41.93	336	P	P	19 23 20.6	+1.9
	SNR=6.9						
AAK	Ala-Archa	42.04	337	P	P	19 23 22.4	+2.8
	SNR=5.7						
AAK	Ala-Archa	42.04	337	eP	P	19 23 21.0	+1.3
	comp=Z,4.0nm,0.8s,mb4.1						
EKS2	Erkin-Say	42.34	337	P	P	19 23 24.1	+2.0
	SNR=6.5						
USP	Ospenovka	42.58	338	P	P	19 23 25.0	+1.0
	SNR=11						
SONM	Songino Array	44.20	11	P	P	19 23 34.9	-2.3
	comp=Z,0.3nm,0.4s,mb3.4,baz=193,slow=8.9,SNR=6.8						
SONM				PcP	PcP	19 25 21.1	-1.3
	comp=Z,0.3nm,0.4s,baz=217,slow=2.7,SNR=4.9						
WRA	Warramunga Arr	45.73	124	P	P	19 23 50.1	+0.4
	comp=Z,6.7nm,0.7s,mb4.7,baz=301,slow=9.6,SNR=67						
WRAB	Tennant Creek	45.73	124	eP	P	19 23 50.5	+0.7
	comp=Z,17nm,0.9s,mb5.0						
ASAR	Alice Springs	47.21	128	P	P	19 24 01.7	+0.2
	comp=Z,0.7nm,0.5s,mb3.9,baz=298,slow=7.6,SNR=22						
ZAL	Zalesovo	49.90	352	P	P	19 24 21.1	-0.7
	comp=Z,2.1nm,0.6s,mb4.4,baz=244,slow=4.4,SNR=12						
BVAR	Borovoye Array	52.35	342	P	P	19 24 39.6	-0.9
	comp=Z,2.6nm,0.5s,mb4.4,baz=143,slow=7.4,SNR=31						
BRVK	Borovoye	52.41	341	eP	P	19 24 40.0	-0.9
	comp=Z,3.7nm,0.7s,mb4.4						
CHKZ	Chkalovo	52.84	342	eP	P	19 24 43.4	-0.7
	comp=Z,7.0nm,0.7s,mb4.7						
CHKZ				e		19 24 59.6	
BRTR	Keskin Array B	65.20	312	P	P	19 26 09.2	-1.0
	comp=Z,0.8nm,0.6s,mb3.9,baz=129,slow=7.5,SNR=5.9						
AKASG	Malin Array Be	71.24	322	P	P	19 26 45.8	-1.7
	comp=Z,0.4nm,0.3s,mb3.8,baz=88,slow=5.6,SNR=5.4						
MLR	Muntele Rosu	72.09	316	P	P	19 26 52.9	+0.1
	comp=Z,0.9nm,0.4s,mb4.0,baz=293,slow=4.9,SNR=4.4						
BOSA	Boshof	74.56	239	P	P	19 27 06.5	-1.1
FINES	FINESS Array B	75.99	332	P	P	19 27 14.2	-0.8
	comp=Z,1.5nm,0.5s,mb4.2,baz=101,slow=5.1,SNR=16						
ARCES	ARCESS Array B	78.62	340	P	P	19 27 28.9	-0.5
	comp=Z,0.9nm,0.4s,mb4.0,baz=92,slow=3.6,SNR=16						
ARCES	ARCESS Array B	78.62	340	P	P	19 27 28.9	-0.5
GERES	GERESS Array B	80.82	319	P	P	19 27 42.2	+0.6
	comp=Z,0.6nm,0.6s,mb3.7,baz=108,slow=4.2,SNR=5.4						
DAVOX	Davos	83.32	316	P	P	19 27 54.4	-0.4
	comp=Z,1.6nm,0.3s,mb4.5,baz=254,slow=7.4,SNR=4.6						

*CSEM **13** 19:20:49.2±0.1, 40.84N×27.78E, h15km, MD3.1, Error ellipse: s-maj=1.9km s-min=1.3km az=10.0*
*ISK **13** 19:20:49.0, 40.85N×27.75E, h14km, MD3.1*
*THE **13** 19:20:50.4, 40.58N×27.63E, h10km*
ISC 13 19:20:48.7±0.7, 40.90N±0.04×27.78E±0.03, h5km±5km, n26, σ0°76/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRMT	Marmara Adasi	0.33	205	i PG	Pg	19 20 55.0	-0.2
MFT	Murefte	0.39	254	i PG	Pg	19 20 56.6	0.0
SART	Tekirdag	0.50	245	i P	Pg	19 20 58.8	+0.1
SART				i S	Sg	19 21 06.3	+0.9
BNT	Bandirma	0.55	169	i PG	Pg	19 20 59.6	-0.1
BNT				i SG	Sg	19 21 06.6	-0.5
EDC	Edincik	0.56	173	i PG	Pg	19 20 59.7	-0.1
KCT	Karacabey	0.77	145	PG	Pg	19 21 03.8	-0.3
ISK	Istanbul-Kandi	0.98	80	PG	Pg	19 21 08.9	+0.6
BADT	Buyukada	1.02	92	PG	Pg	19 21 09.4	+0.4
BTOK	Tokmak	1.15	170	i P	Pb	19 21 11.2	+0.5
BTOK				i S	Sb	19 21 26.5	+0.7
ORLT	Orhaneli	1.21	135	ePN	Pn	19 21 11.9	-0.2
EDRB	Edirne	1.23	321	ePN	Pn	19 21 12.8	+0.4
YLV	Yalova	1.26	105	ePN	Pn	19 21 12.2	-0.7
BALB	Balikesir	1.26	176	PN	Pn	19 21 12.2	-0.7
ULDT	Uludag	1.28	126	i P	Pb	19 21 13.5	+0.6
ULDT				i S	Sb	19 21 30.1	+0.5
ALN	Alexandroupoli	1.31	270	ePb	Pb	19 21 13.7	+0.2
ALN				eSb	Sb	19 21 31.8	+1.3
HRT	Hereke	1.43	92	ePN	Pn	19 21 15.1	-0.3
EZN	Ezine	1.54	226	ePN	Pn	19 21 16.1	-0.9
BOZC	Bozcaada	1.69	232	i P	Pn	19 21 19.4	+0.3
BOZC				i S	Sn	19 21 41.1	-0.2
AYVA	Ayvalik	1.79	208	i P	Pn	19 21 22.3	+1.8
AYVA				i S	Sn	19 21 44.7	+0.7
AKS	Akhisar	2.02	179	ePN	Pn	19 21 22.7	-1.1
LOS	Limnos	2.27	246	ePn	Pn	19 21 25.7	-1.7
HENT	Hendek	2.37	91	i P	Pn	19 21 29.5	+0.7
HENT				i S	Sn	19 22 05.4	+6.8
ESKT	Eskisehir	2.73	119	ePN	Pn	19 21 33.6	-0.3
OUR	Ouranopolis	2.94	260	ePn	Pn	19 21 34.8	-2.2
SRS	Serrai	3.18	275	ePn	Pn	19 21 40.0	-0.3
KNT	Kendrikon	3.70	276	ePn	Pn	19 21 47.8	0.0

IDC 13 19:26:24.3±3.8, 11.37N×91.30E, mb3.5/3, mb1 3.6/4, mb1mx3.5/18, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=100.6km s-min=30.1km az=83.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.45	79	eP	Pn	19 26 49.3	-2.5
PBA				eS	Sb	19 27 06.3	-4.4
PBA				e		19 27 13.3	
	comp=E,1μm,0.8s						
PBA				e		19 27 15.9	
	comp=N,926nm,0.5s						
CMAR	Chiang Mai Arr	10.21	45	Pn	P	19 28 52.5	-2.8
	comp=N,0.0nm,0.3s,baz=243,slow=14,SNR=2.8						
SONM	Songino Array	38.49	16	P	P	19 33 48.3	-1.7
	comp=N,0.6nm,0.9s,baz=208,slow=8.0,SNR=4.6						
WRA	Warramunga Arr	52.57	126	P	P	19 35 39.8	-2.4
	comp=N,0.5nm,0.5s,baz=307,slow=8.3,SNR=16						
ASAR	Alice Springs	54.30	130	P	P	19 35 53.0	-2.0
	comp=N,1.2nm,1.1s,baz=307,slow=6.7,SNR=6.7						

*TRN **13** 19:34:34.5, 11.69N×61.45W, h76km, MD3.5*
*FUNV **13** 19:34:35.1, 11.55N×61.54W, h44km, MW3.0*
*NEIC **13** 19:34:37.1, 11.57N×61.51W, h11km, mb4.1/1, MD3.5(TRN), After TRN.*
ISC 13 19:34:33.2±0.8, 11.62N±0.03×61.68W±0.04, h93km±9km, n21, σ1°02/36, mb4.0/2, 1C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRW	Mount Saint Ca	0.53	2	eP	P	19 34 49.7	+1.0
GRHS	Sauteurs	0.60	4	eP	P	19 34 48.8	-0.4
GRHS				eS	S	19 35 00.3	-0.8
GRIC	Isle de Caille	0.67	8	eP	P	19 34 49.7	-0.1
GRIC				eS	S	19 35 01.4	-0.8
GRSS	Sisters	0.68	6	i P	P	19 34 49.7	-0.2
GRSS				eS	S	19 35 02.4	0.0
TPR	Prospect	0.99	116	i P	P	19 34 52.5	-0.7
TPR				eS	S	19 35 05.3	-2.8
TRN	Trinidad (W)	1.01	164	eP	P	19 34 54.8	+1.4
TRN				eS	S	19 35 08.8	+0.2
BOT	Bacolet	1.05	116	eP	P	19 34 53.4	-0.5
GUIV	Guiria	1.11	209	eP	P	19 34 54.2	-0.4
TBH	Brigand Hill	1.28	152	eP	P	19 35 00.4	+3.6
TPP	Pointe-a-Pierr	1.32	170	eP	P	19 34 59.4	+2.1
TPP				eS	S	19 35 18.0	+2.9
ITEV	Isla Los Testi	1.45	260	eP	P	19 34 59.8	+1.0
ITEV				eS	S	19 35 18.6	+0.8
SVB	Belmont	1.69	14	eP	P	19 35 01.9	0.0
SVB				eS	S	19 35 23.5	+0.3
SVV	Soufriere Volc	1.75	15	eP	P	19 35 02.3	-0.3
SVV				eS	S	19 35 25.7	+1.3
CRUV	Carupano	1.79	238	eP	P	19 35 04.2	+1.0
CRUV				eS	S	19 35 25.4	-0.1
GUNV	Guanoco	1.91	221	eP	P	19 35 05.2	+0.4
GUNV				eS	S	19 35 27.5	-0.5
PCRV	Puerto La Cruz	3.24	244	eP	P	19 35 23.2	+0.1
PCRV				eS	S	19 35 58.9	-1.8
RIOV	Rio Grande	3.53	182	eP	P	19 35 25.6	-1.5
RIOV				eS	S	19 36 02.6	-5.4
CAOV	Caicara del Or	6.26	227	eP	P	19 36 03.7	-0.9
CAOV				eS	S	19 37 09.1	-6.2
BAUV	El Baul	6.80	248	eP	P	19 36 11.5	-0.6
BAUV				eS	S	19 37 23.0	-5.5
RES	Resolute Bay	65.75	351	eP	P	19 45 23.1	+13
	1.2nm,0.8s,mb3.8						
INK	Inuvik	72.58	338	P	P	19 46 01.8	+10
	6.2nm,1.2s,mb4.3						

*IDC **13** 19:35:03.8±0.7, 14.53N×92.38E, mb4.2/12, mb1 4.3/12, mb1mx4.1/20, mbtmp4.2/12, ML3.7/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/27, Error ellipse: s-maj=31.1km s-min=13.8km az=55.0*
*MOS **13** 19:35:05.9±1.2, 14.55N×92.60E, h33km, mb4.8/10, Error ellipse: s-maj=19.4km s-min=12.6km az=93.5*
*BJI **13** 19:35:08.3, 14.60N×92.50E, h30km, mB4.9, mb4.3, Ms4.1*
*NEIC **13** 19:35:08.3±0.3, 14.59N×92.46E, h30km, mb4.7/13, Error ellipse: s-maj=9.0km s-min=6.6km az=65.0*
ISC 13 19:35:06.5±0.4, 14.90N±0.04×92.42E±0.03, h33km, n65, σ1°53/77, mb4.4/24, MS3.6/3, 2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	3.24	174	eP	P	19 36 07.3	+11
PBA				eS	S	19 36 46.7	+13
CMAR	Chiang Mai Arr	7.19	60	Pn	Pn	19 36 52.2	+0.2
	0.3nm,0.3s,baz=246,slow=15,SNR=8.1						
CMAR				Sn	Sn	19 38 11.1	-2.3
	1.3nm,0.3s,baz=160,slow=29,SNR=4.7						
CHG	Chiang Mai	7.36	57	P	S	19 38 18.7	+1.1
BWNR	Bhubaneshwar	8.28	311	eP	P	19 37 04.8	-2.3
BWNR				eS	S	19 38 30.8	-10
BWNR				e		19 38 37.3	
	comp=N,424nm,0.4s						
BWNR				e		19 38 37.3	
	comp=E,625nm,0.5s						
CAL	Calcutta	8.53	334	e	P	19 37 00.4	-10
CAL				e		19 40 02.4	
CHRT	Chiangrai	8.60	54	i P	P	19 37 13.0	+1.5
	comp=E,145nm,0.9s						
VIS	Vishakhapatnam	9.17	289	eP	P	19 37 17.6	-1.8
VIS				eS	S	19 38 49.9	-13
VIS				e		19 39 08.6	
	comp=E,69nm,0.5s						
VIS				e		19 39 08.7	
	comp=N,198nm,0.6s						
IMP	Imphal	9.94	8	eP	P	19 37 35.2	+5.1
SHL	Shillong	10.63	357	e	P	19 37 38.0	-1.6
SHL				eS	S	19 39 37.0	-1.5
MDRS	Chennai	11.95	263	eP	P	19 37 57.7	+0.2
MDRS				eS	S	19 39 55.1	-16
HYB	Hyderabad	13.55	283	i P	P	19 38 26.0	+7.1
HYB				e		19 40 36.5	
HYB				eS	S	19 40 49.5	+0.2
PALK	Pallekele	13.76	238	P	P	19 38 15.5	-6.2
JIRN	Jiri	13.96	336	eP	P	19 38 23.9	-0.3
	comp=N,34nm,0.6s						
JIRN				eS	S	19 40 54.3	-4.6
PKI	Pulchoki	14.20	334	eP	P	19 38 26.5	-0.8
	comp=N,36nm,0.8s						
PKI				eS	S	19 41 00.4	-4.2
GUN	Gumba	14.30	336	eP	P	19 38 28.2	-0.5
	comp=N,75nm,1.0s						
DMN	Daman	14.36	333	eP	P	19 38 28.0	-1.5
	comp=N,67nm,0.6s						
KKN	Kakani	14.44	334	eP	P	19 38 29.8	-0.8
	comp=N,35nm,0.8s						
LSA	Lhasa	14.78	356	eP	P	19 38 36.0	+1.1
LSA				pmax	pmax		
	comp=Z,22nm,0.7s						
LSA	Lhasa	14.78	356	eP	P	19 38 36.0	+1.1
	comp=Z,22nm,0.7s						
LSA				eS	S	19 41 14.0	-4.3
GKN	Gorkha	14.91	332	eP	P	19 38 35.8	-0.8
	comp=Z,72nm,0.6s						
GKN				eS	S	19 41 16.3	-5.1
KOLN	Koldanda	15.21	329	eP	P	19 38 40.1	-0.4
	comp=Z,59nm,0.7s						
BHPL	Bhopal	16.41	303	eP	P	19 38 56.2	+0.2
BHPL				e		19 38 58.8	
	comp=Z,7.7nm,0.6s						
BHPL				eS	S	19 41 55.9	-0.5
POO	Poona	18.15	284	eP	P	19 39 20.0	+2.2
POO				e		19 39 21.1	
	comp=Z,5.1nm,0.3s						
POO				eS	S	19 42 35.9	-0.1
NDI	New Delhi	19.65	317	eP	P	19 39 38.0	+2.6
NDI				e		19 43 05.0	
ENH	Enshi	21.92	43	eP	P	19 40 02.1	+3.4
	comp=Z,32nm,1.1s,mb4.7						
XAN	Xi'an	24.20	35	P	P	19 40 26.3	+5.2
XAN				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.3						
MKAR	Makanchi Array	32.91	347	i P	P	19 41 43.4	+3.6
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SONM	Songino Array	34.83	17	P	P	19 42 00.1	+3.8
	comp=Z,2.5nm,0.8s,mb4.2,baz=203,slow=8.3,SNR=19						
ULN	Ulaanbaatar	35.04	17	eP	P	19 42 01.6	+3.5
ULN				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
ULN	Ulaanbaatar	35.04	17	eP	P	19 42 01.6	+3.4
	comp=Z,10nm,1.4s,mb4.6						
ZAK	Zakamensk	36.47	12	eP	P	19 42 10.1	-0.2
ZAL	Zalesovo	39.41	353	P	P	19 42 38.9	+4.1
	comp=Z,2.2nm,0.7s,mb4.0,baz=210,slow=5.2,SNR=16						
ZAL				LR	LR	20 00 49.5	
	comp=Z,89nm,18.6s,MS3.6,baz=313,slow=39						
BVAR	Borovoye Array	41.84	340	P	P	19 42 58.1	+3.2
	comp=Z,0.7nm,0.6s,mb3.5,baz=153,slow=9.9,SNR=7.8						
BRVK	Borovoye	41.91	340	P	P	19 42 57.8	+2.4
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
BRVK	Borovoye	41.91	340	P	P	19 42 57.8	+2.4
	comp=Z,1.5nm,0.8s,mb3.7						
CHKZ	Chkalovo	42.32	341	eP	P	19 43 01.7	+2.9
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
CHKZ	Chkalovo	42.32	341	eP	P	19 43 01.7	+2.9
	comp=Z,3.4nm,0.6s,mb4.2						
BOD	Bodaibo	45.82	16	eP	P	19 43 28.5	+1.6
FITZ	Fitzroy Crossi	46.34	134	eP	P	19 43 29.6	-1.9
	comp=Z,12nm,1.0s,mb4.8						
GNI	Garni	48.47	311	eP	P	19 43 44.6	-3.3
GNI				pmax	pmax		
	comp=Z,15nm,1.2s						
GNI	Garni	48.47	311	P	P	19 43 51.4	+3.5
	comp=Z,1.5nm,0.5s,mb4.3,baz=186,slow=9.2,SNR=3.7						
GNI				LR	LR	20 07 59.0	
	comp=Z,65nm,19.5s,MS3.6,baz=286,slow=41						
GNI	Garni	48.47	311	eP	P	19 43 44.6	-3.3
	comp=Z,15nm,1.2s,mb4.9						
ZEI	Tsey	49.88	314	eP	P	19 43 59.4	+0.6
ZEI				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
NWAO	Narrogin (SRO)	53.14	154	P	P	19 44 21.3	-2.2
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NWAO	Narrogin (SRO)	53.14	154	P	P	19 44 21.6	-1.9
	comp=Z,6.6nm,0.7s,mb4.7,baz=348,slow=12,SNR=4.9						
NWAO	Narrogin (SRO)	53.14	154	P	P	19 44 21.3	-2.2
	comp=Z,5.1nm,0.7s,mb4.6						
WRA	Warramunga Arr	53.83	129	P	P	19 44 27.2	-1.5
	comp=Z,10nm,0.8s,mb4.8,baz=308,slow=7.6,SNR=71						
WRAB	Tennant Creek	53.84	129	eP	P	19 44 27.3	-1.5
WRAB				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
WRAB	Tennant Creek	53.84	129	eP	P	19 44 27.3	-1.4
	comp=Z,20nm,0.8s,mb5.1						
WB2	Warramunga Arr	53.84	129	i P	P	19 44 27.4	-1.4
YAK	Yakutsk	53.98	21	P	P	19 44 31.1	+1.8
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
YAK	Yakutsk	53.98	21	P	P	19 44 31.1	+1.8
	comp=Z,4.7nm,0.6s,mb4.6						
EIL	Elat	54.67	296	LR	LR	20 08 01.1	
	comp=Z,55nm,20.7s,MS3.6,baz=312,slow=36						
ASAR	Alice Springs	55.80	133	P	P	19 44 41.8	-1.2
	comp=Z,7.6nm,1.0s,mb4.7,baz=310,slow=6.7,SNR=42						
BRTR	Keskin Array B	56.69	308	P	P	19 44 50.4	+1.1
	comp=Z,1.2nm,0.8s,mb4.0,baz=112,slow=7.4,SNR=7.4						
MA2	Magadan	61.44	30	P	P	19 45 22.3	+0.5
MA2				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.0						
MA2	Magadan	61.44	30	P	P	19 45 22.3	+0.5
	comp=Z,15nm,1.2s,mb5.0						
FINES	FINESS Array B	65.77	331	P	P	19 45 51.4	+1.3
	comp=Z,4.3nm,0.9s,mb4.5,baz=135,slow=14,SNR=8.3						
STKA	Stephens Creek	66.21	135	P	P	19 45 52.0	-1.4
	comp=Z,2.0nm,1.0s,mb4.1,baz=349,slow=22,SNR=2.6						
ARCES	ARCESS Array B	68.13	340	P	P	19 46 06.7	+1.8
	comp=Z,3.5nm,1.0s,mb4.4,baz=53,slow=6.1,SNR=4.4						
LSZ	Lusaka	70.20	247	eP	P	19 46 18.8	+0.4
LSZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
LSZ	Lusaka	70.20	247	eP	P	19 46 18.8	+0.4
	comp=Z,4.4nm,0.9s,mb4.4						
GERES	GERESS Array B	71.53	317	P	P	19 46 27.9	+1.9
	comp=Z,0.8nm,0.7s,mb3.8,baz=90,slow=6.7,SNR=5.8						
BOSA	Boshof	77.98	236	P	P	19 47 03.9	+0.4
BOSA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
BOSA	Boshof	77.98	236	P	P	19 47 03.9	+0.3
	comp=Z,6.6nm,0.8s,mb4.6						

*TAP **13** 19:36:16.6, 24.43N×121.99E, h11km, ML2.9*
JMA 13 19:36:15.1±0.1, 24.81N×122.13E, h56km, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.87	113	P	P	19 36 31.5	+0.1
YOJ				eS	S	19 36 43.4	-0.3
IRIF	Iriomote-Funau	1.53	108	P	P	19 36 40.6	-0.1
IRIF				eS	S	19 36 59.4	-0.2
JKRS	Kuro-shima	1.80	108	eS	S	19 37 06.8	+0.6
JIJ	Ishigaki jima	1.89	103	P	P	19 36 45.5	-0.1
JIJ				eS	S	19 37 08.4	+0.2

*THE **13** 19:37:16.7, 40.28N×25.75E, h7km, ML3.2*
*ATH **13** 19:37:16.7, 40.33N×25.69E, h25km±1km, MD3.3/5*
*NEIC **13** 19:37:16.7, 40.33N×25.69E, h25km, MD3.3(ATH), After ATH.*
*CSEM **13** 19:37:17.5±0.1, 40.33N×25.70E, h14km, MD3.3, Error ellipse: s-maj=1.9km s-min=1.2km az=111.0*
ISC 13 19:37:16.9±0.7, 40.35N±0.03×25.63E±0.03, h13km±5km, n20, σ0°95/30, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.56	217	ePN	Pn	19 37 28.7	-1.5
LIA				eSN	Sn	19 37 37.2	-2.1
LOS	Limnos	0.59	226	ePg	Pg	19 37 29.2	+0.4
LOS				eSg	Sg	19 37 37.2	+0.4
LOS	Limnos	0.59	226	eSg	Sg	19 37 37.2	+0.4
BOZC	Bozcaada	0.60	147	i P	Pb	19 37 28.2	-0.4
BOZC				i S	Sb	19 37 35.6	-1.1
ALN	Alexandroupoli	0.64	30	ePg	Pg	19 37 29.3	-0.5
ALN				eSg	Sg	19 37 37.9	-0.5
RDO	Rodhopi	0.80	355	ePN	Pn	19 37 33.0	-0.6
RDO				eSN	Sn	19 37 44.2	-1.2
PRK	Paraskevi	1.21	155	ePN	Pn	19 37 39.4	0.0
PRK				eSN	Sn	19 37 55.3	-0.3
SART	Tekirdag	1.23	73	i P	Pb	19 37 39.4	0.0
SART				i S	Sb	19 37 55.5	+0.4
OUR	Ouranopolis	1.26	270	ePb	Pb	19 37 40.7	+0.8
AYVA	Ayvalik	1.32	141	i P	Pb	19 37 41.6	+0.6
AYVA				i S	Sb	19 37 58.7	+1.0
PAIG	Paliouri	1.55	255	ePb	Pb	19 37 44.4	-0.6
PAIG				eSb	Sb	19 38 07.0	+2.7
PLG	Polygyros	1.67	272	ePN	Pn	19 37 46.6	+0.6
NVR	Nevrokopi	1.67	307	ePN	Pn	19 37 47.1	+1.0
SRS	Serrai	1.73	297	ePb	Pb	19 37 47.5	-0.4
AOS	Alonnisos	1.79	229	ePb	Pb	19 37 47.6	-1.3
BTOK	Tokmak	1.94	107	i P	Pn	19 37 49.9	+0.1
BTOK				i S	Sn	19 38 15.9	+1.8
XOR	Xorichti	2.12	243

KKN	**Kakani**	14.83	334	*e*P	P	19 50 23.7	-6.1
	24nm,0.7s						
LSA	**Lhasa**	15.15	355	P	P	19 50 38.0	+4.0
LSA	**Lhasa**	15.15	355	*e*P	P	19 50 33.2	-0.8
LSA				pmax	pmax		
	comp=Z,26nm,1.2s						
LSA	**Lhasa**	15.15	355	*e*P	P	19 50 33.2	-0.8
	comp=Z,26nm,1.2s						
GKN	**Gorkha**	15.30	332	*e*P	P	19 50 29.4	-6.5
	comp=Z,22nm,0.4s						
KOLN	**Koldanda**	15.59	329	*e*P	P	19 50 33.9	-5.8
	comp=Z,30nm,0.5s						
ENH	**Enshi**	22.09	42	*e*P	P	19 51 57.5	+2.8
	comp=Z,21nm,1.1s,mb4.5						
LZH	**Lanzhou**	23.72	23	*e*P	P	19 52 19.0	+8.4
LZH				AP		19 52 24.0	
LZH				XP		19 52 26.8	
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.4						
LZH				AMB	AMB		
	comp=Z,190nm,8.4s						
MKAR	**Makanchi Array**	33.29	347	*i*P	P	19 53 44.2	+6.9
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	**Songino Array**	35.13	16	P	P	19 53 53.6	+0.4
	comp=Z,1.1nm,0.8s,mb3.8,baz=202,slow=7.8,SNR=9.7						
ULN	**Ulaanbaatar**	35.34	17	*e*P	P	19 53 53.1	-1.8
ULN				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
ULN	**Ulaanbaatar**	35.34	17	*e*P	P	19 53 53.1	-1.8
	comp=Z,3.7nm,1.1s,mb4.2						
ZAK	**Zakamensk**	36.80	11	*e*P	P	19 54 07.7	+0.5
ZAL	**Zalesovo**	39.78	353	P	P	19 54 32.7	+0.5
	comp=Z,1.4nm,0.5s,mb4.0,baz=204,slow=6.8,SNR=8.6						
BVAR	**Borovoye Array**	42.23	340	P	P	19 54 52.4	+0.1
	comp=Z,2.0nm,0.9s,mb3.7,baz=153,slow=9.9,SNR=3.6						
CHKZ	**Chkalovo**	42.71	341	*e*P	P	19 54 55.0	-1.2
CHKZ				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
CHKZ	**Chkalovo**	42.71	341	*e*P	P	19 54 55.0	-1.1
	comp=Z,11nm,0.9s,mb4.6						
BOD	**Bodaibo**	46.12	16	*e*P	P	19 55 24.7	+1.2
GNI	**Garni**	48.81	311	*e*P	P	19 55 46.3	+1.5
GNI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GNI	**Garni**	48.81	311	P	P	19 55 47.1	+2.2
	comp=Z,1.7nm,0.6s,mb4.3,baz=360,slow=14,SNR=3.7						
GNI	**Garni**	48.81	311	*e*P	P	19 55 46.3	+1.4
	comp=Z,7.8nm,1.0s,mb4.7						
ZEI	**Tsey**	50.24	314	*e*P	P	19 55 53.9	-1.8
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
KIV	**Kislovodsk**	51.46	315	*e*P	P	19 56 09.9	+4.9
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
KIV	**Kislovodsk**	51.46	315	P	P	19 56 00.4	-4.5
	comp=Z,11nm,1.2s,mb4.7						
WRA	**Warramunga Arr**	53.49	129	P	P	19 56 20.6	+0.1
	comp=Z,4.8nm,0.7s,mb4.5,baz=315,slow=8.3,SNR=54						
WRA				PcP	PcP	19 57 27.8	+0.8
	comp=Z,0.7nm,0.6s,baz=317,slow=2.7,SNR=6.9						
WRAB	**Tennant Creek**	53.49	129	*e*P	P	19 56 20.6	+0.1
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
WRAB	**Tennant Creek**	53.49	129	*e*P	P	19 56 20.6	+0.1
	comp=Z,7.9nm,0.7s,mb4.8						
YAK	**Yakutsk**	54.27	21	P	P	19 56 19.9	-5.7
YAK				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
YAK	**Yakutsk**	54.27	21	P	P	19 56 19.9	-5.7
	comp=Z,13nm,0.6s,mb5.0						
ASAR	**Alice Springs**	55.45	133	P	P	19 56 34.8	+0.1
	comp=Z,3.4nm,0.6s,mb4.5,baz=309,slow=6.9,SNR=51						
ASAR				PcP	PcP	19 57 35.2	+0.7
	comp=Z,1.0nm,0.7s,baz=324,slow=3.5,SNR=6.0						
BRTR	**Keskin Array B**	57.03	308	P	P	19 56 45.9	-0.1
	comp=Z,0.7nm,0.6s,mb3.9,baz=117,slow=6.4,SNR=3.6						
AKASG	**Malin Array Be**	62.05	320	P	P	19 57 20.8	+0.5
	comp=Z,0.2nm,0.3s,mb3.7,baz=104,slow=3.9,SNR=2.3						
CTAO	**Charters Tower**	63.00	122	P	P	19 57 24.3	-2.7
CTAO				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.2						
CTAO	**Charters Tower**	63.00	122	P	P	19 57 24.3	-2.7
	comp=Z,24nm,1.3s,mb5.2						
MLR	**Muntele Rosu**	63.42	314	P	P	19 57 30.5	+1.1
	comp=Z,6.2nm,1.2s,mb4.6,baz=68,slow=15,SNR=3.9						
FINES	**FINESS Array B**	66.15	331	P	P	19 57 45.5	-1.4
	comp=Z,3.5nm,1.1s,mb4.3,baz=103,slow=6.7,SNR=2.7						
ARCES	**ARCESS Array B**	68.52	340	P	P	19 58 01.9	+0.3
	comp=Z,3.6nm,0.9s,mb4.3,baz=41,slow=24,SNR=3.7						
LSZ	**Lusaka**	70.20	248	P	P	19 58 12.8	0.0
LSZ				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
LSZ	**Lusaka**	70.20	248	P	P	19 58 12.8	0.0
	comp=Z,5.1nm,1.3s,mb4.3						
GERES	**GERESS Array B**	71.90	317	P	P	19 58 22.8	+0.2
	comp=Z,1.2nm,0.7s,mb3.9,baz=90,slow=4.0,SNR=4.0						

IDC 13 19:50:25.8±3.3, 14.43N×92.51E, mb3.9/4, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, Error ellipse: s-maj=138.9km s-min=24.9km az=70.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	35.25	16	P	P	19 57 22.2	-1.9
	0.3nm,0.5s,baz=212,slow=6.8,SNR=4.0						
ZAL	**Zalesovo**	39.88	353	P	P	19 58 01.1	-1.8
	0.7nm,0.3s,baz=86,slow=4.9,SNR=3.2						
WRA	**Warramunga Arr**	53.47	129	P	P	19 59 48.1	-2.3
	1.7nm,0.7s,baz=315,slow=8.4,SNR=15						
WRA				PcP	PcP	20 00 54.9	-2.5
	0.4nm,0.6s,baz=312,slow=3.1,SNR=5.5						
ASAR	**Alice Springs**	55.42	133	P	P	20 00 02.5	-2.2
	1.1nm,0.5s,baz=310,slow=7.0,SNR=15						

CSEM ***13*** *19:53:04.8, 39.02N×27.91E, h18km, MD3.0, After ISK*
ISK 13 19:53:04.8, 39.02N×27.91E, h18km, MD3.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	0.16	208	*i*PG	Pb	19 53 09.3	+0.1
BALB	**Balikesir**	0.62	358	PG	Pb	19 53 17.4	+0.7
MANT	**Manisa**	0.73	136	*i*P	Pb	19 53 17.0	-1.6
MANT				*i*S	Sb	19 53 25.8	-2.4
BTOK	**Tokmak**	0.75	7	*i*P	Pb	19 53 18.8	-0.1
BTOK				*i*S	Sb	19 53 29.1	+0.4
KDAG	**Bornova**	0.80	219	*i*P	Pb	19 53 21.1	+1.3
KDAG				*i*S	Sb	19 53 34.0	+3.9
BLCB	**Balcova**	0.93	227	*e*PG	Pb	19 53 23.4	+1.3
AYVA	**Ayvalik**	0.99	287	*i*P	Pb	19 53 25.6	+2.4
AYVA				*i*S	Sb	19 53 40.4	+4.7
ORLT	**Orhaneli**	1.28	36	*e*PN	Pn	19 53 27.9	-0.1
KCT	**Karacabey**	1.29	15	PN	Pn	19 53 28.3	+0.2
EDC	**Edincik**	1.33	358	PN	Pn	19 53 29.0	+0.4
BNT	**Bandirma**	1.33	0	PN	Pn	19 53 29.1	+0.4
BNT				SN	Sn	19 53 47.2	+1.1
ULDT	**Uludag**	1.47	40	*i*P	Pn	19 53 30.7	+0.1
ULDT				*i*S	Sn	19 53 48.9	-0.6
ALT	**Altintas**	1.71	88	*e*PN	Pn	19 53 34.7	+0.5
YLV	**Yalova**	1.91	36	*e*PN	Pn	19 53 37.5	+0.5
ESKT	**Eskisehir**	2.34	77	*e*PN	Pn	19 53 43.7	+0.7

IDC ***13*** *19:56:18.9±0.5, 14.60N×92.37E, mb4.4/21, mb1 4.5/21, mb1mx4.4/25, mbtmp4.4/21, ML3.6/1, MS3.9/7, Ms1 4.0/7, ms1mx3.6/25, Error ellipse: s-maj=26.2km s-min=11.1km az=48.0*
MOS ***13*** *19:56:21.7±1.4, 14.65N×92.42E, h33km, mb5.0/20, Error ellipse: s-maj=14.7km s-min=7.6km az=106.8*
HRVD ***13*** *19:56:23.6±0.9, 14.53N×92.31E, h14km±4km, MW4.7/32, Centroid moment Tensor Solution. LP body waves: s6,c8; Mantle waves: s32,c42; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.53±.18; $M_{\theta\theta}$-0.17±.11; $M_{\phi\phi}$0.69±.13; $M_{r\theta}$0.91±.44; $M_{\theta\phi}$0.77±.08; $M_{r\phi}$0.18±.23; Best double couple: $M_0$1.358×10^16^ NP1:ϕ_s354°, δ42°, λ-157°. NP2: ϕ_s246°, δ75°, λ-51°. Principal axes: T 1.375, Plg20°, Azm308°; N -.034, Plg38°, Azm54°; P -1.342, Plg45°, Azm196°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***13*** *19:56:23.6±0.2, 14.63N×92.44E, h30km, mb4.9/27 Error ellipse: s-maj=8.2km s-min=5.3km az=224.0*
BJI ***13*** *19:56:26.0, 15.45N×91.88E, h5km, mB4.9, mb4.6, Ms4.4, Msz4.0*
ISC 13 19:56:20.9±0.3, 14.62N±0.04×92.35E±0.03, h26km, h26km±1.1km: pP-P, n129, σ1§22/137, mb4.7/55, MS4.2/11, 7C-5D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	2.98	173	*e*P	Pn	19 57 10.8	+3.2
PBA				*e*	Sn	19 57 55.8	+13
CMAR	**Chiang Mai Arr**	7.38	58	Pn	Pn	19 58 06.8	-3.0
	0.3nm,0.3s,baz=240,slow=14,SNR=3.7						
CMAR				Sn	Sn	19 59 28.3	-5.2
	1.3nm,0.3s,baz=245,slow=32,SNR=5.5						
CMAR				LR	LR	20 01 44.0	
	comp=Z,284nm,18.0s,baz=240,slow=44						
NNT	**Nongplab**	7.46	105	P	Pn	19 58 11.0	+0.1
CHG	**Chiang Mai**	7.56	56	⇓P	Pn	19 58 22.6	+10
	11nm,0.9s						
NST	**Nakhon Sawan**	7.58	81	P	Pn	19 58 11.0	-1.7
BWNR	**Bhubaneshwar**	8.42	313	*e*P	P	19 58 19.9	-4.4
BWNR				*e*S	Sn	19 59 46.6	-13
BWNR				*e*		19 59 51.4	
	comp=N,411nm,0.3s						
BWNR				*e*		19 59 51.4	
	comp=E,494nm,0.3s						
CHRT	**Chiangrai**	8.81	53	⇑P	P	19 58 31.0	+1.3
	comp=E,203nm,1.2s						
VIS	**Vishakhapatnam**	9.20	291	*e*P	P	19 58 32.5	-2.6
VIS				*e*S	Sn	20 00 05.8	-13
VIS				*e*		20 00 24.1	
	comp=E,311nm,0.7s						
VIS				*e*		20 00 24.2	
	comp=N,577nm,0.6s						
IMP	**Imphal**	10.21	8	*e*P	P	19 58 48.2	-0.9
KKTK	**Khon Kaen**	10.24	79	P	P	19 59 06.0	+17
SHL	**Shillong**	10.89	358	*e*	P	19 58 53.0	-5.4
SHL				*e*S	S	20 00 50.0	-10
BLSP	**Bilaspur**	12.24	309	*e*P	P	19 59 13.6	-3.0
BLSP				*e*S	S	20 01 15.9	-17
HYB	**Hyderabad**	13.55	284	*i*P	P	19 59 29.0	-5.2
HYB				*e*		20 01 44.5	
HYB				*e*S	S	20 02 03.5	-1.4
JIRN	**Jiri**	14.18	337	*e*P	P	19 59 37.4	-5.0
	comp=N,157nm,0.9s						
NGP	**Nagpur**	14.22	299	*e*P	P	19 59 42.5	-0.4
NGP				*e*	S	20 02 12.7	-8.1
PKI	**Pulchoki**	14.41	334	*e*P	P	19 59 40.2	-5.2
	comp=N,133nm,0.8s						
ALBI	**Allahabad**	14.52	319	*e*	S	20 02 31.0	+3.1
GUN	**Gumba**	14.53	337	*e*P	P	19 59 42.6	-4.3
	comp=N,128nm,0.9s						
DMN	**Daman**	14.57	334	*e*P	P	19 59 43.0	-4.5
	comp=N,142nm,0.6s						
KKN	**Kakani**	14.66	334	*e*P	P	19 59 44.2	-4.4
	comp=N,86nm,0.9s						
LSA	**Lhasa**	15.04	356	P	P	19 59 50.8	-2.9
LSA				LR	LR		
	comp=N,310nm,16.2s						
LSA				LR	LR		
	comp=E,780nm,15.0s						
LSA	**Lhasa**	15.04	356	*e*P	P	19 59 50.8	-2.9
LSA				*e*S	S	20 02 32.3	-7.8
LSA				pmax	pmax		
	comp=Z,93nm,1.1s						
LSA	**Lhasa**	15.04	356	*e*P	P	19 59 50.8	-2.8
	comp=Z,93nm,1.1s						
LSA				*e*S	S	20 02 32.3	-7.8
GKN	**Gorkha**	15.12	333	*e*P	P	19 59 50.5	-4.2
	comp=Z,76nm,0.3s						
KOLN	**Koldanda**	15.41	329	*e*P	P	19 59 55.3	-3.1
	comp=Z,128nm,0.6s						
LATR	**Latur**	15.61	286	*e*P	P	20 00 00.0	-1.0
BHPL	**Bhopal**	16.51	303	*e*P	P	20 00 13.4	+0.9
BHPL				*e*		20 00 18.3	
	comp=Z,51nm,1.0s						
BHPL				*e*S	S	20 03 12.8	-1.4
QIZ	**Qiongzhong**	17.30	73	P	P	20 00 21.2	-1.3
KAD	**Karad**	17.67	281	*e*P	P	20 00 26.4	-0.7
KAD				*i*		20 03 26.9	
POO	**Poona**	18.15	285	*e*P	P	20 00 34.7	+1.5
POO				*e*		20 00 36.7	
	comp=Z,17nm,0.7s						
POO				*e*S	S	20 03 53.0	+1.2
NDI	**New Delhi**	19.81	317	*e*P	P	20 00 52.0	-0.6
NDI				*e*		20 04 10.0	
AJM	**Ajmer**	20.32	308	*e*P	P	20 00 59.0	+1.1
AJM				*e*		20 01 03.6	
	comp=Z,34nm,1.2s						
DDI	**Dehra Dun**	20.43	322	*e*P	P	20 00 58.2	-0.8
DDI				*e*		20 04 17.3	
ENH	**Enshi**	22.16	43	*e*P	P	20 01 15.8	-0.8
	comp=Z,71nm,1.1s,mb5.0						
LZH	**Lanzhou**	23.72	24	*e*P	P	20 01 32.8	+1.0
LZH				AP		20 01 41.0	
LZH				XP		20 01 45.1	
LZH				PP	PP	20 02 06.0	+1.0
LZH				*e*S	S	20 05 43.0	+1.1
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,69nm,4.0s						
LZH				LR	LR		
	comp=N,999nm,14.8s						
LZH				LR	LR		
	comp=Z,1μm,15.9s,MS4.5						
XAN	**Xi'an**	24.46	35	P	P	20 01 39.6	+0.6
XAN				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.3						
WMQ	**Urumqi**	29.37	353	*e*P	P	20 02 25.4	+1.3
WMQ				AP	pP	20 02 34.9	+3.1
WMQ				S	S	20 07 15.8	+1.1
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,54nm,4.3s						
WMQ				LR	LR		
	comp=N,2μm,17.4s,MS4.8						
WMQ				LR	LR		
	comp=E,948nm,18.5s,MS4.8						
WMQ				LR	LR		
	comp=Z,2μm,18.6s,MS4.8						
NJ2	**Nanjing**	29.76	50	*e*P	pP	20 02 36.1	+0.7
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,670nm,3.5s						
NJ2				LR	LR		
	comp=N,800nm,21.9s,MS4.4						
NJ2				LR	LR		
	comp=E,700nm,22.2s,MS4.4						
NJ2				LR	LR		
	comp=Z,760nm,22.8s,MS4.3						
AAK	**Ala-Archa**	31.87	335	⇑*i*P	P	20 02 45.7	-0.5
AAK				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
AAK	**Ala-Archa**	31.87	335	*e*P	P	20 02 45.2	-1.0
	comp=Z,5.9nm,0.9s,mb4.4						
BJT	**Baijiatuau**	32.77	35	P	P	20 02 57.8	+3.7
	comp=Z,24nm,1.4s,mb4.9						
MKAR	**Makanchi Array**	33.16	347	*i*P	P	20 02 58.2	+0.8
MKAR				pmax	pmax		
	comp=Z,26nm,1.0s						
SONM	**Songino Array**	35.10	17	P	P	20 03 15.1	+1.0
	comp=Z,3.2nm,0.8s,mb4.3,baz=204,slow=6.6,SNR=26						
ZAK	**Zakamensk**	36.75	12	⇓*e*P	P	20 03 28.3	+0.3
TLY	**Talaya**	38.06	11	*e*P	P	20 03 41.2	+2.2
TLY				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
TLY	**Talaya**	38.06	11	*e*P	P	20 03 41.0	+2.0
	comp=Z,14nm,1.2s,mb4.6						
SNY	**Shenyang**	38.24	39	⇓P	P	20 03 45.6	+4.9
SNY				AMB	AMB		
	comp=Z,200nm,7.6s						
SNY				LR	LR		
	comp=E,390nm,15.4s						
SNY				LR	LR		
	comp=Z,250nm,11.2s,MS4.3						
ZAL	**Zalesovo**	39.67	353	P	P	20 03 53.4	+1.0
	comp=Z,4.1nm,0.7s,mb4.3,baz=216,slow=7.5,SNR=24						
ZAL				LR	LR	20 24 10.7	
	comp=Z,208nm,18.5s,MS4.0,baz=317,slow=42						
NVS	**Novosibirsk**	40.75	352	*e*P	P	20 04 00.7	-0.6
NVS				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.4						
NVS				pmax	pmax		
	comp=E,5.0nm,1.8s						
NVS				pmax	pmax		
	comp=N,14nm,1.7s						
HIA	**Hailar**	41.18	27	*e*P	P	20 04 06.8	+1.9
	comp=N,24nm,1.6s,mb4.6						
BVA0	**Borovoye Array**	42.08	340	P	P	20 04 12.8	+0.6
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.5						
BVAR	**Borovoye Array**	42.08	340	P	P	20 04 12.8	+0.6
	comp=Z,2.0nm,0.6s,mb3.9,baz=143,slow=7.4,SNR=15						
BRVK	**Borovoye**	42.14	340	*e*P	P	20 04 12.9	+0.2
BRVK				*e*	pP	20 04 21.2	+0.6
BRVK				*e*		20 06 02.1	
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
BRVK	**Borovoye**	42.14	340	*e*P	P	20 04 12.9	+0.2
	comp=Z,10.0nm,1.0s,mb4.4						
BRVK				*e*	pP	20 04 21.2	+0.6
BRVK				*e*		20 06 02.1	
CHKZ	**Chkalovo**	42.56	341	*e*P	P	20 04 17.1	+1.0
CHKZ				*e*	pP	20 04 24.8	+0.8
CHKZ				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.1						
CHKZ	**Chkalovo**	42.56	341	*e*P	P	20 04 17.1	+1.0
	comp=Z,37nm,1.0s,mb5.1						
CHKZ				*e*	pP	20 04 24.8	+0.8
MBWA	**Marble Bar**	44.58	142	*e*P	P	20 04 31.9	-1.0
	comp=Z,33nm,1.2s,mb5.0						
BOD	**Bodaibo**	46.10	16	*e*P	P	20 04 42.9	-1.6
FITZ	**Fitzroy Crossi**	46.20	134	*e*P	P	20 04 45.3	-0.5
	comp=Z,31nm,0.9s,mb5.2						
MAJO	**Matsushiro**	46.23	53	*e*P	pP	20 04 54.8	+0.9
	comp=Z,12nm,0.9s						
SVE	**Sverdlovsk**	48.53	337	*e*P	P	20 05 05.5	+1.9
SVE				pmax	pmax		
	comp=Z,100nm,1.6s,mb5.6						
GNI	**Garni**	48.60	311	⇑*i*P	P	20 05 03.3	-1.1
GNI				pmax	pmax		
	comp=Z,27nm,1.3s						
GNI	**Garni**	48.60	311	P	P	20 05 06.1	+1.7
	comp=Z,16nm,1.0s,mb5.0,baz=28,slow=0.7,SNR=10						
GNI	**Garni**	48.60	311	*e*P	P	20 05 06.5	+2.2
	comp=Z,33nm,1.1s,mb5.3						
CLNS	**Chul'man**	48.84	23	*e*P	P	20 04 59.8	-6.2
CLNS				pmax	pmax		
	comp=N,10.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.3						
CLNS				pmax	pmax		
	comp=E,15nm,0.9s						
ARU	**Arti**	49.04	336	⇑*i*P	P	20 05 05.4	-2.1
ARU				*e*		20 06 27.4	
ARU				*e*S	S	20 12 09.4	0.0
ARU				*e*SS	SS	20 15 41.6	+5.5
ARU				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
ZEI	**Tsey**	50.02	314	*e*P	P	20 05 14.8	-0.5
ZEI				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
KIV	**Kislovodsk**	51.24	315	*e*P	P	20 05 23.2	-1.3
KIV				*e*S	S	20 12 41.5	+1.4
KIV				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
KIV				MLR	MLR		
	comp=N,39nm,16.0s						
KIV				MLR	MLR		
	comp=Z,106nm,16.0s,MS4.0						
KIV	**Kislovodsk**	51.24	315	*e*P	P	20 05 25.8	+1.3
	comp=Z,15nm,0.9s,mb4.9						
GOF	**Gofitskoye**	51.38	317	*e*P	P	20 05 26.0	+0.5
MUN	**Mundaring**	51.67	154	*e*P	P	20 05 28.1	+0.1
	comp=Z,24nm,0.8s,mb5.2						
YSS	**Yuzh-Sakhalins**	52.74	42	*e*P	P	20 05 37.2	+1.4
YSS				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
YSS	**Yuzh-Sakhalins**	52.74	42	*e*P	P	20 05 36.1	+0.3
	comp=Z,9.8nm,1.0s,mb4.7						
MALT	**Malatya**	52.89	307	*e*P	P	20 05 37.8	+0.7
	comp=Z,8.1nm,1.2s,mb4.5						
NWAO	**Narrogin (SRO)**	52.93	154	P	P	20 05 36.9	-0.5
	comp=Z,22nm,0.7s,mb5.2,baz=315,slow=9.8,SNR=7.9						
NWAO	**Narrogin (SRO)**	52.93	154	*e*P	P	20 05 36.8	-0.6
	comp=Z,35nm,1.0s,mb5.2						
WRA	**Warramunga Arr**	53.71	129	P	P	20 05 42.5	-0.8
	comp=Z,23nm,0.8s,mb5.2,baz=310,slow=8.1,SNR=121						
WRA				PcP	PcP	20 06 49.3	+0.1
	comp=Z,4.3nm,0.8s,baz=313,slow=3.5,SNR=8.0						
WRAB	**Tennant Creek**	53.71	129	⇑*i*P	P	20 05 42.0	-1.3
WRAB	**Tennant Creek**	53.71	129	*e*P	P	20 05 42.7	-0.6
	comp=Z,71nm,1.0s,mb5.5						
WB2	**Warramunga Arr**	53.72	129	*e*P	P	20 05 42.9	-0.5
YAK	**Yakutsk**	54.26	21	⇓*i*P	P	20 05 46.2	-0.5
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
YAK	**Yakutsk**	54.26	21	*e*P	P	20 05 50.4	+3.7
	comp=Z,39nm,1.0s,mb5.3						
ASPA	**Alice Springs**	55.66	133	*e*P	P	20 05 57.1	-0.4
ASAR	**Alice Springs**	55.66	133	P	P	20 05 57.2	-0.3
	comp=Z,15nm,0.9s,mb5.0,baz=309,slow=7.0,SNR=72						
ASAR				PcP	PcP	20 06 57.0	+0.4
	comp=Z,5.2nm,0.9s,baz=313,slow=3.7,SNR=8.2						
KMBO	**Kilima Mbogo**	56.71	259	LR	LR	20 26 39.7	
	comp=Z,135nm,21.4s,MS4.0,baz=87,slow=32						
BRTR	**Keskin Array B**	56.81	308	P	P	20 06 05.5	0.0
	comp=Z,2.7nm,0.8s,mb4.3,baz=119,slow=7.5,SNR=17						
OBN	**Obninsk**	58.80	326	⇑*e*P	P	20 06 17.4	-1.8
OBN				*i*	pP	20 06 25.9	-1.5
OBN				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
PMG	**Port Moresby**	59.35	110	P	P	20 06 24.1	+0.4
	comp=Z,9.5nm,0.8s,mb4.8,baz=314,slow=4.3,SNR=4.4						
TIXI	**Tiksi**	61.03	12	*e*P	P	20 06 34.2	-0.1
TIXI				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.1						
MA2	**Magadan**	61.70	29	*e*P	P	20 06 38.3	-0.8
MA2				pmax	pmax		
	comp=Z,20nm,1.9s,mb4.9						
MA2	**Magadan**	61.70	29	*e*P	P	20 06 38.2	-0.8
	comp=Z,12nm,1.0s,mb5.0						
AKASG	**Malin Array Be**	61.84	320

HFS	**Hagfors**	**71.79 329**	P	**P**	**20 07 42.9**	**-0.1**
	comp=Z,3.9nm,0.8s,mb4.4,baz=90,slow=4.4,SNR=6.5					
CLL	**Collm**	**72.09 320**	*e*P	**P**	**20 07 48.0**	**+3.2**
CLL	**Collm**	**72.09 320**	P	**P**	**20 07 48.0**	**+3.2**
WET	**Wettzell**	**72.22 317**	*e*P	**P**	**20 07 46.5**	**+0.8**
MOX	**Moxa**	**72.98 319**	*e*P	**P**	**20 07 51.2**	**+1.1**
MOX	**Moxa**	**72.98 319**	*i* P	**P**	**20 07 51.2**	**+1.1**
NB2	**NORSAR Subarra**	**73.04 330**	P	**P**	**20 07 48.7**	**-1.5**
	comp=Z,16nm,1.4s,mb4.8,baz=91,slow=5.6					
NOA	**NORSAR Array B**	**73.04 330**	P	**P**	**20 07 48.9**	**-1.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=90,slow=6.4,SNR=3.6					
NOA			LR	LR	20 42 37.2	
	comp=Z,98nm,19.8s,MS4.1,slow=38					
GRA1	**Grafenberg Arr**	**73.28 318**	*e*P	**P**	**20 07 53.7**	**+1.8**
GRA1			*e*	pP	20 08 00.6	+0.4
GRF	**Grafenberg Arr**	**73.28 318**	*e*P	**P**	**20 07 53.7**	**+1.8**
GRF			*e*	pP	20 08 00.6	+0.4
LPG	**La Plagne**	**76.67 314**	*e*P	**P**	**20 08 12.3**	**+0.9**
	comp=Z,24nm,0.9s,mb4.8					
BOSA	**Boshof**	**77.78 236**	*e*P	**P**	**20 08 17.8**	**-0.1**
	comp=Z,14nm,1.0s,mb4.8					
BOSA			*e*	pP	20 08 25.6	-0.6
EKA	**Eskdalemuir Ar**	**81.21 325**	P	**P**	**20 08 36.0**	**+0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=108,slow=5.3,SNR=3.6					
MAW	**Mawson**	**84.77 191**	LR	LR	20 43 07.5	
	comp=Z,72nm,19.1s,MS4.1,baz=245,slow=33					
ESDC	**Sonseca Array**	**85.56 310**	P	**P**	**20 08 60.0**	**+1.6**
	comp=Z,0.5nm,0.8s,mb3.8,baz=289,slow=27,SNR=3.1					
ILAR	**Eielson Array**	**89.17 22**	P	**P**	**20 09 15.1**	**-0.2**
	comp=Z,0.4nm,1.1s,mb3.7,baz=271,slow=4.5,SNR=3.0					
SYO	**Syowa Base**	**91.32 197**	⇓P	**P**	**20 09 25.4**	**+0.3**
SYO	**Syowa Base**	**91.32 197**	⇑pP	pP	20 09 36.3	+2.7
YKA	**Yellowknife Ar**	**100.28 12**	*i* P		20 10 16.2	

ISK ***13*** *19:56:19.1,40.21N×41.45E,h5km,MD3.6*

ISC 13 19:56:21.0±0.5,40.21N±0.03×41.46E±0.06,h5km,n16, σ1§12/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZM	**Erzurum**	**0.32**	**193**	*i* P	**Pg**	**19 56 26.8**	**-0.5**
ERZM				*i* S	**Sg**	**19 56 30.5**	**-1.1**
EZM	**Erzurum**	**0.32**	**193**	*i* PG	**Pg**	**19 56 26.5**	**-0.9**
VRT	**Varto**	**1.08**	**177**	*i* PG	**Pg**	**19 56 40.1**	**-2.5**
BCA	**Borcka**	**1.24**	**6**	PN	**Pn**	**19 56 43.9**	**-1.0**
BCA				SN	**Sn**	**19 57 01.8**	**-0.3**
KARS	**Kars**	**1.31**	**72**	PN	**Pn**	**19 56 45.8**	**-0.2**
EZC	**Erzincan**	**1.34**	**250**	PN	**Pn**	**19 56 50.9**	**+4.5**
GUMT	**Gumushane**	**1.53**	**280**	PN	**Pn**	**19 56 49.2**	**+0.1**
GUMT				SN	**Sn**	**19 57 10.5**	**+0.9**
BINT	**Bingol**	**1.53**	**210**	PN	**Pn**	**19 56 48.5**	**-0.6**
BTMT	**Batman**	**2.02**	**179**	*e*PN	**Pn**	**19 56 56.9**	**+0.8**
PTK	**Pertek**	**2.07**	**231**	*e*PN	**Pn**	**19 56 56.1**	**-0.7**
VANB	**Van**	**2.20**	**137**	*e*PN	**Pn**	**19 56 58.2**	**-0.5**
TVAN	**Van**	**2.26**	**137**	*i* P	**Pn**	**19 57 00.3**	**+0.8**
TVAN				*i* S	**Sn**	**19 57 29.9**	**+1.7**
VANT	**Van**	**2.32**	**139**	*e*PN	**Pn**	**19 56 59.9**	**-0.4**
BEST	**Besiri**	**2.32**	**184**	*i* P	**Pn**	**19 57 02.9**	**+2.4**
BEST				*i* S	**Sn**	**19 57 35.6**	**+5.8**
GNI	**Garni**	**2.52**	**90**	*e*PN	**Pn**	**19 57 03.2**	**0.0**
ELZG	**Elazig**	**2.57**	**229**	*i* P	**Pn**	**19 57 06.5**	**+2.5**
ELZG				*i* S	**Sn**	**19 57 42.2**	**+6.2**

CSEM ***13*** *19:56:59.3,39.14N×27.95E,h28km,MD3.0,After ISK*

ISK 13 19:56:59.3,39.14N×27.95E,h28km,MD3.0,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.28**	**202**	*i* PG	Pb	19 57 06.7	+0.4
BALB	**Balikesir**	**0.51**	**354**	PG	Pb	19 57 10.4	+0.7
BTOK	**Tokmak**	**0.63**	**6**	*i* P	Pb	19 57 12.3	+0.6
BTOK				*i* S	Sb	19 57 20.9	+0.7
MANT	**Manisa**	**0.80**	**143**	*i* P	Pb	19 57 18.2	+3.6
MANT				*i* S	Sb	19 57 30.7	+5.6
KDAG	**Bornova**	**0.90**	**216**	*i* P	Pn	19 57 16.9	+0.7
KDAG				*i* S	Sb	19 57 29.3	+1.3
IZM	**Izmir**	**0.91**	**216**	PG	Pn	19 57 16.5	+0.2
IZM				SG	Sb	19 57 28.9	+0.8
AYVA	**Ayvalik**	**0.99**	**280**	*i* P	Pn	19 57 16.6	-0.8
AYVA				*i* S	Sb	19 57 29.7	-0.7
BLCB	**Balcova**	**1.03**	**224**	*e*PG	Pn	19 57 18.8	+0.8
ULDT	**Uludag**	**1.36**	**42**	*i* P	Pn	19 57 27.4	+4.6
ULDT				*i* S	Sn	19 57 46.0	+6.0

IDC 13 19:57:14.3±8.2,6.27S×147.39E,h59km±58km,mb3.5/2, mb1 3.7/4,mb1mx3.5/13,mbtmp3.8/4,ML3.9/1,MS3.8/1, Ms1 3.7/1,ms1mx2.7/16,Error ellipse: s-maj=80.2km s-min=51.2km az=75.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.12**	**184**	P	P	19 58 01.0	-1.3
	2.3nm,0.3s,baz=30,slow=11,SNR=10						
PMG				S	S	19 58 37.9	-0.7
	5.0nm,0.3s,baz=224,slow=21,SNR=18						
WRA	**Warramunga Arr**	**18.59**	**222**	P	P	20 01 26.9	-2.2
	0.4nm,0.3s,baz=47,slow=11,SNR=31						
ASAR	**Alice Springs**	**21.62**	**215**	P	P	20 02 00.0	-1.3
	0.9nm,0.3s,baz=46,slow=9.8,SNR=33						
STKA	**Stephens Creek**	**26.04**	**191**	P	P	20 02 41.8	-2.2
	2.5nm,0.9s,baz=9.6,slow=14,SNR=4.2						
STKA				LR	LR	20 13 37.9	
	comp=Z,202nm,20.4s,baz=115,slow=38						

IDC ***13*** *20:04:01.1±1.4,9.16N×93.11E,mb3.8/8,mb1 3.9/9, mb1mx3.7/20,mbtmp3.7/9,ML3.3/1,Error ellipse: s-maj=40.7km s-min=28.7km az=49.0*

ISC 13 20:04:04.4±1.1,9.2N±0.2×93.2E±0.2,h33km,n9,σ0§62/9, mb3.8/8,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.73**	**31**	Pn	**P**	**20 06 39.0**	**-0.1**
	0.1nm,0.3s,baz=213,slow=15,SNR=4.5						
SONM	**Songino Array**	**40.07**	**14**	P	**P**	**20 11 38.7**	**+0.4**
	0.2nm,0.5s,mb3.1,baz=184,slow=8.2,SNR=2.5						
ZAL	**Zalesovo**	**45.10**	**353**	P	**P**	**20 12 18.4**	**-0.9**
	0.7nm,0.4s,mb3.9,baz=232,slow=19,SNR=3.7						
BVAR	**Borovoye Array**	**47.43**	**341**	P	**P**	**20 12 37.6**	**0.0**
	0.3nm,0.3s,mb3.6,baz=139,slow=11,SNR=4.4						
WRA	**Warramunga Arr**	**49.78**	**126**	P	**P**	**20 12 56.1**	**-0.2**
	0.2nm,0.5s,mb3.5,baz=305,slow=8.4,SNR=4.7						
BRTR	**Keskin Array B**	**60.86**	**310**	P	**P**	**20 14 15.1**	**-1.1**
	0.5nm,0.6s,mb3.8,baz=128,slow=5.1,SNR=3.9						
ARCES	**ARCESS Array B**	**73.70**	**340**	P	**P**	**20 15 36.9**	**+0.5**
	1.9nm,0.8s,mb4.1,baz=101,slow=8.8,SNR=5.6						
GERES	**GERESS Array B**	**76.22**	**318**	P	**P**	**20 15 52.2**	**+1.0**
	0.7nm,0.7s,mb3.7,baz=79,slow=6.8,SNR=5.1						
HFS	**Hagfors**	**76.84**	**330**	P	**P**	**20 15 54.9**	**+0.3**
	6.8nm,1.2s,mb4.5,baz=108,slow=4.6,SNR=4.9						

THE 13 20:13:45.5,40.30N×25.71E,h10km,ML2.4,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.61**	**233**	*e*Pg	Pg	20 13 57.8	0.0
LOS				*e*Sg	Sg	20 14 05.8	-0.2
ALN	**Alexandroupoli**	**0.64**	**23**	*e*Pg	Pg	20 13 57.7	-0.8
ALN				*e*Sg	Sg	20 14 06.9	-0.3
OUR	**Ouranopolis**	**1.32**	**272**	*e*Pb	Pb	20 14 08.9	-1.1
OUR				*e*Sb	Sb	20 14 27.9	+0.9
PAIG	**Paliouri**	**1.60**	**257**	*e*Pb	Pb	20 14 12.7	-2.2
SRS	**Serrai**	**1.81**	**297**	*e*Pb	Pb	20 14 15.7	-2.6

CSEM ***13*** *20:14:27.2,39.19N×27.77E,h13km,MD2.9,After ISK*

ISK 13 20:14:27.2,39.19N×27.77E,h13km,MD2.9,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.31**	**173**	*i* PG	Pg	20 14 33.9	+0.1
BALB	**Balikesir**	**0.46**	**11**	*e*PG	Pg	20 14 36.4	-0.3
IZM	**Izmir**	**0.88**	**207**	*e*PG	Pg	20 14 44.5	-0.4
BLCB	**Balcova**	**0.98**	**215**	*e*PG	Pg	20 14 46.4	-0.5
BLCB				SG	Sg	20 15 00.4	+0.3
EDC	**Edincik**	**1.16**	**4**	*e*PN	Pn	20 14 49.8	+0.6
KCT	**Karacabey**	**1.17**	**23**	PN	Pn	20 14 49.8	+0.5
BNT	**Bandirma**	**1.17**	**6**	*e*PN	Pn	20 14 49.8	+0.5

ZUR ***13*** *20:14:30.6,46.31N×7.32E,h4km,ML1.9/7*
LDG ***13*** *20:14:31.3±0.1,46.30N×7.34E,h2km,Md2.7/3,Ml2.5/21, Error ellipse: s-maj=1.1km s-min=0.9km az=112.0*
CSEM ***13*** *20:14:31.2±0.1,46.28N×7.33E,h5km,ML2.5/18,Error ellipse: s-maj=1.4km s-min=1.2km az=120.0*
MOS ***13*** *20:14:31.0±1.4,46.34N×7.15E,h8km,mb3.5/1,Error ellipse: s-maj=8.7km s-min=4.7km az=87.5*
NEIC ***13*** *20:14:31.7,46.31N×7.22E,h5km,ML2.5(LDG), ML2.4(GEN),ML2.3(STR),After STR.*
GEN ***13*** *20:14:32.7,46.25N×7.45E,h0km,ML2.4*

ISC 13 20:14:30.2±0.3,46.34N±0.01×7.21E±0.02,h8km±2km,n67, σ1§24/123,6C-5D,Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENIN	**Lac Senin**	**0.07**	**68**	⇓*i*Pg	**Pg**	**20 14 32.4**	**+0.3**
SENIN				*i* Sg	**Sg**	**20 14 33.3**	**-0.1**
GRYON	**Gryon**	**0.11**	**217**	⇑*i*Pg	**Pg**	**20 14 34.1**	**+1.3**
GRYON				*i* Sg	**Sg**	**20 14 36.7**	**+2.2**
AIGLE	**Aigle**	**0.17**	**271**	⇓*i*Pg	**Pg**	**20 14 35.9**	**+2.0**
SALAN	**Lac Salanfe**	**0.25**	**220**	⇑*i*Pg	**Pg**	**20 14 36.8**	**+1.4**
SALAN				*i* Sg	**Sg**	**20 14 41.0**	**+2.1**
DIX	**Grande Dixence**	**0.29**	**151**	⇑*i*Pg	**Pg**	**20 14 35.9**	**-0.3**
DIX				*i* Sg	**Sg**	**20 14 39.3**	**-0.9**
LKBD	**Leukerbad**	**0.30**	**80**	*e*Pg	**Pg**	**20 14 35.3**	**-0.9**
EMV	**Vieux Emosson**	**0.35**	**218**	⇑*i*Pg	**Pg**	**20 14 38.4**	**+1.1**
OG01	**Vacheresse**	**0.36**	**269**	Pg	**Pg**	**20 14 38.5**	**+1.0**
OG01				Sg	**Sg**	**20 14 44.1**	**+1.6**
WIMIS	**Wimmis**	**0.44**	**41**	⇑*i*Pg	**Pg**	**20 14 38.8**	**-0.2**
MMK	**Mattmark**	**0.60**	**118**	⇓*i*Pg	**Pg**	**20 14 40.6**	**-1.6**
GIMEL	**Gimel**	**0.68**	**287**	*e*Pg	**Pg**	**20 14 46.5**	**+2.7**
RSL	**Roselend**	**0.77**	**212**	Pg	**Pg**	**20 14 45.9**	**+0.4**
RSL				Sg	**Sg**	**20 14 56.6**	**+0.8**
CABF	**La Chapelle**	**0.82**	**290**	*e*Pg	**Pg**	**20 14 48.7**	**+2.1**
CABF				*e*Pn	**Pn**	**20 14 49.8**	**+2.0**
CABF				*e*Sg	**Sg**	**20 15 00.2**	**+2.6**
CABF				*e*Sn	**Sn**	**20 15 02.7**	**+2.5**
	16nm,0.2s						
CABF	**La Chapelle**	**0.82**	**290**	*e*P	**Pg**	**20 14 48.7**	**+2.1**
CABF				*e*		20 15 00.2	
LSD	**Ceresole Reale**	**0.88**	**182**	P	**Pb**	**20 14 48.7**	**+1.4**
LSD				S	**Sb**	**20 14 59.7**	**+0.7**
LPL	**La Plagne**	**0.89**	**202**	*e*Pg	**Pg**	**20 14 47.9**	**0.0**
LPL				*e*Sg	**Sg**	**20 15 00.1**	**+0.3**
	7.7nm,0.3s						
ORX	**Oropa**	**0.89**	**142**	P	**Pb**	**20 14 47.3**	**-0.2**
ORX				S	**Sb**	**20 14 56.3**	**-3.0**
ORX	**Oropa**	**0.89**	**142**	S	**Sb**	**20 14 56.3**	**-3.0**
LPG	**La Plagne**	**0.90**	**201**	*e*Pg	**Pg**	**20 14 48.1**	**-0.1**
LPG				*e*Sg	**Sg**	**20 15 00.0**	**-0.2**
	10.0nm,0.2s						
TRAV		**0.91**	**155**	P	**Pb**	**20 14 47.5**	**-0.2**
TRAV				S	**Sb**	**20 14 57.7**	**-2.1**
TRAV		**0.91**	**155**	S	**Sb**	**20 14 57.7**	**-2.1**
TRAV		**0.91**	**155**	P	**Pb**	**20 14 47.5**	**-0.3**
LOMF	**Lomont**	**1.05**	**346**	Pg	**Pg**	**20 14 53.0**	**+1.9**
LOMF				Sg	**Sg**	**20 15 07.3**	**+2.2**
RSP	**Reno Superiore**	**1.19**	**178**	P	**Pb**	**20 14 53.1**	**+0.5**
RSP				S	**Sb**	**20 15 07.7**	**-0.2**
RSP	**Reno Superiore**	**1.19**	**178**	P	**Pb**	**20 14 53.0**	**+0.4**
RSP	**Reno Superiore**	**1.19**	**178**	S	**Sb**	**20 15 07.7**	**-0.2**
FENE	**Fenestrelle**	**1.31**	**184**	P	**Pb**	**20 14 55.4**	**+0.7**
FENE				S	**Sb**	**20 15 11.4**	**-0.2**
FENE	**Fenestrelle**	**1.31**	**184**	P	**Pb**	**20 14 55.4**	**+0.7**
FENE				S	**Sb**	**20 15 11.4**	**-0.1**
RRL	**Cesana Torines**	**1.45**	**192**	P	**Pn**	**20 14 59.3**	**+2.5**
BHB	**Bricherasio**	**1.50**	**178**	P	**Pn**	**20 14 57.8**	**+0.2**
BHB	**Bricherasio**	**1.50**	**178**	P	**Pn**	**20 14 57.8**	**+0.3**
HINF	**Hinteralfeld**	**1.50**	**351**	*e*Pn	**Pn**	**20 14 58.3**	**+0.7**
HINF				*e*Pg	**Pg**	**20 15 00.2**	**+0.1**
HINF				*e*Sn	**Sn**	**20 15 17.9**	**+0.4**
HINF				*e*Sg	**Sg**	**20 15 20.3**	**+0.2**
	15nm,0.2s						
HINF	**Hinteralfeld**	**1.50**	**351**	*e*P	**Pn**	**20 14 58.3**	**+0.7**
HINF				*e*		20 15 17.9	
MOF	**Molkenrain**	**1.52**	**358**	Pg	**Pg**	**20 15 01.0**	**+0.5**
FELD	**Feldberg**	**1.63**	**19**	Pg	**Pg**	**20 15 02.0**	**-0.8**
MBDF	**Montbardon**	**1.64**	**191**	*e*Pg	**Pg**	**20 15 01.8**	**-1.1**
MBDF				*e*Sg	**Sg**	**20 15 22.6**	**-2.2**
	6.1nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.70**	**214**	*e*Pg	**Pg**	**20 15 03.4**	**-0.7**
ORIF				*e*Sg	**Sg**	**20 15 25.3**	**-1.4**
	10nm,0.6s						
HAU	**Haudompre**	**1.77**	**341**	*e*Pn	**Pn**	**20 15 02.0**	**+0.6**
HAU				*e*Pg	**Pg**	**20 15 05.5**	**0.0**
HAU				*e*Sn	**Sn**	**20 15 24.4**	**+0.1**
HAU				*e*Sg	**Sg**	**20 15 29.1**	**0.0**
	17nm,0.2s						
HAU	**Haudompre**	**1.77**	**341**	*e*P	**Pn**	**20 15 02.0**	**+0.6**
HAU				*e*		20 15 24.4	
PZZ	**Prazzo**	**1.83**	**182**	P	**Pn**	**20 15 03.8**	**+1.4**
DAVA	**Damuels**	**2.07**	**62**	⇓*i*PN	**Pn**	**20 15 07.4**	**+1.7**
DAVA				*i* SN	**Sn**	**20 15 36.7**	**+4.8**
CDF	**Champ du Feu**	**2.08**	**1**	*e*Pn	**Pn**	**20 15 06.0**	**+0.2**
CDF				*e*Pg	**Pg**	**20 15 10.7**	**-0.9**
CDF				*e*Sn	**Sn**	**20 15 30.6**	**-1.5**
CDF				*e*Sg	**Sg**	**20 15 37.1**	**-2.2**
	5.3nm,0.4s						
CDF	**Champ du Feu**	**2.08**	**1**	*e*P	**Pn**	**20 15 06.0**	**+0.2**
CDF				*e*		20 15 30.6	
VIVF	**Saint-Julien-l**	**2.31**	**231**	*e*Pn	**Pn**	**20 15 10.0**	**+0.8**
VIVF				*e*Pg	**Pg**	**20 15 15.3**	**-1.1**
VIVF				*e*Sg	**Sg**	**20 15 45.3**	**-2.0**
	4.5nm,0.2s						
VIVF	**Saint-Julien-l**	**2.31**	**231**	*e*P	**Pn**	**20 15 10.0**	**+0.8**
VIVF				*e*		20 15 45.3	
SMF	**Signal de Mont**	**2.34**	**279**	*e*Pn	**Pn**	**20 15 10.2**	**+0.5**
SMF				*e*Pg	**Pg**	**20 15 16.4**	**-0.6**
SMF				*e*Sn	**Sn**	**20 15 38.9**	**-0.1**
SMF				*e*Sg	**Sg**	**20 15 47.4**	**-0.9**
	3.7nm,0.2s						
SMF	**Signal de Mont**	**2.34**	**279**	*e*P	**Pn**	**20 15 10.2**	**+0.5**
SMF				*e*		20 15 38.9	
SFTF	**Sexfontaines**	**2.38**	**322**	*e*Pn	**Pn**	**20 15 10.6**	**+0.4**
SFTF				*e*Sn	**Sn**	**20 15 39.0**	**-0.9**
	baz=138						
SFTF				*e*Sg	**Sg**	**20 15 48.7**	**-0.8**
	8.3nm,0.3s,baz=134						
SBF	**Sospel**	**2.48**	**176**	*e*Pg	**Pg**	**20 15 16.9**	**-2.8**
SBF				*e*Sg	**Sg**	**20 15 47.2**	**-5.6**
	10.0nm,0.6s						
RFYF	**Reffroy**	**2.58**	**333**	*e*Pn	**Pn**	**20 15 13.3**	**+0.3**
	baz=151						
RFYF				*e*Pg	**Pg**	**20 15 20.4**	**-1.2**
RFYF				*e*Sn	**Sn**	**20 15 43.3**	**-1.5**
RFYF				*e*Sg	**Sg**	**20 15 54.3**	**-1.7**
	9.4nm,0.3s,baz=152						
MEZF	**Maizieres J'vi**	**2.61**	**327**	*e*Sg	**Sg**	**20 15 55.6**	**-1.6**
	2.7nm,0.2s						
SSF	**Saint Saulge**	**2.65**	**287**	*e*Pn	**Pn**	**20 15 14.5**	**+0.5**
SSF				*e*Pg	**Pg**	**20 15 22.2**	**-0.8**
SSF				*e*Sn	**Sn**	**20 15 46.0**	**-0.7**
SSF				*e*Sg	**Sg**	**20 15 56.4**	**-1.9**
	2.9nm,0.3s						
SSF	**Saint Saulge**	**2.65**	**287**	*e*P	**Pn**	**20 15 14.5**	**+0.5**
SSF				*e*		20 15 46.0	
SSF	**Saint Saulge**	**2.65**	**287**	*e*Pg	**Pg**	**20 15 22.2**	**-0.8**
SSF				*e*Sn	**Sn**	**20 15 46.0**	**-0.7**
SSF				*e*Sg	**Sg**	**20 15 56.4**	**-1.9**
	1.5nm,0.3s						
AVF	**Avril sur Loir**	**2.70**	**281**	*e*Pn	**Pn**	**20 15 15.8**	**+1.1**
AVF				*e*Pg	**Pg**	**20 15 22.9**	**-1.1**
AVF				*e*Sn	**Sn**	**20 15 47.2**	**-0.7**
AVF				*e*Sg	**Sg**	**20 16 00.2**	**+0.2**
	2.8nm,0.3s						
AVF	**Avril sur Loir**	**2.70**	**281**	*e*P	**Pn**	**20 15 15.8**	**+1.1**
AVF				*e*		20 15 47.2	
FRF	**La Foret Royal**	**2.81**	**188**	*e*Pn	**Pn**	**20 15 15.2**	**-1.0**
FRF				*e*Pg	**Pg**	**20 15 23.0**	**-3.2**
FRF				*e*Sg	**Sg**	**20 15 57.5**	**-6.1**
	3.4nm,0.4s						
FRF	**La Foret Royal**	**2.81**	**188**	*e*P	**Pn**	**20 15 15.2**	**-1.0**
FRF				*e*		20 15 57.5	
MOTA	**Moosalm**	**2.86**	**68**	⇓*i*PN	**Pn**	**20 15 18.3**	**+1.3**
MOTA				*i* SN	**Sn**	**20 15 55.9**	**+3.9**
SQTA	**Sankt Quirin**	**2.89**	**71**	⇑*i*PN	**Pn**	**20 15 19.1**	**+1.7**
SQTA				*i* SN	**Sn**	**20 15 56.5**	**+3.7**
BGF	**Bois d'Agland**	**3.02**	**276**	*e*Pn	**Pn**	**20 15 20.0**	**+0.7**
BGF				*e*Sn	**Sn**	**20 15 54.8**	**-1.4**
BGF				*e*Sg	**Sg**	**20 16 08.9**	**-1.9**
	4.1nm,0.3s						
LASF	**Ste Croix**	**3.27**	**228**	*e*Sg	**Sg**	**20 16 15.6**	**-3.6**
	1.2nm,0.2s						
TCF	**Toulx Ste Croi**	**3.46**	**271**	*e*Pn	**Pn**	**20 15 25.6**	**0.0**
CAF	**Calviac**	**3.87**	**250**	*e*Pn	**Pn**	**20 15 31.5**	**+0.1**
CAF				*e*Sg	**Sg**	**20 16 35.0**	**-4.2**
	0.6nm,0.2s						
RJF	**Les Rejaudoux**	**4.11**	**257**	*e*Pn	**Pn**	**20 15 34.6**	**-0.2**
BAIF	**Baives**	**4.23**	**333**	*e*Pn	**Pn**	**20 15 35.6**	**-0.9**
MFF	**Saint Martin d**	**5.09**	**276**	*e*Pn	**Pn**	**20 15 48.0**	**-0.6**

MAN ***13*** *20:23:00.4,12.59N×124.94E,h8km,mb4.8,ML3.7,MS3.7*
NEIC ***13*** *20:23:04.9±2.4,12.43N×124.98E,h80km±22km,mb4.4/5, Error ellipse: s-maj=28.2km s-min=9.2km az=68.0*
IDC ***13*** *20:23:06.1±4.5,12.40N×124.87E,h88km±41km,mb3.6/11, mb1 3.9/12,mb1mx3.8/20,mbtmp4.0/12,MS3.5/1, Ms1 3.5/1,ms1mx2.7/25,Error ellipse: s-maj=42.1km s-min=13.9km az=66.0*

ISC 13 20:23:02.7±0.5,12.56N±0.03×124.97E±0.05,h71km±5km, n54,σ1§02/60,mb4.0/16,1C-1D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.06**	**154**	*e*P	**P**	**20 23 21.6**	**-0.6**
BESP				*e*S	**S**	**20 23 37.7**	**+1.0**
PVCP	**Virac**	**1.30**	**323**	*e*P	**P**	**20 23 23.8**	**-1.8**
PVCP				*e*S	**S**	**20 23 42.0**	**-0.5**
MMPH	**Masbate**	**1.33**	**262**	⇓*i*P	**P**	**20 23 26.0**	**+0.1**
MMPH				*i* S	**S**	**20 23 43.3**	**+0.2**
PLP	**Palo**	**1.38**	**180**	*e*P	**P**	**20 23 26.1**	**-0.6**
PLP				*e*S	**S**	**20 23 43.3**	**-1.1**
OCLP	**Ormoc**	**1.54**	**193**	*e*P	**P**	**20 23 29.8**	**+1.1**
AUQP	**San Andres**	**2.36**	**289**	*e*P	**P**	**20 23 41.7**	**+1.6**
RCP	**Roxas**	**2.39**	**246**	*e*P	**P**	**20 23 40.4**	**-0.1**
MSLP	**Maasin**	**2.41**	**183**	*e*P	**P**	**20 23 42.6**	**+1.8**
LLP	**Lapu-Lapu**	**2.43**	**204**	*e*P	**P**	**20 23 40.2**	**-0.9**
LLP				*e*S	**S**	**20 24 08.8**	**-0.9**
KALP	**Kalibo**	**2.72**	**251**	*e*P	**P**	**20 23 54.0**	**+8.9**
GQP	**Guinayangan**	**2.80**	**299**	*e*P	**P**	**20 23 41.2**	**-5.0**
GQP				*e*S	**S**	**20 24 18.1**	**-0.7**
SCPH	**Surigao**	**2.81**	**169**	⇑*e*P	**P**	**20 23 45.6**	**-0.7**
OTRP	**Odiongan**	**2.88**	**266**	*e*P	**P**	**20 23 46.7**	**-0.8**
GUIM	**Jordan**	**3.02**	**231**	*e*P	**P**	**20 23 49.2**	**-0.1**
TBP	**Tagbilaran**	**3.05**	**201**	*e*P	**P**	**20 23 49.1**	**-0.7**
BOAC	**Boac**	**3.17**	**287**	*e*P	**P**	**20 23 51.1**	**-0.4**
SNPH	**Sibulan**	**3.62**	**208**	*e*P	**P**	**20 23 58.0**	**+0.3**
BUTP	**Butuan**	**3.62**	**170**	*e*P	**P**	**20 24 01.4**	**+3.6**
POLP	**Polillo Island**	**3.65**	**307**	*e*P	**P**	**20 23 58.7**	**+0.5**
LQP	**Lukban**	**3.68**	**295**	*e*P	**P**	**20 23 58.9**	**+0.4**
SJMP	**San Jose**	**3.76**	**269**	*e*P	**P**	**20 24 00.4**	**+0.7**
TGY	**Tagaytay City**	**4.21**	**292**	P	**P**	**20 24 08.2**	**+2.2**
	27nm,0.3s,baz=96,slow=19,SNR=8.9						
TGY				S	**S**	**20 24 52.8**	**-1.6**
	29nm,0.3s,baz=85,slow=11,SNR=2.2						
CUYO	**Cuyo Island**	**4.22**	**247**	*e*P	**P**	**20 24 07.6**	**+1.4**
BALP	**Baler**	**4.56**	**314**	*e*P	**P**	**20 24 10.0**	**-0.9**
BUKP	**Musuan**	**4.65**	**179**	*e*P	**P**	**20 24 15.7**	**+3.6**
BUSP	**Coron**	**4.69**	**264**	*e*P	**P**	**20 24 12.4**	**-0.3**
LUBP	**Lubang**	**4.75**	**285**	*e*P	**P**	**20 24 15.1**	**+1.7**
PAGZ	**Pagadian**	**4.93**	**199**	*e*P	**P**	**20 24 17.1**	**+1.1**
PALP	**Palanan**	**5.11**	**332**	*e*P	**P**	**20 24 17.2**	**-1.2**
CAUP	**Cauayan**	**5.32**	**325**	*e*P	**P**	**20 24 20.5**	**-0.7**
ENPP	**El Nido**	**5.59**	**257**	*e*P	**P**	**20 24 25.5**	**+0.5**
APYP	**Conner**	**6.38**	**326**	*e*P	**P**	**20 24 36

mb1mx3.5/18, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=226.0km s-min=95.8km az=145.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.22**	**13**	P	P	20 39 23.2	-1.8
	0.0nm,0.3s,baz=203,slow=12,SNR=5.8						
SONM	**Songino Array**	**47.12**	**10**	P	P	20 43 55.3	-1.9
	0.5nm,0.9s,baz=195,slow=7.6,SNR=4.9						
ZAL	**Zalesovo**	**52.85**	**352**	P	P	20 44 38.8	-2.1
	0.8nm,0.6s,baz=278,slow=12,SNR=3.8						
BVAR	**Borovoye Array**	**55.18**	**342**	P	P	20 44 55.6	-2.5
	0.5nm,0.6s,baz=143,slow=7.4,SNR=5.3						

IDC ***13*** *20:37:14.1±1.5, 2.48N×94.53E, h28km±5km, mb3.6/6, mb1 3.8/7, mb1mx3.6/19, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=57.3km s-min=17.3km az=57.0*

ISC 13 20:37:12.5±1.2, 2.5N±0.2×94.6E±0.2, h29km, h29km±.3km: pP-P, n7, σ0s41/7, mb3.7/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.38**	**15**	Pn	**P**	**20 41 02.0**	**-0.1**
	0.1nm,0.3s,baz=210,slow=12,SNR=9.9						
WRA	**Warramunga Arr**	**44.94**	**122**	P	**P**	**20 45 27.1**	**0.0**
	1.5nm,1.1s,mb3.8,baz=298,slow=8.1,SNR=4.6						
WRA				pP	pP	20 45 35.6	-0.2
	1.5nm,0.9s,baz=296,slow=9.1,SNR=6.8						
SONM	**Songino Array**	**46.25**	**11**	P	**P**	**20 45 37.6**	**+0.5**
	1.1nm,0.8s,mb3.8,baz=186,slow=7.9,SNR=8.2						
SONM				pP	pP	20 45 46.2	+0.4
	0.8nm,0.8s,baz=195,slow=8.4,SNR=5.3						
ASAR	**Alice Springs**	**46.27**	**127**	P	**P**	**20 45 37.5**	**-0.1**
	0.4nm,0.8s,mb3.4,baz=319,slow=8.3,SNR=4.2						
ZAL	**Zalesovo**	**51.86**	**353**	P	**P**	**20 46 20.5**	**+0.2**
	1.0nm,0.6s,mb3.9,baz=224,slow=9.3,SNR=4.5						
ZAL				pP	pP	20 46 29.6	+0.4
	1.1nm,0.9s,baz=212,slow=8.5,SNR=3.3						
BVAR	**Borovoye Array**	**54.16**	**342**	P	**P**	**20 46 36.5**	**-0.9**
	1.1nm,0.7s,mb3.9,baz=143,slow=7.4,SNR=8.4						
BVAR				pP	pP	20 46 45.4	-0.9
	1.2nm,0.7s,baz=153,slow=6.6,SNR=8.1						
GERES	**GERESS Array B**	**82.10**	**319**	P	**P**	**20 49 32.2**	**+0.4**
	0.5nm,0.9s,mb3.4,baz=68,slow=7.2,SNR=3.4						

BJI ***13*** *20:47:53.5, 52.06N×175.35E, h20km, mB5.5, mb5.6, Ms4.9, Msz4.6*

MOS ***13*** *20:47:55.7±1.0, 51.83N×175.47E, h33km, mb5.5/89, MS4.9/22, Error ellipse: s-maj=8.2km s-min=3.8km az=96.0*

IDC ***13*** *20:47:56.5±0.3, 51.87N×175.45E, h27km±2km, mb4.7/24, mb1 4.9/24, mb1mx4.9/25, mbtmp4.9/24, MS4.6/27, Ms1 4.6/27, ms1mx4.4/32, Error ellipse: s-maj=11.3km s-min=8.5km az=159.0*

NEIC ***13*** *20:47:56.5±0.1, 51.80N×175.49E, mb5.2/149, MS4.7/12, Error ellipse: s-maj=4.4km s-min=2.5km az=182.0*

HRVD ***13*** *20:47:56.5±0.2, 51.93N×175.46E, h26km, MW5.3/70, Centroid moment Tensor Solution. LP body waves: s55,c95; Mantle waves: s70,c130; Half duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr 0.51±.02; Mθθ-0.72±.01; Mφφ 0.20±.01; Mrθ 0.86±.03; Mθφ-0.07±.01; Mφr 0.73±.03; Best double couple: M0 1.296×10^17 NP1: φs 294°, δ22°, λ147°. NP2: φs 55°, δ78°, λ71°. Principal axes: T 1.314, Plg53°, Azm302°; N -.036, Plg19°, Azm59°; P -1.278, Plg30°, Azm161°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 20:47:55.0±0.2, 51.76N±0.04×175.48E±0.03, h29km, h29km±.6km: pP-P, n616, σ1s03/602, mb5.2/203, MS4.8/64, 140C-20D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.29**	**319**	*e*P	**Pn**	**20 48 17.0**	**-0.3**
FX1	**Attu Island--P**	**1.81**	**309**	Pn	**Pn**	**20 48 24.1**	**-0.7**
	baz=132,slow=12						
FX1				LR	LR	20 49 16.2	
	comp=Z,17μm,19.7s,baz=165,slow=46						
FX1	**Attu Island--F**	**1.81**	**309**	P	**Pn**	**20 48 24.4**	**-0.4**
FX1				S	**Sn**	**20 48 46.5**	**-0.5**
ATKA	**Atka Island**	**6.40**	**82**	P	**Pn**	**20 49 31.4**	**+1.6**
ATKA				S	**Sn**	**20 50 44.5**	**+1.9**
NIKO	**Nikolski**	**9.66**	**77**	P	**P**	**20 50 17.4**	**+2.3**
SPIA	**Saint Paul Isl**	**9.92**	**51**	P	**P**	**20 50 20.9**	**+2.3**
PET	**Petropavlovsk**	**10.37**	**284**	*e*P	**P**	**20 50 19.2**	**-5.6**
PET				*e*S	**S**	**20 52 11.5**	**-9.4**
PET				pmax	pmax		
	comp=Z,700nm,7.3s						
PET				pmax	pmax		
	comp=Z,114nm,1.3s						
PET				pmax	pmax		
	comp=Z,300nm,10.1s						
PET				smax			
	comp=N,198nm,0.9s						
PET				smax			
	comp=E,277nm,1.0s						
PET				MLR	MLR		
	comp=Z,2μm,17.0s						
PET				MLR	MLR		
	comp=Z,2μm,20.0s						
PET	**Petropavlovsk**	**10.37**	**284**	*e*P	**P**	**20 50 21.8**	**-3.0**
	comp=Z,105nm,1.0s						
UNV	**Unalaska Valle**	**11.11**	**72**	P	**P**	**20 50 32.0**	**-2.9**
	comp=Z,149nm,0.7s						
SKR	**Severo-Kuril's**	**12.19**	**273**	*e*P	**P**	**20 50 43.1**	**-6.4**
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,140nm,0.5s						
SKR				MLR	MLR		
	comp=N,3μm,16.0s						
SKR				MLR	MLR		
	comp=E,3μm,16.0s						
SKR				MLR	MLR		
	comp=Z,3μm,16.0s						
MA2	**Magadan**	**15.91**	**309**	*e*P	**P**	**20 51 37.4**	**-0.8**
MA2				pmax	pmax		
	comp=Z,70nm,0.9s						
MA2				pmax	pmax		
	comp=N,10.0nm,1.0s						
MA2				pmax	pmax		
	comp=E,40nm,1.0s						
MA2	**Magadan**	**15.91**	**309**	*e*P	**P**	**20 51 35.6**	**-2.6**
	comp=E,124nm,1.0s						
TNA	**Tin City**	**16.23**	**25**	*e*P	**P**	**20 51 42.9**	**+0.8**
	comp=E,68nm,1.0s						
ANM	**Nome**	**16.23**	**30**	*e*P	**P**	**20 51 44.7**	**+2.4**
BILL	**Bilibino**	**16.94**	**348**	⇑*i*P	**P**	**20 51 50.1**	**-1.0**
BILL				pmax	pmax		
	comp=Z,81nm,1.8s						
BILL				MLR	MLR		
	comp=Z,4μm,15.0s						
BILL	**Bilibino**	**16.94**	**348**	*e*P	**P**	**20 51 50.5**	**-0.6**
	comp=Z,80nm,1.1s						
SVW2	**Sparrevohn**	**18.38**	**48**	*e*P	**P**	**20 52 10.1**	**+0.9**
KDAK	**Kodiak Island**	**19.26**	**59**	*e*P	**P**	**20 52 20.6**	**+1.0**
RSO	**Redoubt South**	**19.56**	**51**	*e*P	**P**	**20 52 22.7**	**-0.3**
SLKM	**Skilak Lake**	**20.80**	**52**	*e*P	**P**	**20 52 35.3**	**-0.8**
FIB	**Fire Island**	**20.94**	**50**	*e*P	**P**	**20 52 38.0**	**+0.5**
IMA	**Indian Mountai**	**21.11**	**36**	*e*P	**P**	**20 52 38.9**	**-0.3**
IMA				pmax	pmax		
	comp=Z,540nm,1.0s,mb5.8						
IMA	**Indian Mountai**	**21.11**	**36**	*e*P	**P**	**20 52 38.8**	**-0.4**
PWA	**Palmer West**	**21.18**	**49**	*e*P	**P**	**20 52 40.9**	**+1.0**
UGL	**Uglegorsk**	**21.35**	**276**	*e*P	**P**	**20 52 40.0**	**-1.8**
UGL				*e*		20 52 55.5	
UGL				pmax	pmax		
	comp=Z,202nm,1.0s,mb5.4						
UGL				pmax	pmax		
	comp=Z,2μm,10.0s						
UGL				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.3						
UGL				MLR	MLR		
	comp=N,1μm,16.0s,MS4.6						
UGL				MLR	MLR		
	comp=E,2μm,20.0s,MS4.6						
YSS	**Yuzh-Sakhalins**	**21.74**	**270**	*e*P	**P**	**20 52 46.0**	**+0.4**
YSS				pmax	pmax		
	comp=Z,157nm,1.0s,mb5.4						
YSS	**Yuzh-Sakhalins**	**21.74**	**270**	*e*P	**P**	**20 52 46.0**	**+0.3**
	comp=Z,157nm,1.0s,mb5.4						
SML	**Sawmill**	**21.93**	**49**	*e*P	**P**	**20 52 47.2**	**-0.3**
MCK	**McKinley**	**22.11**	**43**	*e*P	**P**	**20 52 47.8**	**-1.5**
MCK				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.4						
MCK	**McKinley**	**22.11**	**43**	*e*P	**P**	**20 52 47.8**	**-1.5**
	comp=Z,19nm,1.1s,mb4.4						
COLA	**College**	**22.89**	**41**	P	**P**	**20 52 57.5**	**+0.7**
COLA				pmax	pmax		
	comp=Z,40nm,1.0s,mb4.8						
COLA	**College**	**22.89**	**41**	*e*P	**P**	**20 52 56.8**	**0.0**
	comp=Z,40nm,1.0s,mb4.8						
DIV	**Divide**	**23.05**	**51**	*e*P	**P**	**20 52 58.7**	**+0.4**
	comp=Z,94nm,0.9s,mb5.2						
ASAJ	**Asahikawa**	**23.16**	**264**	P	**P**	**20 53 00.5**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,167nm,0.9s						
ASAJ				MLR	MLR		
	comp=Z,783nm,18.9s						
ASAJ	**Asahikawa**	**23.16**	**264**	P	**P**	**20 53 00.5**	**+0.9**
	comp=Z,167nm,0.9s,mb5.5,baz=37,slow=4.3,SNR=35						
ASAJ				LR	LR	21 00 51.1	
	comp=Z,783nm,18.9s,MS4.2,baz=69,slow=34						
ILAR	**Eielson Array**	**23.26**	**42**	P	**P**	**20 52 59.7**	**-0.6**
	comp=Z,12nm,0.9s,mb4.3,baz=246,slow=7.7,SNR=40						
ILAR				pP		20 53 08.2	
	comp=Z,23nm,0.7s,baz=262,slow=6.2,SNR=28						
ILAR				LR	LR	21 02 39.9	
	comp=Z,1μm,19.5s,MS4.5,baz=11,slow=38						
THY	**Trims Highway**	**23.42**	**45**	*e*P	**P**	**20 53 02.3**	**+0.4**
MENT	**Mentasta**	**24.24**	**47**	*e*P	**P**	**20 53 12.0**	**+2.1**
DAWY	**Dawson**	**26.31**	**45**	*e*P	**P**	**20 53 28.8**	**-0.7**
YAK	**Yakutsk**	**26.47**	**311**	c *i*P	**P**	**20 53 29.2**	**-1.7**
YAK				*e**PP	pP	20 53 38.6	-0.9
YAK				*e*PPP	PPP	20 54 14.7	-12
YAK				*e*		20 56 52.7	
YAK				*e*S	**S**	**20 57 58.4**	**-2.5**
YAK				*e**SS		20 58 11.8	
YAK				*e*SSS	SSS	20 59 12.3	-17
YAK				*e*	ScS	21 04 17.8	-3.6
YAK				pmax	pmax		
	comp=Z,399nm,0.9s,mb6.0						
YAK				pmax	pmax		
	comp=N,41nm,1.0s						
YAK				pmax	pmax		
	comp=E,131nm,1.0s						
YAK				pmax	pmax		
	comp=N,26nm,1.0s						
YAK				pmax	pmax		
	comp=Z,75nm,1.0s,mb5.2						
YAK				pmax	pmax		
	comp=E,40nm,0.9s						
YAK				smax			
	comp=N,10.0nm,1.0s						
YAK				smax			
	comp=E,7.0nm,1.0s						
YAK				smax			
	comp=Z,6.0nm,1.0s						
YAK				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.4						
YAK				MLR	MLR		
	comp=N,547nm,14.0s,MS4.5						
YAK				MLR	MLR		
	comp=E,746nm,15.0s,MS4.5						
YAK	**Yakutsk**	**26.47**	**311**	*e*P	**P**	**20 53 29.1**	**-1.8**
	comp=E,663nm,0.8s,mb6.2						
KLR	**Kul'dur**	**27.62**	**282**	*e*P	**P**	**20 53 38.6**	**-3.0**
KLR				*e*		20 54 37.5	
KLR				pmax	pmax		
	comp=N,38nm,1.2s						
KLR				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.1						
TIXI	**Tiksi**	**28.57**	**331**	⇑*i*P	**P**	**20 53 47.0**	**-2.9**
INK	**Inuvik**	**29.23**	**36**	P	**P**	**20 53 54.8**	**-1.1**
INK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
INK	**Inuvik**	**29.23**	**36**	P	**P**	**20 53 54.6**	**-1.3**
	comp=Z,2.9nm,0.4s,mb4.4,baz=236,slow=6.5,SNR=7.6						
INK				LR	LR	21 05 53.6	
	comp=Z,1μm,20.2s,MS4.5,baz=153,slow=37						
INK	**Inuvik**	**29.23**	**36**	*e*P	**P**	**20 53 54.5**	**-1.4**
	comp=Z,8.3nm,0.8s,mb4.5						
CLNS	**Chul'man**	**29.39**	**300**	*e*P	**P**	**20 53 54.7**	**-2.7**
CLNS				*e**PP	pP	20 54 01.1	-4.9
CLNS				*e*PPP	PPP	20 54 49.8	-17
CLNS				*e*		20 57 03.8	
CLNS				*e*SSS	SSS	21 00 27.1	-14
CLNS				*e*		21 04 35.7	
CLNS				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.9						
CLNS				pmax	pmax		
	comp=N,16nm,1.0s						
CLNS				pmax	pmax		
	comp=E,15nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.0						
CLNS				pmax	pmax		
	comp=N,26nm,0.9s						
CLNS				pmax	pmax		
	comp=E,36nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,5μm,22.0s,MS5.1						
CLNS				MLR	MLR		
	comp=N,1μm,18.0s,MS4.6						
CLNS				MLR	MLR		
	comp=E,500nm,20.0s,MS4.6						
MAJO	**Matsushiro**	**30.38**	**255**	*e*P	**P**	**20 54 07.0**	**+0.6**
MAJO				*e**PP	pP	20 54 16.2	+1.1
MAJO				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.2						
MAJO	**Matsushiro**	**30.38**	**255**	*e*P	**P**	**20 54 07.0**	**+0.6**
	comp=Z,50nm,0.9s,mb5.2						
MAJO				*e*pP	pP	20 54 16.2	+1.1
MAT	**Matsushiro**	**30.38**	**255**	*e*P	**P**	**20 54 06.0**	**-0.4**
MAT				*e*S	**S**	**20 59 05.0**	**+1.2**
MAT				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.3						
MAT	**Matsushiro**	**30.38**	**255**	*e*P	**P**	**20 54 06.0**	**-0.4**
	comp=Z,60nm,1.0s,mb5.3						
MAT				*e*S	**S**	**20 59 05.0**	**+1.2**
MAT	**Matsushiro**	**30.38**	**255**	P	**P**	**20 54 05.6**	**-0.8**
MAT				S	**S**	**20 59 11.0**	**+7.2**
MDJ	**Mudanjiang**	**30.98**	**275**	P	**P**	**20 54 10.3**	**-1.4**
MDJ				AP	pP	20 54 19.1	-1.2
MDJ				XP	sP	20 54 22.9	-1.2
MDJ				S	**S**	**20 59 11.9**	**-1.4**
MDJ				AMB	AMB		
	comp=Z,46nm,0.9s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,247nm,5.4s						
MDJ				LR	LR		
	comp=N,688nm,15.9s,MS4.6						
MDJ				LR	LR		
	comp=E,973nm,18.8s,MS4.6						
MDJ				LR	LR		
	comp=Z,1μm,19.7s,MS4.5						
MDJ	**Mudanjiang**	**30.98**	**275**	*e*P	**P**	**20 54 10.4**	**-1.3**
	comp=Z,41nm,0.9s,mb5.3						
DLBC	**Dease Lake**	**31.12**	**56**	LR	LR	21 07 06.5	
	comp=Z,1μm,20.1s,MS4.6,baz=14,slow=37						
DLBC	**Dease Lake**	**31.12**	**56**	*e*P	**P**	**20 54 13.0**	**+0.3**
BBB	**Bella Bella**	**34.00**	**67**	LR	LR	21 06 11.4	
	comp=Z,419nm,20.7s,MS4.2,baz=292,slow=32						
HIA	**Hailar**	**34.80**	**288**	*e*P	**P**	**20 54 43.2**	**-1.6**
HIA				pmax	pmax		
	comp=Z,57nm,0.9s						
HIA	**Hailar**	**34.80**	**288**	*e*P	**P**	**20 54 43.2**	**-1.7**
	comp=Z,57nm,0.9s,mb5.5						
BOD	**Bodaibo**	**34.86**	**305**	⇑*i*P	**P**	**20 54 43.8**	**-1.4**
CBIJ	**Chichi jima**	**35.11**	**238**	LR	LR	21 06 09.2	
	comp=Z,275nm,22.0s,MS4.0,baz=77,slow=31						
INCN	**Inchon**	**36.86**	**267**	*e*P	**P**	**20 55 02.6**	**+0.2**
	comp=Z,100nm,0.9s,mb5.7						
INCN				*e*pP	pP	20 55 12.3	+1.2
YKW3	**Yellowknife Ar**	**37.52**	**46**	*e*P	**P**	**20 55 06.7**	**-0.9**
YKA	**Yellowknife Ar**	**37.54**	**46**	P	**P**	**20 55 07.1**	**-0.7**
	comp=Z,14nm,1.2s,mb4.6,baz=288,slow=8.3,SNR=44						
YKA				pP	pP	20 55 14.9	-1.7
	comp=Z,14nm,0.8s,baz=285,slow=8.1,SNR=33						
YKA				PcP	PcP	20 57 24.7	-1.2
	comp=Z,2.1nm,0.7s,baz=281,slow=3.9,SNR=4.2						
YKA				pPcP		20 57 32.8	
	comp=Z,1.9nm,0.6s,baz=289,slow=3.2,SNR=4.4						
YKA				ScP		21 01 09.5	
	comp=Z,4.7nm,1.1s,baz=290,slow=3.3,SNR=8.1						
YKA				LR	LR	21 11 60.0	
	comp=Z,1μm,18.5s,MS4.8,baz=260,slow=38						
YKA	**Yellowknife Ar**	**37.54**	**46**	P	**P**	**20 55 07.1**	**-0.7**
YKA				pP	pP	20 55 14.9	-1.7
YKA				PcP	PcP	20 57 24.8	-1.2
YKA				pPcP		20 57 32.9	
YKA				ScP		21 01 09.5	
YKA				LR	LR	21 11 60.0	
RES	**Resolute Bay**	**40.86**	**24**	*e*P	**P**	**20 55 34.4**	**-0.9**
RES				pmax	pmax		
	comp=Z,35nm,1.1s,mb4.9						
RES	**Resolute Bay**	**40.86**	**24**	*e*P	**P**	**20 55 34.4**	**-0.9**
	comp=Z,35nm,1.1s,mb4.9						
HUMO	**Hull Mountain**	**41.68**	**78**	*e*P	**P**	**20 55 41.0**	**-1.2**
	comp=Z,8.3nm,1.0s,mb4.3						
EDM	**Edmonton**	**41.71**	**59**	*e*P	**P**	**20 55 41.9**	**-0.4**
BJT	**Baijiatuau**	**41.81**	**278**	*e*P	**P**	**20 55 43.4**	**+0.1**
BJT				pmax	pmax		
	comp=Z,39nm,1.0s						
BJT	**Baijiatuau**	**41.81**	**278**	*e*P	**P**	**20 55 43.4**	**+0.1**
	comp=Z,39nm,1.0s,mb5.0						
NEW	**Newport**	**42.06**	**67**	*e*P	**P**	**20 55 44.3**	**-1.0**
NEW				pmax	pmax		
	comp=Z,11nm,0.9s						
NEW	**Newport**	**42.06**	**67**	*e*P	**P**	**20 55 44.3**	**-1.0**
	comp=Z,11nm,0.9s,mb4.5						
IRK	**Irkutsk**	**42.19**	**300**	*e*P	**P**	**20 55 45.1**	**-1.2**
IRK				*e*		20 56 02.3	
KHMM	**Horse Mountain**	**42.21**	**80**	P	**P**	**20 55 48.3**	**+1.7**
YBH	**Yreka Blue Hor**	**42.33**	**78**	P	**P**	**20 55 49.0**	**+1.4**
	comp=Z,2.3nm,0.5s,mb4.1,baz=3.1,slow=6.8,SNR=8.4						
YBH				pP	pP	20 55 57.2	+0.8
	comp=Z,12nm,0.7s,baz=2.8,slow=6.6,SNR=20						
YBH				ScP		21 01 29.4	
	comp=Z,4.4nm,1.1s,baz=95,slow=3.6,SNR=4.7						
YBH	**Yreka Blue Hor**	**42.33**	**78**	*e*P	**P**	**20 55 48.2**	**+0.6**
	comp=Z,3.7nm,0.6s,mb4.2						
TLY	**Talaya**	**42.81**	**299**	*e*P	**P**	**20 55 50.9**	**-0.4**
TLY				*e*		20 57 46.4	
TLY				*e*S	**S**	**21 02 21.6**	**+8.3**
TLY				pmax	pmax		
	comp=Z,55nm,1.2s,mb5.2						
TLY				MLR	MLR		
	comp=Z,4μm,22.0s,MS5.3						
TLY	**Talaya**	**42.81**	**299**	*e*P	**P**	**20 55 50.8**	**-0.5**
	comp=Z,56nm,1.1s,mb5.2						
WDC	**Whiskeytown Da**	**43.11**	**80**	P	**P**	**20 56 00.4**	**+6.4**
WDC				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.7						
WDC	**Whiskeytown Da**	**43.11**	**80**	P	**P**	**20 55 55.5**	**+1.6**
	comp=Z,16nm,0.9s,mb4.8						
SONM	**Songino Array**	**43.25**	**293**	P	**P**	**20 55 55.1**	**+0.1**
	comp=Z,34nm,0.8s,mb5.2,baz=56,slow=9.2,SNR=300						
SONM				PcP	PcP	20 57 43.2	-1.2
	comp=Z,11nm,0.9s,baz=30,slow=2.3,SNR=6.5						
SONM				ScP		21 01 32.5	
	comp=Z,2.6nm,1.0s,baz=18,slow=3.9,SNR=5.5						
TIA	**Tai'an**	**43.57**	**273**	P	**P**	**20 55 58.4**	**+0.6**
TIA				AMB	AMB		
	comp=Z,103nm,1.2s,mb5.4						
ZAK	**Zakamensk**	**43.66**	**298**	⇓*i*P	**P**	**20 55 57.6**	**-0.7**
ZAK				*e*		20 57 43.2	
MOD	**Modoc**	**43.69**	**77**	*e*P	**P**	**20 55 59.9**	**+1.2**
	comp=Z,5.5nm,0.6s,mb4.5						
HOPS	**Hopland**	**43.75**	**82**	*e*P	**P**	**20 56 00.9**	**+1.7**
	comp=Z,42nm,1.2s,mb5.0						
BMO	**Blue Mountains**	**43.79**	**71**	*e*P	**P**	**20 55 58.6**	**-0.9**
	comp=Z,5.9nm,0.9s,mb4.3						
MOY	**Mondy**	**44.24**	**301**	*e*P	**P**	**20 56 02.5**	**-0.5**
WVOR	**Wild Horse Val**	**44.39**	**75**	P	**P**	**20 56 10.4**	**+6.1**
WVOR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
WVOR	**Wild Horse Val**	**44.39**	**75**	*e*P	**P**	**20 56 04.2**	**-0.1**
	comp=Z,9.8nm,0.8s,mb4.6						
SSE	**Sheshan**	**44.46**	**264**	P	**P**	**20 56 03.3**	**-1.7**
SSE				PP	PP	20 57 45.0	-4.9
SSE				S	**S**	**21 02 31.3**	**-6.2**
SSE				XS		21 02 56.8	
SSE				SS	SS	21 05 51.3	+2.8
SSE				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
SSE				LR	LR		
	comp=N,343nm,27.9s,MS4.2						
SSE				LR	LR		
	comp=E,225nm,27.9s,MS4.2						
SSE				LR	LR		
	comp=Z,428nm,31.9s,MS4.2						
OHCM	**Honcut**	**44.51**	**80**	*e*P	**P**	**20 56 05.4**	**0.0**
NJ2	**Nanjing**	**45.25**	**267**	*e*P	**P**	**20 56 11.3**	**0.0**
NJ2				AP	pP	20 56 21.1	+1.0
NJ2				XP	sP	20 56 25.3	+1.5
NJ2				PP	PP	20 57 56.9	-0.9
NJ2				S	**S**	**21 02 48.0**	**-0.8**
NJ2				XS		21 03 07.0	
NJ2				AMB	AMB		
	comp=Z,70nm,0.6s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,850nm,5.0s						
NJ2				LR	LR		
	comp=N,1μm,21.7s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,24.7s,MS4.9						
NJ2				LR	LR		
	comp=Z,980nm,26.0s,MS4.6						
TIY	**Taiyuan**	**45.52**	**278**	⇓*i*P	**P**	**20 56 15.6**	**+2.2**
TIY				LR	LR		
	comp=Z,573nm,13.0s,MS4.7						
WCN	**Washoe City**	**45.59**	**79**	P	**P**	**20 56 19.5**	**+5.6**
WCN				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.1						
WCN	**Washoe City**	**45.59**	**79**	*e*P	**P**	**20 56 13.8**	**-0.1**
	comp=Z,29nm,1.2s,mb5.1						
HRY	**Holter Researc**	**45.92**	**66**	*e*P	**P**	**20 56 15.7**	**-0.8**
CMB	**Columbia Colle**	**45.99**	**81**	P	**P**	**20 56 23.5**	**+6.4**
CMB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
CMB	**Columbia Colle**	**45.99**	**81**	*e*P	**P**	**20 56 18.1**	**+1.0**
	comp=Z,5.1nm,0.7s,mb4.6						
HLID	**Hailey**	**46.24**	**71**	*e*P	**P**	**20 56 19.2**	**+0.3**
	comp=Z,8.2nm,1.1s,mb4.6						
MCMT	**McKenzie Canyo**	**46.41**	**69**	*e*P	**P**	**20 56 19.1**	**-1.3**
BMN	**Battle Mountai**	**46.44**	**76**	*e*P	**P**	**20 56 22.1**	**+1.5**
BMN				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
BMN	**Battle Mountai**	**46.44**	**76**	*e*P	**P**	**20 56 22.1**	**+1.5**
	comp=Z,4.7nm,0.6s,mb4.6						
BOZ	**Bozeman (W)**	**46.64**	**67**	P	**P**	**20 56 21.8**	**-0.3**
BOZ				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
BOZ	**Bozeman (W)**	**46.64**	**67**	*e*P	**P**	**20 56 20.9**	**-1.2**
	comp=Z,7.9nm,1.1s,mb4.6						
NVAR	**Mina Array Bea**	**47.02**	**79**	P	**P**	**20 56 25.8**	**+0.5**
	comp=Z,3.9nm,0.8s,mb4.4,baz=315,slow=6.8,SNR=10.0						
NVAR				pP	pP	20 56 33.6	-0.6
	comp=Z,11nm,0.6s,baz=296,slow=7.7

BGU Big Grassy Mou 48.65 73 *e*P **P 20 56 37.8 -0.1**
TRCR Troy Canyon 48.72 77 *e*P **P 20 56 38.4 -0.2**
WHN Wuhan 49.08 269 ⇓P **P 20 56 41.0 -0.4**
WHN AP pP 20 56 51.5 +1.2
WHN S **S 21 03 40.0 -3.2**
WHN AMB AMB
comp=Z,190nm,0.8s,mb6.2
WHN LR LR
comp=Z,710nm,14.4s,MS4.8
LAO LASA Array 49.08 63 *e*P **P 20 56 40.4 -0.8**
comp=Z,7.8nm,0.9s,mb4.7
DGMT Dagmar 49.14 60 *e*P **P 20 56 41.0 -0.6**
comp=Z,20nm,1.0s,mb5.1
TPNV Topopah Spring 49.22 79 *e*P **P 20 56 41.4 -1.0**
TPNV pmax pmax
comp=Z,44nm,0.2s,mb6.1
TPNV Topopah Spring 49.22 79 *e*P **P 20 56 41.4 -1.0**
comp=Z,44nm,0.2s,mb6.1
BW06 Boulder Array 49.55 69 *e*P **P 20 56 43.7 -1.1**
comp=Z,4.5nm,0.9s,mb4.5
PDAR Pinedale Array 49.55 69 P **P 20 56 44.4 -0.5**
comp=Z,2.8nm,0.9s,mb4.3,baz=297,slow=3.3,SNR=7.2
PDAR pP pP 20 56 54.1 +0.2
comp=Z,8.7nm,0.7s,baz=304,slow=3.3,SNR=17
PDAR LR LR 21 15 48.2
comp=Z,386nm,20.3s,MS4.4,baz=310,slow=34
NLU North Lily Min 49.82 74 *e*P **P 20 56 45.8 -1.2**
XAN Xi'an 50.07 277 P **P 20 56 47.8 -1.2**
XAN S **S 21 04 01.3 +4.3**
XAN AMB AMB
comp=Z,37nm,1.8s,mb5.1
XAN LR LR
comp=N,468nm,20.9s,MS4.6
XAN LR LR
comp=E,329nm,20.9s,MS4.6
XAN LR LR
comp=Z,776nm,22.5s,MS4.7
ARUT Antelope Range 50.38 77 P **P 20 56 52.4 +1.1**
MVU Marysvale 50.66 75 *e*P **P 20 56 52.6 -0.8**
comp=Z,2.5nm,0.9s,mb4.1
MSU Marysvale 50.68 75 *e*P **P 20 56 52.0 -1.5**
TMUT Trail Mountain 50.76 74 *e*P **P 20 56 53.5 -0.5**
NEN Nelson 50.92 80 *e*P **P 20 56 54.7 -0.7**
NVS Novosibirsk 51.32 312 *i*P **P 20 56 56.0 -2.2**
NVS *i* 20 58 11.2
NVS *i* 20 58 50.9
NVS *i*S **S 21 04 10.5 -3.4**
NVS *i* 21 06 44.3
NVS pmax pmax
comp=E,43nm,0.9s
NVS pmax pmax
comp=Z,73nm,0.9s,mb5.6
NVS pmax pmax
comp=N,36nm,0.9s
NVS pmax pmax
comp=Z,22nm,1.3s,mb4.9
NVS pmax pmax
comp=E,22nm,1.0s
NVS pmax pmax
comp=N,25nm,1.1s
NVS smax
comp=E,12nm,1.8s
NVS smax
comp=N,23nm,2.0s
DAG Danmarks Havn 51.43 4 ⇓*i*P **P 20 56 57.0 -1.7**
DAG pmax pmax
comp=Z,12nm,0.6s,mb5.0
DAG Danmarks Havn 51.43 4 ⇓*i*P **P 20 56 57.0 -1.7**
comp=Z,12nm,0.6s,mb5.0
LZH Lanzhou 51.83 282 ⇑P **P 20 57 02.8 +0.5**
LZH AP pP 20 57 11.4 +0.1
LZH XP sP 20 57 15.0 +0.2
LZH PP PP 20 59 00.1 -0.6
LZH S **S 21 04 20.0 -1.1**
LZH XS 21 04 35.0
LZH SS SS 21 07 54.0 -1.9
LZH AMB AMB
comp=Z,160nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,470nm,4.4s
LZH LR LR
comp=N,2μm,14.6s
LZH LR LR
comp=Z,2μm,15.9s,MS5.2
ENH Enshi 52.29 273 *e*P **P 20 57 04.6 -1.2**
comp=Z,38nm,0.8s,mb5.4
SUMG Summit 53.73 12 *e*P **P 20 57 14.6 -1.3**
comp=Z,92nm,1.1s,mb5.6
ISCO Idaho Springs 53.73 70 *e*P **P 20 57 13.5 -2.8**
ISCO pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ISCO MLR MLR
comp=Z,708nm,19.0s,MS4.7
ISCO Idaho Springs 53.73 70 *e*P **P 20 57 13.5 -2.8**
comp=Z,6.7nm,1.0s,mb4.5
ISCO LR LR
comp=Z,708nm,19.0s,MS4.7
FRB Frobisher Bay 54.51 29 LR LR 21 22 29.5
comp=Z,955nm,19.1s,MS4.9,baz=304,slow=38
SDCO Great Sand Dun 55.15 71 *e*P **P 20 57 25.9 -0.9**
comp=Z,7.4nm,1.2s,mb4.6
TUC Tucson 55.66 80 *e*P **P 20 57 29.4 -1.2**
TUC pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
TUC Tucson 55.66 80 *e*P **P 20 57 29.4 -1.1**
comp=Z,5.4nm,0.8s,mb4.6
WMQ Urumqi 56.09 299 ⇑*i*P **P 20 57 33.6 +0.1**
WMQ AP pP 20 57 43.8 +1.3
WMQ XP sP 20 57 47.6 +1.7
WMQ PP PP 20 59 40.0 0.0
WMQ S **S 21 05 17.9 -0.6**
WMQ XS 21 05 34.6
WMQ AMB AMB
comp=Z,55nm,1.6s,mb5.3
WMQ AMB AMB
comp=Z,333nm,5.8s
WMQ LR LR
comp=N,4μm,21.0s,MS5.5
WMQ LR LR
comp=E,2μm,22.0s,MS5.5
WMQ LR LR
comp=Z,3μm,22.2s,MS5.4
EYMN Ely 56.09 54 *e*P **P 20 57 30.4 -3.1**
comp=Z,57nm,0.9s,mb5.6
EYMN LR LR
comp=Z,919nm,19.0s,MS4.9
LAZ Ladron 56.44 76 *e*P **P 20 57 36.2 +0.1**
ANMO Albuquerque 56.47 75 P **P 20 57 40.2 +3.9**
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO Albuquerque 56.47 75 *e*P **P 20 57 34.8 -1.6**
comp=Z,3.9nm,0.9s,mb4.4
ANMO LR LR
comp=Z,576nm,21.0s,MS4.7
KEV Kevo 56.64 347 *e*p **P 20 57 35.1 -1.9**
LPM Los Pinos Moun 56.80 75 *e*P **P 20 57 36.8 -2.0**
MKAR Makanchi Array 56.95 305 *i*P **P 20 57 37.7 -1.9**
ARCES ARCESS Array B 57.04 348 P **P 20 57 37.9 -2.1**
comp=Z,8.4nm,0.5s,mb5.1,baz=28,slow=8.1,SNR=100
ARCES pP pP 20 57 46.9 -2.1
comp=Z,20nm,0.9s,baz=22,slow=6.5,SNR=7.2
ARCES PcP PcP 20 58 34.0 -0.5
comp=Z,21nm,0.8s,baz=27,slow=2.7,SNR=8.2
ARCES LR LR 21 21 03.4
comp=Z,642nm,21.1s,MS4.7,baz=22,slow=35
TGY Tagaytay City 57.35 250 P **P 20 57 43.0 +0.1**
comp=Z,234nm,0.5s,baz=270,slow=14,SNR=6.7
JMIC Jan Mayen 57.53 2 LR LR 21 20 37.4
comp=Z,296nm,19.5s,MS4.4,baz=88,slow=34
APA Apatity 57.64 344 ⇑*i*P **P 20 57 41.9 -2.3**
APA *i* 20 58 35.5
APA pmax pmax
comp=Z,21nm,1.1s,mb5.1
APA MLR MLR
comp=Z,1μm,16.0s,MS5.0
CHKZ Chkalovo 57.67 317 *i*P **P 20 57 42.9 -1.7**
CHKZ pmax pmax
comp=Z,47nm,1.0s,mb5.5
CHKZ Chkalovo 57.67 317 *e*P **P 20 57 42.6 -2.0**
comp=Z,5.6nm,0.4s,mb5.0
TRO Tromso 57.71 351 *e*P **P 20 57 42.6 -2.1**
TRO *e*pP pP 20 57 51.6 -2.1
KTK1 Kautokeino 57.82 349 *e*P **P 20 57 44.5 -0.9**
comp=Z,60nm,1.1s,mb5.5
KTK1 Kautokeino 57.82 349 *e*P **P 20 57 44.5 -0.9**
KTK1 AMb AMB 20 57 46.5
comp=Z,60nm,1.1s,mb5.5
KTK1 *e*pP pP 20 57 53.8 -0.7
BVAR Borovoye Array 58.23 317 P **P 20 57 47.2 -1.2**
comp=Z,42nm,0.6s,mb5.6,baz=53,slow=7.4,SNR=323
BVAR PKPPKP 21 27 28.4
comp=Z,1.5nm,0.9s,baz=153,slow=3.2,SNR=6.1
BRVK Borovoye 58.25 317 *e*P **P 20 57 47.0 -1.6**
BRVK pmax pmax
comp=Z,78nm,0.8s,mb5.8
BRVK Borovoye 58.25 317 *e*P **P 20 57 47.0 -1.6**
comp=Z,78nm,0.8s,mb5.8
SOKR Solikamsk 58.51 328 ⇑*i*P **P 20 57 47.4 -2.9**
SOKR pmax pmax
comp=Z,100nm,1.0s,mb5.8
SOKR MLR MLR
comp=Z,940nm,19.0s,MS4.9
SVE Sverdlovsk 59.28 325 ⇑*e*P **P 20 57 55.6 -0.2**
SVE pmax pmax
comp=Z,160nm,1.7s,mb5.8
CPRX Cap Rock 59.35 74 *e*P **P 20 57 55.6 -1.0**
AMTX Amarillo 59.36 71 P **P 20 57 56.1 -0.5**
comp=Z,13nm,0.8s,mb5.0
KSU1 Kansas State U 59.36 65 *e*P **P 20 57 53.4 -3.2**
MNTX Cornudas Mount 59.37 77 *e*P **P 20 57 56.5 -0.2**
comp=Z,11nm,1.0s,mb4.8
GDL2 Guadalupe Moun 59.63 75 *e*P **P 20 57 58.2 -0.3**
LOF Lofoten 59.67 352 *e*P **P 20 57 58.7 +0.4**
LOF AMb AMB 20 58 03.3
comp=Z,142nm,1.6s,mb5.8
LOF *e*pP pP 20 58 06.3 -1.2
JFWS Jewell Farm 60.17 58 *e*P **P 20 58 00.0 -2.0**
JFWS *e**PP pP 20 58 08.0 -3.2
JFWS pmax pmax
comp=Z,40nm,0.9s,mb5.5
JFWS Jewell Farm 60.17 58 *e*P **P 20 58 00.0 -2.0**
comp=Z,40nm,0.9s,mb5.5
JFWS *e*pP pP 20 58 08.0 -3.3
QIZ Qiongzhong 60.23 263 ⇓P **P 20 58 03.6 +0.8**
QIZ S **S 21 06 12.6 -0.4**
QIZ LR LR
comp=Z,390nm,23.8s,MS4.5
ARU Arti 60.33 325 ⇑*i*P **P 20 57 59.4 -3.5**
ARU *e* 20 58 42.2
ARU *e*S **S 21 06 08.2 -5.5**
ARU *e* 21 07 44.0
ARU *e*SSS SSS 21 12 51.0 +4.6
ARU pmax pmax
comp=Z,163nm,1.0s,mb6.0
ARU MLR MLR
comp=N,600nm,16.0s,MS4.9
ARU MLR MLR
comp=Z,1μm,16.0s,MS5.0
ARU MLR MLR
comp=E,500nm,17.0s,MS4.9
WMOK Wichita Mounta 61.16 70 *e*P **P 20 58 07.4 -1.5**
WMOK pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
WMOK MLR MLR
comp=Z,562nm,19.0s,MS4.7
WMOK Wichita Mounta 61.16 70 *e*P **P 20 58 07.4 -1.5**
comp=Z,5.6nm,0.6s,mb4.9
WMOK LR LR
comp=Z,562nm,19.0s,MS4.7
MOR8 Moi Rana 61.51 351 *e*P **P 20 58 08.1 -2.8**
comp=Z,54nm,1.3s,mb5.5
MOR8 Moi Rana 61.51 351 *e*P **P 20 58 08.1 -2.8**
MOR8 AMb AMB 20 58 09.7
comp=Z,54nm,1.3s,mb5.5
MOR8 *e*pP pP 20 58 17.6 -2.4
SCHQ Schefferville 61.85 36 P **P 20 58 12.3 -0.9**
comp=Z,45nm,0.9s,mb5.6,baz=334,slow=6.8,SNR=46
SCHQ LR LR 21 26 50.0
comp=Z,620nm,19.2s,MS4.8,baz=197,slow=38
SCHQ Schefferville 61.85 36 P **P 20 58 12.3 -0.9**
SCHQ LR LR 21 26 50.0
LTX Lajitas 62.09 77 *e*P **P 20 58 15.3 0.0**
LTX pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
LTX Lajitas 62.09 77 *e*P **P 20 58 15.3 0.0**
comp=Z,10.0nm,0.8s,mb5.0
TXAR Lajitas Array 62.09 77 P **P 20 58 15.3 0.0**
comp=Z,5.3nm,0.7s,mb4.8,baz=296,slow=4.5,SNR=21
TXAR pP pP 20 58 23.1 -1.4
comp=Z,24nm,0.8s,baz=307,slow=4.5,SNR=24
TXAR LR LR 21 22 11.8
comp=Z,390nm,21.6s,MS4.5,baz=305,slow=33
TXAR Lajitas Array 62.09 77 P **P 20 58 15.3 0.0**
TXAR pP pP 20 58 23.1 -1.4
TXAR LR LR 21 22 11.8
JOF Joensuu 62.23 342 *e*p **P 20 58 14.0 -1.8**
comp=Z,42nm,1.0s,mb5.5
TKM2 Tokmak 2 63.05 306 P **P 20 58 20.8 -0.6**
SNR=60
BORG Borgarnes 63.10 8 LR LR 21 23 54.5
comp=Z,81nm,19.8s,MS3.9,baz=356,slow=34
ULHL Ulahol 63.22 305 P **P 20 58 22.1 -0.4**
SNR=13
NSS Namsos 63.34 352 *e*P **P 20 58 20.9 -2.1**
USP Ospenovka 63.35 307 P **P 20 58 22.8 -0.6**
SNR=92
CHMS Chumysh 63.42 306 P **P 20 58 23.2 -0.7**
SNR=36
KBK Karagaybulak 63.57 306 P **P 20 58 24.2 -0.5**
SNR=54
JCT Junction City 63.59 74 *e*P **P 20 58 23.9 -1.2**
JCT pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
JCT Junction City 63.59 74 *e*P **P 20 58 23.9 -1.2**
comp=Z,7.3nm,0.8s,mb4.8
FRU Bishkek 63.61 306 ⇑*i*P **P 20 58 24.0 -1.0**
FRU pmax pmax
comp=Z,137nm,1.4s,mb5.8
AAK Ala-Archa 63.82 306 P **P 20 58 25.9 -0.5**
SNR=55
AAK Ala-Archa 63.82 306 ⇑*e*P **P 20 58 24.4 -2.0**
AAK pmax pmax
comp=Z,60nm,1.0s,mb5.6
AAK Ala-Archa 63.82 306 ⇑*e*P **P 20 58 24.4 -2.0**
comp=Z,60nm,1.0s,mb5.6
KZA Kyzart 63.84 305 P **P 20 58 26.7 +0.1**
SNR=20
KAF Kangasniemi 63.87 344 *e*p **P 20 58 24.1 -2.3**
comp=Z,21nm,0.8s,mb5.2,baz=17,slow=5.8
KAF Kangasniemi 63.87 344 *e*P **P 20 58 24.1 -2.3**
KAF pmax pmax
comp=Z,21nm,0.8s,mb5.2
LSA Lhasa 63.92 285 P **P 20 58 28.0 +0.7**
LSA Lhasa 63.92 285 *e*P **P 20 58 27.9 +0.6**
LSA *e**PP pP 20 58 36.2 -0.3
LSA pmax pmax
comp=Z,49nm,0.8s,mb5.6
LSA Lhasa 63.92 285 *e*P **P 20 58 27.9 +0.6**
comp=Z,49nm,0.8s,mb5.6
LSA *e*pP pP 20 58 36.2 -0.3
UCH Uchtor 64.11 306 P **P 20 58 28.0 -0.2**
SNR=28
EKS2 Erkin-Say 64.16 307 P **P 20 58 28.1 -0.5**
SNR=77
SADO Sadowa 64.38 50 LR LR 21 30 25.1
comp=Z,426nm,18.6s,MS4.7,baz=335,slow=40
FINES FINESS Array B 64.54 344 P **P 20 58 28.9 -1.9**
comp=Z,18nm,0.9s,mb5.1,baz=19,slow=8.6,SNR=35
FINES pP pP 20 58 37.5 -2.4
comp=Z,18nm,0.8s,baz=37,slow=6.9,SNR=12
FINES LR LR 21 27 16.7
comp=Z,445nm,20.6s,MS4.6,baz=147,slow=37
AML Almayashu 64.59 306 P **P 20 58 31.6 +0.2**
SNR=55
PECR Pechory 65.07 333 *e*P **P 20 58 33.0 -1.3**
PECR MLR MLR
comp=Z,2μm,18.0s,MS5.3
PECR MLR MLR
comp=N,2μm,16.0s
USIN University of 65.09 60 *e*P **P 20 58 33.5 -1.2**
comp=N,106nm,1.1s,mb5.8
PMG Port Moresby 65.62 211 pP pP 20 58 47.4 -0.3
comp=N,6.7nm,0.5s,baz=14,slow=8.6,SNR=3.6
PMG LR LR 21 25 42.7
comp=N,328nm,19.5s,MS4.5,baz=127,slow=34
WCI Wyandotte Cave 65.63 59 *e*P **P 20 58 36.3 -1.9**
WCI pmax pmax
comp=Z,22nm,0.9s,mb5.2
WCI Wyandotte Cave 65.63 59 *e*P **P 20 58 36.3 -1.8**
comp=Z,22nm,0.9s,mb5.2
IMP Imphal 65.82 280 ⇓*i*P **P 20 58 38.8 -0.8**
CHRT Chiangrai 65.84 272 ⇑P **P 20 58 39.7 -0.1**
comp=Z,184nm,1.0s,mb6.1
ACSO Alum Creek Sta 65.87 55 *e*P **P 20 58 37.3 -2.4**
comp=Z,42nm,1.1s,mb5.4
ACSO LR LR
comp=Z,585nm,22.0s,MS4.7
ERPA Erie 65.96 52 *e*P **P 20 58 39.1 -1.1**
comp=Z,33nm,0.8s,mb5.4
ERPA LR LR
comp=Z,574nm,19.0s,MS4.8
DOMB Dombas 66.03 353 *e*P **P 20 58 39.0 -1.3**
DOMB *e*pP pP 20 58 49.0 -0.5
ALLY Alegheny Colle 66.23 52 *e*P **P 20 58 41.1 -0.8**
ALLY *e*pP pP 20 58 49.1 -2.0
WVT Waverly 66.34 61 *e*P **P 20 58 40.3 -2.5**
WVT pmax pmax
comp=Z,14nm,1.0s,mb5.0
WVT Waverly 66.34 61 *e*P **P 20 58 40.3 -2.5**
comp=Z,14nm,1.0s,mb5.0
SHL Shillong 66.50 282 ⇑*i*P pP 20 58 53.0 -0.1
GENY Geneseo 66.52 50 *e*P **P 20 58 42.1 -1.7**
OXF Oxford 66.67 64 *e*P **P 20 58 43.0 -1.9**
NB2 NORSAR Subarra 66.85 352 P **P 20 58 44.1 -1.5**
comp=Z,25nm,0.8s,mb5.3,baz=10.0,slow=6.2
NB2 NORSAR Subarra 66.85 352 P **P 20 58 44.1 -1.5**
baz=10.0,slow=6.5
NOA NORSAR Array B 66.85 352 P **P 20 58 44.4 -1.2**
comp=Z,22nm,0.9s,mb5.2,baz=12,slow=6.4,SNR=33
NOA pP pP 20 58 53.7 -1.0
comp=Z,14nm,0.8s,baz=5.7,slow=5.6,SNR=13
NOA LR LR 21 28 19.6
comp=Z,328nm,18.4s,MS4.6,baz=355,slow=36
NOA NORSAR Array B 66.85 352 P **P 20 58 44.4 -1.2**
NOA pP pP 20 58 53.7 -1.0
NOA LR LR 21 28 19.6
CHG Chiang Mai 67.16 272 ⇓P **P 20 58 47.6 -0.6**
comp=Z,34nm,0.8s,mb5.4
VSU Vasula 67.22 343 *e*P **P 20 58 46.2 -1.8**
MOS Moscow 67.33 336 ⇑*i*P **P 20 58 48.3 -0.4**
MOS *e* pP 20 58 58.5 +0.6
MOS *e* 20 59 09.2
MOS pmax pmax
comp=Z,126nm,1.2s,mb5.8
MOS MLR MLR
comp=Z,2μm,20.0s,MS5.4
CMAR Chiang Mai Arr 67.43 271 P **P 20 58 49.5 -0.4**
comp=Z,17nm,0.8s,mb5.1,baz=25,slow=7.2,SNR=95
CMAR pP pP 20 58 58.3 -0.8
comp=Z,9.4nm,0.8s,baz=27,slow=6.7,SNR=11
CMAR PKP2bc 21 27 17.8
comp=Z,2.6nm,0.9s,baz=239,slow=4.8,SNR=6.8
CMAR LR LR 21 31 16.8
comp=Z,248nm,18.3s,MS4.5,baz=50,slow=39
CMAR Chiang Mai Arr 67.43 271 P **P 20 58 49.5 -0.4**
CMAR pP pP 20 58 58.3 -0.8
CMAR ⇑*e* 21 27 17.8
CMAR LR LR 21 31 16.8
BINY Binghamton 67.83 50 *e*P **P 20 58 50.0 -2.0**
comp=Z,32nm,1.3s,mb5.2
BINY LR LR
comp=Z,830nm,20.0s,MS5.0
OBN Obninsk 68.16 336 ⇑*i*P **P 20 58 51.6 -2.3**
OBN *e* pP 20 59 02.7 -0.4
OBN *i* 20 59 17.5
OBN pmax pmax
comp=Z,108nm,1.1s,mb5.8
OBN MLR MLR
comp=Z,2μm,19.0s,MS5.3
OBN Obninsk 68.16 336 *e*P **P 20 58 51.3 -2.6**
comp=Z,90nm,1.1s,mb5.7
OBN *e*pP pP 20 59 02.5 -0.6
GUN Gumba 68.37 288 ⇑*i*P **P 20 58 56.0 +0.3**
comp=Z,520nm,0.9s
JIRN Jiri 68.37 287 ⇑*i*P **P 20 58 56.1 +0.4**
comp=Z,331nm,0.8s
CPCT Cooper Cave 68.64 60 *e*P **P 20 58 56.3 -1.0**
KKN Kakani 68.81 288 ⇑*i*P **P 20 58 58.6 +0.1**
comp=Z,185nm,0.8s,mb6.1
PKI Pulchoki 68.90 288 ⇑*i*P **P 20 58 59.0 0.0**
comp=Z,257nm,1.0s,mb6.1
FWV Forest Hill 68.98 56 P **P 20 58 57.9 -1.4**
GKN Gorkha 69.03 289 ⇑*i*P **P 20 58 59.6 -0.2**
comp=Z,291nm,1.0s,mb6.2
PWV Princeton 69.04 56 P **P 20 58 58.5 -1.2**
DMN Daman 69.05 288 ⇑*i*P **P 20 59 00.1 +0.2**
comp=Z,135nm,0.8s,mb5.9
LRAL Lakeview Retre 69.10 63 *e*P **P 20 58 58.3 -1.8**
comp=Z,20nm,1.1s,mb5.0
ELN Prospectdale 69.28 56 *e*P **P 20 59 00.2 -1.0**
SDMD Soldier's Deli 69.57 52 *e*P **P 20 59 00.4 -2.5**
PAL Palisades 69.73 49 *e*P **P 20 59 01.4 -2.4**
PAL pmax pmax
comp=Z,20nm,0.9s,mb5.0
PAL Palisades 69.73 49 *e*P **P 20 59 01.4 -2.4**
comp=Z,20nm,0.9s,mb5.0
KOLN Koldanda 69.82 289 ⇑*i*P **P 20 59 04.4 -0.2**
comp=Z,160nm,1.0s,mb5.9
MNK Minsk 70.73 341 P **P 20 59 06.0 -3.7**
DDI Dehra Dun 71.09 295 *e*P **P 20 59 04.3 -8.0**
TAOE Nuku Hiva Isla 71.38 133 *e*LR LR 21 20 46.3
SUW Suwalki 72.09 343 *e*P **P 20 59 16.3 -1.5**
SUW *e*pP pP 20 59 33.0 +5.9
SUW MLR MLR 21 31 13.1
comp=Z,800nm,22.8s,MS4.9
COW Cow Castle Cre 72.26 59 *e*P **P 20 59 17.9 -1.3**
NDI New Delhi 72.81 294 *e*P **P 20 59 20.0 -2.5**
PMOR Pomariorio Ree 73.71 143 *e*P pP 20 59 37.9 +0.7
comp=Z,90nm,1.0s
GKP Gorka Klasztor 73.77 347 *e*P **P 20 59 24.7 -2.8**
GKP *e*pP pP 20 59 44.2 +7.5
GKP MLR MLR 21 31 10.9
comp=Z,800nm,24.7s,MS4.9
BSEG Bad Segeberg 73.95 351 *e*P **P 20 59 28.1 -0.5**
AKASG Malin Array Be 73.98 338 P **P 20 59 28.3 -0.5**
AKASG pmax pmax
comp=Z,10.0nm,0.5s
AKASG Malin Array Be 73.98 338 P **P 20 59 28.3 -0.5**
comp=Z,9.7nm,0.5s,mb5.0,baz=24,slow=5.9,SNR=80
WAR Warsaw 74.16 344 *e*P **P 20 59 29.4 -0.5**
KAKA Kakadu 74.22 224 *e*P **P 20 59 30.5 -0.4**
comp=Z,32nm,0.8s,mb5.3
KAKA *e* pP 20 59 39.9 -0.2
GOF Gofitskoye 75.21 327 ⇓*i*P **P 20 59 36.5 +0.4**
GOF pmax pmax
comp=Z,330nm,1.1s,mb6.2
VHO Vista Hermosa 75.43 81 *i*P pP 20 59 47.9 +0.7
MAK Makhachkala 75.45 323 *e*P **P 20 59 38.5 +1.0**
MAK pmax pmax
comp=Z,330nm,1.0s,mb6.2
MAK MLR MLR
comp=N,2μm,16.0s,MS5.6
MAK MLR MLR
comp=E,1μm,16.0s,MS5.6
MAK MLR MLR
comp=Z,1μm,16.0s,MS5.4
PPT Papeete 75.46 146 *e*SS SS 21 14 16.3 +8.1
PPT *e*LR LR 21 22 31.0
comp=Z,2μm,24.0s,baz=342
TIAR Tiarei 75.53 145 *e*P pP 20 59 48.3 +0.6
comp=Z,122nm,0.9s
PAE Paea 75.55 146 *e*P pP 20 59 47.4 -0.4
comp=Z,65nm,1.0s
TVO Taravao 75.77 145 *e*P pP 20 59 50.8 +1.7
comp=Z,40nm,0.7s
RAR Rarotonga 75.82 156 LR LR 21 25 32.8
comp=Z,773nm,19.6s,MS5.0,baz=325,slow=30
LVV L'vov 75.93 341 *e*P **P 20 59 39.7 -0.3**
LVV MLR MLR
comp=N,400nm,22.0s,MS4.7
LVV MLR MLR
comp=E,150nm,22.0s,MS4.7
LVV MLR MLR
comp=Z,600nm,22.0s,MS4.9
AJM Ajmer 75.96 295 *e*P **P 20 59 40.0 -0.7**
AJM *e* 20 59 41.7
comp=Z,75nm,0.9s
CTA Charters Tower 75.97 208 *e*P **P 20 59 40.9 0.0**
comp=Z,12nm,0.4s,mb5.2
CTA Charters Tower 75.97 208 P **P 20 59 41.1 +0.2**
CTA *PP pP 20 59 49.4 -0.8
CTA pmax pmax
comp=Z,11nm,0.8s
CTA pmax pmax
comp=Z,21nm,0.7s
CTA MLR MLR
comp=Z,328nm,18.8s
CTA Charters Tower 75.97 208 P **P 20 59 41.1 +0.2**

comp=Z,11nm,0.8s,mb4.8,baz=21,slow=7.3,SNR=7.6
CTA pP pP 20 59 49.4 -0.7
comp=Z,21nm,0.7s,baz=9.6,slow=7.6,SNR=12
CTA LR LR 21 28 20.7
comp=Z,328nm,18.8s,MS4.7,baz=18,slow=32
CTAO Charters Tower 75.97 208 *eP* **P 20 59 40.1 -0.8**
CTAO pmax pmax
comp=Z,18nm,0.6s,mb5.2
CTAO Charters Tower 75.97 208 *eP* **P 20 59 40.1 -0.8**
comp=Z,18nm,0.6s,mb5.2
CLZ Clausthal 76.01 351 *eP* **P 20 59 40.4 -0.1**
comp=Z,39nm,1.3s,mb5.2
WTSB Winterswijk 76.21 353 *eP* **P 20 59 43.0 +1.4**
comp=Z,49nm,1.9s,mb5.1
CLL Collm 76.25 349⇑ *iP* **P 20 59 40.9 -0.9**
CLL *i* 20 59 46.0
CLL *i* 20 59 53.1
CLL pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
CLL Collm 76.25 349⇑ *iP* **P 20 59 40.9 -0.9**
comp=Z,10.0nm,1.1s,mb4.7
CLL *i* 20 59 46.0
CLL *i* 20 59 53.1
CLL Collm 76.25 349 ⇑P **P 20 59 40.9 -0.9**
comp=Z,logA/T=1.0,mb4.7
CLL *i* 20 59 46.0
CLL *i* *SP sP 20 59 53.1 -1.2
CLL *i* 21 00 05.9
KSP Ksiaz 76.27 347 *eP* **P 20 59 41.4 -0.5**
KSP *ep*P pP 20 59 48.1 -3.1
KSP LR LR
comp=Z,1μm,22.4s,MS5.1
KSP Ksiaz 76.27 347 *eP* **P 20 59 38.1 -3.8**
KSP MLR MLR 21 32 12.1
comp=Z,900nm,22.1s,MS5.0
KIV Kislovodsk 76.30 327 P **P 20 59 43.3 +1.1**
comp=Z,538nm,0.9s,SNR=41
KIV Kislovodsk 76.30 327 *eP* **P 20 59 41.7 -0.6**
KIV *e* 21 02 31.2
KIV *e*S S 21 09 20.3 -3.2
KIV pmax pmax
comp=Z,89nm,0.9s,mb5.7
KIV pmax pmax
comp=N,53nm,1.1s
KIV pmax pmax
comp=E,27nm,0.8s
KIV Kislovodsk 76.30 327 *eP* **P 20 59 42.6 +0.4**
comp=E,105nm,1.0s,mb5.7
OJC Ojcow 76.32 344 *eP* **P 20 59 42.4 +0.2**
KWP Kalwaria 76.36 342 *eP* **P 20 59 43.2 +0.7**
KWP *ep*P pP 20 59 55.6 +3.9
KWP MLR MLR 21 30 49.9
comp=E,1μm,26.3s,MS5.0
CMIG Matias Romero 76.55 80 *i* P **P 20 59 44.9 +0.8**
BRG Berggiesshubel 76.56 348 *eP* **P 20 59 42.8 -0.7**
BRG *e* pP 20 59 52.8 0.0
UPC Upice 76.63 347 *eP* **P 20 59 42.8 -1.2**
DPC Dobruska-Polom 76.74 346 *eP* **P 20 59 44.6 0.0**
DPC *ep*P pP 20 59 54.7 +0.8
PVCC Panska Ves 76.81 348 *eP* **P 20 59 43.9 -1.1**
HUIG Huatulco 76.81 81 *i* P **P 20 59 47.5 +1.8**
BHPL Bhopal 76.86 291 *eP* **P 20 59 45.1 -0.7**
BHPL *e* 20 59 46.9
comp=Z,99nm,1.0s
ZEI Tsey 76.92 326 *i* P **P 20 59 46.5 +0.7**
ZEI pmax pmax
comp=Z,152nm,1.1s,mb5.8
OKC Ostrava-Krasne 76.96 345 *eP* **P 20 59 46.0 +0.2**
OKC *ep*P pP 20 59 55.0 -0.1
NIE Niedzica 77.00 344 *eP* **P 20 59 46.7 +0.6**
MOX Moxa 77.06 350 *eP* **P 20 59 46.5 +0.2**
MOX pmax pmax
comp=Z,23nm,1.6s,mb4.9
MOX Moxa 77.06 350 *eP* **P 20 59 46.5 +0.2**
comp=Z,23nm,1.6s,mb4.9
MOX Moxa 77.06 350 *i* P **P 20 59 46.5 +0.2**
comp=Z,logA/T=1.2,mb4.9
KOLS Kolonicke sedl 77.11 342 *eP* **P 20 59 47.4 +0.7**
KOLS *ep*P pP 20 59 57.4 +1.4
MORC Moravsky Berou 77.11 346 *eP* **P 20 59 47.3 +0.6**
MORC pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MORC Moravsky Berou 77.11 346 *eP* **P 20 59 46.0 -0.7**
comp=Z,7.8nm,0.9s,mb4.6
ANN Anapa 77.23 331 *eP* **P 20 59 47.0 -0.4**
ANN pmax pmax
comp=Z,41nm,0.8s,mb5.4
ONI Oni 77.25 326 P **P 20 59 48.7 +1.1**
CRVS Cervenica-Dubn 77.30 343 *i* P **P 20 59 48.4 +0.7**
PRU Pruhonice 77.34 348 *eP* **P 20 59 47.2 -0.7**
PRU *ep*P pP 20 59 57.6 +0.4
NKC Novy Kostel 77.37 349 *eP* **P 20 59 47.6 -0.5**
HGN Heimansgroeve 77.47 353 *eP* **P 20 59 48.3 -0.3**
comp=Z,37nm,1.3s,mb5.2
TI2 Plekhanov 77.53 324⇑ *iP* **P 20 59 50.0 +0.9**
TI2 *e*S SKS 21 09 55.6 -7.9
TI2 *e*S SKS 21 09 55.6 -7.9
TI2 MLR MLR
comp=N,500nm,18.0s,MS5.2
TI2 MLR MLR
comp=E,1μm,18.0s,MS5.2
TI2 MLR MLR
comp=Z,2μm,18.0s,MS5.4
KIS Kishinev 77.55 337α *iP* **P 20 59 48.0 -1.1**
KIS pmax pmax
comp=Z,190nm,1.0s,mb6.0
KIS pmax pmax
comp=Z,200nm,1.0s,mb6.0
KIS MLR MLR
comp=N,600nm,17.0s
KIS MLR MLR
comp=Z,700nm,17.0s,MS5.0
KIS MLR MLR
comp=Z,900nm,16.0s
MTA Mtatsminda 77.55 324 P **P 20 59 50.1 +0.9**
DGRG David-gareji 77.55 324 P **P 20 59 50.3 +1.1**
VIS Vishakhapatnam 77.60 283 *eP* **P 20 59 50.0 0.0**
VIS *e* 20 59 51.6
comp=Z,29nm,0.7s
SOC Sochi 77.61 329⇑ *iP* **P 20 59 50.0 +0.5**
KECS Kecovo 77.88 343 *eP* **P 20 59 51.1 +0.2**
KECS *ep*P pP 21 00 00.5 +0.3
GRA1 Grafenberg Arr 78.04 350 *eP* **P 20 59 52.0 +0.2**
comp=Z,38nm,1.4s,mb5.1
GRA1 LR LR
comp=Z,300nm,18.9s,MS4.6
GRF Grafenberg Arr 78.04 350 *eP* **P 20 59 52.0 +0.2**
GRF pmax pmax
comp=Z,38nm,1.4s,mb5.1
GRF MLR MLR
comp=Z,300nm,18.9s,MS4.6
GRF Grafenberg Arr 78.04 350 *eP* **P 20 59 52.0 +0.2**
GRF pmax pmax
comp=Z,38nm,1.4s,mb5.1
GRF MLR MLR
comp=Z,300nm,18.9s,MS4.6
GRF Grafenberg Arr 78.04 350 *eP* **P 20 59 52.0 +0.2**
comp=Z,38nm,1.4s,mb5.1
GRF LR LR
comp=Z,300nm,18.9s,MS4.6
SIM Simferopol' 78.07 333 *i* P **P 20 59 52.6 +0.6**
SIM pmax pmax
comp=Z,29nm,0.7s,mb5.3
VYHS Vyhne 78.15 344 *i* P **P 20 59 53.1 +0.7**
VYHS *ep*P pP 21 00 01.9 +0.2
GIVF Givet 78.21 354 *eP* **P 20 59 52.3 -0.4**
AKH Akhalkalaki 78.26 325 P **P 20 59 54.7 +1.5**
BAIF Baives 78.29 354⇑ *iP* **P 20 59 53.1 0.0**
comp=Z,96nm,1.4s,mb5.2
BAIF Baives 78.29 354⇑ *iP* **P 20 59 53.1 0.0**
BAIF pmax pmax
comp=Z,48nm,1.4s,mb5.2
KHC Kasperske Hory 78.31 348 *eP* **P 20 59 53.4 +0.1**
TOD Tromm 78.38 351⇑ *eP* **P 20 59 53.4 -0.2**
WET Wettzell 78.39 348 *eP* **P 20 59 53.8 +0.1**
WET pmax pmax
comp=Z,14nm,1.3s,mb4.7
WET Wettzell 78.39 348 *eP* **P 20 59 53.8 +0.1**
comp=Z,14nm,1.3s,mb4.7
PSZ Piszkesteto 78.53 344 *eP* **P 20 59 55.2 +0.7**
PSZ *e**PP pP 21 00 04.5 +0.7
PSZ pmax pmax
comp=Z,55nm,1.2s,mb5.4
PSZ Piszkesteto 78.53 344 *eP* **P 20 59 55.8 +1.3**
PSZ pmax pmax
comp=Z,55nm,1.2s,mb5.4
PSZ Piszkesteto 78.53 344⇑ *eP* **P 20 59 55.6 +1.1**
GEC2 GERESS Array S 78.58 348 *eP* **P 20 59 54.5 -0.2**
GEC2 pmax pmax
comp=Z,17nm,1.4s,mb4.8
GEC2 GERESS Array S 78.58 348 *eP* **P 20 59 54.5 -0.2**
comp=Z,17nm,1.4s,mb4.8
GERES GERESS Array B 78.58 348 P **P 20 59 54.3 -0.4**
comp=Z,5.6nm,1.1s,mb4.4,baz=27,slow=3.0,SNR=16
GERES PP PP 21 02 51.1 -3.3
comp=Z,2.1nm,0.9s,baz=27,slow=6.0,SNR=3.6
ZST Bratislava 78.72 345 *eP* **P 20 59 56.8 +1.3**
ZST *ep*P pP 21 00 06.7 +1.8
CCIG Comitan 78.85 78 *i* P pP 21 00 06.7 +0.5
GNI Garni 78.92 324 LR LR 21 39 04.3
comp=Z,1μm,20.0s,MS5.2,baz=20,slow=39
LANF Langenberg 79.09 352⇑ *eP* **P 20 59 57.5 0.0**
VRI Vrincioaia 79.10 338⇓ *iP* **P 20 59 58.6 +0.9**
CFR Carcaliu 79.42 337⇓ *iP* **P 20 59 59.8 +0.4**
MOA Molln 79.48 347⇑ *iP* **P 20 59 59.9 +0.3**
comp=Z,14nm,1.2s,mb4.8
FUR Furstenfeldbru 79.54 349 *eP* **P 21 00 00.5 +0.5**
FUR pmax pmax
comp=Z,23nm,1.0s,mb5.1
FUR Furstenfeldbru 79.54 349 *eP* **P 21 00 00.5 +0.5**
comp=Z,23nm,1.0s,mb5.1
MLR Muntele Rosu 79.63 339⇓ *iP* **P 21 00 01.9 +1.4**
BFO Black Forest 79.69 351 *eP* **P 21 00 00.5 -0.3**
BFO pmax pmax
comp=Z,16nm,1.1s,mb4.9
BFO Black Forest 79.69 351 *eP* **P 21 00 00.5 -0.3**
comp=Z,16nm,1.1s,mb4.9
WLS Welschbruch 79.69 352⇑ *eP* **P 21 00 01.2 +0.4**
CDF Champ du Feu 79.70 352⇑ *iP* **P 21 00 00.8 0.0**
MEZF Maizieres J'vi 79.78 354⇑ *iP* **P 21 00 01.5 +0.2**
comp=Z,43nm,1.0s,mb5.0
FLN La Foliniere 79.80 357⇑ *iP* **P 21 00 01.0 -0.4**
comp=Z,133nm,1.2s,mb5.5
FLN *e*R
comp=Z,203nm,21.0s
FLN La Foliniere 79.80 357⇑ *iP* **P 21 00 01.0 -0.4**
FLN pmax pmax
comp=Z,66nm,1.2s,mb5.4
FLN MLR MLR
comp=Z,200nm,21.0s,MS4.4
ISR Istrita 79.85 338⇓ *iP* **P 21 00 03.0 +1.3**
ARSA Arzberg 79.88 346⇑ *iP* **P 21 00 02.8 +1.0**
comp=Z,25nm,1.1s,mb5.0
WRAB Tennant Creek 79.92 219 P **P 21 00 02.7 +0.1**
WRAB pmax pmax
comp=Z,35nm,1.1s,mb5.2
WRAB Tennant Creek 79.92 219 *eP* **P 21 00 02.2 -0.4**
comp=Z,36nm,1.1s,mb5.2
HARR Harsova 79.93 337⇑ *iP* **P 21 00 02.5 +0.4**
WB2 Warramunga Arr 79.93 219 *eP* **P 21 00 02.4 -0.2**
WRA Warramunga Arr 79.94 219 P **P 21 00 02.7 0.0**
comp=Z,12nm,0.8s,mb4.9,baz=31,slow=6.3,SNR=19
WRA pP pP 21 00 12.0 0.0
comp=Z,19nm,0.7s,baz=32,slow=6.3,SNR=24
WRA PKKPbc 21 18 47.0
comp=Z,1.2nm,0.8s,baz=228,slow=2.4,SNR=6.7
LDF La Druitiere 79.96 357⇑ *iP* **P 21 00 01.8 -0.4**
comp=Z,87nm,1.2s,mb5.2
LDF La Druitiere 79.96 357⇑ *iP* **P 21 00 01.8 -0.4**
LDF pmax pmax
comp=Z,44nm,1.2s,mb5.3
FELD Feldberg 80.17 351⇑ *eP* **P 21 00 02.9 -0.5**
HAU Haudompre 80.18 353⇑ *iP* **P 21 00 03.2 -0.2**
comp=Z,45nm,1.2s,mb5.0
HAU *e*R
comp=Z,235nm,18.8s
HAU Haudompre 80.18 353⇑ *iP* **P 21 00 03.2 -0.2**
HAU pmax pmax
comp=Z,22nm,1.2s,mb5.0
HAU MLR MLR
comp=Z,240nm,18.8s,MS4.6
GRR Gorron 80.19 358⇑ *iP* **P 21 00 03.2 -0.2**
comp=Z,122nm,1.2s,mb5.4
GRR Gorron 80.19 358⇑ *iP* **P 21 00 03.2 -0.2**
GRR pmax pmax
comp=Z,61nm,1.2s,mb5.4
ROSF Rostrenen 80.28 359⇑ *iP* **P 21 00 04.0 +0.1**
comp=Z,177nm,1.6s,mb5.5
ROSF Rostrenen 80.28 359⇑ *iP* **P 21 00 04.0 +0.1**
ROSF pmax pmax
comp=Z,89nm,1.6s,mb5.5
WATA Walderalm 80.33 349⇓ *iP* **P 21 00 04.7 +0.5**
comp=Z,28nm,1.2s,mb5.1
WATA Walderalm 80.33 349⇓ *iP* **P 21 00 04.7 +0.5**
WATA pmax pmax
comp=Z,28nm,1.2s,mb5.1
HINF Hinteralfeld 80.33 352⇑ *iP* **P 21 00 03.7 -0.5**
comp=Z,48nm,1.3s,mb5.0
HINF Hinteralfeld 80.33 352⇑ *iP* **P 21 00 03.7 -0.5**
HINF pmax pmax
comp=Z,24nm,1.3s,mb5.0
ERZM Erzurum 80.34 326 *i* P **P 21 00 06.5 +2.1**
EZM Erzurum 80.34 326 *i* P **P 21 00 06.7 +2.3**
SGMF Saint Gilles 80.35 359 *eP* **P 21 00 04.3 0.0**
KBA Koelnbreinsper 80.36 348⇑ *iP* **P 21 00 05.7 +1.3**
comp=Z,72nm,1.0s,mb5.5
KBA Koelnbreinsper 80.36 348⇑ *iP* **P 21 00 05.7 +1.3**
KBA pmax pmax
comp=Z,72nm,1.0s,mb5.6
MOTA Moosalm 80.37 349⇑ *iP* **P 21 00 04.7 +0.3**
comp=Z,21nm,1.2s,mb4.9
MOTA Moosalm 80.37 349⇑ *iP* **P 21 00 04.7 +0.3**
MOTA pmax pmax
comp=Z,21nm,1.2s,mb4.9
WTTA Wattenberg 80.39 349⇑ *iP* **P 21 00 05.3 +0.8**
comp=Z,38nm,1.1s,mb5.2
WTTA Wattenberg 80.39 349⇑ *iP* **P 21 00 05.3 +0.8**
WTTA pmax pmax
comp=Z,38nm,1.1s,mb5.2
PKSM Moragy 80.39 344⇑ *eP* **P 21 00 04.7 +0.1**
SQTA Sankt Quirin 80.48 349⇑ *iP* **P 21 00 05.6 +0.6**
comp=Z,28nm,1.2s,mb5.1
SQTA Sankt Quirin 80.48 349⇑ *iP* **P 21 00 05.6 +0.6**
SQTA pmax pmax
comp=Z,28nm,1.2s,mb5.1
GUMT Gumushane 80.49 327 *i* P **P 21 00 07.0 +1.8**
PERS Pernice 80.54 346 *eP* **P 21 00 06.1 +0.7**
comp=Z,102nm,1.3s,mb5.6
DAVA Damuels 80.56 350⇑ *iP* **P 21 00 05.8 +0.3**
comp=Z,21nm,1.0s,mb5.0
HYB Hyderabad 80.71 286⇑ *eP* **P 21 00 06.5 -0.3**
HYB pmax pmax
comp=Z,114nm,1.2s,mb5.7
HYB Hyderabad 80.71 286⇑ *eP* **P 21 00 06.5 -0.3**
comp=Z,114nm,1.2s,mb5.7
HYB Hyderabad 80.71 286⇑ *iP* **P 21 00 06.5 -0.3**
comp=Z,114nm,1.2s,mb5.7
OBKA Obir 80.75 347⇑ *iP* **P 21 00 07.2 +0.7**
comp=Z,40nm,1.1s,mb5.3
LOMF Lomont 80.79 352⇑ *eP* **P 21 00 07.0 +0.3**
TBI Tubuai 80.86 148 *eP* pP 21 00 17.7 +0.8
comp=Z,78nm,1.0s
TBI *e*SS SS 21 15 32.2 +2.6
TBI *e*LR LR 21 25 05.0
comp=Z,1μm,25.0s,baz=338
VRT Varto 80.98 325 P **P 21 00 10.0 +2.2**
EZC Erzincan 81.02 327 *i* P **P 21 00 10.5 +2.5**
BOYT Boyabat 81.07 331 *i* P **P 21 00 09.7 +1.5**
GOLS Golise 81.08 346 *eP* **P 21 00 09.2 +1.0**
PDKS Podkum 81.12 346 *eP* **P 21 00 09.0 +0.6**
CADS Cadrg 81.14 347 *eP* **P 21 00 08.7 +0.2**
HYF Humbligny 81.16 355 *eP* **P 21 00 09.0 +0.4**
BHJ Bhuj 81.28 296 *eP* **P 21 00 10.7 +1.0**
BHJ *e* 21 00 13.2
comp=Z,26nm,0.5s
SSF Saint Saulge 81.32 354⇑ *iP* **P 21 00 09.5 +0.1**
SSF pmax pmax
comp=Z,23nm,1.2s,mb5.0
SSF Saint Saulge 81.32 354⇑ *iP* **P 21 00 09.5 +0.1**
comp=Z,23nm,1.2s,mb5.0
BALT Daday 81.42 332 *i* P **P 21 00 11.4 +1.3**
CABF La Chapelle 81.59 353⇑ *iP* **P 21 00 11.3 +0.5**
comp=Z,49nm,1.3s,mb5.0
CABF La Chapelle 81.59 353⇑ *iP* **P 21 00 11.3 +0.5**
CABF pmax pmax
comp=Z,25nm,1.3s,mb5.0
AVF Avril sur Loir 81.60 355⇑ *iP* **P 21 00 11.0 +0.1**
comp=Z,75nm,1.3s,mb5.2
AVF Avril sur Loir 81.60 355⇑ *iP* **P 21 00 11.0 +0.1**
AVF pmax pmax
comp=Z,37nm,1.3s,mb5.2
BOJS Bojanci 81.63 346 *eP* **P 21 00 11.5 +0.4**
TOS Tosya 81.69 332 P **P 21 00 13.2 +1.7**
SMF Signal de Mont 81.71 354⇑ *iP* **P 21 00 11.7 +0.2**
comp=Z,68nm,1.2s,mb5.2
SMF Signal de Mont 81.71 354⇑ *iP* **P 21 00 11.7 +0.2**
SMF pmax pmax
comp=Z,34nm,1.2s,mb5.2
BTMT Batman 81.83 325 P **P 21 00 14.0 +1.7**
CTKT Corum 81.84 331 *i* P **P 21 00 13.9 +1.6**
BGF Bois d'Agland 81.86 355⇑ *iP* **P 21 00 12.4 +0.1**
comp=Z,111nm,1.5s,mb5.3
BGF Bois d'Agland 81.86 355⇑ *iP* **P 21 00 12.4 +0.1**
BGF pmax pmax
comp=Z,55nm,1.5s,mb5.3
SAFT Safranbolu 81.89 333 P **P 21 00 13.4 +0.9**
PTK Pertek 81.93 327 *i* P **P 21 00 14.8 +2.0**
MFF Saint Martin d 81.95 357⇑ *iP* **P 21 00 12.9 +0.2**
comp=Z,100nm,1.4s,mb5.3
MFF Saint Martin d 81.95 357⇑ *iP* **P 21 00 12.9 +0.2**
MFF pmax pmax
comp=Z,50nm,1.4s,mb5.2
FITZ Fitzroy Crossi 81.99 227 *eP* **P 21 00 14.3 +0.8**
comp=Z,46nm,0.9s,mb5.4
FITZ *e* pP 21 00 23.5 +0.6
TCF Toulx Ste Croi 82.16 355⇑ *iP* **P 21 00 14.0 +0.2**
comp=Z,42nm,1.3s,mb4.9
TCF Toulx Ste Croi 82.16 355⇑ *iP* **P 21 00 14.0 +0.2**
TCF pmax pmax
comp=Z,21nm,1.3s,mb4.9
BEST Besiri 82.17 325 *i* P **P 21 00 15.7 +1.7**
DIVS Divcibare 82.20 342⇓ *iP* **P 21 00 14.5 +0.4**
GRUS Gruza 82.26 342⇓ *iP* **P 21 00 14.8 +0.4**
AGO Saint Agoulin 82.35 355⇑ *eP* **P 21 00 15.7 +0.9**
ELDT Eldivan 82.37 332 *i* P **P 21 00 16.6 +1.6**
ORX Oropa 82.39 351 P **P 21 00 16.1 +1.1**
PLDF La Plantade 82.40 354⇑ *eP* **P 21 00 15.9 +0.8**
ELZG Elazig 82.42 327 *i* P **P 21 00 17.4 +2.1**
BBLS Bajina Basta - 82.53 343⇑ *iP* **P 21 00 16.8 +1.0**
TRAV 82.53 351 P **P 21 00 16.0 +0.2**
DIY Diyarbakir 82.54 326 *i* P **P 21 00 17.6 +1.7**
YOZ Yozgat 82.58 330 P **P 21 00 17.1 +0.9**
POO Poona 82.61 290⇓ *iP* **P 21 00 16.0 -0.7**
POO *eP* 21 00 16.7
POO *e* 21 00 18.5
comp=Z,87nm,0.7s
LPL La Plagne 82.62 352⇑ *iP* **P 21 00 17.6 +1.4**
comp=Z,34nm,0.9s,mb5.0
LPL La Plagne 82.62 352⇑ *iP* **P 21 00 17.6 +1.4**
LPL pmax pmax
comp=Z,17nm,0.9s,mb5.1
LPG La Plagne 82.64 352⇑ *iP* **P 21 00 17.9 +1.6**
comp=Z,77nm,1.1s,mb5.3
LPG La Plagne 82.64 352⇑ *iP* **P 21 00 17.9 +1.6**
LPG pmax pmax
comp=Z,39nm,1.1s,mb5.3
LSD Ceresole Reale 82.64 352 P **P 21 00 18.0 +1.7**
PYM Petit Puy Mans 82.66 355⇑ *eP* **P 21 00 17.0 +0.6**
SGKT Sivrigoynuk 82.69 333 *i* P **P 21 00 17.7 +1.0**
MALT Malatya 82.78 327 P **P 21 00 17.8 +0.6**
MALT Malatya 82.78 327 *eP* **P 21 00 17.9 +0.7**
MALT pmax pmax
comp=Z,43nm,1.1s,mb5.4
RSP Reno Superiore 82.94 352 P **P 21 00 18.9 +1.0**
BRTR Keskin Array B 83.01 331 P **P 21 00 19.1 +0.7**
comp=Z,25nm,0.8s,mb5.3,baz=53,slow=3.4,SNR=131
BRTR PP PP 21 03 32.5 +1.4
comp=Z,3.4nm,1.0s,slow=2.5,SNR=3.8
FENE Fenestrelle 83.08 352 P **P 21 00 19.4 +0.8**
BNI Bardonecchia 83.09 352 *eP* **P 21 00 19.8 +1.1**
BNI pmax pmax
comp=Z,40nm,1.0s,mb5.4
BNI Bardonecchia 83.09 352 *eP* **P 21 00 19.8 +1.2**
comp=Z,40nm,1.0s,mb5.4
BNN Bunyan 83.13 329 *i* P **P 21 00 20.3 +1.3**
LBL Lubilhac 83.16 354⇑ *eP* **P 21 00 20.0 +1.0**
RJF Les Rejaudoux 83.18 356 *eP* **P 21 00 19.0 -0.1**
RJF *e*R
comp=Z,328nm,20.0s
RRL Cesana Torines 83.21 352 P **P 21 00 20.7 +1.4**
ORIF Oris-en-Rattie 83.29 353⇑ *iP* **P 21 00 20.7 +1.0**
comp=Z,62nm,1.1s,mb5.3
ORIF *e*R
comp=Z,297nm,21.4s
GRAM 83.31 350 P **P 21 00 19.8 0.0**
KAMT Kaman 83.31 331 *i* P **P 21 00 20.8 +0.9**
KAD Karad 83.38 289⇑ *iP* **P 21 00 20.2 -0.5**
KAD *eP* 21 00 20.4
KAD *e* 21 00 22.0
comp=Z,54nm,0.8s
MBDF Montbardon 83.40 352⇑ *iP* **P 21 00 21.5 +1.2**
comp=Z,28nm,0.8s,mb5.0
PCP Pian Castagno 83.42 351 P **P 21 00 20.2 -0.2**
VALM 83.42 349 P **P 21 00 21.3 +0.9**
CODM 83.43 350 P **P 21 00 21.1 +0.7**
YLV Yalova 83.43 335 P **P 21 00 20.6 +0.1**
VIVF Saint-Julien-l 83.44 353⇑ *iP* **P 21 00 21.2 +0.7**
comp=Z,24nm,1.0s,mb4.9
VIVF Saint-Julien-l 83.44 353⇑ *iP* **P 21 00 21.2 +0.7**
VIVF pmax pmax
comp=Z,12nm,1.0s,mb4.9
ASAR Alice Springs 83.47 218 P **P 21 00 21.9 +0.8**
comp=Z,10.0nm,0.8s,mb4.9,baz=24,slow=4.7,SNR=59
ASAR pP pP 21 00 30.6 +0.2
comp=Z,13nm,0.7s,baz=23,slow=5.4,SNR=25
ASAR LR LR 21 39 48.2
comp=Z,108nm,18.4s,MS4.3,baz=247,slow=37
ASPA Alice Springs 83.47 218 *eP* **P 21 00 22.0 +0.9**
ASPA *e* pP 21 00 31.3 +0.8
AVNT Avonos 83.51 330 *i* P **P 21 00 21.6 +0.8**
GENL Genova Univers 83.51 350 P **P 21 00 20.5 -0.3**
BACM 83.52 350 P **P 21 00 21.7 +0.9**
CAF Calviac 83.53 355⇑ *iP* **P 21 00 21.6 +0.8**
comp=Z,62nm,1.2s,mb5.3
CAF Calviac 83.53 355⇑ *iP* **P 21 00 21.6 +0.8**
CAF pmax pmax
comp=Z,31nm,1.2s,mb5.3
LFF La Frestale 83.58 356 *eP* **P 21 00 21.5 +0.4**
PZZ Prazzo 83.59 352 P **P 21 00 20.8 -0.4**
VLC Villacollemand 83.60 349 *eP* **P 21 00 20.6 -0.6**
comp=Z,20nm,0.9s,mb5.2
VINC Vinca 83.64 349 P **P 21 00 22.2 +0.8**
ROB Roburent 83.73 351 P **P 21 00 21.6 -0.3**
FIN Finale Ligure 83.78 351 P **P 21 00 21.9 -0.2**
MAIM 83.83 349 P **P 21 00 21.8 -0.6**
STV Sta Anna Valdi 83.83 351 P **P 21 00 21.8 -0.6**
ENR Entracque 83.84 351 P **P 21 00 21.5 -0.9**
SART Tekirdag 83.88 336 *i* P **P 21 00 23.7 +1.0**
ULDT Uludag 83.89 335 *i* P **P 21 00 23.9 +1.1**
KAHT Ahir Dag 83.91 328 *i* P **P 21 00 24.7 +1.8**
GZT Gaziantep 83.93 328 *i* P **P 21 00 24.7 +1.7**
MONE Monesi 83.95 351 P **P 21 00 22.7 -0.3**
SKO Skopje 83.96 341⇑ *iP* **P 21 00 24.2 +1.1**
SKO pmax pmax
comp=Z,41nm,0.9s,mb5.6
SKO Skopje 83.96 341⇑ *iP* **P 21 00 24.2 +1.1**
comp=Z,0.0nm,0.9s
ALN Alexandroupoli 83.96 337 *eP* **P 21 00 23.7 +0.6**
ESKT Eskisehir 84.00 333 *i* P **P 21 00 23.6 +0.2**
ESKT Eskisehir 84.00 333 *i* P **P 21 00 24.1 +0.7**
BNT Bandirma 84.01 336 *i* P **P 21 00 24.4 +1.1**
SAOF Saorge 84.06 351⇑ *eP* **P 21 00 24.0 +0.4**
TOUF Mont Tournerai 84.07 351⇑ *eP* **P 21 00 24.4 +0.8**
AUTN L'Aution 84.07 351⇑ *eP* **P 21 00 24.2 +0.6**
IMI Imperia 84.11 351 P **P 21 00 23.8 +0.1**
NEGI Negi 84.19 351 P **P 21 00 23.5 -0.7**
MVIF Mont Vial 84.19 352⇑ *eP* **P 21 00 24.8 +0.6**
NIG Nigde 84.20 330 *i* P **P 21 00 25.7 +1.3**
SBF Sospel 84.20 351⇑ *iP* **P 21 00 24.7 +0.5**
comp=Z,90nm,1.0s,mb5.5
SBF Sospel 84.20 351⇑ *iP* **P 21 00 24.7 +0.5**
SBF pmax pmax
comp=Z,45nm,1.0s,mb5.5
GAZ Gaziantep 84.22 328 *i* P **P 21 00 26.1 +1.6**
SMRF Simiane la Rot 84.25 353⇑ *iP* **P 21 00 26.0 +1.5**
comp=Z,114nm,1.4s,mb5.5
LASF Ste Croix 84.27 354 *eP* **P 21 00 24.6 0.0**
comp=Z,47nm,1.1s,mb5.2
KIZT Kizilcal 84.31 332 *i* P **P 21 00 25.2 +0.3**
SRS Serrai 84.32 339 *eP* **P 21 00 25.4 +0.4**
REVF Revere 84.33 351⇑ *eP* **P 21 00 25.1 +0.2**
VAY Valandovo 84.35 340 *i* P **P 21 00 25.7 +0.6**
VILF Villemus 84.36 353⇑ *eP* **P 21 00 26.7 +1.7**
KNT Kendrikon 84.43 340 *eP* **P 21 00 26.3 +0.8**

PRAF Pradon 84.45 353⇑eP P 21 00 27.1 +1.6
BTOK Tokmak 84.54 335 iP P 21 00 26.3 +0.3
FRF La Foret Royal 84.57 352 eP P 21 00 26.6 +0.5
comp=Z,66nm,1.3s,mb5.3
FRF La Foret Royal 84.57 352 eP P 21 00 26.6 +0.5
FRF pmax pmax
comp=Z,33nm,1.3s,mb5.3
TREF Trevaresse 84.61 353⇑eP P 21 00 28.0 +1.7
SOH Sokhos 84.66 339 eP P 21 00 27.1 +0.5
PUYF Puyloubier 84.68 353⇑eP P 21 00 27.5 +0.9
GRG Griva 84.73 340 eP P 21 00 27.9 +1.0
LMR La Mourre 84.81 352⇑iP P 21 00 28.1 +0.8
comp=Z,93nm,1.3s,mb5.4
LMR La Mourre 84.81 352⇑iP P 21 00 28.1 +0.8
LMR pmax pmax
comp=Z,46nm,1.3s,mb5.5
BERF Bertagne 84.90 353⇑eP P 21 00 29.1 +1.4
OUR Ouranopolis 84.98 339 eP P 21 00 28.2 0.0
AQU L'Aquila 84.98 347 eP P 21 00 28.4 +0.2
AQU pmax pmax
comp=Z,25nm,1.0s,mb5.3
AQU L'Aquila 84.98 347 eP P 21 00 28.4 +0.2
comp=Z,25nm,1.0s,mb5.3
KONT Konya--Tatoy 85.03 332 P P 21 00 29.0 +0.5
MTLF Montolieu 85.10 355⇑iP P 21 00 29.6 +0.8
comp=Z,138nm,1.2s,mb5.7
MTLF Montolieu 85.10 355⇑iP P 21 00 29.6 +0.8
MTLF pmax pmax
comp=Z,69nm,1.2s,mb5.7
LOS Limnos 85.11 338 eP P 21 00 29.5 +0.6
FNA Florina 85.12 341 eP P 21 00 29.1 +0.2
COBT Iskenderun 85.12 328 iP P 21 00 30.6 +1.5
EPON Pontenova 85.27 2 P P 21 00 29.9 +0.3
comp=Z,21nm,0.9s,mb5.3
EARI Arriondas 85.32 1 P P 21 00 30.1 +0.2
comp=Z,22nm,1.0s,mb5.2
PGF Pioggiola 85.34 350⇑iP P 21 00 30.7 +0.7
comp=Z,198nm,1.1s,mb5.9
PGF Pioggiola 85.34 350⇑iP P 21 00 30.7 +0.7
PGF pmax pmax
comp=Z,99nm,1.1s,mb5.8
EALK Alkurruntz 85.37 358 P P 21 00 30.3 +0.2
comp=Z,17nm,0.9s,mb5.2
ELAN Lanestosa 85.39 359 P P 21 00 30.2 0.0
comp=Z,49nm,1.0s,mb5.6
PAIG Paliouri 85.44 339 eP P 21 00 30.2 -0.3
SJPF Ste Jean 85.47 358⇑iP P 21 00 30.7 +0.1
comp=Z,47nm,1.2s,mb5.2
SJPF Ste Jean 85.47 358⇑iP P 21 00 30.7 +0.1
SJPF pmax pmax
comp=Z,23nm,1.2s,mb5.2
CII Carovilli 85.47 346 eP P 21 00 30.1 -0.5
comp=Z,22nm,1.0s,mb5.2
LRDF Laroque-de-Fa 85.49 355⇑eP P 21 00 31.9 +1.2
EPF Esparros 85.50 356 eP P 21 00 30.8 +0.1
comp=Z,71nm,1.4s,mb5.3
EPF Esparros 85.50 356 eP P 21 00 30.8 +0.1
EPF pmax pmax
comp=Z,35nm,1.4s,mb5.3
LPEF Le Peyrat 85.51 355⇑eP P 21 00 31.9 +1.1
LIT Litokhoron 85.54 340 eP P 21 00 30.9 -0.2
MLS Moulis 85.54 356⇑eP P 21 00 31.9 +1.0
MANT Manisa 85.59 335 iP P 21 00 31.8 +0.5
VIEF Viey 85.66 357⇑eP P 21 00 32.5 +1.0
ETSF Etsaut 85.66 357⇑iP P 21 00 32.5 +0.9
comp=Z,74nm,1.2s,mb5.5
ETSF Etsaut 85.66 357⇑iP P 21 00 32.5 +0.9
ETSF pmax pmax
comp=Z,37nm,1.2s,mb5.5
ISP Isparta 85.66 333⇓iP P 21 00 31.5 -0.2
RESF Ens 85.72 356⇑eP P 21 00 33.3 +1.4
MEST Erdemli 85.74 330 iP P 21 00 31.8 -0.4
EBIE Bielsa 85.85 357 P P 21 00 33.3 +0.8
comp=Z,23nm,1.0s,mb5.4
EJON La Jonquera 85.95 355 P P 21 00 33.1 +0.1
comp=Z,4.1nm,0.4s,mb5.0
KDAG Bornova 86.02 335 iP P 21 00 33.5 0.0
XOR Xorichti 86.08 339 eP P 21 00 33.3 -0.4
DNZL Cakiroluk 86.21 334 iP P 21 00 35.1 +0.6
RKT Rikitea 86.25 135 eSS SS 21 17 02.3 +13
RKT eLR LR 21 27 13.2
comp=Z,643nm,27.0s,baz=328
IGT Igoumenitsa 86.53 341 eP P 21 00 35.5 -0.5
EPOB Poblet 87.14 356 P P 21 00 38.2 -0.7
comp=Z,3.9nm,0.6s,mb4.8
FETY Fethiye 87.19 334 eP P 21 00 38.8 -0.4
BIDO Bidbid 87.21 305 ⇓P P 21 00 39.6 0.0
SNR=9.4
WBK Wadi Bani Khal 87.53 304 ⇑P P 21 00 41.8 +0.7
SNR=10.0
TIP Timpagnande 87.55 344 eP P 21 00 40.4 -0.5
HOQ Hoqain 87.57 306 ⇑P P 21 00 40.4 -0.9
SMDO Samad 87.63 305 ⇑P P 21 00 41.7 +0.1
SNR=11
JTS JuntasAbangare 87.86 76 eP P 21 00 46.0 +3.1
JTS JuntasAbangare 87.86 76 eP P 21 00 41.3 -1.6
GUD Guadarrama 87.98 360 P P 21 00 42.8 -0.1
GUD pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
GUD Guadarrama 87.98 360 P P 21 00 42.8 -0.1
comp=Z,6.2nm,0.9s,mb4.8
ARQ Araqi 88.17 306 ⇑P P 21 00 43.9 -0.3
SNR=10
JMDO Jabal Madar 88.17 305 ⇑P P 21 00 43.9 -0.3
SNR=14
EMOS Mosqueruela 88.19 357 P P 21 00 43.7 -0.2
comp=Z,7.8nm,0.9s,mb4.9
BSY Bisya 88.32 306 ⇑P P 21 00 44.5 -0.5
SNR=22
STKA Stephens Creek 88.44 208 eP P 21 00 46.1 +0.8
comp=Z,4.5nm,0.8s,mb4.8
STKA e pP 21 00 55.8 +1.1
STKA Stephens Creek 88.44 208 P P 21 00 46.0 +0.7
comp=Z,5.6nm,0.8s,mb4.8,baz=322,slow=2.6,SNR=8.4
STKA pP pP 21 00 55.1 +0.4
comp=Z,11nm,0.7s,baz=341,slow=5.6,SNR=10
STKA LR LR 21 38 05.5
comp=Z,466nm,18.4s,MS4.9,baz=204,slow=34
ASF Jabal al Asfar 88.86 326 P P 21 00 47.8 +0.4
comp=Z,21nm,0.9s,mb5.5,baz=271,slow=4.0,SNR=30
ASF LR LR 21 46 02.1
comp=Z,291nm,20.8s,MS4.7,baz=263,slow=39
ESDC Sonseca Array 88.94 360 P P 21 00 47.0 -0.6
comp=Z,4.0nm,0.8s,mb4.8,baz=358,slow=4.5,SNR=15
ESDC Sonseca Array 88.94 360 P P 21 00 47.4 -0.1
comp=Z,5.9nm,0.7s,mb5.0
URZ Urewera 89.65 179 LR LR 21 34 29.4
comp=Z,624nm,21.1s,MS5.0,baz=277,slow=31
EBAD Badajoz 89.84 2 P P 21 00 51.1 -0.7
comp=Z,1.2nm,0.5s,mb4.5
EVIA Vianos 89.96 358 P P 21 00 53.0 +0.6
EVIA pmax pmax
comp=Z,11nm,0.8s,mb5.2
EVIA Vianos 89.96 358 P P 21 00 53.0 +0.6
comp=Z,11nm,0.8s,mb5.2
EVO Evora 90.03 3 eP P 21 00 52.5 -0.2
comp=Z,29nm,1.1s,mb5.2
EVO eR
comp=Z,466nm,20.8s
EADA Adamuz 90.45 0 P P 21 00 54.3 -0.3
comp=Z,5.2nm,0.8s,mb4.9
EQES Quesada 90.81 359 P P 21 00 56.2 0.0
comp=Z,2.6nm,0.7s,mb4.7
EMIN Mina Concepcio 90.83 2 P P 21 00 56.0 -0.3
comp=Z,4.1nm,0.7s,mb4.9
EGRO El Granado 91.05 2 P P 21 00 57.3 0.0
comp=Z,6.3nm,0.8s,mb5.0
ELOJ Sierra Loja 91.47 360 P P 21 00 59.8 +0.5
ELOJ pmax pmax
comp=Z,20nm,1.2s,mb5.3
ELOJ Sierra Loja 91.47 360 P P 21 00 59.8 +0.5
comp=Z,20nm,1.2s,mb5.3
ESPR Espera 91.74 1 P P 21 01 00.5 -0.1
comp=Z,5.5nm,0.6s,mb5.1
EMIJ Mijas 92.05 0 P P 21 01 01.6 -0.4
comp=Z,3.4nm,0.5s,mb4.9
WHFO Wadi Hawf 94.10 306 ⇑P P 21 01 10.6 -1.2
EFAM Famara 99.08 8 P P 21 01 34.5 +0.3
comp=Z,6.5nm,0.1s,mb6.1
OTAV Otavalo 99.72 77 Pdif P 21 01 39.2 +1.7
KMBO Kilima Mbogo 118.61 311 PKP PKPdf 21 06 41.1 -4.2
comp=Z,2.4nm,0.7s,baz=231,slow=24,SNR=5.5
LPAZ La Paz 118.92 79 PKP PKPdf 21 06 42.0 -3.8
comp=Z,0.8nm,0.7s,baz=333,slow=6.0,SNR=3.7
LPAZ pPKP 21 06 51.4
comp=Z,1.1nm,0.6s,baz=36,slow=8.4,SNR=4.1
DBIC Dimbokro 121.80 0 PKP PKPdf 21 06 46.6 -4.9
comp=Z,6.7nm,0.9s,baz=335,slow=3.8,SNR=9.8
VNDA Vanda 129.29 184 PKP PKPdf 21 07 00.4 -3.9
comp=Z,2.4nm,1.2s,baz=34,slow=3.6,SNR=2.8
VNDA pPKP 21 07 09.4
comp=Z,1.0nm,0.7s,baz=163,slow=2.8,SNR=2.5
BDFB Brasilia 130.11 60 PKP PKPdf 21 07 04.0 -3.4
comp=Z,8.8nm,0.8s,baz=337,slow=2.3,SNR=9.8
PLCA Paso Flores 134.51 103 PKP PKPdf 21 07 11.8 -3.3
comp=Z,3.5nm,0.7s,baz=231,slow=3.2,SNR=11
QSPA South Pole Qui 141.51 180 ePKP PKPdf 21 07 21.6 -4.9
QSPA ⇑iP 21 07 31.2
MAW Mawson 144.60 218 PKP PKPdf 21 07 27.4 -4.7
comp=Z,46nm,0.8s,baz=81,slow=4.2,SNR=31
PMSA Palmer Station 147.44 137 ePKPbc PKPdf 21 07 36.1 -0.9
SYO Syowa Base 153.07 214 ⇑PKPbc PKPdf 21 07 48.8 +3.3

IDC 13 21:02:16.4±15.0, 15.47S×167.96E, mb4.0/4, mb1 4.2/4, mb1mx3.8/14, mbtmp4.0/4, Error ellipse: s-maj=247.4km s-min=102.8km az=58.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.17**	**254**	P	P	21 07 03.3	-2.4
	3.9nm,0.8s,baz=21,slow=11,SNR=2.7						
STKA	**Stephens Creek**	**29.03**	**231**	P	P	21 08 18.1	-2.3
	1.3nm,0.4s,baz=65,slow=7.1,SNR=8.7						
WRA	**Warramunga Arr**	**32.30**	**257**	P	P	21 08 47.7	-1.7
	0.7nm,0.4s,baz=88,slow=8.8,SNR=21						
ASAR	**Alice Springs**	**33.04**	**250**	P	P	21 08 53.9	-2.0
	1.3nm,0.4s,baz=78,slow=9.1,SNR=24						

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*SOF **13** 21:06:52.7, 40.30N×25.60E, h5km, MD2.9*
*THE **13** 21:06:53.4, 40.26N×25.80E, h9km, ML3.2*
*ATH **13** 21:06:54.2, 40.33N×25.67E, h5km, MD3.4/3*
*CSEM **13** 21:06:54.5±0.1, 40.31N×25.71E, h16km, ML3.2, Error ellipse: s-maj=1.7km s-min=1.4km az=171.0*
*ISK **13** 21:06:55.0, 40.32N×25.63E, h30km, MD3.4*
ISC 13 21:06:53.5±0.6, 40.34N±0.02×25.67E±0.02, h4km±5km, n37, σ1§05/51, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.57**	**149**	*i* P	**Pg**	**21 07 05.2**	**+0.3**
BOZC				*i* S	**Sg**	**21 07 12.9**	**+0.3**
LOS	**Limnos**	**0.60**	**229**	*e*Pg	**Pg**	**21 07 06.1**	**+0.5**
LOS				*e*Sg	**Sg**	**21 07 14.8**	**+1.2**
ALN	**Alexandroupoli**	**0.63**	**27**	*e*Pg	**Pg**	**21 07 06.3**	**+0.2**
ALN				*e*Sg	**Sg**	**21 07 15.4**	**+1.0**
EZN	**Ezine**	**0.71**	**135**	PG	**Pg**	**21 07 08.4**	**+0.7**
RDO	**Rodhopi**	**0.82**	**353**	*e*PB	**Pb**	**21 07 10.0**	**+0.2**
PRK	**Paraskevi**	**1.18**	**157**	*e*PB	**Pb**	**21 07 16.5**	**+0.4**
PRK				*e*SB	**Sb**	**21 07 33.5**	**+1.9**
SART	**Tekirdag**	**1.20**	**72**	*i* P	**Pb**	**21 07 16.0**	**-0.4**
SART				*i* S	**Sb**	**21 07 32.9**	**+0.7**
AYVA	**Ayvalik**	**1.29**	**142**	*i* P	**Pb**	**21 07 18.0**	**+0.1**
AYVA				*i* S	**Sb**	**21 07 35.3**	**+0.5**
OUR	**Ouranopolis**	**1.29**	**270**	*e*Pb	**Pb**	**21 07 18.1**	**+0.1**
OUR				*e*Sb	**Sb**	**21 07 37.7**	**+2.9**
MFT	**Murefte**	**1.31**	**69**	*i* PN	**Pn**	**21 07 17.9**	**-0.5**
KDZ	**Kurdzhali**	**1.33**	**352**	*i* P	**Pb**	**21 07 19.0**	**+0.4**
MRMT	**Marmara Adasi**	**1.49**	**79**	PN	**Pn**	**21 07 19.8**	**-1.3**
MRMT				SN	**Sn**	**21 07 39.2**	**-2.0**
RZN	**Rozhen**	**1.53**	**332**	*i* S	**Sb**	**21 07 43.0**	**+1.2**
PAIG	**Paliouri**	**1.58**	**256**	*e*Pb	**Pb**	**21 07 21.3**	**-1.7**
PAIG				*e*Sb	**Sb**	**21 07 44.0**	**+0.8**
EDC	**Edincik**	**1.68**	**89**	*e*PN	**Pn**	**21 07 24.1**	**+0.4**
PLG	**Polygyros**	**1.70**	**272**	*e*PB	**Pb**	**21 07 23.5**	**-1.5**
PLG				*e*SB	**Sb**	**21 07 50.5**	**+3.8**
EDRB	**Edirne**	**1.71**	**28**	*e*PN	**Pn**	**21 07 24.0**	**-0.3**
BNT	**Bandirma**	**1.72**	**89**	PN	**Pn**	**21 07 23.9**	**-0.4**
SRS	**Serrai**	**1.76**	**297**	*e*Pb	**Pb**	**21 07 24.5**	**-1.5**
SRS				*e*Sb	**Sb**	**21 07 49.5**	**+1.1**
AOS	**Alonnisos**	**1.81**	**230**	*e*Pb	**Pb**	**21 07 24.3**	**-2.5**
SOH	**Sokhos**	**1.83**	**286**	*e*Pb	**Pb**	**21 07 25.4**	**-1.7**
SOH				*e*Sb	**Sb**	**21 07 50.3**	**-0.2**
BALB	**Balikesir**	**1.83**	**112**	PN	**Pn**	**21 07 25.8**	**-0.2**
BTOK	**Tokmak**	**1.90**	**107**	*i* P	**Pn**	**21 07 26.9**	**-0.1**
BTOK				*i* S	**Sn**	**21 07 53.3**	**+1.7**
PLD	**Plovdiv**	**1.91**	**338**	*i* P	**Pn**	**21 07 30.0**	**+2.8**
PLD	**Plovdiv**	**1.91**	**338**	*i* Sg	**Sg**	**21 07 57.0**	**-0.2**
MMB	**Musomiste**	**1.93**	**311**	*i* P	**Pn**	**21 07 27.0**	**-0.4**
KCT	**Karacabey**	**2.05**	**91**	PN	**Pn**	**21 07 29.2**	**0.0**
XOR	**Xorichti**	**2.14**	**244**	*e*Pn	**Pn**	**21 07 29.0**	**-1.5**
AKS	**Akhisar**	**2.20**	**131**	PN	**Pn**	**21 07 30.7**	**-0.6**
KNT	**Kendrikon**	**2.26**	**292**	*e*Pn	**Pn**	**21 07 32.1**	**-0.1**
KNT				*e*Sn	**Sn**	**21 08 02.5**	**+1.7**
IZM	**Izmir**	**2.29**	**147**	PN	**Pn**	**21 07 31.7**	**-0.9**
KKB	**Krupnik**	**2.48**	**309**	*i* P	**Pn**	**21 07 35.0**	**-0.3**
PGB	**Panagyurishte**	**2.48**	**333**	*i* P	**Pn**	**21 07 40.0**	**+4.6**
YLV	**Yalova**	**2.83**	**84**	*e*PN	**Pn**	**21 07 40.8**	**+0.5**
AGG	**Agios Georgios**	**2.89**	**244**	*e*Pn	**Pn**	**21 07 40.0**	**-1.2**
FNA	**Florina**	**3.30**	**279**	*e*Pn	**Pn**	**21 07 46.6**	**-0.4**
ESKT	**Eskisehir**	**4.06**	**100**	*e*PN	**Pn**	**21 07 57.4**	**-0.4**

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*IDC **13** 21:06:53.0±4.0, 8.73N×125.22E, mb4.1/3, mb1 4.3/3, mb1mx3.7/17, mbtmp4.1/3, Error ellipse: s-maj=213.0km s-min=74.6km az=72.0*
*MAN **13** 21:07:06.1, 8.74N×126.36E, h75km, mb4.5, ML3.4, MS3.3*
ISC 13 21:07:05.0±0.7, 8.75N±0.04×126.44E±0.06, h94km±6km, n20, σ0§71/30, mb4.0/3, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.57**	**188**	⇓*i*P	**P**	**21 07 21.5**	**+0.6**
BIPH				*i* S	**S**	**21 07 32.0**	**-0.7**
BUTP	**Butuan**	**0.84**	**285**	*e*P	**P**	**21 07 23.8**	**+0.4**
BUTP				*e*S	**S**	**21 07 36.5**	**-0.7**
SCPH	**Surigao**	**1.39**	**318**	⇑*e*P	**P**	**21 07 30.7**	**+0.7**
SCPH				*e*S	**S**	**21 07 44.8**	**-3.7**
BUKP	**Musuan**	**1.61**	**238**	*e*P	**P**	**21 07 32.7**	**-0.1**
BUKP				*e*S	**S**	**21 07 52.8**	**-0.6**
CGP	**Cagayan de Oro**	**1.75**	**260**	*e*P	**P**	**21 07 34.4**	**-0.2**
MATI	**Mati**	**1.80**	**186**	*e*P	**P**	**21 07 36.3**	**+1.1**
MSLP	**Maasin**	**2.08**	**312**	*e*P	**P**	**21 07 39.8**	**+0.9**
KCP	**Kidapawan**	**2.18**	**218**	⇓*e*P	**P**	**21 07 40.8**	**+0.4**
KCP				*i* S	**S**	**21 08 05.9**	**-0.7**
TBP	**Tagbilaran**	**2.71**	**290**	*e*P	**P**	**21 07 47.2**	**-0.5**
TBP				*e*S	**S**	**21 08 19.4**	**-0.1**
TBP	**Tagbilaran**	**2.71**	**290**	*e*P	**S**	**21 08 19.4**	**-0.1**
PLP	**Palo**	**2.80**	**329**	*i* P	**P**	**21 07 49.0**	**+0.1**
PLP				*e*S	**S**	**21 08 22.1**	**+0.4**
LLP	**Lapu-Lapu**	**2.89**	**303**	⇑*i*P	**P**	**21 07 50.4**	**+0.2**
LLP				*e*S	**S**	**21 08 23.6**	**-0.5**
OCLP	**Ormoc**	**2.91**	**322**	*e*P	**P**	**21 07 51.5**	**+1.0**
BESP	**Borongan**	**3.00**	**341**	*e*P	**P**	**21 07 51.7**	**0.0**
BESP				*e*S	**S**	**21 08 25.5**	**-1.3**
PAGZ	**Pagadian**	**3.15**	**254**	*e*P	**P**	**21 07 53.8**	**0.0**
PAGZ				*e*S	**S**	**21 08 31.9**	**+1.4**
SNPH	**Sibulan**	**3.22**	**281**	*e*P	**P**	**21 07 54.5**	**-0.1**
GUIM	**Jordan**	**4.23**	**296**	*e*P	**P**	**21 08 08.4**	**-0.1**
WRA	**Warramunga Arr**	**29.55**	**165**	P	**P**	**21 13 01.5**	**-1.7**
	0.4nm,0.3s,mb3.6,baz=341,slow=8.3,SNR=37						
ASAR	**Alice Springs**	**33.03**	**167**	P	**P**	**21 13 33.2**	**-0.4**
	1.3nm,0.3s,mb4.2,baz=348,slow=7.3,SNR=28						
ASAR				PcP	PcP	21 16 14.8	-0.5
	0.6nm,0.8s,baz=0.6,slow=2.2,SNR=4.8						
STKA	**Stephens Creek**	**42.92**	**161**	P	**P**	**21 14 56.7**	**+0.5**
	1.3nm,0.3s,mb4.1,baz=337,slow=10,SNR=12						

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*IDC **13** 21:13:05.8±1.4, 4.92N×93.11E, mb3.7/5, mb1 3.8/6, mb1mx3.7/18, mbtmp3.7/6, ML3.1/1, Error ellipse: s-maj=52.9km s-min=22.4km az=55.0*
ISC 13 21:13:08.7±1.3, 4.9N±0.2×93.1E±0.2, h33km, n6, σ1§39/6, mb3.7/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.65**	**23**	Pn	**P**	**21 16 35.8**	**+0.2**
	0.0nm,0.3s,baz=213,slow=15,SNR=7.7						
SONM	**Songino Array**	**44.28**	**13**	P	**P**	**21 21 16.4**	**-0.6**
	0.3nm,0.6s,mb3.2,baz=180,slow=8.6,SNR=2.2						
WRA	**Warramunga Arr**	**47.47**	**123**	P	**P**	**21 21 41.2**	**-1.5**
	1.6nm,0.7s,mb4.1,baz=303,slow=9.1,SNR=5.1						
ASAR	**Alice Springs**	**48.89**	**127**	P	**P**	**21 21 55.3**	**+1.6**
	0.5nm,0.8s,mb3.6,baz=298,slow=7.7,SNR=3.7						
BVAR	**Borovoye Array**	**51.48**	**343**	P	**P**	**21 22 13.7**	**+0.7**
	1.6nm,1.1s,mb3.9,baz=149,slow=8.6,SNR=5.5						
BRTR	**Keskin Array B**	**63.60**	**312**	P	**P**	**21 23 38.4**	**-0.4**
	0.5nm,0.4s,mb3.9,baz=100,slow=7.5,SNR=3.8						

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*BJI **13** 21:21:41.1, 6.00N×93.10E, h30km, mb4.6*
*IDC **13** 21:21:43.4±0.9, 6.02N×93.09E, h30km±4km, mb4.2/9, mb1 4.3/10, mb1mx4.0/19, mbtmp4.3/10, ML4.0/1, Error ellipse: s-maj=38.1km s-min=15.4km az=51.0*
*NEIC **13** 21:21:43.1±0.5, 5.95N×93.10E, h30km, mb4.5/10, Error ellipse: s-maj=15.9km s-min=9.1km az=49.0*
ISC 13 21:21:41.0±0.5, 5.89N±0.07×93.01E±0.09, h30km, h30km±2.7km: pP-P, n37, σ1§01/37, mb4.4/23, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.31**	**277**	*e*P	**P**	**21 24 37.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**13.77**	**24**	Pn	**P**	**21 24 56.4**	**-0.3**
	0.2nm,0.3s,baz=229,slow=14,SNR=27						
HYB	**Hyderabad**	**18.20**	**310**	*i* P	**P**	**21 25 57.0**	**+3.6**
HYB				*e*S	**S**	**21 29 07.5**	**-4.8**
QIZ	**Qiongzhong**	**20.96**	**50**	P	**P**	**21 26 29.4**	**+5.2**
	35nm,1.2s						
JIRN	**Jiri**	**22.61**	**344**	*e*P	**P**	**21 26 41.5**	**+0.9**
	11nm,0.5s,mb4.6						
PKI	**Pulchoki**	**22.75**	**342**	*e*P	**P**	**21 26 43.2**	**+1.2**
DMN	**Daman**	**22.87**	**342**	*e*P	**P**	**21 26 44.2**	**+0.9**
	35nm,0.8s,mb4.9						
GUN	**Gumba**	**22.93**	**344**	*e*P	**P**	**21 26 43.9**	**+0.1**
KKN	**Kakani**	**22.99**	**342**	*e*P	**P**	**21 26 44.5**	**+0.1**
	29nm,0.8s,mb4.7						
GKN	**Gorkha**	**23.39**	**341**	*e*P	**P**	**21 26 48.2**	**-0.1**
KOLN	**Koldanda**	**23.53**	**339**	*e*P	**P**	**21 26 49.9**	**+0.3**
	23nm,0.6s,mb4.8						
LSA	**Lhasa**	**23.75**	**356**	P	**P**	**21 26 51.3**	**-0.5**
LSA	**Lhasa**	**23.75**	**356**	*e*P	**P**	**21 26 51.6**	**-0.2**
	5.9nm,0.6s,mb4.2						
ENH	**Enshi**	**28.79**	**31**	*e*P	**P**	**21 27 44.7**	**+6.1**
	9.2nm,0.9s,mb4.5						
MBWA	**Marble Bar**	**37.55**	**136**	*e*P	**P**	**21 28 53.5**	**-1.1**
	1.6nm,0.6s,mb3.9						
BJT	**Baijiatuau**	**39.85**	**28**	P	**P**	**21 29 14.6**	**+0.9**
FITZ	**Fitzroy Crossi**	**40.06**	**127**	*e*P	**P**	**21 29 16.1**	**+0.6**
	8.4nm,0.7s,mb4.6						
SONM	**Songino Array**	**43.34**	**13**	P	**P**	**21 29 42.7**	**+0.7**
	0.8nm,1.1s,mb3.4,baz=208,slow=6.6,SNR=2.6						
SONM				pP	pP	21 29 49.8	-1.3
	1.0nm,0.5s,baz=195,slow=8.9,SNR=10						
SONM	**Songino Array**	**43.34**	**13**	P	**P**	**21 29 42.7**	**+0.7**
SONM				pP	pP	21 29 49.8	-1.3
ULN	**Ulaanbaatar**	**43.52**	**14**	*e*P	**P**	**21 29 44.7**	**+1.1**
	1.3nm,0.9s,mb3.7						
WRA	**Warramunga Arr**	**48.07**	**123**	P	**P**	**21 30 20.4**	**+0.3**
	6.0nm,0.8s,mb4.7,baz=303,slow=9.1,SNR=48						
WRA				PcP	PcP	21 31 48.8	+0.9
	0.7nm,0.6s,baz=310,slow=2.5,SNR=4.7						
WRAB	**Tennant Creek**	**48.07**	**123**	*e*P	**P**	**21 30 20.5**	**+0.4**
	13nm,0.7s,mb5.1						
WB2	**Warramunga Arr**	**48.08**	**123**	*e*P	**P**	**21 30 20.3**	**+0.1**
WB2				*e*		21 30 32.6	
HIA	**Hailar**	**48.78**	**23**	P	**P**	**21 30 22.2**	**-3.0**
	4.9nm,0.8s,mb4.6						
ASPA	**Alice Springs**	**49.54**	**128**	*e*P	**P**	**21 30 32.3**	**+0.9**
ASAR	**Alice Springs**	**49.54**	**128**	P	**P**	**21 30 31.6**	**+0.2**
	7.7nm,0.8s,mb4.8,baz=299,slow=7.3,SNR=50						
ASAR				PcP	PcP	21 31 54.1	+1.0
	2.7nm,0.9s,baz=308,slow=3.5,SNR=7.8						
BVAR	**Borovoye Array**	**50.52**	**342**	P	**P**	**21 30 37.1**	**-1.3**
	0.7nm,0.7s,mb3.7,baz=141,slow=9.5,SNR=5.7						
BRVK	**Borovoye**	**50.58**	**342**	P	**P**	**21 30 36.8**	**-2.1**
	2.5nm,0.9s,mb4.1						
CHKZ	**Chkalovo**	**51.02**	**343**	*e*P	**P**	**21 30 40.4**	**-1.8**
	5.3nm,0.9s,mb4.5						
PMG	**Port Moresby**	**56.05**	**105**	P	**P**	**21 31 18.4**	**-1.6**
	5.6nm,0.5s,mb4.8,baz=311,slow=9.3,SNR=4.0						
STKA	**Stephens Creek**	**59.58**	**132**	P	**P**	**21 31 44.2**	**-0.3**
	4.5nm,0.7s,mb4.6,baz=304,slow=9.9,SNR=7.8						
FINES	**FINESS Array B**	**73.94**	**333**	P	**P**	**21 33 14.2**	**-0.9**
	4.8nm,1.1s,mb4.3,baz=90,slow=3.8,SNR=5.5						
FINES				pP	pP	21 33 23.7	-0.8
	2.7nm,0.9s,baz=117,slow=8.5,SNR=6.2						
FINES	**FINESS Array B**	**73.94**	**333**	P	**P**	**21 33 14.2**	**-0.9**
FINES				pP	pP	21 33 23.7	-0.8
ARCES	**ARCESS Array B**	**76.75**	**340**	P	**P**	**21 33 30.3**	**-0.6**
	3.3nm,0.9s,mb4.2,baz=101,slow=6.2,SNR=6.0						
ARCES				pP	pP	21 33 41.3	+0.9
	1.5nm,0.6s,baz=104,slow=5.0,SNR=7.2						
GERES	**GERESS Array B**	**78.56**	**319**	P	**P**	**21 33 42.0**	**+0.7**
	0.8nm,0.7s,mb3.8,baz=76,slow=5.5,SNR=7.1						
GERES				pP	pP	21 33 51.8	+1.0
	0.6nm,0.6s,baz=90,slow=2.7,SNR=5.7						
EKA	**Eskdalemuir Ar**	**88.71**	**325**	P	**P**	**21 34 34.3**	**+1.5**
	2.7nm,0.9s,mb4.5,baz=82,slow=5.9,SNR=3.9						
NVAR	**Mina Array Bea**	**127.19**	**31**	PKP	PKPdf	21 40 46.3	-1.9
	0.5nm,0.8s,baz=270,slow=0.9,SNR=3.0						
NVAR				pPKP		21 40 56.3	
	0.4nm,0.6s,baz=354,slow=2.9,SNR=3.0						

MAN 13 21:31:49.9, 7.98N×126.13E, h18km, mb4.5, ML3.4, MS3.3, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.31**	**49**	⇑*e*P	Pb	21 31 57.2	+0.6
BIPH				*i* S	Sb	21 32 03.5	+2.4
MATI	**Mati**	**1.04**	**173**	*e*P	Pb	21 32 08.4	-0.6
MATI				*e*S	Sb	21 32 23.8	+1.6
BUKP	**Musuan**	**1.06**	**264**	*e*P	Pb	21 32 08.2	-1.2
BUKP				*e*S	Sb	21 32 24.3	+1.5
BUTP	**Butuan**	**1.10**	**333**	*e*P	Pb	21 32 09.5	-0.6
BUTP				*e*S	Sb	21 32 25.4	+1.4
KCP	**Kidapawan**	**1.41**	**227**	⇑*i*P	Pn	21 32 14.8	-0.1
KCP				*i* S	Sb	21 32 34.5	+1.5
**CG

s-maj=121.8km s-min=22.4km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.43**	**17**	Pn	P	22 27 14.3	+3.6
	0.1nm,0.3s,baz=208,slow=14,SNR=3.7						
SONM	**Songino Array**	**43.26**	**11**	P	P	22 31 59.5	-1.6
	0.4nm,0.5s,baz=190,slow=8.1,SNR=5.1						
WRA	**Warramunga Arr**	**46.40**	**124**	P	P	22 32 25.1	-1.6
	0.7nm,0.8s,baz=305,slow=9.0,SNR=15						
ASAR	**Alice Springs**	**47.95**	**129**	P	P	22 32 36.5	-2.4
	0.6nm,0.8s,baz=305,slow=8.3,SNR=5.1						
ZAL	**Zalesovo**	**48.91**	**352**	P	P	22 32 44.0	-1.8
	0.9nm,0.3s,baz=312,slow=7.6,SNR=3.9						
BVAR	**Borovoye Array**	**51.37**	**341**	P	P	22 33 02.2	-2.4
	0.4nm,0.3s,baz=145,slow=10,SNR=4.2						

*IDC **13** 22:39:15.2±1.1, 25.06N×124.14E, mb3.8/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.8/5, Error ellipse: s-maj=68.4km s-min=20.9km az=72.0*

*JMA **13** 22:39:27.8±0.1, 24.90N×123.93E, h96km±2km, M3.3*

ISC 13 22:39:26.3±0.6, 24.92N±0.10×123.91E±0.06, h105km±6km, n14, σ0§55/21, mb3.6/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIJ	**Ishigaki jima**	**0.59**	**158**	P	P	**22 39 43.5**	**0.0**
JIJ				S	S	**22 39 55.0**	**-1.4**
IRIF	**Iriomote-Funau**	**0.60**	**195**	P	P	**22 39 43.7**	**+0.1**
IRIF				S	S	**22 39 56.5**	**0.0**
JKRS	**Kuro-shima**	**0.68**	**172**	P	P	**22 39 44.7**	**+0.5**
JKRS				S	S	**22 39 57.5**	**-0.2**
JTJ	**Tarama**	**0.78**	**110**	P	P	**22 39 45.5**	**+0.4**
JTJ				S	S	**22 39 58.7**	**-0.5**
HATJ	**Hateruma jima**	**0.86**	**186**	P	P	**22 39 46.5**	**+0.5**
YOJ	**Yonaguni jima**	**0.93**	**241**	P	P	**22 39 47.5**	**+0.8**
YOJ				S	S	**22 40 01.9**	**-0.1**
JMJ	**Miyako jima 2**	**1.27**	**94**	P	P	**22 39 51.0**	**+0.5**
JMJ				S	S	**22 40 08.1**	**-0.6**
JOGS	**Gusukube**	**1.37**	**96**	P	P	**22 39 52.2**	**+0.4**
JOGS				S	S	**22 40 10.8**	**0.0**
JKE	**Kume jima 2**	**2.96**	**61**	P	P	**22 40 13.6**	**+1.0**
SONM	**Songino Array**	**26.75**	**333**	P	P	**22 44 57.2**	**-0.7**
	0.4nm,0.5s,mb3.2,baz=147,slow=9.4,SNR=4.3						
WRA	**Warramunga Arr**	**45.73**	**166**	P	P	**22 47 39.0**	**0.0**
	0.9nm,0.5s,mb3.8,baz=347,slow=8.8,SNR=12						
BVAR	**Borovoye Array**	**48.70**	**320**	P	P	**22 48 00.8**	**-0.9**
	0.5nm,0.3s,mb3.9,baz=102,slow=8.5,SNR=6.4						
ASAR	**Alice Springs**	**49.26**	**168**	P	P	**22 48 06.7**	**+0.3**
	1.0nm,0.5s,mb4.0,baz=352,slow=11,SNR=20						
YKA	**Yellowknife Ar**	**81.33**	**24**	P	P	**22 51 31.9**	**-0.3**
	0.3nm,0.6s,mb3.3,baz=306,slow=5.2,SNR=5.2						

*IDC **13** 22:44:56.8±1.1, 13.22N×92.70E, mb3.7/6, mb1 3.8/7, mb1mx3.6/19, mbtmp3.6/7, Error ellipse: s-maj=43.8km s-min=20.1km az=53.0*

ISC 13 22:45:01.1±0.6, 13.63N±0.05×92.87E±0.07, h33km, n15, σ1§18/17, mb3.6/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.96**	**184**	*eP*	P	**22 45 32.3**	**-0.2**
PBA				*eS*	S	**22 45 58.0**	**+1.8**
PBA				*e*		22 46 07.1	
	comp=E,1μm,0.5s						
PBA				*e*		22 46 07.7	
	comp=N,1μm,0.8s						
CMAR	**Chiang Mai Arr**	**7.56**	**50**	Pn	Pn	**22 46 52.6**	**+0.8**
	baz=238,slow=15,SNR=2.7						
CMAR				Sn	Sn	**22 48 17.6**	**+0.4**
	comp=N,0.5nm,0.3s,baz=239,slow=28,SNR=10						
JIRN	**Jiri**	**15.29**	**337**	*eP*	P	**22 48 35.7**	**-0.5**
	comp=N,8.2nm,0.4s						
PKI	**Pulchoki**	**15.53**	**334**	*eP*	P	**22 48 38.4**	**-0.9**
	comp=N,8.1nm,0.3s						
GUN	**Gumba**	**15.64**	**336**	*eP*	P	**22 48 41.5**	**+0.8**
	comp=N,10nm,0.6s						
DMN	**Daman**	**15.69**	**334**	*eP*	P	**22 48 40.3**	**-1.0**
	comp=N,11nm,0.5s						
KKN	**Kakani**	**15.77**	**334**	*eP*	P	**22 48 42.7**	**+0.3**
	comp=N,5.1nm,0.4s						
GKN	**Gorkha**	**16.23**	**333**	*eP*	P	**22 48 48.5**	**+0.2**
	comp=N,16nm,0.3s						
KOLN	**Koldanda**	**16.52**	**330**	*eP*	P	**22 48 52.1**	**+0.2**
	comp=N,16nm,0.7s						
ZAL	**Zalesovo**	**40.72**	**353**	P	P	**22 52 41.9**	**+1.6**
	comp=N,0.8nm,0.4s,mb3.7,baz=330,slow=12,SNR=4.5						
BVAR	**Borovoye Array**	**43.18**	**340**	P	P	**22 53 01.2**	**+0.8**
	comp=N,0.2nm,0.6s,mb3.0,baz=157,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**52.70**	**128**	P	P	**22 54 12.2**	**-2.7**
	comp=N,1.6nm,0.8s,mb4.0,baz=307,slow=9.3,SNR=17						
ASAR	**Alice Springs**	**54.62**	**132**	P	P	**22 54 26.4**	**-2.6**
	comp=N,0.5nm,0.5s,mb3.9,baz=309,slow=7.0,SNR=12						
BRTR	**Keskin Array B**	**57.82**	**308**	P	P	**22 54 51.0**	**-0.8**
	comp=N,0.3nm,0.6s,mb3.5,baz=127,slow=7.2,SNR=3.0						
ILAR	**Eielson Array**	**89.91**	**22**	P	P	**22 58 01.4**	**+3.7**
	comp=N,0.3nm,0.7s,mb3.7,baz=304,slow=3.3,SNR=4.3						

*IDC **13** 22:51:11.8±1.2, 21.60S×66.69W, h214km±10km, mb3.7/7, mb1 3.9/11, mb1mx3.8/16, mbtmp4.2/11, Error ellipse: s-maj=19.9km s-min=11.6km az=96.0*

*NEIC **13** 22:51:11.8±0.9, 21.58S×66.66W, h213km±8km, mb4.3/16, Error ellipse: s-maj=16.2km s-min=8.7km az=77.0*

ISC 13 22:51:12.0±0.9, 21.56S±0.06×66.8W±0.1, h228km±7km, n38, σ1§21/36, mb4.1/21, 1C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.23**	**242**	P	P	**22 51 55.8**	**+0.5**
	41nm,0.3s,baz=52,slow=7.7,SNR=15						
LVC				S	S	**22 52 28.2**	**-0.6**
	18nm,0.3s,baz=210,slow=21,SNR=12						
LVC	**Limon Verde**	**2.23**	**242**	*e*Pn	P	**22 51 55.8**	**+0.4**
LPAZ	**La Paz**	**5.40**	**346**	P	P	**22 52 34.1**	**+1.4**
	19nm,0.3s,baz=147,slow=8.8,SNR=112						
LPAZ				S	S	**22 53 37.5**	**+1.9**
	baz=328,slow=19,SNR=1.4						
ARE	**Arequipa**	**6.74**	**318**	⇑*i*P	P	**22 52 49.1**	**-0.8**
ARE				*i* S	S	**22 54 05.1**	**-1.2**
TRQA	**Tornquist**	**16.96**	**167**	*eP*	P	**22 54 52.3**	**-5.0**
	2.6nm,0.5s						
BDFB	**Brasilia**	**18.74**	**75**	P	P	**22 55 13.8**	**-2.1**
	1.0nm,0.3s,baz=253,slow=10,SNR=8.5						
PLCA	**Paso Flores**	**19.38**	**189**	P	P	**22 55 21.3**	**-1.0**
	0.6nm,0.3s,baz=2.8,slow=10,SNR=16						
PLCA	**Paso Flores**	**19.38**	**189**	P	P	**22 55 21.3**	**-1.0**
SDV	**Santo Domingo**	**30.49**	**353**	*eP*	P	**22 57 04.5**	**-1.5**
	3.9nm,0.9s,mb4.0						
PMSA	**Palmer Station**	**43.23**	**178**	*eP*	P	**22 58 53.6**	**+1.6**
	13nm,1.0s,mb4.3						
TEIG	**Tepich**	**46.54**	**332**	*eP*	P	**22 59 14.7**	**-4.0**
	11nm,0.9s,mb4.2						
OXF	**Oxford**	**59.77**	**338**	*eP*	P	**23 00 56.5**	**+1.3**
	24nm,0.7s,mb4.9						
WVT	**Waverly**	**60.73**	**341**	*eP*	P	**23 00 59.9**	**-1.7**
	12nm,0.7s,mb4.6						
MIAR	**Mount Ida**	**61.33**	**335**	*eP*	P	**23 01 04.7**	**-1.0**
	9.1nm,1.1s,mb4.3						
TXAR	**Lajitas Array**	**61.83**	**324**	P	P	**23 01 08.5**	**-0.5**
	0.6nm,0.6s,mb3.4,baz=148,slow=12,SNR=3.6						
TXAR	**Lajitas Array**	**61.83**	**324**	P	P	**23 01 08.5**	**-0.5**
ACSO	**Alum Creek Sta**	**63.30**	**346**	P	P	**23 01 17.2**	**-1.3**
	5.5nm,0.7s,mb4.3						
WMOK	**Wichita Mounta**	**63.71**	**331**	*eP*	P	**23 01 20.5**	**-0.8**
	1.1nm,0.6s,mb3.7						
MIV	**Mineville/With**	**65.60**	**355**	P	P	**23 01 32.6**	**-0.7**
ANMO	**Albuquerque**	**67.65**	**325**	P	P	**23 01 47.3**	**+0.9**
	2.0nm,0.8s,mb3.8,baz=124,slow=6.2,SNR=4.9						
ANMO	**Albuquerque**	**67.65**	**325**	*eP*	P	**23 01 47.2**	**+0.9**
	2.8nm,0.8s,mb3.9						
SDCO	**Great Sand Dun**	**69.32**	**328**	*eP*	P	**23 01 57.4**	**+0.8**
	6.6nm,0.9s,mb4.3						
PDAR	**Pinedale Array**	**75.16**	**329**	P	P	**23 02 31.9**	**+0.9**
	1.0nm,0.4s,mb3.8,baz=132,slow=8.3,SNR=6.3						
SCHQ	**Schefferville**	**76.08**	**360**	P	P	**23 02 34.3**	**-1.5**
	2.0nm,0.7s,mb3.9,baz=272,slow=15,SNR=5.0						
NVAR	**Mina Array Bea**	**76.77**	**321**	P	P	**23 02 40.0**	**0.0**
	1.0nm,0.8s,mb3.5,baz=133,slow=7.3,SNR=7.3						
HLID	**Hailey**	**78.16**	**327**	*eP*	P	**23 02 49.3**	**+1.8**
	3.3nm,0.8s,mb4.0						
NEW	**Newport**	**82.81**	**329**	P	P	**23 03 14.3**	**+2.6**
	2.8nm,0.8s,mb4.0						
FCC	**Fort Churchill**	**83.15**	**346**	*eP*	P	**23 03 13.5**	**+0.2**
	4.4nm,0.6s,mb4.4						
ESDC	**Sonseca Array**	**84.51**	**44**	P	P	**23 03 20.2**	**-0.3**
	4.4nm,1.2s,mb4.1,baz=246,slow=5.8,SNR=4.2						
LSZ	**Lusaka**	**88.99**	**106**	P	P	**23 03 44.3**	**+1.7**
	6.0nm,1.4s,mb4.2						
YKA	**Yellowknife Ar**	**91.91**	**340**	P	P	**23 03 55.7**	**+0.6**
	2.6nm,0.7s,mb4.3,baz=130,slow=4.5,SNR=40						
YKA	**Yellowknife Ar**	**91.91**	**340**	P	P	**23 03 55.7**	**+0.6**
CASY	**Casey**	**92.41**	**179**	*eP*	P	**23 03 57.4**	**0.0**
	15nm,0.7s,mb5.0						
ASAR	**Alice Springs**	**130.74**	**205**	PKP	PKPdf	23 09 58.0	+1.4
	0.7nm,0.8s,baz=112,slow=1.1,SNR=5.0						
WRA	**Warramunga Arr**	**133.87**	**208**	PKP	PKPdf	23 10 03.8	+1.3
	0.4nm,0.4s,baz=156,slow=1.8,SNR=14						
BVAR	**Borovoye Array**	**134.72**	**35**	PKP	PKPdf	23 10 05.3	+2.1
	0.3nm,0.5s,baz=270,slow=4.3,SNR=3.2						
ZAL	**Zalesovo**	**141.15**	**27**	PKP	PKPdf	23 10 16.1	+1.3
	0.9nm,0.5s,baz=131,slow=1.4,SNR=4.4						
SONM	**Songino Array**	**153.22**	**10**	PKP	PKPdf	23 10 37.1	+2.6
	0.6nm,0.6s,baz=276,slow=2.4,SNR=5.5						
SONM				PKPbc	PKPdf	23 10 44.5	+10
	1.4nm,0.4s,baz=307,slow=1.3,SNR=27						
SONM				PKPab	PKPab	23 10 57.4	0.0
	0.8nm,1.0s,baz=322,slow=4.4,SNR=5.6						

IDC 13 22:55:11.4±3.0, 5.96N×94.31E, mb3.5/4, mb1 3.6/5, mb1mx3.4/19, mbtmp3.4/5, ML3.4/1, Error ellipse: s-maj=119.8km s-min=25.0km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.22**	**20**	Pn	P	22 58 25.9	+2.8
	0.1nm,0.3s,baz=202,slow=15,SNR=2.6						
SONM	**Songino Array**	**42.99**	**12**	P	P	23 03 12.4	-1.7
	0.2nm,0.5s,baz=196,slow=9.9,SNR=3.3						
WRA	**Warramunga Arr**	**47.04**	**124**	P	P	23 03 44.8	-2.0
	0.3nm,0.4s,baz=302,slow=9.3,SNR=17						
ASAR	**Alice Springs**	**48.58**	**129**	P	P	23 03 57.2	-1.7
	0.6nm,0.7s,baz=298,slow=7.9,SNR=4.6						
BVAR	**Borovoye Array**	**50.84**	**342**	P	P	23 04 13.7	-2.2
	0.9nm,0.9s,baz=144,slow=12,SNR=4.2						

*NEIC **13** 23:09:32.8, 35.03S×70.61W, h5km, ML3.2(GUC), After GUC.*

GUC 13 23:09:32.8±0.8, 35.03S×70.61W, h5km±2km, MD4.0, ML3.2, 1C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.51**	**273**	*eP*	Pg	23 09 43.3	+0.2
SFDO	**San Fernando**	**0.54**	**321**	⇓*i*P	Pg	23 09 43.7	+0.2
SFDO				*i* S	Sg	23 09 51.8	+1.1
CICH	**Cipreses**	**0.73**	**12**	*i* P	Pg	23 09 46.4	-0.9
CICH				*i* S	Sg	23 09 56.8	-0.3
CACH	**El Canelo**	**0.91**	**0**	*i* P	Pb	23 09 49.7	-1.0
TALC	**Talca**	**0.92**	**246**	⇓*i*P	Pb	23 09 50.2	-0.6
TALC				*i* S	Sb	23 10 03.2	+0.2
TALC				AMP		23 10 03.6	
	comp=E,4μm,0.1s						
CHCH	**Chadas Angostu**	**1.10**	**358**	*eP*	Pb	23 09 53.0	-0.9
CHCH				*i* S	Sb	23 10 08.4	0.0
LMEL	**Las Melosas**	**1.23**	**16**	⇑*i*P	Pb	23 09 55.3	-0.8
LMEL				*i* S	Sb	23 10 12.1	-0.1
LMEL				AMP		23 10 12.6	
	comp=N,390nm,0.6s						
LNV	**Longovilo**	**1.26**	**328**	*eP*	Pb	23 09 55.9	-0.8
LNV				*i* S	Sb	23 10 13.1	-0.1
TACH	**Talagante**	**1.40**	**349**	⇓*i*P	Pn	23 09 58.3	-0.8
TACH				*i* S	Sb	23 10 17.4	+0.2
PCH	**Pirque**	**1.41**	**3**	*i* P	Pn	23 09 58.2	-1.0
PCH				*i* S	Sb	23 10 17.8	+0.4
ANTU	**Antumapu**	**1.46**	**359**	*eP*	Pn	23 09 59.2	-0.8
ANTU				*i* S	Sb	23 10 19.1	+0.2
ANTU				AMP		23 10 21.4	
	comp=E,530nm,0.6s						
RCDM	**Rinconada Maip**	**1.55**	**354**	*eP*	Pn	23 10 00.7	-0.5
RCDM				*i* S	Sb	23 10 21.6	+0.2
RCDM				AMP		23 10 23.5	
	comp=E,545nm,0.2s						
CLCH	**Cerro Calan**	**1.63**	**2**	*eP*	Pn	23 10 02.6	+0.2
CLCH				*i* S	Sb	23 10 23.9	0.0
CLCH				AMP		23 10 26.9	
	comp=E,716nm,0.7s						
FCH	**Farellones**	**1.72**	**9**	*eP*	Pn	23 10 04.0	+0.3
FCH				*i* S	Sn	23 10 27.0	+0.8
FCH				AMP		23 10 30.1	
	comp=E,281nm,0.2s						
LCCH	**Las Cruces**	**1.75**	**333**	*eP*	Pn	23 10 03.7	-0.3
ROCH	**El Roble**	**2.08**	**351**	⇓*i*P	Pn	23 10 09.1	+0.3
JACH	**Jahuel**	**2.34**	**0**	*eP*	Pn	23 10 14.1	+1.5
MDZ	**Mendoza**	**2.59**	**35**	*eP*	Pn	23 10 18.9	+2.8

IDC 13 23:15:46.6±6.5, 3.57N×95.62E, mb4.0/3, mb1 4.1/4, mb1mx3.7/17, mbtmp3.8/4, ML3.2/1, Error ellipse: s-maj=202.2km s-min=28.5km az=71.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.15**	**12**	Pn	P	23 19 23.1	-0.7
	0.0nm,0.3s,baz=199,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**44.63**	**123**	P	P	23 24 01.1	-2.0
	5.3nm,0.7s,baz=301,slow=9.1,SNR=52						
SONM	**Songino Array**	**45.07**	**10**	P	P	23 24 04.0	-2.1
	0.5nm,0.8s,baz=194,slow=6.0,SNR=4.4						
ASAR	**Alice Springs**	**46.08**	**128**	P	P	23 24 12.9	-1.6
	1.2nm,0.5s,baz=301,slow=7.9,SNR=15						

IDC 13 23:24:16.3±3.0, 0.12N×122.10E, mb4.0/4, mb1 4.3/4, mb1mx3.8/15, mbtmp4.1/4, 1D, Error ellipse: s-maj=219.0km s-min=24.2km az=51.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.44**	**169**	⇓*i*P	P	23 28 38.2	+3.0
	6.2nm,0.4s						
WRA	**Warramunga Arr**	**23.27**	**150**	P	P	23 29 25.2	-1.5
	2.6nm,0.4s,baz=326,slow=11,SNR=51						
WB2	**Warramunga Arr**	**23.27**	**150**	*eP*	P	23 29 26.5	-0.2
ASAR	**Alice Springs**	**26.28**	**155**	P	P	23 29 54.0	-1.3
	0.9nm,0.6s,baz=335,slow=9.8,SNR=11						
CMAR	**Chiang Mai Arr**	**29.15**	**310**	P	P	23 30 19.4	-2.1
	0.8nm,0.4s,baz=136,slow=6.8,SNR=5.2						
STKA	**Stephens Creek**	**36.78**	**152**	P	P	23 31 25.8	-1.9
	2.2nm,0.6s,baz=337,slow=9.5,SNR=4.7						

IDC 13 23:27:08.3±4.6, 21.97S×148.29E, mb1 3.6/4, mb1mx3.4/10, mbtmp3.4/4, ML3.4/4, Error ellipse: s-maj=46.7km s-min=23.7km az=70.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.67**	**314**	Pn	Pn	23 27 54.9	+1.6
	7.2nm,0.3s,baz=128,slow=16,SNR=45						
CTA				Lg		23 28 33.6	
	29nm,0.3s,baz=58,slow=23,SNR=12						
STKA	**Stephens Creek**	**11.53**	**210**	Pn	P	23 29 52.3	-5.0
	0.4nm,0.3s,baz=34,slow=12,SNR=5.7						
WRA	**Warramunga Arr**	**13.19**	**276**	Pn	P	23 30 15.1	-4.5
	0.1nm,0.3s,baz=96,slow=13,SNR=2.6						
WRA				Lg		23 34 06.0	
	0.1nm,0.3s,baz=99,slow=29,SNR=4.5						
ASAR	**Alice Springs**	**13.37**	**260**	Pn	P	23 30 19.2	-2.8
	0.1nm,0.3s,baz=79,slow=15,SNR=3.5						
ASAR				Lg		23 34 13.3	
	0.1nm,0.3s,baz=90,slow=26,SNR=3.0						

*NIED **13** 23:53:00, 47.00N×154.00E, h155km, Mw5.2 Best double couple: M0=7.99×10^16 NP1:φs=247°, δ83°, λ88°. NP2:φs=80°, δ7°, λ104°.*

*BJI **13** 23:53:20.6, 48.43N×153.39E, h140km, mB4.8, mb4.5*

*MOS **13** 23:53:20.6±0.8, 48.54N×153.39E, h137km, mb4.8/67, Error ellipse: s-maj=9.5km s-min=4.5km az=96.6*

*SKHL **13** 23:53:21.3±0.7, 48.66N×153.86E, h180km±18km, mb5.1/4, Ms3.9/1, msh6.1/2*

*HRVD **13** 23:53:22.4±0.5, 48.60N×153.62E, h154km±7km, MW4.9/51, Centroid moment Tensor Solution. LP body waves: s7,c7; Mantle waves: s51,c82; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.94±.18; Mθθ 1.67±.19; Mφφ=0.73±.15; Mrθ 2.00±.14; Mφφ=0.88±.15; Mφr 0.80±.10; Best double couple: M0 2.74×10^16 NP1: φs=145°, δ33°, λ-22°. NP2:φs=254°, δ78°, λ-121°. Principal axes: T 2.801, Plg27°, Azm8°; N -.126, Plg30°, Azm261°; P -2.679, Plg48°, Azm131°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **13** 23:53:22.4±0.7, 48.55N×153.35E, h140km±5km, mb4.9/83 Error ellipse: s-maj=4.7km s-min=3.4km az=154.0*

*IDC **13** 23:53:24.3±0.7, 48.61N×153.25E, h158km±7km, mb4.1/20, mb1 4.3/22, mb1mx4.3/24, mbtmp4.6/22, MS3.7/1, Ms1 3.8/1, ms1mx2.6/34, Error ellipse: s-maj=13.1km s-min=9.8km az=142.0*

ISC 13 23:53:20.7±0.4, 48.52N±0.03×153.41E±0.05, h137km±4km, h158km±9km: pP-P, n319, σ0§94/333, mb4.7/113, 15C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.79**	**38**	*e*PN	P	**23 54 04.1**	**-1.5**
SKR				*e*S	S	**23 54 36.7**	**-3.2**
SKR				pmax	pmax		
	comp=E,110nm,0.5s						
SKR				pmax	pmax		
	comp=Z,280nm,0.5s						
SKR				pmax	pmax		
	comp=N,180nm,0.4s						
SKR				smax			
	comp=N,610nm,0.3s						
SKR				smax			
	comp=E,620nm,0.5s						
SKR	**Severo-Kuril's**	**2.79**	**38**	*e*P	P	**23 54 04.1**	**-1.5**
SKR				AMB	AMB	23 54 04.9	
	comp=E,180nm,0.5s						
SKR				AMB	AMB	23 54 04.9	
	comp=E,110nm,0.5s						
SKR				AMB	AMB	23 54 04.9	
	comp=E,280nm,0.5s						
SKR				*e*S	S	**23 54 36.7**	**-3.2**
SKR				A		23 54 39.7	
	comp=E,610nm,0.4s						
SKR				A		23 54 39.7	
	comp=E,620nm,0.4s						
SKR				A		23 54 39.7	
	comp=E,230nm,0.4s						
PAU	**Pauzhetka**	**3.68**	**35**	⇓*i*P	P	**23 54 18.6**	**+1.3**
PAU				*i* S	S	**23 55 01.1**	**+0.4**
PET	**Petropavlovsk**	**5.61**	**34**	*e*PN	P	**23 54 42.3**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**6.88**	**232**	*e*PN	P	**23 55 00.5**	**+0.3**
YUK				*e*S	S	**23 56 17.2**	**-0.4**
YUK				pmax	pmax		
	comp=N,190nm,0.5s						
YUK				pmax	pmax		
	comp=E,190nm,0.5s						
YUK				pmax	pmax		
	comp=Z,380nm,0.5s						
YUK				smax			
	comp=N,570nm,0.5s						
YUK				smax			
	comp=E,190nm,0.5s						
JRA	**Rausu**	**7.34**	**235**	P	P	**23 55 08.3**	**+1.9**
YSS	**Yuzh-Sakhalins**	**7.35**	**262**	⇓*e*PN	P	**23 55 11.4**	**+4.9**
YSS				pmax	pmax		
	comp=N,30nm,0.9s						
YSS				pmax	pmax		
	comp=E,50nm,0.9s						
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				MLR	MLR		
	comp=Z,400nm,9.0s						
YSS				MLR	MLR		
	comp=N,500nm,13.0s						
YSS	**Yuzh-Sakhalins**	**7.35**	**262**	*e*Pn	P	**23 55 10.8**	**+4.3**
TYV	**Tymovskoe**	**7.36**	**293**	*e*P	P	**23 55 08.0**	**+1.4**
TYV				AMB	AMB	23 55 09.8	
	comp=N,60nm,1.2s						
NEM2	**Nemuro 2**	**7.42**	**229**	P	P	**23 55 06.9**	**-0.5**
NEM2				*e*S	S	**23 56 25.4**	**-5.1**
JNK	**Nakash**	**7.80**	**234**	P	P	**23 55 14.0**	**+1.5**
JTKR	**Abashiri--Toko**	**8.00**	**239**	P	P	**23 55 18.3**	**+3.1**
JAK	**Akkeshi**	**8.22**	**231**	P	P	**23 55 17.5**	**-0.6**
JAK				*e*S	S	**23 56 45.7**	**-4.0**
JMP	**Maruseppu**	**8.29**	**241**	P	P	**23 55 23.4**	**+4.3**
JAR	**Ashorobuto**	**8.51**	**236**	P	P	**23 55 24.4**	**+2.4**
ASAJ	**Asahikawa**	**8.68**	**244**	PN	P	**23 55 28.7**	**+4.5**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ	**Asahikawa**	**8.68**	**244**	P	P	**23 55 28.6**	**+4.4**
	comp=Z,4.4nm,0.3s,baz=76,slow=13,SNR=26						
ASAJ	**Asahikawa**	**8.68**	**244**	P	P	**23 55 28.6**	**+4.4**
JKK2	**Kamakawa 2**	**8.73**	**242**	P	P	**23 55 28.3**	**+3.4**
JOB	**Onbets**	**8.73**	**234**	P	P	**23 55 25.3**	**+0.3**
JOB				*e*S	S	**23 56 58.5**	**-3.6**
JCH	**Churui**	**9.19**	**234**	P	P	**23 55 30.6**	**-0.4**
JCH				*e*S	S	**23 57 08.0**	**-4.9**
JFR	**Furan**	**9.25**	**239**	P	P	**23 55 35.3**	**+3.5**
JEM	**Erimo**	**9.71**	**232**	P	P	**23 55 38.2**	**+0.3**
JEM				*e*S	S	**23 57 20.4**	**-5.0**
JNBK	**Urakawa-nobuka**	**9.74**	**234**	P	P	**23 55 37.4**	**-0.9**
JNBK				*e*S	S	**23 57 18.9**	**-7.2**
JKB	**Kayabe**	**10.95**	**237**	P	P	**23 55 53.6**	**-0.7**
JKB				*e*S	S	**23 57 47.3**	**-7.4**
JSH	**Shimam**	**11.05**	**243**	P	P	**23 55 57.7**	**+2.2**
JYM2	**Yakumo 2**	**11.18**	**240**	P	P	**23 55 57.0**	**-0.3**
MA2	**Magadan**	**11.19**	**353**	*e*PN	P	**23 55 57.0**	**-0.3**
MA2				pmax	pmax		
	comp=Z,20nm,1.8s						
MA2				pmax	pmax		
	comp=N,10.0nm,1.7s						
MA2	**Magadan**	**11.19**	**353**	*e*P	P	**23 55 58.6**	**+1.4**
	comp=N,11nm,0.9s						
JSR	**Shiriuchi**	**11.54**	**238**	P	P	**23 56 00.8**	**-1.1**
JTM	**Tenmabayashi**	**11.69**	**233**	P	P	**23 56 01.6**	**-2.4**
JT

comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK smax
comp=Z,4.0nm,0.9s
YAK smax
comp=N,13nm,1.1s
YAK smax
comp=E,8.0nm,1.2s
YAK Yakutsk 18.97 324 P **P 23 57 32.6 -0.8**
comp=E,172nm,1.3s
BILL Bilibino 20.63 14 *eP* **P 23 57 49.5 -0.9**
BILL pmax pmax
comp=Z,68nm,1.2s
BILL Bilibino 20.63 14 *eP* **P 23 57 49.5 -0.9**
comp=Z,68nm,1.2s
BOD Bodaibo 25.05 307 *eP* **P 23 58 32.6 -0.6**
TIXI Tiksi 25.84 342⇓ *iP* **P 23 58 39.2 -1.2**
TIXI pmax pmax
comp=Z,36nm,1.5s,mb4.8
ULN Ulaanbaatar 30.55 287 *eP* **P 23 59 21.7 -1.3**
ULN pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
ULN Ulaanbaatar 30.55 287 *eP* **P 23 59 21.7 -1.3**
comp=Z,5.7nm,1.0s,mb4.3
SONM Songino Array 30.97 287 P **P 23 59 26.5 -0.3**
comp=Z,2.7nm,0.9s,mb4.0,baz=67,slow=9.4,SNR=18
SONM PcP PcP 00 02 18.4 -1.2
comp=Z,1.3nm,0.9s,baz=71,slow=1.5,SNR=5.3
SONM ScP 00 05 45.3
comp=Z,1.9nm,1.0s,baz=73,slow=3.0,SNR=10.0
TLY Talaya 31.58 295 *eP* **P 23 59 31.3 -0.7**
TLY pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
TLY Talaya 31.58 295 *eP* **P 23 59 31.3 -0.7**
comp=Z,8.1nm,1.0s,mb4.4
TLY *e* 00 00 09.7
ZAK Zakamensk 32.15 293⇓ *iP* **P 23 59 37.0 +0.1**
IMA Indian Mountai 32.27 38 *eP* **P 23 59 37.8 -0.1**
IMA pmax pmax
comp=Z,90nm,1.1s,mb5.4
IMA Indian Mountai 32.27 38 *eP* **P 23 59 37.8 -0.1**
comp=Z,90nm,1.1s,mb5.4
MCK McKinley 34.19 42 *eP* **P 23 59 54.0 -0.3**
MCK pmax pmax
comp=Z,22nm,1.3s,mb4.7
MCK McKinley 34.19 42 *eP* **P 23 59 54.0 -0.3**
comp=Z,22nm,1.3s,mb4.7
COLA College 34.64 40 *eP* **P 23 59 58.4 +0.3**
COLA pmax pmax
comp=Z,37nm,1.0s,mb5.0
COLA College 34.64 40 *eP* **P 23 59 58.4 +0.3**
comp=Z,37nm,1.0s,mb5.0
ILAR Eielson Array 35.06 40 P **P 00 00 00.7 -0.9**
comp=Z,13nm,1.1s,mb4.5,baz=271,slow=8.5,SNR=49
ENH Enshi 37.91 258 *eP* **P 00 00 26.7 +0.7**
LZH Lanzhou 38.06 270 *eP* **P 00 00 29.0 +1.8**
LZH AMB AMB
comp=Z,28nm,1.5s,mb4.7
INK Inuvik 40.06 34 *eP* **P 00 00 44.0 +0.6**
INK pmax pmax
comp=Z,26nm,1.2s
INK Inuvik 40.06 34 P **P 00 00 43.5 +0.1**
comp=Z,7.3nm,0.7s,mb4.4,baz=290,slow=6.8,SNR=13
INK Inuvik 40.06 34 *eP* **P 00 00 44.0 +0.7**
comp=Z,26nm,1.2s,mb4.7
ZAL Zalesovo 41.77 304 PcP PcP 00 02 51.7 0.0
comp=Z,2.9nm,0.8s,baz=9.9,slow=2.1,SNR=9.0
NVS Novosibirsk 42.29 306 *eP* **P 00 01 00.2 -1.5**
NVS *e* 00 02 51.8
NVS *eS* **S 00 07 06.2 -5.3**
NVS pmax pmax
comp=Z,13nm,1.6s,mb4.3
NVS pmax pmax
comp=E,15nm,1.7s
NVS pmax pmax
comp=N,14nm,2.0s
NVS smax
comp=N,10.0nm,1.6s
DLBC Dease Lake 44.23 47 P **P 00 01 18.4 +1.2**
comp=N,3.1nm,0.9s,mb3.9,baz=294,slow=15,SNR=5.3
DLBC Dease Lake 44.23 47 *eP* **P 00 01 19.1 +1.9**
WMQ Urumqi 44.49 290 *eP* **P 00 01 20.9 +1.3**
WMQ AP pP 00 01 56.5 +5.9
WMQ PP PP 00 03 08.0 +1.6
WMQ S **S 00 07 43.3 -0.3**
WMQ XS 00 08 45.8
WMQ AMB AMB
comp=Z,11nm,1.4s,mb4.3
WMQ AMB AMB
comp=Z,54nm,5.4s
QIZ Qiongzhong 45.74 246 *eP* **P 00 01 29.6 -0.2**
comp=Z,129nm,1.5s,mb5.3
RES Resolute Bay 49.10 19 *eP* **P 00 01 55.1 -0.1**
RES pmax pmax
comp=Z,32nm,1.0s,mb4.9
RES Resolute Bay 49.10 19 *eP* **P 00 01 55.0 -0.2**
comp=Z,32nm,1.0s,mb4.9
YKA Yellowknife Ar 49.40 38 P **P 00 01 57.9 +0.3**
YKA Yellowknife Ar 49.40 38 P **P 00 01 57.8 +0.2**
comp=Z,9.4nm,0.9s,mb4.4,baz=299,slow=7.4,SNR=79
BVAR Borovoye Array 49.90 308 P **P 00 02 00.1 -1.5**
comp=Z,4.2nm,0.3s,mb4.5,baz=58,slow=7.8,SNR=69
BVAR PcP PcP 00 03 18.6 -1.6
comp=Z,1.2nm,0.4s,baz=72,slow=4.7,SNR=5.3
BRVK Borovoye 49.94 308 *eP* **P 00 02 01.0 -0.9**
BRVK pmax pmax
comp=Z,21nm,1.2s,mb4.6
BRVK Borovoye 49.94 308 *eP* **P 00 02 00.9 -0.9**
comp=Z,21nm,1.2s,mb4.6
LSA Lhasa 50.40 272 *eP* **P 00 02 07.0 +1.3**
LSA pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
LSA Lhasa 50.40 272 *eP* **P 00 02 07.0 +1.3**
comp=Z,2.9nm,0.6s,mb4.1
SHL Shillong 52.63 267 *e* **P 00 02 23.0 +0.4**
CMAR Chiang Mai Arr 53.00 255 *i P* **P 00 02 26.4 +1.1**
CMAR pmax pmax
comp=Z,5.0nm,0.7s
CMAR Chiang Mai Arr 53.00 255 P **P 00 02 25.4 0.0**
comp=Z,4.5nm,0.7s,mb4.3,baz=33,slow=7.2,SNR=22
AAK Ala-Archa 53.24 295⇑ *iP* **P 00 02 24.8 -2.0**
AAK pmax pmax
comp=Z,8.0nm,1.3s,mb4.3
AAK Ala-Archa 53.24 295 *eP* **P 00 02 24.9 -2.0**
comp=Z,13nm,1.2s,mb4.5
ARU Arti 53.85 317⇑ *iP* **P 00 02 26.2 -4.9**
ARU *e* 00 03 29.2
ARU *eS* **S 00 09 48.3 -5.2**
ARU *e* 00 11 57.9
ARU *eSS* SS 00 13 30.3 -5.8
ARU pmax pmax
comp=Z,14nm,0.9s,mb4.7
EDM Edmonton 54.96 47 *eP* **P 00 02 38.8 -0.4**
JIRN Jiri 55.02 274 *eP* **P 00 02 40.3 +0.3**
comp=Z,15nm,0.7s,mb4.8
GUN Gumba 55.06 274 *eP* **P 00 02 39.8 -0.5**
comp=Z,7.4nm,0.4s,mb4.8
KKN Kakani 55.54 274 *eP* **P 00 02 43.8 0.0**
comp=Z,8.4nm,0.7s,mb4.7
KEV Kevo 55.75 340 *ep* **P 00 02 42.2 -2.5**
comp=Z,0.6nm,0.3s,mb3.9
KEV Kevo 55.75 340 *eP* **P 00 02 42.2 -2.5**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
DMN Daman 55.77 274 *eP* **P 00 02 45.7 +0.3**
comp=Z,18nm,0.8s,mb5.0
GKN Gorkha 55.82 275 *eP* **P 00 02 45.6 -0.2**
comp=Z,16nm,0.7s,mb4.9
NEW Newport 55.96 54 *eP* **P 00 02 46.2 -0.3**
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 55.96 54 *eP* **P 00 02 46.2 -0.3**
comp=Z,5.9nm,1.0s,mb4.4
ARCES ARCESS Array B 56.25 341 P **P 00 02 45.7 -2.6**
comp=Z,4.5nm,0.9s,mb4.3,baz=34,slow=8.0,SNR=15
ARCES LR LR 00 33 40.8
comp=Z,67nm,18.3s,baz=159,slow=43
KOLN Koldanda 56.66 275 *eP* **P 00 02 51.6 -0.1**
comp=Z,16nm,0.8s,mb4.9
SUMG Summit 58.92 4 *eP* **P 00 03 06.0 -0.9**
comp=Z,54nm,1.2s,mb5.2
FCC Fort Churchill 59.68 34 *eP* **P 00 03 10.9 -1.4**
FCC pmax pmax
comp=Z,24nm,1.1s,mb4.9
FCC Fort Churchill 59.68 34 *eP* **P 00 03 10.9 -1.4**
comp=Z,24nm,1.1s,mb4.9
HRY Holter Researc 59.74 53 *eP* **P 00 03 12.7 -0.2**
JOF Joensuu 59.84 333 *ep* **P 00 03 10.4 -2.9**
comp=Z,1.8nm,0.4s,mb4.2
HLID Hailey 60.36 57 *eP* **P 00 03 17.4 +0.3**
comp=Z,5.5nm,1.3s,mb4.2
CMB Columbia Colle 60.46 65 *eP* **P 00 03 15.6 -2.3**
QLMT Earthquake Lak 61.17 54 *eP* **P 00 03 22.7 +0.1**
NVAR Mina Array Bea 61.45 63 P **P 00 03 24.9 +0.3**
comp=Z,1.8nm,0.6s,mb4.0,baz=285,slow=8.3,SNR=13
KAF Kangasniemi 61.93 335 *ep* **P 00 03 24.6 -2.8**
comp=Z,0.5nm,0.3s,mb3.8,baz=40,slow=6.7
KAF Kangasniemi 61.93 335 *eP* **P 00 03 24.6 -2.8**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
TPH Tonopah 62.33 63 *eP* **P 00 03 30.2 -0.2**
TPH pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
TPH Tonopah 62.33 63 *eP* **P 00 03 30.2 -0.2**
comp=Z,5.1nm,0.8s,mb4.4
FINES FINESS Array B 62.53 334 P **P 00 03 29.1 -2.4**
comp=Z,4.5nm,0.4s,mb4.7,baz=42,slow=7.7,SNR=78
BW06 Boulder Array 63.55 55 *eP* **P 00 03 38.5 +0.1**
comp=Z,10nm,1.0s,mb4.6
PDAR Pinedale Array 63.55 55 P **P 00 03 38.6 +0.2**
comp=Z,4.9nm,0.8s,mb4.4,baz=315,slow=2.1,SNR=24
TPNV Topopah Spring 63.65 63 *eP* **P 00 03 39.0 -0.1**
TPNV pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
TPNV Topopah Spring 63.65 63 *eP* **P 00 03 39.0 -0.1**
comp=Z,3.4nm,0.8s,mb4.2
OBN Obninsk 63.97 325 *eP* **P 00 03 38.1 -2.7**
OBN pmax pmax
comp=Z,29nm,1.8s,mb4.8
OBN Obninsk 63.97 325 *eP* **P 00 03 37.0 -3.8**
NB2 NORSAR Subarra 66.62 341 P **P 00 03 56.2 -1.6**
comp=Z,2.3nm,0.5s,mb4.3,baz=26,slow=6.2
NB2 NORSAR Subarra 66.62 341 P **P 00 03 56.2 -1.6**
NB2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
NOA NORSAR Array B 66.62 341 P **P 00 03 56.2 -1.5**
comp=Z,18nm,1.2s,mb4.8,baz=26,slow=6.4,SNR=12
ISCO Idaho Springs 67.75 55 *eP* **P 00 04 05.2 0.0**
ISCO pmax pmax
comp=Z,9.0nm,1.2s,mb4.4
ISCO Idaho Springs 67.75 55 *eP* **P 00 04 05.2 0.0**
comp=Z,9.5nm,1.2s,mb4.4
CTAO Charters Tower 68.59 187 *eP* **P 00 04 09.4 -1.2**
CTAO pmax pmax
comp=Z,12nm,1.0s,mb4.6
CTAO Charters Tower 68.59 187 *eP* **P 00 04 09.4 -1.3**
comp=Z,12nm,1.0s,mb4.6
GOF Gofitskoye 68.72 315 *eP* **P 00 04 10.0 -1.1**
GOF pmax pmax
comp=Z,30nm,1.2s,mb4.9
SDCO Great Sand Dun 69.27 56 *eP* **P 00 04 15.4 +0.8**
comp=Z,2.6nm,0.9s,mb4.0
KIV Kislovodsk 69.71 314 *eP* **P 00 04 16.7 -0.4**
KIV pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
KIV Kislovodsk 69.71 314 *eP* **P 00 04 16.4 -0.7**
comp=Z,7.1nm,0.9s,mb4.4
AKASG Malin Array Be 70.19 326 P **P 00 04 17.5 -2.4**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 70.19 326 P **P 00 04 17.5 -2.4**
comp=Z,1.2nm,0.3s,mb4.1,baz=34,slow=6.3,SNR=16
WRAB Tennant Creek 70.24 199 *eP* **P 00 04 19.9 -0.8**
WRAB pmax pmax
comp=Z,35nm,1.1s,mb5.0
WRAB Tennant Creek 70.24 199 *eP* **P 00 04 19.9 -0.7**
comp=Z,35nm,1.1s,mb5.0
WRA Warramunga Arr 70.25 199 *i P* **P 00 04 20.1 -0.6**
WRA pmax pmax
comp=Z,10.0nm,1.0s
WRA Warramunga Arr 70.25 199 P **P 00 04 19.7 -1.1**
comp=Z,10nm,1.0s,mb4.5,baz=17,slow=6.8,SNR=37
WRA pP pP 00 04 57.6 +3.2
comp=Z,1.8nm,0.7s,baz=14,slow=6.3,SNR=2.6
ANMO Albuquerque 70.74 59 *eP* **P 00 04 23.5 0.0**
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 70.74 59 *eP* **P 00 04 23.5 0.0**
comp=Z,1.6nm,0.8s,mb3.8
GNI Garni 71.54 310⇑ *iP* **P 00 04 26.1 -2.1**
GNI pmax pmax
comp=Z,16nm,1.7s
SCHQ Schefferville 71.61 23 P **P 00 04 28.1 -0.2**
comp=Z,14nm,1.2s,mb4.6,baz=350,slow=5.0,SNR=10.0
SIM Simferopol' 72.85 320 P **P 00 04 36.2 +0.5**
SIM pmax pmax
comp=Z,8.0nm,1.3s,mb4.3
BSEG Bad Segeberg 73.26 338 *eP* **P 00 04 38.3 +0.4**
AMTX Amarillo 73.47 56 *eP* **P 00 04 39.0 -0.5**
comp=Z,14nm,0.9s,mb4.7
OJC Ojcow 73.87 331 *eP* **P 00 04 41.5 0.0**
ASAR Alice Springs 73.95 199 P **P 00 04 42.5 +0.1**
comp=Z,2.6nm,0.7s,mb4.1,baz=12,slow=5.8,SNR=20
ASAR pP pP 00 05 21.4 +4.8
comp=Z,5.4nm,0.9s,baz=13,slow=5.2,SNR=7.4
NIE Niedzica 74.39 330 *eP* **P 00 04 45.1 +0.6**
KSP Ksiaz 74.41 333 *eP* **P 00 04 44.7 +0.1**
OKC Ostrava-Krasne 74.73 332 *eP* **P 00 04 46.4 0.0**
UPC Upice 74.79 333 *eP* **P 00 04 47.0 +0.2**
DPC Dobruska-Polom 74.84 333 *eP* **P 00 04 47.4 +0.4**
CLL Collm 74.94 336⇓ *iP* **P 00 04 47.5 -0.1**
CLL *e* 00 04 55.0
CLL pmax pmax
comp=Z,59nm,1.1s,mb5.1
CLL Collm 74.94 336⇓ *iP* **P 00 04 47.5 -0.1**
comp=Z,59nm,1.1s,mb5.1
CLL *e* 00 04 55.0
CLL Collm 74.94 336⇓ P **P 00 04 47.5 -0.1**
comp=Z,logA/T=1.7,mb5.1
CLL *e* 00 04 55.0
MORC Moravsky Berou 74.97 332 *eP* **P 00 04 47.8 0.0**
MORC pmax pmax
comp=Z,31nm,1.1s,mb4.8
MORC Moravsky Berou 74.97 332 *eP* **P 00 04 47.8 0.0**
comp=Z,31nm,1.1s,mb4.8
BRG Berggiesshubel 75.07 335 *i P* **P 00 04 48.2 -0.1**
BRG pmax pmax
comp=Z,24nm,1.3s,mb4.7
BRG Berggiesshubel 75.07 335 *i P* **P 00 04 48.2 -0.1**
comp=Z,24nm,1.3s,mb4.7
CLZ Clausthal 75.16 337 *eP* **P 00 04 49.6 +0.8**
comp=Z,73nm,1.3s,mb5.2
WMOK Wichita Mounta 75.16 54 *eP* **P 00 04 49.0 -0.2**
WMOK pmax pmax
comp=Z,10.0nm,1.1s,mb4.4
WMOK Wichita Mounta 75.16 54 *eP* **P 00 04 49.0 -0.2**
comp=Z,9.5nm,1.1s,mb4.3
PVCC Panska Ves 75.20 334 *eP* **P 00 04 49.1 0.0**
BOYT Boyabat 75.31 317 *i P* **P 00 04 50.9 +1.0**
ELZG Elazig 75.68 312 *i P* **P 00 04 53.7 +1.6**
PRU Pruhonice 75.69 334 *i P* **P 00 04 52.1 +0.3**
comp=Z,33nm,1.1s,mb4.9
PSZ Piszkesteto 75.83 330 *eP* **P 00 04 52.6 -0.1**
PSZ pmax pmax
comp=Z,14nm,1.1s,mb4.5
PSZ Piszkesteto 75.83 330 *eP* **P 00 04 52.6 -0.1**
comp=Z,14nm,1.1s,mb4.5
BALT Daday 75.90 318 *i P* **P 00 04 54.6 +1.4**
MOX Moxa 75.92 336 *eP* **P 00 04 53.1 0.0**
MOX pmax pmax
comp=Z,81nm,1.9s,mb5.0
MOX Moxa 75.92 336 *eP* **P 00 04 53.1 0.0**
comp=Z,81nm,1.9s,mb5.0
MOX Moxa 75.92 336 *i P* **P 00 04 53.1 0.0**
comp=Z,logA/T=1.6,mb5.0
CTKT Corum 76.00 316 *i P* **P 00 04 54.9 +1.2**
NKC Novy Kostel 76.06 335 *eP* **P 00 04 54.2 +0.3**
MALT Malatya 76.10 313 *eP* **P 00 04 55.2 +0.8**
MALT pmax pmax
comp=Z,23nm,1.3s,mb4.7
MALT Malatya 76.10 313 *eP* **P 00 04 55.2 +0.8**
comp=Z,23nm,1.3s,mb4.6
TXAR Lajitas Array 76.46 61 P **P 00 04 56.6 0.0**
comp=Z,1.3nm,0.5s,mb3.8,baz=303,slow=4.3,SNR=8.9
TXAR pP pP 00 05 35.0 +4.1
comp=Z,0.3nm,0.3s,baz=313,slow=4.9,SNR=1.4
ELDT Eldivan 76.72 317 *i P* **P 00 04 58.8 +1.0**
KHC Kasperske Hory 76.73 334 *i P* **P 00 04 57.9 +0.2**
GRA1 Grafenberg Arr 76.89 336 *eP* **P 00 04 58.8 +0.2**
comp=Z,87nm,1.2s,mb5.3
GRF Grafenberg Arr 76.89 336 *eP* **P 00 04 58.8 +0.2**
GRF pmax pmax
comp=Z,87nm,1.2s,mb5.3
WET Wettzell 76.92 335 *eP* **P 00 04 59.3 +0.5**
WET pmax pmax
comp=Z,37nm,1.1s,mb4.9
WET Wettzell 76.92 335 *eP* **P 00 04 59.3 +0.5**
comp=Z,37nm,1.1s,mb4.9
GEC2 GERESS Array S 76.95 334 *eP* **P 00 04 59.1 +0.1**
GEC2 pmax pmax
comp=Z,15nm,1.1s,mb4.5
GEC2 GERESS Array S 76.95 334 *eP* **P 00 04 59.1 +0.1**
comp=Z,15nm,1.1s,mb4.5
GERES GERESS Array B 76.95 334 P **P 00 04 59.1 +0.1**
comp=Z,10nm,1.0s,mb4.4,baz=34,slow=5.1,SNR=40
HGN Heimansgroeve 77.24 340 *eP* **P 00 05 00.8 +0.3**
comp=Z,55nm,1.5s,mb5.0
BRTR Keskin Array B 77.24 317 P **P 00 05 00.8 +0.1**
comp=Z,9.6nm,1.0s,mb4.4,baz=72,slow=3.9,SNR=39
SGKT Sivrigoynuk 77.27 318 *i P* **P 00 05 01.8 +0.9**
GZT Gaziantep 77.27 313 *i P* **P 00 05 01.9 +0.9**
KAHT Ahir Dag 77.39 313 *i P* **P 00 05 03.2 +1.5**
AVNT Avonos 77.44 315 *i P* **P 00 05 01.8 -0.1**
TOD Tromm 77.61 337 *eP* **P 00 05 02.7 +0.1**
ABH Alteburg 77.67 338 *eP* **P 00 05 02.9 0.0**
MOA Molln 77.68 333⇑ *iP* **P 00 05 03.6 +0.6**
comp=Z,12nm,1.0s,mb4.5
ARSA Arzberg 77.83 332⇑ *iP* **P 00 05 03.9 +0.1**
comp=Z,18nm,1.2s,mb4.6
RUP Ruppelstein 77.95 338 *eP* **P 00 05 04.4 -0.1**
GIVF Givet 78.11 340 *eP* **P 00 05 05.0 -0.3**
comp=Z,35nm,1.1s,mb4.6
GIVF Givet 78.11 340 *eP* **P 00 05 05.0 -0.3**
GIVF pmax pmax
comp=Z,17nm,1.1s,mb4.6
FUR Furstenfeldbru 78.26 335 *eP* **P 00 05 06.7 +0.5**
FUR pmax pmax
comp=Z,54nm,1.1s,mb5.1
FUR Furstenfeldbru 78.26 335 *eP* **P 00 05 06.7 +0.5**
comp=Z,54nm,1.1s,mb5.1
STU Stuttgart 78.27 337 *eP* **P 00 05 06.4 +0.2**
STU pmax pmax
comp=Z,58nm,1.4s,mb5.0
STU Stuttgart 78.27 337 *eP* **P 00 05 06.4 +0.2**
comp=Z,58nm,1.4s,mb5.0
BAIF Baives 78.29 340 *eP* **P 00 05 06.1 -0.2**
comp=Z,56nm,1.1s,mb4.8
BAIF Baives 78.29 340 *eP* **P 00 05 06.1 -0.2**
BAIF pmax pmax
comp=Z,28nm,1.1s,mb4.8
LANF Langenberg 78.44 338 *eP* **P 00 05 07.2 +0.1**
GROS Grobnik 78.54 332 *eP* **P 00 05 07.7 0.0**
KBA Koelnbreinsper 78.65 333⇑ *iP* **P 00 05 09.3 +1.0**
comp=Z,58nm,1.1s,mb5.1
KBA Koelnbreinsper 78.65 333⇑ *iP* **P 00 05 09.3 +1.0**
KBA pmax pmax
comp=Z,58nm,1.1s,mb5.1
ESKT Eskisehir 78.66 318 *i P* **P 00 05 08.7 +0.2**
OBKA Obir 78.80 332⇑ *iP* **P 00 05 09.3 +0.2**
comp=Z,12nm,1.1s,mb4.5
ULDT Uludag 78.89 320 *i P* **P 00 05 10.2 +0.4**
BFO Black Forest 78.90 337 *eP* **P 00 05 09.7 +0.1**
BFO pmax pmax
comp=Z,32nm,1.2s,mb4.8
BFO Black Forest 78.90 337 *eP* **P 00 05 09.7 +0.1**
comp=Z,32nm,1.2s,mb4.8
WATA Walderalm 78.93 335⇑ *iP* **P 00 05 10.5 +0.7**
comp=Z,34nm,1.0s,mb4.9
WATA Walderalm 78.93 335⇑ *iP* **P 00 05 10.5 +0.7**
WATA pmax pmax
comp=Z,35nm,1.0s,mb4.9
WTTA Wattenberg 78.98 335⇑ *iP* **P 00 05 11.1 +1.0**
comp=Z,70nm,1.1s,mb5.2
WTTA Wattenberg 78.98 335⇑ *iP* **P 00 05 11.1 +1.0**
WTTA pmax pmax
comp=Z,70nm,1.1s,mb5.2
MOTA Moosalm 79.06 335⇓ *iP* **P 00 05 11.1 +0.6**
comp=Z,34nm,1.1s,mb4.9
MOTA Moosalm 79.06 335⇓ *iP* **P 00 05 11.1 +0.6**
MOTA pmax pmax
comp=Z,34nm,1.1s,mb4.9
WLS Welschbruch 79.08 338 *eP* **P 00 05 10.2 -0.4**
CDF Champ du Feu 79.10 338 *eP* **P 00 05 10.4 -0.3**
comp=Z,84nm,1.2s,mb4.9
CDF Champ du Feu 79.10 338 *eP* **P 00 05 10.4 -0.3**
CDF pmax pmax
comp=Z,42nm,1.2s,mb4.9
SQTA Sankt Quirin 79.14 335⇑ *iP* **P 00 05 11.7 +0.8**
comp=Z,40nm,1.1s,mb5.0
SQTA Sankt Quirin 79.14 335⇑ *iP* **P 00 05 11.7 +0.8**
SQTA pmax pmax
comp=Z,40nm,1.1s,mb5.0
ECH Echery 79.31 338 *eP* **P 00 05 11.8 0.0**
FELD Feldberg 79.41 337 *eP* **P 00 05 12.4 0.0**
DAVA Damuels 79.45 336⇑ *iP* **P 00 05 13.5 +0.9**
comp=Z,30nm,1.0s,mb4.9
MEST Erdemli 79.53 314 *i P* **P 00 05 12.9 -0.4**
MEZF Maizieres J'vi 79.56 339 *eP* **P 00 05 13.2 0.0**
comp=Z,90nm,1.2s,mb5.0
ALN Alexandroupoli 79.56 322 *eP* **P 00 05 13.1 -0.3**
THEF They Montfort 79.59 339 *eP* **P 00 05 13.3 0.0**
MOF Molkenrain 79.65 338 *eP* **P 00 05 13.7 0.0**
WVT Waverly 79.66 46 *eP* **P 00 05 13.6 -0.4**
WVT pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
WVT Waverly 79.66 46 *eP* **P 00 05 13.6 -0.4**
comp=Z,7.8nm,1.0s,mb4.3
BTOK Tokmak 79.68 320 *i P* **P 00 05 14.3 +0.2**
HAU Haudompre 79.70 338 *eP* **P 00 05 13.7 -0.3**
comp=Z,68nm,1.3s,mb4.8
HAU Haudompre 79.70 338 *eP* **P 00 05 13.7 -0.3**
HAU pmax pmax
comp=Z,34nm,1.3s,mb4.8
HINF Hinteralfeld 79.75 338 *eP* **P 00 05 13.8 -0.5**
comp=Z,63nm,1.3s,mb4.8
HINF Hinteralfeld 79.75 338 *eP* **P 00 05 13.8 -0.5**
HINF pmax pmax
comp=Z,31nm,1.3s,mb4.8
LOMF Lomont 80.19 338 *eP* **P 00 05 16.9 +0.3**
SRS Serrai 80.35 324 *eP* **P 00 05 17.1 -0.5**
SKO Skopje 80.44 326 *i P* **P 00 05 18.6 +0.5**
FLN La Foliniere 80.50 343 *eP* **P 00 05 18.0 -0.2**
MANT Manisa 80.52 319 *i P* **P 00 05 18.5 0.0**
KNT Kendrikon 80.58 324 *eP* **P 00 05 18.6 -0.2**
LDF La Druitiere 80.59 343 *eP* **P 00 05 19.0 +0.3**
SOH Sokhos 80.70 324 *eP* **P 00 05 18.9 -0.6**
STKA Stephens Creek 80.72 190 P **P 00 05 19.2 -0.5**
comp=Z,1.8nm,0.6s,mb3.9,baz=332,slow=8.3,SNR=3.7
LOS Limnos 80.76 322 *eP* **P 00 05 19.7 -0.1**
OUR Ouranopolis 80.86 323 *eP* **P 00 05 19.8 -0.5**
GRR Gorron 80.94 343 *eP* **P 00 05 20.5 0.0**
comp=Z,131nm,1.4s,mb5.1
GRR Gorron 80.94 343 *eP* **P 00 05 20.5 0.0**
GRR pmax pmax
comp=Z,65nm,1.4s,mb5.1
CABF La Chapelle 81.07 338 *eP* **P 00 05 21.5 +0.2**
comp=Z,86nm,1.3s,mb4.9
CABF La Chapelle 81.07 338 *eP* **P 00 05 21.5 +0.2**
CABF pmax pmax
comp=Z,43nm,1.3s,mb4.9
KDAG Bornova 81.14 320 *i P* **P 00 05 19.1 -2.7**
SSF Saint Saulge 81.27 340 *eP* **P 00 05 22.2 -0.1**
SSF pmax pmax
comp=Z,18nm,1.2s,mb4.6
SSF Saint Saulge 81.27 340 *eP* **P 00 05 22.2 -0.1**
comp=Z,18nm,1.2s,mb4.6
HYF Humbligny 81.27 340 *eP* **P 00 05 22.6 +0.3**
PAIG Paliouri 81.33 323 *eP* **P 00 05 22.0 -0.8**
SGMF Saint Gilles 81.39 344 *eP* **P 00 05 22.6 -0.3**
comp=Z,25nm,0.7s,mb4.6
SGMF Saint Gilles 81.39 344 *eP* **P 00 05 22.6 -0.3**
SGMF pmax pmax
comp=Z,13nm,0.7s,mb4.7
ROSF Rostrenen 81.44 345 *eP* **P 00 05 22.9 -0.3**
comp=Z,142nm,1.3s,mb5.1
ROSF Rostrenen 81.44 345 *eP* **P 00 05 22.9 -0.3**
ROSF pmax pmax
comp=Z,71nm,1.3s,mb5.1
FNA Florina 81.49 325 *eP* **P 00 05 23.2 -0.4**
AVF Avril sur Loir 81.56 340 *eP* **P 00 05 23.9 +0.1**
comp=Z,58nm,1.1s,mb4.8
AVF Avril sur Loir 81.56 340 *eP* **P 00 05 23.9 +0.1**
AVF pmax pmax
comp=Z,29nm,1.1s,mb4.8
SMF Signal de Mont 81.58 339 *eP* **P 00 05 24.0 +0.1**
comp=Z,112nm,1.2s,mb5.1

SMF Signal de Mont 81.58 339 *eP* **P 00 05 24.0 +0.1**
SMF pmax pmax
comp=Z,56nm,1.2s,mb5.1
LIT Litokhoron 81.65 324 *eP* **P 00 05 23.5 -0.9**
RSL Roselend 81.79 337 *eP* **P 00 05 25.7 +0.6**
BGF Bois d'Agland 81.89 340 *eP* **P 00 05 25.9 +0.3**
AOS Alonnisos 81.90 323 *eP* **P 00 05 25.5 -0.3**
LPL La Plagne 81.92 337 *eP* **P 00 05 26.6 +0.9**
comp=Z,44nm,0.9s,mb4.8
LPL La Plagne 81.92 337 *eP* **P 00 05 26.6 +0.9**
LPL pmax pmax
comp=Z,22nm,0.9s,mb4.8
LPG La Plagne 81.94 337 *eP* **P 00 05 26.8 +1.0**
comp=Z,61nm,1.0s,mb4.9
LPG La Plagne 81.94 337 *eP* **P 00 05 26.8 +1.0**
LPG pmax pmax
comp=Z,31nm,1.0s,mb4.9
PLDF La Plantade 82.27 339 *eP* **P 00 05 27.9 +0.4**
TCF Toulx Ste Croi 82.29 340 *eP* **P 00 05 27.9 +0.3**
comp=Z,39nm,1.2s,mb4.6
TCF Toulx Ste Croi 82.29 340 *eP* **P 00 05 27.9 +0.3**
TCF pmax pmax
comp=Z,20nm,1.2s,mb4.6
AGO Saint Agoulin 82.31 340 *eP* **P 00 05 28.4 +0.7**
MFF Saint Martin d 82.50 342 *eP* **P 00 05 28.2 -0.5**
comp=Z,18nm,0.9s,mb4.5
MFF Saint Martin d 82.50 342 *eP* **P 00 05 28.2 -0.5**
MFF pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
AGG Agios Georgios 82.64 324 *eP* **P 00 05 28.0 -1.5**
MBDF Montbardon 82.65 337 *eP* **P 00 05 29.9 +0.4**
ORIF Oris-en-Rattie 82.70 337 *eP* **P 00 05 30.6 +0.9**
comp=Z,45nm,1.0s,mb4.8
ORIF Oris-en-Rattie 82.70 337 *eP* **P 00 05 30.6 +0.9**
ORIF pmax pmax
comp=Z,22nm,1.0s,mb4.8
LBL Lubilhac 83.05 339 *eP* **P 00 05 32.3 +0.8**
VIVF Saint-Julien-l 83.06 338 *eP* **P 00 05 32.2 +0.6**
comp=Z,87nm,1.5s,mb5.0
VIVF Saint-Julien-l 83.06 338 *eP* **P 00 05 32.2 +0.6**
VIVF pmax pmax
comp=Z,43nm,1.5s,mb5.0
SBF Sospel 83.27 336 *eP* **P 00 05 32.4 -0.2**
comp=Z,64nm,1.1s,mb5.0
SBF Sospel 83.27 336 *eP* **P 00 05 32.4 -0.2**
SBF pmax pmax
comp=Z,32nm,1.1s,mb5.0
RJF Les Rejaudoux 83.38 340 *eP* **P 00 05 33.7 +0.6**
CAF Calviac 83.62 340 *eP* **P 00 05 35.4 +1.1**
comp=Z,49nm,1.2s,mb4.8
CAF Calviac 83.62 340 *eP* **P 00 05 35.4 +1.1**
CAF pmax pmax
comp=Z,25nm,1.2s,mb4.8
SMRF Simiane la Rot 83.66 337 *eP* **P 00 05 35.4 +0.9**
comp=Z,73nm,1.5s,mb4.9
RAYN Ar Rayn 83.75 299 P **P 00 05 36.1 +0.7**
comp=Z,84nm,1.1s,mb5.4,SNR=10
FRF La Foret Royal 83.76 336 *eP* **P 00 05 35.1 +0.1**
LFF La Frestale 83.90 341 *eP* **P 00 05 36.7 +1.0**
comp=Z,67nm,1.1s,mb5.0
LFF La Frestale 83.90 341 *eP* **P 00 05 36.7 +1.0**
LFF pmax pmax
comp=Z,33nm,1.0s,mb5.0
LASF Ste Croix 84.00 338 *eP* **P 00 05 37.3 +1.1**
LMR La Mourre 84.01 336 *eP* **P 00 05 36.5 +0.2**
comp=Z,62nm,1.3s,mb4.9
LMR La Mourre 84.01 336 *eP* **P 00 05 36.5 +0.2**
LMR pmax pmax
comp=Z,31nm,1.3s,mb4.9
TREF Trevaresse 84.04 337 *eP* **P 00 05 39.0 +2.6**
GELF Grande-Etoile 84.25 337 *eP* **P 00 05 38.4 +1.0**
MTLF Montolieu 85.08 339 *eP* **P 00 05 41.5 -0.1**
EPF Esparros 85.80 341 *eP* **P 00 05 44.8 -0.4**
comp=Z,6.7nm,0.7s,mb4.2
EPF Esparros 85.80 341 *eP* **P 00 05 44.8 -0.4**
EPF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
ETSF Etsaut 86.13 341 *eP* **P 00 05 47.2 +0.5**
comp=Z,12nm,0.9s,mb4.3
ETSF Etsaut 86.13 341 *eP* **P 00 05 47.2 +0.5**
ETSF pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
DBIC Dimbokro 121.83 334 PKP PKPdf 00 11 58.3 -0.3
comp=Z,2.0nm,0.8s,baz=46,slow=4.6,SNR=4.2
PLCA Paso Flores 148.13 93 PKPbc PKPdf 00 12 50.8 +4.8
comp=Z,3.1nm,0.7s,baz=302,slow=1.6,SNR=8.6

*NEIC **14** 00:12:33.6±2.0, 17.73S×178.54W, h486km±22km, mb4.2/15, Error ellipse: s-maj=16.5km s-min=9.0km az=165.0*
*IDC **14** 00:12:43.3±1.9, 17.67S×178.86W, h592km±23km, mb3.6/19, mb1 3.8/20, mb1mx3.8/22, mbtmp4.5/20, Error ellipse: s-maj=17.8km s-min=8.8km az=158.0*
ISC 14 00:12:42.3±1.8, 17.8S±0.1×178.87W±0.07, h599km±23km, n123, σ0§80/50, mb4.1/29, 12C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**18.33**	**104**	P	**P**	**00 16 13.4**	**-8.5**
	5.9nm,0.3s,baz=170,slow=19,SNR=7.0						
URZ	**Urewera**	**20.73**	**189**	P	**P**	**00 16 44.9**	**+0.9**
	16nm,0.7s,baz=331,slow=4.7,SNR=11						
CTA	**Charters Tower**	**33.04**	**260**	*eP*	**P**	**00 18 30.9**	**-0.3**
	6.3nm,0.8s,mb4.3						
CTA	**Charters Tower**	**33.04**	**260**	P	**P**	**00 18 31.4**	**+0.2**
	6.3nm,0.7s,mb4.4,baz=109,slow=10,SNR=6.0						
CTAO	**Charters Tower**	**33.04**	**260**	*eP*	**P**	**00 18 30.9**	**-0.4**
	11nm,0.9s,mb4.5						
PMG	**Port Moresby**	**34.00**	**280**	P	**P**	**00 18 41.0**	**+1.7**
	4.6nm,0.8s,mb4.2,baz=115,slow=11,SNR=4.6						
PMG				S	**S**	**00 23 23.9**	**-1.1**
	19nm,0.5s,baz=165,slow=23,SNR=7.0						
TOO	**Toolangi**	**36.93**	**230**	*eP*	**P**	**00 19 03.3**	**+0.1**
	12nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**38.32**	**241**	‖*iP*	**P**	**00 19 14.9**	**+0.3**
	6.6nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**38.32**	**241**	P	**P**	**00 19 14.8**	**+0.2**
	7.4nm,0.5s,mb4.4,baz=95,slow=9.6,SNR=26						
WB2	**Warramunga Arr**	**44.22**	**259**	*eP*	**P**	**00 20 00.6**	**-0.9**
WRAB	**Tennant Creek**	**44.22**	**259**	*eP*	**P**	**00 20 00.6**	**-0.9**
	2.8nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**44.23**	**259**	P	**P**	**00 20 01.2**	**-0.4**
	2.1nm,0.7s,mb3.8,baz=99,slow=7.1,SNR=48						
WRA				PcP	PcP	00 21 33.1	+0.1
	1.6nm,0.6s,baz=90,slow=3.6,SNR=8.6						
WRA				S	**S**	**00 25 53.8**	**+0.6**
	0.4nm,0.7s,baz=95,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**44.23**	**259**	P	**P**	**00 20 01.2**	**-0.4**
WRA				PcP	PcP	00 21 33.1	+0.1
WRA				S	**S**	**00 25 53.8**	**+0.6**
ASAR	**Alice Springs**	**44.41**	**254**	P	**P**	**00 20 02.5**	**-0.4**
	25nm,0.5s,mb5.0,baz=89,slow=8.2,SNR=435						
ASAR				PcP	PcP	00 21 33.6	-0.1
	2.0nm,0.5s,baz=103,slow=3.7,SNR=7.9						
ASAR				S	**S**	**00 25 56.5**	**+0.8**
	1.7nm,0.9s,baz=88,slow=14,SNR=6.9						
ASPA	**Alice Springs**	**44.41**	**254**	‖*iP*	**P**	**00 20 02.5**	**-0.5**
ASPA				*eS*	**S**	**00 25 55.1**	**-0.6**
KAKA	**Kakadu**	**47.15**	**269**	‖*iP*	**P**	**00 20 23.5**	**-0.4**
	2.0nm,0.2s,mb4.3						
VNDA	**Vanda**	**60.56**	**185**	P	**P**	**00 21 57.2**	**-0.2**
	0.7nm,0.9s,baz=350,slow=9.5,SNR=5.4						
VNDA	**Vanda**	**60.56**	**185**	P	**P**	**00 21 57.2**	**-0.2**
QSPA	**South Pole Qui**	**72.30**	**180**	*eP*	**P**	**00 23 08.5**	**-0.6**
	5.5nm,0.7s,mb4.2						
YBH	**Yreka Blue Hor**	**78.68**	**39**	P	**P**	**00 23 45.0**	**+0.3**
	2.8nm,0.6s,mb3.8,baz=206,slow=2.7,SNR=7.9						
NVAR	**Mina Array Bea**	**79.62**	**44**	P	**P**	**00 23 49.7**	**0.0**
	4.2nm,0.8s,mb3.8,baz=230,slow=9.7,SNR=29						
NVAR	**Mina Array Bea**	**79.62**	**44**	P	**P**	**00 23 49.7**	**0.0**
TPNV	**Topopah Spring**	**80.23**	**46**	*eP*	**P**	**00 23 52.5**	**-0.4**
	3.8nm,1.1s,mb3.6						
MOD	**Modoc**	**80.25**	**40**	*eP*	**P**	**00 23 52.7**	**-0.2**
	3.6nm,0.6s,mb3.9						
ENH	**Enshi**	**83.82**	**304**	*eP*	**P**	**00 24 12.4**	**+1.2**
	5.9nm,0.4s,mb4.5						
MAW	**Mawson**	**83.85**	**200**	P	**P**	**00 24 11.6**	**+1.2**
	3.5nm,1.0s,mb3.8,baz=122,slow=6.7,SNR=4.2						
MCK	**McKinley**	**84.49**	**13**	*eP*	**P**	**00 24 12.6**	**-1.0**
	3.1nm,0.8s,mb3.9						
HLID	**Hailey**	**84.80**	**41**	*eP*	**P**	**00 24 15.5**	**-0.1**
	3.7nm,0.9s,mb4.0						
ILAR	**Eielson Array**	**85.84**	**13**	P	**P**	**00 24 18.5**	**-1.6**
	1.9nm,0.5s,mb4.0,baz=222,slow=5.0,SNR=41						
DLBC	**Dease Lake**	**85.86**	**23**	P	**P**	**00 24 21.5**	**+1.1**
	0.4nm,0.3s,mb3.5,baz=273,slow=12,SNR=3.5						
LTX	**Lajitas**	**86.28**	**58**	*eP*	**P**	**00 24 23.3**	**+0.1**
	8.0nm,0.9s,mb4.3						
TXAR	**Lajitas Array**	**86.28**	**58**	P	**P**	**00 24 24.1**	**+1.0**
	3.7nm,0.7s,mb4.1,baz=220,slow=6.1,SNR=33						
ANMO	**Albuquerque**	**86.34**	**52**	P	**P**	**00 24 23.8**	**+0.6**
	3.9nm,1.1s,mb3.9,baz=281,slow=10.0,SNR=4.3						
SNOW	**Snow King Moun**	**87.08**	**43**	P	**P**	**00 24 26.1**	**-0.4**
LOHW	**Long Hollow**	**87.25**	**42**	*eP*	**P**	**00 24 27.3**	**0.0**
QLMT	**Earthquake Lak**	**87.29**	**41**	*eP*	**P**	**00 24 28.1**	**+0.6**
BW06	**Boulder Array**	**87.54**	**44**	*eP*	**P**	**00 24 28.2**	**-0.5**
	3.1nm,0.6s,mb4.2						
PDAR	**Pinedale Array**	**87.54**	**44**	P	**P**	**00 24 28.6**	**-0.1**
	2.5nm,0.6s,mb4.1,baz=225,slow=2.1,SNR=15						
CMAR	**Chiang Mai Arr**	**88.42**	**290**	P	**P**	**00 24 34.5**	**+1.1**
	5.0nm,1.1s,mb4.2,baz=105,slow=2.8,SNR=10						
SYO	**Syowa Base**	**89.21**	**193**	‖*iP*	**P**	**00 24 34.5**	**-1.4**
INK	**Inuvik**	**91.86**	**15**	P	**P**	**00 24 47.6**	**-0.4**
	2.9nm,0.8s,mb4.4,baz=193,slow=14,SNR=5.7						
INK	**Inuvik**	**91.86**	**15**	*eP*	**P**	**00 24 46.9**	**-1.1**
	4.5nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**92.76**	**320**	*eP*	**P**	**00 24 52.8**	**+0.2**
	0.8nm,0.5s,mb4.0						
SONM	**Songino Array**	**93.15**	**319**	P	**P**	**00 24 56.2**	**+1.8**
	0.4nm,0.5s,mb3.7,baz=131,slow=4.2,SNR=5.5						
YKA	**Yellowknife Ar**	**94.38**	**25**	P	**P**	**00 24 58.9**	**-0.6**
	3.9nm,1.1s,mb4.4,baz=246,slow=4.5,SNR=16						
ZAL	**Zalesovo**	**107.86**	**322**	PKiKP		00 30 04.2	
	0.6nm,0.4s,baz=166,slow=5.6,SNR=3.3						
BVAR	**Borovoye Array**	**116.45**	**321**	PKP	PKPdf	00 30 19.6	+1.0
	2.5nm,0.4s,baz=121,slow=2.0,SNR=19						
BRVK	**Borovoye**	**116.51**	**321**	*e*PKPdf	PKPdf	00 30 19.5	+0.8
ARCES	**ARCESS Array B**	**126.09**	**350**	PKP	PKPdf	00 30 38.0	+1.3
	3.9nm,0.8s,slow=11,SNR=8.4						
AKASG	**Malin Array Be**	**140.22**	**332**	PKhKP		00 30 56.6	
	0.7nm,0.4s,baz=42,slow=4.1,SNR=6.3						
AKASG				PKP	PKPdf	00 31 06.3	+2.7
	1.3nm,0.4s,baz=41,slow=2.5,SNR=5.5						
GZT	**Gaziantep**	**142.57**	**309**	*iP*	PKPdf	00 31 07.7	-0.3
BOYT	**Boyabat**	**142.71**	**316**	*iP*	PKPdf	00 31 08.8	+0.6
KAHT	**Ahir Dag**	**142.98**	**310**	*iP*	PKPdf	00 31 09.7	+0.9
CTKT	**Corum**	**143.16**	**315**	*iP*	PKPbc	00 31 10.2	+2.5
BALT	**Daday**	**143.64**	**317**	*iP*	PKPbc	00 31 11.3	+2.2
KWP	**Kalwaria**	**143.76**	**336**	*e*PKPdf	PKPdf	00 31 10.7	+1.0
AVNT	**Avonos**	**143.96**	**312**	*iP*	PKPbc	00 31 12.2	+2.1
ELDT	**Eldivan**	**144.14**	**316**	*iP*	PKPbc	00 31 12.9	+2.3
OJC	**Ojcow**	**144.32**	**339**	*e*PKP	PKPdf	00 31 12.6	+2.0
BRTR	**Keskin Array B**	**144.37**	**315**	PKP	PKPdf	00 31 13.2	+2.1
	14nm,1.1s,baz=117,slow=2.8,SNR=30						
KOLS	**Kolonicke sedl**	**144.49**	**336**	*iP*	PKPdf	00 31 13.5	+2.5
KOLS				*e*		00 31 22.6	
KOLS				*e*		00 31 31.2	
ASF	**Jabal al Asfar**	**144.72**	**301**	PKP	PKPdf	00 31 15.2	+3.3
	4.1nm,0.7s,baz=308,slow=2.8,SNR=6.8						
NIE	**Niedzica**	**144.82**	**338**⇑	*e*PKP	PKPdf	00 31 14.7	+3.2
CRVS	**Cervenica-Dubn**	**144.83**	**337**	*e*PKP	PKPdf	00 31 14.6	+3.1
KSP	**Ksiaz**	**144.84**	**343**	*e*P	PKPdf	00 31 14.5	+3.0
SGKT	**Sivrigoynuk**	**145.00**	**317**	*iP*	PKPdf	00 31 15.3	+3.2
OKC	**Ostrava-Krasne**	**145.19**	**341**	*e*PKP	PKPdf	00 31 15.4	+3.3
CLZ	**Clausthal**	**145.21**	**350**	*e*PKPbc	PKPbc	00 31 15.4	+2.2
CLL	**Collm**	**145.22**	**347**⇑	*i*PKP1	PKPbc	00 31 15.0	+1.8
UPC	**Upice**	**145.22**	**343**	*e*PKP	PKPdf	00 31 15.6	+3.4
DPC	**Dobruska-Polom**	**145.28**	**343**	*e*PKP	PKPdf	00 31 15.9	+3.6
MEST	**Erdemli**	**145.39**	**309**	*iP*	PKPdf	00 31 16.2	+3.2
BRG	**Berggiesshubel**	**145.41**	**346**	*iP*	PKPdf	00 31 15.9	+3.4
BRG				*e*		00 31 23.6	
MORC	**Moravsky Berou**	**145.43**	**341**	*e*PKPdf	PKPdf	00 31 16.1	+3.6
PVCC	**Panska Ves**	**145.58**	**345**	*e*PKP	PKPdf	00 31 16.3	+3.5
PRU	**Pruhonice**	**146.08**	**344**	*e*PKP	PKPdf	00 31 17.7	+4.1
PRU				*ex*	x	00 31 20.1	
VYHS	**Vyhne**	**146.12**	**339**	*iP*	PKPdf	00 31 18.4	+4.6
VYHS				*e*		00 31 20.9	
MOX	**Moxa**	**146.13**	**348**	*e*PKP	PKPdf	00 31 17.7	+4.0
PSZ	**Piszkesteto**	**146.23**	**337**⇑	*iP*	PKPdf	00 31 18.3	+4.3
PSZ	**Piszkesteto**	**146.23**	**337**⇑	*i*PKP/F		00 31 18.2	
ESKT	**Eskisehir**	**146.33**	**316**	*iP*	PKPdf	00 31 18.3	+3.9
NKC	**Novy Kostel**	**146.35**	**347**	*e*PKP	PKPdf	00 31 18.6	+4.5
ZST	**Bratislava**	**146.96**	**340**	*e*PKP	PKPdf	00 31 18.2	+3.0
ZST				*e*		00 31 21.1	
KHC	**Kasperske Hory**	**147.12**	**345**	*e*PKP	PKPdf	00 31 20.8	+5.4
KHC				*ex*	x	00 31 24.9	
GRA1	**Grafenberg Arr**	**147.12**	**348**	*e*PKPbc	PKPdf	00 31 20.9	+5.5
GEC2	**GERESS Array S**	**147.35**	**345**	*e*PKPbc	PKPdf	00 31 21.2	+5.4
GERES	**GERESS Array B**	**147.35**	**345**	PKPbc	PKPdf	00 31 21.2	+5.4
	6.4nm,0.5s,baz=24,slow=3.0,SNR=62						
GIVF	**Givet**	**147.60**	**356**	*e*PKP1	PKPdf	00 31 21.7	+5.5
	24nm,0.6s						
BAIF	**Baives**	**147.68**	**356**	*e*PKP1	PKPdf	00 31 21.9	+5.6
	18nm,0.7s						
MOA	**Molln**	**148.12**	**343**⇑	*iP*	PKPdf	00 31 23.2	+6.2
	4.4nm,0.8s						
ARSA	**Arzberg**	**148.29**	**341**⇑	*iP*	PKPdf	00 31 22.5	+5.2
	5.2nm,1.0s						
FUR	**Furstenfeldbru**	**148.56**	**347**	*e*PKPbc	PKPdf	00 31 24.1	+6.4
BFO	**Black Forest**	**148.94**	**351**	*e*PKPbc	PKPdf	00 31 25.0	+6.7
CDF	**Champ du Feu**	**149.02**	**352**	*e*PKP1	PKPdf	00 31 25.2	+6.8
	16nm,0.6s						
FLN	**La Foiniere**	**149.05**	**2**	*e*PKP1	PKPdf	00 31 24.8	+6.4
	20nm,0.6s						
KBA	**Koelnbreinsper**	**149.07**	**344**⇑	*iP*	PKPdf	00 31 24.9	+6.4
	6.9nm,0.5s						
MEZF	**Maizieres J'vi**	**149.17**	**355**	*e*PKP1	PKPdf	00 31 24.4	+5.8
LDF	**La Druitiere**	**149.23**	**2**	*e*PKP1	PKPdf	00 31 25.1	+6.4
	15nm,0.5s						
WATA	**Walderalm**	**149.28**	**346**⇑	*iP*	PKPdf	00 31 25.7	+6.9
	10.0nm,1.2s						
ROSF	**Rostrenen**	**149.29**	**6**	*e*PKP1	PKPdf	00 31 25.1	+6.3
WTTA	**Wattenberg**	**149.33**	**346**⇑	*iP*	PKPdf	00 31 26.2	+7.3
	16nm,0.5s						
MOTA	**Moosalm**	**149.37**	**347**⇑	*iP*	PKPdf	00 31 25.9	+6.9
	5.9nm,1.0s						
GRR	**Gorron**	**149.41**	**3**	*e*PKP1	PKPdf	00 31 25.8	+6.8
	16nm,0.5s						
SGMF	**Saint Gilles**	**149.43**	**5**	*e*PKP1	PKPdf	00 31 25.6	+6.5
	48nm,1.1s						
SQTA	**Sankt Quirin**	**149.47**	**346**⇑	*iP*	PKPdf	00 31 26.4	+7.2
	4.2nm,0.7s						
HAU	**Haudompre**	**149.53**	**353**	*e*PKP1	PKPdf	00 31 26.2	+7.0
	16nm,0.6s						
HINF	**Hinteralfeld**	**149.66**	**352**	*e*PKP1	PKPdf	00 31 25.6	+6.2
	6.0nm,0.6s						
DAVA	**Damuels**	**149.68**	**348**⇑	*iP*	PKPdf	00 31 27.0	+7.5
	8.7nm,0.8s						
HYF	**Humbligny**	**150.54**	**358**	*e*PKP1	PKPdf	00 31 29.1	+8.3
SSF	**Saint Saulge**	**150.71**	**357**	*e*PKP1	PKPdf	00 31 29.2	+8.1
	17nm,0.6s						
CABF	**La Chapelle**	**150.94**	**353**	*e*PKP1	PKPdf	00 31 29.9	+8.5
	19nm,0.8s						
AVF	**Avril sur Loir**	**150.99**	**357**	*e*PKP1	PKPdf	00 31 28.9	+7.4
	7.6nm,0.7s						
SMF	**Signal de Mont**	**151.10**	**356**	*e*PKP1	PKPdf	00 31 29.5	+7.8
MFF	**Saint Martin d**	**151.22**	**2**	*e*PKP1	PKPdf	00 31 30.0	+8.2
	24nm,0.9s						
BGF	**Bois d'Agland**	**151.25**	**358**	*e*PKP1	PKPdf	00 31 30.3	+8.4
	20nm,0.7s						
TCF	**Toulx Ste Croi**	**151.54**	**358**	*e*PKP1	PKPdf	00 31 30.8	+8.5
	10.0nm,0.7s						
LPL	**La Plagne**	**151.93**	**352**	*e*PKP1	PKPdf	00 31 32.0	+9.1
	8.3nm,0.8s						
LPG	**La Plagne**	**151.94**	**352**	*e*PKP1	PKPdf	00 31 32.2	+9.3
	5.4nm,0.7s						
BNI	**Bardonecchia**	**152.39**	**351**	*e*PKPbc	PKPdf	00 31 33.8	+10
ORIF	**Oris-en-Rattie**	**152.63**	**353**	*e*PKP1	PKPdf	00 31 33.7	+10
	5.0nm,0.6s						
MBDF	**Montbardon**	**152.70**	**351**	*e*PKP1	PKPdf	00 31 33.9	+10
	9.3nm,0.6s						
CAF	**Calviac**	**152.90**	**359**	*e*PKP1	PKPdf	00 31 34.1	+10
	4.8nm,0.6s						
DBIC	**Dimbokro**	**167.53**	**151**	PKP	PKPdf	00 31 41.6	+0.8
	1.9nm,0.8s,baz=188,slow=4.2,SNR=3.8						

*IDC **14** 00:35:09.8±0.9, 2.71N×92.12E, mb4.2/13, mb1 4.3/14, mb1mx4.2/20, mbtmp4.1/14, ML4.0/1, MS3.8/2, Ms1 3.8/2, ms1mx3.1/23, Error ellipse: s-maj=39.1km s-min=17.1km az=49.0*
*NEIC **14** 00:35:14.3±0.5, 2.74N×92.15E, h30km, mb4.5/9, Error ellipse: s-maj=15.6km s-min=8.8km az=52.0*
*BJI **14** 00:35:17.1, 3.67N×91.65E, h5km, mB4.1, mb4.3, Ms4.6, Msz4.5*
ISC 14 00:35:12.7±0.5, 2.73N±0.07×92.2E±0.1, h30km, n45, σ0§99/46, mb4.4/28, MS4.0/3, 2C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.34**	**292**	*e*Pn	**P**	**00 38 04.9**	**-4.4**
	7.9nm,0.4s						
COCO	**West Island**	**15.52**	**163**	*e*Pn	**P**	**00 38 51.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**16.95**	**22**	Pn	**P**	**00 39 08.6**	**-0.9**
	0.2nm,0.3s,baz=215,slow=14,SNR=13						
VIS	**Vishakhapatnam**	**17.27**	**330**	*e*	**P**	**00 39 10.0**	**-3.4**
HYB	**Hyderabad**	**19.83**	**318**⇑	*eP*	**P**	**00 39 42.0**	**-2.2**
	40nm,1.0s						
HYB	**Hyderabad**	**19.83**	**318**⇑	*iP*	**P**	**00 39 42.0**	**-2.2**
	40nm,1.0s						
HYB				*e*		00 43 16.0	
IMP	**Imphal**	**21.98**	**4**	*eP*	**P**	**00 40 06.4**	**+0.3**
SHL	**Shillong**	**22.70**	**359**	*eP*	**P**	**00 40 12.0**	**-1.4**
	20nm,1.5s,mb4.3						
SHL				*e*S	**S**	**00 44 22.0**	**+6.8**
KAD	**Karad**	**22.89**	**310**	*eP*	**P**	**00 40 17.0**	**+1.8**
KAD				*e*S	**S**	**00 44 27.0**	**+8.5**
POO	**Poona**	**23.89**	**312**	*e*	**P**	**00 40 43.0**	**+18**
POO				*i* S	**S**	**00 44 51.0**	**+15**
JIRN	**Jiri**	**25.45**	**347**	*eP*	**P**	**00 40 40.8**	**+1.0**
	83nm,0.9s,mb5.3						
PKI	**Pulchoki**	**25.55**	**346**	*eP*	**P**	**00 40 41.8**	**+1.1**
DMN	**Daman**	**25.66**	**345**	*eP*	**P**	**00 40 43.3**	**+1.5**
	24nm,0.8s,mb4.8						
GUN	**Gumba**	**25.76**	**347**	*eP*	**P**	**00 40 43.3**	**+0.6**
	56nm,0.8s,mb5.1						
KKN	**Kakani**	**25.79**	**346**	*eP*	**P**	**00 40 43.5**	**+0.5**
	25nm,0.9s,mb4.8						
GKN	**Gorkha**	**26.15**	**345**	*eP*	**P**	**00 40 47.0**	**+0.6**
	65nm,0.8s,mb5.2						
KOLN	**Koldanda**	**26.23**	**342**	*eP*	**P**	**00 40 47.6**	**+0.6**
	39nm,0.8s,mb5.0						
LSA	**Lhasa**	**26.84**	**358**	P	**P**	**00 40 53.3**	**+0.7**
LSA	**Lhasa**	**26.84**	**358**	*eP*	**P**	**00 40 53.1**	**+0.5**
	21nm,0.7s,mb4.8						
DDI	**Dehra Dun**	**30.55**	**335**	*e*	**P**	**00 41 25.4**	**-0.6**
WMQ	**Urumqi**	**41.11**	**355**	*eP*	**P**	**00 42 55.5**	**-0.1**
WMQ				AP	pP	00 43 05.3	+0.7
WMQ				XP	sP	00 43 09.3	+1.0
WMQ				PP	PP	00 44 32.9	-0.5
WMQ				S	**S**	**00 49 01.3**	**-5.1**
WMQ				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.7						
WMQ				AMB	AMB		
	comp=Z,19nm,5.3s						
WMQ				LR	LR		
	comp=N,441nm,20.3s,MS4.5						
WMQ				LR	LR		
	comp=E,425nm,21.4s,MS4.5						
WMQ				LR	LR		
	comp=Z,658nm,20.8s,MS4.5						
AAK	**Ala-Archa**	**42.77**	**341**	P	**P**	**00 43 09.4**	**+0.1**
	comp=Z,2.1nm,0.8s,mb3.9						
SONM	**Songino Array**	**46.56**	**13**	P	**P**	**00 43 40.3**	**+0.7**
	comp=Z,1.6nm,0.6s,mb4.1,baz=192,slow=9.1,SNR=18						
ULN	**Ulaanbaatar**	**46.74**	**14**	*eP*	**P**	**00 43 40.9**	**-0.1**
	comp=Z,2.1nm,0.9s,mb4.1						
WRA	**Warramunga Arr**	**47.07**	**121**	P	**P**	**00 43 43.7**	**-0.3**
	comp=Z,1.4nm,0.6s,mb4.0,baz=297,slow=8.7,SNR=9.6						
WRAB	**Tennant Creek**	**47.08**	**120**	*eP*	**P**	**00 43 44.1**	**+0.1**
	comp=Z,5.7nm,0.7s,mb4.6						
ASAR	**Alice Springs**	**48.30**	**125**	P	**P**	**00 43 55.2**	**+1.6**
	comp=Z,0.7nm,0.7s,mb3.8,baz=292,slow=7.1,SNR=5.7						
ZAL	**Zalesovo**	**51.40**	**354**	P	**P**	**00 44 16.9**	**+0.1**
	comp=Z,5.8nm,0.4s,mb4.8,baz=310,slow=4.9,SNR=34						
ZAL				LR	LR	01 06 40.6	
	comp=Z,77nm,19.2s,MS3.7,baz=149,slow=37						
BVAR	**Borovoye Array**	**53.29**	**344**	P	**P**	**00 44 29.4**	**-1.6**
	comp=Z,2.7nm,0.7s,mb4.3,baz=141,slow=9.5,SNR=15						
BRVK	**Borovoye**	**53.34**	**344**	*eP*	**P**	**00 44 28.7**	**-2.7**
	comp=Z,2.4nm,0.7s,mb4.2						
GNI	**Garni**	**56.78**	**318**	P	**P**	**00 44 57.2**	**+0.6**
	comp=Z,1.1nm,0.4s,mb4.2,baz=188,slow=21,SNR=3.3						
GNI				LR	LR	01 09 59.3

comp=Z,262nm,20.9s,baz=205,slow=34
ENH Enshi 21.22 322 *eP* **P 00 57 00.4 +0.8**
19nm,0.9s,mb4.4
XAN Xi'an 24.37 328 P **P 00 57 31.4 +0.8**
XAN AMB AMB
comp=Z,31nm,1.0s,mb4.7
CMAR Chiang Mai Arr 24.78 284 P **P 00 57 34.0 -0.7**
comp=Z,4.2nm,0.8s,mb4.0,baz=99,slow=7.8,SNR=16
CMAR pP 00 57 48.5
comp=Z,3.1nm,0.8s,baz=103,slow=8.9,SNR=2.5
CMAR LR LR 01 07 44.1
comp=Z,73nm,18.7s,MS3.2,baz=105,slow=37
FITZ Fitzroy Crossi 31.92 178 ||*iP* **P 00 58 35.1 -4.1**
comp=Z,7.0nm,0.8s,mb4.5
LSA Lhasa 34.39 303 P **P 00 59 01.4 +0.9**
LSA Lhasa 34.39 303 *eP* **P 00 59 01.4 +0.9**
comp=Z,14nm,0.9s,mb4.9
WRA Warramunga Arr 35.13 164 P **P 00 59 03.3 -3.5**
comp=Z,2.5nm,0.6s,mb4.3,baz=343,slow=8.8,SNR=45
WRA pP pP 00 59 18.6 -0.9
comp=Z,3.2nm,0.9s,baz=338,slow=9.7,SNR=6.5
WB2 Warramunga Arr 35.13 164 *eP* **P 00 59 04.2 -2.7**
ULN Ulaanbaatar 36.70 340 *eP* **P 00 59 20.9 +0.9**
comp=Z,2.3nm,0.6s,mb4.2
SONM Songino Array 36.90 340 P **P 00 59 22.9 +1.3**
comp=Z,2.3nm,0.7s,mb4.1,baz=157,slow=9.4,SNR=22
SONM pP pP 00 59 35.2 +1.0
comp=Z,3.8nm,1.0s,baz=155,slow=9.2,SNR=6.5
JIRN Jiri 38.00 297 *eP* **P 00 59 31.1 +0.1**
comp=Z,12nm,0.5s,mb4.9
GUN Gumba 38.33 297 *eP* **P 00 59 33.8 +0.1**
comp=Z,17nm,0.5s,mb5.0
ASAR Alice Springs 38.58 166 P **P 00 59 34.2 -1.6**
comp=Z,12nm,0.6s,mb4.8,baz=343,slow=6.6,SNR=156
ASAR pP pP 00 59 45.4 -3.2
comp=Z,5.8nm,0.5s,baz=347,slow=6.6,SNR=12
ASAR sP sP 00 59 51.2 -3.1
comp=Z,3.7nm,0.6s,baz=347,slow=8.3,SNR=4.1
ASPA Alice Springs 38.58 166 ||*iP* **P 00 59 34.2 -1.6**
PKI Pulchoki 38.66 297 *eP* **P 00 59 36.4 -0.1**
KKN Kakani 38.82 297 *eP* **P 00 59 37.2 -0.6**
comp=Z,19nm,0.9s,mb4.8
DMN Daman 38.93 297 *eP* **P 00 59 38.5 -0.2**
comp=Z,20nm,0.9s,mb4.8
GKN Gorkha 39.42 297 *eP* **P 00 59 42.2 -0.6**
comp=Z,7.6nm,0.4s,mb4.7
KOLN Koldanda 40.27 297 *eP* **P 00 59 49.4 -0.4**
comp=Z,22nm,1.0s,mb4.8
WMQ Urumqi 43.16 321 *eP* **P 01 00 13.3 -0.1**
WMQ PP PP 01 01 53.0 -3.2
WMQ AMB AMB
comp=Z,3.0nm,1.2s,mb3.9
WMQ AMB AMB
comp=Z,19nm,5.2s
WMQ LR LR
comp=N,254nm,20.1s,MS4.3
WMQ LR LR
comp=E,345nm,21.2s,MS4.3
WMQ LR LR
comp=Z,491nm,20.2s,MS4.4
HYB Hyderabad 44.14 281 *iP* **P 01 00 22.5 +0.8**
NWAO Narrogin (SRO) 47.15 188 P **P 01 00 43.2 -2.2**
comp=Z,4.3nm,0.5s,mb4.6,baz=267,slow=20,SNR=5.1
NWAO Narrogin (SRO) 47.15 188 P **P 01 00 43.2 -2.2**
STKA Stephens Creek 48.52 160 P **P 01 00 55.4 -0.6**
comp=Z,5.6nm,0.7s,mb4.7,baz=356,slow=8.6,SNR=9.1
STKA pP pP 01 01 07.3 -1.7
comp=Z,3.5nm,0.7s,baz=7.4,slow=7.3,SNR=2.6
STKA Stephens Creek 48.52 160 P **P 01 00 55.4 -0.6**
STKA pP pP 01 01 07.3 -1.7
ZAL Zalesovo 50.48 331 P **P 01 01 11.6 +0.7**
comp=Z,0.7nm,0.4s,mb4.0,baz=341,slow=6.5,SNR=5.9
ZAL pP pP 01 01 24.2 +0.4
comp=Z,0.7nm,0.8s,baz=341,slow=12,SNR=4.1
ZAL LR LR 01 22 55.2
comp=Z,44nm,19.1s,MS3.5,baz=166,slow=36
ZAL Zalesovo 50.48 331 P **P 01 01 11.6 +0.7**
ZAL pP pP 01 01 24.2 +0.4
ZAL LR LR 01 22 55.2
BVAR Borovoye Array 57.55 325 P **P 01 02 02.5 -0.2**
baz=121,slow=4.7
BRVK Borovoye 57.63 325 *eP* **P 01 02 03.5 +0.2**
comp=Z,7.2nm,0.9s,mb4.7
BRVK *e* pP 01 02 15.3 -1.2
CHKZ Chkalovo 57.67 325 *eP* **P 01 02 03.0 -0.5**
comp=Z,1.7nm,0.6s,mb4.2
BILL Bilibino 60.38 17 P **P 01 02 22.6 +0.5**
comp=Z,4.8nm,0.8s,mb4.6
BILL *ep*P pP 01 02 33.7 -1.7
IMA Indian Mountai 74.06 25 *eP* **P 01 03 49.0 +0.9**
comp=Z,15nm,0.8s,mb5.0
IMA *ep*P pP 01 04 01.8 +0.1
MCK McKinley 76.12 27 *eP* **P 01 04 01.0 +1.0**
comp=Z,6.2nm,0.9s,mb4.5
MCK *ep*P pP 01 04 12.9 -0.8
ILAR Eielson Array 76.94 26 pP pP 01 04 17.7 -0.5
comp=Z,0.9nm,0.8s,baz=255,slow=6.3,SNR=6.9
MALT Malatya 78.31 307 P **P 01 04 11.1 -1.5**
comp=Z,1.0nm,0.4s,mb4.1
MALT *e* pP 01 04 25.9 -0.5
JOF Joensuu 79.04 332 *ep* pP 01 04 27.4 -2.5
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 80.07 339 P **P 01 04 24.3 +2.7**
comp=Z,3.1nm,1.0s,mb4.2,baz=78,slow=11,SNR=3.5
ARCES pP pP 01 04 34.9 -0.5
comp=Z,8.2nm,0.8s,baz=90,slow=6.1,SNR=6.2
ARCES ARCESS Array B 80.07 339 P **P 01 04 24.3 +2.7**
ARCES pP pP 01 04 34.9 -0.5
ASF Jabal al Asfar 80.56 301 pP pP 01 04 38.8 0.0
comp=Z,2.8nm,1.0s,baz=358,slow=8.4,SNR=2.9
KAF Kangasniemi 81.48 332 *ep* pP 01 04 38.3 -4.7
comp=Z,0.4nm,0.3s
FINES FINESS Array B 81.74 331 P **P 01 04 30.6 0.0**
comp=Z,3.9nm,1.0s,mb4.3,baz=90,slow=1.9,SNR=3.8
FINES pP pP 01 04 43.3 -1.1
comp=Z,2.2nm,0.5s,baz=77,slow=5.3,SNR=2.9
AKASG Malin Array Be 82.51 320 P **P 01 04 36.3 +1.6**
comp=Z,0.2nm,0.3s,mb3.6,baz=249,slow=23,SNR=2.9
AKASG pP pP 01 04 47.0 -1.6
comp=Z,1.4nm,0.7s,baz=66,slow=4.9,SNR=3.8
HFS Hagfors 87.90 332 pP pP 01 05 14.2 -1.0
comp=Z,3.0nm,0.6s,baz=90,slow=5.9,SNR=2.6
NB2 NORSAR Subarra 88.61 333 P pP 01 05 14.9 -3.7
comp=Z,1.0nm,0.6s,baz=68,slow=4.5
NOA NORSAR Array B 88.61 333 pP pP 01 05 15.4 -3.2
comp=Z,1.4nm,0.8s,baz=64,slow=4.9,SNR=2.6
NOA LR LR 01 52 08.4
comp=Z,44nm,19.0s,MS3.9,baz=45,slow=40
PLCA Paso Flores 150.35 157 PKPbc PKPdf 01 12 04.1 +7.3
comp=Z,2.5nm,0.9s,baz=167,slow=3.7,SNR=6.9
PLCA Paso Flores 150.35 157 PKPbc PKPdf 01 12 04.1 +7.3

*THE **14** 00:56:47.1,40.17N×23.93E,h4km,ML2.4*
*ATH **14** 00:56:47.8,40.20N×23.70E,h40km±2km,MD2.8/3*
*CSEM **14** 00:56:47.6±0.1,40.16N×23.93E,h5km,ML2.4,Error ellipse: s-maj=1.8km s-min=1.7km az=77.0*
*NEIC **14** 00:56:47.8,40.20N×23.70E,h40km,MD2.8(ATH),After ATH.*
ISC 14 00:56:46.5±0.5,40.16N±0.03×23.94E±0.03,h3km±7km, n17,σ0°74/28,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.18**	**10**	*e*Pg	**Pg**	**00 56 51.1**	**+1.0**
PAIG	**Paliouri**	**0.31**	**221**	*e*Pg	**Pg**	**00 56 53.1**	**+0.4**
PAIG				*e*Sg	**Sg**	**00 56 57.4**	**+0.5**
PLG	**Polygyros**	**0.44**	**300**	*e*P	**Pg**	**00 56 55.4**	**+0.1**
PLG				*e*S	**Sg**	**00 57 01.5**	**+0.4**
SOH	**Sokhos**	**0.80**	**326**	*e*Pg	**Pg**	**00 57 01.9**	**-0.7**
SOH				*e*Sg	**Sg**	**00 57 13.2**	**0.0**
THE	**Thessaloniki**	**0.88**	**303**	*e*Pg	**Pg**	**00 57 04.2**	**0.0**
THE				*e*Sg	**Sg**	**00 57 15.4**	**-0.5**
LOS	**Limnos**	**0.90**	**104**	*e*Pg	**Pg**	**00 57 04.4**	**-0.2**
LOS				*e*Sg	**Sg**	**00 57 17.1**	**+0.5**
XOR	**Xorichti**	**0.98**	**216**	*e*Pg	**Pg**	**00 57 06.0**	**-0.1**
XOR				*e*Sg	**Sg**	**00 57 19.6**	**+0.3**
XOR	**Xorichti**	**0.98**	**216**	*e*Pg	**Pg**	**00 57 06.0**	**-0.1**
XOR				*e*Sg	**Sg**	**00 57 19.5**	**+0.3**
AOS	**Alonnisos**	**0.99**	**183**	*e*Pg	**Pg**	**00 57 05.9**	**-0.4**
AOS				*e*Sg	**Sg**	**00 57 20.4**	**+0.9**
NEO	**Neokhori**	**1.02**	**213**	*e*P	**Pb**	**00 57 06.3**	**-0.1**
LIT	**Litokhoron**	**1.12**	**267**	*e*Pg	**Pg**	**00 57 07.7**	**-1.1**
LIT				*e*Sg	**Sg**	**00 57 23.3**	**-0.4**
NVR	**Nevrokopi**	**1.19**	**357**	*e*P	**Pb**	**00 57 09.1**	**-0.3**
KNT	**Kendrikon**	**1.28**	**322**	*e*Pb	**Pb**	**00 57 10.8**	**-0.1**
KNT				*e*Sb	**Sb**	**00 57 28.5**	**+0.9**
GRG	**Griva**	**1.42**	**305**	*e*Pb	**Pb**	**00 57 13.4**	**+0.1**
GRG				*e*Sb	**Sb**	**00 57 32.7**	**+1.0**
RDO	**Rodhopi**	**1.56**	**50**	*e*P	**Pn**	**00 57 16.4**	**+1.1**
AGG	**Agios Georgios**	**1.69**	**228**	*e*Pb	**Pb**	**00 57 16.3**	**-1.6**
ALN	**Alexandroupoli**	**1.76**	**65**	*e*Pb	**Pb**	**00 57 17.1**	**-2.1**

*MOS **14** 01:07:17.7±2.2,39.52N×40.45E,h10km,mb4.0/1,Error ellipse: s-maj=19.1km s-min=12.7km az=86.8*
*CSEM **14** 01:07:20.1±0.1,39.96N×40.73E,h2km,MD3.9,Error ellipse: s-maj=2.1km s-min=2.0km az=146.0*
*TIF **14** 01:07:21.2,39.93N×40.79E,h15km±3km*
*ISK **14** 01:07:21.4,39.94N×40.77E,h9km,MD3.9,ML3.9*
ISC 14 01:07:22.4±0.3,39.89N±0.03×40.81E±0.03,h9km,n38, σ1°30/52,1C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.43**	**88**	*i*PG	**Pg**	**01 07 30.9**	**-0.2**
ERZM	**Erzurum**	**0.43**	**88**	*i*P	**Pg**	**01 07 31.0**	**-0.2**
ERZM				*i*S	**Sg**	**01 07 35.1**	**-1.9**
EZC	**Erzincan**	**0.78**	**259**	*i*PN	**Pn**	**01 07 42.6**	**+3.3**
EZC				*i*SN	**Sn**	**01 07 59.6**	**+8.5**
VRT	**Varto**	**0.94**	**144**	*i*PG	**Pg**	**01 07 41.0**	**-0.4**
BINT	**Bingol**	**1.05**	**194**	*i*PN	**Pn**	**01 07 42.1**	**-1.0**
GUMT	**Gumushane**	**1.16**	**300**	*i*PN	**Pn**	**01 07 43.1**	**-1.7**
PTK	**Pertek**	**1.48**	**228**	*i*PN	**Pn**	**01 07 49.0**	**-0.4**
BCA	**Borcka**	**1.67**	**22**	PN	**Pn**	**01 07 51.0**	**-1.1**
BTMT	**Batman**	**1.78**	**162**	PN	**Pn**	**01 07 54.8**	**+1.2**
KARS	**Kars**	**1.89**	**67**	*e*PN	**Pn**	**01 07 55.4**	**+0.1**
ELZG	**Elazig**	**1.99**	**226**	*i*P	**Pn**	**01 07 57.2**	**+0.6**
ELZG				*i*S	**Sn**	**01 08 25.8**	**+4.0**
BEST	**Besiri**	**2.03**	**170**	*i*P	**Pn**	**01 07 60.0**	**+2.7**
BEST				*i*S	**Sn**	**01 08 30.9**	**+7.9**
DIY	**Diyarbakir**	**2.05**	**193**	*e*PN	**Pn**	**01 07 57.8**	**+0.3**
VANB	**Van**	**2.39**	**122**	*e*PN	**Pn**	**01 08 02.5**	**+0.1**
MYA	**Malataya**	**2.42**	**231**	*e*PN	**Pn**	**01 08 02.3**	**-0.6**
MALT	**Malatya**	**2.43**	**230**	*i*P	**Pn**	**01 08 03.2**	**+0.2**
MALT				*i*S	**Sn**	**01 08 35.0**	**+1.8**
TVAN	**Van**	**2.44**	**123**	*i*P	**Pg**	**01 08 08.0**	**-3.1**
TVAN				*i*S	**Sg**	**01 08 43.4**	**-0.2**
VANT	**Van**	**2.48**	**125**	*e*PN	**Pn**	**01 08 02.9**	**-0.7**
AKH	**Akhalkalaki**	**2.54**	**53**	P	**Pg**	**01 08 09.2**	**-4.0**
AKH				S	**Sg**	**01 08 48.0**	**+0.8**
URFA	**Urfa**	**2.90**	**213**	PN	**Pn**	**01 08 09.2**	**-0.5**
SVST	**Sivas**	**2.97**	**269**	*i*P	**Pg**	**01 08 16.2**	**-5.5**
SVST				*i*S	**Sg**	**01 09 00.6**	**-0.8**
GNI	**Garni**	**3.03**	**84**	*e*PN	**Pn**	**01 08 11.3**	**-0.2**
GNI	**Garni**	**3.03**	**84**	‖*iP*	**Pn**	**01 08 11.0**	**-0.6**
GNI	**Garni**	**3.03**	**84**	*i*P	**Pn**	**01 08 11.0**	**-0.6**
ONI	**Oni**	**3.34**	**36**	P	**Pb**	**01 08 21.6**	**0.0**
ONI				S	**Sb**	**01 09 07.3**	**+4.7**
TI2	**Plekhanov**	**3.51**	**57**	*e*P	**Pn**	**01 08 18.2**	**-0.2**
MTA	**Mtatsminda**	**3.52**	**58**	P	**Pb**	**01 08 26.4**	**+1.8**
MTA				S	**Sg**	**01 09 18.7**	**-0.9**
ZEI	**Tsey**	**3.70**	**38**	*e*P	**Pn**	**01 08 22.9**	**+1.9**
ZEI				*e*		01 09 19.9	
ZEI				pmax	pmax		
	comp=Z,53nm,0.9s						
ZEI				smax			
	comp=Z,117nm,1.6s						
SOC	**Sochi**	**3.77**	**348**	*i*P	**Pn**	**01 08 19.3**	**-2.8**
SOC				*e*		01 09 08.9	
SOC				pmax	pmax		
	comp=N,91nm,0.9s						
SOC				pmax	pmax		
	comp=Z,62nm,0.9s						
SOC				pmax	pmax		
	comp=E,33nm,0.8s						
SOC				smax			
	comp=E,61nm,1.0s						
SOC				MLR	MLR		
	comp=Z,105nm,7.0s						
SOC				MLR	MLR		
	comp=N,99nm,8.0s						
SOC				MLR	MLR		
	comp=E,78nm,6.0s						
SOC	**Sochi**	**3.77**	**348**	*i*P	**Pn**	**01 08 19.3**	**-2.8**
SOC				*e*S	**Sn**	**01 09 08.9**	**+1.7**
	comp=E,50nm,8.0s						
DGRG	**David-gareji**	**3.81**	**64**	P	**Pg**	**01 08 34.1**	**-4.3**
DGRG				S	**Sg**	**01 09 32.2**	**+3.1**
GAZ	**Gaziantep**	**3.92**	**227**	*e*PN	**Pn**	**01 08 23.6**	**-0.5**
KIV	**Kislovodsk**	**4.29**	**18**	*e*P	**Pn**	**01 08 32.6**	**+3.1**
KIV				S	**Sn**	**01 09 29.0**	**+8.7**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KIV				pmax	pmax		
	comp=Z,17nm,0.9s						
ANN	**Anapa**	**5.50**	**334**	*e*P	**Pn**	**01 08 38.2**	**-8.4**
ANN				*e*S	**Sn**	**01 09 48.5**	**-2.3**
ANN				pmax	pmax		
	comp=Z,22nm,1.0s						
SIM	**Simferopol'**	**7.07**	**318**	P	**Pn**	**01 09 13.0**	**+4.3**
SIM				pmax	pmax		
	comp=Z,8.0nm,0.9s						
APE	**Apeiranthos**	**12.30**	**262**	*i*P	**P**	**01 10 16.1**	**-4.5**
OBN	**Obninsk**	**15.49**	**351**	P	**P**	**01 11 04.0**	**+1.5**
OBN				MLR	MLR		
	comp=Z,100nm,15.0s						
KHC	**Kasperske Hory**	**21.40**	**305**	*e*P	**P**	**01 12 07.1**	**-5.4**

*IDC **14** 01:17:17.4±1.1,9.94N×93.49E,mb3.7/7,mb1 3.9/8, mb1mx3.8/18,mbtmp3.7/8,Error ellipse: s-maj=39.9km s-min=21.8km az=48.0*
ISC 14 01:17:21.4±0.9,10.0N±0.1×93.8E±0.1,h33km,n14, σ1°04/14,mb3.8/7,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.83**	**30**	Pn	**P**	**01 19 43.1**	**-0.5**
	baz=222,slow=16,SNR=4.1						
JIRN	**Jiri**	**19.00**	**339**	*e*P	**P**	**01 21 44.0**	**+0.9**
	14nm,0.8s						
PKI	**Pulchoki**	**19.21**	**337**	*e*P	**P**	**01 21 46.2**	**+0.7**
	5.7nm,0.5s						
GUN	**Gumba**	**19.34**	**339**	*e*P	**P**	**01 21 46.2**	**-0.7**
KKN	**Kakani**	**19.45**	**337**	*e*P	**P**	**01 21 48.5**	**+0.3**
	27nm,1.2s						
GKN	**Gorkha**	**19.90**	**336**	*e*P	**P**	**01 21 53.3**	**+0.3**
	14nm,0.5s						
KOLN	**Koldanda**	**20.14**	**333**	*e*P	**P**	**01 21 56.3**	**+0.7**
	9.4nm,0.8s						
SONM	**Songino Array**	**39.23**	**13**	P	**P**	**01 24 47.7**	**-0.6**
	0.5nm,1.0s,mb3.2,baz=214,slow=5.2,SNR=3.4						
WRA	**Warramunga Arr**	**49.79**	**127**	P	**P**	**01 26 14.0**	**+0.6**
	1.1nm,0.7s,mb4.0,baz=302,slow=9.9,SNR=5.7						
ASAR	**Alice Springs**	**51.55**	**131**	P	**P**	**01 26 26.8**	**+0.1**
	1.2nm,0.7s,mb4.0,baz=303,slow=7.3,SNR=6.1						
BRTR	**Keskin Array B**	**60.80**	**310**	P	**P**	**01 27 29.8**	**-3.0**
	0.4nm,0.6s,mb3.7,baz=108,slow=4.6,SNR=3.4						
AKASG	**Malin Array Be**	**66.30**	**321**	P	**P**	**01 28 07.7**	**-1.0**
	0.4nm,0.4s,mb3.9,baz=230,slow=7.1,SNR=5.2						
GERES	**GERESS Array B**	**76.03**	**318**	P	**P**	**01 29 06.0**	**-1.2**
	0.8nm,0.8s,mb3.7,baz=90,slow=5.3,SNR=4.4						
NOA	**NORSAR Array B**	**77.75**	**330**	P	**P**	**01 29 19.3**	**+2.7**
	1.3nm,0.8s,mb3.9,baz=103,slow=2.3,SNR=3.6						

*IDC **14** 01:17:26.7±1.4,5.44N×94.48E,mb3.9/8,mb1 4.1/9, mb1mx3.9/19,mbtmp3.9/9,ML4.3/1,Error ellipse: s-maj=69.5km s-min=20.1km az=53.0*
*NEIC **14** 01:17:30.2±1.0,5.09N×94.03E,h30km,mb4.4/2,Error ellipse: s-maj=33.2km s-min=17.7km az=63.0*
ISC 14 01:17:28.0±1.0,5.1N±0.2×94.1E±0.2,h30km,n13, σ1°24/11,mb4.0/10,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.10**	**19**	Pn	**P**	**01 20 50.2**	**+2.1**
	0.4nm,0.3s,baz=212,slow=12,SNR=5.8						
SONM	**Songino Array**	**43.87**	**12**	P	**P**	**01 25 32.0**	**-1.5**
	0.3nm,0.4s,mb3.4,baz=200,slow=7.1,SNR=4.1						
WRA	**Warramunga Arr**	**46.78**	**123**	P	**P**	**01 25 57.1**	**+0.1**
	1.0nm,0.6s,mb3.9,baz=304,slow=9.3,SNR=12						
ASAR	**Alice Springs**	**48.26**	**128**	P	**P**	**01 26 08.3**	**-0.3**
	0.4nm,0.5s,mb3.7,baz=299,slow=7.5,SNR=6.0						
ZAL	**Zalesovo**	**49.26**	**353**	P	**P**	**01 26 14.7**	**-1.2**
	1.1nm,0.3s,mb4.3,baz=318,slow=6.1,SNR=4.8						
BVAR	**Borovoye Array**	**51.57**	**342**	P	**P**	**01 26 32.8**	**-0.7**
	1.0nm,0.5s,mb4.0,baz=140,slow=14,SNR=13						
BRVK	**Borovoye**	**51.63**	**342**	*e*P	**P**	**01 26 32.9**	**-1.0**
	1.7nm,0.5s,mb4.2						
CHKZ	**Chkalovo**	**52.06**	**343**	*e*P	**P**	**01 26 36.5**	**-0.7**
	3.1nm,0.4s,mb4.6						
FINES	**FINESS Array B**	**75.10**	**333**	P	**P**	**01 29 10.4**	**+1.6**
	2.1nm,0.9s,mb4.1,baz=148,slow=18,SNR=2.3						
ARCES	**ARCESS Array B**	**77.82**	**340**	P	**P**	**01 29 24.2**	**+0.4**
	3.7nm,1.1s,mb4.2,baz=97,slow=7.3,SNR=2.8						
GERES	**GERESS Array B**	**79.82**	**319**	P	**P**	**01 29 37.8**	**+2.6**
	0.4nm,0.6s,mb3.5,baz=135,slow=5.7,SNR=4.4						
TXAR	**Lajitas Array**	**141.76**	**25**	PKP	PKPdf	01 37 01.7	-0.9
	0.2nm,0.4s,baz=320,slow=0.6,SNR=4.9						
TXAR	**Lajitas Array**	**141.76**	**25**	PKP	PKPdf	01 37 01.7	-0.9

IDC 14 01:59:40.0±1.8,9.91N×92.27E,mb3.6/4,mb1 3.8/5, mb1mx3.6/18,mbtmp3.6/5,ML4.1/1,MS3.0/1,Ms1 3.2/1, ms1mx2.6/20,Error ellipse: s-maj=69.2km s-min=26.0km az=69.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.68**	**37**	Pn	P	02 02 19.9	+2.5
	0.4nm,0.3s,baz=232,slow=16,SNR=4.1						
CMAR				LR	LR	02 06 53.3	
	comp=Z,70nm,18.3s,baz=230,slow=41						
SONM	**Songino Array**	**39.64**	**15**	P	P	02 07 12.9	-2.2
	0.6nm,0.8s,baz=217,slow=6.2,SNR=4.2						
ZAL	**Zalesovo**	**44.32**	**354**	P	P	02 07 51.9	-1.4
	0.6nm,0.6s,baz=299,slow=6.4,SNR=3.5						
WRA	**Warramunga Arr**	**50.94**	**126**	P	P	02 08 43.4	-2.1
	0.9nm,0.6s,baz=304,slow=8.6,SNR=8.8						
ASAR	**Alice Springs**	**52.63**	**130**	P	P	02 08 56.2	-2.1
	1.2nm,1.0s,baz=298,slow=6.6,SNR=7.2						
PLCA	**Paso Flores**	**145.74**	**203**	PKPbc	PKPbc	02 19 20.6	-1.0
	2.7nm,1.1s,baz=50,slow=3.5,SNR=3.1						

*IDC **14** 02:02:35.3±1.2,16.75N×145.42E,mb3.9/6,mb1 4.1/6, mb1mx3.8/18,mbtmp3.9/6,Error ellipse: s-maj=46.5km s-min=33.1km az=93.0*
ISC 14 02:02:38.7±1.0,16.7N±0.2×145.3E±0.3,h33km,n7, σ1°07/7,mb3.9/6,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAT	**Matsushiro**	**20.79**	**344**	P	**P**	**02 07 12.9**	**-6.6**
SONM	**Songino Array**	**44.53**	**323**	P	**P**	**02 10 49.0**	**0.0**
	0.3nm,0.5s,mb3.4,baz=130,slow=7.9,SNR=3.7						
STKA	**Stephens Creek**	**48.39**	**184**	P	**P**	**02 11 19.4**	**-0.3**
	1.1nm,0.4s,mb4.2,baz=335,slow=10,SNR=2.9						
ILAR	**Eielson Array**	**65.62**	**26**	P	**P**	**02 13 18.6**	**-2.7**
	1.0nm,1.0s,mb3.8,baz=256,slow=6.1,SNR=5.5						
YKA	**Yellowknife Ar**	**79.95**	**28**	P	**P**	**02 14 46.0**	**+0.2**
	0.5nm,0.5s,mb3.7,baz=291,slow=5.5,SNR=7.3						
NVAR	**Mina Array Bea**	**84.67**	**52**	P	**P**	**02 15 12.0**	**+1.3**
	0.7nm,0.7s,mb3.9,baz=261,slow=6.4,SNR=6.1						
FINES	**FINESS Array B**	**88.58**	**335**	P	**P**	**02 15 29.6**	**+0.5**
	1.6nm,0.8s,mb4.4,baz=117,slow=4.3,SNR=9.9						

*ATH **14** 02:19:21.5,39.38N×28.72E,h10km,MD3.8/3*
*CSEM **14** 02:19:25.6±0.0,39.16N×28.53E,h15km,MD3.6/1,Error ellipse: s-maj=1.0km s-min=0.9km az=54.0*
*ISK **14** 02:19:25.9,39.15N×28.49E,h19km,MD3.5*
ISC 14 02:19:24.9±0.6,39.15N±0.02×28.52E±0.03,h4km±5km, n74,σ0°77/89,1C-5D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.61**	**244**	*i*PG	**Pg**	**02 19 37.6**	**+0.4**
MANT	**Manisa**	**0.66**	**178**	*i*P	**Pg**	**02 19 37.7**	**-0.3**
MANT				*i*S	**Sg**	**02 19 46.1**	**-0.8**
BALB	**Balikesir**	**0.70**	**315**	PG	**Pg**	**02 19 39.9**	**+1.0**
BTOK	**Tokmak**	**0.72**	**328**	*i*P	**Pg**	**02 19 39.9**	**+0.5**
BTOK				*i*S	**Sg**	**02 19 50.0**	**+1.1**
ORLT	**Orhaneli**	**0.94**	**18**	PG	**Pg**	**02 19 43.8**	**+0.1**
ORLT				SG	**Sg**	**02 19 59.1**	**+2.8**
ULDT	**Uludag**	**1.10**	**25**	*i*P	**Pb**	**02 19 46.3**	**+0.2**
ULDT				*i*S	**Sb**	**02 20 00.8**	**+0.1**
KCT	**Karacabey**	**1.12**	**354**	PN	**Pn**	**02 19 47.3**	**0.0**
KCT				SN	**Sn**	**02 20 02.3**	**-1.0**
KHL	**Karahalli**	**1.14**	**136**	PN	**Pn**	**02 19 47.6**	**+0.1**
KDAG	**Bornova**	**1.23**	**233**	*i*P	**Pb**	**02 19 48.9**	**+0.5**
KDAG				*i*S	**Sb**	**02 20 05.0**	**+0.5**
IZM	**Izmir**	**1.24**	**233**	PN	**Pn**	**02 19 49.1**	**+0.2**
ALT	**Altintas**	**1.24**	**94**	PN	**Pn**	**02 19 49.2**	**+0.2**
BNT	**Bandirma**	**1.29**	**339**	PN	**Pn**	**02 19 49.9**	**+0.2**
EDC	**Edincik**	**1.30**	**337**	PN	**Pn**	**02 19 49.7**	**-0.1**
BLCB	**Balcova**	**1.39**	**237**	PN	**Pn**	**02 19 50.9**	**-0.2**
AYVA	**Ayvalik**	**1.43**	**277**	*i*P	**Pn**	**02 19 52.3**	**+0.6**
AYVA				*i*S	**Sb**	**02 20 12.4**	**+2.1**
ARMT	**Armutlu**	**1.44**	**10**	PN	**Pn**	**02 19 52.3**	**+0.5**
DENT	**Denizli**	**1.45**	**164**	PN	**Pn**	**02 19 52.3**	**+0.3**
DNZL	**Cakiroluk**	**1.51**	**164**	*i*P	**Pn**	**02 19 52.7**	**-0.2**
DNZL				*i*S	**Sb**	**02 20 16.5**	**+3.9**
YLV	**Yalova**	**1.56**	**25**	PN	**Pn**	**02 19 53.6**	**0.0**
AYDN	**Tasoluk**	**1.57**	**199**	*i*P	**Pn**	**02 19 53.2**	**-0.5**
AYDN				*i*S	**Sb**	**02 20 17.5**	**+3.2**
MRMT	**Marmara Adasi**	**1.62**	**334**	PN	**Pn**	**02 19 54.3**	**-0.1**
PRK	**Paraskevi**	**1.75**	**274**	||*i*PG	**Pg**	**02 19 56.8**	**-3.1**
PRK				*e*SN	**Sn**	**02 20 21.0**	**+1.7**
PRK	**Paraskevi**	**1.75**	**274**	||*i*Pg	**Pg**	**02 19 56.8**	**-3.1**
PRK				*e*Sn	**Sn**	**02 20 19.4**	**+0.1**
BADT	**Buyukada**	**1.76**	**15**	PN	**Pn**	**02 19 56.3**	**-0.1**
GPA	**Golpazari**	**1.79**	**50**	*e*PN	**Pn**	**02 19 57.0**	**+0.2**
EZN	**Ezine**	**1.83**	**292**	*e*PN	**Pn**	**02 19 56.6**	**-0.8**
ESKT	**Eskisehir**	**1.84**	**78**	*i*P	**Pn**	**02 19 57.9**	**+0.3**

IDC 14 02:20:32.9±1.8, 8.37N×92.05E, mb3.5/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, ML4.2/1, Error ellipse: s-maj=62.4km s-min=23.4km az=72.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.06**	**33**	Pn	P	02 23 26.9	-2.1
	0.4nm,0.3s,baz=234,slow=15,SNR=6.7						
SONM	**Songino Array**	**41.17**	**15**	P	P	02 28 18.5	-2.2
	0.2nm,0.5s,baz=194,slow=10,SNR=5.3						
NWAO	**Narrogin (SRO)**	**47.56**	**151**	P	P	02 29 11.0	-1.3
	14nm,0.7s,baz=257,slow=9.9,SNR=5.6						
BVAR	**Borovoye Array**	**47.87**	**343**	P	P	02 29 13.1	-1.4
	1.1nm,0.9s,baz=135,slow=4.1,SNR=5.6						
WRA	**Warramunga Arr**	**50.24**	**125**	P	P	02 29 30.3	-2.8
	0.3nm,0.5s,baz=301,slow=9.2,SNR=11						

IDC 14 03:01:53.8±10.0, 5.17N×95.73E, mb3.8/2, mb1 4.1/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=288.9km s-min=45.2km az=80.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.57**	**13**	Pn	P	03 05 08.0	-2.4
	baz=208,slow=12,SNR=4.9						
WRA	**Warramunga Arr**	**45.43**	**125**	P	P	03 10 14.1	-2.4
	1.7nm,0.9s,baz=304,slow=9.1,SNR=16						
ASAR	**Alice Springs**	**46.99**	**129**	P	P	03 10 27.5	-1.3
	0.7nm,0.5s,baz=302,slow=7.5,SNR=12						

*TIF **14** 03:17:23.1, 43.40N×44.83E, h23km±2km*
*CSEM **14** 03:17:23.6±0.2, 43.25N×44.81E, h15km, mb4.0, Error ellipse: s-maj=5.6km s-min=2.4km az=22.0, After OBN*
*MOS **14** 03:17:23.6±1.9, 43.25N×44.81E, h15km, mb4.0/1, Error ellipse: s-maj=17.9km s-min=9.0km az=40.6*

ISC 14 03:17:24.0±0.6, 43.40N±0.04×44.83E±0.04, h15km, n22, σ1§30/39, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.93**	**228**	*i* PG	**Pg**	**03 17 40.5**	**-2.3**
ZEI				*e*		03 17 54.3	
ZEI				pmax	pmax		
	comp=Z,583nm,0.2s						
ZEI				smax			
	comp=E,621nm,0.2s						
ZEI	**Tsey**	**0.93**	**228**	*i* Pg	**Pg**	**03 17 40.5**	**-2.3**
	comp=E,292nm,0.2s						
ZEI				*e*Sg	**Sg**	**03 17 54.3**	**-1.0**
BTLR	**Botlikh**	**1.26**	**125**	*e*PG	**Pg**	**03 17 43.3**	**-6.0**
BTLR				*i* S	**Sb**	**03 18 01.8**	**-1.0**
BTLR				pmax	pmax		
	comp=Z,77nm,0.3s						
BTLR	**Botlikh**	**1.26**	**125**	*e*Pg	**Pg**	**03 17 43.3**	**-6.0**
	comp=Z,38nm,0.3s						
BTLR				*i* Sg	**Sb**	**03 18 01.8**	**-1.0**
ONI	**Oni**	**1.30**	**231**	P	**Pb**	**03 17 47.1**	**-0.6**
ONI				S	**Sb**	**03 18 05.3**	**+1.3**
PYA	**Pyatigorsk**	**1.43**	**297**	*e*PG	**Pg**	**03 17 49.0**	**-3.7**
PYA				*e*S	**Sb**	**03 18 09.3**	**+1.5**
DBC	**Dubki**	**1.51**	**104**	*i* PG	**Pg**	**03 17 51.0**	**-3.3**
DBC				*i* S	**Sb**	**03 18 12.0**	**+1.9**
BEYR	**Belyy Ugol+**	**1.58**	**293**	*i* Sg	**Sg**	**03 18 13.8**	**-3.1**
BEYR	**Belyy Ugol+**	**1.58**	**293**	*e*Pn	**Pn**	**03 17 51.7**	**-0.1**
UNCR	**Uncukul**	**1.60**	**115**	*e*PG	**Pg**	**03 17 51.0**	**-5.0**
UNCR				*e*S	**Sn**	**03 18 12.5**	**+0.2**
UNCR				pmax	pmax		
	comp=Z,26nm,0.4s						
UNCR	**Uncukul**	**1.60**	**115**	*e*Pg	**Pg**	**03 17 51.0**	**-5.0**
	comp=Z,13nm,0.4s						
UNCR				*e*Sg	**Sn**	**03 18 12.5**	**+0.2**
SHAR	**Shatzhatmas**	**1.61**	**283**	*i* PN	**Pn**	**03 17 52.1**	**0.0**
SHAR				*e*S	**Sn**	**03 18 14.6**	**+2.0**
KIV0	**Kislovodsk Arr**	**1.65**	**290**	*e*Pn	**Pn**	**03 17 52.4**	**-0.3**
KIV0				*e*Sg	**Sg**	**03 18 15.1**	**-3.9**
KIV	**Kislovodsk**	**1.65**	**290**	*e*PN	**Pn**	**03 17 52.3**	**-0.4**
KIV				*i*		03 18 15.2	
KIV				pmax	pmax		
	comp=Z,9μm,0.7s						
KIV				smax			
	comp=E,88nm,0.8s						
KIV	**Kislovodsk**	**1.65**	**290**	*e*Pn	**Pn**	**03 17 52.3**	**-0.4**
	comp=E,4μm,0.7s						
KIV				*i* Sg	**Sg**	**03 18 15.2**	**-4.0**
TI2	**Plekhanov**	**1.67**	**182**	*e*PG	**Pg**	**03 17 52.2**	**-5.2**
TI2				*e*S	**Sn**	**03 18 15.2**	**+1.0**
TI2				pmax	pmax		
	comp=Z,10.0nm,0.3s						
TI2				smax			
	comp=E,20nm,0.4s						
TI2	**Plekhanov**	**1.67**	**182**	*e*Pg	**Pg**	**03 17 52.2**	**-5.2**
	comp=E,5.0nm,0.3s						
TI2				*e*Sg	**Sn**	**03 18 15.2**	**+1.0**
MTA	**Mtatsminda**	**1.71**	**181**	P	**Pn**	**03 17 52.6**	**-0.9**
MTA				S	**Sn**	**03 18 17.2**	**+2.1**
NAGR	**Nagutskaya**	**1.82**	**306**	*i* Pn	**Pn**	**03 17 54.8**	**-0.4**
GOF	**Gofitskoye**	**2.10**	**323**	*e*PN	**Pn**	**03 18 05.5**	**+6.3**
GOF				*i* S	**Sb**	**03 18 36.5**	**+9.3**
GOF				pmax	pmax		
	comp=Z,30nm,1.0s						
GOF				smax			
	comp=E,60nm,1.2s						
GOF	**Gofitskoye**	**2.10**	**323**	*e*Pn	**Pn**	**03 18 05.5**	**+6.3**
	comp=E,15nm,1.0s						
GOF				*i* Sb	**Sb**	**03 18 36.5**	**+9.3**
AKH	**Akhalkalaki**	**2.22**	**207**	P	**Pn**	**03 18 00.7**	**-0.3**
AKH				S	**Sn**	**03 18 32.4**	**+4.1**

IDC 14 03:31:20.1±2.6, 4.62N×93.99E, mb3.7/3, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, ML4.4/1, Error ellipse: s-maj=100.8km s-min=27.9km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.58**	**19**	Pn	P	03 34 49.0	-0.8
	0.5nm,0.3s,baz=208,slow=12,SNR=4.7						
WRA	**Warramunga Arr**	**46.56**	**123**	P	P	03 39 49.7	-2.1
	1.4nm,0.7s,baz=303,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**48.00**	**128**	P	P	03 40 01.5	-1.7
	0.3nm,0.6s,baz=305,slow=7.1,SNR=5.3						
BVAR	**Borovoye Array**	**52.01**	**342**	P	P	03 40 31.0	-2.5
	0.7nm,0.7s,baz=143,slow=7.2,SNR=4.8						

*NIED **14** 03:32:00, 32.50N×140.50E, h98km, Mw4.3 Best double couple: M0 3.72×10^15 NP1:φs 172°, δ70°, λ72°. NP2:φs 35°, δ27°, λ130°.*
*BJI **14** 03:32:09.5, 32.52N×140.56E, h118km, mB5.0, mb4.5*
*MOS **14** 03:32:09.1±1.1, 32.46N×140.28E, h93km, mb4.5/14, Error ellipse: s-maj=14.7km s-min=7.7km az=104.0*
*JMA **14** 03:32:10.4±0.1, 32.47N×140.52E, h88km±3km, M4.2*
JMA Felt I J1.
*NEIC **14** 03:32:10.7±1.3, 32.49N×140.28E, h92km±10km, mb4.4/18, Error ellipse: s-maj=10.4km s-min=8.5km az=165.0*
NEIC Recorded [1 JMA] on Hachijo-jima.
*IDC **14** 03:32:10.9±0.6, 32.46N×140.28E, h93km±3km, mb4.0/22, mb1 4.2/24, mb1mx4.1/26, mbtmp4.3/24, Error ellipse: s-maj=12.5km s-min=10.7km az=77.0*

ISC 14 03:32:09.1±0.3, 32.40N±0.03×140.38E±0.04, h94km, h94km±2.0km: pP-P, n110, σ1§11/122, mb4.3/47, 1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.85**	**326**	P	**P**	**03 32 28.8**	**+1.0**
JHJ2				S	**S**	**03 32 42.3**	**+0.7**
JHJ	**Hachijo jima 2**	**0.87**	**325**	P	**P**	**03 32 28.6**	**+0.7**
	595nm,0.3s,baz=131,slow=7.8,SNR=267						
JHJ				S	**S**	**03 32 42.0**	**0.0**
	963nm,0.3s,baz=246,slow=23,SNR=28						
JMY	**Miyakejima3**	**1.82**	**337**	P	**P**	**03 32 40.7**	**+1.1**
JMY				S	**S**	**03 33 03.0**	**+1.0**
JKO	**Kozu shima**	**2.06**	**330**	P	**P**	**03 32 43.8**	**+1.0**
NJJJ	**Nii jima 2**	**2.19**	**336**	P	**P**	**03 32 45.8**	**+1.1**
BSO1	**Boso 1**	**2.30**	**12**	P	**P**	**03 32 46.2**	**+0.1**
BSO1				*e*S	**S**	**03 33 12.3**	**-1.3**
BSO2	**Boso 2**	**2.36**	**8**	S	**S**	**03 33 13.5**	**-1.7**
BSO3	**Boso 3**	**2.40**	**3**	P	**P**	**03 32 46.9**	**-0.6**
BSO3				S	**S**	**03 33 14.5**	**-1.5**
JIM2	**Oshima 3**	**2.44**	**341**	P	**P**	**03 32 48.2**	**+0.1**
JIZS	**Izushimoda**	**2.63**	**332**	P	**P**	**03 32 51.9**	**+1.2**
TK01	**Tokai 1**	**2.71**	**301**	P	**P**	**03 32 54.2**	**+2.4**
TK04	**Tokai 4**	**2.88**	**314**	P	**P**	**03 32 55.8**	**+1.7**
JOD2	**Odawara 2**	**3.05**	**340**	P	**P**	**03 32 56.5**	**0.0**
SHZ3	**Shizuoka 3**	**3.21**	**326**	P	**P**	**03 33 00.2**	**+1.5**
JYN	**Shimob**	**3.44**	**334**	P	**P**	**03 33 03.0**	**+1.1**
JIE	**Ise**	**3.66**	**304**	P	**P**	**03 33 06.0**	**+1.2**
JIE				S	**S**	**03 33 46.9**	**-0.1**
JRY	**Ryogami san**	**3.81**	**342**	P	**P**	**03 33 06.8**	**-0.1**
JRY				S	**S**	**03 33 50.6**	**-0.2**
JWZ	**Kozaga**	**4.08**	**287**	P	**P**	**03 33 11.7**	**+1.1**
JWZ				S	**S**	**03 33 57.7**	**+0.3**
JAG	**Ashikaga**	**4.08**	**349**	P	**P**	**03 33 08.7**	**-2.0**
JGM	**Miyama**	**4.48**	**318**	P	**P**	**03 33 17.4**	**+1.3**
MAJO	**Matsushiro**	**4.50**	**337**	*e*P	**P**	**03 33 16.6**	**+0.2**
MAT	**Matsushiro**	**4.50**	**337**	*e*P	**P**	**03 33 16.0**	**-0.4**
MAT				*e*S	**S**	**03 34 08.0**	**0.0**
MAT	**Matsushiro**	**4.50**	**337**	P	**P**	**03 33 16.4**	**0.0**
MAT				S	**S**	**03 34 07.9**	**-0.1**
MAT	**Matsushiro**	**4.50**	**337**	P	**P**	**03 33 16.9**	**+0.5**
CBIJ	**Chichi jima**	**5.52**	**163**	P	**P**	**03 33 29.0**	**-1.2**
	40nm,0.3s,baz=334,slow=9.6,SNR=15						
CBIJ				S	**S**	**03 34 27.9**	**-5.1**
	67nm,0.3s,baz=290,slow=22,SNR=6.9						
ASAJ	**Asahikawa**	**11.82**	**8**	P	**P**	**03 34 54.8**	**-1.0**
ASAJ				S	**S**	**03 36 58.5**	**-7.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**11.82**	**8**	P	**P**	**03 34 54.8**	**-1.0**
	comp=Z,1.4nm,0.3s,baz=331,slow=13,SNR=5.9						
ASAJ				S	**S**	**03 36 58.5**	**-7.6**
	comp=Z,1.2nm,0.3s,baz=40,slow=30,SNR=6.1						
YSS	**Yuzh-Sakhalins**	**14.65**	**6**	*e*P	**P**	**03 35 29.9**	**-2.6**
MDJ	**Mudanjiang**	**14.81**	**328**	P	**P**	**03 35 36.1**	**+1.4**
MDJ				AMB	AMB		
	comp=Z,12nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,150nm,5.5s						
MDJ	**Mudanjiang**	**14.81**	**328**	Pn	**P**	**03 35 33.0**	**-1.7**
HIA	**Hailar**	**22.85**	**324**	*e*P	**P**	**03 37 03.0**	**-1.6**
HIA				pmax	pmax		
	comp=Z,24nm,0.6s						
HIA	**Hailar**	**22.85**	**324**	*e*P	**P**	**03 37 03.0**	**-1.7**
	comp=Z,24nm,0.6s,mb4.7						
ULN	**Ulaanbaatar**	**29.52**	**311**	*e*P	**P**	**03 38 05.8**	**-0.7**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**29.52**	**311**	*e*P	**P**	**03 38 05.8**	**-0.7**
	comp=Z,3.9nm,0.8s,mb4.1						
SONM	**Songino Array**	**29.93**	**311**	P	**P**	**03 38 10.0**	**-0.2**
	comp=Z,4.1nm,0.6s,mb4.2,baz=113,slow=8.8,SNR=36						
BOD	**Bodaibo**	**31.12**	**333**	*e*P	**P**	**03 38 16.9**	**-3.6**
ZAK	**Zakamensk**	**32.69**	**314**	‖*e*P	**P**	**03 38 33.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**39.66**	**260**	P	**P**	**03 39 32.5**	**-0.9**
	comp=Z,2.9nm,0.7s,mb4.2,baz=52,slow=7.4,SNR=9.0						
CMAR				pP	pP	03 39 55.5	-0.2
	comp=Z,0.6nm,0.3s,baz=199,slow=34,SNR=1.6						
WMQ	**Urumqi**	**42.34**	**301**	*e*P	**P**	**03 39 55.0**	**-0.1**
ZAL	**Zalesovo**	**44.54**	**316**	P	**P**	**03 40 13.0**	**+0.2**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZAL	**Zalesovo**	**44.54**	**316**	P	**P**	**03 40 12.9**	**+0.1**
	comp=Z,2.5nm,0.4s,mb4.3,baz=330,slow=7.1,SNR=12						
NVS	**Novosibirsk**	**45.53**	**317**	*e*P	**P**	**03 40 19.2**	**-1.5**
JIRN	**Jiri**	**46.74**	**279**	*e*P	**P**	**03 40 29.8**	**-0.8**
	comp=Z,36nm,0.6s,mb5.2						
GUN	**Gumba**	**46.92**	**279**	*e*P	**P**	**03 40 31.2**	**-0.8**
	comp=Z,22nm,0.6s,mb5.1						
PKI	**Pulchoki**	**47.42**	**279**	*e*P	**P**	**03 40 34.0**	**-2.0**
	comp=Z,8.5nm,0.7s,mb4.6						
KKN	**Kakani**	**47.46**	**280**	*e*P	**P**	**03 40 34.8**	**-1.4**
	comp=Z,17nm,0.7s,mb4.9						
GKN	**Gorkha**	**47.92**	**280**	*e*P	**P**	**03 40 38.4**	**-1.5**
	comp=Z,28nm,0.9s,mb5.1						
KOLN	**Koldanda**	**48.86**	**280**	*e*P	**P**	**03 40 45.5**	**-1.6**
	comp=Z,17nm,0.8s,mb5.0						
AAK	**Ala-Archa**	**52.05**	**301**	*e*P	**P**	**03 41 08.8**	**-2.4**
WRA	**Warramunga Arr**	**52.37**	**187**	P	**P**	**03 41 12.9**	**-0.9**
	comp=Z,1.0nm,0.3s,mb4.3,baz=4.0,slow=7.6,SNR=108						
CHKZ	**Chkalovo**	**52.94**	**316**	*e*P	**P**	**03 41 16.1**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
CHKZ	**Chkalovo**	**52.94**	**316**	*e*P	**P**	**03 41 16.1**	**-1.5**
	comp=Z,18nm,0.8s,mb5.1						
CHKZ				*e*		03 42 02.5	
BVAR	**Borovoye Array**	**53.14**	**315**	P	**P**	**03 41 18.0**	**-1.2**
	comp=Z,5.1nm,0.4s,mb4.9,baz=97,slow=7.8,SNR=48						
BRVK	**Borovoye**	**53.20**	**315**	*e*P	**P**	**03 41 18.3**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
BRVK	**Borovoye**	**53.20**	**315**	*e*P	**P**	**03 41 18.3**	**-1.3**
	comp=Z,17nm,1.0s,mb5.0						
ILAR	**Eielson Array**	**53.88**	**30**	P	**P**	**03 41 23.1**	**-1.3**
	comp=Z,2.7nm,0.7s,mb4.4,baz=267,slow=6.3,SNR=45						
ILAR				pP	pP	03 41 47.6	0.0
	comp=Z,0.8nm,0.7s,baz=256,slow=6.4,SNR=2.9						
ILAR				PcP	PcP	03 42 27.1	-1.6
	comp=Z,0.7nm,0.6s,baz=280,slow=3.6,SNR=5.8						
ASAR	**Alice Springs**	**56.09**	**187**	P	**P**	**03 41 41.4**	**+0.4**
	comp=Z,0.9nm,0.7s,mb3.9,baz=14,slow=13,SNR=11						
ASAR				pP	pP	03 42 03.4	-1.0
	comp=Z,0.8nm,0.6s,baz=19,slow=13,SNR=4.1						
INK	**Inuvik**	**58.91**	**26**	*e*P	**P**	**03 41 59.0**	**-1.1**
INK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
INK	**Inuvik**	**58.91**	**26**	P	**P**	**03 41 59.4**	**-0.7**
	comp=Z,2.5nm,0.4s,mb4.6,baz=292,slow=6.1,SNR=11						
INK	**Inuvik**	**58.91**	**26**	*e*P	**P**	**03 41 59.0**	**-1.1**
	comp=Z,5.5nm,0.8s,mb4.6						
DLBC	**Dease Lake**	**62.83**	**36**	P	**P**	**03 42 27.4**	**+0.6**
	comp=Z,3.3nm,1.0s,mb4.2,baz=214,slow=26,SNR=1.9						
DLBC	**Dease Lake**	**62.83**	**36**	P	**P**	**03 42 27.4**	**+0.6**
STKA	**Stephens Creek**	**63.94**	**179**	P	**P**	**03 42 34.4**	**-0.1**
	comp=Z,1.8nm,0.6s,mb4.0,baz=147,slow=21,SNR=2.9						
RES	**Resolute Bay**	**67.29**	**14**	*e*P	**P**	**03 42 54.2**	**-1.0**
RES				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
RES	**Resolute Bay**	**67.29**	**14**	*e*P	**P**	**03 42 54.2**	**-1.0**
	comp=Z,2.4nm,0.6s,mb4.2						
KEV	**Kevo**	**67.47**	**340**	*e*p	**P**	**03 42 58.8**	**+2.4**
	comp=Z,0.3nm,0.3s,mb3.6						
ARCES	**ARCESS Array B**	**68.03**	**340**	P	**P**	**03 43 00.6**	**+0.8**
	comp=Z,2.3nm,0.8s,mb4.1,baz=45,slow=6.9,SNR=3.8						
YKA	**Yellowknife Ar**	**68.25**	**29**	P	**P**	**03 43 00.4**	**-0.9**
YKA				*PP	pP	03 43 25.7	+0.2
YKA	**Yellowknife Ar**	**68.25**	**29**	P	**P**	**03 43 00.4**	**-0.9**
	comp=Z,3.3nm,0.8s,mb4.2,baz=296,slow=6.2,SNR=46						
YKA				pP	pP	03 43 25.6	+0.2
	comp=Z,0.9nm,0.9s,baz=300,slow=5.7,SNR=2.8						
JOF	**Joensuu**	**69.66**	**333**	*e*p	**P**	**03 43 07.5**	**-2.4**
	comp=Z,0.8nm,0.4s,mb3.9						
FINES	**FINESS Array B**	**72.52**	**333**	P	**P**	**03 43 26.2**	**-0.8**
	comp=Z,2.9nm,0.8s,mb4.2,baz=60,slow=6.9,SNR=14						
ZEI	**Tsey**	**73.11**	**310**	*e*P	**P**	**03 43 30.2**	**-0.6**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
KIV	**Kislovodsk**	**73.32**	**312**	*e*P	**P**	**03 43 32.1**	**+0.1**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7						
KIV	**Kislovodsk**	**73.32**	**312**	*e*P	**P**	**03 43 32.1**	**+0.1**
	comp=Z,7.7nm,0.6s,mb4.7						
EDM	**Edmonton**	**73.53**	**37**	*e*P	**P**	**03 43 32.9**	**-0.1**
GNI	**Garni**	**73.81**	**307**	*e*P	**P**	**03 43 35.9**	**+0.9**
GNI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GNI	**Garni**	**73.81**	**307**	*e*P	**P**	**03 43 35.9**	**+0.9**
	comp=Z,7.3nm,1.0s,mb4.4						
BMO	**Blue Mountains**	**75.73**	**46**	*e*P	**P**	**03 43 46.5**	**+0.6**
	comp=Z,3.8nm,1.0s,mb4.1						
WVOR	**Wild Horse Val**	**76.16**	**48**	*e*P	**P**	**03 43 49.1**	**+0.7**
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
WVOR	**Wild Horse Val**	**76.16**	**48**	*e*P	**P**	**03 43 49.1**	**+0.7**
	comp=Z,3.2nm,0.7s,mb4.2						
AKASG	**Malin Array Be**	**77.44**	**323**	P	**P**	**03 43 54.8**	**-0.5**
AKASG				*PP	pP	03 44 19.5	-0.6
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**77.44**	**323**	P	**P**	**03 43 54.8**	**-0.6**
	comp=Z,2.7nm,0.5s,mb4.2,baz=49,slow=5.9,SNR=17						
AKASG				pP	pP	03 44 19.4	-0.6
	comp=Z,0.7nm,0.6s,baz=47,slow=5.4,SNR=1.6						
NB2	**NORSAR Subarra**	**78.12**	**337**	P	**P**	**03 43 58.2**	**-0.6**
	comp=Z,3.8nm,0.9s,mb4.1,baz=41,slow=5.3						
NOA	**NORSAR Array B**	**78.12**	**337**	P	**P**	**03 43 59.7**	**+0.8**
	comp=Z,2.2nm,0.8s,mb3.9,baz=42,slow=5.3,SNR=5.9						
HLID	**Hailey**	**78.18**	**46**	*e*P	**P**	**03 44 00.4**	**+0.8**
	comp=Z,1.9nm,0.8s,mb3.9						
NVAR	**Mina Array Bea**	**78.48**	**52**	P	**P**	**03 44 02.5**	**+1.2**
	comp=Z,1.7nm,0.7s,mb3.9,baz=282,slow=5.9,SNR=13						
NVAR				pP	pP	03 44 27.1	+1.0
	comp=Z,0.7nm,0.6s,baz=298,slow=6.5,SNR=2.7						
BOZ	**Bozeman (W)**	**78.65**	**43**	*e*P	**P**	**03 44 02.9**	**+0.8**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
BOZ	**Bozeman (W)**	**78.65**	**43**	*e*P	**P**	**03 44 02.9**	**+0.8**
	comp=Z,2.0nm,0.6s,mb4.1						
MALT	**Malatya**	**78.96**	**308**	*e*P	**P**	**03 44 04.1**	**+0.1**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
MALT	**Malatya**	**78.96**	**308**	*e*P	**P**	**03 44 04.1**	**+0.2**
	comp=Z,2.5nm,0.8s,mb4.1						
TPNV	**Topopah Spring**	**80.65**	**52**	*e*P	**P**	**03 44 13.7**	**+0.6**
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
TPNV	**Topopah Spring**	**80.65**	**52**	*e*P	**P**	**03 44 13.7**	**+0.7**
	comp=Z,3.6nm,0.7s,mb4.3						
BRTR	**Keskin Array B**	**81.28**	**312**	P	**P**	**03 44 16.8**	**+0.5**
	comp=Z,2.8nm,0.8s,mb4.2,baz=105,slow=4.4,SNR=18						
FRB	**Frobisher Bay**	**81.47**	**13**	P	**P**	**03 44 16.9**	**+0.1**
	comp=Z,4.0nm,0.2s,mb4.8,baz=320,slow=5.7,SNR=22						
BW06	**Boulder Array**	**81.54**	**44**	*e*P	**P**	**03 44 17.9**	**+0.3**
	comp=Z,1.6nm,0.7s,mb4.0						
PDAR	**Pinedale Array**	**81.54**	**44**	P	**P**	**03 44 18.4**	**+0.8**
	comp=Z,1.6nm,0.6s,mb4.0,baz=276,slow=3.0,SNR=14						
RAYN	**Ar Rayn**	**81.62**	**292**	P	**P**	**03 44 18.0**	**-0.4**
	comp=Z,127nm,0.6s,SNR=18						
NLU	**North Lily Min**	**81.66**	**48**	*e*P	**P**	**03 44 19.1**	**+0.8**
MPU	**Maple Canyon**	**81.90**	**48**	*e*P	**P**	**03 44 20.8**	**+1.3**
MSU	**Marysvale**	**82.43**	**49**	*e*P	**P**	**03 44 23.5**	**+1.2**
CLL	**Collm**	**84.68**	**330**	P	**P**	**03 44 34.0**	**+0.8**
GERES	**GERESS Array B**	**86.18**	**328**	P	**P**	**03 44 42.9**	**+2.3**
	comp=Z,0.8nm,0.8s,mb3.7,baz=11,slow=6.8,SNR=4.1						
ANMO	**Albuquerque**	**88.24**	**49**	P	**P**	**03 44 53.2**	**+2.2**
	comp=Z,0.2nm,0.3s,mb3.6,baz=264,slow=7.1,SNR=3.7						
WMOK	**Wichita Mounta**	**93.13**	**45**	*e*P	**P**	**03 45 14.2**	**+0.4**
WMOK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.3						
WMOK	**Wichita Mounta**	**93.13**	**45**	*e*P	**P**	**03 45 14.2**	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.4						
LTX	**Lajitas**	**93.63**	**52**	*e*P	**P**	**03 45 17.2**	**+1.1**
LTX				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.8						
LTX	**Lajitas**	**93.63**	**52**	*e*P	**P**	**03 45 17.2**	**+1.0**
	comp=Z,3.1nm,0.6s,mb4.8						
TXAR	**Lajitas Array**	**93.63**	**52**	P	**P**	**03 45 17.4**	**+1.3**
	comp=Z,3.6nm,0.7s,mb4.8,baz=296,slow=3.4,SNR=50						
TXAR				pP	pP	03 45 41.9	+0.2
	comp=Z,1.1nm,0.7s,baz=290,slow=2.6,SNR=4.0						
TXAR	**Lajitas Array**	**93.63**	**52**	P	**P**	**03 45 17.4**	**+1.3**
TXAR				pP	pP	03 45 41.9	+0.2
LPAZ	**La Paz**	**149.60**	**65**	PKPbc	PKPdf	03 51 50.5	+7.1
	comp=Z,3.5nm,0.8s,baz=342,slow=6.3,SNR=13						

*IDC **14** 03:40:12.0±1.5, 35.53S×104.51W, mb4.2/10, mb1 4.4/10, mb1mx4.3/16, mbtmp4.2/10, MS4.1/8, Ms1 4.1/8, ms1mx3.8/18, Error ellipse: s-maj=47.8km s-min=20.8km az=32.0*
*NEIC **14** 03:40:13.4±0.7, 35.58S×104.49W, h10km, mb4.5/19, Error ellipse: s-maj=21.3km s-min=9.3km az=212.0*

ISC 14 03:40:11.7±1.4, 35.6S±0.2×104.5W±0.2, h10km, n45, σ0§76/36, mb4.3/25, MS4.2/8, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**27.09**	**111**	P	**P**	**03 45 56.7**	**+0.5**
	2.9nm,1.1s,mb3.7,baz=240,slow=9.8,SNR=2.8						
PLCA	**Paso Flores**	**27.09**	**111**	P	**P**	**03 45 56.7**	**+0.4**
USHA	**Ushuaia**	**31.39**	**139**	LR	LR	03 56 38.1	
	comp=Z,174nm,19.9s,MS3.7,baz=272,slow=31						
LVC	**Limon Verde**	**33.50**	**77**	P	**P**	**03 46

*BJI **14** 03:44:20.3, 2.44N×94.55E, h34km, mB4.9, mb4.7, Ms4.5, Msz4.2*
*IDC **14** 03:44:22.0±0.6, 2.59N×94.49E, h24km±2km, mb4.2/14, mb1 4.3/15, mb1mx4.2/22, mbtmp4.4/15, ML4.6/1, Error ellipse: s-maj=28.3km s-min=10.8km az=48.0*
*NEIC **14** 03:44:22.1±0.4, 2.58N×94.55E, mb4.6/10, Error ellipse: s-maj=14.4km s-min=7.9km az=51.0*
ISC 14 03:44:20.2±0.5, 2.59N±0.08×94.6E±0.1, h25km, h25km±.4km:pP-P, n41, σ0°88/39, mb4.5/31, MS4.5/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.34**	**15**	Pn	**P**	**03 48 09.6**	**-0.4**
	0.9nm,0.3s,baz=209,slow=11,SNR=24						
HYB	**Hyderabad**	**21.54**	**314**	*eP*	**P**	**03 49 10.5**	**+0.6**
HYB	**Hyderabad**	**21.54**	**314**	*i P*	**P**	**03 49 10.5**	**+0.6**
IMP	**Imphal**	**22.07**	**358**	*eP*	**P**	**03 49 08.9**	**-6.3**
SHL	**Shillong**	**22.99**	**354**	*eP*	**P**	**03 49 22.8**	**-1.6**
JIRN	**Jiri**	**26.18**	**343**	*eP*	**P**	**03 49 55.3**	**+0.5**
	23nm,0.7s,mb4.8						
PKI	**Pulchoki**	**26.34**	**341**	*eP*	**P**	**03 49 58.0**	**+1.7**
DMN	**Daman**	**26.47**	**341**	*eP*	**P**	**03 49 59.1**	**+1.6**
GUN	**Gumba**	**26.51**	**343**	*eP*	**P**	**03 49 57.7**	**-0.2**
	40nm,0.8s,mb5.0						
KKN	**Kakani**	**26.58**	**341**	*eP*	**P**	**03 49 58.5**	**0.0**
	22nm,0.9s,mb4.7						
GKN	**Gorkha**	**26.99**	**340**	*eP*	**P**	**03 50 01.9**	**-0.3**
	25nm,0.8s,mb4.8						
KOLN	**Koldanda**	**27.14**	**338**	*eP*	**P**	**03 50 03.9**	**+0.3**
	10nm,0.6s,mb4.5						
LSA	**Lhasa**	**27.15**	**354**	P	**P**	**03 50 04.8**	**+1.0**
LSA	**Lhasa**	**27.15**	**354**	*eP*	**P**	**03 50 05.8**	**+2.1**
	15nm,0.7s,mb4.6						
XAN	**Xi'an**	**34.04**	**22**	P	**P**	**03 51 03.4**	**-1.3**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.8						
WMQ	**Urumqi**	**41.51**	**353**	*eP*	**P**	**03 52 09.6**	**+2.4**
WMQ				PP	PP	03 53 49.3	+3.1
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb3.9						
WMQ				AMB	AMB		
	comp=Z,30nm,5.2s						
WMQ				LR	LR		
	comp=N,511nm,19.8s,MS4.5						
WMQ				LR	LR		
	comp=E,422nm,20.6s,MS4.5						
WMQ				LR	LR		
	comp=Z,770nm,20.0s,MS4.6						
BJT	**Baijiatuan**	**42.10**	**25**	*eP*	**P**	**03 52 13.1**	**+1.0**
	comp=Z,11nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**43.71**	**339**	*eP*	**P**	**03 52 25.2**	**0.0**
	comp=Z,2.0nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**45.01**	**122**	P	**P**	**03 52 36.4**	**+0.4**
	comp=Z,5.2nm,0.8s,mb4.4,baz=300,slow=8.9,SNR=26						
WRA				pP	pP	03 52 43.9	+0.5
	comp=Z,4.4nm,1.0s,baz=300,slow=9.1,SNR=8.4						
WRAB	**Tennant Creek**	**45.02**	**122**	*eP*	**P**	**03 52 35.6**	**-0.5**
	comp=Z,8.4nm,0.8s,mb4.6						
SONM	**Songino Array**	**46.22**	**11**	P	**P**	**03 52 45.1**	**0.0**
	comp=Z,4.3nm,0.8s,mb4.4,baz=192,slow=8.5,SNR=40						
SONM				pP	pP	03 52 52.3	-0.3
	comp=Z,6.1nm,0.7s,baz=190,slow=8.1,SNR=23						
SONM				PcP	PcP	03 54 21.3	+0.2
	comp=Z,0.9nm,0.9s,baz=188,slow=4.1,SNR=4.0						
SONM				pPcP		03 54 29.6	
	comp=Z,1.1nm,0.9s,baz=178,slow=3.6,SNR=3.8						
ASAR	**Alice Springs**	**46.34**	**127**	P	**P**	**03 52 46.6**	**+0.2**
	comp=Z,2.4nm,0.9s,mb4.1,baz=304,slow=8.1,SNR=16						
ASAR				pP	pP	03 52 53.5	-0.5
	comp=Z,1.3nm,0.8s,baz=300,slow=7.4,SNR=4.5						
ASAR				PcP	PcP	03 54 22.2	+0.3
	comp=Z,1.4nm,0.7s,baz=296,slow=3.5,SNR=7.4						
ASAR				pPcP		03 54 29.5	
	comp=Z,0.9nm,0.6s,baz=303,slow=3.3,SNR=5.7						
ULN	**Ulaanbaatar**	**46.38**	**12**	*eP*	**P**	**03 52 45.9**	**-0.5**
	comp=Z,0.9nm,0.6s,mb3.9						
ULN				*e*	pP	03 52 53.1	-0.8
HIA	**Hailar**	**51.24**	**21**	*eP*	**P**	**03 53 23.3**	**-0.6**
	comp=Z,12nm,0.7s,mb4.9						
HIA				*e*pP	pP	03 53 31.2	-0.4
ZAL	**Zalesovo**	**51.80**	**353**	P	**P**	**03 53 28.9**	**+0.6**
	comp=Z,2.7nm,0.4s,mb4.6,baz=305,slow=4.5,SNR=16						
ZAL				pP	pP	03 53 35.8	0.0
	comp=Z,2.0nm,0.4s,baz=289,slow=5.0,SNR=3.8						
BVAR	**Borovoye Array**	**54.10**	**342**	P	**P**	**03 53 44.6**	**-0.7**
	comp=Z,4.8nm,0.7s,mb4.6,baz=143,slow=7.4,SNR=25						
BVAR				pP	pP	03 53 52.3	-0.5
	comp=Z,3.1nm,0.8s,baz=166,slow=6.1,SNR=6.5						
BRVK	**Borovoye**	**54.16**	**342**	*eP*	**P**	**03 53 44.8**	**-0.9**
	comp=Z,3.5nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**54.60**	**343**	*eP*	**P**	**03 53 48.1**	**-0.8**
	comp=Z,12nm,0.8s,mb5.0						
CHKZ				*e*pP	pP	03 53 56.0	-0.5
STKA	**Stephens Creek**	**56.25**	**132**	P	**P**	**03 54 02.1**	**+1.0**
	comp=Z,2.8nm,0.7s,mb4.4,baz=344,slow=11,SNR=4.3						
STKA				pP	pP	03 54 09.1	+0.3
	comp=Z,2.9nm,0.7s,baz=304,slow=8.1,SNR=3.5						
ASF	**Jabal al Asfar**	**61.51**	**305**	P	**P**	**03 54 37.0**	**-0.7**
	comp=Z,1.0nm,0.4s,mb4.3,baz=25,slow=14,SNR=3.6						
ASF				pP	pP	03 54 45.5	0.0
	comp=Z,1.0nm,0.4s,baz=14,slow=14,SNR=1.5						
KIV	**Kislovodsk**	**61.54**	**320**	*eP*	**P**	**03 54 36.9**	**-0.8**
	comp=Z,3.8nm,0.6s,mb4.7						
MALT	**Malatya**	**62.24**	**312**	*eP*	**P**	**03 54 42.9**	**+0.3**
	comp=Z,2.6nm,0.9s,mb4.4						
MALT				*e*pP	pP	03 54 51.4	+1.1
BRTR	**Keskin Array B**	**66.23**	**313**	P	**P**	**03 55 08.0**	**-0.6**
	comp=Z,4.9nm,1.1s,mb4.5,baz=128,slow=7.0,SNR=19						
BRTR				pP	pP	03 55 15.6	-0.7
	comp=Z,1.9nm,0.8s,baz=135,slow=8.7,SNR=8.8						
IDI	**Anoyia**	**71.95**	**306**	P	**P**	**03 55 43.7**	**-0.2**
	comp=Z,3.7nm,0.6s,mb4.5,baz=58,slow=9.0,SNR=3.8						
AKASG	**Malin Array Be**	**72.55**	**323**	P	**P**	**03 55 45.8**	**-1.4**
	comp=Z,2.0nm,0.7s,mb4.2,baz=86,slow=5.4,SNR=7.9						
AKASG				pP	pP	03 55 53.3	-1.7
	comp=Z,1.1nm,0.7s,baz=93,slow=5.3,SNR=2.7						
FINES	**FINESS Array B**	**77.56**	**333**	P	**P**	**03 56 16.1**	**+0.6**
	comp=Z,3.9nm,1.1s,mb4.3,baz=104,slow=7.9,SNR=5.2						
FINES				pP	pP	03 56 23.1	-0.3
	comp=Z,2.8nm,0.9s,baz=104,slow=7.9,SNR=2.3						
ARCES	**ARCESS Array B**	**80.35**	**341**	P	**P**	**03 56 29.6**	**-1.0**
	comp=Z,2.8nm,0.8s,mb4.2,baz=352,slow=17,SNR=2.6						
ARCES				pP	pP	03 56 38.5	0.0
	comp=Z,8.5nm,1.1s,baz=4.4,slow=16,SNR=2.1						
GERES	**GERESS Array B**	**82.03**	**319**	P	**P**	**03 56 40.7**	**+0.9**
	comp=Z,1.9nm,0.8s,mb4.1,baz=104,slow=5.5,SNR=11						
GERES				pP	pP	03 56 49.1	+1.4
	comp=Z,1.4nm,0.7s,baz=117,slow=3.0,SNR=6.4						
URZ	**Urewera**	**85.75**	**128**	P	**P**	**03 56 58.6**	**-0.4**
	comp=Z,9.1nm,1.0s,mb5.0,baz=212,slow=3.2,SNR=3.3						
URZ				pP	pP	03 57 06.6	-0.3
	comp=Z,13nm,1.0s,baz=278,slow=9.0,SNR=3.5						
YKA	**Yellowknife Ar**	**111.43**	**14**	PP	PP	04 03 33.7	-3.5
	comp=Z,0.3nm,0.9s,baz=331,slow=7.2,SNR=4.1						
TXAR	**Lajitas Array**	**143.77**	**28**	PKP	PKPdf	04 03 54.3	-4.2
	comp=Z,0.7nm,0.8s,baz=360,slow=0.3,SNR=5.4						
TXAR				pPKP		04 04 02.4	
	comp=Z,0.9nm,0.9s,baz=322,slow=1.3,SNR=3.7						

*IDC **14** 03:46:54.7±2.6, 52.17N×169.12W, mb3.5/6, mb1 3.8/7, mb1mx3.7/21, mbtmp3.5/7, ML3.0/1, Error ellipse: s-maj=49.4km s-min=33.3km az=48.0*
*NEIC **14** 03:47:00.7, 52.07N×168.23W, h25km, ML2.9(AEIC), After AEIC.*
ISC 14 03:47:00.6±0.8, 52.19N±0.05×168.2W±0.1, h25km, n15, σ0°93/21, mb3.5/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.89**	**333**	P	**Pb**	**03 47 16.6**	**-0.7**
NIKO				S	**Sb**	**03 47 28.5**	**-0.3**
OKFG	**Magazine Ridge**	**1.24**	**7**	P	**Pn**	**03 47 22.5**	**-0.1**
OKFG				S	**Sn**	**03 47 39.0**	**+0.4**
OKCE	**Okmok Cone E**	**1.24**	**0**	P	**Pn**	**03 47 22.7**	**0.0**
OKCE				S	**Sn**	**03 47 41.1**	**+2.4**
OKCD	**Okmok Cone D**	**1.25**	**2**	P	**Pn**	**03 47 22.9**	**+0.2**
OKCD				S	**Sn**	**03 47 39.4**	**+0.6**
MSW	**Makushin Switc**	**1.92**	**25**	P	**Pn**	**03 47 32.3**	**-0.1**
MSW				S	**Sn**	**03 47 56.1**	**+0.1**
UNV	**Unalaska Valle**	**1.95**	**31**	P	**Pn**	**03 47 32.2**	**-0.5**
UNV				S	**Sn**	**03 47 55.1**	**-1.5**
ATKA	**Atka Island**	**3.71**	**273**	P	**Pn**	**03 47 57.5**	**-0.3**
ILAR	**Eielson Array**	**16.70**	**33**	Pn	**P**	**03 50 52.0**	**-2.2**
	0.0nm,0.3s,baz=235,slow=11,SNR=3.8						
INK	**Inuvik**	**23.10**	**33**	P	**P**	**03 52 05.1**	**+0.1**
	1.3nm,0.5s,mb3.6,baz=244,slow=11,SNR=4.4						
YKA	**Yellowknife Ar**	**29.81**	**49**	P	**P**	**03 53 07.7**	**+0.3**
	0.1nm,0.5s,mb2.8,baz=266,slow=8.3,SNR=4.0						
NVAR	**Mina Array Bea**	**36.92**	**92**	P	**P**	**03 54 10.8**	**+1.7**
	2.3nm,1.2s,mb3.9,baz=286,slow=9.5,SNR=4.0						
NVAR	**Mina Array Bea**	**36.92**	**92**	P	**P**	**03 54 10.8**	**+1.7**
PDAR	**Pinedale Array**	**39.72**	**80**	P	**P**	**03 54 33.2**	**+0.8**
	0.7nm,0.7s,mb3.5,baz=300,slow=7.3,SNR=4.4						
TXAR	**Lajitas Array**	**52.02**	**90**	P	**P**	**03 56 09.7**	**-0.4**
	0.5nm,0.7s,mb3.6,baz=300,slow=5.2,SNR=5.7						
AKASG	**Malin Array Be**	**76.44**	**349**	P	**P**	**03 58 45.1**	**-4.0**
	0.6nm,0.3s,mb3.9,baz=45,slow=2.7,SNR=5.9						

*MOS **14** 03:49:30.1±1.0, 52.37N×159.57E, h33km, mb4.8/49, Error ellipse: s-maj=10.7km s-min=5.3km az=91.2*
MOS Felt (III) at Petropavlovsk-Kamchatskii.
*KRSC **14** 03:49:32.6±0.8, 52.42N×159.57E, h24km±3km, ML5.3*
*BJI **14** 03:49:34.4, 52.60N×159.40E, h51km, mB4.3, mb4.8, Ms4.9, Msz4.5*
*NEIC **14** 03:49:34.5±0.8, 52.55N×159.36E, h51km±6km, mb4.5/54, Error ellipse: s-maj=7.1km s-min=4.6km az=171.0*
NEIC Felt [III] at Petropavlovsk-Kamchatskiy.
*IDC **14** 03:49:35.2±0.6, 52.63N×159.25E, h56km±5km, mb4.1/24, mb1 4.3/25, mb1mx4.3/28, mbtmp4.4/25, MS3.6/7, Ms1 3.6/7, ms1mx3.5/27, Error ellipse: s-maj=15.0km s-min=10.8km az=151.0*
ISC 14 03:49:33.3±0.5, 52.42N±0.03×159.52E±0.05, h60km±3km, h57km±1.8km:pP-P, n221, σ1°06/256, mb4.5/89, 13C-3D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.62**	**271**	*i* P	**P**	**03 49 45.9**	**-0.8**
SPN	**Mys Shipunski**	**0.74**	**24**	*i* P	**P**	**03 49 46.6**	**-1.6**
SPN				*e*S	**S**	**03 49 56.5**	**-2.7**
NLC	**Nalytchevo**	**0.76**	**352**	*i* P	**P**	**03 49 47.1**	**-1.3**
NLC				*e*S	**S**	**03 49 57.5**	**-2.1**
PET	**Petropavlovsk**	**0.80**	**319**	P	**P**	**03 49 48.2**	**-0.7**
PET				S	**S**	**03 49 59.3**	**-1.2**
PET	**Petropavlovsk**	**0.80**	**319**	*e*Pn	**P**	**03 49 47.6**	**-1.3**
PET	**Petropavlovsk**	**0.80**	**319**	*i* P	**P**	**03 49 48.2**	**-0.7**
PET				*i* S	**S**	**03 49 59.2**	**-1.3**
UGLR	**Uglovaya**	**0.89**	**332**	*i* P	**P**	**03 49 49.9**	**-0.2**
UGLR				*i* S	**S**	**03 50 03.1**	**+0.4**
GRL	**Gorelyy**	**0.89**	**279**	*i* P	**P**	**03 49 50.4**	**+0.3**
GRL				*i* S	**S**	**03 50 03.9**	**+1.2**
SDLR	**Sedlovina**	**0.94**	**336**	*i* P	**P**	**03 49 50.2**	**-0.6**
SDLR				*i* S	**S**	**03 50 02.6**	**-1.2**
KRMR	**Karymshinskiy**	**0.94**	**296**	*i* P	**P**	**03 49 50.5**	**-0.3**
KRMR				*i* S	**S**	**03 50 03.4**	**-0.4**
SMAR	**Somma**	**0.95**	**333**	*i* P	**P**	**03 49 50.3**	**-0.6**
SMAR				*e*S	**S**	**03 50 02.7**	**-1.2**
AVH	**Avacha**	**0.97**	**331**	*i* P	**P**	**03 49 51.0**	**-0.1**
AVH				*i* S	**S**	**03 50 04.7**	**+0.3**
KOK	**Koryaka**	**1.02**	**329**	*i* P	**P**	**03 49 51.7**	**-0.2**
KOK				*e*S	**S**	**03 50 06.1**	**+0.4**
APC	**Apacha**	**1.52**	**290**	*i* P	**P**	**03 50 00.0**	**+1.1**
APC				*e*S	**S**	**03 50 20.0**	**+2.2**
APC				Smax			
	3μm,0.5s						
GNL	**Ganaly**	**1.59**	**324**	*i* P	**P**	**03 50 00.0**	**+0.2**
GNL				*e*S	**S**	**03 50 20.2**	**+0.8**
MIPR	**Malaya Ipel'ka**	**1.70**	**266**	*i* P	**P**	**03 50 02.9**	**+1.6**
PAU	**Pauzhetka**	**1.93**	**241**	*eP*	**P**	**03 50 04.5**	**0.0**
PAU				*e*S	**S**	**03 50 27.7**	**+0.2**
PAU				Smax			
	4μm,0.5s						
SKR	**Severo-Kuril's**	**2.75**	**232**	*e*PN	**P**	**03 50 12.0**	**-4.1**
SKR				*i* S	**S**	**03 50 44.0**	**-4.2**
SKR				pmax	pmax		
	comp=E,110nm,0.5s						
SKR				pmax	pmax		
	comp=Z,280nm,0.5s						
SKR				smax			
	comp=N,3μm,0.5s						
SKR				smax			
	comp=E,1μm,0.5s						
SKR				smax			
	comp=N,3μm,1.0s						
SKR				smax			
	comp=E,5μm,1.0s						
TUMR	**Tumrok**	**2.89**	**7**	*i* P	**P**	**03 50 19.0**	**+0.9**
TUMR				*i* S	**S**	**03 50 52.6**	**+0.9**
KMNR	**Kamenistaya**	**3.37**	**7**	*eP*	**P**	**03 50 25.4**	**+0.6**
KMNR				*e*S	**S**	**03 51 04.0**	**+0.3**
ESO	**Esso**	**3.54**	**353**	*eP*	**P**	**03 50 28.6**	**+1.4**
ESO				*e*S	**S**	**03 51 08.9**	**+0.7**
ESO				Smax			
	comp=E,1μm,0.9s						
KPT	**Kopyto**	**3.57**	**6**	*eP*	**P**	**03 50 27.9**	**+0.2**
KPT				*e*S	**S**	**03 51 07.2**	**-1.8**
KOZ	**Kozyrevsk**	**3.65**	**3**	P	**P**	**03 50 29.8**	**+1.1**
KOZ	**Kozyrevsk**	**3.65**	**3**	*eP*	**P**	**03 50 29.6**	**+0.9**
KOZ				*e*S	**S**	**03 51 11.3**	**+0.5**
KOZR	**Kozyr**	**3.66**	**3**	PN	**P**	**03 50 29.8**	**+1.0**
ZLN	**Zelenaya**	**3.68**	**11**	*eP*	**P**	**03 50 30.3**	**+1.2**
ZLN				*e*S	**S**	**03 51 12.9**	**+1.3**
LGNR	**Loginova**	**3.73**	**10**	*eP*	**P**	**03 50 31.6**	**+1.7**
LGNR				*e*S	**S**	**03 51 14.8**	**+1.9**
CIRR	**Tsirk**	**3.77**	**11**	*eP*	**P**	**03 50 32.0**	**+1.6**
CIRR				*e*S	**S**	**03 51 15.0**	**+1.1**
KRSR	**Krestovskiy**	**3.85**	**9**	*eP*	**P**	**03 50 32.0**	**+0.5**
KRSR				*e*S	**S**	**03 51 14.3**	**-1.6**
SRDR	**Sredinnyy**	**3.90**	**2**	*i* P	**P**	**03 50 32.5**	**+0.2**
SRDR				*e*S	**S**	**03 51 16.6**	**-0.7**
KLY	**Klyuchi**	**3.95**	**9**	P	**P**	**03 50 33.8**	**+0.8**
KLY				S	**S**	**03 51 19.9**	**+1.4**
KLY	**Klyuchi**	**3.95**	**9**	*i* P	**P**	**03 50 33.9**	**+0.9**
KLY				*e*S	**S**	**03 51 20.3**	**+1.8**
KBTR	**Krutoberegovo**	**4.26**	**26**	P	**P**	**03 50 37.0**	**-0.2**
KBTR				S	**S**	**03 51 24.6**	**-1.5**
KBTR	**Krutoberegovo**	**4.26**	**26**	*i* P	**P**	**03 50 36.9**	**-0.3**
KBTR				*e*S	**S**	**03 51 24.6**	**-1.5**
KBG	**Krutoberegovo**	**4.27**	**25**	*eP*	**P**	**03 50 37.3**	**-0.1**
KBG				*e*S	**S**	**03 51 25.3**	**-1.1**
KBG				Smax			
	comp=E,5μm,1.0s						
SVLR	**Shiveluch**	**4.28**	**13**	*eP*	**P**	**03 50 38.7**	**+1.1**
SVLR				*e*S	**S**	**03 51 28.5**	**+1.8**
BKI	**Bering**	**4.73**	**51**	*i* P	**P**	**03 50 41.3**	**-2.6**
BKI				*i* S	**S**	**03 51 29.7**	**-8.3**
OSSR	**Ossora**	**7.13**	**15**	P	**P**	**03 51 16.0**	**-1.3**
FX1	**Attu Island--F**	**8.31**	**81**	P	**P**	**03 51 30.6**	**-2.9**
FX1				S	**S**	**03 52 55.4**	**-11**
FX1	**Attu Island--F**	**8.31**	**81**	*e*Pn	**P**	**03 51 29.6**	**-4.0**
MA2	**Magadan**	**8.68**	**329**	PN	**P**	**03 51 34.5**	**-4.1**
MA2				pmax	pmax		
	comp=Z,11nm,0.7s						
MA2	**Magadan**	**8.68**	**329**	Pn	**P**	**03 51 34.5**	**-4.1**
	comp=Z,11nm,0.7s						
KAMR	**Kamenskoye**	**10.68**	**17**	*eP*	**P**	**03 52 07.8**	**+2.1**
YSS	**Yuzh-Sakhalins**	**12.15**	**250**	PN	**P**	**03 52 27.6**	**+2.0**
YSS				MLR	MLR		
	comp=N,400nm,14.0s						
YSS				MLR	MLR		
	comp=Z,400nm,14.0s						
ASAJ	**Asahikawa**	**13.98**	**240**	P	**P**	**03 52 52.6**	**+3.1**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,116nm,18.2s						
ASAJ	**Asahikawa**	**13.98**	**240**	P	**P**	**03 52 52.6**	**+3.1**
	comp=Z,3.8nm,0.3s,baz=62,slow=11,SNR=16						
ASAJ				LR	LR	03 58 04.6	
	comp=Z,116nm,18.2s,baz=288,slow=37						
BILL	**Biilibino**	**16.00**	**9**	*eP*	**P**	**03 53 15.3**	**-0.2**
BILL				pmax	pmax		
	comp=Z,20nm,0.5s						
BILL	**Biilibino**	**16.00**	**9**	*eP*	**P**	**03 53 15.3**	**-0.2**
	comp=Z,20nm,0.5s						
KLR	**Kul'dur**	**17.79**	**271**	*eP*	**P**	**03 53 37.8**	**-0.1**
YAK	**Yakutsk**	**18.63**	**313**	*eP*	**P**	**03 53 47.6**	**-0.4**
YAK				*e*		03 57 17.9	
YAK				pmax	pmax		
	comp=Z,12nm,0.8s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK	**Yakutsk**	**18.63**	**313**	*eP*	**P**	**03 53 48.0**	**-0.1**
	comp=N,42nm,0.6s						
CLNS	**Chul'man**	**20.38**	**296**	*eP*	**P**	**03 54 08.3**	**+1.2**
CLNS				*e*		03 54 19.4	
CLNS				*e*PPP		03 54 27.5	
CLNS				*e*S	**S**	**03 57 40.6**	**-6.5**
CLNS				*e*		03 58 24.4	
CLNS				pmax	pmax		
	comp=N,7.0nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,13nm,0.7s						
CLNS				pmax	pmax		
	comp=E,11nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,11nm,0.9s						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.0s						
CLNS				smax			
	comp=N,4.0nm,0.9s						
CLNS				smax			
	comp=Z,2.0nm,0.7s						
CLNS				smax			
	comp=E,3.0nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,200nm,13.0s						
CLNS				MLR	MLR		
	comp=N,100nm,12.0s						
CLNS				MLR	MLR		
	comp=E,30nm,11.0s						
MAJO	**Matsushiro**	**21.86**	**232**	*eP*	**P**	**03 54 22.8**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,19nm,0.6s,mb4.7						
MAJO	**Matsushiro**	**21.86**	**232**	*eP*	**P**	**03 54 22.8**	**+0.7**
	comp=Z,20nm,0.6s,mb4.7						
MAT	**Matsushiro**	**21.86**	**232**	*eP*	**P**	**03 54 22.0**	**-0.2**
MAT				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.5						
MAT	**Matsushiro**	**21.86**	**232**	*eP*	**P**	**03 54 22.0**	**-0.2**
	comp=Z,15nm,0.7s,mb4.5						
MAT	**Matsushiro**	**21.86**	**232**	P	**P**	**03 54 22.4**	**+0.2**
TIXI	**Tiksi**	**23.55**	**336**	*eP*	**P**	**03 54 37.6**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,47nm,14.0s						
HIA	**Hailar**	**25.09**	**279**	*eP*	**P**	**03 54 52.6**	**-0.8**
HIA				*e*	pP	03 55 05.8	-2.1
HIA				pmax	pmax		
	comp=Z,11nm,0.8s						
HIA	**Hailar**	**25.09**	**279**	*eP*	**P**	**03 54 52.6**	**-0.8**
	comp=Z,11nm,0.8s,mb4.4						
HIA				*e*	pP	03 55 05.8	-2.1
BOD	**Bodaibo**	**26.17**	**300**	*eP*	**P**	**03 55 04.9**	**+1.5**
IMA	**Indian Mountai**	**26.77**	**41**	*eP*	**P**	**03 55 07.8**	**-1.1**
IMA				pmax	pmax		
	comp=Z,17nm,0.6s,mb4.8						
IMA	**Indian Mountai**	**26.77**	**41**	*eP*	**P**	**03 55 07.8**	**-1.0**
	comp=Z,17nm,0.6s,mb4.8						
CBIJ	**Chichi jima**	**28.44**	**214**	LR	LR	04 03 56.8	
	comp=Z,123nm,21.3s,baz=95,slow=30						
COLA	**College**	**29.12**	**44**	P/*i*P	**P**	**03 55 28.0**	**-2.0**
ILAR	**Eielson Array**	**29.54**	**44**	P	**P**	**03 55 32.3**	**-1.4**
	comp=Z,3.3nm,0.8s,mb4.1,baz=260,slow=7.2,SNR=45						
ILAR				PcP	PcP	03 58 35.9	-1.9
	comp=Z,0.6nm,0.5s,baz=288,slow=3.7,SNR=6.1						
ILAR				LR	LR	04 07 35.1	
	comp=Z,74nm,19.1s,baz=300,slow=37						
TLY	**Talaya**	**33.64**	**292**	*eP*	**P**	**03 56 05.7**	**-4.1**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
SONM	**Songino Array**	**33.72**	**284**	P	**P**	**03 56 09.9**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.8,baz=70,slow=8.2,SNR=9.8						
SONM				PcP	PcP	03 58 49.2	0.0
	comp=Z,1.4nm,0.6s,baz=75,slow=1.8,SNR=8.2						
ZAK	**Zakamensk**	**34.39**	**290**	*eP*	**P**	**03 56 15.8**	**-0.5**
INK	**Inuvik**	**34.62**	**37**	*eP*	**P**	**03 56 17.6**	**-0.4**
INK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
INK	**Inuvik**	**34.62**	**37**	P	**P**	**03 56 17.9**	**-0.1**
	comp=Z,4.2nm,0.5s,mb4.7,baz=304,slow=6.6,SNR=17						
INK				LR	LR	04 11 25.4	
	comp=Z,110nm,21.7s,baz=269,slow=38						
INK	**Inuvik**	**34.62**	**37**	*eP*	**P**	**03 56 17.6**	**-0.4**
	comp=Z,7.5nm,1.1s,mb4.5						
NJ2	**Nanjing**	**35.71**	**251**	*eP*	**P**	**03 56 25.8**	**-1.9**
NJ2				AP	pP	03 56 40.8	-2.2
NJ2				XP	sP	03 56 48.0	-2.5
NJ2				S	**S**	**04 01 53.0**	**-6.4**
NJ2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.2						
NJ2				LR	LR		
	comp=N,1μm,20.6

KEV	**Kevo**	53.34	341	*ep*		**P**	03 58 45.0	-2.9
	comp=Z,0.4nm,0.3s,mb3.8							
WVOR	**Wild Horse Val**	53.43	66	*eP*		**P**	03 58 49.8	+0.9
WVOR				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.0							
WVOR	**Wild Horse Val**	53.43	66	*eP*		**P**	03 58 49.8	+0.9
	comp=Z,1.9nm,0.9s,mb4.0							
ARU	**Arti**	53.65	317⇑	*i P*		**P**	03 58 44.2	-6.2
ARU				*e*			03 59 51.0	
ARU				*e*S		**S**	04 06 11.2	-6.6
ARU				*e*SS		SS	04 09 57.2	-1.3
ARU				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
ARCES	**ARCESS Array B**	53.82	342	P		**P**	03 58 50.8	-0.7
	comp=Z,4.9nm,0.9s,mb4.4,baz=32,slow=8.3,SNR=10							
ARCES				LR		LR	04 24 41.0	
	comp=Z,99nm,19.5s,baz=25,slow=39							
FCC	**Fort Churchill**	54.22	38	*eP*		**P**	03 58 53.8	-0.7
FCC				pmax		pmax		
	comp=Z,16nm,0.5s,mb5.2							
FCC	**Fort Churchill**	54.22	38	*eP*		**P**	03 58 53.8	-0.7
	comp=Z,16nm,0.5s,mb5.2							
SUMG	**Summit**	54.67	7	*eP*		**P**	03 58 57.1	-0.5
	comp=Z,41nm,1.0s,mb5.4							
HLID	**Hailey**	55.01	62	*eP*		**P**	03 59 00.1	-0.4
	comp=Z,0.6nm,0.4s,mb4.0							
AAK	**Ala-Archa**	55.06	296	*eP*		**P**	03 58 57.3	-3.6
AAK				pmax		pmax		
	comp=Z,4.0nm,0.5s,mb4.7							
BOZ	**Bozeman (W)**	55.11	59	*eP*		**P**	03 59 01.4	+0.3
BOZ				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.5							
BOZ	**Bozeman (W)**	55.11	59	*eP*		**P**	03 59 01.4	+0.3
	comp=Z,2.7nm,0.6s,mb4.5							
NVAR	**Mina Array Bea**	56.30	69	P		**P**	03 59 11.2	+1.4
	comp=Z,2.0nm,0.6s,mb4.3,baz=296,slow=8.0,SNR=15							
MOOW	**Moose Ponds**	56.85	60	*eP*		**P**	03 59 13.7	0.0
LOHW	**Long Hollow**	57.02	60	*eP*		**P**	03 59 15.2	+0.3
LAO	**LASA Array**	57.17	55	*eP*		**P**	03 59 16.0	+0.1
SCO	**Scoresbysund**	57.40	1	*i P*		**P**	03 59 16.7	-0.5
CMAR	**Chiang Mai Arr**	57.70	258	P		**P**	03 59 20.4	+0.4
	comp=Z,1.5nm,0.7s,mb4.1,baz=26,slow=6.5,SNR=4.4							
CMAR				pP		pP	03 59 33.8	-2.3
	comp=Z,1.9nm,0.7s,baz=22,slow=8.5,SNR=2.4							
JOF	**Joensuu**	58.03	335	*ep*		**P**	03 59 17.1	-4.6
	comp=Z,0.7nm,0.3s,mb4.2							
BW06	**Boulder Array**	58.16	60	*eP*		**P**	03 59 23.2	+0.3
	comp=Z,3.5nm,0.6s,mb4.6							
PDAR	**Pinedale Array**	58.16	60	P		**P**	03 59 23.4	+0.6
	comp=Z,4.3nm,0.5s,mb4.7,baz=311,slow=3.1,SNR=38							
FRB	**Frobisher Bay**	58.26	23	P		**P**	03 59 21.5	-1.8
	comp=Z,3.3nm,0.5s,mb4.6,baz=342,slow=8.4,SNR=14							
FRB				pP		pP	03 59 38.8	-0.7
	comp=Z,3.6nm,0.6s,baz=331,slow=6.7,SNR=4.0							
TPNV	**Topopah Spring**	58.50	69	*eP*		**P**	03 59 25.5	+0.2
TPNV				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb4.3							
TPNV	**Topopah Spring**	58.50	69	*eP*		**P**	03 59 25.5	+0.1
	comp=Z,3.5nm,1.0s,mb4.3							
JIRN	**Jiri**	58.61	275	*eP*		**P**	03 59 26.2	0.0
	comp=Z,3.9nm,0.4s,mb4.8							
GUN	**Gumba**	58.62	276	*eP*		**P**	03 59 24.8	-1.4
	comp=Z,3.5nm,0.3s,mb4.8							
KKN	**Kakani**	59.07	276	*eP*		**P**	03 59 28.2	-1.2
	comp=Z,10.0nm,0.4s,mb5.2							
PKI	**Pulchoki**	59.15	276	*eP*		**P**	03 59 29.7	-0.2
	comp=Z,4.6nm,0.4s,mb4.9							
DMN	**Daman**	59.31	276	*eP*		**P**	03 59 30.4	-0.6
	comp=Z,7.8nm,0.4s,mb5.0							
KAF	**Kangasniemi**	59.97	337	*ep*		**P**	03 59 32.5	-2.6
	comp=Z,1.6nm,0.4s,mb4.4							
KAF	**Kangasniemi**	59.97	337	*eP*		**P**	03 59 32.5	-2.6
KAF				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.5							
KOLN	**Koldanda**	60.11	278	*eP*		**P**	03 59 33.7	-2.8
	comp=Z,1.8nm,0.3s,mb4.5							
FINES	**FINESS Array B**	60.60	336	P		**P**	03 59 38.0	-1.4
	comp=Z,4.4nm,0.8s,mb4.6,baz=35,slow=8.9,SNR=25							
ISCO	**Idaho Springs**	62.35	60	*eP*		**P**	03 59 52.3	+0.8
ISCO				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.5							
ISCO	**Idaho Springs**	62.35	60	*eP*		**P**	03 59 52.3	+0.8
	comp=Z,3.2nm,0.7s,mb4.6							
OBN	**Obninsk**	62.89	327α	*i P*		**P**	03 59 54.2	-0.7
OBN				*e*			04 00 02.0	
OBN				*e*		pP	04 00 11.7	+0.4
OBN				pmax		pmax		
	comp=Z,29nm,0.9s,mb5.4							
OBN	**Obninsk**	62.89	327	*eP*		**P**	03 59 53.9	-1.0
	comp=Z,20nm,0.8s,mb5.3							
NB2	**NORSAR Subarra**	64.09	343	P		**P**	04 00 01.2	-1.3
	comp=Z,6.9nm,0.6s,mb4.9,baz=22,slow=6.5							
NB2	**NORSAR Subarra**	64.09	343	P		**P**	04 00 01.2	-1.3
NB2				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb4.9							
NOA	**NORSAR Array B**	64.09	343	P		**P**	04 00 01.4	-1.0
	comp=Z,7.5nm,0.6s,mb4.9,baz=21,slow=6.7,SNR=30							
ANMO	**Albuquerque**	65.44	64	P		**P**	04 00 12.9	+1.2
ANMO				pmax		pmax		
	comp=Z,1.0nm,0.6s							
ANMO	**Albuquerque**	65.44	64	P		**P**	04 00 12.9	+1.1
	comp=Z,1.3nm,0.6s,mb4.1,baz=318,slow=8.1,SNR=6.6							
ANMO	**Albuquerque**	65.44	64	*eP*		**P**	04 00 12.0	+0.2
	comp=Z,1.2nm,0.6s,mb4.1							
LAZ	**Ladron**	65.47	65	*eP*		**P**	04 00 13.3	+1.3
SCHQ	**Schefferville**	66.41	27	P		**P**	04 00 17.1	-0.4
	comp=Z,1.7nm,0.4s,mb4.4,baz=17,slow=7.1,SNR=17							
BSD	**Bornholm Skovb**	68.89	339⇑	*i P*		**P**	04 00 32.7	-0.2
BSD				pmax		pmax		
	comp=Z,5.0nm,0.4s,mb4.8							
BSD	**Bornholm Skovb**	68.89	339⇑	*i P*		**P**	04 00 32.7	-0.2
	comp=Z,4.5nm,0.4s,mb4.8							
AKASG	**Malin Array Be**	69.01	329	P		**P**	04 00 32.1	-1.7
AKASG				pmax		pmax		
	comp=Z,4.0nm,0.4s							
AKASG	**Malin Array Be**	69.01	329	P		**P**	04 00 32.1	-1.7
	comp=Z,3.5nm,0.4s,mb4.6,baz=30,slow=6.6,SNR=14							
KIV	**Kislovodsk**	69.69	317	*eP*		**P**	04 00 34.5	-3.6
KIV				pmax		pmax		
	comp=Z,9.0nm,1.2s,mb4.6							
WMOK	**Wichita Mounta**	69.75	59	*eP*		**P**	04 00 38.4	-0.2
WMOK				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
WMOK	**Wichita Mounta**	69.75	59	*eP*		**P**	04 00 38.4	-0.2
	comp=Z,2.5nm,0.6s,mb4.3							
SOC	**Sochi**	71.22	318	*eP*		**P**	04 00 42.1	-5.2
SOC				*e*			04 01 07.7	
SOC				*e*			04 03 23.0	
SOC				*e*S		S	04 09 51.8	-6.7
SOC				*e*			04 10 47.0	
SOC				*e*SSS		SSS	04 17 47.1	+4.6
SOC				pmax		pmax		
	comp=Z,12nm,0.8s,mb4.9							
SOC				pmax		pmax		
	comp=N,3.0nm,0.6s							
TXAR	**Lajitas Array**	71.22	66	P		**P**	04 00 48.5	+0.9
	comp=N,3.8nm,0.6s,mb4.5,baz=300,slow=4.7,SNR=63							
GNI	**Garni**	71.88	313	*eP*		**P**	04 00 43.1	-8.2
GNI				pmax		pmax		
	comp=Z,9.0nm,2.0s							
OJC	**Ojcow**	72.20	334	*eP*		**P**	04 00 52.7	-0.3
KOLS	**Kolonicke sedl**	72.68	332	*eP*		**P**	04 00 55.6	-0.2
CLL	**Collm**	72.86	339	*i P*		**P**	04 00 56.4	-0.3
CLL				pmax		pmax		
	comp=Z,12nm,0.7s,mb4.9							
CLL	**Collm**	72.86	339	*i P*		**P**	04 00 56.4	-0.3
	comp=Z,12nm,0.7s,mb4.9							
CLL				*i*			04 01 00.8	
CLL	**Collm**	72.86	339	P		**P**	04 00 56.4	-0.3
	comp=Z,logA/T=1.2,mb4.9							
CLL				*i*			04 01 00.8	
CRVS	**Cervenica-Dubn**	72.94	333	*eP*		**P**	04 00 57.1	-0.2
DPC	**Dobruska-Polom**	72.97	336	*eP*		**P**	04 00 57.5	+0.1
BRG	**Berggiesshubel**	73.05	338	*eP*		**P**	04 00 57.2	-0.7
BRG				pmax		pmax		
	comp=Z,5.0nm,1.2s,mb4.3							
BRG	**Berggiesshubel**	73.05	338	*eP*		**P**	04 00 57.2	-0.7
	comp=Z,5.1nm,1.2s,mb4.3							
PRU	**Pruhonice**	73.74	337	*eP*		**P**	04 01 01.9	0.0
NKC	**Novy Kostel**	73.99	339	*eP*		**P**	04 01 03.6	+0.2
VYHS	**Vyhne**	74.03	334	*eP*		**P**	04 01 03.7	0.0
VYHS				*e*			04 01 08.9	
PSZ	**Piszkesteto**	74.27	333	*eP*		**P**	04 01 04.8	-0.3
PSZ				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
PSZ	**Piszkesteto**	74.27	333	*eP*		**P**	04 01 04.8	-0.2
	comp=Z,4.5nm,0.7s,mb4.5							
KHC	**Kasperske Hory**	74.76	338	*eP*		**P**	04 01 08.0	+0.1
ZST	**Bratislava**	74.76	335	*eP*		**P**	04 01 06.9	-1.0
GRA1	**Grafenberg Arr**	74.77	339	*eP*		**P**	04 01 08.4	+0.5
	comp=Z,7.0nm,0.9s,mb4.6							
GRF	**Grafenberg Arr**	74.77	339	*eP*		**P**	04 01 08.4	+0.5
GRF				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.6							
GERES	**GERESS Array B**	75.00	337	P		**P**	04 01 09.3	0.0
	comp=Z,3.5nm,0.5s,mb4.5,baz=36,slow=5.7,SNR=32							
WRAB	**Tennant Creek**	75.31	204	*eP*		**P**	04 01 20.0	+8.4
WRA	**Warramunga Arr**	75.32	204	P		**P**	04 01 12.4	+0.7
	comp=Z,1.7nm,0.8s,mb4.0,baz=18,slow=6.1,SNR=84							
WRA				pP		pP	04 01 28.3	-0.2
	comp=Z,6.6nm,0.8s,baz=18,slow=6.1,SNR=20							
ARSA	**Arzberg**	76.04	336⇑	*i P*		**P**	04 01 15.9	+0.7
	comp=Z,4.0nm,0.5s,mb4.6							
MALT	**Malatya**	76.16	316	*eP*		**P**	04 01 15.9	-0.2
MALT				pmax		pmax		
	comp=Z,5.0nm,1.1s,mb4.4							
MALT	**Malatya**	76.16	316	*eP*		**P**	04 01 15.9	-0.1
	comp=Z,4.6nm,1.1s,mb4.3							
KBA	**Koelnbreinsper**	76.74	337⇑	*i P*		**P**	04 01 20.0	+0.8
	comp=Z,18nm,0.7s,mb5.1							
KBA	**Koelnbreinsper**	76.74	337⇑	*i P*		**P**	04 01 20.0	+0.8
KBA				pmax		pmax		
	comp=Z,18nm,0.7s,mb5.1							
CDF	**Champ du Feu**	76.80	341	*eP*		**P**	04 01 19.3	-0.2
	comp=Z,13nm,0.9s,mb4.5							
CDF	**Champ du Feu**	76.80	341	*eP*		**P**	04 01 19.3	-0.2
CDF				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.5							
BRTR	**Keskin Array B**	76.92	320	P		**P**	04 01 19.9	-0.5
	comp=Z,2.1nm,0.5s,mb4.3,baz=43,slow=2.9,SNR=9.3							
MOTA	**Moosalm**	77.01	339⇑	*i P*		**P**	04 01 21.1	+0.4
	comp=Z,15nm,1.7s,mb4.6							
MOTA	**Moosalm**	77.01	339⇑	*i P*		**P**	04 01 21.1	+0.4
MOTA				pmax		pmax		
	comp=Z,15nm,1.7s,mb4.7							
SQTA	**Sankt Quirin**	77.10	338⇑	*i P*		**P**	04 01 22.0	+0.8
	comp=Z,5.7nm,1.0s,mb4.5							
SQTA	**Sankt Quirin**	77.10	338⇑	*i P*		**P**	04 01 22.0	+0.8
SQTA				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.5							
MEZF	**Maizieres J'vi**	77.13	343	*eP*		**P**	04 01 21.4	+0.1
	comp=Z,13nm,0.8s,mb4.6							
HAU	**Haudompre**	77.36	342	*eP*		**P**	04 01 22.3	-0.3
	comp=Z,9.4nm,0.7s,mb4.5							
HAU	**Haudompre**	77.36	342	*eP*		**P**	04 01 22.3	-0.3
HAU				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
HINF	**Hinteralfeld**	77.45	342	*eP*		**P**	04 01 22.7	-0.4
CABF	**La Chapelle**	78.75	342	*eP*		**P**	04 01 31.6	+1.3
	comp=Z,5.4nm,0.6s,mb4.3							
CABF	**La Chapelle**	78.75	342	*eP*		**P**	04 01 31.6	+1.3
CABF				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
SSF	**Saint Saulge**	78.79	344	*eP*		**P**	04 01 30.2	-0.3
SSF				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.7							
SSF	**Saint Saulge**	78.79	344	*eP*		**P**	04 01 30.2	-0.3
	comp=Z,8.5nm,1.0s,mb4.6							
ASAR	**Alice Springs**	79.00	204	P		**P**	04 01 33.5	+1.3
	comp=Z,0.9nm,0.5s,mb4.0,baz=15,slow=5.5,SNR=24							
ASAR				pP		pP	04 01 50.0	+0.9
	comp=Z,2.5nm,0.6s,baz=15,slow=5.2,SNR=9.7							
AVF	**Avril sur Loir**	79.08	344	*eP*		**P**	04 01 33.3	+1.2
	comp=Z,15nm,1.0s,mb4.6							
AVF	**Avril sur Loir**	79.08	344	*eP*		**P**	04 01 33.3	+1.2
AVF				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.6							
SMF	**Signal de Mont**	79.13	343	*eP*		**P**	04 01 33.4	+1.0
	comp=Z,11nm,0.7s,mb4.6							
SMF	**Signal de Mont**	79.13	343	*eP*		**P**	04 01 33.4	+1.0
SMF				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
BGF	**Bois d'Agland**	79.39	344	*eP*		**P**	04 01 33.5	-0.3
	comp=Z,8.4nm,0.8s,mb4.4							
BGF	**Bois d'Agland**	79.39	344	*eP*		**P**	04 01 33.5	-0.3
BGF				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
LPL	**La Plagne**	79.68	341	*eP*		**P**	04 01 36.4	+1.0
	comp=Z,6.4nm,0.6s,mb4.4							
LPL	**La Plagne**	79.68	341	*eP*		**P**	04 01 36.4	+1.0
LPL				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
LPG	**La Plagne**	79.69	341	*eP*		**P**	04 01 36.6	+1.2
	comp=Z,20nm,1.0s,mb4.7							
LPG	**La Plagne**	79.69	341	*eP*		**P**	04 01 36.6	+1.2
LPG				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.7							
ISP	**Isparta**	79.76	321	*eP*		**P**	04 01 32.0	-4.0
TCF	**Toulx Ste Croi**	79.76	344	*eP*		**P**	04 01 36.2	+0.4
	comp=Z,14nm,0.9s,mb4.6							
TCF	**Toulx Ste Croi**	79.76	344	*eP*		**P**	04 01 36.2	+0.4
TCF				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.6							
ORIF	**Oris-en-Rattie**	80.42	341	*eP*		**P**	04 01 40.2	+0.9
	comp=Z,7.1nm,0.7s,mb4.4							
ORIF	**Oris-en-Rattie**	80.42	341	*eP*		**P**	04 01 40.2	+0.9
ORIF				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.5							
MBDF	**Montbardon**	80.42	341	*eP*		**P**	04 01 40.0	+0.6
	comp=Z,4.6nm,0.5s,mb4.3							
MBDF	**Montbardon**	80.42	341	*eP*		**P**	04 01 40.0	+0.6
MBDF				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.3							
VIVF	**Saint-Julien-l**	80.71	342	*eP*		**P**	04 01 41.5	+0.6
	comp=Z,12nm,0.9s,mb4.5							
VIVF	**Saint-Julien-l**	80.71	342	*eP*		**P**	04 01 41.5	+0.6
VIVF				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.5							
CAF	**Calviac**	81.11	344	*eP*		**P**	04 01 44.1	+1.1
	comp=Z,6.3nm,0.7s,mb4.4							
CAF	**Calviac**	81.11	344	*eP*		**P**	04 01 44.1	+1.1
CAF				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.3							
ASF	**Jabal al Asfar**	82.02	314	P		**P**	04 01 47.9	0.0
	comp=Z,5.9nm,0.8s,mb4.6,baz=0.8,slow=2.3,SNR=5.9							
TIP	**Timpagrande**	83.20	322	*eP*		**P**	04 01 53.8	0.0
EPF	**Esparros**	83.24	345	*eP*		**P**	04 01 54.3	+0.4
	comp=Z,5.8nm,0.7s,mb4.4							
EPF	**Esparros**	83.24	345	*eP*		**P**	04 01 54.3	+0.4
EPF				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.4							
SJPF	**Ste Jean**	83.40	346	*eP*		**P**	04 01 56.1	+1.3
	comp=Z,5.8nm,0.6s,mb4.5							
SJPF	**Ste Jean**	83.40	346	*eP*		**P**	04 01 56.1	+1.3
SJPF				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.5							
ETSF	**Etsaut**	83.51	345	*eP*		**P**	04 01 56.5	+1.3
	comp=Z,9.7nm,0.7s,mb4.8							
ETSF	**Etsaut**	83.51	345	*eP*		**P**	04 01 56.5	+1.3
ETSF				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.8							
IDI	**Anoyia**	84.11	324	P		**P**	04 01 56.7	-1.8
	comp=Z,5.1nm,0.4s,mb5.0,baz=14,slow=9.2,SNR=16							
RAYN	**Ar Rayn**	85.13	303	P		**P**	04 02 03.0	-0.8
	comp=Z,100nm,0.5s,SNR=13							
ESDC	**Sonseca Array**	87.16	347	P		**P**	04 02 13.9	+0.5
	comp=Z,0.7nm,0.5s,mb4.2,baz=3.1,slow=4.6,SNR=8.3							
EVO	**Evora**	88.77	350	*eP*		**P**	04 02 22.3	+1.2
	comp=Z,11nm,1.0s,mb4.8							

JMA 14 04:18:49.6±0.3,30.71N×139.33E,h464km,M3.7,
Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHU	**Hanno**	5.13	360	P	P	04 20 17.2	+0.5
JHU				*e*S	S	04 21 24.0	-1.5
JRY	**Ryogami san**	5.30	356	P	P	04 20 18.5	+0.1
JRY				*e*S	S	04 21 29.0	+0.5
JAG	**Ashikaga**	5.70	1	P	P	04 20 21.8	-0.6
JAG				*e*S	S	04 21 33.9	-1.7
MAT	**Matsushiro**	5.89	351	P	P	04 20 23.5	-0.8
MAT				*e*S	S	04 21 40.5	+1.5

*IDC **14** 05:06:48.3±0.9, 14.20N×91.87E, mb3.8/7, mb1 4.0/8, mb1mx3.8/19, mbtmp3.7/8, ML4.0/1, Error ellipse: s-maj=36.2km s-min=17.6km az=52.0*
*NEIC **14** 05:06:52.6±0.7, 14.17N×91.83E, h30km, mb4.1/3, Error ellipse: s-maj=15.2km s-min=11.5km az=213.0*

ISC 14 05:06:50.6±0.9,14.3N±0.1×91.8E±0.1,h30km,n16,
σ1§55/16,mb3.8/10,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	8.04	58	Pn	P	05 08 48.1	-0.3
	0.5nm,0.3s,baz=245,slow=15,SNR=3.2						
JIRN	**Jiri**	14.26	340	*eP*	P	05 10 09.6	-3.1
	11nm,0.5s						
PKI	**Pulchoki**	14.46	337	*eP*	P	05 10 12.3	-3.0
	12nm,0.5s						
DMN	**Daman**	14.61	336	*eP*	P	05 10 15.4	-1.9
	20nm,0.6s						
GKN	**Gorkha**	15.14	335	*eP*	P	05 10 22.7	-1.6
	21nm,0.5s						
KOLN	**Koldanda**	15.39	332	*eP*	P	05 10 26.4	-1.1
	18nm,0.6s						
ENH	**Enshi**	22.78	43	P	P	05 11 54.0	+2.0
	5.9nm,0.7s,mb4.1						
SONM	**Songino Array**	35.57	17	P	P	05 13 46.8	-0.5
	0.5nm,0.6s,mb3.6,baz=203,slow=9.4,SNR=4.3						
ZAL	**Zalesovo**	39.91	354	P	P	05 14 24.8	+1.2
	0.9nm,0.8s,mb3.5,baz=321,slow=8.3,SNR=3.7						
BVAR	**Borovoye Array**	42.18	341	P	P	05 14 43.9	+1.7
	0.2nm,0.4s,mb3.1,baz=135,slow=10,SNR=2.6						
BRVK	**Borovoye**	42.24	341	P	P	05 14 44.1	+1.4
	1.6nm,0.7s,mb3.8						
CHKZ	**Chkalovo**	42.66	342	*eP*	P	05 14 47.6	+1.4
	2.7nm,0.7s,mb4.1						
CHKZ				*e*pP	pP	05 14 54.7	-0.5
WRA	**Warramunga Arr**	53.97	128	P	P	05 16 12.8	-1.6
	2.8nm,0.7s,mb4.3,baz=310,slow=7.6,SNR=18						
WRA				PcP	PcP	05 17 19.2	-0.1
	0.6nm,0.6s,baz=316,slow=3.7,SNR=6.9						
ASAR	**Alice Springs**	55.88	132	P	P	05 16 26.9	-1.4
	1.1nm,0.4s,mb4.2,baz=310,slow=6.9,SNR=18						
ASAR				PcP	PcP	05 17 26.9	+0.2
	0.6nm,0.7s,baz=317,slow=2.9,SNR=4.3						
BRTR	**Keskin Array B**	56.55	308	P	P	05 16 33.8	+0.9
	0.6nm,0.9s,mb3.6,baz=90,slow=9.9,SNR=2.5						
GERES	**GERESS Array B**	71.52	317	P	P	05 18 12.7	+2.0
	0.4nm,0.7s,mb3.5,baz=12,slow=12,SNR=2.9						

*BJI **14** 05:11:51.2, 13.91N×91.68E, h25km, mB4.0, mb4.2, Ms4.4, Msz4.5*
*IDC **14** 05:11:58.4±0.7, 14.49N×92.31E, h24km±3km, mb4.1/11, mb1 4.3/12, mb1mx4.0/21, mbtmp4.2/12, ML3.8/1, Error ellipse: s-maj=26.9km s-min=13.4km az=50.0*
*NEIC **14** 05:11:58.3±0.5, 14.50N×92.30E, mb4.4/8, Error ellipse: s-maj=12.5km s-min=8.1km az=57.0*

ISC 14 05:11:56.2±0.5,14.62N±0.07×92.28E±0.05,h26km,
h26km±1.3km:pP-P,n42,σ1§48/45,mb4.3/20,MS4.3/1,2D,
Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	2.98	171	*eP*	Pn	05 12 52.0	+9.0
CMAR	**Chiang Mai Arr**	7.44	58	Pn	Pn	05 13 46.1	+0.1
	0.4nm,0.3s,baz=245,slow=14,SNR=4.2						
CMAR				Sn	Sn	05 15 05.3	-5.2
	1.3nm,0.3s,baz=247,slow=30,SNR=5.3						
BWNR	**Bhubaneshwar**	8.37	313	*eP*	P	05 13 55.4	-3.5
BWNR				*e*S	Sn	05 15 23.8	-10
BWNR				*e*		05 15 27.6	
	comp=N,295nm,0.3s						
BWNR				*e*		05 15 28.0	
	comp=Z,219nm,0.3s						
VIS	**Vishakhapatnam**	9.14	291	*eP*	P	05 14 08.3	-1.2
VIS				*e*S	Sn	05 15 43.1	-10
VIS				*e*		05 15 50.1	
	comp=N,109nm,0.4s						
VIS				*e*		05 15 50.1	
	comp=E,103nm,0.5s						
SHL	**Shillong**	10.90	358	*eP*	P	05 14 28.5	-5.3
SHL				*e*S	S	05 16 23.0	-13
HYB	**Hyderabad**	13.49	284	*i P*	P	05 15 11.5	+3.0
HYB				*e*		05 17 23.0	
HYB				*e*S	S	05 17 40.5	+2.0
JIRN	**Jiri**	14.16	337	*eP*	P	05 15 15.5	-2.0
PKI	**Pul

FINES	**FINESS Array B**	**65.94**	**331**	P	**P**	**05 22 42.4**	**+0.3**
FINES				pP	pP	05 22 49.6	-0.5
ARCES	**ARCESS Array B**	**68.34**	**340**	P	**P**	**05 22 59.4**	**+2.2**
	comp=Z,4.9nm,1.0s,mb4.5,baz=315,slow=15,SNR=4.2						
ARCES				pP	pP	05 23 05.6	+0.5
	comp=Z,5.7nm,1.0s,baz=56,slow=4.4,SNR=2.1						
ARCES	**ARCESS Array B**	**68.34**	**340**	P	**P**	**05 22 59.4**	**+2.2**
ARCES				pP	pP	05 23 05.6	+0.5
GERES	**GERESS Array B**	**71.64**	**317**	P	**P**	**05 23 18.8**	**+1.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=90,slow=4.0,SNR=4.3						
GERES				pP	pP	05 23 26.9	+1.3
	comp=Z,1.4nm,1.1s,baz=144,slow=30,SNR=3.7						
SYO	**Syowa Base**	**91.29**	**197**	⇓P	pP	05 25 05.5	-3.1
SYO	**Syowa Base**	**91.29**	**197**	⇓sP	sP	05 25 17.0	+5.8

IDC 14 05:28:19.6±2.8, 13.46N×90.22E, h65km±9km, mb3.3/3, mb1 3.6/4, mb1mx3.3/18, mbtmp3.6/4, Error ellipse: s-maj=76.9km s-min=22.8km az=81.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.75**	**58**	P	P	05 30 37.9	-1.6
	0.2nm,0.3s,baz=253,slow=16,SNR=4.2						
SONM	**Songino Array**	**36.82**	**18**	P	P	05 35 20.7	-2.4
	0.4nm,0.8s,baz=180,slow=1.2,SNR=4.0						
SONM				pP	pP	05 35 38.1	-1.2
	0.5nm,0.7s,baz=219,slow=7.0,SNR=3.9						
WRA	**Warramunga Arr**	**54.65**	**127**	P	P	05 37 41.6	-2.9
	0.5nm,0.9s,baz=312,slow=7.6,SNR=5.1						
WRA				pP	pP	05 37 58.0	-3.4
	1.2nm,0.7s,baz=310,slow=8.1,SNR=8.4						
ASAR	**Alice Springs**	**56.45**	**131**	P	P	05 37 55.9	-1.5
	0.4nm,0.4s,baz=310,slow=7.2,SNR=7.3						
ASAR				pP	pP	05 38 12.3	-2.1
	0.9nm,0.4s,baz=309,slow=6.9,SNR=14						

IDC 14 05:29:48.7±15.0, 14.51N×92.75E, mb3.8/3, mb1 4.1/3, mb1mx3.6/17, mbtmp3.8/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/25, Error ellipse: s-maj=536.8km s-min=34.6km az=77.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**27.30**	**87**	LR	LR	05 45 32.7	
	comp=Z,53nm,19.1s,baz=48,slow=35						
SONM	**Songino Array**	**35.10**	**16**	P	P	05 36 43.8	-1.9
	0.3nm,0.7s,baz=218,slow=7.9,SNR=3.1						
WRA	**Warramunga Arr**	**53.34**	**129**	P	P	05 39 10.0	-2.3
	1.8nm,1.0s,baz=309,slow=7.6,SNR=9.6						
ASAR	**Alice Springs**	**55.30**	**133**	P	P	05 39 24.4	-2.3
	0.9nm,0.4s,baz=310,slow=7.0,SNR=8.5						

*IDC **14** 05:40:03.6±1.0, 14.58N×93.10E, mb3.9/8, mb1 4.0/9, mb1mx3.8/19, mbtmp3.8/9, ML3.7/1, Error ellipse: s-maj=51.4km s-min=18.1km az=54.0*
*NEIC **14** 05:40:08.2±0.8, 14.48N×92.92E, h30km, mb4.0/1, Error ellipse: s-maj=20.3km s-min=15.1km az=219.0*

ISC 14 05:40:07.5±2.4, 14.5N±0.1×93.0E±0.1, h43km±22km, n19, σ0§97/13, mb3.9/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.94**	**55**	Pn	**P**	**05 41 49.7**	**+0.5**
	0.4nm,0.3s,baz=207,slow=44,SNR=3.9						
SHL	**Shillong**	**11.04**	**355**	*e*	Sx	05 44 31.0	
HYB	**Hyderabad**	**14.16**	**284**	*i* P	**P**	**05 43 27.0**	**-0.5**
JIRN	**Jiri**	**14.52**	**335**	*eP*	Px	05 43 21.1	
	14nm,0.7s						
PKI	**Pulchoki**	**14.77**	**333**	*eP*	Px	05 43 24.2	
	9.0nm,0.5s						
DMN	**Daman**	**14.94**	**332**	*eP*	Px	05 43 26.8	
	19nm,0.6s						
GKN	**Gorkha**	**15.49**	**331**	*eP*	Px	05 43 33.7	
KOLN	**Koldanda**	**15.81**	**328**	*eP*	Px	05 43 38.1	
	19nm,0.6s						
SONM	**Songino Array**	**35.04**	**16**	P	**P**	**05 46 57.5**	**-0.7**
	0.6nm,0.8s,mb3.6,baz=205,slow=6.6,SNR=4.7						
ZAL	**Zalesovo**	**39.85**	**352**	P	**P**	**05 47 37.4**	**-1.0**
	1.0nm,0.5s,mb3.8,baz=321,slow=7.5,SNR=4.7						
ZAL	**Zalesovo**	**39.85**	**352**	P	**P**	**05 47 37.4**	**-1.0**
BVAR	**Borovoye Array**	**42.38**	**340**	P	**P**	**05 48 00.8**	**+1.6**
	0.7nm,0.9s,mb3.3,baz=146,slow=5.2,SNR=3.2						
CHKZ	**Chkalovo**	**42.85**	**341**	*eP*	**P**	**05 48 00.1**	**-3.0**
	2.1nm,0.7s,mb4.0						
CHKZ				*e*pP	pP	05 48 05.6	-9.4
WRA	**Warramunga Arr**	**53.18**	**129**	P	**P**	**05 49 23.7**	**-0.2**
	2.8nm,0.7s,mb4.3,baz=309,slow=7.6,SNR=22						
WRA				PcP	PcP	05 50 30.0	-1.5
	0.3nm,0.6s,baz=318,slow=3.3,SNR=5.1						
ASAR	**Alice Springs**	**55.15**	**133**	P	**P**	**05 49 38.2**	**-0.1**
	1.7nm,0.7s,mb4.2,baz=310,slow=6.9,SNR=20						
BRTR	**Keskin Array B**	**57.35**	**308**	P	**P**	**05 49 54.4**	**+0.5**
	0.4nm,0.5s,mb3.8,baz=54,slow=11,SNR=3.8						
FINES	**FINESS Array B**	**66.35**	**331**	P	**P**	**05 50 53.9**	**+0.1**
	1.8nm,0.7s,mb4.2,baz=90,slow=9.5,SNR=3.6						
FINES	**FINESS Array B**	**66.35**	**331**	P	**P**	**05 50 53.9**	**+0.1**
GERES	**GERESS Array B**	**72.17**	**317**	P	**P**	**05 51 30.9**	**+1.2**
	0.8nm,0.8s,mb3.7,baz=76,slow=5.5,SNR=3.7						

*NIED **14** 05:57:00, 33.10N×137.10E, h26km, Mw3.6 Best double couple: M0 3.26×10^14 NP1:φs268°, δ58°, λ75°. NP2:φs115°, δ35°, λ113°.*
*JMA **14** 05:57:35.7±0.1, 33.11N×137.12E, h52km±3km, M3.7*

ISC 14 05:57:36.2±1.2, 33.13N±0.07×137.11E±0.05, h45km±27km, n15, σ0§53/28, 1C-5D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.75**	**32**	P	**P**	**05 57 50.8**	**+0.3**
TK01				*e*S	**S**	**05 58 01.3**	**+0.3**
TK02	**Tokai 2**	**0.98**	**33**	⇓P	**P**	**05 57 53.1**	**-0.6**
TK02				*e*S	**S**	**05 58 06.5**	**-0.1**
JWZ	**Kozaga**	**1.24**	**289**	⇑P	**P**	**05 57 56.9**	**-0.5**
JWZ				*e*S	**S**	**05 58 12.1**	**-1.1**
TK03	**Tokai 3**	**1.25**	**34**	P	**P**	**05 57 57.1**	**-0.5**
TK03				*e*S	**S**	**05 58 13.3**	**-0.3**
JIE	**Ise**	**1.30**	**345**	⇓P	**P**	**05 57 58.6**	**+0.1**
JIE				*e*S	**S**	**05 58 15.7**	**+0.7**
TK04	**Tokai 4**	**1.40**	**27**	⇓P	**P**	**05 57 59.5**	**-0.4**
TK04				*e*S	**S**	**05 58 17.0**	**-0.4**
JWM	**Minabe**	**1.64**	**297**	*e*S	**S**	**05 58 22.7**	**-0.4**
JWY	**Kouya**	**1.67**	**311**	⇓P	**P**	**05 58 04.2**	**+0.6**
JWY				*e*S	**S**	**05 58 24.1**	**+0.2**
TSUJ	**Tsu 2**	**1.68**	**340**	P	**P**	**05 58 03.9**	**+0.2**
TSUJ				*e*S	**S**	**05 58 24.4**	**+0.2**
JHE	**Heguri**	**1.93**	**322**	⇓P	**P**	**05 58 07.6**	**+0.3**
JHE				*e*S	**S**	**05 58 30.6**	**+0.2**
JIZS	**Izushimoda**	**2.16**	**42**	P	**P**	**05 58 11.4**	**+0.9**
JAJ2	**Tsuna**	**2.26**	**305**	P	**P**	**05 58 12.6**	**+0.7**
JAJ2				*e*S	**S**	**05 58 38.9**	**+0.2**
JAI	**Aioi**	**2.32**	**287**	P	**P**	**05 58 13.1**	**+0.2**
JAI				*e*S	**S**	**05 58 39.6**	**-0.7**
JWT	**Wachi**	**2.57**	**327**	P	**P**	**05 58 16.9**	**+0.4**
JWT				*e*S	**S**	**05 58 47.0**	**+0.3**
MAT	**Matsushiro**	**3.52**	**14**	P	**P**	**05 58 30.3**	**+0.4**
MAT				S	**S**	**05 59 09.5**	**-1.3**

*IDC **14** 06:11:51.5±0.7, 12.96N×92.13E, h28km±4km, mb3.7/8, mb1 3.9/9, mb1mx3.8/18, mbtmp3.9/9, ML3.9/1, Error ellipse: s-maj=36.9km s-min=13.9km az=47.0*
*NEIC **14** 06:11:51.5±0.7, 12.92N×92.13E, mb4.4/1, Error ellipse: s-maj=20.5km s-min=14.5km az=224.0*

ISC 14 06:11:49.7±0.7, 13.0N±0.1×92.3E±0.1, h29km, h29km±.6km: pP-P, n13, σ1§10/14, mb4.0/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.40**	**161**	*e*P	**Pn**	**06 12 08.7**	**-4.9**
PBA				*e*S	**Sn**	**06 12 36.9**	**+5.6**
PBA				*e*		06 13 03.8	
	comp=E,382nm,0.5s						
PBA				*e*		06 13 04.5	
	comp=N,505nm,0.4s						
CMAR	**Chiang Mai Arr**	**8.40**	**49**	Pn	**P**	**06 13 53.0**	**+0.4**
	comp=N,0.4nm,0.3s,baz=238,slow=17,SNR=2.9						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYB	**Hyderabad**	**13.97**	**290**	*i* P	**P**	**06 15 10.0**	**+1.8**
SONM	**Songino Array**	**36.68**	**16**	P	**P**	**06 18 58.4**	**+2.5**
	comp=N,0.3nm,0.6s,mb3.3,baz=203,slow=9.4,SNR=3.7						
WRA	**Warramunga Arr**	**52.75**	**128**	P	**P**	**06 21 04.8**	**0.0**
	comp=N,0.5nm,0.3s,mb3.9,baz=301,slow=9.8,SNR=26						
WRA				pP	pP	06 21 13.5	0.0
	comp=N,0.8nm,0.6s,baz=305,slow=8.0,SNR=6.1						
WRA				PcP	PcP	06 22 13.1	-0.9
	comp=N,0.4nm,0.9s,baz=312,slow=3.0,SNR=6.5						
WRAB	**Tennant Creek**	**52.76**	**128**	*e*P	**P**	**06 21 04.5**	**-0.3**
	comp=N,3.0nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**54.62**	**132**	P	**P**	**06 21 18.9**	**+0.6**
	comp=N,0.6nm,0.6s,mb3.8,baz=310,slow=7.0,SNR=12						
ASAR				pP	pP	06 21 27.6	+0.5
	comp=N,0.5nm,0.5s,baz=309,slow=7.4,SNR=4.0						
BRTR	**Keskin Array B**	**57.77**	**309**	P	**P**	**06 21 40.8**	**-0.1**
	comp=N,0.7nm,0.7s,mb3.8,baz=129,slow=7.9,SNR=4.3						
BRTR				pP	pP	06 21 50.1	+0.4
	comp=N,0.2nm,0.3s,baz=6.6,slow=19,SNR=2.7						
FINES	**FINESS Array B**	**67.37**	**332**	P	**P**	**06 22 42.5**	**-1.8**
	comp=N,3.1nm,1.0s,mb4.3,baz=72,slow=8.8,SNR=4.1						
FINES				pP	pP	06 22 51.1	-2.2
	comp=N,1.9nm,0.8s,baz=159,slow=16,SNR=2.5						
FINES				sP	sP	06 22 56.4	-0.2
	comp=N,1.5nm,0.9s,baz=266,slow=38,SNR=2.5						
ARCES	**ARCESS Array B**	**69.87**	**340**	P	**P**	**06 22 58.3**	**-1.4**
	comp=N,4.4nm,0.9s,mb4.4,baz=90,slow=6.3,SNR=4.0						
GERES	**GERESS Array B**	**72.84**	**317**	P	**P**	**06 23 17.6**	**-0.2**
	comp=N,1.3nm,0.9s,mb3.9,baz=90,slow=5.3,SNR=5.5						
NOA	**NORSAR Array B**	**74.42**	**330**	P	**P**	**06 23 26.3**	**-0.4**
	comp=N,1.6nm,0.8s,mb4.0,baz=89,slow=8.3,SNR=3.2						
NOA	**NORSAR Array B**	**74.42**	**330**	P	**P**	**06 23 26.3**	**-0.4**

IDC 14 06:28:58.5±3.5, 16.96S×174.61W, mb4.4/4, mb1 4.5/4, mb1mx4.0/15, mbtmp4.4/4, Error ellipse: s-maj=150.9km s-min=71.1km az=162.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.19**	**259**	P	P	06 36 12.7	-0.6
	2.4nm,0.5s,baz=42,slow=4.2,SNR=3.8						
STKA	**Stephens Creek**	**42.27**	**241**	*e*P	P	06 36 54.7	-0.7
	1.9nm,0.6s						
STKA	**Stephens Creek**	**42.27**	**241**	P	P	06 36 54.6	-0.8
	2.2nm,0.6s,baz=83,slow=12,SNR=5.7						
WB2	**Warramunga Arr**	**48.37**	**258**	*e*P	P	06 37 41.1	-3.2
WRA	**Warramunga Arr**	**48.38**	**258**	P	P	06 37 41.5	-2.9
	1.7nm,0.3s,baz=96,slow=6.9,SNR=74						
WRA				PcP	PcP	06 39 09.1	-2.3
	0.2nm,0.3s,baz=91,slow=3.5,SNR=4.8						
ASAR	**Alice Springs**	**48.54**	**253**	P	P	06 37 42.8	-2.8
	4.1nm,0.4s,baz=93,slow=7.8,SNR=79						
ASAR				PcP	PcP	06 39 09.8	-2.1
	0.6nm,0.5s,baz=101,slow=4.0,SNR=6.9						
ASPA	**Alice Springs**	**48.54**	**253**	*e*P	P	06 37 42.8	-2.8
KAKA	**Kakadu**	**51.24**	**267**	*e*P	P	06 38 04.0	-2.4
	3.3nm,0.4s						

ISC 14 06:38:48.0±1.0, 46.40N±0.06×15.09E±0.07, n5, σ0§42/7, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.24**	**5**	*i* Pg	**Pg**	**06 38 53.3**	**+0.6**
GROS	**Grobnik**	**0.29**	**77**	*i* Pg	**Pg**	**06 38 54.2**	**+0.4**
	comp=Z,15nm,0.4s						
PDKS	**Podkum**	**0.34**	**190**	*i* Pg	**Pg**	**06 38 54.6**	**-0.1**
OBKA	**Obir**	**0.39**	**287**	⇑*i*PG	**Pg**	**06 38 55.6**	**-0.1**
OBKA				*i* SG	**Sg**	**06 39 01.0**	**+0.1**
	comp=Z,29nm,0.6s						
ARSA	**Arzberg**	**0.91**	**19**	⇑*i*PG	**Pg**	**06 39 05.2**	**-0.8**
ARSA				*i* SG	**Sg**	**06 39 18.1**	**0.0**
	comp=Z,3.7nm,0.5s						

IDC 14 06:47:39.4±13.0, 15.20S×177.96W, h438km±152km, mb3.1/5, mb1 3.5/5, mb1mx3.2/14, mbtmp3.9/5, Error ellipse: s-maj=107.4km s-min=35.0km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.60**	**257**	P	P	06 55 18.9	-1.6
	0.5nm,0.5s,baz=90,slow=6.7,SNR=22						
ASAR	**Alice Springs**	**45.99**	**252**	P	P	06 55 21.9	-1.5
	3.2nm,0.4s,baz=86,slow=8.4,SNR=66						
NVAR	**Mina Array Bea**	**77.19**	**44**	P	P	06 58 47.3	-0.9
	1.1nm,0.9s,baz=220,slow=8.0,SNR=6.1						
ILAR	**Eielson Array**	**83.17**	**13**	P	P	06 59 17.8	-1.0
	0.4nm,0.5s,baz=222,slow=5.0,SNR=10						
TXAR	**Lajitas Array**	**84.19**	**58**	P	P	06 59 23.8	-0.9
	0.4nm,0.7s,baz=207,slow=5.6,SNR=5.5						
BRTR	**Keskin Array B**	**143.14**	**318**	PKP	PKPdf	07 06 22.4	0.0
	1.0nm,0.9s,baz=117,slow=3.2,SNR=4.6						

IDC 14 06:56:40.9±3.8, 11.08N×92.82E, mb3.9/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, ML4.3/1, MS2.7/1, Ms1 2.9/1, ms1mx2.6/20, Error ellipse: s-maj=107.8km s-min=27.3km az=81.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.58**	**352**	*e*P	Pg	06 57 04.4	+12
PBA				*e*S	Sg	06 57 25.0	+25
PBA				*e*S	Sg	06 57 25.0	+25
PBA				*e*		06 57 38.0	
	comp=E,1μm,1.2s						
PBA				*e*		06 57 40.6	
	comp=N,1μm,0.9s						
PBA	**Port Blair**	**0.58**	**352**	*e*P	Pg	06 57 01.0	+8.5
PBA				*e*S	Sg	06 57 23.5	+23
CMAR	**Chiang Mai Arr**	**9.43**	**38**	Pn	P	06 58 57.4	-3.6
	comp=N,0.7nm,0.3s,baz=222,slow=12,SNR=3.9						
CMAR				LR	LR	07 03 03.0	
	comp=N,46nm,22.0s,baz=220,slow=40						
SONM	**Songino Array**	**38.37**	**15**	P	P	07 04 04.0	-1.6
	comp=N,1.2nm,0.8s,baz=210,slow=7.6,SNR=9.2						
WRA	**Warramunga Arr**	**51.19**	**127**	P	P	07 05 46.4	-2.1
	comp=N,1.3nm,0.8s,baz=301,slow=8.5,SNR=6.6						
ASAR	**Alice Springs**	**52.97**	**131**	P	P	07 05 59.6	-2.2
	comp=N,2.1nm,0.8s,baz=305,slow=6.5,SNR=18						

*IDC **14** 07:05:18.1±1.1, 5.09N×94.24E, mb4.1/10, mb1 4.2/11, mb1mx4.1/20, mbtmp4.1/11, ML4.5/1, Error ellipse: s-maj=49.9km s-min=19.3km az=49.0*
*NEIC **14** 07:05:21.8±0.7, 4.78N×93.94E, h30km, mb4.5/2, Error ellipse: s-maj=24.5km s-min=13.5km az=56.0*

ISC 14 07:05:20.1±0.8, 4.8N±0.1×94.0E±0.2, h30km, n14, σ1§10/14, mb4.1/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.40**	**19**	Pn	**P**	**07 08 46.0**	**+1.9**
	0.7nm,0.3s,baz=212,slow=14,SNR=10.0						
SONM	**Songino Array**	**44.17**	**12**	P	**P**	**07 13 26.0**	**-2.0**
	1.2nm,0.7s,mb3.7,baz=194,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**46.68**	**123**	P	**P**	**07 13 48.4**	**+0.1**
	2.7nm,0.6s,mb4.3,baz=301,slow=9.5,SNR=6.3						
WRAB	**Tennant Creek**	**46.69**	**123**	*e*P	**P**	**07 13 48.2**	**-0.1**
	4.3nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**48.13**	**128**	P	**P**	**07 13 59.8**	**+0.1**
	1.1nm,0.7s,mb4.0,baz=301,slow=7.7,SNR=12						
ZAL	**Zalesovo**	**49.54**	**353**	P	**P**	**07 14 09.5**	**-0.6**
	1.8nm,0.3s,mb4.6,baz=319,slow=2.9,SNR=5.3						
ZAL	**Zalesovo**	**49.54**	**353**	P	**P**	**07 14 09.5**	**-0.6**
BVAR	**Borovoye Array**	**51.82**	**342**	P	**P**	**07 14 25.4**	**-2.1**
	1.3nm,0.8s,mb3.9,baz=135,slow=8.4,SNR=6.6						
GNI	**Garni**	**56.47**	**316**	P	**P**	**07 15 02.8**	**+1.0**
	1.5nm,0.4s,mb4.4,baz=239,slow=14,SNR=3.1						
GNI	**Garni**	**56.47**	**316**	P	**P**	**07 15 01.6**	**-0.2**
	2.6nm,0.6s,mb4.4						
BRTR	**Keskin Array B**	**64.31**	**312**	P	**P**	**07 15 55.5**	**+0.2**
	3.0nm,1.1s,mb4.2,baz=124,slow=8.9,SNR=6.0						
FINES	**FINESS Array B**	**75.33**	**333**	P	**P**	**07 17 02.0**	**-0.1**
	2.1nm,0.7s,mb4.2,baz=110,slow=5.6,SNR=9.4						
ARCES	**ARCESS Array B**	**78.07**	**340**	P	**P**	**07 17 17.8**	**+0.4**
	1.7nm,0.8s,mb4.0,baz=117,slow=8.1,SNR=2.5						
GERES	**GERESS Array B**	**79.99**	**319**	P	**P**	**07 17 29.9**	**+1.7**
	0.5nm,0.6s,mb3.6,baz=72,slow=4.2,SNR=5.3						

*TAP **14** 07:10:22.1, 24.76N×122.49E, h111km±1km, ML3.9*

JMA 14 07:10:22.7±0.3, 24.89N×122.52E, h104km, M2.9, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.62**	**134**	P	P	07 10 39.8	-0.1
YOJ				S	S	07 10 53.1	+0.2
IRIF	**Iriomote-Funau**	**1.23**	**116**	P	P	07 10 45.8	-0.6
IRIF				S	S	07 11 03.7	-0.5
HATJ	**Hateruma jima**	**1.44**	**125**	P	P	07 10 48.9	+0.1
HATJ				S	S	07 11 08.1	-0.2
JKRS	**Kuro-shima**	**1.50**	**115**	P	P	07 10 49.6	-0.1
JKRS				S	S	07 11 09.8	0.0
JIJ	**Ishigaki jima**	**1.57**	**109**	P	P	07 10 50.0	-0.4
JIJ				S	S	07 11 10.1	-1.0
JTJ	**Tarama**	**2.00**	**97**	P	P	07 10 55.9	0.0
JTJ				*e*S	S	07 11 21.2	+0.6

IDC 14 07:16:03.2±2.5, 5.11N×93.91E, mb3.5/3, mb1 3.8/4, mb1mx3.6/19, mbtmp3.6/4, ML4.3/1, Error ellipse: s-maj=96.7km s-min=28.0km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.15**	**20**	Pn	P	07 19 26.1	-1.3
	0.4nm,0.3s,baz=211,slow=15,SNR=4.5						
WRA	**Warramunga Arr**	**46.90**	**123**	P	P	07 24 35.6	-2.0
	0.7nm,0.7s,baz=304,slow=9.6,SNR=10.0						
ASAR	**Alice Springs**	**48.37**	**128**	P	P	07 24 47.4	-1.7
	0.4nm,0.5s,baz=300,slow=8.0,SNR=6.1						
BVAR	**Borovoye Array**	**51.52**	**342**	P	P	07 25 10.4	-2.4
	0.5nm,0.5s,baz=141,slow=9.5,SNR=4.4						

JMA 14 07:55:02.7±0.4, 32.23N×137.93E, h400km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**2.39**	**335**	P	P	07 56 01.7	+0.1
BSO3	**Boso 3**	**3.35**	**39**	P	P	07 56 09.3	0.0
BSO3				*e*S	S	07 57 00.3	-1.4
BSO4	**Boso 4**	**3.41**	**35**	P	P	07 56 10.5	+0.7
BSO4				*e*S	S	07 57 03.5	+0.9
BSO1	**Boso 1**	**3.51**	**46**	P	P	07 56 09.8	-0.9
BSO1				S	S	07 57 03.8	-0.4
JWT	**Wachi**	**3.70**	**326**	P	P	07 56 12.0	-0.5
JMN	**Monobe**	**3.72**	**295**	P	P	07 56 11.7	-0.9
JHU	**Hanno**	**3.78**	**17**	S	S	07 57 06.8	-1.8
JRY	**Ryogami san**	**3.86**	**12**	P	P	07 56 15.0	+1.1
JRY				S	S	07 57 10.2	+0.3
MAT	**Matsushiro**	**4.31**	**3**	P	P	07 56 17.1	-1.2
MAT				S	S	07 57 19.2	+1.6
MAT	**Matsushiro**	**4.31**	**3**	P	P	07 56 18.2	-0.1
JAG	**Ashikaga**	**4.37**	**16**	P	P	07 56 18.2	-0.7
JAG				S	S	07 57 15.4	-3.3
JYT	**Yasato**	**4.41**	**25**	P	P	07 56 19.1	-0.2
JYT				S	S	07 57 16.2	-3.1
JFK	**Kawauchi**	**5.67**	**24**	P	P	07 56 32.0	-0.3
JFK				S	S	07 57 40.2	-2.5
JMK	**Ichinoseki**	**7.22**	**21**	S	S	07 58 11.4	-2.6

*MOS **14** 07:58:10.2±0.8, 46.16N×13.96E, h10km, mb3.5/1, Error ellipse: s-maj=4.0km s-min=3.9km az=60.8*
*IDC **14** 07:58:10.5±2.5, 46.14N×13.78E, mb1 3.6/4, mb1mx3.3/19, mbtmp3.4/4, ML3.8/4, Error ellipse: s-maj=26.0km s-min=19.7km az=61.0*
*LJU **14** 07:58:11.3, 46.20N×14.03E, h19km, ML4.0*
*PDG **14** 07:58:11.8±0.5, 46.17N×14.00E, h11km*
*CSEM **14** 07:58:11.8±0.0, 46.20N×14.05E, h12km, ML4.8/15, Error ellipse: s-maj=0.8km s-min=0.7km az=43.0*
*ROM **14** 07:58:11.0±0.8, 46.26N×14.15E, h10km, ML4.0, Error ellipse: s-maj=6.0km s-min=5.9km az=0.0*
*IPEC **14** 07:58:11.4±0.4, 46.16N×14.09E, h2km±2km, ML3.6/2, Error ellipse: s-maj=2.2km s-min=0.9km az=174.0*
*LDG **14** 07:58:12.9±0.1, 46.26N×14.10E, h10km, Ml4.0/11, Error ellipse: s-maj=2.9km s-min=2.5km az=141.0*
*ZUR_RM **14** 07:58:12, 46.19N×14.00E, h18km, Mw3.9/30, Moment Tensor Solution. s30 Moment tensor: Scale 10^14Nm; Mrr=0.95; Mθθ=6.80; Mφφ=7.75; Mrθ=2.09; Mφθ=-2.98; Mφr=1.39; Best double couple: M0=8.29×10^14 NP1:φs=213°, δ=82°, λ=-17°. NP2:φs=305°, δ=73°, λ=-171°. Principal axes: T 8.441, Plg=6°, Azm=260°; N -.297, Plg=71°, Azm=8°; P -8.144, Plg=18°, Azm=168°;*
*NEIC **14** 07:58:12.0±0.1, 46.19N×14.00E, h10km, ML4.3(SZGRF), ML4.2(FUR), ML4.1(LJU), ML4.1(PDG), ML4.0(LDG), ML4.0(VIE) Error ellipse: s-maj=2.5km s-min=1.8km az=177.0*
NEIC Felt in central and western Slovenia. Also felt [V] in southern Carinthia, Austria.
*BGR **14** 07:58:13.7±0.6, 46.29N×14.03E, h10km, ML4.3/6, Error ellipse: s-maj=11.1km s-min=4.4km az=178.0*

ISC 14 07:58:10.5±0.1, 46.219N±0.009×14.02E±0.01, h10km, n298, σ1§27/465, 66C-23D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADS	**Cadrg**	**0.20**	**273**	*i* Pg	**Pg**	**07 58 16.7**	**+1.9**
CADS				*e*Sg	**Sg**	**07 58 20.3**	**+2.6**
CADS	**Cadrg**	**0.20**	**273**	⇑*i*Pg	**Pg**	**07 58 16.7**	**+1.9**
CADS				*i* Sg	**Sg**	**07 58 20.3**	**+2.7**
	comp=Z,9μm,0.1s						
CADS	**Cadrg**	**0.20**	**273**	⇑*i*Pg	**Pg**	**07 58 16.7

comp=Z,3µm,0.1s
PDKS Podkum 0.70 103⇑ i Pg Pg 07 58 25.7 +1.1
PDKS eSg Sg 07 58 35.4 +1.4
comp=Z,3µm,0.1s
TLI Talmassons 0.70 245⇑ ePg Pg 07 58 24.7 +0.1
VISS Visnje 0.71 126⇑ i Pg Pg 07 58 25.3 +0.6
VISS i Sg Sg 07 58 34.5 +0.2
comp=Z,5µm,0.2s
VISS Visnje 0.71 126⇑ i Pg Pg 07 58 25.3 +0.6
VISS i Sg Sg 07 58 34.5 +0.2
comp=Z,5µm,0.2s
MPRI Monte Prat 0.71 272⇑ ePg Pg 07 58 24.9 +0.1
MPRI eSg Sg 07 58 37.4 +2.9
KNDS Knezji Dol 0.74 160⇓ i Pg Pg 07 58 24.8 -0.5
KNDS eSg Sg 07 58 36.0 +0.8
comp=Z,4µm,0.3s
KNDS Knezji Dol 0.74 160⇓ i Pg Pg 07 58 24.8 -0.5
KNDS eSg Sg 07 58 36.0 +0.8
comp=Z,4µm,0.3s
ZOU Zoufplan 0.80 295⇑ i Pg Pg 07 58 27.1 +0.5
ZOU i Sg Sg 07 58 39.6 +2.4
PERS Pernice 0.87 61⇑ i Pg Pg 07 58 28.4 +0.4
PERS i Sg Sg 07 58 40.5 +1.0
comp=Z,3µm,0.2s
PERS Pernice 0.87 61⇑ i Pg Pg 07 58 28.4 +0.5
PERS i Sg Sg 07 58 40.5 +1.0
comp=Z,3µm,0.2s
BISS Bistriski jare 0.88 60⇑ i Pg Pg 07 58 28.6 +0.4
BISS i Sg Sg 07 58 40.7 +0.8
comp=Z,5µm,0.2s
BISS Bistriski jare 0.88 60⇑ i Pg Pg 07 58 28.6 +0.5
BISS i Sg Sg 07 58 40.7 +0.8
comp=Z,5µm,0.2s
FVI Forni Avoltri 0.94 294⇑ i PG Pg 07 58 29.3 0.0
LEGS Legarje 0.94 106⇑ i Pg Pg 07 58 29.8 +0.4
LEGS eSg Sg 07 58 43.0 +1.0
comp=Z,4µm,0.3s
LEGS Legarje 0.94 106⇑ i Pg Pg 07 58 29.8 +0.4
LEGS eSg Sg 07 58 43.0 +0.9
comp=Z,4µm,0.3s
KBA Koelnbreinsper 0.98 332⇑ i PG Pg 07 58 31.1 +1.0
KBA i SG Sg 07 58 45.1 +1.9
comp=Z,711nm,0.5s
KBA Koelnbreinsper 0.98 332 ePg Pg 07 58 30.7 +0.6
KBA Koelnbreinsper 0.98 332 ePg Pg 07 58 31.1 +1.0
MLNI Malnisio 0.98 266⇓ ePg Pg 07 58 30.0 -0.1
MLNI eSg Sg 07 58 45.5 +2.3
DOBS Dobrina 1.01 93⇑ i Pg Pg 07 58 30.9 +0.1
comp=Z,1µm,0.1s
DOBS Dobrina 1.01 93⇑ i Pg Pg 07 58 30.9 +0.1
comp=Z,1µm,0.1s
CESS Cesta pri Krsk 1.04 103⇑ i Pg Pg 07 58 31.6 +0.3
CESS eSg Sg 07 58 46.0 +0.9
comp=Z,5µm,0.4s
CESS Cesta pri Krsk 1.04 103 eSg Sg 07 58 46.0 +0.9
comp=Z,5µm,0.4s
GROS Grobnik 1.06 76⇑ i Pg Pg 07 58 31.4 -0.2
CRES Cresnjev 1.08 111⇑ ePg Pg 07 58 32.1 0.0
CRES eSg Sg 07 58 46.7 +0.2
comp=Z,3µm,0.3s
CRES Cresnjev 1.08 111⇑ ePg Pg 07 58 32.1 0.0
CRES eSg Sg 07 58 46.7 +0.2
comp=Z,3µm,0.3s
CAE Caneva 1.12 260⇑ ePg Pg 07 58 32.7 -0.2
CAE eSg Sg 07 58 50.1 +2.2
BOJS Bojanci 1.12 129 i Pg Pg 07 58 32.8 -0.2
BOJS i Sg Sg 07 58 47.1 -0.8
comp=Z,4µm,0.3s
BOJS Bojanci 1.12 129 i Pg Pg 07 58 32.8 -0.1
BOJS i Sg Sg 07 58 47.1 -0.8
comp=Z,4µm,0.3s
GOLS Golise 1.14 100⇑ i Pg Pg 07 58 33.5 +0.2
GOLS eSg Sg 07 58 50.0 +1.5
comp=Z,3µm,0.3s
GOLS Golise 1.14 100⇑ i Pg Pg 07 58 33.5 +0.2
GOLS eSg Sg 07 58 50.0 +1.5
comp=Z,3µm,0.3s
GCIS Gornji Cirnik 1.18 107⇑ i Pg Pg 07 58 33.9 -0.2
GCIS eSg Sg 07 58 49.2 -0.6
comp=Z,1µm,0.1s
GCIS Gornji Cirnik 1.18 107⇑ i Pg Pg 07 58 33.9 -0.1
GCIS eSg Sg 07 58 49.2 -0.5
comp=Z,1µm,0.1s
CSO Casso 1.18 273⇓ ePg Pg 07 58 32.8 -1.3
CSO eSg Sg 07 58 51.8 +2.0
IESO Jesolo 1.24 236⇑ i Pg Pg 07 58 35.5 +0.1
IESO i Sg Sg 07 58 52.8 +0.8
AFL Alpe Faloria 1.31 284 ePg Pg 07 58 36.9 +0.2
AFL eSg Sg 07 58 55.0 +0.7
FAU Forcella Aurin 1.41 271⇑ ePg Pg 07 58 38.0 -0.7
ARSA Arzberg 1.46 45⇑ i PN Pn 07 58 39.1 +2.0
ARSA i PG Pg 07 58 40.6 +0.9
ARSA i SN Sn 07 58 59.5 +3.1
ARSA i SG Sg 07 59 01.1 +1.8
comp=Z,852nm,0.4s
ARSA Arzberg 1.46 45 ePg Pg 07 58 39.0 -0.8
ARSA eSg Sg 07 58 58.3 -0.9
ARSA Arzberg 1.46 45⇑ i Pn Pn 07 58 39.1 +2.0
ARSA Sg Sg 07 58 58.3 -1.0
ARSA i Sn Sn 07 58 59.5 +3.1
CGRP Cima Grappa 1.58 258⇑ i Pg Pg 07 58 39.9 -2.3
CGRP i Sg Sg 07 59 02.3 -1.0
BGLD Berchtesgaden 1.59 335⇓ i Pg Pg 07 58 41.9 -0.4
MOA Molln 1.64 6⇑ i PG Pg 07 58 42.8 -0.5
MOA i SG Sg 07 59 07.0 +1.8
comp=Z,304nm,0.4s
MOA Molln 1.64 6 ePg Pg 07 58 42.7 -0.6
MOA eSg Sg 07 59 05.0 -0.2
MOA Molln 1.64 6⇑ i Pg Pg 07 58 42.8 -0.5
MOA Sg Sg 07 59 05.0 -0.2
CTI Castel Tesino 1.66 265⇑ i PN Pn 07 58 41.3 +1.5
comp=Z,1µm,0.5s
CTI Castel Tesino 1.66 265⇑ i Pn Pn 07 58 41.3 +1.5
comp=Z,1µm,0.5s
NVLJ Novalja 1.76 160 i Pn Pn 07 58 42.6 +1.3
NVLJ i Pg Pg 07 58 44.2 -1.5
NVLJ i Sn Sn 07 59 05.6 +1.6
NVLJ i Sg Sg 07 59 07.7 -1.5
SCE Schlegeis 1.79 298 ePn Pn 07 58 44.4 +2.6
TEOL Teolo 1.85 243⇑ ePg Pg 07 58 43.2 -4.3
WTTA Wattenberg 1.94 303⇑ i PN Pn 07 58 47.0 +3.0
WTTA i SG Sg 07 59 15.7 +0.5
comp=Z,378nm,0.4s
WTTA Wattenberg 1.94 303 ePg Pg 07 58 46.8 -2.5
WTTA eSg Sg 07 59 15.0 -0.3
WTTA Wattenberg 1.94 303 ePn Pn 07 58 46.9 +2.9
WTTA i Sg Sg 07 59 15.7 +0.5
WATA Walderalm 2.02 305⇑ i PN Pn 07 58 48.4 +3.4
WATA i SG Sg 07 59 18.9 +1.2
comp=Z,136nm,0.4s
SQTA Sankt Quirin 2.18 298⇓ i PN Pn 07 58 50.7 +3.4
SQTA i SG Sg 07 59 22.6 -0.4
comp=Z,283nm,0.4s
SOP Sopron 2.27 49⇑ ePg Pg 07 58 50.1 -5.9
SOP eSg Sg 07 59 19.8 -6.5
MOTA Moosalm 2.30 300⇓ i PN Pn 07 58 52.3 +3.3
MOTA i SG Sg 07 59 24.2 -2.8
comp=Z,186nm,0.5s
MABI Malga Bissina 2.44 267 ePN Pn 07 58 52.6 +1.5
BRMO Bormio 2.54 277 ePN Pn 07 58 54.9 +2.4
comp=Z,125nm,0.4s
BRMO Bormio 2.54 277 ePn Pn 07 58 54.9 +2.4
comp=Z,125nm,0.4s
RSM Repubblica di 2.54 206 ePN Pn 07 58 53.2 +0.6
VKA Vienna 2.58 37⇑ i PN Pn 07 58 54.9 +1.8
VKA i 07 59 04.6
VKA i 07 59 38.5
GEC2 GERESS Array S 2.64 355 ePn Pn 07 58 55.7 +1.8
GERES GERESS Array B 2.64 355 P Pn 07 58 55.8 +1.9
GERES 07 59 27.9
GERES GERESS Array B 2.64 355 Pn Pn 07 58 55.8 +1.9
comp=Z,12nm,0.3s,baz=170,slow=14,SNR=256
GERES Pg Pg 07 59 01.3 -1.9
comp=Z,53nm,0.3s,baz=169,slow=16,SNR=192
GERES Sn Sn 07 59 27.9 +1.7
comp=Z,25nm,0.3s,baz=161,slow=24,SNR=8.6
GERES Lg 07 59 34.1
comp=Z,42nm,0.3s,baz=180,slow=24,SNR=5.2
GERES GERESS Array B 2.64 355 Pg Pg 07 59 01.3 -1.9
GERES S Sn 07 59 27.9 +1.7
BLY Banja Luka 2.67 122 Pn Pn 07 58 55.7 +1.4
FSSB Fossombrone 2.67 200⇓ i PN Pn 07 58 54.4 0.0
comp=Z,524nm,0.6s
FSSB Fossombrone 2.67 200⇓ i Pn Pn 07 58 54.4 0.0
comp=Z,524nm,0.6s
FUR Furstenfeldbru 2.70 317 ePg Pg 07 59 03.6 -0.8
FUR eSg Sg 07 59 39.5 -0.9
FUR Furstenfeldbru 2.70 317 ePg Pg 07 59 03.6 -0.8
FUR eSg Sg 07 59 39.5 -0.9
SFI Santa Sofia 2.78 214 ePN Pn 07 58 55.8 -0.1
comp=Z,494nm,0.6s
ARV Arcevia 2.83 196⇓ i PN Pn 07 58 56.7 +0.1
ZCCA Zocca 2.84 230 ePN Pn 07 58 59.0 +2.1
comp=Z,361nm,0.8s
ZCCA Zocca 2.84 230 ePn Pn 07 58 59.0 +2.1
comp=Z,361nm,0.8s
VMG Vicchio 2.86 219 ePN Pn 07 58 57.5 +0.5
comp=Z,1µm,0.7s
VMG Vicchio 2.86 219 ePn Pn 07 58 57.5 +0.5
comp=Z,1µm,0.7s
SEI Scarperia 2.87 222 ePN Pn 07 58 59.2 +2.0
comp=Z,961nm,0.4s
SEI Scarperia 2.87 222 ePn Pn 07 58 59.2 +2.0
comp=Z,961nm,0.4s
ZST Bratislava 2.89 46 i PN Pn 07 58 58.7 +1.2
ZST ePG Pg 07 59 08.1 -0.1
ZST eSG Sg 07 59 45.3 -1.4
ZST Bratislava 2.89 46 i P Pn 07 58 58.9 +1.4
ZST i S Sn 07 59 34.2 +1.6
ZST i Sg Sg 07 59 44.9 -1.8
CING Cingoli 2.90 192 ePN Pn 07 58 57.3 -0.4
KHC Kasperske Hory 2.93 354 ePN Pn 07 58 59.8 +1.7
KHC ePG Pg 07 59 05.6 -3.4
KHC eSG Sg 07 59 46.7 -1.4
comp=Z,407nm,1.0s
RHK3 Tenkes 2.97 95⇑ ePN Pn 07 58 57.7 -0.9
CRE Caprese Michel 2.98 210⇓ i PN Pn 07 58 59.4 +0.6
comp=Z,201nm,0.5s
CRE Caprese Michel 2.98 210⇓ i Pn Pn 07 58 59.4 +0.6
comp=Z,201nm,0.5s
WET Wettzell 3.03 346 ePn Pn 07 59 00.6 +1.2
WET eSn Sn 07 59 34.2 -1.9
WET Wettzell 3.03 346 ePn Pn 07 59 00.6 +1.2
WET eSn Sn 07 59 34.2 -1.9
WET Wettzell 3.03 346 Pn Pn 07 59 00.6 +1.2
WET Sn Sn 07 59 34.2 -1.9
DAVA Damuels 3.04 292⇑ i PN Pn 07 59 01.5 +1.9
DAVA i PG Pg 07 59 10.3 -0.9
DAVA i SN Sn 07 59 37.1 +0.7
DAVA i SG Sg 07 59 52.5 +0.8
comp=Z,308nm,0.6s
DAVA Damuels 3.04 292 ePn Pn 07 59 01.8 +2.2
GSCL Gusciola 3.06 234 ePN Pn 07 59 00.5 +0.6
comp=Z,119nm,0.5s
GSCL Gusciola 3.06 234 ePn Pn 07 59 00.5 +0.6
comp=Z,119nm,0.5s
SNTG Esanatoglia 3.06 195 ePN Pn 07 58 59.7 -0.2
comp=Z,529nm,0.7s
SNTG Esanatoglia 3.06 195 ePn Pn 07 58 59.7 -0.2
comp=Z,529nm,0.7s
ERBM Eremo 3.12 236 ePN Pn 07 59 01.5 +0.8
comp=Z,461nm,0.8s
ERBM Eremo 3.12 236 ePn Pn 07 59 01.5 +0.8
comp=Z,461nm,0.8s
PKSM Moragy 3.21 88⇑ i P Pn 07 59 01.0 -1.1
PKSM eS Sn 07 59 37.8 -3.0
PKSM Moragy 3.21 88 eS Sn 07 59 37.8 -3.0
PKSM Moragy 3.21 88 i P Pn 07 59 01.0 -1.1
PKSG 3.23 67⇓ ePn Pn 07 59 02.2 -0.1
BDI Bagni Di Lucca 3.24 230 ePN Pn 07 59 02.6 +0.1
comp=Z,90nm,0.3s
BDI Bagni Di Lucca 3.24 230 ePn Pn 07 59 02.6 +0.1
comp=Z,90nm,0.3s
VALM 3.25 236 P Pn 07 59 03.0 +0.4
VALM S Sn 07 59 37.0 -4.8
VALM 3.25 236 P Pn 07 59 03.0 +0.4
SMOL Smolenice 3.26 44 ePn Pn 07 59 03.7 +0.9
SMOL i Sg Sg 07 59 58.3 -0.9
KRUC Moravsky 3.27 29 ePn Pn 07 59 03.6 +0.7
KRUC eSg Sg 07 59 53.0 -6.3
comp=Z,154nm,0.7s
GRAM 3.28 240 P Pn 07 59 04.1 +1.1
GRAM S Sn 07 59 39.3 -3.2
GRAM 3.28 240 P Pn 07 59 04.1 +1.1
VLC Villacollemand 3.29 233 ePn Pn 07 59 04.3 +1.1
VLC ePg Pg 07 59 15.6 -0.7
VLC eSn Sn 07 59 42.4 -0.4
VLC Villacollemand 3.29 233 ePn Pn 07 59 04.3 +1.1
VLC Villacollemand 3.29 233 ePg Pg 07 59 15.6 -0.6
SRO Srobarova 3.34 60 i PN Pn 07 59 04.1 +0.2
SRO ePG Pg 07 59 16.0 -1.3
BACM 3.40 237 P Pn 07 59 04.1 -0.6
BACM S Sn 07 59 39.0 -6.4
BACM 3.40 237 P Pn 07 59 04.1 -0.6
MAIM 3.40 229 P Pn 07 59 05.4 +0.7
MAIM S Sn 07 59 41.3 -4.3
VINC Vinca 3.43 234 P Pn 07 59 06.2 +1.0
VINC S Sn 07 59 42.6 -3.8
VINC Vinca 3.43 234 P Pn 07 59 06.2 +1.0
VINC Vinca 3.43 234 P Pn 07 59 06.2 +1.0
NRCA Norcia 3.45 191⇓ i PN Pn 07 59 04.7 -0.7
comp=Z,119nm,0.4s
NRCA Norcia 3.45 191⇓ i Pn Pn 07 59 04.7 -0.7
comp=Z,119nm,0.4s
CODM 3.46 240 P Pn 07 59 05.8 +0.2
CODM S Sn 07 59 42.0 -5.1
CODM 3.46 240 P Pn 07 59 05.8 +0.2
PII Pisa 3.52 226 ePN Pn 07 59 06.0 -0.4
comp=Z,212nm,0.3s
PII Pisa 3.52 226 ePn Pn 07 59 06.0 -0.4
comp=Z,212nm,0.3s
BOB Bobbio (Coli) 3.53 247 ePN Pn 07 59 08.3 +1.8
VRAC Vranov 3.55 28 ePn Pn 07 59 06.7 -0.1
TERO Teramo 3.61 185 ePN Pn 07 59 07.2 -0.5
VAI Varese 3.67 266 ePN Pn 07 59 09.2 +0.6
comp=Z,145nm,0.7s
VAI Varese 3.67 266 ePn Pn 07 59 09.2 +0.6
comp=Z,145nm,0.7s
ROTZ Rotzenmuhle 3.75 342⇓ i PN Pn 07 59 10.1 +0.3
PRU Pruhonice 3.79 5 PN Pn 07 59 11.1 +0.8
PRU PG Pg 07 59 23.4 -2.8
PRU eSG Sg 08 00 12.1 -4.6
comp=Z,138nm,0.6s
PRU Pruhonice 3.79 5 Pg Pg 07 59 23.4 -2.8
PRU eSg Sg 08 00 11.3 -5.4
AQU L'Aquila 3.89 187 ePN Pn 07 59 12.4 +0.7
GRA1 Grafenberg Arr 3.95 333 ePn Pn 07 59 14.4 +1.8
GRA1 eSn Sn 07 59 56.3 -3.2
GRA1 Grafenberg Arr 3.95 333 eP Pn 07 59 14.4 +1.8
GRA1 Sn Sn 07 59 56.3 -3.2
GRF Grafenberg Arr 3.95 333 ePn Pn 07 59 14.4 +1.9
GRF eSn Sn 07 59 56.3 -3.2
MNS Montasola 3.95 195 ePN Pn 07 59 12.1 -0.5
comp=Z,121nm,0.5s
MNS Montasola 3.95 195 ePn Pn 07 59 12.1 -0.5
comp=Z,121nm,0.5s
VYHS Vyhne 3.99 53 i PN Pn 07 59 12.7 -0.4
VYHS ePG Pg 07 59 27.7 -2.4
VYHS Vyhne 3.99 53 i Sn Sn 07 59 57.1 -3.4
STU Stuttgart 4.15 310 ePg Pg 07 59 32.1 -1.2
STU eSg Sg 08 00 25.9 -2.7
NKC Novy Kostel 4.15 346 ePN Pn 07 59 16.2 +0.8
NKC ePG Pg 07 59 30.0 -3.4
NKC Novy Kostel 4.15 346 eSg Sg 08 00 24.6 -4.2
MCGN Macugnaga 4.20 269 ePN Pn 07 59 16.9 +0.7
comp=Z,28nm,0.4s
MCGN Macugnaga 4.20 269 ePn Pn 07 59 16.9 +0.7
comp=Z,28nm,0.4s
PCP Pian Castagno 4.20 248 P Pn 07 59 17.0 +0.8
PTQR Pietraquaria 4.22 186 ePN Pn 07 59 16.6 +0.2
comp=Z,44nm,0.4s
PTQR Pietraquaria 4.22 186 ePn Pn 07 59 16.6 +0.2
comp=Z,44nm,0.4s
ORX Oropa 4.25 264 P Pn 07 59 15.5 -1.4
ORX Oropa 4.25 264 P Pn 07 59 15.4 -1.5
ORO Oropa 4.25 264 ePN Pn 07 59 15.7 -1.2
MORC Moravsky Berou 4.28 32 ePn Pn 07 59 17.9 +0.7
MORC ePg Pg 07 59 34.1 -1.8
MORC eSg Sg 08 00 27.7 -5.2
MORC Moravsky Berou 4.28 32 eP Pn 07 59 17.9 +0.7
MORC eSg Sg 08 00 26.5 -6.3
comp=Z,144nm,0.7s
MORC Moravsky Berou 4.28 32 ePg Pg 07 59 34.1 -1.8
PVCC Panska Ves 4.33 5 ePn Pn 07 59 18.8 +0.9
PVCC ePg Pg 07 59 33.4 -3.5
CERT Cerreto 4.33 190 ePN Pn 07 59 18.4 +0.4
PSZ Piszkesteto 4.36 65⇓ ePB Pb 07 59 18.5 -8.5
PSZ eSn Sn 08 00 08.2 -1.7
PSZ Piszkesteto 4.36 65 eS Sn 08 00 08.2 -1.7
BFO Black Forest 4.41 301 ePn Pn 07 59 19.4 +0.3
BFO eSn Sn 08 00 08.6 -2.6
BFO Black Forest 4.41 301 ePn Pn 07 59 19.4 +0.3
BFO eSn Sn 08 00 08.6 -2.5
DPC Dobruska-Polom 4.41 20 ePn Pn 07 59 20.2 +1.1
DPC eSg Sg 08 00 30.6 -6.8
DPC Dobruska-Polom 4.41 20 ePN Pn 07 59 20.2 +1.1
DPC eSG Sg 08 00 30.6 -6.8
comp=Z,213nm,0.9s
FELD Feldberg 4.43 294 P Pn 07 59 19.2 -0.2
UPC Upice 4.49 16 ePN Pn 07 59 20.6 +0.3
CII Carovilli 4.50 177 ePg Pg 07 59 38.0 -2.3
CII Carovilli 4.50 177 ePg Pg 07 59 38.0 -2.3
SDI San Donato 4.51 182 ePN Pn 07 59 20.8 +0.3
comp=Z,65nm,0.4s
SDI San Donato 4.51 182 ePn Pn 07 59 20.8 +0.3
comp=Z,65nm,0.4s
OKC Ostrava-Krasne 4.56 36 ePn Pn 07 59 21.5 +0.3
OKC eSn Sn 08 00 15.2 +0.3
OKC eSg Sg 08 00 35.5 -6.8
OKC Ostrava-Krasne 4.56 36 eP Pn 07 59 21.5 +0.3
OKC Sg Sg 08 00 35.5 -6.8
FIN Finale Ligure 4.57 246 ePN Pn 07 59 20.5 -0.9
comp=Z,40nm,0.4s
FIN Finale Ligure 4.57 246 P Pn 07 59 20.9 -0.5
FIN Finale Ligure 4.57 246 P Pn 07 59 20.9 -0.5
FIN Finale Ligure 4.57 246 ePn Pn 07 59 20.5 -0.9
comp=Z,40nm,0.4s
UPM Unac-Piva 4.61 129⇑ i Pn Pn 07 59 22.8 +0.8
UPM eSn Sn 08 00 15.4 -0.8
BRY Bratogost 4.63 134⇑ i Pn Pn 07 59 23.1 +0.9
BRY eSn Sn 08 00 16.7 -0.1
BBS Basel-Blauen 4.64 288 P Pn 07 59 23.2 +0.9
BRG Berggiesshubel 4.66 359 eP Pn 07 59 22.5 -0.1
BRG i 08 00 17.1
BRG Berggiesshubel 4.66 359 ePn Pn 07 59 22.5 -0.1
BRG i Pg Pg 07 59 39.8 -3.7
BRG i Sn Sn 08 00 17.1 -0.3
BRG i Sg Sg 08 00 39.4 -6.2
TREB Trebinje 4.68 137 Pn Pn 07 59 23.2 +0.3
RGNG Rignano Grg 4.68 165 ePN Pn 07 59 21.1 -1.9
MOX Moxa 4.71 341 ePn Pn 07 59 23.5 +0.1
MOX eSn Sn 08 00 13.7 -5.0
MOX Moxa 4.71 341 ePn Pn 07 59 23.5 +0.2
MOX eSn Sn 08 00 15.4 -3.3
MOX Sg Sg 08 00 41.0 -6.3
MOX Moxa 4.71 341 i P Pn 07 59 23.5 +0.2
MOX S Sn 08 00 15.0 -3.7
MOX i 08 00 41.0
DIVS Divcibare 4.73 115⇑ i Pn Pn 07 59 23.2 -0.4
DIVS Sn Sn 08 00 13.7 -5.5
ROB Roburent 4.75 248 P Pn 07 59 23.4 -0.5
PLE Pljevlja 4.79 125⇑ i Pn Pn 07 59 25.5 +1.0
PLE eSn Sn 08 00 20.5 -0.4
LSD Ceresole Reale 4.86 263 P Pn 07 59 24.9 -0.5
RSP Reno Superiore 4.86 260 P Pn 07 59 22.3 -3.1
KSP Ksiaz 4.87 17 ePn Pn 07 59 31.5 +5.9
KSP ePg Pg 07 59 46.5 -1.2
KSP eSg Sg 08 00 44.0 -8.6
KSP Ksiaz 4.87 17 ePn Pn 07 59 26.3 +0.7
KSP ePg Pg 07 59 47.0 -0.7
KSP eSn Sn 08 00 45.3 +23
KSP Ksiaz 4.87 17 ePg Pg 07 59 46.5 -1.2
KSP eSg Sg 08 00 44.0 -8.6
IMI Imperia 4.92 244 P Pn 07 59 25.1 -1.2
IMI Imperia 4.92 244 P Pn 07 59 25.1 -1.2
MONE Monesi 4.92 246 P Pn 07 59 23.9 -2.4
MONE Monesi 4.92 246 P Pn 07 59 23.9 -2.4
NKY Niksic 4.93 132⇑ i Pn Pn 07 59 27.1 +0.7
NKY eSn Sn 08 00 23.7 -0.5
BHB Bricherasio 4.94 256 P Pn 07 59 24.2 -2.4
BHB Bricherasio 4.94 256 P Pn 07 59 24.2 -2.4
KECS Kecovo 4.95 60 i P Pn 07 59 26.7 0.0
KECS Kecovo 4.95 60 ePN Pn 07 59 26.5 -0.2
HCY Herceg Novi 4.95 138⇑ i Pn Pn 07 59 26.6 -0.2
HCY eSn Sn 08 00 23.8 -1.1
MOF Molkenrain 4.98 292 P Pn 07 59 27.1 -0.1
WLS Welschbruch 5.04 298 P Pn 07 59 27.7 -0.3
LOMF Lomont 5.07 286 P Pn 07 59 28.3 -0.1
ENR Entracque 5.07 249 P Pn 07 59 25.9 -2.5
CDF Champ du Feu 5.08 298 ePn Pn 07 59 27.2 -1.4
CDF eSg Sg 08 00 54.0 -5.7
comp=Z,79nm,0.8s
ECH Echery 5.08 296 P Pn 07 59 28.4 -0.2
SAOF Saorge 5.09 246 P Pn 07 59 28.4 -0.3
STV Sta Anna Valdi 5.12 250 P Pn 07 59 26.6 -2.6
LPG La Plagne 5.13 265 ePn Pn 07 59 28.2 -1.0
LPG eSn Sn 08 00 24.7 -4.5
CLL Collm 5.14 353 ePn Pn 07 59 29.8 +0.4
CLL Collm 5.14 353 i PN Pn 07 59 29.9 +0.5
CLL i SG Sg 08 00 55.5 -6.1
LPL La Plagne 5.14 265 ePn Pn 07 59 29.2 -0.2
LPL eSn Sn 08 00 24.9 -4.6
PGF Pioggiola 5.14 226 ePn Pn 07 59 28.7 -0.7
PGF eSn Sn 08 00 22.4 -7.1
comp=Z,32nm,0.3s
HINF Hinteralfeld 5.15 291 ePn Pn 07 59 29.2 -0.4
HINF eSn Sn 08 00 26.9 -3.0
comp=Z,25nm,0.4s
PZZ Prazzo 5.17 253 P Pn 07 59 27.5 -2.3
AUTN L'Aution 5.17 247 P Pn 07 59 29.6 -0.2
RSL Roselend 5.18 267 P Pn 07 59 31.8 +1.8
SBF Sospel 5.22 246 ePn Pn 07 59 29.2 -1.4
SBF eSn Sn 08 00 25.9 -5.8
comp=Z,30nm,0.4s
RRL Cesana Torines 5.24 258 P Pn 07 59 26.8 -4.1
BUM Brajici-Budva 5.26 136⇑ i Pn Pn 07 59 31.2 +0.2
BUM eSn Sn 08 00 30.9 -1.6
TOUF Mont Tournerai 5.27 248 P Pn 07 59 31.1 -0.2
BNI Bardonecchia 5.28 260 eP Pn 07 59 30.8 -0.6
BNI pmax pmax
comp=Z,27nm,0.9s
BNI Bardonecchia 5.28 260 ePn Pn 07 59 30.8 -0.6
comp=Z,27nm,0.9s
BNI Bardonecchia 5.28 260 eP Pn 07 59 30.8 -0.6
comp=Z,14nm,0.9s
MBDF Montbardon 5.31 256 ePn Pn 07 59 29.7 -2.1
MBDF eSn Sn 08 00 28.4 -5.4
NIE Niedzica 5.31 51 eP Pn 07 59 32.5 +0.6
NIE eS Sn 08 00 33.0 -0.9
TTG Podgorica 5.34 133⇑ i Pn Pn 07 59 32.8 +0.6
TTG eSn Sn 08 00 33.6 -0.9
IVA Berane 5.37 126 ePn Pn 07 59 33.2 +0.5
IVA eSn Sn 08 00 34.5 -0.9
CDT Castel del Mon 5.39 162 ePn Pn 07 59 30.5 -2.4
CABF La Chapelle 5.50 277 ePn Pn 07 59 34.2 -0.3
CABF eSn Sn 08 00 33.7 -4.8
CABF eSg Sg 08 01 05.7 -7.9
comp=Z,37nm,0.7s
HAU Haudompre 5.53 292 ePn Pn 07 59 34.7 -0.3
HAU eSn Sn 08 00 32.3 -7.1
PVY Plav 5.60 128 ePn Pn 07 59 36.2 +0.4
PVY eSn Sn 08 00 40.1 -0.9
ULC Ulcinj 5.68 137 ePn Pn 07 59 37.0 -0.1
ULC eSn Sn 08 00 41.5 -1.6
CRVS Cervenica-Dubn 5.71 59 ePN Pn 07 59 37.8 +0.4
CRVS Cervenica-Dubn 5.71 59 i P Pn 07 59 38.0 +0.6
THEF They Montfort 5.83 293 P Pn 07 59 39.0 -0.1
ORIF Oris-en-Rattie 5.86 260 ePn Pn 07 59 40.3 +0.7
ORIF eSn Sn 08 00 41.3 -6.3
FRF La Foret Royal 5.87 246 ePn Pn 07 59 38.2 -1.5
FRF eSn Sn 08 00 40.0 -7.9
comp=Z,25nm,0.4s
PE1 Pezze di Greco 5.95 154 ePn Pn 07 59 38.3 -2.6
OG05 Jujurieux 5.95 271 P Pn 07 59 40.5 -0.4
LMR La Mourre 6.07 244 ePn Pn 07 59 40.1 -1.8
LMR eSn Sn 08 00 46.5 -6.4
comp=Z,65nm,0.5s
CLZ Clausthal 6.12 338 ePn Pn 07 59 43.3 +0.1
CLZ Clausthal 6.12 338 ePn Pn 07 59 43.3 +0.1
KOLS Kolonicke sedl 6.21 61 ePN Pn 07 59 44.3 -0.2
WLF Walferdange 6.31 306 ePn Pn 07 59 45.6 -0.3
WLF ePg Pg 08 00 13.3 -3.2
WLF Walferdange 6.31 306 ePn Pn 07 59 45.6 -0.3
SMRF Simiane la Rot 6.38 252 ePn Pn 07 59 46.8 -0.2
SMRF eSn Sn 08 00 54.0 -6.7
VIVF Saint-Julien-l 6.70 262 ePn Pn 07 59 49.8 -1.7
VIVF eSn Sn 08 01 01.5 -7.2
SKO Skopje 6.82 126 ePn Pn 08 00 09.5 +16

MEM	**Membach**	**6.91 312**	P	**Pn**	**07 59 58.0**	**+3.7**
SMF	**Signal de Mont**	**7.05 277**	*e*Pn	**Pn**	**07 59 55.8**	**-0.5**
SMF			*e*Sn	**Sn**	**08 01 09.8**	**-7.5**
	comp=Z,26nm,0.6s					
PLDF	**La Plantade**	**7.23 272**	P	**Pn**	**07 59 57.7**	**-1.2**
GIVF	**Givet**	**7.27 306**	*e*Pn	**Pn**	**07 59 57.2**	**-2.3**
GIVF			*e*Sg	**Sg**	**08 02 00.5**	**-12**
SSF	**Saint Saulge**	**7.29 280**	*e*Pn	**Pn**	**07 59 58.8**	**-0.9**
SSF			*e*Sn	**Sn**	**08 01 15.0**	**-8.3**
	comp=Z,13nm,0.5s					
TIP	**Timpagrande**	**7.32 163**	*e*Pn	**Pn**	**07 59 58.6**	**-1.5**
TIP	**Timpagrande**	**7.32 163**	*e*Pn	**Pn**	**07 59 58.6**	**-1.5**
AVF	**Avril sur Loir**	**7.38 278**	*e*Pn	**Pn**	**07 59 58.3**	**-2.7**
AVF			*e*Sn	**Sn**	**08 01 17.4**	**-8.3**
LASF	**Ste Croix**	**7.50 257**	*e*Pn	**Pn**	**07 59 59.1**	**-3.5**
LASF			*e*Sn	**Sn**	**08 01 20.5**	**-8.0**
AGO	**Saint Agoulin**	**7.57 273**	P	**Pn**	**08 00 03.0**	**-0.6**
BGF	**Bois d'Ágland**	**7.73 277**	*e*Pn	**Pn**	**08 00 04.8**	**-1.1**
BGF			*e*Sn	**Sn**	**08 01 26.6**	**-7.9**
	comp=Z,33nm,0.5s					
TCF	**Toulx Ste Croi**	**8.19 275**	*e*Pn	**P**	**08 00 10.6**	**-1.6**
TCF			*e*Sn	**Sn**	**08 01 38.1**	**-7.7**
CAF	**Calviac**	**8.49 266**	*e*Pn	**P**	**08 00 14.4**	**-2.0**
CAF			*e*Sn	**Sn**	**08 01 46.2**	**-7.0**
	comp=Z,8.0nm,0.6s					
RJF	**Les Rejaudoux**	**8.79 269**	*e*Pn	**P**	**08 00 17.9**	**-2.7**
MTLF	**Montolieu**	**8.87 255**	*e*Pn	**P**	**08 00 17.9**	**-3.9**
AKASG	**Malin Array Be**	**11.04 61**	P	**P**	**08 00 51.0**	**-0.5**
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.3s					
AKASG	**Malin Array Be**	**11.04 61**	Pn	**P**	**08 00 51.0**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=246,slow=13,SNR=3.4					
ESDC	**Sonseca Array**	**14.69 250**	Pn	**P**	**08 01 35.7**	**-4.4**
	comp=Z,0.4nm,0.3s,baz=50,slow=10.0,SNR=2.7					
OBN	**Obninsk**	**16.78 50**	P	**P**	**08 02 17.0**	**+10**
OBN			pmax	pmax		
	comp=Z,6.0nm,0.9s					
FINES	**FINESS Array B**	**16.78 20**	Pn	**P**	**08 02 11.5**	**+4.6**
	comp=Z,0.2nm,0.3s,baz=207,slow=9.3,SNR=5.7					

MOS ***14*** *08:05:16.9±0.9, 46.15N×14.00E, h11^{km}, mb3.5/1, Error ellipse: s-maj=4.9km s-min=4.3km az=2.2*
LDG ***14*** *08:05:18.2±0.1, 46.16N×14.09E, h10^{km}, Ml3.8/12, Error ellipse: s-maj=2.8km s-min=1.9km az=19.0*
LJU ***14*** *08:05:18.1, 46.19N×14.05E, h19^{km}, ML3.8*
PDG ***14*** *08:05:18.4±0.8, 46.16N×14.04E, h11^{km}±1^{km}*
ROM ***14*** *08:05:18.0±0.8, 46.27N×14.10E, h10^{km}, ML3.9, Error ellipse: s-maj=6.1km s-min=5.5km az=90.0*
ZUR_RM ***14*** *08:05:18, 46.21N×14.03E, h15^{km}, Mw3.8/21, Moment Tensor Solution. s21 Moment tensor: Scale 10^{14}Nm; M_{rr}0.66; $M_{\theta\theta}$-4.74; $M_{\phi\phi}$4.09; $M_{r\theta}$0.52; $M_{\theta\phi}$-1.78; $M_{\phi r}$-0.04; Best double couple: $M_0$4.78×10^{14} NP1:ϕ_s304°, δ88°, λ-175°. NP2:ϕ_s214°, δ85°, λ-2°. Principal axes: T 4.437, Plg2°, Azm79°; N .697, Plg85°, Azm326°; P -5.133, Plg5°, Azm169°;*
NEIC ***14*** *08:05:18.8±0.2, 46.21N×14.03E, h10^{km}, ML4.1(SZGRF), ML3.9(FUR), ML3.9(VIE), ML3.9(PDG), ML3.8(LJU), ML3.8(LDG) Error ellipse: s-maj=3.3km s-min=2.3km az=179.0*
NEIC Felt in central and western Slovenia. Also felt [V] in southern Carinthia, Austria.
CSEM ***14*** *08:05:19.9±0.1, 46.19N×13.82E, h5^{km}, ML4.0/8, Error ellipse: s-maj=3.1km s-min=2.1km az=56.0*
BGR ***14*** *08:05:20.1±0.6, 46.23N×14.05E, h10^{km}, ML4.1/7, Error ellipse: s-maj=7.8km s-min=4.4km az=172.0*
PRU ***14*** *08:05:23.0, 46.62N×14.04E*
ISC 14 08:05:17.4±0.1, 46.23N±0.01×14.06E±0.01, h10^{km}, n208, σ1§30/313, 49C-11D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADS	**Cadrg**	**0.22**	**271**	⇑*i*Pg	**Pg**	**08 05 23.6**	**+1.5**
CADS				*i* Sg	**Sg**	**08 05 27.4**	**+2.1**
	comp=Z,4μm,0.1s						
VOJS	**Vojsko**	**0.23**	**212**	⇑*i*Pg	**Pg**	**08 05 23.3**	**+1.1**
VOJS				*i* Sg	**Sg**	**08 05 26.8**	**+1.3**
DRE	**Drenchia**	**0.29**	**260**	⇑*i*Pg	**Pg**	**08 05 24.5**	**+1.0**
DRE				*i* Sg	**Sg**	**08 05 29.2**	**+1.6**
JAVS	**Javornik**	**0.33**	**179**	⇓*i*Pg	**Pg**	**08 05 24.8**	**+0.6**
JAVS				*i* Sg	**Sg**	**08 05 29.9**	**+1.1**
	comp=Z,3μm,0.1s						
JAVS	**Javornik**	**0.33**	**179**	⇓*i*Pg	**Pg**	**08 05 24.8**	**+0.6**
JAVS				*i* Sg	**Sg**	**08 05 29.9**	**+1.1**
	comp=Z,3μm,0.1s						
LJU	**Ljubljana**	**0.38**	**119**	⇑*i*Pg	**Pg**	**08 05 26.7**	**+1.7**
LJU				*i* Sg	**Sg**	**08 05 32.1**	**+1.9**
	comp=Z,10μm,0.1s						
ROBS	**Robic**	**0.38**	**273**	⇑*i*Pg	**Pg**	**08 05 26.1**	**+0.9**
ROBS				*i* Sg	**Sg**	**08 05 32.0**	**+1.6**
LSR	**Lussari**	**0.44**	**304**	⇑*e*Pg	**Pg**	**08 05 27.8**	**+1.4**
LSR				*e*Sg	**Sg**	**08 05 35.1**	**+2.6**
OBKA	**Obir**	**0.44**	**50**	⇑*i*PG	**Pg**	**08 05 28.3**	**+1.9**
OBKA				*i* SG	**Sg**	**08 05 35.3**	**+2.9**
	comp=Z,3μm,0.2s						
OBKA	**Obir**	**0.44**	**50**	*e*Pg	**Pg**	**08 05 28.3**	**+1.9**
OBKA				*e*Sg	**Sg**	**08 05 35.6**	**+3.2**
COLI	**Coloredo**	**0.48**	**259**	⇑*i*Pg	**Pg**	**08 05 27.7**	**+0.6**
COLI				*i* Sg	**Sg**	**08 05 35.5**	**+1.9**
PTCC	**Patocco-Chiusa**	**0.52**	**290**	⇑*i*PG	**Pg**	**08 05 28.6**	**+0.7**
CEY	**Cerknica**	**0.55**	**152**	⇓*i*Pg	**Pg**	**08 05 28.6**	**+0.1**
CEY				*i* Sg	**Sg**	**08 05 36.7**	**+0.7**
	comp=Z,4μm,0.1s						
TRI	**Trieste**	**0.56**	**202**	⇓*i*PG	**Pg**	**08 05 28.3**	**-0.3**
BAD	**Bernadia**	**0.56**	**271**	⇑*i*Pg	**Pg**	**08 05 29.0**	**+0.2**
BAD				*i* Sg	**Sg**	**08 05 37.9**	**+1.5**
GMNA	**Gemona**	**0.57**	**275**	⇑*i*PG	**Pg**	**08 05 30.3**	**+1.4**
BUA	**Buia**	**0.65**	**270**	⇑*i*Pg	**Pg**	**08 05 30.3**	**-0.1**
PDKS	**Podkum**	**0.68**	**104**	⇑*i*Pg	**Pg**	**08 05 32.2**	**+1.3**
PDKS				*i* Sg	**Sg**	**08 05 41.6**	**+1.5**
	comp=Z,1μm,0.2s						
VISS	**Visnje**	**0.69**	**128**	⇑*i*Pg	**Pg**	**08 05 31.9**	**+0.7**
VISS				*i* Sg	**Sg**	**08 05 40.8**	**+0.3**
	comp=Z,3μm,0.3s						
PLRO	**Paularo**	**0.71**	**298**	⇑*e*Pg	**Pg**	**08 05 32.1**	**+0.5**
PLRO				*e*Sg	**Sg**	**08 05 43.6**	**+2.5**
TLI	**Talmassons**	**0.73**	**246**	⇑*e*Pg	**Pg**	**08 05 31.7**	**-0.4**
KNDS	**Knezji Dol**	**0.73**	**162**	⇓*i*Pg	**Pg**	**08 05 31.4**	**-0.7**
KNDS				*e*Sg	**Sg**	**08 05 42.8**	**+0.8**
	comp=Z,1μm,0.1s						
MPRI	**Monte Prat**	**0.74**	**272**	⇑*e*Pg	**Pg**	**08 05 32.0**	**-0.2**
MPRI				*e*Sg	**Sg**	**08 05 44.4**	**+2.2**
ZOU	**Zoufplan**	**0.82**	**294**	⇑*i*Pg	**Pg**	**08 05 34.0**	**+0.2**
ZOU				*i* Sg	**Sg**	**08 05 46.9**	**+2.1**
PERS	**Pernice**	**0.84**	**60**	⇑*i*Pg	**Pg**	**08 05 35.0**	**+0.8**
PERS				*e*Sg	**Sg**	**08 05 46.7**	**+1.3**
	comp=Z,4μm,0.2s						
BISS	**Bistriski jare**	**0.85**	**60**	⇑*i*Pg	**Pg**	**08 05 35.2**	**+0.8**
	comp=Z,5μm,0.2s						
LEGS	**Legarje**	**0.92**	**107**	⇑*i*Pg	**Pg**	**08 05 36.4**	**+0.6**
LEGS				*e*Sg	**Sg**	**08 05 49.1**	**+1.0**
	comp=Z,2μm,0.2s						
FVI	**Forni Avoltri**	**0.96**	**293**	⇑*i*PG	**Pg**	**08 05 36.4**	**-0.2**
DOBS	**Dobrina**	**0.98**	**94**	⇑*i*Pg	**Pg**	**08 05 37.5**	**+0.4**
KBA	**Koelnbreinsper**	**0.98**	**330**	⇑*i*PG	**Pg**	**08 05 38.1**	**+1.0**
KBA				*i* SG	**Sg**	**08 05 52.8**	**+2.6**
	comp=Z,492nm,0.3s						
KBA	**Koelnbreinsper**	**0.98**	**330**	*e*Pg	**Pg**	**08 05 38.0**	**+0.9**
MLNI	**Malnisio**	**1.01**	**266**	⇑*i*Pg	**Pg**	**08 05 37.2**	**-0.4**
MLNI				*i* Sg	**Sg**	**08 05 52.8**	**+1.8**
CESS	**Cesta pri Krsk**	**1.01**	**104**	⇑*i*Pg	**Pg**	**08 05 38.1**	**+0.5**
CESS				*e*Sg	**Sg**	**08 05 52.4**	**+1.2**
	comp=Z,3μm,0.3s						
GROS	**Grobnik**	**1.03**	**76**	⇑*i*Pg	**Pg**	**08 05 38.1**	**+0.2**
	comp=Z,672nm,0.1s						
CRES	**Cresnjev**	**1.05**	**112**	⇑*i*Pg	**Pg**	**08 05 38.6**	**+0.1**
	comp=Z,1μm,0.2s						
BOJS	**Bojanci**	**1.10**	**130**	*i* Pg	**Pg**	**08 05 39.3**	**-0.2**
BOJS				*e*Sg	**Sg**	**08 05 53.4**	**-0.9**
	comp=Z,2μm,0.2s						
GOLS	**Golise**	**1.11**	**101**	⇑*i*Pg	**Pg**	**08 05 40.0**	**+0.4**
GOLS				*e*Sg	**Sg**	**08 05 56.1**	**+1.6**
	comp=Z,1μm,0.2s						
CAE	**Caneva**	**1.15**	**260**	⇑*e*Pg	**Pg**	**08 05 39.5**	**-0.8**
CAE				*e*Sg	**Sg**	**08 05 57.1**	**+1.4**
GCIS	**Gornji Cirnik**	**1.15**	**108**	⇑*i*Pg	**Pg**	**08 05 40.5**	**+0.1**
GCIS				*e*Sg	**Sg**	**08 05 55.5**	**-0.3**
	comp=Z,1μm,0.3s						
CSO	**Casso**	**1.20**	**273**	⇓*e*Pg	**Pg**	**08 05 39.7**	**-1.8**
CSO				*e*Sg	**Sg**	**08 05 59.1**	**+1.6**
IESO	**Jesolo**	**1.27**	**237**	⇑*i*Pg	**Pg**	**08 05 42.4**	**-0.3**
AFL	**Alpe Faloria**	**1.33**	**284**	⇓*i*Pg	**Pg**	**08 05 43.9**	**-0.2**
AFL				*i* Sg	**Sg**	**08 06 03.3**	**+1.4**
ARSA	**Arzberg**	**1.44**	**44**	⇑*i*PN	**Pn**	**08 05 45.8**	**+2.2**
ARSA				*i* PG	**Pg**	**08 05 47.1**	**+1.0**
ARSA				*i* SN	**Sn**	**08 06 05.7**	**+3.1**
ARSA				*i* SG	**Sg**	**08 06 07.6**	**+2.3**
	comp=Z,840nm,0.6s						
ARSA	**Arzberg**	**1.44**	**44**	*e*Pg	**Pg**	**08 05 45.8**	**-0.4**
ARSA				*e*Sg	**Sg**	**08 06 04.9**	**-0.4**
FAU	**Forcella Aurin**	**1.44**	**271**	⇑*e*Pg	**Pg**	**08 05 44.9**	**-1.3**
BGLD	**Berchtesgaden**	**1.60**	**334**	⇓*i*Pg	**Pg**	**08 05 48.6**	**-0.7**
MOA	**Molln**	**1.63**	**5**	⇑*i*PG	**Pg**	**08 05 49.6**	**-0.4**
MOA				*i* SG	**Sg**	**08 06 14.2**	**+2.5**
	comp=Z,277nm,0.6s						
MOA	**Molln**	**1.63**	**5**	*e*Pg	**Pg**	**08 05 49.3**	**-0.6**
MOA				*e*Sg	**Sg**	**08 06 12.6**	**+0.9**
CTI	**Castel Tesino**	**1.68**	**265**	*e*PN	**Pn**	**08 05 48.2**	**+1.1**
	comp=Z,770nm,0.4s						
NVLJ	**Novalja**	**1.76**	**161**	*i* Pn	**Pn**	**08 05 49.8**	**+1.6**
NVLJ				*i* Sn	**Sn**	**08 06 12.4**	**+1.6**
NVLJ				*i* Sg	**Sg**	**08 06 13.6**	**-2.4**
SCE	**Schlegeis**	**1.81**	**298**	*e*Pn	**Pn**	**08 05 51.4**	**+2.5**
WTTA	**Wattenberg**	**1.96**	**303**	⇑*i*PN	**Pn**	**08 05 53.9**	**+2.8**
WTTA				*i* SG	**Sg**	**08 06 22.9**	**+0.2**
	comp=Z,768nm,1.0s						
WTTA	**Wattenberg**	**1.96**	**303**	*e*Pn	**Pn**	**08 05 53.8**	**+2.7**
WTTA	**Wattenberg**	**1.96**	**303**	⇑*i*Pn	**Pn**	**08 05 53.9**	**+2.8**
WTTA				*e*Sg	**Sg**	**08 06 20.5**	**-2.2**
WATA	**Walderalm**	**2.03**	**304**	⇑*i*PN	**Pn**	**08 05 55.6**	**+3.5**
WATA				*i* SG	**Sg**	**08 06 25.0**	**-0.1**
	comp=Z,76nm,0.3s						
SQTA	**Sankt Quirin**	**2.20**	**298**	⇓*i*PN	**Pn**	**08 05 57.5**	**+3.0**
SQTA				*i* SG	**Sg**	**08 06 29.8**	**-0.8**
	comp=Z,229nm,0.6s						
SOP	**Sopron**	**2.25**	**49**	⇓*e*PB	**Pb**	**08 05 57.0**	**-0.7**
SOP				*e*SB	**Sb**	**08 06 25.9**	**+0.3**
MOTA	**Moosalm**	**2.32**	**300**	⇑*i*PN	**Pn**	**08 05 59.2**	**+3.0**
MOTA				*i* SG	**Sg**	**08 06 33.6**	**-1.0**
	comp=Z,184nm,0.6s						
MABI	**Malga Bissina**	**2.47**	**267**	*e*PN	**Pn**	**08 05 59.6**	**+1.3**
VKA	**Vienna**	**2.56**	**36**	⇑*i*PN	**Pn**	**08 05 57.6**	**-2.0**
VKA				*i*		08 06 10.0	
VKA				*i*		08 06 45.3	
RSM	**Repubblica di**	**2.56**	**207**	*e*PN	**Pn**	**08 06 00.6**	**+0.9**
GEC2	**GERESS Array S**	**2.63**	**355**	*e*Pn	**Pn**	**08 06 02.3**	**+1.7**
GEC2				*e*Sg	**Sg**	**08 06 43.3**	**-1.7**
GEC2	**GERESS Array S**	**2.63**	**355**	*e*Pn	**Pn**	**08 06 02.3**	**+1.6**
GEC2				*e*Sg	**Sg**	**08 06 43.3**	**-1.7**
BLY	**Banja Luka**	**2.65**	**123**	Pn	**Pn**	**08 06 06.2**	**+5.3**
FSSB	**Fossombrone**	**2.69**	**200**	*e*PN	**Pn**	**08 06 01.6**	**+0.1**
FUR	**Furstenfeldbru**	**2.71**	**317**	*e*Pg	**Pg**	**08 06 10.2**	**-1.3**
FUR				*e*Sg	**Sg**	**08 06 46.0**	**-1.7**
FUR	**Furstenfeldbru**	**2.71**	**317**	*e*Pg	**Pg**	**08 06 10.2**	**-1.3**
FUR				*e*Sg	**Sg**	**08 06 46.0**	**-1.7**
SFI	**Santa Sofia**	**2.80**	**215**	*e*PN	**Pn**	**08 06 02.7**	**-0.4**
ARV	**Arcevia**	**2.84**	**197**	*e*PN	**Pn**	**08 06 03.5**	**-0.2**
	comp=Z,161nm,0.4s						
ZST	**Bratislava**	**2.86**	**45**	*i* Pn	**Pn**	**08 06 05.5**	**+1.5**
ZST				*i* SN	**Sn**	**08 06 38.1**	**-0.7**
ZST				*e*SG	**Sg**	**08 06 51.6**	**-1.1**
ZCCA	**Zocca**	**2.87**	**230**	*e*PN	**Pn**	**08 06 05.4**	**+1.3**
PGD	**Poggio Sodo**	**2.88**	**216**	*e*PN	**Pn**	**08 06 05.1**	**+1.0**
	comp=Z,183nm,0.5s						
VMG	**Vicchio**	**2.88**	**219**	*e*PN	**Pn**	**08 06 04.9**	**+0.7**
SEI	**Scarperia**	**2.89**	**222**	*e*PN	**Pn**	**08 06 05.3**	**+0.9**
	comp=Z,707nm,0.5s						
CING	**Cingoli**	**2.92**	**192**	*e*PN	**Pn**	**08 06 04.5**	**-0.2**
FNVD	**Fontana Vidola**	**2.92**	**226**	*e*PN	**Pn**	**08 06 06.2**	**+1.4**
KHC	**Kasperske Hory**	**2.92**	**354**	*e*PN	**Pn**	**08 06 06.2**	**+1.4**
KHC				*e*PG	**Pg**	**08 06 14.3**	**-1.5**
KHC				*e*SG	**Sg**	**08 06 52.6**	**-2.2**
	comp=Z,138nm,0.5s						
RHK3	**Tenkes**	**2.94**	**95**	⇑*e*P	**Pn**	**08 06 04.4**	**-0.7**
RHK3				*e*S	**Sn**	**08 06 39.2**	**-1.6**
CRE	**Caprese Michel**	**3.00**	**211**	*e*PN	**Pn**	**08 06 06.3**	**+0.3**
	comp=Z,253nm,0.6s						
WET	**Wettzell**	**3.03**	**345**	*e*Pn	**Pn**	**08 06 07.5**	**+1.2**
WET				*e*Sn	**Sn**	**08 06 43.0**	**0.0**
WET	**Wettzell**	**3.03**	**345**	*e*Pn	**Pn**	**08 06 07.5**	**+1.2**
WET				*e*Sn	**Sn**	**08 06 43.0**	**0.0**
DAVA	**Damuels**	**3.06**	**292**	⇑*i*PN	**Pn**	**08 06 09.2**	**+2.4**
DAVA				*i* SG	**Sg**	**08 06 56.6**	**-2.7**
	comp=Z,182nm,0.6s						
SNTG	**Esanatoglia**	**3.08**	**195**	*e*PN	**Pn**	**08 06 06.7**	**-0.3**
	comp=Z,237nm,0.5s						
GSCL	**Gusciola**	**3.08**	**234**	*e*PN	**Pn**	**08 06 07.6**	**+0.5**
ERBM	**Eremo**	**3.14**	**236**	*e*PN	**Pn**	**08 06 08.6**	**+0.7**
MURB	**Monte Urbino**	**3.16**	**201**	*e*PN	**Pn**	**08 06 09.2**	**+1.0**
PKSM	**Moragy**	**3.18**	**89**	⇑*i*P	**Pn**	**08 06 07.6**	**-0.9**
PKSM				*e*S	**Sn**	**08 06 43.7**	**-3.2**
PKSG		**3.20**	**67**	*e*P	**Pn**	**08 06 08.8**	**+0.1**
BDI	**Bagni Di Lucca**	**3.27**	**230**	*e*PN	**Pn**	**08 06 09.7**	**0.0**
	comp=Z,75nm,0.4s						
VALM		**3.28**	**236**	P	**Pn**	**08 06 11.6**	**+1.7**
VALM		**3.28**	**236**	P	**Pn**	**08 06 11.6**	**+1.7**
GRAM		**3.31**	**240**	P	**Pn**	**08 06 11.2**	**+1.0**
GRAM		**3.31**	**240**	P	**Pn**	**08 06 11.2**	**+0.9**
SRO	**Srobarova**	**3.32**	**60**	*i* PN	**Pn**	**08 06 11.1**	**+0.7**
VLC	**Villacollemand**	**3.32**	**233**	*e*Pg	**Pg**	**08 06 23.1**	**-0.5**
VLC				*e*Sn	**Sn**	**08 06 49.1**	**-1.2**
VLC				*e*Sg	**Sg**	**08 07 04.5**	**-3.4**
BACM		**3.42**	**237**	P	**Pn**	**08 06 13.6**	**+1.6**
BACM		**3.42**	**237**	P	**Pn**	**08 06 13.6**	**+1.7**
MAIM		**3.42**	**229**	P	**Pn**	**08 06 14.0**	**+2.0**
MAIM		**3.42**	**229**	P	**Pn**	**08 06 14.0**	**+2.1**
NRCA	**Norcia**	**3.46**	**192**	*e*PN	**Pn**	**08 06 11.4**	**-1.0**
VINC	**Vinca**	**3.46**	**234**	P	**Pn**	**08 06 13.8**	**+1.4**
CODM		**3.49**	**240**	P	**Pn**	**08 06 14.0**	**+1.1**
CODM		**3.49**	**240**	P	**Pn**	**08 06 14.0**	**+1.1**
PII	**Pisa**	**3.54**	**226**	*e*PN	**Pn**	**08 06 12.8**	**-0.8**
	comp=Z,142nm,0.3s						
BOB	**Bobbio (Coli)**	**3.55**	**247**	*e*PN	**Pn**	**08 06 15.2**	**+1.4**
TERO	**Teramo**	**3.62**	**185**	*e*PN	**Pn**	**08 06 14.0**	**-0.7**
VAI	**Varese**	**3.70**	**266**	*e*PN	**Pn**	**08 06 16.2**	**+0.3**
ROTZ	**Rotzenmuhle**	**3.75**	**341**	⇑*i*Pn	**Pn**	**08 06 17.2**	**+0.6**
KOLL	**Kolacno**	**3.77**	**50**	*i* PN	**Pn**	**08 06 16.9**	**0.0**
KOLL				*i* SN	**Sn**	**08 06 58.9**	**-3.0**
PRU	**Pruhonice**	**3.78**	**5**	*e*SG	**Sg**	**08 07 18.5**	**-4.7**
	comp=Z,96nm,0.4s						
AQU	**L'Aquila**	**3.90**	**187**	*e*Pg	**Pg**	**08 06 32.4**	**-2.8**
AQU				*e*Sg	**Sg**	**08 07 23.7**	**-3.5**
GRA1	**Grafenberg Arr**	**3.96**	**332**	*e*Pn	**Pn**	**08 06 22.4**	**+2.9**
GRA1	**Grafenberg Arr**	**3.96**	**332**	Pn	**Pn**	**08 06 22.4**	**+2.9**
GRF	**Grafenberg Arr**	**3.96**	**332**	*e*Pn	**Pn**	**08 06 22.4**	**+2.9**
VYHS	**Vyhne**	**3.96**	**53**	*i* PN	**Pn**	**08 06 19.4**	**-0.2**
VYHS				*i* SN	**Sn**	**08 07 04.4**	**-2.2**
MNS	**Montasola**	**3.97**	**195**	*e*PN	**Pn**	**08 06 19.6**	**0.0**
	comp=Z,80nm,0.6s						
NKC	**Novy Kostel**	**4.15**	**346**	*e*Pn	**Pn**	**08 06 22.8**	**+0.5**
NKC				*e*Pg	**Pg**	**08 06 36.9**	**-3.4**
NKC				*e*Sg	Sg	08 07 00.0	-36
NKC				*e*Sg	**Sg**	**08 07 31.8**	**-3.8**
NKC	**Novy Kostel**	**4.15**	**346**	*e*PN	**Pn**	**08 06 22.8**	**+0.5**
NKC				*e*PG	**Pg**	**08 06 36.9**	**-3.4**
NKC				*e*SG	**Sg**	**08 07 31.8**	**-3.8**
STU	**Stuttgart**	**4.17**	**309**	*e*Pg	**Pg**	**08 06 37.2**	**-3.3**
STU				*e*Sg	**Sg**	**08 07 30.3**	**-5.7**
PCP	**Pian Castagno**	**4.23**	**249**	P	**Pn**	**08 06 24.8**	**+1.4**
MORC	**Moravsky Berou**	**4.25**	**32**	*e*Pn	**Pn**	**08 06 24.5**	**+0.7**
MORC				*e*Sg	**Sg**	**08 07 34.2**	**-4.8**
ORX	**Oropa**	**4.28**	**264**	P	**Pn**	**08 06 22.7**	**-1.4**
ORO	**Oropa**	**4.28**	**264**	*e*PN	**Pn**	**08 06 22.5**	**-1.6**
PVCC	**Panska Ves**	**4.32**	**4**	*e*SG	**Sg**	**08 07 34.6**	**-6.6**
PSZ	**Piszkesteto**	**4.33**	**65**	⇓*e*Pn	**Pn**	**08 06 25.1**	**+0.2**
PSZ				*e*Sn	**Sn**	**08 07 14.2**	**-1.9**
DPC	**Dobruska-Polom**	**4.39**	**19**	*e*SG	**Sg**	**08 07 34.4**	**-9.3**
	comp=Z,121nm,0.6s						
BFO	**Black Forest**	**4.43**	**300**	*e*Pn	**Pn**	**08 06 26.4**	**+0.1**
BFO				*e*Sn	**Sn**	**08 07 15.4**	**-3.1**
BFO	**Black Forest**	**4.43**	**300**	*e*Pn	**Pn**	**08 06 26.4**	**+0.2**
BFO				*e*Sn	**Sn**	**08 07 15.4**	**-3.1**
FELD	**Feldberg**	**4.45**	**294**	P	**Pn**	**08 06 26.6**	**0.0**
UPM	**Unac-Piva**	**4.59**	**129**	⇑*i*Pn	**Pn**	**08 06 29.0**	**+0.4**
UPM				*e*Sn	**Sn**	**08 07 22.0**	**-0.6**
FIN	**Finale Ligure**	**4.60**	**246**	*e*PN	**Pn**	**08 06 27.7**	**-0.9**
	comp=Z,36nm,0.5s						
FIN	**Finale Ligure**	**4.60**	**246**	P	**Pn**	**08 06 27.6**	**-1.0**
FIN	**Finale Ligure**	**4.60**	**246**	P	**Pn**	**08 06 27.6**	**-1.0**
BRY	**Bratogost**	**4.62**	**134**	*e*Pn	**Pn**	**08 06 29.2**	**+0.3**
BRY				*e*Sn	**Sn**	**08 07 22.6**	**-0.7**
BRG	**Berggiesshubel**	**4.65**	**359**	*i* Pg	**Pg**	**08 06 45.9**	**-4.3**
BRG				*i* Sn	**Sn**	**08 07 34.3**	**+10**
BRG				*i* Sg	**Sg**	**08 07 46.3**	**-5.9**
TREB	**Trebinje**	**4.66**	**137**	Sn	**Sn**	**08 07 25.6**	**+1.2**
TREB	**Trebinje**	**4.66**	**137**	Pn	**Pn**	**08 06 30.2**	**+0.7**
RGNG	**Rignano Grg**	**4.68**	**166**	*e*PN	**Pn**	**08 06 28.6**	**-1.2**
MOX	**Moxa**	**4.71**	**341**	*e*Pn	**Pn**	**08 06 29.9**	**-0.3**
MOX				*e*Sn	**Sn**	**08 07 23.9**	**-1.7**
MOX	**Moxa**	**4.71**	**341**	*e*Pn	**Pn**	**08 06 30.3**	**+0.1**
MOX				*e*Sn	**Sn**	**08 07 23.9**	**-1.7**
MOX	**Moxa**	**4.71**	**341**	*i* P	**Pn**	**08 06 30.3**	**+0.1**
MOX				S	**Sn**	**08 07 23.0**	**-2.6**
ROB	**Roburent**	**4.78**	**248**	P	**Pn**	**08 06 29.2**	**-1.9**
PLE	**Pljevlja**	**4.78**	**125**	*e*Pn	**Pn**	**08 06 31.6**	**+0.4**
PLE				*e*Sn	**Sn**	**08 07 26.6**	**-0.7**
KSP	**Ksiaz**	**4.85**	**17**	*e*P	**Pn**	**08 06 39.8**	**+7.6**
KSP				*e*		08 07 32.5	
KSP	**Ksiaz**	**4.85**	**17**	*e*Pn	**Pn**	**08 06 39.8**	**+7.6**
KSP				*e*Pg	**Pg**	**08 06 53.8**	**-0.5**
KSP				*e*Sn	**Sn**	**08 07 32.5**	**+3.3**
KSP				*e*Sg	**Sg**	**08 07 50.7**	**-8.2**
LSD	**Ceresole Reale**	**4.88**	**263**	P	**Pn**	**08 06 31.5**	**-1.2**
RSP	**Reno Superiore**	**4.88**	**260**	P	**Pn**	**08 06 26.8**	**-5.9**
NKY	**Niksic**	**4.91**	**132**	*e*Pn	**Pn**	**08 06 32.9**	**-0.1**
NKY				*e*Sn	**Sn**	**08 07 29.2**	**-1.5**
KECS	**Kecovo**	**4.92**	**60**	*i* PN	**Pn**	**08 06 33.4**	**+0.2**
HCY	**Herceg Novi**	**4.94**	**138**	⇑*i*Pn	**Pn**	**08 06 33.6**	**+0.1**
HCY				*e*Sn	**Sn**	**08 07 30.3**	**-1.1**
IMI	**Imperia**	**4.94**	**244**	*e*PN	**Pn**	**08 06 31.9**	**-1.6**
	comp=Z,26nm,0.4s						
IMI	**Imperia**	**4.94**	**244**	P	**Pn**	**08 06 30.9**	**-2.6**
MONE	**Monesi**	**4.95**	**247**	P	**Pn**	**08 06 30.9**	**-2.7**
BHB	**Bricherasio**	**4.97

comp=N,600nm,0.4s
PET smax
comp=E,14μm,0.6s
PET smax
comp=N,15μm,0.3s
PET smax
comp=N,14μm,0.3s
PET Petropavlovsk 1.32 2 *e*Pn **P 08 09 05.5 -0.9**
PET *e* 08 09 18.5
PET Petropavlovsk 1.32 2 *i* P **P 08 09 05.8 -0.6**
PET *i* S **S 08 09 22.3 -1.2**
APC Apacha 1.49 325 *i* P **P 08 09 09.0 +0.2**
APC *e*S **S 08 09 27.0 -0.5**
APC Smax
comp=N,2μm,0.7s
UGLR Uglovaya 1.51 6 *i* P **P 08 09 08.9 -0.1**
UGLR *e*S **S 08 09 28.0 +0.1**
NLC Nalytchevo 1.54 18 P **P 08 09 07.6 -1.8**
NLC S **S 08 09 24.9 -3.7**
NLC Nalytchevo 1.54 18 *i* P **P 08 09 07.6 -1.8**
NLC *e*S **S 08 09 27.2 -1.4**
AVH Avacha 1.56 4 *i* P **P 08 09 09.9 +0.2**
AVH *e*S **S 08 09 28.9 -0.2**
SMAR Somma 1.56 5 *e*P **P 08 09 09.3 -0.4**
SMAR *e*S **S 08 09 29.1 0.0**
SDLR Sedlovina 1.58 7 *i* P **P 08 09 09.3 -0.7**
SDLR *e*S **S 08 09 28.6 -1.0**
KOK Koryaka 1.58 2 *i* P **P 08 09 10.5 +0.5**
KOK *i* S **S 08 09 30.0 +0.4**
SPN Mys Shipunski 1.65 32 P **P 08 09 10.7 -0.2**
SPN S **S 08 09 30.1 -1.1**
SPN Mys Shipunski 1.65 32 *e*P **P 08 09 10.7 -0.2**
SPN *e*S **S 08 09 30.2 -1.0**
SKR Severo-Kuril's 1.85 237 *e*PN **P 08 09 10.2 -3.4**
SKR *i* S **S 08 09 32.0 -3.9**
SKR pmax pmax
comp=Z,200nm,0.5s
SKR pmax pmax
comp=N,50nm,0.2s
SKR pmax pmax
comp=E,110nm,0.5s
SKR smax
comp=N,5μm,0.5s
SKR smax
comp=E,4μm,0.5s
SKR smax
comp=N,8μm,1.0s
GNL Ganaly 2.02 349 *i* P **P 08 09 16.2 +0.2**
GNL *e*S **S 08 09 40.2 +0.2**
ALID Alaid 2.07 247 *e*P **P 08 09 17.4 +0.7**
ALID *e*S **S 08 09 42.7 +1.4**
TUMR Tumrok 3.70 14 *e*P **P 08 09 40.5 +1.0**
TUMR *e*S **S 08 10 22.1 -0.1**
KMNR Kamenistaya 4.17 13 *i* P **P 08 09 47.3 +1.2**
KMNR *e*S **S 08 10 35.1 +1.1**
ESO Esso 4.22 1 *i* P **P 08 09 48.4 +1.6**
ESO *e*S **S 08 10 34.8 -0.5**
ESO Smax
comp=N,160nm,1.0s
KPT Kopyto 4.38 12 *e*P **P 08 09 49.7 +0.8**
KPT *e*S **S 08 10 40.6 +1.5**
KOZ Kozyrevsk 4.42 10 *e*P **P 08 09 50.3 +0.7**
KOZ *e*S **S 08 10 41.8 +1.5**
KOZR Kozyr 4.43 10 PN **P 08 09 50.3 +0.6**
ZLN Zelenaya 4.51 16 P **P 08 09 51.3 +0.5**
LGNR Loginova 4.56 15 *e*P **P 08 09 52.3 +0.8**
LGNR *e*S **S 08 10 44.0 +0.4**
SRDR Sredinnyy 4.67 8 *e*P **P 08 09 53.3 +0.3**
SRDR *e*S **S 08 10 46.2 -0.1**
KRSR Krestovskiy 4.67 14 *e*P **P 08 09 54.0 +1.0**
KRSR *e*S **S 08 10 47.6 +1.2**
KLY Klyuchi 4.77 14 *e*P **P 08 09 55.0 +0.5**
KLY *e*S **S 08 10 48.6 -0.4**
SVLR Shiveluch 5.12 17 *e*P **P 08 10 00.9 +1.7**
SVLR *e*S **S 08 10 58.2 +0.6**
KBTR Krutoberegovo 5.16 27 *e*P **P 08 09 59.3 -0.5**
KBTR *e*S **S 08 10 54.6 -4.0**
KBG Krutoberegovo 5.17 27 *e*P **P 08 09 59.5 -0.4**
KBG *e*S **S 08 10 54.5 -4.3**
KBG Smax
comp=N,6μm,0.9s
MA2 Magadan 9.03 334 *e*PN **P 08 10 51.4 -1.7**
MA2 pmax pmax
comp=Z,3.0nm,0.7s
MA2 pmax pmax
comp=N,1.0nm,0.4s
MA2 MLR MLR
comp=Z,240nm,18.0s
MA2 Magadan 9.03 334 *e*Pn **P 08 10 51.3 -1.8**
FX1 Attu Island--F 9.03 77 P **P 08 10 51.2 -1.9**
KAMR Kamenskoye 11.54 18 *e*P **P 08 11 28.2 +1.2**
ASAJ Asahikawa 13.11 241 PN **P 08 11 49.5 +1.5**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,71nm,21.4s
ASAJ Asahikawa 13.11 241 P **P 08 11 49.5 +1.5**
comp=Z,0.7nm,0.3s,baz=39,slow=13,SNR=8.2
ASAJ LR LR 08 16 30.9
comp=Z,71nm,21.4s,baz=211,slow=36
BILL Bilibino 16.81 10 *c*e**P 08 12 36.0 +1.0**
BILL pmax pmax
comp=Z,28nm,2.5s
BILL Bilibino 16.81 10 *e*P **P 08 12 35.6 +0.5**
comp=Z,7.0nm,0.7s
KLR Kul'dur 17.22 272 *e*P **P 08 12 39.8 -0.5**
YAK Yakutsk 18.70 315 *i* P **P 08 12 57.2 -1.0**
YAK pmax pmax
comp=Z,20nm,0.7s
CLNS Chul'man 20.18 298 *e*P 08 13 27.1
CLNS pmax pmax
comp=N,8.0nm,0.7s
CLNS pmax pmax
comp=Z,14nm,0.7s
CLNS pmax pmax
comp=E,8.0nm,0.8s
MAJO Matsushiro 20.95 232 *e*P **P 08 13 22.8 +0.4**
MAJO pmax pmax
comp=Z,21nm,0.9s
MAJO Matsushiro 20.95 232 *e*P **P 08 13 22.8 +0.4**
comp=Z,21nm,0.9s
MAT Matsushiro 20.95 232 *e*P **P 08 13 22.0 -0.4**
MAT pmax pmax
comp=Z,17nm,0.9s
MAT Matsushiro 20.95 232 *e*P **P 08 13 22.0 -0.4**
comp=Z,17nm,0.9s
MAT Matsushiro 20.95 232 P **P 08 13 21.8 -0.6**
MAT *e*S **S 08 17 16.2 +9.4**
TIXI Tiksi 23.97 337 *e*P **P 08 13 50.2 -1.3**
TIXI pmax pmax
comp=Z,12nm,0.7s,mb4.3
TIXI MLR MLR
comp=Z,70nm,16.0s
HIA Hailar 24.63 280 *e*P **P 08 13 58.4 +0.3**
HIA pmax pmax
comp=Z,5.0nm,0.5s
HIA Hailar 24.63 280 *e*P **P 08 13 58.4 +0.3**
comp=Z,4.7nm,0.5s,mb4.2
BOD Bodaibo 26.03 301 *e*P **P 08 14 10.4 -0.9**
BOD *e* pP 08 14 24.0 -3.6
IMA Indian Mountai 27.70 41 *e*P **P 08 14 26.0 -0.5**
IMA pmax pmax
comp=Z,30nm,1.0s,mb4.8
IMA Indian Mountai 27.70 41 *e*P **P 08 14 26.0 -0.5**
comp=Z,30nm,1.0s,mb4.8
ILAR Eielson Array 30.46 44 P **P 08 14 49.9 -1.2**
comp=Z,3.8nm,0.7s,mb4.2,baz=264,slow=6.7,SNR=57
SONM Songino Array 33.32 284 PcP PcP 08 17 55.9 -1.0
comp=Z,0.2nm,0.5s,baz=90,slow=2.5,SNR=3.9
TLY Talaya 33.36 292 *i* P **P 08 15 15.7 -0.8**
TLY pmax pmax
comp=Z,1.0nm,0.7s,mb3.8
DAWY Dawson 33.76 44 *e*P **P 08 15 19.3 -0.5**
SSE Sheshan 34.26 248 P **P 08 15 20.3 -4.2**
SSE AMB AMB
comp=Z,22nm,0.6s,mb5.2
SSE AMB AMB
comp=Z,101nm,4.0s
NJ2 Nanjing 34.93 251 *e*P **P 08 15 30.3 +0.1**
NJ2 PP PP 08 16 50.6 +0.7
NJ2 S **S 08 20 55.0 -0.7**
NJ2 AMB AMB
comp=Z,210nm,6.4s
NJ2 LR LR
comp=N,440nm,12.0s
NJ2 LR LR
comp=E,260nm,11.3s
NJ2 LR LR
comp=Z,2μm,13.1s
INK Inuvik 35.54 36 *e*P **P 08 15 34.8 -0.2**
INK pmax pmax
comp=Z,6.0nm,0.8s
INK Inuvik 35.54 36 P **P 08 15 35.0 0.0**
comp=Z,5.1nm,0.7s,mb4.6,baz=296,slow=7.1,SNR=12
INK pP pP 08 15 52.4 +0.2
comp=Z,4.2nm,0.7s,baz=307,slow=13,SNR=4.8
INK Inuvik 35.54 36 *e*P **P 08 15 34.8 -0.2**
comp=Z,6.4nm,0.8s,mb4.6
YKA Yellowknife Ar 44.82 41 P **P 08 16 51.5 +0.1**
comp=Z,1.9nm,0.7s,mb4.0,baz=298,slow=7.9,SNR=31
YKA pP pP 08 17 07.6 -1.3
comp=Z,0.9nm,0.6s,baz=300,slow=7.4,SNR=6.6
RES Resolute Bay 44.96 21 *e*P **P 08 16 52.4 0.0**
RES pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
RES Resolute Bay 44.96 21 *e*P **P 08 16 52.4 0.0**
comp=Z,3.3nm,0.9s,mb4.1
WMQ Urumqi 46.55 290 *e*P **P 08 17 07.1 +1.7**
WMQ AP pP 08 17 22.6 -0.3
WMQ PP PP 08 18 56.9 +1.5
WMQ S **S 08 23 50.1 +2.2**
WMQ AMB AMB
comp=Z,2.0nm,1.4s,mb3.6
WMQ AMB AMB
comp=Z,12nm,5.4s
WMQ LR LR
comp=N,214nm,20.3s
WMQ LR LR
comp=E,113nm,21.4s
WMQ LR LR
comp=Z,276nm,21.7s
EDM Edmonton 50.35 51 *e*P **P 08 17 34.6 -0.2**
BVAR Borovoye Array 50.52 309 P **P 08 17 35.2 -0.9**
comp=Z,0.4nm,0.3s,mb3.9,baz=56,slow=8.5,SNR=4.7
WVOR Wild Horse Val 54.27 65 *e*P **P 08 18 05.1 +1.0**
WVOR pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
WVOR Wild Horse Val 54.27 65 *e*P **P 08 18 05.1 +1.0**
comp=Z,2.2nm,0.8s,mb4.2
WVOR *e* 08 18 14.7
FCC Fort Churchill 55.15 37 *e*P **P 08 18 09.2 -1.1**
FCC pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
FCC Fort Churchill 55.15 37 *e*P **P 08 18 09.2 -1.1**
comp=Z,3.4nm,0.8s,mb4.4
SUMG Summit 55.44 6 *e*P **P 08 18 11.7 -0.6**
comp=Z,4.1nm,0.6s,mb4.6
BOZ Bozeman (W) 55.98 58 *e*P **P 08 18 16.5 0.0**
BOZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
BOZ Bozeman (W) 55.98 58 *e*P **P 08 18 16.4 -0.1**
comp=Z,1.7nm,0.7s,mb4.2
CMAR Chiang Mai Arr 56.98 258 P **P 08 18 23.9 0.0**
comp=Z,2.9nm,0.8s,mb4.4,baz=28,slow=7.7,SNR=11
NVAR Mina Array Bea 57.11 68 P **P 08 18 25.9 +1.3**
comp=Z,0.8nm,0.6s,mb3.9,baz=294,slow=7.5,SNR=8.8
BW06 Boulder Array 59.03 59 *e*P **P 08 18 38.2 +0.3**
comp=Z,2.7nm,1.0s,mb4.2
FINES FINESS Array B 61.01 336 *i* P **P 08 18 50.0 -1.3**
FINES pmax pmax
comp=Z,2.0nm,1.0s
FINES FINESS Array B 61.01 336 P **P 08 18 48.9 -2.3**
comp=Z,2.4nm,1.0s,mb4.2,baz=63,slow=8.5,SNR=7.0
FINES FINESS Array B 61.01 336 P **P 08 18 48.9 -2.3**
NB2 NORSAR Subarra 64.60 343 P **P 08 19 13.0 -1.9**
comp=Z,1.0nm,0.6s,mb3.8,baz=22,slow=7.0
NB2 NORSAR Subarra 64.60 343 P **P 08 19 13.0 -1.9**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
NOA NORSAR Array B 64.60 343 P **P 08 19 13.1 -1.8**
comp=Z,1.5nm,0.8s,mb3.9,baz=20,slow=6.8,SNR=4.2
ANMO Albuquerque 66.29 63 P **P 08 19 26.9 +0.8**
ANMO pmax pmax
comp=Z,1.0nm,0.6s
ANMO Albuquerque 66.29 63 P **P 08 19 26.9 +0.8**
comp=Z,0.6nm,0.6s,mb3.6
SCHQ Schefferville 67.31 27 P **P 08 19 31.5 -0.7**
comp=Z,2.4nm,0.7s,mb4.1,baz=325,slow=6.7,SNR=3.4
WMOK Wichita Mounta 70.62 58 *e*P **P 08 19 52.9 0.0**
WMOK pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
WMOK Wichita Mounta 70.62 58 *e*P **P 08 19 52.9 0.0**
comp=Z,1.7nm,0.6s,mb4.0
TXAR Lajitas Array 72.05 65 P **P 08 20 02.5 +1.0**
comp=Z,3.5nm,1.0s,mb4.2,baz=295,slow=4.4,SNR=24
TXAR pP pP 08 20 19.0 -1.4
comp=Z,1.2nm,0.6s,baz=298,slow=4.9,SNR=5.8
CLL Collm 73.30 338 P **P 08 20 08.0 -0.4**
WRA Warramunga Arr 74.43 204 P **P 08 20 16.2 +0.6**
comp=Z,1.2nm,0.7s,mb3.7,baz=18,slow=6.1,SNR=6.2
WRA pP pP 08 20 33.2 -1.4
comp=Z,1.3nm,0.7s,baz=17,slow=6.1,SNR=5.3
GERES GERESS Array B 75.43 337 P **P 08 20 19.9 -0.8**
comp=Z,0.6nm,0.5s,mb3.6,baz=41,slow=5.9,SNR=5.9
GERES pP pP 08 20 37.0 -2.7
comp=Z,0.3nm,0.3s,baz=45,slow=5.7,SNR=1.9
MALT Malatya 76.26 316 P **P 08 20 25.7 0.0**
MALT pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
MALT Malatya 76.26 316 P **P 08 20 25.7 +0.1**
comp=Z,0.9nm,0.5s,mb3.8
CDF Champ du Feu 77.28 341 *e*P **P 08 20 30.5 -0.7**
comp=Z,9.4nm,0.8s,mb4.3
CDF Champ du Feu 77.28 341 *e*P **P 08 20 30.5 -0.7**
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
MEZF Maizieres J'vi 77.63 342 *e*P **P 08 20 32.6 -0.5**
HAU Haudompre 77.86 341 *e*P **P 08 20 33.8 -0.5**
ASAR Alice Springs 78.11 203 P **P 08 20 37.8 +1.6**
comp=Z,0.8nm,0.9s,mb3.5,baz=15,slow=5.3,SNR=12
ASAR pP pP 08 20 54.5 -0.8
comp=Z,1.8nm,0.6s,baz=13,slow=5.3,SNR=11
GRR Gorron 78.74 346 *e*P **P 08 20 38.7 -0.5**
comp=Z,14nm,0.7s,mb4.6
GRR Gorron 78.74 346 *e*P **P 08 20 38.7 -0.5**
GRR pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
SGMF Saint Gilles 79.11 347 *e*P **P 08 20 41.2 0.0**
comp=Z,24nm,0.8s,mb4.8
SGMF Saint Gilles 79.11 347 *e*P **P 08 20 41.2 0.0**
SGMF pmax pmax
comp=Z,12nm,0.8s,mb4.8
ROSF Rostrenen 79.13 348 *e*P **P 08 20 41.0 -0.3**
CABF La Chapelle 79.24 341 *e*P **P 08 20 41.9 -0.1**
SSF Saint Saulge 79.30 343 *e*P **P 08 20 41.6 -0.7**
SSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
SSF Saint Saulge 79.30 343 *e*P **P 08 20 41.6 -0.7**
comp=Z,8.2nm,0.8s,mb4.6
QUIF Quistinic 79.53 348 *e*P **P 08 20 43.2 -0.3**
AVF Avril sur Loir 79.59 343 *e*P **P 08 20 43.5 -0.4**
comp=Z,22nm,0.8s,mb4.8
AVF Avril sur Loir 79.59 343 *e*P **P 08 20 43.5 -0.4**
AVF pmax pmax
comp=Z,11nm,0.8s,mb4.7
SMF Signal de Mont 79.64 343 *e*P **P 08 20 44.1 0.0**
BGF Bois d'Agland 79.91 343 *e*P **P 08 20 45.4 -0.2**
comp=Z,13nm,0.6s,mb4.7
BGF Bois d'Agland 79.91 343 *e*P **P 08 20 45.4 -0.2**
BGF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
LPL La Plagne 80.15 340 *e*P **P 08 20 47.4 +0.5**
comp=Z,12nm,0.7s,mb4.6
LPL La Plagne 80.15 340 *e*P **P 08 20 47.4 +0.5**
LPL pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
LPG La Plagne 80.17 340 *e*P **P 08 20 47.6 +0.6**
comp=Z,11nm,0.7s,mb4.5
LPG La Plagne 80.17 340 *e*P **P 08 20 47.6 +0.6**
LPG pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
TCF Toulx Ste Croi 80.28 344 *e*P **P 08 20 47.4 -0.2**
comp=Z,18nm,0.8s,mb4.7
TCF Toulx Ste Croi 80.28 344 *e*P **P 08 20 47.4 -0.2**
TCF pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
MBDF Montbardon 80.90 340 *e*P **P 08 20 51.0 +0.1**
comp=Z,8.0nm,0.9s,mb4.2
MBDF Montbardon 80.90 340 *e*P **P 08 20 51.0 +0.1**
MBDF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
ORIF Oris-en-Rattie 80.90 341 *e*P **P 08 20 51.0 +0.1**
comp=Z,10nm,0.8s,mb4.4
ORIF Oris-en-Rattie 80.90 341 *e*P **P 08 20 51.0 +0.1**
ORIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
VIVF Saint-Julien-l 81.20 342 *e*P **P 08 20 52.7 +0.2**
comp=Z,18nm,0.9s,mb4.6
VIVF Saint-Julien-l 81.20 342 *e*P **P 08 20 52.7 +0.2**
VIVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
RJF Les Rejaudoux 81.36 344 *e*P **P 08 20 53.6 +0.3**
SBF Sospel 81.58 339 *e*P **P 08 20 54.4 0.0**
CAF Calviac 81.63 343 *e*P **P 08 20 55.2 +0.5**
comp=Z,9.9nm,0.7s,mb4.5
CAF Calviac 81.63 343 *e*P **P 08 20 55.2 +0.5**
CAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LFF La Frestale 81.84 344 *e*P **P 08 20 56.2 +0.4**
LASF Ste Croix 82.11 342 *e*P **P 08 20 57.3 +0.1**
LMR La Mourre 82.29 340 *e*P **P 08 20 57.5 -0.6**
MTLF Montolieu 83.13 343 *e*P **P 08 21 02.5 +0.1**
EPF Esparros 83.77 344 *e*P **P 08 21 05.6 +0.1**
ESDC Sonseca Array 87.72 347 P **P 08 21 25.1 +0.1**
comp=Z,0.2nm,0.3s,mb3.6,baz=4.3,slow=4.7,SNR=4.7

NEIC ***14*** *08:12:55.9, 39.07S×175.06E, h227km, After WEL.*
WEL 14 08:12:57.8±0.4, 39.01S×175.22E, h211km±3km, ML3.7/10, 4C, Error ellipse: s-maj=4.2km s-min=2.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.18**	**111**	P	P	08 13 25.0	-0.6
TWVZ	**Taurewa**	**0.18**	**111**	PN	P	08 13 24.9	-0.7
MGZ	**Maungaku**	**0.25**	**89**	P	P	08 13 25.4	-0.4
MGZ	**Maungaku**	**0.25**	**89**	PN	P	08 13 25.2	-0.6
WTVZ	**West Tongariro**	**0.31**	**111**	P	P	08 13 25.6	-0.3
WTVZ	**West Tongariro**	**0.31**	**111**	PN	P	08 13 25.5	-0.4
CNZ	**Chateau**	**0.32**	**127**	P	P	08 13 25.7	-0.2
CNZ	**Chateau**	**0.32**	**127**	PN	P	08 13 25.6	-0.3
WPVZ	**Whakapapa**	**0.32**	**128**	P	P	08 13 25.7	-0.2
WPVZ	**Whakapapa**	**0.32**	**128**	PN	P	08 13 25.6	-0.3
NGZ	**Ngauruhoe**	**0.34**	**120**	P	P	08 13 25.8	-0.2
NGZ	**Ngauruhoe**	**0.34**	**120**	⇑PN	P	08 13 25.8	-0.2
FWVZ	**Far West T-bar**	**0.36**	**134**	P	P	08 13 25.9	-0.1
FWVZ	**Far West T-bar**	**0.36**	**134**	PN	P	08 13 25.9	-0.2
DRZ	**Dome Shelter**	**0.38**	**135**	P	P	08 13 26.4	+0.3
DRZ	**Dome Shelter**	**0.38**	**135**	PN	P	08 13 25.9	-0.2
OTVZ	**Oturere**	**0.38**	**115**	PN	P	08 13 25.5	-0.6
TUVZ	**Tukino**	**0.43**	**128**	P	P	08 13 26.2	0.0
TUVZ	**Tukino**	**0.43**	**128**	PN	P	08 13 26.2	-0.1
WNVZ	**Wahianoa**	**0.44**	**138**	P	P	08 13 24.8	-1.5
MOVZ	**Moawhango**	**0.58**	**134**	P	P	08 13 26.3	-0.4
MOVZ	**Moawhango**	**0.58**	**134**	⇑PN	P	08 13 26.3	-0.5
MOVZ				SN	S	08 13 48.2	-0.9
WAZ	**Wanganui**	**0.77**	**193**	P	P	08 13 27.2	-0.4
WAZ	**Wanganui**	**0.77**	**193**	PN	P	08 13 27.2	-0.4
BKZ	**Black Stump Fm**	**1.00**	**100**	P	P	08 13 28.7	-0.1
BKZ	**Black Stump Fm**	**1.00**	**100**	PN	P	08 13 28.7	-0.2
BKZ				SN	S	08 13 52.2	-0.8
TSZ	**Takapari Road**	**1.20**	**152**	P	P	08 13 30.4	+0.1
TSZ	**Takapari Road**	**1.20**	**152**	⇑PN	P	08 13 30.4	0.0
URZ	**Urewera**	**1.66**	**64**	*e*P	P	08 13 31.2	-3.0
URZ	**Urewera**	**1.66**	**64**	PN	P	08 13 32.2	-2.0
URZ				SN	S	08 13 59.4	-2.9
MRZ	**Mangatainoka R**	**1.68**	**171**	P	P	08 13 33.5	-0.9
MRZ				S	S	08 14 01.5	-1.1
MRZ	**Mangatainoka R**	**1.68**	**171**	PN	P	08 13 33.5	-1.0
MRZ				SN	S	08 14 01.4	-1.3
BFZ	**Birch Farm**	**1.85**	**155**	*e*P	P	08 13 35.4	-0.6
BFZ	**Birch Farm**	**1.85**	**155**	PN	P	08 13 35.4	-0.6
KIW	**Kapiti Island**	**1.87**	**187**	PN	P	08 13 34.7	-1.5
KNZ	**Kokohu**	**1.91**	**91**	P	P	08 13 36.4	-0.2
KNZ	**Kokohu**	**1.91**	**91**	PN	P	08 13 36.4	-0.2
MWZ	**Matawai**	**1.93**	**70**	P	P	08 13 35.8	-1.0
MWZ	**Matawai**	**1.93**	**70**	PN	P	08 13 35.6	-1.2
CAW	**Cannon Point**	**2.10**	**183**	P	P	08 13 37.0	-1.5
CAW	**Cannon Point**	**2.10**	**183**	PN	P	08 13 37.0	-1.5
MTW	**Mount Morrison**	**2.16**	**174**	P	P	08 13 36.9	-2.3
MRW	**Makara Radio**	**2.26**	**190**	P	P	08 13 38.2	-2.0
MRW	**Makara Radio**	**2.26**	**190**	PN	P	08 13 38.1	-2.0
MRW				SN	S	08 14 10.0	-2.9
WEL	**Wellington**	**2.30**	**188**	P	P	08 13 38.8	-1.9
WEL	**Wellington**	**2.30**	**188**	PN	P	08 13 38.7	-1.9
PAWZ	**Paruwai Farm**	**2.38**	**176**	PN	P	08 13 39.7	-1.8
MSWZ	**Moikau Station**	**2.41**	**179**	P	P	08 13 39.9	-1.9
MSWZ	**Moikau Station**	**2.41**	**179**	PN	P	08 13 39.8	-2.0
BHW	**Baring Head**	**2.42**	**186**	P	P	08 13 39.6	-2.3
BHW				S	S	08 14 12.6	-3.4
BHW	**Baring Head**	**2.42**	**186**	PN	P	08 13 39.8	-2.1
BHW				SN	S	08 14 12.8	-3.2
PUZ	**Puketiti**	**2.56**	**70**	PN	P	08 13 41.9	-1.6
TUWZ	**Tuamarina**	**2.61**	**202**	PN	P	08 13 41.6	-2.5
NNZ	**Nelson**	**2.62**	**212**	P	P	08 13 40.8	-3.4
NNZ				S	S	08 14 15.5	-4.5
NNZ	**Nelson**	**2.62**	**212**	⇑PN	P	08 13 40.8	-3.3
NNZ				SN	S	08 14 15.4	-4.6
QRZ	**Quartz Range**	**2.75**	**228**	P	P	08 13 41.2	-4.4
QRZ	**Quartz Range**	**2.75**	**228**	PN	P	08 13 41.1	-4.5
QRZ				SN	S	08 14 16.6	-6.1
MXZ	**Matakaoa Point**	**2.83**	**60**	*e*P	P	08 13 44.6	-1.8
MXZ	**Matakaoa Point**	**2.83**	**60**	PN	P	08 13 44.5	-1.9
BSWZ	**Blackbirch Sta**	**2.89**	**200**	P	P	08 13 44.9	-2.3
BSWZ	**Blackbirch Sta**	**2.89**	**200**	PN	P	08 13 44.7	-2.5
THZ	**Tophouse**	**3.27**	**212**	P	P	08 13 47.8	-3.9
THZ				S	S	08 14 28.7	-4.7
THZ	**Tophouse**	**3.27**	**212**	PN	P	08 13 47.6	-4.1
THZ				SN	S	08 14 28.4	-5.1
DSZ	**Denniston Nort**	**3.78**	**223**	*e*P	P	08 13 52.6	-5.3
DSZ	**Denniston Nort**	**3.78**	**223**	PN	P	08 13 52.5	-5.4
LTZ	**Lake Taylor**	**4.38**	**210**	*e*P	P	08 14 00.9	-4.5
LTZ	**Lake Taylor**	**4.38**	**210**	PN	P	08 14 00.9	-4.5
LTZ				SN	S	08 14 50.2	-7.6
MQZ	**McQueen's Vall**	**5.08**	**202**	*e*P	P	08 14 08.6	-5.5
MQZ	**McQueen's Vall**	**5.08**	**202**	*e*PN	P	08 14 08.1	-6.0
MQZ				SN	S	08 15 04.8	-8.5

BJI ***14*** *08:33:13.7, 3.93S×153.47E, h22km, mB6.2, mb5.4, Ms6.0, Msz5.8*
IDC ***14*** *08:33:13.8±1.3, 4.26S×152.68E, h5km±6km, mb5.2/24, mb1 5.2/26, mb1mx5.2/27, mbtmp5.2/26, ML4.2/2, MS5.7/19, Ms1 5.7/19, ms1mx5.6/21, Error ellipse: s-maj=12.2km s-min=8.1km az=86.0, Putative timing error at PDAR*
HRVD ***14*** *08:33:14.5±0.1, 4.18S×152.70E, h25km, MW6.1/75, Centroid moment Tensor Solution. LP body waves: s73,c170; Mantle waves: s75,c292; Half duration: 2s7 Moment tensor: Scale 10^18 Nm; Mrr 0.25±.01; Mθθ 1.31±.01; Mφφ -1.56±.01; Mrθ -0.56±.03; Mrφ 0.57±.01; Mθφ 0.11±.03; Best double couple: M0 1.659×10^18 NP1: φ=212°, δ70°, λ169°. NP2: φ=306°, δ80°, λ20°. Principal axes: T 1.623, Plg21°, Azm171°; N .074, Plg68°, Azm332°; P -1.694, Plg7°, Azm78°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***14*** *08:33:14.5±0.1, 4.24S×152.72E, h10km, mb5.5/47, MS6.0/121, MW6.1 Error ellipse: s-maj=6.5km s-min=4.3km az=109.0, Moment Tensor Solution. s31 Moment tensor: Scale 10^18 Nm; Mrr 0.27; Mθθ 1.19; Mφφ -1.46; Mrθ -0.43; Mrφ 1.04; Mθφ -0.29; Best double couple: M0 1.8×10^18 NP1: φ=297°, δ74°, λ11°. NP2: φ=204°, δ79°, λ164°. Principal axes: T 1.73, Plg19°, Azm160°; N .11, Plg70°, Azm352°; P -1.83, Plg4°, Azm251°;*
MOS ***14*** *08:33:17.5±1.3, 4.22S×152.59E, h33km, mb5.6/35, MS5.8/43 Error ellipse: s-maj=8.9km s-min=5.9km az=86.3*
CSEM ***14*** *08:33:19.8, 3.59S×153.02E, h33km, mb5.6*
ISC 14 08:33:15.0±0.1, 4.21S±0.02×152.68E±0.03, h22km, h22km±1.6km: pP-P, n531, σ1§08/302, mb5.5/94, MS5.9/148, 6C-11D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.53**	**226**	**Pn**	**Pn**	**08 35 06.7**	**+0.3**
	11nm,0.3s,baz=48,slow=7.8,SNR=29						
PMG				Sn	**Sn**	**08 36 31.7**	**-0.2**
	17nm,0.3s,baz=145,slow=11,SNR=1.9						
PMG				LR	LR	08 37 29.8	

comp=Z,59μm,19.9s,baz=45,slow=34
PMG Port Moresby 7.53 226 Pn **Pn** **08 35 06.7 +0.3**
PMG Sn **Sn** **08 36 31.7 -0.2**
PMG LR LR 08 37 29.8
CTA Charters Tower 16.98 201 *e*P **P** **08 37 15.2 +2.2**
139nm,1.1s
CTA Charters Tower 16.98 201 Pn **P** **08 37 11.9 -1.1**
1.0nm,0.3s,baz=24,slow=13,SNR=18
CTA Sn **S** **08 40 22.6 +2.8**
0.5nm,0.3s,baz=299,slow=12,SNR=1.3
CTA LR LR 08 42 50.7
comp=Z,11μm,18.9s,baz=23,slow=34
CTA ScS ScS 08 49 15.3 +5.2
0.1nm,0.3s,baz=218,slow=10,SNR=2.3
CTA Charters Tower 16.98 201 Pn **P** **08 37 11.9 -1.1**
CTA Sn **S** **08 40 22.6 +2.8**
CTA LR LR 08 42 50.7
CTA ScS ScS 08 49 15.3 +5.2
CTAO Charters Tower 16.98 201 *e*P **P** **08 37 11.2 -1.8**
CTAO pmax pmax
comp=Z,225nm,1.3s
CTAO Charters Tower 16.98 201 *e*P **P** **08 37 11.2 -1.8**
comp=Z,225nm,1.3s
GUMO Guam 19.31 336 *e*P **P** **08 37 41.6 0.0**
GUMO pmax pmax
comp=Z,963nm,1.3s
GUMO Guam 19.31 336 *e*P **P** **08 37 41.6 -0.1**
comp=Z,963nm,1.3s
KAKA Kakadu 21.71 246 *e*P **P** **08 38 05.5 -1.3**
comp=Z,248nm,0.6s,mb5.8
NOUC Port Laguerre 22.15 145 *e*P **P** **08 38 11.1 0.0**
DZM Mont Dzumac 22.21 144⇑ *e*P **P** **08 38 11.3 -0.4**
WRAB Tennant Creek 23.74 227 *e*P **P** **08 38 25.9 -0.9**
WRAB *e* 08 42 43.2
WRAB pmax pmax
comp=Z,276nm,0.6s,mb5.9
WRAB MLR MLR
comp=Z,6μm,19.0s,MS5.1
WRAB Tennant Creek 23.74 227 *e*P **P** **08 38 25.9 -0.9**
comp=Z,276nm,0.6s,mb5.9
WRAB *e* 08 42 43.2
WRAB LR LR
comp=Z,6μm,19.0s,MS5.1
WB2 Warramunga Arr 23.74 227 *e*P **P** **08 38 26.4 -0.4**
WB2 *e* 08 38 34.7
WRA Warramunga Arr 23.75 227 P **P** **08 38 26.7 -0.2**
WRA S **S** **08 42 40.4 +2.8**
WRA 08 49 36.0
WRA Warramunga Arr 23.75 227 P **P** **08 38 26.7 -0.2**
comp=Z,68nm,1.1s,mb5.0,baz=58,slow=11,SNR=217
WRA S **S** **08 42 40.4 +2.8**
comp=Z,22nm,0.9s,baz=49,slow=18,SNR=4.6
WRA ScP 08 45 49.5
comp=Z,7.0nm,0.8s,baz=52,slow=3.2,SNR=5.8
WRA ScS ScS 08 49 36.0 +2.8
comp=Z,3.1nm,1.3s,baz=45,slow=3.9,SNR=2.7
ARMA Armidale 26.09 182 *e*P **P** **08 38 50.0 +0.9**
ASAR Alice Springs 26.51 221 P **P** **08 38 51.8 -1.3**
comp=Z,41nm,0.9s,mb5.0,baz=56,slow=8.0,SNR=98
ASAR S **S** **08 43 28.6 +4.7**
comp=Z,3.3nm,0.6s,baz=98,slow=36,SNR=2.6
ASAR ScP 08 45 57.0
comp=Z,8.2nm,0.8s,baz=49,slow=2.9,SNR=7.3
ASAR LR LR 08 49 06.5
comp=Z,9μm,18.5s,MS5.4,baz=46,slow=36
ASAR ScS ScS 08 49 48.2 +3.8
comp=Z,0.8nm,0.8s,baz=108,slow=41,SNR=2.3
ASPA Alice Springs 26.51 221 *e*P **P** **08 38 51.6 -1.5**
ASPA *e* 08 39 04.5
WAKE Wake Island 27.09 30 PFAKE 08 39 10.0 +12
WAKE LR LR
comp=Z,123μm,22.0s,MS6.4
MATI Mati 28.61 293 *e*P **P** **08 39 11.1 -1.2**
DAV Davao City (W) 29.28 292 *e*P **P** **08 39 26.0 +7.7**
STKA Stephens Creek 29.42 199 *e*P **P** **08 39 17.4 -2.0**
comp=Z,49nm,0.7s,mb5.3
STKA Stephens Creek 29.42 199 P **P** **08 39 17.4 -2.0**
comp=Z,49nm,0.7s,mb5.3,baz=15,slow=9.3,SNR=45
STKA S **S** **08 44 12.2 +1.4**
comp=Z,6.2nm,1.0s,baz=258,slow=23,SNR=2.1
STKA ScP 08 46 06.6
comp=Z,18nm,0.9s,baz=24,slow=2.0,SNR=5.8
STKA LR LR 08 51 00.8
comp=Z,11μm,18.2s,MS5.5,baz=17,slow=36
RIV Riverview 29.50 183 *e*P **P** **08 39 21.3 +1.2**
FITZ Fitzroy Crossi 29.84 240 *e*P **P** **08 39 21.6 -1.7**
comp=Z,155nm,0.8s,mb5.8
FITZ *e* 08 39 30.4
BUTP Butuan 29.99 296 *e*P **P** **08 39 25.6 +1.0**
BUKP Musuan 30.06 294 *e*P **P** **08 39 24.1 -1.2**
CNB Canberra Magne 31.10 185 *e*P **P** **08 39 35.4 +1.2**
comp=Z,1μm,1.5s
MSLP Maasin 31.16 297 *e*P **P** **08 39 35.0 +0.1**
BESP Borongan 31.33 300 *e*P **P** **08 39 34.5 -1.8**
PAGZ Pagadian 31.59 292 *e*P **P** **08 39 41.7 +3.0**
OCLP Ormoc 31.79 299 *e*P **P** **08 39 36.7 -3.7**
SNPH Sibulan 32.29 295 *e*P **P** **08 39 47.5 +2.7**
IPIL Ipil 32.32 292 *e*P **P** **08 39 55.0 +10**
CBIJ Chichi jima 32.74 343 P **P** **08 39 46.9 -1.7**
comp=Z,88nm,0.8s,mb5.7,baz=222,slow=19,SNR=4.0
CBIJ LR LR 08 51 27.4
comp=Z,8μm,21.4s,MS5.4,baz=0.7,slow=33
ADE Adelaide 33.23 201 P **P** **08 39 53.8 +1.0**
PVCP Virac 33.39 302 *e*P **P** **08 39 56.6 +2.2**
GUIM Jordan 33.39 296 *e*P **P** **08 39 54.5 +0.1**
OTRP Odiongan 34.64 299 *e*P **P** **08 40 06.5 +1.3**
CUYO Cuyo Island 34.89 296 *e*P **P** **08 40 11.7 +4.3**
FORT Forrest 35.17 219 *e*P **P** **08 40 07.5 -2.1**
comp=Z,491nm,0.6s
BOAC Boac 35.29 300 *e*P **P** **08 40 12.3 +1.6**
SJMP San Jose 35.47 298 *e*P **P** **08 40 12.6 +0.3**
POLP Polilio Island 35.81 302 *e*P **P** **08 40 12.5 -2.6**
BUSP Coron 36.09 297 *e*P **P** **08 40 18.6 +1.1**
MBWA Marble Bar 36.16 239 *e*P **P** **08 40 15.5 -2.5**
comp=Z,88nm,0.8s,mb5.7
MBWA LR LR
comp=Z,11μm,21.0s,MS5.6
AFI Afiamalu 36.34 108 PFAKE 08 40 30.0 +10
AFI LR LR
comp=Z,11μm,20.0s,MS5.6
TGY Tagaytay City 36.37 301 P **P** **08 40 18.8 -1.0**
comp=Z,175nm,0.3s,mb6.5,baz=112,slow=11,SNR=5.8
TGY S **S** **08 46 02.9 +3.8**
comp=Z,135nm,0.3s,baz=197,slow=21,SNR=1.5
TGY LR LR 08 53 03.4
comp=Z,19μm,21.7s,MS5.8,baz=120,slow=33
ENPP El Nido 36.47 295 *e*P **P** **08 40 29.9 +9.2**
PPR Puerto Princes 36.57 292⇑ *i*P **P** **08 40 20.1 -1.5**
BALP Baler 36.62 303 *e*P **P** **08 40 21.9 -0.1**
LUBP Lubang 36.80 300 *e*P **P** **08 40 23.6 +0.1**
CAUP Cauayan 37.03 305 *e*P **P** **08 40 20.5 -4.9**
BATP Bataraza 37.10 290 *e*P **P** **08 40 31.4 +5.4**
WCZ Waipu Caves 37.36 150 P **P** **08 40 28.6 +0.6**
WCZ PcP PcP 08 42 47.2 -0.1
CVP Callao Caves 37.44 306⇑ *e*P **P** **08 40 30.0 +1.2**
APYP Conner 37.99 306 *e*P **P** **08 40 34.4 +1.0**
ABRA Dolores 38.30 305 *e*P **P** **08 40 37.5 +1.5**
TAU Tasmania Unive 38.83 186 *e*P **P** **08 40 38.9 -1.3**
TAU pmax pmax
comp=Z,303nm,1.5s,mb5.8
TAU MLR MLR
comp=Z,5μm,21.0s,MS5.3
TAU Tasmania Unive 38.83 186 *e*P **P** **08 40 38.9 -1.4**
comp=Z,302nm,1.5s,mb5.8
TAU LR LR
comp=Z,5μm,21.0s,MS5.3
JOW Kunigami 38.85 324 P **P** **08 40 40.1 -0.5**
comp=Z,181nm,0.9s,mb5.8,baz=152,slow=8.9,SNR=11
JOW LR LR 08 54 03.4
comp=Z,6μm,20.4s,MS5.4,baz=43,slow=32
JHJ Hachijo jima 2 39.09 343 S **S** **08 46 43.0 +2.6**
comp=Z,121nm,1.1s,baz=81,slow=20,SNR=1.9
JHJ LR LR 08 55 49.8
comp=Z,6μm,18.0s,MS5.5,baz=2.4,slow=35
MGZ Maungaku 40.37 152 P **P** **08 40 54.7 +1.6**
CNZ Chateau 40.54 152 P **P** **08 40 55.7 +1.3**
NGZ Ngauruhoe 40.54 152 P **P** **08 40 55.3 +0.8**
URZ Urewera 40.55 150 P **P** **08 40 53.9 -0.6**
comp=Z,80nm,0.6s,mb5.5,baz=338,slow=1.4,SNR=62
URZ LR LR 08 55 42.4
comp=Z,15μm,19.5s,MS5.8,baz=344,slow=33
QRZ Quartz Range 40.59 157 P **P** **08 40 56.6 +1.8**
MWZ Matawai 40.82 150 P **P** **08 40 57.2 +0.5**
BKZ Black Stump Fm 40.95 151 P **P** **08 40 58.1 +0.3**
PUZ Puketiti 40.99 149 P **P** **08 40 57.6 -0.5**

DSZ Denniston Nort 41.10 158 P **P** **08 41 00.2 +1.2**
NNZ Nelson 41.26 156 P **P** **08 41 00.2 -0.1**
KNZ Kokohu 41.42 150 P **P** **08 41 01.6 0.0**
TSZ Takapari Road 41.42 153 P **P** **08 41 01.7 +0.1**
THZ Tophouse 41.53 157 P **P** **08 41 02.3 -0.3**
WVZ Waitaha Valley 41.89 160 P **P** **08 41 05.6 +0.1**
TATO Taipei 41.96 315 *e*P **P** **08 41 06.4 +0.1**
TATO LR LR
comp=Z,20μm,20.0s,MS6.0
FOZ Fox Glacier 41.98 161 P **P** **08 41 06.1 -0.1**
BFZ Birch Farm 42.05 153 P **P** **08 41 06.1 -0.7**
JCZ Jackson Bay 42.16 163 P **P** **08 41 09.7 +2.0**
LTZ Lake Taylor 42.17 158 P **P** **08 41 08.2 +0.4**
MSZ Milford Sound 42.47 164 *e*P **P** **08 41 12.0 +1.8**
RPZ Rata Peaks 42.56 160 P **P** **08 41 10.8 -0.2**
comp=Z,239nm,0.6s,mb6.1,baz=316,slow=2.4,SNR=104
RPZ S **S** **08 47 33.3 +1.3**
comp=Z,28nm,1.3s,baz=28,slow=14,SNR=2.7
RPZ Rata Peaks 42.56 160 P **P** **08 41 10.7 -0.3**
MAJO Matsushiro 42.74 343 *e*P **P** **08 41 12.0 -0.6**
MAJO pmax pmax
comp=Z,118nm,1.4s,mb5.4
MAJO MLR MLR
comp=Z,9μm,19.0s,MS5.7
MAJO Matsushiro 42.74 343 *e*P **P** **08 41 12.0 -0.6**
comp=Z,118nm,1.4s,mb5.4
MAJO LR LR
comp=Z,9μm,19.0s,MS5.7
MAT Matsushiro 42.74 343 *e*P **P** **08 41 11.0 -1.6**
MAT *e*S **S** **08 47 37.0 +2.2**
MAT pmax pmax
comp=Z,38nm,1.3s,mb5.0
MAT MLR MLR
comp=Z,9μm,20.0s,MS5.7
MAT Matsushiro 42.74 343 *e*P **P** **08 41 11.0 -1.6**
comp=Z,38nm,1.3s,mb5.0
MAT *e*S **S** **08 47 37.0 +2.2**
MAT LR LR
comp=Z,9μm,20.0s,MS5.7
MAT Matsushiro 42.74 343 P **P** **08 41 10.9 -1.7**
MAT S **S** **08 47 37.0 +2.2**
LBZ Lake Benmore 42.88 162 P **P** **08 41 12.9 -0.7**
LBZ PcP PcP 08 43 05.2 +0.3
WKZ Wanaka 42.92 163 P **P** **08 41 14.6 +0.7**
MIDW Midway 43.25 40 PFAKE 08 41 30.0 +13
MIDW LR LR
comp=Z,12μm,21.0s,MS5.8
ODZ Otahua Downs 43.61 162 P **P** **08 41 20.1 +0.6**
NWAO Narrogin (SRO) 43.72 225 *e*P **P** **08 41 19.8 -0.7**
NWAO pmax pmax
comp=Z,17nm,0.7s
NWAO MLR MLR
comp=Z,14μm,20.0s
NWAO Narrogin (SRO) 43.72 225 P **P** **08 41 19.6 -0.9**
comp=Z,14nm,0.6s,baz=73,slow=12,SNR=6.8
NWAO PP PP 08 43 00.5 -3.7
comp=Z,20nm,0.6s,baz=45,slow=12,SNR=2.7
NWAO LR LR 08 58 50.4
comp=Z,113nm,19.1s,baz=55,slow=35
NWAO Narrogin (SRO) 43.72 225 *e*P **P** **08 41 19.8 -0.8**
comp=Z,17nm,0.7s,mb4.9
NWAO LR LR
comp=Z,14μm,20.0s,MS5.9
MUN Mundaring 43.95 227 *e*P **P** **08 41 20.8 -1.6**
comp=Z,57nm,0.8s,mb5.3
MUN Mundaring 43.95 227 *e*P **P** **08 41 20.8 -1.6**
MUN pmax pmax
comp=Z,57nm,0.8s,mb5.3
QZH Quanzhou 44.01 313⇑ *i*P **P** **08 41 24.6 +1.6**
QZH S **S** **08 48 00.5 +7.1**
QZH AMB AMB
comp=Z,370nm,0.9s,mb6.1
QZH AMB AMB
comp=Z,5μm,7.2s
QZH LR LR
comp=E,23μm,20.4s
QZH LR LR
comp=Z,21μm,28.9s
HKC Hong Kong 45.96 307 P sP 08 41 50.0 +2.1
HKC S **S** **08 48 28.0 +6.6**
SSE Sheshan 46.21 322 P **P** **08 41 39.8 -0.7**
SSE PP PP 08 43 28.3 -0.8
SSE S **S** **08 48 26.8 +1.9**
SSE AMB AMB
comp=Z,47nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,323nm,7.1s
SSE LR LR
comp=N,5μm,22.3s,MS5.6
SSE LR LR
comp=E,5μm,22.3s,MS5.6
SSE LR LR
comp=Z,7μm,25.6s,MS5.5
INCN Inchon 48.04 332 *e*P **P** **08 41 55.1 +0.2**
comp=Z,352nm,1.1s,mb6.3
INCN LR LR
comp=Z,5μm,21.0s,MS5.5
QIZ Qiongzhong 48.07 300 *e*P **P** **08 41 57.8 +2.5**
QIZ AP pP 08 42 02.0 0.0
QIZ S **S** **08 48 52.4 +0.9**
QIZ SS SS 08 52 18.8 +3.4
QIZ AMB AMB
comp=Z,1μm,10.1s
QIZ LR LR
comp=E,10μm,22.3s
QIZ Qiongzhong 48.07 300 PFAKE 08 42 10.0 +15
QIZ LR LR
comp=Z,12μm,20.0s,MS5.9
NJ2 Nanjing 48.32 321 *e*P **P** **08 41 58.3 +1.2**
NJ2 AP pP 08 42 02.9 -0.8
NJ2 XP sP 08 42 05.8 -0.5
NJ2 PP PP 08 43 50.5 +1.3
NJ2 S **S** **08 48 57.0 +2.2**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,1μm,5.6s
NJ2 LR LR
comp=N,17μm,23.3s,MS6.1
NJ2 LR LR
comp=E,16μm,23.9s,MS6.1
NJ2 LR LR
comp=Z,23μm,26.5s,MS6.0
YUK Yuzh-Kuril'sk 48.42 353 *e*P **P** **08 42 04.0 +6.4**
YUK *e*SP tx 08 42 23.0
YUK *e* 08 43 23.0
YUK *e* 08 43 49.0
YUK *e*S **S** **08 49 08.0 +12**
YUK pmax pmax
comp=E,2μm,6.0s
YUK pmax pmax
comp=Z,6μm,6.0s
YUK pmax pmax
comp=N,5μm,5.0s
YUK smax
comp=N,8μm,14.0s
YUK smax
comp=E,5μm,12.0s
ASAJ Asahikawa 48.96 350 P **P** **08 42 01.9 +0.1**
comp=E,112nm,0.9s,mb5.9,baz=235,slow=18,SNR=9.5
ASAJ S **S** **08 49 06.5 +3.0**
comp=E,9.6nm,1.1s,baz=197,slow=29,SNR=2.1
RAR Rarotonga 49.12 114 P **P** **08 42 02.8 -0.6**
comp=E,47nm,0.8s,mb5.6,baz=248,slow=7.0,SNR=12
RAR LR LR 08 58 02.1
comp=E,4μm,20.3s,MS5.4,baz=279,slow=30
WHN Wuhan 50.35 316 *e*P **P** **08 42 14.0 +1.3**
WHN S **S** **08 49 30.0 +6.9**
WHN LR LR
comp=N,1μm,15.3s,MS5.9
WHN LR LR
comp=E,9μm,15.6s,MS5.9
WHN LR LR
comp=Z,23μm,22.0s
VLA Vladivostok 50.73 340⇓ *i*P **P** **08 42 16.0 +0.6**
VLA *i* 08 43 26.0
VLA *i* 08 44 20.0
VLA *i*S **S** **08 49 31.0 +2.9**
VLA *i*PS PS 08 49 40.0 +0.7
VLA pmax pmax
comp=Z,5μm,6.0s
VLA pmax pmax
comp=E,1μm,5.0s
VLA pmax pmax
comp=N,2μm,7.0s

VLA pmax pmax
comp=Z,1μm,6.0s
VLA pmax pmax
comp=N,1μm,7.0s
VLA pmax pmax
comp=E,600nm,8.0s
VLA smax
comp=N,2μm,7.0s
VLA smax
comp=E,2μm,7.0s
VLA smax
comp=Z,1μm,8.0s
VLA MLR MLR
comp=Z,4μm,15.0s,MS5.5
VLA MLR MLR
comp=N,4μm,14.0s
YSS Yuzh-Sakhalins 51.70 351 κ*e*P **P** **08 42 26.0 +3.3**
YSS *e* 08 42 44.3
YSS *e*S **S** **08 49 49.0 +7.6**
YSS *e*PS PS 08 50 06.0 +12
YSS *e*SSS SSS 08 54 56.0 +0.6
YSS pmax pmax
comp=N,120nm,1.4s
YSS pmax pmax
comp=E,90nm,1.4s
YSS pmax pmax
comp=Z,220nm,1.4s,mb5.9
YSS pmax pmax
comp=Z,3μm,6.0s
YSS pmax pmax
comp=N,2μm,5.0s
YSS smax
comp=N,3μm,16.0s
YSS smax
comp=E,1μm,10.0s
YSS MLR MLR
comp=N,4μm,16.0s,MS5.6
YSS MLR MLR
comp=E,2μm,16.0s,MS5.6
YSS MLR MLR
comp=Z,4μm,16.0s,MS5.5
YSS Yuzh-Sakhalins 51.70 351 P **P** **08 42 22.5 -0.1**
comp=Z,193nm,1.4s,mb5.8
YSS LR LR
comp=Z,7μm,22.0s,MS5.6
TIA Tai'an 52.17 323 ⇓P **P** **08 42 25.4 -1.1**
TIA PP PP 08 44 28.0 +2.3
TIA S **S** **08 49 49.0 +0.8**
TIA AMB AMB
comp=Z,240nm,1.3s,mb6.0
TIA AMB AMB
comp=Z,3μm,6.0s
TIA LR LR
comp=N,5μm,18.0s,MS5.7
TIA LR LR
comp=E,5μm,22.0s,MS5.7
MDJ Mudanjiang 52.83 339 P **P** **08 42 30.9 -0.4**
MDJ AP pP 08 42 37.4 -0.5
MDJ XP sP 08 42 39.6 -0.9
MDJ PP PP 08 44 35.9 +3.8
MDJ PPP PPP 08 45 42.1 +4.6
MDJ S **S** **08 49 56.8 -0.2**
MDJ SS SS 08 53 36.4 +1.4
MDJ AMB AMB
comp=Z,24nm,1.4s,mb4.9
MDJ AMB AMB
comp=Z,2μm,8.5s
MDJ LR LR
comp=N,4μm,32.1s,MS5.3
MDJ LR LR
comp=E,2μm,32.1s,MS5.3
MDJ LR LR
comp=Z,4μm,27.1s,MS5.4
MDJ Mudanjiang 52.83 339 *e*P **P** **08 42 30.2 -1.0**
comp=Z,374nm,1.9s,mb6.0
MDJ LR LR
comp=Z,4μm,20.0s,MS5.5
SNY Shenyang 52.93 333 ⇑P **P** **08 42 31.5 -0.5**
SNY AP pP 08 42 41.4 +2.7
SNY S **S** **08 49 59.4 +1.1**
SNY AMB AMB
comp=Z,3μm,6.5s
SNY LR LR
comp=N,4μm,17.7s,MS5.8
SNY LR LR
comp=E,6μm,18.4s,MS5.8
SNY LR LR
comp=Z,8μm,17.8s,MS5.8
KKTK Khon Kaen 53.35 294 P **P** **08 42 43.0 +7.6**
comp=Z,432nm,0.7s,mb6.5
ENH Enshi 53.67 313 *e*P **P** **08 42 37.4 -0.2**
comp=Z,55nm,1.1s,mb5.4
ENH LR LR
comp=Z,8μm,20.0s,MS5.8
KIP Kipapa 54.59 60 PFAKE 08 43 00.0 +16
KIP LR LR
comp=Z,7μm,19.0s,MS5.8
BJT Baijiatuau 55.33 326 *e*P **P** **08 42 48.8 -0.9**
BJT pmax pmax
comp=Z,144nm,1.4s
BJT MLR MLR
comp=Z,8μm,22.0s
BJT Baijiatuau 55.33 326 *e*P **P** **08 42 48.8 -0.8**
comp=Z,144nm,1.4s,mb5.8
BJT LR LR
comp=Z,8μm,22.0s,MS5.7
NST Nakhon Sawan 55.63 292 P **P** **08 42 52.0 -0.1**
comp=Z,58nm,0.8s,mb5.7
XAN Xi'an 56.12 316 P **P** **08 42 55.5 +0.1**
XAN AP pP 08 43 03.5 +1.4
XAN S **S** **08 50 39.6 -1.7**
XAN AMB AMB
comp=Z,33nm,1.1s,mb5.3
XAN AMB AMB
comp=Z,2μm,8.2s
XAN LR LR
comp=N,3μm,24.1s,MS5.8
XAN LR LR
comp=E,8μm,20.2s,MS5.8
XAN LR LR
comp=Z,14μm,20.8s,MS6.0
KLR Kul'dur 56.25 344 *e*P **P** **08 42 52.2 -3.9**
KLR *e*PPP PPP 08 46 27.5 +7.8
KLR *e*S **S** **08 50 34.0 -8.9**
KLR pmax pmax
comp=N,120nm,1.8s
KLR pmax pmax
comp=E,92nm,1.8s
KLR pmax pmax
comp=Z,260nm,1.8s,mb6.0
KLR pmax pmax
comp=N,2μm,8.0s
KLR pmax pmax
comp=Z,4μm,8.0s
KLR MLR MLR
comp=N,2μm,15.0s,MS5.5
KLR MLR MLR
comp=E,2μm,15.0s,MS5.5
KLR MLR MLR
comp=Z,3μm,15.0s,MS5.5
CHRT Chiangrai 57.21 297 P **P** **08 43 04.5 +1.1**
comp=Z,179nm,0.9s,mb6.1
PET Petropavlovsk 57.24 4 *e*P **P** **08 43 04.2 +1.0**
PET *e*S **S** **08 51 02.6 +6.7**
PET *e*SSS SSS 08 57 04.8 +3.4
PET pmax pmax
comp=Z,50nm,0.8s,mb5.6
PET pmax pmax
comp=N,44nm,0.7s
PET pmax pmax
comp=Z,700nm,12.9s
PET pmax pmax
comp=N,600nm,9.4s
PET pmax pmax
comp=Z,1μm,6.6s
PET smax
comp=N,6μm,22.8s
PET MLR MLR
comp=Z,4μm,17.1s,MS5.6
PET Petropavlovsk 57.24 4 *e*P **P** **08 43 03.0 -0.2**
comp=Z,188nm,1.4s,mb5.9
PET LR LR
comp=Z,5μm,20.0s,MS5.7
CMAR Chiang Mai Arr 57.52 295 P **P** **08 43 05.9 +0.3**
comp=Z,6.4nm,0.9s,mb4.7,baz=117,slow=5.1,SNR=18
CMAR S **S** **08 50 58.6 -1.4**
comp=Z,0.6nm,0.3s,baz=96,slow=40,SNR=3.1

CMAR LR LR 09 03 43.5
comp=Z,4µm,21.3s,MS5.5,baz=100,slow=32
CMAR PKPPKP 09 12 40.9
comp=Z,0.8nm,0.4s,baz=270,slow=4.8,SNR=4.1
CMAR PKP2bc 09 12 58.5
comp=Z,8.3nm,1.2s,baz=284,slow=3.9,SNR=7.2
CMAR Chiang Mai Arr 57.52 295 P **P** **08 43 05.9 +0.3**
CMAR S **S** **08 50 58.6 -1.4**
CMAR LR LR 09 03 43.5
CMAR P'P' 09 12 40.9
CMAR ⇑*e* 09 12 58.5
CHG Chiang Mai 57.63 295 ⇓P **P** **08 43 08.4 +2.1**
comp=Z,46nm,1.0s,mb5.5
PPT Papeete 58.01 108 *e*PP PP 08 45 11.8 -7.5
PPT *e*SS SS 08 54 54.5 -4.9
PPT *e*LQ 08 57 47.3
PPT *e*LR LR 09 00 12.9
comp=Z,5µm,26.5s
TIAR Tiarei 58.23 108 *e*P **P** **08 43 10.5 0.0**
comp=Z,170nm,0.8s,mb6.1
TVO Taravao 58.34 108 *e*P **P** **08 43 11.5 +0.2**
comp=Z,96nm,0.7s,mb6.0
TBI Tubuai 58.91 115 *e*P **P** **08 43 14.7 -0.5**
comp=Z,51nm,0.8s,mb5.6
TBI *e*PP PP 08 45 23.5 -3.8
TBI *e*SS SS 08 55 20.9 +7.3
TBI *e*LR LR 09 01 08.4
comp=Z,12µm,28.2s
PMOR Pomariorio Ree 59.40 105 *e*P **P** **08 43 18.6 -0.1**
comp=Z,123nm,1.0s,mb5.9
FX1 Attu Island--F 59.46 14 P **P** **08 43 19.1 +0.5**
comp=Z,27nm,0.6s,mb5.5,baz=350,slow=14,SNR=5.0
MEH Mehetia 59.48 108 *e*P **P** **08 43 19.1 -0.1**
comp=Z,50nm,0.9s,mb5.5
SMY Shemya 59.55 15 PFAKE 08 43 30.0 +11
SMY LR LR
comp=Z,32µm,21.0s,MS6.4
HIA Hailar 60.45 336 *e*P **P** **08 43 24.7 -0.8**
HIA pmax pmax
comp=Z,23nm,0.8s
HIA MLR MLR
comp=Z,5µm,19.0s
HIA Hailar 60.45 336 *e*P **P** **08 43 24.7 -0.7**
comp=Z,23nm,0.8s,mb5.2
HIA LR LR
comp=Z,5µm,19.0s,MS5.7
LZH Lanzhou 60.73 316 *e*P **P** **08 43 28.3 +0.7**
LZH AP pP 08 43 35.4 +1.0
LZH XP sP 08 43 40.5 +3.7
LZH PP PP 08 45 43.3 -0.2
LZH S **S** **08 51 40.3 -1.1**
LZH AMB AMB
comp=Z,80nm,1.2s,mb5.7
LZH AMB AMB
comp=Z,294nm,4.0s
LZH LR LR
comp=E,10µm,16.4s
LZH LR LR
comp=Z,12µm,18.2s,MS6.1
KIWB Kanaga Island 61.47 21 *e*P **P** **08 43 33.1 +0.8**
DRV Dumont d'Urvil 62.97 186 P **P** **08 43 44.0 +1.9**
DRV S **S** **08 52 17.0 +7.7**
DRV L 08 59 00.0
DRV R 09 04 00.0
MA2 Magadan 63.61 359 *e*P **P** **08 43 46.3 -0.1**
MA2 *e*S **S** **08 52 20.2 +2.8**
MA2 pmax pmax
comp=N,60nm,1.2s
MA2 pmax pmax
comp=Z,100nm,1.2s,mb5.7
MA2 MLR MLR
comp=Z,5µm,17.5s,MS5.7
MA2 Magadan 63.61 359 *e*P **P** **08 43 45.2 -1.2**
comp=Z,272nm,1.3s,mb6.1
MA2 LR LR
comp=Z,4µm,19.0s,MS5.6
IMP Imphal 63.90 300 *e*P **P** **08 43 49.3 +0.3**
CLNS Chul'man 64.91 344 *e*P **P** **08 43 55.1 +0.1**
CLNS *e**PP pP 08 44 02.1 +0.3
CLNS *e* 08 44 21.4
CLNS *e* 08 46 13.5
CLNS *e*S **S** **08 52 33.4 -0.2**
CLNS *e* 08 53 47.7
CLNS pmax pmax
comp=Z,54nm,1.4s,mb5.4
CLNS pmax pmax
comp=N,25nm,1.1s
CLNS pmax pmax
comp=E,12nm,0.8s
CLNS pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CLNS pmax pmax
comp=N,20nm,1.1s
CLNS pmax pmax
comp=E,15nm,1.0s
CLNS smax
comp=N,466nm,12.6s
CLNS smax
comp=Z,471nm,12.0s
CLNS smax
comp=E,183nm,11.6s
ULN Ulaanbaatar 65.44 328 *i* P **P** **08 43 59.8 +1.3**
ULN Ulaanbaatar 65.44 328 *e*P **P** **08 43 58.8 +0.3**
comp=E,45nm,0.9s,mb5.5
ULN LR LR
comp=Z,5µm,20.0s,MS5.7
SONM Songino Array 65.77 328 P **P** **08 44 01.4 +0.7**
comp=Z,123nm,1.5s,mb5.7,baz=144,slow=5.2,SNR=59
SONM S S 08 52 48.3 +4.0
comp=Z,0.4nm,0.8s,baz=322,slow=20,SNR=2.3
SONM PKPPKP 09 12 28.1
comp=Z,0.5nm,0.5s,baz=315,slow=2.0,SNR=4.4
SONM PKP2bc 09 12 42.4
comp=Z,2.7nm,0.9s,baz=298,slow=1.8,SNR=6.6
SONM Songino Array 65.77 328 P **P** **08 44 01.4 +0.7**
SONM S S 08 52 48.3 +4.0
SONM P'P' 09 12 28.1
SONM ⇑*e* 09 12 42.4
SHL Shillong 65.91 300 *e*P **P** **08 44 02.0 +0.1**
SHL *e*S S 08 52 44.0 -2.4
AGT Agartala 65.97 298 *e*P **P** **08 44 11.0 +8.7**
TAOE Nuku Hiva Isla 66.82 98 *e*PP PP 08 46 35.1 -1.8
TAOE *e*SS SS 08 57 22.4 +4.9
TAOE *e*LR LR 09 04 30.9
SEY Seymchan 66.96 360 *e*P **P** **08 44 07.8 -0.2**
SEY 08 44 35.2
SEY *e* 08 46 37.4
SEY *e*PPP PPP 08 48 20.0 +5.9
SEY *e*S S 08 53 01.9 +3.5
SEY PS PS 08 53 20.0 -3.9
SEY 08 54 05.8
SEY SS SS 08 57 24.4 +5.5
SEY pmax pmax
comp=Z,330nm,1.4s,mb6.2
SEY pmax pmax
comp=N,100nm,1.3s
SEY MLR MLR
comp=N,6µm,20.0s,MS6.0
SEY MLR MLR
comp=Z,12µm,20.0s,MS6.1
SEY MLR MLR
comp=E,6µm,19.0s,MS6.0
LSA Lhasa 67.81 304 P **P** **08 44 16.4 +2.5**
LSA PCP PcP 08 44 40.4 -0.1
LSA PP PP 08 46 48.8 +3.4
LSA SCS ScS 08 54 13.5 +5.9
LSA AMB AMB
comp=Z,20nm,0.9s,mb5.2
LSA AMB AMB
comp=Z,980nm,7.1s
LSA LR LR
comp=N,2µm,21.3s,MS5.8
LSA LR LR
comp=E,6µm,24.3s,MS5.8
LSA LR LR
comp=Z,9µm,23.3s,MS5.9
LSA Lhasa 67.81 304 *e*P **P** **08 44 14.6 +0.7**
LSA pmax pmax
comp=Z,11nm,0.8s,mb4.9
LSA MLR MLR
comp=Z,9µm,22.0s,MS6.0
LSA Lhasa 67.81 304 *e*P **P** **08 44 14.6 +0.7**
comp=Z,10nm,0.8s,mb4.9
LSA LR LR
comp=Z,9µm,22.0s,MS6.0

CAL Calcutta 68.20 296 *e*P **P** **08 44 25.4 +8.9**
CAL *e*S S 08 53 24.2 +10
CAL *e* 08 53 40.3
YAK Yakutsk 68.38 349 *e*P **P** **08 44 18.4 +1.5**
YAK *i* *PP pP 08 44 23.8 +0.1
YAK *i* 08 44 38.8
YAK *e* 08 46 45.9
YAK *e*S S 08 53 24.8 +9.4
YAK *i* 08 54 11.2
YAK pmax pmax
comp=N,35nm,1.2s
YAK pmax pmax
comp=E,16nm,1.2s
YAK pmax pmax
comp=Z,71nm,1.2s,mb5.6
YAK pmax pmax
comp=Z,25nm,1.3s,mb5.1
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,14nm,1.2s
YAK smax
comp=N,1µm,19.8s
YAK smax
comp=Z,904nm,20.1s
YAK smax
comp=E,411nm,11.8s
YAK Yakutsk 68.38 349 *e*P **P** **08 44 16.6 -0.3**
comp=E,419nm,1.4s,mb6.3
YAK LR LR
comp=Z,3µm,20.0s,MS5.6
CASY Casey 68.54 197 *e*P **P** **08 44 15.9 -1.9**
comp=Z,58nm,1.2s,mb5.4
CASY LR LR
comp=Z,8µm,19.0s,MS6.0
ZAK Zakamensk 68.93 329⇑*i*P **P** **08 44 20.7 +0.2**
BOD Bodaibo 69.20 339 *e*P **P** **08 44 21.4 -0.7**
TLY Talaya 69.52 330 *e*P **P** **08 44 23.6 -0.5**
TLY *e* 08 47 01.3
TLY *e*S S 08 53 34.8 +5.7
TLY *e*PS PS 08 54 07.9 +10
TLY *e* 08 54 26.0
TLY pmax pmax
comp=Z,54nm,1.5s,mb5.3
TLY MLR MLR
comp=Z,5µm,19.0s,MS5.8
TLY Talaya 69.52 330 *e*P **P** **08 44 24.0 -0.1**
comp=Z,55nm,1.4s,mb5.3
TLY LR LR
comp=Z,1µm,20.0s,MS5.2
IRK Irkutsk 69.54 331 *e*P **P** **08 44 23.8 -0.4**
IRK *e* 08 44 38.5
MOY Mondy 70.85 329 *e*P **P** **08 44 33.2 +1.0**
JIRN Jiri 71.39 301 *e*P **P** **08 44 36.2 +0.3**
comp=Z,42nm,0.8s,mb5.4
GUN Gumba 71.72 301 *e*P **P** **08 44 38.5 +0.7**
comp=Z,101nm,0.9s,mb5.8
VIS Vishakhapatnam 71.75 290 *e*P **P** **08 44 36.5 -1.7**
PKI Pulchoki 72.03 301 *e*P **P** **08 44 39.5 -0.2**
comp=Z,63nm,1.0s,mb5.5
RKT Rikitea 72.12 113 *e*PP PP 08 47 17.4 -4.9
RKT *e*SS SS 08 58 42.8 +3.6
RKT *e*LR LR 09 07 11.4
comp=Z,14µm,24.8s
KKN Kakani 72.20 301 *e*P **P** **08 44 41.9 +1.2**
comp=Z,54nm,0.8s,mb5.5
DMN Daman 72.31 301 *e*P **P** **08 44 41.2 -0.1**
comp=Z,189nm,1.1s,mb5.9
BILL Bilibino 72.72 5 *e*P **P** **08 44 42.8 -0.2**
BILL *i* pP 08 44 49.8 -0.1
BILL *i* 08 44 55.2
BILL *i* 08 45 02.8
BILL *e* 08 47 31.6
BILL *e*S S 08 54 09.5 +3.7
BILL pmax pmax
comp=Z,39nm,0.9s,mb5.3
BILL Biilibino 72.72 5 *e*P **P** **08 44 41.8 -1.2**
comp=Z,39nm,0.9s,mb5.3
BILL LR LR
comp=Z,6µm,20.0s,MS5.8
PALK Pallekele 72.73 279 PFAKE 08 45 00.0 +16
PALK LR LR
comp=Z,693nm,22.0s,MS4.9
GKN Gorkha 72.81 301 *e*P **P** **08 44 44.4 0.0**
comp=Z,130nm,1.0s,mb5.8
VNDA Vanda 73.42 178 *e*P **P** **08 44 46.3 -0.7**
VNDA pmax pmax
comp=Z,76nm,0.8s
VNDA Vanda 73.42 178 P **P** **08 44 46.6 -0.4**
comp=Z,76nm,0.8s,mb5.7,baz=326,slow=6.8,SNR=53
VNDA S S 08 54 15.8 +2.2
comp=Z,1.6nm,1.1s,baz=310,slow=15,SNR=1.8
VNDA SS SS 08 59 00.3 +1.8
comp=Z,0.6nm,0.8s,baz=298,slow=19,SNR=1.7
VNDA LR LR 09 15 02.4
comp=Z,5µm,18.9s,MS5.8,baz=346,slow=34
VNDA Vanda 73.42 178 *e*P **P** **08 44 46.3 -0.7**
comp=Z,76nm,0.8s,mb5.7
KOLN Koldanda 73.64 300 *e*P **P** **08 44 48.2 -1.0**
comp=Z,76nm,0.9s,mb5.6
SBA Scott Base 73.97 177 P **P** **08 44 52.2 +2.0**
SBA pmax pmax
comp=Z,88nm,1.0s,mb5.6
SBA Scott Base 73.97 177 *e*P **P** **08 44 50.3 +0.2**
comp=Z,88nm,1.1s,mb5.6
SBA LR LR
comp=Z,4µm,20.0s,MS5.7
WMQ Urumqi 75.23 317 *e*P **P** **08 44 57.8 -0.3**
ANM Nome 75.25 17 *e*P **P** **08 44 58.8 +1.0**
KDAK Kodiak Island 75.71 27 P **P** **08 45 00.6 +0.1**
comp=Z,25nm,0.7s,mb5.2
KDAK LR LR
comp=Z,3µm,22.0s,MS5.5
HYB Hyderabad 76.19 289 *e*P **P** **08 45 02.5 -1.5**
HYB *e*S S 08 54 48.0 +2.5
HYB pmax pmax
comp=Z,40nm,1.0s,mb5.3
HYB Hyderabad 76.19 289 *e*P **P** **08 45 02.5 -1.5**
comp=Z,40nm,1.0s,mb5.3
HYB *e*S S 08 54 48.0 +2.5
HYB Hyderabad 76.19 289 *i* P **P** **08 45 02.5 -1.5**
comp=Z,40nm,1.0s,mb5.3
HYB *e*S S 08 54 44.0 -1.5
KOD Kodaikanal 76.25 282 *e*P pP 08 45 15.0 +3.6
NGP Nagpur 76.34 293 *e*P pP 08 45 12.7 +1.0
NGP *e*S S 08 54 39.7 -7.4
TRD Trivandrum 76.55 280 *e* **P** **08 45 13.4 +7.2**
PTCN Pitcairn Islan 76.66 115 PFAKE 08 45 20.0 +13
PTCN LR LR
comp=Z,6µm,22.0s,MS5.9
TIXI Tiksi 77.30 352 *e*P **P** **08 45 11.8 +2.6**
TIXI *e* 08 48 06.3
TIXI *e*S S 08 55 04.3 +7.8
TIXI *e*SP SP 08 55 28.5 -7.8
TIXI *e*PS PS 08 55 42.8 +3.8
TIXI *e*SS SS 09 00 02.6 +4.7
TIXI pmax pmax
comp=Z,50nm,1.5s,mb5.2
TIXI Tiksi 77.30 352⇓*i*P **P** **08 45 11.7 +2.5**
TIXI LR LR
comp=Z,3µm,20.0s,MS5.6
BHPL Bhopal 78.18 295 *e*P **P** **08 45 14.7 -0.3**
BHPL *e* pP 08 45 23.1 +1.1
comp=Z,20nm,0.9s
SLKM Skilak Lake 78.19 25 P **P** **08 45 13.7 -0.5**
ASOR Ausora 78.87 300 *e*P **P** **08 45 18.7 +0.1**
DDI Dehra Dun 78.93 302 *e*P **P** **08 45 17.6 -1.4**
KLP Kalpa 79.01 303 *e*P **P** **08 45 19.3 -0.1**
KLP *e* pP 08 45 24.3 -2.1
comp=Z,39nm,0.6s
KLP *e*S S 08 55 16.2 +0.5
PMR Palmer 79.20 24 *e*P **P** **08 45 20.2 +0.4**
NDI New Delhi 79.33 300 *e*P **P** **08 45 19.0 -2.2**
BHGR Bahadurgarh 79.58 300 *e*P **P** **08 45 22.9 +0.5**
BHGR *e* 08 45 23.4
comp=Z,91nm,0.4s
DGAR Diego Garcia 79.80 263 PFAKE 08 45 40.0 +16
DGAR LR LR
comp=Z,583nm,21.0s,MS4.9
MKAR Makanchi Array 79.81 319 *i* P **P** **08 45 22.7 -0.7**
MKAR pmax pmax
comp=Z,47nm,1.1s
KUDL Kundal 79.87 299 *e*P **P** **08 45 22.6 -1.5**
KKR Kurukshetra 79.91 301 *e*P **P** **08 45 24.7 +0.4**
IMA Indian Mountai 79.94 19 P **P** **08 45 24.6 +0.9**

IMA pmax pmax
comp=Z,280nm,1.5s,mb6.0
IMA Indian Mountai 79.94 19 *e*P **P** **08 45 23.8 +0.1**
KAD Karad 80.31 288 *e*P **P** **08 45 26.4 -0.2**
KAD *e* pP 08 45 35.1 +1.5
comp=Z,23nm,0.7s
KHET Khetri 80.45 299 *e*P **P** **08 45 26.8 -0.4**
KHET *e*S S 08 55 30.3 -0.5
ZAL Zalesovo 80.61 326 P **P** **08 45 26.9 -0.5**
comp=Z,4.1nm,0.7s,mb4.5,baz=359,slow=5.6,SNR=22
ZAL S S 08 55 38.5 +6.6
comp=Z,0.7nm,0.3s,baz=140,slow=22,SNR=2.1
ZAL PKPPKP 09 12 12.2
comp=Z,1.5nm,0.4s,baz=226,slow=21,SNR=3.7
ZAL LR LR 09 22 22.6
comp=Z,7µm,19.9s,MS6.0,baz=356,slow=37
ZAL Zalesovo 80.61 326 P **P** **08 45 26.9 -0.5**
ZAL S S 08 55 38.5 +6.6
ZAL P'P' 09 12 12.2
ZAL LR LR 09 22 22.6
POO Poona 80.78 289 *e*P **P** **08 45 30.0 +0.9**
POO *i* S S 08 55 36.0 +1.6
AJM Ajmer 81.21 297 *e*P **P** **08 45 29.0 -2.2**
COLA College 81.35 22 P **P** **08 45 30.1 -1.0**
COLA pmax pmax
comp=Z,25nm,1.1s,mb5.1
COLA College 81.35 22 *e*P **P** **08 45 29.4 -1.7**
ILAR Eielson Array 81.66 22 P **P** **08 45 30.4 -2.3**
comp=Z,16nm,1.1s,mb4.9,baz=258,slow=5.0,SNR=43
ILAR PP PP 08 48 39.2 -2.5
comp=Z,1.7nm,0.9s,baz=259,slow=7.3,SNR=1.9
ILAR S S 08 55 44.0 +1.5
comp=Z,0.2nm,0.6s,baz=226,slow=4.5,SNR=3.9
ILAR PKKPbc 09 04 07.3
comp=Z,1.3nm,0.6s,baz=348,slow=1.8,SNR=18
ILAR PKPPKP 09 12 09.8
comp=Z,0.5nm,1.0s,baz=90,slow=0.9,SNR=3.1
ILAR LR LR 09 19 41.0
comp=Z,8µm,20.3s,MS6.0,baz=259,slow=34
NVS Novosibirsk 81.78 327 *e*P **P** **08 45 32.0 -1.5**
NVS *i* 08 48 49.1
NVS *i* S S 08 55 44.3 +0.4
NVS pmax pmax
comp=E,47nm,1.6s
NVS pmax pmax
comp=Z,66nm,1.6s,mb5.3
NVS pmax pmax
comp=N,26nm,1.7s
NVS pmax pmax
comp=Z,45nm,2.0s,mb5.0
NVS smax
comp=N,55nm,2.3s
MENT Mentasta 82.07 24 *e*P **P** **08 45 35.4 +0.5**
TKM2 Tokmak 2 83.44 314 P **P** **08 45 42.0 -0.4**
SNR=9.3
KZA Kyzart 83.52 313 P **P** **08 45 45.1 +2.2**
SNR=15
SIT Sitka 83.84 32 PFAKE 08 46 00.0 +16
SIT LR LR
comp=Z,19µm,21.0s,MS6.4
CHMS Chumysh 84.06 314 P **P** **08 45 46.6 +1.0**
SNR=11
UCH Uchtor 84.09 313 P **P** **08 45 47.0 +1.3**
SNR=17
FRU Bishkek 84.13 314 *e*P **P** **08 45 44.0 -1.9**
FRU *i* 08 45 54.0
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.4
FRU MLR MLR
comp=E,4µm,20.0s
FRU MLR MLR
comp=Z,4µm,20.0s,MS5.8
AAK Ala-Archa 84.18 313 P **P** **08 45 47.6 +1.4**
SNR=11
AAK Ala-Archa 84.18 313 *e*P **P** **08 45 46.3 +0.1**
AAK pmax pmax
comp=Z,12nm,0.8s,mb5.1
AAK Ala-Archa 84.18 313 *e*P **P** **08 45 45.8 -0.4**
comp=Z,12nm,0.8s,mb5.1
AAK LR LR
comp=Z,907nm,21.0s,MS5.1
USP Ospenovka 84.30 314 P **P** **08 45 47.9 +1.1**
SNR=19
DAWY Dawson 84.30 24 *e*P **P** **08 45 46.7 +0.4**
AML Almayashu 84.67 313 P **P** **08 45 49.6 +0.9**
SNR=41
EKS2 Erkin-Say 84.70 313 P **P** **08 45 50.4 +1.6**
SNR=14
QSPA South Pole Qui 85.74 180 P **P** **08 45 53.3 +0.1**
comp=Z,227nm,0.8s,mb6.5
QSPA LR LR
comp=Z,5µm,19.0s,MS6.0
MAW Mawson 86.06 203 P **P** **08 45 54.4 -0.6**
comp=Z,21nm,0.7s,mb5.5,baz=105,slow=5.0,SNR=15
MAW S S 08 56 20.9 -5.4
comp=Z,3.6nm,1.1s,baz=55,slow=20,SNR=1.8
MAW SS SS 09 02 08.3 0.0
comp=Z,7.0nm,1.3s,baz=166,slow=22,SNR=1.6
MAW LR LR 09 22 11.8
comp=Z,7µm,21.0s,MS6.0,baz=84,slow=34
DLBC Dease Lake 86.94 31 P **P** **08 45 59.7 +0.2**
comp=Z,18nm,1.2s,mb5.2,baz=242,slow=6.8,SNR=9.7
DLBC S S 08 56 28.3 -6.6
comp=Z,1.1nm,0.8s,baz=202,slow=23,SNR=1.9
DLBC SS SS 09 02 25.3 +4.5
comp=Z,0.7nm,0.4s,baz=219,slow=24,SNR=3.7
DLBC Dease Lake 86.94 31 *e*P **P** **08 45 58.8 -0.7**
INK Inuvik 87.95 21 *e*P **P** **08 46 03.5 -0.6**
INK pmax pmax
comp=Z,31nm,1.1s
INK Inuvik 87.95 21 P **P** **08 46 03.9 -0.3**
comp=Z,41nm,1.3s,mb5.5,baz=234,slow=6.2,SNR=16
INK S S 08 56 32.6 -12
comp=Z,1.1nm,0.8s,baz=234,slow=32,SNR=5.9
INK PKKPbc 09 03 50.6
comp=Z,6.4nm,1.0s,baz=73,slow=6.5,SNR=8.6
INK LR LR 09 25 04.0
comp=Z,7µm,19.8s,MS6.1,baz=248,slow=35
INK Inuvik 87.95 21 *e*P **P** **08 46 03.5 -0.6**
comp=Z,31nm,1.1s,mb5.4
HOPS Hopland 88.15 51 PFAKE 08 46 20.0 +14
HOPS LR LR
comp=Z,9µm,22.0s,MS6.2
COR Corvallis 88.67 45 PFAKE 08 46 20.0 +12
COR LR LR
comp=Z,10µm,20.0s,MS6.2
CHKZ Chkalovo 88.67 324 P **P** **08 46 06.7 -1.2**
CHKZ pmax pmax
comp=Z,26nm,1.2s,mb5.4
CHKZ Chkalovo 88.67 324 *e*P **P** **08 46 05.8 -2.2**
comp=Z,26nm,1.3s,mb5.4
HUMO Hull Mountain 88.67 47 *e*P **P** **08 46 08.4 +0.2**
comp=Z,18nm,1.2s,mb5.3
HUMO LR LR
comp=Z,8µm,20.0s,MS6.2
BVAR Borovoye Array 88.70 323 P **P** **08 46 07.3 -0.8**
comp=Z,5.3nm,0.6s,mb5.0,baz=104,slow=6.1,SNR=23
WDC Whiskeytown Da 88.75 49 *e*P **P** **08 46 09.1 +0.5**
WDC pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
WDC MLR MLR
comp=Z,6µm,22.0s,MS6.0
WDC Whiskeytown Da 88.75 49 *e*P **P** **08 46 09.1 +0.5**
comp=Z,8.2nm,1.2s,mb4.9
WDC LR LR
comp=Z,6µm,22.0s,MS6.0
YBH Yreka Blue Hor 88.75 48 *e*P **P** **08 46 08.8 +0.2**
YBH pmax pmax
comp=Z,15nm,1.3s
YBH MLR MLR
comp=Z,8µm,22.0s
YBH Yreka Blue Hor 88.75 48 P **P** **08 46 09.0 +0.4**
comp=Z,17nm,1.3s,mb5.2,baz=241,slow=2.0,SNR=7.4
YBH Yreka Blue Hor 88.75 48 *e*P **P** **08 46 08.8 +0.2**
comp=Z,16nm,1.3s,mb5.2
YBH LR LR
comp=Z,8µm,22.0s,MS6.1
BRVK Borovoye 88.77 323 *e*P **P** **08 46 06.7 -1.7**
BRVK pmax pmax
comp=Z,19nm,1.2s,mb5.3
BRVK MLR MLR
comp=Z,1µm,22.0s,MS5.3
BRVK Borovoye 88.77 323 *e*P **P** **08 46 06.7 -1.7**
comp=Z,19nm,1.2s,mb5.3
BRVK LR LR
comp=Z,1µm,22.0s,MS5.3
SAO San Andreas Ge 89.19 53 PFAKE 08 46 20.0 +9.2

SAO LR LR
comp=Z,7μm,21.0s,MS6.1
CMB Columbia Colle 90.15 52 PFAKE 08 46 30.0 +15
CMB LR LR
comp=Z,7μm,19.0s,MS6.1
MOD Modoc 90.56 48 *e*P **P 08 46 16.8 -0.2**
comp=Z,16nm,1.2s,mb5.2
MOD LR LR
comp=Z,8μm,20.0s,MS6.1
NVAR Mina Array Bea 91.81 52 P **P 08 46 22.1 -0.8**
comp=Z,5.1nm,0.8s,mb4.9,baz=251,slow=7.7,SNR=27
NVAR PP PP 08 50 01.0 -3.6
comp=Z,0.7nm,0.8s,baz=250,slow=11,SNR=2.4
NVAR LR LR 09 23 06.5
comp=Z,6μm,18.6s,MS6.1,baz=260,slow=33
WVOR Wild Horse Val 91.83 48 *e*P **P 08 46 22.5 -0.4**
WVOR pmax pmax
comp=Z,21nm,1.2s,mb5.3
WVOR MLR MLR
comp=Z,10μm,19.0s,MS6.3
WVOR Wild Horse Val 91.83 48 *e*P **P 08 46 22.5 -0.4**
comp=Z,20nm,1.2s,mb5.3
WVOR LR LR
comp=Z,10μm,19.0s,MS6.3
MNV Mina 91.93 52 *e*P **P 08 46 23.3 -0.2**
MNV pmax pmax
comp=Z,14nm,1.3s,mb5.1
MNV MLR MLR
comp=Z,7μm,19.0s,MS6.1
MNV Mina 91.93 52 *e*P **P 08 46 23.3 -0.1**
comp=Z,14nm,1.3s,mb5.1
MNV LR LR
comp=Z,7μm,19.0s,MS6.1
DAC Darwin (Calif) 92.24 54 PFAKE 08 46 40.0 +15
DAC LR LR
comp=Z,7μm,22.0s,MS6.0
TPH Tonopah 92.64 52 PFAKE 08 46 40.0 +13
TPH LR LR
comp=Z,7μm,20.0s,MS6.1
BMN Battle Mountai 92.77 50 PFAKE 08 46 40.0 +13
BMN LR LR
comp=Z,6μm,22.0s,MS6.0
BMO Blue Mountains 92.95 45 *e*P **P 08 46 27.5 -0.5**
BMO pmax pmax
comp=Z,21nm,1.3s,mb5.4
BMO MLR MLR
comp=Z,7μm,20.0s,MS6.1
BMO Blue Mountains 92.95 45 *e*P **P 08 46 27.5 -0.5**
comp=Z,21nm,1.3s,mb5.4
BMO LR LR
comp=Z,7μm,20.0s,MS6.1
PFO Pinyon Flat Ob 93.02 57 *e*P **P 08 46 27.9 -0.7**
PFO pmax pmax
comp=Z,10.0nm,1.1s,mb5.2
PFO MLR MLR
comp=Z,2μm,21.0s,MS5.5
PFO Pinyon Flat Ob 93.02 57 *e*P **P 08 46 27.9 -0.7**
comp=Z,10nm,1.1s,mb5.2
PFO LR LR
comp=Z,2μm,21.0s,MS5.5
NEW Newport 93.24 42 *e*P **P 08 46 28.6 -0.6**
NEW pmax pmax
comp=Z,11nm,1.1s
NEW MLR MLR
comp=Z,9μm,20.0s
NEW Newport 93.24 42 *e*P **P 08 46 28.6 -0.7**
comp=Z,11nm,1.1s,mb5.2
NEW LR LR
comp=Z,9μm,20.0s,MS6.2
TPNV Topopah Spring 93.36 53 *e*P **P 08 46 29.4 -0.7**
TPNV pmax pmax
comp=Z,11nm,1.1s,mb5.2
TPNV MLR MLR
comp=Z,6μm,22.0s,MS6.0
TPNV Topopah Spring 93.36 53 *e*P **P 08 46 29.4 -0.7**
comp=Z,11nm,1.1s,mb5.2
TPNV LR LR
comp=Z,6μm,22.0s,MS6.0
TRCR Troy Canyon 93.94 52 *e*P **P 08 46 33.0 +0.3**
SYO Syowa Base 94.18 199 ||P **P 08 46 32.1 -1.0**
SYO Syowa Base 94.18 199 ||PcP PcP 08 46 34.7 +0.9
NEN Nelson 94.44 55 *e*P **P 08 46 34.9 -0.2**
YKA Yellowknife Ar 94.96 28 P **P 08 46 35.7 -1.1**
comp=Z,2.5nm,0.7s,mb4.8,baz=272,slow=4.5,SNR=30
YKA PP PP 08 50 25.4 -2.8
comp=Z,1.2nm,1.1s,baz=262,slow=4.4,SNR=3.3
YKA PKiKP 08 51 19.1
comp=Z,0.2nm,0.4s,baz=268,slow=1.1,SNR=5.9
YKA PKKPbc 09 03 35.4
comp=Z,0.9nm,0.6s,baz=87,slow=2.9,SNR=16
YKA LR LR 09 25 40.0
comp=Z,6μm,20.0s,MS6.1,baz=255,slow=33
HLID Hailey 94.98 47 PFAKE 08 46 50.0 +13
HLID LR LR
comp=Z,7μm,20.0s,MS6.1
RPN Rapa Nui 95.18 118 PFAKE 08 46 50.0 +11
RPN LR LR
comp=Z,916nm,21.0s,MS5.2
ARUT Antelope Range 95.62 53 *e*P **P 08 46 39.4 -1.0**
EDM Edmonton 95.73 37 *e*P **P 08 46 39.2 -1.3**
ARU Arti 95.77 326 *e*P **P 08 46 34.5 -6.1**
ARU *e*S SKS 08 57 07.2 -14
ARU *e*PS PS 08 59 15.8 -4.8
ARU *e*SS SS 09 04 26.5 -0.9
ARU MLR MLR
comp=Z,5μm,19.0s,MS6.0
ARU MLR MLR
comp=N,400nm,17.0s,MS5.9
ARU MLR MLR
comp=E,3μm,19.0s,MS5.9
MCMT McKenzie Canyo 96.12 46 P **P 08 46 42.1 -0.5**
MVU Marysvale 96.59 52 PFAKE 08 47 00.0 +15
MVU LR LR
comp=Z,7μm,19.0s,MS6.2
BOZ Bozeman (W) 96.97 45 PFAKE 08 47 00.0 +14
BOZ LR LR
comp=Z,7μm,19.0s,MS6.2
AHID Auburn Hatcher 97.41 48 PFAKE 08 47 00.0 +12
AHID LR LR
comp=Z,6μm,22.0s,MS6.1
MOOW Moose Ponds 97.64 47 *e*P **P 08 46 50.0 +0.5**
SNOW Snow King Moun 97.64 47 P **P 08 46 49.7 +0.3**
TUC Tucson 97.75 58 *e*P **P 08 46 50.3 +0.1**
TUC MLR MLR
comp=Z,5μm,20.0s,MS6.0
BW06 Boulder Array 98.54 48 PFAKE 08 47 10.0 +17
BW06 LR LR
comp=Z,7μm,20.0s,MS6.2
PDAR Pinedale Array 98.54 48 P **P 08 47 01.6 +8.2**
comp=Z,2.4nm,0.7s,mb4.8,baz=270,slow=1.5,SNR=14
PDAR PP PP 08 51 07.3 +11
comp=Z,1.3nm,1.1s,baz=264,slow=8.2,SNR=2.8
PDAR LR LR 09 23 56.5
comp=Z,7μm,21.9s,MS6.1,baz=267,slow=31
RES Resolute Bay 99.87 14 *e*P **P 08 46 58.4 -0.5**
RES pmax pmax
comp=Z,7.0nm,1.3s,mb4.9
RES Resolute Bay 99.87 14 *e*Pdif **P 08 46 58.4 -0.5**
comp=Z,7.3nm,1.3s,mb5.0
LAO LASA Array 100.66 43 *e*Pdif P 08 47 02.4 -0.6
comp=Z,17nm,1.3s
LAO LR LR
comp=Z,6μm,20.0s,MS6.1
ANMO Albuquerque 101.30 55 P P 08 47 08.3 +2.1
comp=Z,1.0nm,0.8s,baz=271,slow=5.7,SNR=3.6
ANMO PP PP 08 51 15.8 -2.4
comp=Z,0.3nm,0.5s,baz=272,slow=7.5,SNR=3.7
ANMO PKiKP 08 51 31.9
comp=Z,1.4nm,0.9s,baz=193,slow=5.2,SNR=5.3
ISCO Idaho Springs 101.67 50 *e*P P 08 47 08.2 +0.4
ISCO MLR MLR
comp=Z,4μm,19.0s,MS6.0
DGMT Dagmar 101.84 41 PFAKE 08 47 20.0 +12
DGMT LR LR
comp=Z,6μm,19.0s,MS6.2
SDCO Great Sand Dun 101.91 52 *e*Pdif P 08 47 10.0 +1.1
SDCO LR LR
comp=Z,7μm,20.0s,MS6.2
MNTX Cornudas Mount 102.35 59 PFAKE 08 47 20.0 +9.0
MNTX LR LR
comp=Z,4μm,21.0s,MS5.9
LTX Lajitas 103.95 61 PFAKE 08 47 30.0 +12
LTX LR LR
comp=Z,5μm,19.0s,MS6.0
TXAR Lajitas Array 103.95 61 PP PP 08 51 36.2 -1.7
comp=Z,1.0nm,0.8s,baz=256,slow=5.2,SNR=6.3
TXAR PKKPbc 09 03 07.9
comp=Z,0.2nm,0.8s,baz=124,slow=4.5,SNR=2.5
TXAR PKKP PKKP 09 03 15.9 +5.4
comp=Z,0.5nm,0.8s,baz=100,slow=3.3,SNR=5.2
AMTX Amarillo 105.22 55 PFAKE 08 51 50.0
AMTX LR LR
comp=Z,5μm,20.0s,MS6.1
FCC Fort Churchill 105.50 30 *e*PKP 08 51 37.6
FCC *e*PP PP 08 51 45.1 -3.9
PMSA Palmer Station 106.06 165 PFAKE 08 51 50.0
PMSA LR LR
comp=Z,4μm,22.0s,MS5.9
MTA Mtatsminda 106.13 312 P 08 51 59.3
ARCES ARCESS Array B 106.28 343 PKiKP 08 51 38.7
comp=Z,2.3nm,0.7s,baz=58,slow=1.4,SNR=7.0
ARCES PKKPbc 09 02 59.2
comp=Z,2.1nm,0.5s,baz=270,slow=1.2,SNR=11
ARCES ARCESS Array B 106.28 343 PKPdf 08 51 38.7
ARCES PKKPbc 09 02 59.2
GNI Garni 106.40 311 PP PP 08 51 54.7 -1.5
comp=Z,1.2nm,0.3s,baz=20,slow=21,SNR=3.8
GNI Garni 106.40 311 PFAKE 08 51 50.0
GNI LR LR
comp=Z,1μm,22.0s,MS5.5
ONI Oni 106.97 313 P 08 52 00.3
AKH Akhalkalaki 107.14 312 P 08 52 09.8
JCT Junction City 107.21 60 *e*PKP 08 51 41.7
JCT LR LR
comp=Z,5μm,19.0s,MS6.1
KTK1 Kautokeino 107.24 343 *e*P 08 51 44.7
KTK1 Kautokeino 107.24 343 *e* 08 51 44.7
KIV Kislovodsk 107.27 315 PFAKE 08 51 50.0
KIV LR LR
comp=Z,644nm,21.0s,MS5.2
BHD Baghdad 107.59 303 *e*PKP 08 51 55.5
WMOK Wichita Mounta 107.61 55 *e*PKP 08 51 42.0
WMOK LR LR
comp=Z,5μm,20.0s,MS6.0
TRO Tromso 108.05 345 *e* 08 51 58.8
TRO *i* 09 01 31.8
TRO *e* 09 07 20.8
TRO AMS AMS 09 38 17.3
comp=Z,3μm,20.0s,MS5.8
OBN Obninsk 108.18 327 PFAKE 08 51 50.0
OBN LR LR
comp=Z,1μm,20.0s,MS5.4
MSL Mosul 108.25 307 *e*PKP 08 51 20.5
MSL *e*SKS1 08 57 40.5
MSL *e*SKS2 08 59 26.5
FINES FINESS Array B 110.47 336 PKiKP 08 51 47.3
comp=Z,5.6nm,1.2s,baz=177,slow=34,SNR=3.5
FINES PKKPbc 09 02 47.7
comp=Z,0.9nm,0.4s,baz=240,slow=1.9,SNR=12
FINES PKKPab 09 02 59.6
comp=Z,3.6nm,0.8s,baz=166,slow=7.9,SNR=6.6
HKT Hockley 110.69 60 PFAKE 08 52 00.0 +9.1
HKT LR LR
comp=Z,7μm,19.0s,MS6.3
NATX Nacogdoches 111.44 58 PFAKE 08 52 00.0 +7.8
NATX LR LR
comp=Z,4μm,20.0s,MS6.0
MALT Malatya 111.55 310 PKIKP PKPdf 08 51 48.4 -3.9
MIAR Mount Ida 111.88 55 PFAKE 08 52 00.0 +7.0
MIAR LR LR
comp=Z,8μm,19.0s,MS6.3
JFWS Jewell Farm 112.51 45 PFAKE 08 52 00.0 +5.9
JFWS LR LR
comp=Z,6μm,19.0s,MS6.2
CCM Cathedral Cave 113.00 50 PFAKE 08 52 00.0 +4.8
CCM LR LR
comp=Z,5μm,20.0s,MS6.1
AKASG Malin Array Be 113.95 325 PKiKP 08 51 52.6
comp=Z,3.2nm,0.6s,baz=60,slow=2.5,SNR=15
AKASG PKKPbc 09 02 35.0
comp=Z,3.1nm,0.6s,baz=262,slow=4.0,SNR=17
AKASG PKKPab 09 02 43.9
comp=Z,7.3nm,0.9s,baz=259,slow=3.9,SNR=9.9
BRTR Keskin Array B 114.83 312 PKP PKPdf 08 51 55.9 -2.8
comp=Z,1.6nm,0.8s,baz=135,slow=3.5,SNR=6.7
BRTR PKKPbc 09 02 33.3
comp=Z,2.0nm,0.9s,baz=198,slow=3.9,SNR=6.3
OXF Oxford 115.25 54 PFAKE 08 52 10.0 +10
OXF LR LR
comp=Z,4μm,19.0s,MS6.0
KMBO Kilima Mbogo 115.26 267 *e*PKIKP PKPdf 08 51 56.7 -3.5
KMBO MLR MLR
comp=Z,1μm,19.0s
SUW Suwalki 115.68 330 *e*PKP PKPdf 08 51 58.2 -1.9
KIS Kishinev 115.70 321 *e*P Pdif 08 48 26.0 +17
KIS *e* 08 53 05.0
KIS *e* 08 55 36.0
KIS *e* 08 59 03.0
KIS MLR MLR
comp=Z,4μm,20.0s,MS6.0
KIS MLR MLR
comp=E,3μm,19.0s
KIS MLR MLR
comp=Z,2μm,20.0s
WVT Waverly 116.12 52 *e*PKIKP PKPdf 08 51 57.4 -4.0
WVT MLR MLR
comp=Z,4μm,20.0s,MS6.0
BLO Bloomington 116.28 48 *e*PKIKP PKPdf 08 51 58.2 -3.4
NB2 NORSAR Subarra116.33 340 PKPdf PKPdf 08 51 57.3 -3.8
comp=Z,1.4nm,0.7s,baz=41,slow=1.8
NOA NORSAR Array B116.33 340 PKP PKPdf 08 51 57.4 -3.8
comp=Z,1.6nm,0.7s,baz=46,slow=1.9,SNR=6.9
NOA PKKPbc 09 02 26.8
comp=Z,1.8nm,0.8s,baz=40,slow=3.6,SNR=4.2
NOA NORSAR Array B116.33 340 PKP PKPdf 08 51 57.4 -3.8
NOA PKKPbc 09 02 26.8
WCI Wyandotte Cave 116.73 49 *e*PKIKP PKPdf 08 51 58.6 -3.9
WCI MLR MLR
comp=Z,5μm,20.0s,MS6.1
PAYG Puerto Ayora 116.90 93 PFAKE 08 52 10.0 +6.6
PAYG LR LR
comp=Z,2μm,20.0s,MS5.7
AAM Ann Arbor 117.32 44 PFAKE 08 52 10.0 +6.5
AAM LR LR
comp=Z,8μm,21.0s,MS6.3
LRAL Lakeview Retre 117.55 55 PFAKE 08 52 10.0 +5.9
LRAL LR LR
comp=Z,5μm,20.0s,MS6.1
KONO Kongsberg 117.89 340 PFAKE 08 52 10.0 +5.9
KONO LR LR
comp=Z,6μm,20.0s,MS6.2
KWP Kalwaria 118.17 326 *e*PKP PKPdf 08 52 04.5 -0.4
ACSO Alum Creek Sta 118.53 46 *e*PKPdf PKPdf 08 52 01.5 -4.4
ACSO LR LR
comp=Z,5μm,19.0s,MS6.1
TEIG Tepich 118.67 69 PFAKE 08 52 20.0 +13
TEIG LR LR
comp=Z,1μm,20.0s,MS5.5
KOLS Kolonicke sedl 118.76 325 *i* PKP PKPdf 08 52 04.5 -1.6
SADO Sadowa 119.36 40 PKP PKPdf 08 52 04.0 -3.3
comp=Z,9.6nm,0.8s,baz=327,slow=4.4,SNR=6.0
OJC Ojcow 119.47 327 *e*PKP PKPdf 08 52 05.2 -2.2
NIE Niedzica 119.62 326 *e*PKP PKPdf 08 52 06.3 -1.4
ERPA Erie 119.91 43 PFAKE 08 52 20.0 +12
ERPA LR LR
comp=Z,6μm,21.0s,MS6.2
SCHQ Schefferville 120.31 25 PKP PKPdf 08 52 05.4 -3.6
comp=Z,3.2nm,0.8s,baz=21,slow=4.5,SNR=4.3
SCHQ PKKPbc 09 02 16.6
comp=Z,3.5nm,0.7s,baz=106,slow=6.1,SNR=6.1
PLCA Paso Flores 120.31 143 PKP PKPdf 08 52 06.5 -2.8
comp=Z,8.8nm,0.7s,baz=214,slow=2.8,SNR=30
OKC Ostrava-Krasne 120.56 328 *e*PKPdf PKPdf 08 52 07.7 -1.9
OKC *ep*PKP 08 52 14.6
OKC AMS AMS 09 46 40.0
comp=Z,3μm,17.7s
PSZ Piszkesteto 120.64 325 *e*PKIKP PKPdf 08 52 06.6 -3.2
MORC Moravsky Berou 120.92 328 *e*PKIKP PKPdf 08 52 07.2 -3.1
VYHS Vyhne 120.94 326 *e*PKP PKPdf 08 52 06.5 -3.9
VYHS *e*PP PP 08 53 45.1 +5.7
PWV Princeton 120.95 49 *e*PKPdf PKPdf 08 52 07.3 -3.4
MCWV Mont Chateau 120.98 46 PFAKE 08 52 20.0 +9.3
MCWV LR LR
comp=Z,6μm,19.0s,MS6.3
FWV Forest Hill 121.04 48 *e*PKPdf PKPdf 08 52 07.0 -3.8
DPC Dobruska-Polom 121.23 329 *e*PKPdf PKPdf 08 52 08.3 -2.6
DPC *ep*PKP 08 52 13.8
DPC AMS AMS 09 49 30.0
comp=Z,2μm,19.6s
UPC Upice 121.29 329 *e*PKP PKPdf 08 52 08.8 -2.2
UPC *e* 08 52 16.0
BLA Blacksburg 121.46 48 *e*PKIKP PKPdf 08 52 08.5 -3.2
BLA MLR MLR
comp=Z,8μm,20.0s,MS6.4
SRO Srobarova 121.60 326 *e*PKP PKPdf 08 52 08.4 -3.3
SUR Sutherland 121.63 228 PFAKE 08 52 20.0 +7.9
SUR LR LR
comp=Z,1μm,22.0s,MS5.5
BSEG Bad Segeberg 121.73 335 *e*PKIKP PKPdf 08 52 09.5 -2.3
LSZ Lusaka 121.74 249 *e*PKIKP PKPdf 08 52 08.9 -3.8
LSZ MLR MLR
comp=Z,2μm,21.0s,MS5.8
MBAR Mbarara 121.80 267 *e*PKIKP PKPdf 08 52 08.8 -4.1
MBAR MLR MLR
comp=Z,423nm,19.0s,MS5.1
JSC Jenkinsville 121.80 52 *e*PKIKP PKPdf 08 52 09.3 -3.1
PVCC Panska Ves 122.01 330 *e*PKPdf PKPdf 08 52 10.5 -1.9
PVCC *ep*PKP 08 52 17.8
PVCC AMS AMS 09 50 50.0
comp=Z,3μm,17.8s
ZST Bratislava 122.06 326 *e*PKP PKPdf 08 52 11.6 -0.9
BRG Berggiesshubel 122.11 330 *e*PKIKP PKPdf 08 52 08.0 -4.5
BRG *i* 08 52 17.4
BRG *i* SS SS 09 10 46.0 +24
BRG pmax pmax
comp=Z,30nm,1.1s
BRG MLR MLR
comp=N,3μm,18.6s,MS6.1
BRG MLR MLR
comp=E,3μm,18.6s,MS6.1
BRG MLR MLR
comp=Z,4μm,22.4s,MS6.1
BRG Berggiesshubel 122.11 330 *e*PKP PKPdf 08 52 08.0 -4.5
BRG *i* 08 52 17.4
BRG *e*PP PP 08 53 56.1 +8.5
BRG *i* SS SS 09 10 46.0 +24
BRG LR LR
comp=Z,4μm,22.4s,MS6.1
PKSM Moragy 122.27 324||*e*PKIKP PKPdf 08 52 09.6 -3.4
CLL Collm 122.28 331 *e*PKIKP PKPdf 08 52 08.0 -4.9
CLL *i* 08 52 17.2
CLL MLR MLR
comp=Z,7μm,19.5s,MS6.3
CLL Collm 122.28 331 *e*PKIKP PKPdf 08 52 08.0 -4.9
CLL *i* PKP PKPdf 08 52 10.9 -2.0
CLL *i* *PPKP 08 52 17.2
CLL *i* 08 52 27.0
CLL *e*PP PP 08 53 42.0 -6.7
CLL *i* *SPP 08 53 55.3
CLL *e*PKKP PKKP 09 02 05.0 -31
CLL *e*PS PS 09 03 48.0 +8.7
CLL *e*SKKP 09 06 02.0
CLL *e*SS SS 09 10 53.0 +29
CLL *e*SSS SSS 09 15 05.0 +8.0
PRU Pruhonice 122.36 329 *e*PKPdf PKPdf 08 52 10.5 -2.5
PRU *ep*PKP 08 52 17.6
PRU AMS AMS 09 48 40.0
comp=Z,3μm,19.8s
DIVS Divcibare 122.54 321||*i*PKP PKPdf 08 52 10.9 -2.6
BINY Binghamton 122.56 41 PFAKE 08 52 20.0 +6.4
BINY LR LR
comp=Z,7μm,19.0s,MS6.3
JTS JuntasAbangare 122.57 81 *e*PKIKP PKPdf 08 52 11.3 -2.9
JTS MLR MLR
comp=Z,1μm,19.0s
SKO Skopje 122.61 318 *e*PKP PKPdf 08 52 11.6 -2.1
SKO *i* 08 52 18.0
NCB Newcomb 122.85 39 *e*PKPdf PKPdf 08 52 10.4 -3.7
NCB LR LR
comp=Z,5μm,20.0s,MS6.1
NHSC New Hope 123.03 53 PFAKE 08 52 20.0 +5.3
NHSC LR LR
comp=Z,4μm,21.0s,MS6.1
CLZ Clausthal 123.15 333 *e*PKPdf PKPdf 08 52 12.0 -2.5
MIV Mineville/With 123.23 38 *e*PKPdf PKPdf 08 52 11.8 -3.1
NKC Novy Kostel 123.25 331 *e*PKPdf PKPdf 08 52 08.0 -6.7
NKC AMS AMS 09 51 20.0
comp=Z,3μm,19.1s
CBN Corbin 123.33 46 PFAKE 08 52 20.0 +4.8
CBN LR LR
comp=Z,5μm,21.0s,MS6.1
KHC Kasperske Hory 123.38 329 *e*PKP PKPdf 08 52 12.4 -2.7
KHC *e* 08 52 19.6
KHC LR LR
comp=Z,3μm,21.5s,MS6.0
KHC Kasperske Hory 123.38 329 *e*PKPdf PKPdf 08 52 12.4 -2.7
KHC *ep*PKP 08 52 19.6
KHC AMS AMS 09 46 10.0
comp=Z,3μm,21.5s
MOX Moxa 123.38 331 *e*PKIKP PKPdf 08 52 12.5 -2.5
MOX *e* 09 03 52.0
MOX MLR MLR
comp=Z,3μm,22.0s,MS5.9
MOX Moxa 123.38 331 *e*PKP PKPdf 08 52 12.5 -2.5
MOX *e*SKSP 09 03 52.0
MOX *e*SS SS 09 11 12.0 +34
MOX LR LR
comp=Z,3μm,22.0s,MS5.9
MOX Moxa 123.38 331 *i* P PKPdf 08 52 12.5 -2.5
comp=Z,logA/T=1.2
MOX *e* 09 03 52.0
MOX SS SS 09 11 12.0 +34
MOX L 09 48 24.0
DWPF Disney 123.41 59 PFAKE 08 52 20.0 +4.4
DWPF LR LR
comp=Z,4μm,19.0s,MS6.0
MDV Middlebury 123.48 38 *e*PKPdf PKPdf 08 52 12.5 -2.9
GEC2 GERESS Array S 123.50 329 *e*PKIKP PKPdf 08 52 11.4 -3.9
GERES GERESS Array B 123.50 329 PKP PKPdf 08 52 10.9 -4.4
comp=Z,5.9nm,0.7s,baz=90,slow=1.3,SNR=35
GERES PKKPbc 09 02 01.7
comp=Z,2.3nm,0.7s,baz=225,slow=1.9,SNR=14
GVD Gavdhos 123.59 309 *e*PKPdf PKPdf 08 52 11.7 -4.1
WET Wettzell 123.73 329 *e*PKIKP PKPdf 08 52 13.8 -2.0
PERS Pernice 124.06 326 *e*PKPdf PKPdf 08 52 14.1 -2.4
PERS *e* 08 52 20.7
GRA1 Grafenberg Arr 124.20 331 *e*PKPdf PKPdf 08 52 13.6 -3.1
GRA1 *ep*PKPdf 08 52 22.2
GRA1 *e*PP PP 08 54 06.6 +4.6
GRA1 *e*PS PS 09 04 05.8 +10
GRA1 *e*SS SS 09 11 13.3 +25
GRA1 LR LR
comp=Z,3μm,18.8s,MS6.0
GRF Grafenberg Arr 124.20 331 *e*PKIKP PKPdf 08 52 13.6 -3.1
GRF *e* 08 52 22.2
GRF *e* 08 54 06.6
GRF *e*SS SS 09 11 13.3 +25
GRF MLR MLR
comp=Z,3μm,18.8s,MS6.0
WTSB Winterswijk 124.62 335 *e*PKP PKPdf 08 52 16.8 -0.7
comp=Z,26nm,0.9s
BOJS Bojanci 124.64 325 *e*PKPdf PKPdf 08 52 14.7 -2.9
VOY Vojsko 125.10 326 *e*PKP PKPdf 08 52 15.0 -3.5
VOY *e* 08 52 21.6
VOY *e* 08 52 26.3
FUR Furstenfeldbru 125.17 329 *e*PKIKP PKPdf 08 52 17.5 -1.1
ROBS Robic 125.19 326 *e*PKPdf PKPdf 08 52 13.2 -5.5
ROBS *e* 08 52 20.0
HRV Harvard--Oak R 125.27 39 PFAKE 08 52 30.0 +11
HRV LR LR
comp=Z,5μm,19.0s,MS6.2
WVL Waterville 125.31 36 PFAKE 08 52 30.0 +11
WVL LR LR
comp=Z,19μm,21.0s,MS6.7
ESK Eskdalemuir 125.47 343 PFAKE 08 52 30.0 +11
ESK LR LR
comp=Z,692nm,21.0s,MS5.3
WES Weston 125.48 39 PFAKE 08 52 30.0 +11
WES LR LR
comp=Z,6μm,19.0s,MS6.3
ABH Alteburg 125.80 333 *e*P PKPdf 08 52 16.9 -2.8
STU Stuttgart 125.81 331 PKIKP PKPdf 08 52 17.0 -2.8
HGN Heimansgroeve 125.88 335 *e*PKP PKPdf 08 52 18.4 -1.5
comp=Z,29nm,1.1s
RUP Ruppelstein 126.15 333 *e*PKIKP PKPdf 08 52 18.7 -1.7
EMMW East Machias 126.50 35 PFAKE 08 52 30.0 +8.8
EMMW LR LR
comp=Z,20μm,20.0s,MS6.8
BFO Black Forest 126.53 331 *e*PKIKP PKPdf 08 52 15.5 -5.6
WLF Walferdange 126.59 333 *e*PKIKP PKPdf 08 52 18.3 -2.9
GIVF Givet 126.84 335 *e*PKIKP PKPdf 08 52 19.3 -2.3
comp=Z,99nm,1.1s
CDF Champ du Feu 126.97 332 *e*PKIKP PKPdf 08 52 19.1 -2.8
comp=Z,53nm,1.2s

FELD	Feldberg	127.00	331	eP	PKPdf	08 52 20.2	-1.8
TRQA	Tornquist	127.07	146	ePKPdf	PKPdf	08 52 19.8	-2.7
TRQA				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
TIP	Timpagrande	127.07	317	ePKPdf	PKPdf	08 52 19.7	-2.7
BAIF	Baives	127.14	335	ePKIKP	PKPdf	08 52 18.7	-3.5
ECH	Echery	127.17	332	PKP	PKPdf	08 52 21.1	-1.3
ECH	Echery	127.17	332	eP	PKPdf	08 52 21.1	-1.3
MOF	Molkenrain	127.44	331	PKP	PKPdf	08 52 19.5	-3.4
MOF	Molkenrain	127.44	331	eP	PKPdf	08 52 19.5	-3.4
AQU	L'Aquila	127.54	322	ePKIKP	PKPdf	08 52 19.3	-4.0
HINF	Hinteralfeld	127.59	331	ePKIKP	PKPdf	08 52 20.4	-2.8
	comp=Z,100nm,1.2s						
HAU	Haudompre	127.70	332	ePKIKP	PKPdf	08 52 20.7	-2.7
	comp=Z,93nm,1.2s						
HAU				eR			
	comp=Z,6μm,21.8s						
THEF	They Montfort	127.71	332	PKP	PKPdf	08 52 22.1	-1.4
MEZF	Maizieres J'vi	127.93	333	ePKIKP	PKPdf	08 52 20.6	-3.3
LOMF	Lomont	127.94	331	PKP	PKPdf	08 52 20.8	-3.1
LOMF	Lomont	127.94	331	eP	PKPdf	08 52 20.8	-3.1
NNA	Nana	128.20	109	ePKPdf	PKPdf	08 52 21.6	-3.7
NNA				LR	LR		
	comp=Z,491nm,19.0s,MS5.2						
OTAV	Otavalo	128.76	93	ePKPdf	PKPdf	08 52 24.2	-2.3
OTAV				eSKP		08 55 57.9	
OTAV				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
CABF	La Chapelle	128.82	331	ePKIKP	PKPdf	08 52 23.5	-2.1
	comp=Z,160nm,1.2s						
LPL	La Plagne	129.26	329	ePKIKP	PKPdf	08 52 24.3	-2.2
LPG	La Plagne	129.27	329	ePKIKP	PKPdf	08 52 24.4	-2.1
BNI	Bardonecchia	129.61	329	ePKIKP	PKPdf	08 52 24.1	-3.1
SSF	Saint Saulge	129.70	333	ePKIKP	PKPdf	08 52 24.9	-2.4
	comp=Z,70nm,1.1s						
MBDF	Montbardon	129.79	329	ePKIKP	PKPdf	08 52 24.9	-2.6
SMF	Signal de Mont	129.86	332	ePKIKP	PKPdf	08 52 25.0	-2.6
	comp=Z,83nm,1.2s						
SAOF	Saorge	129.88	327	PKP	PKPdf	08 52 25.7	-2.0
SAOF	Saorge	129.88	327	eP	PKPdf	08 52 25.7	-2.0
AUTN	L'Aution	129.94	328	PKP	PKPdf	08 52 25.7	-2.2
AUTN	L'Aution	129.94	328	eP	PKPdf	08 52 25.7	-2.2
AVF	Avril sur Loir	129.97	333	ePKIKP	PKPdf	08 52 25.0	-2.8
	comp=Z,28nm,1.2s						
PGF	Pioggiola	130.02	325	ePKIKP	PKPdf	08 52 25.4	-2.6
	comp=Z,149nm,1.2s						
TOUF	Mont Tournerai	130.02	328	PKP	PKPdf	08 52 27.2	-0.8
TOUF	Mont Tournerai	130.02	328	eP	PKPdf	08 52 27.2	-0.8
SBF	Sospel	130.02	327	ePKIKP	PKPdf	08 52 25.3	-2.7
	comp=Z,117nm,1.3s						
LDF	La Druitiere	130.05	337	ePKIKP	PKPdf	08 52 25.3	-2.6
FLN	La Foliniere	130.06	337	ePKIKP	PKPdf	08 52 25.3	-2.6
	comp=Z,124nm,1.3s						
FLN				eR			
	comp=Z,4μm,19.8s						
ORIF	Oris-en-Rattie	130.11	329	ePKIKP	PKPdf	08 52 25.6	-2.6
	comp=Z,47nm,1.0s						
ORIF				eR			
	comp=Z,5μm,22.2s						
BGF	Bois d'Agland	130.38	333	ePKIKP	PKPdf	08 52 26.3	-2.3
	comp=Z,88nm,1.1s						
CALN	Calern	130.39	328	PKP	PKPdf	08 52 25.5	-3.2
CALN	Calern	130.39	328	eP	PKPdf	08 52 25.5	-3.2
PLDF	La Plantade	130.46	332	PKP	PKPdf	08 52 29.0	+0.2
PLDF	La Plantade	130.46	332	eP	PKPdf	08 52 29.0	+0.2
FRF	La Foret Royal	130.65	328	ePKIKP	PKPdf	08 52 26.5	-2.7
VIVF	Saint-Julien-l	130.76	330	ePKIKP	PKPdf	08 52 27.1	-2.3
	comp=Z,47nm,1.3s						
TCF	Toulx Ste Croi	130.87	333	ePKIKP	PKPdf	08 52 27.3	-2.3
	comp=Z,69nm,1.1s						
LMR	La Mourre	130.88	328	ePKIKP	PKPdf	08 52 27.1	-2.6
	comp=Z,95nm,1.3s						
SMRF	Simiane la Rot	130.93	329	ePKIKP	PKPdf	08 52 27.7	-2.0
	comp=Z,81nm,1.3s						
VILF	Villemus	130.94	329	PKP	PKPdf	08 52 31.0	+1.2
LBL	Lubilhac	131.18	331	PKP	PKPdf	08 52 30.8	+0.6
LBL	Lubilhac	131.18	331	eP	PKPdf	08 52 30.8	+0.6
BERF	Bertagne	131.33	328	PKP	PKPdf	08 52 31.0	+0.5
LVC	Limon Verde	131.40	125	PKP	PKPdf	08 52 29.9	-1.3
	comp=Z,55nm,1.2s,baz=220,slow=1.4,SNR=10						
LVC				SKPbc		08 55 53.9	
	comp=Z,30nm,0.8s,baz=230,slow=3.5,SNR=19						
LVC	Limon Verde	131.40	125	ePKPdf	PKPdf	08 52 27.3	-3.9
LVC				eSKP		08 55 53.7	
LVC				LR	LR		
	comp=Z,2μm,22.0s,MS5.8						
MFF	Saint Martin d	131.65	335	ePKIKP	PKPdf	08 52 28.6	-2.4
LASF	Ste Croix	131.73	330	ePKIKP	PKPdf	08 52 29.2	-2.1
	comp=Z,23nm,0.9s						
ARE	Arequipa	131.74	116	P	PKPdf	08 52 30.0	-2.0
ARE				e		08 56 58.0	
CAF	Calviac	131.97	332	ePKIKP	PKPdf	08 52 29.8	-1.9
LFF	La Frestale	132.57	333	ePKIKP	PKPdf	08 52 30.7	-2.1
MTLF	Montolieu	133.08	331	ePKIKP	PKPdf	08 52 31.9	-1.9
	comp=Z,31nm,1.2s						
EPF	Esparros	134.22	332	ePKIKP	PKPdf	08 52 34.3	-1.6
EMIR	Miracle	134.48	330	PKP	PKPdf	08 52 32.8	-3.7
EBIE	Bielsa	134.57	331	PKP	PKPdf	08 52 36.0	-0.6
ETSF	Etsaut	134.74	332	ePKIKP	PKPdf	08 52 35.0	-1.9
	comp=Z,15nm,0.7s						
LPAZ	La Paz	134.79	118	PKhKP		08 52 24.2	
	comp=Z,1.5nm,0.5s,baz=257,slow=2.4,SNR=6.2						
LPAZ				PKP	PKPdf	08 52 36.2	-1.5
	comp=Z,24nm,0.9s,baz=342,slow=2.9,SNR=11						
LPAZ				SKPbc		08 56 06.5	
	comp=Z,19nm,0.8s,baz=2.6,slow=2.1,SNR=12						
LPAZ	La Paz	134.79	118	PKP	PKPdf	08 52 36.2	-1.5
LPAZ				SKPbc		08 56 06.5	
EGRA	Graus	134.86	331	PKP	PKPdf	08 52 44.0	+6.8
SJPF	Ste Jean	134.88	333	ePKIKP	PKPdf	08 52 34.9	-2.3
	comp=Z,5.6nm,0.6s						
EPOB	Poblet	135.12	330	PKP	PKPdf	08 52 35.5	-2.2
BBSR	BB Station	135.19	47	PFAKE		08 52 50.0	+12
BBSR				LR	LR		
	comp=Z,5μm,21.0s,MS6.2						
ERTA	Horta de San J	135.79	330	PKP	PKPdf	08 52 32.2	-6.6
TRIS	Tristan da Cun	136.62	198	PFAKE		08 52 50.0	+10
TRIS				LR	LR		
	comp=Z,3μm,21.0s,MS6.0						
EMOS	Mosqueruela	136.64	330	PKP	PKPdf	08 52 38.6	-1.8
EIBI	Ibiza	136.67	327	PKP	PKPdf	08 52 37.7	-2.7
SDV	Santo Domingo	136.74	82	PKhKP		08 52 27.6	
	comp=Z,3.6nm,0.7s,baz=281,slow=4.2,SNR=4.1						
SDV				PKP	PKPdf	08 52 39.6	-1.6
	comp=Z,26nm,0.8s,baz=204,slow=1.5,SNR=18						
SDV				SKPbc		08 56 11.6	
	comp=Z,17nm,1.0s,baz=318,slow=4.0,SNR=5.4						
SDV	Santo Domingo	136.74	82	ePKPdf	PKPdf	08 52 37.2	-4.1
SDV				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
EBEN	Beniarda	137.75	328	PKP	PKPdf	08 52 41.1	-1.4
GUD	Guadarrama	138.17	333	PKIKP	PKPdf	08 52 44.3	+1.0
ESDC	Sonseca Array	138.86	332	PKP	PKPdf	08 52 43.1	-1.5
	comp=Z,0.6nm,0.3s,baz=15,slow=3.2,SNR=6.6						
ESDC				PP	PP	08 55 32.8	-3.4
	comp=Z,0.3nm,0.3s,baz=24,slow=5.7,SNR=4.1						
ESDC	Sonseca Array	138.86	332	PKP	PKPdf	08 52 46.0	+1.4
EVIA	Vianos	138.97	330	PKIKP	PKPdf	08 52 43.1	-1.7
SJG	San Juan	139.59	67	PKhKP		08 52 37.9	
	comp=Z,8.0nm,0.3s,baz=20,slow=19,SNR=3.2						
SJG				PKP	PKPdf	08 52 44.4	-2.0
	comp=Z,39nm,0.8s,baz=350,slow=1.3,SNR=5.5						
SJG				SKPbc		08 56 19.4	
	comp=Z,28nm,1.0s,baz=241,slow=4.1,SNR=2.6						
SJG	San Juan	139.59	67	ePKPdf	PKPdf	08 52 42.8	-3.6
SJG				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
MTE	Manteigas	139.81	336	ePKP	PKPdf	08 52 45.3	-0.9
MTE				eLR	LR	09 41 23.0	
	comp=Z,2μm,20.0s						
EQES	Quesada	139.90	330	PKP	PKPdf	08 52 44.7	-1.8
EADA	Adamuz	140.35	331	PKP	PKPdf	08 52 44.1	-3.2
EBER	Berja	140.49	329	PKP	PKPdf	08 52 45.1	-2.5
EBAD	Badajoz	140.97	334	PKP	PKPdf	08 52 45.0	-3.4
EALB	Alboran	141.29	328	PKP	PKPdf	08 52 41.4	-7.7
EVO	Evora	141.58	335	ePKIKP	PKPdf	08 52 45.8	-3.7
	comp=Z,50nm,1.2s						
EVO				eR			
	comp=Z,4μm,22.8s						
EMIN	Mina Concepcio	141.64	333	PKP	PKPdf	08 52 46.6	-3.0
EMIJ	Mijas	141.71	330	PKP	PKPdf	08 52 49.5	-0.2
ESPR	Espera	141.99	332	PKP	PKPdf	08 52 46.5	-3.7
EGRO	El Granado	142.19	334	PKP	PKPdf	08 52 51.5	+0.9
BIM	Bigot	145.21	71⇓	eP	PKPbc	08 52 54.3	+1.8
TPP	Pointe-a-Pierr	145.62	78	eP	PKPbc	08 52 56.2	+2.7
TRN	Trinidad (W)	145.62	77	eP	PKPbc	08 52 54.3	+0.7
ADH	Angra Heroismo	145.72	360	i LR	LR	09 41 40.0	
TBH	Brigand Hill	145.97	78	e	PKPbc	08 53 01.3	+6.9
TPR	Prospect	146.15	76	eP	PKPbc	08 52 53.6	-1.2
TPR	Prospect	146.15	76	eP	PKPbc	08 52 55.5	+0.7
BOT	Bacolet	146.21	76	eP	PKPbc	08 52 58.3	+3.3
BOT	Bacolet	146.21	76	e	PKPbc	08 52 58.3	+3.3
BDFB	Brasilia	151.56	134	PKP	PKPdf	08 53 04.0	-2.6
	comp=Z,13nm,0.9s,baz=234,slow=2.0,SNR=13						
BDFB				PKPbc	PKPdf	08 53 11.1	+4.6
	comp=Z,80nm,0.6s,baz=281,slow=1.8,SNR=45						
BAO	Brasilia Array	151.58	134	P	PKPdf	08 53 05.0	-1.6
BAO				i		08 53 11.3	
BAO				i		08 53 21.0	
CFTV	Fuerteventura	152.84	334	PKP	PKPdf	08 53 08.1	+0.1
CCAN	Las Canadas	154.04	338	PKP	PKPdf	08 53 13.3	+3.6
DBIC	Dimbokro	157.51	277	PKP	PKPdf	08 53 12.8	-2.0
	comp=Z,3.5nm,0.9s,baz=64,slow=5.1,SNR=4.2						
DBIC				PKPab	PKPab	08 53 45.7	+1.0
	comp=Z,9.0nm,0.8s,baz=80,slow=2.7,SNR=6.0						
DBIC	Dimbokro	157.51	277	PKP	PKPdf	08 53 12.8	-2.0
DBIC				PKPab	PKPab	08 53 45.7	+1.0
RCBR	Riachuelo	166.85	139	PFAKE		08 53 30.0	+5.8
RCBR				LR	LR		
	comp=Z,3μm,19.0s						

MAN 14 08:46:40.9, 10.51N×125.30E, h4km, mb4.7, ML3.5, MS3.5, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.57	230	eP	Pg	08 46 52.1	-0.3
MSLP				eS	Sg	08 47 01.9	+1.9
SCPH	Surigao	0.74	166⇓	eP	Pg	08 46 54.9	-0.9
SCPH				eS	Sg	08 47 05.0	-0.6
OCLP	Ormoc	0.87	309	eP	Pb	08 46 58.4	+0.1
BESP	Borongan	1.10	7	eP	Pb	08 47 01.2	-0.9
LLP	Lapu-Lapu	1.33	262	eP	Pb	08 47 05.7	-0.3
LLP				i S	Sb	08 47 24.4	+1.0
TBP	Tagbilaran	1.63	240	eP	Pn	08 47 09.9	-0.7
TBP				eS	Sb	08 47 32.3	+0.1
SNPH	Sibulan	2.34	241	eP	Pn	08 47 23.5	+2.7
PAGZ	Pagadian	3.25	216	eP	Pn	08 47 34.9	+1.2

IDC 14 08:47:45.8±2.1, 17.62S×69.35W, h138km±17km, mb3.5/2, mb1 3.6/3, mb1mx3.3/14, mbtmp3.9/3, Error ellipse: s-maj=40.4km s-min=20.2km az=104.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.77	42	P	P	08 48 19.2	+1.3
	27nm,0.3s,baz=240,slow=7.8,SNR=640						
LPAZ				S	S	08 48 42.9	+0.5
	12nm,0.3s,baz=85,slow=19,SNR=18						
LVC	Limon Verde	4.98	175	P	P	08 48 58.6	-1.2
	1.2nm,0.3s,baz=347,slow=14,SNR=10.0						
LVC				S	S	08 49 50.7	-6.1
	3.1nm,0.3s,baz=87,slow=22,SNR=16						
BDFB	Brasilia	20.54	88	P	P	08 52 13.8	-1.3
	2.9nm,0.4s,baz=264,slow=6.8,SNR=5.0						
YKA	Yellowknife Ar	87.41	341	P	P	09 00 16.8	-1.3
	0.6nm,0.7s,baz=133,slow=4.8,SNR=12						

BJI 14 09:06:44.1, 4.97S×153.06E, h40km, mb4.8
NEIC 14 09:06:47.3±0.6, 4.30S×152.80E, h10km, mb4.9/5, Error ellipse: s-maj=22.6km s-min=12.8km az=117.0
IDC 14 09:06:49.1±3.6, 4.25S×152.85E, h20km±21km, mb4.1/9, mb1 4.3/11, mb1mx4.3/15, mbtmp4.2/11, ML3.3/2, Error ellipse: s-maj=31.2km s-min=16.5km az=114.0, Putative timing error at PDAR

ISC 14 09:06:53.8±3.6, 4.3S±0.1×152.7E±0.2, h71km±31km, n21, σ0°79/19, mb4.3/14, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.45	227	Pn	P	09 08 41.4	-0.6
	2.9nm,0.3s,baz=343,slow=3.8,SNR=12						
PMG				Sn	S	09 10 06.2	+0.5
	2.1nm,0.3s,baz=116,slow=19,SNR=4.0						
CTA	Charters Tower	16.89	201	P	P	09 10 47.8	+0.7
	0.1nm,0.3s,baz=310,slow=9.6,SNR=2.7						
WRAB	Tennant Creek	23.66	227	eP	P	09 11 59.8	+0.2
	30nm,0.6s,mb4.8						
WRA	Warramunga Arr	23.67	227	P	P	09 12 00.5	+0.7
	19nm,0.5s,mb4.7,baz=51,slow=9.5,SNR=138						
WRA				ScP		09 19 21.3	
	1.3nm,1.1s,baz=60,slow=3.2,SNR=4.0						
ASAR	Alice Springs	26.43	221	P	P	09 12 25.6	-0.4
	2.0nm,0.4s,mb3.9,baz=53,slow=8.7,SNR=45						
ASAR				ScP		09 19 30.1	
	0.7nm,0.8s,baz=24,slow=2.4,SNR=4.2						
STKA	Stephens Creek	29.34	199	P	P	09 12 51.0	-1.2
	1.3nm,0.4s,mb3.9,baz=38,slow=14,SNR=5.0						
MBWA	Marble Bar	36.09	239	eP	P	09 13 49.4	-1.5
	11nm,0.6s,mb5.0						
JOW	Kunigami	38.89	324	P	P	09 14 14.7	+0.6
	67nm,1.1s,mb5.4,baz=168,slow=9.3,SNR=3.7						
SONM	Songino Array	65.81	328	P	P	09 17 34.3	+0.6
	1.2nm,0.8s,mb3.8,baz=135,slow=3.5,SNR=5.8						
CASY	Casey	68.46	197	eP	P	09 17 49.8	-0.3
	2.8nm,0.4s,mb4.5						
VNDA	Vanda	73.34	178	P	P	09 18 20.4	+1.2
	4.4nm,0.8s,mb4.4,baz=342,slow=8.2,SNR=6.1						
VNDA	Vanda	73.34	178	eP	P	09 18 20.5	+1.3
	5.7nm,0.9s,mb4.4						
ILAR	Eielson Array	81.74	22	P	P	09 19 04.7	-1.2
	1.0nm,0.8s,mb3.7,baz=262,slow=6.9,SNR=8.0						
QSPA	South Pole Qui	85.67	180⇑	eP	P	09 19 30.7	+5.4
	18nm,0.8s,mb5.0						
NVAR	Mina Array Bea	91.89	52	P	P	09 19 56.4	+0.6
	0.5nm,0.6s,mb3.9,baz=307,slow=2.3,SNR=5.3						
NVAR	Mina Array Bea	91.89	52	P	P	09 19 56.4	+0.6
YKA	Yellowknife Ar	95.05	28	P	P	09 20 09.6	0.0
	0.2nm,0.8s,mb3.6,baz=271,slow=4.6,SNR=4.2						
PDAR	Pinedale Array	98.62	48	P	P	09 20 35.9	+10
	0.4nm,0.8s,mb4.0,baz=307,slow=4.5,SNR=3.6						
LPAZ	La Paz	134.79	118	PKP	PKPdf	09 26 06.0	+0.4
	1.5nm,0.8s,baz=255,slow=2.0,SNR=6.0						
LPAZ	La Paz	134.79	118	PKP	PKPdf	09 26 06.0	+0.4
BDFB	Brasilia	151.53	135	PKPbc	PKPdf	09 26 43.4	+9.0
	4.2nm,0.5s,baz=339,slow=2.3,SNR=5.3						

IDC 14 09:17:58.6±4.4, 4.10S×152.05E, mb4.2/4, mb1 4.3/5, mb1mx4.0/14, mbtmp4.2/5, ML3.1/1, Error ellipse: s-maj=99.5km s-min=46.6km az=163.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.17	222	Pn	Pn	09 19 50.9	+3.6
	1.9nm,0.3s,baz=51,slow=14,SNR=7.1						
PMG				Sn	Sn	09 21 14.6	+4.2
	0.4nm,0.3s,baz=130,slow=21,SNR=1.7						
WRA	Warramunga Arr	23.37	226	P	P	09 23 09.8	-0.1
	5.2nm,0.6s,baz=50,slow=10.0,SNR=63						
ASAR	Alice Springs	26.18	220	P	P	09 23 35.0	-1.8
	1.2nm,0.7s,baz=57,slow=8.7,SNR=6.9						
STKA	Stephens Creek	29.33	198	P	P	09 24 03.6	-1.7
	3.7nm,0.9s,baz=23,slow=13,SNR=2.4						
VNDA	Vanda	73.56	178	P	P	09 29 32.4	-2.5
	1.2nm,0.7s,baz=331,slow=5.7,SNR=12						

NEIC 14 09:24:30.3, 55.04N×160.45W, h13km, ML3.5(AEIC), After AEIC., Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOL	Dolgoi Island	0.82	278	P	Pb	09 24 44.6	-1.3
DOL				S	Sb	09 24 55.8	-0.9
PVV	Pavlof Volcano	0.84	294	P	Pb	09 24 45.2	-1.0
PVV				S	Sb	09 24 56.8	-0.4
HAG	Hague Volcano	0.88	289	P	Pb	09 24 46.1	-0.8
HAG				S	Sb	09 24 58.0	-0.3
DTNA	Dutton South F	1.04	277	P	Pb	09 24 48.4	-1.4
DTNA				S	Sb	09 25 02.8	-0.3
DT1	Dutton Round H	1.06	274	P	Pb	09 24 48.4	-1.6
DT1				S	Sb	09 25 02.7	-0.8
FALS	False Pass	1.72	265	P	Pn	09 24 59.4	-0.9
FALS				S	Sn	09 25 20.9	-1.4

MOS 14 09:47:16.6±1.3, 51.68N×16.07E, h10km, mb3.5/1, Error ellipse: s-maj=10.9km s-min=5.2km az=86.5
IPEC 14 09:47:17.4±0.4, 51.56N×16.18E, ML2.8/3, Error ellipse: s-maj=2.4km s-min=1.1km az=22.0
BGR 14 09:47:17.4±0.6, 51.69N×16.09E, h1km, ML3.5/8, Error ellipse: s-maj=7.8km s-min=4.4km az=159.0
NEIC 14 09:47:17.8±0.5, 51.60N×16.09E, h5km, ML3.5(SZGRF), ML3.3(VIE), ML3.1(CLL), Error ellipse: s-maj=6.3km s-min=4.5km az=56.0
IDC 14 09:47:18.8±0.7, 51.52N×15.98E, mb3.4/2, mb1 3.6/10, mb1mx3.5/22, mbtmp3.5/10, ML3.4/8, Error ellipse: s-maj=10.4km s-min=6.7km az=118.0
PRU 14 09:47:19.8, 51.47N×16.06E
WAR 14 09:47:19.5, 51.51N×16.08E, h1km, ML3.4, Mining Induced
CSEM 14 09:47:20.0±0.1, 51.46N×16.07E, h2km, ML3.6/5, Error ellipse: s-maj=2.6km s-min=1.2km az=19.0

ISC 14 09:47:16.5±0.4, 51.51N±0.02×16.11E±0.03, n87, σ1°29/149, mb3.5/2, 5C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	170	i PG	Pg	09 47 32.0	+2.0
KSP				eSG	Sg	09 47 41.0	+2.0
KSP	Ksiaz	0.68	170⇓	i P	Pg	09 47 32.0	+2.0
KSP				e		09 47 47.0	
KSP	Ksiaz	0.68	170⇓	i Pg	Pg	09 47 32.0	+2.0
KSP				eSg	Sg	09 47 40.8	+1.8
KSP				e		09 47 47.0	
KSP	Ksiaz	0.68	170	ePg	Pg	09 47 32.0	+2.0
KSP				eSg	Sg	09 47 41.0	+2.0
KSP	Ksiaz	0.68	170⇓	i Pg	Pg	09 47 32.0	+2.0
KSP				eSg	Sg	09 47 40.8	+1.8
UPC	Upice	1.00	183	ePG	Pg	09 47 37.9	+1.4
DPC	Dobruska-Polom	1.17	173	ePG	Pg	09 47 40.6	+0.8
DPC				eSG	Sg	09 47 55.5	+0.2
	222nm,0.8s						
DPC	Dobruska-Polom	1.17	173	ePg	Pg	09 47 40.7	+0.9
DPC				Sg	Sg	09 47 55.5	+0.2
	222nm,0.8s						
PVCC	Panska Ves	1.38	225	ePg	Pg	09 47 44.4	+0.3
PVCC				eSg	Sg	09 48 03.3	+0.8
BRG	Berggiesshubel	1.50	246	ePg	Pg	09 47 46.1	-0.4
BRG				eSg	Sg	09 48 07.4	+0.9
BRG	Berggiesshubel	1.50	246	eP	Pn	09 47 45.4	+0.6
BRG				i		09 48 06.9	
BRG	Berggiesshubel	1.50	246	ePn	Pn	09 47 45.4	+0.6
BRG				i Pg	Pg	09 47 47.4	+0.9
BRG				i Sg	Sg	09 48 06.9	+0.4
BRG	Berggiesshubel	1.50	246	ePn	Pn	09 47 46.5	+1.7
BRG	Berggiesshubel	1.50	246	i Pg	Pg	09 47 47.4	+0.9
BRG				eSg	Sg	09 48 06.8	+0.3
RUE	Ruedersdorf	1.74	305	ePg	Pn	09 47 48.1	0.0
RUE				eSn	Sn	09 48 07.6	-3.7
PRU	Pruhonice	1.82	214	eP	Pn	09 47 50.1	+0.8
PRU				e		09 48 16.1	
PRU	Pruhonice	1.82	214	ePn	Pn	09 47 50.1	+0.8
PRU				ePg	Pg	09 47 51.8	-1.0
PRU				eSg	Sg	09 48 16.1	-0.9
PRU	Pruhonice	1.82	214	ePN	Pn	09 47 50.2	+0.9
PRU				PG	Pg	09 47 51.6	-1.2
PRU				eSG	Sn	09 48 13.6	+0.2
	67nm,0.4s						
GKP	Gorka Klasztor	1.90	21	ePn	Pn	09 47 58.8	+8.4
GKP				eP*	Pb	09 48 00.0	+8.3
GKP				ePg	Pg	09 48 01.6	+7.2
GKP				eSn	Sn	09 48 19.5	+4.1
RAC	Raciborz	1.95	136	eP	Pn	09 47 56.0	+4.9
RAC				eS	Sn	09 48 22.0	+5.4
RAC	Raciborz	1.95	136	eSg	Sg	09 48 21.6	+0.3
CLL	Collm	1.95	265	ePn	Pn	09 47 51.8	+0.5
CLL				eSg	Sg	09 48 20.3	-1.3
CLL	Collm	1.95	265	i P	Pn	09 47 51.7	+0.4
CLL				i		09 48 20.6	
CLL	Collm	1.95	265	i Pn	Pn	09 47 51.7	+0.4
CLL				i Pg	Pg	09 47 55.0	-0.5
CLL				i Sg	Sg	09 48 20.6	-1.0
CLL	Collm	1.95	265	i PN	Pn	09 47 51.7	+0.4
	logA/T=1.7						
CLL				i PG	Pg	09 47 55.0	-0.5
CLL				i		09 47 57.9	
CLL				i		09 48 16.4	
CLL				i SG	Sg	09 48 20.6	-1.0
CLL				i		09 48 42.2	
CLL	Collm	1.95	265	i Pg	Pg	09 47 55.0	-0.5
MORC	Moravsky Berou	1.96	152	ePn	Pn	09 47 52.2	+0.9
MORC				eSn	Sn	09 48 20.7	+3.7
MORC	Moravsky Berou	1.96	152	ePn	Pn	09 47 52.2	+0.9
MORC	Moravsky Berou	1.96	152	eSg	Sn	09 48 20.1	+3.1
	75nm,0.5s						
OKC	Ostrava-Krasne	2.12	141	eSG	Sg	09 48 26.0	-1.0
VRAC	Vranov	2.22	172	Pn	Pn	09 47 56.9	+1.8
	4.9nm,0.3s,baz=353,slow=15,SNR=13

VYHS eSg Sg 09 49 13.0 +0.2
VYHS Vyhne 3.49 149 eSG Sg 09 49 11.8 -1.0
VYHS Vyhne 3.49 149 i Pg Pg 09 48 22.2 -4.0
GRA1 Grafenberg Arr 3.60 242 ePn Pn 09 48 15.6 +0.8
GRA1 eSg Sg 09 49 14.8 -1.7
GRA1 Grafenberg Arr 3.60 242 Pn Pn 09 48 15.6 +0.8
GRA1 Sg Sg 09 49 14.8 -1.7
GRF Grafenberg Arr 3.60 242 ePn Pn 09 48 15.6 +0.8
GRF eSg Sg 09 49 14.8 -1.7
BSD Bornholm Skovb 3.68 349 i P Pn 09 48 15.4 -0.5
BSD i S Sn 09 48 57.0 -3.7
MOA Molln 3.85 199⇑ i PN Pn 09 48 19.1 +0.8
MOA i SG Sg 09 49 22.5 -2.2
25nm,0.6s
KECS Kecovo 4.14 135 i P Pg 09 48 37.4 -1.8
KECS Kecovo 4.14 135 eSG Sg 09 49 33.4 -0.9
ARSA Arzberg 4.28 185⇑ i PN Pn 09 48 25.7 +1.3
ARSA i SG Sg 09 49 35.0 -3.9
40nm,0.8s
CRVS Cervenica-Dubn 4.32 125 eP Pn 09 48 28.3 +3.4
CRVS Cervenica-Dubn 4.32 125 i PN Pn 09 48 28.0 +3.1
CRVS e 09 48 41.2
CRVS Cervenica-Dubn 4.32 125 ePg Pg 09 48 41.2 -1.5
KOLS Kolonicke sedl 4.72 121 i PN Pn 09 48 30.9 +0.2
KOLS ePG Pg 09 48 47.8 -3.0
KOLS Kolonicke sedl 4.72 121 ePg Pg 09 48 47.8 -3.0
KOLS eSg Sg 09 49 51.7 -2.1
KBA Koelnbreinsper 4.79 203⇑ i PN Pn 09 48 32.5 +0.9
KBA i SG Sg 09 49 52.3 -3.6
17nm,0.5s
OBKA Obir 5.11 192⇑ i PN Pn 09 48 36.8 +0.7
OBKA i PG Pg 09 48 55.4 -3.0
OBKA i SG Sg 09 50 02.3 -4.2
12nm,0.7s
OBKA Obir 5.11 192⇑ i Pn Pn 09 48 36.8 +0.7
12nm,0.7s
OBKA i Pg Pg 09 48 55.4 -3.0
OBKA i Sg Sg 09 50 02.3 -4.2
DAVOX Davos 6.25 223 Pn Pn 09 48 52.1 -0.2
0.4nm,0.3s,baz=18,slow=16,SNR=3.1
DAVOX Sn Sn 09 50 02.0 -3.3
0.3nm,0.3s,baz=287,slow=19,SNR=2.1
DAVOX Lg 09 50 37.2
0.4nm,0.3s,baz=9.4,slow=23,SNR=2.1
AKASG Malin Array Be 8.30 90 P P 09 49 18.0 -3.0
AKASG 09 50 48.9
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 8.30 90 Pn P 09 49 18.0 -3.0
comp=Z,1.8nm,0.3s,baz=278,slow=12,SNR=9.5
AKASG Sn Sn 09 50 48.9 -7.7
comp=Z,1.0nm,0.3s,baz=268,slow=24,SNR=3.1
HFS Hagfors 8.75 352 Pn P 09 49 22.7 -4.6
comp=Z,0.1nm,0.3s,baz=164,slow=22,SNR=4.4
FINES FINESS Array B 11.37 25 Pn P 09 49 58.8 -4.3
comp=Z,0.4nm,0.3s,baz=205,slow=11,SNR=8.4
EKA Eskdalemuir Ar 12.11 296 Pn P 09 50 09.1 -4.0
comp=Z,0.2nm,0.3s,baz=105,slow=14,SNR=2.6
ARCES ARCESS Array B 16.63 10 Pn P 09 51 32.4 -4.8
comp=Z,0.2nm,0.3s,baz=193,slow=12,SNR=6.9
BVAR Borovoye Array 32.59 66 P P 09 53 52.0 +0.6
comp=Z,0.5nm,0.7s,mb3.5,slow=1.4,SNR=3.1
YKA Yellowknife Ar 59.86 336 P P 09 57 25.3 -0.4
comp=Z,0.3nm,0.6s,mb3.5,baz=33,slow=6.6,SNR=5.8

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*BJI **14** 09:59:01.8, 9.73N×91.64E, h19km, mB5.1, mb4.6, Ms4.4, Msz4.3*
*IDC **14** 09:59:02.9±0.6, 10.03N×91.56E, mb4.3/15, mb1 4.4/16, mb1mx4.3/22, mbtmp4.2/16, ML4.2/1, Error ellipse: s-maj=24.1km s-min=13.3km az=52.0*
*NEIC **14** 09:59:03.6±6.4, 10.04N×91.58E, h5km±39km, mb4.7/10, Error ellipse: s-maj=14.0km s-min=7.1km az=49.0*
*MOS **14** 09:59:05.8±0.9, 10.12N×91.68E, h33km, mb4.9/13, Error ellipse: s-maj=17.3km s-min=9.3km az=115.8*
ISC 14 09:59:02.9±1.8, 10.00N±0.06×91.52E±0.06, h16km±12km, h23km±3.1km; pP-P, n71, σ1°07/79, mb4.5/33, MS4.5/5, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VIS	**Vishakhapatnam**	**11.05**	**315**	*eP*	**P**	**10 01 41.6**	**-2.0**
VIS				*eS*	**S**	**10 03 32.9**	**-15**
VIS				*eS*	**S**	**10 03 33.2**	**-15**
VIS				*e*		10 03 37.1
	comp=N,194nm,0.6s					
VIS				*e*		10 03 37.1
	comp=E,172nm,0.6s					
CMAR	**Chiang Mai Arr**	**11.07**	**40**	Pn	**P**	**10 01 42.0**	**-1.8**
	comp=E,0.5nm,0.3s,baz=233,slow=14,SNR=18					
BWNR	**Bhubaneshwar**	**11.63**	**332**	*eP*	**P**	**10 01 45.9**	**-5.5**
BWNR				*eS*	**S**	**10 03 46.8**	**-15**
BWNR				*e*		10 03 49.9
	comp=E,127nm,0.3s					
BWNR				*e*		10 03 49.9
	comp=N,95nm,0.4s					
HYB	**Hyderabad**	**14.59**	**302**	*eP*	**P**	**10 02 40.0**	**+9.1**
HYB				*eS*	**S**	**10 05 10.0**	**-3.1**
HYB	**Hyderabad**	**14.59**	**302**	*i P*	**P**	**10 02 40.0**	**+9.1**
HYB				*eS*	**S**	**10 05 10.0**	**-3.1**
BLSP	**Bilaspur**	**15.05**	**324**	*eP*	**S**	**10 05 12.0**	**-12**
SHL	**Shillong**	**15.49**	**1**	*eP*	**P**	**10 02 47.5**	**+4.9**
SHL				*eS*	**S**	**10 05 25.2**	**-9.1**
JIRN	**Jiri**	**18.27**	**345**	*eP*	**P**	**10 03 20.9**	**+3.2**
	comp=N,31nm,0.7s						
PKI	**Pulchoki**	**18.41**	**343**	*eP*	**P**	**10 03 20.2**	**+0.8**
	comp=N,30nm,0.9s						
DMN	**Daman**	**18.53**	**342**	*eP*	**P**	**10 03 21.0**	**+0.1**
	comp=N,29nm,0.7s						
GUN	**Gumba**	**18.59**	**344**	*eP*	**P**	**10 03 23.6**	**+1.9**
	comp=N,42nm,0.8s						
BHPL	**Bhopal**	**18.84**	**316**	*eP*	**P**	**10 03 24.3**	**-0.3**
BHPL				*e*		10 03 27.9
	comp=Z,8.9nm,0.3s					
BHPL				*eS*	**S**	**10 06 51.5**	**+0.5**
GKN	**Gorkha**	**19.05**	**341**	*eP*	**P**	**10 03 27.0**	**-0.1**
	comp=Z,59nm,0.7s						
POO	**Poona**	**19.09**	**298**	*eP*	**P**	**10 03 24.9**	**-2.9**
POO				*e*		10 03 26.3
	comp=Z,8.6nm,0.5s						
POO				*eS*	**S**	**10 06 50.2**	**-6.7**
KOLN	**Koldanda**	**19.19**	**338**	*eP*	**P**	**10 03 28.8**	**0.0**
	comp=Z,38nm,0.8s						
LSA	**Lhasa**	**19.61**	**359**	P	**P**	**10 03 34.1**	**+0.5**
LSA	**Lhasa**	**19.61**	**359**	*eP*	**P**	**10 03 33.3**	**-0.3**
	comp=Z,31nm,0.8s						
NDI	**New Delhi**	**22.93**	**326**	*eP*	**P**	**10 04 08.0**	**+0.4**
DDI	**Dehra Dun**	**23.80**	**330**	*eP*	**P**	**10 04 16.6**	**+0.6**
DDI				*eS*	**S**	**10 08 33.4**	**+5.7**
ENH	**Enshi**	**26.22**	**37**	*eP*	**P**	**10 04 38.3**	**-0.8**
	comp=Z,21nm,0.8s,mb4.7						
LZH	**Lanzhou**	**28.28**	**21**	*eP*	**P**	**10 04 59.1**	**+1.3**
LZH				AP	pP	10 05 04.5	+2.1
LZH				XP	sP	10 05 07.6	+3.2
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,89nm,4.0s						
LZH				LR	LR		
	comp=E,589nm,15.2s						
LZH				LR	LR		
	comp=Z,749nm,16.7s,MS4.4						
NJ2	**Nanjing**	**33.48**	**45**	*eP*	**P**	**10 05 45.1**	**+1.4**
NJ2				AP	pP	10 05 49.6	+1.2
NJ2				XP	sP	10 05 52.1	+1.7
NJ2				PP	PP	10 06 57.0	+1.0
NJ2				S	**S**	**10 11 05.0**	**+1.4**
NJ2				XS		10 11 13.0
NJ2				LR	LR		
	comp=N,830nm,20.4s						
NJ2				LR	LR		
	comp=E,860nm,29.3s						
NJ2				LR	LR		
	comp=Z,690nm,21.8s,MS4.3						
WMQ	**Urumqi**	**33.86**	**355**	*eP*	**P**	**10 05 48.0**	**+1.1**
WMQ				AP	pP	10 05 57.8	+6.2
WMQ				XP	sP	10 06 01.6	+8.0
WMQ				PP	PP	10 07 01.6	+1.1
WMQ				S	**S**	**10 11 08.6**	**-0.8**
WMQ				XS		10 11 24.6
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,35nm,4.8s						
WMQ				LR	LR		
	comp=N,995nm,18.6s,MS4.7						
WMQ				LR	LR		
	comp=E,811nm,19.4s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,19.6s,MS4.6						
SSE	**Sheshan**	**34.63**	**48**	P	**P**	**10 05 50.3**	**-3.4**
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,297nm,9.0s						
AAK	**Ala-Archa**	**35.76**	**338**	*i P*	**P**	**10 06 03.6**	**+0.4**
AAK				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
AAK	**Ala-Archa**	**35.76**	**338**	*eP*	**P**	**10 06 03.7**	**+0.5**
	comp=Z,11nm,1.0s,mb4.7						
SONM	**Songino Array**	**39.75**	**16**	P	**P**	**10 06 37.5**	**+0.9**
	comp=Z,4.9nm,0.9s,mb4.3,baz=200,slow=8.9,SNR=33						
SONM				PcP	PcP	10 08 44.3	+0.8
	comp=Z,1.2nm,0.9s,baz=198,slow=4.6,SNR=3.8						
ULN	**Ulaanbaatar**	**39.96**	**16**	*eP*	**P**	**10 06 38.2**	**-0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**39.96**	**16**	*eP*	**P**	**10 06 38.2**	**-0.1**
	comp=Z,3.1nm,0.8s,mb4.1						
ZAK	**Zakamensk**	**41.42**	**11**	*eP*	**P**	**10 06 49.6**	**-0.7**
ZAK				*e*		10 08 45.0	
TLY	**Talaya**	**42.73**	**11**	*i P*	**P**	**10 07 00.4**	**-0.6**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
ZAL	**Zalesovo**	**44.15**	**354**	P	**P**	**10 07 13.9**	**+1.3**
	comp=Z,2.0nm,0.5s,mb4.2,baz=295,slow=7.2,SNR=12						
NVS	**Novosibirsk**	**45.21**	**353**	*eP*	**P**	**10 07 16.9**	**-4.1**
BVAR	**Borovoye Array**	**46.18**	**342**	P	**P**	**10 07 28.8**	**+0.1**
	comp=Z,2.1nm,0.8s,mb4.1,baz=149,slow=8.6,SNR=10						
BRVK	**Borovoye**	**46.24**	**342**	*eP*	**P**	**10 07 29.0**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BRVK	**Borovoye**	**46.24**	**342**	*eP*	**P**	**10 07 29.0**	**-0.1**
	comp=Z,2.5nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**46.68**	**343**	*eP*	**P**	**10 07 32.9**	**+0.2**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**46.68**	**343**	*eP*	**P**	**10 07 32.9**	**+0.2**
	comp=Z,6.8nm,0.8s,mb4.6						
NWAO	**Narrogin (SRO)**	**49.23**	**151**	P	**P**	**10 07 53.4**	**+0.6**
	comp=Z,8.5nm,0.8s,mb4.8,baz=172,slow=5.1,SNR=3.5						
BOD	**Bodaibo**	**50.75**	**15**	*eP*	**P**	**10 08 03.7**	**-0.4**
GNI	**Garni**	**51.11**	**314**	*i P*	**P**	**10 08 08.2**	**+1.1**
GNI				pmax	pmax		
	comp=Z,19nm,1.3s						
GNI	**Garni**	**51.11**	**314**	P	**P**	**10 08 08.0**	**+0.9**
	comp=Z,3.1nm,0.6s,mb4.5,baz=231,slow=7.4,SNR=5.7						
GNI	**Garni**	**51.11**	**314**	*eP*	**P**	**10 08 08.6**	**+1.5**
	comp=Z,26nm,1.2s,mb5.0						
WRA	**Warramunga Arr**	**51.59**	**125**	P	**P**	**10 08 10.5**	**-0.5**
	comp=Z,7.0nm,1.0s,mb4.5,baz=300,slow=9.8,SNR=46						
WRAB	**Tennant Creek**	**51.60**	**125**	*i P*	**P**	**10 08 10.1**	**-1.0**
WRAB	**Tennant Creek**	**51.60**	**125**	*eP*	**P**	**10 08 11.0**	**-0.1**
	comp=Z,12nm,0.8s,mb4.9						
TI2	**Plekhanov**	**51.73**	**316**	*eP*	**P**	**10 08 14.2**	**+2.4**
TI2				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
ZEI	**Tsey**	**52.73**	**317**	*eP*	**P**	**10 08 20.3**	**+1.0**
ZEI				*i* *PP	pP	10 08 28.8	+4.7
ZEI				*i*		10 10 19.9	
ZEI				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
ASAR	**Alice Springs**	**53.26**	**130**	P	**P**	**10 08 23.0**	**-0.5**
	comp=Z,6.9nm,1.2s,mb4.5,baz=302,slow=7.0,SNR=13						
ASAR				PcP	PcP	10 09 31.6	+0.4
	comp=Z,0.8nm,0.7s,baz=310,slow=4.0,SNR=2.6						
CLNS	**Chul'man**	**53.40**	**22**	*eP*	**P**	**10 08 22.3**	**-1.8**
CLNS				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
CLNS				pmax	pmax		
	comp=N,8.0nm,1.1s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.9s						
KIV	**Kislovodsk**	**54.01**	**318**	*eP*	**P**	**10 08 29.4**	**+0.7**
KIV				*e*	pP	10 08 35.7	+2.2
KIV						10 09 30.0	
KIV				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
KIV	**Kislovodsk**	**54.01**	**318**	*eP*	**P**	**10 08 28.9**	**+0.2**
	comp=Z,17nm,0.8s,mb5.0						
MALT	**Malatya**	**55.12**	**310**	*eP*	**P**	**10 08 37.3**	**+0.3**
MALT				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
MALT	**Malatya**	**55.12**	**310**	*eP*	**P**	**10 08 37.3**	**+0.3**
	comp=Z,3.6nm,1.0s,mb4.4						
KMBO	**Kilima Mbogo**	**55.12**	**262**	P	**P**	**10 08 39.3**	**+2.0**
	comp=Z,0.6nm,0.7s,mb3.8,baz=47,slow=23,SNR=1.8						
SOC	**Sochi**	**55.87**	**316**	*eP*	**P**	**10 08 41.1**	**-1.1**
SOC				*eS*	**S**	**10 16 25.8**	**-1.4**
SOC				*e*SS	SS	10 20 13.3	+0.2
SOC				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
SOC				pmax	pmax		
	comp=N,3.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,8.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,228nm,16.0s,MS4.3						
SOC				MLR	MLR		
	comp=N,182nm,13.0s,MS4.4						
SOC				MLR	MLR		
	comp=E,112nm,16.0s,MS4.4						
YAK	**Yakutsk**	**58.85**	**20**	*i P*	**P**	**10 09 01.9**	**-1.2**
YAK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
BRTR	**Keskin Array B**	**59.09**	**310**	P	**P**	**10 09 03.8**	**-1.3**
	comp=Z,2.9nm,0.9s,mb4.3,baz=112,slow=6.7,SNR=8.7						
ISP	**Isparta**	**61.10**	**308**	*i P*	**P**	**10 09 18.6**	**-0.2**
CTA	**Charters Tower**	**61.60**	**119**	P	**P**	**10 09 23.0**	**+0.5**
	comp=Z,9.9nm,1.1s,mb4.9,baz=306,slow=8.6,SNR=3.6						
STKA	**Stephens Creek**	**63.44**	**133**	P	**P**	**10 09 34.4**	**-0.2**
	comp=Z,2.7nm,0.6s,mb4.5,baz=338,slow=9.2,SNR=4.1						
TIXI	**Tiksi**	**65.69**	**12**	*eP*	**P**	**10 09 47.3**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
MLR	**Muntele Rosu**	**65.85**	**315**	P	**P**	**10 09 50.0**	**+0.1**
	comp=Z,5.7nm,1.0s,mb4.6,baz=142,slow=4.3,SNR=5.4						
FINES	**FINESS Array B**	**69.64**	**332**	P	**P**	**10 10 13.3**	**-0.2**
	comp=Z,2.6nm,0.8s,mb4.2,baz=211,slow=11,SNR=2.6						
GERES	**GERESS Array B**	**74.53**	**318**	P	**P**	**10 10 43.0**	**+0.3**
	comp=Z,1.0nm,0.9s,mb3.8,baz=45,slow=1.9,SNR=5.4						
BILL	**Bilibino**	**75.09**	**22**	P	**P**	**10 10 45.0**	**-0.6**
BILL						10 10 59.0	
BILL				MLR	MLR		
	comp=Z,300nm,21.0s,MS4.6						
SYO	**Syowa Base**	**86.67**	**197**	⇑pP	sP	10 11 58.4	+5.0
ILAR	**Eielson Array**	**93.75**	**21**	P	**P**	**10 12 20.3**	**+0.3**
	comp=Z,0.4nm,0.6s,mb4.0,baz=278,slow=4.0,SNR=5.5						
NVAR	**Mina Array Bea**	**124.36**	**28**	PKP	PKPdf	10 18 05.2	-0.3
	comp=Z,1.9nm,1.1s,baz=89,slow=2.1,SNR=6.5						
TXAR	**Lajitas Array**	**138.25**	**20**	PKP	PKPdf	10 18 32.4	+0.4
	comp=Z,0.1nm,0.5s,baz=152,slow=1.5,SNR=6.2						
PLCA	**Paso Flores**	**145.52**	**204**	PKPbc	PKPbc	10 18 43.6	+2.2
	comp=Z,2.2nm,0.8s,baz=337,slow=7.6,SNR=3.5						

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*NEIC **14** 10:02:46.1±1.1, 14.83N×145.51E, h265km±8km, mb4.3/1, Error ellipse: s-maj=25.9km s-min=11.9km az=81.0*
*IDC **14** 10:02:48.1±10.0, 14.83N×145.55E, h284km±104km, mb3.3/8, mb1 3.5/8, mb1mx3.3/19, mbtmp4.0/8, MS3.7/1, Ms1 3.7/1, ms1mx2.8/15, Error ellipse: s-maj=33.0km s-min=17.2km az=74.0*
ISC 14 10:02:45.2±1.4, 14.8N±0.1×145.5E±0.2, h271km±11km, n14, σ0°61/12, mb3.7/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.37**	**207**	*eP*	**P**	**10 03 24.9**	**-0.1**
JHJ	**Hachijo jima 2**	**18.94**	**345**	LR	LR	10 13 17.9	
	comp=Z,189nm,18.2s,baz=98,slow=33						
PMG	**Port Moresby**	**24.13**	**176**	P	**P**	**10 07 38.8**	**+0.3**
	4.4nm,0.4s,mb4.1,baz=0.3,slow=7.3,SNR=3.5						
WRAB	**Tennant Creek**	**36.24**	**198**	*eP*	**P**	**10 09 23.7**	**-0.8**
	6.0nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**36.25**	**198**	P	**P**	**10 09 24.2**	**-0.4**
	3.0nm,0.6s,mb4.0,baz=13,slow=9.0,SNR=21						
ASAR	**Alice Springs**	**39.90**	**197**	P	**P**	**10 09 55.8**	**+1.0**
	0.9nm,0.6s,mb3.3,baz=11,slow=13,SNR=13						
CMAR	**Chiang Mai Arr**	**44.66**	**281**	P	**P**	**10 10 33.1**	**-0.2**
	3.6nm,1.1s,mb3.5,baz=83,slow=5.8,SNR=6.6						
SONM	**Songino Array**	**46.09**	**324**	P	**P**	**10 10 45.1**	**+1.0**
	0.7nm,0.8s,mb3.0,baz=143,slow=7.6,SNR=4.3						
STKA	**Stephens Creek**	**46.58**	**185**	P	**P**	**10 10 48.5**	**+0.3**
	1.0nm,0.3s,mb3.6,baz=328,slow=10.0,SNR=3.8						
HYB	**Hyderabad**	**64.07**	**282**	*eP*	**P**	**10 12 52.0**	**-0.7**
HYB	**Hyderabad**	**64.07**	**282**	*i P*	**P**	**10 12 52.0**	**-0.7**
ILAR	**Eielson Array**	**67.20**	**25**	P	**P**	**10 13 11.1**	**-0.6**
	0.3nm,0.3s,mb3.4,baz=259,slow=5.8,SNR=5.9						
BVAR	**Borovoye Array**	**69.34**	**321**	P	**P**	**10 13 25.4**	**+0.3**
	0.5nm,0.3s,mb3.8,baz=104,slow=7.9,SNR=7.4						
DBIC	**Dimbokro**	**143.67**	**304**	PKP	PKPdf	10 21 49.8	+1.1
	0.6nm,0.4s,baz=45,slow=4.3,SNR=5.0						

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*IDC **14** 10:15:18.2±1.4, 8.48S×124.88E, mb3.9/5, mb1 4.2/7, mb1mx4.1/13, mbtmp4.0/7, ML3.7/2, Error ellipse: s-maj=76.1km s-min=27.5km az=60.0*
*NEIC **14** 10:15:19.9±0.6, 8.38S×124.90E, h10km, Error ellipse: s-maj=38.1km s-min=9.3km az=56.0*
ISC 14 10:15:20.4±0.7, 8.6S±0.2×125.1E±0.3, h33km, n9, σ0°91/11, mb4.0/6, 1D, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.41**	**143**	Pn	**P**	**10 18 44.3**	**+0.1**
	0.5nm,0.3s,baz=317,slow=13,SNR=26						
WRA				Sn	**S**	**10 21 19.5**	**-4.1**
	0.1nm,0.3s,baz=320,slow=22,SNR=3.0						
WRAB	**Tennant Creek**	**14.41**	**143**	*e*Pn	**P**	**10 18 45.3**	**+1.2**
	14nm,0.9s						
ASAR	**Alice Springs**	**17.21**	**152**	P	**P**	**10 19 24.3**	**+4.3**
	0.4nm,0.3s,baz=333,slow=12,SNR=24						
ASAR				S	**S**	**10 22 27.8**	**-1.0**
	0.1nm,0.3s,baz=248,slow=15,SNR=3.0						
CMAR	**Chiang Mai Arr**	**37.25**	**316**	P	**P**	**10 22 30.1**	**-1.0**
	1.6nm,0.8s,mb3.9,baz=146,slow=6.5,SNR=6.7						
SONM	**Songino Array**	**58.56**	**345**	P	**P**	**10 25 16.0**	**-0.2**
	0.6nm,0.8s,mb3.6,baz=162,slow=7.6,SNR=3.6						
ZAL	**Zalesovo**	**70.94**	**336**	P	**P**	**10 26 35.4**	**-0.9**
	0.8nm,0.6s,mb3.9,baz=348,slow=3.0,SNR=4.9						
BVAR	**Borovoye Array**	**76.87**	**330**	P	**P**	**10 27 11.8**	**+0.9**
	0.4nm,0.7s,mb3.5,baz=135,slow=2.0,SNR=2.9						
QSPA	**South Pole Qui**	**81.41**	**180**⇓	*iP*	**P**	**10 27 41.7**	**+6.7**
	7.2nm,0.7s,mb4.7						
KMBO	**Kilima Mbogo**	**87.69**	**269**	P	**P**	**10 28 08.6**	**+0.8**
	0.5nm,0.3s,mb4.2,baz=112,slow=5.4,SNR=3.2						

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*IDC **14** 10:16:44.0±8.1, 11.01S×166.08E, h182km±78km, mb3.8/13, mb1 4.0/14, mb1mx3.9/20, mbtmp4.3/14, Error ellipse: s-maj=29.2km s-min=17.4km az=43.0*
*NEIC **14** 10:16:43.9±5.3, 11.01S×166.09E, h182km±50km, mb4.4/1, Error ellipse: s-maj=22.9km s-min=13.3km az=221.0*
ISC 14 10:16:39.0±0.6, 11.0S±0.1×166.1E±0.1, h150km, n18, σ0°70/16, mb4.0/13, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**18.72**	**273**	P	**P**	**10 20 48.7**	**0.0**
	0.8nm,0.3s,baz=87,slow=9.1,SNR=6.7						
CTA	**Charters Tower**	**21.14**	**242**	P	**P**	**10 21 14.6**	**+1.2**
	7.8nm,0.6s,mb4.2,baz=73,slow=13,SNR=12						
CTAO	**Charters Tower**	**21.14**	**242**	*eP*	**P**	**10 21 14.4**	**+1.0**
	10.0nm,0.8s,mb4.2						
URZ	**Urewera**	**28.89**	**162**	P	**P**	**10 22 25.2**	**-0.7**
	4.4nm,0.4s,mb4.6,baz=197,slow=21,SNR=10.0						
WRA	**Warramunga Arr**	**31.84**	**250**	P	**P**	**10 22 51.4**	**-0.7**
	1.7nm,0.6s,mb4.0,baz=81,slow=9.3,SNR=5.0						
RPZ	**Rata Peaks**	**32.89**	**173**	P	**P**	**10 23 01.1**	**+0.2**
	6.0nm,0.6s,mb4.5,baz=181,slow=2.9,SNR=4.3						
ASAR	**Alice Springs**	**33.13**	**243**	P	**P**	**10 23 02.9**	**-0.3**
	2.1nm,0.8s,mb3.9,baz=64,slow=9.9,SNR=8.5						
ASAJ	**Asahikawa**	**58.86**	**340**	P	**P**	**10 26 23.4**	**-0.9**
	1.1nm,1.1s,mb4.6,baz=155,slow=18,SNR=4.3						
SONM	**Songino Array**	**78.83**	**324**	P	**P**	**10 28 26.8**	**0.0**
	1.0nm,0.5s,mb3.7,baz=142,slow=5.1,SNR=16						
ILAR	**Eielson Array**	**83.35**	**18**	P	**P**	**10 28 50.2**	**0.0**
	1.4nm,0.6s,mb3.9,baz=235,slow=5.2,SNR=34						
YBH	**Yreka Blue Hor**	**83.60**	**45**	P	**P**	**10 28 52.9**	**+1.0**
	2.4nm,1.0s,mb3.9,baz=279,slow=5.5,SNR=5.9						
NVAR	**Mina Array Bea**	**85.72**	**50**	P	**P**	**10 29 03.6**	**+1.1**
	1.3nm,0.8s,mb3.7,baz=241,slow=8.6,SNR=9.8						
ZAL	**Zalesovo**	**93.73**	**324**	P	**P**	**10 29 40.3**	**+0.6**
	1.1nm,1.0s,mb4.0,baz=326,slow=3.2,SNR=4.4						
YKA	**Yellowknife Ar**	**94.76**	**27**	P	**P**	**10 29 43.2**	**-1.0**
	0.5nm,0.6s,mb3.9,baz=259,slow=4.6,SNR=14						
YKA	**Yellowknife Ar**	**94.76**	**27**	P	**P**	**10 29 43.2**	**-1.0**
TXAR	**Lajitas Array**	**95.49**	**61**	P	**P**	**10 29 47.9**	**-0.5**
	0.2nm,0.7s,mb3.5,baz=256,slow=3.7,SNR=3.0						
ARCES	**ARCESS Array B 116.37**	**346**	PKP	PKPdf		10 35 05.2	+0.9
	1.5nm,0.8s,baz=45,slow=3.4,SNR=6.3						
ARCES	**ARCESS Array B 116.37**	**346**	PKP	PKPdf		10 35 05.2	+0.9

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*NEIC **14** 10:18:19.0, 30.64S×71.51W, h40km, MD3.8(GUC), After GUC.*
GUC 14 10:18:19.0±0.8, 30.64S×71.51W, h40km±5km, MD3.8, ML3.0, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.69**	**141**	⇓*iP*	P	10 18 32.8	+0.4
CMCH				*i* S	S	10 18 42.9	+0.8
CMCH				AMP		10 18 43.6	
	comp=N,2μm,0.2s						
LSCH	**La Serena**	**0.76**	**18**	*eP*	P	10 18 33.5	+0.1
LSCH				*i* S	S	10 18 44.3	+0.4

IDC 14 10:40:42.5±2.8, 2.62S×135.54E, mb3.7/1, mb1 4.2/2, mb1mx3.7/12, mbtmp3.9/2, ML3.8/1, Error ellipse: s-maj=102.1km s-min=40.1km az=101.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.26**	**184**	P	P	10 44 45.4	-1.3
	0.3nm,0.3s,baz=6.3,slow=12,SNR=6.4						
ASAR	**Alice Springs**	**20.98**	**184**	P	P	10 45 27.1	-2.8
	3.6nm,0.8s,baz=9.0,slow=11,SNR=41						
YKA	**Yellowknife Ar**	**101.41**	**26**	P	P	10 54 35.8	-1.2
	0.3nm,0.5s,baz=302,slow=5.7,SNR=8.1						

JMA 14 10:43:03.5±0.1, 29.66N×129.92E, h68km±1km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.18**	**348**	P	P	10 43 13.7	-0.1
JNN				eS	S	10 43 21.7	+0.3
JKC	**Kuchinoerabu**	**0.83**	**17**	P	P	10 43 20.0	0.0
JKC				eS	S	10 43 32.0	-0.3
JAM	**Amami Oshima**	**1.27**	**193**	P	P	10 43 25.2	-0.6
JAM				eS	S	10 43 41.5	-0.9
JZK	**Kikaishima**	**1.34**	**178**	P	P	10 43 27.7	+0.9
JZK				S	S	10 43 46.4	+2.3
JTN	**Tanegashima 3**	**1.35**	**43**	P	P	10 43 26.9	-0.1
JTN				eS	S	10 43 44.9	+0.6
JTSR	**Tashiro 2**	**1.73**	**30**	P	P	10 43 32.1	0.0
JTSR				eS	S	10 43 53.8	+0.6
JSU	**Suzuyama**	**1.90**	**14**	P	P	10 43 34.4	+0.1
JSJ	**Shimokoshiki**	**2.02**	**355**	P	P	10 43 36.1	+0.1
JSJ				eS	S	10 44 00.5	+0.5
JTK	**Tokunoshima**	**2.05**	**205**	P	P	10 43 36.6	+0.1
JTK				eS	S	10 44 01.5	+0.6
JNAR	**Kushima--Naru**	**2.19**	**32**	P	P	10 43 38.7	+0.2
JNAR				eS	S	10 44 06.0	+1.5
JIH	**Iheya**	**3.13**	**214**	P	P	10 43 52.9	+1.2
JIH				eS	S	10 44 29.6	+1.6

CSEM 14 10:43:09.8±0.3, 72.36N×4.92E, h10km, ML2.3, Error ellipse: s-maj=13.2km s-min=5.2km az=85.0
NAO 14 10:43:12.7±4.8, 72.75N×5.03E, ML2.2
BER 14 10:43:12.3±2.8, 72.69N×4.34E, h10km, MD3.0, ML2.3, ML2.2(NAO)
IDC 14 10:43:12.0±1.5, 72.25N×4.70E, mb3.4/3, mb1 3.8/8, mb1mx3.6/21, mbtmp3.7/8, ML3.7/5, Error ellipse: s-maj=24.9km s-min=20.1km az=41.0
NEIC 14 10:43:13.6±1.0, 72.33N×5.10E, h10km, MD2.8(BER), Error ellipse: s-maj=12.6km s-min=10.8km az=142.0
ISC 14 10:43:12.1±0.9, 72.26N±0.08×5.3E±0.2, h10km, n24, σ1§22/32, mb3.2/3, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**5.01**	**142**	eP	**Pn**	**10 44 33.0**	**+3.8**
LOF				eS	**Sn**	**10 45 33.0**	**+5.2**
LOF				AML	AML	10 45 39.9	
	comp=Z,6.1nm,0.5s						
LOF	**Lofoten**	**5.01**	**142**	eP	**Pn**	**10 44 33.0**	**+3.8**
	SNR=49						
LOF				eS	**Sn**	**10 45 33.0**	**+5.1**
	comp=Z,6.1nm,0.5s,SNR=49						
TRO	**Tromso**	**5.19**	**114**	eP	**Pn**	**10 44 32.4**	**+0.6**
TRO				eS	**Sn**	**10 45 33.7**	**+1.2**
TRO				AML	AML	10 45 37.4	
	comp=Z,10nm,0.5s						
TRO	**Tromso**	**5.19**	**114**	eP	**Pn**	**10 44 32.4**	**+0.6**
	SNR=49						
TRO				eS	**Sn**	**10 45 33.7**	**+1.2**
	comp=Z,10nm,0.5s,SNR=49						
SPA0	**Spitsbergen Ar**	**6.58**	**20**	Pn	**Pn**	**10 44 43.5**	**-7.8**
	baz=208,slow=16						
KTK1	**Kautokeino**	**6.79**	**110**	eP	**Pn**	**10 44 56.6**	**+2.2**
MOR8	**Moi Rana**	**6.92**	**147**	eP	**Pn**	**10 44 56.5**	**+0.4**
MOR8				eS	**Sn**	**10 46 14.1**	**-1.7**
MOR8				AML	AML	10 46 19.8	
	comp=Z,4.7nm,0.3s						
ARA0	**ARCESS Array S**	**7.17**	**103**	Pn	**Pn**	**10 44 59.3**	**-0.3**
	baz=306,slow=11						
ARA0				Sn	**Sn**	**10 46 21.3**	**-0.6**
	baz=304,slow=28						
ARCES	**ARCESS Array B**	**7.17**	**103**	Pn	**Pn**	**10 44 59.5**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=305,slow=12,SNR=43						
ARCES				Sn	**Sn**	**10 46 23.1**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=311,slow=18,SNR=2.3						
KEV	**Kevo**	**7.51**	**99**	ep	**Pn**	**10 45 02.2**	**-2.1**
	comp=Z,1.9nm,0.3s						
NSS	**Namsos**	**8.14**	**159**	eP	**P**	**10 45 12.8**	**-0.4**
NSS				eS	**Sn**	**10 46 41.5**	**-4.7**
APA0	**Apatity Array**	**10.53**	**102**	Pn	**P**	**10 45 44.6**	**-1.3**
	baz=309,slow=9.3						
NOA	**NORSAR Array B**	**11.50**	**165**	Pn	**P**	**10 45 58.4**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=347,slow=13,SNR=3.4						
NOA	**NORSAR Array B**	**11.50**	**165**	Pn	**P**	**10 45 58.3**	**-0.9**
HFS	**Hagfors**	**12.62**	**160**	Pn	**P**	**10 46 13.8**	**-0.5**
	baz=343,slow=14						
HFS	**Hagfors**	**12.62**	**160**	Pn	**P**	**10 46 14.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=348,slow=14,SNR=35						
KAF	**Kangasniemi**	**12.94**	**131**	ep	**P**	**10 46 16.7**	**-1.9**
	comp=Z,0.7nm,0.3s						
FIA0	**FINESS Array S**	**13.48**	**133**	Pn	**P**	**10 46 26.4**	**+0.7**
	baz=334,slow=10						
FINES	**FINESS Array B**	**13.48**	**133**	Pn	**P**	**10 46 26.5**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=335,slow=11,SNR=16						
JOF	**Joensuu**	**13.51**	**121**	ep	**P**	**10 46 24.8**	**-1.0**
	comp=Z,1.5nm,0.3s						
EKA	**Eskdalemuir Ar**	**17.36**	**196**	P	**P**	**10 47 16.2**	**+0.7**
	comp=Z,0.1nm,0.3s,slow=11,SNR=2.9						
GERES	**GERESS Array B**	**23.80**	**166**	P	**P**	**10 48 27.6**	**+2.3**
	comp=Z,0.8nm,0.7s,mb3.3,baz=352,slow=6.9,SNR=6.9						
AKASG	**Malin Array Be**	**24.11**	**141**	P	**P**	**10 48 29.9**	**+1.6**
	comp=Z,2.2nm,0.8s,mb3.6,baz=341,slow=9.8,SNR=3.9						
ILAR	**Eielson Array**	**41.94**	**343**	P	**P**	**10 51 03.1**	**-0.5**
	comp=Z,0.2nm,0.8s,mb2.8,baz=17,slow=6.4,SNR=4.5						

IDC 14 10:58:01.0±5.5, 5.42N×92.65E, mb3.6/3, mb1 3.9/4, mb1mx3.7/18, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=162.7km s-min=28.3km az=74.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.34**	**25**	Pn	P	11 01 26.7	-1.0
	0.2nm,0.3s,baz=222,slow=13,SNR=6.0						
SONM	**Songino Array**	**43.87**	**13**	P	P	11 06 08.8	-2.1
	0.4nm,1.0s,baz=180,slow=4.3,SNR=2.3						
WRA	**Warramunga Arr**	**48.12**	**123**	P	P	11 06 42.8	-2.3
	1.2nm,0.8s,baz=300,slow=9.9,SNR=12						
ASAR	**Alice Springs**	**49.55**	**127**	P	P	11 06 54.5	-1.6
	0.8nm,0.4s,baz=302,slow=8.1,SNR=21						

IDC 14 11:04:30.7±0.8, 18.33S×70.89W, h35km±6km, mb4.1/12, mb1 4.3/13, mb1mx4.3/15, mbtmp4.3/13, ML3.8/1, MS4.2/8, Ms1 4.2/8, ms1mx3.9/19, Error ellipse: s-maj=23.8km s-min=16.3km az=67.0, Putative timing error at PDAR
BJI 14 11:04:31.0, 18.60S×71.10W, h40km
NEIC 14 11:04:31.1±1.0, 18.56S×71.10W, h40km±10km, mb4.3/10, Error ellipse: s-maj=14.7km s-min=7.9km az=61.0
ISC 14 11:04:30.1±1.1, 18.60S±0.05×71.1W±0.1, h51km±9km, n49, σ1§05/39, mb4.2/19, MS4.2/6, 2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.16**	**349**	‖iP	**P**	**11 05 03.7**	**-0.8**
ARE				e		11 05 06.0	
ARE				S	**S**	**11 05 30.0**	**-0.1**
LPAZ	**La Paz**	**3.61**	**51**	Pn	**P**	**11 05 27.5**	**+2.5**
	7.5nm,0.3s,baz=258,slow=15,SNR=109						
LPAZ				Lg		11 06 13.0	
	3.3nm,0.3s,baz=174,slow=24,SNR=1.7						
LPAZ				LR	LR	11 07 01.4	
	comp=Z,4μm,18.2s,baz=90,slow=45						
LPAZ	**La Paz**	**3.61**	**51**	ePn	**P**	**11 05 27.2**	**+2.2**
LVC	**Limon Verde**	**4.47**	**154**	Pn	**P**	**11 05 37.5**	**+0.4**
	61nm,0.3s,baz=334,slow=8.9,SNR=919						
LVC				Sn	**S**	**11 06 27.6**	**-0.9**
	39nm,0.3s,baz=54,slow=21,SNR=9.0						
LVC				Lg		11 06 50.0	
	49nm,0.3s,baz=192,slow=20,SNR=11						
LVC				LR	LR	11 07 29.0	
	comp=Z,5μm,18.4s,baz=325,slow=38						
LVC	**Limon Verde**	**4.47**	**154**	ePn	**P**	**11 05 37.2**	**0.0**
NNA	**Nana**	**8.62**	**319**	ePn	**P**	**11 06 31.1**	**-3.9**
	12nm,0.5s						
OTAV	**Otavalo**	**20.08**	**338**	eP	**P**	**11 09 03.2**	**+1.1**
	19nm,1.4s						
TRQA	**Tornquist**	**20.95**	**160**	eP	**P**	**11 09 10.4**	**-0.6**
	38nm,1.3s						
PLCA	**Paso Flores**	**22.07**	**179**	P	**P**	**11 09 25.1**	**+3.0**
	15nm,0.6s,mb4.6,baz=354,slow=11,SNR=17						
BDFB	**Brasilia**	**22.21**	**86**	P	**P**	**11 09 23.4**	**-0.3**
	8.1nm,0.6s,mb4.3,baz=264,slow=9.7,SNR=16						
BDFB				LR	LR	11 18 50.5	
	comp=Z,742nm,18.5s,MS4.1,baz=288,slow=39						
BAO	**Brasilia Array**	**22.23**	**86**	P	**P**	**11 09 24.3**	**+0.4**
BAO				e		11 09 29.6	
BAO				e		11 09 36.0	
BAO				e		11 09 40.6	
BAO				e		11 10 01.2	
SDV	**Santo Domingo**	**27.31**	**1**	P	**P**	**11 10 09.2**	**-3.1**
	7.8nm,1.1s,mb4.2,baz=215,slow=12,SNR=7.3						
SDV	**Santo Domingo**	**27.31**	**1**	eP	**P**	**11 10 08.6**	**-3.7**
	5.5nm,0.9s,mb4.1						
USHA	**Ushuaia**	**36.23**	**177**	LR	LR	11 26 22.9	
	comp=Z,256nm,18.5s,MS4.0,baz=142,slow=36						
TXAR	**Lajitas Array**	**57.11**	**326**	P	**P**	**11 14 13.1**	**-0.9**
	0.6nm,0.9s,mb3.6,baz=151,slow=8.0,SNR=9.2						
TXAR				LR	LR	11 36 58.7	
	comp=Z,130nm,18.8s,MS4.1,baz=65,slow=34						
LAZ	**Ladron**	**62.90**	**327**	eP	**P**	**11 14 51.7**	**-1.9**
ANMO	**Albuquerque**	**62.98**	**328**	P	**P**	**11 14 53.5**	**-0.7**
	1.3nm,0.8s,mb4.1,baz=162,slow=10,SNR=6.2						
SADO	**Sadowa**	**63.49**	**354**	LR	LR	11 41 39.9	
	comp=Z,224nm,21.3s,MS4.3,baz=250,slow=35						
SDCO	**Great Sand Dun**	**64.74**	**330**	eP	**P**	**11 15 05.4**	**-0.1**
	8.2nm,0.8s,mb4.8						
SNAA	**Sanae**	**65.67**	**161**	eP	**P**	**11 15 10.2**	**-0.8**
	112nm,0.6s						
ISCO	**Idaho Springs**	**66.44**	**332**	eP	**P**	**11 15 16.2**	**-0.2**
	2.9nm,0.8s,mb4.4						
MSU	**Marysvale**	**68.66**	**326**	eP	**P**	**11 15 30.6**	**+0.3**
ARUT	**Antelope Range**	**68.80**	**325**	eP	**P**	**11 15 32.5**	**+1.3**
TPNV	**Topopah Spring**	**69.78**	**323**	eP	**P**	**11 15 38.2**	**+1.0**
	2.3nm,0.8s,mb4.2						
DBIC	**Dimbokro**	**69.90**	**75**	P	**P**	**11 15 36.6**	**-1.6**
	5.8nm,0.6s,mb4.7,baz=230,slow=6.1,SNR=17						
DBIC				LR	LR	11 43 19.4	
	comp=Z,171nm,20.5s,MS4.3,baz=214,slow=33						
BW06	**Boulder Array**	**70.60**	**331**	eP	**P**	**11 15 42.4**	**+0.3**
	1.2nm,0.7s,mb3.9						
PDAR	**Pinedale Array**	**70.60**	**331**	P	**P**	**11 15 51.2**	**+9.1**
	1.1nm,0.7s,mb3.9,baz=146,slow=5.3,SNR=9.3						
NVAR	**Mina Array Bea**	**71.97**	**323**	P	**P**	**11 15 51.0**	**+0.7**
	0.8nm,0.8s,mb3.7,baz=167,slow=6.5,SNR=6.5						
GCMT	**Grytcliff**	**73.02**	**333**	P	**P**	**11 15 56.8**	**+0.4**
SCHQ	**Schefferville**	**73.22**	**3**	P	**P**	**11 15 55.5**	**-1.9**
	2.4nm,0.6s,mb4.3,baz=156,slow=5.9,SNR=4.8						
HLID	**Hailey**	**73.53**	**329**	eP	**P**	**11 16 00.0**	**+0.6**
	2.9nm,0.8s,mb4.3						
BOZ	**Bozeman (W)**	**73.77**	**332**	eP	**P**	**11 16 00.9**	**+0.1**
	2.1nm,0.7s,mb4.2						
HRY	**Holter Researc**	**74.68**	**332**	eP	**P**	**11 16 06.8**	**+0.8**
BMO	**Blue Mountains**	**75.90**	**328**	eP	**P**	**11 16 13.0**	**-0.1**
	0.8nm,0.5s,mb3.9						
VNDA	**Vanda**	**79.34**	**190**	P	**P**	**11 16 33.8**	**+2.2**
	1.2nm,0.8s,mb3.9,baz=61,slow=9.7,SNR=3.4						
SYO	**Syowa Base**	**79.91**	**160**	‖P	**P**	**11 16 34.6**	**-0.1**
EDM	**Edmonton**	**80.30**	**336**	eP	**P**	**11 16 36.1**	**-1.0**
EDM				e	pP	11 16 46.7	-5.1
ESDC	**Sonseca Array**	**85.21**	**46**	P	**P**	**11 17 03.6**	**+1.0**
	1.6nm,0.6s,mb4.3,baz=251,slow=5.3,SNR=6.8						
MAW	**Mawson**	**87.67**	**164**	LR	LR	11 54 29.2	
	comp=Z,138nm,19.0s,MS4.4,baz=247,slow=34						
YKA	**Yellowknife Ar**	**87.80**	**341**	P	**P**	**11 17 14.4**	**-0.2**
	5.5nm,0.6s,mb5.0,baz=135,slow=4.8,SNR=180						
YKA				pP	pP	11 17 24.9	-4.6
	4.4nm,0.7s,baz=135,slow=4.9,SNR=14						
ASAR	**Alice Springs**	**131.45**	**211**	PKP	PKPdf	11 23 39.5	+1.6
	0.7nm,0.6s,baz=140,slow=2.0,SNR=9.0						
ASAR				pPKP		11 23 53.1	
	0.6nm,0.5s,baz=142,slow=2.1,SNR=4.4						
WRA	**Warramunga Arr**	**134.32**	**214**	PKP	PKPdf	11 23 45.5	+2.1
	1.4nm,0.6s,baz=151,slow=1.8,SNR=16						
WRA				pPKP		11 23 58.8	
	1.3nm,0.5s,baz=144,slow=1.7,SNR=6.5						
BVAR	**Borovoye Array**	**134.47**	**32**	PKP	PKPdf	11 23 45.0	+2.2
	0.8nm,0.7s,baz=225,slow=4.2,SNR=4.4						
ZAL	**Zalesovo**	**140.11**	**22**	PKhKP		11 23 46.4	
	1.0nm,0.6s,baz=152,slow=3.4,SNR=7.0						
ZAL				PKP	PKPdf	11 23 55.5	+2.5
	1.9nm,0.5s,baz=170,slow=3.1,SNR=9.5						
MAJO	**Matsushiro**	**148.68**	**311**	ePKPbc	PKPdf	11 24 14.1	+6.0
MAT	**Matsushiro**	**148.68**	**311**	eP	PKPdf	11 24 14.0	+5.9
MAT	**Matsushiro**	**148.68**	**311**	PKP	PKPdf	11 24 11.8	+3.7
SONM	**Songino Array**	**150.76**	**4**	PKP	PKPdf	11 24 13.7	+2.6
	2.3nm,0.7s,baz=306,slow=1.4,SNR=8.7						
SONM				PKPbc	PKPdf	11 24 19.1	+8.1
	3.7nm,0.7s,baz=328,slow=1.8,SNR=30						
HYB	**Hyderabad**	**151.08**	**87**	eP	PKPdf	11 24 20.0	+7.6

BJI 14 11:18:00.6, 5.20N×93.10E, h22km, mB4.1, mb4.3, Ms4.4, Msz4.2
IDC 14 11:18:00.6±0.7, 5.26N×93.19E, h18km±3km, mb4.1/10, mb1 4.2/11, mb1mx4.0/19, mbtmp4.2/11, ML3.5/1, Error ellipse: s-maj=31.9km s-min=12.9km az=53.0
NEIC 14 11:18:00.6±0.4, 5.20N×93.13E, mb4.3/5, Error ellipse: s-maj=11.5km s-min=7.5km az=47.0
ISC 14 11:17:58.6±0.6, 5.13N±0.09×93.1E±0.1, h22km, h22km±1.0km: pP-P, n26, σ0§76/24, mb4.3/18, MS4.2/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.51**	**280**	ePn	**P**	**11 20 57.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**14.43**	**23**	Pn	**P**	**11 21 23.0**	**-0.7**
	0.1nm,0.3s,baz=220,slow=14,SNR=8.9						
JIRN	**Jiri**	**23.36**	**344**	eP	**P**	**11 23 07.6**	**+1.0**
GUN	**Gumba**	**23.68**	**344**	eP	**P**	**11 23 10.7**	**+1.0**
GKN	**Gorkha**	**24.13**	**341**	eP	**P**	**11 23 14.7**	**+0.5**
	12nm,0.5s,mb4.6						
KOLN	**Koldanda**	**24.27**	**339**	eP	**P**	**11 23 16.6**	**+1.1**
	11nm,0.7s,mb4.4						
LSA	**Lhasa**	**24.51**	**356**	P	**P**	**11 23 18.4**	**+0.6**
	5.1nm,0.5s,mb4.3						
WMQ	**Urumqi**	**38.83**	**354**	eP	**P**	**11 25 24.4**	**+0.6**
WMQ				AP	pP	11 25 31.8	+1.4
WMQ				XP	sP	11 25 35.3	+2.1
WMQ				PP	PP	11 26 57.5	+0.8
WMQ				S	**S**	**11 31 20.3**	**+0.3**
WMQ				XS		11 31 32.6	
WMQ				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb3.8						
WMQ				AMB	AMB		
	comp=Z,12nm,4.0s						
WMQ				LR	LR		
	comp=N,312nm,19.5s,MS4.2						
WMQ				LR	LR		
	comp=E,256nm,21.5s,MS4.2						
WMQ				LR	LR		
	comp=Z,352nm,21.0s,MS4.2						
AAK	**Ala-Archa**	**40.84**	**339**	eP	**P**	**11 25 39.9**	**-0.6**
	comp=Z,3.2nm,1.0s,mb3.9						
SONM	**Songino Array**	**44.05**	**13**	P	**P**	**11 26 05.8**	**-0.8**
	comp=Z,1.7nm,0.9s,mb3.8,baz=202,slow=5.9,SNR=4.3						
SONM				pP	pP	11 26 11.5	-1.8
	comp=Z,3.0nm,0.7s,baz=197,slow=8.3,SNR=8.8						
SONM				PcP	PcP	11 27 52.7	+0.3
	comp=Z,1.2nm,0.7s,baz=194,slow=3.7,SNR=6.4						
WRA	**Warramunga Arr**	**47.58**	**123**	P	**P**	**11 26 35.2**	**+0.1**
	comp=Z,4.9nm,0.7s,mb4.7,baz=301,slow=9.1,SNR=28						
WRA				pP	pP	11 26 41.4	-0.3
	comp=Z,6.7nm,0.8s,baz=302,slow=8.9,SNR=21						
WRAB	**Tennant Creek**	**47.58**	**123**	eP	**P**	**11 26 34.7**	**-0.4**
	comp=Z,10nm,0.9s,mb4.9						
WRAB				epP	pP	11 26 42.8	+1.0
ASAR	**Alice Springs**	**49.01**	**127**	P	**P**	**11 26 46.3**	**+0.2**
	comp=Z,0.8nm,0.5s,mb4.0,baz=298,slow=7.9,SNR=11						
ASAR				pP	pP	11 26 52.1	-0.6
	comp=Z,1.5nm,0.7s,baz=300,slow=6.8,SNR=8.0						
ASAR				PcP	PcP	11 28 10.7	+0.4
	comp=Z,0.9nm,0.9s,baz=292,slow=3.5,SNR=4.7						
ZAL	**Zalesovo**	**49.13**	**354**	P	**P**	**11 26 46.8**	**+0.2**
	comp=Z,3.0nm,0.4s,mb4.7,baz=312,slow=4.9,SNR=11						
BVAR	**Borovoye Array**	**51.26**	**343**	P	**P**	**11 27 01.8**	**-1.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=141,slow=9.5,SNR=6.9						
BVAR				pP	pP	11 27 08.7	-0.9
	comp=Z,0.6nm,0.5s,baz=139,slow=14,SNR=4.0						
BRVK	**Borovoye**	**51.33**	**343**	eP	**P**	**11 27 01.8**	**-1.6**
	comp=Z,3.3nm,0.8s,mb4.3						
BRVK				epP	pP	11 27 08.0	-2.1
CHKZ	**Chkalovo**	**51.77**	**343**	eP	**P**	**11 27 05.6**	**-1.1**
	comp=Z,4.6nm,1.1s,mb4.3						
CHKZ				epP	pP	11 27 13.4	0.0
STKA	**Stephens Creek**	**59.00**	**132**	P	**P**	**11 27 59.9**	**+0.5**
	comp=Z,2.9nm,0.7s,mb4.4,baz=342,slow=20,SNR=3.1						
BRTR	**Keskin Array B**	**63.46**	**312**	P	**P**	**11 28 29.2**	**-0.1**
	comp=Z,1.2nm,0.7s,mb4.1,baz=112,slow=6.7,SNR=6.1						
FINES	**FINESS Array B**	**74.66**	**333**	P	**P**	**11 29 37.5**	**-0.5**
	comp=Z,1.4nm,0.5s,mb4.2,baz=110,slow=5.8,SNR=8.9						
ARCES	**ARCESS Array B**	**77.49**	**341**	P	**P**	**11 29 54.0**	**+0.2**
	comp=Z,2.9nm,0.8s,mb4.3,baz=97,slow=5.9,SNR=9.2						
ARCES				pP	pP	11 30 00.3	-0.5
	comp=Z,3.9nm,0.9s,baz=90,slow=4.9,SNR=1.7						
ARCES	**ARCESS Array B**	**77.49**	**341**	P	**P**	**11 29 54.0**	**+0.2**
ARCES				pP	pP	11 30 00.3	-0.5
GERES	**GERESS Array B**	**79.19**	**319**	P	**P**	**11 30 04.8**	**+1.3**
	comp=Z,2.8nm,0.8s,mb4.3,baz=90,slow=5.3,SNR=16						
GERES				sP	sP	11 30 12.6	-0.3
	comp=Z,0.9nm,0.6s,baz=90,slow=5.3,SNR=4.2						
NVAR	**Mina Array Bea**	**127.79**	**31**	PKP	PKPdf	11 37 06.8	-0.7
	comp=Z,0.1nm,0.9s,baz=307,slow=2.5,SNR=3.8						
TXAR	**Lajitas Array**	**142.14**	**24**	PKhKP		11 37 29.2	
	comp=Z,0.1nm,0.4s,baz=11,slow=0.1,SNR=4.6						
LPAZ	**La Paz**	**158.51**	**237**	PKPab	PKPab	11 38 34.3	+1.8
	comp=Z,1.2nm,0.6s,baz=216,slow=2.5,SNR=4.2						

IDC 14 11:25:46.9±2.9, 5.47N×94.71E, mb3.6/5, mb1 3.8/6, mb1mx3.7/19, mbtmp3.6/6, ML4.0/1, Error ellipse: s-maj=121.1km s-min=23.4km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.56**	**17**	Pn	P	11 29 08.2	+5.0
	0.3nm,0.3s,baz=209,slow=14,SNR=4.5						
SONM	**Songino Array**	**43.39**	**11**	P	P	11 33 51.1	-1.8
	0.6nm,0.7s,baz=190,slow=7.7,SNR=5.4						
WRA	**Warramunga Arr**	**46.43**	**124**	P	P	11 34 15.9	-1.7
	1.2nm,0.7s,baz=303,slow=9.3,SNR=10						
ASAR	**Alice Springs**	**47.96**	**129**	P	P	11 34 27.6	-2.0
	0.3nm,0.6s,baz=300,slow=7.7,SNR=4.0						
ZAL	**Zalesovo**	**48.99**	**352**	P	P	11 34 35.5	-1.7
	1.0nm,0.9s,baz=315,slow=7.4,SNR=4.4						
BVAR	**Borovoye Array**	**51.44**	**341**	P	P	11 34 53.4	-2.4
	0.4nm,0.4s,baz=129,slow=9.2,SNR=3.5						
TXAR	**Lajitas Array**	**141.15**	**26**	PKP	PKPdf	11 45 18.7	-3.4
	0.1nm,0.4s,baz=336,SNR=4.7						

PRE 14 11:35:07.1±0.9, 26.35S×27.50E, h2km, ML3.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRY	**Parys**	**0.58**	**182**	eP	Pg	11 35 17.7	-1.0
PRY				eS	Sg	11 35 25.3	-1.1
PRY				e		11 35 30.3	
	comp=Z,2μm,0.5s						
SLR	**Silverton**	**0.93**	**49**	eP	Pb	11 35 23.9	-1.7
SLR				eS	Sg	11 35 36.0	-2.2
SLR				e		11 35 43.4	
	comp=Z,1μm,0.3s						
SEK	**Senekal**	**1.97**	**177**	eP	Pn	11 35 41.4	-0.4
SEK				eS	Sn	11 36 05.7	-1.8
SEK				e		11 36 07.8	
	comp=Z,663nm,0.3s						
NWL	**Newcastle**	**2.58**	**123**	eP	Pn	11 35 49.8	-0.8
NWL				eS	Sn	11 36 20.2	-2.8
BOSA	**Boshof**	**3.01**	**221**	eP	Pn	11 35 54.5	-2.2
BOSA				eS	Sn	11 36 30.6	-3.3
MSNA	**Messina**	**4.60**	**31**	eP	Pn	11 36 41.8	+22
MSNA				eS	Sn	11 37 27.2	+13
MSNA				e		11 37 38.0	
	comp=Z,173nm,0.2s						

IDC 14 11:38:39.2±1.2, 11.89N×92.20E, mb3.8/6, mb1 3.9/7, mb1mx3.7/19, mbtmp3.7/7, ML3.2/1, Error ellipse: s-maj=45.3km s-min=21.1km az=55.0
NEIC 14 11:38:43.9±0.6, 11.88N×92.20E, h30km, mb4.4/4, Error ellipse: s-maj=16.5km s-min=11.0km az=57.0
ISC 14 11:38:43.8±1.4, 11.9N±0.1×92.3E±0.1, h44km±12km, n19, σ0§78/22, mb4.0/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.54**	**121**	eP	**P**	**11 38 55.5**	**+0.3**
PBA				eS	**S**	**11 39 01.5**	**-1.8**
PBA				eP			
PBA	**Port Blair**	**0.54**	**121**	eP	**P

JKRS			S	S	11 45 55.9	+1.3
JIJ	**Ishigaki jima**	**1.94 106**	P	P	11 45 33.8	+0.6
JIJ			*e*S	S	11 45 57.7	+1.2

*IDC **14** 11:54:40.6±1.9, 9.66N×91.49E, mb3.8/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, ML4.0/1, MS3.3/2, Ms1 3.4/2, ms1mx2.9/26, Error ellipse: s-maj=62.9km s-min=21.3km az=65.0*
*NEIC **14** 11:54:45.8±1.0, 9.77N×91.67E, h30km, mb4.1/3, Error ellipse: s-maj=26.9km s-min=15.0km az=63.0*
ISC 14 11:54:44.1±1.1, 9.8N±0.1×91.8E±0.2, h30km, n11, σ0°97/10, mb3.8/7, MS3.4/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.05**	**38**	Pn	**P**	**11 57 23.3**	**0.0**
	0.3nm,0.3s,baz=233,slow=16,SNR=4.4						
CMAR				LR	LR	12 02 41.4	
	comp=Z,104nm,18.8s,baz=210,slow=42						
LSA	**Lhasa**	**19.79**	**358**	*e*P	**P**	**11 59 14.1**	**-1.0**
	9.7nm,0.8s						
TGY	**Tagaytay City**	**28.83**	**79**	LR	LR	12 11 30.1	
	comp=Z,101nm,21.6s,MS3.4,baz=166,slow=35						
AAK	**Ala-Archa**	**36.02**	**338**	*e*P	**P**	**12 01 46.3**	**+1.6**
	2.0nm,0.8s,mb4.1						
SONM	**Songino Array**	**39.85**	**15**	P	**P**	**12 02 18.5**	**+1.8**
	1.6nm,1.0s,mb3.7,baz=198,slow=8.9,SNR=11						
SONM	**Songino Array**	**39.85**	**15**	P	**P**	**12 02 18.4**	**+1.8**
ZAL	**Zalesovo**	**44.35**	**354**	P	**P**	**12 02 52.2**	**-1.1**
	1.0nm,1.0s,mb3.5,baz=298,slow=14,SNR=4.1						
BVAR	**Borovoye Array**	**46.42**	**342**	P	**P**	**12 03 09.7**	**-0.1**
	0.3nm,0.5s,mb3.5,baz=140,slow=11,SNR=2.8						
CHKZ	**Chkalovo**	**46.92**	**343**	*e*P	**P**	**12 03 13.1**	**-0.7**
	1.2nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**51.29**	**125**	P	**P**	**12 03 47.5**	**-0.4**
	0.9nm,0.5s,mb4.0,baz=300,slow=9.7,SNR=28						
ASAR	**Alice Springs**	**52.95**	**130**	P	**P**	**12 04 00.5**	**+0.1**
	0.7nm,0.7s,mb3.7,baz=311,slow=8.3,SNR=5.4						

*IDC **14** 12:01:00.0±4.7, 35.39N×71.47E, mb3.9/4, mb1 4.0/5, mb1mx3.6/19, mbtmp3.9/5, ML3.8/1, Error ellipse: s-maj=88.2km s-min=57.2km az=163.0*
ISC 14 12:01:15.7±3.4, 36.1N±0.1×71.4E±0.3, h104km±30km, n21, σ0°35/21, mb3.8/3, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.28**	**16**	P	**P**	**12 02 47.0**	**-0.2**
	SNR=63						
UCH	**Uchtor**	**6.58**	**21**	P	**P**	**12 02 51.4**	**+0.1**
	SNR=19						
KZA	**Kyzart**	**6.67**	**26**	P	**P**	**12 02 52.9**	**+0.2**
	SNR=31						
EKS2	**Erkin-Say**	**6.80**	**15**	P	**P**	**12 02 54.1**	**-0.4**
	SNR=16						
AAK	**Ala-Archa**	**6.95**	**19**	P	**P**	**12 02 56.3**	**-0.1**
	SNR=18						
KBK	**Karagaybulak**	**7.10**	**22**	P	**P**	**12 02 58.8**	**+0.3**
	SNR=7.1						
ULHL	**Ulahol**	**7.20**	**30**	P	**P**	**12 03 00.8**	**+1.0**
	SNR=7.0						
CHMS	**Chumysh**	**7.36**	**20**	P	**P**	**12 03 01.6**	**-0.4**
	SNR=9.0						
TKM2	**Tokmak 2**	**7.54**	**24**	P	**P**	**12 03 04.7**	**+0.2**
	SNR=9.3						
USP	**Ospenovka**	**7.54**	**18**	P	**P**	**12 03 04.5**	**-0.1**
	SNR=16						
KOLN	**Koldanda**	**13.28**	**125**	*e*P	**P**	**12 04 21.2**	**+0.1**
	2.7nm,0.3s						
GKN	**Gorkha**	**13.83**	**122**	*e*P	**P**	**12 04 28.0**	**-0.2**
	9.2nm,0.4s						
DMN	**Daman**	**14.40**	**122**	*e*P	**P**	**12 04 36.0**	**+0.5**
	5.1nm,0.3s						
PKI	**Pulchoki**	**14.63**	**122**	*e*P	**P**	**12 04 38.5**	**0.0**
	5.8nm,0.5s						
GUN	**Gumba**	**14.75**	**120**	*e*P	**P**	**12 04 39.8**	**-0.2**
	5.6nm,0.4s						
JIRN	**Jiri**	**15.12**	**120**	*e*P	**P**	**12 04 44.4**	**-0.4**
	22nm,0.5s						
BVAR	**Borovoye Array**	**16.93**	**358**	P	**P**	**12 05 06.6**	**-0.5**
	0.3nm,0.3s,baz=159,slow=12,SNR=6.6						
ZAL	**Zalesovo**	**20.13**	**23**	P	**P**	**12 05 42.8**	**-0.5**
	2.4nm,0.3s,baz=247,slow=5.9,SNR=9.2						
FINES	**FINESS Array B**	**37.98**	**326**	P	**P**	**12 08 24.7**	**+0.1**
	3.0nm,1.0s,mb4.1,baz=120,slow=11,SNR=3.0						
ARCES	**ARCESS Array B**	**41.63**	**338**	P	**P**	**12 08 54.7**	**+0.3**
	1.4nm,0.6s,mb3.8,baz=109,slow=7.0,SNR=6.4						
YKA	**Yellowknife Ar**	**81.62**	**3**	P	**P**	**12 13 23.2**	**+0.3**
	0.5nm,0.8s,mb3.4,baz=351,slow=5.3,SNR=8.7						

*IDC **14** 12:14:50.0±3.2, 7.24N×92.34E, mb3.5/3, mb1 3.8/4, mb1mx3.6/18, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=95.0km s-min=32.6km az=69.0*
ISC 14 12:14:52.1±1.6, 7.4N±0.2×92.2E±0.2, h33km, n9, σ1°37/9, mb3.8/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.83**	**30**	Pn	**P**	**12 17 54.6**	**-0.4**
	0.1nm,0.3s,baz=233,slow=14,SNR=6.6						
JIRN	**Jiri**	**20.97**	**345**	*e*P	**P**	**12 19 32.9**	**-2.0**
	4.2nm,0.3s						
PKI	**Pulchoki**	**21.10**	**343**	*e*P	**P**	**12 19 34.2**	**-2.0**
	5.0nm,0.4s,mb4.2						
GUN	**Gumba**	**21.29**	**344**	*e*P	**P**	**12 19 37.4**	**-0.8**
GKN	**Gorkha**	**21.74**	**342**	*e*P	**P**	**12 19 43.5**	**+0.9**
KOLN	**Koldanda**	**21.87**	**339**	*e*P	**P**	**12 19 45.1**	**+1.2**
	12nm,0.8s,mb4.4						
SONM	**Songino Array**	**42.10**	**14**	P	**P**	**12 22 44.1**	**+1.3**
	0.5nm,0.6s,mb3.4,baz=195,slow=11,SNR=6.0						
ZAL	**Zalesovo**	**46.82**	**354**	P	**P**	**12 23 22.7**	**+2.2**
	0.4nm,0.5s,mb3.6,baz=315,slow=13,SNR=4.2						
WRA	**Warramunga Arr**	**49.55**	**124**	P	**P**	**12 23 41.8**	**-0.5**
	0.3nm,0.7s,mb3.5,baz=299,slow=9.8,SNR=4.5						

IDC 14 12:18:25.2±8.0, 9.88N×91.20E, mb3.6/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=269.0km s-min=29.7km az=75.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.33**	**41**	*e*P	Pn	12 19 03.8	-1.5
PBA				*e*S	Sn	12 19 09.9	-25
PBA				*e*		12 19 36.1	
	comp=N,229nm,0.5s						
PBA				*e*		12 19 36.1	
	comp=E,234nm,0.4s						
SONM	**Songino Array**	**39.95**	**16**	P	P	12 26 01.1	-1.8
	comp=E,0.3nm,0.6s,baz=206,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**51.79**	**125**	P	P	12 27 35.0	-2.2
	comp=E,0.6nm,0.4s,baz=300,slow=9.7,SNR=19						
ASAR	**Alice Springs**	**53.43**	**129**	P	P	12 27 47.4	-2.1
	comp=E,0.3nm,0.7s,baz=308,slow=7.3,SNR=4.8						
STKA	**Stephens Creek**	**63.59**	**133**	P	P	12 28 58.2	-2.2
	comp=E,1.8nm,0.8s,baz=315,slow=8.6,SNR=2.4						

JMA 14 12:22:59.8±0.1, 36.72N×141.16E, h53km±1km, M3.5, 3C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.48**	**323**	↑↑P	P	12 23 10.8	-0.3
ONAJ				S	S	12 23 18.6	-0.6
JHO	**Hitachi**	**0.49**	**257**	↑↑P	P	12 23 10.9	-0.3
JHO				S	S	12 23 19.0	-0.4
JFK	**Kawauchi**	**0.69**	**341**	↑↑P	P	12 23 13.3	-0.2
JFK				S	S	12 23 23.0	-0.7
JFT	**Otama**	**1.03**	**321**	↓↓P	P	12 23 18.8	+0.5
JFT				S	S	12 23 32.5	+0.5
JMM	**Marumori**	**1.18**	**346**	P	P	12 23 19.9	-0.4
JMM				*e*S	S	12 23 35.3	-0.3
JFY	**Yanaizu**	**1.35**	**301**	P	P	12 23 22.8	0.0
JFY				*e*S	S	12 23 40.0	+0.1
MAT	**Matsushiro**	**2.38**	**267**	P	P	12 23 37.6	+0.3
MAT				S	S	12 24 06.4	+1.0

*KRSC **14** 12:28:36.5±1.3, 55.44N×166.42E, h24km±2km, ML4.5*
*BJI **14** 12:28:37.6, 55.32N×165.86E, h17km, mB4.9, mb4.4, Ms4.5, Msz4.2*
*MOS **14** 12:28:38.7±0.8, 55.47N×166.20E, h43km, mb4.7/19, Error ellipse: s-maj=12.4km s-min=8.2km az=53.3*
*IDC **14** 12:28:39.6±0.9, 55.34N×166.42E, h33km±5km, mb4.1/10, mb1 4.5/12, mb1mx4.1/24, mbtmp4.4/12, ML3.7/2, MS3.7/5, Ms1 3.7/5, ms1mx3.3/30, Error ellipse: s-maj=17.2km s-min=11.5km az=21.0*
*NEIC **14** 12:28:39.4±0.2, 55.44N×166.31E, mb4.5/26, Error ellipse: s-maj=8.9km s-min=4.2km az=162.0*
ISC 14 12:28:37.5±0.6, 55.38N±0.03×166.33E±0.03, h32km±4km, h32km±.6km:pP-P, n129, σ1°16/163, mb4.4/40, MS4.0/9, 1D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.27**	**230**	*i*P	**Pb**	**12 28 43.8**	**-1.0**
BKI				*i*S	**Sb**	**12 28 49.0**	**-0.7**
KBTR	**Krutoberegovo**	**2.15**	**294**	P	**Pn**	**12 29 09.8**	**-2.2**
KBTR				S	**Sn**	**12 29 32.7**	**-5.1**
KBTR	**Krutoberegovo**	**2.15**	**294**	*i*P	**Pn**	**12 29 10.0**	**-2.0**
KBTR				*e*S	**Sn**	**12 29 36.9**	**-0.9**
KBG	**Krutoberegovo**	**2.23**	**295**	*i*P	**Pn**	**12 29 11.5**	**-1.6**
KBG				*e*S	**Sn**	**12 29 37.5**	**-2.2**
KBG				Smax			
	1μm,1.0s						
SVLR	**Shiveluch**	**3.11**	**295**	*i*P	**Pn**	**12 29 25.6**	**-0.1**
SVLR				*e*S	**Sn**	**12 30 01.2**	**-1.0**
ZLN	**Zelenaya**	**3.19**	**284**	*e*P	**Pn**	**12 29 28.2**	**+1.4**
ZLN				*e*S	**Sn**	**12 30 04.6**	**+0.4**
CIRR	**Tsirk**	**3.24**	**285**	*i*P	**Pn**	**12 29 29.3**	**+1.8**
CIRR				*e*S	**Sn**	**12 30 07.8**	**+2.4**
LGNR	**Loginova**	**3.27**	**285**	*e*P	**Pn**	**12 29 28.8**	**+1.0**
LGNR				*e*S	**Sn**	**12 30 06.2**	**+0.1**
KLY	**Klyuchi**	**3.34**	**289**	P	**Pn**	**12 29 27.5**	**-1.3**
KLY				S	**Sn**	**12 30 04.7**	**-3.1**
KLY	**Klyuchi**	**3.34**	**289**	*e*P	**Pn**	**12 29 27.2**	**-1.6**
KLY				*e*S	**Sn**	**12 30 03.1**	**-4.7**
KRSR	**Krestovskiy**	**3.36**	**287**	*i*P	**Pn**	**12 29 29.1**	**-0.1**
KRSR				*e*S	**Sn**	**12 30 07.2**	**-1.3**
KMNR	**Kamenistaya**	**3.48**	**279**	*e*P	**Pn**	**12 29 32.4**	**+1.5**
KMNR				*e*S	**Sn**	**12 30 13.0**	**+1.5**
KPT	**Kopyto**	**3.51**	**282**	*e*P	**Pn**	**12 29 33.5**	**+2.2**
KPT				*e*S	**Sn**	**12 30 15.3**	**+3.1**
TUMR	**Tumrok**	**3.54**	**271**	*i*P	**Pn**	**12 29 32.9**	**+1.3**
TUMR				*e*S	**Sn**	**12 30 13.1**	**+0.3**
KOZR	**Kozyr**	**3.70**	**283**	PN	**Pn**	**12 29 35.6**	**+1.6**
KOZ	**Kozyrevsk**	**3.72**	**283**	P	**Pn**	**12 29 35.6**	**+1.4**
KOZ	**Kozyrevsk**	**3.72**	**283**	*i*P	**Pn**	**12 29 35.9**	**+1.7**
KOZ				*e*S	**Sn**	**12 30 18.5**	**+1.1**
SRDR	**Sredinnyy**	**3.84**	**287**	*e*P	**Pn**	**12 29 36.5**	**+0.4**
SRDR				*e*S	**Sn**	**12 30 19.2**	**-1.5**
OSSR	**Ossora**	**4.27**	**337**	S	**Sn**	**12 30 30.0**	**-1.4**
SPN	**Mys Shipunski**	**4.35**	**241**	P	**Pn**	**12 29 43.0**	**-0.2**
SPN				S	**Sn**	**12 30 30.8**	**-2.7**
SPN	**Mys Shipunski**	**4.35**	**241**	*e*P	**Pn**	**12 29 43.1**	**-0.1**
SPN				*e*S	**Sn**	**12 30 31.1**	**-2.4**
ESO	**Esso**	**4.36**	**280**	*e*P	**Pn**	**12 29 45.4**	**+2.1**
ESO				*e*S	**Sn**	**12 30 34.4**	**+0.7**
ESO				Smax			
	100nm,1.0s						
NLC	**Nalytchevo**	**4.65**	**244**	P	**Pn**	**12 29 47.1**	**-0.4**
NLC				S	**Sn**	**12 30 38.3**	**-2.9**
NLC	**Nalytchevo**	**4.65**	**244**	*i*P	**Pn**	**12 29 47.1**	**-0.4**
NLC				*e*S	**Sn**	**12 30 38.6**	**-2.6**
FX1	**Attu Island--F**	**4.73**	**119**	Pn	**Pn**	**12 29 44.8**	**-3.9**
	29nm,0.3s,baz=345,slow=7.0,SNR=22						
FX1				Sn	**Sn**	**12 30 36.5**	**-6.6**
	103nm,0.3s,baz=85,slow=23,SNR=25						
SDLR	**Sedlovina**	**4.84**	**247**	*i*P	**Pn**	**12 29 50.9**	**+0.7**
SDLR				*i*S	**Sn**	**12 30 46.6**	**+0.7**
SMAR	**Somma**	**4.89**	**247**	*e*P	**Pn**	**12 29 51.2**	**+0.3**
SMAR				*e*S	**Sn**	**12 30 45.4**	**-1.7**
UGLR	**Uglovaya**	**4.91**	**247**	*i*P	**Pn**	**12 29 52.2**	**+1.1**
UGLR				*i*S	**Sn**	**12 30 48.5**	**+1.0**
AVH	**Avacha**	**4.92**	**248**	*e*P	**Pn**	**12 29 52.1**	**+0.7**
AVH				*i*S	**Sn**	**12 30 48.3**	**+0.3**
KOK	**Koryaka**	**4.96**	**248**	*i*P	**Pn**	**12 29 52.4**	**+0.5**
KOK				*e*S	**Sn**	**12 30 47.1**	**-1.9**
PET	**Petropavlovsk**	**5.09**	**246**	P	**Pn**	**12 29 53.6**	**0.0**
PET				S	**Sn**	**12 30 49.8**	**-2.2**
PET	**Petropavlovsk**	**5.09**	**246**	*e*PN	**Pn**	**12 29 54.0**	**+0.4**
PET				*e*S	**Sn**	**12 30 51.4**	**-0.6**
PET				pmax	pmax		
	comp=Z,35nm,0.5s						
PET				smax			
	comp=E,218nm,0.6s						
PET				smax			
	comp=N,224nm,0.6s						
PET				MLR	MLR		
	comp=Z,900nm,11.0s						
PET				MLR	MLR		
	comp=N,1μm,10.0s						
PET	**Petropavlovsk**	**5.09**	**246**	*e*Pn	**Pn**	**12 29 53.7**	**+0.1**
	comp=N,108nm,1.1s						
PET	**Petropavlovsk**	**5.09**	**246**	*e*P	**Pn**	**12 29 53.7**	**+0.1**
PET				*e*S	**Sn**	**12 30 50.0**	**-2.0**
GNL	**Ganaly**	**5.17**	**254**	*e*P	**Pn**	**12 29 55.7**	**+0.9**
GNL				*e*S	**Sn**	**12 30 53.1**	**-1.0**
RUS	**Russkaya**	**5.48**	**241**	*e*P	**Pn**	**12 29 59.7**	**+0.5**
RUS				*e*S	**Sn**	**12 30 59.7**	**-2.3**
GRL	**Gorelyy**	**5.64**	**243**	*e*P	**Pn**	**12 30 01.7**	**+0.3**
GRL				*e*S	**Sn**	**12 31 02.7**	**-3.1**
APC	**Apacha**	**5.92**	**249**	*e*P	**Pn**	**12 30 06.1**	**+0.7**
APC				*e*S	**Sn**	**12 31 10.1**	**-2.9**
PAU	**Pauzhetka**	**6.91**	**239**	*e*P	**Pn**	**12 30 19.5**	**+0.2**
KAMR	**Kamenskoye**	**7.10**	**360**	*e*P	**Pn**	**12 30 18.9**	**-3.1**
KAMR				*e*S	**Sn**	**12 31 32.8**	**-10**
KAMR				Smax			
	comp=N,50nm,1.0s						
SKR	**Severo-Kuril's**	**7.75**	**237**	*e*PN	**Pn**	**12 30 27.2**	**-3.8**
BILL	**Bilibino**	**12.71**	**360**	*e*PN	**P**	**12 31 38.2**	**-0.5**
BILL				pmax	pmax		
	comp=Z,14nm,1.8s						
BILL				MLR	MLR		
	comp=Z,400nm,18.0s						
BILL	**Bilibino**	**12.71**	**360**	*e*Pn	**P**	**12 31 37.8**	**-0.8**
	comp=Z,2.8nm,0.6s						
YSS	**Yuzh-Sakhalins**	**16.95**	**250**	*e*P	**P**	**12 32 34.4**	**+0.7**
YSS				pmax	pmax		
	comp=Z,40nm,1.4s						
YSS	**Yuzh-Sakhalins**	**16.95**	**250**	*e*P	**P**	**12 32 34.4**	**+0.7**
	comp=Z,40nm,1.4s						
ASAJ	**Asahikawa**	**18.93**	**243**	P	**P**	**12 32 58.8**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=79,slow=28,SNR=4.8						
ASAJ				LR	LR	12 39 57.2	
	comp=Z,186nm,20.3s,baz=166,slow=36						
YAK	**Yakutsk**	**19.94**	**304**	*e*P	**P**	**12 33 06.5**	**-3.0**
YAK				pmax	pmax		
	comp=Z,114nm,1.4s						
YAK	**Yakutsk**	**19.94**	**304**	*e*P	**P**	**12 33 06.5**	**-3.0**
	comp=Z,114nm,1.4s						
SVW2	**Sparrevohn**	**20.62**	**58**	*e*P	**P**	**12 33 19.4**	**+3.0**
IMA	**Indian Mountai**	**21.86**	**45**	*e*P	**P**	**12 33 30.3**	**+1.3**
RSO	**Redoubt South**	**22.04**	**60**	*e*P	**P**	**12 33 31.2**	**+0.4**
TIXI	**Tiksi**	**22.73**	**330**	*e*P	**P**	**12 33 37.1**	**-0.2**
TIXI				*e*S	**S**	**12 37 42.3**	**+3.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.8						
TIXI				MLR	MLR		
	comp=Z,48nm,12.0s,MS3.1						
COLA	**College**	**24.17**	**48**	*e*P	**P**	**12 33 51.7**	**+0.3**
ILAR	**Eielson Array**	**24.58**	**49**	P	**P**	**12 33 54.8**	**-0.6**
	comp=Z,27nm,0.8s,mb4.8,baz=261,slow=8.0,SNR=99						
ILAR				LR	LR	12 44 50.1	
	comp=Z,132nm,19.2s,MS3.5,baz=320,slow=40						
MDJ	**Mudanjiang**	**25.66**	**261**	P	**P**	**12 34 04.8**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,166nm,5.9s						
MENT	**Mentasta**	**26.08**	**53**	*e*P	**P**	**12 34 09.5**	**0.0**
MAJO	**Matsushiro**	**26.86**	**237**	*e*P	**P**	**12 34 17.2**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
MAJO	**Matsushiro**	**26.86**	**237**	*e*P	**P**	**12 34 17.2**	**+0.3**
	comp=Z,5.3nm,0.8s,mb4.1						
MAT	**Matsushiro**	**26.86**	**237**	*e*P	**P**	**12 34 18.0**	**+1.1**
MAT				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.6						
MAT	**Matsushiro**	**26.86**	**237**	P	**P**	**12 34 18.0**	**+1.1**
MAT				*e*S	**S**	**12 38 55.6**	**+6.2**
DAWY	**Dawson**	**27.87**	**50**	*e*P	**P**	**12 34 25.2**	**-0.7**
INK	**Inuvik**	**29.79**	**40**	*e*P	**P**	**12 34 41.5**	**-1.5**
INK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
INK	**Inuvik**	**29.79**	**40**	P	**P**	**12 34 42.5**	**-0.6**
	comp=Z,4.2nm,0.6s,mb4.3,baz=299,slow=7.0,SNR=13						
INK				LR	LR	12 48 15.6	
	comp=Z,101nm,18.4s,MS3.5,baz=246,slow=40						
INK	**Inuvik**	**29.79**	**40**	*e*P	**P**	**12 34 41.5**	**-1.6**
	comp=Z,5.5nm,0.9s,mb4.3						
ULN	**Ulaanbaatar**	**36.54**	**284**	*e*P	**P**	**12 35 42.6**	**+0.9**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.4						
ULN	**Ulaanbaatar**	**36.54**	**284**	*e*P	**P**	**12 35 42.6**	**+0.9**
	comp=Z,7.6nm,1.3s,mb4.4						
SONM	**Songino Array**	**36.93**	**284**	P	**P**	**12 35 46.2**	**+1.2**
	comp=Z,1.9nm,0.7s,mb4.0,baz=60,slow=8.0,SNR=8.1						
ZAK	**Zakamensk**	**37.21**	**289**	*e*P	**P**	**12 35 49.0**	**+1.7**
YKA	**Yellowknife Ar**	**38.97**	**46**	P	**P**	**12 36 01.8**	**-0.1**
	comp=Z,4.1nm,0.8s,mb4.2,baz=298,slow=8.0,SNR=57						
YKA				pP	pP	12 36 11.2	-0.2
	comp=Z,2.7nm,0.7s,baz=297,slow=8.1,SNR=16						
SSE	**Sheshan**	**39.89**	**251**	P	**P**	**12 36 09.4**	**-0.5**
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,109nm,4.1s						
NJ2	**Nanjing**	**40.43**	**255**	*e*P	**P**	**12 36 15.3**	**+1.0**
NJ2				AP	pP	12 36 25.1	+1.2
NJ2				XP	sP	12 36 29.1	+1.2
NJ2				PP	PP	12 37 53.0	+2.2
NJ2				S	**S**	**12 42 21.0**	**+0.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
NJ2				LR	LR		
	comp=N,600nm,13.8s,MS4.7						
NJ2				LR	LR		
	comp=E,450nm,14.4s,MS4.7						
NJ2				LR	LR		
	comp=Z,470nm,14.9s,MS4.5						
EDM	**Edmonton**	**44.45**	**58**	*e*P	**P**	**12 36 47.0**	**+0.2**
EDM				*e*	pP	12 36 56.6	+0.2
ZAL	**Zalesovo**	**44.61**	**304**	LR	LR	12 57 26.1	
	comp=Z,108nm,18.7s,MS3.8,baz=52,slow=39						
NVS	**Novosibirsk**	**44.81**	**305**	*e*P	**P**	**12 36 52.8**	**+3.2**
NEW	**Newport**	**45.60**	**65**	*e*P	**P**	**12 36 55.9**	**-0.1**
NEW				*e**PP	pP	12 37 05.8	+0.2
NEW				pmax	pmax		
	comp=Z,7.0nm,0.9s						
NEW	**Newport**	**45.60**	**65**	*e*P	**P**	**12 36 55.9**	**-0.1**
	comp=Z,6.6nm,0.9s,mb4.6						
NEW				*e*pP	pP	12 37 05.8	+0.2
LZH	**Lanzhou**	**45.97**	**272**	*e*P	**P**	**12 37 00.9**	**+1.8**
LZH				AP	pP	12 37 04.5	-4.2
LZH				XP	sP	12 37 06.1	-6.5
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,88nm,4.4s						
LZH				LR	LR		
	comp=N,397nm,13.9s						
LZH				LR	LR		
	comp=Z,590nm,15.7s,MS4.6						
BMO	**Blue Mountains**	**47.71**	**69**	*e*P	**P**	**12 37 12.2**	**-0.6**
	comp=Z,4.7nm,1.0s,mb4.5						
MOD	**Modoc**	**48.06**	**74**	*e*P	**P**	**12 37 15.7**	**+0.2**
	comp=Z,9.4nm,1.2s,mb4.7						
WVOR	**Wild Horse Val**	**48.61**	**72**	*e*P	**P**	**12 37 19.8**	**+0.1**
WVOR				*e**PP	pP	12 37 29.3	-0.2
WVOR				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
WVOR	**Wild Horse Val**	**48.61**	**72**	*e*P	**P**	**12 37 19.8**	**0.0**
	comp=Z,3.9nm,1.0s,mb4.4						
WVOR				*e*pP	pP	12 37 29.3	-0.1
HRY	**Holter Researc**	**49.34**	**64**	P	**P**	**12 37 22.7**	**-2.6**
FCC	**Fort Churchill**	**49.36**	**43**	*e*P	**P**	**12 37 24.8**	**-0.5**
FCC				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
FCC	**Fort Churchill**	**49.36**	**43**	*e*P	**P**	**12 37 24.8**	**-0.5**
	comp=Z,14nm,1.1s,mb4.9						
WMQ	**Urumqi**	**49.61**	**291**	*e*P	**P**	**12 37 29.0**	**+1.6**
WMQ				AP	pP	12 37 38.9	+1.7
WMQ				XP	sP	12 37 42.8	+1.8
WMQ				PP	PP	12 39 24.0	+1.6
WMQ				S	**S**	**12 44 33.8**	**+1.5**
WMQ				XS		12 44 50.3	
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,40nm,5.5s						
WMQ				LR	LR		
	comp=N,556nm,20.4s,MS4.6						
WMQ				LR	LR		
	comp=E,365nm,21.1s,MS4.6						
WMQ				LR	LR		
	comp=Z,487nm,21.1s,MS4.5						
MCMT	**McKenzie Canyo**	**50.08**	**66**	*e*P	**P**	**12 37 30.1**	**-0.9**
MCMT				*e*	pP	12 37 40.0	-0.8
HLID	**Hailey**	**50.12**	**69**	*e*P	**P**	**12 37 31.0**	**-0.3**
	comp=Z,3.8nm,1.0s,mb4.4						
HLID				*e*pP	pP	12 37 40.5	-0.5
BOZ	**Bozeman (W)**	**50.16**	**65**	*e*P	**P**	**12 37 31.3**	**-0.3**
BOZ				*e**PP	pP	12 37 40.8	-0.5
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BOZ	**Bozeman (W)**	**50.16**	**65**	*e*P	**P**	**12 37 31.3**	**-0.3**
	comp=Z,4.3nm,0.9s,mb4.5						
BOZ				*e*pP	pP	12 37 40.8

WMOK	**Wichita Mounta**	**64.80**	**65**	*e*P	**P**	**12 39 14.6**	**-0.5**
WMOK				*e**PP	pP	12 39 24.7	-0.3
WMOK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
WMOK	**Wichita Mounta**	**64.80**	**65**	*e*P	**P**	**12 39 14.6**	**-0.5**
	comp=Z,8.6nm,0.8s,mb4.8						
WMOK				*e*pP	pP	12 39 24.7	-0.3
LTX	**Lajitas**	**66.41**	**72**	*e*P	**P**	**12 39 25.2**	**-0.2**
LTX				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
LTX	**Lajitas**	**66.41**	**72**	*e*P	**P**	**12 39 25.2**	**-0.2**
	comp=Z,7.6nm,0.8s,mb4.8						
TXAR	**Lajitas Array**	**66.41**	**72**	P	**P**	**12 39 25.7**	**+0.3**
	comp=Z,7.5nm,0.6s,mb4.9,baz=299,slow=4.3,SNR=110						
JCT	**Junction City**	**67.59**	**69**	*e*P	**P**	**12 39 32.7**	**-0.2**
JCT				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
JCT	**Junction City**	**67.59**	**69**	*e*P	**P**	**12 39 32.7**	**-0.2**
	comp=Z,8.6nm,1.1s,mb4.7						
WVT	**Waverly**	**69.15**	**56**	*e*P	**P**	**12 39 42.0**	**-0.5**
WVT				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
WVT	**Waverly**	**69.15**	**56**	*e*P	**P**	**12 39 42.0**	**-0.5**
	comp=Z,3.9nm,0.6s,mb4.5						
SOC	**Sochi**	**71.54**	**322**	*e*P	**P**	**12 39 54.8**	**-2.0**
SOC				*e*		12 40 20.6	
SOC				*e*PPP	PPP	12 44 14.9	-4.1
SOC				*e*S	S	12 49 07.2	-5.0
SOC				*e*SS	SS	12 53 47.3	-2.0
SOC				*e*SSS	SSS	12 57 01.8	+4.9
SOC				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
SOC				pmax	pmax		
	comp=N,3.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,155nm,15.0s,MS4.4						
SOC				MLR	MLR		
	comp=N,75nm,12.0s,MS4.3						
SOC				MLR	MLR		
	comp=E,83nm,16.0s,MS4.3						
WRA	**Warramunga Arr**	**79.81**	**210**	P	**P**	**12 40 42.6**	**-1.4**
	comp=E,1.2nm,1.0s,mb3.8,baz=25,slow=6.1,SNR=3.7						
ASAR	**Alice Springs**	**83.46**	**210**	P	**P**	**12 41 04.1**	**+1.0**
	comp=E,2.6nm,1.1s,mb4.2,baz=355,slow=3.2,SNR=6.5						
QSPA	**South Pole Qui**	**145.13**	**180**	⇓*i*P	PKPbc	12 48 11.0	+0.9

TRN 14 12:48:48.1, 15.62N×59.55W, h35km, M3.5(FDF), MD3.2(FDF), 1C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRM	**Caravelle**	**1.57**	**237**	↑*i*P	P	12 49 14.5	+0.5
CRM				*e*S	S	12 49 35.0	+1.6
DEG	**La Desirade**	**1.60**	**296**	*e*P	P	12 49 14.9	+0.5
DEG				*e*S	S	12 49 35.2	+1.0
MVM	**Montagne Vaucl**	**1.67**	**231**	⇓*i*P	P	12 49 16.4	+1.0
MGG	**Marie-Galante**	**1.72**	**280**	*e*P	P	12 49 17.2	+1.1
FDF	**Fort de France**	**1.77**	**240**	⇓*i*P	P	12 49 18.1	+1.1
FDF				*e*S	S	12 49 40.1	+1.6
BIM	**Bigot**	**1.83**	**233**	⇓*i*P	P	12 49 18.6	+0.9
BBL	**Barber's Block**	**1.85**	**267**	*e*P	P	12 49 19.2	+1.3
SEG	**Port Louis**	**2.03**	**293**	*e*P	P	12 49 21.9	+1.4

*IDC **14** 12:51:56.4±6.0, 3.73S×147.46E, h80km±59km, mb3.7/5, mb1 4.0/6, mb1mx3.8/13, mbtmp4.0/6, ML3.1/1, MS3.4/4, Ms1 3.4/4, ms1mx3.1/22, Error ellipse: s-maj=51.2km s-min=32.5km az=135.0*
*NEIC **14** 12:51:56.1±3.3, 3.72S×147.40E, h77km±34km, mb4.3/1, Error ellipse: s-maj=40.3km s-min=18.3km az=130.0*
ISC 14 12:51:53.8±4.5, 3.7S±0.2×147.3E±0.3, h67km±44km, n12, σ1§13/10, mb3.7/4, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.71**	**181**	P	**P**	**12 53 18.2**	**+0.3**
	3.9nm,0.3s,baz=57,slow=5.8,SNR=29						
PMG				LR	LR	12 55 45.9	
	comp=Z,391nm,19.6s,baz=15,slow=41						
PMG	**Port Moresby**	**5.71**	**181**	*e*Pn	**P**	**12 53 18.1**	**+0.2**
PMG				LR	LR	12 55 46.0	
CTA	**Charters Tower**	**16.36**	**183**	LR	LR	13 00 04.5	
	comp=Z,133nm,21.9s,baz=41,slow=30						
WRAB	**Tennant Creek**	**20.52**	**217**	*e*P	**P**	**12 56 27.9**	**-1.1**
	11nm,0.7s						
WB2	**Warramunga Arr**	**20.53**	**217**	*e*P	**P**	**12 56 27.8**	**-1.3**
WRA	**Warramunga Arr**	**20.54**	**217**	P	**P**	**12 56 28.1**	**-1.1**
	7.5nm,0.9s,baz=41,slow=11,SNR=32						
ASAR	**Alice Springs**	**23.73**	**212**	P	**P**	**12 57 02.1**	**+1.4**
	3.2nm,0.6s,mb3.8,baz=37,slow=6.9,SNR=38						
ASAR				LR	LR	13 07 31.1	
	comp=Z,119nm,19.6s,baz=133,slow=39						
ASPA	**Alice Springs**	**23.73**	**212**	*e*P	**P**	**12 57 02.7**	**+1.9**
TGY	**Tagaytay City**	**31.55**	**305**	LR	LR	13 12 05.4	
	comp=Z,60nm,18.5s,baz=231,slow=38						
CMAR	**Chiang Mai Arr**	**52.45**	**297**	P	**P**	**13 01 03.0**	**+0.8**
	1.8nm,1.1s,mb4.0,baz=135,slow=4.7,SNR=5.4						
ILAR	**Eielson Array**	**83.23**	**23**	P	**P**	**13 04 12.9**	**-1.1**
	0.6nm,1.0s,mb3.4,baz=270,slow=1.4,SNR=4.5						
YKA	**Yellowknife Ar**	**96.97**	**28**	P	**P**	**13 05 19.4**	**+0.5**
	0.1nm,0.4s,mb3.6,baz=270,slow=4.2,SNR=4.5						

*NEIC **14** 12:55:50.8, 39.34S×174.86E, h206km, After WEL.*
WEL 14 12:55:50.8±0.4, 39.33S×174.84E, h206km±3km, ML3.6/10, 5C-3D, Error ellipse: s-maj=5.1km s-min=2.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.44**	**166**	P	P	12 56 18.6	-0.1
WAZ	**Wanganui**	**0.44**	**166**	PN	P	12 56 18.6	-0.1
WPVZ	**Whakapapa**	**0.56**	**78**	P	P	12 56 18.7	-0.4
WPVZ				S	S	12 56 40.0	-1.0
WPVZ	**Whakapapa**	**0.56**	**78**	PN	P	12 56 18.6	-0.5
WPVZ				SN	S	12 56 39.9	-1.1
CNZ	**Chateau**	**0.56**	**77**	P	P	12 56 18.6	-0.5
CNZ	**Chateau**	**0.56**	**77**	PN	P	12 56 18.3	-0.8
WNVZ	**Wahianoa**	**0.58**	**90**	P	P	12 56 18.2	-1.0
NGZ	**Ngauruhoe**	**0.61**	**76**	P	P	12 56 18.9	-0.4
NGZ	**Ngauruhoe**	**0.61**	**76**	PN	P	12 56 18.9	-0.4
MGZ	**Maungaku**	**0.63**	**59**	P	P	12 56 18.7	-0.7
MGZ	**Maungaku**	**0.63**	**59**	PN	P	12 56 18.8	-0.6
TUVZ	**Tukino**	**0.63**	**85**	P	P	12 56 18.7	-0.7
TUVZ	**Tukino**	**0.63**	**85**	*e*PN	P	12 56 18.5	-0.8
MOVZ	**Moawhango**	**0.71**	**97**	P	P	12 56 19.2	-0.5
MOVZ	**Moawhango**	**0.71**	**97**	PN	P	12 56 19.1	-0.6
MOVZ				SN	S	12 56 40.0	-2.1
TSZ	**Takapari Road**	**1.13**	**131**	P	P	12 56 22.6	+0.3
TSZ	**Takapari Road**	**1.13**	**131**	PN	P	12 56 22.5	+0.2
TSZ				SN	S	12 56 46.3	-0.4
BKZ	**Black Stump Fm**	**1.29**	**83**	P	P	12 56 22.9	-0.7
BKZ				S	S	12 56 46.9	-2.0
BKZ	**Black Stump Fm**	**1.29**	**83**	⇓PN	P	12 56 22.9	-0.7
BKZ				SN	S	12 56 46.9	-2.1
MRZ	**Mangatainoka R**	**1.45**	**157**	*e*P	P	12 56 24.5	-0.4
MRZ				S	S	12 56 50.2	-1.1
MRZ	**Mangatainoka R**	**1.45**	**157**	PN	P	12 56 24.4	-0.5
MRZ				SN	S	12 56 50.2	-1.1
KIW	**Kapiti Island**	**1.54**	**178**	P	P	12 56 24.9	-0.8
KIW	**Kapiti Island**	**1.54**	**178**	PN	P	12 56 24.9	-0.8
PWZ	**Pawanui**	**1.71**	**115**	P	P	12 56 27.3	0.0
PWZ	**Pawanui**	**1.71**	**115**	⇓PN	P	12 56 27.3	+0.1
PWZ				SN	S	12 56 55.2	-0.1
BFZ	**Birch Farm**	**1.73**	**142**	P	P	12 56 27.2	-0.3
BFZ	**Birch Farm**	**1.73**	**142**	PN	P	12 56 27.2	-0.3
CAW	**Cannon Point**	**1.79**	**175**	P	P	12 56 27.3	-0.7
CAW	**Cannon Point**	**1.79**	**175**	PN	P	12 56 27.0	-1.1
CAW				SN	S	12 56 55.3	-1.4
MTW	**Mount Morrison**	**1.90**	**165**	P	P	12 56 28.2	-0.9
MTW	**Mount Morrison**	**1.90**	**165**	PN	P	12 56 28.2	-0.9
MRW	**Makara Radio**	**1.91**	**183**	P	P	12 56 28.1	-1.0
MRW	**Makara Radio**	**1.91**	**183**	↑PN	P	12 56 28.1	-1.1
URZ	**Urewera**	**2.07**	**60**	P	P	12 56 28.5	-2.3
URZ	**Urewera**	**2.07**	**60**	⇓PN	P	12 56 28.4	-2.3
URZ				SN	S	12 56 57.0	-4.6
PAWZ	**Paruwai Farm**	**2.10**	**168**	↑PN	P	12 56 30.2	-0.9
MSWZ	**Moikau Station**	**2.11**	**172**	P	P	12 56 30.1	-1.1
MSWZ	**Moikau Station**	**2.11**	**172**	↑PN	P	12 56 30.1	-1.1
NNZ	**Nelson**	**2.20**	**210**	P	P	12 56 30.2	-2.0
NNZ	**Nelson**	**2.20**	**210**	↑PN	P	12 56 30.1	-2.1
NNZ				SN	S	12 57 00.6	-3.5
TUWZ	**Tuamarina**	**2.21**	**198**	PN	P	12 56 30.7	-1.6
KNZ	**Kokohu**	**2.22**	**83**	P	P	12 56 31.6	-0.8
KNZ	**Kokohu**	**2.22**	**83**	PN	P	12 56 31.6	-0.9
KNZ				SN	S	12 57 02.2	-2.4
MWZ	**Matawai**	**2.32**	**66**	P	P	12 56 31.7	-1.8
MWZ	**Matawai**	**2.32**	**66**	PN	P	12 56 31.5	-2.0
QRZ	**Quartz Range**	**2.32**	**229**	*e*P	P	12 56 30.3	-3.3
QRZ	**Quartz Range**	**2.32**	**229**	PN	P	12 56 30.3	-3.3
QRZ				SN	S	12 57 01.3	-5.3
BSWZ	**Blackbirch Sta**	**2.50**	**197**	P	P	12 56 34.2	-1.3
BSWZ	**Blackbirch Sta**	**2.50**	**197**	PN	P	12 56 33.7	-1.7
THZ	**Tophouse**	**2.85**	**211**	*e*P	P	12 56 36.9	-2.5
THZ	**Tophouse**	**2.85**	**211**	↑PN	P	12 56 36.8	-2.7
THZ				SN	S	12 57 13.2	-3.9
PUZ	**Puketiti**	**2.95**	**66**	*e*P	P	12 56 38.2	-2.4
PUZ	**Puketiti**	**2.95**	**66**	PN	P	12 56 38.0	-2.6
MXZ	**Matakaoa Point**	**3.24**	**58**	*e*P	P	12 56 41.5	-2.6
MXZ	**Matakaoa Point**	**3.24**	**58**	PN	P	12 56 41.3	-2.7
DSZ	**Denniston Nort**	**3.35**	**223**	*e*P	P	12 56 41.7	-3.7
DSZ	**Denniston Nort**	**3.35**	**223**	PN	P	12 56 41.4	-4.0
DSZ				SN	S	12 57 21.7	-6.0
LTZ	**Lake Taylor**	**3.96**	**209**	*e*P	P	12 56 49.6	-3.3
LTZ	**Lake Taylor**	**3.96**	**209**	PN	P	12 56 49.4	-3.6
LTZ				SN	S	12 57 35.0	-6.0
CRLZ	**Canterbury Las**	**4.56**	**201**	SN	S	12 57 47.6	-6.9
MQZ	**McQueen's Vall**	**4.68**	**200**	*e*P	P	12 56 57.4	-4.5
MQZ	**McQueen's Vall**	**4.68**	**200**	*e*PN	P	12 56 57.3	-4.6
MQZ				SN	S	12 57 50.0	-7.0

IDC 14 13:04:27.2±12.0, 16.50S×179.51W, h457km±154km, mb3.1/7, mb1 3.5/7, mb1mx3.3/14, mbtmp3.9/7, Error ellipse: s-maj=109.2km s-min=35.2km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.87**	**258**	P	P	13 11 51.6	-1.8
	0.3nm,0.7s,baz=91,slow=8.3,SNR=6.8						
ASAR	**Alice Springs**	**44.18**	**253**	P	P	13 11 54.5	-1.2
	2.4nm,0.5s,baz=89,slow=7.8,SNR=65						
NVAR	**Mina Array Bea**	**79.15**	**44**	P	P	13 15 44.3	-0.4
	1.1nm,0.7s,baz=226,slow=9.1,SNR=11						
ILAR	**Eielson Array**	**84.76**	**13**	P	P	13 16 11.7	-0.9
	0.4nm,0.5s,baz=228,slow=5.2,SNR=13						
TXAR	**Lajitas Array**	**86.14**	**58**	P	P	13 16 19.2	-0.9
	0.6nm,0.8s,baz=225,slow=5.3,SNR=6.5						
PDAR	**Pinedale Array**	**87.06**	**44**	P	P	13 16 23.0	-1.2
	0.7nm,0.6s,baz=208,slow=3.1,SNR=7.1						
YKA	**Yellowknife Ar**	**93.50**	**25**	P	P	13 16 52.2	-1.3
	0.3nm,0.6s,baz=249,slow=4.2,SNR=6.6						
GERES	**GERESS Array B**	**145.98**	**344**	PKPbc	PKPbc	13 23 14.4	+0.1
	0.6nm,0.5s,baz=27,slow=3.0,SNR=5.6						

WEL 14 13:07:25.6±0.6, 36.48S×179.18E, h33km, ML3.6/6, Error ellipse: s-maj=4.9km s-min=3.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.29**	**213**	PN	Pn	13 07 46.1	-1.5
MXZ				SN	Sn	13 08 01.8	-2.1
MXZ				SN	Sn	13 08 02.2	-1.6
PUZ	**Puketiti**	**1.75**	**205**	PN	Pn	13 07 53.0	-1.2
PUZ				SN	Sn	13 08 14.7	-1.0
MWZ	**Matawai**	**2.27**	**215**	PN	Pn	13 08 00.6	-1.1
MWZ				SN	Sn	13 08 27.6	-1.3
URZ	**Urewera**	**2.43**	**222**	PN	Pn	13 08 02.4	-1.5
KUZ	**Kuaotunu**	**2.80**	**263**	PN	Pn	13 08 07.6	-1.6
KUZ				SN	Sn	13 08 38.1	-4.0
KNZ	**Kokohu**	**2.81**	**205**	PN	Pn	13 08 06.2	-3.1
BKZ	**Black Stump Fm**	**3.43**	**218**	PN	Pn	13 08 15.0	-3.0
NGZ	**Ngauruhoe**	**3.91**	**225**	*e*PN	Pn	13 08 21.9	-3.0
MOVZ	**Moawhango**	**3.99**	**222**	*e*PN	Pn	13 08 21.4	-4.6
PWZ	**Pawanui**	**3.99**	**207**	*e*PN	Pn	13 08 20.7	-5.3
TSZ	**Takapari Road**	**4.38**	**214**	*e*PN	Pn	13 08 26.0	-5.6
BFZ	**Birch Farm**	**4.79**	**208**	*e*PN	Pn	13 08 31.1	-6.3
THZ	**Tophouse**	**7.19**	**221**	SN	Sn	13 10 19.6	-13
MQZ	**McQueen's Vall**	**8.78**	**213**	SN	Sn	13 10 53.8	-18

*NIED **14** 13:22:00, 35.60N×140.20E, h59km, Mw3.9 Best double couple: M0:8.13×10^14 NP1:φs213°, δ55°, λ97°. NP2:φs21°, δ36°, λ80°.*
*IDC **14** 13:22:36.7±1.6, 35.60N×140.40E, h48km±16km, mb3.7/7, mb1 3.9/10, mb1mx3.6/24, mbtmp4.1/10, ML4.1/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/26, Error ellipse: s-maj=37.5km s-min=11.3km az=91.0*
*JMA **14** 13:22:38.9±0.2, 35.59N×140.16E, h69km±2km, M3.8 Broadband fault plane solution: P waves. NP1:φs168°, δ34°, λ64°. NP2:φs19°, δ60°, λ106°. Principal axes: T Plg70°, Azm325°; N Plg14°, Azm191°; P Plg14°, Azm97°;*
JMA Felt I J1.
ISC 14 13:22:38.4±0.5, 35.52N±0.04×140.14E±0.06, h76km±3km, n22, σ0§59/37, mb4.0/7, 2C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.11**	**155**	↑P	**P**	**13 22 49.7**	**+0.2**
JCN				S	**S**	**13 22 58.4**	**+0.7**
TOK	**Tokyo**	**0.35**	**298**	P	**P**	**13 22 50.9**	**+0.2**
TOK				S	**S**	**13 23 00.0**	**+0.1**
BSO3	**Boso 3**	**0.78**	**157**	⇓P	**P**	**13 22 55.0**	**+0.1**
BSO3				S	**S**	**13 23 06.8**	**-0.3**
JOD2	**Odawara 2**	**0.90**	**254**	⇓P	**P**	**13 22 56.5**	**+0.3**
JOD2				S	**S**	**13 23 08.8**	**-0.8**
JIM2	**Oshima 3**	**0.99**	**216**	P	**P**	**13 22 57.6**	**+0.2**
JIM2				S	**S**	**13 23 11.3**	**-0.3**
JAG	**Ashikaga**	**1.06**	**328**	⇓P	**P**	**13 22 57.9**	**-0.3**
JAG				S	**S**	**13 23 12.0**	**-1.1**
BSO1	**Boso 1**	**1.10**	**141**	↑P	**P**	**13 22 58.1**	**-0.7**
BSO1				S	**S**	**13 23 14.4**	**+0.4**
JRY	**Ryogami san**	**1.12**	**296**	⇓P	**P**	**13 22 59.6**	**+0.6**
JRY				S	**S**	**13 23 14.4**	**-0.1**
JYN	**Shimob**	**1.30**	**269**	⇓P	**P**	**13 23 01.9**	**+0.3**
JYN				S	**S**	**13 23 18.7**	**0.0**
JIZS	**Izushimoda**	**1.31**	**233**	P	**P**	**13 23 01.9**	**+0.3**
JIZS				S	**S**	**13 23 18.8**	**0.0**
JKT	**Katashina**	**1.44**	**330**	P	**P**	**13 23 03.2**	**-0.1**
JKT				S	**S**	**13 23 21.2**	**-0.5**
MAT	**Matsushiro**	**1.87**	**304**	P	**P**	**13 23 09.2**	**+0.1**
MAT				S	**S**	**13 23 32.7**	**+1.1**
JHJ	**Hachijo jima 2**	**2.41**	**187**	P	**P**	**13 23 16.9**	**+0.3**
	145nm,0.3s,baz=7.8,slow=4.9,SNR=50						
JHJ				S	**S**	**13 23 45.0**	**-0.1**
	170nm,0.3s,baz=30,slow=23,SNR=12						
CBIJ	**Chichi jima**	**8.58**	**168**	P	**P**	**13 24 37.5**	**-4.4**
	27nm,0.3s,baz=297,slow=22,SNR=11						
CBIJ				S	**S**	**13 26 10.9**	**-7.1**
	12nm,0.3s,baz=249,slow=23,SNR=5.0						
ASAJ	**Asahikawa**	**8.79**	**12**	P	**P**	**13 24 40.1**	**-4.6**
	0.4nm,0.3s,baz=230,slow=5.0,SNR=4.2						
ASAJ				S	**S**	**13 26 15.4**	**-7.7**
	0.7nm,0.3s,baz=171,slow=25,SNR=2.6						
ASAJ				LR	LR	13 28 46.2	
	comp=Z,42nm,19.4s,baz=355,slow=43						
SONM	**Songino Array**	**27.82**	**307**	P	**P**	**13 28 21.0**	**-1.3**
	0.7nm,0.7s,mb3.3,baz=102,slow=9.4,SNR=5.7						
ZAL	**Zalesovo**	**42.20**	**314**	P	**P**	**13 30 26.4**	**+1.5**
	1.0nm,0.4s,mb3.9,baz=74,slow=5.6,SNR=5.4						
BVAR	**Borovoye Array**	**50.84**	**313**	P	**P**	**13 31 33.6**	**+0.5**
	0.6nm,0.4s,mb4.0,baz=103,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**55.43**	**187**	P	**P**	**13 32 06.2**	**-1.2**
	1.4nm,0.3s,mb4.4,baz=0.5,slow=7.7,SNR=74						
ASAR	**Alice Springs**	**59.16**	**187**	P	**P**	**13 32 34.0**	**+0.4**
	1.3nm,0.4s,mb4.3,baz=18,slow=12,SNR=34						
FINES	**FINESS Array B**	**69.67**	**332**	P	**P**	**13 33 41.3**	**+0.1**
	2.3nm,0.9s,mb4.0,baz=27,slow=4.3,SNR=3.4						
AKASG	**Malin Array Be**	**74.86**	**322**	P	**P**	**13 34 12.1**	**0.0**
	1.3nm,0.7s,mb3.8,baz=48,slow=6.4,SNR=4.5						

*NAO **14** 13:25:44.4±3.2, 60.88N×29.06E, ML2.3*
*BER **14** 13:25:46.9±2.8, 60.90N×28.97E, ML2.3(NAO), Suspected explosion*
*IDC **14** 13:25:46.6±1.9, 60.90N×29.00E, mb1 3.3/3, mb1mx3.0/17, mbtmp3.2/3, ML3.1/3, Error ellipse: s-maj=17.3km s-min=11.0km az=166.0*
*HEL **14** 13:25:46.5±0.3, 60.90N×28.99E, ML1.9, ML2.3(NAO), Explosion*
ISC 14 13:25:44.3±1.1, 60.89N±0.05×29.0E±0.1, n17, σ1§34/34, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.79**	**245**	*e*P	**Pg**	**13 26 01.2**	**+1.0**
VJF				*e*S	**Sg**	**13 26 10.8**	**0.0**
FIA0	**FINESS Array S**	**1.53**	**293**	*e*P	**Pn**	**13 26 12.6**	**-0.3**
FIA0				*e*S	**Sb**	**13 26 32.1**	**-0.9**
FIA0	**FINESS Array S**	**1.53**	**293**	Pn	**Pn**	**13 26 12.8**	**-0.1**
	baz=112,slow=16						
FIA0				Lg		13 26 33.6	
	baz=107,slow=37						
FIA0				Rg		13 26 41.6	
	baz=112,slow=37						
FINES	**FINESS Array B**	**1.53**	**293**	Pg	**Pg**	**13 26 12.8**	**-1.9**
	3.9nm,0.3s,baz=114,slow=17,SNR=79						
FINES				Lg		13 26 34.3	
	6.2nm,0.3s,baz=97,slow=31,SNR=31						
FINES				Rg		13 26 41.1	
	47nm,1.0s,baz=108,slow=28,SNR=25						
PVF	**Pernaja**	**1.58**	**259**	*e*P	**Pn**	**13 26 14.1**	**+0.3**
PVF				*e*S	**Sb**	**13 26 35.3**	**+0.6**
KAF	**Kangasniemi**	**1.79**	**315**	*e*P	**Pn**	**13 26 17.9**	**+1.2**
KAF				*e*S	**Sn**	**13 26 39.9**	**-0.5**
SUF	**Sumiainen**	**2.29**	**325**	*e*P	**Pn**	**13 26 25.6**	**+1.8**
SUF				*e*S	**Sn**	**13 26 53.9**	**+0.8**
JOF	**Joensuu**	**2.31**	**27**	*e*P	**Pn**	**13 26 25.4**	**+1.2**
JOF				*e*S	**Sn**	**13 26 53.1**	**-0.7**
KEF	**Keuruu**	**2.36**	**305**	*e*P	**Pn**	**13 26 26.3**	**+1.4**
KEF				*e*S	**Sn**	**13 26 56.2**	**+1.2**
KJN	**Kajaani**	**3.27**	**350**	*e*P	**Pn**	**13 26 39.4**	**+1.6**
KJN				*e*S	**Sn**	**13 27 17.4**	**-0.6**
KJN				*e*SB	**Sb**	**13 27 23.8**	**+0.2**
KJN				MSG		13 27 23.9	
	comp=Z,2.8nm,0.2s						
HFS	**Hagfors**	**7.60**	**271**	Pn	**Pn**	**13 27 36.8**	**-2.1**
	baz=92,slow=16						
HFS				Sn	**Sn**	**13 29 00.1**	**-6.7**
	baz=90,slow=28						
HFS				Lg		13 29 40.4	
	baz=75,slow=37						
HFS	**Hagfors**	**7.60**	**271**	*e*P	**Pn**	**13 27 36.8**	**-2.1**
HFS				*e*S	**Sn**	**13 29 00.1**	**-6.7**
HFS				*e*SG	**Sg**	**13 29 40.4**	**-17**
HFS	**Hagfors**	**7.60**	**271**	Pn	**Pn**	**13 27 36.8**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=84,slow=13,SNR=6.7						
HFS				Sn	**Sn**	**13 29 00.7**	**-6.2**
	comp=Z,0.1nm,0.3s,baz=90,slow=24,SNR=3.8						
NOA	**NORSAR Array B**	**8.65**	**279**	Pn	**P**	**13 27 50.9**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=83,slow=13,SNR=2.5						
NOA				Sn	**Sn**	**13 29 25.4**	**-7.8**
	comp=Z,0.1nm,0.3s,baz=116,slow=14,SNR=2.6						
ARA0	**ARCESS Array S**	**8.81**	**352**	Pn	**P**	**13 27 52.5**	**-3.4**
	baz=172,slow=14						
ARA0				Sn	**Sn**	**13 29 28.2**	**-8.8**
	baz=170,slow=28						
ARA0	**ARCESS Array S**	**8.81**	**352**	*e*P	**P**	**13 27 52.5**	**-3.4**
ARA0				*e*S	**Sn**	**13 29 28.2**	**-8.8**
ARCES	**ARCESS Array B**	**8.81**	**352**	Pn	**P**	**13 27 52.8**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=169,slow=13,SNR=11						
ARCES				Sn	**Sn**	**13 29 26.8**	**-10**
	comp=Z,0.1nm,0.3s,baz=165,slow=21,SNR=3.0						

IDC 14 13:39:26.2±1.9, 8.62N×142.85E, mb3.3/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.3/3, Error ellipse: s-maj=262.8km s-min=29.2km az=109.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.59**	**196**	P	P	13 45 33.1	-2.3
	0.3nm,0.5s,baz=19,slow=9.7,SNR=6.1						
ASAR	**Alice Springs**	**33.26**	**195**	P	P	13 46 05.6	-2.0
	0.3nm,0.7s,baz=17,slow=11,SNR=4.6						
ILAR	**Eielson Array**	**73.88**	**25**	P	P	13 51 02.9	-1.7
	0.3nm,0.7s,baz=246,slow=6.2,SNR=4.6						

IDC 14 13:42:54.3±10.0, 28.17S×177.92W, h357km±100km, mb3.4/4, mb1 3.6/5, mb1mx3.3/15, mbtmp4.1/5, Error ellipse: s-maj=92.1km s-min=64.6km az=55.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**10.89**	**201**	P	P	13 45 22.9	-0.9
	0.9nm,0.3s,baz=276,slow=5.9,SNR=6.1						
URZ				S	S	13 47 22.3	+0.2
	0.6nm,0.3s,baz=188,slow=20,SNR=4.3						
CTA	**Charters Tower**	**33.58**	**276**	P	P	13 49 02.3	-1.4
	3.6nm,0.6s,baz=92,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**43.34**

ISC 14 14:29:41.1±1.3,7.0N±0.1×91.6E±0.2,h33km,n11,
σ0§57/11,mb3.9/8,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.40**	**31**	Pn	**P**	**14 32 51.4**	**0.0**
	0.2nm,0.3s,baz=232,slow=14,SNR=19						
JIRN	**Jiri**	**21.15**	**347**	*e*P	**P**	**14 34 25.4**	**-0.2**
	8.5nm,0.6s,mb4.2						
PKI	**Pulchoki**	**21.25**	**345**	*e*P	**P**	**14 34 26.6**	**-0.1**
DMN	**Daman**	**21.37**	**344**	*e*P	**P**	**14 34 31.3**	**+3.4**
GUN	**Gumba**	**21.46**	**346**	*e*P	**P**	**14 34 28.5**	**-0.3**
	11nm,0.6s,mb4.3						
GKN	**Gorkha**	**21.88**	**343**	*e*P	**P**	**14 34 32.7**	**-0.2**
	6.7nm,0.6s,mb4.3						
KOLN	**Koldanda**	**21.98**	**341**	*e*P	**P**	**14 34 34.0**	**+0.1**
	10nm,0.8s,mb4.3						
SONM	**Songino Array**	**42.55**	**15**	P	**P**	**14 37 35.8**	**+0.3**
	0.6nm,0.7s,mb3.5,baz=189,slow=9.0,SNR=3.6						
ZAL	**Zalesovo**	**47.09**	**354**	P	**P**	**14 38 11.4**	**-0.2**
	0.6nm,0.3s,mb3.9,baz=272,slow=3.0,SNR=3.6						
WRA	**Warramunga Arr**	**49.84**	**123**	P	**P**	**14 38 32.9**	**-0.5**
	0.7nm,0.9s,mb3.7,baz=302,slow=8.5,SNR=7.4						
ASAR	**Alice Springs**	**51.33**	**128**	P	**P**	**14 38 45.2**	**+0.5**
	0.3nm,0.8s,mb3.3,baz=305,slow=8.4,SNR=4.1						

*BJI **14** 14:34:20.4,3.65N×93.52E,h31km,mB5.1,mb4.8,Ms4.5,*
Ms2.4.1
*MOS **14** 14:34:25.8±1.2,4.39N×93.51E,h33km,mb4.9/17,Error*
ellipse: s-maj=18.9km s-min=9.3km az=90.8
*IDC **14** 14:34:29.0±0.7,4.58N×93.22E,h29km±3km,mb4.1/12,*
mb1 4.3/13,mb1mx4.1/19,mbtmp4.3/13,ML4.0/1,MS4.1/14,
Ms1 4.1/14,ms1mx3.9/23,Error ellipse: s-maj=25.6km
s-min=15.7km az=48.0
*NEIC **14** 14:34:28.9±0.3,4.53N×93.14E,mb4.7/11,Error ellipse:*
s-maj=9.5km s-min=6.7km az=220.0

ISC 14 14:34:27.0±0.5,4.64N±0.06×93.24E±0.06,h30km,
h30km±.8km:pP-P,n88,σ1§21/88,mb4.6/34,MS4.2/20,
4C-2D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**6.99**	**356**	*e*P	**Pn**	**14 36 12.6**	**+2.5**
PBA				*e*S	**Sn**	**14 37 26.2**	**-3.2**
PBA				*e*S	**Sn**	**14 37 32.1**	**+2.8**
	comp=N,292nm,0.3s						
PBA				*e*		14 37 32.2	
	comp=E,296nm,0.6s						
PBA	**Port Blair**	**6.99**	**356**	*e*P	**Pn**	**14 36 12.6**	**+2.5**
PBA				*e*S	**Sn**	**14 37 26.2**	**-3.1**
PALK	**Pallekele**	**12.74**	**282**	*e*Pn	**P**	**14 37 25.0**	**-4.1**
	comp=E,13nm,0.6s						
CMAR	**Chiang Mai Arr**	**14.82**	**22**	Pn	**P**	**14 37 57.0**	**+0.5**
	comp=E,0.2nm,0.3s,baz=218,slow=13,SNR=48						
CMAR				pP		14 38 04.6	
	comp=E,0.9nm,0.3s,baz=233,slow=14,SNR=20						
CMAR				LR	LR	14 44 01.1	
	comp=E,284nm,19.5s,baz=210,slow=38						
CHG	**Chiang Mai**	**15.15**	**21**	⇑P	**P**	**14 38 01.1**	**+0.2**
	comp=E,26nm,1.3s						
UBT	**Ubonrachathani**	**15.66**	**47**	P	**P**	**14 38 18.0**	**+10**
VIS	**Vishakhapatnam**	**16.22**	**324**	*i*	**P**	**14 38 12.9**	**-1.7**
VIS				*i*	**S**	**14 41 01.5**	**-12**
VIS	**Vishakhapatnam**	**16.22**	**324**	*e*P	**P**	**14 38 13.8**	**-0.8**
VIS				*e*		14 38 14.7	
	comp=Z,72nm,0.7s						
VIS				*e*S	**S**	**14 40 59.1**	**-14**
CHRT	**Chiangrai**	**16.43**	**22**	⇑P	**P**	**14 38 18.0**	**+0.8**
BWNR	**Bhubaneshwar**	**17.16**	**336**	*e*P	**P**	**14 38 23.5**	**-2.9**
BWNR				*e*	**S**	**14 41 17.6**	**-17**
HYB	**Hyderabad**	**19.19**	**313**	*e*P	**P**	**14 38 50.5**	**-0.8**
HYB	**Hyderabad**	**19.19**	**313**	*i* P	**P**	**14 38 50.5**	**-0.8**
HYB				*e*S	**S**	**14 42 18.5**	**-2.2**
IMP	**Imphal**	**20.04**	**2**	*e*P	**P**	**14 39 00.1**	**-0.5**
BLSP	**Bilaspur**	**20.45**	**329**	*e*P	**P**	**14 39 04.1**	**-0.8**
BLSP				*e*		14 42 37.7	
BLSP				*e*S	**S**	**14 42 37.8**	**-9.3**
SHL	**Shillong**	**20.85**	**357**	*e*P	**P**	**14 39 08.0**	**-1.0**
SHL				*e*S	**S**	**14 42 54.5**	**-0.6**
LATR	**Latur**	**21.29**	**311**	*e*P	**P**	**14 39 12.3**	**-1.2**
LATR				*e*P	**S**	**14 43 06.0**	**+2.6**
QIZ	**Qiongzhong**	**21.62**	**47**	*e*P	**P**	**14 39 13.8**	**-3.0**
QIZ				LR	LR		
	comp=N,1μm,16.6s						
QIZ				LR	LR		
	comp=Z,755nm,19.0s,MS4.1						
KAD	**Karad**	**22.51**	**305**	⇑*i*P	**P**	**14 39 27.0**	**+1.1**
POO	**Poona**	**23.44**	**308**	*e* P	**P**	**14 39 22.0**	**-13**
POO				*e*		14 42 32.0	
BHPL	**Bhopal**	**23.98**	**322**	*e*P	**P**	**14 39 41.9**	**+1.8**
BHPL				*e*		14 39 46.1	
	comp=Z,21nm,2.0s						
BHPL				*e*	**S**	**14 44 02.1**	**+10**
LSA	**Lhasa**	**25.00**	**356**	P	**P**	**14 39 52.0**	**+2.1**
LSA	**Lhasa**	**25.00**	**356**	*e*P	**P**	**14 39 51.8**	**+1.9**
LSA				*e**PP	pP	14 40 02.0	+3.2
LSA				pmax	pmax		
	comp=Z,20nm,0.5s,mb4.9						
LSA	**Lhasa**	**25.00**	**356**	*e*P	**P**	**14 39 51.8**	**+1.9**
	comp=Z,20nm,0.5s,mb4.9						
LSA				*e*pP	pP	14 40 02.0	+3.2
XAN	**Xi'an**	**32.69**	**25**	P	**P**	**14 40 58.1**	**-0.9**
XAN				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
LZH	**Lanzhou**	**32.79**	**16**	*e*P	**P**	**14 41 00.4**	**+0.6**
LZH				AMB	AMB		
	comp=Z,47nm,1.7s,mb5.1						
LZH				AMB	AMB		
	comp=Z,129nm,5.1s						
LZH				LR	LR		
	comp=E,629nm,15.5s						
LZH				LR	LR		
	comp=Z,850nm,17.3s,MS4.5						
NJ2	**Nanjing**	**36.33**	**38**	*e*P	**P**	**14 41 27.3**	**-2.9**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,1μm,6.3s						
NJ2				LR	LR		
	comp=N,800nm,16.1s,MS4.8						
NJ2				LR	LR		
	comp=E,820nm,13.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,790nm,13.6s,MS4.7						
SSE	**Sheshan**	**37.19**	**42**	P	**P**	**14 41 32.9**	**-4.6**
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,41nm,3.4s						
SSE				LR	LR		
	comp=N,252nm,23.1s,MS4.0						
SSE				LR	LR		
	comp=E,202nm,23.1s,MS4.0						
SSE				LR	LR		
	comp=Z,218nm,23.8s,MS3.9						
WMQ	**Urumqi**	**39.33**	**354**	P	**P**	**14 42 00.0**	**+4.7**
JOW	**Kunigami**	**40.06**	**53**	LR	LR	14 58 58.5	
	comp=Z,233nm,19.5s,MS4.0,baz=162,slow=37						
BJT	**Baijiatuau**	**40.85**	**27**	*e*P	**P**	**14 42 09.0**	**+1.2**
BJT				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BJT	**Baijiatuau**	**40.85**	**27**	*e*P	**P**	**14 42 09.0**	**+1.2**
	comp=Z,4.8nm,0.4s,mb4.5						
AAK	**Ala-Archa**	**41.34**	**339**	*i* P	**P**	**14 42 12.9**	**+1.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.9						
AAK	**Ala-Archa**	**41.34**	**339**	*e*P	**P**	**14 42 13.1**	**+1.2**
	comp=Z,9.8nm,1.2s,mb4.3						
SONM	**Songino Array**	**44.50**	**13**	P	**P**	**14 42 38.2**	**+0.6**
	comp=Z,5.3nm,0.8s,mb4.3,baz=194,slow=7.9,SNR=39						
SONM				pP	pP	14 42 46.4	-0.2
	comp=Z,4.2nm,0.8s,baz=198,slow=7.8,SNR=11						
ULN	**Ulaanbaatar**	**44.67**	**13**	*e*P	**P**	**14 42 40.0**	**+1.1**
ULN				*e**PP	pP	14 42 48.5	+0.4
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
ULN	**Ulaanbaatar**	**44.67**	**13**	*e*P	**P**	**14 42 40.0**	**+1.1**
	comp=Z,2.9nm,0.6s,mb4.3						
ULN				*e*pP	pP	14 42 48.5	+0.4
ZAK	**Zakamensk**	**46.36**	**9**	*e*P	**P**	14 43 01.7	+0.2
WRA	**Warramunga Arr**	**47.20**	**123**	P	**P**	**14 42 59.0**	**-0.4**
	comp=Z,5.9nm,0.9s,mb4.5,baz=300,slow=8.9,SNR=24						
WRAB	**Tennant Creek**	**47.21**	**123**	*e*P	**P**	**14 42 59.2**	**-0.2**
WRAB				*e**PP	pP	14 43 09.5	+0.9
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
WRAB	**Tennant Creek**	**47.21**	**123**	*e*P	**P**	**14 42 59.1**	**-0.3**
	comp=Z,9.5nm,0.6s,mb4.9						
WRAB				*e*pP	pP	14 43 09.5	+0.8
WB2	**Warramunga Arr**	**47.22**	**123**	*e*P	**P**	**14 42 59.0**	**-0.5**
TLY	**Talaya**	**47.68**	**9**	*i* P	**P**	**14 43 01.1**	**-1.6**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
ASAR	**Alice Springs**	**48.61**	**127**	P	**P**	**14 43 09.9**	**-0.4**
	comp=Z,1.5nm,0.9s,mb4.0,baz=317,slow=7.5,SNR=7.2						
ZAL	**Zalesovo**	**49.63**	**353**	P	**P**	**14 43 19.2**	**+1.5**
	comp=Z,3.1nm,0.5s,mb4.6,baz=310,slow=3.3,SNR=14						
ZAL				LR	LR	15 08 01.1	
	comp=Z,140nm,19.2s,MS4.0,baz=294,slow=40						
ZAL	**Zalesovo**	**49.63**	**353**	P	**P**	**14 43 19.2**	**+1.5**
ZAL				LR	LR	15 08 01.1	
HIA	**Hailar**	**49.83**	**22**	*e*P	**P**	**14 43 19.7**	**+0.4**
HIA				*e**PP	pP	14 43 28.1	-0.6
HIA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HIA	**Hailar**	**49.83**	**22**	*e*P	**P**	**14 43 19.7**	**+0.4**
	comp=Z,6.7nm,0.6s,mb4.8						
HIA				*e*pP	pP	14 43 28.1	-0.6
NVS	**Novosibirsk**	**50.70**	**353**	*e*P	**P**	**14 43 25.5**	**-0.4**
NVS				*e*S	**S**	**14 50 44.4**	**+6.7**
NVS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
NVS				pmax	pmax		
	comp=E,9.0nm,1.5s						
NVS				pmax	pmax		
	comp=N,10.0nm,1.2s						
NVS				smax			
	comp=N,13nm,1.8s						
NVS				smax			
	comp=E,6.0nm,1.9s						
JHJ	**Hachijo jima 2**	**51.76**	**51**	LR	LR	15 05 27.5	
	comp=E,159nm,21.3s,MS4.0,baz=258,slow=36						
BVAR	**Borovoye Array**	**51.77**	**343**	P	**P**	**14 43 34.1**	**+0.1**
	comp=E,2.4nm,0.6s,mb4.3,baz=141,slow=9.5,SNR=18						
BVAR				pP	pP	14 43 43.4	+0.1
	comp=E,5.1nm,0.7s,baz=143,slow=7.4,SNR=14						
BRVK	**Borovoye**	**51.83**	**343**	*e*P	**P**	**14 43 34.3**	**-0.1**
BRVK				*e**PP	pP	14 43 43.4	-0.4
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
BRVK	**Borovoye**	**51.83**	**343**	*e*P	**P**	**14 43 34.3**	**-0.1**
	comp=Z,7.5nm,0.9s,mb4.6						
BRVK				*e*pP	pP	14 43 43.4	-0.3
CHKZ	**Chkalovo**	**52.27**	**343**	*e*P	**P**	**14 43 37.7**	**-0.1**
CHKZ				*e**PP	pP	14 43 47.6	+0.5
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.9						
CHKZ	**Chkalovo**	**52.27**	**343**	*e*P	**P**	**14 43 37.7**	**0.0**
	comp=Z,7.0nm,0.4s,mb4.9						
CHKZ				*e*pP	pP	14 43 47.6	+0.5
KLR	**Kul'dur**	**55.11**	**30**	*e*P	**P**	**14 43 56.0**	**-2.8**
BOD	**Bodaibo**	**55.48**	**13**	*e*P	**P**	**14 44 01.6**	**+0.3**
BOD				*e*	pP	14 44 10.7	0.0
GNI	**Garni**	**56.09**	**316**	*i* P	pP	14 44 12.8	-2.5
GNI				pmax	pmax		
	comp=Z,12nm,1.2s						
GNI	**Garni**	**56.09**	**316**	LR	LR	15 12 08.2	
	comp=Z,76nm,19.1s,MS3.8,baz=319,slow=40						
KMBO	**Kilima Mbogo**	**56.23**	**266**	P	**P**	**14 44 07.4**	**+0.2**
	comp=Z,2.3nm,0.9s,mb4.2,baz=36,slow=21,SNR=5.9						
KMBO				LR	LR	15 04 44.0	
	comp=Z,112nm,18.3s,MS4.0,baz=96,slow=32						
CTA	**Charters Tower**	**57.58**	**117**	LR	LR	15 10 35.4	
	comp=Z,241nm,18.3s,MS4.3,baz=63,slow=38						
ZEI	**Tsey**	**57.82**	**319**	*e*P	**P**	**14 44 23.2**	**+5.0**
ZEI				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
ASAJ	**Asahikawa**	**58.45**	**40**	LR	LR	15 10 24.2	
	comp=Z,147nm,19.7s,MS4.1,baz=165,slow=37						
ARU	**Arti**	**58.52**	**338**	⇑*i*P	**P**	**14 44 28.0**	**+5.1**
ARU				*e*		14 45 18.0	
ARU				*e*		14 46 35.0	
ARU				*e*S	**S**	**14 52 27.2**	**+4.5**
ARU				*e*SS	SS	14 56 16.8	-0.1
ARU				*e*SSS	SSS	14 58 49.9	+10
ARU				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
STKA	**Stephens Creek**	**58.58**	**132**	P	**P**	**14 44 23.3**	**-0.3**
	comp=Z,2.6nm,0.9s,mb4.3,baz=319,slow=11,SNR=2.8						
STKA				LR	LR	15 09 31.0	
	comp=Z,302nm,21.4s,MS4.4,baz=119,slow=36						
KIV	**Kislovodsk**	**59.14**	**319**	P	pP	14 44 37.0	+0.2
KIV				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.0						
YSS	**Yuzh-Sakhalins**	**59.88**	**37**	⇓*e*P	**P**	**14 44 29.3**	**-3.1**
YSS				*e*	pP	14 44 38.5	-3.4
YSS	**Yuzh-Sakhalins**	**59.88**	**37**	*e*P	**P**	**14 44 33.2**	**+0.8**
	comp=Z,5.3nm,0.4s,mb4.9						
YSS				*e*pP	pP	14 44 42.1	+0.2
SOC	**Sochi**	**60.93**	**318**	*e*P	**P**	**14 44 42.8**	**+3.2**
SOC				*e*		14 45 28.8	
SOC				*e*		14 46 53.8	
SOC				*e*S	**S**	**14 52 56.8**	**+2.9**
SOC				*e*SS	SS	14 56 56.5	+1.8
SOC				*e*SSS	SSS	14 59 33.9	+1.7
SOC				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.8						
SOC				pmax	pmax		
	comp=N,4.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.4s						
YAK	**Yakutsk**	**63.33**	**18**	*i* P	**P**	**14 44 54.0**	**-1.4**
YAK				pmax	pmax		
	comp=Z,15nm,1.1s,mb5.0						
BRTR	**Keskin Array B**	**63.88**	**312**	P	**P**	**14 44 58.5**	**-0.9**
	comp=Z,1.9nm,0.7s,mb4.2,baz=126,slow=6.1,SNR=11						
BRTR				pP	pP	14 45 08.7	-0.3
	comp=Z,2.9nm,0.9s,baz=104,slow=5.1,SNR=6.7						
OBN	**Obninsk**	**67.64**	**329**	P	pP	14 45 32.0	-0.7
OBN				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.4						
TIXI	**Tiksi**	**70.56**	**11**	*e*P	**P**	**14 45 40.5**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,183nm,17.0s,MS4.4						
TIXI	**Tiksi**	**70.56**	**11**	⇓*i*P	**P**	**14 45 40.7**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
FINES	**FINESS Array B**	**75.15**	**333**	P	**P**	**14 46 07.8**	**-0.2**
	comp=Z,2.6nm,0.8s,mb4.2,baz=243,slow=4.3,SNR=4.5						
FINES				pP	pP	14 46 16.8	-0.8
	comp=Z,1.5nm,0.7s,baz=104,slow=7.9,SNR=2.4						
FINES				LR	LR	15 24 03.0	
	comp=Z,112nm,19.3s,MS4.2,baz=254,slow=40						
MAW	**Mawson**	**75.20**	**192**	LR	LR	15 13 14.9	
	comp=Z,108nm,18.5s,MS4.2,baz=248,slow=31						
OJC	**Ojcow**	**75.87**	**321**	*e*P	**P**	**14 46 13.3**	**+0.9**
MORC	**Moravsky Berou**	**77.24**	**320**	*e*P	**P**	**14 46 20.6**	**+0.6**
MORC				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
MORC	**Moravsky Berou**	**77.24**	**320**	*e*P	**P**	**14 46 20.6**	**+0.5**
	comp=Z,6.5nm,1.2s,mb4.4						
ARCES	**ARCESS Array B**	**77.99**	**341**	P	**P**	**14 46 23.9**	**+0.1**
	comp=Z,6.6nm,1.1s,mb4.5,baz=90,slow=6.3,SNR=4.5						
ARCES				pP	pP	14 46 34.0	+0.6
	comp=Z,5.4nm,0.9s,baz=101,slow=6.2,SNR=2.8						
ARCES				LR	LR	15 24 17.4	
	comp=Z,178nm,19.4s,MS4.4,baz=113,slow=38						
BILL	**Bilibino**	**79.41**	**21**	P	**P**	**14 46 36.0**	**+4.5**
GERES	**GERESS Array B**	**79.64**	**319**	P	**P**	**14 46 34.3**	**+1.2**
	comp=Z,5.9nm,1.0s,mb4.5,baz=90,slow=5.3,SNR=19						
GERES				pP	pP	14 46 43.9	+1.1
	comp=Z,3.4nm,0.8s,baz=90,slow=6.7,SNR=9.0						
NOA	**NORSAR Array B**	**82.10**	**331**	LR	LR	15 28 37.1	
	comp=Z,81nm,18.4s,MS4.1,baz=265,slow=40						
LPG	**La Plagne**	**84.26**	**315**	*e*P	**P**	**14 46 58.2**	**+0.9**
	comp=Z,4.2nm,0.4s,mb4.6						
LPG	**La Plagne**	**84.26**	**315**	*e*P	**P**	**14 46 58.2**	**+0.9**
LPG				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
VNDA	**Vanda**	**89.96**	**168**	LR	LR	15 24 59.3	
	comp=Z,155nm,18.3s,MS4.5,baz=313,slow=34						
ILAR	**Eielson Array**	**98.06**	**22**	P	**P**	**14 48 02.3**	**+0.8**
	comp=Z,0.5nm,1.1s,mb3.9,baz=270,slow=3.6,SNR=2.5						
NVAR	**Mina Array Bea**	**128.13**	**31**	PKP	PKPdf	14 53 34.3	-1.8
	comp=Z,0.3nm,0.6s,baz=270,slow=1.8,SNR=3.5						
NVAR				pPKP		14 53 42.8	
	comp=Z,0.8nm,0.7s,baz=282,slow=1.8,SNR=6.6						
PDAR	**Pinedale Array**	**128.49**	**21**	PKP	PKPdf	14 53 34.0	-2.6
	comp=Z,0.3nm,0.9s,baz=27,slow=3.3,SNR=3.7						
PDAR				pPKP		14 53 43.9	
	comp=Z,2.2nm,1.1s,baz=90,slow=1.5,SNR=5.5						

*NEIC **14** 14:35:56.4±1.1,21.16S×70.52W,h60km±10km,Error*
ellipse: s-maj=17.1km s-min=9.3km az=71.0
*IDC **14** 14:35:57.9±2.2,21.23S×70.43W,h75km±20km,mb3.5/6,*
mb1 3.9/8,mb1mx3.8/13,mbtmp3.9/8,MS3.3/2,Ms1 3.3/2,
ms1mx3.2/10,Error ellipse: s-maj=26.3km s-min=11.5km
az=81.0

ISC 14 14:35:53.7±1.0,21.27S±0.04×70.71W±0.10,h52km±12km,
n21,σ1§03/21,mb3.8/6,MS3.2/2,Near coast of northern
Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.14**	**129**	P	**P**	**14 36 29.1**	**+1.3**
	28nm,0.3s,baz=293,slow=11,SNR=595						
LVC				S	**S**	**14 36 53.9**	**+0.8**
	580nm,0.3s,baz=114,slow=21,SNR=47						
LVC	**Limon Verde**	**2.14**	**129**	*e*Pn	**P**	**14 36 28.8**	**+1.1**
LVC				*e*Sn	**S**	**14 36 53.0**	**-0.1**
ANCH	**Antofagasta**	**2.42**	**173**	*e*P	**P**	**14 36 32.3**	**+0.6**
ANCH				*e*		14 36 34.4	
	baz=37,slow=7.4						
CPN1	**Cerro Paranal**	**3.35**	**175**	*e*P	**P**	**14 36 44.6**	**-0.3**
CPN1				*i* S	**S**	**14 37 21.9**	**-1.9**
CPN1				AMP		14 37 24.8	
	comp=N,721nm,0.3s						
ARE	**Arequipa**	**4.84**	**351**	*e*P	**P**	**14 37 05.0**	**-0.8**
ARE				*i* S	**S**	**14 37 54.8**	**-6.4**
LPAZ	**La Paz**	**5.53**	**27**	P	**P**	**14 37 15.8**	**+0.5**
	comp=N,4.6nm,0.3s,baz=232,slow=7.0,SNR=65						
LPAZ				S	**S**	**14 38 18.4**	**0.0**
	comp=N,1.0nm,0.3s,baz=169,slow=10,SNR=1.8						
LPAZ	**La Paz**	**5.53**	**27**	*e*Pn	**P**	**14 37 15.3**	**-0.1**
	comp=N,14nm,0.4s						
PLCA	**Paso Flores**	**19.40**	**180**	P	**P**	**14 40 19.4**	**+1.3**
	comp=N,0.1nm,0.3s,baz=359,slow=15,SNR=3.1						
PLCA	**Paso Flores**	**19.40**	**180**	P	**P**	**14 40 19.4**	**+1.3**
BDFB	**Brasilia**	**22.24**	**79**	P	**P**	**14 40 46.8**	**-0.6**
	comp=N,3.6nm,0.5s,mb4.1,baz=249,slow=8.2,SNR=5.7						
BDFB				LR	LR	14 50 02.7	
	comp=N,90nm,20.1s,MS3.2,baz=76,slow=38						
SDV	**Santo Domingo**	**29.97**	**0**	LR	LR	14 55 20.4	
	comp=N,60nm,19.6s,MS3.2,baz=228,slow=39						
TXAR	**Lajitas Array**	**59.49**	**327**	P	**P**	**14 45 53.5**	**-0.5**
	comp=N,0.4nm,0.7s,mb3.5,baz=156,slow=8.9,SNR=2.7						
DBIC	**Dimbokro**	**70.28**	**74**	P	**P**	**14 47 01.4**	**-2.6**
	comp=N,2.0nm,0.7s,mb4.2,baz=199,slow=7.5,SNR=6.2						
PDAR	**Pinedale Array**	**73.08**	**331**	P	**P**	**14 47 20.8**	**+0.6**
	comp=N,0.2nm,0.5s,mb3.3,baz=162,slow=2.9,SNR=2.9						
NVAR	**Mina Array Bea**	**74.29**	**323**	P	**P**	**14 47 29.0**	**+1.6**
	comp=N,0.5nm,0.7s,mb3.5,baz=162,slow=8.1,SNR=5.2						
YKA	**Yellowknife Ar**	**90.42**	**341**	P	**P**	**14 48 50.2**	**-0.1**
	comp=N,0.6nm,0.6s,mb4.1,baz=138,slow=4.6,SNR=19						
YKA	**Yellowknife Ar**	**90.42**	**341**	P	**P**	**14 48 50.2**	**-0.1**
ASAR	**Alice Springs**	**129.31**	**210**	PKP	PKPdf	14 54 58.8	+1.6
	comp=N,0.7nm,0.7s,baz=114,slow=2.0,SNR=7.7						
WRA	**Warramunga Arr**	**132.27**	**213**	PKP	PKPdf	14 55 04.6	+1.7
	comp=N,0.4nm,0.6s,baz=144,slow=1.6,SNR=13						
ZAL	**Zalesovo**	**142.44**	**24**	PKP	PKPdf	14 55 22.5	+2.1
	comp=N,1.9nm,1.0s,baz=132,slow=1.6,SNR=6.2						
SONM	**Songino Array**	**153.39**	**4**	PKPbc	PKPdf	14 55 47.3	+9.1
	comp=N,0.4nm,0.5s,baz=317,slow=2.6,SNR=4.5						
SONM				PKPab	PKPab	14 55 59.6	-0.9
	comp=N,0.6nm,0.7s,baz=317,slow=4.0,SNR=5.2						

*IDC **14** 14:38:17.2±19.0,52.46N×160.23E,mb3.7/4,mb1 3.9/4,*
mb1mx3.5/20,mbtmp3.7/4,Error ellipse: s-maj=445.8km
s-min=42.4km az=3.0
*MOS **14** 14:38:28.6±2.0,53.33N×160.60E,h46km,mb4.3/2,Error*
ellipse: s-maj=24.1km s-min=12.7km az=74.4
*KRSC **14** 14:38:29.3±1.1,53.28N×160.51E,h40km±4km,ML4.0*

ISC 14 14:38:28.7±0.6,53.25N±0.03×160.58E±0.07,h55km±7km,
n37,σ0§84/64,mb3.6/4,Near east coast of Kamchatka
Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.37**	**245**	*i* P	**P**	**14 38 38.4**	**-0.5**
SPN				*i* S	**S**	**14 38 44.9**	**-1.5**
NLC	**Nalytchevo**	**0.75**	**264**	*i* P	**P**	**14 38 43.1**	**-0.2**
NLC				*i* S	**S**	**14 38 53.3**	**-0.8**
SDLR	**Sedlovina**	**1.02**	**272**	*i* P	**P**	**14 38 47.2**	**+0.2**
SDLR				*e*S	**S**	**14 39 00.0**	**-0.6**
UGLR	**Uglovaya**	**1.06**	**268**	*i* P	**P**	**14 38 48.0**	**+0.4**
UGLR				*i* S	**S**	**14 39 02.2**	**+0.7**
SMAR	**Somma**	**1.07**	**271**	*i* P	**P**	**14 38 47.8**	**+0.1**
SMAR				*i* S	**S**	**14 39 01.7**	**-0.1**
AVH	**Avacha**	**1.11**	**271**	*i* P	**P**	**14 38 48.6**	**+0.4**
AVH				*i* S	**S**	**14 39 02.5

NIED ***14*** *14:51:00, 45.90N×143.50E, h360km, Mw4.5 Best double couple: M0 5.79×10^15 NP1:φ=158°, δ85°, λ12°. NP2:φ=67°, δ78°, λ175°.*
SKHL ***14*** *14:51:10.5±0.0, 46.11N×143.36E, h330km±19km, mb5.1/1, msh4.9/3*
MOS ***14*** *14:51:10.7±0.9, 46.14N×143.38E, h331km, mb4.0/12, Error ellipse: s-maj=12.2km s-min=7.3km az=87.9*
BJI ***14*** *14:51:11.6, 46.20N×143.48E, h342km, mB4.7, mb4.6*
IDC ***14*** *14:51:11.9±0.7, 46.17N×143.47E, h322km±8km, mb3.6/13, mb1 3.9/15, mb1mx3.7/24, mbtmp4.4/15, Error ellipse: s-maj=13.8km s-min=11.4km az=127.0*
JMA ***14*** *14:51:12.3±0.2, 45.94N×143.54E, h340km±2km, M3.7*
NEIC ***14*** *14:51:12.3±0.5, 46.10N×143.44E, h331km±5km, mb4.2/19, Error ellipse: s-maj=8.4km s-min=5.7km az=141.0*
ISC 14 14:51:10.9±0.2, 46.16N±0.03×143.41E±0.05, h331km±2km, n110, σ1§19/140, mb3.9/27, 14C-4D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.92**	**331**	α *i*PN		**P**	**14 51 54.0**	**-0.5**
YSS				*i* S		**S**	**14 52 28.0**	**-0.6**
YSS				pmax		pmax		
	comp=N,70nm,0.3s							
YSS				pmax		pmax		
	comp=E,50nm,0.3s							
YSS				pmax		pmax		
	comp=Z,240nm,0.3s							
YSS				pmax		pmax		
	comp=Z,500nm,1.2s							
YSS				smax				
	comp=N,540nm,1.2s							
YSS				smax				
	comp=E,500nm,1.2s							
YSS				smax				
	comp=N,600nm,1.4s							
YSS				smax				
	comp=E,2μm,2.2s							
YSS	**Yuzh-Sakhalins**	**0.92**	**331**	*e*Pn		**P**	**14 51 56.8**	**+2.3**
YSS	**Yuzh-Sakhalins**	**0.92**	**331**	⇑*i*P		**P**	**14 51 54.0**	**-0.5**
YSS				⇑*i*P			14 51 54.0	
YSS				AMB		AMB	14 51 54.3	
	comp=E,240nm,0.3s							
YSS				AMB		AMB	14 51 54.3	
	comp=E,70nm,0.3s							
YSS				AMB		AMB	14 51 54.3	
	comp=E,50nm,0.3s							
YSS				AMB		AMB	14 51 54.6	
	comp=E,500nm,1.2s							
YSS				*i* S		**S**	**14 52 28.0**	**-0.6**
YSS				A			14 52 30.0	
	comp=E,2μm,2.2s							
YSS				A			14 52 30.0	
	comp=E,540nm,1.2s							
YSS				A			14 52 30.0	
	comp=E,500nm,1.2s							
YSS				A			14 52 30.0	
	comp=E,600nm,1.4s							
JSE	**Soyaes**	**1.33**	**206**	P		**P**	**14 51 57.8**	**+1.3**
JSE				*e*S		**S**	**14 52 33.2**	**+1.0**
JWK2	**Keihoku**	**1.35**	**232**	⇑P		**P**	**14 51 58.7**	**+2.1**
JWK2				*e*S		**S**	**14 52 34.4**	**+2.0**
JRR	**Rishiri**	**1.79**	**236**	⇑P		**P**	**14 52 01.1**	**+1.8**
JRR				*e*S		**S**	**14 52 39.3**	**+2.1**
ASAJ	**Asahikawa**	**2.12**	**196**	PN		**P**	**14 52 03.0**	**+1.3**
ASAJ				S		**S**	**14 52 41.9**	**+0.4**
ASAJ				pmax		pmax		
	comp=Z,13nm,0.3s							
ASAJ	**Asahikawa**	**2.12**	**196**	P		**P**	**14 52 03.0**	**+1.3**
	comp=Z,13nm,0.3s,baz=20,slow=3.9,SNR=124							
ASAJ				S		**S**	**14 52 41.9**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=263,slow=32,SNR=6.2							
JTKR	**Abashiri--Toko**	**2.21**	**171**	⇑P		**P**	**14 52 03.1**	**+0.6**
JTKR				*e*S		**S**	**14 52 43.4**	**+0.6**
JYG	**Yagishiri**	**2.23**	**220**	⇑P		**P**	**14 52 03.8**	**+1.2**
JYG				*e*S		**S**	**14 52 44.1**	**+1.2**
JKK2	**Kamakawa 2**	**2.33**	**192**	⇑P		**P**	**14 52 04.4**	**+1.0**
JRA	**Rausu**	**2.53**	**151**	P		**P**	**14 52 05.5**	**+0.4**
JHR	**Hokuryu**	**2.69**	**207**	⇑P		**P**	**14 52 07.6**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**2.74**	**140**	PN		**P**	**14 51 57.9**	**-9.0**
YUK				*e*S		**S**	**14 52 50.0**	**-0.7**
YUK				smax				
	comp=N,1μm,1.0s							
YUK				smax				
	comp=E,820nm,1.0s							
YUK	**Yuzh-Kuril'sk**	**2.74**	**140**	*e*P		**P**	**14 52 04.3**	**-2.6**
YUK				*e*S		**S**	**14 52 50.0**	**-0.7**
YUK				A			14 52 54.0	
	comp=E,1μm,1.0s							
YUK				A			14 52 54.0	
	comp=E,820nm,1.0s							
JAR	**Ashorobuto**	**2.87**	**175**	⇑P		**P**	**14 52 08.5**	**+0.4**
JAR				*e*S		**S**	**14 52 52.7**	**-0.1**
JFR	**Furan**	**3.05**	**191**	P		**P**	**14 52 10.2**	**+0.5**
UGL	**Uglegorsk**	**3.06**	**343**	⇑*i*PN		**P**	**14 52 09.4**	**-0.4**
UGL				*i* S		**S**	**14 52 56.0**	**+0.1**
UGL				pmax		pmax		
	comp=Z,170nm,0.8s							
UGL				pmax		pmax		
	comp=Z,350nm,1.0s							
UGL				smax				
	comp=N,1μm,2.5s							
UGL				smax				
	comp=E,3μm,2.5s							
UGL				smax				
	comp=N,480nm,1.2s							
UGL				smax				
	comp=E,800nm,1.6s							
UGL	**Uglegorsk**	**3.06**	**343**	*e*P		**P**	**14 52 09.4**	**-0.4**
UGL				⇑*i*P			14 52 09.4	
UGL				AMB		AMB	14 52 10.0	
	comp=E,170nm,0.8s							
UGL				AMB		AMB	14 52 10.0	
	comp=E,350nm,1.0s							
UGL				*i* S		**S**	**14 52 56.0**	**+0.1**
UGL				*e*S		**S**	**14 52 56.0**	**+0.1**
UGL				A			14 52 58.0	
	comp=E,1μm,2.5s							
UGL				A			14 52 58.0	
	comp=E,3μm,2.5s							
UGL				A			14 52 58.0	
	comp=E,480nm,1.2s							
UGL				A			14 52 58.0	
	comp=E,800nm,1.6s							
NEM2	**Nemuro 2**	**3.25**	**148**	P		**P**	**14 52 09.4**	**-2.2**
NEM2				*e*S		**S**	**14 52 54.5**	**-4.7**
KUR	**Kuril'sk**	**3.26**	**105**	⇓*e*P		**P**	**14 52 09.8**	**-1.9**
KUR				AMB		AMB	14 52 10.5	
	comp=E,220nm,0.8s							
JAK	**Akkeshi**	**3.29**	**163**	P		**P**	**14 52 10.5**	**-1.6**
JAK				*e*S		**S**	**14 52 57.0**	**-3.0**
JSK	**Shakotan**	**3.50**	**218**	P		**P**	**14 52 15.5**	**+1.4**
JCH	**Churui**	**3.54**	**181**	P		**P**	**14 52 13.2**	**-1.3**
JCH				*e*S		**S**	**14 53 00.0**	**-4.4**
JEW	**Eniwo**	**3.60**	**204**	P		**P**	**14 52 16.1**	**+1.0**
JEW				*e*S		**S**	**14 53 06.8**	**+1.3**
JNBK	**Urakawa-nobuka**	**3.91**	**187**	P		**P**	**14 52 17.1**	**-1.2**
JKB	**Kayabe**	**4.60**	**203**	P		**P**	**14 52 24.9**	**-0.8**
JKB				*e*S		**S**	**14 53 21.9**	**-2.5**
TYV	**Tymovskoe**	**4.74**	**354**	*e*PN		**P**	**14 52 26.6**	**-0.6**
TYV				*e*S		**S**	**14 53 27.0**	**-0.1**
TYV				pmax		pmax		
	comp=Z,31nm,0.7s							
TYV				smax				
	comp=N,200nm,0.8s							
TYV				smax				
	comp=E,110nm,1.0s							
TYV				smax				
	comp=Z,92nm,1.0s							
TYV				smax				
	comp=N,1μm,2.0s							
TYV				smax				
	comp=E,1μm,2.0s							
TYV				smax				
	comp=Z,1μm,2.0s							
TYV	**Tymovskoe**	**4.74**	**354**	*e*P		**P**	**14 52 26.6**	**-0.6**
TYV				AMB		AMB	14 52 28.3	
	comp=Z,31nm,0.7s							
TYV				*e*S		**S**	**14 53 27.0**	**-0.1**
TYV				A			14 53 29.0	
	comp=Z,200nm,0.8s							
TYV				A			14 53 29.0	
	comp=Z,110nm,0.8s							
TYV				A			14 53 29.0	
	comp=Z,92nm,0.8s							
TEY	**Ternei**	**4.91**	**259**	*e*P		**P**	**14 52 27.0**	**-2.1**
TEY				AMB		AMB	14 52 28.5	
	comp=Z,22nm,0.6s							
TEY				*i* S		**S**	**14 53 28.0**	**-2.6**
TEY				A			14 53 30.0	
	comp=Z,800nm,3.0s							
TEY				A			14 53 30.0	
	comp=Z,700nm,3.0s							
TEY				A			14 53 30.5	
	comp=Z,300nm,2.0s							
TEY				A			14 53 30.5	
	comp=Z,350nm,1.7s							
JOSM	**Okushiri--Mats**	**4.96**	**216**	P		**P**	**14 52 29.7**	**0.0**
JOT	**Ohata**	**5.07**	**201**	P		**P**	**14 52 29.6**	**-1.4**
JOT				*e*S		**S**	**14 53 29.5**	**-4.3**
JANG	**Nango**	**5.94**	**194**	P		**P**	**14 52 38.7**	**-2.3**
JANG				*e*S		**S**	**14 53 45.3**	**-6.5**
GRNR	**Gornyy**	**6.55**	**317**	*e*P		**P**	**14 52 48.6**	**+0.4**
GRNR				AMB		AMB	14 52 51.0	
	comp=Z,250nm,1.0s							
GRNR				AMB		AMB	14 52 51.0	
	comp=Z,170nm,1.0s							
GRNR				AMB		AMB	14 52 51.0	
	comp=Z,520nm,1.0s							
NKL	**Nikolayevsk**	**7.22**	**347**	*e*P		**P**	**14 52 52.8**	**-3.4**
NKL				AMB		AMB	14 52 55.3	
	comp=Z,8.0nm,0.8s							
NKL				*e*S		**S**	**14 54 16.0**	**-2.9**
NKL				A			14 54 20.5	
	comp=Z,77nm,1.3s							
NKL				A			14 54 22.0	
	comp=Z,1μm,7.0s							
OKH	**Okha**	**7.41**	**358**	*e*P		**P**	**14 52 58.5**	**+0.1**
OKH				AMB		AMB	14 52 59.5	
	comp=Z,100nm,0.8s							
KLR	**Kul'dur**	**8.45**	**296**	*e*P		**P**	**14 53 10.0**	**-0.9**
SKR	**Severo-Kuril's**	**9.58**	**57**	*e*PN		**P**	**14 53 24.0**	**-0.6**
SKR				*e*S		**S**	**14 55 14.5**	**+4.3**
SKR				pmax		pmax		
	comp=Z,80nm,0.5s							
SKR				smax				
	comp=N,60nm,0.5s							
SKR	**Severo-Kuril's**	**9.58**	**57**	*e*P		**P**	**14 53 24.0**	**-0.6**
SKR				AMB		AMB	14 53 26.5	
	comp=N,50nm,0.5s							
SKR				AMB		AMB	14 53 26.5	
	comp=N,80nm,0.5s							
SKR				*e*S		**S**	**14 55 13.5**	**+3.3**
SKR				A			14 55 20.5	
	comp=N,80nm,0.5s							
SKR				A			14 55 20.5	
	comp=N,60nm,0.5s							
SKR				A			14 55 20.5	
	comp=N,30nm,0.5s							
EKMR	**Ekimchan**	**9.69**	**319**	⇓*e*P		**P**	**14 53 25.0**	**-0.8**
EKMR				AMB		AMB	14 53 27.2	
	comp=N,24nm,0.8s							
EKMR				AMB		AMB	14 53 27.2	
	comp=N,11nm,0.8s							
EKMR				AMB		AMB	14 53 27.2	
	comp=N,48nm,0.8s							
MDJ	**Mudanjiang**	**9.85**	**266**	P		**P**	**14 53 29.8**	**+2.0**
MDJ				AMB		AMB		
	comp=Z,77nm,0.9s							
MDJ				AMB		AMB		
	comp=Z,158nm,5.2s							
MDJ				LR		LR		
	comp=N,177nm,23.5s							
MDJ				LR		LR		
	comp=E,88nm,21.0s							
MDJ				LR		LR		
	comp=Z,156nm,21.0s							
MDJ	**Mudanjiang**	**9.85**	**266**	*e*Pn		**P**	**14 53 29.6**	**+1.8**
	comp=Z,93nm,1.0s							
MAJO	**Matsushiro**	**10.37**	**204**	*e*PN		**P**	**14 53 33.1**	**-1.0**
MAJO				pmax		pmax		
	comp=Z,49nm,1.1s							
MAJO	**Matsushiro**	**10.37**	**204**	*e*Pn		**P**	**14 53 33.1**	**-1.0**
	comp=Z,49nm,1.1s							
MAT	**Matsushiro**	**10.37**	**204**	*e*PN		**P**	**14 53 33.0**	**-1.1**
MAT				pmax		pmax		
	comp=Z,46nm,1.1s							
MAT	**Matsushiro**	**10.37**	**204**	*e*P		**P**	**14 53 33.0**	**-1.1**
	comp=Z,46nm,1.1s							
MAT	**Matsushiro**	**10.37**	**204**	P		**P**	**14 53 32.9**	**-1.2**
MAT				*e*S		**S**	**14 55 32.1**	**+4.7**
PET	**Petropavlovsk**	**12.03**	**50**	*e*P		**P**	**14 53 54.9**	**+0.6**
YASR	**Yasnyy**	**12.26**	**311**	⇑*e*P		**P**	**14 53 56.1**	**-0.9**
YASR				AMB		AMB	14 53 58.1	
	comp=Z,4.0nm,0.7s							
YASR				AMB		AMB	14 53 58.1	
	comp=Z,9.0nm,0.7s							
YASR				AMB		AMB	14 53 58.1	
	comp=Z,19nm,0.7s							
BMKR	**Bomnak**	**12.61**	**318**	*e*P		**P**	**14 54 00.5**	**-0.8**
BMKR				AMB		AMB	14 54 01.9	
	comp=Z,17nm,0.8s							
BMKR				AMB		AMB	14 54 01.9	
	comp=Z,74nm,0.8s							
ZEA	**Zeya**	**12.86**	**312**	*e*P		**P**	**14 54 02.2**	**-2.0**
ZEA				AMB		AMB	14 54 04.2	
	comp=Z,71nm,1.0s							
ZEA				AMB		AMB	14 54 04.2	
	comp=Z,1μm,1.0s							
JHJ	**Hachijo jima 2**	**13.31**	**193**	P		**P**	**14 54 08.4**	**-1.4**
	comp=Z,12nm,0.3s,baz=314,slow=6.1,SNR=3.7							
KROS	**Kirovskiy**	**13.35**	**314**	*e*P		**P**	**14 54 08.4**	**-1.8**
KROS				AMB		AMB	14 54 09.5	
	comp=Z,3.0nm,0.6s							
MA2	**Magadan**	**14.14**	**15**	*d i*P		**P**	**14 54 19.4**	**+0.3**
MA2				pmax		pmax		
	comp=Z,60nm,1.0s							
MA2				pmax		pmax		
	comp=N,30nm,0.9s							
MA2				pmax		pmax		
	comp=E,10.0nm,1.0s							
MA2	**Magadan**	**14.14**	**15**	*e*Pn		**P**	**14 54 19.2**	**0.0**
	comp=E,64nm,0.8s							
SNY	**Shenyang**	**14.91**	**260**	⇓P		**P**	**14 54 28.1**	**+0.4**
SNY				AMB		AMB		
	comp=Z,10.0nm,0.9s							
CLNS	**Chul'man**	**15.67**	**320**	*e*P		**P**	**14 54 36.3**	**+0.5**
CLNS				pmax		pmax		
	comp=Z,6.0nm,0.8s							
CLNS				pmax		pmax		
	comp=N,6.0nm,1.0s							
CLNS				pmax		pmax		
	comp=E,3.0nm,0.9s							
HIA	**Hailar**	**16.21**	**290**	*e*P		**P**	**14 54 40.7**	**-1.0**
HIA				pmax		pmax		
	comp=Z,20nm,0.6s							
HIA	**Hailar**	**16.21**	**290**	*e*P		**P**	**14 54 40.7**	**-1.0**
	comp=Z,20nm,0.6s							
SEY	**Seymchan**	**17.57**	**14**	*e*P		**P**	**14 54 56.6**	**+1.1**
SEY				pmax		pmax		
	comp=N,20nm,0.7s							
SEY				pmax		pmax		
	comp=E,20nm,0.7s							
SEY				pmax		pmax		
	comp=Z,40nm,0.7s							
YAK	**Yakutsk**	**17.76**	**338**	*i* P		**P**	**14 55 02.2**	**+4.7**
BJT	**Baijiatuau**	**20.76**	**263**	*e*P		**P**	**14 55 28.4**	**+1.0**
BJT				pmax		pmax		
	comp=Z,16nm,0.8s							
BJT	**Baijiatuau**	**20.76**	**263**	*e*P		**P**	**14 55 28.4**	**+1.0**
	comp=Z,16nm,0.8s							
BOD	**Bodaibo**	**21.35**	**314**	*e*P		**P**	**14 55 31.9**	**-1.1**
BOD				*e*			14 59 03.1	
ULN	**Ulaanbaatar**	**24.71**	**287**	*i* P		**P**	**14 56 03.4**	**-0.7**
BILL	**Bilibino**	**24.90**	**20**	*e*P		**P**	**14 56 04.8**	**-0.9**
BILL				*e*			15 00 02.1	
BILL				pmax		pmax		
	comp=Z,8.0nm,1.7s,mb3.7							
SONM	**Songino Array**	**25.15**	**287**	P		**P**	**14 56 09.0**	**+0.8**
	comp=Z,5.4nm,0.7s,mb3.9,baz=79,slow=8.9,SNR=41							
TIXI	**Tiksi**	**26.49**	**350**	*i* P		**P**	**14 56 21.9**	**+1.8**
TIXI				pmax		pmax		
	comp=Z,6.0nm,1.7s,mb3.5							
ZAK	**Zakamensk**	**26.81**	**294**	*e*P		**P**	**14 56 22.2**	**-0.9**
ZAL	**Zalesovo**	**37.45**	**304**	P		**P**	**14 57 55.6**	**+1.2**
	comp=Z,1.5nm,0.4s,mb3.6,baz=40,slow=4.4,SNR=7.7							
IMA	**Indian Mountai**	**38.23**	**36**	*e*P		**P**	**14 58 00.6**	**-0.2**
IMA				pmax		pmax		
	comp=Z,82nm,0.8s,mb5.0							
IMA	**Indian Mountai**	**38.23**	**36**	*e*P		**P**	**14 58 00.6**	**-0.2**
	comp=Z,82nm,0.8s,mb5.0							
WMQ	**Urumqi**	**38.79**	**287**	*e*P		**P**	**14 58 06.8**	**+1.3**
WMQ				AP		pP	14 59 10.3	-1.2
WMQ				PP		PP	14 59 46.4	+2.8
WMQ				S		**S**	**15 03 40.6**	**+2.2**
WMQ				LR		LR		
	comp=N,311nm,19.6s							
WMQ				LR		LR		
	comp=E,255nm,21.6s							
WMQ				LR		LR		
	comp=Z,354nm,21.3s							
COLA	**College**	**40.74**	**38**	*e*P		**P**	**14 58 21.5**	**+0.3**
COLA				pmax		pmax		
	comp=Z,11nm,0.8s,mb4.1							
COLA	**College**	**40.74**	**38**	*e*P		**P**	**14 58 21.4**	**+0.2**
	comp=Z,11nm,0.8s,mb4.2							
MKAR	**Makanchi Array**	**41.15**	**294**	*e*P		**P**	**14 58 25.2**	**+0.4**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.4s							
ILAR	**Eielson Array**	**41.16**	**38**	P		**P**	**14 58 24.4**	**-0.3**
	comp=Z,6.7nm,0.7s,mb4.0,baz=270,slow=5.8,SNR=98							
CHKZ	**Chkalovo**	**45.56**	**307**	P		**P**	**14 58 59.2**	**-0.6**
CHKZ				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb3.5							
CHKZ	**Chkalovo**	**45.56**	**307**	*e*P		**P**	**14 58 59.2**	**-0.5**
	comp=Z,4.4nm,0.7s,mb3.7							
INK	**Inuvik**	**45.69**	**31**	*e*P		**P**	**14 58 59.9**	**-0.7**
INK				pmax		pmax		
	comp=Z,6.0nm,0.6s							
INK	**Inuvik**	**45.69**	**31**	P		**P**	**14 58 59.7**	**-0.9**
	comp=Z,4.9nm,0.5s,mb3.9,baz=305,slow=6.4,SNR=17							
INK	**Inuvik**	**45.69**	**31**	*e*P		**P**	**14 58 59.9**	**-0.7**
	comp=Z,5.8nm,0.6s,mb3.9							
BVAR	**Borovoye Array**	**45.93**	**306**	P		**P**	**14 59 03.0**	**+0.4**
	comp=Z,1.0nm,0.4s,mb3.3,baz=82,slow=10,SNR=10							
BRVK	**Borovoye**	**45.98**	**307**	*e*P		**P**	**14 59 03.4**	**+0.4**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.1							
BRVK	**Borovoye**	**45.98**	**307**	*e*P		**P**	**14 59 03.4**	**+0.4**
	comp=Z,1.5nm,0.6s,mb3.3							
AAK	**Ala-Archa**	**47.96**	**292**	*e*P		**P**	**14 59 18.3**	**-0.2**
AAK				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb3.4							
AAK	**Ala-Archa**	**47.96**	**292**	*e*P		**P**	**14 59 18.3**	**-0.2**
	comp=Z,2.1nm,0.8s,mb3.4							
RES	**Resolute Bay**	**53.42**	**16**	*e*P		**P**	**14 59 57.6**	**-1.0**
RES				pmax		pmax		
	comp=Z,12nm,0.8s,mb4.3							
RES	**Resolute Bay**	**53.42**	**16**	*e*P		**P**	**14 59 57.6**	**-1.0**
	comp=Z,12nm,0.8s,mb4.3							
YKA	**Yellowknife Ar**	**55.27**	**34**	P		**P**	**15 00 11.5**	**-0.5**
	comp=Z,3.8nm,0.6s,mb3.9,baz=305,slow=6.9,SNR=77							
FINES	**FINESS Array B**	**61.50**	**331**	P		**P**	**15 00 54.5**	**0.0**
	comp=Z,1.1nm,0.6s,mb3.6,baz=63,slow=4.3,SNR=6.8							
SUMG	**Summit**	**61.56**	**1**	*e*P		**P**	**15 00 55.1**	**+0.3**
	comp=Z,5.4nm,0.8s,mb4.1							
FCC	**Fort Churchill**	**65.23**	**29**	*e*P		**P**	**15 01 18.1**	**-0.5**
FCC				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.2							
FCC	**Fort Churchill**	**65.23**	**29**	*e*P		**P**	**15 01 18.1**	**-0.5**
	comp=Z,3.6nm,0.6s,mb4.2							
WRAB	**Tennant Creek**	**66.28**	**189**	P		**P**	**15 01 25.2**	**-0.6**
WRAB				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.1							
WRAB	**Tennant Creek**	**66.28**	**189**	P		**P**	**15 01 25.2**	**-0.6**
	comp=Z,2.7nm,0.7s,mb4.1							
WRA	**Warramunga Arr**	**66.30**	**189**	P		**P**	**15 01 25.6**	**-0.3**
	comp=Z,2.2nm,0.6s,mb4.0,baz=6.9,slow=6.6,SNR=40							
HRY	**Holter Researc**	**66.44**	**47**	*e*P		**P**	**15 01 27.1**	**+0.8**
BOZ	**Bozeman (W)**	**67.27**	**47**	*e*P		**P**	**15 01 32.4**	**+0.8**
BOZ				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb3.9							
BOZ	**Bozeman (W)**	**67.27**	**47**	*e*P		**P**	**15 01 32.4**	**+0.8**
	comp=Z,1.8nm,0.8s,mb3.9							
GNI	**Garni**	**67.58**	**305**	*i* P		**P**	**15 01 31.9**	**-1.7**
GNI				pmax		pmax		
	comp=Z,6.0nm,1.3s							
NVAR	**Mina Array Bea**	**68.51**	**57**	P		**P**	**15 01 41.2**	**+1.9**
	comp=Z,0.9nm,0.6s,mb3.7,baz=300,slow=5.4,SNR=8.5							
ASAR	**Alice Springs**	**70.02**	**189**	P		**P**	**15 01 49.8**	**+1.0**
	comp=Z,3.7nm,0.6s,mb4.3,baz=359,slow=5.1,SNR=69							
BW06	**Boulder Array**	**70.34**	**48**	P		**P**	**15 01 51.2**	**+0.8**
	comp=Z,2.0nm,0.8s,mb3.9							
PDAR	**Pinedale Array**	**70.34**	**48**	P		**P**	**15 01 51.4**	**+1.0**
	comp=Z,2.2nm,0.9s,mb3.9,baz=291,slow=1.5,SNR=14							
MALT	**Malatya**	**72.39**	**307**	*e*P		**P**	**15 02 03.6**	**+0.9**
MALT				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.0							
MALT	**Malatya**	**72.39**	**307**	*e*P		**P**	**15 02 03.6**	**+0.9**
	comp=Z,2.2nm,0.6s,mb4.1							
BRTR	**Keskin Array B**	**73.96**	**311**	P		**P**	**15 02 12.9**	**+1.2**
	comp=Z,1.1nm,0.7s,mb3.7,baz=59,slow=3.0,SNR=4.8							
MOX	**Moxa**	**74.97**	**331**	*e*P		**P**	**15 02 22.0**	**+4.8**
TXAR	**Lajitas Array**	**83.45**	**54**	P		**P**	**15 03 04.8**	**+2.1**
	comp=Z,0.5nm,0.4s,mb3.7,baz=301,slow=5.6,SNR=4.3							

TAP ***14*** *15:05:21.5, 25.19N×122.87E, h181km±1km, ML3.7*
JMA 14 15:05:24.0±0.5, 25.36N×122.54E, h142km, M2.5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**1.49**	**133**		P	P	15 05 52.9	-0.3
IRIF					S	S	15 06 15.4	-0.2
HATJ	**Hateruma jima**	**1.73**	**138**		S	S	15 06 20.6	+0.2
JKRS	**Kuro-shima**	**1.74**	**130**		P	P	15 05 56.0	0.0
JKRS					S	S	15 06 20.1	-0.4
JIJ	**Ishigaki jima**	**1.76**	**124**		P	P	15 05 55.7	-0.5
JIJ					S	S	15 06 19.2	-1.8
JTJ	**Tarama**	**2.09**	**110**		P	P	15 06 00.5	+0.4
JTJ					S	S	15 06 27.4	-0.3
JMJ	**Miyako jima 2**	**2.56**	**102**	*e*S		S	15 06 36.3	-1.8

IDC 14 15:07:56.7±1.4, 5.68N×93.29E, mb3.9/5, mb1 4.1/6, mb1mx3.9/19, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=55.5km s-min=22.2km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.85**	**23**	Pn		P	15 11 14.1	-2.8
	0.1nm,0.3s,baz=214,slow=14,SNR=8.5							
VIS	**Vishakhapatnam**	**15.43**	**322**	*e*P		P	15 11 25.3	-12
VIS				*e*			15 11 26.6	
	comp=Z,25nm,0.2s							
VIS				*e*S		S	15 14 03.1	-27
BLSP	**Bilaspur**	**19.59**	**328**	*e*		P	15 12 23.2	-6.2
BLSP				*e*			15 12 26.8	
	comp=Z,9.6nm,0.6s							
KAD	**Karad**	**21.98**	**303**	*e*P		P	15 12 43.0	-11
BHPL	**Bhopal**	**23.21**	**320**	*e*P		P	15 12 52.7	-14
SONM	**Songino Array**	**43.48**	**13**	P		P	15 16 01.2	-2.2
	comp=Z,1.3nm,1.0s,baz=189,slow=7

BIPH *e*S **S** **15 30 54.1 +2.2**
BUKP Musuan 2.30 324 *e*P **P** **15 30 28.7 +0.9**
BUTP Butuan 3.05 345 *e*P **P** **15 30 42.4 +3.9**
PAGZ Pagadian 3.52 302 *e*P **P** **15 30 47.5 +2.3**
SCPH Surigao 3.87 346⇑ *e*P **P** **15 30 52.0 +1.9**
MSLP Maasin 4.38 340 *e*P **P** **15 31 01.2 +3.7**
TBP Tagbilaran 4.45 326 *e*P **P** **15 30 57.6 -0.8**
TBP *e*S Sx 15 31 33.9
LLP Lapu-Lapu 4.92 331 *e*P **P** **15 31 07.8 +2.7**
LLP *i* S **S** **15 32 09.4 +7.8**
PLP Palo 5.32 345 *e*P **P** **15 31 14.7 +4.0**
OCLP Ormoc 5.33 341 *e*P **P** **15 31 11.1 +0.4**
BESP Borongan 5.65 350 *e*P **P** **15 31 21.7 +6.5**
GUIM Jordan 5.95 321 *e*P **P** **15 31 24.8 +5.3**
TGY Tagaytay City 9.69 327 LR LR 15 36 44.6
comp=Z,951nm,18.1s,baz=206,slow=43
KAKA Kakadu 19.53 162 *e*P **P** **15 34 19.4 +0.2**
26nm,0.6s
JOW Kunigami 20.79 5 LR LR 15 42 04.2
comp=Z,322nm,21.0s,MS3.7,baz=111,slow=35
FITZ Fitzroy Crossi 23.96 182 *e*P **P** **15 35 06.7 +2.7**
27nm,0.6s,mb4.9
KKTK Khon Kaen 25.29 296 P **P** **15 35 18.0 +1.2**
432nm,1.0s
SSE Sheshan 25.44 350 P **P** **15 35 17.5 -0.6**
SSE S **S** **15 39 38.0 -2.3**
SSE AMB AMB
comp=Z,52nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,67nm,3.9s
SSE LR LR
comp=N,24nm,26.2s,MS3.4
SSE LR LR
comp=E,142nm,26.1s,MS3.4
SSE LR LR
comp=Z,139nm,28.5s,MS3.3
PMG Port Moresby 25.72 126 LR LR 15 45 47.8
comp=Z,196nm,20.7s,MS3.6,baz=157,slow=37
NJ2 Nanjing 26.86 346 *e*P **P** **15 35 33.5 +2.2**
NJ2 AP pP 15 35 54.9 +14
NJ2 PP PP 15 36 23.5 +6.7
NJ2 S **S** **15 40 02.0 -1.7**
NJ2 AMB AMB
comp=Z,140nm,1.0s,mb5.5
NJ2 AMB AMB
comp=Z,1μm,3.8s
NJ2 LR LR
comp=N,730nm,19.8s,MS4.3
NJ2 LR LR
comp=E,490nm,20.9s,MS4.3
NJ2 LR LR
comp=Z,380nm,21.6s,MS3.9
WHN Wuhan 26.92 337 *e*P **P** **15 35 33.5 +1.7**
WRAB Tennant Creek 26.93 163 *i* P **P** **15 35 32.8 +0.8**
WRAB Tennant Creek 26.93 163 *e*P **P** **15 35 32.1 +0.2**
comp=Z,32nm,1.3s,mb4.7
WRA Warramunga Arr 26.93 163 P **P** **15 35 32.2 +0.1**
comp=Z,2.4nm,0.6s,mb3.9,baz=341,slow=10,SNR=26
WRA S **S** **15 40 04.6 -0.4**
comp=Z,5.1nm,1.2s,baz=338,slow=16,SNR=5.9
WRA ScP 15 42 30.4
comp=Z,2.5nm,1.1s,baz=345,slow=3.5,SNR=3.6
WB2 Warramunga Arr 26.94 163 *e*P **P** **15 35 31.6 -0.5**
WB2 *e*S **S** **15 40 06.2 +1.2**
MBWA Marble Bar 27.77 193 P **P** **15 35 41.6 +1.9**
comp=Z,32nm,1.0s,mb4.9
ENH Enshi 28.92 329 *e*P **P** **15 35 50.2 +0.3**
comp=Z,73nm,1.3s,mb5.2
CMAR Chiang Mai Arr 29.50 297 P **P** **15 35 53.5 -1.7**
comp=Z,5.1nm,1.0s,mb4.2,baz=122,slow=7.3,SNR=30
CMAR PcP PcP 15 39 00.2 0.0
comp=Z,1.1nm,0.7s,baz=115,slow=2.1,SNR=5.6
CMAR ScP 15 42 39.5
comp=Z,1.7nm,1.1s,baz=85,slow=1.4,SNR=5.2
CMAR LR LR 15 47 46.4
comp=Z,66nm,19.0s,MS3.3,baz=105,slow=37
CHG Chiang Mai 29.64 298 ⇑P **P** **15 35 56.0 -0.3**
comp=Z,11nm,1.2s,mb4.5
JHJ Hachijo jima 2 29.71 23 LR LR 15 45 52.7
comp=Z,273nm,19.3s,MS3.9,baz=247,slow=32
ASAR Alice Springs 30.38 166 P **P** **15 36 03.1 +0.2**
comp=Z,6.3nm,0.9s,mb4.4,baz=344,slow=6.9,SNR=47
ASAR PcP PcP 15 39 01.5 -0.9
comp=Z,7.9nm,1.2s,baz=353,slow=3.0,SNR=5.0
ASAR S **S** **15 41 01.6 +1.6**
comp=Z,1.3nm,0.9s,baz=352,slow=19,SNR=2.8
ASPA Alice Springs 30.38 166 *e*P **P** **15 36 03.3 +0.4**
XAN Xi'an 32.27 332 P **P** **15 36 18.5 -0.9**
XAN AMB AMB
comp=Z,66nm,1.2s,mb5.3
CTA Charters Tower 32.45 144 P **P** **15 36 23.2 +2.1**
comp=Z,4.5nm,0.9s,mb4.3,baz=344,slow=9.2,SNR=3.0
CTA ScP 15 42 50.0
comp=Z,0.9nm,0.3s,baz=264,slow=4.1,SNR=3.1
CTAO Charters Tower 32.45 144 *e*P **P** **15 36 21.9 +0.7**
comp=Z,24nm,1.3s,mb4.9
BJT Baijiatuau 35.10 346 *e*P **P** **15 36 43.4 -0.4**
comp=Z,11nm,0.7s,mb4.9
SNY Shenyang 35.76 356 ⇑P **P** **15 36 50.1 +0.7**
SNY AMB AMB
comp=Z,30nm,1.3s,mb5.1
SNY LR LR
comp=E,230nm,19.8s
SNY LR LR
comp=Z,240nm,21.6s,MS3.9
LZH Lanzhou 36.41 328 *e*P **P** **15 36 56.8 +1.9**
LZH AMB AMB
comp=Z,69nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,181nm,4.0s
LZH LR LR
comp=N,335nm,15.4s
LZH LR LR
comp=Z,578nm,14.5s,MS4.5
SHL Shillong 38.31 304 *e* **P** **15 37 11.0 0.0**
MDJ Mudanjiang 38.56 4 *e*P **P** **15 37 12.2 -0.7**
comp=Z,13nm,1.1s,mb4.6
MUN Mundaring 39.00 194 *e*P **P** **15 37 20.1 +3.5**
comp=Z,11nm,0.8s,mb4.6
NWAO Narrogin (SRO) 39.68 192 P **P** **15 37 23.4 +1.1**
comp=Z,18nm,1.0s,mb4.8,baz=43,slow=8.0,SNR=4.7
NWAO Narrogin (SRO) 39.68 192 *e*P **P** **15 37 23.1 +0.8**
comp=Z,33nm,1.1s,mb5.0
STKA Stephens Creek 40.35 160 ⇓*i*P **P** **15 37 29.5 +1.6**
comp=Z,12nm,0.8s,mb4.7
STKA Stephens Creek 40.35 160 P **P** **15 37 29.6 +1.7**
comp=Z,12nm,0.8s,mb4.7,baz=334,slow=7.3,SNR=16
LSA Lhasa 40.73 310 P **P** **15 37 32.1 +1.1**
LSA Lhasa 40.73 310 *e*P **P** **15 37 31.8 +0.7**
comp=Z,18nm,1.4s,mb4.5
HIA Hailar 43.48 354 *e*P **P** **15 37 53.5 +0.1**
comp=Z,14nm,1.2s,mb4.6
JIRN Jiri 43.82 304 *e*P **P** **15 37 54.4 -2.0**
GUN Gumba 44.16 304 *e*P **P** **15 37 59.2 0.0**
comp=Z,63nm,1.2s,mb5.2
PKI Pulchoki 44.43 304 *e*P **P** **15 38 00.6 -0.7**
KKN Kakani 44.61 304 *e*P **P** **15 38 01.8 -1.0**
comp=Z,8.0nm,0.7s,mb4.7
DMN Daman 44.69 304 *e*P **P** **15 38 03.0 -0.4**
comp=Z,13nm,0.8s,mb4.8
ULN Ulaanbaatar 44.88 342 ⇓*i*P **P** **15 38 05.5 +0.9**
ULN Ulaanbaatar 44.88 342 *e*P **P** **15 38 05.2 +0.6**
comp=Z,22nm,1.1s,mb4.9
ULN *e* 15 39 46.0
SONM Songino Array 45.06 341 P **P** **15 38 05.9 -0.2**
comp=Z,7.1nm,1.1s,mb4.4,baz=162,slow=7.8,SNR=30
SONM PcP PcP 15 39 46.7 -0.3
comp=Z,2.3nm,0.9s,baz=150,slow=3.3,SNR=6.1
SONM ScP 15 43 38.3
comp=Z,0.8nm,0.9s,baz=146,slow=4.5,SNR=3.6
GKN Gorkha 45.22 304 *e*P **P** **15 38 07.1 -0.6**
comp=Z,7.8nm,0.6s,mb4.7
KOLN Koldanda 46.00 303 *e*P **P** **15 38 13.2 -0.7**
comp=Z,16nm,0.8s,mb5.0
HYB Hyderabad 48.09 288 *i* P **P** **15 38 30.5 +0.2**
ZAK Zakamensk 48.29 340 *e*P **P** **15 38 31.7 +0.2**
ZAK *e* 15 39 57.8
TLY Talaya 49.29 341 *e*P **P** **15 38 39.8 +0.7**
TLY pmax pmax
comp=Z,18nm,1.3s,mb4.9
TLY Talaya 49.29 341 *e*P **P** **15 38 40.1 +1.0**
comp=Z,16nm,1.3s,mb4.9
MOY Mondy 50.15 340 *e*P **P** **15 38 46.3 +0.5**
WMQ Urumqi 50.70 324 *e*P **P** **15 38 47.5 -2.6**
CLNS Chul'man 50.71 359 *e*P **P** **15 38 49.7 -0.3**
CLNS pmax pmax
comp=Z,12nm,1.1s,mb4.7
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,1.0s
DDI Dehra Dun 51.42 304 *e* **P** **15 38 54.7 -1.0**
BOD Bodaibo 52.59 352 *e*P **P** **15 39 03.0 -1.0**
YAK Yakutsk 55.96 2 *e*P **P** **15 39 26.6 -2.1**
YAK pmax pmax
comp=Z,14nm,1.0s,mb5.0
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK Yakutsk 55.96 2 P **P** **15 39 27.0 -1.7**
comp=N,26nm,1.0s,mb5.2
ZAL Zalesovo 58.44 333 P **P** **15 39 45.9 -0.4**
comp=N,2.4nm,0.6s,mb4.4,baz=1.9,slow=9.1,SNR=18
ZAL LR LR 16 07 01.5
comp=N,192nm,19.4s,MS4.2,baz=336,slow=38
ZAL Zalesovo 58.44 333 P **P** **15 39 45.9 -0.4**
ZAL LR LR 16 07 01.5
AAK Ala-Archa 58.48 317 *i* P **P** **15 39 47.4 +0.6**
AAK pmax pmax
comp=Z,8.0nm,1.7s,mb4.5
AAK MLR MLR
comp=Z,300nm,22.0s,MS4.4
AAK Ala-Archa 58.48 317 *e*P **P** **15 39 47.3 +0.5**
comp=Z,4.5nm,1.1s,mb4.4
NVS Novosibirsk 59.72 333 *i* P **P** **15 39 54.2 -1.0**
NVS *e* 15 40 40.2
NVS pmax pmax
comp=Z,19nm,1.3s,mb5.0
NVS pmax pmax
comp=N,15nm,1.5s
NVS pmax pmax
comp=E,11nm,1.5s
RPZ Rata Peaks 63.79 145 LR LR 16 08 36.9
comp=E,230nm,18.1s,MS4.4,baz=214,slow=36
AFI Afiamalu 64.44 108 P **P** **15 40 25.7 -1.7**
comp=E,28nm,1.1s,mb5.2
BVAR Borovoye Array 65.26 327 P **P** **15 40 30.2 -1.9**
comp=E,4.8nm,0.8s,mb4.6,baz=127,slow=7.4,SNR=27
BVAR Borovoye Array 65.26 327 P **P** **15 40 30.2 -1.9**
BRVK Borovoye 65.33 327 *e*P **P** **15 40 33.0 +0.5**
BRVK pmax pmax
comp=Z,170nm,1.1s
BRVK Borovoye 65.33 327 *e*P **P** **15 40 33.0 +0.4**
comp=Z,17nm,1.1s,mb5.0
CHKZ Chkalovo 65.41 327 *e*P **P** **15 40 31.7 -1.3**
CHKZ pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
CHKZ Chkalovo 65.41 327 *e*P **P** **15 40 31.7 -1.4**
comp=Z,7.6nm,1.1s,mb4.6
TIXI Tiksi 65.59 1 *e*P **P** **15 40 33.3 -0.6**
TIXI pmax pmax
comp=Z,26nm,1.5s,mb5.0
TIXI MLR MLR
comp=Z,72nm,17.0s,MS3.9
BILL Bilibino 67.46 15 *e*P **P** **15 40 50.0 +4.3**
BILL *e* pP 15 40 58.8 +2.7
BILL 15 41 15.0
BILL pmax pmax
comp=Z,11nm,1.6s,mb4.6
BILL MLR MLR
comp=Z,100nm,15.0s,MS4.2
BILL Bilibino 67.46 15 *e*P **P** **15 40 46.6 +0.8**
comp=Z,12nm,1.3s,mb4.8
ARU Arti 72.86 327⇑*i*P **P** **15 41 15.1 -3.7**
ARU *e* 15 41 29.3
ARU *e* 15 43 55.1
ARU *e*PPP PPP 15 45 41.9 -4.2
ARU *e*S S 15 50 32.5 -9.0
ARU *e*SS SS 15 55 15.6 -8.6
ARU pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
CASY Casey 73.02 187 *e*P **P** **15 41 19.1 -0.5**
comp=Z,8.5nm,0.9s,mb4.7
RAYN Ar Rayn 79.31 293 P **P** **15 41 55.6 -0.4**
comp=Z,36nm,1.1s,mb5.2,SNR=8.2
GNI Garni 79.80 310 *i* P **P** **15 41 58.9 +0.6**
GNI pmax pmax
comp=Z,11nm,1.4s
GNI Garni 79.80 310 *e*P **P** **15 41 59.1 +0.8**
comp=Z,19nm,1.4s,mb4.8
ZEI Tsey 80.46 312 *e*P **P** **15 42 00.7 -1.1**
ZEI *i* 15 45 08.9
ZEI pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
KIV Kislovodsk 81.35 313 P **P** **15 42 10.0 +3.5**
ILAR Eielson Array 83.20 26 P **P** **15 42 14.9 -0.6**
comp=Z,2.5nm,1.1s,mb4.2,baz=269,slow=4.8,SNR=6.8
SOC Sochi 83.51 313 *e*P **P** **15 42 14.9 -2.7**
SOC *e* 15 45 27.6
SOC *e*S S 15 52 27.5 -8.0
SOC *e*SSS SSS 16 01 34.3 +3.4
SOC pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
SOC pmax pmax
comp=N,3.0nm,0.6s
SOC pmax pmax
comp=E,1.0nm,0.3s
MALT Malatya 84.74 308 *e*P **P** **15 42 24.0 +0.1**
comp=E,5.9nm,1.1s,mb4.6
MALT *e* pP 15 42 35.1 +0.7
OBN Obninsk 85.03 325 *e*P **P** **15 42 22.6 -2.3**
OBN *e* 15 42 45.3
OBN pmax pmax
comp=Z,41nm,1.5s,mb5.3
ANN Anapa 85.09 314 *e*P **P** **15 42 23.0 -2.5**
ANN pmax pmax
comp=Z,11nm,0.7s,mb5.1
VNDA Vanda 85.70 173 P **P** **15 42 28.7 +0.9**
comp=Z,2.3nm,0.8s,mb4.5,baz=281,slow=7.8,SNR=4.8
VNDA Vanda 85.70 173 *e*P **P** **15 42 28.5 +0.7**
comp=Z,5.7nm,1.1s,mb4.7
ASF Jabal al Asfar 86.44 302 P **P** **15 42 31.6 -0.7**
comp=Z,6.8nm,1.1s,mb4.8,slow=2.0,SNR=3.8
INK Inuvik 88.18 21 *e*P **P** **15 42 40.0 +0.1**
comp=Z,6.9nm,1.2s,mb4.8
ARCES ARCESS Array B 88.22 340 P **P** **15 42 40.0 -0.2**
comp=Z,9.2nm,1.1s,mb4.9,baz=90,slow=3.6,SNR=6.2
ARCES LR LR 16 22 32.3
comp=Z,89nm,21.5s,MS4.1,baz=123,slow=36
ARCES ARCESS Array B 88.22 340 P **P** **15 42 40.0 -0.2**
ARCES LR LR 16 22 32.3
BRTR Keskin Array B 88.34 310 P **P** **15 42 39.6 -1.7**
comp=Z,1.5nm,0.9s,mb4.2,baz=127,slow=6.2,SNR=6.4
FINES FINESS Array B 89.69 332 P **P** **15 42 46.4 -0.9**
comp=Z,1.9nm,0.8s,mb4.5,baz=225,slow=2.7,SNR=6.3
FINES LR LR 16 25 02.0
comp=Z,150nm,18.8s,MS4.4,baz=6.3,slow=37
AKASG Malin Array Be 89.94 321 P **P** **15 42 46.8 -1.9**
comp=Z,0.2nm,0.3s,mb4.0,baz=62,slow=3.6,SNR=6.4
SYO Syowa Base 94.42 201 ⇑PcP PcP 15 43 09.2 -0.4
SYO Syowa Base 94.42 201 ⇑pP pP 15 43 30.2 +11
RES Resolute Bay 95.65 10 *e*P **P** **15 43 14.7 +0.3**
comp=Z,3.4nm,1.0s,mb4.7
NOA NORSAR Array B 96.62 334 P **P** **15 43 17.5 -1.6**
comp=Z,1.5nm,0.9s,mb4.4,baz=68,slow=4.5,SNR=3.5
NOA LR LR 16 29 22.3
comp=Z,145nm,20.2s,MS4.5,baz=285,slow=37
YKA Yellowknife Ar 97.57 24 *i* P **P** **15 43 19.8 -3.6**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 97.57 24 P **P** **15 43 22.7 -0.7**
comp=Z,0.5nm,0.7s,mb4.2,baz=299,slow=4.6,SNR=8.0
YKA LR LR 16 32 03.4
comp=Z,74nm,19.5s,MS4.2,baz=270,slow=38
YKA Yellowknife Ar 97.57 24 P **P** **15 43 22.7 -0.7**
YKA LR LR 16 32 03.4

IDC 14 15:32:53.4±13.0, 4.56N×96.37E, h85km±121km, mb3.6/7, mb1 3.8/7, mb1mx3.6/17, mbtmp3.9/7, Error ellipse: s-maj=62.3km s-min=16.8km az=52.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**4.96**	**58**	P	P	15 34 20.0	+13
	200nm,0.8s						
SONM	**Songino Array**	**43.96**	**10**	P	P	15 40 52.3	-1.4
	0.4nm,0.4s,baz=190,slow=8.8,SNR=4.0						
WRA	**Warramunga Arr**	**44.55**	**124**	P	P	15 40 56.9	-1.9
	1.8nm,0.4s,baz=301,slow=9.2,SNR=11						
WRA				PcP	PcP	15 42 39.6	-1.5
	0.3nm,0.5s,baz=324,slow=2.9,SNR=4.7						
ASAR	**Alice Springs**	**46.11**	**129**	P	P	15 41 09.7	-1.5
	1.0nm,0.4s,baz=300,slow=7.8,SNR=10						
ASAR				PcP	PcP	15 42 42.8	-3.7
	1.6nm,1.0s,baz=309,slow=2.9,SNR=5.3						
BVAR	**Borovoye Array**	**52.82**	**341**	P	P	15 41 59.3	-3.0
	1.6nm,0.7s,baz=124,slow=10,SNR=1.7						
BRTR	**Keskin Array B**	**66.27**	**312**	P	P	15 43 32.7	-2.2
	0.6nm,0.6s,baz=147,slow=6.8,SNR=2.8						
ARCES	**ARCESS Array B**	**79.11**	**340**	P	P	15 44 48.4	-1.5
	2.2nm,0.8s,baz=104,slow=5.0,SNR=3.8						
GERES	**GERESS Array B**	**81.76**	**319**	P	P	15 45 04.0	-0.3
	0.5nm,0.4s,baz=117,slow=6.0,SNR=6.5						

*CSEM **14** 15:40:08.5±0.1, 34.99N×3.81W, h10km, MD3.0, Error ellipse: s-maj=3.3km s-min=2.1km az=115.0*
*MDD **14** 15:40:09.8±0.4, 35.03N×3.86W, mb3.3/6, Error ellipse: s-maj=4.7km s-min=2.8km az=63.0, PRXIMO*
*CNRM **14** 15:40:09.0, 35.07N×3.75W, h3km, MD3.0*
*NEIC **14** 15:40:11.1, 35.06N×3.86W, MG3.3(MDD), After MDD.*
ISC 14 15:40:08.9±0.6, 35.04N±0.02×3.92W±0.04, h8km±4km, n32, σ1§06/54, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.15**	**122**	P	**Pg**	**15 40 11.5**	**-0.9**
TOU				S	**Sg**	**15 40 13.5**	**-1.1**
TOU	**Touzarine**	**0.15**	**122**	*i* P	**Pg**	**15 40 11.5**	**-0.9**
MPAL	**Palemas**	**0.18**	**353**	P	**Pg**	**15 40 13.5**	**+0.7**
MPAL				S	**Sg**	**15 40 16.0**	**+0.5**
MPAL	**Palemas**	**0.18**	**353**	*i* P	**Pg**	**15 40 13.5**	**+0.7**
EMEL	**Melilla**	**0.83**	**72**	P	**Pb**	**15 40 24.7**	**-0.4**
	165nm,0.1s,SNR=7.9						
EMEL				S	**Sb**	**15 40 37.6**	**+1.5**
	301nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**0.83**	**72**	P	**Pb**	**15 40 24.7**	**-0.5**
	165nm,0.1s,SNR=7.9						
EMLI				S	**Sb**	**15 40 37.6**	**+1.3**
	301nm,0.2s,SNR=7.9						
ZAI	**Zaio**	**0.96**	**94**	P	**Pb**	**15 40 25.0**	**-2.5**
ZAI				S	**Sb**	**15 40 35.0**	**-5.1**
ZAI	**Zaio**	**0.96**	**94**	*i* P	**Pb**	**15 40 25.0**	**-2.5**
TZK	**Tazeka**	**0.98**	**193**	*i* P	**Pb**	**15 40 28.0**	**+0.3**
TZK				*i* S	**Sb**	**15 40 42.0**	**+1.4**
EALB	**Alboran**	**1.15**	**39**	P	**Pb**	**15 40 30.1**	**-0.5**
EALB				S	**Sb**	**15 40 46.0**	**+0.5**
EALB	**Alboran**	**1.15**	**39**	P	**Pb**	**15 40 31.6**	**+1.0**
	14nm,0.2s,SNR=7.9						
EALB				S	**Sb**	**15 40 45.9**	**+0.4**
	28nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.15**	**39**	P	**Pb**	**15 40 30.1**	**-0.5**
	2.4nm,0.1s,SNR=7.9						
EALB				S	**Sb**	**15 40 46.0**	**+0.5**
	28nm,0.2s,SNR=7.9						
TAF	**Taforalt**	**1.25**	**100**	P	**Pb**	**15 40 32.0**	**-0.5**
EMIJ	**Mijas**	**1.67**	**336**	P	**Pn**	**15 40 40.9**	**+2.1**
EMIJ				S	**Sn**	**15 40 57.3**	**-3.2**
EMIJ	**Mijas**	**1.67**	**336**	P	**Pn**	**15 40 40.3**	**+1.6**
	1.9nm,0.2s,SNR=4.0						
EMIJ				S	**Sn**	**15 40 59.2**	**-1.4**
	8.1nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**1.67**	**336**	P	**Pn**	**15 40 40.9**	**+2.2**
	0.8nm,0.1s,SNR=4.0						
MIF	**Mishlifen**	**1.96**	**214**	*i* P	**Pn**	**15 40 43.5**	**+0.6**
MIF				*i* S	**Sn**	**15 41 08.0**	**+0.1**
EBER	**Berja**	**2.03**	**24**	P	**Pn**	**15 40 42.5**	**-1.4**
EBER				S	**Sn**	**15 41 02.7**	**-7.0**
EBER	**Berja**	**2.03**	**24**	P	**Pn**	**15 40 44.2**	**+0.3**
	3.0nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**15 41 09.5**	**-0.2**
	9.2nm,0.4s,SNR=4.9						
EBER	**Berja**	**2.03**	**24**	P	**Pn**	**15 40 42.5**	**-1.4**
	1.3nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.11**	**355**	P	**Pn**	**15 40 45.6**	**+0.6**
	1.7nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**15 41 11.7**	**0.0**
	3.3nm,0.4s,SNR=7.9						
CZD	**Col de Zad**	**2.21**	**205**	*i* P	**Pn**	**15 40 46.0**	**-0.5**
CZD				*i* S	**Sn**	**15 41 14.0**	**-0.4**
EQES	**Quesada**	**2.84**	**14**	P	**Pn**	**15 40 56.6**	**+1.1**
EQES				S	**Sn**	**15 41 30.2**	**+0.1**
EQES	**Quesada**	**2.84**	**14**	P	**Pn**	**15 40 56.4**	**+1.0**
	1.2nm,0.3s,SNR=4.0						
EQES				S	**Sn**	**15 41 30.2**	**+0.1**
	3.4nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.84**	**14**	P	**Pn**	**15 40 56.6**	**+1.2**
	SNR=4.0						
EQES				S	**Sn**	**15 41 30.2**	**0.0**
EADA	**Adamuz**	**3.16**	**351**	S	**Sn**	**15 41 37.5**	**-0.9**
	2.7nm,0.3s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.51**	**322**	P	**Pn**	**15 41 06.3**	**+1.3**
EMIN				S	**Sn**	**15 41 43.7**	**-3.6**
EMIN	**Mina Concepcio**	**3.51**	**322**	P	**Pn**	**15 41 05.4**	**+0.4**
	0.6nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**15 41 45.1**	**-2.2**
	0.5nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.46**	**327**	P	**Pn**	**15 41 19.4**	**+0.9**
EBAD	**Badajoz**	**4.46**	**327**	P	**Pn**	**15 41 19.0**	**+0.5**
	1.6nm,0.3s,SNR=7.9						
EBAD				S	**Sn**	**15 42 08.9**	**-2.4**
	2.0nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.46**	**327**	P	**Pn**	**15 41 19.4**	**+0.9**
EIBI	**Ibiza**	**5.79**	**45**	S	**Sn**	**15 42 39.0**	**-5.7**
	6.7nm,0.4s,SNR=7.9						

IDC 14 15:53:35.6±1.9, 7.72N×93.64E, mb3.7/4, mb1 3.9/5, mb1mx3.6/18, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=61.1km s-min=28.0km az=61.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.86**	**25**	Pn	P	15 56 27.5	-1.6
	0.2nm,0.3s,baz=213,slow=15,SNR=6.1						
SONM	**Songino Array**	**41.42**	**13**	P	P	16 01 22.8	-2.7
	0.2nm,0.6s,baz=180,slow=8.6,SNR=3.2						
ZAL	**Zalesovo**	**46.64**	**353**	P	P	16 02 06.1	-1.4
	0.8nm,0.4s,baz=326,slow=9.1,SNR=3.7						
WRA	**Warramunga Arr**	**48.57**	**125**	P	P	16 02 21.3	-1.8
	0.2nm,0.4s,baz=303,slow=8.9,SNR=10						
FINES	**FINESS Array B**	**72.62**	**332**	P	P	16 05 04.7	-1.9
	2.4nm,0.9s,baz=108,slow=6.0,SNR=5.9						

IDC 14 16:03:41.6±2.2, 18.76S×65.29E, mb4.0/6, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, MS4.0/4, Ms1 3.9/4, ms1mx3.7/19, Error ellipse: s-maj=66.9km s-min=33.1km az=34.0, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**32.60**	**299**	LR	LR	16 21 30.9	
	comp=Z,204nm,18.5s,baz=95,slow=33						
MAW	**Mawson**	**48.85**	**181**	LR	LR	16 27 53.1	
	comp=Z,160nm,21.5s,baz=63,slow=30						
CMAR	**Chiang Mai Arr**	**49.60**	**44**	P	P	16 12 35.0	-2.0
	1.6nm,0.9s,baz=235,slow=8.6,SNR=8.7						
WRA	**Warramunga Arr**	**64.71**	**104**	P	P	16 14 22.1	-2.2
	1.6nm,1.0s,baz=260,slow=6.0,SNR=5.6						
BRTR	**Keskin Array B**	**65.25**	**334**	P	P	16 14 25.9	-1.5
	1.2nm,1.1s,baz=149,slow=8.4,SNR=2.9						
SNAA	**Sanae**	**65.49**	**199**	LR	LR	16 37 30.0	
	comp=Z,76nm,18.1s,baz=10,slow=31						
DBIC	**Dimbokro**	**73.58**	**283**	LR	LR	16 43 26.2	
	comp=Z,115nm,19.7s,baz=264,slow=32						
ZAL	**Zalesovo**	**74.32**	**12**	P	P	16 15 20.4	-2.1
	1.5nm,0.5s,baz=276,slow=6.7,SNR=9.5						
SONM	**Songino Array**	**75.83**	**27**	P	P	16 15 29.9	-1.4
	0.9nm,0.8s,baz=215,slow=5.6,SNR=7.5						
AKASG	**Malin Array Be**	**76.09**	**337**	P	P	16 15 30.6	-2.2
	4.6nm,1.0s,baz=140,slow=5.0,SNR=9.6						
YKA	**Yellowknife Ar**	**136.31**	**360**	PKP	PKPdf	16 23 04.7	-2.0
	0.2nm,0.7s,baz=354,slow=1.9,SNR=5.7						

*IDC **14** 16:13:18.9±0.9, 18.71S×65.25E, mb3.8/10, mb1 4.0/10, mb1mx3.9/19, mbtmp3.8/10, Error ellipse: s-maj=32.7km s-min=22.1km az=53.0*
*NEIC **14** 16:13:20.4±0.8, 18.66S×65.25E, h10km, mb4.5/3, Error ellipse: s-maj=27.3km s-min=19.5km az=65.0*
ISC 14 16:13:18.5±0.8, 18.7S±0.1×65.3E±0.2, h10km, n16, σ0§68/14, mb4.0/13, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**49.57**	**44**	P	**P**	**16 22 12.4**	**+0.3**
	1.1nm,0.7s,mb4.0,baz=232,slow=8.1,SNR=4.9						
GNI	**Garni**	**61.59**	**342**	*e*P	**P**	**16 23 38.4**	**-0.2**
	3.7nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**63.65**	**108**	P	**P**	**16 23 52.4**	**-0.1**
	1.2nm,0.9s,mb3.9,baz=283,slow=5.6,SNR=8.0						
WRA	**Warramunga Arr**	**64.75**	**104**	P	**P**	**16 23 59.2**	**-0.6**
	1.4nm,0.9s,mb4.0,baz=262,slow=6.4,SNR=7.3						
BRTR	**Keskin Array B**	**65.19**	**334**	P	**P**	**16 24 02.8**	**+0.4**
	0.4nm,0.6s,mb3.6,baz=162,slow=9.1,SNR=3.2						
SNAA	**Sanae**	**65.54**	**199**	P	**P**	**16 24 04.5**	**+0.5**
	2.3nm,1.1s,mb4.1,baz=6.1,slow=22,SNR=3.2						
BVAR	**Borovoye Array**	**71.56**	**3**	P	**P**	**16 24 41.8**	**+0.1**
	1.8nm,0.8s,mb4.1,baz=166,slow=6.1,SNR=13						
BRVK	**Borovoye**	**71.58**	**3**	*e*P	**P**	**16 24 38.5**	**-3.4**
	3.6nm,1.0s,mb4.3						
CHKZ	**Chkalovo**	**72.22**	**3**	*e*P	**P**	**16 24 45.7**	**+0.1**
	3.5nm,1.1s,mb4.2						
ZAL	**Zalesovo**	**74.26**	**12**	P	**P**	**16 24 58.2**	**+0.7**
	1.2nm,0.8s,mb3.9,baz=285,slow=7.0,SNR=8.9						
ZAL	**Zalesovo**	**74.26**	**12**	P	**P**	**16 24 58.2**	**+0.7**
SONM	**Songino Array**	**75.78**	**27**	P	**P**	**16 25 06.8**	**+0.5**
	1.4nm,1.1s,mb3.8,baz=211,slow=7.2,SNR=5.4						
AKASG	**Malin Array Be**	**76.03**	**337**	P	**P**	**16 25 08.1**	**+0.3**
	1.6nm,0.7s,mb4.0,baz=140,slow=5.0,SNR=8.7						
GERES	**GERESS Array B**	**81.37**	**328**	P	**P**	**16 25 35.6**	**-1.2**
	0.2nm,0.4s,mb3.4,baz=124,slow=14,SNR=2.5						
YKA	**Yellowknife Ar**	**136.24**	**360**	PKP	PKPdf	16 32 42.0	-1.1
	0.3nm,0.8s,baz=352,slow=1.8,SNR=4.6						
YKA	**Yellowknife Ar**	**136.24**	**360**	PKP	PKPdf	16 32 42.0	-1.1

*IDC **14** 16:16:03.3±2.3,23.19N×93.53E,mb3.3/3,mb1 3.6/4, mb1mx3.4/18,mbtmp3.3/4,ML2.9/1,Error ellipse: s-maj=65.0km s-min=24.2km az=69.0*

ISC 14 16:16:12.4±1.2,23.1N±0.1×94.0E±0.1,h78km±16km,n13, σ0980/13,mb3.4/3,1D,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.72**	**359**	⇓*i*P	**P**	**16 16 41.8**	**+0.8**
SHL	**Shillong**	**3.14**	**323**	*e*P	**P**	**16 17 01.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**6.53**	**134**	Pn	**P**	**16 17 46.8**	**-0.9**
	0.1nm,0.3s,baz=320,slow=14,SNR=3.5						
CMAR				Lg		16 19 43.8	
	baz=314,slow=34,SNR=2.3						
JIRN	**Jiri**	**8.40**	**305**	*e*P	**P**	**16 18 14.1**	**+0.7**
GUN	**Gumba**	**8.76**	**305**	*e*P	**P**	**16 18 18.5**	**+0.1**
PKI	**Pulchoki**	**8.96**	**302**	*e*P	**P**	**16 18 21.4**	**+0.4**
KKN	**Kakani**	**9.16**	**303**	*e*P	**P**	**16 18 23.8**	**0.0**
DMN	**Daman**	**9.21**	**301**	*e*P	**P**	**16 18 24.8**	**+0.3**
GKN	**Gorkha**	**9.76**	**302**	*e*P	**P**	**16 18 31.4**	**-0.6**
KOLN	**Koldanda**	**10.48**	**299**	*e*P	**P**	**16 18 40.1**	**-1.7**
	13nm,0.8s						
SONM	**Songino Array**	**26.65**	**19**	P	**P**	**16 21 44.3**	**-1.3**
	2.1nm,1.4s,mb3.5,baz=204,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**58.12**	**134**	P	**P**	**16 26 01.0**	**+0.5**
	0.2nm,0.7s,mb3.2,baz=323,slow=7.4,SNR=3.3						
ASAR	**Alice Springs**	**60.52**	**137**	P	**P**	**16 26 18.1**	**+1.2**
	0.2nm,0.5s,mb3.4,baz=322,slow=6.6,SNR=6.7						

*BJI **14** 16:22:01.9,8.68N×93.02E,h19km,mB5.1,mb5.1,Ms4.9, Msz4.7*

*HRVD **14** 16:22:03.2±0.6,8.53N×93.29E,h25km±2km,MW5.1/36, Centroid moment Tensor Solution. LP body waves: s33,c48;Mantle waves: s36,c53; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.23±.15; $M_{\theta\theta}$0.34±.13; $M_{\phi\phi}$-0.10±.13; $M_{r\theta}$1.54±.33; $M_{\theta\phi}$-2.54±.13; $M_{r\phi}$5.21±.40; Best double couple: $M_0$5.878×10^{16} NP1:φs277°,δ24°, λ178°. NP2:φs9°,δ89°,λ66°. Principal axes: T 5.172, Plg41°, Azm257°; N 1.415, Plg24°, Azm9°; P -6.585, Plg40°, Azm120°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **14** 16:22:03.2±2.9,8.86N×93.25E,h5km±17km,mb5.1/47 Error ellipse: s-maj=5.8km s-min=4.4km az=215.0*

*MOS **14** 16:22:05.7±1.1,8.88N×93.27E,h33km,mb5.2/42, MS4.6/11,Error ellipse: s-maj=8.9km s-min=5.0km az=115.1*

*IDC **14** 16:22:06.5±2.4,8.94N×93.33E,h25km±15km,mb4.6/23, mb1 4.7/24,mb1mx4.7/24,mbtmp4.7/24,ML4.4/1,MS4.6/17, Ms1 4.6/17,ms1mx4.4/25,Error ellipse: s-maj=19.5km s-min=10.2km az=52.0*

ISC 14 16:22:03.3±0.2,8.80N±0.03×93.22E±0.03,h17km, h17km±2.0km:pP-P,n277,σ1§12/260,mb5.0/87,MS4.7/34, 14C-16D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.88**	**351**	*e*P	**Pn**	**16 22 59.2**	**+10**
PBA				*e*S	**Sn**	**16 23 32.6**	**+8.7**
PKT	**Phuket**	**4.97**	**98**	P	**Pn**	**16 23 23.5**	**+4.5**
NNT	**Nongplab**	**7.43**	**59**	P	**Pn**	**16 23 55.0**	**+1.3**
SNG	**Songkhla**	**7.50**	**102**	P	**Pn**	**16 24 03.0**	**+8.3**
	150nm,0.9s						
NST	**Nakhon Sawan**	**9.61**	**44**	⇑P	**P**	**16 24 25.9**	**+1.9**
	213nm,0.1s						
CMAR	**Chiang Mai Arr**	**11.09**	**29**	Pn	**P**	**16 24 46.4**	**+2.0**
	0.8nm,0.3s,baz=216,slow=13,SNR=162						
CMAR				LR	LR	16 29 14.1	
	comp=Z,2μm,18.5s,baz=205,slow=39						
CMAR				ScP		16 34 13.1	
	baz=241,slow=2.8,SNR=13						
CHG	**Chiang Mai**	**11.40**	**29**	⇓P	**P**	**16 24 49.9**	**+1.3**
	62nm,0.9s						
KKTK	**Khon Kaen**	**12.00**	**50**	P	**P**	**16 25 02.0**	**+5.4**
	617nm,1.0s						
PALK	**Pallekele**	**12.49**	**264**	*e*Pn	**P**	**16 25 03.5**	**+0.2**
CHRT	**Chiangrai**	**12.71**	**29**	⇓P	**P**	**16 25 08.0**	**+1.8**
	184nm,0.8s						
VIS	**Vishakhapatnam**	**13.09**	**314**	*e*P	**P**	**16 25 09.3**	**-1.9**
	comp=Z,160nm,1.0s						
VIS				*e*S	**S**	**16 27 21.2**	**-16**
UBT	**Ubonrachathani**	**13.20**	**60**	P	**P**	**16 25 16.5**	**+3.9**
KOD	**Kodaikanal**	**15.60**	**277**	*e*	**P**	**16 25 42.0**	**-2.3**
KOD				*e*P		16 25 47.2	
KOD				*e*		16 25 54.6	
	comp=Z,87nm,1.3s						
KOD				*i*	**S**	**16 28 22.0**	**-15**
HYB	**Hyderabad**	**16.65**	**302**	*e*P	**P**	**16 25 57.5**	**-0.1**
HYB				pmax	pmax		
	comp=Z,100nm,1.0s						
HYB	**Hyderabad**	**16.65**	**302**	*e*P	**P**	**16 25 57.5**	**-0.1**
	comp=Z,100nm,1.0s						
HYB				*e*S	**S**	**16 28 50.0**	**-11**
HYB	**Hyderabad**	**16.65**	**302**	*i* P	**P**	**16 25 57.5**	**-0.1**
	comp=Z,100nm,1.0s						
HYB				*e*		16 28 50.0	
HYB				*e*S	**S**	**16 28 59.0**	**-2.3**
SHL	**Shillong**	**16.73**	**356**	*e*	**P**	**16 25 57.0**	**-1.6**
SHL				*e*P		16 25 59.0	
SHL				*e*		16 26 22.0	
	comp=Z,157nm,1.5s						
SHL				*e*		16 28 57.0	
SHL				*i*	**S**	**16 29 02.3**	**-0.8**
BLSP	**Bilaspur**	**17.01**	**322**	*e*P	**P**	**16 26 02.9**	**+0.7**
BLSP				*e*		16 26 03.9	
	comp=Z,34nm,0.6s						
BLSP				*e*	**S**	**16 28 60.0**	**-10**
LATR	**Latur**	**18.79**	**302**	*e*P	**P**	**16 26 25.0**	**+0.7**
QIZ	**Qiongzhong**	**19.05**	**56**	P	**P**	**16 26 28.8**	**+1.4**
QIZ				S	**S**	**16 30 01.5**	**+5.4**
QIZ				XS		16 30 14.3	
QIZ				LR	LR		
	comp=N,3μm,18.2s						
QIZ				LR	LR		
	comp=Z,2μm,16.9s						
QIZ	**Qiongzhong**	**19.05**	**56**	*e*P	**P**	**16 26 26.1**	**-1.4**
	comp=Z,35nm,0.9s						
ALBI	**Allahabad**	**19.69**	**328**	*e*	**S**	**16 30 20.5**	**+10**
JIRN	**Jiri**	**19.90**	**341**	*e*P	**P**	**16 26 38.1**	**+1.0**
	comp=Z,237nm,0.9s						
PKI	**Pulchoki**	**20.08**	**339**	*e*P	**P**	**16 26 39.5**	**+0.6**
	comp=Z,296nm,1.0s						
GOA	**Goa**	**20.09**	**291**	*e*P	**P**	**16 26 43.2**	**+4.2**
GOA				*e*		16 26 56.0	
	comp=Z,87nm,1.4s						
GOA				*e*	**S**	**16 30 21.3**	**+2.8**
DMN	**Daman**	**20.22**	**339**	*e*P	**P**	**16 26 40.5**	**+0.1**
	comp=Z,180nm,0.8s						
GUN	**Gumba**	**20.23**	**341**	*e*P	**P**	**16 26 40.9**	**+0.4**
	comp=Z,1μm,1.5s						
KKN	**Kakani**	**20.32**	**339**	*e*P	**P**	**16 26 42.0**	**+0.5**
	comp=Z,111nm,0.7s						
KAD	**Karad**	**20.37**	**296**	*e*P	**P**	**16 26 43.2**	**+1.2**
KAD				*e*		16 26 47.1	
	comp=Z,82nm,1.0s						
GKN	**Gorkha**	**20.75**	**338**	*e*P	**P**	**16 26 46.0**	**+0.1**
	comp=Z,278nm,0.9s						
BHPL	**Bhopal**	**20.87**	**315**	*e*P	**P**	**16 26 48.9**	**+1.8**
BHPL				*e*		16 26 50.6	
	comp=Z,58nm,0.8s						
BHPL				*e*S	**S**	**16 30 40.1**	**+5.9**
LSA	**Lhasa**	**20.89**	**355**	P	**P**	**16 26 43.1**	**-4.2**
LSA				AMB	AMB		
	comp=Z,280nm,8.2s						
LSA				LR	LR		
	comp=N,620nm,23.2s,MS4.2						
LSA				LR	LR		
	comp=E,990nm,27.1s,MS4.2						
LSA				LR	LR		
	comp=Z,1μm,19.6s						
LSA	**Lhasa**	**20.89**	**355**	*e*P	**P**	**16 26 46.6**	**-0.7**
LSA				*e*S	**S**	**16 30 36.7**	**+2.2**
LSA				pmax	pmax		
	comp=Z,40nm,0.6s						
LSA	**Lhasa**	**20.89**	**355**	*e*P	**P**	**16 26 46.6**	**-0.7**
	comp=Z,40nm,0.6s						
LSA				*e*S	**S**	**16 30 36.7**	**+2.2**
LSA				*e*ScP		16 34 29.4	
KOLN	**Koldanda**	**20.94**	**336**	*e*P	**P**	**16 26 48.3**	**+0.4**
	comp=Z,228nm,0.8s						
POO	**Poona**	**21.14**	**299**	*e*P	**P**	**16 26 50.5**	**+0.6**
POO				*e*		16 26 54.8	
	comp=Z,54nm,1.1s						
BOM	**Bombay**	**22.19**	**299**	*e*P	**P**	**16 27 04.7**	**+4.3**
NDI	**New Delhi**	**24.86**	**325**	*e*P	**P**	**16 27 28.3**	**+1.8**
NDI				*e*		16 27 51.7	
	comp=Z,124nm,1.2s						
ENH	**Enshi**	**26.23**	**33**	*e*P	**P**	**16 27 38.9**	**-0.4**
	comp=Z,37nm,0.8s,mb5.0						
SMLA	**Simla**	**26.79**	**328**	*e*	**P**	**16 27 56.1**	**+12**
SMLA				*e*		16 28 24.6	
	comp=Z,122nm,1.6s						
BHK	**Bhakra**	**27.41**	**328**	*e*	Px	16 28 17.0	
TGY	**Tagaytay City**	**27.66**	**76**	P	**P**	**16 27 54.0**	**+1.5**
	comp=Z,100nm,0.5s,mb5.7,baz=276,slow=10,SNR=1.8						
TGY				LR	LR	16 38 51.1	
	comp=Z,2μm,18.8s,MS4.7,baz=82,slow=36						
LZH	**Lanzhou**	**28.84**	**18**	*e*P	**P**	**16 28 03.1**	**+0.1**
LZH				AP	pP	16 28 08.0	-0.1
LZH				XP	sP	16 28 10.8	+0.5
LZH				AMB	AMB		
	comp=Z,80nm,1.3s,mb5.3						
LZH				AMB	AMB		
	comp=Z,224nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,17.5s						
XAN	**Xi'an**	**28.98**	**28**	P	**P**	**16 28 02.8**	**-1.5**
XAN				AP	pP	16 28 08.0	-1.4
XAN				AMB	AMB		
	comp=Z,44nm,1.0s,mb5.1						
WHN	**Wuhan**	**29.28**	**39**	*e*P	**P**	**16 28 03.5**	**-3.6**
WHN				S	**S**	**16 33 04.0**	**+6.1**
WHN				LR	LR		
	comp=Z,3μm,15.8s,MS5.0						
NJ2	**Nanjing**	**33.18**	**42**	*e*P	**P**	**16 28 41.8**	**+0.5**
NJ2				AP	pP	16 28 51.6	+5.1
NJ2				XP	sP	16 28 55.8	+7.1
NJ2				PP	PP	16 29 53.3	+0.7
NJ2				S	**S**	**16 33 58.0**	**-1.0**
NJ2				AMB	AMB		
	comp=Z,110nm,1.0s,mb5.7						
NJ2				LR	LR		
	comp=N,2μm,14.0s,MS5.1						
NJ2				LR	LR		
	comp=E,2μm,14.4s,MS5.1						
NJ2				LR	LR		
	comp=Z,2μm,12.5s,MS5.0						
SSE	**Sheshan**	**34.21**	**46**	P	**P**	**16 28 48.5**	**-1.8**
SSE				XP	sP	16 29 01.3	+3.7
SSE				S	**S**	**16 34 12.6**	**-2.5**
SSE				XS		16 34 27.5	
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,139nm,6.8s						
SSE				LR	LR		
	comp=N,280nm,18.1s,MS4.2						
SSE				LR	LR		
	comp=E,311nm,18.1s,MS4.2						
SSE				LR	LR		
	comp=Z,330nm,21.2s,MS4.0						
TIA	**Tai'an**	**34.90**	**35**	*e*P	**P**	**16 28 56.3**	**+0.2**
WMQ	**Urumqi**	**35.22**	**353**	*e*P	**P**	**16 28 54.4**	**-4.4**
WMQ				PP	PP	16 30 13.4	-4.6
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,72nm,5.0s						
WMQ				LR	LR		
	comp=N,2μm,18.7s,MS5.0						
WMQ				LR	LR		
	comp=E,1μm,19.6s,MS5.0						
WMQ				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
KZA	**Kyzart**	**36.74**	**337**	P	**P**	**16 29 13.2**	**+1.6**
	SNR=7.3						
UCH	**Uchtor**	**37.15**	**337**	P	**P**	**16 29 16.4**	**+1.4**
	SNR=16						
BJT	**Baijiatuau**	**37.22**	**30**	*e*P	**P**	**16 29 15.5**	**-0.2**
BJT				pmax	pmax		
	comp=Z,26nm,0.6s						
BJT	**Baijiatuau**	**37.22**	**30**	*e*P	**P**	**16 29 15.5**	**-0.2**
	comp=Z,26nm,0.6s,mb5.2						
TKM2	**Tokmak 2**	**37.34**	**338**	P	**P**	**16 29 17.6**	**+0.9**
	SNR=5.8						
KBK	**Karagaybulak**	**37.35**	**338**	P	**P**	**16 29 18.3**	**+1.5**
	SNR=24						
AML	**Almayashu**	**37.39**	**336**	P	**P**	**16 29 18.8**	**+1.7**
	SNR=48						
AAK	**Ala-Archa**	**37.50**	**337**	P	**P**	**16 29 19.4**	**+1.4**
	SNR=23						
AAK	**Ala-Archa**	**37.50**	**337**	*e*P	**P**	**16 29 18.0**	**0.0**
AAK				*e*		16 31 36.9	
FRU	**Bishkek**	**37.63**	**337**	*e*P	**P**	**16 29 19.8**	**+0.7**
FRU				*e*		16 29 31.0	
FRU				pmax	pmax		
	comp=Z,60nm,2.0s,mb5.0						
FRU				MLR	MLR		
	comp=N,900nm,17.0s,MS4.8						
FRU				MLR	MLR		
	comp=E,1μm,17.0s,MS4.8						
FRU				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.8						
CHMS	**Chumysh**	**37.72**	**338**	P	**P**	**16 29 20.4**	**+0.6**
	SNR=12						
EKS2	**Erkin-Say**	**37.81**	**336**	P	**P**	**16 29 22.1**	**+1.5**
	SNR=17						
USP	**Ospenovka**	**38.04**	**338**	P	**P**	**16 29 23.3**	**+0.8**
	SNR=22						
MKAR	**Makanchi Array**	**39.00**	**348**	*i* P	**P**	**16 29 29.9**	**-0.6**
SONM	**Songino Array**	**40.48**	**14**	P	**P**	**16 29 42.3**	**-0.4**
	comp=Z,21nm,0.8s,mb4.9,baz=199,slow=7.5,SNR=115						
SONM				PcP	PcP	16 31 47.2	+1.2
	comp=Z,1.4nm,0.6s,baz=211,slow=3.4,SNR=4.6						
SONM				ScP		16 35 33.3	
	comp=Z,2.5nm,0.8s,baz=200,slow=2.9,SNR=8.7						
ULN	**Ulaanbaatar**	**40.66**	**14**	*i* P	**P**	**16 29 44.2**	**-0.1**
ZAK	**Zakamensk**	**42.29**	**10**	*e*P	**P**	**16 29 57.4**	**-0.2**
ZAK				*e*		16 31 37.9	
SNY	**Shenyang**	**42.41**	**34**	⇓P	**P**	**16 29 59.4**	**+0.7**
SNY				AP	pP	16 30 07.4	+3.5
SNY				XP	sP	16 30 13.6	+7.5
SNY				S	**S**	**16 36 22.1**	**+3.0**
SNY				AMB	AMB		
	comp=Z,40nm,1.2s,mb4.9						
SNY				AMB	AMB		
	comp=Z,140nm,9.2s						
SNY				LR	LR		
	comp=N,890nm,18.1s,MS4.8						
SNY				LR	LR		
	comp=E,780nm,18.3s,MS4.8						
SNY				LR	LR		
	comp=Z,600nm,17.1s,MS4.5						
MOY	**Mondy**	**43.22**	**7**	*e*P	**P**	**16 30 05.9**	**+0.8**
TLY	**Talaya**	**43.60**	**9**	*e*P	**P**	**16 30 07.1**	**-1.2**
TLY				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
TLY	**Talaya**	**43.60**	**9**	*e*P	**P**	**16 30 07.0**	**-1.2**
	comp=Z,10nm,0.7s,mb4.7						
IRK	**Irkutsk**	**44.25**	**10**	*e*P	**P**	**16 30 13.7**	**+0.2**
IRK				*e*		16 30 32.6	
ZAL	**Zalesovo**	**45.52**	**353**	P	**P**	**16 30 23.3**	**-0.4**
	comp=Z,5.8nm,0.8s,mb4.5,baz=299,slow=7.5,SNR=34						
ZAL				ScP		16 35 53.7	
	comp=Z,2.5nm,0.8s,baz=71,slow=2.7,SNR=7.3						
ZAL				LR	LR	16 53 47.7	
	comp=Z,494nm,18.3s,MS4.5,baz=294,slow=42						
ZAL	**Zalesovo**	**45.52**	**353**	P	**P**	**16 30 23.3**	**-0.4**
ZAL				ScP		16 35 53.7	
ZAL				LR	LR	16 53 47.7	
HIA	**Hailar**	**46.04**	**24**	*e*P	**P**	**16 30 27.8**	**0.0**
HIA				pmax	pmax		
	comp=Z,34nm,1.0s						
HIA	**Hailar**	**46.04**	**24**	*e*P	**P**	**16 30 27.8**	**0.0**
	comp=Z,34nm,1.0s,mb5.2						
MUN	**Mundaring**	**46.12**	**153**	*e*P	**P**	**16 30 30.3**	**+1.6**
	comp=Z,69nm,0.8s,mb5.6						
MUN	**Mundaring**	**46.12**	**153**	*e*P	**P**	**16 30 30.3**	**+1.6**
MUN				pmax	pmax		
	comp=Z,69nm,0.8s,mb5.6						
NVS	**Novosibirsk**	**46.61**	**352**	*i* P	**P**	**16 30 30.6**	**-1.6**
NVS				*e*S	**S**	**16 37 20.5**	**+0.9**
NVS				*i*		16 40 19.8	
NVS				pmax	pmax		
	comp=Z,40nm,1.8s,mb5.0						
NVS				pmax	pmax		
	comp=E,18nm,1.6s						
NVS				pmax	pmax		
	comp=N,48nm,1.8s						
NVS				smax			
	comp=N,14nm,1.7s						
NVS				smax			
	comp=E,11nm,1.8s						
NWAO	**Narrogin (SRO)**	**47.38**	**152**	*e*P	**P**	**16 30 38.2**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,114nm,1.2s						
NWAO	**Narrogin (SRO)**	**47.38**	**152**	P	**P**	**16 30 39.1**	**+0.4**
	comp=Z,59nm,0.7s,mb5.6,baz=327,slow=9.5,SNR=27						
NWAO	**Narrogin (SRO)**	**47.38**	**152**	*e*P	**P**	**16 30 38.2**	**-0.5**
	comp=Z,114nm,1.2s,mb5.7						
MDJ	**Mudanjiang**	**47.57**	**35**	P	**P**	**16 30 41.0**	**+1.0**
MDJ				AP	pP	16 30 46.6	+1.4
MDJ				XP	sP	16 30 50.8	+3.5
MDJ				S	**S**	**16 37 38.3**	**+5.0**
MDJ				SCS	ScS	16 40 27.3	-3.0
MDJ				SS	SS	16 41 01.1	+5.7
MDJ				AMB	AMB		
	comp=Z,25nm,1.2s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,149nm,6.2s						
MDJ				LR	LR		
	comp=N,380nm,15.4s,MS4.7						
MDJ				LR	LR		
	comp=E,505nm,16.5s,MS4.7						
MDJ				LR	LR		
	comp=Z,532nm,19.4s,MS4.5						
MDJ	**Mudanjiang**	**47.57**	**35**	*e*P	**P**	**16 30 39.6**	**-0.3**
	comp=Z,34nm,1.1s,mb5.3						
BVA0	**Borovoye Array**	**47.83**	**342**	P	**P**	**16 30 40.9**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**47.83**	**342**	P	**P**	**16 30 40.8**	**-1.1**
	comp=Z,5.4nm,0.9s,mb4.6,baz=143,slow=7.4,SNR=26						
BVAR				PcP	PcP	16 32 11.0	-0.1
	comp=Z,11nm,0.8s,baz=135,slow=6.3,SNR=7.6						
RAYN	**Ar Rayn**	**47.88**	**294**	P	**P**	**16 30 44.6**	**+1.9**
	comp=Z,105nm,0.9s,mb5.9,SNR=17						
BRVK	**Borovoye**	**47.89**	**342**	*e*P	**P**	**16 30 41.5**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
BRVK	**Borovoye**	**47.89**	**342**	*e*P	**P**	**16 30 41.5**	**-0.9**
	comp=Z,10nm,1.0s,mb4.8						
CHKZ	**Chkalovo**	**48.32**	**342**	⇓*e*P	**P**	**16 30 45.0**	**-0.7**
CHKZ				*e*		16 32 12.9	
CHKZ				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2						
CHKZ	**Chkalovo**	**48.32**	**342**	⇓*e*P	**P**	**16 30 45.0**	**-0.7**
	comp=Z,16nm,0.7s,mb5.2						
CHKZ				*e*PcP	PcP	16 32 12.9	+0.1
MAJO	**Matsushiro**	**49.23**	**49**	*e*P	**P**	**16 30 53.1**	**+0.1**
MAJO				*e*PcP	PcP	16 32 15.8	-0.5
MAJO				*e*ScP		16 36 07.6	
MAT	**Matsushiro**	**49.23**	**49**	*e*P	**P**	**16 30 51.0**	**-2.0**
MAT				pmax	pmax		
	comp=Z,50nm,1.5s,mb5.3						
MAT	**Matsushiro**	**49.23**	**49**	P	**P**	**16 30 51.0**	**-2.0**
MAT				*e*S	**S**	**16 38 02.0**	**+5.2**
WRA	**Warramunga Arr**	**49.53**	**126**	P	**P**	**16 30 54.4**	**-1.1**
	comp=Z,11nm,0.8s,mb5.0,baz=307,slow=8.5,SNR=78						
WRA				PcP	PcP	16 32 17.7	+0.1
	comp=Z,5.4nm,0.7s,baz=314,slow=3.2,SNR=7.0						
WRA				ScP		16 36 09.1	
	comp=Z,3.0nm,1.0s,baz=313,slow=2.9,SNR=6.2						
WRAB	**Tennant Creek**	**49.54**	**126**	*i* P	**P**	**16 30 55.0**	**-0.6**
WRAB	**Tennant Creek**	**49.54**	**126**	*e*P	**P**	**16 30 53.9**	**-1.6**
	comp=Z,22nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**49.55**	**126**	*e*P	**P**	**16 30 54.7**	**-0.9**
ASPA	**Alice Springs**	**51.20**	**130**	*e*P	**P**	**16 31 07.2**	**-1.0**
ASAR	**Alice Springs**	**51.20**	**130**	P	**P**	**16 31 07.0**	**-1.2**
	comp=Z,4.2nm,0.8s,mb4.4,baz=301,slow=6.6,SNR=37						
ASAR				PcP	PcP	16 32 24.2	+0.5
	comp=Z,7.4nm,0.8s,baz=309,slow=3.6,SNR=13						
ASAR				ScP		16 36 17.3	
	comp=Z,3.2nm,1.1s,baz=301,slow=4.1,SNR=6.3						
ASAR				LR	LR	16 56 16.1	
	comp=Z,427nm,18.4s,MS4.5,baz=300,slow=40						
BOD	**Bodaibo**	**51.47**	**14**	*e*P	**P**	**16 31 08.9**	**-0.9**
KLR	**Kul'dur**	**51.57**	**31**	*e*P	**P**	**16 31 05.2**	**-5.4**
KLR				MLR	MLR		
	comp=E,900nm,15.0s						
KLR				MLR	MLR		
	comp=Z,1μm,15.0s,MS5.0						
GNI	**Garni**	**53.14**	**314**	*e*P	**P**	**16 31 22.4**	**-0.2**
GNI				pmax	pmax		
	comp=Z,73nm,1.4s						
GNI	**Garni**	**53.14**	**314**	P	**P**	**16 31 22.6**	**0.0**
	comp=Z,10nm,0.8s,mb4.8,baz=167,slow=7.0,SNR=15						
GNI	**Garni**

ARU MLR MLR
comp=N,400nm,17.0s,MS4.6
ARU MLR MLR
comp=Z,600nm,17.0s,MS4.7
ARU MLR MLR
comp=E,200nm,16.0s,MS4.6
ZEI Tsey 54.75 317 *e*P **P 16 31 34.3 0.0**
ZEI *i* *PP pP 16 31 44.3 +4.7
ZEI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KIV Kislovodsk 56.03 318 P **P 16 31 43.7 +0.2**
comp=Z,206nm,0.9s,SNR=12
KIV Kislovodsk 56.03 318 *d* *i*P **P 16 31 43.4 -0.1**
KIV *i* 16 31 54.2
KIV 16 32 34.0
KIV pmax pmax
comp=Z,26nm,0.8s,mb5.3
KIV Kislovodsk 56.03 318 *e*P **P 16 31 43.0 -0.5**
comp=Z,29nm,0.7s,mb5.4
GOF Gofitskoye 56.24 319⇓ *i*P pP 16 31 52.0 +1.6
GOF pmax pmax
comp=Z,20nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 56.63 39⇓ *i*P **P 16 31 44.8 -3.0**
YSS pmax pmax
comp=Z,120nm,1.0s,mb5.9
YSS pmax pmax
comp=N,30nm,0.8s
YSS pmax pmax
comp=E,60nm,1.0s
YSS MLR MLR
comp=N,500nm,18.0s
YSS MLR MLR
comp=Z,400nm,18.0s,MS4.6
YSS Yuzh-Sakhalins 56.63 39 *e*P **P 16 31 46.9 -0.9**
comp=Z,88nm,0.8s,mb5.8
KMBO Kilima Mbogo 56.63 263 P **P 16 31 46.1 -2.2**
KMBO pmax pmax
comp=Z,18nm,1.5s
KMBO Kilima Mbogo 56.63 263 P **P 16 31 50.5 +2.3**
comp=Z,2.1nm,0.7s,mb4.3,baz=52,slow=12,SNR=5.2
KMBO LR LR 16 53 23.0
comp=Z,655nm,19.1s,MS4.7,baz=276,slow=33
KMBO Kilima Mbogo 56.63 263 P **P 16 31 46.1 -2.1**
comp=Z,18nm,1.5s,mb4.9
KMBO LR LR 16 53 23.0
PMG Port Moresby 56.67 107 *e*P **P 16 31 48.3 -0.3**
PMG pmax pmax
comp=Z,38nm,0.8s
PMG Port Moresby 56.67 107 P **P 16 31 48.9 +0.4**
comp=Z,36nm,0.8s,mb5.5,baz=306,slow=4.1,SNR=22
PMG Port Moresby 56.67 107 *e*P **P 16 31 48.3 -0.3**
comp=Z,38nm,0.8s,mb5.5
ASF Jabal al Asfar 56.95 303 P **P 16 31 51.4 +1.0**
comp=Z,5.0nm,0.9s,mb4.5,baz=358,slow=8.3,SNR=7.5
ASF LR LR 17 00 15.3
comp=Z,445nm,18.3s,MS4.6,baz=324,slow=40
MALT Malatya 57.17 310 *e*P **P 16 31 51.6 -0.3**
MALT pmax pmax
comp=Z,14nm,1.1s,mb4.9
MALT Malatya 57.17 310 *e*P **P 16 31 51.5 -0.3**
comp=Z,14nm,1.1s,mb4.9
SOKR Solikamsk 57.62 339⇓ *i*P **P 16 31 52.4 -2.2**
SOKR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
SOKR MLR MLR
comp=Z,680nm,21.0s,MS4.7
SOC Sochi 57.89 316 *e*P **P 16 31 53.9 -2.9**
SOC *e* 16 32 50.4
SOC *e*S **S 16 39 47.8 -6.1**
SOC *e*SSS SSS 16 46 07.5 +2.7
SOC pmax pmax
comp=N,6.0nm,0.9s
SOC pmax pmax
comp=Z,22nm,0.9s,mb5.2
SOC pmax pmax
comp=E,15nm,0.8s
SOC MLR MLR
comp=N,181nm,19.0s,MS4.4
SOC MLR MLR
comp=Z,177nm,19.0s,MS4.2
SOC MLR MLR
comp=E,188nm,17.0s,MS4.4
EIL Elat 58.18 299 *e*P **P 16 31 59.7 +0.7**
comp=E,12nm,1.1s,mb4.9
YAK Yakutsk 59.42 19 *e*P **P 16 32 05.6 -1.6**
YAK pmax pmax
comp=Z,43nm,0.8s,mb5.5
YAK Yakutsk 59.42 19 *e*P **P 16 32 05.6 -1.6**
comp=Z,43nm,0.8s,mb5.5
CTA Charters Tower 59.55 119 P **P 16 32 07.6 -1.1**
comp=Z,17nm,1.1s,mb5.0,baz=283,slow=8.7,SNR=5.7
CTAO Charters Tower 59.55 119 *e*P **P 16 32 08.5 -0.2**
CTAO pmax pmax
comp=Z,31nm,1.3s,mb5.2
CTAO Charters Tower 59.55 119 *e*P **P 16 32 08.4 -0.2**
comp=Z,31nm,1.3s,mb5.2
ANN Anapa 59.84 317 *e*P **P 16 32 07.9 -2.4**
ANN pmax pmax
comp=Z,21nm,1.2s,mb5.0
BRTR Keskin Array B 61.14 311 P **P 16 32 17.9 -1.3**
comp=Z,8.7nm,0.8s,mb4.9,baz=121,slow=7.2,SNR=30
STKA Stephens Creek 61.40 134 *e*P **P 16 32 20.8 -0.3**
comp=Z,10nm,0.9s,mb5.0
STKA Stephens Creek 61.40 134 P **P 16 32 20.4 -0.7**
comp=Z,14nm,1.0s,mb5.0,baz=282,slow=5.3,SNR=9.5
STKA LR LR 17 02 60.0
comp=Z,463nm,20.5s,MS4.6,baz=112,slow=40
SIM Simferopol' 62.14 316 P **P 16 32 26.0 +0.1**
SIM pmax pmax
comp=Z,12nm,0.7s,mb5.1
SIM MLR MLR
comp=Z,200nm,17.5s,MS4.3
MBAR Mbarara 62.93 265 *e*P **P 16 32 31.9 +0.3**
comp=Z,7.7nm,1.1s,mb4.8
ISP Isparta 63.16 308 *i* P **P 16 32 32.3 -0.4**
MOS Moscow 63.82 329 *e*P **P 16 32 35.5 -1.4**
MOS *e* 16 32 46.7
MOS *e* 16 33 09.5
MOS pmax pmax
comp=Z,61nm,0.9s,mb5.6
OBN Obninsk 64.12 328 *e*P **P 16 32 36.6 -2.2**
OBN *e* 16 32 44.7
OBN *e* 16 32 55.2
OBN 16 33 12.0
OBN S **S 16 41 11.0 -2.2**
OBN pmax pmax
comp=Z,30nm,1.4s,mb5.1
OBN Obninsk 64.12 328 *i* P **P 16 32 36.7 -2.1**
OBN LR LR
comp=Z,500nm,18.0s,MS4.7
CFR Carcaliu 66.30 316⇑ *i*P **P 16 32 52.2 -0.8**
MA2 Magadan 66.38 28 *e*P **P 16 32 53.0 -0.3**
MA2 *e*S S 16 41 39.5 -1.3
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MA2 MLR MLR
comp=Z,800nm,24.0s,MS4.8
MA2 Magadan 66.38 28 *e*P **P 16 32 52.7 -0.6**
comp=Z,37nm,1.1s,mb5.3
TIXI Tiksi 66.51 12 *i* P **P 16 32 52.7 -1.3**
TIXI Tiksi 66.51 12 *i* Pr 16 32 52.7
AKASG Malin Array Be 66.87 322 P **P 16 32 54.7 -1.8**
comp=Z,5.0nm,0.6s,mb4.8,baz=88,slow=5.4,SNR=24
ISR Istrita 67.40 315⇑ *i*P **P 16 33 01.0 +1.0**
VRI Vrincioaia 67.41 316⇑ *i*P **P 16 33 00.4 +0.3**
MLR Muntele Rosu 67.88 316 LR LR 17 09 01.0
comp=Z,443nm,18.2s,MS4.7,baz=177,slow=42
MLR Muntele Rosu 67.88 316⇑ *i*P **P 16 33 03.0 0.0**
RZN Rozhen 68.16 311 *e*P **P 16 32 57.0 -7.9**
SEY Seymchan 68.48 25 *e*P **P 16 33 05.9 -0.5**
SEY *e* 16 35 33.3
SEY *e* 16 43 04.4
SEY pmax pmax
comp=Z,40nm,1.3s,mb5.3
LSZ Lusaka 68.72 250 *e*P **P 16 33 09.6 +0.8**
LSZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LSZ Lusaka 68.72 250 *e*P **P 16 33 09.6 +0.9**
comp=Z,5.0nm,0.8s,mb4.5
MMB Musomiste 68.89 311 *e*P **P 16 33 09.0 -0.4**
VTS Vitosha 69.39 312 *e*P **P 16 33 12.5 0.0**
KKB Krupnik 69.40 311 *e*P **P 16 33 11.0 -1.5**
JOF Joensuu 69.63 334 *e*p **P 16 33 12.6 -0.9**
comp=Z,1.1nm,0.4s,mb4.1
VSU Vasula 70.33 329 *i* P **P 16 33 17.3 -0.6**
BOLS Boljevac 70.45 313⇑ *i*P **P 16 33 18.1 -0.7**

KWP Kalwaria 70.74 320 *e*P **P 16 33 20.4 -0.2**
KOLS Kolonicke sedl 70.91 319 *e*P **P 16 33 20.0 -1.6**
SUW Suwalki 71.23 324 *e*P **P 16 33 22.6 -0.8**
CRVS Cervenica-Dubn 71.44 319 *e*P **P 16 33 26.7 +1.9**
FINES FINESS Array B 71.47 332 P **P 16 33 23.9 -0.8**
comp=Z,2.2nm,0.6s,mb4.3,baz=104,slow=6.0,SNR=16
FINES LR LR 17 09 40.3
comp=Z,258nm,21.2s,MS4.5,baz=131,slow=40
KAF Kangasniemi 71.56 333 *e*p **P 16 33 22.8 -2.5**
comp=Z,0.6nm,0.4s,mb3.9,baz=104,slow=5.8
KAF Kangasniemi 71.56 333 *e*P **P 16 33 22.8 -2.5**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
NIE Niedzica 72.25 319 *e*P **P 16 33 30.2 +0.6**
PSZ Piszkesteto 72.35 317 *e*P **P 16 33 29.0 -1.2**
PSZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
PSZ Piszkesteto 72.35 317 *e*P **P 16 33 29.0 -1.2**
comp=Z,8.2nm,0.8s,mb4.7
OJC Ojcow 72.69 320 *e*P **P 16 33 31.5 -0.7**
PKSM Moragy 73.03 316⇑ *e*P **P 16 33 33.7 -0.6**
VYHS Vyhne 73.12 318 *e*P **P 16 33 33.9 -0.8**
VYHS *e* 16 33 41.6
KEV Kevo 73.67 341 *e*p **P 16 33 36.9 -0.6**
comp=Z,0.5nm,0.4s
KEV Kevo 73.67 341 *e*P **P 16 33 36.9 -0.6**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
OKC Ostrava-Krasne 73.70 319 *e*P **P 16 33 37.9 -0.2**
OKC *e*pP pP 16 33 41.6 -1.9
TIP Timpagrande 74.01 308 *e*P **P 16 33 39.5 -0.6**
ARCES ARCESS Array B 74.09 340 P **P 16 33 39.8 -0.2**
comp=Z,10nm,1.0s,mb4.7,baz=99,slow=6.5,SNR=16
ARCES LR LR 17 08 41.6
comp=Z,515nm,18.4s,MS4.8,baz=347,slow=38
ZST Bratislava 74.24 318 *e*P **P 16 33 41.7 +0.5**
ZST *e* pP 16 33 48.2 +1.5
DPC Dobruska-Polom 74.92 320 *e*P **P 16 33 45.7 +0.6**
DPC *e*pP pP 16 33 49.0 -1.6
KSP Ksiaz 74.97 320 *e*P **P 16 33 45.8 +0.4**
KSP *e*pP pP 16 33 52.3 +1.4
KSP Ksiaz 74.97 320 *e*P **P 16 33 44.5 -0.9**
UPC Upice 75.13 320 *e*P **P 16 33 46.7 +0.4**
UPC *e*pP pP 16 33 49.6 -2.2
ARSA Arzberg 75.24 317⇑ *i*P **P 16 33 47.4 +0.3**
comp=Z,16nm,1.1s,mb4.9
BOSA Boshof 75.31 237 *e*P **P 16 33 49.1 +1.3**
BOSA pmax pmax
comp=Z,18nm,1.2s,mb4.9
BOSA Boshof 75.31 237 *e*P **P 16 33 49.1 +1.3**
comp=Z,18nm,1.2s,mb4.9
BILL Bilibino 75.57 22 *e*P **P 16 33 48.4 -0.1**
BILL *e* 16 33 59.7
BILL *e* 16 34 04.9
BILL pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
BILL MLR MLR
comp=Z,400nm,17.0s,MS4.8
BILL Bilibino 75.57 22 *e*P **P 16 33 48.0 -0.5**
comp=Z,8.3nm,1.0s,mb4.6
OBKA Obir 75.88 316⇓ *i*P **P 16 33 50.4 -0.3**
CASY Casey 75.95 173 *e*P **P 16 33 51.6 +1.0**
comp=Z,15nm,1.2s,mb4.8
PRU Pruhonice 76.04 319 *e*P **P 16 33 51.4 -0.1**
PRU *e*pP pP 16 33 54.9 -2.1
PVCC Panska Ves 76.05 320 *e*P **P 16 33 52.2 +0.7**
MOA Molln 76.12 317⇑ *i*P **P 16 33 52.0 0.0**
comp=Z,13nm,1.1s,mb4.8
VOY Vojsko 76.32 315 *e*(P) **P 16 33 52.8 -0.4**
BRG Berggiesshubel 76.46 320 *e*P **P 16 33 54.4 +0.5**
BRG *e* 16 34 12.8
BRG pmax pmax
comp=Z,24nm,1.3s,mb5.0
BRG Berggiesshubel 76.46 320 *e*P **P 16 33 54.4 +0.5**
comp=Z,24nm,1.3s,mb5.0
BRG *e* 16 34 12.8
GERES GERESS Array B 76.53 318 P **P 16 33 54.3 0.0**
comp=Z,10nm,0.8s,mb4.8,baz=90,slow=5.3,SNR=54
KHC Kasperske Hory 76.63 318 *e*P **P 16 33 55.0 +0.2**
KHC *e*pP pP 16 33 58.2 -2.1
RUE Ruedersdorf 76.64 322 *e*P **P 16 33 54.6 -0.3**
CLL Collm 77.07 321 *e*P **P 16 33 58.0 +0.7**
CLL *e* 16 34 08.0
CLL Collm 77.07 321 P **P 16 33 58.0 +0.7**
CLL *e* 16 34 08.0
WTTA Wattenberg 77.89 316⇓ *i*P **P 16 34 01.5 -0.3**
comp=Z,23nm,1.0s,mb5.1
WTTA Wattenberg 77.89 316⇓ *i*P **P 16 34 01.5 -0.3**
WTTA pmax pmax
comp=Z,23nm,1.0s,mb5.1
MOX Moxa 77.93 320 *e*P **P 16 34 05.4 +3.4**
MOX pmax pmax
comp=Z,16nm,1.5s,mb4.7
MOX Moxa 77.93 320 *e*P **P 16 34 05.4 +3.4**
comp=Z,16nm,1.5s,mb4.7
MOX Moxa 77.93 320 *i* P **P 16 34 05.4 +3.4**
comp=Z,logA/T=1.0,mb4.7
GRA1 Grafenberg Arr 78.18 319 *e*P **P 16 34 04.4 +1.0**
comp=Z,12nm,1.1s,mb4.7
GRA1 *e* 16 34 07.6
GRA1 *e* 16 34 22.9
GRF Grafenberg Arr 78.18 319 *e*P **P 16 34 04.4 +1.0**
GRF *e* 16 34 07.6
GRF *e* 16 34 22.9
GRF pmax pmax
comp=Z,12nm,1.1s,mb4.7
SQTA Sankt Quirin 78.18 316⇓ *i*P **P 16 34 03.1 -0.3**
comp=Z,9.0nm,1.0s,mb4.7
SQTA Sankt Quirin 78.18 316⇓ *i*P **P 16 34 03.1 -0.3**
SQTA pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MOTA Moosalm 78.25 317⇑ *i*P **P 16 34 03.6 -0.2**
comp=Z,11nm,1.2s,mb4.7
MOTA Moosalm 78.25 317⇑ *i*P **P 16 34 03.6 -0.2**
MOTA pmax pmax
comp=Z,11nm,1.2s,mb4.7
NB2 NORSAR Subarra 78.48 331 P **P 16 34 04.0 -0.8**
comp=Z,21nm,1.2s,mb5.0,baz=93,slow=5.8
NB2 NORSAR Subarra 78.48 331 P **P 16 34 04.0 -0.8**
baz=93,slow=5.9
NOA NORSAR Array B 78.48 331 P **P 16 34 04.1 -0.7**
comp=Z,2.2nm,0.7s,mb4.2,baz=93,slow=5.8,SNR=7.9
NOA LR LR 17 14 25.8
comp=Z,212nm,19.4s,MS4.5,baz=100,slow=40
DAVA Damuels 79.09 316⇑ *i*P **P 16 34 08.9 +0.5**
comp=Z,21nm,1.0s,mb5.0
MAW Mawson 79.25 191 P **P 16 34 09.4 +0.5**
comp=Z,7.7nm,1.0s,mb4.6,baz=76,slow=8.3,SNR=2.0
MAW LR LR 17 02 00.0
comp=Z,243nm,21.3s,MS4.5,baz=172,slow=30
MUD Monsted U'grnd 79.44 326 *e*P **P 16 34 13.8 +3.7**
MUD pmax pmax
comp=Z,30nm,1.1s,mb5.1
MUD Monsted U'grnd 79.44 326 *e*P **P 16 34 13.8 +3.7**
comp=Z,30nm,1.1s,mb5.1
MUD Monsted U'grnd 79.44 326 *i* P **P 16 34 13.8 +3.7**
comp=Z,30nm,1.1s,mb5.1
LPG La Plagne 81.33 315 *e*P **P 16 34 20.6 +0.2**
comp=Z,87nm,1.0s,mb5.3
LPG La Plagne 81.33 315 *e*P **P 16 34 20.6 +0.2**
LPG pmax pmax
comp=Z,44nm,1.0s,mb5.3
BNI Bardonecchia 81.41 314 P **P 16 34 23.4 +2.6**
BNI pmax pmax
comp=Z,22nm,0.9s,mb5.1
BNI Bardonecchia 81.41 314 P **P 16 34 23.4 +2.6**
comp=Z,22nm,0.9s,mb5.1
SYO Syowa Base 86.02 197⇑P **P 16 34 45.9 +2.2**
DAG Danmarks Havn 86.39 348⇓ *i*P **P 16 34 45.6 +0.2**
DAG pmax pmax
comp=Z,4.0nm,0.5s,mb4.9
DAG Danmarks Havn 86.39 348⇓ *i*P **P 16 34 45.6 +0.2**
comp=Z,4.2nm,0.5s,mb4.9
RPZ Rata Peaks 87.34 135 LR LR 17 13 00.5
comp=Z,406nm,19.3s,MS4.8,baz=260,slow=35
ESDC Sonseca Array 89.93 310 P **P 16 35 02.3 -0.9**
comp=Z,0.6nm,0.4s,mb4.2,baz=38,slow=5.0,SNR=4.5
URZ Urewera 90.62 128 LR LR 17 16 48.5
comp=Z,407nm,21.0s,MS4.8,baz=42,slow=36
IMA Indian Mountai 91.12 22 *e*P **P 16 35 09.9 +1.9**
SVW2 Sparrevohn 92.34 27 *e*P **P 16 35 16.9 +3.1**
SUMG Summit 93.05 347 *e*P **P 16 35 18.3 +1.5**
comp=Z,19nm,1.0s,mb5.5
SUMG *e* 16 35 31.6
COLA College 93.83 22 *i* P **P 16 35 20.9 +0.4**

VNDA Vanda 94.01 168 P **P 16 35 22.6 +1.5**
comp=Z,2.4nm,0.9s,mb4.7,baz=305,slow=5.0,SNR=4.4
ILAR Eielson Array 94.23 22 P **P 16 35 21.7 -0.6**
comp=Z,3.2nm,0.7s,mb4.9,baz=304,slow=4.6,SNR=21
ILAR PP PP 16 39 05.0 -7.0
comp=Z,0.8nm,0.9s,baz=294,slow=7.7,SNR=4.5
ILAR LR LR 17 25 33.7
comp=Z,198nm,19.2s,MS4.6,baz=160,slow=40
INK Inuvik 96.36 16 *e*P **P 16 35 32.1 0.0**
INK pmax pmax
comp=Z,4.0nm,0.5s
INK Inuvik 96.36 16 LR LR 17 25 45.3
comp=Z,190nm,20.6s,MS4.6,baz=138,slow=40
INK Inuvik 96.36 16 *e*P **P 16 35 32.1 0.0**
comp=Z,3.6nm,0.5s,mb5.1
RES Resolute Bay 96.52 2 *e*P **P 16 35 33.9 +1.2**
RES pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
RES Resolute Bay 96.52 2 *e*P **P 16 35 33.9 +1.2**
comp=Z,4.2nm,0.9s,mb4.9
DBIC Dimbokro 96.92 278 P **P 16 35 37.4 +1.6**
comp=Z,1.4nm,0.5s,mb4.6,baz=85,slow=5.4,SNR=4.9
DBIC LR LR 17 17 47.8
comp=Z,241nm,19.8s,MS4.7,baz=60,slow=34
DAWY Dawson 97.32 21 *e*P **P 16 35 37.5 +1.0**
YKA Yellowknife Ar 105.74 13 Pdiff Pdif 16 36 12.4 -1.7
comp=Z,0.3nm,0.9s,baz=328,slow=3.7,SNR=4.2
YKA PP PP 16 40 31.6 -8.0
comp=Z,2.5nm,0.9s,baz=334,slow=7.8,SNR=17
YKA PKKPbc 16 51 51.0
comp=Z,0.3nm,0.8s,baz=163,slow=3.1,SNR=7.0
YKA Yellowknife Ar 105.74 13 Pdif Pdif 16 36 12.4 -1.7
YKA PP PP 16 40 31.6 -8.0
YKA PKKPbc 16 51 51.0
PPT Papeete 118.47 105 *e*PS PS 16 52 06.7 +12
PPT Papeete 118.47 105 *e*LR LR 17 17 18.5
comp=Z,243nm,25.0s
TBI Tubuai 118.48 112 *e*PS PS 16 52 06.7 +12
TBI Tubuai 118.48 112 *e*LR LR 17 17 17.8
comp=Z,219nm,27.2s
MOD Modoc 120.93 29 *e*PKPdif PKPdif 16 40 57.7 -1.4
BOZ Bozeman (W) 121.39 20 *e*PKIKP PKPdif 16 40 58.1 -1.8
LAO LASA Array 122.10 16 PKPdif PKPdif 16 40 59.2 -2.0
HLID Hailey 122.16 23 *e*PKPdif PKPdif 16 41 00.1 -1.3
NVAR Mina Array Bea 124.59 30 PKPdif PKPdif 16 41 05.3 -1.0
comp=Z,1.4nm,0.7s,baz=57,slow=2.9,SNR=12
BW06 Boulder Array 124.63 20 *e*PKPdif PKPdif 16 41 04.3 -1.9
PDAR Pinedale Array 124.63 20 PKP PKPdif 16 41 04.0 -2.3
comp=Z,3.0nm,0.9s,slow=1.5,SNR=12
MNV Mina 124.66 30 *e*PKIKP PKPdif 16 41 05.5 -0.9
MNV *e* 16 41 16.6
NLU North Lily Min 126.14 24 *e*PKPdif PKPdif 16 41 07.8 -1.4
MVU Marysvale 127.31 25 *e*PKPdif PKPdif 16 41 10.8 -0.6
MSU Marysvale 127.32 25 *e*PKPdif PKPdif 16 41 10.9 -0.6
RKT Rikitea 131.75 113 *e*LR LR 17 23 29.7
comp=Z,206nm,27.2s
WVT Waverly 135.30 1 *e*PKPdif PKPdif 16 41 24.7 -2.0
GDL2 Guadalupe Moun 135.91 22 *e*PKPdif PKPdif 16 41 26.9 -1.0
MNTX Cornudas Mount 135.98 23 *e*PKPdif PKPdif 16 41 26.7 -1.3
MIAR Mount Ida 136.42 8 *e*PKPdif PKPdif 16 41 25.3 -3.4
TXAR Lajitas Array 138.75 23 PKP PKPdif 16 41 31.8 -1.4
comp=Z,0.7nm,0.4s,baz=68,slow=0.6,SNR=6.6
JCT Junction City 139.00 17 *e*PKPdif PKPdif 16 41 32.1 -1.5
BDFB Brasilia 141.55 256 PKP PKPdif 16 41 38.5 0.0
comp=Z,4.3nm,0.9s,baz=140,slow=8.3,SNR=3.1
TRQA Tornquist 143.28 214 *e*PKPdif PKPdif 16 41 37.9 -3.0
PLCA Paso Flores 145.08 202 PKPbc PKPbc 16 41 42.8 +2.3
comp=Z,11nm,0.8s,baz=153,slow=4.4,SNR=16
SDV Santo Domingo 156.18 317 PKP PKPdif 16 41 59.4 -2.1
comp=Z,4.6nm,1.1s,baz=114,slow=14,SNR=2.6
SDV Santo Domingo 156.18 317 *e*PKPdif PKPdif 16 41 59.7 -1.8
LVC Limon Verde 158.02 229 PKP PKPdif 16 42 02.8 -0.9
comp=Z,2.2nm,0.8s,baz=312,slow=14,SNR=2.1
LVC PKPab PKPab 16 42 38.2 +2.6
comp=Z,4.1nm,0.8s,baz=159,slow=4.4,SNR=5.6
LVC Limon Verde 158.02 229 PKP PKPdif 16 42 02.8 -0.9
LVC *e*PKPab PKPab 16 42 36.6 +1.0
LVC PKPab PKPab 16 42 38.2 +2.6
LPAZ La Paz 160.34 246 PKP PKPdif 16 42 05.5 -1.0
comp=Z,4.5nm,1.2s,baz=70,slow=6.0,SNR=7.4
LPAZ PKPab PKPab 16 42 44.6 -1.1
comp=Z,2.4nm,0.7s,baz=71,slow=0.8,SNR=2.5
LPAZ La Paz 160.34 246 *e*PKPdif PKPdif 16 42 05.6 -0.8

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*ATH **14** 16:38:27.7,37.05N×28.13E,h10km,MD3.1/3*
*CSEM **14** 16:38:28.1±0.2,36.94N×27.47E,h10km,MD3.2,Error ellipse: s-maj=5.3km s-min=3.6km az=61.0*
*ISK **14** 16:38:30.2,36.98N×27.63E,h16km,MD3.2*
ISC 14 16:38:30.9±1.0,**36.95N**±0.05×**27.65E**±0.08,**h20**km±10km,
n13,σ0=97/16,1C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.36**	**17**	*i* PG	**Pb**	**16 38 37.6**	**-0.9**
MLSB				*i* SG	**Sb**	**16 38 43.1**	**-0.5**
AYDN	**Tasoluk**	**0.73**	**15**	*i* P	**Pb**	**16 38 44.8**	**0.0**
AYDN				*i* S	**Sb**	**16 38 54.6**	**+0.2**
DALT	**Dalyan (Mudla)**	**0.82**	**103**	*e*PG	**Pb**	**16 38 46.6**	**+0.3**
ARG	**Arkhangelos**	**0.83**	**152**	*e*PB	**Pb**	**16 38 44.0**	**-2.5**
ARG	**Arkhangelos**	**0.83**	**152**	*e*Pb	**Pb**	**16 38 45.0**	**-1.5**
SMG	**Samos**	**0.99**	**320**	*e*PB	**Pb**	**16 38 51.8**	**+2.5**
FETY	**Fethiye**	**1.20**	**105**	*e*PN	**Pn**	**16 38 53.1**	**+0.4**
DNZL	**Cakiroluk**	**1.34**	**56**	*i* P	**Pn**	**16 38 54.5**	**-0.3**
DNZL				*i* S	**Sb**	**16 39 13.4**	**+1.5**
DENT	**Denizli**	**1.36**	**54**	*e*PN	**Pn**	**16 38 55.3**	**+0.1**
KARP	**Karpathos**	**1.46**	**196**⇑	*i*PN	**Pn**	**16 38 57.5**	**+1.0**
BLCB	**Balcova**	**1.51**	**342**	*e*PN	**Pn**	**16 38 57.1**	**-0.2**
AKS	**Akhisar**	**1.93**	**4**	*e*PN	**Pn**	**16 39 02.7**	**-0.5**
BALB	**Balikesir**	**2.69**	**4**	*e*PN	**Pn**	**16 39 13.0**	**-1.1**

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*CSEM **14** 16:40:39.1±0.1,38.58N×12.77E,h19km±2km,ML2.7/2, Error ellipse: s-maj=3.9km s-min=2.9km az=83.0*
*ROM **14** 16:40:39.1±0.2,38.56N×12.76E,h16km±3km,MD2.8/3, ML2.4/2,Error ellipse: s-maj=2.0km s-min=1.7km az=90.0*
*LDG **14** 16:40:44.0±1.5,38.15N×11.67E,h10km,Ml2.8/3,Error ellipse: s-maj=92.9km s-min=31.2km az=58.0*
ISC 14 16:40:39.2±0.7,**38.60N**±0.06×**12.73E**±0.07,**h26**km±11km,
n18,σ0=97/22,1C-1D,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USI	**Ustica**	**0.37**	**72**⇓	*i*PG	**Pb**	**16 40 47.0**	**-0.3**
ERC	**Erice**	**0.57**	**191**	*e*PG	**Pb**	**16 40 49.7**	**-0.8**
ERC				SG	**Sb**	**16 40 57.8**	**-0.4**
MFNL	**Monte Finestre**	**0.82**	**169**	*e*PG	**Pb**	**16 40 55.2**	**+0.6**
CRJA	**Costa Raja**	**0.82**	**165**	*e*PG	**Pb**	**16 40 55.3**	**+0.6**
CAVT	**Castelvetrano**	**0.92**	**179**	*e*PG	**Pb**	**16 40 56.7**	**+0.4**
GIB	**Gibilmanna**	**1.19**	**120**	*e*PN	**Pn**	**16 41 01.2**	**+0.8**
	44nm,0.3s						
GIB	**Gibilmanna**	**1.19**	**120**	*e*Pn	**Pn**	**16 41 01.2**	**+0.8**
	44nm,0.3s						
CSLB	**Castelbuono**	**1.23**	**122**	*e*PN	**Pn**	**16 41 00.8**	**-0.2**
	156nm,0.6s						
CSLB	**Castelbuono**	**1.23**	**122**	*e*Pn	**Pn**	**16 41 00.8**	**-0.2**
	156nm,0.6s						
PLLN	**Pollina**	**1.27**	**118**	*e*PN	**Pn**	**16 41 00.2**	**-1.3**
VSL	**Villasalto**	**2.76**	**290**⇑	*i*PN	**Pn**	**16 41 22.8**	**-0.1**
DGI	**Dorgali Grotta**	**2.97**	**306**	*e*PN	**Pn**	**16 41 26.1**	**+0.3**
PGF	**Pioggiola**	**4.86**	**325**	*e*Pn	**Pn**	**16 41 54.4**	**+1.7**
PGF				*e*Sn	**Sn**	**16 42 48.0**	**-0.9**
	2.3nm,0.2s						
SBF	**Sospel**	**6.60**	**325**	*e*Pn	**Pn**	**16 42 16.3**	**-0.9**
LMR	**La Mourre**	**6.67**	**317**	*e*Pn	**Pn**	**16 42 16.8**	**-1.4**
LMR				*e*Sn	**Sn**	**16 43 27.0**	**-7.3**
	0.9nm,0.2s						
FRF	**La Foret Royal**	**6.76**	**319**	*e*Pn	**Pn**	**16 42 18.7**	**-0.8**
FRF				*e*Sn	**Sn**	**16 43 29.8**	**-6.6**
	0.6nm,0.2s						
MBDF	**Montbardon**	**7.58**	**326**	*e*Pn	**Pn**	**16 42 33.4**	**+2.5**
ORIF	**Oris-en-Rattie**	**8.13**	**323**	*e*Pn	**P**	**16 42 39.8**	**+1.2**

IGQ 14 16:40:48.5,1.35S×81.41W,h14km±23km,mb4.1,Error ellipse: s-maj=22.7km s-min=7.1km az=169.0,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.78**	**93**	P	Pn	16 41 35.0	+1.6
IGUA				S	Sn	16 42 06.3	-0.7
ARRY	**Arrayan**	**2.96**	**93**	P	Pn	16 41 37.5	+1.4

ARRY				S	Sn	16 42 12.5	+0.8
ULBA	**Ulba**	**3.01**	**92**	P	Pn	16 41 38.1	+1.4
ULBA				S	Sn	16 42 14.3	+1.4
JUA2	**San Juan 2**	**3.03**	**68**	P	Pn	16 41 38.4	+1.4
PISA	**Pisayambo**	**3.04**	**85**	P	Pn	16 41 39.0	+1.9
TERV	**Terraza Guagua**	**3.04**	**67**	P	Pn	16 41 40.3	+3.1
PINO	**Pino**	**3.04**	**67**	P	Pn	16 41 37.0	-0.2
VC1	**Cotopaxi 1**	**3.09**	**77**	P	Pn	16 41 38.9	+1.0
YANA	**Yana**	**3.09**	**67**	P	Pn	16 41 38.6	+0.6
ANTI	**Antisana**	**3.37**	**75**	P	Pn	16 41 43.2	+1.3
ANTI				S	Sn	16 42 21.9	-0.1
COTA	**Cotacachi**	**3.50**	**61**	P	Pn	16 41 46.1	+2.4
CAYR	**Refugio Cayamb**	**3.67**	**68**	P	Pn	16 41 48.4	+2.3
CAYA	**Cayambe**	**3.70**	**68**	P	Pn	16 41 48.4	+1.8
CAYA				S	Sn	16 42 30.1	-0.4

IDC 14 16:44:32.1±13.0, 13.07N×94.09E, mb3.5/2, mb1 3.5/3, mb1mx3.3/18, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=294.6km s-min=34.0km az=107.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.11**	**40**	Pn	Pn	16 46 18.1	-1.9
	0.1nm,0.3s,baz=234,slow=18,SNR=2.4						
CMAR				Sn	Sn	16 47 37.5	-5.0
	0.1nm,0.3s,baz=231,slow=17,SNR=3.5						
WRA	**Warramunga Arr**	**51.43**	**129**	P	P	16 53 39.2	-2.2
	0.4nm,0.5s,baz=298,slow=9.6,SNR=17						
ASAR	**Alice Springs**	**53.37**	**133**	P	P	16 53 53.9	-2.1
	0.2nm,0.5s,baz=306,slow=6.8,SNR=13						

*ATH **14** 16:49:42.6, 36.58N×26.49E, h5km, MD3.6/7*
*NEIC **14** 16:49:42.6, 36.58N×26.49E, h5km, MD3.6(ATH), After ATH.*
*CSEM **14** 16:49:43.2±0.1, 36.62N×26.49E, h2km, MD3.6, Error ellipse: s-maj=1.7km s-min=1.1km az=27.0*

ISC 14 16:49:42.4±0.5, 36.61N±0.05×26.47E±0.04, h5km, n17, σ1§04/24, 1C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANT	**Santorini**	**0.85**	**254**	*e*Pg	**Pg**	**16 49 59.2**	**-0.2**
SANT				*e*Sg	**Sg**	**16 50 11.4**	**+0.7**
SANT	**Santorini**	**0.85**	**254**	*e*Pg	**Pg**	**16 49 59.2**	**-0.2**
SANT				*e*Sg	**Sg**	**16 50 11.4**	**+0.7**
APE	**Apeiranthos**	**0.88**	**301**	⇓*i*PB	**Pb**	**16 49 59.8**	**0.0**
APE				*e*SB	**Sb**	**16 50 12.4**	**+0.8**
BDRM	**Kayabasi**	**0.90**	**60**	*i* P	**Pb**	**16 49 59.1**	**-1.0**
BDRM				*i* S	**Sb**	**16 50 11.9**	**-0.4**
SMG	**Samos**	**1.13**	**15**	*e*PB	**Pb**	**16 50 03.0**	**-1.1**
KARP	**Karpathos**	**1.20**	**152**	⇑*i*PB	**Pb**	**16 50 05.5**	**+0.2**
MLSB	**Milas**	**1.25**	**57**	PN	**Pn**	**16 50 06.0**	**-0.5**
ARG	**Arkhangelos**	**1.39**	**106**	*e*PB	**Pb**	**16 50 08.7**	**+0.2**
NPS	**Neapolis**	**1.52**	**208**	*e*PB	**Pb**	**16 50 09.9**	**-0.7**
AYDN	**Tasoluk**	**1.54**	**47**	*i* P	**Pn**	**16 50 10.8**	**+0.2**
AYDN				*i* S	**Sb**	**16 50 32.1**	**+1.4**
DALT	**Dalyan (Mudla)**	**1.75**	**84**	PN	**Pn**	**16 50 16.2**	**+2.6**
FETY	**Fethiye**	**2.10**	**89**	*e*PN	**Pn**	**16 50 18.5**	**-0.2**
VAM	**Vamos**	**2.20**	**238**	*e*PG	**Pg**	**16 50 22.8**	**-3.5**
DNZL	**Cakiroluk**	**2.32**	**62**	*i* P	**Pn**	**16 50 25.7**	**+3.9**
DNZL				*i* S	**Sn**	**16 50 57.6**	**+6.5**
MANT	**Manisa**	**2.50**	**41**	*i* P	**Pn**	**16 50 30.8**	**+6.4**
MANT				*i* S	**Sn**	**16 51 01.1**	**+5.3**
PRK	**Paraskevi**	**2.63**	**357**	*e*PG	**Pg**	**16 50 32.0**	**-3.0**
ITM	**Ithomi**	**3.69**	**280**	*e*PN	**Pn**	**16 50 41.4**	**+0.1**

MAN 14 17:00:02.2, 15.67N×120.09E, h31km, mb2.7, ML2.3, MS3.9, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.21**	**302**	*e*P	Pb	17 00 10.4	+1.8
SCZP				*e*S	Sb	17 00 15.5	+2.5
BOLP	**Bolinao**	**0.73**	**346**	*e*P	Pn	17 00 16.9	+0.5
BOLP				*e*S	Sb	17 00 26.9	+0.8
PCPH	**Palayan**	**0.97**	**96**	⇓*i*P	Pn	17 00 19.0	-0.8
PCPH				*i* S	Sn	17 00 32.4	-0.2
BALP	**Baler**	**1.43**	**87**	*e*P	Pn	17 00 26.8	+0.3
BALP				*e*S	Sn	17 00 46.3	+2.0
ABRA	**Dolores**	**2.06**	**17**	*e*P	Pn	17 00 36.4	+1.0
CAUP	**Cauayan**	**2.09**	**52**	*e*P	Pn	17 00 39.0	+3.1

*MOS **14** 17:00:04.2±1.7, 34.50N×26.52E, h33km, mb3.5/1, Error ellipse: s-maj=17.2km s-min=9.4km az=92.6*
*CSEM **14** 17:00:06.7±0.1, 34.61N×26.55E, h66km±2km, MD3.8, Error ellipse: s-maj=4.9km s-min=2.4km az=33.0*
*IDC **14** 17:00:08.0±1.8, 34.65N×26.62E, h59km±19km, mb3.7/8, mb1 3.8/12, mb1mx3.6/20, mbtmp3.9/12, ML3.6/5, Error ellipse: s-maj=34.5km s-min=14.3km az=28.0*
*HLW **14** 17:00:09.8, 34.56N×26.67E, h28km, Mb3.8*
*ATH **14** 17:00:10.3, 34.94N×26.35E, h55km±16km, MD3.8/7*
*NEIC **14** 17:00:10.3, 34.94N×26.35E, h55km, MD3.8(ATH), After ATH.*

ISC 14 17:00:06.4±0.5, 34.67N±0.04×26.70E±0.04, h59km±9km, n58, σ1§23/63, mb3.9/8, 7C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.95**	**23**	*e*P	**P**	**17 00 27.8**	**+3.8**
NPS	**Neapolis**	**1.07**	**304**	*e*P	**P**	**17 00 24.8**	**-0.8**
IDI	**Anoyia**	**1.60**	**293**	P	**P**	**17 00 32.8**	**-0.3**
	5.8nm,0.3s,baz=155,slow=17,SNR=62						
ARG	**Arkhangelos**	**1.93**	**37**	⇑*i*P	**P**	**17 00 42.1**	**+4.5**
VAM	**Vamos**	**2.17**	**290**	⇑*i*P	**P**	**17 00 41.1**	**+0.1**
APE	**Apeiranthos**	**2.57**	**339**	*e*P	**P**	**17 00 46.5**	**-0.2**
KYTH	**Kithira**	**3.39**	**299**	*e*P	**P**	**17 00 56.0**	**-2.2**
SLUM		**3.41**	**202**	P	**P**	**17 00 58.7**	**+0.2**
SLUM				S	**S**	**17 01 34.2**	**-3.7**
SLUM		**3.41**	**202**	P	**P**	**17 00 58.7**	**+0.2**
SLUM				S	**S**	**17 01 34.2**	**-3.7**
VLI	**Veliai**	**3.68**	**305**	⇓*i*P	**P**	**17 00 59.7**	**-2.6**
SWA1		**5.46**	**189**	P	**P**	**17 01 27.0**	**-0.1**
SWA2		**5.51**	**191**	P	**P**	**17 01 27.9**	**0.0**
HMYD	**Mayadein**	**5.98**	**143**	P	**P**	**17 01 35.0**	**+0.7**
SQR		**6.11**	**140**	⇑P	**P**	**17 01 36.6**	**+0.5**
AYT	**Al 'Ayyat**	**6.23**	**141**	P	**P**	**17 01 38.5**	**+0.6**
KOT	**Kottamia**	**6.42**	**136**	⇑P	**P**	**17 01 41.6**	**+1.0**
HSAF	**As Saff**	**6.51**	**139**	⇑P	**P**	**17 01 42.4**	**+0.6**
AWBH		**6.61**	**163**	P	**P**	**17 01 43.3**	**+0.1**
GLL	**Jalalah**	**6.62**	**139**	P	**P**	**17 01 44.1**	**+0.7**
AMAG	**Maghara**	**6.80**	**124**	P	**P**	**17 01 46.2**	**+0.2**
SUZ		**7.08**	**131**	P	**P**	**17 01 51.2**	**+1.3**
OFRI	**'Ofer**	**7.21**	**104**	Sn	**S**	**17 03 12.7**	**-0.1**
ZAF		**7.32**	**136**	P	**P**	**17 01 53.4**	**+0.3**
SLTI	**Sal'it**	**7.38**	**107**	Sn	**S**	**17 03 16.5**	**-0.6**
ZNM		**7.44**	**133**	P	**P**	**17 01 56.4**	**+1.6**
BRTR	**Keskin Array B**	**7.49**	**46**	P	**P**	**17 01 56.3**	**+0.9**
	0.1nm,0.3s,baz=231,slow=16,SNR=4.1						
KZIT	**Kziot**	**7.49**	**118**	Sn	**S**	**17 03 16.9**	**-2.9**
HFRF	**Wahat Farafira**	**7.63**	**169**	⇑P	**P**	**17 01 57.3**	**0.0**
MASH	**Mash'abbe Sade**	**7.73**	**116**	Sn	**S**	**17 03 22.5**	**-3.2**
HMDT	**Nahal Hemdat**	**7.76**	**106**	Sn	**S**	**17 03 27.4**	**+0.9**
HNKL	**Nakhl**	**7.77**	**125**	P	**P**	**17 02 00.0**	**+0.7**
DRGI	**Dragot**	**7.91**	**110**	Sn	**S**	**17 03 28.4**	**-1.8**
MZDA	**Masada**	**8.02**	**112**	Sn	**S**	**17 03 30.6**	**-2.1**
MKRJ	**Makawir**	**8.12**	**110**	Sn	**S**	**17 03 34.1**	**-1.3**
KMTI	**Karmit**	**8.17**	**122**	Sn	**S**	**17 03 32.4**	**-4.3**
ZFRI	**Zfri**	**8.25**	**118**	Sn	**S**	**17 03 35.6**	**-2.9**
MBH	**Mount Berech**	**8.49**	**123**	Sn	**S**	**17 03 40.9**	**-3.7**
EIL	**Elat**	**8.59**	**123**	Sn	**S**	**17 03 43.6**	**-3.4**
EIL	**Elat**	**8.59**	**123**	P	**P**	**17 02 11.9**	**+1.3**
	0.7nm,0.3s,baz=314,slow=15,SNR=38						
EIL				S	**S**	**17 03 43.0**	**-4.0**
	1.3nm,0.3s,baz=270,slow=41,SNR=7.4						
EIL	**Elat**	**8.59**	**123**	P	**P**	**17 02 11.9**	**+1.3**
EIL				Sn	**S**	**17 03 43.6**	**-3.4**
HKAT	**Jabal Katrina**	**8.73**	**133**	P	**P**	**17 02 13.5**	**+0.9**
ASF	**Jabal al Asfar**	**8.88**	**103**	P	**P**	**17 02 16.3**	**+1.7**
	0.3nm,0.3s,baz=25,slow=20,SNR=2.5						
ASF				S	**S**	**17 03 54.2**	**-0.1**
	0.5nm,0.3s,baz=99,slow=13,SNR=3.6						
HHRG	**Al Ghardaqah**	**9.48**	**140**	⇑P	**P**	**17 02 22.9**	**0.0**
HSFG		**10.20**	**140**	P	**P**	**17 02 32.6**	**0.0**
KIV	**Kislovodsk**	**15.44**	**48**	*e*P	**P**	**17 03 50.3**	**+8.4**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKASG	**Malin Array Be**	**16.13**	**6**	P	**P**	**17 03 52.4**	**+1.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**16.13**	**6**	P	**P**	**17 03 52.4**	**+1.9**
	comp=Z,1.0nm,0.3s,baz=193,slow=11,SNR=7.2						
GERES	**GERESS Array B**	**17.12**	**330**	P	**P**	**17 04 02.9**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=153,slow=12,SNR=7.7						
FINES	**FINESS Array B**	**26.79**	**359**	P	**P**	**17 05 41.9**	**-0.7**
	comp=Z,3.2nm,0.9s,mb3.8,baz=169,slow=11,SNR=6.1						
HFS	**Hagfors**	**26.85**	**346**	P	**P**	**17 05 43.4**	**+0.2**
	comp=Z,1.9nm,0.8s,mb3.7,baz=153,slow=9.7,SNR=2.6						
HFS	**Hagfors**	**26.85**	**346**	P	**P**	**17 05 43.3**	**+0.2**
NOA	**NORSAR Array B**	**28.20**	**344**	P	**P**	**17 05 53.9**	**-1.5**
	comp=Z,1.6nm,1.1s,mb3.6,baz=207,slow=16,SNR=2.9						
ARCES	**ARCESS Array B**	**34.92**	**359**	P	**P**	**17 06 52.9**	**-1.2**
	comp=Z,8.0nm,1.0s,mb4.6,baz=18,slow=3.8,SNR=6.9						
ZAL	**Zalesovo**	**44.42**	**46**	P	**P**	**17 08 16.3**	**+3.4**
	comp=Z,1.1nm,0.6s,mb3.8,baz=198,slow=8.1,SNR=6.4						
ZAK	**Zakamensk**	**56.12**	**49**	*e*P	**P**	**17 09 46.2**	**+4.3**
SONM	**Songino Array**	**58.82**	**51**	P	**P**	**17 10 04.3**	**+3.3**
	comp=Z,0.5nm,0.6s,mb3.7,baz=301,slow=7.2,SNR=4.5						
SCHQ	**Schefferville**	**64.37**	**320**	P	**P**	**17 10 38.0**	**-0.1**
	comp=Z,8.2nm,1.2s,mb4.6,baz=60,slow=8.1,SNR=4.8						
YKA	**Yellowknife Ar**	**78.30**	**343**	P	**P**	**17 12 02.0**	**+0.8**
	comp=Z,0.1nm,0.3s,mb3.2,baz=37,slow=5.5,SNR=5.1						

*IDC **14** 17:05:19.0±1.8, 11.50N×92.69E, mb3.5/4, mb1 3.6/5, mb1mx3.4/19, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=47.7km s-min=23.2km az=73.0*

ISC 14 17:05:23.0±1.0, 11.51N±0.10×92.95E±0.09, h33km, n7, σ0§94/10, mb3.5/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.26**	**306**	*e*P	**P**	**17 05 32.1**	**+1.9**
PBA				*e*S	**S**	**17 05 42.5**	**+7.2**
PBA				*e*		17 05 43.4	
	comp=N,8μm,0.3s						
PBA				*e*		17 05 43.5	
	comp=E,10μm,0.4s						
PBA	**Port Blair**	**0.26**	**306**	*e*P	**P**	**17 05 26.5**	**-3.6**
PBA				*e*S	**S**	**17 05 36.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**9.01**	**39**	Pn	**P**	**17 07 34.0**	**+0.2**
	comp=E,0.1nm,0.3s,baz=234,slow=14,SNR=8.1						
CMAR				Sn	**Sn**	**17 09 15.6**	**+0.2**
	comp=E,0.1nm,0.3s,baz=238,slow=29,SNR=2.8						
SONM	**Songino Array**	**37.93**	**15**	P	**P**	**17 12 38.9**	**-0.1**
	comp=E,0.7nm,0.8s,mb3.5,baz=206,slow=9.1,SNR=4.2						
BVAR	**Borovoye Array**	**45.20**	**341**	P	**P**	**17 13 36.7**	**-1.9**
	comp=E,0.7nm,0.7s,mb3.6,baz=162,slow=4.7,SNR=4.0						
WRA	**Warramunga Arr**	**51.34**	**127**	P	**P**	**17 14 27.0**	**+0.3**
	comp=E,0.3nm,0.3s,mb3.7,baz=307,slow=8.2,SNR=16						
ASAR	**Alice Springs**	**53.15**	**131**	P	**P**	**17 14 40.3**	**+0.1**
	comp=E,0.2nm,0.6s,mb3.3,baz=311,slow=7.4,SNR=9.8						

*MOS **14** 17:08:32.8±0.8, 4.91N×95.30E, h33km, mb5.4/35, Error ellipse: s-maj=11.8km s-min=5.5km az=122.8*
*BJI **14** 17:08:34.1, 4.58N×95.03E, h64km, mB5.1, mb5.0, Ms4.6, Msz4.4*
*IDC **14** 17:08:36.3±0.5, 4.88N×95.23E, h50km±3km, mb4.5/28, mb1 4.6/29, mb1mx4.5/32, mbtmp4.7/29, MS4.2/14, Ms1 4.2/14, ms1mx4.1/20, Error ellipse: s-maj=24.0km s-min=9.2km az=43.0*
*NEIC **14** 17:08:36.0±1.2, 4.80N×95.20E, h47km±10km, mb5.0/45, Error ellipse: s-maj=7.4km s-min=4.6km az=213.0*
*HRVD **14** 17:08:36.0±0.3, 4.45N×95.07E, h53km±1km, MW5.0/46, Centroid moment Tensor Solution. LP body waves: s40,c63;Mantle waves: s46,c80; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.44±.16; $M_{\theta\theta}$-2.12±.12; $M_{\phi\phi}$-1.32±.14; $M_{r\theta}$1.41±.09; $M_{\theta\phi}$2.15±.09; $M_{\phi r}$-1.67±.12; Best double couple: $M_0$4.277×10^{16} NP1:ϕ_s303°, δ30°, λ79°. NP2:ϕ_s135°, δ60°, λ96°. Principal axes: T 4.062, Plg74°, Azm61°; N .431, Plg5°, Azm312°; P -4.493, Plg15°, Azm221°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 14 17:08:34.7±0.3, 4.77N±0.04×95.24E±0.04, h52km, h52km±1.2km: pP-P, n247, σ0§97/237, mb5.0/93, MS4.3/22, 32C-8D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKT	**Phuket**	**4.41**	**42**	P	**P**	**17 09 46.0**	**+5.2**
SNG	**Songkhla**	**5.86**	**66**	P	**P**	**17 10 04.0**	**+2.9**
	436nm,0.9s						
NNT	**Nongplab**	**8.95**	**29**	P	**P**	**17 10 48.5**	**+4.5**
NST	**Nakhon Sawan**	**11.86**	**24**	P	**P**	**17 11 24.0**	**+0.4**
KKTK	**Khon Kaen**	**13.70**	**32**	P	**P**	**17 11 54.0**	**+5.9**
	309nm,0.8s						
CMAR	**Chiang Mai Arr**	**14.08**	**15**	P	**P**	**17 11 54.4**	**+1.3**
	0.1nm,0.3s,baz=214,slow=16,SNR=10						
CMAR				LR	LR	17 17 20.9	
	comp=Z,835nm,19.6s,baz=200,slow=38						
UBT	**Ubonrachathani**	**14.18**	**42**	P	**P**	**17 12 04.5**	**+10**
CHG	**Chiang Mai**	**14.42**	**14**	⇑P	**P**	**17 12 04.9**	**+7.3**
	56nm,1.0s						
PALK	**Pallekele**	**14.66**	**280**	*e*Pn	**P**	**17 11 57.5**	**-3.3**
	26nm,0.9s						
CHRT	**Chiangrai**	**15.65**	**16**	⇑P	**P**	**17 12 16.0**	**+2.5**
	182nm,1.1s						
VIS	**Vishakhapatnam**	**17.36**	**319**	*e*P	**P**	**17 12 30.9**	**-4.2**
VIS				*e*		17 12 40.3	
	comp=Z,47nm,1.4s						
VIS				*e*S	**S**	**17 15 34.4**	**-10**
VIS	**Vishakhapatnam**	**17.36**	**319**	*e*P	**P**	**17 12 30.9**	**-4.2**
VIS				*e*		17 12 40.3	
	comp=Z,47nm,1.4s						
VIS				*e*S	**S**	**17 15 34.4**	**-10**
VIS				*i* S	**S**	**17 15 34.8**	**-10**
KOD	**Kodaikanal**	**18.43**	**288**	*e*P	**P**	**17 12 49.7**	**+1.4**
KOD				*e*		17 13 10.8	
	comp=Z,47nm,1.2s						
IMP	**Imphal**	**19.94**	**357**	*e*P	**P**	**17 13 03.8**	**-1.4**
HYB	**Hyderabad**	**20.61**	**309**	⇑*e*P	**P**	**17 13 13.0**	**+0.8**
HYB				*e*S	**S**	**17 16 53.0**	**-1.7**
HYB				pmax	pmax		
	comp=Z,40nm,1.0s						
HYB	**Hyderabad**	**20.61**	**309**	⇑*e*P	**P**	**17 13 13.0**	**+0.8**
	comp=Z,40nm,1.0s						
HYB				*e*S	**S**	**17 16 53.0**	**-1.7**
HYB	**Hyderabad**	**20.61**	**309**	⇑*i*P	**P**	**17 13 13.0**	**+0.8**
	comp=Z,40nm,1.0s						
HYB				*e*S	**S**	**17 16 53.0**	**-1.7**
SHL	**Shillong**	**20.93**	**351**	*e*P	**P**	**17 13 11.9**	**-3.5**
SHL				*e*P		17 13 13.0	
SHL	**Shillong**	**20.93**	**351**	*e*P	**P**	**17 13 13.0**	**-2.4**
BLSP	**Bilaspur**	**21.42**	**325**	*e*P	**P**	**17 13 20.5**	**+0.1**
BLSP				*e*		17 13 23.0	
	comp=Z,126nm,0.9s						
BLSP	**Bilaspur**	**21.42**	**325**	*e*P	**P**	**17 13 20.5**	**+0.1**
BLSP				*e*		17 13 23.0	
	comp=Z,126nm,0.9s						
LATR	**Latur**	**22.74**	**308**	*e*	**S**	**17 17 41.2**	**+7.1**
LATR	**Latur**	**22.74**	**308**	*e*P	**S**	**17 17 41.2**	**+7.1**
KAD	**Karad**	**24.09**	**303**	*e*P	**P**	**17 13 47.5**	**+0.8**
KAD	**Karad**	**24.09**	**303**	*e*P	**P**	**17 13 47.5**	**+0.8**
KAD				*e*P		17 13 49.3	
KAD				*e*		17 13 49.4	
	comp=Z,17nm,1.5s						
KAD				*e*S	**S**	**17 18 11.8**	**+14**
ALBI	**Allahabad**	**24.15**	**329**	*e*P	**P**	**17 13 45.5**	**-1.7**
ALBI	**Allahabad**	**24.15**	**329**	*e*P	**P**	**17 13 45.5**	**-1.7**
JIRN	**Jiri**	**24.34**	**340**	*e*P	**P**	**17 13 49.8**	**+0.8**
	309nm,0.8s,mb5.2						
PKI	**Pulchoki**	**24.53**	**339**	*e*P	**P**	**17 13 51.1**	**+0.2**
GUN	**Gumba**	**24.68**	**340**	*e*P	**P**	**17 13 52.4**	**+0.1**
	comp=Z,21nm,0.4s,mb5.0						
DMN	**Daman**	**24.68**	**338**	*e*P	**P**	**17 13 53.4**	**+1.1**
	comp=Z,56nm,0.9s,mb5.1						
KKN	**Kakani**	**24.78**	**339**	*e*P	**P**	**17 13 53.3**	**0.0**
	comp=Z,54nm,0.8s,mb5.1						
LSA	**Lhasa**	**25.09**	**352**	P	**P**	**17 13 57.3**	**+1.0**
LSA	**Lhasa**	**25.09**	**352**	*e*P	**P**	**17 13 54.8**	**-1.5**
LSA				pmax	pmax		
	comp=Z,47nm,1.0s,mb5.0						
LSA	**Lhasa**	**25.09**	**352**	*e*P	**P**	**17 13 54.8**	**-1.5**
	comp=Z,47nm,1.0s,mb5.0						
BHPL	**Bhopal**	**25.16**	**319**	*e*P	**P**	**17 13 56.5**	**-0.4**
BHPL				*e*		17 13 59.2	
	comp=Z,16nm,0.3s						
BHPL				*e*S	**S**	**17 18 18.2**	**+2.6**
BHPL	**Bhopal**	**25.16**	**319**	*e*P	**P**	**17 13 56.5**	**-0.4**
BHPL				*e*		17 13 59.2	
	comp=Z,16nm,0.3s						
BHPL				*e*S	**S**	**17 18 18.2**	**+2.6**
GKN	**Gorkha**	**25.21**	**338**	*e*P	**P**	**17 13 58.1**	**+0.7**
	comp=Z,26nm,0.3s,mb5.2						
KOLN	**Koldanda**	**25.41**	**335**	*e*P	**P**	**17 13 59.3**	**0.0**
	comp=Z,118nm,0.9s,mb5.4						
TGY	**Tagaytay City**	**26.97**	**68**	LR	LR	17 25 08.8	
	comp=Z,312nm,19.2s,MS3.9,baz=108,slow=37						
ENH	**Enshi**	**28.71**	**26**	*e*P	**P**	**17 14 28.6**	**-0.8**
	comp=Z,23nm,1.0s,mb4.9						
NDI	**New Delhi**	**29.29**	**326**	*e*P	**P**	**17 14 34.2**	**-0.4**
NDI				*e*	pP	17 14 42.9	-4.9
	comp=Z,14nm,0.3s						
DDI	**Dehra Dun**	**30.14**	**329**	*e*	**P**	**17 14 41.8**	**-0.3**
SMLA	**Simla**	**31.24**	**329**	*e*P	**P**	**17 15 04.6**	**+13**
SMLA				*e*	pP	17 15 20.5	+15
	comp=Z,50nm,1.3s						
WHN	**Wuhan**	**31.33**	**33**	⇓P	**P**	**17 14 54.0**	**+1.4**
XAN	**Xi'an**	**31.78**	**22**	P	**P**	**17 14 56.1**	**-0.4**
XAN				AMB	AMB		
	comp=Z,74nm,1.0s,mb5.5						
XAN				LR	LR		
	comp=N,421nm,16.6s,MS4.3						
XAN				LR	LR		
	comp=E,364nm,16.6s,MS4.3						
XAN				LR	LR		
	comp=Z,907nm,15.3s,MS4.6						
LZH	**Lanzhou**	**32.16**	**13**	*e*P	**P**	**17 14 59.5**	**-0.3**
LZH				AP	pP	17 15 14.1	+0.9
LZH				XP	sP	17 15 19.5	-0.1
LZH				AMB	AMB		
	comp=Z,34nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,170nm,4.8s						
LZH				LR	LR		
	comp=N,494nm,15.2s						
LZH				LR	LR		
	comp=Z,587nm,16.2s,MS4.4						
NJ2	**Nanjing**	**35.01**	**36**	*e*P	**P**	**17 15 25.5**	**+1.0**
NJ2				AP	pP	17 15 35.3	-2.7
NJ2				PP	PP	17 16 39.3	-4.7
NJ2				S	**S**	**17 20 54.0**	**+2.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NJ2				LR	LR		
	comp=N,6μm,19.4s,MS5.3						
NJ2				LR	LR		
	comp=E,3μm,24.0s,MS5.3						
NJ2				LR	LR		
	comp=Z,1μm,14.0s						
SSE	**Sheshan**	**35.79**	**40**	P	**P**	**17 15 28.8**	**-2.3**
SSE				PP	PP	17 16 50.9	-2.4
SSE				S	**S**	**17 21 03.0**	**-1.0**
SSE				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,89nm,3.9s						
SSE				LR	LR		
	comp=N,236nm,20.5s,MS4.0						
SSE				LR	LR		
	comp=E,143nm,20.5s,MS4.0						
SSE				LR	LR		
	comp=Z,287nm,21.0s,MS4.0						
TIA	**Tai'an**	**37.21**	**30**	*e*P	**P**	**17 15 43.0**	**+0.1**
TIA				AMB	AMB		
	comp=Z,45nm,1.6s,mb5.0						
WMQ	**Urumqi**	**39.46**	**351**	*e*P	**P**	**17 16 02.1**	**+0.5**
WMQ				AP	pP	17 16 11.9	-3.3
WMQ				PP	PP	17 17 37.3	+0.7
WMQ				S	**S**	**17 22 01.3**	**+1.7**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,72nm,5.0s						
WMQ				LR	LR		
	comp=N,1μm,20.4s,MS5.0						
WMQ				LR	LR		
	comp=E,2μm,21.8s,MS5.0						
WMQ				LR	LR		
	comp=Z,2μm,21.3s,MS5.0						
BJT	**Baijiatuau**	**39.85**	**25**	*e*P	**P**	**17 16 05.2**	**+0.3**
BJT				pmax	pmax		
	comp=Z,107nm,1.1s						
BJT	**Baijiatuau**	**39.85**	**25**	*e*P	**P**	**17 16 05.2**	**+0.3**
	comp=Z,107nm,1.1s,mb5.5						
KAKA	**Kakadu**	**40.84**	**116**	*e*P	**P**	**17 16 13.1**	**-0.2**
	comp=Z,8.0nm,0.6s,mb4.5						
KZA	**Kyzart**	**41.20**	**337**	P	**P**	**17 16 17.8**	**+1.8**
	SNR=28						
UCH	**Uchtor**	**41.62**	**337**	P	**P**	**17 16 21.3**	**+1.8**
	SNR=115						
TKM2	**Tokmak 2**	**41.80**	**338**	P	**P**	**17 16 22.3**	**+1.4**
	SNR=27						
KBK	**Karagaybulak**	**41.81**	**337**	P	**P**	**17 16 23.1**	**+2.1**
	SNR=109						
AML	**Almayashu**	**41.86**	**336**	P	**P**	**17 16 23.3**	**+1.8**
	SNR=145						
AAK

HIA **Hailar** 48.97 21 *e*P **P** 17 17 18.2 +0.2
HIA *e* pP 17 17 31.0 -0.8
HIA pmax pmax
comp=Z,41nm,1.3s
HIA **Hailar** 48.97 21 *e*P **P** 17 17 18.2 +0.2
comp=Z,41nm,1.3s,mb5.3
HIA *e* pP 17 17 31.0 -0.9
ZAL **Zalesovo** 49.75 352 P **P** 17 17 23.3 -0.6
comp=Z,7.7nm,0.9s,mb4.8,baz=306,slow=5.6,SNR=37
MDJ **Mudanjiang** 49.80 32 P **P** 17 17 25.4 +0.9
MDJ AMB AMB
comp=Z,30nm,1.3s,mb5.2
MDJ AMB AMB
comp=Z,109nm,5.2s
MDJ LR LR
comp=N,174nm,24.0s,MS4.1
MDJ LR LR
comp=E,178nm,24.9s,MS4.1
MDJ LR LR
comp=Z,315nm,23.2s,MS4.2
MDJ **Mudanjiang** 49.80 32 *e*P **P** 17 17 25.4 +0.9
comp=Z,45nm,1.1s,mb5.4
NVS **Novosibirsk** 50.86 351 *i* P **P** 17 17 30.7 -1.6
NVS *i* *PP pP 17 17 41.6 -4.7
NVS *e*S **S** 17 24 36.7 -6.6
NVS *e* 17 27 21.7
NVS *e*SSS SSS 17 29 46.5 -6.2
NVS pmax pmax
comp=Z,19nm,1.3s,mb4.9
NVS pmax pmax
comp=E,8.0nm,1.4s
NVS pmax pmax
comp=N,18nm,1.5s
NVS pmax pmax
comp=Z,26nm,2.5s,mb4.7
NVS pmax pmax
comp=E,10.0nm,2.2s
NVS pmax pmax
comp=N,15nm,2.8s
NVS smax
comp=N,18nm,1.6s
NVS smax
comp=E,7.0nm,1.8s
RAYN **Ar Rayn** 51.39 296 P **P** 17 17 37.5 +0.7
comp=E,60nm,1.1s,mb5.4,SNR=10.0
BVAR **Borovoye Array** 52.26 341 P **P** 17 17 42.1 -0.8
comp=E,42nm,0.8s,mb5.4,baz=143,slow=7.4,SNR=139
BVAR pP pP 17 17 57.1 +0.3
comp=E,1.5nm,0.4s,baz=354,slow=30,SNR=3.5
BRVK **Borovoye** 52.32 341 *e*P **P** 17 17 42.2 -1.2
BRVK pmax pmax
comp=Z,53nm,0.9s,mb5.5
BRVK **Borovoye** 52.32 341 *e*P **P** 17 17 42.2 -1.2
comp=Z,53nm,0.9s,mb5.5
CHKZ **Chkalovo** 52.74 342 *e*P **P** 17 17 46.0 -0.5
CHKZ *e* pP 17 17 58.6 -1.9
CHKZ pmax pmax
comp=Z,91nm,0.9s,mb5.7
CHKZ **Chkalovo** 52.74 342 *e*P **P** 17 17 46.0 -0.5
comp=Z,91nm,0.9s,mb5.7
CHKZ *e* pP 17 17 58.6 -1.9
CHKZ *e* pP 17 18 01.6 +1.1
PMG **Port Moresby** 53.63 105 *e*P **P** 17 17 53.4 -0.2
PMG pmax pmax
comp=Z,6.0nm,0.4s
PMG **Port Moresby** 53.63 105 P **P** 17 17 53.3 -0.3
comp=Z,5.0nm,0.5s,mb4.7,baz=105,slow=2.7,SNR=11
PMG pP pP 17 18 05.9 -1.7
comp=Z,12nm,1.1s,baz=178,slow=8.9,SNR=3.0
PMG **Port Moresby** 53.63 105 *e*P **P** 17 17 53.4 -0.2
comp=Z,5.8nm,0.4s,mb4.9
KLR **Kul'dur** 54.02 29 *e*P **P** 17 17 53.0 -3.1
KLR pmax pmax
comp=E,26nm,1.4s
KLR pmax pmax
comp=Z,38nm,1.4s,mb5.1
BOD **Bodaibo** 54.92 12 *e*P **P** 17 18 00.9 -1.6
CTA **Charters Tower** 55.87 118 P **P** 17 18 10.2 +0.3
comp=Z,14nm,1.1s,mb4.9,baz=322,slow=8.7,SNR=4.6
CTA LR LR 17 42 14.4
comp=Z,365nm,20.6s,MS4.5,baz=286,slow=36
CTAO **Charters Tower** 55.87 118 *e*P **P** 17 18 09.8 -0.1
CTAO pmax pmax
comp=Z,25nm,1.2s,mb5.1
CTAO **Charters Tower** 55.87 118 *e*P **P** 17 18 09.8 0.0
comp=Z,25nm,1.2s,mb5.1
STKA **Stephens Creek** 57.20 133 P **P** 17 18 18.4 -0.8
comp=Z,2.0nm,0.7s,mb4.3,baz=318,slow=9.5,SNR=6.3
STKA LR LR 17 42 36.3
comp=Z,337nm,21.6s,MS4.4,baz=234,slow=36
STKA **Stephens Creek** 57.20 133 P **P** 17 18 18.4 -0.8
STKA LR LR 17 42 36.3
GNI **Garni** 57.38 315 *e*P **P** 17 18 19.4 -1.0
GNI pmax pmax
comp=Z,20nm,0.9s
GNI **Garni** 57.38 315 P **P** 17 18 19.5 -0.8
comp=Z,14nm,0.9s,mb5.0,baz=352,slow=3.5,SNR=14
GNI LR LR 17 45 13.2
comp=Z,62nm,20.2s,MS3.7,baz=307,slow=38
GNI **Garni** 57.38 315 *e*P **P** 17 18 19.4 -1.0
comp=Z,20nm,0.9s,mb5.2
TI2 **Plekhanov** 58.04 317⇑*i*P **P** 17 18 23.8 -1.1
TI2 pmax pmax
comp=Z,60nm,1.0s,mb5.6
KMBO **Kilima Mbogo** 58.22 266 *e*P **P** 17 18 28.0 +1.4
KMBO *e* 17 18 36.6
KMBO *e* pP 17 18 43.8 +3.0
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO **Kilima Mbogo** 58.22 266 P **P** 17 18 26.7 +0.1
comp=Z,1.1nm,0.5s,mb4.1,baz=53,slow=13,SNR=7.5
KMBO LR LR 17 39 17.6
comp=Z,214nm,19.2s,MS4.3,baz=97,slow=32
KMBO **Kilima Mbogo** 58.22 266 *e*P **P** 17 18 27.9 +1.4
comp=Z,1.7nm,0.8s,mb4.1
KMBO *e* 17 18 36.6
KMBO *e* pP 17 18 43.8 +3.0
YSS **Yuzh-Sakhalins** 58.59 36 *e*P **P** 17 18 28.4 -0.3
YSS *e* pP 17 18 39.4 -3.5
YSS pmax pmax
comp=Z,21nm,0.6s,mb5.3
YSS **Yuzh-Sakhalins** 58.59 36 *e*P **P** 17 18 28.4 -0.2
comp=Z,21nm,0.6s,mb5.3
YSS *e* pP 17 18 39.4 -3.5
SVE **Sverdlovsk** 58.67 339 *e*P **P** 17 18 28.2 -0.9
SVE *e* pP 17 18 43.0 -0.3
SVE pmax pmax
comp=Z,100nm,1.6s,mb5.6
ZEI **Tsey** 59.05 318 *e*P **P** 17 18 30.9 -1.0
ZEI *i* *PP pP 17 18 45.1 -1.1
ZEI *i* 17 20 38.6
ZEI pmax pmax
comp=Z,14nm,0.9s,mb5.0
ARU **Arti** 59.15 337⇓*i*P **P** 17 18 28.0 -4.5
ARU *e*S **S** 17 26 31.8 -2.5
ARU *e* 17 28 18.0
ARU *e*SS SS 17 30 28.7 -2.1
ARU pmax pmax
comp=Z,40nm,1.2s,mb5.3
KIV **Kislovodsk** 60.34 319 *i* P **P** 17 18 39.5 -1.3
KIV pmax pmax
comp=Z,38nm,1.1s,mb5.3
KIV **Kislovodsk** 60.34 319 *e*P **P** 17 18 37.4 -3.5
KIV *e* pP 17 18 50.3 -4.8
ASF **Jabal al Asfar** 60.83 304 LR LR 17 47 13.5
comp=Z,139nm,18.5s,MS4.1,baz=349,slow=38
MALT **Malatya** 61.30 311 *e*P **P** 17 18 47.1 -0.4
comp=Z,14nm,1.0s,mb5.0
MALT *e* pP 17 19 00.4 -1.4
TAYS **Tayyib Ism** 61.78 300 P pP 17 19 07.3 +2.2
EIL **Elat** 61.92 301 LR LR 17 46 00.5
comp=Z,237nm,18.4s,MS4.4,baz=248,slow=36
EIL **Elat** 61.92 301 P **P** 17 18 50.9 -0.8
comp=Z,10nm,1.0s,mb4.9
SOKR **Solikamsk** 62.07 339 *i* P **P** 17 18 49.0 -3.2
SOKR pmax pmax
comp=Z,40nm,1.1s,mb5.5
SOC **Sochi** 62.18 317 *i* P **P** 17 18 50.3 -2.9
SOC *e* 17 19 37.1
SOC *e* 17 21 04.5
SOC *e*PPP PPP 17 22 34.7 -7.4
SOC *i* S **S** 17 27 13.8 +0.7
SOC *e*SS SS 17 31 20.4 +1.9
SOC pmax pmax
comp=Z,28nm,0.9s,mb5.4
SOC pmax pmax
comp=N,16nm,0.8s
SOC pmax pmax
comp=E,11nm,0.7s
YAK **Yakutsk** 62.59 17 *e*P **P** 17 18 53.6 -2.1
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=Z,16nm,1.1s,mb5.1
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK MLR MLR
comp=N,165nm,18.0s,MS4.5
YAK MLR MLR
comp=E,212nm,18.0s,MS4.5
YAK MLR MLR
comp=Z,345nm,18.0s,MS4.6
YAK **Yakutsk** 62.59 17 *e*P **P** 17 18 53.6 -2.1
comp=Z,13nm,0.5s,mb5.3
MBAR **Mbarara** 64.65 267 *i* P **P** 17 19 09.3 -0.7
MBAR **Mbarara** 64.65 267 P **P** 17 19 10.0 +0.1
comp=Z,6.4nm,1.3s,mb4.5
BRTR **Keskin Array B** 65.28 312 P **P** 17 19 12.4 -1.2
comp=Z,9.4nm,0.8s,mb4.9,baz=121,slow=7.2,SNR=44
BRTR pP pP 17 19 27.4 -0.7
comp=Z,8.5nm,0.8s,baz=118,slow=7.3,SNR=14
SIM **Simferopol'** 66.42 317*d*i*P **P** 17 19 21.0 +0.2
SIM pmax pmax
comp=Z,25nm,0.8s,mb5.3
MOS **Moscow** 68.28 329 *e*P **P** 17 19 30.9 -1.3
MOS *i* pP 17 19 45.7 -1.1
MOS pmax pmax
comp=Z,75nm,1.1s,mb5.6
OBN **Obninsk** 68.57 328α*i*P **P** 17 19 31.9 -2.1
OBN *i* pP 17 19 46.3 -2.3
OBN *e* 17 20 01.7
OBN pmax pmax
comp=Z,31nm,0.9s,mb5.2
OBN **Obninsk** 68.57 328 *i* P **P** 17 19 31.9 -2.1
comp=Z,5.0nm,1.2s,mb4.3
MA2 **Magadan** 69.01 27 *e*P **P** 17 19 36.0 -0.7
MA2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
MA2 pmax pmax
comp=N,8.0nm,1.3s
MA2 **Magadan** 69.01 27 *e*P **P** 17 19 36.3 -0.5
comp=N,18nm,1.0s,mb5.0
LSZ **Lusaka** 69.30 252 *e*P **P** 17 19 39.7 +0.5
TIXI **Tiksi** 70.05 11⇑*i*P **P** 17 19 41.4 -1.5
TIXI pmax pmax
comp=Z,39nm,1.3s,mb5.2
TIXI MLR MLR
comp=Z,348nm,19.0s,MS4.6
CFR **Carcaliu** 70.57 316⇓*i*P **P** 17 19 46.1 -0.3
IDI **Anoyia** 71.23 306 P **P** 17 19 50.1 -0.5
comp=Z,11nm,1.0s,mb4.8,baz=90,slow=10,SNR=3.9
IDI pP pP 17 20 04.8 -0.5
comp=Z,5.8nm,0.6s,baz=110,slow=23,SNR=1.8
AKASG **Malin Array Be** 71.25 322 P **P** 17 19 48.8 -1.7
comp=Z,7.1nm,0.6s,mb4.8,baz=90,slow=5.0,SNR=34
AKASG pP pP 17 20 03.5 -1.6
comp=Z,2.1nm,0.6s,baz=95,slow=4.8,SNR=4.2
ISR **Istrita** 71.66 316⇓*i*P **P** 17 19 54.2 +1.2
VRI **Vrincioaia** 71.69 317⇑*i*P **P** 17 19 53.6 +0.5
MLR **Muntele Rosu** 72.14 316 P **P** 17 19 56.2 +0.3
comp=Z,36nm,1.0s,mb5.3,baz=121,slow=2.4,SNR=31
MLR **Muntele Rosu** 72.14 316⇓*i*P **P** 17 19 56.4 +0.5
JOF **Joensuu** 74.10 335 *e*p **P** 17 20 05.7 -1.3
comp=Z,0.8nm,0.3s,mb4.1
LVV **L'vov** 74.28 320 *e*P **P** 17 20 08.0 -0.3
KWP **Kalwaria** 75.09 320 *e*P **P** 17 20 13.1 +0.1
KOLS **Kolonicke sedl** 75.25 319 *i* P **P** 17 20 14.6 +0.7
SUW **Suwalki** 75.65 325 *e*P **P** 17 20 15.2 -0.8
MAW **Mawson** 75.74 192 LR LR 17 46 48.2
comp=Z,202nm,19.8s,MS4.4,baz=170,slow=30
CRVS **Cervenica-Dubn** 75.77 319 *e*P **P** 17 20 18.0 +1.1
FINES **FINESS Array B** 75.95 332 P **P** 17 20 17.1 -0.5
comp=Z,10nm,0.7s,mb4.8,baz=108,slow=6.5,SNR=43
FINES pP pP 17 20 31.5 -0.8
comp=Z,2.8nm,0.4s,baz=102,slow=5.3,SNR=3.7
KAF **Kangasniemi** 76.03 333 *e*p **P** 17 20 17.2 -0.9
comp=Z,1.5nm,0.3s,mb4.4,baz=104,slow=5.3
KAF **Kangasniemi** 76.03 333 *e*P **P** 17 20 17.2 -0.9
KAF pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
KECS **Kecovo** 76.34 319 *e*P **P** 17 20 20.4 +0.3
NIE **Niedzica** 76.59 320 *e*P **P** 17 20 22.5 +1.0
PSZ **Piszkesteto** 76.66 318⇑*e*P **P** 17 20 22.2 +0.3
PSZ **Piszkesteto** 76.66 318⇑*e* **P** 17 20 22.2 +0.3
OJC **Ojcow** 77.04 320⇑*i*P **P** 17 20 24.1 +0.1
OJC *e* pP 17 20 39.9 +1.1
VYHS **Vyhne** 77.43 319 *i* P **P** 17 20 26.4 +0.1
OKC **Ostrava-Krasne** 78.05 320 *e*P **P** 17 20 29.9 +0.3
OKC *e*pP pP 17 20 45.3 +1.0
KEV **Kevo** 78.11 341 *e*p **P** 17 20 28.1 -1.4
comp=Z,0.7nm,0.3s,mb4.1
KEV **Kevo** 78.11 341 *e*P **P** 17 20 28.1 -1.4
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
ARCES **ARCESS Array B** 78.53 340 P **P** 17 20 30.6 -1.3
comp=Z,7.9nm,0.5s,mb4.9,baz=92,slow=4.8,SNR=46
ARCES pP pP 17 20 45.2 -1.5
comp=Z,3.7nm,0.6s,baz=108,slow=3.8,SNR=2.6
ZST **Bratislava** 78.55 318 *e*P **P** 17 20 32.5 +0.1
ZST *e* pP 17 20 48.2 +1.0
BILL **Bilibino** 78.56 21 *i* P **P** 17 20 32.0 0.0
VRAC **Vranov** 78.99 319 P **P** 17 20 34.9 +0.1
comp=Z,3.9nm,0.7s,mb4.5,baz=93,slow=19,SNR=5.9
DPC **Dobruska-Polom** 79.27 320 *e*P **P** 17 20 36.9 +0.6
DPC *e*pP pP 17 20 51.7 +0.6
KSP **Ksiaz** 79.33 321 *e*P **P** 17 20 36.8 +0.2
KSP *e**PP pP 17 20 53.0 +1.6
KSP **Ksiaz** 79.33 321 *e*P **P** 17 20 37.7 +1.1
GCIS **Gornji Cirnik** 79.36 316 *e*P **P** 17 20 37.1 +0.2
UPC **Upice** 79.48 320 *e*P **P** 17 20 38.0 +0.6
UPC *e*pP pP 17 20 53.8 +1.6
ARSA **Arzberg** 79.53 317⇑*i*P **P** 17 20 38.6 +0.8
comp=Z,18nm,1.2s,mb4.9
BOJS **Bojanci** 79.59 315 *e*P **P** 17 20 37.6 -0.5
PERS **Pernice** 79.76 316 *i* P **P** 17 20 39.6 +0.5
LJU **Ljubljana** 80.13 316 *e*P **P** 17 20 41.5 +0.5
OBKA **Obir** 80.15 316⇑*i*P **P** 17 20 41.2 +0.1
comp=Z,26nm,1.3s,mb5.0
PRU **Pruhonice** 80.38 320 *e*P **P** 17 20 42.4 +0.1
PRU *e*pP pP 17 20 58.8 +1.7
PVCC **Panska Ves** 80.40 320 *e*P **P** 17 20 42.7 +0.3
PVCC *e*pP pP 17 20 58.7 +1.5
BRG **Berggiesshubel** 80.82 321 *e*P **P** 17 20 45.2 +0.6
BRG *e* pP 17 21 00.9 +1.5
BRG pmax pmax
comp=Z,44nm,1.8s,mb5.1
BRG **Berggiesshubel** 80.82 321 *e*P **P** 17 20 45.2 +0.6
comp=Z,44nm,1.8s,mb5.1
BRG *e* pP 17 21 00.9 +1.5
GEC2 **GERESS Array S** 80.86 319 *e*P **P** 17 20 45.4 +0.6
GEC2 pmax pmax
comp=Z,41nm,1.2s,mb5.2
GEC2 **GERESS Array S** 80.86 319 *e*P **P** 17 20 45.4 +0.6
comp=Z,41nm,1.2s,mb5.2
GERES **GERESS Array B** 80.86 319 P **P** 17 20 45.3 +0.5
comp=Z,26nm,1.1s,mb5.1,baz=90,slow=5.3,SNR=72
GERES pP pP 17 20 57.7 -2.0
comp=Z,11nm,1.0s,baz=101,slow=6.8,SNR=8.3
KHC **Kasperske Hory** 80.95 319 *e*P **P** 17 20 45.5 +0.2
KHC *e*pP pP 17 21 01.1 +1.0
KBA **Koelnbreinsper** 81.00 317⇑*i*P **P** 17 20 45.4 -0.2
comp=Z,14nm,1.2s,mb4.8
KBA **Koelnbreinsper** 81.00 317⇑*i*P **P** 17 20 45.4 -0.2
KBA pmax pmax
comp=Z,14nm,1.2s,mb4.8
RUE **Ruedersdorf** 81.03 322 *e*P **P** 17 20 45.6 -0.1
comp=Z,23nm,0.7s,mb5.2
WET **Wettzell** 81.41 319 *e*P **P** 17 20 48.2 +0.5
CLL **Collm** 81.44 321⇑*i*P **P** 17 20 47.9 +0.1
CLL *e* pP 17 21 04.0 +1.3
CLL pmax pmax
comp=Z,11nm,1.2s,mb4.7
CLL **Collm** 81.44 321⇑*i*P **P** 17 20 47.9 +0.1
comp=Z,11nm,1.2s,mb4.7
CLL *e* pP 17 21 04.0 +1.3
CLL **Collm** 81.44 321 ⇑P **P** 17 20 47.9 +0.1
comp=Z,logA/T=1.0,mb4.7
CLL *e**SP pP 17 21 04.0 +1.3
HFS **Hagfors** 81.67 330 P **P** 17 20 47.8 -1.0
comp=Z,3.3nm,0.4s,mb4.7,baz=126,slow=5.0,SNR=24
HFS pP pP 17 21 03.5 -0.1
comp=Z,2.9nm,0.6s,baz=117,slow=3.3,SNR=2.1
NKC **Novy Kostel** 81.74 320 *e*P **P** 17 20 50.4 +1.0
NKC *e*pP pP 17 21 06.0 +1.7
WTTA **Wattenberg** 82.17 317⇑*i*P **P** 17 20 51.7 0.0
comp=Z,9.4nm,0.6s,mb4.9
WTTA **Wattenberg** 82.17 317⇑*i*P **P** 17 20 51.7 0.0
WTTA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
WATA **Walderalm** 82.22 317⇑*i*P **P** 17 20 51.6 -0.3
comp=Z,23nm,1.3s,mb4.9
WATA **Walderalm** 82.22 317⇑*i*P **P** 17 20 51.6 -0.3
WATA pmax pmax
comp=Z,23nm,1.3s,mb5.0
MOX **Moxa** 82.29 320 *e*P **P** 17 20 52.6 +0.4
MOX **Moxa** 82.29 320 *i* P **P** 17 20 52.6 +0.4
SQTA **Sankt Quirin** 82.47 317⇓*i*P **P** 17 20 53.2 0.0
comp=Z,13nm,1.2s,mb4.7
SQTA **Sankt Quirin** 82.47 317⇓*i*P **P** 17 20 53.2 0.0
SQTA pmax pmax
comp=Z,13nm,1.2s,mb4.7
GRA1 **Grafenberg Arr** 82.51 319 *e*P **P** 17 20 54.2 +0.8
comp=Z,22nm,1.1s,mb5.1
GRA1 *e*pP pP 17 21 09.9 +1.6
GRF **Grafenberg Arr** 82.51 319 *e*P **P** 17 20 54.2 +0.8
GRF *e**PP pP 17 21 09.9 +1.6
GRF pmax pmax
comp=Z,22nm,1.1s,mb5.1
MOTA **Moosalm** 82.54 317⇑*i*P **P** 17 20 53.2 -0.3
comp=Z,10nm,1.1s,mb4.8
MOTA **Moosalm** 82.54 317⇑*i*P **P** 17 20 53.2 -0.3
MOTA pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
SYO **Syowa Base** 82.78 197 ⇑pP pP 17 21 06.1 -3.2
NB2 **NORSAR Subarra** 82.95 331 P **P** 17 20 55.0 -0.4
comp=Z,14nm,1.0s,mb5.0,baz=90,slow=5.6
NB2 **NORSAR Subarra** 82.95 331 P **P** 17 20 55.0 -0.4
NB2 pmax pmax
comp=Z,15nm,1.0s,mb5.0
NOA **NORSAR Array B** 82.95 331 P **P** 17 20 54.7 -0.6
comp=Z,7.9nm,1.0s,mb4.7,baz=94,slow=5.4,SNR=10
NOA pP pP 17 21 09.6 -0.7
comp=Z,1.8nm,0.8s,baz=94,slow=5.4,SNR=3.3
NOA LR LR 18 05 45.2
comp=Z,70nm,19.6s,MS4.0,baz=340,slow=41
NOA **NORSAR Array B** 82.95 331 P **P** 17 20 54.7 -0.6
NOA pP pP 17 21 09.6 -0.7
NOA LR LR 18 05 45.2
RPZ **Rata Peaks** 83.10 135 P **P** 17 20 57.5 +1.0
comp=Z,6.4nm,0.8s,mb4.7,baz=254,slow=7.4,SNR=2.7
CLZ **Clausthal** 83.10 322 *e*P **P** 17 20 56.9 +0.6
comp=Z,21nm,1.1s,mb5.1
BSEG **Bad Segeberg** 83.18 324 *e*P **P** 17 20 57.5 +0.9
DAVOX **Davos** 83.37 316 P **P** 17 20 58.4 +0.6
comp=Z,10nm,0.6s,mb5.0,baz=118,slow=5.0,SNR=15
DAVA **Damuels** 83.37 317⇑*i*P **P** 17 20 58.5 +0.7
comp=Z,18nm,1.2s,mb5.0
BFO **Black Forest** 84.41 318 *e*P **P** 17 21 03.1 +0.1
BFO pmax pmax
comp=Z,12nm,1.1s,mb4.9
BFO **Black Forest** 84.41 318 *e*P **P** 17 21 03.1 +0.1
comp=Z,12nm,1.1s,mb4.9
LPG **La Plagne** 85.57 315 *e*P **P** 17 21 09.5 +0.7
comp=Z,14nm,0.9s,mb4.9
LPG **La Plagne** 85.57 315 *e*P **P** 17 21 09.5 +0.7
LPG pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
BNI **Bardonecchia** 85.64 315 *e*P **P** 17 21 08.8 -0.4
BNI pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
BNI **Bardonecchia** 85.64 315 *e*P **P** 17 21 08.8 -0.4
comp=Z,9.4nm,1.1s,mb4.9
URZ **Urewera** 86.56 129 P **P** 17 21 13.9 0.0
comp=Z,3.6nm,0.6s,mb4.8,baz=170,slow=16,SNR=4.6
VNDA **Vanda** 89.69 168 LR LR 17 59 37.2
comp=Z,162nm,19.4s,MS4.5,baz=317,slow=34
EKA **Eskdalemuir Ar** 90.88 326 P **P** 17 21 34.0 +0.1
comp=Z,6.1nm,1.1s,mb4.8,baz=82,slow=5.9,SNR=4.3
ESDC **Sonseca Array** 94.04 310 P **P** 17 21 48.6 -0.3
comp=Z,0.3nm,0.4s,mb4.1,baz=57,slow=2.2,SNR=4.5
ILAR **Eielson Array** 97.19 22 P **P** 17 22 01.3 -1.3
comp=Z,0.4nm,0.7s,mb4.0,baz=280,slow=3.5,SNR=4.9
ILAR LR LR 18 08 26.5
comp=Z,104nm,18.8s,MS4.3,baz=346,slow=37
DBIC **Dimbokro** 99.44 278 LR LR 18 05 09.0
comp=Z,109nm,18.9s,MS4.4,baz=57,slow=34
INK **Inuvik** 99.65 16 P **P** 17 22 12.4 -1.3
comp=Z,1.8nm,0.8s,mb4.6,baz=311,slow=2.8,SNR=3.7
MOD **Modoc** 123.40 31 *e*PKPdf PKPdf 17 27 28.9 +2.3
BOZ **Bozeman (W)** 124.39 23 *e*PKPdf PKPdf 17 27 30.4 +2.0
HLID **Hailey** 124.95 26 *e*PKPdf PKPdf 17 27 31.4 +1.8
LAO **LASA Array** 125.35 18 *e*PKPdf PKPdf 17 27 33.0 +2.8
NVAR **Mina Array Bea** 126.96 33 PKP PKPdf 17 27 36.2 +2.6
comp=Z,2.1nm,0.8s,baz=260,slow=4.8,SNR=11
NVAR pPKP 17 27 52.0
comp=Z,2.0nm,0.9s,baz=262,slow=3.0,SNR=6.3
MNV **Mina** 127.04 33 *e*PKPdf PKPdf 17 27 36.3 +2.5
BW06 **Boulder Array** 127.61 23 *e*PKPdf PKPdf 17 27 36.7 +2.0
PDAR **Pinedale Array** 127.61 23 PKP PKPdf 17 27 36.8 +2.0
comp=Z,2.7nm,0.9s,slow=1.5,SNR=17
PDAR pPKP 17 27 52.1
comp=Z,3.0nm,1.1s,slow=1.5,SNR=4.9
NLU **North Lily Min** 128.89 27 *e*PKPdf PKPdf 17 27 39.5 +2.3
MVU **Marysvale** 129.99 28 *e*PKPdf PKPdf 17 27 41.7 +2.3
MSU **Marysvale** 130.00 28 *e*PKPdf PKPdf 17 27 42.7 +3.3
ANMO **Albuquerque** 135.52 26 PKP PKPdf 17 27 53.0 +3.2
comp=Z,2.9nm,0.9s,baz=119,slow=1.9,SNR=4.3
ANMO **Albuquerque** 135.52 26 *e*PKPdf PKPdf 17 27 53.2 +3.3
MNTX **Cornudas Mount** 138.75 27 *e*PKPdf PKPdf 17 27 58.1 +2.3
TXAR **Lajitas Array** 141.54 27 PKP PKPdf 17 28 01.0 0.0
comp=Z,0.7nm,0.6s,baz=270,slow=1.3,SNR=5.9
LPAZ **La Paz** 160.06 234 PKP PKPdf 17 28 31.7 +2.8
comp=Z,0.7nm,0.5s,baz=170,slow=4.3,SNR=4.4
LPAZ pPKP 17 28 46.7
comp=Z,1.8nm,0.9s,baz=284,slow=4.6,SNR=3.2
LPAZ **La Paz** 160.06 234 *e*PKPdf PKPdf 17 28 31.6 +2.7
OTAV **Otavalo** 171.97 308 *e*PKPdf PKPdf 17 28 40.0 +1.4

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*CSEM **14** 17:13:43.8±0.1,34.70N×26.60E,h80km,mb3.9/5,Mw3.7,*
Error ellipse: s-maj=2.4km s-min=1.2km az=41.0
*HLW **14** 17:13:44.9,34.69N×26.51E,h20km,Md4.0*
*IDC **14** 17:13:47.2±1.5,34.76N×26.56E,h64km±13km,mb3.7/10,*
mb1 3.7/15,mb1mx3.6/22,mbtmp3.9/15,Error ellipse:
s-maj=20.9km s-min=12.0km az=13.0
*ATH **14** 17:13:50.7,35.62N×26.25E,h30km±3km,MD4.0/7*
*NEIC **14** 17:13:50.7,35.62N×26.25E,h30km,mb3.9/12,*
MD4.0(ATH),After ATH.

ISC 14 17:13:44.3±0.3,34.65N±0.03×26.56E±0.03,h77km±5km,
n90,σ1°915/97,mb3.8/15,7C-10D,Crete

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	0.99	308	⇑*i*PN	P	P	17 14 03.3	0.0
KARP	**Karpathos**	1.02	29	*e*PN	P	P	17 14 05.4	+1.8
IDI	**Anoyia**	1.52	295	P	P	P	17 14 10.6	+0.4
	10nm,0.3s,baz=121,slow=15,SNR=110							
IDI				S	S	S	17 14 30.5	+1.2
	36nm,0.3s,baz=81,slow=23,SNR=8.0							
ARG	**Arkhangelos**	2.02	39	⇑*i*PN	P	P	17 14 19.6	+2.7
VAM	**Vamos**	2.08	292	*e*PN	P	P	17 14 18.6	+0.8
DALT	**Dalyan (Mudla)**	2.71	38	PN	P	P	17 14 29.3	+2.7
FETY	**Fethiye**	2.85	45	PN	P	P	17 14 29.7	+1.0
KYTH	**Kithira**	3.31	301	*e*PN	P	P	17 14 34.0	-1.0
SLUM		3.35	200	⇓P	P	P	17 14 36.1	+0.6
SLUM				S	S	S	17 15 13.3	-1.0
HMAT	**Matruh**	3.57	173	⇓P	P	P	17 14 39.8	+1.2
VLI	**Veliai**	3.60	306	*e*PN	P	P	17 14 37.1	-2.0
ITM	**Ithomi**	4.53	305	*e*PN	P	P	17 14 50.5	-1.5
SWA1		5.42	188	⇓P	P	P	17 15 04.4	+0.3
SWA2		5.47	190	⇓P	P	P	17 15 05.0	+0.1
SWA2		5.47	190	P	P	P	17 15 04.9	0.0
HMYD	**Mayadein**	6.03	142	P	P	P	17 15 12.7	+0.1
HNAT	**Natroun**	6.07	144	⇑P	P	P	17 15 13.8	+0.7
SQR		6.16	139	P	P	P	17 15 14.6	+0.1
FYM	**Al Fayyum**	6.23	141	P	P	P	17 15 15.6	+0.2
AYT	**Al 'Ayyat**	6.28	140	P	P	P	17 15 16.4	+0.3
KOT	**Kottamia**	6.48	135	⇑P	P	P	17 15 19.3	+0.3
HSAF	**As Saff**	6.56	138	⇓P	P	P	17 15 20.0	-0.1
AWBH		6.62	162	P	P	P	17 15 20.7	-0.2
HHAG	**Hagoal**	6.62	133	P	P	P	17 15 20.8	-0.1
GLL	**Jalalah**	6.68	138	⇑P	P	P	17 15 21.3	-0.4
AMAG	**Maghara**	6.88	124	⇑P	P	P	17 15 23.7	-0.8
SUZ		7.15	130	P	P	P	17 15 27.9	-0.4

HNTI	Hanita	7.33	100	Sn	S	17 16 50.2	-2.9
SLTI	Sal'it	7.48	106	Pn	P	17 15 32.3	-0.5
SLTI				Sn	S	17 16 52.4	-4.4
ZNM		7.51	133	P	P	17 15 33.1	0.0
KZIT	Kziot	7.58	117	Pn	P	17 15 33.0	-1.1
KZIT				Sn	S	17 16 54.1	-5.1
BRTR	Keskin Array B	7.59	46	P	P	17 15 33.1	-1.1
	0.1nm,0.3s,baz=270,slow=13,SNR=3.0						
KSDI	Kefar Szold	7.70	98	Pn	P	17 15 36.7	+0.9
RTMM	Retamin	7.72	115	Pn	P	17 15 34.8	-1.2
MASH	Mash'abbe Sade	7.82	115	Pn	P	17 15 36.6	-0.8
HNKL	Nakhl	7.84	125	⇓P	P	17 15 37.4	-0.4
DRGI	Dragot	8.01	110	Pn	P	17 15 39.8	-0.2
MZDA	Masada	8.11	112	Pn	P	17 15 41.4	+0.1
MKRJ	Makawir	8.22	110	Pn	P	17 15 43.4	+0.6
KMTI	Karmit	8.26	121	Pn	P	17 15 43.7	+0.3
KMTI				Sn	S	17 17 10.1	-5.8
GRB	Gharib	8.29	138	⇓P	P	17 15 43.4	-0.3
ZFRI	Zfri	8.34	117	Pn	P	17 15 44.9	+0.5
ASUT		8.40	148	P	P	17 15 45.5	+0.2
MBH	Mount Berech	8.57	122	Pn	P	17 15 48.2	+0.5
EIL	Elat	8.67	123	P	P	17 15 49.4	+0.4
	1.2nm,0.3s,baz=304,slow=8.8,SNR=64						
EIL				S	S	17 17 20.4	-5.7
	4.5nm,0.3s,baz=93,slow=17,SNR=9.0						
HKAT	Jabal Katrina	8.80	132	⇑P	P	17 15 50.4	-0.3
ASF	Jabal al Asfar	8.98	103	P	P	17 15 55.5	+2.2
	0.5nm,0.3s,baz=338,slow=5.4,SNR=3.4						
ASF				S	S	17 17 31.3	-2.4
	0.5nm,0.3s,baz=0.7,slow=20,SNR=3.4						
HDHB	Dhahab	9.05	129	P	P	17 15 53.9	-0.3
HDK1	Dakhla	9.40	164	P	P	17 16 00.2	+1.2
HHRG	Al Ghardaqah	9.54	139	⇓P	P	17 15 59.9	-0.9
GTR	Jabal at Tayr	9.74	158	⇓P	P	17 16 03.4	-0.2
VAE	Valguarnera	10.23	290	S	S	17 17 56.6	-7.4
	4.3nm,0.3s,baz=287,slow=9.6,SNR=3.5						
HSFG		10.25	140	⇓P	P	17 16 10.1	-0.4
HDK2	Wahat Dakhilah	10.50	168	P	P	17 16 14.4	+0.5
PGF	Pioggiola	15.82	305	eP	P	17 17 22.0	-1.5
	22nm,1.2s						
AKASG	Malin Array Be	16.16	6	P	P	17 17 27.4	-0.3
	1.1nm,0.3s,baz=196,slow=11,SNR=5.4						
GERES	GERESS Array B	17.09	330	P	P	17 17 39.3	-0.1
	0.1nm,0.3s,baz=139,slow=10,SNR=12						
KHC	Kasperske Hory	17.36	330	eP	P	17 17 39.0	-3.8
SBF	Sospel	17.41	308	eP	P	17 17 41.9	-1.5
	19nm,0.8s						
LMR	La Mourre	17.81	305	eP	P	17 17 47.5	-0.8
MBDF	Montbardon	18.21	309	eP	P	17 17 52.1	-1.1
	8.3nm,0.8s						
LPG	La Plagne	18.59	312	eP	P	17 17 55.9	-1.6
SMRF	Simiane la Rot	18.68	306	eP	P	17 17 57.5	-1.1
CABF	La Chapelle	19.54	314	eP	P	17 18 06.1	-1.9
	17nm,0.9s						
HINF	Hinteralfeld	19.75	318	eP	P	17 18 08.2	-2.1
	1.9nm,0.3s						
CDF	Champ du Feu	19.86	320	eP	P	17 18 08.8	-2.7
	6.7nm,0.5s						
HAU	Haudompre	20.13	318	eP	P	17 18 13.0	-1.3
	6.0nm,0.4s						
MTLF	Montolieu	20.76	302	eP	P	17 18 23.4	+2.6
MEZF	Maizieres J'vi	21.13	317	eP	P	17 18 23.8	-0.7
	11nm,0.4s,mb4.2						
WLF	Walferdange	21.21	321	P	P	17 18 24.5	-0.8
AVF	Avril sur Loir	21.28	312	eP	P	17 18 26.6	+0.6
SSF	Saint Saulge	21.31	313	eP	P	17 18 26.0	-0.3
	4.5nm,0.8s,mb3.8						
TCF	Toulx Ste Croi	21.78	310	eP	P	17 18 32.8	+1.8
MEM	Membach	21.87	323	P	P	17 18 33.3	+1.5
EPF	Esparros	22.01	300	eP	P	17 18 37.2	+4.0
	3.9nm,0.7s,mb3.5						
BAIF	Baives	22.46	320	eP	P	17 18 37.9	+0.3
	34nm,1.0s,mb4.3						
SJPF	Ste Jean	23.14	300	eP	P	17 18 48.2	+3.9
FLN	La Foliniere	24.47	313	eP	P	17 18 58.4	+1.4
GRR	Gorron	24.54	312	eP	P	17 18 59.3	+1.6
FINES	FINESS Array B	26.82	359	P	P	17 19 19.1	+0.2
	8.3nm,1.0s,mb4.2,baz=172,slow=10,SNR=9.9						
HFS	Hagfors	26.84	346	P	P	17 19 19.1	0.0
	0.8nm,0.3s,mb3.7,baz=119,slow=15,SNR=6.6						
KAF	Kangasniemi	27.48	360	ep	P	17 19 24.4	-0.6
	0.3nm,0.3s,mb3.3						
NOA	NORSAR Array B	28.20	344	P	P	17 19 31.2	-0.2
	0.9nm,1.0s,mb3.2,baz=139,slow=8.8,SNR=2.4						
EKA	Eskdalemuir Ar	29.12	324	P	P	17 19 40.5	+0.8
	4.4nm,1.0s,mb4.0,baz=126,slow=10,SNR=5.0						
DBIC	Dimbokro	40.17	233	P	P	17 21 16.9	+2.4
	0.5nm,0.5s,mb3.6,baz=45,slow=13,SNR=2.2						
ZAL	Zalesovo	44.52	46	P	P	17 21 53.4	+3.8
	1.5nm,0.4s,mb4.0,baz=214,slow=4.8,SNR=4.2						
SONM	Songino Array	58.92	51	P	P	17 23 40.7	+3.2
	0.4nm,0.4s,mb3.8,baz=275,slow=7.4,SNR=5.7						
SCHQ	Schefferville	64.32	320	P	P	17 24 15.6	+2.0
	1.4nm,0.4s,mb4.1,baz=92,slow=5.1,SNR=12						
YKA	Yellowknife Ar	78.28	343	P	P	17 25 39.6	+2.8
	0.4nm,0.8s,mb3.2,baz=32,slow=5.4,SNR=5.8						
ILAR	Eielson Array	80.78	357	P	P	17 25 54.0	+3.8
	0.9nm,1.0s,mb3.5,baz=333,slow=3.9,SNR=5.4						

*CSEM **14** 17:33:45.1±0.0, 34.70N×26.58E, h60km, mb3.8/7, Mw3.7, Error ellipse: s-maj=2.5km s-min=1.0km az=41.0*
*HLW **14** 17:33:45.9, 34.76N×26.64E, h20km, Mb3.9*
*IDC **14** 17:33:51.1±2.4, 35.14N×26.36E, h60km±19km, mb3.7/10, mb1 3.8/16, mb1mx3.7/25, mbtmp4.0/16, Error ellipse: s-maj=40.2km s-min=19.0km az=176.0*
*MOS **14** 17:33:51.7±0.8, 35.70N×26.26E, h33km, mb3.9/7, Error ellipse: s-maj=9.2km s-min=5.5km az=131.0*
*ATH **14** 17:33:52.3, 35.59N×26.25E, h34km±20km, MD3.7/5*
*NEIC **14** 17:33:52.3, 35.59N×26.25E, h34km, mb3.7/18, MD3.7(ATH), After ATH.*

ISC 14 17:33:46.0±0.3, 34.65N±0.03×26.54E±0.03, h71km±5km, n110, σ1°17/120, mb3.8/19, 4C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	Neapolis	0.97	309	⇑iPN	P	17 34 04.9	+0.5
KARP	Karpathos	1.03	30	⇑iPN	P	17 34 06.9	+1.8
IDI	Anoyia	1.49	296	P	P	17 34 11.9	+0.5
	21nm,0.3s,baz=109,slow=13,SNR=99						
IDI				S	S	17 34 34.0	+3.9
	39nm,0.3s,baz=0.1,slow=23,SNR=9.5						
SANT	Santorini	1.93	333	ePn	P	17 34 16.1	-1.1
SANT	Santorini	1.93	333	ePn	P	17 34 16.1	-1.1
GVD	Gavdhos	2.02	276	ePn	P	17 34 19.3	+0.8
ARG	Arkhangelos	2.03	39	⇑iPN	P	17 34 21.1	+2.4
VAM	Vamos	2.06	292	⇑iPN	P	17 34 20.3	+1.2
DALT	Dalyan (Mudla)	2.72	38	PN	P	17 34 30.8	+2.4
FETY	Fethiye	2.87	46	PN	P	17 34 31.4	+0.9
KYTH	Kithira	3.29	301	ePN	P	17 34 35.0	-1.3
SLUM		3.34	200	⇓P	P	17 34 38.0	+0.8
SLUM				S	S	17 35 15.4	-0.4
HMAT	Matruh	3.58	172	⇓P	P	17 34 41.6	+1.1
VLI	Veliai	3.58	306	ePN	P	17 34 39.1	-1.3
SWA1		5.42	188	P	P	17 35 06.2	+0.3
SWA2		5.47	190	P	P	17 35 06.8	+0.1
HNAT	Natroun	6.08	144	P	P	17 35 15.1	-0.1
KOT	Kottamia	6.50	135	P	P	17 35 20.1	-0.9
AWBH		6.63	162	P	P	17 35 22.8	0.0
GLL	Jalalah	6.70	138	P	P	17 35 23.1	-0.6
AMAG	Maghara	6.90	124	P	P	17 35 24.8	-1.8
SUZ		7.17	130	P	P	17 35 29.9	-0.5
OFRI	'Ofer	7.33	104	Pn	P	17 35 33.0	+0.5
HNTI	Hanita	7.35	100	Pn	P	17 35 34.8	+2.0
HNTI				Sn	S	17 36 51.5	-4.0
SLTI	Sal'it	7.50	106	Pn	P	17 35 34.0	-0.9
SLTI				Sn	S	17 36 54.0	-5.2
BRTR	Keskin Array B	7.60	46	P	P	17 35 35.7	-0.5
	0.2nm,0.3s,baz=222,slow=11,SNR=3.1						
BRTR				S	S	17 37 00.3	-1.3
	0.2nm,0.3s,baz=207,slow=26,SNR=2.9						
KZIT	Kziot	7.60	117	Pn	P	17 35 35.6	-0.6
KZIT				Sn	S	17 36 54.8	-6.8
KSDI	Kefar Szold	7.72	98	Pn	P	17 35 38.5	+0.6
RTMM	Retamin	7.74	115	Pn	P	17 35 37.3	-0.8
MASH	Mash'abbe Sade	7.84	115	Pn	P	17 35 38.7	-0.8
HMDT	Nahal Hemdat	7.88	105	Pn	P	17 35 40.5	+0.4
KSHT	Keshet	7.90	100	Pn	P	17 35 41.7	+1.4
DRGI	Dragot	8.03	110	Pn	P	17 35 41.6	-0.5
MZDA	Masada	8.13	112	Pn	P	17 35 43.1	-0.4
MZDA				Sn	S	17 37 09.1	-5.6
MKRJ	Makawir	8.24	110	Pn	P	17 35 45.0	0.0
KMTI	Karmit	8.28	121	Pn	P	17 35 45.5	0.0
KMTI				Sn	S	17 37 11.6	-6.7
ZFRI	Zfri	8.36	117	Pn	P	17 35 46.0	-0.6
MBH	Mount Berech	8.59	122	Pn	P	17 35 50.6	+0.8
EIL	Elat	8.69	123	P	P	17 35 51.1	0.0
	1.4nm,0.3s,baz=317,slow=12,SNR=45						
EIL				S	S	17 37 24.4	-4.1
	6.4nm,0.3s,baz=144,slow=25,SNR=11						
AQBJ	Aqaba	8.73	122	Pn	P	17 35 52.2	+0.6
ASF	Jabal al Asfar	9.01	103	S	S	17 37 33.2	-3.0
	1.3nm,0.3s,baz=258,slow=15,SNR=4.7						
TIP	Timpagrande	9.04	303	ePn	P	17 35 52.0	-3.9
TIP	Timpagrande	9.04	303	ePn	P	17 35 52.0	-3.8
VAE	Valguarnera	10.21	290	P	P	17 36 10.3	-1.5
	0.7nm,0.3s,baz=92,slow=12,SNR=2.1						
VAE				S	S	17 37 57.1	-8.4
	0.8nm,0.3s,baz=304,slow=21,SNR=2.7						
KIV	Kislovodsk	15.55	49	P	P	17 37 38.0	+16
ZEI	Tsey	15.77	54	eP	P	17 37 29.1	+4.2
ZEI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PGF	Pioggiola	15.79	305	eP	P	17 37 23.3	-1.9
	comp=Z,4.2nm,0.5s						
PGF	Pioggiola	15.79	305	eP	P	17 37 23.3	-1.9
PGF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	Malin Array Be	16.16	6	P	P	17 37 29.3	-0.4
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKASG	Malin Array Be	16.16	6	P	P	17 37 29.2	-0.5
	comp=Z,2.9nm,0.3s,baz=195,slow=11,SNR=15						
GERES	GERESS Array B	17.07	330	P	P	17 37 41.6	+0.4
	comp=Z,0.3nm,0.3s,baz=143,slow=11,SNR=14						
SBF	Sospel	17.39	308	eP	P	17 37 43.8	-1.4
	comp=Z,9.2nm,0.6s						
SBF	Sospel	17.39	308	eP	P	17 37 43.8	-1.4
SBF				pmax	pmax		
	comp=Z,5.0nm,0.6s						
DAVOX	Davos	17.45	319	P	P	17 37 46.0	0.0
	comp=Z,0.2nm,0.3s,baz=152,slow=15,SNR=3.0						
FRF	La Foret Royal	17.78	306	eP	P	17 37 48.9	-1.2
	comp=Z,9.8nm,0.9s						
FRF	La Foret Royal	17.78	306	eP	P	17 37 48.9	-1.2
FRF				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LMR	La Mourre	17.79	305	eP	P	17 37 48.8	-1.3
MBDF	Montbardon	18.19	309	eP	P	17 37 53.9	-1.2
	comp=Z,7.5nm,0.7s						
MBDF	Montbardon	18.19	309	eP	P	17 37 53.9	-1.2
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LPG	La Plagne	18.57	312	eP	P	17 37 58.3	-1.1
	comp=Z,3.8nm,0.5s						
LPG	La Plagne	18.57	312	eP	P	17 37 58.3	-1.1
LPG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
LPL	La Plagne	18.59	312	eP	P	17 37 58.3	-1.4
	comp=Z,3.0nm,0.5s						
LPL	La Plagne	18.59	312	eP	P	17 37 58.3	-1.4
LPL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SMRF	Simiane la Rot	18.66	306	eP	P	17 38 00.6	+0.1
CABF	La Chapelle	19.52	314	eP	P	17 38 09.0	-1.0
	comp=Z,9.7nm,0.8s						
CABF	La Chapelle	19.52	314	eP	P	17 38 09.0	-1.0
CABF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VIVF	Saint-Julien-l	19.60	308	eP	P	17 38 11.0	+0.1
HINF	Hinteralfeld	19.73	318	eP	P	17 38 10.7	-1.5
	comp=Z,4.8nm,0.4s						
HINF	Hinteralfeld	19.73	318	eP	P	17 38 10.7	-1.5
HINF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CDF	Champ du Feu	19.84	320	eP	P	17 38 12.4	-1.1
	comp=Z,4.9nm,0.4s						
CDF	Champ du Feu	19.84	320	eP	P	17 38 12.4	-1.1
CDF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
HAU	Haudompre	20.11	318	eP	P	17 38 15.4	-0.9
	comp=Z,8.7nm,0.5s						
HAU	Haudompre	20.11	318	eP	P	17 38 15.4	-0.9
HAU				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MTLF	Montolieu	20.74	302	eP	P	17 38 23.6	+0.8
MEZF	Maizieres J'vi	21.11	317	eP	P	17 38 26.2	-0.3
	comp=Z,16nm,0.4s,mb4.4						
SSF	Saint Saulge	21.29	313	eP	P	17 38 28.4	+0.1
SSF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
SSF	Saint Saulge	21.29	313	eP	P	17 38 28.4	+0.1
	comp=Z,0.9nm,0.4s,mb3.5						
BGF	Bois d'Agland	21.47	311	eP	P	17 38 30.9	+0.8
TCF	Toulx Ste Croi	21.76	310	eP	P	17 38 34.0	+1.0
RJF	Les Rejaudoux	21.84	307	eP	P	17 38 34.0	+0.2
	comp=Z,6.8nm,0.7s,mb3.8						
RJF	Les Rejaudoux	21.84	307	eP	P	17 38 34.0	+0.2
RJF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.7						
MEM	Membach	21.85	323	P	P	17 38 33.6	-0.2
EPF	Esparros	21.99	300	eP	P	17 38 37.5	+2.3
GIVF	Givet	22.14	321	eP	P	17 38 37.1	+0.4
LFF	La Frestale	22.24	305	eP	P	17 38 39.5	+1.8
	comp=Z,4.3nm,0.4s,mb3.8						
LFF	La Frestale	22.24	305	eP	P	17 38 39.5	+1.8
LFF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8						
DOU	Dourbes	22.26	321	P	P	17 38 38.4	+0.5
BAIF	Baives	22.44	320	eP	P	17 38 40.0	+0.4
ETSF	Etsaut	22.60	299	eP	P	17 38 43.8	+2.6
	comp=Z,2.6nm,0.6s,mb3.5						
ETSF	Etsaut	22.60	299	eP	P	17 38 43.8	+2.6
ETSF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.3						
SJPF	Ste Jean	23.12	300	eP	P	17 38 48.9	+2.6
	comp=Z,7.8nm,0.8s,mb3.8						
SJPF	Ste Jean	23.12	300	eP	P	17 38 48.9	+2.6
SJPF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8						
LDF	La Druitiere	24.16	313	eP	P	17 38 56.6	+0.4
GRR	Gorron	24.52	312	eP	P	17 39 00.3	+0.5
FINES	FINESS Array B	26.81	360	P	P	17 39 20.9	-0.2
	comp=Z,0.8nm,0.4s,mb3.6,baz=165,slow=11,SNR=10						
HFS	Hagfors	26.83	346	P	P	17 39 20.6	-0.7
	comp=Z,0.9nm,0.3s,mb3.8,baz=130,slow=12,SNR=8.8						
KAF	Kangasniemi	27.48	360	ep	P	17 39 25.9	-1.3
	comp=Z,0.4nm,0.3s,mb3.4						
NOA	NORSAR Array B	28.18	344	P	P	17 39 32.2	-1.4
	comp=Z,0.7nm,0.6s,mb3.4,baz=163,slow=6.0,SNR=3.4						
JOF	Jomsnsu	28.45	5	ep	P	17 39 33.0	-2.9
	comp=Z,0.6nm,0.4s,mb3.5						
EKA	Eskdalemuir Ar	29.11	324	P	P	17 39 42.0	+0.1
	comp=Z,1.2nm,0.4s,mb3.9,baz=126,slow=10,SNR=9.2						
ARCES	ARCESS Array B	34.94	359	P	P	17 40 32.5	-0.1
	comp=Z,2.5nm,0.5s,mb4.3,baz=182,slow=8.6,SNR=29						
KEV	Kevo	35.16	0	ep	P	17 40 33.6	-0.8
	comp=Z,0.5nm,0.3s,mb3.8						
KEV	Kevo	35.16	0	eP	P	17 40 33.6	-0.8
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
BVAR	Borovoye Array	35.89	46	P	P	17 40 42.9	+2.1
	comp=Z,0.8nm,0.6s,mb3.8,baz=153,slow=3.3,SNR=3.7						
ZAL	Zalesovo	44.53	46	P	P	17 41 55.2	+3.2
	comp=Z,2.9nm,0.4s,mb4.3,baz=185,slow=7.0,SNR=8.5						
ZAK	Zakamensk	56.23	49	eP	P	17 43 22.4	+1.5
SONM	Songino Array	58.93	51	P	P	17 43 42.8	+2.9
	comp=Z,0.5nm,0.4s,mb3.9,baz=282,slow=7.6,SNR=7.6						
SCHQ	Schefferville	64.30	320	P	P	17 44 17.4	+1.6
	comp=Z,2.0nm,0.4s,mb4.3,baz=45,slow=9.1,SNR=12						
YKA	Yellowknife Ar	78.27	343	P	P	17 45 41.2	+2.0
YKA	Yellowknife Ar	78.27	343	P	P	17 45 41.1	+2.0
	comp=Z,0.2nm,0.7s,mb3.0,baz=33,slow=5.7,SNR=6.7						

*BJI **14** 17:48:35.4, 11.18N×91.98E, h14km, mB4.6, mb4.1*
*IDC **14** 17:48:42.1±0.8, 11.84N×92.46E, mb4.0/12, mb1 4.1/13, mb1mx4.0/21, mbtmp4.0/13, ML4.0/1, Error ellipse: s-maj=36.8km s-min=15.7km az=52.0*
*NEIC **14** 17:48:46.5±0.4, 11.89N×92.52E, mb4.4/6, Error ellipse: s-maj=12.1km s-min=7.4km az=57.0*

ISC 14 17:48:46.5±0.8, 11.85N±0.09×92.35E±0.08, h47km±7km, n33, σ0°84/37, mb4.0/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	0.43	116	e	P	17 48 56.0	-0.8
PBA				eP		17 48 57.7	
PBA				eS	S	17 49 06.0	+1.9
PBA				e		17 49 06.4	
	comp=E,75μm,0.3s						
PBA				e		17 49 06.7	
	comp=N,167μm,0.4s						
CMAR	Chiang Mai Arr	9.15	43	Pn	P	17 50 54.4	-4.3
	comp=N,0.5nm,0.3s,baz=252,slow=30,SNR=4.8						
VIS	Vishakhapatnam	10.49	305	eP	P	17 51 14.5	-2.8
VIS				eS	x	17 53 00.1	
VIS				e	S	17 53 05.5	-8.9
	comp=E,49nm,0.3s						
VIS				e		17 53 05.6	
	comp=N,43nm,0.5s						
BLSP	Bilaspur	14.13	318	eP	P	17 52 06.3	+0.4
BLSP				e		17 52 09.7	
	comp=Z,40nm,1.4s						
BLSP				eS	S	17 54 40.9	-1.2
HYB	Hyderabad	14.45	294	i P	P	17 52 25.5	+15
HYB				e	S	17 54 49.5	0.0
JIRN	Jiri	16.76	341	eP	P	17 52 38.8	-0.7
	comp=Z,7.2nm,0.3s						
PKI	Pulchoki	16.94	338	eP	P	17 52 41.6	-0.2
DMN	Daman	17.09	338	eP	P	17 52 43.4	-0.3
	comp=Z,12nm,0.5s						
GUN	Gumba	17.09	340	eP	P	17 52 43.3	-0.4
	comp=Z,9.4nm,0.5s						
KKN	Kakani	17.19	338	eP	P	17 52 44.2	-0.7
GKN	Gorkha	17.62	337	eP	P	17 52 50.2	-0.2
	comp=Z,12nm,0.3s						
LSA	Lhasa	17.80	357	P	P	17 52 53.0	+0.4
LSA	Lhasa	17.80	357	eP	P	17 52 52.7	+0.1
	comp=Z,4.5nm,0.8s						
KOLN	Koldanda	17.84	334	eP	P	17 52 53.5	+0.5
	comp=Z,14nm,0.4s						
BHPL	Bhopal	18.17	311	eP	P	17 52 57.5	+0.3
BHPL				eS	S	17 56 15.9	+0.8
BHPL				e		17 56 47.5	
ENH	Enshi	24.27	38	eP	P	17 53 59.8	-0.8
	comp=Z,16nm,0.9s,mb4.4						
AAK	Ala-Archa	34.38	336	eP	P	17 55 31.4	+0.2
	comp=Z,5.0nm,1.3s,mb4.3						
SONM	Songino Array	37.76	15	P	P	17 56 00.0	+0.3
	comp=Z,1.1nm,0.7s,mb3.7,baz=198,slow=7.8,SNR=8.8						
ZAL	Zalesovo	42.41	353	P	P	17 56 38.8	+0.6
	comp=Z,0.9nm,0.4s,mb3.8,baz=300,slow=9.4,SNR=3.9						
BVAR	Borovoye Array	44.68	341	P	P	17 56 57.1	+0.6
	comp=Z,0.4nm,0.5s,mb3.5,baz=144,slow=13,SNR=4.2						
CHKZ	Chkalovo	45.17	342	eP	P	17 57 01.2	+0.8
	comp=Z,3.8nm,0.9s,mb4.2						
CHKZ				epP	pP	17 57 09.2	-4.0
GNI	Garni	50.43	313	P	P	17 57 44.3	+2.6
	comp=Z,0.6nm,0.3s,mb4.1,baz=294,slow=9.1,SNR=2.7						
GNI	Garni	50.43	313	eP	P	17 57 43.3	+1.7
	comp=Z,5.0nm,1.0s,mb4.5						
GNI				epP	pP	17 57 52.3	-2.2
WRA	Warramunga Arr	52.02	127	P	P	17 57 53.0	-0.8
	comp=Z,2.4nm,0.7s,mb4.2,baz=304,slow=8.5,SNR=29						
WRAB	Tennant Creek	52.03	127	eP	P	17 57 53.0	-0.9
	comp=Z,4.9nm,0.7s,mb4.5						
ASAR	Alice Springs	53.83	131	P	P	17 58 06.0	-1.3
	comp=Z,1.2nm,0.9s,mb3.8,baz=306,slow=6.5,SNR=12						
STKA	Stephens Creek	64.12	134	P	P	17 59 18.6	0.0
	comp=Z,1.0nm,0.5s,mb4.1,baz=159,slow=12,SNR=5.6						
FINES	FINESS Array B	68.39	332	P	P	17 59 45.2	0.0
	comp=Z,4.1nm,1.1s,mb4.4,baz=135,slow=7.9,SNR=3.4						
ARCES	ARCESS Array B	70.95	340	P	P	18 00 01.1	+0.5
	comp=Z,5.3nm,1.1s,mb4.4,baz=98,slow=6.4,SNR=3.6						
GERES	GERESS Array B	73.71	318	P	P	18 00 18.0	+0.7
	comp=Z,0.7nm,0.7s,mb3.7,baz=79,slow=6.8,SNR=5.4						
HFS	Hagfors	74.16	329	P	P	18 00 20.0	+0.3
	comp=Z,1.4nm,0.6s,mb4.0,baz=101,slow=7.6,SNR=9.2						
NOA	NORSAR Array B	75.42	330	P	P	18 00 27.4	+0.5
	comp=Z,0.5nm,0.8s,mb3.5,baz=116,slow=4.2,SNR=2.6						
NVAR	Mina Array Bea	122.36	28	PKP	PKPdf	18 07 40.5	+3.5
	comp=Z,0.2nm,0.4s,baz=315,slow=2.6,SNR=2.7						

*JMA **14** 17:49:57.0±0.3, 23.00N×121.71E, h94km*

TAP 14 17:49:56.3, 23.10N×121.39E, h48km, ML3.4, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	2.01	47	P	P	17 50 28.3	-0.1
HATJ	Hateruma jima	2.41	66	P	P	17 50 32.3	-1.9
HATJ				S	S	17 50 59.3	-3.3
IRIF	Iriomote-Funau	2.47	60	P	P	17 50 33.8	-1.2
IRIF				S	S	17 51 01.7	-2.4
JKRS	Kuro-shima	2.66	64	eS	S	17 51 05.2	-3.6
JIJ	Ishigaki jima	2.82	63	P	P	17 50 38.0	-2.0
JI

BJT pmax pmax
comp=Z,11nm,0.6s
BJT Baijiatuau 25.76 41 *e*P **P 18 22 59.1 +0.6**
comp=Z,11nm,0.6s,mb4.5
AAK Ala-Archa 26.60 326 *e*P **P 18 23 06.8 +0.6**
AAK pmax pmax
comp=Z,5.0nm,1.3s,mb3.9
AAK Ala-Archa 26.60 326 *e*P **P 18 23 06.8 +0.6**
comp=Z,4.8nm,1.3s,mb3.9
MKAR Makanchi Array 26.73 341 *e*P **P 18 23 08.2 +0.8**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
SONM Songino Array 27.56 17 P **P 18 23 14.9 0.0**
comp=Z,0.6nm,0.4s,mb3.5,baz=192,slow=10,SNR=9.0
SONM ScP 18 30 00.5
comp=Z,0.3nm,0.5s,baz=250,slow=2.7,SNR=3.8
ZAL Zalesovo 32.82 349 P **P 18 24 02.3 +1.0**
comp=Z,4.2nm,0.4s,mb4.6,baz=311,slow=7.9,SNR=28
ZAL PcP PcP 18 26 43.6 -0.5
comp=Z,2.1nm,0.3s,baz=235,slow=0.2,SNR=6.1
HIA Hailar 33.82 30 P **P 18 24 09.8 -0.1**
HIA pmax pmax
comp=Z,6.0nm,0.5s
HIA Hailar 33.82 30 P **P 18 24 09.8 -0.1**
comp=Z,5.7nm,0.5s,mb4.7
NVS Novosibirsk 33.96 348 *i* P **P 18 24 10.7 -0.4**
NVS *e* 18 25 55.7
NVS *i* S **S 18 29 26.4 -1.4**
NVS pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS pmax pmax
comp=E,4.0nm,0.7s
NVS smax
comp=N,17nm,1.5s
NVS smax
comp=E,19nm,1.5s
BVAR Borovoye Array 36.14 335 P **P 18 24 30.2 +0.5**
comp=E,2.3nm,0.6s,mb4.3,baz=138,slow=11,SNR=26
BVAR PcP PcP 18 26 53.6 -0.1
comp=E,1.1nm,0.4s,baz=162,slow=3.9,SNR=7.9
BRVK Borovoye 36.21 335 *e*P **P 18 24 30.4 +0.2**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BRVK Borovoye 36.21 335 *e*P **P 18 24 30.4 +0.2**
comp=Z,2.7nm,0.6s,mb4.3
CHKZ Chkalovo 36.56 336 *e*P **P 18 24 33.7 +0.5**
CHKZ pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
CHKZ Chkalovo 36.56 336 *e*P **P 18 24 33.7 +0.5**
comp=Z,5.2nm,0.4s,mb4.8
ZEI Tsey 46.79 309 *e*P **P 18 25 58.0 +1.3**
ZEI pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
MALT Malatya 50.48 302 *e*P **P 18 26 26.1 +0.8**
MALT pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
MALT Malatya 50.48 302 *e*P **P 18 26 26.1 +0.8**
comp=Z,1.7nm,0.7s,mb4.1
BRTR Keskin Array B 54.24 304 P **P 18 26 52.8 -0.5**
comp=Z,0.4nm,0.4s,mb3.8,baz=135,slow=4.1,SNR=3.2
WRA Warramunga Arr 56.95 134 P **P 18 27 12.8 -0.2**
comp=Z,1.9nm,0.6s,mb4.3,baz=320,slow=7.5,SNR=42
WRAB Tennant Creek 56.95 134 *e*P **P 18 27 12.7 -0.3**
WRAB pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
WRAB Tennant Creek 56.95 134 *e*P **P 18 27 12.7 -0.3**
comp=Z,4.3nm,0.8s,mb4.5
AKASG Malin Array Be 57.80 317 P **P 18 27 17.0 -1.5**
comp=Z,4.0nm,0.4s,mb4.8,baz=81,slow=6.9,SNR=34
AKASG pP pP 18 27 42.3 -0.5
comp=Z,0.6nm,0.3s,baz=81,slow=6.7,SNR=2.8
JOF Joensuu 58.58 331 *e*p **P 18 27 22.6 -1.2**
comp=Z,0.4nm,0.3s,mb3.9
NWAO Narrogin (SRO) 58.68 158 P **P 18 27 24.7 -0.3**
comp=Z,5.4nm,0.6s,mb4.8,baz=31,slow=11,SNR=9.4
ASAR Alice Springs 59.32 137 P **P 18 27 29.7 +0.2**
comp=Z,1.0nm,0.5s,mb4.1,baz=320,slow=6.9,SNR=30
ASAR pP pP 18 27 54.8 +0.9
comp=Z,0.9nm,0.5s,baz=318,slow=6.6,SNR=3.4
ASAR PcP PcP 18 28 15.7 -0.6
comp=Z,0.9nm,0.6s,baz=316,slow=5.1,SNR=4.8
KAF Kangasniemi 60.70 330 *e*p **P 18 27 37.1 -1.3**
comp=Z,0.2nm,0.2s,mb3.8
FINES FINESS Array B 60.71 329 P **P 18 27 37.5 -1.0**
comp=Z,2.6nm,1.0s,mb4.2,baz=63,slow=5.2,SNR=8.9
FINES pP pP 18 28 02.1 -0.9
comp=Z,2.2nm,0.8s,baz=108,slow=6.0,SNR=2.0
KEV Kevo 61.88 339 *e*p **P 18 27 39.0 -7.2**
comp=Z,0.3nm,0.3s,mb3.8
ARCES ARCESS Array B 62.34 338 P **P 18 27 48.6 -0.6**
comp=Z,3.2nm,0.8s,mb4.4,baz=101,slow=7.7,SNR=21
ARCES pP pP 18 28 14.2 +0.2
comp=Z,2.4nm,0.8s,baz=98,slow=8.6,SNR=1.5
BILL Bilibino 63.04 24 *e*P **P 18 27 52.4 -1.6**
BILL pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
BILL Bilibino 63.04 24 *e*P **P 18 27 52.4 -1.6**
comp=Z,1.4nm,0.6s,mb4.1
CTA Charters Tower 65.53 126 P **P 18 28 11.0 +0.1**
comp=Z,4.1nm,1.0s,mb4.2,baz=300,slow=14,SNR=2.1
NB2 NORSAR Subarra 67.87 329 P **P 18 28 23.8 -1.1**
comp=Z,1.2nm,0.5s,mb4.0,baz=85,slow=6.2
NOA NORSAR Array B 67.87 329 P **P 18 28 23.8 -1.1**
comp=Z,1.2nm,0.5s,mb4.0,baz=86,slow=6.3,SNR=7.6
NOA pP pP 18 28 47.6 -2.3
comp=Z,1.0nm,0.6s,baz=86,slow=6.3,SNR=3.5
GERES GERESS Array B 67.90 315 P **P 18 28 25.1 -0.1**
comp=Z,2.4nm,0.5s,mb4.3,baz=77,slow=6.0,SNR=30
GERES pP pP 18 28 48.6 -1.7
comp=Z,1.7nm,0.5s,baz=77,slow=5.9,SNR=6.5
STKA Stephens Creek 69.92 138 P **P 18 28 38.9 +0.8**
comp=Z,1.3nm,0.8s,mb3.8,baz=353,slow=17,SNR=2.4
CDF Champ du Feu 72.17 316 *e*P **P 18 28 50.8 -0.4**
comp=Z,2.7nm,0.5s,mb4.0
CDF Champ du Feu 72.17 316 *e*P **P 18 28 50.8 -0.4**
CDF pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
PGF Pioggiola 72.34 309 *e*P **P 18 28 52.0 -0.3**
comp=Z,8.5nm,0.7s,mb4.4
PGF Pioggiola 72.34 309 *e*P **P 18 28 52.0 -0.3**
PGF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
SBF Sospel 73.14 311 *e*P **P 18 28 56.9 0.0**
LPG La Plagne 73.21 313 *e*P **P 18 28 57.9 +0.7**
comp=Z,5.9nm,0.5s,mb4.3
LPG La Plagne 73.21 313 *e*P **P 18 28 57.9 +0.7**
LPG pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
LPL La Plagne 73.22 313 *e*P **P 18 28 57.8 +0.5**
comp=Z,12nm,0.5s,mb4.7
LPL La Plagne 73.22 313 *e*P **P 18 28 57.8 +0.5**
LPL pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
CABF La Chapelle 73.38 314 *e*P **P 18 28 58.6 +0.4**
MBDF Montbardon 73.38 312 *e*P **P 18 28 58.4 +0.1**
comp=Z,5.9nm,0.6s,mb4.3
MBDF Montbardon 73.38 312 *e*P **P 18 28 58.4 +0.1**
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
FRF La Foret Royal 73.77 311 *e*P **P 18 29 00.4 -0.2**
comp=Z,10nm,0.8s,mb4.3
FRF La Foret Royal 73.77 311 *e*P **P 18 29 00.4 -0.2**
FRF pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
LMR La Mourre 73.92 311 *e*P **P 18 29 01.1 -0.4**
comp=Z,5.3nm,0.6s,mb4.1
LMR La Mourre 73.92 311 *e*P **P 18 29 01.1 -0.4**
LMR pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
ORIF Oris-en-Rattie 73.95 312 *e*P **P 18 29 01.4 -0.2**
SMRF Simiane la Rot 74.41 311 *e*P **P 18 29 04.5 +0.2**
VIVF Saint-Julien-I 74.79 313 *e*P **P 18 29 06.2 -0.3**
comp=Z,7.5nm,0.8s,mb4.2
VIVF Saint-Julien-I 74.79 313 *e*P **P 18 29 06.2 -0.3**
VIVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
SMF Signal de Mont 74.86 314 *e*P **P 18 29 06.7 -0.1**
comp=Z,6.8nm,0.5s,mb4.3
SMF Signal de Mont 74.86 314 *e*P **P 18 29 06.7 -0.1**
SMF pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
SSF Saint Saulge 74.97 315 *e*P **P 18 29 07.4 0.0**
SSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
SSF Saint Saulge 74.97 315 *e*P **P 18 29 07.4 0.0**
comp=Z,3.3nm,0.7s,mb4.2
AVF Avril sur Loir 75.15 315 *e*P **P 18 29 08.4 0.0**
comp=Z,4.8nm,0.5s,mb4.2
AVF Avril sur Loir 75.15 315 *e*P **P 18 29 08.4 0.0**
AVF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
LASF Ste Croix 75.57 312 *e*P **P 18 29 10.6 -0.3**
TCF Toulx Ste Croi 76.05 314 *e*P **P 18 29 14.0 +0.4**
comp=Z,9.3nm,0.8s,mb4.3
TCF Toulx Ste Croi 76.05 314 *e*P **P 18 29 14.0 +0.4**
TCF pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
CAF Calviac 76.55 313 *e*P **P 18 29 17.0 +0.6**
RJF Les Rejaudoux 76.80 314 *e*P **P 18 29 17.9 +0.1**
comp=Z,3.4nm,0.5s,mb4.1
RJF Les Rejaudoux 76.80 314 *e*P **P 18 29 17.9 +0.1**
RJF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
MTLF Montolieu 76.92 312 *e*P **P 18 29 18.6 0.0**
LFF La Frestale 77.44 313 *e*P **P 18 29 21.5 +0.1**
comp=Z,5.9nm,0.6s,mb4.2
LFF La Frestale 77.44 313 *e*P **P 18 29 21.5 +0.1**
LFF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
ETSF Etsaut 78.99 312 *e*P **P 18 29 29.8 -0.1**
comp=Z,1.9nm,0.5s,mb3.9
ETSF Etsaut 78.99 312 *e*P **P 18 29 29.8 -0.1**
ETSF pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
SJPF Ste Jean 79.38 312 *e*P **P 18 29 32.0 0.0**
ILAR Eielson Array 81.66 22 P **P 18 29 43.0 -0.7**
comp=Z,1.9nm,0.5s,mb4.2,baz=293,slow=4.9,SNR=49
YKA Yellowknife Ar 92.74 13 P **P 18 30 37.1 -0.1**
comp=Z,0.4nm,0.5s,mb4.0,baz=334,slow=4.8,SNR=7.4
DBIC Dimbokro 96.19 280 P **P 18 30 53.8 -0.3**
comp=Z,0.7nm,0.6s,mb4.3,baz=63,slow=6.8,SNR=2.6

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*CSEM **14** 18:31:15.2±0.4, 36.23N×1.63E, h25km, ML2.9, Error ellipse: s-maj=12.0km s-min=10.6km az=84.0*
*MDD **14** 18:31:16.3±0.8, 36.20N×1.71E, h18km±9km, mb3.7/6, Error ellipse: s-maj=11.1km s-min=7.6km az=3.0, PRXIMO*
*NEIC **14** 18:31:17.8, 36.40N×1.51E, MG3.8(MDD), After MDD.*

ISC 14 18:31:15.9±0.7, 36.37N±0.04×1.55E±0.06, h18km, n26, σ1§21/41, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.08**	**192**	P		**Pb**	**18 31 19.5**	**+0.2**
ECHA	**Ech Chlef**	**0.26**	**215**	P		**Pb**	**18 31 22.0**	**+0.2**
ECHF	**Ech Chlef**	**0.27**	**219**	P		**Pb**	**18 31 22.0**	**0.0**
EANR	**'Ain N'Sour**	**0.55**	**221**	P		**Pb**	**18 31 28.0**	**+1.3**
ETRT	**Tiaret**	**0.99**	**192**	P		**Pb**	**18 31 31.0**	**-3.3**
EMHD	**Djebel Mahouad**	**1.15**	**98**	P		**Pb**	**18 31 35.0**	**-1.8**
ABA	**Alger-Bouzarea**	**1.27**	**70**	P		**Pn**	**18 31 44.0**	**+5.0**
EIBI	**Ibiza**	**2.66**	**357**	P		**Pn**	**18 32 00.1**	**+1.2**
EIBI				S		**Sn**	**18 32 30.5**	**-0.5**
EIBI	**Ibiza**	**2.66**	**357**	P		**Pn**	**18 31 59.8**	**+0.9**
	3.0nm,0.3s,SNR=20							
EIBI				S		**Sn**	**18 32 30.0**	**-1.0**
	7.6nm,0.2s							
EIBI	**Ibiza**	**2.66**	**357**	P		**Pn**	**18 32 00.1**	**+1.2**
	4.5nm,0.2s,SNR=20							
EIBI				S		**Sn**	**18 32 30.5**	**-0.5**
	7.6nm,0.2s							
EBEN	**Beniarda**	**2.73**	**329**	P		**Pn**	**18 32 01.5**	**+1.7**
EBEN				S		**Sn**	**18 32 33.4**	**+0.8**
EBEN	**Beniarda**	**2.73**	**329**	P		**Pn**	**18 32 00.6**	**+0.8**
	1.9nm,0.2s,SNR=9.9							
EBEN				S		**Sn**	**18 32 35.3**	**+2.6**
	0.8nm,0.1s							
EBEN	**Beniarda**	**2.73**	**329**	P		**Pn**	**18 32 01.5**	**+1.7**
	3.2nm,0.4s,SNR=9.9							
EBEN				S		**Sn**	**18 32 33.4**	**+0.7**
	0.8nm,0.1s							
ENIJ	**Nijar**	**3.08**	**282**	P		**Pn**	**18 32 05.5**	**+0.6**
	1.7nm,0.3s,SNR=4.0							
ENIJ				S		**Sn**	**18 32 41.1**	**-0.5**
	2.1nm,0.5s,SNR=7.9							
EBER	**Berja**	**3.61**	**280**	P		**Pn**	**18 32 12.6**	**+0.2**
EBER				S		**Sn**	**18 32 52.8**	**-2.2**
EBER	**Berja**	**3.61**	**280**	P		**Pn**	**18 32 12.5**	**+0.2**
	1.9nm,0.2s,SNR=9.8							
EBER				S		**Sn**	**18 32 55.2**	**+0.2**
	0.2nm,0.1s							
EBER	**Berja**	**3.61**	**280**	S		**Sn**	**18 32 52.8**	**-2.2**
	0.2nm,0.1s							
EBER	**Berja**	**3.61**	**280**	P		**Pn**	**18 32 12.6**	**+0.3**
	1.8nm,0.2s,SNR=9.8							
EQES	**Quesada**	**3.96**	**293**	P		**Pn**	**18 32 18.8**	**+1.4**
EQES				S		**Sn**	**18 33 04.6**	**+0.7**
EQES	**Quesada**	**3.96**	**293**	P		**Pn**	**18 32 18.8**	**+1.4**
	0.8nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**18 33 03.8**	**-0.1**
	0.3nm,0.1s,SNR=5.9							
EQES	**Quesada**	**3.96**	**293**	P		**Pn**	**18 32 18.8**	**+1.4**
	1.4nm,0.2s,SNR=7.9							
EQES				S		**Sn**	**18 33 04.6**	**+0.7**
	0.3nm,0.1s,SNR=5.9							
EMOS	**Mosqueruela**	**4.30**	**339**	P		**Pn**	**18 32 23.5**	**+1.4**
EMOS				S		**Sn**	**18 33 10.0**	**-2.4**
EMOS	**Mosqueruela**	**4.30**	**339**	P		**Pn**	**18 32 23.1**	**+1.0**
	1.0nm,0.1s,SNR=20							
EMOS				S		**Sn**	**18 33 11.1**	**-1.2**
	0.7nm,0.3s							
EMOS	**Mosqueruela**	**4.30**	**339**	S		**Sn**	**18 33 10.0**	**-2.4**
	25nm,1.7s							
EPOB	**Poblet**	**4.99**	**356**	P		**Pn**	**18 32 31.9**	**0.0**
	0.6nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**5.21**	**292**	P		**Pn**	**18 32 34.1**	**-0.9**
	0.2nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**18 33 33.1**	**-2.3**
	0.3nm,0.2s,SNR=7.9							

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*NIED **14** 18:33:00, 37.10N×142.10E, h26km, Mw3.7 Best double couple: M0 3.94×10^14 NP1:φs306°, δ87°, λ-80°. NP2:φs51°, δ10°, λ-165°.*
*IDC **14** 18:33:48.7±1.1, 37.01N×142.17E, mb3.6/4, mb1 3.9/6, mb1mx3.6/22, mbtmp3.8/6, ML4.0/2, Error ellipse: s-maj=40.1km s-min=19.0km az=100.0*
*JMA **14** 18:33:51.7±0.3, 37.10N×142.08E, h37km, M3.8*

ISC 14 18:33:51.0±0.7, 37.05N±0.04×142.16E±0.07, h33km, n17, σ0§97/24, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.08**	**287**	P		**P**	**18 34 09.6**	**-0.1**
JFK				*e*S		**S**	**18 34 22.1**	**-1.6**
ONAJ	**Iwakimizuishiy**	**1.09**	**273**	P		**P**	**18 34 09.5**	**-0.5**
JMM	**Marumori**	**1.36**	**307**	P		**P**	**18 34 13.7**	**-0.1**
JFT	**Otama**	**1.53**	**288**	P		**P**	**18 34 17.3**	**+1.0**
JIO	**Ouri**	**1.54**	**335**	P		**P**	**18 34 16.3**	**-0.1**
JIO				*e*S		**S**	**18 34 34.1**	**-1.4**
JOU	**Okura**	**1.77**	**318**	P		**P**	**18 34 20.8**	**+1.1**
JFY	**Yanaizu**	**1.99**	**281**	P		**P**	**18 34 24.5**	**+1.6**
JFY				*e*S		**S**	**18 34 47.9**	**+1.0**
JMK	**Ichinoseki**	**2.04**	**339**	P		**P**	**18 34 24.0**	**+0.5**
JMK				*e*S		**S**	**18 34 47.2**	**-0.8**
JAG	**Ashikaga**	**2.27**	**255**	P		**P**	**18 34 27.5**	**+0.7**
JYK	**Kaneyama**	**2.34**	**323**	P		**P**	**18 34 28.7**	**+0.8**
MAT	**Matsushiro**	**3.22**	**262**	P		**P**	**18 34 40.0**	**-0.4**
MAT				*e*S		**S**	**18 35 18.1**	**+0.1**
JHJ	**Hachijo jima 2**	**4.38**	**207**	Pn		**Pn**	**18 34 57.0**	**-0.1**
	24nm,0.3s,baz=53,slow=19,SNR=20							
JHJ				Sn		**Sn**	**18 35 45.4**	**-2.3**
	24nm,0.3s,baz=226,slow=20,SNR=3.8							
ASAJ	**Asahikawa**	**7.06**	**3**	Pn		**Pn**	**18 35 33.4**	**-1.5**
	2.8nm,0.3s,baz=200,slow=8.4,SNR=14							
ASAJ				Sn		**Sn**	**18 36 50.6**	**-4.2**
	baz=64,slow=30,SNR=1.6							
SONM	**Songino Array**	**28.27**	**304**	P		**P**	**18 39 43.9**	**+0.7**
	0.3nm,0.6s,mb3.1,baz=90,slow=8.6,SNR=3.5							
ILAR	**Eielson Array**	**49.16**	**32**	P		**P**	**18 42 38.4**	**+1.2**
	0.5nm,0.6s,mb3.7,baz=261,slow=5.6,SNR=7.5							
WRA	**Warramunga Arr**	**57.17**	**189**	P		**P**	**18 43 37.3**	**+0.2**
	0.9nm,0.7s,mb3.9,baz=7.1,slow=7.0,SNR=16							
ASAR	**Alice Springs**	**60.89**	**189**	P		**P**	**18 44 02.3**	**-0.5**
	0.5nm,0.8s,mb3.7,baz=18,slow=7.1,SNR=10.0							

IDC 14 18:41:42.7±27.0, 10.08N×92.82E, mb3.3/2, mb1 3.5/3, mb1mx3.3/18, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=631.5km s-min=45.1km az=97.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.22**	**35**	Pn		P	18 44 10.8	-3.1
	0.0nm,0.3s,baz=215,slow=15,SNR=3.1							
WRA	**Warramunga Arr**	**50.61**	**126**	P		P	18 50 43.6	-2.2
	0.3nm,0.6s,baz=305,slow=8.7,SNR=5.1							
ASAR	**Alice Springs**	**52.33**	**130**	P		P	18 50 56.6	-2.1
	0.4nm,0.9s,baz=308,slow=6.4,SNR=7.1							

IDC 14 18:51:55.9±2.8, 2.80N×94.52E, mb3.7/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=92.7km s-min=32.3km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.15**	**15**	Pn		P	18 55 43.1	-2.9
	0.1nm,0.3s,baz=208,slow=12,SNR=8.2							
WRA	**Warramunga Arr**	**45.15**	**122**	P		P	19 00 14.4	-2.1
	1.5nm,1.1s,baz=299,slow=9.0,SNR=3.6							
SONM	**Songino Array**	**46.02**	**11**	P		P	19 00 22.0	-0.9
	0.5nm,0.6s,baz=196,slow=6.7,SNR=4.3							
BVAR	**Borovoye Array**	**53.89**	**342**	P		P	19 01 20.6	-2.6
	0.6nm,0.5s,baz=141,slow=9.2,SNR=3.5							

IDC 14 18:55:18.1±4.8, 3.51N×93.82E, h29km±6km, mb3.1/3, mb1 3.4/4, mb1mx3.2/18, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=148.1km s-min=20.6km az=70.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.68**	**18**	Pn		P	18 58 56.8	-2.2
	0.1nm,0.3s,baz=212,slow=14,SNR=3.6							
SONM	**Songino Array**	**45.47**	**12**	P		P	19 03 34.8	-1.8
	0.4nm,0.7s,baz=205,slow=6.6,SNR=3.2							
SONM				pP		pP	19 03 43.4	-1.8
	1.5nm,0.7s,baz=194,slow=8.4,SNR=10							
WRA	**Warramunga Arr**	**46.11**	**122**	P		P	19 03 39.9	-2.1
	0.2nm,0.5s,baz=299,slow=8.9,SNR=4.7							
WRA				pP		pP	19 03 48.9	-1.9
	2.2nm,0.6s,baz=299,slow=8.9,SNR=12							
ASAR	**Alice Springs**	**47.47**	**127**	P		P	19 03 50.6	-2.1
	0.4nm,1.0s,baz=298,slow=8.3,SNR=2.6							
ASAR				pP		pP	19 03 59.5	-2.0
	1.0nm,0.7s,baz=297,slow=8.0,SNR=6.3							

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*IDC **14** 19:08:09.4±0.8, 36.98N×28.43E, mb3.9/12, mb1 4.1/20, mb1mx4.1/25, mbtmp4.0/20, ML4.0/6, MS3.4/4, Ms1 3.4/4, ms1mx3.1/21, Error ellipse: s-maj=17.3km s-min=14.7km az=43.0*
*THE **14** 19:08:10.7, 36.96N×28.81E, h20km*
*ATH **14** 19:08:10.8, 37.07N×28.28E, h23km±5km, MD4.1/20, ML4.3*
*MOS **14** 19:08:10.3±0.9, 37.06N×28.32E, h10km, mb4.3/14, Error ellipse: s-maj=6.2km s-min=4.2km az=127.0*
*ISK **14** 19:08:10.3, 37.04N×28.31E, h10km, MD3.8, ML4.1*
*NEIC **14** 19:08:10.3, 37.07N×28.32E, h7km, mb4.1/31, ML4.3(ATH), ML4.1(ISK), ML4.0(NIC), After ISK.*
*CSEM **14** 19:08:11.8±0.1, 36.92N×28.44E, h34km, mb4.2/15, Mw3.6, Error ellipse: s-maj=2.3km s-min=0.9km az=50.0*
*NIC **14** 19:08:14.2±0.3, 36.62N×28.06E, h25km, mb4.5, ML4.0, MW3.6*
*HLW **14** 19:08:17.8, 36.68N×28.57E, h30km, Mb4.0*

ISC 14 19:08:10.3±0.4, 36.93N±0.02×28.35E±0.02, h17km±4km, n271, σ1§14/295, mb4.2/31, MS3.3/3, 11C-14D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.28**	**126**	*i* PG		**Pb**	**19 08 18.2**	**+1.7**
DALT				*i* SG		**Sb**	**19 08 24.1**	**+3.4**
DALT	**Dalyan (Mudla)**	**0.28**	**126**	Pg		**Pb**	**19 08 18.4**	**+1.9**
DALT				Sg		**Sb**	**19 08 24.4**	**+3.7**
DALT	**Dalyan (Mudla)**	**0.28**	**126**	Pg		**Pb**	**19 08 18.4**	**+1.9**
DALT				Sg		**Sb**	**19 08 24.4**	**+3.7**
MLSB	**Milas**	**0.59**	**308**	*i* PG		**Pb**	**19 08 20.7**	**-1.0**
MLSB	**Milas**	**0.59**	**308**	Pg		**Pb**	**19 08 20.9**	**-0.8**
FETY	**Fethiye**	**0.66**	**117**	*i* PG		**Pb**	**19 08 24.3**	**+1.4**
ARG	**Arkhangelos**	**0.74**	**194**	⇑*i*PN		**Pn**	**19 08 25.6**	**-0.2**
ARG				*e*SN		**Sn**	**19 08 41.0**	**+4.4**
BDRM	**Kayabasi**	**0.74**	**281**	*i* P		**Pb**	**19 08 24.1**	**-0.1**
BDRM				*i* S		**Sb**	**19 08 35.1**	**+1.2**
AYDN	**Tasoluk**	**0.82**	**333**	*i* P		**Pb**	**19 08 24.5**	**-1.1**
AYDN				*i* S		**Sb**	**19 08 34.2**	**-2.0**
DNZL	**Cakiroluk**	**0.94**	**36**	*i* P		**Pb**	**19 08 26.8**	**-0.8**
DNZL				*i* S		**Sb**	**19 08 40.0**	**+0.4**
DENT	**Denizli**	**0.98**	**33**	PG		**Pb**	**19 08 27.4**	**-1.0**
DENT	**Denizli**	**0.98**	**33**	Pg		**Pb**	**19 08 27.4**	**-1.0**
ELL	**Elmali**	**1.26**	**98**	PN		**Pn**	**19 08 35.9**	**+2.7**
ELL	**Elmali**	**1.26**	**98**	P		**Pb**	**19 08 36.0**	**+2.8**
KSL	**Kastellorizon**	**1.26**	**128**	*e*PN		**Pn**	**19 08 37.0**	**+3.7**
SMG	**Samos**	**1.44**	**303**	‖*i*PN		**Pn**	**19 08 35.6**	**-0.1**
MANT	**Manisa**	**1.56**	**6**	*i* P		**Pn**	**19 08 37.7**	**+0.1**
MANT				*i* S		**Sn**	**19 08 57.2**	**-0.3**
KHL	**Karahalli**	**1.67**	**33**	PN		**Pn**	**19 08 40.0**	**+0.9**
KARP	**Karpathos**	**1.69**	**215**	⇑*i*PB		**Pb**	**19 08 40.6**	**+0.2**
IZM	**Izmir**	**1.70**	**330**	PN		**Pn**	**19 08 39.3**	**-0.2**
IZM	**Izmir**	**1.70**	**330**	Pn		**Pn**	**19 08 39.3**	**-0.2**
KDAG	**Bornova**	**1.70**	**330**	*i* P		**Pn**	**19 08 39.1**	**-0.4**
KDAG				*i* S		**Sn**	**19 09 01.2**	**+0.2**
ANTB	**Antalya**	**1.84**	**90**	PN		**Pn**	**19 08 43.5**	**+1.9**
BCK	**Bucak**	**1.86**	**73**	PN		**Pn**	**19 08 43.0**	**+1.2**
ISP	**Isparta**	**1.94**	**61**	*e*PN		**Pn**	**19 08 44.0**	**+1.0**
ISP	**Isparta**	**1.94**	**61**	*d* P		**Pn**	**19 08 45.1**	**+2.1**
AKS	**Akhisar**	**1.99**	**348**	PN		**Pn**	**19 08 43.0**	**-0.7**
APE	**Apeiranthos**	**2.26**	**274**	*e*PN		**Pn**	**19 08 47.9**	**+0.3**
APE	**Apeiranthos**	**2.26**	**274**	Pn		**Pn**	**19 08 47.9**	**+0.4**
APE	**Apeiranthos**	**2.26**	**274**	‖*i*PN		**Pn**	**19 08 48.1**	**+0.5**
SANT	**Santorini**	**2.39**	**257**	*e*Pn		**Pn**	**19 08 55.1**	**+5.7**
ALT	**Altintas**	**2.53**	**33**	*e*PN		**Pn**	**19 08 51.8**	**+0.4**
ALT	**Altintas**	**2.53**	**33**	Pn		**Pn**	**19 08 51.8**	**+0.4**
BALB	**Balikesir**	**2.73**	**352**	*e*PN		**Pn**	**19 08 54.0**	**-0.2**
NPS	**Neapolis**	**2.78**	**234**	‖*i*PN		**Pn**	**19 08 56.3**	**+1.4**
PRK	**Paraskevi**	**2.83**	**325**	⇑*i*PN		**Pn**	**19 08 55.3**	**-0.4**
XRY	**Khrisi**	**2.98**	**227**	*e*PN		**Pn**	**19 09 00.0**	**+2.2**
ORLT	**Orhaneli**	**3.14**	**8**	*e*PN		**Pn**	**19 08 59.4**	**-0.6**
ORLT	**Orhaneli**	**3.14**	**8**	Pn		**Pn**	**19 08 59.5**	**-0.6**
ORLT	**Orhaneli**	**3.14**	**8**	Pn		**Pn**	**19 08 59.5**	**-0.5**
ESKT	**Eskisehir**	**3.25**	**37**	*e*PN		**Pn**	**19 09 02.8**	**+1.2**
ESKT	**Eskisehir**	**3.25**	**37**	Pn		**Pn**	**19 09 02.9**	**+1.3**
ESKT	**Eskisehir**	**3.25**	**37**	Pn		**Pn**	**19 09 02.9**	**+1.3**
IDI	**Anoyia**	**3.25**	**241**	Pn		**P

GVD	Gavdhos	4.04	240	*e*PN	Pn	19 09 12.0	-0.9
LEF	Lefka	4.10	115	*e*PN	Pn	19 09 15.5	+1.8
LEF	Lefka	4.10	115	Pn	Pn	19 09 14.9	+1.2
LEF	Lefka	4.10	115	Pn	Pn	19 09 14.9	+1.2
MGER	Gerania Oros	4.19	286	*e*PN	Pn	19 09 15.0	+0.1
SZAC	Souni-Zanaja	4.27	119	P	Pn	19 09 17.5	+1.3
MAMC	Mammari	4.32	113	P	Pn	19 09 19.2	+2.4
KYTH	Kithira	4.33	263	*e*Pn	Pn	19 09 20.0	+3.1
KYTH	Kithira	4.33	263	*e*PN	Pn	19 09 19.4	+2.5
IKL	Isikli	4.35	98	*e*PN	Pn	19 09 19.9	+2.7
IKL	Isikli	4.35	98	Pn	Pn	19 09 20.5	+3.2
ALN	Alexandroupoli	4.35	336	*e*Pn	Pn	19 09 16.1	-1.1
ALN				*e*Sn	Sn	19 10 05.6	-2.6
VLI	Veliai	4.35	269	*e*PB	Pb	19 09 21.5	-4.4
CSS	Prodhromos	4.49	114	P	Pn	19 09 21.0	+1.7
	3.0nm,0.7s						
CSS				S	Sn	19 10 14.2	+2.4
PAIG	Paliouri	4.73	311	*e*Pn	Pn	19 09 22.3	-0.4
XOR	Xorichti	4.74	302	*e*Pn	Pn	19 09 23.6	+0.8
RDO	Rodhopi	4.74	333	⇑*i*PN	Pn	19 09 21.3	-1.6
OUR	Ouranopolis	4.82	316	*e*Pn	Pn	19 09 23.2	-0.8
PHNC	Paralimni	4.99	111	P	Pn	19 09 29.7	+3.3
BRTR	Keskin Array B	5.00	55	Pn	Pn	19 09 27.6	+1.0
	5.6nm,0.3s,baz=235,slow=16,SNR=87						
BRTR				Sn	Sn	19 10 24.4	-0.3
	2.4nm,0.3s,baz=236,slow=18,SNR=6.6						
BRTR	Keskin Array B	5.00	55	Pn	Pn	19 09 27.5	+1.0
BRTR				S	Sn	19 10 24.4	-0.3
PLG	Polygyros	5.15	313	*e*PN	Pn	19 09 28.0	-0.6
AGG	Agios Georgios	5.20	295	*e*Pn	Pn	19 09 30.5	+1.3
KDZ	Kurdzhali	5.23	335	P	Pn	19 09 28.5	-1.2
SOH	Sokhos	5.50	316	*e*Pn	Pn	19 09 33.4	-0.2
RZN	Rozhen	5.52	330	P	Pn	19 09 33.0	-0.8
EVR	Evrytania	5.54	293	*e*Pn	Pn	19 09 36.0	+1.9
EVR	Evrytania	5.54	293	*e*PN	Pn	19 09 35.5	+1.4
DIM	Dimitrovgrad	5.56	338	P	Pn	19 09 34.0	-0.3
LIT	Litokhoron	5.58	306	*e*Pn	Pn	19 09 34.6	-0.1
SRS	Serrai	5.58	320	*e*Pn	Pn	19 09 34.5	-0.2
THE	Thessaloniki	5.60	313	*e*Pn	Pn	19 09 35.0	+0.1
NVR	Nevrokopi	5.62	323	⇑*i*PN	Pn	19 09 34.4	-0.9
MMB	Musomiste	5.87	324	P	Pn	19 09 37.3	-1.5
HMAT	Matruh	5.92	191	⇓P	Pn	19 09 41.1	+1.7
HMAT				S	Sn	19 10 39.5	-8.1
KNT	Kendrikon	5.99	317	*e*Pn	Pn	19 09 40.4	0.0
SLUM		6.02	207	⇓P	Pn	19 09 42.2	+1.4
SLUM		6.02	207	P	Pn	19 09 42.2	+1.4
KKB	Krupnik	6.40	322	P	Pn	19 09 46.0	-0.2
PGB	Panagyurishte	6.47	331	P	Pn	19 09 45.5	-1.7
FNA	Florina	6.66	307	*e*Pn	Pn	19 09 50.6	+0.7
PVL	Pavlikeni	6.69	341	*e*P	Pn	19 09 49.0	-1.3
HNTI	Hanita	6.79	122	P	Pn	19 09 51.0	-0.7
HNTI				S	Sn	19 11 05.5	-3.8
IGT	Igoumenitsa	6.83	295	*e*Pn	Pn	19 09 53.7	+1.5
HAF	Haifa	6.87	125	P	Pn	19 09 52.2	-0.7
VTS	Vitosha	6.90	327	P	Pn	19 09 54.0	+0.7
OFRI	'Ofer	6.95	126	P	Pn	19 09 53.1	-0.8
OFRI				S	Sn	19 11 10.8	-2.5
KSDI	Kefar Szold	7.06	120	P	Pn	19 09 54.8	-0.7
SLTI	Sal'it	7.23	128	P	Pn	19 09 57.0	-0.9
SLTI				S	Sn	19 11 16.2	-4.3
KSHT	Keshet	7.28	121	P	Pn	19 09 58.9	+0.3
SKO	Skopje	7.34	315	*i* Pn	Pn	19 10 01.0	+1.5
MMLI	Mount Malkishu	7.35	126	P	Pn	19 09 58.5	-1.0
SQR		7.42	161	⇑P	Pn	19 09 59.5	-1.0
SQR		7.42	161	P	Pn	19 09 59.5	-1.1
AMAG	Maghara	7.46	146	P	Pn	19 10 00.2	-1.0
HNAT	Natroun	7.52	165	P	Pn	19 10 01.0	-1.0
HMDT	Nahal Hemdat	7.53	126	P	Pn	19 10 01.4	-0.7
KOT	Kottamia	7.57	156	⇓P	Pn	19 10 02.4	-0.2
KOT	Kottamia	7.57	156	P	Pn	19 10 02.3	-0.3
HHAG	Hagoal	7.63	155	⇑P	Pn	19 10 02.0	-1.5
HSAF	As Saff	7.77	159	P	Pn	19 10 05.3	-0.1
KZIT	Kziot	7.83	138	P	Pn	19 10 05.5	-0.8
KZIT				S	Sn	19 11 30.8	-4.6
GLL	Jalalah	7.86	158	P	Pn	19 10 06.5	-0.1
RTMM	Retamin	7.88	136	P	Pn	19 10 05.7	-1.2
DRGI	Dragot	7.89	130	P	Pn	19 10 06.8	-0.3
SWA1		7.96	197	P	Pn	19 10 08.2	+0.1
MASH	Mash'abbe Sade	7.97	136	P	Pn	19 10 06.9	-1.4
SUZ		8.00	151	⇑P	P	19 10 08.0	-0.7
SWA2		8.04	198	⇓P	Pn	19 10 09.0	-0.2
MKRJ	Makawir	8.07	130	P	P	19 10 08.7	-1.0
MZDA	Masada	8.07	132	P	P	19 10 09.1	-0.6
MZDA				S	Sn	19 11 36.7	-4.8
MALT	Malatya	8.11	77	*e*P	P	19 10 11.9	+1.7
MALT				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MALT	Malatya	8.11	77	*e*Pn	P	19 10 11.9	+1.7
	comp=Z,2.6nm,0.6s						
MALT	Malatya	8.11	77	*e*P	P	19 10 11.9	+1.7
	comp=Z,1.5nm,0.6s						
CFR	Carcaliu	8.24	359	⇓*i*P	P	19 10 09.1	-2.9
HBNS	Bani Suwayf	8.31	162	P	P	19 10 12.6	-0.4
ZAF		8.40	154	P	P	19 10 13.6	-0.7
HNKL	Nakhl	8.42	144	⇓P	P	19 10 12.8	-1.6
ZNM		8.44	152	⇑P	P	19 10 13.7	-1.0
ASF	Jabal al Asfar	8.50	121	Pn	P	19 10 15.4	-0.2
	comp=Z,1.4nm,0.3s,baz=195,slow=7.1,SNR=8.7						
ASF				Sn	Sn	19 11 51.8	-0.2
	comp=Z,0.7nm,0.3s,baz=147,slow=15,SNR=2.0						
ZFRI	Zfri	8.53	136	P	P	19 10 14.0	-2.0
KMTI	Karmit	8.64	140	P	P	19 10 16.4	-1.1
MLR	Muntele Rosu	8.74	349	Pn	P	19 10 17.3	-1.6
	comp=Z,0.7nm,0.3s,baz=165,slow=3.4,SNR=46						
MLR	Muntele Rosu	8.74	349	⇓*i*P	P	19 10 17.4	-1.5
VRI	Vrincioaia	9.01	353	⇑*i*P	P	19 10 21.1	-1.5
EIL	Elat	9.11	141	Pn	P	19 10 22.6	-1.4
	baz=327,slow=9.9						
EIL				Sn	Sn	19 12 01.7	-5.4
	comp=Z,2.1nm,0.3s,baz=331,slow=33,SNR=4.4						
EIL	Elat	9.11	141	*e*Pn	P	19 10 22.3	-1.7
	comp=Z,16nm,0.5s						
EIL				*e*Sn	Sn	19 12 03.0	-4.1
EIL	Elat	9.11	141	P	P	19 10 22.5	-1.5
HBST	Basata	9.37	143	P	P	19 10 25.9	-1.8
GRB	Gharib	9.41	155	P	P	19 10 27.3	-0.9
TIP	Timpagrande	9.42	287	*e*Pn	P	19 10 29.8	+1.5
NUB		9.49	144	⇑P	P	19 10 28.4	-0.9
HKAT	Jabal Katrina	9.63	149	P	P	19 10 29.7	-1.6
TR2		9.65	151	P	P	19 10 30.0	-1.5
HHRG	Al Ghardaqah	10.64	154	P	P	19 10 44.1	-1.1
KIV	Kislovodsk	12.97	53	P	P	19 11 22.0	+5.5
KIV				MLR	MLR		
	comp=Z,100nm,13.0s						
GNI	Garni	13.23	71	Pn	P	19 11 18.4	-1.5
	comp=Z,0.3nm,0.3s,baz=340,slow=23,SNR=2.9						
GNI				LR	LR	19 17 27.4	
	comp=Z,244nm,18.4s,baz=269,slow=42						
ZEI	Tsey	13.28	59	*e*P	P	19 11 26.0	+5.3
AKASG	Malin Array Be	13.78	2	Pn	P	19 11 24.4	-2.7
	comp=Z,0.4nm,0.3s,baz=178,slow=12,SNR=4.1						
PGF	Pioggiola	15.90	297	*e*P	P	19 11 54.6	-0.2
	comp=Z,15nm,1.0s						
PGF	Pioggiola	15.90	297	*e*P	P	19 11 54.6	-0.2
PGF				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GEC2	GERESS Array S	16.00	323	*e*P	P	19 12 01.0	+5.0
GEC2				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GEC2	GERESS Array S	16.00	323	*e*P	P	19 12 01.0	+5.0
	comp=Z,7.0nm,0.8s						
GERES	GERESS Array B	16.00	323	Pn	P	19 11 59.1	+3.1
	comp=Z,0.4nm,0.3s,baz=135,slow=11,SNR=37						
KHC	Kasperske Hory	16.25	323	*e*P	P	19 12 03.5	+4.2
WET	Wettzell	16.60	322	*e*P	P	19 12 07.3	+3.6
WET				pmax	pmax		
	comp=Z,15nm,1.1s						
WET	Wettzell	16.60	322	*e*P	P	19 12 07.3	+3.6
	comp=Z,15nm,1.1s						
BRG	Berggiesshubel	17.33	328	*e*P	P	19 12 16.6	+3.7
BRG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRG	Berggiesshubel	17.33	328	P	P	19 12 16.6	+3.7
	comp=Z,2.5nm,1.0s						
SBF	Sospel	17.35	300	*e*P	P	19 12 13.0	-0.1
	comp=Z,28nm,0.9s						
SBF	Sospel	17.35	300	*e*P	P	19 12 13.0	-0.1
SBF				pmax	pmax		
	comp=Z,14nm,0.9s						
SUW	Suwalki	17.45	350	*e*P	P	19 12 17.5	+3.1
SUW				pmax	pmax		
	comp=Z,33nm,1.0s						
SUW	Suwalki	17.45	350	*e*P	P	19 12 17.5	+3.1
	comp=Z,33nm,1.0s						
GRA1	Grafenberg Arr	17.78	321	*e*P	P	19 12 21.3	+2.8
	comp=Z,22nm,1.5s						
GRF	Grafenberg Arr	17.78	321	*e*P	P	19 12 21.3	+2.8
GRF				pmax	pmax		
	comp=Z,22nm,1.5s						
LMR	La Mourre	17.86	298	*e*P	P	19 12 19.8	+0.3
CLL	Collm	18.05	328	*e*P	P	19 12 27.0	+5.1
CLL	Collm	18.05	328	*e* P	P	19 12 27.0	+5.1
MBDF	Montbardon	18.06	302	*e*P	P	19 12 22.7	+0.7
	comp=Z,15nm,0.8s						
MBDF	Montbardon	18.06	302	*e*P	P	19 12 22.7	+0.7
MBDF				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MOX	Moxa	18.21	324	*e*P	P	19 12 26.5	+2.6
MOX				pmax	pmax		
	comp=Z,17nm,1.5s						
MOX	Moxa	18.21	324	*e*P	P	19 12 26.5	+2.6
	comp=Z,17nm,1.5s						
MOX	Moxa	18.21	324	*i* P	P	19 12 26.5	+2.6
	comp=Z,logA/T=1.1						
MOX	Moxa	18.21	324	*e*P	P	19 12 26.1	+2.2
	comp=Z,13nm,1.1s						
BNI	Bardonecchia	18.22	303	*e*P	P	19 12 26.3	+2.2
BNI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BNI	Bardonecchia	18.22	303	*e*P	P	19 12 26.3	+2.2
	comp=Z,5.0nm,1.0s						
LPG	La Plagne	18.32	305	*e*P	P	19 12 26.0	+0.7
	comp=Z,25nm,0.8s						
LPG	La Plagne	18.32	305	*e*P	P	19 12 26.0	+0.7
LPG				pmax	pmax		
	comp=Z,12nm,0.8s						
LPL	La Plagne	18.34	305	*e*P	P	19 12 26.0	+0.4
	comp=Z,17nm,0.7s						
LPL	La Plagne	18.34	305	*e*P	P	19 12 26.0	+0.4
LPL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BFO	Black Forest	18.56	314	*e*P	P	19 12 26.5	-1.7
BFO				pmax	pmax		
	comp=Z,69nm,2.5s						
BFO	Black Forest	18.56	314	*e*P	P	19 12 26.5	-1.7
	comp=Z,69nm,2.5s						
SMRF	Simiane la Rot	18.67	299	*e*P	P	19 12 30.2	+0.6
ORIF	Oris-en-Rattie	18.72	302	*e*P	P	19 12 30.3	+0.1
	comp=Z,21nm,0.9s						
ORIF	Oris-en-Rattie	18.72	302	*e*P	P	19 12 30.3	+0.1
ORIF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CABF	La Chapelle	19.16	307	*e*P	P	19 12 35.2	-0.2
	comp=Z,14nm,0.6s						
CABF	La Chapelle	19.16	307	*e*P	P	19 12 35.2	-0.2
CABF				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CDF	Champ du Feu	19.21	313	*e*P	P	19 12 35.4	-0.6
VIVF	Saint-Julien-l	19.53	301	*e*P	P	19 12 39.0	-0.6
	comp=Z,21nm,0.8s						
VIVF	Saint-Julien-l	19.53	301	*e*P	P	19 12 39.0	-0.6
VIVF				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HAU	Haudompre	19.57	311	*e*P	P	19 12 39.8	-0.3
CLZ	Clausthal	19.60	325	*e*P	P	19 12 42.3	+1.9
	comp=Z,7.0nm,1.1s						
LASF	Ste Croix	19.90	299	*e*P	P	19 12 43.6	-0.2
	comp=Z,19nm,1.2s						
MEZF	Maizieres J'vi	20.57	312	*e*P	P	19 12 52.1	+1.4
SMF	Signal de Mont	20.62	306	*e*P	P	19 12 50.0	-1.3
	comp=Z,66nm,0.9s						
SMF	Signal de Mont	20.62	306	*e*P	P	19 12 50.0	-1.3
SMF				pmax	pmax		
	comp=Z,33nm,0.9s						
MTLF	Montolieu	20.93	296	*e*P	P	19 12 53.7	-0.8
	comp=Z,18nm,1.2s						
MTLF	Montolieu	20.93	296	*e*P	P	19 12 53.7	-0.8
MTLF				pmax	pmax		
	comp=Z,9.0nm,1.2s						
SSF	Saint Saulge	20.98	307	*e*P	P	19 12 54.0	-0.9
SSF				pmax	pmax		
	comp=Z,15nm,0.8s						
SSF	Saint Saulge	20.98	307	*e*P	P	19 12 54.0	-0.9
	comp=Z,15nm,0.8s						
AVF	Avril sur Loir	20.98	306	*e*P	P	19 12 54.8	-0.2
	comp=Z,19nm,0.8s						
AVF	Avril sur Loir	20.98	306	*e*P	P	19 12 54.8	-0.2
AVF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BSEG	Bad Segeberg	21.09	329	*e*P	P	19 12 58.5	+2.5
	comp=Z,20nm,1.3s,mb4.3						
BGF	Bois d'Agland	21.24	305	*e*P	P	19 12 57.5	-0.1
	comp=Z,49nm,1.0s,mb4.5						
BGF	Bois d'Agland	21.24	305	*e*P	P	19 12 57.5	-0.1
BGF				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.5						
CAF	Calviac	21.34	300	*e*P	P	19 12 59.1	+0.5
	comp=Z,19nm,1.1s,mb4.0						
CAF	Calviac	21.34	300	*e*P	P	19 12 59.1	+0.5
CAF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.0						
GIVF	Givet	21.44	315	*e*P	P	19 13 00.8	+1.2
TCF	Toulx Ste Croi	21.58	304	*e*P	P	19 13 01.2	+0.1
	comp=Z,8.6nm,0.6s,mb4.0						
TCF	Toulx Ste Croi	21.58	304	*e*P	P	19 13 01.2	+0.1
TCF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
HYF	Humbligny	21.60	307	*e*P	P	19 13 02.0	+0.7
BAIF	Baives	21.77	315	*e*P	P	19 13 03.8	+0.9
	comp=Z,11nm,0.9s,mb4.0						
BAIF	Baives	21.77	315	*e*P	P	19 13 03.8	+0.9
BAIF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
RJF	Les Rejaudoux	21.80	301	*e*P	P	19 13 03.7	+0.4
	comp=Z,25nm,1.0s,mb4.3						
RJF	Les Rejaudoux	21.80	301	*e*P	P	19 13 03.7	+0.4
RJF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.3						
EPF	Esparros	22.25	295	*e*P	P	19 13 08.2	+0.4
LFF	La Frestale	22.26	300	*e*P	P	19 13 08.3	+0.4
ETSF	Etsaut	22.90	294	*e*P	P	19 13 14.5	+0.4
	comp=Z,23nm,1.4s,mb4.1						
ETSF	Etsaut	22.90	294	*e*P	P	19 13 14.5	+0.4
ETSF				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.1						
MFF	Saint Martin d	23.24	304	*e*P	P	19 13 17.4	0.0
SJPF	Ste Jean	23.40	294	*e*P	P	19 13 19.0	0.0
	comp=Z,18nm,1.1s,mb4.1						
SJPF	Ste Jean	23.40	294	*e*P	P	19 13 19.0	0.0
SJPF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.1						
LDF	La Druitiere	23.79	308	*e*P	P	19 13 22.6	-0.1
	comp=Z,202nm,1.9s,mb4.9						
LDF	La Druitiere	23.79	308	*e*P	P	19 13 22.6	-0.1
LDF				pmax	pmax		
	comp=Z,101nm,1.9s,mb4.9						
GRR	Gorron	24.19	307	*e*P	P	19 13 26.4	-0.2
	comp=Z,29nm,1.0s,mb4.4						
GRR	Gorron	24.19	307	*e*P	P	19 13 26.4	-0.2
GRR				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.4						
FINES	FINESS Array B	24.57	357	P	P	19 13 30.3	0.0
	comp=Z,7.1nm,0.8s,mb4.2,baz=168,slow=5.4,SNR=17						
FINES				LR	LR	19 23 48.5	
	comp=Z,91nm,21.8s,MS3.2,baz=39,slow=38						
HFS	Hagfors	25.05	343	P	P	19 13 35.0	+0.3
	comp=Z,2.3nm,0.8s,mb3.8,baz=140,slow=12,SNR=6.3						
KAF	Kangasniemi	25.24	358	*ep*	P	19 13 38.3	+1.8
	comp=Z,0.3nm,0.4s,mb3.2						
ESDC	Sonseca Array	25.43	286	P	P	19 13 38.9	+0.3
	comp=Z,2.7nm,0.7s,mb3.9,baz=79,slow=9.5,SNR=12						
JOF	Joensuu	26.08	3	*ep*	P	19 13 40.3	-4.1
	comp=Z,0.4nm,0.4s,mb3.3						
NB2	NORSAR Subarra	26.45	341	P	P	19 13 46.1	-1.7
	comp=Z,1.6nm,0.7s,mb3.7,baz=144,slow=8.6						
NB2	NORSAR Subarra	26.45	341	P	P	19 13 46.1	-1.7
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
NOA	NORSAR Array B	26.45	341	P	P	19 13 47.5	-0.4
	comp=Z,1.4nm,0.7s,mb3.6,baz=144,slow=9.0,SNR=5.0						
NOA				LR	LR	19 24 49.9	
	comp=Z,45nm,20.5s,MS3.0,baz=280,slow=38						
EKA	Eskdalemuir Ar	28.20	321	P	P	19 14 04.1	+0.3
	comp=Z,2.3nm,0.7s,mb3.9,baz=117,slow=9.3,SNR=5.3						
ARCES	ARCESS Array B	32.70	358	P	P	19 14 42.8	-0.7
	comp=Z,6.2nm,0.8s,mb4.6,baz=169,slow=6.2,SNR=8.1						
ZAL	Zalesovo	41.89	48	P	P	19 16 00.8	-0.3
	comp=Z,0.9nm,0.8s,mb3.5,baz=220,slow=7.2,SNR=7.1						
ZAL				LR	LR	19 37 40.6	
	comp=Z,74nm,19.2s,MS3.6,baz=166,slow=42						
DBIC	Dimbokro	42.70	233	P	P	19 16 08.3	+0.2
	comp=Z,2.3nm,1.1s,mb3.8,baz=30,slow=8.1,SNR=2.5						
KOLN	Koldanda	47.00	85	*e*P	P	19 16 42.3	-0.1
	comp=Z,15nm,1.0s,mb4.9						
GKN	Gorkha	47.72	84	*e*P	P	19 16 48.0	-0.2
	comp=Z,14nm,0.7s,mb5.1						
DMN	Daman	48.27	84	*e*P	P	19 16 52.5	+0.1
	comp=Z,15nm,0.6s,mb5.2						
KKN	Kakani	48.33	84	*e*P	P	19 16 52.8	-0.1
	comp=Z,6.7nm,0.5s,mb4.9						
PKI	Pulchoki	48.53	84	*e*P	P	19 16 54.5	+0.1
	comp=Z,1.7nm,0.2s,mb4.7						
GUN	Gumba	48.75	83	*e*P	P	19 16 56.2	+0.1
	comp=Z,14nm,0.9s,mb5.0						
JIRN	Jiri	49.11	83	*e*P	P	19 16 58.7	-0.2
	comp=Z,4.6nm,0.5s,mb4.8						
SONM	Songino Array	56.36	52	P	P	19 17 51.4	-1.2
	comp=Z,0.5nm,0.5s,mb3.8,baz=290,slow=8.1,SNR=9.0						
CMAR	Chiang Mai Arr	63.83	86	P	P	19 18 42.9	-1.3
	comp=Z,1.9nm,0.8s,mb4.2,baz=302,slow=7.8,SNR=15						
YKA	Yellowknife Ar	76.53	343	P	P	19 20 00.6	0.0
	comp=Z,0.2nm,0.8s,mb3.1,baz=27,slow=5.5,SNR=3.7						
ILAR	Eielson Array	78.56	358	P	P	19 20 12.6	+0.8
	comp=Z,1.6nm,1.2s,mb3.8,baz=346,slow=3.5,SNR=4.6						

*LDG **14** 19:31:24.8±0.2, 14.33S×167.61E, h10km, Mb4.1/1, Error ellipse: s-maj=39.1km s-min=5.6km az=91.0*
*NEIC **14** 19:31:41.4±0.5, 14.94S×167.14E, h150km, mb4.5/5, Error ellipse: s-maj=20.1km s-min=13.2km az=145.0*
*IDC **14** 19:31:50.3±10.0, 15.08S×166.99E, h242km±100km, mb3.7/5, mb1 3.9/5, mb1mx3.6/16, mbtmp4.3/5, Error ellipse: s-maj=54.3km s-min=21.5km az=29.0*

ISC 14 19:31:39.5±3.2, 15.1S±0.2×167.1E±0.2, h146km±28km, n34, σ1§32/14, mb4.3/7, 2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.99	185	⇑*e*P	P	19 33 21.0	+0.6
DZM				*e*S	S	19 34 35.9	-2.9
NOUC	Port Laguerre	7.03	186	⇑*e*P	P	19 33 21.6	+0.7
NOUC				*e*S	S	19 34 39.6	-0.3
CTA	Charters Tower	20.46	253	⇓*i*P	P	19 36 09.7	+2.4
	16nm,0.8s						
CTA	Charters Tower	20.46	253	P	P	19 36 09.7	+2.4
	20nm,0.8s,baz=80,slow=11,SNR=21						
CTAO	Charters Tower	20.46	253	*e*P	P	19 36 09.4	+2.1
	20nm,0.8s						
URZ	Urewera	24.75	161	P	P	19 36 49.8	+0.9
	14nm,0.8s,mb4.6,baz=339,slow=9.6,SNR=11						
STKA	Stephens Creek	28.63	230	⇓*i*P	P	19 37 26.5	+2.0
	11nm,0.5s,mb4.8						
WRAB	Tennant Creek	31.55	256	*e*P	P	19 37 49.4	-1.0
	7.4nm,1.1s,mb4.3						
WRA	Warramunga Arr	31.56	256	P	P	19 37 48.7	-1.8
	1.4nm,0.7s,mb3.8,baz=86,slow=9.1,SNR=18						
ASAR	Alice Springs	32.37	250	P	P	19 37 57.1	-0.4
	6.3nm,0.8s,mb4.4,baz=77,slow=8.9,SNR=64						
QSPA	South Pole Qui	74.96	180	*e*P	P	19 43 06.1	+0.4
	5.5nm,0.8s,mb4.2						
ILAR	Eielson Array	86.91	18	P	P	19 44 07.2	-1.3
	1.6nm,1.2s,mb3.7,baz=225,slow=7.7,SNR=4.6						
ARCES	ARCESS Array B	120.53	345	PKP	PKPdf	19 50 13.1	-0.3
	17nm,1.4s,baz=49,slow=2.4,SNR=6.8						
CABF	La Chapelle	144.76	337	*e*PKP1	PKPbc	19 51 01.3	+2.3
	19nm,1.0s						
SSF	Saint Saulge	145.29	340	*e*PKP1	PKPbc	19 51 01.0	+0.7
	12nm,0.7s						
GRR	Gorron	145.32	346	*e*PKP1	PKPbc	19 51 01.1	+0.7
LPL	La Plagne	145.42	335	*e*PKP1	PKPbc	19 51 01.9	+1.2
	6.0nm,0.7s						
LPG	La Plagne	145.43	335	*e*PKP1	PKPbc	19 51 02.1	+1.3
	7.4nm,0.8s						
AVF	Avril sur Loir	145.58	340	*e*PKP1	PKPbc	19 51 01.4	+0.3
	13nm,1.1s						
BGF	Bois d'Agland	145.95	340	*e*PKP1	PKPbc	19 51 02.8	+0.8
	8.7nm,0.6s						
MBDF	Montbardon	146.05	335	*e*PKP1	PKPbc	19 51 03.3	+1.0
	3.2nm,0.6s						
ORIF	Oris-en-Rattie	146.25	336	*e*PKP1	PKPbc	19 51 04.2	+1.4
	13nm,0.7s						
TCF	Toulx Ste Croi	146.39	341	*e*PKP1	PKPbc	19 51 04.1	+1.1
	4.4nm,0.7s						
SBF	Sospel	146.46	333

IDC 14 20:05:18.4±8.0, 1.39N×124.49E, mb4.0/4, mb1 4.1/4, mb1mx3.8/17, mbtmp4.1/4, Error ellipse: s-maj=135.0km s-min=60.3km az=133.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.30**	**156**	P	P	20 10 28.4	-0.7
	3.4nm,0.4s,baz=334,slow=11,SNR=30						
PMG	**Port Moresby**	**25.00**	**116**	P	P	20 10 44.1	-1.5
	4.3nm,0.6s,baz=308,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**26.53**	**160**	P	P	20 10 58.2	-1.7
	0.7nm,0.8s,baz=337,slow=7.5,SNR=7.5						
STKA	**Stephens Creek**	**36.84**	**155**	P	P	20 12 28.2	-2.2
	1.2nm,0.5s,baz=332,slow=8.9,SNR=4.4						

JMA 14 20:44:58.4±0.3, 44.09N×148.15E, M4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.89**	**248**	P	Pn	20 45 32.3	+0.1
NEM2				eS	Sn	20 45 56.9	-0.2
JRA	**Rausu**	**2.19**	**267**	P	Pn	20 45 36.8	+0.3
JRA				eS	Sn	20 46 05.2	+0.5
JNK	**Nakash**	**2.53**	**260**	P	Pn	20 45 41.8	+0.4
JNK				eS	Sn	20 46 13.1	-0.4
JAK	**Akkeshi**	**2.74**	**248**	P	Pn	20 45 44.5	+0.1
JAK				eS	Sn	20 46 18.2	-0.5
JAR	**Ashorobuto**	**3.27**	**258**	P	Pn	20 45 52.7	+0.7
JAR				eS	Sn	20 46 33.2	+1.0
JCH	**Churui**	**3.79**	**249**	P	Pn	20 45 59.5	+0.2
JCH				eS	Sn	20 46 44.4	-0.9
JNBK	**Urakawa-nobuka**	**4.34**	**247**	P	Pn	20 46 07.3	+0.1
JNBK				eS	Sn	20 46 58.3	-1.0
JKB	**Kayabe**	**5.67**	**250**	P	Pn	20 46 25.5	-0.4
JKB				eS	Sn	20 47 29.7	-2.9
JOT	**Ohata**	**5.89**	**245**	P	Pn	20 46 28.2	-0.8
JOT				eS	Sn	20 47 34.8	-3.4
JANG	**Nango**	**6.17**	**235**	P	Pn	20 46 31.3	-1.7
JANG				eS	Sn	20 47 39.9	-5.3

IDC 14 20:45:59.8±4.3, 25.87S×177.61W, mb3.8/2, mb1 4.0/2, mb1mx3.7/13, mbtmp3.8/2, Error ellipse: s-maj=227.1km s-min=48.3km az=157.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.89**	**262**	P	P	20 54 07.5	-2.5
	0.5nm,0.6s,baz=97,slow=7.1,SNR=9.3						
WRA	**Warramunga Arr**	**44.47**	**267**	P	P	20 54 13.0	-1.6
	1.1nm,0.6s,baz=105,slow=6.1,SNR=15						
HFS	**Hagfors**	**144.87**	**350**	PKP	PKPdf	21 05 38.2	-1.8
	1.7nm,0.8s,baz=90,slow=1.4,SNR=4.8						
AKASG	**Malin Array Be**	**147.80**	**327**	PKPbc	PKPdf	21 05 46.0	+0.8
	0.3nm,0.3s,baz=43,slow=3.8,SNR=7.3						

*BJI **14** 21:11:14.6, 33.06S×77.25E, h10km, mB5.3, mb4.7*
*IDC **14** 21:11:15.3±0.7, 33.34S×77.95E, mb4.5/12, mb1 4.6/12, mb1mx4.5/14, mbtmp4.5/12, MS4.4/5, Ms1 4.4/5, ms1mx4.0/19, Error ellipse: s-maj=28.1km s-min=18.2km az=28.0*
*NEIC **14** 21:11:16.2±0.3, 33.37S×77.78E, h10km, mb4.7/14, Error ellipse: s-maj=13.4km s-min=9.1km az=206.0*
ISC 14 21:11:14.2±0.4, 33.40S±0.08×77.80E±0.10, h10km, n53, σ0§91/44, mb4.8/32, MS4.4/5, 2C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**35.33**	**190**	LR	LR	21 29 26.3	
	comp=Z,421nm,20.9s,MS4.2,baz=28,slow=31						
SYO	**Syowa Base**	**41.59**	**200**	⇑P	P	**21 19 02.6**	**-0.7**
SYO	**Syowa Base**	**41.59**	**200**	⇑pP	pP	21 19 06.3	0.0
FITZ	**Fitzroy Crossi**	**45.31**	**83**	*eP*	P	**21 19 35.1**	**+0.9**
	12nm,1.5s,mb4.5						
LSZ	**Lusaka**	**48.20**	**280**	*eP*	P	**21 19 56.7**	**-0.3**
	14nm,0.9s,mb5.0						
ASPA	**Alice Springs**	**49.72**	**94**	*eP*	P	**21 20 09.1**	**+0.4**
ASAR	**Alice Springs**	**49.72**	**94**	P	P	**21 20 08.7**	**0.0**
	5.9nm,1.2s,mb4.5,baz=244,slow=6.4,SNR=21						
ASAR				LR	LR	21 39 53.8	
	comp=Z,343nm,18.1s,MS4.4,baz=253,slow=35						
KMBO	**Kilima Mbogo**	**49.74**	**302**	P	P	**21 20 11.3**	**+2.3**
	1.8nm,0.8s,mb4.2,baz=114,slow=4.5,SNR=6.9						
KMBO				LR	LR	21 35 45.2	
	comp=Z,205nm,19.1s,MS4.2,baz=260,slow=30						
KMBO	**Kilima Mbogo**	**49.74**	**302**	*eP*	P	**21 20 09.9**	**+0.9**
	2.1nm,0.8s,mb4.2						
HYB	**Hyderabad**	**50.54**	**1**	*i* P	P	**21 20 15.0**	**+0.1**
WRA	**Warramunga Arr**	**51.70**	**90**	P	P	**21 20 23.2**	**-0.6**
	3.0nm,0.6s,mb4.4,baz=245,slow=7.4,SNR=30						
WB2	**Warramunga Arr**	**51.71**	**90**	*eP*	P	**21 20 24.1**	**+0.2**
WRAB	**Tennant Creek**	**51.72**	**90**	*eP*	P	**21 20 24.4**	**+0.5**
	18nm,1.1s,mb4.9						
STKA	**Stephens Creek**	**52.97**	**107**	P	P	**21 20 33.2**	**+0.1**
	4.8nm,0.9s,mb4.4,baz=257,slow=5.3,SNR=6.2						
STKA				LR	LR	21 39 48.3	
	comp=Z,723nm,18.1s,MS4.8,baz=228,slow=32						
STKA	**Stephens Creek**	**52.97**	**107**	P	P	**21 20 33.2**	**+0.1**
STKA				LR	LR	21 39 48.3	
CMAR	**Chiang Mai Arr**	**55.38**	**25**	P	P	**21 20 50.3**	**-0.7**
	6.4nm,0.9s,mb4.7,baz=207,slow=7.0,SNR=20						
VNDA	**Vanda**	**56.38**	**165**	P	P	**21 20 57.1**	**-0.4**
	2.9nm,0.8s,mb4.4,baz=312,slow=7.6,SNR=7.0						
VNDA				LR	LR	21 42 24.3	
	comp=Z,569nm,18.3s,MS4.7,baz=274,slow=33						
VNDA	**Vanda**	**56.38**	**165**	*eP*	P	**21 20 56.2**	**-1.2**
	9.5nm,1.1s,mb4.7						
QSPA	**South Pole Qui**	**56.75**	**180**	*eP*	P	**21 20 59.4**	**-0.6**
	10nm,1.0s,mb4.8						
SHL	**Shillong**	**60.15**	**15**	*e*	P	**21 21 24.5**	**0.0**
PKI	**Pulchoki**	**61.06**	**8**	*eP*	P	**21 21 31.7**	**+1.0**
	23nm,1.3s,mb5.2						
DMN	**Daman**	**61.07**	**7**	*eP*	P	**21 21 30.3**	**-0.4**
	36nm,1.2s,mb5.4						
KOLN	**Koldanda**	**61.08**	**6**	*eP*	P	**21 21 29.7**	**-1.1**
JIRN	**Jiri**	**61.24**	**8**	*eP*	P	**21 21 33.0**	**+1.1**
	34nm,0.9s,mb5.5						
KKN	**Kakani**	**61.27**	**8**	*eP*	P	**21 21 30.4**	**-1.6**
	23nm,0.9s,mb5.3						
GKN	**Gorkha**	**61.41**	**7**	*eP*	P	**21 21 31.0**	**-2.0**
	25nm,1.1s,mb5.2						
GUN	**Gumba**	**61.45**	**8**	*eP*	P	**21 21 33.4**	**+0.1**
	71nm,1.3s,mb5.6						
DDI	**Dehra Dun**	**63.38**	**0**	*e*	P	**21 21 42.0**	**-4.1**
LSA	**Lhasa**	**64.02**	**13**	P	P	**21 21 50.3**	**0.0**
LSA	**Lhasa**	**64.02**	**13**	*eP*	P	**21 21 50.7**	**+0.4**
	3.2nm,0.8s,mb4.4						
PMG	**Port Moresby**	**67.67**	**87**	P	P	**21 22 14.7**	**+0.8**
	6.9nm,1.0s,mb4.7,baz=176,slow=4.3,SNR=3.6						
ENH	**Enshi**	**70.06**	**29**	*eP*	P	**21 22 27.8**	**-0.7**
	2.3nm,0.6s,mb4.3						
WHN	**Wuhan**	**72.38**	**33**	*eP*	P	**21 22 42.5**	**+0.1**
XAN	**Xi'an**	**73.18**	**27**	P	P	**21 22 46.1**	**-1.0**
XAN				AP	pP	21 22 51.8	+1.6
XAN				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
LZH	**Lanzhou**	**73.29**	**22**	*eP*	P	**21 22 48.5**	**+0.8**
LZH				AP	pP	21 22 56.8	+6.0
LZH				XP	sP	21 23 00.3	+8.4
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
EIL	**Elat**	**74.70**	**322**	P	P	**21 22 55.2**	**-0.8**
	comp=Z,5.0nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**75.73**	**357**	*eP*	P	**21 23 01.0**	**-0.6**
	comp=Z,8.0nm,1.2s,mb4.5						
GNI	**Garni**	**79.31**	**335**	*eP*	P	**21 23 19.9**	**-1.6**
	comp=Z,11nm,1.3s,mb4.6						
BRTR	**Keskin Array B**	**83.45**	**327**	P	P	**21 23 43.9**	**+0.6**
	comp=Z,1.3nm,0.8s,mb4.0,baz=154,slow=7.3,SNR=7.4						
SONM	**Songino Array**	**84.84**	**19**	P	P	**21 23 50.1**	**+0.1**
	comp=Z,3.3nm,1.0s,mb4.4,baz=195,slow=3.8,SNR=14						
ULN	**Ulaanbaatar**	**85.04**	**19**	*eP*	P	**21 23 51.5**	**+0.6**
	comp=Z,8.0nm,1.1s,mb4.8						
BRVK	**Borovoye**	**86.35**	**355**	*eP*	P	**21 23 56.9**	**-0.5**
	comp=Z,13nm,1.3s,mb5.0						
CHKZ	**Chkalovo**	**86.94**	**356**	*eP*	P	**21 24 00.6**	**+0.4**
	comp=Z,11nm,1.2s,mb5.0						
ZAL	**Zalesovo**	**87.19**	**4**	P	P	**21 24 02.3**	**+0.9**
	comp=Z,3.7nm,0.8s,mb4.7,baz=282,slow=4.4,SNR=16						
DBIC	**Dimbokro**	**87.54**	**280**	P	P	**21 24 05.8**	**+1.8**
	comp=Z,22nm,1.6s,mb5.1,baz=184,slow=5.7,SNR=2.6						
AKASG	**Malin Array Be**	**94.07**	**331**	P	P	**21 24 36.1**	**+2.6**
	comp=Z,0.3nm,0.3s,mb4.1,baz=125,slow=4.0,SNR=4.9						
ILAR	**Eielson Array**	**138.58**	**27**	PKP	PKPdf	21 30 41.6	-1.1
	comp=Z,0.4nm,0.7s,baz=290,slow=4.5,SNR=4.8						
SCHQ	**Schefferville**	**147.31**	**322**	PKPbc	PKPdf	21 31 00.2	+2.2
	comp=Z,18nm,1.2s,baz=47,slow=11,SNR=5.1						
DLBC	**Dease Lake**	**148.77**	**28**	PKPbc	PKPdf	21 31 04.9	+4.7
	comp=Z,1.2nm,0.3s,baz=246,slow=20,SNR=4.4						
YKA	**Yellowknife Ar**	**149.84**	**11**	PKPbc	PKPdf	21 31 04.0	+2.2
	comp=Z,1.2nm,0.7s,baz=326,slow=3.3,SNR=27						
NVAR	**Mina Array Bea**	**166.02**	**64**	PKP	PKPdf	21 31 21.4	-0.8
	comp=Z,1.3nm,1.1s,baz=359,slow=6.2,SNR=3.8						
NVAR				PKPab	PKPab	21 32 22.3	+0.9
	comp=Z,3.1nm,1.1s,baz=270,slow=2.7,SNR=2.9						
PDAR	**Pinedale Array**	**169.00**	**30**	PKP	PKPdf	21 31 25.1	+1.2
	comp=Z,0.8nm,1.0s,slow=3.6,SNR=2.8						
PDAR				PKPab	PKPab	21 32 35.3	+0.9
	comp=Z,0.4nm,0.5s,slow=0.9,SNR=2.9						
TXAR	**Lajitas Array**	**175.75**	**162**	PKP	PKPdf	21 31 28.6	+1.2
	comp=Z,0.3nm,0.3s,baz=51,slow=5.8,SNR=2.9						

*IDC **14** 21:21:07.9±1.1, 13.05N×93.49E, mb3.6/6, mb1 3.8/7, mb1mx3.6/18, mbtmp3.5/7, ML3.6/1, Error ellipse: s-maj=36.8km s-min=20.9km az=54.0*
ISC 14 21:21:11.9±7.2, 13.1N±0.2×93.6E±0.3, h42km±61km, n14, σ1§32/7, mb3.6/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.43**	**43**	Pn	P	**21 23 00.6**	**+0.1**
	0.2nm,0.3s,baz=235,slow=15,SNR=8.4						
JIRN	**Jiri**	**16.05**	**336**	*eP*		21 25 03.8	
PKI	**Pulchoki**	**16.30**	**333**	*eP*		21 25 07.4	
	8.4nm,0.3s						
GUN	**Gumba**	**16.40**	**335**	*eP*		21 25 08.2	
	10nm,0.5s						
DMN	**Daman**	**16.47**	**333**	*eP*		21 25 10.1	
	15nm,0.7s						
KKN	**Kakani**	**16.55**	**333**	*eP*		21 25 12.3	
	10nm,0.6s						
GKN	**Gorkha**	**17.02**	**332**	*eP*		21 25 16.4	
	11nm,0.3s						
KOLN	**Koldanda**	**17.32**	**329**	*eP*		21 25 20.3	
	20nm,0.7s						
SONM	**Songino Array**	**36.26**	**15**	P	P	**21 28 12.6**	**-0.3**
	1.6nm,1.2s,mb3.8,baz=178,slow=7.5,SNR=3.2						
ZAL	**Zalesovo**	**41.34**	**352**	P	P	**21 28 54.9**	**-0.2**
	0.7nm,0.5s,mb3.6,baz=335,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**51.84**	**129**	P	P	**21 30 18.7**	**+0.4**
	0.3nm,0.6s,mb3.4,baz=296,slow=9.3,SNR=5.2						
ASAR	**Alice Springs**	**53.76**	**133**	P	P	**21 30 32.1**	**-0.5**
	0.5nm,0.9s,mb3.4,baz=308,slow=7.2,SNR=3.2						
BRTR	**Keskin Array B**	**58.68**	**309**	P	P	**21 31 06.5**	**-1.1**
	0.2nm,0.3s,mb3.6,baz=90,slow=5.8,SNR=2.4						
GERES	**GERESS Array B**	**73.61**	**317**	P	P	**21 32 45.2**	**+2.5**
	0.4nm,0.6s,mb3.5,baz=68,slow=5.3,SNR=4.1						

*IDC **14** 21:28:39.1±1.1, 13.65N×93.14E, mb3.7/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=31.4km s-min=22.4km az=48.0*
ISC 14 21:28:42.1±5.2, 13.7N±0.2×93.2E±0.2, h33km±46km, n6, σ1§00/7, mb3.5/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.28**	**48**	Pn	P	**21 30 28.8**	**-0.1**
	0.2nm,0.3s,baz=241,slow=16,SNR=6.2						
CMAR				Sn	S	**21 31 51.2**	**-0.1**
	0.4nm,0.3s,baz=248,slow=26,SNR=5.1						
SONM	**Songino Array**	**35.79**	**15**	P	P	**21 35 40.7**	**+0.6**
	0.3nm,0.7s,mb3.3,baz=202,slow=7.8,SNR=3.0						
WRA	**Warramunga Arr**	**52.48**	**129**	P	P	**21 37 53.9**	**-0.4**
	0.2nm,0.4s,mb3.4,baz=298,slow=9.5,SNR=4.6						
ASAR	**Alice Springs**	**54.41**	**133**	P	P	**21 38 09.1**	**+0.5**
	0.4nm,0.4s,mb3.7,baz=311,slow=7.1,SNR=8.3						
BRTR	**Keskin Array B**	**58.04**	**308**	P	P	**21 38 35.3**	**+0.9**
	0.4nm,0.6s,mb3.6,baz=117,slow=5.9,SNR=3.0						
GERES	**GERESS Array B**	**72.94**	**317**	P	P	**21 40 08.6**	**-1.4**
	0.4nm,0.7s,mb3.5,baz=90,slow=8.0,SNR=4.1						

*IDC **14** 21:38:13.2±0.4, 3.15N×93.95E, mb4.9/25, mb1 5.0/26, mb1mx4.9/27, mbtmp4.9/26, ML4.2/1, MS5.1/20, Ms1 5.1/20, ms1mx4.9/25, Error ellipse: s-maj=17.6km s-min=11.4km az=49.0*
*BJI **14** 21:38:14.2, 2.94N×93.81E, h31km, mB5.5, mb5.1, Ms5.6, Msz5.5*
*HRVD **14** 21:38:16.7±0.2, 3.01N×93.81E, h12km, MW5.6/66, Centroid moment Tensor Solution. LP body waves: s53,c96;Mantle waves: s66,c191; Half duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}2.72±.04; $M_{\theta\theta}$-1.39±.04; $M_{\phi\phi}$-1.33±.04; $M_{r\theta}$-0.19±.10; $M_{\theta\phi}$1.51±.03; $M_{\phi r}$-0.39±.11; Best double couple: $M_0$2.831×10^{17} NP1: ϕ_s306°, δ44°, λ77°. NP2:ϕ_s143°, δ47°, λ102°. Principal axes: T 2.788, Plg81°, Azm126°; N .085, Plg9°, Azm315°; P -2.874, Plg1°, Azm225°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **14** 21:38:16.7±2.1, 3.14N×93.92E, h22km±14km, mb5.4/91, MS5.1/15, MW5.6 Error ellipse: s-maj=6.1km s-min=3.9km az=214.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; M_{rr}2.27; $M_{\theta\theta}$-1.69; $M_{\phi\phi}$-0.59; $M_{r\theta}$-0.46; $M_{\theta\phi}$1.09; $M_{\phi r}$-0.48; Best double couple: $M_0$2.4×10^{17} NP1: ϕ_s136°, δ45°, λ112°. NP2:ϕ_s287°, δ49°, λ69°. Principal axes: T 2.46, Plg75°, Azm128°; N -.1, Plg15°, Azm301°; P -2.36, Plg2°, Azm31°;*
*CSEM **14** 21:38:17.8, 3.34N×94.06E, h33km, mb5.6*
*MOS **14** 21:38:18.6±0.8, 3.47N×93.78E, h33km, mb5.5/78, MS5.3/20, Error ellipse: s-maj=10.8km s-min=4.6km az=120.8*
ISC 14 21:38:16.8±0.2, 3.19N±0.03×93.99E±0.03, h33km, (h27km±1.8km:pP-P), n433, σ0§99/422, mb5.3/142, MS5.3/59, 72C-10D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**10.94**	**31**	P	P	**21 40 54.5**	**+0.4**
NST	**Nakhon Sawan**	**13.80**	**26**	P	P	**21 41 30.0**	**-2.5**
	72nm,1.0s						
PALK	**Pallekele**	**13.84**	**288**	Pn	P	**21 41 30.4**	**-2.6**
	122nm,1.5s						
PALK				*e*Sn	S	**21 43 49.4**	**-17**
KKTK	**Khon Kaen**	**15.69**	**33**	P	P	**21 42 02.0**	**+4.8**
	1μm,0.7s						
CMAR	**Chiang Mai Arr**	**15.93**	**17**	Pn	P	**21 41 59.6**	**-0.7**
	0.3nm,0.3s,baz=210,slow=12,SNR=54						
CMAR				LR	LR	21 48 07.7	
	comp=Z,5μm,20.2s,baz=200,slow=37						
UBT	**Ubonrachathani**	**16.18**	**42**	P	P	**21 42 08.5**	**+5.2**
CHG	**Chiang Mai**	**16.27**	**17**	⇑P	P	**21 42 03.5**	**-1.0**
	146nm,1.0s						
MDRS	**Chennai**	**16.77**	**307**	*eP*	P	**21 42 13.0**	**+2.2**
CHRT	**Chiangrai**	**17.52**	**18**	⇑P	P	**21 42 20.0**	**-0.2**
	492nm,1.2s						
TRD	**Trivandrum**	**17.74**	**288**	*eP*	P	**21 42 21.2**	**-1.8**
TRD				*e*		21 42 34.3	
	comp=Z,95nm,1.6s						
TRD				*e*S	S	**21 45 22.1**	**-15**
TRD				*e*		21 45 22.1	
KOD	**Kodaikanal**	**17.83**	**294**	*eP*	P	**21 42 26.0**	**+1.9**
KOD				*eP*		21 42 26.1	
KOD				*e*		21 42 38.6	
	comp=Z,151nm,1.7s						
KOD				*e*	S	**21 45 24.3**	**-15**
VIS	**Vishakhapatnam**	**17.83**	**325**	*i*	P	**21 42 21.4**	**-2.8**
VIS	**Vishakhapatnam**	**17.83**	**325**	*eP*	P	**21 42 22.6**	**-1.6**
VIS				*e*		21 42 27.9	
	comp=Z,104nm,1.3s						
VIS				*e*S	S	**21 45 30.4**	**-8.8**
VIS				*e*		21 45 30.4	
CAL	**Calcutta**	**20.01**	**345**	*eP*	P	**21 42 52.4**	**+2.9**
CAL				*e*	S	**21 46 44.3**	**+17**
HYB	**Hyderabad**	**20.72**	**314**	⇑*eP*	P	**21 42 56.5**	**-0.6**
HYB				*e*S	S	**21 46 40.0**	**-1.7**
HYB				pmax	pmax		
	comp=Z,238nm,1.4s						
HYB	**Hyderabad**	**20.72**	**314**	⇑*eP*	P	**21 42 56.5**	**-0.6**
	comp=Z,238nm,1.4s						
HYB				*e*S	S	**21 46 40.0**	**-1.7**
HYB				*e*S	S	**21 46 40.0**	**-1.7**
HYB				LR	LR	21 58 24.0	
	comp=Z,5.4nm,14.0s						
AGT	**Agartala**	**20.75**	**353**	⇑*i*P	P	**21 42 55.0**	**-2.3**
AGT				*i* S	Px	21 43 37.0	
MNGI	**Mangalore**	**21.29**	**298**	*i*	P	**21 42 59.1**	**-3.7**
IMP	**Imphal**	**21.47**	**360**	⇓*i*P	P	**21 43 03.3**	**-1.3**
BLSP	**Bilaspur**	**22.07**	**330**	*i* P	P	**21 43 10.5**	**-0.1**
BLSP				*e*S	Px	21 44 08.2	
QIZ	**Qiongzhong**	**22.10**	**43**	P	P	**21 43 13.6**	**+2.7**
QIZ				AP		21 43 22.6	
QIZ				S	S	**21 47 11.0**	**+3.5**
QIZ				XS		21 47 25.6	
QIZ				LR	LR		
	comp=N,13μm,17.5s						
QIZ				LR	LR		
	comp=Z,11μm,18.4s,MS5.3						
QIZ	**Qiongzhong**	**22.10**	**43**	*eP*	P	**21 43 13.4**	**+2.6**
	comp=Z,102nm,1.1s,mb5.2						
SHL	**Shillong**	**22.34**	**355**	*i*	P	**21 43 12.0**	**-1.3**
SHL				*e*	S	**21 47 10.5**	**-1.5**
SHL	**Shillong**	**22.34**	**355**	*eP*	P	**21 43 12.6**	**-0.7**
SHL				*e*		21 43 32.4	
	comp=Z,191nm,1.0s						
LATR	**Latur**	**22.81**	**313**	*eP*	P	**21 43 18.5**	**+0.4**
NGP	**Nagpur**	**23.03**	**322**	*eP*	P	**21 43 21.6**	**+1.4**
NGP				*e*		21 43 34.7	
NGP				*e*S	S	**21 47 33.6**	**+9.2**
GOA	**Goa**	**23.32**	**303**	*e*	P	**21 43 31.7**	**+8.6**
GOA				*e*S	S	**21 47 44.2**	**+15**
KAD	**Karad**	**23.98**	**307**	*eP*	P	**21 43 30.0**	**+0.6**
KAD				*i* P		21 43 30.5	
KAD				*e*		21 43 35.8	
	comp=Z,99nm,1.8s						
KAD				*e*		21 43 43.9	
	comp=Z,147nm,1.7s						
POO	**Poona**	**24.93**	**309**	⇑*i*	P	**21 43 39.0**	**+0.4**
	comp=Z,143nm,1.5s,mb5.3						
POO				*i*		21 48 28.0	
JIRN	**Jiri**	**25.45**	**344**	*eP*	P	**21 43 44.2**	**+0.7**
	comp=Z,224nm,1.1s,mb5.6						
BHPL	**Bhopal**	**25.59**	**323**	*eP*	P	**21 43 46.3**	**+1.5**
BHPL				*eP*		21 43 46.3	
BHPL				*e*		21 43 59.9	
	comp=Z,123nm,1.4s						
BHPL				*e*	S	**21 48 21.2**	**+13**
PKI	**Pulchoki**	**25.60**	**342**	*eP*	P	**21 43 45.3**	**+0.4**
	comp=Z,154nm,1.1s,mb5.4						
DMN	**Daman**	**25.73**	**342**	*eP*	P	**21 43 46.4**	**+0.3**
	comp=Z,155nm,1.3s,mb5.4						
GUN	**Gumba**	**25.78**	**343**	*eP*	P	**21 43 47.2**	**+0.6**
	comp=Z,293nm,1.0s,mb5.8						
KKN	**Kakani**	**25.84**	**342**	*eP*	P	**21 43 47.4**	**+0.2**
	comp=Z,257nm,1.3s,mb5.6						
BOM	**Bombay**	**25.94**	**309**	*eP*	P	**21 43 41.9**	**-6.2**
GKN	**Gorkha**	**26.24**	**341**	*eP*	P	**21 43 51.0**	**+0.1**
	comp=Z,221nm,1.1s,mb5.6						
KOLN	**Koldanda**	**26.38**	**339**	*eP*	P	**21 43 52.6**	**+0.4**
	comp=Z,313nm,1.5s,mb5.6						
LSA	**Lhasa**	**26.51**	**354**	P	P	**21 43 53.3**	**0.0**
LSA				XP	sP	21 44 09.3	+2.6
LSA				S	S	**21 48 32.1**	**+8.9**
LSA				AMB	AMB		
	comp=Z,150nm,1.1s,mb5.4						
LSA				AMB	AMB		
	comp=Z,2μm,10.0s						
LSA				LR	LR		
	comp=N,3μm,26.4s						
LSA				LR	LR		
	comp=E,4μm,34.4s						
LSA	**Lhasa**	**26.51**	**354**	⇑*eP*	P	**21 43 55.3**	**+2.0**
LSA				pmax	pmax		
	comp=Z,157nm,0.8s,mb5.6						
LSA	**Lhasa**	**26.51**	**354**	⇑*eP*	P	**21 43 55.2**	**+1.9**
	comp=Z,157nm,0.8s,mb5.6						
TGY	**Tagaytay City**	**28.72**	**66**	LR	LR	21 55 57.5	
	comp=Z,5μm,19.1s,MS5.1,baz=208,slow=37						
GUIM	**Jordan**	**29.32**	**74**	*eP*	P	**21 44 18.6**	**-0.2**
PAGZ	**Pagadian**	**29.61**	**80**	*eP*	P	**21 44 24.1**	**+2.7**
AJM	**Ajmer**	**29.67**	**323**	*eP*	P	**21 44 15.0**	**-6.8**
SNPH	**Sibulan**	**29.69**	**77**	*eP*	P	**21 44 13.5**	**-8.6**
NDI	**New Delhi**	**29.96**	**329**	*eP*	P	**21 44 24.4**	**-0.1**
NDI				*e*		21 44 29.4	
	comp=Z,66nm,1.4s						
NDI				*e*	S	**21 49 10.4**	**-8.3**
TBP	**Tagbilaran**	**30.36**	**76**	*eP*	P	**21 44 27.6**	**-0.5**
ENH	**Enshi**	**30.68**	**27**	*eP*	P	**21 44 29.6**	**-1.2**
	comp=Z,60nm,1.3s,mb5.3						
DDI	**Dehra Dun**	**30.92**	**332**	*eP*	P	**21 44 32.8**	**-0.1**
BUKP	**Musuan**	**31.27**	**80**	*eP*	P	**21 44 38.1**	**+1.9**
DAV	**Davao City (W)**	**31.69**	**82**	*eP*	P	**21 44 40.0**	**+4.1**
SMLA	**Simla**	**32.01**	**332**	*e*	P	**21 44 55.9**	**+13**
SMLA				*e*		21 45 07.9	
	comp=Z,113nm,2.0s						
QZH	**Quanzhou**	**32.08**	**45**	PR	pP	21 44 45.1	-7.7
QZH				LR	LR		
	comp=Z,19μm,17.8s,MS5.8						
BHK	**Bhakra**	**32.60**	**331**	*e*	pP	21 44 55.2	-2.1
WHN	**Wuhan**	**33.33**	**33**	⇑P	P	**21 44 54.5**	**+0.5**
WHN				S	S	**21 50 11.0**	**-0.3**
WHN				LR	LR		
	comp=Z,29μm,16.2s,MS6.1						
XAN	**Xi'an**	**33.71**	**23**	P	P	**21

comp=Z,228nm,5.0s
WMQ LR LR
comp=N,4μm,20.3s,MS5.5
WMQ LR LR
comp=E,6μm,21.4s,MS5.5
WMQ LR LR
comp=Z,5μm,20.5s,MS5.4
KAKA Kakadu 41.33 113 *e*P **P 21 45 59.8 -1.5**
comp=Z,18nm,0.9s,mb4.7
BJT Baijiatuau 41.80 26 *e*P **P 21 46 06.2 +1.1**
BJT pmax pmax
comp=Z,130nm,1.1s
BJT Baijiatuau 41.80 26 *e*P **P 21 46 06.2 +1.2**
comp=Z,130nm,1.1s,mb5.5
ULHL Ulahol 42.01 340 P **P 21 46 07.7 +1.0**
SNR=6.7
NWAO Narrogin (SRO) 42.12 150 *e*P **P 21 46 07.4 -0.4**
NWAO pmax pmax
comp=Z,10.0nm,0.6s
NWAO Narrogin (SRO) 42.12 150 P **P 21 46 07.8 0.0**
comp=Z,18nm,1.1s,mb4.6,baz=303,slow=8.9,SNR=3.2
NWAO Narrogin (SRO) 42.12 150 *e*P **P 21 46 07.4 -0.4**
comp=Z,9.6nm,0.6s,mb4.6
KZA Kyzart 42.20 339 P **P 21 46 09.5 +1.2**
SNR=23
UCH Uchtor 42.60 339 P **P 21 46 12.6 +1.1**
SNR=39
AAA Alma-Ata 42.70 342 P **P 21 46 12.0 -0.3**
AAA MLR MLR
comp=Z,1μm,16.0s,MS4.8
KBK Karagaybulak 42.82 339 P **P 21 46 14.6 +1.3**
SNR=53
AML Almayashu 42.82 338 P **P 21 46 14.6 +1.2**
SNR=50
TKM2 Tokmak 2 42.83 340 P **P 21 46 13.9 +0.5**
SNR=23
AAK Ala-Archa 42.96 339 P **P 21 46 15.4 +0.9**
SNR=21
AAK Ala-Archa 42.96 339⇑ *e*P **P 21 46 14.2 -0.3**
AAK pmax pmax
comp=Z,51nm,1.3s,mb5.1
AAK Ala-Archa 42.96 339⇑ *e*P **P 21 46 14.2 -0.3**
comp=Z,50nm,1.3s,mb5.1
AAK LR LR
comp=Z,474nm,21.0s,MS4.4
FRU Bishkek 43.09 339⇑ *i*P **P 21 46 16.0 +0.4**
FRU *e* 21 46 21.4
FRU pmax pmax
comp=Z,240nm,2.5s,mb5.5
FRU MLR MLR
comp=Z,2μm,21.0s,MS5.0
CHMS Chumysh 43.19 339 P **P 21 46 16.7 +0.4**
SNR=11
EKS2 Erkin-Say 43.24 338 P **P 21 46 17.9 +1.1**
SNR=21
USP Ospenovka 43.51 339 P **P 21 46 19.5 +0.6**
SNR=37
SONM Songino Array 45.75 12 P **P 21 46 37.5 +0.6**
comp=Z,16nm,0.8s,mb5.0,baz=190,slow=8.5,SNR=91
WRA Warramunga Arr 45.80 122 P **P 21 46 37.4 -0.3**
comp=Z,47nm,0.9s,mb5.4,baz=300,slow=8.8,SNR=132
WRAB Tennant Creek 45.80 122*c i*P **P 21 46 37.4 -0.3**
WRAB Tennant Creek 45.80 122⇑ *e*P **P 21 46 37.2 -0.4**
comp=Z,114nm,1.0s,mb5.8
WRAB LR LR
comp=Z,1μm,19.0s,MS4.8
WB2 Warramunga Arr 45.81 122⇑ *i*P **P 21 46 37.1 -0.6**
SNY Shenyang 46.72 30 ⇑P **P 21 46 42.8 -1.7**
SNY AP pP 21 46 52.8 -1.6
SNY XP sP 21 46 58.9 +0.4
SNY S **S 21 53 39.0 +7.9**
SNY LR LR
comp=N,7μm,18.1s
SNY LR LR
comp=Z,8μm,18.5s,MS5.7
FORT Forrest 46.86 139 *e*P **P 21 46 39.9 -5.9**
comp=Z,149nm,1.0s,mb5.9
ASPA Alice Springs 47.14 127⇑ *i*P **P 21 46 47.8 -0.3**
ASAR Alice Springs 47.14 127 P **P 21 46 47.8 -0.3**
comp=Z,20nm,0.8s,mb5.1,baz=301,slow=7.4,SNR=91
ZAK Zakamensk 47.68 8⇓ *e*P **P 21 46 52.1 +0.1**
MOY Mondy 48.67 6 *e*P **P 21 47 00.4 +0.7**
TLY Talaya 49.00 8 *e*P **P 21 47 02.9 +0.7**
TLY *e*S **S 21 54 12.1 +8.9**
TLY pmax pmax
comp=Z,27nm,1.0s,mb5.2
TLY MLR MLR
comp=Z,2μm,16.0s,MS5.2
TLY Talaya 49.00 8 *e*P **P 21 47 03.1 +0.9**
comp=Z,20nm,1.3s,mb5.0
IRK Irkutsk 49.64 8 *e*P **P 21 47 07.2 +0.1**
IRK *e* 21 47 25.2
IRK *e* 21 48 33.3
IRK *e* 21 54 21.0
HIA Hailar 50.89 22⇑ *e*P **P 21 47 17.1 +0.4**
HIA pmax pmax
comp=Z,120nm,1.1s
HIA MLR MLR
comp=Z,13μm,19.0s
HIA Hailar 50.89 22⇑ *e*P **P 21 47 17.1 +0.4**
comp=Z,120nm,1.1s,mb5.7
HIA LR LR
comp=Z,13μm,19.0s,MS6.0
RAYN Ar Rayn 51.00 298 P **P 21 47 17.4 -0.5**
comp=Z,95nm,1.0s,mb5.7,SNR=17
ZAL Zalesovo 51.15 353 P **P 21 47 19.4 +0.8**
comp=Z,12nm,0.5s,mb5.1,baz=298,slow=6.9,SNR=72
ZAL LR LR 22 14 05.4
comp=Z,2μm,19.3s,MS5.1,baz=293,slow=42
MDJ Mudanjiang 51.80 32 P **P 21 47 23.5 -0.1**
MDJ AP pP 21 47 29.6 -3.9
MDJ XP sP 21 47 33.1 -4.5
MDJ PP PP 21 49 27.4 +5.3
MDJ SCS ScS 21 57 09.4 +1.5
MDJ AMB AMB
comp=Z,24nm,1.3s,mb5.0
MDJ AMB AMB
comp=Z,610nm,11.6s
MDJ LR LR
comp=N,2μm,21.0s,MS5.4
MDJ LR LR
comp=E,4μm,22.7s,MS5.4
MDJ LR LR
comp=Z,4μm,23.5s,MS5.4
MDJ Mudanjiang 51.80 32 *e*P **P 21 47 24.6 +1.0**
comp=Z,42nm,1.1s,mb5.3
CBIJ Chichi jima 51.80 58 LR LR 22 07 46.7
comp=Z,2μm,18.9s,MS5.2,baz=98,slow=34
JHJ Hachijo jima 2 52.10 50 LR LR 22 08 23.5
comp=Z,2μm,21.3s,MS5.1,baz=63,slow=35
NVS Novosibirsk 52.23 352 *i* P **P 21 47 25.7 -1.0**
NVS *e*S **S 21 54 47.1 -0.8**
NVS pmax pmax
comp=Z,82nm,1.5s,mb5.4
NVS pmax pmax
comp=E,35nm,1.4s
NVS pmax pmax
comp=N,51nm,1.3s
NVS smax
comp=N,39nm,2.6s
NVS smax
comp=E,35nm,2.0s
MAJO Matsushiro 52.48 45 *e*P **P 21 47 30.7 +1.9**
MAJO pmax pmax
comp=Z,20nm,0.9s,mb5.0
MAJO Matsushiro 52.48 45 *e*P **P 21 47 30.7 +1.9**
comp=Z,20nm,0.9s,mb5.1
MAT Matsushiro 52.48 45 *e*P **P 21 47 27.0 -1.8**
MAT *e*S **S 21 54 54.0 +2.5**
MAT pmax pmax
comp=Z,56nm,1.5s,mb5.3
MAT MLR MLR
comp=Z,6μm,20.0s,MS5.7
MAT Matsushiro 52.48 45 *e*P **P 21 47 27.0 -1.8**
comp=Z,56nm,1.5s,mb5.3
MAT *e*S **S 21 54 54.0 +2.5**
MAT LR LR
comp=Z,6μm,20.0s,MS5.7
MAT Matsushiro 52.48 45 P **P 21 47 27.4 -1.4**
MAT S **S 21 54 54.0 +2.5**
BVAR Borovoye Array 53.37 342 P **P 21 47 34.4 -0.8**
comp=Z,16nm,0.8s,mb5.0,baz=143,slow=7.4,SNR=70
BRVK Borovoye 53.43 342⇑ *e*P **P 21 47 34.6 -1.1**
BRVK pmax pmax
comp=Z,25nm,1.0s,mb5.1
BRVK Borovoye 53.43 342⇑ *e*P **P 21 47 34.6 -1.0**
comp=Z,25nm,1.0s,mb5.1
CHKZ Chkalovo 53.87 343⇑ *i*P **P 21 47 38.2 -0.7**
CHKZ pmax pmax
comp=Z,65nm,1.1s,mb5.5
CHKZ Chkalovo 53.87 343⇑ *i*P **P 21 47 38.1 -0.8**
comp=Z,65nm,1.1s,mb5.5
PMG Port Moresby 54.43 104 *e*P **P 21 47 43.4 -0.2**
PMG pmax pmax
comp=Z,19nm,0.9s
PMG MLR MLR
comp=Z,1μm,20.0s
PMG Port Moresby 54.43 104 P **P 21 47 42.9 -0.7**
comp=Z,29nm,1.3s,mb5.0,baz=270,slow=11,SNR=2.9
PMG LR LR 22 13 57.1
comp=Z,1μm,18.2s,MS5.1,baz=97,slow=39
PMG Port Moresby 54.43 104 *e*P **P 21 47 43.4 -0.2**
comp=Z,20nm,0.9s,mb5.0
PMG LR LR
comp=Z,1μm,20.0s,MS5.0
KLR Kul'dur 56.00 29κ *i*P **P 21 47 51.8 -2.7**
KLR *e*S **S 21 55 43.0 +4.2**
KLR pmax pmax
comp=N,57nm,1.6s
KLR pmax pmax
comp=E,85nm,1.6s
KLR pmax pmax
comp=Z,110nm,1.6s,mb5.6
KLR MLR MLR
comp=N,6μm,14.0s,MS5.9
KLR MLR MLR
comp=E,3μm,14.0s,MS5.9
KLR MLR MLR
comp=Z,7μm,14.0s,MS5.9
CTA Charters Tower 56.25 117 *e*P **P 21 47 56.6 -0.1**
comp=Z,18nm,1.0s,mb5.0
CTA Charters Tower 56.25 117 *e*P **P 21 47 56.6 -0.1**
CTA pmax pmax
comp=Z,18nm,1.0s
CTA Charters Tower 56.25 117 P **P 21 47 54.9 -1.8**
comp=Z,9.0nm,0.7s,mb4.9,baz=294,slow=9.6,SNR=7.1
CTA LR LR 22 15 37.4
comp=Z,2μm,19.2s,MS5.3,baz=282,slow=40
CTAO Charters Tower 56.25 117 *e*P **P 21 47 56.4 -0.2**
CTAO pmax pmax
comp=Z,26nm,1.1s,mb5.2
CTAO MLR MLR
comp=Z,2μm,20.0s,MS5.2
CTAO Charters Tower 56.25 117 *e*P **P 21 47 56.4 -0.2**
comp=Z,26nm,1.1s,mb5.2
CTAO LR LR
comp=Z,2μm,20.0s,MS5.2
BOD Bodaibo 56.72 13 *e*P **P 21 47 58.9 -0.6**
KMBO Kilima Mbogo 56.88 267⇑ *e*P **P 21 48 00.6 -0.6**
KMBO pmax pmax
comp=Z,141nm,2.1s
KMBO MLR MLR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 56.88 267 P **P 21 48 01.1 -0.1**
comp=Z,18nm,1.3s,mb4.9,baz=56,slow=8.4,SNR=12
KMBO LR LR 22 09 13.0
comp=Z,2μm,19.6s,MS5.2,baz=87,slow=33
KMBO Kilima Mbogo 56.88 267⇑ *e*P **P 21 48 00.6 -0.7**
comp=Z,141nm,2.1s,mb5.6
KMBO LR LR
comp=Z,2μm,20.0s,MS5.2
STKA Stephens Creek 57.06 132⇑ *i*P **P 21 48 01.3 -1.0**
comp=Z,13nm,0.7s,mb5.1
STKA Stephens Creek 57.06 132 P **P 21 48 01.4 -0.9**
comp=Z,13nm,0.8s,mb5.0,baz=294,slow=9.0,SNR=13
STKA LR LR 22 12 13.6
comp=Z,2μm,20.7s,MS5.2,baz=303,slow=36
GNI Garni 57.65 317 P **P 21 48 06.0 -0.3**
comp=Z,16nm,1.1s,mb5.0,baz=33,slow=2.0,SNR=14
GNI LR LR 22 11 39.0
comp=Z,334nm,21.2s,MS4.4,baz=103,slow=35
GNI Garni 57.65 317 *e*P **P 21 48 05.0 -1.4**
comp=Z,51nm,1.2s,mb5.4
GNI LR LR
comp=Z,537nm,19.0s,MS4.7
TI2 Plekhanov 58.36 318⇑ *i*P **P 21 48 10.4 -0.9**
CLNS Chul'man 58.87 19 *e*P **P 21 48 14.5 -0.1**
CLNS *e**PP pP 21 48 22.3 -2.4
CLNS *e* 21 49 05.1
CLNS *e* 21 50 20.0
CLNS *e*S **S 21 56 14.1 -2.2**
CLNS *e* 21 57 51.3
CLNS *e*SS SS 22 00 11.8 +0.1
CLNS pmax pmax
comp=N,15nm,1.1s
CLNS pmax pmax
comp=Z,27nm,1.1s,mb5.2
CLNS pmax pmax
comp=E,13nm,1.0s
CLNS pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=E,11nm,1.1s
CLNS smax
comp=N,143nm,13.8s
CLNS smax
comp=Z,118nm,12.7s
CLNS smax
comp=E,38nm,8.7s
CLNS MLR MLR
comp=N,4μm,14.0s,MS5.7
CLNS MLR MLR
comp=Z,6μm,14.0s,MS5.9
CLNS MLR MLR
comp=E,1μm,13.0s,MS5.7
ASAJ Asahikawa 59.08 39 P **P 21 48 16.9 +0.6**
comp=E,34nm,1.2s,mb5.2,baz=242,slow=13,SNR=6.4
ASAJ LR LR 22 14 03.7
comp=E,4μm,21.7s,MS5.5,baz=80,slow=36
ZEI Tsey 59.40 319 *e*P **P 21 48 14.7 -3.8**
ZEI *i* 21 50 35.4
ZEI *e*S **S 21 56 19.8 -3.6**
ZEI pmax pmax
comp=Z,14nm,1.0s,mb5.0
VRT Varto 59.48 314 *e*P **P 21 48 20.0 +0.9**
SVE Sverdlovsk 59.69 340⇑ *i*P **P 21 48 20.3 0.0**
SVE *e* 21 49 09.2
SVE *e* 21 50 38.0
SVE *e*S **S 21 56 32.0 +5.0**
SVE pmax pmax
comp=Z,120nm,1.8s,mb5.6
SVE MLR MLR
comp=Z,2μm,20.7s,MS5.3
ERZM Erzurum 59.90 315 *i* P **P 21 48 22.2 +0.2**
EZM Erzurum 59.90 315 *e*P **P 21 48 22.1 +0.1**
BINT Bingol 60.13 314 *e*P **P 21 48 23.8 +0.2**
ARU Arti 60.14 338⇑ *i*P **P 21 48 18.6 -4.8**
ARU *e* 21 49 03.3
ARU *e*S **S 21 56 29.1 -3.6**
ARU *e* 21 58 08.7
ARU *e*SS SS 22 00 27.9 -3.1
ARU *e*SSS SSS 22 03 03.6 -0.2
ARU pmax pmax
comp=Z,43nm,1.2s,mb5.3
YSS Yuzh-Sakhalins 60.59 36⇑ *e*P **P 21 48 23.8 -2.8**
YSS *i* pP 21 48 32.5 -4.2
YSS pmax pmax
comp=N,30nm,1.1s
YSS pmax pmax
comp=Z,70nm,1.1s,mb5.7
YSS MLR MLR
comp=Z,2μm,16.0s,MS5.4
YSS MLR MLR
comp=N,2μm,17.0s,MS5.4
YSS MLR MLR
comp=E,1μm,16.0s,MS5.4
YSS Yuzh-Sakhalins 60.59 36⇑ *e*P **P 21 48 26.9 +0.3**
comp=E,154nm,1.2s,mb6.0
ASF Jabal al Asfar 60.71 305 P **P 21 48 28.2 +0.6**
comp=E,9.6nm,0.9s,mb4.9,baz=321,slow=3.1,SNR=8.4
ASF LR LR 22 13 16.3
comp=E,614nm,19.3s,MS4.8,baz=184,slow=35
KIV Kislovodsk 60.72 320 P **P 21 48 26.5 -1.1**
comp=E,145nm,0.9s,mb6.1,SNR=9.9
KIV Kislovodsk 60.72 320α *i*P **P 21 48 26.5 -1.1**
KIV *i* 21 48 33.7
KIV *e* 21 48 39.7
KIV *e* 21 49 18.5
KIV *e* 21 50 45.2
KIV *e* 21 56 48.7
KIV pmax pmax
comp=Z,36nm,1.2s,mb5.4
KIV Kislovodsk 60.72 320⇑ *i*P **P 21 48 26.3 -1.2**
comp=Z,52nm,1.4s,mb5.5
URFA Urfa 60.83 312 *e*P **P 21 48 29.1 +0.7**
PTK Pertek 60.93 313 *e*P **P 21 48 28.6 -0.4**
EZC Erzincan 60.94 314 *e*P **P 21 48 31.7 +2.6**
GOF Gofitskoye 61.01 321⇑ *i*P **P 21 48 27.0 -2.4**
GOF pmax pmax
comp=Z,17nm,1.2s,mb5.0
GOF MLR MLR
comp=Z,1μm,15.0s,MS5.2
MALT Malatya 61.43 312 *e*P **P 21 48 31.7 -0.7**
MALT Malatya 61.43 312⇑ *i*P **P 21 48 32.4 0.0**
MALT pmax pmax
comp=Z,55nm,1.3s,mb5.5
MALT Malatya 61.43 312⇑ *i*P **P 21 48 32.4 0.0**
comp=Z,55nm,1.3s,mb5.5
GUMT Gumushane 61.45 315 *e*P **P 21 48 31.7 -0.8**
EIL Elat 61.69 302⇑ *e*P **P 21 48 33.8 -0.5**
comp=Z,48nm,1.2s,mb5.5
GZT Gaziantep 61.75 311 *i* P **P 21 48 33.7 -0.8**
GAZ Gaziantep 61.95 311 *e*P **P 21 48 35.1 -0.8**
SOC Sochi 62.51 318 *i* P **P 21 48 36.4 -3.1**
SOC *i* 21 49 12.7
SOC *e* 21 50 57.4
SOC *e*S **S 21 57 03.4 +0.4**
SOC pmax pmax
comp=Z,36nm,1.3s,mb5.3
SOC pmax pmax
comp=N,10.0nm,1.2s
SOC pmax pmax
comp=E,17nm,1.5s
SOC MLR MLR
comp=N,528nm,18.0s,MS4.8
SOC MLR MLR
comp=E,202nm,18.0s,MS4.8
SOC MLR MLR
comp=Z,499nm,18.0s,MS4.7
SOKR Solikamsk 63.10 340⇓ *i*P **P 21 48 41.7 -1.6**
SOKR pmax pmax
comp=Z,30nm,1.2s,mb5.3
SOKR MLR MLR
comp=Z,1μm,21.0s,MS5.1
MBAR Mbarara 63.33 268⇑ *i*P **P 21 48 44.0 -1.4**
MBAR pmax pmax
comp=Z,26nm,1.4s,mb5.2
MBAR Mbarara 63.33 268⇑ *i*P **P 21 48 44.0 -1.5**
comp=Z,26nm,1.4s,mb5.2
BNN Bunyan 63.52 312 *e*P **P 21 48 46.1 -0.3**
NIG Nigde 64.21 311 *e*P **P 21 48 48.8 -2.0**
YAK Yakutsk 64.47 18*c i*P **P 21 48 51.5 -0.6**
YAK *i* *PP pP 21 48 59.2 -3.2
YAK *e*S **S 21 57 43.8 +17**
YAK *e* 21 58 46.5
YAK pmax pmax
comp=N,23nm,1.2s
YAK pmax pmax
comp=Z,35nm,1.2s,mb5.3
YAK pmax pmax
comp=E,18nm,1.1s
YAK pmax pmax
comp=Z,11nm,1.0s,mb4.8
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK smax
comp=E,101nm,19.1s
YAK smax
comp=Z,35nm,12.6s
YAK smax
comp=N,70nm,22.5s
YAK MLR MLR
comp=N,1μm,16.0s,MS5.4
YAK MLR MLR
comp=E,1μm,16.0s,MS5.4
YAK MLR MLR
comp=Z,2μm,16.0s,MS5.3
YAK Yakutsk 64.47 18⇑ *i*P **P 21 48 51.2 -0.9**
comp=Z,72nm,1.1s,mb5.6
YAK LR LR
comp=Z,2μm,19.0s,MS5.3
ANN Anapa 64.50 319 *e*P **P 21 48 53.2 +0.6**
ANN *e*S **S 21 57 32.5 +4.7**
ANN pmax pmax
comp=Z,27nm,1.3s,mb5.1
BOYT Boyabat 65.03 315 *i* P **P 21 48 55.4 -0.6**
KAMT Kaman 65.25 312 *e*P **P 21 48 57.2 -0.3**
BRTR Keskin Array B 65.41 313 P **P 21 48 57.3 -1.3**
comp=Z,6.8nm,0.9s,mb4.7,baz=127,slow=6.9,SNR=37
CANT Cankiri 65.69 313 *e*P **P 21 48 58.4 -2.0**
ELDT Eldivan 65.80 313 *i* P **P 21 49 05.4 +4.3**
KIZT Kizilcal 66.48 311 *e*P **P 21 49 01.8 -3.6**
SAFT Safranbolu 66.56 314 *e*P **P 21 49 05.8 0.0**
SIM Simferopol' 66.75 318*c i*P **P 21 49 06.7 -0.3**
SIM pmax pmax
comp=Z,28nm,0.9s,mb5.3
SGKT Sivrigoynuk 66.82 313 *i* P **P 21 49 09.2 +1.7**
ANTB Antalya 66.91 309 *e*P pP 21 49 14.8 -3.6
ISP Isparta 67.25 310 P **P 21 49 10.7 +0.4**
ISP pmax pmax
comp=Z,16nm,0.8s,mb5.1
ISP Isparta 67.25 310 P **P 21 49 10.7 +0.4**
comp=Z,16nm,0.8s,mb5.1
ESKT Eskisehir 67.42 312 *e*P **P 21 49 10.7 -0.6**
ESKT Eskisehir 67.42 312 *i* P pP 21 49 19.7 -1.9
ELL Elmali 67.45 309 *e*P **P 21 49 12.3 +0.8**
LSZ Lusaka 67.63 252 *e*P **P 21 49 12.3 -0.7**
LSZ pmax pmax
comp=Z,27nm,1.4s,mb5.1
LSZ MLR MLR
comp=Z,2μm,20.0s,MS5.4
LSZ Lusaka 67.63 252 *e*P **P 21 49 12.3 -0.7**
comp=Z,27nm,1.4s,mb5.1
LSZ LR LR
comp=Z,2μm,20.0s,MS5.4
ALT Altintas 67.86 311 *e*P **P 21 49 13.4 -0.6**
MANT Manisa 68.90 310 *i* P **P 21 49 20.7 +0.2**
MOS Moscow 69.00 330 *e*P **P 21 49 19.7 -1.2**
MOS *e* 21 49 43.0
MOS MLR MLR
comp=Z,1μm,22.0s,MS5.2
OBN Obninsk 69.26 329α *i*P **P 21 49 19.6 -2.9**
OBN *i* 21 49 27.4
OBN *i* S S 21 58 30.1 +5.0
OBN pmax pmax
comp=Z,48nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,500nm,17.0s,MS4.8
OBN Obninsk 69.26 329 *e*P **P 21 49 19.5 -3.0**
comp=Z,63nm,1.4s,mb5.3
AKS Akhisar 69.56 310 *e*P **P 21 49 23.7 -0.8**
SKR Severo-Kuril's 70.15 37 *e*P **P 21 49 26.0 -2.0**
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
SKR MLR MLR
comp=Z,6μm,24.0s,MS5.8
CASY Casey 70.32 173 *e*P **P 21 49 29.3 +0.6**
comp=Z,54nm,1.3s,mb5.3
CASY LR LR
comp=Z,2μm,20.0s,MS5.4
PSN Preselentsi 70.44 315 *e*P **P 21 49 30.0 +0.2**
CFR Carcaliu 70.86 317⇑ *i*P **P 21 49 31.6 -0.8**
HARR Harsova 70.87 316⇓ *i*P **P 21 49 32.3 -0.2**
MA2 Magadan 70.98 27*c e*P **P 21 49 33.1 +0.3**
MA2 *e*PPP PPP 21 53 50.6 -2.9
MA2 *e*S S 21 58 48.3 +3.3
MA2 *e* 21 59 27.6
MA2 pmax pmax
comp=Z,30nm,0.8s,mb5.3
MA2 MLR MLR
comp=Z,4μm,21.9s,MS5.7
MA2 Magadan 70.98 27 *e*P **P 21 49 32.9 +0.1**
comp=Z,47nm,1.1s,mb5.3
JMB Yambol 71.28 314 *e*P **P 21 49 35.0 +0.1**
AKASG Malin Array Be 71.74 323 P **P 21 49 35.9 -1.6**
comp=Z,3.3nm,0.6s,mb4.4,baz=88,slow=5.1,SNR=24
TIXI Tiksi 71.83 11⇑ *i*P **P 21 49 37.3 -0.4**
TIXI *e*S S 21 58 55.4 +0.7
TIXI pmax pmax
comp=Z,67nm,0.8s,mb5.6
TIXI MLR MLR
comp=Z,3μm,17.0s,MS5.7
TIXI Tiksi 71.83 11⇑ *e*P **P 21 49 37.6 -0.1**
ISR Istrita 71.93 317⇓ *i*P **P 21 49 40.0 +1.3**
DIM Dimitrovgrad 71.95 313 *e*P **P 21 49 39.0 +0.1**

KDZ Kurdzhali 71.95 313 *eP* **P 21 49 39.0 +0.1**
VRI Vrincioaia 71.99 317⇑ *iP* **P 21 49 39.4 +0.3**
PET Petropavlovsk 72.42 35 *eP* pP 21 49 49.5 -2.3
PET *e*PPP PPP 21 54 12.9 +5.9
PET pmax pmax
comp=Z,300nm,11.7s
PET MLR MLR
comp=E,2µm,22.0s,MS5.7
PET MLR MLR
comp=N,4µm,21.0s,MS5.7
PET MLR MLR
comp=Z,3µm,20.0s,MS5.5
PET MLR MLR
comp=E,3µm,17.0s
PET MLR MLR
comp=Z,2µm,15.0s
PET MLR MLR
comp=N,1µm,14.0s
PET Petropavlovsk 72.42 35 *eP* **P 21 49 41.0 -0.4**
comp=N,16nm,0.7s,mb5.1
PET LR LR
comp=Z,2µm,19.0s,MS5.4
MLR Muntele Rosu 72.43 317⇑ *iP* **P 21 49 42.0 +0.3**
RZN Rozhen 72.47 313 *eP* **P 21 49 42.0 0.0**
PGB Panagyurishte 73.04 314 *eP* **P 21 49 45.0 -0.5**
MMB Musomiste 73.17 312 *eP* **P 21 49 45.0 -1.3**
SEY Seymchan 73.23 24 *eP* **P 21 49 47.0 +0.8**
SEY *e* 21 50 04.2
SEY 21 52 33.0
SEY pmax pmax
comp=Z,90nm,1.1s,mb5.6
SEY pmax pmax
comp=E,20nm,0.8s
SEY MLR MLR
comp=E,8µm,19.0s,MS6.2
SEY MLR MLR
comp=Z,17µm,19.0s,MS6.3
SEY MLR MLR
comp=N,8µm,18.0s,MS6.2
KKB Krupnik 73.70 313 P **P 21 49 48.0 -1.3**
MNK Minsk 73.72 326 *eP* **P 21 49 46.0 -3.2**
VTS Vitosha 73.74 313 *eP* **P 21 49 49.0 -0.6**
MAW Mawson 73.94 192 P **P 21 49 48.9 -1.3**
comp=N,4.9nm,0.9s,mb4.4,baz=6.7,slow=21,SNR=1.6
MAW LR LR 22 18 51.3
comp=N,1µm,18.2s,MS5.3,baz=20,slow=33
LVV L'vov 74.71 321 *eP* **P 21 49 53.6 -1.4**
BOLS Boljevac 74.87 315⇑ *iP* **P 21 49 54.3 -1.7**
SKO Skopje 74.93 313 *eP* **P 21 49 54.5 -1.9**
JOF Joensuu 75.00 335 *ep* **P 21 49 53.6 -2.8**
comp=N,9.5nm,0.9s,mb4.7
KWP Kalwaria 75.51 320 *eP* **P 21 49 59.5 -0.1**
KOLS Kolonicke sedl 75.64 320 *eP* **P 21 50 01.0 +0.7**
CRVS Cervenica-Dubn 76.16 320 *eP* **P 21 50 07.7 +4.4**
CRVS Cervenica-Dubn 76.16 320 *e* **P 21 50 07.7 +4.4**
APA Apatity 76.16 340⇑ *eP* **P 21 50 02.4 -0.5**
APA *i* pP 21 50 12.5 -0.8
APA *i* 21 50 14.9
APA pmax pmax
comp=Z,24nm,1.1s,mb5.0
APA MLR MLR
comp=Z,2µm,18.0s,MS5.4
SUW Suwalki 76.22 325 *eP* **P 21 50 02.7 -0.8**
DIVS Divcibare 76.31 315 *eP* **P 21 50 03.1 -1.1**
BBLS Bajina Basta - 76.69 314 *eP* **P 21 50 04.8 -1.6**
KECS Kecovo 76.71 319 *eP* **P 21 50 06.4 -0.1**
FINES FINESS Array B 76.77 333 P **P 21 50 05.8 -0.7**
comp=Z,7.5nm,0.8s,mb4.7,baz=105,slow=5.4,SNR=18
FINES LR LR 22 27 37.2
comp=Z,722nm,21.8s,MS5.0,baz=262,slow=39
KAF Kangasniemi 76.88 333 *ep* **P 21 50 05.2 -1.9**
comp=Z,0.7nm,0.4s,baz=107,slow=5.4
NIE Niedzica 76.99 320 *eP* **P 21 50 08.0 0.0**
PSZ Piszkesteto 77.00 318⇑ *eP* **P 21 50 07.9 -0.2**
OJC Ojcow 77.47 321 *eP* **P 21 50 10.7 +0.1**
PKSM Moragy 77.58 317⇑ *iP* **P 21 50 10.7 -0.7**
SUR Sutherland 77.58 236 P **P 21 50 12.9 +1.3**
comp=Z,42nm,1.2s,mb5.2
VYHS Vyhne 77.80 319 *i* P **P 21 50 12.5 0.0**
SRO Srobarova 78.04 318 *eP* **P 21 50 14.6 +0.8**
SRO1 Iza 78.08 318 *eP* **P 21 50 16.7 +2.6**
TIP Timpagrande 78.10 309 *eP* **P 21 50 14.2 -0.2**
OKC Ostrava-Krasne 78.45 320 *eP* **P 21 50 16.5 +0.5**
RAC Raciborz 78.46 320 *eP* **P 21 50 16.9 +0.8**
MORC Moravsky Berou 78.83 320⇑ *eP* **P 21 50 17.5 -0.6**
MORC pmax pmax
comp=Z,24nm,1.3s,mb5.0
MORC Moravsky Berou 78.83 320⇑ *eP* **P 21 50 17.4 -0.7**
comp=Z,24nm,1.3s,mb5.0
ZST Bratislava 78.90 318 *i* P **P 21 50 18.7 +0.2**
KEV Kevo 79.19 341 *ep* **P 21 50 19.5 -0.2**
comp=Z,0.4nm,0.4s
ARCES ARCESS Array B 79.60 341 P **P 21 50 21.9 0.0**
comp=Z,22nm,1.1s,mb5.0,baz=79,slow=6.2,SNR=13
ARCES LR LR 22 29 18.4
comp=Z,1µm,19.7s,MS5.3,baz=106,slow=38
DPC Dobruska-Polom 79.69 320 *eP* **P 21 50 22.6 -0.2**
KSP Ksiaz 79.77 321⇑ *eP* **P 21 50 23.5 +0.3**
KSP *e**PP pP 21 50 33.0 -0.6
KSP Ksiaz 79.77 321 *eP* **P 21 50 23.9 +0.7**
ARSA Arzberg 79.84 317⇑ *iP* **P 21 50 24.2 +0.5**
comp=Z,71nm,1.4s,mb5.4
BOJS Bojanci 79.84 316 *eP* **P 21 50 23.6 -0.1**
BOJS *i* 21 50 31.2
UPC Upice 79.91 321 *eP* **P 21 50 23.7 -0.2**
VISS Visnje 80.16 316 *eP* **P 21 50 25.4 0.0**
LJU Ljubljana 80.40 316 *eP* **P 21 50 26.8 +0.1**
LJU *i* pP 21 50 36.0 -1.1
OBKA Obir 80.43 316⇑ *iP* **P 21 50 27.8 +1.0**
comp=Z,68nm,1.4s,mb5.4
BILL Biiibino 80.48 21 *eP* **P 21 50 27.0 +0.4**
BILL *e* pP 21 50 36.6 -0.5
BILL *e* 21 50 43.3
BILL 21 53 39.0
BILL pmax pmax
comp=Z,100nm,3.0s
BILL pmax pmax
comp=Z,31nm,1.6s,mb5.0
BILL MLR MLR
comp=Z,11µm,24.0s,MS6.1
BILL Biiibino 80.48 21⇑ *eP* **P 21 50 26.8 +0.2**
comp=Z,18nm,1.1s,mb4.9
MOA Molln 80.75 318⇓ *iP* **P 21 50 27.7 -0.8**
comp=Z,36nm,1.4s,mb5.1
PRU Pruhonice 80.78 320 *eP* **P 21 50 28.7 +0.1**
comp=Z,45nm,1.6s,mb5.2
PVCC Panska Ves 80.82 321 *eP* **P 21 50 29.3 +0.5**
VOY Vojsko 80.84 316 *eP* **P 21 50 28.7 -0.3**
VOY *e* pP 21 50 38.7 -0.7
VOY *e* 21 50 54.7
AQU L'Aquila 80.91 312 *eP* **P 21 50 29.4 0.0**
AQU pmax pmax
comp=Z,99nm,1.3s,mb5.6
AQU L'Aquila 80.91 312 *eP* **P 21 50 29.4 0.0**
comp=Z,99nm,1.3s,mb5.6
SYO Syowa Base 80.91 197 ⇑P **P 21 50 29.7 +0.8**
SYO Syowa Base 80.91 197 ⇓pP P 21 50 31.6 +2.7
SYO Syowa Base 80.91 197 ⇓PcP PcP 21 50 37.0 +1.3
ROBS Robic 81.12 316 *eP* **P 21 50 30.4 -0.1**
ROBS *e* 21 50 38.0
GEC2 GERESS Array S 81.22 319 *eP* **P 21 50 31.5 +0.6**
GEC2 pmax pmax
comp=Z,52nm,1.1s,mb5.4
GEC2 GERESS Array S 81.22 319 *eP* **P 21 50 31.5 +0.6**
comp=Z,52nm,1.1s,mb5.4
GERES GERESS Array B 81.22 319 P **P 21 50 31.4 +0.4**
comp=Z,13nm,0.9s,mb4.9,baz=104,slow=5.5,SNR=90
BRG Berggiesshubel 81.25 321 *eP* **P 21 50 31.5 +0.4**
BRG pmax pmax
comp=Z,33nm,1.3s,mb5.1
BRG MLR MLR
comp=N,880nm,22.3s,MS5.2
BRG MLR MLR
comp=E,790nm,22.3s,MS5.2
BRG MLR MLR
comp=Z,760nm,22.3s,MS5.0
KHC Kasperske Hory 81.32 319 *eP* **P 21 50 31.4 -0.1**
KHC *ep*P pP 21 50 38.8 -3.1
RUE Ruedersdorf 81.52 322 *eP* **P 21 50 32.3 -0.1**
comp=Z,52nm,1.2s,mb5.3
WET Wettzell 81.78 319 *eP* **P 21 50 34.4 +0.5**
WET pmax pmax
comp=Z,98nm,2.1s,mb5.4
WET Wettzell 81.78 319 *eP* **P 21 50 34.4 +0.5**
comp=Z,98nm,2.1s,mb5.4
CLL Collm 81.89 321 *eP* **P 21 50 34.0 -0.3**
CLL *e* pP 21 50 44.0 -0.8
CLL pmax pmax
comp=Z,31nm,1.4s,mb5.0
CLL Collm 81.89 321 P **P 21 50 34.0 -0.3**
comp=Z,logA/T=1.3,mb5.0
CLL *e**SP sP 21 50 44.0 -4.3
CLL *e* 21 52 12.0
NKC Novy Kostel 82.15 320 *eP* **P 21 50 36.0 +0.3**
WTTA Wattenberg 82.48 317⇑ *iP* **P 21 50 37.3 -0.2**
comp=Z,34nm,1.1s,mb5.2
WTTA Wattenberg 82.48 317⇑ *iP* **P 21 50 37.3 -0.2**
WTTA pmax pmax
comp=Z,34nm,1.1s,mb5.2
WATA Walderalm 82.52 317⇑ *iP* **P 21 50 37.2 -0.5**
comp=Z,32nm,1.3s,mb5.2
WATA Walderalm 82.52 317⇑ *iP* **P 21 50 37.2 -0.5**
WATA pmax pmax
comp=Z,32nm,1.3s,mb5.2
MOX Moxa 82.71 320 *eP* **P 21 50 38.8 +0.2**
MOX pmax pmax
comp=Z,38nm,1.9s,mb5.1
MOX Moxa 82.71 320 *eP* **P 21 50 38.8 +0.2**
comp=Z,38nm,1.9s,mb5.1
MOX Moxa 82.71 320 *i* P **P 21 50 38.8 +0.2**
comp=Z,logA/T=1.3,mb5.1
SQTA Sankt Quirin 82.77 317⇑ *iP* **P 21 50 38.7 -0.2**
comp=Z,23nm,1.2s,mb5.1
SQTA Sankt Quirin 82.77 317⇑ *iP* **P 21 50 38.7 -0.2**
SQTA pmax pmax
comp=Z,23nm,1.2s,mb5.1
FUR Furstenfeldbru 82.77 318 *eP* **P 21 50 39.1 +0.1**
FUR pmax pmax
comp=Z,59nm,1.5s,mb5.4
FUR Furstenfeldbru 82.77 318 *eP* **P 21 50 39.1 +0.1**
comp=Z,59nm,1.5s,mb5.4
MOTA Moosalm 82.84 317⇑ *iP* **P 21 50 39.0 -0.3**
comp=Z,19nm,1.2s,mb5.0
MOTA Moosalm 82.84 317⇑ *iP* **P 21 50 39.0 -0.3**
MOTA pmax pmax
comp=Z,19nm,1.2s,mb5.0
GRA1 Grafenberg Arr 82.90 320 *eP* **P 21 50 40.4 +0.8**
comp=Z,55nm,1.3s,mb5.4
GRF Grafenberg Arr 82.90 320 *eP* **P 21 50 40.4 +0.8**
GRF pmax pmax
comp=Z,55nm,1.3s,mb5.4
CLZ Clausthal 83.56 322 *eP* **P 21 50 42.6 -0.3**
comp=Z,84nm,1.8s,mb5.6
DAVA Damuels 83.67 317⇑ *iP* **P 21 50 44.1 +0.5**
comp=Z,52nm,1.1s,mb5.6
BSEG Bad Segeberg 83.71 324 *eP* **P 21 50 43.5 -0.1**
NB2 NORSAR Subarra 83.72 331 P **P 21 50 42.5 -1.0**
comp=Z,15nm,1.1s,mb5.0,baz=97,slow=5.0
NB2 NORSAR Subarra 83.72 331 P **P 21 50 42.5 -1.0**
baz=97,slow=5.1
NOA NORSAR Array B 83.72 331 P **P 21 50 43.4 -0.1**
comp=Z,7.0nm,0.9s,mb4.8,baz=94,slow=5.5,SNR=13
NOA LR LR 22 31 48.1
comp=Z,600nm,20.7s,MS5.0,baz=90,slow=38
PGF Pioggiola 84.17 312 *eP* **P 21 50 46.4 +0.2**
comp=Z,91nm,1.5s,mb5.4
PGF Pioggiola 84.17 312 *eP* **P 21 50 46.4 +0.2**
PGF pmax pmax
comp=Z,45nm,1.5s,mb5.4
MUD Monsted U'grnd 84.49 326 *eP* **P 21 50 45.1 -2.4**
MUD pmax pmax
comp=Z,21nm,1.0s,mb5.2
MUD Monsted U'grnd 84.49 326 *eP* **P 21 50 45.1 -2.4**
comp=Z,21nm,1.0s,mb5.2
MUD Monsted U'grnd 84.49 326 *i* P **P 21 50 45.1 -2.4**
comp=Z,21nm,1.0s,mb5.2
BFO Black Forest 84.75 318 *eP* **P 21 50 49.1 +0.1**
BFO pmax pmax
comp=Z,44nm,1.8s,mb5.3
BFO Black Forest 84.75 318 *eP* **P 21 50 49.1 +0.1**
comp=Z,44nm,1.8s,mb5.3
FELD Feldberg 84.96 318 *eP* **P 21 50 49.7 -0.3**
LANF Langenberg 85.11 319 *eP* **P 21 50 50.8 +0.1**
SAOF Saorge 85.24 314 *eP* **P 21 50 51.7 +0.2**
SBF Sospel 85.33 314 *eP* **P 21 50 52.0 +0.1**
comp=Z,74nm,1.0s,mb5.5
SBF Sospel 85.33 314 *eP* **P 21 50 52.0 +0.1**
SBF pmax pmax
comp=Z,37nm,1.0s,mb5.5
REVF Revere 85.37 313 *eP* **P 21 50 52.4 +0.2**
CDF Champ du Feu 85.45 318 *eP* **P 21 50 52.1 -0.3**
comp=Z,17nm,1.0s,mb4.8
CDF Champ du Feu 85.45 318 *eP* **P 21 50 52.1 -0.3**
CDF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
TOUF Mont Tournerai 85.46 314 *eP* **P 21 50 53.0 +0.4**
MVIF Mont Vial 85.53 314 *eP* **P 21 50 53.5 +0.6**
ECH Echery 85.53 318 *eP* **P 21 50 52.7 -0.1**
MBDF Montbardon 85.80 314 *eP* **P 21 50 56.0 +1.8**
comp=Z,49nm,1.2s,mb5.3
MBDF Montbardon 85.80 314 *eP* **P 21 50 56.0 +1.8**
MBDF pmax pmax
comp=Z,25nm,1.2s,mb5.3
LPG La Plagne 85.81 315 *eP* **P 21 50 54.8 +0.5**
comp=Z,66nm,1.3s,mb5.4
LPG La Plagne 85.81 315 *eP* **P 21 50 54.8 +0.5**
LPG pmax pmax
comp=Z,33nm,1.3s,mb5.4
LPL La Plagne 85.82 315 *eP* **P 21 50 54.7 +0.4**
comp=Z,74nm,1.2s,mb5.5
LPL La Plagne 85.82 315 *eP* **P 21 50 54.7 +0.4**
LPL pmax pmax
comp=Z,37nm,1.2s,mb5.5
BNI Bardonecchia 85.86 315 *eP* **P 21 50 54.9 +0.4**
BNI pmax pmax
comp=Z,36nm,1.3s,mb5.4
BNI Bardonecchia 85.86 315 *eP* **P 21 50 54.9 +0.3**
comp=Z,36nm,1.3s,mb5.5
FRF La Foret Royal 85.90 313 *eP* **P 21 50 55.0 +0.3**
comp=Z,128nm,1.6s,mb5.6
FRF La Foret Royal 85.90 313 *eP* **P 21 50 55.0 +0.3**
FRF pmax pmax
comp=Z,64nm,1.6s,mb5.6
LMR La Mourre 86.00 313 *eP* **P 21 50 55.4 +0.2**
comp=Z,29nm,1.1s,mb5.1
LMR La Mourre 86.00 313 *eP* **P 21 50 55.4 +0.2**
LMR pmax pmax
comp=Z,15nm,1.1s,mb5.1
HAU Haudompre 86.07 318 *eP* **P 21 50 55.2 -0.3**
comp=Z,52nm,1.2s,mb5.3
HAU *e*R
comp=Z,308nm,19.2s
HAU Haudompre 86.07 318 *eP* **P 21 50 55.2 -0.3**
HAU pmax pmax
comp=Z,26nm,1.2s,mb5.3
HAU MLR MLR
comp=Z,310nm,19.3s,MS4.7
WLF Walferdange 86.19 319 *eP* **P 21 50 57.3 +1.3**
WLF pmax pmax
comp=Z,25nm,1.2s,mb5.3
WLF Walferdange 86.19 319 *eP* **P 21 50 57.3 +1.3**
comp=Z,26nm,1.2s,mb5.3
CABF La Chapelle 86.26 316 *eP* **P 21 50 57.9 +1.4**
comp=Z,93nm,1.5s,mb5.5
CABF La Chapelle 86.26 316 *eP* **P 21 50 57.9 +1.4**
CABF pmax pmax
comp=Z,47nm,1.5s,mb5.5
ORIF Oris-en-Rattie 86.43 315 *eP* **P 21 50 57.8 +0.5**
ORIF *e*R
comp=Z,526nm,22.7s
SMRF Simiane la Rot 86.67 314 *eP* **P 21 50 59.3 +0.8**
comp=Z,52nm,1.3s,mb5.3
MEZF Maizieres J'vi 86.93 318 *eP* **P 21 50 59.6 -0.1**
comp=Z,122nm,1.7s,mb5.6
PRAF Pradon 86.97 314 *eP* **P 21 51 03.1 +3.1**
GIVF Givet 87.04 320 *eP* **P 21 51 00.5 +0.3**
VIVF Saint-Julien-l 87.29 315 *eP* **P 21 51 01.7 +0.2**
comp=Z,46nm,1.2s,mb5.3
VIVF Saint-Julien-l 87.29 315 *eP* **P 21 51 01.7 +0.2**
VIVF pmax pmax
comp=Z,23nm,1.2s,mb5.3
BAIF Baives 87.44 320 *eP* **P 21 51 02.5 +0.4**
comp=Z,74nm,1.5s,mb5.4
BAIF Baives 87.44 320 *eP* **P 21 51 02.5 +0.4**
BAIF pmax pmax
comp=Z,37nm,1.5s,mb5.4
SMF Signal de Mont 87.81 316 *eP* **P 21 51 03.9 -0.1**
comp=Z,36nm,1.1s,mb5.2
SMF Signal de Mont 87.81 316 *eP* **P 21 51 03.9 -0.1**
SMF pmax pmax
comp=Z,18nm,1.1s,mb5.2
LASF Ste Croix 87.90 314 *eP* **P 21 51 05.0 +0.5**
comp=Z,95nm,1.5s,mb5.5
PLDF La Plantade 87.99 316 *eP* **P 21 51 06.4 +1.6**
SSF Saint Saulge 88.02 317 *eP* **P 21 51 05.3 +0.3**
SSF pmax pmax
comp=Z,53nm,1.7s,mb5.5
SSF Saint Saulge 88.02 317 *eP* **P 21 51 05.3 +0.3**
comp=Z,53nm,1.7s,mb5.5
AVF Avril sur Loir 88.14 317 *eP* **P 21 51 05.6 +0.1**
comp=Z,123nm,1.8s,mb5.5
AVF Avril sur Loir 88.14 317 *eP* **P 21 51 05.6 +0.1**
AVF pmax pmax
comp=Z,62nm,1.8s,mb5.5
LBL Lubilhac 88.29 315 *eP* **P 21 51 08.1 +1.8**
AGO Saint Agoulin 88.33 316 *eP* **P 21 51 07.9 +1.4**
VNDA Vanda 88.40 168 P **P 21 51 07.2 +1.1**
comp=Z,7.4nm,1.1s,mb4.8,baz=338,slow=5.4,SNR=3.2
VNDA LR LR 22 26 42.2
comp=Z,1µm,18.6s,MS5.4,baz=294,slow=33
BGF Bois d'Agland 88.50 316 *eP* **P 21 51 07.1 -0.2**
comp=Z,102nm,1.5s,mb5.5
BGF Bois d'Agland 88.50 316 *eP* **P 21 51 07.1 -0.2**
BGF pmax pmax
comp=Z,51nm,1.5s,mb5.5
TCF Toulx Ste Croi 88.95 316 *eP* **P 21 51 09.9 +0.4**
MTLF Montolieu 89.13 313 *eP* **P 21 51 10.9 +0.5**
comp=Z,44nm,1.3s,mb5.3
MTLF Montolieu 89.13 313 *eP* **P 21 51 10.9 +0.5**
MTLF pmax pmax
comp=Z,22nm,1.3s,mb5.3
CAF Calviac 89.14 315 *eP* **P 21 51 11.2 +0.8**
RJF Les Rejaudoux 89.50 315 *eP* **P 21 51 11.8 -0.3**
comp=Z,47nm,1.2s,mb5.4
RJF *e*R
comp=Z,306nm,20.0s
RJF Les Rejaudoux 89.50 315 *eP* **P 21 51 11.8 -0.3**
RJF pmax pmax
comp=Z,23nm,1.2s,mb5.4
RJF MLR MLR
comp=Z,310nm,20.0s,MS4.7
EMIR Miracle 89.73 312 P **P 21 51 13.7 +0.5**
comp=Z,691nm,4.1s
EPOB Poblet 90.11 311 P **P 21 51 14.3 -0.7**
comp=Z,109nm,2.0s,mb5.8
EBR Ebro Roquetas 90.59 311 *eP* **P 21 51 19.3 +2.0**
EBIE Bielsa 90.69 313 P **P 21 51 18.3 +0.6**
comp=Z,392nm,3.9s
ERTA Horta de San J 90.70 311 P **P 21 51 18.3 +0.5**
comp=Z,576nm,4.2s
ETSF Etsaut 91.19 313 *eP* **P 21 51 20.9 +0.9**
comp=Z,72nm,1.4s,mb5.5
ETSF Etsaut 91.19 313 *eP* **P 21 51 20.9 +0.9**
ETSF pmax pmax
comp=Z,36nm,1.4s,mb5.5
EMOS Mosqueruela 91.36 310 P **P 21 51 22.1 +1.2**
comp=Z,140nm,1.6s,mb6.0
ESK Eskdalemuir 91.50 325 P **P 21 51 21.9 +0.7**
ESK pmax pmax
comp=Z,21nm,1.0s,mb5.4
ESK Eskdalemuir 91.50 325 P **P 21 51 21.9 +0.7**
comp=Z,21nm,1.0s,mb5.4
SJPF Ste Jean 91.66 313 *eP* **P 21 51 23.2 +1.0**
comp=Z,31nm,1.1s,mb5.3
SJPF Ste Jean 91.66 313 *eP* **P 21 51 23.2 +1.0**
SJPF pmax pmax
comp=Z,16nm,1.1s,mb5.3
DAG Danmarks Havn 92.00 348 *eP* **P 21 51 23.0 0.0**
DAG Danmarks Havn 92.00 348 *i* P **P 21 51 23.0 0.0**
EMUR La Murta 92.20 308 P **P 21 51 26.5 +1.7**
comp=Z,83nm,2.1s,mb5.7
EVIA Vianos 93.10 309 P **P 21 51 28.8 -0.1**
EVIA pmax pmax
comp=Z,49nm,1.7s,mb5.7
EVIA Vianos 93.10 309 P **P 21 51 28.8 -0.2**
comp=Z,49nm,1.7s,mb5.7
EBER Berja 93.61 307 P **P 21 51 31.6 +0.3**
comp=Z,208nm,2.9s,mb6.1
EQES Quesada 93.64 308 P **P 21 51 32.4 +1.0**
comp=Z,170nm,2.6s,mb6.0
ESDC Sonseca Array 94.10 310 P **P 21 51 34.1 +0.7**
comp=Z,1.8nm,0.8s,mb4.5,baz=88,slow=3.0,SNR=6.0
ESDC Sonseca Array 94.10 310 P **P 21 51 34.6 +1.2**
comp=Z,1.4nm,0.8s,mb4.4
GUD Guadarrama 94.12 311 P **P 21 51 34.2 +0.7**
GUD pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
GUD Guadarrama 94.12 311 P **P 21 51 34.2 +0.8**
comp=Z,5.3nm,0.8s,mb5.0
IMA Indian Mountai 95.99 22 *eP* **P 21 51 43.3 +1.9**
IMA pmax pmax
comp=Z,165nm,1.9s,mb6.1
IMA Indian Mountai 95.99 22 *eP* **P 21 51 43.3 +1.9**
comp=Z,166nm,1.9s,mb6.1
BORG Borgarnes 97.66 337 P **P 21 51 47.9 -1.1**
comp=Z,6.6nm,0.4s,mb5.5,baz=41,slow=6.4
DBIC Dimbokro 98.40 277 P **P 21 51 53.6 +0.1**
comp=Z,1.3nm,0.8s,mb4.5,slow=4.0,SNR=2.6
DBIC LR LR 22 34 42.5
comp=Z,615nm,20.5s,MS5.1,baz=71,slow=34
ILAR Eielson Array 99.11 22 LR LR 22 39 40.9
comp=Z,1µm,21.7s,MS5.3,baz=135,slow=37
INK Inuvik 101.51 16 P P 21 52 05.4 -1.0
comp=Z,0.6nm,0.5s,baz=218,slow=4.7,SNR=2.6
INK Inuvik 101.51 16 Pdif P 21 52 07.2 +0.8
RES Resolute Bay 102.06 2 *e*Pdif Pdif 21 52 10.4 +1.7
YKA Yellowknife Ar 110.99 14 Pdiff Pdif 21 52 48.5 +0.3
comp=Z,0.3nm,0.8s,baz=315,slow=3.5,SNR=3.8
YKA PKIKP 21 56 48.3
comp=Z,0.8nm,1.1s,baz=309,slow=4.0,SNR=5.0
YKA PP PP 21 57 21.3 -8.1
comp=Z,0.4nm,0.8s,baz=325,slow=8.0,SNR=5.5
YKA PKKPbc 22 07 50.4
comp=Z,0.3nm,0.8s,baz=138,slow=4.1,SNR=3.6
YKA Yellowknife Ar 110.99 14 Pdif Pdif 21 52 48.5 +0.3
YKA PKPdf PKPdf 21 56 48.4 +2.0
YKA PP PP 21 57 21.3 -8.2
YKA PKKPbc 22 07 50.4
CHMT Chamberlain Mo 124.64 22 *e*PKPdf PKPdf 21 57 14.9 +1.6
MOD Modoc 125.39 31 *e*PKPdf PKPdf 21 57 17.4 +2.5
BOZ Bozeman (W) 126.31 22 *e*PKPdf PKPdf 21 57 17.4 +0.9
MCMT McKenzie Canyo 126.53 24 *e*PKPdf PKPdf 21 57 19.5 +2.5
HLID Hailey 126.91 26 *e*PKPdf PKPdf 21 57 20.4 +2.6
MOOW Moose Ponds 128.26 23 *e*PKPdf PKPdf 21 57 21.6 +1.2
LOHW Long Hollow 128.43 23 *e*PKPdf PKPdf 21 57 22.1 +1.4
NVAR Mina Array Bea 128.96 33 PKP PKPdf 21 57 23.6 +1.8
comp=Z,0.4nm,0.4s,baz=315,slow=1.3,SNR=7.6
NVAR PP PP 21 59 35.2 +1.3
comp=Z,1.1nm,0.9s,baz=297,slow=4.0,SNR=2.8
MNV Mina 129.04 33 *e*PKPdf PKPdf 21 57 24.3 +2.3
BW06 Boulder Array 129.55 22 *e*PKPdf PKPdf 21 57 24.4 +1.6
PDAR Pinedale Array 129.55 22 PKP PKPdf 21 57 25.3 +2.5
comp=Z,8.2nm,1.3s,SNR=9.3
PDAR PP PP 21 59 37.5 +0.1
comp=Z,1.9nm,1.1s,baz=333,slow=2.0,SNR=3.6
NLU North Lily Min 130.85 27 PKPdf PKPdf 21 57 28.2 +2.8
MVU Marysvale 131.97 28 *e*PKPdf PKPdf 21 57 30.3 +2.7
MSU Marysvale 131.98 28 *e*PKPdf PKPdf 21 57 30.6 +3.0
SRU San Rafael 132.23 26 *e*PKPdf PKPdf 21 57 30.6 +2.5
ANMO Albuquerque 137.48 25 PKP PKPdf 21 57 40.1 +2.2
comp=Z,2.0nm,0.7s,baz=4.3,slow=1.9,SNR=4.2
ANMO Albuquerque 137.48 25 *e*PKPdf PKPdf 21 57 40.7 +2.8
TUC Tucson 137.59 32 *e*PKPdf PKPdf 21 57 40.4 +2.2
LAZ Ladron 137.65 26 *e*PKPdf PKPdf 21 57 41.4 +3.1
MNTX Cornudas Mount 140.72 27 *e*PKPdf PKPdf 21 57 43.9 0.0
MIAR Mount Ida 141.80 10 *e*PKPdf PKPdf 21 57 44.4 -1.3
LTX Lajitas 143.50 26 *e*PKPdf PKPdf 21 57 51.2 +2.4
TXAR Lajitas Array 143.50 26 PKP PKPdf 21 57 48.7 0.0
comp=Z,1.6nm,0.8s,slow=1.3,SNR=8.2
TXAR PP PP 22 01 06.2 +1.6
comp=Z,2.9nm,1.1s,baz=307,slow=4.5,SNR=3.4
JCT Junction City 144.03 21 *e*PKPdf PKPdf 21 57 49.9 +0.3
NATX Nacogdoches 144.29 13 *e*PKPdf PKPdf 21 57 50.8 +0.7
HKT Hockley 145.74 15 *e*PKPbc PKPbc 21 57 55.6 +2.2
LVC Limon Verde 154.55 219 PKPbc PKPdf 21 58 17.5 +11
comp=Z,10nm,1.2s,baz=14,slow=8.3,SNR=2.7
LVC PKPab PKPab 21 58 30.7 -1.0
comp=Z,7.2nm,1.1s,baz=356,slow=3.5,SNR=3.7
LPAZ La Paz 158.12 232 PKP PKPdf 21 58 13.2 +2.1
comp=Z,20nm,1.5s,baz=2.8,slow=7.6,SNR=4.7
LPAZ PKPab PKPab 21 58 49.2 +2.0
comp=Z,6.6nm,1.1s,baz=53,slow=5.4,SNR=2.8
LPAZ La Paz 158.12 232 *e*PKPdf PKPdf 21 58 13.1 +2.0
SDV Santo Domingo 160.54 308 PKPab PKPab 21 58 57.3 -0.4
comp=Z,7.5nm,1.1s,baz=32,slow=20,SNR=3.2
OTAV Otavalo 171.72 294 *e*PKPdf PKPdf 21 58 24.8 +2.0

*CSEM **14** 21:49:01.2, 36.51N×26.32E, h10km, MD3.5/3, After ATH*
ATH 14 21:49:01.2, 36.51N×26.32E, h10km, MD3.5/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.18**	**144**	*e*PB	Pb	21 49 23.4	+0.2
SMG	**Samos**	**1.27**	**19**	*e*PB	Pb	21 49 25.0	+0.3
VAM	**Vamos**	**2.04**	**238**	*e*PN	Pn	21 49 38.0	+1.9

*IDC **14** 21:50:10.0±1.3, 2.84N×93.71E, mb3.8/7, mb1 4.1/8, mb1mx3.9/19, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=55.0km s-min=20.0km az=55.0*
*NEIC **14** 21:50:13.9±0.8, 2.78N×93.68E, mb4.4/3, Error ellipse: s-maj=25.7km s-min=10.9km az=60.0*
ISC 14 21:50:13.2±1.0, 2.8N±0.1×93.7E±0.2, h33km, n12, σ0§85/12, mb4.0/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.38**	**18**	Pn	**P**	**21 54 02.9**	**+0.6**
	0.1nm,0.3s,baz=213,slow=12,SNR=7.7						
LSA	**Lhasa**	**26.86**	**355**	*e*P	**P**	**21 55 54.5**	**+1.6**
	8.8nm,0.9s,mb4.3						
LSA				*e*pP	pP	21 56 02.1	-0.3
WRA	**Warramunga Arr**	**45.84**	**121**	P	**P**	**21 58 34.2**	**-0.1**
	3.0nm,0.8s,mb4.3,baz=299,slow=8.9,SNR=13						
WRAB	**Tennant Creek**	**45.84**	**121**	*e*P	**P**	**21 58 34.3**	**-0.1**
	7.4nm,0.9s,mb4.6						
WRAB				*e*pP	pP	21 58 41.9	-2.4
SONM	**Songino Array**	**46.18**	**12**	P	**P**	**21 58 35.7**	**-0.9**
	0.5nm,0.7s,mb3.5,baz=217,slow=7.2,SNR=2.8						
ASAR	**Alice Springs**	**47.14**	**126**	P	**P**	**21 58 44.9**	**+0.3**
	2.0nm,0.7s,mb4.2,baz=307,slow=7.7,SNR=12						
ZAL	**Zalesovo**	**51.49**	**353**	P	**P**	**21 59 16.8**	**-0.8**
	0.5nm,0.5s,mb3.7,baz=320,slow=17,SNR=1.9						
ZAL	**Zalesovo**	**51.49**	**353**	P	**P**	**21 59 16.8**	**-0.8**
BVAR	**Borovoye Array**	**53.65**	**343**	P	**P**	**21 59 33.0**	**-0.7**
	0.8nm,0.7s,mb3.8,baz=126,slow=5.8,SNR=4.0						
CHKZ	**Chkalovo**	**54.15**	**343**	*e*P	**P**	**21 59 36.2**	**-1.1**
	1.3nm,0.5s,mb4.1						
GERES	**GERESS Array B**	**81.32**	**319**	P	**P**	**22 02 29.2**	**+1.4**
	0.7nm,0.7s,mb3.7,baz=112,slow=5.3,SNR=5.2						
NOA	**NORSAR Array B**	**83.92**	**331**	P	**P**	**22 02 40.8**	**0.0**
	0.8nm,0.7s,mb4.0,baz=205,slow=20,SNR=2.8						

*NEIC **14** 22:00:05.5, 15.77N×61.49W, h29km, MD3.5(TRN), After TRN.*
TRN 14 22:00:07.0, 15.84N×61.56W, h1km, MD3.0, M2.9(FDF), M2.7(FDF), 9C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCG	**Saint Claude**	**0.22**	**328**	⇑*i*P	Pg	22 00 11.3	-0.1
MGG	**Marie-Galante**	**0.24**	**72**	⇑*i*P	Pg	22 00 11.9	0.0
BCG	**Bois Riant Cap**	**0.25**	**346**	⇓*i*P	Pg	22 00 11.7	-0.2
BBL	**Barber's Block**	**0.32**	**165**	⇑*i*P	Pg	22 00 13.6	+0.2
BBL				*e*S	Sg	22 00 18.5	+0.7
BBL	**Barber's Block**	**0.32**	**165**	⇑*i*P	Pg	22 00 12.6	-0.8
BBL	**Barber's Block**	**0.32**	**165**	⇑*i*P	Pg	22 00 13.6	+0.2
BBL				*e*S	Sg	22 00 17.5	-0.3
BBL				*e*S	Sg	22 00 18.5	+0.7
DWS	**Wesley**	**0.36**	**139**	*e*P	Pg	22 00 14.2	0.0
DWS				*e*S	Sg	22 00 19.1	+0.2
MDN	**Morne-Daniel**	**0.54**	**163**	⇑*i*P	Pg	22 00 17.4	-0.4
MDN				*e*S	Sg	22 00 25.2	+0.2
SEG	**Port Louis**	**0.56**	**5**	⇑*e*P	Pg	22 00 17.0	-1.2
DBCT	**Belle View Cho**	**0.60**	**160**	*e*P	Pg	22 00 18.2	-0.8
DSTT	**Stowe**	**0.64**	**157**	*e*P	Pg	22 00 18.9	-0.8
DSTT				*e*S	Sg	22 00 27.4	-0.8
MBWH		**1.08**	**326**	*i*P	Pb	22 00 25.7	-2.4
MBGB		**1.09**	**324**	*e*P	Pb	22 00 25.9	-2.5
MBGB				*i*S	Sb	22 00 41.4	-1.6
FDF	**Fort de France**	**1.17**	**160**	⇑*e*P	Pb	22 00 26.0	-3.6
FDF				*e*S	Sb	22 00 41.3	-3.8
BPA	**Boggy Peak**	**1.23**	**347**	*e*P	Pb	22 00 29.7	-1.0
BPA				*e*S	Sb	22 00 45.9	-1.0
CRM	**Caravelle**	**1.25**	**150**	⇑*e*P	Pb	22 00 27.2	-3.7
BIM	**Bigot**	**1.40**	**160**	⇓*i*P	Pb	22 00 30.7	-2.8
MVM	**Montagne Vaucl**	**1.43**	**153**	⇓*e*P	Pn	22 00 30.3	-3.8
NVBH	**Bath Hotel, Ne**	**1.62**	**321**	*e*S	Sb	22 00 56.5	-1.8
SKTB	**Turtle Beach**	**1.70**	**323**	*e*S	Sb	22 00 56.7	-3.7
CPB	**Codrington**	**1.81**	**352**	*e*P	Pn	22 00 37.9	-1.6
CPB				*e*S	Sn	22 01 00.8	-2.5
SKI	**Saint Kitts**	**1.87**	**323**	*e*P	Pn	22 00 39.2	-1.1

*IDC **14** 22:46:18.8±0.7, 14.38N×92.23E, mb4.1/10, mb1 4.2/11, mb1mx4.0/21, mbtmp4.1/11, ML4.1/1, Error ellipse: s-maj=32.0km s-min=14.9km az=55.0*
*BJI **14** 22:46:21.9, 14.40N×92.20E, h21km, mb4.3*
*NEIC **14** 22:46:22.0±0.5, 14.41N×92.24E, mb4.5/6, Error ellipse: s-maj=13.7km s-min=8.1km az=58.0*
ISC 14 22:46:21.0±0.6, 14.44N±0.07×92.14E±0.10, h33km, n29, σ1§37/31, mb4.3/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.65**	**58**	Pn	**Pn**	**22 48 13.0**	**-0.1**
	0.8nm,0.3s,baz=249,slow=14,SNR=5.0						
CMAR				Sn	**Sn**	**22 49 29.1**	**-10**
	1.1nm,0.3s,baz=244,slow=28,SNR=5.9						
HYB	**Hyderabad**	**13.40**	**285**	*i*P	**P**	**22 49 44.5**	**+13**
HYB				*e*S	**S**	**22 51 51.0**	**-9.1**
JIRN	**Jiri**	**14.27**	**338**	*e*P	**P**	**22 49 38.9**	**-4.0**
	28nm,0.6s						
PKI	**Pulchoki**	**14.49**	**335**	*e*P	**P**	**22 49 42.0**	**-3.7**
	25nm,0.5s						
GUN	**Gumba**	**14.61**	**338**	*e*P	**P**	**22 49 44.5**	**-2.8**
	18nm,0.4s						
DMN	**Daman**	**14.65**	**335**	*e*P	**P**	**22 49 43.6**	**-4.2**
	50nm,0.6s						
KKN	**Kakani**	**14.74**	**335**	*e*P	**P**	**22 49 45.9**	**-3.1**
	28nm,0.6s						
GKN	**Gorkha**	**15.19**	**334**	*e*P	**P**	**22 49 51.4**	**-3.5**
	50nm,0.6s						
LSA	**Lhasa**	**15.21**	**357**	*e*P	**P**	**22 49 55.6**	**+0.4**
	8.1nm,0.5s						
KOLN	**Koldanda**	**15.46**	**330**	*e*P	**P**	**22 49 55.9**	**-2.5**
	28nm,0.6s						
ENH	**Enshi**	**22.43**	**43**	*e*P	**P**	**22 51 18.1**	**-0.2**
	34nm,1.5s,mb4.6						
ENH				*e*pP		22 51 23.2	
LZH	**Lanzhou**	**23.97**	**24**	*e*P	**P**	**22 51 34.5**	**+1.1**
LZH				AP		22 51 40.3	
LZH				XP		22 51 44.8	
LZH				AMB	AMB		
	comp=Z,29nm,1.6s,mb4.5						
XAN	**Xi'an**	**24.73**	**35**	P	**P**	**22 51 41.8**	**+1.0**
SONM	**Songino Array**	**35.34**	**17**	P	**P**	**22 53 14.7**	**-0.6**
	comp=Z,1.4nm,0.8s,mb4.0,baz=203,slow=9.4,SNR=9.1						
ZAL	**Zalesovo**	**39.83**	**353**	P	**P**	**22 53 55.4**	**+2.7**
	comp=Z,2.3nm,0.6s,mb4.1,baz=298,slow=7.6,SNR=13						
BVAR	**Borovoye Array**	**42.18**	**341**	P	**P**	**22 54 13.6**	**+1.4**
	comp=Z,0.6nm,0.6s,mb3.4,baz=141,slow=9.5,SNR=6.4						
BRVK	**Borovoye**	**42.24**	**340**	*e*P	**P**	**22 54 13.8**	**+1.2**
	comp=Z,2.2nm,0.9s,mb3.8						
CHKZ	**Chkalovo**	**42.66**	**341**	*e*P	**P**	**22 54 16.4**	**+0.3**
	comp=Z,3.5nm,0.7s,mb4.2						
CHKZ				*e*pP	pP	22 54 23.9	-2.1
FITZ	**Fitzroy Crossi**	**46.22**	**133**	*e*P	**P**	**22 54 44.6**	**-0.6**
	comp=Z,12nm,0.9s,mb4.8						
GNI	**Garni**	**48.56**	**311**	P	**P**	**22 55 04.7**	**+1.5**
	comp=Z,0.6nm,0.4s,mb4.0,baz=41,slow=18,SNR=2.2						
GNI	**Garni**	**48.56**	**311**	*e*P	**P**	**22 55 05.3**	**+2.1**
NWAO	**Narrogin (SRO)**	**52.85**	**153**	P	**P**	**22 55 36.0**	**+0.1**
	comp=Z,10nm,1.0s,mb4.7,baz=335,slow=9.0,SNR=5.5						
WRA	**Warramunga Arr**	**53.76**	**128**	P	**P**	**22 55 42.1**	**-0.7**
	comp=Z,6.5nm,0.7s,mb4.7,baz=315,slow=8.2,SNR=58						
WRA				PcP	PcP	22 56 48.8	+0.4
	comp=Z,1.1nm,0.6s,baz=318,slow=3.3,SNR=9.3						
WRAB	**Tennant Creek**	**53.76**	**128**	*e*P	**P**	**22 55 42.1**	**-0.7**
	comp=Z,13nm,0.7s,mb5.0						
WB2	**Warramunga Arr**	**53.77**	**128**	*e*P	**P**	**22 55 42.3**	**-0.5**
ASAR	**Alice Springs**	**55.69**	**132**	P	**P**	**22 55 56.4**	**-0.4**
	comp=Z,3.1nm,0.5s,mb4.6,baz=311,slow=6.8,SNR=41						
ASAR				PcP	PcP	22 56 56.5	+0.8
	comp=Z,1.3nm,0.7s,baz=322,slow=3.5,SNR=8.0						
BRTR	**Keskin Array B**	**56.76**	**308**	P	**P**	**22 56 05.2**	**+0.9**
	comp=Z,1.2nm,1.0s,mb3.9,baz=90,slow=7.4,SNR=5.0						
FINES	**FINESS Array B**	**66.03**	**331**	P	**P**	**22 57 06.8**	**+0.4**
	comp=Z,2.5nm,0.9s,mb4.3,baz=135,slow=8.1,SNR=5.0						
GERES	**GERESS Array B**	**71.68**	**317**	P	**P**	**22 57 44.5**	**+3.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=90,slow=2.7,SNR=5.2						

*IDC **14** 22:51:15.7±0.7, 4.77N×94.79E, mb4.6/16, mb1 4.6/17, mb1mx4.5/22, mbtmp4.5/17, ML3.9/1, MS4.1/3, Ms1 4.2/3, ms1mx3.8/15, Error ellipse: s-maj=25.3km s-min=14.9km az=45.0*
*MOS **14** 22:51:18.7±1.0, 4.81N×94.92E, h33km, mb5.0/31, Error ellipse: s-maj=11.7km s-min=6.4km az=115.6*
*BJI **14** 22:51:19.9, 4.44N×94.91E, h68km, mB5.2, mb4.9, Ms4.7, Msz4.5*
*NEIC **14** 22:51:21.5±0.2, 4.78N×94.83E, mb4.7/31, Error ellipse: s-maj=7.2km s-min=5.3km az=215.0*
ISC 14 22:51:20.5±0.3, 4.75N±0.05×94.89E±0.05, h47km, h47km±2.2km: pP-P, n154, σ0§93/141, mb4.8/61, MS4.4/5, 8C-4D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKT	**Phuket**	**4.66**	**45**	P	**P**	**22 52 35.0**	**+4.9**
SNG	**Songkhla**	**6.19**	**67**	P	**P**	**22 52 54.0**	**+2.5**
	206nm,1.0s						
NST	**Nakhon Sawan**	**12.01**	**25**	P	**P**	**22 54 05.0**	**-6.7**
CMAR	**Chiang Mai Arr**	**14.18**	**16**	Pn	**P**	**22 54 39.8**	**-0.7**
	0.2nm,0.3s,baz=221,slow=17,SNR=3.1						
CMAR				LR	LR	22 59 35.6	
	comp=Z,362nm,19.0s,baz=197,slow=35						
PALK	**Pallekele**	**14.33**	**281**	*e*Pn	**P**	**22 54 39.3**	**-3.1**
CHG	**Chiang Mai**	**14.52**	**15**	⇑P	**P**	**22 54 51.6**	**+6.6**
	38nm,0.9s						
CHRT	**Chiangrai**	**15.76**	**17**	⇑P	**P**	**22 55 06.0**	**+5.0**
	105nm,1.1s						
HYB	**Hyderabad**	**20.35**	**309**	*e*P	**P**	**22 56 02.0**	**+6.3**
HYB				*e*S	**S**	**22 59 31.0**	**-5.2**
HYB	**Hyderabad**	**20.35**	**309**	*i*P	**P**	**22 56 02.0**	**+6.3**
HYB				*e*S	**S**	**22 59 31.0**	**-5.2**
JIRN	**Jiri**	**24.24**	**341**	*e*P	**P**	**22 56 35.1**	**+0.9**
	38nm,0.5s,mb5.0						
PKI	**Pulchoki**	**24.42**	**339**	*e*P	**P**	**22 56 36.1**	**+0.1**
	28nm,0.5s,mb4.9						
DMN	**Daman**	**24.57**	**339**	*e*P	**P**	**22 56 37.8**	**+0.4**
	31nm,0.7s,mb4.9						
GUN	**Gumba**	**24.57**	**341**	*e*P	**P**	**22 56 37.4**	**-0.1**
	60nm,0.6s,mb5.3						
KKN	**Kakani**	**24.67**	**339**	*e*P	**P**	**22 56 38.6**	**+0.2**
	58nm,0.8s,mb5.1						
LSA	**Lhasa**	**25.06**	**352**	P	**P**	**22 56 43.0**	**+0.8**
LSA	**Lhasa**	**25.06**	**352**	*e*P	**P**	**22 56 42.5**	**+0.3**
LSA				pmax	pmax		
	comp=Z,17nm,0.6s,mb4.8						
LSA	**Lhasa**	**25.06**	**352**	*e*P	**P**	**22 56 42.5**	**+0.3**
	comp=Z,17nm,0.6s,mb4.8						
GKN	**Gorkha**	**25.09**	**338**	*e*P	**P**	**22 56 42.8**	**+0.3**
	comp=Z,64nm,0.6s,mb5.3						
KOLN	**Koldanda**	**25.29**	**336**	*e*P	**P**	**22 56 44.9**	**+0.6**
	comp=Z,72nm,0.7s,mb5.3						
ENH	**Enshi**	**28.88**	**27**	*e*P	**P**	**22 57 15.6**	**-1.5**
	comp=Z,29nm,0.6s,mb5.2						
WHN	**Wuhan**	**31.54**	**33**	⇓P	**P**	**22 57 41.5**	**+0.9**
XAN	**Xi'an**	**31.92**	**22**	P	**P**	**22 57 43.3**	**-0.7**
XAN				AMB	AMB		
	comp=Z,59nm,0.8s,mb5.5						
LZH	**Lanzhou**	**32.25**	**14**	*e*P	**P**	**22 57 46.3**	**-0.5**
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.8						
NJ2	**Nanjing**	**35.23**	**37**	*e*P	**P**	**22 58 11.0**	**-1.6**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
TIA	**Tai'an**	**37.40**	**30**	*e*P	**P**	**22 58 32.0**	**+1.3**
WMQ	**Urumqi**	**39.42**	**352**	*e*P	**P**	**22 58 48.0**	**+0.5**
WMQ				AP	pP	22 59 00.3	+0.1
WMQ				PP	PP	23 00 23.4	+1.1
WMQ				S	**S**	**23 04 46.3**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,37nm,5.1s						
WMQ				LR	LR		
	comp=N,758nm,20.4s,MS4.6						
WMQ				LR	LR		
	comp=E,625nm,21.8s,MS4.6						
WMQ				LR	LR		
	comp=Z,1μm,21.4s,MS4.7						
BJT	**Baijiatuan**	**40.01**	**26**	*e*P	**P**	**22 58 53.7**	**+1.3**
BJT				*e**PP	pP	22 59 05.2	0.0
BJT				pmax	pmax		
	comp=Z,24nm,0.8s						
BJT	**Baijiatuan**	**40.01**	**26**	*e*P	**P**	**22 58 53.7**	**+1.2**
	comp=Z,24nm,0.8s,mb5.0						
BJT				*e*pP	pP	22 59 05.2	+0.1
UCH	**Uchtor**	**41.49**	**337**	P	**P**	**22 59 06.2**	**+1.5**
	SNR=15						
TKM2	**Tokmak 2**	**41.68**	**339**	P	**P**	**22 59 07.4**	**+1.2**
	SNR=6.8						
KBK	**Karagaybulak**	**41.69**	**338**	P	**P**	**22 59 08.0**	**+1.6**
	SNR=25						
AML	**Almayashu**	**41.74**	**336**	P	**P**	**22 59 08.2**	**+1.6**
	SNR=20						
AAK	**Ala-Archa**	**41.85**	**337**	P	**P**	**22 59 08.9**	**+1.3**
	SNR=8.4						
AAK	**Ala-Archa**	**41.85**	**337**	*e*P	**P**	**22 59 08.4**	**+0.8**
AAK				*e*	pP	22 59 20.1	-0.2
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**41.85**	**337**	*e*P	**P**	**22 59 08.4**	**+0.9**
	comp=Z,5.1nm,0.8s,mb4.2						
AAK				*e*	pP	22 59 20.1	-0.3
FRU	**Bishkek**	**41.97**	**338**	P	**P**	**22 59 10.0**	**+1.4**
FRU				*e*	pP	22 59 22.0	+0.7
CHMS	**Chumysh**	**42.06**	**338**	P	**P**	**22 59 10.1**	**+0.8**
	SNR=5.5						
EKS2	**Erkin-Say**	**42.15**	**337**	P	**P**	**22 59 11.6**	**+1.5**
	SNR=12						
USP	**Ospenovka**	**42.39**	**338**	P	**P**	**22 59 12.9**	**+0.9**
	SNR=14						
SONM	**Songino Array**	**44.04**	**11**	P	**P**	**22 59 25.3**	**-0.1**
	comp=Z,4.9nm,0.8s,mb4.3,baz=192,slow=8.1,SNR=25						
SONM				PcP	PcP	23 01 11.0	+0.3
	comp=Z,3.8nm,0.7s,baz=187,slow=3.7,SNR=5.1						
ULN	**Ulaanbaatar**	**44.20**	**12**	*e*P	**P**	**22 59 26.3**	**-0.4**
ULN				*e*	pP	22 59 39.0	-0.5
ULN				*e*		23 01 11.0	
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
ULN	**Ulaanbaatar**	**44.20**	**12**	*e*P	**P**	**22 59 26.2**	**-0.4**
	comp=Z,2.9nm,0.6s,mb4.2						
ULN				*e*	pP	22 59 39.0	-0.5
ULN				*e*PcP	PcP	23 01 11.0	-0.3
SNY	**Shenyang**	**44.92**	**31**	⇑P	**P**	**22 59 32.9**	**+0.4**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**45.89**	**124**	P	**P**	**22 59 40.9**	**+0.3**
	comp=Z,23nm,0.6s,mb5.3,baz=301,slow=9.2,SNR=188						
WRAB	**Tennant Creek**	**45.90**	**124**	*e*P	**P**	**22 59 40.9**	**+0.3**
WRAB				*e*	pP	22 59 54.4	+1.0
WRAB				pmax	pmax		
	comp=Z,43nm,0.7s,mb5.5						
WRAB	**Tennant Creek**	**45.90**	**124**	*e*P	**P**	**22 59 40.9**	**+0.3**
	comp=Z,43nm,0.7s,mb5.5						
WRAB				*e*	pP	22 59 54.4	+1.0
WB2	**Warramunga Arr**	**45.90**	**124**	*e*P	**P**	**22 59 40.9**	**+0.3**
ZAK	**Zakamensk**	**46.02**	**7**	*e*P	**P**	**22 59 40.9**	**-0.2**
ZAK				*e*		23 01 17.4	
ASPA	**Alice Springs**	**47.38**	**128**	*e*P	**P**	**22 59 52.3**	**+0.1**
ASAR	**Alice Springs**	**47.38**	**128**	P	**P**	**22 59 52.4**	**+0.1**
	comp=Z,13nm,1.0s,mb4.8,baz=298,slow=7.9,SNR=69						
HIA	**Hailar**	**49.11**	**21**	*e*P	**P**	**23 00 04.9**	**-0.4**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HIA	**Hailar**	**49.11**	**21**	*e*P	**P**	**23 00 04.8**	**-0.4**
	comp=Z,9.3nm,0.8s,mb4.9						
ZAL	**Zalesovo**	**49.72**	**352**	P	**P**	**23 00 10.5**	**+0.6**
	comp=Z,8.1nm,0.4s,mb5.1,baz=302,slow=5.7,SNR=48						
NVS	**Novosibirsk**	**50.82**	**351**	*i*P	**P**	**23 00 16.6**	**-1.7**
NVS				*i*	pP	23 00 32.5	+1.3
NVS				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
NVS				pmax	pmax		
	comp=E,9.0nm,1.3s						
NVS				pmax	pmax		
	comp=N,10.0nm,1.2s						
BVAR	**Borovoye Array**	**52.16**	**342**	P	**P**	**23 00 27.7**	**-0.7**
	comp=N,3.4nm,0.5s,mb4.5,baz=143,slow=7.4,SNR=46						
BRVK	**Borovoye**	**52.23**	**341**	*e*P	**P**	**23 00 27.7**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
BRVK	**Borovoye**	**52.23**	**341**	*e*P	**P**	**23 00 27.7**	**-1.2**
	comp=Z,4.8nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**52.65**	**342**	*e*P	**P**	**23 00 31.8**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.1						
CHKZ	**Chkalovo**	**52.65**	**342**	*e*P	**P**	**23 00 31.8**	**-0.3**
	comp=Z,15nm,0.6s,mb5.1						
KLR	**Kul'dur**	**54.21**	**29**	*e*P	**P**	**23 00 40.8**	**-2.8**
BOD	**Bodaibo**	**55.01**	**12**	*e*P	**P**	**23 00 47.8**	**-1.5**
CTAO	**Charters Tower**	**56.17**	**118**	*e*P	**P**	**23 00 58.1**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
CTAO	**Charters Tower**	**56.17**	**118**	*e*P	**P**	**23 00 58.1**	**-0.2**
	comp=Z,6.5nm,0.9s,mb4.7						
GNI	**Garni**	**57.15**	**316**	*e*P	**P**	**23 01 04.6**	**-0.4**
GNI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GNI	**Garni**	**57.15**	**316**	P	**P**	**23 01 04.3**	**-0.7**
	comp=Z,2.8nm,0.7s,mb4.4,baz=8.8,slow=2.3,SNR=5.7						
GNI	**Garni**	**57.15**	**316**	*e*P	**P**	**23 01 04.6**	**-0.4**
	comp=Z,5.1nm,0.8s,mb4.6						
ASAJ	**Asahikawa**	**57.31**	**39**	P	**P**	**23 01 05.9**	**-0.1**
	comp=Z,7.9nm,0.8s,mb4.8,baz=217,slow=13,SNR=4.7						
STKA	**Stephens Creek**	**57.44**	**133**	P	**P**	**23 01 07.2**	**0.0**
	comp=Z,3.2nm,0.8s,mb4.4,baz=340,slow=6.7,SNR=6.1						
TI2	**Plekhanov**	**57.81**	**317**	*i*P	**P**	**23 01 10.2**	**+0.6**
KMBO	**Kilima Mbogo**	**57.87**	**266**	*e*P	**P**	**23 01 10.6**	**+0.2**
KMBO				*e**PP	pP	23 01 22.6	-1.0
KMBO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KMBO	**Kilima Mbogo**	**57.87**	**266**	*i*P	**P**	**23 01 11.6**	**+1.2**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMBO	**Kilima Mbogo**	**57.87**	**266**	P	**P**	**23 01 10.9**	**+0.5**
	comp=Z,1.7nm,0.8s,mb4.2,baz=41,slow=10,SNR=7.1						
KMBO				LR	LR	23 20 28.1	
	comp=Z,178nm,21.4s,MS4.2,baz=278,slow=30						
KMBO	**Kilima Mbogo**	**57.87**	**266**	*e*P	**P**	**23 01 10.6**	**+0.2**
	comp=Z,4.5nm,1.0s,mb4.5						
KMBO				*e*pP	pP	23 01 22.6	-1.1
SVE	**Sverdlovsk**	**58.56**	**339**	*e*P	**P**	**23 01 14.7**	**+0.1**
SVE				*e*	pP	23 01 29.4	+1.6
YSS	**Yuzh-Sakhalins**	**58.80**	**36**	⇓*e*P	**P**	**23 01 13.8**	**-2.6**
YSS				*e*	pP	23 01 30.0	+0.3
YSS	**Yuzh-Sakhalins**	**58.80**	**36**	*e*P	**P**	**23 01 16.1**	**-0.3**
	comp=Z,17nm,0.8s,mb5.1						
ZEI	**Tsey**	**58.83**	**318**	*e*P	**P**	**23 01 14.1**	**-2.5**
ZEI				*i**PP	pP	23 01 33.0	+3.1
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
ARU	**Arti**	**59.03**	**337**	⇓*i*P	**P**	**23 01 23.7**	**+5.8**
ARU				*e*		23 02 05.2	
ARU				*e*		23 03 28.7	
ARU				*e*PPP	PPP	23 04 55.8	+0.7
ARU				*e*S	**S**	**23 09 36.3**	**+17**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
KIV	**Kislovodsk**	**60.13**	**319**	P	**P**	**23 01 25.0**	**-0.6**
KIV				*e*	pP	23 01 36.8	-2.1
KIV	**Kislovodsk**	**60.13**	**319**	*e*P	**P**	**23 01 24.5**	**-1.1**
	comp=Z,5.6nm,0.6s,mb4.8						
MALT	**Malatya**	**61.05**	**311**	P	**P**	**23 01 31.6**	**-0.4**
EIL	**Elat**	**61.64**	**301**	*e*P	**P**	**23 01 35.9**	**-0.2**
	comp=Z,2.4nm,0.6s,mb4.5						
YAK	**Yakutsk**	**62.71**	**18**	*e*P	**P**	**23 01 40.8**	**-2.0**
YAK				*e*	pP	23 01 54.4	-1.7
YAK				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.3						
YAK	**Yakutsk**	**62.71**	**18**	*e*P	**P**	**23 01 40.8**	**-2.0**
	comp=Z,18nm,0.7s,mb5.3						
YAK				*e*	pP	23 01 54.4	-1.7
MBAR	**Mbarara**	**64.30**	**267**	*e*P	**P**	**23 01 53.5**	**-0.4**
MBAR				*e**PP	pP	23 02 06.2	-1.2
MBAR				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
MBAR	**Mbarara**	**64.30**	**267**	*e*P	**P**	**23 01 53.5**	**-0.4**
	comp=Z,5.5nm,1.1s,mb4.5						
MBAR				*e*pP	pP	23 02 06.2	-1.2
BRTR	**Keskin Array B**	**65.03**	**312**	P	**P**	**23 01 57.0**	**-1.3**
	comp=Z,4.6nm,0.7s,mb4.6,baz=131,slow=7.3,SNR=23						
SIM	**Simferopol'**	**66.20**	**317**	*e*P	**P**	**23 02 20.0**	**+0.9**
SIM				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9				

comp=Z,2.3nm,0.5s,mb4.4,baz=90,slow=6.1,SNR=28
BILL Bilibino 78.70 21 *eP* **P 23 03 18.5 -0.6**
BILL pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
BILL MLR MLR
comp=Z,200nm,16.0s,MS4.5
BILL Bilibino 78.70 21 *eP* **P 23 03 18.7 -0.4**
comp=Z,2.6nm,0.5s,mb4.4
DPC Dobruska-Polom 79.06 320 *eP* **P 23 03 22.3 +0.9**
DPC *epP* pP 23 03 33.8 -1.4
FX1 Attu Island--F 79.15 37 P **P 23 03 22.5 +0.6**
comp=Z,12nm,0.5s,mb5.1,baz=242,slow=18,SNR=3.2
PERS Pernice 79.54 316 *eP* **P 23 03 24.6 +0.5**
PRU Pruhonice 80.17 320 *eP* **P 23 03 26.2 -1.2**
PRU *epP* pP 23 03 37.0 -4.2
PVCC Panska Ves 80.19 320 *eP* **P 23 03 28.1 +0.6**
PVCC *epP* pP 23 03 39.6 -1.7
BRG Berggiesshubel 80.61 321 *eP* **P 23 03 30.1 +0.4**
BRG *e* pP 23 03 42.1 -1.4
BRG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BRG Berggiesshubel 80.61 321 *eP* **P 23 03 30.1 +0.4**
comp=Z,4.7nm,0.8s,mb4.5
BRG *e* pP 23 03 42.1 -1.4
BRG *e* pP 23 03 46.8 +3.3
GEC2 GERESS Array S 80.64 319 *eP* **P 23 03 30.2 +0.3**
GEC2 pmax pmax
comp=Z,11nm,1.1s,mb4.7
GEC2 GERESS Array S 80.64 319 *eP* **P 23 03 30.2 +0.3**
comp=Z,11nm,1.1s,mb4.7
GERES GERESS Array B 80.64 319 P **P 23 03 30.4 +0.5**
comp=Z,3.1nm,0.6s,mb4.4,baz=103,slow=5.6,SNR=40
KHC Kasperske Hory 80.73 319 *eP* **P 23 03 29.2 -1.2**
KHC *epP* pP 23 03 42.6 -1.6
WET Wettzell 81.19 319 *eP* **P 23 03 33.0 +0.2**
WET pmax pmax
comp=Z,28nm,2.2s,mb4.8
WET Wettzell 81.19 319 *eP* **P 23 03 33.0 +0.2**
comp=Z,28nm,2.2s,mb4.8
CLL Collm 81.23 321 *e*SP* sP 23 03 50.0 -2.0
GRA1 Grafenberg Arr 82.30 319 *eP* **P 23 03 39.1 +0.6**
comp=Z,13nm,1.0s,mb4.8
GRA1 *epP* pP 23 03 54.9 +2.5
GRF Grafenberg Arr 82.30 319 *eP* **P 23 03 39.1 +0.6**
GRF *e*PP* pP 23 03 54.9 +2.5
GRF pmax pmax
comp=Z,13nm,1.0s,mb4.8
SYO Syowa Base 82.67 197 ⇑P **P 23 03 40.9 +0.9**
NB2 NORSAR Subarra 82.80 331 P **P 23 03 40.4 -0.4**
comp=Z,1.1nm,0.7s,mb4.0,baz=98,slow=4.8
NB2 NORSAR Subarra 82.80 331 P **P 23 03 40.4 -0.4**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
NOA NORSAR Array B 82.80 331 P **P 23 03 40.6 -0.2**
comp=Z,1.8nm,0.8s,mb4.2,baz=95,slow=5.1,SNR=5.4
BSEG Bad Segeberg 82.98 324 *eP* **P 23 03 42.3 +0.4**
LPG La Plagne 85.33 315 *eP* **P 23 03 54.2 +0.2**
comp=Z,15nm,0.8s,mb4.9
LPG La Plagne 85.33 315 *eP* **P 23 03 54.2 +0.2**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
INK Inuvik 99.76 16 LR LR 23 53 27.0
comp=Z,247nm,22.0s,MS4.7,baz=306,slow=37
BOZ Bozeman (W) 124.53 22 *e*PKPdf PKPdf 23 10 16.9 +1.8
HLID Hailey 125.12 26 *e*PKPdf PKPdf 23 10 18.6 +2.4
NVAR Mina Array Bea 127.16 33 PKP PKPdf 23 10 23.0 +2.7
comp=Z,1.0nm,0.7s,baz=271,slow=4.1,SNR=8.5
MNV Mina 127.24 33 *e*PKPdf PKPdf 23 10 23.1 +2.6
PDAR Pinedale Array 127.77 23 PKP PKPdf 23 10 23.4 +2.0
comp=Z,0.8nm,0.6s,baz=107,slow=2.0,SNR=5.6

IDC 14 22:59:52.9±2.8, 10.35N×91.39E, mb3.6/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=107.4km s-min=24.7km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.45**	**16**	P	P	23 07 24.9	-1.5
	0.4nm,0.5s,baz=205,slow=10,SNR=3.1						
BVAR	**Borovoye Array**	**45.81**	**342**	P	P	23 08 16.1	-2.0
	0.3nm,0.6s,baz=142,slow=10,SNR=5.0						
WRA	**Warramunga Arr**	**51.90**	**125**	P	P	23 09 03.4	-2.4
	1.4nm,0.6s,baz=305,slow=8.5,SNR=12						
ASAR	**Alice Springs**	**53.57**	**130**	P	P	23 09 16.2	-2.0
	0.5nm,0.7s,baz=308,slow=7.2,SNR=6.1						

IDC 14 23:31:11.9±1.3, 12.92N×93.94E, mb3.5/5, mb1 3.7/6, mb1mx3.6/18, mbtmp3.5/6, ML4.0/1, Error ellipse: s-maj=37.0km s-min=27.2km az=47.0
ISC 14 23:31:14.9±3.6, 13.06N±0.08×94.1E±0.1, h30km±29km, n14, σ0=82/15, mb3.5/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.90**	**223**	*eP*	**Pn**	**23 31 46.4**	**+0.5**
PBA				*eS*	**Sn**	**23 32 15.6**	**+6.5**
PBA				*e*		23 32 16.7	
	comp=E,650nm,0.4s						
PBA				*e*		23 32 17.2	
	comp=N,746nm,0.6s						
CMAR	**Chiang Mai Arr**	**7.13**	**41**	Pn	**Pn**	**23 33 00.1**	**+0.1**
	comp=N,0.6nm,0.3s,baz=237,slow=15,SNR=3.4						
JIRN	**Jiri**	**16.28**	**334**	*eP*	**P**	**23 35 03.4**	**+0.2**
	comp=N,13nm,0.6s						
PKI	**Pulchoki**	**16.55**	**332**	*eP*	**P**	**23 35 05.5**	**-1.1**
GUN	**Gumba**	**16.63**	**334**	*eP*	**P**	**23 35 07.9**	**+0.2**
	comp=N,9.4nm,0.5s						
DMN	**Daman**	**16.72**	**331**	*eP*	**P**	**23 35 07.7**	**-1.1**
	comp=N,19nm,0.8s						
KKN	**Kakani**	**16.79**	**332**	*eP*	**P**	**23 35 09.7**	**0.0**
	comp=N,18nm,0.9s						
GKN	**Gorkha**	**17.27**	**331**	*eP*	**P**	**23 35 16.0**	**+0.3**
	comp=N,12nm,0.4s						
KOLN	**Koldanda**	**17.59**	**328**	*eP*	**P**	**23 35 20.2**	**+0.5**
	comp=N,15nm,0.6s						
SONM	**Songino Array**	**36.16**	**14**	P	**P**	**23 38 16.8**	**+0.2**
	comp=N,0.2nm,0.3s,mb3.5,baz=193,slow=8.4,SNR=2.4						
ZAL	**Zalesovo**	**41.43**	**352**	P	**P**	**23 39 01.9**	**+1.5**
	comp=N,0.8nm,0.7s,mb3.5,baz=5.0,slow=5.3,SNR=5.0						
WRA	**Warramunga Arr**	**51.45**	**129**	P	**P**	**23 40 19.2**	**-0.7**
	comp=N,0.2nm,0.4s,mb3.4,baz=310,slow=8.0,SNR=7.4						
BRTR	**Keskin Array B**	**59.07**	**309**	P	**P**	**23 41 13.2**	**-1.7**
	comp=N,0.6nm,0.8s,mb3.7,baz=104,slow=5.9,SNR=3.9						
GERES	**GERESS Array B**	**73.95**	**317**	P	**P**	**23 42 50.3**	**+1.0**
	comp=N,0.3nm,0.6s,mb3.4,baz=100,slow=6.0,SNR=2.8						

IDC 14 23:55:28.9±8.5, 5.26S×146.16E, h97km±86km, mb2.9/2, mb1 3.2/4, mb1mx3.1/13, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=75.5km s-min=34.7km az=139.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.24**	**166**	P	P	23 56 31.5	-1.2
	6.6nm,0.3s,baz=347,slow=12,SNR=14						
PMG				S	S	23 57 20.4	-0.9
	6.6nm,0.3s,baz=151,slow=22,SNR=6.9						
WRA	**Warramunga Arr**	**18.58**	**217**	P	P	23 59 38.8	-2.2
	0.1nm,0.3s,baz=36,slow=11,SNR=11						
ASAR	**Alice Springs**	**21.78**	**212**	P	P	00 00 13.0	-1.1
	0.3nm,0.6s,baz=45,slow=7.8,SNR=3.2						
ILAR	**Eielson Array**	**85.13**	**23**	P	P	00 07 53.9	-1.1
	0.3nm,0.7s,baz=248,slow=5.3,SNR=4.5						

IDC 15 00:01:04.8±0.8, 53.51N×160.02E, mb3.7/13, mb1 4.0/14, mb1mx3.9/22, mbtmp3.7/14, ML3.9/1, Error ellipse: s-maj=22.9km s-min=13.7km az=5.0
NEIC 15 00:01:09.5±7.1, 53.50N×160.02E, h31km±50km, mb4.6/6, Error ellipse: s-maj=16.9km s-min=10.8km az=168.0
MOS 15 00:01:10.5±2.0, 53.37N×160.33E, h61km, mb4.8/5, Error ellipse: s-maj=17.6km s-min=8.5km az=77.5
KRSC 15 00:01:11.6±0.4, 53.36N×160.42E, h39km±5km, ML4.3
ISC 15 00:01:10.5±0.4, 53.31N±0.02×160.58E±0.05, h39km, n64, σ1=08/97, mb3.9/18, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.40**	**238**	*i* P	**P**	**00 01 21.0**	**+1.2**
SPN				*i* S	**S**	**00 01 27.6**	**+1.3**
NLC	**Nalytchevo**	**0.76**	**260**	P	**P**	**00 01 24.9**	**+0.2**
NLC				S	**S**	**00 01 34.6**	**-0.5**
NLC	**Nalytchevo**	**0.76**	**260**	*i* P	**P**	**00 01 25.0**	**+0.3**
NLC				*e*S	**S**	**00 01 34.7**	**-0.4**
SDLR	**Sedlovina**	**1.02**	**269**	*i* P	**P**	**00 01 28.8**	**+0.4**
SDLR				*e*S	**S**	**00 01 41.4**	**-0.3**
UGLR	**Uglovaya**	**1.06**	**265**	*i* P	**P**	**00 01 29.6**	**+0.6**
UGLR				*e*S	**S**	**00 01 42.9**	**+0.1**
SMAR	**Somma**	**1.07**	**268**	*i* P	**P**	**00 01 29.4**	**+0.3**
SMAR				*e*S	**S**	**00 01 42.0**	**-1.0**
AVH	**Avacha**	**1.11**	**268**	*i* P	**P**	**00 01 30.2**	**+0.5**
AVH				*e*S	**S**	**00 01 44.1**	**+0.1**
KOK	**Koryaka**	**1.17**	**270**	*i* P	**P**	**00 01 30.8**	**+0.3**
KOK				*i* S	**S**	**00 01 44.9**	**-0.6**
PET	**Petropavlovsk**	**1.20**	**257**	P	**P**	**00 01 31.2**	**+0.3**
PET				S	**S**	**00 01 45.3**	**-0.9**
PET	**Petropavlovsk**	**1.20**	**257**	*i* P	**P**	**00 01 31.1**	**+0.2**
PET				*i* S	**S**	**00 01 45.3**	**-0.9**
RUS	**Russkaya**	**1.53**	**236**	*i* P	**P**	**00 01 35.9**	**+0.1**
RUS				*i* S	**S**	**00 01 53.6**	**-1.1**
GNL	**Ganaly**	**1.62**	**285**	*i* P	**P**	**00 01 37.3**	**+0.2**
GNL				*e*S	**S**	**00 01 55.7**	**-1.2**
GRL	**Gorelyy**	**1.70**	**244**	*i* P	**P**	**00 01 39.1**	**+1.0**
GRL				*e*S	**S**	**00 01 59.6**	**+0.8**
TUMR	**Tumrok**	**1.99**	**353**	*i* P	**P**	**00 01 43.3**	**+1.0**
TUMR				*e*S	**S**	**00 02 05.9**	**-0.3**
APC	**Apacha**	**2.10**	**261**	*i* P	**P**	**00 01 44.6**	**+0.8**
APC				*e*S	**S**	**00 02 08.8**	**-0.1**
APC				Smax			
	250nm,0.7s						
KMNR	**Kamenistaya**	**2.46**	**355**	*e*P	**P**	**00 01 50.0**	**+1.0**
KMNR				*e*S	**S**	**00 02 18.7**	**+0.6**
KPT	**Kopyto**	**2.67**	**356**	*e*P	**P**	**00 01 52.1**	**+0.1**
KPT				*e*S	**S**	**00 02 21.5**	**-1.9**
ZLN	**Zelenaya**	**2.71**	**3**	*e*P	**P**	**00 01 53.6**	**+0.9**
ZLN				*e*S	**S**	**00 02 24.2**	**-0.4**
LGNR	**Loginova**	**2.78**	**1**	*e*P	**P**	**00 01 53.7**	**+0.1**
LGNR				*e*S	**S**	**00 02 24.8**	**-1.4**
KOZ	**Kozyrevsk**	**2.78**	**352**	P	**P**	**00 01 54.2**	**+0.5**
KOZ				S	**S**	**00 02 25.9**	**-0.4**
KOZ	**Kozyrevsk**	**2.78**	**352**	*e*P	**P**	**00 01 54.2**	**+0.5**
KOZ				*e*S	**S**	**00 02 25.5**	**-0.8**
KOZR	**Kozyr**	**2.79**	**352**	PN	**P**	**00 01 54.2**	**+0.5**
KOZR				S	**S**	**00 02 25.9**	**-0.6**
ESO	**Esso**	**2.84**	**338**	P	**P**	**00 01 55.0**	**+0.6**
KRSR	**Krestovskiy**	**2.91**	**360**	*e*P	**P**	**00 01 56.5**	**+1.0**
KRSR				*e*S	**S**	**00 02 28.9**	**-0.7**
PAU	**Pauzhetka**	**2.96**	**233**	*e*P	**P**	**00 01 57.5**	**+1.4**
PAU				*e*S	**S**	**00 02 31.0**	**+0.3**
PAU				Smax			
	240nm,0.6s						
KLY	**Klyuchi**	**3.01**	**1**	P	**P**	**00 01 58.6**	**+1.7**
KLY				S	**S**	**00 02 33.1**	**+1.0**
KLY	**Klyuchi**	**3.01**	**1**	*e*P	**P**	**00 01 58.6**	**+1.7**
KLY				*e*S	**S**	**00 02 32.7**	**+0.6**
SRDR	**Sredinnyy**	**3.05**	**351**	*i* P	**P**	**00 01 57.4**	**-0.1**
SRDR				*e*S	**S**	**00 02 31.5**	**-1.7**
KBTR	**Krutoberegovo**	**3.18**	**23**	P	**P**	**00 02 01.9**	**+2.6**
KBTR				S	**S**	**00 02 38.4**	**+2.0**
KBTR	**Krutoberegovo**	**3.18**	**23**	P	**P**	**00 02 02.1**	**+2.8**
KBTR				*e*S	**S**	**00 02 39.0**	**+2.6**
KBG	**Krutoberegovo**	**3.20**	**22**	P	**P**	**00 02 02.0**	**+2.5**
KBG				*e*S	**S**	**00 02 38.5**	**+1.7**
KBG				Smax			
	740nm,1.1s						
SVLR	**Shiveluch**	**3.29**	**6**	*e*P	**P**	**00 02 02.1**	**+1.2**
SVLR				*e*S	**S**	**00 02 39.5**	**+0.2**
SKR	**Severo-Kuril's**	**3.81**	**228**	*e*PN	**P**	**00 02 11.0**	**+2.8**
SKR				*e*S	**S**	**00 02 48.5**	**-3.9**
SKR				smax			
	comp=N,50nm,0.5s						
FX1	**Attu Island--F**	**7.59**	**88**	Pn	**P**	**00 02 60.0**	**-1.4**
	comp=N,6.1nm,0.3s,baz=159,slow=3.3,SNR=14						
FX1				Sn	**S**	**00 04 20.1**	**-6.9**
	comp=N,5.5nm,0.3s,baz=95,slow=23,SNR=7.8						
YAK	**Yakutsk**	**18.52**	**310**	P	**P**	**00 05 19.0**	**-6.4**
ILAR	**Eielson Array**	**28.45**	**46**	P	**P**	**00 07 03.0**	**-0.3**
	comp=N,0.5nm,0.9s,mb3.1,baz=258,slow=8.3,SNR=4.0						
INK	**Inuvik**	**33.52**	**38**	P	**P**	**00 07 45.6**	**-2.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**33.52**	**38**	P	**P**	**00 07 45.6**	**-2.3**
	comp=Z,1.4nm,0.8s,mb3.9						
SONM	**Songino Array**	**34.13**	**283**	P	**P**	**00 07 49.5**	**-3.9**
	comp=Z,0.1nm,0.3s,mb3.2,baz=45,slow=8.2,SNR=2.6						
SONM				PcP	PcP	00 10 27.4	-2.8
	comp=Z,0.5nm,0.6s,baz=90,slow=1.4,SNR=3.2						
YKA	**Yellowknife Ar**	**42.80**	**43**	P	**P**	**00 09 05.0**	**-0.5**
YKA	**Yellowknife Ar**	**42.80**	**43**	P	**P**	**00 09 04.9**	**-0.5**
	comp=Z,1.4nm,1.1s,mb3.6,baz=299,slow=8.2,SNR=7.2						
ENH	**Enshi**	**43.34**	**259**	P	**P**	**00 09 05.3**	**-5.0**
NEW	**Newport**	**49.54**	**60**	P	**P**	**00 09 57.2**	**-1.7**
BVAR	**Borovoye Array**	**50.48**	**308**	P	**P**	**00 10 00.6**	**-5.4**
	comp=Z,0.4nm,0.4s,mb3.8,baz=65,slow=7.8,SNR=6.4						
BRVK	**Borovoye**	**50.51**	**309**	P	**P**	**00 09 59.1**	**-7.2**
ARCES	**ARCESS Array B**	**53.17**	**342**	P	**P**	**00 10 21.5**	**-4.5**
	comp=Z,2.7nm,0.8s,mb4.2,baz=58,slow=8.5,SNR=4.5						
NVAR	**Mina Array Bea**	**55.39**	**71**	P	**P**	**00 10 43.1**	**+0.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=295,slow=8.1,SNR=4.0						
PDAR	**Pinedale Array**	**57.16**	**61**	P	**P**	**00 10 53.9**	**-1.5**
	comp=Z,0.5nm,0.7s,mb3.6,baz=288,slow=2.9,SNR=3.4						
KAF	**Kangasniemi**	**59.40**	**337**	*e*p	**P**	**00 11 05.4**	**-5.3**
	comp=Z,4.3nm,0.8s,mb4.5,baz=30,slow=6.2						
KAF	**Kangasniemi**	**59.40**	**337**	*e*P	**P**	**00 11 05.4**	**-5.3**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
FINES	**FINESS Array B**	**60.04**	**337**	P	**P**	**00 11 10.8**	**-4.3**
	comp=Z,0.8nm,0.3s,mb4.2,baz=41,slow=8.2,SNR=15						
NB2	**NORSAR Subarra**	**63.41**	**344**	P	**P**	**00 11 33.4**	**-4.4**
	comp=Z,1.0nm,0.5s,mb4.2,baz=29,slow=6.2						
NB2	**NORSAR Subarra**	**63.41**	**344**	P	**P**	**00 11 33.4**	**-4.4**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
NOA	**NORSAR Array B**	**63.41**	**344**	P	**P**	**00 11 33.4**	**-4.4**
	comp=Z,0.6nm,0.8s,mb3.8,baz=11,slow=5.0,SNR=4.0						
TXAR	**Lajitas Array**	**70.28**	**67**	P	**P**	**00 12 21.2**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.6,baz=310,slow=5.7,SNR=7.3						
GERES	**GERESS Array B**	**74.42**	**338**	P	**P**	**00 12 41.2**	**-4.3**
	comp=Z,0.2nm,0.7s,mb3.2,baz=45,slow=3.8,SNR=4.8						
WRA	**Warramunga Arr**	**76.40**	**205**	P	**P**	**00 12 55.7**	**-1.7**
	comp=Z,0.9nm,1.1s,mb3.6,baz=20,slow=6.1,SNR=4.9						
LPL	**La Plagne**	**79.04**	**342**	*e*P	**P**	**00 13 10.5**	**-1.1**
	comp=Z,14nm,0.9s,mb4.6						
LPL	**La Plagne**	**79.04**	**342**	*e*P	**P**	**00 13 10.5**	**-1.1**
LPL				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
LPG	**La Plagne**	**79.06**	**342**	*e*P	**P**	**00 13 10.7**	**-0.9**
	comp=Z,15nm,0.9s,mb4.6						
LPG	**La Plagne**	**79.06**	**342**	*e*P	**P**	**00 13 10.7**	**-0.9**
LPG				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
ORIF	**Oris-en-Rattie**	**79.78**	**342**	*e*P	**P**	**00 13 13.3**	**-2.2**
	comp=Z,18nm,1.1s,mb4.6						
ORIF	**Oris-en-Rattie**	**79.78**	**342**	*e*P	**P**	**00 13 13.3**	**-2.2**
ORIF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
ASAR	**Alice Springs**	**80.08**	**205**	P	**P**	**00 13 16.5**	**-1.1**
	comp=Z,0.2nm,0.5s,mb3.3,baz=19,slow=5.0,SNR=4.7						

ISC 15 00:13:44.1±0.6, 46.40N±0.03×15.12E±0.05, n6, σ0=84/12, 3C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.24**	**359**	*i* Pg	**Pg**	**00 13 48.8**	**-0.1**
PERS				*i* Sg	**Sg**	**00 13 52.6**	**+0.5**
	comp=Z,17nm,0.3s						
GROS	**Grobnik**	**0.27**	**76**	*i* Pg	**Pg**	**00 13 49.8**	**+0.3**
GROS				*i* Sg	**Sg**	**00 13 54.5**	**+1.4**
	comp=Z,23nm,0.5s						
OBKA	**Obir**	**0.41**	**286**	⇑*i*PG	**Pg**	**00 13 51.8**	**-0.5**
OBKA				*i* SG	**Sg**	**00 13 57.4**	**-0.4**
	comp=Z,28nm,0.6s						
LEGS	**Legarje**	**0.47**	**163**	⇑*i*Pg	**Pg**	**00 13 53.0**	**-0.4**
LEGS				*e*Sg	**Sg**	**00 13 58.9**	**-0.8**
	comp=Z,5.0nm,0.3s						
ARSA	**Arzberg**	**0.90**	**18**	⇑*i*PG	**Pg**	**00 14 00.7**	**-1.3**
ARSA				*i* SG	**Sg**	**00 14 13.7**	**-0.3**
	comp=Z,1.9nm,0.3s						
VOY	**Vojsko**	**0.93**	**247**	*e*(Pg)	**Pg**	**00 14 02.8**	**+0.2**
VOY				*e*(Sg)	**Sg**	**00 14 16.8**	**+1.8**

NEIC 15 00:14:13.8±0.9, 14.44N×92.48E, h30km, mb4.0/2, Error ellipse: s-maj=21.6km s-min=15.7km az=46.0
IDC 15 00:14:16.8±7.0, 14.47N×92.28E, h60km±60km, mb3.7/5, mb1 3.9/6, mb1mx3.5/17, mbtmp3.9/6, ML3.6/1, MS2.7/1, Ms1 2.9/1, ms1mx2.6/24, Error ellipse: s-maj=41.9km s-min=17.8km az=50.0
ISC 15 00:14:10.7±0.8, 14.54N±0.08×92.18E±0.07, h30km, n22, σ1=28/23, mb4.1/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.56**	**58**	P	**Pn**	**00 16 05.2**	**+3.4**
	0.3nm,0.3s,baz=245,slow=15,SNR=4.5						
CMAR				S	**Sn**	**00 17 26.9**	**-0.6**
	0.3nm,0.3s,baz=244,slow=28,SNR=4.1						
CMAR				LR	LR	00 19 09.2	
	comp=Z,47nm,18.6s,baz=245,slow=39						
SHL	**Shillong**	**10.98**	**359**	*eP*	**P**	**00 16 46.5**	**-2.5**
HYB	**Hyderabad**	**13.42**	**284**	*eP*	**P**	**00 17 28.0**	**+6.3**
HYB	**Hyderabad**	**13.42**	**284**	*i* P	**P**	**00 17 28.0**	**+6.3**
JIRN	**Jiri**	**14.20**	**338**	*eP*	**P**	**00 17 32.6**	**+0.5**
	7.7nm,0.3s						
PKI	**Pulchoki**	**14.42**	**335**	*eP*	**P**	**00 17 36.3**	**+1.3**
	15nm,0.8s						
GUN	**Gumba**	**14.54**	**337**	*eP*	**P**	**00 17 35.3**	**-1.3**
	19nm,0.9s						
DMN	**Daman**	**14.58**	**334**	*eP*	**P**	**00 17 37.5**	**+0.4**
	22nm,0.5s						
KKN	**Kakani**	**14.67**	**335**	*eP*	**P**	**00 17 37.9**	**-0.3**
	14nm,0.8s						
LSA	**Lhasa**	**15.12**	**357**	*eP*	**P**	**00 17 49.7**	**+5.6**
	5.9nm,0.8s						
GKN	**Gorkha**	**15.12**	**334**	*eP*	**P**	**00 17 42.0**	**-2.2**
	12nm,0.3s						
KOLN	**Koldanda**	**15.40**	**330**	*eP*	**P**	**00 17 45.3**	**-2.5**
	17nm,0.8s						
ENH	**Enshi**	**22.34**	**43**	*eP*	**P**	**00 19 09.0**	**+1.3**
	9.9nm,1.0s,mb4.2						
SONM	**Songino Array**	**35.23**	**17**	P	**P**	**00 21 06.0**	**+1.5**
	3.3nm,1.2s,mb4.2,baz=203,slow=9.2,SNR=4.3						
ULN	**Ulaanbaatar**	**35.45**	**17**	*eP*	**P**	**00 21 05.6**	**-0.7**
BVAR	**Borovoye Array**	**42.10**	**340**	P	**P**	**00 22 02.9**	**+1.2**
	0.2nm,0.7s,baz=141,slow=9.5,SNR=2.3						
CBIJ	**Chichi jima**	**48.09**	**67**	P	**P**	**00 22 50.8**	**+0.8**
	128nm,0.7s,baz=280,slow=17,SNR=3.0						
WRA	**Warramunga Arr**	**53.78**	**129**	P	**P**	**00 23 32.4**	**-0.7**
	2.9nm,0.8s,mb4.2,baz=310,slow=7.9,SNR=17						
WRAB	**Tennant Creek**	**53.79**	**128**	*eP*	**P**	**00 23 31.9**	**-1.3**
ASAR	**Alice Springs**	**55.72**	**132**	P	**P**	**00 23 46.6**	**-0.6**
	1.5nm,0.8s,mb4.1,baz=308,slow=6.6,SNR=8.6						
FINES	**FINESS Array B**	**65.97**	**331**	P	**P**	**00 24 57.6**	**+1.4**
	6.1nm,1.2s,mb4.5,baz=149,slow=33,SNR=2.0						
GERES	**GERESS Array B**	**71.64**	**317**	P	**P**	**00 25 32.6**	**+1.1**
	0.2nm,0.6s,mb3.2,baz=108,slow=4.2,SNR=3.1						

IDC 15 00:28:07.2±1.4, 24.12S×67.22W, h185km±13km, mb3.2/2, mb1 3.5/6, mb1mx3.3/15, mbtmp4.0/6, Error ellipse: s-maj=25.9km s-min=16.9km az=38.0
NEIC 15 00:28:07.4±0.8, 24.13S×67.14W, h184km±12km, Error ellipse: s-maj=14.5km s-min=10.9km az=69.0
ISC 15 00:28:06.4±0.8, 24.16S±0.07×67.2W±0.1, h191km±13km, n12, σ0=81/15, mb3.5/2, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.23**	**314**	P	**P**	**00 28 47.7**	**+0.7**
	42nm,0.3s,baz=143,slow=7.5,SNR=459						
LVC				S	**S**	**00 29 17.5**	**-1.0**
	84nm,0.3s,baz=2.6,slow=21,SNR=88						
LPAZ	**La Paz**	**7.91**	**353**	P	**P**	**00 29 59.9**	**+0.7**
	4.5nm,0.3s,baz=181,slow=8.2,SNR=85						
LPAZ				S	**S**	**00 31 28.3**	**+0.9**
	0.1nm,0.3s,baz=345,slow=19,SNR=2.9						
LPAZ	**La Paz**	**7.91**	**353**	P	**P**	**00 29 59.9**	**+0.7**
LPAZ				S	**S**	**00 31 28.3**	**+0.9**
CPUP	**Villa Florida**	**9.17**	**106**	P	**P**	**00 30 14.5**	**-1.2**
	0.0nm,0.3s,baz=246,slow=7.9,SNR=2.0						
CPUP	**Villa Florida**	**9.17**	**106**	P	**P**	**00 30 14.5**	**-1.2**
TRQA	**Tornquist**	**14.52**	**163**	P	**P**	**00 31 24.8**	**+0.7**
PLCA	**Paso Flores**	**16.74**	**189**	P	**P**	**00 31 51.8**	**+0.5**
	0.2nm,0.3s,baz=4.0,slow=16,SNR=3.3						
BDFB	**Brasilia**	**19.91**	**68**	P	**P**	**00 32 25.2**	**+0.2**
	2.1nm,0.3s,baz=245,slow=11,SNR=22						
BAO	**Brasilia Array**	**19.93**	**68**	*eP*	**P**	**00 32 25.2**	**-0.1**
BAO				*i*		00 32 27.2	
JTS	**JuntasAbangare**	**38.41**	**331**	P	**P**	**00 35 09.6**	**-1.5**
	0.4nm,0.5s,mb3.4,baz=220,slow=3.7,SNR=2.7						
DBIC	**Dimbokro**	**68.02**	**72**	P	**P**	**00 38 47.5**	**0.0**
	0.6nm,0.4s,mb3.7,baz=211,slow=11,SNR=4.2						
DBIC	**Dimbokro**	**68.02**	**72**	P	**P**	**00 38 47.5**	**0.0**

BJI 15 00:38:49.0, 21.10S×178.60W, h601km, mB5.2, mb4.5
IDC 15 00:38:49.6±1.9, 21.08S×178.65W, h602km±22km, mb3.6/14, mb1 3.7/16, mb1mx3.7/20, mbtmp4.5/16, Error ellipse: s-maj=24.7km s-min=9.8km az=161.0
NEIC 15 00:38:49.1±1.3, 21.11S×178.60W, h602km±16km, mb4.3/5, Error ellipse: s-maj=16.0km s-min=7.7km az=163.0
**ISC 15 00:38:47.6±2.0, 21.15±

15nm,1.1s,baz=312,slow=8.6,SNR=3.1
FRB Frobisher Bay 117.56 28 PKP PKPdf 00 56 26.3 0.0
3.2nm,1.0s,baz=215,slow=13,SNR=3.9
FRB Frobisher Bay 117.56 28 PKP PKPdf 00 56 26.3 0.0
BVAR Borovoye Array 119.09 320 PKP PKPdf 00 56 29.8 +0.3
9.3nm,1.1s,slow=1.5,SNR=14
ARCES ARCESS Array B 129.34 349 PKP PKPdf 00 56 49.8 +1.0
31nm,1.3s,baz=19,slow=2.2,SNR=11
FINES FINESS Array B 136.11 343 PKP PKPdf 00 57 01.2 -0.3
1.1nm,0.7s,baz=34,slow=5.0,SNR=6.0
NB2 NORSAR Subarra139.44 353 PKP PKPdf 00 57 00.2 -7.5
1.1nm,0.7s,baz=10.0,slow=3.2
NOA NORSAR Array B 139.44 353 PKhKP 00 57 00.2
1.4nm,0.7s,baz=11,slow=4.5,SNR=5.7
NOA PKP PKPdf 00 57 10.4 +2.7
0.8nm,0.6s,baz=14,slow=3.7,SNR=3.6
SUW Suwalki 143.12 339 *e*P PKPbc 00 57 13.3 +0.3
AKASG Malin Array Be 143.18 330 PKhKP 00 57 12.9
15nm,0.6s,baz=40,slow=4.3,SNR=97
MALT Malatya 143.75 307 *e*PKP PKPdf 00 57 17.2 +1.3
MBAR Mbarara 144.09 237 *e*PKP PKPdf 00 57 18.1 +1.0
MUD Monsted U'grnd 144.16 353 *i* P PKPbc 00 57 16.6 +0.7
23nm,1.0s
COP Copenhagen 144.43 349 *e*P PKPdf 00 57 23.8 +7.4
COP Copenhagen 144.43 349 *i* P PKPdf 00 57 23.8 +7.4
31nm,1.1s
BSEG Bad Segeberg 146.46 350 *e*PKPbc PKPbc 00 57 24.1 +2.2
ASF Jabal al Asfar 146.46 297 PKPbc PKPbc 00 57 25.5 +2.8
7.3nm,0.8s,baz=357,slow=3.1,SNR=12
BRTR Keskin Array B 146.73 311 PKP PKPdf 00 57 22.1 +1.2
4.4nm,0.7s,baz=184,slow=2.4,SNR=23
BRTR PKPbc PKPbc 00 57 25.0 +2.0
4.7nm,0.7s,baz=132,slow=4.7,SNR=23
KWP Kalwaria 146.81 334 *e*PKPbc PKPbc 00 57 24.5 +1.6
KOLS Kolonicke sedl 147.53 334 *i* PKP PKPdf 00 57 27.6 +5.7
KOLS *e* 00 57 32.5
KOLS Kolonicke sedl 147.53 334 *e*PKP PKPdf 00 57 27.6 +5.7
KOLS *e* 00 57 32.5
CRVS Cervenica-Dubn 147.88 335 *e*PKP PKPdf 00 57 31.3 +8.9
OKC Ostrava-Krasne 148.32 339 *e*PKPbc PKPdf 00 57 29.2 +6.1
OKC *e*PKPab PKPab 00 57 34.9 -0.5
UPC Upice 148.40 342 *e*PKPbc PKPdf 00 57 29.3 +6.1
UPC *e*PKPab PKPab 00 57 35.1 -0.6
CLL Collm 148.44 346⇓*i*PKP1 PKPdf 00 57 29.0 +5.8
CLL *i* PKP2 PKPab 00 57 34.4 -1.5
DPC Dobruska-Polom 148.45 342 *e*PKPbc PKPdf 00 57 29.5 +6.3
DPC *e*PKPab PKPab 00 57 35.6 -0.3
CLZ Clausthal 148.47 349 *e*PKPbc PKPdf 00 57 29.5 +6.3
EIL Elat 148.51 293 *e*PKPbc PKPdf 00 57 29.5 +5.5
KECS Kecovo 148.60 335 *e*PKP PKPab 00 57 36.0 -0.6
BRG Berggiesshubel 148.62 345 *i* P PKPdf 00 57 29.7 +6.2
BRG *e* 00 57 35.4
PVCC Panska Ves 148.78 344 *e*PKPbc PKPdf 00 57 30.3 +6.6
VYHS Vyhne 149.22 337 *i* PKP PKPdf 00 57 31.5 +7.0
VYHS *e* 00 57 38.2
PRU Pruhonice 149.28 343 *e*PKPbc PKPdf 00 57 31.2 +6.7
PRU *e*PKPab PKPab 00 57 38.8 -0.5
MOX Moxa 149.37 347 *e*PKP PKPdf 00 57 31.2 +6.5
NKC Novy Kostel 149.57 346 *e*PKPbc PKPdf 00 57 32.3 +7.3
NKC *e*PKPab PKPab 00 57 39.8 -0.7
KHC Kasperske Hory 150.32 344 *e*PKPbc PKPdf 00 57 33.7 +7.5
KHC *e*PKPab PKPab 00 57 43.3 -0.4
GRA1 Grafenberg Arr 150.35 347 *e*PKPab PKPab 00 57 42.9 -0.9
GRF Grafenberg Arr 150.35 347 *e*PKP PKPab 00 57 42.9 -0.9
GEC2 GERESS Array S 150.55 343 *e*PKPbc PKPdf 00 57 34.5 +7.9
GERES GERESS Array B 150.55 343 PKP PKPdf 00 57 27.7 +1.1
0.2nm,0.6s,baz=298,slow=20,SNR=3.4
GERES PKPbc PKPdf 00 57 34.0 +7.4
5.4nm,0.8s,baz=45,slow=1.9,SNR=44
GERES PKPab PKPab 00 57 43.9 -0.8
0.9nm,0.7s,slow=2.7,SNR=3.8
GIVF Givet 150.87 355 *e*PKP1 PKPdf 00 57 34.3 +7.3
58nm,1.1s
BAIF Baives 150.96 356 *e*PKP1 PKPdf 00 57 34.4 +7.3
29nm,1.1s
FUR Furstenfeldbru 151.78 346 *e*PKPab PKPab 00 57 49.0 -0.8
BFO Black Forest 152.20 350 *e*PKPbc PKPdf 00 57 37.8 +8.9
CDF Champ du Feu 152.28 351 *e*PKP1 PKPdf 00 57 37.3 +8.3
6.8nm,0.7s
FLN La Foliniere 152.31 3 *e*PKP1 PKPdf 00 57 37.1 +8.0
LDF La Druitiere 152.49 2 *e*PKP1 PKPdf 00 57 37.4 +8.1
GRR Gorron 152.66 3 *e*PKP1 PKPdf 00 57 38.0 +8.4
8.9nm,0.7s
SGMF Saint Gilles 152.68 6 *e*PKP1 PKPdf 00 57 37.8 +8.2
22nm,0.8s
HAU Haudompre 152.80 353 *e*PKP1 PKPdf 00 57 38.3 +8.5
HINF Hinteralfeld 152.92 352 *e*PKP1 PKPdf 00 57 39.1 +9.1
5.4nm,0.6s
MFF Saint Martin d 154.48 2 *e*PKP1 PKPdf 00 57 41.9 +10
LPL La Plagne 155.19 351 *e*PKP1 PKPdf 00 57 45.2 +12
LPG La Plagne 155.21 351 *e*PKP1 PKPdf 00 57 45.3 +12
5.6nm,0.9s
ESDC Sonseca Array 160.89 13 PKPab PKPab 00 58 28.6 -0.4
0.8nm,0.9s,baz=333,slow=5.7,SNR=5.4
DBIC Dimbokro 164.51 156 PKP PKPdf 00 57 45.5 +1.1
2.1nm,0.9s,baz=207,slow=1.1,SNR=4.4
DBIC Dimbokro 164.51 156 PKP PKPdf 00 57 45.5 +1.1

*WAR **15** 00:41:45.8, 50.07N×18.46E, h0km, ML2.6, Mining Induced*
*PRU **15** 00:41:46.3, 50.11N×18.41E*
ISC 15 00:41:44.2±0.5,**50.13N**±0.04×**18.41E**±0.03,**n18**,σ§**28**/32,
2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.14**	**253**	⇓*i*PG	**Pg**	**00 41 50.2**	**+3.2**
RAC				⇓*i*SG	**Sg**	**00 41 53.6**	**+4.7**
OKC	**Ostrava-Krasne**	**0.33**	**210**	*e*PG	**Pg**	**00 41 52.3**	**+1.5**
OKC				*e*SG	**Sg**	**00 41 57.2**	**+2.0**
OJC	**Ojcow**	**0.90**	**83**	*e*PG	**Pg**	**00 42 02.0**	**-0.2**
OJC				*e*SG	**Sg**	**00 42 15.0**	**+0.8**
LIKS	**Likavka**	**1.17**	**157**	*e*SN	**Sn**	**00 42 24.8**	**+0.2**
DPC	**Dobruska-Polom**	**1.36**	**280**	*e*PG	**Pg**	**00 42 11.9**	**+0.7**
DPC				*e*SG	**Sg**	**00 42 30.6**	**+1.3**
42nm,0.3s							
NIE	**Niedzica**	**1.43**	**119**	*e*PG	**Pg**	**00 42 12.0**	**-0.6**
NIE				*e*SG	**Sg**	**00 42 31.0**	**-0.6**
KSP	**Ksiaz**	**1.53**	**299**	*e*PN	**Pn**	**00 42 15.0**	**+2.2**
KSP				*e*SG	**Sg**	**00 42 36.0**	**+1.0**
KOLL	**Kolacno**	**1.55**	**180**	*e*PN	**Pn**	**00 42 13.1**	**0.0**
KOLL				*e*SN	**Sn**	**00 42 34.2**	**0.0**
UPC	**Upice**	**1.58**	**285**	*e*PG	**Pg**	**00 42 15.9**	**+0.2**
UPC				*e*SG	**Sg**	**00 42 37.6**	**+0.8**
VYHS	**Vyhne**	**1.66**	**170**	*e*PN	**Pn**	**00 42 14.3**	**-0.4**
VYHS				*e*SN	**Sn**	**00 42 37.2**	**+0.3**
CRVS	**Cervenica-Dubn**	**2.34**	**120**	*e*PN	**Pn**	**00 42 28.0**	**+3.6**
CRVS				*e*SG	**Sg**	**00 43 00.7**	**-1.3**
PSZ	**Piszkesteto**	**2.42**	**155**	*e*P	**Pn**	**00 42 25.0**	**-0.5**
PVCC	**Panska Ves**	**2.49**	**281**	*e*PG	**Pg**	**00 42 32.3**	**-1.6**
PRU	**Pruhonice**	**2.49**	**268**	*e*PG	**Pg**	**00 42 31.7**	**-2.2**
PRU				*e*SG	**Sg**	**00 43 04.7**	**-2.5**
14nm,0.6s							
KOLS	**Kolonicke sedl**	**2.79**	**114**	*e*PN	**Pn**	**00 42 32.0**	**+1.2**
KOLS				*e*PG	**Pg**	**00 42 39.0**	**-0.8**
KHC	**Kasperske Hory**	**3.29**	**254**	*e*PN	**Pn**	**00 42 38.0**	**0.0**
KHC				*e*PG	**Pg**	**00 42 46.3**	**-3.6**
KHC				*e*SG	**Sg**	**00 43 31.2**	**-2.6**
7.5nm,0.3s							
CLL	**Collm**	**3.63**	**291**	*e*SG	**Sg**	**00 43 44.0**	**-1.1**
NKC	**Novy Kostel**	**3.83**	**274**	*e*SG	**Sg**	**00 43 48.5**	**-3.2**

*NEIC **15** 00:59:13.5±0.8, 19.03S×177.65W, h555km±9km, mb4.7/13, Error ellipse: s-maj=20.1km s-min=5.7km az=152.0*
*IDC **15** 00:59:14.8±1.9, 19.36S×177.50W, h573km±22km, mb3.8/13, mb1 4.1/14, mb1mx3.9/19, mbtmp4.8/14, Error ellipse: s-maj=18.8km s-min=11.2km az=158.0*
ISC 15 00:59:12.4±1.1,**19.2S**±0.1×**177.61W**±0.09,**h557**km±14km,
n70,σ§**91**/42,**mb4.3**/22,**3C-5D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.70**	**47**	*e*P	**P**	**01 01 07.3**	**-0.9**
117nm,0.5s							
DZM	**Mont Dzumac**	**15.19**	**257**	*e*P	**P**	**01 02 24.1**	**+0.9**
URZ	**Urewera**	**19.50**	**193**	P	**P**	**01 03 02.9**	**-1.5**
6.9nm,0.3s,baz=22,slow=1.8,SNR=36							
RPZ	**Rata Peaks**	**26.20**	**199**	P	**P**	**01 04 03.7**	**-1.1**
10nm,0.8s,mb4.5,baz=38,slow=1.9,SNR=4.1							
CTA	**Charters Tower**	**34.00**	**262**	⇓*i*P	**P**	**01 05 12.8**	**+1.1**
15nm,0.7s,mb4.6							
CTA	**Charters Tower**	**34.00**	**262**	P	**P**	**01 05 13.2**	**+1.5**
26nm,0.8s,mb4.8,baz=97,slow=10,SNR=23							
PMG	**Port Moresby**	**35.44**	**281**	P	**P**	**01 05 25.6**	**+1.8**
39nm,0.9s,mb5.0,baz=76,slow=4.0,SNR=24							
PMG	**Port Moresby**	**35.44**	**281**	*e*P	**P**	**01 05 24.6**	**+0.9**
48nm,0.9s,mb5.0							
TOO	**Toolangi**	**36.94**	**233**	⇑*i*P	**P**	**01 05 37.5**	**+1.7**
24nm,0.6s,mb4.9							
STKA	**Stephens Creek**	**38.68**	**243**	⇓*i*P	**P**	**01 05 51.5**	**+1.5**
22nm,1.0s,mb4.6							
STKA	**Stephens Creek**	**38.68**	**243**	P	**P**	**01 05 51.7**	**+1.7**
23nm,0.6s,mb4.9,baz=91,slow=9.6,SNR=64							
WB2	**Warramunga Arr**	**45.14**	**261**	⇓*i*P	**P**	**01 06 41.1**	**-0.3**
WRAB	**Tennant Creek**	**45.14**	**261**	*e*P	**P**	**01 06 40.5**	**-0.8**
21nm,0.7s,mb4.8							
WRA	**Warramunga Arr**	**45.15**	**261**	P	**P**	**01 06 41.2**	**-0.2**
6.8nm,0.3s,mb4.6,baz=98,slow=7.4,SNR=134							
ASAR	**Alice Springs**	**45.18**	**255**	P	**P**	**01 06 41.9**	**+0.3**
25nm,0.7s,mb4.8,baz=87,slow=8.6,SNR=212							
ASAR				ScP		01 11 10.1	
1.0nm,0.8s,baz=100,slow=4.1,SNR=4.1							
ASAR				S	**S**	**01 12 40.2**	**-1.0**
1.4nm,0.7s,baz=94,slow=19,SNR=9.4							
ASPA	**Alice Springs**	**45.18**	**255**	⇓*i*P	**P**	**01 06 41.7**	**+0.1**
ASPA				*e*S	**S**	**01 12 39.5**	**-1.8**
KAKA	**Kakadu**	**48.33**	**270**	⇑*i*P	**P**	**01 07 05.4**	**-0.3**
19nm,0.5s,mb4.9							
FORT	**Forrest**	**50.14**	**246**	*e*P	**P**	**01 07 18.4**	**-0.5**
96nm,0.5s							
FITZ	**Fitzroy Crossi**	**53.57**	**261**	⇓*i*P	**P**	**01 07 43.6**	**-0.1**
15nm,0.5s,mb4.6							
MBWA	**Marble Bar**	**58.50**	**257**	*e*P	**P**	**01 08 16.7**	**-0.9**
NWAO	**Narrogin (SRO)**	**59.27**	**243**	P	**P**	**01 08 22.6**	**0.0**
6.2nm,0.8s,mb3.9,baz=96,slow=10,SNR=2.9							
MUN	**Mundaring**	**60.21**	**244**	*e*P	**P**	**01 08 28.8**	**0.0**
9.4nm,0.6s,mb4.3							
CMB	**Columbia Colle**	**78.29**	**43**	*e*P	**P**	**01 10 16.0**	**-0.3**
1.6nm,0.7s,mb3.5							
HUMO	**Hull Mountain**	**79.48**	**38**	*e*P	**P**	**01 10 22.6**	**+0.2**
4.2nm,1.0s,mb3.7							
NVAR	**Mina Array Bea**	**79.86**	**43**	P	**P**	**01 10 25.2**	**+0.6**
2.9nm,0.7s,mb3.7,baz=226,slow=9.6,SNR=26							
NVAR	**Mina Array Bea**	**79.86**	**43**	P	**P**	**01 10 25.2**	**+0.6**
TUC	**Tucson**	**81.92**	**52**	*e*P	**P**	**01 10 36.0**	**+0.8**
WVOR	**Wild Horse Val**	**81.93**	**40**	*e*P	**P**	**01 10 35.0**	**-0.1**
9.0nm,1.0s,mb4.2							
MSU	**Marysvale**	**83.97**	**46**	*e*P	**P**	**01 10 45.6**	**+0.3**
TXAR	**Lajitas Array**	**86.07**	**57**	P	**P**	**01 10 56.9**	**+1.1**
4.8nm,0.8s,mb4.2,baz=217,slow=6.6,SNR=44							
GDL2	**Guadalupe Moun**	**86.72**	**54**	*e*P	**P**	**01 10 59.4**	**+0.7**
MCMT	**McKenzie Canyo**	**86.76**	**40**	*e*P	**P**	**01 10 58.9**	**+0.3**
COLA	**College**	**86.90**	**12**	*e*P	**P**	**01 10 57.0**	**-1.8**
3.3nm,0.6s,mb4.1							
ILAR	**Eielson Array**	**87.01**	**13**	P	**P**	**01 10 57.8**	**-1.5**
1.5nm,0.6s,mb3.8,baz=233,slow=5.0,SNR=30							
QLMT	**Earthquake Lak**	**87.63**	**41**	*e*P	**P**	**01 11 03.6**	**+1.0**
BW06	**Boulder Array**	**87.80**	**43**	*e*P	**P**	**01 11 02.4**	**-1.1**
PDAR	**Pinedale Array**	**87.80**	**43**	P	**P**	**01 11 03.5**	**0.0**
2.0nm,0.8s,mb3.9,baz=214,slow=2.4,SNR=16							
PLCA	**Paso Flores**	**89.87**	**133**	P	**P**	**01 11 14.5**	**+1.3**
1.8nm,0.7s,mb4.0,baz=226,slow=4.4,SNR=3.5							
PLCA	**Paso Flores**	**89.87**	**133**	P	**P**	**01 11 14.5**	**+1.3**
YKA	**Yellowknife Ar**	**95.22**	**25**	P	**P**	**01 11 36.6**	**-0.5**
0.3nm,0.6s,mb3.6,baz=243,slow=4.6,SNR=9.4							
ARCES	**ARCESS Array B 127.75 350**			PKP	PKPdf	01 17 14.5	+0.4
2.6nm,0.8s,baz=37,slow=0.9,SNR=13							
ARCES	**ARCESS Array B 127.75 350**			PKP	PKPdf	01 17 14.5	+0.4
FINES	**FINESS Array B 134.67 344**			PKP	PKPdf	01 17 28.7	+1.4
1.2nm,0.7s,baz=90,slow=3.8,SNR=4.1							
NOA	**NORSAR Array B 137.78 354**			PKP	PKPdf	01 17 33.9	+0.9
1.1nm,1.1s,baz=31,slow=2.0,SNR=2.9							
AKASG	**Malin Array Be**	**142.09**	**332**	PKhKP		01 17 37.3	
1.7nm,0.5s,baz=45,slow=4.0,SNR=6.5							
BRTR	**Keskin Array B**	**146.25**	**314**	PKPbc	PKPbc	01 17 51.5	+1.3
2.0nm,0.8s,baz=136,slow=3.7,SNR=7.4							
CLL	**Collm**	**146.92**	**348**	⇑*i*PKP1	PKPbc	01 17 52.8	+1.4
CLL				*i* PKP2	PKPab	01 17 56.1	-1.7
UPC	**Upice**	**146.97**	**344**	*e*PKPbc	PKPbc	01 17 51.7	+0.2
UPC				*e*PKPab	PKPab	01 17 56.4	-1.6
DPC	**Dobruska-Polom**	**147.04**	**344**	*e*PKPbc	PKPdf	01 17 53.9	+4.6
DPC				*e*PKPab	PKPab	01 17 57.3	-1.0
BRG	**Berggiesshubel**	**147.13**	**346**	*i* P	PKPdf	01 17 53.6	+4.1
PVCC	**Panska Ves**	**147.31**	**346**	*e*PKPbc	PKPdf	01 17 54.6	+4.8
PVCC				*e*PKPab	PKPab	01 17 58.4	-1.0
PRU	**Pruhonice**	**147.82**	**345**	*e*PKPbc	PKPdf	01 17 55.5	+4.9
PRU				*e*PKPab	PKPab	01 18 00.4	-1.0
VYHS	**Vyhne**	**147.93**	**339**	*e*PKP	PKPdf	01 17 56.1	+5.3
NKC	**Novy Kostel**	**148.05**	**348**	*e*PKPbc	PKPdf	01 17 56.4	+5.4
NKC				*e*PKPab	PKPab	01 18 01.5	-0.8
GRF	**Grafenberg Arr**	**148.81**	**349**	*e*PKP	PKPdf	01 17 58.1	+6.0
GRF				*e*PKP	PKPdf	01 18 04.3	+12
KHC	**Kasperske Hory**	**148.85**	**346**	*e*PKPdf	PKPdf	01 17 53.7	+1.5
KHC				*e*PKPbc	PKPdf	01 17 58.5	+6.3
KHC				*e*PKPab	PKPab	01 18 04.8	-0.8
GERES	**GERESS Array B 149.09 345**			PKPbc	PKPdf	01 17 58.8	+6.2
2.1nm,0.5s,baz=33,slow=2.0,SNR=25							
GIVF	**Givet**	**149.15**	**357**	*e*PKP1	PKPdf	01 17 58.5	+5.8
BAIF	**Baives**	**149.22**	**358**	*e*PKP1	PKPdf	01 17 58.8	+6.0
FLN	**La Foliniere**	**150.46**	**4**	*e*PKP1	PKPdf	01 18 01.3	+6.5
14nm,0.6s							
CDF	**Champ du Feu**	**150.63**	**353**	*e*PKP1	PKPdf	01 18 02.1	+7.0
7.4nm,0.6s							
LDF	**La Druitiere**	**150.65**	**3**	*e*PKP1	PKPdf	01 18 01.6	+6.5
MEZF	**Maizieres J'vi**	**150.73**	**356**	*e*PKP1	PKPdf	01 18 02.5	+7.3
24nm,0.9s							
SGMF	**Saint Gilles**	**150.78**	**7**	*e*PKP1	PKPdf	01 18 01.7	+6.4
GRR	**Gorron**	**150.81**	**4**	*e*PKP1	PKPdf	01 18 02.2	+6.9
HAU	**Haudompre**	**151.13**	**354**	*e*PKP1	PKPdf	01 18 03.0	+7.2
7.6nm,0.6s							
HINF	**Hinteralfeld**	**151.27**	**354**	*e*PKP1	PKPdf	01 18 03.3	+7.3
4.8nm,0.6s							
SSF	**Saint Saulge**	**152.24**	**358**	*e*PKP1	PKPdf	01 18 05.6	+8.2
8.8nm,0.8s							
MFF	**Saint Martin d**	**152.63**	**4**	*e*PKP1	PKPdf	01 18 06.2	+8.2
DBIC	**Dimbokro**	**165.65**	**150**	PKP	PKPdf	01 18 14.2	+0.5
0.9nm,0.7s,baz=78,slow=4.9,SNR=3.2							

*IDC **15** 01:07:28.4±6.2, 18.30S×178.30W, h578km±79km, mb3.1/9, mb1 3.3/9, mb1mx3.2/17, mbtmp4.1/9, Error ellipse: s-maj=37.3km s-min=22.1km az=16.0*
ISC 15 01:07:25.4±0.8,**18.3S**±0.2×**178.3W**±0.2,**h550**km,**n10**,
σ§**91**/9,**mb3.6**/8,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.33**	**190**	P	**P**	**01 11 24.8**	**-0.6**
3.0nm,0.7s,baz=287,slow=11,SNR=2.7							
CTA	**Charters Tower**	**33.48**	**261**	P	**P**	**01 13 20.8**	**0.0**
1.4nm,0.5s,mb3.8,baz=102,slow=12,SNR=3.3							
PMG	**Port Moresby**	**34.61**	**280**	P	**P**	**01 13 30.7**	**+0.5**
8.2nm,0.8s,mb4.3,baz=120,slow=8.7,SNR=3.1							
STKA	**Stephens Creek**	**38.55**	**242**	P	**P**	**01 14 03.6**	**+1.3**
1.6nm,0.7s,mb3.7,baz=87,slow=11,SNR=4.7							
WRA	**Warramunga Arr**	**44.66**	**260**	P	**P**	**01 14 50.5**	**-0.7**
1.0nm,0.6s,mb3.6,baz=96,slow=7.1,SNR=9.0							
ASAR	**Alice Springs**	**44.79**	**255**	P	**P**	**01 14 51.8**	**-0.3**
7.4nm,0.5s,mb4.4,baz=88,slow=8.6,SNR=61							
NVAR	**Mina Array Bea**	**79.61**	**44**	P	**P**	**01 18 37.5**	**+0.6**
0.9nm,1.0s,mb3.0,baz=229,slow=8.3,SNR=3.0							
TXAR	**Lajitas Array**	**86.10**	**58**	P	**P**	**01 19 10.4**	**+0.9**
0.2nm,0.6s,mb3.0,baz=224,slow=5.6,SNR=5.7							
ILAR	**Eielson Array**	**86.20**	**13**	P	**P**	**01 19 07.1**	**-2.0**
0.2nm,0.4s,mb3.1,baz=220,slow=4.9,SNR=8.1							
GERES	**GERESS Array B 147.97 345**			PKPbc	PKPdf	01 26 08.8	+4.2
0.1nm,0.3s,slow=2.9,SNR=3.5							

*NEIC **15** 01:09:06.5±1.4, 7.03S×146.03E, h151km±14km, mb3.9/2, Error ellipse: s-maj=19.8km s-min=10.7km az=141.0*
*IDC **15** 01:09:07.0±2.7, 7.12S×146.19E, h159km±29km, mb3.5/4, mb1 3.6/6, mb1mx3.5/12, mbtmp3.9/6, Error ellipse: s-maj=47.0km s-min=15.5km az=115.0*
ISC 15 01:09:06.0±1.9,**7.1S**±0.2×**146.1E**±0.1,**h160**km±19km,**n17**,
σ§**54**/18,**mb3.8**/4,**1D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.52**	**154**	P	**P**	**01 09 49.1**	**+0.8**
7.2nm,0.3s,baz=357,slow=13,SNR=23							
PMG				S	**S**	**01 10 20.4**	**-0.5**
3.3nm,0.3s,baz=241,slow=22,SNR=11							
PMG	**Port Moresby**	**2.52**	**154**	P	**P**	**01 09 49.1**	**+0.8**
PMG				S	**S**	**01 10 20.4**	**-0.5**
KAKA	**Kakadu**	**14.52**	**246**	⇓*i*P	**P**	**01 12 25.5**	**+0.4**
13nm,0.4s							
WRAB	**Tennant Creek**	**17.07**	**221**	*e*P	**P**	**01 12 55.7**	**-0.8**
2.8nm,0.5s							
WB2	**Warramunga Arr**	**17.07**	**221**	*e*P	**P**	**01 12 56.1**	**-0.5**
WRA	**Warramunga Arr**	**17.08**	**221**	P	**P**	**01 12 56.6**	**-0.1**
0.5nm,0.3s,baz=42,slow=12,SNR=19							
ASAR	**Alice Springs**	**20.17**	**214**	P	**P**	**01 13 30.3**	**+0.5**
1.2nm,0.3s,baz=52,slow=8.9,SNR=19							
ASAR				S	**S**	**01 17 08.7**	**+6.6**
0.5nm,0.6s,baz=28,slow=18,SNR=3.0							
ASPA	**Alice Springs**	**20.17**	**214**	*e*P	**P**	**01 13 30.4**	**+0.6**
FITZ	**Fitzroy Crossi**	**22.69**	**239**	*e*P	**P**	**01 13 54.8**	**+0.1**
9.1nm,1.4s,mb4.0							
STKA	**Stephens Creek**	**24.98**	**189**	P	**P**	**01 14 16.4**	**0.0**
1.9nm,0.4s,mb3.9,baz=16,slow=11,SNR=6.3							
STKA	**Stephens Creek**	**24.98**	**189**	P	**P**	**01 14 16.4**	**0.0**
ZAL	**Zalesovo**	**79.47**	**328**	P	**P**	**01 20 55.5**	**-0.5**
0.4nm,0.2s,mb3.6,baz=139,slow=23,SNR=2.6							
ZAL	**Zalesovo**	**79.47**	**328**	P	**P**	**01 20 55.5**	**-0.5**
ILAR	**Eielson Array**	**86.87**	**23**	P	**P**	**01 21 32.5**	**-0.7**
1.1nm,0.9s,mb3.7,baz=260,slow=5.8,SNR=9.4							
DAWY	**Dawson**	**89.68**	**25**	*e*P	**P**	**01 21 47.3**	**+0.7**
DBIC	**Dimbokro**	**151.13**	**271**	PKPbc	PKPdf	01 28 43.7	+8.7
0.6nm,0.6s,baz=116,slow=19,SNR=2.5							
DBIC	**Dimbokro**	**151.13**	**271**	PKPbc	PKPdf	01 28 43.7	+8.7

*NIED **15** 01:19:00, 31.40N×132.00E, h35km, Mw3.9 Best double couple: M0 9.34×10^14 NP1:φ=2°, δ=68°, λ=64°. NP2:φ=234°, δ=34°, λ=137°.*
JMA 15 01:19:01.8±0.2,**31.37N**×**131.99E**,**h23**km±2km,**M3.6,**
5C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**0.63**	**284**	⇓P	Pb	01 19 14.0	-0.1
JNAR				S	Sb	01 19 22.9	+0.3
JTZ	**Takazaki**	**0.93**	**305**	⇑P	Pb	01 19 18.8	-0.4
JTZ				S	Sb	01 19 32.2	+1.1
JTSR	**Tashiro 2**	**0.94**	**258**	P	Pb	01 19 19.1	-0.1
JTSR				S	Sb	01 19 31.9	+0.6
JTSN	**Tsuno**	**0.97**	**335**	⇑P	Pb	01 19 19.5	-0.2
JTSN				S	Sb	01 19 33.1	+1.0
JTN	**Tanegashima 3**	**1.12**	**231**	P	Pn	01 19 22.6	+0.3
JTN				*e*S	Sb	01 19 37.0	+0.4
JSU	**Suzuyama**	**1.32**	**276**	⇑P	Pn	01 19 24.7	-0.4
JSU				*e*S	Sn	01 19 41.6	-0.5
JZO	**Okuchi**	**1.41**	**303**	⇑P	Pn	01 19 26.0	-0.4
JZO				*e*S	Sn	01 19 44.4	0.0
JIU2	**Izumi 2**	**1.54**	**320**	⇑P	Pn	01 19 28.3	0.0

*IDC **15** 01:24:47.9±0.7, 8.24N×92.64E, h36km±5km, mb3.7/11, mb1 3.9/12, mb1mx3.8/22, mbtmp3.9/12, MS3.0/1, Ms1 3.2/1, ms1mx2.7/28, Error ellipse: s-maj=37.1km s-min=13.3km az=45.0*
*NEIC **15** 01:24:47.8±0.4, 8.17N×92.62E, mb4.1/1, Error ellipse: s-maj=15.5km s-min=10.2km az=216.0*
ISC 15 01:24:45.4±0.6,**8.08N**±0.09×**92.55E**±0.09,**h39**km,
h39km±1.7km:**pP-P**,**n27**,σ§**73**/23,**mb4.0**/14,**Nicobar**
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.77**	**267**	*e*P	**P**	**01 27 34.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**12.04**	**30**	Pn	**P**	**01 27 39.0**	**+1.5**
baz=233,slow=14,SNR=6.9							
CMAR				LR	LR	01 32 32.1	
comp=Z,63nm,19.3s,baz=341,slow=39							
JIRN	**Jiri**	**20.38**	**344**	*e*P	**P**	**01 29 21.9**	**+0.3**
PKI	**Pulchoki**	**20.53**	**342**	*e*P	**P**	**01 29 22.1**	**-1.1**
GUN	**Gumba**	**20.71**	**343**	*e*P	**P**	**01 29 25.1**	**+0.1**
KKN	**Kakani**	**20.77**	**342**	*e*P	**P**	**01 29 24.9**	**-0.8**
5.8nm,0.5s							
GKN

*NEIC **15** 01:53:33.2±1.3,8.84N×93.49E,h39km±12km,mb4.4/2, Error ellipse: s-maj=11.8km s-min=10.1km az=47.0*
*IDC **15** 01:53:34.1±5.8,8.87N×93.55E,h45km±55km,mb3.7/14, mb1 3.9/15,mb1mx3.8/22,mbtmp3.9/15,ML4.1/1,MS3.7/2, Ms1 3.7/2,ms1mx3.3/24,Error ellipse: s-maj=48.0km s-min=15.7km az=57.0*

ISC 15 01:53:29.3±3.9,8.84N±0.08×93.49E±0.10,h25km±28km, n33,σ0985/32,mb4.0/17,MS3.7/2,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.93**	**28**	P	**P**	**01 56 07.5**	**+0.1**
	0.4nm,0.3s,baz=208,slow=15,SNR=6.7						
PALK	**Pallekele**	**12.76**	**264**	P	**P**	**01 56 32.0**	**-0.1**
HYB	**Hyderabad**	**16.86**	**302**	*eP*	**P**	**01 57 16.0**	**-9.5**
HYB				*eS*	**S**	**02 00 17.0**	**-14**
HYB	**Hyderabad**	**16.86**	**302**	*i* P	**P**	**01 57 16.0**	**-9.5**
JIRN	**Jiri**	**19.96**	**341**	*eP*	**P**	**01 58 01.8**	**-0.9**
	41nm,1.0s						
PKI	**Pulchoki**	**20.14**	**339**	*eP*	**P**	**01 58 04.8**	**+0.2**
	22nm,0.8s						
DMN	**Daman**	**20.29**	**338**	*eP*	**P**	**01 58 06.9**	**+0.8**
GUN	**Gumba**	**20.29**	**340**	*eP*	**P**	**01 58 04.5**	**-1.7**
	102nm,1.3s						
KKN	**Kakani**	**20.39**	**339**	*eP*	**P**	**01 58 08.0**	**+0.8**
GKN	**Gorkha**	**20.82**	**337**	*eP*	**P**	**01 58 12.1**	**+0.5**
	30nm,0.6s						
KOLN	**Koldanda**	**21.02**	**335**	*eP*	**P**	**01 58 14.7**	**+1.0**
	23nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**37.57**	**337**	*eP*	**P**	**02 00 44.2**	**+0.6**
	4.1nm,0.9s,mb4.2						
SONM	**Songino Array**	**40.38**	**13**	P	**P**	**02 01 07.7**	**+0.9**
	0.2nm,0.4s,mb3.2,baz=180,slow=2.9,SNR=2.7						
ZAL	**Zalesovo**	**45.52**	**353**	P	**P**	**02 01 49.3**	**+0.7**
	0.9nm,0.5s,mb4.0,baz=311,slow=7.4,SNR=6.7						
NWAO	**Narrogin (SRO)**	**47.29**	**153**	P	**P**	**02 02 03.6**	**+0.7**
	8.1nm,1.0s,mb4.6,baz=150,slow=19,SNR=2.0						
BVAR	**Borovoye Array**	**47.88**	**341**	P	**P**	**02 02 06.5**	**-0.8**
	0.4nm,0.3s,mb3.9,baz=142,slow=10,SNR=7.7						
BRVK	**Borovoye**	**47.94**	**341**	*eP*	**P**	**02 02 06.6**	**-1.1**
CHKZ	**Chkalovo**	**48.37**	**342**	*eP*	**P**	**02 02 09.7**	**-1.4**
	3.8nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**49.34**	**126**	P	**P**	**02 02 18.2**	**-0.8**
	0.8nm,1.1s,mb3.7,baz=301,slow=9.9,SNR=5.4						
ASAR	**Alice Springs**	**51.02**	**130**	P	**P**	**02 02 31.6**	**-0.1**
	0.6nm,0.8s,mb3.6,baz=313,slow=7.2,SNR=4.0						
GNI	**Garni**	**53.31**	**314**	LR	LR	02 27 32.8	
	comp=Z,31nm,18.1s,MS3.4,baz=26,slow=38						
GNI	**Garni**	**53.31**	**314**	P	**P**	**02 02 48.0**	**-0.8**
EIL	**Elat**	**58.40**	**299**	P	**P**	**02 03 26.1**	**+0.6**
BRTR	**Keskin Array B**	**61.32**	**311**	P	**P**	**02 03 45.0**	**-0.4**
	1.8nm,1.1s,mb4.1,baz=142,slow=7.4,SNR=6.8						
AKASG	**Malin Array Be**	**67.01**	**322**	P	**P**	**02 04 21.5**	**-0.9**
	1.2nm,0.8s,mb4.0,baz=95,slow=5.0,SNR=3.6						
MLR	**Muntele Rosu**	**68.04**	**315**	P	**P**	**02 04 30.7**	**+1.7**
	1.1nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**71.57**	**332**	P	**P**	**02 04 49.8**	**-0.4**
	2.2nm,0.9s,mb4.1,baz=207,slow=8.5,SNR=4.8						
PSZ	**Piszkesteto**	**72.51**	**317**	P	**P**	**02 04 54.7**	**-1.4**
ARCES	**ARCESS Array B**	**74.15**	**340**	P	**P**	**02 05 05.3**	**+0.1**
	7.2nm,1.0s,mb4.6,baz=94,slow=6.4,SNR=7.7						
ARCES				LR	LR	02 39 43.9	
	comp=Z,93nm,20.9s,MS4.0,baz=20,slow=37						
GERES	**GERESS Array B**	**76.69**	**318**	P	**P**	**02 05 21.4**	**+1.3**
	0.5nm,0.4s,mb3.8,baz=90,slow=5.3,SNR=6.3						
HFS	**Hagfors**	**77.31**	**330**	P	**P**	**02 05 23.6**	**+0.3**
	1.2nm,0.5s,mb4.0,baz=90,slow=3.0,SNR=5.1						
NOA	**NORSAR Array B**	**78.59**	**331**	P	**P**	**02 05 30.6**	**+0.3**
	0.8nm,0.9s,mb3.7,baz=86,slow=7.3,SNR=2.7						
PDAR	**Pinedale Array**	**124.50**	**20**	PKP	PKPdf	02 12 29.6	-1.9
	0.4nm,1.0s,baz=297,slow=2.0,SNR=2.6						

*BJI **15** 01:55:31.3,2.14N×94.13E,h56km,mB5.0,mb4.9,Ms4.4, Msz4.2*
*MOS **15** 01:55:31.2±1.0,2.72N×94.31E,h33km,mb4.8/9,Error ellipse: s-maj=24.4km s-min=10.1km az=98.2*
*NEIC **15** 01:55:32.7±0.3,2.70N×94.24E,mb4.6/7,Error ellipse: s-maj=10.7km s-min=6.9km az=53.0*
*IDC **15** 01:55:33.0±0.4,2.72N×94.20E,h27km±2km,mb4.3/21, mb1 4.4/22,mb1mx4.3/27,mbtmp4.4/22,ML4.9/1,MS3.4/1, Ms1 3.6/1,ms1mx3.0/25,Error ellipse: s-maj=19.7km s-min=9.3km az=45.0*

ISC 15 01:55:30.9±0.4,2.68N±0.06×94.25E±0.07,h27km, h27km±.4km:pP-P,n85,σ0592/79,mb4.6/40,MS4.2/1,2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.76**	**55**	P	**Pn**	**01 57 21.5**	**-3.4**
	430nm,1.0s						
KKTK	**Khon Kaen**	**15.98**	**31**	P	**P**	**01 59 20.5**	**+4.8**
	988nm,0.7s						
CMAR	**Chiang Mai Arr**	**16.34**	**16**	Pn	**P**	**01 59 19.1**	**-1.1**
	1.6nm,0.3s,baz=213,slow=12,SNR=39						
CMAR				LR	LR	02 05 16.5	
	comp=Z,140nm,20.5s,baz=190,slow=36						
CHG	**Chiang Mai**	**16.68**	**16**	⇓P	**P**	**01 59 26.6**	**+2.1**
	48nm,1.0s						
HYB	**Hyderabad**	**21.26**	**315**	*i* P	**P**	**02 00 17.5**	**+0.1**
JIRN	**Jiri**	**26.00**	**344**	*eP*	**P**	**02 01 04.1**	**+0.5**
	25nm,0.7s,mb4.8						
PKI	**Pulchoki**	**26.15**	**342**	*eP*	**P**	**02 01 05.4**	**+0.5**
	28nm,1.1s,mb4.7						
DMN	**Daman**	**26.28**	**341**	*eP*	**P**	**02 01 07.1**	**+1.0**
	23nm,0.6s,mb4.9						
GUN	**Gumba**	**26.33**	**343**	*eP*	**P**	**02 01 06.8**	**+0.2**
	45nm,0.8s,mb5.1						
KKN	**Kakani**	**26.40**	**342**	*eP*	**P**	**02 01 07.4**	**+0.2**
	27nm,0.9s,mb4.8						
GKN	**Gorkha**	**26.80**	**341**	*eP*	**P**	**02 01 10.3**	**-0.6**
	21nm,0.7s,mb4.8						
KOLN	**Koldanda**	**26.94**	**339**	*eP*	**P**	**02 01 12.3**	**+0.1**
	63nm,1.4s,mb5.0						
LSA	**Lhasa**	**27.03**	**354**	P	**P**	**02 01 14.3**	**+1.3**
LSA	**Lhasa**	**27.03**	**354**	*eP*	**P**	**02 01 13.9**	**+0.9**
LSA				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.6						
LSA	**Lhasa**	**27.03**	**354**	*eP*	**P**	**02 01 13.9**	**+0.9**
	comp=Z,17nm,0.9s,mb4.6						
WMQ	**Urumqi**	**41.37**	**353**	*eP*	**P**	**02 03 17.8**	**+1.4**
UCH	**Uchtor**	**43.16**	**338**	P	**P**	**02 03 32.4**	**+1.3**
	SNR=6.3						
KBK	**Karagaybulak**	**43.37**	**339**	P	**P**	**02 03 34.4**	**+1.6**
	SNR=12						
AML	**Almayashu**	**43.38**	**338**	P	**P**	**02 03 34.1**	**+1.2**
	SNR=10						
TKM2	**Tokmak 2**	**43.38**	**340**	P	**P**	**02 03 33.8**	**+0.9**
	SNR=5.6						
AAK	**Ala-Archa**	**43.52**	**339**	*eP*	**P**	**02 03 33.2**	**-0.7**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.3						
AAK	**Ala-Archa**	**43.52**	**339**	*eP*	**P**	**02 03 33.2**	**-0.8**
	comp=Z,9.3nm,1.4s,mb4.3						
FRU	**Bishkek**	**43.65**	**339**	P	**P**	**02 03 34.0**	**-1.0**
FRU				*e*		02 03 48.4	
USP	**Ospenovka**	**44.07**	**339**	P	**P**	**02 03 39.1**	**+0.7**
	SNR=7.1						
WRA	**Warramunga Arr**	**45.32**	**122**	P	**P**	**02 03 49.3**	**+0.5**
	comp=Z,5.8nm,0.9s,mb4.4,baz=298,slow=9.0,SNR=16						
WRA				pP	pP	02 03 58.0	+1.1
	comp=Z,5.4nm,0.9s,baz=299,slow=9.1,SNR=12						
WRAB	**Tennant Creek**	**45.32**	**122**	*eP*	**P**	**02 03 48.7**	**0.0**
SONM	**Songino Array**	**46.19**	**11**	P	**P**	**02 03 56.0**	**+0.8**
	comp=Z,4.9nm,0.8s,mb4.5,baz=189,slow=8.3,SNR=24						
SONM				pP	pP	02 04 04.1	+0.7
	comp=Z,5.9nm,0.9s,baz=192,slow=7.8,SNR=13						
SONM				PcP	PcP	02 05 32.4	+1.1
	comp=Z,1.2nm,0.7s,baz=206,slow=3.3,SNR=3.5						
SONM				pPcP		02 05 40.6	
	comp=Z,2.0nm,0.7s,baz=205,slow=3.1,SNR=4.7						
ULN	**Ulaanbaatar**	**46.35**	**12**	*eP*	**P**	**02 03 56.2**	**-0.3**
ULN				*ep*P	pP	02 04 03.8	-0.9
ASAR	**Alice Springs**	**46.64**	**126**	P	**P**	**02 03 59.8**	**+0.6**
	comp=Z,3.9nm,0.9s,mb4.3,baz=299,slow=7.3,SNR=18						
ASAR				pP	pP	02 04 08.5	+1.2
	comp=Z,4.4nm,0.9s,baz=303,slow=7.3,SNR=12						
ASAR				PcP	PcP	02 05 34.1	+0.9
	comp=Z,1.7nm,0.6s,baz=302,slow=3.1,SNR=7.8						
SNY	**Shenyang**	**47.02**	**30**	⇓P	**P**	**02 04 02.8**	**+0.9**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb5.1						
ZAK	**Zakamensk**	**48.14**	**8**	*eP*	**P**	**02 04 10.4**	**-0.2**
ZAK				*e*		02 05 31.4	
TLY	**Talaya**	**49.46**	**8**	*eP*	**P**	**02 04 19.9**	**-0.8**
TLY				*ep*P	pP	02 04 27.6	-1.5
HIA	**Hailar**	**51.26**	**21**	*eP*	**P**	**02 04 35.0**	**+0.5**
	comp=Z,5.1nm,0.8s,mb4.5						
RAYN	**Ar Rayn**	**51.46**	**298**	P	**P**	**02 04 36.6**	**+0.2**
	comp=Z,42nm,1.1s,mb5.3,SNR=8.4						
ZAL	**Zalesovo**	**51.67**	**353**	P	**P**	**02 04 38.2**	**+0.7**
	comp=Z,6.3nm,0.5s,mb4.8,baz=305,slow=6.1,SNR=30						
ZAL				pP	pP	02 04 46.6	+0.8
	comp=Z,6.0nm,0.5s,baz=330,slow=3.5,SNR=12						
NVS	**Novosibirsk**	**52.76**	**352**	*i* P	**P**	**02 04 44.7**	**-1.0**
NVS				*i*	pP	02 04 52.6	-1.4
NVS				*i*		02 07 57.0	
NVS				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
NVS				pmax	pmax		
	comp=E,8.0nm,1.5s						
NVS				pmax	pmax		
	comp=N,9.0nm,1.1s						
BVAR	**Borovoye Array**	**53.92**	**342**	P	**P**	**02 04 52.9**	**-1.3**
	comp=N,6.0nm,0.8s,mb4.6,baz=143,slow=7.4,SNR=31						
BVAR				pP	pP	02 05 01.6	-0.9
	comp=N,4.5nm,0.6s,baz=147,slow=11,SNR=14						
BRVK	**Borovoye**	**53.98**	**342**	*eP*	**P**	**02 04 53.2**	**-1.5**
BRVK				*eP*P	pP	02 05 01.8	-1.2
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
BRVK	**Borovoye**	**53.98**	**342**	*eP*	**P**	**02 04 53.2**	**-1.5**
	comp=Z,6.9nm,1.0s,mb4.5						
BRVK				*ep*P	pP	02 05 01.8	-1.2
CHKZ	**Chkalovo**	**54.42**	**343**	*eP*	**P**	**02 04 56.7**	**-1.2**
CHKZ				*ep*P	pP	02 05 04.8	-1.4
CTA	**Charters Tower**	**55.80**	**116**	P	**P**	**02 05 07.5**	**-1.0**
	comp=Z,5.0nm,1.1s,mb4.5,baz=280,slow=11,SNR=5.0						
CTA				pP	pP	02 05 17.4	+0.7
	comp=Z,4.8nm,0.8s,baz=297,slow=11,SNR=3.7						
KLR	**Kul'dur**	**56.31**	**29**	*eP*	**P**	**02 05 09.2**	**-2.5**
STKA	**Stephens Creek**	**56.54**	**131**	P	**P**	**02 05 14.4**	**+0.9**
	comp=Z,4.7nm,1.0s,mb4.5,baz=284,slow=6.7,SNR=5.4						
STKA				pP	pP	02 05 22.5	+0.5
	comp=Z,3.1nm,0.8s,baz=350,slow=6.0,SNR=3.9						
KMBO	**Kilima Mbogo**	**57.11**	**267**	P	**P**	**02 05 18.3**	**+0.4**
	comp=Z,3.8nm,0.9s,mb4.4,baz=60,slow=10,SNR=12						
KMBO				pP	pP	02 05 27.8	+1.5
	comp=Z,2.4nm,0.7s,baz=63,slow=12,SNR=6.0						
KMBO	**Kilima Mbogo**	**57.11**	**267**	P	**P**	**02 05 18.3**	**+0.4**
	comp=Z,0.3nm,1.0s						
KMBO				*ep*P	pP	02 05 25.6	-0.6
KMBO				pP	pP	02 05 27.8	+1.5
BOD	**Bodaibo**	**57.15**	**12**	*eP*	**P**	**02 05 15.6**	**-2.0**
GNI	**Garni**	**58.19**	**317**	P	**P**	**02 05 24.7**	**-0.4**
	comp=Z,2.8nm,0.8s,mb4.3,baz=347,slow=13,SNR=5.4						
TI2	**Plekhanov**	**58.91**	**318**	*i* P	**P**	**02 05 29.8**	**-0.3**
ZEI	**Tsey**	**59.95**	**319**	*eP*	**P**	**02 05 36.8**	**-0.4**
ZEI				*i* *PP	pP	02 05 45.0	-0.7
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
ARU	**Arti**	**60.70**	**338**	*eP*	**P**	**02 05 36.7**	**-5.5**
YSS	**Yuzh-Sakhalins**	**60.84**	**36**	P	**P**	**02 05 43.3**	**0.0**
ASF	**Jabal al Asfar**	**61.21**	**305**	P	**P**	**02 05 47.1**	**+1.2**
	comp=Z,3.9nm,0.9s,mb4.5,baz=355,slow=7.6,SNR=4.2						
ASF				pP	pP	02 05 55.4	+1.0
	comp=Z,3.9nm,0.8s,baz=332,slow=9.2,SNR=4.5						
KIV	**Kislovodsk**	**61.27**	**320**	*eP*	**P**	**02 05 45.6**	**-0.6**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
KIV	**Kislovodsk**	**61.27**	**320**	*eP*	**P**	**02 05 45.5**	**-0.7**
MALT	**Malatya**	**61.96**	**312**	*eP*	**P**	**02 05 50.7**	**-0.3**
MALT				*ep*P	pP	02 05 58.9	-0.5
EIL	**Elat**	**62.17**	**302**	P	**P**	**02 05 51.8**	**-0.8**
BRTR	**Keskin Array B**	**65.94**	**313**	P	**P**	**02 06 15.6**	**-1.4**
	comp=Z,2.4nm,0.8s,mb4.3,baz=124,slow=7.8,SNR=16						
BRTR				pP	pP	02 06 24.6	-0.9
	comp=Z,2.6nm,0.8s,baz=121,slow=7.0,SNR=9.9						
LSZ	**Lusaka**	**67.73**	**252**	*eP*	**P**	**02 06 28.4**	**-0.4**
OBN	**Obninsk**	**69.82**	**329**	*eP*	**P**	**02 06 38.8**	**-2.2**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
IDI	**Anoyia**	**71.65**	**306**	P	**P**	**02 06 51.9**	**-0.6**
	comp=Z,8.1nm,0.9s,mb4.6,baz=98,slow=14,SNR=4.2						
TIXI	**Tiksi**	**72.27**	**11**	*eP*	**P**	**02 06 55.1**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,94nm,15.0s,MS4.2						
AKASG	**Malin Array Be**	**72.30**	**323**	P	**P**	**02 06 54.9**	**-1.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=97,slow=5.2,SNR=8.2						
AKASG				pP	pP	02 07 03.3	-1.2
	comp=Z,0.8nm,0.5s,baz=96,slow=4.6,SNR=4.6						
MLR	**Muntele Rosu**	**72.97**	**317**	P	**P**	**02 07 00.4**	**+0.3**
	comp=Z,8.5nm,1.0s,mb4.6,baz=26,slow=3.5,SNR=7.6						
MLR				pP	pP	02 07 09.1	+0.4
	comp=Z,6.1nm,0.9s,baz=115,slow=6.4,SNR=4.8						
FINES	**FINESS Array B**	**77.33**	**333**	P	**P**	**02 07 24.4**	**-0.3**
	comp=Z,1.7nm,0.7s,mb4.1,baz=117,slow=8.5,SNR=5.3						
FINES				pP	pP	02 07 32.8	-0.5
	comp=Z,1.9nm,0.7s,baz=104,slow=7.9,SNR=3.3						
PSZ	**Piszkesteto**	**77.55**	**318**	*eP*	**P**	**02 07 25.9**	**-0.2**
MORC	**Moravsky Berou**	**79.38**	**320**	*eP*	**P**	**02 07 36.0**	**0.0**
MORC				*ep*P	pP	02 07 44.5	-0.3
BOJS	**Bojanci**	**80.38**	**316**	*i* P	**P**	**02 07 42.2**	**+0.7**
GERES	**GERESS Array B**	**81.76**	**319**	P	**P**	**02 07 49.5**	**+0.8**
	comp=Z,3.2nm,0.8s,mb4.3,baz=90,slow=5.3,SNR=23						
GERES				pP	pP	02 07 57.8	+0.4
	comp=Z,3.7nm,0.8s,baz=104,slow=5.5,SNR=12						
KHC	**Kasperske Hory**	**81.87**	**319**	*eP*	**P**	**02 07 49.0**	**-0.2**
HFS	**Hagfors**	**82.97**	**330**	P	**P**	**02 07 54.7**	**0.0**
	comp=Z,1.8nm,0.8s,mb4.2,baz=63,slow=6.6,SNR=2.6						
GRA1	**Grafenberg Arr**	**83.45**	**320**	*eP*	**P**	**02 07 58.7**	**+1.3**
	comp=Z,6.0nm,1.2s,mb4.5						
GRF	**Grafenberg Arr**	**83.45**	**320**	*eP*	**P**	**02 07 58.7**	**+1.3**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
GRF	**Grafenberg Arr**	**83.45**	**320**	*eP*	**P**	**02 07 58.7**	**+1.3**
	comp=Z,6.0nm,1.2s,mb4.5						
DAVOX	**Davos**	**84.20**	**317**	P	**P**	**02 08 02.4**	**+1.1**
	comp=Z,4.5nm,0.7s,mb4.7,slow=2.0						
DAVOX				pP	pP	02 08 10.8	+0.8
	baz=14,slow=4.2						
DAVOX	**Davos**	**84.20**	**317**	P	**P**	**02 08 02.4**	**+1.1**
DAVOX				pP	pP	02 08 10.8	+0.8
NB2	**NORSAR Subarra**	**84.28**	**331**	P	**P**	**02 08 01.0**	**-0.4**
	comp=Z,6.3nm,1.1s,mb4.7,baz=92,slow=5.3						
NOA	**NORSAR Array B**	**84.28**	**331**	P	**P**	**02 08 01.6**	**+0.3**
	comp=Z,1.5nm,0.8s,mb4.2,baz=94,slow=5.5,SNR=3.8						
NOA				pP	pP	02 08 10.2	+0.1
	comp=Z,2.3nm,0.8s,baz=98,slow=5.3,SNR=5.6						
URZ	**Urewera**	**86.04**	**128**	P	**P**	**02 08 11.1**	**+0.4**
	comp=Z,12nm,1.1s,mb5.0,baz=9.3,slow=9.7,SNR=4.1						
VNDA	**Vanda**	**87.86**	**168**	P	**P**	**02 08 18.6**	**0.0**
	comp=Z,3.8nm,1.1s,mb4.6,baz=76,slow=11,SNR=3.1						
NVAR	**Mina Array Bea**	**129.24**	**33**	PKP	PKPdf	02 14 40.6	-1.7
	comp=Z,0.4nm,0.7s,baz=264,slow=5.7,SNR=3.7						
PDAR	**Pinedale Array**	**129.91**	**23**	PKP	PKPdf	02 14 41.2	-2.2
	comp=Z,0.3nm,0.5s,baz=90,slow=4.4,SNR=4.5						
TXAR	**Lajitas Array**	**143.83**	**27**	PKP	PKPdf	02 15 04.5	-4.6
	comp=Z,1.9nm,1.0s,baz=287,slow=1.5,SNR=13						
TXAR				pPKP		02 15 13.7	
	comp=Z,1.1nm,0.8s,baz=180,slow=3.8,SNR=8.5						
CPUP	**Villa Florida**	**143.99**	**227**	PKP	PKPdf	02 15 04.9	-4.6
	comp=Z,0.0nm,0.5s,baz=216,slow=19,SNR=1.9						
CPUP				pPKP		02 15 13.7	
	comp=Z,0.0nm,0.6s,baz=23,slow=19,SNR=1.4						
JCT	**Junction City**	**144.40**	**21**	ePKP	PKPdf	02 15 05.8	-4.4
LPAZ	**La Paz**	**158.02**	**231**	PKP	PKPdf	02 15 28.5	-2.4
	comp=Z,1.5nm,1.1s,baz=224,slow=16,SNR=2.8						

*ATH **15** 02:06:30.4,36.92N×27.88E,h29km,MD3.1/3*
*CSEM **15** 02:06:30.0±0.1,36.98N×27.95E,h22km,MD3.2,Error ellipse: s-maj=1.6km s-min=1.3km az=69.0*
*ISK **15** 02:06:30.3,37.01N×27.87E,h29km,MD3.2*
*NEIC **15** 02:06:30.4,36.92N×27.88E,h29km,MD3.1(ATH),After ATH.*

ISC 15 02:06:30.3±0.7,36.94N±0.05×27.86E±0.07,h24km±8km, n13,σ0977/17,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.35**	**291**	*i* P	**Pb**	**02 06 37.8**	**-0.3**
BDRM				*i* S	**Sb**	**02 06 43.7**	**+0.3**
MLSB	**Milas**	**0.36**	**350**	PG	**Pb**	**02 06 38.1**	**-0.1**
MLSB				SG	**Sb**	**02 06 43.5**	**-0.1**
NISR	**Nisiros**	**0.67**	**241**	*e*PN	**Pn**	**02 06 44.0**	**-0.2**
AYDN	**Tasoluk**	**0.72**	**2**	*i* P	**Pb**	**02 06 44.3**	**+0.1**
AYDN				*i* S	**Sb**	**02 06 53.6**	**0.0**
ARG	**Arkhangelos**	**0.75**	**163**	*e*PN	**Pn**	**02 06 45.0**	**-0.5**
FETY	**Fethiye**	**1.03**	**107**	*e*PG	**Pn**	**02 06 49.5**	**+0.1**
SMG	**Samos**	**1.12**	**314**	*e*PN	**Pn**	**02 06 52.0**	**+1.3**
DNZL	**Cakiroluk**	**1.21**	**51**	*i* P	**Pn**	**02 06 52.7**	**+0.7**
DNZL				*i* S	**Sn**	**02 07 09.2**	**+1.4**
DENT	**Denizli**	**1.24**	**49**	PN	**Pn**	**02 06 51.6**	**-0.9**
KARP	**Karpathos**	**1.50**	**202**	*e*PN	**Pn**	**02 06 57.0**	**+0.9**
BLCB	**Balcova**	**1.58**	**336**	*e*PN	**Pn**	**02 06 56.4**	**-0.9**
ELL	**Elmali**	**1.66**	**96**	PN	**Pn**	**02 06 57.8**	**-0.6**
AKS	**Akhisar**	**1.94**	**359**	PN	**Pn**	**02 07 01.0**	**-1.4**

IDC 15 02:19:25.1±9.8,7.72S×125.44E,mb4.3/2,mb1 4.4/4, mb1mx4.0/14,mbtmp4.4/4,ML3.5/2,Error ellipse: s-maj=160.3km s-min=58.8km az=3.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.49**	**126**	*eP*	P	02 21 33.0	+0.8
	5.5nm,0.7s						
WRA	**Warramunga Arr**	**14.90**	**146**	Pn	P	02 22 57.7	-1.4
	0.3nm,0.3s,baz=319,slow=13,SNR=30						
WB2	**Warramunga Arr**	**14.91**	**146**	*eP*	P	02 22 58.1	-1.0
ASPA	**Alice Springs**	**17.82**	**154**	*eP*	P	02 23 36.7	+0.5
ASAR	**Alice Springs**	**17.82**	**154**	P	P	02 23 33.7	-2.5
	0.3nm,0.3s,baz=337,slow=11,SNR=29						
NWAO	**Narrogin (SRO)**	**26.22**	**196**	P	P	02 25 01.7	-1.8
	8.9nm,0.9s,baz=46,slow=23,SNR=2.4						
STKA	**Stephens Creek**	**28.36**	**150**	P	P	02 25 21.4	-1.7
	1.6nm,0.7s,baz=342,slow=10,SNR=5.6						

*NEIC **15** 02:42:29.4,38.15S×176.34E,h156km,After WEL.*

WEL 15 02:42:28.8±0.3,38.11S×176.31E,h159km±3km,ML4.3/11, 14C-4D,Error ellipse: s-maj=1.7km s-min=1.5km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UTU	**Utuhina**	**0.11**	**235**	P	P	02 42 50.3	+0.1
UTU	**Utuhina**	**0.11**	**235**	PN	P	02 42 50.2	0.0
LIRZ	**Lichensteins R**	**0.12**	**29**	P	P	02 42 50.2	0.0
LIRZ	**Lichensteins R**	**0.12**	**29**	PN	P	02 42 50.1	-0.2
TAZ	**Tarawera**	**0.20**	**127**	P	P	02 42 50.6	+0.2
TAZ	**Tarawera**	**0.20**	**127**	⇑PN	P	02 42 50.5	+0.1
PATZ	**Paeroa**	**0.27**	**189**	P	P	02 42 50.6	0.0
PATZ	**Paeroa**	**0.27**	**189**	PN	P	02 42 50.6	0.0
MARZ	**Manawahe**	**0.32**	**66**	P	P	02 42 50.6	-0.2
MARZ	**Manawahe**	**0.32**	**66**	PN	P	02 42 50.5	-0.2
EDRZ	**Edgecumbe**	**0.34**	**89**	P	P	02 42 50.6	-0.3
EDRZ	**Edgecumbe**	**0.34**	**89**	⇑PN	P	02 42 50.6	-0.3
TGRZ	**Tauranga**	**0.38**	**354**	P	P	02 42 50.5	-0.5
TGRZ	**Tauranga**	**0.38**	**354**	⇓PN	P	02 42 50.5	-0.5
TGRZ				SN	S	02 43 07.7	-0.4
URZ	**Urewera**	**0.65**	**103**	P	P	02 42 51.8	-0.4
URZ	**Urewera**	**0.65**	**103**	⇓PN	P	02 42 51.7	-0.5
URZ				SN	S	02 43 09.0	-1.3
WATZ	**Wairara**	**0.75**	**217**	P	P	02 42 52.8	0.0
WATZ	**Wairara**	**0.75**	**217**	⇑PN	P	02 42 52.8	0.0
MYRZ	**Mayor Island**	**0.83**	**356**	PN	P	02 42 52.9	-0.4
RATZ	**Rangitukua**	**0.86**	**209**	P	P	02 42 53.5	0.0
RATZ	**Rangitukua**	**0.86**	**209**	⇑PN	P

KRBR				AML	AML	02 43 52.0	
	comp=E,366nm,0.4s						
KRBR				AML	AML	02 43 52.6	
	comp=N,258nm,0.4s						
KRBR	**Kerman**	**2.28**	**336**	*e*Pg	Pn	02 43 15.3	+3.9
	SNR=91						
KRBR				*e*Sg	Sn	02 43 46.0	+6.7
	comp=N,258nm,0.4s,SNR=91						
GHIR	**Ghir-Karzin**	**4.30**	**276**	*e*PN	Pn	02 43 40.5	+0.4

*BJI **15** 02:54:50.5, 48.87N×131.45E, h16km, ML4.4*
SKHL 15 02:54:48.6±0.1, 48.92N×131.40E, h6km±1km, mb4.1/8, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**0.39**	**36**	*i* Pg	Pg	02 54 55.2	-1.2
KLR				AMB	AMB	02 54 55.9	
	320nm,0.8s						
KLR				AMB	AMB	02 54 55.9	
	280nm,0.8s						
KLR				AMB	AMB	02 54 55.9	
	250nm,0.8s						
KLR				*e*Sg	Sg	02 55 00.0	-1.6
KLR				AMS	AMS	02 55 10.5	
	16μm,14.0s						
GRNR	**Gornyy**	**3.74**	**58**	*e*Pn	Pn	02 55 47.9	-0.2
GRNR				*e*Pg	Pg	02 55 57.0	-6.3
GRNR				AMB	AMB	02 56 01.6	
	150nm,0.9s						
GRNR				AMB	AMB	02 56 01.6	
	120nm,0.9s						
GRNR				*e*rx	rx	02 56 03.9	
GRNR				*e*Sg	Sg	02 56 46.5	-6.6
GRNR				A		02 56 54.0	
	345nm,0.9s						
GRNR				A		02 56 54.0	
	207nm,0.9s						
EKMR	**Ekimchan**	**4.27**	**13**	*e*Pn	Pn	02 55 55.5	-0.2
EKMR				*e*Pg	Pg	02 56 06.0	-7.8
EKMR				AMB	AMB	02 56 10.4	
	12nm,0.7s						
EKMR				AMB	AMB	02 56 10.4	
	7.0nm,0.7s						
EKMR				AMB	AMB	02 56 10.4	
	11nm,0.7s						
EKMR				*e*Sn	Sn	02 56 44.0	-2.5
EKMR				*e*Sg	Sg	02 57 02.0	-8.7
EKMR				A		02 57 14.0	
	320nm,0.9s						
EKMR				A		02 57 14.0	
	180nm,0.9s						
MDJ	**Mudanjiang**	**4.48**	**197**	P	Pn	02 56 00.5	+1.8
MDJ				PG	Pg	02 56 14.1	-4.0
MDJ				SG	Sg	02 57 06.3	-11
MDJ				Smax			
	comp=N,255nm,0.7s						
MDJ				Smax			
	comp=E,275nm,0.7s						
YASR	**Yasnyy**	**4.88**	**335**	*e*Pn	Pn	02 56 02.4	-1.9
YASR				pPn		02 56 05.1	
YASR				AMB	AMB	02 56 06.6	
	comp=E,12nm,0.6s						
YASR				AMB	AMB	02 56 06.6	
	comp=E,8.0nm,0.6s						
YASR				AMB	AMB	02 56 06.6	
	comp=E,20nm,0.6s						
YASR				*i* Sg	Sg	02 57 20.7	-10
YASR				A		02 57 23.2	
	comp=E,80nm,0.7s						
YASR				A		02 57 23.2	
	comp=E,70nm,0.7s						
TEY	**Ternei**	**5.27**	**136**	*e*rx	rx	02 56 05.0	
TEY				*e*Sg	Sg	02 57 32.7	-11
TEY				A		02 57 35.9	
	comp=E,126nm,0.7s						
ZEA	**Zeya**	**5.48**	**333**	*e*Pn	Pn	02 56 11.7	-1.1
ZEA				AMB	AMB	02 56 13.9	
	comp=E,200nm,0.6s						
ZEA				AMB	AMB	02 56 13.9	
	comp=E,29nm,0.6s						
ZEA				*e*Sg	Sg	02 57 39.7	-11
ZEA				A		02 57 46.0	
	comp=E,170nm,0.8s						
ZEA				A		02 57 46.5	
	comp=E,400nm,2.3s						
BMKR	**Bomnak**	**6.01**	**346**	*e*Pn	Pn	02 56 19.0	-1.3
BMKR				pPn		02 56 21.1	
BMKR				AMB	AMB	02 56 22.9	
	comp=E,37nm,0.8s						
BMKR				*e*rx	rx	02 56 39.5	
BMKR				*e*Sg	Sg	02 57 56.9	-12
BMKR				A		02 58 01.4	
	comp=E,212nm,0.7s						
KROS	**Kirovskiy**	**6.17**	**335**	*e*Pn	Pn	02 56 20.5	-2.0
KROS				AMB	AMB	02 56 24.3	
	comp=E,5.0nm,0.7s						
KROS				AMB	AMB	02 56 24.3	
	comp=E,4.0nm,0.7s						
KROS				AMB	AMB	02 56 24.3	
	comp=E,7.0nm,0.7s						
KROS				*e*Sg	Sg	02 58 00.5	-13
KROS				A		02 58 05.4	
	comp=E,19nm,0.7s						
KROS				A		02 58 05.4	
	comp=E,35nm,0.7s						
KROS				A		02 58 05.4	
	comp=E,15nm,0.7s						
UGL	**Uglegorsk**	**7.02**	**85**	*e*Sg	Sg	02 58 27.1	-15
NKL	**Nikolayevsk**	**7.22**	**51**	*e*Pg	Pg	02 56 59.0	-14
NKL				AMB	AMB	02 57 04.0	
	comp=E,10.0nm,0.9s						
NKL				*e*Sg	Sg	02 58 33.5	-16
NKL				A		02 58 47.5	
	comp=E,170nm,1.3s						
NKL				A		02 58 47.5	
	comp=E,140nm,1.3s						
TYV	**Tymovskoe**	**7.53**	**71**	*e*rx	rx	02 58 06.0	
TYV				*e*Sg	Sg	02 58 46.0	-13
YSS	**Yuzh-Sakhalins**	**7.88**	**100**	*e*rx	rx	02 59 08.0	
TUP	**Tupik**	**8.99**	**312**	*e*Sg	Sg	02 59 30.5	-17
TUP				A		02 59 50.4	
	comp=E,180nm,1.6s						

*NEIC **15** 03:28:58.9, 36.30S×177.36E, h270km, After WEL.*
WEL 15 03:29:00.2±0.6, 36.37S×177.50E, h263km±8km, ML3.7/2, Error ellipse: s-maj=12.7km s-min=8.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.35**	**152**	P	P	03 29 38.8	-0.3
MXZ				S	S	03 30 09.9	+0.5
MXZ	**Matakaoa Point**	**1.35**	**152**	PN	P	03 29 38.6	-0.5
MXZ				SN	S	03 30 09.2	-0.2
PUZ	**Puketiti**	**1.80**	**161**	P	P	03 29 42.5	0.0
PUZ				S	S	03 30 15.6	+0.3
PUZ	**Puketiti**	**1.80**	**161**	PN	P	03 29 42.4	0.0
PUZ				SN	S	03 30 14.0	-1.2
URZ	**Urewera**	**1.91**	**189**	P	P	03 29 43.1	-0.2
URZ	**Urewera**	**1.91**	**189**	PN	P	03 29 43.1	-0.2
URZ				SN	S	03 30 16.8	-0.1
MWZ	**Matawai**	**1.96**	**179**	P	P	03 29 43.9	+0.1
MWZ	**Matawai**	**1.96**	**179**	PN	P	03 29 44.0	+0.2
KNZ	**Kokohu**	**2.65**	**177**	SN	S	03 30 28.0	-1.3
BKZ	**Black Stump Fm**	**2.91**	**196**	*e*P	P	03 29 51.9	-1.1
BKZ	**Black Stump Fm**	**2.91**	**196**	PN	P	03 29 51.6	-1.4
BKZ				SN	S	03 30 34.6	+0.6
TSZ	**Takapari Road**	**3.88**	**198**	*e*P	P	03 30 02.1	-1.7
TSZ	**Takapari Road**	**3.88**	**198**	PN	P	03 30 01.7	-2.1
TSZ				SN	S	03 30 52.6	-0.6

CSEM 15 03:36:46.9, 36.50N×6.78E, ML3.5, After ALG, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKFL	**Kef-Lekhel**	**0.11**	**206**	P	Pg	03 36 52.5	+3.4
CAEH	**`Ain El Ouahch**	**0.29**	**11**	P	Pg	03 36 54.0	+1.4
CASM	**Ain Smara**	**0.34**	**225**	P	Pg	03 36 54.5	+0.9
CTEI	**Djebel Teioual**	**0.53**	**215**	P	Pg	03 36 54.0	-3.5
ABSA	**Djebel Ababsia**	**0.61**	**112**	P	Pg	03 37 00.0	+1.0
DFRA	**Djebel Bou Aff**	**0.73**	**274**	P	Pg	03 37 01.0	-0.5
CKHR	**Kef el Ahmar**	**1.13**	**245**	P	Pb	03 36 54.0	-15
SET	**Setif**	**1.15**	**255**	P	Pb	03 37 11.0	+1.6

*IDC **15** 03:41:58.6±1.1, 12.89N×87.79W, mb3.6/8, mb1 3.9/8, mb1mx3.7/19, mbtmp3.7/8, MS3.6/1, Ms1 3.5/1, ms1mx1.9/17, Error ellipse: s-maj=48.0km s-min=19.4km az=56.0*
*NEIC **15** 03:42:00.0±0.5, 12.94N×87.76W, h10km, mb3.5/2, Error ellipse: s-maj=16.3km s-min=7.7km az=51.0*
*CASC **15** 03:42:07.1±2.2, 12.70N×88.23W, h54km±41km, MD4.1, ML3.9, mb3.5(NEIC)*
ISC 15 03:42:06.3±0.3, 12.74N±0.06×88.21W±0.04, h79km±4km, n59, σ0§86/87, mb3.6/10, 9C-8D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.65**	**34**	*e*P	P	03 42 21.6	0.0
CNCH				*e*S	S	03 42 33.3	+0.5
BLLM	**Bellamira**	**0.70**	**358**	*e*P	P	03 42 22.0	-0.1
BLLM				*e*S	S	03 42 33.0	-0.9
CAHU	**Cacacuatique**	**1.03**	**360**	*e*P	P	03 42 26.5	+0.6
SNVI	**San Vicente**	**1.07**	**325**	*e*P	P	03 42 26.4	+0.1
SNVI				*e*S	S	03 42 40.9	-0.5
CRIN	**San Cristobal**	**1.13**	**92**	*e*P	P	03 42 27.8	+0.7
CRIN				*e*S	S	03 42 44.1	+1.3
LCBS	**La Ceiba**	**1.18**	**321**	*e*P	P	03 42 27.7	-0.1
LFRS	**El Faro**	**1.21**	**317**	*e*P	P	03 42 28.0	-0.2
LBRS	**Las Brisas**	**1.29**	**321**	*e*P	P	03 42 29.5	+0.2
LBRS				*e*S	S	03 42 45.4	-1.0
LEON	**Leon**	**1.32**	**104**	*e*P	P	03 42 29.1	-0.8
LEON				*e*S	S	03 42 47.0	-0.3
LEON				*i*		03 42 47.9	
	comp=Z,900nm,0.3s						
LFU	**La Fuente**	**1.34**	**319**	*e*P	P	03 42 30.0	-0.1
TEL3	**Telica 3**	**1.34**	**97**	*i*P	P	03 42 30.1	+0.1
TEL3				*e*S	S	03 42 47.4	-0.2
TELN	**Telica**	**1.35**	**95**	*e*P	P	03 42 30.1	-0.1
TELN				*e*S	S	03 42 48.1	+0.3
SNET	**Serv Nac Est T**	**1.37**	**314**	*e*P	P	03 42 30.0	-0.5
SNET				*e*S	S	03 42 47.1	-1.3
SNET				*i*		03 42 48.8	
	comp=Z,7μm,0.3s						
BOQS	**Boqueron**	**1.44**	**314**	*e*P	P	03 42 31.4	0.0
BOQS				*e*S	S	03 42 49.9	+0.1
MIRN	**Miramar**	**1.49**	**101**	*e*P	P	03 42 31.7	-0.3
MIRN				*e*S	S	03 42 49.6	-1.4
CNGN	**Cerro Negro**	**1.49**	**99**	*e*P	P	03 42 31.8	-0.2
CNGN				*e*S	S	03 42 51.4	+0.4
MOMJ	**Momotombo**	**1.66**	**101**	*e*P	P	03 42 34.0	-0.2
MOMJ				*e*S	S	03 42 54.4	-0.4
COPN	**Copaltepe**	**1.67**	**109**	*e*P	P	03 42 34.1	-0.3
COPN				*e*S	S	03 42 55.3	+0.2
SBLS	**San Blas**	**1.76**	**309**	*e*P	P	03 42 35.8	+0.3
SBLS				*e*S	S	03 42 57.6	+0.5
SNJE	**San Jose**	**1.77**	**310**	*e*P	P	03 42 36.0	+0.4
SNJE				*e*S	S	03 42 57.7	+0.5
RTR	**El Retiro**	**1.81**	**310**	*e*P	P	03 42 36.6	+0.4
RTR				*e*S	S	03 42 58.6	+0.3
APYN	**Apoyeque**	**1.88**	**105**	*e*P	P	03 42 37.4	+0.3
APYN				*e*S	S	03 43 00.0	+0.1
XAVN	**Gruta Xavier**	**1.93**	**107**	*e*P	P	03 42 38.1	+0.3
XAVN				*e*S	S	03 43 02.0	+1.0
RBDL	**Robledal**	**1.98**	**314**	*e*P	P	03 42 38.1	-0.4
MTO2	**Montecristo 2**	**2.00**	**326**	*e*P	P	03 42 39.2	+0.4
MGAN	**Managua**	**2.00**	**107**	*e*P	P	03 42 38.9	0.0
MGAN				*e*S	S	03 43 02.9	+0.1
MGAN				*i*		03 43 03.7	
	comp=N,1μm,0.4s						
TICN	**Ticuantepe**	**2.05**	**110**	*e*P	P	03 42 39.7	+0.2
TICN				*e*S	S	03 43 04.2	+0.2
WILN	**Americas 2**	**2.05**	**106**	*e*P	P	03 42 40.0	+0.4
WILN				*e*S	S	03 43 04.5	+0.4
PYTN	**Playitas**	**2.11**	**95**	*e*P	P	03 42 40.3	0.0
PYTN				*e*S	S	03 43 06.0	+0.7
APON	**Apoyo**	**2.25**	**111**	*e*P	P	03 42 41.9	-0.4
APON				*e*S	S	03 43 08.1	-0.7
IXG	**Ixpaco**	**2.61**	**303**	*e*P	P	03 42 47.1	-0.3
IXG				*e*S	S	03 43 17.1	-1.0
SSNN	**San Juan del S**	**2.72**	**122**	*e*P	P	03 42 48.6	-0.3
SSNN				*e*S	S	03 43 19.2	-1.6
TP2	**Tecpan 2**	**3.41**	**307**	*e*P	P	03 43 00.4	+2.0
TP2				*e*S	S	03 43 41.1	+3.2
JAT	**Jato**	**3.69**	**296**	*e*P	P	03 43 01.4	-1.0
JCR	**Jicaral**	**4.18**	**133**	*e*P	P	03 43 09.4	+0.2
VPS2	**Volcan Poas 2**	**4.64**	**123**	*e*P	P	03 43 14.7	-0.9
VPS2				*e*S	S	03 44 07.4	-1.3
PRS1	**Puriscal**	**4.70**	**125**	*e*P	P	03 43 18.4	+2.0
LAJ	**Bijagual**	**4.92**	**125**	*e*P	P	03 43 17.4	-2.0
LCR2	**La Lucha 2**	**5.09**	**125**	*e*P	P	03 43 23.7	+2.0
URSC	**Urasca**	**5.21**	**123**	*e*P	P	03 43 23.9	+0.5
URSC				*e*S	S	03 44 21.8	-1.1
BUS	**Buena Vista**	**5.39**	**125**	*e*P	P	03 43 27.9	+2.1
BUS				*e*S	S	03 44 30.4	+3.2
TEIG	**Tepich**	**7.45**	**359**	*e*P	P	03 43 46.3	-8.1
SDV	**Santo Domingo**	**17.68**	**101**	P	P	03 46 01.8	-7.3
TXAR	**Lajitas Array**	**21.89**	**321**	P	P	03 46 55.8	+1.6
	comp=N,1.7nm,0.5s,mb3.7,baz=142,slow=9.9,SNR=45						
TXAR				pP		03 47 10.6	
	comp=N,0.9nm,0.7s,baz=140,slow=9.3,SNR=6.1						
TXAR	**Lajitas Array**	**21.89**	**321**	P	P	03 46 55.8	+1.6
TXAR				pP		03 47 10.6	
WMOK	**Wichita Mounta**	**23.91**	**338**	P	P	03 47 13.0	-0.8
	comp=N,0.8nm,0.6s,mb3.2						
MNTX	**Cornudas Mount**	**24.61**	**323**	*e*P	P	03 47 20.6	0.0
	comp=N,0.7nm,0.7s,mb3.2						
ANMO	**Albuquerque**	**27.61**	**326**	P	P	03 47 48.9	+0.4
	comp=N,0.2nm,0.3s,mb3.1,baz=11,slow=23,SNR=3.1						
ANMO	**Albuquerque**	**27.61**	**326**	P	P	03 47 48.9	+0.4
SDCO	**Great Sand Dun**	**29.30**	**331**	P	P	03 48 03.4	-0.1
PDAR	**Pinedale Array**	**35.17**	**332**	P	P	03 48 54.8	+0.2
	comp=N,0.4nm,0.6s,mb3.4,baz=135,slow=10,SNR=3.8						
NVAR	**Mina Array Bea**	**37.00**	**319**	P	P	03 49 11.6	+1.5
	comp=N,0.3nm,0.8s,mb3.3,baz=119,slow=9.3,SNR=2.5						
MCMT	**McKenzie Canyo**	**38.28**	**331**	*e*P	P	03 49 21.4	+0.8
SCHQ	**Schefferville**	**45.22**	**17**	P	P	03 50 15.8	-1.4
	comp=N,4.3nm,1.1s,mb4.1,baz=259,slow=18,SNR=2.7						
BDFB	**Brasilia**	**48.75**	**124**	P	P	03 50 43.7	-1.7
	comp=N,1.6nm,0.7s,mb4.1,baz=170,slow=15,SNR=2.3						
BDFB				LR	LR	04 14 10.6	
	comp=N,61nm,19.6s,baz=298,slow=40						
YKA	**Yellowknife Ar**	**53.14**	**345**	P	P	03 51 16.1	-2.0
	comp=N,0.4nm,0.7s,mb3.6,baz=132,slow=8.7,SNR=8.9						
YKA				pP	pP	03 51 35.6	-2.3
	comp=N,0.3nm,0.5s,baz=140,slow=7.7,SNR=9.4						
PLCA	**Paso Flores**	**55.66**	**164**	P	P	03 51 36.6	-0.1
	comp=N,2.6nm,1.2s,mb4.2,baz=349,slow=5.2,SNR=2.9						
WRA	**Warramunga Arr**	**138.64**	**254**	PKP	PKPdf	04 01 28.5	+4.5
	comp=N,0.3nm,0.4s,baz=89,slow=2.4,SNR=12						
ASAR	**Alice Springs**	**138.69**	**249**	PKP	PKPdf	04 01 28.3	+4.3
	comp=N,0.2nm,0.6s,baz=98,slow=2.3,SNR=4.2						

*IDC **15** 03:47:39.6±3.8, 19.21S×179.18W, h663km±59km, mb2.5/5, mb1 2.9/6, mb1mx2.8/15, mbtmp3.8/6, Error ellipse: s-maj=41.2km s-min=18.0km az=169.0*
ISC 15 03:47:37.5±1.0, 19.3S±0.3×179.2W±0.1, h650km, n7, σ0§84/6, mb3.0/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**18.34**	**99**	P	P	03 51 16.0	+0.1
	4.8nm,0.3s,baz=190,slow=18,SNR=6.7						
STKA	**Stephens Creek**	**37.31**	**242**	P	P	03 54 00.2	+1.2
	0.4nm,0.4s,mb3.3,baz=316,slow=21,SNR=1.7						
WRA	**Warramunga Arr**	**43.66**	**261**	P	P	03 54 49.3	-0.2
	0.4nm,0.7s,mb2.9,baz=97,slow=7.2,SNR=6.8						
ASAR	**Alice Springs**	**43.70**	**256**	P	P	03 54 49.1	-0.7
	0.4nm,0.6s,mb2.9,baz=98,slow=8.0,SNR=6.9						
VNDA	**Vanda**	**59.01**	**185**	P	P	03 56 38.3	-0.4
	0.9nm,0.8s,mb3.0,baz=328,slow=13,SNR=3.2						
NVAR	**Mina Array Bea**	**80.94**	**44**	P	P	03 58 47.6	0.0
	0.3nm,0.6s,mb2.9,baz=222,slow=8.9,SNR=3.7						
AKASG	**Malin Array Be**	**141.41**	**331**	PKP	PKPdf	04 05 56.7	+0.6
	0.9nm,0.6s,baz=49,slow=4.2,SNR=6.2						

*IDC **15** 03:49:13.7±1.3, 7.86N×127.40E, mb4.1/9, mb1 4.2/9, mb1mx4.0/19, mbtmp4.1/9, Error ellipse: s-maj=202.5km s-min=15.8km az=70.0*
*NEIC **15** 03:49:15.3±0.7, 7.70N×127.00E, h10km, mb4.2/2, Error ellipse: s-maj=104.0km s-min=8.6km az=70.0*
*MAN **15** 03:49:19.4, 7.89N×127.39E, h15km, mb4.2, ML3.0, MS3.5*
ISC 15 03:49:13.0±0.5, 7.94N±0.05×127.67E±0.04, h10km, n32, σ1§31/39, mb4.2/12, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.32**	**281**	*e*P	**Pb**	03 49 37.2	-0.2
BIPH				*i* S	**Sb**	03 49 51.5	-2.6
MATI	**Mati**	**1.71**	**235**	*e*P	**Pn**	03 49 44.8	+1.7
MATI				*e*S	**Sn**	03 50 04.3	-0.9
BUTP	**Butuan**	**2.27**	**297**	*e*P	**Pn**	03 49 53.3	+2.2
BUTP				*e*S	**Sn**	03 50 20.0	+0.6
BUKP	**Musuan**	**2.58**	**269**	*e*P	**Pn**	03 49 58.3	+2.7
BUKP				*e*S	**Sn**	03 50 29.4	+2.1
KCP	**Kidapawan**	**2.72**	**250**	*i*P	**Pn**	03 50 12.5	+15
KCP				*i* S	**Sn**	03 50 29.5	-1.3
SCPH	**Surigao**	**2.83**	**311**	*e*P	**Pn**	03 49 59.1	+0.1
CGP	**Cagayan de Oro**	**2.99**	**280**	*e*P	**Pn**	03 50 02.9	+1.6
CGP				*i* S	**Sn**	03 50 36.7	-0.9
MSLP	**Maasin**	**3.53**	**308**	*e*P	**Pn**	03 50 10.4	+1.3
TBP	**Tagbilaran**	**4.14**	**295**	*e*P	**Pn**	03 50 21.2	+3.4
TBP				*e*S	**Sn**	03 51 05.7	-1.2
PAGZ	**Pagadian**	**4.25**	**269**	*e*P	**Pn**	03 50 21.5	+2.3
WRAB	**Tennant Creek**	**28.46**	**167**	P	**P**	03 55 09.2	-1.3
WRA	**Warramunga Arr**	**28.47**	**167**	P	**P**	03 55 09.9	-0.6
	2.4nm,0.6s,mb4.0,baz=347,slow=10,SNR=18						
ASAR	**Alice Springs**	**32.00**	**169**	P	**P**	03 55 41.6	-0.2
	0.5nm,0.6s,mb3.5,baz=350,slow=8.1,SNR=7.7						
ASAR				PcP	PcP	03 58 31.9	0.0
	0.3nm,0.4s,baz=356,slow=2.8,SNR=4.9						
SHL	**Shillong**	**38.31**	**302**	*e*P	**P**	03 56 35.0	-0.7
STKA	**Stephens Creek**	**41.77**	**162**	P	**P**	03 57 05.0	+0.7
	1.8nm,0.8s,mb3.7,baz=192,slow=22,SNR=2.1						
STKA	**Stephens Creek**	**41.77**	**162**	P	**P**	03 57 05.0	+0.7
ULN	**Ulaanbaatar**	**43.47**	**340**	*e*P	**P**	03 57 19.0	+0.9
	3.9nm,1.0s,mb4.1						
SONM	**Songino Array**	**43.67**	**339**	P	**P**	03 57 20.6	+1.0
	2.2nm,1.0s,mb3.8,baz=149,slow=7.3,SNR=6.5						
JIRN	**Jiri**	**43.81**	**302**	*e*P	**P**	03 57 20.3	-0.8
	6.2nm,0.4s						
GUN	**Gumba**	**44.15**	**302**	*e*P	**P**	03 57 23.0	-0.8
	37nm,1.3s						
DMN	**Daman**	**44.71**	**301**	*e*P	**P**	03 57 27.1	-1.3
GKN	**Gorkha**	**45.23**	**302**	*e*P	**P**	03 57 31.6	-0.9
	3.8nm,0.3s						
KOLN	**Koldanda**	**46.03**	**301**	*e*P	**P**	03 57 36.9	-1.9
	8.7nm,0.7s,mb4.8						
ZAL	**Zalesovo**	**57.33**	**331**	P	**P**	03 59 03.2	-0.3
	1.2nm,0.4s,mb4.3,baz=357,slow=8.0,SNR=8.7						
ZAL	**Zalesovo**	**57.33**	**331**	P	**P**	03 59 03.2	-0.3
BVAR	**Borovoye Array**	**64.36**	**326**	P	**P**	03 59 50.5	-0.7
	0.9nm,0.4s,mb4.1,baz=126,slow=7.7,SNR=9.1						
BRVK	**Borovoye**	**64.43**	**326**	*e*P	**P**	03 59 50.4	-1.3
	1.2nm,0.5s,mb4.2						
CHKZ	**Chkalovo**	**64.48**	**326**	P	**P**	03 59 50.1	-1.9
ARCES	**ARCESS Array B**	**86.85**	**340**	P	**P**	04 01 58.9	+0.3
	5.2nm,0.9s,mb4.8,baz=56,slow=8.7,SNR=4.0						
ARCES	**ARCESS Array B**	**86.85**	**340**	P	**P**	04 01 58.9	+0.3
VNDA	**Vanda**	**87.46**	**173**	P	**P**	04 02 03.1	+1.6
	1.2nm,0.8s,mb4.2,baz=62,slow=9.8,SNR=2.1						
FINES	**FINESS Array B**	**88.59**	**332**	P	**P**	04 02 08.1	+1.0
	1.9nm,0.9s,mb4.4,baz=117,slow=8.5,SNR=4.1						

SKHL 15 03:59:04.8±0.3, 48.89N×131.31E, h5km, mb3.5/3, 1D, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**0.45**	**40**	*i*Pg	Pg	03 59 12.3	-1.5
KLR				AMB	AMB	03 59 12.7	
	44nm,0.3s						
KLR				AMB	AMB	03 59 12.7	
	56nm,0.3s						
KLR				*e*Sg	Sg	03 59 17.7	-2.0
GRNR	**Gornyy**	**3.81**	**58**	*e*Pg	Pg	04 00 14.0	-6.8
GRNR				*e*Sg	Sg	04 01 04.8	-6.7
EKMR	**Ekimchan**	**4.31**	**13**	*e*Pg	Pg	04 00 23.0	-7.9
EKMR				AMB	AMB	04 00 24.6	
	3.0nm,0.5s						
EKMR				*e*rx	rx	04 00 29.0	
EKMR				*e*Sg	Sg	04 01 19.5	-8.9
EKMR				A		04 01 24.5	
	8.0nm,0.6s						
EKMR				A		04 01 24.5	
	19nm,0.6s						
EKMR				A		04 01 24.5	
	12nm,0.6s						
YASR	**Yasnyy**	**4.88**	**336**	*e*Pn	Pn	04 00 21.2	+0.6
YASR				AMB	AMB	04 00 23.1	
	2.0nm,0.5s						
YASR				*e*Sg	Sg	04 01 37.4	-10
YASR				A		04 01 41.5	
	4.0nm,0.5s						
YASR				A		04 01 41.5	
	6.0nm,0.5s						
ZEA	**Zeya**	**5.48**	**334**	*e*Sg	Sg	04 01 57.0	-10
BMKR	**Bomnak**	**6.03**	**346**	*e*Pn	Pn	04 00 37.6	+0.8
BMKR				*e*Sg	Sg	04 02 13.5	-12
BMKR				A		04 02 17.7	
	5.0nm,0.5s						
KROS	**Kirovskiy**	**6.17**	**336**	*e*Sg	Sg	04 02 17.5	-13
KROS				A		04 02 20.5	
	3.0nm,0.5s						

*IDC **15** 04:42:14.3±18.0, 17.79S×174.94W, h173km±161km, mb4.1/6, mb1 4.2/6, mb1mx3.7/17, mbtmp4.6/6, Error ellipse: s-maj=81.0km s-min=34.0km az=27.0*
*NEIC **15** 04:42:18.1±1.1, 17.83S×175.05W, h207km±14km, mb4.1/2, Error ellipse: s-maj=17.9km s-min=12.8km az=117.0*
ISC 15 04:42:16.9±2.9, 17.9S±0.2×175.1W±0.3, h203km±50km, n13, σ0§56/11, mb4.2/8, 2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.08**	**40**	*e*P	**P**	04 43 33.1	0.0
URZ	**Urewera**	**21.43**	**197**	P	**P**	04 46 49.9	+0.4
	12nm,0.3s,mb4.9,baz=12,slow=2.6,SNR=27						
**R

NP2:φs138°,δ50°,λ56°. Principal axes: T 1.222, Plg64°, Azm342°; N -.071, Plg26°, Azm162°; P -1.152, Plg0°, Azm252°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 15 05:00:28.7±0.2,0.11S±0.02×123.52E±0.03,h110km, (h109km±8.6km:pP-P),n361,σ1⅚26/246,mb5.2/89,28C-18D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
BUNI	**Buntu Taipa**	**4.76**	**222**	⇓*eP*	**P**	**S**	**05 01 38.8**	**-0.8**
BUNI				*i* S		**S**	**05 02 30.6**	**-3.4**
TANI	**Tanete Lipujan**	**5.29**	**231**	⇓*eP*	**P**	**S**	**05 01 47.4**	**+0.6**
	3μm,0.4s							
TANI				*e*S		**S**	**05 02 47.1**	**0.0**
NINI	**Niniconang**	**5.70**	**221**	⇓*iP*	**P**	**S**	**05 01 52.9**	**+0.6**
	3μm,0.6s							
NINI				*i* S		**S**	**05 02 56.0**	**-1.0**
KCP	**Kidapawan**	**7.24**	**12**	*eP*	**P**	**S**	**05 02 17.3**	**+3.9**
KCP				*i* S		**S**	**05 03 39.8**	**+5.2**
DAV	**Davao City (W)**	**7.42**	**16**	*eP*	**P**	**S**	**05 02 22.0**	**+6.2**
MATI	**Mati**	**7.52**	**21**	*eP*	**P**	**S**	**05 02 19.5**	**+2.3**
IPIL	**Ipil**	**7.90**	**353**	*eP*	**P**	**S**	**05 02 27.4**	**+5.1**
PAGZ	**Pagadian**	**7.90**	**359**	*eP*	**P**	**S**	**05 02 25.9**	**+3.5**
BUKP	**Musuan**	**8.08**	**11**	*eP*	**P**	**S**	**05 02 29.6**	**+4.9**
DCPH	**Dipolog City**	**8.63**	**359**	*eP*	**P**	**S**	**05 02 36.4**	**+4.2**
DCPH				*i* S		**S**	**05 04 11.2**	**+2.7**
BIPH	**Bislig**	**8.71**	**19**	*eP*	**P**	**S**	**05 02 38.0**	**+4.8**
BUTP	**Butuan**	**9.26**	**13**	*eP*	**P**	**S**	**05 02 47.8**	**+7.2**
SNPH	**Sibulan**	**9.39**	**358**	*eP*	**P**	**S**	**05 02 50.0**	**+7.6**
TBP	**Tagbilaran**	**9.74**	**2**	*eP*	**P**	**S**	**05 02 53.2**	**+6.0**
MSLP	**Maasin**	**10.26**	**7**	*eP*	**P**	**S**	**05 02 59.3**	**+5.1**
BATP	**Bataraza**	**10.52**	**327**	*eP*	**P**	**S**	**05 03 03.2**	**+5.6**
GUIM	**Jordan**	**10.70**	**355**	*eP*	**P**	**S**	**05 03 04.7**	**+4.6**
KEDI	**Kedomdong**	**11.12**	**221**	*eP*	**P**	**S**	**05 03 08.7**	**+3.1**
	224nm,1.5s							
OCLP	**Ormoc**	**11.14**	**6**	*eP*	**P**	**S**	**05 03 10.8**	**+5.0**
CUYO	**Cuyo Island**	**11.16**	**347**	*eP*	**P**	**S**	**05 03 10.4**	**+4.2**
RATI	**Rata**	**11.69**	**223**	⇓*eP*	**P**	**S**	**05 03 14.0**	**+0.9**
	334nm,0.4s							
ENPP	**El Nido**	**11.95**	**340**	*eP*	**P**	**S**	**05 03 26.6**	**+10**
KELI	**Kelakatan**	**12.08**	**228**	⇑*eP*	**P**	**S**	**05 03 21.5**	**+3.2**
	467nm,1.0s							
BUSP	**Coron**	**12.47**	**345**	*eP*	**P**	**S**	**05 03 36.5**	**+13**
OTRP	**Odiongan**	**12.48**	**353**	*eP*	**P**	**S**	**05 03 28.9**	**+5.4**
SRDI	**Scrawed**	**12.51**	**228**	⇑*eP*	**P**	**S**	**05 03 26.4**	**+2.4**
	187nm,1.1s							
SJMP	**San Jose**	**12.71**	**349**	*eP*	**P**	**S**	**05 03 33.0**	**+6.4**
AUQP	**San Andres**	**13.37**	**356**	*eP*	**P**	**S**	**05 03 46.4**	**+11**
BOAC	**Boac**	**13.58**	**353**	*eP*	**P**	**S**	**05 03 48.0**	**+10**
PVCP	**Virac**	**13.63**	**3**	*eP*	**P**	**S**	**05 03 43.3**	**+4.7**
LUBP	**Lubang**	**14.13**	**347**	*eP*	**P**	**S**	**05 03 54.1**	**+9.1**
TGY	**Tagaytay City**	**14.35**	**350**	P	**P**	**S**	**05 03 53.4**	**+5.6**
	4.0nm,0.3s,baz=145,slow=9.3,SNR=8.5							
KAKA	**Kakadu**	**15.33**	**145**	⇓*iP*		**P**	**05 03 59.1**	**-1.3**
	51nm,0.6s							
SCZP	**Santa Cruz**	**16.18**	**347**	*eP*	**P**	**S**	**05 04 14.7**	**+3.7**
APYP	**Conner**	**18.00**	**353**	*eP*	**P**	**S**	**05 04 35.5**	**+2.2**
FITZ	**Fitzroy Crossi**	**18.00**	**173**	⇓*iP*	**P**	**S**	**05 04 32.8**	**-0.6**
	58nm,0.6s							
SGCP	**Mt. Cagua**	**18.29**	**356**	*eP*	**P**	**S**	**05 04 40.2**	**+3.6**
MBWA	**Marble Bar**	**21.25**	**190**	*eP*	**P**	**S**	**05 05 07.8**	**+0.2**
	24nm,0.7s,mb4.6							
WRAB	**Tennant Creek**	**22.38**	**152**	*i* P	**P**	**S**	**05 05 18.5**	**-0.1**
WRAB	**Tennant Creek**	**22.38**	**152**	*eP*	**P**	**S**	**05 05 18.6**	**-0.1**
	40nm,0.6s,mb4.9							
WRA	**Warramunga Arr**	**22.38**	**152**	*i* P	**P**	**S**	**05 05 18.4**	**-0.2**
WRA				pmax	pmax			
	comp=Z,29nm,0.6s							
WRA	**Warramunga Arr**	**22.38**	**152**	P	**P**	**S**	**05 05 19.0**	**+0.4**
	comp=Z,29nm,0.6s,mb4.8,baz=334,slow=10,SNR=119							
WRA				PcP	PcP		05 09 11.2	-0.2
	comp=Z,8.2nm,0.6s,baz=320,slow=2.4,SNR=8.1							
WRA				ScP			05 12 37.8	
	comp=Z,9.9nm,0.9s,baz=337,slow=3.0,SNR=15							
WRA	**Warramunga Arr**	**22.38**	**152**	P	**P**	**S**	**05 05 19.0**	**+0.4**
WRA				PcP	PcP		05 09 11.2	-0.2
WRA				ScP			05 12 37.8	
WB2	**Warramunga Arr**	**22.39**	**152**	⇓*iP*	**P**	**S**	**05 05 18.5**	**-0.2**
WB2				*e*S		**S**	**05 09 15.1**	**+2.8**
WB2				*e*SCP			05 12 38.9	
WB2				*e*SCS	ScS		05 16 21.3	+0.1
QIZ	**Qiongzhong**	**23.28**	**326**	P	**P**	**S**	**05 05 29.3**	**+1.9**
QIZ				AMB	AMB			
	comp=Z,70nm,1.0s,mb5.0							
QIZ				AMB	AMB			
	comp=Z,1μm,4.0s							
QIZ	**Qiongzhong**	**23.28**	**326**	*eP*	**P**	**S**	**05 05 29.5**	**+2.1**
	comp=Z,64nm,1.0s,mb4.9							
SNG	**Songkhla**	**23.96**	**288**	P	**P**	**S**	**05 05 37.0**	**+2.9**
	comp=Z,400nm,0.9s,mb5.8							
PMG	**Port Moresby**	**25.28**	**112**	*i* P	**P**	**S**	**05 05 46.9**	**+0.2**
PMG	**Port Moresby**	**25.28**	**112**	P	**P**	**S**	**05 05 47.3**	**+0.7**
	comp=Z,30nm,0.8s,mb4.8,baz=293,slow=9.7,SNR=13							
PMG	**Port Moresby**	**25.28**	**112**	*eP*	**P**	**S**	**05 05 46.8**	**+0.1**
	comp=Z,44nm,0.9s,mb4.9							
QZH	**Quanzhou**	**25.35**	**350**	*eP*	**P**	**S**	**05 05 48.6**	**+1.3**
QZH				S	**S**	**S**	**05 10 17.0**	**+14**
QZH				LR	LR			
	comp=Z,1μm,23.8s							
ASPA	**Alice Springs**	**25.50**	**157**	⇓*iP*	**P**	**S**	**05 05 48.9**	**+0.3**
ASPA				*e*PCP	PcP		05 09 18.2	+0.1
ASPA				*e*S	**S**	**S**	**05 10 07.6**	**+2.3**
ASPA				*e*SCS	ScS		05 16 32.8	-0.8
ASAR	**Alice Springs**	**25.50**	**157**	P	**P**	**S**	**05 05 48.5**	**-0.1**
	comp=Z,11nm,0.7s,mb4.4,baz=345,slow=9.9,SNR=55							
ASAR				PcP	PcP		05 09 18.2	+0.2
	comp=Z,24nm,0.5s,baz=350,slow=2.0,SNR=29							
ASAR				ScP			05 12 46.5	
	comp=Z,6.2nm,0.8s,baz=350,slow=2.6,SNR=10							
ASAR				LR	LR		05 18 00.3	
	comp=Z,242nm,18.1s,baz=25,slow=41							
KKTK	**Khon Kaen**	**26.15**	**310**	P	**P**	**S**	**05 05 55.5**	**+0.8**
	comp=Z,3μm,0.6s							
JOW	**Kunigami**	**27.17**	**9**	LR	LR		05 15 53.6	
	comp=Z,488nm,20.4s,baz=320,slow=34							
NST	**Nakhon Sawan**	**27.91**	**305**	P	**P**	**S**	**05 06 13.7**	**+2.9**
NANT	**Nan**	**29.24**	**311**	⇑P	**P**	**S**	**05 06 22.0**	**-0.6**
	comp=Z,162nm,0.5s,mb5.9							
CTA	**Charters Tower**	**29.83**	**133**	*eP*	**P**	**S**	**05 06 28.4**	**+0.5**
	comp=Z,5.4nm,0.9s,mb4.2							
CTA				*e*pP	pP		05 06 57.5	+5.2
CTA				*e*PCP	PcP		05 09 29.8	+1.2
CTA				*e*SCP			05 13 00.7	
CTA	**Charters Tower**	**29.83**	**133**	P	**P**	**S**	**05 06 28.5**	**+0.6**
	comp=Z,4.5nm,0.7s,mb4.2,baz=310,slow=11,SNR=7.4							
CTA				PcP	PcP		05 09 29.1	+0.5
	comp=Z,7.2nm,0.6s,baz=242,slow=2.5,SNR=6.1							
CTA				ScP			05 12 60.0	
	comp=Z,5.4nm,0.7s,baz=340,slow=6.5,SNR=5.8							
CTA				LR	LR		05 18 26.0	
	comp=Z,466nm,21.0s,baz=23,slow=36							
CTAO	**Charters Tower**	**29.83**	**133**	*eP*	**P**	**S**	**05 06 28.0**	**+0.2**
	comp=Z,25nm,1.1s,mb4.8							
CMAR	**Chiang Mai Arr**	**30.39**	**309**	P	**P**	**S**	**05 06 33.7**	**+0.9**
	comp=Z,49nm,0.7s,mb5.3,baz=135,slow=7.6,SNR=171							
CMAR				PcP	PcP		05 09 30.9	+0.9
	comp=Z,18nm,0.9s,baz=159,slow=2.0,SNR=22							
CMAR				LR	LR		05 18 10.5	
	comp=Z,384nm,19.0s,baz=120,slow=35							
CHRT	**Chiangrai**	**30.58**	**312**	⇑P	**P**	**S**	**05 06 36.0**	**+1.5**
	comp=Z,284nm,1.0s,mb6.0							
CHG	**Chiang Mai**	**30.59**	**309**	⇑P	**P**	**S**	**05 06 36.2**	**+1.6**
	comp=Z,150nm,0.8s,mb5.8							
FORT	**Forrest**	**30.81**	**172**	*eP*	**P**	**S**	**05 06 36.2**	**-0.2**
	comp=Z,200nm,0.5s,mb6.1							
FORT				*e*PCP	PcP		05 09 31.2	+0.2
SSE	**Sheshan**	**31.11**	**356**	*eP*	**P**	**S**	**05 06 37.9**	**-1.1**
SSE				AMB	AMB			
	comp=Z,38nm,0.8s,mb5.2							
SSE				LR	LR			
	comp=N,333nm,43.2s							
SSE				LR	LR			
	comp=E,141nm,42.9s							
SSE				LR	LR			
	comp=Z,435nm,39.3s							
WHN	**Wuhan**	**31.70**	**345**	*eP*	**P**	**S**	**05 06 45.5**	**+1.3**
NJ2	**Nanjing**	**32.29**	**353**	*eP*	**P**	**S**	**05 06 49.0**	**-0.3**
NJ2				S	**S**	**S**	**05 12 01.0**	**+7.5**
NJ2				AMB	AMB			
	comp=Z,320nm,9.0s							
NJ2				LR	LR			
	comp=N,940nm,14.4s							
NJ2				LR	LR			
	comp=E,430nm,12.3s							
NJ2				LR	LR			
	comp=Z,350nm,12.8s							
CBIJ	**Chichi jima**	**32.46**	**32**	P	**P**	**S**	**05 06 50.0**	**-0.8**
	comp=Z,168nm,0.4s,mb6.1,baz=223,slow=3.9,SNR=12							
CBIJ				LR	LR		05 19 27.8	
	comp=Z,503nm,18.9s,baz=128,slow=35							
ENH	**Enshi**	**33.03**	**337**	*eP*	**P**	**S**	**05 06 56.8**	**+1.1**
	comp=Z,71nm,0.9s,mb5.5							
NWAO	**Narrogin (SRO)**	**33.18**	**190**	P	**P**	**S**	**05 06 57.3**	**+0.4**
	comp=Z,8.0nm,0.8s,mb4.6,baz=75,slow=9.2,SNR=4.2							
NWAO				PcP	PcP		05 09 37.0	-0.4
	comp=Z,12nm,0.8s,baz=121,slow=3.2,SNR=4.3							
NWAO	**Narrogin (SRO)**	**33.18**	**190**	P	**P**	**S**	**05 06 59.7**	**+2.7**
	comp=Z,7.6nm,0.6s,mb4.7							
STKA	**Stephens Creek**	**35.93**	**153**	⇑*iP*	**P**	**S**	**05 07 20.3**	**-0.1**
	comp=Z,19nm,0.6s,mb5.2							
STKA				*e*PCP	PcP		05 09 45.4	+0.1
STKA				*e*SCP			05 13 20.6	
STKA	**Stephens Creek**	**35.93**	**153**	P	**P**	**S**	**05 07 20.7**	**+0.3**
	comp=Z,22nm,0.5s,mb5.3,baz=329,slow=8.5,SNR=93							
STKA				PcP	PcP		05 09 45.2	-0.2
	comp=Z,33nm,0.6s,baz=334,slow=3.5,SNR=11							
STKA				ScP			05 13 21.4	
	comp=Z,16nm,0.7s,baz=332,slow=7.0,SNR=14							
XAN	**Xi'an**	**36.62**	**339**	P	**P**	**S**	**05 07 26.8**	**+0.6**
XAN				AMB	AMB			
	comp=Z,31nm,1.4s,mb5.0							
ADE	**Adelaide**	**37.47**	**159**	*eP*	**P**	**S**	**05 07 35.2**	**+1.9**
IMP	**Imphal**	**37.84**	**313**	*e*	**P**	**S**	**05 07 38.0**	**+1.5**
MAJO	**Matsushiro**	**38.93**	**19**	*eP*	**P**	**S**	**05 07 44.5**	**-0.9**
	comp=Z,43nm,0.8s,mb5.3							
MAT	**Matsushiro**	**38.93**	**19**	*eP*	**P**	**S**	**05 07 44.0**	**-1.4**
	comp=Z,32nm,0.8s,mb5.2							
MAT	**Matsushiro**	**38.93**	**19**	P	**P**	**S**	**05 07 44.0**	**-1.4**
SHL	**Shillong**	**39.81**	**312**	*e*	**P**	**S**	**05 07 54.0**	**+1.2**
LZH	**Lanzhou**	**40.39**	**335**	⇑P	**P**	**S**	**05 07 59.3**	**+1.8**
LZH				AMB	AMB			
	comp=Z,240nm,1.7s,mb5.8							
LZH				AMB	AMB			
	comp=Z,390nm,4.0s							
LZH				LR	LR			
	comp=N,490nm,14.8s							
LZH				LR	LR			
	comp=Z,779nm,15.7s							
BJT	**Baijiatuau**	**40.49**	**351**	*eP*	**P**	**S**	**05 07 58.0**	**-0.3**
	comp=Z,17nm,0.6s,mb5.1							
SNY	**Shenyang**	**41.74**	**0**	*eP*	**P**	**S**	**05 08 07.5**	**-1.0**
SNY				LR	LR			
	comp=N,330nm,16.6s							
SNY				LR	LR			
	comp=Z,400nm,27.4s							
TOO	**Toolangi**	**42.44**	**154**	*eP*	**P**	**S**	**05 08 16.3**	**+2.0**
	comp=Z,9.2nm,0.6s,mb4.7							
TOO				*e*PCP	PcP		05 10 06.6	+0.6
CNB	**Canberra Magne**	**42.52**	**148**	*eP*	**P**	**S**	**05 08 17.0**	**+2.0**
	comp=Z,214nm,0.8s,mb5.9							
LSA	**Lhasa**	**42.78**	**317**	*eP*	**P**	**S**	**05 08 19.8**	**+2.6**
	comp=Z,82nm,1.0s,mb5.4							
VIS	**Vishakhapatnam**	**43.32**	**296**	*eP*	**P**	**S**	**05 08 23.8**	**+2.1**
VIS				*e*			05 08 25.3	
	comp=Z,46nm,0.5s							
MDJ	**Mudanjiang**	**44.85**	**6**	P	**P**	**S**	**05 08 33.4**	**-0.3**
MDJ				AP	pP		05 08 58.8	-0.7
MDJ				XP	sP		05 09 09.0	-3.2
MDJ				SCS	ScS		05 18 18.3	+1.3
MDJ				AMB	AMB			
	comp=Z,34nm,0.7s,mb5.2							
MDJ				AMB	AMB			
	comp=Z,175nm,3.2s							
MDJ				LR	LR			
	comp=E,299nm,31.4s							
MDJ				LR	LR			
	comp=Z,354nm,28.5s							
MDJ	**Mudanjiang**	**44.85**	**6**	*eP*	**P**	**S**	**05 08 32.4**	**-1.3**
	comp=Z,27nm,0.8s,mb5.0							
JIRN	**Jiri**	**45.21**	**311**	*eP*	**P**	**S**	**05 08 38.5**	**+1.7**
	comp=Z,300nm,0.4s							
GUN	**Gumba**	**45.58**	**311**	*eP*	**P**	**S**	**05 08 41.3**	**+1.6**
	comp=Z,472nm,0.4s							
PKI	**Pulchoki**	**45.76**	**310**	*eP*	**P**	**S**	**05 08 42.3**	**+1.2**
	comp=Z,165nm,0.5s,mb6.0							
KKN	**Kakani**	**45.97**	**310**	*eP*	**P**	**S**	**05 08 44.0**	**+1.2**
	comp=Z,204nm,0.5s,mb6.1							
BLSP	**Bilaspur**	**45.98**	**302**	*eP*	**P**	**S**	**05 08 43.8**	**+0.9**
BLSP				*e*			05 08 46.1	
	comp=Z,88nm,1.6s							
DMN	**Daman**	**46.01**	**310**	*eP*	**P**	**S**	**05 08 44.5**	**+1.4**
	comp=Z,347nm,0.8s,mb6.2							
GKN	**Gorkha**	**46.57**	**310**	*eP*	**P**	**S**	**05 08 48.5**	**+1.0**
	comp=Z,190nm,0.3s							
ASAJ	**Asahikawa**	**47.20**	**19**	P	**P**	**S**	**05 08 52.5**	**+0.3**
	comp=Z,38nm,0.7s,mb5.2,baz=236,slow=12,SNR=30							
ASAJ				LR	LR		05 26 32.5	
	comp=Z,220nm,20.1s,baz=159,slow=33							
KOLN	**Koldanda**	**47.25**	**309**	*eP*	**P**	**S**	**05 08 53.7**	**+0.8**
	comp=Z,458nm,0.6s							
HYB	**Hyderabad**	**47.55**	**294**	⇑*eP*	**P**	**S**	**05 08 55.0**	**-0.3**
	comp=Z,54nm,0.8s,mb5.4							
HYB				*e*	pP		05 09 19.0	-2.3
HYB	**Hyderabad**	**47.55**	**294**	⇑*iP*	**P**	**S**	**05 08 55.0**	**-0.3**
	comp=Z,54nm,0.8s,mb5.4							
HYB				*e*pP	pP		05 09 19.0	-2.3
HYB				*e*sP	sP		05 09 29.0	-4.7
HYB				*e*PcP	PcP		05 10 23.0	-0.9
HYB				*e*			05 10 52.0	
HYB				*e*			05 14 31.0	
HYB				*e*S	**S**	**S**	**05 15 43.5**	**+2.8**
HIA	**Hailar**	**49.29**	**357**	*eP*	**P**	**S**	**05 09 07.2**	**-1.1**
	comp=Z,14nm,0.8s,mb4.9							
KLR	**Kul'dur**	**49.65**	**7**	*eP*	**P**	**S**	**05 09 07.2**	**-3.9**
KLR				pmax	pmax			
	comp=Z,35nm,1.8s,mb5.0							
YSS	**Yuzh-Sakhalins**	**49.80**	**17**	⇑*iP*	**P**	**S**	**05 09 11.2**	**-1.0**
YSS				*e*			05 09 42.7	
YSS				*e*			05 10 30.2	
YSS				pmax	pmax			
	comp=Z,40nm,1.2s,mb5.2							
YSS	**Yuzh-Sakhalins**	**49.80**	**17**	*eP*	**P**	**S**	**05 09 11.7**	**-0.5**
	comp=Z,18nm,0.6s,mb5.2							
ULN	**Ulaanbaatar**	**49.88**	**346**	*c iP*	**P**	**S**	**05 09 12.3**	**-0.5**
ULN	**Ulaanbaatar**	**49.88**	**346**	*eP*	**P**	**S**	**05 09 12.5**	**-0.3**
	comp=Z,20nm,0.7s,mb5.2							
SONM	**Songino Array**	**50.02**	**345**	P	**P**	**S**	**05 09 13.6**	**-0.3**
	comp=Z,24nm,0.7s,mb5.2,baz=160,slow=7.6,SNR=70							
SONM				PcP	PcP		05 10 31.7	-0.7
	comp=Z,18nm,0.6s,baz=167,slow=4.3,SNR=13							
SONM				ScP			05 14 15.9	
	comp=Z,1.5nm,1.0s,baz=153,slow=3.2,SNR=3.2							
BHPL	**Bhopal**	**50.42**	**301**	*eP*	**P**	**S**	**05 09 17.5**	**+0.2**
BHPL				*e*			05 09 19.5	
	comp=Z,79nm,0.9s							
AGRA	**Agra**	**51.51**	**306**	*eP*	**P**	**S**	**05 09 24.6**	**-0.9**
POO	**Poona**	**52.16**	**294**	*eP*	**P**	**S**	**05 09 31.4**	**+1.0**
POO				*e*			05 09 32.0	
	comp=Z,17nm,0.6s							
AYAN	**Aya Nagar**	**52.68**	**307**	*e*	**P**	**S**	**05 09 34.9**	**+0.7**
	comp=Z,91nm,0.3s,mb6.3							
NDI	**New Delhi**	**52.69**	**307**	*eP*	**P**	**S**	**05 09 30.5**	**-3.8**
KUDL	**Kundal**	**53.05**	**306**	*eP*	**P**	**S**	**05 09 35.4**	**-1.6**
KUDL				*e*			05 09 37.7	
	comp=Z,157nm,0.6s							
KUDL				*e*S	**S**	**S**	**05 16 56.8**	**+0.2**
KLP	**Kalpa**	**53.13**	**311**	*eP*	**P**	**S**	**05 09 37.5**	**0.0**
KLP				*e*S	**S**	**S**	**05 17 00.1**	**+2.5**
ZAK	**Zakamensk**	**53.18**	**344**	⇑*iP*	**P**	**S**	**05 09 36.9**	**-0.8**
ZAK				*i*			05 10 43.8	
KHET	**Khetri**	**53.58**	**306**	*e*S	**S**	**S**	**05 17 01.5**	**-2.2**
WMQ	**Urumqi**	**54.15**	**328**	⇑*iP*	**P**	**S**	**05 09 45.0**	**+0.2**
WMQ				AP	pP		05 10 08.6	-2.8
WMQ				XP	sP		05 10 19.8	-3.9
WMQ				PP	PP		05 11 49.4	+0.5
WMQ				S	**S**	**S**	**05 17 12.3**	**+1.1**
WMQ				AMB	AMB			
	comp=Z,35nm,1.6s,mb5.1							
WMQ				AMB	AMB			
	comp=Z,210nm,5.8s							
WMQ				LR	LR			
	comp=N,745nm,21.0s							
WMQ				LR	LR			
	comp=E,544nm,22.0s							
WMQ				LR	LR			
	comp=Z,887nm,22.2s							
TLY	**Talaya**	**54.26**	**345**	*c iP*	**P**	**S**	**05 09 45.0**	**-0.5**
TLY				pmax	pmax			
	comp=Z,9.0nm,0.6s,mb5.0							
TLY	**Talaya**	**54.26**	**345**	*eP*	**P**	**S**	**05 09 44.8**	**-0.7**
	comp=Z,13nm,0.8s,mb5.0							
IRK	**Irkutsk**	**54.62**	**346**	*eP*	**P**	**S**	**05 09 43.0**	**-5.1**
MOY	**Mondy**	**54.98**	**343**	*eP*	**P**	**S**	**05 09 50.5**	**-0.3**
MOY				*e*			05 10 50.8	
CLNS	**Chul'man**	**56.78**	**1**	*eP*	**P**	**S**	**05 10 00.5**	**-3.0**
CLNS				pmax	pmax			
	comp=N,12nm,1.0s							
CLNS				pmax	pmax			
	comp=E,6.0nm,1.0s							
CLNS				pmax	pmax			
	comp=Z,20nm,1.0s,mb5.1							
BOD	**Bodaibo**	**58.25**	**354**	*eP*	**P**	**S**	**05 10 11.6**	**-2.2**
BOD				*e*			05 11 01.9	
MKAR	**Makanchi Array**	**58.98**	**328**	*eP*	**P**	**S**	**05 10 18.0**	**-1.0**
MKAR				pmax	pmax			
	comp=Z,5.0nm,0.4s							
KZA	**Kyzart**	**60.38**	**320**	P	**P**	**S**	**05 10 29.3**	**+0.6**
	SNR=13							
PET	**Petropavlovsk**	**60.49**	**24**	*eP*	**P**	**S**	**05 10 29.4**	**+0.1**
PET				*e*			05 11 01.9	
PET				*e*S	**S**	**S**	**05 18 33.5**	**-0.7**
PET				*e*PS	tx		05 18 44.0	
PET				*e*PPS	tx		05 18 58.7	
PET				*e**SS			05 19 59.0	
PET				*e*SS	SS		05 22 28.9	-6.3
PET				pmax	pmax			
	comp=Z,85nm,1.3s,mb5.6							
PET				pmax	pmax			
	comp=Z,43nm,1.3s,mb5.3							
TKM2	**Tokmak 2**	**60.59**	**321**	P	**P**	**S**	**05 10 30.1**	**0.0**
	SNR=19							
RPZ	**Rata Peaks**	**60.61**	**142**	LR	LR		05 35 56.6	
	comp=Z,309nm,21.8s,baz=353,slow=35							
UCH	**Uchtor**	**60.92**	**320**	P	**P**	**S**	**05 10 32.9**	**+0.5**
	SNR=10							
AAK	**Ala-Archa**	**61.14**	**320**	P	**P**	**S**	**05 10 34.0**	**+0.1**
	SNR=13							
AAK	**Ala-Archa**	**61.14**	**320**	*c iP*	**P**	**S**	**05 10 32.8**	**-1.1**
AAK				pmax	pmax			
	comp=Z,11nm,0.9s,mb4.9							
AAK	**Ala-Archa**	**61.14**	**320**	*eP*	**P**	**S**	**05 10 32.5**	**-1.4**
	comp=Z,13nm,0.8s,mb5.0							
FRU	**Bishkek**	**61.16**	**321**	*eP*	**P**	**S**	**05 10 32.0**	**-2.0**
AML	**Almayashu**	**61.40**	**320**	P	**P**	**S**	**05 10 35.9**	**+0.2**
	SNR=17							
USP	**Ospenovka**	**61.46**	**321**	P	**P**	**S**	**05 10 35.5**	**-0.5**
	SNR=13							
EKS2	**Erkin-Say**	**61.61**	**320**	P	**P**	**S**	**05 10 37.1**	**+0.1**
	SNR=14							
YAK	**Yakutsk**	**62.15**	**3**	*c iP*	**P**	**S**	**05 10 39.2**	**-1.2**
YAK				pmax	pmax			
	comp=Z,110nm,0.7s,mb6.0							
YAK	**Yakutsk**	**62.15**	**3**	*eP*	**P**	**S**	**05 10 39.1**	**-1.3**
	comp=Z,164nm,1.0s,mb6.0							
ZAL	**Zalesovo**	**62.62**	**335**	P	**P**	**S**	**05 10 42.2**	**-1.4**
ZAL	**Zalesovo**	**62.62**	**335**	P	**P**	**S**	**05 10 42.3**	**-1.3**
	comp=Z,12nm,0.5s,mb5.1,baz=354,slow=6.3,SNR=36							
MA2	**Magadan**	**63.20**	**15**	*c iP*	**P**	**S**	**05 10 47.5**	**+0.1**
MA2				*i*			05 11 24.3	
MA2				*e**PP	pP		05 11 30.4	+16
MA2				*e*S	**S**	**S**	**05 19 01.3**	**-6.9**
MA2				pmax	pmax			
	comp=Z,50nm,0.7s,mb5.5							
MA2				pmax	pmax			
	comp=E,10.0nm,0.8s							
MA2				pmax	pmax			
	comp=N,20nm,0.6s							
MA2	**Magadan**	**63.20**	**15**	*eP*	**P**	**S**	**05 10 47.5**	**+0.1**
	comp=N,95nm,0.7s,mb5.8							
NVS	**Novosibirsk**	**63.91**	**335**	*i* P	**P**	**S**	**05 10 49.2**	**-2.8**
NVS				*i*			05 11 21.7	
NVS				pmax	pmax			
	comp=Z,30nm,0.8s,mb5.2							
NVS				pmax	pmax			
	comp=N,18nm,1.1s							
NVS				pmax	pmax			
	comp=E,22nm,1.1s	

KIV e 05 15 59.7
KIV pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
BEST Besiri 83.94 308 *i* P **P 05 12 48.2 +0.2**
ERZM Erzurum 84.04 310 *i* P **P 05 12 49.0 +0.5**
SOC Sochi 85.57 314 *e*P **P 05 12 53.3 -2.7**
SOC e 05 16 11.9
SOC *e*PPP PPP 05 18 07.2 -7.7
SOC *e*S S 05 22 57.8 -19
SOC *e**SS 05 24 28.1
SOC *e*SS SS 05 28 48.1 -10
SOC *e*SSS SSS 05 32 30.8 +3.0
SOC pmax pmax
comp=Z,25nm,0.9s,mb5.1
SOC pmax pmax
comp=N,16nm,1.0s
SOC pmax pmax
comp=E,6.0nm,0.6s
SVW2 Sparrevohn 85.69 29 *e*P **P 05 12 57.7 +1.6**
ELZG Elazig 85.78 308 *i* P **P 05 12 57.5 +0.4**
MALT Malatya 86.21 308 *e*P **P 05 12 59.5 +0.3**
comp=E,15nm,1.0s,mb4.9
KMBO Kilima Mbogo 86.27 269 P **P 05 13 01.1 +1.0**
comp=E,7.9nm,0.7s,mb4.7,baz=60,slow=8.5,SNR=35
KMBO LR LR 05 50 11.8
comp=E,83nm,18.1s,baz=98,slow=35
KMBO Kilima Mbogo 86.27 269 *e*P **P 05 13 01.0 +0.9**
comp=E,13nm,0.9s,mb4.9
GZT Gaziantep 86.84 307 *i* P **P 05 13 02.2 -0.1**
RSO Redoubt South 86.99 30 *e*P **P 05 13 02.4 -0.1**
PPT Papeete 87.02 107 *e*S S 05 23 34.4 +3.2
PPT *e*SS SS 05 29 21.6 +2.2
PPT *e*LR LR 05 40 49.3
comp=E,207nm,29.0s
IMA Indian Mountai 87.17 24 *e*P **P 05 13 04.6 +1.4**
ASF Jabal al Asfar 87.19 302 P **P 05 13 04.8 +0.6**
comp=E,7.5nm,0.5s,mb4.9,baz=348,slow=4.7,SNR=14
TBI Tubuai 87.22 113 *e*S S 05 23 36.4 +3.4
TBI *e*SS SS 05 29 24.6 +2.2
ANN Anapa 87.29 315 *d i*P **P 05 13 03.5 -0.8**
ANN *e* 05 13 52.0
ANN *e*PPP PPP 05 18 24.6 -5.7
ANN pmax pmax
comp=Z,36nm,0.5s,mb5.6
KAHT Ahir Dag 87.40 307 *i* P **P 05 13 05.3 +0.2**
SYO Syowa Base 87.72 201 ⇓P **P 05 13 07.0 +1.2**
SYO Syowa Base 87.72 201 ⇓PcP PcP 05 13 08.2 +0.3
MOS Moscow 87.77 326 *e*P **P 05 13 02.2 -4.1**
MOS *e* 05 13 37.2
OBN Obninsk 88.33 325 *c i*P **P 05 13 06.8 -2.3**
OBN *e* 05 16 40.0
OBN pmax pmax
comp=Z,32nm,0.7s,mb5.5
OBN Obninsk 88.33 325 *e*P **P 05 13 06.7 -2.4**
comp=Z,22nm,0.6s,mb5.4
MCK McKinley 89.00 26 *e*P **P 05 13 11.6 -0.4**
comp=Z,16nm,0.8s,mb5.1
AVNT Avonos 89.02 309 *i* P **P 05 13 12.3 -0.4**
BOYT Boyabat 89.03 311 *i* P **P 05 13 12.4 -0.3**
CTKT Corum 89.10 310 *i* P **P 05 13 12.7 -0.4**
SML Sawmill 89.21 28 *e*P **P 05 13 13.4 +0.3**
COLA College 89.51 25 *e*P **P 05 13 13.4 -0.9**
comp=Z,4.0nm,0.7s,mb4.7
QSPA South Pole Qui 89.83 180⇑*i*P **P 05 13 17.3 +1.7**
comp=Z,11nm,0.6s,mb5.2
ILAR Eielson Array 89.92 25 P **P 05 13 15.0 -1.3**
comp=Z,5.7nm,0.6s,mb4.9,baz=244,slow=5.0,SNR=115
ILAR PKKPbc 05 30 48.9
comp=Z,1.5nm,0.8s,baz=101,slow=1.9,SNR=9.3
BRTR Keskin Array B 89.97 310 P **P 05 13 16.0 -1.1**
comp=Z,3.3nm,0.5s,mb4.7,baz=117,slow=5.5,SNR=22
DIV Divide 90.44 29 *e*P **P 05 13 19.6 +0.8**
comp=Z,54nm,0.8s,mb5.7
JOF Joensuu 91.10 333 *e*p **P 05 13 19.5 -2.4**
comp=Z,30nm,0.5s,mb5.7
JOF Joensuu 91.10 333 *e*P **P 05 13 19.5 -2.4**
JOF pmax pmax
comp=Z,30nm,0.5s,mb5.7
MENT Mentasta 91.36 27 *e*P **P 05 13 23.9 +0.8**
KEV Kevo 92.36 340 *e*p **P 05 13 24.1 -3.4**
comp=Z,11nm,0.6s,mb5.2
KEV Kevo 92.36 340 *e*P **P 05 13 24.1 -3.4**
KEV pmax pmax
comp=Z,11nm,0.6s,mb5.3
ISP Isparta 92.45 308 *i* P **P 05 13 27.0 -1.7**
AKASG Malin Array Be 92.81 321 P **P 05 13 28.4 -1.6**
comp=Z,6.8nm,0.5s,mb5.3,baz=68,slow=4.9,SNR=22
AKASG PKiKP 05 18 16.6
comp=Z,0.9nm,0.4s,baz=79,slow=2.3,SNR=7.0
ARCES ARCESS Array B 92.91 340 P **P 05 13 28.8 -1.2**
comp=Z,12nm,0.5s,mb5.5,baz=92,slow=4.2,SNR=96
ARCES PKiKP 05 18 16.8
comp=Z,5.9nm,1.0s,baz=96,slow=1.8,SNR=9.5
ARCES PKKPbc 05 30 40.9
comp=Z,1.4nm,0.5s,baz=246,slow=2.5,SNR=12
ARCES LR LR 06 01 27.1
comp=Z,179nm,20.1s,baz=23,slow=39
DAWY Dawson 93.21 26 *e*P **P 05 13 32.7 +1.2**
KAF Kangasniemi 93.48 332 *e*p **P 05 13 30.7 -2.1**
comp=Z,4.9nm,0.5s,mb5.1,baz=80,slow=4.1
KAF Kangasniemi 93.48 332 *e*P **P 05 13 30.7 -2.1**
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb5.1
FINES FINESS Array B 93.66 331 P **P 05 13 31.9 -1.7**
comp=Z,2.8nm,0.5s,mb4.9,baz=72,slow=5.1,SNR=44
FINES PKiKP 05 18 18.8
comp=Z,1.9nm,0.5s,baz=22,slow=3.4,SNR=8.4
FINES LR LR 06 02 16.7
comp=Z,161nm,18.4s,baz=337,slow=40
FINES FINESS Array B 93.66 331 P **P 05 13 31.9 -1.7**
KTK1 Kautokeino 93.79 339 *e*P **P 05 13 33.7 -0.3**
IDID Didziasalis 93.96 325 *i* P **P 05 13 34.4 -0.6**
IDID AMPb AMB 05 13 35.8
comp=Z,12nm,0.9s,mb5.2
HSP Hornsund 94.11 348 *e*P **P 05 13 34.1 -1.2**
IZAR Zarasai 94.19 326 *e*P **P 05 13 35.4 -0.7**
IZAR AMPb AMB 05 13 36.7
comp=Z,10nm,0.6s,mb5.3
IIGN Ignalina 94.25 325 *i* P **P 05 13 35.8 -0.6**
IIGN AMPb AMB 05 13 37.0
comp=Z,8.5nm,0.6s,mb5.3
ISAL Salakas 94.28 326 *e*P **P 05 13 35.9 -0.6**
ISAL AMPb AMB 05 13 37.6
comp=Z,7.8nm,0.9s,mb5.0
INK Inuvik 94.88 21 *e*P **P 05 13 39.1 +0.1**
comp=Z,15nm,0.6s,mb5.6
LSZ Lusaka 95.12 255 *e*P **P 05 13 41.7 +0.4**
comp=Z,57nm,0.8s,mb6.0
TRO Tromso 95.16 340 *e*P **P 05 13 37.6 -2.7**
TRO AMb AMB 05 14 10.6
comp=Z,100nm,1.5s,mb6.0
MLR Muntele Rosu 95.39 316 P **P 05 13 41.2 -0.7**
comp=Z,7.0nm,0.8s,mb5.1,baz=305,slow=3.8,SNR=10
SUW Suwalki 96.17 324 *e*P **P 05 13 44.5 -0.7**
KWP Kalwaria 97.09 320 *e*P **P 05 13 49.1 -0.4**
BOSA Boshof 97.21 241 *e*P **P 05 13 50.9 +0.3**
comp=Z,4.1nm,0.7s,mb5.0
MOR8 Moi Rana 97.73 337 *e*P **P 05 13 49.7 -2.3**
MOR8 AMb AMB 05 14 05.5
comp=Z,31nm,2.1s,mb5.5
DLBC Dease Lake 98.66 31 *e*P **P 05 13 58.0 +1.6**
OJC Ojcow 98.85 321 *e*P **P 05 13 56.9 -0.6**
DAG Danmarks Havn 100.59 352⇓*i*P P 05 14 03.9 -0.9
DAG pmax pmax
comp=Z,8.0nm,0.4s
DAG Danmarks Havn 100.59 352⇓*i*P P 05 14 03.9 -0.9
comp=Z,7.6nm,0.4s
SNAA Sanae 100.71 195 *e* 05 18 23.2
NB2 NORSAR Subarra100.74 333 P P 05 14 03.5 -2.3
comp=Z,2.3nm,0.6s,baz=73,slow=4.3
NB2 NORSAR Subarra100.74 333 P P 05 14 03.5 -2.3
baz=73,slow=4.4
NOA NORSAR Array B 100.74 333 P P 05 14 04.0 -1.8
comp=Z,2.9nm,0.7s,baz=73,slow=4.5,SNR=9.8
NOA PKiKP 05 18 31.6
comp=Z,1.1nm,0.6s,baz=263,slow=3.6,SNR=4.0
DPC Dobruska-Polom 101.00 321 *e*PDIF P 05 14 07.1 -0.1
UPC Upice 101.16 322 *e*PDIF P 05 14 07.4 -0.5
RES Resolute Bay 102.12 10 *e*P Pdif 05 14 12.1 +0.4
VNA2 Neumayer--Watz 102.33 195 *e* 05 18 30.1
GERES GERESS Array B 103.02 320 P Pdif 05 14 16.0 -0.1
comp=Z,0.5nm,0.6s,baz=53,slow=6.7,SNR=7.7
GERES PKiKP 05 18 36.0
comp=Z,1.2nm,0.6s,baz=89,slow=2.2,SNR=11
KHC Kasperske Hory 103.03 321 *e*P Pdif 05 14 27.5 +11
KHC Kasperske Hory 103.03 321 *e*pP Pdif 05 14 27.5 +11
YKA Yellowknife Ar 104.29 24 Pdiff Pdif 05 14 22.3 +0.9
comp=Z,1.2nm,0.6s,baz=298,slow=4.6,SNR=21
YKA PKiKP 05 18 37.8
comp=Z,2.0nm,0.7s,baz=306,slow=1.6,SNR=20
YKA PKKPbc 05 30 08.1
comp=Z,1.1nm,0.5s,baz=115,slow=2.4,SNR=20
YKA PKKP PKKP 05 30 21.5 +19
comp=Z,0.2nm,0.4s,baz=131,slow=2.0,SNR=4.5
YKA SKKPbc 05 33 39.3
comp=Z,2.2nm,1.3s,baz=13,slow=6.9,SNR=5.4
DAVOX Davos 106.08 319 Pdiff Pdif 05 14 29.6 0.0
comp=Z,2.3nm,0.6s,baz=45,slow=15,SNR=3.0
DAVOX PKiKP 05 18 41.8
CDF Champ du Feu 107.22 321 *e*PKIKP 05 18 42.1
HINF Hinteralfeld 107.69 321 *e*PKIKP 05 18 43.1
comp=Z,8.8nm,0.7s
PGF Pioggiola 107.93 315 *e*PKIKP 05 18 44.4
comp=Z,7.1nm,0.6s
HAU Haudompre 107.94 321 *e*PKIKP 05 18 43.9
BAIF Baives 108.48 324 *e*PKIKP 05 18 45.1
LPG La Plagne 108.55 319 *e*PKIKP 05 18 45.6
comp=Z,5.8nm,0.7s
LPL La Plagne 108.55 319 *e*PKIKP 05 18 45.5
comp=Z,3.9nm,0.5s
CABF La Chapelle 108.60 320 *e*PKIKP 05 18 45.6
comp=Z,9.7nm,0.6s
SBF Sospel 108.62 317 *e*PKIKP 05 18 45.1
MBDF Montbardon 108.79 318 *e*PKIKP 05 18 46.7
comp=Z,16nm,0.9s
FRF La Foret Royal 109.26 317 *e*PKIKP 05 18 46.5
ORIF Oris-en-Rattie 109.32 318 *e*PKIKP 05 18 46.7
comp=Z,5.0nm,0.6s
SMRF Simiane la Rot 109.85 317 *e*PKIKP 05 18 48.2
SMF Signal de Mont 110.03 320 *e*PKIKP PKPdf 05 18 48.0 +0.9
SSF Saint Saulge 110.08 321 *e*PKIKP PKPdf 05 18 48.1 +0.9
VIVF Saint-Julien-l 110.15 318 *e*PKIKP PKPdf 05 18 48.2 +0.8
comp=Z,4.0nm,0.6s
AVF Avril sur Loir 110.28 321 *e*PKIKP PKPdf 05 18 48.0 +0.4
BMO Blue Mountains 110.37 41 *e*PKPdf PKPdf 05 18 49.7 +1.9
BGF Bois d'Agland 110.69 321 *e*PKIKP PKPdf 05 18 49.5 +1.1
comp=Z,15nm,0.7s
TCF Toulx Ste Croi 111.20 321 *e*PKIKP PKPdf 05 18 49.7 +0.3
comp=Z,18nm,1.1s
FLN La Foliniere 111.80 324 *e*PKIKP PKPdf 05 18 51.4 +0.9
CAF Calviac 111.84 319 *e*PKIKP PKPdf 05 18 51.9 +1.3
NVAR Mina Array Bea 111.84 48 Pdiff Pdif 05 14 54.2 -1.0
comp=Z,0.1nm,0.5s,baz=284,slow=7.4,SNR=2.2
NVAR PKiKP 05 18 54.5
comp=Z,2.6nm,0.6s,baz=263,slow=3.2,SNR=25
NVAR PKKPbc 05 29 41.6
comp=Z,0.7nm,0.8s,baz=130,slow=3.8,SNR=3.8
NVAR PKKPab 05 29 55.0
comp=Z,0.3nm,0.6s,baz=147,slow=4.3,SNR=4.3
MNV Mina 111.95 48 *e*PKPdf PKPdf 05 18 54.3 +3.2
RJF Les Rejaudoux 112.04 320 *e*PKIKP PKPdf 05 18 52.0 +1.0
GRR Gorron 112.19 324 *e*PKIKP PKPdf 05 18 52.1 +0.9
MTLF Montolieu 112.35 318 *e*PKIKP PKPdf 05 18 52.3 +0.6
comp=Z,15nm,0.9s
MFF Saint Martin d 112.55 322 *e*PKIKP PKPdf 05 18 52.7 +0.7
comp=Z,39nm,1.0s
LFF La Frestale 112.69 320 *e*PKIKP PKPdf 05 18 53.4 +1.1
HLID Hailey 112.78 42 *e*PKPdf PKPdf 05 18 55.8 +3.3
SGMF Saint Gilles 113.26 324 *e*PKIKP PKPdf 05 18 53.7 +0.3
MCMT McKenzie Canyo 113.29 40 *e*PKPdf PKPdf 05 18 56.2 +2.7
EMIR Miracle 113.37 316 PKP PKPdf 05 18 56.0 +2.3
EPF Esparros 113.74 318 *e*PKIKP PKPdf 05 18 55.3 +0.8
comp=Z,6.6nm,0.6s
EPOB Poblet 113.89 316 PKP PKPdf 05 18 56.3 +1.5
EBIE Bielsa 114.01 318 PKP PKPdf 05 18 57.9 +2.8
ETSF Etsaut 114.39 318 *e*PKIKP PKPdf 05 18 57.2 +1.4
comp=Z,11nm,0.7s
ERTA Horta de San J 114.57 316 PKP PKPdf 05 18 58.3 +2.1
HVU Hansel Valley 114.60 43 *e*PKPdf PKPdf 05 18 58.9 +2.7
SJPF Ste Jean 114.75 319 *e*PKIKP PKPdf 05 18 57.3 +0.8
comp=Z,30nm,1.0s
PFO Pinyon Flat Ob 114.75 53 *e*PKPdf PKPdf 05 18 59.3 +2.6
BGU Big Grassy Mou 114.77 44 *e*PKPdf PKPdf 05 18 59.2 +2.6
SPUT South Promonto 115.01 44 *e*PKPdf PKPdf 05 18 58.7 +1.6
SNOW Snow King Moun 115.24 41 *e*PKPdf PKPdf 05 19 00.6 +3.1
LOHW Long Hollow 115.27 41 *e*PKPdf PKPdf 05 19 00.2 +2.7
NEN Nelson 115.36 50 *e*PKPdf PKPdf 05 19 01.1 +3.2
EMOS Mosqueruela 115.36 315 PKP PKPdf 05 18 60.0 +2.2
MPU Maple Canyon 116.11 45 *e*PKPdf PKPdf 05 19 02.2 +3.0
MVU Marysvale 116.29 46 *e*PKPdf PKPdf 05 19 03.0 +3.4
MSU Marysvale 116.31 46 *e*PKPdf PKPdf 05 19 02.9 +3.3
PDAR Pinedale Array 116.34 41 PKP PKPdf 05 19 01.5 +2.0
comp=Z,1.7nm,0.5s,baz=168,slow=1.6,SNR=18
PDAR PKKPbc 05 29 29.9
comp=Z,0.5nm,0.5s,baz=107,slow=6.3,SNR=6.3
PDAR PKKPab 05 29 35.1
comp=Z,2.6nm,0.7s,baz=122,slow=6.1,SNR=18
LAO LASA Array 116.50 36 *e*PKPdf PKPdf 05 19 02.6 +2.8
TMUT Trail Mountain 116.70 45 *e*PKPdf PKPdf 05 19 03.4 +3.1
SRU San Rafael 117.26 45 *e*PKPdf PKPdf 05 19 02.6 +1.2
EARI Arriondas 117.26 320 PKP PKPdf 05 19 03.8 +2.5
EVIA Vianos 117.50 314 PKP PKPdf 05 19 04.1 +2.2
GUD Guadarrama 117.79 317 PKP PKPdf 05 19 04.9 +2.6
ENIJ Nijar 117.95 313 PKP PKPdf 05 19 04.0 +1.2
ESDC Sonseca Array 118.09 316 PKP PKPdf 05 19 05.0 +2.0
comp=Z,2.4nm,0.6s,baz=28,slow=2.1,SNR=9.9
ESDC Sonseca Array 118.09 316 PKP PKPdf 05 19 05.0 +2.0
EQES Quesada 118.25 314 PKP PKPdf 05 19 06.5 +3.1
EPON Puntenova 118.48 321 PKP PKPdf 05 19 05.3 +1.7
EBER Berja 118.48 313 PKP PKPdf 05 19 05.7 +1.8
ERUA La Rua 118.94 320 PKP PKPdf 05 19 06.0 +1.4
ERON Agron 119.10 313 PKP PKPdf 05 19 05.0 -0.1
EADA Adamuz 119.17 315 PKP PKPdf 05 19 07.2 +2.0
ELUQ Luque 119.21 314 PKP PKPdf 05 19 06.6 +1.4
TUC Tucson 119.68 52 *e*PKPdf PKPdf 05 19 09.3 +3.0
EMIJ Mijas 120.00 313 PKP PKPdf 05 19 07.7 +0.9
ISCO Idaho Springs 120.35 42 *e*PKPdf PKPdf 05 19 09.6 +2.2
ESPR Espera 120.65 314 PKP PKPdf 05 19 10.1 +2.1
EMIN Mina Concepcio 120.83 315 PKP PKPdf 05 19 10.9 +2.5
SDCO Great Sand Dun 121.40 45 *e*PKPdf PKPdf 05 19 12.3 +2.8
EVO Evora 121.41 317 *e*PKIKP PKPdf 05 19 11.8 +2.3
comp=Z,21nm,0.6s
LAZ Ladron 121.68 49 *e*PKPdf PKPdf 05 19 13.1 +3.0
ANMO Albuquerque 121.96 48 *e*PKPdf PKPdf 05 19 13.7 +3.1
MNTX Cornudas Mount 124.15 51 *e*PKPdf PKPdf 05 19 17.2 +2.2
USHA Ushuaia 124.37 172 PKP PKPdf 05 19 17.7 +2.9
comp=Z,6.5nm,0.6s
SCHQ Schefferville 124.80 7 PKP PKPdf 05 19 17.4 +1.8
comp=Z,31nm,0.8s,baz=357,slow=2.1,SNR=62
LTX Lajitas 126.47 53 *e*PKPdf PKPdf 05 19 21.9 +2.4
TXAR Lajitas Array 126.47 53 PKP PKPdf 05 19 21.9 +2.4
comp=Z,3.0nm,0.7s,baz=233,slow=1.8,SNR=30
KSU1 Kansas State U 126.59 39 *e*PKPdf PKPdf 05 19 21.4 +1.9
WMOK Wichita Mounta 127.60 44 *e*PKPdf PKPdf 05 19 23.6 +2.0
DBIC Dimbokro 128.09 278 PKP PKPdf 05 19 24.8 +1.7
comp=Z,8.5nm,0.6s,baz=67,slow=2.5,SNR=26
JCT Junction City 128.98 50 *e*PKPdf PKPdf 05 19 26.6 +2.2
FVM French Village 131.04 36 *e*PKPdf PKPdf 05 19 28.4 +0.3
MIAR Mount Ida 131.26 41 *e*PKPdf PKPdf 05 19 32.1 +3.5
BLO Bloomington 132.38 32 *e*PKPdf PKPdf 05 19 33.5 +3.0
MIV Mineville/With 133.66 17 *e*PKPdf PKPdf 05 19 34.2 +1.4
LRAL Lakeview Retre 136.44 38 PKPdf PKPdf 05 19 39.6 +1.4
PLCA Paso Flores 137.39 164 PKhKP 05 19 31.2
comp=Z,1.4nm,0.8s,baz=222,slow=6.6,SNR=4.8
PLCA PKP PKPdf 05 19 43.1 +3.3
comp=Z,6.0nm,0.6s,baz=190,slow=1.6,SNR=14
PLCA SKP 05 23 06.5
comp=Z,2.9nm,0.8s,baz=264,slow=2.3,SNR=7.3
CBN Corbin 137.49 25 *e*PKPdf PKPdf 05 19 43.4 +3.4
TWB Tillmans-White 140.35 32 *e*PKPdf PKPdf 05 19 49.1 +3.7
TEIG Tepich 143.02 55 *e*PKPpre PKPdf 05 19 48.0 -2.4
CLCH Cerro Calan 144.15 160⇑*i*P PKPbc 05 19 53.0 +1.6
FCH Farellones 144.29 160⇑*i*P PKPbc 05 19 54.0 +2.1
PAYG Puerto Ayora 146.19 91 *e*PKPbc PKPbc 05 20 01.1 +3.7
JCR Jicaral 149.91 70 *e*P PKPdf 05 20 10.6 +8.5
LAJ Bijagual 150.84 70 *e*P PKPdf 05 20 12.2 +8.8
LCR2 La Lucha 2 150.99 70 *e*P PKPdf 05 20 13.1 +9.5
TRTC Tortuguero 151.00 68 *e*P PKPdf 05 20 12.2 +8.5
ICR Volcan Irazu 151.08 69 *e*P PKPdf 05 20 13.4 +10
CPUP Villa Florida 153.70 178 PKP PKPdf 05 20 10.3 +3.1
comp=Z,0.0nm,0.5s,baz=291,slow=18,SNR=1.7
CPUP PKPbc PKPdf 05 20 18.2 +11
comp=Z,0.0nm,0.3s,baz=211,slow=13,SNR=1.5
CPUP PKPab PKPab 05 20 31.2 +0.4
comp=Z,0.0nm,0.5s,baz=196,slow=20,SNR=1.6
LVC Limon Verde 154.38 153 *e*PKPbc PKPdf 05 20 20.6 +12
OTAV Otavalo 158.03 90 *e*PKPdf PKPdf 05 20 16.6 +3.3
LPAZ La Paz 160.06 145 PKP PKPdf 05 20 18.9 +3.4
comp=Z,6.3nm,1.0s,baz=208,slow=1.8,SNR=24
LPAZ PKPab PKPab 05 20 59.8 +1.5
comp=Z,8.8nm,0.8s,baz=226,slow=3.3,SNR=11
LPAZ La Paz 160.06 145 *e*PKPdf PKPdf 05 20 18.9 +3.4
BDFB Brasilia 162.26 208 PKP PKPdf 05 20 20.1 +2.4
comp=Z,4.3nm,1.0s,baz=171,slow=3.6,SNR=4.0
BDFB PKPab PKPab 05 21 08.2 +0.4
comp=Z,7.0nm,0.8s,baz=158,slow=4.2,SNR=3.1
SDV Santo Domingo 163.43 58 *e*PKPdf PKPdf 05 20 20.6 +1.7
DSTT Stowe 164.22 17⇓*e*P PKPdf 05 20 20.5 +0.9

NIED ***15*** *05:02:00,24.70N×122.50E,h125km,Mw4.2 Best double couple: M0:2.41×10^15 NP1:φ=327°,δ=88°,λ=-73°. NP2:φ=64°, δ=17°,λ=-172°.*
TAP ***15*** *05:02:31.9,24.70N×122.51E,h103km,ML5.0*
TAP Felt II J at Nanau, I J at Nioudou, I J at Sanguang, I J at Nanshan, I J at Hualien, II J at Tachien, I J at Hehuanshan.
JMA ***15*** *05:02:32.6±0.2,24.75N×122.46E,h98km±2km,M3.9*
BJI ***15*** *05:02:32.7,24.89N×122.43E,h112km,mB4.8,mb4.2*
NEIC ***15*** *05:02:32.1±0.8,24.86N×122.45E,h101km±7km,mb4.0/2, Error ellipse: s-maj=14.4km s-min=11.1km az=219.0*
NEIC Recorded [2 TAP] in Hua-lien and I-lan; [1 TAP] in Nan-t'ou and T'ao-yuan Counties.
IDC ***15*** *05:02:32.6±3.8,24.91N×122.55E,h104km±35km, mb3.9/10,mb1 4.0/11,mb1mx3.9/22,mbtmp4.3/11,Error ellipse: s-maj=26.4km s-min=15.5km az=65.0*
ISC 15 05:02:31.2±0.2,**24.76N**±0.02×**122.45E**±0.02,**h107**km±2km, **n95**,σ1.9**06**/164,**mb4.1**/12,**1C-28D,Taiwan region**

Code	Station Name	Δ° AZ° Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.49 301**⇓*i*P	**P**	**05 02 48.3**	**+0.5**
TWB1		S	**S**	**05 02 59.8**	**-0.4**
TWC	**Suao**	**0.57 255**⇓*i*P	**P**	**05 02 48.3**	**0.0**
TWC		S	**S**	**05 02 59.6**	**-1.6**
YOJ	**Yonaguni jima**	**0.59 120** P	**P**	**05 02 48.9**	**+0.4**
YOJ		S	**S**	**05 03 00.9**	**-0.6**
ILA	**Ilan**	**0.64 271**⇓*i*P	**P**	**05 02 49.4**	**+0.5**
ILA		S	**S**	**05 03 01.8**	**-0.4**
NWF	**Wu-fen Shan**	**0.69 297**⇓*i*P	**P**	**05 02 50.0**	**+0.7**
NWF		S	**S**	**05 03 02.8**	**-0.1**
TWE	**Neicheng**	**0.71 267**⇓*i*P	**P**	**05 02 50.0**	**+0.5**
TWE		S	**S**	**05 03 02.2**	**-1.1**
ENA	**Nanau**	**0.73 243**⇓*i*P	**P**	**05 02 50.1**	**+0.4**
ENA		S	**S**	**05 03 02.3**	**-1.1**
ENTT	**Nioudou**	**0.81 262**⇓*i*P	**P**	**05 02 51.1**	**+0.6**
ENTT		S	**S**	**05 03 05.7**	**+0.8**
TWA	**Mucha**	**0.82 286**⇓*i*P	**P**	**05 02 50.9**	**+0.3**
TWA		S	**S**	**05 03 04.0**	**-1.1**
TAP1	**Taipei**	**0.89 289**⇓*i*P	**P**	**05 02 51.5**	**+0.3**
TAP1		S	**S**	**05 03 05.3**	**-1.0**
TATO	**Taipei**	**0.90 284** *e*P	**P**	**05 02 51.3**	**-0.1**
TAP	**Taipei**	**0.90 288** *i* P	**P**	**05 02 51.5**	**+0.1**
TAP		S	**S**	**05 03 05.6**	**-0.9**
TWY	**Chenhua**	**0.93 304** *i* P	**P**	**05 02 52.5**	**+0.8**
TWY		S	**S**	**05 03 07.5**	**+0.5**
PCYT	**Pengchaiyu**	**0.93 338**⇑*i*P	**P**	**05 02 53.0**	**+1.3**
PCYT		S	**S**	**05 03 08.6**	**+1.5**
NSK	**Sanguang**	**1.00 266**⇓*i*P	**P**	**05 02 52.8**	**+0.4**
NSK		S	**S**	**05 03 08.0**	**-0.4**
TWS1	**Kuangyinshan**	**1.00 290**⇓*i*P	**P**	**05 02 53.0**	**+0.6**
TWS1		S	**S**	**05 03 08.1**	**-0.3**
NNS	**Nan Shan**	**1.03 252**⇓*i*P	**P**	**05 02 53.3**	**+0.6**
NNS		S	**S**	**05 03 08.5**	**-0.5**
TWD	**Chiawan**	**1.03 229**⇓*i*P	**P**	**05 02 52.3**	**-0.4**
TWD		S	**S**	**05 03 07.8**	**-1.1**
HWA	**Hwalien**	**1.10 225**⇓*i*P	**P**	**05 02 53.3**	**-0.2**
HWA		S	**S**	**05 03 09.9**	**-0.3**
NCU	**National Centr**	**1.17 281** *e*P	**P**	**05 02 54.9**	**+0.5**
NCU		S	**S**	**05 03 12.4**	**+0.6**
IRIF	**Iriomote-Funau**	**1.24 110** P	**P**	**05 02 55.5**	**+0.4**
IRIF		*e*S	**S**	**05 03 13.1**	**0.0**
TWT	**Tachien**	**1.27 247**⇓*i*P	**P**	**05 02 56.5**	**+1.1**
TWT		S	**S**	**05 03 13.8**	**+0.1**
ESL	**Shilin**	**1.32 225**⇓*i*P	**P**	**05 02 55.4**	**-0.7**
ESL		S	**S**	**05 03 12.6**	**-2.2**
HSN	**Hsinchu**	**1.35 272** *e*P	**P**	**05 02 56.1**	**-0.3**
HSN		S	**S**	**05 03 14.8**	**-0.6**
HATJ	**Hateruma jima**	**1.42 119** P	**P**	**05 02 57.9**	**+0.6**
HATJ		*e*S	**S**	**05 03 17.2**	**+0.4**
JKRS	**Kuro-shima**	**1.51 110** P	**P**	**05 02 59.2**	**+0.8**
JKRS		*e*S	**S**	**05 03 19.2**	**+0.5**
NSY	**Sanyi**	**1.58 258**⇓*i*P	**P**	**05 03 00.1**	**+0.9**
NSY		S	**S**	**05 03 20.4**	**+0.3**
TWQ1	**Liyutan**	**1.58 255** ⇓P	**P**	**05 03 00.0**	**+0.8**
TWQ1		S	**S**	**05 03 19.9**	**-0.4**
JIJ	**Ishigaki jima**	**1.59 104** P	**P**	**05 02 59.7**	**+0.4**
JIJ		*e*S	**S**	**05 03 19.7**	**-0.7**
EHY	**Hungye**	**1.62 220** ⇓P	**P**	**05 02 58.7**	**-1.0**
EHY		S	**S**	**05 03 18.4**	**-2.6**
SMLT	**Sun Moon Lake**	**1.66 239**⇓*i*P	**P**	**05 03 01.2**	**+0.9**
SMLT		S	**S**	**05 03 22.5**	**+0.5**
TYC	**Yuchr**	**1.69 240**⇓*i*P	**P**	**05 03 01.6**	**+1.0**
TYC		S	**S**	**05 03 23.4**	**+0.9**
TCU	**Taichung**	**1.73 250** *e*P	**P**	**05 03 01.8**	**+0.7**
TCU		S	**S**	**05 03 23.6**	**+0.2**
TWF1	**Yuli**	**1.75 217**⇓*i*P	**P**	**05 03 00.5**	**-0.8**
TWF1		S	**S**	**05 03 21.6**	**-2.3**
WNT	**Mingjian**	**1.84 242** *e*P	**P**	**05 03 03.2**	**+0.8**
WNT		S	**S**	**05 03 26.4**	**+0.6**
YUS	**Yu-Shan**	**1.86 228**⇓*i*P	**P**	**05 03 03.7**	**+0.9**
YUS		S	**S**	**05 03 26.1**	**-0.2**
CHKT	**Chengkung**	**1.93 211** *e*P	**P**	**05 03 02.8**	**-0.8**
CHKT		S	**S**	**05 03 25.1**	**-2.6**
ALS	**Alishan**	**1.95 231** ⇓P	**P**	**05 03 05.3**	**+1.4**
ALS		S	**S**	**05 03 28.7**	**+0.4**
CHN5	**Tsauling**	**1.99 235**⇓*i*P	**P**	**05 03 05.6**	**+1.2**
CHN5		S	**S**	**05 03 30.6**	**+1.4**
WGK	**Gukeng**	**2.03 239** *e*P	**P**	**05 03 05.7**	**+0.8**
WGK		S	**S**	**05 03 31.8**	**+1.8**
ELDTW	**Lidau**	**2.04 220** *e*P	**P**	**05 03 04.7**	**-0.4**
ELDTW		S	**S**	**05 03 28.7**	**-1.6**
JTJ	**Tarama**	**2.05 93** P	**P**	**05 03 06.4**	**+1.2**
JTJ		*e*S	**S**	**05 03 32.1**	**+1.6**
WTCT	**Ta-ch'eng**	**2.17 246** *e*P	**P**	**05 03 07.6**	**+0.8**
WTCT		S	**S**	**05 03 33.0**	**-0.4**
CHN2	**Minshiung**	**2.18 236** *e*P	**P**	**05 03 07.8**	**+0.8**
CHN2		S	**S**	**05 03 34.4**	**+0.8**
CHN4	**Tsaushan**	**2.20 231** ⇓P	**P**	**05 03 08.4**	**+1.2**
CHN4		S	**S**	**05 03 34.2**	**0.0**
STYT	**Tauyuan**	**2.22 225** ⇓P	**P**	**05 03 08.5**	**+1.1**
STYT		S	**S**	**05 03 34.3**	**-0.3**
CHY	**Chiayi**	**2.24 236** *e*P	**P**	**05 03 08.5**	**+0.8**
CHY		S	**S**	**05 03 34.9**	**-0.2**
WTP	**Ta-pu**	**2.26 229** *e*P	**P**	**05 03 08.7**	**+0.7**
WTP		S	**S**	**05 03 35.8**	**+0.3**
TWG	**Pinlang**	**2.31 214** *e*P	**P**	**05 03 07.5**	**-1.1**
TWG		S	**S**	**05 03 34.0**	**-2.7**
WSF	**Szhu**	**2.32 242** *e*P	**P**	**05 03 09.4**	**+0.5**
WSF		S	**S**	**05 03 36.9**	**-0.2**
TTN	**Taitung**	**2.33 211** *e*P	**P**	**05 03 09.2**	**+0.3**
TTN		S	**S**	**05 03 37.2**	**0.0**
TWK	**Hsinying**	**2.33 231** *e*P	**P**	**05 03 09.8**	**+0.8**
TWK		S	**S**	**05 03 37.5**	**+0

WDGT S S 05 03 50.1 -2.3
TWP Hsiaoliuchiu 3.07 219 *e*P P 05 03 21.4 +2.3
HEN Hengchun 3.16 210 *e*P P 05 03 22.9 +2.6
TWK1 Hengchun 3.18 209 *e*P P 05 03 20.8 +0.2
TWK1 S S 05 03 56.9 -1.1
QZH Quanzhou 3.51 274 P P 05 03 24.1 -0.9
QZH S S 05 04 01.0 -4.9
QZH Smax
comp=N,620nm,0.5s
QZH Smax
comp=E,320nm,0.3s
KNM Kinmen 3.67 266 *e*P P 05 03 27.9 +0.7
KNM S S 05 04 08.0 -1.9
JKE Kume jima 2 4.21 67 P P 05 03 35.4 +0.8
JIH Iheya 5.46 64 P P 05 03 51.4 -0.1
JIH *e*S S 05 04 51.8 -1.8
JOW Kunigami 5.64 67 P P 05 03 53.0 -1.0
comp=E,13nm,0.3s,baz=199,slow=10,SNR=14
JOW S S 05 04 54.4 -3.6
comp=E,16nm,0.3s,baz=120,slow=25,SNR=6.7
JOW Kunigami 5.64 67 P P 05 03 53.2 -0.7
JOW *e*S S 05 04 55.1 -2.9
JTK Tokunoshima 6.57 61 P P 05 04 05.1 -1.6
JTK *e*S S 05 05 17.6 -3.0
CVP Callao Caves 7.04 185 *e*P P 05 04 14.0 +0.7
JAM Amami Oshima 7.36 59 P P 05 04 15.4 -2.2
CAUP Cauayan 7.80 184 *e*P P 05 04 26.2 +2.7
JMZ Minamidaito 2 8.01 81 P P 05 04 23.5 -2.8
JMZ *e*S S 05 05 46.1 -10
ASAJ Asahikawa 25.36 35 P P 05 07 48.0 -1.8
comp=E,3.4nm,0.3s,mb4.2,baz=244,slow=12,SNR=5.1
ULN Ulaanbaatar 26.09 336 *e*P P 05 07 56.1 -0.5
comp=E,1.8nm,0.6s,mb3.7
SONM Songino Array 26.31 335 P P 05 07 58.4 -0.2
comp=E,7.7nm,0.8s,mb4.2,baz=147,slow=9.2,SNR=48
LSA Lhasa 28.22 287 P P 05 08 19.0 +2.9
ZAL Zalesovo 40.41 326 P P 05 09 59.5 -0.6
comp=E,2.4nm,0.9s,mb4.0,baz=8.8,slow=7.8,SNR=12
WRA Warramunga Arr 45.91 164 P P 05 10 45.2 +0.1
comp=E,1.5nm,0.5s,mb4.0,baz=345,slow=8.6,SNR=3.1
BVAR Borovoye Array 47.97 320 P P 05 10 59.8 -1.0
comp=E,2.3nm,0.5s,mb4.3,baz=103,slow=8.0,SNR=19
CHKZ Chkalovo 48.01 321 *e*P P 05 10 59.0 -2.1
comp=E,2.7nm,0.6s,mb4.2
ASAR Alice Springs 49.40 166 P P 05 11 13.3 +1.1
comp=E,1.1nm,0.5s,mb4.0,baz=355,slow=7.6,SNR=2.9
FINES FINESS Array B 71.53 330 P P 05 13 41.4 -0.7
comp=E,1.4nm,0.3s,mb4.2,baz=63,slow=5.5,SNR=6.5
FINES FINESS Array B 71.53 330 P P 05 13 41.4 -0.7
NOA NORSAR Array B 78.26 332 P P 05 14 19.3 -1.1
comp=E,0.7nm,0.5s,mb3.6,baz=57,slow=5.1,SNR=3.4
YKA Yellowknife Ar 81.99 23 P P 05 14 40.2 -0.1
comp=E,0.9nm,0.8s,mb3.6,baz=306,slow=5.1,SNR=3.6
YKA Yellowknife Ar 81.99 23 P P 05 14 40.2 -0.1
NVAR Mina Array Bea 95.22 43 P P 05 15 44.8 +0.8
comp=E,1.6nm,0.7s,mb4.5,baz=301,slow=5.3,SNR=8.8

IDC 15 05:10:26.7±2.8, 0.28N×98.29E, mb3.8/3, mb1 4.0/4, mb1mx3.7/16, mbtmp3.8/4, ML4.2/1, Error ellipse: s-maj=118.4km s-min=24.6km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.08**	**2**	P	P	05 14 39.1	-2.1
	0.3nm,0.3s,baz=206,slow=11,SNR=12						
WRA	**Warramunga Arr**	**40.63**	**122**	P	P	05 18 07.2	-3.1
	1.7nm,0.7s,baz=310,slow=7.7,SNR=7.3						
ASAR	**Alice Springs**	**41.98**	**127**	P	P	05 18 21.4	0.0
	0.9nm,0.7s,baz=309,slow=7.1,SNR=5.0						
BVAR	**Borovoye Array**	**57.48**	**340**	P	P	05 20 17.6	-2.3
	0.7nm,0.8s,baz=146,slow=10,SNR=3.6						
FINES	**FINESS Array B**	**81.31**	**332**	pP	pP	05 22 52.0	+5.8
	1.1nm,0.8s,baz=101,slow=7.1,SNR=1.4						

BJI ***15*** *05:13:07.6, 6.13S×38.63E, h21km, mB5.0, mb5.0, Ms5.2, Msz4.5*
IDC ***15*** *05:13:09.1±0.5, 6.01S×39.29E, mb4.7/23, mb1 4.8/24, mb1mx4.7/26, mbtmp4.7/24, ML5.0/1, MS4.4/5, Ms1 4.4/5, ms1mx3.9/17, Error ellipse: s-maj=20.2km s-min=13.5km az=71.0*
HRVD ***15*** *05:13:10.7±0.4, 6.12S×39.19E, h32km±1km, MW5.0/41, Centroid moment Tensor Solution. LP body waves: s26,c37;Mantle waves: s41,c66; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.66±.30; Mθθ-0.49±.19; Mφφ4.14±.18; Mrθ-1.14±.27; Mθφ-0.26±.16; Mφr-0.48±.21; Best double couple: Mφ4.12×10^16 NP1:φs159°, δ45°, λ-116°. NP2:φs14°, δ51°, λ-66°. Principal axes: T 4.178, Plg3°, Azm88°; N -.123, Plg18°, Azm179°; P -4.063, Plg72°, Azm348°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***15*** *05:13:10.7±0.2, 5.99S×39.22E, h10km, mb5.1/63, MS4.6/3 Error ellipse: s-maj=8.2km s-min=5.1km az=76.0*
NEIC Felt [IV] at Zanzibar.
MOS ***15*** *05:13:12.0±0.9, 5.99S×39.13E, h33km, mb5.2/54, Error ellipse: s-maj=12.5km s-min=4.4km az=104.7*
ISC 15 05:13:12.3±1.9, 5.98S±0.05×39.19E±0.05, h35km±16km, h38km±5.8km; pP-P, n241, σ0=98/223, mb5.0/102, MS4.4/11, 11C-9D, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**5.19**	**338**	Pn	P	05 14 29.0	-0.6
	55nm,0.3s,baz=160,slow=17,SNR=503						
KMBO				Sn	S	05 15 25.6	-3.6
	180nm,0.3s,baz=242,slow=23,SNR=16						
KMBO				LR	LR	05 16 38.4	
	comp=Z,4μm,18.5s,baz=140,slow=40						
KMBO	**Kilima Mbogo**	**5.19**	**338**	*e*Pn	P	05 14 28.5	-1.1
KMBO				*e*Sn	S	05 15 25.5	-3.7
MBAR	**Mbarara**	**9.98**	**302**	*e*P	P	05 15 29.7	-6.8
LSZ	**Lusaka**	**14.21**	**229**	*e*P	P	05 16 28.4	-4.9
LSZ				pmax	pmax		
	comp=Z,33nm,0.7s						
LSZ	**Lusaka**	**14.21**	**229**	*e*P	P	05 16 28.4	-5.0
	comp=Z,34nm,0.7s						
TATS	**Tathlith**	**25.71**	**9**	P	P	05 18 47.3	+5.9
BOSA	**Boshof**	**26.09**	**209**	*e*P	P	05 18 43.8	-1.0
BOSA				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
BOSA	**Boshof**	**26.09**	**209**	*e*P	P	05 18 43.8	-1.1
	comp=Z,30nm,1.0s,mb4.8						
UMJS	**Umm Lajj**	**31.08**	**357**	P	P	05 19 31.4	+1.7
SUR	**Sutherland**	**31.37**	**211**	*e*P	P	05 19 30.7	-1.5
	comp=Z,21nm,1.1s,mb4.9						
KBRS	**Khaybar**	**31.58**	**0**	P	P	05 19 35.6	+1.6
ASF	**Jabal al Asfar**	**38.00**	**357**	P	P	05 20 30.8	+1.8
	comp=Z,13nm,1.0s,mb4.6,baz=180,slow=3.3,SNR=8.6						
IDI	**Anoyia**	**43.20**	**343**	P	P	05 21 12.5	+0.6
	comp=Z,14nm,0.9s,mb4.7,baz=175,slow=9.7,SNR=3.6						
MALT	**Malatya**	**44.07**	**359⇓**	*e*P	P	05 21 21.0	+2.1
MALT				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.8						
MALT	**Malatya**	**44.07**	**359⇓**	*e*P	P	05 21 21.0	+2.1
	comp=Z,17nm,0.9s,mb4.8						
ELZG	**Elazig**	**44.25**	**360**	*i* P	P	05 21 23.0	+2.7
HYB	**Hyderabad**	**45.30**	**58⇑**	*e*P	P	05 21 28.0	-1.0
HYB	**Hyderabad**	**45.30**	**58⇑**	*i*P	P	05 21 28.0	-1.0
ERZM	**Erzurum**	**45.70**	**2**	*i* P	P	05 21 34.6	+2.7
DBIC	**Dimbokro**	**45.71**	**285**	P	P	05 21 32.2	-0.1
	comp=Z,8.3nm,1.1s,mb4.6,baz=92,slow=9.1,SNR=5.0						
DBIC				PcP	PcP	05 23 10.7	+0.4
	comp=Z,3.5nm,0.8s,baz=56,slow=6.3,SNR=3.1						
BRTR	**Keskin Array B**	**45.76**	**354**	P	P	05 21 34.0	+1.5
	comp=Z,9.7nm,0.9s,mb4.8,baz=180,slow=11,SNR=45						
BRTR				PcP	PcP	05 23 10.0	-0.1
	comp=Z,3.1nm,0.9s,baz=169,slow=6.3,SNR=5.5						
GNI	**Garni**	**46.18**	**6**	*i* P	P	05 21 36.4	+0.7
GNI				pmax	pmax		
	comp=Z,16nm,1.1s						
GNI				MLR	MLR		
	comp=Z,200nm,21.0s						
GNI	**Garni**	**46.18**	**6**	*e*P	P	05 21 37.4	+1.7
GNI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GNI	**Garni**	**46.18**	**6**	P	P	05 21 35.5	-0.2
	comp=Z,1.6nm,0.3s,mb4.4,baz=138,slow=1.2,SNR=4.4						
GNI				PcP	PcP	05 23 13.0	+1.4
	comp=Z,1.6nm,0.3s,baz=205,slow=10.0,SNR=2.7						
GNI	**Garni**	**46.18**	**6**	*e*P	P	05 21 37.4	+1.7
	comp=Z,7.9nm,0.9s,mb4.6						
ELDT	**Eldivan**	**46.54**	**354**	*i* P	P	05 21 40.1	+1.6
CTKT	**Corum**	**46.55**	**355**	*i* P	P	05 21 40.4	+1.8
BOYT	**Boyabat**	**47.33**	**356**	*i* P	P	05 21 45.9	+1.1
BALT	**Daday**	**47.58**	**354**	*i* P	P	05 21 47.9	+1.2
ZEI	**Tsey**	**48.71**	**5**	*e*P	P	05 21 56.9	+1.5
ZEI				*i*		05 23 50.0	
ZEI				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
SOC	**Sochi**	**49.33**	**1**	*e*P	P	05 21 58.1	-2.1
SOC				*e*		05 23 50.7	
SOC				*e*PPP	PPP	05 24 51.1	+1.8
SOC				*e*SS	SS	05 32 30.7	0.0
SOC				pmax	pmax		
	comp=Z,21nm,1.4s,mb5.0						
SOC				pmax	pmax		
	comp=N,10.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,11nm,0.7s						
KIV	**Kislovodsk**	**49.80**	**3**	*d i*P	P	05 22 04.0	+0.2
KIV				*e*		05 22 19.3	
KIV				*e*		05 23 24.1	
KIV				*e*		05 24 00.0	
KIV				*e*S	S	05 29 08.0	-1.6
KIV				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.1						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.9						
KIV	**Kislovodsk**	**49.80**	**3**	*e*P	P	05 22 04.8	+1.0
	comp=Z,35nm,1.4s,mb5.2						
ANN	**Anapa**	**50.57**	**358**	*e*P	P	05 22 25.1	+15
ANN				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
GOF	**Gofitskoye**	**50.92**	**4⇑**	*i*P	P	05 22 12.5	+0.2
GOF				pmax	pmax		
	comp=Z,60nm,1.4s,mb5.3						
MLR	**Muntele Rosu**	**52.59**	**348**	P	P	05 22 25.8	+1.0
	comp=Z,6.6nm,0.8s,mb4.6,baz=174,slow=9.2						
MLR				PcP	PcP	05 23 34.5	-0.3
	comp=Z,6.8nm,0.9s,baz=130,slow=3.5,SNR=2.4						
KOLN	**Koldanda**	**54.44**	**50**	*e*P	P	05 22 37.3	-1.4
	comp=Z,54nm,1.0s,mb5.4						
GKN	**Gorkha**	**55.34**	**50**	*e*P	P	05 22 44.0	-1.3
	comp=Z,80nm,1.1s,mb5.7						
DMN	**Daman**	**55.51**	**51**	*e*P	P	05 22 45.5	-1.0
	comp=Z,49nm,0.9s,mb5.5						
PGF	**Pioggiola**	**55.55**	**333**	*e*P	P	05 22 45.8	-0.9
	comp=Z,39nm,1.2s,mb5.0						
PGF	**Pioggiola**	**55.55**	**333**	*e*P	P	05 22 45.8	-0.9
PGF				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.0						
PKI	**Pulchoki**	**55.72**	**51**	*e*P	P	05 22 46.6	-1.4
	comp=Z,36nm,1.1s,mb5.3						
KKN	**Kakani**	**55.73**	**51**	*e*P	P	05 22 46.7	-1.4
	comp=Z,42nm,0.8s,mb5.5						
GUN	**Gumba**	**56.25**	**51**	*e*P	P	05 22 50.7	-1.1
	comp=Z,108nm,1.2s,mb5.8						
PSZ	**Piszkesteto**	**56.30**	**345⇑**	*i*P	P	05 22 53.0	+1.1
PSZ	**Piszkesteto**	**56.30**	**345⇑**	*i*	P	05 22 53.0	+1.1
GROS	**Grobnik**	**56.30**	**340**	*e*P	P	05 22 53.1	+1.2
JIRN	**Jiri**	**56.37**	**51**	*e*P	P	05 22 50.8	-1.9
	comp=Z,34nm,0.9s,mb5.4						
SRO2	**Moca**	**56.57**	**343**	*e*P	P	05 22 54.6	+0.8
SRO2				*e*	pP	05 23 07.7	+3.2
PERS	**Pernice**	**56.58**	**340**	*e*P	P	05 22 54.6	+0.7
SRO	**Srobarova**	**56.63**	**343**	*e*P	P	05 22 53.8	-0.5
KOLS	**Kolonicke sedl**	**56.65**	**347**	*e*P	P	05 22 56.7	+2.3
KECS	**Kecovo**	**56.66**	**345**	*e*P	P	05 22 53.3	-1.2
CRVS	**Cervenica-Dubn**	**56.81**	**346**	*e*P	P	05 22 56.7	+1.1
AKASG	**Malin Array Be**	**57.10**	**352**	P	P	05 22 56.4	-1.2
	comp=Z,7.7nm,1.0s,mb4.7,baz=173,slow=6.3,SNR=11						
AKASG				PcP	PcP	05 23 51.5	-0.5
	comp=Z,1.1nm,0.6s,baz=178,slow=4.2,SNR=4.7						
VYHS	**Vyhne**	**57.11**	**344**	*i* P	P	05 22 58.2	+0.5
VYHS				*e*		05 23 03.5	
VYHS				*e*	pP	05 23 10.7	+2.4
KWP	**Kalwaria**	**57.21**	**347**	*e*P	P	05 22 59.3	+0.9
AML	**Almayashu**	**57.28**	**30**	P	P	05 22 59.8	+0.7
	SNR=8.9						
KOLL	**Kolacno**	**57.30**	**344**	*i* P	P	05 22 59.5	+0.4
LMR	**La Mourre**	**57.31**	**332**	*e*P	P	05 22 58.5	-0.7
	comp=Z,58nm,1.4s,mb5.1						
LMR	**La Mourre**	**57.31**	**332**	*e*P	P	05 22 58.5	-0.7
LMR				pmax	pmax		
	comp=Z,29nm,1.4s,mb5.1						
ZST	**Bratislava**	**57.33**	**343**	*e*P	P	05 22 59.3	0.0
NIE	**Niedzica**	**57.57**	**346**	*e*P	P	05 23 02.1	+1.1
EKS2	**Erkin-Say**	**57.72**	**30**	P	P	05 23 02.5	+0.5
	SNR=5.2						
UCH	**Uchtor**	**57.76**	**31**	P	P	05 23 03.2	+0.8
	SNR=8.3						
KZA	**Kyzart**	**58.03**	**31**	P	P	05 23 05.5	+1.3
	SNR=7.3						
AAK	**Ala-Archa**	**58.05**	**30**	P	P	05 23 05.0	+0.6
	SNR=7.2						
AAK	**Ala-Archa**	**58.05**	**30**	*i* P	P	05 23 04.0	-0.4
AAK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
AAK				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.0						
AAK	**Ala-Archa**	**58.05**	**30**	*e*P	P	05 23 03.5	-0.9
	comp=Z,14nm,1.3s,mb4.8						
MBDF	**Montbardon**	**58.27**	**333**	*e*P	P	05 23 06.7	+0.8
	comp=Z,25nm,0.9s,mb4.9						
MBDF	**Montbardon**	**58.27**	**333**	*e*P	P	05 23 06.7	+0.8
MBDF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
OJC	**Ojcow**	**58.44**	**346**	*e*P	P	05 23 06.8	-0.2
CHMS	**Chumysh**	**58.45**	**30**	P	P	05 23 07.1	0.0
	SNR=5.3						
OKC	**Ostrava-Krasne**	**58.52**	**344**	*e*P	P	05 23 07.9	+0.3
OKC				*ex*	x	05 23 18.7	
MORC	**Moravsky Berou**	**58.63**	**344**	*e*P	P	05 23 08.6	+0.3
MORC				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.4						
MORC	**Moravsky Berou**	**58.63**	**344**	*e*P	P	05 23 08.6	+0.2
	comp=Z,42nm,1.0s,mb5.4						
EQES	**Quesada**	**58.67**	**321**	P	P	05 23 07.7	-1.2
	comp=Z,8.3nm,0.8s,mb4.8						
ERTA	**Horta de San J**	**58.73**	**326**	P	P	05 23 08.1	-1.1
	comp=Z,45nm,2.0s,mb5.2						
EMOS	**Mosqueruela**	**58.78**	**325**	P	P	05 23 11.1	+1.5
	comp=Z,26nm,1.4s,mb5.1						
TKM2	**Tokmak 2**	**58.81**	**31**	P	P	05 23 10.0	+0.2
	SNR=16						
ORIF	**Oris-en-Rattie**	**58.82**	**333**	*e*P	P	05 23 09.2	-0.5
ORIF				*e*R			
	comp=Z,293nm,18.5s						
LPG	**La Plagne**	**58.88**	**334**	*e*P	P	05 23 09.1	-1.0
	comp=Z,9.2nm,0.7s,mb4.6						
LPG	**La Plagne**	**58.88**	**334**	*e*P	P	05 23 09.1	-1.0
LPG				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
LPL	**La Plagne**	**58.90**	**334**	*e*P	P	05 23 09.2	-1.1
	comp=Z,8.6nm,0.7s,mb4.6						
LPL	**La Plagne**	**58.90**	**334**	*e*P	P	05 23 09.2	-1.1
LPL				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
GEC2	**GERESS Array S**	**58.97**	**341**	*e*P	P	05 23 10.8	0.0
GEC2				pmax	pmax		
	comp=Z,41nm,1.2s,mb5.3						
GEC2	**GERESS Array S**	**58.97**	**341**	*e*P	P	05 23 10.8	0.0
	comp=Z,41nm,1.2s,mb5.3						
GERES	**GERESS Array B**	**58.97**	**341**	P	P	05 23 10.6	-0.2
	comp=Z,12nm,0.9s,mb5.0,baz=146,slow=4.8,SNR=79						
LASF	**Ste Croix**	**59.13**	**331**	*e*P	P	05 23 12.0	+0.1
	comp=Z,74nm,1.5s,mb5.2						
KHC	**Kasperske Hory**	**59.26**	**341**	*e*P	P	05 23 12.3	-0.4
KHC				*ex*	x	05 23 24.8	
ELUQ	**Luque**	**59.27**	**321**	P	P	05 23 13.1	+0.1
ELUQ				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
ELUQ	**Luque**	**59.27**	**321**	P	P	05 23 13.1	+0.1
	comp=Z,11nm,0.9s,mb4.9						
VIVF	**Saint-Julien-l**	**59.33**	**332**	*e*P	P	05 23 13.3	+0.1
	comp=Z,69nm,1.4s,mb5.2						
VIVF	**Saint-Julien-l**	**59.33**	**332**	*e*P	P	05 23 13.3	+0.1
VIVF				pmax	pmax		
	comp=Z,35nm,1.4s,mb5.2						
MTLF	**Montolieu**	**59.40**	**329**	*e*P	P	05 23 13.4	-0.4
DPC	**Dobruska-Polom**	**59.49**	**343**	*e*P	P	05 23 14.2	-0.1
DPC				*ex*	x	05 23 27.3	
WET	**Wettzell**	**59.51**	**340**	*e*P	P	05 23 13.8	-0.6
WET				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
WET	**Wettzell**	**59.51**	**340**	*e*P	P	05 23 13.8	-0.6
	comp=Z,13nm,1.1s,mb4.9						
PRU	**Pruhonice**	**59.70**	**342**	*e*P	P	05 23 15.6	-0.2
PRU				*ex*	x	05 23 26.9	
UPC	**Upice**	**59.72**	**343**	*e*P	P	05 23 15.9	0.0
UPC				*ex*	x	05 23 29.5	
EADA	**Adamuz**	**59.83**	**321**	P	P	05 23 16.2	-0.7
	comp=Z,5.8nm,1.0s,mb4.6						
ESPR	**Espera**	**59.88**	**319**	P	P	05 23 17.2	0.0
	comp=Z,7.3nm,0.6s,mb4.9						
KSP	**Ksiaz**	**59.94**	**343**	*e*P	P	05 23 17.3	-0.1
KSP	**Ksiaz**	**59.94**	**343**	*e*P	P	05 23 17.4	0.0
EBIE	**Bielsa**	**60.02**	**328**	P	P	05 23 17.3	-0.8
	comp=Z,4.1nm,0.7s,mb4.6						
CABF	**La Chapelle**	**60.04**	**334**	*e*P	P	05 23 17.3	-0.8
	comp=Z,96nm,1.6s,mb5.3						
CABF	**La Chapelle**	**60.04**	**334**	*e*P	P	05 23 17.3	-0.8
CABF				pmax	pmax		
	comp=Z,48nm,1.6s,mb5.3						
EPF	**Esparros**	**60.15**	**328**	*e*P	P	05 23 18.9	-0.1
	comp=Z,27nm,1.3s,mb4.8						
EPF	**Esparros**	**60.15**	**328**	*e*P	P	05 23 18.9	-0.1
EPF				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.8						
ESDC	**Sonseca Array**	**60.38**	**323**	P	P	05 23 21.3	+0.7
	comp=Z,8.8nm,0.7s,mb4.9,baz=131,slow=6.6,SNR=31						
ESDC	**Sonseca Array**	**60.38**	**323**	P	P	05 23 21.1	+0.6
	comp=Z,13nm,0.7s,mb5.1						
GRA1	**Grafenberg Arr**	**60.54**	**340**	*e*P	P	05 23 21.3	-0.2
	comp=Z,38nm,1.1s,mb5.4						
GRF	**Grafenberg Arr**	**60.54**	**340**	*e*P	P	05 23 21.3	-0.2
GRF				pmax	pmax		
	comp=Z,38nm,1.1s,mb5.4						
GRF	**Grafenberg Arr**	**60.54**	**340**	*e*P	P	05 23 21.3	-0.2
GRF				pmax	pmax		
	comp=Z,38nm,1.1s,mb5.4						
GRF	**Grafenberg Arr**	**60.54**	**340**	*e*P	P	05 23 21.3	-0.2
	comp=Z,38nm,1.1s,mb5.4						
ETSF	**Etsaut**	**60.54**	**327**	*e*P	P	05 23 21.7	+0.1
	comp=Z,17nm,0.8s,mb4.9						
ETSF	**Etsaut**	**60.54**	**327**	*e*P	P	05 23 21.7	+0.1
ETSF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9						
NKC	**Novy Kostel**	**60.59**	**341**	*e*P	P	05 23 21.6	-0.2
NKC				*ex*	x	05 23 33.5	
CAF	**Calviac**	**60.62**	**331**	*e*P	P	05 23 22.4	+0.3
	comp=Z,46nm,1.2s,mb5.2						
CAF	**Calviac**	**60.62**	**331**	*e*P	P	05 23 22.4	+0.3
CAF				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.2						
HINF	**Hinteralfeld**	**60.66**	**336**	*e*P	P	05 23 21.4	-1.0
	comp=Z,23nm,1.1s,mb4.9						
HINF	**Hinteralfeld**	**60.66**	**336**	*e*P	P	05 23 21.4	-1.0
HINF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.9						
BRG	**Berggiesshubel**	**60.66**	**342**	*i* P	P	05 23 22.1	-0.2
BRG				*e*	pP	05 23 35.1	+2.1
BRG				pmax	pmax		
	comp=Z,18nm,1.3s,mb5.0						
BRG	**Berggiesshubel**	**60.66**	**342**	*i* P	P	05 23 22.1	-0.2
	comp=Z,18nm,1.3s,mb5.0						
BRG				*e*	pP	05 23 35.1	+2.1
OBN	**Obninsk**	**60.91**	**358**	*i* P	P	05 23 21.9	-2.0
OBN				*e*		05 24 05.8	
OBN				*e*		05 25 37.7	
OBN				*e*SS	SS	05 35 37.5	-1.0
OBN				pmax	pmax		
	comp=Z,42nm,1.3s,mb5.4						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.1						
OBN	**Obninsk**	**60.91**	**358**	*e*P	P	05 23 21.9	-2.1
	comp=Z,54nm,1.5s,mb5.5						
EMIN	**Mina Concepcio**	**60.93**	**319**	P	P	05 23 24.3	-0.1
	comp=Z,9.8nm,0.7s,mb5.0						
CDF	**Champ du Feu**	**60.96**	**336**	*e*P	P	05 23 23.5	-0.9
	comp=Z,27nm,1.2s,mb5.0						
CDF	**Champ du Feu**	**60.96**	**336**	*e*P	P	05 23 23.5	-0.9
CDF				pmax	pmax		
	comp=Z,14nm,1.2s,mb5.0						
HAU	**Haudompre**	**61.02**	**335**	*e*P	P	05 23 24.0	-0.8
	comp=Z,36nm,1.2s,mb5.1						
HAU				*e*R			
	comp=Z,290nm,19.8s						
HAU	**Haudompre**	**61.02**	**335**	*e*P	P	05 23 24.0	-0.8
HAU				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.1						
HAU				MLR	MLR		
	comp=Z,290nm,19.8s,MS4.4						
SJPF	**Ste Jean**	**61.05**	**327**	*e*P	P	05 23 25.2	+0.2
	comp=Z,34nm,1.1s,mb5.1						
SJPF	**Ste Jean**	**61.05**	**327**	*e*P	P	05 23 25.2	+0.2
SJPF				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.1						
SMF	**Signal de Mont**	**61.06**	**333**	*e*P	P	05 23 24.4	-0.7
	comp=Z,25nm,1.0s,mb5.0						
SMF	**Signal de Mont**	**61.06**	**333**	*e*P	P	05 23 24.4	-0.7
SMF				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.0						
GUD	**Guadarrama**	**61.10**	**323**	P	P	05 23 25.9	+0.5
GUD				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.9						
GUD	**Guadarrama**	**61.10**	**323**	P	P	05 23 25.9	+0.4
	comp=Z,6.3nm,0.6s,mb4.9						
RJF	**Les Rejaudoux**	**61.16**	**331**	*e*P	P	05 23 26.0	+0.2
	comp=Z,92nm,1.5s,mb5.4						
RJF				*e*R			
	comp=Z,478nm,20.5s						
RJF	**Les Rejaudoux**	**61.16**	**331**	*e*P	P	05 23 26.0	+0.2
RJF				pmax	pmax		
	comp=Z,46nm,1.5s,mb5.4						
RJF				MLR	MLR		
	comp=Z,480nm,20.5s,MS4.6						
MOX	**Moxa**	**61.21**	**340**	*e*P	P	05 23 26.1	0.0
MOX				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.2						
MOX	**Moxa**	**61.21**	**340**	*e*P	P	05

RUE	**Ruedersdorf**	**62.12**	**343**	*e*P	**P**	**05 23 32.3**	**+0.2**
	comp=Z,71nm,1.4s,mb5.6						
EVO	**Evora**	**62.24**	**319**	*e*P	**P**	**05 23 33.9**	**+0.8**
	comp=Z,30nm,1.0s,mb5.1						
EVO				*e*R			
	comp=Z,584nm,17.0s						
ELAN	**Lanestosa**	**62.33**	**326**	P	**P**	**05 23 32.7**	**-1.0**
	comp=Z,11nm,0.7s,mb5.1						
MFF	**Saint Martin d**	**62.90**	**331**	*e*P	**P**	**05 23 37.3**	**-0.1**
	comp=Z,101nm,1.7s,mb5.4						
MFF	**Saint Martin d**	**62.90**	**331**	*e*P	**P**	**05 23 37.3**	**-0.1**
MFF				pmax	pmax		
	comp=Z,51nm,1.7s,mb5.4						
SYO	**Syowa Base**	**62.94**	**180**	⇑P	**P**	**05 23 37.4**	**0.0**
SYO	**Syowa Base**	**62.94**	**180**	⇓pP	pP	05 23 41.7	-6.4
GIVF	**Givet**	**63.28**	**336**	*e*P	**P**	**05 23 39.2**	**-0.7**
BAIF	**Baives**	**63.50**	**336**	*e*P	**P**	**05 23 41.6**	**+0.3**
MAW	**Mawson**	**63.60**	**170**	P	**P**	**05 23 41.5**	**-0.2**
	comp=Z,8.7nm,0.9s,mb4.8,baz=320,slow=10,SNR=4.6						
CMAR	**Chiang Mai Arr**	**63.71**	**66**	P	**P**	**05 23 43.1**	**-0.1**
	comp=Z,10nm,0.9s,mb4.8,baz=261,slow=7.8,SNR=35						
CMAR				LR	LR	05 47 55.0	
	comp=Z,81nm,19.2s,MS3.9,baz=240,slow=33						
ARU	**Arti**	**64.20**	**12**	⇑*i*P	**P**	**05 23 40.3**	**-5.4**
ARU				*e*		05 24 17.1	
ARU				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.3						
LDF	**La Druitiere**	**64.31**	**332**	*e*P	**P**	**05 23 46.1**	**-0.5**
	comp=Z,48nm,1.2s,mb5.1						
LDF	**La Druitiere**	**64.31**	**332**	*e*P	**P**	**05 23 46.1**	**-0.5**
LDF				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.1						
BRVK	**Borovoye**	**64.43**	**20**	*e*P	**P**	**05 23 47.0**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
BRVK	**Borovoye**	**64.43**	**20**	*e*P	**P**	**05 23 47.0**	**-0.3**
	comp=Z,5.7nm,0.7s,mb4.7						
BSEG	**Bad Segeberg**	**64.43**	**342**	*e*P	**P**	**05 23 47.6**	**+0.3**
BVAR	**Borovoye Array**	**64.44**	**20**	P	**P**	**05 23 47.0**	**-0.3**
	comp=Z,5.2nm,0.6s,mb4.7,baz=214,slow=5.3,SNR=37						
BVAR				PcP	PcP	05 24 21.5	+0.1
	comp=Z,5.3nm,0.8s,baz=225,slow=2.1,SNR=9.1						
GRR	**Gorron**	**64.51**	**332**	*e*P	**P**	**05 23 47.3**	**-0.6**
	comp=Z,224nm,1.9s,mb5.6						
GRR	**Gorron**	**64.51**	**332**	*e*P	**P**	**05 23 47.3**	**-0.6**
GRR				pmax	pmax		
	comp=Z,112nm,1.9s,mb5.6						
FLN	**La Foliniere**	**64.59**	**332**	*e*P	**P**	**05 23 47.8**	**-0.6**
	comp=Z,17nm,0.9s,mb4.8						
FLN				*e*R			
	comp=Z,341nm,18.8s						
FLN	**La Foliniere**	**64.59**	**332**	*e*P	**P**	**05 23 47.8**	**-0.6**
FLN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
FLN				MLR	MLR		
	comp=Z,340nm,18.8s,MS4.6						
CHKZ	**Chkalovo**	**65.05**	**20**	*e*P	**P**	**05 23 50.8**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
CHKZ	**Chkalovo**	**65.05**	**20**	*e*P	**P**	**05 23 50.8**	**-0.5**
	comp=Z,15nm,0.9s,mb5.0						
SGMF	**Saint Gilles**	**65.23**	**331**	*e*P	**P**	**05 23 51.7**	**-0.8**
	comp=Z,111nm,1.4s,mb5.4						
SGMF	**Saint Gilles**	**65.23**	**331**	*e*P	**P**	**05 23 51.7**	**-0.8**
SGMF				pmax	pmax		
	comp=Z,56nm,1.4s,mb5.4						
QUIF	**Quistinic**	**65.30**	**330**	*e*P	**P**	**05 23 52.1**	**-0.9**
	comp=Z,220nm,1.6s,mb5.6						
QUIF	**Quistinic**	**65.30**	**330**	*e*P	**P**	**05 23 52.1**	**-0.9**
QUIF				pmax	pmax		
	comp=Z,110nm,1.6s,mb5.6						
ROSF	**Rostrenen**	**65.64**	**330**	*e*P	**P**	**05 23 53.7**	**-1.4**
WMQ	**Urumqi**	**66.07**	**36**	*e*P	**P**	**05 24 01.3**	**+3.3**
WMQ				AP	pP	05 24 05.9	-3.0
WMQ				XP	sP	05 24 08.3	-4.5
WMQ				PP	PP	05 26 29.3	+3.4
WMQ				S	S	05 32 48.3	+6.2
WMQ				AMB	AMB		
	comp=Z,14nm,1.6s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,84nm,5.8s						
WMQ				LR	LR		
	comp=N,741nm,21.4s,MS4.9						
WMQ				LR	LR		
	comp=E,521nm,22.6s,MS4.9						
WMQ				LR	LR		
	comp=Z,812nm,22.4s,MS4.9						
FINES	**FINESS Array B**	**67.99**	**353**	P	**P**	**05 24 09.6**	**-0.2**
	comp=Z,6.8nm,0.9s,mb4.7,baz=146,slow=6.9,SNR=13						
KAF	**Kangasniemi**	**68.62**	**354**	*e*p	**P**	**05 24 12.3**	**-1.4**
	comp=Z,12nm,0.8s,mb4.9,baz=164,slow=6.0						
KAF	**Kangasniemi**	**68.62**	**354**	*e*P	**P**	**05 24 12.3**	**-1.4**
KAF				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
JOF	**Joensuu**	**68.97**	**356**	*e*p	**P**	**05 24 14.0**	**-1.8**
	comp=Z,11nm,1.0s,mb4.8						
NB2	**NORSAR Subarra**	**70.30**	**346**	P	**P**	**05 24 23.3**	**-0.7**
	comp=Z,28nm,1.4s,mb5.0,baz=148,slow=5.8						
NB2	**NORSAR Subarra**	**70.30**	**346**	P	**P**	**05 24 23.3**	**-0.7**
	baz=148,slow=6.2						
NOA	**NORSAR Array B**	**70.30**	**346**	P	**P**	**05 24 23.6**	**-0.4**
	comp=Z,5.7nm,0.9s,mb4.5,baz=150,slow=5.9,SNR=7.6						
SNAA	**Sanae**	**70.61**	**193**	*e*	pP	05 24 44.0	+7.4
SNAA	**Sanae**	**70.61**	**193**	P	**P**	**05 24 26.6**	**+0.8**
	comp=Z,4.6nm,0.8s,mb4.4,baz=90,slow=3.7,SNR=7.7						
SNAA	**Sanae**	**70.61**	**193**	⇑*i*P	**P**	**05 24 26.6**	**+0.9**
SNAA				*e*		05 24 44.0	
SNAA				*e*		05 25 10.3	
SNAA				*e*		05 25 34.6	
NVS	**Novosibirsk**	**70.78**	**25**	*i* P	**P**	**05 24 26.8**	**-0.2**
NVS				pmax	pmax		
	comp=Z,68nm,1.4s,mb5.4						
NVS				pmax	pmax		
	comp=E,11nm,1.8s						
NVS				pmax	pmax		
	comp=N,35nm,1.4s						
ZAL	**Zalesovo**	**70.86**	**27**	P	**P**	**05 24 27.2**	**-0.3**
	comp=N,8.2nm,0.7s,mb4.8,baz=238,slow=5.9,SNR=56						
VNA2	**Neumayer--Watz**	**71.19**	**195**	⇑*i*P	**P**	**05 24 30.9**	**+1.7**
VNA2				*e*		05 24 48.4	
VNA2				*e*		05 25 18.5	
VNA2				*e*		05 25 39.2	
VNA1	**Neumayer--Stat**	**71.23**	**195**	⇑*i*P	**P**	**05 24 31.8**	**+2.3**
VNA1				*e*		05 24 47.0	
VNA1				*e*		05 25 16.9	
VNA1				*e*		05 25 40.1	
VNA3	**Neumayer Olymp**	**71.96**	**195**	⇑*i*P	**P**	**05 24 35.3**	**+1.5**
VNA3				*e*		05 24 52.3	
VNA3				*e*		05 25 20.0	
VNA3				*e*		05 25 42.0	
ARCES	**ARCESS Array B**	**75.94**	**355**	P	**P**	**05 24 56.5**	**-0.3**
	comp=N,7.7nm,0.8s,mb4.7,baz=177,slow=6.4,SNR=16						
ENH	**Enshi**	**76.22**	**57**	*e*P	**P**	**05 24 59.3**	**-0.1**
	comp=N,8.9nm,1.0s,mb4.7						
NWAO	**Narrogin (SRO)**	**76.75**	**122**	P	**P**	**05 25 01.9**	**-0.4**
	comp=N,8.0nm,0.9s,mb4.7,baz=212,slow=9.3,SNR=4.1						
XAN	**Xi'an**	**76.80**	**53**	P	**P**	**05 25 02.3**	**-0.2**
XAN				AP	pP	05 25 12.1	-1.3
XAN				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.6						
ZAK	**Zakamensk**	**78.54**	**36**	*e*P	**P**	**05 25 12.9**	**+1.1**
SONM	**Songino Array**	**79.45**	**39**	P	**P**	**05 25 18.7**	**+1.8**
	comp=Z,7.8nm,0.9s,mb4.6,baz=241,slow=5.5,SNR=32						
ULN	**Ulaanbaatar**	**79.87**	**39**	*i* P	**P**	**05 25 20.0**	**+0.9**
JMIC	**Jan Mayen**	**83.02**	**346**	LR	LR	06 05 25.7	
	comp=Z,295nm,18.3s,MS4.7,baz=88,slow=38						
QSPA	**South Pole Qui**	**84.08**	**180**	⇓*i*P	**P**	**05 25 40.8**	**+0.6**
	comp=Z,18nm,1.2s,mb5.1						
BDFB	**Brasilia**	**85.73**	**255**	P	**P**	**05 25 53.3**	**+3.5**
	comp=Z,5.7nm,1.0s,mb4.8,baz=67,slow=8.5,SNR=5.2						
SSE	**Sheshan**	**86.24**	**58**	*e*P	**P**	**05 25 48.9**	**-3.1**
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.8						
SSE				AMB	AMB		
	comp=Z,54nm,3.9s						
BOD	**Bodaibo**	**87.02**	**31**	*e*P	**P**	**05 25 54.2**	**-1.0**
HIA	**Hailar**	**88.35**	**40**	*e*P	**P**	**05 26 04.0**	**+2.2**
HIA				pmax	pmax		
	comp=Z,29nm,1.4s						
HIA	**Hailar**	**88.35**	**40**	*e*P	**P**	**05 26 04.0**	**+2.2**
	comp=Z,29nm,1.4s,mb5.3						
VNDA	**Vanda**	**90.90**	**169**	LR	LR	06 06 04.7	
	comp=Z,248nm,18.7s,MS4.7,baz=318,slow=35						
ASAR	**Alice Springs**	**91.93**	**114**	P	**P**	**05 26 19.4**	**+0.2**
	comp=Z,4.9nm,0.7s,mb5.0,baz=263,slow=4.6,SNR=34						
ASAR				LR	LR	06 03 31.8	
	comp=Z,169nm,18.4s,MS4.5,baz=98,slow=33						
WRA	**Warramunga Arr**	**92.81**	**110**	P	**P**	**05 26 23.0**	**-0.3**
	comp=Z,4.2nm,1.0s,mb4.8,baz=270,slow=3.2,SNR=21						
STKA	**Stephens Creek**	**97.32**	**123**	P	**P**	**05 26 43.6**	**+0.1**
	comp=Z,1.8nm,0.8s,mb4.5,baz=262,slow=7.1,SNR=2.5						
BILL	**Bilibino**	**108.75**	**18**	*e*P	Pdif	05 27 33.6	+0.1
BILL				*e*		05 32 06.4	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
OTAV	**Otavalo**	**117.50**	**267**	*e*PKPdf	PKPdf	05 31 57.9	+2.4
YKA	**Yellowknife Ar**	**120.40**	**346**	PKP	PKPdf	05 32 01.3	+1.4
	comp=Z,1.9nm,0.8s,baz=27,slow=1.9,SNR=25						
YKA				PKKPbc		05 42 09.8	
	comp=Z,0.4nm,0.8s,baz=208,slow=3.9,SNR=5.5						
ILAR	**Eielson Array**	**121.16**	**3**	PKP	PKPdf	05 32 02.4	+1.0
	comp=Z,1.8nm,0.8s,baz=342,slow=4.5,SNR=8.9						
EDM	**Edmonton**	**127.83**	**339**	*e*PKPdf	PKPdf	05 32 16.6	+2.1
YMR	**Madison River**	**133.48**	**331**	*e*PKPdf	PKPdf	05 32 29.8	+4.3
PDAR	**Pinedale Array**	**134.12**	**328**	PKP	PKPdf	05 32 28.2	+1.4
	comp=Z,1.6nm,0.9s,baz=86,slow=4.7,SNR=8.5						
BMO	**Blue Mountains**	**136.18**	**336**	PKPdf	PKPdf	05 32 33.5	+3.1
TXAR	**Lajitas Array**	**137.96**	**308**	PKhKP		05 32 30.9	
	comp=Z,0.8nm,0.8s,baz=156,slow=2.0,SNR=7.2						
TXAR				PKP	PKPdf	05 32 37.8	+3.6
	comp=Z,1.7nm,0.8s,baz=111,slow=2.8,SNR=10						
TXAR	**Lajitas Array**	**137.96**	**308**	PKP	PKPdf	05 32 37.8	+3.6
MNTX	**Cornudas Mount**	**138.15**	**312**	*e*PKPpre		05 32 26.5	
MNTX				*e*PKPdf	PKPdf	05 32 36.8	+2.4
MSU	**Marysvale**	**138.51**	**325**	PKPpre		05 32 31.3	
MSU				*e*PKPdf	PKPdf	05 32 38.9	+4.0
MVU	**Marysvale**	**138.53**	**325**	*e*PKPpre		05 32 30.5	
MVU				*e*PKPdf	PKPdf	05 32 39.0	+4.0
NVAR	**Mina Array Bea**	**141.79**	**331**	PKhKP		05 32 39.2	
	comp=Z,2.1nm,0.8s,baz=41,slow=2.0,SNR=17						
NVAR				PKP	PKPdf	05 32 44.0	+3.2
	comp=Z,5.0nm,0.9s,baz=141,slow=0.5,SNR=13						
NVAR	**Mina Array Bea**	**141.79**	**331**	PKP	PKPdf	05 32 39.2	-1.6
NVAR				PKP	PKPdf	05 32 44.0	+3.2
NEN	**Nelson**	**142.03**	**325**	*e*PKPdf	PKPdf	05 32 45.0	+3.7
LRV	**Little Rabbit**	**144.69**	**332**	*e*PKPdf	PKPdf	05 32 48.5	+2.7

TAP ***15*** *05:18:49.4, 23.99N×122.33E, h6km±1km, ML3.2*

JMA 15 05:18:49.9±0.2, 24.33N×122.07E, h54km, M2.8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.87**	**81**	P	P	05 19 06.1	0.0
YOJ				*e*S	S	05 19 18.2	0.0
IRIF	**Iriomote-Funau**	**1.51**	**89**	P	P	05 19 15.4	+0.2
IRIF				*e*S	S	05 19 33.5	-0.4
HATJ	**Hateruma jima**	**1.61**	**99**	*e*S	S	05 19 36.1	-0.1
JKRS	**Kuro-shima**	**1.77**	**93**	*e*S	S	05 19 39.7	-0.5
JIJ	**Ishigaki jima**	**1.89**	**89**	P	P	05 19 20.6	+0.2
JIJ				*e*S	S	05 19 41.9	-1.2
JTJ	**Tarama**	**2.42**	**82**	*e*S	S	05 19 56.7	+0.3

IDC ***15*** *05:29:28.3±2.0, 7.23S×147.69E, h80km±16km, mb4.1/7, mb1 4.4/10, mb1mx4.2/15, mbtmp4.4/10, MS3.2/2, Ms1 3.2/2, ms1mx2.8/19, Error ellipse: s-maj=31.8km s-min=13.4km az=118.0*

NEIC ***15*** *05:29:28.2±2.3, 7.17S×147.61E, h82km±22km, mb4.8/4, Error ellipse: s-maj=27.2km s-min=13.2km az=142.0*

ISC 15 05:29:27.2±2.4, 7.2S±0.1×147.5E±0.1, h85km±21km, n22, σ0§63/23, mb4.4/9, 3C-1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.26**	**189**	P	**P**	**05 30 03.3**	**-0.1**
	36nm,0.3s,baz=14,slow=5.3,SNR=110						
PMG				S	**S**	**05 30 30.8**	**+0.4**
	93nm,0.3s,baz=194,slow=20,SNR=10.0						
PMG	**Port Moresby**	**2.26**	**189**	⇑*i*P	**P**	**05 30 03.0**	**-0.4**
CTA	**Charters Tower**	**12.91**	**185**	P	**P**	**05 32 29.4**	**+0.7**
	0.6nm,0.3s,baz=358,slow=14,SNR=5.4						
CTA				LR	LR	05 37 13.5	
	comp=Z,66nm,19.0s,baz=49,slow=36						
CTAO	**Charters Tower**	**12.91**	**185**	*e*P	**P**	**05 32 29.7**	**+0.9**
KAKA	**Kakadu**	**15.85**	**248**	*e*P	**P**	**05 33 06.7**	**0.0**
	12nm,0.4s						
WRAB	**Tennant Creek**	**18.02**	**224**	*e*P	**P**	**05 33 32.8**	**-0.8**
	34nm,0.6s						
WB2	**Warramunga Arr**	**18.02**	**224**	⇓*i*P	**P**	**05 33 32.4**	**-1.2**
WRA	**Warramunga Arr**	**18.03**	**224**	P	**P**	**05 33 33.4**	**-0.4**
	4.2nm,0.3s,baz=51,slow=11,SNR=149						
ASAR	**Alice Springs**	**20.99**	**217**	P	**P**	**05 34 06.3**	**+0.7**
	30nm,0.6s,baz=53,slow=9.4,SNR=417						
ASAR				S	**S**	**05 37 55.4**	**+6.0**
	1.6nm,1.0s,baz=34,slow=27,SNR=4.2						
ASAR				ScP		05 41 41.9	
	1.0nm,1.0s,baz=27,slow=3.2,SNR=4.2						
ASAR				LR	LR	05 41 46.5	
	comp=Z,76nm,18.8s,baz=121,slow=35						
ASPA	**Alice Springs**	**20.99**	**217**	⇑*i*P	**P**	**05 34 05.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**23.93**	**241**	⇑*i*P	**P**	**05 34 35.2**	**+0.7**
	40nm,0.3s,mb5.2						
STKA	**Stephens Creek**	**25.21**	**192**	*e*P	**P**	**05 34 46.1**	**-0.6**
	3.1nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**25.21**	**192**	P	**P**	**05 34 46.4**	**-0.3**
	4.9nm,0.4s,mb4.2,baz=0.7,slow=9.1,SNR=25						
MBWA	**Marble Bar**	**30.25**	**240**	*e*P	**P**	**05 35 31.9**	**-0.6**
	16nm,0.5s,mb4.9						
NWAO	**Narrogin (SRO)**	**38.04**	**224**	P	**P**	**05 36 39.1**	**+0.1**
	8.7nm,0.7s,mb4.7,baz=46,slow=10,SNR=5.3						
NWAO	**Narrogin (SRO)**	**38.04**	**224**	*e*P	**P**	**05 36 38.9**	**-0.1**
	7.0nm,0.7s,mb4.6						
MUN	**Mundaring**	**38.22**	**226**	*e*P	**P**	**05 36 40.8**	**+0.3**
	16nm,1.2s,mb4.7						
CMAR	**Chiang Mai Arr**	**54.26**	**299**	P	**P**	**05 38 48.5**	**+1.4**
	1.4nm,0.6s,mb4.2,baz=114,slow=5.9,SNR=6.5						
ILAR	**Eielson Array**	**86.34**	**23**	P	**P**	**05 42 00.0**	**-0.7**
	1.6nm,0.8s,mb4.0,baz=252,slow=5.2,SNR=9.1						
NVAR	**Mina Array Bea**	**97.66**	**52**	P	**P**	**05 42 53.8**	**-0.1**
	0.4nm,0.7s,mb4.1,baz=248,slow=7.9,SNR=4.2						
YKA	**Yellowknife Ar**	**99.95**	**28**	P	**P**	**05 43 03.8**	**+0.1**
	0.2nm,0.8s,mb3.8,baz=278,slow=4.9,SNR=4.2						
BDFB	**Brasilia**	**152.61**	**146**	PKPbc	PKPdf	05 49 16.5	+8.9
	1.6nm,0.5s,baz=238,slow=8.2,SNR=3.5						
BDFB				pPKPbc		05 49 36.4	
	1.1nm,0.5s,baz=30,slow=3.3,SNR=4.2						

IDC ***15*** *05:36:56.6±1.6, 57.74N×30.97W, mb3.4/6, mb1 3.8/8, mb1mx3.5/22, mbtmp3.5/8, ML2.7/2, MS3.7/5, Ms1 3.6/5, ms1mx3.3/21, Error ellipse: s-maj=85.1km s-min=19.8km az=4.0*

ISC 15 05:36:55.6±1.0, 57.4N±0.1×31.1W±0.2, h10km, n9, σ0§99/9, mb3.4/6, MS3.9/2, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.80**	**28**	Pn	**P**	**05 39 08.3**	**+2.5**
	0.7nm,0.3s,baz=354,slow=3.6,SNR=4.1						
BORG				Sn	**Sn**	**05 40 45.5**	**-0.6**
	0.2nm,0.3s,baz=44,slow=0.6,SNR=3.3						
BORG				LR	LR	05 41 30.9	
	comp=Z,423nm,18.4s,baz=132,slow=33						
FRB	**Frobisher Bay**	**19.26**	**305**	LR	LR	05 47 18.8	
	comp=Z,137nm,19.3s,baz=113,slow=33						
SCHQ	**Schefferville**	**19.95**	**278**	P	**P**	**05 41 29.7**	**-0.6**
	0.1nm,0.3s,baz=256,slow=12,SNR=2.8						
SCHQ				LR	LR	05 48 09.5	
	comp=Z,116nm,19.4s,baz=281,slow=34						
AKASG	**Malin Array Be**	**35.00**	**74**	P	**P**	**05 43 48.9**	**-0.8**
	0.1nm,0.3s,mb3.2,baz=301,slow=5.4,SNR=3.5						
YKA	**Yellowknife Ar**	**39.40**	**313**	P	**P**	**05 44 25.7**	**-1.0**
	0.5nm,0.8s,mb3.3,baz=59,slow=9.1,SNR=6.9						
YKA				LR	LR	05 59 52.0	
	comp=Z,195nm,18.9s,MS4.0,baz=15,slow=35						
BRTR	**Keskin Array B**	**44.50**	**84**	P	**P**	**05 45 08.4**	**-0.1**
	0.2nm,0.4s,mb3.2,baz=306,slow=12,SNR=2.3						
PDAR	**Pinedale Array**	**49.58**	**289**	P	**P**	**05 45 48.1**	**-0.3**
	0.5nm,0.7s,mb3.7,baz=51,slow=5.8,SNR=5.2						
PDAR				LR	LR	06 04 27.9	
	comp=Z,81nm,18.2s,MS3.8,baz=7.0,slow=33						
TXAR	**Lajitas Array**	**56.54**	**273**	P	**P**	**05 46 41.6**	**+1.3**
	0.3nm,0.8s,mb3.4,baz=23,slow=6.9,SNR=2.1						
NVAR	**Mina Array Bea**	**57.25**	**291**	P	**P**	**05 46 45.6**	**+0.4**
	0.4nm,0.7s,mb3.6,baz=51,slow=5.8,SNR=4.5						

CSEM ***15*** *05:46:53.8±0.1, 33.39N×48.38E, h20km, ML3.3, Error ellipse: s-maj=3.2km s-min=1.9km az=86.0*

THR ***15*** *05:46:53.3±0.6, 33.42N×48.42E, h14km±7km, ML3.3*

TEH ***15*** *05:46:54.3, 33.38N×48.22E, h16km, Mn3.4*

ISC 15 05:46:51.5±1.0, 33.40N±0.06×48.32E±0.08, h1km±13km, n19, σ0§93/20, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.03**	**319**	Pg	**Pg**	**05 47 12.1**	**+0.1**
SHGR	**Shooshtar-Gavs**	**1.35**	**162**	*e*PG	**Pg**	**05 47 17.9**	**-0.6**
SHGR				*e*SG	**Sg**	**05 47 36.1**	**-0.2**
SHGR				AML	AML	05 47 41.5	
	comp=N,608nm,0.5s						
SHGR				AML	AML	05 47 41.7	
	comp=E,679nm,0.5s						
IVIS	**Veys**	**1.66**	**313**	Pn	**Pn**	**05 47 22.2**	**+0.3**
IGHG	**Ghaleghazi**	**1.73**	**303**	Pn	**Pn**	**05 47 22.8**	**-0.1**
ASAO	**Ashtian**	**1.82**	**51**	*e*PG	**Pn**	**05 47 25.1**	**+0.8**
ASAO				AML	AML	05 48 00.6	
	comp=N,242nm,0.5s						
ASAO				AML	AML	05 48 00.7	
	comp=E,261nm,0.4s						
SNGE	**Sanandaj**	**1.87**	**335**	*e*PG	**Pg**	**05 47 28.0**	**-0.9**
SNGE				AML	AML	05 47 59.9	
	comp=N,360nm,0.6s						
IRAZ	**Razeghan**	**2.40**	**33**	Lg		05 48 11.3	
IRAZ	**Razeghan**	**2.40**	**33**	Pn	**Pn**	**05 47 35.8**	**+3.2**
IQOM	**Qom**	**2.70**	**57**	Pn	**Pn**	**05 47 37.7**	**+0.9**
QAM	**Qamsar**	**2.94**	**79**	Pn	**Pn**	**05 47 37.0**	**-3.3**
IMHD	**Mahdasht**	**2.99**	**40**	Pn	**Pn**	**05 47 42.0**	**+1.0**
IMHD				Sn	**Sn**	**05 48 16.8**	**-1.2**
IVRN	**Varamin**	**3.24**	**60**	Sn	**Sn**	**05 48 23.3**	**-1.1**
IVRN	**Varamin**	**3.24**	**60**	Pn	**Pn**	**05 47 45.3**	**+0.8**
IGZV	**Gazvin**	**3.36**	**27**	Pn	**Pn**	**05 47 44.6**	**-1.7**
IAFJ	**Afjeh**	**3.72**	**48**	Pn	**Pn**	**05 47 51.7**	**+0.4**
DAMV	**Damavand**	**3.75**	**53**	*e*PN	**Pn**	**05 47 52.0**	**+0.3**
IDMV	**Damavand**	**3.76**	**54**	Pn	**Pn**	**05 47 52.3**	**+0.5**
NASN	**Na'in**	**3.81**	**98**	*e*PN	**Pn**	**05 47 53.0**	**+0.4**
IFIR	**Firoozkooh**	**4.29**	**57**	Pn	**Pn**	**05 47 59.5**	**+0.1**

IDC ***15*** *05:52:11.6±6.4, 13.36N×93.67E, h84km±56km, mb3.5/8, mb1 3.7/9, mb1mx3.5/19, mbtmp3.9/9, ML4.1/1, Error ellipse: s-maj=46.0km s-min=16.8km az=51.0*

ISC 15 05:52:09.4±4.8, 13.3N±0.1×93.7E±0.2, h81km±42km, n9, σ0§60/10, mb3.8/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.18**	**44**	P	**P**	**05 53 54.3**	**+0.6**
	0.8nm,0.3s,baz=234,slow=15,SNR=50						
CMAR				S	**S**	**05 55 13.9**	**-0.5**
	0.2nm,0.3s,baz=236,slow=27,SNR=3.6						
WRA	**Warramunga Arr**	**51.89**	**129**	P	**P**	**06 01 12.3**	**+0.2**
	0.4nm,0.4s,mb3.8,baz=299,slow=10.0,SNR=21						
WRA				PcP	PcP	06 02 23.7	-0.2
	0.2nm,0.5s,baz=318,slow=3.0,SNR=5.1						
ASAR	**Alice Springs**	**53.83**	**133**	P	**P**	**06 01 26.6**	**+0.1**
	0.7nm,0.4s,mb4.0,baz=310,slow=6.8,SNR=15						
BRTR	**Keskin Array B**	**58.63**	**308**	P	**P**	**06 01 59.5**	**-1.1**
	1.0nm,0.6s,mb4.0,baz=103,slow=7.0,SNR=3.9						
STKA	**Stephens Creek**	**64.22**	**135**	P	**P**	**06 02 37.6**	**-0.7**
	1.1nm,0.7s,mb3.8,baz=67,slow=15,SNR=2.7						
GERES	**GERESS Array B**	**73.52**	**317**	P	**P**	**06 03 35.9**	**+0.7**
	0.5nm,0.7s,mb3.4,baz=76,slow=5.5,SNR=5.2						
HFS	**Hagfors**	**73.57**	**329**	P	**P**	**06 03 35.3**	**+0.1**
	2.9nm,0.9s,mb4.0,baz=135,slow=6.1,SNR=3.7						
NOA	**NORSAR Array B**	**74.81**	**330**	P	**P**	**06 03 42.2**	**-0.2**
	0.8nm,0.8s,mb3.5,baz=280,slow=8.6,SNR=2.3						
ILAR	**Eielson Array**	**89.89**	**22**	P	**P**	**06 05 01.1**	**+0.9**
	0.4nm,0.8s,mb3.6,baz=268,slow=5.4,SNR=4.7						

IDC ***15*** *06:19:43.2±4.1, 18.15S×178.46W, h601km±51km, mb3.4/9, mb1 3.6/9, mb1mx3.4/17, mbtmp4.3/9, Error ellipse: s-maj=33.0km s-

JIU2			S	Sg	06 42 34.0	-1.0
JTA	Tamana	0.45 310	⇑P	Pg	06 42 38.3	+0.7
JTA			S	Sg	06 42 44.3	+0.5
JZO	Okuchi	0.61 209	⇓P	Pb	06 42 40.4	-0.1
JTZ	Takazaki	0.78 171	⇑P	Pb	06 42 45.1	+1.6
JTZ			S	Sb	06 42 55.0	+1.2
SONM	Songino Array	23.95 316	P	P	06 47 44.5	+1.3
0.9nm,0.8s,mb3.2,baz=120,slow=10.0,SNR=4.2						
ZAL	Zalesovo	38.85 317	P	P	06 49 54.9	-0.2
0.7nm,0.3s,mb3.8,baz=19,slow=16,SNR=2.9						
BVAR	Borovoye Array	47.26 314	P	P	06 51 03.4	+0.2
1.1nm,0.5s,mb4.1,baz=108,slow=9.4,SNR=5.3						
WRA	Warramunga Arr	52.42 176	P	P	06 51 41.6	-1.6
0.4nm,0.6s,mb3.5,baz=354,slow=8.0,SNR=5.0						
ASAR	Alice Springs	56.09 177	P	P	06 52 09.6	-0.5
0.4nm,0.6s,mb3.6,baz=11,slow=14,SNR=5.2						
ILAR	Eielson Array	57.68 30	P	P	06 52 20.2	-0.6
0.2nm,0.6s,mb3.4,baz=268,slow=6.9,SNR=6.6						
FINES	FINESS Array B	68.45 330	P	P	06 53 31.2	-0.9
1.3nm,0.8s,mb4.0,baz=90,slow=7.6,SNR=9.1						
AKASG	Malin Array Be	72.20 319	P	P	06 53 54.6	-0.4
1.6nm,0.6s,mb4.2,baz=55,slow=6.3,SNR=8.5						
BRTR	Keskin Array B	74.97 308	P	P	06 54 11.8	+0.4
0.7nm,0.7s,mb3.7,baz=68,slow=6.7,SNR=4.2						
GERES	GERESS Array B	81.47 324	P	P	06 54 46.4	-0.4
0.6nm,0.8s,mb3.6,baz=27,slow=6.6,SNR=3.4						

*LDG **15** 07:13:07.2±0.1, 42.79N×0.79E, h11km, Md3.4/4, Ml3.6/35, Error ellipse: s-maj=0.9km s-min=0.7km az=5.0*
*CSEM **15** 07:13:07.3±0.0, 42.80N×0.80E, h10km, MD3.4/1, ML3.6/41, Error ellipse: s-maj=0.7km s-min=0.6km az=146.0*
*MOS **15** 07:13:07.2±3.3, 42.80N×0.80E, h10km, mb3.5/1, Error ellipse: s-maj=7.7km s-min=4.5km az=70.2*
*NEIC **15** 07:13:07.2, 42.79N×0.79E, h11km, ML3.7(STR), ML3.6(LDG), ML3.1(MRB), MN3.0(MDD), After LDG.*
NEIC Felt [III] at Escunyau, Vielha and Vilach; [II] at Aties and Bossost, Spain.

MDD 15 07:13:07.5±0.1, 42.80N×0.81E, h11km, mbLg3.1/47, 3C, Error ellipse: s-maj=1.8km s-min=1.2km az=6.0, PRXIMO II S T LES, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
MELF	Melles	0.08	334	Pg	Pg	07 13 10.8		+0.8
MELF				Lg		07 13 13.0		
MELF	Melles	0.08	334	Pg	Pg	07 13 09.8		-0.2
MELF				Sg	Sg	07 13 13.4		+1.7
MLS	Moulis	0.26	53	Pg	Pg	07 13 12.2		-0.9
MLS				Lg		07 13 17.1		
MLS	Moulis	0.26	53	Pg	Pg	07 13 12.2		-0.9
MLS				Sg	Sg	07 13 17.6		+0.7
SALF	Salau	0.28	98	Pg	Pg	07 13 12.4		-1.1
SALF				Lg		07 13 17.4		
SALF	Salau	0.28	98	Pg	Pg	07 13 12.4		-1.1
RESF	Ens	0.34	271	Pg	Pg	07 13 13.5		-1.2
RESF				Lg		07 13 19.3		
RESF	Ens	0.34	271	Pg	Pg	07 13 13.6		-1.1
EPF	Esparros	0.41	304	ePg	Pg	07 13 15.6		-0.4
EPF				eSg	Sg	07 13 21.2		-0.5
2μm,0.2s								
CSOR	Sort	0.49	150	Pg	Pg	07 13 16.6		-0.9
CSOR				Sg	Sg	07 13 23.5		-0.6
CSOR	Sort	0.49	150	Pg	Pg	07 13 16.6		-0.9
CSOR				Lg		07 13 23.4		
120nm,0.1s								
CSOR	Sort	0.49	150	Pg	Pg	07 13 16.6		-0.9
CSOR				Sg	Sg	07 13 23.5		-0.6
EBIE	Bielsa	0.50	257	Pg	Pg	07 13 16.2		-1.6
EBIE				Lg		07 13 23.6		
EBIE	Bielsa	0.50	257	⇑Pg	Pg	07 13 16.2		-1.5
3.3nm,0.1s,SNR=18								
EBIE				Pn	Pn	07 13 17.1		-3.2
84nm,0.1s,SNR=7.9								
EBIE				Lg		07 13 23.6		
1μm,0.1s,SNR=6.5								
EBIE	Bielsa	0.50	257	Pg	Pg	07 13 16.2		-1.6
84nm,0.1s,SNR=7.9								
GRBF	Gourbit	0.54	85	Pg	Pg	07 13 17.0		-1.5
GRBF				Sg	Sg	07 13 24.9		-0.8
VIEF	Viey	0.58	278	Pg	Pg	07 13 17.6		-1.7
VIEF				Lg		07 13 26.2		
LABF	Labassere	0.59	295	Pg	Pg	07 13 18.0		-1.5
LABF				Lg		07 13 26.0		
LABF	Labassere	0.59	295	Pg	Pg	07 13 18.5		-1.0
LABF				Sg	Sg	07 13 25.9		-1.6
PAND	Andorre	0.61	117	Pg	Pg	07 13 18.8		-1.1
PAND				Lg		07 13 26.6		
CORG	Organya	0.68	146	Pn	Pn	07 13 20.2		-2.7
CORG	Organya	0.68	146	Pn	Pn	07 13 20.2		-2.7
LPEF	Le Peyrat	0.82	79	Pg	Pg	07 13 22.1		-1.9
LPEF				Lg		07 13 35.3		
LPEF	Le Peyrat	0.82	79	Pg	Pg	07 13 22.7		-1.4
LPEF				Sg	Sg	07 13 34.9		-0.2
CAVN	Les Avellanes	0.92	183	Pg	Pg	07 13 24.8		-1.1
CAVN				Sg	Sg	07 13 37.6		-0.7
CAVN	Les Avellanes	0.92	183	Pg	Pg	07 13 24.8		-1.2
CAVN	Les Avellanes	0.92	183	Sg	Sg	07 13 37.6		-0.7
CLLI	Llivia	0.92	110	Pg	Pg	07 13 24.4		-1.6
CLLI	Llivia	0.92	110	Pg	Pg	07 13 24.4		-1.6
REYF	Montagne du Re	0.92	287	Pg	Pg	07 13 24.7		-1.3
REYF				Sg	Sg	07 13 36.8		-1.6
REYF	Montagne du Re	0.92	287	Pg	Pg	07 13 24.8		-1.2
REYF				Lg		07 13 36.7		
CARF	Carcanieres	0.96	95	Pg	Pg	07 13 24.4		-2.4
CARF				Lg		07 13 38.0		
CARF	Carcanieres	0.96	95	Pg	Pg	07 13 25.6		-1.2
CARF				Sg	Sg	07 13 38.1		-1.6
VALF	Valcebollere	0.98	114	Pg	Pg	07 13 25.4		-1.8
ETSF	Etsaut	1.01	276	ePn	Pn	07 13 25.5		-2.1
ETSF				ePg	Pg	07 13 26.2		-1.6
ETSF				eSn	Sn	07 13 38.5		-3.3
ETSF				eSg	Sg	07 13 39.4		-1.9
632nm,0.2s								
ETSF	Etsaut	1.01	276	eP	Pb	07 13 25.5		-1.1
ETSF				e		07 13 39.4		
FDAF	Les Forges d'A	1.01	272	Pg	Pg	07 13 26.2		-1.6
FDAF				Sg	Sg	07 13 39.6		-1.8
EMIR	Miracle	1.03	149	Pg	Pg	07 13 25.8		-2.5
EMIR				Lg		07 13 40.4		
EMIR	Miracle	1.03	149	⇑Pn	Pn	07 13 25.8		-2.1
1.1nm,0.1s,SNR=18								
EMIR				Pg	Pg	07 13 26.7		-1.6
78nm,0.1s,SNR=124								
EMIR				Lg		07 13 40.9		
299nm,0.1s,SNR=22								
EMIR	Miracle	1.03	149	Pg	Pg	07 13 25.8		-2.5
16nm,0.2s,SNR=124								
CBRU	Bruguera	1.14	116	Pg	Pg	07 13 29.1		-1.3
CBRU	Bruguera	1.14	116	Pg	Pg	07 13 29.1		-1.2
ATE	Arette	1.14	285	Pg	Pg	07 13 28.7		-1.7
ATE				Lg		07 13 43.7		
MTLF	Montolieu	1.17	62	ePn	Pn	07 13 28.4		-1.4
MTLF				ePg	Pg	07 13 29.6		-1.3
MTLF				eSn	Sn	07 13 42.7		-3.1
MTLF				eSg	Sg	07 13 44.7		-1.8
900nm,0.2s								
MTLF	Montolieu	1.17	62	eP	Pb	07 13 28.4		-0.9
MTLF				e		07 13 44.7		
LRDF	Laroque-de-Fa	1.28	83	Pg	Pg	07 13 30.7		-2.4
LRDF				Lg		07 13 47.2		
LRDF	Laroque-de-Fa	1.28	83	Pg	Pg	07 13 31.2		-2.0
LRDF				Sg	Sg	07 13 48.3		-2.0
FILF	Fillols	1.31	100	Pg	Pg	07 13 30.0		-3.9
FILF				Sg	Sg	07 13 46.6		-4.8
FILF	Fillols	1.31	100	Pg	Pg	07 13 30.1		-3.7
FILF				Lg		07 13 45.8		
LARF	Larrau	1.34	281	Pg	Pg	07 13 32.2		-2.1
LARF				Lg		07 13 49.3		
LARF	Larrau	1.34	281	Pg	Pg	07 13 32.1		-2.3
LARF				Sg	Sg	07 13 50.0		-2.3
ESAC	San Caprasio	1.44	222	Pn	Pn	07 13 33.6		-0.1
ESAC				Pg	Pg	07 13 34.5		-1.7
ESAC				Lg		07 13 52.5		
ESAC	San Caprasio	1.44	222	⇑Pn	Pn	07 13 33.5		-0.1
22nm,0.1s,SNR=18								
ESAC				Pg	Pg	07 13 34.5		-1.7
746nm,0.3s,SNR=341								
ESAC				Lg		07 13 52.9		
1μm,0.2s,SNR=5.5								
ESAC	San Caprasio	1.44	222	Pn	Pn	07 13 33.6		-0.1
32nm,0.2s,SNR=7.9								
ESAC	San Caprasio	1.44	222	Pg	Pg	07 13 34.5		-1.8
788nm,0.3s,SNR=341								
EPOB	Poblet	1.46	172	Pn	Pn	07 13 33.1		-0.9
EPOB				Pg	Pg	07 13 34.1		-2.7
EPOB				Lg		07 13 52.9		
EPOB	Poblet	1.46	172	Pn	Pn	07 13 33.2		-0.8
2.3nm,0.2s,SNR=7.9								
EPOB				Pg	Pg	07 13 34.1		-2.7
40nm,0.1s,SNR=237								
EPOB				Lg		07 13 52.4		
484nm,0.2s,SNR=30								
CGAR	Garraf	1.52	171	Pg	Pg	07 13 38.8		+0.7
CGAR				Sg	Sg	07 13 59.1		+0.7
CGAR	Garraf	1.52	171	Pg	Pg	07 13 38.8		+0.8
CGAR				Sg	Sg	07 13 59.1		+0.7
SJPF	Ste Jean	1.52	283	ePg	Pg	07 13 35.4		-2.6
SJPF				eSn	Sn	07 13 50.7		-4.2
SJPF				eSg	Sg	07 13 55.1		-3.3
145nm,0.2s								
SJPF	Ste Jean	1.52	283	eP	Pn	07 13 35.4		+0.5
SJPF				e		07 13 55.1		
SJAF	Saint Jean de	1.56	101	Pn	Pn	07 13 35.9		+0.4
SJAF				Sn	Sn	07 13 56.0		+0.1
SJAF	Saint Jean de	1.56	101	Pg	Pg	07 13 36.1		-2.7
SJAF				Sg	Sg	07 13 56.0		-3.7
EJON	La Jonquera	1.58	102	Pn	Pn	07 13 36.2		+0.6
EJON				Pg	Pg	07 13 37.2		-1.8
EJON				Lg		07 13 56.9		
EJON	La Jonquera	1.58	102	Pn	Pn	07 13 35.5		-0.2
0.2nm,0.1s,SNR=65								
EJON				Pg	Pg	07 13 36.3		-2.8
29nm,0.2s,SNR=8.8								
EJON				Lg		07 13 56.9		
149nm,0.2s,SNR=6.4								
EJON	La Jonquera	1.58	102	Pn	Pn	07 13 36.2		+0.5
21nm,0.3s,SNR=65								
EJON	La Jonquera	1.58	102	Pg	Pg	07 13 37.2		-1.9
14nm,0.3s,SNR=8.8								
OSSF	Osses	1.58	287	Pn	Pn	07 13 36.1		+0.3
OSSF				Sn	Sn	07 13 56.1		-0.3
OSSF	Osses	1.58	287	Pg	Pg	07 13 36.1		-3.1
CFON	Fontmartina	1.59	130	Pg	Pg	07 13 36.9		-2.5
CFON				Sg	Sg	07 13 57.4		-3.2
CFON	Fontmartina	1.59	130	Pg	Pg	07 13 36.9		-2.5
CFON				Sg	Sg	07 13 57.4		-3.3
EALK	Alkurruntz	1.75	285	Pn	Pn	07 13 39.8		+1.7
EALK				Pg	Pg	07 13 40.8		-1.8
EALK				Lg		07 14 02.7		
EALK	Alkurruntz	1.75	285	Pn	Pn	07 13 38.4		+0.3
1.2nm,0.2s,SNR=30								
EALK				Pg	Pg	07 13 40.3		-2.2
17nm,0.1s,SNR=11								
EALK				Lg		07 14 03.3		
128nm,0.2s,SNR=13								
EALK	Alkurruntz	1.75	285	Pn	Pn	07 13 39.8		+1.7
56nm,0.4s,SNR=30								
EALK	Alkurruntz	1.75	285	Pg	Pg	07 13 40.8		-1.7
49nm,0.3s,SNR=11								
ERTA	Horta de San J	1.88	191	Pn	Pn	07 13 39.8		-0.1
ERTA				Pg	Pg	07 13 41.6		-3.4
ERTA				Lg		07 14 05.3		
ERTA	Horta de San J	1.88	191	Pn	Pn	07 13 39.8		-0.2
3.2nm,0.2s,SNR=8.2								
ERTA				Pg	Pg	07 13 41.6		-3.5
61nm,0.1s,SNR=4.7								
ERTA				Lg		07 14 05.2		
239nm,0.2s,SNR=13								
EBR	Ebro Roquetas	1.99	187	ePN	Pn	07 13 42.5		+0.9
EBR				eSN	Sn	07 14 09.0		+2.2
LFF	La Frestale	2.14	359	ePn	Pn	07 13 41.5		-2.2
LFF				ePg	Pg	07 13 47.2		-3.1
LFF				eSn	Sn	07 14 06.2		-4.3
LFF				eSg	Sg	07 14 15.1		-3.7
227nm,0.3s								
LFF	La Frestale	2.14	359	eP	Pn	07 13 41.5		-2.2
LFF				e		07 14 06.2		
LFF	La Frestale	2.14	359	ePg	Pg	07 13 47.2		-3.1
LFF				eSn	Sn	07 14 06.2		-4.3
LFF				eSg	Sg	07 14 15.1		-3.7
114nm,0.3s								
CAF	Calviac	2.31	23	ePn	Pn	07 13 43.7		-2.5
CAF				ePg	Pg	07 13 50.5		-3.2
CAF				eSn	Sn	07 14 10.4		-4.5
CAF				eSg	Sg	07 14 20.7		-3.8
141nm,0.2s								
CAF	Calviac	2.31	23	eP	Pn	07 13 43.7		-2.5
CAF				e		07 14 10.4		
RJF	Les Rejaudoux	2.56	11	ePn	Pn	07 13 46.9		-2.8
RJF				ePg	Pg	07 13 54.7		-3.9
RJF				eSn	Sn	07 14 15.9		-5.2
RJF				eSg	Sg	07 14 28.3		-4.4
140nm,0.2s								
RJF	Les Rejaudoux	2.56	11	eP	Pn	07 13 46.9		-2.8
RJF				e		07 14 15.9		
LASF	Ste Croix	2.56	59	ePn	Pn	07 13 47.6		-2.2
LASF				ePg	Pg	07 13 54.9		-3.8
LASF				eSn	Sn	07 14 16.3		-4.9
LASF				eSg	Sg	07 14 28.1		-4.8
143nm,0.2s								
EMOS	Mosqueruela	2.62	202	Pn	Pn	07 13 50.3		-0.2
EMOS				Pg	Pg	07 13 54.9		-4.9
EMOS				Lg		07 14 29.8		
EMOS	Mosqueruela	2.62	202	Pn	Pn	07 13 49.8		-0.8
0.8nm,0.1s,SNR=7.9								
EMOS				Pg	Pg	07 13 54.8		-5.0
35nm,0.3s,SNR=6.9								
EMOS				Lg		07 14 30.0		
23nm,0.1s,SNR=4.0								
EMOS	Mosqueruela	2.62	202	Pn	Pn	07 13 50.3		-0.3
1.8nm,0.1s,SNR=7.9								
EMOS	Mosqueruela	2.62	202	Pg	Pg	07 13 54.9		-4.9
15nm,0.3s,SNR=6.9								
FRNF	Fournols	2.88	25	Pn	Pn	07 13 51.7		-2.6
LBL	Lubilhac	3.00	35	Pn	Pn	07 13 53.9		-2.1
LBL				Pg	Pg	07 14 04.7		-2.8
ELAN	Lanestosa	3.14	279	Pn	Pn	07 13 58.3		+0.2
ELAN				Pg	Pg	07 14 05.8		-4.5
ELAN				Lg		07 14 44.8		
ELAN	Lanestosa	3.14	279	Pn	Pn	07 13 58.3		+0.3
1.2nm,0.2s,SNR=7.7								
ELAN				Pg	Pg	07 14 05.7		-4.6
6.0nm,0.2s,SNR=6.9								
ELAN				Sn	Sn	07 14 34.5		-1.4
12nm,0.3s,SNR=4.0								
ELAN				Lg		07 14 42.9		
15nm,0.3s,SNR=4.0								
ELAN	Lanestosa	3.14	279	Pn	Pn	07 13 58.3		+0.3
5.2nm,0.7s,SNR=7.7								
ELAN	Lanestosa	3.14	279	Pg	Pg	07 14 05.8		-4.5
4.2nm,0.3s,SNR=6.9								
VERF	Verneugheol	3.19	22	Pn	Pn	07 13 55.6		-3.0
PYM	Petit Puy Mans	3.35	27	Pn	Pn	07 13 59.9		-1.0
PYM				Pg	Pg	07 14 11.0		-3.4
COLF	Collangettes	3.42	36	Pn	Pn	07 13 58.1		-3.9
VIVF	Saint-Julien-l	3.47	52	ePn	Pn	07 13 59.7		-3.0
VIVF				ePg	Pg	07 14 11.5		-5.4
VIVF				eSg	Sg	07 14 55.7		-7.4
64nm,0.3s								
TCF	Toulx Ste Croi	3.63	16	ePn	Pn	07 14 01.4		-3.5
TCF				ePg	Pg	07 14 14.9		-5.1
TCF				eSn	Sn	07 14 42.0		-6.3
TCF				eSg	Sg	07 15 01.5		-6.9
33nm,0.2s								
TCF	Toulx Ste Croi	3.63	16	eP	Pn	07 14 01.4		-3.5
TCF				e		07 14 42.0		
AGO	Saint Agoulin	3.65	26	Pn	Pn	07 14 03.5		-1.8
SMRF	Simiane la Rot	3.67	70	ePn	Pn	07 14 03.3		-2.2
SMRF				ePg	Pg	07 14 15.4		-5.4
SMRF				eSg	Sg	07 15 02.9		-6.8
PLDF	La Plantade	3.76	32	Pn	Pn	07 14 05.3		-1.5
PLDF				Pg	Pg	07 14 18.4		-4.1
EIBI	Ibiza	3.79	174	Pn	Pn	07 14 04.8		-2.5
EIBI				Sn	Sn	07 14 46.7		-5.7
EIBI	Ibiza	3.79	174	Pn	Pn	07 14 04.7		-2.5
2.9nm,0.1s,SNR=7.9								
EIBI				Sn	Sn	07 14 46.4		-5.9
7.7nm,0.3s,SNR=7.9								
EIBI	Ibiza	3.79	174	Pn	Pn	07 14 04.8		-2.5
EIBI				Sn	Sn	07 14 46.7		-5.7
4.4nm,0.2s,SNR=7.9								
MFF	Saint Martin d	3.86	350	ePn	Pn	07 14 04.4		-3.9
MFF				eSn	Sn	07 14 46.9		-7.3
MFF				eSg	Sg	07 15 08.3		-7.8
40nm,0.4s								
BGF	Bois d'Agland	4.03	20	ePn	Pn	07 14 07.4		-3.2
BGF				ePg	Pg	07 14 21.5		-6.5
BGF				eSn	Sn	07 14 50.4		-8.0
BGF				eSg	Sg	07 15 13.5		-8.2
124nm,0.3s								
BGF	Bois d'Agland	4.03	20	eP	Pn	07 14 07.4		-3.2
BGF				e		07 14 50.4		
EBEN	Beniarda	4.17	191	Pn	Pn	07 14 10.5		-2.1
EBEN				Pg	Pg	07 14 23.7		-7.1
EBEN				Lg		07 15 10.5		
EBEN	Beniarda	4.17	191	Pn	Pn	07 14 10.5		-2.1
3.6nm,0.2s,SNR=7.4								
EBEN				Pg	Pg	07 14 23.5		-7.2
3.7nm,0.2s,SNR=4.0								
EBEN				Lg		07 15 10.4		
5.3nm,0.4s,SNR=4.0								
EBEN	Beniarda	4.17	191	Pn	Pn	07 14 10.5		-2.1
3.4nm,0.2s,SNR=7.4								
EBEN	Beniarda	4.17	191	Pg	Pg	07 14 23.7		-7.0
2.9nm,0.3s,SNR=7.9								
LMR	La Mourre	4.21	81	ePn	Pn	07 14 10.5		-2.7
LMR				ePg	Pg	07 14 25.3		-6.3
LMR				eSn	Sn	07 14 55.7		-7.3
LMR				eSg	Sg	07 15 19.2		-8.6
10.0nm,0.2s								
LMR	La Mourre	4.21	81	eP	Pn	07 14 10.5		-2.7
LMR				e		07 14 55.7		
ORIF	Oris-en-Rattie	4.24	58	ePn	Pn	07 14 10.7		-2.9
ORIF				ePg	Pg	07 14 24.9		-7.2
ORIF				eSg	Sg	07 15 20.2		-8.4
15nm,0.5s								
GUD	Guadarrama	4.29	242	P	Pn	07 14 13.1		-1.3
GUD						07 15 01.1		
GUD	Guadarrama	4.29	242	Pn	Pn	07 14 13.1		-1.3
GUD				Pg	Pg	07 14 26.6		-6.6
GUD				Sn	Sn	07 15 01.1		-4.0
GUD				Lg		07 15 21.2		
GUD	Guadarrama	4.29	242	Pn	Pn	07 14 12.7		-1.7
1.5nm,0.2s,SNR=5.4								
GUD				Pg	Pg	07 14 24.8		-8.5
4.3nm,0.4s,SNR=4.0								
GUD				Sn	Sn	07 15 01.5		-3.6
6.5nm,0.2s,SNR=4.0								
GUD				Lg		07 15 21.1		
6.5nm,0.2s,SNR=4.0								
GUD	Guadarrama	4.29	242	Pg	Pg	07 14 26.6		-6.7
3.2nm,0.4s,SNR=5.1								
GUD				Sn	Sn	07 15 01.1		-4.0
7.8nm,0.3s,SNR=4.0								
FRF	La Foret Royal	4.34	78	ePn	Pn	07 14 12.6		-2.4
FRF				ePg	Pg	07 14 28.3		-5.9
FRF				eSn	Sn	07 14 58.4		-7.8
FRF				eSg	Sg	07 15 23.4		-8.6
12nm,0.4s								
FRF	La Foret Royal	4.34	78	eP	Pn	07 14 12.6		-2.4
FRF				e		07 14 58.4		
AVF	Avril sur Loir	4.38	24	ePn	Pn	07 14 11.4		-4.3
AVF				ePg	Pg	07 14 27.5		-7.5
AVF				eSn	Sn	07 14 59.8		-7.5
AVF				eSg	Sg	07 15 22.8		-11
20nm,0.3s								
AVF	Avril sur Loir	4.38	24	eP	Pn	07 14 11.4		-4.3
AVF				e		07 14 59.8		
SMF	Signal de Mont	4.41	28	ePn	Pn	07 14 12.9		-3.2
SMF				ePg	Pg	07 14 28.5		-7.1
SMF				eSn	Sn	07 15 00.4		-7.7
SMF				eSg	Sg	07 15 25.4		-9.0
20nm,0.3s								
SMF	Signal de Mont	4.41	28	eP	Pn	07 14 12.9		-3.2
SMF				e		07 15 00.4		
EARI	Arriondas	4.44	279	Pn	Pn	07 14 15.9		-0.5
EARI				Sn	Sn	07 15 05.1		-3.6
EARI	Arriondas	4.44	279	Pn	Pn	07 14 15.9		-0.6
2.6nm,0.2s,SNR=17								
EARI				Sn	Sn	07 15 05.3		-3.5
9.3nm,0.4s,SNR=7.9								
EARI	Arriondas	4.44	279	Pn	Pn	07 14 15.9		-0.6
1.2nm,0.3s,SNR=17								
EARI				Sn	Sn	07 15 05.1		-3.7
8.2nm,0.4s,SNR=7.9								
HYF	Humbligny	4.65	16	ePn	Pn	07 14 15.5		-4.0
HYF				ePg	Pg	07 14 33.9		-6.5
HYF				eSn	Sn	07 15 06.6		-7.6
HYF				eSg	Sg	07 15 33.8		-8.7
SSF	Saint Saulge	4.67	23	ePn	Pn	07 14 15.4		-4.4
SSF				ePg	Pg	07 14 33.9		-6.9
SSF				eSn	Sn	07 15 06.9		-7.8
SSF				eSg	Sg	07 15 34.3		-8.8
16nm,0.3s								
SSF	Saint Saulge	4.67	23	eP	Pn	07 14 15.4		-4.4
SSF				e		07 15 06.9		
MBDF	Montbardon	4.73	64	ePn	Pn	07 14 15.8		-4.8
MBDF				ePg	Pg	07 14 35.4		-6.6
MBDF				eSg	Sg	07 15 36.3		-8.7
7.8nm,0.5s								
ESDC	Sonseca Array	4.76	231	Pn	Pn	07 14 18.3		-2.8
ESDC				Pg	Pg	07 14 34.5		-8.2
ESDC				Sn	Sn	07 15 10.3		-6.7
ESDC				Lg		07 15 36.1		
ESDC	Sonseca Array	4.76	231	Pn	Pn	07 14 18.0		-3.1
2.1nm,0.3s,baz=48,slow=14,SNR=22								
ESDC				Pg	Pg	07 14 34.5		-8.2
1.4nm,0.3s,baz=48,slow=14,SNR=4.6								
ESDC				Sn	Sn	07 15 10.5		-6.5
14nm,0.1s,baz=50,slow=24,SNR=8.5								
ESDC				Lg		07 15 39.8		
1.5nm,0.3s,baz=50,slow=30,SNR=4.0								
ESDC	Sonseca Array	4.76	231	Pn

EQES			Sn	Sn	07 15 36.2	-6.9
EQES			Lg		07 16 14.1	
EQES	**Quesada**	**5.80 212**	Pn	Pn	07 14 33.8	-2.0
5.1nm,0.4s,SNR=4.9						
EQES			Pg	Pg	07 14 55.8	-7.7
5.2nm,0.4s,SNR=7.9						
EQES			Sn	Sn	07 15 36.6	-6.5
3.1nm,0.3s,SNR=4.0						
EQES			Lg		07 16 13.8	
3.0nm,0.5s,SNR=4.0						
EQES	**Quesada**	**5.80 212**	Pn	Pn	07 14 33.6	-2.2
5.6nm,0.5s,SNR=4.9						
EQES			Sn	Sn	07 15 36.2	-6.9
3.8nm,0.3s,SNR=4.0						
LDF	**La Druitiere**	**5.83 354**	*e*Pn	Pn	07 14 31.5	-4.6
LDF			*e*Sn	Sn	07 15 33.0	-11
LDF			*e*Sg	Sg	07 16 10.4	-11
7.3nm,0.2s						
QUIF	**Quistinic**	**5.83 333**	*e*Pn	Pn	07 14 31.7	-4.4
QUIF			*e*Sn	Sn	07 15 33.4	-10
QUIF			*e*Sg	Sg	07 16 10.5	-11
5.2nm,0.2s						
EPON	**Pontenova**	**5.85 278**	Pn	Pn	07 14 36.9	+0.4
EPON			Sn	Sn	07 15 39.1	-5.2
EPON			Lg		07 16 13.4	
EPON	**Pontenova**	**5.85 278**	Pn	Pn	07 14 35.2	-1.2
4.5nm,0.3s,SNR=4.0						
EPON			Sn	Sn	07 15 39.3	-5.1
2.4nm,0.2s,SNR=4.0						
EPON			Lg		07 16 13.4	
9.2nm,0.4s,SNR=4.0						
EPON	**Pontenova**	**5.85 278**	Sn	Sn	07 15 39.1	-5.2
1.8nm,0.3s,SNR=4.0						
ERUA	**La Rua**	**5.88 269**	Pn	Pn	07 14 34.8	-2.0
ERUA			Sn	Sn	07 15 37.7	-7.4
ERUA			Lg		07 16 11.6	
ERUA	**La Rua**	**5.88 269**	Pn	Pn	07 14 34.8	-2.1
3.3nm,0.3s,SNR=7.2						
ERUA			Sn	Sn	07 15 38.4	-6.7
2.7nm,0.2s,SNR=4.0						
ERUA			Lg		07 16 13.5	
5.7nm,0.6s,SNR=4.0						
ERUA	**La Rua**	**5.88 269**	Sn	Sn	07 15 37.7	-7.4
5.8nm,0.5s,SNR=4.0						
SGMF	**Saint Gilles**	**5.94 338**	*e*Pn	Pn	07 14 33.5	-4.2
SGMF			*e*Sn	Sn	07 15 36.5	-10
SGMF			*e*Sg	Sg	07 16 13.5	-12
2.5nm,0.2s						
EINC	**Incio**	**6.01 271**	Pn	Pn	07 14 36.9	-1.8
EINC			Sn	Sn	07 15 42.8	-5.5
EINC			Lg		07 16 19.5	
EINC	**Incio**	**6.01 271**	Pn	Pn	07 14 36.9	-1.8
2.7nm,0.3s,SNR=6.7						
EINC			Sn	Sn	07 15 42.5	-5.8
2.0nm,0.2s,SNR=7.9						
EINC			Lg		07 16 20.7	
6.0nm,0.5s,SNR=4.0						
EINC	**Incio**	**6.01 271**	Sn	Sn	07 15 42.8	-5.5
0.5nm,0.7s,SNR=7.9						
FLN	**La Foliniere**	**6.03 352**	*e*Pn	Pn	07 14 33.5	-5.5
FLN			*e*Sn	Sn	07 15 37.9	-11
FLN			*e*Sg	Sg	07 16 16.5	-12
3.7nm,0.2s						
PGF	**Pioggiola**	**6.04 90**	*e*Pn	Pn	07 14 35.7	-3.4
PGF			*e*Sn	Sn	07 15 40.3	-8.8
9.1nm,0.5s						
SFTF	**Sexfontaines**	**6.17 27**	*e*Pn	Pn	07 14 36.2	-4.7
SFTF			*e*Sg	Sg	07 16 21.1	-12
14nm,0.5s						
EADA	**Adamuz**	**6.18 223**	Pn	Pn	07 14 37.6	-3.5
EADA			Sn	Sn	07 15 43.0	-10
EADA			Lg		07 16 20.8	
EADA	**Adamuz**	**6.18 223**	Pn	Pn	07 14 37.5	-3.6
1.9nm,0.2s,SNR=13						
EADA			Sn	Sn	07 15 43.0	-10
2.2nm,0.2s,SNR=4.5						
EADA			Lg		07 16 21.0	
2.0nm,0.4s,SNR=4.0						
EADA	**Adamuz**	**6.18 223**	Pn	Pn	07 14 37.6	-3.5
1.7nm,0.3s,SNR=13						
ROSF	**Rostrenen**	**6.23 334**	*e*Pn	Pn	07 14 37.5	-4.3
ROSF			*e*Sn	Sn	07 15 42.3	-12
4.2nm,0.3s						
MEZF	**Maizieres J'vi**	**6.43 26**	*e*Pn	Pn	07 14 39.6	-5.0
MEZF			*e*Sg	Sg	07 16 29.4	-12
23nm,0.5s						
HAU	**Haudompre**	**6.50 35**	*e*Pn	Pn	07 14 40.8	-4.8
HAU			*e*Sg	Sg	07 16 31.6	-12
7.4nm,0.3s						
PVRL	**Vila Real**	**6.53 259**	*e*Pn	Pn	07 14 42.6	-3.3
EBER	**Berja**	**6.54 207**	Pn	Pn	07 14 43.7	-2.5
EBER	**Berja**	**6.54 207**	Pn	Pn	07 14 45.5	-0.7
1.8nm,0.2s,SNR=5.0						
EBER	**Berja**	**6.54 207**	Pn	Pn	07 14 43.7	-2.5
HINF	**Hinteralfeld**	**6.58 38**	*e*Sn	Sn	07 15 52.3	-10
HINF			*e*Sg	Sg	07 16 34.0	-13
4.8nm,0.3s						
ELOB	**Lobios**	**6.64 265**	Pn	Pn	07 14 44.5	-3.0
ELOB			Sn	Sn	07 15 54.0	-10
ELOB			Lg		07 16 32.9	
ELOB	**Lobios**	**6.64 265**	Pn	Pn	07 14 44.2	-3.4
1.2nm,0.2s,SNR=7.9						
ELOB			Sn	Sn	07 15 53.9	-10
4.2nm,0.2s,SNR=7.9						
ELOB			Lg		07 16 32.9	
5.5nm,0.3s,SNR=4.0						
ELOB	**Lobios**	**6.64 265**	Pn	Pn	07 14 44.5	-3.0
RFYF	**Reffroy**	**6.68 28**	*e*Pn	Pn	07 14 43.1	-5.0
MTE	**Manteigas**	**6.70 252**	*e*Sg	Sg	07 16 38.9	-12
9.9nm,0.5s						
MTE	**Manteigas**	**6.70 252**	Lg		07 16 38.9	
4.9nm,0.5s						
PCBR	**Castelo Branco**	**6.90 247**	*e*Sn	Sn	07 16 02.3	-8.3
5.2nm,0.5s						
PCBR	**Castelo Branco**	**6.90 247**	Sn	Sn	07 16 02.3	-8.3
2.6nm,0.5s						
EBAD	**Badajoz**	**7.18 238**	Pn	Pn	07 14 51.3	-3.8
EBAD			Sn	Sn	07 16 08.1	-9.4
EBAD	**Badajoz**	**7.18 238**	Pn	Pn	07 14 53.0	-2.1
0.9nm,0.1s,SNR=4.0						
EBAD			Sn	Sn	07 16 08.3	-9.2
3.6nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**7.18 238**	Pn	Pn	07 14 51.3	-3.8
EBAD			Sn	Sn	07 16 08.1	-9.4
EMAZ	**Mazaricos**	**7.19 275**	Pn	Pn	07 14 53.1	-2.2
EMAZ			Sn	Sn	07 16 09.7	-8.1
EMAZ	**Mazaricos**	**7.19 275**	Pn	Pn	07 14 52.9	-2.4
2.5nm,0.2s,SNR=4.0						
EMAZ			Sn	Sn	07 16 10.0	-7.7
1.5nm,0.2s,SNR=4.0						
EMAZ	**Mazaricos**	**7.19 275**	Pn	Pn	07 14 53.1	-2.2
EMAZ			Sn	Sn	07 16 09.7	-8.1
CDF	**Champ du Feu**	**7.21 37**	*e*Pn	Pn	07 14 50.1	-5.5
CDF			*e*Sg	Sg	07 16 54.0	-14
3.4nm,0.4s						
EMIN	**Mina Concepcio**	**7.61 231**	Pn	Pn	07 14 57.4	-3.8
EMIN			Sn	Sn	07 16 19.5	-8.8
EMIN	**Mina Concepcio**	**7.61 231**	Pn	Pn	07 14 57.3	-3.9
0.5nm,0.2s,SNR=7.9						
EMIN			Sn	Sn	07 16 19.5	-8.8
0.5nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**7.61 231**	Pn	Pn	07 14 57.4	-3.8
EMIN			Sn	Sn	07 16 19.5	-8.8
ESPR	**Espera**	**7.83 223**	Pn	Pn	07 15 01.9	-2.3
ESPR	**Espera**	**7.83 223**	Pn	Pn	07 15 01.7	-2.6
0.5nm,0.1s,SNR=4.0						
ESPR			Sn	Sn	07 16 20.1	-14
1.8nm,0.2s,SNR=4.0						
ESPR	**Espera**	**7.83 223**	Pn	Pn	07 15 01.9	-2.4

IDC 15 07:28:33.8±1.1, 13.99N×92.51E, mb3.8/9, mb1 3.9/9, mb1mx3.8/18, mbtmp3.8/9, Error ellipse: s-maj=49.4km s-min=18.0km az=55.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**35.67**	**16**	P	P	07 35 33.7	-1.9
0.4nm,0.8s,baz=220,slow=7.5,SNR=3.2							
ZAL	**Zalesovo**	**40.32**	**353**	P	P	07 36 13.0	-1.5
0.7nm,0.7s,baz=335,slow=12,SNR=3.1							
BVAR	**Borovoye Array**	**42.73**	**340**	P	P	07 36 32.1	-2.1
0.3nm,0.6s,baz=153,slow=6.4,SNR=2.3							
WRA	**Warramunga Arr**	**53.20**	**128**	P	P	07 37 53.9	-2.5
1.1nm,0.7s,baz=314,slow=8.1,SNR=16							
ASAR	**Alice Springs**	**55.12**	**132**	P	P	07 38 08.2	-2.1
0.7nm,0.5s,baz=308,slow=6.9,SNR=15							
BRTR	**Keskin Array B**	**57.33**	**308**	P	P	07 38 23.8	-2.2
0.4nm,0.4s,baz=104,slow=12,SNR=2.2							
FINES	**FINESS Array B**	**66.60**	**331**	P	P	07 39 25.4	-2.4
1.8nm,1.0s,baz=63,slow=6.2,SNR=3.6							
ARCES	**ARCESS Array B**	**69.01**	**340**	P	P	07 39 41.1	-1.8
4.7nm,1.1s,baz=114,slow=11,SNR=2.9							
GERES	**GERESS Array B**	**72.26**	**317**	P	P	07 40 01.4	-1.4
0.1nm,0.3s,baz=104,slow=5.5,SNR=3.9							

IDC 15 07:39:00.6±4.9, 7.23N×91.75E, mb3.4/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.4/4, ML3.8/1, Error ellipse: s-maj=136.4km s-min=30.4km az=77.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.18**	**31**	Pn	P	07 42 10.0	-1.8
0.2nm,0.3s,baz=225,slow=14,SNR=6.1							
SONM	**Songino Array**	**42.35**	**15**	P	P	07 46 56.4	-1.6
0.2nm,0.5s,baz=206,slow=7.7,SNR=4.4							
WRA	**Warramunga Arr**	**49.85**	**124**	P	P	07 47 55.8	-2.1
0.3nm,0.5s,baz=306,slow=8.2,SNR=12							
ASAR	**Alice Springs**	**51.36**	**128**	P	P	07 48 07.3	-2.1
0.5nm,0.9s,baz=309,slow=6.4,SNR=5.7							

BJI ***15*** *07:46:51.6, 14.73N×92.27E, h21km, mB5.4, mb5.0, Ms5.5, Msz5.2*

MOS ***15*** *07:46:52.9±1.1, 14.61N×92.40E, h33km, mb5.5/36, MS5.1/32, Error ellipse: s-maj=10.5km s-min=5.8km az=116.2*

HRVD ***15*** *07:46:53.3±0.2, 14.66N×92.32E, h12km, MW5.5/62, Centroid moment Tensor Solution. LP body waves: s55,c96;Mantle waves: s62,c121; Half duration: 1s4 Moment tensor: Scale 10^17^Nm; Mrr-0.95±.03; Mθθ0.01±.02; Mφφ0.94±.03; Mrθ1.78±.07; Mφθ1.02±.02; Mφr0.40±.07; Best double couple: M0=2.292×10^17^ NP1:φs1°, δ31°, λ-153°. NP2:φs247°, δ76°, λ-61°. Principal axes: T 2.238, Plg26°, Azm315°; N .108, Plg28°, Azm60°; P -2.346, Plg51°, Azm189°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***15*** *07:46:53.3±0.2, 14.57N×92.39E, mb5.2/80, MS5.2/111, MW5.5 Error ellipse: s-maj=5.4km s-min=3.9km az=205.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^17^ Nm; Mrr-1.47; Mθθ0.81; Mφφ0.66; Mrθ0.65; Mφθ0.86; Mφr0.10; Best double couple: M0=1.7×10^17^ NP1:φs34°, δ37°, λ-112°. NP2:φs241°, δ56°, λ-75°. Principal axes: T 1.7, Plg10°, Azm319°; N -.05, Plg13°, Azm52°; P -1.65, Plg74°, Azm192°;*

IDC ***15*** *07:46:54.3±6.7, 14.56N×92.34E, h32km±49km, mb4.6/30, mb1 4.7/31, mb1mx4.7/32, mbtmp4.8/31, ML4.4/1, MS5.0/18, Ms1 5.0/18, ms1mx4.9/24 Error ellipse: s-maj=18.0km s-min=9.1km az=42.0*

ISC 15 07:46:51.6±0.2, 14.63N±0.03×92.37E±0.02, h27km, h27km±.6km: pP-P, n427, σ1s10/371, mb5.1/127, MS5.2/148, 26C-23D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.97**	**173**	*e*P	**Pn**	**07 47 46.0**	**+7.7**
PBA				*e*S	**Sn**	**07 48 23.0**	**+10**
PBA				*e*		07 48 49.8	
comp=E,13μm,1.0s							
PBA				*e*		07 48 50.9	
comp=N,15μm,0.8s							
CMAR	**Chiang Mai Arr**	**7.37**	**58**	Pn	**Pn**	**07 48 39.7**	**-0.7**
comp=N,1.7nm,0.3s,baz=246,slow=15,SNR=18							
CMAR				Sn	**Sn**	**07 49 57.5**	**-6.4**
comp=N,4.8nm,0.3s,baz=248,slow=31,SNR=4.8							
CMAR				LR	LR	07 52 14.8	
comp=N,4μm,18.3s,baz=240,slow=43							
CMAR	**Chiang Mai Arr**	**7.37**	**58**	Pn	**Pn**	**07 48 39.7**	**-0.7**
CMAR				Sn	**Sn**	**07 49 57.5**	**-6.4**
CMAR				LR	LR	07 52 14.8	
CHG	**Chiang Mai**	**7.55**	**56**	PG	**Pn**	**07 48 42.6**	**-0.3**
CHG				SG	Sx	07 50 53.8	
NST	**Nakhon Sawan**	**7.57**	**81**	P	**Pn**	**07 48 41.5**	**-1.7**
CAL	**Calcutta**	**8.75**	**335**	*e*P	**P**	**07 48 57.4**	**-2.2**
CAL				*e*	**Sn**	**07 50 31.9**	**-6.5**
CHRT	**Chiangrai**	**8.80**	**53**	⇑P	**P**	**07 48 58.0**	**-2.2**
comp=N,1μm,1.3s							
NANT	**Nan**	**9.00**	**61**	⇑P	**P**	**07 49 11.0**	**+8.0**
comp=N,75nm,1.0s							
VIS	**Vishakhapatnam**	**9.21**	**291**	*e*P	**P**	**07 49 01.9**	**-4.0**
VIS				*e*S	**Sn**	**07 50 36.3**	**-13**
VIS				*e*		07 50 42.7	
comp=N,804nm,0.4s							
VIS				*e*		07 50 43.4	
comp=E,691nm,0.3s							
AGT	**Agartala**	**9.27**	**354**	*i*P	**P**	**07 49 00.0**	**-6.7**
AGT				*i*		07 50 06.0	
IMP	**Imphal**	**10.21**	**8**	*e*P	**P**	**07 49 17.0**	**-2.8**
KKTK	**Khon Kaen**	**10.22**	**79**	P	**P**	**07 49 26.0**	**+6.0**
comp=E,741nm,0.7s							
SHL	**Shillong**	**10.89**	**358**	⇑*e*P	**P**	**07 49 23.6**	**-5.6**
SHL				*e*		07 49 27.9	
comp=Z,107nm,1.2s							
SHL				*e*	**S**	**07 51 18.0**	**-13**
BOK	**Bokaro**	**10.98**	**327**	⇑*i*P	**P**	**07 49 25.3**	**-5.1**
BOK				*i*	**S**	**07 51 23.0**	**-10**
MDRS	**Chennai**	**11.87**	**264**	*e*	**P**	**07 49 49.0**	**+6.6**
MDRS				*e*S	**S**	**07 51 47.0**	**-8.0**
BLSP	**Bilaspur**	**12.25**	**309**	*i* P	**P**	**07 49 43.2**	**-4.2**
BLSP				*i*	**S**	**07 52 06.0**	**+1.9**
HYB	**Hyderabad**	**13.57**	**284**	*e*P	**P**	**07 50 01.5**	**-3.6**
HYB				*e*S	**S**	**07 52 36.0**	**+0.1**
HYB	**Hyderabad**	**13.57**	**284**	*e*P	**P**	**07 50 01.5**	**-3.6**
comp=Z,62nm,0.8s							
HYB				*e*		07 52 22.0	
HYB				*e*S	**S**	**07 52 36.0**	**+0.1**
HYB	**Hyderabad**	**13.57**	**284**	*i* P	**P**	**07 50 02.0**	**-3.1**
comp=Z,62nm,0.8s							
HYB				*e*		07 52 02.0	
HYB				*e*S	**S**	**07 52 36.0**	**+0.1**
HYB				LR	LR	07 54 28.0	
comp=Z,10nm,24.0s							
PALK	**Pallekele**	**13.58**	**239**	*e*Pn	**P**	**07 50 04.2**	**-1.0**
JIRN	**Jiri**	**14.19**	**337**	*e*P	**P**	**07 50 07.3**	**-5.9**
comp=Z,454nm,0.9s							
NGP	**Nagpur**	**14.23**	**299**	*e*P	**P**	**07 50 12.1**	**-1.7**
NGP				*e*		07 50 22.0	
NGP				*e*S	**S**	**07 52 44.0**	**-7.7**
PKI	**Pulchoki**	**14.42**	**334**	*e*P	**P**	**07 50 10.3**	**-5.9**
comp=Z,550nm,1.0s							
GUN	**Gumba**	**14.53**	**337**	*e*P	**P**	**07 50 11.2**	**-6.4**
comp=Z,132nm,0.7s							
ALBI	**Allahabad**	**14.53**	**319**	*e*P	**P**	**07 50 14.5**	**-3.2**
ALBI				*e*		07 50 26.0	
DMN	**Daman**	**14.58**	**334**	*e*P	**P**	**07 50 13.0**	**-5.3**
comp=Z,552nm,0.8s							
KKN	**Kakani**	**14.66**	**334**	*e*P	**P**	**07 50 13.5**	**-5.9**
comp=Z,124nm,0.7s							
LSA	**Lhasa**	**15.04**	**356**	P	**P**	**07 50 20.0**	**-4.4**
LSA				AP		07 50 31.6	
LSA				XP		07 50 36.6	
LSA				LR	LR		
comp=N,5μm,15.9s							
LSA				LR	LR		
comp=E,12μm,14.6s							
LSA	**Lhasa**	**15.04**	**356**	*e*P	**P**	**07 50 20.1**	**-4.2**
comp=E,15nm,0.7s							
GKN	**Gorkha**	**15.13**	**333**	*e*P	**P**	**07 50 19.6**	**-5.8**
comp=E,434nm,0.5s							
KOD	**Kodaikanal**	**15.19**	**255**	*e*P	**P**	**07 50 30.0**	**+3.6**
KOD				*e*		07 50 36.9	
comp=Z,114nm,1.2s							
KOLN	**Koldanda**	**15.41**	**329**	*e*P	**P**	**07 50 23.8**	**-5.4**
comp=Z,544nm,0.8s							
LATR	**Latur**	**15.62**	**286**	*e*P	**P**	**07 50 30.0**	**-1.9**
LATR				*e*	**S**	**07 53 10.5**	**-14**
TRD	**Trivandrum**	**16.27**	**250**	*e*	**P**	**07 50 47.6**	**+7.4**
comp=Z,83nm,1.1s							
TRD				*e*P		07 50 54.4	
TRD				*e*S	S	07 54 01.4	+22
BHPL	**Bhopal**	**16.52**	**303**	⇓*i*P	**P**	**07 50 40.3**	**-3.0**
BHPL				*e*		07 50 50.0	
comp=Z,263nm,1.7s							
BHPL				*i*	**S**	**07 53 37.1**	**-8.1**
JHNI	**Jhansi**	**16.87**	**312**	*e*P	**P**	**07 50 46.0**	**-1.7**
JHNI				*e*	**S**	**07 53 40.0**	**-13**
QIZ	**Qiongzhong**	**17.29**	**73**	P	**P**	**07 50 54.3**	**+1.2**
QIZ				S	**S**	**07 54 05.0**	**+2.1**
QIZ				XS		07 54 20.3	
QIZ				LR	LR		
comp=N,11μm,18.0s							
QIZ				LR	LR		
comp=Z,7μm,12.6s							
QIZ	**Qiongzhong**	**17.29**	**73**	P	**P**	**07 50 54.0**	**+1.0**
KAD	**Karad**	**17.68**	**281**	*e*P	**P**	**07 50 58.0**	**0.0**
KAD				*e*		07 51 02.4	
comp=Z,74nm,1.5s							
KAD				*e*		07 53 57.2	
GOA	**Goa**	**17.93**	**275**	⇑*e*P	**P**	**07 51 00.5**	**-0.5**
GOA				*e*		07 51 13.2	
comp=Z,112nm,1.5s							
GOA				*e*	**S**	**07 54 10.5**	**-6.8**
POO	**Poona**	**18.17**	**285**	⇓*i*P	**P**	**07 51 03.0**	**-1.0**
comp=Z,80nm,1.0s							
POO				*i*	**S**	**07 54 10.0**	**-13**
AGRA	**Agra**	**18.38**	**315**	*e*P	**P**	**07 51 05.2**	**-1.4**
AGRA				*e*		07 51 10.5	
comp=Z,207nm,0.7s							
PTH	**Pithoragarh**	**18.61**	**325**	*e*P	**P**	**07 51 08.0**	**-1.4**
PTH				*e*	**S**	**07 54 21.9**	**-11**
BOM	**Bombay**	**19.20**	**285**	⇑*e*P	**P**	**07 51 16.4**	**0.0**
BOM				*e*		07 51 19.2	
comp=Z,160nm,1.5s							
BOM				*e*		07 54 05.1	
ASOR	**Ausora**	**19.50**	**319**	*e*P	**P**	**07 51 18.5**	**-1.4**
AYAN	**Aya Nagar**	**19.74**	**317**	*e*P	**P**	**07 51 19.6**	**-3.0**
NDI	**New Delhi**	**19.82**	**317**	⇑*e*P	**P**	**07 51 19.4**	**-3.9**
NDI				*e*P		07 51 21.0	
NDI				*e*		07 51 25.6	
comp=Z,221nm,1.5s							
NDI				*e*		07 54 44.0	
KUDL	**Kundal**	**19.96**	**315**	*e*P	**P**	**07 51 22.8**	**-2.1**
BHGR	**Bahadurgarh**	**20.00**	**317**	*e*P	**P**	**07 51 23.9**	**-1.4**
AJM	**Ajmer**	**20.33**	**308**	⇓*i*P	**P**	**07 51 28.0**	**-0.7**
KHET	**Khetri**	**20.39**	**314**	*e*P	**P**	**07 51 28.9**	**-0.4**
KHET				*e*		07 51 33.1	
comp=Z,184nm,1.2s							
DDI	**Dehra Dun**	**20.43**	**322**	*e*P	**P**	**07 51 28.8**	**-1.0**
DDI				*e*	**S**	**07 55 06.6**	**-5.5**
BHV	**Bhavnagar**	**20.46**	**293**	*e*P	**P**	**07 51 31.0**	**+0.9**
KKR	**Kurukshetra**	**20.93**	**319**	*e*P	**P**	**07 51 34.4**	**-0.5**
KLP	**Kalpa**	**21.22**	**325**	*e*P	**P**	**07 51 38.7**	**+0.9**
KLP				*e*S	**S**	**07 55 27.5**	**+0.1**
SMLA	**Simla**	**21.54**	**322**	⇑*e*	**P**	**07 51 54.3**	**+13**
SMLA				*e*		07 52 00.8	
comp=Z,643nm,1.8s							
SMLA				*e*	S	07 55 53.1	+20
ENH	**Enshi**	**22.15**	**42**	*e*P	**P**	**07 51 47.2**	**+0.1**
comp=Z,182nm,0.9s,mb5.5							
ENH				LR	LR		
comp=Z,7μm,19.0s,MS5.1							
BHK	**Bhakra**	**22.20**	**322**	*e*P	**P**	**07 51 49.2**	**+1.6**
BHK				*e*		07 56 13.0	
DLH	**Dalhousie**	**23.27**	**323**	*e*P	**P**	**07 51 58.0**	**-0.1**
DLH				*e*		07 52 22.0	
JASL	**Jaisalmer**	**23.46**	**305**	*e*P	**P**	**07 52 01.2**	**+1.2**
LZH	**Lanzhou**	**23.71**	**24**	⇑P	**P**	**07 52 03.4**	**+0.9**
LZH				AP		07 52 08.8	
LZH				XP		07 52 12.1	
LZH				PP	PP	07 52 37.3	+1.7
LZH				S	**S**	**07 56 16.8**	**+4.3**
LZH				XS		07 56 25.0	
LZH				AMB	AMB		
comp=Z,135nm,1.4s,mb5.2							
LZH				AMB	AMB		
comp=Z,510nm,4.8s							
LZH				LR	LR		
comp=N,9μm,15.6s							
LZH				LR	LR		
comp=Z,11μm,16.2s,MS5.4							
XAN	**Xi'an**	**24.45**	**35**	P	**P**	**07 52 08.9**	**-0.8**
XAN				AP		07 52 17.8	
XAN				S	**S**	**07 56 25.4**	**+0.3**
XAN				AMB	AMB		
comp=Z,67nm,0.9s,mb5.1							
XAN				AMB	AMB		
comp=Z,560nm,4.6s							
XAN				LR	LR		
comp=E,2μm,16.6s							
XAN				LR	LR		
comp=Z,4μm,16.9s,MS5.0							
QZH	**Quanzhou**	**26.68**	**63**	P	**P**	**07 52 30.0**	**-0.6**
QZH				S	**S**	**07 57 12.0**	**+10**
QZH				LR	LR		
comp=N,2μm,11.2s,MS5.4							
QZH				LR	LR		
comp=E,6μm,12.0s,MS5.4							
QZH				LR	LR		
comp=Z,7μm,11.5s,MS5.5							
TGY	**Tagaytay City**	**27.68**	**87**	P	**P**	**07 52 40.3**	**+0.5**
comp=Z,236nm,0.3s,baz=187,slow=18,SNR=3.2							
TGY				LR	LR	08 03 57.8	
comp=Z,2μm,19.3s,baz=43,slow=37							
TATO	**Taipei**	**29.21**	**65**	PFAKE		07 53 10.0	+16
TATO				LR	LR		
comp=Z,4μm,19.0s,MS5.0							
DGAR	**Diego Garcia**	**29.49**	**223**	PFAKE		07 53 10.0	+14
DGAR				LR	LR		
comp=Z,476nm,20.0s,MS4.1							
NJ2	**Nanjing**	**29.75**	**50**	*e*P	**P**	**07 52 58.3**	**0.0**
NJ2				AP	pP	07 53 10.0	+3.9
NJ2				XP	sP	07 53 14.1	+4.6
NJ2				PP	PP	07 53 55.5	+0.2
NJ2				S	**S**	**07 57 50.0**	**-1.5**
NJ2				XS		07 58 05.0	
NJ2				AMB	AMB		
comp=Z,430nm,7.0s							
NJ2				LR	LR		
comp=Z,410nm,13.6s,MS4.2							
TIA	**Tai'an**	**30.85**	**41**	*e*P	**P**	**07 53 08.3**	**+0.3**
TIA				*e*S	**S**	**07 58 10.0**	**+1.0**
TIA				LR	LR		
comp=N,5μm,13.0s,MS5.5							
TIA				LR	LR		
comp=E,4μm,13.0s,MS5.5							
SSE	**Sheshan**	**31.07**	**53**	*e*P	**P**	**07 53 07.4**	**-2.6**
SSE				XP	sP	07 53 20.1	-1.2
SSE				S	**S**	**07 58 11.8**	**-0.7**
SSE				XS		07 58 26.0	
SSE				AMB	AMB		
comp=Z,26nm,0.7s,mb5.2							
SSE				AMB	AMB		
comp=Z,89nm,3.6s							
SSE				LR	LR		
comp=N,6μm,18.7s,MS5.3							
SSE				LR	LR		
comp=E,3μm,18.6s,MS5.3							
SSE				LR	LR		
comp=Z,4μm,13.1s							
KZA	**Kyzart**	**31.10**	**335**	P	**P**	**07 53 11.7**	**+1.5**
SN

EKS2	**Erkin-Say**	32.20	334	P	P	07 53 20.8 +1.0
	SNR=26					
USP	**Ospenovka**	32.40	335	P	P	07 53 22.0 +0.5
	SNR=23					
BJT	**Baijiatuau**	32.77	35	*e*P	P	07 53 23.8 -0.9
	comp=Z,28nm,0.8s,mb5.2					
BJT				LR	LR	
	comp=Z,3μm,20.0s,MS5.0					
MKAR	**Makanchi Array**	33.16	347	*i* P	P	07 53 28.4 +0.3
MKAR				pmax	pmax	
	comp=Z,85nm,0.8s					
SONM	**Songino Array**	35.10	17	P	P	07 53 45.3 +0.5
	comp=Z,20nm,0.9s,mb5.0,baz=196,slow=7.1,SNR=63					
ULN	**Ulaanbaatar**	35.31	17⇓	*e*P	P	07 53 46.8 +0.2
ULN	**Ulaanbaatar**	35.31	17	*e*P	P	07 53 46.8 +0.2
	comp=Z,30nm,1.1s,mb5.1					
ULN				LR	LR	
	comp=Z,3μm,20.0s,MS5.0					
JOW	**Kunigami**	35.59	64	P	P	07 53 49.2 +0.1
	comp=Z,13nm,0.4s,mb5.2					
JOW				LR	LR	08 09 10.6
	comp=Z,2μm,21.0s,MS4.8,baz=277,slow=38					
ZAK	**Zakamensk**	36.75	12	*e*P	P	07 53 59.1 +0.4
ZAK				*e*		07 55 21.5
INCN	**Inchon**	37.96	47	PFAKE		07 54 20.0 +11
INCN				LR	LR	
	comp=Z,2μm,21.0s,MS4.8					
TLY	**Talaya**	38.06	11	*e*P	P	07 54 10.8 +1.1
TLY				*e*		07 55 38.1
TLY				*e*PPP	PPP	07 55 55.5 -6.6
TLY				*e*S	S	08 00 09.0 +8.8
TLY				*e*SS	SS	08 03 08.5 +30
TLY				pmax	pmax	
	comp=Z,36nm,1.0s,mb5.1					
TLY				MLR	MLR	
	comp=Z,2μm,16.0s,MS5.0					
TLY	**Talaya**	38.06	11	*e*P	P	07 54 11.1 +1.4
	comp=Z,38nm,1.1s,mb5.0					
TLY				LR	LR	
	comp=Z,441nm,19.0s,MS4.3					
SNY	**Shenyang**	38.24	39	⇑P	P	07 54 12.3 +1.0
SNY				AP	pP	07 54 22.1 +2.9
SNY				S	S	08 00 02.9 -0.1
SNY				AMB	AMB	
	comp=Z,10.0nm,0.9s,mb4.5					
SNY				AMB	AMB	
	comp=Z,220nm,4.9s					
SNY				LR	LR	
	comp=E,4μm,13.6s					
SNY				LR	LR	
	comp=Z,4μm,12.7s,MS5.4					
IRK	**Irkutsk**	38.71	12	*e*P	P	07 54 15.5 +0.3
ZAL	**Zalesovo**	39.67	353	P	P	07 54 24.2 +1.1
	comp=Z,46nm,1.0s,mb5.1,baz=299,slow=6.6,SNR=8.3					
ZAL				LR	LR	08 14 50.1
	comp=Z,4μm,18.4s,MS5.2,baz=292,slow=42					
HIA	**Hailar**	41.18	27	P	P	07 54 36.6 +1.1
	comp=Z,10nm,0.8s,mb4.5					
HIA				LR	LR	
	comp=Z,2μm,19.0s,MS5.1					
BVA0	**Borovoye Array**	42.08	340	P	P	07 54 42.9 0.0
BVA0				pmax	pmax	
	comp=Z,4.0nm,1.0s					
BVAR	**Borovoye Array**	42.08	340	P	P	07 54 43.1 +0.2
	comp=Z,13nm,0.8s,mb4.6,baz=143,slow=7.4,SNR=40					
BRVK	**Borovoye**	42.14	340	*e*P	P	07 54 42.8 -0.6
	comp=Z,20nm,0.9s,mb4.8					
BRVK				LR	LR	
	comp=Z,388nm,19.0s,MS4.3					
CHKZ	**Chkalovo**	42.56	341	P	P	07 54 47.2 +0.4
CHKZ				pmax	pmax	
	comp=Z,66nm,0.9s,mb5.4					
MDJ	**Mudanjiang**	43.44	39	P	P	07 54 52.3 -1.8
MDJ				LR	LR	
	comp=Z,2μm,20.0s,MS5.0					
MBWA	**Marble Bar**	44.57	142	*e*P	P	07 55 02.1 -1.4
	comp=Z,63nm,1.1s,mb5.4					
MBWA				LR	LR	
	comp=Z,1μm,21.0s,MS4.9					
RAYN	**Ar Rayn**	45.00	289	P	P	07 55 08.4 +1.4
	comp=Z,35nm,0.8s,mb5.2,SNR=7.1					
BOD	**Bodaibo**	46.09	16	*e*P	P	07 55 14.5 -0.6
BOD				*e*	pP	07 55 23.7 +0.6
FITZ	**Fitzroy Crossi**	46.19	134	*e*P	P	07 55 15.9 -0.5
	comp=Z,130nm,1.0s,mb5.8					
MAJO	**Matsushiro**	46.22	53	*e*P	P	07 55 17.0 +0.5
MAJO				*e*pP	pP	07 55 25.2 +0.7
MAJO				LR	LR	
	comp=Z,2μm,22.0s,MS5.0					
MAT	**Matsushiro**	46.22	53	*e*P	P	07 55 17.0 +0.5
	comp=Z,7.6nm,0.9s,mb4.6					
MAT				LR	LR	
	comp=Z,2μm,19.0s,MS5.1					
MAT	**Matsushiro**	46.22	53	P	P	07 55 17.2 +0.7
MAT				S	S	08 02 00.0 -0.6
KLR	**Kul'dur**	47.16	35	*e*P	P	07 55 25.0 +1.3
KLR				*e*		07 57 17.5
KLR				*e*S	S	08 02 09.5 -4.2
KLR				*e*SS	SS	08 05 40.5 +6.4
KLR				MLR	MLR	
	comp=Z,2μm,16.0s,MS5.1					
MAK	**Makhachkala**	47.62	315	*e*P	P	07 55 30.0 +2.6
MAK				*e*		07 57 01.0
MAK				*e*		08 02 26.0
MAK				pmax	pmax	
	comp=Z,1μm,8.0s					
SVE	**Sverdlovsk**	48.53	337⇓	*i*P	P	07 55 35.0 +0.7
SVE				*e*S	S	08 02 33.0 +0.1
SVE				pmax	pmax	
	comp=Z,140nm,1.8s,mb5.7					
SVE				pmax	pmax	
	comp=Z,270nm,2.0s,mb5.9					
SVE				MLR	MLR	
	comp=Z,3μm,16.0s,MS5.3					
GNI	**Garni**	48.60	311	P	P	07 55 37.0 +1.8
GNI	**Garni**	48.60	311	*c i*P	P	07 55 36.7 +1.6
GNI				pmax	pmax	
	comp=Z,116nm,1.3s					
GNI				MLR	MLR	
	comp=Z,2μm,23.0s					
GNI	**Garni**	48.60	311	P	P	07 55 36.9 +1.8
	comp=Z,21nm,0.6s,mb5.3,baz=152,slow=2.9,SNR=30					
GNI				LR	LR	08 19 45.3
	comp=Z,2μm,18.0s,MS5.0,baz=282,slow=40					
CLNS	**Chul'man**	48.84	23	*e*P	P	07 55 38.5 +1.8
CLNS				*e*		07 57 03.8
CLNS				*e*		07 57 25.1
CLNS				*e*S	S	08 02 36.2 -1.1
CLNS				*e*SS	ScS	08 05 18.4 -5.9
CLNS				pmax	pmax	
	comp=N,13nm,0.9s					
CLNS				pmax	pmax	
	comp=E,12nm,0.9s					
CLNS				pmax	pmax	
	comp=Z,30nm,0.9s,mb5.3					
CLNS				pmax	pmax	
	comp=N,8.0nm,1.0s					
CLNS				pmax	pmax	
	comp=Z,10.0nm,1.0s,mb4.8					
CLNS				pmax	pmax	
	comp=E,9.0nm,0.9s					
CLNS				smax		
	comp=N,140nm,15.7s					
CLNS				smax		
	comp=Z,279nm,12.6s					
CLNS				smax		
	comp=E,120nm,12.3s					
CLNS				MLR	MLR	
	comp=Z,4μm,17.0s,MS5.5					
CLNS				MLR	MLR	
	comp=N,3μm,15.0s,MS5.4					
CLNS				MLR	MLR	
	comp=E,400nm,15.0s,MS5.4					
ARU	**Arti**	49.04	336⇑	*i*P	P	07 55 34.9 -3.4
ARU				*e*		07 56 58.7
ARU				*e*		07 57 26.6
ARU				*e*S	S	08 02 37.2 -2.9
ARU				*e*		08 05 26.6
ARU				*e*SS	SS	08 06 11.3 +4.4
ARU				pmax	pmax	
	comp=Z,58nm,0.9s,mb5.6					
ARU				MLR	MLR	
	comp=Z,3μm,22.5s,MS5.2					
ARU				MLR	MLR	
	comp=N,900nm,20.0s,MS5.1					
ARU				MLR	MLR	
	comp=E,2μm,24.0s,MS5.1					
TI2	**Plekhanov**	49.10	313⇓	*i*P	P	07 55 39.8 +0.9
TI2				*e*S	S	08 02 42.6 +1.5
TI2				*e*S	S	08 02 44.6 +3.5
TI2				MLR	MLR	
	comp=N,400nm,16.0s,MS4.7					
TI2				MLR	MLR	
	comp=E,500nm,16.0s,MS4.7					
TI2				MLR	MLR	
	comp=Z,500nm,16.0s,MS4.6					
ZEI	**Tsey**	50.03	314	*e*P	P	07 55 47.7 +1.7
ZEI				*i* *PP	pP	07 55 54.9 +0.7
ZEI				pmax	pmax	
	comp=Z,27nm,0.8s,mb5.3					
VRT	**Varto**	50.72	309	P	P	07 55 53.3 +2.0
GUMO	**Guam**	50.84	84	PFAKE		07 56 00.0 +7.5
GUMO				LR	LR	
	comp=Z,982nm,21.0s,MS4.8					
EZM	**Erzurum**	51.03	310	P	P	07 55 55.7 +2.0
BCA	**Borcka**	51.25	312	*e*P	P	07 55 56.4 +1.0
KIV	**Kislovodsk**	51.25	315	P	P	07 55 56.7 +1.4
	comp=Z,409nm,0.8s,SNR=13					
KIV	**Kislovodsk**	51.25	315	*d i*P	P	07 55 55.9 +0.6
KIV				*i*	pP	07 56 04.6 +1.2
KIV				*e*S	S	08 03 15.1 +4.3
KIV				pmax	pmax	
	comp=Z,70nm,1.0s,mb5.5					
KIV				MLR	MLR	
	comp=Z,2μm,16.0s,MS5.2					
KIV	**Kislovodsk**	51.25	315	*e*P	P	07 55 55.9 +0.6
	comp=Z,55nm,0.9s,mb5.5					
KIV				LR	LR	
	comp=Z,560nm,19.0s,MS4.6					
GOF	**Gofitskoye**	51.38	317	*e*P	P	07 55 57.0 +0.7
GOF				pmax	pmax	
	comp=Z,30nm,1.0s,mb5.2					
BINT	**Bingol**	51.44	308	*e*P	P	07 55 58.8 +1.9
MUN	**Mundaring**	51.67	154	*e*P	P	07 55 57.0 -1.6
	comp=Z,56nm,0.6s,mb5.7					
ASAJ	**Asahikawa**	51.68	45	P	P	07 56 00.2 +1.7
	comp=Z,14nm,1.2s,mb4.8,baz=350,slow=6.1,SNR=2.1					
SOKR	**Solikamsk**	51.92	336⇓	*i*P	P	07 55 58.0 -2.2
SOKR				pmax	pmax	
	comp=Z,70nm,0.9s,mb5.6					
SOKR				MLR	MLR	
	comp=Z,2μm,18.0s,MS5.1					
EZC	**Erzincan**	52.15	309	P	P	07 56 06.1 +4.0
PTK	**Pertek**	52.28	308	*e*P	P	07 56 02.5 -0.7
GUMT	**Gumushane**	52.56	310	P	P	07 56 06.7 +1.4
YSS	**Yuzh-Sakhalins**	52.73	42	*o e*P	P	07 56 06.3 -0.1
YSS				*e**SP	sP	07 56 14.1 -3.6
YSS				*e*S	S	08 03 28.0 -3.0
YSS				*e*PS	PS	08 03 40.0 -4.5
YSS				*e*		08 05 54.0
YSS				pmax	pmax	
	comp=Z,40nm,0.8s,mb5.4					
YSS				smax		
	comp=N,500nm,7.0s					
YSS				MLR	MLR	
	comp=N,2μm,17.0s,MS5.2					
YSS				MLR	MLR	
	comp=E,700nm,17.0s,MS5.2					
YSS				MLR	MLR	
	comp=Z,2μm,17.0s,MS5.1					
YSS	**Yuzh-Sakhalins**	52.73	42	*e*P	P	07 56 06.9 +0.5
	comp=Z,12nm,0.7s,mb4.9					
YSS				LR	LR	
	comp=Z,1μm,20.0s,MS5.0					
MALT	**Malatya**	52.90	307	*e*P	P	07 56 08.0 +0.1
	comp=Z,10nm,1.0s,mb4.7					
NWAO	**Narrogin (SRO)**	52.92	154	P	P	07 56 07.2 -0.9
	comp=Z,68nm,0.7s,mb5.7,baz=322,slow=8.1,SNR=24					
NWAO	**Narrogin (SRO)**	52.92	154	*e*P	P	07 56 06.4 -1.7
	comp=Z,89nm,1.0s,mb5.7					
NWAO				LR	LR	
	comp=Z,2μm,20.0s,MS5.1					
SOC	**Sochi**	53.19	314	*i* P	P	07 56 09.8 -0.1
SOC				*e*		07 57 13.0
SOC				*e*		07 58 06.1
SOC				*e*PPP	PPP	07 59 13.1 -4.9
SOC				*i* S	S	08 03 36.0 -1.4
SOC				*e*SS	SS	08 07 21.3 +4.9
SOC				pmax	pmax	
	comp=Z,40nm,0.9s,mb5.3					
SOC				pmax	pmax	
	comp=N,16nm,0.8s					
SOC				pmax	pmax	
	comp=E,21nm,0.9s					
SOC				MLR	MLR	
	comp=Z,889nm,16.0s,MS4.9					
SOC				MLR	MLR	
	comp=N,1μm,17.0s,MS5.2					
SOC				MLR	MLR	
	comp=E,1μm,18.0s,MS5.2					
ASF	**Jabal al Asfar**	53.25	299	P	P	07 56 09.9 -0.6
	comp=E,3.9nm,1.0s,mb4.3,baz=31,slow=12,SNR=2.8					
ASF				LR	LR	08 22 23.6
	comp=E,2μm,19.0s,MS5.2,baz=333,slow=40					
GAZ	**Gaziantep**	53.65	306	*e*P	P	07 56 14.2 +0.9
WRA	**Warramunga Arr**	53.70	129	*i* P	P	07 56 13.0 -0.9
WRA				pmax	pmax	
	comp=Z,80nm,0.9s					
WRA	**Warramunga Arr**	53.70	129	P	P	07 56 13.0 -0.9
	comp=Z,80nm,0.9s,mb5.7,baz=310,slow=8.0,SNR=84					
WRA				PcP	PcP	07 57 19.1 -0.7
	comp=Z,11nm,0.7s,baz=321,slow=3.4,SNR=6.7					
WRAB	**Tennant Creek**	53.70	129	*c i*P	P	07 56 13.3 -0.6
WRAB	**Tennant Creek**	53.70	129	*e*P	P	07 56 11.9 -2.0
	comp=Z,14nm,0.6s,mb5.1					
WRAB				LR	LR	
	comp=Z,557nm,22.0s,MS4.6					
WB2	**Warramunga Arr**	53.71	129	*e*P	P	07 56 13.5 -0.5
YAK	**Yakutsk**	54.25	21	*e*P	P	07 56 14.9 -2.5
YAK				*e*S	S	08 03 50.7 -0.8
YAK				pmax	pmax	
	comp=Z,44nm,0.8s,mb5.4					
YAK				pmax	pmax	
	comp=N,9.0nm,1.1s					
YAK				pmax	pmax	
	comp=E,9.0nm,0.9s					
YAK				smax		
	comp=E,4.0nm,1.2s					
YAK	**Yakutsk**	54.25	21	P	P	07 56 16.8 -0.5
	comp=E,36nm,0.6s,mb5.5					
YAK				LR	LR	
	comp=Z,2μm,20.0s,MS5.1					
EIL	**Elat**	54.74	296	P	P	07 56 22.2 +0.7
	comp=Z,3.6nm,0.7s,mb4.5,baz=97,slow=12,SNR=3.6					
EIL	**Elat**	54.74	296	P	P	07 56 22.2 +0.7
ANN	**Anapa**	55.10	315	*e*P	P	07 56 23.0 -0.9
ANN				*i*	pP	07 56 31.6 -0.4
ANN				*i*		07 57 21.0
ANN				*e*PPP	PPP	07 59 43.0 +1.3
ANN				*e*S	S	08 04 07.7 +4.6
ANN				pmax	pmax	
	comp=Z,28nm,1.0s,mb5.2					
ASPA	**Alice Springs**	55.65	133	*e*P	P	07 56 26.8 -1.3
ASPA				*e*S	S	08 04 20.7 +10
ASAR	**Alice Springs**	55.65	133	P	P	07 56 26.6 -1.6
	comp=Z,35nm,0.8s,mb5.5,baz=309,slow=6.8,SNR=118					
ASAR				PcP	PcP	07 57 27.3 0.0
	comp=Z,15nm,0.9s,baz=305,slow=3.7,SNR=7.7					
ASAR				LR	LR	08 22 23.9
	comp=Z,621nm,20.6s,MS4.7,baz=302,slow=38					
NIG	**Nigde**	55.83	306	*e*P	P	07 56 29.5 +0.3
FORT	**Forrest**	56.71	143	*e*P	P	07 56 34.6 -1.0
	comp=Z,281nm,0.7s					
KMBO	**Kilima Mbogo**	56.73	259	P	P	07 56 34.3 -1.7
	comp=Z,1.5nm,0.7s,mb4.1,baz=68,slow=21,SNR=5.4					
KMBO				LR	LR	08 17 21.4
	comp=Z,2μm,21.2s,MS5.1,baz=92,slow=32					
KMBO	**Kilima Mbogo**	56.73	259	*e*P	P	07 56 36.1 +0.1
	comp=Z,20nm,1.9s,mb4.8					
KMBO				LR	LR	
	comp=Z,2μm,21.0s,MS5.1					
TOS	**Tosya**	56.74	310	*e*P	P	07 56 35.6 -0.1
BRTR	**Keskin Array B**	56.82	308	P	P	07 56 35.4 -1.0
	comp=Z,13nm,0.7s,mb5.0,baz=120,slow=7.2,SNR=57					
CANT	**Cankiri**	56.97	309	*e*P	P	07 56 36.5 -0.9
SIM	**Simferopol'**	57.43	314	*e*P	P	07 56 40.8 +0.3
SIM				*e*S	S	08 04 34.5 +0.6
SIM				pmax	pmax	
	comp=Z,30nm,0.9s,mb5.3					
SIM				MLR	MLR	
	comp=Z,2μm,22.7s,MS5.1					
SAFT	**Safranbolu**	57.77	310	*e*P	P	07 56 42.2 -0.7
MOS	**Moscow**	58.47	327	*e*P	P	07 56 47.4 -0.2
MOS				*e*S	S	08 04 45.6 -1.9
MOS				pmax	pmax	
	comp=Z,101nm,1.3s,mb5.7					
MOS				MLR	MLR	
	comp=Z,3μm,16.0s,MS5.4					
OBN	**Obninsk**	58.80	326⇓	*e*P	P	07 56 48.8 -1.2
OBN				*i*	pP	07 56 57.1 -1.1
OBN				*i*		07 57 46.5
OBN				*e*S	S	08 04 54.3 +2.4
OBN				pmax	pmax	
	comp=Z,54nm,1.2s,mb5.5					
OBN				MLR	MLR	
	comp=Z,1μm,14.0s,MS5.2					
OBN	**Obninsk**	58.80	326	*e*P	P	07 56 48.0 -2.0
	comp=Z,118nm,1.5s,mb5.7					
OBN				LR	LR	
	comp=Z,457nm,20.0s,MS4.6					
ESKT	**Eskisehir**	58.93	307	*e*P	P	07 56 50.1 -0.9
PMG	**Port Moresby**	59.34	110	*c i*P	P	07 56 54.6 +0.3
PMG	**Port Moresby**	59.34	110	P	P	07 56 55.0 +0.8
	comp=Z,40nm,0.9s,mb5.4,baz=306,slow=5.4,SNR=15					
PMG	**Port Moresby**	59.34	110	*e*P	P	07 56 54.4 +0.2
	comp=Z,53nm,1.0s,mb5.5					
PMG				LR	LR	
	comp=Z,580nm,20.0s,MS4.7					
ELL	**Elmali**	59.40	304	*e*P	P	07 56 54.4 0.0
TIXI	**Tiksi**	61.02	12	*e*P	P	07 57 03.3 -1.7
TIXI				*e*S	S	08 05 18.5 -1.7
TIXI				*e*SS	SS	08 09 17.9 -3.4
TIXI				pmax	pmax	
	comp=Z,53nm,1.0s,mb5.6					
TIXI				MLR	MLR	
	comp=Z,1μm,16.0s,MS5.2					
TIXI	**Tiksi**	61.02	12⇓	*e*P	P	07 57 03.4 -1.6
TIXI				LR	LR	
	comp=Z,2μm,21.0s,MS5.2					
CFR	**Carcaliu**	61.64	314⇓	*i*P	P	07 57 10.3 +0.8
MA2	**Magadan**	61.70	29	*e*P	P	07 57 11.2 +1.5
MA2				*e*S	S	08 05 30.0 +1.1
MA2				*i*		08 06 55.6
MA2				pmax	pmax	
	comp=Z,30nm,0.9s,mb5.4					
MA2				MLR	MLR	
	comp=Z,3μm,26.0s,MS5.4					
MA2	**Magadan**	61.70	29	*e*P	P	07 57 09.7 0.0
	comp=Z,45nm,1.0s,mb5.6					
MA2				LR	LR	
	comp=Z,1μm,21.0s,MS5.0					
AKASG	**Malin Array Be**	61.85	320	P	P	07 57 09.4 -1.5
	comp=Z,5.4nm,0.7s,mb4.8,baz=87,slow=4.8,SNR=37					
VRI	**Vrincioaia**	62.71	314⇓	*i*P	P	07 57 18.1 +1.4
VRI	**Vrincioaia**	62.71	314⇓	*i*P	P	07 57 18.1 +1.4
MBAR	**Mbarara**	62.78	262	*c i*P	P	07 57 17.6 0.0
MBAR	**Mbarara**	62.78	262	*e*P	P	07 57 17.4 -0.2
MBAR				LR	LR	
	comp=Z,301nm,19.0s,MS4.5					
MLR	**Muntele Rosu**	63.21	314	P	P	07 57 20.0 0.0
	comp=Z,20nm,0.8s,mb5.3,baz=110,slow=2.6,SNR=22					
MLR	**Muntele Rosu**	63.21	314⇓	*i*P	P	07 57 20.4 +0.4
MLR	**Muntele Rosu**	63.21	314⇓	*i*P	P	07 57 20.4 +0.4
CTA	**Charters Tower**	63.22	122	*e*P	P	07 57 20.5 +0.1
	comp=Z,19nm,1.0s,mb5.2					
CTA	**Charters Tower**	63.22	122	P	P	07 57 19.3 -1.1
	comp=Z,22nm,1.0s,mb5.2,baz=309,slow=7.0,SNR=19					
CTAO	**Charters Tower**	63.22	122	*e*P	P	07 57 20.1 -0.2
	comp=Z,45nm,1.2s,mb5.5					
CTAO				LR	LR	
	comp=Z,841nm,20.0s,MS4.9					
IDI	**Anoyia**	63.41	302	P	P	07 57 21.7 +0.3
	comp=Z,12nm,0.8s,mb5.1,baz=77,slow=4.4,SNR=8.6					
MNK	**Minsk**	63.48	324	P	P	07 57 19.0 -2.6
SEY	**Seymchan**	63.61	26	*e*P	P	07 57 23.1 +0.8
SEY						07 59 48.6
SEY				PPP	PPP	08 01 10.9 -4.6
SEY				*e*S	S	08 05 55.3 +2.4
SEY				pmax	pmax	
	comp=Z,50nm,1.1s,mb5.5					
SEY				pmax	pmax	
	comp=N,90nm,0.7s					
SEY				pmax	pmax	
	comp=E,20nm,1.0s					
SEY				smax		
	comp=N,500nm,16.3s					
SEY				smax		
	comp=E,600nm,18.1s					
SEY				MLR	MLR	
	comp=Z,4μm,19.0s,MS5.6					
SEY				MLR	MLR	
	comp=N,2μm,21.0s,MS5.4					
SEY				MLR	MLR	
	comp=E,1μm,18.0s,MS5.4					
RZN	**Rozhen**	63.77	309	*e*P	P	07 57 23.0 -0.8
JOF	**Joensuu**	64.05	334	*e*p	P	07 57 24.0 -1.2
	comp=E,16nm,0.8s,mb5.1					
JOF	**Joensuu**	64.05	334	*e*P	P	07 57 24.0 -1.2
JOF				pmax	pmax	
	comp=Z,16nm,0.8s,mb5.1					
PET	**Petropavlovsk**	64.21	38	PFAKE		07 57 40.0 +14
PET				LR	LR	
	comp=Z,2μm,19.0s,MS5.3					
PGB	**Panagyurishte**	64.23	310	*e*P	P	07 57 26.0 -0.8
VTS	**Vitosha**	64.94	310	*e*P	P	07 57 31.0 -0.4
APA	**Apatity**	64.96	339⇓	*i*P	P	07 57 32.5 +1.5
APA				*i*		07 57 38.7
APA				*i* S	S	08 06 08.0 -1.4
APA				pmax	pmax	
	comp=Z,36nm,1.0s,mb5.4					
APA				MLR	MLR	
	comp=Z,2μm,17.0s,MS5.5					
LVV	**L'vov**	65.00	318	*e*P	P	07 57 28.6 -3.0
LVV				*e*		07 58 11.6
LVV				*e*S	S	08 06 03.6 -6.6
LVV				*e*		08 06 37.2
LVV				MLR	MLR	
	comp=Z,480nm,18.0s,MS4.7					
LVV				MLR	MLR	
	comp=N,650nm,17.0s,MS5.0					
LVV				MLR	MLR	
	comp=E,520nm,17.0s,MS5.0					
KKB	**Krupnik**	65.00	310	*e*P	P	07 57 31.0 -0.7
KWP	**Kalwaria**	65.83	318	*e*P	P	07 57 36.7 -0.2
	comp=E,66nm,1.0s,mb5.6					
KWP				*e*pP	pP	07 57 43.5 -1.7
BOLS	**Boljevac**	65.92	312⇓	*i*P	P	07 57 34.6 -3.0
FINES	**FINESS Array B**	65.98	331	P	P	07 57 36.6 -1.0
	comp=E,11nm,0.7s,mb5.0,baz=104,slow=7.9,SNR=30					
FINES				LR	LR	08 28 10.3
	comp=E,2μm,20.8s,MS5.2,baz=116,slow=38					
KAF	**Kangasniemi**	66.04	332	*e*p	P	07 57 36.7 -1.3
	comp=E,12nm,0.9s,mb4.9,baz=102,slow=6.0					
KAF	**Kangasniemi**	66.04	332	*e*P	P	07 57 36.7 -1.3
KAF				pmax	pmax	
	comp=Z,12nm,0.9s,mb4.9					
KOLS	**Kolonicke sedl**	66.05	317	*e*P	P	07 57 39.6 +1.3
KOLS				*e*pP	pP	07 57 47.0 +0.4
KOLS				*e*		07 57 51.9
STKA	**Stephens Creek**	66.05	135	*e*P	P	07 57 37.9 -0.7
	comp=Z,10nm,1.0s,mb4.8					
STKA	**Stephens Creek**	66.05	135	P	P	07 57 37.3 -1.4
	comp=Z,11nm,0.9s,mb4.9,baz=261,slow=5.3,SNR=8.4					
STKA				LR	LR	08 32 13.1
	comp=Z,911nm,18.6s,MS5.0,baz=301,slow=41					
SUW	**Suwalki**	66.07	323	*e*P	P	07 57 37.8 -0.6
SUW				*e*pP	pP	07 57 46.6 0.0
SKO	**Skopje**	66.23	310	*i* P	P	07 57 39.3 -0.3
SKO				*i*	pP	07 57 46.0 -1.9
CRVS	**Cervenica-Dubn**	66.58	317	*e*P	P	07 57 43.0 +1.3
CRVS				*e*sP	sP	07 57 52.1 -0.9
GRUS	**Gruza**	66.82	312⇓	*i*P	P	07 57 43.2 -0.1
KECS	**Kecovo**	67.19	317	*e*P	pP	07 57 54.6 +0.7
KECS	**Kecovo**	67.19	317	*e*pP	pP	07 57 54.6 +0.7
NIE	**Niedzica**	67.37	318	*e*P	P	07 57 48.4 +1.7
PSZ	**Piszkesteto**	67.56	316	*e*P	P	07 57 48.2 +0.3
OJC	**Ojcow**	67.75	319	*e*P	P	07 57 50.0 +0.9
VYHS	**Vyhne**	68.29	317	*i* P	P	07 57 53.1 +0.6
VYHS				*e*pP	pP	07 58 01.1 +0.3
PKSM	**Moragy**	68.35	314⇓	*e*P	P	07 57 53.5 +0.6
ARCES	**ARCESS Array B**	68.37	340	P	P	07 57 52.2 -0.4
	comp=Z,8.2nm,0.

OKC e*PP pP 07 58 04.9 +1.0
OKC MLR MLR
comp=Z,500nm,18.6s,MS4.8
OKC Ostrava-Krasne 68.80 318 eP P 07 57 56.9 +1.3
OKC epP pP 07 58 04.9 +1.0
OKC eS 08 07 10.7
OKC AMS AMS 08 30 40.0
comp=Z,500nm,18.6s
MORC Moravsky Berou 69.19 318 eP P 07 57 57.6 -0.4
comp=Z,16nm,0.9s,mb5.0
MORC epP pP 07 58 05.3 -1.0
VRAC Vranov 69.79 317 P P 07 58 02.8 +1.1
comp=Z,3.9nm,0.8s,mb4.4,baz=88,slow=6.8,SNR=4.0
TIP Timpagrande 69.83 307 eP P 07 58 02.8 +0.7
DPC Dobruska-Polom 69.99 319 eP P 07 58 04.4 +1.5
DPC epP pP 07 58 12.6 +1.5
DPC eS S 08 07 12.2 +2.1
DPC AMS AMS 08 33 40.0
comp=Z,900nm,20.0s
KSP Ksiaz 70.02 319 eP P 07 58 03.2 +0.2
KSP epP pP 07 58 10.4 -0.9
KSP eS S 08 07 10.0 -0.5
KSP LR LR
comp=Z,3µm,19.6s,MS5.5
LSZ Lusaka 70.05 248 eP P 07 58 04.6 +0.8
comp=Z,54nm,1.6s,mb5.2
LSZ LR LR
comp=Z,1µm,19.0s,MS5.2
UPC Upice 70.19 319 eP P 07 58 05.3 +1.2
UPC epP pP 07 58 13.5 +1.1
BILL Bilibino 70.52 23⇑eP P 07 58 06.1 +0.2
BILL pmax pmax
comp=Z,15nm,0.9s,mb4.9
BILL MLR MLR
comp=Z,2µm,15.0s,MS5.4
BILL Bilibino 70.52 23 eP P 07 58 04.7 -1.2
comp=Z,32nm,1.2s,mb5.1
BILL LR LR
comp=Z,2µm,21.0s,MS5.3
WAKE Wake Island 70.73 74 PFAKE 07 58 20.0 +12
WAKE LR LR
comp=Z,59µm,22.0s
PERS Pernice 70.79 315 eP P 07 58 08.2 +0.3
BSD Bornholm Skovb 70.96 324 *i* P pP 07 58 16.5 -0.5
BSD pmax pmax
comp=Z,25nm,0.9s,mb5.1
BSD MLR MLR
comp=Z,1µm,18.0s,MS5.2
BSD Bornholm Skovb 70.96 324 *i* P pP 07 58 16.5 -0.5
comp=Z,25nm,0.9s
comp=Z,1µm,18.0s
VISS Visnje 71.00 314 eP P 07 58 09.2 0.0
PVCC Panska Ves 71.11 319 eP P 07 58 11.0 +1.3
PVCC e*PP pP 07 58 19.2 +1.2
PVCC MLR MLR
comp=Z,1µm,16.0s,MS5.2
PVCC Panska Ves 71.11 319 eP P 07 58 11.0 +1.3
PVCC epP pP 07 58 19.2 +1.2
PVCC eS 08 07 37.7
PVCC AMS AMS 08 33 50.0
comp=Z,1µm,16.0s
PRU Pruhonice 71.13 318 eP P 07 58 11.2 +1.4
PRU epP pP 07 58 19.1 +1.0
PRU eS S 08 07 26.8 +3.3
PRU AMS AMS 08 36 40.0
comp=Z,1µm,17.3s
BRG Berggiesshubel 71.51 319 eP P 07 58 12.3 +0.2
BRG pmax pmax
comp=Z,30nm,1.1s,mb5.1
BRG MLR MLR
comp=N,850nm,16.6s,MS5.3
BRG MLR MLR
comp=E,1µm,16.6s,MS5.3
BRG MLR MLR
comp=Z,2µm,16.6s,MS5.4
BRG Berggiesshubel 71.51 319 eP P 07 58 12.3 +0.2
comp=Z,30nm,1.1s,mb5.1
BRG *i* 07 58 13.6
BRG LR LR
comp=Z,2µm,16.6s,MS5.4
RUE Ruedersdorf 71.60 321 eP P 07 58 12.9 +0.3
comp=Z,16nm,0.6s,mb5.1
RUE epP pP 07 58 19.6 -1.3
VOY Vojsko 71.65 314 eP P 07 58 12.8 -0.3
VOY *e* pP 07 58 21.2 -0.2
GEC2 GERESS Array S 71.70 317 eP P 07 58 13.3 0.0
GEC2 pmax pmax
comp=Z,26nm,0.9s,mb5.2
GEC2 GERESS Array S 71.70 317 eP P 07 58 13.3 0.0
comp=Z,26nm,0.9s,mb5.2
GERES GERESS Array B 71.70 317 P **P 07 58 13.3 +0.1**
comp=Z,10nm,0.8s,mb4.8,baz=91,slow=6.0,SNR=66
CADS Cadrg 71.75 314 eP P 07 58 13.8 +0.1
KHC Kasperske Hory 71.77 317 eP P 07 58 14.4 +0.7
KHC epP pP 07 58 22.9 +0.9
KHC eS S 08 07 34.3 +3.5
KHC AMS AMS 08 34 00.0
comp=Z,1µm,24.0s
VAE Valguarnera 71.78 305 P **P 07 58 13.7 -0.2**
comp=Z,4.7nm,0.4s,mb4.8,baz=104,slow=12,SNR=1.9
HFS Hagfors 71.80 329 P **P 07 58 13.5 -0.2**
baz=124,slow=5.2
CLL Collm 72.09 320⇑*i* P **P 07 58 15.9 +0.3**
CLL *i* pP 07 58 24.1 +0.2
CLL pmax pmax
comp=Z,12nm,1.1s,mb4.7
CLL Collm 72.09 320⇑*i* P **P 07 58 15.9 +0.3**
comp=Z,12nm,1.1s,mb4.7
CLL *i* pP 07 58 24.1 +0.2
CLL Collm 72.09 320 ⇑P **P 07 58 15.9 +0.3**
comp=Z,logA/T=1.0,mb4.7
CLL *i* *SP sP 07 58 24.1 -2.7
CLL *e* 07 58 31.0
CLL eS S 08 07 30.0 -4.5
WET Wettzell 72.23 317 eP P 07 58 16.6 +0.2
WET pmax pmax
comp=Z,44nm,1.3s,mb5.2
WET Wettzell 72.23 317 eP P 07 58 16.6 +0.2
comp=Z,44nm,1.3s,mb5.2
COP Copenhagen 72.39 324 eP pP 07 58 26.5 +1.0
COP pmax pmax
comp=Z,14nm,0.5s,mb5.2
COP MLR MLR
comp=Z,340nm,17.0s,MS4.7
COP Copenhagen 72.39 324 *i* P pP 07 58 26.5 +1.0
comp=Z,14nm,0.5s
comp=Z,330nm,17.0s
NKC Novy Kostel 72.47 318 eP P 07 58 19.3 +1.5
NKC epP pP 07 58 27.3 +1.1
NKC AMS AMS 08 34 50.0
comp=Z,1µm,19.0s
MOX Moxa 72.99 319 eP P 07 58 22.2 +1.3
MOX *e* 07 58 40.7
MOX pmax pmax
comp=Z,20nm,1.1s,mb5.0
MOX MLR MLR
comp=Z,800nm,21.0s,MS5.0
MOX Moxa 72.99 319 eP P 07 58 22.2 +1.3
comp=Z,20nm,1.1s,mb5.0
MOX epP PcP 07 58 40.7 +2.9
MOX LR LR
comp=Z,800nm,21.0s,MS5.0
MOX Moxa 72.99 319 *i* P **P 07 58 22.2 +1.3**
comp=Z,logA/T=1.3,mb5.0
MOX pP PcP 07 58 41.0 +3.2
MOX L 08 35 23.0
NB2 NORSAR Subarra 73.04 330 P **P 07 58 19.6 -1.4**
comp=Z,21nm,1.0s,mb5.0,baz=90,slow=5.8
NB2 NORSAR Subarra 73.04 330 P **P 07 58 19.6 -1.4**
baz=90,slow=6.2
NOA NORSAR Array B 73.04 330 P **P 07 58 21.2 +0.2**
comp=Z,4.2nm,0.7s,mb4.5,baz=90,slow=5.9,SNR=19
NOA LR LR 08 32 18.7
comp=Z,1µm,21.3s,MS5.2,baz=80,slow=37
NOA NORSAR Array B 73.04 330 P **P 07 58 21.2 +0.2**
NOA LR LR 08 32 18.7
WTTA Wattenberg 73.15 315⇑*i* P **P 07 58 21.6 -0.3**
comp=Z,23nm,1.0s,mb5.1
WATA Walderalm 73.18 315⇓*i* P **P 07 58 22.3 +0.2**
comp=Z,50nm,1.8s,mb5.2
GRA1 Grafenberg Arr 73.29 318 eP P 07 58 23.0 +0.4
comp=Z,71nm,1.4s,mb5.4
GRA1 epP pP 07 58 32.0 +1.1
GRA1 LR LR
comp=Z,900nm,21.9s,MS5.0
GRF Grafenberg Arr 73.29 318 eP P 07 58 23.0 +0.4
GRF e*PP pP 07 58 32.0 +1.1
GRF pmax pmax
comp=Z,71nm,1.4s,mb5.4
GRF MLR MLR
comp=Z,900nm,21.9s,MS5.0
GRF Grafenberg Arr 73.29 318 eP P 07 58 23.0 +0.4
comp=Z,71nm,1.4s,mb5.4
GRF epP pP 07 58 32.0 +1.1
GRF LR LR
comp=Z,900nm,21.9s,MS5.0
SQTA Sankt Quirin 73.44 315⇑*i* P **P 07 58 23.9 +0.3**
comp=Z,24nm,1.2s,mb5.0
MOTA Moosalm 73.50 315⇑*i* P **P 07 58 24.2 +0.3**
comp=Z,12nm,1.0s,mb4.8
BSEG Bad Segeberg 73.65 322 eP P 07 58 25.0 +0.4
BSEG pmax pmax
comp=Z,68nm,1.1s,mb5.5
CLZ Clausthal 73.71 320 eP P 07 58 25.3 +0.3
comp=Z,99nm,1.6s,mb5.5
CLZ epP pP 07 58 34.2 +0.8
KONO Kongsberg 73.86 328 PFAKE 07 58 40.0 +14
KONO LR LR
comp=Z,2µm,20.0s,MS5.3
MUD Monsted U'grnd 74.19 325 *i* P pP 07 58 37.2 +1.1
MUD pmax pmax
comp=Z,34nm,1.1s,mb5.2
MUD MLR MLR
comp=Z,890nm,17.0s,MS5.1
MUD Monsted U'grnd 74.19 325 *i* P pP 07 58 37.2 +1.1
comp=Z,34nm,1.1s
comp=Z,880nm,17.0s
DAVA Damuels 74.34 315⇑*i* P **P 07 58 29.1 +0.3**
comp=Z,34nm,1.1s,mb5.2
DAVOX Davos 74.38 315 P **P 07 58 29.8 +0.8**
comp=Z,2.6nm,0.5s,mb4.4,baz=134,slow=7.1,SNR=4.3
PGF Pioggiola 75.42 311 eP P 07 58 34.2 -0.9
comp=Z,23nm,0.9s,mb4.8
FELD Feldberg 75.55 316 eP P 07 58 36.7 +1.0
LANF Langenberg 75.57 317 eP P 07 58 37.4 +1.6
CDF Champ du Feu 75.98 317 eP P 07 58 37.4 -0.7
comp=Z,43nm,1.2s,mb5.0
RUP Ruppelstein 75.98 318 eP P 07 58 40.6 +2.5
HINF Hinteralfeld 76.33 316 eP P 07 58 39.4 -0.7
SBF Sospel 76.40 312 eP P 07 58 39.9 -0.7
comp=Z,34nm,0.9s,mb5.0
HAU Haudompre 76.64 316 eP P 07 58 41.0 -0.9
comp=Z,47nm,1.1s,mb5.0
HAU *e*R
comp=Z,972nm,19.2s
LPG La Plagne 76.68 314 eP P 07 58 42.1 0.0
comp=Z,74nm,0.9s,mb5.3
LPL La Plagne 76.69 314 eP P 07 58 41.3 -0.9
comp=Z,81nm,0.9s,mb5.3
RSL Roselend 76.74 314 eP P 07 58 43.7 +1.2
MBDF Montbardon 76.76 313 eP P 07 58 42.6 0.0
comp=Z,38nm,1.0s,mb5.0
BNI Bardonecchia 76.79 313 eP P 07 58 42.8 0.0
comp=Z,24nm,1.0s,mb5.1
CABF La Chapelle 76.99 315 eP P 07 58 43.5 -0.4
comp=Z,238nm,1.7s,mb5.5
FRF La Foret Royal 77.01 312 eP P 07 58 43.4 -0.6
comp=Z,106nm,1.4s,mb5.3
LMR La Mourre 77.14 312 eP P 07 58 44.1 -0.6
comp=Z,61nm,1.3s,mb5.1
OG25 Le Caire 77.31 313 eP P 07 58 46.9 +1.3
ORIF Oris-en-Rattie 77.37 313 eP P 07 58 45.8 -0.2
comp=Z,32nm,1.1s,mb4.9
ORIF *e*R
comp=Z,867nm,19.8s
GIVF Givet 77.37 319 eP P 07 58 45.3 -0.5
MEZF Maizieres J'vi 77.44 317 eP P 07 58 45.8 -0.5
OG05 Jujurieux 77.50 315 eP P 07 58 48.2 +1.5
SMRF Simiane la Rot 77.72 312 eP P 07 58 47.9 0.0
comp=Z,78nm,1.3s,mb5.2
BAIF Baives 77.77 319 eP P 07 58 47.9 -0.1
comp=Z,56nm,1.2s,mb5.1
BOSA Boshof 77.79 236 eP P 07 58 48.5 -0.1
comp=Z,28nm,0.8s,mb5.2
BOSA LR LR
comp=Z,865nm,19.0s,MS5.1
VIVF Saint-Julien-l 78.22 313 eP P 07 58 50.2 -0.5
comp=Z,51nm,1.1s,mb5.0
SMF Signal de Mont 78.52 315 eP P 07 58 51.6 -0.6
comp=Z,28nm,0.9s,mb4.9
SSF Saint Saulge 78.68 316 eP P 07 58 52.6 -0.5
comp=Z,75nm,1.4s,mb5.1
AVF Avril sur Loir 78.83 316 eP P 07 58 53.2 -0.7
comp=Z,37nm,1.2s,mb4.9
LASF Ste Croix 78.93 313 eP P 07 58 54.6 +0.1
comp=Z,156nm,1.5s,mb5.4
BGF Bois d'Agland 79.21 315 eP P 07 58 55.8 -0.2
comp=Z,77nm,1.4s,mb5.1
TCF Toulx Ste Croi 79.69 315 eP P 07 58 58.4 -0.2
comp=Z,85nm,1.4s,mb5.2
CAF Calviac 80.04 314 eP P 07 59 00.6 +0.1
comp=Z,43nm,1.3s,mb4.9
MTLF Montolieu 80.23 312 eP P 07 59 01.4 -0.2
comp=Z,69nm,1.3s,mb5.1
RJF Les Rejaudoux 80.35 314 eP P 07 59 02.4 +0.2
comp=Z,46nm,1.2s,mb5.0
RJF *e*R
comp=Z,686nm,20.5s
DAG Danmarks Havn 80.55 347 eP P 07 59 02.0 -0.7
DAG Danmarks Havn 80.55 347 *i* P **P 07 59 02.0 -0.7**
TNA Tin City 80.78 25 eP P 07 59 07.2 +3.1
comp=Z,8.0nm,1.3s,mb4.5
TNA LR LR
comp=Z,972nm,22.0s,MS5.1
LDF La Druitiere 80.81 318 eP P 07 59 03.9 -0.6
comp=Z,17nm,0.8s,mb4.7
LFF La Frestale 80.96 314 eP P 07 59 05.6 +0.2
comp=Z,89nm,1.3s,mb5.2
FLN La Foliniere 81.01 318 eP P 07 59 05.2 -0.4
FLN *e*R
comp=Z,1µm,21.0s
MFF Saint Martin d 81.23 316 eP P 07 59 06.4 -0.4
comp=Z,71nm,1.1s,mb5.2
GRR Gorron 81.33 318 eP P 07 59 06.9 -0.4
CASY Casey 81.80 173 PFAKE 07 59 20.0 +11
CASY LR LR
comp=Z,1µm,20.0s,MS5.3
ETSF Etsaut 82.31 312 eP P 07 59 12.8 +0.4
comp=Z,22nm,0.9s,mb4.8
SGMF Saint Gilles 82.47 318 eP P 07 59 13.0 -0.1
SJPF Ste Jean 82.73 313 eP P 07 59 15.0 +0.3
comp=Z,77nm,1.5s,mb5.2
SUR Sutherland 82.79 234 eP P 07 59 16.9 +1.7
comp=Z,14nm,0.8s,mb5.0
SUR LR LR
comp=Z,257nm,19.0s,MS4.6
MIDW Midway 83.45 63 PFAKE 07 59 30.0 +11
MIDW LR LR
comp=Z,3µm,19.0s,MS5.7
UNV Unalaska Valle 84.76 36 PFAKE 07 59 40.0 +15
UNV LR LR
comp=Z,3µm,19.0s,MS5.7
MAW Mawson 84.77 191 P **P 07 59 26.2 +1.8**
comp=Z,9.3nm,0.8s,mb4.9,baz=55,slow=5.7,SNR=4.2
MAW LR LR 08 35 08.8
comp=Z,365nm,18.2s,MS4.8,baz=174,slow=34
ESDC Sonseca Array 85.57 310 P **P 07 59 29.8 +0.7**
comp=Z,3.0nm,0.9s,mb4.5,baz=76,slow=3.4,SNR=6.1
IMA Indian Mountai 86.06 22 eP P 07 59 32.4 +1.5
comp=Z,82nm,0.9s,mb6.0
SUMG Summit 87.21 347 eP P 07 59 39.0 +2.6
comp=Z,38nm,0.9s,mb5.6
COLA College 88.76 22 PFAKE 08 00 00.0 +16
COLA LR LR
comp=Z,691nm,20.0s,MS5.1
MCK McKinley 88.98 23 eP P 07 59 45.4 +0.3
comp=Z,10nm,1.0s,mb5.1
MCK LR LR
comp=Z,689nm,21.0s,MS5.0
ILAR Eielson Array 89.16 22 P **P 07 59 45.4 -0.5**
comp=Z,2.2nm,1.1s,mb4.4,baz=300,slow=5.2,SNR=12
ILAR PP PP 08 03 09.3 -9.3
comp=Z,1.0nm,0.9s,baz=300,slow=7.3,SNR=2.9
ILAR LR LR 08 45 41.4
comp=Z,584nm,18.3s,MS5.0,baz=146,slow=40
FIB Fire Island 89.82 25 PFAKE 08 00 00.0 +11
FIB LR LR
comp=Z,2µm,22.0s,MS5.5
KDAK Kodiak Island 90.44 29 PFAKE 08 00 00.0 +8.0
KDAK LR LR
comp=Z,212nm,19.0s,MS4.6
RES Resolute Bay 90.76 2 eP P 07 59 54.8 +1.6
comp=Z,6.7nm,0.8s,mb5.0
INK Inuvik 91.01 15 P **P 07 59 54.3 -0.1**
comp=Z,4.7nm,0.9s,mb4.8,baz=107,slow=1.6,SNR=6.0
INK LR LR 08 48 13.1
comp=Z,960nm,18.3s,MS5.3,baz=156,slow=40
INK Inuvik 91.01 15 eP P 07 59 54.2 -0.2
comp=Z,10nm,0.9s,mb5.2
SYO Syowa Base 91.32 197 ⇓P **P 07 59 56.6 +0.8**
SYO Syowa Base 91.32 197 ⇓pP pP 08 00 06.9 +2.6
DIV Divide 91.64 24 PFAKE 08 00 10.0 +13
DIV LR LR
comp=Z,2µm,21.0s,MS5.6
DBIC Dimbokro 95.28 278 P **P 08 00 15.2 -0.1**
comp=Z,0.6nm,0.5s,mb4.3,baz=214,slow=3.6,SNR=2.3
DBIC LR LR 08 47 45.6
comp=Z,616nm,18.8s,MS5.1,baz=46,slow=38
SIT Sitka 98.39 24 PFAKE 08 00 40.0 +12
SIT LR LR
comp=Z,1µm,21.0s,MS5.3
DLBC Dease Lake 99.36 21 LR LR 08 51 17.3
comp=Z,823nm,19.1s,MS5.2,baz=207,slow=39
VNDA Vanda 99.85 168 LR LR 08 46 24.3
comp=Z,897nm,18.2s,MS5.3,baz=303,slow=36
VNDA Vanda 99.85 168 PFAKE 08 00 50.0 +15
VNDA LR LR
comp=Z,1µm,19.0s,MS5.3
YKA Yellowknife Ar 100.27 12 *i* P P 08 00 38.9 +2.1
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 100.27 12 P P 08 00 38.9 +2.1
comp=Z,0.8nm,0.9s,baz=332,slow=3.6,SNR=6.9
YKA PP PP 08 04 39.1 -6.5
comp=Z,1.1nm,1.0s,baz=334,slow=7.8,SNR=6.1
YKA PKKPbc 08 16 53.4
comp=Z,0.5nm,0.8s,baz=155,slow=2.5,SNR=6.9
QSPA South Pole Qui 104.49 180 PFAKE 08 01 10.0 +15
QSPA LR LR
comp=Z,1µm,19.0s,MS5.4
POHA Pohakuloa 104.99 65 PFAKE 08 05 30.0
POHA LR LR
comp=Z,1.0nm,21.0s
NEW Newport 112.11 21 PFAKE 08 05 40.0 +11
NEW LR LR
comp=Z,896nm,19.0s,MS5.4
COR Corvallis 112.73 27 PFAKE 08 05 40.0 +9.2
COR LR LR
comp=Z,698nm,20.0s,MS5.2
HUMO Hull Mountain 114.45 28 PFAKE 08 05 40.0 +5.8
HUMO LR LR
comp=Z,455nm,20.0s,MS5.1
BMO Blue Mountains 114.95 23 PFAKE 08 05 40.0 +4.9
BMO LR LR
comp=Z,517nm,20.0s,MS5.1
YBH Yreka Blue Hor 115.25 28 PFAKE 08 05 40.0 +4.2
YBH LR LR
comp=Z,298nm,19.0s,MS4.9
DGMT Dagmar 115.48 12 PFAKE 08 05 40.0 +3.9
DGMT LR LR
comp=Z,710nm,19.0s,MS5.3
MOD Modoc 116.19 27 PFAKE 08 05 50.0 +12
MOD LR LR
comp=Z,485nm,21.0s,MS5.1
BOZ Bozeman (W) 116.20 19 PFAKE 08 05 50.0 +12
BOZ LR LR
comp=Z,893nm,19.0s,MS5.4
WDC Whiskeytown Da 116.23 29 PFAKE 08 05 50.0 +12
WDC LR LR
comp=Z,440nm,20.0s,MS5.1
WVOR Wild Horse Val 116.46 25 PFAKE 08 05 50.0 +12
WVOR LR LR
comp=Z,615nm,21.0s,MS5.2
LAO LASA Array 116.72 14 PFAKE 08 05 50.0 +11
LAO LR LR
comp=Z,864nm,19.0s,MS5.4
HLID Hailey 117.12 22 PFAKE 08 05 50.0 +11
HLID LR LR
comp=Z,960nm,19.0s,MS5.4
LKWY Lake 117.55 18 PFAKE 08 05 50.0 +10
LKWY LR LR
comp=Z,1µm,20.0s,MS5.5
EYMN Ely 117.62 3 PFAKE 08 05 50.0 +10
EYMN LR LR
comp=Z,1µm,21.0s,MS5.4
EMMW East Machias 118.16 344 PFAKE 08 05 50.0 +8.7
EMMW LR LR
comp=Z,7µm,22.0s,MS6.2
BMN Battle Mountai 118.72 25 PFAKE 08 05 50.0 +7.4
BMN LR LR
comp=Z,291nm,21.0s,MS4.9
WVL Waterville 118.86 345 PFAKE 08 05 50.0 +7.3
WVL LR LR
comp=Z,5µm,21.0s,MS6.2
AHID Auburn Hatcher 118.96 20 PFAKE 08 05 50.0 +7.0
AHID LR LR
comp=Z,942nm,20.0s,MS5.4
CMB Columbia Colle 119.27 29 PFAKE 08 05 50.0 +6.3
CMB LR LR
comp=Z,402nm,19.0s,MS5.1
BW06 Boulder Array 119.44 18 PFAKE 08 05 50.0 +6.1
BW06 LR LR
comp=Z,626nm,19.0s,MS5.3
PDAR Pinedale Array 119.44 18 PKP PKPdf 08 05 39.9 -4.0
comp=Z,0.5nm,0.8s,baz=315,slow=2.1,SNR=4.5
PDAR PP PP 08 07 08.2 +2.7
comp=Z,1.6nm,0.9s,baz=344,slow=3.6,SNR=6.3
PDAR PKKPbc 08 15 51.8
comp=Z,0.6nm,0.8s,baz=153,slow=6.6,SNR=4.0
RSSD Black Hills 119.65 14 PFAKE 08 05 50.0 +5.8
RSSD LR LR
comp=Z,3.0nm,22.0s
SAO San Andreas Ge 119.76 31 PFAKE 08 05 50.0 +5.4
SAO LR LR
comp=Z,383nm,21.0s,MS5.0
NVAR Mina Array Bea 119.91 28 PKKPbc 08 15 51.1
comp=Z,0.5nm,0.9s,baz=170,slow=3.9,SNR=4.0
MNV Mina 119.97 27 PFAKE 08 05 50.0 +5.0
MNV LR LR
comp=Z,453nm,21.0s,MS5.1
NCB Newcomb 120.42 349 PFAKE 08 05 50.0 +4.2
NCB LR LR
comp=Z,969nm,19.0s,MS5.5
PPT Papeete 120.64 102 *e*PP PP 08 07 01.1 -13
PPT *e*SS SS 08 23 46.7 +7.4
PPT *e*LR LR 08 42 46.0
comp=Z,394nm,23.0s
TPH Tonopah 120.68 27 PFAKE 08 06 00.0 +14
TPH LR LR
comp=Z,528nm,21.0s,MS5.2
HRV Harvard--Oak R 121.26 346 PFAKE 08 06 00.0 +13
HRV LR LR
comp=Z,715nm,19.0s,MS5.3
TBI Tubuai 121.26 109 *e*PP PP 08 07 03.0 -15
TBI *e*SS SS 08 23 49.9 +2.6
TBI *e*LR LR 08 43 01.3
comp=Z,589nm,26.5s
WES Weston 121.32 346 PFAKE 08 06 00.0 +12
WES LR LR
comp=Z,1µm,22.0s,MS5.6
DAC Darwin (Calif) 122.00 28 PFAKE 08 06 00.0 +11
DAC LR LR
comp=Z,430nm,19.0s,MS5.1
MVU Marysvale 122.35 23 PFAKE 08 06 00.0 +10
MVU LR LR
comp=Z,417nm,19.0s,MS5.1
BINY Binghamton 122.45 350 PFAKE 08 06 00.0 +10
BINY LR LR
comp=Z,1µm,20.0s,MS5.5
JFWS Jewell Farm 122.70 2 PFAKE 08 06 00.0 +10
JFWS LR LR
comp=Z,969nm,20.0s,MS5.5
ERPA Erie 123.10 353 PFAKE 08 06 00.0 +9.0
ERPA LR LR
comp=Z,1µm,21.0s,MS5.5
AAM Ann Arbor 123.24 356 PFAKE 08 06 00.0 +8.8
AAM LR LR
comp=Z,1µm,19.0s,MS5.5
ISCO Idaho Springs 123.32 17 PFAKE 08 06 00.0 +8.5
ISCO LR LR
comp=Z,899nm,20.0s,MS5.4
PFO Pinyon Flat Ob 124.72 29 PFAKE 08 06 00.0 +5.6
PFO LR LR
comp=Z,104nm,21.0s,MS4.5
ACSO Alum Creek Sta 125.26 356 PFAKE 08 06 00.0 +4.7
ACSO LR LR
comp=Z,1µm,21.0s,MS5.6
SDCO Great Sand Dun 125.27 17 PFAKE 08 06 00.0 +4.7

SDCO					LR	LR			
	comp=Z,916nm,22.0s,MS5.4								
MCWV	**Mont Chateau**	**125.51**	**353**	PFAKE			08 06 00.0	+4.2	
MCWV				LR	LR				
	comp=Z,2μm,21.0s,MS5.7								
CBKS	**Cedar Bluff**	**125.65**	**12**	PFAKE			08 06 00.0	+4.0	
CBKS				LR	LR				
	comp=Z,6.0nm,22.0s								
CBN	**Corbin**	**126.58**	**350**	PFAKE			08 06 10.0	+12	
CBN				LR	LR				
	comp=Z,2μm,22.0s,MS5.7								
WCI	**Wyandotte Cave**	**127.41**	**359**	PFAKE			08 06 10.0	+11	
WCI				LR	LR				
	comp=Z,956nm,20.0s,MS5.5								
CCM	**Cathedral Cave**	**127.49**	**4**	PFAKE			08 06 10.0	+10	
CCM				LR	LR				
	comp=Z,808nm,21.0s,MS5.4								
ANMO	**Albuquerque**	**127.56**	**20**	PKP	PKPdf		08 05 57.6	-2.2	
	comp=Z,2.9nm,1.3s,baz=335,slow=6.8,SNR=2.8								
ANMO	**Albuquerque**	**127.56**	**20**	PKP	PKPdf		08 05 57.6	-2.2	
ANMO				LR	LR				
	comp=Z,827nm,21.0s,MS5.4								
BLA	**Blacksburg**	**128.00**	**353**	PFAKE			08 06 10.0	+9.4	
BLA				LR	LR				
	comp=Z,976nm,20.0s,MS5.5								
TUC	**Tucson**	**128.33**	**25**	PFAKE			08 06 10.0	+8.6	
TUC				LR	LR				
	comp=Z,353nm,20.0s,MS5.0								
RCBR	**Riachuelo**	**128.45**	**274**	PFAKE			08 06 10.0	+7.9	
RCBR				LR	LR				
	comp=Z,474nm,22.0s,MS5.1								
AMTX	**Amarillo**	**128.99**	**15**	PFAKE			08 06 10.0	+7.4	
AMTX				LR	LR				
	comp=Z,914nm,21.0s,MS5.4								
WVT	**Waverly**	**129.52**	**0**	PFAKE			08 06 10.0	+6.4	
WVT				LR	LR				
	comp=Z,986nm,22.0s,MS5.5								
WMOK	**Wichita Mounta**	**129.78**	**12**	PFAKE			08 06 10.0	+5.9	
WMOK				LR	LR				
	comp=Z,723nm,21.0s,MS5.3								
MYNC	**Murphy**	**130.46**	**356**	PFAKE			08 06 10.0	+4.6	
MYNC				LR	LR				
	comp=Z,1μm,19.0s,MS5.5								
MIAR	**Mount Ida**	**130.78**	**6**	PFAKE			08 06 10.0	+4.0	
MIAR				LR	LR				
	comp=Z,1μm,20.0s,MS5.6								
MNTX	**Cornudas Mount**	**130.89**	**20**	PFAKE			08 06 10.0	+3.7	
MNTX				LR	LR				
	comp=Z,483nm,20.0s,MS5.2								
OXF	**Oxford**	**131.11**	**2**	PFAKE			08 06 20.0	+13	
OXF				LR	LR				
	comp=Z,935nm,19.0s,MS5.5								
LRAL	**Lakeview Retre**	**132.61**	**359**	PFAKE			08 06 20.0	+10	
LRAL				LR	LR				
	comp=Z,1μm,21.0s,MS5.6								
NATX	**Nacogdoches**	**133.39**	**8**	PFAKE			08 06 20.0	+9.0	
NATX				LR	LR				
	comp=Z,923nm,19.0s,MS5.5								
LTX	**Lajitas**	**133.64**	**19**	PFAKE			08 06 20.0	+8.5	
LTX				LR	LR				
	comp=Z,844nm,21.0s,MS5.4								
TXAR	**Lajitas Array**	**133.64**	**19**	PKhKP			08 06 04.8		
	comp=Z,0.4nm,0.9s,baz=180,slow=1.3,SNR=3.3								
TXAR				PKP	PKPdf		08 06 09.6	-1.9	
	comp=Z,1.2nm,1.1s,SNR=4.2								
TXAR				PP	PP		08 08 40.4	+0.7	
	comp=Z,0.8nm,0.8s,baz=342,slow=4.0,SNR=4.4								
JCT	**Junction City**	**133.65**	**15**	PFAKE			08 06 20.0	+8.5	
JCT				LR	LR				
	comp=Z,702nm,19.0s,MS5.4								
HKT	**Hockley**	**134.99**	**10**	PFAKE			08 06 20.0	+6.0	
HKT				LR	LR				
	comp=Z,786nm,19.0s,MS5.5								
SJG	**San Juan**	**141.18**	**326**	PFAKE			08 06 30.0	+4.4	
SJG				LR	LR				
	comp=Z,620nm,22.0s,MS5.3								
BDFB	**Brasilia**	**141.78**	**263**	PKhKP			08 06 17.1		
	comp=Z,1.6nm,0.6s,baz=313,slow=10,SNR=3.3								
BDFB				PKP	PKPdf		08 06 23.9	-2.8	
	comp=Z,2.9nm,0.9s,baz=215,slow=12,SNR=3.3								
BDFB	**Brasilia**	**141.78**	**263**	PKP	PKPdf		08 06 23.9	-2.8	
TEIG	**Tepich**	**145.36**	**1**	*e*PKPdf	PKPdf		08 06 29.1	-3.7	
TEIG				LR	LR				
	comp=Z,368nm,20.0s,MS5.2								
TRQA	**Tornquist**	**147.44**	**219**	*e*PKPbc	PKPdf		08 06 34.9	-0.9	
TRQA				LR	LR				
	comp=Z,574nm,20.0s,MS5.4								
CPUP	**Villa Florida**	**149.40**	**243**	PKP	PKPdf		08 06 36.6	-2.7	
	comp=Z,0.0nm,0.6s,baz=246,slow=12,SNR=2.2								
CPUP				PKPbc	PKPdf		08 06 39.8	+0.5	
	comp=Z,0.0nm,0.3s,baz=251,slow=12,SNR=1.6								
SDV	**Santo Domingo**	**151.19**	**323**	*e*PKPbc	PKPdf		08 06 45.2	+2.9	
SDV				LR	LR				
	comp=Z,364nm,21.0s,MS5.2								
LVC	**Limon Verde**	**160.57**	**243**	PFAKE			08 07 00.0	+5.7	
LVC				LR	LR				
	comp=Z,424nm,19.0s								
LPAZ	**La Paz**	**161.13**	**262**	PKP	PKPdf		08 06 52.0	-3.0	
	comp=Z,1.8nm,0.9s,baz=56,slow=4.0,SNR=6.3								
LPAZ				PKPab	PKPab		08 07 35.5	-0.4	
	comp=Z,3.7nm,1.0s,baz=63,slow=7.8,SNR=6.7								
LPAZ	**La Paz**	**161.13**	**262**	PKP	PKPdf		08 06 52.0	-3.0	
LPAZ				PKPab	PKPab		08 07 35.5	-0.4	
LPAZ				LR	LR				
	comp=Z,557nm,19.0s								
OTAV	**Otavalo**	**162.66**	**328**	PFAKE			08 07 10.0	+13	
OTAV				LR	LR				
	comp=Z,462nm,22.0s								
PAYG	**Puerto Ayora**	**165.89**	**11**	PFAKE			08 07 10.0	+10	
PAYG				LR	LR				
	comp=Z,234nm,19.0s								
NNA	**Nana**	**169.17**	**283**	PFAKE			08 07 10.0	+8.2	
NNA				LR	LR				
	comp=Z,110nm,20.0s								

IDC 15 07:54:38.3±9.8, 9.84N×93.88E, h62km±83km, mb3.6/5, mb1 3.8/6, mb1mx3.5/18, mbtmp3.9/6, Error ellipse: s-maj=84.7km s-min=27.2km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.87**	**29**	P	P	07 56 57.3	-2.6
	baz=219,slow=14,SNR=4.5						
SONM	**Songino Array**	**39.31**	**13**	P	P	08 02 01.6	-1.2
	0.5nm,0.7s,baz=205,slow=7.4,SNR=3.0						
ASAR	**Alice Springs**	**51.38**	**131**	P	P	08 03 37.0	-2.0
	0.6nm,0.7s,baz=300,slow=6.6,SNR=5.8						
ARCES	**ARCESS Array B**	**73.34**	**340**	P	P	08 06 02.8	-1.9
	1.9nm,0.8s,baz=72,slow=3.8,SNR=5.2						
GERES	**GERESS Array B**	**76.20**	**318**	P	P	08 06 20.5	-1.1
	0.4nm,0.2s,baz=63,slow=4.4,SNR=2.4						
HFS	**Hagfors**	**76.64**	**330**	P	P	08 06 21.7	-2.1
	2.3nm,0.9s,baz=117,slow=3.3,SNR=4.2						

BJI ***15*** *09:03:34.1, 7.20N×93.80E, h30km, mb4.5*
NEIC ***15*** *08:03:34.1±0.5, 7.17N×93.76E, h30km, mb4.4/4, Error ellipse: s-maj=18.3km s-min=12.0km az=65.0*
IDC ***15*** *08:03:37.8±4.9, 7.35N×93.92E, h58km±42km, mb3.9/11, mb1 4.1/12, mb1mx3.9/19, mbtmp4.2/12, ML4.0/1, Error ellipse: s-maj=30.2km s-min=15.0km az=54.0*
ISC 15 08:03:32.4±0.6, 7.16N±0.09×93.9E±0.1, h30km, n31, σ1§27/27, mb4.4/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.26**	**23**	P	P	08 06 28.2	+0.2
	0.3nm,0.3s,baz=212,slow=14,SNR=8.5						
JIRN	**Jiri**	**21.65**	**341**	*e*P	P	08 08 24.5	+1.9
	24nm,0.7s,mb4.7						
PKI	**Pulchoki**	**21.83**	**339**	*e*P	P	08 08 26.3	+1.9
	23nm,0.6s,mb4.8						
DMN	**Daman**	**21.97**	**339**	*e*P	P	08 08 26.8	+1.0
GUN	**Gumba**	**21.98**	**341**	*e*P	P	08 08 27.7	+1.8
	15nm,0.5s,mb4.6						
KKN	**Kakani**	**22.08**	**339**	*e*P	P	08 08 28.2	+1.4
	15nm,0.6s,mb4.6						
GKN	**Gorkha**	**22.50**	**338**	*e*P	P	08 08 29.4	-1.7
	19nm,0.6s,mb4.7						
LSA	**Lhasa**	**22.57**	**354**	P	P	08 08 30.0	-1.7
KOLN	**Koldanda**	**22.70**	**336**	*e*P	P	08 08 31.8	-1.2
	24nm,0.8s,mb4.7						
SONM	**Songino Array**	**41.91**	**13**	P	P	08 11 21.5	-0.4
	0.9nm,0.4s,mb3.7,baz=199,slow=9.7,SNR=13						
SONM				PcP	PcP	08 13 16.7	-1.1
	0.7nm,0.6s,baz=190,slow=4.4,SNR=5.4						
ULN	**Ulaanbaatar**	**42.08**	**13**	P	P	08 11 26.1	+2.7
ZAL	**Zalesovo**	**47.22**	**353**	P	P	08 12 03.5	-0.9
	3.8nm,0.4s,mb4.7,baz=306,slow=4.4,SNR=9.5						
HIA	**Hailar**	**47.27**	**23**	P	P	08 12 04.9	-0.1
	2.5nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**48.06**	**125**	P	P	08 12 11.2	-0.4
	5.1nm,0.6s,mb4.7,baz=304,slow=8.4,SNR=29						
WRAB	**Tennant Creek**	**48.06**	**125**	*e*P	P	08 12 10.7	-0.9
	8.9nm,0.7s,mb4.9						
BVAR	**Borovoye Array**	**49.58**	**342**	P	P	08 12 21.2	-1.6
	0.3nm,0.4s,mb3.7,baz=164,slow=42,SNR=3.6						
BVAR				PcP	PcP	08 13 43.8	-0.6
	0.7nm,0.5s,baz=162,slow=4.7,SNR=4.0						
ASAR	**Alice Springs**	**49.66**	**129**	P	P	08 12 24.5	+0.7
	2.9nm,0.8s,mb4.3,baz=306,slow=7.5,SNR=3.7						
ASAR				PcP	PcP	08 13 45.4	+0.3
	1.1nm,0.7s,baz=317,slow=4.1,SNR=4.6						
KMBO	**Kilima Mbogo**	**57.10**	**264**	P	P	08 13 20.1	+1.1
	2.2nm,0.6s,mb4.4,baz=61,slow=11,SNR=8.4						
KMBO	**Kilima Mbogo**	**57.10**	**264**	*e*P	P	08 13 19.6	+0.6
	1.7nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**59.80**	**133**	P	P	08 13 38.9	+1.3
	3.3nm,0.9s,mb4.3,baz=295,slow=8.2,SNR=3.9						
STKA	**Stephens Creek**	**59.80**	**133**	P	P	08 13 38.9	+1.3
FINES	**FINESS Array B**	**73.22**	**332**	P	P	08 15 00.6	-1.7
	2.4nm,0.8s,mb4.2,baz=95,slow=5.5,SNR=14						
ARCES	**ARCESS Array B**	**75.84**	**340**	P	P	08 15 16.7	-0.6
	2.5nm,0.7s,mb4.3,baz=90,slow=4.9,SNR=9.3						
ARCES	**ARCESS Array B**	**75.84**	**340**	P	P	08 15 16.7	-0.7
GERES	**GERESS Array B**	**78.19**	**318**	P	P	08 15 30.5	-0.2
	1.5nm,0.7s,mb4.0,baz=94,slow=4.8,SNR=12						
NB2	**NORSAR Subarra**	**80.22**	**331**	P	P	08 15 40.3	-1.2
	0.6nm,0.4s,mb3.9,baz=98,slow=4.8						
NOA	**NORSAR Array B**	**80.22**	**331**	P	P	08 15 40.5	-1.0
	1.4nm,1.0s,mb3.9,baz=92,slow=5.5,SNR=3.3						
NVAR	**Mina Array Bea**	**125.65**	**31**	PKP	PKPdf	08 22 33.4	-3.4
	0.7nm,0.7s,baz=279,slow=2.3,SNR=7.4						
PDAR	**Pinedale Array**	**125.92**	**21**	PKP	PKPdf	08 22 34.6	-2.5
	0.7nm,0.8s,baz=135,slow=2.1,SNR=4.5						
TXAR	**Lajitas Array**	**139.97**	**24**	PKP	PKPdf	08 23 01.4	-2.4
	0.1nm,0.4s,baz=142,slow=2.6,SNR=4.5						
TXAR	**Lajitas Array**	**139.97**	**24**	PKP	PKPdf	08 23 01.4	-2.4

IDC 15 08:32:38.8±1.6, 7.53N×92.65E, mb3.7/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=53.6km s-min=25.8km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.47**	**29**	Pn	P	08 35 37.3	-3.2
	0.1nm,0.3s,baz=228,slow=14,SNR=7.4						
SONM	**Songino Array**	**41.83**	**14**	P	P	08 40 30.7	-1.3
	1.5nm,1.1s,baz=194,slow=8.8,SNR=6.4						
WRA	**Warramunga Arr**	**49.27**	**124**	P	P	08 41 29.3	-2.5
	0.9nm,0.6s,baz=302,slow=9.3,SNR=7.4						
ASAR	**Alice Springs**	**50.84**	**129**	P	P	08 41 42.0	-1.6
	1.1nm,0.8s,baz=311,slow=8.5,SNR=8.2						
GERES	**GERESS Array B**	**77.10**	**318**	P	P	08 44 34.1	-1.6
	0.3nm,0.6s,baz=84,slow=9.9,SNR=3.9						

MAN 15 08:42:41.3, 12.76N×122.96E, h12km, mb4.5, ML3.3, MS3.2, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.62**	**333**	*e*P	Pb	08 42 53.2	-0.5
AUQP				*e*S	Sb	08 43 05.3	+3.2
MMPH	**Masbate**	**0.76**	**122**	*e*P	Pb	08 42 56.0	0.0
OTRP	**Odiongan**	**1.00**	**247**	*e*P	Pb	08 43 00.2	+0.1
RCP	**Roxas**	**1.21**	**190⇓**	*e*P	Pb	08 43 04.0	+0.3
RCP				*e*S	Sb	08 43 19.9	+0.7
GQP	**Guinayangan**	**1.24**	**336⇓**	*e*P	Pb	08 43 03.5	-0.7
GQP				*e*S	Sb	08 43 20.1	+0.1
BOAC	**Boac**	**1.29**	**303**	*e*P	Pb	08 43 03.8	-1.3
BOAC				*e*S	Sb	08 43 22.5	+1.1
SJMP	**San Jose**	**1.82**	**261**	*e*P	Pn	08 43 12.8	-0.1
LQP	**Lukban**	**1.93**	**314**	*e*P	Pn	08 43 14.5	+0.1
POLP	**Polilio Island**	**2.19**	**333**	*e*P	Pn	08 43 19.7	+1.6
BALP	**Baler**	**3.25**	**336**	*e*P	Pn	08 43 30.6	-2.6

THR ***15*** *09:05:30.4±0.4, 30.43N×50.62E, h15km, ML4.6*
MOS ***15*** *09:05:31.0±0.9, 30.42N×50.50E, h33km, mb4.4/20, Error ellipse: s-maj=11.1km s-min=5.7km az=116.2*
CSEM ***15*** *09:05:33.0±0.1, 30.43N×50.59E, h56km, mb4.2/21, Error ellipse: s-maj=2.3km s-min=1.6km az=33.0*
TEH ***15*** *09:05:34.3, 30.55N×50.68E, h12km, Mn4.2*
BJI ***15*** *09:05:34.3, 30.50N×50.50E, h46km, mB4.8, mb4.5*
NEIC ***15*** *09:05:34.4±1.4, 30.46N×50.53E, h47km±11km, mb4.4/16, Error ellipse: s-maj=13.3km s-min=7.5km az=160.0*
IDC ***15*** *09:05:34.8±3.3, 30.54N×50.45E, h39km±20km, mb3.9/15, mb1 4.0/19, mb1mx3.9/25, mbtmp4.1/19, ML3.3/4, MS3.6/2, Ms1 3.6/2, ms1mx3.2/20, Error ellipse: s-maj=36.1km s-min=17.2km az=163.0*
ISC 15 09:05:32.6±0.6, 30.41N±0.04×50.54E±0.04, h49km±5km, n127, σ1§07/136, mb4.2/34, MS3.8/4, 2C-3D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBRJ	**Borojen**	**1.49**	**25**	Pn	P	09 06 02.7	+5.2
SHI	**Shiraz**	**1.88**	**114**	Pn	P	09 06 05.6	+2.7
SHGR	**Shooshtar-Gavs**	**2.26**	**319**	*e*PN	P	09 06 09.6	+1.3
SHGR				AML	AML	09 06 54.9	
	comp=E,4μm,0.6s						
SHGR				AML	AML	09 06 59.0	
	comp=N,4μm,0.3s						
IMOK	**Mook**	**2.33**	**125**	Pn	P	09 06 11.1	+1.7
GHIR	**Ghir-Karzin**	**3.01**	**134**	*e*PN	P	09 06 19.1	+0.1
NASN	**Na'in**	**3.07**	**38**	*e*PN	P	09 06 19.8	-0.1
ISAD	**Sadrabad**	**3.09**	**60**	Pn	P	09 06 20.1	-0.1
IMEH	**Mehriz**	**3.64**	**73**	Pn	P	09 06 27.8	-0.1
QAM	**Qamsar**	**3.64**	**17**	Pn	P	09 06 26.0	-2.0
ICHK	**Chekchek**	**3.78**	**60**	Pn	P	09 06 29.4	-0.6
ASAO	**Ashtian**	**4.15**	**354**	*e*PN	P	09 06 35.5	+0.3
ASAO				AML	AML	09 07 51.8	
	comp=N,355nm,0.6s						
IQOM	**Qom**	**4.45**	**6**	Pn	P	09 06 38.9	-0.4
IBAF	**Bafgh**	**4.48**	**73**	Pn	P	09 06 39.2	-0.5
IKOM	**Komasi**	**4.55**	**327**	Pn	P	09 06 41.5	+0.7
IRAZ	**Razeghan**	**5.01**	**354**	Pn	P	09 06 47.0	-0.2
IRAZ				Sn	S	09 07 40.7	-3.9
IVIS	**Veys**	**5.15**	**324**	Pn	P	09 06 49.9	+0.7
IGHG	**Ghaleghazi**	**5.16**	**320**	Pn	P	09 06 50.2	+1.0
IMHD	**Mahdasht**	**5.26**	**1**	Pn	P	09 06 50.1	-0.7
IMHD				Sn	S	09 07 46.3	-4.7
IDMV	**Damavand**	**5.31**	**13**	Pn	P	09 06 50.4	-0.9
KRBR	**Kerman**	**5.40**	**93**	*e*PN	P	09 06 52.2	-0.4
IDHR	**Dehrash**	**5.53**	**322**	Pn	P	09 06 55.1	+0.6
IFIR	**Firoozkooh**	**5.54**	**19**	Sn	S	09 07 52.2	-5.7
IFIR	**Firoozkooh**	**5.54**	**19**	Pn	P	09 06 53.5	-1.1
BNDS	**Bandar-Abbas**	**5.78**	**120**	*e*PN	P	09 06 56.9	-1.0
BHD	**Baghdad**	**5.97**	**300**	*e*Pn	P	09 06 46.5	-14
BHD				*e*Sn	S	09 07 50.0	-18
BHD				*e*Sg	S	09 08 21.5	+13
IGZV	**Gazvin**	**5.97**	**358**	Pn	P	09 07 02.4	+1.8
RAYN	**Ar Rayn**	**8.20**	**214**	Pn	P	09 07 28.4	-3.2
	comp=N,164nm,0.5s,SNR=23						
GNI	**Garni**	**10.81**	**336**	Pn	P	09 08 09.0	+1.5
	comp=N,0.4nm,0.3s,baz=357,slow=23,SNR=2.0						
GNI				Lg		09 11 20.0	
	comp=N,0.3nm,0.3s,baz=184,slow=18,SNR=1.7						
ASF	**Jabal al Asfar**	**11.80**	**282**	Pn	P	09 08 19.5	-1.4
	comp=N,1.0nm,0.3s,baz=155,slow=23,SNR=4.3						
ASF				Sn	S	09 10 22.2	-10
	comp=N,1.8nm,0.3s,baz=107,slow=11,SNR=2.9						
ASF				Lg		09 11 51.0	
	comp=N,1.7nm,0.3s,baz=175,slow=22,SNR=3.6						
ASF				LR	LR	09 14 00.6	
	comp=N,252nm,19.1s,baz=202,slow=43						
MALT	**Malatya**	**12.73**	**312**	P	P	09 08 32.7	-0.6
MALT				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MALT	**Malatya**	**12.73**	**312**	P	P	09 08 32.7	-0.6
	comp=Z,3.3nm,0.6s						
MALT	**Malatya**	**12.73**	**312**	P	P	09 08 32.7	-0.6
	comp=Z,1.5nm,0.6s						
ZEI	**Tsey**	**13.44**	**339**	*e*P	P	09 08 43.9	+1.4
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ZEI	**Tsey**	**13.44**	**339**	*e*P	P	09 08 43.9	+1.4
	comp=Z,2.5nm,1.1s						
EIL	**Elat**	**13.53**	**271**	Pn	P	09 08 43.2	-0.6
	comp=Z,0.4nm,0.3s,baz=51,slow=18,SNR=2.8						
EIL				Sn	S	09 11 09.2	-4.3
	comp=Z,0.5nm,0.3s,baz=147,slow=41,SNR=2.6						
EIL				Lg		09 12 50.4	
	comp=Z,0.6nm,0.3s,baz=267,slow=33,SNR=3.4						
EIL	**Elat**	**13.53**	**271**	P	P	09 08 44.1	+0.3
	comp=Z,13nm,0.9s						
EIL	**Elat**	**13.53**	**271**	P	P	09 08 44.1	+0.3
	comp=Z,13nm,0.9s						
KIV	**Kislovodsk**	**14.89**	**337⇑**	*e*P	P	09 09 01.7	+0.2
KIV				*e*S	S	09 11 47.3	+1.7
KIV				pmax	pmax		
	comp=Z,21nm,1.8s						
KIV				MLR	MLR		
	comp=Z,400nm,20.0s						
KIV	**Kislovodsk**	**14.89**	**337**	P	P	09 09 02.4	+0.9
	comp=Z,35nm,1.0s						
KIV	**Kislovodsk**	**14.89**	**337**	*e*P	P	09 09 01.7	+0.2
	comp=Z,200nm,20.0s						
KIV				*e*S	S	09 11 47.3	+1.7
SOC	**Sochi**	**15.72**	**330**	*e*P	P	09 09 10.1	-2.1
SOC				*e*		09 12 04.2	
SOC				pmax	pmax		
	comp=N,28nm,1.1s						
SOC				pmax	pmax		
	comp=Z,30nm,1.1s						
SOC				pmax	pmax		
	comp=E,19nm,1.0s						
SOC				MLR	MLR		
	comp=N,231nm,10.0s						
SOC				MLR	MLR		
	comp=Z,206nm,10.0s						
SOC				MLR	MLR		
	comp=E,156nm,11.0s						
GOF	**Gofitskoye**	**15.77**	**340**	*e*P	P	09 09 24.0	+11
BRTR	**Keskin Array B**	**16.65**	**308**	Pn	P	09 09 22.6	-1.3
	comp=E,0.1nm,0.3s,baz=128,slow=12,SNR=11						
ANN	**Anapa**	**17.69**	**328**	*e*P	P	09 09 37.0	0.0
ANN				*e*S	S	09 12 59.5	+10
ANN				pmax	pmax		
	comp=Z,19nm,0.7s						
ANN	**Anapa**	**17.69**	**328**	*e*P	P	09 09 37.0	0.0
	comp=Z,9.5nm,0.7s						
SANT	**Santorini**	**21.74**	**293**	P	P	09 10 21.8	+0.3
IDI	**Anoyia**	**22.07**	**290**	P	P	09 10 25.6	+0.8
	comp=Z,13nm,0.8s,mb4.4,baz=72,slow=6.1,SNR=3.8						
IDI	**Anoyia**	**22.07**	**290**	P	P	09 10 25.5	+0.7
AAK	**Ala-Archa**	**22.71**	**51⇓**	*e*P	P	09 10 31.6	+0.6
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb3.9						
AAK				MLR	MLR		
	comp=Z,200nm,15.0s,MS3.7						
AAK	**Ala-Archa**	**22.71**	**51**	*e*P	P	09 10 29.9	-1.1
	comp=Z,27nm,1.6s,mb4.4						
AAK	**Ala-Archa**	**22.71**	**51**	*e*P	P	09 10 30.0	-1.0
	comp=Z,27nm,1.6s,mb4.4						
MLR	**Muntele Rosu**	**24.42**	**315**	P	P	09 10 49.7	+2.1
	comp=Z,9.2nm,0.7s,mb4.3,baz=192,slow=4.1,SNR=18						
AKASG	**Malin Array Be**	**25.78**	**328**	P	P	09 11 00.5	0.0
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKASG	**Malin Array Be**	**25.78**	**328**	P	P	09 11 00.5	0.0
	comp=Z,4.0nm,0.6s,mb4.1,baz=130,slow=7.8,SNR=17						
ARU	**Arti**	**26.62**	**10⇓**	*i*P	P	09 11 08.1	-0.1
ARU				*e*		09 11 52.0	
ARU				*e*PPP	PPP	09 12 00.8	-4.8
ARU				*e*		09 14 29.5	
ARU				*e*S	S	09 15 44.8	+7.2
ARU				*e*SS	SS	09 16 52.6	+1.3
ARU				*e*		09 21 55.6	
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
ARU	**Arti**	**26.62**	**10**	*i* P	P	09 11 08.1	-0.1
	comp=Z,1.5nm,0.7s,mb3.6						
ARU	**Arti**	**26.62**	**10**	*e*PcP	PcP	09 14 29.5	-2.2
ARU				*e*ScS	ScS	09 21 55.6	+0.2
OBN	**Obninsk**	**26.64**	**342**	*e*P	P	09 11 08.4	0.0
OBN				*i*		09 11 13.6	
OBN				*e*		09 11 49.7	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.3						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.4						
OBN	**Obninsk**	**26.64**	**342**	P	P	09 11 08.3	-0.1
OBN	**Obninsk**	**26.64**	**342**	P	P	09 11 08.3	-0.1
BRVK	**Borovoye**	**26.83**	**27**	*e*P	P	09 11 10.0	-0.2
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
BRVK	**Borovoye**	**26.83**	**27**	*e*P	P	09 11 10.0	-0.2
	comp=Z,2.7nm,0.8s,mb3.8						
BRVK	**Borovoye**	**26.83**	**27**	*e*P	P	09 11 10.0	-0.2
	comp=Z,1.5nm,0.8s,mb3.6						
BVAR	**Borovoye Array**	**26.85**	**27**	P	P	09 11 10.9	+0.5
	comp=Z,2.8nm,0.6s,mb4.0,baz=217,slow=7.2,SNR=22						
BVAR				ScP		09 18 09.

comp=Z,18nm,0.9s,mb4.6
LPG La Plagne 37.19 306 *e*P **P 09 12 39.3 -1.4**
LPG pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
LPL La Plagne 37.20 306 *e*P **P 09 12 39.8 -1.1**
comp=Z,11nm,0.8s,mb4.5
LPL La Plagne 37.20 306 *e*P **P 09 12 39.8 -1.1**
LPL pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
CDF Champ du Feu 37.37 311 *e*P **P 09 12 43.1 +0.9**
ORIF Oris-en-Rattie 37.72 305 *e*P **P 09 12 44.8 -0.4**
CABF La Chapelle 37.82 308 *e*P **P 09 12 46.4 +0.4**
comp=Z,29nm,0.9s,mb4.7
CABF La Chapelle 37.82 308 *e*P **P 09 12 46.4 +0.4**
CABF pmax pmax
comp=Z,15nm,0.9s,mb4.7
SMF Signal de Mont 39.35 308 *e*P **P 09 12 58.0 -0.7**
comp=Z,14nm,0.7s,mb4.5
SMF Signal de Mont 39.35 308 *e*P **P 09 12 58.0 -0.7**
SMF pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
SSF Saint Saulge 39.64 308 *e*P **P 09 13 02.7 +1.6**
SSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
SSF Saint Saulge 39.64 308 *e*P **P 09 13 02.7 +1.6**
comp=Z,2.2nm,0.6s,mb4.1
NB2 NORSAR Subarra 40.08 331 P **P 09 13 03.7 -0.9**
comp=Z,1.3nm,0.7s,mb3.8,baz=123,slow=8.6
NB2 NORSAR Subarra 40.08 331 P **P 09 13 03.7 -0.9**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.6
NOA NORSAR Array B 40.08 331 P **P 09 13 04.0 -0.6**
comp=Z,1.4nm,0.9s,mb3.7,baz=121,slow=8.2,SNR=2.8
KEV Kevo 41.60 348 *e*p **P 09 13 14.2 -2.7**
ARCES ARCESS Array B 41.69 347 P **P 09 13 17.4 -0.3**
comp=Z,1.8nm,0.8s,mb3.8,baz=126,slow=10,SNR=6.0
MOY Mondy 42.56 45 *e*P **P 09 13 27.1 +2.0**
SJPF Ste Jean 42.73 302 *e*P **P 09 13 26.3 -0.3**
ZAK Zakamensk 43.80 47 *e*P **P 09 13 34.8 -0.4**
ZAK *e* 09 15 20.0
SGMF Saint Gilles 43.84 310 *e*P **P 09 13 36.0 +0.5**
TLY Talaya 44.19 46⇑ *e*P **P 09 13 38.7 +0.4**
TLY pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
TLY MLR MLR
comp=Z,300nm,18.0s,MS4.2
TLY Talaya 44.19 46 *e*P **P 09 13 38.7 +0.4**
comp=Z,150nm,18.0s
SONM Songino Array 45.67 51 P **P 09 13 51.3 +1.2**
comp=Z,0.6nm,0.7s,mb3.6,baz=270,slow=6.2,SNR=7.4
ULN Ulaanbaatar 46.11 51 P **P 09 13 53.1 -0.6**
ULN pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
ULN Ulaanbaatar 46.11 51 P **P 09 13 53.0 -0.6**
comp=Z,3.9nm,1.0s,mb4.3
ULN Ulaanbaatar 46.11 51 P **P 09 13 53.1 -0.6**
comp=Z,2.0nm,1.0s,mb4.0
DBIC Dimbokro 56.94 257 P **P 09 15 15.8 +0.2**
comp=Z,1.4nm,0.5s,mb4.3,baz=46,slow=8.9,SNR=6.1
BILL Bilibino 71.00 21 P **P 09 16 46.7 +0.1**
BILL pmax pmax
comp=Z,3.0nm,1.4s,mb4.0
BILL Bilibino 71.00 21 P **P 09 16 46.7 +0.1**
comp=Z,1.5nm,1.4s,mb3.7
FRB Frobisher Bay 74.68 336 P **P 09 17 09.1 +0.9**
comp=Z,3.1nm,0.6s,mb4.4,baz=171,slow=7.5,SNR=4.1
SCHQ Schefferville 79.58 329 P **P 09 17 37.4 +1.7**
comp=Z,1.4nm,0.6s,mb4.1,baz=64,slow=19,SNR=4.4
SCHQ Schefferville 79.58 329 P **P 09 17 37.4 +1.7**
ILAR Eielson Array 84.16 7 P **P 09 18 00.3 +1.1**
comp=Z,0.4nm,0.7s,mb3.7,baz=324,slow=4.0,SNR=6.4
YKA Yellowknife Ar 86.66 353 P **P 09 18 12.9 +1.3**
comp=Z,0.4nm,0.7s,mb3.8,baz=9.7,slow=4.9,SNR=9.3

WEL 15 09:14:12.8±0.6, 37.38S×179.98W, h33km, ML3.5/2, 1D, Error ellipse: s-maj=4.8km s-min=4.5km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.37**	**262**	PN	Pn	09 14 35.1	-1.0
MXZ				SN	Sn	09 14 51.4	-1.8
PUZ	**Puketiti**	**1.56**	**243**	⇓PN	Pn	09 14 38.0	-0.7
PUZ				SN	Sn	09 14 56.4	-1.5
MWZ	**Matawai**	**2.19**	**243**	PN	Pn	09 14 46.2	-1.5
MWZ				SN	Sn	09 15 12.2	-1.8
URZ	**Urewera**	**2.46**	**248**	PN	Pn	09 14 50.5	-1.2
KNZ	**Kokohu**	**2.47**	**228**	PN	Pn	09 14 49.8	-1.9
BKZ	**Black Stump Fm**	**3.30**	**236**	PN	Pn	09 15 01.5	-2.0
BKZ				SN	Sn	09 15 37.6	-4.5
TSZ	**Takapari Road**	**4.15**	**229**	PN	Pn	09 15 11.8	-3.9

NDI 15 09:15:45.2±6.3, 23.26N×70.70E, h15km, MD3.6, ML3.1, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**0.96**	**270**	*e*P	Pb	09 16 05.6	+2.5
BHJ				*e*S	Sb	09 16 15.3	-0.1
BHJ				*e*S	Sb	09 16 15.3	-0.1
BHJ				*e*		09 16 15.5	
	comp=N,809nm,0.2s						
BHJ				*e*		09 16 15.6	
	comp=E,663nm,0.2s						
BHV	**Bhavnagar**	**2.01**	**138**	*e*P	Pn	09 16 30.0	+11
BHV				*e*S	Sn	09 17 03.0	+19
AJM	**Ajmer**	**4.81**	**47**	*e*S	Sn	09 18 20.5	+26
AJM				*e*		09 18 28.6	
	comp=N,19nm,0.5s						
AJM				*e*		09 18 29.0	
	comp=E,39nm,0.5s						
POO	**Poona**	**5.55**	**147**	*e*P	Sn	09 18 12.0	-1.5
BHPL	**Bhopal**	**6.18**	**89**	*e*S	Sn	09 18 21.6	-7.7
BHPL				*e*		09 18 27.1	
	comp=N,14nm,0.6s						
BHPL				*e*		09 18 27.5	
	comp=E,15nm,0.6s						
KAD	**Karad**	**6.76**	**150**	*e*P	Pg	09 18 55.0	+55

IDC 15 09:19:42.6±1.1, 8.07N×93.06E, mb3.7/6, mb1 4.0/7, mb1mx3.8/17, mbtmp3.8/7, ML4.6/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/17, Error ellipse: s-maj=57.3km s-min=21.1km az=49.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.81**	**28**	Pn	P	09 22 40.7	+5.3
	1.0nm,0.3s,baz=220,slow=15,SNR=4.3						
SONM	**Songino Array**	**41.22**	**14**	P	P	09 27 29.0	-1.8
	1.3nm,1.1s,baz=192,slow=8.6,SNR=5.8						
BVAR	**Borovoye Array**	**48.47**	**342**	P	P	09 28 27.1	-1.7
	0.7nm,0.6s,baz=153,slow=6.6,SNR=5.2						
WRA	**Warramunga Arr**	**49.25**	**125**	P	P	09 28 33.5	-1.7
	0.6nm,0.6s,baz=306,slow=8.8,SNR=7.5						
ASAR	**Alice Springs**	**50.86**	**129**	P	P	09 28 45.8	-1.8
	0.3nm,0.4s,baz=80,slow=8.4,SNR=6.8						
BRTR	**Keskin Array B**	**61.49**	**311**	P	P	09 30 01.1	-2.6
	0.5nm,0.5s,baz=100,slow=7.5,SNR=3.7						
FINES	**FINESS Array B**	**72.04**	**332**	P	P	09 31 09.7	-0.5
	1.3nm,0.9s,baz=72,slow=6.0,SNR=3.6						
GERES	**GERESS Array B**	**76.97**	**318**	P	P	09 31 37.4	-1.5
	0.8nm,0.7s,baz=98,slow=6.9,SNR=6.3						
NVAR	**Mina Array Bea**	**125.30**	**30**	PKP	PKPdf	09 38 44.6	-3.2
	0.3nm,0.6s,baz=215,slow=1.5,SNR=3.9						
TXAR	**Lajitas Array**	**139.48**	**23**	PKP	PKPdf	09 39 10.3	-4.3
	0.4nm,0.9s,baz=270,slow=1.3,SNR=3.3						

CSEM 15 10:10:33.4, 63.77N×22.88W, h9km, ML3.8, After REY, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INYL	**Nylenda**	**0.21**	**16**	P	Pg	10 10 37.7	-0.3
INYL				S	Sg	10 10 41.1	+0.1
IVOG	**Vogar**	**0.29**	**47**	P	Pg	10 10 39.0	-0.5
IVOG				S	Sg	10 10 43.3	-0.3
IKRI	**Krysuvik**	**0.37**	**73**	P	Pg	10 10 40.2	-0.8
IKRI				S	Sg	10 10 45.5	-0.6
IVOS	**Vogsosar**	**0.53**	**80**	P	Pg	10 10 42.9	-1.1
IVOS				S	Sg	10 10 50.4	-0.7
ISAN	**Sandskeio**	**0.65**	**63**	P	Pb	10 10 44.8	-1.5
ISAN				S	Sg	10 10 54.0	-1.0
IKUD	**Kuludalsa**	**0.71**	**38**	P	Pb	10 10 45.7	-1.7
IKUD				S	Sb	10 10 55.1	-1.9
IBJA	**Bjarnastaoir**	**0.72**	**75**	P	Pb	10 10 46.0	-1.6
IBJA				S	Sb	10 10 56.1	-1.2
IHEI	**Heioarbar**	**0.84**	**58**	P	Pb	10 10 47.8	-1.9
IHEI	**Heioarbar**	**0.84**	**58**	S	Sb	10 10 59.4	-1.5
IKRO	**Krokur**	**0.84**	**66**	P	Pb	10 10 47.8	-1.9
IKRO				S	Sb	10 10 59.1	-1.8
ISOL	**Solvholt**	**0.87**	**79**	P	Pb	10 10 48.3	-1.9
ISOL				S	Sb	10 10 59.9	-1.8
IASM	**Asmuli**	**1.00**	**85**	P	Pb	10 10 50.5	-2.0
IASM				S	Sb	10 11 03.5	-2.1
ISAU	**Saurbar**	**1.11**	**77**	P	Pb	10 10 52.3	-2.0
ISAU				S	Sb	10 11 07.4	-1.3
IASB	**`sbjarnarst**	**1.19**	**34**	P	Pb	10 10 53.5	-2.2
IASB				S	Sb	10 11 09.2	-1.9
IGYG	**Gygjarholskot**	**1.28**	**65**	P	Pb	10 10 55.5	-1.7
IHAU	**Haukadalur**	**1.30**	**80**	P	Pb	10 10 55.4	-2.2
IHAU				S	Sb	10 11 12.4	-1.9
IMID	**Miomork**	**1.34**	**93**	P	Pb	10 10 56.0	-2.2
IMID				S	Sb	10 11 12.4	-2.8
IHVO	**Lagu-Hvolar**	**1.81**	**96**	P	Pn	10 11 04.4	-0.7
IHVE	**Hveravellir**	**1.82**	**51**	P	Pn	10 11 03.6	-1.5
IHVE				S	Sn	10 11 27.6	-0.8
ISNB	**Snabyli**	**1.89**	**89**	P	Pn	10 11 05.2	-0.9
ISKR	**Skrokkalda**	**2.12**	**66**	P	Pn	10 11 09.6	+0.1

CSEM 15 10:28:40.5, 63.78N×22.89W, h9km, ML3.9, After REY, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INYL	**Nylenda**	**0.21**	**19**	P	Pg	10 28 44.6	-0.4
INYL				S	Sg	10 28 47.8	-0.1
IVOG	**Vogar**	**0.29**	**49**	P	Pg	10 28 46.1	-0.5
IVOG				S	Sg	10 28 50.1	-0.5
IKRI	**Krysuvik**	**0.37**	**74**	P	Pg	10 28 47.3	-0.9
IKRI				S	Sg	10 28 52.7	-0.6
IVOS	**Vogsosar**	**0.53**	**81**	P	Pg	10 28 50.0	-1.2
IVOS				S	Sg	10 28 57.6	-0.8
ISAN	**Sandskeio**	**0.65**	**64**	P	Pb	10 28 52.0	-1.5
ISAN				S	Sg	10 29 01.1	-1.1
IKUD	**Kuludalsa**	**0.70**	**39**	P	Pb	10 28 52.7	-1.8
IKUD				S	Sb	10 29 02.2	-1.8
IBJA	**Bjarnastaoir**	**0.72**	**76**	P	Pb	10 28 53.2	-1.6
IBJA				S	Sb	10 29 03.0	-1.5
IHEI	**Heioarbar**	**0.84**	**59**	P	Pb	10 28 55.0	-1.8
IHEI	**Heioarbar**	**0.84**	**59**	S	Sb	10 29 06.6	-1.4
IKRO	**Krokur**	**0.84**	**67**	P	Pb	10 28 55.0	-1.9
IKRO				S	Sb	10 29 06.3	-1.8
ISOL	**Solvholt**	**0.88**	**79**	P	Pb	10 28 55.5	-1.9
ISOL				S	Sb	10 29 07.0	-1.9
IASM	**Asmuli**	**1.01**	**86**	P	Pb	10 28 57.7	-2.0
IASM				S	Sb	10 29 10.7	-2.2
ISAU	**Saurbar**	**1.11**	**78**	P	Pb	10 28 59.4	-2.1
ISAU				S	Sb	10 29 14.4	-1.5
IASB	**`sbjarnarst**	**1.19**	**34**	P	Pb	10 29 00.5	-2.3
IASB				S	Sb	10 29 16.2	-1.9
IGYG	**Gygjarholskot**	**1.28**	**66**	P	Pb	10 29 02.2	-2.1
IGYG				S	Sb	10 29 19.7	-1.0
IHAU	**Haukadalur**	**1.31**	**80**	P	Pb	10 29 02.5	-2.3
IHAU				S	Sb	10 29 19.9	-1.6
IMID	**Miomork**	**1.34**	**94**	P	Pb	10 29 02.4	-3.0
IMID				S	Sb	10 29 19.0	-3.5
IESK	**Eystri-Skogar**	**1.56**	**98**	P	Pn	10 29 06.9	-1.6
IESK				S	Sb	10 29 28.2	-0.5
IVAT	**Vatnsfell**	**1.80**	**75**	P	Pn	10 29 10.9	-1.1
IVAT				S	Sn	10 29 34.0	-1.1
IHVE	**Hveravellir**	**1.81**	**51**	P	Pn	10 29 10.7	-1.5
IHVE	**Hveravellir**	**1.81**	**51**	S	Sn	10 29 34.9	-0.6
IHVO	**Lagu-Hvolar**	**1.82**	**96**	P	Pn	10 29 11.1	-1.2
ISNB	**Snabyli**	**1.89**	**89**	P	Pn	10 29 12.3	-1.0
ISKR	**Skrokkalda**	**2.12**	**66**	P	Pn	10 29 16.6	0.0
IKAL	**Kalfafell**	**2.31**	**83**	P	Pn	10 29 18.9	-0.4

MAN 15 11:01:38.6, 12.32N×125.85E, h20km, mb4.5, ML3.4, MS3.4, Samar

*IDC **15** 11:02:12.1±10.0, 6.05N×126.70E, h108km±100km, mb3.2/5, mb1 3.4/5, mb1mx3.3/17, mbtmp3.5/5, Error ellipse: s-maj=83.5km s-min=22.0km az=75.0*
ISC 15 11:02:03.3±1.8, 5.9N±0.1×126.5E±0.1, h42km±18km, n9, σ1§14/12, mb3.4/5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.02**	**348**	*e*P	**P**	**11 02 20.5**	**-0.7**
MATI				*e*S	**S**	**11 02 38.3**	**+3.7**
KCP	**Kidapawan**	**1.73**	**308⇓**	*e*P	**P**	**11 02 27.6**	**-3.8**
KCP				*i* S	**S**	**11 02 51.4**	**-1.0**
BUKP	**Musuan**	**2.37**	**324**	*e*P	**P**	**11 02 40.7**	**+0.1**
BUKP				*e*S	**S**	**11 03 10.8**	**+2.1**
BUTP	**Butuan**	**3.12**	**345**	*e*P	**P**	**11 02 50.8**	**-0.5**
WRA	**Warramunga Arr**	**26.86**	**163**	P	**P**	**11 07 43.6**	**+1.4**
	0.4nm,0.5s,mb3.2,baz=344,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**30.31**	**166**	P	**P**	**11 08 13.3**	**+0.2**
	0.2nm,0.5s,mb3.1,baz=345,slow=7.2,SNR=6.1						
ASAR				PcP	PcP	11 11 11.7	-1.1
	0.3nm,0.8s,baz=341,slow=2.3,SNR=4.6						
SONM	**Songino Array**	**45.13**	**341**	P	**P**	**11 10 17.8**	**+0.4**
	0.2nm,0.5s,mb3.2,baz=152,slow=9.7,SNR=3.6						
ILAR	**Eielson Array**	**83.23**	**26**	P	**P**	**11 14 25.2**	**-1.2**
	0.1nm,0.5s,mb3.1,baz=253,slow=4.8,SNR=5.6						
ARCES	**ARCESS Array B**	**88.29**	**340**	P	**P**	**11 14 50.6**	**-0.6**
	1.9nm,0.8s,mb4.3,baz=66,slow=8.9,SNR=3.7						

*IGQ **15** 11:40:22.6, 3.68S×82.04W, h12km±36km, mb5.4, Error ellipse: s-maj=28.7km s-min=4.3km az=0.1*
*BJI **15** 11:40:37.2, 3.60S×80.70W, h34km, Ms5.2, Msz4.8*
*HRVD **15** 11:40:37.2±0.3, 3.74S×81.39W, h44km±1km, MW5.0/46, Centroid moment Tensor Solution. LP body waves: s23,c33;Mantle waves: s46,c72; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.14±.27; $M_{\theta\theta}$1.15±.17; $M_{\phi\phi}$-4.29±.18; $M_{r\theta}$0.10±.12; $M_{\theta\phi}$-0.43±.13; $M_{\phi r}$-2.58±.18; Best double couple: $M_0$4.544×10^{16} NP1:ϕ_0=12°, δ28°, λ102°. NP2:ϕ_0=179°, δ62°, λ84°. Principal axes: T 3.967, Plg72°, Azm75°; N 1.155, Plg6°, Azm182°; P -5.121, Plg17°, Azm274°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **15** 11:40:37.2±0.2, 3.58S×80.69W, mb4.9/49, MS4.7/2, MD5.4(IGQ) Error ellipse: s-maj=7.9km s-min=4.6km az=53.0*
NEIC Felt [III] at Mancora, Peru. Felt lightly at Guayaquil, Ecuador.
*IDC **15** 11:40:38.3±4.3, 3.61S×80.84W, h40km±37km, mb4.2/11, mb1 4.5/13, mb1mx4.3/19, mbtmp4.6/13, ML4.5/2, MS4.5/15, Ms1 4.5/15, ms1mx4.2/23, Error ellipse: s-maj=27.0km s-min=14.6km az=51.0*
ISC 15 11:40:35.0±0.2, 3.72S±0.03×80.97W±0.03, h32km, h32km±1.3km: pP-P, n181, σ1§16/142, mb4.8/54, MS4.6/13, 17C-3D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HCA		**2.40**	**140**	⇑P	**Pn**	**11 41 14.1**	**+1.1**
PT18	**Porculla**	**2.59**	**145**	⇑P	**Pn**	**11 41 17.3**	**+1.6**
IGUA	**Igualata**	**3.21**	**46**	P	**Pn**	**11 41 24.9**	**+0.4**
ARRY	**Arrayan**	**3.34**	**49**	⇑P	**Pn**	**11 41 26.2**	**-0.1**
PATA	**Patacocha**	**3.36**	**49**	P	**Pn**	**11 41 28.1**	**+1.6**
CUSU	**Cusua**	**3.36**	**48**	P	**Pn**	**11 41 28.1**	**+1.5**
RETU	**Refugio**	**3.38**	**48**	P	**Pn**	**11 41 27.8**	**+0.9**
RETU				S	**Sn**	**11 42 23.4**	**+17**
JUIV	**Juive**	**3.39**	**48**	P	**Pn**	**11 41 27.1**	**+0.2**
ULBA	**Ulba**	**3.41**	**49**	P	**Pn**	**11 41 28.1**	**+0.8**
RUN2	**Runtun**	**3.42**	**48**	P	**Pn**	**11 41 28.8**	**+1.3**
PISA	**Pisayambo**	**3.69**	**44**	⇑P	**Pn**	**11 41 32.7**	**+1.3**
MARY	**Rancho Maria**	**3.87**	**40**	P	**Pn**	**11 41 35.5**	**+1.7**
NAS1	**Nasa**	**3.95**	**39**	⇑P	**Pn**	**11 41 36.3**	**+1.4**
TAMB	**Tambo**	**3.97**	**41**	P	**Pn**	**11 41 35.7**	**+0.4**
VC1	**Cotopaxi 1**	**3.99**	**40**	⇑P	**Pn**	**11 41 36.9**	**+1.4**
TERV	**Terraza Guagua**	**4.24**	**34**	⇑P	**Pn**	**11 41 39.7**	**+0.5**
PINO	**Pino**	**4.25**	**34**	⇑P	**Pn**	**11 41 39.7**	**+0.4**
ANTI	**Antisana**	**4.29**	**41**	⇑P	**Pn**	**11 41 40.4**	**+0.5**
YANA	**Yana**	**4.31**	**34**	⇑P	**Pn**	**11 41 40.3**	**+0.2**
OTAV	**Otavalo**	**4.67**	**33⇑**	*i*P	**Pn**	**11 41 44.2**	**-1.0**
CAYR	**Refugio Cayamb**	**4.75**	**39**	P	**Pn**	**11 41 47.2**	**+0.9**
CAYA	**Cayambe**	**4.80**	**38**	⇑P	**Pn**	**11 41 47.6**	**+0.5**
COTA	**Cotacachi**	**4.81**	**33**	⇑P	**Pn**	**11 41 47.2**	**0.0**
CONE	**Cono NE Rev Vo**	**4.92**	**43**	⇑P	**Pn**	**11 41 49.3**	**+0.5**
NNA	**Nana**	**9.17**	**154**	Pn	**P**	**11 42 48.3**	**+0.1**
	743nm,0.6s,SNR=8.4						
NNA	**Nana**	**9.17**	**154**	*e*P	**P**	**11 42 47.2**	**-1.0**
	48nm,0.6s						
PAYG	**Puerto Ayora**	**9.79**	**288**	*e*P	**P**	**11 42 56.5**	**-0.4**
	374nm,1.5s						
ARE	**Arequipa**	**15.72**	**144**	*e*P	**P**	**11 44 23.0**	**+7.1**
SDV	**Santo Domingo**	**16.22**	**39**	P	**P**	**11 44 20.1**	**-2.2**
	2.6nm,0.3s,baz=255,slow=13,SNR=10						
SDV	**Santo Domingo**	**16.22**	**39**	*e*P	**P**	**11 44 18.4**	**-3.9**
	179nm,1.0s						
LPAZ	**La Paz**	**17.75**	**136**	P	**P**	**11 44 41.5**	**-0.1**
	0.6nm,0.3s,baz=316,slow=13,SNR=33						
LPAZ				LR	LR	11 52 49.8	
	comp=Z,4μm,19.4s,baz=301,slow=41						
LPAZ	**La Paz**	**17.75**	**136**	*e*P	**P**	**11 44 41.4**	**-0.2**
	27nm,0.7s						
LVC	**Limon Verde**	**22.12**	**149**	P	**P**	**11 45 32.0**	**+2.5**
	41nm,0.8s,mb4.9,baz=314,slow=7.7,SNR=48						
LVC				LR	LR	11 54 38.9	
	comp=Z,1μm,18.9s,MS4.4,baz=320,slow=38						
LVC	**Limon Verde**	**22.12**	**149**	*e*P	**P**	**11 45 31.8**	**+2.3**
	74nm,1.0s,mb5.1						
TEIG	**Tepich**	**24.86**	**343**	*e*P	**P**	**11 45 56.7**	**+0.4**
	51nm,1.5s,mb4.8						
SJG	**San Juan**	**26.16**	**33**	P	**P**	**11 46 08.4**	**-0.1**
	129nm,1.1s,mb5.4,baz=226,slow=5.5,SNR=14						
SJG	**San Juan**	**26.16**	**33**	*e*P	**P**	**11 46 06.4**	**-2.1**
	136nm,1.0s,mb5.4						
BDFB	**Brasilia**	**34.51**	**112**	P	**P**	**11 47 22.1**	**-0.6**
	16nm,0.8s,mb5.0,baz=274,slow=9.6,SNR=21						
BDFB				LR	LR	12 02 20.8	
	comp=Z,2μm,18.6s,MS4.8,baz=164,slow=38						
BAO	**Brasilia Array**	**34.53**	**112**	*e*P	**P**	**11 47 22.3**	**-0.5**
BAO				*e*		11 47 35.0	
HKT	**Hockley**	**36.38**	**338**	*e*P	**P**	**11 47 40.0**	**+1.6**
	26nm,1.1s,mb5.1						
LRAL	**Lakeview Retre**	**37.00**	**352**	*e*P	**P**	**11 47 43.0**	**-0.5**
	34nm,0.8s,mb5.2						
NATX	**Nacogdoches**	**37.61**	**341**	P	**P**	**11 47 50.1**	**+1.4**
NATX				*e*pP	pP	11 48 00.5	+2.1
JSC	**Jenkinsville**	**37.80**	**360**	*e*P	**P**	**11 47 49.3**	**-1.0**
JSC				*e*pP	pP	11 47 58.9	-1.1
TRQA	**Tornquist**	**38.33**	**156**	*e*P	**P**	**11 47 54.5**	**-0.3**
JCT	**Junction City**	**38.48**	**333**	P	**P**	**11 47 57.3**	**+1.2**
	14nm,0.9s,mb4.7						
MYNC	**Murphy**	**38.70**	**356**	*e*P	**P**	**11 47 56.6**	**-1.2**
	22nm,1.1s,mb4.8						
MYNC				*e*pP	pP	11 48 07.7	+0.1
TXAR	**Lajitas Array**	**39.42**	**328**	P	**P**	**11 48 05.5**	**+1.6**
	1.0nm,0.8s,baz=146,slow=9.8,SNR=14						
TXAR				PcP	PcP	11 50 12.6	+0.5
	1.5nm,0.8s,baz=162,slow=7.9,SNR=4.9						
TXAR				LR	LR	12 02 55.2	
	comp=Z,272nm,20.9s,baz=40,slow=34						
UALR	**University of**	**39.76**	**345**	*e*P	**P**	**11 48 06.2**	**-0.4**
	69nm,1.6s,mb5.1						
UALR				*e*pP	pP	11 48 17.5	+1.2
MIAR	**Mount Ida**	**39.87**	**344**	*e*P	**P**	**11 48 05.6**	**-2.0**
	40nm,1.6s,mb4.9						
WVT	**Waverly**	**40.16**	**351**	*e*P	**P**	**11 48 08.4**	**-1.6**
	11nm,0.6s,mb4.8						
WMOK	**Wichita Mounta**	**41.77**	**338**	*e*P	**P**	**11 48 24.0**	**+0.8**
	4.0nm,0.8s,mb4.1						
WCI	**Wyandotte Cave**	**42.03**	**354**	*e*P	**P**	**11 48 22.3**	**-3.0**
	16nm,0.9s,mb4.7						
GDL2	**Guadalupe Moun**	**42.07**	**330**	*e*P	**P**	**11 48 27.7**	**+1.9**
MNTX	**Cornudas Mount**	**42.20**	**328**	*e*P	**P**	**11 48 27.2**	**+0.4**
	8.1nm,1.0s,mb4.3						
FVM	**French Village**	**42.41**	**349**	*e*P	**P**	**11 48 27.6**	**-0.9**
	16nm,1.0s,mb4.6						
FVM				*e*pP	pP	11 48 36.1	-2.1
CPRX	**Cap Rock**	**42.50**	**331**	*e*P	**P**	**11 48 30.1**	**+0.9**
BLO	**Bloomington**	**42.99**	**354**	*e*P	**P**	**11 48 30.8**	**-2.3**
	14nm,0.8s,mb4.8						
BLO				*e*pP	pP	11 48 41.0	-1.8
AMTX	**Amarillo**	**43.06**	**335**	P	**P**	**11 48 32.3**	**-1.4**
	9.2nm,0.8s,mb4.6						
ACSO	**Alum Creek Sta**	**43.78**	**358**	*e*P	**P**	**11 48 37.8**	**-1.7**
	116nm,1.4s,mb5.4						
ACSO				*e*pP	pP	11 48 47.8	-1.4
KSU1	**Kansas State U**	**44.99**	**343**	*e*P	**P**	**11 48 49.5**	**+0.1**
KSU1				*e*pP	pP	11 48 59.3	+0.3
LAZ	**Ladron**	**45.23**	**329**	*e*P	**P**	**11 48 52.6**	**+1.4**
ANMO	**Albuquerque**	**45.32**	**330**	*e*P	**P**	**11 48 53.4**	**+1.4**
	8.6nm,0.9s,mb4.6						
TUC	**Tucson**	**45.66**	**324**	*e*P	**P**	**11 48 55.3**	**+0.6**
	1.4nm,0.8s,mb3.9						
SDCO	**Great Sand Dun**	**47.13**	**333**	*e*P	**P**	**11 49 07.5**	**+1.3**
	6.5nm,0.8s,mb4.6						
ISCO	**Idaho Springs**	**48.88**	**335**	P	**P**	**11 49 19.8**	**0.0**
	8.1nm,1.0s,mb4.7						
MSU	**Marysvale**	**50.98**	**328**	*e*P	**P**	**11 49 36.9**	**+1.0**
MSU				*e*pP	pP	11 49 43.7	-2.1
MVU	**Marysvale**	**50.99**	**328**	P	**P**	**11 49 36.4**	**+0.4**
	7.3nm,1.0s,mb4.6						
ARUT	**Antelope Range**	**51.12**	**327**	*e*P	**P**	**11 49 38.4**	**+1.4**
PDAR	**Pinedale Array**	**53.01**	**334**	P	**P**	**11 49 51.0**	**-0.2**
	3.8nm,0.7s,mb4.4,baz=126,slow=8.4,SNR=33						
PDAR				LR	LR	12 12 20.9	
	comp=Z,318nm,18.3s,MS4.4,baz=147,slow=36						
BGU	**Big Grassy Mou**	**53.22**	**330**	*e*P	**P**	**11 49 53.3**	**+0.6**
SPUT	**South Promonto**	**53.22**	**331**	*e*P	**P**	**11 49 53.1**

RAR	**Rarotonga**	**78.23**	**249**	LR	LR	12 20 43.0	
	comp=Z,473nm,18.0s,MS4.9,baz=328,slow=31						
INK	**Inuvik**	**80.46**	**343**	LR	LR	12 31 18.9	
	comp=Z,280nm,19.1s,MS4.6,baz=304,slow=38						
VNA3	**Neumayer Olymp**	**80.53**	**162**	⇑*i*	**P**	**11 52 46.0**	**+0.8**
SUMG	**Summit**	**80.78**	**12**	*e*P	**P**	**11 52 46.7**	**+0.2**
	25nm,1.3s,mb5.0						
VNA1	**Neumayer--Stat**	**80.81**	**161**	⇑*i*	**P**	**11 52 48.6**	**+1.9**
VNA2	**Neumayer--Watz**	**81.16**	**161**	⇓*i*	**P**	**11 52 49.6**	**+1.1**
MENT	**Mentasta**	**81.28**	**336**	*e*P	**P**	**11 52 49.7**	**+0.4**
ESDC	**Sonseca Array**	**82.40**	**49**	P	**P**	**11 52 56.2**	**+0.6**
	3.2nm,0.8s,mb4.3,baz=268,slow=4.8,SNR=13						
SNAA	**Sanae**	**82.76**	**162**	⇑*i*	**P**	**11 52 57.4**	**+0.6**
ILAR	**Eielson Array**	**83.32**	**337**	P	**P**	**11 52 59.6**	**-0.2**
	1.8nm,0.9s,mb4.1,baz=145,slow=4.1,SNR=15						
ILAR				PP	PP	11 56 22.1	+8.7
	1.7nm,0.9s,baz=104,slow=6.2,SNR=8.0						
ILAR				LR	LR	12 30 48.6	
	comp=Z,165nm,19.3s,MS4.4,baz=305,slow=36						
QUIF	**Quistinic**	**84.60**	**41**	*e*P	**P**	**11 53 05.4**	**-1.2**
SJPF	**Ste Jean**	**85.05**	**46**	*e*P	**P**	**11 53 08.4**	**-0.6**
SVW2	**Sparrevohn**	**85.85**	**332**	*e*P	**P**	**11 53 15.7**	**+3.1**
EPF	**Esparros**	**86.17**	**47**	*e*P	**P**	**11 53 13.9**	**-0.7**
GRR	**Gorron**	**86.20**	**41**	*e*P	**P**	**11 53 12.4**	**-2.2**
QSPA	**South Pole Qui**	**86.35**	**180**	⇓*i*P	**P**	**11 53 16.8**	**+2.1**
	27nm,1.0s,mb5.4						
MFF	**Saint Martin d**	**86.39**	**43**	*e*P	**P**	**11 53 15.1**	**-0.4**
	44nm,1.0s,mb5.3						
FLN	**La Foliniere**	**86.51**	**41**	*e*P	**P**	**11 53 15.0**	**-1.1**
	21nm,0.9s,mb5.1						
FLN				*e*R			
	343nm,21.5s						
LDF	**La Druitiere**	**86.72**	**41**	*e*P	**P**	**11 53 16.0**	**-1.1**
	36nm,0.9s,mb5.3						
RJF	**Les Rejaudoux**	**87.34**	**44**	*e*P	**P**	**11 53 19.2**	**-1.0**
RJF				*e*R			
	332nm,20.0s						
DAG	**Danmarks Havn**	**87.47**	**12**	*e*P	**P**	**11 53 20.0**	**-0.2**
DAG	**Danmarks Havn**	**87.47**	**12**	*i* P	**P**	**11 53 20.0**	**-0.2**
MTLF	**Montolieu**	**87.58**	**46**	*e*P	**P**	**11 53 19.5**	**-1.9**
	7.9nm,0.8s,mb4.7						
CAF	**Calviac**	**87.67**	**45**	*e*P	**P**	**11 53 20.1**	**-1.7**
JMIC	**Jan Mayen**	**87.84**	**18**	LR	LR	12 29 31.5	
	comp=Z,282nm,19.9s,MS4.7,baz=98,slow=33						
TCF	**Toulx Ste Croi**	**87.95**	**44**	*e*P	**P**	**11 53 21.3**	**-1.8**
BGF	**Bois d'Agland**	**88.42**	**43**	*e*P	**P**	**11 53 23.7**	**-1.7**
	25nm,0.9s,mb5.2						
AVF	**Avril sur Loir**	**88.80**	**43**	*e*P	**P**	**11 53 26.7**	**-0.5**
	12nm,0.9s,mb4.9						
SSF	**Saint Saulge**	**88.93**	**43**	*e*P	**P**	**11 53 25.6**	**-2.2**
SMF	**Signal de Mont**	**89.11**	**43**	*e*P	**P**	**11 53 26.9**	**-1.8**
VIVF	**Saint-Julien-l**	**89.51**	**45**	*e*P	**P**	**11 53 29.4**	**-1.2**
	22nm,1.2s,mb5.1						
BAIF	**Baives**	**89.72**	**40**	*e*P	**P**	**11 53 30.1**	**-1.4**
GIVF	**Givet**	**90.12**	**40**	*e*P	**P**	**11 53 32.3**	**-1.0**
	35nm,1.0s,mb5.3						
ORIF	**Oris-en-Rattie**	**90.37**	**45**	*e*P	**P**	**11 53 33.7**	**-0.9**
	11nm,0.7s,mb5.0						
ORIF				*e*R			
	308nm,20.8s						
CABF	**La Chapelle**	**90.65**	**44**	*e*P	**P**	**11 53 34.6**	**-1.2**
	17nm,0.9s,mb5.1						
LMR	**La Mourre**	**90.69**	**47**	*e*P	**P**	**11 53 34.6**	**-1.5**
FRF	**La Foret Royal**	**90.81**	**47**	*e*P	**P**	**11 53 35.0**	**-1.6**
MBDF	**Montbardon**	**90.98**	**45**	*e*P	**P**	**11 53 36.6**	**-0.8**
HINF	**Hinteralfeld**	**91.26**	**42**	*e*P	**P**	**11 53 36.9**	**-1.7**
CDF	**Champ du Feu**	**91.59**	**42**	*e*P	**P**	**11 53 38.8**	**-1.3**
	8.5nm,0.9s,mb4.8						
VNDA	**Vanda**	**92.08**	**191**	LR	LR	12 31 13.1	
	comp=Z,296nm,18.4s,MS4.8,baz=132,slow=33						
GRA1	**Grafenberg Arr**	**94.23**	**41**	*e*P	**P**	**11 53 53.4**	**+1.2**
	8.0nm,1.3s,mb5.0						
GRF	**Grafenberg Arr**	**94.23**	**41**	*e*P	**P**	**11 53 53.4**	**+1.2**
	8.0nm,1.3s,mb5.0						
CLL	**Collm**	**95.37**	**39**	*i* P	**P**	**11 53 58.3**	**+0.9**
CLL				*i*	pP	11 54 07.8	0.0
CLL	**Collm**	**95.37**	**39**	P	**P**	**11 53 58.3**	**+0.9**
CLL				*i* *PP	pP	11 54 07.8	0.0
BRG	**Berggiesshubel**	**95.97**	**39**	*e*P	**P**	**11 54 01.2**	**+1.0**
	8.9nm,1.2s,mb5.1						
BRG				*e*	pP	11 54 11.8	+1.2
SYO	**Syowa Base**	**97.05**	**162**	⇓P	**P**	**11 54 04.9**	**+0.3**
CHKZ	**Chkalovo**	**125.03**	**20**	*e*P	PKPdf	11 59 33.0	-4.6
CHKZ				*ep*P		11 59 43.3	
BVAR	**Borovoye Array**	**125.48**	**21**	PKP	PKPdf	11 59 34.8	-3.6
	2.7nm,0.7s,baz=270,slow=1.5,SNR=16						
STKA	**Stephens Creek**	**126.26**	**226**	PKP	PKPdf	11 59 36.6	-3.9
	2.5nm,0.6s,baz=123,slow=8.7,SNR=6.3						
ZAL	**Zalesovo**	**128.60**	**11**	PKP	PKPdf	11 59 40.9	-3.5
	6.5nm,0.8s,baz=115,slow=2.9,SNR=46						
USP	**Ospenovka**	**135.01**	**25**	P	PKPdf	11 59 53.8	-2.9
	SNR=9.3						
EKS2	**Erkin-Say**	**135.18**	**27**	P	PKPdf	11 59 54.7	-2.4
	SNR=6.3						
ULN	**Ulaanbaatar**	**135.48**	**352**	*e*P	PKPdf	11 59 53.0	-4.5
ULN				*ep*P		12 00 02.0	
AAK	**Ala-Archa**	**135.51**	**26**	P	PKPdf	11 59 55.5	-2.2
	SNR=6.2						
AAK	**Ala-Archa**	**135.51**	**26**	*e*P	PKPdf	11 59 54.3	-3.4
AML	**Almayashu**	**135.56**	**27**	P	PKPdf	11 59 55.6	-2.2
	SNR=10						
SONM	**Songino Array**	**135.60**	**353**	PKP	PKPdf	11 59 53.7	-4.0
	1.9nm,0.8s,baz=328,slow=1.6,SNR=15						
UCH	**Uchtor**	**135.85**	**26**	P	PKPdf	11 59 56.5	-1.8
	SNR=12						
KZA	**Kyzart**	**136.29**	**26**	P	PKPdf	11 59 57.2	-1.9
	SNR=6.9						
ASAR	**Alice Springs**	**136.46**	**230**	PKP	PKPdf	11 59 56.0	-4.0
	1.6nm,0.7s,baz=124,slow=2.3,SNR=18						
WRAB	**Tennant Creek**	**138.09**	**235**	*e*P	PKPdf	11 59 58.9	-4.1
WRA	**Warramunga Arr**	**138.10**	**234**	PKP	PKPdf	11 59 59.3	-3.8
	2.4nm,0.8s,baz=117,slow=1.8,SNR=25						
KLP	**Kalpa**	**146.12**	**33**	*e*PKP	PKPdf	12 00 15.3	-1.6
KKR	**Kurukshetra**	**146.49**	**36**	*e*PKP	PKPdf	12 00 13.7	-3.9
RTK	**Rohtak**	**146.91**	**38**	*e*PKP	PKPdf	12 00 15.3	-3.1
KHET	**Khetri**	**147.20**	**40**	*e*PKP	PKPdf	12 00 14.1	-4.7
AJM	**Ajmer**	**147.48**	**44**	*e*PKP	PKPdf	12 00 16.1	-3.2
KUDL	**Kundal**	**147.58**	**39**	*e*PKP	PKPdf	12 00 17.7	-1.7
NDI	**New Delhi**	**147.65**	**38**	*e*PKP	PKPdf	12 00 16.0	-3.5
AYAN	**Aya Nagar**	**147.74**	**38**	*e*PKP	PKPdf	12 00 13.8	-5.9
BHPL	**Bhopal**	**151.49**	**45**	*e*PKP	PKPdf	12 00 27.1	+1.4
ENH	**Enshi**	**151.80**	**341**	*e*P	PKPdf	12 00 21.9	-4.1
KOLN	**Koldanda**	**151.92**	**30**	*e*P	PKPdf	12 00 23.1	-3.1
	23nm,0.7s						
GKN	**Gorkha**	**152.23**	**28**	*e*P	PKPdf	12 00 24.2	-2.4
	91nm,0.7s						
KKN	**Kakani**	**152.71**	**27**	*e*P	PKPdf	12 00 22.1	-5.2
	35nm,0.7s						
GUN	**Gumba**	**152.87**	**26**	*e*P	PKPdf	12 00 25.3	-2.2
PKI	**Pulchoki**	**152.95**	**27**	*e*P	PKPdf	12 00 19.6	-8.0
LSA	**Lhasa**	**153.10**	**15**	*e*P	PKPdf	12 00 25.7	-2.1
JIRN	**Jiri**	**153.22**	**26**	*e*P	PKPdf	12 00 23.4	-4.6
CMAR	**Chiang Mai Arr**	**165.35**	**0**	PKP	PKPdf	12 00 39.0	-3.3
	4.5nm,1.1s,baz=282,slow=1.6,SNR=10						
CMAR				PKPab	PKPab	12 01 37.0	+0.1
	0.5nm,0.6s,baz=333,slow=6.0,SNR=2.5						

IGQ 15 11:45:26.1,3.96S×80.93W,h12km±8km,mb4.1,2D,Error ellipse: s-maj=19.3km s-min=8.3km az=33.9,
Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**3.35**	**43**	P	Pn	11 46 20.1	+0.6
IGUA				S	Sn	11 46 59.6	-0.1
ARRY	**Arrayan**	**3.47**	**46**	P	Pn	11 46 21.7	+0.6
RETU	**Refugio**	**3.52**	**45**	P	Pn	11 46 24.3	+2.5
ULBA	**Ulba**	**3.54**	**45**	P	Pn	11 46 24.1	+1.9
PISA	**Pisayambo**	**3.84**	**42**	P	Pn	11 46 28.3	+1.8
NAS1	**Nasa**	**4.11**	**37**	⇓P	Pn	11 46 32.7	+2.4
VC1	**Cotopaxi 1**	**4.15**	**38**	P	Pn	11 46 32.5	+1.7
TERV	**Terraza Guagua**	**4.42**	**32**	P	Pn	11 46 35.0	+0.4
TERV				S	Sn	11 47 25.8	-0.8
PINO	**Pino**	**4.43**	**32**	P	Pn	11 46 35.0	+0.2
ANTI	**Antisana**	**4.45**	**39**	P	Pn	11 46 37.5	+2.4
YANA	**Yana**	**4.48**	**32**	⇓P	Pn	11 46 35.8	+0.3
YANA				S	Sn	11 47 27.6	-0.7
CAYR	**Refugio Cayamb**	**4.91**	**37**	P	Pn	11 46 43.8	+2.2
COTA	**Cotacachi**	**4.99**	**31**	P	Pn	11 46 44.5	+1.8

IDC 15 11:50:04.8±1.8,10.39S×164.55E,mb3.7/4,mb1 4.0/4,
mb1mx3.8/14,mbtmp3.7/4,Error ellipse:
s-maj=101.4km s-min=28.9km az=134.0,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.13**	**221**	P	P	11 56 17.0	-1.7
	3.7nm,0.9s,baz=61,slow=13,SNR=3.5						
WRA	**Warramunga Arr**	**30.62**	**248**	P	P	11 56 21.1	-1.9
	0.4nm,0.7s,baz=79,slow=8.9,SNR=8.3						
WRA				PcP	PcP	11 59 18.6	-3.0
	0.2nm,0.7s,baz=74,slow=3.0,SNR=5.8						
ASAR	**Alice Springs**	**32.05**	**242**	P	P	11 56 33.5	-2.2
	0.6nm,0.5s,baz=66,slow=10,SNR=7.6						
ASAR				PcP	PcP	11 59 22.8	-2.7
	0.5nm,0.9s,baz=83,slow=2.4,SNR=5.3						
ILAR	**Eielson Array**	**83.27**	**19**	P	P	12 02 33.4	-1.0
	0.2nm,0.7s,baz=243,slow=4.9,SNR=7.8						

IDC 15 11:50:07.2±13.0,7.96N×92.44E,mb3.5/3,mb1 3.7/4,
mb1mx3.5/18,mbtmp3.5/4,ML4.0/1,Error ellipse:
s-maj=447.4km s-min=32.3km az=72.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.20**	**31**	Pn	P	11 53 10.8	+5.5
	0.3nm,0.3s,baz=234,slow=13,SNR=5.9						
SONM	**Songino Array**	**41.47**	**14**	P	P	11 57 55.9	-1.5
	0.4nm,0.7s,baz=211,slow=8.8,SNR=3.0						
WRA	**Warramunga Arr**	**49.69**	**125**	P	P	11 59 01.6	-1.7
	0.7nm,0.9s,baz=306,slow=8.2,SNR=5.7						
ASAR	**Alice Springs**	**51.27**	**129**	P	P	11 59 12.8	-2.5
	0.3nm,0.6s,baz=302,slow=8.1,SNR=3.8						

*IDC **15** 11:54:30.3±0.8,10.72N×91.04E,h26km±4km,mb3.9/10,*
mb1 4.0/11,mb1mx3.8/19,mbtmp4.0/11,ML3.8/1,Error
ellipse: s-maj=33.1km s-min=12.9km az=56.0
*NEIC **15** 11:54:30.5±0.6,10.81N×91.14E,mb4.3/5,Error ellipse:*
s-maj=15.6km s-min=9.7km az=58.0
ISC 15 11:54:28.1±0.6,10.85N±0.07×91.07E±0.05,h26km,
(h26km±.4km:pP-P),n31,σ1§23/35,mb4.1/14,Andaman
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.83**	**64**	*e*P	**Pn**	**11 54 59.0**	**+0.6**
PBA				*e*S	**Sn**	**11 55 21.7**	**+0.7**
PBA				*e*		11 55 29.0	
	comp=E,3μm,0.5s						
PBA				*e*		11 55 29.3	
	comp=N,3μm,0.5s						
VIS	**Vishakhapatnam**	**10.14**	**313**	*e*P	**P**	**11 56 50.4**	**-5.0**
VIS				*e*S	**S**	**11 58 40.4**	**-9.0**
CMAR	**Chiang Mai Arr**	**10.73**	**44**	Pn	**P**	**11 57 02.8**	**-0.8**
	comp=N,0.2nm,0.3s,baz=241,slow=14,SNR=8.2						
CMAR				Sn	**S**	**11 58 59.2**	**-4.7**
	comp=N,0.3nm,0.3s,baz=238,slow=28,SNR=5.0						
HYB	**Hyderabad**	**13.78**	**300**	*i* P	**P**	**11 57 53.5**	**+9.1**
HYB				*e*S	**S**	**12 00 18.0**	**+0.5**
JIRN	**Jiri**	**17.34**	**345**	*e*P	**P**	**11 58 29.8**	**-0.4**
PKI	**Pulchoki**	**17.47**	**343**	*e*P	**P**	**11 58 29.7**	**-2.1**
DMN	**Daman**	**17.59**	**342**	*e*P	**P**	**11 58 31.3**	**-2.0**
GUN	**Gumba**	**17.66**	**345**	*e*P	**P**	**11 58 33.9**	**-0.3**
	comp=N,27nm,0.8s						
KKN	**Kakani**	**17.71**	**343**	*e*P	**P**	**11 58 32.8**	**-2.0**
GKN	**Gorkha**	**18.10**	**341**	*e*P	**P**	**11 58 38.7**	**-1.1**
	comp=N,11nm,0.3s						
KOLN	**Koldanda**	**18.24**	**338**	*e*P	**P**	**11 58 43.3**	**+1.9**
	comp=N,18nm,0.6s						
LSA	**Lhasa**	**18.76**	**0**	*e*P	**P**	**11 58 46.6**	**-1.2**
	comp=N,3.6nm,0.4s						
PTH	**Pithoragarh**	**21.19**	**333**	*e*	**P**	**11 59 12.0**	**-2.1**
NDI	**New Delhi**	**21.98**	**326**	*e*P	**P**	**11 59 30.0**	**+8.0**
DDI	**Dehra Dun**	**22.85**	**330**	*e*	**P**	**11 59 34.2**	**+3.5**
ENH	**Enshi**	**25.83**	**39**	*e*P	**P**	**11 59 58.8**	**-0.5**
	comp=N,4.5nm,0.6s,mb4.2						
LZH	**Lanzhou**	**27.67**	**23**	PKP	**P**	**12 00 17.5**	**+1.4**
SONM	**Songino Array**	**39.06**	**16**	P	**P**	**12 01 56.2**	**+1.5**
	comp=N,1.5nm,0.6s,mb3.9,baz=198,slow=9.1,SNR=17						
SONM				pP	pP	12 02 04.0	+1.5
	comp=N,0.7nm,0.4s,baz=199,slow=9.0,SNR=4.8						
ZAL	**Zalesovo**	**43.27**	**355**	P	**P**	**12 02 31.1**	**+1.9**
	comp=N,1.0nm,0.9s,mb3.6,baz=305,slow=10,SNR=3.8						
ZAL				pP	pP	12 02 39.1	+2.1
	comp=N,1.0nm,0.6s,baz=186,slow=3.2,SNR=2.9						
BVAR	**Borovoye Array**	**45.24**	**343**	P	**P**	**12 02 46.3**	**+1.2**
	comp=N,1.0nm,0.5s,mb3.9,baz=143,slow=9.5,SNR=7.0						
BVAR				pP	pP	12 02 54.1	+1.2
	comp=N,0.5nm,0.3s,baz=146,slow=11,SNR=3.9						
BRVK	**Borovoye**	**45.30**	**342**	*e*P	**P**	**12 02 46.9**	**+1.3**
	comp=N,1.5nm,0.7s,mb3.9						
CHKZ	**Chkalovo**	**45.74**	**343**	*e*P	**P**	**12 02 50.2**	**+1.2**
	comp=N,3.0nm,0.6s,mb4.4						
CHKZ				*ep*P	pP	12 02 58.0	+1.2
WRA	**Warramunga Arr**	**52.45**	**126**	P	**P**	**12 03 40.9**	**-0.4**
	comp=N,4.3nm,0.6s,mb4.5,baz=307,slow=8.2,SNR=47						
WRA				pP	pP	12 03 48.6	-0.6
	comp=N,3.1nm,0.7s,baz=306,slow=8.4,SNR=10						
WRAB	**Tennant Creek**	**52.45**	**126**	*e*P	**P**	**12 03 40.4**	**-0.9**
	comp=N,7.1nm,0.6s,mb4.8						
WRAB				*ep*P	pP	12 03 48.1	-1.1
ASAR	**Alice Springs**	**54.14**	**130**	P	**P**	**12 03 53.0**	**-0.6**
	comp=N,1.8nm,0.9s,mb4.0,baz=306,slow=7.1,SNR=22						
ASAR				pP	pP	12 04 01.2	-0.3
	comp=N,4.3nm,1.2s,baz=308,slow=7.1,SNR=4.9						
BRTR	**Keskin Array B**	**58.20**	**310**	P	**P**	**12 04 22.8**	**+0.2**
	comp=N,1.2nm,0.9s,mb3.9,baz=121,slow=7.2,SNR=5.6						
STKA	**Stephens Creek**	**64.34**	**133**	P	**P**	**12 05 03.4**	**-0.9**
	comp=N,2.6nm,0.8s,mb4.3,baz=182,slow=5.3,SNR=4.1						
FINES	**FINESS Array B**	**68.68**	**332**	P	**P**	**12 05 31.2**	**-0.1**
	comp=N,1.5nm,0.7s,mb4.0,baz=121,slow=11,SNR=5.3						
FINES				pP	pP	12 05 39.9	+0.4
	comp=N,1.3nm,0.7s,baz=90,slow=5.7,SNR=2.8						
FINES	**FINESS Array B**	**68.68**	**332**	P	**P**	**12 05 31.2**	**-0.1**
FINES				pP	pP	12 05 39.9	+0.4
ARCES	**ARCESS Array B**	**71.46**	**340**	P	**P**	**12 05 48.4**	**+0.3**
	comp=N,1.5nm,0.6s,mb4.1,baz=80,slow=7.4,SNR=8.1						
ARCES				pP	pP	12 05 57.1	+0.9
	comp=N,4.7nm,1.1s,baz=90,slow=6.1,SNR=1.8						
GERES	**GERESS Array B**	**73.60**	**318**	P	**P**	**12 06 02.7**	**+1.7**
	comp=N,0.1nm,0.3s,mb3.2,baz=108,slow=6.2,SNR=2.9						

*NAO **15** 12:08:22.0±2.3,67.64N×33.94E,ML2.3*
HEL 15 12:08:22.1±0.3,67.70N×33.97E,ML2.5,ML2.3(UPP),
ML2.1(BER),Explosion,Baltic States - Belarus -
Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.38**	**257**	*i* P	Pg	12 08 28.8	-0.9
APA0				*i* S	Sg	12 08 34.2	-0.7
APA0	**Apatity Array**	**0.38**	**257**	Pg	Pg	12 08 28.8	-0.9
	baz=96,slow=14						
APA0				Lg		12 08 34.2	
	baz=88,slow=28						
KU4	**Oulanka**	**2.18**	**234**	*e*P	Pn	12 08 59.9	-0.2
KU4				*e*S	Sn	12 09 27.5	-0.7
KU4				MSG		12 09 30.7	
	comp=Z,34nm,0.2s						
MSF	**Maaselka**	**2.65**	**230**	*e*P	Pn	12 09 06.5	-0.3
MSF				*e*S	Sn	12 09 38.3	-1.8
MSF				MSG		12 09 46.1	
	comp=Z,12nm,0.2s						
SGF	**Sodankyl**	**2.87**	**268**	*e*P	Pn	12 09 09.2	-0.7
SGF				*e*S	Sn	12 09 43.3	-2.3
KEV	**Kevo**	**3.27**	**312**	*e*P	Pn	12 09 15.7	0.0
KEV				*e*S	Sn	12 09 53.5	-2.4
KEV				MSG		12 10 09.9	
	comp=Z,23nm,0.3s						
ARA0	**ARCESS Array S**	**3.61**	**305**	Pn	Pn	12 09 19.5	-0.9
	baz=122,slow=16						
ARA0				Sn	Sn	12 10 00.5	-3.9
	baz=126,slow=22						
ARA0				Lg		12 10 12.6	
	baz=123,slow=28						
ARA0	**ARCESS Array S**	**3.61**	**305**	*e*P	Pn	12 09 19.5	-0.9
ARA0				*e*S	Sn	12 10 00.5	-3.9
ARA0				*e*SG	Sg	12 10 12.6	-10
OUL	**Oulu**	**4.17**	**235**	*e*SG	Sg	12 10 30.4	-11
OUL				MSG		12 10 32.7	
	comp=Z,15nm,0.3s						
KTK1	**Kautokeino**	**4.19**	**293**	*e*P	Pn	12 09 27.1	-1.6
KTK1				AML	AML	12 10 34.5	
	comp=Z,10.0nm,0.3s						
PAJU	**Pajala**	**4.25**	**266**	*e*P	Pn	12 09 27.7	-1.8
PAJU				*e*S	Sn	12 10 16.9	-3.8
KJN	**Kajaani**	**4.44**	**218**	*e*P	Pn	12 09 30.4	-1.9
KJN				*e*S	Sn	12 10 20.7	-4.8
KJN				MSG		12 10 46.3	
	comp=Z,6.7nm,0.2s						
LANU	**Lannavaara**	**4.55**	**280**	*e*P	Pn	12 09 30.9	-2.8
LANU				*e*S	Sn	12 10 23.1	-5.1
JOF	**Joensuu**	**4.93**	**194**	*e*S	Sn	12 10 28.9	-8.8
KUA	**Kurravaara**	**5.17**	**279**	*e*P	Pn	12 09 39.8	-2.8
SJUU	**Sjulsmark**	**5.39**	**252**	*e*P	Pn	12 09 43.2	-2.5
SJUU				*e*S	Sn	12 10 41.9	-7.6
FIA0	**FINESS Array S**	**7.13**	**212**	Pn	Pn	12 10 06.4	-3.8
	baz=34,slow=12						
FIA0				Sn	Sn	12 11 24.1	-8.9
	baz=36,slow=22						
FIA0				Lg		12 11 58.2	
	baz=26,slow=37						
FIA0	**FINESS Array S**	**7.13**	**212**	*e*P	Pn	12 10 06.4	-3.8
FIA0				*e*S	Sn	12 11 24.1	-8.9
FIA0				*e*SG	Sg	12 11 58.2	-21
SPA0	**Spitsbergen Ar**	**11.64**	**342**	Pn	P	12 11 06.4	-5.8
	baz=144,slow=16						
SPA0	**Spitsbergen Ar**	**11.64**	**342**	*e*P	P	12 11 06.4	-5.8

*BJI **15** 12:22:36.8,13.67N×92.21E,h23km,Ms4.1,Msz3.8*
*IDC **15** 12:22:44.6±1.0,14.51N×92.45E,h23km±4km,mb3.8/9,*
mb1 3.9/10,mb1mx3.8/19,mbtmp3.9/10,ML3.4/1,Error
ellipse: s-maj=30.2km s-min=17.3km az=51.0
*NEIC **15** 12:22:45.0±0.5,14.54N×92.54E,mb4.4/6,Error ellipse:*
s-maj=14.2km s-min=7.3km az=57.0
ISC 15 12:22:42.3±0.5,14.77N±0.07×92.51E±0.06,h24km,
h24km±1.2km:pP-P,n32,σ1§55/34,mb4.2/15,1C-1D,
Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.17**	**58**	Pn	**Pn**	**12 24 28.7**	**+0.1**
	0.1nm,0.3s,baz=246,slow=14,SNR=2.8						
CMAR				Sn	**Sn**	**12 25 49.7**	**-0.5**
	0.8nm,0.3s,baz=243,slow=28,SNR=6.2						
BWNR	**Bhubaneshwar**	**8.44**	**312**	*e*	**P**	**12 24 41.8**	**-4.3**
BWNR				*e*		12 24 43.2	
	comp=Z,57nm,0.6s						
VIS	**Vishakhapatnam**	**9.30**	**290**	*e*P	**P**	**12 24 54.5**	**-3.5**
VIS				*e*		12 24 56.7	
	comp=Z,33nm,1.0s						
SHL	**Shillong**	**10.76**	**357**	*e*P	**P**	**12 25 25.0**	**+6.7**
SHL				*e*S	Sx	12 28 20.0	
BLSP	**Bilaspur**	**12.27**	**308**	*e*P	**P**	**12 25 37.6**	**-1.1**
BLSP				*e*		12 25 39.2	
	comp=Z,17nm,0.8s						
HYB	**Hyderabad**	**13.67**	**283**	*i* P	**P**	**12 26 04.0**	**+6.6**
HYB				*e*S	**S**	**12 28 25.0**	**-4.5**
JIRN	**Jiri**	**14.12**	**336**	*e*P	**P**	**12 26 01.5**	**-1.7**
	comp=Z,22nm,0.8s						
PKI	**Pulchoki**	**14.36**	**334**	*e*P	**P**	**12 26 04.4**	**-2.0**
	comp=Z,24nm,0.8s						
GUN	**Gumba**	**14.46**	**336**	*e*P	**P**	**12 26 05.7**	**-2.0**
	comp=Z,12nm,0.8s						
DMN	**Daman**	**14.52**	**333**	*e*P	**P**	**12 26 06.0**	**-2.5**
	comp=Z,39nm,0.8s						
LSA	**Lhasa**	**14.92**	**355**	P	**P**	**12 26 22.0**	**+8.3**
LSA	**Lhasa**	**14.92**	**355**	*e*P	**P**	**12 26 19.2**	**+5.5**
	comp=Z,13nm,1.1s						
GKN	**Gorkha**	**15.07**	**332**	*e*P	**P**	**12 26 13.9**	**-1.8**
	comp=Z,27nm,0.5s						
KOLN	**Koldanda**	**15.37**	**329**	*e*P	**P**	**12 26 17.6**	**-2.0**
	comp=Z,22nm,0.7s						
DDI	**Dehra Dun**	**20.41**	**322**	*e*	**P**	**12 27 21.5**	**+0.9**
KLP	**Kalpa**	**21.19**	**324**	*e*	**P**	**12 27 30.5**	**+2.0**
KLP				AMb	AMB	12 27 42.6	
	comp=Z,20nm,0.9s,mb4.5						
KLP				*e*		12 28 28.2	
ENH	**Enshi**	**21.95**	**42**	P	**P**	**12 27 44.0**	**+7.7**

LZH AMB AMB
comp=Z,260nm,4.0s
LZH LR LR
comp=E,253nm,13.0s
LZH LR LR
comp=Z,436nm,14.8s,MS4.1
NJ2 Nanjing 30.16 50 *e*P **P 12 29 47.8 -0.4**
NJ2 PP PP 12 30 47.4 +0.5
NJ2 S **S 12 34 48.0 +3.6**
NJ2 XS 12 35 03.0
NJ2 AMB AMB
comp=Z,410nm,5.3s
NJ2 LR LR
comp=N,900nm,11.9s
NJ2 LR LR
comp=E,1μm,18.8s
NJ2 LR LR
comp=Z,710nm,14.4s,MS4.5
AAK Ala-Archa 32.05 335 *i* P **P 12 30 10.0 +5.3**
AAK pmax pmax
comp=Z,8.0nm,1.5s,mb4.3
AAK MLR MLR
comp=Z,100nm,24.0s,MS3.4
AAK Ala-Archa 32.05 335 *e*P **P 12 30 04.3 -0.4**
AAK *e*pP pP 12 30 12.2 +0.2
MKAR Makanchi Array 33.41 348 *i* P **P 12 30 15.4 -1.1**
MKAR pmax pmax
comp=Z,11nm,0.9s
SONM Songino Array 35.48 17 P **P 12 30 32.3 -2.0**
comp=Z,2.5nm,0.9s,mb4.2,baz=207,slow=10,SNR=3.3
SONM pP pP 12 30 39.7 -2.0
comp=Z,4.9nm,0.8s,baz=203,slow=9.4,SNR=7.2
ULN Ulaanbaatar 35.69 17‖ *e*P **P 12 30 37.3 +1.2**
ULN Ulaanbaatar 35.69 17 *e*P **P 12 30 36.3 +0.2**
comp=Z,12nm,1.5s,mb4.6
ZAK Zakamensk 37.11 12 *e*P **P 12 30 47.2 -0.8**
ZAL Zalesovo 39.95 353 P **P 12 31 11.3 -0.4**
comp=Z,1.7nm,0.5s,mb4.0,baz=298,slow=8.6,SNR=4.6
ZAL pP pP 12 31 18.4 -0.7
comp=Z,4.9nm,0.6s,baz=299,slow=7.3,SNR=13
BVAR Borovoye Array 42.29 341 P **P 12 31 29.9 -1.0**
comp=Z,3.0nm,1.1s,mb3.8,baz=158,slow=8.0,SNR=5.4
BVAR pP pP 12 31 38.2 -0.2
comp=Z,3.1nm,0.8s,baz=143,slow=7.4,SNR=8.8
BRVK Borovoye 42.35 341 *e*P **P 12 31 33.7 +2.3**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
BRVK Borovoye 42.35 341 *e*P **P 12 31 33.7 +2.3**
comp=Z,4.3nm,0.8s,mb4.1
CHKZ Chkalovo 42.77 341 *e*P **P 12 31 34.4 -0.4**
CHKZ pmax pmax
comp=Z,14nm,0.7s,mb4.8
CHKZ Chkalovo 42.77 341 *e*P **P 12 31 34.4 -0.4**
comp=Z,14nm,0.7s,mb4.8
FITZ Fitzroy Crossi 46.16 133‖ *i*P **P 12 32 02.4 -0.1**
comp=Z,6.1nm,0.4s,mb4.9
BOD Bodaibo 46.47 16 *e*P **P 12 32 01.2 -3.2**
GNI Garni 48.61 311 *i* P **P 12 32 24.7 +3.3**
GNI pmax pmax
comp=Z,5.0nm,0.7s
GNI Garni 48.61 311 P **P 12 32 21.8 +0.3**
comp=Z,16nm,0.9s,mb5.1
ARU Arti 49.23 336‖ *i*P **P 12 32 28.4 +2.5**
ARU *e* 12 33 45.0
ARU *e* 12 34 22.5
ARU *e*S **S 12 39 40.2 +11**
ARU pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
KIV Kislovodsk 51.29 315⇑ *e*P **P 12 32 44.5 +2.6**
KIV *e* 12 34 44.3
KIV *e*S **S 12 40 06.5 +8.7**
KIV pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
KIV MLR MLR
comp=Z,100nm,17.0s,MS3.9
YSS Yuzh-Sakhalins 53.15 41‖ *e*P **P 12 32 56.4 +0.6**
YSS pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
WRA Warramunga Arr 53.71 128 P **P 12 32 59.9 -0.4**
comp=Z,8.8nm,0.8s,mb4.7,baz=310,slow=7.9,SNR=25
WRA PcP PcP 12 34 06.1 -0.1
comp=Z,1.5nm,1.0s,baz=321,slow=3.1,SNR=3.1
WRA pPcP 12 34 14.1
comp=Z,1.1nm,0.6s,baz=313,slow=3.6,SNR=5.4
WRAB Tennant Creek 53.72 128‖ *e*P **P 12 32 59.9 -0.4**
WB2 Warramunga Arr 53.72 128‖ *i*P **P 12 33 00.0 -0.3**
YAK Yakutsk 54.64 21‖ *e*P **P 12 33 06.5 0.0**
ASAR Alice Springs 55.64 132 P **P 12 33 14.4 +0.1**
comp=Z,18nm,1.3s,mb5.0,baz=309,slow=6.8,SNR=16
ASAR PcP PcP 12 34 13.8 +0.2
comp=Z,1.8nm,0.8s,baz=317,slow=3.7,SNR=4.7
ASAR pPcP 12 34 21.6
comp=Z,1.4nm,0.7s,baz=320,slow=3.9,SNR=4.1
BRTR Keskin Array B 56.81 308 P **P 12 33 22.1 -0.4**
comp=Z,0.7nm,0.7s,mb3.8,baz=108,slow=4.6,SNR=2.2
BRTR pP pP 12 33 30.6 +0.4
comp=Z,4.4nm,0.8s,baz=112,slow=7.5,SNR=13
OBN Obninsk 58.92 326‖ *e*P **P 12 33 39.8 +2.7**
OBN pmax pmax
comp=Z,11nm,1.0s,mb4.8
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.0
TIXI Tiksi 61.39 12 *e*P **P 12 33 52.6 -1.2**
TIXI pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
AKASG Malin Array Be 61.92 320 P **P 12 33 56.8 -0.9**
comp=Z,0.4nm,0.6s,mb3.7,baz=72,slow=7.0,SNR=2.1
AKASG pP pP 12 34 04.7 -0.8
comp=Z,3.3nm,0.8s,baz=78,slow=6.7,SNR=6.9
MA2 Magadan 62.11 29‖ *e*P **P 12 33 59.7 +0.9**
MLR Muntele Rosu 63.24 314 pP pP 12 34 14.9 +0.7
comp=Z,7.8nm,0.9s,baz=105,slow=2.9,SNR=7.4
JOF Joensuu 64.22 334 *e*p **P 12 34 12.0 -0.6**
comp=Z,6.3nm,0.8s,mb4.7
JOF Joensuu 64.22 334 *e*P **P 12 34 12.0 -0.6**
JOF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
FINES FINESS Array B 66.13 331 P **P 12 34 24.3 -0.6**
comp=Z,5.5nm,0.7s,mb4.7,baz=117,slow=8.5,SNR=6.3
FINES pP pP 12 34 32.1 -0.5
comp=Z,4.5nm,0.6s,baz=101,slow=7.1,SNR=7.4
ARCES ARCESS Array B 68.57 340 P **P 12 34 39.5 -0.7**
comp=Z,2.3nm,0.7s,mb4.2,baz=63,slow=6.0,SNR=2.5
ARCES pP pP 12 34 47.3 -0.6
comp=Z,4.5nm,0.7s,baz=90,slow=8.5,SNR=4.3
MORC Moravsky Berou 69.24 318 *e*P **P 12 34 43.2 -1.4**
comp=Z,9.0nm,1.3s,mb4.5
MORC *e*pP pP 12 34 52.9 +0.5
KSP Ksiaz 70.08 319 *e*P **P 12 34 54.3 +4.6**
KSP *e*pP pP 12 34 58.5 +1.0
BILL Bilibino 70.92 23 *i* P **P 12 34 55.3 +0.7**
BILL pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BILL MLR MLR
comp=Z,100nm,17.0s,MS4.1
PRU Pruhonice 71.19 318 *e*P pP 12 35 05.8 +1.5
PRU Pruhonice 71.19 318 *e*pP pP 12 35 05.8 +1.5
BRG Berggiesshubel 71.57 319 *i* P pP 12 35 07.8 +1.3
BRG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GERES GERESS Array B 71.75 317 P **P 12 35 00.9 +1.1**
comp=Z,0.7nm,0.5s,mb3.8,baz=72,slow=3.1,SNR=5.7
GERES pP pP 12 35 08.1 +0.5
comp=Z,2.8nm,0.6s,baz=80,slow=8.1,SNR=12
KHC Kasperske Hory 71.82 317 *e*P **P 12 35 02.0 +1.7**
KHC *e* pP 12 35 09.1 +1.0
KHC Kasperske Hory 71.82 317 *e*P **P 12 35 02.0 +1.7**
KHC pP pP 12 35 09.1 +1.0
CLL Collm 72.16 320 *e*P pP 12 35 10.0 -0.1
CLL Collm 72.16 320 *e**PP pP 12 35 10.0 -0.1
NB2 NORSAR Subarra 73.18 330 P pP 12 35 15.2 -0.7
comp=Z,1.9nm,0.6s,baz=88,slow=5.8
NOA NORSAR Array B 73.18 330 pP pP 12 35 15.0 -0.9
comp=Z,3.2nm,0.8s,baz=91,slow=5.7,SNR=6.3
GRA1 Grafenberg Arr 73.34 318 *e*P **P 12 35 12.9 +3.7**
comp=Z,10.0nm,1.2s,mb4.6
GRF Grafenberg Arr 73.34 318 *e*P **P 12 35 12.9 +3.7**
GRF pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
GRF Grafenberg Arr 73.34 318 *e*P **P 12 35 12.9 +3.7**
comp=Z,10.0nm,1.2s,mb4.6
LPG La Plagne 76.71 314 *e*P **P 12 35 32.4 +3.8**
comp=Z,20nm,0.8s,mb4.8
ESDC Sonseca Array 85.57 310 pP pP 12 36 24.2 +0.8
comp=Z,2.0nm,0.8s,baz=59,slow=5.9,SNR=3.5
ILAR Eielson Array 89.56 22 pP pP 12 36 40.1 -1.9
comp=Z,0.6nm,0.7s,baz=305,slow=3.8,SNR=4.5

IDC 15 12:25:19.2±1.6, 14.47N×92.36E, mb4.1/5, mb1 4.3/5, mb1mx3.9/17, mbtmp4.1/5, Error ellipse: s-maj=76.2km s-min=21.6km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**35.25**	**16**	P	P	12 32 15.6	-1.8
	0.9nm,0.9s,baz=194,slow=12,SNR=2.8						
ZAL	**Zalesovo**	**39.83**	**353**	P	P	12 32 53.9	-1.9
	1.3nm,0.7s,baz=305,slow=6.2,SNR=3.4						
WRA	**Warramunga Arr**	**53.61**	**129**	P	P	12 34 42.3	-2.5
	4.0nm,0.7s,baz=314,slow=8.2,SNR=9.4						
WRA				PcP	PcP	12 35 49.3	-2.0
	0.7nm,0.6s,baz=316,slow=3.4,SNR=4.8						
ASAR	**Alice Springs**	**55.55**	**132**	P	P	12 34 56.8	-2.2
	2.3nm,0.5s,baz=309,slow=7.0,SNR=11						
ASAR				PcP	PcP	12 35 56.2	-2.5
	1.0nm,0.7s,baz=318,slow=3.5,SNR=3.9						
FINES	**FINESS Array B**	**66.11**	**331**	P	P	12 36 08.0	-2.2
	1.3nm,0.7s,baz=112,slow=10,SNR=3.3						
FINES				pP	pP	12 36 14.9	+4.8
	1.1nm,0.8s,baz=162,slow=6.0,SNR=4.5						

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*LDG **15** 13:02:59.1±0.4, 42.90N×2.10W, h2km, Md2.4/2, Ml2.5/6, Error ellipse: s-maj=6.1km s-min=5.2km az=157.0*
*MDD **15** 13:03:03.3±0.4, 43.00N×1.89W, h2km±6km, mbLg1.9/14, Error ellipse: s-maj=3.7km s-min=2.9km az=154.0, PRXIMO*
*NEIC **15** 13:03:03.7, 43.00N×1.84W, ML2.5(LDG), ML2.5(STR), MN2.1(MDD), After MDD.*

ISC 15 13:03:01.4±0.4, 42.90N±0.04×1.89W±0.03, h2km, n36, σ1§13/48, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALK	**Alkurruntz**	**0.42**	**41**	Pg	**Pg**	**13 03 09.7**	**-0.2**
EALK				Lg		13 03 14.8	
EALK	**Alkurruntz**	**0.42**	**41**	Pg	**Pg**	**13 03 09.7**	**-0.2**
	18nm,0.3s,SNR=22						
EALK				Lg		13 03 15.1	
	50nm,0.2s,SNR=12						
SJPF	**Ste Jean**	**0.53**	**66**	*e*Pg	**Pg**	**13 03 12.1**	**+0.1**
SJPF				*e*Sg	**Sg**	**13 03 19.8**	**+0.7**
	33nm,0.3s						
OSSF	**Osses**	**0.58**	**52**	Pg	**Pg**	**13 03 12.5**	**-0.5**
OSSF				Sg	**Sg**	**13 03 21.2**	**+0.5**
LARF	**Larrau**	**0.68**	**78**	Pg	**Pg**	**13 03 14.9**	**0.0**
LARF				Sg	**Sg**	**13 03 25.2**	**+1.3**
ATE	**Arette**	**0.89**	**78**	Lg		13 03 31.9	
ETSF	**Etsaut**	**0.98**	**90**	*e*Pg	**Pg**	**13 03 20.1**	**-0.8**
ETSF				*e*Sg	**Sg**	**13 03 35.7**	**+1.8**
	14nm,0.3s						
ELAN	**Lanestosa**	**1.18**	**287**	Pg	**Pg**	**13 03 25.4**	**+0.4**
ELAN				Lg		13 03 43.2	
ELAN	**Lanestosa**	**1.18**	**287**	Pg	**Pg**	**13 03 25.4**	**+0.4**
	4.3nm,0.3s,SNR=18						
ELAN				Lg		13 03 42.8	
	7.5nm,0.2s,SNR=7.1						
VIEF	**Viey**	**1.41**	**90**	Lg		13 03 48.6	
LABF	**Labassere**	**1.45**	**83**	Lg		13 03 51.0	
EBIE	**Bielsa**	**1.51**	**97**	Pg	**Pg**	**13 03 31.5**	**-0.1**
	4.2nm,0.3s,SNR=38						
EBIE				Lg		13 03 53.2	
	24nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**1.58**	**138**	Pg	**Pg**	**13 03 33.3**	**+0.4**
	7.9nm,0.5s,SNR=7.9						
ESAC				Lg		13 03 55.4	
	83nm,0.3s,SNR=8.8						
RESF	**Ens**	**1.64**	**92**	Lg		13 03 56.3	
EPF	**Esparros**	**1.64**	**85**	*e*Pg	**Pg**	**13 03 32.3**	**-1.8**
EPF				*e*Sg	**Sg**	**13 03 55.9**	**-0.1**
	19nm,0.4s						
EGRA	**Graus**	**1.77**	**113**	Pg	**Pg**	**13 03 36.5**	**-0.3**
EGRA				Lg		13 04 00.5	
EGRA	**Graus**	**1.77**	**113**	Pg	**Pg**	**13 03 36.5**	**-0.3**
	3.3nm,0.3s,SNR=4.0						
EGRA				Lg		13 04 00.6	
	1.7nm,0.2s,SNR=4.0						
MELF	**Melles**	**1.95**	**90**	Lg		13 04 05.3	
SALF	**Salau**	**2.27**	**92**	Lg		13 04 14.6	
EARI	**Arriondas**	**2.47**	**281**	Pg	**Pg**	**13 03 49.7**	**-0.9**
EARI				Sn	**Sn**	**13 04 14.9**	**+0.6**
EARI				Lg		13 04 24.3	
EARI	**Arriondas**	**2.47**	**281**	Pg	**Pg**	**13 03 49.7**	**-0.9**
	4.1nm,0.5s,SNR=4.0						
EARI				Sn	**Sn**	**13 04 13.7**	**-0.6**
	2.0nm,0.5s,SNR=4.0						
EARI				Lg		13 04 22.8	
	0.3nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.55**	**139**	Pn	**Pn**	**13 03 45.8**	**+1.3**
ERTA				Pg	**Pg**	**13 03 51.8**	**-0.6**
ERTA				Sn	**Sn**	**13 04 17.4**	**+0.9**
ERTA				Lg		13 04 27.1	
ERTA	**Horta de San J**	**2.55**	**139**	Pn	**Pn**	**13 03 45.8**	**+1.3**
	0.4nm,0.2s,SNR=7.9						
ERTA				Pg	**Pg**	**13 03 51.8**	**-0.6**
	0.1nm,0.3s,SNR=7.9						
ERTA				Lg		13 04 24.8	
	3.0nm,0.2s,SNR=4.0						
EPOB	**Poblet**	**2.69**	**124**	Pn	**Pn**	**13 03 47.0**	**+0.5**
EPOB				Pg	**Pg**	**13 03 53.4**	**-1.7**
EPOB				Sn	**Sn**	**13 04 21.0**	**+0.9**
EPOB				Lg		13 04 30.1	
EPOB	**Poblet**	**2.69**	**124**	Pn	**Pn**	**13 03 47.0**	**+0.5**
	0.1nm,0.2s,SNR=7.9						
EPOB				Pg	**Pg**	**13 03 53.3**	**-1.9**
	0.4nm,0.2s,SNR=7.9						
EPOB				Sn	**Sn**	**13 04 20.6**	**+0.5**
	0.5nm,0.6s,SNR=4.0						
EPOB				Lg		13 04 28.5	
	1.1nm,0.3s,SNR=4.0						
EMIR	**Miracle**	**2.71**	**110**	Pg	**Pg**	**13 03 54.0**	**-1.5**
	0.5nm,0.2s,SNR=4.0						
EMIR				Lg		13 04 31.5	
	2.0nm,0.3s,SNR=4.0						
EMOS	**Mosqueruela**	**2.75**	**157**	Pn	**Pn**	**13 03 48.9**	**+1.7**
EMOS				Pg	**Pg**	**13 03 55.0**	**-1.2**
EMOS				Lg		13 04 30.4	
EMOS	**Mosqueruela**	**2.75**	**157**	Pn	**Pn**	**13 03 48.9**	**+1.7**
	0.8nm,0.3s,SNR=7.9						
EMOS				Pg	**Pg**	**13 03 55.0**	**-1.2**
	0.5nm,0.6s,SNR=7.9						
EMOS				Lg		13 04 31.0	
	1.6nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**2.82**	**218**	Pg	**Pg**	**13 03 56.9**	**-0.8**
	0.8nm,0.4s,SNR=7.9						
GUD				Lg		13 04 34.5	
	3.5nm,0.4s,SNR=7.9						
MTLF	**Montolieu**	**3.04**	**80**	*e*Pn	**Pn**	**13 03 48.1**	**-3.3**
MTLF				*e*Pg	**Pg**	**13 03 58.5**	**-3.5**
MTLF				*e*Sn	**Sn**	**13 04 25.2**	**-3.6**
	2.7nm,0.4s						
RJF	**Les Rejaudoux**	**3.43**	**44**	*e*Sn	**Sn**	**13 04 33.4**	**-5.4**
	1.9nm,0.2s						
CAF	**Calviac**	**3.50**	**53**	*e*Sn	**Sn**	**13 04 35.1**	**-5.4**
	2.1nm,0.3s						
ECAL	**Calabor**	**3.71**	**257**	Pn	**Pn**	**13 04 02.8**	**+1.8**
ECAL				Lg		13 05 01.2	
ECAL	**Calabor**	**3.71**	**257**	Pn	**Pn**	**13 04 01.5**	**+0.5**
	0.3nm,0.3s,SNR=4.0						
ECAL				Lg		13 05 00.8	
	7.0nm,0.9s,SNR=4.0						
EINC	**Incio**	**4.03**	**268**	Pn	**Pn**	**13 04 07.2**	**+1.7**
LASF	**Ste Croix**	**4.34**	**72**	*e*Sn	**Sn**	**13 04 56.0**	**-5.9**
	2.2nm,0.3s						

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*BJI **15** 13:08:17.9, 8.64N×91.14E, h10km, mb4.3, Ms4.1*
*IDC **15** 13:08:18.7±0.8, 8.34N×92.03E, h28km±4km, mb3.8/10, mb1 4.0/11, mb1mx3.9/19, mbtmp4.0/11, ML4.0/1, MS3.3/1, Ms1 3.5/1, ms1mx3.1/27, Error ellipse: s-maj=33.6km s-min=13.3km az=57.0*
*NEIC **15** 13:08:18.6±0.7, 8.23N×91.99E, mb4.3/6, Error ellipse: s-maj=20.4km s-min=11.2km az=59.0*

ISC 15 13:08:16.9±0.7, 8.24N±0.09×92.1E±0.1, h30km, h30km±.4km: pP-P, n31, σ1§14/29, mb4.1/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.12**	**32**	Pn	**P**	**13 11 10.1**	**-0.7**
	0.3nm,0.3s,baz=231,slow=15,SNR=11						
CMAR				LR	LR	13 17 07.1	
	comp=Z,144nm,18.2s,baz=195,slow=44						
HYB	**Hyderabad**	**16.07**	**306**	*e*P	**P**	**13 12 06.0**	**+3.3**
HYB	**Hyderabad**	**16.07**	**306**	*i* P	**P**	**13 12 06.0**	**+3.3**
SHL	**Shillong**	**17.24**	**359**	*e*P	**P**	**13 12 17.0**	**-0.3**
JIRN	**Jiri**	**20.12**	**345**	*e*P	**P**	**13 12 53.9**	**+2.5**
	50nm,1.2s						
PKI	**Pulchoki**	**20.26**	**343**	*e*P	**P**	**13 12 53.3**	**+0.4**
	9.3nm,0.4s						
DMN	**Daman**	**20.38**	**342**	*e*P	**P**	**13 12 54.8**	**+0.6**
GUN	**Gumba**	**20.44**	**344**	*e*P	**P**	**13 12 56.4**	**+1.6**
KKN	**Kakani**	**20.50**	**342**	*e*P	**P**	**13 12 56.1**	**+0.7**
GKN	**Gorkha**	**20.90**	**341**	*e*P	**P**	**13 12 59.8**	**+0.3**
	12nm,0.3s						
KOLN	**Koldanda**	**21.04**	**339**	*e*P	**P**	**13 12 59.7**	**-1.2**
LSA	**Lhasa**	**21.37**	**358**	P	**P**	**13 13 06.5**	**+2.2**
LSA	**Lhasa**	**21.37**	**358**	*e*P	**P**	**13 13 06.8**	**+2.5**
	7.2nm,0.8s,mb4.0						
LSA				*e*		13 13 15.4	
ENH	**Enshi**	**27.29**	**34**	*e*P	**P**	**13 14 06.1**	**+5.1**
	30nm,1.4s,mb4.6						
AAK	**Ala-Archa**	**37.61**	**339**	*e*P	**P**	**13 15 30.6**	**-0.4**
	3.0nm,0.9s,mb4.0						
SONM	**Songino Array**	**41.28**	**15**	P	**P**	**13 16 01.1**	**-0.1**
	1.2nm,0.8s,mb3.6,baz=198,slow=7.4,SNR=9.5						
SONM				pP	pP	13 16 09.6	-0.6
	2.4nm,0.8s,baz=197,slow=7.3,SNR=12						
ZAL	**Zalesovo**	**45.95**	**354**	P	**P**	**13 16 37.7**	**-1.3**
	1.3nm,0.6s,mb4.0,baz=304,slow=5.8,SNR=10						
ZAL				pP	pP	13 16 46.6	-1.3
	2.3nm,0.5s,baz=282,slow=5.6,SNR=7.1						
ZAL	**Zalesovo**	**45.95**	**354**	P	**P**	**13 16 37.7**	**-1.3**
ZAL				pP	pP	13 16 46.6	-1.3
BVAR	**Borovoye Array**	**48.03**	**342**	P	**P**	**13 16 53.3**	**-2.1**
	1.1nm,0.9s,mb3.9,baz=158,slow=8.0,SNR=4.1						
BVAR				pP	pP	13 17 02.4	-2.0
	0.9nm,0.7s,baz=169,slow=7.6,SNR=7.3						
BRVK	**Borovoye**	**48.09**	**342**	*e*P	**P**	**13 16 51.6**	**-4.2**
	0.9nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**48.53**	**343**	*e*P	**P**	**13 16 58.3**	**-0.9**
	4.2nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**50.09**	**125**	P	**P**	**13 17 11.7**	**0.0**
	1.2nm,0.5s,mb4.2,baz=302,slow=8.9,SNR=34						
WRA				pP	pP	13 17 21.0	+0.3
	2.2nm,0.8s,baz=304,slow=8.8,SNR=11						
WRAB	**Tennant Creek**	**50.10**	**125**	*e*P	**P**	**13 17 11.8**	**+0.1**
	2.1nm,0.5s,mb4.4						
ASAR	**Alice Springs**	**51.68**	**129**	P	**P**	**13 17 24.5**	**+0.8**
	1.9nm,0.8s,mb4.1,baz=306,slow=7.2,SNR=14						
ASAR				pP	pP	13 17 33.6	+0.9
	1.0nm,0.7s,baz=306,slow=7.3,SNR=5.1						
BRTR	**Keskin Array B**	**60.69**	**311**	P	**P**	**13 18 26.1**	**-2.0**
	1.2nm,0.8s,mb4.1,baz=141,slow=7.9,SNR=4.6						
STKA	**Stephens Creek**	**61.80**	**133**	P	**P**	**13 18 36.4**	**+0.7**
	1.8nm,0.7s,mb4.3,baz=256,slow=6.8,SNR=4.3						
MLR	**Muntele Rosu**	**67.53**	**316**	P	**P**	**13 19 12.7**	**+0.1**
	1.4nm,0.7s,mb4.1,baz=104,slow=19,SNR=3.1						
GERES	**GERESS Array B**	**76.23**	**318**	P	**P**	**13 20 03.9**	**-0.6**
	1.4nm,0.9s,mb3.9,baz=90,slow=4.0,SNR=7.4						
ILAR	**Eielson Array**	**95.15**	**22**	P	**P**	**13 21 37.6**	**-0.7**
	0.4nm,0.7s,mb4.0,baz=281,slow=3.7,SNR=5.6						
PDAR	**Pinedale Array**	**125.52**	**20**	PKP	PKPdf	13 27 17.9	-2.9
	0.3nm,0.6s,baz=27,slow=2.0,SNR=2.9						
PDAR				pPKP		13 27 26.4	
	0.5nm,0.7s,baz=45,slow=4.2,SNR=3.9						
NVAR	**Mina Array Bea**	**125.60**	**29**	PKP	PKPdf	13 27 19.3	-1.8
	0.6nm,0.7s,baz=299,slow=3.0,SNR=5.8						
NVAR				pPKP		13 27 27.6	
	0.8nm,0.8s,baz=299,slow=2.3,SNR=4.4						

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*CSEM **15** 13:28:34.0±0.2, 33.35N×48.48E, h8km, mb4.1/1, ML4.4/1, Error ellipse: s-maj=4.8km s-min=3.8km az=118.0*
*THR **15** 13:28:34.1±0.6, 33.42N×48.41E, h14km±5km, ML3.7*
*NEIC **15** 13:28:36.6±2.5, 33.31N×48.33E, h35km±22km, mb3.8/2, Error ellipse: s-maj=24.9km s-min=12.6km az=182.0*
*TEH **15** 13:28:37.2, 33.33N×48.30E, h25km, Mn3.7*
*IDC **15** 13:28:37.4±5.3, 33.33N×48.33E, h43km±52km, mb3.6/9, mb1 3.8/11, mb1mx3.6/21, mbtmp3.9/11, ML3.9/1, Error ellipse: s-maj=45.6km s-min=23.5km az=16.0*

ISC 15 13:28:32.2±0.8, 33.38N±0.04×48.30E±0.03, h8km±6km, n37, σ1§29/45, mb3.7/11, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.03**	**321**	Pg	**Pg**	**13 28 52.9**	**+0.1**
SHGR	**Shooshtar-Gavs**	**1.34**	**162**	*e*PG	**Pg**	**13 28 58.6**	**-0.3**
SHGR				*e*SG	**Sg**	**13 29 17.1**	**+0.4**
SHGR				AML	AML	13 29 22.6	
	comp=N,1μm,0.8s						
SHGR	**Shooshtar-Gavs**	**1.34**	**162**	*e*Pg	**Pg**	**13 28 58.6**	**-0.3**
	SNR=90						
SHGR				*e*Sg	**Sg**	**13 29 17.1**	**+0.4**
	comp=N,1μm,0.8s,SNR=90						
IGHG	**Ghaleghazi**	**1.73**	**304**	Pn	**Pn**	**13 29 06.0**	**+3.2**
ASAO	**Ashtian**	**1.84**	**50**	*e*PG	**Pg**	**13 29 06.1**	**-2.9**
ASAO				AML	AML	13 29 44.7	
	comp=N,508nm,0.6s						
SNGE	**Sanandaj**	**1.88**	**335**	*e*PG	**Pg**	**13 29 08.6**	**-1.3**
SNGE				AML	AML	13 29 40.5	
	comp=N,915nm,0.7s						
IDHR	**Dehrash**	**2.07**	**310**	Pn	**Pn**	**13 29 10.7**	**+3.0**
IRAZ	**Razeghan**	**2.42**	**33**	Pn	**Pn**	**13 29 16.9**	**+4.1**
IRAZ				Sn	**Sn**	**13 29 44.2**	**+1.2**
IBRJ	**Borojen**	**2.97**	**122**	Pn	**Pn**	**13 29 22.6**	**+2.0**
IMHD	**Mahdasht**	**3.02**	**40**	Pn	**Pn**	**13 29 24.0**	**+2.8**
IMHD				Sn	**Sn**	**13 29 58.2**	**+0.2**
BHD	**Baghdad**	**3.29**	**269**	*e*Pn	**Pn**	**13 29 25.5**	**+0.4**
BHD				*e*Sn	**Sn**	**13 30 06.0**	**+1.2**
BHD				*e*Sb	**Sb**	**13 30 11.5**	**+0.6**
IAFJ	**Afjeh**	**3.74**	**48**	Pn	**Pn**	**13 29 34.8**	**+3.3**
DAMV	**Damavand**	**3.77**	**52**	*e*PN	**Pn**	**13 29 33.0**	**+1.1**
IDMV	**Damavand**	**3.78**	**54**	Pn	**Pn**	**13 29 33.8**	**+1.7**
NASN	**Na'in**	**3.83**	**97**	*e*PN	**Pn**	**13 29 33.8**	**+1.0**
IFIR	**Firoozkooh**	**4.31**	**57**	Pn	**Pn**	**13 29 41.1**	**+1.5**
IFIR				Sn	**Sn**	**13 30 28.5**	**-2.2**
ISAD	**Sadrabad**	**4.77**	**106**	Pn	**Pn**	**13 29 45.0**	**-1.1**
MSL	**Mosul**	**5.18**	**306**	*e*P	**Pn**	**13 29 35.5**	**-16**
MSL				*e*S	**Sn**	**13 30 48.5**	**-4.1**
ICHK	**Chekchek**	**5.26**	**101**	Pn	**Pn**	**13 29 52.5**	**-0.6**
GRMI	**Germi**	**5.43**	**357**	*e*PN	**Pn**	**13 29 56.7**	**+1.2**
ISRV	**Sarvestan**	**5.73**	**133**	Pn	**Pn**	**13 29 55.4**	**-4.2**
IMOK	**Mook**	**5.74**	**138**	Pn	**Pn**	**13 29 59.5**	**-0.3**
BRTR	**Keskin Array B**	**13.38**	**302**	P	**P**	**13 31 44.2**	**-0.7**
	baz=126,slow=12,SNR=3.7						
IDI	**Anoyia**	**19.42**	**282**	P	**P**	**13 33 01.0**	**-0.7**
	comp=N,0.3nm,0.3s,baz=126,slow=8.7,SNR=3.4						
IDI	**Anoyia**	**19.42**	**282**	P	**P**	**13 33 01.0**	**-0.7**
MLR	**Muntele Rosu**	**21.00**	**312**	P	**P**	**13 33 18.8**	**+0.4**
	comp=N,6.2nm,0.8s,mb4.0,baz=174,slow=2.8,SNR=11						
AKASG	**Malin Array Be**

Error ellipse: s-maj=17.0km s-min=10.3km az=92.0

ISC 15 13:29:25.4±0.3,37.79N±0.04×138.66E±0.07,h205km±3km, n36,σ0§87/51,mb3.6/10,1C,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	**Izumozaki**	**0.26**	**172**	P	**P**	**13 29 53.8**	**+1.2**
JIZZ				*e*S	**S**	**13 30 14.4**	**+0.7**
JSD	**Sado**	**0.41**	**308**	P	**P**	**13 29 53.2**	**+0.2**
JSD				*e*S	**S**	**13 30 13.1**	**-1.3**
JNS	**Sasagawa**	**0.52**	**86**	P	**P**	**13 29 53.9**	**+0.5**
JNS				*e*S	**S**	**13 30 14.0**	**-1.1**
JHK	**Hiroka**	**0.60**	**152**	P	**P**	**13 29 54.3**	**+0.6**
JHK				*e*S	**S**	**13 30 15.0**	**-0.7**
JAW	**Awa shima**	**0.81**	**34**	P	**P**	**13 29 55.0**	**+0.3**
JAW				*e*S	**S**	**13 30 16.6**	**-0.8**
JSZ	**Suzu**	**1.09**	**252**	P	**P**	**13 29 57.1**	**+0.7**
JSZ				*e*S	**S**	**13 30 20.0**	**-0.5**
MAJO	**Matsushiro**	**1.29**	**197**	*e*P	**P**	**13 29 58.6**	**+0.5**
MAT	**Matsushiro**	**1.29**	**197**	*e*P	**P**	**13 29 59.0**	**+0.9**
MAT				*e*S	**S**	**13 30 23.0**	**-0.4**
MAT	**Matsushiro**	**1.29**	**197**	P	**P**	**13 29 58.7**	**+0.6**
MAT				S	**S**	**13 30 23.2**	**-0.2**
MAT	**Matsushiro**	**1.29**	**197**	P	**P**	**13 29 58.8**	**+0.7**
MAT				*e*S	**S**	**13 30 23.7**	**+0.3**
JHG	**Hegura jima**	**1.38**	**273**	P	**P**	**13 29 59.4**	**+0.6**
JAG	**Ashikaga**	**1.50**	**155**	P	**P**	**13 30 00.5**	**+0.7**
JMM	**Marumori**	**1.69**	**87**	P	**P**	**13 30 02.1**	**+0.5**
JYK	**Kaneyama**	**1.75**	**49**	P	**P**	**13 30 03.1**	**+1.0**
JYK				*e*S	**S**	**13 30 30.2**	**-0.3**
JRY	**Ryogami san**	**1.77**	**174**	P	**P**	**13 30 03.1**	**+0.7**
JYN	**Shimob**	**2.29**	**182**	P	**P**	**13 30 08.0**	**+0.4**
JYN				*e*S	**S**	**13 30 40.7**	**+0.4**
JMK	**Ichinoseki**	**2.32**	**59**	P	**P**	**13 30 09.2**	**+1.2**
JOD2	**Odawara 2**	**2.54**	**172**	P	**P**	**13 30 10.1**	**-0.4**
JOD2				*e*S	**S**	**13 30 44.0**	**-1.3**
JOM	**Ohasama**	**2.66**	**50**	P	**P**	**13 30 12.8**	**+1.0**
JHJ	**Hachijo jima 2**	**4.74**	**169**	P	**P**	**13 30 36.8**	**-0.5**
	58nm,0.3s,baz=67,slow=14,SNR=4.9						
JHJ				S	**S**	**13 31 30.4**	**-2.6**
	37nm,0.3s,baz=68,slow=8.1,SNR=2.9						
ASAJ	**Asahikawa**	**6.99**	**24**	P	**P**	**13 31 04.8**	**-1.4**
ASAJ				S	**S**	**13 32 20.1**	**-4.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**6.99**	**24**	P	**P**	**13 31 04.8**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=243,slow=6.8,SNR=5.2						
ASAJ				S	**S**	**13 32 20.1**	**-4.9**
	comp=Z,0.4nm,0.3s,baz=252,slow=20,SNR=3.3						
YSS	**Yuzh-Sakhalins**	**9.65**	**17**	⇑*i*P	**P**	**13 31 38.2**	**-2.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.4s						
YSS	**Yuzh-Sakhalins**	**9.65**	**17**	*e*P	**P**	**13 31 38.4**	**-2.3**
	comp=Z,13nm,0.4s						
ULN	**Ulaanbaatar**	**25.12**	**304**	*e*P	**P**	**13 34 32.6**	**-0.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
ULN	**Ulaanbaatar**	**25.12**	**304**	*e*P	**P**	**13 34 32.6**	**-0.2**
	comp=Z,3.4nm,0.7s,mb4.1						
SONM	**Songino Array**	**25.55**	**303**	P	**P**	**13 34 36.8**	**+0.1**
	comp=Z,5.3nm,0.6s,mb4.4,baz=107,slow=8.9,SNR=57						
BOD	**Bodaibo**	**25.74**	**329**	*e*P	**P**	**13 34 36.9**	**-1.5**
ZAL	**Zalesovo**	**39.80**	**312**	P	**P**	**13 36 40.5**	**+0.8**
	comp=Z,0.8nm,0.8s,mb3.2,baz=33,slow=8.7,SNR=5.7						
BVAR	**Borovoye Array**	**48.44**	**311**	P	**P**	**13 37 48.9**	**+0.5**
	comp=Z,0.4nm,0.3s,mb3.2,baz=120,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**57.56**	**185**	P	**P**	**13 38 55.9**	**+0.1**
	comp=Z,1.8nm,0.6s,mb3.9,baz=0.6,slow=7.5,SNR=44						
WRA				PcP	PcP		
	comp=Z,0.4nm,0.9s,baz=360,slow=4.6,SNR=4.8						
ASAR	**Alice Springs**	**61.29**	**185**	P	**P**	**13 39 20.6**	**-0.5**
	comp=Z,0.7nm,0.8s,mb3.3,baz=17,slow=8.5,SNR=9.1						
ARCES	**ARCESS Array B**	**62.51**	**339**	P	**P**	**13 39 28.3**	**-0.4**
	comp=Z,3.3nm,1.0s,mb3.9,baz=45,slow=8.0,SNR=6.4						
FINES	**FINESS Array B**	**67.12**	**331**	P	**P**	**13 39 58.2**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.6,baz=49,slow=8.0,SNR=9.4						
NOA	**NORSAR Array B**	**72.63**	**336**	P	**P**	**13 40 31.2**	**-0.4**
	comp=Z,1.2nm,0.8s,mb3.6,baz=48,slow=7.4,SNR=3.2						
PDAR	**Pinedale Array**	**78.68**	**44**	P	**P**	**13 41 07.2**	**+1.3**
	comp=Z,0.3nm,0.7s,mb3.0,baz=297,slow=6.0,SNR=3.6						

IDC 15 13:40:27.8±6.8,13.62N×92.72E,mb3.5/2,mb1 3.7/3, mb1mx3.4/17,mbtmp3.4/3,ML3.3/1,MS2.7/1,Ms1 2.9/1, ms1mx2.7/15,Error ellipse: s-maj=140.9km s-min=47.3km az=107.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.68**	**50**	Pn	Pn	13 42 19.4	-4.3
	0.1nm,0.3s,baz=240,slow=16,SNR=5.4						
CMAR				Sn	Sn	13 43 42.4	-10
	baz=242,slow=31,SNR=4.1						
CMAR				LR	LR	13 45 40.9	
	comp=Z,48nm,19.8s,baz=195,slow=41						
WRA	**Warramunga Arr**	**52.81**	**128**	P	P	13 49 45.0	-2.5
	0.2nm,0.5s,baz=297,slow=9.4,SNR=7.4						
ASAR	**Alice Springs**	**54.73**	**132**	P	P	13 49 59.9	-1.7
	0.3nm,0.4s,baz=309,slow=6.9,SNR=13						

*BJI **15** 13:45:30.2, 13.80N×92.39E, h24km, mB5.1, mb4.5, Ms5.0, Msz4.9*

*IDC **15** 13:45:34.9±2.2, 14.20N×92.47E, h24km±3km, mb4.0/12, mb1 4.1/13, mb1mx4.1/20, mbtmp4.1/13, ML3.4/1, Error ellipse: s-maj=50.8km s-min=22.8km az=159.0*

*NEIC **15** 13:45:36.9±1.2, 14.51N×92.55E, mb4.6/15, Error ellipse: s-maj=27.7km s-min=11.9km az=161.0*

ISC 15 13:45:38.7±0.5,14.95N±0.05×92.06E±0.05,h24km, h24km±.4km:pP-P,n57,σ1§27/63,mb4.3/24,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.34**	**168**	*e*	**Pn**	**13 46 24.4**	**-6.3**
PBA				*e*S	**Sn**	**13 47 09.6**	**-0.5**
PBA				*e*		13 47 21.9	
	comp=N,1μm,0.8s						
PBA				*e*		13 47 22.3	
	comp=E,1μm,0.6s						
CMAR	**Chiang Mai Arr**	**7.46**	**61**	Pn	**Pn**	**13 47 21.1**	**-7.8**
	comp=E,0.1nm,0.3s,baz=245,slow=16,SNR=3.9						
CMAR				Sn	**Sn**	**13 48 44.8**	**-8.8**
	comp=E,0.7nm,0.3s,baz=244,slow=27,SNR=4.6						
BWNR	**Bhubaneshwar**	**7.99**	**313**	*e*P	**Pn**	**13 47 34.0**	**-2.2**
BWNR				*e*S	**Sn**	**13 49 01.0**	**-5.8**
BWNR				*e*		13 49 05.2	
	comp=E,238nm,0.3s						
BWNR				*e*		13 49 05.3	
	comp=N,238nm,0.4s						
VIS	**Vishakhapatnam**	**8.82**	**289**	*e*P	**P**	**13 47 46.8**	**-1.1**
VIS				*e*S	**Sn**	**13 49 19.8**	**-7.8**
VIS				*e*		13 49 26.6	
	comp=N,144nm,0.3s						
VIS				*e*		13 49 26.9	
	comp=E,97nm,0.4s						
AGT	**Agartala**	**8.92**	**355**	*e*	**P**	**13 48 02.0**	**+13**
IMP	**Imphal**	**9.94**	**10**	*e*P	**P**	**13 48 04.8**	**+1.4**
IMP				*e*		13 53 32.5	
SHL	**Shillong**	**10.57**	**359**	*e*P	**P**	**13 48 07.5**	**-4.4**
SHL				*e*S	**S**	**13 50 03.0**	**-7.5**
BLSP	**Bilaspur**	**11.81**	**309**	*e*P	**P**	**13 48 28.5**	**-0.4**
BLSP				*e*S	**S**	**13 50 31.8**	**-9.2**
BLSP				*e*		13 50 43.2	
BLSP				*e*		13 54 04.0	
HYB	**Hyderabad**	**13.21**	**283**	*i* P	P	**13 48 54.0**	**+6.5**
HYB				*e*S	**S**	**13 51 14.0**	**-0.5**
JIRN	**Jiri**	**13.78**	**338**	*e*P	**P**	**13 48 54.2**	**-0.9**
	comp=E,38nm,0.7s						
PKI	**Pulchoki**	**14.00**	**335**	*e*P	**P**	**13 48 57.3**	**-0.7**
	comp=E,38nm,0.7s						
GUN	**Gumba**	**14.12**	**337**	*e*P	**P**	**13 48 57.9**	**-1.6**
	comp=E,66nm,1.1s						
DMN	**Daman**	**14.16**	**334**	*e*P	**P**	**13 48 59.3**	**-0.8**
	comp=E,76nm,0.8s						
KKN	**Kakani**	**14.25**	**335**	*e*P	**P**	**13 48 59.3**	**-1.9**
GKN	**Gorkha**	**14.71**	**333**	*e*P	**P**	**13 49 03.0**	**-4.2**
LSA	**Lhasa**	**14.71**	**357**	*e*P	**P**	**13 49 09.0**	**+1.7**
	comp=E,11nm,0.7s						
KOLN	**Koldanda**	**14.99**	**330**	*e*P	**P**	**13 49 06.2**	**-4.7**
	comp=E,15nm,0.3s						
KAD	**Karad**	**17.33**	**280**	*e*P	**P**	**13 49 45.0**	**+4.1**
KAD				*e*	**S**	**13 52 51.0**	**-0.3**
KAD				*e*		13 54 24.5	
POO	**Poona**	**17.80**	**284**	*e*P	**P**	**13 49 50.0**	**+3.3**
POO				*i*	**S**	**13 53 03.0**	**+1.1**
DDI	**Dehra Dun**	**20.00**	**322**	*e*	**P**	**13 50 13.8**	**+1.2**
ENH	**Enshi**	**22.12**	**43**	*e*P	**P**	**13 50 31.0**	**-3.2**
	comp=E,9.0nm,0.9s,mb4.2						
ENH				*e*		13 56 28.9	
LZH	**Lanzhou**	**23.54**	**24**	*e*P	**P**	**13 50 49.1**	**+0.9**
LZH				AP		13 50 56.8	
LZH				XP		13 51 00.3	
LZH				AMB	AMB		
	comp=Z,32nm,1.7s,mb4.5						
KCP	**Kidapawan**	**33.34**	**100**	*e*P	**P**	**13 52 12.4**	**-4.9**
SONM	**Songino Array**	**34.88**	**17**	P	**P**	**13 52 30.1**	**-0.2**
	comp=Z,2.6nm,1.0s,mb4.1,baz=194,slow=10,SNR=11						
SONM				pP	pP	13 52 37.1	-0.3
	comp=Z,9.1nm,1.1s,baz=203,slow=9.4,SNR=16						
ULN	**Ulaanbaatar**	**35.09**	**18**	*e*P	**P**	**13 52 31.5**	**-0.6**
	comp=Z,9.5nm,1.3s,mb4.6						
ZAL	**Zalesovo**	**39.32**	**353**	P	**P**	**13 53 08.5**	**+1.0**
	comp=Z,1.7nm,0.5s,mb4.0,baz=300,slow=8.3,SNR=7.3						
ZAL				pP	pP	13 53 16.0	+1.2
	comp=Z,7.2nm,1.0s,baz=300,slow=9.6,SNR=13						
ZAL	**Zalesovo**	**39.32**	**353**	P	**P**	**13 53 08.5**	**+1.0**
ZAL				pP	pP	13 53 16.0	+1.2
BVAR	**Borovoye Array**	**41.68**	**340**	P	**P**	**13 53 29.0**	**+2.0**
	comp=Z,3.2nm,1.1s,mb3.9,baz=135,slow=4.2,SNR=5.8						
BVAR				pP	pP	13 53 35.5	+1.3
	comp=Z,5.6nm,1.0s,baz=135,slow=6.3,SNR=12						
BVAR				PcP	PcP	13 55 21.9	-2.2
	comp=Z,0.6nm,0.7s,baz=135,slow=6.1,SNR=2.8						
BVAR				pPcP		13 55 29.5	
	comp=Z,0.8nm,0.6s,baz=180,slow=5.9,SNR=3.8						
BRVK	**Borovoye**	**41.74**	**340**	*e*P	**P**	**13 53 28.7**	**+1.2**
	comp=Z,1.7nm,0.8s,mb3.7						
BRVK				*e*pP	pP	13 53 35.7	+1.0
CHKZ	**Chkalovo**	**42.16**	**341**	*e*P	**P**	**13 53 31.6**	**+0.7**
	comp=Z,8.2nm,1.0s,mb4.3						
GNI	**Garni**	**48.17**	**311**	P	**P**	**13 54 19.5**	**+0.4**
	comp=Z,2.7nm,0.4s,mb4.6,baz=106,slow=15,SNR=2.8						
GNI	**Garni**	**48.17**	**311**	*e*P	**P**	**13 54 19.9**	**+0.8**
	comp=Z,7.6nm,0.9s,mb4.7						
KIV	**Kislovodsk**	**50.81**	**315**	*e*P	**P**	**13 54 41.0**	**+1.7**
	comp=Z,10nm,0.8s,mb4.8						
MALT	**Malatya**	**52.47**	**307**	*e*P	**P**	**13 54 53.3**	**+1.3**
	comp=Z,7.9nm,1.2s,mb4.5						
MALT				*e*pP	pP	13 55 00.3	+0.9
BRTR	**Keskin Array B**	**56.39**	**308**	P	**P**	**13 55 19.2**	**-1.4**
	comp=Z,2.7nm,1.0s,mb4.2,baz=124,slow=7.6,SNR=6.2						
BRTR				pP	pP	13 55 27.4	-0.7
	comp=Z,4.1nm,0.8s,baz=113,slow=7.5,SNR=10						
MLR	**Muntele Rosu**	**62.77**	**314**	P	**P**	**13 56 04.4**	**-0.1**
	comp=Z,4.4nm,0.9s,mb4.6,baz=94,slow=14,SNR=3.1						
MLR				pP	pP	13 56 11.9	-0.1
	comp=Z,11nm,0.9s,baz=42,slow=1.8,SNR=10						
FINES	**FINESS Array B**	**65.55**	**331**	P	**P**	**13 56 21.1**	**-1.3**
	comp=Z,2.5nm,0.9s,mb4.3,baz=98,slow=6.6,SNR=8.3						
FINES				pP	pP	13 56 29.1	-0.7
	comp=Z,3.9nm,0.7s,baz=117,slow=8.5,SNR=6.1						
OJC	**Ojcow**	**67.32**	**318**	*e*P	**P**	**13 56 33.8**	**0.0**
ARCES	**ARCESS Array B**	**67.96**	**340**	P	**P**	**13 56 36.5**	**-1.0**
	comp=Z,3.2nm,0.9s,mb4.4,baz=82,slow=8.6,SNR=4.2						
ARCES				pP	pP	13 56 44.3	-0.8
	comp=Z,3.5nm,0.8s,baz=76,slow=5.0,SNR=2.6						
ARCES	**ARCESS Array B**	**67.96**	**340**	P	**P**	**13 56 36.5**	**-1.0**
ARCES				pP	pP	13 56 44.3	-0.8
MORC	**Moravsky Berou**	**68.75**	**318**	*e*P	**P**	**13 56 44.0**	**+1.3**
	comp=Z,24nm,1.5s,mb4.9						
KSP	**Ksiaz**	**69.58**	**319**	*e*P	pP	13 56 55.0	-0.3
BRG	**Berggiesshubel**	**71.07**	**319**	*e*P	**P**	**13 56 57.4**	**+0.5**
	comp=Z,9.5nm,1.4s,mb4.5						
BRG				*e*	pP	13 57 04.4	0.0
GERES	**GERESS Array B**	**71.26**	**317**	P	**P**	**13 56 58.1**	**+0.1**
	comp=Z,3.2nm,0.8s,mb4.3,baz=90,slow=5.3,SNR=10						
GERES				pP	pP	13 57 05.4	-0.2
	comp=Z,3.4nm,0.8s,baz=90,slow=5.3,SNR=15						
KHC	**Kasperske Hory**	**71.33**	**317**	*e*P	**P**	**13 57 01.5**	**+3.0**
CLL	**Collm**	**71.66**	**320**	*i* P	pP	13 57 06.6	-1.3
CLL	**Collm**	**71.66**	**320**	*i* *PP	pP	13 57 06.6	-1.3
NB2	**NORSAR Subarra**	**72.62**	**330**	P	**P**	**13 57 05.3**	**-0.6**
	comp=Z,5.2nm,0.9s,mb4.5,baz=91,slow=5.8						
NOA	**NORSAR Array B**	**72.62**	**330**	P	**P**	**13 57 04.6**	**-1.3**
	comp=Z,0.6nm,0.7s,mb3.6,baz=36,slow=7.6,SNR=2.3						
NOA				pP	pP	13 57 12.2	-1.3
	comp=Z,3.1nm,0.9s,baz=90,slow=5.8,SNR=5.1						
NOA	**NORSAR Array B**	**72.62**	**330**	P	**P**	**13 57 04.6**	**-1.3**
NOA				pP	pP	13 57 12.2	-1.3
GRA1	**Grafenberg Arr**	**72.85**	**318**	*e*P	**P**	**13 57 11.1**	**+3.6**
	comp=Z,10.0nm,1.1s,mb4.7						
GRF	**Grafenberg Arr**	**72.85**	**318**	*e*P	**P**	**13 57 11.1**	**+3.6**
	comp=Z,10.0nm,1.1s,mb4.7						
LPG	**La Plagne**	**76.24**	**314**	*e*P	**P**	**13 57 27.8**	**+0.7**
LPL	**La Plagne**	**76.25**	**314**	*e*P	**P**	**13 57 27.8**	**+0.7**
	comp=Z,24nm,0.9s,mb4.8						
MBDF	**Montbardon**	**76.33**	**313**	*e*P	**P**	**13 57 28.3**	**+0.7**
	comp=Z,7.2nm,0.9s,mb4.3						
ESDC	**Sonseca Array**	**85.14**	**310**	P	**P**	**13 58 13.3**	**-1.0**
	comp=Z,0.8nm,0.9s,mb3.8,baz=40,slow=6.9,SNR=2.4						
ILAR	**Eielson Array**	**88.97**	**22**	P	**P**	**13 58 29.8**	**-2.6**
	comp=Z,0.3nm,0.7s,mb3.7,baz=298,slow=4.6,SNR=5.7						
ILAR				pP	pP	13 58 38.0	-2.2
	comp=Z,0.3nm,0.5s,baz=188,slow=28,SNR=4.7						

*BJI **15** 13:46:54.5, 7.45S×105.06E, h58km, mB5.5, mb5.3, Ms5.5, Msz5.3*

*MOS **15** 13:47:03.9±1.5, 6.38S×105.27E, h61km, mb5.7/41, MS5.1/36, Error ellipse: s-maj=6.9km s-min=4.8km az=124.1*

*CSEM **15** 13:47:04.4, 5.58S×105.23E, h33km, mb5.7*

*IDC **15** 13:47:06.0±1.2, 6.41S×105.35E, h67km±9km, mb5.0/26, mb1 5.1/26, mb1mx5.1/26, mbtmp5.3/26, MS5.0/18, Ms1 5.0/18, ms1mx5.0/19, Error ellipse: s-maj=13.1km s-min=6.2km az=47.0*

*NEIC **15** 13:47:05.1±0.6, 6.46S×105.24E, h59km±4km, mb5.5/50, MW5.7, Error ellipse: s-maj=6.8km s-min=4.3km az=225.0, Moment Tensor Solution. s27 Moment tensor: Scale 10^{17} Nm; M_{rr}1.41; $M_{\theta\theta}$0.26; $M_{\phi\phi}$-1.67; $M_{r\theta}$2.76; $M_{\theta\phi}$0.92; $M_{\phi r}$-1.44; Best double couple: $M_0$3.6×10^{17} NP1:ϕ_s6°,δ24°, λ150°. NP2:ϕ_s125°,δ78°,λ69°. Principal axes: T 3.71, Plg52°, Azm10°; N -.24, Plg20°, Azm129°; P -3.47, Plg30°, Azm231°;*

NEIC Felt [III] at Banten and Labuhan; [II] at Bogor, Depok and Jakarta, Java. Also felt [II] at Lampung, Sumatra.

*HRVD **15** 13:47:05.1±0.2, 6.63S×105.25E, h15km, MW6.0/66, Centroid moment Tensor Solution. LP body waves: s62,c125;Mantle waves: s66,c152; Half duration: 2s2 Moment tensor: Scale 10^{18}Nm; M_{rr}0.10±.01; $M_{\theta\theta}$-0.07±.00; $M_{\phi\phi}$-0.03±.01; $M_{r\theta}$0.90±.03; $M_{\theta\phi}$0.05±.00; $M_{\phi r}$-0.50±.02; Best double couple: $M_0$1.032×10^{18} NP1: ϕ_s309°,δ3°,λ100°. NP2:ϕ_s119°,δ87°,λ90°. Principal axes: T 1.031, Plg48°, Azm29°; N .003, Plg0°, Azm119°; P -1.033, Plg42°, Azm209°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 15 13:47:03.4±0.1,6.40S±0.03×105.28E±0.03,h59km, (h53km±3.9km:pP-P),n481,σ1§19/407,mb5.5/101, MS5.2/97,34C-29D,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PASI	**Pasiripis**	**0.42**	**133**	*e*P	**P**	**13 47 14.1**	**-0.5**
PULI	**Pulasari**	**0.69**	**86**	*e*Pn	**P**	**13 47 20.9**	**+3.4**
PENI	**Pendagan**	**0.83**	**352**	*e*P	**P**	**13 47 23.9**	**+4.5**
KALI	**Kaliastana**	**1.54**	**117**	*e*Pn	**P**	**13 47 29.2**	**+0.1**
KALI				*e*Sn	**S**	**13 47 49.0**	**+0.9**
PACI	**Pancar Gunung**	**1.63**	**97**	*e*P	**P**	**13 47 33.5**	**+3.1**
SINI	**Singah**	**2.29**	**106**	*e*Pn	**P**	**13 47 41.1**	**+1.5**
SRDI	**Scrawed**	**9.02**	**104**	⇓*i*P	**P**	**13 49 14.5**	**+1.0**
SRDI				pmax	pmax		
	comp=Z,1μm,0.2s						
SRDI	**Scrawed**	**9.02**	**104**	⇓*i*P	**P**	**13 49 14.5**	**+1.0**
	comp=Z,1μm,0.2s						
KELI	**Kelakatan**	**9.31**	**102**	⇓*i*P	**P**	**13 49 19.1**	**+1.7**
	comp=Z,1μm,0.4s						
RATI	**Rata**	**10.42**	**103**	⇓*i*P	**P**	**13 49 32.2**	**-0.5**
	comp=Z,6μm,0.2s						
RATI				*i* S	**S**	**13 51 25.0**	**-3.8**
KEDI	**Kedomdong**	**10.94**	**102**	⇑*i*P	**P**	**13 49 38.0**	**-1.7**
KEDI				pmax	pmax		
	comp=Z,796nm,0.3s						
KEDI	**Kedomdong**	**10.94**	**102**	⇑*i*P	**P**	**13 49 38.0**	**-1.7**
	comp=Z,796nm,0.3s						
TANI	**Tanete Lipujan**	**14.35**	**79**	⇓*i*P	**P**	**13 50 28.5**	**+3.4**
NINI	**Niniconang**	**14.54**	**83**	⇓*i*P	**P**	**13 50 30.4**	**+2.8**
BATP	**Bataraza**	**19.59**	**40**	*e*P	**P**	**13 51 32.2**	**+2.7**
NNT	**Nongplab**	**19.66**	**344**	P	**P**	**13 51 30.0**	**-0.3**
MBWA	**Marble Bar**	**20.27**	**138**	*e*P	**P**	**13 51 35.5**	**-1.3**
	comp=Z,171nm,0.9s						
MBWA				*e*S	Sx	13 55 01.1	
IPIL	**Ipil**	**22.27**	**51**	*e*P	**P**	**13 52 02.0**	**+5.1**
ENPP	**El Nido**	**22.45**	**39**	*e*P	**P**	**13 52 02.0**	**+3.3**
NST	**Nakhon Sawan**	**22.52**	**347**	P	**P**	**13 51 59.5**	**0.0**
KKTK	**Khon Kaen**	**22.72**	**354**	P	**P**	**13 52 02.0**	**+0.5**
	comp=Z,1μm,0.8s,mb6.3						
PAGZ	**Pagadian**	**22.94**	**52**	*e*P	**P**	**13 52 08.3**	**+4.7**
FITZ	**Fitzroy Crossi**	**23.01**	**122**	⇓*i*P	**P**	**13 52 04.2**	**-0.1**
	comp=Z,160nm,0.9s,mb5.5						
FITZ				*e*S	**S**	**13 56 10.4**	**+3.9**
CUYO	**Cuyo Island**	**23.22**	**43**	*e*P	**P**	**13 52 09.8**	**+3.5**
DCPH	**Dipolog City**	**23.37**	**51**	⇑*e*P	**P**	**13 52 13.5**	**+5.8**
BUSP	**Coron**	**23.54**	**39**	*e*P	**P**	**13 52 13.4**	**+3.9**
GUIM	**Jordan**	**24.14**	**46**	*e*P	**P**	**13 52 18.0**	**+2.7**
DAV	**Davao City (W)**	**24.27**	**57**	*e*P	**P**	**13 52 21.0**	**+4.5**
	comp=Z,3850μm,1.4s						
BUKP	**Musuan**	**24.30**	**55**	*e*P	**P**	**13 52 20.4**	**+3.6**
MATI	**Mati**	**24.77**	**58**	*e*P	**P**	**13 52 23.0**	**+1.5**
RCP	**Roxas**	**24.90**	**44**	⇓*e*P	**P**	**13 52 25.4**	**+2.7**
BUTP	**Butuan**	**25.38**	**53**	*e*P	**P**	**13 52 32.1**	**+5.0**
NANT	**Nan**	**25.44**	**350**	P	**P**	**13 52 29.0**	**+1.3**
CMAR	**Chiang Mai Arr**	**25.48**	**346**	P	**P**	**13 52 26.4**	**-1.7**
	comp=Z,36nm,0.6s,mb5.1,baz=180,slow=9.0,SNR=26						
CMAR				PcP	PcP	13 55 59.5	+0.3
	comp=Z,6.3nm,0.6s,baz=201,slow=3.3,SNR=7.8						
CMAR				S	**S**	**13 56 50.4**	**+1.8**
	comp=Z,3.5nm,0.8s,baz=170,slow=11,SNR=4.1						
CMAR				ScP		13 59 34.1	
	comp=Z,4.7nm,0.8s,baz=201,slow=3.9,SNR=8.7						
CMAR				LR	LR	14 04 39.0	
	comp=Z,5μm,18.1s,MS5.1,baz=170,slow=41						
MSLP	**Maasin**	**25.49**	**50**	*e*P	**P**	**13 52 32.8**	**+4.5**
TGY	**Tagaytay City**	**25.62**	**37**	P	**P**	**13 52 29.5**	**+0.1**
	comp=Z,97nm,0.3s,mb5.8,baz=270,slow=8.1,SNR=3.0						
TGY				LR	LR	14 02 24.1	
	comp=Z,3μm,21.6s,MS4.8,baz=206,slow=36						
QIZ	**Qiongzhong**	**25.66**	**10**	P	**P**	**13 52 31.1**	**+1.3**
QIZ				S	**S**	**13 56 56.9**	**+5.3**
QIZ				AMB	AMB		
	comp=Z,953nm,11.4s						
QIZ				LR	LR		
	comp=N,9μm,16.4s,MS5.5						
QIZ				LR	LR		
	comp=E,6μm,16.5s,MS5.5						
QIZ				LR	LR		
	comp=Z,12μm,16.7s,MS5.5						
QIZ	**Qiongzhong**	**25.66**	**10**	*e*P	**P**	**13 52 32.3**	**+2.5**
CHG	**Chiang Mai**	**25.82**	**346**	⇑P	**P**	**13 52 32.0**	**+0.8**
	comp=Z,66nm,0.8s,mb5.2						
OCLP	**Ormoc**	**25.89**	**48**	*e*P	**P**	**13 52 33.2**	**+1.2**
CHRT	**Chiangrai**	**26.66**	**348**	⇓P	**P**	**13 52 37.5**	**-1.5**
	comp=Z,182nm,0.8s,mb5.7						
BESP	**Borongan**	**26.87**	**48**	*e*P	**P**	**13 52 45.8**	**+4.8**
MUN	**Mundaring**	**27.42**	**160**	*e*P	**P**	**13 52 44.5**	**-1.3**
	comp=Z,24nm,1.1s,mb4.7						
MUN				*e*S	Sx	13 57 57.0	
MUN	**Mundaring**	**27.42**	**160**	*e*P	**P**	**13 52 44.5**	**-1.3**
MUN				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.7						
KAKA	**Kakadu**	**27.49**	**105**	*e*P	**P**	**13 52 44.9**	**-1.7**
	comp=Z,150nm,0.5s,mb5.8						
PALK	**Pallekele**	**28.03**	**299**	*e*P	**P**	**13 52 53.5**	**+2.0**
	comp=Z,53nm,1.0s,mb5.1						
NWAO	**Narrogin (SRO)**	**28.64**	**159**	*e*P	**P**	**13 52 54.3**	**-2.5**
NWAO				pmax	pmax		
	comp=Z,51nm,1.0s

ENH LR LR
comp=Z,8μm,22.0s,MS5.5
LATR Latur 37.56 312 *e*P **P 13 54 14.4 +0.3**
NGP Nagpur 37.59 317 *e*P **P 13 54 14.5 +0.3**
NGP *e* 13 54 18.1
NGP *e*S **S 13 59 58.6 -0.4**
WHN Wuhan 37.75 13 *e*P **P 13 54 16.6 +1.1**
WHN S **S 13 59 59.0 -2.3**
WHN LR LR
comp=N,980nm,15.3s,MS5.4
WHN LR LR
comp=E,5μm,16.4s,MS5.4
WHN LR LR
comp=Z,8μm,20.8s,MS5.5
GOA Goa 38.00 305 *e* **P 13 54 25.6 +7.8**
GOA *e* 14 00 13.3
LSA Lhasa 38.38 340 P **P 13 54 19.8 -0.9**
LSA S **S 14 00 08.1 -2.8**
LSA SS SS 14 02 59.9 +6.8
LSA AMB AMB
comp=Z,120nm,0.6s,mb5.8
LSA AMB AMB
comp=Z,400nm,6.8s
LSA LR LR
comp=N,2μm,32.2s
LSA LR LR
comp=E,3μm,20.6s
LSA Lhasa 38.38 340 *e*P **P 13 54 20.7 0.0**
LSA pmax pmax
comp=Z,117nm,0.7s,mb5.7
LSA MLR MLR
comp=Z,2μm,20.0s,MS5.0
LSA Lhasa 38.38 340 *e*P **P 13 54 20.7 0.0**
comp=Z,117nm,0.7s,mb5.7
LSA LR LR
comp=Z,2μm,20.0s,MS5.0
JIRN Jiri 38.56 332 *e*P **P 13 54 21.9 -0.4**
comp=Z,350nm,0.7s,mb6.2
KAD Karad 38.72 308 *e*P **P 13 54 23.4 -0.3**
KAD *e* 13 54 26.4
comp=Z,206nm,0.9s
KAD *e* 14 00 08.5
PKI Pulchoki 38.86 331 *e*P **P 13 54 23.6 -1.1**
comp=Z,253nm,1.0s,mb5.9
ALBI Allahabad 38.92 325 *e*P **P 13 54 24.0 -1.3**
GUN Gumba 38.92 332 *e*P **P 13 54 24.6 -0.7**
comp=Z,587nm,0.8s,mb6.4
DMN Daman 39.03 331 *e*P **P 13 54 25.7 -0.5**
comp=Z,462nm,1.0s,mb6.2
KKN Kakani 39.10 331 *e*P **P 13 54 25.7 -1.1**
comp=Z,354nm,0.8s,mb6.2
GKN Gorkha 39.59 331 *e*P **P 13 54 30.2 -0.6**
comp=Z,572nm,0.9s,mb6.3
POO Poona 39.68 309 *e*P **P 13 54 31.1 -0.6**
POO *e* 13 54 34.2
comp=Z,181nm,0.7s
POO *i*S **S 14 00 31.0 +0.3**
JOW Kunigami 39.84 33 LR LR 14 12 21.4
comp=Z,2μm,19.8s,MS5.0,baz=84,slow=38
KOLN Koldanda 39.91 329 *e*P **P 13 54 33.6 +0.1**
comp=Z,629nm,0.6s
BHPL Bhopal 40.11 318 *e* **S 14 00 35.3 -1.8**
BHPL *e*S **S 14 00 35.3 -1.8**
SSE Sheshan 40.27 21 *e*P **P 13 54 34.8 -1.6**
SSE S **S 14 00 40.8 +1.5**
SSE AMB AMB
comp=Z,45nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,231nm,5.0s
SSE LR LR
comp=N,1μm,24.1s,MS5.0
SSE LR LR
comp=E,2μm,24.2s,MS5.0
SSE LR LR
comp=Z,2μm,27.9s,MS4.9
XAN Xi'an 40.37 5 P **P 13 54 36.4 -0.8**
XAN AP pP 13 54 53.4 +1.1
XAN AMB AMB
comp=Z,31nm,0.9s,mb5.0
XAN LR LR
comp=N,2μm,22.5s,MS5.2
XAN LR LR
comp=E,3μm,19.8s,MS5.2
XAN LR LR
comp=Z,6μm,22.9s,MS5.4
XAN Xi'an 40.37 5 P **P 13 54 36.9 -0.3**
XAN ScP 14 00 24.2
XAN PcS 14 00 39.9
XAN PcS 14 00 40.8
BOM Bombay 40.69 309 *e*P **P 13 54 39.8 -0.3**
BOM *e* 14 00 39.0
PMG Port Moresby 41.57 97 *e*P **P 13 54 47.5 +0.1**
PMG pmax pmax
comp=Z,560nm,0.8s
PMG Port Moresby 41.57 97 P **P 13 54 47.5 +0.1**
comp=Z,412nm,0.7s,mb6.2,baz=266,slow=2.3,SNR=319
PMG ScP 14 00 30.4
comp=Z,20nm,1.0s,baz=265,slow=2.7,SNR=5.1
PMG S **S 14 00 59.5 +0.6**
comp=Z,5.9nm,0.8s,baz=208,slow=20,SNR=8.9
PMG LR LR 14 16 07.0
comp=Z,996nm,18.5s,MS4.7,baz=263,slow=42
PMG Port Moresby 41.57 97 *e*P **P 13 54 47.5 +0.1**
comp=Z,560nm,0.8s,mb6.2
ADE Adelaide 41.89 137⇑*i*P **P 13 54 50.2 +0.4**
CTA Charters Tower 42.00 113⇑*i*P **P 13 54 51.1 +0.2**
comp=Z,26nm,0.9s,mb4.9
CTA *e*S **S 14 01 06.7 +1.4**
CTA Charters Tower 42.00 113⇑*i*P **P 13 54 51.1 +0.2**
CTA *e*S **S 14 01 06.7 +1.4**
CTA pmax pmax
comp=Z,26nm,0.9s
CTA Charters Tower 42.00 113 P **P 13 54 51.4 +0.4**
comp=Z,18nm,0.8s,mb4.7,baz=284,slow=10,SNR=23
CTA ScP 14 00 32.0
comp=Z,8.0nm,1.1s,baz=69,slow=3.9,SNR=5.1
CTA S **S 14 01 05.5 +0.2**
comp=Z,3.5nm,0.7s,baz=22,slow=23,SNR=7.6
CTA LR LR 14 11 47.2
comp=Z,1μm,21.6s,MS4.8,baz=281,slow=35
CTAO Charters Tower 42.00 113 *e*P **P 13 54 51.1 +0.2**
CTAO pmax pmax
comp=Z,52nm,1.0s,mb5.1
CTAO MLR MLR
comp=Z,2μm,22.0s,MS4.9
CTAO Charters Tower 42.00 113 *e*P **P 13 54 51.1 +0.2**
comp=Z,52nm,1.0s,mb5.1
CTAO LR LR
comp=Z,2μm,22.0s,MS4.9
LZH Lanzhou 42.28 358⇑P **P 13 54 53.8 +0.8**
LZH PP PP 13 56 35.0 +0.5
LZH S **S 14 01 12.0 +2.9**
LZH SS SS 14 04 19.0 +5.8
LZH SCS ScS 14 04 49.4 +2.2
LZH AMB AMB
comp=Z,68nm,1.4s,mb5.1
LZH AMB AMB
comp=Z,410nm,5.3s
LZH LR LR
comp=N,5μm,16.0s
LZH LR LR
comp=Z,6μm,16.5s,MS5.5
STKA Stephens Creek 42.31 132⇑*i*P **P 13 54 53.7 +0.4**
comp=Z,443nm,1.4s,mb5.9
STKA *e*S **S 14 01 10.2 +0.6**
STKA Stephens Creek 42.31 132 P **P 13 54 53.7 +0.4**
comp=Z,259nm,0.8s,mb5.9,baz=305,slow=7.8,SNR=479
STKA S **S 14 01 08.6 -1.0**
comp=Z,3.2nm,1.1s,baz=193,slow=20,SNR=3.8
STKA LR LR 14 13 31.3
comp=Z,4μm,20.4s,MS5.3,baz=293,slow=38
AGRA Agra 42.63 323 *e* **S 14 01 11.7 -2.7**
PTH Pithoragarh 43.11 327 *e*P **P 13 54 58.0 -1.9**
TIA Tai'an 43.82 14 P **P 13 55 05.8 +0.3**
TIA LR LR
comp=N,3μm,19.0s,MS5.4
TIA LR LR
comp=E,2μm,15.0s,MS5.4
SONA Sohna 43.90 323 *e* **S 14 01 31.1 -1.7**
GUMO Guam 44.03 63 *e*P **P 13 55 05.9 -1.6**
GUMO MLR MLR
comp=Z,2μm,20.0s,MS5.0
AYAN Aya Nagar 44.04 323 *e* **S 14 01 29.1 -5.7**
NDI New Delhi 44.14 324 *e*P **P 13 55 06.0 -2.2**
NDI *e* 14 01 31.0
NDI *e* 14 01 31.0

AJM Ajmer 44.17 319⇑*i*P **P 13 55 08.0 -0.5**
KUDL Kundal 44.18 322 *e* **S 14 01 32.3 -4.6**
BHGR Bahadurgarh 44.30 323 *e*S **S 14 01 37.8 -0.8**
TIY Taiyuan 44.39 8⇑P **P 13 55 10.0 -0.1**
TIY LR LR
comp=N,6μm,16.0s
KHET Khetri 44.55 322 *e*S **S 14 01 40.7 -1.5**
RTK Rohtak 44.87 323 *e* **S 14 01 41.4 -5.5**
DDI Dehra Dun 44.89 326 *e*P **P 13 55 13.7 -0.5**
DDI *e* 14 01 34.1
KKR Kurukshetra 45.31 324 *e* **S 14 01 44.9 -8.3**
KLP Kalpa 45.71 327 *e* **S 14 01 56.8 -2.0**
BHK Bhakra 46.63 325 *e* **P 13 55 26.0 -2.0**
BHK *e* 14 02 09.0
BJT Baijiatuau 47.27 11 *e*P **P 13 55 32.7 -0.2**
BJT *e* 13 57 04.0
BJT *e* 13 57 17.5
BJT pmax pmax
comp=Z,46nm,1.0s
BJT MLR MLR
comp=Z,4μm,20.0s
BJT Baijiatuau 47.27 11 *e*P **P 13 55 32.7 -0.2**
comp=Z,46nm,1.0s,mb5.4
BJT *e*PcP PcP 13 57 04.0 +0.4
BJT *e*PP PP 13 57 17.5 -6.3
BJT LR LR
comp=Z,4μm,20.0s,MS5.4
DLH Dalhousie 47.73 326 *e*P **P 13 55 35.0 -1.6**
DLH *e* 13 56 12.0
INCN Inchon 47.99 23 PFAKE 13 55 50.0 +11
INCN LR LR
comp=Z,1μm,20.0s,MS4.9
CNB Canberra Magne 49.64 132 *e*P **P 13 55 51.8 +0.5**
comp=Z,401nm,1.0s,mb6.4
SNY Shenyang 50.83 18⇑P **P 13 55 55.8 -4.5**
SNY S **S 14 03 09.4 -1.0**
SNY AMB AMB
comp=Z,30nm,2.1s,mb4.8
SNY AMB AMB
comp=Z,390nm,11.3s
SNY LR LR
comp=E,2μm,18.2s
SNY LR LR
comp=Z,2μm,18.1s,MS5.2
WMQ Urumqi 52.46 344 P **P 13 56 12.9 +0.4**
WMQ S **S 14 03 36.8 +4.0**
WMQ AMB AMB
comp=Z,52nm,1.5s,mb5.2
WMQ AMB AMB
comp=Z,327nm,5.7s
WMQ LR LR
comp=N,4μm,20.4s,MS5.5
WMQ LR LR
comp=E,3μm,21.3s,MS5.5
WMQ LR LR
comp=Z,5μm,21.3s,MS5.5
MAJO Matsushiro 52.69 33 *e*P **P 13 56 12.3 -2.0**
MAJO pmax pmax
comp=Z,24nm,0.7s,mb5.2
MAJO MLR MLR
comp=Z,2μm,19.0s,MS5.1
MAJO Matsushiro 52.69 33 *e*P **P 13 56 12.2 -2.1**
comp=Z,24nm,0.7s,mb5.2
MAJO LR LR
comp=Z,2μm,19.0s,MS5.1
MAT Matsushiro 52.69 33 *e*P **P 13 56 12.0 -2.3**
MAT *e*S **S 14 03 43.0 +7.0**
MAT pmax pmax
comp=Z,59nm,1.2s,mb5.4
MAT MLR MLR
comp=Z,1μm,22.0s,MS5.0
MAT Matsushiro 52.69 33 *e*P **P 13 56 12.0 -2.3**
comp=Z,59nm,1.2s,mb5.4
MAT *e*S **S 14 03 43.0 +7.0**
MAT LR LR
comp=Z,1μm,22.0s,MS5.0
MAT Matsushiro 52.69 33 P **P 13 56 12.2 -2.1**
MAT S **S 14 03 43.0 +7.0**
WBK Wadi Bani Khal 53.70 304⇓P **P 13 56 23.1 +1.1**
SNR=19
SONM Songino Array 54.01 1 P **P 13 56 23.9 0.0**
comp=Z,20nm,0.7s,mb5.2,baz=180,slow=7.2,SNR=67
SONM PcP PcP 13 57 28.0 -0.3
comp=Z,27nm,0.6s,baz=184,slow=4.3,SNR=11
SONM ScP 14 01 20.7
comp=Z,7.2nm,0.9s,baz=174,slow=2.6,SNR=9.9
SONM S **S 14 03 57.8 +4.1**
comp=Z,0.8nm,0.9s,baz=202,slow=7.8,SNR=3.4
ULN Ulaanbaatar 54.05 1 P **P 13 56 24.1 -0.1**
ULN PcP PcP 13 57 28.3 -0.2
ULN S **S 14 03 58.3 +4.0**
ULN ScS ScS 14 06 03.9 -0.7
ULN Ulaanbaatar 54.05 1 *e*P **P 13 56 23.9 -0.4**
ULN pmax pmax
comp=Z,19nm,0.7s,mb5.1
ULN Ulaanbaatar 54.05 1 *e*P **P 13 56 23.9 -0.3**
comp=Z,19nm,0.7s,mb5.1
JMDO Jabal Madar 54.31 303 P **P 13 56 27.2 +0.8**
SNR=12
SMDO Samad 54.66 304⇓P **P 13 56 29.7 +0.7**
SNR=46
BIDO Bidbid 54.80 305⇑P **P 13 56 31.3 +1.2**
SNR=21
VLA Vladivostok 54.88 24⇓*i*P **P 13 56 30.0 -0.4**
VLA *i* 13 58 38.0
VLA pmax pmax
comp=Z,1μm,8.0s
ULHL Ulahol 55.18 334 P **P 13 56 32.7 +0.2**
SNR=6.4
BSY Bisya 55.23 303 P **P 13 56 34.2 +1.1**
SNR=26
MDJ Mudanjiang 55.29 21 P **P 13 56 32.9 -0.4**
MDJ PP PP 13 58 36.4 -2.4
MDJ S **S 14 04 14.8 +3.8**
MDJ AMB AMB
comp=Z,30nm,0.6s,mb5.5
MDJ AMB AMB
comp=Z,174nm,3.2s
MDJ LR LR
comp=N,1μm,20.1s,MS5.1
MDJ LR LR
comp=E,844nm,17.8s,MS5.1
MDJ LR LR
comp=Z,2μm,19.3s,MS5.1
MDJ Mudanjiang 55.29 21 *e*P **P 13 56 31.2 -2.2**
comp=Z,19nm,0.6s,mb5.3
KZA Kyzart 55.48 333 P **P 13 56 34.5 -0.2**
SNR=14
HOQ Hoqain 55.50 304 P **P 13 56 36.2 +1.0**
SNR=18
AAA Alma-Ata 55.72 335*c i*P **P 13 56 34.0 -2.4**
AAA *e*S **S 14 04 17.5 +0.8**
AAA MLR MLR
comp=Z,500nm,16.0s,MS4.7
RBK Rabkut 55.76 296⇑P **P 13 56 37.7 +0.7**
SNR=21
UCH Uchtor 55.94 333 P **P 13 56 37.0 -1.0**
SNR=20
TKM2 Tokmak 2 56.01 334 P **P 13 56 37.9 -0.6**
SNR=16
ARQ Araqi 56.04 304 P **P 13 56 39.7 +0.7**
SNR=14
KBK Karagaybulak 56.08 333 P **P 13 56 38.2 -0.8**
SNR=33
AML Almayashu 56.24 332 P **P 13 56 39.0 -1.1**
SNR=55
AAK Ala-Archa 56.27 333 P **P 13 56 40.0 -0.4**
SNR=20
AAK Ala-Archa 56.27 333 *e*P **P 13 56 37.7 -2.7**
AAK pmax pmax
comp=Z,45nm,1.2s,mb5.4
AAK MLR MLR
comp=Z,253nm,20.0s,MS4.3
AAK Ala-Archa 56.27 333 *e*P **P 13 56 37.7 -2.6**
comp=Z,45nm,1.2s,mb5.4
AAK LR LR
comp=Z,253nm,20.0s,MS4.3
WHFO Wadi Hawf 56.29 296⇓P **P 13 56 40.2 -0.6**
SNR=28
FRU Bishkek 56.37 333 *e*P **P 13 56 38.0 -3.1**
FRU *e* 13 57 06.0
FRU *e* 14 04 24.0
FRU pmax pmax
comp=Z,160nm,2.0s,mb5.7
FRU MLR MLR
comp=Z,2μm,20.0s,MS5.1

CHMS Chumysh 56.44 333 P **P 13 56 40.5 -1.1**
SNR=12
ABTO Aybut 56.52 296⇓P **P 13 56 42.4 -0.1**
SNR=22
ZAK Zakamensk 56.58 358⇓*e*P **P 13 56 41.6 -0.9**
ZAK *e* 13 57 39.1
EKS2 Erkin-Say 56.61 333 P **P 13 56 41.9 -0.9**
SNR=74
MKAR Makanchi Array 56.76 341 P **P 13 56 42.0 -1.8**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 56.76 341 *i*P **P 13 56 42.0 -1.8**
USP Ospenovka 56.77 333 P **P 13 56 42.2 -1.7**
SNR=24
HIA Hailar 56.85 11 *e*P **P 13 56 42.7 -1.8**
HIA pmax pmax
comp=Z,23nm,0.6s
HIA MLR MLR
comp=Z,3μm,20.0s
HIA Hailar 56.85 11 *e*P **P 13 56 42.6 -1.8**
comp=Z,23nm,0.6s,mb5.4
HIA LR LR
comp=Z,3μm,20.0s,MS5.4
TLY Talaya 57.87 359 *e*P **P 13 56 51.4 -0.1**
TLY *e*S **S 14 04 46.8 +1.9**
TLY *e* 14 06 36.0
TLY pmax pmax
comp=Z,39nm,1.4s,mb5.2
TLY MLR MLR
comp=Z,3μm,18.0s,MS5.4
TLY Talaya 57.87 359 *e*P **P 13 56 51.5 -0.1**
comp=Z,28nm,1.1s,mb5.2
MOY Mondy 57.95 357 *e*P **P 13 56 51.6 -0.5**
IRK Irkutsk 58.42 359 *e*P **P 13 56 54.7 -0.7**
IRK *e* pP 13 57 14.2 +3.0
IRK *e* 14 06 37.4
CASY Casey 59.89 178 PFAKE 13 57 20.0 +15
CASY LR LR
comp=Z,2μm,19.0s,MS5.2
KLR Kul'dur 60.02 20κ *i*P **P 13 57 02.8 -3.7**
KLR *e*S **S 14 05 08.0 -5.0**
KLR pmax pmax
comp=N,42nm,1.8s
KLR pmax pmax
comp=E,70nm,1.8s
KLR pmax pmax
comp=Z,100nm,1.8s,mb5.5
KLR MLR MLR
comp=N,900nm,16.0s
KLR MLR MLR
comp=Z,2μm,16.0s,MS5.2
ZAL Zalesovo 62.54 347 P **P 13 57 21.8 -1.6**
comp=Z,20nm,0.3s,mb5.7,baz=316,slow=2.7,SNR=61
ZAL S **S 14 05 42.7 -2.1**
comp=Z,3.9nm,1.1s,baz=151,slow=21,SNR=6.5
ZAL LR LR 14 27 48.0
comp=Z,6μm,20.3s,MS5.8,baz=318,slow=39
ZAL Zalesovo 62.54 347 P **P 13 57 21.8 -1.6**
ZAL S **S 14 05 42.7 -2.1**
ZAL LR LR 14 27 48.0
YSS Yuzh-Sakhalins 62.63 28α *i*P **P 13 57 22.8 -1.3**
YSS *i* pP 13 57 35.2 -4.9
YSS *e* 13 58 04.9
YSS *e*S **S 14 05 48.0 +1.9**
YSS *e*PPS PPS 14 06 16.0 -6.0
YSS pmax pmax
comp=Z,210nm,1.1s,mb6.2
YSS pmax pmax
comp=N,60nm,0.9s
YSS pmax pmax
comp=E,60nm,0.8s
YSS MLR MLR
comp=N,600nm,18.0s,MS4.9
YSS MLR MLR
comp=Z,800nm,18.0s,MS4.9
YSS MLR MLR
comp=E,400nm,20.0s,MS4.9
YSS Yuzh-Sakhalins 62.63 28 *e*P **P 13 57 23.3 -0.8**
comp=E,136nm,0.9s,mb6.1
NVS Novosibirsk 63.73 346 *i*P **P 13 57 27.9 -3.4**
NVS *i*S **S 14 05 56.1 -3.6**
NVS *i* 14 07 12.6
NVS pmax pmax
comp=Z,67nm,1.8s,mb5.4
NVS pmax pmax
comp=N,54nm,1.7s
NVS pmax pmax
comp=E,33nm,1.7s
NVS smax
comp=E,54nm,1.3s
NVS smax
comp=N,27nm,1.5s
BOD Bodaibo 64.39 5 *e*P **P 13 57 33.4 -2.1**
DRV Dumont d'Urvil 64.72 165 P **P 13 57 37.0 -0.5**
DRV S **S 14 06 17.0 +5.2**
DRV L 14 13 00.0
CLNS Chul'man 65.04 12 *e*P **P 13 57 39.2 -0.5**
RAYN Ar Rayn 65.47 299 P **P 13 57 42.2 -0.8**
comp=N,160nm,0.6s,mb6.2,SNR=24
BVA0 Borovoye Array 66.16 338 P **P 13 57 45.4 -1.5**
BVA0 pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
BVAR Borovoye Array 66.16 338 P **P 13 57 45.5 -1.4**
comp=Z,33nm,0.8s,mb5.4,baz=141,slow=9.5,SNR=82
BVAR S S 14 06 28.1 -1.4
comp=Z,1.8nm,0.7s,baz=135,slow=15,SNR=5.8
BRVK Borovoye 66.23 338 *e*P **P 13 57 45.8 -1.6**
BRVK pmax pmax
comp=Z,21nm,0.6s,mb5.3
BRVK MLR MLR
comp=Z,332nm,21.0s,MS4.5
BRVK Borovoye 66.23 338 *e*P **P 13 57 45.8 -1.5**
comp=Z,21nm,0.6s,mb5.3
BRVK LR LR
comp=Z,332nm,21.0s,MS4.5
CHKZ Chkalovo 66.59 338 *e*P **P 13 57 48.5 -1.1**
CHKZ pmax pmax
comp=Z,29nm,0.5s,mb5.6
CHKZ Chkalovo 66.59 338 *e*P **P 13 57 48.5 -1.1**
comp=Z,29nm,0.5s,mb5.6
MAW Mawson 67.45 196 *e*P **P 13 57 53.4 -1.4**
comp=Z,42nm,1.1s,mb5.4
MAW Mawson 67.45 196 *e*P **P 13 57 53.4 -1.4**
MAW pmax pmax
comp=Z,42nm,1.1s
MAW Mawson 67.45 196 P **P 13 57 52.7 -2.1**
comp=Z,42nm,1.1s,mb5.4,baz=31,slow=6.4,SNR=17
MAW LR LR 14 21 18.2
comp=Z,2μm,20.8s,MS5.3,baz=28,slow=30
KMBO Kilima Mbogo 68.04 271 *i*P **P 13 57 59.6 +0.2**
KMBO pmax pmax
comp=Z,18nm,1.0s
KMBO Kilima Mbogo 68.04 271 P **P 13 57 59.5 +0.1**
comp=Z,18nm,0.9s,mb5.1,baz=78,slow=7.1,SNR=46
KMBO LR LR 14 22 16.3
comp=Z,3μm,22.0s,MS5.4,baz=95,slow=31
KMBO Kilima Mbogo 68.04 271 *e*P **P 13 57 59.1 -0.3**
comp=Z,128nm,1.6s,mb5.7
KMBO LR LR
comp=Z,3μm,22.0s,MS5.4
RPZ Rata Peaks 68.16 135 P **P 13 57 59.0 -0.7**
comp=Z,29nm,1.0s,mb5.3,baz=151,slow=2.5,SNR=8.6
YAK Yakutsk 70.79 12 *e*P **P 13 58 14.4 -1.0**
YAK *e* 13 58 38.3
YAK *e*S S 14 07 18.4 -5.9
YAK *e* 14 08 06.3
YAK *e*SSS SSS 14 15 02.3 -3.3
YAK pmax pmax
comp=Z,67nm,1.0s,mb5.5
YAK pmax pmax
comp=N,31nm,1.1s
YAK pmax pmax
comp=E,20nm,1.2s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
YAK pmax pmax
comp=E,4.0nm,1.5s
YAK smax
comp=E,17nm,1.2s
YAK smax
comp=N,3.0nm,1.0s
YAK MLR MLR
comp=N,759nm,16.0s,MS5.1
YAK MLR MLR

comp=Z,817nm,16.0s,MS5.1
YAK MLR MLR
comp=E,364nm,15.0s,MS5.1
YAK Yakutsk 70.79 12 *e*P **P 13 58 14.2 -1.2**
comp=E,137nm,0.8s,mb5.9
SKR Severo-Kuril's 71.71 31 *e*P **P 13 58 18.6 -2.5**
SKR *e* 14 08 28.0
SKR pmax pmax
comp=N,70nm,0.8s
SKR pmax pmax
comp=Z,170nm,0.8s,mb6.0
SKR pmax pmax
comp=E,50nm,0.6s
MAK Makhachkala 71.71 319 *e*P **P 13 58 24.0 +2.7**
URZ Urewera 71.80 128 P **P 13 58 20.5 -1.4**
comp=E,5.1nm,0.6s,mb4.7,baz=309,slow=4.7,SNR=3.7
URZ LR LR 14 30 16.7
comp=E,2μm,19.6s,MS5.3,baz=99,slow=36
HKR Hakkari 72.00 313 P **P 13 58 23.1 0.0**
GNI Garni 72.33 316 *e*P **P 13 58 25.9 +0.9**
GNI Garni 72.33 316 *e*P **P 13 58 25.2 +0.2**
GNI pmax pmax
comp=Z,38nm,0.9s
GNI Garni 72.33 316 P **P 13 58 26.0 +1.0**
comp=Z,11nm,0.5s,mb5.1,baz=111,slow=1.7,SNR=24
GNI S S 14 07 44.2 +1.8
comp=Z,1.0nm,0.4s,baz=278,slow=22,SNR=7.3
TVAN Van 72.62 314 *i*P **P 13 58 27.5 +0.7**
VANB Van 72.66 314 *e*P **P 13 58 23.9 -3.1**
SVE Sverdlovsk 72.77 336⇓ *e*P **P 13 58 26.3 -0.9**
SVE *e* pP 13 58 47.4 +3.8
SVE *e* 14 01 14.5
SVE *e*S S 14 07 47.0 -0.1
SVE pmax pmax
comp=Z,450nm,2.0s,mb6.0
SVE smax
comp=N,600nm,5.5s
SVE smax
comp=E,1μm,5.5s
SVE MLR MLR
comp=Z,2μm,26.0s,MS5.3
STE Stepanavan 72.92 316 *i*P **P 13 58 28.0 -0.5**
STE *i* 14 01 13.0
STE *e*S S 14 07 51.0 +1.8
TI2 Plekhanov 72.99 317⇑ *i*P **P 13 58 28.8 -0.1**
TI2 *i*S S 14 07 49.6 -0.4
TI2 *i*S S 14 07 50.0 0.0
ARU Arti 73.36 335⇑ *i*P **P 13 58 27.5 -3.2**
ARU *e* pP 13 58 40.6 -6.4
ARU *e*S S 14 07 49.7 -4.0
ARU *e* 14 08 26.4
ARU *e*SSS SSS 14 15 45.4 -4.8
ARU pmax pmax
comp=Z,243nm,1.1s,mb6.0
ARU MLR MLR
comp=Z,2μm,24.0s,MS5.3
ARU MLR MLR
comp=N,1μm,22.0s,MS5.3
ARU MLR MLR
comp=E,1μm,23.0s,MS5.3
BTMT Batman 73.88 313 P **P 13 58 34.5 +0.4**
BEST Besiri 73.93 312 *i*P **P 13 58 34.6 +0.2**
ZEI Tsey 74.00 318 *e*P **P 13 58 35.7 +0.9**
ZEI pmax pmax
comp=Z,73nm,0.6s,mb5.8
VRT Varto 74.20 314 *i*P **P 13 58 37.5 +1.4**
PET Petropavlovsk 74.34 30 *e*P **P 13 58 36.2 -0.3**
PET pmax pmax
comp=Z,209nm,0.7s,mb6.2
PET Petropavlovsk 74.34 30 *e*P **P 13 58 36.2 -0.3**
comp=Z,208nm,0.7s,mb6.2
MBAR Mbarara 74.58 271 *e*P **P 13 58 37.5 -1.2**
MBAR pmax pmax
comp=Z,50nm,1.0s,mb5.4
MBAR MLR MLR
comp=Z,395nm,21.0s,MS4.7
MBAR Mbarara 74.58 271 *e*P **P 13 58 37.5 -1.2**
comp=Z,50nm,1.0s,mb5.4
MBAR LR LR
comp=Z,395nm,21.0s,MS4.7
ERZM Erzurum 74.61 314 *i*P **P 13 58 39.9 +1.6**
EZM Erzurum 74.61 314 *i*P **P 13 58 39.5 +1.1**
MA2 Magadan 74.97 22*c i*P **P 13 58 39.9 -0.1**
MA2 *i* 14 01 29.0
MA2 *e*S S 14 08 14.1 +2.5
MA2 pmax pmax
comp=Z,80nm,1.4s,mb5.5
MA2 pmax pmax
comp=E,20nm,1.5s
MA2 pmax pmax
comp=N,30nm,1.4s
MA2 MLR MLR
comp=Z,2μm,20.0s,MS5.4
MA2 Magadan 74.97 22 *e*P **P 13 58 40.0 0.0**
comp=Z,51nm,0.8s,mb5.5
KIV Kislovodsk 75.30 318 P **P 13 58 42.8 +0.6**
comp=Z,473nm,0.7s,mb6.5,SNR=17
KIV Kislovodsk 75.30 318*c i*P **P 13 58 42.3 +0.1**
KIV *e* pP 13 58 54.8 -3.8
KIV *e* 14 01 34.8
KIV *i* 14 08 16.9
KIV pmax pmax
comp=Z,109nm,1.1s,mb5.7
KIV Kislovodsk 75.30 318 *e*P **P 13 58 41.4 -0.9**
comp=Z,66nm,0.8s,mb5.6
KIV LR LR
comp=Z,113nm,21.0s,MS4.2
ASF Jabal al Asfar 75.42 305 P **P 13 58 44.0 +0.9**
comp=Z,32nm,0.8s,mb5.3,baz=356,slow=2.7,SNR=35
ASF LR LR 14 33 08.3
comp=Z,1μm,20.8s,MS5.1,baz=150,slow=37
SYO Syowa Base 75.48 200⇓ P **P 13 58 41.0 -1.7**
SYO Syowa Base 75.48 200⇓ P **P 13 58 42.6 -0.1**
GOF Gofitskoye 75.53 320⇓ *i*P **P 13 58 43.5 0.0**
GOF *e*S S 14 08 17.5 -0.6
GOF pmax pmax
comp=Z,120nm,1.2s,mb5.7
URFA Urfa 75.59 311 *e*P **P 13 58 44.5 +0.5**
PTK Pertek 75.67 313 *e*P **P 13 58 44.6 +0.2**
ELZG Elazig 75.83 312 *i*P **P 13 58 46.4 +1.1**
LSZ Lusaka 75.92 256 *e*P **P 13 58 45.8 -0.5**
LSZ pmax pmax
comp=Z,17nm,0.7s,mb5.1
LSZ Lusaka 75.92 256 *e*P **P 13 58 45.8 -0.5**
comp=Z,17nm,0.7s,mb5.1
SOKR Solikamsk 76.11 337⇓ *i*P **P 13 58 44.6 -1.9**
SOKR pmax pmax
comp=Z,260nm,0.9s,mb6.2
SOKR MLR MLR
comp=Z,2μm,24.0s,MS5.2
GUMT Gumushane 76.16 314 *i*P **P 13 58 47.4 +0.2**
MALT Malatya 76.18 312 *e*P **P 13 58 46.1 -1.3**
MALT Malatya 76.18 312 P **P 13 58 48.0 +0.7**
MALT pmax pmax
comp=Z,43nm,1.0s,mb5.3
EIL Elat 76.31 302 P **P 13 58 48.9 +0.6**
comp=Z,40nm,0.7s,mb5.5,baz=34,slow=2.5,SNR=44
EIL Elat 76.31 302 *e*P **P 13 58 48.6 +0.3**
comp=Z,39nm,0.7s,mb5.4
GZT Gaziantep 76.50 311 *i*P **P 13 58 50.1 +0.9**
GAZ Gaziantep 76.71 310 P **P 13 58 51.6 +1.2**
VNDA Vanda 76.87 169 *e*P **P 13 58 49.8 -0.7**
VNDA pmax pmax
comp=Z,57nm,1.4s
VNDA Vanda 76.87 169 P **P 13 58 50.1 -0.3**
comp=Z,9.8nm,0.8s,mb4.8,baz=307,slow=5.6,SNR=10
VNDA LR LR 14 27 23.8
comp=Z,2μm,21.8s,MS5.3,baz=318,slow=32
VNDA Vanda 76.87 169 *e*P **P 13 58 49.8 -0.7**
comp=Z,57nm,1.4s,mb5.3
KAHT Ahir Dag 77.11 311 *i*P **P 13 58 53.9 +1.3**
SOC Sochi 77.13 317 *i*P **P 13 58 51.9 -0.7**
SOC *e* 13 59 02.6
SOC *e* 14 01 45.3
SOC *e*PPP PPP 14 03 41.7 +5.1
SOC *e*S S 14 08 35.4 -0.3
SOC *e* 14 09 00.9
SOC pmax pmax
comp=Z,88nm,0.8s,mb5.7
SOC pmax pmax
comp=N,26nm,0.9s
SOC pmax pmax
comp=E,38nm,0.9s
SOC MLR MLR
comp=N,499nm,22.0s,MS4.9
SOC MLR MLR
comp=E,455nm,22.0s,MS4.9
SOC MLR MLR
comp=Z,605nm,22.0s,MS4.9
SEY Seymchan 77.82 20 *e*P **P 13 58 56.2 +0.3**
SEY 13 59 07.1
SEY *e* 14 02 01.0
SEY *e*S S 14 08 46.1 +3.5
SEY PS PS 14 09 53.7 +22
SEY *e*SS SS 14 13 52.5 +5.8
SEY pmax pmax
comp=E,20nm,0.7s
SEY pmax pmax
comp=Z,30nm,0.7s,mb5.3
SEY pmax pmax
comp=N,20nm,0.6s
SEY smax
comp=N,2μm,29.2s
SEY smax
comp=E,2μm,27.3s
SBA Scott Base 77.95 169 *e*P **P 13 58 56.9 +0.4**
LBTB Lobatse 78.00 246 *e*P **P 13 58 57.1 -0.6**
LBTB pmax pmax
comp=Z,33nm,0.8s,mb5.3
LBTB Lobatse 78.00 246 *e*P **P 13 58 57.1 -0.6**
comp=Z,33nm,0.8s,mb5.3
BOSA Boshof 78.22 242 *e*P **P 13 58 58.2 -0.7**
BOSA pmax pmax
comp=Z,18nm,0.5s,mb5.3
BOSA Boshof 78.22 242 *e*P **P 13 58 58.1 -0.8**
comp=Z,18nm,0.5s,mb5.2
BNN Bunyan 78.27 312 *e*P **P 13 58 59.2 +0.3**
MEST Erdemli 78.88 309 *i*P **P 13 59 02.8 +0.4**
NIG Nigde 78.97 311 *e*P **P 13 59 03.2 +0.4**
CSS Prodhromos 79.06 307 P **P 13 59 04.5 +1.1**
ANN Anapa 79.11 318 *e*P **P 13 59 01.8 -1.6**
ANN *e* 13 59 12.8
ANN *e* 14 02 01.5
ANN *e*S S 14 08 58.0 +1.3
ANN pmax pmax
comp=Z,62nm,1.6s,mb5.3
ANN Anapa 79.11 318 *e*P **P 13 59 01.7 -1.7**
MAMC Mammari 79.21 307 P **P 13 59 05.3 +1.1**
SZAC Souni-Zanaja 79.36 307 P **P 13 59 06.3 +1.3**
TIXI Tiksi 79.43 7⇑ *i*P **P 13 59 03.4 -1.2**
TIXI *e*S S 14 09 00.5 +0.9
TIXI *e*PS PS 14 09 46.2 -5.5
TIXI *e*SS SS 14 14 15.6 +4.9
TIXI pmax pmax
comp=N,29nm,1.2s
TIXI pmax pmax
comp=Z,129nm,1.2s,mb5.7
TIXI pmax pmax
comp=E,21nm,1.4s
TIXI pmax pmax
comp=Z,335nm,1.6s,mb6.0
TIXI MLR MLR
comp=Z,2μm,18.0s,MS5.5
TIXI Tiksi 79.43 7⇑ *e*P **P 13 59 03.6 -1.0**
LEF Lefka 79.45 307 *e*P **P 13 59 06.0 +0.5**
CTKT Corum 79.58 313 *i*P **P 13 59 07.0 +0.9**
ALFC Alevga 79.69 307 P **P 13 59 07.1 +0.3**
comp=Z,0.9nm,0.5s
BOYT Boyabat 79.75 314 *i*P **P 13 59 07.4 +0.5**
AKMC Akamas 79.87 307 P **P 13 59 07.4 -0.4**
KAMT Kaman 80.00 312 P **P 13 59 08.6 +0.3**
BRTR Keskin Array B 80.16 312 P **P 13 59 09.2 -0.1**
comp=Z,35nm,0.7s,mb5.4,baz=133,slow=6.9,SNR=146
CANT Cankiri 80.43 313 P **P 13 59 11.3 +0.7**
ELDT Eldivan 80.54 313 *i*P **P 13 59 11.2 0.0**
BZK Bozkurt 80.55 314 P **P 13 59 12.5 +1.3**
VOR Voronezh 80.57 325 *e*P **P 13 59 11.0 -0.1**
VOR pmax pmax
comp=Z,500nm,1.5s,mb6.2
ANTO Ankara 80.83 312 *e*P **P 13 59 11.3 -1.4**
ANTO Ankara 80.83 312 *e*P **P 13 59 11.3 -1.4**
ANTO Ankara 80.83 312 *e*P **P 13 59 11.3 -1.4**
BALT Daday 80.87 314 *i*P **P 13 59 13.9 +1.0**
KIZT Kizilcal 81.24 311 *i*P **P 13 59 15.2 +0.3**
SAFT Safranbolu 81.29 313 *i*P **P 13 59 14.8 -0.3**
SIM Simferopol' 81.38 317*c i*P **P 13 59 16.9 +1.4**
SIM *e*S S 14 09 23.0 +2.6
SIM pmax pmax
comp=Z,90nm,1.0s,mb5.7
SIM MLR MLR
comp=Z,770nm,21.9s,MS5.0
SIM Simferopol' 81.38 317⇑ *i*P **P 13 59 16.7 +1.2**
SGKT Sivrigoynuk 81.56 312 *i*P **P 13 59 17.5 +0.9**
SUR Sutherland 81.95 238 *e*P **P 13 59 19.0 +0.3**
comp=Z,136nm,1.1s,mb5.8
ESKT Eskisehir 82.18 311 *i*P **P 13 59 20.5 +0.7**
ESKT Eskisehir 82.18 311 *i*P **P 13 59 20.7 +0.9**
ELL Elmali 82.21 308 *e*P **P 13 59 19.5 -0.5**
HENT Hendek 82.48 313 *i*P **P 13 59 22.1 +0.8**
MOS Moscow 82.97 328*k i*P **P 13 59 23.7 +0.2**
MOS *e*S S 14 09 36.4 +0.1
MOS pmax pmax
comp=Z,900nm,2.2s,mb6.4
MOS pmax pmax
comp=Z,256nm,1.2s,mb6.1
OBN Obninsk 83.30 327*c i*P **P 13 59 24.4 -0.7**
OBN *e* 14 02 33.1
OBN *e*S S 14 09 37.3 -2.4
OBN pmax pmax
comp=Z,212nm,1.1s,mb6.1
OBN Obninsk 83.30 327 *e*P **P 13 59 24.4 -0.7**
comp=Z,152nm,1.0s,mb6.0
YLV Yalova 83.54 312 *e*P **P 13 59 27.2 +0.5**
QSPA South Pole Qui 83.59 180⇑ *i*P **P 13 59 26.9 +0.8**
comp=Z,114nm,1.2s,mb5.9
ULDT Uludag 83.61 312 *i*P **P 13 59 28.1 +1.0**
AYDN Tasoluk 83.99 309 *i*P **P 13 59 30.6 +1.6**
BTOK Tokmak 84.35 311 *i*P **P 13 59 31.5 +0.7**
KDAG Bornova 84.63 309 *i*P **P 13 59 33.5 +1.3**
BILL Biilibino 85.48 19*c i*P **P 13 59 35.7 -0.1**
BILL *e* 14 00 01.9
BILL *e*S S 14 09 50.0 -11
BILL pmax pmax
comp=Z,44nm,0.8s,mb5.6
BILL Biilibino 85.48 19 *e*P **P 13 59 35.5 -0.2**
comp=Z,35nm,0.7s,mb5.6
BILL LR LR
comp=Z,1μm,20.0s,MS5.2
KIS Kishinev 85.50 318 *e*P **P 13 59 35.0 -1.3**
KIS *e* pP 13 59 50.0 -3.0
KIS *e*S S 14 10 01.0 -0.6
KIS smax
comp=N,770nm,3.0s
KIS smax
comp=E,560nm,2.8s
KIS smax
comp=N,2μm,9.0s
KIS smax
comp=E,1μm,10.0s
KIS MLR MLR
comp=Z,600nm,20.0s,MS5.0
KIS MLR MLR
comp=Z,400nm,20.0s
PRD Provadia 85.58 314 *e*P **P 13 59 38.0 +1.2**
IDI Anoyia 85.87 306 P **P 13 59 39.4 +1.0**
comp=Z,18nm,0.6s,mb5.5,baz=99,slow=4.9,SNR=6.8
JMB Yambol 86.01 313 *e*P **P 13 59 40.0 +1.1**
MLR Muntele Rosu 87.10 316 P **P 13 59 44.9 +0.7**
comp=Z,21nm,0.6s,mb5.5,baz=48,slow=1.6,SNR=46
MLR LR LR 14 44 20.7
comp=Z,680nm,21.5s,MS5.0,baz=207,slow=39
RZN Rozhen 87.21 312 *e*P **P 13 59 45.0 +0.2**
PGB Panagyurishte 87.78 313 *e*P **P 13 59 48.0 +0.5**
MMB Musomiste 87.92 312 *e*P **P 13 59 48.0 -0.2**
MNK Minsk 87.94 325 P **P 13 59 45.0 -3.0**
PUL Pulkovo 88.00 331⇓ *e*P **P 13 59 48.9 +0.8**
JOF Joensuu 88.44 334 *e*p **P 13 59 50.3 +0.1**
comp=Z,17nm,0.6s,mb5.5
KKB Krupnik 88.45 312 *e*P **P 13 59 51.0 +0.3**
VTS Vitosha 88.48 313 *e*P **P 13 59 51.5 +0.6**
APA Apatity 89.06 339⇑ *i*P **P 13 59 53.6 +0.6**
APA *i* 14 00 15.7
APA *i*S S 14 10 36.0 +1.2
APA pmax pmax
comp=Z,77nm,1.3s,mb5.9
LVV L'vov 89.22 320 *e*P **P 13 59 57.4 +3.2**
LVV *e* 14 05 20.8
LVV *e* 14 10 14.0
LVV *i*S S 14 10 38.2 +1.5
LVV *e* 14 11 40.0
SNAA Sanae 89.59 198 *e*P **P 13 59 56.3 +0.9**
SNAA pmax pmax
comp=Z,2μm,1.3s
SNAA Sanae 89.59 198 P **P 13 59 55.7 +0.3**
comp=Z,13nm,1.0s,mb5.2,baz=66,slow=5.1,SNR=11
SNAA Sanae 89.59 198 *e*P **P 13 59 56.3 +0.9**
comp=Z,2μm,1.3s
BOLS Boljevac 89.59 314⇓ *i*P **P 13 59 56.1 0.0**
SKO Skopje 89.67 312 *e*P **P 13 59 57.0 +0.5**
SKO *e* pP 14 00 12.6 -0.8
KWP Kalwaria 90.04 320 *e*P **P 13 59 58.4 +0.3**
SVIS Svilajnac 90.19 314⇑ *i*P **P 13 59 59.8 +1.0**
KOLS Kolonicke sedl 90.20 319 *e*P **P 14 00 00.2 +1.4**
KOLS *e* pP 14 00 14.1 -1.6
KOLS Kolonicke sedl 90.20 319 *e*P **P 14 00 00.2 +1.4**
KOLS *e* 14 00 08.3
KOLS *e*pP pP 14 00 14.1 -1.6
KOLS *e*PP PP 14 03 41.4 +6.1
FINES FINESS Array B 90.44 332 P **P 14 00 00.0 +0.4**
comp=Z,7.9nm,0.5s,mb5.3,baz=110,slow=5.8,SNR=48
FINES LR LR 14 49 59.9
comp=Z,523nm,19.9s,MS5.0,baz=292,slow=42
KAF Kangasniemi 90.48 333 *e*p **P 14 00 00.5 +0.7**
comp=Z,16nm,0.6s,mb5.5
KAF Kangasniemi 90.48 333 *e*P **P 14 00 00.5 +0.7**
KAF pmax pmax
comp=Z,16nm,0.6s,mb5.5
GRUS Gruza 90.49 314⇓ *i*P **P 14 00 00.6 +0.3**
SUW Suwalki 90.50 324 P **P 14 00 01.1 +1.0**
SUW *e* pP 14 00 16.4 -0.6
SUW pmax pmax
comp=Z,57nm,0.9s,mb5.9
SUW Suwalki 90.50 324 *e*P **P 14 00 00.5 +0.4**
SUW Suwalki 90.50 324 *e*P **P 14 00 00.5 +0.4**
DIVS Divcibare 91.03 314 *e*P **P 14 00 02.7 -0.1**
PSZ Piszkesteto 91.61 318 *e*P **P 14 00 06.7 +1.3**
PSZ Piszkesteto 91.61 318 *e* **P 14 00 06.7 +1.3**
PKSM Moragy 92.25 316⇓ *e*P **P 14 00 09.6 +1.2**
ARCES ARCESS Array B 92.39 340 P **P 14 00 08.9 +0.4**
comp=Z,11nm,0.5s,mb5.4,baz=88,slow=5.6,SNR=76
ARCES LR LR 14 47 04.8
comp=Z,1μm,21.8s,MS5.3,baz=109,slow=39
VYHS Vyhne 92.39 318 *e*P **P 14 00 09.5 +0.5**
VYHS *e*PP PP 14 03 50.7 -2.2
OKC Ostrava-Krasne 92.99 320 *e*PP PP 14 03 55.4 -2.3
OKC *e*S S 14 11 18.0 +7.9
OKC AMS AMS 14 49 40.0
comp=Z,700nm,25.8s
MORC Moravsky Berou 93.38 320 *e*P **P 14 00 14.6 +1.1**
MORC pmax pmax
comp=Z,13nm,1.2s,mb5.2
MORC Moravsky Berou 93.38 320 *e*P **P 14 00 14.5 +1.0**
comp=Z,13nm,1.2s,mb5.2
DPC Dobruska-Polom 94.21 320 *e*P **P 14 00 19.1 +1.9**
DPC *e* 14 04 05.3
DPC MLR MLR
comp=Z,600nm,21.2s,MS5.0
DPC Dobruska-Polom 94.21 320 *e*P **P 14 00 19.1 +1.9**
DPC *e*PP PP 14 04 05.3 -1.9
DPC *e*S S 14 11 30.5 +10
DPC AMS AMS 14 50 10.0
comp=Z,600nm,21.2s
KSP Ksiaz 94.27 321 *e*P **P 14 00 18.5 +1.0**
KSP *e* 14 04 03.1
KSP *e*S S 14 11 22.0 +0.9
KSP Ksiaz 94.27 321 *e*P **P 14 00 18.7 +1.2**
UPC Upice 94.42 320 *e*P **P 14 00 21.5 +3.3**
UPC *e*PP PP 14 04 06.6 -2.1
GROS Grobnik 94.44 316 *e*P **P 14 00 19.5 +1.2**
TNA Tin City 94.45 25 *e*P **P 14 00 18.3 +0.3**
comp=Z,6.4nm,0.9s,mb5.0
CEY Cerknica 95.13 315 *e*P **P 14 00 25.0 +3.4**
PRU Pruhonice 95.33 320 *e*P **P 14 00 23.5 +1.2**
PRU *e* 14 04 13.6
PRU MLR MLR
comp=Z,800nm,17.0s,MS5.3
PRU Pruhonice 95.33 320 *e*P **P 14 00 23.5 +1.2**
PRU *e*PP PP 14 04 13.6 -1.7
PRU *e*S S 14 11 42.4 +12
PRU AMS AMS 14 51 00.0
comp=Z,800nm,17.0s
PVCC Panska Ves 95.34 320 *e*P **P 14 00 23.8 +1.4**
PVCC *e*PP PP 14 04 13.1 -2.4
PVCC *e*S S 14 11 28.0 -2.2
PVCC AMS AMS 14 51 30.0
comp=Z,600nm,12.9s
ANM Nome 95.45 26 *e*P **P 14 00 24.2 +1.7**
BRG Berggiesshubel 95.76 320 *e*P **P 14 00 26.1 +1.8**
BRG *e* 14 04 16.0
BRG *e*S S 14 11 37.0 +3.3
BRG pmax pmax
comp=Z,23nm,1.8s
BRG MLR MLR
comp=N,760nm,23.1s
BRG MLR MLR
comp=E,580nm,23.1s
BRG MLR MLR
comp=Z,930nm,23.1s
BRG pmax pmax
comp=Z,7μm,1.1s
BRG Berggiesshubel 95.76 320 *e*P **P 14 00 26.1 +1.8**
comp=Z,23nm,1.8s,mb5.3
BRG *e* 14 04 16.0
BRG *e*S S 14 11 37.0 +3.3
BRG LR LR
comp=Z,930nm,23.1s,MS5.2
GERES GERESS Array B 95.81 318 P **P 14 00 25.5 +1.0**
comp=Z,1.9nm,0.6s,mb4.7,baz=107,slow=3.5,SNR=12
GERES PP PP 14 04 17.3 -2.0
comp=Z,7.1nm,1.1s,baz=90,slow=6.7,SNR=6.4
KHC Kasperske Hory 95.91 319 *e*P **P 14 00 25.9 +0.9**
KHC *e*PP PP 14 04 16.7 -3.3
KHC *e*S S 14 11 44.6 +10
KHC AMS AMS 14 45 10.0
comp=Z,800nm,10.1s
NKC Novy Kostel 96.69 320 *e*P **P 14 00 19.6 -8.9**
NKC *e*PP PP 14 04 24.2 -2.0
NKC *e*S S 14 11 43.1 +1.5
NKC AMS AMS 14 52 20.0
comp=Z,600nm,22.9s
MOX Moxa 97.23 320 *e*P **P 14 00 40.0 +9.0**
MOX PP PP 14 04 28.0 -2.5
GRA1 Grafenberg Arr 97.47 319 *e*Pdif **P 14 00 33.2 +1.1**
GRA1 *e*PP PP 14 04 28.8 -3.6
GRA1 LR LR
comp=Z,500nm,20.7s,MS5.0
GRF Grafenberg Arr 97.47 319 *e*P **P 14 00 33.2 +1.1**
GRF *e* 14 04 28.8
GRF MLR MLR
comp=Z,500nm,20.7s,MS5.0
NB2 NORSAR Subarra 97.53 331 P **P 14 00 32.3 +0.2**
comp=Z,4.7nm,0.9s,mb5.0,baz=90,slow=4.3
NB2 NORSAR Subarra 97.53 331 P **P 14 00 32.3 +0.2**
baz=90,slow=4.3
NOA NORSAR Array B 97.53 331 P **P 14 00 32.5 +0.5**
comp=Z,1.5nm,0.7s,mb4.6,baz=115,slow=3.4,SNR=4.4
NOA PP PP 14 04 29.9 -2.8
comp=Z,4.5nm,0.8s,baz=98,slow=7.4,SNR=5.8
NOA LR LR 14 51 39.7
comp=Z,546nm,18.8s,MS5.1,baz=90,slow=40
KONO Kongsberg 98.36 329 PFAKE 14 00 50.0 +14
KONO LR LR
comp=Z,1μm,19.0s,MS5.5
IMA Indian Mountai 100.30 24 *e*P P 14 00 45.7 +1.2
IMA pmax pmax
comp=Z,39nm,1.1s
IMA Indian Mountai 100.30 24 *e*P P 14 00 45.7 +1.2
comp=Z,39nm,1.1s
LPG La Plagne 100.51 315 *e*P P 14 00 46.8 +0.8
LPL La Plagne 100.52 315 *e*P P 14 00 47.3 +1.3
comp=Z,18nm,1.1s
LPL La Plagne 100.52 315 *e*P P 14 00 47.3 +1.3
LPL pmax pmax
comp=Z,9.0nm,1.1s
TBI Tubuai 101.34 115 *e*S S 14 12 23.4 +2.0
TBI *e*SS SS 14 19 28.3 +1.1
TBI *e*LR LR 14 34 03.4
comp=Z,909nm,33.5s
KDAK Kodiak Island 101.85 32 PFAKE 14 01 00.0 +8.4
KDAK LR LR
comp=Z,338nm,22.0s,MS4.8
PPT Papeete 102.38 109 *e*S S 14 12 32.0 +1.9
PPT *e*SS SS 14 19 42.5 +0.7

PPT *e*LR LR 14 34 23.8
comp=Z,2μm,22.8s
FIB Fire Island 102.58 29 PFAKE 14 01 10.0 +15
FIB LR LR
comp=Z,2μm,21.0s,MS5.6
MCK McKinley 102.68 26 *e*P Pdif 14 00 54.9 -0.3
COLA College 102.90 25 PFAKE 14 01 10.0 +14
COLA LR LR
comp=Z,611nm,20.0s,MS5.1
ILAR Eielson Array 103.32 25 PKiKP 14 05 15.7
comp=Z,1.2nm,0.6s,baz=300,slow=3.7,SNR=8.8
ILAR PKKPbc 14 16 52.4
comp=Z,4.2nm,1.3s,baz=88,slow=1.2,SNR=4.5
DIV Divide 104.68 28 PFAKE 14 01 20.0 +16
DIV LR LR
comp=Z,2μm,21.0s,MS5.6
INK Inuvik 107.11 19 PKiKP 14 05 23.8
comp=Z,1.6nm,0.6s,baz=330,slow=4.1,SNR=5.6
RES Resolute Bay 110.77 6 *e*PKIKP PKPdf 14 05 30.3 +1.2
YKA Yellowknife Ar 116.88 20 PKP PKPdf 14 05 41.9 +0.7
comp=Z,3.0nm,0.6s,baz=338,slow=2.0,SNR=71
YKA PKKPbc 14 16 08.6
comp=Z,1.2nm,0.6s,baz=124,slow=4.6,SNR=6.5
YKA Yellowknife Ar 116.88 20 PKP PKPdf 14 05 41.9 +0.7
YKA PKKPbc 14 16 08.6
USHA Ushuaia 118.77 184 PKP PKPdf 14 05 45.3 +0.2
comp=Z,13nm,0.9s,baz=288,slow=6.4
COR Corvallis 123.18 40 PFAKE 14 06 10.0 +16
COR LR LR
comp=Z,826nm,21.0s,MS5.4
EDM Edmonton 123.73 27 *e*PKIKP PKPdf 14 05 56.4 +1.6
HUMO Hull Mountain 124.29 42 *e*PKPdf PKPdf 14 05 58.7 +2.6
HUMO LR LR
comp=Z,729nm,22.0s,MS5.3
YBH Yreka Blue Hor 124.84 43 PKP PKPdf 14 05 58.4 +1.1
comp=Z,2.0nm,0.6s,baz=310,slow=3.2,SNR=10
WDC Whiskeytown Da 125.45 44 PKIKP PKPdf 14 06 00.5 +2.1
WDC Whiskeytown Da 125.45 44 *e*PKPdf PKPdf 14 05 60.0 +1.5
FCC Fort Churchill 125.67 12 *e*PKIKP PKPdf 14 05 58.7 +0.4
HOPS Hopland 125.73 46 PFAKE 14 06 10.0 +11
HOPS LR LR
comp=Z,660nm,19.0s,MS5.3
MOD Modoc 126.36 41 *e*PKPdf PKPdf 14 06 02.5 +2.4
OHCM Honcut 126.72 45 *e*PKPdf PKPdf 14 06 02.4 +1.4
BMO Blue Mountains 126.75 37 *e*PKIKP PKPdf 14 06 02.3 +1.5
BMO MLR MLR
comp=Z,691nm,22.0s,MS5.3
WVOR Wild Horse Val 127.19 40 *e*PKIKP PKPdf 14 06 04.4 +2.7
WCN Washoe City 127.93 44 *e*PKIKP PKPdf 14 06 05.7 +2.4
CMB Columbia Colle 128.05 46 PFAKE 14 06 20.0 +16
CMB LR LR
comp=Z,434nm,20.0s,MS5.1
LRV Little Rabbit 128.26 48 *e*PKPdf PKPdf 14 06 08.2 +4.2
HRY Holter Researc 128.73 32 *e*PKPdf PKPdf 14 06 05.2 +0.6
BMN Battle Mountai 129.11 42 PFAKE 14 06 20.0 +15
BMN LR LR
comp=Z,517nm,22.0s,MS5.2
HLID Hailey 129.19 37 *e*PKPdf PKPdf 14 06 08.6 +3.0
HLID LR LR
comp=Z,600nm,19.0s,MS5.3
NVAR Mina Array Bea 129.34 44 PKhKP 14 05 57.9
comp=Z,0.5nm,0.6s,baz=278,slow=1.4,SNR=4.9
NVAR PKP PKPdf 14 06 06.9 +0.9
comp=Z,2.9nm,0.5s,baz=308,slow=3.2,SNR=26
NVAR Mina Array Bea 129.34 44 PKP PKPdf 14 06 06.9 +0.9
MCMT McKenzie Canyo 129.35 35 *e*PKPdf PKPdf 14 06 08.8 +2.9
MNV Mina 129.44 44 *e*PKIKP PKPdf 14 06 09.6 +3.4
MNV MLR MLR
comp=Z,473nm,21.0s,MS5.2
BOZ Bozeman (W) 129.52 33 *e*PKIKP PKPdf 14 06 08.1 +2.0
BOZ MLR MLR
comp=Z,734nm,20.0s,MS5.4
QLMT Earthquake Lak 130.14 34 *e*PKPdf PKPdf 14 06 10.9 +3.6
YMR Madison River 130.50 34 *e*PKPdf PKPdf 14 06 11.0 +3.0
DAC Darwin (Calif) 130.82 47 PFAKE 14 06 20.0 +11
DAC LR LR
comp=Z,502nm,19.0s,MS5.2
DGMT Dagmar 131.18 26 PFAKE 14 06 20.0 +11
DGMT LR LR
comp=Z,898nm,19.0s,MS5.5
TRCR Troy Canyon 131.25 43 *e*PKPdf PKPdf 14 06 13.0 +3.4
SCHQ Schefferville 131.29 354 PKP PKPdf 14 06 11.1 +1.9
comp=Z,6.2nm,0.6s,baz=31,slow=4.3,SNR=15
LOHW Long Hollow 131.37 35 *e*PKPdf PKPdf 14 06 10.7 +1.0
SNOW Snow King Moun 131.38 35 *e*PKPdf PKPdf 14 06 13.5 +3.8
BGU Big Grassy Mou 131.54 39 *e*PKPdf PKPdf 14 06 13.4 +3.3
LAO LASA Array 131.58 29 *e*PKPdf PKPdf 14 06 12.3 +2.3
LAO LR LR
comp=Z,960nm,19.0s,MS5.5
AHID Auburn Hatcher 131.62 36 PFAKE 14 06 20.0 +10
AHID LR LR
comp=Z,511nm,22.0s,MS5.2
BW06 Boulder Array 132.50 35 PFAKE 14 06 30.0 +18
BW06 LR LR
comp=Z,664nm,22.0s,MS5.3
PDAR Pinedale Array 132.50 35 PKhKP 14 06 10.1
comp=Z,1.6nm,0.6s,baz=135,slow=1.3,SNR=4.1
PDAR PKP PKPdf 14 06 14.3 +2.5
comp=Z,3.7nm,0.6s,baz=102,slow=2.7,SNR=4.1
NLU North Lily Min 132.69 39 *e*PKPdf PKPdf 14 06 14.6 +2.3
NEN Nelson 133.09 46 *e*PKPdf PKPdf 14 06 16.3 +3.1
MVU Marysvale 133.42 41 *e*PKPdf PKPdf 14 06 16.7 +3.0
MVU LR LR
comp=Z,495nm,22.0s,MS5.2
MSU Marysvale 133.44 41 *e*PKIKP PKPdf 14 06 16.7 +3.0
TMUT Trail Mountain 133.62 40 *e*PKPdf PKPdf 14 06 17.4 +3.4
SRU San Rafael 134.16 39 *e*PKIKP PKPdf 14 06 17.6 +2.5
ISCO Idaho Springs 136.69 35 PFAKE 14 06 30.0 +10
ISCO LR LR
comp=Z,636nm,19.0s,MS5.4
SDCO Great Sand Dun 138.10 37 *e*PKPdf PKPdf 14 06 26.3 +3.9
ANMO Albuquerque 139.24 41 PKhKP 14 06 18.4
comp=Z,1.0nm,0.8s,baz=352,slow=5.5,SNR=3.7
ANMO PKP PKPdf 14 06 27.8 +3.4
comp=Z,2.3nm,0.6s,baz=188,slow=1.4,SNR=11
ANMO Albuquerque 139.24 41 *e*PKPdf PKPdf 14 06 27.7 +3.2
ANMO LR LR
comp=Z,603nm,20.0s,MS5.3
LPM Los Pinos Moun 139.50 42 *e*PKPdf PKPdf 14 06 28.9 +4.0
JFWS Jewell Farm 141.13 18 PFAKE 14 06 40.0 +12
JFWS LR LR
comp=Z,1μm,20.0s,MS5.6
EMMW East Machias 141.32 352 PFAKE 14 06 40.0 +12
EMMW LR LR
comp=Z,18μm,22.0s
MNTX Cornudas Mount 141.87 45 *e*PKPdf PKPdf 14 06 26.4 -2.9
MNTX LR LR
comp=Z,536nm,19.0s,MS5.3
KSU1 Kansas State U 141.92 28 *e*PKPdf PKPdf 14 06 27.4 -1.8
CPRX Cap Rock 142.11 42 PKPdf PKPdf 14 06 32.1 +2.4
GDL2 Guadalupe Moun 142.28 43 *e*PKPdf PKPdf 14 06 29.8 -0.2
AMTX Amarillo 142.31 38 *e*PKPpre 14 06 29.0
AMTX LR LR
comp=Z,718nm,21.0s,MS5.4
AAM Ann Arbor 143.38 11 PFAKE 14 06 50.0 +20
AAM LR LR
comp=Z,895nm,19.0s,MS5.5
GENY Geneseo 143.68 4 *e*PKPpre 14 06 30.5
HRV Harvard--Oak R 143.93 356 PFAKE 14 06 50.0 +18
HRV LR LR
comp=Z,1μm,22.0s,MS5.6
WMOK Wichita Mounta 144.11 35 *e*PKIKP PKPdf 14 06 32.4 -0.6
ERPA Erie 144.12 7 *e*PKPpre 14 06 31.8
ERPA LR LR
comp=Z,1μm,22.0s,MS5.6
BINY Binghamton 144.33 2 *e*PKPpre 14 06 33.0
BINY LR LR
comp=Z,1μm,21.0s,MS5.6
TXAR Lajitas Array 144.42 47 PKP PKPdf 14 06 35.0 +1.3
comp=Z,48nm,0.7s,baz=281,slow=1.0,SNR=250
SLM Saint Louis 144.97 21 *e*PKIKP PKPdf 14 06 35.0 +0.6
SLM *e* 14 06 49.6
CCM Cathedral Cave 145.10 23 PKPdf PKPdf 14 06 35.6 +0.9
CCM Cathedral Cave 145.10 23 PFAKE 14 06 50.0 +15
CCM LR LR
comp=Z,1μm,21.0s,MS5.6
FVM French Village 145.47 22 *e*PKIKP PKPdf 14 06 36.5 +1.2
ACSO Alum Creek Sta 145.51 11 *e*PKPdf PKPdf 14 06 36.6 +1.3
ACSO LR LR
comp=Z,1μm,20.0s,MS5.6
PAL Palisades 145.53 359 *e*PKP2 PKPab 14 06 36.7 -1.2
BAO Brasilia Array 145.65 230 *e*P PKPdf 14 06 38.9 +2.7
BAO *e* 14 06 45.6
BAO *e* 14 06 53.1
BAO *e* 14 06 59.2
BAO *e* 14 07 07.2
BDFB Brasilia 145.66 230 PKPbc PKPbc 14 06 38.5 +1.5
comp=Z,35nm,0.5s,baz=119,slow=1.5,SNR=45
BLO Bloomington 145.68 16 *e*PKP2 PKPab 14 06 37.5 -1.0
CPNY Central Park 145.75 359 *e*PKPdf PKPdf 14 06 38.6 +3.0
JCT Junction City 146.40 41 *e*PKP2 PKPab 14 06 39.3 -2.3
JCT MLR MLR
comp=Z,562nm,22.0s,MS5.3
USIN University of 146.45 19 *e*PKPdf PKPdf 14 06 39.9 +2.9
MCWV Mont Chateau 146.57 7 *e*PKPdf PKPdf 14 06 40.3 +3.1
MCWV LR LR
comp=Z,1μm,22.0s,MS5.7
WCI Wyandotte Cave 146.62 17 *e*PKPdf PKPdf 14 06 40.0 +2.7
MIAR Mount Ida 147.02 29 *e*PKP2 PKPab 14 06 41.3 -2.6
SDMD Soldier's Deli 147.08 3 *e*PKPbc PKPdf 14 06 41.2 +3.2
GNAR Gosnell 147.40 23 *e*PKPbc PKPdf 14 06 43.2 +4.6
UALR University of 147.41 28 *e*PKPbc PKPdf 14 06 42.8 +4.1
HBAR Harrisburg 147.49 25 *e*PKPdf PKPdf 14 06 41.0 +2.2
UTMT University of 147.50 22 *e*PKPbc PKPdf 14 06 43.2 +4.4
WVT Waverly 148.06 20 *e*PKP2 PKPab 14 06 44.6 -3.3
CBN Corbin 148.25 4 PFAKE 14 06 50.0 +10
CBN LR LR
comp=Z,2μm,20.0s,MS5.8
NATX Nacogdoches 148.63 34 *e*PKPbc PKPdf 14 06 46.1 +5.3
NATX LR LR
comp=Z,883nm,20.0s,MS5.5
OXF Oxford 148.91 24 PKP2 PKPab 14 06 47.0 -4.4
OXF Oxford 148.91 24 *e*PKPdf PKPdf 14 06 44.7 +3.6
HKT Hockley 149.28 38 *e*PKHKP 14 06 44.9
HKT MLR MLR
comp=Z,971nm,21.0s,MS5.6
MYNC Murphy 150.18 16 *e*PKIKP PKPdf 14 06 48.8 +5.7
LVC Limon Verde 150.61 191 PKP PKPdf 14 06 47.7 +3.6
comp=Z,7.9nm,1.1s,baz=223,slow=1.4,SNR=4.1
LVC PKPbc PKPdf 14 06 53.2 +9.1
comp=Z,34nm,0.9s,baz=270,slow=2.5,SNR=23
LVC Limon Verde 150.61 191 *e*PKPdf PKPdf 14 06 48.0 +3.9
LVC *e*PKPbc PKPdf 14 06 52.9 +8.8
LRAL Lakeview Retre 151.14 22 *e*PKPbc PKPdf 14 06 49.5 +5.0
LRAL LR LR
comp=Z,1μm,21.0s,MS5.7
JSC Jenkinsville 151.60 11 *e*PKIKP PKPdf 14 06 52.8 +7.5
BBSR BB Station 152.52 341 PFAKE 14 07 00.0 +13
BBSR LR LR
comp=Z,847nm,19.0s,MS5.6
COW Cow Castle Cre 152.58 11 *e*PKPbc PKPdf 14 06 55.0 +8.3

IGQ ***15*** *14:02:11.4, 3.68S×80.90W, h13km±11km, mb5.2, Error ellipse: s-maj=12.7km s-min=1.9km az=3.5*
BJI ***15*** *14:02:14.7, 3.70S×80.80W, h38km, Ms5.4, Msz5.0*
IDC ***15*** *14:02:14.3±0.8, 3.71S×80.93W, h32km±3km, mb4.1/10, mb1 4.4/12, mb1mx4.1/21, mbtmp4.4/12, ML4.5/2, MS4.6/4, Ms1 4.6/4, ms1mx3.5/19, Error ellipse: s-maj=27.5km s-min=18.0km az=50.0*
NEIC ***15*** *14:02:14.7±0.9, 3.73S×80.79W, h39km±7km, mb4.9/19, Error ellipse: s-maj=8.1km s-min=6.4km az=225.0*
NEIC Felt [III] at Zorritos, Peru.
HRVD ***15*** *14:02:14.7±0.8, 3.74S×81.31W, h38km±2km, MW4.9/21, Centroid moment Tensor Solution. LP body waves: s12,c14;Mantle waves: s21,c29; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.82±.44; Mθθ-0.04±.24; Mφφ-2.79±.27; Mrθ-0.36±.20; Mrφ0.35±.21; Mθf-1.39±.22; Best double couple: M0 3.17×10^16 NP1:φs344°, δ33°, λ74°; NP2:φs182°, δ58°, λ100°. Principal axes: T 3.204, Plg75°, Azm120°; N -.073, Plg0°, Azm357°; P -3.136, Plg13°, Azm265°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 15 14:02:12.5±0.3, 3.69S±0.03×81.05W±0.04, h32km, h32km±1.0km:pP-P, n108, σ1$08/90, mb4.6/27, MS4.5/3, 11C-4D, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HCA		**2.47**	**139**	P	**Pn**	**14 02 51.8**	**+0.3**
PT18	**Porculla**	**2.66**	**144**	P	**Pn**	**14 02 55.0**	**+0.8**
PT18				S	**Sn**	**14 03 26.4**	**+0.7**
IGUA	**Igualata**	**3.25**	**48**	P	**Pn**	**14 03 02.3**	**-0.4**
ARRY	**Arrayan**	**3.38**	**50**	⇑P	**Pn**	**14 03 03.9**	**-0.5**
PATA	**Patacocha**	**3.40**	**50**	P	**Pn**	**14 03 05.6**	**+0.9**
CUSU	**Cusua**	**3.40**	**49**	P	**Pn**	**14 03 05.6**	**+0.8**
RETU	**Refugio**	**3.42**	**49**	⇑P	**Pn**	**14 03 06.0**	**+1.0**
RETU				S	**Sn**	**14 03 59.9**	**+15**
JUIV	**Juive**	**3.43**	**49**	P	**Pn**	**14 03 04.8**	**-0.3**
ULBA	**Ulba**	**3.45**	**50**	P	**Pn**	**14 03 05.9**	**+0.4**
RUN2	**Runtun**	**3.47**	**49**	P	**Pn**	**14 03 06.7**	**+1.0**
PISA	**Pisayambo**	**3.73**	**46**	⇓P	**Pn**	**14 03 10.8**	**+1.4**
MARY	**Rancho Maria**	**3.90**	**41**	P	**Pn**	**14 03 13.7**	**+1.9**
NAS1	**Nasa**	**3.98**	**40**	⇑P	**Pn**	**14 03 14.2**	**+1.3**
TAMB	**Tambo**	**4.01**	**42**	⇓P	**Pn**	**14 03 14.5**	**+1.2**
VC1	**Cotopaxi 1**	**4.02**	**41**	⇑P	**Pn**	**14 03 14.6**	**+1.0**
JUA2	**San Juan 2**	**4.23**	**35**	⇑P	**Pn**	**14 03 17.0**	**+0.4**
TERV	**Terraza Guagua**	**4.26**	**35**	⇑P	**Pn**	**14 03 17.4**	**+0.4**
PINO	**Pino**	**4.28**	**35**	⇑P	**Pn**	**14 03 17.5**	**+0.3**
ANTI	**Antisana**	**4.33**	**42**	⇑P	**Pn**	**14 03 17.5**	**-0.3**
YANA	**Yana**	**4.33**	**35**	⇑P	**Pn**	**14 03 18.1**	**+0.1**
OTAV	**Otavalo**	**4.69**	**34**	*e*P	**Pn**	**14 03 22.3**	**-0.8**
CAYR	**Refugio Cayamb**	**4.78**	**40**	⇓P	**Pn**	**14 03 25.3**	**+1.1**
CAYA	**Cayambe**	**4.83**	**39**	⇑P	**Pn**	**14 03 25.4**	**+0.4**
COTA	**Cotacachi**	**4.83**	**34**	⇓P	**Pn**	**14 03 25.7**	**+0.7**
CONE	**Cono NE Rev Vo**	**4.95**	**43**	P	**Pn**	**14 03 27.1**	**+0.3**
HLS		**6.01**	**149**	P	**Pn**	**14 03 42.0**	**+0.5**
HLS				S	**Sn**	**14 04 52.1**	**+2.0**
NNA	**Nana** 28nm,0.6s	**9.23**	**153**	*e*P	**P**	**14 04 23.1**	**-3.5**
PAYG	**Puerto Ayora** 28nm,0.8s	**9.71**	**288**	*e*P	**P**	**14 04 33.8**	**+0.6**
ARE	**Arequipa**	**15.79**	**144**	*e*P	**P**	**14 06 01.0**	**+6.6**
SDV	**Santo Domingo** 1.8nm,0.3s,baz=236,slow=9.2,SNR=6.9	**16.25**	**40**	Pn	**P**	**14 05 58.9**	**-1.4**
SDV	**Santo Domingo** 109nm,1.0s	**16.25**	**40**	*e*P	**P**	**14 05 58.9**	**-1.4**
LPAZ	**La Paz** 0.7nm,0.3s,baz=325,slow=13,SNR=23	**17.83**	**135**	P	**P**	**14 06 20.0**	**0.0**
LPAZ				LR	LR	14 14 27.2	
	comp=Z,2μm,19.3s,baz=303,slow=41						
LPAZ	**La Paz** 58nm,2.1s	**17.83**	**135**	*e*P	**P**	**14 06 18.9**	**-1.1**
LVC	**Limon Verde**	**22.18**	**149**	LR	LR	14 16 25.9	
	comp=Z,602nm,18.9s,MS4.0,baz=321,slow=38						
TPP	**Pointe-a-Pierr**	**23.97**	**54**	*e*P	**P**	**14 07 24.6**	**-0.8**
TRN	**Trinidad (W)**	**24.20**	**54**	*e*P	**P**	**14 07 25.2**	**-2.4**
TBH	**Brigand Hill**	**24.38**	**55**	*e*P	**P**	**14 07 28.2**	**-1.2**
TBH	**Brigand Hill**	**24.38**	**55**	*e*	**P**	**14 07 28.2**	**-1.2**
SJG	**San Juan** 63nm,0.8s,mb5.2,baz=216,slow=5.3,SNR=12	**26.18**	**34**	P	**P**	**14 07 46.2**	**-0.1**
SJG	**San Juan** 72nm,0.9s,mb5.2	**26.18**	**34**	*e*P	**P**	**14 07 46.2**	**-0.1**
BDFB	**Brasilia**	**34.60**	**112**	LR	LR	14 23 57.9	
	comp=Z,740nm,18.7s,MS4.5,baz=134,slow=38						
LRAL	**Lakeview Retre**	**36.96**	**352**	*e*P	**P**	**14 09 20.7**	**-0.2**
WMOK	**Wichita Mounta**	**41.71**	**338**	*e*P	**P**	**14 10 00.5**	**+0.2**
GDL2	**Guadalupe Moun**	**42.01**	**330**	*e*P	**P**	**14 10 06.1**	**+3.3**
MNTX	**Cornudas Mount** 15nm,1.0s,mb4.6	**42.13**	**328**	*e*P	**P**	**14 10 05.2**	**+1.3**
CPRX	**Cap Rock**	**42.44**	**331**	*e*P	**P**	**14 10 07.2**	**+0.9**
AMTX	**Amarillo** 24nm,1.1s,mb4.8	**43.00**	**335**	*e*P	**P**	**14 10 05.2**	**-5.7**
ACSO	**Alum Creek Sta** 67nm,1.0s,mb5.3	**43.75**	**358**	*e*P	**P**	**14 10 15.0**	**-1.9**
KSU1	**Kansas State U**	**44.94**	**343**	*e*P	**P**	**14 10 27.7**	**+1.2**
SDCO	**Great Sand Dun** 14nm,1.3s,mb4.7	**47.07**	**333**	*e*P	**P**	**14 10 46.4**	**+3.0**
PDAR	**Pinedale Array** 2.8nm,1.0s,mb4.2,baz=126,slow=7.8,SNR=5.3	**52.95**	**334**	P	**P**	**14 11 28.8**	**+0.4**
PDAR				pP	pP	14 11 38.9	+0.8
	4.5nm,0.8s,baz=135,slow=6.3,SNR=7.3						
MNV	**Mina** 2.5nm,0.8s,mb4.2	**54.16**	**324**	*e*P	**P**	**14 11 37.5**	**+0.3**
NVAR	**Mina Array Bea** 2.5nm,0.8s,mb4.2,baz=149,slow=6.8,SNR=9.7	**54.25**	**324**	P	**P**	**14 11 39.9**	**+2.0**
HLID	**Hailey** 3.7nm,0.8s,mb4.5	**55.81**	**331**	*e*P	**P**	**14 11 50.2**	**+1.1**
WVOR	**Wild Horse Val** 10nm,0.9s,mb4.8	**57.15**	**327**	*e*P	**P**	**14 11 59.2**	**+0.4**
MOD	**Modoc** 1.7nm,0.6s,mb4.2	**57.70**	**326**	*e*P	**P**	**14 12 03.5**	**+0.9**
BMO	**Blue Mountains**	**58.17**	**330**	*e*P	**P**	**14 12 06.2**	**+0.3**
YBH	**Yreka Blue Hor** 1.8nm,0.9s,mb4.1,baz=157,slow=6.6,SNR=3.7	**58.96**	**325**	P	**P**	**14 12 11.6**	**+0.1**
YBH				pP	pP	14 12 20.8	-0.5
	5.0nm,0.7s,baz=140,slow=5.9,SNR=11						
FCC	**Fort Churchill** 47nm,1.8s,mb5.3	**63.12**	**352**	*e*P	**P**	**14 12 38.0**	**-1.4**
YKA	**Yellowknife Ar** 0.8nm,0.6s,mb3.8,baz=141,slow=5.6,SNR=17	**70.76**	**344**	P	**P**	**14 13 26.4**	**-1.1**
YKA				pP	pP	14 13 36.8	-0.7
	1.6nm,0.8s,baz=134,slow=5.8,SNR=11						
YKA	**Yellowknife Ar**	**70.76**	**344**	P	**P**	**14 13 26.4**	**-1.1**
YKA				pP	pP	14 13 36.8	-0.7
DLBC	**Dease Lake** 2.2nm,0.6s,mb4.2,baz=112,slow=3.6,SNR=6.9	**73.14**	**336**	P	**P**	**14 13 42.0**	**+0.3**
DLBC				pP	pP	14 13 52.9	+1.3
	6.5nm,1.0s,baz=140,slow=6.2,SNR=6.0						
DLBC	**Dease Lake**	**73.14**	**336**	P	**P**	**14 13 42.0**	**+0.3**
DLBC				pP	pP	14 13 52.9	+1.3
DBIC	**Dimbokro** 10nm,0.8s,mb4.8,baz=251,slow=4.9,SNR=29	**76.75**	**82**	P	**P**	**14 14 03.0**	**-0.3**
DBIC				LR	LR	14 47 13.8	
	comp=Z,938nm,21.6s,MS5.1,baz=75,slow=35						
INK	**Inuvik** 1.6nm,0.6s,mb4.1,baz=32,slow=2.2,SNR=4.7	**80.41**	**343**	P	**P**	**14 14 22.6**	**+0.5**
INK				pP	pP	14 14 32.6	+0.3
	3.3nm,0.7s,baz=111,slow=2.8,SNR=5.4						
INK	**Inuvik** 3.7nm,0.7s,mb4.4	**80.41**	**343**	*e*P	**P**	**14 14 22.6**	**+0.5**
ESDC	**Sonseca Array** 2.3nm,0.7s,mb4.2,baz=266,slow=5.2,SNR=11	**82.45**	**49**	P	**P**	**14 14 33.5**	**+0.1**
SNAA	**Sanae** 3.3nm,0.7s,mb4.5,baz=302,slow=7.8,SNR=9.4	**82.81**	**162**	P	**P**	**14 14 35.2**	**+0.6**
ILAR	**Eielson Array** 0.8nm,0.7s,mb3.9,baz=153,slow=3.2,SNR=6.0	**83.27**	**337**	P	**P**	**14 14 37.5**	**+0.4**
ILAR				pP	pP	14 14 47.9	+0.6
	2.8nm,1.0s,baz=134,slow=3.1,SNR=10						
SJPF	**Ste Jean** 35nm,1.2s,mb5.1	**85.09**	**46**	*e*P	**P**	**14 14 46.4**	**-0.4**
GRR	**Gorron**	**86.24**	**41**	*e*P	**P**	**14 14 49.8**	**-2.6**
QSPA	**South Pole Qui** 10.0nm,1.1s,mb5.0	**86.38**	**180**	⇑/P	**P**	**14 14 54.3**	**+1.9**
MFF	**Saint Martin d** 63nm,1.4s,mb5.3	**86.42**	**43**	*e*P	**P**	**14 14 52.3**	**-1.0**
FLN	**La Foliniere**	**86.55**	**41**	*e*P	**P**	**14 14 52.4**	**-1.5**
LDF	**La Druitiere**	**86.75**	**41**	*e*P	**P**	**14 14 54.1**	**-0.8**
MTLF	**Montolieu**	**87.61**	**46**	*e*P	**P**	**14 14 57.7**	**-1.5**
TCF	**Toulx Ste Croi**	**87.99**	**44**	*e*P	**P**	**14 14 59.6**	**-1.3**
BGF	**Bois d'Agland**	**88.46**	**43**	*e*P	**P**	**14 15 02.0**	**-1.1**
AVF	**Avril sur Loir**	**88.83**	**43**	*e*P	**P**	**14 15 04.1**	**-0.8**
LASF	**Ste Croix** 11nm,1.1s,mb4.8	**88.88**	**46**	*e*P	**P**	**14 15 04.1**	**-1.1**
SSF	**Saint Saulge**	**88.97**	**43**	*e*P	**P**	**14 15 03.4**	**-2.1**
SMF	**Signal de Mont**	**89.15**	**43**	*e*P	**P**	**14 15 04.1**	**-2.3**
BAIF	**Baives**	**89.76**	**40**	*e*P	**P**	**14 15 07.4**	**-1.8**
GIVF	**Givet**	**90.16**	**40**	*e*P	**P**	**14 15 10.4**	**-0.6**
ORIF	**Oris-en-Rattie** 8.9nm,0.8s,mb4.8	**90.40**	**45**	*e*P	**P**	**14 15 11.9**	**-0.4**
FRF	**La Foret Royal**	**90.85**	**47**	*e*P	**P**	**14 15 13.2**	**-1.2**
MBDF	**Montbardon** 7.0nm,0.9s,mb4.7	**91.02**	**45**	*e*P	**P**	**14 15 14.5**	**-0.6**
SBF	**Sospel** 24nm,0.9s,mb5.2	**91.44**	**46**	*e*P	**P**	**14 15 15.9**	**-1.2**
CLL	**Collm**	**95.40**	**39**	P	**P**	**14 15 35.0**	**-0.1**
CLL				*e*PP	pP	14 15 44.0	-1.3
BVAR	**Borovoye Array** 1.4nm,0.7s,baz=225,slow=2.1,SNR=11	**125.48**	**21**	PKP	PKPdf	14 21 11.9	-4.0
BVAR				pPKP		14 21 22.9	
	0.7nm,0.6s,baz=135,slow=2.1,SNR=3.9						
STKA	**Stephens Creek** 1.5nm,0.8s,baz=314,slow=21,SNR=3.8	**126.22**	**226**	PKP	PKPdf	14 21 14.2	-3.8
ZAL	**Zalesovo** 4.4nm,0.9s,baz=170,slow=1.6,SNR=24	**128.59**	**11**	PKP	PKPdf	14 21 18.1	-3.8
AAK	**Ala-Archa** 1.3nm,0.9s,baz=355,slow=1.7,SNR=7.7	**135.53**	**26**	*e*PKPdf	PKPdf	14 21 31.4	-3.8
SONM	**Songino Array**	**135.56**	**353**	PKP	PKPdf	14 21 30.4	-4.8
ASAR	**Alice Springs** 0.8nm,0.7s,baz=117,slow=1.9,SNR=9.8	**136.42**	**230**	PKP	PKPdf	14 21 32.1	-5.3
ASAR				SKPbc		14 24 55.9	
	0.6nm,0.7s,baz=113,slow=3.6,SNR=7.2						
WRAB	**Tennant Creek**	**138.04**	**235**	PKPdf	PKPdf	14 21 36.1	-4.4
WRA	**Warramunga Arr** 1.0nm,0.6s,baz=115,slow=1.9,SNR=16	**138.05**	**235**	PKP	PKPdf	14 21 36.3	-4.2
WRA				SKPbc		14 25 02.6	
	1.2nm,0.7s,baz=104,slow=4.2,SNR=8.8						
LZH	**Lanzhou**	**147.45**	**353**	*e*PKP	PKPdf	14 21 56.5	0.0
ENH	**Enshi**	**151.75**	**340**	*e*PKPbc	PKPdf	14 22 06.0	+2.6
KOLN	**Koldanda** 16nm,0.8s	**151.93**	**30**	*e*P	PKPdf	14 22 06.7	+3.0
GKN	**Gorkha** 46nm,0.7s	**152.24**	**28**	*e*P	PKPdf	14 22 07.6	+3.4
KKN	**Kakani** 19nm,0.6s	**152.72**	**27**	*e*P	PKPdf	14 22 08.8	+4.0
DMN	**Daman** 14nm,0.7s	**152.79**	**28**	*e*P	PKPdf	14 22 08.8	+3.8
GUN	**Gumba** 17nm,0.8s	**152.88**	**26**	*e*P	PKPdf	14 22 09.3	+4.2
PKI	**Pulchoki** 18nm,1.0s	**152.97**	**27**	*e*P	PKPdf	14 22 08.7	+3.5
LSA	**Lhasa**	**153.10**	**15**	*e*P	PKPdf	14 22 03.3	-2.0
JIRN	**Jiri**	**153.24**	**26**	*e*P	PKPdf	14 22 08.5	+2.9
CMAR	**Chiang Mai Arr** 1.4nm,0.8s,baz=278,slow=2.3,SNR=7.0	**165.33**	**0**	PKP	PKPdf	14 22 15.6	-4.2

WEL 15 14:38:55.0±0.8, 35.03S×178.45E, h33km, ML3.9/4, Error ellipse: s-maj=13.8km s-min=5.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.53**	**183**	P*	Pb	14 39 34.2	-5.4
MXZ				*e*S*	Sb	14 40 03.1	-7.4
MXZ				S*	Sb	14 40 03.2	-7.3
PUZ	**Puketiti**	**3.04**	**183**	PN	Pn	14 39 40.3	-1.7
PUZ				*e*SN	Sn	14 40 13.1	-4.6
PUZ				*e*SN	Sn	14 40 13.1	-4.6
MWZ	**Matawai**	**3.38**	**192**	P*	Pb	14 39 45.6	-8.4
MWZ				*e*S*	Sb	14 40 22.8	-12
URZ	**Urewera**	**3.40**	**198**	P*	Pb	14 39 46.1	-8.3
URZ				S*	Sb	14 40 25.8	-10
KNZ	**Kokohu**	**4.03**	**189**	PN	Pn	14 39 52.7	-3.4
BKZ	**Black Stump Fm**	**4.41**	**200**	P*	Pb	14 39 58.7	-13
BFZ	**Birch Farm**	**5.90**	**197**	PN	Pn	14 40 15.6	-6.9
BFZ				SN	Sn	14 41 18.1	-12
MRZ	**Mangatainoka R**	**6.06**	**201**	PN	Pn	14 40 17.5	-7.3

SOF ***15*** *15:10:15.6, 40.57N×23.70E, h6km, MD2.6*
THE ***15*** *15:10:16.5, 40.49N×23.57E, h8km, ML2.7*
CSEM ***15*** *15:10:16.8±0.1, 40.50N×23.56E, h15km, ML2

*TAP **15** 15:15:56.8,21.39N×120.04E,h34km±1km,ML4.2*
*IDC **15** 15:15:59.3±1.1,21.41N×120.57E,mb3.7/5,mb1 4.1/5, mb1mx3.8/17,mbtmp3.8/5,MS3.4/1,Ms1 3.6/1, ms1mx2.9/20,Error ellipse: s-maj=37.5km s-min=25.8km az=87.0*
*JMA **15** 15:16:00.7±0.4,21.51N×120.47E,h164km,M3.6*

ISC 15 15:15:59.6±3.0,21.5N±0.1×120.5E±0.1,h18km±24km,n12, σ0°73/17,mb3.8/4,MS3.2/1,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**3.78**	**37**	P	**Pn**	**15 16 58.8**	**+0.4**
YOJ				S	**Sn**	**15 17 43.4**	**+0.5**
CVP	**Callao Caves**	**3.93**	**161**	*e*P	**Pn**	**15 17 05.0**	**+4.4**
HATJ	**Hateruma jima**	**3.99**	**49**	*e*S	**Sn**	**15 17 48.0**	**-0.4**
IRIF	**Iriomote-Funau**	**4.13**	**45**	P	**Pn**	**15 17 03.6**	**+0.2**
IRIF				*e*S	**Sn**	**15 17 52.4**	**+0.7**
JKRS	**Kuro-shima**	**4.25**	**49**	P	**Pn**	**15 17 05.5**	**+0.3**
JKRS				S	**Sn**	**15 17 55.9**	**+1.0**
JIJ	**Ishigaki jima**	**4.43**	**48**	P	**Pn**	**15 17 07.0**	**-0.6**
JIJ				*e*S	**Sn**	**15 17 58.7**	**-0.6**
JTJ	**Tarama**	**5.00**	**50**	P	**Pn**	**15 17 15.0**	**-0.7**
JTJ				S	**Sn**	**15 18 12.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**20.49**	**265**	P	**P**	**15 20 39.3**	**-0.1**
CMAR	2.5nm,0.8s,baz=75,slow=9.5,SNR=8.7 comp=Z,96nm,18.8s,MS3.2,slow=37			LR	LR	15 28 40.4	
WRA	**Warramunga Arr**	**43.31**	**161**	P	**P**	**15 24 02.2**	**-0.3**
	1.7nm,0.7s,mb3.9,baz=342,slow=9.1,SNR=9.2						
ASAR	**Alice Springs**	**46.71**	**163**	P	**P**	**15 24 30.1**	**+0.5**
	0.8nm,0.4s,mb4.0,baz=343,slow=7.0,SNR=10						
ILAR	**Eielson Array**	**71.92**	**27**	P	**P**	**15 27 22.6**	**-0.9**
	0.3nm,0.5s,mb3.5,baz=274,slow=4.6,SNR=4.9						
YKA	**Yellowknife Ar**	**85.72**	**22**	P	**P**	**15 28 41.8**	**+3.4**
	0.3nm,0.7s,mb3.6,baz=321,slow=4.7,SNR=4.0						

IDC 15 15:17:25.9±5.0,7.92N×92.92E,mb3.5/3,mb1 3.6/4, mb1mx3.5/17,mbtmp3.4/4,ML3.5/1,Error ellipse: s-maj=141.4km s-min=29.6km az=78.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.01**	**29**	Pn	P	15 20 18.4	-3.1
	0.1nm,0.3s,baz=234,slow=15,SNR=5.6						
SONM	**Songino Array**	**41.40**	**14**	P	P	15 25 14.0	-1.6
	0.3nm,0.7s,baz=197,slow=7.7,SNR=5.2						
WRA	**Warramunga Arr**	**49.27**	**125**	P	P	15 26 16.3	-2.5
	0.3nm,0.5s,baz=301,slow=8.9,SNR=4.6						
ASAR	**Alice Springs**	**50.87**	**129**	P	P	15 26 29.7	-1.3
	0.3nm,0.8s,baz=304,slow=7.9,SNR=3.9						

*THE **15** 15:22:31.1,40.34N×21.08E,h5km,ML2.9*
*ATH **15** 15:22:31.6,40.23N×21.17E,h10km,MD2.9/3*
*CSEM **15** 15:22:31.5±0.2,40.33N×21.13E,h5km,ML2.9,Error ellipse: s-maj=5.3km s-min=3.0km az=138.0*

ISC 15 15:22:30.3±0.5,40.32N±0.03×21.09E±0.04,h5km±8km, n15,σ0°83/23,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.38**	**322**	*i* Pg	**Pg**	**15 22 37.4**	**-0.6**
KBN				*i* Sg	**Sg**	**15 22 43.9**	**+0.8**
LSK	**Leskovik**	**0.41**	**246**	*i* Pg	**Pg**	**15 22 37.4**	**-1.2**
LSK				*i* Sg	**Sg**	**15 22 44.3**	**+0.1**
LSK	**Leskovik**	**0.41**	**246**	*e*Pg	**Pg**	**15 22 37.4**	**-1.2**
LSK				*i* Sg	**Sg**	**15 22 44.3**	**+0.1**
FNA	**Florina**	**0.51**	**25**	*e*Pg	**Pg**	**15 22 40.3**	**-0.3**
FNA				*e*Sg	**Sg**	**15 22 47.7**	**+0.3**
KZN	**Kozani**	**0.52**	**91**	*e*PB	**Pb**	**15 22 40.9**	**-0.6**
JAN	**Janina**	**0.69**	**196**	*e*PB	**Pb**	**15 22 43.0**	**-1.4**
IGT	**Igoumenitsa**	**0.98**	**217**	*e*Pg	**Pg**	**15 22 49.6**	**-0.4**
IGT				*e*Sg	**Sg**	**15 23 04.2**	**+1.2**
LIT	**Litokhoron**	**1.09**	**101**	*e*Pg	**Pg**	**15 22 51.5**	**-0.6**
LIT				*e*Sg	**Sg**	**15 23 07.9**	**+1.2**
KEK	**Kerkira**	**1.17**	**239**	*e*PB	**Pb**	**15 22 54.0**	**+1.4**
GRG	**Griva**	**1.18**	**57**	*e*Pb	**Pb**	**15 22 53.5**	**+0.6**
KNT	**Kendrikon**	**1.61**	**58**	*e*Pb	**Pb**	**15 22 59.7**	**-0.4**
KNT				*e*Sb	**Sb**	**15 23 20.9**	**+0.2**
AGG	**Agios Georgios**	**1.61**	**143**	*e*Pb	**Pb**	**15 22 59.7**	**-0.5**
AGG				*e*Sb	**Sb**	**15 23 21.8**	**+1.0**
SKO	**Skopje**	**1.67**	**9**	*e*Pn	**Pn**	**15 22 56.0**	**-4.4**
XOR	**Xorichti**	**1.88**	**120**	*e*Pb	**Pb**	**15 23 03.7**	**-1.1**
PAIG	**Paliouri**	**2.02**	**100**	*e*Pn	**Pn**	**15 23 05.8**	**+0.3**

IDC 15 15:23:21.0±2.5,6.07S×105.76E,mb3.6/5,mb1 3.8/5, mb1mx3.7/15,mbtmp3.6/5,Error ellipse: s-maj=117.4km s-min=21.6km az=55.0,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.00**	**119**	P	P	15 29 40.9	-1.7
	0.6nm,0.6s,baz=299,slow=10,SNR=10						
ASAR	**Alice Springs**	**32.23**	**126**	P	P	15 29 51.5	-1.8
	0.4nm,0.7s,baz=298,slow=7.5,SNR=6.8						
STKA	**Stephens Creek**	**42.17**	**132**	P	P	15 31 14.7	-2.5
	3.6nm,0.7s,baz=319,slow=9.9,SNR=9.0						
SONM	**Songino Array**	**53.68**	**1**	P	P	15 32 46.0	-0.7
	0.3nm,0.8s,baz=166,slow=5.9,SNR=2.3						
BVAR	**Borovoye Array**	**66.04**	**338**	P	P	15 34 08.2	-3.5
	0.4nm,0.4s,baz=141,slow=9.2,SNR=4.6						

*NEIC **15** 15:34:12.8,29.82S×71.63W,h25km,ML2.7(GUC),After GUC.*

GUC 15 15:34:12.8±0.5,29.82S×71.63W,h25km±9km,MD3.5, ML2.7,2C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.34**	**106**	⇑*i*P	Pb	15 34 20.4	-0.1
LSCH				*i* S	Sb	15 34 26.0	+0.3
LSCH	comp=E,266nm,0.4s			AMP		15 34 27.1	
TLL	**Tololo Astrono**	**0.80**	**116**	⇓*i*P	Pb	15 34 27.8	-0.1
TLL				*i* S	Sb	15 34 39.4	+1.1
TLL	comp=E,548nm,0.5s			AMP		15 34 41.8	
VACH	**Vallenar**	**1.45**	**32**	*i* P	Pn	15 34 37.6	-0.2
VACH				*i* S	Sn	15 34 56.8	+0.6
VACH	comp=N,618nm,0.1s			AMP		15 34 59.2	
CMCH	**Combarbala**	**1.46**	**158**	⇑*i*P	Pn	15 34 37.8	-0.2
CMCH				*i* S	Sn	15 34 57.4	+1.0
CMCH	comp=E,385nm,0.6s			AMP		15 35 01.2	

*IDC **15** 15:36:06.4±0.8,14.52N×92.23E,h27km±4km,mb3.8/9, mb1 4.0/10,mb1mx3.8/18,mbtmp3.9/10,ML3.4/1,Error ellipse: s-maj=28.2km s-min=16.1km az=53.0*
*NEIC **15** 15:36:06.0±0.4,14.47N×92.22E,mb4.4/8,Error ellipse: s-maj=11.3km s-min=8.8km az=62.0*
*BJI **15** 15:36:07.0,14.97N×91.68E,h5km,mb4.0*

ISC 15 15:36:03.8±0.4,14.55N±0.05×92.24E±0.06,h27km, h27km±.2km:pP-P,n33,σ1°38/37,mb4.1/17,2D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.91**	**170**	*e*P	**Pn**	**15 36 55.6**	**+6.1**
PBA				*e*S	**Sn**	**15 37 24.3**	**+0.2**
PBA	comp=E,609nm,0.9s			*e*		15 37 54.1	
PBA	comp=N,759nm,0.9s			*e*		15 37 56.9	
CMAR	**Chiang Mai Arr**	**7.51**	**58**	Pn	**Pn**	**15 37 53.5**	**-1.0**
	comp=N,0.2nm,0.3s,baz=246,slow=16,SNR=5.9						
CMAR				Sn	**Sn**	**15 39 12.5**	**-7.2**
	comp=N,0.5nm,0.3s,baz=286,slow=33,SNR=4.5						
SHL	**Shillong**	**10.97**	**358**	*e*P	**P**	**15 38 36.0**	**-6.3**
SHL				*i* S	**S**	**15 40 32.0**	**-13**
HYB	**Hyderabad**	**13.47**	**284**	*i* P	**P**	**15 39 14.0**	**-1.8**
HYB				*e*S	**S**	**15 41 47.0**	**+1.5**
JIRN	**Jiri**	**14.21**	**338**	*e*P	**P**	**15 39 21.1**	**-4.6**
	comp=N,19nm,0.6s						
PKI	**Pulchoki**	**14.44**	**335**	*e*P	**P**	**15 39 24.2**	**-4.4**
	comp=N,32nm,0.8s						
GUN	**Gumba**	**14.55**	**337**	*e*P	**P**	**15 39 26.5**	**-3.6**
DMN	**Daman**	**14.60**	**334**	*e*P	**P**	**15 39 26.6**	**-4.1**
KKN	**Kakani**	**14.68**	**335**	*e*P	**P**	**15 39 27.5**	**-4.3**
LSA	**Lhasa**	**15.12**	**356**	P	**P**	**15 39 37.3**	**-0.2**
LSA	**Lhasa**	**15.12**	**356**	*e*P	**P**	**15 39 38.0**	**+0.5**
	comp=N,12nm,0.7s						
GKN	**Gorkha**	**15.14**	**333**	*e*P	**P**	**15 39 34.1**	**-3.7**
KOLN	**Koldanda**	**15.42**	**330**	*e*P	**P**	**15 39 38.6**	**-2.8**
	comp=N,27nm,0.5s						
ENH	**Enshi**	**22.29**	**43**	*e*P	**P**	**15 41 03.9**	**+3.1**
	comp=N,9.4nm,0.7s,mb4.3						
LZH	**Lanzhou**	**23.84**	**24**	*e*P	**P**	**15 41 24.5**	**+8.7**
LZH				AMB	AMB		
	comp=Z,23nm,1.6s,mb4.4						
DGAR	**Diego Garcia**	**29.34**	**223**	*e*P	**P**	**15 42 05.5**	**-1.5**
	comp=Z,109nm,0.9s						
SONM	**Songino Array**	**35.21**	**17**	P	**P**	**15 42 58.7**	**+0.8**
	comp=Z,1.1nm,0.9s,mb3.8,baz=205,slow=6.9,SNR=6.2						
SONM				pP	pP	15 43 06.6	+0.7
	comp=Z,1.6nm,0.8s,baz=205,slow=8.4,SNR=8.8						
ULN	**Ulaanbaatar**	**35.42**	**17**	P	**P**	**15 43 03.9**	**+4.2**
	comp=Z,3.5nm,1.1s,mb4.2						
ZAL	**Zalesovo**	**39.73**	**353**	P	**P**	**15 43 37.5**	**+1.7**
	comp=Z,1.1nm,0.6s,mb3.8,baz=302,slow=8.6,SNR=5.0						
ZAL				pP	pP	15 43 45.3	+1.5
	comp=Z,1.9nm,0.6s,baz=302,slow=8.9,SNR=5.8						
ZAL	**Zalesovo**	**39.73**	**353**	P	**P**	**15 43 37.5**	**+1.7**
ZAL				pP	pP	15 43 45.3	+1.5
BVAR	**Borovoye Array**	**42.12**	**340**	P	**P**	**15 43 56.8**	**+1.5**
	comp=Z,0.5nm,0.6s,mb3.3,baz=158,slow=8.0,SNR=3.6						
BVAR				pP	pP	15 44 04.8	+1.5
	comp=Z,1.8nm,0.9s,baz=143,slow=7.4,SNR=6.9						
BRVK	**Borovoye**	**42.18**	**340**	P	**P**	**15 43 58.1**	**+2.2**
	comp=Z,4.9nm,1.0s,mb4.1						
CHKZ	**Chkalovo**	**42.59**	**341**	*e*P	**P**	**15 44 00.3**	**+1.0**
	comp=Z,6.7nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**46.22**	**134**	⇓*i*P	**P**	**15 44 28.8**	**-0.1**
	comp=Z,8.8nm,1.0s,mb4.6						
KIV	**Kislovodsk**	**51.22**	**315**	P	**P**	**15 45 08.2**	**+1.0**
	comp=Z,11nm,1.3s,mb4.6						
WRA	**Warramunga Arr**	**53.75**	**129**	P	**P**	**15 45 26.2**	**-0.2**
	comp=Z,5.0nm,0.7s,mb4.5,baz=308,slow=7.5,SNR=45						
WRA				PcP	PcP	15 46 32.6	+0.4
	comp=Z,0.8nm,0.6s,baz=322,slow=3.3,SNR=9.6						
WB2	**Warramunga Arr**	**53.76**	**129**	⇓*i*P	**P**	**15 45 26.4**	**-0.1**
ASAR	**Alice Springs**	**55.69**	**132**	P	**P**	**15 45 40.7**	**+0.1**
	comp=Z,2.6nm,0.7s,mb4.4,baz=309,slow=6.9,SNR=33						
ASAR				PcP	PcP	15 46 40.3	+0.7
	comp=Z,2.4nm,1.1s,baz=324,slow=3.7,SNR=7.2						
ASAR				pPcP		15 46 48.2	
	comp=Z,0.9nm,0.7s,baz=316,slow=4.4,SNR=4.0						
BRTR	**Keskin Array B**	**56.77**	**308**	P	**P**	**15 45 48.6**	**+0.5**
	comp=Z,0.5nm,0.9s,mb3.5,baz=135,slow=8.7,SNR=4.1						
BRTR				pP	pP	15 45 56.9	+0.5
	comp=Z,4.0nm,1.1s,baz=116,slow=7.1,SNR=7.8						
FINES	**FINESS Array B**	**65.99**	**331**	P	**P**	**15 46 50.1**	**+0.3**
	comp=Z,1.0nm,0.7s,mb4.0,baz=90,slow=9.5,SNR=6.1						
FINES				pP	pP	15 46 58.5	+0.3
	comp=Z,1.5nm,0.6s,baz=112,slow=10,SNR=3.6						
ARCES	**ARCESS Array B**	**68.40**	**340**	P	**P**	**15 47 04.4**	**-0.6**
	comp=Z,2.7nm,1.0s,mb4.2,baz=90,slow=11,SNR=3.7						
BILL	**Bilibino**	**70.64**	**23**	P	**P**	**15 47 18.1**	**-0.6**
	comp=Z,2.6nm,0.7s,mb4.3						
GERES	**GERESS Array B**	**71.67**	**317**	P	**P**	**15 47 26.0**	**+0.7**
	comp=Z,0.5nm,0.7s,mb3.5,baz=79,slow=6.8,SNR=4.0						
GERES				pP	pP	15 47 34.5	+0.8
	comp=Z,1.1nm,0.7s,baz=76,slow=5.5,SNR=7.3						

IDC 15 15:54:13.6±3.7,2.57N×95.73E,mb3.8/4,mb1 4.0/5, mb1mx3.8/16,mbtmp3.8/5,ML3.8/1,Error ellipse: s-maj=130.6km s-min=24.6km az=64.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.10**	**11**	Pn	P	15 58 02.0	-1.1
	0.1nm,0.3s,baz=198,slow=10,SNR=15						
WRA	**Warramunga Arr**	**44.00**	**122**	P	P	16 02 23.4	-1.5
	1.2nm,0.9s,baz=301,slow=9.0,SNR=6.5						
ASAR	**Alice Springs**	**45.39**	**127**	P	P	16 02 34.0	-2.0
	0.6nm,0.9s,baz=292,slow=7.9,SNR=4.0						
SONM	**Songino Array**	**46.02**	**10**	P	P	16 02 38.6	-2.1
	1.0nm,0.9s,baz=192,slow=8.4,SNR=7.6						
ZAL	**Zalesovo**	**51.98**	**352**	P	P	16 03 24.5	-2.2
	1.0nm,0.3s,baz=317,slow=8.8,SNR=5.0						

*IDC **15** 16:00:19.1±1.3,9.74N×93.66E,mb3.8/6,mb1 4.0/7, mb1mx3.8/17,mbtmp3.7/7,ML3.4/1,Error ellipse: s-maj=48.3km s-min=22.0km az=61.0*

ISC 15 16:00:22.7±1.1,9.9N±0.1×93.9E±0.2,h33km,n7,σ0°86/7, mb3.7/6,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.85**	**29**	Pn	**P**	**16 02 44.7**	**-0.4**
	0.1nm,0.3s,baz=217,slow=15,SNR=24						
SONM	**Songino Array**	**39.29**	**13**	P	**P**	**16 07 52.0**	**+1.9**
	0.5nm,0.9s,mb3.2,baz=190,slow=8.8,SNR=3.2						
SONM				PcP	PcP	16 09 59.5	+0.5
	0.8nm,1.1s,baz=166,slow=5.9,SNR=3.4						
ZAL	**Zalesovo**	**44.55**	**352**	P	**P**	**16 08 32.0**	**-1.1**
	0.6nm,0.3s,mb3.9,baz=323,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**49.63**	**127**	P	**P**	**16 09 13.5**	**+0.1**
	0.8nm,0.8s,mb3.8,baz=306,slow=8.5,SNR=8.1						
ASAR	**Alice Springs**	**51.39**	**131**	P	**P**	**16 09 26.5**	**-0.2**
	0.4nm,0.6s,mb3.5,baz=313,slow=7.6,SNR=5.4						
ARCES	**ARCESS Array B**	**73.32**	**340**	P	**P**	**16 11 52.0**	**-0.4**
	4.2nm,1.1s,mb4.3,baz=100,slow=5.5,SNR=3.0						
GERES	**GERESS Array B**	**76.19**	**318**	P	**P**	**16 12 09.8**	**+0.4**
	0.2nm,0.4s,mb3.4,baz=27,slow=3.0,SNR=3.5						

OTT 15 16:26:22.3±0.2,52.90N×66.83W,MN2.9/5,Blast, Labrador City, NI 1 20050115 Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**1.94**	**360**	PN	Pn	16 26 56.8	-0.1
SCHQ				SG	Sg	16 27 22.8	-4.0
SCHQ				Trac		16 27 23.9	
	comp=Z,36nm,0.1s						
MNQ	**Manicouagan**	**2.66**	**208**	PN	Pn	16 27 06.9	-0.3
MNQ				SN	Sn	16 27 40.6	+0.1
MNQ				Trac		16 27 51.4	
	comp=Z,8.1nm,0.1s						
SMQ	**Clarke City**	**2.68**	**178**	PN	Pn	16 27 06.1	-1.4
SMQ				SN	Sn	16 27 39.4	-1.8
SMQ				Trac		16 27 45.6	
	comp=Z,9.2nm,0.1s						
ICQ	**Pointe Anglais**	**3.39**	**185**	PN	Pn	16 27 15.9	-1.7
ICQ				SN	Sn	16 27 58.0	-1.2
ICQ				Trac		16 28 07.3	
	comp=Z,16nm,0.5s						
ICQ				SG	Sg	16 28 08.0	-7.3
CNQ	**Baie Comeau**	**3.69**	**193**	PN	Pn	16 27 19.9	-1.9
CNQ				SN	Sn	16 28 03.9	-2.7
CNQ				Trac		16 28 20.4	
	comp=Z,4.9nm,0.2s						
GSQ	**Grosses Roches**	**4.00**	**183**	PN	Pn	16 27 23.6	-2.6
GSQ				SN	Sn	16 28 12.3	-2.2
LG4Q	**La Grande 4**	**4.42**	**282**	PN	Pn	16 27 28.9	-3.3
LG4Q				PG	Pg	16 27 40.6	-10
LG4Q				SN	Sn	16 28 20.2	-5.1
LG4Q				SG	Sg	16 28 37.2	-12
LMQ	**La Malbaie**	**5.81**	**204**	PN	Pn	16 27 48.7	-3.1
LMQ				SN	Sn	16 28 54.3	-5.8
DRLN	**Deer Lake**	**6.92**	**118**	PN	Pn	16 28 03.2	-4.3
DRLN				SN	Sn	16 29 22.4	-5.4
DRLN				LG		16 29 56.5	
LMN	**Caledonia Moun**	**7.18**	**169**	PN	Pn	16 28 05.6	-5.5
LMN				SN	Sn	16 29 24.4	-10
VLDQ	**Val d'Or**	**8.29**	**239**	PN	P	16 28 23.3	-3.4
VIMO	**Victor Mine**	**10.23**	**276**	PN	P	16 28 47.5	-5.8

*BJI **15** 16:44:01.8,2.46N×96.02E,h42km,mB5.2,mb5.3,Ms4.7, Msz4.4*
*IDC **15** 16:44:02.1±0.6,2.68N×95.92E,h18km±3km,mb4.6/19, mb1 4.7/20,mb1mx4.6/22,mbtmp4.7/20,ML5.1/1,MS4.2/5, Ms1 4.2/5,ms1mx3.8/23,Error ellipse: s-maj=22.4km s-min=11.1km az=43.0*
*MOS **15** 16:44:02.3±0.9,2.76N×96.00E,h33km,mb5.2/35,Error ellipse: s-maj=12.4km s-min=6.7km az=115.5*
*HRVD **15** 16:44:03.5±1.7,2.68N×95.98E,h34km±2km,MW4.9/24, Centroid moment Tensor Solution. LP body waves: s15,c18;Mantle waves: s24,c30; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.29±.36; $M_{\theta\theta}$-0.06±.23; $M_{\phi\phi}$-1.23±.35; $M_{r\theta}$0.40±.31; $M_{\theta\phi}$2.24±.23; $M_{\phi r}$0.04±.46; Best double couple: $M_0$2.424×10^{16} NP1:φ±4°,δ67°,λ159°. NP2:φ±102°,δ71°,λ25°. Principal axes: T 1.878, Plg31°, Azm324°; N 1.095, Plg59°, Azm137°; P -2.97, Plg3°, Azm232°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **15** 16:44:03.5±0.2,2.71N×95.98E,h30km,mb5.0/41 Error ellipse: s-maj=7.6km s-min=5.3km az=43.0*

ISC 15 16:44:01.1±1.3,2.69N±0.04×96.00E±0.04,h25km±9km, h23km±1.4km:pP-P,n200,σ1°06/199,mb5.0/76,MS4.5/12, 11C-5D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.40**	**46**	P	**Pn**	**16 45 38.0**	**+1.6**
	430nm,0.9s						
KKTK	**Khon Kaen**	**15.13**	**26**	PN	**P**	**16 47 37.0**	**+1.8**
KKTK				PG	**P**	**16 47 42.0**	**+6.8**
KKTK				SG	rx	16 47 49.0	
UBT	**Ubonrachathani**	**15.32**	**35**	⇓P	**P**	**16 47 43.9**	**+6.3**
PALK	**Pallekele**	**15.90**	**287**	*e*P	**P**	**16 47 45.7**	**+0.5**
	4.0nm,0.6s						
PALK				*e*S	**S**	**16 50 22.0**	**-19**
CMAR	**Chiang Mai Arr**	**15.93**	**10**	Pn	**P**	**16 47 45.6**	**+0.1**
	2.7nm,0.3s,baz=200,slow=12,SNR=40						
CMAR				LR	LR	16 53 45.3	
	comp=Z,419nm,20.6s,baz=200,slow=37						
CMAR				pScP		16 56 30.1	
	0.0nm,0.3s,baz=210,slow=2.7,SNR=4.4						
CMAR	**Chiang Mai Arr**	**15.93**	**10**	Pn	**P**	**16 47 45.6**	**+0.1**
CMAR				pScP		16 56 30.1	
CHG	**Chiang Mai**	**16.28**	**10**	⇑P	**P**	**16 47 49.9**	**0.0**
	2.3nm,17.7s						
NANT	**Nan**	**16.66**	**16**	P	**P**	**16 47 53.5**	**-1.2**
CHRT	**Chiangrai**	**17.47**	**12**	⇓P	**P**	**16 48 05.5**	**+0.6**
	110nm,0.8s						
VIS	**Vishakhapatnam**	**19.44**	**321**	*e*P	**P**	**16 48 29.6**	**+0.8**
VIS				*e*		16 48 36.0	
	comp=Z,38nm,1.1s						
VIS				*e*S	**S**	**16 51 50.0**	**-11**
VIS				*e*		16 51 55.8	
	comp=N,20nm,0.6s						
VIS				*e*		16 51 56.5	
	comp=E,18nm,0.4s						
KOD	**Kodaikanal**	**19.87**	**293**	*e*P	**P**	**16 48 41.0**	**+7.4**
KOD				*e*		16 48 42.2	
	comp=Z,39nm,1.7s						
KOD				*e*P		16 48 43.0	
BWNR	**Bhubaneshwar**	**20.13**	**331**	*e*P	**P**	**16 48 33.7**	**-2.6**
BWNR				*e*S	rx	16 51 29.1	
QIZ	**Qiongzhong**	**21.14**	**39**	P	**P**	**16 48 46.8**	**+0.1**
QIZ				LR	LR		
	comp=N,970nm,16.4s,MS4.5						
QIZ				LR	LR		
	comp=E,1μm,16.5s,MS4.5						
QIZ				LR	LR		
	comp=Z,699nm,17.8s,MS4.1						
QIZ	**Qiongzhong**	**21.14**	**39**	*e*P	**P**	**16 48 46.6**	**-0.2**
	comp=Z,50nm,1.1s,mb4.8						
IMP	**Imphal**	**22.05**	**355**	*e*P	**P**	**16 48 54.5**	**-1.4**
HYB	**Hyderabad**	**22.53**	**312**	*e*P	**P**	**16 49 03.5**	**+2.8**
HYB	**Hyderabad**	**22.53**	**312**	*i* P	**P**	**16 49 03.5**	**+2.8**
HYB				*e*S	**S**	**16 53 12.0**	**+10**
SHL	**Shillong**	**23.09**	**350**	*e*P	**P**	**16 49 03.0**	**-3.1**
SHL				*e*		16 49 11.7	
	comp=Z,62nm,1.1s						
SHL				*e*S	**S**	**16 53 13.0**	**+1.6**
BLSP	**Bilaspur**	**23.56**	**326**	*e*P	**P**	**16 49 10.0**	**-0.7**
BLSP				*e*		16 49 14.4	
	comp=Z,79nm,1.0s						
DGAR	**Diego Garcia**	**25.55**	**247**	*e*P	**P**	**16 49 30.2**	**+0.2**
	comp=Z,296nm,1.4s,mb5.6						
ALBI	**Allahabad**	**26.32**	**330**	*e*P	**P**	**16 49 38.5**	**+1.6**
JIRN	**Jiri**	**26.54**	**340**	*e*P	**P**	**16 49 39.9**	**+0.9**
	comp=Z,384nm,0.7s,mb6.0						
PKI	**Pulchoki**	**26.73**	**339**	*e*P	**P**	**16 49 41.2**	**+0.5**
	comp=Z,86nm,0.7s,mb5.4						
GUN	**Gumba**	**26.88**	**340**	*e*P	**P**	**16 49 42.7**	**+0.6**
	comp=Z,283nm,0.8s,mb5.9						
DMN	**Daman**	**26.88**	**338**	*e*P	**P**	**16 49 42.5**	**+0.4**
	comp=Z,146nm,0.9s,mb5.5						
KKN	**Kakani**	**26.98**	**339**	*e*P	**P**	**16 49 43.4**	**+0.4**
	comp=Z,250nm,0.9s,mb5.8						
BHPL	**Bhopal**	**27.22**	**320**	*e*P	**P**	**16 49 48.5**	**+3.2**
BHPL				*e*		16 49 50.5	
	comp=Z,15nm,1.1s						
LSA	**Lhasa**	**27.25**	**351**	P	**P**	**16 49 48.0**	**+2.5**
LSA	**Lhasa**	**27.25**	**351**	*e*P	**P**	**16 49 46.1**	**+0.7**
	comp=Z,112nm,0.9s,mb5.4						
LSA				*e*S	**S**	**16 54 23.5**	**+2.2**
GKN	**Gorkha**	**27.41**	**338**	*e*P	**P**	**16 49 47.2**	**+0.3**
	comp=Z,392nm,1.1s,mb5.8						
KOLN	**Koldanda**	**27.61**	**336**	*e*P	**P**	**16 49 49.2**	**+0.5**
	comp=Z,106nm,0.6s,mb5.6						
AGRA	**Agra**	**29.90**	**326**	*e*P	**P**	**16 50 07.6**	**-1.8**
ENH	**Enshi**	**30.26**	**24**	*e*P	**P**	**16 50 11.3**	**-1.2**
	comp=Z,63nm,1.0s,mb5.3						
PTH	**Pithoragarh**	**30.63**	**332**	*e*P	**P**	**16 50 15.0**	**-0.8**
AYAN	**Aya Nagar**	**31.33**	**327**	*e*P	**P**	**16 50

SSE AMB AMB
comp=Z,106nm,4.5s
SSE LR LR
comp=N,237nm,18.4s,MS4.4
SSE LR LR
comp=E,535nm,18.5s,MS4.4
SSE LR LR
comp=Z,427nm,14.1s,MS4.4
TIA Tai'an 38.65 28 ⇓P **P 16 51 25.0 +0.6**
TIA AMB AMB
comp=Z,34nm,1.1s,mb5.0
BJT Baijiatuan 41.41 24 *e*P **P 16 51 48.8 +1.6**
comp=Z,155nm,0.7s,mb5.7
WMQ Urumqi 41.62 351⇑ *i*P **P 16 51 49.5 +0.6**
WMQ AP pP 16 51 59.3 +2.8
WMQ XP sP 16 52 03.3 +3.6
WMQ PP PP 16 53 29.4 +1.2
WMQ S **S 16 58 03.3 -0.1**
WMQ XS 16 58 19.5
WMQ AMB AMB
comp=Z,11nm,1.3s,mb4.3
WMQ AMB AMB
comp=Z,76nm,5.3s
WMQ LR LR
comp=N,1μm,19.9s,MS4.9
WMQ LR LR
comp=E,1μm,20.7s,MS4.9
WMQ LR LR
comp=Z,2μm,20.4s,MS5.0
KZA Kyzart 43.40 337 P **P 16 52 05.0 +1.5**
SNR=6.5
UCH Uchtor 43.82 337 P **P 16 52 08.3 +1.5**
SNR=36
WRA Warramunga Arr 43.84 123 P **P 16 52 07.6 +0.3**
comp=Z,12nm,1.0s,mb4.6,baz=301,slow=9.1,SNR=39
WRAB Tennant Creek 43.84 123 *e*P **P 16 52 07.2 -0.1**
WRAB pmax pmax
comp=Z,22nm,1.0s,mb4.8
WRAB Tennant Creek 43.84 123 *e*P **P 16 52 07.2 -0.1**
comp=Z,22nm,1.0s,mb4.8
WB2 Warramunga Arr 43.85 123 *e*P **P 16 52 07.3 -0.1**
TKM2 Tokmak 2 44.00 338 P **P 16 52 09.5 +1.2**
SNR=13
KBK Karagaybulak 44.01 338 P **P 16 52 10.2 +1.7**
SNR=32
AML Almayashu 44.06 336 P **P 16 52 10.0 +1.1**
SNR=31
AAK Ala-Archa 44.17 337 P **P 16 52 11.0 +1.3**
SNR=18
AAK Ala-Archa 44.17 337 *e*P **P 16 52 08.6 -1.1**
AAK pmax pmax
comp=Z,19nm,0.9s,mb4.8
AAK Ala-Archa 44.17 337 *e*P **P 16 52 08.6 -1.1**
comp=Z,19nm,0.9s,mb4.8
FRU Bishkek 44.29 337 *e*P **P 16 52 12.0 +1.3**
FRU *e* pP 16 52 19.0 +0.6
CHMS Chumysh 44.38 338 P **P 16 52 11.6 +0.1**
SNR=6.2
EKS2 Erkin-Say 44.47 337 P **P 16 52 13.5 +1.3**
SNR=18
USP Ospenovka 44.71 338 P **P 16 52 14.8 +0.7**
SNR=59
ASPA Alice Springs 45.24 128 *e*P **P 16 52 19.0 +0.4**
ASAR Alice Springs 45.24 128 P **P 16 52 18.8 +0.2**
comp=Z,2.8nm,0.6s,mb4.3,baz=300,slow=8.0,SNR=64
MKAR Makanchi Array 45.52 347 *e*P **P 16 52 20.7 +0.2**
MKAR pmax pmax
comp=Z,7.0nm,0.4s
SONM Songino Array 45.86 10 P **P 16 52 23.5 +0.4**
comp=Z,33nm,0.7s,mb5.4,baz=191,slow=8.9,SNR=268
SONM pP pP 16 52 30.1 -0.7
comp=Z,23nm,0.8s,baz=195,slow=7.8,SNR=19
SONM PcP PcP 16 54 00.9 +0.3
comp=Z,5.2nm,0.7s,baz=193,slow=4.0,SNR=6.6
ULN Ulaanbaatar 46.00 10 *e*P **P 16 52 24.1 -0.1**
ULN pmax pmax
comp=Z,22nm,0.8s,mb5.1
ULN Ulaanbaatar 46.00 10 *e*P **P 16 52 24.1 -0.1**
comp=Z,22nm,0.8s,mb5.1
SNY Shenyang 46.15 29 ⇑P **P 16 52 25.6 +0.1**
SNY AMB AMB
comp=Z,30nm,0.4s,mb5.6
ZAK Zakamensk 47.92 6 *e*P **P 16 52 38.8 -0.5**
MOY Mondy 48.99 4 *e*P **P 16 52 48.0 +0.5**
TLY Talaya 49.24 6 *e*P **P 16 52 50.1 +0.6**
TLY *e* 16 54 50.4
TLY pmax pmax
comp=Z,11nm,0.7s,mb5.0
TLY MLR MLR
comp=Z,229nm,16.0s,MS4.3
TLY Talaya 49.24 6 *e*P **P 16 52 49.4 -0.1**
comp=Z,11nm,0.6s,mb5.1
HIA Hailar 50.64 20 *e*P **P 16 52 59.8 -0.4**
HIA *e**PP pP 16 53 06.5 -1.5
HIA pmax pmax
comp=Z,42nm,1.1s
HIA Hailar 50.64 20 *e*P **P 16 52 59.8 -0.4**
comp=Z,42nm,1.1s,mb5.3
HIA *e*pP pP 16 53 06.5 -1.6
MDJ Mudanjiang 51.18 30 P **P 16 53 04.6 +0.2**
MDJ AP pP 16 53 17.0 +4.8
MDJ AMB AMB
comp=Z,16nm,0.8s,mb5.0
MDJ AMB AMB
comp=Z,112nm,3.1s
MDJ LR LR
comp=N,168nm,17.0s,MS4.2
MDJ LR LR
comp=E,73nm,15.8s,MS4.2
MDJ LR LR
comp=Z,123nm,21.2s
MDJ Mudanjiang 51.18 30 *e*P **P 16 53 04.6 +0.2**
comp=Z,84nm,1.5s,mb5.5
MAJO Matsushiro 51.42 44 *e*P **P 16 53 02.6 -3.8**
MAJO pmax pmax
comp=Z,16nm,1.2s,mb4.8
MAJO Matsushiro 51.42 44 *e*P **P 16 53 02.5 -3.8**
comp=Z,16nm,1.2s,mb4.8
ZAL Zalesovo 51.91 352 P **P 16 53 10.1 +0.3**
comp=Z,21nm,0.4s,mb5.4,baz=308,slow=5.5,SNR=140
PMG Port Moresby 52.37 104 *e*P **P 16 53 13.7 -0.1**
PMG pmax pmax
comp=Z,12nm,0.8s
PMG Port Moresby 52.37 104 P **P 16 53 14.0 +0.2**
comp=Z,9.7nm,0.6s,mb4.9,baz=280,slow=5.6,SNR=12
PMG sP sP 16 53 22.6 -2.0
comp=Z,9.4nm,0.7s,baz=321,slow=5.4,SNR=6.2
PMG Port Moresby 52.37 104 *e*P **P 16 53 13.7 -0.1**
comp=Z,12nm,0.8s,mb4.9
NVS Novosibirsk 53.02 351 *i*P **P 16 53 16.4 -1.7**
NVS *i*S **S 17 00 44.1 -0.5**
NVS pmax pmax
comp=Z,24nm,0.9s,mb5.1
NVS pmax pmax
comp=N,15nm,0.9s
NVS pmax pmax
comp=E,14nm,0.9s
NVS smax
comp=E,24nm,1.8s
NVS smax
comp=N,21nm,1.7s
CTA Charters Tower 54.24 117 *e*P **P 16 53 27.8 +0.3**
comp=N,11nm,0.9s,mb4.8
CTA Charters Tower 54.24 117 *e*P **P 16 53 27.8 +0.3**
CTA pmax pmax
comp=Z,11nm,0.9s
CTA Charters Tower 54.24 117 P **P 16 53 28.3 +0.8**
comp=Z,13nm,0.8s,mb4.9,baz=285,slow=7.9,SNR=17
CTA LR LR 17 18 20.1
comp=Z,234nm,20.4s,MS4.2,baz=26,slow=38
CTAO Charters Tower 54.24 117 *e*P **P 16 53 27.8 +0.3**
CTAO *e**PP pP 16 53 35.2 -0.1
CTAO pmax pmax
comp=Z,22nm,1.0s,mb5.0
CTAO Charters Tower 54.24 117 *e*P **P 16 53 27.8 +0.3**
comp=Z,22nm,1.0s,mb5.0
CTAO *e*pP pP 16 53 35.2 -0.1
BVA0 Borovoye Array 54.46 341 P **P 16 53 27.6 -1.1**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BVAR Borovoye Array 54.46 341 P **P 16 53 27.8 -0.9**
comp=Z,13nm,0.7s,mb5.0,baz=143,slow=7.4,SNR=104
BRVK Borovoye 54.52 341 *e*P **P 16 53 28.0 -1.2**
BRVK pmax pmax
comp=Z,18nm,0.6s,mb5.3
BRVK Borovoye 54.52 341 *e*P **P 16 53 28.0 -1.2**
comp=Z,18nm,0.6s,mb5.3
CHKZ Chkalovo 54.94 342 *e*P **P 16 53 31.3 -1.0**
CHKZ pmax pmax
comp=Z,62nm,0.9s,mb5.6
CHKZ Chkalovo 54.94 342 *e*P **P 16 53 31.3 -1.0**
comp=Z,62nm,0.9s,mb5.6
STKA Stephens Creek 55.24 132 *e*P **P 16 53 34.8 +0.1**
comp=Z,7.5nm,0.8s,mb4.8
STKA Stephens Creek 55.24 132 P **P 16 53 35.1 +0.4**
comp=Z,9.5nm,0.8s,mb4.9,baz=310,slow=7.3,SNR=13
KLR Kul'dur 55.48 28 *e*P **P 16 53 33.0 -3.2**
KLR MLR MLR
comp=N,600nm,13.0s
KLR MLR MLR
comp=Z,900nm,13.0s,MS5.0
BOD Bodaibo 56.78 11 *e*P **P 16 53 44.2 -1.3**
ASAJ Asahikawa 58.22 38 P **P 16 53 55.8 +0.1**
comp=Z,10nm,1.0s,mb4.8,baz=247,slow=5.6,SNR=3.5
CLNS Chul'man 58.69 18 *e*P **P 16 53 58.6 -0.3**
CLNS *e**PP pP 16 54 05.6 -1.2
CLNS *e* 16 54 45.4
CLNS *e* 16 56 06.5
CLNS *e*S **S 17 02 05.3 +5.1**
CLNS pmax pmax
comp=Z,17nm,0.8s,mb5.1
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
CLNS pmax pmax
comp=N,4.0nm,0.9s
CLNS pmax pmax
comp=E,2.0nm,0.9s
CLNS smax
comp=N,103nm,14.6s
CLNS smax
comp=Z,45nm,14.2s
CLNS smax
comp=E,31nm,12.4s
CLNS MLR MLR
comp=Z,700nm,15.0s,MS4.9
CLNS MLR MLR
comp=N,500nm,14.0s,MS4.8
CLNS MLR MLR
comp=E,100nm,15.0s,MS4.8
KMBO Kilima Mbogo 58.86 267 *e*P **P 16 54 00.7 +0.1**
KMBO pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 58.86 267 P **P 16 54 00.7 +0.1**
comp=Z,2.2nm,0.8s,mb4.2,baz=46,slow=9.9,SNR=6.1
KMBO LR LR 17 17 14.0
comp=Z,292nm,18.1s,MS4.5,baz=95,slow=34
KMBO Kilima Mbogo 58.86 267 *e*P **P 16 54 00.7 +0.1**
comp=Z,6.4nm,1.0s,mb4.6
GNI Garni 59.40 316⇑ *e*P **P 16 54 02.4 -1.6**
GNI pmax pmax
comp=Z,9.0nm,1.1s
GNI Garni 59.40 316 P **P 16 54 03.7 -0.3**
comp=Z,4.3nm,0.8s,mb4.5,baz=7.0,slow=10,SNR=4.9
GNI Garni 59.40 316 *e*P **P 16 54 01.2 -2.8**
comp=Z,12nm,0.9s,mb4.9
YSS Yuzh-Sakhalins 59.81 35⇑ *e*P **P 16 54 06.1 -0.7**
YSS *e* pP 16 54 12.2 -2.5
YSS pmax pmax
comp=Z,20nm,0.9s,mb5.2
YSS Yuzh-Sakhalins 59.81 35 *e*P **P 16 54 06.0 -0.7**
comp=Z,16nm,0.8s,mb5.1
SVE Sverdlovsk 60.87 339 *e*P **P 16 54 13.4 -0.4**
SVE pmax pmax
comp=Z,110nm,1.2s,mb5.9
ZEI Tsey 61.10 318 *e*P **P 16 54 14.3 -1.2**
ZEI pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
ARU Arti 61.35 337⇑ *i*P **P 16 54 12.6 -4.5**
ARU *e*S **S 17 02 29.8 -4.6**
ARU pmax pmax
comp=Z,26nm,1.0s,mb5.3
KIV Kislovodsk 62.40 319*c i*P **P 16 54 23.1 -1.3**
KIV *e* 16 55 02.8
KIV *e* 16 56 42.2
KIV pmax pmax
comp=Z,14nm,1.1s,mb5.0
KIV Kislovodsk 62.40 319 *e*P **P 16 54 23.0 -1.4**
comp=Z,17nm,1.0s,mb5.1
MALT Malatya 63.25 312 *e*P **P 16 54 29.4 -0.6**
MALT pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
MALT Malatya 63.25 312 *e*P **P 16 54 29.4 -0.6**
comp=Z,9.1nm,1.2s,mb4.8
EIL Elat 63.66 302 P **P 16 54 33.1 +0.2**
comp=Z,2.3nm,0.6s,mb4.4,baz=172,slow=7.1,SNR=3.1
EIL Elat 63.66 302 *e*P **P 16 54 28.7 -4.2**
comp=Z,4.8nm,0.7s,mb4.6
SOC Sochi 64.22 318 *e*P **P 16 54 30.0 -6.3**
SOC *e* 16 55 04.8
SOC *e*PPP PPP 16 58 27.3 -4.6
SOC *e*S **S 17 03 04.4 -6.1**
SOC *e* 17 04 17.9
SOC *e*SS SS 17 07 14.6 -7.0
SOC pmax pmax
comp=Z,26nm,1.2s,mb5.1
SOC pmax pmax
comp=N,11nm,0.7s
SOC pmax pmax
comp=E,7.0nm,0.9s
SOKR Solikamsk 64.27 339⇓ *i*P **P 16 54 35.1 -1.3**
SOKR pmax pmax
comp=Z,40nm,0.9s,mb5.5
YAK Yakutsk 64.34 17*c i*P **P 16 54 35.8 -1.0**
YAK *e* 16 55 07.4
YAK *e* 16 57 02.0
YAK *e*PPP PPP 16 58 33.9 +1.0
YAK *e*S **S 17 03 11.8 +0.1**
YAK *e* 17 04 21.2
YAK *e*SS SS 17 07 26.4 +3.1
YAK pmax pmax
comp=Z,40nm,1.0s,mb5.4
YAK pmax pmax
comp=N,18nm,0.9s
YAK pmax pmax
comp=E,11nm,0.9s
YAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
YAK pmax pmax
comp=N,1.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax
comp=N,1.0nm,0.9s
YAK smax
comp=E,2.0nm,1.1s
YAK Yakutsk 64.34 17 *e*P **P 16 54 35.1 -1.6**
comp=E,108nm,0.9s,mb5.9
YAK *e*pP pP 16 54 40.4 -4.3
MBAR Mbarara 65.33 268 *e*P **P 16 54 43.8 -0.2**
MBAR *e**PP pP 16 54 49.9 -2.0
MBAR *e* 16 54 56.7
MBAR pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
MBAR Mbarara 65.33 268 *e*P **P 16 54 43.8 -0.2**
comp=Z,7.1nm,1.0s,mb4.7
MBAR *e*pP pP 16 54 49.9 -2.1
MBAR *e* 16 54 56.7
ANN Anapa 66.20 318 *e*P **P 16 54 56.8 +7.8**
ANN *e* 16 55 11.2
ANN *e* 16 55 25.9
ANN *e*S S 17 03 51.9 +17
ANN pmax pmax
comp=Z,17nm,1.0s,mb5.0
BRTR Keskin Array B 67.23 312 P **P 16 54 54.5 -1.3**
comp=Z,1.6nm,0.9s,mb4.0,baz=129,slow=7.9,SNR=5.8
BRTR pP pP 16 55 00.9 -2.7
comp=Z,1.7nm,0.5s,baz=128,slow=7.5,SNR=8.1
LSZ Lusaka 69.40 253 *e*P pP 16 55 15.1 -2.4
LSZ pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
LSZ Lusaka 69.40 253 *e*P pP 16 55 15.1 -2.4
comp=Z,4.5nm,1.0s
MOS Moscow 70.45 329 *e*P pP 16 55 23.5 +0.3
MA2 Magadan 70.52 26 *e*P **P 16 55 15.7 0.0**
MA2 *e* pP 16 55 22.0 -1.6
MA2 *e* 17 05 05.6
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MA2 Magadan 70.52 26 *e*P **P 16 55 15.5 -0.2**
comp=Z,15nm,0.8s,mb5.0
MA2 *e*pP pP 16 55 22.0 -1.6
OBN Obninsk 70.73 328⇓ *e*P **P 16 55 15.0 -2.0**
OBN *e* 16 57 51.4
OBN *e*S S 17 04 27.6 -0.9
OBN pmax pmax
comp=Z,19nm,0.8s,mb5.1
OBN Obninsk 70.73 328 *e*P **P 16 55 14.2 -2.8**
comp=Z,14nm,0.7s,mb5.0
OBN *e* 16 55 26.0
TIXI Tiksi 71.94 10⇑ *e*P **P 16 55 23.0 -1.0**
TIXI pmax pmax
comp=Z,22nm,0.9s,mb5.1
SEY Seymchan 72.87 23 *e*P **P 16 55 29.4 -0.2**
SEY *e* pP 16 55 36.5 -1.1
SEY pmax pmax
comp=Z,40nm,0.9s,mb5.3
SEY pmax pmax
comp=E,10.0nm,0.8s
BOSA Boshof 74.49 239 P **P 16 55 40.2 +0.5**
BOSA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BOSA Boshof 74.49 239 P **P 16 55 40.2 +0.5**
comp=Z,7.9nm,0.9s,mb4.6
JOF Joensuu 76.30 335 *e*p **P 16 55 47.6 -1.7**
comp=Z,6.1nm,0.7s,mb4.6
KWP Kalwaria 77.17 320 *e*P **P 16 55 54.8 +0.4**
KOLS Kolonicke sedl 77.31 320 *i* P **P 16 55 56.5 +1.2**
KOLS *e* 16 56 01.6
SUW Suwalki 77.78 325 *e*P **P 16 55 57.0 -0.7**
FINES FINESS Array B 78.13 333 P **P 16 55 59.4 -0.2**
comp=Z,7.2nm,0.7s,mb4.7,baz=97,slow=7.1,SNR=32
KAF Kangasniemi 78.22 333 *e*p **P 16 55 57.7 -2.3**
comp=Z,12nm,0.8s,mb4.9
KAF Kangasniemi 78.22 333 *e*P **P 16 55 57.7 -2.3**
KAF pmax pmax
comp=Z,12nm,0.8s,mb4.9
KECS Kecovo 78.40 319 *e*P **P 16 56 03.5 +2.2**
PSZ Piszkesteto 78.71 318 *e*P **P 16 56 02.7 -0.2**
PSZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
PSZ Piszkesteto 78.71 318 *e*P **P 16 56 02.7 -0.2**
comp=Z,7.3nm,0.8s,mb4.7
OJC Ojcow 79.12 321 *e*P **P 16 56 05.8 +0.6**
VYHS Vyhne 79.49 319 *e*P **P 16 56 07.1 -0.1**
BILL Bilibino 80.21 21⇑ *e*P **P 16 56 11.5 +0.8**
BILL *e*S S 17 06 14.0 +1.3
BILL pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BILL Bilibino 80.21 21 *e*P **P 16 56 10.5 -0.1**
comp=Z,8.5nm,1.1s,mb4.6
ZST Bratislava 80.60 318 *e*P **P 16 56 13.8 +0.7**
ARCES ARCESS Array B 80.74 340 P **P 16 56 14.1 +0.7**
ARCES 16 59 12.5
ARCES ARCESS Array B 80.74 340 P **P 16 56 14.1 +0.6**
comp=Z,4.5nm,0.5s,mb4.7,baz=93,slow=5.2,SNR=53
ARCES pP pP 16 56 18.9 -2.7
comp=Z,1.9nm,0.4s,baz=97,slow=6.6,SNR=2.7
ARCES PP PP 16 59 12.5 -7.2
comp=Z,1.3nm,0.8s,baz=96,slow=8.2,SNR=3.6
ARCES LR LR 17 37 15.6
comp=Z,160nm,19.3s,MS4.4,baz=145,slow=40
ARCES ARCESS Array B 80.74 340 P **P 16 56 14.1 +0.6**
ARCES pP pP 16 56 18.9 -2.7
ARCES PP PP 16 59 12.5 -7.2
RPZ Rata Peaks 81.10 135 P **P 16 56 16.2 +0.4**
comp=Z,7.4nm,0.8s,mb4.7,baz=225,slow=7.1,SNR=3.2
DPC Dobruska-Polom 81.35 320 *e*P **P 16 56 13.5 -3.5**
KSP Ksiaz 81.42 321 *e*P **P 16 56 18.1 +0.7**
KSP Ksiaz 81.42 321 *e*P **P 16 56 18.4 +1.0**
UPC Upice 81.56 321 *e*pP pP 16 56 32.6 +6.4
PRU Pruhonice 82.45 320 *e*P **P 16 56 23.8 +1.1**
PVCC Panska Ves 82.48 320 *e*P pP 16 56 32.5 +1.5
PVCC Panska Ves 82.48 320 *e*pP pP 16 56 32.5 +1.5
BRG Berggiesshubel 82.91 321 *e*P **P 16 56 25.7 +0.6**
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
BRG Berggiesshubel 82.91 321 *e*P **P 16 56 25.7 +0.6**
comp=Z,6.7nm,1.1s,mb4.6
GERES GERESS Array B 82.91 319 P **P 16 56 26.0 +0.9**
comp=Z,4.8nm,0.9s,mb4.5,baz=90,slow=5.3,SNR=35
KHC Kasperske Hory 83.01 319 *e*P **P 16 56 28.1 +2.4**
KHC *e* 16 56 49.5
KHC Kasperske Hory 83.01 319 *e*P **P 16 56 28.1 +2.4**
KHC x x 16 56 49.5
CLL Collm 83.53 321 P **P 16 56 29.0 +0.7**
GRA1 Grafenberg Arr 84.58 319 *e*P **P 16 56 34.1 +0.5**
comp=Z,8.0nm,1.1s,mb4.8
GRF Grafenberg Arr 84.58 319 *e*P **P 16 56 34.1 +0.5**
GRF pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
GRF Grafenberg Arr 84.58 319 *e*P **P 16 56 34.1 +0.5**
GRF pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
GRF Grafenberg Arr 84.58 319 *e*P **P 16 56 34.1 +0.5**
comp=Z,8.0nm,1.1s,mb4.8
NB2 NORSAR Subarra 85.13 331 P **P 16 56 36.1 0.0**
comp=Z,1.9nm,0.8s,mb4.3,baz=96,slow=5.0
NB2 NORSAR Subarra 85.13 331 P **P 16 56 36.1 0.0**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
NB2 NORSAR Subarra 85.13 331 P **P 16 56 36.1 0.0**
comp=Z,1.9nm,0.8s,mb4.3
NOA NORSAR Array B 85.13 331 P **P 16 56 36.0 0.0**
comp=Z,4.9nm,1.0s,mb4.6,baz=94,slow=5.5,SNR=7.0
NOA pP pP 16 56 42.1 -2.1
comp=Z,0.6nm,0.7s,baz=90,slow=3.3,SNR=1.5
NOA LR LR 17 36 59.9
comp=Z,75nm,20.3s,MS4.1,baz=250,slow=37
LPG La Plagne 87.57 315 *e*P **P 16 56 49.0 +0.5**
comp=Z,23nm,1.3s,mb5.0
LPG La Plagne 87.57 315 *e*P **P 16 56 49.0 +0.5**
LPG pmax pmax
comp=Z,12nm,1.3s,mb5.0
SNAA Sanae 95.32 198 *e*P **P 16 57 18.5 -5.4**
comp=Z,358nm,1.3s
IMA Indian Mountai 95.68 23 *e*P **P 16 57 27.2 +1.6**
IMA pmax pmax
comp=Z,18nm,0.9s,mb5.5
IMA Indian Mountai 95.68 23 *e*P **P 16 57 27.2 +1.6**
comp=Z,18nm,0.9s,mb5.5
MCK McKinley 98.43 24 *e*P **P 16 57 38.9 +0.8**
MCK pmax pmax
comp=Z,6.0nm,1.4s,mb4.9
MCK McKinley 98.43 24 *e*P **P 16 57 38.9 +0.9**
comp=Z,5.6nm,1.4s,mb4.9
ILAR Eielson Array 98.80 23 P **P 16 57 39.3 -0.4**
comp=Z,0.3nm,0.7s,mb3.9,baz=288,slow=3.5,SNR=5.8
ILAR PP PP 17 01 30.4 -13
comp=Z,0.7nm,1.0s,baz=295,slow=6.6,SNR=6.1
YKA Yellowknife Ar 110.97 15 PP PP 17 02 58.9 -16
comp=Z,0.3nm,0.6s,baz=325,slow=6.3,SNR=5.9
YKA PKKPbc 17 13 36.5
comp=Z,0.3nm,0.8s,baz=146,slow=4.5,SNR=4.7
NVAR Mina Array Bea 128.26 34 PKP PKPdf 17 03 09.2 -1.5
comp=Z,2.4nm,0.9s,baz=254,slow=2.4,SNR=14
PDAR Pinedale Array 129.20 24 PKP PKPdf 17 03 09.4 -3.0
comp=Z,0.8nm,0.7s,baz=94,slow=2.0,SNR=5.9
MSU Marysvale 131.44 30 *e*PKPdf PKPdf 17 03 16.6 -0.2
TXAR Lajitas Array 143.00 29 PKhKP 17 03 31.0
comp=Z,1.1nm,0.7s,baz=180,slow=3.8,SNR=4.2
TXAR Lajitas Array 143.00 29 PKP 17 03 31.0
JCT Junction City 143.73 23 *e*PKPdf PKPdf 17 03 34.1 -5.2
LPAZ La Paz 159.35 228 PKP PKPdf 17 04 01.0 -1.8
comp=Z,0.8nm,0.8s,baz=180,slow=3.0,SNR=3.3
LPAZ *e*PKP 17 04 06.8
comp=Z,1.2nm,0.8s,baz=88,slow=7.7,SNR=3.3
LPAZ La Paz 159.35 228 PKP PKPdf 17 04 01.0 -1.8
LPAZ pPKP 17 04 06.8

MOS ***15*** *16:58:53.9±1.4,23.64S×177.27W,h119km,mb5.1/7, Error ellipse: s-maj=15.6km s-min=12.3km az=52.3*
BJI ***15*** *16:58:56.0,23.60S×177.30W,h125km,mb4.7*
NEIC ***15*** *16:58:56.1±1.4,23.62S×177.27W,h125km±12km, mb4.9/20, Error ellipse: s-maj=10.7km s-min=7.0km az=135.0*
IDC ***15*** *16:59:01.7±2.7,23.67S×177.33W,h170km±22km, mb4.1/12,mb1 4.2/13,mb1mx4.2/18,mbtmp4.6/13,MS4.6/1, Ms1 4.6/1,ms1mx3.5/16, Error ellipse: s-maj=20.4km s-min=15.5km az=145.0*
ISC 15 16:58:51.5±1.6**,23.79S**±0.06×**177.28W**±0.09**,**

h97km±15km,**n124**,σ1§**15**/75,**mb4.7**/30,**7C-3D**,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.12**	**29**	*eP*	**P**	**17 01 29.1**	**+0.4**
AFI				*eS*	**S**	**17 03 21.8**	**-10**
AFI				pmax	pmax		
	comp=Z,318nm,0.6s						
AFI	**Afiamalu**	**11.12**	**29**	*eP*	**P**	**17 01 29.1**	**+0.4**
	comp=Z,318nm,0.6s						
AFI				*eS*	**S**	**17 03 21.8**	**-10**
PUZ	**Puketiti**	**14.74**	**194**	*eP*	**P**	**17 02 16.5**	**+0.4**
DZM	**Mont Dzumac**	**15.10**	**273**	*eP*	**P**	**17 02 31.1**	**+10**
DZM	**Mont Dzumac**	**15.10**	**273**	*eP*	**P**	**17 02 31.1**	**+10**
MWZ	**Matawai**	**15.17**	**196**	*eP*	**P**	**17 02 22.3**	**+0.8**
MWZ				*eS*	**S**	**17 05 00.5**	**-6.6**
URZ	**Urewera**	**15.20**	**197**	P	**P**	**17 02 25.4**	**+3.4**
	comp=Z,5.0nm,0.3s,baz=24,slow=4.3,SNR=31						
URZ	**Urewera**	**15.20**	**197**	*eP*	**P**	**17 02 23.3**	**+1.3**
NOUC	**Port Laguerre**	**15.22**	**273**	*eP*	**P**	**17 02 32.9**	**+11**
NOUC	**Port Laguerre**	**15.22**	**273**	*eP*	**P**	**17 02 32.9**	**+11**
RAR	**Rarotonga**	**16.38**	**84**	LR	LR	17 07 08.1	
	comp=Z,2μm,18.5s,baz=118,slow=30						
TSZ	**Takapari Road**	**17.20**	**198**	*eP*	**P**	**17 02 45.3**	**-1.6**
MRZ	**Mangatainoka R**	**17.87**	**198**	*eP*	**P**	**17 02 53.2**	**-1.9**
MRZ				*eS*	**S**	**17 05 56.6**	**-11**
KIW	**Kapiti Island**	**18.25**	**199**	S	**S**	**17 06 07.3**	**-9.2**
CAW	**Cannon Point**	**18.43**	**199**	*eP*	**P**	**17 02 59.9**	**-1.7**
DSZ	**Dennistoon Nort**	**20.10**	**204**	*eP*	**P**	**17 03 22.7**	**+3.2**
LTZ	**Lake Taylor**	**20.83**	**202**	*eP*	**P**	**17 03 30.4**	**+3.3**
MQZ	**McQueen's Vall**	**21.53**	**200**	*eS*	**S**	**17 07 17.6**	**-4.0**
WVZ	**Waitaha Valley**	**21.64**	**204**	*eP*	**P**	**17 03 33.8**	**-1.3**
RPZ	**Rata Peaks**	**22.08**	**203**	P	**P**	**17 03 38.4**	**-1.0**
	comp=Z,11nm,0.5s,mb4.4,baz=316,slow=2.0,SNR=7.6						
CTA	**Charters Tower**	**33.97**	**269**	⇓*iP*	**P**	**17 05 29.5**	**+1.7**
	comp=Z,9.1nm,0.4s,mb5.0						
CTA	**Charters Tower**	**33.97**	**269**	⇓*iP*	**P**	**17 05 29.5**	**+1.7**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.4s						
CTA	**Charters Tower**	**33.97**	**269**	P	**P**	**17 05 29.6**	**+1.8**
	comp=Z,13nm,0.6s,mb5.0,baz=97,slow=10,SNR=38						
CTAO	**Charters Tower**	**33.97**	**269**	*eP*	**P**	**17 05 29.2**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.0						
CTAO	**Charters Tower**	**33.97**	**269**	*eP*	**P**	**17 05 29.1**	**+1.3**
	comp=Z,15nm,0.6s,mb5.0						
TAU	**Tasmania Unive**	**34.85**	**228**	*eP*	**P**	**17 05 34.3**	**-0.8**
TAU				pmax	pmax		
	comp=Z,53nm,1.3s,mb5.2						
TAU	**Tasmania Unive**	**34.85**	**228**	*eP*	**P**	**17 05 34.3**	**-0.7**
	comp=Z,54nm,1.3s,mb5.2						
PMG	**Port Moresby**	**36.83**	**287**	*eP*	**P**	**17 05 53.1**	**+1.0**
PMG				pmax	pmax		
	comp=Z,125nm,0.8s						
PMG	**Port Moresby**	**36.83**	**287**	P	**P**	**17 05 53.4**	**+1.2**
	comp=Z,90nm,0.7s,mb5.8,baz=102,slow=5.5,SNR=72						
PMG	**Port Moresby**	**36.83**	**287**	*eP*	**P**	**17 05 53.1**	**+1.0**
	comp=Z,125nm,0.8s						
STKA	**Stephens Creek**	**37.08**	**248**	P	**P**	**17 05 55.3**	**+1.2**
	comp=Z,4.9nm,0.4s,mb4.8,baz=90,slow=10,SNR=20						
ASAR	**Alice Springs**	**44.51**	**260**	P	**P**	**17 06 55.4**	**+0.1**
	comp=Z,2.6nm,0.8s,mb4.0,baz=98,slow=7.2,SNR=36						
ASAR				ScP		17 12 12.3	
	comp=Z,1.6nm,0.8s,baz=102,slow=3.6,SNR=6.8						
ASPA	**Alice Springs**	**44.51**	**260**	*eP*	**P**	**17 06 55.4**	**+0.2**
WB2	**Warramunga Arr**	**44.89**	**265**	⇓*iP*	**P**	**17 06 58.2**	**-0.1**
WB2				*eS*	**S**	**17 13 15.9**	**-12**
WRAB	**Tennant Creek**	**44.89**	**265**	*eP*	**P**	**17 06 57.9**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**44.89**	**265**	*eP*	**P**	**17 06 57.9**	**-0.4**
	comp=Z,22nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**44.90**	**265**	P	**P**	**17 06 58.5**	**+0.1**
	comp=Z,7.3nm,1.0s,mb4.3,baz=90,slow=6.0,SNR=83						
WRA				ScP		17 12 15.2	
	comp=Z,1.6nm,0.8s,baz=101,slow=4.2,SNR=6.8						
KAKA	**Kakadu**	**48.79**	**274**	*eP*	**P**	**17 07 29.3**	**+0.4**
	comp=Z,8.5nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**53.32**	**265**	*eP*	**P**	**17 08 03.7**	**+0.6**
	comp=Z,12nm,0.9s,mb4.9						
SBA	**Scott Base**	**54.65**	**184**	*eP*	**P**	**17 08 15.1**	**+3.0**
SBA				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
SBA	**Scott Base**	**54.65**	**184**	*eP*	**P**	**17 08 15.1**	**+3.0**
	comp=Z,12nm,0.8s,mb5.0						
VNDA	**Vanda**	**54.72**	**185**	P	**P**	**17 08 14.4**	**+1.8**
	comp=Z,3.6nm,1.0s,mb4.4,baz=350,slow=6.3,SNR=4.6						
MBWA	**Marble Bar**	**57.85**	**259**	*eP*	**P**	**17 08 34.7**	**-0.9**
	comp=Z,14nm,1.0s,mb5.0						
QSPA	**South Pole Qui**	**66.30**	**180**	*eP*	**P**	**17 09 32.0**	**+0.9**
	comp=Z,14nm,0.8s,mb4.8						
MAJO	**Matsushiro**	**73.25**	**324**	*eP*	**P**	**17 10 12.7**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
MAJO	**Matsushiro**	**73.25**	**324**	*eP*	**P**	**17 10 12.7**	**-1.3**
	comp=Z,10nm,0.9s,mb4.7						
ASAJ	**Asahikawa**	**76.92**	**332**	P	**P**	**17 10 35.4**	**+0.5**
	comp=Z,3.2nm,0.7s,mb4.2,baz=221,slow=16,SNR=4.1						
SKR	**Severo-Kuril's**	**77.78**	**343**	*eP*	**P**	**17 10 41.2**	**+1.8**
PMSA	**Palmer Station**	**78.02**	**156**	P	**P**	**17 10 42.4**	**+1.9**
	comp=Z,41nm,1.2s,mb5.0						
MAW	**Mawson**	**78.72**	**200**	P	**P**	**17 10 45.0**	**+0.8**
	comp=Z,8.0nm,0.7s,mb4.6,baz=98,slow=5.6,SNR=12						
YSS	**Yuzh-Sakhalins**	**79.12**	**333**	*eP*	**P**	**17 10 44.8**	**-2.0**
YSS	**Yuzh-Sakhalins**	**79.12**	**333**	*eP*	**P**	**17 10 45.8**	**-1.0**
	comp=Z,18nm,1.2s,mb4.8						
CMB	**Columbia Colle**	**81.43**	**42**	*eP*	**P**	**17 10 59.6**	**+0.3**
CMB				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.1						
CMB	**Columbia Colle**	**81.43**	**42**	*eP*	**P**	**17 10 59.6**	**+0.3**
	comp=Z,3.7nm,1.2s,mb4.1						
YBH	**Yreka Blue Hor**	**82.44**	**38**	P	**P**	**17 11 05.0**	**+0.5**
	comp=Z,1.3nm,0.6s,mb3.9,baz=116,slow=8.5,SNR=4.2						
NVAR	**Mina Array Bea**	**82.96**	**43**	P	**P**	**17 11 08.0**	**+0.8**
	comp=Z,1.4nm,0.8s,mb3.9,baz=222,slow=8.3,SNR=10						
MDJ	**Mudanjiang**	**83.58**	**325**	P	**P**	**17 11 08.8**	**-1.3**
	comp=Z,16nm,1.2s,mb4.7						
SYO	**Syowa Base**	**83.68**	**193**	⇑P	**P**	**17 11 09.6**	**-0.5**
MA2	**Magadan**	**87.11**	**344**	*eP*	**P**	**17 11 26.8**	**-0.4**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
MA2	**Magadan**	**87.11**	**344**	*eP*	**P**	**17 11 26.4**	**-0.8**
	comp=Z,13nm,0.9s,mb4.8						
ANMO	**Albuquerque**	**88.94**	**51**	*eP*	**P**	**17 11 36.5**	**0.0**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ANMO	**Albuquerque**	**88.94**	**51**	*eP*	**P**	**17 11 36.5**	**0.0**
	comp=Z,3.4nm,1.1s,mb4.3						
COLA	**College**	**91.26**	**12**	⇑*eP*	**P**	**17 11 45.8**	**-0.9**
COLA	**College**	**91.26**	**12**	*eP*	**P**	**17 11 45.4**	**-1.2**
	comp=Z,4.4nm,0.7s,mb4.7						
ILAR	**Eielson Array**	**91.36**	**13**	P	**P**	**17 11 46.5**	**-0.6**
	comp=Z,1.7nm,0.8s,mb4.2,baz=225,slow=4.9,SNR=14						
CMAR	**Chiang Mai Arr**	**91.83**	**289**	P	**P**	**17 11 51.5**	**+1.1**
	comp=Z,2.9nm,0.8s,mb4.5,baz=133,slow=3.4,SNR=18						
BILL	**Biiibino**	**92.36**	**354**	⇑*eP*	**P**	**17 11 50.4**	**-1.2**
BILL				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.1						
BILL	**Biiibino**	**92.36**	**354**	*eP*	**P**	**17 11 51.0**	**-0.6**
	comp=Z,12nm,0.9s,mb5.1						
RSSD	**Black Hills**	**95.05**	**44**	*eP*	**P**	**17 12 03.2**	**-1.3**
YAK	**Yakutsk**	**95.39**	**338**	*eP*	**P**	**17 12 04.5**	**-1.1**
YAK				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.6						
YAK	**Yakutsk**	**95.39**	**338**	*eP*	**P**	**17 12 04.5**	**-1.1**
	comp=Z,16nm,0.7s,mb5.6						
BVAR	**Borovoye Array**	**122.00**	**319**	PKP	PKPdf	17 17 34.0	-0.4
	comp=Z,1.2nm,0.6s,baz=114,slow=2.3,SNR=7.8						
ARCES	**ARCESS Array B**	**132.26**	**349**	PKP	PKPdf	17 17 53.2	-0.5
	comp=Z,2.5nm,0.9s,baz=45,slow=1.7,SNR=3.9						
FINES	**FINESS Array B**	**139.10**	**343**	PKhKP		17 17 57.8	
	comp=Z,0.8nm,0.8s,baz=45,slow=3.9,SNR=7.6						
FINES				PKP	PKPdf	17 18 06.2	-0.3
	comp=Z,15nm,1.3s,baz=63,slow=4.3,SNR=8.4						
NB2	**NORSAR Subarra**	**142.31**	**353**	PKP	PKPdf	17 18 08.4	-3.6
	comp=Z,1.8nm,0.6s,baz=16,slow=3.3						
NOA	**NORSAR Array B**	**142.31**	**353**	PKhKP		17 18 08.7	
	comp=Z,3.5nm,0.9s,baz=16,slow=4.8,SNR=9.4						
ANN	**Anapa**	**144.86**	**315**	*e*PKIKP	PKPdf	17 18 15.5	-1.5
ANN				pmax	pmax		
	comp=Z,69nm,1.1s						
SUW	**Suwalki**	**146.13**	**338**	*e*PKP	PKPdf	17 18 19.5	+0.6
MUD	**Monsted U'grnd**	**147.03**	**353**	*i* PKP2	PKPab	17 18 29.9	+3.5
MUD				pmax	pmax		
	comp=Z,12nm,0.6s						
MUD	**Monsted U'grnd**	**147.03**	**353**	*i* P	PKPdf	17 18 29.9	+10
	comp=Z,12nm,0.6s						
BSD	**Bornholm Skovb**	**147.43**	**347**	*e*PKP2	PKPab	17 18 25.0	-3.0
BSD				pmax	pmax		
	comp=Z,12nm,0.6s						
BSD	**Bornholm Skovb**	**147.43**	**347**	*i* P	PKPdf	17 18 25.0	+4.0
	comp=Z,12nm,0.6s						
WAR	**Warsaw**	**148.33**	**338**	*e*PKHKP		17 18 16.2	
WAR	**Warsaw**	**148.33**	**338**	*e*PKP	PKPdf	17 18 16.2	-6.3
ASF	**Jabal al Asfar**	**148.79**	**293**	PKPbc	PKPdf	17 18 28.7	+4.8
	comp=Z,4.4nm,0.8s,baz=167,slow=1.7,SNR=4.4						
DMUB	**Kingscourt**	**149.06**	**11**	*e*P	PKPdf	17 18 36.0	+12
DMUB	**Kingscourt**	**149.06**	**11**	⇑*i*P	PKPdf	17 18 37.1	+13
BRTR	**Keskin Array B**	**149.47**	**309**	PKPbc	PKPdf	17 18 30.1	+5.4
	comp=Z,2.3nm,0.8s,baz=140,slow=4.4,SNR=13						
DCN	**Croghan**	**149.53**	**12**	*e*P	PKPdf	17 18 37.3	+13
DCN	**Croghan**	**149.53**	**12**	⇑*i*P	PKPdf	17 18 38.3	+14
KWP	**Kalwaria**	**149.82**	**334**	*e*P	PKPdf	17 18 30.0	+5.0
KWP	**Kalwaria**	**149.82**	**334**	*e*PKP	PKPdf	17 18 30.0	+5.0
OJC	**Ojcow**	**150.44**	**338**	*e*PKP	PKPdf	17 18 31.8	+5.9
KOLS	**Kolonicke sedl**	**150.55**	**333**	*e*PKP	PKPdf	17 18 33.3	+7.2
KOLS				*e*		17 18 39.3	
CRVS	**Cervenica-Dubn**	**150.90**	**334**	*e*P	PKPdf	17 18 38.3	+12
CRVS	**Cervenica-Dubn**	**150.90**	**334**	*e*	PKPdf	17 18 38.3	+12
NIE	**Niedzica**	**150.93**	**336**	*e*PKP	PKPdf	17 18 34.0	+7.3
KSP	**Ksiaz**	**151.01**	**342**	*e*P	PKPdf	17 18 34.0	+7.3
KSP				*e*pP		17 18 42.0	
KSP	**Ksiaz**	**151.01**	**342**	*e*PKP	PKPdf	17 18 33.8	+7.1
MLR	**Muntele Rosu**	**151.31**	**325**	PKPbc	PKPdf	17 18 34.3	+6.9
	comp=Z,2.2nm,0.4s,baz=7.3,slow=18,SNR=7.6						
OKC	**Ostrava-Krasne**	**151.33**	**339**	*e*PKPbc	PKPdf	17 18 34.8	+7.5
OKC				*e*PKPab	PKPab	17 18 43.6	-0.6
UPC	**Upice**	**151.39**	**342**	*e*PKPbc	PKPdf	17 18 34.8	+7.5
UPC				*e*PKPab	PKPab	17 18 42.2	-2.2
CLL	**Collm**	**151.40**	**346**	⇑*i*PKIKP	PKPdf	17 18 34.0	+6.7
CLL				*i*		17 18 41.1	
CLL				pmax	pmax		
	comp=Z,13nm,0.8s						
CLL	**Collm**	**151.40**	**346**	⇑*i*PKP1	PKPdf	17 18 34.0	+6.7
CLL				*i*		17 18 38.8	
CLL				*i* PKP2	PKPab	17 18 41.1	-3.3
CLL				*i* *PKPK2		17 19 13.3	
DPC	**Dobruska-Polom**	**151.44**	**342**	*e*PKPbc	PKPdf	17 18 34.6	+7.2
DPC				*e*PKPab	PKPab	17 18 44.4	-0.2
MORC	**Moravsky Berou**	**151.58**	**340**	*e*P	PKPdf	17 18 34.7	+7.1
BRG	**Berggiesshubel**	**151.59**	**345**	*i* PKIKP	PKPdf	17 18 34.9	+7.3
BRG				*i*		17 18 42.7	
BRG				pmax	pmax		
	comp=Z,14nm,1.0s						
KECS	**Kecovo**	**151.62**	**335**	*e*P	PKPdf	17 18 37.5	+10
KECS				*e*		17 18 44.6	
KECS	**Kecovo**	**151.62**	**335**	*e*PKP	PKPab	17 18 44.6	-0.8
KECS	**Kecovo**	**151.62**	**335**	*e*	PKPdf	17 18 37.5	+10
PVCC	**Panska Ves**	**151.76**	**344**	*e*PKPbc	PKPdf	17 18 35.6	+7.7
PVCC				*e*PKPab	PKPab	17 18 41.9	-4.0
VYHS	**Vyhne**	**152.24**	**337**	*e*P	PKPdf	17 18 39.8	+11
VYHS				*e*		17 18 47.2	
VYHS	**Vyhne**	**152.24**	**337**	*e*PKP	PKPab	17 18 47.2	-0.8
VYHS	**Vyhne**	**152.24**	**337**	*e*	PKPdf	17 18 39.8	+11
PRU	**Pruhonice**	**152.26**	**343**	*e*PKPbc	PKPdf	17 18 39.1	+10
PRU				*e*PKPab	PKPab	17 18 43.5	-4.6
PRU				*ex*	x	17 18 47.7	
NKC	**Novy Kostel**	**152.53**	**346**	*e*PKPab	PKPab	17 18 45.0	-4.2
NKC				*ex*	x	17 18 49.1	
SMOL	**Smolenice**	**152.71**	**338**	*e*PKP	PKPab	17 18 49.6	-0.4
SRO	**Srobarova**	**153.00**	**336**	*e*PKP	PKPab	17 18 50.7	-0.5
ZST	**Bratislava**	**153.10**	**338**	*e*PKP	PKPab	17 18 51.3	-0.3
KHC	**Kasperske Hory**	**153.30**	**344**	*e*PKPbc	PKPdf	17 18 39.0	+8.9
KHC				*ex*	x	17 18 45.8	
KHC				*e*PKPab	PKPab	17 18 52.0	-0.4
GERES	**GERESS Array B**	**153.53**	**344**	PKPbc	PKPdf	17 18 38.2	+7.8
	comp=Z,0.6nm,0.5s,slow=1.3,SNR=5.6						
LEGS	**Legarje**	**155.65**	**338**	*e*P	PKPab	17 19 01.0	-1.5
CEY	**Cerknica**	**156.13**	**339**	*e*P	PKPab	17 19 03.0	-1.5
LPG	**La Plagne**	**158.09**	**352**	*e*P	PKPab	17 19 12.6	-0.4
	comp=Z,24nm,1.2s						

*IGQ **15** 17:22:25.1,3.96S×81.36W,h12km±8km,mb5.0,Error ellipse: s-maj=15.0km s-min=7.6km az=31.0*
*NEIC **15** 17:22:33.4±4.1,3.68S×80.89W,h19km±26km,mb4.4/5, Error ellipse: s-maj=14.0km s-min=9.7km az=62.0*
*IDC **15** 17:22:36.0±1.1,3.44S×80.67W,h31km±6km,mb3.8/7, mb1 4.0/9,mb1mx3.8/19,mbtmp4.1/9,ML4.1/2,MS3.9/6, Ms1 3.9/6,ms1mx3.3/21,Error ellipse: s-maj=48.4km s-min=18.6km az=50.0*

ISC 15 17:22:30.6±0.5,**3.80S**±0.04×**81.05W**±0.05,**h12**km, (**h31**km±1.2km:**pP-P**),**n42**,σ1§**14**/43,**mb4.1**/10,**MS3.9**/5, **3C-1D**,**Near coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**3.33**	**46**	P	**Pn**	**17 23 23.4**	**-0.2**
ARRY	**Arrayan**	**3.46**	**49**	P	**Pn**	**17 23 24.6**	**-0.8**
PATA	**Patacocha**	**3.47**	**49**	P	**Pn**	**17 23 26.1**	**+0.5**
CUSU	**Cusua**	**3.48**	**48**	P	**Pn**	**17 23 27.8**	**+2.1**
RETU	**Refugio**	**3.50**	**48**	P	**Pn**	**17 23 26.5**	**+0.5**
JUIV	**Juive**	**3.50**	**48**	P	**Pn**	**17 23 30.8**	**+4.7**
ULBA	**Ulba**	**3.53**	**49**	P	**Pn**	**17 23 27.1**	**+0.6**
RUN2	**Runtun**	**3.54**	**48**	P	**Pn**	**17 23 27.4**	**+0.8**
PISA	**Pisayambo**	**3.81**	**44**	⇓P	**Pn**	**17 23 31.3**	**+0.9**
NAS1	**Nasa**	**4.07**	**39**	P	**Pn**	**17 23 35.0**	**+1.0**
VC1	**Cotopaxi 1**	**4.11**	**40**	P	**Pn**	**17 23 35.1**	**+0.5**
JUA2	**San Juan 2**	**4.32**	**34**	P	**Pn**	**17 23 37.9**	**+0.1**
JUA2				S	**Sn**	**17 24 29.4**	**+0.7**
TERV	**Terraza Guagua**	**4.36**	**34**	P	**Pn**	**17 23 38.2**	**0.0**
TERV				S	**Sn**	**17 24 29.5**	**0.0**
PINO	**Pino**	**4.37**	**34**	⇑P	**Pn**	**17 23 38.0**	**-0.4**
ANTI	**Antisana**	**4.41**	**41**	P	**Pn**	**17 23 38.7**	**-0.3**
YANA	**Yana**	**4.42**	**34**	⇑P	**Pn**	**17 23 38.5**	**-0.6**
YANA				S	**Sn**	**17 24 29.2**	**-1.9**
OTAV	**Otavalo**	**4.78**	**33**	*e*Pn	**Pn**	**17 23 42.6**	**-1.6**
OTAV				*e*Sn	**Sn**	**17 24 21.9**	**-18**
CAYR	**Refugio Cayamb**	**4.86**	**39**	P	**Pn**	**17 23 45.8**	**+0.4**
CAYA	**Cayambe**	**4.92**	**39**	P	**Pn**	**17 23 46.8**	**+0.7**
COTA	**Cotacachi**	**4.92**	**33**	⇑P	**Pn**	**17 23 46.2**	**0.0**
COTA				S	**Sn**	**17 24 43.7**	**-0.2**
NNA	**Nana**	**9.14**	**153**	*e*Pn	**P**	**17 24 43.3**	**-1.9**
	13nm,0.7s						
NNA				*e*S	**Sn**	**17 26 28.6**	**-0.5**
PAYG	**Puerto Ayora**	**9.73**	**288**	*e*P	**P**	**17 24 53.4**	**-0.3**
	28nm,1.1s						
SDV	**Santo Domingo**	**16.33**	**39**	Pn	**P**	**17 26 18.7**	**-2.9**
	1.4nm,0.3s,baz=233,slow=8.8,SNR=19						
LPAZ	**La Paz**	**17.75**	**135**	P	**P**	**17 26 42.2**	**+2.8**
	0.2nm,0.3s,baz=335,slow=16,SNR=9.8						
LPAZ				LR	LR	17 34 47.3	
	comp=Z,385nm,19.4s,baz=103,slow=41						
LPAZ	**La Paz**	**17.75**	**135**	*e*P	**P**	**17 26 41.1**	**+1.7**
	5.1nm,0.8s						
LPAZ				LR	LR	17 34 47.2	
LVC	**Limon Verde**	**22.09**	**149**	P	**P**	**17 27 30.3**	**+2.8**
	4.7nm,0.8s,mb3.9,baz=303,slow=9.6,SNR=4.2						
LVC				LR	LR	17 36 36.1	
	comp=Z,167nm,19.1s,MS3.5,baz=208,slow=38						
SJG	**San Juan**	**26.27**	**34**	P	**P**	**17 28 08.9**	**+1.1**
	22nm,1.0s,mb4.7,baz=294,slow=12,SNR=2.9						
SJG	**San Juan**	**26.27**	**34**	P	**P**	**17 28 05.5**	**-2.4**
	78nm,1.4s,mb5.0						
BDFB	**Brasilia**	**34.56**	**112**	P	**P**	**17 29 20.8**	**-0.6**
	1.6nm,0.6s,mb4.2,baz=267,slow=13,SNR=3.3						
BDFB				LR	LR	17 44 19.7	
	comp=Z,164nm,19.1s,MS3.8,baz=178,slow=38						
KSU1	**Kansas State U**	**45.04**	**343**	P	**P**	**17 30 41.4**	**-6.8**
ANMO	**Albuquerque**	**45.35**	**330**	P	**P**	**17 30 52.6**	**+1.9**
	5.0nm,1.1s,mb4.3						
PDAR	**Pinedale Array**	**53.05**	**334**	P	**P**	**17 31 49.5**	**-0.4**
	0.7nm,0.8s,mb3.7,baz=127,slow=7.3,SNR=6.2						
PDAR				pP	pP	17 31 59.5	+5.8
	1.4nm,0.9s,baz=124,slow=9.8,SNR=7.6						
NVAR	**Mina Array Bea**	**54.34**	**324**	P	**P**	**17 32 00.5**	**+1.0**
	0.6nm,0.7s,mb3.6,baz=146,slow=6.0,SNR=6.3						
NVAR				pP	pP	17 32 09.2	+6.1
	0.8nm,0.7s,baz=139,slow=6.3,SNR=6.1						
HLID	**Hailey**	**55.90**	**331**	*e*P	**P**	**17 32 10.7**	**-0.1**
	2.8nm,0.9s,mb4.3						
YKA	**Yellowknife Ar**	**70.87**	**344**	P	**P**	**17 33 47.1**	**-2.1**
	0.3nm,0.6s,mb3.4,baz=142,slow=5.5,SNR=5.9						
YKA				pP	pP	17 33 57.3	+4.4
	0.5nm,0.7s,baz=138,slow=5.8,SNR=5.1						
DBIC	**Dimbokro**	**76.77**	**82**	P	**P**	**17 34 21.9**	**-2.6**
	1.1nm,0.6s,mb4.0,baz=222,slow=10,SNR=3.6						
DBIC				LR	LR	18 09 12.1	
	comp=Z,85nm,18.0s,MS4.1,baz=334,slow=37						
RAR	**Rarotonga**	**78.12**	**249**	LR	LR	18 01 23.5	
	comp=Z,70nm,21.0s,MS4.0,baz=100,slow=30						
QSPA	**South Pole Qui**	**86.27**	**180**	*e*P	**P**	**17 35 13.7**	**+0.8**
	6.0nm,1.1s,mb4.7						
VNDA	**Vanda**	**91.98**	**191**	LR	LR	18 14 21.3	
	comp=Z,67nm,18.2s,MS4.1,baz=156,slow=34						
BVAR	**Borovoye Array**	**125.59**	**21**	PKP	PKPdf	17 41 33.1	-2.3
	0.5nm,0.8s,baz=297,slow=3.2,SNR=3.9						
ZAL	**Zalesovo**	**128.70**	**11**	PKP	PKPdf	17 41 39.2	-2.1
	1.0nm,0.9s,baz=210,slow=1.5,SNR=6.1						
WRA	**Warramunga Arr**	**137.98**	**234**	PKP	PKPdf	17 41 57.3	-2.3
	0.5nm,0.8s,baz=122,slow=1.7,SNR=6.1						

*CSEM **15** 18:12:01.8±0.3,33.32N×48.56E,h2km,ML3.8/1,Error ellipse: s-maj=8.1km s-min=2.2km az=101.0*
*THR **15** 18:12:01.8±0.5,33.40N×48.44E,h17km±5km,ML2.9*
*TEH **15** 18:12:02.6,33.14N×48.29E,h20km,Mn3.1*

ISC 15 18:12:02.9±0.6,**33.36N**±0.04×**48.35E**±0.05,**h17**km,**n16**, σ0§**99**/23,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.07**	**320**	Pg	**Pb**	**18 12 21.0**	**-1.6**
SHGR	**Shooshtar-Gavs**	**1.30**	**163**	*e*PG	**Pn**	**18 12 26.1**	**-0.4**
SHGR				*e*SG	**Sb**	**18 12 44.1**	**+1.3**
SHGR				AML	AML	18 12 48.5	
	comp=N,266nm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.30**	**163**	*e*Pg	**Pn**	**18 12 26.1**	**-0.4**
	SNR=91						
SHGR				*e*Sg	**Sb**	**18 12 44.2**	**+1.4**
	comp=N,266nm,0.6s,SNR=91						
IVIS	**Veys**	**1.71**	**313**	Pn	**Pn**	**18 12 32.7**	**+0.5**
IGHG	**Ghaleghazi**	**1.77**	**304**	Pn	**Pn**	**18 12 33.5**	**+0.3**
ASAO	**Ashtian**	**1.83**	**49**	*e*PG	**Pn**	**18 12 33.8**	**-0.2**
ASAO				AML	AML	18 13 05.8	
	comp=N,114nm,0.7s						
IDHR	**Dehrash**	**2.11**	**310**	Pn	**Pn**	**18 12 38.1**	**+0.1**
IRAZ	**Razeghan**	**2.42**	**32**	Pn	**Pn**	**18 12 43.9**	**+1.4**
IRAZ				Sn	**Sn**	**18 13 14.4**	**+2.4**
IQOM	**Qom**	**2.70**	**56**	Pn	**Pn**	**18 12 46.5**	**0.0**
IQOM				Sn	**Sn**	**18 13 19.8**	**+0.8**
IBRJ	**Borojen**	**2.93**	**122**	Pn	**Pn**	**18 12 49.8**	**+0.1**
IMHD	**Mahdasht**	**3.01**	**39**	Pn	**Pn**	**18 12 51.6**	**+0.7**
IMHD				Sn	**Sn**	**18 13 28.0**	**+1.1**
IAFJ	**Afjeh**	**3.73**	**47**	Pn	**Pn**	**18 13 01.1**	**

ISC 15 18:36:20.3±0.6, 8.93N±0.09×93.4E±0.1, h20km, h20km±1.5km:pP-P, n51, σ1§15/50, mb4.3/23, MS4.3/2, 2C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.79**	**346**	*e*P	**Pn**	**18 36 53.5**	**-11**
PBA				*e*S	Sn	18 37 08.9	-29
PBA				*e*		18 37 09.7	
	comp=N,704nm,0.3s						
PBA				*e*		18 37 09.9	
	comp=E,689nm,0.6s						
CMAR	**Chiang Mai Arr**	**10.88**	**29**	Pn	**P**	**18 38 59.5**	**+1.3**
	comp=E,0.1nm,0.3s,baz=216,slow=14,SNR=6.4						
CMAR				LR	LR	18 42 47.9	
	comp=E,56nm,19.6s,baz=217,slow=36						
PALK	**Pallekele**	**12.70**	**263**	P	**P**	**18 39 16.1**	**-6.7**
	comp=E,27nm,1.2s						
SHL	**Shillong**	**16.61**	**355**	*e*	**P**	**18 40 15.0**	**+1.2**
JIRN	**Jiri**	**19.84**	**341**	*e*P	**P**	**18 40 51.6**	**-1.5**
	comp=E,24nm,0.8s						
PKI	**Pulchoki**	**20.02**	**339**	*e*P	**P**	**18 40 54.1**	**-0.9**
	comp=E,34nm,1.1s						
GUN	**Gumba**	**20.17**	**340**	*e*P	**P**	**18 40 56.4**	**-0.2**
	comp=E,29nm,0.6s						
KKN	**Kakani**	**20.27**	**339**	*e*P	**P**	**18 40 57.1**	**-0.5**
	comp=E,12nm,0.7s						
GKN	**Gorkha**	**20.70**	**338**	*e*P	**P**	**18 41 02.2**	**+0.1**
	comp=E,16nm,0.6s						
LSA	**Lhasa**	**20.77**	**354**	P	**P**	**18 41 01.6**	**-1.2**
LSA	**Lhasa**	**20.77**	**354**	*e*P	**P**	**18 41 01.4**	**-1.4**
LSA				pmax	pmax		
	comp=Z,11nm,0.6s						
LSA	**Lhasa**	**20.77**	**354**	*e*P	**P**	**18 41 01.4**	**-1.4**
	comp=Z,10nm,0.6s						
KOLN	**Koldanda**	**20.91**	**335**	*e*P	**P**	**18 41 04.2**	**0.0**
	comp=Z,29nm,0.6s						
ENH	**Enshi**	**26.01**	**33**	P	**P**	**18 41 56.9**	**+3.0**
	comp=Z,6.7nm,0.9s,mb4.2						
DGAR	**Diego Garcia**	**26.46**	**233**	P	**P**	**18 41 51.6**	**-6.7**
DGAR				pmax	pmax		
	comp=Z,87nm,1.0s,mb5.2						
DGAR	**Diego Garcia**	**26.46**	**233**	P	**P**	**18 41 51.6**	**-6.7**
	comp=Z,87nm,1.0s,mb5.2						
AAK	**Ala-Archa**	**37.45**	**337**⇑	*e*P	**P**	**18 43 35.6**	**+1.3**
AAK	**Ala-Archa**	**37.45**	**337**	*e*P	**P**	**18 43 33.6**	**-0.7**
	comp=Z,9.3nm,1.0s,mb4.6						
SONM	**Songino Array**	**40.30**	**14**	P	**P**	**18 43 56.7**	**-1.3**
	comp=Z,1.0nm,0.9s,mb3.6,baz=211,slow=7.2,SNR=6.3						
SONM				pPcP		18 46 07.8	
	comp=Z,0.5nm,0.7s,baz=211,slow=2.7,SNR=3.7						
ZAL	**Zalesovo**	**45.41**	**353**	P	**P**	**18 44 39.0**	**-0.5**
	comp=Z,1.3nm,0.4s,mb4.1,baz=285,slow=8.0,SNR=3.8						
BVAR	**Borovoye Array**	**47.76**	**341**	P	**P**	**18 44 58.3**	**+0.2**
	comp=Z,1.3nm,0.6s,mb4.1,baz=143,slow=7.4,SNR=6.1						
BRVK	**Borovoye**	**47.83**	**341**	*e*P	**P**	**18 44 57.7**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BRVK	**Borovoye**	**47.83**	**341**	*e*P	**P**	**18 44 57.7**	**-0.8**
	comp=Z,2.1nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**48.25**	**342**	*e*P	**P**	**18 45 00.8**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
CHKZ	**Chkalovo**	**48.25**	**342**	*e*P	**P**	**18 45 00.8**	**-1.0**
	comp=Z,6.4nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**49.45**	**126**	P	**P**	**18 45 11.7**	**+0.1**
	comp=Z,1.0nm,0.8s,mb3.9,baz=304,slow=8.8,SNR=8.0						
WRA				pP	pP	18 45 18.3	+0.7
	comp=Z,1.2nm,0.6s,baz=304,slow=8.8,SNR=6.9						
WRA				PcP	PcP	18 46 34.4	+0.5
	comp=Z,0.4nm,0.7s,baz=316,slow=3.2,SNR=4.3						
WRA				pPcP		18 46 40.7	
	comp=Z,0.3nm,0.5s,baz=315,slow=3.0,SNR=7.1						
WRAB	**Tennant Creek**	**49.46**	**126**	*e*P	**P**	**18 45 09.1**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
WRAB	**Tennant Creek**	**49.46**	**126**	*e*P	**P**	**18 45 09.1**	**-2.5**
	comp=Z,15nm,1.3s,mb4.9						
ASAR	**Alice Springs**	**51.14**	**130**	P	**P**	**18 45 24.3**	**-0.1**
	comp=Z,2.5nm,1.3s,mb4.0,baz=306,slow=7.2,SNR=4.9						
ASAR				pP	pP	18 45 31.9	+1.5
	comp=Z,0.6nm,0.6s,baz=306,slow=6.9,SNR=5.1						
ASAR				PcP	PcP	18 46 40.9	+0.8
	comp=Z,0.3nm,0.7s,baz=315,slow=3.2,SNR=3.5						
ASAR				pPcP		18 46 47.1	
	comp=Z,0.3nm,0.5s,baz=320,slow=3.4,SNR=4.5						
GNI	**Garni**	**53.19**	**314**	P	**P**	**18 45 39.1**	**-0.5**
GNI				pmax	pmax		
	comp=Z,17nm,1.4s						
GNI	**Garni**	**53.19**	**314**	P	**P**	**18 45 39.1**	**-0.5**
	comp=Z,17nm,1.4s,mb4.8						
KIV	**Kislovodsk**	**56.06**	**318**	P	**P**	**18 46 00.3**	**-0.1**
KIV				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
KIV	**Kislovodsk**	**56.06**	**318**	P	**P**	**18 46 00.3**	**-0.2**
	comp=Z,12nm,1.1s,mb4.8						
YAK	**Yakutsk**	**59.23**	**19**‖	*e*P	**P**	**18 46 27.2**	**+4.7**
BRTR	**Keskin Array B**	**61.20**	**310**	P	**P**	**18 46 35.5**	**-0.8**
	comp=Z,1.4nm,0.8s,mb4.1,baz=117,slow=6.5,SNR=8.0						
TIXI	**Tiksi**	**66.34**	**12**⇑	*e*P	**P**	**18 47 07.5**	**-2.0**
FINES	**FINESS Array B**	**71.45**	**332**	P	**P**	**18 47 41.6**	**+0.4**
	comp=Z,1.3nm,0.6s,mb4.0,baz=135,slow=2.7,SNR=8.8						
FINES				pP	pP	18 47 47.0	-0.5
	comp=Z,1.4nm,0.6s,baz=108,slow=4.4,SNR=2.8						
ARCES	**ARCESS Array B**	**74.03**	**340**	P	**P**	**18 47 57.7**	**+1.4**
	comp=Z,1.9nm,0.6s,mb4.2,baz=100,slow=7.4,SNR=8.7						
ARCES				pP	pP	18 48 03.0	+0.5
	comp=Z,4.1nm,0.9s,baz=96,slow=6.8,SNR=2.7						
ARCES				LR	LR	19 22 04.0	
	comp=Z,125nm,18.4s,MS4.2,baz=14,slow=37						
TIP	**Timpagrande**	**74.08**	**308**	P	**P**	**18 47 56.8**	**-0.3**
GERES	**GERESS Array B**	**76.57**	**318**	P	**P**	**18 48 12.5**	**+1.3**
	comp=Z,4.5nm,1.1s,mb4.3,baz=90,slow=5.3,SNR=11						
HFS	**Hagfors**	**77.19**	**330**	P	**P**	**18 48 16.5**	**+2.1**
	comp=Z,4.4nm,0.9s,mb4.4,baz=135,slow=6.3,SNR=6.5						
NB2	**NORSAR Subarra**	**78.46**	**331**	P	**P**	**18 48 21.2**	**-0.2**
	comp=Z,3.4nm,0.9s,mb4.3,baz=92,slow=5.8						
NB2	**NORSAR Subarra**	**78.46**	**331**	P	**P**	**18 48 21.2**	**-0.2**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
NOA	**NORSAR Array B**	**78.46**	**331**	P	**P**	**18 48 21.9**	**+0.5**
	comp=Z,1.4nm,0.9s,mb3.9,baz=98,slow=4.0,SNR=2.9						
NOA				pP	pP	18 48 27.9	+0.3
	comp=Z,1.3nm,0.7s,baz=95,slow=5.1,SNR=2.7						
DAVOX	**Davos**	**79.14**	**316**	P	**P**	**18 48 27.2**	**+1.9**
	comp=Z,1.7nm,0.5s,mb4.2,baz=109,slow=12,SNR=4.5						
LPG	**La Plagne**	**81.37**	**315**	*e*P	**P**	**18 48 39.2**	**+1.9**
	comp=Z,20nm,1.0s,mb4.7						
LPG	**La Plagne**	**81.37**	**315**	*e*P	**P**	**18 48 39.2**	**+1.9**
LPG				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
BNI	**Bardonecchia**	**81.45**	**314**	*e*P	**P**	**18 48 42.1**	**+4.4**
BNI				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
BNI	**Bardonecchia**	**81.45**	**314**	*e*P	**P**	**18 48 42.0**	**+4.4**
	comp=Z,9.8nm,1.0s,mb4.7						
JMIC	**Jan Mayen**	**85.48**	**341**	LR	LR	19 33 06.9	
	comp=Z,141nm,19.8s,MS4.4,baz=94,slow=40						
ILAR	**Eielson Array**	**94.04**	**22**	P	**P**	**18 49 37.9**	**-0.3**
	comp=Z,0.4nm,0.7s,mb3.9,baz=275,slow=4.3,SNR=5.0						

*PRU **15** 18:44:40.9, 51.47N×16.14E*
*WAR **15** 18:44:40.7, 51.51N×16.12E, h1km, ML2.5, Mining Induced*
*NEIC **15** 18:44:45.2±1.2, 51.23N×15.79E, h5km, MG2.9(WAR), Error ellipse: s-maj=15.8km s-min=7.1km az=195.0*

ISC 15 18:44:37.8±0.9, 51.52N±0.05×16.12E±0.04, n13, σ1§09/28, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**171**	*e*Pg	**Pg**	**18 44 53.0**	**+1.5**
KSP				*e*Sg	**Sg**	**18 45 02.0**	**+1.3**
UPC	**Upice**	**1.02**	**184**	*e*Pg	**Pg**	**18 44 59.3**	**+1.2**
UPC				*e*Sg	**Sg**	**18 45 12.1**	**+0.5**
DPC	**Dobruska-Polom**	**1.18**	**174**	*e*Pg	**Pg**	**18 45 01.9**	**+0.6**
DPC				*e*Sg	**Sg**	**18 45 17.0**	**0.0**
PVCC	**Panska Ves**	**1.40**	**225**	*e*Pg	**Pg**	**18 45 06.2**	**+0.6**
BRG	**Berggiesshubel**	**1.52**	**246**	*e*Pn	**Pn**	**18 45 07.9**	**+1.7**
BRG				*i* Pg	**Pg**	**18 45 08.9**	**+0.9**
BRG				*i* Sg	**Sg**	**18 45 29.1**	**+0.9**
PRU	**Pruhonice**	**1.83**	**214**	*e*PG	**Pg**	**18 45 13.7**	**-0.7**
PRU				*ex*	x	18 45 18.1	
PRU				*ex*	x	18 45 30.8	
PRU				*e*SG	**Sg**	**18 45 38.2**	**-0.6**
CLL	**Collm**	**1.96**	**265**	*e*Pg	**Pg**	**18 45 16.0**	**-1.0**
CLL				*i* Sg	**Sg**	**18 45 42.7**	**-0.5**
CLL	**Collm**	**1.96**	**265**	*e*PG	**Pg**	**18 45 16.0**	**-1.0**
CLL				*i*		18 45 20.4	
CLL				*i* SG	**Sg**	**18 45 42.7**	**-0.5**
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*PG	**Pg**	**18 45 19.6**	**-0.5**
OKC				*e*SG	**Sg**	**18 45 45.8**	**-2.6**
NKC	**Novy Kostel**	**2.66**	**242**	*e*PG	**Pg**	**18 45 30.8**	**-0.1**
NKC				*e*SG	**Sg**	**18 46 06.5**	**+0.2**
OJC	**Ojcow**	**2.67**	**118**	*e*PG	**Pg**	**18 45 31.0**	**-0.1**
OJC				*e*SG	**Sg**	**18 46 06.0**	**-0.6**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN	**Pn**	**18 45 27.4**	**+1.4**
KHC				*e*PG	**Pg**	**18 45 32.7**	**-2.9**
KHC				*e*SN	**Sn**	**18 45 57.3**	**-4.7**
KHC				*e*SG	**Sg**	**18 46 12.2**	**-1.9**
MOX	**Moxa**	**2.97**	**255**	*e*Pg	**Pg**	**18 45 36.1**	**-1.0**
MOX				*e*Sg	**Sg**	**18 46 16.2**	**-0.6**

*IDC **15** 18:51:53.4±1.0, 9.04N×93.52E, mb3.6/6, mb1 3.7/7, mb1mx3.6/17, mbtmp3.5/7, ML3.0/1, Error ellipse: s-maj=50.3km s-min=20.1km az=49.0*

ISC 15 18:51:56.8±0.9, 9.0N±0.1×93.7E±0.2, h33km, n14, σ1§15/14, mb3.6/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.68**	**28**	Pn	**P**	**18 54 29.9**	**-0.8**
	0.0nm,0.3s,baz=221,slow=17,SNR=3.2						
JIRN	**Jiri**	**19.86**	**340**	*e*P	**P**	**18 56 30.0**	**+2.0**
	8.4nm,0.4s						
PKI	**Pulchoki**	**20.05**	**338**	*e*P	**P**	**18 56 31.0**	**+1.0**
	15nm,1.0s						
GUN	**Gumba**	**20.20**	**340**	*e*P	**P**	**18 56 32.7**	**+1.2**
	12nm,0.6s						
DMN	**Daman**	**20.20**	**337**	*e*P	**P**	**18 56 32.8**	**+1.2**
KKN	**Kakani**	**20.30**	**338**	*e*P	**P**	**18 56 33.4**	**+0.8**
GKN	**Gorkha**	**20.73**	**337**	*e*P	**P**	**18 56 35.9**	**-1.2**
	14nm,0.5s						
KOLN	**Koldanda**	**20.95**	**334**	*e*P	**P**	**18 56 38.3**	**-1.1**
	9.7nm,0.6s						
BVAR	**Borovoye Array**	**47.78**	**341**	P	**P**	**19 00 30.5**	**-2.3**
	0.1nm,0.3s,mb3.3,baz=162,slow=4.6,SNR=3.8						
WRA	**Warramunga Arr**	**49.28**	**126**	P	**P**	**19 00 45.4**	**+0.6**
	0.4nm,0.5s,mb3.7,baz=306,slow=8.4,SNR=7.2						
WRA				PcP	PcP	19 02 08.1	+0.5
	0.3nm,0.9s,baz=297,slow=1.9,SNR=4.3						
ASAR	**Alice Springs**	**50.98**	**130**	P	**P**	**19 00 58.0**	**+0.3**
	0.6nm,1.1s,mb3.5,baz=307,slow=7.3,SNR=4.9						
BRTR	**Keskin Array B**	**61.36**	**310**	P	**P**	**19 02 10.5**	**-1.4**
	0.5nm,0.6s,mb3.8,baz=127,slow=7.2,SNR=2.7						
ARCES	**ARCESS Array B**	**74.06**	**340**	P	**P**	**19 03 30.3**	**-0.5**
	1.6nm,0.8s,mb4.0,baz=100,slow=5.5,SNR=3.7						
GERES	**GERESS Array B**	**76.69**	**318**	P	**P**	**19 03 46.4**	**+0.1**
	0.8nm,0.8s,mb3.7,baz=104,slow=5.5,SNR=7.5						

*IDC **15** 19:04:46.0±2.0, 43.80N×105.41W, mb4.2/1, mb1 3.8/4, mb1mx3.4/18, mbtmp3.5/4, ML3.8/3, Error ellipse: s-maj=42.7km s-min=13.4km az=148.0*
*NEIC **15** 19:04:46.2±0.7, 43.79N×105.10W, ML3.3, Error ellipse: s-maj=11.4km s-min=7.2km az=104.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.

ISC 15 19:04:44.2±0.8, 43.86N±0.06×105.1W±0.1, n21, σ1§29/23, mb4.4/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.57**	**186**	*e*Pn	**Pn**	**19 05 29.0**	**+1.3**
RWWY	**Rawlins**	**2.66**	**216**	*e*Pn	**Pn**	**19 05 30.7**	**+1.6**
BW06	**Boulder Array**	**3.42**	**253**	*e*Pn	**Pn**	**19 05 40.4**	**+0.6**
BW06				*e*Sn	**Sn**	**19 06 16.0**	**-5.8**
PDAR	**Pinedale Array**	**3.42**	**253**	Pn	**Pn**	**19 05 40.5**	**+0.6**
	3.1nm,0.3s,baz=74,slow=16,SNR=97						
PDAR				Lg		19 06 25.4	
	9.6nm,0.3s,baz=75,slow=35,SNR=7.8						
LKWY	**Lake**	**3.86**	**282**	P	**Pn**	**19 05 49.2**	**+3.0**
LOHW	**Long Hollow**	**3.98**	**268**	*e*P	**Pn**	**19 05 53.6**	**+5.8**
ISCO	**Idaho Springs**	**4.08**	**185**	*e*Pn	**Pn**	**19 05 49.7**	**+0.6**
ISCO				*e*Sn	**Sn**	**19 06 48.1**	**+10**
QLMT	**Earthquake Lak**	**4.63**	**284**	P	**Pn**	**19 05 59.0**	**+2.0**
HRY	**Holter Researc**	**5.53**	**303**	*e*Pn	**Pn**	**19 06 10.5**	**+0.8**
MCMT	**McKenzie Canyo**	**5.63**	**283**	*e*Pn	**Pn**	**19 06 07.1**	**-4.1**
SPUT	**South Promonto**	**5.98**	**247**	*e*Pn	**Pn**	**19 06 15.2**	**-0.9**
SRU	**San Rafael**	**6.25**	**222**	*e*Pn	**Pn**	**19 06 18.1**	**-1.7**
TMUT	**Trail Mountain**	**6.45**	**227**	*e*P	**Pn**	**19 06 21.3**	**-1.5**
BGU	**Big Grassy Mou**	**6.55**	**246**	*e*P	**Pn**	**19 06 22.0**	**-2.2**
MSU	**Marysvale**	**7.54**	**227**	*e*Pn	**Pn**	**19 06 34.0**	**-4.0**
FFC	**Flin Flon**	**11.06**	**10**	*e*P	**P**	**19 07 25.5**	**-1.1**
	2.6nm,0.6s						
NVAR	**Mina Array Bea**	**11.32**	**246**	Pn	**P**	**19 07 29.8**	**-0.5**
NVAR	**Mina Array Bea**	**11.32**	**246**	Pn	**P**	**19 07 29.8**	**-0.5**
	0.1nm,0.3s,baz=52,slow=11,SNR=6.9						
YKA	**Yellowknife Ar**	**19.47**	**347**	P	**P**	**19 09 15.0**	**0.0**
YKA	**Yellowknife Ar**	**19.47**	**347**	P	**P**	**19 09 15.0**	**0.0**
	0.1nm,0.3s,baz=161,slow=13,SNR=4.3						
ARCES	**ARCESS Array B**	**61.27**	**18**	P	**P**	**19 15 02.9**	**0.0**
	2.6nm,0.8s,mb4.4,baz=338,slow=4.9,SNR=3.8						

*NIED **15** 19:06:00.29, 69.60N×130.70E, h32km, Mw4.2 Best double couple: M0=2.15×10^15 NP1:φs189°, δ79°, λ-81°. NP2: φs331°, δ14°, λ-127°.*
*JMA **15** 19:06:07.7±0.4, 29.56N×130.71E, h20km±5km, M3.7*
*IDC **15** 19:06:11.1±5.7, 29.50N×130.56E, h54km±52km, mb3.5/8, mb1 3.7/9, mb1mx3.6/21, mbtmp3.8/9, ML3.4/1, MS3.5/5, Ms1 3.5/5, ms1mx3.3/26, Error ellipse: s-maj=43.4km s-min=16.8km az=75.0*

ISC 15 19:06:08.7±0.8, 29.55N±0.05×130.64E±0.10, h50km±8km, n22, σ1§02/22, mb3.8/8, MS3.7/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.73**	**294**	P	**P**	**19 06 22.2**	**-0.6**
JNN				*e*S	**S**	**19 06 33.4**	**+0.2**
JKC	**Kuchinoerabu**	**0.99**	**337**	*e*S	**S**	**19 06 39.4**	**-0.2**
JTN	**Tanegashima 3**	**1.14**	**15**	P	**P**	**19 06 28.5**	**0.0**
JTN				*e*S	**S**	**19 06 43.1**	**-0.2**
JAM	**Amami Oshima**	**1.45**	**219**	P	**P**	**19 06 33.7**	**+0.7**
JAM				S	**S**	**19 06 53.3**	**+2.2**
JTSR	**Tashiro 2**	**1.63**	**8**	P	**P**	**19 06 35.8**	**+0.3**
JSU	**Suzuyama**	**1.96**	**355**	P	**P**	**19 06 39.6**	**-0.5**
JTK	**Tokunoshima**	**2.30**	**221**	P	**P**	**19 06 45.5**	**+0.5**
JOW	**Kunigami**	**3.42**	**218**	P	**P**	**19 06 59.4**	**-1.5**
	7.1nm,0.3s,baz=98,slow=16,SNR=16						
JOW				S	**S**	**19 07 39.8**	**-0.7**
	12nm,0.3s,baz=135,slow=20,SNR=4.7						
JOW				LR	LR	19 08 39.0	
	comp=Z,348nm,21.4s,baz=61,slow=44						
JOW	**Kunigami**	**3.42**	**218**	P	**P**	**19 07 00.6**	**-0.3**
JKE	**Kume jima 2**	**4.69**	**228**	P	**P**	**19 07 17.7**	**-1.0**
ASAJ	**Asahikawa**	**17.38**	**30**	LR	LR	19 16 39.2	
	comp=Z,62nm,21.0s,baz=157,slow=36						
SONM	**Songino Array**	**26.12**	**321**	P	**P**	**19 11 41.4**	**+1.7**
	1.4nm,0.6s,mb3.7,baz=140,slow=9.9,SNR=12						
CMAR	**Chiang Mai Arr**	**30.90**	**256**	LR	LR	19 25 56.0	
	comp=Z,47nm,20.1s,MS3.1,baz=60,slow=38						
ZAL	**Zalesovo**	**41.01**	**320**	LR	LR	19 33 05.9	
	comp=Z,70nm,18.1s,MS3.6,baz=74,slow=39						
BVAR	**Borovoye Array**	**49.29**	**316**	P	**P**	**19 14 53.8**	**-0.5**
	1.2nm,0.5s,mb4.2,baz=97,slow=9.6,SNR=18						
WRA	**Warramunga Arr**	**49.33**	**175**	P	**P**	**19 14 55.3**	**+0.2**
	0.7nm,0.7s,mb3.8,baz=353,slow=8.4,SNR=7.5						
ASAR	**Alice Springs**	**53.00**	**176**	P	**P**	**19 15 22.6**	**-0.2**
	0.5nm,0.6s,mb3.6,baz=8.2,slow=13,SNR=8.5						
STKA	**Stephens Creek**	**61.97**	**169**	P	**P**	**19 16 23.6**	**-2.3**
	1.4nm,0.6s,mb4.3,baz=301,slow=5.9,SNR=3.1						
FINES	**FINESS Array B**	**71.03**	**331**	P	**P**	**19 17 21.5**	**-1.4**
	1.8nm,1.0s,mb4.0,baz=68,slow=7.5,SNR=4.3						
YKA	**Yellowknife Ar**	**74.62**	**26**	P	**P**	**19 17 44.8**	**+0.9**
	0.1nm,0.3s,mb3.2,baz=289,slow=9.3,SNR=4.3						
RPZ	**Rata Peaks**	**81.77**	**152**	LR	LR	19 48 21.1	
	comp=Z,164nm,21.6s,MS4.4,baz=209,slow=31						
PDAR	**Pinedale Array**	**89.25**	**40**	P	**P**	**19 19 02.5**	**+2.0**
	0.4nm,0.8s,mb3.8,baz=333,slow=3.3,SNR=3.6						

IDC 15 19:19:02.6±6.4, 5.04N×125.06E, h612km±106km, mb2.9/7, mb1 3.0/7, mb1mx2.8/18, mbtmp3.9/7, Error ellipse: s-maj=192.3km s-min=22.6km az=71.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.45**	**160**	P	P	19 23 52.9	-1.9
	0.6nm,0.7s,baz=341,slow=9.2,SNR=9.6						
ASAR	**Alice Springs**	**29.81**	**164**	P	P	19 24 22.6	-1.0
	0.7nm,0.6s,baz=340,slow=7.1,SNR=6.5						
STKA	**Stephens Creek**	**39.95**	**158**	P	P	19 25 45.1	-2.1
	2.6nm,1.0s,baz=346,slow=8.3,SNR=2.9						
SONM	**Songino Array**	**45.54**	**342**	P	P	19 26 29.3	-1.5
	0.9nm,0.6s,baz=160,slow=8.6,SNR=6.1						
ZAL	**Zalesovo**	**58.68**	**333**	P	P	19 28 02.5	-2.1
	0.7nm,0.3s,baz=348,slow=17,SNR=3.3						
BVAR	**Borovoye Array**	**65.32**	**327**	P	P	19 28 45.4	-1.9
	0.7nm,0.4s,baz=135,slow=6.1,SNR=9.3						
FINES	**FINESS Array B**	**89.90**	**332**	P	P	19 30 57.9	-0.6
	1.3nm,0.8s,baz=63,slow=3.1,SNR=4.2						

*IPEC **15** 19:29:46.3±0.3, 51.57N×16.24E, ML2.9/3, Error ellipse: s-maj=2.0km s-min=1.5km az=34.0*
*BGR **15** 19:29:46.5±0.7, 51.55N×16.19E, h1km, ML3.6/5, Error ellipse: s-maj=14.5km s-min=5.6km az=173.0*
*MOS **15** 19:29:46.3±0.9, 51.60N×16.01E, h10km, mb3.9/1, Error ellipse: s-maj=8.4km s-min=4.2km az=80.3*
*NEIC **15** 19:29:46.7±0.4, 51.59N×16.17E, h5km, ML3.6(SZGRF), ML3.5(VIE), ML3.3(CLL), ML3.1(BRG), Error ellipse: s-maj=4.7km s-min=3.5km az=210.0*
*LDG **15** 19:29:47.6±0.5, 51.44N×16.23E, h1km, Ml3.8/6, Error ellipse: s-maj=12.4km s-min=3.7km az=11.0, Suspected Mining induced.*
*IDC **15** 19:29:47.7±0.6, 51.53N×16.05E, mb3.5/2, mb1 3.6/11, mb1mx3.5/23, mbtmp3.5/11, ML3.4/9, Error ellipse: s-maj=10.4km s-min=6.1km az=109.0*
*PRU **15** 19:29:48.0, 51.50N×16.15E, Felt In Harrachov*
*CSEM **15** 19:29:48.3±0.1, 51.48N×16.13E, h0km, ML3.8/10, Error ellipse: s-maj=1.7km s-min=1.0km az=19.0*
*WAR **15** 19:29:48.1, 51.51N×16.12E, h1km, ML3.4, Mining Induced*

ISC 15 19:29:44.9±0.3, 51.50N±0.02×16.15E±0.03, n98, σ1§47/165, mb3.6/2, 10C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**172**	*e*P	**Pg**	**19 30 00.5**	**+2.3**
KSP				*e*		19 30 14.7	
KSP	**Ksiaz**	**0.67**	**172**	*e*Pg	**Pg**	**19 30 00.5**	**+2.3**
KSP				*e*Sg	**Sg**	**19 30 09.7**	**+2.6**
KSP				*e*		19 30 14.7	
KSP	**Ksiaz**	**0.67**	**172**	*e*Pg	**Pg**	**19 30 00.7**	**+2.4**
KSP				*e*Sg	**Sg**	**19 30 08.2**	**+1.1**
KSP				*e*Sn	**Sn**	**19 30 09.9**	**-2.7**
UPC	**Upice**	**1.00**	**185**	*e*PG	**Pg**	**19 30 06.9**	**+2.0**
UPC				*e*SG	**Sg**	**19 30 20.1**	**+1.9**
DPC	**Dobruska-Polom**	**1.16**	**175**	*e*PG	**Pg**	**19 30 09.4**	**+1.3**
DPC				*e*SG	**Sg**	**19 30 25.3**	**+1.8**
	295nm,0.9s						
DPC	**Dobruska-Polom**	**1.16**	**175**	Pg	**Pg**	**19 30 09.4**	**+1.3**
DPC				*e*Sg	**Sg**	**19 30 24.8**	**+1.3**
PVCC	**Panska Ves**	**1.40**	**226**	*e*PG	**Pg**	**19 30 13.8**	**+1.0**
PVCC	**Panska Ves**	**1.40**	**226**	Pg	**Pg**	**19 30 13.8**	**+1.0**
PVCC				*e*Sg	**Sg**	**19 30 32.8**	**+1.4**
BRG	**Berggiesshubel**	**1.53**	**246**	*e*Pn	**Pn**	**19 30 14.7**	**+1.2**
BRG				*e*Sg	**Sg**	**19 30 36.4**	**+0.7**
BRG	**Berggiesshubel**	**1.53**	**246**	*i* P	**Pn**	**19 30 14.6**	**+1.1**
BRG				*i*		19 30 36.7	
BRG	**Berggiesshubel**	**1.53**	**246**	*i* Pn	**Pn**	**19 30 14.6**	**+1.1**
BRG				*i* Pg	**Pg**	**19 30 16.4**	**+1.0**
BRG				*i* Sg	**Sg**	**19 30 36.7**	**+1.0**
BRG	**Berggiesshubel**	**1.53**	**246**	*i* Pg	**Pg**	**19 30 16.4**	**+1.0**
BRG				Sg	**Sg**	**19 30 36.4**	**+0.7**
RUE	**Ruedersdorf**	**1.76**	**305**	*e*P	**Pn**	**19 30 17.5**	**+0.6**
PRU	**Pruhonice**	**1.83**	**215**	*e*P	**Pn**	**19 30 19.3**	**+1.4**
PRU				*e*		19 30 45.6	
**

KOLL	**Kolacno**	**3.27 153**	*e*P	**Pn**	**19 30 39.9**	**+1.5**
KOLL			*e*		19 31 30.4	
KOLL	**Kolacno**	**3.27 153**	*e*PN	**Pn**	**19 30 39.9**	**+1.5**
KOLL			*e*PG	**Pg**	**19 30 48.2**	**-1.9**
KOLL			*e*SG	**Sg**	**19 31 30.4**	**-3.3**
KOLL	**Kolacno**	**3.27 153**	*e*Pg	**Pg**	**19 30 48.2**	**-1.9**
KOLL			*e*Sg	**Sg**	**19 31 30.4**	**-3.3**
NIE	**Niedzica**	**3.38 127**	*e*P	**Pg**	**19 30 51.4**	**-1.0**
NIE			*e*S	**Sg**	**19 31 37.4**	**0.0**
VYHS	**Vyhne**	**3.48 149**	*e*PN	**Pn**	**19 30 42.1**	**+0.8**
VYHS			*e*PG	**Pg**	**19 30 52.4**	**-1.9**
GRA1	**Grafenberg Arr**	**3.63 242**	*e*Pn	**Pn**	**19 30 44.7**	**+1.2**
GRA1	**Grafenberg Arr**	**3.63 242**	Pn	**Pn**	**19 30 44.7**	**+1.2**
GRF	**Grafenberg Arr**	**3.63 242**	*e*Pn	**Pn**	**19 30 44.7**	**+1.2**
BSD	**Bornholm Skovb**	**3.69 349**	*i* P	**Pn**	**19 30 43.5**	**-0.9**
BSD			*i* S	**Sn**	**19 31 24.1**	**-5.2**
MOA	**Molln**	**3.86 199** ⇑	*i*PN	**Pn**	**19 30 48.0**	**+1.2**
MOA			*i* SG	**Sg**	**19 31 51.2**	**-2.1**
	35nm,0.5s					
ARSA	**Arzberg**	**4.28 186** ⇑	*i*PN	**Pn**	**19 30 54.8**	**+2.1**
ARSA			*i* SG	**Sg**	**19 32 03.0**	**-4.3**
	42nm,0.6s					
CRVS	**Cervenica-Dubn**	**4.29 125**	*e*PN	**Pn**	**19 30 55.2**	**+2.3**
CRVS			*e*		19 31 08.6	
CRVS	**Cervenica-Dubn**	**4.29 125**	*e*Pg	**Pg**	**19 31 08.6**	**-1.9**
PSZ	**Piszkesteto**	**4.33 144**	*e*P	**Pn**	**19 30 54.4**	**+0.9**
KWP	**Kalwaria**	**4.58 112**	*e*PG	**Pg**	**19 31 12.0**	**-4.3**
KOLS	**Kolonicke sedl**	**4.70 121**	*e*PN	**Pn**	**19 30 59.5**	**+0.8**
KOLS			*e*PG	**Pg**	**19 31 15.4**	**-3.3**
KBA	**Koelnbreinsper**	**4.79 204** ⇓	*i*PN	**Pn**	**19 31 00.9**	**+0.8**
KBA			*i* SG	**Sg**	**19 32 21.0**	**-3.5**
	16nm,0.5s					
WATA	**Walderalm**	**5.13 217** ⇑	*i*PN	**Pn**	**19 31 06.0**	**+1.2**
WATA			*i* SG	**Sg**	**19 32 31.4**	**-4.3**
	16nm,0.7s					
WATA	**Walderalm**	**5.13 217** ⇑	*i*Pn	**Pn**	**19 31 06.0**	**+1.2**
	16nm,0.7s					
WATA			*i* Sg	**Sg**	**19 32 31.4**	**-4.3**
WTTA	**Wattenberg**	**5.17 217** ⇑	*i*PN	**Pn**	**19 31 06.5**	**+1.1**
WTTA			*i* SG	**Sg**	**19 32 32.9**	**-4.0**
	11nm,0.5s					
WTTA	**Wattenberg**	**5.17 217** ⇑	*i*Pn	**Pn**	**19 31 06.5**	**+1.1**
	11nm,0.5s					
WTTA			*i* Sg	**Sg**	**19 32 32.9**	**-4.0**
MOTA	**Moosalm**	**5.31 220** ⇑	*i*PN	**Pn**	**19 31 07.9**	**+0.6**
MOTA			*i* SG	**Sg**	**19 32 37.6**	**-4.0**
	12nm,0.7s					
MOTA	**Moosalm**	**5.31 220** ⇑	*i*Pn	**Pn**	**19 31 07.9**	**+0.6**
	12nm,0.7s					
MOTA			*i* Sg	**Sg**	**19 32 37.6**	**-4.0**
SQTA	**Sankt Quirin**	**5.37 219** ⇑	*i*PN	**Pn**	**19 31 09.7**	**+1.5**
SQTA			*i* SG	**Sg**	**19 32 40.4**	**-3.2**
	8.9nm,0.4s					
SQTA	**Sankt Quirin**	**5.37 219** ⇑	*i*Pn	**Pn**	**19 31 09.7**	**+1.5**
	8.9nm,0.4s					
SQTA			*i* Sg	**Sg**	**19 32 40.4**	**-3.2**
DAVOX	**Davos**	**6.27 223**	Pn	**Pn**	**19 31 21.7**	**+0.8**
	0.5nm,0.3s,baz=68,slow=11,SNR=5.7					
DAVOX			Lg		19 33 05.7	
	1.0nm,0.3s,baz=174,slow=23,SNR=3.1					
CDF	**Champ du Feu**	**6.51 245**	*e*Pn	**Pn**	**19 31 23.9**	**-0.4**
CDF			*e*Sg	**Sg**	**19 33 12.9**	**-8.7**
	38nm,0.9s					
HINF	**Hinteralfeld**	**7.07 242**	*e*Pn	**Pn**	**19 31 30.8**	**-1.4**
HINF			*e*Sg	**Sg**	**19 33 29.6**	**-11**
	28nm,0.8s					
HAU	**Haudompre**	**7.25 245**	*e*Pn	**Pn**	**19 31 32.9**	**-1.8**
HAU			*e*Sg	**Sg**	**19 33 35.2**	**-11**
	16nm,0.6s					
GIVF	**Givet**	**7.32 263**	*e*Sg	**Sg**	**19 33 37.3**	**-11**
	28nm,0.9s					
RFYF	**Reffroy**	**7.45 251**	*e*Pn	**Pn**	**19 31 35.1**	**-2.4**
MEZF	**Maizieres J'vi**	**7.76 252**	*e*Pn	**Pn**	**19 31 41.3**	**-0.5**
SFTF	**Sexfontaines**	**7.91 250**	*e*Pn	**Pn**	**19 31 41.7**	**-2.2**
SFTF			*e*Sg	**Sg**	**19 33 55.3**	**-13**
	17nm,0.8s					
AKASG	**Malin Array Be**	**8.27 90**	Pn	**P**	**19 31 46.2**	**-2.7**
	2.4nm,0.3s,baz=279,slow=12,SNR=18					
AKASG			Sn	**Sn**	**19 33 17.0**	**-7.2**
	1.0nm,0.3s,baz=285,slow=26,SNR=4.6					
AKASG			Lg		19 34 13.5	
	0.3nm,0.3s,baz=278,slow=29,SNR=3.5					
LPL	**La Plagne**	**8.66 230**	*e*Pn	**P**	**19 31 52.6**	**-1.7**
LPG	**La Plagne**	**8.66 230**	*e*Pn	**P**	**19 31 52.9**	**-1.5**
HFS	**Hagfors**	**8.76 352**	Pn	**P**	**19 31 53.4**	**-2.4**
	0.0nm,0.3s,baz=166,slow=12,SNR=4.7					
HFS			Sn	**Sn**	**19 33 28.8**	**-7.6**
	0.1nm,0.3s,baz=180,slow=24,SNR=3.1					
MBDF	**Montbardon**	**9.23 226**	*e*Pn	**P**	**19 32 01.3**	**-1.0**
SSF	**Saint Saulge**	**9.38 247**	*e*Pn	**P**	**19 32 02.0**	**-2.4**
NOA	**NORSAR Array B**	**9.94 346**	Pn	**P**	**19 32 07.7**	**-4.3**
	0.1nm,0.3s,baz=166,slow=14,SNR=2.8					
FRF	**La Foret Royal**	**10.21 223**	*e*Pn	**P**	**19 32 14.4**	**-1.3**
FINES	**FINESS Array B**	**11.36 25**	Pn	**P**	**19 32 26.8**	**-4.6**
	0.3nm,0.3s,baz=194,slow=7.9,SNR=9.1					
FINES			Sn	**S**	**19 34 25.6**	**-15**
	0.2nm,0.3s,baz=228,slow=17,SNR=3.6					
EKA	**Eskdalemuir Ar**	**12.13 296**	Pn	**P**	**19 32 36.2**	**-5.6**
	0.3nm,0.3s,baz=108,slow=14,SNR=4.2					
ARCES	**ARCESS Array B**	**18.62 10**	Pn	**P**	**19 34 01.9**	**-3.6**
	0.3nm,0.3s,baz=188,slow=13,SNR=13					
BVAR	**Borovoye Array**	**32.57 66**	P	**P**	**19 36 20.2**	**+0.7**
	0.3nm,0.5s,mb3.5,baz=284,slow=6.1,SNR=4.7					
YKA	**Yellowknife Ar**	**59.88 336**	P	**P**	**19 39 54.0**	**-0.1**
YKA			pmax	pmax		
	comp=Z,1.0nm,0.9s					
YKA	**Yellowknife Ar**	**59.88 336**	P	**P**	**19 39 54.0**	**-0.1**
	comp=Z,0.8nm,0.9s,mb3.7,baz=30,slow=6.6,SNR=5.2					

TAP 15 19:29:49.4, 23.05N×121.00E, h2km, ML3.7, 14D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.14**	**6**	⇓*i*P	Pg	19 29 53.0	+0.8
ELDTW				S	Sg	19 29 55.2	+1.1
TWG	**Pinlang**	**0.24**	**164**	⇓*i*P	Pg	19 29 55.0	+0.8
TWG				S	Sg	19 29 58.3	+0.9
STYT	**Tauyuan**	**0.25**	**297**	⇓*i*P	Pg	19 29 54.9	+0.5
STYT				S	Sg	19 29 58.5	+0.7
TTN	**Taitung**	**0.32**	**155**	*e*P	Pg	19 29 57.4	+1.5
TTN				S	Sg	19 30 02.5	+2.3
CHKT	**Chengkung**	**0.34**	**82**	⇓*i*P	Pg	19 29 58.3	+2.0
CHKT				S	Sg	19 30 04.4	+3.7
SGST	**Jiashian**	**0.39**	**275**	⇓*i*P	Pg	19 29 58.0	+0.9
SGST				S	Sg	19 30 04.4	+2.1
WTP	**Ta-pu**	**0.41**	**299**	⇓*i*P	Pg	19 29 58.7	+1.1
WTP				S	Sg	19 30 04.8	+1.8
TWF1	**Yuli**	**0.41**	**42**	⇓*i*P	Pg	19 29 58.3	+0.8
TWF1				S	Sg	19 30 03.9	+1.0
YUS	**Yu-Shan**	**0.44**	**354**	⇓P	Pg	19 29 58.7	+0.5
YUS				S	Sg	19 30 04.7	+0.6
ECL	**Taimali**	**0.45**	**185**	*e*P	Pg	19 29 58.4	-0.1
ECL				S	Sg	19 30 04.5	-0.1
CHN1	**Nanshi**	**0.46**	**287**	⇓*i*P	Pg	19 29 60.0	+1.4
CHN1				S	Sg	19 30 07.3	+2.7
SSD	**Sandimen**	**0.46**	**228**	*e*P	Pg	19 29 58.0	-0.6
SSD				S	Sg	19 30 03.7	-0.9
CHN4	**Tsaushan**	**0.48**	**309**	⇓*i*P	Pg	19 30 00.3	+1.3
CHN4				S	Sg	19 30 07.5	+2.1
ALS	**Alishan**	**0.49**	**339**	⇓P	Pg	19 30 00.1	+0.8
ALS				S	Sg	19 30 07.2	+1.3
TWK	**Hsinying**	**0.52**	**295**	⇓P	Pg	19 30 01.3	+1.5
TWK				S	Sg	19 30 09.3	+2.6
EHY	**Hungye**	**0.54**	**33**	⇓*i*P	Pg	19 30 00.7	+0.4
EHY				S	Sg	19 30 08.0	+0.5
SGLT	**Jiouru**	**0.57**	**236**	*e*P	Pg	19 30 01.7	+0.8
SGLT				S	Sg	19 30 07.9	-0.5
TWM1	**Shoushan**	**0.58**	**247**	*e*P	Pg	19 30 02.5	+1.5
CHN3	**Shinhua**	**0.58**	**273**	*e*P	Pg	19 30 04.0	+2.8
CHN3				S	Sg	19 30 15.5	+6.5
CHN5	**Tsauling**	**0.62**	**332**	⇓*i*P	Pg	19 30 02.9	+1.1
CHN5				S	Sg	19 30 11.7	+1.7
EAST	**Anshuo**	**0.68**	**192**	*e*P	Pg	19 30 03.0	0.0
EAST				S	Sg	19 30 13.2	+1.2
CHN2	**Minshiung**	**0.68**	**315**	*e*P	Pg	19 30 04.8	+1.8
CHN2				S	Sg	19 30 15.4	+3.3
CHY	**Chiayi**	**0.69**	**310**	*e*P	Pg	19 30 04.9	+1.7
CHY				S	Sg	19 30 15.4	+2.9
TAW	**Tawu**	**0.70**	**188**	*e*P	Pg	19 30 03.4	0.0
WGK	**Gukeng**	**0.75**	**328**	*e*P	Pg	19 30 06.2	+1.8
WGK				S	Sg	19 30 17.4	+3.0
SCZT	**Fangliau**	**0.76**	**208**	*e*P	Pg	19 30 04.1	-0.5
SCZT				S	Sg	19 30 15.4	+0.6
CHN8	**Yiju**	**0.78**	**292**	*e*P	Pg	19 30 06.5	+1.4
CHN8				S	Sg	19 30 18.8	+3.2
KAU	**Kaohsiung**	**0.80**	**233**	*e*P	Pg	19 30 07.7	+2.3
SMLT	**Sun Moon Lake**	**0.83**	**354**	*e*P	Pg	19 30 06.4	+0.3
SMLT				S	Sg	19 30 20.0	+2.8
ESL	**Shilin**	**0.86**	**28**	P	Pg	19 30 06.4	-0.2
ESL				S	Sg	19 30 18.6	+0.5
TYC	**Yuchr**	**0.86**	**351**	*e*P	Pg	19 30 06.9	+0.2
TYC				S	Sg	19 30 20.8	+2.7
WNT	**Mingjian**	**0.87**	**341**	*e*P	Pg	19 30 08.4	+1.5
WNT				S	Sg	19 30 21.4	+2.8
TWP	**Hsiaoliuchiu**	**0.92**	**220**	*e*P	Pb	19 30 11.0	+3.4
WSF	**Szhu**	**0.92**	**309**	*e*P	Pb	19 30 08.9	+1.1
WSF				S	Sg	19 30 22.5	+2.3
WTCT	**Ta-ch'eng**	**1.04**	**321**	*e*P	Pb	19 30 10.6	+0.7
WTCT				S	Sb	19 30 25.8	+2.0
HEN	**Hengchun**	**1.07**	**193**	*e*P	Pb	19 30 12.1	+1.8
HWA	**Hwalien**	**1.08**	**31**	*e*P	Pb	19 30 11.5	+1.1
TCU	**Taichung**	**1.13**	**345**	*e*P	Pb	19 30 11.4	+0.1
TCU				S	Sb	19 30 29.5	+3.1
TWD	**Chiawan**	**1.16**	**28**	*e*P	Pb	19 30 12.0	+0.1
TWD				S	Sb	19 30 29.0	+1.8
TWT	**Tachien**	**1.21**	**8**	*e*P	Pb	19 30 13.0	+0.4
TWT				S	Sb	19 30 30.6	+2.1
WDGT	**Dungji**	**1.25**	**280**	*e*P	Pb	19 30 13.6	+0.2
WDGT				S	Sb	19 30 31.0	+1.2
TWQ1	**Liyutan**	**1.31**	**351**	*e*P	Pb	19 30 16.3	+1.9
TWQ1				S	Sb	19 30 34.7	+3.2
NSY	**Sanyi**	**1.38**	**351**	*e*P	Pb	19 30 17.4	+1.8
NSY				S	Sb	19 30 36.8	+3.3
NNS	**Nan Shan**	**1.43**	**14**	*e*P	Pn	19 30 17.0	+0.7
NNS				S	Sb	19 30 36.7	+1.8
PNG	**Penghu**	**1.43**	**291**	*e*P	Pn	19 30 16.0	-0.3
PNG				S	Sb	19 30 35.1	+0.2
ENA	**Nanau**	**1.53**	**26**	*e*P	Pn	19 30 17.8	-0.1
ENA				S	Sb	19 30 39.3	+1.4
NSK	**Sanguang**	**1.65**	**11**	*e*P	Pn	19 30 20.3	+0.7
NSK				S	Sb	19 30 44.1	+2.7
ENTT	**Nioudou**	**1.67**	**18**	*e*P	Pn	19 30 21.7	+1.9
ENTT				S	Sb	19 30 43.9	+2.0
TWC	**Suao**	**1.74**	**26**	*e*P	Pn	19 30 21.6	+0.9
TWC				S	Sn	19 30 44.8	+1.0
TWE	**Neicheng**	**1.77**	**20**	*e*P	Pn	19 30 23.3	+2.0
TWE				S	Sn	19 30 46.6	+1.9
TWA	**Mucha**	**1.99**	**15**	*e*P	Pn	19 30 25.8	+1.3
TWA				S	Sn	19 30 54.7	+4.3
TAP	**Taipei**	**2.03**	**13**	*e*P	Pn	19 30 26.8	+1.8
TAP1	**Taipei**	**2.04**	**13**	*e*P	Pn	19 30 29.1	+4.0
TWS1	**Kuangyinshan**	**2.08**	**11**	*e*P	Pn	19 30 27.9	+2.2
NWF	**Wu-fen Shan**	**2.13**	**19**	*e*P	Pn	19 30 28.7	+2.2

*CSEM **15** 19:35:01.6±0.2, 28.47N×52.46E, h20km, mb3.8/2, Error ellipse: s-maj=6.2km s-min=2.2km az=34.0*
*IDC **15** 19:35:02.9±1.1, 28.83N×52.73E, mb3.9/11, mb1 4.0/12, mb1mx3.8/20, mbtmp3.8/12, ML3.7/1, Error ellipse: s-maj=24.9km s-min=23.9km az=27.0*
*THR **15** 19:35:03.2±0.7, 28.45N×52.56E, h27km±6km, ML3.5*
*NEIC **15** 19:35:06.8±0.7, 28.64N×52.59E, h35km, mb3.8/5, Error ellipse: s-maj=14.2km s-min=12.2km az=173.0*
*TEH **15** 19:35:21.5, 29.75N×52.03E, h10km, Mn3.2*

ISC 15 19:35:02.2±1.3, 28.56N±0.06×52.52E±0.06, h17km±11km, n30, σ0§83/33, mb3.8/15, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.50**	**124**	*e*PG	**Pb**	**19 35 11.9**	**-0.2**
GHIR				*e*SG	**Sb**	**19 35 18.8**	**-0.1**
GHIR				AML	AML	19 35 20.5	
	comp=E,6μm,0.4s						
GHIR	**Ghir-Karzin**	**0.50**	**124**	*e*Pg	**Pb**	**19 35 11.9**	**-0.2**
	SNR=115						
GHIR				*e*Sg	**Sb**	**19 35 18.8**	**-0.1**
	comp=E,6μm,0.4s,SNR=115						
BNDS	**Bandar-Abbas**	**3.43**	**109**	*e*PN	**Pn**	**19 35 56.3**	**+0.1**
BNDS				AML	AML	19 37 08.1	
	comp=N,65nm,0.5s						
KRBR	**Kerman**	**3.97**	**68**	*e*PN	**Pn**	**19 36 05.3**	**+1.6**
KRBR				SN	**Sn**	**19 36 49.9**	**-0.5**
IQOM	**Qom**	**6.38**	**349**	Pn	**Pn**	**19 36 37.7**	**-0.2**
IFIR	**Firoozkooh**	**7.06**	**2**	Pn	**Pn**	**19 36 48.2**	**+0.7**
IRAZ	**Razeghan**	**7.17**	**343**	Pn	**Pn**	**19 36 48.2**	**-0.7**
IAFJ	**Afjeh**	**7.30**	**355**	Pn	**Pn**	**19 36 50.8**	**-0.1**
RAYN	**Ar Rayn**	**8.06**	**233**	Pn	**P**	**19 37 01.0**	**-0.4**
	comp=N,33nm,0.3s,SNR=20						
BRTR	**Keskin Array B**	**19.15**	**310**	P	**P**	**19 39 26.8**	**-0.5**
	comp=N,0.2nm,0.3s,baz=125,slow=12,SNR=3.0						
AAK	**Ala-Archa**	**22.64**	**46**	P	**P**	**19 40 05.3**	**+1.7**
	comp=N,1.6nm,0.6s,mb3.6						
AAK	**Ala-Archa**	**22.64**	**46**	P	**P**	**19 40 05.3**	**+1.7**
	comp=N,1.6nm,0.6s,mb3.6						
BRVK	**Borovoye**	**27.77**	**23**	*e*P	**P**	**19 40 51.3**	**-0.7**
	comp=N,1.1nm,0.6s,mb3.7						
BRVK	**Borovoye**	**27.77**	**23**	*e*P	**P**	**19 40 51.3**	**-0.7**
	comp=N,1.1nm,0.6s,mb3.7						
BVAR	**Borovoye Array**	**27.78**	**23**	P	**P**	**19 40 51.8**	**-0.3**
	comp=N,0.6nm,0.4s,mb3.6,baz=216,slow=7.8,SNR=12						
CHKZ	**Chkalovo**	**28.39**	**23**	P	**P**	**19 40 52.0**	**-5.6**
	comp=N,3.8nm,1.4s,mb3.8						
KURK	**Kurchatov**	**29.62**	**34**	P	**P**	**19 41 01.7**	**-7.0**
	comp=N,2.8nm,1.2s,mb3.9						
KMBO	**Kilima Mbogo**	**32.95**	**209**	P	**P**	**19 41 43.5**	**+5.2**
	comp=N,1.7nm,0.7s,mb4.1,baz=232,slow=24,SNR=5.0						
KMBO	**Kilima Mbogo**	**32.95**	**209**	P	**P**	**19 41 40.1**	**+1.8**
	comp=N,3.4nm,0.9s,mb4.3						
ZAL	**Zalesovo**	**34.58**	**34**	P	**P**	**19 41 51.1**	**-0.9**
	comp=N,2.9nm,0.3s,mb4.7,baz=229,slow=5.6,SNR=10						
FINES	**FINESS Array B**	**37.29**	**339**	P	**P**	**19 42 14.5**	**-0.4**
	comp=N,1.7nm,0.9s,mb3.9,baz=146,slow=10.0,SNR=6.0						
KAF	**Kangasniemi**	**37.73**	**340**	*e*p	**P**	**19 42 21.9**	**+3.3**
HFS	**Hagfors**	**40.99**	**331**	P	**P**	**19 42 46.8**	**+1.1**
	comp=N,4.8nm,1.0s,mb4.1,baz=113,slow=11,SNR=4.8						
NOA	**NORSAR Array B**	**42.51**	**332**	P	**P**	**19 42 57.8**	**-0.3**
	comp=N,0.8nm,0.8s,mb3.5,baz=125,slow=9.5,SNR=2.7						
CMAR	**Chiang Mai Arr**	**43.51**	**93**	P	**P**	**19 43 05.9**	**-0.9**
	comp=N,0.2nm,0.5s,mb3.1,baz=295,slow=11,SNR=4.2						
ARCES	**ARCESS Array B**	**43.87**	**347**	P	**P**	**19 43 09.4**	**+0.4**
	comp=N,1.5nm,0.9s,mb3.7,baz=144,slow=7.8,SNR=3.0						
SONM	**Songino Array**	**45.50**	**50**	P	**P**	**19 43 21.5**	**-0.9**
	comp=N,0.4nm,0.6s,mb3.5,baz=252,slow=9.1,SNR=3.3						
ILAR	**Eielson Array**	**85.75**	**8**	P	**P**	**19 47 40.6**	**-0.5**
	comp=N,1.0nm,1.2s,mb3.9,baz=320,slow=5.8,SNR=6.4						
YKA	**Yellowknife Ar**	**88.67**	**354**	P	**P**	**19 47 55.9**	**+0.6**
	comp=N,0.8nm,0.8s,mb4.1,baz=10.0,slow=5.2,SNR=7.6						
YKA	**Yellowknife Ar**	**88.67**	**354**	P	**P**	**19 47 55.9**	**+0.6**

*CSEM **15** 19:47:04.7±0.6, 42.34N×45.46E, h40km, mb3.8, Error ellipse: s-maj=23.9km s-min=8.0km az=1.0, After OBN*

MOS 15 19:47:04.7±2.7, 42.34N×45.46E, h40km, mb3.8/1, 1D, Error ellipse: s-maj=34.8km s-min=14.8km az=158.0, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.65**	**60**	*e*P	P	19 47 13.2	-4.2
BTLR				*i* S	S	19 47 21.2	-5.5
BTLR				pmax	pmax		
	comp=Z,109nm,0.1s						
BTLR	**Botlikh**	**0.65**	**60**	*e*P	P	19 47 13.2	-4.2
	comp=Z,54nm,0.1s						
BTLR				*i* S	S	19 47 21.2	-5.5
XNZR	**Khunzakh**	**0.94**	**77**	*e*P	P	19 47 22.0	+0.4
XNZR				*i* S	S	19 47 35.0	+1.0
UNCR	**Uncukul**	**1.05**	**69**	*i* P	P	19 47 24.7	+1.6
UNCR				*i* S	S	19 47 37.7	+0.8
UNCR				pmax	pmax		
	comp=Z,23nm,0.2s						
UNCR	**Uncukul**	**1.05**	**69**	*i* P	P	19 47 24.7	+1.6
	comp=Z,12nm,0.2s						
UNCR				*i* S	S	19 47 37.7	+0.8
KRNR	**Karanay**	**1.17**	**65**	⇓*i*P	P	19 47 25.0	+0.2
KRNR				*i* S	S	19 47 39.5	-0.4
KRNR				pmax	pmax		
	comp=Z,21nm,0.2s						
KRNR	**Karanay**	**1.17**	**65**	*i* P	P	19 47 25.0	+0.2
	comp=Z,10nm,0.2s						
KRNR				*i* S	S	19 47 39.5	-0.4
DBC	**Dubki**	**1.22**	**56**	*e*P	P	19 47 27.5	+2.0
DBC				*e*S	S	19 47 42.5	+1.5
KMKR	**Kumukh**	**1.23**	**99**	*i* P	P	19 47 26.0	+0.3
KMKR				*i* S	S	19 47 43.3	+1.8
KMKR				pmax	pmax		
	comp=Z,64nm,0.2s						
KMKR	**Kumukh**	**1.23**	**99**	*i* P	P	19 47 26.0	+0.3
	comp=Z,32nm,0.2s						
ZEI	**Tsey**	**1.23**	**291**	*e*P	P	19 47 26.5	+0.8
ZEI				*e*		19 47 40.2	
ZEI				pmax	pmax		
	comp=Z,15nm,0.2s						
ZEI				smax			
	comp=Z,26nm,0.2s						
ZEI	**Tsey**	**1.23**	**291**	*e*P	P	19 47 26.5	+0.8
	comp=Z,7.5nm,0.2s						
ZEI				*e*S	S	19 47 40.2	-1.3
	comp=Z,13nm,0.2s						
BUJR	**Buynaksk**	**1.31**	**68**	*e*P	P	19 47 29.0	+2.1
BUJR				*e*S	S	19 47 47.0	+3.6

*IDC **15** 19:53:38.6±9.4, 32.00S×178.39W, h86km±90km, mb3.6/2, mb1 3.8/3, mb1mx3.5/13, mbtmp3.8/3, ML3.3/1, Error ellipse: s-maj=80.6km s-min=58.1km az=157.0*

ISC 15 19:53:42.7±3.1, 32.5S±0.1×178.3W±0.5, h150km, n11, σ1§01/12, mb3.7/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**6.78**	**209**	*e*P	**P**	**19 55 20.6**	**-0.1**
MWZ				S	**S**	**19 56 43.2**	**+6.3**
URZ	**Urewera**	**6.89**	**212**	P	**P**	**19 55 22.3**	**0.0**
	0.5nm,0.3s,baz=336,slow=19,SNR=8.7						
URZ				S	**S**	**19 56 42.5**	**+2.8**
	1.2nm,0.3s,baz=264,slow=23,SNR=11						
URZ	**Urewera**	**6.89**	**212**	*e*P	**P**	**19 55 22.2**	**0.0**
KNZ	**Kokohu**	**7.31**	**205**	S	**S**	**19 56 56.5**	**+6.6**
BFZ	**Birch Farm**	**9.30**	**207**	S	**S**	**19 57 38.0**	**+0.9**
MRZ	**Mangatainoka R**	**9.54**	**209**	S	**S**	**19 57 42.1**	**-0.9**
NNZ	**Nelson**	**10.98**	**215**	S	**S**	**19 58 16.6**	**-0.4**
KHZ	**Kahutara**	**11.86**	**211**	S	**S**	**19 58 36.0**	**-1.5**
ASAR	**Alice Springs**	**42.78**	**269**	P	**P**	**20 01 27.4**	**+0.3**
	0.6nm,0.6s,mb3.4,baz=103,slow=7.5,SNR=8.7						
WRA	**Warramunga Arr**	**43.96**	**274**	P	**P**	**20 01 36.4**	**-0.1**
	1.0nm,0.3s,mb4.0,baz=111,slow=8.1,SNR=63						
FINES	**FINESS Array B**	**146.98**	**339**	PKPbc	PKPbc	20 13 08.2	+2.0
	2.0nm,1.0s,SNR=3.7						

*IDC **15** 20:00:35.5±1.3, 5.02N×94.33E, mb3.8/7, mb1 3.9/8, mb1mx3.8/18, mbtmp3.7/8, ML3.2/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/17, Error ellipse: s-maj=54.6km s-min=19.7km az=56.0*

ISC 15 20:00:39.0±1.0, 5.1N±0.1×94.4E±0.2, h33km, n10, σ0§57/9, mb3.8/7, MS3.5/1, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.03**	**18**	Pn	**P**	**20 03 58.0**	**+0.3**
	0.0nm,0.3s,baz=224,slow=10,SNR=2.8						
SONM	**Songino Array**	**43.84**	**12**	P	**P**	**20 08 42.4**	**-1.3**
	0.2nm,0.4s,mb3.2,baz=342,slow=19,SNR=3.1						
WRA	**Warramunga Arr**	**46.46**	**124**	P	**P**	**20 09 05.0**	**-0.1**
	2.2nm,0.5s,mb4.3,baz=302,slow=9.1,SNR=33						
WB2	**Warramunga Arr**	**46.47**	**124**	⇓*i*P	**P**	**20 09 05.5**	**+0.4**
ASAR	**Alice Springs**	**47.95**	**128**	P	**P**	**20 09 16.6**	**-0.2**
	0.8nm,0.6s,mb3.9,baz=300,slow=8.0,SNR=13						
ZAL	**Zalesovo**	**49.35**	**353**	P	**P**	**20 09 28.1**	**+1.0**
	0.8nm,0.5s,mb4.0,baz=337,slow=7.5,SNR=4.5						
BVAR	**Borovoye Array**	**51.72**	**342**	P	**P**	**20 09 45.1**	**0.0**
	0.7nm,0.7s,mb3.7,baz=201,slow=38,SNR=3.2						
KMBO	**Kilima Mbogo**	**57.42**	**265**	LR	LR	20 31 10.5	
	comp=Z,40nm,20.3s,MS3.5,baz=81,slow=32						
FINES

21nm,0.3s,baz=120,slow=11,SNR=88
ASAJ Sn **S** **20 14 45.8 +5.0**
13nm,0.3s,baz=19,slow=26,SNR=7.3
KUR Kuril'sk 2.82 37 *e*P **P** **20 14 18.0 -0.9**
KUR *e*S **S** **20 14 51.2 -0.6**
KUR A 20 14 57.0
230nm,0.5s
KUR A 20 14 57.0
240nm,0.5s
SONM Songino Array 27.66 294 P **P** **20 19 19.0 -0.7**
1.2nm,0.6s,mb3.7,baz=82,slow=8.0,SNR=6.2
ILAR Eielson Array 42.81 36 P **P** **20 21 29.1 +0.3**
0.2nm,0.5s,mb3.1,baz=262,slow=5.3,SNR=10
FINES FINESS Array B 64.99 332 P **P** **20 24 10.6 -0.5**
1.0nm,0.6s,mb4.0,baz=60,slow=7.3,SNR=13
NB2 NORSAR Subarra 69.86 338 P **P** **20 24 41.8 +0.2**
2.1nm,0.8s,mb4.1,baz=32,slow=6.5
NOA NORSAR Array B 69.86 338 P **P** **20 24 41.8 +0.3**
2.1nm,0.8s,mb4.1,baz=35,slow=6.1,SNR=4.5

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*NAO **15** 20:45:56.5±2.7, 77.15N×17.86E, h14km±42km, ML2.4*
*BER **15** 20:45:58.1±6.9, 77.10N×15.97E, h14km±118km, MD2.6, ML2.4, ML2.4(NAO)*

ISC 15 20:45:54.9±1.5, 77.07N±0.07×15.5E±0.6, h18km±7km, n5, σ1°24/8, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.06**	**161**	*e*Pg	**Pb**	**20 45 58.6**	**+0.4**
HSP				*e*(Sg)	**Sb**	**20 46 00.2**	**-0.3**
SPA0	**Spitsbergen Ar**	**1.14**	**9**	Pg	**Pb**	**20 46 15.8**	**+0.2**
baz=172,slow=18							
SPA0				Lg		20 46 30.6	
baz=158,slow=37							
HOPEN	**Hopen**	**2.26**	**100**	*e*P	**Pn**	**20 46 32.9**	**+0.7**
HOPEN				*e*S	**Sn**	**20 46 59.4**	**-0.4**
HOPEN				AML	AML	20 47 10.3	
comp=Z,198nm,0.5s							
BJO	**Bjornoya**	**2.73**	**159**	*e*S	**Sn**	**20 47 12.8**	**+1.1**
BJO				AML	AML	20 47 39.4	
comp=Z,7.6nm,0.6s							
ARA0	**ARCESS Array S**	**8.09**	**154**	Pn	**P**	**20 47 52.5**	**-1.9**
baz=338,slow=11							
ARA0				Sn	**Sn**	**20 49 16.3**	**-10**
baz=357,slow=22							

IDC 15 21:22:19.0±1.4, 21.61N×144.47E, mb3.6/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.6/4, Error ellipse: s-maj=55.5km s-min=33.7km az=89.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.47**	**194**	P	P	21 30 15.9	-1.8
0.1nm,0.5s,baz=13,slow=8.7,SNR=4.7							
BVAR	**Borovoye Array**	**63.52**	**320**	P	P	21 32 51.7	-1.4
0.3nm,0.3s,baz=98,slow=8.2,SNR=5.3							
NVAR	**Mina Array Bea**	**82.26**	**52**	P	P	21 34 42.9	-0.8
0.5nm,0.8s,baz=286,slow=6.6,SNR=3.6							
FINES	**FINESS Array B**	**83.78**	**335**	P	P	21 34 49.0	-1.9
0.6nm,0.5s,baz=45,slow=2.0,SNR=5.4							

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*IDC **15** 21:25:53.5±0.6, 14.43N×92.22E, mb4.4/16, mb1 4.5/16, mb1mx4.4/21, mbtmp4.4/16, ML3.3/1, MS3.6/2, Ms1 3.7/2, ms1mx3.0/21, Error ellipse: s-maj=36.3km s-min=11.8km az=53.0*
*MOS **15** 21:25:56.8±1.0, 14.59N×92.44E, h33km, mb4.8/17, Error ellipse: s-maj=16.0km s-min=8.3km az=108.2*
*BJI **15** 21:25:58.5, 14.27N×92.37E, h52km, mB5.0, mb4.5, Ms4.3, Msz4.1*
*NEIC **15** 21:25:58.3±0.3, 14.60N×92.37E, h30km, mb4.8/20, Error ellipse: s-maj=9.4km s-min=6.4km az=54.0*

ISC 15 21:25:56.0±0.3, 14.59N±0.05×92.32E±0.04, h30km, n94, σ1°38/110, mb4.5/38, MS4.0/5, 6C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.42**	**58**	Pn	**Pn**	**21 27 42.0**	**-3.2**
0.1nm,0.3s,baz=242,slow=15,SNR=5.0							
CMAR				Sn	**Sn**	**21 28 58.8**	**-11**
0.1nm,0.3s,baz=246,slow=14,SNR=2.8							
BWNR	**Bhubaneshwar**	**8.42**	**313**	*e*P	**P**	**21 27 45.0**	**-14**
BWNR				*e*S	Sx	21 29 00.0	
BWNR				*e*	**Sn**	**21 29 27.3**	**-6.8**
comp=N,703nm,0.3s							
BWNR				*e*		21 29 27.9	
comp=Z,333nm,0.2s							
VIS	**Vishakhapatnam**	**9.18**	**291**	*e*P	**P**	**21 28 07.7**	**-1.9**
VIS				*e*S	Sx	21 29 42.8	
VIS				*e*	**Sn**	**21 29 59.5**	**+6.5**
comp=N,391nm,0.6s							
VIS				*e*		21 29 59.9	
comp=E,144nm,0.3s							
AGT	**Agartala**	**9.30**	**354**	*e*P	**P**	**21 28 25.0**	**+14**
IMP	**Imphal**	**10.26**	**8**	*e*P	**P**	**21 28 29.0**	**+4.5**
SHL	**Shillong**	**10.93**	**358**	*e*P	**P**	**21 28 30.0**	**-3.7**
SHL				*e*S	**S**	**21 30 27.0**	**-8.9**
BLSP	**Bilaspur**	**12.23**	**309**	*e*P	**P**	**21 28 48.5**	**-2.8**
BLSP				*e*S	**S**	**21 30 55.8**	**-12**
BLSP				*e*		21 31 29.7	
comp=E,90nm,0.7s							
BLSP				*e*		21 31 29.7	
comp=N,137nm,0.6s							
PALK	**Pallekele**	**13.52**	**239**	P	**P**	**21 29 01.6**	**-7.0**
comp=N,8.7nm,0.9s							
HYB	**Hyderabad**	**13.53**	**284**	*e*P	**P**	**21 29 14.0**	**+5.3**
HYB				*e*S	**S**	**21 31 40.0**	**+1.1**
HYB	**Hyderabad**	**13.53**	**284**	*i* P	**P**	**21 29 14.0**	**+5.3**
HYB				*e*		21 31 20.0	
HYB				*e*		21 31 26.0	
HYB				*e*S	**S**	**21 31 40.0**	**+1.1**
JIRN	**Jiri**	**14.20**	**337**	*e*P	**P**	**21 29 13.0**	**-4.4**
comp=N,102nm,0.8s							
PKI	**Pulchoki**	**14.43**	**335**	*e*P	**P**	**21 29 15.6**	**-4.8**
comp=N,35nm,0.5s							
ALBI	**Allahabad**	**14.53**	**319**	*e*P	**S**	**21 32 10.0**	**+7.4**
GUN	**Gumba**	**14.55**	**337**	*e*P	**P**	**21 29 18.2**	**-3.7**
DMN	**Daman**	**14.59**	**334**	*e*P	**P**	**21 29 17.5**	**-5.0**
comp=N,69nm,0.7s							
KKN	**Kakani**	**14.68**	**335**	*e*P	**P**	**21 29 19.8**	**-3.8**
LSA	**Lhasa**	**15.08**	**356**	*e*P	**P**	**21 29 28.4**	**-0.5**
LSA				pmax	pmax		
comp=Z,34nm,0.8s							
LSA	**Lhasa**	**15.08**	**356**	*e*P	**P**	**21 29 28.4**	**-0.5**
comp=Z,34nm,0.8s							
LSA				*e*S	**S**	**21 31 55.8**	**-20**
GKN	**Gorkha**	**15.14**	**333**	*e*P	**P**	**21 29 25.4**	**-4.3**
comp=Z,56nm,0.5s							
KOLN	**Koldanda**	**15.42**	**330**	*e*P	**P**	**21 29 29.8**	**-3.6**
comp=Z,83nm,0.7s							
LATR	**Latur**	**15.58**	**286**	*e*P	**S**	**21 32 15.5**	**-12**
QIZ	**Qiongzhong**	**17.34**	**73**	P	**P**	**21 29 59.2**	**+1.5**
comp=Z,24nm,1.1s							
KAD	**Karad**	**17.65**	**281**	*e*P	**P**	**21 30 15.0**	**+13**
KAD				*e*S	**S**	**21 33 13.0**	**-1.8**
POO	**Poona**	**18.13**	**285**	*e*P	**P**	**21 30 07.0**	**-0.6**
POO				*i* S	**S**	**21 33 16.0**	**-10**
PTH	**Pithoragarh**	**18.62**	**325**	*e*P	**P**	**21 30 15.0**	**+1.5**
PTH				*e*S	**S**	**21 33 27.0**	**-10**
NDI	**New Delhi**	**19.81**	**318**	*e*P	**S**	**21 33 52.0**	**-11**
DDI	**Dehra Dun**	**20.43**	**322**	*e*	**P**	**21 30 34.1**	**+0.3**
DDI				*e*	**S**	**21 34 09.4**	**-6.5**
ENH	**Enshi**	**22.21**	**42**	*e*P	**P**	**21 30 51.0**	**-0.7**
comp=Z,10.0nm,0.7s,mb4.3							
LZH	**Lanzhou**	**23.77**	**24**	*e*P	**P**	**21 31 10.8**	**+3.9**
LZH				AMB	AMB		
comp=Z,31nm,1.5s,mb4.5							
LZH				AMB	AMB		
comp=Z,100nm,4.1s							
LZH				LR	LR		
comp=E,285nm,14.8s							
LZH				LR	LR		
comp=Z,330nm,16.0s,MS3.9							
XAN	**Xi'an**	**24.51**	**35**	P	**P**	**21 31 14.3**	**+0.1**
XAN				AMB	AMB		
comp=Z,13nm,0.9s,mb4.5							
WMQ	**Urumqi**	**29.40**	**353**	*e*P	**P**	**21 32 00.4**	**+1.4**
WMQ				AP	pP	21 32 09.9	+2.1
WMQ				S	**S**	**21 36 50.8**	**+1.2**
WMQ				AMB	AMB		
comp=Z,2.0nm,0.6s,mb4.0							
WMQ				AMB	AMB		
comp=Z,24nm,4.2s							
WMQ				LR	LR		
comp=N,811nm,17.2s,MS4.5							
WMQ				LR	LR		
comp=E,745nm,18.1s,MS4.5							
WMQ				LR	LR		
comp=Z,954nm,18.4s,MS4.5							
NJ2	**Nanjing**	**29.80**	**50**	*e*P	**P**	**21 32 00.4**	**-2.4**
NJ2				PP	PP	21 32 58.4	-1.7
NJ2				S	**S**	**21 36 51.0**	**-5.1**
NJ2				AMB	AMB		
comp=Z,520nm,8.4s							
NJ2				LR	LR		
comp=N,380nm,12.5s,MS4.4							
NJ2				LR	LR		
comp=E,460nm,15.6s,MS4.4							
NJ2				LR	LR		
comp=Z,440nm,14.4s,MS4.2							
AAK	**Ala-Archa**	**31.89**	**335**	⇓*e*P	**P**	**21 32 24.1**	**+3.1**
AAK				pmax	pmax		
comp=Z,6.0nm,1.3s,mb4.3							
AAK				MLR	MLR		
comp=Z,100nm,16.0s,MS3.6							
BJT	**Baijiatuan**	**32.82**	**35**	P	**P**	**21 32 30.7**	**+1.6**
SONM	**Songino Array**	**35.15**	**17**	P	**P**	**21 32 51.2**	**+2.1**
comp=Z,8.6nm,1.1s,mb4.6,baz=207,slow=8.3,SNR=17							
ZAK	**Zakamensk**	**36.79**	**12**	*e*P	**P**	**21 33 01.6**	**-1.4**
ZAK				*e*		21 35 25.4	
TLY	**Talaya**	**38.10**	**11**	⇓*e*P	**P**	**21 33 15.9**	**+1.9**
TLY				pmax	pmax		
comp=Z,6.0nm,1.4s,mb4.1							
TLY	**Talaya**	**38.10**	**11**	*e*P	**P**	**21 33 15.4**	**+1.5**
comp=Z,2.9nm,0.9s,mb4.0							
ZAL	**Zalesovo**	**39.70**	**353**	P	**P**	**21 33 28.8**	**+1.4**
comp=Z,4.2nm,0.6s,mb4.4,baz=298,slow=7.4,SNR=29							
ZAL				LR	LR	21 54 04.2	
comp=Z,73nm,19.5s,MS3.5,baz=125,slow=42							
NVS	**Novosibirsk**	**40.78**	**352**	*e*P	**P**	**21 33 35.7**	**-0.5**
BVAR	**Borovoye Array**	**42.10**	**340**	P	**P**	**21 33 47.0**	**0.0**
comp=Z,1.0nm,0.6s,mb3.6,baz=149,slow=8.6,SNR=8.4							
BRVK	**Borovoye**	**42.16**	**340**	P	**P**	**21 33 49.4**	**+1.9**
BRVK				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.0							
BRVK	**Borovoye**	**42.16**	**340**	P	**P**	**21 33 49.4**	**+1.9**
comp=Z,4.3nm,0.9s,mb4.1							
CHKZ	**Chkalovo**	**42.58**	**341**	*e*P	**P**	**21 33 52.2**	**+1.3**
CHKZ				pmax	pmax		
comp=Z,7.0nm,0.7s,mb4.5							
CHKZ	**Chkalovo**	**42.58**	**341**	*e*P	**P**	**21 33 52.2**	**+1.3**
comp=Z,6.9nm,0.7s,mb4.5							
BOD	**Bodaibo**	**46.14**	**16**	*e*P	**P**	**21 34 18.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**46.20**	**134**	⇑*i*P	**P**	**21 34 20.2**	**-0.2**
comp=Z,11nm,0.7s,mb4.9							
SVE	**Sverdlovsk**	**48.55**	**337**	*e*P	**P**	**21 34 42.0**	**+3.6**
GNI	**Garni**	**48.60**	**311**	⇑*e*P	**P**	**21 34 42.3**	**+3.3**
GNI				pmax	pmax		
comp=Z,20nm,1.7s							
GNI	**Garni**	**48.60**	**311**	P	**P**	**21 34 41.3**	**+2.3**
comp=Z,8.1nm,1.1s,mb4.7,baz=336,slow=6.2,SNR=5.2							
GNI	**Garni**	**48.60**	**311**	*e*P	**P**	**21 34 40.8**	**+1.8**
comp=Z,23nm,1.3s,mb5.0							
ARU	**Arti**	**49.06**	**336**	*e*P	**P**	**21 34 40.8**	**-1.5**
ARU				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.5							
ARU	**Arti**	**49.06**	**336**	*e*P	**P**	**21 34 40.8**	**-1.5**
comp=Z,5.4nm,0.9s,mb4.6							
ZEI	**Tsey**	**50.02**	**314**	*e*P	**P**	**21 34 52.4**	**+2.5**
ZEI				pmax	pmax		
comp=Z,4.0nm,1.3s,mb4.3							
KIV	**Kislovodsk**	**51.25**	**315**	⇓*e*P	**P**	**21 35 03.5**	**+4.3**
KIV				pmax	pmax		
comp=Z,9.0nm,1.5s,mb4.5							
KIV	**Kislovodsk**	**51.25**	**315**	P	**P**	**21 34 54.7**	**-4.5**
comp=Z,15nm,1.2s,mb4.8							
MUN	**Mundaring**	**51.65**	**154**	⇑*i*P	**P**	**21 35 03.3**	**+0.8**
comp=Z,12nm,0.6s,mb5.0							
MUN	**Mundaring**	**51.65**	**154**	⇑*i*P	**P**	**21 35 03.3**	**+0.8**
MUN				pmax	pmax		
comp=Z,12nm,0.6s,mb5.0							
NWAO	**Narrogin (SRO)**	**52.91**	**154**	*e*P	**P**	**21 35 11.6**	**-0.3**
NWAO				pmax	pmax		
comp=Z,19nm,0.9s							
NWAO	**Narrogin (SRO)**	**52.91**	**154**	P	**P**	**21 35 11.3**	**-0.6**
comp=Z,14nm,0.7s,mb5.0,baz=327,slow=7.7,SNR=8.9							
NWAO	**Narrogin (SRO)**	**52.91**	**154**	*e*P	**P**	**21 35 11.6**	**-0.2**
comp=Z,19nm,0.9s,mb5.0							
SOC	**Sochi**	**53.19**	**314**	*e*P	**P**	**21 35 14.8**	**+1.0**
SOC				*e*		21 36 19.1	
SOC				*e*		21 37 19.1	
SOC				*e*PPP	PPP	21 38 19.1	-2.8
SOC				*e*S	**S**	**21 42 48.1**	**+7.2**
SOC				*e*SS	SS	21 46 27.9	+8.1
SOC				pmax	pmax		
comp=Z,14nm,0.8s,mb4.9							
SOC				pmax	pmax		
comp=N,19nm,0.9s							
SOC				pmax	pmax		
comp=E,11nm,0.7s							
WRA	**Warramunga Arr**	**53.71**	**129**	P	**P**	**21 35 17.1**	**-0.8**
comp=E,14nm,0.8s,mb5.0,baz=310,slow=7.9,SNR=89							
WRA				PcP	PcP	21 36 23.5	-0.3
comp=E,2.6nm,0.7s,baz=316,slow=3.5,SNR=11							
WRAB	**Tennant Creek**	**53.72**	**129**	*e*P	**P**	**21 35 17.9**	**0.0**
WRAB				pmax	pmax		
comp=Z,29nm,0.8s,mb5.3							
WRAB	**Tennant Creek**	**53.72**	**129**	*e*P	**P**	**21 35 17.9**	**0.0**
comp=Z,29nm,0.8s,mb5.3							
WB2	**Warramunga Arr**	**53.72**	**129**	⇑*i*P	**P**	**21 35 17.8**	**-0.2**
YAK	**Yakutsk**	**54.30**	**21**	⇑*e*P	**P**	**21 35 21.7**	**+0.1**
YAK	**Yakutsk**	**54.30**	**21**	P	**P**	**21 35 20.7**	**-0.9**
comp=Z,8.3nm,0.6s,mb4.8							
EIL	**Elat**	**54.72**	**296**	P	**P**	**21 35 23.7**	**-1.5**
comp=Z,7.3nm,1.1s,mb4.6							
ANN	**Anapa**	**55.09**	**315**	*e*P	**P**	**21 35 35.8**	**+8.0**
ANN				*e*	pP	21 35 46.1	+9.2
ANN				pmax	pmax		
comp=Z,29nm,1.0s,mb5.3							
ASPA	**Alice Springs**	**55.66**	**133**	*e*P	**P**	**21 35 32.1**	**0.0**
ASAR	**Alice Springs**	**55.66**	**133**	P	**P**	**21 35 31.5**	**-0.7**
comp=Z,7.4nm,0.8s,mb4.8,baz=312,slow=6.9,SNR=59							
ASAR				PcP	PcP	21 36 31.3	+0.1
comp=Z,2.7nm,0.7s,baz=311,slow=3.2,SNR=11							
BRTR	**Keskin Array B**	**56.81**	**308**	P	**P**	**21 35 39.8**	**-0.3**
comp=Z,1.5nm,0.8s,mb4.1,baz=120,slow=7.4,SNR=6.6							
OBN	**Obninsk**	**58.81**	**326**	P	**P**	**21 35 56.2**	**+2.3**
OBN				S	**S**	**21 44 01.5**	**+6.0**
OBN				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.4							
PMG	**Port Moresby**	**59.37**	**110**	*e*P	**P**	**21 35 57.7**	**-0.7**
PMG				pmax	pmax		
comp=Z,13nm,1.0s							
PMG	**Port Moresby**	**59.37**	**110**	P	**P**	**21 35 59.1**	**+0.7**
comp=Z,2.2nm,0.3s,mb4.7,baz=300,slow=6.3,SNR=4.8							
PMG	**Port Moresby**	**59.37**	**110**	*e*P	**P**	**21 35 57.7**	**-0.7**
comp=Z,13nm,1.0s,mb4.9							
TIXI	**Tiksi**	**61.07**	**12**	*e*P	**P**	**21 36 08.3**	**-0.9**
TIXI				pmax	pmax		
comp=Z,9.0nm,1.8s,mb4.6							
CTA	**Charters Tower**	**63.24**	**122**	P	**P**	**21 36 24.2**	**-0.2**
comp=Z,5.1nm,0.9s,mb4.7,baz=318,slow=3.9,SNR=4.8							
CTAO	**Charters Tower**	**63.24**	**122**	*e*P	**P**	**21 36 24.0**	**-0.4**
CTAO				*e*		21 36 41.3	
CTAO				pmax	pmax		
comp=Z,11nm,1.1s,mb4.9							
CTAO	**Charters Tower**	**63.24**	**122**	*e*P	**P**	**21 36 24.0**	**-0.4**
comp=Z,11nm,1.1s,mb4.9							
CTAO				*e*		21 36 41.3	
FINES	**FINESS Array B**	**65.99**	**331**	P	**P**	**21 36 41.5**	**-0.1**
comp=Z,0.8nm,0.5s,mb4.0,baz=117,slow=4.3,SNR=8.0							
STKA	**Stephens Creek**	**66.05**	**135**	P	**P**	**21 36 41.8**	**-0.7**
comp=Z,3.4nm,0.8s,mb4.4,baz=281,slow=4.2,SNR=4.5							
STKA				PcP	PcP	21 37 12.1	-0.8
comp=Z,2.6nm,0.8s,baz=216,slow=7.6,SNR=3.6							
ARCES	**ARCESS Array B**	**68.39**	**340**	P	**P**	**21 36 57.2**	**+0.6**
comp=Z,3.9nm,1.0s,mb4.4,baz=90,slow=3.6,SNR=6.4							
LSZ	**Lusaka**	**69.99**	**248**	*e*P	**P**	**21 37 07.7**	**+0.3**
LSZ				pmax	pmax		
comp=Z,13nm,1.4s,mb4.7							
LSZ	**Lusaka**	**69.99**	**248**	*e*P	**P**	**21 37 07.7**	**+0.4**
comp=Z,13nm,1.4s,mb4.7							
BILL	**Bilibino**	**70.57**	**23**	*e*P	**P**	**21 37 09.8**	**-0.3**
BILL				pmax	pmax		
comp=Z,6.0nm,1.4s,mb4.3							
BILL	**Bilibino**	**70.57**	**23**	*e*P	**P**	**21 37 09.8**	**-0.3**
comp=Z,6.5nm,1.4s,mb4.4							
GERES	**GERESS Array B**	**71.69**	**317**	P	**P**	**21 37 18.0**	**+0.8**
comp=Z,0.7nm,0.6s,mb3.8,baz=90,slow=6.7,SNR=9.5							
HFS	**Hagfors**	**71.81**	**329**	P	**P**	**21 37 17.8**	**+0.2**
comp=Z,3.4nm,1.1s,mb4.2,baz=243,slow=3.3,SNR=5.1							
CLL	**Collm**	**72.09**	**320**	P	**P**	**21 37 23.0**	**+3.5**
NOA	**NORSAR Array B**	**73.05**	**330**	P	**P**	**21 37 26.2**	**+1.3**
comp=Z,0.4nm,0.8s,baz=119,slow=4.5,SNR=2.5							
NOA				LR	LR	22 16 17.0	
comp=Z,48nm,18.9s,baz=80,slow=41							
BOSA	**Boshof**	**77.73**	**236**	*e*P	**P**	**21 37 53.5**	**+1.3**
BOSA				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.7							
BOSA	**Boshof**	**77.73**	**236**	*e*P	**P**	**21 37 53.5**	**+1.3**
comp=Z,8.1nm,0.8s,mb4.7							

IDC 15 21:36:40.0±1.4, 3.96N×94.13E, mb3.9/7, mb1 4.1/8, mb1mx3.9/17, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=69.7km s-min=21.2km az=52.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.16**	**18**	Pn	P	21 40 15.8	-1.5
0.1nm,0.3s,baz=211,slow=12,SNR=8.5							
WRA	**Warramunga Arr**	**46.09**	**123**	P	P	21 45 06.2	-1.8
1.1nm,0.6s,baz=300,slow=9.2,SNR=12							
ASAR	**Alice Springs**	**47.49**	**127**	P	P	21 45 17.0	-2.0
0.7nm,0.9s,baz=298,slow=8.1,SNR=3.8							
ZAL	**Zalesovo**	**50.40**	**353**	P	P	21 45 39.7	-1.4
1.0nm,0.8s,baz=306,slow=5.6,SNR=5.4							
BVAR	**Borovoye Array**	**52.68**	**342**	P	P	21 45 55.5	-2.8
1.5nm,0.7s,baz=143,slow=7.4,SNR=7.1							
FINES	**FINESS Array B**	**76.15**	**333**	P	P	21 48 29.2	-2.2
0.9nm,0.8s,baz=135,slow=5.4,SNR=5.1							
ARCES	**ARCESS Array B**	**78.92**	**341**	P	P	21 48 44.6	-2.0
8.6nm,1.2s,baz=63,slow=5.4,SNR=3.7							
GERES	**GERESS Array B**	**80.73**	**319**	P	P	21 48 56.3	-0.4
0.7nm,0.8s,baz=108,slow=4.2,SNR=5.5							

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*IDC **15** 21:45:56.5±2.2, 37.42S×96.05W, mb4.5/6, mb1 4.8/6, mb1mx4.4/12, mbtmp4.5/6, MS4.0/5, Ms1 4.0/5, ms1mx3.4/13, Error ellipse: s-maj=67.8km s-min=26.0km az=12.0*

ISC 15 21:45:57.9±1.1, 37.2S±0.2×96.0W±0.2, h10km, n14, σ0°80/7, mb4.4/6, MS4.0/5, 1C-1D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**27.46**	**66**	P	**P**	**21 51 47.0**	**+1.0**
6.5nm,0.8s,mb4.2,baz=238,slow=9.9,SNR=7.6							
LVC				LR	LR	21 59 53.9	
comp=Z,367nm,18.9s,MS4.0,baz=94,slow=30							
LPAZ	**La Paz**	**32.21**	**57**	P	**P**	**21 52 28.8**	**+0.3**
6.1nm,0.8s,mb4.5,baz=208,slow=7.3,SNR=28							
LPAZ				LR	LR	22 03 15.4	
comp=Z,70nm,18.1s,MS3.4,baz=248,slow=32							
BDFB	**Brasilia**	**47.42**	**76**	P	**P**	**21 54 33.2**	**-1.4**
4.7nm,0.7s,mb4.5,baz=242,slow=7.5,SNR=6.7							
BDFB				LR	LR	22 13 32.0	
comp=Z,289nm,18.3s,MS4.3,baz=146,slow=35							
TXAR	**Lajitas Array**	**66.53**	**353**	P	**P**	**21 56 49.1**	**-1.0**
2.6nm,0.9s,mb4.2,baz=169,slow=6.4,SNR=16							
SYO	**Syowa Base**	**69.18**	**164**	⇑P	**P**	**21 57 06.2**	**+0.1**
SYO	**Syowa Base**	**69.18**	**164**	⇓P	sP	21 57 13.5	+3.2
NVAR	**Mina Array Bea**	**77.98**	**342**	P	**P**	**21 57 58.6**	**+0.8**
3.1nm,0.8s,mb4.3,baz=157,slow=6.8,SNR=24							
PDAR	**Pinedale Array**	**80.50**	**350**	P	**P**	**21 58 11.4**	**+0.1**
2.9nm,0.6s,mb4.4,baz=161,slow=5.9,SNR=32							
DBIC	**Dimbokro**	**94.87**	**85**	LR	LR	22 39 04.9	
comp=Z,48nm,20.4s,MS4.0,baz=305,slow=34							
CTA	**Charters Tower**	**98.31**	**237**	LR	LR	22 33 52.3	
comp=Z,119nm,20.6s,MS4.4,baz=227,slow=29							
BRTR	**Keskin Array B**	**140.87**	**70**	PKP	PKPdf	22 05 28.5	-2.6
0.3nm,0.4s,baz=309,slow=7.9,SNR=3.5							
GNI	**Garni**	**149.35**	**72**	PKPbc	PKPdf	22 05 46.8	+1.4
1.9nm,0.7s,baz=192,slow=18,SNR=5.5							
SONM	**Songino Array**	**160.42**	**310**	PKPab	PKPab	22 06 39.4	-0.9
1.0nm,1.0s,baz=72,slow=3.9,SNR=4.0							
ZAL	**Zalesovo**	**163.21**	**358**	PKPab	PKPab	22 06 51.6	-0.6
0.6nm,0.6s,baz=127,slow=7.0,SNR=4.0							

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*NEIC **15** 21:49:28.9, 32.66S×71.27W, h51km, MD3.4(GUC), After GUC.*

GUC 15 21:49:28.9±0.6, 32.66S×71.27W, h51km±3km, MD3.4, ML2.8, 10C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.19**	**311**	⇑*i*P	P	21 49 37.7	+0.5
PACH				*i* S	S	21 49 44.3	+1.0
ROCH	**El Roble**	**0.37**	**145**	⇓*i*P	P	21 49 39.4	+0.6
ROCH				*i* S	S	21 49 47.4	+1.4
PTCH	**Petorca**	**0.49**	**35**	⇑*i*P	P	21 49 40.4	+0.2
PTCH				*i* S	S	21 49 49.3	+1.0
PTCH				AMP		21 49 50.2	
comp=N,1μm,0.1s							
JACH	**Jahuel**	**0.57**	**92**	⇓*i*P	P	21 49 41.4	+0.4
JACH				*i* S	S	21 49 50.9	+1.0
PEL	**Peldehue**	**0.68**	**135**	⇑*i*P	P	21 49 43.1	+0.7
PEL				*i* S	S	21 49 53.7	+1.1
LCCH	**Las Cruces**	**0.85**	**197**	⇑*i*P	P	21 49 44.9	+0.2
LCCH				*i* S	S	21 49 57.0	+0.5
RCDM	**Rinconada Maip**	**0.91**	**155**	⇑*i*P	P	21 49 45.8	+0.2
RCDM				*i* S	S	21 49 58.4	+0.5
RCDM				AMP		21 49 58.9	
comp=E,711nm,

4D, Error ellipse: s-maj=4.4km s-min=2.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.26**	**102**	⇓P*	Pb	22 13 23.1	-0.1
DCZ				S*	Sb	22 13 27.4	+0.1
WHZ	**Wether Hill Ro**	**0.94**	**120**	⇓P*	Pb	22 13 34.3	-0.2
WHZ				S*	Sb	22 13 47.4	+0.9
MLZ	**Mavora Lakes**	**0.98**	**86**	⇓P*	Pb	22 13 33.7	-1.5
MLZ				S*	Sb	22 13 46.2	-1.4
MSZ	**Milford Sound**	**1.10**	**47**	*e*PN	Pn	22 13 34.8	-2.8
MSZ				SN	Sn	22 13 52.1	-0.2
WKZ	**Wanaka**	**1.69**	**70**	PN	Pn	22 13 45.2	-0.7
EAZ	**Earnscleugh**	**1.79**	**85**	PN	Pn	22 13 46.0	-1.3
JCZ	**Jackson Bay**	**1.95**	**47**	*e*PN	Pn	22 13 47.7	-1.9
TUZ	**Tuapeka**	**2.06**	**106**	*e*PN	Pn	22 13 50.8	-0.5
LBZ	**Lake Benmore**	**2.62**	**68**	PN	Pn	22 13 57.3	-2.1
ODZ	**Otahua Downs**	**2.75**	**83**	⇓PN	Pn	22 13 59.3	-1.8
FOZ	**Fox Glacier**	**2.79**	**49**	*e*PN	Pn	22 14 00.9	-0.7
WVZ	**Waitaha Valley**	**3.68**	**52**	*e*PN	Pn	22 14 11.3	-3.0
DSZ	**Denniston Nort**	**5.17**	**46**	*e*PN	Pn	22 14 31.9	-3.6
THZ	**Tophouse**	**5.75**	**53**	*e*PN	Pn	22 14 41.6	-2.1
QRZ	**Quartz Range**	**6.22**	**44**	*e*PN	Pn	22 14 46.1	-4.3

DMN ***15*** *22:32:44.2±0.7, 29.81N×81.04E, h10km, Ml4.5/5, Error ellipse: s-maj=33.5km s-min=13.5km az=31.0*
BJI ***15*** *22:32:45.7, 29.53N×80.80E, h10km, mB4.8, mb4.3*
IDC ***15*** *22:32:46.3±0.7, 29.36N×80.95E, mb4.0/13, mb1 4.1/14, mb1mx4.0/20, mbtmp4.0/14, ML4.1/1, Error ellipse: s-maj=31.9km s-min=14.4km az=54.0*
NDI ***15*** *22:32:48.5±4.6, 29.54N×81.09E, MD4.8, ML4.1*
NEIC ***15*** *22:32:48.2±0.3, 29.44N×80.97E, h10km, mb4.6/19, Error ellipse: s-maj=7.9km s-min=5.8km az=55.0*
MOS ***15*** *22:32:49.8±0.8, 29.49N×81.07E, h33km, mb4.7/13, Error ellipse: s-maj=13.7km s-min=8.4km az=111.7*

ISC 15 22:32:47.0±0.2, 29.45N±0.03×80.95E±0.03, h10km, n99, σ1§38/128, mb4.3/30, 1C-1D, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSI	**Joshimath**	**1.64**	**313**	*e*P	**Pn**	**22 33 17.9**	**+1.9**
JOSI				*e*S	**Sn**	**22 33 40.4**	**+3.1**
JOSI				*e*		22 33 45.7	
	comp=N,14μm,0.7s						
JOSI				*e*		22 33 46.2	
	comp=E,33μm,0.9s						
KALG	**Kalgarh**	**1.92**	**272**	*e*P	**Pn**	**22 33 12.0**	**-8.1**
KALG				*e*S	**Sn**	**22 33 39.8**	**-4.7**
DDI	**Dehra Dun**	**2.66**	**290**	*e*PN	**Pn**	**22 33 33.2**	**+2.5**
DDI				*e*SN	**Sn**	**22 34 06.4**	**+3.0**
KOLN	**Koldanda**	**2.87**	**125**	*e*Pn	**Pn**	**22 33 36.6**	**+3.0**
KOLN				*e*Sn	**Sn**	**22 34 16.9**	**+8.4**
	comp=E,745nm,0.6s						
KLP	**Kalpa**	**3.12**	**312**	*e*P	**Pn**	**22 33 46.1**	**+8.8**
KLP				*e*S	**Sn**	**22 34 24.3**	**+9.3**
KLP				*e*		22 34 39.9	
	comp=N,3μm,0.7s						
KLP				*e*		22 34 40.8	
	comp=E,3μm,0.8s						
NDI	**New Delhi**	**3.36**	**258**	*e*P	**Pn**	**22 33 43.0**	**+2.4**
NDI				*e*P		22 33 59.0	
NDI				*e*S	**Sn**	**22 34 22.0**	**+1.0**
NDI				*e*S	**Sg**	**22 34 34.0**	**-4.9**
AYAN	**Aya Nagar**	**3.49**	**255**	*e*P	**Pn**	**22 33 48.6**	**+6.1**
GKN	**Gorkha**	**3.54**	**113**	*e*Pn	**Pn**	**22 33 45.2**	**+2.0**
GKN				*e*Sn	**Sn**	**22 34 29.8**	**+4.2**
	comp=E,743nm,0.4s						
BHGR	**Bahadurgarh**	**3.60**	**259**	*e*P	**Pn**	**22 33 47.7**	**+3.7**
BHGR				*e*S	**Sg**	**22 34 48.4**	**+1.6**
KKR	**Kurukshetra**	**3.63**	**279**	*e*P	**Pn**	**22 33 47.7**	**+3.2**
DMN	**Daman**	**4.09**	**116**	*e*Pn	**Pn**	**22 33 52.5**	**+1.5**
DMN				*e*Sn	**Sn**	**22 34 43.9**	**+4.4**
	comp=E,346nm,0.7s						
KKN	**Kakani**	**4.15**	**112**	*e*Pn	**Pn**	**22 33 53.2**	**+1.4**
KKN				*e*Sn	**Sn**	**22 34 44.0**	**+3.0**
	comp=E,333nm,0.5s						
ALBI	**Allahabad**	**4.20**	**169**	*e*P	**Pn**	**22 33 53.0**	**+0.5**
PKI	**Pulchoki**	**4.34**	**114**	*e*Pn	**Pn**	**22 33 55.8**	**+1.2**
PKI				*e*Sn	**Sn**	**22 34 49.6**	**+3.6**
BHK	**Bhakra**	**4.38**	**298**	*e*PN	**Pg**	**22 34 18.0**	**+3.5**
BHK				*e*SN	**Sg**	**22 35 07.8**	**-5.1**
JHNI	**Jhansi**	**4.51**	**209**	*e*P	**Pn**	**22 33 59.0**	**+2.0**
JHNI				*e*S	**Sn**	**22 34 53.0**	**+2.8**
GUN	**Gumba**	**4.59**	**108**	*e*Pn	**Pn**	**22 33 59.3**	**+1.2**
GUN				*e*Sn	**Sn**	**22 34 55.1**	**+2.9**
	comp=E,246nm,0.4s						
KHET	**Khetri**	**4.72**	**254**	*e*P	**Pn**	**22 34 05.2**	**+5.2**
KHET				*e*S	**Sg**	**22 35 17.0**	**-7.2**
KHET				*e*		22 35 37.1	
	comp=E,112nm,0.6s						
KHET				*e*		22 35 37.7	
	comp=N,118nm,0.4s						
JIRN	**Jiri**	**4.94**	**110**	*e*Pn	**Pn**	**22 34 04.3**	**+1.2**
DLH	**Dalhousie**	**5.28**	**307**	*e*PN	**Pn**	**22 34 10.0**	**+2.2**
DLH				*e*SN	**Sn**	**22 35 15.0**	**+5.6**
AJM	**Ajmer**	**6.32**	**244**	*e*P	**Pn**	**22 34 25.0**	**+2.5**
AJM				*e*S	**Sn**	**22 34 34.8**	**-0.7**
AJM				*e*		22 36 19.7	
	comp=E,181nm,0.5s						
AJM				*e*		22 36 20.1	
	comp=N,198nm,0.6s						
JBP	**Jabalpur**	**6.32**	**188**	*e*P	**Pg**	**22 34 51.9**	**-1.3**
JBP				*e*S	**Sg**	**22 36 03.8**	**-14**
BHPL	**Bhopal**	**6.95**	**208**	⇑*i*P	**Pn**	**22 34 31.9**	**+0.5**
BHPL				*e*P		22 34 32.4	
BHPL				*i* S	**Sn**	**22 35 48.5**	**-2.8**
BHPL				*e*S	**Sn**	**22 35 48.7**	**-2.6**
BHPL				*e*		22 36 42.7	
	comp=E,174nm,0.6s						
BHPL				*e*		22 36 43.6	
	comp=N,142nm,0.5s						
BLSP	**Bilaspur**	**7.37**	**171**	*e*P	**Pn**	**22 34 38.0**	**+0.7**
BLSP				*e*S	**Sn**	**22 35 57.6**	**-4.2**
BLSP				*e*		22 36 49.4	
	comp=N,69nm,0.6s						
BLSP				*e*		22 36 49.7	
	comp=E,109nm,0.4s						
CHCP	**Chirah Chowk**	**7.79**	**305**	P	**Pn**	**22 34 43.3**	**+0.2**
THW	**Thamme Wali**	**8.57**	**295**	P	**P**	**22 34 52.7**	**-1.3**
CEP	**Cherat**	**8.86**	**302**	P	**P**	**22 34 57.4**	**-0.6**
CEP				S	**Sn**	**22 36 33.0**	**-5.9**
LSA	**Lhasa**	**8.88**	**86**	P	**P**	**22 34 58.8**	**+0.4**
LSA	**Lhasa**	**8.88**	**86**	*e*P	**P**	**22 34 58.1**	**-0.3**
LSA				*e*		22 36 30.6	
LSA				pmax	pmax		
	comp=Z,6.0nm,0.3s						
LSA	**Lhasa**	**8.88**	**86**	*e*Pn	**P**	**22 34 58.1**	**-0.2**
	comp=Z,5.8nm,0.3s						
LSA				*e*Sn	**Sn**	**22 36 30.6**	**-8.9**
SBDP	**Sheikh Budin**	**9.17**	**291**	P	**P**	**22 35 01.3**	**-1.1**
DRP	**Derazinda**	**9.54**	**287**	P	**P**	**22 35 06.7**	**-0.8**
SHL	**Shillong**	**10.44**	**109**	*e*P	**P**	**22 35 17.0**	**-2.9**
SHL				*e*P		22 35 17.0	
SHL				*i* S	**S**	**22 37 08.0**	**-10**
SHL				*e*S	**S**	**22 37 08.0**	**-10**
LATR	**Latur**	**11.69**	**201**	⇓*i*P	**P**	**22 35 35.8**	**-1.2**
HYB	**Hyderabad**	**12.18**	**191**	*e*P	**P**	**22 35 41.0**	**-2.5**
HYB				*e*S	**S**	**22 37 50.0**	**-10**
HYB	**Hyderabad**	**12.18**	**191**	*i* P	**P**	**22 35 41.0**	**-2.5**
HYB				*e*S	**S**	**22 37 50.0**	**-10**
POO	**Poona**	**12.66**	**212**	*e*P	**P**	**22 35 47.2**	**-2.8**
POO				*e*S	**S**	**22 38 03.8**	**-8.3**
POO				*e*		22 38 07.8	
	comp=N,27nm,0.4s						
POO				*e*		22 38 08.3	
	comp=E,26nm,0.5s						
AAK	**Ala-Archa**	**14.15**	**340**	*e*P	**P**	**22 36 06.7**	**-2.9**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AAK	**Ala-Archa**	**14.15**	**340**	*e*P	**P**	**22 36 06.7**	**-2.9**
	comp=Z,5.8nm,0.9s						
WMQ	**Urumqi**	**15.32**	**19**	*e*P	**P**	**22 36 25.1**	**+0.2**
WMQ				AP		22 36 27.3	
WMQ				S	**S**	**22 39 15.1**	**-0.2**
WMQ				AMB	AMB		
	comp=Z,19nm,1.4s						
WMQ				AMB	AMB		
	comp=Z,315nm,6.2s						
MKAR	**Makanchi Array**	**17.35**	**3**	*e*P	**P**	**22 36 49.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**19.72**	**120**	P	**P**	**22 37 18.9**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=310,slow=9.4,SNR=13						
ZAL	**Zalesovo**	**24.63**	**5**	P	**P**	**22 38 08.7**	**+0.1**
	comp=Z,6.2nm,0.5s,mb4.4,baz=276,slow=7.0,SNR=35						
ENH	**Enshi**	**24.73**	**81**	*e*P	**P**	**22 38 10.2**	**+0.4**
	comp=Z,11nm,0.7s,mb4.5						
BVA0	**Borovoye Array**	**24.80**	**345**	P	**P**	**22 38 10.7**	**+0.4**
BVAR	**Borovoye Array**	**24.80**	**345**	P	**P**	**22 38 10.6**	**+0.3**
	comp=Z,1.8nm,0.4s,mb3.9,baz=142,slow=12,SNR=18						
BRVK	**Borovoye**	**24.86**	**345**	*e*P	**P**	**22 38 10.4**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
BRVK	**Borovoye**	**24.86**	**345**	*e*P	**P**	**22 38 10.4**	**-0.4**
	comp=Z,2.1nm,0.6s,mb3.8						
CHKZ	**Chkalovo**	**25.36**	**346**	*e*P	**P**	**22 38 15.4**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.1						
CHKZ	**Chkalovo**	**25.36**	**346**	*e*P	**P**	**22 38 15.4**	**-0.1**
	comp=Z,3.6nm,0.6s,mb4.1						
NVS	**Novosibirsk**	**25.43**	**3**	*e*P	**P**	**22 38 13.4**	**-2.8**
ZAK	**Zakamensk**	**26.84**	**33**	*e*P	**P**	**22 38 28.5**	**-0.8**
SONM	**Songino Array**	**26.86**	**40**	P	**P**	**22 38 30.0**	**+0.5**
	comp=Z,1.3nm,0.8s,mb3.5,baz=230,slow=9.6,SNR=3.9						
ARU	**Arti**	**31.27**	**336**	P	**P**	**22 39 08.3**	**-0.7**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.3						
ARU	**Arti**	**31.27**	**336**	P	**P**	**22 39 08.3**	**-0.7**
	comp=Z,7.2nm,1.3s,mb4.3						
KIV	**Kislovodsk**	**33.60**	**306**	P	**P**	**22 39 32.3**	**+2.8**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
KIV	**Kislovodsk**	**33.60**	**306**	P	**P**	**22 39 32.3**	**+2.8**
	comp=Z,7.6nm,1.0s,mb4.6						
MALT	**Malatya**	**36.13**	**296**	P	**P**	**22 39 53.1**	**+1.9**
MALT				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
MALT	**Malatya**	**36.13**	**296**	P	**P**	**22 39 53.1**	**+1.9**
	comp=Z,2.4nm,1.0s,mb4.1						
JOF	**Joensuu**	**46.10**	**331**	*e*p	**P**	**22 41 12.5**	**-0.2**
FINES	**FINESS Array B**	**47.92**	**328**	P	**P**	**22 41 26.9**	**-0.2**
	comp=Z,0.9nm,0.5s,mb4.1,baz=115,slow=8.7,SNR=13						
ARCES	**ARCESS Array B**	**50.81**	**338**	P	**P**	**22 41 48.9**	**-0.3**
	comp=Z,0.8nm,0.6s,mb3.8,baz=111,slow=6.7,SNR=6.1						
GERES	**GERESS Array B**	**53.84**	**311**	P	**P**	**22 42 11.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=84,slow=7.6,SNR=2.4						
NOA	**NORSAR Array B**	**54.95**	**326**	P	**P**	**22 42 19.3**	**-0.8**
	comp=Z,1.8nm,1.0s,mb4.1,baz=260,slow=2.1,SNR=2.5						
MBAR	**Mbarara**	**56.43**	**247**	P	**P**	**22 42 31.4**	**0.0**
SBF	**Sospel**	**58.89**	**306**	*e*P	**P**	**22 42 48.1**	**-0.2**
LPG	**La Plagne**	**59.02**	**308**	*e*P	**P**	**22 42 49.5**	**+0.2**
	comp=Z,30nm,1.3s,mb4.8						
LPG	**La Plagne**	**59.02**	**308**	*e*P	**P**	**22 42 49.5**	**+0.2**
LPG				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
LPL	**La Plagne**	**59.03**	**308**	*e*P	**P**	**22 42 48.8**	**-0.5**
	comp=Z,6.6nm,0.7s,mb4.5						
LPL	**La Plagne**	**59.03**	**308**	*e*P	**P**	**22 42 48.8**	**-0.5**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
MBDF	**Montbardon**	**59.17**	**307**	*e*P	**P**	**22 42 50.5**	**+0.2**
BILL	**Bilibino**	**61.31**	**25**	P	**P**	**22 43 04.4**	**-0.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
BILL	**Bilibino**	**61.31**	**25**	P	**P**	**22 43 04.4**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.4						
ESK	**Eskdalemuir**	**63.12**	**320**	*e*P	**P**	**22 43 16.1**	**-0.8**
ESK				pmax	pmax		
	comp=Z,46nm,1.4s,mb5.4						
ESK	**Eskdalemuir**	**63.12**	**320**	*e*P	**P**	**22 43 16.1**	**-0.8**
	comp=Z,46nm,1.4s,mb5.4						
LSZ	**Lusaka**	**67.59**	**236**	*e*P	**P**	**22 43 46.2**	**-0.1**
LSZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
LSZ	**Lusaka**	**67.59**	**236**	*e*P	**P**	**22 43 46.2**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.2						
NWAO	**Narrogin (SRO)**	**70.93**	**148**	*e*P	**P**	**22 44 05.2**	**-1.4**
NWAO				pmax	pmax		
	comp=Z,61nm,1.5s						
NWAO	**Narrogin (SRO)**	**70.93**	**148**	P	**P**	**22 44 04.5**	**-2.1**
	comp=Z,7.1nm,0.8s,mb4.6,baz=335,slow=15,SNR=3.3						
NWAO	**Narrogin (SRO)**	**70.93**	**148**	*e*P	**P**	**22 44 05.2**	**-1.4**
	comp=Z,61nm,1.5s,mb5.3						
WRA	**Warramunga Arr**	**71.12**	**127**	P	**P**	**22 44 06.7**	**-1.3**
	comp=Z,1.4nm,0.5s,mb4.2,baz=322,slow=6.1,SNR=38						
WRAB	**Tennant Creek**	**71.12**	**127**	*e*P	**P**	**22 44 06.4**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**71.12**	**127**	*e*P	**P**	**22 44 06.3**	**-1.6**
	comp=Z,2.9nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**73.35**	**130**	P	**P**	**22 44 19.9**	**-1.3**
	comp=Z,1.4nm,0.6s,mb4.1,baz=314,slow=5.9,SNR=21						
PMG	**Port Moresby**	**74.47**	**110**	P	**P**	**22 44 17.6**	**-10**
PMG				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PMG	**Port Moresby**	**74.47**	**110**	P	**P**	**22 44 17.6**	**-10**
	comp=Z,9.3nm,1.1s,mb4.6						
BOSA	**Boshof**	**78.52**	**228**	P	**P**	**22 44 50.1**	**-0.1**
BOSA				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.7						
BOSA	**Boshof**	**78.52**	**228**	P	**P**	**22 44 50.0**	**-0.2**
	comp=Z,15nm,1.4s,mb4.7						
INK	**Inuvik**	**79.23**	**12**	*e*P	**P**	**22 44 51.2**	**-2.1**
INK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
INK	**Inuvik**	**79.23**	**12**	*e*P	**P**	**22 44 51.2**	**-2.2**
	comp=Z,3.6nm,1.2s,mb4.2						
CTAO	**Charters Tower**	**79.89**	**120**	*e*P	**P**	**22 44 56.3**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
CTAO	**Charters Tower**	**79.89**	**120**	*e*P	**P**	**22 44 56.3**	**-1.6**
	comp=Z,5.7nm,0.9s,mb4.5						
DBIC	**Dimbokro**	**83.12**	**274**	P	**P**	**22 45 15.2**	**+0.3**
	comp=Z,2.0nm,0.9s,mb4.1,baz=70,slow=4.1,SNR=4.9						
STKA	**Stephens Creek**	**83.87**	**132**	P	**P**	**22 45 17.2**	**-1.2**
	comp=Z,4.7nm,1.1s,mb4.5,baz=28,slow=10,SNR=4.5						
SUR	**Sutherland**	**83.88**	**228**	*e*P	**P**	**22 45 18.8**	**+0.4**
	comp=Z,43nm,1.4s,mb5.4						
YKA	**Yellowknife Ar**	**87.53**	**7**	P	**P**	**22 45 35.6**	**-0.1**
	comp=Z,0.2nm,0.6s,mb3.5,baz=342,slow=4.5,SNR=4.8						
FCC	**Fort Churchill**	**92.03**	**357**	P	**P**	**22 45 52.4**	**-4.5**
FCC				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.8						
FCC	**Fort Churchill**	**92.03**	**357**	P	**P**	**22 45 52.4**	**-4.5**
	comp=Z,6.0nm,1.2s,mb4.8						
TXAR	**Lajitas Array**	**121.38**	**5**	PKP	PKPdf	22 51 41.5	-2.5
	comp=Z,0.1nm,0.6s,baz=299,slow=0.8,SNR=3.6						

IDC ***15*** *22:39:04.7±1.0, 4.46N×94.86E, mb4.0/9, mb1 4.1/10, mb1mx4.0/18, mbtmp3.9/10, ML3.2/1, MS3.1/2, Ms1 3.2/2, ms1mx2.8/23, Error ellipse: s-maj=43.3km s-min=18.1km az=49.0*
NEIC ***15*** *22:39:10.0±0.5, 4.57N×95.11E, h30km, mb4.3/3, Error ellipse: s-maj=15.8km s-min=10.7km az=222.0*

ISC 15 22:39:08.2±0.6, 4.6N±0.1×95.15E±0.10, h30km, n17, σ1§08/17, mb4.1/13, MS3.5/1, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.26**	**15**	Pn	**P**	**22 42 32.4**	**+1.9**
	comp=Z,0.0nm,0.3s,baz=277,slow=36,SNR=2.5						
CMAR				LR	LR	22 48 29.1	
	comp=Z,35nm,19.9s,baz=23,slow=39						
PALK	**Pallekele**	**14.61**	**281**	P	**P**	**22 42 36.1**	**+1.0**
	21nm,1.2s						
HYB	**Hyderabad**	**20.65**	**309**	*i* P	**P**	**22 43 51.0**	**+2.7**
SONM	**Songino Array**	**44.15**	**11**	P	**P**	**22 47 17.1**	**+1.1**
	0.2nm,0.4s,mb3.2,baz=135,slow=4.1,SNR=2.8						
WRA	**Warramunga Arr**	**45.59**	**124**	P	**P**	**22 47 28.1**	**+0.2**
	6.8nm,0.7s,mb4.7,baz=303,slow=9.1,SNR=47						
WRAB	**Tennant Creek**	**45.59**	**124**	*e*P	**P**	**22 47 28.1**	**+0.2**
	17nm,0.9s,mb5.0						
WB2	**Warramunga Arr**	**45.60**	**124**	⇑*i*P	**P**	**22 47 28.1**	**+0.2**
ASAR	**Alice Springs**	**47.08**	**128**	P	**P**	**22 47 39.8**	**+0.1**
	1.8nm,0.5s,mb4.2,baz=298,slow=8.0,SNR=25						
ASAR				LR	LR	23 10 45.0	
	comp=Z,57nm,20.3s,MS3.5,baz=219,slow=40						
KURK	**Kurchatov**	**48.01**	**346**	P	**P**	**22 47 45.5**	**-1.0**
	1.4nm,0.7s,mb4.1						
ZAL	**Zalesovo**	**49.91**	**352**	P	**P**	**22 48 00.6**	**-0.5**
	0.5nm,0.3s,mb4.0,baz=323,slow=9.6,SNR=2.8						
BVAR	**Borovoye Array**	**52.39**	**341**	P	**P**	**22 48 18.6**	**-1.4**
	0.3nm,0.4s,mb3.5,baz=138,slow=13,SNR=6.9						
KMBO	**Kilima Mbogo**	**58.12**	**266**	*e*P	**P**	**22 49 02.5**	**+0.6**
	2.3nm,1.0s,mb4.2						
BRTR	**Keskin Array B**	**65.33**	**312**	P	**P**	**22 49 48.2**	**-1.8**
	0.6nm,0.4s,mb4.0,baz=143,slow=5.7,SNR=7.1						
MLR	**Muntele Rosu**	**72.21**	**316**	P	**P**	**22 50 32.4**	**-0.1**
	1.7nm,0.8s,mb4.0,baz=34,slow=23,SNR=3.5						
FINES	**FINESS Array B**	**76.06**	**332**	P	**P**	**22 50 53.1**	**-1.3**
	1.3nm,0.8s,mb3.9,baz=111,slow=6.4,SNR=9.8						
ARCES	**ARCESS Array B**	**78.67**	**340**	P	**P**	**22 51 07.8**	**-1.0**
	33nm,1.4s,mb5.1,baz=80,slow=7.4,SNR=8.2						
GERES	**GERESS Array B**	**80.92**	**319**	P	**P**	**22 51 21.6**	**+0.3**
	0.8nm,0.9s,mb3.6,baz=124,slow=4.8,SNR=5.9						

BEO ***15*** *22:43:14.9±0.3, 43.37N×20.06E, h9km*
CSEM ***15*** *22:43:14.8±0.1, 43.39N×20.12E, h5km, MD2.6, Error ellipse: s-maj=1.3km s-min=1.0km az=90.0*
PDG ***15*** *22:43:17.1±0.1, 43.31N×20.01E, h10km*
NEIC ***15*** *22:43:17.1, 43.31N×20.01E, h10km, MD2.6(PDG), After PDG.*

ISC 15 22:43:14.8±0.4, 43.38N±0.02×20.07E±0.03, h3km±4km, n37, σ0§98/62, 9C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVSS	**Nova Varos 2**	**0.30**	**296**	⇑*i*Pg	**Pg**	**22 43 17.9**	**-2.8**
NVSS				Sg	**Sg**	**22 43 20.6**	**-4.1**
PLE	**Pljevlja**	**0.49**	**264**	⇑*i*Pg	**Pg**	**22 43 25.6**	**+0.9**
PLE				*e*Sg	**Sg**	**22 43 32.6**	**+1.3**
IVA	**Berane**	**0.52**	**194**	⇑*i*Pg	**Pg**	**22 43 25.4**	**+0.1**
IVA				*e*Sg	**Sg**	**22 43 32.7**	**+0.5**
BBLS	**Bajina Basta -**	**0.68**	**316**	⇑*i*Pg	**Pg**	**22 43 28.2**	**-0.2**
BBLS				Sg	**Sg**	**22 43 39.0**	**+1.5**
GRUS	**Gruza**	**0.69**	**42**	⇑*i*P	**Pg**	**22 43 29.4**	**+0.8**
GRUS				Sg	**Sg**	**22 43 40.9**	**+3.1**
DIVS	**Divcibare**	**0.72**	**356**	⇓*i*Pg	**Pg**	**22 43 29.4**	**+0.3**
DIVS				Sg	**Sg**	**22 43 39.5**	**+0.8**
PVY	**Plav**	**0.79**	**185**	⇓*i*Pg	**Pg**	**22 43 30.0**	**-0.5**
PVY				*e*Sg	**Sg**	**22 43 41.7**	**+0.7**
UPM	**Unac-Piva**	**0.86**	**259**	⇑*i*Pg	**Pg**	**22 43 31.9**	**-0.1**
UPM				*e*Sg	**Sg**	**22 43 43.9**	**+0.4**
NKY	**Niksic**	**0.97**	**234**	⇓*i*Pg	**Pg**	**22 43 33.6**	**-0.5**
NKY				*e*Sg	**Sg**	**22 43 47.5**	**+0.5**
NKY	**Niksic**	**0.97**	**234**	⇓*i*Pg	**Pg**	**22 43 33.6**	**-0.5**
NKY				*e*Sg	**Sg**	**22 43 47.5**	**+0.5**
BCI	**Bajram Curri**	**1.01**	**180**	*i* Pg	**Pg**	**22 43 34.2**	**-0.8**
BCI				*i* Sg	**Sg**	**22 43 48.4**	**-0.1**
TTG	**Podgorica**	**1.12**	**212**	⇓*i*Pg	**Pg**	**22 43 36.2**	**-1.0**
TTG				*e*Sg	**Sg**	**22 43 52.3**	**+0.2**
BRY	**Bratogost**	**1.22**	**247**	⇓*i*Pg	**Pg**	**22 43 38.2**	**-0.8**
BRY				*e*Sg	**Sg**	**22 43 56.3**	**+1.1**
BRY	**Bratogost**	**1.22**	**247**	⇓*i*Pg	**Pg**	**22 43 38.2**	**-0.8**
BRY				*e*Sg	**Sg**	**22 43 56.3**	**+1.1**
SVIS	**Svilajnac**	**1.24**	**42**	⇓*i*Pn	**Pn**	**22 43 39.4**	**+0.4**
SVIS				Sn	**Sn**	**22 43 57.2**	**+0.7**
PUK	**Puka**	**1.34**	**186**	*i* Pg	**Pg**	**22 43 40.5**	**-1.1**
PUK				*i* Sg	**Sg**	**22 43 59.4**	**-0.1**
BUM	**Brajici-Budva**	**1.38**	**219**	⇑*i*Pg	**Pg**	**22 43 41.2**	**-1.1**
BUM				*e*Sg	**Sg**	**22 44 01.4**	**+0.7**
BARS	**Barje**	**1.40**	**113**	⇑*i*Pn	**Pn**	**22 43 42.0**	**+0.6**
BARS				Sn	**Sn**	**22 44 03.2**	**+2.6**
TREB	**Trebinje**	**1.42**	**243**	Pn	**Pn**	**22 43 41.8**	**+0.1**
TREB				Sn	**Sn**	**22 44 00.5**	**-0.7**
BOLS	**Boljevac**	**1.45**	**71**	⇓*i*Pg	**Pg**	**22 43 42.9**	**-0.8**
BOLS				Sg	**Sg**	**22 44 03.6**	**+0.7**
BOLS	**Boljevac**	**1.45**	**71**	Pg	**Pg**	**22 43 42.8**	**-0.8**
BEO	**Belgrade**	**1.47**	**11**	⇓*i*Pn	**Pn**	**22 43 42.7**	**+0.4**
BEO				Sg	**Sg**	**22 44 01.9**	**-1.7**
HCY	**Herceg Novi**	**1.48**	**232**	⇓*i*Pg	**Pg**	**22 43 43.1**	**-1.3**
HCY				*e*Sg	**Sg**	**22 44 05.0**	**+0.8**
ULC	**Ulcinj**	**1.54**	**203**	⇑*i*

Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.26**	**264**	⇑P	**P**	**22 59 50.3**	**+2.2**
JAK				*e*S	**S**	**22 59 57.4**	**+2.0**
JNK	**Nakash**	**0.61**	**337**	⇓P	**P**	**22 59 52.5**	**+1.0**
JNK				*e*S	**S**	**23 00 01.2**	**-0.1**
NEM2	**Nemuro 2**	**0.61**	**56**	⇑P	**P**	**22 59 53.4**	**+1.9**
NEM2				*e*S	**S**	**23 00 02.6**	**+1.3**
JOB	**Onbets**	**0.90**	**263**	P	**P**	**22 59 57.0**	**+2.0**
JOB				*e*S	**S**	**23 00 09.0**	**+1.3**
JRA	**Rausu**	**0.91**	**3**	⇑P	**P**	**22 59 56.9**	**+1.6**
JRA				*e*S	**S**	**23 00 08.6**	**+0.6**
JAR	**Ashorobuto**	**0.97**	**287**	⇓P	**P**	**22 59 57.7**	**+1.6**
JAR				*e*S	**S**	**23 00 09.9**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**1.17**	**30**	⇑*i*PN	**P**	**22 59 59.2**	**+0.5**
YUK				*i* S	**S**	**23 00 14.2**	**+0.1**
YUK				pmax	pmax		
	comp=Z,12μm,0.3s						
YUK				pmax	pmax		
	comp=N,1μm,0.3s						
YUK				pmax	pmax		
	comp=E,720nm,0.3s						
YUK				pmax	pmax		
	comp=Z,12μm,0.2s						
YUK				smax			
	comp=N,23μm,0.4s						
YUK				smax			
	comp=E,58μm,0.4s						
YUK				smax			
	comp=N,23nm,0.3s						
YUK				smax			
	comp=E,29nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.17**	**30**	*i* P	**P**	**22 59 59.2**	**+0.5**
YUK				AMB	AMB	22 59 59.5	
	comp=E,1μm,0.3s						
YUK				AMB	AMB	22 59 59.5	
	comp=E,720nm,0.3s						
YUK				AMB	AMB	22 59 59.5	
	comp=E,12μm,0.3s						
YUK				AMB	AMB	22 59 59.8	
	comp=E,12μm,0.2s						
YUK				*i* S	**S**	**23 00 14.2**	**+0.1**
YUK				A		23 00 14.6	
	comp=E,23μm,0.4s						
YUK				A		23 00 14.6	
	comp=E,58μm,0.4s						
YUK				A		23 00 14.9	
	comp=E,23μm,0.3s						
YUK				A		23 00 14.9	
	comp=E,29μm,0.3s						
JTKR	**Abashiri--Toko**	**1.26**	**319**	⇓P	**P**	**23 00 01.6**	**+1.6**
JTKR				*e*S	**S**	**23 00 17.3**	**+1.1**
JCH	**Churui**	**1.30**	**252**	⇓P	**P**	**23 00 02.1**	**+1.3**
JCH				*e*S	**S**	**23 00 18.1**	**+0.6**
ASAJ	**Asahikawa**	**2.09**	**302**	P	**P**	**23 00 13.1**	**+1.5**
	comp=E,60nm,0.3s,baz=118,slow=9.5,SNR=365						
ASAJ				S	**S**	**23 00 42.5**	**+6.3**
	comp=E,38nm,0.3s,baz=270,slow=29,SNR=6.9						
KUR	**Kuril'sk**	**3.00**	**42**	⇓*i*PN	**P**	**23 00 24.3**	**-0.2**
KUR				*i* S	**S**	**23 00 59.0**	**-0.3**
KUR				pmax	pmax		
	comp=Z,350nm,0.5s						
KUR				smax			
	comp=N,1.0nm,0.5s						
KUR				smax			
	comp=E,650nm,0.5s						
KUR	**Kuril'sk**	**3.00**	**42**	⇓*i*P	**P**	**23 00 24.3**	**-0.2**
KUR				AMB	AMB	23 00 26.0	
	comp=E,350nm,0.5s						
KUR				*i* S	**S**	**23 00 59.0**	**-0.3**
KUR				A		23 01 06.5	
	comp=E,760nm,0.5s						
KUR				A		23 01 06.5	
	comp=E,610nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.25**	**338**	⇑*i*PN	**P**	**23 00 42.0**	**0.0**
YSS				*e*		23 01 30.0	
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.25**	**338**	*e*Pn	**P**	**23 00 41.8**	**-0.2**
YSS	**Yuzh-Sakhalins**	**4.25**	**338**	*i* P	**P**	**23 00 42.0**	**0.0**
YSS				AMB	AMB	23 00 43.0	
	comp=Z,40nm,0.8s						
TYV	**Tymovskoe**	**8.01**	**349**	*e*rx	rx	23 01 31.5	
MAJO	**Matsushiro**	**8.34**	**221**	*e*PN	**P**	**23 01 38.3**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,20nm,0.8s						
MAJO	**Matsushiro**	**8.34**	**221**	*e*P	**P**	**23 01 38.2**	**-0.6**
	comp=Z,20nm,0.8s						
MAT	**Matsushiro**	**8.34**	**221**	*e*PN	**P**	**23 01 39.0**	**+0.2**
MAT				pmax	pmax		
	comp=Z,14nm,0.8s						
MAT	**Matsushiro**	**8.34**	**221**	*e*P	**P**	**23 01 39.0**	**+0.2**
	comp=Z,14nm,0.8s						
MAT	**Matsushiro**	**8.34**	**221**	P	**P**	**23 01 38.7**	**-0.1**
NKL	**Nikolayevsk**	**10.54**	**345**	*e*rx	rx	23 02 04.0	
EKMR	**Ekimchan**	**12.88**	**325**	*e*P	**P**	**23 02 38.5**	**-1.7**
EKMR				AMB	AMB	23 02 41.5	
	comp=Z,6.0nm,0.7s						
YASR	**Yasnyy**	**15.29**	**318**	*e*rx	rx	23 03 08.2	
BMKR	**Bomnak**	**15.78**	**323**	*e*P	**P**	**23 03 15.4**	**-2.2**
HIA	**Hailar**	**18.56**	**298**	P	**P**	**23 03 52.9**	**+0.7**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HIA	**Hailar**	**18.56**	**298**	P	**P**	**23 03 52.9**	**+0.7**
	comp=Z,2.1nm,0.6s						
YAK	**Yakutsk**	**21.10**	**340**	⇓*e*P	**P**	**23 04 19.9**	**+0.6**
BJT	**Baijiatuau**	**21.78**	**272**	*e*P	**P**	**23 04 25.5**	**-0.8**
BJT				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BJT	**Baijiatuau**	**21.78**	**272**	*e*P	**P**	**23 04 25.5**	**-0.8**
	comp=Z,5.2nm,0.5s,mb4.2						
ULN	**Ulaanbaatar**	**26.90**	**294**	⇓*e*P	**P**	**23 05 14.2**	**-0.9**
ULN	**Ulaanbaatar**	**26.90**	**294**	*e*P	**P**	**23 05 13.4**	**-1.7**
	comp=Z,3.7nm,0.9s,mb3.9						
SONM	**Songino Array**	**27.34**	**294**	P	**P**	**23 05 18.4**	**-0.8**
	comp=Z,5.3nm,0.9s,mb4.1,baz=87,slow=8.0,SNR=28						
SONM				pP	pP	23 05 33.5	-0.5
	comp=Z,1.2nm,0.7s,baz=79,slow=8.0,SNR=4.0						
TLY	**Talaya**	**29.02**	**302**	P	**P**	**23 05 34.2**	**+0.1**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
TLY	**Talaya**	**29.02**	**302**	P	**P**	**23 05 34.2**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.7						
ZAK	**Zakamensk**	**29.25**	**299**	*e*P	**P**	**23 05 35.4**	**-0.9**
GUMO	**Guam**	**29.33**	**180**	P	**P**	**23 05 31.0**	**-6.3**
GUMO				pmax	pmax		
	comp=Z,46nm,0.7s,mb5.3						
GUMO	**Guam**	**29.33**	**180**	P	**P**	**23 05 31.0**	**-6.3**
	comp=Z,46nm,0.7s,mb5.3						
IMA	**Indian Mountai**	**40.14**	**34**	P	**P**	**23 07 01.9**	**-7.3**
IMA				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
IMA	**Indian Mountai**	**40.14**	**34**	P	**P**	**23 07 01.9**	**-7.3**
	comp=Z,11nm,0.9s,mb4.6						
ZAL	**Zalesovo**	**40.23**	**307**	P	**P**	**23 07 10.7**	**+0.6**
	comp=Z,0.7nm,0.9s,mb3.4,baz=347,slow=17,SNR=4.1						
WMQ	**Urumqi**	**40.94**	**292**	*e*P	**P**	**23 07 15.8**	**-0.2**
WMQ				AP	pP	23 07 33.9	+2.4
WMQ				PP	PP	23 08 51.5	-2.6
WMQ				S	**S**	**23 13 20.8**	**-2.3**
WMQ				AMB	AMB		
	comp=Z,2.0nm,1.3s,mb3.6						
WMQ				AMB	AMB		
	comp=Z,15nm,5.1s						
WMQ				LR	LR		
	comp=N,218nm,20.4s						
WMQ				LR	LR		
	comp=E,228nm,21.5s						
WMQ				LR	LR		
	comp=Z,326nm,20.9s						
ILAR	**Eielson Array**	**42.98**	**36**	P	**P**	**23 07 32.8**	**+0.4**
	comp=Z,1.1nm,0.5s,mb3.8,baz=259,slow=5.7,SNR=20						
ILAR				pP	pP	23 07 47.8	-0.2
	comp=Z,0.8nm,0.5s,baz=258,slow=5.7,SNR=5.1						
MKAR	**Makanchi Array**	**43.56**	**298**	*i* P	**P**	**23 07 37.0**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**44.66**	**304**	*e*P	**P**	**23 07 45.0**	**-1.2**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
KURK	**Kurchatov**	**44.66**	**304**	*e*P	**P**	**23 07 45.0**	**-1.2**
	comp=Z,1.5nm,0.6s,mb4.0						
LSA	**Lhasa**	**44.67**	**271**	P	**P**	**23 07 47.4**	**+0.8**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
LSA	**Lhasa**	**44.67**	**271**	P	**P**	**23 07 47.4**	**+0.8**
	comp=Z,3.4nm,0.8s,mb4.2						
CMAR	**Chiang Mai Arr**	**45.85**	**252**	P	**P**	**23 07 56.6**	**+0.6**
	comp=Z,1.0nm,0.8s,mb3.8,baz=49,slow=7.1,SNR=5.3						
INK	**Inuvik**	**47.80**	**30**	*e*P	**P**	**23 08 10.6**	**-0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**47.80**	**30**	P	**P**	**23 08 10.4**	**-0.4**
	comp=Z,1.8nm,0.9s,mb4.1,baz=349,slow=5.5,SNR=7.9						
INK	**Inuvik**	**47.80**	**30**	*e*P	**P**	**23 08 10.6**	**-0.2**
	comp=Z,1.6nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**48.43**	**310**	*e*P	**P**	**23 08 14.4**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
CHKZ	**Chkalovo**	**48.43**	**310**	*e*P	**P**	**23 08 14.4**	**-1.4**
	comp=Z,3.5nm,1.1s,mb4.3						
BVAR	**Borovoye Array**	**48.77**	**309**	P	**P**	**23 08 17.7**	**-0.7**
	comp=Z,0.9nm,0.3s,mb4.2,baz=65,slow=8.4,SNR=12						
BRVK	**Borovoye**	**48.82**	**309**	*e*P	**P**	**23 08 16.9**	**-2.0**
JIRN	**Jiri**	**49.43**	**272**	*e*P	**P**	**23 08 23.0**	**-0.9**
	comp=Z,5.9nm,0.6s,mb4.8						
GUN	**Gumba**	**49.52**	**272**	*e*P	**P**	**23 08 24.4**	**-0.2**
	comp=Z,15nm,0.5s,mb5.3						
KKN	**Kakani**	**50.02**	**273**	*e*P	**P**	**23 08 27.8**	**-0.7**
	comp=Z,9.3nm,0.9s,mb4.8						
PKI	**Pulchoki**	**50.05**	**272**	*e*P	**P**	**23 08 27.8**	**-0.9**
DMN	**Daman**	**50.25**	**273**	*e*P	**P**	**23 08 29.1**	**-1.1**
	comp=Z,9.3nm,0.3s,mb5.3						
AAK	**Ala-Archa**	**50.28**	**295**	*e*P	**P**	**23 08 28.7**	**-1.6**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
AAK	**Ala-Archa**	**50.28**	**295**	*e*P	**P**	**23 08 28.7**	**-1.6**
	comp=Z,3.0nm,0.4s,mb4.7						
GKN	**Gorkha**	**50.38**	**273**	*e*P	**P**	**23 08 30.5**	**-0.7**
	comp=Z,6.4nm,0.4s,mb5.0						
KOLN	**Koldanda**	**51.27**	**274**	*e*P	**P**	**23 08 37.3**	**-0.6**
	comp=Z,8.2nm,0.4s,mb5.0						
PMG	**Port Moresby**	**52.21**	**177**	*e*P	**P**	**23 08 44.9**	**-0.3**
PMG				pmax	pmax		
	comp=Z,16nm,0.3s						
PMG	**Port Moresby**	**52.21**	**177**	*e*P	**P**	**23 08 44.9**	**-0.2**
	comp=Z,16nm,0.3s						
DLBC	**Dease Lake**	**52.24**	**42**	P	**P**	**23 08 45.4**	**+0.6**
RES	**Resolute Bay**	**56.09**	**16**	*e*P	**P**	**23 09 11.4**	**-1.4**
RES				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
RES	**Resolute Bay**	**56.09**	**16**	*e*P	**P**	**23 09 11.4**	**-1.4**
	comp=Z,7.8nm,0.9s,mb4.7						
YKA	**Yellowknife Ar**	**57.25**	**33**	P	**P**	**23 09 20.2**	**-1.0**
YKA				*PP	pP	23 09 35.6	-1.8
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**57.25**	**33**	P	**P**	**23 09 20.2**	**-0.9**
	comp=Z,0.7nm,0.8s,mb3.8,baz=303,slow=6.9,SNR=8.5						
YKA				pP	pP	23 09 35.6	-1.8
	comp=Z,0.3nm,0.5s,baz=301,slow=6.8,SNR=3.9						
WRAB	**Tennant Creek**	**63.41**	**191**	P	**P**	**23 10 03.8**	**0.0**
WRAB				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**63.41**	**191**	P	**P**	**23 10 03.8**	**0.0**
	comp=Z,5.1nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**63.42**	**191**	P	**P**	**23 10 02.5**	**-1.3**
	comp=Z,1.5nm,0.8s,mb4.2,baz=8.7,slow=6.9,SNR=10.0						
WRA				pP	pP	23 10 21.3	+1.0
	comp=Z,0.4nm,0.6s,baz=20,slow=7.4,SNR=2.1						
SUMG	**Summit**	**64.67**	**1**	P	**P**	**23 10 09.5**	**-1.6**
	comp=Z,4.5nm,0.7s,mb4.6						
FINES	**FINESS Array B**	**64.81**	**332**	P	**P**	**23 10 10.7**	**-1.4**
	comp=Z,1.1nm,0.4s,mb4.2,baz=39,slow=8.4,SNR=16						
OBN	**Obninsk**	**64.98**	**323**	*e*P	**P**	**23 10 12.9**	**-0.4**
OBN				*e*		23 12 36.5	
OBN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**67.15**	**191**	P	**P**	**23 10 28.1**	**+0.5**
	comp=Z,2.1nm,0.8s,mb4.2,baz=11,slow=5.6,SNR=19						
ASAR				pP	pP	23 10 44.4	+0.1
	comp=Z,0.9nm,0.8s,baz=21,slow=5.5,SNR=4.4						
FCC	**Fort Churchill**	**67.41**	**29**	*e*P	**P**	**23 10 28.0**	**-0.7**
FCC				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
FCC	**Fort Churchill**	**67.41**	**29**	*e*P	**P**	**23 10 28.0**	**-0.6**
	comp=Z,3.3nm,0.9s,mb4.4						
KIV	**Kislovodsk**	**69.09**	**311**	*e*P	**P**	**23 10 39.8**	**+0.4**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KIV	**Kislovodsk**	**69.09**	**311**	*e*P	**P**	**23 10 39.8**	**+0.4**
	comp=Z,8.9nm,0.8s,mb4.8						
NVAR	**Mina Array Bea**	**69.26**	**57**	P	**P**	**23 10 41.5**	**+1.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=301,slow=5.3,SNR=11						
NB2	**NORSAR Subarra**	**69.71**	**338**	P	**P**	**23 10 41.9**	**-1.0**
	comp=Z,1.4nm,0.6s,mb4.1,baz=33,slow=6.2						
NOA	**NORSAR Array B**	**69.71**	**338**	P	**P**	**23 10 42.1**	**-0.7**
	comp=Z,1.8nm,0.6s,mb4.2,baz=35,slow=6.1,SNR=6.9						
HFS	**Hagfors**	**69.75**	**336**	P	**P**	**23 10 41.9**	**-1.3**
	comp=Z,2.6nm,0.5s,mb4.4,baz=53,slow=7.4,SNR=16						
HFS				pP	pP	23 10 58.5	-1.4
	comp=Z,14nm,1.3s,baz=45,slow=2.1,SNR=1.9						
BW06	**Boulder Array**	**71.54**	**48**	*e*P	**P**	**23 10 55.1**	**+0.9**
	comp=Z,1.4nm,0.5s,mb4.2						
PDAR	**Pinedale Array**	**71.54**	**48**	P	**P**	**23 10 54.5**	**+0.3**
	comp=Z,1.2nm,0.4s,mb4.2,baz=348,slow=0.4,SNR=11						
PDAR				pP	pP	23 11 10.6	-0.5
	comp=Z,0.4nm,0.6s,baz=259,slow=4.6,SNR=2.2						
STKA	**Stephens Creek**	**74.60**	**183**	P	**P**	**23 11 14.2**	**+1.8**
	comp=Z,1.9nm,0.8s,mb4.1,baz=5.7,slow=10,SNR=3.0						
ISCO	**Idaho Springs**	**75.74**	**49**	P	**P**	**23 11 20.7**	**+2.0**
ISCO				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
ISCO	**Idaho Springs**	**75.74**	**49**	P	**P**	**23 11 20.7**	**+2.0**
	comp=Z,1.2nm,0.8s,mb3.9						
MORC	**Moravsky Berou**	**76.81**	**328**	*e*P	**P**	**23 11 23.9**	**-0.6**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
MORC	**Moravsky Berou**	**76.81**	**328**	*e*P	**P**	**23 11 23.9**	**-0.6**
	comp=Z,2.2nm,0.7s,mb4.2						
BRTR	**Keskin Array B**	**76.92**	**313**	P	**P**	**23 11 26.1**	**+0.7**
	comp=Z,0.9nm,0.9s,mb3.7,baz=46,slow=6.2,SNR=3.4						
CLL	**Collm**	**77.23**	**331**	P	**P**	**23 11 27.0**	**+0.1**
EKA	**Eskdalemuir Ar**	**78.36**	**342**	P	**P**	**23 11 32.4**	**-0.5**
	comp=Z,1.2nm,0.4s,mb4.2,baz=24,slow=5.5,SNR=7.2						
KHC	**Kasperske Hory**	**78.83**	**330**	*e*P	**P**	**23 11 35.5**	**-0.2**
GERES	**GERESS Array B**	**79.03**	**330**	P	**P**	**23 11 35.6**	**-1.2**
	comp=Z,0.8nm,0.5s,mb4.0,baz=38,slow=5.8,SNR=15						
TXAR	**Lajitas Array**	**84.33**	**55**	P	**P**	**23 12 06.5**	**+1.8**
	comp=Z,0.8nm,0.7s,mb4.0,baz=296,slow=3.6,SNR=11						
TXAR				pP	pP	23 12 21.9	0.0
	comp=Z,0.8nm,0.7s,baz=297,slow=3.0,SNR=5.9						
IDI	**Anoyia**	**84.86**	**315**	P	**P**	**23 12 06.8**	**-0.5**
	comp=Z,11nm,0.9s,mb5.0,baz=207,slow=12,SNR=7.2						
LVC	**Limon Verde**	**145.28**	**65**	PKPbc	PKPbc	23 19 10.4	+0.9
	comp=Z,3.0nm,0.7s,baz=279,slow=6.9,SNR=4.0						
LVC	**Limon Verde**	**145.28**	**65**	*e*PKPdf	PKPdf	23 19 10.1	+1.1

*NEIC **15** 23:23:47.2, 42.97S×177.60E, h17km, ML4.0(WEL), After WEL.*

WEL 15 23:23:51.6±0.3, 42.82S×177.36E, h33km, ML4.0/16, 2C, Error ellipse: s-maj=2.5km s-min=1.8km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAWZ	**Paruwai Farm**	**2.03**	**314**	PN	Pn	23 24 23.1	-1.2
PAWZ				SN	Sn	23 24 45.6	-3.1
MSWZ	**Moikau Station**	**2.10**	**311**	PN	Pn	23 24 23.8	-1.5
MSWZ				SN	Sn	23 24 48.4	-2.2
MTW	**Mount Morrison**	**2.16**	**319**	P	P	23 24 24.5	-1.4
MTW	**Mount Morrison**	**2.16**	**319**	PN	Pn	23 24 24.5	-1.6
MTW				SN	Sn	23 24 49.1	-2.9
BFZ	**Birch Farm**	**2.29**	**338**	P	P	23 24 25.9	-1.9
BFZ	**Birch Farm**	**2.29**	**338**	PN	Pn	23 24 25.9	-2.1
BFZ				SN	Sn	23 24 50.5	-4.8
BHW	**Baring Head**	**2.33**	**306**	P	P	23 24 27.3	-1.0
BHW	**Baring Head**	**2.33**	**306**	PN	Pn	23 24 27.1	-1.4
BHW				SN	Sn	23 24 53.2	-3.0
CAW	**Cannon Point**	**2.42**	**314**	P	P	23 24 28.4	-1.2
CAW	**Cannon Point**	**2.42**	**314**	PN	Pn	23 24 28.2	-1.5
WEL	**Wellington**	**2.46**	**307**	P	P	23 24 29.4	-0.8
WEL				S	S	23 24 56.9	-2.6
WEL	**Wellington**	**2.46**	**307**	PN	Pn	23 24 29.0	-1.4
WEL				SN	Sn	23 24 56.6	-3.1
MRZ	**Mangatainoka R**	**2.53**	**328**	P	P	23 24 29.6	-1.6
MRZ	**Mangatainoka R**	**2.53**	**328**	⇑PN	Pn	23 24 29.6	-1.8
MRZ				SN	Sn	23 24 57.3	-4.1
MRW	**Makara Radio**	**2.54**	**308**	P	P	23 24 30.3	-1.0
MRW	**Makara Radio**	**2.54**	**308**	PN	Pn	23 24 30.1	-1.3
MRW				SN	Sn	23 24 58.5	-3.1
KIW	**Kapiti Island**	**2.68**	**316**	P	P	23 24 32.2	-1.1
KIW	**Kapiti Island**	**2.68**	**316**	PN	Pn	23 24 32.0	-1.4
KIW				SN	Sn	23 25 01.9	-3.2
PWZ	**Pawanui**	**2.81**	**352**	P	P	23 24 32.1	-3.1
PWZ	**Pawanui**	**2.81**	**352**	PN	Pn	23 24 31.4	-3.9
BSWZ	**Blackbirch Sta**	**2.81**	**292**	P	P	23 24 34.0	-1.2
BSWZ	**Blackbirch Sta**	**2.81**	**292**	*e*PN	Pn	23 24 33.2	-2.2
BSWZ				SN	Sn	23 25 06.2	-2.4
KHZ	**Kahutara**	**2.85**	**277**	*e*P	P	23 24 33.7	-2.0
KHZ	**Kahutara**	**2.85**	**277**	*e*PN	Pn	23 24 33.2	-2.7
TUWZ	**Tuamarina**	**2.90**	**297**	*e*PN	Pn	23 24 35.4	-1.1
TUWZ				SN	Sn	23 25 07.4	-3.2
TSZ	**Takapari Road**	**2.95**	**339**	P	P	23 24 35.2	-2.0
TSZ	**Takapari Road**	**2.95**	**339**	⇑PN	Pn	23 24 35.2	-2.1
NNZ	**Nelson**	**3.37**	**297**	P	P	23 24 42.1	-1.0
NNZ	**Nelson**	**3.37**	**297**	PN	Pn	23 24 41.7	-1.6
NNZ				SN	Sn	23 25 19.1	-3.6
THZ	**Tophouse**	**3.47**	**286**	*e*P	P	23 24 42.5	-2.1
THZ	**Tophouse**	**3.47**	**286**	PN	Pn	23 24 42.2	-2.5
WAZ	**Wanganui**	**3.54**	**329**	P	P	23 24 45.5	-0.1
WAZ	**Wanganui**	**3.54**	**329**	PN	Pn	23 24 45.1	-0.7
MQZ	**McQueen's Vall**	**3.55**	**254**	*e*P	P	23 24 43.4	-2.4
MQZ	**McQueen's Vall**	**3.55**	**254**	PN	Pn	23 24 42.9	-3.0
MQZ				SN	Sn	23 25 22.5	-4.8
MOVZ	**Moawhango**	**3.62**	**340**	P	P	23 24 45.0	-1.6
MOVZ	**Moawhango**	**3.62**	**340**	PN	Pn	23 24 45.0	-1.7
BKZ	**Black Stump Fm**	**3.71**	**349**	P	P	23 24 44.8	-3.1
BKZ	**Black Stump Fm**	**3.71**	**349**	PN	Pn	23 24 44.7	-3.4
WNVZ	**Wahianoa**	**3.73**	**338**	P	P	23 24 46.0	-2.3
LTZ	**Lake Taylor**	**3.75**	**269**	*e*P	P	23 24 46.7	-1.8
LTZ				S	S	23 25 28.7	-3.4
LTZ	**Lake Taylor**	**3.75**	**269**	PN	Pn	23 24 46.6	-2.1
LTZ				SN	Sn	23 25 28.7	-3.5
TUVZ	**Tukino**	**3.77**	**339**	P	P	23 24 47.6	-1.3
TUVZ	**Tukino**	**3.77**	**339**	PN	Pn	23 24 47.5	-1.5
DRZ	**Dome Shelter**	**3.79**	**338**	P	P	23 24 48.1	-1.0
DRZ	**Dome Shelter**	**3.79**	**338**	*e*PN	Pn	23 24 47.8	-1.4
KNZ	**Kokohu**	**3.80**	**4**	P	P	23 24 44.2	-5.0
KNZ	**Kokohu**	**3.80**	**4**	PN	Pn	23 24 44.2	-5.2
FWVZ	**Far West T-bar**	**3.81**	**338**	P	P	23 24 48.2	-1.2
FWVZ	**Far West T-bar**	**3.81**	**338**	PN	Pn	23 24 48.1	-1.4
WPVZ	**Whakapapa**	**3.86**	**339**	P	P	23 24 48.8	-1.3
WPVZ	**Whakapapa**	**3.86**	**339**	PN	Pn	23 24 48.7	-1.5
CNZ	**Chateau**	**3.87**	**339**	P	P	23 24 48.7	-1.5
CNZ	**Chateau**	**3.87**	**339**	PN	Pn	23 24 48.5	-1.8
OTVZ	**Oturere**	**3.87**	**340**	PN	Pn	23 24 48.3	-2.0
OTVZ				SN	Sn	23 25 31.5	-3.7
NGZ	**Ngauruhoe**	**3.87**	**339**	PN	Pn	23 24 48.6	-1.8
NGZ				SN	Sn	23 25 31.2	-4.1
WTVZ	**West Tongariro**	**3.93**	**339**	P	P	23 24 49.4	-1.7
WTVZ	**West Tongariro**	**3.93**	**339**	PN	Pn	23 24 49.2	-2.1
WTVZ				SN	Sn	23 25 32.5	-4.3
KRVZ	**Karewarewa**	**3.94**	**340**	PN	Pn	23 24 49.4	-1.9
TWVZ	**Taurewa**	**4.01**	**338**	P	P	23 24 50.3	-2.0
TWVZ	**Taurewa**	**4.01**	**338**	PN	Pn	23 24 50.2	-2.2
KATZ	**Kakaramea**	**4.04**	**341**	P	P	23 24 51.0	-1.6
KATZ	**Kakaramea**	**4.04**	**341**	PN	Pn	23 24 50.9	-1.9
MGZ	**Maungaku**	**4.05**	**339**	P	P	23 24 50.9	-2.0
MGZ	**Maungaku**	**4.05**	**339**	PN	Pn	23 24 50.4	-2.6
QRZ	**Quartz Range**	**4.12**	**297**	P	P	23 24 52.9	-0.9
QRZ	**Quartz Range**	**4.12**	**297**	PN	Pn	23 24 52.6	-1.4
QRZ				SN	Sn	23 25 38.4	-3.3
RATZ	**Rangitukua**	**4.12**	**342**	P	P	23 24 51.3	-2.6
RATZ	**Rangitukua**	**4.12**	**342**	*e*PN	Pn	23 24 51.7	-2.3
RAEZ	**Rainy Point**	**4.18**	**327**	P	P	23 24 54.5	-0.1
RAEZ	**Rainy Point**	**4.18**	**327**	PN	Pn	23 24 53.9	-0.9
VRZ	**Vera Road**	**4.18**	**331**	P	P	23 24 53.2	-1.5
VRZ	**Vera Road**	**4.18**	**331**	PN	Pn	23 24 52.9	-1.9
DSZ	**Denniston Nort**	**4.26**	**283**	P	P	23 24 54.4	-1.4
DSZ	**Denniston Nort**	**4.26**	**283**	*e*PN	Pn	23 24 53

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**35.71**	**16**	P	P	23 45 31.2	-1.9
	0.5nm,0.6s,baz=211,slow=8.4,SNR=3.5						
WRA	**Warramunga Arr**	**53.16**	**128**	P	P	23 47 50.7	-2.5
	1.4nm,0.7s,baz=310,slow=8.0,SNR=8.1						
ASAR	**Alice Springs**	**55.08**	**132**	P	P	23 48 05.3	-2.0
	0.8nm,0.6s,baz=306,slow=7.0,SNR=5.3						
FINES	**FINESS Array B**	**66.65**	**331**	P	P	23 49 23.2	-2.1
	0.5nm,0.6s,baz=124,slow=6.9,SNR=5.5						

*IDC **16** 00:08:51.1±2.5, 8.78N×93.74E, h29km±4km, mb4.0/10, mb1 4.0/11, mb1mx3.8/20, mbtmp4.0/11, ML3.6/1, MS3.2/1, Ms1 3.4/1, ms1mx2.7/26, Error ellipse: s-maj=58.4km s-min=39.0km az=163.0*
*BJI **16** 00:08:52.0, 8.75N×93.28E, h51km, mb4.6*
*NEIC **16** 00:08:52.6±0.9, 9.00N×93.64E, mb4.3/7, Error ellipse: s-maj=22.5km s-min=12.3km az=150.0*

ISC 16 00:08:50.3±0.8, 8.83N±0.08×93.59E±0.09, h30km, (h30km±1.7km:pP-P), n38, σ1§18/41, mb4.1/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.93**	**344**	*e*P	**Pn**	**00 09 36.7**	**+0.6**
PBA				*e*S	**Sn**	**00 10 10.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**10.89**	**28**	Pn	**P**	**00 11 29.0**	**+1.5**
	0.1nm,0.3s,baz=220,slow=15,SNR=8.0						
CMAR				LR	LR	00 15 58.7	
	comp=Z,120nm,19.5s,baz=205,slow=39						
PALK	**Pallekele**	**12.85**	**264**	Pn	**P**	**00 11 54.1**	**+0.2**
PALK				*e*Sn	**S**	**00 14 10.5**	**-6.5**
VIS	**Vishakhapatnam**	**13.33**	**313**	*e*P	**P**	**00 11 57.4**	**-2.8**
VIS				AMb	AMB	00 12 09.9	
	comp=Z,18nm,1.2s						
VIS				*e*S	**S**	**00 14 15.0**	**-13**
BWNR	**Bhubaneshwar**	**13.66**	**327**	*e*P	**P**	**00 12 01.6**	**-3.0**
BWNR				*e*S	**S**	**00 14 20.4**	**-16**
SHL	**Shillong**	**16.73**	**355**	*e*	**P**	**00 12 44.0**	**-0.3**
HYB	**Hyderabad**	**16.94**	**302**	*e*P	**P**	**00 12 52.0**	**+5.0**
HYB	**Hyderabad**	**16.94**	**302**	*i* P	**P**	**00 12 52.0**	**+5.0**
HYB				*e*		00 15 49.0	
HYB				*e*S	**S**	**00 15 59.5**	**+6.5**
BLSP	**Bilaspur**	**17.21**	**322**	*e*P	**P**	**00 12 52.2**	**+1.8**
BLSP				*e*		00 12 54.2	
	comp=Z,18nm,0.9s						
LSA	**Lhasa**	**20.89**	**354**	P	**P**	**00 13 30.4**	**-2.4**
LSA	**Lhasa**	**20.89**	**354**	*e*P	**P**	**00 13 30.9**	**-1.9**
	comp=Z,6.4nm,0.8s						
BHPL	**Bhopal**	**21.10**	**315**	*e*P	**P**	**00 13 34.7**	**-0.3**
BHPL				*e*		00 13 38.4	
	comp=Z,23nm,0.9s						
AGRA	**Agra**	**23.54**	**323**	*e*P	**P**	**00 14 01.7**	**+2.6**
AYAN	**Aya Nagar**	**24.95**	**324**	*e*P	**P**	**00 14 13.6**	**+0.8**
AYAN				AMb	AMB	00 14 15.6	
	comp=Z,9.2nm,0.8s,mb4.3						
NDI	**New Delhi**	**25.05**	**324**	*e*P	**P**	**00 14 14.0**	**+0.3**
NDI				*e*P		00 14 14.0	
KUDL	**Kundal**	**25.08**	**322**	*e*P	**P**	**00 14 15.2**	**+1.2**
KUDL				AMb	AMB	00 14 17.2	
	comp=Z,5.9nm,1.4s,mb3.9						
KLP	**Kalpa**	**26.72**	**330**	*e*P	**P**	**00 14 30.5**	**+1.3**
KLP				AMb	AMB	00 14 35.0	
	comp=Z,10nm,1.4s,mb4.2						
AAK	**Ala-Archa**	**37.62**	**337**	*e*P	**P**	**00 16 03.8**	**-0.5**
	comp=Z,4.9nm,1.1s,mb4.2						
SONM	**Songino Array**	**40.36**	**13**	P	**P**	**00 16 26.1**	**-1.0**
	comp=Z,1.0nm,0.9s,mb3.5,baz=211,slow=7.2,SNR=4.1						
ZAL	**Zalesovo**	**45.54**	**353**	P	**P**	**00 17 09.3**	**+0.2**
	comp=Z,2.4nm,0.9s,mb4.1,baz=300,slow=7.5,SNR=14						
ZAL				pP	pP	00 17 17.4	-0.7
	comp=Z,1.2nm,0.4s,baz=303,slow=3.9,SNR=4.2						
ZAL	**Zalesovo**	**45.54**	**353**	P	**P**	**00 17 09.3**	**+0.2**
ZAL				pP	pP	00 17 17.4	-0.7
BVAR	**Borovoye Array**	**47.92**	**341**	P	**P**	**00 17 26.8**	**-1.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=127,slow=7.4,SNR=8.3						
BVAR				pP	pP	00 17 36.2	-0.7
	comp=Z,1.9nm,1.0s,baz=124,slow=5.3,SNR=5.5						
BRVK	**Borovoye**	**47.98**	**341**	P	**P**	**00 17 26.9**	**-1.5**
	comp=Z,3.1nm,1.1s,mb4.2						
GNI	**Garni**	**53.38**	**314**	P	**P**	**00 18 08.9**	**-0.7**
	comp=Z,4.3nm,0.9s,mb4.4						
BRTR	**Keskin Array B**	**61.40**	**311**	P	**P**	**00 19 05.4**	**-0.8**
	comp=Z,1.7nm,0.7s,mb4.3,baz=119,slow=7.2,SNR=8.6						
FINES	**FINESS Array B**	**71.62**	**332**	P	**P**	**00 20 09.9**	**-0.9**
	comp=Z,3.7nm,1.2s,mb4.2,baz=121,slow=11,SNR=8.3						
ARCES	**ARCESS Array B**	**74.19**	**340**	P	**P**	**00 20 25.8**	**+0.1**
	comp=Z,2.8nm,0.9s,mb4.2,baz=98,slow=6.9,SNR=14						
GERES	**GERESS Array B**	**76.76**	**318**	P	**P**	**00 20 41.5**	**+0.8**
	comp=Z,1.1nm,0.7s,mb3.9,baz=90,slow=4.0,SNR=13						
GERES				pP	pP	00 20 50.0	-0.2
	comp=Z,1.3nm,0.7s,baz=90,slow=4.9,SNR=8.5						
HFS	**Hagfors**	**77.36**	**330**	P	**P**	**00 20 43.9**	**+0.1**
	comp=Z,2.7nm,0.8s,mb4.2,baz=180,slow=1.4,SNR=5.1						
GRA1	**Grafenberg Arr**	**78.39**	**319**	*e*P	**P**	**00 20 50.4**	**+0.7**
GRF	**Grafenberg Arr**	**78.39**	**319**	*e*P	**P**	**00 20 50.4**	**+0.7**
LPG	**La Plagne**	**81.56**	**315**	*e*P	**P**	**00 21 08.2**	**+1.4**
	comp=Z,8.4nm,0.9s,mb4.3						
IMA	**Indian Mountai**	**90.95**	**22**	*e*P	**P**	**00 21 53.7**	**+1.3**
	comp=Z,14nm,0.9s						
ILAR	**Eielson Array**	**94.07**	**22**	P	**P**	**00 22 05.2**	**-1.6**
	comp=Z,0.6nm,0.6s,mb4.2,baz=311,slow=4.9,SNR=9.3						
ILAR				pP	pP	00 22 15.9	-0.4
	comp=Z,0.4nm,0.7s,baz=313,slow=3.8,SNR=3.3						
INK	**Inuvik**	**96.23**	**16**	P	**P**	**00 22 16.9**	**+0.3**
	comp=Z,0.8nm,1.0s,mb4.1,baz=318,slow=11,SNR=3.5						
INK	**Inuvik**	**96.23**	**16**	*e*P	**P**	**00 22 16.5**	**-0.1**
	comp=Z,0.3nm,0.4s,mb4.1						
TXAR	**Lajitas Array**	**138.58**	**23**	PKP	PKPdf	00 28 16.4	-2.7
	comp=Z,0.1nm,0.6s,baz=144,slow=0.7,SNR=3.9						
TXAR	**Lajitas Array**	**138.58**	**23**	PKP	PKPdf	00 28 16.4	-2.7

IDC 16 00:10:11.7±21.0, 27.32S×69.70E, mb3.8/3, mb1 4.0/3, mb1mx3.7/15, mbtmp3.8/3, MS3.8/2, Ms1 3.7/2, ms1mx3.2/16, Error ellipse: s-maj=668.5km s-min=55.5km az=52.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**40.52**	**184**	LR	LR	00 30 57.6	
	comp=Z,104nm,20.6s,baz=76,slow=31						
ASAR	**Alice Springs**	**57.50**	**102**	P	P	00 20 03.2	-2.1
	0.8nm,0.7s,baz=252,slow=5.9,SNR=7.5						
WRA	**Warramunga Arr**	**59.12**	**98**	P	P	00 20 14.2	-2.4
	0.7nm,1.0s,baz=251,slow=6.8,SNR=4.8						
SONM	**Songino Array**	**81.76**	**24**	P	P	00 22 32.3	-1.2
	0.3nm,0.4s,baz=243,slow=3.2,SNR=3.7						
ASAJ	**Asahikawa**	**97.36**	**44**	LR	LR	01 10 10.8	
	comp=Z,46nm,18.4s,baz=322,slow=37						

IDC 16 00:12:00.4±7.0, 19.49S×177.45W, mb3.6/3, mb1 3.9/3, mb1mx3.7/13, mbtmp3.6/3, Error ellipse: s-maj=303.8km s-min=39.8km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.26**	**256**	P	P	00 20 20.0	-1.7
	0.8nm,0.6s,baz=95,slow=8.2,SNR=10						
WRA	**Warramunga Arr**	**45.26**	**261**	P	P	00 20 19.9	-1.9
	0.2nm,0.3s,baz=97,slow=7.6,SNR=6.2						
ILAR	**Eielson Array**	**87.22**	**13**	P	P	00 24 48.1	-1.3
	0.2nm,0.5s,baz=234,slow=4.8,SNR=4.5						

WEL 16 00:13:20.1±0.5, 35.50S×178.89E, h195km±10km, ML4.2/5, Error ellipse: s-maj=13.6km s-min=6.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.12**	**193**	PN	P	00 13 58.9	-0.9
MXZ				*e*SN	S	00 14 28.9	-1.6
PUZ	**Puketiti**	**2.62**	**191**	PN	P	00 14 05.2	-0.3
PUZ				SN	S	00 14 39.2	-1.4
MWZ	**Matawai**	**3.04**	**201**	PN	P	00 14 10.6	+0.2
MWZ				SN	S	00 14 49.4	+0.2
URZ	**Urewera**	**3.10**	**207**	PN	P	00 14 10.8	-0.4
URZ				SN	S	00 14 50.1	-0.6
KNZ	**Kokohu**	**3.65**	**195**	PN	P	00 14 16.9	-1.0
KNZ				SN	S	00 15 02.3	-0.3
BKZ	**Black Stump Fm**	**4.13**	**207**	PN	P	00 14 23.6	-0.4
BKZ				SN	S	00 15 13.9	+0.5
TSZ	**Takapari Road**	**5.11**	**206**	*e*PN	P	00 14 34.2	-2.3
TSZ				SN	S	00 15 34.3	-1.4
BFZ	**Birch Farm**	**5.58**	**201**	PN	P	00 14 40.4	-2.1
MRZ	**Mangatainoka R**	**5.78**	**206**	PN	P	00 14 42.5	-2.6
MRZ				SN	S	00 15 47.4	-3.9
KIW	**Kapiti Island**	**6.20**	**209**	PN	P	00 14 48.2	-2.5
CAW	**Cannon Point**	**6.36**	**207**	*e*PN	P	00 14 50.0	-2.6
TUWZ	**Tuamarina**	**7.08**	**212**	*e*PN	P	00 14 59.6	-2.5
NNZ	**Nelson**	**7.16**	**215**	*e*SN	S	00 16 22.0	-1.7
MQZ	**McQueen's Vall**	**9.50**	**208**	*e*SN	S	00 17 13.3	-5.0

*IDC **16** 00:15:44.0±1.6, 2.45N×95.18E, mb3.9/6, mb1 4.2/7, mb1mx3.9/18, mbtmp4.0/7, ML4.7/1, Error ellipse: s-maj=63.4km s-min=20.6km az=57.0*
*BJI **16** 00:15:48.6, 2.50N×95.20E, h30km, mb4.8*
*NEIC **16** 00:15:48.6±0.7, 2.47N×95.25E, h30km, mb4.4/5, Error ellipse: s-maj=27.0km s-min=9.8km az=59.0*

ISC 16 00:15:47.5±0.8, 2.6N±0.1×95.5E±0.2, h30km, n17, σ0§90/17, mb4.2/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.12**	**12**	Pn	**P**	**00 19 35.5**	**+1.6**
	1.0nm,0.3s,baz=198,slow=11,SNR=19						
HYB	**Hyderabad**	**22.20**	**313**	*i* P	**P**	**00 20 45.0**	**+1.9**
SHL	**Shillong**	**23.09**	**352**	*e*P	**P**	**00 20 51.0**	**-1.0**
LSA	**Lhasa**	**27.26**	**352**	P	**P**	**00 21 32.6**	**+1.3**
LSA	**Lhasa**	**27.26**	**352**	*e*P	**P**	**00 21 31.9**	**+0.6**
	8.2nm,0.8s,mb4.3						
XAN	**Xi'an**	**33.70**	**20**	P	**P**	**00 22 27.6**	**-0.8**
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.9						
AAK	**Ala-Archa**	**44.04**	**338**	*e*P	**P**	**00 23 54.5**	**0.0**
	comp=Z,2.0nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**44.24**	**122**	P	**P**	**00 23 55.9**	**-0.5**
	comp=Z,2.5nm,0.9s,mb3.9,baz=301,slow=9.1,SNR=8.0						
WRAB	**Tennant Creek**	**44.24**	**122**	*e*P	**P**	**00 23 56.4**	**-0.1**
	comp=Z,5.8nm,1.1s,mb4.2						
ASAR	**Alice Springs**	**45.61**	**127**	P	**P**	**00 24 08.5**	**+1.2**
	comp=Z,0.8nm,0.9s,mb3.7,baz=303,slow=7.3,SNR=4.6						
SONM	**Songino Array**	**46.03**	**10**	P	**P**	**00 24 09.9**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=192,slow=7.7,SNR=6.6						
KURK	**Kurchatov**	**50.01**	**346**	*e*P	**P**	**00 24 40.1**	**-1.1**
	comp=Z,14nm,1.4s,mb4.8						
ZAL	**Zalesovo**	**51.91**	**352**	P	**P**	**00 24 55.8**	**+0.2**
	comp=Z,2.9nm,1.0s,mb4.2,baz=297,slow=7.6,SNR=15						
BVAR	**Borovoye Array**	**54.37**	**342**	P	**P**	**00 25 13.2**	**-0.6**
	comp=Z,3.9nm,0.7s,mb4.5,baz=143,slow=7.4,SNR=29						
BRVK	**Borovoye**	**54.44**	**342**	*e*P	**P**	**00 25 13.8**	**-0.5**
	comp=Z,3.8nm,0.6s,mb4.5						
GERES	**GERESS Array B**	**82.62**	**319**	P	**P**	**00 28 08.3**	**-1.1**
	comp=Z,0.6nm,0.8s,mb3.6,baz=90,slow=1.3,SNR=4.9						
CLL	**Collm**	**83.26**	**321**	P	**P**	**00 28 13.0**	**+0.4**

*IDC **16** 00:27:06.0±1.4, 22.53S×66.20W, h256km±27km, mb3.3/1, mb1 3.2/4, mb1mx3.0/13, mbtmp3.8/4, Error ellipse: s-maj=37.9km s-min=21.7km az=106.0*
*NEIC **16** 00:27:06.1±0.9, 22.55S×66.16W, h254km±15km, Error ellipse: s-maj=22.0km s-min=12.2km az=104.0*

ISC 16 00:27:05.0±1.1, 22.63S±0.08×66.2W±0.4, h267km±40km, n9, σ0§64/12, mb3.7/1, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.52**	**270**	P	**P**	**00 27 55.0**	**+0.9**
	16nm,0.3s,baz=92,slow=6.2,SNR=190						
LVC				S	**S**	**00 28 32.2**	**+0.1**
	4.3nm,0.3s,baz=302,slow=23,SNR=7.6						
LVC	**Limon Verde**	**2.52**	**270**	*e*Pn	**P**	**00 27 54.3**	**+0.3**
LVC				*e*Sn	**S**	**00 28 29.2**	**-2.9**
LPAZ	**La Paz**	**6.57**	**343**	P	**P**	**00 28 42.3**	**+1.1**
	0.2nm,0.3s,baz=154,slow=5.4,SNR=3.8						
LPAZ				S	**S**	**00 29 56.5**	**0.0**
	0.2nm,0.3s,baz=305,slow=16,SNR=3.0						
LPAZ	**La Paz**	**6.57**	**343**	*e*Pn	**P**	**00 28 41.2**	**+0.1**
LPAZ				S	**S**	**00 29 56.5**	**0.0**
SAML	**Samuel**	**13.91**	**12**	*e*P	**P**	**00 30 12.2**	**-0.5**
TRQA	**Tornquist**	**15.79**	**168**	P	**P**	**00 30 35.2**	**+0.1**
BDFB	**Brasilia**	**18.52**	**71**	P	**P**	**00 31 03.9**	**-0.1**
	0.5nm,0.3s,baz=256,slow=14,SNR=7.1						
DBIC	**Dimbokro**	**66.66**	**72**	P	**P**	**00 37 29.3**	**-0.1**
	1.0nm,0.7s,mb3.7,baz=232,slow=8.0,SNR=3.6						
WRA	**Warramunga Arr**	**133.18**	**207**	PKP	PKPdf	00 45 52.8	+3.0
	0.7nm,1.2s,baz=152,slow=1.9,SNR=8.8						

*NEIC **16** 00:30:11.7±1.7, 13.73N×145.28E, h104km±11km, Error ellipse: s-maj=59.3km s-min=19.3km az=97.0*
*IDC **16** 00:30:18.9±19.0, 13.66N×145.23E, h168km±188km, mb3.2/5, mb1 3.4/5, mb1mx3.2/18, mbtmp3.7/5, Error ellipse: s-maj=54.1km s-min=32.4km az=118.0*

ISC 16 00:30:10.4±1.9, 13.7N±0.2×145.2E±0.5, h103km±11km, n7, σ1§18/7, mb3.6/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.36**	**248**	*e*Pn	**P**	**00 30 27.3**	**+1.5**
GUMO				*e*Sn	**S**	**00 30 36.3**	**-1.1**
WRA	**Warramunga Arr**	**35.13**	**198**	P	**P**	**00 36 55.3**	**-0.8**
	0.2nm,0.6s,mb3.1,baz=16,slow=9.3,SNR=6.5						
ASAR	**Alice Springs**	**38.77**	**197**	P	**P**	**00 37 27.3**	**+0.7**
	0.4nm,0.9s,mb3.2,baz=15,slow=11,SNR=3.1						
ILAR	**Eielson Array**	**68.30**	**25**	P	**P**	**00 41 01.6**	**-0.5**
	0.5nm,0.4s,mb3.7,baz=261,slow=5.5,SNR=10						
BVAR	**Borovoye Array**	**70.03**	**322**	P	**P**	**00 41 13.4**	**+0.5**
	1.0nm,0.4s,mb4.0,baz=102,slow=9.4,SNR=8.2						
FINES	**FINESS Array B**	**91.18**	**335**	P	**P**	**00 43 04.5**	**-0.2**
	1.0nm,0.7s,mb4.1,baz=56,slow=6.9,SNR=8.5						
DBIC	**Dimbokro**	**144.03**	**302**	PKP	PKPdf	00 49 34.9	+0.1
	1.5nm,0.5s,baz=42,slow=3.3,SNR=10						

*MDD **16** 00:43:36.8±1.0, 35.98N×10.21W, mbLg3.3/24, Error ellipse: s-maj=10.5km s-min=6.5km az=74.0, PRXIMO*
*IGIL **16** 00:43:38.8, 36.10N×10.20W, h0km, ML3.2*
*SFS **16** 00:43:38.0, 36.02N×10.30W*
*CNRM **16** 00:43:38.0, 35.84N×10.35W, h30km, MD3.4*
*NEIC **16** 00:43:39.0, 36.14N×10.16W, MG4.2(MDD), After MDD.*
*INMG **16** 00:43:40.5±1.4, 36.01N×10.36W, h31km, MD2.9, ML3.0, Error ellipse: s-maj=5.1km s-min=3.5km az=62.0*
*CSEM **16** 00:43:40.3±0.3, 36.14N×10.25W, h30km, ML3.6/18, Error ellipse: s-maj=6.6km s-min=4.1km az=46.0*

ISC 16 00:43:37.1±0.7, 36.05N±0.03×9.97W±0.05, h10km, n115, σ1§56/221, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.80**	**33**	*e*Pn	**Pn**	**00 44 10.9**	**+2.5**
PTEO				*e*Sn	**Sn**	**00 44 33.3**	**+1.8**
	83nm,0.2s						
PTEO	**Sao Teotonio**	**1.80**	**33**	P	**Pn**	**00 44 11.0**	**+2.5**
PTEO				S	**Sn**	**00 44 33.3**	**+1.9**
PTEO	**Sao Teotonio**	**1.80**	**33**	P	**Pn**	**00 44 10.9**	**+2.5**
PTEO				S	**Sn**	**00 44 33.3**	**+1.8**
	42nm,0.2s						
PTEO	**Sao Teotonio**	**1.80**	**33**	P	**Pn**	**00 44 11.0**	**+2.6**
PTEO				S	**Sn**	**00 44 33.3**	**+1.8**
PALC	**Alcoutim**	**2.45**	**54**	*e*Pn	**Pn**	**00 44 20.6**	**+2.8**
PALC				*e*Sn	**Sn**	**00 44 50.5**	**+2.5**
	110nm,0.1s						
PALC	**Alcoutim**	**2.45**	**54**	P	**Pn**	**00 44 20.6**	**+2.8**
PALC				S	**Sn**	**00 44 50.1**	**+2.1**
PALC	**Alcoutim**	**2.45**	**54**	P	**Pn**	**00 44 20.6**	**+2.8**
PALC				S	**Sn**	**00 44 50.5**	**+2.5**
	55nm,0.1s						
PALC	**Alcoutim**	**2.45**	**54**	P	**Pn**	**00 44 20.6**	**+2.8**
PALC				S	**Sn**	**00 44 50.1**	**+2.1**
EGRO	**El Granado**	**2.48**	**53**	Pn	**Pn**	**00 44 20.9**	**+2.7**
EGRO				Sn	**Sn**	**00 44 51.4**	**+2.5**
EGRO	**El Granado**	**2.48**	**53**	P	**Pn**	**00 44 20.9**	**+2.7**
	5.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**00 44 50.8**	**+1.9**
	57nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.48**	**53**	Pn	**Pn**	**00 44 21.0**	**+2.7**
	5.2nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**00 44 51.4**	**+2.5**
	58nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**2.59**	**40**	*e*Pn	**Pn**	**00 44 21.8**	**+2.0**
PBEJ				*e*Sn	**Sn**	**00 44 53.0**	**+1.3**
	28nm,0.1s						
PBEJ	**Beja**	**2.59**	**40**	P	**Pn**	**00 44 21.8**	**+2.0**
PBEJ				S	**Sn**	**00 44 52.4**	**+0.7**
PBEJ	**Beja**	**2.59**	**40**	P	**Pn**	**00 44 21.8**	**+2.0**
PBEJ				S	**Sn**	**00 44 53.0**	**+1.3**
	14nm,0.1s						
PBEJ	**Beja**	**2.59**	**40**	P	**Pn**	**00 44 21.8**	**+2.0**
PBEJ				S	**Sn**	**00 44 52.4**	**+0.7**
LIS	**Lisbon**	**2.74**	**13**	*e*P	**Pn**	**00 44 22.0**	**0.0**
LIS				*e*S	**Sn**	**00 44 53.9**	**-1.6**
LIS				*e*S	**Sn**	**00 44 53.9**	**-1.6**
LIS				AML	AML	00 44 55.6	
	comp=N,100nm,0.6s						
LIS	**Lisbon**	**2.74**	**13**	P	**Pn**	**00 44 22.0**	**0.0**
LIS				S	**Sn**	**00 44 53.9**	**-1.6**
	comp=N,100nm,0.6s						
MOE	**Montemor**	**2.79**	**27**	*e*Pn	**Pn**	**00 44 24.2**	**+1.6**
MOE				*e*Sn	**Sn**	**00 44 57.1**	**+0.5**
MOE	**Montemor**	**2.79**	**27**	P	**Pn**	**00 44 24.2**	**+1.6**
MOE				S	**Sn**	**00 44 56.7**	**+0.1**
MOE	**Montemor**	**2.79**	**27**	P	**Pn**	**00 44 24.2**	**+1.6**
MOE				S	**Sn**	**00 44 56.7**	**+0.1**
PLOU	**Loures**	**2.91**	**13**	*e*Pn	**Pn**	**00 44 24.5**	**+0.2**
PLOU				*e*Sn	**Sn**	**00 44 58.1**	**-1.6**
	comp=N,58nm,0.1s						
PLOU	**Loures**	**2.91**	**13**	P	**Pn**	**00 44 24.5**	**+0.2**
PLOU				S	**Sn**	**00 44 58.1**	**-1.5**
PLOU	**Loures**	**2.91**	**13**	P	**Pn**	**00 44 24.5**	**+0.2**
PLOU				S	**Sn**	**00 44 58.1**	**-1.6**
	comp=N,29nm,0.1s						
EMIN	**Mina Concepcio**	**3.15**	**56**	Pn	**Pn**	**00 44 30.0**	**+2.3**
EMIN				Sn	**Sn**	**00 45 07.2**	**+1.4**
EMIN	**Mina Concepcio**	**3.15**	**56**	P	**Pn**	**00 44 29.8**	**+2.1**
	comp=N,4.6nm,0.1s,SNR=74						
EMIN				S	**Sn**	**00 45 06.7**	**+0.9**
	comp=N,15nm,0.1s,SNR=14						
EMIN	**Mina Concepcio**	**3.15**	**56**	Pn	**Pn**	**00 44 30.0**	**+2.3**
	comp=N,4.6nm,0.1s,SNR=74						
EMIN				Sn	**Sn**	**00 45 07.2**	**+1.4**
	comp=N,15nm,0.1s,SNR=14						
ALMR	**Almeirim**	**3.29**	**19**	*e*P	**Pn**	**00 44 30.0**	**+0.2**
ALMR				*e*S	**Sn**	**00 45 07.1**	**-2.3**
ALMR				*e*S	**Sn**	**00 45 07.1**	**-2.3**
ALMR				AML	AML	00 45 10.0	
	comp=N,61nm,0.3s						
ALMR	**Almeirim**	**3.29**	**19**	P	**Pn**	**00 44 30.0**	**+0.2**
ALMR				S	**Sn**	**00 45 07.1**	**-2.3**
	comp=N,30nm,0.3s						
ESPR	**Espera**	**3.41**	**75**	Pn	**Pn**	**00 44 34.0**	**+2.5**
ESPR				Sn	**Sn**	**00 45 14.1**	**+1.7**
ESPR	**Espera**	**3.41**	**75**	P	**Pn**	**00 44 34.0**	**+2.6**
	comp=N,51nm,0.2s,SNR=124						
ESPR				S	**Sn**	**00 45 14.0**	**+1.6**
	comp=N,101nm,0.3s,SNR=9.3						
ESPR	**Espera**	**3.41**	**75**	Pn	**Pn**	**00 44 34.0**	**+2.5**
	comp=N,51nm,0.2s,SNR=124						
ESPR				Sn	**Sn**	**00 45 14.1**	**+1.7**
	comp=N,101nm,0.3s,SNR=9.3						
EBAD	**Badajoz**	**3.58**	**40**	Pn	**Pn**	**00 44 35.0**	**+1.1**
EBAD				Sn	**Sn**	**00 45 17.1**	**+0.3**
EBAD	**Badajoz**	**3.58**	**40**	P	**Pn**	**00 44 35.1**	**+1.2**
	comp=N,1.5nm,0.1s,SNR=11						
EBAD				S	**Sn**	**00 45 15.1**	**-1.7**
	comp=N,19nm,0.1s,SNR=5.0						
EBAD	**Badajoz**	**3.58**	**40**	Pn	**Pn**	**00 44 35.0**	**+1.1**
	comp=N,1.5nm,0.1s,SNR=11						
EBAD				Sn	**Sn**	**00 45 17.1**	**+0.3**
	comp=N,12nm,0.1s,SNR=5.0						
PTOM	**Tomar**	**3.77**	**19**	*e*Pn	**Pn**	**00 44 38.6**	**+2.0**
PTOM				*e*Sn	**Sn**	**00 45 20.8**	**-0.7**
	comp=N,32nm,0.2s						
PTOM	**Tomar**	**3.77**	**19**	P	**Pn**	**00 44 39.1**	**+2.6**
PTOM				S	**Sn**	**00 45 20.8**	**-0.7**
PTOM	**Tomar**	**3.77**	**19**	P	**Pn**	**00 44 38.6**	**+2.0**
PTOM				S	**Sn**	**00 45 20.8**	**-0.7**
	comp=N,16nm,0.2s						
PTOM	**Tomar**	**3.77**	**19**	S	**Sn**	**00 45 20.8**	**-0.7**
LIJA	**Lijar**	**3.77**	**76**	P	**Pn**	**00 44 39.0**	**+2.4**
LIJA				S	**Sn**	**00 45 20.0**	**-1.6**
LIJA	**Lijar**	**3.77**	**76**	*i* P	**Pn**	**00 44 39.0**	**+2.4**
EMIJ	**Mijas**	**4.22**	**81**	Pn	**Pn**	**00 44 44.3**	**+1.3**
EMIJ				Sn	**Sn**	**00 45 34.5**	**+1.5**
EMIJ	**Mijas**	**4.22**	**81**	P	**Pn**	**00 44 44.3**	**+1.2**
	comp=N,3.1nm,0.2s,SNR=11						
EMIJ				S	**Sn**	**00 45 32.4**	**-0.7**
	comp=N,16nm,0.4s,SNR=6.4						
**E

EBER S **Sn** **00 46 11.3 -0.4**
comp=N,1.7nm,0.2s,SNR=4.0
EBER Berja 5.76 79 Pn **Pn** **00 45 07.2 +2.4**
comp=N,2.1nm,0.4s,SNR=7.9
EBER Sn **Sn** **00 46 11.1 -0.7**
comp=N,9.1nm,0.6s,SNR=4.0
EQES Quesada 5.79 70 Pn **Pn** **00 45 06.0 +0.8**
EQES Sn **Sn** **00 46 11.0 -1.6**
EQES Quesada 5.79 70 P **Pn** **00 45 05.9 +0.7**
comp=N,2.2nm,0.2s,SNR=18
EQES S **Sn** **00 46 11.0 -1.6**
comp=N,4.4nm,0.2s,SNR=7.4
EQES Quesada 5.79 70 Pn **Pn** **00 45 06.1 +0.9**
comp=N,2.2nm,0.2s,SNR=18
EQES Sn **Sn** **00 46 11.0 -1.5**
comp=N,4.9nm,0.2s,SNR=7.4
ESDC Sonseca Array 5.97 51 P **Pn** **00 45 08.2 +0.5**
comp=N,5.3nm,0.2s,baz=236,slow=13,SNR=29
ESDC S **Sn** **00 46 14.9 -2.1**
comp=N,6.6nm,0.1s,baz=240,slow=23,SNR=14
ESDC Sonseca Array 5.97 51 Pn **Pn** **00 45 08.2 +0.5**
comp=N,5.3nm,0.2s,SNR=29
ESDC Sn **Sn** **00 46 14.9 -2.1**
comp=N,6.6nm,0.1s,SNR=14
ELOB Lobios 6.00 14 Pn **Pn** **00 45 06.6 -1.5**
ELOB Sn **Sn** **00 46 10.4 -7.3**
ELOB Lobios 6.00 14 P **Pn** **00 45 06.4 -1.7**
comp=N,0.7nm,0.1s,SNR=6.5
ELOB S **Sn** **00 46 10.5 -7.2**
comp=N,7.3nm,0.1s,SNR=7.9
ELOB Lobios 6.00 14 Pn **Pn** **00 45 06.6 -1.5**
comp=N,0.7nm,0.1s,SNR=6.5
ELOB Sn **Sn** **00 46 10.4 -7.3**
comp=N,2.8nm,0.2s,SNR=7.9
PBRG Braganca 6.27 23 *e*Pn **Pn** **00 45 11.0 -1.0**
PBRG *e*Sn **Sn** **00 46 18.5 -6.0**
comp=N,7.2nm,0.2s
PBRG Braganca 6.27 23 P **Pn** **00 45 11.0 -1.0**
PBRG S **Sn** **00 46 18.5 -6.0**
PBRG Braganca 6.27 23 P **Pn** **00 45 11.0 -1.0**
PBRG P 00 45 11.0
PBRG S **Sn** **00 46 18.5 -6.0**
comp=N,3.6nm,0.2s
PBRG S **Sn** **00 46 18.5 -6.0**
ENIJ Nijar 6.32 79 Pn **Pn** **00 45 13.4 +0.8**
ENIJ Sn **Sn** **00 46 25.5 -0.1**
ENIJ Nijar 6.32 79 P **Pn** **00 45 13.4 +0.8**
comp=N,1.1nm,0.2s,SNR=7.9
ENIJ S **Sn** **00 46 25.1 -0.5**
comp=N,1.3nm,0.2s,SNR=4.0
ENIJ Nijar 6.32 79 Pn **Pn** **00 45 13.4 +0.8**
comp=N,1.1nm,0.2s,SNR=7.9
ENIJ Sn **Sn** **00 46 25.5 -0.1**
comp=N,2.0nm,0.4s,SNR=4.0
ECAL Calabor 6.40 22 Pn **Pn** **00 45 12.7 -1.1**
ECAL Sn **Sn** **00 46 22.5 -5.2**
ECAL Calabor 6.40 22 P **Pn** **00 45 12.5 -1.3**
comp=N,1.8nm,0.2s,SNR=9.9
ECAL S **Sn** **00 46 22.5 -5.2**
comp=N,26nm,0.4s,SNR=8.6
ECAL Calabor 6.40 22 Pn **Pn** **00 45 12.7 -1.1**
comp=N,1.8nm,0.2s,SNR=9.9
ECAL Sn **Sn** **00 46 22.5 -5.2**
comp=N,19nm,0.4s,SNR=8.6
GUD Guadarrama 6.47 43 P **Pn** **00 45 15.5 +0.7**
comp=N,1.3nm,0.2s,SNR=8.3
GUD S **Sn** **00 46 26.7 -2.8**
comp=N,4.6nm,0.3s,SNR=9.6
EVIA Vianos 6.48 64 Pn **Pn** **00 45 15.2 +0.3**
EVIA Sn **Sn** **00 46 27.5 -2.3**
EVIA Vianos 6.48 64 P **Pn** **00 45 15.1 +0.1**
comp=N,2.5nm,0.4s,SNR=7.9
EVIA S **Sn** **00 46 27.5 -2.3**
comp=N,3.5nm,0.2s,SNR=11
EVIA Vianos 6.48 64 Pn **Pn** **00 45 15.2 +0.3**
comp=N,2.5nm,0.4s,SNR=7.9
EVIA Sn **Sn** **00 46 27.5 -2.3**
comp=N,0.1nm,0.3s,SNR=11
ERUA La Rua 6.71 18 Pn **Pn** **00 45 16.6 -1.5**
ERUA Sn **Sn** **00 46 28.2 -7.1**
ERUA La Rua 6.71 18 P **Pn** **00 45 16.2 -1.9**
comp=N,0.8nm,0.1s,SNR=7.9
ERUA S **Sn** **00 46 29.4 -5.9**
comp=N,2.3nm,0.2s,SNR=7.9
ERUA La Rua 6.71 18 Pn **Pn** **00 45 16.6 -1.5**
comp=N,0.8nm,0.1s,SNR=7.9
ERUA Sn **Sn** **00 46 28.2 -7.1**
comp=N,1.3nm,0.2s,SNR=7.9
EINC Incio 6.91 16 Pn **Pn** **00 45 19.3 -1.6**
EINC Sn **Sn** **00 46 33.4 -7.0**
EINC Incio 6.91 16 P **Pn** **00 45 19.0 -2.0**
comp=N,1.0nm,0.2s,SNR=5.7
EINC S **Sn** **00 46 34.8 -5.6**
comp=N,1.0nm,0.1s,SNR=5.0
EINC Incio 6.91 16 Pn **Pn** **00 45 19.3 -1.6**
comp=N,1.0nm,0.2s,SNR=5.7
EINC Sn **Sn** **00 46 33.4 -7.0**
comp=N,0.8nm,0.1s,SNR=5.0
EMAZ Mazaricos 6.94 6 Pn **Pn** **00 45 18.2 -3.1**
EMAZ Sn **Sn** **00 46 33.3 -7.8**
EMAZ Mazaricos 6.94 6 P **Pn** **00 45 18.1 -3.2**
comp=N,3.8nm,0.3s,SNR=6.0
EMAZ S **Sn** **00 46 31.8 -9.3**
comp=N,13nm,0.2s,SNR=6.9
EMAZ Mazaricos 6.94 6 Pn **Pn** **00 45 18.2 -3.1**
comp=N,3.8nm,0.3s,SNR=6.0
EMAZ Sn **Sn** **00 46 33.3 -7.8**
EMUR La Murta 7.21 73 Pn **Pn** **00 45 25.5 +0.3**
EMUR Sn **Sn** **00 46 44.1 -3.9**
EMUR La Murta 7.21 73 P **Pn** **00 45 25.4 +0.2**
comp=N,1.3nm,0.3s,SNR=7.9
EMUR S **Sn** **00 46 44.0 -4.0**
comp=N,2.2nm,0.4s,SNR=7.9
EMUR La Murta 7.21 73 Pn **Pn** **00 45 25.5 +0.3**
comp=N,1.3nm,0.3s,SNR=7.9
EMUR Sn **Sn** **00 46 44.1 -3.9**
comp=N,6.6nm,0.7s,SNR=7.9
EMOS Mosqueruela 8.62 57 Pn **P** **00 45 46.5 +1.6**
EMOS Sn **Sn** **00 47 18.5 -4.8**
EMOS Mosqueruela 8.62 57 P **P** **00 45 46.4 +1.5**
comp=N,1.0nm,0.3s,SNR=7.9
EMOS S **Sn** **00 47 18.6 -4.7**
comp=N,4.1nm,0.3s,SNR=7.3
EMOS Mosqueruela 8.62 57 Pn **P** **00 45 46.5 +1.6**
comp=N,1.0nm,0.3s,SNR=7.9
EMOS Sn **Sn** **00 47 18.5 -4.7**
comp=N,3.3nm,0.4s,SNR=7.3
EBIE Bielsa 10.25 47 Pn **P** **00 46 07.0 -0.3**
comp=N,0.4nm,0.3s
EBIE Sn **S** **00 47 56.2 -7.2**
EBIE Bielsa 10.25 47 P **P** **00 46 06.8 -0.5**
comp=N,0.4nm,0.3s,SNR=7.9
EBIE S **S** **00 47 56.7 -6.6**
comp=N,0.7nm,0.3s,SNR=7.9

NEIC ***16*** *00:49:08.6±1.1, 4.03N×94.41E, h30km, mb3.9/1, Error ellipse: s-maj=34.5km s-min=13.6km az=65.0*
IDC 16 00:49:04.1±1.9, 4.02N×94.37E, mb3.5/4, mb1 3.8/5, mb1mx3.5/18, mbtmp3.6/5, ML4.1/1, Error ellipse: s-maj=89.7km s-min=23.6km az=53.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.03**	**17**	Pn	P	00 52 39.0	-0.8
	0.3nm,0.3s,baz=209,slow=10,SNR=5.1						
WRA	**Warramunga Arr**	**45.92**	**123**	P	P	00 57 28.5	-2.2
	0.3nm,0.4s,baz=301,slow=9.3,SNR=9.7						
WRAB	**Tennant Creek**	**45.92**	**123**	*e*P	P	00 57 28.8	-1.9
	0.7nm,0.4s						
ASAR	**Alice Springs**	**47.34**	**127**	P	P	00 57 40.4	-1.5
	0.2nm,0.5s,baz=298,slow=7.5,SNR=4.2						
BVAR	**Borovoye Array**	**52.70**	**342**	P	P	00 58 19.6	-2.9
	0.5nm,0.6s,baz=140,slow=10,SNR=5.6						
FINES	**FINESS Array B**	**76.21**	**333**	P	P	01 00 54.5	-1.3
	0.7nm,0.6s,baz=108,slow=6.0,SNR=4.7						

NEIC ***16*** *00:54:26.7±0.6, 0.13N×98.64E, mb4.1/4, Error ellipse: s-maj=26.2km s-min=9.8km az=53.0*
IDC ***16*** *00:54:27.2±1.0, 0.18N×98.63E, h49km±7km, mb3.7/10, mb1 3.9/11, mb1mx3.8/17, mbtmp4.0/11, Error ellipse: s-maj=44.7km s-min=14.1km az=53.0*
ISC 16 00:54:25.3±0.8, 0.2N±0.1×98.7E±0.2, h50km, h50km±1.0km: pP-P, n16, σ0:80/16, mb4.1/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.13**	**1**	P	P	**00 58 34.9**	**-0.4**
	baz=187,slow=11,SNR=7.7						
WRA	**Warramunga Arr**	**40.24**	**122**	P	P	**01 01 59.0**	**-0.1**
	0.6nm,0.5s,mb3.6,baz=302,slow=9.0,SNR=12						
WRA				PcP	PcP	01 04 03.4	+0.5
	0.4nm,0.5s,baz=311,slow=2.5,SNR=8.3						
WRAB	**Tennant Creek**	**40.24**	**122**	P	P	**01 01 58.3**	**-0.8**
	1.1nm,0.5s,mb3.8						
ASAR	**Alice Springs**	**41.60**	**127**	P	P	**01 02 10.7**	**+0.3**
	1.2nm,1.0s,mb3.5,baz=300,slow=7.6,SNR=10						
ASAR				pP	pP	01 02 23.6	-0.2
	1.7nm,0.9s,baz=300,slow=7.5,SNR=6.6						
ASAR				PcP	PcP	01 04 08.6	+1.1
	0.9nm,0.7s,baz=302,slow=3.1,SNR=6.9						
AAK	**Ala-Archa**	**47.50**	**336**	P	P	**01 02 57.4**	**0.0**
	0.5nm,0.3s,mb4.0						
SONM	**Songino Array**	**47.90**	**7**	P	P	**01 03 01.2**	**+0.7**
	1.5nm,0.5s,mb4.3,baz=190,slow=9.1,SNR=6.6						
SONM				pP	pP	01 03 14.4	+0.4
	3.8nm,0.9s,baz=188,slow=8.7,SNR=7.2						
SONM				pPcP		01 04 43.7	
	1.1nm,0.7s,baz=193,slow=4.0,SNR=3.6						
ULN	**Ulaanbaatar**	**48.01**	**8**	*e*P	P	**01 03 02.2**	**+0.8**
	2.0nm,0.7s,mb4.3						
ZAL	**Zalesovo**	**54.76**	**350**	P	P	**01 03 52.1**	**-0.1**
	2.1nm,0.4s,mb4.5,baz=327,slow=7.1,SNR=12						
BVAR	**Borovoye Array**	**57.67**	**340**	P	P	**01 04 12.0**	**-1.0**
	1.9nm,0.5s,mb4.4,baz=144,slow=11,SNR=19						
BRVK	**Borovoye**	**57.74**	**340**	*e*P	P	**01 04 11.4**	**-2.0**
	2.0nm,0.5s,mb4.4						
BRTR	**Keskin Array B**	**70.89**	**312**	P	P	**01 05 38.4**	**-0.9**
	0.8nm,0.6s,mb3.8,baz=135,slow=7.0,SNR=3.8						
FINES	**FINESS Array B**	**81.56**	**332**	P	P	**01 06 39.1**	**+0.1**
	0.9nm,0.4s,mb4.0,baz=103,slow=5.6,SNR=19						
FINES				pP	pP	01 06 53.9	+0.4
	0.4nm,0.5s,baz=127,slow=9.5,SNR=1.2						
KAF	**Kangasniemi**	**81.64**	**333**	*e*p	P	**01 06 39.7**	**+0.3**
	1.2nm,0.5s,mb4.1						
ARCES	**ARCESS Array B**	**83.96**	**340**	P	P	**01 06 51.8**	**+0.7**
	3.4nm,1.0s,mb4.4,baz=108,slow=3.8,SNR=8.9						
ARCES				pP	pP	01 07 06.8	+1.2
	5.1nm,1.1s,baz=90,slow=6.1,SNR=2.0						
GERES	**GERESS Array B**	**86.54**	**319**	P	P	**01 07 05.2**	**+0.9**
	0.2nm,0.5s,mb3.6,baz=63,slow=2.2,SNR=3.7						
HFS	**Hagfors**	**87.32**	**330**	P	P	**01 07 09.0**	**+1.2**
	3.7nm,1.1s,mb4.5,baz=90,slow=1.5,SNR=6.7						

IDC ***16*** *01:00:28.6±0.9, 25.53S×176.18W, mb4.2/10, mb1 4.4/12, mb1mx4.4/16, mbtmp4.3/12, ML4.5/2, MS4.4/10, Ms1 4.4/10, ms1mx4.0/20, Error ellipse: s-maj=40.6km s-min=20.6km az=158.0*
NEIC ***16*** *01:00:30.4±0.5, 25.49S×176.18W, h10km, mb4.8/5, Error ellipse: s-maj=24.7km s-min=14.3km az=157.0*
ISC 16 01:00:32.6±0.6, 25.55S±0.2×176.3W±0.1, h33km, n35, σ0:87/21, mb4.3/13, MS4.5/9, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.28**	**21**	P	P	**01 03 12.8**	**-15**
URZ	**Urewera**	**13.90**	**202**	Pn	P	**01 03 56.3**	**+6.9**
	2.2nm,0.3s,baz=54,slow=2.3,SNR=18						
URZ				Sn	S	**01 06 10.2**	**-13**
	1.6nm,0.3s,baz=187,slow=21,SNR=8.7						
URZ				LR	LR	01 08 16.5	
	comp=Z,877nm,20.9s,baz=314,slow=34						
RAR	**Rarotonga**	**15.73**	**78**	Pn	P	**01 04 02.3**	**-11**
	1.8nm,0.3s,baz=214,slow=13,SNR=6.2						
CTA	**Charters Tower**	**34.90**	**271**	LR	LR	01 20 22.4	
	comp=Z,888nm,18.8s,MS4.5,baz=83,slow=34						
CTAO	**Charters Tower**	**34.90**	**271**	P	P	**01 07 23.8**	**+0.5**
	1.9nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**37.33**	**250**	P	P	**01 07 44.3**	**+0.5**
	2.6nm,0.9s,mb4.0,baz=101,slow=16,SNR=3.1						
STKA				LR	LR	01 22 04.0	
	comp=Z,1μm,18.6s,MS4.8,baz=52,slow=35						
STKA	**Stephens Creek**	**37.33**	**250**	P	P	**01 07 44.3**	**+0.5**
STKA				LR	LR	01 22 04.0	
PMG	**Port Moresby**	**38.23**	**288**	P	P	**01 07 51.2**	**-0.1**
	5.7nm,0.8s,mb4.3,baz=117,slow=4.5,SNR=3.0						
PMG				LR	LR	01 21 28.8	
	comp=Z,423nm,18.1s,MS4.3,baz=318,slow=33						
PMG	**Port Moresby**	**38.23**	**288**	*e*P	P	**01 07 51.1**	**-0.3**
	4.6nm,0.7s,mb4.3						
PMG				LR	LR	01 21 28.8	
ASAR	**Alice Springs**	**45.14**	**261**	P	P	**01 08 47.1**	**-0.9**
	1.2nm,0.6s,mb3.9,baz=90,slow=7.1,SNR=18						
ASAR				LR	LR	01 27 48.6	
	comp=Z,551nm,18.6s,MS4.5,baz=131,slow=36						
WRA	**Warramunga Arr**	**45.70**	**266**	P	P	**01 08 50.8**	**-1.7**
	1.0nm,0.5s,mb4.0,baz=104,slow=7.8,SNR=16						
VNDA	**Vanda**	**53.10**	**186**	LR	LR	01 28 38.8	
	comp=Z,213nm,18.0s,MS4.2,baz=16,slow=32						
QSPA	**South Pole Qui**	**64.59**	**180**	⇓*i*P	P	**01 11 08.4**	**+0.1**
	14nm,1.1s,mb4.9						
MAW	**Mawson**	**77.41**	**200**	P	P	**01 12 25.6**	**0.0**
	4.6nm,0.8s,mb4.5,baz=146,slow=5.8,SNR=5.9						
MAW				LR	LR	01 44 00.6	
	comp=Z,276nm,19.8s,MS4.6,baz=81,slow=34						
TXAR	**Lajitas Array**	**88.44**	**56**	P	P	**01 13 22.6**	**-0.4**
	1.1nm,1.0s,mb4.0,baz=211,slow=7.3,SNR=6.8						
TXAR				LR	LR	01 46 31.0	
	comp=Z,157nm,18.5s,MS4.5,baz=265,slow=31						
ANMO	**Albuquerque**	**89.31**	**50**	P	P	**01 13 27.4**	**+0.5**
	1.8nm,0.9s,mb4.4,baz=213,slow=3.5,SNR=4.9						
ENH	**Enshi**	**90.15**	**304**	*e*P	P	**01 13 32.2**	**+1.2**
	55nm,1.5s						
MCMT	**McKenzie Canyo**	**90.75**	**40**	*e*P	P	**01 13 34.6**	**+1.1**
PDAR	**Pinedale Array**	**91.52**	**43**	P	P	**01 13 36.2**	**-1.0**
	0.8nm,0.9s,mb4.0,baz=225,slow=2.1,SNR=5.5						
BOZ	**Bozeman (W)**	**91.93**	**39**	P	P	**01 13 38.3**	**-0.6**
	11nm,1.4s,mb5.0						
ILAR	**Eielson Array**	**92.83**	**12**	P	P	**01 13 41.9**	**-0.8**
	0.5nm,0.7s,mb4.0,baz=228,slow=4.4,SNR=5.1						
CMAR	**Chiang Mai Arr**	**93.27**	**289**	P	P	**01 13 47.2**	**+1.6**
	1.4nm,0.8s,mb4.4,baz=117,slow=2.3,SNR=6.7						
LVC	**Limon Verde**	**94.89**	**118**	LR	LR	01 47 35.8	
	comp=Z,160nm,18.8s,MS4.5,baz=239,slow=30						
LPAZ	**La Paz**	**98.67**	**113**	LR	LR	01 52 39.4	
	comp=Z,60nm,19.3s,MS4.1,baz=28,slow=32						
ARCES	**ARCESS Array B**	**134.11**	**350**	PKP	PKPdf	01 19 47.0	+0.7
	2.4nm,0.8s,baz=18,slow=3.8,SNR=3.8						
FINES	**FINESS Array B**	**141.01**	**343**	PKP	PKPdf	01 20 02.1	+3.1
	2.6nm,1.1s,baz=39,slow=8.9,SNR=4.0						
NOA	**NORSAR Array B**	**144.11**	**354**	PKP	PKPdf	01 20 03.2	-1.1
	0.7nm,0.7s,baz=59,slow=3.1,SNR=2.9						
BRTR	**Keskin Array B**	**151.25**	**307**	PKPbc	PKPdf	01 20 23.4	+6.8
	1.0nm,0.8s,baz=135,slow=3.5,SNR=3.8						
BRTR				PKPab	PKPab	01 20 32.8	-0.1
	1.5nm,0.6s,baz=80,slow=3.2,SNR=6.0						
OKC	**Ostrava-Krasne**	**153.26**	**339**	*e*PKPab	PKPab	01 20 40.9	-0.1
CLL	**Collm**	**153.28**	**347**	*e*PKP2	PKPab	01 20 39.0	-2.0
CLL				*e**PKP2		01 20 45.0	
UPC	**Upice**	**153.31**	**342**	*e*PKPab	PKPab	01 20 41.3	+0.1
PVCC	**Panska Ves**	**153.66**	**344**	*e*PKPab	PKPab	01 20 45.5	+2.8
NKC	**Novy Kostel**	**154.41**	**347**	*e*PKPab	PKPab	01 20 39.8	-6.0
KHC	**Kasperske Hory**	**155.20**	**344**	*e*PKPab	PKPab	01 20 49.9	+0.7
GERES	**GERESS Array B**	**155.43**	**344**	PKPab	PKPab	01 20 51.2	+1.0
	0.6nm,0.9s,baz=180,slow=1.3,SNR=3.5						

IDC 16 01:03:02.7±26.0, 23.58S×172.51W, mb4.2/4, mb1 4.4/4, mb1mx4.0/14, mbtmp4.2/4, Error ellipse: s-maj=488.6km s-min=151.8km az=79.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.34**	**267**	P	P	01 10 26.5	-0.7
	2.6nm,0.4s,baz=98,slow=11,SNR=5.5						
STKA	**Stephens Creek**	**41.21**	**248**	P	P	01 10 47.2	-3.6
	1.1nm,0.4s,baz=95,slow=6.6,SNR=4.0						
ASAR	**Alice Springs**	**48.84**	**259**	P	P	01 11 50.2	-1.8
	1.8nm,0.5s,baz=90,slow=7.5,SNR=22						
ASPA	**Alice Springs**	**48.84**	**259**	*e*P	P	01 11 50.7	-1.3
WB2	**Warramunga Arr**	**49.26**	**263**	*e*P	P	01 11 54.4	-0.9
WRA	**Warramunga Arr**	**49.27**	**263**	P	P	01 11 53.9	-1.4
	1.8nm,0.5s,baz=101,slow=8.0,SNR=27						

NEIC ***16*** *01:12:38.8, 37.01N×27.78E, h18km, MD3.2(ISK), After ISK.*
CSEM ***16*** *01:12:39.1, 37.03N×27.77E, h20km, MD3.3, After ISK*
ISK ***16*** *01:12:39.1, 37.03N×27.77E, h20km, MD3.3*
ATH ***16*** *01:12:42.9, 35.61N×28.64E, h10km*
ISC 16 01:12:39.3±0.6, 36.98N±0.04×27.73E±0.05, h20km±6km, n21, σ0:77/29, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.24**	**290**	*i* P	**Pb**	**01 12 45.0**	**0.0**
BDRM				*i* S	**Sb**	**01 12 50.0**	**+1.0**
MLSB	**Milas**	**0.31**	**7**	*i* PG	**Pb**	**01 12 45.0**	**-1.2**
MLSB				*i* SG	**Sb**	**01 12 50.7**	**-0.2**
MLSB	**Milas**	**0.31**	**7**	Pg	**Pb**	**01 12 45.0**	**-1.2**
MLSB				Sg	**Sb**	**01 12 50.0**	**-0.9**
AYDN	**Tasoluk**	**0.69**	**10**	*i* P	**Pb**	**01 12 51.9**	**-0.5**
AYDN				*i* S	**Sb**	**01 13 02.6**	**+1.2**
DALT	**Dalyan (Mudla)**	**0.76**	**106**	Pg	**Pb**	**01 12 53.4**	**-0.3**
DALT				Sg	**Sb**	**01 13 04.4**	**+0.9**
ARG	**Arkhangelos**	**0.83**	**157**	*e*PB	**Pb**	**01 12 55.0**	**+0.1**
FETY	**Fethiye**	**1.14**	**107**	PN	**Pn**	**01 13 00.1**	**-0.2**
FETY				SN	**Sn**	**01 13 16.0**	**+0.6**
DNZL	**Cakiroluk**	**1.26**	**56**	*i* P	**Pn**	**01 13 01.5**	**-0.5**
DNZL				*i* S	**Sb**	**01 13 17.9**	**-0.2**
DENT	**Denizli**	**1.29**	**53**	PN	**Pn**	**01 13 01.4**	**-1.0**
DENT	**Denizli**	**1.29**	**53**	Pn	**Pn**	**01 13 01.4**	**-1.0**
IZM	**Izmir**	**1.46**	**345**	*e*PN	**Pn**	**01 13 04.2**	**-0.7**
IZM	**Izmir**	**1.46**	**345**	Pn	**Pn**	**01 13 04.3**	**-0.6**
BLCB	**Balcova**	**1.50**	**339**	*e*PN	**Pn**	**01 13 05.9**	**+0.4**
BLCB	**Balcova**	**1.50**	**339**	Pn	**Pn**	**01 13 06.0**	**+0.5**
KARP	**Karpathos**	**1.51**	**198**	*e*PG	**Pn**	**01 13 05.5**	**0.0**
MANT	**Manisa**	**1.64**	**23**	*i* P	**Sn**	**01 13 30.6**	**+2.5**
MANT				*i* S	**Sn**	**01 13 30.6**	**+2.5**
ELL	**Elmali**	**1.76**	**97**	*i* PN	**Pn**	**01 13 09.0**	**-0.2**
APE	**Apeiranthos**	**1.76**	**273**	*e*PG	**Sn**	**01 13 36.2**	**+5.0**
AKS	**Akhisar**	**1.89**	**2**	*e*PN	**Pn**	**01 13 10.4**	**-0.7**
AKS	**Akhisar**	**1.89**	**2**	Pn	**Pn**	**01 13 10.4**	**-0.6**
BCK	**Bucak**	**2.33**	**77**	*e*PN	**Pn**	**01 13 17.2**	**-0.1**

NEIC ***16*** *01:25:37.5, 54.05N×162.53W, h15km, ML3.0(AEIC), After AEIC.*
IDC ***16*** *01:25:39.4±12.0, 54.10N×161.84W, mb3.3/2, mb1 3.7/4, mb1mx3.5/20, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=241.4km s-min=39.5km az=83.0*
ISC 16 01:25:35.8±0.9, 54.03N±0.06×162.54W±0.08, h15km, n17, σ0:61/20, mb3.2/2, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.97**	**329**	P	**Pb**	**01 25 53.7**	**-0.1**
FALS				S	**Sb**	**01 26 06.9**	**+0.7**
DT1	**Dutton Round H**	**1.09**	**8**	P	**Pb**	**01 25 55.4**	**-0.4**
DTNA	**Dutton South F**	**1.13**	**8**	P	**Pb**	**01 25 56.1**	**-0.4**
BALA	**Baldy Mountain**	**1.17**	**353**	P	**Pb**	**01 25 56.5**	**-0.7**
SSLW	**Shishaldin Wes**	**1.19**	**309**	P	**Pb**	**01 25 57.4**	**0.0**
DOL	**Dolgoi Island**	**1.19**	**19**	P	**Pb**	**01 25 57.0**	**-0.4**
DOL				S	**Sb**	**01 26 12.7**	**+0.3**
WESN	**West Dahl Nort**	**1.31**	**295**	P	**Pb**	**01 25 59.5**	**-0.1**
HAG	**Hague Volcano**	**1.34**	**16**	P	**Pn**	**01 26 00.2**	**+0.1**
WTUG	**Tugumak**	**1.35**	**308**	P	**Pn**	**01 26 00.1**	**-0.1**
WTUG				S	**Sb**	**01 26 17.9**	**+0.7**
WFAR	**Faris Peak**	**1.41**	**292**	P	**Pn**	**01 26 00.8**	**-0.2**
PVV	**Pavlof Volcano**	**1.41**	**18**	P	**Pn**	**01 26 00.9**	**-0.1**
MSW	**Makushin Switc**	**2.51**	**269**	P	**Pn**	**01 26 16.2**	**-0.5**
ILAR	**Eielson Array**	**13.35**	**30**	Pn	P	**01 28 42.2**	**-4.8**
	0.0nm,0.3s,baz=220,slow=13,SNR=3.3						
INK	**Inuvik**	**19.72**	**32**	P	P	**01 30 06.2**	**-1.0**
	0.1nm,0.3s,baz=239,slow=9.4,SNR=3.5						
INK	**Inuvik**	**19.72**	**32**	P	P	**01 30 06.2**	**-1.0**
YKA	**Yellowknife Ar**	**26.02**	**52**	P	P	**01 31 11.1**	**+1.8**
	0.4nm,0.6s,mb3.1,baz=272,slow=9.9,SNR=8.7						
TXAR	**Lajitas Array**	**48.71**	**96**	P	P	**01 34 22.0**	**+0.7**
	0.3nm,0.8s,mb3.4,baz=297,slow=2.0,SNR=3.7						

CSEM ***16*** *01:26:33.2±0.6, 38.50N×29.09W, ML2.9, Error ellipse: s-maj=6.7km s-min=5.1km az=131.0, After PDA*
PDA ***16*** *01:26:33.2±0.6, 38.50N×29.09W, MD3.3, ML2.9, Error ellipse: s-maj=6.7km s-min=5.1km az=131.0*
SVSA 16 01:26:33.2±0.6, 38.50N×29.09W, MD3.3, ML2.9, Error ellipse: s-maj=6.7km s-min=5.1km az=131.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.31**	**74**	*i* P	Pg	01 26 39.0	-0.4
CALA				*e*S	Sg	01 26 43.5	-0.1
CALA	**Caldeira**	**0.31**	**74**	*e*S	Sg	01 26 43.5	-0.1
PCED	**Cedros**	**0.33**	**66**	*e*P	Pg	01 26 39.3	-0.4
PCED				*i* S	Sg	01 26 44.2	+0.1
	1μm,0.2s						
PCED	**Cedros**	**0.33**	**66**	*e*P	Pg	01 26 39.3	-0.4
PCED				*i* S	Sg	01 26 44.2	+0.1
	1μm,0.2s						
HOR	**Horta**	**0.36**	**85**	*i* P	Pg	01 26 39.9	-0.5
HOR				*e*S	Sg	01 26 44.8	-0.3
HOR	**Horta**	**0.36**	**85**	*e*S	Sg	01 26 44.8	-0.3
PICO	**Pico**	**0.52**	**89**	*e*P	Pg	01 26 42.6	-0.9
PICO				*e*S	Sg	01 26 50.0	-0.4
ROSA	**Rosais**	**0.70**	**71**	*e*P	Pg	01 26 45.5	-1.6
ROSA				*e*S	Sg	01 26 54.2	-2.2
PMAN	**Manadas**	**0.79**	**80**	*e*P	Pg	01 26 46.7	-2.3
PMAN				*e*S	Sg	01 26 56.6	-3.0
	55nm,0.1s						

CSEM ***16*** *01:36:04.9±0.3, 29.44N×51.82E, h10km, ML3.4, Error ellipse: s-maj=7.7km s-min=3.5km az=35.0*
IDC ***16*** *01:36:05.2±2.7, 29.55N×51.64E, mb3.9/6, mb1 3.9/7, mb1mx3.7/18, mbtmp3.9/7, ML3.4/1, Error ellipse: s-maj=56.6km s-min=30.1km az=138.0*
THR ***16*** *01:36:07.6±0.9, 29.44N×51.79E, h40km±14km, ML3.3*
TEH ***16*** *01:36:10.9, 29.55N×52.15E, h21km, Mn3.4*
**ISC 16 01:36:04.0±1.3, 29.40N±0.07×51.71E±0.08

mb1 3.8/10, mb1mx3.7/18, mbtmp3.7/10, ML3.5/1, Error ellipse: s-maj=32.5km s-min=15.7km az=53.0
*NEIC **16** 01:36:41.7±0.6, 12.92N×92.11E, mb4.3/6, Error ellipse: s-maj=15.7km s-min=10.1km az=57.0*

ISC 16 01:36:39.7±0.7, 12.91N±0.10×92.1E±0.1, h23km, h23km±.6km:pP-P, n17, σ0§90/18, mb3.9/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.56**	**49**	Pn	**P**	**01 38 44.2**	**-1.1**
	0.1nm,0.3s,baz=240,slow=14,SNR=13						
CMAR				Sn	**Sn**	**01 40 14.8**	**-7.4**
	0.3nm,0.3s,baz=239,slow=28,SNR=5.4						
PALK	**Pallekele**	**12.57**	**245**	*e*Sn	**S**	**01 41 48.1**	**-12**
LSA	**Lhasa**	**16.73**	**357**	*e*P	**P**	**01 40 36.8**	**+2.4**
	4.4nm,0.7s						
ENH	**Enshi**	**23.58**	**40**	*e*P	**P**	**01 41 49.8**	**+0.1**
	6.1nm,0.7s,mb4.1						
SONM	**Songino Array**	**36.79**	**16**	P	**P**	**01 43 48.1**	**+0.4**
	0.4nm,0.5s,mb3.5,baz=194,slow=10,SNR=4.9						
KURK	**Kurchatov**	**39.28**	**346**	*e*P	**P**	**01 44 08.1**	**-0.3**
	4.9nm,1.0s,mb4.2						
ZAL	**Zalesovo**	**41.34**	**353**	P	**P**	**01 44 25.6**	**+0.3**
	0.7nm,0.7s,mb3.4,baz=296,slow=8.0,SNR=4.1						
ZAL				pP	pP	01 44 32.9	+0.5
	1.4nm,0.8s,baz=304,slow=8.7,SNR=4.6						
BVAR	**Borovoye Array**	**43.61**	**341**	P	**P**	**01 44 43.6**	**-0.4**
	0.6nm,0.9s,mb3.3,baz=135,slow=4.1,SNR=2.8						
CHKZ	**Chkalovo**	**44.10**	**342**	*e*P	**P**	**01 44 47.3**	**-0.6**
	3.2nm,0.6s,mb4.2						
CHKZ				*e*	pP	01 44 54.6	-0.2
WRA	**Warramunga Arr**	**52.83**	**128**	P	**P**	**01 45 56.9**	**+0.9**
	0.7nm,0.3s,mb4.0,baz=300,slow=9.8,SNR=28						
WRAB	**Tennant Creek**	**52.83**	**128**	*e*P	**P**	**01 45 56.6**	**+0.5**
	2.0nm,0.5s,mb4.3						
ASAR	**Alice Springs**	**54.68**	**132**	P	**P**	**01 46 10.5**	**+0.9**
	1.5nm,0.8s,mb4.1,baz=312,slow=6.9,SNR=15						
BRTR	**Keskin Array B**	**57.71**	**309**	P	**P**	**01 46 30.5**	**-0.6**
	0.5nm,0.7s,mb3.6,baz=113,slow=9.1,SNR=3.3						
BRTR				pP	pP	01 46 37.1	-1.2
	0.9nm,0.8s,baz=63,slow=2.8,SNR=3.8						
STKA	**Stephens Creek**	**65.01**	**134**	P	**P**	**01 47 18.6**	**-2.0**
	2.1nm,1.1s,mb4.1,baz=330,slow=8.1,SNR=2.3						
FINES	**FINESS Array B**	**67.37**	**332**	P	**P**	**01 47 34.4**	**-0.6**
	1.2nm,0.8s,mb4.0,baz=90,slow=6.9,SNR=3.2						
GERES	**GERESS Array B**	**72.79**	**317**	P	**P**	**01 48 08.2**	**-0.2**
	0.6nm,0.7s,mb3.6,baz=76,slow=5.5,SNR=5.8						
GERES				pP	pP	01 48 15.5	-0.1
	0.7nm,0.8s,baz=90,slow=5.3,SNR=4.5						
LPG	**La Plagne**	**77.70**	**314**	*e*P	**P**	**01 48 37.1**	**+0.7**
	7.9nm,1.0s,mb4.3						

NEIC 16 02:01:03.3, 51.17N×179.22E, h7km, ML3.9(AEIC), After AEIC., Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**2.29**	**74**	P	Pn	02 01 40.0	-2.2
KIWB	**Kanaga Island**	**2.37**	**72**	P	Pn	02 01 40.1	-3.1
SMY	**Shemya**	**3.54**	**298**	P	Pn	02 01 56.8	-3.0
FX1	**Attu Island--F**	**4.12**	**297**	P	Pn	02 02 05.3	-2.8

*BJI **16** 02:11:25.1, 6.90N×93.06E, h30km, mb4.1*
*NEIC **16** 02:11:35.2±0.4, 7.61N×92.87E, h30km, mb4.3/10, Error ellipse: s-maj=17.4km s-min=9.7km az=53.0*
*IDC **16** 02:11:35.6±11.0, 7.62N×92.84E, h56km±109km, mb3.7/9, mb1 3.9/10, mb1mx3.8/19, mbtmp4.0/10, ML4.4/1, MS3.3/1, Ms1 3.5/1, ms1mx3.1/19, Error ellipse: s-maj=31.2km s-min=17.0km az=46.0*

ISC 16 02:11:30.5±0.5, 7.6N±0.1×92.9E±0.1, h30km, n27, σ1§16/25, mb4.1/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.28**	**28**	P	**P**	**02 14 31.2**	**+4.7**
	0.7nm,0.3s,baz=232,slow=14,SNR=23						
CMAR				LR	LR	02 18 58.3	
	comp=Z,121nm,18.6s,baz=205,slow=36						
HYB	**Hyderabad**	**17.06**	**306**	*i* P	**P**	**02 15 31.0**	**+2.3**
HYB				*e*		02 18 24.5	
HYB				*e*		02 18 40.5	
LSA	**Lhasa**	**22.05**	**356**	P	**P**	**02 16 26.6**	**+2.0**
LSA	**Lhasa**	**22.05**	**356**	*e*P	**P**	**02 16 26.5**	**+2.0**
	7.6nm,0.7s,mb4.2						
AAK	**Ala-Archa**	**38.48**	**338**	*e*P	**P**	**02 18 52.0**	**+0.2**
	3.0nm,0.9s,mb4.0						
MBWA	**Marble Bar**	**38.87**	**138**	*e*P	**P**	**02 18 55.3**	**+0.1**
	0.8nm,0.6s,mb3.6						
SONM	**Songino Array**	**41.70**	**14**	P	**P**	**02 19 20.8**	**+2.4**
	0.3nm,0.6s,mb3.1,baz=180,slow=5.8,SNR=2.6						
ZAL	**Zalesovo**	**46.66**	**353**	P	**P**	**02 19 57.8**	**-0.3**
	0.9nm,0.5s,mb4.0,baz=120,slow=24,SNR=3.6						
BVAR	**Borovoye Array**	**48.86**	**342**	P	**P**	**02 20 13.9**	**-1.5**
	1.1nm,0.7s,mb4.0,baz=143,slow=7.4,SNR=11						
BRVK	**Borovoye**	**48.92**	**342**	*e*P	**P**	**02 20 14.1**	**-1.7**
	2.2nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**49.10**	**125**	P	**P**	**02 20 17.8**	**+0.1**
	2.2nm,0.7s,mb4.3,baz=305,slow=8.8,SNR=14						
WRAB	**Tennant Creek**	**49.11**	**125**	*e*P	**P**	**02 20 17.2**	**-0.5**
	3.3nm,0.7s,mb4.5						
CHKZ	**Chkalovo**	**49.36**	**343**	*e*P	**P**	**02 20 18.1**	**-1.1**
	3.4nm,0.8s,mb4.4						
ASAR	**Alice Springs**	**50.69**	**129**	P	**P**	**02 20 30.1**	**+0.3**
	0.8nm,0.5s,mb3.9,baz=302,slow=7.5,SNR=13						
GNI	**Garni**	**53.76**	**315**	P	**P**	**02 20 53.0**	**+0.5**
	7.4nm,1.0s,mb4.5,baz=278,slow=8.0,SNR=4.4						
GNI	**Garni**	**53.76**	**315**	*e*P	**P**	**02 20 52.4**	**-0.1**
KMBO	**Kilima Mbogo**	**56.18**	**264**	P	**P**	**02 21 11.4**	**+1.0**
	1.8nm,0.8s,mb4.1,baz=58,slow=14,SNR=7.5						
KMBO	**Kilima Mbogo**	**56.18**	**264**	*e*P	**P**	**02 21 11.7**	**+1.2**
	1.2nm,0.7s,mb4.0						
KIV	**Kislovodsk**	**56.70**	**318**	*e*P	**P**	**02 21 13.1**	**-0.7**
	4.9nm,0.7s,mb4.7						
EIL	**Elat**	**58.50**	**300**	P	**P**	**02 21 25.6**	**-1.1**
	3.3nm,0.8s,mb4.4						
BRTR	**Keskin Array B**	**61.68**	**311**	P	**P**	**02 21 46.4**	**-1.9**
	1.4nm,0.8s,mb4.2,baz=120,slow=7.0,SNR=9.2						
LSZ	**Lusaka**	**68.03**	**250**	*e*P	**P**	**02 22 30.4**	**+0.6**
	1.9nm,0.8s,mb4.2						
GERES	**GERESS Array B**	**77.22**	**318**	P	**P**	**02 23 23.1**	**-0.4**
	1.3nm,0.8s,mb3.9,baz=90,slow=4.0,SNR=12						
GRA1	**Grafenberg Arr**	**78.87**	**319**	*e*P	**P**	**02 23 33.1**	**+0.6**
GRF	**Grafenberg Arr**	**78.87**	**319**	*e*P	**P**	**02 23 33.1**	**+0.6**
PDAR	**Pinedale Array**	**125.85**	**20**	PKP	PKPdf	02 30 32.5	-2.6
	0.6nm,0.9s,SNR=4.8						
TXAR	**Lajitas Array**	**139.96**	**23**	PKP	PKPdf	02 30 59.2	-2.6
	0.2nm,0.6s,baz=90,slow=0.9,SNR=3.0						

*IDC **16** 02:52:29.9±1.7, 25.50S×176.14W, mb4.2/6, mb1 4.4/8, mb1mx4.2/15, mbtmp4.3/8, ML4.4/2, MS3.8/4, Ms1 3.8/4, ms1mx3.5/17, Error ellipse: s-maj=85.2km s-min=28.8km az=160.0*
*NEIC **16** 02:52:36.9±1.6, 25.07S×176.24W, h43km±15km, mb3.9/3, Error ellipse: s-maj=26.8km s-min=13.3km az=128.0*

ISC 16 02:52:30.3±1.0, 25.5S±0.2×175.8W±0.1, h33km, n18, σ0§90/14, mb4.0/8, MS4.1/2, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.11**	**19**	*e*P	**P**	**02 55 23.5**	**-0.1**
URZ	**Urewera**	**14.09**	**204**	Pn	**P**	**02 55 57.2**	**+7.5**
	1.0nm,0.3s,baz=97,slow=0.3,SNR=9.0						
URZ				Sn	**S**	**02 58 11.7**	**-14**
	0.5nm,0.3s,baz=195,slow=19,SNR=4.3						
URZ				LR	LR	03 00 07.3	
	comp=Z,314nm,20.7s,baz=28,slow=33						
RAR	**Rarotonga**	**15.29**	**77**	Pn	**P**	**02 56 05.0**	**-0.5**
	2.7nm,0.3s,baz=221,slow=9.3,SNR=4.1						
RAR				LR	LR	03 00 15.0	
	comp=Z,110nm,21.7s,baz=112,slow=30						
RAR	**Rarotonga**	**15.29**	**77**	*e*P	**P**	**02 56 05.3**	**-0.1**
	7.3nm,0.5s						
RAR				LR	LR	03 00 15.0	
CTAO	**Charters Tower**	**35.34**	**271**	*e*P	**P**	**02 59 25.5**	**+0.7**
	0.6nm,0.6s,mb3.7						
STKA	**Stephens Creek**	**37.76**	**250**	LR	LR	03 14 41.5	
	comp=Z,362nm,18.3s,MS4.2,baz=25,slow=36						
PMG	**Port Moresby**	**38.65**	**288**	P	**P**	**02 59 51.8**	**-0.8**
	13nm,0.8s,mb4.7,baz=69,slow=2.5,SNR=6.7						
PMG	**Port Moresby**	**38.65**	**288**	*e*P	**P**	**02 59 52.0**	**-0.6**
ASAR	**Alice Springs**	**45.59**	**261**	P	**P**	**03 00 48.8**	**-0.5**
	1.5nm,0.9s,mb3.9,baz=93,slow=7.5,SNR=10						
ASAR				PcP	PcP	03 02 29.8	+1.9
	0.6nm,0.7s,baz=98,slow=3.9,SNR=4.3						
ASAR				LR	LR	03 19 06.9	
	comp=Z,140nm,18.5s,MS3.9,baz=41,slow=35						
WRAB	**Tennant Creek**	**46.14**	**266**	*e*P	**P**	**03 00 54.3**	**+0.5**
	0.7nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**46.15**	**266**	P	**P**	**03 00 53.1**	**-0.6**
	1.1nm,0.9s,mb3.8,baz=102,slow=8.4,SNR=8.7						
WRA				PcP	PcP	03 02 31.7	+1.9
	1.0nm,0.8s,baz=106,slow=3.4,SNR=5.6						
PDAR	**Pinedale Array**	**91.20**	**42**	P	**P**	**03 05 37.1**	**+3.7**
	0.5nm,0.9s,mb3.8,baz=207,slow=3.3,SNR=4.4						
ILAR	**Eielson Array**	**92.72**	**12**	P	**P**	**03 05 44.0**	**+4.1**
	0.3nm,0.7s,mb3.8,baz=222,slow=4.6,SNR=6.2						
CMAR	**Chiang Mai Arr**	**93.68**	**289**	P	**P**	**03 05 49.1**	**+3.8**
	1.3nm,0.4s,mb4.8,baz=127,slow=3.4,SNR=7.9						
NOA	**NORSAR Array B**	**144.14**	**354**	PKP	PKPdf	03 12 05.4	+3.4
	2.4nm,0.9s,baz=16,slow=5.1,SNR=3.9						
HFS	**Hagfors**	**144.76**	**352**	PKP	PKPdf	03 12 06.7	+3.5
	4.8nm,0.7s,baz=135,slow=2.1,SNR=6.7						
BRTR	**Keskin Array B**	**151.60**	**307**	PKPbc	PKPdf	03 12 25.9	+11
	0.6nm,0.7s,baz=180,slow=1.4,SNR=3.1						
BRTR				PKPab	PKPab	03 12 34.9	+2.8
	1.9nm,0.7s,baz=73,slow=3.5,SNR=7.5						
KHC	**Kasperske Hory**	**155.29**	**345**	*e*PKPab	PKPab	03 12 44.5	-2.8

*IDC **16** 02:56:19.0±1.3, 12.95N×92.01E, mb3.7/4, mb1 3.9/5, mb1mx3.7/17, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=42.2km s-min=23.9km az=59.0*
*NEIC **16** 02:56:23.9±0.6, 13.02N×92.16E, h30km, mb4.3/3, Error ellipse: s-maj=17.4km s-min=10.5km az=68.0*

ISC 16 02:56:23.3±2.0, 13.07N±0.10×92.3E±0.2, h38km±17km, n11, σ0§28/12, mb3.9/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.48**	**162**	*i* P	**P**	**02 56 48.0**	**+0.1**
PBA				*e*S	**S**	**02 57 12.0**	**+5.7**
CMAR	**Chiang Mai Arr**	**8.37**	**49**	Pn	**P**	**02 58 24.6**	**-0.2**
	0.3nm,0.3s,baz=241,slow=14,SNR=7.0						
SHL	**Shillong**	**12.44**	**358**	*e*S	**S**	**03 01 30.7**	**-8.1**
SONM	**Songino Array**	**36.61**	**16**	P	**P**	**03 03 28.3**	**+0.6**
	0.3nm,0.4s,mb3.5,baz=217,slow=7.2,SNR=2.8						
CHKZ	**Chkalovo**	**43.99**	**342**	*e*P	**P**	**03 04 28.5**	**-0.1**
	2.3nm,0.6s,mb4.1						
CHKZ				*e*		03 04 35.5	
FITZ	**Fitzroy Crossi**	**45.20**	**132**	*e*P	**P**	**03 04 38.8**	**0.0**
	4.6nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**52.82**	**128**	P	**P**	**03 05 37.5**	**0.0**
	0.8nm,0.4s,mb4.0,baz=299,slow=9.9,SNR=25						
WRAB	**Tennant Creek**	**52.83**	**128**	*e*P	**P**	**03 05 37.3**	**-0.3**
	2.0nm,0.4s,mb4.4						
WB2	**Warramunga Arr**	**52.83**	**128**	*e*P	**P**	**03 05 37.7**	**+0.1**
ASAR	**Alice Springs**	**54.69**	**132**	P	**P**	**03 05 51.2**	**0.0**
	0.7nm,0.4s,mb4.0,baz=310,slow=6.7,SNR=12						
GERES	**GERESS Array B**	**72.76**	**317**	P	**P**	**03 07 49.2**	**-0.2**
	0.2nm,0.6s,mb3.2,baz=83,slow=16,SNR=3.0						

*IDC **16** 03:00:24.3±1.4, 5.33N×94.44E, mb4.0/6, mb1 4.2/7, mb1mx4.0/17, mbtmp4.0/7, ML4.5/1, Error ellipse: s-maj=65.2km s-min=21.8km az=54.0*
*NEIC **16** 03:00:27.7±0.9, 4.98N×94.04E, h30km, mb4.2/3, Error ellipse: s-maj=32.0km s-min=14.8km az=62.0*
NEIC Felt [II] at Sabang.

ISC 16 03:00:25.7±1.0, 5.0N±0.1×94.0E±0.2, h30km, n10, σ1§09/10, mb4.0/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.22**	**19**	Pn	**P**	**03 03 48.8**	**+1.4**
	0.7nm,0.3s,baz=217,slow=12,SNR=12						
SONM	**Songino Array**	**43.98**	**12**	P	**P**	**03 08 29.6**	**-2.5**
	0.4nm,0.5s,mb3.4,baz=181,slow=7.0,SNR=3.2						
WRA	**Warramunga Arr**	**46.74**	**123**	P	**P**	**03 08 54.4**	**0.0**
	0.7nm,0.3s,mb4.0,baz=306,slow=8.4,SNR=19						
WRAB	**Tennant Creek**	**46.74**	**123**	*e*P	**P**	**03 08 54.4**	**-0.1**
	3.3nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**48.20**	**128**	P	**P**	**03 09 05.9**	**0.0**
	0.3nm,0.3s,mb3.7,baz=306,slow=7.7,SNR=4.8						
ZAL	**Zalesovo**	**49.37**	**353**	P	**P**	**03 09 14.2**	**-0.3**
	1.8nm,0.6s,mb4.3,baz=274,slow=4.8,SNR=5.8						
BRVK	**Borovoye**	**51.73**	**342**	*e*P	**P**	**03 09 32.0**	**-0.5**
	1.5nm,0.5s,mb4.2						
CHKZ	**Chkalovo**	**52.16**	**343**	*e*P	**P**	**03 09 34.9**	**-0.8**
	0.9nm,0.4s,mb4.0						
CHKZ				*e*		03 09 48.1	
FINES	**FINESS Array B**	**75.19**	**333**	P	**P**	**03 12 07.2**	**+0.2**
	5.8nm,1.2s,mb4.4,baz=135,slow=7.9,SNR=5.7						
GERES	**GERESS Array B**	**79.89**	**319**	P	**P**	**03 12 35.6**	**+2.4**
	0.7nm,0.8s,mb3.6,baz=108,slow=4.2,SNR=6.0						

*MAN **16** 03:13:17.8, 13.56N×120.11E, h20km, mb4.6, ML3.5, MS3.5*
*BJI **16** 03:13:19.5, 13.55N×120.61E, h69km, mB4.8, mb4.6, Ms4.3, Msz4.0*
*MOS **16** 03:13:19.8±0.8, 13.63N×120.41E, h57km, mb4.9/18, Error ellipse: s-maj=18.8km s-min=7.9km az=116.7*
*NEIC **16** 03:13:21.7±0.8, 13.63N×120.47E, h60km±7km, mb4.6/14, Error ellipse: s-maj=10.9km s-min=4.2km az=65.0*
*IDC **16** 03:13:22.3±1.2, 13.62N×120.48E, h67km±11km, mb4.1/20, mb1 4.2/20, mb1mx4.2/23, mbtmp4.4/20, MS3.9/4, Ms1 3.9/4, ms1mx3.6/21, Error ellipse: s-maj=24.1km s-min=13.3km az=67.0*

ISC 16 03:13:16.2±0.2, 13.50N±0.02×120.03E±0.03, h20km, n111, σ1§31/129, mb4.6/41, MS3.9/9, 9C-6D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.32**	**42**	*e*P	**Pb**	**03 13 20.0**	**-3.2**
LUBP				*e*S	**Sb**	**03 13 22.8**	**-5.1**
TGY	**Tagaytay City**	**1.07**	**56⇑**	*e*P	**Pb**	**03 13 35.4**	**-0.5**
TGY				*e*S	**Sb**	**03 13 50.0**	**+0.6**
TGY	**Tagaytay City**	**1.07**	**56**	P	**Pb**	**03 13 35.5**	**-0.4**
	1μm,0.3s,baz=265,slow=11,SNR=44						
TGY				S	**Sb**	**03 13 49.1**	**-0.3**
	3μm,0.3s,baz=348,slow=19,SNR=23						
SJMP	**San Jose**	**1.48**	**134**	*e*P	**Pn**	**03 13 42.4**	**+0.3**
SJMP				*e*S	**Sn**	**03 14 04.5**	**+3.5**
BUSP	**Coron**	**1.49**	**174**	*e*P	**Pn**	**03 13 43.1**	**+0.8**
BUSP				*e*S	**Sn**	**03 14 03.4**	**+2.9**
LQP	**Lukban**	**1.59**	**67⇑**	*e*P	**Pn**	**03 13 43.1**	**-0.5**
LQP				*e*S	**Sn**	**03 14 03.2**	**-0.6**
BOAC	**Boac**	**1.77**	**91**	*e*P	**Pn**	**03 13 45.5**	**-0.7**
BOAC				*e*S	**Sn**	**03 14 11.9**	**+3.7**
POLP	**Polilio Island**	**2.22**	**56**	*e*P	**Pn**	**03 13 52.1**	**-0.6**
OTRP	**Odiongan**	**2.25**	**120**	*e*P	**Pn**	**03 13 53.2**	**+0.2**
OTRP				*e*S	**Sn**	**03 14 26.0**	**+5.5**
SCZP	**Santa Cruz**	**2.27**	**357**	*e*P	**Pn**	**03 13 54.3**	**+1.0**
SCZP				*e*S	**Sn**	**03 14 28.1**	**+7.0**
PCPH	**Palayan**	**2.30**	**27⇓**	*e*P	**Pn**	**03 13 52.7**	**-1.1**
PCPH				*e*S	**Sn**	**03 14 21.7**	**-0.1**
ENPP	**El Nido**	**2.35**	**195**	*e*P	**Pn**	**03 13 55.6**	**+1.0**
ENPP				*e*S	**Sn**	**03 14 25.2**	**+2.1**
GQP	**Guinayangan**	**2.38**	**80**	*e*P	**Pn**	**03 13 56.5**	**+1.5**
GQP				*e*S	**Sn**	**03 14 27.0**	**+3.1**
AUQP	**San Andres**	**2.58**	**94**	*e*P	**Pn**	**03 14 02.6**	**+4.7**
BALP	**Baler**	**2.69**	**34**	*e*P	**Pn**	**03 13 59.6**	**+0.3**
BALP				*e*S	**Sn**	**03 14 33.3**	**+1.7**
CUYO	**Cuyo Island**	**2.80**	**160**	*e*P	**Pn**	**03 14 08.0**	**+7.0**
CUYO				*e*S	**Sn**	**03 14 34.0**	**-0.6**
BOLP	**Bolinao**	**2.87**	**358**	*e*P	**Pn**	**03 14 03.7**	**+1.8**
BCPH	**Baguio City Da**	**2.92**	**10⇑**	*i*P	**Pn**	**03 14 02.1**	**-0.5**
BCPH				*i* S	**Sn**	**03 14 40.3**	**+2.8**
RCP	**Roxas**	**3.28**	**126**	*e*P	**Pn**	**03 14 08.1**	**+0.3**
GUIM	**Jordan**	**3.80**	**138**	*e*P	**Pn**	**03 14 15.2**	**+0.1**
CAUP	**Cauayan**	**3.84**	**27**	*e*P	**Pn**	**03 14 16.6**	**+0.8**
PPR	**Puerto Princes**	**3.91**	**199⇑**	*i*P	**Pn**	**03 14 21.0**	**+4.3**
PPR				*i* S	**Sn**	**03 14 59.4**	**-3.2**
PVCP	**Virac**	**4.01**	**88**	*e*P	**Pn**	**03 14 19.1**	**+1.0**
PALP	**Palanan**	**4.23**	**33**	*e*P	**Pn**	**03 14 23.1**	**+1.7**
PALP				*e*S	**Sn**	**03 15 22.2**	**+11**
APYP	**Conner**	**4.50**	**15**	*e*P	**Pn**	**03 14 25.8**	**+0.8**
CVP	**Callao Caves**	**4.53**	**22**	*e*P	**Pn**	**03 14 26.0**	**+0.5**
SNPH	**Sibulan**	**5.19**	**142⇓**	*e*P	**Pn**	**03 14 36.0**	**+1.2**
IPIL	**Ipil**	**6.20**	**156**	*e*P	**Pn**	**03 14 47.7**	**-1.4**
PAGZ	**Pagadian**	**6.51**	**149**	*e*P	**Pn**	**03 14 54.7**	**+1.2**
SSE	**Sheshan**	**17.55**	**3**	*e*P	**P**	**03 17 17.6**	**-3.9**
SSE				S	**S**	**03 20 32.3**	**-2.0**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s						
SSE				AMB	AMB		
	comp=Z,86nm,4.8s						
SSE				LR	LR		
	comp=N,100nm,28.3s						
SSE				LR	LR		
	comp=E,252nm,28.4s						
SSE				LR	LR		
	comp=Z,160nm,31.1s						
WHN	**Wuhan**	**17.76**	**344**	*e*P	**P**	**03 17 28.0**	**+3.9**
NJ2	**Nanjing**	**18.50**	**357**	*e*P	**P**	**03 17 33.5**	**+0.2**
NJ2				AP		03 17 41.5	
NJ2				PP	PP	03 17 49.4	+0.4
NJ2				S	**S**	**03 20 58.0**	**+2.1**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,650nm,5.6s						
NJ2				LR	LR		
	comp=N,860nm,19.0s						
NJ2				LR	LR		
	comp=E,770nm,15.5s						
NJ2				LR	LR		
	comp=Z,710nm,19.1s						
ENH	**Enshi**	**19.33**	**331**	P	**P**	**03 17 43.1**	**-0.1**
	comp=Z,17nm,1.2s						
CMAR	**Chiang Mai Arr**	**20.86**	**286**	P	**P**	**03 18 02.9**	**+3.3**
	comp=Z,14nm,0.9s,baz=94,slow=8.9,SNR=49						
CMAR				LR	LR	03 27 03.8	
	comp=Z,119nm,18.4s,MS3.3,baz=95,slow=39						
BJT	**Baijiatuan**	**26.64**	**353**	*e*P	**P**	**03 18 54.4**	**-1.1**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJT	**Baijiatuan**	**26.64**	**353**	*e*P	**P**	**03 18 54.4**	**-1.2**
	comp=Z,6.7nm,0.6s,mb4.3						
LZH	**Lanzhou**	**26.79**	**330**	*e*P	**P**	**03 18 57.5**	**+0.6**
LZH				AMB	AMB		
	comp=Z,26nm,1.3s,mb4.6						
LZH				AMB	AMB		
	comp=Z,105nm,4.5s						
LZH				LR	LR		
	comp=N,257nm,12.9s						
LZH				LR	LR		
	comp=Z,345nm,17.2s,MS4.0						
KAKA	**Kakadu**	**28.80**	**154**	*e*P	**P**	**03 19 13.0**	**-2.4**
	comp=Z,4.1nm,0.8s,mb4.2						
HIA	**Hailar**	**35.67**	**360**	*e*P	**P**	**03 20 12.7**	**-2.4**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HIA	**Hailar**	**35.67**	**360**	*e*P	**P**	**03 20 12.7**	**-2.3**
	comp=Z,3.2nm,0.5s,mb4.5						
ULN	**Ulaanbaatar**	**35.93**	**345**	*e*P	**P**	**03 20 16.5**	**-0.8**
ULN				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
ULN	**Ulaanbaatar**	**35.93**	**345**	*e*P	**P**	**03 20 16.5**	**-0.8**
	comp=Z,14nm,1.1s,mb4.8						
SONM	**Songino Array**	**36.07**	**344**	P	**P**	**03 20 18.0**	**-0.5**
	comp=Z,7.9nm,0.8s,mb4.7,baz=160,slow=9.4,SNR=33						
WRAB	**Tennant Creek**	**36.09**	**157**	*c i*P	**P**	**03 20 17.3**	**-1.6**
WRAB	**Tennant Creek**	**36.09**	**157**	*e*P	**P**	**03 20 16.6**	**-2.3**
	comp=Z,32nm,0.9s,mb5.3						
WRA	**Warramunga Arr**	**36.09**	**157**	P	**P**	**03 20 17.3**	**-1.6**
	comp=Z,11nm,0.6s,mb5.0,baz=335,slow=9.7,SNR=124						
WB2	**Warramunga Arr**	**36.09**	**157**	*e*P	**P**	**03 20 17.2**	**-1.8**
ZAK	**Zakamensk**	**39.24**	**343⇓**	*i*P	**P**	**03 20 44.2**	**-0.9**
ASPA	**Alice Springs**	**39.35**	**160⇑**	*i*P	**P**	**03 20 45.7**	**-0.5**
ASAR	**Alice Springs**	**39.35**	**160**	P	**P**	**03 20 45.4**	**-0.8**
	comp=Z,8.4nm,0.8s,mb4.5,baz=340,slow=7.2,SNR=84						
ASAR				LR	LR	03 36 35.4	
	comp=Z,103nm,18.8s,MS3.7,baz=128,slow=35						
HYB	**Hyderabad**	**40.11**	**281**	*i* P	**P**	**03 20 54.0**	**+1.4**
TLY	**Talaya**	**40.31**	**344**	*e*P	**P**	**03 20 53.7**	**-0.2**
TLY				*e*		03 30 23.8	
TLY				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
TLY				MLR	MLR		
	comp=Z,206nm,25.0s,MS3.9						
TLY	**Talaya**	**40.31**	**344**	*e*P	**P**	**03 20 53.0**	**-0.9**
	comp=Z,9.2nm,0.8s,mb4.6						
MOY	**Mondy**	**41.05**	**342**	*e*P	**P**	**03 21 00.1**	**+0.2**
CTAO	**Charters Tower**	**42.18**	**142**	P	**P**	**

SOC				*e*		03 25 04.3	
SOC				*e*PPP	PPP	03 29 18.5	-4.3
SOC				*e*S	S	03 34 19.4	-1.2
SOC				pmax	pmax		
	comp=N,7.0nm,0.8s						
SOC				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
SOC				pmax	pmax		
	comp=E,2.0nm,0.5s						
OBN	**Obninsk**	**75.32**	**324**	⇓*i*P	**P**	**03 24 57.0**	**-2.8**
OBN				*e*SS	SS	03 39 20.4	-9.0
OBN				pmax	pmax		
	comp=Z,21nm,1.9s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.1						
ASF	**Jabal al Asfar**	**77.20**	**300**	P	**P**	**03 25 12.2**	**+1.3**
	comp=Z,5.9nm,1.1s,mb4.4,baz=260,slow=2.7,SNR=4.3						
BRTR	**Keskin Array B**	**78.76**	**308**	P	**P**	**03 25 19.8**	**+0.5**
	comp=Z,1.0nm,0.9s,mb3.8,baz=132,slow=6.8,SNR=4.9						
ARCES	**ARCESS Array B**	**79.04**	**339**	P	**P**	**03 25 19.5**	**-0.7**
	comp=Z,2.9nm,0.6s,mb4.4,baz=77,slow=6.9,SNR=12						
ARCES				LR	LR	04 00 29.2	
	comp=Z,131nm,18.1s,MS4.3,baz=199,slow=36						
ILAR	**Eielson Array**	**79.22**	**26**	P	**P**	**03 25 18.6**	**-2.7**
	comp=Z,0.8nm,1.0s,mb3.6,baz=253,slow=7.7,SNR=5.0						
KAF	**Kangasniemi**	**79.92**	**332**	*e*p	**P**	**03 25 22.6**	**-2.5**
	comp=Z,5.3nm,0.8s,mb4.5						
FINES	**FINESS Array B**	**80.14**	**331**	P	**P**	**03 25 24.9**	**-1.4**
	comp=Z,2.6nm,0.7s,mb4.3,baz=58,slow=6.5,SNR=11						
FINES				LR	LR	04 04 28.8	
	comp=Z,99nm,20.9s,MS4.1,baz=308,slow=38						
KMBO	**Kilima Mbogo**	**83.24**	**267**	P	**P**	**03 25 45.2**	**+1.8**
	comp=Z,5.0nm,1.2s,mb4.4,baz=25,slow=4.8,SNR=5.6						
INK	**Inuvik**	**83.52**	**21**	*e*P	**P**	**03 25 41.1**	**-2.6**
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
INK	**Inuvik**	**83.52**	**21**	P	**P**	**03 25 39.9**	**-3.8**
	comp=Z,2.7nm,0.9s,mb4.4,baz=287,slow=2.8,SNR=6.2						
INK	**Inuvik**	**83.52**	**21**	*e*P	**P**	**03 25 41.1**	**-2.6**
	comp=Z,2.7nm,0.9s,mb4.4						
OJC	**Ojcow**	**86.17**	**321**	*e*P	**P**	**03 25 57.3**	**-0.1**
HFS	**Hagfors**	**86.34**	**331**	P	**P**	**03 25 57.0**	**-1.0**
	comp=Z,3.4nm,0.7s,mb4.7,baz=114,slow=4.0,SNR=10						
NB2	**NORSAR Subarra**	**87.14**	**333**	P	**P**	**03 26 00.4**	**-1.5**
	comp=Z,10nm,0.8s,mb5.1,baz=66,slow=4.6						
NB2	**NORSAR Subarra**	**87.14**	**333**	P	**P**	**03 26 00.4**	**-1.5**
	baz=66,slow=4.8						
NOA	**NORSAR Array B**	**87.14**	**333**	P	**P**	**03 26 00.6**	**-1.3**
	comp=Z,7.7nm,0.8s,mb5.0,baz=68,slow=4.6,SNR=16						
KSP	**Ksiaz**	**88.11**	**322**	*e*P	**P**	**03 26 06.8**	**0.0**
VRAC	**Vranov**	**88.43**	**320**	P	**P**	**03 26 09.5**	**+1.2**
	comp=Z,0.7nm,0.4s,mb4.2,baz=59,slow=11,SNR=3.6						
BRG	**Berggiesshubel**	**89.50**	**322**	*e*P	**P**	**03 26 13.3**	**-0.1**
BRG				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.9						
BRG	**Berggiesshubel**	**89.50**	**322**	*e*P	**P**	**03 26 13.3**	**-0.1**
	comp=Z,6.8nm,1.2s,mb4.8						
CLL	**Collm**	**89.90**	**323**	*e*P	**P**	**03 26 15.0**	**-0.2**
CLL	**Collm**	**89.90**	**323**	P	**P**	**03 26 15.0**	**-0.2**
GERES	**GERESS Array B**	**90.38**	**321**	P	**P**	**03 26 17.6**	**+0.1**
	comp=Z,0.8nm,0.7s,mb4.1,baz=56,slow=4.8,SNR=6.8						
YKA	**Yellowknife Ar**	**93.21**	**22**	P	**P**	**03 26 27.9**	**-2.3**
	comp=Z,0.6nm,0.9s,mb4.0,baz=309,slow=4.7,SNR=6.5						
VNA2	**Neumayer--Watz**	**114.42**	**197**	⇑*i*Pdif	Pdif	03 28 03.3	-1.3
VNA2				*e*		03 28 13.9	
VNA1	**Neumayer--Stat**	**114.81**	**197**	⇑*i*P	Pdif	03 28 03.4	-3.0

*TIR **16** 03:21:10.1,40.09N×19.86E,h13km*
*THE **16** 03:21:11.5,40.11N×19.71E,h10km,ML3.6*
*ATH **16** 03:21:11.1,40.10N×19.69E,h24km±4km,MD3.8/5*
*NEIC **16** 03:21:11.1,40.10N×19.69E,h24km,MD3.8(ATH),After ATH.*
*CSEM **16** 03:21:14.1±0.1,40.05N×19.75E,h20km,MD3.8,Error ellipse: s-maj=4.6km s-min=2.8km az=173.0*

ISC 16 03:21:11.9±0.5,40.10N±0.03×19.77E±0.04,h10km,n36, σ1ŝ19/48,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.27**	**44**	*e*Pg	**Pg**	**03 21 16.0**	**-1.5**
TPE				*i* Sg	**Sg**	**03 21 19.0**	**-2.2**
KEK	**Kerkira**	**0.39**	**177**	*e*PB	**Pb**	**03 21 19.7**	**-0.7**
VLO	**Vlora**	**0.42**	**330**	*e*Pg	**Pg**	**03 21 19.6**	**-0.9**
VLO				*i* Sg	**Sg**	**03 21 27.8**	**+1.6**
LSK	**Leskovik**	**0.64**	**85**	*e*Pg	**Pg**	**03 21 21.9**	**-2.8**
LSK				*i* Sg	**Sg**	**03 21 31.9**	**-1.4**
IGT	**Igoumenitsa**	**0.71**	**143**	*e*Pg	**Pg**	**03 21 25.1**	**-1.1**
IGT				*e*Sg	**Sg**	**03 21 37.0**	**+1.2**
KBN	**Korca**	**0.94**	**56**	*e*Pg	**Pg**	**03 21 27.2**	**-3.4**
KBN				*i* Sg	**Sg**	**03 21 43.0**	**-0.2**
JAN	**Janina**	**0.94**	**118**	*e*PN	**Pn**	**03 21 30.0**	**-1.0**
TIR	**Tirane**	**1.25**	**3**	*e*Pn	**Pn**	**03 21 35.1**	**-0.3**
TIR				*i* Sn	**Sn**	**03 21 56.2**	**+3.9**
OHR	**Ohrid**	**1.28**	**37**	*e*Pn	**Pn**	**03 21 34.4**	**-1.4**
OHR				*e*		03 21 35.0	
OHR				*i* Sn	**Sn**	**03 21 56.2**	**+3.1**
OHR	**Ohrid**	**1.28**	**37**	*e*Pn	**Pn**	**03 21 34.4**	**-1.4**
OHR				*i* Sn	**Sn**	**03 21 56.2**	**+3.1**
FNA	**Florina**	**1.40**	**60**	*e*Pb	**Pb**	**03 21 36.4**	**-1.3**
FNA				*e*Sb	**Sb**	**03 21 59.0**	**+3.5**
QSH	**Qafa e Shtames**	**1.42**	**4**	*e*Pn	**Pn**	**03 21 37.8**	**-0.1**
QSH				*i* Sn	**Sn**	**03 21 58.8**	**+2.0**
KZN	**Kozani**	**1.55**	**82**	*e*PN	**Pn**	**03 21 40.1**	**+0.5**
PUK	**Puka**	**1.94**	**3**	*e*Pn	**Pn**	**03 21 45.3**	**0.0**
EVR	**Evrytania**	**1.97**	**126**	*e*PN	**Pn**	**03 21 47.4**	**+1.7**
VLS	**Valsamata**	**2.02**	**161**	*e*PB	**Pb**	**03 21 46.0**	**-2.4**
LIT	**Litokhoron**	**2.09**	**89**	*e*Pn	**Pn**	**03 21 47.7**	**+0.3**
LIT				*e*Sn	**Sn**	**03 22 15.5**	**+1.9**
GRG	**Griva**	**2.18**	**66**	*e*Pn	**Pn**	**03 21 49.8**	**+1.0**
AGG	**Agios Georgios**	**2.25**	**118**	*e*Pn	**Pn**	**03 21 50.8**	**+1.0**
AGG				*e*Sn	**Sn**	**03 22 20.4**	**+2.5**
SKO	**Skopje**	**2.25**	**34**	*e*Pn	**Pn**	**03 21 49.2**	**-0.6**
SKO				*i*		03 21 52.8	
BCI	**Bajram Curri**	**2.27**	**6**	*e*Pn	**Pn**	**03 21 49.9**	**-0.2**
RLS	**Riolos of Patr**	**2.43**	**147**	*e*PN	**Pn**	**03 21 52.5**	**+0.2**
SG1	**Sgolgore (BA)**	**2.47**	**288**	*e*Pn	**Pn**	**03 21 53.3**	**+0.4**
THE	**Thessaloniki**	**2.50**	**77**	*e*Pn	**Pn**	**03 21 54.1**	**+0.8**
TIP	**Timpagrande**	**2.50**	**249**	*e*Pn	**Pn**	**03 21 52.7**	**-0.6**
TIP	**Timpagrande**	**2.50**	**249**	*e*Pn	**Pn**	**03 21 52.7**	**-0.6**
KNT	**Kendrikon**	**2.60**	**65**	*e*Pn	**Pn**	**03 21 55.4**	**+0.6**
NEO	**Neokhori**	**2.78**	**105**	*e*PN	**Pn**	**03 21 57.2**	**-0.1**
SOH	**Sokhos**	**2.83**	**74**	*e*Pn	**Pn**	**03 21 58.3**	**+0.3**
PAIG	**Paliouri**	**3.01**	**92**	*e*Pn	**Pn**	**03 22 00.5**	**0.0**
KKB	**Krupnik**	**3.07**	**54**	*e*P	**Pn**	**03 22 01.0**	**-0.4**
SRS	**Serrai**	**3.08**	**70**	*e*Pn	**Pn**	**03 22 01.7**	**+0.2**
MMB	**Musomiste**	**3.35**	**62**	*e*P	**Pn**	**03 22 05.0**	**-0.4**
VLI	**Veliai**	**4.20**	**143**	*e*PN	**Pn**	**03 22 18.0**	**+0.6**
KYTH	**Kithira**	**4.60**	**145**	*e*PN	**Pn**	**03 22 18.0**	**-5.2**
ALN	**Alexandroupoli**	**4.85**	**79**	*e*Pn	**Pn**	**03 22 26.6**	**-0.1**

*CSEM **16** 03:21:27.6±0.2,36.63N×26.76E,h132km±4km,MD3.5, Error ellipse: s-maj=4.7km s-min=2.8km az=148.0*
*HLW **16** 03:21:27.0,36.72N×26.82E,h25km,Mb4.1*
*NEIC **16** 03:21:32.7,36.65N×26.81E,h30km,MD3.4(ISK),After ISK.*
*ISK **16** 03:21:33.1,36.71N×26.90E,h87km,MD3.5*

ISC 16 03:21:29.0±0.8,36.54N±0.07×26.76E±0.07,h144km±12km, n40,σ0ŝ83/48,12C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.76**	**46**	*i* P	**P**	**03 21 52.3**	**+0.7**
BDRM				*i* S	**S**	**03 22 08.9**	**-0.1**
SANT	**Santorini**	**1.06**	**261**	*i* P	**P**	**03 21 55.7**	**+1.7**
SANT				*i* S	**S**	**03 22 21.9**	**+8.8**
APE	**Apeiranthos**	**1.12**	**298**	*e*PN	**P**	**03 21 54.9**	**+0.4**
APE				*e*SN	**S**	**03 22 12.4**	**-1.7**
APE	**Apeiranthos**	**1.12**	**298**	Pn	**P**	**03 21 52.5**	**-2.0**
APE	**Apeiranthos**	**1.12**	**298**	Pn	**P**	**03 21 52.5**	**-2.0**
APE				*e*Sn	**S**	**03 22 12.4**	**-1.7**
AYDN	**Tasoluk**	**1.43**	**38**	*i* P	**P**	**03 21 58.4**	**+0.7**
AYDN				*i* S	**S**	**03 22 19.0**	**-0.8**
DALT	**Dalyan (Mudla)**	**1.52**	**81**	PN	**P**	**03 21 58.1**	**-0.6**
BLCB	**Balcova**	**1.85**	**7**	*e*PN	**P**	**03 22 02.1**	**-0.3**
BLCB	**Balcova**	**1.85**	**7**	Pn	**P**	**03 22 02.1**	**-0.3**
FETY	**Fethiye**	**1.87**	**86**	PN	**P**	**03 22 03.2**	**+0.6**
IZM	**Izmir**	**1.90**	**12**	*e*PN	**P**	**03 22 02.2**	**-0.7**
IZM	**Izmir**	**1.90**	**12**	Pn	**P**	**03 22 02.3**	**-0.6**
IZM	**Izmir**	**1.90**	**12**	Pn	**P**	**03 22 02.3**	**-0.6**
KDAG	**Bornova**	**1.90**	**12**	*i* P	**P**	**03 22 02.5**	**-0.4**
DNZL	**Cakiroluk**	**2.16**	**57**	*i* P	**P**	**03 22 06.9**	**+0.9**
DNZL				*i* S	**S**	**03 22 34.4**	**-0.1**
DENT	**Denizli**	**2.18**	**56**	PN	**P**	**03 22 06.6**	**+0.2**
DENT	**Denizli**	**2.18**	**56**	Pn	**P**	**03 22 06.6**	**+0.2**
ELL	**Elmali**	**2.54**	**84**	*e*PN	**P**	**03 22 12.4**	**+1.5**
GVD	**Gavdhos**	**2.76**	**233**	*e*P	**P**	**03 22 16.1**	**+2.3**
GVD	**Gavdhos**	**2.76**	**233**	*e*P	**P**	**03 22 16.1**	**+2.3**
BCK	**Bucak**	**3.20**	**72**	*e*PN	**P**	**03 22 20.2**	**+0.7**
ISP	**Isparta**	**3.26**	**65**	*e*Pn	**P**	**03 22 19.6**	**-0.7**
ISP	**Isparta**	**3.26**	**65**	*e*Pn	**P**	**03 22 19.5**	**-0.8**
HMAT	**Matruh**	**5.44**	**177**	⇑P	**P**	**03 22 48.7**	**-0.4**
DABA	**Dabaa**	**5.66**	**167**	P	**P**	**03 22 52.5**	**+0.5**
HBRG	**Burj al 'Arab**	**6.48**	**156**	⇑P	**P**	**03 23 02.5**	**-0.6**
SWA1		**7.31**	**187**	P	**P**	**03 23 14.5**	**+0.2**
SWA2		**7.36**	**189**	⇑P	**P**	**03 23 14.8**	**-0.1**
SWA2				S	**S**	**03 24 34.2**	**-3.1**
HMYD	**Mayadein**	**7.53**	**152**	⇑P	**P**	**03 23 17.0**	**-0.2**
HNAT	**Natroun**	**7.61**	**154**	⇑P	**P**	**03 23 18.2**	**-0.1**
FYM	**Al Fayyum**	**7.71**	**151**	P	**P**	**03 23 19.4**	**-0.3**
AYT	**Al 'Ayyat**	**7.75**	**150**	⇑P	**P**	**03 23 19.8**	**-0.3**
AMAG	**Maghara**	**7.97**	**136**	⇑P	**P**	**03 23 22.1**	**-0.9**
HSAF	**As Saff**	**7.99**	**148**	⇑P	**P**	**03 23 23.5**	**+0.2**
GLL	**Jalalah**	**8.09**	**148**	⇑P	**P**	**03 23 24.6**	**-0.1**
AWBH		**8.39**	**167**	⇑P	**P**	**03 23 28.6**	**-0.1**
SUZ		**8.39**	**141**	⇑P	**P**	**03 23 28.7**	**0.0**
ZAF		**8.72**	**144**	⇑P	**P**	**03 23 33.1**	**+0.1**
HNKL	**Nakhl**	**8.94**	**135**	P	**P**	**03 23 36.1**	**+0.1**
EIL	**Elat**	**9.70**	**133**	*e*Pn	**P**	**03 23 45.5**	**-0.5**
	8.2nm,0.6s						
EIL				*e*Sn	**S**	**03 25 27.7**	**-5.5**

JSN 16 03:23:47.6±1.3,17.63N×78.34W,MD3.6,5C-1D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEJ	**Negril**	**0.62**	**1**	⇑*i*P	Pg	03 23 59.7	-0.2
NEJ				*i* S	Sg	03 24 08.4	+0.2
MCJ	**Malvern**	**0.69**	**65**	⇑*i*P	Pg	03 24 01.2	-0.1
MCJ				*i* S	Sg	03 24 10.5	-0.1
CVJ	**Coleyville**	**0.97**	**52**	⇑*i*P	Pg	03 24 05.7	-1.3
BBJ	**Bamboo Saint A**	**1.27**	**54**	⇓*e*P	Pb	03 24 10.5	-1.6
BBJ				*i* S	Sb	03 24 27.2	-1.6
STH	**Stony Hill**	**1.52**	**73**	⇑*e*P	Pn	03 24 13.8	-2.4
STH				*e*S	Sb	03 24 35.4	-0.9
GWJ	**Greenwich**	**1.60**	**74**	⇑*e*P	Pn	03 24 15.0	-2.2

*CSEM **16** 04:20:08.1±0.3,35.04N×3.89W,h5km,MD2.5,Error ellipse: s-maj=7.5km s-min=5.7km az=79.0*
*CNRM **16** 04:20:08.0,35.09N×3.63W,MD2.5*
*NEIC **16** 04:20:09.6,35.03N×3.94W,MG3.0(MDD),After MDD.*
*MDD **16** 04:20:10.0±0.6,35.01N×3.86W,h2km±6km,mb3.2/8, Error ellipse: s-maj=6.3km s-min=3.5km az=51.0,PRXIMO*

ISC 16 04:20:08.5±0.8,35.00N±0.04×3.96W±0.04,h10km±4km, n32,σ1ŝ11/54,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.18**	**102**	P	**Pg**	**04 20 11.0**	**-1.4**
TOU				S	**Sg**	**04 20 13.5**	**-1.6**
TOU	**Touzarine**	**0.18**	**102**	*i* P	**Pg**	**04 20 11.0**	**-1.4**
MPAL	**Palemas**	**0.23**	**4**	P	**Pg**	**04 20 14.0**	**+0.7**
MPAL				S	**Sg**	**04 20 17.5**	**+0.9**
MPAL	**Palemas**	**0.23**	**4**	*i* P	**Pg**	**04 20 14.0**	**+0.7**
EMEL	**Melilla**	**0.88**	**70**	P	**Pb**	**04 20 25.1**	**-0.2**
	22nm,0.1s,SNR=7.9						
EMEL				S	**Sb**	**04 20 36.8**	**0.0**
	121nm,0.2s,SNR=4.0						
EMLI	**Melilla**	**0.88**	**70**	P	**Pb**	**04 20 25.1**	**-0.3**
	22nm,0.1s,SNR=7.9						
EMLI				S	**Sb**	**04 20 36.8**	**-0.1**
	92nm,0.2s,SNR=4.0						
TZK	**Tazeka**	**0.93**	**191**	*i* P	**Pb**	**04 20 29.0**	**+2.9**
TZK				*i* S	**Sb**	**04 20 44.0**	**+5.8**
EALB	**Alboran**	**1.21**	**39**	P	**Pb**	**04 20 31.4**	**+0.5**
EALB				S	**Sb**	**04 20 46.7**	**+0.3**
EALB	**Alboran**	**1.21**	**39**	P	**Pb**	**04 20 31.6**	**+0.7**
	3.2nm,0.2s,SNR=7.9						
EALB				S	**Sb**	**04 20 46.3**	**0.0**
	10nm,0.3s,SNR=7.9						
EALB	**Alboran**	**1.21**	**39**	P	**Pb**	**04 20 31.4**	**+0.5**
	4.3nm,0.3s,SNR=7.9						
EALB				S	**Sb**	**04 20 46.7**	**+0.4**
	6.5nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.69**	**337**	P	**Pn**	**04 20 38.8**	**+0.4**
EMIJ				S	**Sn**	**04 20 58.8**	**-1.4**
EMIJ	**Mijas**	**1.69**	**337**	P	**Pn**	**04 20 38.8**	**+0.5**
	0.7nm,0.1s,SNR=9.0						
EMIJ				S	**Sn**	**04 20 58.6**	**-1.6**
	2.7nm,0.2s,SNR=5.5						
EMIJ	**Mijas**	**1.69**	**337**	P	**Pn**	**04 20 38.8**	**+0.5**
	0.9nm,0.2s,SNR=9.0						
EMIJ				S	**Sn**	**04 20 58.8**	**-1.4**
	2.1nm,0.2s,SNR=5.5						
EBER	**Berja**	**2.08**	**24**	P	**Pn**	**04 20 44.1**	**+0.2**
EBER				S	**Sn**	**04 21 09.8**	**-0.3**
EBER	**Berja**	**2.08**	**24**	P	**Pn**	**04 20 44.3**	**+0.4**
	0.3nm,0.1s,SNR=4.0						
EBER				S	**Sn**	**04 21 09.8**	**-0.3**
	2.7nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.08**	**24**	S	**Sn**	**04 21 09.8**	**-0.3**
	2.0nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.89**	**14**	P	**Pn**	**04 20 57.6**	**+2.2**
EQES				S	**Sn**	**04 21 31.6**	**+1.2**
EQES	**Quesada**	**2.89**	**14**	P	**Pn**	**04 20 57.2**	**+1.8**
	0.8nm,0.2s,SNR=6.3						
EQES				S	**Sn**	**04 21 31.7**	**+1.2**
	0.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.20**	**351**	P	**Pn**	**04 21 00.9**	**+1.1**
EADA				S	**Sn**	**04 21 37.9**	**-0.5**
EADA	**Adamuz**	**3.20**	**351**	P	**Pn**	**04 21 00.9**	**+1.1**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**04 21 37.1**	**-1.2**
	0.9nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.20**	**351**	P	**Pn**	**04 21 00.9**	**+1.1**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**04 21 37.9**	**-0.5**
	0.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.52**	**322**	P	**Pn**	**04 21 04.3**	**-0.1**
EMIN				S	**Sn**	**04 21 44.4**	**-2.1**
EMIN	**Mina Concepcio**	**3.52**	**322**	P	**Pn**	**04 21 04.2**	**-0.2**
	0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**04 21 44.5**	**-2.0**
	0.4nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.52**	**322**	S	**Sn**	**04 21 44.4**	**-2.1**
	0.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.52**	**322**	P	**Pn**	**04 21 04.3**	**-0.1**
	0.3nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.81**	**313**	P	**Pn**	**04 21 06.7**	**-1.7**
EGRO	**El Granado**	**3.81**	**313**	P	**Pn**	**04 21 08.5**	**+0.1**
	0.4nm,0.1s,SNR=4.0						
EGRO	**El Granado**	**3.81**	**313**	P	**Pn**	**04 21 06.7**	**-1.7**
	0.8nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**4.47**	**328**	P	**Pn**	**04 21 17.7**	**-0.3**
EBAD				S	**Sn**	**04 22 07.0**	**-3.7**
EBAD	**Badajoz**	**4.47**	**328**	P	**Pn**	**04 21 17.9**	**0.0**
	0.5nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**04 22 07.0**	**-3.7**
	2.3nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.47**	**328**	S	**Sn**	**04 22 07.0**	**-3.7**
EBAD	**Badajoz**	**4.47**	**328**	P	**Pn**	**04 21 17.7**	**-0.2**

*NEIC **16** 04:20:46.6±0.4,5.25N×94.76E,h30km,mb4.3/9,Error ellipse: s-maj=19.7km s-min=7.9km az=49.0*
*IDC **16** 04:20:52.8±9.0,5.17N×94.68E,h90km±78km,mb3.8/6, mb1 4.1/7,mb1mx3.8/17,mbtmp4.2/7,ML4.2/1,MS2.7/1, Ms1 2.9/1,ms1mx2.8/13,Error ellipse: s-maj=57.2km s-min=16.6km az=53.0*

ISC 16 04:20:44.7±0.6,5.3N±0.1×94.8E±0.1,h30km,n21, σ0ŝ57/20,mb4.2/15,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.73**	**17**	P	**P**	**04 24 07.0**	**+7.1**
	0.3nm,0.3s,baz=212,slow=11,SNR=9.1						
CMAR				LR	LR	04 30 23.1	
	comp=Z,30nm,20.8s,baz=165,slow=41						
FITZ	**Fitzroy Crossi**	**38.28**	**128**	*e*P	**P**	**04 28 04.2**	**-0.3**
	4.6nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**41.35**	**337**	*e*P	**P**	**04 28 30.5**	**+0.9**
	1.7nm,0.6s,mb3.9						
SONM	**Songino Array**	**43.57**	**11**	P	**P**	**04 28 48.2**	**+0.4**
	1.5nm,0.8s,mb3.8,baz=195,slow=7.9,SNR=11						
SONM				PcP	PcP	04 30 34.6	-1.1
	0.6nm,0.5s,baz=207,slow=2.8,SNR=4.6						
ULN	**Ulaanbaatar**	**43.73**	**12**	*e*P	**P**	**04 28 48.6**	**-0.4**
	1.1nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**46.25**	**124**	P	**P**	**04 29 09.5**	**0.0**
	8.1nm,0.7s,mb4.8,baz=303,slow=9.1,SNR=42						
WRAB	**Tennant Creek**	**46.26**	**124**	*e*P	**P**	**04 29 09.8**	**+0.3**
	13nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**46.26**	**124**	*e*P	**P**	**04 29 09.9**	**+0.3**
KURK	**Kurchatov**	**47.29**	**346**	*e*P	**P**	**04 29 17.8**	**+0.4**
	2.7nm,0.6s,mb4.3						
ASPA	**Alice Springs**	**47.77**	**129**	*e*P	**P**	**04 29 21.5**	**0.0**
ASAR	**Alice Springs**	**47.77**	**129**	P	**P**	**04 29 21.2**	**-0.3**
	1.2nm,0.4s,mb4.3,baz=298,slow=8.0,SNR=19						
ASAR				PcP	PcP	04 30 50.0	-0.5
	0.8nm,0.7s,baz=310,slow=2.9,SNR=4.6						
BVAR	**Borovoye Array**	**51.66**	**341**	P	**P**	**04 29 50.5**	**-0.3**
	2.7nm,0.9s,mb4.2,baz=135,slow=8.4,SNR=9.7						
BRVK	**Borovoye**	**51.72**	**341**	*e*P	**P**	**04 29 50.7**	**-0.7**
	1.7nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**52.14**	**342**	*e*P	**P**	**04 29 54.1**	**-0.4**
	4.7nm,0.8s,mb4.5						
KMBO	**Kilima Mbogo**	**57.81**	**265**	P	**P**	**04 30 36.4**	**+0.2**
	0.4nm,0.5s,mb3.7						
BRTR	**Keskin Array B**	**64.62**	**312**	P	**P**	**04 31 20.3**	**-1.7**
	0.9nm,0.5s,mb4.1,baz=147,slow=7.1,SNR=3.9						
GERES	**GERESS Array B**	**80.19**	**319**	P	**P**	**04 32 54.1**	**+0.3**
	1.8nm,0.6s,mb4.2,baz=94,slow=4.7,SNR=24						
GRA1	**Grafenberg Arr**	**81.85**	**319**	*e*P	**P**	**04 33 03.4**	**+0.9**
GRF	**Grafenberg Arr**	**81.85**	**319**	*e*P	**P**	**04 33 03.4**	**+0.9**
LPG	**La Plagne**	**84.91**	**315**	*e*P	**P**	**04 33 18.7**	**+0.4**
	5.1nm,0.8s,mb4.4						
TXAR	**Lajitas Array**	**141.31**	**26**	PKP	PKPdf	04 40 18.1	-0.5
	0.2nm,0.3s,baz=315,slow=2.0,SNR=6.5						

*NAO **16** 04:26:07.4±2.6,67.64N×33.75E,ML2.4*

HEL 16 04:26:07.0±0.3,67.67N×33.87E,ML2.6,ML2.5(BER), ML2.4(NAO),Explosion,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.34**	**260**	*i* P	Pg	04 26 13.3	-0.5
APA0				*i* S	Sg	04 26 17.4	-0.9
APA0				*e*RG		04 26 19.3	
APA0	**Apatity Array**	**0.34**	**260**	Pg	Pg	04 26 13.3	-0.5
	baz=85,slow=16						
APA0				Lg		04 26 17.4	
	baz=78,slow=37						
APA0				Rg		04 26 19.3	
	baz=79,slow=37						
KU4	**Oulanka**	**2.13**	**234**	*e*PG	Pg	04 26 45.0	-4.6
KU4				*e*SG	Sg	04 27 12.7	-5.3
MSF	**Maaselka**	**2.60**	**230**	*e*PG	Pg	04 26 53.7	-5.2
MSF				*e*SG	Sg	04 27 26.4	-7.2
SGF	**Sodankyl**	**2.83**	**269**	*e*P	Pn	04 26 53.2	-1.1
SGF				*e*S	Sn	04 27 28.3	-1.2
KEV	**Kevo**	**3.27**	**313**	*e*P	Pn	04 27 00.2	-0.3
KEV				*e*S	Sn	04 27 37.3	-3.4
ARA0	**ARCESS Array S**	**3.59**	**305**	*e*P	Pn	04 27 04.0	-1.1
ARA0				*e*PG	Pg	04 27 12.7	-6.1
ARA0				*e*S	Sn	04 27 45.5	-3.5
ARA0				*e*SG	Sg	04 27 56.4	-10
ARA0	**ARCESS Array S**	**3.59**	**305**	Pn	Pn	04 27 04.0	-1.1
	baz=122

ILCH AMP 04 58 31.8
comp=N,572nm,0.2s
PTCH Petorca 0.69 101⇑ *i*P Pb 04 58 21.4 -0.2
PTCH *i*S Sb 04 58 31.1 +0.4
PTCH AMP 04 58 31.9
comp=N,3μm,0.4s
ROCH El Roble 1.03 144 *e*P Pb 04 58 27.1 -0.4
ROCH *i*S Sb 04 58 41.0 +0.3
JACH Jahuel 1.11 120⇓ *i*P Pb 04 58 27.8 -0.9
JACH *i*S Sb 04 58 43.0 +0.1
CMCH Combarbala 1.14 33⇑ *i*P Pb 04 58 27.9 -1.3
CMCH AMP 04 58 45.7
comp=E,2μm,0.6s
PEL Peldehue 1.34 139 *i*S Sb 04 58 49.8 +0.1
LCCH Las Cruces 1.35 174 *e*P Pn 04 58 32.2 -0.6
LCCH *i*S Sb 04 58 48.9 -1.0
RCDM Rinconada Maip 1.56 150⇓ *i*P Pn 04 58 35.2 -0.7
RCDM *i*S Sb 04 58 55.7 -0.4
RCDM AMP 04 58 57.0
comp=E,501nm,0.1s
STL Santa Lucia 1.59 145 *i*P Pn 04 58 34.5 -1.8
STL *i*S Sn 04 58 56.5 -0.4
STL AMP 04 58 58.1
comp=N,133nm,0.1s
DSCH Colegio Aleman 1.60 143⇑ *i*P Pn 04 58 36.2 -0.2
DSCH *i*S Sn 04 58 57.1 +0.1
DSCH AMP 04 58 59.8
comp=N,619nm,0.4s
CLCH Cerro Calan 1.61 142⇑ *i*P Pn 04 58 36.2 -0.4
CLCH *i*S Sn 04 58 57.7 +0.2
CLCH AMP 04 59 04.1
comp=E,408nm,0.4s
TACH Talagante 1.66 157⇓ *i*P Pn 04 58 37.1 -0.1
TACH *i*S Sn 04 58 58.8 +0.2
FCH Farellones 1.70 135⇑ *i*P Pn 04 58 37.4 -0.5
FCH *i*S Sn 04 58 59.5 -0.2
FCH AMP 04 59 02.0
comp=E,383nm,0.2s
ANTU Antumapu 1.71 148 *e*P Pn 04 58 37.5 -0.5
ANTU *i*S Sn 04 58 59.4 -0.4
ANTU AMP 04 59 03.5
comp=N,326nm,0.2s
LNV Longovilo 1.84 172⇓ *i*P Pn 04 58 38.9 -0.9
LNV *i*S Sn 04 59 02.9 -0.3
SJCH San Jose de Ma 1.90 143 *e*P Pn 04 58 40.3 -0.4
SJCH *i*S Sn 04 59 05.2 +0.5
SJCH AMP 04 59 12.7
comp=N,164nm,0.3s
CHCH Chadas Angostu 2.01 154⇓ *i*P Pn 04 58 42.6 +0.3
TLL Tololo Astrono 2.11 22 *i*S Sn 04 59 12.2 +2.1
TLL AMP 04 59 17.6
comp=E,189nm,0.5s
LMEL Las Melosas 2.14 144⇑ *i*P Pn 04 58 44.1 0.0
LMEL *i*S Sn 04 59 11.6 +0.8
LMEL AMP 04 59 18.3
comp=N,381nm,0.2s

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*IDC **16** 05:03:18.8±1.3, 15.14N×93.82E, mb3.6/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.6/5, ML4.2/1, MS3.5/4, Ms1 3.6/4, ms1mx3.4/16, Error ellipse: s-maj=34.8km s-min=24.3km az=68.0*
*NEIC **16** 05:03:23.5±0.9, 15.23N×93.85E, h30km, mb3.8/2, Error ellipse: s-maj=23.6km s-min=16.8km az=62.0*
ISC 16 05:03:21.7±0.9, 15.21N±0.08×93.80E±0.07, h33km, n15, σ1§06/14, mb3.7/6, MS3.8/3, 2C, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.89**	**56**	Pn	**Pn**	**05 04 47.9**	**-1.2**
1.5nm,0.3s,baz=242,slow=15,SNR=26							
CMAR				Sn	**Sn**	**05 05 57.0**	**+0.8**
0.7nm,0.3s,baz=237,slow=23,SNR=4.2							
CMAR				LR	LR	05 07 29.4	
comp=Z,117nm,21.2s,baz=225,slow=42							
CHG	**Chiang Mai**	**6.09**	**53**	⇑P	**P**	**05 04 50.8**	**-0.9**
CHG				SG	**Sn**	**05 06 07.1**	**+6.0**
NST	**Nakhon Sawan**	**6.12**	**85**	P	**P**	**05 04 50.0**	**-2.2**
83nm,0.5s							
NNT	**Nongplab**	**6.32**	**114**	P	**S**	**05 06 07.8**	**+0.9**
CHRT	**Chiangrai**	**7.35**	**50**	⇑P	**P**	**05 05 09.5**	**+0.1**
197nm,1.4s							
NANT	**Nan**	**7.51**	**61**	P	**P**	**05 05 12.8**	**+1.3**
SONM	**Songino Array**	**34.16**	**15**	P	**P**	**05 10 06.4**	**+0.6**
0.6nm,0.6s,mb3.7,baz=202,slow=7.8,SNR=2.8							
CHKZ	**Chkalovo**	**42.48**	**340**	*e*P	**P**	**05 11 14.8**	**-0.5**
0.7nm,0.5s,mb3.5							
WRA	**Warramunga Arr**	**53.00**	**130**	P	**P**	**05 12 36.4**	**-1.4**
0.7nm,0.7s,mb3.7,baz=314,slow=7.9,SNR=6.3							
WRA				PcP	PcP	05 13 44.7	-1.5
0.4nm,0.6s,baz=315,slow=3.7,SNR=5.3							
WRAB	**Tennant Creek**	**53.00**	**130**	*e*P	**P**	**05 12 37.5**	**-0.3**
0.7nm,0.4s,mb3.9							
ASAR	**Alice Springs**	**55.04**	**134**	P	**P**	**05 12 54.0**	**+1.2**
0.4nm,0.5s,mb3.7,baz=307,slow=6.2,SNR=5.5							
KMBO	**Kilima Mbogo**	**58.20**	**259**	LR	LR	05 36 12.1	
comp=Z,43nm,21.0s,MS3.5,baz=6.4,slow=34							
ARCES	**ARCESS Array B**	**68.31**	**339**	LR	LR	05 44 53.5	
comp=Z,84nm,19.4s,MS4.0,baz=178,slow=36							
GERES	**GERESS Array B**	**72.22**	**317**	P	**P**	**05 14 46.4**	**+1.2**
0.5nm,0.8s,mb3.5,baz=76,slow=5.5,SNR=3.8							
NOA	**NORSAR Array B**	**73.24**	**330**	LR	LR	05 52 35.4	
comp=Z,50nm,18.8s,MS3.8,baz=240,slow=40							

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*TAP **16** 05:05:55.3, 24.00N×122.22E, h21km±1km, ML2.9*
JMA 16 05:05:54.2±0.2, 24.11N×122.42E, h71km±3km, M2.3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.64**	**57**	P	P	05 06 08.6	-0.1
YOJ				S	S	05 06 19.2	-0.3
IRIF	**Iriomote-Funau**	**1.22**	**79**	P	P	05 06 15.7	-0.1
IRIF				*e*S	S	05 06 32.0	0.0
HATJ	**Hateruma jima**	**1.27**	**92**	P	P	05 06 16.3	-0.2
JKRS	**Kuro-shima**	**1.46**	**85**	P	P	05 06 19.2	0.0
JKRS				*e*S	S	05 06 37.7	+0.1
JJI	**Ishigaki jima**	**1.59**	**81**	P	P	05 06 20.5	-0.5
JJI				S	S	05 06 39.5	-1.2
JTJ	**Tarama**	**2.15**	**75**	P	P	05 06 28.5	-0.1
JTJ				S	S	05 06 54.5	+0.5

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*IDC **16** 05:14:41.8±11.0, 20.36S×169.73E, h119km±105km, mb3.7/5, mb1 3.9/6, mb1mx3.7/13, mbtmp4.1/6, ML4.3/1, Error ellipse: s-maj=55.7km s-min=28.5km az=18.0*
*NEIC **16** 05:14:42.0±1.9, 20.35S×169.77E, h125km±13km, mb4.0/5, Error ellipse: s-maj=21.2km s-min=11.7km az=213.0*
ISC 16 05:14:41.8±2.6, 20.5S±0.2×169.7E±0.1, h137km±18km, n17, σ0§83/18, mb3.9/9, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.42**	**242⇑**	*i*P	**P**	**05 15 35.6**	**+0.6**
DZM				*e*S	**S**	**05 16 15.2**	**-0.4**
NOUC	**Port Laguerre**	**3.55**	**243**	*e*P	**P**	**05 15 37.1**	**+0.4**
NOUC				*e*S	**S**	**05 16 17.8**	**-0.8**
URZ	**Urewera**	**18.83**	**162**	P	**P**	**05 18 53.8**	**+0.3**
0.9nm,0.3s,baz=191,slow=12,SNR=3.9							
CTA	**Charters Tower**	**21.99**	**267**	P	**P**	**05 19 27.6**	**+2.0**
3.5nm,0.5s,mb4.1,baz=86,slow=11,SNR=15							
CTAO	**Charters Tower**	**21.99**	**267**	*e*P	**P**	**05 19 28.3**	**+2.7**
3.1nm,0.4s,mb4.1							
STKA	**Stephens Creek**	**27.57**	**240**	P	**P**	**05 20 18.7**	**+0.6**
2.4nm,0.7s,mb4.0,baz=90,slow=6.4,SNR=7.2							
STKA	**Stephens Creek**	**27.57**	**240**	P	**P**	**05 20 18.7**	**+0.5**
WB2	**Warramunga Arr**	**33.13**	**265**	*e*P	**P**	**05 21 06.7**	**-0.5**
WRAB	**Tennant Creek**	**33.14**	**265**	*e*P	**P**	**05 21 06.2**	**-1.1**
1.4nm,0.5s,mb4.0							
WRA	**Warramunga Arr**	**33.15**	**265**	P	**P**	**05 21 06.5**	**-0.9**
0.7nm,0.3s,mb3.8,baz=95,slow=8.0,SNR=25							
ASAR	**Alice Springs**	**33.27**	**258**	P	**P**	**05 21 08.4**	**+0.1**
5.0nm,0.7s,mb4.3,baz=96,slow=8.9,SNR=61							
ASPA	**Alice Springs**	**33.27**	**258⇑**	*i*P	**P**	**05 21 08.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**41.56**	**266**	*e*P	**P**	**05 22 19.1**	**+1.3**
8.6nm,1.4s,mb4.2							
VNDA	**Vanda**	**57.20**	**182**	*e*P	**P**	**05 24 15.7**	**-0.7**
0.3nm,0.4s,mb3.5							
SBA	**Scott Base**	**57.42**	**181**	*e*P	**P**	**05 24 18.2**	**+0.3**
1.1nm,0.5s,mb3.9							
ILAR	**Eielson Array**	**91.30**	**17**	P	**P**	**05 27 31.6**	**-0.9**
0.3nm,0.9s,mb3.3,baz=225,slow=5.4,SNR=4.3							
GERES	**GERESS Array B**	**145.80**	**331**	PKPbc	PKPbc	05 34 07.0	+2.0
1.0nm,0.6s,baz=40,slow=3.2,SNR=14							

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*CSEM **16** 05:22:30.8±0.2, 36.56N×9.54W, h82km±2km, ML2.5, Error ellipse: s-maj=4.7km s-min=2.1km az=43.0*
*NEIC **16** 05:22:30.6, 36.63N×9.51W, MN2.7(MDD), After MDD.*
*INMG **16** 05:22:31.8±0.7, 36.54N×9.53W, h10km, MD2.5, ML2.5, Error ellipse: s-maj=3.8km s-min=2.2km az=60.0*
MDD 16 05:22:29.9±1.3, 36.57N×9.55W, mbLg2.9/20, 1C-5D, Error ellipse: s-maj=12.0km s-min=6.9km az=53.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.18**	**34**	*i*P	Pb	05 22 52.9	+0.1
PTEO				*e*S	Sb	05 23 08.8	+0.3
21nm,0.1s							
PTEO	**Sao Teotonio**	**1.18**	**34**	⇑P	Pb	05 22 52.9	+0.1
PTEO				S	Sb	05 23 08.8	+0.3
10nm,0.1s							
PALC	**Alcoutim**	**1.88**	**61**	*e*Pn	Pn	05 23 02.6	-1.0
PALC				*e*Sn	Sn	05 23 25.1	-3.3
47nm,0.3s							
PALC	**Alcoutim**	**1.88**	**61**	⇓P	Pn	05 23 02.6	-1.0
PALC				S	Sn	05 23 25.1	-3.3
23nm,0.3s							
EGRO	**El Granado**	**1.91**	**59**	Pn	Pn	05 23 02.9	-1.1
EGRO				Sn	Sn	05 23 26.3	-2.8
EGRO	**El Granado**	**1.91**	**59**	P	Pn	05 23 02.3	-1.8
14nm,0.1s,SNR=7.9							
EGRO				S	Sn	05 23 25.4	-3.7
44nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**1.91**	**59**	Pn	Pn	05 23 02.9	-1.1
EGRO				S	Sn	05 23 25.5	-3.7
44nm,0.1s,SNR=7.9							
EGRO				Sn	Sn	05 23 26.3	-2.9
PBEJ	**Beja**	**1.98**	**42**	*e*Pn	Pn	05 23 03.8	-1.2
PBEJ				*e*Sn	Sn	05 23 27.7	-3.2
8.2nm,0.1s							
PBEJ	**Beja**	**1.98**	**42**	⇓P	Pn	05 23 03.8	-1.2
PBEJ				S	Sn	05 23 27.7	-3.2
4.1nm,0.1s							
MOE	**Montemor**	**2.17**	**26**	*e*Pn	Pn	05 23 06.7	-1.1
MOE				*e*Sn	Sn	05 23 33.0	-2.8
MOE	**Montemor**	**2.17**	**26**	⇓P	Pn	05 23 06.7	-1.1
MOE				S	Sn	05 23 33.0	-2.8
PLOU	**Loures**	**2.34**	**8**	*e*Pn	Pn	05 23 08.4	-1.7
PLOU				*e*Sn	Sn	05 23 36.6	-3.4
56nm,0.2s							
PLOU	**Loures**	**2.34**	**8**	⇓P	Pn	05 23 08.4	-1.7
PLOU				S	Sn	05 23 36.6	-3.4
28nm,0.2s							
EMIN	**Mina Concepcio**	**2.59**	**62**	Pn	Pn	05 23 11.8	-1.9
EMIN				Sn	Sn	05 23 42.6	-3.8
EMIN	**Mina Concepcio**	**2.59**	**62**	P	Pn	05 23 11.7	-2.0
8.0nm,0.1s,SNR=112							
EMIN				S	Sn	05 23 42.3	-4.0
6.2nm,0.1s,SNR=10							
EMIN	**Mina Concepcio**	**2.59**	**62**	P	Pn	05 23 11.8	-1.9
8.0nm,0.1s,SNR=112							
EMIN				Sn	Sn	05 23 42.6	-3.8
EBAD	**Badajoz**	**2.97**	**42**	Pn	Pn	05 23 17.1	-2.1
EBAD				Sn	Sn	05 23 51.1	-4.9
EBAD	**Badajoz**	**2.97**	**42**	P	Pn	05 23 17.0	-2.1
6.3nm,0.1s,SNR=19							
EBAD				S	Sn	05 23 52.0	-4.0
7.7nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**2.97**	**42**	Pn	Pn	05 23 17.0	-2.2
EBAD				Sn	Sn	05 23 51.1	-4.9
ESPR	**Espera**	**2.98**	**83**	Pn	Pn	05 23 17.2	-2.1
ESPR				Sn	Sn	05 23 50.6	-5.6
ESPR	**Espera**	**2.98**	**83**	⇓P	Pn	05 23 17.2	-2.1
3.9nm,0.1s,SNR=18							
ESPR				S	Sn	05 23 50.7	-5.6
95nm,0.3s,SNR=7.9							
ESPR	**Espera**	**2.98**	**83**	P	Pn	05 23 17.2	-2.1
3.9nm,0.1s,SNR=15							
ESPR				Sn	Sn	05 23 50.7	-5.6
PTOM	**Tomar**	**3.18**	**16**	*e*Pn	Pn	05 23 22.4	+0.3
PTOM				*e*Sn	Sn	05 23 58.2	-3.1
23nm,0.1s							
PTOM	**Tomar**	**3.18**	**16**	P	Pn	05 23 22.4	+0.3
PTOM				S	Sn	05 23 58.2	-3.1
11nm,0.1s							
PCBR	**Castelo Branco**	**3.65**	**26**	*e*Pn	Pn	05 23 26.7	-2.2
PCBR				*e*Sn	Sn	05 24 08.0	-5.3
EMIJ	**Mijas**	**3.84**	**89**	Pn	Pn	05 23 29.0	-2.5
EMIJ				Sn	Sn	05 24 11.4	-6.7
EMIJ	**Mijas**	**3.84**	**89**	P	Pn	05 23 29.6	-2.0
0.6nm,0.1s							
EMIJ				S	Sn	05 24 11.3	-6.8
4.5nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**3.84**	**89**	P	Pn	05 23 29.0	-2.6
6.2nm,0.8s							
EMIJ				Sn	Sn	05 24 11.4	-6.7
MTE	**Manteigas**	**4.14**	**22**	*e*Pn	Pn	05 23 32.9	-2.9
MTE				*e*Sn	Sn	05 24 19.3	-6.3
5.9nm,0.4s							
MTE	**Manteigas**	**4.14**	**22**	P	Pn	05 23 32.9	-2.9
MTE				S	Sn	05 24 19.3	-6.3
3.0nm,0.4s							
EADA	**Adamuz**	**4.27**	**67**	Pn	Pn	05 23 34.9	-2.7
EADA				Sn	Sn	05 24 21.1	-7.8
EADA	**Adamuz**	**4.27**	**67**	P	Pn	05 23 34.7	-2.9
3.7nm,0.1s,SNR=44							
EADA				S	Sn	05 24 21.1	-7.8
12nm,0.1s,SNR=5.0							
EADA	**Adamuz**	**4.27**	**67**	P	Pn	05 23 34.9	-2.7
3.6nm,0.1s,SNR=44							
EADA				Sn	Sn	05 24 21.1	-7.8
ELUQ	**Luque**	**4.34**	**75**	Pn	Pn	05 23 36.1	-2.5
ELUQ				Sn	Sn	05 24 23.3	-7.4
ELUQ	**Luque**	**4.34**	**75**	P	Pn	05 23 35.8	-2.8
1.1nm,0.2s,SNR=7.9							
ELUQ				S	Sn	05 24 23.8	-6.8
6.2nm,0.2s,SNR=5.7							
ELUQ	**Luque**	**4.34**	**75**	P	Pn	05 23 36.1	-2.5
1.1nm,0.2s,SNR=7.9							
ELUQ				Sn	Sn	05 24 23.3	-7.3
PVIS	**Viseu**	**4.34**	**17**	*e*Pn	Pn	05 23 35.7	-2.9
PVIS				*e*Sn	Sn	05 24 24.2	-6.5
7.3nm,0.1s							
PVIS	**Viseu**	**4.34**	**17**	P	Pn	05 23 35.7	-2.9
PVIS				S	Sn	05 24 24.2	-6.5
3.7nm,0.1s							
PVRL	**Vila Real**	**4.92**	**16**	*e*Pn	Pn	05 23 43.8	-3.0
16nm,0.1s							
EQES	**Quesada**	**5.32**	**75**	Pn	Pn	05 23 49.6	-2.8
EQES				Sn	Sn	05 24 46.5	-8.8
EQES	**Quesada**	**5.32**	**75**	P	Pn	05 23 48.6	-3.8
0.7nm,0.1s,SNR=7.9							
EQES				S	Sn	05 24 46.9	-8.4
7.6nm,0.2s,SNR=7.9							
EQES	**Quesada**	**5.32**	**75**	P	Pn	05 23 49.6	-2.8
0.5nm,0.2s,SNR=7.9							
EQES				Sn	Sn	05 24 46.5	-8.8
ESDC	**Sonseca Array**	**5.38**	**53**	P	Pn	05 23 49.6	-3.8
2.6nm,0.3s,baz=237,slow=13,SNR=58							
ESDC				S	Sn	05 24 49.9	-7.2
2.9nm,0.2s,baz=237,slow=24,SNR=17							
ESDC	**Sonseca Array**	**5.38**	**53**	Pn	Pn	05 23 49.6	-3.8
ESDC				S	Sn	05 24 49.9	-7.2
2.9nm,0.2s,SNR=17							
ELOB	**Lobios**	**5.42**	**12**	Pn	Pn	05 23 50.1	-3.8
ELOB				Sn	Sn	05 24 48.1	-10
ELOB	**Lobios**	**5.42**	**12**	P	Pn	05 23 50.0	-3.9
1.9nm,0.1s,SNR=7.9							
ELOB				S	Sn	05 24 48.5	-9.4
7.7nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**5.42**	**12**	Pn	Pn	05 23 50.1	-3.8
ELOB				Sn	Sn	05 24 48.1	-10
PBRG	**Braganca**	**5.67**	**22**	*e*Pn	Pn	05 23 53.6	-3.8
PBRG				*e*Sn	Sn	05 24 55.5	-8.6
2.9nm,0.4s							
PBRG	**Braganca**	**5.67**	**22**	P	Pn	05 23 53.6	-3.8
PBRG				S	Sn	05 24 55.5	-8.6
1.4nm,0.4s							
ECAL	**Calabor**	**5.79**	**21**	Pn	Pn	05 23 55.9	-3.3
ECAL				Sn	Sn	05 24 58.9	-8.5
ECAL	**Calabor**	**5.79**	**21**	P	Pn	05 23 55.5	-3.7
4.1nm,0.2s,SNR=7.9							
ECAL				S	Sn	05 24 60.0	-7.3
13nm,0.4s,SNR=7.9							
ECAL	**Calabor**	**5.79**	**21**	P	Pn	05 23 55.9	-3.3
1.6nm,0.1s,SNR=7.9							
ECAL				Sn	Sn	05 24 58.8	-8.5
GUD	**Guadarrama**	**5.86**	**44**	Pn	Pn	05 23 56.8	-3.4
GUD				Sn	Sn	05 25 01.2	-7.9
GUD	**Guadarrama**	**5.86**	**44**	P	Pn	05 23 56.6	-3.6
5.0nm,0.2s,SNR=7.9							
GUD				S	Sn	05 25 01.2	-7.9
0.5nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**5.86**	**44**	P	Pn	05 23 56.8	-3.4
SNR=7.9							
GUD				Sn	Sn	05 25 01.2	-7.9
ERUA	**La Rua**	**6.11**	**17**	Pn	Pn	05 24 00.3	-3.3
ERUA				Sn	Sn	05 25 06.4	-8.8
ERUA	**La Rua**	**6.11**	**17**	P	Pn	05 24 00.2	-3.4
2.3nm,0.2s,SNR=8.4							
ERUA				S	Sn	05 25 06.9	-8.4
2.0nm,0.3s,SNR=7.9							
ERUA	**La Rua**	**6.11**	**17**	P	Pn	05 24 00.3	-3.3
1.5nm,0.4s,SNR=8.4							
ERUA				Sn	Sn	05 25 06.4	-8.8
EINC	**Incio**	**6.32**	**15**	Pn	Pn	05 24 02.3	-4.3
EINC				Sn	Sn	05 25 11.7	-8.7
EINC	**Incio**	**6.32**	**15**	P	Pn	05 24 02.5	-4.1
2.2nm,0.2s,SNR=7.4							
EINC				S	Sn	05 25 11.4	-9.0
1.1nm,0.2s,SNR=7.9							
EINC	**Incio**	**6.32**	**15**	Pn	Pn	05 24 02.3	-4.3
EINC				Sn	Sn	05 25 11.7	-8.7
EMAZ	**Mazaricos**	**6.39**	**4**	Pn	Pn	05 24 03.0	-4.6
EMAZ				Sn	Sn	05 25 11.0	-11
EMAZ	**Mazaricos**	**6.39**	**4**	P	Pn	05 24 03.0	-4.7
1.5nm,0.1s,SNR=7.9							
EMAZ				S	Sn	05 25 10.8	-11
9.0nm,0.2s,SNR=7.9							
EMAZ	**Mazaricos**	**6.39**	**4**	Pn	Pn	05 24 03.0	-4.6
EMAZ				Sn	Sn	05 25 11.0	-11
EMOS	**Mosqueruela**	**8.06**	**59**	Pn	P	05 24 28.6	-2.4
EMOS				Sn	Sn	05 25 54.1	-10
EMOS	**Mosqueruela**	**8.06**	**59**	P	P	05 24 28.1	-3.0
0.6nm,0.1s,SNR=7.9							
EMOS				S	Sn	05 25 54.5	-10
0.6nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**8.06**	**59**	P	P	05 24 28.6	-2.5
0.6nm,0.1s,SNR=7.9							
EMOS				Sn	Sn	05 25 54.2	-10
EBIE	**Bielsa**	**9.65**	**48**	P	P	05 24 49.0	-4.0
0.7nm,0.2s,SNR=9.4							
EBIE				S	Sn	05 26 32.4	-11
0.6nm,0.5s,SNR=7.9							
EBIE	**Bielsa**	**9.65**	**48**	Pn	P	05 24 49.0	-4.1

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*NEIC **16** 05:27:38.8, 35.58S×178.51E, h230km, After WEL.*
WEL 16 05:27:38.3±0.4, 35.51S×178.50E, h226km±6km, ML4.1/8, Error ellipse: s-maj=9.5km s-min=6.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.06**	**184**	P	P	05 28 19.5	-0.1
MXZ				S	S	05 28 50.6	-1.0
MXZ	**Matakaoa Point**	**2.06**	**184**	PN	P	05 28 19.5	-0.2
MXZ				SN	S	05 28 50.9	-0.7
PUZ	**Puketiti**	**2.57**	**184**	P	P	05 28 25.0	0.0
PUZ				S	S	05 28 59.8	-1.3
PUZ	**Puketiti**	**2.57**	**184**	PN	P	05 28 24.9	0.0
PUZ				SN	S	05 29 00.0	-1.1
MWZ	**Matawai**	**2.93**	**195**	*e*P	P	05 28 29.2	+0.3
MWZ	**Matawai**	**2.93**	**195**	PN	P	05 28 29.1	+0.2
URZ	**Urewera**	**2.96**	**202**	P	P	05 28 29.1	-0.2
URZ	**Urewera**	**2.96**	**202**	PN	P	05 28 29.0	-0.3
URZ				SN	S	05 29 08.8	-0.1
KNZ	**Kokohu**	**3.57**	**190**	P	P	05 28 35.6	-0.8
KNZ	**Kokohu**	**3.57**	**190**	PN	P	05 28 35.6	-0.8
KNZ				SN	S	05 29 20.5	-1.0
BKZ	**Black Stump Fm**	**3.99**	**203**	P	P	05 28 40.9	-0.5
BKZ	**Black Stump Fm**	**3.99**	**203**	PN	P	05 28 40.7	-0.7
BKZ				*e*SN	S	05 29 30.7	+0.3
MGZ	**Maungaku**	**4.21**	**213**	PN	P	05 28 44.2	+0.1
NGZ	**Ngauruhoe**	**4.33**	**211**	P	P	05 28 45.7	+0.1
NGZ	**Ngauruhoe**	**4.33**	**211**	PN	P	05 28 45.7	+0.1
TUVZ	**Tukino**	**4.38**	**210**	P	P	05 28 45.8	-0.5
TUVZ	**Tukino**	**4.38**	**210**	PN	P	05 28 45.8	-0.5
WNVZ	**Wahianoa**	**4.46**	**210**	P	P	05 28 45.3	-1.9
MOVZ	**Moawhango**	**4.46**	**209**	P	P	05 28 46.0	-1.3
MOVZ	**Moawhango**	**4.46**	**209**	PN	P	05 28 46.0	-1.3
TSZ	**Takapari Road**	**4.97**	**203**	P	P	05 28 51.3	-2.2
TSZ	**Takapari Road**	**4.97**	**203**	PN	P	05 28 51.2	-2.4
WAZ	**Wanganui**	**5.08**	**212**	P	P	05 28 54.4	-0.5
WAZ	**Wanganui**	**5.08**	**212**	PN	P	05 28 54.1	-0.7
BFZ	**Birch Farm**	**5.46**	**198**	*e*P	P	05 28 57.4	-2.4
BFZ	**Birch Farm**	**5.46**	**198**	PN	P	05 28 57.4	-2.4
MRZ	**Mangatainoka R**	**5.64**	**203**	P	P	05 28 59.5	-2.5
MRZ	**Mangatainoka R**	**5.64**	**203**	PN	P	05 28 59.0	-3.0
MRZ				SN	S	05 30 02.2	-5.0
KIW	**Kapiti Island**	**6.05**	**207**	P	P	05 29 04.4	-2.8
KIW	**Kapiti Island**	**6.05**	**207**	PN	P	05 29 04.3	-2.9
CAW	**Cannon Point**	**6.21**	**205**	P	P	05 29 06.0	-3.2
CAW	**Cannon Point**	**6.21**	**205**	PN	P	05 29 05.9	-3.4
MRW	**Makara Radio**	**6.45**	**206**	P	P	05 29 09.4	-2.9
MRW	**Makara Radio**	**6.45**	**206**	*e*PN	P	05 29 09.1	-3.1
BHW	**Baring Head**	**6.54**	**205**	P	P	05 29 08.8	-4.7
BHW	**Baring Head**	**6.54**	**205**	*e*PN	P	05 29 08.9	-4.7
TUWZ	**Tuamarina**	**6.91**	**210**	PN	P	05 29 14.7	-3.5
NNZ	**Nelson**	**6.98**	**214**	PN	P	05 29 15.8	-3.3
QRZ	**Quartz Range**	**7.09**	**220**	PN	P	05 29 17.0	-3.6
THZ	**Tophouse**	**7.63**	**213**	PN	P	05 29 24.3	-3.2
KHZ	**Kahutara**	**7.91**	**208**	PN	P	05 29 27.8	-3.2
LTZ	**Lake Taylor**	**8.73**	**212**	*e*PN	P	05 29 38.4	-3.2
MQZ	**McQueen's Vall**	**9.35**	**207**	PN	P	05 29 45.4	-4.1

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*IDC **16** 05:34:33.2±2.4, 51.26N×158.09E, m

PET	**Petropavlovsk**	**1.67**	**18**	*i* P	**P**	**05 35 17.9**	**+0.6**
PET				*e*S	**S**	**05 35 40.0**	**-0.5**
AVH	**Avacha**	**1.91**	**17**	*i* P	**P**	**05 35 21.6**	**+1.4**
AVH				*e*S	**S**	**05 35 46.2**	**+0.6**
KOK	**Koryaka**	**1.92**	**15**	*i* P	**P**	**05 35 21.8**	**+1.5**
KOK				*e*S	**S**	**05 35 46.6**	**+0.8**
SMAR	**Somma**	**1.92**	**18**	*i* P	**P**	**05 35 21.6**	**+1.3**
SMAR				*i* S	**S**	**05 35 46.5**	**+0.7**
SDLR	**Sedlovina**	**1.96**	**19**	*i* P	**P**	**05 35 21.4**	**+0.7**
SDLR				*e*S	**S**	**05 35 46.0**	**-0.4**
NLC	**Nalytchevo**	**1.97**	**28**	*e*P	**P**	**05 35 20.3**	**-0.6**
NLC				*e*S	**S**	**05 35 44.3**	**-2.6**
SPN	**Mys Shipunski**	**2.15**	**39**	*i* S	**S**	**05 35 49.4**	**-1.4**
GNL	**Ganaly**	**2.26**	**2**	*e*P	**P**	**05 35 24.6**	**0.0**
GNL				*e*S	**S**	**05 35 50.7**	**-2.6**
ESO	**Esso**	**4.52**	**6**	*e*P	**P**	**05 35 55.0**	**+0.4**
KBTR	**Krutoberegovo**	**5.62**	**30**	*e*P	**P**	**05 36 08.3**	**-1.0**
KBTR				*e*S	**S**	**05 37 07.1**	**-6.2**
MA2	**Magadan**	**9.07**	**337**	*i* PN	**P**	**05 36 59.3**	**+3.6**
YSS	**Yuzh-Sakhalins**	**10.82**	**251**	*i* PN	**P**	**05 37 23.1**	**+4.3**
YSS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	**30.98**	**43**	P	**P**	**05 40 52.2**	**-1.2**
	comp=Z,0.2nm,0.6s,mb3.0,baz=274,slow=6.0,SNR=4.8						
INK	**Inuvik**	**36.04**	**36**	*e*P	**P**	**05 41 35.9**	**-0.8**
	comp=Z,0.3nm,0.5s,mb3.2						
YKA	**Yellowknife Ar**	**45.34**	**41**	P	**P**	**05 42 52.2**	**-0.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**45.34**	**41**	P	**P**	**05 42 52.2**	**-0.6**
	comp=Z,0.6nm,0.8s,mb3.3,baz=298,slow=7.5,SNR=5.4						
YKA	**Yellowknife Ar**	**45.34**	**41**	P	**P**	**05 42 52.2**	**-0.6**
CHKZ	**Chkalovo**	**49.82**	**309**	*e*P	**P**	**05 43 22.3**	**-5.5**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
CHKZ	**Chkalovo**	**49.82**	**309**	*e*P	**P**	**05 43 22.3**	**-5.5**
	comp=Z,1.7nm,0.8s,mb3.7						
TXAR	**Lajitas Array**	**72.60**	**65**	P	**P**	**05 46 01.9**	**+0.5**
	comp=Z,0.3nm,0.4s,mb3.4,baz=292,slow=4.2,SNR=6.3						
ASAR	**Alice Springs**	**77.68**	**202**	P	**P**	**05 46 31.1**	**+0.7**
	comp=Z,0.3nm,0.9s,mb2.9,baz=14,slow=5.8,SNR=4.4						

*ATH **16** 06:33:10.1,37.03N×27.91E,h80^{km}±8^{km}*
*CSEM **16** 06:33:11.0±0.1,36.94N×27.63E,h8^{km},MD3.3,Error ellipse: s-maj=3.3km s-min=2.0km az=70.0*
*ISK **16** 06:33:12.7,37.00N×27.70E,h13^{km},MD3.3*
*NEIC **16** 06:33:13.0,37.02N×27.74E,h14^{km},MD3.1(ISK),After ISK.*

ISC 16 06:33:11.6±1.2,36.94N±0.05×27.65E±0.07,h3^{km}±9^{km}, n19,σ0^{s}83/25,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.37**	**16**	PG	**Pg**	**06 33 18.8**	**-0.2**
MLSB				SG	**Sg**	**06 33 24.5**	**+0.5**
MLSB	**Milas**	**0.37**	**16**	Pg	**Pg**	**06 33 18.7**	**-0.3**
MLSB				Sg	**Sg**	**06 33 24.7**	**+0.7**
MLSB	**Milas**	**0.37**	**16**	*e*Pg	**Pg**	**06 33 18.8**	**-0.2**
MLSB				Sg	**Sg**	**06 33 24.7**	**+0.7**
DALT	**Dalyan (Mudla)**	**0.81**	**102**	Pg	**Pg**	**06 33 28.2**	**+0.4**
DALT	**Dalyan (Mudla)**	**0.81**	**102**	Pg	**Pg**	**06 33 28.2**	**+0.4**
ARG	**Arkhangelos**	**0.82**	**152**	*e*P	**Pb**	**06 33 27.6**	**-0.5**
ARG				*e*S	**Sb**	**06 33 41.2**	**+1.8**
SMG	**Samos**	**1.00**	**320**	*e*P	**Pb**	**06 33 31.3**	**-0.1**
SMG				*e*S	**Sb**	**06 33 46.2**	**+1.4**
FETY	**Fethiye**	**1.19**	**104**	*e*PN	**Pn**	**06 33 35.0**	**-0.2**
FETY				*e*SN	**Sn**	**06 33 52.3**	**+0.3**
DENT	**Denizli**	**1.37**	**53**	*e*PN	**Pn**	**06 33 36.4**	**-1.3**
DENT	**Denizli**	**1.37**	**53**	Pn	**Pn**	**06 33 36.4**	**-1.3**
KARP	**Karpathos**	**1.45**	**196**	*e*P	**Pn**	**06 33 37.7**	**-1.1**
IZM	**Izmir**	**1.49**	**348**	*e*PN	**Pn**	**06 33 39.2**	**-0.2**
IZM	**Izmir**	**1.49**	**348**	Pn	**Pn**	**06 33 39.2**	**-0.2**
BLCB	**Balcova**	**1.52**	**342**	*e*PN	**Pn**	**06 33 40.0**	**+0.1**
ELL	**Elmali**	**1.82**	**95**	*e*PN	**Pn**	**06 33 44.2**	**0.0**
ELL	**Elmali**	**1.82**	**95**	Pn	**Pn**	**06 33 44.3**	**+0.1**
AKS	**Akhisar**	**1.94**	**4**	*e*PN	**Pn**	**06 33 44.9**	**-1.0**
AKS	**Akhisar**	**1.94**	**4**	Pn	**Pn**	**06 33 45.0**	**-0.9**
AKS	**Akhisar**	**1.94**	**4**	Pn	**Pn**	**06 33 45.0**	**-0.9**

SKHL 16 06:43:30.6±0.1,54.25N×123.59E,h11^{km}±1^{km},mb4.0/7, 1C,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KROS	**Kirovskiy**	**1.99**	**83**	*e*Pn	Pn	06 44 03.6	-1.0
KROS				⇑*i*Pg	Pg	06 44 06.1	-4.2
KROS				AMB	AMB	06 44 07.0	
	15nm,0.3s						
KROS				AMB	AMB	06 44 07.0	
	74nm,0.3s						
KROS				AMB	AMB	06 44 07.0	
	73nm,0.3s						
KROS				pPg		06 44 10.0	
KROS				*e*Sn	Sn	06 44 28.6	-1.1
KROS				*e*Sg	Sg	06 44 32.4	-4.5
KROS				A		06 44 35.9	
	180nm,0.3s						
KROS				A		06 44 35.9	
	190nm,0.3s						
KROS				A		06 44 35.9	
	97nm,0.3s						
TUP	**Tupik**	**2.14**	**276**	*e*Pn	Pn	06 44 08.1	+1.4
TUP				*e*Pg	Pg	06 44 10.9	-2.4
TUP				AMB	AMB	06 44 11.5	
	63nm,0.2s						
TUP				*e*Sg	Sg	06 44 38.3	-3.5
TUP				A		06 44 39.5	
	323nm,0.3s						
ZEA	**Zeya**	**2.22**	**102**	*e*Pg	Pg	06 44 10.6	-4.4
ZEA				AMB	AMB	06 44 13.7	
	27nm,0.2s						
ZEA				sPg		06 44 17.5	
ZEA				*e*Sg	Sg	06 44 40.2	-4.4
ZEA				A		06 44 41.8	
	98nm,0.6s						
YASR	**Yasnyy**	**2.78**	**108**	*e*Pn	Pn	06 44 14.2	-1.7
YASR				*e*Pg	Pg	06 44 20.0	-6.1
YASR				AMB	AMB	06 44 22.8	
	7.0nm,0.5s						
YASR				sPg		06 44 24.9	
YASR				*e*Sg	Sg	06 44 56.6	-6.5
YASR				A		06 45 05.4	
	60nm,0.6s						
BMKR	**Bomnak**	**3.10**	**79**	*e*Pn	Pn	06 44 19.9	-0.6
BMKR				sPn		06 44 25.5	
BMKR				*e*Pg	Pg	06 44 26.2	-6.0
BMKR				AMB	AMB	06 44 27.5	
	10.0nm,0.4s						
BMKR				*e*Sn	Sn	06 44 56.8	-1.1
BMKR				*e*Sg	Sg	06 45 07.4	-6.4
BMKR				A		06 45 13.5	
	63nm,0.5s						
BMKR				A		06 45 13.5	
	44nm,0.5s						
CRS	**Chara**	**4.02**	**313**	*e*Pg	Pg	06 44 44.9	-6.0
CRS				AMB	AMB	06 44 46.2	
	25nm,0.9s						
CRS				*e*Sg	Sg	06 45 36.7	-7.8
EKMR	**Ekimchan**	**5.69**	**98**	*e*Pn	Pn	06 44 55.7	-1.5
EKMR				AMB	AMB	06 44 55.9	
	2.0nm,0.2s						
EKMR				*e*Sg	Sg	06 46 28.0	-12
EKMR				A		06 46 41.4	
	7.0nm,0.5s						
KLR	**Kul'dur**	**7.13**	**131**	*e*rx	rx	06 47 20.0	

WEL 16 06:59:32.5±0.3,36.31S×177.55E,h238^{km}±4^{km},ML4.0/4, Error ellipse: s-maj=6.8km s-min=4.8km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.39**	**154**	PN	P	07 00 08.7	-0.5
MXZ				SN	S	07 00 36.6	-1.0
PUZ	**Puketiti**	**1.85**	**162**	PN	P	07 00 12.8	-0.1
PUZ				SN	S	07 00 43.5	-0.7
URZ	**Urewera**	**1.98**	**190**	PN	P	07 00 14.1	0.0
URZ				SN	S	07 00 46.1	-0.1
MWZ	**Matawai**	**2.02**	**180**	PN	P	07 00 14.7	+0.3
MWZ				SN	S	07 00 46.7	-0.2
KNZ	**Kokohu**	**2.71**	**178**	PN	P	07 00 20.9	-0.6
KNZ				SN	S	07 00 58.3	-1.2
BKZ	**Black Stump Fm**	**2.97**	**196**	PN	P	07 00 23.5	-0.8
BKZ				SN	S	07 01 04.3	-0.3
NGZ	**Ngauruhoe**	**3.25**	**208**	PN	P	07 00 27.5	0.0
TUVZ	**Tukino**	**3.31**	**206**	PN	P	07 00 27.9	-0.4
TSZ	**Takapari Road**	**3.94**	**198**	PN	P	07 00 33.7	-1.9
TSZ				SN	S	07 01 23.6	-1.1
WAZ	**Wanganui**	**3.99**	**210**	PN	P	07 00 35.1	-1.1
BFZ	**Birch Farm**	**4.48**	**193**	*e*PN	P	07 00 40.3	-1.8
KIW	**Kapiti Island**	**4.99**	**204**	PN	P	07 00 45.5	-2.9
CAW	**Cannon Point**	**5.17**	**201**	*e*PN	P	07 00 47.2	-3.4
THZ	**Tophouse**	**6.53**	**212**	PN	P	07 01 04.3	-3.4
THZ				SN	S	07 02 18.8	-3.5

*IDC **16** 07:18:19.5±1.1,9.67N×93.64E,mb3.8/8,mb1 4.1/9, mb1mx3.9/18,mbtmp3.9/9,ML4.2/1,Error ellipse: s-maj=44.8km s-min=19.3km az=58.0*
*BJI **16** 07:18:22.8,9.84N×93.81E,h25^{km},mB5.2,mb4.4*
*NEIC **16** 07:18:24.7±0.7,9.78N×93.73E,h30^{km},mb4.3/5,Error ellipse: s-maj=20.0km s-min=11.4km az=64.0*

ISC 16 07:18:22.8±0.8,9.8N±0.1×93.8E±0.1,h30^{km},n19, σ0^{s}93/17,mb3.9/12,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.96**	**29**	Pn	**P**	**07 20 47.4**	**+0.1**
	0.6nm,0.3s,baz=217,slow=15,SNR=25						
SHL	**Shillong**	**15.80**	**354**	*e*P	**P**	**07 22 07.0**	**+1.9**
LSA	**Lhasa**	**19.97**	**353**	P	**P**	**07 22 55.0**	**-0.8**
LSA	**Lhasa**	**19.97**	**353**	*e*P	**P**	**07 22 55.4**	**-0.4**
	17nm,0.6s						
LSA				*e*		07 23 00.8	
ENH	**Enshi**	**25.10**	**33**	*e*P	**P**	**07 23 46.0**	**-0.7**
	8.9nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**36.83**	**336**	*e*P	**P**	**07 25 30.2**	**0.0**
	2.1nm,0.8s,mb4.0						
SONM	**Songino Array**	**39.39**	**13**	P	**P**	**07 25 51.5**	**-0.2**
	0.7nm,0.5s,mb3.6,baz=196,slow=9.6,SNR=8.0						
SONM				PcP	PcP	07 28 00.1	+0.1
	0.4nm,0.5s,baz=218,slow=2.8,SNR=3.6						
ULN	**Ulaanbaatar**	**39.58**	**14**	*e*P	**P**	**07 25 52.4**	**-0.7**
ZAL	**Zalesovo**	**44.62**	**352**	P	**P**	**07 26 34.6**	**+0.3**
	1.5nm,0.5s,mb4.1,baz=294,slow=8.0,SNR=9.0						
BVAR	**Borovoye Array**	**47.09**	**341**	P	**P**	**07 26 52.8**	**-1.0**
	0.6nm,0.7s,mb3.6,baz=135,slow=13,SNR=3.9						
BRVK	**Borovoye**	**47.15**	**341**	*e*P	**P**	**07 26 55.4**	**+1.1**
	1.0nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**49.65**	**127**	P	**P**	**07 27 14.4**	**+0.2**
	0.9nm,0.6s,mb4.0,baz=305,slow=8.6,SNR=8.5						
WRAB	**Tennant Creek**	**49.66**	**127**	*e*P	**P**	**07 27 16.5**	**+2.3**
	2.9nm,0.7s,mb4.4						
ASAR	**Alice Springs**	**51.40**	**131**	P	**P**	**07 27 26.1**	**-1.3**
	0.9nm,0.7s,mb3.8,baz=306,slow=6.7,SNR=12						
FINES	**FINESS Array B**	**70.88**	**332**	P	**P**	**07 29 37.9**	**-1.0**
	0.9nm,0.7s,mb3.8,baz=105,slow=22,SNR=4.9						
ARCES	**ARCESS Array B**	**73.37**	**340**	P	**P**	**07 29 53.5**	**+0.1**
	1.6nm,0.5s,mb4.2,baz=96,slow=6.6,SNR=12						
GERES	**GERESS Array B**	**76.19**	**318**	P	**P**	**07 30 10.2**	**+0.2**
	0.2nm,0.6s,mb3.3,baz=90,slow=2.7,SNR=4.7						
PDAR	**Pinedale Array**	**123.52**	**20**	PKP	PKPdf	07 37 19.1	-3.7
	0.3nm,0.6s,baz=90,slow=1.5,SNR=3.5						
TXAR	**Lajitas Array**	**137.62**	**23**	PKP	PKPdf	07 37 47.5	-2.5
	0.2nm,0.5s,baz=270,slow=1.3,SNR=4.5						

IDC 16 07:25:18.6±4.1,6.50S×104.79E,mb3.5/4,mb1 3.7/4, mb1mx3.6/14,mbtmp3.5/4,Error ellipse: s-maj=163.8km s-min=26.8km az=60.0,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.65**	**118**	P	P	07 31 45.3	-0.6
	0.2nm,0.5s,baz=306,slow=8.9,SNR=2.8						
WRA				pP	pP	07 31 52.8	+6.9
	0.6nm,0.6s,baz=292,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**32.77**	**124**	P	P	07 31 53.7	-2.1
	0.2nm,0.7s,baz=303,slow=8.0,SNR=3.3						
STKA	**Stephens Creek**	**42.61**	**131**	P	P	07 33 15.4	-3.1
	2.2nm,0.7s,baz=306,slow=6.9,SNR=7.2						
SONM	**Songino Array**	**54.11**	**1**	P	P	07 34 45.7	-1.9
	0.4nm,0.8s,baz=153,slow=6.4,SNR=3.0						
TXAR	**Lajitas Array**	**144.85**	**46**	PKP	PKPdf	07 44 57.2	-2.9
	0.3nm,0.7s,baz=315,slow=2.6,SNR=3.7						

*CSEM **16** 07:27:52.5±0.6,38.86N×29.07W,ML2.1,Error ellipse: s-maj=12.1km s-min=3.9km az=80.0,After PDA*
*PDA **16** 07:27:52.5±0.6,38.86N×29.07W,MD3.4,ML2.1,Error ellipse: s-maj=12.1km s-min=3.9km az=80.0*

SVSA 16 07:27:52.5±0.6,38.86N×29.07W,MD3.4,ML2.1,Error ellipse: s-maj=12.1km s-min=3.9km az=80.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.37**	**128**	*e*P	Pg	07 27 59.4	-0.4
PCED				*e*S	Sg	07 28 04.4	-0.3
	101nm,0.2s						
PCED	**Cedros**	**0.37**	**128**	*e*P	Pg	07 27 59.4	-0.4
PCED				*e*S	Sg	07 28 04.4	-0.3
	101nm,0.2s						
CALA	**Caldeira**	**0.40**	**133**	*i* P	Pg	07 28 00.0	-0.4
CALA				*e*S	Sg	07 28 05.4	-0.3
CALA	**Caldeira**	**0.40**	**133**	*e*S	Sg	07 28 05.4	-0.3
HOR	**Horta**	**0.47**	**133**	*e*P	Pg	07 28 01.2	-0.8
HOR				*e*S	Sg	07 28 07.7	-0.6
PICO	**Pico**	**0.62**	**125**	*e*P	Pg	07 28 03.7	-1.1
PICO				*e*S	Sg	07 28 12.0	-1.0
ROSA	**Rosais**	**0.66**	**102**	*e*P	Pg	07 28 03.9	-1.8
PMAN	**Manadas**	**0.80**	**106**	*e*S	Sg	07 28 16.3	-2.8
	18nm,0.2s						

*BJI **16** 07:27:59.8,10.13N×92.25E,h38^{km},mB5.3,mb4.4,Ms4.6, Msz4.1*
*NEIC **16** 07:28:04.0±4.0,10.74N×92.08E,h16^{km}±25^{km},mb4.3/8, Error ellipse: s-maj=9.1km s-min=7.0km az=51.0*
*MOS **16** 07:28:04.2±1.0,10.75N×92.16E,h33^{km},mb4.6/10,Error ellipse: s-maj=15.8km s-min=9.2km az=107.0*
*IDC **16** 07:28:10.0±3.2,10.89N×92.23E,h60^{km}±27^{km},mb3.9/17, mb1 4.0/18,mb1mx3.9/24,mbtmp4.2/18,ML4.1/1,Error ellipse: s-maj=29.9km s-min=12.2km az=54.0*

ISC 16 07:28:04.3±0.4,10.75N±0.06×92.08E±0.05,h33^{km},n59, σ1^{s}14/64,mb4.4/33,MS4.3/1,2D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.14**	**40**	P	**P**	**07 30 28.8**	**-1.9**
	0.5nm,0.3s,baz=234,slow=15,SNR=6.1						
CMAR				S	**S**	**07 32 28.3**	**+3.9**
	baz=230,slow=32,SNR=5.1						
VIS	**Vishakhapatnam**	**10.95**	**310**	*e*P	**P**	**07 30 37.3**	**-4.5**
VIS				*e*S	**S**	**07 32 28.4**	**-16**
VIS				*e*		07 32 30.9	
	comp=N,38nm,0.3s						
VIS				*e*		07 32 30.9	
	comp=E,40nm,0.3s						
BWNR	**Bhubaneshwar**	**11.24**	**328**	*e*P	**P**	**07 30 40.0**	**-5.8**
BWNR				*e*S	**S**	**07 32 33.9**	**-17**
BWNR				*e*		07 32 36.0	
	comp=N,38nm,0.3s						
BWNR				*e*		07 32 36.0	
	comp=E,73nm,0.4s						
PALK	**Pallekele**	**11.75**	**254**	*e*Pn	**P**	**07 30 50.7**	**-2.0**
HYB	**Hyderabad**	**14.69**	**298**	*i* P	**P**	**07 31 32.5**	**+0.8**
HYB				*e*S	**S**	**07 34 11.0**	**-3.2**
LSA	**Lhasa**	**18.87**	**358**	P	**P**	**07 32 26.3**	**+1.8**
LSA	**Lhasa**	**18.87**	**358**	*e*P	**P**	**07 32 26.2**	**+1.7**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
LSA	**Lhasa**	**18.87**	**358**	*e*P	**P**	**07 32 26.2**	**+1.7**
	comp=Z,9.1nm,0.6s						
LSA				*e*		07 32 33.7	
NDI	**New Delhi**	**22.62**	**324**	*e*	**P**	**07 32 57.5**	**-6.2**
KHET	**Khetri**	**23.02**	**321**	*e*P	**P**	**07 33 07.7**	**+0.1**
KHET				AMb	AMB	07 33 19.6	
	comp=Z,22nm,1.4s,mb4.4						
DDI	**Dehra Dun**	**23.44**	**328**	*e*	**P**	**07 33 13.7**	**+2.1**
KLP	**Kalpa**	**24.32**	**330**	*e*P	**P**	**07 33 22.2**	**+2.0**
KLP				AMb	AMB	07 33 23.4	
	comp=Z,6.4nm,0.7s,mb4.2						
ENH	**Enshi**	**25.29**	**37**	*e*P	**P**	**07 33 28.7**	**-0.8**
	comp=Z,24nm,0.5s,mb5.0						
NJ2	**Nanjing**	**32.56**	**45**	*e*P	**P**	**07 34 31.8**	**-3.0**
NJ2				AP	pP	07 34 41.3	-3.2
NJ2				XP	sP	07 34 45.3	-3.5
NJ2				PP	PP	07 35 39.1	-4.7
NJ2				S	**S**	**07 39 44.0**	**-2.9**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
NJ2				LR	LR		
	comp=N,460nm,18.0s,MS4.5						
NJ2				LR	LR		
	comp=E,620nm,17.7s,MS4.5						
NJ2				LR	LR		
	comp=Z,330nm,16.7s,MS4.1						
SSE	**Sheshan**	**33.72**	**49**	*e*P	**P**	**07 34 40.0**	**-4.9**
SSE				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,164nm,3.5s						
AAK	**Ala-Archa**	**35.27**	**337**	*e*P	**P**	**07 34 58.2**	**+0.1**
AAK				*e*		07 35 05.7	
AAK				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
AAK	**Ala-Archa**	**35.27**	**337**	*e*P	**P**	**07 34 58.2**	**+0.1**
	comp=Z,8.9nm,1.3s,mb4.5						
AAK				*e*		07 35 05.7	
SONM	**Songino Array**	**38.88**	**15**	P	**P**	**07 35 28.9**	**+0.6**
	comp=Z,2.1nm,0.7s,mb4.0,baz=204,slow=8.0,SNR=17						
SONM				ScP		07 41 21.1	
	comp=Z,0.5nm,0.8s,baz=127,slow=6.2,SNR=3.5						
ULN	**Ulaanbaatar**	**39.08**	**16**	*e*P	**P**	**07 35 30.1**	**+0.2**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.2						
ULN	**Ulaanbaatar**	**39.08**	**16**	*e*P	**P**	**07 35 30.1**	**+0.2**
	comp=Z,6.8nm,1.3s,mb4.2						
ZAK	**Zakamensk**	**40.58**	**11**	*e*P	**P**	**07 35 42.4**	**0.0**
ZAL	**Zalesovo**	**43.46**	**354**	P	**P**	**07 36 06.4**	**+0.4**
	comp=Z,1.2nm,0.6s,mb3.8,baz=294,slow=10,SNR=8.4						
FITZ	**Fitzroy Crossi**	**43.82**	**131**	*e*P	**P**	**07 36 09.5**	**+0.2**
	comp=Z,22nm,0.9s,mb4.9						
BVAR	**Borovoye Array**	**45.63**	**342**	P	**P**	**07 36 23.4**	**0.0**
	comp=Z,0.9nm,0.5s,mb4.0,baz=140,slow=9.6,SNR=11						
BRVK	**Borovoye**	**45.69**	**342**	*e*P	**P**	**07 36 23.8**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
BRVK	**Borovoye**	**45.69**	**342**	*e*P	**P**	**07 36 23.8**	**-0.1**
	comp=Z,1.3nm,0.5s,mb4.1						
NWAO	**Narrogin (SRO)**	**49.62**	**152**	*e*P	**P**	**07 36 54.6**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**49.62**	**152**	P	**P**	**07 36 55.5**	**+0.7**
	comp=Z,25nm,1.3s,mb5.1,baz=337,slow=10.0,SNR=6.4						
NWAO	**Narrogin (SRO)**	**49.62**	**152**	*e*P	**P**	**07 36 54.6**	**-0.2**
	comp=Z,2.2nm,0.6s,mb4.4						
BOD	**Bodaibo**	**49.88**	**15**	*e*P	**P**	**07 36 55.5**	**-0.9**
GNI	**Garni**	**50.98**	**313**	*e*P	**P**	**07 37 07.0**	**+1.9**
GNI	**Garni**	**50.98**	**313**	P	**P**	**07 37 06.7**	**+1.6**
	comp=Z,2.4nm,0.4s,mb4.5,baz=51,slow=3.7,SNR=4.2						
WRA	**Warramunga Arr**	**51.59**	**126**	P	**P**	**07 37 09.9**	**0.0**
	comp=Z,6.0nm,0.6s,mb4.7,baz=306,slow=8.5,SNR=52						
WRAB	**Tennant Creek**	**51.59**	**126**	*i* P	**P**	**07 37 09.0**	**-0.9**
WRAB	**Tennant Creek**	**51.59**	**126**	*e*P	**P**	**07 37 09.8**	**-0.1**
	comp=Z,12nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**51.60**	**126**	⇓*i*P	**P**	**07 37 10.1**	**+0.2**
ASPA	**Alice Springs**	**53.31**	**130**	*e*P	**P**	**07 37 23.4**	**+0.6**
ASAR	**Alice Springs**	**53.32**	**130**	P	**P**	**07 37 22.8**	**0.0**
	comp=Z,3.0nm,0.6s,mb4.4,baz=306,slow=7.1,SNR=70						
KIV	**Kislovodsk**	**53.83**	**317**	*i* P	**P**	**07 37 27.1**	**+0.8**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
SOC	**Sochi**	**55.71**	**316**	*e*P	**P**	**07 37 38.5**	**-1.4**
SOC				*e*		07 38 35.1	
SOC				*e*PPP	PPP	07 40 54.6	-6.3
SOC				*e*S	**S**	**07 45 21.6**	**-0.8**
SOC				*e*SS	SS	07 49 04.0	-3.7
SOC				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
SOC				pmax	pmax		
	comp=N,11nm,0.7s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.5s						
KMBO	**Kilima Mbogo**	**55.78**	**261**	*e*P	**P**	**07 37 39.2**	**-1.7**
EIL	**Elat**	**56.25**	**298**	*e*P	**P**	**07 37 44.9**	**+0.8**
	comp=E,12nm,1.1s,mb4.8						
EIL				*e*		07 37 52.1	
YAK	**Yakutsk**	**57.96**	**20**	*i* P	**P**	**07 37 54.1**	**-1.6**
YAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
BRTR	**Keskin Array B**	**59.02**	**310**	P	**P**	**07 38 05.1**	**+1.6**
	comp=Z,0.4nm,0.5s,mb3.7,baz=111,slow=12,SNR=2.4						
OBN	**Obninsk**	**61.87**	**328**	⇓*i*P	**P**	**07 38 21.4**	**-1.2**
OBN				*e*		07 40 37.2	
OBN				*e*S	**S**	**07 46 34.6**	**-7.8**
OBN				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.8						
STKA	**Stephens Creek**	**63.55**	**134**	*e*P	**P**	**07 38 35.3**	**+1.1**
	comp=Z,3.8nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**63.55**	**134**	P	**P**	**07 38 35.2**	**+1.0**
	comp=Z,6.3nm,0.8s,mb4.7,baz=292,slow=6.4,SNR=14						
TIXI	**Tiksi**	**64.84**	**12**	*e*P	**P**	**07 38 40.7**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
MLR

0.6nm,0.6s,baz=143,slow=3.3,SNR=5.0
BVAR Borovoye Array 65.27 327 P **P 07 45 02.1 +0.4**
0.9nm,0.6s,mb4.0,baz=117,slow=6.6,SNR=5.7
BRVK Borovoye 65.34 327 *e*P **P 07 44 54.6 -7.6**
1.1nm,0.5s,mb4.1
ILAR Eielson Array 83.39 26 P **P 07 46 46.4 +0.4**
0.6nm,0.7s,mb3.8,baz=231,slow=5.8,SNR=5.3
ARCES ARCESS Array B 88.28 340 P **P 07 47 08.9 -0.9**
1.7nm,0.5s,mb4.5,baz=76,slow=6.1,SNR=15
INK Inuvik 88.36 21 P **P 07 47 08.6 -1.6**
0.9nm,0.8s,mb4.0,baz=145,slow=7.7,SNR=3.7
INK Inuvik 88.36 21 *e*P **P 07 47 09.2 -1.0**
FINES FINESS Array B 89.72 332 P **P 07 47 15.5 -1.3**
1.1nm,0.8s,mb4.2,baz=63,slow=4.3,SNR=7.3
RES Resolute Bay 95.81 10 P **P 07 47 44.2 -0.3**
2.7nm,0.9s,mb4.7

IDC 16 07:40:46.6±3.3, 8.90N×92.52E, mb3.5/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=98.6km s-min=29.3km az=81.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.36**	**33**	Pn	P	07 43 32.2	-1.2
baz=228,slow=15,SNR=5.0							
SONM	**Songino Array**	**40.55**	**14**	P	P	07 48 26.9	-2.4
0.2nm,0.4s,baz=197,slow=7.8,SNR=4.4							
WRA	**Warramunga Arr**	**50.16**	**125**	P	P	07 49 43.7	-2.6
0.5nm,0.8s,baz=307,slow=8.4,SNR=6.8							
ASAR	**Alice Springs**	**51.80**	**130**	P	P	07 49 56.0	-2.6
0.7nm,0.9s,baz=302,slow=6.7,SNR=8.2							
ASAR				PcP	PcP	07 51 11.4	-0.6
0.3nm,0.6s,baz=319,slow=2.6,SNR=5.0							

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*NEIC **16** 07:56:17.7±1.9, 33.07N×139.31E, h140km±16km, Error ellipse: s-maj=40.6km s-min=19.9km az=76.0*
*IDC **16** 07:56:18.8±0.6, 33.08N×139.27E, h151km±8km, mb3.3/7, mb1 3.5/7, mb1mx3.3/18, mbtmp3.7/7, Error ellipse: s-maj=38.7km s-min=17.6km az=73.0*
ISC 16 07:56:18.2±0.9, 33.3N±0.1×139.2E±0.3, h153km±9km, n12, σ0§90/15, mb3.5/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.54**	**104**	P	**P**	**07 56 41.0**	**+0.4**
129nm,0.3s,baz=71,slow=20,SNR=26							
JHJ				S	**S**	**07 56 57.4**	**-0.3**
192nm,0.3s,baz=243,slow=21,SNR=10							
MAJO	**Matsushiro**	**3.37**	**347**	*e*Pn	**P**	**07 57 12.2**	**+1.0**
MAT	**Matsushiro**	**3.37**	**347**	*e*P	**P**	**07 57 12.0**	**+0.8**
MAT				*e*S	**S**	**07 57 50.0**	**-1.8**
MAT	**Matsushiro**	**3.37**	**347**	P	**P**	**07 57 11.5**	**+0.3**
MAT				S	**S**	**07 57 50.3**	**-1.5**
SONM	**Songino Array**	**28.59**	**310**	P	**P**	**08 02 03.3**	**+1.5**
0.3nm,0.5s,mb3.2,baz=108,slow=8.5,SNR=2.9							
BVAR	**Borovoye Array**	**51.81**	**314**	P	**P**	**08 05 12.1**	**-0.1**
0.2nm,0.3s,mb3.2,baz=59,slow=8.4,SNR=4.3							
WRA	**Warramunga Arr**	**53.10**	**186**	P	**P**	**08 05 17.6**	**-4.5**
0.5nm,0.4s,mb3.6,baz=2.9,slow=7.7,SNR=7.0							
ASAR	**Alice Springs**	**56.83**	**186**	P	**P**	**08 05 48.0**	**-1.0**
0.2nm,0.5s,mb3.2,baz=358,slow=6.0,SNR=4.7							
ARCES	**ARCESS Array B**	**66.88**	**339**	P	**P**	**08 06 55.0**	**-0.4**
3.1nm,1.1s,mb4.1,baz=60,slow=6.1,SNR=5.0							
KAF	**Kangasniemi**	**70.81**	**333**	*e*p	**P**	**08 07 18.7**	**-0.8**
FINES	**FINESS Array B**	**71.29**	**332**	P	**P**	**08 07 22.1**	**-0.2**
0.8nm,0.5s,mb3.7,baz=80,slow=6.3,SNR=14							
TXAR	**Lajitas Array**	**93.91**	**51**	P	**P**	**08 09 20.5**	**+0.9**
0.3nm,0.6s,mb3.6,baz=297,slow=4.0,SNR=3.7							

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*BJI **16** 08:25:03.5, 25.16S×175.96W, h13km, mB6.4, mb6.2, Ms6.1, Msz5.9*
*MOS **16** 08:25:03.1±1.1, 25.39S×176.37W, h10km, mb6.2/49, MS6.0/30, Error ellipse: s-maj=9.1km s-min=7.4km az=64.3*
*GUC **16** 08:25:04.3±0.0, 25.56S×176.32W, h16km, mb6.1(NEIC), MS6.0(NEIC), MW6.2(NEIC)*
*HRVD **16** 08:25:04.5±0.1, 25.55S×175.63W, h19km, MW6.1/74, Centroid moment Tensor Solution. LP body waves: s71,c175; Mantle waves: s74,c294; Half duration: 2s8 Moment tensor: Scale 10^18^Nm; M_{rr}1.29±.01; $M_{\theta\theta}$0.13±.01; $M_{\phi\phi}$-1.42±.01; $M_{r\theta}$0.32±.03; $M_{\theta\phi}$-0.06±.01; $M_{\phi r}$1.17±.02; Best double couple: $M_0$1.821×10^18^ NP1:ϕ_s172°, δ25°, λ72°. NP2:ϕ_s11°, δ66°, λ98°. Principal axes: T 1.773, Plg68°, Azm297°; N .099, Plg7°, Azm188°; P -1.869, Plg21°, Azm95°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **16** 08:25:04.5±0.1, 25.53S×176.30W, h16km, mb6.0/76, ME6.1, MS6.1/37, MW6.2 Error ellipse: s-maj=6.7km s-min=3.8km az=152.0 Broadband fault plane solution: P waves. NP1:ϕ_s10°, δ75°, λ90°. NP2:ϕ_s190°, δ15°, λ90°. Principal axes: T Plg60°, Azm280°; N Plg0°, Azm0°; P Plg30°, Azm100°; Moment Tensor Solution. s47 Moment tensor: Scale 10^18^ Nm; M_{rr}1.01; $M_{\theta\theta}$-1.05; $M_{\phi\phi}$0.04; $M_{r\theta}$0.67; $M_{\theta\phi}$1.75; $M_{\phi r}$0.59; Best double couple: $M_0$2.2×10^18^ NP1:ϕ_s344°, δ60°, λ152°. NP2:ϕ_s89°, δ66°, λ33°. Principal axes: T 2.06, Plg40°, Azm308°; N .29, Plg50°, Azm121°; P -2.35, Plg3°, Azm216°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*IDC **16** 08:25:09.0±2.4, 25.42S×176.34W, h45km±20km, mb5.1/16, mb1 5.3/17, mb1mx5.3/17, mbtmp5.4/17, ML4.7/2, MS6.0/19, Ms1 6.0/19, ms1mx5.8/26 Error ellipse: s-maj=19.7km s-min=11.3km az=159.0*
ISC 16 08:25:01.2±0.2, 26.01S±0.04×176.21W±0.04, h12km, h12km±1.2km: pP-P, n720, σ1§08/290, mb6.0/106, MS6.1/67, 125C-41D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**12.42**	**201**	*e*S	**S**	**08 30 17.5**	**-2.6**
AFI	**Afiamalu**	**12.74**	**20**	*e*P	**P**	**08 27 51.7**	**-13**
AFI				*e*S	S	08 29 58.4	-29
WCZ	**Waipu Caves**	**12.78**	**217**	*e*P	**P**	**08 28 11.8**	**+6.2**
PUZ	**Puketiti**	**12.90**	**200**	*e*P	**P**	**08 28 01.3**	**-5.9**
PUZ				*e*S	**S**	**08 30 26.4**	**-5.3**
MWZ	**Matawai**	**13.38**	**202**	*e*S	**S**	**08 30 40.7**	**-2.3**
URZ	**Urewera**	**13.45**	**203**	P	**P**	**08 28 09.3**	**-5.1**
0.7nm,0.3s,baz=272,slow=12,SNR=16							
URZ				S	**S**	**08 30 44.3**	**-0.5**
12nm,0.3s,baz=158,slow=22,SNR=7.7							
URZ				LR	LR	08 33 30.3	
comp=Z,93μm,19.3s,baz=234,slow=36							
URZ	**Urewera**	**13.45**	**203**	*e*P	**P**	**08 28 10.3**	**-4.1**
BKZ	**Black Stump Fm**	**14.48**	**203**	*e*P	**P**	**08 28 23.0**	**-4.9**
PWZ	**Pawanui**	**15.13**	**201**	*e*S	**S**	**08 31 18.8**	**-5.8**
TSZ	**Takapari Road**	**15.46**	**203**	*e*P	**P**	**08 28 34.4**	**-6.3**
RAR	**Rarotonga**	**15.80**	**76**	P	**P**	**08 28 35.4**	**-10**
14nm,0.3s,baz=244,slow=5.0,SNR=34							
RAR				S	S	08 31 13.4	-27
7.0nm,0.3s,baz=79,slow=16,SNR=3.9							
RAR				LR	LR	08 33 34.0	
comp=Z,26μm,18.2s,baz=239,slow=32							
RAR	**Rarotonga**	**15.80**	**76**	*e*P	**P**	**08 28 34.8**	**-10**
RAR				*e*S	S	08 31 10.6	-30
BFZ	**Birch Farm**	**15.92**	**201**	*e*S	**S**	**08 31 38.6**	**-4.5**
MRZ	**Mangatainoka R**	**16.13**	**203**	*e*S	**S**	**08 31 41.2**	**-6.8**
DZM	**Mont Dzumac**	**16.32**	**280⇑**	*e*P	**P**	**08 28 58.2**	**+6.2**
NNZ	**Nelson**	**17.45**	**207**	*e*P	**P**	**08 29 01.4**	**-4.6**
THZ	**Tophouse**	**18.10**	**207**	*e*P	**P**	**08 29 10.0**	**-4.1**
KHZ	**Kahutara**	**18.40**	**205**	*e*P	**P**	**08 29 13.0**	**-4.9**
KHZ				*e*S	**S**	**08 32 32.1**	**-8.0**
DSZ	**Denniston Nort**	**18.55**	**209**	*e*P	**P**	**08 29 18.7**	**-1.0**
MQZ	**McQueen's Vall**	**19.84**	**204**	*e*S	**S**	**08 33 04.2**	**-8.0**
WVZ	**Waitaha Valley**	**20.09**	**209**	*e*P	**P**	**08 29 37.6**	**+0.1**
WVZ				*e*S	**S**	**08 33 10.5**	**-6.9**
RPZ	**Rata Peaks**	**20.48**	**207**	P	**P**	**08 29 41.4**	**-0.1**
29nm,0.8s,baz=110,slow=5.3,SNR=5.9							
RPZ				S	**S**	**08 33 20.9**	**-4.5**
10.0nm,0.4s,baz=134,slow=20,SNR=5.3							
FOZ	**Fox Glacier**	**20.94**	**210**	*e*P	**P**	**08 29 46.1**	**-0.2**
ODZ	**Otahua Downs**	**21.74**	**206**	*e*P	**P**	**08 29 56.2**	**+1.8**
TBI	**Tubuai**	**24.44**	**90**	*e*P	**P**	**08 30 20.7**	**-0.3**
346nm,1.0s,mb5.7							
TBI				*e*LQ		08 34 42.2	
TBI				*e*LR	LR	08 35 49.9	
31μm,33.2s							
PAE	**Paea**	**26.04**	**77**	*e*P	**P**	**08 30 35.1**	**-1.1**
882nm,1.4s,mb6.1							
PPT	**Papeete**	**26.08**	**77**	*e*P	**P**	**08 30 35.5**	**-1.1**
372nm,1.4s,mb5.7							
PPT	**Papeete**	**26.08**	**77**	*e*LQ		08 35 23.8	
PPT				*e*LR	LR	08 36 29.1	
53μm,33.0s							
PPT	**Papeete**	**26.08**	**77**	P	**P**	**08 30 36.4**	**-0.2**
72nm,1.1s,mb5.1,baz=176,slow=4.6,SNR=4.4							
TVO	**Taravao**	**26.28**	**77**	*e*P	**P**	**08 30 37.3**	**-1.2**
286nm,0.9s,mb5.8							
TIAR	**Tiarei**	**26.29**	**77**	*e*P	**P**	**08 30 37.5**	**-1.0**
659nm,1.2s,mb6.0							
CNB	**Canberra Magne**	**30.90**	**244**	*e*P	**P**	**08 31 24.2**	**+4.3**
1μm,1.3s,mb6.5							
TAU	**Tasmania Unive**	**34.15**	**231**	P	**P**	**08 31 49.3**	**+1.1**
TAU				LR	LR		
comp=Z,10μm,21.0s,MS5.5							
TOO	**Toolangi**	**34.31**	**241**	*e*P	**P**	**08 31 53.0**	**+3.3**
comp=Z,34nm,1.4s,mb5.1							
TOO	**Toolangi**	**34.31**	**241**	*e*P	**P**	**08 31 53.0**	**+3.3**
TOO				pmax	pmax		
comp=Z,34nm,1.4s,mb5.1							
CTA	**Charters Tower**	**34.95**	**272⇑**	*i*P	**P**	**08 31 56.0**	**+0.7**
comp=Z,35nm,0.8s,mb5.3							
CTA	**Charters Tower**	**34.95**	**272⇑**	*i*P	**P**	**08 31 56.0**	**+0.7**
CTA				pmax	pmax		
comp=Z,35nm,0.8s							
CTA	**Charters Tower**	**34.95**	**272**	P	**P**	**08 31 56.2**	**+0.9**
comp=Z,37nm,1.0s,mb5.3,baz=95,slow=12							
CTA				LR	LR	08 44 57.4	
comp=Z,56μm,18.7s,MS6.3,baz=108,slow=34							
CTAO	**Charters Tower**	**34.95**	**272⇑**	*i*P	**P**	**08 31 55.7**	**+0.3**
comp=Z,54nm,0.8s,mb5.5							
CTAO				LR	LR		
comp=Z,53μm,20.0s,MS6.3							
STKA	**Stephens Creek**	**37.21**	**251⇑**	*i*P	**P**	**08 32 16.3**	**+2.0**
comp=Z,62nm,1.6s,mb5.2							
STKA				*e*SCS	ScS	08 42 32.8	+6.2
STKA	**Stephens Creek**	**37.21**	**251**	P	**P**	**08 32 16.6**	**+2.4**
comp=Z,14nm,0.7s,mb4.9,baz=88,slow=8.6,SNR=34							
STKA				LR	LR	08 46 38.8	
comp=Z,82μm,18.3s,MS6.6,baz=83,slow=35							
RKT	**Rikitea**	**37.51**	**95**	*e*P	**P**	**08 32 16.2**	**-0.6**
comp=Z,47nm,1.1s,mb5.2							
PMG	**Port Moresby**	**38.43**	**289**	P	**P**	**08 32 24.1**	**-0.6**
comp=Z,393nm,1.0s,mb6.1,baz=105,slow=4.7,SNR=108							
PMG				LR	LR	08 46 05.0	
comp=Z,26μm,19.7s,MS6.1,baz=315,slow=33							
PMG	**Port Moresby**	**38.43**	**289⇑**	*i*P	**P**	**08 32 23.2**	**-1.5**
comp=Z,528nm,1.0s,mb6.2							
PMG				*e*PcP	PcP	08 34 40.4	+1.9
PMG				LR	LR		
comp=Z,4μm,22.0s,MS5.2							
ADE	**Adelaide**	**39.58**	**246**	P	**P**	**08 32 36.5**	**+2.4**
PTCN	**Pitcairn Islan**	**41.45**	**99**	PFAKE		08 33 00.0	+10
PTCN				LR	LR		
comp=Z,10μm,19.0s,MS5.7							
ASAR	**Alice Springs**	**45.11**	**262**	P	**P**	**08 33 20.5**	**+1.1**
comp=Z,107nm,1.1s,mb5.6,baz=105,slow=7.2,SNR=234							
ASAR				S	**S**	**08 39 56.1**	**-1.6**
comp=Z,2.5nm,1.0s,baz=99,slow=12,SNR=2.6							
ASAR				LR	LR	08 52 05.7	
comp=Z,31μm,18.2s,MS6.3,baz=119,slow=36							
ASPA	**Alice Springs**	**45.12**	**262**	*e*P	**P**	**08 33 19.8**	**+0.4**
ASPA				*e*PCS		08 38 53.9	
ASPA				*e*S	**S**	**08 39 55.1**	**-2.7**
ASPA				*e*SCS	ScS	08 43 19.2	+5.2
ASPA	**Alice Springs**	**45.12**	**262**	*e*P	**P**	**08 33 19.8**	**+0.4**
ASPA				*e*S	**S**	**08 39 55.1**	**-2.7**
ASPA				*e*		08 43 19.2	
WB2	**Warramunga Arr**	**45.70**	**267**	*e*P	**P**	**08 33 23.7**	**-0.4**
WB2				*e*PCP	PcP	08 35 04.6	+2.0
WB2				*i* PP	PP	08 35 15.4	+3.7
WB2				*e*PCS		08 38 56.4	
WB2				*e*S	**S**	**08 40 03.2**	**-3.0**
WB2				*e*SCS	ScS	08 43 24.1	+6.3
WRAB	**Tennant Creek**	**45.71**	**267⇑**	*i*P	**P**	**08 33 22.5**	**-1.7**
comp=Z,586nm,1.6s,mb6.3							
WRAB				*e*PcP	PcP	08 35 03.1	+0.5
WRAB				*e*PP	PP	08 35 13.5	+1.7
WRAB				LR	LR		
comp=Z,14μm,20.0s,MS5.9							
WRA	**Warramunga Arr**	**45.72**	**267**	P	**P**	**08 33 24.1**	**-0.1**
WRA						08 35 03.6	
WRA				S	**S**	**08 40 03.5**	**-2.9**
WRA	**Warramunga Arr**	**45.72**	**267**	P	**P**	**08 33 24.1**	**-0.1**
comp=Z,65nm,1.1s,mb5.5,baz=102,slow=8.0,SNR=120							
WRA				PcP	PcP	08 35 03.6	+1.0
comp=Z,46nm,1.1s,baz=103,slow=3.8,SNR=9.9							
WRA				ScP		08 38 53.8	
comp=Z,4.9nm,1.2s,baz=109,slow=2.5,SNR=2.9							
WRA				S	**S**	**08 40 03.5**	**-2.9**
comp=Z,1.7nm,1.0s,baz=28,slow=20,SNR=3.1							
JAY	**Jayapura**	**47.50**	**292**	*e*P	**P**	**08 33 36.6**	**-1.8**
JAY				*e*S	**S**	**08 40 50.1**	**+18**
DRV	**Dumont d'Urvil**	**48.78**	**201**	P	**P**	**08 33 56.0**	**+8.3**
DRV				S	S	08 41 09.0	+20
DRV				SS	SS	08 44 02.0	-13
FORT	**Forrest**	**48.84**	**251**	*e*P	**P**	**08 33 49.0**	**+0.4**
comp=Z,479nm,0.6s,mb6.7							
FORT				*e*S	**S**	**08 40 46.5**	**-4.1**
KAKA	**Kakadu**	**49.93**	**275⇓**	*i*P	**P**	**08 33 57.0**	**-0.1**
comp=Z,15nm,0.5s,mb5.3							
KAKA				*e*PCP	PcP	08 35 19.1	+1.4
KIP	**Kipapa**	**50.35**	**22**	*e*P	**P**	**08 33 57.0**	**-3.3**
comp=Z,493nm,1.3s,mb6.4							
KIP				LR	LR		
comp=Z,6μm,19.0s,MS5.6							
SBA	**Scott Base**	**52.52**	**184**	*e*P	**P**	**08 34 21.3**	**+5.3**
SBA				pmax	pmax		
comp=Z,305nm,1.3s,mb6.1							
SBA				MLR	MLR		
comp=Z,14μm,19.0s,MS6.0							
SBA	**Scott Base**	**52.52**	**184**	*e*P	**P**	**08 34 21.3**	**+5.4**
comp=Z,305nm,1.3s,mb6.1							
SBA				LR	LR		
comp=Z,14μm,19.0s,MS6.0							
VNDA	**Vanda**	**52.60**	**186**	P	**P**	**08 34 22.8**	**+6.2**
VNDA	**Vanda**	**52.60**	**186**	*e*P	**P**	**08 34 22.3**	**+5.7**
VNDA				pmax	pmax		
comp=Z,227nm,1.9s							
VNDA				MLR	MLR		
comp=Z,11μm,20.0s							
VNDA	**Vanda**	**52.60**	**186**	P	**P**	**08 34 22.4**	**+5.8**
comp=Z,19nm,1.1s,mb4.9,baz=8.0,slow=7.5,SNR=18							
VNDA				LR	LR	08 53 03.4	
comp=Z,12μm,20.2s,MS5.9,baz=20,slow=32							
VNDA	**Vanda**	**52.60**	**186**	*e*P	**P**	**08 34 22.3**	**+5.7**
comp=Z,227nm,1.9s,mb5.8							
VNDA				LR	LR		
comp=Z,11μm,20.0s,MS5.9							
FITZ	**Fitzroy Crossi**	**54.10**	**266**	*e*P	**P**	**08 34 28.4**	**0.0**
comp=Z,120nm,1.3s,mb5.7							
FITZ				*e*PCS		08 39 31.4	
FITZ				*e*SCS	ScS	08 44 21.3	+6.9
GUMO	**Guam**	**54.63**	**311**	*e*P	**P**	**08 34 30.2**	**-2.1**
GUMO				pmax	pmax		
comp=Z,726nm,1.3s,mb6.5							
GUMO	**Guam**	**54.63**	**311**	*e*P	**P**	**08 34 30.2**	**-2.1**
comp=Z,726nm,1.3s,mb6.5							
NWAO	**Narrogin (SRO)**	**57.52**	**246⇑**	*e*P	**P**	**08 34 53.1**	**+0.2**
NWAO				pmax	pmax		
comp=Z,110nm,1.5s							
NWAO	**Narrogin (SRO)**	**57.52**	**246**	P	**P**	**08 34 53.5**	**+0.6**
comp=Z,60nm,1.4s,mb5.5,baz=112,slow=9.9,SNR=7.3							
NWAO	**Narrogin (SRO)**	**57.52**	**246⇑**	*e*P	**P**	**08 34 53.1**	**+0.2**
comp=Z,107nm,1.5s,mb5.7							
MBWA	**Maple Bar**	**58.40**	**260**	*e*P	**P**	**08 34 58.0**	**-1.2**
comp=Z,102nm,1.4s,mb5.7							
MUN	**Mundaring**	**58.56**	**247**	*e*P	**P**	**08 35 01.0**	**+0.8**
comp=Z,36nm,1.3s,mb5.2							
MUN	**Mundaring**	**58.56**	**247**	*e*P	**P**	**08 35 01.0**	**+0.8**
MUN				pmax	pmax		
comp=Z,37nm,1.3s,mb5.2							
RPN	**Rapa Nui**	**59.15**	**107**	*e*P	**P**	**08 35 07.4**	**+3.0**
comp=Z,217nm,1.4s,mb6.0							
CASY	**Casey**	**59.75**	**207⇑**	*i*P	**P**	**08 35 11.5**	**+3.6**
comp=Z,218nm,1.0s,mb6.1							
CASY				LR	LR		
comp=Z,13μm,19.0s,MS6.1							
QSPA	**South Pole Qui**	**64.08**	**180**	*e*P	**P**	**08 35 42.1**	**+5.3**
comp=Z,167nm,0.5s,mb6.3							
QSPA				LR	LR		
comp=Z,23μm,20.0s,MS6.4							
NINI	**Niniconang**	**64.77**	**278⇑**	*e*P	**P**	**08 35 40.8**	**-1.5**
NINI				pmax	pmax		
comp=Z,365nm,1.2s,mb6.3							
NINI	**Niniconang**	**64.77**	**278⇑**	*e*P	**P**	**08 35 40.8**	**-1.5**
comp=Z,365nm,1.2s,mb6.3							
DAV	**Davao City (W)**	**65.35**	**292**	*e*P	**P**	**08 35 44.0**	**-2.0**
TANI	**Tanete Lipujan**	**65.54**	**278⇑**	*e*P	**P**	**08 35 44.5**	**-2.8**
KEDI	**Kedomdong**	**66.29**	**272⇓**	*e*P	**P**	**08 35 52.1**	**+0.1**
KEDI				pmax	pmax		
comp=Z,127nm,1.0s,mb5.9							
KEDI	**Kedomdong**	**66.29**	**272⇓**	P	**P**	**08 35 52.1**	**+0.1**
comp=Z,127nm,1.0s,mb5.9							
RATI	**Rata**	**66.72**	**272⇓**	*e*P	**P**	**08 35 53.5**	**-1.3**
MIR	**Mirnyy**	**66.74**	**206**	*ce*P	**P**	**08 35 58.0**	**+4.0**
MIR				*e*S	S	08 45 01.0	+17
MIR				pmax	pmax		
comp=Z,4μm,15.0s							
MIR				smax			
comp=N,3μm,9.0s							
MIR				smax			
comp=E,2μm,9.2s							
MIR				MLR	MLR		
comp=Z,8μm,15.0s,MS6.0							
MSLP	**Maasin**	**67.61**	**294**	*e*P	**P**	**08 36 00.1**	**-0.2**
KELI	**Kelakatan**	**67.86**	**272⇑**	*e*P	**P**	**08 36 00.9**	**-1.1**
comp=Z,241nm,1.0s,mb6.2							
SRDI	**Scrawed**	**68.07**	**271⇑**	*e*P	**P**	**08 36 02.6**	**-0.7**
SRDI				pmax	pmax		
comp=Z,91nm,1.0s,mb5.8							
SRDI	**Scrawed**	**68.07**	**271⇑**	*e*P	**P**	**08 36 02.6**	**-0.7**
comp=Z,91nm,1.0s,mb5.8							
ENPP	**El Nido**	**72.68**	**292**	*e*P	**P**	**08 36 33.6**	**+2.2**
PMSA	**Palmer Station**	**75.60**	**156**	*e*P	**P**	**08 36 49.0**	**+1.7**
comp=Z,99nm,1.4s,mb5.5							
MAJO	**Matsushiro**	**75.61**	**324**	*e*P	**P**	**08 36 46.8**	**-1.1**
MAJO				pmax	pmax		
comp=Z,450nm,1.4s,mb6.2							
MAJO	**Matsushiro**	**75.61**	**324**	*e*P	**P**	**08 36 46.8**	**-1.1**
comp=Z,445nm,1.4s,mb6.2							
MAT	**Matsushiro**	**75.61**	**324**	*e*P	**P**	**08 36 47.0**	**-0.9**
MAT				S	S	08 46 32.0	+4.7
MAT				pmax	pmax		
comp=Z,780nm,1.6s,mb6.4							
MAT				MLR	MLR		
comp=Z,13μm,20.0s,MS6.2							
MAT	**Matsushiro**	**75.61**	**324**	*e*P	**P**	**08 36 47.0**	**-0.9**
comp=Z,780nm,1.6s,mb6.4							
MAT				S	S	08 46 32.0	+4.7
MAT				LR	LR		
comp=Z,13μm,20.0s,MS6.2							
MAT	**Matsushiro**	**75.61**	**324**	P	**P**	**08 36 46.6**	**-1.3**
MAT				*e*S	S	08 46 31.8	+4.5
MAW	**Mawson**	**76.95**	**200⇑**	*i*P	**P**	**08 36 59.8**	**+5.0**
comp=Z,85nm,1.5s,mb5.5							
MAW	**Mawson**	**76.95**	**200⇑**	*i*P	**P**	**08 36 59.8**	**+5.0**
MAW				pmax	pmax		
comp=Z,85nm,1.5s							
MAW	**Mawson**	**76.95**	**200**	P	**P**	**08 36 59.9**	**+5.1**
comp=Z,98nm,1.2s,mb5.6,baz=114,slow=6.8,SNR=47							
MAW				LR	LR	09 11 59.2	
comp=Z,14μm,18.8s,MS6.3,baz=119,slow=36							
KIWB	**Kanaga Island**	**77.53**	**359**	*e*P	**P**	**08 36 57.4**	**-0.9**
YUK	**Yuzh-Kuril'sk**	**77.89**	**333**	*e*P	**P**	**08 36 58.0**	**-2.4**
YUK				*e*		08 39 50.0	
YUK				*e*S	S	08 46 53.0	+1.1
YUK				*e*		08 47 16.0	
YUK				*e*PS	PS	08 47 30.0	-4.3
YUK				*e*SS	SS	08 51 53.0	-2.7
YUK				pmax	pmax		
comp=Z,1μm,1.1s,mb6.8							
YUK				pmax	pmax		
comp=N,650nm,1.0s							
YUK				pmax	pmax		
comp=Z,4μm,7.0s							
YUK				smax			
comp=N,4μm,6.0s							
YUK				smax			
comp=E,3μm,7.0s							
USHA	**Ushuaia**	**78.65**	**146**	LR	LR	09 06 12.3	
comp=E,5μm,19.1s,MS5.8,baz=227,slow=31							
TATO	**Taipei**	**78.67**	**305**	*e*P	**P**	**08 37 05.6**	**+0.5**
comp=E,316nm,1.1s,mb6.2							
TATO				LR	LR		
comp=Z,9μm,19.0s,MS6.1							
SMY	**Shemya**	**78.86**	**354**	*e*P	**P**	**08 37 04.7**	**-0.9**
SKR	**Severo-Kuril's**	**80.19**	**343**	*e*P	**P**	**08 37 08.5**	**-4.3**
SKR				*e*		08 37 20.3	
SKR				*e*		08 40 20.0	
SKR				*e*PPP	PPP	08 42 04.0	-3.9
SKR				*e*S	S	08 47 13.0	-3.1
SKR				*e*SSS	SSS	08 55 36.0	-15
SKR				pmax	pmax		
comp=N,400nm,1.2s							
SKR				pmax	pmax		
comp=Z,480nm,1.2s,mb6.3							
SKR				pmax	pmax		
comp=E,220nm,1.0s							
SKR				pmax	pmax		
comp=N,3μm,10.0s							
SKR				pmax	pmax		
comp=E,3μm,10.0s							
SKR				pmax	pmax		
comp=Z,4μm,10.0s							
SKR				smax			
comp=N,6.0nm,16.0s							
SKR				smax			
comp=E,6.0nm,16.0s							
SKR				MLR	MLR		
comp=N,4μm,18.0s							
SKR				MLR	MLR		
comp=Z,6μm,18.0s,MS6.0							
QZH	**Quanzhou**	**80.81**	**303⇑**	*i*P	**P**	**08 37 16.9**	**+0.3**
QZH				S	S	08 47 27.0	+3.9
QZH				SS

PET MLR MLR
comp=Z,5μm,19.0s,MS5.9
PET MLR MLR
comp=E,5μm,18.0s
PET Petropavlovsk 81.69 345 *e*P **P 08 37 19.3 -1.4**
comp=E,316nm,1.5s,mb6.0
SYO Syowa Base 81.72 192 ⇓P **P 08 37 24.5 +4.0**
SYO Syowa Base 81.72 192 ⇑sP sP 08 37 32.7 +7.1
COCO West Island 82.05 260 *e*P **P 08 37 24.6 +1.3**
comp=E,90nm,0.9s,mb5.7
PFO Pinyon Flat Ob 82.07 47 *e*P **P 08 37 22.6 -0.4**
PFO pmax pmax
comp=Z,213nm,2.1s,mb5.7
PFO Pinyon Flat Ob 82.07 47 *e*P **P 08 37 22.6 -0.4**
comp=Z,213nm,2.1s,mb5.7
CMB Columbia Colle 82.44 41 P **P 08 37 24.3 -0.5**
CMB S S 08 47 43.0 +3.4
CMB Columbia Colle 82.44 41⇑*e*P **P 08 37 24.2 -0.7**
CMB pmax pmax
comp=Z,120nm,1.4s,mb5.6
CMB Columbia Colle 82.44 41⇑*e*P **P 08 37 24.2 -0.7**
comp=Z,120nm,1.4s,mb5.6
KHMM Horse Mountain 82.46 37⇑*e*P **P 08 37 25.4 +0.5**
SSE Sheshan 82.47 310 ⇑P **P 08 37 25.6 +0.4**
SSE AP pP 08 37 28.5 -0.5
SSE S S 08 47 42.8 +2.7
SSE XS 08 47 47.9
SSE AMB AMB
comp=Z,109nm,1.5s,mb5.6
SSE AMB AMB
comp=Z,2μm,11.6s
SSE LR LR
comp=N,3μm,19.3s,MS5.8
SSE LR LR
comp=E,2μm,19.3s,MS5.8
SNAA Sanae 82.47 178 *e* **P 08 37 32.0 +7.6**
SNAA Sanae 82.47 178 *e* **P 08 37 33.2 +8.8**
SNAA Sanae 82.47 178 *e*P **P 08 37 28.4 +4.0**
SNAA *e* 08 37 37.4
SNAA pmax pmax
comp=Z,4μm,1.4s
SNAA Sanae 82.47 178 LR LR 09 12 55.9
comp=Z,3μm,18.7s,MS5.7,baz=195,slow=34
SNAA Sanae 82.47 178⇑*i*P **P 08 37 28.5 +4.1**
SNAA *e* pP 08 37 32.0 +3.8
SNAA *e* pP 08 37 33.2 +5.0
VNA3 Neumayer Olymp 82.55 176 *e* **P 08 37 32.1 +7.3**
VNA3 Neumayer Olymp 82.55 176 *e* **P 08 37 33.1 +8.3**
VNA3 Neumayer Olymp 82.55 176⇑*i*P **P 08 37 29.0 +4.2**
VNA3 *e* pP 08 37 32.1 +3.5
VNA3 *e* pP 08 37 33.1 +4.5
OHCM Honcut 82.67 40 *e*P **P 08 37 25.6 -0.4**
KRMB Red Mountain 82.81 37 *e*P **P 08 37 27.3 +0.6**
INCN Inchon 82.88 318⇑*e*P **P 08 37 27.8 +0.6**
comp=Z,412nm,1.2s,mb6.3
WDC Whiskeytown Da 82.91 38 *e*P **P 08 37 26.9 -0.3**
WDC pmax pmax
comp=Z,210nm,1.5s,mb6.0
WDC Whiskeytown Da 82.91 38 *e*P **P 08 37 26.9 -0.3**
comp=Z,210nm,1.5s,mb6.0
OMM Old Mammoth Mi 83.01 42⇑*e*P **P 08 37 27.5 -0.3**
VNA2 Neumayer--Watz 83.01 176 *e* **P 08 37 35.0 +7.9**
VNA2 Neumayer--Watz 83.01 176⇑*i*P **P 08 37 31.8 +4.7**
VNA2 *e* pP 08 37 35.0 +4.1
DAC Darwin (Calif) 83.01 44⇑*e*P **P 08 37 27.5 -0.4**
VNA1 Neumayer--Stat 83.23 176⇑*i*P **P 08 37 33.1 +4.8**
NVL N'lazarevskaya 83.32 183⇑*e*P **P 08 37 32.0 +3.2**
NVL *e*S S 08 47 56.0 +8.1
NVL pmax pmax
comp=Z,2μm,5.1s
YBH Yreka Blue Hor 83.61 37⇑*e*P **P 08 37 30.7 -0.1**
YBH pmax pmax
comp=Z,402nm,2.0s
YBH Yreka Blue Hor 83.61 37⇑*e*P **P 08 37 30.7 -0.1**
comp=Z,402nm,2.0s,mb6.2
WCN Washoe City 83.65 41⇑*i*P **P 08 37 30.9 -0.2**
WCN pmax pmax
comp=Z,140nm,1.2s,mb6.0
WCN Washoe City 83.65 41⇑*i*P **P 08 37 30.9 -0.2**
comp=Z,135nm,1.2s,mb6.0
VLA Vladivostok 83.71 325⇓*i*P **P 08 37 32.0 +0.7**
VLA pmax pmax
comp=Z,4μm,10.0s
NVAR Mina Array Bea 83.94 42 P **P 08 37 32.4 -0.2**
comp=Z,40nm,1.1s,mb5.5,baz=222,slow=5.0,SNR=148
NVAR LR LR 09 11 44.6
comp=Z,9μm,18.0s,MS6.2,baz=185,slow=33
MNV Mina 84.04 42⇑*e*P **P 08 37 32.6 -0.5**
MNV pmax pmax
comp=Z,527nm,2.0s,mb6.3
MNV Mina 84.04 42⇑*e*P **P 08 37 32.6 -0.5**
comp=Z,527nm,2.0s,mb6.3
HUMO Hull Mountain 84.07 36 *e*P **P 08 37 33.6 +0.4**
comp=Z,264nm,1.7s,mb6.1
BUOR Burton Butte 84.23 37 P **P 08 37 34.7 +0.8**
NEN Nelson 84.37 46 *e*P **P 08 37 34.9 +0.1**
TPH Tonopah 84.38 43⇑*e*P **P 08 37 34.5 -0.3**
TPH pmax pmax
comp=Z,258nm,1.5s,mb6.1
TPH Tonopah 84.38 43⇑*e*P **P 08 37 34.5 -0.3**
comp=Z,258nm,1.5s,mb6.1
HOG Hogback Mounta 84.50 37 P **P 08 37 35.7 +0.4**
QIZ Qiongzhong 84.61 294 P **P 08 37 38.0 +1.7**
QIZ AP pP 08 37 43.8 +3.7
QIZ S S 08 48 03.3 +1.6
QIZ XS 08 48 14.9
QIZ AMB AMB
comp=Z,45nm,1.5s,mb5.4
QIZ AMB AMB
comp=Z,2μm,11.4s
QIZ LR LR
comp=N,1μm,19.0s,MS5.6
QIZ LR LR
comp=E,2μm,19.8s,MS5.6
QIZ LR LR
comp=Z,3μm,20.4s,MS5.7
QIZ Qiongzhong 84.61 294 PFAKE 08 37 50.0 +14
QIZ LR LR
comp=Z,4μm,20.0s,MS5.8
NJ2 Nanjing 84.64 309 *e*P **P 08 37 37.6 +1.3**
NJ2 AP pP 08 37 41.9 +1.8
NJ2 XP sP 08 37 44.5 +3.2
NJ2 SKS SKS 08 47 57.0 -4.8
NJ2 S S 08 48 01.0 -0.9
NJ2 XS 08 48 10.0
NJ2 AMB AMB
comp=Z,750nm,1.1s,mb6.7
NJ2 AMB AMB
comp=Z,5μm,5.9s
NJ2 LR LR
comp=N,7μm,23.7s,MS6.2
NJ2 LR LR
comp=E,12μm,26.4s,MS6.2
NJ2 LR LR
comp=Z,4μm,25.2s,MS5.7
MOD Modoc 85.05 38⇑*e*P **P 08 37 37.6 -0.4**
comp=Z,150nm,1.4s,mb5.9
TUC Tucson 85.13 51⇑*i*P **P 08 37 38.6 -0.1**
TUC pmax pmax
comp=Z,64nm,1.2s,mb5.6
TUC Tucson 85.13 51⇑*i*P **P 08 37 38.6 -0.1**
comp=Z,64nm,1.2s,mb5.6
HBO Huckleberry Mo 85.26 36 P **P 08 37 39.4 +0.3**
TRCR Troy Canyon 85.55 43⇑*e*P **P 08 37 40.6 -0.1**
BMN Battle Mountai 85.86 41 *e*P **P 08 37 42.0 -0.1**
BMN pmax pmax
comp=Z,215nm,1.5s,mb6.2
BMN Battle Mountai 85.86 41 *e*P **P 08 37 42.0 -0.2**
comp=Z,215nm,1.5s,mb6.2
MDJ Mudanjiang 85.95 325 P **P 08 37 43.5 +1.0**
MDJ AP pP 08 37 46.8 +0.5
MDJ XP sP 08 37 48.0 +0.5
MDJ PP PP 08 41 01.3 -2.7
MDJ S S 08 48 16.6 +2.3
MDJ XS 08 48 22.5
MDJ AMB AMB
comp=Z,203nm,1.9s,mb6.0
MDJ AMB AMB
comp=Z,3μm,8.4s
MDJ LR LR
comp=N,5μm,21.4s,MS5.9
MDJ LR LR
comp=E,2μm,23.4s,MS5.9
MDJ LR LR
comp=Z,7μm,19.5s,MS6.1

MDJ Mudanjiang 85.95 325⇑*e*P **P 08 37 43.2 +0.7**
comp=Z,610nm,1.6s,mb6.6
MDJ LR LR
comp=Z,7μm,20.0s,MS6.1
PAYG Puerto Ayora 86.04 89 *e*P **P 08 37 45.5 +1.9**
comp=Z,46nm,1.2s,mb5.6
WVOR Wild Horse Val 86.33 39 *e*P **P 08 37 44.0 -0.4**
WVOR pmax pmax
comp=Z,280nm,1.9s,mb6.2
WVOR Wild Horse Val 86.33 39 *e*P **P 08 37 44.0 -0.4**
comp=Z,280nm,1.9s,mb6.2
PSI Prapat 86.56 275 *e*P **P 08 37 47.4 +1.2**
PSI *e*S S 08 48 20.2 -0.6
ARUT Antelope Range 86.56 45 *e*P **P 08 37 46.1 +0.5**
WHN Wuhan 87.02 306 ⇑P **P 08 37 49.6 +1.6**
WHN AP pP 08 38 00.3 +8.4
WHN S S 08 48 19.0 -5.9
WHN AMB AMB
comp=Z,813nm,1.5s,mb6.7
WHN AMB AMB
comp=Z,5μm,8.5s
WHN LR LR
comp=Z,9μm,19.7s,MS6.2
SNY Shenyang 87.46 320 ⇑P **P 08 37 50.4 +0.5**
SNY XP sP 08 38 04.6 +10
SNY S S 08 48 33.0 +4.2
SNY AMB AMB
comp=Z,190nm,1.9s,mb6.0
SNY LR LR
comp=N,3μm,19.2s,MS5.8
SNY LR LR
comp=E,2μm,16.2s,MS5.8
SNY LR LR
comp=Z,3μm,18.6s,MS5.7
PPM Popocatepetl 87.63 68 *i*P **P 08 37 52.7 +1.5**
MVU Marysvale 87.76 45⇑*e*P **P 08 37 52.3 +0.8**
comp=Z,104nm,1.5s,mb5.8
MSU Marysvale 87.79 45⇑*e*P **P 08 37 52.3 +0.8**
KLR Kul'dur 88.08 329κ *i*P **P 08 37 50.7 -2.0**
KLR *e*S S 08 48 19.5 -15
KLR pmax pmax
comp=N,190nm,2.6s
KLR pmax pmax
comp=E,170nm,2.6s
KLR pmax pmax
comp=Z,600nm,2.6s,mb6.4
KLR pmax pmax
comp=N,1μm,8.0s
KLR pmax pmax
comp=Z,3μm,8.0s
MXC Moxie City 88.16 35 P **P 08 37 53.7 +0.6**
FCH Farellones 88.17 126 *i*P **P 08 37 57.1 +3.6**
TIA Tai'an 88.18 312 ⇑P **P 08 37 52.9 -0.6**
TIA AMB AMB
comp=Z,933nm,1.5s,mb6.8
TIA AMB AMB
comp=Z,2μm,5.0s
TIA LR LR
comp=N,3μm,17.0s
RSO Redoubt South 88.27 11 *e*P **P 08 37 53.0 -0.3**
SVW2 Sparrevohn 88.40 10 *e*P **P 08 37 53.6 -0.3**
BBB Bella Bella 88.49 27 LR LR 09 15 02.1
comp=N,4μm,18.0s,MS5.9,baz=230,slow=34
BMO Blue Mountains 88.63 38⇑*e*P **P 08 37 54.2 -1.2**
comp=N,174nm,1.9s,mb6.1
MNTX Cornudas Mount 88.64 54⇑*e*P **P 08 37 55.5 -0.3**
comp=N,108nm,1.6s,mb5.9
TXAR Lajitas Array 88.68 56 P **P 08 37 56.5 +0.4**
comp=N,14nm,1.0s,mb5.2,baz=225,slow=5.3,SNR=77
TXAR PKKPbc 08 55 41.6
comp=N,1.0nm,1.1s,baz=108,slow=4.0,SNR=4.6
TXAR LR LR 09 10 55.3
comp=N,10μm,19.0s,MS6.2,baz=135,slow=31
BGU Big Grassy Mou 88.68 43⇑*e*P **P 08 37 55.4 -0.4**
NLU North Lily Min 88.70 44 *e*P **P 08 37 56.1 +0.3**
SLKM Skilak Lake 88.79 13 *e*P **P 08 37 55.1 -0.7**
LENM Lemitar 88.81 51 *e*P **P 08 37 57.1 +0.5**
LAZ Ladron 88.83 51 *e*P **P 08 37 57.4 +0.8**
TMUT Trail Mountain 88.86 45⇑*e*P **P 08 37 57.1 +0.4**
MPU Maple Canyon 89.01 44⇑*e*P **P 08 37 57.1 -0.2**
EPH Ephrata 89.04 35 P **P 08 37 57.1 -0.2**
NOQ North Oquirrh 89.08 43 *e*P **P 08 37 57.4 -0.3**
LPM Los Pinos Moun 89.13 51 *e*P **P 08 37 58.4 +0.3**
SRU San Rafael 89.19 45 *e*P **P 08 37 58.2 0.0**
KKTK Khon Kaen 89.22 289 P **P 08 38 00.0 +1.2**
comp=N,1μm,0.6s
SPUT South Promonto 89.26 43⇑*e*P **P 08 37 58.3 -0.3**
HVU Hansel Valley 89.34 42⇑*e*P **P 08 37 58.6 -0.3**
HLID Hailey 89.45 40⇑*e*P **P 08 37 59.4 0.0**
comp=N,68nm,1.6s,mb5.7
DAU Daniels Canyon 89.47 44 *e*P **P 08 37 59.6 +0.1**
MA2 Magadan 89.51 344*c i*P **P 08 37 58.4 -0.8**
MA2 *e*PPP PPP 08 43 36.5 +4.4
MA2 *e* 08 48 29.2
MA2 *e*S S 08 48 43.2 -4.2
MA2 *e*PS PS 08 49 50.8 -6.2
MA2 *e*SSS SSS 08 58 17.5 -3.6
MA2 pmax pmax
comp=N,40nm,1.5s
MA2 pmax pmax
comp=E,30nm,1.5s
MA2 pmax pmax
comp=Z,200nm,1.5s,mb6.2
MA2 MLR MLR
comp=Z,4μm,18.0s,MS5.9
MA2 Magadan 89.51 344⇑*e*P **P 08 37 58.4 -0.8**
comp=Z,1μm,2.1s,mb6.9
OD2 Odessa Site #2 89.51 35 P **P 08 37 59.4 -0.2**
ANMO Albuquerque 89.59 50⇑*e*P **P 08 38 00.5 +0.2**
ANMO pmax pmax
comp=Z,106nm,1.4s
ANMO Albuquerque 89.59 50 LR LR 09 12 33.2
comp=Z,10μm,18.5s,MS6.3,slow=32
ANMO Albuquerque 89.59 50⇑*e*P **P 08 38 00.5 +0.3**
comp=Z,106nm,1.4s,mb6.0
SIT Sitka 89.63 21 *e*P **P 08 38 00.8 +0.9**
SIT pmax pmax
comp=Z,456nm,1.7s,mb6.5
SIT Sitka 89.63 21 *e*P **P 08 38 00.8 +0.9**
comp=Z,456nm,1.7s,mb6.5
GDL2 Guadalupe Moun 89.64 54 *e*P **P 08 38 01.0 +0.5**
TCUT Toone Canyon 89.79 43⇑*e*P **P 08 38 00.8 -0.2**
PMR Palmer 90.00 13 *e*P **P 08 38 00.2 -1.3**
PNT Penticton 90.32 33 P **P 08 38 03.4 +0.1**
CPRX Cap Rock 90.42 53 *e*P **P 08 38 04.4 +0.3**
ENH Enshi 90.47 304⇑*i*P **P 08 38 05.9 +1.4**
comp=Z,1μm,1.4s
ENH LR LR
comp=Z,3μm,20.0s
ANM Nome 90.67 5 *e*P **P 08 38 04.4 -0.1**
NEW Newport 90.90 35 *e*P **P 08 38 04.8 -1.1**
NEW pmax pmax
comp=Z,188nm,2.1s
NEW MLR MLR
comp=Z,5μm,19.0s
NEW Newport 90.90 35 *e*P **P 08 38 04.8 -1.1**
comp=Z,188nm,2.1s,mb6.0
NEW LR LR
comp=Z,5μm,19.0s,MS6.0
AHID Auburn Hatcher 90.93 42⇑*e*P **P 08 38 06.3 +0.1**
comp=Z,357nm,1.8s,mb6.4
BJT Baijiatuau 90.93 315⇑*e*P **P 08 38 07.1 +0.8**
BJT pmax pmax
comp=Z,318nm,1.5s
BJT MLR MLR
comp=Z,6μm,19.0s
BJT Baijiatuau 90.93 315⇑*e*P **P 08 38 07.1 +0.8**
comp=Z,318nm,1.5s,mb6.4
BJT LR LR
comp=Z,6μm,19.0s,MS6.1
MCMT McKenzie Canyo 91.11 40 *e*P **P 08 38 07.3 +0.3**
NST Nakhon Sawan 91.22 287 ⇑P **P 08 38 11.5 +3.3**
comp=Z,175nm,1.3s,mb6.2
TRQA Tornquist 91.36 134 *e*P **P 08 38 11.4 +3.0**
comp=Z,36nm,1.3s,mb5.5
SNOW Snow King Moun 91.54 41⇑*e*P **P 08 38 08.8 -0.2**
WUWY Wally Ulrich 91.59 41⇑*e*P **P 08 38 09.1 -0.2**
IMW Indian Meadow 91.68 41⇑*i*P **P 08 38 10.1 +0.4**
IMW *e* 08 38 24.8
MOOW Moose Ponds 91.71 41 *e*P **P 08 38 09.8 0.0**
LOHW Long Hollow 91.71 41⇑*e*P **P 08 38 09.3 -0.5**
LOHW *e* 08 38 23.1
SDCO Great Sand Dun 91.73 48⇓*e*P **P 08 38 10.0 -0.1**
comp=Z,143nm,1.8s,mb6.0
PDAR Pinedale Array 91.86 43 P **P 08 38 09.2 -1.4**

comp=Z,15nm,1.0s,mb5.3,baz=225,slow=4.2,SNR=66
PDAR PKKPbc 08 55 31.6
comp=Z,0.7nm,1.0s,baz=79,slow=7.6,SNR=4.0
PDAR LR LR 09 16 34.2
comp=Z,5μm,18.3s,MS6.0,baz=250,slow=34
QLMT Earthquake Lak 91.93 40 *e*P **P 08 38 11.5 +0.7**
YFT Old Faithful 92.06 41 *e*P **P 08 38 12.9 +1.5**
SEY Seymchan 92.09 346 *e*P **P 08 38 11.8 +0.7**
SEY 08 41 47.3
SEY PPP PPP 08 43 51.0 -3.8
SEY *e* 08 48 37.2
SEY *e*S S 08 49 09.3 -1.1
SEY *e*SP SP 08 50 24.7 -0.8
SEY *e*SS SS 08 55 23.0 -0.3
SEY *e*SSS SSS 08 58 54.6 -6.7
SEY pmax pmax
comp=E,40nm,1.2s
SEY pmax pmax
comp=Z,380nm,1.2s,mb6.6
SEY pmax pmax
comp=N,150nm,1.3s
SEY smax
comp=N,4μm,8.6s
SEY smax
comp=E,4μm,7.8s
SEY MLR MLR
comp=N,18μm,20.0s,MS6.6
SEY MLR MLR
comp=Z,24μm,20.0s,MS6.6
SEY MLR MLR
comp=E,8μm,19.0s,MS6.6
YMR Madison River 92.11 40⇑*e*P **P 08 38 12.2 +0.6**
YMR *e* 08 38 25.5
CHMT Chamberlain Mo 92.13 38 *e*P **P 08 38 11.1 -0.5**
CHMT *e* 08 38 24.6
NANT Nan 92.13 290 ⇑P **P 08 38 14.5 +2.2**
comp=E,238nm,1.1s,mb6.4
TIY Taiyuan 92.15 311 ⇑P **P 08 38 14.4 +2.4**
TIY LR LR
comp=N,5μm,19.0s
JCT Junction City 92.15 57 *e*P **P 08 38 11.1 -1.1**
JCT pmax pmax
comp=Z,154nm,2.0s,mb6.0
JCT Junction City 92.15 57 *e*P **P 08 38 11.1 -1.0**
comp=Z,154nm,2.0s,mb6.0
BOZ Bozeman (W) 92.29 39 *e*P **P 08 38 11.8 -0.6**
BOZ pmax pmax
comp=Z,201nm,1.4s,mb6.3
BOZ Bozeman (W) 92.29 39 *e*P **P 08 38 11.8 -0.6**
comp=Z,201nm,1.4s,mb6.3
BOZ *e* 08 38 25.9
YNR Norris Junctio 92.30 41 *e*P **P 08 38 14.3 +1.9**
MENT Mentasta 92.33 14 *e*P **P 08 38 12.5 +0.3**
LKWY Lake 92.38 41⇑*e*P **P 08 38 14.3 +1.5**
LKWY pmax pmax
comp=Z,113nm,1.4s,mb6.0
LKWY Lake 92.38 41⇑*e*P **P 08 38 14.3 +1.4**
comp=Z,113nm,1.4s,mb6.0
DLBC Dease Lake 92.48 22 LR LR 09 18 43.6
comp=Z,4μm,18.1s,MS5.9,baz=231,slow=35
DLBC Dease Lake 92.48 22 *e*P **P 08 38 13.2 +0.3**
ISCO Idaho Springs 92.74 47 *e*P **P 08 38 14.8 +0.2**
ISCO pmax pmax
comp=Z,81nm,1.8s,mb5.8
ISCO Idaho Springs 92.74 47 *e*P **P 08 38 14.8 +0.2**
comp=Z,81nm,1.8s,mb5.8
XAN Xi'an 92.75 307 P **P 08 38 16.3 +1.5**
XAN SKS SKS 08 48 49.3 -2.8
XAN AMB AMB
comp=Z,105nm,1.7s,mb6.0
XAN LR LR
comp=N,2μm,20.5s,MS5.7
XAN LR LR
comp=E,2μm,21.3s,MS5.7
XAN LR LR
comp=Z,4μm,17.3s,MS5.9
HRY Holter Researc 92.79 38 *e*P **P 08 38 14.5 -0.2**
AMTX Amarillo 92.92 53 *e*P **P 08 38 14.9 -0.7**
comp=Z,40nm,1.3s,mb5.7
WALA Waterton Lakes 93.06 36⇑*e*P **P 08 38 15.5 -0.4**
comp=Z,240nm,2.0s,mb6.3
COLA College 93.23 12 P **P 08 38 14.8 -1.5**
COLA pmax pmax
comp=Z,140nm,1.3s,mb6.2
COLA College 93.23 12 *e*P **P 08 38 15.4 -0.9**
ILAR Eielson Array 93.32 12 P **P 08 38 15.8 -0.9**
comp=Z,28nm,1.1s,mb5.6,baz=220,slow=4.3,SNR=84
ILAR PP PP 08 41 56.7 -6.7
comp=Z,2.4nm,0.9s,baz=226,slow=8.2,SNR=4.6
ILAR PKKPbc 08 55 30.4
comp=Z,5.5nm,1.5s,baz=56,slow=3.1,SNR=4.1
ILAR LR LR 09 20 38.6
comp=Z,3μm,18.4s,MS5.7,baz=8.7,slow=36
CHRT Chiangrai 93.38 290 ⇑P **P 08 38 21.2 +3.2**
comp=Z,1μm,1.2s
IMA Indian Mountai 93.39 9 P **P 08 38 17.2 +0.2**
IMA pmax pmax
comp=Z,530nm,1.8s,mb6.7
IMA Indian Mountai 93.39 9 *e*P **P 08 38 16.4 -0.6**
CMAR Chiang Mai Arr 93.47 289 P **P 08 38 20.7 +2.2**
comp=Z,88nm,1.1s,mb6.1,baz=129,slow=3.0,SNR=202
CMAR PP PP 08 42 02.4 -3.4
comp=Z,6.0nm,1.0s,baz=132,slow=6.5,SNR=4.4
CMAR PKKPbc 08 55 26.4
comp=Z,0.7nm,0.3s,baz=306,slow=4.2,SNR=5.0
CHG Chiang Mai 93.63 289 ⇑P **P 08 38 22.2 +3.0**
comp=Z,150nm,1.2s,mb6.3
CHG S SKS 08 48 53.0 -4.3
PHWY Pilot Hill 93.63 45 *e*P **P 08 38 18.4 -0.3**
HIA Hailar 94.11 324 *e*P **P 08 38 20.1 -0.6**
HIA pmax pmax
comp=Z,65nm,1.3s
HIA MLR MLR
comp=Z,8μm,19.0s
HIA Hailar 94.11 324 *e*P **P 08 38 20.1 -0.6**
comp=Z,64nm,1.3s,mb5.9
HIA *e* 08 38 31.8
HIA LR LR
comp=Z,8μm,19.0s,MS6.2
LVC Limon Verde 94.62 118 LR LR 09 12 40.1
comp=Z,5μm,18.9s,MS6.0,baz=264,slow=30
LVC Limon Verde 94.62 118 *e*P **P 08 38 27.6 +3.9**
comp=Z,28nm,1.2s,mb5.6
HKT Hockley 94.94 59 *e*P **P 08 38 24.8 -0.2**
HKT *e* 08 38 36.7
WMOK Wichita Mounta 94.94 54 *e*P **P 08 38 23.7 -1.2**
WMOK pmax pmax
comp=Z,46nm,1.9s,mb5.6
WMOK Wichita Mounta 94.94 54 *e*P **P 08 38 23.7 -1.2**
comp=Z,46nm,1.9s,mb5.6
EDM Edmonton 95.84 33 *e*P **P 08 38 27.2 -1.3**
LAO LASA Array 95.99 41 *e*P **P 08 38 29.7 +0.3**
comp=Z,112nm,1.4s,mb6.1
CLNS Chul'man 96.25 332 *e*P **P 08 38 30.8 +0.5**
CLNS *e*SP S 08 49 41.6 -4.7
CLNS pmax pmax
comp=Z,39nm,1.4s,mb5.6
CLNS pmax pmax
comp=N,29nm,1.8s
CLNS pmax pmax
comp=E,11nm,1.0s
CLNS pmax pmax
comp=Z,14nm,1.1s,mb5.3
CLNS pmax pmax
comp=N,35nm,1.9s
CLNS pmax pmax
comp=E,13nm,1.3s
CLNS MLR MLR
comp=Z,42μm,25.0s,MS6.8
CLNS MLR MLR
comp=N,2μm,17.0s
CLNS MLR MLR
comp=E,200nm,14.0s
LZH Lanzhou 97.39 306 ⇑P **P 08 38 38.1 +2.1**
LZH AP pP 08 38 41.3 +1.5
LZH XP sP 08 38 45.9 +4.9
LZH PP PP 08 42 37.8 +2.1
LZH AMB AMB
comp=Z,139nm,1.4s,mb6.2
LZH AMB AMB
comp=Z,413nm,6.3s
LZH LR LR
comp=N,3μm,15.0s
LZH LR LR
comp=Z,3μm,17.8s,MS5.9
YAK Yakutsk 97.81 337*c i*P **P 08 38 36.3 -0.9**

YAK *e*S SKS 08 49 10.2 -8.5
YAK *e*SS tx 08 52 10.9
YAK pmax pmax
comp=Z,35nm,1.1s,mb5.8
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,12nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=Z,13nm,1.1s,mb5.4
YAK pmax pmax
comp=E,13nm,1.2s
YAK smax
comp=N,2.0nm,1.1s
YAK smax
comp=E,2.0nm,1.0s
YAK Yakutsk 97.81 337⇑ *e*P **P 08 38 35.7 -1.5**
comp=E,92nm,1.0s,mb6.3
DGMT Dagmar 98.09 40 *e*P **P 08 38 38.1 -0.7**
comp=E,66nm,1.5s,mb5.9
LPAZ La Paz 98.43 113 *e*P **P 08 38 44.2 +3.1**
LPAZ pmax pmax
comp=Z,11nm,1.3s
LPAZ MLR MLR
comp=Z,3µm,19.0s
LPAZ La Paz 98.43 113 P **P 08 38 44.4 +3.3**
comp=Z,6.7nm,1.2s,mb5.0,baz=262,slow=5.9,SNR=4.7
LPAZ LR LR 09 17 03.0
comp=Z,4µm,18.2s,MS5.9,baz=238,slow=32
LPAZ La Paz 98.43 113 *e*P **P 08 38 44.2 +3.1**
comp=Z,12nm,1.3s,mb5.2
LPAZ LR LR
comp=Z,3µm,19.0s,MS5.8
INK Inuvik 99.15 15 *e*P **P 08 38 42.3 -0.8**
INK pmax pmax
comp=Z,24nm,1.3s
INK Inuvik 99.15 15 *e*P **P 08 38 42.3 -0.8**
comp=Z,24nm,1.3s,mb5.6
ULN Ulaanbaatar 100.57 318 *e*P P 08 38 50.3 +0.2
ULN pmax pmax
comp=Z,38nm,1.6s
ULN Ulaanbaatar 100.57 318 *e*P P 08 38 50.2 +0.1
comp=Z,38nm,1.6s
YKA Yellowknife Ar 100.81 25 P P 08 38 48.5 -2.3
comp=Z,1.8nm,0.9s,baz=233,slow=4.2,SNR=20
YKA PP PP 08 43 03.0 +1.5
comp=Z,1.4nm,0.9s,baz=234,slow=7.3,SNR=5.6
YKA PKKPbc 08 55 06.4
comp=Z,1.1nm,1.1s,baz=41,slow=3.6,SNR=4.9
YKA PKKP PKKP 08 55 12.5 +8.5
comp=Z,0.6nm,0.8s,baz=44,slow=2.8,SNR=6.3
YKA PKPPKP 09 03 27.7
comp=Z,0.2nm,0.7s,baz=42,slow=2.5,SNR=5.1
YKA Yellowknife Ar 100.81 25 P P 08 38 48.5 -2.3
YKA PP PP 08 43 03.0 +1.5
YKA PKKPbc 08 55 06.5
YKA PKKP PKKP 08 55 12.5 +8.5
YKA P'P' 09 03 27.7
YKW3 Yellowknife Ar 100.85 25 *e*Pdif P 08 38 50.0 -0.9
SONM Songino Array 100.95 318 P P 08 38 50.3 -1.5
comp=Z,8.8nm,1.2s,baz=117,slow=2.8,SNR=16
SONM PP PP 08 42 56.2 -6.7
comp=Z,7.7nm,1.2s,baz=117,slow=5.5,SNR=5.0
SONM PKKPbc 08 55 08.6
comp=Z,1.1nm,0.9s,baz=243,slow=2.8,SNR=4.0
BOD Bodaibo 101.66 329 *e*P P 08 38 52.7 -2.0
CCM Cathedral Cave 101.85 53 PFAKE 08 39 10.0 +14
CCM LR LR
comp=Z,7µm,20.0s,MS6.2
FFC Flin Flon 102.33 35 PFAKE 08 39 10.0 +12
FFC LR LR
comp=Z,1µm,19.0s,MS5.4
ZAK Zakamensk 103.89 319 *e*P Pdif 08 39 03.4 -1.4
TLY Talaya 104.21 321 *e*P Pdif 08 39 08.8 +2.6
TLY *e* 08 43 18.8
TLY *e* 08 49 47.4
TLY *e*S S 08 50 37.5 -16
TLY *e*PS PS 08 52 34.4 -1.9
TLY *e*PPS PPS 08 53 33.6 +2.5
TLY pmax pmax
comp=Z,14nm,1.6s
TLY MLR MLR
comp=Z,5µm,19.0s,MS6.0
TIXI Tiksi 104.47 344 *e*P Pdif 08 39 06.1 -0.8
TIXI *e* 08 43 22.5
TIXI *e* 08 49 41.2
TIXI *e*SP SP 08 52 31.2 -5.9
TIXI *e*PS PS 08 52 31.2 -7.3
TIXI *e*SS SS 08 58 16.8 +0.5
TIXI pmax pmax
comp=Z,11nm,1.4s
TIXI MLR MLR
comp=Z,4µm,18.0s,MS6.0
TIXI MLR MLR
comp=N,851nm,23.0s,MS6.0
TIXI MLR MLR
comp=E,5µm,19.0s,MS6.0
LSA Lhasa 104.54 296 PFAKE 08 39 20.0 +12
LSA LR LR
comp=Z,5µm,22.0s,MS6.0
EYMN Ely 105.50 44 PFAKE 08 43 40.0
EYMN LR LR
comp=Z,7µm,19.0s,MS6.2
MOY Mondy 105.72 320 *e*P Pdif 08 39 19.2 +6.3
HYB Hyderabad 110.83 280 *e*P Pdif 08 39 40.0 +3.9
HYB Hyderabad 110.83 280 LR LR 08 33 30.0
comp=Z,6.3nm,20.0s
HYB *i* Pdiff Pdif 08 39 40.0 +3.9
HYB *e*PP PP 08 44 10.0 -6.8
HYB *e* 08 46 20.0
HYB *e*SKSac 08 50 12.0
HYB *e*SKSdf 08 50 50.0
HYB *e* 08 51 22.0
HYB *e*PS PS 08 53 48.0 +5.8
HYB *e* 08 58 12.0
HYB *e*SS SS 08 59 46.0 +2.4
WMQ Urumqi 111.72 309 PDIF Pdif 08 39 40.1 +0.6
WMQ PP PP
comp=Z,3µm,10.0s
WMQ LR LR
comp=N,4µm,26.2s,MS6.0
WMQ LR LR
comp=E,4µm,25.4s,MS6.0
WMQ LR LR
comp=Z,7µm,26.2s,MS6.1
ZAL Zalesovo 115.78 320 PKP PKPdf 08 43 44.9 -1.8
comp=Z,4.8nm,1.1s,baz=288,slow=1.4,SNR=13
NVS Novosibirsk 116.82 320 *i* PKIKP PKPdf 08 43 45.5 -3.2
NVS *e*S SKS 08 50 36.2 -5.4
NVS pmax pmax
comp=Z,40nm,1.4s
NVS pmax pmax
comp=E,23nm,1.5s
NVS smax
comp=N,111nm,2.2s
WVL Waterville 119.23 52 PFAKE 08 44 00.0 +6.4
WVL LR LR
comp=Z,26µm,19.0s,MS6.9
SUR Sutherland 119.71 197 *e*PKPdf PKPdf 08 43 56.3 +1.6
TKM2 Tokmak 2 120.16 306 P PKPdf 08 43 54.4 -1.0
SNR=11
KZA Kyzart 120.28 305 P PKPdf 08 43 55.3 -0.4
SNR=17
KBK Karagaybulak 120.59 306 P PKPdf 08 43 51.8 -4.5
SNR=5.5
CHMS Chumysh 120.78 306 P PKPdf 08 43 55.3 -1.4
SNR=10
UCH Uchtor 120.84 305 P PKPdf 08 43 56.5 -0.3
SNR=15
FRU Bishkek 120.86 306⇑ *e*PKIKP PKPdf 08 43 55.0 -1.9
FRU pmax pmax
comp=Z,80nm,1.8s
AAK Ala-Archa 120.92 306 P PKPdf 08 43 56.2 -0.8
SNR=8.1
AAK Ala-Archa 120.92 306 *e*PKPdf PKPdf 08 43 54.5 -2.5
USP Ospenovka 121.00 306 P PKPdf 08 43 56.0 -1.2
SNR=11
AML Almayashu 121.43 305 P PKPdf 08 43 57.8 -0.2
SNR=16
EKS2 Erkin-Say 121.44 306 P PKPdf 08 43 56.9 -1.1
SNR=13
BOSA Boshof 121.90 202 *e*PKIKP PKPdf 08 44 00.1 +0.9
BOSA *e* 08 44 06.4
BOSA MLR MLR
comp=Z,4µm,20.0s,MS6.1
SCHQ Schefferville 121.91 40 PKP PKPdf 08 43 55.1 -3.5
comp=Z,11nm,1.2s,baz=270,slow=1.7,SNR=4.3
BVAR Borovoye Array 124.30 318 PKP PKPdf 08 44 01.1 -2.2
comp=Z,16nm,1.0s,baz=90,slow=3.0,SNR=46
BRVK Borovoye 124.36 318 *e*PKIKP PKPdf 08 44 00.8 -2.6
DAG Danmarks Havn 128.03 6⇓ *e*PKIKP PKPdf 08 44 06.9 -3.0
DAG Danmarks Havn 128.03 6⇓ *i*P PKPdf 08 44 06.9 -3.0
comp=Z,16nm,0.9s
SVE Sverdlovsk 129.41 323⇑ *e*PKIKP PKPdf 08 44 10.2 -2.7
SVE *e* 08 46 16.0
SVE *e* 08 51 20.0
SVE *e* 08 58 00.0
SVE pmax pmax
comp=Z,160nm,1.8s
ARU Arti 130.62 323⇑ *i*PKIKP PKPdf 08 44 09.8 -5.4
ARU pmax pmax
comp=Z,61nm,1.3s
ARU MLR MLR
comp=Z,3µm,20.0s,MS6.0
ARU MLR MLR
comp=N,400nm,17.0s,MS5.9
ARU MLR MLR
comp=E,2µm,22.0s,MS5.9
ARU Arti 130.62 323 *e*PKPdf PKPdf 08 44 10.3 -4.9
ARU LR LR
comp=Z,758nm,21.0s,MS5.4
SOKR Solikamsk 130.63 328 *i* PKIKP PKPdf 08 44 14.0 -1.1
BJO Bjornoya 130.80 355 *e*P PKPdf 08 44 07.3 -7.9
BJO *e*PP PP 08 46 26.0 -6.2
BJO *e*SS SS 09 03 52.6 -5.4
BJO1 Bjornoya 130.81 355 *e*P PKPdf 08 44 03.8 -11
LSZ Lusaka 132.59 213 *e*PKIKP PKPdf 08 44 20.6 +0.5
LVZ Lovozero 134.11 344 *e*PKHKP 08 44 03.2
LVZ MLR MLR
comp=N,940nm,21.0s,MS5.7
LVZ MLR MLR
comp=E,1µm,21.0s,MS5.7
LVZ MLR MLR
comp=Z,4µm,21.0s,MS6.1
ARCES ARCESS Array B 134.62 349 PKP PKPdf 08 44 21.2 -1.2
comp=Z,15nm,1.0s,baz=315,slow=1.7,SNR=12
TRO Tromso 135.46 353 *e*PKHKP 08 44 12.8
TRO Tromso 135.46 353 *e*P PKPdf 08 44 24.6 +0.6
TRO *e*PP PP 08 46 54.7 -6.8
TRO *e*SS SS 09 04 52.7 -2.2
KMBO Kilima Mbogo 137.91 235 *e*PKHKP 08 44 22.7
KMBO *e* 08 44 30.9
KMBO Kilima Mbogo 137.91 235 PKhKP 08 44 22.6
comp=Z,3.7nm,1.1s,baz=111,slow=5.0,SNR=9.7
KMBO PKP PKPdf 08 44 29.2 -0.8
comp=Z,9.8nm,1.1s,baz=69,slow=3.8,SNR=9.0
KMBO Kilima Mbogo 137.91 235 *e*PKPpre 08 44 22.7
KMBO PKP PKPdf 08 44 29.2 -0.8
KMBO *e*PKPdf PKPdf 08 44 30.9 +0.9
MAK Makhachkala 140.68 307 *d* PKIKP PKPdf 08 44 32.0 -2.2
MAK pmax pmax
comp=Z,2µm,7.0s
MAK pmax pmax
comp=Z,2µm,8.0s
KAF Kangasniemi 140.88 343 *e*p PKPdf 08 44 26.8 -7.1
MOS Moscow 141.49 330 *e*PKHKP 08 44 27.3
MOS pmax pmax
comp=Z,108nm,1.6s
FINES FINESS Array B 141.50 343 PKhKP 08 44 27.2
comp=Z,8.9nm,1.0s,baz=56,slow=6.9,SNR=8.6
FINES PKP PKPdf 08 44 31.9 -3.2
comp=Z,17nm,1.2s,baz=72,slow=4.4,SNR=9.1
FINES PP PP 08 47 32.8 -6.0
comp=Z,20nm,1.3s,baz=34,slow=5.0,SNR=6.0
PUL Pulkovo 141.60 339 *e*PKHKP 08 44 21.4
OBN Obninsk 142.34 329 *c* PKHKP 08 44 28.8
OBN *i* PPS PPS 09 00 11.1 +2.0
OBN *e*SS SS 09 06 19.0 +2.6
OBN pmax pmax
comp=Z,90nm,1.5s
OBN MLR MLR
comp=Z,4µm,23.0s,MS6.1
OBN Obninsk 142.34 329 *e*PKPpre 08 44 27.9
OBN *e*PKPdf PKPdf 08 44 37.7 +1.1
MBAR Mbarara 142.90 229 *i* PKHKP 08 44 33.9
MBAR Mbarara 142.90 229 *e*PKPpre 08 44 35.0
VOR Voronezh 142.91 323 PKHKP 08 44 32.0
VOR pmax pmax
comp=Z,200nm,2.2s
TI2 Plekhanov 142.93 306⇓ *i*PKIKP PKPdf 08 44 34.2 -3.9
TI2 *i* 08 44 34.6
TI2 pmax pmax
comp=Z,90nm,1.2s
GNI Garni 143.23 303 P PKPbc 08 44 33.1 -0.5
GNI Garni 143.23 303 *i* PKIKP PKPdf 08 44 34.7 -3.9
GNI Garni 143.23 303 PKP PKPdf 08 44 35.0 -3.6
comp=Z,13nm,1.0s,baz=22,slow=23,SNR=7.5
GOF Gofitskoye 143.29 311 *e*PKIKP PKPdf 08 44 34.0 -4.6
ZEI Tsey 143.31 307 *e*PKHKP 08 44 33.1
ZEI pmax pmax
comp=Z,38nm,1.5s
KIV Kislovodsk 143.85 310 *c* *i*PKIKP PKPdf 08 44 35.2 -4.4
KIV *e*PPP PPP 08 50 57.4 -8.8
KIV *e* 08 51 39.4
KIV pmax pmax
comp=N,32nm,1.3s
KIV pmax pmax
comp=Z,90nm,1.3s
KIV Kislovodsk 143.85 310 *e*PKPpre 08 44 36.2
KARS Kars 144.38 304 *e*P PKPbc 08 44 39.9 +2.9
HKR Hakkari 144.39 299 *e*P PKPbc 08 44 38.9 +1.8
TVAN Van 144.52 301 *i* P PKPbc 08 44 39.7 +2.3
VANB Van 144.52 301 *i* P PKPbc 08 44 38.5 +1.1
NB2 NORSAR Subarra144.62 354 PKP PKPdf 08 44 36.4 -4.0
comp=Z,3.1nm,0.8s,baz=20,slow=3.6
NB2 NORSAR Subarra144.62 354 PKPa 08 44 36.4
baz=20,slow=3.7
NOA NORSAR Array B 144.62 354 PKP PKPdf 08 44 36.8 -3.6
comp=Z,90nm,1.1s,baz=13,slow=2.4,SNR=52
HFS Hagfors 145.22 351 PKP PKPdf 08 44 38.2 -3.2
comp=Z,221nm,1.1s,baz=63,slow=3.3,SNR=72
BCA Borcka 145.28 306 *i* P PKPbc 08 44 41.1 +1.7
WAL1 Walls 145.57 5 *e*P PKPbc 08 44 37.1 -2.3
BER Bergen 145.63 359 *e*P PKPbc 08 44 38.4 -1.2
LRW Lerwick 145.72 4 *e*P PKPbc 08 44 38.1 -1.8
OSL Oslo 145.75 354 *e*P PKPbc 08 44 41.7 +1.8
OSL Oslo 145.75 354 *e*P PKPbc 08 44 41.1 +1.1
OSL AMb AMB 08 44 43.0
comp=Z,76nm,1.4s
ERZM Erzurum 145.82 303 *i* P PKPbc 08 44 44.5 +3.7
EZM Erzurum 145.83 303 *i* P PKPbc 08 44 44.5 +3.7
VRT Varto 145.86 302 *i* P PKPbc 08 44 44.9 +4.0
SOC Sochi 146.01 310 *i* PKP2 PKPab 08 44 39.4 -4.1
SOC pmax pmax
comp=Z,195nm,1.0s
SOC pmax pmax
comp=N,53nm,1.6s
SOC pmax pmax
comp=E,28nm,1.2s
BTMT Batman 146.06 300 *i* P PKPbc 08 44 44.3 +2.9
IZAR Zarasai 146.10 337 *i* P PKPbc 08 44 42.5 +1.6
IZAR AMPb AMB 08 44 45.5
comp=Z,305nm,1.3s
IDID Didziasalis 146.26 336 *i* P PKPbc 08 44 42.9 +1.6
IDID AMPb AMB 08 44 46.0
comp=Z,202nm,1.3s
IDID *e*PP PP 08 48 00.9 -6.7
BEST Besiri 146.28 300 *i* P PKPbc 08 44 44.8 +2.9
ISAL Salakas 146.28 337 *i* P PKPbc 08 44 43.1 +1.7
ISAL AMPb AMB 08 44 46.2
comp=Z,269nm,1.4s
IIGN Ignalina 146.42 337 *i* P PKPbc 08 44 43.3 +1.6
IIGN AMPb AMB 08 44 46.5
comp=Z,231nm,1.2s
IIGN *e*PP PP 08 47 59.7 -8.8
MNK Minsk 146.48 335 PKIKP PKPdf 08 44 40.0 -3.8
BINT Bingol 146.70 302 *i* P PKPbc 08 44 45.6 +2.7
EZC Erzincan 147.02 304 *e*P PKPdf 08 44 45.9 +0.7
DIY Diyarbakir 147.09 300 *e*P PKPdf 08 44 47.1 +1.7
GUMT Gumushane 147.10 305 *i* P PKPdf 08 44 45.7 +0.4
ANN Anapa 147.10 313 *c* *i*PKIKP PKPdf 08 44 43.5 -1.6
ANN *e* 08 48 16.1
ANN *e* 08 51 46.9
ANN *e*SS SS 09 07 10.4 -0.7
ANN pmax pmax
comp=N,118nm,1.4s
ANN pmax pmax
comp=E,131nm,1.4s
ANN pmax pmax
comp=Z,532nm,1.4s
ANN pmax pmax
comp=Z,849nm,1.5s
PTK Pertek 147.54 302 *i* P PKPdf 08 44 46.0 0.0
ELZG Elazig 147.93 302 *i* P PKPdf 08 44 50.8 +4.1
URFA Urfa 148.27 300 P PKPdf 08 44 47.1 -0.2
MYA Malataya 148.40 301 *i* P PKPdf 08 44 47.5 +0.1
MYA Malataya 148.40 301 P PKPdf 08 44 51.3 +3.9
MALT Malatya 148.40 301 P PKPdf 08 44 46.9 -0.6
MALT Malatya 148.40 301 *e*PKIKP PKPdf 08 44 46.4 -1.0
MALT *e* 08 44 51.0
MALT Malatya 148.40 301 P PKPdf 08 44 45.7 -1.7
SUW Suwalki 148.55 338 *e*PKIKP PKPdf 08 44 46.6 -0.6
SUW *e* 08 44 49.8
AKASG Malin Array Be 148.59 328 PKP PKPdf 08 44 45.6 -1.7
comp=Z,47nm,1.0s,baz=41,slow=3.4,SNR=40
AKASG PKPbc PKPdf 08 44 48.9 +1.6
comp=Z,204nm,1.3s,baz=42,slow=3.6,SNR=93
SIM Simferopol' 149.17 316 *e*PKIKP PKPdf 08 44 48.0 -0.5
SIM *i* 08 44 53.0
SIM pmax pmax
comp=Z,251nm,1.1s
SIM pmax pmax
comp=Z,690nm,16.9s
SIM MLR MLR
comp=Z,3µm,20.8s,MS6.1
GZT Gaziantep 149.27 300 *i* P PKPdf 08 44 53.1 +4.3
MUD Monsted U'grnd 149.34 354⇑ *i*PKP2 PKPab 08 44 51.4 -4.9
MUD *e* 08 48 22.3
MUD Monsted U'grnd 149.34 354⇑ *i*P PKPdf 08 44 51.4 +3.1
comp=Z,190nm,1.2s
MUD *i* 08 45 03.8
MUD *e* 08 48 22.3
GAZ Gaziantep 149.58 300 P PKPdf 08 44 53.8 +4.4
EDI Edinburgh 149.69 8 P PKPdf 08 44 51.0 +2.1
EDI Edinburgh 149.69 8 *e*P PKPdf 08 44 48.9 -0.1
EDI *e*P 08 44 51.0
COP Copenhagen 149.69 350⇑ *i*P PKPdf 08 44 52.5 +3.6
comp=Z,76nm,0.9s
COP *i* 08 48 23.5
KAHT Ahir Dag 149.75 301 *i* P PKPdf 08 44 54.9 +5.2
BSD Bornholm Skovb 149.80 347⇑ *i*P PKPdf 08 44 52.2 +3.1
comp=Z,199nm,1.2s
BSD *i* 08 48 22.0
GMK Mull of Kintyr 149.90 11 *e*P PKPdf 08 44 47.9 -1.3
BYBT Boyabat 150.18 309 *e*P PKPdf 08 44 55.2 +5.0
BNN Bunyan 150.23 303 P PKPdf 08 44 49.6 -0.7
BNN Bunyan 150.23 303 P PKPdf 08 44 50.2 -0.1
EKA Eskdalemuir Ar 150.27 8 PKP PKPdf 08 44 48.6 -1.2
comp=Z,38nm,1.1s,baz=333,slow=1.9,SNR=15
EKA PKPbc PKPdf 08 44 53.6 +3.8
comp=Z,58nm,1.2s,baz=311,slow=1.6,SNR=26
ESK Eskdalemuir 150.28 8 *e*P PKPdf 08 44 46.9 -3.0
ESK AMb AMB 08 44 55.8
comp=Z,200nm,1.6s
ASF Jabal al Asfar 150.50 290 PKP PKPdf 08 44 50.7 -0.3
comp=Z,4.4nm,0.9s,baz=70,slow=6.6,SNR=3.4
ASF PKPbc PKPdf 08 44 57.4 +6.4
comp=Z,86nm,1.2s,baz=1.4,slow=0.4,SNR=27
GAL1 Galloway 150.50 10 *e*P PKPdf 08 44 48.1 -2.1
BZK Bozkurt 150.52 310 *e*P PKPdf 08 44 55.6 +4.9
HTY Hatay 150.63 298 *e*P PKPdf 08 44 56.1 +5.0
WAR Warsaw 150.75 338 *e*PKIKP PKPdf 08 44 56.4 +5.7
WAR *e* 08 45 01.7
CEYT Ceyhan 150.76 300 *e*P PKPdf 08 44 56.1 +4.9
TOS Tosya 150.86 309 *e*P PKPdf 08 44 56.4 +5.2
GMM Mts of Mourne 150.90 12 *e*P PKPdf 08 44 49.0 -1.8
GKP Gorka Klasztor 150.98 343 *e*PKIKP PKPdf 08 44 50.8 -0.2
GKP *e* 08 44 56.3
DMUB Kingscourt 151.03 13⇓ *i*P PKPdf 08 44 50.1 -0.9
DMUB Kingscourt 151.03 13⇑ *i*P PKPdf 08 44 55.4 +4.4
DMUB Kingscourt 151.03 13⇑ *i*P PKPdf 08 44 55.4 +4.4
LCP Cassop 151.05 6 *e*P PKPdf 08 44 50.1 -0.9
KIS Kishinev 151.18 323 *e*PKIKP PKPdf 08 44 54.0 +2.5
KIS *e* 08 48 34.0
CANT Cankiri 151.30 308 *e*P PKPdf 08 44 57.9 +6.0
CANT Cankiri 151.30 308 P PKPdf 08 44 52.5 +0.6
CANT P 08 44 57.9
NIG Nigde 151.36 303 *e*P PKPdf 08 44 57.4 +5.4
DCN Croghan 151.47 14⇓ *i*P PKPdf 08 44 50.7 -1.0
DCN Croghan 151.47 14⇑ *i*P PKPdf 08 44 56.4 +4.7
DCN Croghan 151.47 14⇑ *i*P PKPdf 08 44 56.4 +4.7
LVV L'vov 151.55 332⇑ *i*PKIKP PKPdf 08 44 56.8 +4.9
BRTR Keskin Array B 151.59 306 PKP PKPdf 08 44 50.4 -1.9
comp=Z,15nm,1.2s,baz=90,slow=1.2,SNR=17
BRTR PKPbc PKPdf 08 44 57.8 +5.4
comp=Z,52nm,1.1s,baz=135,slow=1.7,SNR=44
BRTR PP PP 08 48 37.2 -1.2
comp=Z,4.6nm,1.1s,baz=117,slow=5.5,SNR=3.8
KAMT Kaman 151.66 305 *e*P PKPdf 08 44 57.9 +5.5
DLF Lyons Farm 151.68 13⇓ *i*P PKPdf 08 44 51.0 -1.0
DLF Lyons Farm 151.68 13⇑ *i*P PKPdf 08 44 56.4 +4.4
BSEG Bad Segeberg 151.69 352 *e*PKPdf PKPdf 08 44 51.0 -1.0
BSEG *e*PKPbc PKPdf 08 44 57.3 +5.3
BSEG *e*PKPab PKPab 08 45 05.5 -0.8
SAFT Safranbolu 151.71 310 *e*P PKPdf 08 44 58.5 +6.0
DSB Dublin 151.76 13 *e*PKPbc PKPdf 08 44 56.8 +4.6
HPK Haverah Park 151.80 7 *e*P PKPdf 08 44 53.1 +0.9
WME Myndd Eilian 151.99 10 *e*P PKPdf 08 44 51.4 -1.0
ANTO Ankara 152.16 307 *e*P PKPdf 08 44 52.5 -0.7
ANTO Ankara 152.16 307 PKPdf PKPdf 08 44 52.3 -0.9
ANTO PKPdf PKPdf 08 44 59.4 +6.2
ANTO Ankara 152.16 307 ⇑PKIKP PKPdf 08 44 53.2 0.0
LOD Lodumlu 152.17 307 *e*P PKPdf 08 44 46.2 -7.0
LHO Holmfirth 152.18 7 *e*P PKPdf 08 44 51.4 -1.3
KWP Kalwaria 152.24 333 *e*PKP PKPdf 08 44 53.3 +0.3
KWP *e* 08 44 59.8
KWP *e* 08 45 08.2
EIL Elat 152.25 285 *e*PKPdf PKPdf 08 44 53.3 -0.3
EIL *e*PKPbc PKPdf 08 45 00.4 +6.8
TLCR 152.26 320 ⇓P PKPdf 08 45 00.2 +7.1
KBI1 Birley Grange 152.50 7 *e*P PKPdf 08 44 51.1 -2.1
PDA Ponta Delgada 152.50 58 *e* 09 48 38.0
RUE Ruedersdorf 152.51 347 *e*PKPdf PKPdf 08 44 52.4 -0.8
RUE *e*PKPbc PKPdf 08 44 59.1 +5.8
IKL Isikli 152.55 299 *e*P PKPdf 08 44 58.3 +4.5
BURAR Bucovina Array 152.62 327 ⇓P PKPdf 08 44 54.8 +1.2
SBD1 Bryn Du 152.62 9 *e*P PKPdf 08 44 51.7 -1.7
CFR Carcaliu 152.65 321⇑ *i*P PKPdf 08 44 53.5 -0.2
KWE Weaver Farm 152.70 7 *e*P PKPdf 08 44 51.3 -2.2
OJC Ojcow 152.87 337 *e*PKIKP PKPdf 08 44 53.0 -0.8
OJC *e* 08 48 40.0
KOLS Kolonicke sedl 152.96 333 *e*PKIKP PKPdf 08 44 53.4 -0.6
KOLS *e* 08 45 00.7
KOLS *e* 08 48 46.6
KOLS Kolonicke sedl 152.96 333 *e*PKP PKPdf 08 44 53.4 -0.6
KOLS *e* 08 45 00.7
KOLS *e* 08 45 17.5
KOLS *e*PP PP 08 48 46.6 +0.6
VRI Vrincioaia 153.01 323⇓ *i*P PKPdf 08 45 00.9 +6.7
VRI Vrincioaia 153.01 323⇓ *i*P PKPdf 08 45 00.9 +6.7
HARR Harsova 153.06 320 ⇓P PKPdf 08 45 00.6 +6.3
HLM1 Long Mynd 153.06 9 *e*P PKPdf 08 44 52.2 -1.8
HLM1 AMb AMB 08 45 02.3
comp=Z,191nm,1.8s
CSS Prodhromos 153.10 296 *e*PKPbc PKPdf 08 45 01.5 +6.8
KONT Konya--Tatoy 153.11 303 *e*P PKPdf 08 45 01.0 +6.4
SSP1 Stoney Pound 153.12 9 *e*P PKPdf 08 44 54.1 0.0
WIT Witteveen 153.15 356 *e*PKP PKPdf 08 45 01.0 +6.9
WIT *e*x x 08 45 10.0
KIZT Kizilcal 153.16 306 *e*P PKPdf 08 44 53.5 -1.1
HDMB Hadim 153.30 301 *e*P PKPdf 08 45 00.6 +5.7
CRVS Cervenica-Dubn 153.32 334 *e*PKP PKPdf 08 45 03.9 +9.4
CRVS *e* 08 45 17.7
CRVS *e*PP PP 08 48 46.9 -1.2
KSP Ksiaz 153.42 342 *e*PKIKP PKPdf 08 44 53.6 -1.0
KSP *e* 08 45 01.2
KSP *e* 08 48 40.0
KSP *e* 09 01 38.0
KSP *e*SS SS 09 08 11.0 -9.3
KSP MLR MLR
comp=Z,7µm,21.5s,MS6.4
KSP Ksiaz 153.42 342 *e*PKP PKPdf 08 44 53.6 -1.0
KSP *e*PKPdf PKPdf 08 45 01.2 +6.6
KSP *e*PP PP 08 48 40.0 -8.7
KSP *e*SKKS 08 55 47.0
KSP *e* 08 59 05.0
KSP *e* 09 01 38.0
KSP *e*SS SS 09 08 11.0 -9.3
KSP *e*SSS SSS 09 13 43.0 -28

KSP LR LR
comp=Z,7µm,21.5s,MS6.4
LEF Lefka 153.43 297 *e*P PKPdf 08 45 01.9 +6.8
RAC Raciborz 153.52 339 *e*PKIKP PKPdf 08 44 54.5 -0.2
RAC MLR MLR
comp=Z,5µm,22.9s,MS6.2
HAE Alders End 153.57 9 *e*P PKPdf 08 44 54.6 -0.1
HAE AMb AMB 08 45 03.4
comp=Z,223nm,1.6s
MLR Muntele Rosu 153.67 323 PKP PKPdf 08 44 53.4 -1.6
comp=Z,8.1nm,1.1s,baz=42,slow=5.7,SNR=7.2
MLR PKPbc PKPdf 08 45 01.6 +6.5
comp=Z,53nm,1.2s,baz=73,slow=2.3,SNR=19
MLR PKPab PKPab 08 45 11.5 -3.4
comp=Z,23nm,0.9s,baz=264,slow=6.7,SNR=5.4
MLR Muntele Rosu 153.67 323 ⇓*i*P PKPdf 08 44 53.1 -2.0
ESKT Eskisehir 153.68 307 *e*P PKPdf 08 44 51.6 -3.7
CLZ Clausthal 153.73 351 *e*PKPdf PKPdf 08 44 54.0 -1.0
CLZ *e*PKPbc PKPdf 08 45 01.9 +6.9
CLZ *e*PKPab PKPab 08 45 14.1 -0.8
OKC Ostrava-Krasne 153.75 339 *e*PKPDF PKPdf 08 44 54.7 -0.3
OKC ⇑*e*PKPB 08 45 03.0
OKC *e*PKPAB PKPab 08 45 15.3 +0.3
OKC *e*PP PP 08 48 40.0 -11
OKC *e*x x 08 59 03.1
OKC *e*x x 09 03 53.1
OKC *e*x x 09 08 52.9
OKC AMS AMS 09 54 40.0
comp=Z,3µm,19.7s
CLL Collm 153.78 347 *i* PKIKP PKPdf 08 44 53.9 -1.1
CLL *i* 08 45 01.9
CLL *i* 08 45 13.4
CLL MLR MLR
comp=Z,6µm,18.5s,MS6.5
CLL Collm 153.78 347 ⇑*i*PKIKP PKPdf 08 44 53.9 -1.1
comp=Z,logA/T=1.8
CLL *i* PKP1 PKPdf 08 45 01.9 +6.9
CLL *i* *PPKP 08 45 08.6
CLL *i* PKP2 PKPab 08 45 13.4 -1.7
CLL *i* 08 45 27.1
CLL *i* PP PP 08 48 46.1 -4.7
CLL *i* 08 48 59.2
CLL *e*PPP PPP 08 52 12.0 -10
CLL *e* 08 54 18.0
CLL *e*PKKS 08 55 48.0
CLL *e* 08 58 23.0
CLL *e* 08 59 05.0
CLL *e* 09 03 53.0
CLL *e*SS SS 09 08 19.0 -5.3
CLL *e* 09 09 18.0
CLL *e*SSS SSS 09 14 12.0 -4.0
CLL *e* 09 17 36.0
UPC Upice 153.80 342 *e*PKPDF PKPdf 08 44 54.8 -0.3
UPC ⇑*e*PKPB 08 45 02.8
UPC *e*PKPAB PKPab 08 45 15.0 -0.2
UPC *e*PP PP 08 48 40.9 -10
DPC Dobruska-Polom 153.85 342 *e*PKIKP PKPdf 08 44 54.2 -1.0
DPC *e* 08 45 02.7
DPC *e*SS SS 09 08 25.8 +0.7
DPC MLR MLR
comp=Z,4µm,20.5s,MS6.2
DPC Dobruska-Polom 153.85 342 *e*PKPDF PKPdf 08 44 54.2 -1.0
DPC ⇑*e*PKPB 08 45 02.7
DPC *e*PKPAB PKPab 08 45 15.4 -0.1
DPC *e*PP PP 08 48 41.6 -10
DPC *e*x x 08 58 53.9
DPC *e*x x 09 03 56.8
DPC *e*SS SS 09 08 25.8 +0.7
DPC AMS AMS 09 54 50.0
comp=Z,4µm,20.5s
HGH Gray Hill 153.92 9 *e*P PKPdf 08 44 54.8 -0.4
HGH AMb AMB 08 45 04.0
comp=Z,212nm,1.5s
HRT Hereke 153.96 311 *e*P PKPab 08 45 16.3 +0.1
HRT Hereke 153.96 311 P PKPdf 08 45 01.9 +6.3
HRT P 08 45 16.3
WTSB Winterswijk 153.98 356 *e*PKP PKPdf 08 44 53.8 -1.5
comp=Z,73nm,1.5s
WTSB *e*x x 08 45 02.2
WTSB *e*x x 08 45 14.2
comp=Z,298nm,1.7s
BRG Berggiesshubel 153.99 345 *i* PKIKP PKPdf 08 44 54.8 -0.5
BRG *i* 08 45 03.0
BRG *i* 08 45 12.6
BRG *i* 08 48 45.3
BRG *i* SS SS 09 08 21.0 -5.6
BRG pmax pmax
comp=Z,124nm,1.8s
BRG MLR MLR
comp=N,2µm,20.4s,MS6.1
BRG MLR MLR
comp=E,2µm,20.4s,MS6.1
BRG MLR MLR
comp=Z,5µm,20.4s,MS6.3
BRG Berggiesshubel 153.99 345 *i* PKP PKPdf 08 44 54.8 -0.5
BRG *i* 08 45 03.0
BRG *i* 08 45 12.6
BRG *i* PP PP 08 48 45.3 -6.8
BRG *i* 08 58 49.0
BRG *i* SS SS 09 08 21.0 -5.6
BRG LR LR
comp=Z,5µm,20.4s,MS6.3
MORC Moravsky Berou 154.00 339 *e*PKPdf PKPdf 08 44 53.9 -1.5
MORC *e*PKPbc PKPdf 08 45 02.6 +7.3
KECS Kecovo 154.04 334 *e*PKP PKPdf 08 45 04.7 +9.2
KECS *e* 08 45 16.5
PVCC Panska Ves 154.16 344 *e*PKIKP PKPdf 08 44 55.0 -0.6
PVCC *e* 08 45 15.1
PVCC *e* 08 48 44.7
PVCC *e*SS SS 09 08 30.3 +1.8
PVCC MLR MLR
comp=Z,4µm,20.5s,MS6.2
PVCC Panska Ves 154.16 344 *e*PKPDF PKPdf 08 44 55.0 -0.6
PVCC ⇑*e*PKPB 08 45 03.8
PVCC *e*PKPAB PKPab 08 45 15.1 -1.6
PVCC *e*PP PP 08 48 44.7 -8.3
PVCC *e*x x 08 59 02.9
PVCC *e*x x 09 03 44.5
PVCC *e*SS SS 09 08 30.3 +1.8
PVCC AMS AMS 09 56 50.0
comp=Z,4µm,20.5s
ALT Altintas 154.38 307 *e*P PKPdf 08 45 03.7 +7.4
ISP Isparta 154.53 304 PKIKP PKPdf 08 44 54.2 -2.3
ISP *e* 08 45 16.9
VYHS Vyhne 154.66 336 *e*PKIKP PKPdf 08 44 55.5 -0.8
VYHS *e* 08 45 03.8
VYHS *e* 08 48 47.7
VYHS Vyhne 154.66 336 *e*PKP PKPdf 08 44 55.5 -0.8
VYHS *e* 08 45 03.8
VYHS *e* 08 45 18.5
VYHS *e*PP PP 08 48 47.7 -7.8
PRU Pruhonice 154.66 344 *e*PKIKP PKPdf 08 44 55.6 -0.7
PRU *e* 08 45 17.3
PRU *e* 08 48 52.3
PRU *e*SS SS 09 08 34.5 +0.5
PRU MLR MLR
comp=Z,4µm,20.2s,MS6.2
PRU Pruhonice 154.66 344 *e*PKPDF PKPdf 08 44 55.6 -0.7
PRU ⇑*e*PKPB 08 45 04.3
PRU *e*PKPAB PKPab 08 45 17.3 -1.6
PRU *e*PP PP 08 48 52.3 -3.2
PRU *e*x x 08 58 58.3
PRU *e*SS SS 09 08 34.5 +0.5
PRU AMS AMS 10 03 50.0
comp=Z,4µm,20.2s
MOX Moxa 154.68 348 *e*PKIKP PKPdf 08 44 53.6 -2.7
MOX pmax pmax
comp=Z,130nm,1.9s
MOX MLR MLR
comp=Z,3µm,20.0s,MS6.1
MOX Moxa 154.68 348 *e*PKP PKPdf 08 44 53.6 -2.7
MOX *e*PP PP 08 48 52.0 -3.6
MOX *e*SS SS 09 08 34.0 -0.2
MOX LR LR
comp=Z,3µm,20.0s,MS6.1
MOX Moxa 154.68 348 *i* P PKPdf 08 44 53.6 -2.7
comp=Z,logA/T=1.8
MOX PP PP 08 48 52.0 -3.6
MOX SS SS 09 08 34.0 -0.2
VRAC Vranov 154.70 340 PKP PKPdf 08 44 53.9 -2.4
comp=Z,2.6nm,0.6s,baz=319,slow=3.1,SNR=12
VRAC PKPbc PKPdf 08 45 03.1 +6.7
comp=Z,8.4nm,1.1s,baz=28,slow=4.7,SNR=5.8
VRAC PKPab PKPab 08 45 18.2 -0.8
comp=Z,105nm,1.2s,baz=24,slow=6.5,SNR=22
VRAC PP PP 08 48 46.3 -9.4
comp=Z,9.7nm,1.1s,baz=50,slow=4.5,SNR=4.3
PSZ Piszkesteto 154.73 334 *e*PKIKP PKPdf 08 44 54.8 -1.6
PSZ Piszkesteto 154.73 334 ⇑*i*P PKPdf 08 44 55.3 -1.1
KOLL Kolacno 154.74 337 *e*PKP PKPdf 08 45 03.9 +7.5
KOLL *e* 08 45 16.4
NKC Novy Kostel 154.91 347 *e*PKIKP PKPdf 08 44 56.2 -0.4
NKC *e* 08 48 50.1
NKC *e*SS SS 09 08 31.9 -4.9
NKC Novy Kostel 154.91 347 *e*PKPDF PKPdf 08 44 56.2 -0.4
NKC ⇑*e*PKPB 08 45 05.1
NKC *e*PKPAB PKPab 08 45 19.1 -0.8
NKC *e*PP PP 08 48 50.1 -6.6
NKC *e*x x 08 59 14.8
NKC *e*SS SS 09 08 31.9 -4.9
NKC AMS AMS 10 06 40.0
comp=Z,4µm,19.0s
SMOL Smolenice 155.13 338 *e*PKP PKPdf 08 44 57.5 +0.6
SMOL *e* 08 45 20.8
HGN Heimansgroeve 155.23 357 *e*PKP PKPdf 08 44 55.2 -1.8
comp=Z,64nm,1.9s
HGN *e*x x 08 45 04.5
HGN *e*x x 08 45 19.9
comp=Z,147nm,1.7s
HGN *e*PP PP 08 48 55.8 -2.7
ELL Elmali 155.34 302 *e*P PKPab 08 45 21.2 -0.9
SRO Srobarova 155.42 336 *e*PKP PKPab 08 45 22.0 -0.1
SRO2 Moca 155.43 336 *e*PKP PKPab 08 45 22.2 0.0
SRO1 Iza 155.49 336 *e*PKP PKPab 08 45 22.9 +0.4
ZST Bratislava 155.52 338 *e*PKP PKPdf 08 44 57.2 -0.2
ZST *e* 08 45 22.8
ZST *e*PP PP 08 48 50.9 -9.4
BTOK Tokmak 155.55 310 *i* P PKPab 08 45 23.9 +0.9
GRA1 Grafenberg Arr 155.67 348 *e*PKPdf PKPdf 08 44 56.9 -0.7
GRA1 *e*PKPab PKPab 08 45 22.8 -0.4
GRA1 *e*PP PP 08 48 55.7 -5.5
GRA1 LR LR
comp=Z,6µm,20.6s,MS6.4
GRF Grafenberg Arr 155.67 348 *e*PKIKP PKPdf 08 44 56.9 -0.7
GRF *e* 08 48 55.7
GRF Grafenberg Arr 155.67 348 *e*PKIKP PKPdf 08 44 56.9 -0.7
GRF *e* 08 48 55.7
GRF MLR MLR
comp=Z,6µm,20.6s,MS6.4
GRF Grafenberg Arr 155.67 348 *e*PKP PKPdf 08 44 56.9 -0.7
GRF *e*PKP PKPab 08 45 22.8 -0.4
GRF *e*PP PP 08 48 55.7 -5.5
GRF LR LR
comp=Z,6µm,20.6s,MS6.4
DNZL Cakiroluk 155.67 305 *i* P PKPdf 08 45 07.9 +10
SART Tekirdag 155.69 313 *i* P PKPab 08 45 24.5 +1.0
KHC Kasperske Hory 155.69 344 *e*PKIKP PKPdf 08 44 57.0 -0.6
KHC *e* 08 48 55.3
KHC MLR MLR
comp=Z,4µm,20.8s,MS6.2
KHC Kasperske Hory 155.69 344 *e*PKPDF PKPdf 08 44 57.0 -0.6
KHC ⇑*e*PKPB 08 45 07.0
KHC *e*PKPAB PKPab 08 45 22.9 -0.4
KHC *e*PP PP 08 48 55.3 -6.1
KHC *e*x x 08 59 16.7
KHC *e*SS SS 09 08 49.1 +3.7
KHC AMS AMS 09 57 50.0
comp=Z,4µm,20.8s
WET Wettzell 155.85 345 *e*PKIKP PKPdf 08 44 56.7 -1.1
WET *e* 08 48 58.8
WET Wettzell 155.85 345 *e*PKPdf PKPdf 08 44 56.7 -1.1
WET *e*PKPab PKPab 08 45 23.6 -0.4
WET *e*PP PP 08 48 58.8 -3.5
GEC2 GERESS Array S 155.93 344 *e*PKPdf PKPdf 08 44 57.0 -1.0
GEC2 *e*PKPab PKPab 08 45 24.1 -0.2
GERES GERESS Array B 155.93 344 PKP PKPdf 08 44 56.2 -1.7
comp=Z,5.9nm,1.1s,baz=90,slow=1.3,SNR=23
GERES PKPab PKPab 08 45 22.8 -1.5
comp=Z,17nm,1.1s,baz=27,slow=2.2,SNR=13
GIVF Givet 155.94 358 *e*PKIKP PKPdf 08 44 57.1 -0.8
BAIF Baives 155.99 359 *e*PKIKP PKPdf 08 44 56.8 -1.2
comp=Z,175nm,1.8s
ABH Alteburg 155.99 354 PKP PKPdf 08 44 57.6 -0.4
ABH Alteburg 155.99 354⇓*e*P PKPdf 08 44 57.9 -0.1
FETY Fethiye 156.00 302 *e*P PKPab 08 45 23.1 -2.0
AKS Akhisar 156.09 308 *e*P PKPdf 08 44 53.8 -4.7
TOD Tromm 156.13 352 PKIKP PKPdf 08 44 56.4 -1.8
TOD Tromm 156.13 352⇓*e*P PKPdf 08 44 57.8 -0.4
SOP Sopron 156.14 338⇓*e*PKP2 PKPab 08 45 25.3 0.0
SOP Sopron 156.14 338⇓*e*PKP/p 08 45 25.3
RUP Ruppelstein 156.22 355 PKIKP PKPdf 08 44 57.6 -0.7
RUP Ruppelstein 156.22 355⇓*e*P PKPdf 08 44 58.5 +0.2
SIND Sindeldorf 156.27 351 *e*P PKPdf 08 44 57.7 -0.7
WLF Walferdange 156.32 356 *e*PKPdf PKPdf 08 44 57.7 -0.7
WLF *e*PKPbc PKPdf 08 45 08.1 +10
WLF *e*PKPab PKPab 08 45 25.0 -1.0
ALN Alexandroupoli 156.32 314 *e*P PKPab 08 45 25.6 -0.7
KTD Kalmit 156.49 353 PKIKP PKPdf 08 44 58.5 -0.2
AYDN Tasoluk 156.54 306 *i* P PKPab 08 45 28.3 +1.0
PKSM Moragy 156.62 333⇑*e*PKIKP PKPdf 08 44 57.5 -1.5
MOA Molln 156.69 342⇑*i*P PKPdf 08 44 57.5 -1.5
MOA *i* 08 45 28.1
LANF Langenberg 156.86 353 PKP PKPdf 08 44 58.6 -0.6
STU Stuttgart 156.89 351 *e*PKIKP PKPdf 08 44 58.6 -0.7
BOLS Boljevac 156.90 325⇓*i*PKP PKPdf 08 44 58.3 -1.1
HDH Heidenheim 156.92 349⇓*e*P PKPdf 08 44 58.7 -0.6
BEO Belgrade 156.92 329⇑*i*PKP PKPdf 08 44 58.4 -1.1
SVIS Svilajnac 156.94 327 *e*PKP PKPdf 08 44 58.1 -1.3
VTS Vitosha 157.05 321 ⇓P PKPdf 08 45 09.8 +10
LBG Lerchenberg 157.05 351⇓*e*P PKPdf 08 44 59.0 -0.5
FUR Furstenfeldbru 157.12 347 *e*PKPdf PKPdf 08 44 59.1 -0.5
FUR *e*PKPab PKPab 08 45 29.0 -0.5
BUCH Bad Urach 157.18 350⇓*e*P PKPdf 08 44 59.2 -0.5
LDF La Druitiere 157.25 7 *e*PKIKP PKPdf 08 44 58.0 -1.8
GRR Gorron 157.37 8 *e*PKIKP PKPdf 08 44 59.0 -0.9
BFO Black Forest 157.44 352 *e*PKPdf PKPdf 08 44 58.5 -1.5
BFO *e*PKPab PKPab 08 45 29.7 -1.1
QUIF Quistinic 157.46 12 *e*PKIKP PKPdf 08 44 58.8 -1.3
comp=Z,359nm,1.9s
WLS Welschbruch 157.47 354 PKP PKPdf 08 44 58.9 -1.2
CDF Champ du Feu 157.47 354 *e*PKIKP PKPdf 08 44 58.5 -1.6
comp=Z,100nm,1.9s
GRUS Gruza 157.48 327⇓*i*PKP PKPdf 08 44 58.9 -1.3
MEZF Maizieres J'vi 157.53 358 *e*PKIKP PKPdf 08 44 59.2 -0.9
comp=Z,155nm,1.4s
PERS Pernice 157.53 339 *e* PKPab 08 45 30.3 -1.0
GUT Gutenstein 157.59 351⇓*e*P PKPdf 08 44 59.3 -0.9
SPAK Spaichingen 157.60 351⇓*e*P PKPdf 08 44 59.7 -0.5
KBA Koelnbreinsper 157.65 343⇑*i*P PKPdf 08 44 58.6 -1.7
KBA *i* 08 45 31.9
DIVS Divcibare 157.68 328⇑*i*PKP PKPdf 08 44 59.6 -0.9
ECH Echery 157.68 354 PKP PKPdf 08 44 58.9 -1.4
SRS Serrai 157.73 318 *e*P PKPab 08 45 32.1 -0.2
THEF They Montfort 157.76 356 PKP PKPdf 08 44 56.8 -3.6
UBR Uberruh 157.81 349⇓*e*P PKPdf 08 44 59.7 -0.8
WATA Walderalm 157.84 346⇑*i*P PKPdf 08 44 59.2 -1.4
WATA *i* 08 45 31.2
KIZ Kirchzarten 157.86 353⇓*e*P PKPdf 08 44 59.9 -0.7
WTTA Wattenberg 157.90 346⇓*i*P PKPdf 08 45 00.1 -0.6
WTTA *i* 08 45 32.3
FELD Feldberg 157.93 352 PKP PKPdf 08 44 59.3 -1.4
FELD Feldberg 157.93 352⇓*e*P PKPdf 08 45 00.2 -0.5
MOTA Moosalm 157.94 347⇑*i*P PKPdf 08 44 59.1 -1.6
MOTA *i* 08 45 32.3
HAU Haudompre 157.96 355 *e*PKIKP PKPdf 08 44 59.2 -1.5
HAU *e*R
comp=Z,6µm,19.5s
SQTA Sankt Quirin 158.03 346⇑*i*P PKPdf 08 44 59.4 -1.4
SQTA *i* 08 45 32.3
MOF Molkenrain 158.04 354 PKP PKPdf 08 44 59.6 -1.2
SOH Sokhos 158.05 317 *e*P PKPab 08 45 33.5 -0.2
HINF Hinteralfeld 158.10 354 *e*PKIKP PKPdf 08 44 59.3 -1.6
comp=Z,162nm,1.9s
KNT Kendrikon 158.12 318 *e*P PKPab 08 45 33.9 -0.1
VAY Valandovo 158.22 319⇓*i*PKP2 PKPab 08 45 34.6 +0.2
DAVA Damuels 158.23 349⇑*i*P PKPdf 08 45 01.1 0.0
DAVA *i* 08 45 33.8
LJU Ljubljana 158.25 340 *e*PKIKP PKPdf 08 44 59.6 -1.5
LJU *e* 08 49 16.1
LJU Ljubljana 158.25 340 *e*PKPdf PKPdf 08 44 59.6 -1.5
LJU *e*PKPab PKPab 08 45 32.9 -1.5
LJU *e*PP PP 08 49 16.1 +0.5
ROBS Robic 158.37 341 *e*PKPdf PKPdf 08 44 58.6 -2.7
ROBS *e*PKPab PKPab 08 45 32.9 -2.0
BBS Basel-Blauen 158.39 353 PKIKP PKPdf 08 45 00.4 -0.8
BBS Basel-Blauen 158.39 353⇓*e*P PKPdf 08 45 00.7 -0.5
THE Thessaloniki 158.40 317 *e*P PKPab 08 45 34.6 -0.6
SKO Skopje 158.45 322 *i* PKP2 PKPab 08 45 35.5 +0.1
comp=Z,0.2nm,1.5s
SKO *i* PP PP 08 49 17.0 +0.3
VOY Vojsko 158.45 341 *e*PKPab PKPab 08 45 33.9 -1.4
VOJS Vojsko 158.46 341 *e*PKPdf PKPdf 08 44 59.7 -1.7
BOJS Bojanci 158.49 338 *e*PKPdf PKPdf 08 44 59.6 -1.8
BOJS *e*PKPab PKPab 08 45 34.1 -1.3
BOJS *e*PP PP 08 49 16.6 -0.1
LOMF Lomont 158.57 354 PKP PKPdf 08 45 03.6 +2.1
DAVOX Davos 158.72 348 PKP PKPdf 08 45 00.7 -1.0
comp=Z,17nm,1.3s,baz=124,slow=1.5,SNR=12
DAVOX PKPab PKPab 08 45 35.7 -0.6
comp=Z,23nm,0.9s,baz=318,slow=2.5,SNR=13
DAVOX PP PP 08 49 14.9 -3.0
comp=Z,4.5nm,0.9s,baz=131,slow=4.1,SNR=5.1
HYF Humbligny 158.77 2 *e*PKIKP PKPdf 08 45 00.8 -0.9
SSF Saint Saulge 158.99 1 *e*PKIKP PKPdf 08 45 00.7 -1.3
comp=Z,187nm,1.7s
LIT Litokhoron 159.01 317 *e*P PKPab 08 45 37.3 -0.6
DBIC Dimbokro 159.07 155 PKPdf PKPdf 08 45 03.0 0.0
DBIC PKPab PKPab 08 45 41.3 +2.4
DBIC Dimbokro 159.07 155 PKP PKPdf 08 45 03.1 +0.1
comp=Z,25nm,1.2s,baz=166,slow=2.1,SNR=28
DBIC PKPab PKPab 08 45 41.4 +2.5
comp=Z,16nm,1.1s,baz=163,slow=2.6,SNR=3.1
MFF Saint Martin d 159.22 8 *e*PKIKP PKPdf 08 45 00.8 -1.4
comp=Z,124nm,1.7s
FNA Florina 159.26 320 *e*P PKPab 08 45 38.6 -0.3
AVF Avril sur Loir 159.26 1 *e*PKIKP PKPdf 08 45 00.9 -1.4
comp=Z,42nm,1.5s
CABF La Chapelle 159.36 356 *e*PKIKP PKPdf 08 45 01.6 -0.8
comp=Z,423nm,1.9s
SMF Signal de Mont 159.41 360 *e*PKIKP PKPdf 08 45 01.0 -1.5
comp=Z,92nm,1.5s
BGF Bois d'Agland 159.48 2 *e*PKIKP PKPdf 08 45 01.4 -1.1
comp=Z,310nm,1.9s
IDI Anoyia 159.66 302 PKPab PKPab 08 45 34.8 -6.0
comp=Z,14nm,1.1s,baz=231,slow=9.9,SNR=3.5
TCF Toulx Ste Croi 159.73 3 *e*PKIKP PKPdf 08 45 01.6 -1.2
comp=Z,153nm,1.7s
AGO Saint Agoulin 160.00 1 PKP PKPdf 08 45 03.5 +0.4
PLDF La Plantade 160.09 0 PKP PKPdf 08 45 03.4 +0.2
TRAV 160.28 352 P PKPab 08 45 41.6 -1.6
PYM Petit Puy Mans 160.29 2 PKP PKPdf 08 45 04.3 +0.9
STS Santiago 160.37 28 PKIKP PKPdf 08 45 03.1 -0.5
LPL La Plagne 160.40 354 *e*PKIKP PKPdf 08 45 03.0 -0.5
LSD Ceresole Reale 160.41 353 PKP2 PKPab 08 45 43.3 -0.4
LPG La Plagne 160.41 354 *e*PKIKP PKPdf 08 45 03.3 -0.3
comp=Z,130nm,1.9s
EPON Pontenova 160.56 25 PKP PKPdf 08 45 01.9 -1.9
RJF Les Rejaudoux 160.66 5 *e*PKIKP PKPdf 08 45 02.7 -1.1
comp=Z,66nm,1.4s
RJF *e*R
comp=Z,7µm,20.8s
IGT Igoumenitsa 160.67 318 *e*P PKPab 08 45 44.7 -0.3
RSP Reno Superiore 160.70 353 PKP2 PKPab 08 45 43.8 -1.2
LBL Lubilhac 160.82 1 PKP PKPdf 08 45 04.9 +0.9
FENE Fenestrelle 160.84 353 P PKPab 08 45 44.9 -0.7
BNI Bardonecchia 160.86 354 *e*PKIKP PKPdf 08 45 04.0 0.0
GRAM 160.88 346 P PKPab 08 45 44.5 -1.2
EZAM Zamans 160.91 29 PKIKP PKPdf 08 45 04.2 0.0
LFF La Frestale 160.96 7 *e*PKIKP PKPdf 08 45 03.2 -0.9
comp=Z,124nm,1.6s
VALM 160.97 346 P PKPab 08 45 45.2 -1.0
RRL Cesana Torines 160.98 353 PKP2 PKPab 08 45 45.6 -0.6
BHB Bricherasio 161.00 352 P PKPab 08 45 44.3 -1.9
CODM 161.02 347 P PKPab 08 45 44.6 -1.8
EINC Incio 161.05 26 PKP PKPdf 08 45 04.2 -0.1
ORIF Oris-en-Rattie 161.06 355 *e*PKIKP PKPdf 08 45 03.4 -0.8
comp=Z,157nm,1.8s
ORIF *e*R
comp=Z,5µm,21.2s
CAF Calviac 161.08 4 *e*PKIKP PKPdf 08 45 03.6 -0.6
comp=Z,109nm,1.7s
BACM 161.08 346 P PKPab 08 45 45.0 -1.6
SARO Sassorosso 161.09 345 P PKPab 08 45 45.1 -1.6
PCP Pian Castagno 161.12 349 P PKPab 08 45 45.0 -1.8
MBDF Montbardon 161.17 353 *e*PKIKP PKPdf 08 45 03.6 -0.7
comp=Z,174nm,1.8s
EGOM La Gomera 161.18 79 PKP PKPdf 08 45 06.3 +1.5
VIVF Saint-Julien-l 161.19 358 *e*PKIKP PKPdf 08 45 03.7 -0.6
comp=Z,244nm,1.9s
VINC Vinca 161.19 346 P PKPab 08 45 44.6 -2.6
EARI Arriondas 161.25 21 PKP PKPdf 08 45 04.3 -0.2
MAIM 161.33 345 P PKPab 08 45 45.4 -2.3
ERUA La Rua 161.35 26 PKIKP PKPdf 08 45 03.4 -1.2
PZZ Prazzo 161.36 353 PKP2 PKPab 08 45 45.6 -2.2
ELOB Lobios 161.41 29 PKP PKPdf 08 45 05.4 +0.8
ROB Roburent 161.46 351 PKP2 PKPab 08 45 45.9 -2.4
FIN Finale Ligure 161.50 350 PKP2 PKPab 08 45 45.9 -2.6
STV Sta Anna Valdi 161.59 352 PKP2 PKPab 08 45 47.0 -1.9
ENR Entracque 161.59 352 PKP2 PKPab 08 45 46.1 -2.8
MONE Monesi 161.69 351 P PKPab 08 45 47.2 -2.1
SAOF Saorge 161.81 351 PKP PKPdf 08 45 04.1 -0.9
AUTN L'Aution 161.82 352 PKP PKPdf 08 45 04.7 -0.3
TOUF Mont Tournerai 161.82 352 PKP PKPdf 08 45 06.9 +1.9
IMI Imperia 161.84 350 P PKPab 08 45 47.3 -2.6
AQU L'Aquila 161.89 337 PKIKP PKPdf 08 45 05.1 0.0
NEGI Negi 161.93 351 P PKPab 08 45 47.6 -2.8
SBF Sospel 161.95 351 *e*PKIKP PKPdf 08 45 03.9 -1.2
comp=Z,86nm,1.2s
MVIF Mont Vial 161.95 352 PKP PKPdf 08 45 04.0 -1.1
LASF Ste Croix 161.98 360 *e*PKIKP PKPdf 08 45 04.6 -0.6
comp=Z,258nm,1.9s
PBRG Braganca 162.01 26 *e*PKPdf PKPdf 08 45 06.1 +0.8
PBRG *e*PKPab PKPab 08 45 49.7 -1.1
SMRF Simiane la Rot 162.02 356 *e*PKIKP PKPdf 08 45 04.9 -0.3
comp=Z,130nm,1.6s
PVRL Vila Real 162.04 29 *e*PKPdf PKPdf 08 45 06.3 +1.0
REVF Revere 162.08 352 PKP PKPdf 08 45 04.0 -1.3
VILF Villemus 162.13 355 PKP PKPdf 08 45 05.4 +0.1
PRAF Pradon 162.22 357 PKP PKPdf 08 45 05.2 -0.2
EALK Alkurruntz 162.30 13 PKP PKPdf 08 45 04.8 -0.7
FRF La Foret Royal 162.34 353 *e*PKIKP PKPdf 08 45 04.4 -1.1
comp=Z,144nm,1.7s
TAVF Tavernes 162.34 355 PKP PKPdf 08 45 05.0 -0.5
TREF Trevaresse 162.38 356 PKP PKPdf 08 45 05.4 -0.2
PVIS Viseu 162.41 31 *e*PKPdf PKPdf 08 45 06.0 +0.3
PUYF Puyloubier 162.45 355 PKP PKPdf 08 45 05.4 -0.3
SJPF Ste Jean 162.46 12 *e*PKIKP PKPdf 08 45 05.4 -0.3
comp=Z,166nm,1.7s
LARF Larrau 162.57 12 PKP PKPdf 08 45 06.2 +0.4
LMR La Mourre 162.58 353 *e*PKIKP PKPdf 08 45 04.6 -1.2
comp=Z,147nm,1.8s
EOSO Osorio 162.65 79 PKP PKPdf 08 45 06.3 -0.1
MTLF Montolieu 162.67 4 *e*PKIKP PKPdf 08 45 05.0 -0.9
comp=Z,73nm,1.4s
BERF Bertagne 162.67 355 PKP PKPdf 08 45 05.7 -0.2
ETSF Etsaut 162.78 11 *e*PKIKP PKPdf 08 45 05.9 -0.1
comp=Z,130nm,1.8s
EPF Esparros 162.79 9 *e*PKIKP PKPdf 08 45 05.6 -0.4
comp=Z,157nm,1.7s
MTE Manteigas 162.82 31 *e*PKPdf PKPdf 08 45 06.9 +0.8
MTE *e*SS tx 09 09 25.3
comp=Z,4µm,22.7s
PGF Pioggiola 162.96 347 *e*PKIKP PKPdf 08 45 04.8 -1.4
comp=Z,268nm,1.8s
PTOM Tomar 163.02 34 *e*PKPdf PKPdf 08 45 09.2 +2.8
EBIE Bielsa 163.10 9 PKP PKPdf 08 45 05.3 -1.0
PCBR Castelo Branco 163.30 32 *e*PKPdf PKPdf 08 45 06.8 +0.2
CFTV Fuerteventura 163.92 77 PKP PKPdf 08 45 07.0 -0.6
GUD Guadarrama 163.98 22 PKIKP PKPdf 08 45 06.1 -1.2
EMIR Miracle 164.03 6 PKP PKPdf 08 45 05.5 -1.8
EVO Evora 164.04 36 *e*PKIKP PKPdf 08 45 08.2 +0.8
comp=Z,230nm,1.6s
EVO *e*R
comp=Z,7µm,19.8s
PTEO Sao Teotonio 164.35 40 *e*PKPdf PKPdf 08 45 08.9 +1.1
EBAD Badajoz 164.38 33 PKP PKPdf 08 45 04.9 -2.8
EPOB Poblet 164.54 8 PKP PKPdf 08 45 07.7 -0.1
ERTA Horta de San J 164.82 10 PKP PKPdf 08 45 05.7 -2.4
ESDC Sonseca Array 164.91 24 PKP PKPdf 08 45 07.8 -0.5
comp=Z,20nm,1.2s,baz=344,slow=3.0,SNR=32
ESDC PKPab PKPab 08 46 02.0 -1.4
comp=Z,5.4nm,0.9s,baz=326,slow=4.3,SNR=7.2
ESDC PP PP 08 49 46.8 -4.3
comp=Z,0.9nm,0.8s,slow=5.9,SNR=4.2
ESDC Sonseca Array 164.91 24 PKP PKPdf 08 45 06.8 -1.5
PALC Alcoutim 165.11 37 *e*PKPdf PKPdf 08 45 08.9 +0.4

EMOS	Mosqueruela	165.25	13	PKP	PKPdf	08 45 06.1	-2.5
EMIN	Mina Concepcio	165.31	35	PKP	PKPdf	08 45 06.3	-2.4
EADA	Adamuz	165.97	28	PKP	PKPdf	08 45 07.0	-2.2
EVIA	Vianos	166.34	21	PKIKP	PKPdf	08 45 08.6	-0.9
ESPR	Espera	166.41	35	PKP	PKPdf	08 45 08.9	-0.8
ELUQ	Luque	166.61	29	PKIKP	PKPdf	08 45 09.4	-0.4
EQES	Quesada	166.89	25	PKP	PKPdf	08 45 08.1	-1.8
EBEN	Beniarda	166.90	14	PKP	PKPdf	08 45 09.7	-0.3
EMIJ	Mijas	167.19	33	PKP	PKPdf	08 45 07.5	-2.7
ERON	Agron	167.27	29	PKP	PKPdf	08 45 10.0	-0.2
EMUR	La Murta	167.46	19	PKP	PKPdf	08 45 10.8	+0.5
EBER	Berja	167.75	26	PKP	PKPdf	08 45 10.8	+0.4
ENIJ	Nijar	167.94	24	PKIKP	PKPdf	08 45 09.2	-1.4
EALB	Alboran	168.51	29	PKP	PKPdf	08 45 09.9	-1.1

IDC 16 08:30:21.6±9.2, 11.00N×92.84E, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, MS4.3/2, Ms1 4.4/2, ms1mx3.8/22, Error ellipse: s-maj=317.7km s-min=34.0km az=75.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**38.45**	**15**	P	P	08 37 45.1	-1.7
	1.0nm,1.2s,baz=194,slow=12,SNR=2.5						
ZAL	**Zalesovo**	**43.30**	**353**	LR	LR	08 56 37.1	
	comp=Z,1μm,21.6s,baz=283,slow=36						
NWAO	**Narrogin (SRO)**	**49.50**	**153**	LR	LR	09 00 51.7	
	comp=Z,115nm,18.6s,baz=68,slow=37						
WRA	**Warramunga Arr**	**51.13**	**127**	P	P	08 39 26.4	-2.2
	1.1nm,0.5s,baz=306,slow=8.3,SNR=5.9						
ASAR	**Alice Springs**	**52.91**	**131**	P	P	08 39 39.9	-2.1
	1.0nm,0.8s,baz=308,slow=7.2,SNR=5.5						
STKA	**Stephens Creek**	**63.19**	**134**	P	P	08 40 51.8	-2.2
	1.7nm,0.7s,baz=292,slow=5.4,SNR=2.8						
CLL	**Collm**	**75.15**	**320**	P	P	08 42 03.0	-4.4

*BJI **16** 08:43:43.6, 29.66N×80.55E, h12km, mB5.2, mb5.0, Ms4.9, Msz4.9*
*NEIC **16** 08:43:46.8±0.2, 29.65N×80.70E, h10km, mb4.8/46, Error ellipse: s-maj=6.6km s-min=4.2km az=205.0*
NEIC Felt strongly in the Askot-Dharchula-Jhulaghat-Pithoragarh area, India. Also felt strongly in western Nepal.
*LDG **16** 08:43:47.0±0.1, 29.43N×80.63E, h33km, Mb4.8/24, Error ellipse: s-maj=12.6km s-min=2.6km az=25.0*
*NDI **16** 08:43:47.9±3.6, 29.61N×80.75E, h10km, ML4.7, mb4.8(NEIC)*
*MOS **16** 08:43:48.3±0.9, 29.69N×80.70E, h33km, mb4.9/39, Error ellipse: s-maj=9.3km s-min=5.1km az=123.3*
*DMN **16** 08:43:49.2±0.6, 29.68N×81.14E, h10km, Ml5.1/6, Error ellipse: s-maj=30.3km s-min=11.2km az=26.0*
*IDC **16** 08:43:52.2±4.5, 29.66N×80.74E, h49km±42km, mb4.4/27, mb1 4.5/28, mb1mx4.5/30, mbtmp4.7/28, ML4.8/1, Error ellipse: s-maj=19.8km s-min=11.0km az=34.0*

ISC 16 08:43:45.0±0.1, 29.65N±0.02×80.69E±0.02, h10km, n225, σ1§14/249, mb4.7/78, MS4.5/2, 16C-10D, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**0.42**	**256**	*e*P	**Pg**	**08 43 56.6**	**+3.0**
PTH				*e*S	**Sg**	**08 44 03.0**	**+3.6**
KALG	**Kalgarh**	**1.69**	**266**	*e*P	**Pn**	**08 44 06.8**	**-8.0**
KALG				*e*S	**Sn**	**08 44 30.4**	**-6.2**
DDI	**Dehra Dun**	**2.38**	**287**	*e*PN	**Pn**	**08 44 29.6**	**+4.9**
DDI				*e*SN	**Sn**	**08 44 57.7**	**+3.5**
ASOR	**Ausora**	**2.70**	**251**	*e*P	**Pn**	**08 44 32.2**	**+3.0**
KLP	**Kalpa**	**2.82**	**312**	*e*P	**Pn**	**08 44 35.5**	**+4.5**
KLP				*e*S	**Sn**	**08 45 10.3**	**+4.9**
KLP				AML	AML	08 45 27.8	
	comp=N,4μm,0.4s						
KLP				AML	AML	08 45 28.6	
	comp=E,7μm,0.4s						
KOLN	**Koldanda**	**3.17**	**126**	*e*Pn	**Pn**	**08 44 39.7**	**+3.8**
KOLN	**Koldanda**	**3.17**	**126**	*e*Sn	**Sn**	**08 45 16.0**	**+1.8**
	comp=E,4μm,0.7s						
NDI	**New Delhi**	**3.19**	**253**	*e*PN	**Pn**	**08 44 38.5**	**+2.3**
NDI				*e*PG	**Pg**	**08 44 48.2**	**-0.4**
NDI				*e*SN	**Sn**	**08 45 16.5**	**+1.9**
NDI				*e*SG	**Sg**	**08 45 34.0**	**+2.9**
AYAN	**Aya Nagar**	**3.33**	**250**	*e*P	**Pn**	**08 44 41.5**	**+3.3**
KKR	**Kurukshetra**	**3.38**	**276**	*e*P	**Pn**	**08 44 41.1**	**+2.2**
AGRA	**Agra**	**3.41**	**226**	*e*P	**Pn**	**08 44 42.0**	**+2.6**
AGRA				*e*S	**Sn**	**08 45 21.9**	**+1.5**
AGRA				*e*		08 45 48.8	
	comp=E,4μm,0.3s						
AGRA				*e*		08 45 50.0	
	comp=N,3μm,0.5s						
BHGR	**Bahadurgarh**	**3.42**	**255**	*e*P	**Pn**	**08 44 43.3**	**+3.8**
GKN	**Gorkha**	**3.83**	**114**	*e*Pn	**Pn**	**08 44 48.2**	**+2.8**
GKN	**Gorkha**	**3.83**	**114**	*e*Sn	**Sn**	**08 45 32.6**	**+1.6**
	comp=N,3μm,0.3s						
KUDL	**Kundal**	**3.98**	**249**	*e*P	**Pn**	**08 44 50.0**	**+2.6**
DMN	**Daman**	**4.38**	**117**	*e*Pn	**Pn**	**08 44 55.8**	**+2.6**
DMN	**Daman**	**4.38**	**117**	*e*Sn	**Sn**	**08 45 45.1**	**+0.2**
	comp=N,2μm,0.5s						
ALBI	**Allahabad**	**4.44**	**167**	*e*P	**Pn**	**08 44 53.5**	**-0.4**
KKN	**Kakani**	**4.44**	**114**	*e*Pn	**Pn**	**08 44 55.0**	**+1.0**
KKN	**Kakani**	**4.44**	**114**	*e*Sn	**Sn**	**08 45 46.3**	**0.0**
	comp=N,1μm,0.4s						
KHET	**Khetri**	**4.56**	**251**	*e*P	**Pn**	**08 44 58.4**	**+2.6**
KHET				*e*S	**Sn**	**08 45 48.8**	**-0.6**
JHNI	**Jhansi**	**4.58**	**205**	*e*P	**Pn**	**08 44 56.0**	**0.0**
JHNI				*e*		08 45 52.0	
PKI	**Pulchoki**	**4.64**	**115**	*e*Pn	**Pn**	**08 44 58.7**	**+1.9**
PKI				*e*Sn	**Sn**	**08 45 51.2**	**-0.2**
PKI	**Pulchoki**	**4.64**	**115**	*e*Sn	**Sn**	**08 45 51.5**	**+0.1**
	comp=N,775nm,0.4s						
GUN	**Gumba**	**4.88**	**110**	*e*Pn	**Pn**	**08 45 02.4**	**+2.3**
GUN				*e*Sn	**Sn**	**08 45 56.6**	**-0.7**
GUN	**Gumba**	**4.88**	**110**	*e*Sn	**Sn**	**08 45 56.8**	**-0.5**
	comp=N,144nm,0.3s						
DLH	**Dalhousie**	**4.97**	**307**	*e*P	**Pn**	**08 45 03.0**	**+1.5**
DLH				*e*		08 46 04.0	
JIRN	**Jiri**	**5.22**	**111**	*e*Pn	**Pn**	**08 45 07.1**	**+2.0**
JIRN				*e*Sn	**Sn**	**08 46 04.9**	**-1.3**
AJM	**Ajmer**	**6.21**	**241**	⇓*i*P	**Pn**	**08 45 19.0**	**+0.1**
BHPL	**Bhopal**	**7.02**	**205**	*i* P	**Pn**	**08 45 30.2**	**-0.2**
BHPL				*e*S	**Sn**	**08 46 46.3**	**-4.8**
BHPL				*e*		08 47 39.5	
	comp=N,797nm,0.6s						
BHPL				*e*		08 47 41.1	
	comp=E,1μm,1.1s						
BOK	**Bokaro**	**7.46**	**140**	*e*P	**Pn**	**08 45 36.0**	**-0.5**
BOK				*e*S	**Sn**	**08 46 54.2**	**-7.7**
BOK				*e*		08 47 59.4	
	comp=E,472nm,0.9s						
BOK				*e*		08 48 00.2	
	comp=N,428nm,0.8s						
CHCP	**Chirah Chowk**	**7.48**	**304**	⇑P	**Pn**	**08 45 37.2**	**+0.3**
BLSP	**Bilaspur**	**7.60**	**170**	*e*P	**Pn**	**08 45 37.6**	**-1.0**
BLSP				*e*S	**Sn**	**08 46 58.2**	**-7.4**
BLSP				AML	AML	08 47 04.6	
	comp=E,414nm,0.2s						
BLSP				AML	AML	08 47 05.8	
	comp=N,440nm,0.4s						
BLSP	**Bilaspur**	**7.60**	**170**	*e*P	**Pn**	**08 45 38.3**	**-0.2**
BLSP				*e*S	**Sn**	**08 47 00.4**	**-5.2**
BLSP				*e*		08 47 01.6	
	comp=N,658nm,0.7s						
BLSP				*e*		08 47 01.9	
	comp=E,502nm,0.4s						
THW	**Thamme Wali**	**8.28**	**295**	⇓P	**P**	**08 45 47.0**	**-1.0**
CEP	**Cherat**	**8.55**	**301**	P	**P**	**08 45 51.6**	**-0.2**
CEP				S	**Sn**	**08 47 24.0**	**-5.4**
NGP	**Nagpur**	**8.59**	**190**	*e*P	**P**	**08 45 52.8**	**+0.4**
NGP				*e*		08 45 53.6	
NGP				*e*S	**Sn**	**08 47 24.1**	**-6.3**
SBDP	**Sheikh Budin**	**8.88**	**290**	P	**P**	**08 45 56.2**	**-0.2**
JASL	**Jaisalmer**	**9.04**	**255**	*e*P	**P**	**08 45 57.6**	**-1.0**
LSA	**Lhasa**	**9.10**	**87**	P	**P**	**08 46 01.3**	**+1.9**
LSA				S	**Sn**	**08 47 38.4**	**-4.6**
LSA				Smax			
	comp=N,70nm,0.8s						
LSA				Smax			
	comp=E,90nm,0.8s						
LSA	**Lhasa**	**9.10**	**87**	*e*P	**P**	**08 46 00.7**	**+1.3**
LSA				*e*S	**Sn**	**08 47 34.7**	**-8.3**
LSA				pmax	pmax		
	comp=Z,53nm,0.4s						
LSA	**Lhasa**	**9.10**	**87**	*e*P	**P**	**08 46 00.7**	**+1.3**
	comp=Z,53nm,0.4s						
LSA				*e*S	**Sn**	**08 47 34.7**	**-8.3**
DRP	**Derazinda**	**9.27**	**286**	⇓P	**P**	**08 46 01.3**	**-0.4**
SHL	**Shillong**	**10.73**	**110**	*e*P	**P**	**08 46 19.0**	**-2.8**
SHL				*e*S	**S**	**08 48 10.0**	**-13**
BHV	**Bhavnagar**	**11.01**	**226**	*e*P	**P**	**08 46 23.5**	**-2.1**
LATR	**Latur**	**11.80**	**200**	*e*P	**P**	**08 46 33.5**	**-2.9**
VIS	**Vishakhapatnam**	**12.12**	**168**	*e*P	**P**	**08 46 38.1**	**-2.6**
VIS				*e*S	**S**	**08 48 42.9**	**-14**
VIS				*e*		08 50 19.7	
	comp=N,109nm,1.2s						
VIS				*e*		08 50 20.4	
	comp=E,241nm,1.1s						
HYB	**Hyderabad**	**12.33**	**190**	⇑*e*P	**P**	**08 46 41.0**	**-2.6**
HYB				pmax	pmax		
	comp=Z,115nm,0.8s						
HYB	**Hyderabad**	**12.33**	**190**	⇑*e*P	**P**	**08 46 41.0**	**-2.6**
	comp=Z,115nm,0.8s						
HYB				*e*S	**S**	**08 48 47.5**	**-15**
HYB	**Hyderabad**	**12.33**	**190**	⇑*i*P	**P**	**08 46 41.0**	**-2.6**
	comp=Z,115nm,0.8s						
HYB				*e*		08 48 47.5	
HYB				*e*S	**S**	**08 48 52.0**	**-10**
POO	**Poona**	**12.71**	**211**	⇑*i*P	**P**	**08 46 46.0**	**-2.6**
POO				*i* S	**S**	**08 48 59.0**	**-12**
BOM	**Bombay**	**12.88**	**216**	*e*P	**P**	**08 46 47.0**	**-3.9**
BOM				*e*		08 49 10.1	
KAD	**Karad**	**13.65**	**207**	*e*P	**P**	**08 46 58.8**	**-2.4**
KAD				*i* S	**S**	**08 49 21.9**	**-12**
AAK	**Ala-Archa**	**13.88**	**341**	*i* P	**P**	**08 47 02.7**	**-1.4**
AAK				pmax	pmax		
	comp=Z,15nm,1.3s						
AAK	**Ala-Archa**	**13.88**	**341**	*e*P	**P**	**08 47 01.3**	**-2.7**
WMQ	**Urumqi**	**15.21**	**20**	*e*P	**P**	**08 47 23.4**	**+2.0**
WMQ				PP	PP	08 47 37.0	+3.4
WMQ				S	**S**	**08 50 09.3**	**-1.3**
WMQ				AMB	AMB		
	comp=Z,149nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,357nm,4.7s						
WMQ				LR	LR		
	comp=N,2μm,15.0s						
WMQ				LR	LR		
	comp=E,2μm,15.4s						
WMQ				LR	LR		
	comp=Z,3μm,17.3s						
GOA	**Goa**	**15.44**	**206**	*e*P	**P**	**08 47 25.8**	**+1.1**
GOA				*e*		08 50 06.8	
MKAR	**Makanchi Array**	**17.16**	**4**	P	**P**	**08 47 45.2**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MNGI	**Mangalore**	**17.49**	**199**	*i* P	**P**	**08 47 49.8**	**-1.0**
MNGI				*i*		08 52 54.6	
CMAR	**Chiang Mai Arr**	**20.02**	**120**	P	**P**	**08 48 20.6**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=312,slow=10,SNR=30						
LZH	**Lanzhou**	**20.46**	**66**	⇑P	**P**	**08 48 24.5**	**-0.9**
LZH				AP		08 48 32.5	
LZH				XP		08 48 36.3	
LZH				AMB	AMB		
	comp=Z,53nm,1.3s						
LZH				AMB	AMB		
	comp=Z,102nm,6.3s						
LZH				LR	LR		
	comp=N,512nm,13.2s						
LZH				LR	LR		
	comp=Z,737nm,17.4s,MS4.1						
ZAL	**Zalesovo**	**24.45**	**6**	P	**P**	**08 49 06.1**	**+1.2**
	comp=Z,20nm,0.4s,mb4.8,baz=285,slow=5.9,SNR=75						
BVA0	**Borovoye Array**	**24.55**	**345**	*i* P	**P**	**08 49 06.7**	**+0.9**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**24.55**	**345**	P	**P**	**08 49 06.8**	**+0.9**
	comp=Z,16nm,0.6s,mb4.8,baz=149,slow=12,SNR=82						
BVAR				PcP	PcP	08 52 45.1	-0.1
	comp=Z,0.9nm,0.5s,baz=198,slow=3.5,SNR=4.4						
BRVK	**Borovoye**	**24.61**	**345**	*e*P	**P**	**08 49 06.8**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb4.6						
BRVK	**Borovoye**	**24.61**	**345**	*e*P	**P**	**08 49 06.8**	**+0.4**
	comp=Z,7.6nm,0.4s,mb4.6						
ENH	**Enshi**	**24.93**	**81**	⇑*e*P	**P**	**08 49 10.2**	**+0.5**
	comp=Z,56nm,0.6s,mb5.3						
CHKZ	**Chkalovo**	**25.11**	**346**	⇑*i*P	**P**	**08 49 11.9**	**+0.7**
CHKZ				pmax	pmax		
	comp=Z,34nm,0.6s,mb5.0						
CHKZ	**Chkalovo**	**25.11**	**346**	⇑*i*P	**P**	**08 49 11.9**	**+0.7**
	comp=Z,34nm,0.6s,mb5.0						
NVS	**Novosibirsk**	**25.24**	**3**	*e*P	**P**	**08 49 11.3**	**-1.1**
NVS				pmax	pmax		
	comp=N,17nm,1.2s						
NVS				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.6						
MOY	**Mondy**	**26.68**	**29**	*e*P	**P**	**08 49 27.2**	**+1.4**
ZAK	**Zakamensk**	**26.79**	**33**	⇑*e*P	**P**	**08 49 27.9**	**+1.0**
SONM	**Songino Array**	**26.86**	**40**	P	**P**	**08 49 29.1**	**+1.7**
	comp=Z,13nm,0.5s,mb4.7,baz=227,slow=9.6,SNR=186						
SONM				PcP	PcP	08 52 49.7	-0.7
	comp=Z,0.7nm,0.6s,baz=238,slow=2.7,SNR=2.9						
ULN	**Ulaanbaatar**	**27.24**	**41**	*e*P	**P**	**08 49 32.0**	**+1.0**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.5						
ULN	**Ulaanbaatar**	**27.24**	**41**	*e*P	**P**	**08 49 32.0**	**+0.9**
	comp=Z,5.9nm,0.4s,mb4.5						
TLY	**Talaya**	**27.85**	**31**	*e*P	**P**	**08 49 34.6**	**-1.8**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
TLY	**Talaya**	**27.85**	**31**	*e*P	**P**	**08 49 34.6**	**-1.8**
	comp=Z,2.3nm,0.6s,mb4.0						
WHN	**Wuhan**	**29.08**	**80**	⇓P	**P**	**08 49 48.0**	**+0.2**
BJT	**Baijiatuau**	**30.73**	**61**	*e*P	**P**	**08 50 02.9**	**+0.6**
BJT				pmax	pmax		
	comp=Z,11nm,0.5s						
BJT	**Baijiatuau**	**30.73**	**61**	*e*P	**P**	**08 50 02.9**	**+0.6**
	comp=Z,11nm,0.5s,mb4.9						
ARU	**Arti**	**30.99**	**336**	*e*P	**P**	**08 50 01.4**	**-3.1**
ARU				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.9						
ARU	**Arti**	**30.99**	**336**	*e*P	**P**	**08 50 01.4**	**-3.2**
	comp=Z,9.7nm,0.5s,mb4.9						
GNI	**Garni**	**31.10**	**299**	*i* P	**P**	**08 50 01.7**	**-3.9**
GNI				pmax	pmax		
	comp=Z,14nm,1.6s						
ZEI	**Tsey**	**32.18**	**304**	*e*P	**P**	**08 50 16.6**	**+1.5**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.5						
NJ2	**Nanjing**	**32.74**	**76**	*e*P	**P**	**08 50 21.4**	**+1.3**
NJ2				AP	pP	08 50 30.8	+7.7
NJ2				PP	PP	08 51 32.3	+2.8
NJ2				S	**S**	**08 55 36.0**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
NJ2				LR	LR		
	comp=N,4μm,21.6s						
NJ2				LR	LR		
	comp=E,3μm,15.8s						
NJ2				LR	LR		
	comp=Z,3μm,23.5s,MS4.9						
KIV	**Kislovodsk**	**33.30**	**306**	*i* P	**P**	**08 50 23.2**	**-1.6**
SSE	**Sheshan**	**34.84**	**77**	*e*P	**P**	**08 50 36.6**	**-1.6**
SSE				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,139nm,5.0s						
HIA	**Hailar**	**35.44**	**45**	*e*P	**P**	**08 50 42.9**	**-0.3**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HIA	**Hailar**	**35.44**	**45**	*e*P	**P**	**08 50 42.9**	**-0.3**
	comp=Z,5.8nm,0.7s,mb4.6						
MALT	**Malatya**	**35.84**	**295**	*e*P	**P**	**08 50 48.8**	**+2.1**
MALT				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
MALT	**Malatya**	**35.84**	**295**	*e*P	**P**	**08 50 48.8**	**+2.1**
	comp=Z,4.7nm,0.7s,mb4.5						
BRTR	**Keskin Array B**	**39.58**	**298**	P	**P**	**08 51 19.4**	**+1.3**
	comp=Z,3.2nm,0.7s,mb4.2,baz=122,slow=8.3,SNR=7.6						
OBN	**Obninsk**	**40.37**	**322**	⇑*e*P	**P**	**08 51 23.4**	**-1.0**
OBN				*e**PP	pP	08 51 40.1	+13
OBN				*e*S	**S**	**08 57 32.2**	**+0.1**
OBN				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.8						
AKASG	**Malin Array Be**	**43.55**	**314**	P	**P**	**08 51 50.8**	**+0.3**
	comp=Z,2.9nm,0.6s,mb4.2,baz=74,slow=7.5,SNR=16						
CFR	**Carcaliu**	**43.76**	**306**	⇑*i*P	**P**	**08 51 52.4**	**+0.2**
VRI	**Vrincioaia**	**44.77**	**307**	⇑*i*P	**P**	**08 52 02.7**	**+2.3**
YAK	**Yakutsk**	**45.30**	**30**	*e*P	**P**	**08 52 04.2**	**-0.2**
YAK				pmax	pmax		
	comp=Z,40nm,0.6s,mb5.4						
YAK	**Yakutsk**	**45.30**	**30**	*e*P	**P**	**08 52 04.2**	**-0.3**
	comp=Z,40nm,0.6s,mb5.4						
MLR	**Muntele Rosu**	**45.31**	**306**	P	**P**	**08 52 06.3**	**+1.7**
	comp=Z,19nm,0.8s,mb5.0,baz=119,slow=1.6,SNR=17						
MLR	**Muntele Rosu**	**45.31**	**306**	⇓*i*P	**P**	**08 52 07.3**	**+2.7**
MLR	**Muntele Rosu**	**45.31**	**306**	⇓*i*P	**P**	**08 52 07.3**	**+2.6**
BURAR	**Bucovina Array**	**45.87**	**309**	⇓P	**P**	**08 52 10.1**	**+1.0**
IDI	**Anoyia**	**46.89**	**292**	P	**P**	**08 52 18.0**	**+0.7**
	comp=Z,10.0nm,0.6s,mb4.9,baz=84,slow=9.1,SNR=6.4						
VTS	**Vitosha**	**47.35**	**302**	⇓P	**P**	**08 52 22.0**	**+1.1**
KWP	**Kalwaria**	**47.62**	**312**	*e*P	**P**	**08 52 24.4**	**+1.5**
FINES	**FINESS Array B**	**47.63**	**328**	P	**P**	**08 52 23.3**	**+0.4**
	comp=Z,7.8nm,0.6s,mb5.0,baz=112,slow=9.3,SNR=65						
KAF	**Kangasniemi**	**47.72**	**329**	*e*p	**P**	**08 52 23.4**	**-0.1**
	comp=Z,2.6nm,0.6s,mb4.4						
TIXI	**Tiksi**	**49.41**	**18**	⇓*i*P	**P**	**08 52 35.6**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
ARCES	**ARCESS Array B**	**50.54**	**338**	P	**P**	**08 52 45.8**	**+0.7**
	comp=Z,17nm,0.5s,mb5.2,baz=101,slow=7.6,SNR=145						
KTK1	**Kautokeino**	**51.11**	**337**	*e*P	**P**	**08 52 49.5**	**+0.1**
	comp=Z,50nm,1.9s,mb5.1						
KTK1	**Kautokeino**	**51.11**	**337**	⇑*i*P	**P**	**08 52 49.5**	**+0.1**
KTK1				*e*pP	pP	08 52 52.7	+0.2
KTK1				*e*sP	sP	08 52 54.0	+0.4
KTK1				AMb	AMB	08 52 56.7	
	comp=Z,50nm,1.9s,mb5.1						
VRAC	**Vranov**	**51.61**	**311**	P	**P**	**08 52 54.7**	**+1.2**
	comp=Z,1.0nm,0.4s,mb4.1,baz=97,slow=6.9,SNR=3.6						
TRO	**Tromso**	**52.75**	**337**	*e*P	**P**	**08 53 00.8**	**-1.1**
TRO				AMb	AMB	08 53 09.2	
	comp=Z,69nm,1.9s,mb5.2						
HFS	**Hagfors**	**53.39**	**325**	P	**P**	**08 53 06.7**	**+0.1**
	comp=Z,7.5nm,0.5s,mb4.8,baz=112,slow=8.0,SNR=20						
GERES	**GERESS Array B**	**53.54**	**311**	P	**P**	**08 53 08.2**	**+0.3**
	comp=Z,2.0nm,0.8s,mb4.1,baz=90,slow=6.5,SNR=9.6						
KHC	**Kasperske Hory**	**53.59**	**311**	*e*P	**P**	**08 53 08.5**	**+0.2**
MOR8	**Moi Rana**	**53.69**	**333**	*e*P	**P**	**08 53 08.1**	**-0.7**
	comp=Z,68nm,2.1s,mb5.2						
MOR8	**Moi Rana**	**53.69**	**333**	*e*P	**P**	**08 53 08.1**	**-0.7**
MOR8				AMb	AMB	08 53 22.5	
	comp=Z,68nm,2.1s,mb5.2						
CLL	**Collm**	**53.80**	**314**	P	**P**	**08 53 10.0**	**+0.2**
NSS	**Namsos**	**54.52**	**330**	*e*P	**P**	**08 53 14.6**	**-0.3**
NB2	**NORSAR Subarra**	**54.65**	**326**	P	**P**	**08 53 14.8**	**-1.1**
	comp=Z,2.0nm,0.5s,mb4.4,baz=92,slow=7.9						
NB2	**NORSAR Subarra**	**54.65**	**326**	P	**P**	**08 53 14.8**	**-1.1**
	baz=92,slow=7.9						
NOA	**NORSAR Array B**	**54.65**	**326**	P	**P**	**08 53 15.2**	**-0.7**
	comp=Z,1.7nm,0.5s,mb4.3,baz=91,slow=7.3,SNR=7.7						
MA2	**Magadan**	**54.93**	**36**	*i* P	**P**	**08 53 17.5**	**-0.5**
MA2				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
GRA1	**Grafenberg Arr**	**55.07**	**312**	*e*P	**P**	**08 53 19.7**	**+0.5**
	comp=Z,6.0nm,1.0s,mb4.6						
GRF	**Grafenberg Arr**	**55.07**	**312**	*e*P	**P**	**08 53 19.7**	**+0.5**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
GRF	**Grafenberg Arr**	**55.07**	**312**	*e*P	**P**	**08 53 19.7**	**+0.5**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
GRF	**Grafenberg Arr**	**55.07**	**312**	*e*P	**P**	**08 53 19.7**	**+0.5**
	comp=Z,6.0nm,1.0s,mb4.6						
DAVOX	**Davos**	**56.34**	**309**	P	**P**	**08 53 28.1**	**-0.3**
	comp=Z,6.4nm,0.5s,mb5.0,baz=52,slow=7.0,SNR=18						
PGF	**Pioggiola**	**57.74**	**304**	*e*P	**P**	**08 53 37.9**	**-0.5**
CDF	**Champ du Feu**	**57.82**	**311**	*e*P	**P**	**08 53 37.9**	**-0.9**
HINF	**Hinteralfeld**	**58.20**	**310**	*e*P	**P**	**08 53 40.6**	**-0.9**
	comp=Z,8.1nm,0.6s,mb4.6						
HINF	**Hinteralfeld**	**58.20**	**310**	*e*P	**P**	**08 53 40.6**	**-0.9**
HINF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
HAU	**Haudompre**	**58.50**	**311**	*e*P	**P**	**08 53 43.1**	**-0.5**
	comp=Z,13nm,0.7s,mb4.8						
HAU	**Haudompre**	**58.50**	**311**	*e*P	**P**	**08 53 43.1**	**-0.5**
HAU				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
SBF	**Sospel**	**58.58**	**306**	*e*P	**P**	**08 53 43.8**	**-0.4**
	comp=Z,25nm,0.6s,mb5.1						
SBF	**Sospel**	**58.58**	**306**	*e*P	**P**	**08 53 43.8**	**-0.4**
SBF				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
LPG	**La Plagne**	**58.72**	**308**	*e*P	**P**	**08 53 45.4**	**+0.3**
	comp=Z,24nm,0.6s,mb5.1						
LPG	**La Plagne**	**58.72**	**308**	*e*P	**P**	**08 53 45.4**	**+0.3**
LPG				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
LPL	**La Plagne**	**58.73**	**308**	*e*P	**P**	**08 53 45.4**	**+0.2**
	comp=Z,43nm,0.6s,mb5.4						
LPL	**La Plagne**	**58.73**	**308**	*e*P	**P**	**08 53 45.4**	**+0.2**
LPL				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.4						
MBDF	**Montbardon**	**58.86**	**307**	*e*P	**P**	**08 53 45.6**	**-0.6**
	comp=Z,15nm,0.7s,mb4.8						
MBDF	**Montbardon**	**58.86**	**307**	*e*P	**P**	**08 53 45.6**	**-0.6

GRR Gorron 63.12 312 eP P 08 54 14.4 -0.5
MFF Saint Martin d 63.12 310 eP P 08 54 14.0 -1.0
comp=Z,9.1nm,0.6s,mb4.8
MFF Saint Martin d 63.12 310 eP P 08 54 14.0 -1.0
MFF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
EPOB Poblet 63.76 304 P P 08 54 20.5 +1.2
comp=Z,3.9nm,0.7s,mb4.5
EPF Esparros 63.79 306 eP P 08 54 19.0 -0.4
EBIE Bielsa 64.03 306 P P 08 54 20.4 -0.6
comp=Z,2.0nm,0.5s,mb4.4
EGRA Graus 64.05 305 P P 08 54 19.2 -2.0
SGMF Saint Gilles 64.24 313 eP P 08 54 21.6 -0.7
ETSF Etsaut 64.46 306 eP P 08 54 23.5 -0.3
comp=Z,9.1nm,0.8s,mb4.5
ETSF Etsaut 64.46 306 eP P 08 54 23.5 -0.3
ETSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ROSF Rostrenen 64.68 313 eP P 08 54 24.6 -0.5
QUIF Quistinic 64.73 312 eP P 08 54 24.5 -1.0
SJPF Ste Jean 64.86 307 eP P 08 54 25.5 -0.9
comp=Z,3.5nm,0.5s,mb4.3
SJPF Ste Jean 64.86 307 eP P 08 54 25.5 -0.9
SJPF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
EMOS Mosqueruela 65.18 304 P P 08 54 28.5 0.0
comp=Z,8.3nm,0.9s,mb4.8
GUD Guadarrama 67.74 305 P P 08 54 45.5 +0.7
GUD pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
GUD Guadarrama 67.74 305 P P 08 54 45.5 +0.7
comp=Z,3.7nm,0.6s,mb4.6
ESDC Sonseca Array 67.94 304 P P 08 54 46.1 0.0
comp=Z,2.3nm,0.6s,mb4.4,baz=59,slow=7.0,SNR=12
ESDC Sonseca Array 67.94 304 P P 08 54 46.5 +0.4
comp=Z,2.1nm,0.6s,mb4.3
EBER Berja 68.14 301 P P 08 54 51.8 +4.4
comp=Z,8.7nm,0.7s,mb4.9
FX1 Attu Island--F 68.36 41 P P 08 54 48.2 -0.3
comp=Z,18nm,0.6s,mb5.3,baz=266,slow=14,SNR=3.7
EBAD Badajoz 70.48 304 P P 08 55 02.3 +0.6
comp=Z,8.6nm,0.6s,mb4.9
EMIN Mina Concepcio 70.61 303 P P 08 55 03.2 +0.7
comp=Z,3.4nm,0.5s,mb4.5
WRA Warramunga Arr 71.43 127 P P 08 55 07.2 -0.5
comp=Z,4.8nm,0.4s,mb4.8,baz=321,slow=6.0,SNR=96
WRAB Tennant Creek 71.43 127 eP P 08 55 07.1 -0.7
WRAB pmax pmax
comp=Z,14nm,0.8s,mb4.9
WRAB Tennant Creek 71.43 127 eP P 08 55 07.1 -0.7
comp=Z,14nm,0.8s,mb5.0
WB2 Warramunga Arr 71.44 127⇑iP P 08 55 07.2 -0.6
ASPA Alice Springs 73.65 130⇓iP P 08 55 20.4 -0.5
ASAR Alice Springs 73.65 130 P P 08 55 20.4 -0.5
comp=Z,2.9nm,0.5s,mb4.5,baz=315,slow=6.0,SNR=72
IMA Indian Mountai 75.97 20 eP P 08 55 33.5 +0.2
COLA College 78.52 19 eP P 08 55 47.5 0.0
COLA pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
COLA College 78.52 19 eP P 08 55 47.5 0.0
comp=Z,4.5nm,0.8s,mb4.5
ILAR Eielson Array 78.87 19 P P 08 55 49.1 -0.3
comp=Z,2.1nm,0.7s,mb4.2,baz=310,slow=3.8,SNR=16
ILAR PP PP 08 58 44.4 -5.5
comp=Z,0.8nm,0.7s,baz=307,slow=5.9,SNR=4.8
INK Inuvik 79.09 12 P P 08 55 50.8 +0.2
comp=Z,9.4nm,0.5s,mb4.9,baz=355,slow=6.7,SNR=80
CTA Charters Tower 80.19 120 eP P 08 55 58.1 +0.7
comp=Z,3.9nm,0.6s,mb4.5
CTA Charters Tower 80.19 120 eP P 08 55 58.1 +0.7
CTA pmax pmax
comp=Z,4.0nm,0.6s
CTA Charters Tower 80.19 120 P P 08 55 58.0 +0.5
comp=Z,4.0nm,0.6s,mb4.5,baz=304,slow=1.0,SNR=14
DBIC Dimbokro 82.88 274 P P 08 56 12.9 +1.3
comp=Z,3.7nm,0.9s,mb4.4,baz=46,slow=8.3,SNR=5.0
STKA Stephens Creek 84.18 132 eP P 08 56 17.3 -0.6
comp=Z,4.7nm,1.8s,mb4.3
STKA Stephens Creek 84.18 132 P P 08 56 17.6 -0.4
comp=Z,1.8nm,0.6s,mb4.4,baz=2.3,slow=18,SNR=6.8
YKW3 Yellowknife Ar 87.29 7⇑eP P 08 56 32.0 -0.6
YKA Yellowknife Ar 87.36 7 P P 08 56 33.0 +0.1
comp=Z,5.7nm,0.6s,mb5.0,baz=340,slow=5.2,SNR=71
DLBC Dease Lake 88.57 16 P P 08 56 39.6 +0.9
comp=Z,5.1nm,1.0s,mb4.8,baz=322,slow=25,SNR=9.4
SCHQ Schefferville 91.34 342 P P 08 56 52.5 +0.7
comp=Z,1.6nm,0.5s,mb4.6,baz=35,slow=8.2,SNR=7.3
SCHQ PP PP 09 00 29.6 -2.2
comp=Z,3.0nm,0.8s,baz=60,slow=7.7,SNR=4.4
PDAR Pinedale Array 107.33 8 PKIKP 09 02 13.4
comp=Z,0.4nm,0.7s,baz=56,slow=3.3,SNR=4.8
MNTX Cornudas Mount 118.72 6 ePKPdf PKPdf 09 02 35.7 -1.0
TXAR Lajitas Array 121.20 4 PKP PKPdf 09 02 40.6 -1.0
comp=Z,0.8nm,0.6s,baz=176,slow=0.7,SNR=24
TRQA Tornquist 148.05 245 ePKPbc PKPdf 09 03 34.5 +3.8
LPAZ La Paz 148.47 288 PKPbc PKPdf 09 03 34.7 +2.8
comp=Z,2.3nm,0.9s,baz=356,slow=12,SNR=5.0
LPAZ La Paz 148.47 288 ePKPdf PKPdf 09 03 31.7 -0.2

*IDC **16** 08:51:35.1±1.2,25.43S×176.20W,mb4.1/10,mb1 4.3/11, mb1mx4.3/15,mbtmp4.1/11,ML4.0/1,Error ellipse: s-maj=54.0km s-min=20.6km az=156.0*
*NEIC **16** 08:51:41.3±1.5,25.59S×176.25W,h45km±14km,mb4.3/4, Error ellipse: s-maj=21.8km s-min=11.0km az=138.0*
ISC 16 08:51:38.6±2.5,25.6S±0.1×176.3W±0.1,h34km±23km,n20, σ0§88/19,mb4.0/12,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	12.35	21	P	P	08 54 35.4	+0.4
URZ	Urewera	13.83	202	Pn	P	08 54 54.4	-0.1
	0.7nm,0.3s,baz=300,slow=3.3,SNR=3.7						
URZ				Sn	S	08 57 18.5	-9.5
	0.3nm,0.3s,baz=57,slow=24,SNR=2.8						
CTA	Charters Tower	34.91	271	eP	P	08 58 27.5	-1.8
	1.5nm,0.6s,mb4.1,baz=72,slow=9.6,SNR=2.2						
CTAO	Charters Tower	34.91	271	eP	P	08 58 27.7	-1.7
	2.1nm,0.6s,mb4.2						
STKA	Stephens Creek	37.32	250	P	P	08 58 50.6	+1.0
	1.1nm,0.5s,mb3.9,baz=96,slow=13,SNR=2.4						
PMG	Port Moresby	38.26	288	P	P	08 58 57.0	-0.6
	7.5nm,1.0s,mb4.4,baz=128,slow=16,SNR=2.8						
PMG	Port Moresby	38.26	288	P	P	08 58 56.3	-1.4
	2.9nm,0.5s,mb4.3						
ASAR	Alice Springs	45.15	261	P	P	08 59 53.7	-0.3
	1.2nm,0.8s,mb3.8,baz=109,slow=8.1,SNR=6.6						
WRAB	Tennant Creek	45.70	267	eP	P	08 59 59.6	+1.1
	0.9nm,0.4s,mb4.0						
WRA	Warramunga Arr	45.71	267	P	P	08 59 58.3	-0.2
	0.7nm,0.5s,mb3.9,baz=104,slow=7.8,SNR=5.4						
NVAR	Mina Array Bea	83.65	42	P	P	09 04 05.1	-0.1
	2.3nm,1.1s,mb4.2,baz=211,slow=5.3,SNR=7.7						
NVAR	Mina Array Bea	83.65	42	P	P	09 04 05.1	-0.1
TXAR	Lajitas Array	88.47	56	P	P	09 04 28.8	-0.3
	0.6nm,0.8s,mb3.9,baz=211,slow=7.3,SNR=4.1						
PDAR	Pinedale Array	91.57	43	P	P	09 04 42.5	-0.9
	0.6nm,0.9s,mb3.9,baz=225,slow=4.2,SNR=3.8						
BOZ	Bozeman (W)	91.98	39	eP	P	09 04 45.2	+0.1
	2.2nm,0.9s,mb4.5						
ILAR	Eielson Array	92.91	12	P	P	09 04 49.1	+0.2
	0.1nm,0.7s,mb3.4,baz=320,slow=34,SNR=2.7						
ILAR	Eielson Array	92.91	12	P	P	09 04 49.1	+0.2
CMAR	Chiang Mai Arr	93.30	289	P	P	09 04 53.8	+2.0
	1.1nm,0.5s,mb4.5,baz=138,slow=3.2,SNR=6.4						
AKASG	Malin Array Be	148.20	329	PKPbc	PKPdf	09 11 21.0	+3.6
	1.0nm,0.6s,baz=39,slow=3.6,SNR=4.8						
BRTR	Keskin Array B	151.31	307	PKPbc	PKPdf	09 11 31.6	+9.0
	0.6nm,0.6s,baz=86,slow=2.8,SNR=3.0						
BRTR				PKPab	PKPab	09 11 38.9	-0.3
	1.3nm,0.7s,baz=124,slow=5.2,SNR=4.2						

MAN 16 08:52:43.8,8.02N×124.09E,h1km,mb4.3,ML3.1,MS2.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	Ipil	1.52	261	eP	Pn	08 53 12.1	-0.2
IPIL				eS	Sb	08 53 33.2	+0.9
SNPH	Sibulan	1.56	327	eP	Pn	08 53 13.5	+0.7
MSLP	Maasin	2.23	20	eP	Sn	08 53 52.0	+1.0

*IDC **16** 09:21:26.9±1.7,3.23S×139.43E,mb4.0/2,mb1 4.1/5, mb1mx4.0/12,mbtmp4.0/5,ML3.7/3,Error ellipse: s-maj=46.6km s-min=25.2km az=94.0*
*NEIC **16** 09:21:28.9±0.8,3.22S×139.53E,h10km,mb4.2/3,Error ellipse: s-maj=12.6km s-min=11.4km az=174.0*
ISC 16 09:21:27.3±1.3,3.4S±0.1×139.5E±0.1,h10km,n14, σ1§02/13,mb3.8/2,1D,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	9.67	129	Pn	P	09 23 49.5	-0.2
	0.5nm,0.3s,baz=303,slow=16,SNR=2.4						
KAKA	Kakadu	11.62	217	⇓iP	P	09 24 16.5	+0.1
	43nm,0.4s						
WRAB	Tennant Creek	17.21	197	eP	P	09 25 28.3	-1.3
	25nm,0.8s						
WB2	Warramunga Arr	17.22	197	eP	P	09 25 28.3	-1.4
WRA	Warramunga Arr	17.22	197	Pn	P	09 25 28.4	-1.3
	1.8nm,0.3s,baz=18,slow=13,SNR=23						
WRA				Lg		09 30 39.3	
	0.4nm,0.3s,baz=9.9,slow=25,SNR=4.7						
CTA	Charters Tower	17.86	159	Pn	P	09 25 39.5	+1.8
	0.1nm,0.3s,baz=333,slow=14,SNR=1.6						
CTA				Lg		09 30 58.2	
	0.1nm,0.3s,baz=73,slow=19,SNR=2.6						
CTA	Charters Tower	17.86	159	Pn	P	09 25 39.5	+1.8
CTA				Lg		09 30 58.2	
CTAO	Charters Tower	17.86	159	eP	P	09 25 39.8	+2.1
	4.6nm,0.9s						
FITZ	Fitzroy Crossi	19.98	222	eP	P	09 26 03.7	+0.9
	12nm,1.0s						
ASAR	Alice Springs	20.89	195	P	P	09 26 12.7	+0.4
	10.0nm,0.6s,baz=27,slow=9.7,SNR=108						
ASPA	Alice Springs	20.89	195	eP	P	09 26 12.8	+0.5
MBWA	Marble Bar	26.13	226	eP	P	09 27 04.7	+1.2
	1.2nm,0.4s,mb3.8						
ILAR	Eielson Array	86.10	24	P	P	09 34 08.7	-0.7
	0.4nm,0.6s,mb3.8,baz=261,slow=4.6,SNR=4.5						
DBIC	Dimbokro	144.37	277	PKP	PKPdf	09 41 06.8	-1.1
	2.5nm,0.8s,baz=84,slow=5.5,SNR=5.8						

*IDC **16** 09:25:56.3±3.0,8.45N×93.42E,mb4.3/6,mb1 4.5/7, mb1mx4.1/18,mbtmp4.4/7,ML4.7/1,Error ellipse: s-maj=78.2km s-min=51.7km az=156.0*
*NEIC **16** 09:25:59.9±0.8,8.35N×93.63E,h30km,mb4.4/3,Error ellipse: s-maj=19.9km s-min=17.2km az=64.0*
ISC 16 09:25:58.4±1.0,8.4N±0.1×93.7E±0.2,h33km,n15, σ0§61/14,mb4.3/9,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.22	26	Pn	P	09 28 40.1	+0.5
	1.5nm,0.3s,baz=212,slow=14,SNR=35						
SHL	Shillong	17.16	354	e	P	09 29 57.0	-0.4
HYB	Hyderabad	17.27	303	eP	P	09 30 04.0	+5.3
HYB	Hyderabad	17.27	303	i P	P	09 30 04.0	+5.3
LSA	Lhasa	21.33	354	eP	P	09 30 44.1	-0.7
	6.4nm,0.5s,mb4.2						
WRAB	Tennant Creek	48.91	126	eP	P	09 34 43.2	-0.4
	0.7nm,0.6s,mb3.9						
KIV	Kislovodsk	56.65	318	eP	P	09 35 40.7	-0.1
	8.9nm,0.6s,mb5.0						
BRTR	Keskin Array B	61.77	311	P	P	09 36 15.7	-0.6
	2.3nm,0.7s,mb4.4,baz=129,slow=6.8,SNR=5.9						
FINES	FINESS Array B	72.05	332	P	P	09 37 20.1	-0.7
	5.0nm,1.0s,mb4.4,baz=84,slow=13,SNR=3.6						
ARCES	ARCESS Array B	74.63	340	P	P	09 37 36.0	+0.2
	2.5nm,0.8s,mb4.2,baz=90,slow=6.3,SNR=3.8						
GERES	GERESS Array B	77.16	318	P	P	09 37 51.9	+1.3
	1.5nm,0.8s,mb4.0,baz=72,slow=4.2,SNR=5.3						
HFS	Hagfors	77.79	330	P	P	09 37 54.4	+0.6
	2.8nm,0.7s,mb4.3,baz=98,slow=10,SNR=5.3						
NB2	NORSAR Subarra	79.07	331	P	P	09 38 01.0	+0.2
	1.2nm,0.6s,mb4.0,baz=98,slow=4.8						
NOA	NORSAR Array B	79.07	331	P	P	09 38 01.2	+0.4
	2.3nm,0.8s,mb4.2,baz=93,slow=5.2,SNR=4.1						
PDAR	Pinedale Array	124.83	21	PKP	PKPdf	09 44 58.8	+3.3
	0.8nm,0.9s,slow=3.0,SNR=6.2						

*IDC **16** 09:26:53.7±0.9,41.74N×72.48E,mb4.0/14,mb1 4.2/16, mb1mx4.1/24,mbtmp4.1/16,ML4.3/2,Error ellipse: s-maj=16.8km s-min=13.5km az=136.0*
*NNC **16** 09:26:57.7±1.7,42.07N×72.43E,h15km±17km,mpv5.1, Error ellipse: s-maj=23.7km s-min=7.8km az=31.0*
*KNET **16** 09:26:57.2±0.4,41.89N×72.67E,h13km±2km,ml5.0,Error ellipse: s-maj=3.0km s-min=2.3km az=150.0*
*BJI **16** 09:26:59.1,41.77N×72.53E,h61km,mb3.9,ML5.1*
*MOS **16** 09:27:00.7±1.6,42.39N×72.53E,h33km,mb4.4/26,Error ellipse: s-maj=8.6km s-min=6.3km az=95.3*
*NEIC **16** 09:27:00.5±0.6,42.04N×72.70E,h35km,mb4.5/14,Error ellipse: s-maj=11.8km s-min=8.6km az=166.0*
ISC 16 09:26:54.1±1.4,41.72N±0.03×72.45E±0.03,h8km±9km, n122,σ1§63/150,mb4.2/30,21C-11D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	1.01	66	P	Pb	09 27 12.9	-0.5
	6μm,0.2s						
AML				⇓S	Sb	09 27 25.4	-1.4
	37μm,0.3s						
EKS2	Erkin-Say	1.36	46	⇓P	Pn	09 27 18.6	-0.8
	839nm,0.2s,SNR=1049						
EKS2				⇑S	Sb	09 27 35.2	-1.6
	4μm,0.2s						
UCH	Uchtor	1.62	71	⇑P	Pn	09 27 23.7	+0.6
	1μm,0.2s,SNR=3557						
UCH				⇑S	Sn	09 27 44.5	+0.2
	9μm,0.3s						
AAK	Ala-Archa	1.77	58	⇑Pn	Pn	09 27 26.4	+1.1
	1μm,0.5s						
AAK				⇑Sn	Sn	09 27 47.7	-0.5
	2μm,0.5s						
AAK	Ala-Archa	1.77	58	P	Pn	09 27 26.3	+1.0
	3μm,0.5s,SNR=1940						
AAK				⇓S	Sn	09 27 47.9	-0.3
	7μm,0.4s						
AAK	Ala-Archa	1.77	58	c iPG	Pg	09 27 25.3	-4.2
AAK				i S	Sn	09 27 47.9	-0.3
AAK				pmax	pmax		
	comp=Z,2μm,0.6s						
AAK	Ala-Archa	1.77	58	⇑iPn	Pn	09 27 25.2	-0.1
AAK				eSn	Sn	09 27 46.8	-1.4
FRU	Bishkek	1.95	55	⇑iPN	Pn	09 27 30.0	+2.1
FRU				i S	Sn	09 27 54.6	+1.8
FRU				pmax	pmax		
	comp=Z,8μm,1.4s						
FRU				smax			
	comp=E,24μm,0.8s						
KBK	Karagaybulak	2.08	62	P	Pn	09 27 31.9	+2.2
	comp=E,3μm,0.4s,SNR=2550						
KBK				⇑S	Sn	09 27 58.3	+2.3
	comp=E,14μm,0.3s						
KZA	Kyzart	2.12	79	P	Pn	09 27 32.7	+2.4
	comp=E,6μm,0.3s						
KZA				⇑S	Sn	09 28 00.8	+3.7
	comp=E,8μm,0.2s						
CHMS	Chumysh	2.13	52	P	Pn	09 27 32.4	+1.9
	comp=E,5μm,0.4s,SNR=3471						
CHMS				⇓S	Sn	09 27 58.9	+1.6
	comp=E,8μm,0.3s						
USP	Ospenovka	2.16	44	P	Pn	09 27 32.5	+1.6
	comp=E,1μm,0.3s,SNR=862						
USP				⇑S	Sn	09 27 59.8	+1.6
	comp=E,26μm,0.7s						
TKM2	Tokmak 2	2.62	62	⇑P	Pn	09 27 39.5	+2.0
	comp=E,3μm,0.4s,SNR=5156						
ULHL	Ulahol	2.87	78	⇑P	Pn	09 27 43.0	+1.9
	comp=E,579nm,0.2s,SNR=60						
AAA	Alma-Ata	3.67	64	i PN	Pn	09 28 04.9	+13
AAA				i S	Sn	09 28 46.5	+10
AAA				pmax	pmax		
	comp=Z,2.0nm,0.2s						
AAA				smax			
	comp=E,4.0nm,0.3s						
CEP	Cherat	7.90	183	P	Pn	09 28 54.6	+2.6
CEP				S	Sn	09 30 27.0	+4.5
CHCP	Chirah Chowk	8.08	175	⇓P	P	09 28 56.3	+1.8
MK31	Makanchi Array	8.69	51	⇑Pn	P	09 29 01.7	-1.3
	comp=E,24nm,0.6s,baz=234,slow=13,SNR=793						
MK31				⇑Sn	Sn	09 30 54.0	+12
	comp=E,56nm,0.6s,baz=232,slow=22,SNR=5.2						
MK31				⇓Lg		09 31 27.8	
	comp=E,181nm,0.7s,baz=238,slow=28,SNR=4.3						
MKAR	Makanchi Array	8.69	51	eP	P	09 29 02.0	-1.0
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
THW	Thamme Wali	8.93	184	⇑P	P	09 29 06.3	-0.1
DLH	Dalhousie	9.58	162	eP	P	09 29 16.0	+0.6
DLH				eS	Sn	09 30 58.0	-6.4
KURK	Kurchatov	9.95	23	eP	P	09 29 15.8	-4.6
KURK				pmax	pmax		
	comp=Z,7.0nm,0.4s						
KURK	Kurchatov	9.95	23	ePn	P	09 29 15.8	-4.7
	comp=Z,7.4nm,0.4s						
BHK	Bhakra	10.77	162	eS	S	09 31 24.0	-9.4
KLP	Kalpa	11.18	154	eP	P	09 29 37.2	-0.1
KLP				AMb	AMB	09 29 40.9	
	comp=Z,17nm,0.6s						
KLP				eS	S	09 31 36.4	-7.2
BVA0	Borovoye Array	11.39	354	⇓Pn	P	09 29 35.5	-4.7
	comp=Z,5.1nm,0.9s,baz=156,slow=11,SNR=229						
BVA0				⇑Sn	S	09 31 39.9	-8.8
	comp=Z,9.7nm,0.8s,baz=155,slow=15,SNR=6.4						
BVA0				⇑Lg		09 32 49.3	
	comp=Z,36nm,1.3s,baz=149,slow=27,SNR=3.7						
BVA0	Borovoye Array	11.39	354	i P	P	09 29 35.4	-4.7
BVA0				i		09 31 39.9	
BVA0				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BVAR	Borovoye Array	11.39	354	Pn	P	09 29 35.9	-4.3
	comp=Z,5.2nm,0.3s,baz=159,slow=13,SNR=143						
BVAR				Sn	S	09 31 40.5	-8.2
	comp=Z,12nm,0.3s,baz=164,slow=22,SNR=6.9						
BVAR				Lg		09 32 50.2	
	comp=Z,3.7nm,0.3s,baz=180,slow=30,SNR=5.2						
BRVK	Borovoye	11.44	353	⇓Pn	P	09 29 36.3	-4.4
	comp=Z,13nm,0.7s						
BRVK				⇓Sn	S	09 31 39.5	-10
	comp=Z,47nm,1.1s						
BRVK				⇑Lg		09 32 53.6	
	comp=Z,157nm,1.3s						
BRVK	Borovoye	11.44	353	eP	P	09 29 36.2	-4.5
BRVK				e		09 31 39.0	
BRVK				pmax	pmax		
	comp=Z,24nm,0.6s						
BRVK	Borovoye	11.44	353	ePn	P	09 29 36.2	-4.5
	comp=Z,24nm,0.6s						
BRVK				eSn	S	09 31 39.0	-11
CHKZ	Chkalovo	12.02	355	⇓Pn	P	09 29 43.6	-5.0
	comp=Z,7.4nm,0.4s						
CHKZ				⇑Sn	S	09 31 54.7	-9.3
	comp=Z,21nm,0.7s						
CHKZ				⇑Lg		09 33 10.8	
	comp=Z,103nm,0.8s						
CHKZ	Chkalovo	12.02	355	ePn	P	09 29 43.5	-5.2
	comp=Z,8.1nm,0.4s						
DDI	Dehra Dun	12.24	157	e	P	09 29 48.5	-3.2
DDI				e		09 32 05.3	
KKR	Kurukshetra	12.26	162	eP	P	09 29 51.0	-0.9
KKR				eS	S	09 31 59.8	-10
JOSI	Joshimath	12.53	151	eP	P	09 29 53.0	-2.5
JOSI				eS	S	09 32 05.0	-11
KALG	Kalgarh	13.22	155	eP	P	09 29 49.8	-15
KALG				eS	S	09 32 05.6	-27
NDI	New Delhi	13.58	162	e	P	09 30 05.5	-3.9
NDI				e		09 32 29.0	
AYAN	Aya Nagar	13.75	162	e	P	09 30 08.8	-2.9
AYAN				e		09 32 32.0	
KHET	Khetri	13.89	168	e	P	09 30 10.0	-3.6
KHET				AMb	AMB	09 30 11.8	
	comp=Z,5.8nm,0.3s						
KHET				e		09 32 37.2	
KUDL	Kundal	13.94	165	e	P	09 30 11.4	-2.8
KUDL				AMb	AMB	09 30 14.8	
	comp=Z,14nm,0.9s						
ZAL	Zalesovo	14.74	30	P	P	09 30 21.5	-3.0
ZAL						09 32 59.7	
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ZAL	Zalesovo	14.74	30	Pn	P	09 30 21.5	-3.0
	comp=Z,2.6nm,0.3s,baz=250,slow=11,SNR=20						
ZAL				Sn	S	09 32 59.7	-9.2
	comp=Z,1.9nm,0.3s,baz=172,slow=22,SNR=4.2						
ZAL				Lg		09 34 37.1	
	baz=208,slow=23,SNR=2.7						
NVS	Novosibirsk	14.94	25	eP	P	09 30 25.3	-1.8
NVS				e		09 33 00.3	
SVE	Sverdlovsk	16.93	337	eP	P	09 30 48.7	-4.0
SVE				MLR	MLR		
	comp=Z,3μm,19.5s						
ARU	Arti	17.25	333	eP	P	09 30 50.2	-6.5
ARU				eS	S	09 33 56.2	-11
ARU	Arti	17.25	333	ePn	P	09 30 50.1	-6.6
	comp=Z,18nm,0.7s						
BHPL	Bhopal	18.89	166	eP	P	09 31 17.8	+0.5
BHPL				AMb	AMB	09 31 25.8	
	comp=Z,18nm,0.8s						
SOKR	Solikamsk	20.34	337	eP	P	09 31 30.8	-2.5
SOKR						09 35 07.0	
SOKR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SOKR				MLR	MLR		
	comp=Z,50nm,1.0s						
GNI	Garni	20.96	275	P	P	09 31 39.2	-0.7
GNI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GNI	Garni	20.96	275	P	P	09 31 39.2	-0.7
	comp=Z,10.0nm,0.6s,baz=343,slow=13,SNR=7.1						
GNI	Garni	20.96	275	eP	P	09 31 40.7	+0.8
	comp=Z,43nm,1.0s						
ZEI	Tsey	21.13	282	eP	P	09 31 44.3	+2.8
ZEI				i *PP		09 32 10.8	
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.8						
MOY	Mondy	21.83	53	eP	P	09 31 47.6	-0.9
KIV	Kislovodsk	21.89	286	⇓iP	P	09 31 48.6	-0.6
KIV				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.3						
KIV	Kislovodsk	21.89	286	eP	P	09 31 48.6	-0.6
	comp=Z,14nm,0.8s,mb4.4						
SHL	Shillong	22.75	129	e	P	09 32 00.0	+2.1
ZAK	Zakamensk	22.95	57	eP	P	09 31 59.4	-0.1
TLY	Talaya	23.43	54	i P	P	09 32 00.8	-3.4
TLY				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb3.7						
SONM	Songino Array	24.72	64	P	P	09 32 16.5	-0.3
	comp=Z,0.8nm,0.6s,mb3.4,baz=260,slow=8.5,SNR=8.8						
HYB	Hyderabad	24.78	166	eP	P	09 32 20.0	+2.3
HYB	Hyderabad	24.78	166	i P	P	09 32 20.0	+2.3
ULN	Ulaanbaatar	25.16	64	eP	P	09 32 20.4	-0.6
ULN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
ULN	Ulaanbaatar	25.16	64	eP	P	09 32 20.4	-0.6
	comp=Z,5.3nm,1.1s,mb4.0						
MALT	Malatya	26.18	274	eP	P	09 32 31.9	+1.3
MALT				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1						
MALT	Malatya	26.18	274	eP	P	09 32 31.9	+1.2
	comp=Z,5.7nm,0.9s,mb4.1						
OBN	Obninsk	26.98	312	eP	P	09 32 36.3	-1.5
OBN				e		09 33 18.2	
OBN				eS	S	09 37 12.8	-0.7
OBN				eSS	SS	09 38 22.5	-4.4
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.0						
BRTR	Keskin Array B	29.32	279	P	P	09 32 59.0	-0.1

NJ2				AP	pP	09 34 22.6	+6.4
NJ2				PP	PP	09 35 42.8	-0.7
NJ2				S	**S**	**09 40 02.0**	**-3.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
YAK	**Yakutsk**	**39.13**	**39**	*i* P	**P**	**09 34 18.9**	**-4.5**
HFS	**Hagfors**	**39.80**	**318**	P	**P**	**09 34 28.2**	**-0.7**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
HFS	**Hagfors**	**39.80**	**318**	P	**P**	**09 34 28.2**	**-0.7**
	comp=Z,1.8nm,0.4s,mb4.2,baz=98,slow=10,SNR=19						
SSE	**Sheshan**	**40.16**	**89**	*e*P	**P**	**09 34 30.9**	**-1.3**
TIXI	**Tiksi**	**40.53**	**24**	*e*P	**P**	**09 34 32.9**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
CLL	**Collm**	**40.98**	**304**	P	**P**	**09 34 42.0**	**+3.3**
NB2	**NORSAR Subarra**	**41.02**	**319**	P	**P**	**09 34 37.7**	**-1.2**
	comp=Z,2.5nm,0.6s,mb4.0,baz=91,slow=8.6						
NB2	**NORSAR Subarra**	**41.02**	**319**	P	**P**	**09 34 37.7**	**-1.2**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
NOA	**NORSAR Array B**	**41.02**	**319**	P	**P**	**09 34 38.2**	**-0.7**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA	**NORSAR Array B**	**41.02**	**319**	P	**P**	**09 34 38.1**	**-0.8**
	comp=Z,2.9nm,0.9s,mb3.9,baz=90,slow=8.4,SNR=6.4						
GERES	**GERESS Array B**	**41.04**	**301**	P	**P**	**09 34 39.6**	**+0.4**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	**GERESS Array B**	**41.04**	**301**	P	**P**	**09 34 39.6**	**+0.4**
	comp=Z,1.7nm,0.7s,mb3.8,baz=67,slow=8.0,SNR=16						
KHC	**Kasperske Hory**	**41.05**	**301**	*e*P	**P**	**09 34 41.5**	**+2.1**
GRA1	**Grafenberg Arr**	**42.42**	**302**	*e*P	**P**	**09 34 57.6**	**+7.1**
GRF	**Grafenberg Arr**	**42.42**	**302**	*e*P	**P**	**09 34 57.6**	**+7.1**
CDF	**Champ du Feu**	**45.27**	**302**	*e*P	**P**	**09 35 16.2**	**+2.6**
LPG	**La Plagne**	**46.53**	**298**	*e*P	**P**	**09 35 26.6**	**+3.0**
	comp=Z,3.4nm,0.5s,mb4.2						
LPG	**La Plagne**	**46.53**	**298**	*e*P	**P**	**09 35 26.6**	**+3.0**
LPG				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
LPL	**La Plagne**	**46.54**	**298**	*e*P	**P**	**09 35 26.7**	**+3.1**
SBF	**Sospel**	**46.65**	**296**	*e*P	**P**	**09 35 27.2**	**+2.7**
	comp=Z,17nm,0.8s,mb4.8						
SBF	**Sospel**	**46.65**	**296**	*e*P	**P**	**09 35 27.2**	**+2.7**
SBF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
MBDF	**Montbardon**	**46.78**	**297**	*e*P	**P**	**09 35 28.3**	**+2.7**
	comp=Z,9.9nm,0.9s,mb4.5						
MBDF	**Montbardon**	**46.78**	**297**	*e*P	**P**	**09 35 28.3**	**+2.7**
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
FRF	**La Foret Royal**	**47.29**	**296**	*e*P	**P**	**09 35 32.4**	**+2.8**
	comp=Z,12nm,1.0s,mb4.5						
FRF	**La Foret Royal**	**47.29**	**296**	*e*P	**P**	**09 35 32.4**	**+2.8**
FRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
ORIF	**Oris-en-Rattie**	**47.31**	**298**	*e*P	**P**	**09 35 30.7**	**+0.9**
LMR	**La Mourre**	**47.46**	**295**	*e*P	**P**	**09 35 33.7**	**+2.7**
	comp=Z,19nm,1.1s,mb4.6						
LMR	**La Mourre**	**47.46**	**295**	*e*P	**P**	**09 35 33.7**	**+2.7**
LMR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
SMRF	**Simiane la Rot**	**47.85**	**296**	*e*P	**P**	**09 35 34.9**	**+0.8**
	comp=Z,44nm,1.4s,mb5.0						
SSF	**Saint Saulge**	**48.11**	**301**	*e*P	**P**	**09 35 38.1**	**+2.1**
SSF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
SSF	**Saint Saulge**	**48.11**	**301**	*e*P	**P**	**09 35 38.1**	**+2.1**
	comp=Z,9.2nm,1.2s,mb4.7						
LASF	**Ste Croix**	**48.97**	**297**	*e*P	**P**	**09 35 45.2**	**+2.6**
	comp=Z,22nm,1.2s,mb4.8						
CAF	**Calviac**	**49.82**	**299**	*e*P	**P**	**09 35 50.7**	**+1.4**
	comp=Z,38nm,1.4s,mb4.9						
CAF	**Calviac**	**49.82**	**299**	*e*P	**P**	**09 35 50.7**	**+1.4**
CAF				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.9						
INK	**Inuvik**	**68.58**	**10**	P	**P**	**09 37 56.8**	**-2.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**68.58**	**10**	P	**P**	**09 37 56.8**	**-2.0**
	comp=Z,0.9nm,0.5s,mb4.0,baz=12,slow=5.8,SNR=14						
ILAR	**Eielson Array**	**69.46**	**17**	P	**P**	**09 38 02.0**	**-2.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**69.46**	**17**	P	**P**	**09 38 01.9**	**-2.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=329,slow=4.4,SNR=8.1						
YKA	**Yellowknife Ar**	**75.98**	**3**	P	**P**	**09 38 41.1**	**-1.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**75.98**	**3**	P	**P**	**09 38 41.1**	**-1.5**
	comp=Z,1.4nm,0.8s,mb4.0,baz=350,slow=6.1,SNR=21						
DBIC	**Dimbokro**	**76.12**	**267**	P	**P**	**09 38 43.2**	**-1.2**
DBIC				pmax	pmax		
	comp=Z,2.0nm,1.0s						
DBIC	**Dimbokro**	**76.12**	**267**	P	**P**	**09 38 43.2**	**-1.3**
	comp=Z,2.0nm,1.0s,mb4.0,baz=333,slow=9.0,SNR=3.5						
DBIC	**Dimbokro**	**76.12**	**267**	P	**P**	**09 38 43.2**	**-1.3**

*IDC **16** 09:30:52.5±0.8, 14.57N×119.12E, mb4.1/9, mb1 4.2/10, mb1mx4.0/22, mbtmp4.1/10, ML4.2/1, Error ellipse: s-maj=34.2km s-min=15.3km az=56.0*
*NEIC **16** 09:30:53.8±0.4, 14.52N×119.00E, h10km, mb4.3/3, Error ellipse: s-maj=20.0km s-min=8.3km az=52.0*

ISC 16 09:30:52.0±0.5,**14.63N**±0.03×**119.04E**±0.04,**h10**km,**n34,**
σ1§25/43,mb4.1/12,3D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**1.42**	**36**	*e*P	**Pn**	**09 31 16.8**	**-1.1**
SCZP				*e*S	**Sb**	**09 31 32.7**	**-3.3**
LUBP	**Lubang**	**1.47**	**127**	*e*P	**Pn**	**09 31 19.2**	**+0.6**
LUBP				*e*S	**Sb**	**09 31 36.8**	**-0.6**
TGY	**Tagaytay City**	**1.91**	**106⇓**	*e*P	**Pn**	**09 31 27.1**	**+2.2**
TGY				*i* S	**Sn**	**09 31 49.4**	**+0.3**
TGY	**Tagaytay City**	**1.91**	**106**	Pn	**Pn**	**09 31 26.6**	**+1.7**
	188nm,0.3s,baz=277,slow=9.1,SNR=14						
TGY				Sn	**Sn**	**09 31 49.6**	**+0.5**
	151nm,0.3s,baz=86,slow=7.2,SNR=6.0						
BOLP	**Bolinao**	**1.94**	**26**	*e*P	**Pn**	**09 31 25.4**	**+0.1**
BOLP				*e*S	**Sn**	**09 31 47.0**	**-2.9**
PCPH	**Palayan**	**2.19**	**65⇓**	*e*P	**Pn**	**09 31 28.7**	**-0.2**
PCPH				*e*S	**Sn**	**09 31 51.5**	**-4.8**
LQP	**Lukban**	**2.47**	**102⇓**	*e*P	**Pn**	**09 31 34.8**	**+1.8**
BALP	**Baler**	**2.68**	**65**	*e*P	**Pn**	**09 31 36.7**	**+0.7**
BALP				*e*S	**Sn**	**09 32 07.9**	**-1.0**
POLP	**Polilio Island**	**2.80**	**88**	*e*P	**Pn**	**09 31 39.3**	**+1.6**
POLP				*e*S	**Sn**	**09 32 12.6**	**+0.7**
BUSP	**Coron**	**2.84**	**157**	*e*P	**Pn**	**09 31 39.1**	**+0.8**
BUSP				*e*S	**Sn**	**09 32 11.1**	**-1.8**
SJMP	**San Jose**	**2.95**	**137**	*e*P	**Pn**	**09 31 43.0**	**+3.2**
SJMP				*e*S	**Sn**	**09 32 13.6**	**-2.0**
ENPP	**El Nido**	**3.42**	**174**	*e*P	**Pn**	**09 31 47.3**	**+0.8**
CAUP	**Cauayan**	**3.53**	**49**	*e*P	**Pn**	**09 31 49.6**	**+1.5**
IPIL	**Ipil**	**7.62**	**153**	*e*P	**Pn**	**09 32 54.6**	**+8.8**
QIZ	**Qiongzhong**	**9.84**	**298**	P	**P**	**09 33 14.1**	**-2.5**
CMAR	**Chiang Mai Arr**	**19.64**	**284**	P	**P**	**09 35 27.7**	**+4.0**
	0.3nm,0.3s,baz=108,slow=11,SNR=6.0						
SONM	**Songino Array**	**34.74**	**345**	P	**P**	**09 37 44.0**	**-0.3**
	0.7nm,0.7s,mb3.7,baz=170,slow=8.8,SNR=4.1						
WRAB	**Tennant Creek**	**37.50**	**156**	*e*P	**P**	**09 38 07.0**	**-0.9**
	3.7nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**37.50**	**156**	P	**P**	**09 38 06.9**	**-1.1**
	2.2nm,0.6s,mb4.1,baz=336,slow=9.5,SNR=15						
WB2	**Warramunga Arr**	**37.51**	**156**	*e*P	**P**	**09 38 07.1**	**-0.9**
ASAR	**Alice Springs**	**40.74**	**159**	P	**P**	**09 38 35.0**	**+0.2**
	4.0nm,0.5s,mb4.3,baz=337,slow=6.8,SNR=69						
ASPA	**Alice Springs**	**40.74**	**159**	*e*P	**P**	**09 38 35.2**	**+0.4**
CTA	**Charters Tower**	**43.66**	**141**	P	**P**	**09 38 57.9**	**-1.0**
	1.3nm,0.6s,mb3.9,baz=323,slow=10,SNR=3.1						
STKA	**Stephens Creek**	**51.04**	**155**	P	**P**	**09 39 55.5**	**-1.1**
	2.1nm,0.9s,mb4.0,baz=302,slow=14,SNR=3.2						
STKA	**Stephens Creek**	**51.04**	**155**	P	**P**	**09 39 55.5**	**-1.1**
BVAR	**Borovoye Array**	**54.11**	**326**	P	**P**	**09 40 20.0**	**+0.8**
	1.7nm,0.8s,mb4.0,baz=115,slow=8.6,SNR=4.6						
BRVK	**Borovoye**	**54.18**	**326**	P	**P**	**09 40 20.4**	**+0.7**
	0.9nm,0.4s,mb4.0						
CHKZ	**Chkalovo**	**54.28**	**327**	*e*P	**P**	**09 40 20.8**	**+0.4**
	2.1nm,0.6s,mb4.2						
ARCES	**ARCESS Array B**	**77.65**	**339**	P	**P**	**09 42 53.0**	**+3.1**
	2.5nm,0.8s,mb4.2,baz=72,slow=2.9,SNR=5.2						
ARCES	**ARCESS Array B**	**77.65**	**339**	P	**P**	**09 42 53.0**	**+3.1**
INK	**Inuvik**	**82.81**	**21**	P	**P**	**09 43 17.0**	**-0.4**
	2.4nm,1.1s,mb4.1,baz=307,slow=5.1,SNR=3.2						
INK	**Inuvik**	**82.81**	**21**	P	**P**	**09 43 17.0**	**-0.4**
HFS	**Hagfors**	**84.89**	**331**	P	**P**	**09 43 28.5**	**+0.5**
	2.4nm,0.8s,mb4.4,baz=63,slow=3.2,SNR=4.1						
DBIC	**Dimbokro**	**120.49**	**287**	PKP	PKPdf	09 49 48.2	+0.4
	1.0nm,0.9s,baz=135,slow=1.4,SNR=3.2						

*IDC **16** 09:43:35.4±1.3, 5.46N×94.41E, mb3.9/8, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, ML4.4/1, Error ellipse: s-maj=66.1km s-min=19.4km az=53.0*
*NEIC **16** 09:43:39.1±0.7, 5.25N×94.19E, h30km, mb4.3/3, Error ellipse: s-maj=23.6km s-min=10.9km az=60.0*

ISC 16 09:43:37.4±0.9,**5.3N**±0.1×**94.2E**±0.2,**h30**km,**n14,**
σ0§79/14,mb4.0/11,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.86**	**19**	Pn	**P**	**09 46 55.5**	**+1.2**
	0.5nm,0.3s,baz=210,slow=15,SNR=5.3						
HYB	**Hyderabad**	**19.51**	**309**	*e*P	**P**	**09 48 16.0**	**+11**
SONM	**Songino Array**	**43.64**	**12**	P	**P**	**09 51 39.8**	**-1.2**
	0.9nm,0.9s,mb3.5,baz=196,slow=9.0,SNR=5.2						
WRA	**Warramunga Arr**	**46.73**	**124**	P	**P**	**09 52 06.1**	**+0.1**
	0.3nm,0.3s,mb3.8,baz=319,slow=11,SNR=16						
WRAB	**Tennant Creek**	**46.73**	**124**	*e*P	**P**	**09 52 05.4**	**-0.6**
	11nm,1.3s,mb4.6						
ASAR	**Alice Springs**	**48.23**	**128**	P	**P**	**09 52 18.0**	**+0.3**
	0.4nm,0.3s,mb3.9,baz=300,slow=8.0,SNR=15						
ZAL	**Zalesovo**	**49.09**	**353**	P	**P**	**09 52 23.9**	**-0.1**
	1.4nm,0.3s,mb4.4,baz=257,slow=4.4,SNR=5.5						
ZAL	**Zalesovo**	**49.09**	**353**	P	**P**	**09 52 23.9**	**-0.1**
BVAR	**Borovoye Array**	**51.45**	**342**	P	**P**	**09 52 41.2**	**-0.7**
	0.6nm,0.5s,mb3.8,baz=139,slow=13,SNR=6.0						
BRVK	**Borovoye**	**51.51**	**342**	*e*P	**P**	**09 52 41.5**	**-0.9**
	1.3nm,0.5s,mb4.1						
CHKZ	**Chkalovo**	**51.94**	**342**	*e*P	**P**	**09 52 44.9**	**-0.7**
	1.7nm,0.5s,mb4.2						
FINES	**FINESS Array B**	**75.02**	**333**	P	**P**	**09 55 18.3**	**+0.6**
	2.9nm,0.9s,mb4.2,baz=127,slow=6.9,SNR=3.0						
ARCES	**ARCESS Array B**	**77.71**	**340**	P	**P**	**09 55 33.4**	**+0.8**
	2.1nm,0.9s,mb4.1,baz=104,slow=7.4,SNR=4.5						
GERES	**GERESS Array B**	**79.80**	**319**	P	**P**	**09 55 45.6**	**+1.2**
	0.3nm,0.5s,mb3.5,baz=90,slow=5.9,SNR=2.8						

*ATH **16** 09:49:39.4, 36.95N×27.94E, h33km±3km, MD3.4/4*
*CSEM **16** 09:49:40.4±0.1, 36.97N×27.85E, h20km, MD3.2, Error ellipse: s-maj=3.4km s-min=2.1km az=22.0*
*NEIC **16** 09:49:40.8, 37.05N×27.87E, h17km, MD3.4(ATH), MD3.2(ISK), After ISK.*
*ISK **16** 09:49:41.0, 37.05N×27.86E, h19km, MD3.2*

ISC 16 09:49:40.8±0.5,**36.94N**±0.03×**27.77E**±0.04,**h22**km±5km,
n26,σ1§06/37,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.29**	**295**	*i* P	**Pb**	**09 49 46.9**	**-0.5**
BDRM				*i* S	**Sb**	**09 49 52.5**	**+0.6**
MLSB	**Milas**	**0.35**	**1**	PG	**Pb**	**09 49 47.2**	**-1.2**
DALT	**Dalyan (Mudla)**	**0.71**	**104**	Pg	**Pb**	**09 49 53.8**	**-0.7**
DALT				Sg	**Sb**	**09 50 04.8**	**+0.9**
DALT	**Dalyan (Mudla)**	**0.71**	**104**	Pg	**Pb**	**09 49 53.8**	**-0.6**
DALT				Sg	**Sb**	**09 50 04.8**	**+1.0**
AYDN	**Tasoluk**	**0.72**	**7**	*i* P	**Pb**	**09 49 53.9**	**-0.6**
AYDN				*i* S	**Sb**	**09 50 03.7**	**-0.3**
ARG	**Arkhangelos**	**0.78**	**158**	*e*PN	**Pn**	**09 49 54.3**	**-2.1**
SMG	**Samos**	**1.07**	**316**	*e*PN	**Pn**	**09 50 01.0**	**+0.4**
SMG				*e*SN	**Sn**	**09 50 16.5**	**+1.7**
FETY	**Fethiye**	**1.10**	**106**	*e*PG	**Pb**	**09 50 00.7**	**-0.2**
FETY				*e*SG	**Sb**	**09 50 16.9**	**+2.1**
DNZL	**Cakiroluk**	**1.26**	**53**	*i* P	**Pn**	**09 50 02.5**	**-0.8**
DNZL				*i* S	**Sb**	**09 50 21.3**	**+1.8**
DENT	**Denizli**	**1.29**	**51**	*e*PN	**Pn**	**09 50 03.4**	**-0.3**
DENT				*e*SN	**Sn**	**09 50 19.1**	**-1.4**
DENT	**Denizli**	**1.29**	**51**	Pn	**Pn**	**09 50 03.5**	**-0.3**
KARP	**Karpathos**	**1.48**	**200**	*e*PN	**Pn**	**09 50 06.5**	**+0.1**
KARP				*e*SN	**Sn**	**09 50 26.2**	**+1.0**
IZM	**Izmir**	**1.51**	**345**	*e*PN	**Pn**	**09 50 07.0**	**+0.1**
KDAG	**Bornova**	**1.51**	**345**	*i* P	**Sn**	**09 50 29.7**	**+3.6**
KDAG				*i* S	**Sn**	**09 50 29.7**	**+3.6**
BLCB	**Balcova**	**1.55**	**338**	*e*PN	**Pn**	**09 50 07.4**	**-0.1**
BLCB	**Balcova**	**1.55**	**338**	Pn	**Pn**	**09 50 07.4**	**-0.1**
MANT	**Manisa**	**1.67**	**22**	*i* P	**Pn**	**09 50 10.4**	**+1.2**
MANT				*i* S	**Sn**	**09 50 30.9**	**+0.9**
ELL	**Elmali**	**1.73**	**96**	*e*PN	**Pn**	**09 50 09.9**	**-0.1**
ELL	**Elmali**	**1.73**	**96**	Pn	**Pn**	**09 50 09.9**	**0.0**
APE	**Apeiranthos**	**1.80**	**275**	*e*PB	**Pb**	**09 50 12.5**	**-0.4**
AKS	**Akhisar**	**1.93**	**1**	*e*PN	**Pn**	**09 50 11.7**	**-1.2**
AKS	**Akhisar**	**1.93**	**1**	Pn	**Pn**	**09 50 11.8**	**-1.2**
AKS	**Akhisar**	**1.93**	**1**	Pn	**Pn**	**09 50 11.8**	**-1.1**
KHL	**Karahalli**	**1.96**	**45**	*e*PN	**Pn**	**09 50 11.7**	**-1.6**
KHL	**Karahalli**	**1.96**	**45**	Pn	**Pn**	**09 50 11.8**	**-1.5**
KHL	**Karahalli**	**1.96**	**45**	Pn	**Pn**	**09 50 11.8**	**-1.5**

*NEIC **16** 09:54:13.4, 18.71N×68.92W, h166km, MD4.0(RSPR), After RSPR.*

RSPR 16 09:54:13.4,18.71N×68.92W,h166km±3km,MD4.0/11,
MD4.0/11,9C-2D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPR	**Mayaguez**	**1.76**	**106⇑**	*e*P	P	09 54 47.2	0.0
MPR				*e*S	S	09 55 13.4	+0.1
LSP	**Las Mesas**	**1.82**	**107⇑**	*e*P	P	09 54 47.8	0.0
LSP				*e*S	S	09 55 14.3	-0.1
MGP	**Maguayo**	**1.87**	**112⇑**	*e*P	P	09 54 47.7	-0.7
MGP				*e*S	S	09 55 15.4	0.0
MGP	**Maguayo**	**1.87**	**112⇑**	*e*P	P	09 54 47.7	-0.8
MGP				*e*S	S	09 55 14.6	-0.8
AOPR	**Arecibo Observ**	**2.09**	**100⇓**	*e*P	P	09 54 50.9	0.0
AOPR				*e*S	S	09 55 19.1	-0.7
PORP	**Portuguez**	**2.26**	**106⇑**	*e*P	P	09 54 53.1	+0.1
PORP				*e*S	S	09 55 24.1	+0.7
OBIP	**Obispado Ponce**	**2.29**	**106⇓**	*e*P	P	09 54 53.5	+0.2
OBIP				*e*S	S	09 55 24.3	+0.2
CSB	**Colonia Sabana**	**2.65**	**99⇑**	*e*P	P	09 54 57.4	-0.3
SJG	**San Juan**	**2.69**	**102⇑**	*e*P	P	09 54 58.1	-0.1
SJG				*e*S	S	09 55 32.5	-0.2
SJG	**San Juan**	**2.69**	**102⇑**	*e*P	P	09 54 57.8	-0.5
SJG				*e*S	S	09 55 32.2	-0.5
HUMP	**Col San Antoni**	**2.96**	**100⇑**	*e*P	P	09 55 01.4	-0.2
HUMP				*e*S	S	09 55 39.2	+0.5
SDV	**Santo Domingo**	**9.91**	**190**	*e*P	P	09 56 28.9	-3.9

*ATH **16** 09:56:52.0, 36.90N×27.74E, h13km, MD3.0/3*
*ISK **16** 09:56:52.3, 37.03N×27.83E, h5km, MD3.1*
*NEIC **16** 09:56:52.4, 36.99N×27.76E, h10km, MD3.1(ISK), MD3.0(ATH), After ISK.*
*CSEM **16** 09:56:58.8±0.1, 36.56N×28.13E, h30km, MD3.1, Error ellipse: s-maj=2.6km s-min=2.2km az=58.0*

ISC 16 09:56:52.1±0.6,**36.92N**±0.03×**27.74E**±0.05,**h5**km,**n14,**
σ0§77/21,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.38**	**5**	PG	**Pg**	**09 56 58.3**	**-1.4**
MLSB				SG	**Sg**	**09 57 04.1**	**-0.6**
MLSB	**Milas**	**0.38**	**5**	Pg	**Pg**	**09 56 58.4**	**-1.3**
MLSB				Sg	**Sg**	**09 57 04.4**	**-0.3**
DALT	**Dalyan (Mudla)**	**0.74**	**101**	Pg	**Pg**	**09 57 06.9**	**+0.1**
DALT				Sg	**Sg**	**09 57 17.9**	**+1.2**
DALT	**Dalyan (Mudla)**	**0.74**	**101**	Pg	**Pg**	**09 57 06.9**	**0.0**
DALT				Sg	**Sg**	**09 57 17.9**	**+1.2**
ARG	**Arkhangelos**	**0.77**	**156**	*e*PB	**Pb**	**09 57 06.5**	**-1.1**
SMG	**Samos**	**1.06**	**318**	*e*PB	**Pb**	**09 57 12.5**	**-0.1**
SMG				*e*SB	**Sb**	**09 57 27.5**	**+0.8**
FETY	**Fethiye**	**1.12**	**104**	*e*PG	**Pg**	**09 57 14.7**	**+0.3**
DENT	**Denizli**	**1.33**	**51**	*e*PN	**Pn**	**09 57 16.1**	**-1.2**
DENT	**Denizli**	**1.33**	**51**	Pn	**Pn**	**09 57 16.1**	**-1.2**
KARP	**Karpathos**	**1.45**	**199**	*e*PB	**Pb**	**09 57 19.0**	**-0.2**
KARP				*e*SB	**Sb**	**09 57 38.0**	**+0.2**
IZM	**Izmir**	**1.52**	**346**	*e*PN	**Pn**	**09 57 21.1**	**+1.0**
IZM				*e*SN	**Sn**	**09 57 41.5**	**+1.0**
IZM	**Izmir**	**1.52**	**346**	Pn	**Pn**	**09 57 20.2**	**+0.1**
ELL	**Elmali**	**1.75**	**95**	*e*PN	**Pn**	**09 57 23.6**	**+0.2**
ELL	**Elmali**	**1.75**	**95**	Pn	**Pn**	**09 57 23.6**	**+0.2**

*SOF **16** 09:57:52.3, 40.70N×27.72E, h2km, MD3.0*
*CSEM **16** 09:57:53.8±0.0, 40.60N×27.77E, h20km, MD3.7, Error ellipse: s-maj=1.3km s-min=0.9km az=46.0*
*NEIC **16** 09:57:53.4, 40.61N×27.72E, h21km, MD3.6(ATH), ML3.4(ISK), After ISK.*
NEIC Felt in the Erdek area.
*ISK **16** 09:57:53.4, 40.60N×27.72E, h21km, MD3.7*
*THE **16** 09:57:58.3, 40.38N×27.42E, h17km, ML3.9*
*ATH **16** 09:58:05.1, 40.27N×26.32E, h5km, MD3.6/4*

ISC 16 09:57:54.2±0.3,**40.64N**±0.02×**27.73E**±0.02,**h20**km±3km,
n103,σ0§95/126,6C-6D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRMT	**Marmara Adasi**	**0.10**	**250**	*i* PG	**Pb**	**09 57 57.6**	**-0.6**
MRMT				*i* SG	**Sb**	**09 58 00.1**	**-0.8**
MRMT	**Marmara Adasi**	**0.10**	**250**	Pg	**Pb**	**09 57 57.7**	**-0.5**
MRMT				Sg	**Sb**	**09 58 00.7**	**-0.2**
MRMT	**Marmara Adasi**	**0.10**	**250**	Pg	**Pb**	**09 57 57.7**	**-0.5**
MRMT				Sg	**Sb**	**09 58 00.7**	**-0.2**
EDC	**Edincik**	**0.31**	**160**	*i* PG	**Pb**	**09 58 00.8**	**-0.3**
EDC	**Edincik**	**0.31**	**160**	Pg	**Pb**	**09 58 00.8**	**-0.2**
BNT	**Bandirma**	**0.32**	**152**	*i* PG	**Pb**	**09 58 00.8**	**-0.4**
BNT				*i* SG	**Sb**	**09 58 04.8**	**-1.2**
BNT	**Bandirma**	**0.32**	**152**	Pg	**Pb**	**09 58 00.8**	**-0.4**
BNT				Sg	**Sb**	**09 58 04.8**	**-1.1**
MFT	**Murefte**	**0.37**	**294**	PG	**Pb**	**09 58 01.5**	**-0.5**
MFT	**Murefte**	**0.37**	**294**	Pg	**Pb**	**09 58 01.5**	**-0.5**
TKR	**Tekirdag**	**0.38**	**338**	PG	**Pb**	**09 58 02.9**	**+0.7**
TKR	**Tekirdag**	**0.38**	**338**	Pg	**Pb**	**09 58 02.9**	**+0.7**
SART	**Tekirdag**	**0.42**	**277**	*i* P	**Pb**	**09 58 02.9**	**+0.1**
SART				*i* S	**Sb**	**09 58 08.7**	**0.0**
CRLT	**Corlu**	**0.49**	**1**	PG	**Pb**	**09 58 05.0**	**+1.0**
KCT	**Karacabey**	**0.61**	**128**	PG	**Pb**	**09 58 05.4**	**-0.7**
KCT	**Karacabey**	**0.61**	**128**	Pg	**Pb**	**09 58 05.5**	**-0.6**
SLVT	**Silivri**	**0.70**	**32**	PG	**Pb**	**09 58 08.2**	**+0.7**
CANB	**Canakkale**	**0.80**	**219**	*e*PG	**Pb**	**09 58 09.2**	**-0.1**
BTOK	**Tokmak**	**0.91**	**165**	*i* P	**Pb**	**09 58 11.5**	**+0.4**
BTOK				*i* S	**Sb**	**09 58 24.4**	**+1.7**
BALB	**Balikesir**	**1.00**	**173**	PG	**Pb**	**09 58 12.9**	**+0.1**
BALB	**Balikesir**	**1.00**	**173**	Pg	**Pb**	**09 58 12.9**	**+0.1**
ORLT	**Orhaneli**	**1.07**	**123**	PG	**Pb**	**09 58 13.2**	**-0.8**
ORLT	**Orhaneli**	**1.07**	**123**	Pg	**Pb**	**09 58 13.2**	**-0.7**
BADT	**Buyukada**	**1.08**	**78**	PN	**Pn**	**09 58 14.0**	**-0.4**
ISK	**Istanbul-Kandi**	**1.10**	**67**	PN	**Pn**	**09 58 14.5**	**-0.1**
ISK	**Istanbul-Kandi**	**1.10**	**67**	Pn	**Pn**	**09 58 14.5**	**-0.1**
KLYT	**Kilyos**	**1.17**	**58**	*e*PN	**Pn**	**09 58 16.1**	**+0.4**
KLYT	**Kilyos**	**1.17**	**58**	Pn	**Pn**	**09 58 16.2**	**+0.5**
ULDT	**Uludag**	**1.19**	**114**	*i* P	**Pb**	**09 58 16.2**	**+0.3**
ULDT				*i* S	**Sb**	**09 58 32.9**	**+2.1**
YLV	**Yalova**	**1.26**	**93**	PN	**Pn**	**09 58 15.7**	**-1.2**
YLV	**Yalova**	**1.26**	**93**	Pn	**Pn**	**09 58 15.8**	**-1.1**
YLV	**Yalova**	**1.26**	**93**	Pn	**Pn**	**09 58 15.8**	**-1.1**
ALN	**Alexandroupoli**	**1.30**	**282**	*e*Pg	**Pn**	**09 58 18.0**	**+0.4**
ALN				*e*Sg	**Sb**	**09 58 35.4**	**+1.3**
EZN	**Ezine**	**1.34**	**233**	*e*PN	**Pn**	**09 58 18.0**	**-0.1**
EDRB	**Edirne**	**1.42**	**329**	PN	**Pn**	**09 58 19.1**	**-0.1**
EDRB	**Edirne**	**

PATA	Patacocha	0.42	56	⇓P		Pg	10 14 20.5	-0.8
PATA				S		Sg	10 14 27.0	0.0
CUSU	Cusua	0.42	45	⇓P		Pg	10 14 20.4	-0.8
RETU	Refugio	0.44	49	⇓P		Pg	10 14 21.0	-0.7
JUIV	Juive	0.45	45	⇑P		Pg	10 14 20.6	-1.1
ULBA	Ulba	0.47	52	⇓P		Pg	10 14 21.5	-0.8
RUN2	Runtun	0.48	49	⇓P		Pg	10 14 21.5	-1.0
PISA	Pisayambo	0.79	30	⇑P		Pb	10 14 27.0	-0.6
MARY	Rancho Maria	1.04	16	⇑P		Pb	10 14 31.2	-0.8
TAMB	Tambo	1.12	22	⇑P		Pb	10 14 32.9	-0.5
NAS1	Nasa	1.14	15	⇑P		Pb	10 14 33.4	-0.4
VC1	Cotopaxi 1	1.16	19	⇑P		Pb	10 14 33.7	-0.3
ANTI	Antisana	1.43	26	⇑P		Pn	10 14 37.6	-0.8
TERV	Terraza Guagua	1.57	6	⇑P		Pn	10 14 40.1	-0.4
GGP	Refugio Guagua	1.57	7	P		Pn	10 14 40.7	+0.3
GGP				S		Sb	10 15 02.2	+1.5
PINO	Pino	1.58	6	⇑P		Pn	10 14 40.4	-0.3
YANA	Yana	1.63	7	⇑P		Pn	10 14 40.8	-0.5
CAYR	Refugio Cayamb	1.91	24	P		Pn	10 14 47.5	+2.2
CAYR				S		Sn	10 15 12.3	+2.9
CAYA	Cayambe	1.97	24	⇓P		Pn	10 14 48.6	+2.5
OTAV	Otavalo	1.99	10	*e*Pn		Pn	10 14 47.0	+0.5
OTAV				Sn		Sn	10 15 18.8	+7.2
LAV3	Lava3-Reventad	2.00	35	P		Pn	10 14 50.1	+3.5
CONE	Cono NE Rev Vo	2.01	34	⇓P		Pn	10 14 48.9	+2.0
CONE				S		Sn	10 15 16.9	+4.8
AZU1	Azuela	2.03	36	P		Pn	10 14 48.6	+1.5
AZU1				S		Sn	10 15 15.9	+3.3
COTA	Cotacachi	2.11	12	⇑P		Pn	10 14 49.4	+1.2
NNA	Nana	10.36	169	*e*Pn		P	10 16 46.9	+2.7
	31nm,0.8s							
SAML	Samuel	17.09	115	*e*P		P	10 18 09.1	-4.0
	2.4nm,0.2s							
LPAZ	La Paz	17.86	145	P		P	10 18 23.9	+1.2
	0.2nm,0.3s,baz=315,slow=14,SNR=12							
LPAZ	La Paz	17.86	145	*e*P		P	10 18 23.6	+0.9
	5.1nm,0.9s							
LVC	Limon Verde	22.86	156	P		P	10 19 17.7	+0.6
	1.4nm,0.8s,mb3.4,baz=222,slow=12,SNR=1.8							
LVC	Limon Verde	22.86	156	P		P	10 19 17.6	+0.5
	29nm,1.4s,mb4.5							
TEIG	Tepich	23.73	337	P		P	10 19 26.3	+0.6
	0.9nm,0.5s,mb3.5							
TXAR	Lajitas Array	39.01	324	P		P	10 21 42.1	+1.2
	0.8nm,0.8s,mb3.5,baz=153,slow=8.1,SNR=2.4							
TXAR				PcP		PcP	10 23 50.6	-1.0
	0.3nm,0.5s,baz=135,slow=5.3,SNR=4.3							
CCM	Cathedral Cave	41.24	345	*e*P		P	10 21 57.4	-1.8
	2.1nm,0.6s,mb3.9							
MNTX	Cornudas Mount	41.75	325	*e*P		P	10 22 03.0	-0.5
	2.9nm,0.9s,mb3.9							
CPRX	Cap Rock	41.92	328	*e*P		P	10 22 06.2	+1.3
ANMO	Albuquerque	44.77	327	P		P	10 22 28.8	+0.7
	baz=139,slow=11							
ANMO	Albuquerque	44.77	327	*e*P		P	10 22 28.5	+0.4
	6.5nm,0.9s,mb4.5							
DAU	Daniels Canyon	51.37	328	*e*P		P	10 23 18.8	-0.5
BW06	Boulder Array	52.27	332	*e*P		P	10 23 25.1	-1.0
	0.9nm,0.8s,mb3.8							
PDAR	Pinedale Array	52.27	332	P		P	10 23 24.9	-1.2
	0.4nm,0.6s,mb3.5,baz=125,slow=8.6,SNR=4.5							
NVAR	Mina Array Bea	54.06	322	P		P	10 23 37.0	-2.4
	0.6nm,0.6s,mb3.7,baz=129,slow=5.8,SNR=8.0							
YKA	Yellowknife Ar	69.54	343	P		P	10 25 21.9	-1.3
	0.7nm,0.8s,mb3.6,baz=139,slow=5.8,SNR=7.3							
DBIC	Dimbokro	74.25	83	P		P	10 25 52.2	+0.1
	0.7nm,0.5s,mb3.9,baz=288,slow=3.2,SNR=2.8							
DBIC	Dimbokro	74.25	83	P		P	10 25 52.2	+0.1
ILAR	Eielson Array	82.39	336	P		P	10 26 35.1	-0.5
	0.9nm,0.9s,mb3.7,baz=122,slow=3.6,SNR=7.7							
QSPA	South Pole Qui	88.32	180	⇑*i*P		P	10 27 09.7	+4.9
	6.8nm,1.0s,mb4.8							
ZAL	Zalesovo	126.25	12	PKP		PKPdf	10 33 16.3	-2.3
	0.6nm,0.7s,baz=175,slow=5.2,SNR=3.2							
ZAL	Zalesovo	126.25	12	PKP		PKPdf	10 33 16.3	-2.3
ASAR	Alice Springs	139.40	230	PKP		PKPdf	10 33 39.0	-5.1
	0.4nm,0.7s,baz=135,slow=2.6,SNR=4.0							
WRA	Warramunga Arr	141.02	235	PKP		PKPdf	10 33 42.7	-4.5
	0.4nm,0.7s,baz=131,slow=2.0,SNR=4.9							

IDC ***16*** *10:19:14.2±7.2,3.80N×95.16E,mb3.9/8,mb1 4.1/9, mb1mx3.9/20,mbtmp4.0/9,ML4.4/1,Error ellipse: s-maj=180.8km s-min=59.0km az=139.0*
NEIC ***16*** *10:19:18.3±4.2,3.58N×94.86E,h30km,mb4.3/3,Error ellipse: s-maj=108.0km s-min=28.4km az=131.0*
ISC 16 10:19:18.6±4.2,4.0N±0.5×95.0E±0.6,h30km,n12, σ0§90/12,mb4.0/11,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.85	15	Pn	P	10 22 54.5	+5.9
	0.5nm,0.3s,baz=207,slow=11,SNR=36						
LSA	Lhasa	25.79	352	*e*P	P	10 24 50.3	+1.3
	10nm,0.6s,mb4.5						
SONM	Songino Array	44.73	11	P	P	10 27 30.7	-0.4
	0.2nm,0.4s,mb3.3,baz=197,slow=8.6,SNR=4.1						
ZAL	Zalesovo	50.45	352	P	P	10 28 16.1	+0.4
	1.9nm,0.7s,mb4.3,baz=306,slow=7.3,SNR=11						
BVAR	Borovoye Array	52.88	342	P	P	10 28 33.4	-0.7
	0.5nm,0.4s,mb3.8,baz=140,slow=12,SNR=6.6						
BRVK	Borovoye	52.94	342	*e*P	P	10 28 33.4	-1.1
	1.2nm,0.6s,mb4.0						
CHKZ	Chkalovo	53.37	342	*e*P	P	10 28 37.0	-0.6
	2.1nm,0.6s,mb4.2						
BRTR	Keskin Array B	65.59	312	P	P	10 30 01.7	-0.4
	1.0nm,1.0s,mb3.8,baz=72,slow=4.6,SNR=2.6						
FINES	FINESS Array B	76.49	333	P	P	10 31 07.2	-0.1
	1.5nm,0.7s,mb4.1,baz=124,slow=6.9,SNR=9.5						
ARCES	ARCESS Array B	79.15	340	P	P	10 31 21.4	-0.5
	3.8nm,1.0s,mb4.3,baz=80,slow=7.4,SNR=4.4						
GERES	GERESS Array B	81.24	319	P	P	10 31 35.1	+1.8
	0.2nm,0.3s,mb3.5,baz=113,slow=7.5,SNR=5.9						
HFS	Hagfors	82.18	330	P	P	10 31 38.4	+0.4
	4.3nm,1.0s,mb4.3,baz=128,slow=17,SNR=2.8						

NEIC ***16*** *10:20:12.0±0.8,17.99S×178.45W,h583km±9km,mb4.3/14, Error ellipse: s-maj=15.4km s-min=6.5km az=157.0*
IDC ***16*** *10:20:15.2±1.8,18.06S×178.51W,h619km±23km, mb3.6/12,mb1 3.8/13,mb1mx3.7/16,mbtmp4.6/13,Error ellipse: s-maj=34.1km s-min=9.9km az=160.0*
ISC 16 10:20:11.8±1.1,18.1S±0.1×178.51W±0.08,h597km±14km, n85,σ0§86/38,mb4.1/20,5C-4D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.70	58	*e*P	P	10 22 06.9	-1.7
	38nm,0.6s						
RAR	Rarotonga	17.92	103	P	P	10 23 47.7	0.0
	0.8nm,0.3s,baz=141,slow=18,SNR=3.6						
RAR	Rarotonga	17.92	103	*e*P	P	10 23 47.8	+0.1
	17nm,0.8s						
CTA	Charters Tower	33.32	261	⇓*i*P	P	10 26 03.9	+0.8
	5.5nm,0.4s,mb4.5						
CTA	Charters Tower	33.32	261	P	P	10 26 04.0	+0.8
	5.1nm,0.4s,mb4.5,baz=88,slow=10,SNR=18						
CTAO	Charters Tower	33.32	261	*e*P	P	10 26 03.8	+0.6
	5.5nm,0.4s,mb4.5						
PMG	Port Moresby	34.39	280	P	P	10 26 13.4	+1.2
	24nm,0.8s,mb4.9,baz=101,slow=6.0,SNR=8.7						
PMG	Port Moresby	34.39	280	*e*P	P	10 26 13.6	+1.5
	27nm,0.9s,mb4.9						
STKA	Stephens Creek	38.45	241	*e*P	P	10 26 46.9	+1.6
	2.7nm,0.6s,mb4.0						
STKA	Stephens Creek	38.45	241	P	P	10 26 46.9	+1.6
	3.3nm,0.6s,mb4.1,baz=103,slow=11,SNR=11						
WB2	Warramunga Arr	44.49	260	⇓*i*P	P	10 27 32.8	-0.4
WB2				*e*S	S	10 33 24.2	-2.3
WRAB	Tennant Creek	44.49	260	*e*P	P	10 27 32.7	-0.5
	5.1nm,0.5s,mb4.3						
WRA	Warramunga Arr	44.50	260	P	P	10 27 33.3	0.0
	4.0nm,0.5s,mb4.2,baz=95,slow=7.0,SNR=154						
WRA				PcP	PcP	10 29 03.4	-0.3
	0.8nm,0.4s,baz=89,slow=3.7,SNR=6.7						
WRA				S	S	10 33 25.2	-1.4
	0.8nm,0.8s,baz=98,slow=12,SNR=6.3						
ASAR	Alice Springs	44.65	254	P	P	10 27 35.0	+0.7
	18nm,0.6s,mb4.8,baz=87,slow=8.9,SNR=364						
ASAR				PcP	PcP	10 29 03.9	-0.2
	1.4nm,0.5s,baz=96,slow=4.1,SNR=6.7						
ASAR				S	S	10 33 27.4	-1.3
	0.8nm,0.8s,baz=86,slow=16,SNR=9.2						
ASPA	Alice Springs	44.65	254	⇓*i*P	P	10 27 34.7	+0.3
ASPA				*e*S	S	10 33 27.3	-1.4
KAKA	Kakadu	47.48	269	⇑*i*P	P	10 27 56.0	0.0
	6.6nm,0.7s,mb4.3						
SBA	Scott Base	60.23	184	P	P	10 29 24.6	-0.3
	0.6nm,0.3s,mb3.3						
CASY	Casey	65.93	205	*e*P	P	10 30 00.6	-0.6
	4.2nm,0.4s,mb4.2						
NVAR	Mina Array Bea	79.62	44	P	P	10 31 19.6	+0.2
	3.4nm,0.8s,mb3.8,baz=225,slow=8.9,SNR=31						
MOD	Modoc	80.29	40	*e*P	P	10 31 23.0	+0.3
	4.8nm,0.6s,mb4.0						
WVOR	Wild Horse Val	81.61	40	*e*P	P	10 31 29.9	+0.4
	7.7nm,1.0s,mb4.2						
COLA	College	85.97	13	*e*P	P	10 31 49.0	-1.4
ILAR	Eielson Array	86.08	13	P	P	10 31 50.0	-0.9
	2.6nm,0.5s,mb4.2,baz=222,slow=4.9,SNR=87						
TXAR	Lajitas Array	86.18	58	P	P	10 31 53.6	+1.4
	3.7nm,0.7s,mb4.1,baz=218,slow=6.0,SNR=43						
MCMT	McKenzie Canyo	86.44	41	*e*P	P	10 31 53.7	+0.6
SNOW	Snow King Moun	87.10	42	*e*P	P	10 31 56.9	+0.6
CHMT	Chamberlain Mo	87.24	39	*e*P	P	10 31 56.4	-0.4
BW06	Boulder Array	87.55	43	*e*P	P	10 31 58.2	-0.2
	2.1nm,0.6s,mb4.0						
PDAR	Pinedale Array	87.55	43	P	P	10 31 58.9	+0.5
	3.0nm,0.7s,mb4.1,baz=221,slow=3.0,SNR=30						
CMAR	Chiang Mai Arr	88.85	290	P	P	10 32 06.3	+1.3
	1.3nm,0.6s,mb3.9,baz=123,slow=1.5,SNR=5.7						
JCT	Junction City	89.72	58	P	P	10 32 08.1	-0.7
	4.9nm,1.0s,mb4.3						
SONM	Songino Array	93.62	319	P	P	10 32 26.7	+0.5
	0.3nm,0.7s,mb3.6,baz=149,slow=4.3,SNR=3.5						
YKA	Yellowknife Ar	94.54	25	P	P	10 32 29.4	-0.5
	0.6nm,0.5s,mb4.0,baz=238,slow=4.4,SNR=13						
YKA	Yellowknife Ar	94.54	25	P	P	10 32 29.4	-0.5
BVAR	Borovoye Array	116.92	321	PKP	PKPdf	10 37 49.7	+0.5
	1.5nm,0.4s,baz=123,slow=1.7,SNR=14						
ARCES	ARCESS Array B	126.48	350	PKP	PKPdf	10 38 07.6	+0.4
	1.4nm,0.5s,SNR=15						
FINES	FINESS Array B	133.34	344	PKP	PKPdf	10 38 20.4	0.0
	13nm,1.2s,baz=135,slow=5.4,SNR=8.6						
FINES	FINESS Array B	133.34	344	PKP	PKPdf	10 38 20.4	0.0
AKASG	Malin Array Be	140.67	332	PKhKP		10 38 28.9	
	0.8nm,0.4s,baz=38,slow=4.0,SNR=6.4						
OJC	Ojcow	144.75	340	*e*PKP	PKPdf	10 38 43.0	+2.0
BRTR	Keskin Array B	144.84	315	PKP	PKPdf	10 38 43.9	+2.3
	2.2nm,0.5s,baz=101,slow=2.4,SNR=13						
KOLS	Kolonicke sedl	144.93	336	*e*PKP	PKPdf	10 38 43.8	+2.4
NIE	Niedzica	145.25	338	*e*PKP	PKPdf	10 38 45.0	+3.1
KSP	Ksiaz	145.26	343	*e*PKP	PKPdf	10 38 44.8	+2.9
OKC	Ostrava-Krasne	145.61	341	*e*PKP	PKPdf	10 38 45.9	+3.4
OKC				*ex*	x	10 38 50.4	
CLL	Collm	145.62	347	⇑*i*PKP1	PKPbc	10 38 45.5	+1.6
UPC	Upice	145.64	344	*e*PKP	PKPdf	10 38 46.1	+3.6
UPC				*ex*	x	10 38 48.4	
DPC	Dobruska-Polom	145.69	343	*e*PKP	PKPdf	10 38 46.4	+3.8
DPC				*ex*	x	10 38 48.5	
BRG	Berggiesshubel	145.82	346	*i*P	PKPdf	10 38 46.3	+3.5
MLR	Muntele Rosu	145.94	329	PKPbc	PKPbc	10 38 46.7	+1.8
	3.2nm,0.5s,baz=344,slow=12,SNR=6.3						
PVCC	Panska Ves	145.99	345	*e*PKP	PKPdf	10 38 47.0	+3.9
PRU	Pruhonice	146.49	345	*e*PKP	PKPdf	10 38 48.4	+4.4
PRU				*ex*	x	10 38 50.9	
VYHS	Vyhne	146.55	339	*e*PKP	PKPdf	10 38 48.5	+4.3
NKC	Novy Kostel	146.75	347	*e*PKP	PKPdf	10 38 47.0	+2.6
NKC				*ex*	x	10 38 49.2	
SMOL	Smolenice	147.00	340	*e*PKP	PKPdf	10 38 48.4	+3.5
EIL	Elat	147.41	297	*e*PKPbc	PKPdf	10 38 51.3	+5.1
GRA1	Grafenberg Arr	147.51	348	*e*PKP	PKPdf	10 38 50.8	+5.1
GRF	Grafenberg Arr	147.51	348	*e*PKP	PKPdf	10 38 50.8	+5.1
KHC	Kasperske Hory	147.53	345	*e*PKP	PKPdf	10 38 51.0	+5.3
KHC				*ex*	x	10 38 55.8	
GERES	GERESS Array B	147.76	345	PKPbc	PKPdf	10 38 51.4	+5.3
	4.1nm,0.5s,baz=27,slow=3.5,SNR=52						
GIVF	Givet	147.95	356	*e*PKP1	PKPdf	10 38 51.8	+5.4
	12nm,0.5s						
BAIF	Baives	148.03	357	*e*PKP1	PKPdf	10 38 52.1	+5.6
	10nm,0.6s						
FLN	La Foiniiere	149.36	3	*e*PKP1	PKPdf	10 38 54.9	+6.3
	9.6nm,0.6s						
CDF	Champ du Feu	149.39	352	*e*PKP1	PKPdf	10 38 55.4	+6.7
	6.9nm,0.5s						
MEZF	Maizieres J'vi	149.53	355	*e*PKP1	PKPdf	10 38 55.9	+7.0
LDF	La Druitiere	149.55	2	*e*PKP1	PKPdf	10 38 55.2	+6.3
	4.5nm,0.4s						
WATA	Walderalm	149.68	346	⇓*i*P	PKPdf	10 38 55.9	+6.8
GRR	Gorron	149.72	3	*e*PKP1	PKPdf	10 38 55.8	+6.6
	12nm,0.5s						
WTTA	Wattenberg	149.73	346	⇑*i*P	PKPdf	10 38 56.3	+7.1
MOTA	Moosalm	149.77	347	⇑*i*P	PKPdf	10 38 54.9	+5.6
SQTA	Sankt Quirin	149.87	347	⇑*i*P	PKPdf	10 38 56.5	+7.0
HAU	Haudompre	149.90	353	*e*PKP1	PKPdf	10 38 56.5	+7.0
	8.3nm,0.5s						
HINF	Hinteralfeld	150.03	353	*e*PKP1	PKPdf	10 38 56.7	+7.0
	6.4nm,0.7s						
DAVOX	Davos	150.56	348	PKPbc	PKPdf	10 38 58.7	+8.1
	14nm,0.7s,baz=203,slow=1.3,SNR=16						
HYF	Humbligny	150.89	358	*e*PKP1	PKPdf	10 38 58.6	+7.6
SSF	Saint Saulge	151.06	357	*e*PKP1	PKPdf	10 38 59.3	+8.0
	10nm,0.6s						
CABF	La Chapelle	151.31	353	*e*PKP1	PKPdf	10 39 00.4	+8.8
	7.6nm,0.8s						
AVF	Avril sur Loir	151.34	357	*e*PKP1	PKPdf	10 38 59.4	+7.7
MFF	Saint Martin d	151.54	2	*e*PKP1	PKPdf	10 39 00.0	+8.1
	20nm,0.9s						
BGF	Bois d'Agland	151.59	358	*e*PKP1	PKPdf	10 39 00.3	+8.3
	8.4nm,0.6s						
TCF	Toulx Ste Croi	151.88	359	*e*PKP1	PKPdf	10 39 00.7	+8.3
LPG	La Plagne	152.32	352	*e*PKP1	PKPdf	10 39 02.9	+10
ORIF	Oris-en-Rattie	153.00	353	*e*PKP1	PKPdf	10 39 03.7	+10
MBDF	Montbardon	153.08	352	*e*PKP1	PKPdf	10 39 03.9	+10
	9.7nm,0.9s						
VIVF	Saint-Julien-l	153.18	355	*e*PKP1	PKPdf	10 39 04.2	+10
	38nm,1.4s						

IDC 16 11:02:22.1±9.7,2.00N×97.54E,mb3.3/3,mb1 3.5/3, mb1mx3.3/16,mbtmp3.3/3,Error ellipse: s-maj=329.0km s-min=34.4km az=67.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.17	123	P	P	11 10 16.5	-1.9
	0.4nm,0.4s,baz=301,slow=9.1,SNR=10.0						
ASAR	Alice Springs	43.61	128	P	P	11 10 28.6	-1.5
	0.1nm,0.4s,baz=296,slow=7.6,SNR=5.0						
SONM	Songino Array	46.29	8	P	P	11 10 49.5	-1.8
	0.2nm,0.6s,baz=180,slow=7.2,SNR=2.7						

BJI ***16*** *11:07:21.6,14.08N×92.23E,h20km,mB4.5,mb4.2,Ms4.1, Msz4.0*
IDC ***16*** *11:07:25.5±0.8,14.51N×92.42E,h19km±3km,mb3.9/14, mb1 4.1/15,mb1mx3.9/22,mbtmp4.0/15,ML3.8/1,Error ellipse: s-maj=24.1km s-min=15.0km az=48.0*
MOS ***16*** *11:07:25.7±1.4,14.54N×92.61E,h33km,mb4.9/15,Error ellipse: s-maj=14.3km s-min=9.2km az=110.3*
NEIC ***16*** *11:07:26.1±0.5,14.57N×92.59E,mb4.6/14,Error ellipse: s-maj=12.4km s-min=8.9km az=222.0*
ISC 16 11:07:23.5±0.5,14.57N±0.07×92.47E±0.06,h21km, h21km±.9km;pP-P,n60,σ1§12/60,mb4.3/30,MS4.0/1,1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.31	57	Pn	Pn	11 09 11.6	-0.3
	0.4nm,0.3s,baz=245,slow=15,SNR=2.7						
CMAR				Sn	Sn	11 10 35.1	-0.1
	0.1nm,0.3s,baz=245,slow=26,SNR=2.3						
VIS	Vishakhapatnam	9.32	291	*e*P	P	11 09 35.5	-4.3
	comp=Z,28nm,1.4s						
VIS				*e*		11 09 38.2	
VIS				*e*S	Sn	11 11 10.1	-15
SHL	Shillong	10.96	357	*e*	P	11 09 57.0	-5.3
SHL				*e*S	S	11 12 00.0	-5.2
BLSP	Bilaspur	12.36	309	*e*P	P	11 10 18.6	-2.7
BLSP				*e*		11 10 18.9	
BLSP				AMb	AMB	11 10 27.8	
	comp=Z,16nm,0.8s						
BLSP				*e*S	S	11 12 19.6	-20
HYB	Hyderabad	13.68	284	*e*P	P	11 10 43.0	+4.1
HYB				*e*S	S	11 13 04.0	-7.2
HYB	Hyderabad	13.68	284	*i*P	P	11 10 43.0	+4.1
HYB				*e*		11 12 48.0	
HYB				*e*S	S	11 13 04.0	-7.2
LSA	Lhasa	15.11	356	P	P	11 11 01.5	+3.9
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LSA	Lhasa	15.11	356	P	P	11 11 01.5	+3.9
	comp=Z,7.5nm,0.6s						
POO	Poona	18.28	285	*e*S	S	11 15 06.0	+8.0
NDI	New Delhi	19.93	317	*e*P	P	11 11 56.0	-1.0
NDI				*e*P		11 11 56.0	
NDI				*e*	S	11 15 23.5	-11
DDI	Dehra Dun	20.54	322	*e*S	S	11 15 49.7	+2.6
ENH	Enshi	22.13	42	P	P	11 12 19.1	-0.4
	comp=Z,17nm,1.0s,mb4.4						
LZH	Lanzhou	23.73	23	⇓P	P	11 12 43.8	+8.7
LZH				AMB	AMB		
	comp=Z,43nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,113nm,5.6s						
LZH				LR	LR		
	comp=N,351nm,15.0s						
LZH				LR	LR		
	comp=Z,442nm,17.8s,MS4.0						
AAK	Ala-Archa	31.97	335	*i*P	P	11 13 52.9	+2.6
AAK				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.1						
AAK	Ala-Archa	31.97	335	P	P	11 13 50.6	+0.3
	comp=Z,3.2nm,1.0s,mb4.1						
SONM	Songino Array	35.12	16	P	P	11 14 18.4	+0.8
	comp=Z,1.4nm,1.0s,mb3.9,baz=198,slow=4.6,SNR=7.9						
SONM				pP	pP	11 14 25.0	+1.2
	comp=Z,4.0nm,0.9s,baz=213,slow=7.6,SNR=17						
ULN	Ulaanbaatar	35.34	17	*e*P	P	11 14 19.6	+0.2
ULN				*e*	pP	11 14 26.8	+1.2
ULN				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
ULN	Ulaanbaatar	35.34	17	*e*P	P	11 14 19.6	+0.2
	comp=Z,8.3nm,1.3s,mb4.5						
ULN				*e*	pP	11 14 26.8	+1.1
KURK	Kurchatov	37.76	346	*e*P	P	11 14 40.5	+0.8
KURK				*e*	pP	11 14 47.0	+1.0
KURK				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.9						
KURK	Kurchatov	37.76	346	*e*P	P	11 14 40.5	+0.8
	comp=Z,30nm,1.1s,mb4.9						
KURK				*e*	pP	11 14 47.0	+1.0
ZAL	Zalesovo	39.74	353	P	P	11 14 56.6	+0.4
	comp=Z,1.5nm,0.9s,mb3.7,baz=297,slow=8.7,SNR=7.2						
ZAL				pP	pP	11 15 04.2	+1.6
	comp=Z,3.6nm,0.7s,baz=304,slow=7.7,SNR=12						
BVAR	Borovoye Array	42.17	340	P	P	11 15 16.1	-0.1
	comp=Z,1.9nm,1.0s,mb3.7,baz=158,slow=7.8,SNR=4.1						
BVAR				pP	pP	11 15 22.9	+0.4
	comp=Z,2.9nm,0.8s,baz=127,slow=7.4,SNR=9.7						
CHKZ	Chkalovo	42.64	341	*e*P	P	11 15 20.8	+0.7
CHKZ				*e*	pP	11 15 27.3	+0.9
CHKZ				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
CHKZ	Chkalovo	42.64	341	*e*P	P	11 15 20.8	+0.7
	comp=Z,14nm,0.8s,mb4.7						
CHKZ				*e*	pP	11 15 27.2	+0.8
BOD	Bodaibo	46.12	16	*e*P	P	11 15 47.3	-0.6
GNI	Garni	48.72	311	*e*P	P	11 16 11.4	+2.8
GNI				pmax	pmax		
	comp=Z,33nm,1.2s						
GNI	Garni	48.72	311	P	P	11 16 10.9	+2.4
	comp=Z,1.9nm,0.4s,mb4.5,baz=74,slow=15,SNR=3.7						
GNI	Garni	48.72	311	*e*P	P	11 16 11.4	+2.9
	comp=Z,33nm,1.2s,mb5.2						
ARU	Arti	49.13	336	*e*P	P	11 16 10.8	-0.8
KIV	Kislovodsk	51.36	315	*i*P	P	11 16 30.0	+1.3
KIV				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
KIV	Kislovodsk	51.36	315	*e*P	P	11 16 29.5	+0.8
	comp=Z,9.2nm,0.8s,mb4.8						
NWAO	Narrogin (SRO)	52.83	154	*e*P	P	11 16 39.9	0.0
NWAO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NWAO	Narrogin (SRO)	52.83	154	*e*P	P	11 16 39.9	-0.1
	comp=Z,1.4nm,0.5s,mb4.2						
SOC	Sochi	53.30	314	*e*P	P	11 16 39.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.22**	**218**	P	P	11 13 14.2	-0.8
	1.1nm,0.3s,baz=47,slow=12,SNR=3.2						
CTA	**Charters Tower**	**17.14**	**197**	P	P	11 15 13.7	-1.9
	0.1nm,0.3s,baz=22,slow=11,SNR=2.2						
WRA	**Warramunga Arr**	**23.36**	**225**	P	P	11 16 16.6	-0.5
	19nm,0.3s,baz=46,slow=9.4,SNR=514						
ASAR	**Alice Springs**	**26.23**	**219**	P	P	11 16 41.5	-1.9
	1.1nm,0.5s,baz=52,slow=8.4,SNR=37						
STKA	**Stephens Creek**	**29.61**	**197**	P	P	11 17 10.2	-3.4
	1.6nm,0.8s,baz=36,slow=13,SNR=3.9						
BVAR	**Borovoye Array**	**87.62**	**323**	P	P	11 23 49.0	-0.9
	0.4nm,0.5s,baz=124,slow=5.2,SNR=3.2						

IDC 16 11:15:13.9±13.0, 2.87N×95.20E, mb3.4/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML4.1/1, Error ellipse: s-maj=459.5km s-min=33.9km az=68.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.92**	**13**	Pn	P	11 19 03.8	+2.7
	0.2nm,0.3s,baz=213,slow=12,SNR=6.9						
WRA	**Warramunga Arr**	**44.61**	**122**	P	P	11 23 28.5	-1.7
	0.5nm,0.7s,baz=298,slow=9.6,SNR=5.5						
SONM	**Songino Array**	**45.82**	**11**	P	P	11 23 37.7	-1.8
	0.5nm,0.7s,baz=191,slow=7.1,SNR=4.4						
ASAR	**Alice Springs**	**45.99**	**127**	P	P	11 23 39.2	-1.9
	0.5nm,0.8s,baz=297,slow=6.0,SNR=5.0						

MAN 16 11:30:19.4, 10.61N×125.61E, h34km, mb4.1, ML2.9, MS2.5, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.83**	**188⇑**	*eP*	P	11 30 34.8	+0.3
SCPH				*eS*	S	11 30 43.1	-2.6
PLP	**Palo**	**0.83**	**312**	*i* P	P	11 30 35.4	+0.8
PLP				*eS*	S	11 30 46.4	+0.5
MSLP	**Maasin**	**0.88**	**238**	*eP*	P	11 30 32.8	-2.4
MSLP				*eS*	S	11 30 41.8	-5.2
BESP	**Borongan**	**1.00**	**350**	*eP*	P	11 30 41.2	+4.1
BESP				*eS*	S	11 30 56.0	+5.8
OCLP	**Ormoc**	**1.08**	**294**	*eP*	P	11 30 38.8	+0.7
LLP	**Lapu-Lapu**	**1.65**	**260**	*eP*	P	11 30 45.3	-1.0
LLP				*eS*	S	11 31 04.1	-2.4
TBP	**Tagbilaran**	**1.95**	**242**	*i* P	P	11 30 52.1	+1.5
TBP				*eS*	S	11 31 13.8	-0.4

*BJI **16** 11:31:53.0, 7.89N×93.27E, h27km, mb4.6*
*IDC **16** 11:32:01.3±1.7, 8.62N×93.65E, h26km±5km, mb4.2/17, mb1 4.4/18, mb1mx4.2/25, mbtmp4.4/18, ML4.3/1, Error ellipse: s-maj=43.6km s-min=27.8km az=161.0*
*NEIC **16** 11:32:01.4±0.8, 8.60N×93.68E, mb4.4/8, Error ellipse: s-maj=18.4km s-min=10.9km az=149.0*
ISC 16 11:31:59.2±0.9, 8.5N±0.1×93.79E±0.08, h27km, h27km±.5km:pP-P, n48, σ0§88/45, mb4.4/25, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.05**	**26**	Pn	**P**	**11 34 38.9**	**+0.1**
	0.6nm,0.3s,baz=212,slow=15,SNR=13						
HYB	**Hyderabad**	**17.26**	**302**	*i* P	**P**	**11 36 03.0**	**+2.8**
HYB				*eS*	**S**	**11 39 10.0**	**+0.3**
BLSP	**Bilaspur**	**17.56**	**322**	*e*	**P**	**11 36 03.8**	**-0.1**
KAD	**Karad**	**20.99**	**296**	*e*	**P**	**11 36 50.0**	**+7.0**
LSA	**Lhasa**	**21.19**	**354**	P	**P**	**11 36 44.6**	**-0.5**
LSA	**Lhasa**	**21.19**	**354**	*eP*	**P**	**11 36 44.5**	**-0.6**
	11nm,0.8s,mb4.2						
NDI	**New Delhi**	**25.39**	**324**	*e*	**P**	**11 37 25.0**	**-1.2**
ENH	**Enshi**	**26.13**	**32**	*eP*	**P**	**11 37 33.2**	**+0.1**
	4.4nm,0.5s,mb4.2						
UCH	**Uchtor**	**37.61**	**336**	P	**P**	**11 39 14.4**	**+0.9**
	SNR=7.0						
KBK	**Karagaybulak**	**37.80**	**337**	P	**P**	**11 39 16.0**	**+0.9**
	SNR=8.9						
AML	**Almayashu**	**37.86**	**335**	P	**P**	**11 39 16.6**	**+1.0**
	SNR=14						
AAK	**Ala-Archa**	**37.96**	**337**	*eP*	**P**	**11 39 17.7**	**+1.2**
	SNR=7.1						
AAK	**Ala-Archa**	**37.96**	**337**	*eP*	**P**	**11 39 16.2**	**-0.3**
	4.4nm,0.8s,mb4.2						
EKS2	**Erkin-Say**	**38.27**	**336**	P	**P**	**11 39 19.9**	**+0.8**
	SNR=5.7						
USP	**Ospenovka**	**38.49**	**337**	P	**P**	**11 39 21.3**	**+0.4**
	SNR=6.8						
SONM	**Songino Array**	**40.59**	**13**	P	**P**	**11 39 38.3**	**+0.1**
	1.0nm,0.8s,mb3.5,baz=195,slow=7.0,SNR=6.6						
SONM				PcP	PcP	11 41 40.2	-0.5
	0.5nm,0.8s,baz=196,slow=3.0,SNR=7.4						
ULN	**Ulaanbaatar**	**40.77**	**14**	*eP*	**P**	**11 39 39.6**	**-0.1**
	1.6nm,0.8s,mb3.7						
ZAL	**Zalesovo**	**45.84**	**353**	P	**P**	**11 40 20.9**	**+0.1**
	5.1nm,0.9s,mb4.5,baz=292,slow=8.6,SNR=14						
BVAR	**Borovoye Array**	**48.25**	**341**	P	**P**	**11 40 38.3**	**-1.4**
	2.0nm,0.8s,mb4.2,baz=146,slow=11,SNR=11						
BVAR				PcP	PcP	11 42 06.7	-0.2
	1.4nm,0.7s,baz=117,slow=3.3,SNR=5.1						
BRVK	**Borovoye**	**48.31**	**341**	*eP*	**P**	**11 40 38.8**	**-1.4**
	2.5nm,0.8s,mb4.3						
CHKZ	**Chkalovo**	**48.73**	**342**	*eP*	**P**	**11 40 42.5**	**-0.9**
CHKZ				*e*	pP	11 40 51.3	-0.5
ASAR	**Alice Springs**	**50.60**	**130**	PcP	PcP	11 42 15.5	-0.3
	0.9nm,0.8s,baz=305,slow=4.5,SNR=5.4						
GNI	**Garni**	**53.73**	**314**	P	**P**	**11 41 21.2**	**-0.1**
	1.8nm,0.3s,mb4.4,baz=176,slow=15,SNR=2.2						
GNI	**Garni**	**53.73**	**314**	P	**P**	**11 41 22.2**	**+0.8**
KIV	**Kislovodsk**	**56.59**	**318**	*eP*	**P**	**11 41 41.5**	**-0.7**
	5.0nm,0.5s,mb4.8						
EIL	**Elat**	**58.80**	**299**	P	**P**	**11 41 57.8**	**0.0**
	4.1nm,0.9s,mb4.5,baz=53,slow=5.1,SNR=2.9						
BRTR	**Keskin Array B**	**61.73**	**311**	P	**P**	**11 42 16.4**	**-1.4**
	2.7nm,0.6s,mb4.6,baz=127,slow=7.9,SNR=9.8						
MLR	**Muntele Rosu**	**68.46**	**316**	P	**P**	**11 43 00.4**	**-0.7**
	3.0nm,0.7s,mb4.5,baz=270,slow=7.1,SNR=4.0						
FINES	**FINESS Array B**	**71.96**	**332**	P	**P**	**11 43 21.4**	**-0.7**
	5.6nm,1.1s,mb4.4,baz=112,slow=7.5,SNR=6.9						
ARCES	**ARCESS Array B**	**74.52**	**340**	P	**P**	**11 43 36.9**	**-0.1**
	6.0nm,0.8s,mb4.6,baz=31,slow=7.1,SNR=7.5						
GERES	**GERESS Array B**	**77.10**	**318**	P	**P**	**11 43 51.7**	**-0.3**
	1.8nm,0.8s,mb4.1,baz=90,slow=6.7,SNR=12						
GERES				pP	pP	11 44 00.0	-0.6
	3.2nm,1.0s,baz=90,slow=5.3,SNR=7.1						
KHC	**Kasperske Hory**	**77.19**	**318**	*eP*	**P**	**11 43 52.0**	**-0.4**
HFS	**Hagfors**	**77.71**	**330**	P	**P**	**11 43 54.6**	**-0.5**
	3.2nm,0.6s,mb4.4,baz=112,slow=8.0,SNR=10						
GRA1	**Grafenberg Arr**	**78.74**	**319**	*eP*	**P**	**11 44 01.6**	**+0.7**
GRA1				*epP*	pP	11 44 10.6	+1.0
GRF	**Grafenberg Arr**	**78.74**	**319**	*eP*	**P**	**11 44 01.6**	**+0.7**
GRF				*epP*	pP	11 44 10.6	+1.0
NB2	**NORSAR Subarra**	**78.98**	**331**	P	**P**	**11 44 01.1**	**-0.9**
	5.7nm,0.8s,mb4.5,baz=92,slow=5.8						
NOA	**NORSAR Array B**	**78.98**	**331**	P	**P**	**11 44 00.7**	**-1.3**
	3.7nm,0.7s,mb4.4,baz=94,slow=5.3,SNR=8.1						
DAVOX	**Davos**	**79.67**	**316**	P	**P**	**11 44 04.8**	**-1.2**
	2.8nm,0.9s,mb4.2,baz=101,slow=5.2,SNR=3.0						
DAVOX	**Davos**	**79.67**	**316**	P	**P**	**11 44 04.8**	**-1.2**
LPG	**La Plagne**	**81.91**	**315**	*eP*	**P**	**11 44 18.6**	**+0.8**
	10nm,0.9s,mb4.5						
EKA	**Eskdalemuir Ar**	**86.98**	**325**	P	**P**	**11 44 43.7**	**+0.5**
	5.9nm,0.7s,mb4.9,baz=98,slow=4.8,SNR=13						
ESDC	**Sonseca Array**	**90.53**	**310**	P	**P**	**11 45 01.3**	**+0.9**
	0.5nm,0.6s,mb4.1,baz=97,slow=5.6,SNR=4.3						
ESDC				pP	pP	11 45 09.9	+0.7
	0.7nm,0.8s,baz=31,slow=3.5,SNR=3.1						
IMA	**Indian Mountai**	**91.14**	**22**	*eP*	**P**	**11 45 04.8**	**+2.3**
	14nm,0.9s,mb5.3						
ILAR	**Eielson Array**	**94.26**	**22**	P	**P**	**11 45 17.3**	**+0.3**
	0.6nm,0.8s,mb4.1,baz=307,slow=4.8,SNR=6.6						
INK	**Inuvik**	**96.45**	**16**	P	**P**	**11 45 27.6**	**+0.7**
	1.3nm,0.9s,mb4.4,baz=310,slow=5.9,SNR=4.1						
INK				pP	pP	11 45 35.9	+0.2
	4.1nm,1.2s,baz=271,slow=5.8,SNR=3.8						
PDAR	**Pinedale Array**	**124.67**	**21**	PKP	PKPdf	11 50 59.2	-2.5
	1.0nm,0.9s,baz=27,slow=3.3,SNR=7.4						
TXAR	**Lajitas Array**	**138.75**	**23**	PKP	PKPdf	11 51 25.7	-2.9
	0.2nm,0.6s,baz=292,slow=4.9,SNR=3.1						
TXAR	**Lajitas Array**	**138.75**	**23**	PKP	PKPdf	11 51 25.7	-2.9

*IDC **16** 11:32:26.9±2.2, 14.60N×92.86E, mb3.8/4, mb1 3.9/5, mb1mx3.8/18, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=64.6km s-min=24.9km az=72.0*
*NEIC **16** 11:32:30.2±1.1, 14.79N×92.79E, h30km, mb4.3/3, Error ellipse: s-maj=29.6km s-min=15.0km az=62.0*
ISC 16 11:32:25.5±0.8, 14.5N±0.1×92.04E±0.10, h30km, n14, σ1§29/16, mb3.9/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.69**	**58**	Pn	**Pn**	**11 34 10.1**	**-8.2**
	0.2nm,0.3s,baz=243,slow=15,SNR=4.0						
BWNR	**Bhubaneshwar**	**8.27**	**315**	*eP*	**P**	**11 34 25.9**	**-0.6**
BWNR				*e*		11 34 26.7	
BWNR				AML	AML	11 35 58.8	
	comp=E,102nm,0.6s						
BWNR				*eS*	**Sn**	**11 35 59.2**	**-0.7**
BWNR				AML	AML	11 36 00.7	
	comp=N,91nm,0.3s						
VIS	**Vishakhapatnam**	**8.96**	**292**	*eP*	**P**	**11 34 38.7**	**+2.7**
VIS				*eS*	**Sn**	**11 36 15.4**	**-1.6**
VIS				AML	AML	11 36 18.2	
	comp=N,93nm,0.4s						
VIS				AML	AML	11 36 18.6	
	comp=E,61nm,0.4s						
SHL	**Shillong**	**10.99**	**359**	*e*	P	11 35 24.0	+20
SHL				*eS*	**S**	**11 36 59.0**	**-7.9**
BLSP	**Bilaspur**	**12.07**	**310**	*eS*	**S**	**11 37 33.1**	**-0.1**
LSA	**Lhasa**	**15.13**	**357**	P	**P**	**11 35 58.2**	**-0.8**
	comp=E,2.4nm,0.4s						
DDI	**Dehra Dun**	**20.32**	**323**	*eP*	**P**	**11 37 06.4**	**+4.3**
SONM	**Songino Array**	**35.29**	**17**	P	**P**	**11 39 21.6**	**+1.8**
	comp=E,0.3nm,0.7s,mb3.4,baz=207,slow=9.7,SNR=3.3						
KURK	**Kurchatov**	**37.70**	**346**	P	**P**	**11 39 40.6**	**+0.6**
	comp=E,6.4nm,1.1s,mb4.3						
ZAL	**Zalesovo**	**39.74**	**353**	P	**P**	**11 40 00.8**	**+3.8**
	comp=E,0.6nm,0.5s,mb3.6,baz=315,slow=17,SNR=3.6						
CHKZ	**Chkalovo**	**42.55**	**341**	*eP*	**P**	**11 40 23.8**	**+3.6**
	comp=E,0.9nm,0.6s,mb3.7						
CHKZ				*e*	pP	11 40 33.7	+4.5
WRA	**Warramunga Arr**	**53.88**	**128**	P	**P**	**11 41 48.3**	**-0.3**
	comp=E,2.3nm,0.7s,mb4.2,baz=309,slow=7.9,SNR=8.1						
WRAB	**Tennant Creek**	**53.88**	**128**	P	**P**	**11 41 47.8**	**-0.8**
	comp=E,2.1nm,0.5s,mb4.3						
ASAR	**Alice Springs**	**55.81**	**132**	P	**P**	**11 42 02.2**	**-0.5**
	comp=E,1.3nm,0.7s,mb4.1,baz=311,slow=7.4,SNR=10						

IDC 16 11:49:39.4±26.0, 19.22S×178.58W, h672km±291km, mb3.0/4, mb1 3.3/4, mb1mx2.9/14, mbtmp4.1/4, Error ellipse: s-maj=288.6km s-min=78.6km az=129.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.10**	**263**	P	P	11 55 23.9	-1.3
	1.6nm,0.4s,baz=97,slow=11,SNR=6.1						
WB2	**Warramunga Arr**	**44.24**	**261**	*eP*	P	11 56 53.2	-1.4
WRA	**Warramunga Arr**	**44.25**	**261**	P	P	11 56 53.1	-1.5
	1.3nm,0.3s,baz=96,slow=7.6,SNR=50						
ASAR	**Alice Springs**	**44.30**	**256**	P	P	11 56 53.2	-1.8
	3.9nm,0.7s,baz=98,slow=7.6,SNR=53						
ASPA	**Alice Springs**	**44.30**	**256**	*eP*	P	11 56 53.4	-1.6
FITZ	**Fitzroy Crossi**	**52.67**	**262**	*eP*	P	11 57 56.5	-0.1
	4.5nm,1.5s						
ILAR	**Eielson Array**	**87.19**	**13**	P	P	12 01 16.2	-1.3
	0.6nm,1.0s,baz=222,slow=5.6,SNR=4.4						

*IDC **16** 11:55:14.5±0.8, 17.74N×122.61E, mb4.0/10, mb1 4.1/10, mb1mx3.9/20, mbtmp4.0/10, ML5.0/1, MS3.2/1, Ms1 3.4/1, ms1mx2.7/25, Error ellipse: s-maj=45.3km s-min=15.1km az=63.0*
*MAN **16** 11:55:17.8, 17.84N×122.52E, h8km, mb5.2, ML4.1, MS4.3*
MAN CALLAO CAGAYAN TUGUEGARAO CITY INTENSITY III.
*NEIC **16** 11:55:24.5±2.5, 17.60N×122.48E, h82km±23km, mb4.3/6, Error ellipse: s-maj=27.6km s-min=7.5km az=60.0*
NEIC Felt [III PIVS] at Callao and Tuguegarao City.
*BJI **16** 11:55:30.4, 17.97N×121.65E, h81km, mB4.8, mb4.3*
ISC 16 11:55:18.7±0.7, 17.89N±0.03×122.58E±0.06, h38km±7km, n40, σ1§06/48, mb4.0/16, MS3.0/1, 4C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.62**	**305**	*eP*	**P**	**11 55 30.4**	**-0.6**
CVP	**Callao Caves**	**0.74**	**256⇑**	*eP*	**P**	**11 55 31.5**	**-1.3**
CAUP	**Cauayan**	**1.18**	**218**	*eP*	**P**	**11 55 39.8**	**+0.8**
APYP	**Conner**	**1.27**	**269**	*eP*	**P**	**11 55 39.5**	**-0.8**
APYP				*eS*	**S**	**11 55 54.9**	**-1.6**
ABRA	**Dolores**	**1.79**	**263**	*eP*	**P**	**11 55 47.4**	**-0.4**
ABRA				*eS*	**S**	**11 56 09.0**	**-0.6**
BALP	**Baler**	**2.34**	**204**	*eP*	**P**	**11 55 56.0**	**+0.3**
BALP				*eS*	**S**	**11 56 21.6**	**-1.8**
BCPH	**Baguio City Da**	**2.43**	**232⇑**	*iP*	**P**	**11 55 57.6**	**+0.7**
BCPH				*i* S	**S**	**11 56 26.8**	**+1.2**
BBP	**Basco**	**2.61**	**347**	*eP*	**P**	**11 55 59.5**	**+0.1**
BBP				*eS*	**S**	**11 56 29.0**	**-1.1**
PCPH	**Palayan**	**2.71**	**212⇓**	*eP*	**P**	**11 56 01.3**	**+0.3**
PCPH				*eS*	**S**	**11 56 33.9**	**+1.1**
BOLP	**Bolinao**	**2.96**	**240**	*eP*	**P**	**11 56 04.7**	**+0.2**
POLP	**Polilio Island**	**3.20**	**191**	*eP*	**P**	**11 56 08.3**	**+0.5**
POLP				*eS*	**S**	**11 56 44.2**	**-1.1**
SCZP	**Santa Cruz**	**3.31**	**231**	*eP*	**P**	**11 56 09.7**	**+0.3**
LQP	**Lukban**	**3.88**	**195⇓**	*eP*	**P**	**11 56 17.8**	**+0.3**
GQP	**Guinayangan**	**3.96**	**182⇓**	*eP*	**P**	**11 56 18.8**	**+0.2**
GQP				*eS*	**S**	**11 57 00.8**	**-3.7**
TGY	**Tagaytay City**	**4.08**	**203⇑**	*iP*	**P**	**11 56 18.1**	**-2.3**
TGY				*i* S	Px	11 56 38.9	
TGY	**Tagaytay City**	**4.08**	**203**	Pn	**P**	**11 56 20.7**	**+0.3**
	112nm,0.3s,baz=268,slow=16,SNR=13						
BOAC	**Boac**	**4.46**	**189**	*eP*	**P**	**11 56 25.3**	**-0.4**
PVCP	**Virac**	**4.53**	**160**	*eP*	**P**	**11 56 27.1**	**+0.4**
LUBP	**Lubang**	**4.70**	**209**	*eP*	**P**	**11 56 30.4**	**+1.3**
OTRP	**Odiongan**	**5.52**	**186**	*eP*	**P**	**11 56 41.6**	**+1.0**
SJMP	**San Jose**	**5.58**	**195**	*eP*	**P**	**11 56 43.6**	**+2.2**
BUSP	**Coron**	**6.29**	**202**	*eP*	**P**	**11 56 52.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**22.46**	**275**	P	**P**	**12 00 15.6**	**-0.3**
	2.4nm,0.9s,mb3.6,baz=87,slow=7.9,SNR=15						
CMAR				LR	LR	12 08 29.7	
	comp=Z,57nm,18.9s,MS3.0,baz=105,slow=35						
LSA	**Lhasa**	**30.97**	**298**	*eP*	**P**	**12 01 35.8**	**+1.1**
	4.8nm,0.5s,mb4.6						
ULN	**Ulaanbaatar**	**32.49**	**340**	*eP*	**P**	**12 01 49.8**	**+1.9**
	2.5nm,0.8s,mb4.1						
SONM	**Songino Array**	**32.67**	**340**	P	**P**	**12 01 50.2**	**+0.7**
	2.2nm,0.9s,mb4.1,baz=159,slow=8.9,SNR=18						
WRAB	**Tennant Creek**	**39.32**	**162**	*eP*	**P**	**12 02 41.9**	**-4.2**
	4.3nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**39.33**	**162**	P	**P**	**12 02 44.1**	**-2.0**
	2.2nm,0.8s,mb3.9,baz=342,slow=9.4,SNR=13						
ASAR	**Alice Springs**	**42.75**	**165**	P	**P**	**12 03 13.0**	**-1.4**
	1.4nm,0.6s,mb3.9,baz=346,slow=6.6,SNR=30						
CTA	**Charters Tower**	**44.32**	**147**	P	**P**	**12 03 24.9**	**-2.3**
	4.6nm,0.9s,mb4.2,baz=332,slow=12,SNR=6.5						
CTAO	**Charters Tower**	**44.32**	**147**	*eP*	**P**	**12 03 24.8**	**-2.3**
	9.4nm,1.1s,mb4.4						
ZAL	**Zalesovo**	**46.27**	**330**	P	**P**	**12 03 43.5**	**+1.3**
	0.6nm,0.8s,mb3.6,baz=150,slow=18,SNR=2.3						
KURK	**Kurchatov**	**47.82**	**323**	*eP*	**P**	**12 03 54.9**	**+0.4**
	2.1nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**52.73**	**160**	P	**P**	**12 04 30.3**	**-1.8**
	1.3nm,0.7s,mb4.0,baz=336,slow=10.0,SNR=3.4						
BVAR	**Borovoye Array**	**53.42**	**324**	P	**P**	**12 04 37.5**	**+0.5**
	0.5nm,0.4s,mb3.8,baz=98,slow=10,SNR=2.6						
CHKZ	**Chkalovo**	**53.53**	**324**	P	**P**	**12 04 38.1**	**+0.4**
	0.7nm,0.6s,mb3.8						
ARCES	**ARCESS Array B**	**75.85**	**339**	P	**P**	**12 07 02.1**	**-0.3**
	1.9nm,0.8s,mb4.1,baz=63,slow=5.4,SNR=4.4						
FINES	**FINESS Array B**	**77.53**	**331**	P	**P**	**12 07 12.5**	**+0.5**
	2.4nm,0.9s,mb4.1,baz=72,slow=8.8,SNR=4.9						
FINES	**FINESS Array B**	**77.53**	**331**	P	**P**	**12 07 12.5**	**+0.5**
NB2	**NORSAR Subarra**	**84.39**	**333**	P	**P**	**12 07 47.9**	**-0.2**
	2.3nm,0.8s,mb4.4,baz=60,slow=5.3						

CASC 16 12:17:35.9±2.6, 11.55N×86.87W, MD4.3, ML3.6, 7C-10D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.68**	**23⇑**	*iP*	Pg	12 17 51.0	+1.6
TICN	**Ticuantepe**	**0.78**	**53⇓**	*eP*	Pg	12 17 52.4	+0.8
XAVN	**Gruta Xavier**	**0.79**	**42⇓**	*eP*	Pg	12 17 52.5	+0.7
MASN	**Masaya**	**0.82**	**58**	*eP*	Pg	12 17 53.2	+0.8
APYN	**Apoyeque**	**0.84**	**37⇑**	*eP*	Pg	12 17 53.3	+0.5
MGAN	**Managua**	**0.85**	**46**	*eP*	Pg	12 17 52.2	-0.6
MGAN				⇓*eP*		12 17 53.1	
MGAN				*eS*	Sg	12 18 04.8	+0.7
MGAN				*i*		12 18 08.5	
	comp=E,2μm,0.4s						
LEON	**Leon**	**0.86**	**358⇓**	*eP*	Pg	12 17 53.2	+0.2
APON	**Apoyo**	**0.86**	**65⇓**	*eP*	Pg	12 17 53.0	-0.1
MIRN	**Miramar**	**0.89**	**10⇑**	*eP*	Pg	12 17 53.9	+0.1
WILN	**Americas 2**	**0.90**	**48⇓**	*eP*	Pg	12 17 53.9	0.0
WILN				*eS*	Sg	12 18 07.8	+2.0
MOMJ	**Momotombo**	**0.91**	**21⇓**	*eP*	Pg	12 17 54.1	+0.1
CNGN	**Cerro Negro**	**0.95**	**10⇑**	*eP*	Pg	12 17 54.7	-0.3
TEL3	**Telica 3**	**1.01**	**1⇓**	*eP*	Pb	12 17 56.0	0.0
SSNN	**San Juan del S**	**1.03**	**105⇓**	*eP*	Pb	12 17 55.1	-1.2
TELN	**Telica**	**1.04**	**2**	*eP*	Pb	12 17 56.4	-0.1
CRIN	**San Cristobal**	**1.15**	**351⇑**	*eP*	Pb	12 17 58.0	-0.4
CONN	**Concepcion**	**1.22**	**89⇑**	*eP*	Pb	12 17 57.3	-2.2
PYTN	**Playitas**	**1.26**	**39⇓**	*eP*	Pb	12 17 58.9	-1.3
PYTN				*eS*	Sb	12 18 17.4	+0.6
MADN	**Villa Maderas**	**1.32**	**96⇑**	*eP*	Pb	12 17 58.6	-2.6
FORC	**Fortuna**	**2.41**	**116**	*eP*	Pn	12 18 16.2	-1.0
JCR	**Jicaral**	**2.42**	**134**	*eP*	Pn	12 18 15.2	-2.0
JCR				*eS*	Sn	12 18 51.1	+3.0
CGA2	**Cerro Gallo 2**	**2.81**	**123**	*eP*	Pn	12 18 23.1	+0.2
CGA2				*eS*	Sn	12 18 59.8	+1.8
PRS1	**Puriscal**	**2.96**	**122**	*eP*	Pn	12 18 24.3	-0.7
LAJ	**Bijagual**	**3.18**	**122**	*eP*	Pn	12 18 23.0	-5.1
SJS	**Escuela Geolog**	**3.20**	**120**	*eS*	Sn	12 19 08.6	+0.8
TRTC	**Tortuguero**	**3.25**	**107**	*eP*	Pn	12 18 25.6	-3.5
LCR2	**La Lucha 2**	**3.34**	**122**	*eP*	Pn	12 18 28.4	-2.1
LCR2				*eS*	Sn	12 19 14.3	+2.9
URSC	**Urasca**	**3.48**	**119**	*eP*	Pn	12 18 30.3	-2.2

MAN 16 12:33:08.9, 8.85N×123.01E, h43km, mb4.0, ML2.9, MS2.6, Mindanao

*GUC **16** 12:49:12.6±1.0, 24.11S×68.07W, h158km, ML5.0*
*NEIC **16** 12:49:14.8±0.3, 23.99S×67.93W, mb4.6/16, Error ellipse: s-maj=10.6km s-min=7.0km az=83.0*
*IDC **16** 12:49:15.1±0.7, 23.81S×67.79W, h122km±6km, mb4.3/10, mb1 4.4/11, mb1mx4.4/14, mbtmp4.7/11, Error ellipse: s-maj=19.6km s-min=10.3km az=51.0*
ISC 16 12:49:12.3±0.7, 24.02S±0.04×67.84W±0.07, h115km±6km, h123km±.8km:pP-P, n67, σ1§04/58, mb4.5/21, 7C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.71**	**325**	P	**P**	**12 49 43.7**	**+1.4**
	908nm,0.3s,baz=153,slow=7.2,SNR=5950						
LVC				S	**S**	**12 50 05.4**	**+0.4**
	2μm,0.3s,baz=309,slow=23,SNR=104						
LVC	**Limon Verde**	**1.71**	**325⇓**	*i*Pn	**P**	**12 49 43.7**	**+1.3**
LVC				*e*Sn	**S**	**12 50 05.3**	**+0.3**
ANCH	**Antofagasta**	**2.38**	**278⇓**	*iP*	**P**	**12 49 51.7**	**+0.6**
ANCH				*i* S	**S**	**12 50 20.2**	**0.0**
ANCH				AMP		12 50 26.5	
	comp=N,7μm,0.3s						
CPN1	**Cerro Paranal**	**2.42**	**255⇑**	*iP*	**P**	**12 49 52.3**	**+0.8**
CPN1				*i* S	**S**	**12 50 22.0**	**+0.9**
CPN1				AMP		12 50 29.8	
	comp=N,6μm,0.7s						
VACH	**Vallenar**	**5.24**	**209⇓**	*iP*	**P**	**12 50 28.9**	**-0.8**
VACH				*i* S	**S**	**12 51 28.4**	**-1.0**
TLL	**Tololo Astrono**	**6.67**	**203⇓**	*iP*	**P**	**12 50 48.5**	**-0.7**
TLL				*i* S	**S**	**12 52 03.0**	**-1.3**
CMCH	**Combarbala**	**7.66**	**201**	*eP*	**P**	**12 51 00.8**	**-1.8**
CMCH				*i* S	**S**	**12 52 24.2**	**-4.1**
LPAZ	**La Paz**	**7.69**	**358**	P	**P**	**12 51 02.7**	**-0.4**
	comp=N,3

BVAR Borovoye Array 137.26 36 SKPbc 13 11 46.3
comp=N,0.2nm,0.6s,baz=27,slow=3.3,SNR=4.3
KURK Kurchatov 142.84 36 *e*PKPpre 13 08 30.5
ZAL Zalesovo 143.76 27 PKP PKPdf 13 08 34.2 +0.8
comp=N,5.2nm,0.8s,baz=198,slow=4.1,SNR=29
ZAL SKPbc 13 12 04.0
comp=N,2.0nm,1.1s,baz=205,slow=4.9,SNR=5.2
ZAL Zalesovo 143.76 27 PKP PKPdf 13 08 34.2 +0.8
ZAL SKPbc 13 12 04.0
AAK Ala-Archa 143.83 50 *e*PKPdf PKPdf 13 08 34.4 +0.6
HYB Hyderabad 147.94 95 *e*P PKPdf 13 08 45.0 +3.4
HYB Hyderabad 147.94 95 *i* PKP PKPdf 13 08 45.0 +3.4
SONM Songino Array 155.79 10 PKP PKPdf 13 08 54.5 +2.4
comp=N,1.9nm,0.9s,baz=268,slow=0.8,SNR=13
SONM PKPab PKPab 13 09 21.0 -0.8
comp=N,2.0nm,0.7s,baz=312,slow=3.8,SNR=9.5
CMAR Chiang Mai Arr 166.50 112 PKP PKPdf 13 09 06.3 +2.0
comp=N,0.9nm,0.9s,baz=270,slow=0.9,SNR=6.8
CMAR PKPab PKPab 13 10 08.7 -0.3
comp=N,1.0nm,0.9s,baz=257,slow=4.4,SNR=5.0

WEL 16 12:51:14.2±0.3, 41.27S×172.62E, h210km±2km, ML3.5/8, 10C, Error ellipse: s-maj=2.5km s-min=2.4km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.44**	**351**	⇑PN	P	12 51 42.1	-0.6
QRZ				eSN	S	12 52 03.1	-1.5
THZ	**Tophouse**	**0.54**	**157**	⇑PN	P	12 51 43.0	0.0
THZ				SN	S	12 52 04.7	-0.5
NNZ	**Nelson**	**0.57**	**86**	⇑PN	P	12 51 42.7	-0.4
NNZ				SN	S	12 52 04.3	-1.1
DSZ	**Denniston Nort**	**0.78**	**232**	⇑PN	P	12 51 43.3	-0.7
DSZ				SN	S	12 52 05.2	-1.8
TUWZ	**Tuamarina**	**1.01**	**100**	PN	P	12 51 45.4	+0.2
TUWZ				SN	S	12 52 08.7	-0.5
KHZ	**Kahutara**	**1.34**	**150**	⇑PN	P	12 51 47.5	-0.4
KHZ				SN	S	12 52 12.7	-1.2
LTZ	**Lake Taylor**	**1.54**	**190**	PN	P	12 51 48.9	-0.6
LTZ				eSN	S	12 52 14.8	-2.0
MRW	**Makara Radio**	**1.57**	**89**	⇑PN	P	12 51 49.2	-0.6
MRW				SN	S	12 52 15.3	-2.0
WEL	**Wellington**	**1.62**	**91**	⇑PN	P	12 51 49.7	-0.6
BHW	**Baring Head**	**1.70**	**96**	⇑PN	P	12 51 50.3	-0.7
BHW				SN	S	12 52 17.2	-2.1
KIW	**Kapiti Island**	**1.77**	**78**	PN	P	12 51 51.0	-0.7
KIW				SN	S	12 52 18.8	-1.7
CAW	**Cannon Point**	**1.85**	**86**	PN	P	12 51 51.7	-0.7
CAW				SN	S	12 52 20.0	-1.8
MSWZ	**Moikau Station**	**1.98**	**95**	PN	P	12 51 53.1	-0.6
MTW	**Mount Morrison**	**2.17**	**88**	⇑PN	P	12 51 55.0	-0.7
MTW				SN	S	12 52 25.6	-2.0
WVZ	**Waitaha Valley**	**2.29**	**217**	⇑PN	P	12 51 55.2	-1.7
WVZ				SN	S	12 52 25.8	-4.1
MRZ	**Mangatainoka R**	**2.32**	**76**	PN	P	12 51 56.2	-1.0
MRZ				SN	S	12 52 28.3	-2.1
WAZ	**Wanganui**	**2.35**	**51**	PN	P	12 51 56.6	-0.9
MQZ	**McQueen's Vall**	**2.44**	**180**	PN	P	12 51 56.8	-1.8
MQZ				eSN	S	12 52 29.4	-3.4
VRZ	**Vera Road**	**2.69**	**38**	SN	S	12 52 35.5	-2.3
TSZ	**Takapari Road**	**2.81**	**66**	PN	P	12 52 01.2	-1.5

*BJI **16** 12:51:55.6, 4.37N×93.45E, h22km, mB5.2, mb4.8, Ms4.6, Msz4.0*
*IDC **16** 12:52:04.7±0.6, 5.32N×93.30E, h21km±3km, mb4.5/18, mb1 4.6/19, mb1mx4.5/22, mbtmp4.6/19, ML4.3/1, MS3.6/3, Ms1 3.6/3, ms1mx3.4/19, Error ellipse: s-maj=21.4km s-min=10.6km az=55.0*
*MOS **16** 12:52:04.5±0.8, 5.37N×93.44E, h33km, mb4.9/16, Error ellipse: s-maj=13.9km s-min=6.9km az=113.1*
*NEIC **16** 12:52:04.7±0.2, 5.32N×93.39E, mb4.7/15, Error ellipse: s-maj=9.4km s-min=5.2km az=52.0*

ISC 16 12:52:03.1±0.3, 5.34N±0.05×93.45E±0.05, h24km, h24km±1.2km: pP-P, n109, σ1$03/110, mb4.7/43, MS4.0/4, 3C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.10**	**22**	Pn	**P**	**12 55 22.9**	**-0.9**
	0.5nm,0.3s,baz=218,slow=15,SNR=36						
CMAR				LR	LR	13 01 58.5	
	comp=Z,74nm,18.7s,baz=200,slow=42						
KKTK	**Khon Kaen**	**14.28**	**39**	PG	**P**	**12 55 36.0**	**+10**
KKTK				SG	rx	12 55 43.0	
CHG	**Chiang Mai**	**14.42**	**21**	⇑P	**P**	**12 55 36.2**	**+8.2**
	19nm,1.0s						
NANT	**Nan**	**15.13**	**27**	P	**P**	**12 55 45.2**	**+7.9**
CHRT	**Chiangrai**	**15.70**	**23**	⇑P	**P**	**12 55 47.5**	**+2.8**
	132nm,0.9s						
VIS	**Vishakhapatnam**	**15.79**	**322**	*e*P	**P**	**12 55 43.6**	**-2.2**
VIS				*e*		12 55 45.2	
	comp=Z,22nm,0.4s						
VIS				*e*S	**S**	**12 58 25.9**	**-14**
BWNR	**Bhubaneshwar**	**16.62**	**334**	*e*P	**P**	**12 55 53.0**	**-3.4**
BWNR				*e*		12 55 55.0	
	comp=Z,37nm,0.7s						
BWNR				*e*S	**S**	**12 58 46.2**	**-13**
HYB	**Hyderabad**	**18.88**	**311**	*e*P	**P**	**12 56 23.5**	**-0.9**
HYB				*e*S	**S**	**12 59 35.0**	**-16**
HYB	**Hyderabad**	**18.88**	**311**	*i* P	**P**	**12 56 23.5**	**-0.9**
HYB				*e*		12 59 35.0	
HYB				*e*S	**S**	**12 59 50.5**	**-0.2**
IMP	**Imphal**	**19.34**	**1**	*e*	**P**	**12 56 28.0**	**-1.7**
BLSP	**Bilaspur**	**19.96**	**328**	*e*P	**P**	**12 56 36.4**	**-0.3**
BLSP				*e*		12 56 42.6	
	comp=Z,30nm,0.7s						
BLSP				*e*S	**S**	**13 00 09.8**	**-4.7**
SHL	**Shillong**	**20.17**	**356**	*e*P	**P**	**12 56 39.5**	**+0.7**
SHL				*e*S	**S**	**13 00 24.5**	**+5.8**
POO	**Poona**	**23.19**	**306**	*e*	**S**	**13 01 20.0**	**+4.5**
BHPL	**Bhopal**	**23.57**	**321**	*e*P	**P**	**12 57 14.3**	**+1.4**
BHPL				*e*		12 57 15.8	
	comp=Z,5.2nm,0.5s						
BHPL				*e*		12 59 55.5	
LSA	**Lhasa**	**24.33**	**355**	P	**P**	**12 57 22.8**	**+2.5**
LSA	**Lhasa**	**24.33**	**355**	*e*P	**P**	**12 57 22.1**	**+1.8**
LSA				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.4						
LSA	**Lhasa**	**24.33**	**355**	*e*P	**P**	**12 57 22.1**	**+1.8**
	comp=Z,13nm,0.8s,mb4.4						
ENH	**Enshi**	**29.04**	**29**	P	**P**	**12 58 02.1**	**-1.6**
	comp=Z,12nm,0.9s,mb4.6						
LZH	**Lanzhou**	**32.06**	**16**	*e*P	**P**	**12 58 36.5**	**+6.1**
LZH				XP	sP	12 58 45.6	+5.0
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb4.9						
NJ2	**Nanjing**	**35.65**	**39**	*e*P	**P**	**12 59 00.0**	**-1.4**
NJ2				AP	pP	12 59 09.8	+1.2
NJ2				PP	PP	13 00 20.0	-2.2
NJ2				S	**S**	**13 04 33.0**	**-2.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,460nm,4.2s						
NJ2				LR	LR		
	comp=N,800nm,15.9s,MS4.7						
NJ2				LR	LR		
	comp=E,760nm,19.6s,MS4.7						
NJ2				LR	LR		
	comp=Z,880nm,22.2s,MS4.5						
SSE	**Sheshan**	**36.53**	**42**	*e*P	**P**	**12 59 07.6**	**-1.3**
SSE				S	**S**	**13 04 49.3**	**+0.2**
SSE				AMB	AMB		
	comp=Z,29nm,0.6s,mb5.3						
SSE				AMB	AMB		
	comp=Z,229nm,6.9s						
SSE				LR	LR		
	comp=N,95nm,19.5s,MS3.7						
SSE				LR	LR		
	comp=E,68nm,19.4s,MS3.7						
SSE				LR	LR		
	comp=Z,78nm,13.9s						
MBWA	**Marble Bar**	**36.86**	**136**	*e*P	**P**	**12 59 11.2**	**-0.5**
	comp=Z,12nm,0.9s,mb4.7						
WMQ	**Urumqi**	**38.66**	**353**	*e*P	**P**	**12 59 28.0**	**+1.4**
FITZ	**Fitzroy Crossi**	**39.38**	**127**	⇑*i*P	**P**	**12 59 32.4**	**-0.5**
	comp=Z,6.5nm,0.6s,mb4.5						
FITZ				*e*	pP	12 59 40.8	+0.7
ULHL	**Ulahol**	**39.81**	**340**	P	**P**	**12 59 36.9**	**+0.7**
	SNR=6.1						
KZA	**Kyzart**	**40.01**	**339**	P	**P**	**12 59 39.5**	**+1.7**
	SNR=7.1						
UCH	**Uchtor**	**40.41**	**338**	P	**P**	**12 59 42.6**	**+1.5**
	SNR=15						
KBK	**Karagaybulak**	**40.62**	**339**	P	**P**	**12 59 44.6**	**+1.7**
	SNR=13						
TKM2	**Tokmak 2**	**40.63**	**340**	P	**P**	**12 59 44.0**	**+1.1**
	SNR=5.1						
AML	**Almayashu**	**40.63**	**337**	P	**P**	**12 59 44.5**	**+1.5**
	SNR=29						
AAK	**Ala-Archa**	**40.77**	**338**	P	**P**	**12 59 45.8**	**+1.7**
	SNR=7.8						
AAK	**Ala-Archa**	**40.77**	**338**	*e*P	**P**	**12 59 44.3**	**+0.2**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.3						
AAK	**Ala-Archa**	**40.77**	**338**	*e*P	**P**	**12 59 44.3**	**+0.3**
	comp=Z,9.4nm,1.2s,mb4.3						
EKS2	**Erkin-Say**	**41.06**	**338**	P	**P**	**12 59 47.8**	**+1.4**
	SNR=14						
USP	**Ospenovka**	**41.32**	**339**	P	**P**	**12 59 49.4**	**+0.9**
	SNR=12						
MKAR	**Makanchi Array**	**42.41**	**349**	*i* P	**P**	**12 59 58.0**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SONM	**Songino Array**	**43.77**	**13**	P	**P**	**13 00 09.3**	**+0.7**
	comp=Z,6.4nm,0.6s,mb4.5,baz=195,slow=8.3,SNR=64						
SONM				pP	pP	13 00 15.4	-0.3
	comp=Z,3.3nm,0.8s,baz=198,slow=7.8,SNR=8.4						
SONM				PcP	PcP	13 01 55.8	+0.2
	comp=Z,5.4nm,0.8s,baz=197,slow=3.8,SNR=14						
ULN	**Ulaanbaatar**	**43.94**	**13**	*e*P	**P**	**13 00 10.7**	**+0.7**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.5						
ULN	**Ulaanbaatar**	**43.94**	**13**	*e*P	**P**	**13 00 10.7**	**+0.7**
	comp=Z,2.6nm,0.3s,mb4.4						
NWAO	**Narrogin (SRO)**	**44.25**	**151**	P	**P**	**13 00 12.6**	**-0.1**
	comp=Z,5.3nm,0.5s,mb4.5,baz=40,slow=20,SNR=7.9						
ZAK	**Zakamensk**	**45.64**	**9**	*e*P	**P**	**13 00 24.0**	**+0.5**
KURK	**Kurchatov**	**46.90**	**347**	*e*P	**P**	**13 00 33.9**	**+0.5**
KURK				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
KURK	**Kurchatov**	**46.90**	**347**	*e*P	**P**	**13 00 33.9**	**+0.5**
	comp=Z,16nm,1.0s,mb4.9						
TLY	**Talaya**	**46.96**	**9**	*i* P	**P**	**13 00 34.4**	**+0.5**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**47.41**	**123**	P	**P**	**13 00 38.2**	**+0.3**
	comp=Z,20nm,0.7s,mb5.2,baz=301,slow=9.2,SNR=180						
WRA				pP	pP	13 00 44.5	-0.7
	comp=Z,14nm,0.6s,baz=300,slow=9.3,SNR=16						
WRAB	**Tennant Creek**	**47.41**	**123**	*e*P	**P**	**13 00 38.3**	**+0.4**
WRAB				*e*	pP	13 00 44.8	-0.4
WRAB				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.3						
WRAB	**Tennant Creek**	**47.41**	**123**	*e*P	**P**	**13 00 38.3**	**+0.4**
	comp=Z,35nm,0.8s,mb5.3						
WRAB				*e*	pP	13 00 44.8	-0.4
WB2	**Warramunga Arr**	**47.42**	**123**	*e*P	**P**	**13 00 38.4**	**+0.4**
WB2				*e*	pP	13 00 44.9	-0.4
ASPA	**Alice Springs**	**48.87**	**128**	*e*P	**P**	**13 00 49.4**	**+0.2**
ASAR	**Alice Springs**	**48.87**	**128**	P	**P**	**13 00 49.4**	**+0.2**
	comp=Z,4.9nm,0.8s,mb4.6,baz=298,slow=7.8,SNR=61						
ASAR				pP	pP	13 00 56.9	+0.3
	comp=Z,2.7nm,0.6s,baz=304,slow=8.1,SNR=10						
ASAR				PcP	PcP	13 02 14.1	+0.2
	comp=Z,3.2nm,0.6s,baz=310,slow=3.3,SNR=10						
ZAL	**Zalesovo**	**48.96**	**353**	P	**P**	**13 00 50.6**	**+1.2**
	comp=Z,6.4nm,0.5s,mb5.0,baz=301,slow=5.4,SNR=40						
RAYN	**Ar Rayn**	**49.54**	**296**	P	**P**	**13 00 54.8**	**+0.4**
	comp=Z,53nm,1.3s,mb5.4,SNR=10						
NVS	**Novosibirsk**	**50.04**	**352**	*e*P	**P**	**13 00 56.8**	**-1.0**
NVS				pmax	pmax		
	comp=N,16nm,1.4s						
NVS				pmax	pmax		
	comp=E,13nm,1.4s						
NVS				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.2						
BVAR	**Borovoye Array**	**51.16**	**342**	P	**P**	**13 01 05.8**	**-0.5**
	comp=Z,5.5nm,0.7s,mb4.6,baz=143,slow=7.4,SNR=28						
BRVK	**Borovoye**	**51.23**	**342**	*e*P	**P**	**13 01 05.8**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
BRVK	**Borovoye**	**51.23**	**342**	*e*P	**P**	**13 01 05.8**	**-1.0**
	comp=Z,6.7nm,1.0s,mb4.5						
CHKZ	**Chkalovo**	**51.66**	**343**	*e*P	**P**	**13 01 09.9**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**51.66**	**343**	*e*P	**P**	**13 01 09.9**	**-0.2**
	comp=Z,14nm,0.8s,mb4.9						
BOD	**Bodaibo**	**54.76**	**13**	*e*P	**P**	**13 01 32.1**	**-0.9**
GNI	**Garni**	**55.73**	**316**	P	**P**	**13 01 40.3**	**-0.1**
	comp=Z,2.7nm,0.4s,mb4.6,baz=348,slow=8.5,SNR=3.5						
KMBO	**Kilima Mbogo**	**56.49**	**265**	P	**P**	**13 01 45.3**	**-0.9**
	comp=Z,1.0nm,0.6s,mb4.0,baz=58,slow=21,SNR=3.8						
KMBO				LR	LR	13 21 00.2	
	comp=Z,57nm,19.5s,MS3.7,baz=90,slow=31						
CTA	**Charters Tower**	**57.71**	**118**	LR	LR	13 31 48.4	
	comp=Z,97nm,18.2s,MS4.0,baz=83,slow=41						
KIV	**Kislovodsk**	**58.75**	**319**	*e*P	**P**	**13 02 00.1**	**-1.5**
KIV				pmax	pmax		
	comp=N,5.0nm,1.1s						
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
KIV				pmax	pmax		
	comp=E,3.0nm,0.6s						
KIV	**Kislovodsk**	**58.75**	**319**	*e*P	**P**	**13 02 00.3**	**-1.3**
	comp=E,6.3nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**58.89**	**132**	*e*P	**P**	**13 02 02.6**	**-0.2**
	comp=E,4.9nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**58.89**	**132**	P	**P**	**13 02 03.0**	**+0.2**
	comp=E,6.5nm,0.7s,mb4.8,baz=330,slow=5.3,SNR=14						
STKA				pP	pP	13 02 10.8	+0.6
	comp=E,5.4nm,0.8s,baz=282,slow=3.5,SNR=4.3						
YSS	**Yuzh-Sakhalins**	**59.20**	**37**	*i* P	**P**	**13 02 03.7**	**-1.0**
YSS				pmax	pmax		
	comp=Z,24nm,1.8s,mb4.9						
EIL	**Elat**	**60.11**	**301**	*e*P	**P**	**13 02 09.6**	**-1.6**
	comp=Z,3.2nm,0.5s,mb4.6						
SOC	**Sochi**	**60.56**	**318**	*e*P	**P**	**13 02 10.5**	**-3.6**
SOC				*e*		13 02 54.9	
SOC				*e*		13 04 21.8	
SOC				*e*S	**S**	**13 10 24.4**	**-2.3**
SOC				*e*SS	SS	13 14 25.7	-0.6
SOC				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.0						
SOC				pmax	pmax		
	comp=N,3.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.4s						
YAK	**Yakutsk**	**62.60**	**18**	*i* P	**P**	**13 02 26.9**	**-0.7**
YAK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.2						
BRTR	**Keskin Array B**	**63.58**	**312**	P	**P**	**13 02 32.8**	**-1.6**
	comp=Z,5.3nm,0.8s,mb4.6,baz=130,slow=7.2,SNR=22						
OBN	**Obninsk**	**67.15**	**329**	‖*e*P	**P**	**13 02 54.2**	**-2.9**
OBN				*e*		13 05 30.3	
OBN				*e*S	tx	13 12 14.1	
OBN				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
MA2	**Magadan**	**69.31**	**27**	*i* P	**P**	**13 03 10.7**	**+0.2**
MA2				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
IDI	**Anoyia**	**69.46**	**306**	P	**P**	**13 03 11.2**	**-0.6**
	comp=Z,12nm,0.6s,mb5.0,baz=67,slow=5.2,SNR=8.6						
TIXI	**Tiksi**	**69.83**	**11**	‖*i* P	**P**	**13 03 12.9**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
KOLS	**Kolonicke sedl**	**73.66**	**319**	*e*P	**P**	**13 03 36.9**	**+0.2**
CRVS	**Cervenica-Dubn**	**74.18**	**319**	*e*P	**P**	**13 03 40.4**	**+0.7**
FINES	**FINESS Array B**	**74.62**	**333**	P	**P**	**13 03 41.3**	**-0.7**
	comp=Z,17nm,1.1s,mb4.9,baz=105,slow=7.1,SNR=24						
FINES				pP	pP	13 03 48.8	-0.7
	comp=Z,2.5nm,0.7s,baz=124,slow=6.9,SNR=2.3						
KAF	**Kangasniemi**	**74.72**	**333**	*e*p	**P**	**13 03 41.3**	**-1.3**
	comp=Z,6.0nm,0.6s,mb4.7						
KECS	**Kecovo**	**74.75**	**319**	*e*P	**P**	**13 03 41.4**	**-1.6**
OJC	**Ojcow**	**75.47**	**320**	*e*P	**P**	**13 03 46.8**	**-0.3**
VYHS	**Vyhne**	**75.83**	**319**	*i* P	**P**	**13 03 49.2**	**0.0**
MAW	**Mawson**	**75.93**	**192**	P	**P**	**13 03 50.4**	**+1.1**
	comp=Z,5.1nm,0.6s,mb4.6,baz=21,slow=5.5,SNR=7.9						
OKC	**Ostrava-Krasne**	**76.47**	**320**	*e*P	**P**	**13 03 52.8**	**+0.1**
MORC	**Moravsky Berou**	**76.84**	**320**	*e*P	**P**	**13 03 54.6**	**-0.2**
ZST	**Bratislava**	**76.94**	**318**	*e*P	**P**	**13 03 55.3**	**-0.1**
ARCES	**ARCESS Array B**	**77.41**	**340**	P	**P**	**13 03 57.9**	**+0.4**
	comp=Z,4.3nm,0.6s,mb4.6,baz=90,slow=5.9,SNR=26						
DPC	**Dobruska-Polom**	**77.69**	**320**	*e*P	**P**	**13 04 00.4**	**+0.9**
UPC	**Upice**	**77.91**	**320**	*e*P	**P**	**13 04 01.6**	**+0.9**
PRU	**Pruhonice**	**78.80**	**320**	*e*P	**P**	**13 04 06.4**	**+0.8**
PVCC	**Panska Ves**	**78.83**	**320**	*e*P	**P**	**13 04 06.5**	**+0.8**
GERES	**GERESS Array B**	**79.25**	**319**	P	**P**	**13 04 07.9**	**-0.2**
	comp=Z,7.8nm,0.8s,mb4.7,baz=90,slow=5.3,SNR=55						
GERES				pP	pP	13 04 15.3	-0.4
	comp=Z,2.1nm,0.7s,baz=90,slow=5.3,SNR=6.8						
KHC	**Kasperske Hory**	**79.35**	**319**	*e*P	**P**	**13 04 08.7**	**+0.1**
GRA1	**Grafenberg Arr**	**80.92**	**319**	*e*P	**P**	**13 04 18.1**	**+1.1**
GRF	**Grafenberg Arr**	**80.92**	**319**	*e*P	**P**	**13 04 18.1**	**+1.1**
NB2	**NORSAR Subarra**	**81.59**	**331**	P	**P**	**13 04 19.7**	**-0.5**
	comp=Z,2.2nm,0.7s,mb4.2,baz=98,slow=4.8						
NB2	**NORSAR Subarra**	**81.59**	**331**	P	**P**	**13 04 19.7**	**-0.5**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
NOA	**NORSAR Array B**	**81.59**	**331**	P	**P**	**13 04 19.9**	**-0.3**
	comp=Z,2.6nm,0.8s,mb4.2,baz=95,slow=5.4,SNR=5.0						
LPG	**La Plagne**	**83.91**	**315**	*e*P	**P**	**13 04 32.9**	**+0.4**
	comp=Z,9.0nm,0.7s,mb4.7						
LPG	**La Plagne**	**83.91**	**315**	*e*P	**P**	**13 04 32.9**	**+0.4**
LPG				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
ESDC	**Sonseca Array**	**92.31**	**310**	P	**P**	**13 05 13.2**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=82,slow=4.7,SNR=5.1						
ILAR	**Eielson Array**	**97.33**	**22**	P	**P**	**13 05 34.9**	**-0.4**
	comp=Z,0.3nm,0.7s,mb3.8,baz=296,slow=4.4,SNR=4.1						
NVAR	**Mina Array Bea**	**127.43**	**31**	PKP	PKPdf	13 11 10.3	-0.8
	comp=Z,1.1nm,0.6s,baz=297,slow=2.0,SNR=12						
PDAR	**Pinedale Array**	**127.76**	**21**	PKP	PKPdf	13 11 09.4	-2.3
	comp=Z,1.3nm,0.8s,slow=1.5,SNR=11						
ANMO	**Albuquerque**	**135.75**	**24**	PKP	PKPdf	13 11 25.7	-1.2
	comp=Z,1.0nm,0.7s,baz=12,slow=2.0,SNR=5.8						
TXAR	**Lajitas Array**	**141.80**	**25**	PKhKP		13 11 30.1	
	comp=Z,0.4nm,0.6s,baz=188,slow=1.8,SNR=6.4						
JCT	**Junction City**	**142.19**	**19**	*e*PKPpre		13 11 30.9	
LPAZ	**La Paz**	**158.91**	**238**	PKPab	PKPab	13 12 36.1	-2.3
	comp=Z,3.5nm,0.8s,baz=118,slow=6.1,SNR=9.1						
LPAZ	**La Paz**	**158.91**	**238**	*e*PKPab	PKPab	13 12 36.1	-2.2

MAN 16 12:52:44.9, 8.02N×124.12E, h15km, mb4.2, ML3.1, MS2.8, Mindanao

*CSEM **16** 12:52:54.0±0.2, 63.04N×6.15E, h2km, ML2.3, Error ellipse: s-maj=3.6km s-min=2.4km az=134.0, Suspected Mining explosion.*
*BER **16** 12:53:00.5±3.7, 62.91N×6.11E, h15km±25km, MD2.6, ML2.3, ML3.3(NAO)*
*UPP **16** 12:53:00.0, 62.89N×6.58E, h0km, ML1.7, Suspected Mining explosion.*
*NEIC **16** 12:53:00.2, 62.82N×6.15E, h15km, ML3.3(BER), After BER.*
*NAO **16** 12:53:01.3±6.6, 62.79N×6.49E, h28km±48km, ML3.3*

ISC 16 12:52:57.8±0.7, 62.72N±0.04×6.59E±0.07, n38, σ1$27/62, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOO	**Floro**	**1.34**	**214**	*e*P	**Pb**	**12 53 23.6**	**+0.2**
FOO				*e*S	**Sb**	**12 53 43.4**	**+2.4**
FOO				AML	AML	12 53 44.7	
	comp=Z,88nm,0.1s						
FOO	**Floro**	**1.34**	**214**	*e*P	**Pb**	**12 53 23.6**	**+0.2**
	SNR=62						
FOO				*e*S	**Sb**	**12 53 43.4**	**+2.4**
	comp=Z,88nm,0.1s,SNR=62						
DOMB	**Dombas**	**1.34**	**119**	*e*P	**Pb**	**12 53 24.6**	**+1.2**
DOMB				*e*S	**Sb**	**12 53 49.1**	**+8.1**
DOMB	**Dombas**	**1.34**	**119**	*e*P	**Pb**	**12 53 24.6**	**+1.2**
DOMB				*e*Sg	**Sg**	**12 53 49.0**	**+6.7**
DOMB				AML	AML	12 53 50.3	
	comp=Z,80nm,0.1s						
DOMB	**Dombas**	**1.34**	**119**	*e*P	**Pb**	**12 53 24.6**	**+1.2**
	SNR=62						
DOMB				*e*S	**Sb**	**12 53 49.1**	**+8.1**
HYA	**Hoyanger**	**1.57**	**187**	*e*P	**Pn**	**12 53 29.4**	**+2.5**
HYA				*e*S	**Sb**	**12 53 54.5**	**+6.9**
HYA	**Hoyanger**	**1.57**	**187**	*e*P	**Pn**	**12 53 29.4**	**+2.5**
HYA				*e*Sg	**Sg**	**12 53 54.9**	**+5.0**
HYA				AML	AML	12 53 55.2	
	comp=Z,194nm,0.3s						
SUE	**Sulen**	**1.88**	**208**	*e*P	**Pn**	**12 53 30.8**	**-0.6**
SUE				*e*S	**Sn**	**12 53 58.8**	**+2.7**
SUE	**Sulen**	**1.88**	**208**	*e*P	**Pn**	**12 53 30.8**	**-0.6**
SUE				*e*Sg	**Sg**	**12 53 59.7**	**-0.5**
SUE				AML	AML	12 54 02.8	
	comp=Z,24nm,0.2s						
SUE	**Sulen**	**1.88**	**208**	*e*P	**Pn**	**12 53 30.8**	**-0.6**
	SNR=62						
SUE				*e*S	**Sn**	**12 53 58.8**	**+2.7**
TRON	**Trondheim**	**1.90**	**65**	*e*P	**Pn**	**12 53 35.2**	**+3.5**
TRON				*e*Sg	**Sg**	**12 54 02.8**	**+1.7**
ASK	**Askoy**	**2.34**	**197**	*e*P	**Pn**	**12 53 37.8**	**-0.2**
ASK				*e*S	**Sn**	**12 54 14.5**	**+6.6**
ASK	**Askoy**	**2.34**	**197**	*e*P	**Pn**	**12 53 37.8**	**-0.2**
ASK				*e*Sg	**Sg**	**12 54 14.4**	**-1.2**
ASK

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.31**	**200**	*i* P	**Pn**	**13 24 48.0**	**+8.0**
PBA				*eS*	**Sn**	**13 25 06.0**	**+9.3**
CMAR	**Chiang Mai Arr**	**7.81**	**44**	P	**Pn**	**13 26 12.7**	**+0.6**
	2.2nm,0.3s,baz=236,slow=15,SNR=50						
CMAR				S	**Sn**	**13 27 39.3**	**-1.1**
	1.2nm,0.3s,baz=235,slow=28,SNR=7.6						
CHG	**Chiang Mai**	**8.07**	**42**	⇓P	**P**	**13 26 17.6**	**+2.1**
	19nm,0.8s						
NANT	**Nan**	**9.30**	**50**	P	**P**	**13 26 37.5**	**+5.0**
BWNR	**Bhubaneshwar**	**10.21**	**317**	*e*	**S**	**13 28 28.8**	**-11**
	comp=E,103nm,0.4s						
BWNR				*e*		13 28 40.6	
BWNR				*e*		13 34 01.3	
VIS	**Vishakhapatnam**	**10.66**	**298**	*e*P	**P**	**13 26 49.9**	**-1.5**
VIS				*e*		13 26 55.6	
	comp=Z,18nm,1.0s						
VIS				*e*S	**S**	**13 28 36.0**	**-15**
BLSP	**Bilaspur**	**13.98**	**313**	*e*P	**P**	**13 27 40.1**	**+4.2**
BLSP				*i* S	**S**	**13 30 11.6**	**+0.6**
BLSP				*e*		13 30 19.4	
LSA	**Lhasa**	**16.83**	**354**	*e*P	**P**	**13 28 12.8**	**+0.3**
	comp=Z,3.0nm,0.6s						
BHPL	**Bhopal**	**18.17**	**307**	*e*P	**P**	**13 28 33.2**	**+3.7**
BHPL				*e*		13 28 53.8	
	comp=Z,2.7nm,0.4s						
BHPL				*e*S	**S**	**13 31 48.3**	**+0.3**
ENH	**Enshi**	**22.93**	**39**	*e*P	**P**	**13 29 19.4**	**-0.8**
	comp=Z,8.8nm,0.8s,mb4.2						
SONM	**Songino Array**	**36.53**	**15**	P	**P**	**13 31 22.2**	**+0.1**
	comp=Z,0.8nm,0.9s,mb3.6,baz=203,slow=6.2,SNR=6.0						
ZAL	**Zalesovo**	**41.48**	**353**	P	**P**	**13 32 03.7**	**+0.5**
	comp=Z,1.4nm,0.4s,mb3.9,baz=303,slow=4.7,SNR=7.7						
ZAL	**Zalesovo**	**41.48**	**353**	P	**P**	**13 32 03.7**	**+0.5**
BVAR	**Borovoye Array**	**43.97**	**340**	P	**P**	**13 32 23.2**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.6,baz=143,slow=7.4,SNR=6.8						
BRVK	**Borovoye**	**44.03**	**340**	*e*P	**P**	**13 32 23.1**	**-1.0**
	comp=Z,1.5nm,0.7s,mb3.8						
CHKZ	**Chkalovo**	**44.45**	**341**	*e*P	**P**	**13 32 27.3**	**-0.1**
	comp=Z,4.3nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**52.00**	**128**	P	**P**	**13 33 26.5**	**-0.1**
	comp=Z,0.5nm,0.4s,mb3.8,baz=306,slow=9.5,SNR=32						
WRA				PcP	PcP	13 34 38.7	0.0
	comp=Z,0.8nm,0.5s,baz=317,slow=3.2,SNR=15						
WRAB	**Tennant Creek**	**52.00**	**128**	*e*P	**P**	**13 33 26.6**	**+0.1**
	comp=Z,1.6nm,0.3s,mb4.4						
ASAR	**Alice Springs**	**53.90**	**132**	P	**P**	**13 33 40.3**	**-0.2**
	comp=Z,0.6nm,0.4s,mb3.9,baz=309,slow=7.1,SNR=44						
ASAR				PcP	PcP	13 34 46.0	+0.3
	comp=Z,0.8nm,0.8s,baz=318,slow=3.5,SNR=6.7						
STKA	**Stephens Creek**	**64.26**	**135**	P	**P**	**13 34 53.1**	**+0.7**
	comp=Z,0.7nm,0.6s,mb3.8,baz=309,slow=14,SNR=2.2						
FINES	**FINESS Array B**	**67.87**	**331**	P	**P**	**13 35 14.3**	**-0.6**
	comp=Z,2.6nm,0.7s,mb4.3,baz=135,slow=5.4,SNR=6.9						
ARCES	**ARCESS Array B**	**70.26**	**340**	P	**P**	**13 35 29.4**	**0.0**
	comp=Z,6.8nm,1.1s,mb4.5,baz=90,slow=4.9,SNR=9.1						
GERES	**GERESS Array B**	**73.51**	**317**	P	**P**	**13 35 49.6**	**+0.4**
	comp=Z,0.9nm,0.7s,mb3.8,baz=76,slow=5.5,SNR=8.3						
ILAR	**Eielson Array**	**90.46**	**22**	P	**P**	**13 37 17.1**	**-0.1**
	comp=Z,0.4nm,0.6s,mb3.9,baz=287,slow=4.8,SNR=8.5						
PDAR	**Pinedale Array**	**120.80**	**19**	PKP	PKPdf	13 43 08.8	-3.4
	comp=Z,0.3nm,0.6s,baz=67,slow=3.2,SNR=5.7						
NVAR	**Mina Array Bea**	**121.04**	**29**	PKP	PKPdf	13 43 10.9	-1.8
	comp=Z,0.4nm,0.6s,baz=315,slow=2.6,SNR=4.4						
TXAR	**Lajitas Array**	**134.97**	**21**	PKP	PKPdf	13 43 37.4	-2.2
	comp=Z,0.2nm,0.4s,baz=200,slow=0.4,SNR=4.6						

*PRU **16** 13:27:11.6, 51.47N×16.16E*
*NEIC **16** 13:27:12.5±1.7, 51.39N×16.13E, h5km, MG2.8(WAR), Error ellipse: s-maj=17.7km s-min=6.8km az=205.0*
WAR 16 13:27:12.7, 51.45N×16.09E, h1km, ML2.3, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**168**	*e*PG	Pg	13 27 24.0	-1.2
KSP				*e*SG	Sg	13 27 32.0	-1.5
KSP	**Ksiaz**	**0.62**	**168**	*e*Pg	Pg	13 27 24.1	-1.1
KSP				*i* Sg	Sg	13 27 32.4	-1.1
UPC	**Upice**	**0.95**	**183**	*e*PG	Pg	13 27 30.0	-1.6
UPC				*e*SG	Sg	13 27 42.6	-1.7
DPC	**Dobruska-Polom**	**1.11**	**172**	*e*PG	Pg	13 27 33.0	-1.9
DPC				*e*SG	Sg	13 27 47.6	-2.2
	8.0nm,0.3s						
PVCC	**Panska Ves**	**1.33**	**227**	*e*PG	Pg	13 27 37.6	-1.7
BRG	**Berggiesshubel**	**1.47**	**248**	*e*Pg	Pg	13 27 39.8	-2.2
BRG				*e*Sg	Sg	13 27 59.5	-2.1
PRU	**Pruhonice**	**1.77**	**214**	*e*PG	Pg	13 27 44.8	-3.1
PRU				*ex*	x	13 27 48.2	
PRU				*e*SG	Sg	13 28 09.2	-2.3
	4.3nm,0.2s						
MORC	**Moravsky Berou**	**1.92**	**151**	*e*Pn	Pn	13 27 44.2	-2.6
MORC				*e*Sg	Sg	13 28 09.5	-7.0
CLL	**Collm**	**1.94**	**267**	*e*PG	Pg	13 27 48.0	-3.4
CLL				*e*SG	Sg	13 28 14.0	-3.3
OKC	**Ostrava-Krasne**	**2.08**	**140**	*e*PG	Pg	13 27 50.1	-4.2
OKC				*e*SG	Sg	13 28 16.9	-5.1
NKC	**Novy Kostel**	**2.61**	**244**	*e*PG	Pg	13 28 02.0	-2.8
NKC				*e*SG	Sg	13 28 38.2	-1.4
	8.5nm,0.3s						
KHC	**Kasperske Hory**	**2.83**	**216**	*e*PN	Pn	13 27 58.7	-1.1
KHC				*e*PG	Pg	13 28 04.0	-5.1
KHC				*e*SN	Sn	13 28 31.4	-3.6
KHC				*e*SG	Sg	13 28 42.7	-4.1
MOX	**Moxa**	**2.94**	**256**	*e*Pg	Pg	13 28 07.5	-3.8
MOX				*e*Sg	Sg	13 28 47.3	-3.2

*BJI **16** 13:27:55.0, 2.93N×95.59E, h18km, mB5.2, mb4.9*
*MOS **16** 13:27:55.7±1.0, 2.77N×95.59E, h33km, mb4.6/7, Error ellipse: s-maj=27.7km s-min=11.9km az=90.7*
*IDC **16** 13:27:56.9±1.9, 2.78N×95.63E, h25km±5km, mb4.0/5, mb1 4.2/6, mb1mx3.9/16, mbtmp4.2/6, ML4.1/1, Error ellipse: s-maj=78.5km s-min=15.5km az=58.0*
*NEIC **16** 13:27:56.8±0.8, 2.78N×95.61E, mb4.4/9, Error ellipse: s-maj=24.1km s-min=9.4km az=62.0*
ISC 16 13:27:54.6±1.0, 2.8N±0.1×95.6E±0.2, h25km, h25km±.7km: pP-P, n32, σ0§88/30, mb4.3/15, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.90**	**12**	Pn	**P**	**13 31 39.0**	**+0.4**
	0.2nm,0.3s,baz=205,slow=13,SNR=20						
LSA	**Lhasa**	**27.09**	**351**	P	**P**	**13 33 39.0**	**+1.4**
LSA	**Lhasa**	**27.09**	**351**	*e*P	**P**	**13 33 38.8**	**+1.2**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**27.09**	**351**	*e*P	**P**	**13 33 38.8**	**+1.2**
	comp=Z,7.0nm,0.6s,mb4.4						
ENH	**Enshi**	**30.32**	**24**	*e*P	**P**	**13 34 05.8**	**-0.8**
	comp=Z,6.2nm,0.7s,mb4.5						
XAN	**Xi'an**	**33.47**	**20**	P	**P**	**13 34 33.6**	**-0.5**
XAN				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.1						
BJT	**Baijiatuau**	**41.47**	**24**	*e*P	**P**	**13 35 43.5**	**+2.3**
BJT				*e*	pP	13 35 50.1	+1.5
BJT				pmax	pmax		
	comp=Z,19nm,0.8s						
BJT	**Baijiatuau**	**41.47**	**24**	*e*P	**P**	**13 35 43.5**	**+2.2**
	comp=Z,19nm,0.8s,mb4.8						
BJT				*e*	pP	13 35 50.0	+1.4
AAK	**Ala-Archa**	**43.92**	**337**	*e*P	**P**	**13 36 02.5**	**+1.2**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.3						
AAK	**Ala-Archa**	**43.92**	**337**	*e*P	**P**	**13 36 02.5**	**+1.2**
	comp=Z,9.2nm,1.5s,mb4.3						
WRA	**Warramunga Arr**	**44.21**	**122**	P	**P**	**13 36 04.2**	**+0.2**
	comp=Z,1.1nm,0.6s,mb3.8,baz=299,slow=9.4,SNR=9.9						
WRA				pP	pP	13 36 12.2	+0.8
	comp=Z,1.6nm,0.6s,baz=301,slow=9.1,SNR=9.3						
WRAB	**Tennant Creek**	**44.22**	**122**	*e*P	**P**	**13 36 04.5**	**+0.5**
WRAB				*e*	pP	13 36 11.7	+0.3
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
WRAB	**Tennant Creek**	**44.22**	**122**	*e*P	**P**	**13 36 04.5**	**+0.5**
	comp=Z,7.1nm,1.1s,mb4.3						
WRAB				*e*	pP	13 36 11.7	+0.3
ASAR	**Alice Springs**	**45.61**	**127**	P	**P**	**13 36 15.2**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=297,slow=7.8,SNR=4.3						
ASAR				pP	pP	13 36 22.6	+0.1
	comp=Z,1.0nm,0.9s,baz=312,slow=7.9,SNR=7.1						
SONM	**Songino Array**	**45.82**	**10**	P	**P**	**13 36 16.6**	**+0.2**
	comp=Z,3.1nm,0.7s,mb4.4,baz=192,slow=8.6,SNR=24						
ULN	**Ulaanbaatar**	**45.97**	**11**	*e*P	**P**	**13 36 17.5**	**0.0**
ZAK	**Zakamensk**	**47.85**	**7**	⇑*e*P	**P**	**13 36 32.6**	**+0.2**
TLY	**Talaya**	**49.17**	**7**	*e*P	**P**	**13 36 43.0**	**+0.4**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
TLY	**Talaya**	**49.17**	**7**	*e*P	**P**	**13 36 43.0**	**+0.4**
	comp=Z,2.4nm,0.8s,mb4.3						
HIA	**Hailar**	**50.67**	**20**	*e*P	**P**	**13 36 53.6**	**-0.4**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HIA	**Hailar**	**50.67**	**20**	*e*P	**P**	**13 36 53.6**	**-0.4**
	comp=Z,3.4nm,0.9s,mb4.3						
ZAL	**Zalesovo**	**51.74**	**352**	P	**P**	**13 37 02.8**	**+0.7**
	comp=Z,5.1nm,0.7s,mb4.6,baz=300,slow=6.6,SNR=22						
ZAL				pP	pP	13 37 10.5	+0.8
	comp=Z,2.8nm,0.7s,baz=320,slow=3.6,SNR=6.8						
BVAR	**Borovoye Array**	**54.24**	**341**	P	**P**	**13 37 19.9**	**-0.7**
	comp=Z,2.5nm,0.7s,mb4.3,baz=143,slow=7.4,SNR=15						
BVAR				pP	pP	13 37 27.8	-0.4
	comp=Z,1.1nm,0.6s,baz=141,slow=9.5,SNR=6.1						
BRVK	**Borovoye**	**54.30**	**341**	*e*P	**P**	**13 37 20.3**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**54.30**	**341**	*e*P	**P**	**13 37 20.3**	**-0.8**
	comp=Z,2.0nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**54.73**	**342**	*e*P	**P**	**13 37 23.7**	**-0.5**
CHKZ				*e*	pP	13 37 31.3	-0.5
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
CHKZ	**Chkalovo**	**54.73**	**342**	*e*P	**P**	**13 37 23.7**	**-0.6**
	comp=Z,4.3nm,0.7s,mb4.6						
CHKZ				*e*	pP	13 37 31.3	-0.5
YAK	**Yakutsk**	**64.35**	**17**	*i* P	**P**	**13 38 29.8**	**-0.6**
MA2	**Magadan**	**70.59**	**26**	*i* P	**P**	**13 39 07.4**	**-2.3**
TIXI	**Tiksi**	**71.90**	**11**	*i* P	**P**	**13 39 16.6**	**-0.8**
FINES	**FINESS Array B**	**77.86**	**333**	pP	pP	13 39 59.0	-0.5
	comp=Z,2.1nm,0.8s,baz=143,slow=9.5,SNR=1.9						
GERES	**GERESS Array B**	**82.58**	**319**	pP	pP	13 40 25.6	+0.7
	comp=Z,1.0nm,0.9s,baz=108,slow=4.2,SNR=5.0						

*IDC **16** 13:53:07.7±1.7, 8.03N×93.58E, mb3.7/5, mb1 4.0/6, mb1mx3.7/18, mbtmp3.7/6, ML3.9/1, Error ellipse: s-maj=61.9km s-min=22.4km az=64.0*
*NEIC **16** 13:53:12.3±0.8, 8.08N×93.61E, h30km, mb4.0/3, Error ellipse: s-maj=25.6km s-min=10.7km az=67.0*
ISC 16 13:53:10.6±1.1, 8.1N±0.1×93.7E±0.2, h30km, n10, σ0§33/10, mb3.8/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.47**	**26**	Pn	**P**	**13 55 55.6**	**0.0**
	0.2nm,0.3s,baz=214,slow=15,SNR=14						
LSA	**Lhasa**	**21.60**	**354**	*e*P	**P**	**13 57 59.6**	**-0.6**
	6.0nm,1.0s,mb4.0						
SONM	**Songino Array**	**41.02**	**13**	P	**P**	**14 00 52.9**	**+0.1**
	0.1nm,0.4s,mb2.8,baz=202,slow=7.8,SNR=2.6						
ZAL	**Zalesovo**	**46.24**	**353**	P	**P**	**14 01 35.4**	**+0.5**
	1.6nm,0.8s,mb4.0,baz=318,slow=6.3,SNR=5.5						
ZAL	**Zalesovo**	**46.24**	**353**	P	**P**	**14 01 35.4**	**+0.5**
WRA	**Warramunga Arr**	**48.76**	**125**	P	**P**	**14 01 55.2**	**0.0**
	0.6nm,0.6s,mb3.8,baz=304,slow=8.6,SNR=8.1						
WRAB	**Tennant Creek**	**48.77**	**125**	*e*P	**P**	**14 01 55.5**	**+0.4**
	0.7nm,0.6s,mb3.9						
CHKZ	**Chkalovo**	**49.10**	**342**	*e*P	**P**	**14 01 57.3**	**0.0**
	0.6nm,0.4s,mb4.0						
ASAR	**Alice Springs**	**50.41**	**130**	P	**P**	**14 02 07.3**	**-0.5**
	0.4nm,0.6s,mb3.7,baz=301,slow=7.7,SNR=8.0						
FINES	**FINESS Array B**	**72.29**	**332**	P	**P**	**14 04 35.1**	**0.0**
	4.3nm,0.9s,mb4.4,baz=104,slow=5.7,SNR=4.0						

*IDC **16** 13:53:06.9±0.8, 32.54N×92.16E, mb4.0/12, mb1 4.2/14, mb1mx4.0/20, mbtmp4.0/14, ML3.7/2, Error ellipse: s-maj=32.0km s-min=16.3km az=56.0*
*MOS **16** 13:53:09.3±1.0, 32.43N×92.04E, h33km, mb4.2/10, Error ellipse: s-maj=19.9km s-min=9.4km az=93.4*
*BJI **16** 13:53:14.5, 32.72N×92.31E, h59km, mB4.7, mb4.6, ML4.4, Ms4.0, Msz3.7*
*NEIC **16** 13:53:15.0±1.1, 32.67N×92.16E, h59km±12km, mb4.1/6, Error ellipse: s-maj=10.4km s-min=8.0km az=49.0*
ISC 16 13:53:14.5±1.3, 32.64N±0.06×92.22E±0.09, h71km±15km, n45, σ1§05/48, mb3.9/15, 1C-1D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.07**	**198**	P	**P**	**13 54 03.8**	**+2.0**
LSA				S	**S**	**13 54 46.3**	**+8.8**
LSA				Smax			
	comp=N,2μm,1.2s						
LSA				Smax			
	comp=E,4μm,1.0s						
LSA	**Lhasa**	**3.07**	**198**	*e*P	**P**	**13 54 02.5**	**+0.7**
LSA				*e*S	**S**	**13 54 46.7**	**+9.2**
SHL	**Shillong**	**7.06**	**182**	*e*P	**P**	**13 54 55.0**	**-2.2**
SHL				*e*S	**S**	**13 56 11.0**	**-5.6**
ENH	**Enshi**	**14.93**	**95**	*e*P	**P**	**13 56 43.2**	**+0.4**
	comp=E,35nm,1.1s						
CMAR	**Chiang Mai Arr**	**15.37**	**155**	Pn	**P**	**13 56 42.7**	**-5.8**
	comp=E,0.0nm,0.3s,baz=330,slow=14,SNR=4.4						
AAK	**Ala-Archa**	**17.19**	**311**	*i* P	**P**	**13 57 13.3**	**+2.1**
AAK	**Ala-Archa**	**17.19**	**311**	P	**P**	**13 57 08.8**	**-2.5**
	comp=E,13nm,1.4s						
SONM	**Songino Array**	**18.59**	**31**	P	**P**	**13 57 27.7**	**-0.5**
	comp=E,0.2nm,0.3s,baz=221,slow=13,SNR=25						
ULN	**Ulaanbaatar**	**18.91**	**32**	*e*P	**P**	**13 57 31.1**	**-0.7**
ULN				pmax	pmax		
	comp=Z,15nm,1.5s						
ULN	**Ulaanbaatar**	**18.91**	**32**	*e*P	**P**	**13 57 31.1**	**-0.7**
	comp=Z,15nm,1.5s						
ZAK	**Zakamensk**	**19.53**	**22**	⇓*i*P	**P**	**13 57 38.4**	**-0.2**
HYB	**Hyderabad**	**19.54**	**222**	*i* P	**P**	**13 57 41.0**	**+2.1**
MOY	**Mondy**	**20.07**	**16**	*e*P	**P**	**13 57 45.4**	**+1.1**
KURK	**Kurchatov**	**20.66**	**335**	*e*P	**P**	**13 57 48.9**	**-1.5**
KURK				pmax	pmax		
	comp=Z,14nm,1.1s						
KURK	**Kurchatov**	**20.66**	**335**	*e*P	**P**	**13 57 48.9**	**-1.5**
	comp=Z,14nm,1.1s						
TLY	**Talaya**	**20.78**	**20**	*i* P	**P**	**13 57 53.3**	**+1.7**
ZAL	**Zalesovo**	**21.94**	**348**	P	**P**	**13 58 02.9**	**-0.3**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL	**Zalesovo**	**21.94**	**348**	P	**P**	**13 58 02.9**	**-0.2**
	comp=Z,1.6nm,0.6s,mb3.6,baz=292,slow=12,SNR=10.0						
ZAL	**Zalesovo**	**21.94**	**348**	P	**P**	**13 58 02.9**	**-0.2**
BVAR	**Borovoye Array**	**25.72**	**329**	P	**P**	**13 58 39.7**	**+0.1**
	comp=Z,1.9nm,0.8s,mb3.6,baz=129,slow=9.5,SNR=9.5						
BRVK	**Borovoye**	**25.79**	**329**	*e*P	**P**	**13 58 40.0**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.7						
BRVK	**Borovoye**	**25.79**	**329**	*e*P	**P**	**13 58 40.0**	**-0.2**
	comp=Z,3.5nm,0.9s,mb3.8						
HIA	**Hailar**	**26.40**	**43**	*e*P	**P**	**13 58 45.2**	**-0.7**
HIA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HIA	**Hailar**	**26.40**	**43**	*e*P	**P**	**13 58 45.2**	**-0.7**
	comp=Z,6.3nm,1.0s,mb4.0						
TIXI	**Tiksi**	**43.65**	**16**	⇑*i*P	**P**	**14 01 13.3**	**+0.1**
BRTR	**Keskin Array B**	**47.08**	**296**	P	**P**	**14 01 39.7**	**-1.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**47.08**	**296**	P	**P**	**14 01 39.7**	**-1.2**
	comp=Z,1.1nm,0.7s,mb3.7,baz=54,slow=11,SNR=4.9						
FINES	**FINESS Array B**	**50.60**	**325**	P	**P**	**14 02 07.4**	**-0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**50.60**	**325**	P	**P**	**14 02 07.4**	**-0.4**
	comp=Z,2.6nm,0.9s,mb4.2,baz=90,slow=3.8,SNR=6.0						
ARCES	**ARCESS Array B**	**51.70**	**336**	P	**P**	**14 02 17.6**	**+1.7**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ARCES	**ARCESS Array B**	**51.70**	**336**	P	**P**	**14 02 17.6**	**+1.7**
	comp=Z,4.7nm,1.1s,mb4.5,baz=81,slow=12,SNR=3.2						
NB2	**NORSAR Subarra**	**57.78**	**325**	P	**P**	**14 02 59.4**	**-0.8**
	comp=Z,1.0nm,0.6s,mb4.0,baz=80,slow=7.0						
NOA	**NORSAR Array B**	**57.78**	**325**	P	**P**	**14 02 59.8**	**-0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**57.78**	**325**	P	**P**	**14 02 59.8**	**-0.5**
	comp=Z,1.5nm,0.6s,mb4.2,baz=82,slow=6.8,SNR=4.2						
GERES	**GERESS Array B**	**59.07**	**311**	P	**P**	**14 03 09.2**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.7,baz=51,slow=6.3,SNR=3.4						
WRA	**Warramunga Arr**	**66.00**	**136**	P	**P**	**14 03 55.3**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**66.00**	**136**	P	**P**	**14 03 55.3**	**-0.5**
	comp=Z,1.2nm,0.8s,mb3.8,baz=330,slow=6.9,SNR=7.5						
WRAB	**Tennant Creek**	**66.00**	**136**	*e*P	**P**	**14 03 55.4**	**-0.4**
ASAR	**Alice Springs**	**68.69**	**139**	P	**P**	**14 04 12.7**	**+0.1**
	comp=Z,1.2nm,0.6s,mb3.9,baz=327,slow=6.5,SNR=29						
ILAR	**Eielson Array**	**72.58**	**23**	P	**P**	**14 04 36.0**	**+0.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**72.58**	**23**	P	**P**	**14 04 36.0**	**+0.8**
	comp=Z,1.2nm,0.8s,mb3.8,baz=294,slow=5.2,SNR=13						
INK	**Inuvik**	**73.78**	**16**	*e*P	**P**	**14 04 41.9**	**-0.3**
INK	**Inuvik**	**73.78**	**16**	P	**P**	**14 04 42.1**	**0.0**
	comp=Z,1.6nm,0.8s,mb3.8,baz=337,slow=9.0,SNR=5.2						
YKA	**Yellowknife Ar**	**82.77**	**12**	P	**P**	**14 05 32.4**	**+0.9**
	comp=Z,0.2nm,0.3s,mb3.4,baz=326,slow=5.4,SNR=4.6						
WALA	**Waterton Lakes**	**95.39**	**17**	*e*P	**P**	**14 06 28.0**	**-3.7**
	comp=Z,2.9nm,0.8s,mb4.8						

*IDC **16** 13:56:02.9±1.1, 8.40N×93.45E, mb3.7/8, mb1 3.9/9, mb1mx3.8/19, mbtmp3.7/9, ML3.7/1, Error ellipse: s-maj=42.7km s-min=20.1km az=53.0*
*NEIC **16** 13:56:07.4±0.7, 8.46N×93.49E, h30km, mb4.0/5, Error ellipse: s-maj=18.7km s-min=12.0km az=62.0*
ISC 16 13:56:05.6±0.9, 8.5N±0.1×93.6E±0.2, h30km, n14, σ0§78/14, mb3.8/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.21**	**27**	Pn	**P**	**13 58 46.9**	**-0.2**
	0.1nm,0.3s,baz=216,slow=15,SNR=4.5						
LSA	**Lhasa**	**21.22**	**354**	*e*P	**P**	**14 00 50.7**	**-0.7**
	8.2nm,1.0s,mb4.0						
AAK	**Ala-Archa**	**37.91**	**337**	*e*P	**P**	**14 03 22.5**	**+0.5**
	2.1nm,0.9s,mb3.9						
SONM	**Songino Array**	**40.70**	**13**	P	**P**	**14 03 45.3**	**+0.2**
	0.6nm,0.9s,mb3.2,baz=217,slow=6.2,SNR=3.9						
ULN	**Ulaanbaatar**	**40.88**	**14**	*e*P	**P**	**14 03 47.0**	**+0.4**
	0.4nm,0.4s,mb3.4						
ZAL	**Zalesovo**	**45.87**	**353**	P	**P**	**14 04 27.7**	**+0.8**
	0.7nm,0.6s,mb3.8,baz=293,slow=10.0,SNR=6.3						
BVAR	**Borovoye Array**	**48.22**	**341**	P	**P**	**14 04 44.3**	**-1.2**
	0.4nm,0.7s,mb3.6,baz=141,slow=9.5,SNR=3.7						
BRVK	**Borovoye**	**48.29**	**341**	*e*P	**P**	**14 04 45.3**	**-0.7**
	1.7nm,1.0s,mb4.0						
CHKZ	**Chkalovo**	**48.71**	**342**	*e*P	**P**	**14 04 48.9**	**-0.4**
	1.8nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**49.09**	**126**	P	**P**	**14 04 52.1**	**-0.5**
	0.4nm,0.6s,mb3.6,baz=309,slow=8.5,SNR=2.8						
ASAR	**Alice Springs**	**50.76**	**130**	P	**P**	**14 05 05.4**	**+0.1**
	0.4nm,0.7s,mb3.5,baz=315,slow=6.4,SNR=3.1						
BRTR	**Keskin Array B**	**61.59**	**311**	P	**P**	**14 06 21.7**	**-1.0**
	1.1nm,0.6s,mb4.2,baz=112,slow=6.7,SNR=5.4						
ARCES	**ARCESS Array B**	**74.49**	**340**	P	**P**	**14 07 44.5**	**+1.8**
	3.3nm,0.9s,mb4.3,baz=104,slow=7.4,SNR=4.0						
GERES	**GERESS Array B**	**76.98**	**318**	P	**P**	**14 07 58.2**	**+1.0**
	1.0nm,0.8s,mb3.8,baz=79,slow=5.0,SNR=5.8						

*LJU **16** 14:07:42.1, 46.53N×14.74E, h10km, ML2.5*
*CSEM **16** 14:07:42.6±0.1, 46.54N×14.74E, h2km, ML3.5/9, Error ellipse: s-maj=1.1km s-min=0.9km az=79.0*
*NEIC **16** 14:07:43.0±0.3, 46.53N×14.76E, h10km, ML2.9(VIE), ML2.5(LJU), ML2.3(SZGRF), Error ellipse: s-maj=3.9km s-min=3.2km az=58.0*
NEIC Felt [IV] in the Bleiburg area. Felt at Mezica, Slovenia.
ISC 16 14:07:41.7±0.3, 46.56N±0.02×14.74E±0.02, h2km±5km, n60, σ0§90/107, 11C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBKA	**Obir**	**0.14**	**248**	⇓*i*PG	**Pg**	**14 07 46.

ROBS	**Robic**	**0.91 250**	*e*Pg		**Pg**	**14 07 59.7**	**-0.2**
GCIS	**Gornji Cirnik**	**0.93 138**	*i* Pg		**Pg**	**14 08 00.6**	**+0.3**
GCIS			*i*			14 08 01.3	
	comp=Z,30nm,0.1s						
GCIS	**Gornji Cirnik**	**0.93 138**	*i* Pg		**Pg**	**14 08 00.6**	**+0.3**
	comp=Z,30nm,0.1s						
COLI	**Coloredo**	**1.04 246**⇓	*e*Pg		**Pg**	**14 08 02.0**	**-0.5**
COLI			*e*Sg		**Sg**	**14 08 17.1**	**+0.8**
COLI	**Coloredo**	**1.04 246**⇓	*e*Pg		**Pg**	**14 08 02.0**	**-0.5**
COLI			*e*Sg		**Sg**	**14 08 17.1**	**+0.8**
KNDS	**Knezji Dol**	**1.07 194**	*i* Pg		**Pg**	**14 08 02.5**	**-0.5**
KNDS			*i* Sg		**Sg**	**14 08 16.7**	**-0.5**
	comp=Z,86nm,0.2s						
KNDS	**Knezji Dol**	**1.07 194**	*i* Pg		**Pg**	**14 08 02.5**	**-0.5**
KNDS			*i* Sg		**Sg**	**14 08 16.7**	**-0.5**
	comp=Z,86nm,0.2s						
BAD	**Bernadia**	**1.09 253**⇓	*e*Pg		**Pg**	**14 08 02.9**	**-0.6**
BAD			*e*Sg		**Sg**	**14 08 18.5**	**+0.5**
KBA	**Koelnbreinsper**	**1.09 299**⇑	*i*PG		**Pg**	**14 08 03.4**	**-0.1**
KBA			*i* SG		**Sg**	**14 08 17.7**	**-0.3**
	comp=Z,78nm,0.3s						
PLRO	**Paularo**	**1.10 270**⇓	*e*Pg		**Pg**	**14 08 03.2**	**-0.5**
PLRO			*e*Sg		**Sg**	**14 08 19.4**	**+1.0**
BOJS	**Bojanci**	**1.12 161**	*i* Pg		**Pg**	**14 08 03.6**	**-0.4**
BOJS			*e*Sg		**Sg**	**14 08 18.3**	**-0.6**
	comp=Z,23nm,0.1s						
BOJS	**Bojanci**	**1.12 161**	*i* Pg		**Pg**	**14 08 03.7**	**-0.3**
BOJS			*e*Sg		**Sg**	**14 08 18.3**	**-0.6**
	comp=Z,23nm,0.1s						
MOA	**Molln**	**1.33 346**⇑	*i*PG		**Pg**	**14 08 08.5**	**+0.3**
MOA			*i* SG		**Sg**	**14 08 26.6**	**+0.7**
	comp=Z,20nm,0.3s						
NVLJ	**Novalja**	**2.00 177**	*i* Pn		**Pn**	**14 08 17.0**	**+0.1**
NVLJ			*i* Sn		**Sn**	**14 08 41.1**	**-1.7**
NVLJ			*i* Sg		**Sg**	**14 08 43.4**	**-5.0**
SCE	**Schlegeis**	**2.14 284**⇓	*i*Pn		**Pn**	**14 08 21.1**	**+2.2**
GEC2	**GERESS Array S**	**2.39 343**	*e*Pn		**Pn**	**14 08 23.3**	**+0.8**
GEC2			*e*Sg		**Sg**	**14 08 58.8**	**-2.5**
KHC	**Kasperske Hory**	**2.69 343**	*e*PN		**Pn**	**14 08 27.2**	**+0.5**
KHC			*e*PG		**Pg**	**14 08 32.3**	**-3.0**
KHC			*e*SN		**Sn**	**14 08 52.5**	**-7.7**
KHC			*e*SG		**Sg**	**14 09 08.5**	**-2.6**
	comp=Z,10nm,0.2s						
WET	**Wettzell**	**2.87 335**	*e*Pn		**Pn**	**14 08 30.0**	**+0.7**
WET			*e*Sg		**Sg**	**14 09 13.1**	**-4.2**
PRU	**Pruhonice**	**3.43 358**	*e*Pn		**Pn**	**14 08 42.1**	**+4.8**
PRU			*e*Pg		**Pg**	**14 08 45.9**	**-4.3**
PRU			*e*Sg		**Sg**	**14 09 32.8**	**-3.1**
PRU	**Pruhonice**	**3.43 358**	*e*PG		**Pg**	**14 08 45.9**	**-4.3**
PRU			*e*SG		**Sg**	**14 09 32.8**	**-3.1**
	comp=Z,11nm,0.4s						
MORC	**Moravsky Berou**	**3.72 29**	Pn		**Pn**	**14 08 41.6**	**+0.2**
MORC			Sn		**Sn**	**14 09 35.9**	**+9.5**
MORC	**Moravsky Berou**	**3.72 29**	Pn		**Pn**	**14 08 41.6**	**+0.2**
DPC	**Dobruska-Polom**	**3.93 15**	*e*PG		**Pg**	**14 08 54.3**	**-5.9**
DPC			*e*SG		**Sg**	**14 09 48.3**	**-4.3**
PVCC	**Panska Ves**	**3.97 358**	*e*SG		**Sg**	**14 09 49.9**	**-4.0**
UPC	**Upice**	**4.04 12**	*e*SG		**Sg**	**14 09 51.5**	**-4.6**
MOX	**Moxa**	**4.58 334**	*i* P		**Pn**	**14 08 53.4**	**-0.2**
MOX			Sg		**Sg**	**14 10 09.0**	**-5.2**
CLL	**Collm**	**4.88 347**	*i* SG		**Sg**	**14 10 17.1**	**-7.2**

CASC 16 14:16:35.0±1.7, 13.29N×89.97W, h35km±999km, MD3.7, ML3.6, 6C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.64**	**32**⇑	*e*P	P	14 16 48.2	+0.7
SBLS				*e*S	S	14 16 58.1	+1.5
SNJE	**San Jose**	**0.67**	**32**	*e*P	P	14 16 48.8	+0.8
SNJE				*e*S	S	14 16 57.8	+0.4
RTR	**El Retiro**	**0.68**	**28**⇑	*e*P	P	14 16 49.1	+1.0
BOQS	**Boqueron**	**0.81**	**57**	*e*P	P	14 16 50.7	+0.8
SNET	**Serv Nac Est T**	**0.82**	**62**	*e*P	P	14 16 50.5	+0.4
SNET				*e*S	S	14 17 00.5	-0.8
SNET				*i*		14 17 06.7	
	comp=Z,2μm,0.3s						
RBDL	**Robledal**	**0.86**	**19**⇓	*e*P	P	14 16 51.8	+1.2
LFRS	**El Faro**	**0.95**	**70**	*e*P	P	14 16 51.8	-0.1
LFU	**La Fuente**	**0.95**	**62**	*e*P	P	14 16 52.3	+0.3
IXG	**Ixpaco**	**0.99**	**332**⇑	*e*P	P	14 16 52.2	-0.4
IXG				*e*S	S	14 17 05.8	+0.2
LBRS	**Las Brisas**	**1.01**	**64**	*e*P	P	14 16 52.5	-0.3
LBRS				*e*S	S	14 17 06.2	+0.3
LCBS	**La Ceiba**	**1.03**	**70**⇑	*e*P	P	14 16 53.0	-0.1
LCBS				*e*S	S	14 17 06.1	-0.5
SNVI	**San Vicente**	**1.15**	**74**	*e*P	P	14 16 55.4	+0.6
SNVI				*e*S	S	14 17 10.1	+0.5
MTO2	**Montecristo 2**	**1.25**	**28**⇑	*e*P	P	14 16 57.0	+0.8
NBG	**Las Nubes**	**1.34**	**344**⇑	*e*P	P	14 16 58.4	+0.9
FUG	**Fuego 3**	**1.42**	**324**⇓	*e*P	P	14 16 58.5	-0.3
CAHU	**Cacacuatique**	**1.78**	**74**	*e*P	P	14 17 03.9	0.0
TP2	**Tecpan 2**	**1.80**	**326**⇓	*e*P	P	14 17 04.5	+0.4
TP2				*e*S	S	14 17 27.9	+2.0
JAT	**Jato**	**1.91**	**302**	*e*P	P	14 17 04.7	-1.0
JAT				*e*S	S	14 17 28.1	-0.7

NEIC ***16*** *14:19:10.7, 38.30S×176.02E, h170km, After WEL.*
WEL 16 14:19:11.6±0.3, 38.36S×176.06E, h165km±2km, ML4.2/7, 18C, Error ellipse: s-maj=1.4km s-min=1.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATZ	**Paeroa**	**0.16**	**98**	P	P	14 19 33.9	0.0
PATZ	**Paeroa**	**0.16**	**98**	⇑PN	P	14 19 33.9	-0.1
UTU	**Utuhina**	**0.21**	**30**	P	P	14 19 33.9	-0.1
UTU	**Utuhina**	**0.21**	**30**	PN	P	14 19 33.8	-0.2
TAZ	**Tarawera**	**0.37**	**71**	P	P	14 19 34.4	-0.2
TAZ	**Tarawera**	**0.37**	**71**	PN	P	14 19 34.3	-0.3
WATZ	**Wairara**	**0.43**	**216**	P	P	14 19 34.7	-0.1
WATZ	**Wairara**	**0.43**	**216**	⇑PN	P	14 19 34.7	-0.1
LIRZ	**Lichensteins R**	**0.44**	**36**	P	P	14 19 34.3	-0.5
LIRZ	**Lichensteins R**	**0.44**	**36**	PN	P	14 19 34.3	-0.5
RATZ	**Rangitukua**	**0.56**	**204**	P	P	14 19 35.0	-0.3
RATZ	**Rangitukua**	**0.56**	**204**	PN	P	14 19 35.0	-0.3
EDRZ	**Edgecumbe**	**0.59**	**65**	P	P	14 19 35.1	-0.4
EDRZ	**Edgecumbe**	**0.59**	**65**	PN	P	14 19 35.1	-0.4
MARZ	**Manawahe**	**0.61**	**53**	P	P	14 19 35.3	-0.3
MARZ	**Manawahe**	**0.61**	**53**	⇑PN	P	14 19 35.2	-0.3
RITZ	**Rihia Road**	**0.64**	**194**	P	P	14 19 35.9	+0.2
RITZ	**Rihia Road**	**0.64**	**194**	PN	P	14 19 35.9	+0.2
KATZ	**Kakaramea**	**0.68**	**205**	P	P	14 19 35.8	-0.1
KATZ	**Kakaramea**	**0.68**	**205**	⇑PN	P	14 19 35.8	-0.1
MGZ	**Maungaku**	**0.76**	**212**	P	P	14 19 36.4	0.0
MGZ	**Maungaku**	**0.76**	**212**	⇑PN	P	14 19 36.4	0.0
KRVZ	**Karewarewa**	**0.81**	**204**	⇑PN	P	14 19 36.4	-0.2
URZ	**Urewera**	**0.83**	**84**	P	P	14 19 36.2	-0.6
URZ	**Urewera**	**0.83**	**84**	⇑PN	P	14 19 36.2	-0.6
URZ				SN	S	14 19 54.9	-1.4
WTVZ	**West Tongariro**	**0.84**	**206**	P	P	14 19 36.7	-0.1
WTVZ	**West Tongariro**	**0.84**	**206**	⇑PN	P	14 19 36.7	-0.1
OTVZ	**Oturere**	**0.86**	**201**	PN	P	14 19 37.0	0.0
TWVZ	**Taurewa**	**0.86**	**214**	P	P	14 19 36.8	-0.2
TWVZ	**Taurewa**	**0.86**	**214**	⇑PN	P	14 19 36.8	-0.2
BKZ	**Black Stump Fm**	**0.88**	**157**	P	P	14 19 37.2	+0.1
BKZ	**Black Stump Fm**	**0.88**	**157**	⇑PN	P	14 19 37.2	+0.1
BKZ				SN	S	14 19 56.2	-0.5
NGZ	**Ngauruhoe**	**0.89**	**204**	P	P	14 19 37.3	+0.1
NGZ	**Ngauruhoe**	**0.89**	**204**	⇑PN	P	14 19 37.3	+0.1
CNZ	**Chateau**	**0.93**	**205**	P	P	14 19 37.4	0.0
CNZ	**Chateau**	**0.93**	**205**	PN	P	14 19 37.1	-0.3
WPVZ	**Whakapapa**	**0.94**	**205**	P	P	14 19 37.5	0.0
WPVZ	**Whakapapa**	**0.94**	**205**	⇑PN	P	14 19 37.5	0.0
HIZ	**Hauiti**	**0.96**	**260**	P	P	14 19 36.9	-0.7
HIZ				S	S	14 19 57.1	-0.6
HIZ	**Hauiti**	**0.96**	**260**	⇑PN	P	14 19 36.9	-0.7
HIZ				SN	S	14 19 57.2	-0.5
TUVZ	**Tukino**	**0.96**	**199**	P	P	14 19 37.7	+0.1
TUVZ	**Tukino**	**0.96**	**199**	PN	P	14 19 37.8	+0.1
FWVZ	**Far West T-bar**	**0.98**	**204**	P	P	14 19 37.8	0.0
FWVZ	**Far West T-bar**	**0.98**	**204**	PN	P	14 19 37.8	0.0
DRZ	**Dome Shelter**	**0.99**	**203**	P	P	14 19 38.7	+0.8
DRZ	**Dome Shelter**	**0.99**	**203**	*e*PN	P	14 19 37.5	-0.3
WNVZ	**Wahianoa**	**1.03**	**200**	P	P	14 19 37.3	-0.9
MOVZ	**Moawhango**	**1.07**	**193**	P	P	14 19 38.2	-0.4
MOVZ	**Moawhango**	**1.07**	**193**	⇑PN	P	14 19 38.2	-0.3
MOVZ				SN	S	14 19 58.4	-1.0
MWZ	**Matawai**	**1.15**	**89**	P	P	14 19 39.3	0.0
MWZ	**Matawai**	**1.15**	**89**	PN	P	14 19 39.2	-0.1
MWZ				SN	S	14 19 59.6	-1.1
VRZ	**Vera Road**	**1.27**	**233**	P	P	14 19 39.8	-0.6
VRZ				S	S	14 20 02.9	+0.2
VRZ	**Vera Road**	**1.27**	**233**	⇑PN	P	14 19 39.8	-0.6
VRZ				SN	S	14 20 03.1	+0.4
KNZ	**Kokohu**	**1.43**	**118**	*e*P	P	14 19 42.1	+0.2
KNZ	**Kokohu**	**1.43**	**118**	PN	P	14 19 42.1	+0.2
KNZ				SN	S	14 20 03.8	-1.5
RAEZ	**Rainy Point**	**1.60**	**234**	P	P	14 19 43.1	-0.5
RAEZ	**Rainy Point**	**1.60**	**234**	PN	P	14 19 44.2	+0.6
WAZ	**Wanganui**	**1.63**	**211**	P	P	14 19 43.1	-0.8
WAZ	**Wanganui**	**1.63**	**211**	⇑PN	P	14 19 43.1	-0.8
WAZ				SN	S	14 20 15.8	+6.8
TSZ	**Takapari Road**	**1.70**	**183**	P	P	14 19 44.1	-0.6
TSZ	**Takapari Road**	**1.70**	**183**	⇑PN	P	14 19 44.1	-0.6
TSZ				SN	S	14 20 08.7	-1.6
PUZ	**Puketiti**	**1.75**	**81**	P	P	14 19 44.6	-0.7
PUZ	**Puketiti**	**1.75**	**81**	PN	P	14 19 44.6	-0.6
PUZ				SN	S	14 20 08.8	-2.5
PWZ	**Pawanui**	**1.78**	**160**	P	P	14 19 45.5	0.0
PWZ	**Pawanui**	**1.78**	**160**	PN	P	14 19 45.5	-0.1
PWZ				SN	S	14 20 11.0	-0.8
NEZ	**North Egmont**	**1.79**	**239**	PN	P	14 19 45.3	-0.3
DFE	**Dawson Falls**	**1.81**	**237**	P	P	14 19 44.4	-1.4
DFE	**Dawson Falls**	**1.81**	**237**	PN	P	14 19 45.2	-0.6
MXZ	**Matakaoa Point**	**1.94**	**67**	PN	P	14 19 46.9	-0.4
MXZ				*e*SN	S	14 20 13.7	-1.2
BFZ	**Birch Farm**	**2.32**	**177**	P	P	14 19 50.5	-1.3
BFZ	**Birch Farm**	**2.32**	**177**	PN	P	14 19 50.5	-1.3
MRZ	**Mangatainoka R**	**2.33**	**189**	P	P	14 19 50.1	-1.8
MRZ	**Mangatainoka R**	**2.33**	**189**	PN	P	14 19 50.1	-1.8
MRZ				SN	S	14 20 19.6	-3.4
KIW	**Kapiti Island**	**2.65**	**199**	PN	P	14 19 53.2	-2.7
KIW				SN	S	14 20 25.9	-4.0
MTW	**Mount Morrison**	**2.83**	**189**	P	P	14 19 55.3	-2.7
MTW	**Mount Morrison**	**2.83**	**189**	⇑PN	P	14 19 55.3	-2.8
CAW	**Cannon Point**	**2.85**	**195**	P	P	14 19 55.6	-2.7
CAW	**Cannon Point**	**2.85**	**195**	PN	P	14 19 55.6	-2.7
MRW	**Makara Radio**	**3.05**	**200**	P	P	14 19 57.7	-3.1
MRW	**Makara Radio**	**3.05**	**200**	PN	P	14 19 57.7	-3.1
MRW				SN	S	14 20 33.8	-4.9
WEL	**Wellington**	**3.09**	**198**	P	P	14 19 58.1	-3.2
MSWZ	**Moikau Station**	**3.12**	**191**	P	P	14 19 58.6	-3.0
BHW	**Baring Head**	**3.18**	**196**	P	P	14 19 59.0	-3.5
NNZ	**Nelson**	**3.52**	**215**	P	P	14 20 02.7	-4.2
QRZ	**Quartz Range**	**3.68**	**227**	*e*P	P	14 20 04.1	-4.7
BSWZ	**Blackbirch Sta**	**3.75**	**206**	P	P	14 20 06.1	-3.6
THZ	**Tophouse**	**4.17**	**214**	*e*P	P	14 20 11.0	-4.3
KHZ	**Kahutara**	**4.49**	**205**	P	P	14 20 15.3	-4.0
DSZ	**Denniston Nort**	**4.79**	**225**	*e*P	P	14 20 16.8	-5.3
MQZ	**McQueen's Vall**	**5.93**	**205**	P	P	14 20 32.1	-6.2

BJI ***16*** *14:49:50.7, 26.30S×178.40E, h582km, mB5.1, mb4.4*
NEIC ***16*** *14:49:50.7±0.3, 26.34S×178.36E, mb4.8/26, Error ellipse: s-maj=10.3km s-min=6.9km az=155.0*
IDC ***16*** *14:49:52.0±0.8, 26.30S×178.20E, h596km±8km, mb3.9/16, mb1 4.1/18, mb1mx4.1/20, mbtmp4.9/18, Error ellipse: s-maj=12.7km s-min=8.7km az=164.0*
ISC 16 14:49:50.0±0.2, 26.36S±0.04×178.25E±0.04, h585km, h585km±3.0km; pP-P, n123, σ1 15/107, mb4.7/41, 7C-14D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUZ	**Omahuta**	**9.69**	**203**	⇓P	**P**	**14 52 10.1**	**+4.4**
KUZ	**Kuaotunu**	**10.57**	**191**	⇓P	**P**	**14 52 17.6**	**+3.2**
MTAZ	**Motutapu**	**10.77**	**195**	⇓P	**P**	**14 52 20.3**	**+3.9**
OTAZ	**Otara**	**10.93**	**194**	⇓P	**P**	**14 52 21.9**	**+3.9**
WTAZ	**Waiatarua**	**10.99**	**196**	P	**P**	**14 52 22.4**	**+3.8**
MKAZ	**Moumakai**	**11.03**	**193**	⇓P	**P**	**14 52 22.5**	**+3.5**
DZM	**Mont Dzumac**	**11.59**	**289**⇑	*i*P	**P**	**14 52 28.3**	**+3.7**
PUZ	**Puketiti**	**11.68**	**180**	*e*P	**P**	**14 52 24.0**	**-1.4**
NOUC	**Port Laguerre**	**11.70**	**289**⇑	*i*P	**P**	**14 52 29.3**	**+3.6**
NOUC	**Port Laguerre**	**11.70**	**289**⇑	*i*P	**P**	**14 52 29.3**	**+3.6**
URZ	**Urewera**	**11.90**	**184**	P	**P**	**14 52 26.9**	**-0.8**
	9.5nm,0.3s,baz=10,slow=4.4,SNR=69						
URZ				S	**S**	**14 54 32.2**	**-2.1**
	3.3nm,0.3s,baz=82,slow=23,SNR=9.2						
URZ	**Urewera**	**11.90**	**184**	P	**P**	**14 52 26.7**	**-1.0**
MWZ	**Matawai**	**11.95**	**183**	P	**P**	**14 52 27.0**	**-1.2**
HIZ	**Hauiti**	**12.45**	**192**	P	**P**	**14 52 36.4**	**+3.2**
BKZ	**Black Stump Fm**	**12.85**	**186**	P	**P**	**14 52 35.0**	**-2.2**
BKZ				*e*S	**S**	**14 54 48.6**	**-2.8**
NGZ	**Ngauruhoe**	**12.97**	**189**	P	**P**	**14 52 40.3**	**+2.0**
VRZ	**Vera Road**	**13.06**	**192**	P	**P**	**14 52 42.4**	**+3.2**
NEZ	**North Egmont**	**13.34**	**194**	P	**P**	**14 52 46.1**	**+4.2**
WAZ	**Wanganui**	**13.63**	**191**	P	**P**	**14 52 45.9**	**+1.1**
PWZ	**Pawanui**	**13.68**	**185**	P	**P**	**14 52 44.4**	**-0.9**
TSZ	**Takapari Road**	**13.79**	**187**	P	**P**	**14 52 45.5**	**-0.9**
KIW	**Kapiti Island**	**14.72**	**190**	P	**P**	**14 52 55.5**	**0.0**
CAW	**Cannon Point**	**14.94**	**189**	P	**P**	**14 52 58.1**	**+0.5**
QRZ	**Quartz Range**	**15.19**	**197**	P	**P**	**14 53 02.4**	**+2.4**
NNZ	**Nelson**	**15.36**	**194**	P	**P**	**14 53 02.7**	**+1.0**
AFI	**Afiamalu**	**15.52**	**39**	*e*P	**P**	**14 53 00.4**	**-3.0**
	101nm,0.9s						
THZ	**Tophouse**	**15.98**	**195**	P	**P**	**14 53 08.3**	**+0.6**
DSZ	**Denniston Nort**	**16.24**	**197**	P	**P**	**14 53 12.0**	**+1.8**
KHZ	**Kahutara**	**16.48**	**192**	P	**P**	**14 53 12.1**	**-0.3**
WVZ	**Waitaha Valley**	**17.77**	**198**	P	**P**	**14 53 24.1**	**-0.5**
MQZ	**McQueen's Vall**	**17.89**	**193**	P	**P**	**14 53 26.0**	**+0.2**
RPZ	**Rata Peaks**	**18.27**	**197**	P	**P**	**14 53 29.7**	**+0.3**
	5.0nm,0.3s,baz=56,slow=0.7,SNR=12						
FOZ	**Fox Glacier**	**18.52**	**200**	P	**P**	**14 53 31.1**	**-0.6**
LBZ	**Lake Benmore**	**19.13**	**198**	P	**P**	**14 53 36.0**	**-1.4**
WKZ	**Wanaka**	**19.87**	**200**	P	**P**	**14 53 43.4**	**-0.9**
TUZ	**Tuapeka**	**20.73**	**197**	⇑P	**P**	**14 53 52.2**	**+0.1**
RAR	**Rarotonga**	**20.74**	**80**	P	**P**	**14 53 51.8**	**-0.6**
	14nm,0.8s						
ARMA	**Armidale**	**23.75**	**254**⇓	*i*P	**P**	**14 54 21.5**	**+2.0**
CNB	**Canberra Magne**	**26.29**	**243**⇑	*i*P	**P**	**14 54 43.7**	**+1.9**
	207nm,0.5s						
TBI	**Tubuai**	**29.41**	**91**	*e*P	**P**	**14 55 09.0**	**+0.1**
	97nm,0.8s,mb5.5						
TOO	**Toolangi**	**29.82**	**240**	*e*P	**P**	**14 55 13.8**	**+1.6**
	44nm,0.7s,mb5.2						
CTA	**Charters Tower**	**30.01**	**275**⇓	*i*P	**P**	**14 55 15.4**	**+1.4**
	50nm,0.4s,mb5.5						
CTA	**Charters Tower**	**30.01**	**275**	P	**P**	**14 55 15.3**	**+1.2**
	65nm,0.4s,mb5.6,baz=96,slow=10,SNR=188						
CTA				S	**S**	**14 59 31.2**	**-1.9**
	1.7nm,0.7s,baz=30,slow=12,SNR=3.4						
CTA				ScP		15 00 45.4	
	7.3nm,1.0s,baz=127,slow=1.8,SNR=8.4						
CTAO	**Charters Tower**	**30.01**	**275**	*e*P	**P**	**14 55 14.8**	**+0.7**
	63nm,0.4s,mb5.6						
TAU	**Tasmania Unive**	**30.11**	**229**	*e*P	**P**	**14 55 16.0**	**+1.3**
	23nm,0.6s,mb5.0						
PAE	**Paea**	**30.98**	**80**	*e*P	**P**	**14 55 21.9**	**-0.5**
	112nm,1.2s,mb5.4						
PPT	**Papeete**	**31.02**	**80**	*e*P	**P**	**14 55 22.1**	**-0.6**
	32nm,1.3s,mb4.8						
TIAR	**Tiarei**	**31.23**	**80**	*e*P	**P**	**14 55 24.3**	**-0.1**
	174nm,1.1s,mb5.6						
TVO	**Taravao**	**31.23**	**81**	*e*P	**P**	**14 55 24.1**	**-0.3**
	66nm,0.7s,mb5.3						
MEH	**Mehetia**	**32.25**	**82**	*e*P	**P**	**14 55 32.8**	**-0.2**
	34nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**32.39**	**251**⇓	*i*P	**P**	**14 55 35.2**	**+1.1**
	27nm,0.5s,mb5.1						
STKA	**Stephens Creek**	**32.39**	**251**	P	**P**	**14 55 35.3**	**+1.2**
	30nm,0.5s,mb5.2,baz=96,slow=10,SNR=229						
STKA				S	**S**	**15 00 07.0**	**-2.4**
	3.5nm,0.9s,baz=235,slow=19,SNR=2.9						
STKA				ScP		15 00 52.4	
	11nm,0.8s,baz=70,slow=1.3,SNR=9.7						
PMOR	**Pomariorio Ree**	**33.53**	**77**	*e*P	**P**	**14 55 42.8**	**-0.9**
	72nm,1.2s,mb5.2						
PMG	**Port Moresby**	**33.92**	**294**	P	**P**	**14 55 46.8**	**-0.3**
	5.7nm,0.7s,mb4.3,baz=142,slow=2.6,SNR=5.4						
PMG	**Port Moresby**	**33.92**	**294**	*e*P	**P**	**14 55 46.7**	**-0.3**
	6.5nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**40.13**	**264**	P	**P**	**14 56 38.1**	**+0.4**
	30nm,0.5s,mb5.0,baz=90,slow=6.9,SNR=671						
ASAR				pP	pP	14 58 19.8	+0.1
	7.7nm,1.1s,baz=100,slow=8.6,SNR=3.5						
ASAR				ScP		15 01 20.6	
	2.6nm,0.7s,baz=118,slow=4.1,SNR=9.1						
ASAR				S	**S**	**15 02 00.9**	**-3.3**
	4.3nm,0.8s,baz=101,slow=15,SNR=13						
ASPA	**Alice Springs**	**40.14**	**264**⇓	*i*P	**P**	**14 56 38.2**	**+0.5**
ASPA				*e*SCP		15 01 19.2	
ASPA				*e*S	**S**	**15 02 02.1**	**-2.1**
WB2	**Warramunga Arr**	**40.72**	**270**⇓	*i*P	**P**	**14 56 42.5**	**+0.1**
WB2				*e*SCP		15 01 23.7	
WB2				*e*S	**S**	**15 02 09.4**	**-3.2**
WRAB	**Tennant Creek**	**40.73**	**270**⇓	*i*P	**P**	**14 56 42.4**	**-0.1**
	44nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**40.73**	**270**	P	**P**	**14 56 42.4**	**-0.1**
	17nm,0.4s,mb5.0,baz=104,slow=7.8,SNR=538						
WRA				pP	pP	14 58 23.9	-0.9
	1.4nm,0.6s,baz=103,slow=6.9,SNR=2.1						
WRA				ScP		15 01 23.7	
	3.9nm,0.7s,baz=103,slow=3.9,SNR=16						
WRA				S	**S**	**15 02 09.7**	**-3.1**
	1.8nm,0.8s,baz=102,slow=14,SNR=5.2						
RKT	**Rikitea**	**42.43**	**96**	*e*P	**P**	**14 56 56.2**	**+0.2**
	34nm,1.1s,mb4.8						
FORT	**Forrest**	**44.01**	**252**	*e*P	**P**	**14 57 07.5**	**-0.7**
	316nm,0.6s						
KAKA	**Kakadu**	**45.03**	**278**⇓	*i*P	**P**	**14 57 15.5**	**-0.8**
	15nm,0.3s,mb5.0						
KAKA				*e*SCP		15 01 41.6	
KAKA				*e*S	**S**	**15 03 11.4**	**-2.1**
FITZ	**Fitzroy Crossi**	**49.12**	**268**	*e*P	**P**	**14 57 46.9**	**-0.3**
	42nm,0.6s,mb5.0						
VNDA	**Vanda**	**51.81**	**184**	P	**P**	**14 58 06.0**	**0.0**
	6.3nm,0.7s,mb4.1,baz=360,slow=7.9,SNR=32						
SBA	**Scott Base**	**51.84**	**183**	*e*P	**P**	**14 58 07.6**	**+1.4**
	50nm,0.9s,mb4.8						
NWAO	**Narrogin (SRO)**	**52.80**	**247**	P	**P**	**14 58 12.7**	**-0.9**
	14nm,0.8s,mb4.3,baz=127,slow=7.0,SNR=8.4						
NWAO	**Narrogin (SRO)**	**52.80**	**247**	*e*P	**P**	**14 58 12.5**	**-1.2**
	15nm,1.0s,mb4.3						
MBWA	**Marble Bar**	**53.43**	**262**	*e*P	**P**	**14 58 16.7**	**-1.5**
	11nm,0.5s,mb4.4						
MUN	**Mundaring**	**53.83**	**248**	*e*P	**P**	**14 58 19.3**	**-1.5**
	10.0nm,0.9s,mb4.2						
CASY	**Casey**	**57.21**	**206**	*e*P	**P**	**14 58 42.6**	**-1.1**
	31nm,0.6s,mb4.7						
QSPA	**South Pole Qui**	**63.73**	**180**	*e*P	**P**	**14 59 26.5**	**+0.3**
	43nm,0.7s,mb4.9						
MAW	**Mawson**	**74.89**	**201**	*e*P	**P**	**15 00 32.5**	**0.0**
	16nm,0.6s,mb4.7						
MAW	**Mawson**	**74.89**	**201**	P	**P**	**15 00 32.9**	**+0.4**
	19nm,0.7s,mb4.8,baz=132,slow=6.8,SNR=36						
SYO	**Syowa Base**	**80.25**	**194**	⇑P	**P**	**15 01 00.4**	**-0.7**
SYO	**Syowa Base**	**80.25**	**194**	⇓PcP	PcP	15 01 06.7	0.0
SYO	**Syowa Base**	**80.25**	**194**	⇓PKiKP		15 06 28.6	
SNAA	**Sanae**	**82.23**	**180**⇑	*i*	**P**	**15 01 11.0**	**-0.1**
SNAA	**Sanae**	**82.23**	**180**	P

Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.39**	**16**	Pn	**P**	**14 54 08.2**	**+0.5**
	0.3nm,0.3s,baz=212,slow=12,SNR=9.0						
AAK	**Ala-Archa**	**42.03**	**337**	*eP*	**P**	**14 58 36.0**	**+1.5**
	2.8nm,1.0s,mb3.9						
WRA	**Warramunga Arr**	**45.79**	**123**	P	**P**	**14 59 05.0**	**-0.1**
	3.2nm,0.7s,mb4.4,baz=303,slow=9.1,SNR=8.1						
WRAB	**Tennant Creek**	**45.79**	**123**	*eP*	**P**	**14 59 05.2**	**+0.1**
	6.5nm,0.6s,mb4.7						
ZAL	**Zalesovo**	**49.92**	**352**	P	**P**	**14 59 36.0**	**-0.8**
	1.2nm,0.5s,mb4.2,baz=323,slow=7.6,SNR=5.0						
BVAR	**Borovoye Array**	**52.35**	**342**	P	**P**	**14 59 54.7**	**-0.6**
	1.2nm,0.5s,mb4.1,baz=141,slow=9.5,SNR=13						
BRVK	**Borovoye**	**52.41**	**342**	*eP*	**P**	**14 59 54.8**	**-0.9**
	2.6nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**52.84**	**342**	*eP*	**P**	**14 59 58.3**	**-0.6**
	2.9nm,0.6s,mb4.4						
FINES	**FINESS Array B**	**75.98**	**333**	P	**P**	**15 02 29.2**	**-0.4**
	3.3nm,0.9s,mb4.3,baz=135,slow=5.4,SNR=9.4						
ARCES	**ARCESS Array B**	**78.62**	**340**	P	**P**	**15 02 44.4**	**+0.2**
	6.9nm,1.2s,mb4.5,baz=90,slow=6.1,SNR=7.3						
GERES	**GERESS Array B**	**80.78**	**319**	P	**P**	**15 02 57.3**	**+1.1**
	0.4nm,0.6s,mb3.5,baz=104,slow=5.5,SNR=4.5						

*IDC **16** 14:56:47.3±1.1, 10.74N×91.98E, mb3.9/7, mb1 4.0/8, mb1mx3.8/19, mbtmp3.8/8, ML4.0/1, Error ellipse: s-maj=43.8km s-min=17.9km az=61.0*
*NEIC **16** 14:56:52.5±0.5, 10.80N×92.22E, h30km, mb4.4/7, Error ellipse: s-maj=15.6km s-min=8.9km az=72.0*

ISC 16 14:56:48.7±0.5, 10.74N±0.06×91.86E±0.06, h30km, n23, σ1§52/28, mb4.1/12, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.25**	**44**	*i*	**Pn**	**14 56 51.0**	**-19**
PBA				*e*	**Sn**	**14 57 27.4**	**+1.0**
PBA				*e*		14 57 28.2	
	comp=N,5μm,0.6s						
PBA				*e*		14 57 28.3	
	comp=E,4μm,0.3s						
CMAR	**Chiang Mai Arr**	**10.28**	**41**	Pn	**P**	**14 59 15.5**	**-2.0**
	comp=E,0.3nm,0.3s,baz=237,slow=15,SNR=7.2						
VIS	**Vishakhapatnam**	**10.79**	**311**	*eP*	**P**	**14 59 22.1**	**-2.4**
VIS				*eS*	**S**	**15 01 14.2**	**-11**
VIS				*e*		15 01 19.2	
	comp=E,30nm,0.6s						
VIS				*e*		15 01 20.0	
	comp=N,27nm,0.3s						
BWNR	**Bhubaneshwar**	**11.14**	**329**	*eP*	**P**	**14 59 25.7**	**-3.6**
BWNR				*eS*	**S**	**15 01 21.2**	**-13**
BWNR				*e*		15 01 22.4	
	comp=N,34nm,0.2s						
BWNR				*e*		15 01 22.7	
	comp=E,55nm,0.3s						
PALK	**Pallekele**	**11.55**	**254**	*eP*	**P**	**14 59 35.5**	**+0.7**
PALK				*eS*	**S**	**15 01 34.8**	**-8.9**
BLSP	**Bilaspur**	**14.66**	**322**	*eP*	**P**	**15 00 15.1**	**-1.1**
BLSP				*e*	**S**	**15 02 53.0**	**-5.4**
BLSP				*e*		15 02 54.1	
	comp=E,8.0nm,0.2s						
BHPL	**Bhopal**	**18.55**	**314**	*e*	**S**	**15 04 29.6**	**+1.6**
LSA	**Lhasa**	**18.87**	**358**	*eP*	**P**	**15 01 11.4**	**+2.2**
	comp=E,6.4nm,0.6s						
ENH	**Enshi**	**25.43**	**38**	*eP*	**P**	**15 02 14.4**	**-1.2**
	comp=E,14nm,0.6s,mb4.7						
SONM	**Songino Array**	**38.94**	**16**	P	**P**	**15 04 14.4**	**+0.6**
	comp=E,1.0nm,0.7s,mb3.7,baz=205,slow=6.7,SNR=9.7						
ZAL	**Zalesovo**	**43.45**	**354**	P	**P**	**15 04 52.8**	**+2.2**
	comp=E,0.6nm,0.6s,mb3.5,baz=282,slow=7.1,SNR=3.9						
FITZ	**Fitzroy Crossi**	**43.97**	**130**	*eP*	**P**	**15 04 55.2**	**-0.2**
	comp=E,8.9nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**45.57**	**342**	P	**P**	**15 05 09.0**	**+1.3**
	comp=E,0.4nm,0.5s,mb3.6,baz=141,slow=9.2,SNR=7.5						
CHKZ	**Chkalovo**	**46.07**	**343**	*eP*	**P**	**15 05 13.2**	**+1.6**
	comp=E,1.9nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**51.75**	**126**	P	**P**	**15 05 55.5**	**-0.5**
	comp=E,3.0nm,0.7s,mb4.4,baz=306,slow=8.3,SNR=35						
WRAB	**Tennant Creek**	**51.76**	**126**	*eP*	**P**	**15 05 55.5**	**-0.6**
	comp=E,4.9nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**51.76**	**126**	*eP*	**P**	**15 05 55.6**	**-0.5**
ASAR	**Alice Springs**	**53.47**	**130**	P	**P**	**15 06 08.8**	**-0.1**
	comp=E,1.1nm,0.5s,mb4.0,baz=307,slow=7.0,SNR=24						
STKA	**Stephens Creek**	**63.70**	**134**	*eP*	**P**	**15 07 20.9**	**+0.8**
	comp=E,2.2nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**63.70**	**134**	P	**P**	**15 07 21.1**	**+1.1**
	comp=E,2.4nm,0.6s,mb4.4,baz=342,slow=3.2,SNR=7.9						
LSZ	**Lusaka**	**68.15**	**249**	P	**P**	**15 07 53.7**	**+4.9**
	comp=E,1.9nm,0.7s,mb4.2						
KAF	**Kangasniemi**	**69.23**	**333**	*ep*	**P**	**15 08 03.9**	**+9.3**
GERES	**GERESS Array B**	**74.20**	**318**	P	**P**	**15 08 26.4**	**+1.9**
	comp=E,0.4nm,0.7s,mb3.5,baz=117,slow=6.6,SNR=3.3						

CASC 16 15:03:45.8±1.4, 12.02N×87.76W, h23km±5km, MD3.8, ML3.5, 3C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.93**	**65**	⇑*eP*	Pb	15 04 02.8	-0.4
TEL3	**Telica 3**	**1.05**	**58**	⇑*eP*	Pb	15 04 04.3	-0.8
TEL3				*eS*	Sb	15 04 19.0	+0.6
TELN	**Telica**	**1.07**	**57**	⇓*eP*	Pb	15 04 04.7	-0.9
MIRN	**Miramar**	**1.10**	**68**	*eP*	Pn	15 04 05.3	-0.7
MIRN				*eS*	Sb	15 04 20.9	+0.9
CNGN	**Cerro Negro**	**1.14**	**65**	*eP*	Pn	15 04 05.9	-0.6
COPN	**Copaltepe**	**1.15**	**82**	⇓*eP*	Pn	15 04 06.2	-0.6
CNCH	**Conchagua**	**1.25**	**357**	*eP*	Pn	15 04 08.4	+0.3
CNCH				*eS*	Sb	15 04 26.2	+2.0
MOMJ	**Momotombo**	**1.25**	**72**	⇓*eP*	Pn	15 04 07.6	-0.5
APYN	**Apoyeque**	**1.39**	**81**	*eP*	Pn	15 04 09.8	-0.4
APYN				*eS*	Sn	15 04 28.1	+0.1
XAVN	**Gruta Xavier**	**1.41**	**85**	*eP*	Pn	15 04 10.2	-0.2
MGAN	**Managua**	**1.48**	**85**	*eP*	Pn	15 04 11.7	+0.2
MGAN				*eS*	Sn	15 04 29.9	-0.5
	comp=E,875nm,0.6s						
MGAN				*i*		15 04 33.5	
	comp=E,748nm,0.6s						
BLLM	**Bellamira**	**1.49**	**342**	*eP*	Pn	15 04 10.5	-1.0
TICN	**Ticuantepe**	**1.49**	**89**	⇑*eP*	Pn	15 04 12.0	+0.4
WILN	**Americas 2**	**1.54**	**85**	*eS*	Sn	15 04 31.6	-0.3
LCBS	**La Ceiba**	**2.01**	**324**	*eP*	Pn	15 04 18.3	-0.8
LCBS				*eS*	Sn	15 04 43.0	-0.8

*PRU **16** 15:08:10.0, 51.49N×16.16E*
*WAR **16** 15:08:10.1, 51.51N×16.13E, h1km, ML2.6, Mining Induced*

ISC 16 15:08:07.3±0.9, 51.52N±0.05×16.15E±0.05, n11, σ1§08/24, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**172**	*e*PG	**Pg**	**15 08 22.0**	**+1.2**
KSP				*e*SG	**Sg**	**15 08 31.0**	**+1.1**
UPC	**Upice**	**1.01**	**185**	*e*PG	**Pg**	**15 08 28.6**	**+1.1**
UPC				*e*SG	**Sg**	**15 08 42.1**	**+1.1**
DPC	**Dobruska-Polom**	**1.17**	**175**	*e*PG	**Pg**	**15 08 31.3**	**+0.6**
DPC				*e*SG	**Sg**	**15 08 46.5**	**+0.2**
	6.9nm,0.2s						
PVCC	**Panska Ves**	**1.41**	**226**	*e*PG	**Pg**	**15 08 36.0**	**+0.7**
PRU	**Pruhonice**	**1.84**	**214**	*e*PN	**Pn**	**15 08 41.6**	**+1.2**
PRU				*e*PG	**Pg**	**15 08 44.2**	**+0.2**
PRU				*e*SG	**Sg**	**15 09 07.4**	**-1.1**
	5.6nm,0.2s						
CLL	**Collm**	**1.98**	**265**	*i* PN	**Pn**	**15 08 42.7**	**+0.3**
CLL				*e*PG	**Pg**	**15 08 46.0**	**-0.8**
CLL				*i*		15 08 48.7	
CLL				*i* SG	**Sg**	**15 09 12.2**	**-1.1**
OKC	**Ostrava-Krasne**	**2.11**	**142**	*e*PG	**Pg**	**15 08 48.8**	**-0.5**
OKC				*e*SG	**Sg**	**15 09 15.3**	**-2.1**
OJC	**Ojcow**	**2.65**	**118**	*e*PG	**Pg**	**15 09 00.0**	**-0.2**
OJC				*e*SG	**Sg**	**15 09 35.0**	**-0.5**
NKC	**Novy Kostel**	**2.67**	**243**	*e*PG	**Pg**	**15 09 00.8**	**+0.2**
NKC				*e*SG	**Sg**	**15 09 36.9**	**+0.6**
KHC	**Kasperske Hory**	**2.90**	**216**	*e*PN	**Pn**	**15 08 57.0**	**+1.4**
KHC				*e*PG	**Pg**	**15 09 02.4**	**-2.8**
KHC				*e*SN	**Sn**	**15 09 31.5**	**-0.2**
KHC				*e*SG	**Sg**	**15 09 42.0**	**-1.9**
VYHS	**Vyhne**	**3.49**	**149**	*e*SG	**Sg**	**15 09 59.7**	**-3.6**

*LDG **16** 15:43:34.1±0.3, 42.82N×1.39W, h17km, Md2.5/2, Ml2.2/4, Error ellipse: s-maj=5.1km s-min=2.8km az=40.0*
*MDD **16** 15:43:36.3±0.5, 42.85N×1.31W, h10km±1km, mbLg1.7/10, Error ellipse: s-maj=4.1km s-min=1.8km az=31.0, PRXIMO*

ISC 16 15:43:36.9±0.6, 43.08N±0.05×1.20W±0.06, h26km±4km, n20, σ0§99/23, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.04**	**335**	*e*Pg	**Pb**	**15 43 41.1**	**-0.2**
SJPF				*e*Sg	**Sn**	**15 43 44.8**	**+0.4**
	59nm,0.4s						
LARF	**Larrau**	**0.16**	**104**	Pg	**Pb**	**15 43 42.0**	**-0.2**
LARF				Lg		15 43 46.6	
OSSF	**Osses**	**0.18**	**346**	Pg	**Pb**	**15 43 43.8**	**+1.3**
OSSF				Lg		15 43 50.4	
EALK	**Alkurruntz**	**0.27**	**303**	Pg	**Pb**	**15 43 43.6**	**+0.1**
	5.6nm,0.3s,SNR=11						
EALK				Lg		15 43 49.8	
	93nm,0.3s,SNR=57						
ATE	**Arette**	**0.37**	**88**	Pg	**Pb**	**15 43 45.6**	**+0.7**
ATE				Lg		15 43 53.3	
ETSF	**Etsaut**	**0.50**	**110**	*e*Pg	**Pb**	**15 43 46.0**	**-1.1**
ETSF				*e*Sg	**Sb**	**15 43 54.5**	**+0.3**
	14nm,0.2s						
FDAF	**Les Forges d'A**	**0.53**	**119**	Pg	**Pb**	**15 43 46.4**	**-1.2**
FDAF				Lg		15 43 55.0	
EBIE	**Bielsa**	**1.06**	**111**	Pg	**Pn**	**15 43 56.1**	**-0.2**
	2.8nm,0.3s,SNR=66						
EBIE				Lg		15 44 11.6	
	3.6nm,0.2s,SNR=8.4						
EPF	**Esparros**	**1.13**	**92**	*e*Pg	**Pn**	**15 43 58.0**	**+0.7**
EPF				*e*Sg	**Sn**	**15 44 15.2**	**+3.1**
	12nm,0.3s						
RESF	**Ens**	**1.16**	**103**	Lg		15 44 14.2	
EGRA	**Graus**	**1.42**	**128**	Pg	**Pn**	**15 44 02.6**	**+1.1**
	0.3nm,0.4s,SNR=7.9						
EGRA				Lg		15 44 20.0	
	2.0nm,0.2s,SNR=4.0						
MELF	**Melles**	**1.45**	**97**	Lg		15 44 26.0	
ESAC	**San Caprasio**	**1.46**	**158**	Pg	**Pn**	**15 44 00.9**	**-1.1**
	16nm,0.3s,SNR=13						
ESAC				Lg		15 44 18.1	
	27nm,0.2s,SNR=7.1						
ELAN	**Lanestosa**	**1.64**	**276**	Pn	**Pn**	**15 44 02.4**	**-2.2**
	0.8nm,0.3s,SNR=4.0						
ELAN				Pg	**Pn**	**15 44 06.1**	**+1.5**
	1.6nm,0.2s,SNR=4.0						
ELAN				Lg		15 44 27.3	
	3.8nm,0.2s,SNR=4.0						
SALF	**Salau**	**1.78**	**99**	Lg		15 44 36.4	
ERTA	**Horta de San J**	**2.41**	**151**	Pg	**Pn**	**15 44 16.6**	**+1.1**
	0.5nm,0.1s,SNR=4.0						
ERTA				Lg		15 44 47.8	
	5.5nm,0.3s,SNR=4.0						
EPOB	**Poblet**	**2.42**	**135**	Lg		15 44 48.2	
	1.9nm,0.3s,SNR=7.9						
MTLF	**Montolieu**	**2.51**	**83**	*e*Pg	**Pn**	**15 44 23.9**	**+6.8**
MTLF				*e*Sg	**Sn**	**15 44 58.6**	**+11**
	1.2nm,0.3s						
RJF	**Les Rejaudoux**	**2.96**	**40**	*e*Pn	**Pn**	**15 44 22.4**	**-1.1**
RJF				*e*Sn	**Sn**	**15 44 58.5**	**-0.1**
	5.9nm,0.6s						
CAF	**Calviac**	**3.00**	**51**	*e*Pn	**Pn**	**15 44 22.8**	**-1.1**
CAF				*e*Sn	**Sn**	**15 44 59.1**	**-0.3**

*IDC **16** 15:46:12.8±0.9, 43.14S×171.35E, mb4.2/6, mb1 4.3/7, mb1mx4.1/12, mbtmp4.1/7, ML3.5/1, Error ellipse: s-maj=24.9km s-min=8.3km az=104.0*
*WEL **16** 15:46:15.2±0.1, 43.21S×171.06E, h4km±1km, ML4.5/23, Error ellipse: s-maj=0.6km s-min=0.5km az=90.0*
WEL Felt in the West Coast region, maximum reported intensity MM 4.
*NEIC **16** 15:46:15.2, 43.21S×171.05E, h5km, mb4.5/2, ML4.6(WEL), After WEL.*

ISC 16 15:46:15.2±0.4, 43.20S±0.03×171.00E±0.03, h17km±4km, n84, σ0§89/86, mb4.2/8, 5C-7D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVZ	**Waitaha Valley**	**0.23**	**302**	P	**Pb**	**15 46 20.6**	**0.0**
WVZ				S	**Sb**	**15 46 24.1**	**-0.2**
WVZ	**Waitaha Valley**	**0.23**	**302**	⇓PG	**Pb**	**15 46 20.6**	**0.0**
WVZ				SG	**Sb**	**15 46 24.2**	**-0.1**
WVZ				SG	**Sb**	**15 46 24.4**	**0.0**
RPZ	**Rata Peaks**	**0.52**	**176**	Pg	**Pb**	**15 46 25.2**	**-0.2**
	544nm,0.3s,baz=314,slow=5.6,SNR=238						
RPZ				Lg		15 46 32.6	
	729nm,0.3s,baz=119,slow=19,SNR=39						
RPZ	**Rata Peaks**	**0.52**	**176**	P	**Pb**	**15 46 25.3**	**-0.1**
RPZ	**Rata Peaks**	**0.52**	**176**	⇑PG	**Pb**	**15 46 25.2**	**-0.2**
RPZ				*e*SG	**Sb**	**15 46 32.4**	**0.0**
LTZ	**Lake Taylor**	**1.02**	**66**	P	**Pb**	**15 46 34.4**	**+0.5**
LTZ	**Lake Taylor**	**1.02**	**66**	⇓P*	**Pb**	**15 46 34.3**	**+0.4**
LTZ				S*	**Sb**	**15 46 47.2**	**+0.3**
FOZ	**Fox Glacier**	**1.03**	**249**	⇓P*	**Pb**	**15 46 33.1**	**-0.9**
FOZ				S*	**Sb**	**15 46 47.1**	**0.0**
CRLZ	**Canterbury Las**	**1.24**	**108**	P	**Pb**	**15 46 37.9**	**+0.2**
CRLZ	**Canterbury Las**	**1.24**	**108**	⇓P*	**Pb**	**15 46 37.9**	**+0.2**
CRLZ				S*	**Sb**	**15 46 54.1**	**+0.8**
MQZ	**McQueen's Vall**	**1.30**	**113**	P	**Pb**	**15 46 38.5**	**-0.2**
MQZ	**McQueen's Vall**	**1.30**	**113**	⇓P*	**Pb**	**15 46 38.5**	**-0.3**
MQZ				*e*S*	**Sb**	**15 46 54.4**	**-0.8**
LBZ	**Lake Benmore**	**1.33**	**206**	*e*P	**Pn**	**15 46 39.7**	**+0.6**
LBZ	**Lake Benmore**	**1.33**	**206**	⇓P*	**Pb**	**15 46 39.7**	**+0.5**
DSZ	**Denniston Nort**	**1.57**	**22**	P	**Pn**	**15 46 42.8**	**+0.3**
DSZ	**Denniston Nort**	**1.57**	**22**	PN	**Pn**	**15 46 42.9**	**+0.4**
JCZ	**Jackson Bay**	**1.85**	**241**	P	**Pn**	**15 46 47.7**	**+1.2**
JCZ	**Jackson Bay**	**1.85**	**241**	⇑PN	**Pn**	**15 46 47.6**	**+1.1**
THZ	**Tophouse**	**2.01**	**45**	*e*P	**Pn**	**15 46 49.3**	**+0.5**
THZ	**Tophouse**	**2.01**	**45**	PN	**Pn**	**15 46 49.0**	**+0.2**
KHZ	**Kahutara**	**2.02**	**68**	*e*P	**Pn**	**15 46 48.8**	**-0.2**
KHZ	**Kahutara**	**2.02**	**68**	⇓PN	**Pn**	**15 46 49.0**	**-0.1**
WKZ	**Wanaka**	**2.17**	**221**	P	**Pn**	**15 46 51.5**	**+0.4**
WKZ	**Wanaka**	**2.17**	**221**	⇑PN	**Pn**	**15 46 51.5**	**+0.4**
EAZ	**Earnscleugh**	**2.37**	**210**	P	**Pn**	**15 46 53.6**	**-0.4**
EAZ	**Earnscleugh**	**2.37**	**210**	⇑PN	**Pn**	**15 46 53.6**	**-0.4**
EAZ				SN	**Sn**	**15 47 23.2**	**+0.4**
BSWZ	**Blackbirch Sta**	**2.59**	**56**	*e*PN	**Pn**	**15 46 57.7**	**+0.6**
QRZ	**Quartz Range**	**2.63**	**26**	P	**Pn**	**15 46 57.8**	**+0.1**
QRZ	**Quartz Range**	**2.63**	**26**	⇑PN	**Pn**	**15 46 57.8**	**+0.1**
NNZ	**Nelson**	**2.65**	**43**	*e*P	**Pn**	**15 46 58.5**	**+0.5**
NNZ	**Nelson**	**2.65**	**43**	PN	**Pn**	**15 46 58.4**	**+0.4**
MSZ	**Milford Sound**	**2.67**	**235**	*e*PN	**Pn**	**15 46 59.1**	**+0.9**
TUWZ	**Tuamarina**	**2.81**	**52**	*e*PN	**Pn**	**15 47 00.3**	**+0.1**
TUZ	**Tuapeka**	**2.92**	**199**	*e*P	**Pn**	**15 47 01.4**	**-0.5**
TUZ	**Tuapeka**	**2.92**	**199**	PN	**Pn**	**15 47 01.4**	**-0.5**
MLZ	**Mavora Lakes**	**2.96**	**222**	*e*P	**Pn**	**15 47 02.5**	**+0.1**
MLZ	**Mavora Lakes**	**2.96**	**222**	PN	**Pn**	**15 47 02.4**	**+0.1**
MRW	**Makara Radio**	**3.38**	**56**	P	**Pn**	**15 47 08.3**	**0.0**
MRW	**Makara Radio**	**3.38**	**56**	*e*PN	**Pn**	**15 47 08.3**	**0.0**
WHZ	**Wether Hill Ro**	**3.47**	**218**	P	**Pn**	**15 47 08.6**	**-1.0**
WHZ	**Wether Hill Ro**	**3.47**	**218**	*e*PN	**Pn**	**15 47 08.6**	**-1.0**
CAW	**Cannon Point**	**3.67**	**57**	P	**Pn**	**15 47 11.3**	**-1.2**
KIW	**Kapiti Island**	**3.73**	**53**	P	**Pn**	**15 47 12.3**	**-1.0**
MTW	**Mount Morrison**	**3.92**	**60**	P	**Pn**	**15 47 13.4**	**-2.6**
MRZ	**Mangatainoka R**	**4.25**	**55**	P	**Pn**	**15 47 19.4**	**-1.4**
NRZ	**Ngariki Road**	**4.45**	**31**	P	**Pn**	**15 47 24.1**	**+0.6**
NWEZ	**Newall Road**	**4.48**	**30**	P	**Pn**	**15 47 24.9**	**+1.0**
DFE	**Dawson Falls**	**4.52**	**32**	P	**Pn**	**15 47 25.7**	**+1.1**
NEZ	**North Egmont**	**4.56**	**32**	P	**Pn**	**15 47 25.9**	**+0.7**
PKE	**Pukeiti**	**4.59**	**30**	P	**Pn**	**15 47 26.0**	**+0.4**
RAEZ	**Rainy Point**	**4.67**	**34**	P	**Pn**	**15 47 25.9**	**-0.8**
TSZ	**Takapari Road**	**4.86**	**51**	*e*P	**Pn**	**15 47 26.2**	**-3.2**
CNZ	**Chateau**	**5.26**	**42**	P	**Pn**	**15 47 36.6**	**+1.5**
NGZ	**Ngauruhoe**	**5.31**	**42**	P	**Pn**	**15 47 35.7**	**0.0**
TWVZ	**Taurewa**	**5.31**	**41**	P	**Pn**	**15 47 36.5**	**+0.8**
WTVZ	**West Tongariro**	**5.35**	**42**	P	**Pn**	**15 47 37.0**	**+0.7**
MGZ	**Maungaku**	**5.42**	**41**	P	**Pn**	**15 47 38.4**	**+1.2**
KATZ	**Kakaramea**	**5.51**	**42**	P	**Pn**	**15 47 40.6**	**+2.1**
BKZ	**Black Stump Fm**	**5.78**	**48**	*e*P	**Pn**	**15 47 38.7**	**-3.6**
URZ	**Urewera**	**6.77**	**45**	Pn	**Pn**	**15 47 50.8**	**-5.5**
	0.9nm,0.3s,baz=264,slow=3.9,SNR=9.0						
URZ				Sn	**Sn**	**15 49 06.6**	**-7.2**
	5.1nm,0.3s,baz=110,slow=23,SNR=9.3						
WTAZ	**Waiatarua**	**6.83**	**25**	P	**Pn**	**15 47 57.0**	**-0.2**
MKAZ	**Moumakai**	**6.87**	**29**	P	**Pn**	**15 47 57.1**	**-0.6**
OTAZ	**Otara**	**6.93**	**27**	P	**Pn**	**15 47 58.4**	**-0.1**
MTAZ	**Motutapu**	**7.07**	**26**	P	**Pn**	**15 48 00.0**	**-0.5**
KUZ	**Kuaotunu**	**7.39**	**31**	*e*P	**Pn**	**15 48 03.4**	**-1.6**
WCZ	**Waipu Caves**	**7.69**	**21**	*e*P	**Pn**	**15 48 07.8**	**-1.5**
STKA	**Stephens Creek**	**25.79**	**286**	P	**P**	**15 51 48.5**	**+1.8**
	1.1nm,0.3s,mb3.8,baz=133,slow=8.1,SNR=4.9						
CTA	**Charters Tower**	**31.01**	**310**	P	**P**	**15 52 33.1**	**-0.9**
	2.1nm,0.7s,mb4.1,baz=149,slow=14,SNR=3.1						
ASAR	**Alice Springs**	**36.19**	**291**	P	**P**	**15 53 18.4**	**-0.5**
	1.8nm,0.5s,mb4.2,baz=128,slow=7.6,SNR=56						
ASAR				PcP	PcP	15 55 42.5	-2.0
	0.7nm,0.7s,baz=125,slow=3.7,SNR=6.6						
ASPA	**Alice Springs**	**36.20**	**291**	*e*P	**P**	**15 53 18.7**	**-0.1**
WB2	**Warramunga Arr**	**38.45**	**295**	*e*P	**P**	**15 53 34.9**	**-2.9**
WRAB	**Tennant Creek**	**38.45**	**295**	*e*P	**P**	**15 53 37.6**	**-0.3**
	6.9nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**38.45**	**295**	P	**P**	**15 53 37.3**	**-0.5**
	2.5nm,0.7s,mb4.0,baz=136,slow=7.7,SNR=44						
WRA				PcP	PcP	15 55 49.4	-2.1
	0.7nm,0.8s,baz=135,slow=2.8,SNR=12						
PMG	**Port Moresby**	**39.58**	**321**	P	**P**	**15 53 47.7**	**+0.4**
	5.9nm,1.0s,mb4.3,baz=267,slow=3.8,SNR=3.5						
FITZ	**Fitzroy Crossi**	**45.63**	**289**	*e*P	**P**	**15 54 36.1**	**-0.4**
	4.3nm,0.5s,mb4.6						
CMAR	**Chiang Mai Arr**	**90.05**	**295**	P	**P**	**15 59 16.6**	**+1.2**
	0.9nm,0.6s,mb4.2,baz=147,slow=3.6,SNR=8.6						
INK	**Inuvik**	**118.63**	**20**	PKP	PKPdf	16 05 00.3	-4.8
	0.6nm,0.6s,baz=127,slow=18,SNR=7.5						
INK	**Inuvik**	**118.63**	**20**	*e*PKPdf	PKPdf	16 05 00.5	-4.7
YKA	**Yellowknife Ar**	**120.85**	**31**	PKP	PKPdf	16 05 05.0	-4.6
	0.3nm,0.8s,baz=218,slow=2.2,SNR=3.9						
YKA	**Yellowknife Ar**	**120.85**	**31**	PKP	PKPdf	16 05 05.0	-4.6
BRTR	**Keskin Array B**	**148.11**	**279**	PKPbc	PKPdf	16 06 00.8	+0.7
	baz=130,slow=4.0						
ARCES	**ARCESS Array B**	**148.26**	**338**	PKPbc	PKPdf	16 05 59.6	+0.2
	2.2nm,0.5s,baz=62,slow=2.0,SNR=20						
KAF	**Kangasniemi**	**151.96**	**325**	*ep*	PKPdf	16 06 07.6	+2.3
FINES	**FINESS Array B**	**152.35**	**323**	PKPbc	PKPdf	16 06 09.3	+3.4
	1.2nm,0.4s,baz=59,slow=2.7,SNR=14						
FINES				PKPab	PKPab	16 06 18.5	-2.9
	3.4nm,0.9s,baz=106,slow=2.5,SNR=4.1						

*CSEM **16** 15:47:27.3±0.4, 38.59N×28.57W, h6km±3km, ML1.5, Error ellipse: s-maj=2.4km s-min=1.5km az=34.0, After PDA*
*PDA **16** 15:47:27.3±0.4, 38.59N×28.57W, h6km±3km, MD2.9, ML1.5, Error ellipse: s-maj=2.4km s-min=1.5km az=34.0*

SVSA 16 15:47:27.3±0.4, 38.59N×28.57W, h6km±3km, MD2.9, ML1.5, Error ellipse: s-maj=2.4km s-min=1.5km az=34.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.08**	**217**	*e*P	Pg	15 47 29.0	-0.3
HOR				*e*S	Sg	15 47 30.5	-0.1
CALA	**Caldeira**	**0.10**	**264**	*e*P	Pg	15 47 29.5	-0.2
CALA				*e*S	Sg	15 47 31.2	-0.1
PICO	**Pico**	**0.14**	**129**	*e*P	Pg	15 47 30.3	-0.1
PICO				*e*S	Sg	15 47 32.2	-0.2
ROSA	**Rosais**	**0.29**	**63**	*e*P	Pg	15 47 32.5	-0.6
PMAN	**Manadas**	**0.38**	**84**	*e*S	Sg	15 47 39.0	-1.0
	17nm,0.2s						
PMAN	**Manadas**	**0.38**	**84**	*e*S	Sg	15 47 39.0	-1.0
	17nm,0.2s						

*IDC **16** 15:59:04.6±1.1, 25.55S×176.27W, mb4.2/10, mb1 4.3/12, mb1mx4.2/18, mbtmp4.2/12, ML4.1/2, MS4.3/3, Ms1 4.2/3, ms1mx3.5/22, Error ellipse: s-maj=51.1km s-min=19.1km az=160.0*
*NEIC **16** 15:59:07.1

NKY	**Niksic**	**0.95**	**234**	⇓*i*Pg	**Pg**	**16 08 27.6 -0.7**
NKY				*e*Sg	**Sg**	**16 08 41.3 +0.3**
TTG	**Podgorica**	**1.11**	**212**	⇓*i*Pg	**Pg**	**16 08 30.1 -1.3**
TTG				*e*Sg	**Sg**	**16 08 46.3 +0.2**
BRY	**Bratogost**	**1.20**	**247**	*e*Pg	**Pg**	**16 08 31.7 -1.5**
BRY				*e*Sg	**Sg**	**16 08 49.9 +0.7**
SVIS	**Svilajnac**	**1.25**	**42**	*e*Pg	**Pg**	**16 08 34.0 -0.3**
SVIS				Sg	**Sg**	**16 08 51.8 +0.7**
BUM	**Brajici-Budva**	**1.36**	**219**	*e*Pg	**Pg**	**16 08 35.0 -1.5**
BUM				*e*Sg	**Sg**	**16 08 55.5 +0.7**
BARS	**Barje**	**1.41**	**112**	⇑*i*Pn	**Pn**	**16 08 36.1 +1.0**
BARS				Sn	**Sn**	**16 08 57.3 +3.4**
BOLS	**Boljevac**	**1.46**	**71**	⇑*i*Pn	**Pn**	**16 08 36.7 +0.9**
BOLS				Sn	**Sn**	**16 08 57.8 +2.7**
HCY	**Herceg Novi**	**1.47**	**232**	*e*Pg	**Pg**	**16 08 37.4 -1.2**
HCY				*e*Sg	**Sg**	**16 08 59.3 +1.1**
ULC	**Ulcinj**	**1.53**	**203**	*e*Pg	**Pg**	**16 08 38.3 -1.5**
ULC				*e*Sg	**Sg**	**16 09 01.0 +0.9**
ULC	**Ulcinj**	**1.53**	**203**	*e*Sg	**Sg**	**16 09 01.0 +0.9**
SKO	**Skopje**	**1.73**	**143**	*i* Pn	**Pn**	**16 08 42.0 +2.3**
VTS	**Vitosha**	**2.44**	**108**	P	**Pn**	**16 08 51.0 +1.1**
VTS	**Vitosha**	**2.44**	**108**	Pg	**Pg**	**16 08 56.0 -2.1**
MMB	**Musomiste**	**3.25**	**122**	Pg	**Pg**	**16 09 10.5 -3.7**

*TAP **16** 16:17:48.8,24.86N×122.37E,h10km,ML3.2*
JMA 16 16:17:48.1±0.2,24.78N×122.43E,M2.8,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.62**	**121**	P	Pg	16 18 00.4	0.0
YOJ				S	Sg	16 18 09.0	+0.4
IRIF	**Iriomote-Funau**	**1.26**	**110**	P	Pb	16 18 12.3	-0.2
IRIF				*e*S	Sb	16 18 30.1	+0.9
HATJ	**Hateruma jima**	**1.45**	**120**	P	Pn	16 18 15.6	0.0
HATJ				*e*S	Sb	16 18 33.8	-0.7
JKRS	**Kuro-shima**	**1.54**	**110**	P	Pn	16 18 16.6	-0.3
JIJ	**Ishigaki jima**	**1.61**	**105**	P	Pn	16 18 17.4	-0.6
JIJ				*e*S	Sb	16 18 39.9	+0.6

*NEIC **16** 16:20:16.4±1.7,34.16S×179.72W,h70km±14km,mb5.0/11, Error ellipse: s-maj=17.6km s-min=13.5km az=204.0*
*IDC **16** 16:20:23.8±2.7,34.12S×179.86W,h127km±22km,mb4.3/9, mb1 4.4/11,mb1mx4.2/17,mbtmp4.8/11,MS3.3/2, Ms1 3.3/2,ms1mx2.5/19,Error ellipse: s-maj=20.5km s-min=14.9km az=9.0*
ISC 16 16:20:17.4±0.7,34.35S±0.04×179.8E±0.1,h70km,n152, σ1§47/132,mb4.8/15,2C-5D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.43**	**200**	P	**P**	**16 21 10.6**	**+0.8**
MXZ	**Matakaoa Point**	**3.43**	**200**	P	**P**	**16 21 10.4**	**+0.6**
MXZ				*e*S	**S**	**16 21 56.7**	**+7.2**
MXZ				T		16 23 54.3	
MXZ				T(Max)		16 25 03.9	
WIZ	**White Island**	**3.82**	**213**	P	**P**	**16 21 18.4**	**+3.2**
WIZ	**White Island**	**3.82**	**213**	P	**P**	**16 21 18.1**	**+2.9**
PUZ	**Puketiti**	**3.92**	**198**	⇓P	**P**	**16 21 17.0**	**+0.4**
PUZ				*e*S	**S**	**16 22 04.9**	**+3.1**
KUZ	**Kuaotunu**	**4.11**	**233**	*e*P	**P**	**16 21 24.9**	**+5.7**
KUZ	**Kuaotunu**	**4.11**	**233**	⇓P	**P**	**16 21 24.9**	**+5.7**
MWZ	**Matawai**	**4.39**	**204**	⇓P	**P**	**16 21 23.4**	**+0.3**
MWZ				*e*S	**S**	**16 22 18.6**	**+5.3**
MARZ	**Manawahe**	**4.43**	**214**	P	**P**	**16 21 26.0**	**+2.3**
TGRZ	**Tauranga**	**4.44**	**219**	P	**P**	**16 21 27.2**	**+3.4**
URZ	**Urewera**	**4.47**	**208**	P	**P**	**16 21 24.9**	**+0.6**
	73nm,0.3s,baz=45,slow=3.9,SNR=289						
URZ				S	**S**	**16 22 19.2**	**+3.7**
	70nm,0.3s,baz=61,slow=21,SNR=8.5						
URZ				LR	LR	16 23 07.0	
	comp=Z,196nm,20.3s,baz=15,slow=34						
URZ	**Urewera**	**4.47**	**208**	P	**P**	**16 21 24.9**	**+0.6**
URZ	**Urewera**	**4.47**	**208**	P	**P**	**16 21 24.6**	**+0.3**
EDRZ	**Edgecumbe**	**4.50**	**213**	P	**P**	**16 21 26.7**	**+2.0**
LIRZ	**Lichensteins R**	**4.58**	**216**	P	**P**	**16 21 29.1**	**+3.3**
MKRZ	**Makatiti**	**4.65**	**215**	P	**P**	**16 21 30.1**	**+3.3**
TAZ	**Tarawera**	**4.71**	**214**	P	**P**	**16 21 30.1**	**+2.6**
TAZ	**Tarawera**	**4.71**	**214**	P	**P**	**16 21 30.0**	**+2.5**
WCZ	**Waipu Caves**	**4.75**	**249**	P	**P**	**16 21 34.7**	**+6.5**
TOZ	**Tahuroa Road**	**4.86**	**225**	P	**P**	**16 21 34.7**	**+5.1**
PATZ	**Paeroa**	**4.94**	**214**	P	**P**	**16 21 33.2**	**+2.4**
KNZ	**Kokohu**	**4.97**	**200**	P	**P**	**16 21 29.3**	**-1.9**
KNZ				*e*S	**S**	**16 22 27.3**	**-0.6**
BKZ	**Black Stump Fm**	**5.50**	**208**	*e*P	**P**	**16 21 37.5**	**-0.9**
BKZ	**Black Stump Fm**	**5.50**	**208**	P	**P**	**16 21 37.5**	**-0.9**
BKZ				*e*S	**S**	**16 22 44.2**	**+3.1**
RATZ	**Rangitukua**	**5.56**	**215**	P	**P**	**16 21 40.8**	**+1.5**
RATZ	**Rangitukua**	**5.56**	**215**	P	**P**	**16 21 40.6**	**+1.3**
RITZ	**Rihia Road**	**5.61**	**213**	P	**P**	**16 21 41.0**	**+1.0**
KATZ	**Kakaramea**	**5.68**	**214**	P	**P**	**16 21 42.7**	**+1.7**
HIZ	**Hauiti**	**5.77**	**222**	*e*P	**P**	**16 21 45.5**	**+3.4**
HIZ	**Hauiti**	**5.77**	**222**	P	**P**	**16 21 45.6**	**+3.5**
MGZ	**Maungaku**	**5.78**	**215**	P	**P**	**16 21 43.7**	**+1.4**
WTVZ	**West Tongariro**	**5.84**	**214**	P	**P**	**16 21 44.1**	**+0.9**
TWVZ	**Taurewa**	**5.88**	**215**	P	**P**	**16 21 44.6**	**+0.9**
NGZ	**Ngauruhoe**	**5.89**	**214**	P	**P**	**16 21 44.3**	**+0.5**
CNZ	**Chateau**	**5.93**	**214**	P	**P**	**16 21 45.2**	**+0.8**
CNZ	**Chateau**	**5.93**	**214**	P	**P**	**16 21 45.1**	**+0.7**
WPVZ	**Whakapapa**	**5.94**	**214**	P	**P**	**16 21 45.4**	**+0.9**
TUVZ	**Tukino**	**5.94**	**213**	P	**P**	**16 21 44.3**	**-0.2**
MOVZ	**Moawhango**	**6.01**	**212**	P	**P**	**16 21 44.4**	**-1.1**
WNVZ	**Wahianoa**	**6.01**	**213**	P	**P**	**16 21 44.8**	**-0.7**
PWZ	**Pawanui**	**6.14**	**202**	*e*P	**P**	**16 21 43.8**	**-3.6**
PWZ				S	**S**	**16 22 56.3**	**-0.7**
PWZ	**Pawanui**	**6.14**	**202**	P	**P**	**16 21 43.6**	**-3.8**
PWZ				S	**S**	**16 22 56.2**	**-0.8**
VRZ	**Vera Road**	**6.26**	**219**	P	**P**	**16 21 50.1**	**+1.0**
VRZ	**Vera Road**	**6.26**	**219**	*e*P	**P**	**16 21 49.8**	**+0.7**
TSZ	**Takapari Road**	**6.48**	**207**	*e*P	**P**	**16 21 49.1**	**-3.0**
TSZ				S	**S**	**16 23 05.5**	**+0.2**
TSZ	**Takapari Road**	**6.48**	**207**	P	**P**	**16 21 48.9**	**-3.2**
TSZ				*e*S	**S**	**16 23 05.4**	**+0.1**
WAZ	**Wanganui**	**6.63**	**214**	P	**P**	**16 21 53.5**	**-0.8**
WAZ	**Wanganui**	**6.63**	**214**	P	**P**	**16 21 53.3**	**-1.0**
BFZ	**Birch Farm**	**6.93**	**203**	*e*P	**P**	**16 21 54.2**	**-4.2**
BFZ	**Birch Farm**	**6.93**	**203**	*e*P	**P**	**16 21 53.9**	**-4.5**
MRZ	**Mangatainoka R**	**7.14**	**207**	P	**P**	**16 21 57.6**	**-3.8**
MRZ				*e*S	**S**	**16 23 15.8**	**-6.0**
KIW	**Kapiti Island**	**7.58**	**209**	P	**P**	**16 22 03.2**	**-4.1**
KIW	**Kapiti Island**	**7.58**	**209**	P	**P**	**16 22 02.8**	**-4.5**
KIW				*e*S	**S**	**16 23 30.4**	**-2.0**
MTW	**Mount Morrison**	**7.61**	**205**	P	**P**	**16 22 02.9**	**-4.8**
MTW	**Mount Morrison**	**7.61**	**205**	*e*P	**P**	**16 22 02.7**	**-5.0**
CAW	**Cannon Point**	**7.72**	**208**	P	**P**	**16 22 04.6**	**-4.7**
CAW	**Cannon Point**	**7.72**	**208**	P	**P**	**16 22 04.3**	**-5.0**
MSWZ	**Moikau Station**	**7.92**	**206**	P	**P**	**16 22 06.8**	**-5.3**
MRW	**Makara Radio**	**7.97**	**209**	*e*S	**S**	**16 23 38.9**	**-3.3**
BHW	**Baring Head**	**8.06**	**208**	P	**P**	**16 22 09.1**	**-4.8**
NNZ	**Nelson**	**8.54**	**215**	P	**P**	**16 22 16.0**	**-4.5**
NNZ	**Nelson**	**8.54**	**215**	P	**P**	**16 22 15.9**	**-4.6**
QRZ	**Quartz Range**	**8.67**	**220**	*e*P	**P**	**16 22 18.8**	**-3.5**
THZ	**Tophouse**	**9.19**	**214**	P	**P**	**16 22 24.8**	**-4.5**
THZ	**Tophouse**	**9.19**	**214**	P	**P**	**16 22 24.4**	**-4.9**
THZ				*e*E		16 24 08.0	
KHZ	**Kahutara**	**9.44**	**210**	*e*P	**P**	**16 22 26.7**	**-6.1**
KHZ	**Kahutara**	**9.44**	**210**	P	**P**	**16 22 26.5**	**-6.3**
KHZ				*e*S	**S**	**16 24 11.0**	**-7.2**
DSZ	**Denniston Nort**	**9.71**	**218**	*e*P	**P**	**16 22 32.2**	**-4.3**
DSZ	**Denniston Nort**	**9.71**	**218**	*e*P	**P**	**16 22 31.6**	**-4.9**
DSZ				*e*S	**S**	**16 24 20.4**	**-4.5**
LTZ	**Lake Taylor**	**10.28**	**213**	S	**S**	**16 24 30.8**	**-7.8**
MQZ	**McQueen's Vall**	**10.87**	**209**	*e*P	**P**	**16 22 45.1**	**-7.1**
MQZ	**McQueen's Vall**	**10.87**	**209**	*e*P	**P**	**16 22 44.8**	**-7.4**
MQZ				*e*S	**S**	**16 24 43.0**	**-10**
WVZ	**Waitaha Valley**	**11.23**	**216**	*e*P	**P**	**16 22 54.1**	**-2.9**
WVZ	**Waitaha Valley**	**11.23**	**216**	*e*P	**P**	**16 22 54.0**	**-3.0**
WVZ				*e*S	**S**	**16 24 52.2**	**-9.3**
RPZ	**Rata Peaks**	**11.56**	**213**	P	**P**	**16 23 00.4**	**-1.0**
	18nm,0.3s,baz=26,slow=1.6,SNR=17						
RPZ				S	**S**	**16 25 01.8**	**-7.8**
	18nm,0.3s,baz=345,slow=18,SNR=13						
RPZ	**Rata Peaks**	**11.56**	**213**	P	**P**	**16 23 00.4**	**-1.0**
RPZ				S	**S**	**16 25 01.8**	**-7.8**
FOZ	**Fox Glacier**	**12.11**	**218**	*e*P	**P**	**16 23 04.0**	**-4.7**
LBZ	**Lake Benmore**	**12.48**	**214**	*e*P	**P**	**16 23 09.0**	**-4.7**
LBZ	**Lake Benmore**	**12.48**	**214**	P	**P**	**16 23 07.9**	**-5.8**
WKZ	**Wanaka**	**13.36**	**215**	*e*P	**P**	**16 23 20.2**	**-5.1**
WKZ	**Wanaka**	**13.36**	**215**	*e*P	**P**	**16 23 19.9**	**-5.4**
EAZ	**Earnscleugh**	**13.53**	**213**	*e*P	**P**	**16 23 25.1**	**-2.3**
TUZ	**Tuapeka**	**13.95**	**211**	*e*P	**P**	**16 23 27.9**	**-5.0**
RAR	**Rarotonga**	**22.25**	**59**	P	**P**	**16 25 13.1**	**+3.7**
	18nm,0.6s,mb4.6,baz=226,slow=12,SNR=6.4						
RAR	**Rarotonga**	**22.25**	**59**	P	**P**	**16 25 03.7**	**-5.8**
	15nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**31.98**	**264**	P	**P**	**16 26 42.0**	**+3.1**
	1.6nm,0.4s,mb4.1,baz=115,slow=22,SNR=4.7						
STKA				PcP	PcP	16 29 25.0	-2.6
	2.8nm,0.8s,baz=130,slow=7.2,SNR=4.7						
STKA	**Stephens Creek**	**31.98**	**264**	P	**P**	**16 26 42.0**	**+3.1**
STKA				PcP	PcP	16 29 25.0	-2.6
CTA	**Charters Tower**	**32.88**	**287**	*e*P	**P**	**16 26 47.9**	**+1.1**
	12nm,0.6s,mb4.9						
CTA	**Charters Tower**	**32.88**	**287**	P	**P**	**16 26 48.3**	**+1.5**
	18nm,0.6s,mb5.1,baz=115,slow=10,SNR=64						
CTAO	**Charters Tower**	**32.88**	**287**	*e*P	**P**	**16 26 47.8**	**+0.9**
	19nm,0.6s,mb5.1						
PMG	**Port Moresby**	**38.87**	**302**	P	**P**	**16 27 38.1**	**+0.6**
	10nm,0.6s,mb4.9,baz=107,slow=5.5,SNR=13						
PMG	**Port Moresby**	**38.87**	**302**	*e*P	**P**	**16 27 37.6**	**+0.1**
	10nm,0.6s,mb4.8						
ASAR	**Alice Springs**	**41.23**	**272**	P	**P**	**16 27 57.3**	**+0.3**
	13nm,0.7s,mb4.9,baz=114,slow=7.7,SNR=179						
ASAR				PcP	PcP	16 29 52.9	-2.5
	2.7nm,0.5s,baz=124,slow=3.3,SNR=7.7						
ASAR				S	**S**	**16 34 06.0**	**+0.6**
	2.6nm,0.8s,baz=122,slow=14,SNR=15						
ASAR				LR	LR	16 44 09.4	
	comp=Z,64nm,20.4s,baz=270,slow=34						
ASPA	**Alice Springs**	**41.23**	**272**	*e*P	**P**	**16 27 57.4**	**+0.4**
ASPA				*e*S	**S**	**16 34 06.2**	**+0.8**
WB2	**Warramunga Arr**	**42.58**	**278**	*e*P	**P**	**16 28 08.4**	**+0.3**
WB2				*e*S	**S**	**16 34 24.7**	**-0.5**
WRAB	**Tennant Creek**	**42.58**	**278**	*e*P	**P**	**16 28 07.8**	**-0.4**
	32nm,0.7s,mb5.2						
WRA	**Warramunga Arr**	**42.59**	**278**	P	**P**	**16 28 08.6**	**+0.4**
	15nm,0.6s,mb4.9,baz=119,slow=7.4,SNR=221						
WRA				PcP	PcP	16 29 57.1	-2.9
	1.5nm,0.5s,baz=120,slow=3.1,SNR=5.1						
WRA				S	**S**	**16 34 24.0**	**-1.3**
	1.9nm,1.2s,baz=117,slow=13,SNR=4.5						
VNDA	**Vanda**	**44.00**	**186**	P	**P**	**16 28 19.9**	**+0.9**
	1.4nm,1.0s,baz=0.9,slow=5.3,SNR=7.8						
KAKA	**Kakadu**	**47.97**	**285**	*e*P	**P**	**16 28 49.4**	**-1.7**
	8.5nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**50.65**	**274**	*e*P	**P**	**16 29 11.3**	**-0.4**
	15nm,0.7s,mb5.1						
MBWA	**Marble Bar**	**54.07**	**267**	*e*P	**P**	**16 29 34.9**	**-2.3**
	3.4nm,0.4s,mb4.7						
QSPA	**South Pole Qui**	**55.77**	**180**	⇓*i*P	**P**	**16 29 49.0**	**+0.2**
	11nm,0.8s,mb4.9						
MAW	**Mawson**	**67.97**	**202**	P	**P**	**16 31 10.4**	**+0.1**
	6.2nm,0.5s,mb4.7,baz=144,slow=5.8,SNR=13						
SYO	**Syowa Base**	**72.86**	**194**	⇓P	**P**	**16 31 41.8**	**+2.0**
VNA3	**Neumayer Olymp**	**74.49**	**177**	P	**P**	**16 31 54.0**	**+4.7**
VNA2	**Neumayer--Watz**	**74.90**	**178**	⇑*i*	**P**	**16 31 56.0**	**+4.4**
VNA1	**Neumayer--Stat**	**75.14**	**177**	P	**P**	**16 31 51.9**	**-1.1**
YSS	**Yuzh-Sakhalins**	**87.52**	**336**	*e*P	**P**	**16 32 57.8**	**-0.6**
	8.7nm,0.5s,mb5.0						
ENH	**Enshi**	**92.33**	**305**	P	**P**	**16 33 18.9**	**-2.3**
	7.3nm,1.0s,mb4.9						
CMAR	**Chiang Mai Arr**	**92.99**	**290**	P	**P**	**16 33 23.9**	**-0.6**
	1.6nm,0.9s,mb4.3,baz=161,slow=3.3,SNR=7.5						
ZAL	**Zalesovo**	**119.72**	**317**	PKP	PKPdf	16 38 58.7	-0.3
	1.7nm,0.4s,baz=349,slow=4.5,SNR=8.3						
ZAL	**Zalesovo**	**119.72**	**317**	PKP	PKPdf	16 38 58.7	-0.3
KURK	**Kurchatov**	**122.39**	**312**	*e*PKPdf	PKPdf	16 38 59.6	-4.6
AAK	**Ala-Archa**	**122.70**	**302**	*e*PKPdf	PKPdf	16 38 60.0	-5.1
CHKZ	**Chkalovo**	**127.83**	**315**	*e*PKPdf	PKPdf	16 39 11.3	-3.3
BVAR	**Borovoye Array**	**127.86**	**314**	PKP	PKPdf	16 39 12.5	-2.2
	4.5nm,0.6s,baz=135,slow=4.2,SNR=21						
BRVK	**Borovoye**	**127.93**	**314**	*e*PKPdf	PKPdf	16 39 12.0	-2.8
FRB	**Frobisher Bay**	**129.70**	**32**	PKP	PKPdf	16 39 17.7	-0.2
	1.5nm,0.4s,baz=321,slow=1.9,SNR=5.2						
ARCES	**ARCESS Array B**	**142.00**	**346**	PKhKP		16 39 35.6	
	4.6nm,0.8s,baz=45,slow=1.3,SNR=15						
ARCES				PKP	PKPdf	16 39 40.6	+0.4
	4.9nm,0.8s,baz=63,slow=2.0,SNR=12						
GNI	**Garni**	**144.06**	**293**	PKP	PKPdf	16 39 43.7	-1.0
	1.9nm,0.5s,baz=336,slow=4.3,SNR=4.3						
KIV	**Kislovodsk**	**145.73**	**299**	PKPdf	PKPdf	16 39 47.5	0.0
KAF	**Kangasniemi**	**147.55**	**337**	*e*p	PKPdf	16 39 49.2	-0.7
	6.4nm,0.4s						
FINES	**FINESS Array B**	**148.11**	**336**	PKPbc	PKPdf	16 39 51.6	+0.8
	12nm,0.5s,baz=38,slow=4.1,SNR=51						
MALT	**Malatya**	**148.79**	**289**	*e*PKPab	PKPab	16 39 57.1	-5.7
ASF	**Jabal al Asfar**	**149.02**	**277**	PKPbc	PKPdf	16 39 57.9	+4.7
	2.9nm,0.3s,baz=28,slow=2.1,SNR=6.2						
EIL	**Elat**	**149.93**	**271**	PKPbc	PKPdf	16 40 00.7	+5.9
	14nm,0.8s,baz=7.1,slow=2.6,SNR=12						
EIL	**Elat**	**149.93**	**271**	*e*PKPab	PKPab	16 40 00.5	-7.3
EIL				PKPbc	PKPdf	16 40 00.7	+5.9
DBIC	**Dimbokro**	**152.12**	**170**	PKPbc	PKPdf	16 40 01.9	+3.4
	5.0nm,0.8s,baz=152,slow=2.5,SNR=15						
NB2	**NORSAR Subarra**	**152.30**	**348**	PKP	PKPdf	16 40 02.1	+4.8
	5.9nm,0.6s,baz=36,slow=2.5						
NOA	**NORSAR Array B**	**152.30**	**348**	PKPbc	PKPdf	16 40 02.1	+4.8
	4.9nm,0.6s,baz=10,slow=3.9,SNR=24						
NOA				PKPab	PKPab	16 40 13.8	-2.8
	3.9nm,0.8s,baz=24,slow=3.3,SNR=6.6						
NOA	**NORSAR Array B**	**152.30**	**348**	PKPbc	PKPdf	16 40 02.1	+4.8
NOA				PKPab	PKPab	16 40 13.8	-2.8
BRTR	**Keskin Array B**	**152.57**	**291**	PKPbc	PKPdf	16 40 05.2	+6.8
	5.5nm,0.6s,baz=145,slow=4.2,SNR=15						
AKASG	**Malin Array Be**	**153.10**	**316**	PKPbc	PKPdf	16 40 05.9	+7.2
	5.1nm,0.4s,baz=50,slow=2.5,SNR=27						
DPC	**Dobruska-Polom**	**159.96**	**328**	*e*P	PKPab	16 40 47.4	-2.3
CLL	**Collm**	**160.54**	**335**	⇑*i*PKP2	PKPab	16 40 49.6	-2.5
PVCC	**Panska Ves**	**160.56**	**331**	*e*P	PKPab	16 40 50.1	-2.2
NKC	**Novy Kostel**	**161.62**	**334**	*e*P	PKPab	16 40 55.3	-1.6
KHC	**Kasperske Hory**	**162.05**	**330**	*e*P	PKPab	16 40 56.8	-2.0
GERES	**GERESS Array B**	**162.22**	**329**	PKP	PKPdf	16 40 10.5	+0.7
	0.7nm,0.8s,baz=180,slow=1.3,SNR=5.2						
GERES				PKPab	PKPab	16 40 57.3	-2.2
	1.0nm,0.5s,baz=38,slow=4.8,SNR=12						
CDF	**Champ du Feu**	**164.88**	**341**	*e*PKP2	PKPab	16 41 08.7	-2.4
	8.5nm,0.9s						
MEZF	**Maizieres J'vi**	**165.33**	**346**	*e*PKP2	PKPab	16 41 10.7	-2.4
HAU	**Haudompre**	**165.50**	**342**	*e*PKP2	PKPab	16 41 11.3	-2.5
HINF	**Hinteralfeld**	**165.54**	**341**	*e*PKP2	PKPab	16 41 11.3	-2.7
SSF	**Saint Saulge**	**167.00**	**349**	*e*PKP2	PKPab	16 41 17.9	-2.4
AVF	**Avril sur Loir**	**167.28**	**349**	*e*PKP2	PKPab	16 41 19.1	-2.5
	8.2nm,0.8s						
SMF	**Signal de Mont**	**167.34**	**347**	*e*PKP2	PKPab	16 41 19.4	-2.5
	6.6nm,0.5s						
LPL	**La Plagne**	**167.65**	**337**	*e*PKP2	PKPab	16 41 21.5	-1.8
	7.9nm,0.9s						
LPG	**La Plagne**	**167.66**	**337**	*e*PKP2	PKPab	16 41 21.7	-1.6
	9.0nm,0.9s						
MBDF	**Montbardon**	**168.33**	**335**	*e*PKP2	PKPab	16 41 23.9	-2.4
VIVF	**Saint-Julien-l**	**168.86**	**342**	*e*PKP2	PKPab	16 41 26.7	-1.9
CAF	**Calviac**	**169.29**	**351**	*e*PKP2	PKPab	16 41 28.5	-2.0
ESDC	**Sonseca Array**	**173.89**	**28**	PKP	PKPdf	16 40 19.7	+1.4
	1.7nm,0.9s,baz=42,slow=0.9,SNR=6.3						

IDC 16 16:34:21.1±2.9,7.99N×91.56E,mb3.6/3,mb1 3.8/4, mb1mx3.5/18,mbtmp3.6/4,ML3.6/1,MS3.3/2,Ms1 3.4/2, ms1mx3.0/14,Error ellipse: s-maj=83.1km s-min=29.8km az=67.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.64**	**34**	Pn	P	16 37 22.4	-2.7
	0.1nm,0.3s,baz=226,slow=15,SNR=3.8						
CMAR				LR	LR	16 42 39.0	
	comp=Z,36nm,20.7s,baz=201,slow=39						
DLH	**Dalhousie**	**28.40**	**331**	*e*P	P	16 40 41.0	+22
SONM	**Songino Array**	**41.66**	**15**	P	P	16 42 11.2	-1.7
	0.6nm,0.7s,baz=199,slow=8.5,SNR=6.3						
ZAL	**Zalesovo**	**46.14**	**354**	P	P	16 42 47.0	-1.9
	0.5nm,0.3s,baz=180,slow=16,SNR=1.7						
WRA	**Warramunga Arr**	**50.43**	**124**	P	P	16 43 20.8	-2.0
	0.8nm,1.0s,baz=302,slow=9.2,SNR=3.3						
PMG	**Port Moresby**	**58.02**	**106**	LR	LR	17 12 25.2	
	comp=Z,94nm,18.3s,baz=342,slow=39						

IDC 16 16:38:50.5±6.1,4.13N×93.50E,mb3.4/3,mb1 3.7/4, mb1mx3.5/18,mbtmp3.5/4,ML4.0/1,Error ellipse: s-maj=183.2km s-min=28.8km az=72.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.20**	**20**	Pn	P	16 42 28.9	+0.5
	0.2nm,0.3s,baz=214,slow=12,SNR=6.4						
SONM	**Songino Array**	**44.93**	**12**	P	P	16 47 07.0	-2.0
	0.4nm,0.8s,baz=199,slow=9.8,SNR=2.9						
WRA	**Warramunga Arr**	**46.71**	**122**	P	P	16 47 20.4	-3.0
	0.9nm,0.9s,baz=305,slow=8.4,SNR=3.5						
ASAR	**Alice Springs**	**48.10**	**127**	P	P	16 47 33.4	-0.9
	0.4nm,1.0s,baz=304,slow=6.6,SNR=3.4						

*LDG **16** 16:43:26.2±0.1,42.34N×2.17E,h6km,Md2.4/1,Ml2.4/12, Error ellipse: s-maj=1.2km s-min=0.9km az=145.0*
*MDD **16** 16:43:26.5±0.2,42.34N×2.15E,h5km±3km,mbLg2.0/19, Error ellipse: s-maj=1.9km s-min=1.5km az=180.0, PRXIMO*
*CSEM **16** 16:43:26.5±0.1,42.35N×2.17E,h8km,ML2.5/13,Error ellipse: s-maj=1.5km s-min=1.0km az=144.0*
ISC 16 16:43:24.9±0.3,42.43N±0.02×2.14E±0.03,h11km±4km, n47,σ1§38/64,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VALF	**Valcebollere**	**0.10**	**253**	Pg	**Pg**	**16 43 28.6**	**+1.0**
VALF				Lg		16 43 30.2	
CLLI	**Llivia**	**0.13**	**292**	Pg	**Pg**	**16 43 30.0**	**+1.8**
CLLI				Lg		16 43 32.7	
	57nm,0.1s						
CBRU	**Bruguera**	**0.15**	**168**	Pg	**Pg**	**16 43 27.8**	**-0.6**
CBRU				Lg		16 43 29.0	
	342nm,0.1s						
CARF	**Carcanieres**	**0.29**	**355**	Pg	**Pg**	**16 43 33.7**	**+2.8**
CARF				Lg		16 43 38.9	
CARF	**Carcanieres**	**0.29**	**355**	Pg	**Pg**	**16 43 33.7**	**+2.8**
CARF	**Carcanieres**	**0.29**	**355**	Sg	**Sg**	**16 43 38.9**	**+3.9**
FILF	**Fillols**	**0.34**	**67**	Pg	**Pg**	**16 43 32.1**	**+0.3**
FILF				Lg		16 43 36.4	
FILF	**Fillols**	**0.34**	**67**	Pg	**Pg**	**16 43 32.1**	**+0.2**
FILF	**Fillols**	**0.34**	**67**	Sg	**Sg**	**16 43 36.3**	**-0.3**
PAND	**Andorre**	**0.45**	**282**	Pg	**Pg**	**16 43 35.5**	**+1.5**
PAND				Lg		16 43 41.4	
SJAF	**Saint Jean de**	**0.55**	**84**	Pg	**Pg**	**16 43 36.9**	**+0.8**
SJAF				Lg		16 43 44.2	
SJAF	**Saint Jean de**	**0.55**	**84**	Pg	**Pg**	**16 43 36.7**	**+0.6**
SJAF				Sg	**Sg**	**16 43 44.3**	**+0.8**
EJON	**La Jonquera**	**0.56**	**88**	Pg	**Pg**	**16 43 36.8**	**+0.7**
	1.8nm,0.1s,SNR=20						
EJON				Lg		16 43

CVNA eS Sn 16 55 21.4 -17

*IDC **16** 16:53:19.9±3.5, 2.86N×93.51E, mb3.6/4, mb1 3.8/5, mb1mx3.6/18, mbtmp3.5/5, ML3.9/1, Error ellipse: s-maj=116.9km s-min=25.2km az=66.0*
*NEIC **16** 16:53:25.3±1.7, 2.85N×93.65E, h30km, mb4.2/2, Error ellipse: s-maj=52.1km s-min=13.2km az=68.0*
ISC 16 16:53:23.1±2.1, 2.8N±0.2×93.6E±0.4, h30km, n7, σ0°84/7, mb3.9/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.39**	**18**	Pn	**P**	**16 57 13.1**	**+0.2**
	0.1nm,0.3s,baz=213,slow=12,SNR=4.6						
LSA	**Lhasa**	**26.82**	**355**	P	**P**	**16 59 04.6**	**+1.6**
	3.0nm,0.5s,mb4.1						
LSA				e	pP	16 59 11.9	+0.1
WRA	**Warramunga Arr**	**45.95**	**121**	P	**P**	**17 01 45.3**	**-0.3**
	0.5nm,0.5s,mb3.7,baz=300,slow=8.8,SNR=7.2						
WRAB	**Tennant Creek**	**45.95**	**121**	eP	**P**	**17 01 45.7**	**0.0**
	3.1nm,0.9s,mb4.2						
SONM	**Songino Array**	**46.17**	**12**	P	**P**	**17 01 45.7**	**-1.3**
	0.9nm,1.2s,mb3.6,baz=180,slow=5.8,SNR=3.2						
ASAR	**Alice Springs**	**47.25**	**126**	P	**P**	**17 01 56.4**	**+0.5**
	0.3nm,0.7s,mb3.3,baz=298,slow=7.6,SNR=4.7						
ZAL	**Zalesovo**	**51.45**	**353**	P	**P**	**17 02 27.0**	**-0.7**
	2.0nm,0.3s,mb4.5,baz=190,slow=9.2,SNR=4.2						

IDC 16 16:56:23.4±4.7, 17.17S×174.99E, mb3.8/2, mb1 4.0/2, mb1mx3.6/13, mbtmp3.8/2, Error ellipse: s-maj=266.8km s-min=65.1km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.57**	**259**	P	P	17 03 47.9	-2.1
ASAR	**Alice Springs**	**38.94**	**253**	P	P	17 03 51.8	-1.2
	1.8nm,0.8s,baz=82,slow=8.7,SNR=16						
GERES	**GERESS Array B**	**144.93**	**338**	PKP	PKPdf	17 16 02.0	-2.3
	0.5nm,0.7s,baz=18,slow=3.1,SNR=3.9						

*NEIC **16** 16:59:43.5, 44.51S×166.77E, h31km, ML4.2(WEL), After WEL.*
WEL 16 16:59:43.0±0.6, 44.63S×166.97E, h5km, ML3.8/10, 3C, Error ellipse: s-maj=4.6km s-min=2.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.69**	**94**	↑P*	Pb	16 59 57.1	+0.1
MSZ				SG	Sg	17 00 05.3	-0.5
MSZ				SG	Sg	17 00 05.4	-0.5
DCZ	**Deep Cove**	**0.86**	**171**	P*	Pb	16 59 59.5	-0.6
DCZ				S*	Sb	17 00 10.0	-1.7
DCZ				S*	Sb	17 00 10.2	-1.5
MLZ	**Mavora Lakes**	**1.12**	**131**	P	Pb	17 00 04.6	+0.2
MLZ				S	Sb	17 00 19.6	+0.5
MLZ	**Mavora Lakes**	**1.12**	**131**	P*	Pb	17 00 04.4	0.0
MLZ				S*	Sb	17 00 18.9	-0.2
MLZ				eS*	Sb	17 00 19.2	+0.1
JCZ	**Jackson Bay**	**1.40**	**67**	PN	Pn	17 00 07.1	-2.1
WHZ	**Wether Hill Ro**	**1.45**	**152**	eP	Pn	17 00 09.3	-0.6
WHZ				S	Sb	17 00 27.7	-0.9
WHZ	**Wether Hill Ro**	**1.45**	**152**	PN	Pn	17 00 09.2	-0.7
WHZ				SN	Sn	17 00 27.6	-1.8
WKZ	**Wanaka**	**1.47**	**99**	P	Pn	17 00 09.9	-0.4
WKZ	**Wanaka**	**1.47**	**99**	PN	Pn	17 00 09.9	-0.4
WKZ				eSN	Sn	17 00 28.5	-1.7
EAZ	**Earnscleugh**	**1.77**	**111**	P	Pn	17 00 14.3	-0.2
EAZ	**Earnscleugh**	**1.77**	**111**	PN	Pn	17 00 14.3	-0.2
FOZ	**Fox Glacier**	**2.23**	**63**	PN	Pn	17 00 18.8	-2.3
TUZ	**Tuapeka**	**2.30**	**126**	eP	Pn	17 00 21.1	-1.1
TUZ	**Tuapeka**	**2.30**	**126**	↑PN	Pn	17 00 21.1	-1.1
LBZ	**Lake Benmore**	**2.31**	**85**	eP	Pn	17 00 20.7	-1.6
LBZ	**Lake Benmore**	**2.31**	**85**	↑PN	Pn	17 00 20.7	-1.6
ODZ	**Otahua Downs**	**2.65**	**100**	PN	Pn	17 00 25.0	-2.1
MQZ	**McQueen's Vall**	**4.19**	**79**	eSN	Sn	17 01 28.4	-11
DSZ	**Denniston Nort**	**4.56**	**53**	eP	Pn	17 00 49.8	-4.4
DSZ	**Denniston Nort**	**4.56**	**53**	PN	Pn	17 00 49.4	-4.9
DSZ				SN	Sn	17 01 38.3	-10
THZ	**Tophouse**	**5.20**	**59**	eP	Pn	17 00 59.5	-3.8
THZ	**Tophouse**	**5.20**	**59**	PN	Pn	17 00 59.1	-4.2
QRZ	**Quartz Range**	**5.58**	**49**	eP	Pn	17 01 03.6	-5.1
QRZ	**Quartz Range**	**5.58**	**49**	ePN	Pn	17 01 03.6	-5.1

*IDC **16** 17:15:34.4±5.0, 13.72N×88.31W, mb3.6/3, mb1 4.1/4, mb1mx3.6/18, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=166.6km s-min=33.0km az=29.0*
*CASC **16** 17:15:37.9±2.4, 13.00N×88.83W, h56km±28km, MD4.0, ML4.1, mb3.9(NEIC)*
*NEIC **16** 17:15:41.8±1.7, 13.10N×88.58W, h93km±16km, mb3.9/1, Error ellipse: s-maj=32.1km s-min=11.2km az=51.0*
ISC 16 17:15:37.4±0.4, 12.98N±0.06×88.83W±0.04, h66km±6km, n43, σ0°93/68, mb3.7/4, 11C-9D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.63**	**359**	eP	**P**	**17 15 51.9**	**+0.5**
SNVI				eS	**S**	**17 16 01.4**	**-0.3**
LFRS	**El Faro**	**0.68**	**341**	↓eP	**P**	**17 15 51.6**	**-0.3**
LCBS	**La Ceiba**	**0.69**	**348**	↓iP	**P**	**17 15 51.8**	**-0.2**
VSM	**San Miguel**	**0.70**	**51**	↓eP	**P**	**17 15 52.9**	**+0.7**
VSM				eS	**S**	**17 16 04.9**	**+1.7**
BLLM	**Bellamira**	**0.74**	**51**	↑eP	**P**	**17 15 53.2**	**+0.6**
BLLM				eS	**S**	**17 16 03.8**	**-0.1**
LBRS	**Las Brisas**	**0.78**	**345**	↓eP	**P**	**17 15 53.4**	**+0.3**
LBRS				eS	**S**	**17 16 02.8**	**-2.1**
SNET	**Serv Nac Est T**	**0.80**	**331**	eP	**P**	**17 15 53.3**	**-0.2**
SNET				eS	**S**	**17 16 03.9**	**-1.4**
SNET				i		17 16 05.6	
	comp=Z,5μm,0.3s						
LFU	**La Fuente**	**0.81**	**340**	↑eP	**P**	**17 15 53.8**	**+0.2**
BOQS	**Boqueron**	**0.87**	**330**	↓eP	**P**	**17 15 54.4**	**+0.1**
BOQS				eS	**S**	**17 16 06.8**	**+0.1**
CAHU	**Cacacuatique**	**0.99**	**37**	eP	**P**	**17 15 56.9**	**+1.1**
CNCH	**Conchagua**	**1.01**	**73**	↑eP	**P**	**17 15 56.6**	**+0.4**
CNCH				eS	**S**	**17 16 11.2**	**+1.2**
SBLS	**San Blas**	**1.15**	**318**	↑eP	**P**	**17 15 58.4**	**+0.4**
SBLS				eS	**S**	**17 16 12.5**	**-0.8**
SNJE	**San Jose**	**1.16**	**320**	↑eP	**P**	**17 15 58.4**	**+0.3**
SNJE				eS	**S**	**17 16 12.8**	**-0.8**
RTR	**El Retiro**	**1.21**	**319**	↓eP	**P**	**17 15 59.0**	**+0.3**
RBDL	**Robledal**	**1.40**	**324**	↑eP	**P**	**17 16 01.8**	**+0.3**
RBDL				eS	**S**	**17 16 17.9**	**-1.4**
MTO2	**Montecristo 2**	**1.50**	**340**	↓eP	**P**	**17 16 03.4**	**+0.6**
MTO2				eS	**S**	**17 16 20.9**	**-0.7**
CRIN	**San Cristobal**	**1.76**	**99**	↑eP	**P**	**17 16 06.6**	**+0.3**
LEON	**Leon**	**1.97**	**106**	eP	**P**	**17 16 08.2**	**-1.1**
IXG	**Ixpaco**	**1.98**	**307**	↑eP	**P**	**17 16 09.1**	**-0.2**
IXG				eS	**S**	**17 16 32.5**	**-0.3**
TEL3	**Telica 3**	**1.98**	**102**	↑eP	**P**	**17 16 09.0**	**-0.3**
TEL3				eS	**S**	**17 16 33.5**	**+0.6**
TELN	**Telica**	**1.98**	**101**	eP	**P**	**17 16 08.9**	**-0.5**
TELN				eS	**S**	**17 16 33.1**	**0.0**
CNGN	**Cerro Negro**	**2.13**	**103**	eP	**P**	**17 16 11.5**	**0.0**
CNGN				eS	**S**	**17 16 37.3**	**+0.5**
MIRN	**Miramar**	**2.14**	**104**	↑eP	**P**	**17 16 10.9**	**-0.7**
MIRN				eS	**S**	**17 16 36.9**	**+0.1**
MOMJ	**Momotombo**	**2.31**	**104**	eP	**P**	**17 16 13.2**	**-0.8**
MOMJ				eS	**S**	**17 16 40.1**	**-1.1**
COPN	**Copaltepe**	**2.33**	**110**	eP	**P**	**17 16 14.3**	**0.0**
APYN	**Apoyeque**	**2.53**	**107**	↓eP	**P**	**17 16 16.6**	**-0.6**
APYN				eS	**S**	**17 16 47.3**	**+0.4**
MGAN	**Managua**	**2.66**	**108**	eS	**S**	**17 16 50.1**	**+0.1**
WILN	**Americas 2**	**2.71**	**107**	eS	**S**	**17 16 49.6**	**-1.6**
TICN	**Ticuantepe**	**2.71**	**110**	↓eP	**P**	**17 16 20.2**	**+0.5**
TICN				eS	**S**	**17 16 50.6**	**-0.7**
TP2	**Tecpan 2**	**2.78**	**310**	eP	**P**	**17 16 22.7**	**+2.0**
TP2				eS	**S**	**17 16 54.9**	**+1.8**
JTS	**JuntasAbangare**	**4.64**	**125**	ePn	**P**	**17 16 47.9**	**+1.1**
JTS				ePg	**P**	**17 16 54.6**	**+7.9**
JTS				eSn	**S**	**17 17 37.1**	**-2.9**
JTS				eSg	**S**	**17 17 58.2**	**+18**
JCR	**Jicaral**	**4.79**	**130**	eP	**P**	**17 16 49.6**	**+0.8**
PRS1	**Puriscal**	**5.34**	**123**	eP	**P**	**17 16 56.0**	**-0.3**
PRS1				eS	**S**	**17 17 56.0**	**-1.3**
LAJ	**Bijagual**	**5.56**	**123**	eP	**P**	**17 16 58.2**	**-1.2**
LCR2	**La Lucha 2**	**5.72**	**124**	eP	**P**	**17 17 04.1**	**+2.4**
URSC	**Urasca**	**5.86**	**122**	eP	**P**	**17 17 04.2**	**+0.7**
URSC				eS	**S**	**17 18 12.0**	**+1.8**
TEIG	**Tepich**	**7.22**	**4**	eP	**P**	**17 17 23.1**	**+0.4**
SDV	**Santo Domingo**	**18.32**	**101**	P	**P**	**17 19 46.8**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=353,slow=8.5,SNR=3.3						
TXAR	**Lajitas Array**	**21.32**	**322**	P	**P**	**17 20 21.7**	**+0.9**
	comp=Z,1.1nm,0.6s,mb3.4,baz=146,slow=12,SNR=17						
TXAR	**Lajitas Array**	**21.32**	**322**	P	**P**	**17 20 21.7**	**+0.9**
CCM	**Cathedral Cave**	**25.06**	**355**	eP	**P**	**17 20 56.9**	**-0.4**
	comp=Z,3.4nm,0.7s,mb3.9						
NVAR	**Mina Array Bea**	**36.42**	**319**	P	**P**	**17 22 39.0**	**+1.4**
	comp=Z,0.5nm,0.7s,mb3.5,baz=126,slow=7.8,SNR=4.3						
YKA	**Yellowknife Ar**	**52.75**	**345**	P	**P**	**17 24 45.8**	**-1.8**
	comp=Z,1.0nm,0.5s,mb4.1,baz=148,slow=7.1,SNR=22						
YKA				pP	pP	17 25 01.5	-3.2
	comp=Z,2.0nm,1.1s,baz=141,slow=7.8,SNR=4.8						

IDC 16 17:16:25.9±3.1, 33.98S×178.64W, mb3.9/3, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=64.6km s-min=36.1km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.48**	**218**	Pn	Pn	17 17 50.2	-0.6
	3.7nm,0.3s,baz=254,slow=1.6,SNR=17						
URZ				Sn	Sn	17 18 52.9	-2.7
	2.2nm,0.3s,baz=138,slow=21,SNR=7.6						
CTA	**Charters Tower**	**34.01**	**285**	P	P	17 23 12.8	-0.9
	1.2nm,0.7s,baz=101,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**42.50**	**271**	P	P	17 24 22.7	-2.0
	1.3nm,0.7s,baz=113,slow=7.3,SNR=21						
WRA	**Warramunga Arr**	**43.81**	**276**	P	P	17 24 32.8	-2.6
	0.9nm,0.4s,baz=120,slow=7.4,SNR=15						
FINES	**FINESS Array B**	**148.27**	**338**	PKPbc	PKPdf	17 36 12.6	+1.1
	5.6nm,1.1s,baz=63,slow=6.2,SNR=5.1						

*NIED **16** 17:19:00, 33.20N×137.20E, h5km, Mw3.6 Best double couple: Mo3.11×10^14 NP1:φs52°, δ80°, λ87°. NP2:φs246°, δ10°, λ104°.*
*JMA **16** 17:19:23.2±0.1, 33.23N×137.20E, h54km±2km, M3.6*
ISC 16 17:19:23.1±1.4, 33.22N±0.08×137.21E±0.05, h49km±18km, n12, σ0°50/24, 5D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.63**	**30**	P	**P**	**17 19 36.4**	**+0.5**
TK01				S	**S**	**17 19 45.4**	**+0.1**
TK02	**Tokai 2**	**0.86**	**32**	↓P	**P**	**17 19 38.8**	**-0.2**
TK02				S	**S**	**17 19 50.6**	**-0.2**
TK03	**Tokai 3**	**1.14**	**34**	P	**P**	**17 19 42.8**	**0.0**
TK03				S	**S**	**17 19 57.4**	**-0.1**
JIE	**Ise**	**1.24**	**340**	↓P	**P**	**17 19 44.9**	**+0.5**
JIE				S	**S**	**17 20 00.9**	**+0.6**
JWZ	**Kozaga**	**1.29**	**284**	↓P	**P**	**17 19 44.9**	**-0.2**
JWZ				S	**S**	**17 20 00.3**	**-1.1**
TK04	**Tokai 4**	**1.29**	**25**	P	**P**	**17 19 45.1**	**0.0**
TK04				S	**S**	**17 20 00.9**	**-0.6**
TSUJ	**Tsu 2**	**1.62**	**336**	↓P	**P**	**17 19 50.2**	**+0.4**
TSUJ				S	**S**	**17 20 09.8**	**+0.1**
JWM	**Minabe**	**1.67**	**293**	P	**P**	**17 19 50.6**	**+0.1**
JWM				S	**S**	**17 20 10.0**	**-0.8**
JWY	**Kouya**	**1.68**	**307**	P	**P**	**17 19 51.3**	**+0.8**
JWY				S	**S**	**17 20 10.9**	**0.0**
JHE	**Heguri**	**1.91**	**319**	↓P	**P**	**17 19 54.3**	**+0.5**
JHE				S	**S**	**17 20 17.1**	**+0.4**
SHZ3	**Shizuoka 3**	**2.02**	**24**	P	**P**	**17 19 55.1**	**-0.3**
SHZ3				S	**S**	**17 20 18.3**	**-1.1**
MAT	**Matsushiro**	**3.42**	**14**	P	**P**	**17 20 15.7**	**+0.5**
MAT				S	**S**	**17 20 55.0**	**+0.2**

IDC 16 17:23:33.1±1.8, 5.98N×91.78E, mb3.4/2, mb1 3.8/3, mb1mx3.4/18, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=68.8km s-min=35.3km az=49.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.24**	**29**	Pn	P	17 26 57.0	-1.3
	0.1nm,0.3s,baz=214,slow=12,SNR=8.7						
ASAR	**Alice Springs**	**50.57**	**127**	P	P	17 32 34.0	-1.9
	0.2nm,0.5s,baz=308,slow=6.8,SNR=7.4						
GERES	**GERESS Array B**	**77.68**	**319**	P	P	17 35 31.6	-1.7
	0.5nm,0.8s,baz=68,slow=7.2,SNR=4.1						

IDC 16 17:28:35.2±2.1, 7.57N×92.49E, mb3.3/3, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=76.4km s-min=27.0km az=61.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.51**	**30**	Pn	P	17 31 35.5	-2.0
	0.0nm,0.3s,baz=215,slow=12,SNR=4.4						
BVAR	**Borovoye Array**	**48.76**	**342**	P	P	17 37 21.2	-2.5
	0.4nm,0.7s,baz=124,slow=5.2,SNR=3.4						
WRA	**Warramunga Arr**	**49.43**	**124**	P	P	17 37 27.3	-2.0
	0.5nm,0.6s,baz=302,slow=9.0,SNR=4.9						
ASAR	**Alice Springs**	**50.99**	**129**	P	P	17 37 39.5	-1.7
	0.3nm,1.0s,baz=295,slow=7.7,SNR=2.7						

*NEIC **16** 17:32:58.1, 15.92N×98.12W, h3km, MD3.9(MEX), After MEX.*
MEX 16 17:32:58.1±0.7, 15.92N×98.12W, h3km±7km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.47**	**360**	iP	Pg	17 33 06.7	-0.8
PNIG				iS	Sg	17 33 13.7	-0.1
VHO	**Vista Hermosa**	**1.76**	**49**	iP	Pn	17 33 24.4	-5.4
VHO				iS	Sn	17 33 48.4	-4.5
OXX	**Oaxaca**	**1.77**	**49**	eP	Pn	17 33 26.0	-3.9
OXX				iS	Sn	17 33 54.0	+0.7
ACX	**Acapulco**	**1.96**	**299**	eP	Pn	17 33 30.0	-2.7
CAIG	**El Cayaco**	**2.34**	**299**	iP	Pn	17 33 35.9	-2.2
CAIG				iS	Sn	17 34 02.2	-5.6
PLIG	**Platanillo**	**2.79**	**332**	eP	Pn	17 33 39.1	-5.4
PLIG				iS	Sn	17 34 14.1	-5.1
YAIG	**Yautepec**	**3.06**	**343**	iP	Pn	17 33 49.5	+1.1
YAIG				iS	Sn	17 34 20.4	-5.7
PPM	**Popocatepetl**	**3.17**	**351**	eP	Pn	17 33 44.0	-5.9
PPM				iS	Sn	17 34 22.9	-5.8
POHV	**Veracruz**	**3.23**	**14**	eP	Pn	17 33 59.0	+8.2
CMIG	**Matias Romero**	**3.32**	**69**	eP	Pn	17 33 48.5	-3.5
CMIG				iS	Sn	17 34 27.8	-4.8

*IDC **16** 17:47:05.2±27.0, 23.31S×178.99W, h443km±244km, mb3.3/5, mb1 3.4/5, mb1mx3.2/14, mbtmp4.1/5, Error ellipse: s-maj=180.8km s-min=58.9km az=91.0*
ISC 16 17:46:56.0±3.4, 23.2S±0.3×178.3W±0.5, h400km, n11, σ0°68/10, mb3.7/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**15.10**	**190**	eP	**P**	**17 50 06.0**	**-5.7**
URZ	**Urewera**	**15.50**	**194**	eP	**P**	**17 50 15.9**	**+0.2**
PMG	**Port Moresby**	**35.76**	**287**	P	**P**	**17 53 20.3**	**-0.2**
	4.5nm,0.6s,mb4.0,baz=98,slow=9.5,SNR=5.7						
STKA	**Stephens Creek**	**36.41**	**247**	P	**P**	**17 53 24.2**	**-1.6**
	1.2nm,0.6s,mb3.4,baz=78,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**43.68**	**260**	P	**P**	**17 54 25.2**	**+0.3**
	1.0nm,0.5s,mb3.4,baz=97,slow=7.1,SNR=31						
ASPA	**Alice Springs**	**43.68**	**260**	eP	**P**	**17 54 25.9**	**+1.0**
WB2	**Warramunga Arr**	**43.99**	**265**	eP	**P**	**17 54 27.3**	**-0.1**
WRA	**Warramunga Arr**	**44.01**	**265**	P	**P**	**17 54 27.5**	**0.0**
	3.6nm,0.5s,mb3.9,baz=103,slow=8.4,SNR=30						
FITZ	**Fitzroy Crossi**	**52.43**	**265**	eP	**P**	**17 55 32.3**	**+0.7**
	4.6nm,0.7s,mb3.8						
CMAR	**Chiang Mai Arr**	**90.75**	**290**	P	**P**	**17 59 15.9**	**-0.3**
	0.6nm,0.8s,mb3.5,baz=135,slow=2.6,SNR=4.6						
BVAR	**Borovoye Array**	**120.95**	**319**	PKP	PKPdf	18 05 06.0	+4.7
	0.2nm,0.4s,baz=109,slow=3.3,SNR=4.5						

*BJI **16** 18:04:47.0, 52.48N×157.82E, h160km, mB5.1, mb4.9*
*MOS **16** 18:04:47.6±0.9, 52.46N×157.50E, h140km, mb4.8/88, Error ellipse: s-maj=8.3km s-min=4.4km az=93.5*
*KRSC **16** 18:04:48.2±0.7, 52.30N×157.84E, h140km±2km, ML4.8*
*HRVD **16** 18:04:48.6±0.6, 52.59N×157.94E, h155km±7km, MW4.9/46, Centroid moment Tensor Solution. LP body waves: s7, c8; Mantle waves: s46, c67; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.59±.17; Mθθ -1.20±.24; Mφφ 0.61±.22; Mrθ -0.80±.14; Mφθ -1.84±.18; Mφr -1.77±.12; Best double couple: Mo 2.832×10^16 NP1: φs102°, δ44°, λ170°. NP2: φs199°, δ83°, λ46°. Principal axes: T 2.564, Plg36°, Azm72°; N .535, Plg44°, Azm206°; P -3.1, Plg25°, Azm322°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **16** 18:04:48.6±0.1, 52.52N×157.41E, mb4.9/129 Error ellipse: s-maj=4.4km s-min=2.7km az=175.0*
*IDC **16** 18:04:49.4±0.5, 52.49N×157.39E, h142km±3km, mb4.4/28, mb1 4.5/30, mb1mx4.5/31, mbtmp4.8/30, MS5.3/1, Ms1 5.3/1, ms1mx3.4/20, Error ellipse: s-maj=11.1km s-min=8.3km az=151.0*
ISC 16 18:04:48.1±0.2, 52.40N±0.02×157.53E±0.04, h146km±1km, h139km±1.8km; pP-P, n444, σ0°91/470, mb4.7/158, 19C-88D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRL	**Gorelyy**	**0.37**	**65**	iP	**P**	**18 05 08.6**	**-0.2**
GRL				eS	**S**	**18 05 23.8**	**-0.9**
MIPR	**Malaya Ipel'ka**	**0.49**	**256**	iP	**P**	**18 05 09.8**	**+0.4**
KRMR	**Karymshinskiy**	**0.57**	**40**	iP	**P**	**18 05 09.4**	**-0.4**
KRMR				iS	**S**	**18 05 25.1**	**-1.3**
APC	**Apacha**	**0.58**	**337**	iP	**P**	**18 05 10.6**	**+0.8**
APC				eS	**S**	**18 05 27.3**	**+0.8**
APC				Smax			
	22μm,0.9s						
RUS	**Russkaya**	**0.60**	**86**	P	**P**	**18 05 08.3**	**-1.7**
RUS	**Russkaya**	**0.60**	**86**	iP	**P**	**18 05 08.4**	**-1.6**
PET	**Petropavlovsk**	**0.93**	**47**	P	**P**	**18 05 11.4**	**-0.7**
PET				S	**S**	**18 05 28.5**	**-2.0**
PET	**Petropavlovsk**	**0.93**	**47**	↓iPN	**P**	**18 05 11.5**	**-0.6**
PET				iS	**S**	**18 05 28.7**	**-1.8**
PET				pmax	pmax		
	comp=N,2μm,0.7s						
PET				pmax	pmax		
	comp=Z,6μm,0.7s						
PET				pmax	pmax		
	comp=Z,7μm,0.6s						
PET				pmax	pmax		
	comp=N,4μm,0.5s						
PET				pmax	pmax		
	comp=E,3μm,0.5s						
PET				smax			
	comp=E,6μm,0.5s						
PET				smax			
	comp=E,15μm,2.5s						
PET				smax			
	comp=N,18μm,2.3s						
PET				smax			
	comp=N,14μm,0.7s						
PET	**Petropavlovsk**	**0.93**	**47**	↓iPn	**P**	**18 05 11.5**	**-0.6**
PET				eSn	**S**	**18 05 28.6**	**-1.9**
PET	**Petropavlovsk**	**0.93**	**47**	iP	**P**	**18 05 11.5**	**-0.6**
PET				iS	**S**	**18 05 28.7**	**-1.8**
PAU	**Pauzhetka**	**1.03**	**206**	iP	**P**	**18 05 13.4**	**+0.5**
PAU				eS	**S**	**18 05 31.4**	**-0.6**
PAU				Smax			
	comp=N,9μm,1.0s						
KOK	**Koryaka**	**1.12**	**36**	iP	**P**	**18 05 14.4**	**+0.6**
KOK				iS	**S**	**18 05 33.9**	**+0.4**
UGLR	**Uglovaya**	**1.13**	**43**	iP	**P**	**18 05 14.3**	**+0.4**
UGLR				iS	**S**	**18 05 33.2**	**-0.5**
AVH	**Avacha**	**1.14**	**40**	iP	**P**	**18 05 14.3**	**+0.4**
SMAR	**Somma**	**1.16**	**41**	iP	**P**	**18 05 14.5**	**+0.3**
SMAR				iS	**S**	**18 05 34.1**	**-0.1**
SDLR	**Sedlovina**	**1.21**	**42**	iP	**P**	**18 05 14.6**	**0.0**
SDLR				iS	**S**	**18 05 34.1**	**-0.9**
GNL	**Ganaly**	**1.32**	**11**	iP	**P**	**18 05 16.5**	**+0.7**
GNL				iS	**S**	**18 05 36.7**	**-0.5**
NLC	**Nalytchevo**	**1.35**	**54**	iP	**P**	**18 05 14.5**	**-1.6**
NLC				eS	**S**	**18 05 33.4**	**-4.2**
SPN	**Mys Shipunski**	**1.67**	**64**	P	**P**	**18 05 17.9**	**-1.6**
SPN				S	**S**	**18 05 39.6**	**-4.1**
SPN	**Mys Shipunski**	**1.67**	**64**	iP	**P**	**18 05 17.9**	**-1.6**
SPN				iS	**S**	**18 05 39.1**	**-4.6**
SKR	**Severo-Kuril's**	**1.93**	**208**	↑iPN	**P**	**18 05 24.5**	**+2.1**
SKR				iS	**S**	**18 05 50.0**	**+1.2**
SKR				pmax	pmax		
	comp=N,310nm,0.5s						
SKR				pmax	pmax		
	comp=E,390nm,0.5s						
SKR				pmax	pmax		
	comp=Z,1μm,0.5s						
SKR				smax			
	comp=N,9μm,0.5s						
SKR				smax			
	comp=E,6μm,0.5s						
SKR				smax			
	comp=N,18μm,2.0s						
SKR				smax			
	comp=E,15μm,2.0s						
SKR	**Severo-Kuril's**	**1.93**	**208**	iP	**P**	**18 05 24.5**	**+2.1**
SKR				iS	**S**	**18 05 50.0**	**+1.2**
ALID	**Alaid**	**1.96**	**220**	iP	**P**	**18 05 24.1**	**+1.2**
TUMR	**Tumrok**	**3.28**	**27**	iP	**P**	**18 05 40.9**	**+1.2**
TUMR				eS	**S**	**18 06 19.0**	**-0.2**
ESO	**Esso**	**3.60**	**11**	iP	**P**	**18 05 46.0**	**+2.1**
ESO				eS	**S**	**18 06 28.0**	**+1.3**
KMNR	**Kamenistaya**	**3.73**	**24**	iP	**P**	**18 05 46.6**	**+1.1**
KMNR				eS	**S**	**18 06 29.1**	**-0.4**
KPT	**Kopyto**	**3.91**	**23**	eP	**P**	**18 05 48.8**	**+0.9**
KPT				eS	**S**	**18 06 33.8**	**-0.1**
KOZ	**Kozyrevsk**	**3.92**	**20**	P	**P**	**18 05 49.3**	**+1.3**
KOZ				S	**S**	**18 06 34.2**	**+0.1**
KOZ	**Kozyrevsk**	**3.92**	**20**	eP

KAMR Kamenskoye 11.11 21 *eP* **P 18 07 25.0 +1.6**
ASAJ Asahikawa 12.93 236 PN **P 18 07 48.9 +1.7**
ASAJ pmax pmax
comp=Z,7.0nm,0.3s
ASAJ Asahikawa 12.93 236 P **P 18 07 48.9 +1.7**
comp=Z,6.6nm,0.3s,baz=65,slow=11,SNR=31
KLR Kul'dur 16.57 269 *eP* **P 18 08 32.2 -0.7**
KLR pmax pmax
comp=N,34nm,1.2s
KLR pmax pmax
comp=Z,43nm,1.2s
YAK Yakutsk 17.76 314 *eP* **P 18 08 45.7 -1.4**
YAK pmax pmax
comp=N,9.0nm,0.8s
YAK pmax pmax
comp=Z,104nm,0.8s
YAK pmax pmax
comp=E,33nm,1.0s
YAK Yakutsk 17.76 314⇓ *eP* **P 18 08 45.8 -1.3**
comp=E,186nm,0.6s
CLNS Chul'man 19.30 296 *eP* **P 18 09 04.2 +0.6**
CLNS pmax pmax
comp=N,42nm,0.9s
CLNS pmax pmax
comp=E,62nm,0.9s
CLNS pmax pmax
comp=Z,80nm,0.9s
MDJ Mudanjiang 19.99 258 P **P 18 09 10.3 -0.5**
MDJ AP 18 09 33.3
MDJ S **S 18 12 48.0 +5.7**
MDJ PCP PcP 18 13 20.3 -1.1
MDJ XS 18 13 28.1
MDJ SCP 18 16 43.8
MDJ PCS 18 16 57.8
MDJ AMB AMB
comp=Z,18nm,0.8s
MDJ AMB AMB
comp=Z,224nm,6.4s
MDJ LR LR
comp=N,100nm,26.0s
MDJ LR LR
comp=E,69nm,29.8s
MDJ LR LR
comp=Z,131nm,18.2s
MDJ Mudanjiang 19.99 258 *eP* **P 18 09 10.6 -0.2**
comp=Z,28nm,0.8s
MAJO Matsushiro 20.91 228 *eP* **P 18 09 20.5 +0.4**
MAJO pmax pmax
comp=Z,136nm,0.8s
MAJO Matsushiro 20.91 228 *eP* **P 18 09 20.5 +0.4**
comp=Z,136nm,0.8s
MAT Matsushiro 20.91 228 *eP* **P 18 09 20.0 -0.1**
MAT pmax pmax
comp=Z,132nm,0.9s
MAT Matsushiro 20.91 228 *eP* **P 18 09 20.0 -0.1**
comp=Z,132nm,0.9s
MAT Matsushiro 20.91 228 P **P 18 09 20.3 +0.2**
ANM Nome 22.51 43 *eP* **P 18 09 36.4 +1.0**
TIXI Tiksi 23.09 337⇑ *iP* **P 18 09 41.8 +0.8**
TIXI pmax pmax
comp=Z,21nm,0.5s,mb4.8
HIA Hailar 23.89 278 *eP* **P 18 09 48.4 -0.5**
HIA pmax pmax
comp=Z,87nm,0.8s
HIA Hailar 23.89 278 *eP* **P 18 09 48.4 -0.5**
comp=Z,87nm,0.8s,mb5.3
BOD Bodaibo 25.13 300 *eP* **P 18 09 59.1 -1.5**
SVW2 Sparrevohn 26.60 52 *eP* **P 18 10 13.4 -0.6**
IMA Indian Mountai 27.60 41 *eP* **P 18 10 22.2 -1.0**
RSO Redoubt South 28.02 54 *eP* **P 18 10 26.5 -0.6**
PMR Palmer 29.66 51 *eP* **P 18 10 40.3 -1.3**
COLA College 29.99 44 *eP* **P 18 10 43.7 -0.8**
ILAR Eielson Array 30.41 44 P **P 18 10 46.7 -1.5**
ILAR S **S 18 15 41.6 +4.8**
ILAR pmax pmax
comp=Z,36nm,0.7s
ILAR pmax pmax
comp=N,2.0nm,0.8s
ILAR Eielson Array 30.41 44 P **P 18 10 46.6 -1.6**
comp=N,36nm,0.7s,mb5.2,baz=277,slow=6.2,SNR=312
ILAR S **S 18 15 41.6 +4.8**
comp=N,0.3nm,0.5s,baz=268,slow=17,SNR=4.7
ILAR ScP 18 17 10.8
comp=N,1.7nm,0.8s,baz=278,slow=3.0,SNR=13
MENT Mentasta 31.99 48 *eP* **P 18 11 01.3 -0.7**
ULN Ulaanbaatar 32.13 282 *eP* **P 18 11 03.3 -0.1**
ULN pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
ULN Ulaanbaatar 32.13 282 *eP* **P 18 11 03.3 -0.1**
comp=Z,4.0nm,0.8s,mb4.2
SONM Songino Array 32.54 283 P **P 18 11 06.2 -0.8**
comp=Z,1.1nm,0.3s,mb4.0,baz=63,slow=8.2,SNR=21
SONM pP pP 18 11 38.6 +0.2
comp=Z,1.7nm,0.9s,baz=45,slow=7.0,SNR=3.0
SONM PcP PcP 18 13 49.7 -0.5
comp=Z,7.1nm,0.7s,baz=83,slow=1.5,SNR=21
SONM ScP 18 17 19.6
comp=Z,2.5nm,0.7s,baz=83,slow=2.2,SNR=12
TIA Tai'an 32.63 256 *eP* **P 18 11 06.3 -1.6**
TIA AMB AMB
comp=Z,38nm,1.0s,mb5.1
ZAK Zakamensk 33.25 289⇑ *iP* **P 18 11 13.0 0.0**
DAWY Dawson 33.72 45 *eP* **P 18 11 15.8 -1.1**
SSE Sheshan 33.95 246 *eP* **P 18 11 17.0 -2.2**
SSE AP pP 18 11 49.0 -1.8
SSE S **S 18 16 32.4 +0.2**
SSE XS 18 17 29.5
SSE AMB AMB
comp=Z,39nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,45nm,3.5s
SSE LR LR
comp=N,37nm,24.5s
SSE LR LR
comp=E,51nm,24.6s
SSE LR LR
comp=Z,42nm,27.5s
MOY Mondy 34.03 292 *eP* **P 18 11 19.8 +0.1**
MOY *e* pP 18 11 51.1 -0.2
NJ2 Nanjing 34.55 249 *eP* **P 18 11 24.3 0.0**
NJ2 PP PP 18 12 40.8 -4.8
NJ2 AMB AMB
comp=Z,70nm,0.7s,mb5.4
NJ2 AMB AMB
comp=Z,450nm,5.0s
NJ2 LR LR
comp=N,350nm,24.0s
NJ2 LR LR
comp=E,660nm,22.0s
NJ2 LR LR
comp=Z,420nm,23.9s
INK Inuvik 35.37 37 P **P 18 11 30.4 -0.4**
INK pmax pmax
comp=Z,7.0nm,0.4s
INK pmax pmax
comp=Z,2.0nm,0.8s
INK Inuvik 35.37 37 P **P 18 11 30.4 -0.5**
comp=Z,6.8nm,0.4s,mb4.6,baz=294,slow=6.3,SNR=46
INK ScP 18 17 28.9
comp=Z,1.5nm,0.8s,baz=281,slow=7.2,SNR=3.8
INK Inuvik 35.37 37 *eP* **P 18 11 30.4 -0.5**
comp=Z,13nm,0.7s,mb4.7
WHN Wuhan 38.27 252⇑ P **P 18 11 56.0 +0.4**
LZH Lanzhou 40.77 268⇓ P **P 18 12 16.4 +0.3**
LZH AP pP 18 12 46.5 -2.0
LZH PP PP 18 13 55.6 +0.7
LZH *e*S **S 18 18 16.4 +1.0**
LZH AMB AMB
comp=Z,53nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,158nm,5.2s
LZH LR LR
comp=N,452nm,13.2s
LZH LR LR
comp=Z,782nm,16.8s
ENH Enshi 41.34 257 *eP* **P 18 12 19.6 -1.2**
comp=Z,33nm,0.8s,mb5.0
ZAL Zalesovo 41.85 302 P **P 18 12 23.2 -1.4**
ZAL *PP pP 18 12 57.0 -0.1
ZAL 18 14 18.0
ZAL pmax pmax
comp=Z,2.0nm,0.3s
ZAL pmax pmax
comp=Z,2.0nm,0.6s
ZAL pmax pmax
comp=Z,9.0nm,0.4s

ZAL Zalesovo 41.85 302 P **P 18 12 23.2 -1.4**
comp=Z,1.7nm,0.3s,mb4.1,baz=35,slow=7.3,SNR=6.8
ZAL pP pP 18 12 57.0 -0.2
comp=Z,1.9nm,0.6s,baz=60,slow=8.0,SNR=5.7
ZAL PcP PcP 18 14 17.9 -0.4
comp=Z,8.7nm,0.4s,baz=13,slow=1.7,SNR=23
NVS Novosibirsk 42.22 304 *eP* **P 18 12 25.4 -2.2**
NVS *e* pP 18 12 58.5 -1.7
NVS *e* 18 14 07.6
NVS pmax pmax
comp=Z,23nm,1.0s,mb4.8
NVS pmax pmax
comp=N,9.0nm,1.4s
NVS pmax pmax
comp=E,21nm,1.4s
RES Resolute Bay 44.55 21 *eP* **P 18 12 46.3 +0.2**
RES pmax pmax
comp=Z,4.0nm,0.4s,mb4.4
RES Resolute Bay 44.55 21 *eP* **P 18 12 46.2 +0.1**
comp=Z,3.9nm,0.4s,mb4.4
YKW3 Yellowknife Ar 44.69 41 *eP* **P 18 12 47.4 0.0**
YKA Yellowknife Ar 44.72 41 P **P 18 12 47.8 +0.1**
YKA *PP pP 18 13 19.4 -1.0
YKA pmax pmax
comp=Z,9.0nm,0.6s
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 44.72 41 P **P 18 12 47.8 +0.1**
comp=Z,8.9nm,0.6s,mb4.6,baz=296,slow=8.0,SNR=107
YKA pP pP 18 13 19.4 -1.0
comp=Z,3.2nm,0.9s,baz=299,slow=7.9,SNR=2.9
YKA ScP 18 18 05.8
comp=Z,0.9nm,0.7s,baz=300,slow=3.9,SNR=10
YKA Yellowknife Ar 44.72 41 P **P 18 12 47.8 +0.1**
YKA pP pP 18 13 19.4 -1.0
YKA ScP 18 18 05.8
WMQ Urumqi 45.72 288 P **P 18 12 55.8 0.0**
WMQ PP PP 18 14 44.8 -0.3
WMQ S **S 18 19 27.8 +0.8**
WMQ AMB AMB
comp=Z,9.0nm,1.6s,mb4.2
WMQ AMB AMB
comp=Z,50nm,5.5s
WMQ LR LR
comp=N,721nm,20.5s
WMQ LR LR
comp=E,714nm,21.6s
WMQ LR LR
comp=Z,1μm,21.6s
CHKZ Chkalovo 49.10 308⇓ *iP* **P 18 13 19.5 -2.5**
CHKZ *e*PP pP 18 13 53.7 -1.6
CHKZ *e* 18 14 41.7
CHKZ pmax pmax
comp=Z,15nm,0.4s,mb5.0
CHKZ Chkalovo 49.10 308⇓ *iP* **P 18 13 19.5 -2.5**
comp=Z,15nm,0.4s,mb5.0
CHKZ *e*pP pP 18 13 53.7 -1.6
CHKZ *e*PcP PcP 18 14 41.7 -1.9
RPW Rockport 49.17 60 P **P 18 13 22.3 -0.3**
BVAR Borovoye Array 49.59 308 P **P 18 13 23.8 -2.0**
comp=Z,13nm,0.4s,mb4.9,baz=60,slow=7.0,SNR=178
BVAR pP pP 18 13 58.4 -0.7
comp=Z,7.5nm,0.8s,baz=53,slow=7.4,SNR=3.5
BVAR PcP PcP 18 14 44.2 -1.2
comp=Z,14nm,0.3s,baz=78,slow=2.5,SNR=31
BVAR ScP 18 18 26.0
comp=Z,1.3nm,0.7s,baz=63,slow=3.3,SNR=4.2
BRVK Borovoye 49.62 308⇓ *eP* **P 18 13 23.8 -2.2**
BRVK *e*PP pP 18 13 57.6 -1.7
BRVK *i* 18 14 44.2
BRVK pmax pmax
comp=Z,10.0nm,0.4s,mb4.8
BRVK Borovoye 49.62 308⇓ *eP* **P 18 13 23.8 -2.2**
comp=Z,10nm,0.4s,mb4.8
BRVK *e*pP pP 18 13 57.6 -1.7
BRVK ⇓*i*PcP PcP 18 14 44.2 -1.3
EDM Edmonton 50.42 51 *eP* **P 18 13 31.8 -0.3**
TBM Table Mountain 50.44 61 P **P 18 13 32.1 -0.2**
EBG Ellensburg 50.62 61 P **P 18 13 33.7 +0.1**
EPH Ephrata 50.87 60 P **P 18 13 34.9 -0.6**
OD2 Odessa Site #2 51.31 60 P **P 18 13 38.2 -0.7**
HUMO Hull Mountain 52.02 67 *eP* **P 18 13 44.2 0.0**
comp=Z,10nm,1.0s,mb4.4
YBH Yreka Blue Hor 52.73 68⇑ *eP* **P 18 13 50.1 +0.6**
YBH *e*PP pP 18 14 21.3 -2.0
YBH pmax pmax
comp=Z,19nm,1.1s
YBH Yreka Blue Hor 52.73 68 P **P 18 13 50.4 +0.9**
comp=Z,10nm,0.6s,mb4.7,baz=348,slow=3.9,SNR=34
YBH pP pP 18 14 21.6 -1.6
comp=Z,8.8nm,0.8s,baz=347,slow=3.0,SNR=5.7
YBH Yreka Blue Hor 52.73 68⇑ *eP* **P 18 13 50.1 +0.5**
comp=Z,19nm,1.1s,mb4.7
YBH *e*pP pP 18 14 21.3 -2.0
WALA Waterton Lakes 52.75 56⇑ *eP* **P 18 13 49.1 -0.5**
comp=Z,26nm,0.7s,mb5.1
ARU Arti 52.84 316⇓ *iP* **P 18 13 44.2 -6.0**
ARU *i* pP 18 14 19.0 -4.9
ARU *i* 18 14 52.5
ARU *e*S **S 18 20 59.5 -6.2**
ARU *e*SS SS 18 24 44.2 -1.7
ARU pmax pmax
comp=Z,14nm,1.4s,mb4.5
LSA Lhasa 52.90 272 P **P 18 13 51.3 +0.3**
LSA Lhasa 52.90 272 *eP* **P 18 13 51.1 +0.1**
LSA *e*PP pP 18 14 25.6 +0.9
LSA *e* 18 14 58.7
LSA pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
LSA Lhasa 52.90 272 *eP* **P 18 13 51.1 +0.1**
comp=Z,8.4nm,0.6s,mb4.7
LSA *e*pP pP 18 14 25.6 +0.9
LSA *e*PcP PcP 18 14 58.7 +0.7
TKM2 Tokmak 2 53.18 295 P pP 18 14 26.7 +0.1
SNR=7.6
ARCES ARCESS Array B 53.45 341 P **P 18 13 52.3 -2.2**
ARCES 18 14 57.9
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES pmax pmax
comp=Z,4.0nm,0.6s
ARCES ARCESS Array B 53.45 341 P **P 18 13 52.3 -2.2**
comp=Z,1.5nm,0.5s,mb4.0,baz=34,slow=7.7,SNR=15
ARCES PcP PcP 18 14 57.9 -1.6
comp=Z,4.0nm,0.6s,slow=1.2,SNR=7.9
ARCES ARCESS Array B 53.45 341 P **P 18 13 52.3 -2.2**
ARCES PcP PcP 18 14 57.9 -1.6
USP Ospenovka 53.56 296 P **P 18 13 54.4 -1.2**
SNR=13
USP Ospenovka 53.56 296 P pP 18 14 29.4 -0.1
SNR=8.4
WDC Whiskeytown Da 53.58 69 *eP* **P 18 13 55.9 +0.1**
WDC *e*PP pP 18 14 26.8 -2.8
WDC pmax pmax
comp=Z,23nm,1.1s,mb4.8
WDC Whiskeytown Da 53.58 69 *eP* **P 18 13 55.9 +0.1**
comp=Z,23nm,1.1s,mb4.8
WDC *e*pP pP 18 14 26.8 -2.8
CHMS Chumysh 53.59 295 P **P 18 13 54.5 -1.4**
SNR=5.9
CHMS Chumysh 53.59 295 P pP 18 14 29.5 -0.2
SNR=9.9
BMO Blue Mountains 53.69 62 *eP* **P 18 13 56.2 -0.4**
comp=Z,16nm,1.0s,mb4.7
KBK Karagaybulak 53.71 295 P **P 18 13 55.0 -1.7**
SNR=6.1
KBK Karagaybulak 53.71 295 P pP 18 14 30.9 +0.3
SNR=7.9
LTIM Timbered Crate 53.79 68 P **P 18 13 58.0 +0.7**
MOD Modoc 53.97 66⇑ *iP* **P 18 13 59.0 +0.4**
comp=Z,46nm,0.7s,mb5.3
MOD *e*pP pP 18 14 30.0 -2.5
AAK Ala-Archa 53.98 295 P **P 18 13 57.2 -1.5**
SNR=11
AAK Ala-Archa 53.98 295 P pP 18 14 32.7 +0.2
SNR=12
AAK Ala-Archa 53.98 295 *eP* **P 18 13 56.2 -2.5**
AAK *e*PP pP 18 14 31.0 -1.5
AAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
AAK Ala-Archa 53.98 295 *eP* **P 18 13 56.2 -2.5**
comp=Z,6.9nm,0.8s,mb4.4
AAK *e*pP pP 18 14 31.0 -1.5

LBCM Butte Creek Ri 54.09 68 P **P 18 13 59.9 +0.4**
EKS2 Erkin-Say 54.36 296 P **P 18 13 59.5 -1.9**
SNR=10
EKS2 Erkin-Say 54.36 296 P pP 18 14 35.0 -0.4
SNR=9.3
CHMT Chamberlain Mo 54.48 57 *eP* **P 18 14 01.6 -0.6**
WVOR Wild Horse Val 54.55 65 *eP* **P 18 14 03.0 +0.1**
WVOR *e*PP pP 18 14 34.0 -2.8
WVOR pmax pmax
comp=Z,29nm,0.9s,mb5.0
WVOR Wild Horse Val 54.55 65 *eP* **P 18 14 03.0 +0.1**
comp=Z,29nm,0.9s,mb5.0
WVOR *e*pP pP 18 14 34.0 -2.8
AML Almayashu 54.75 295 P pP 18 14 38.5 +0.3
SNR=5.5
SUMG Summit 54.83 6 *eP* **P 18 14 04.4 -0.1**
comp=Z,46nm,0.6s,mb5.4
FCC Fort Churchill 54.99 37 *eP* **P 18 14 04.8 -1.0**
FCC *e*PP pP 18 14 36.2 -3.6
FCC pmax pmax
comp=Z,16nm,0.7s,mb4.9
FCC Fort Churchill 54.99 37 *eP* **P 18 14 04.8 -1.0**
comp=Z,16nm,0.7s,mb4.9
FCC *e*pP pP 18 14 36.2 -3.6
HRY Holter Researc 55.34 57 *eP* **P 18 14 08.6 0.0**
SHL Shillong 55.43 268⇓ *iP* **P 18 14 08.2 -1.3**
WCN Washoe City 56.02 68 *eP* **P 18 14 13.7 +0.1**
WCN *e*PP pP 18 14 44.4 -3.3
MCMT McKenzie Canyo 56.08 59 *eP* **P 18 14 13.2 -0.6**
HLID Hailey 56.10 61 *eP* **P 18 14 13.9 -0.1**
comp=Z,5.7nm,0.8s,mb4.5
CMAR Chiang Mai Arr 56.51 256 P **P 18 14 17.1 -0.1**
CMAR 18 15 11.9
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CMAR Chiang Mai Arr 56.51 256 P **P 18 14 17.1 -0.1**
comp=Z,5.0nm,0.8s,mb4.4,baz=24,slow=6.7,SNR=26
CMAR PcP PcP 18 15 11.9 -0.1
comp=Z,2.5nm,0.6s,baz=23,slow=1.8,SNR=5.9
CMB Columbia Colle 56.53 70 *eP* **P 18 14 17.0 -0.1**
CMB *e*PP pP 18 14 48.7 -2.6
CMB pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
CMB Columbia Colle 56.53 70 *eP* **P 18 14 17.0 -0.2**
comp=Z,8.4nm,0.8s,mb4.6
CMB *e*pP pP 18 14 48.7 -2.6
BMN Battle Mountai 56.68 66 *eP* **P 18 14 18.6 +0.4**
BMN *e*PP pP 18 14 49.8 -2.6
BMN pmax pmax
comp=Z,12nm,0.6s,mb4.9
BMN Battle Mountai 56.68 66 *eP* **P 18 14 18.6 +0.4**
comp=Z,12nm,0.6s,mb4.9
BMN *e*pP pP 18 14 49.8 -2.6
QLMT Earthquake Lak 56.82 58 *eP* **P 18 14 19.6 +0.6**
GCMT Greycliff 57.07 56 *eP* **P 18 14 21.2 +0.5**
YMR Madison River 57.17 58 *eP* **P 18 14 21.9 +0.4**
YFT Old Faithful 57.38 58 *eP* **P 18 14 24.4 +1.4**
MNV Mina 57.53 68 *eP* **P 18 14 24.4 +0.3**
MNV pmax pmax
comp=Z,13nm,0.8s,mb4.8
MNV Mina 57.53 68 *eP* **P 18 14 24.4 +0.2**
comp=Z,14nm,0.8s,mb4.8
IMW Indian Meadow 57.71 59 *eP* **P 18 14 26.0 +0.7**
MOOW Moose Ponds 57.92 59 *eP* **P 18 14 27.4 +0.7**
WUWY Wally Ulrich 58.06 59 *eP* **P 18 14 28.6 +0.8**
LOHW Long Hollow 58.08 59 *eP* **P 18 14 28.4 +0.5**
SNOW Snow King Moun 58.11 59 *eP* **P 18 14 29.1 +1.0**
LAO LASA Array 58.18 54 *eP* **P 18 14 28.6 +0.1**
comp=Z,48nm,1.2s,mb5.2
TPH Tonopah 58.31 68 *eP* **P 18 14 29.5 -0.1**
TPH *e*PP pP 18 15 01.1 -2.8
TPH pmax pmax
comp=Z,34nm,1.1s,mb5.1
TPH Tonopah 58.31 68 *eP* **P 18 14 29.5 0.0**
comp=Z,34nm,1.1s,mb5.1
TPH *e*pP pP 18 15 01.1 -2.8
AHID Auburn Hatcher 58.41 60 *eP* **P 18 14 30.4 +0.2**
comp=Z,28nm,1.0s,mb5.0
SPUT South Promonto 58.70 62 *eP* **P 18 14 32.6 +0.3**
SPUT *e*pP pP 18 15 04.2 -2.5
TRCR Troy Canyon 59.04 66 *eP* **P 18 14 34.2 -0.5**
TRCR pP pP 18 15 05.9 -3.3
PDAR Pinedale Array 59.22 59 P **P 18 14 36.0 +0.2**
comp=Z,29nm,0.7s,mb5.2,baz=316,slow=2.6,SNR=211
PDAR pP pP 18 15 08.9 -1.5
comp=Z,4.8nm,0.7s,baz=353,slow=2.2,SNR=3.2
NOQ North Oquirrh 59.34 62 *eP* **P 18 14 37.0 +0.4**
TCUT Toone Canyon 59.40 61 *eP* **P 18 14 37.1 0.0**
KAF Kangasniemi 59.50 336 *ep* **P 18 14 34.1 -3.4**
comp=Z,2.7nm,0.4s,mb4.4
NLU North Lily Min 59.85 63 *eP* **P 18 14 40.4 +0.1**
DAU Daniels Canyon 59.97 62 *eP* **P 18 14 41.7 +0.7**
MPU Maple Canyon 60.05 62 *eP* **P 18 14 41.9 +0.3**
MPU *e*pP pP 18 15 14.0 -2.2
FINES FINESS Array B 60.12 335 *eP* **P 18 14 39.5 -2.2**
FINES FINESS Array B 60.12 335 P **P 18 14 39.5 -2.2**
comp=Z,2.3nm,0.3s,mb4.4,baz=46,slow=6.9,SNR=61
FINES pP pP 18 15 15.5 -0.9
comp=Z,3.4nm,0.7s,baz=31,slow=11,SNR=3.6
TMUT Trail Mountain 60.79 63 *eP* **P 18 14 47.1 +0.5**
MVU Marysvale 60.80 64 *eP* **P 18 14 47.2 +0.5**
comp=Z,11nm,1.0s,mb4.7
MSU Marysvale 60.82 64 *eP* **P 18 14 47.3 +0.5**
SRU San Rafael 61.30 62 *eP* **P 18 14 50.2 +0.2**
NEN Nelson 61.37 68 *eP* **P 18 14 50.3 -0.3**
ISCO Idaho Springs 63.42 59 *eP* **P 18 15 04.5 +0.4**
ISCO pmax pmax
comp=Z,19nm,0.8s,mb5.0
ISCO Idaho Springs 63.42 59 *eP* **P 18 15 04.5 +0.5**
comp=Z,19nm,0.8s,mb5.0
NB2 NORSAR Subarra 63.76 342 P **P 18 15 04.2 -1.6**
comp=Z,5.2nm,0.6s,mb4.5,baz=24,slow=6.5
NB2 NORSAR Subarra 63.76 342 P **P 18 15 04.2 -1.6**
NB2 pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
NOA NORSAR Array B 63.76 342 P **P 18 15 04.4 -1.4**
NOA *PP pP 18 15 39.3 -1.4
NOA pmax pmax
comp=Z,5.0nm,0.6s
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 63.76 342 P **P 18 15 04.4 -1.4**
comp=Z,5.2nm,0.6s,mb4.5,baz=23,slow=6.6,SNR=15
NOA pP pP 18 15 39.3 -1.4
comp=Z,2.2nm,0.6s,baz=19,slow=5.2,SNR=4.1
HFS Hagfors 64.12 341 P **P 18 15 06.3 -1.8**
HFS *PP pP 18 15 40.3 -2.8
HFS pmax pmax
comp=Z,6.0nm,0.4s
HFS pmax pmax
comp=Z,4.0nm,0.5s
HFS Hagfors 64.12 341 P **P 18 15 06.3 -1.9**
comp=Z,5.6nm,0.4s,mb4.8,baz=45,slow=4.5,SNR=54
HFS pP pP 18 15 40.3 -2.8
comp=Z,4.3nm,0.5s,baz=90,slow=4.4,SNR=2.7
HFS Hagfors 64.12 341 P **P 18 15 06.3 -1.9**
HFS pP pP 18 15 40.3 -2.8
SDCO Great Sand Dun 64.99 60 *eP* **P 18 15 14.3 0.0**
comp=Z,4.9nm,0.7s,mb4.5
ANMO Albuquerque 66.55 63 *eP* **P 18 15 24.5 +0.3**
ANMO *e*PP pP 18 15 56.4 -3.0
ANMO pmax pmax
comp=Z,14nm,1.0s
ANMO Albuquerque 66.55 63 *eP* **P 18 15 24.5 +0.3**
comp=Z,14nm,1.0s,mb4.8
ANMO *e*pP pP 18 15 56.4 -3.0
LENM Lemitar 66.85 64 *eP* **P 18 15 27.0 +0.8**
LPM Los Pinos Moun 66.93 64 *eP* **P 18 15 27.2 +0.6**
SCHQ Schefferville 66.98 26 P **P 18 15 26.0 -0.5**
comp=Z,2.7nm,0.4s,mb4.4,baz=18,slow=7.4,SNR=13
KSU1 Kansas State U 68.53 54 *eP* **P 18 15 34.2 -2.2**
ZEI Tsey 69.28 314 *eP* **P 18 15 41.1 +0.2**
ZEI pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
CPRX Cap Rock 69.41 63 *eP* **P 18 15 41.7 -0.2**
MNTX Cornudas Mount 69.59 64 *eP* **P 18 15 43.1 +0.1**
comp=Z,14nm,0.8s,mb4.8
MNTX *e*pP pP 18 16 15.4 -3.0
GDL2 Guadalupe Moun 69.77 63 *eP* **P 18 15 44.5 +0.4**
SOC Sochi 70.42 317 *eP* **P 18 15 45.1 -2.7**
SOC *e* 18 16 04.6
SOC *e*PPP PPP 18 20 01.7 -6.5

SOC eS S 18 24 47.2 0.0
SOC eSS SS 18 29 20.5 -2.3
SOC pmax pmax
comp=Z,11nm,1.0s,mb4.5
SOC pmax pmax
comp=N,6.0nm,0.7s
SOC pmax pmax
comp=E,8.0nm,0.9s
BSEG Bad Segeberg 70.57 340 eP **P 18 15 48.2 -0.3**
WMOK Wichita Mounta 70.80 58 eP **P 18 15 49.8 -0.5**
WMOK e*PP pP 18 16 21.3 -4.6
WMOK pmax pmax
comp=Z,17nm,1.0s,mb4.7
WMOK Wichita Mounta 70.80 58 eP **P 18 15 49.8 -0.5**
comp=Z,17nm,1.0s,mb4.7
WMOK epP pP 18 16 21.3 -4.5
GNI Garni 71.00 312 P **P 18 15 50.7 -0.7**
GNI pmax pmax
comp=Z,1.0nm,0.5s
GNI Garni 71.00 312 P **P 18 15 50.7 -0.7**
comp=Z,1.4nm,0.5s,mb4.0,baz=37,slow=10,SNR=2.4
KWP Kalwaria 71.37 331 eP **P 18 15 52.5 -0.9**
KWP pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
KWP Kalwaria 71.37 331 eP **P 18 15 52.5 -0.9**
comp=Z,10.0nm,0.7s,mb4.7
EKA Eskdalemuir Ar 71.45 349 P **P 18 15 53.2 -0.6**
EKA pmax pmax
comp=Z,27nm,0.4s
EKA Eskdalemuir Ar 71.45 349 P **P 18 15 53.1 -0.6**
comp=Z,27nm,0.4s,mb5.3,baz=17,slow=5.0,SNR=241
OJC Ojcow 71.68 333 eP **P 18 15 54.0 -1.2**
AAM Ann Arbor 71.89 43 eP **P 18 15 56.5 -0.1**
AAM pmax pmax
comp=Z,19nm,0.6s,mb5.0
AAM Ann Arbor 71.89 43 eP **P 18 15 56.5 -0.1**
comp=Z,19nm,0.6s,mb5.0
KOLS Kolonicke sedl 72.12 331 i P **P 18 15 56.8 -1.0**
KOLS e 18 16 07.3
TXAR Lajitas Array 72.35 65 P **P 18 15 60.0 +0.5**
comp=Z,26nm,0.8s,mb5.0,baz=297,slow=4.6,SNR=232
TXAR pP pP 18 16 33.0 -2.2
comp=Z,9.4nm,0.7s,baz=299,slow=4.7,SNR=6.8
FVM French Village 72.39 50 eP **P 18 15 58.7 -0.9**
FVM pmax pmax
comp=Z,11nm,0.6s,mb4.8
FVM French Village 72.39 50 eP **P 18 15 58.7 -0.8**
comp=Z,11nm,0.6s,mb4.8
CLL Collm 72.43 338 i P **P 18 15 58.4 -1.2**
CLL i 18 16 15.2
CLL pmax pmax
comp=Z,23nm,1.4s,mb4.7
CLL Collm 72.43 338 i P **P 18 15 58.4 -1.2**
comp=Z,23nm,1.4s,mb4.7
CLL i 18 16 15.2
CLL Collm 72.43 338 P **P 18 15 58.4 -1.2**
comp=Z,logA/T=1.2,mb4.7
UPC Upice 72.43 335 eP **P 18 15 59.4 -0.2**
DPC Dobruska-Polom 72.50 335 eP **P 18 15 59.5 -0.5**
CLZ Clausthal 72.52 339 eP **P 18 15 59.9 -0.1**
comp=Z,18nm,1.2s,mb4.7
BRG Berggiesshubel 72.61 337 eP **P 18 15 59.5 -1.0**
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
BRG Berggiesshubel 72.61 337 eP **P 18 15 59.5 -1.0**
comp=Z,5.9nm,1.0s,mb4.3
MORC Moravsky Berou 72.70 334 eP **P 18 16 00.6 -0.5**
MORC pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
MORC Moravsky Berou 72.70 334 eP **P 18 16 00.6 -0.5**
comp=Z,3.6nm,0.8s,mb4.2
CTA Charters Tower 72.84 191 eP **P 18 16 02.6 +0.1**
comp=Z,3.3nm,1.0s,mb4.0
CTA Charters Tower 72.84 191 eP **P 18 16 02.6 +0.1**
CTA pmax pmax
comp=Z,3.0nm,1.0s
CTA Charters Tower 72.84 191 P **P 18 16 02.4 -0.1**
comp=Z,6.6nm,1.1s,mb4.3,baz=344,slow=7.5,SNR=5.5
PRU Pruhonice 73.28 336 eP **P 18 16 04.0 -0.5**
MOX Moxa 73.37 338 eP **P 18 16 04.0 -1.0**
VRAC Vranov 73.38 335 P **P 18 16 03.9 -1.2**
VRAC pmax pmax
comp=Z,3.0nm,0.5s
VRAC Vranov 73.38 335 P **P 18 16 03.9 -1.2**
comp=Z,2.8nm,0.5s,mb4.2,baz=48,slow=5.8,SNR=5.4
VYHS Vyhne 73.51 333 eP **P 18 16 05.3 -0.6**
NKC Novy Kostel 73.56 337 eP **P 18 16 04.9 -1.2**
JCT Junction City 73.57 61 eP **P 18 16 05.2 -1.4**
JCT pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
JCT Junction City 73.57 61 eP **P 18 16 05.2 -1.4**
comp=Z,5.1nm,0.7s,mb4.4
DLF Lyons Farm 73.84 350⇓iP **P 18 16 07.4 -0.3**
DCN Croghan 73.87 351⇓iP **P 18 16 07.6 -0.2**
MLR Muntele Rosu 74.00 327 P **P 18 16 09.2 +0.4**
MLR pmax pmax
comp=Z,6.0nm,0.5s
MLR Muntele Rosu 74.00 327 P **P 18 16 09.2 +0.4**
comp=Z,5.9nm,0.5s,mb4.6,baz=321,slow=1.6,SNR=13
ZST Bratislava 74.26 334 eP **P 18 16 10.5 +0.3**
KHC Kasperske Hory 74.31 336 eP **P 18 16 10.3 -0.2**
KHC ex x 18 16 17.4
GRA1 Grafenberg Arr 74.35 338 eP **P 18 16 10.5 -0.2**
comp=Z,13nm,0.8s,mb4.7
GRF Grafenberg Arr 74.35 338 eP **P 18 16 10.5 -0.2**
GRF pmax pmax
comp=Z,13nm,0.8s,mb4.7
GRF Grafenberg Arr 74.35 338 eP **P 18 16 10.5 -0.2**
GRF pmax pmax
comp=Z,13nm,0.8s,mb4.7
GRF Grafenberg Arr 74.35 338 eP **P 18 16 10.5 -0.2**
comp=Z,13nm,0.8s,mb4.7
WET Wettzell 74.47 337 eP **P 18 16 11.2 -0.2**
WET pmax pmax
comp=Z,13nm,1.2s,mb4.5
WET Wettzell 74.47 337 eP **P 18 16 11.2 -0.2**
comp=Z,13nm,1.2s,mb4.5
GEC2 GERESS Array S 74.55 336 eP **P 18 16 11.5 -0.3**
GEC2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
GEC2 GERESS Array S 74.55 336 eP **P 18 16 11.5 -0.3**
comp=Z,5.0nm,0.9s,mb4.1
GERES GERESS Array B 74.55 336 P **P 18 16 11.2 -0.6**
GERES pmax pmax
comp=Z,3.0nm,0.4s
GERES GERESS Array B 74.55 336 P **P 18 16 11.2 -0.7**
comp=Z,2.9nm,0.4s,mb4.2,baz=33,slow=5.9,SNR=71
WRAB Tennant Creek 74.80 203 eP **P 18 16 13.8 0.0**
WRAB pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
WRAB Tennant Creek 74.80 203 eP **P 18 16 13.8 -0.1**
comp=Z,9.5nm,0.8s,mb4.5
WB2 Warramunga Arr 74.81 203 eP **P 18 16 13.8 -0.1**
WRA Warramunga Arr 74.81 203 P **P 18 16 13.9 0.0**
WRA *PP pP 18 16 46.7 -3.3
WRA pmax pmax
comp=Z,6.0nm,0.6s
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 74.81 203 P **P 18 16 13.9 0.0**
comp=Z,5.6nm,0.6s,mb4.4,baz=16,slow=6.0,SNR=27
WRA pP pP 18 16 46.7 -3.3
comp=Z,3.3nm,0.7s,baz=17,slow=6.2,SNR=4.2
GIVF Givet 75.29 342 eP **P 18 16 15.5 -0.5**
comp=Z,13nm,0.5s,mb4.5
GIVF Givet 75.29 342 eP **P 18 16 15.5 -0.5**
GIVF pmax pmax
comp=Z,6.0nm,0.5s,mb4.5
MOA Molln 75.33 335⇑iP **P 18 16 16.2 -0.1**
comp=Z,4.4nm,0.8s,mb4.1
BAIF Baives 75.45 343⇓iP **P 18 16 16.6 -0.3**
comp=Z,19nm,0.6s,mb4.6
BAIF Baives 75.45 343⇓iP **P 18 16 16.6 -0.3**
BAIF pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
FITZ Fitzroy Crossi 75.47 211 eP **P 18 16 18.3 +0.6**
comp=Z,10nm,0.5s,mb4.7
ARSA Arzberg 75.55 334⇑iP **P 18 16 17.8 +0.3**
comp=Z,12nm,1.3s,mb4.4
BRTR Keskin Array B 76.14 319 P **P 18 16 23.8 +2.8**
BRTR pmax pmax
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 76.14 319 P **P 18 16 23.8 +2.8**
comp=Z,0.6nm,0.4s,baz=62,slow=3.1,SNR=5.4
BFO Black Forest 76.27 339 eP **P 18 16 21.3 -0.3**
BFO pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
BFO Black Forest 76.27 339 eP **P 18 16 21.3 -0.3**
comp=Z,6.0nm,0.6s,mb4.4
KBA Koelnbreinsper 76.28 336⇑iP **P 18 16 22.6 +1.0**
comp=Z,47nm,1.1s,mb5.0
KBA Koelnbreinsper 76.28 336⇑iP **P 18 16 22.6 +1.0**
KBA pmax pmax
comp=Z,47nm,1.1s,mb5.0
WLS Welschbruch 76.40 340 eP **P 18 16 22.3 0.0**
CDF Champ du Feu 76.42 340⇓iP **P 18 16 22.0 -0.4**
comp=Z,16nm,0.6s,mb4.5
CDF Champ du Feu 76.42 340⇓iP **P 18 16 22.0 -0.4**
CDF pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
WATA Walderalm 76.47 337⇓iP **P 18 16 22.8 +0.1**
comp=Z,10nm,1.1s,mb4.4
WATA Walderalm 76.47 337⇓iP **P 18 16 22.8 +0.1**
WATA pmax pmax
comp=Z,10.0nm,1.1s,mb4.4
WTTA Wattenberg 76.52 337⇑iP **P 18 16 23.8 +0.8**
comp=Z,16nm,0.7s,mb4.8
WTTA Wattenberg 76.52 337⇑iP **P 18 16 23.8 +0.8**
WTTA pmax pmax
comp=Z,16nm,0.7s,mb4.8
MOTA Moosalm 76.58 337⇑iP **P 18 16 23.5 +0.2**
comp=Z,13nm,1.1s,mb4.5
MOTA Moosalm 76.58 337⇑iP **P 18 16 23.5 +0.2**
MOTA pmax pmax
comp=Z,13nm,1.1s,mb4.5
ECH Echery 76.63 340 eP **P 18 16 23.1 -0.5**
SQTA Sankt Quirin 76.67 337⇑iP **P 18 16 24.3 +0.5**
comp=Z,13nm,1.0s,mb4.5
SQTA Sankt Quirin 76.67 337⇑iP **P 18 16 24.3 +0.5**
SQTA pmax pmax
comp=Z,13nm,1.0s,mb4.5
FELD Feldberg 76.78 339 eP **P 18 16 24.0 -0.4**
MEZF Maizieres J'vi 76.78 342⇓iP **P 18 16 24.3 -0.1**
comp=Z,41nm,0.5s,mb5.0
THEF They Montfort 76.86 341 eP **P 18 16 24.8 0.0**
DAVA Damuels 76.92 338⇑iP **P 18 16 25.1 -0.1**
comp=Z,16nm,1.1s,mb4.5
HAU Haudompre 77.00 341⇓iP **P 18 16 25.1 -0.5**
comp=Z,15nm,0.5s,mb4.6
HAU Haudompre 77.00 341⇓iP **P 18 16 25.1 -0.5**
HAU pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
HINF Hinteralfeld 77.07 340⇓iP **P 18 16 25.2 -0.8**
comp=Z,7.5nm,0.5s,mb4.3
HINF Hinteralfeld 77.07 340⇓iP **P 18 16 25.2 -0.8**
HINF pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
DAVOX Davos 77.39 338 P **P 18 16 28.4 +0.6**
comp=Z,16nm,0.6s,mb4.8,baz=358,slow=3.4,SNR=54
DAVOX Davos 77.39 338 P **P 18 16 28.4 +0.6**
FLN La Foliniere 77.50 345⇓iP **P 18 16 27.8 -0.6**
comp=Z,60nm,0.9s,mb4.9
FLN La Foliniere 77.50 345⇓iP **P 18 16 27.8 -0.6**
FLN pmax pmax
comp=Z,30nm,0.9s,mb4.9
LDF La Druitiere 77.60 345⇓iP **P 18 16 28.4 -0.6**
comp=Z,15nm,0.4s,mb4.6
LDF La Druitiere 77.60 345⇓iP **P 18 16 28.4 -0.6**
LDF pmax pmax
comp=Z,8.0nm,0.4s,mb4.7
GRR Gorron 77.92 345⇓iP **P 18 16 30.6 -0.1**
comp=Z,69nm,0.8s,mb5.0
GRR Gorron 77.92 345⇓iP **P 18 16 30.6 -0.1**
GRR pmax pmax
comp=Z,35nm,0.8s,mb5.0
SGMF Saint Gilles 78.30 347⇓iP **P 18 16 32.8 0.0**
comp=Z,68nm,0.7s,mb5.1
SGMF Saint Gilles 78.30 347⇓iP **P 18 16 32.8 0.0**
SGMF pmax pmax
comp=Z,34nm,0.7s,mb5.1
ROSF Rostrenen 78.32 347⇓iP **P 18 16 32.9 0.0**
comp=Z,42nm,0.7s,mb4.8
ROSF Rostrenen 78.32 347⇓iP **P 18 16 32.9 0.0**
ROSF pmax pmax
comp=Z,21nm,0.7s,mb4.9
CABF La Chapelle 78.38 340⇓iP **P 18 16 33.2 0.0**
HYF Humbligny 78.42 343⇓iP **P 18 16 33.7 +0.3**
SSF Saint Saulge 78.46 342⇓iP **P 18 16 33.5 -0.1**
SSF pmax pmax
comp=Z,17nm,0.5s,mb4.9
SSF Saint Saulge 78.46 342⇓iP **P 18 16 33.5 -0.1**
comp=Z,17nm,0.5s,mb4.9
ASAR Alice Springs 78.50 202 P **P 18 16 35.4 +1.0**
comp=Z,6.3nm,0.7s,mb4.4,baz=15,slow=5.1,SNR=94
ASAR pP pP 18 17 08.8 -1.8
comp=Z,1.5nm,0.5s,baz=12,slow=5.6,SNR=2.6
ASPA Alice Springs 78.50 202⇓iP **P 18 16 35.3 +0.9**
QUIF Quistinic 78.72 347⇓iP **P 18 16 34.9 -0.1**
comp=Z,17nm,0.6s,mb4.5
QUIF Quistinic 78.72 347⇓iP **P 18 16 34.9 -0.1**
QUIF pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
AVF Avril sur Loir 78.75 342⇓iP **P 18 16 35.1 -0.1**
comp=Z,43nm,0.5s,mb5.0
AVF Avril sur Loir 78.75 342⇓iP **P 18 16 35.1 -0.1**
AVF pmax pmax
comp=Z,21nm,0.5s,mb5.0
SMF Signal de Mont 78.80 342⇓iP **P 18 16 35.3 -0.2**
comp=Z,28nm,0.6s,mb4.8
SMF Signal de Mont 78.80 342⇓iP **P 18 16 35.3 -0.2**
SMF pmax pmax
comp=Z,14nm,0.6s,mb4.8
ORX Oropa 78.91 339 P **P 18 16 35.5 -0.6**
BGF Bois d'Agland 79.07 343⇓iP **P 18 16 36.9 0.0**
comp=Z,28nm,0.4s,mb4.9
BGF Bois d'Agland 79.07 343⇓iP **P 18 16 36.9 0.0**
BGF pmax pmax
comp=Z,14nm,0.4s,mb4.9
RSL Roselend 79.15 340 eP **P 18 16 37.9 +0.5**
LSD Ceresole Reale 79.25 339 P **P 18 16 38.6 +0.6**
LPL La Plagne 79.29 340⇓iP **P 18 16 39.0 +0.8**
comp=Z,35nm,0.5s,mb5.0
LPL La Plagne 79.29 340⇓iP **P 18 16 39.0 +0.8**
LPL pmax pmax
comp=Z,17nm,0.5s,mb4.9
LPG La Plagne 79.30 340⇓iP **P 18 16 39.2 +1.0**
comp=Z,40nm,0.6s,mb5.0
LPG La Plagne 79.30 340⇓iP **P 18 16 39.2 +1.0**
LPG pmax pmax
comp=Z,20nm,0.6s,mb4.9
TCF Toulx Ste Croi 79.44 343⇓iP **P 18 16 39.3 +0.3**
comp=Z,42nm,0.6s,mb4.9
TCF Toulx Ste Croi 79.44 343⇓iP **P 18 16 39.3 +0.3**
TCF pmax pmax
comp=Z,21nm,0.6s,mb4.9
PLDF La Plantade 79.49 342 eP **P 18 16 40.7 +1.5**
AGO Saint Agoulin 79.50 342 eP **P 18 16 41.2 +1.9**
RSP Reno Superiore 79.52 339 P **P 18 16 39.0 -0.4**
MFF Saint Martin d 79.54 345⇓iP **P 18 16 39.8 +0.3**
comp=Z,46nm,0.5s,mb5.0
MFF Saint Martin d 79.54 345⇓iP **P 18 16 39.8 +0.3**
MFF pmax pmax
comp=Z,23nm,0.5s,mb5.1
LCHF La Chataignera 79.57 345 eP **P 18 16 41.1 +1.4**
BNI Bardonecchia 79.74 339 eP **P 18 16 41.5 +0.9**
BNI pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
BNI Bardonecchia 79.74 339 eP **P 18 16 41.5 +0.9**
comp=Z,7.6nm,0.6s,mb4.5
PCP Pian Castagno 79.81 338 P **P 18 16 40.4 -0.6**
PYM Petit Puy Mans 79.81 342 eP **P 18 16 43.0 +2.0**
BHB Bricherasio 79.82 339 P **P 18 16 40.0 -1.1**
RRL Cesana Torines 79.85 339 P **P 18 16 41.7 +0.5**
OG22 Abries 79.91 339 eP **P 18 16 42.0 +0.5**
MBDF Montbardon 80.03 339⇓iP **P 18 16 42.4 +0.2**
comp=Z,20nm,0.5s,mb4.7
MBDF Montbardon 80.03 339⇓iP **P 18 16 42.4 +0.2**
MBDF pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
ORIF Oris-en-Rattie 80.04 340⇓iP **P 18 16 42.8 +0.6**
comp=Z,27nm,0.7s,mb4.7
ORIF Oris-en-Rattie 80.04 340⇓iP **P 18 16 42.8 +0.6**
ORIF pmax pmax
comp=Z,14nm,0.7s,mb4.7
PZZ Prazzo 80.17 339 P **P 18 16 42.1 -0.9**
ROB Roburent 80.20 338 P **P 18 16 42.2 -0.9**
FIN Finale Ligure 80.21 338 P **P 18 16 42.2 -0.9**
FRNF Fournols 80.25 342 eP **P 18 16 44.3 +1.0**
LBL Lubilhac 80.27 342 eP **P 18 16 44.9 +1.5**
VIVF Saint-Julien-l 80.35 341⇓iP **P 18 16 44.3 +0.4**
comp=Z,33nm,0.8s,mb4.7
VIVF Saint-Julien-l 80.35 341⇓iP **P 18 16 44.3 +0.4**
VIVF pmax pmax
comp=Z,16nm,0.8s,mb4.7
ENR Entracque 80.37 339 P **P 18 16 42.3 -1.7**
STV Sta Anna Valdi 80.37 339 P **P 18 16 42.4 -1.6**
RJF Les Rejaudoux 80.52 343⇓iP **P 18 16 45.3 +0.5**
comp=Z,40nm,0.6s,mb4.9
RJF Les Rejaudoux 80.52 343⇓iP **P 18 16 45.3 +0.5**
RJF pmax pmax
comp=Z,20nm,0.6s,mb4.9
IMI Imperia 80.56 338 P **P 18 16 44.6 -0.4**
SAOF Saorge 80.57 339 eP **P 18 16 44.8 -0.3**
AUTN L'Aution 80.59 339 eP **P 18 16 45.5 +0.3**
TOUF Mont Tournerai 80.61 339 eP **P 18 16 45.2 -0.1**
SBF Sospel 80.71 339⇓iP **P 18 16 45.5 -0.3**
comp=Z,42nm,0.8s,mb4.8
SBF Sospel 80.71 339⇓iP **P 18 16 45.5 -0.3**
SBF pmax pmax
comp=Z,21nm,0.8s,mb4.8
MVIF Mont Vial 80.74 339 eP **P 18 16 45.7 -0.3**
CAF Calviac 80.78 343⇓iP **P 18 16 47.1 +0.9**
comp=Z,57nm,0.7s,mb5.0
CAF Calviac 80.78 343⇓iP **P 18 16 47.1 +0.9**
CAF pmax pmax
comp=Z,28nm,0.6s,mb5.1
REVF Revere 80.84 339 eP **P 18 16 45.8 -0.7**
SMRF Simiane la Rot 81.01 340⇓iP **P 18 16 48.4 +1.0**
comp=Z,7.3nm,0.4s,mb4.3
LFF La Frestale 81.01 344⇓iP **P 18 16 48.1 +0.7**
comp=Z,64nm,0.6s,mb5.1
LFF La Frestale 81.01 344⇓iP **P 18 16 48.1 +0.7**
LFF pmax pmax
comp=Z,32nm,0.6s,mb5.1
FRF La Foret Royal 81.17 339⇓iP **P 18 16 47.4 -0.9**
comp=Z,30nm,0.9s,mb4.6
FRF La Foret Royal 81.17 339⇓iP **P 18 16 47.4 -0.9**
FRF pmax pmax
comp=Z,15nm,0.9s,mb4.6
TAVF Tavernes 81.25 339 eP **P 18 16 49.1 +0.5**
LASF Ste Croix 81.26 341⇓iP **P 18 16 49.4 +0.7**
comp=Z,11nm,0.6s,mb4.4
PUYF Puyloubier 81.40 340 eP **P 18 16 50.1 +0.6**
LMR La Mourre 81.42 339⇓iP **P 18 16 49.5 -0.1**
comp=Z,32nm,0.7s,mb4.8
LMR La Mourre 81.42 339⇓iP **P 18 16 49.5 -0.1**
LMR pmax pmax
comp=Z,16nm,0.7s,mb4.8
PGF Pioggiola 81.59 337⇓iP **P 18 16 50.1 -0.4**
comp=Z,13nm,0.4s,mb4.6
PGF Pioggiola 81.59 337⇓iP **P 18 16 50.1 -0.4**
PGF pmax pmax
comp=Z,7.0nm,0.4s,mb4.6
GELF Grande-Etoile 81.60 340 eP **P 18 16 51.9 +1.4**
BERF Bertagne 81.62 340 eP **P 18 16 50.8 +0.2**
MTLF Montolieu 82.29 342⇓iP **P 18 16 54.8 +0.8**
comp=Z,20nm,0.7s,mb4.6
MTLF Montolieu 82.29 342⇓iP **P 18 16 54.8 +0.8**
MTLF pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
MLS Moulis 82.86 343 eP **P 18 16 57.7 +0.7**
EPF Esparros 82.93 343⇓iP **P 18 16 57.6 +0.3**
comp=Z,43nm,0.9s,mb4.9
EPF Esparros 82.93 343⇓iP **P 18 16 57.6 +0.3**
EPF pmax pmax
comp=Z,22nm,0.9s,mb4.9
EJON La Jonquera 83.02 341 P **P 18 16 58.3 +0.5**
comp=Z,17nm,0.9s,mb4.8
EALK Alkurruntz 83.06 345 P **P 18 16 59.0 +1.1**
comp=Z,32nm,0.8s,mb5.1
SJPF Ste Jean 83.11 344⇓iP **P 18 16 59.6 +1.4**
comp=Z,28nm,0.7s,mb4.8
SJPF Ste Jean 83.11 344⇓iP **P 18 16 59.6 +1.4**
SJPF pmax pmax
comp=Z,14nm,0.7s,mb4.8
RESF Ens 83.15 343 eP **P 18 16 59.8 +1.4**
ETSF Etsaut 83.21 344⇓iP **P 18 16 59.9 +1.2**
comp=Z,34nm,0.7s,mb4.9
ETSF Etsaut 83.21 344⇓iP **P 18 16 59.9 +1.2**
ETSF pmax pmax
comp=Z,17nm,0.7s,mb4.9
EBIE Bielsa 83.30 343 P **P 18 17 00.4 +1.3**
comp=Z,19nm,0.7s,mb4.9
ELAN Lanestosa 83.34 346 P **P 18 17 00.4 +1.0**
comp=Z,64nm,0.8s,mb5.4
IDI Anoyia 83.40 323 P **P 18 16 56.9 -3.0**
comp=Z,7.7nm,0.6s,mb4.6,baz=40,slow=10,SNR=11
EARI Arriondas 83.52 347 P **P 18 17 00.9 +0.7**
comp=Z,71nm,1.2s,mb5.3
EPON Pontenova 83.74 349 P **P 18 17 01.8 +0.5**
comp=Z,18nm,0.4s,mb5.2
EMIR Miracle 83.80 342 P **P 18 17 02.0 +0.4**
comp=Z,38nm,1.7s,mb4.8
RAYN Ar Rayn 84.11 301 P **P 18 17 02.6 -1.0**
comp=Z,48nm,0.8s,mb5.3,SNR=10
EMAZ Mazaricos 84.32 350 P **P 18 17 06.1 +1.9**
comp=Z,109nm,1.6s,mb5.3
STS Santiago 84.34 350 P **P 18 17 05.1 +0.8**
STS pmax pmax
comp=Z,16nm,0.5s,mb5.0
STS Santiago 84.34 350 P **P 18 17 05.1 +0.8**
comp=Z,16nm,0.5s,mb5.0
ESAC San Caprasio 84.34 344 P **P 18 17 05.9 +1.5**
comp=Z,36nm,1.0s,mb5.0
EPOB Poblet 84.42 342 P **P 18 17 05.9 +1.2**
comp=Z,6.7nm,0.7s,mb4.5
EINC Incio 84.42 349 P **P 18 17 06.0 +1.3**
comp=Z,26nm,0.6s,mb5.1
ERUA La Rua 84.66 349 P **P 18 17 07.1 +1.2**
ERUA pmax pmax
comp=Z,13nm,0.5s,mb4.9
ERUA La Rua 84.66 349 P **P 18 17 07.1 +1.2**
comp=Z,13nm,0.5s,mb4.9
ECAL Calabor 85.06 348 P **P 18 17 07.9 0.0**
comp=Z,25nm,1.0s,mb4.9
STKA Stephens Creek 85.07 194 eP **P 18 17 10.4 +2.2**
comp=Z,2.5nm,0.8s,mb4.0
STKA Stephens Creek 85.07 194 P **P 18 17 09.3 +1.1**
comp=Z,2.5nm,0.7s,mb4.0,baz=346,slow=7.9,SNR=4.9
EZAM Zamans 85.08 350 P **P 18 17 09.0 +1.0**
EZAM pmax pmax
comp=Z,15nm,0.5s,mb5.0
EZAM Zamans 85.08 350 P **P 18 17 09.0 +1.0**
comp=Z,15nm,0.5s,mb5.0
PBRG Braganca 85.19 348 eP **P 18 17 09.3 +0.7**
ELOB Lobios 85.29 349 P **P 18 17 08.0 -1.0**
comp=Z,52nm,2.0s,mb4.9
EMOS Mosqueruela 85.66 343 P **P 18 17 12.0 +1.1**
comp=Z,9.0nm,1.4s,mb4.3
PVRL Vila Real 85.83 349 eP **P 18 17 12.2 +0.5**
comp=Z,47nm,0.5s,mb5.5
GUD Guadarrama 85.98 346 P **P 18 17 12.7 +0.2**
GUD pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
GUD Guadarrama 85.98 346 P **P 18 17 12.7 +0.3**
comp=Z,2.9nm,0.6s,mb4.2
PVIS Viseu 86.41 349 eP **P 18 17 14.7 +0.2**
EIBI Ibiza 86.62 342 P **P 18 17 16.0 +0.4**
comp=Z,43nm,1.5s,mb5.0
MTE Manteigas 86.68 349 eP **P 18 17 16.0 +0.2**
FORT Forrest 86.75 205 eP **P 18 17 17.1 +0.7**
comp=Z,34nm,0.5s,mb5.4
ESDC Sonseca Array 86.91 346 P **P 18 17 17.2 +0.3**
comp=Z,6.2nm,0.5s,mb4.7,baz=2.3,slow=4.3,SNR=57
ESDC pP pP 18 17 54.0 +0.1
comp=Z,2.5nm,0.8s,baz=5.2,slow=4.2,SNR=2.6
ESDC Sonseca Array 86.91 346 P **P 18 17 16.7 -0.2**
comp=Z,13nm,0.6s,mb5.0
PCBR Castelo Branco 87.22 348 eP **P 18 17 18.3 -0.1**
comp=Z,12nm,0.8s,mb4.8
EVIA Vianos 87.69 344 P **P 18 17 21.4 +0.7**
EVIA pmax pmax
comp=Z,18nm,0.6s,mb5.1
EVIA Vianos 87.69 344 P **P 18 17 21.4 +0.6**
comp=Z,18nm,0.6s,mb5.1
EBAD Badajoz 88.23 348 P **P 18 17 24.4 +1.1**
comp=Z,20nm,1.5s,mb4.7
EADA Adamuz 88.47 346 P **P 18 17 23.8 -0.7**
comp=Z,7.8nm,0.9s,mb4.5
EQES Quesada 88.60 345 P **P 18 17 25.0 0.0**
comp=Z,7.9nm,0.6s,mb4.8
EMIN Mina Concepcio 89.16 348 P **P 18 17 28.0 +0.3**
comp=Z,5.7nm,0.6s,mb4.7
ENIJ Nijar 89.27 344 P **P 18 17 26.9 -1.3**
ENIJ pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
ENIJ Nijar 89.27 344 P **P 18 17 26.9 -1.3**
comp=Z,5.3nm,0.4s,mb4.8

EBER	**Berja**	**89.45**	**344**	P	**P**	**18 17 30.8**	**+1.7**
	comp=Z,5.9nm,0.6s,mb4.7						
ERON	**Agron**	**89.48**	**345**	P	**P**	**18 17 28.8**	**-0.4**
	comp=Z,7.2nm,0.6s,mb4.8						
EGRO	**El Granado**	**89.50**	**348**	P	**P**	**18 17 29.1**	**-0.1**
	comp=Z,39nm,1.9s,mb5.0						
EMIJ	**Mijas**	**90.07**	**346**	P	**P**	**18 17 30.4**	**-1.6**
	comp=Z,10nm,0.8s,mb4.8						
EALB	**Alboran**	**90.41**	**344**	P	**P**	**18 17 34.9**	**+1.3**
	comp=Z,185nm,1.1s						
DBIC	**Dimbokro**	**119.27**	**340**	PKIKP	PKPdf	18 23 21.3	+1.3
DBIC						18 23 58.5	
DBIC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.5s						
DBIC	**Dimbokro**	**119.27**	**340**	PKP	PKPdf	18 23 21.2	+1.3
	comp=Z,6.8nm,0.6s,baz=5.3,slow=2.4,SNR=14						
DBIC				pPKP		18 23 58.5	
	comp=Z,1.6nm,0.5s,baz=271,slow=3.7,SNR=2.5						
QSPA	**South Pole Qui**	**142.14**	**180**	*e*PKPpre		18 23 57.4	
QSPA				⇓*iP*		18 24 33.5	
TRQA	**Tornquist**	**149.13**	**78**	*e*PKPbc	PKPdf	18 24 19.9	+5.9

*IDC **16** 18:07:39.2±1.4, 17.71S×175.66E, mb4.1/7, mb1 4.3/7, mb1mx4.1/14, mbtmp4.1/7, MS4.0/11, Ms1 4.0/11, ms1mx3.8/19, Error ellipse: s-maj=39.8km s-min=26.7km az=135.0*

ISC 16 18:07:42.3±1.3, 17.8S±0.2×175.7E±0.2, h33km, n18, σ0.58/10, mb4.0/6, MS3.9/11, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.39**	**177**	P	**P**	**18 12 19.2**	**+0.2**
	8.6nm,1.0s,baz=20,slow=12,SNR=4.1						
URZ				LR	LR	18 19 06.3	
	comp=Z,223nm,19.4s,MS3.5,baz=65,slow=34						
RAR	**Rarotonga**	**23.36**	**102**	LR	LR	18 18 53.8	
	comp=Z,288nm,19.9s,MS3.7,baz=280,slow=29						
RPZ	**Rata Peaks**	**26.10**	**188**	LR	LR	18 20 23.1	
	comp=Z,139nm,20.9s,MS3.5,baz=333,slow=29						
CTA	**Charters Tower**	**27.92**	**261**	P	**P**	**18 13 32.4**	**+0.6**
	2.6nm,0.9s,mb3.9,baz=88,slow=8.7,SNR=4.7						
CTA				LR	LR	18 23 17.2	
	comp=Z,320nm,19.2s,MS3.9,baz=54,slow=34						
PMG	**Port Moresby**	**28.94**	**283**	LR	LR	18 23 24.6	
	comp=Z,204nm,18.7s,MS3.8,baz=99,slow=33						
PPT	**Papeete**	**33.06**	**95**	*e*S	**S**	**18 19 20.7**	**-12**
PPT				*e*LQ		18 21 25.0	
PPT				*e*LR	LR	18 22 53.5	
	756nm,25.5s,baz=253						
STKA	**Stephens Creek**	**33.80**	**239**	P	**P**	**18 14 22.4**	**-1.1**
	1.1nm,0.7s,mb3.9,baz=38,slow=15,SNR=1.7						
STKA				LR	LR	18 27 15.6	
	comp=Z,300nm,18.6s,MS4.0,baz=27,slow=35						
WB2	**Warramunga Arr**	**39.11**	**260**	*e*P	**P**	**18 15 08.1**	**-0.3**
WRA	**Warramunga Arr**	**39.12**	**260**	P	**P**	**18 15 07.9**	**-0.6**
	2.5nm,0.8s,mb4.0,baz=92,slow=8.6,SNR=14						
ASAR	**Alice Springs**	**39.41**	**254**	P	**P**	**18 15 11.4**	**+0.6**
	6.9nm,0.8s,mb4.4,baz=83,slow=8.6,SNR=61						
ASAR				LR	LR	18 30 38.7	
	comp=Z,244nm,19.6s,MS4.0,baz=76,slow=35						
ASPA	**Alice Springs**	**39.41**	**254**	⇑*iP*	**P**	**18 15 11.4**	**+0.5**
VNDA	**Vanda**	**60.12**	**183**	LR	LR	18 38 25.9	
	comp=Z,121nm,19.3s,MS4.0,baz=5.0,slow=31						
CMAR	**Chiang Mai Arr**	**83.60**	**292**	P	**P**	**18 20 15.1**	**+5.8**
	0.6nm,0.7s,mb3.8,baz=110,slow=2.9,SNR=4.1						
ILAR	**Eielson Array**	**87.17**	**15**	P	**P**	**18 20 25.8**	**-0.1**
	0.6nm,0.7s,mb3.9,baz=239,slow=5.6,SNR=11						
ILAR				LR	LR	18 52 35.2	
	comp=Z,99nm,21.0s,MS4.2,baz=352,slow=31						
TXAR	**Lajitas Array**	**90.75**	**60**	LR	LR	18 51 13.3	
	comp=Z,98nm,21.4s,MS4.2,baz=210,slow=29						
PDAR	**Pinedale Array**	**91.22**	**45**	LR	LR	18 54 30.7	
	comp=Z,91nm,18.2s,MS4.2,baz=107,slow=31						
KHC	**Kasperske Hory**	**145.58**	**339**	*e*P	PKPdf	18 27 17.0	-0.1
GERES	**GERESS Array B**	**145.78**	**339**	PKPbc	PKPbc	18 27 20.0	+1.7
	0.9nm,0.6s,baz=45,slow=3.8,SNR=11						

IDC 16 18:14:08.9±2.0, 5.48S×152.55E, mb3.7/3, mb1 4.0/4, mb1mx3.7/13, mbtmp3.8/4, ML2.7/1, Error ellipse: s-maj=140.7km s-min=24.9km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.62**	**234**	Pn	Pn	18 15 48.4	-1.5
	0.9nm,0.3s,baz=24,slow=5.0,SNR=9.6						
PMG				Sn	Sn	18 16 58.8	-8.2
	3.6nm,0.3s,baz=303,slow=20,SNR=8.6						
WRA	**Warramunga Arr**	**22.82**	**229**	P	P	18 19 12.9	-1.9
	1.0nm,0.7s,baz=53,slow=9.5,SNR=5.0						
ASAR	**Alice Springs**	**25.49**	**223**	P	P	18 19 39.0	-1.6
	1.7nm,0.9s,baz=58,slow=9.2,SNR=10						
ILAR	**Eielson Array**	**82.88**	**22**	P	P	18 26 35.4	-1.1
	1.3nm,0.7s,baz=247,slow=5.5,SNR=28						

*TEH **16** 18:20:59.2, 31.49N×49.65E, h16km, Mn3.0*
*CSEM **16** 18:20:59.2±0.4, 31.63N×49.69E, h18km, ML3.5/1, Error ellipse: s-maj=9.1km s-min=5.0km az=177.0*

THR 16 18:20:59.6±0.4, 31.69N×49.73E, h14km±8km, ML2.8, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.90**	**298**	*e*PG	Pg	18 21 16.4	-1.3
SHGR				AML	AML	18 21 47.0	
	comp=E,182nm,0.4s						
NASN	**Na'in**	**2.83**	**66**	*e*PN	Pn	18 21 46.7	+1.3
ASAO	**Ashtian**	**2.87**	**5**	*e*PN	Pn	18 21 47.2	+1.4
ASAO				*e*SG	Sg	18 22 29.2	-5.9
ASAO				AML	AML	18 22 38.3	
	comp=E,39nm,0.7s						
ASAO				AML	AML	18 22 39.2	
	comp=N,47nm,0.8s						
ASAO	**Ashtian** SNR=52	**2.87**	**5**	*e*Pn	Pn	18 21 47.2	+1.4
ASAO				*e*Sg	Sg	18 22 29.2	-5.9
	comp=N,47nm,0.8s,SNR=90						
IQOM	**Qom**	**3.34**	**19**	Pn	Pn	18 21 53.3	+0.7
IQOM				Sn	Sn	18 22 33.4	+1.0
IRAZ	**Razeghan**	**3.71**	**3**	Pn	Pn	18 21 58.1	+0.3
IRAZ				Sn	Sn	18 22 41.9	+0.1
IDMV	**Damavand**	**4.33**	**26**	Pn	Pb	18 22 17.5	+2.3
IFIR	**Firoozkooh**	**4.68**	**32**	Pn	Pn	18 22 11.4	-0.2
IFIR	**Firoozkooh**	**4.68**	**32**	Lg		18 23 31.3	

*IDC **16** 19:07:09.3±1.4, 5.57S×11.45W, mb4.3/7, mb1 4.5/8, mb1mx4.1/19, mbtmp4.4/8, ML3.3/1, MS4.3/9, Ms1 4.3/9, ms1mx3.9/18, Error ellipse: s-maj=49.6km s-min=22.4km az=141.0*
*NEIC **16** 19:07:10.8±0.3, 5.64S×11.42W, h10km, mb4.7/19, Error ellipse: s-maj=9.2km s-min=6.4km az=123.0*

ISC 16 19:07:09.1±0.5, 5.59S±0.09×11.42W±0.09, h10km, n41, σ0.56/34, mb4.6/26, MS4.3/8, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**13.83**	**28**	Pn	**P**	**19 10 26.7**	**-1.1**
	0.1nm,0.3s,baz=188,slow=14,SNR=20						
DBIC				LR	LR	19 14 44.0	
	comp=Z,1μm,20.3s,baz=182,slow=33						
DBIC	**Dimbokro**	**13.83**	**28**	Pn	**P**	**19 10 26.7**	**-1.1**
DBIC				LR	LR	19 14 44.0	
RCBR	**Riachuelo**	**24.36**	**268**	P	**P**	**19 12 29.1**	**+0.4**
	81nm,1.8s,mb4.8						
BDFB	**Brasilia**	**37.27**	**252**	P	**P**	**19 14 23.5**	**+0.3**
	5.6nm,0.9s,mb4.4,baz=43,slow=7.1,SNR=3.8						
BDFB				LR	LR	19 26 50.6	
	comp=Z,867nm,18.6s,MS4.6,baz=83,slow=32						
LSZ	**Lusaka**	**40.06**	**107**	*e*P	**P**	**19 14 46.8**	**+0.3**
	36nm,1.9s,mb4.8						
BOSA	**Boshof**	**41.59**	**128**	*e*P	**P**	**19 14 58.9**	**-0.2**
	7.0nm,1.0s,mb4.2						
ESDC	**Sonseca Array**	**45.56**	**8**	P	**P**	**19 15 31.0**	**-0.1**
	0.7nm,0.9s,mb3.6,baz=263,slow=10,SNR=3.3						
KMBO	**Kilima Mbogo**	**48.77**	**87**	LR	LR	19 35 19.6	
	comp=Z,1μm,18.4s,MS4.9,baz=277,slow=35						
ETSF	**Etsaut**	**49.26**	**11**	*e*P	**P**	**19 16 00.9**	**+0.9**
	43nm,1.6s,mb4.9						
SJPF	**Ste Jean**	**49.35**	**10**	*e*P	**P**	**19 16 00.8**	**+0.1**
	46nm,1.4s,mb5.0						
EPF	**Esparros**	**49.55**	**11**	*e*P	**P**	**19 16 02.7**	**+0.4**
	20nm,1.4s,mb4.7						
MTLF	**Montolieu**	**50.24**	**13**	*e*P	**P**	**19 16 06.7**	**-0.8**
	18nm,1.2s,mb4.7						
LASF	**Ste Croix**	**51.32**	**14**	*e*P	**P**	**19 16 16.2**	**+0.5**
LMR	**La Mourre**	**51.33**	**17**	*e*P	**P**	**19 16 15.7**	**-0.1**
	22nm,1.4s,mb4.6						
PGF	**Pioggiola**	**51.38**	**19**	*e*P	**P**	**19 16 16.0**	**-0.2**
	29nm,0.9s,mb4.9						
SAML	**Samuel**	**51.42**	**263**	*e*P	**P**	**19 16 15.8**	**-1.0**
	6.2nm,1.3s,mb4.4						
VIVF	**Saint-Julien-l**	**52.25**	**14**	*e*P	**P**	**19 16 22.6**	**-0.2**
ORIF	**Oris-en-Rattie**	**52.62**	**15**	*e*P	**P**	**19 16 25.9**	**+0.4**
	35nm,1.5s,mb4.8						
ORIF				*e*R			
	545nm,17.8s						
TCF	**Toulx Ste Croi**	**53.05**	**12**	*e*P	**P**	**19 16 29.1**	**+0.4**
	10nm,0.9s,mb4.5						
LPG	**La Plagne**	**53.39**	**16**	*e*P	**P**	**19 16 31.8**	**+0.6**
	5.6nm,0.8s,mb4.2						
LPL	**La Plagne**	**53.40**	**16**	*e*P	**P**	**19 16 32.2**	**+0.9**
AVF	**Avril sur Loir**	**53.77**	**13**	*e*P	**P**	**19 16 34.5**	**+0.5**
SSF	**Saint Saulge**	**54.06**	**13**	*e*P	**P**	**19 16 36.0**	**-0.1**
	13nm,1.1s,mb4.5						
CABF	**La Chapelle**	**54.25**	**15**	*e*P	**P**	**19 16 37.6**	**+0.2**
	14nm,1.0s,mb4.5						
MEZF	**Maizieres J'vi**	**55.77**	**13**	*e*P	**P**	**19 16 49.1**	**+0.6**
	36nm,1.2s,mb5.0						
LPAZ	**La Paz**	**56.52**	**254**	LR	LR	19 41 47.2	
	comp=Z,270nm,18.1s,MS4.4,baz=81,slow=37						
GERES	**GERESS Array B**	**58.49**	**19**	P	**P**	**19 17 06.9**	**-0.8**
	2.9nm,0.7s,mb4.4,baz=191,slow=6.8,SNR=23						
KHC	**Kasperske Hory**	**58.70**	**19**	*e*P	**P**	**19 17 14.5**	**+5.3**
PSZ	**Piszkesteto**	**59.97**	**24**	*e*P	**P**	**19 17 17.7**	**-0.4**
	14nm,0.9s,mb5.0						
PSZ				*e*		19 17 24.6	
MORC	**Moravsky Berou**	**60.60**	**21**	*e*P	**P**	**19 17 21.7**	**-0.6**
	4.7nm,0.9s,mb4.6						
MORC				*e*		19 17 28.2	
SDV	**Santo Domingo**	**60.75**	**283**	P	**P**	**19 17 23.4**	**-0.4**
	6.9nm,1.1s,mb4.7,baz=27,slow=4.0,SNR=5.7						
MLR	**Muntele Rosu**	**60.81**	**29**	P	**P**	**19 17 22.8**	**-1.0**
	7.6nm,1.1s,mb4.8,baz=119,slow=8.9,SNR=4.9						
MLR	**Muntele Rosu**	**60.81**	**29**	P	**P**	**19 17 22.8**	**-1.0**
BRTR	**Keskin Array B**	**61.27**	**39**	P	**P**	**19 17 27.8**	**+0.7**
	2.9nm,0.7s,mb4.5,baz=220,slow=6.0,SNR=12						
SNAA	**Sanae**	**66.22**	**177**	P	**P**	**19 17 59.1**	**0.0**
	16nm,0.6s,mb5.2						
GNI	**Garni**	**68.73**	**43**	LR	LR	19 50 00.2	
	comp=Z,139nm,20.8s,MS4.2,baz=72,slow=37						
NOA	**NORSAR Array B**	**68.74**	**12**	LR	LR	19 46 12.3	
	comp=Z,95nm,21.0s,MS4.0,baz=325,slow=34						
FINES	**FINESS Array B**	**72.87**	**18**	P	**P**	**19 18 39.6**	**-0.3**
	6.2nm,0.9s,mb4.5,baz=210,slow=11,SNR=7.0						
FINES				LR	LR	19 52 25.9	
	comp=Z,134nm,21.5s,MS4.2,baz=181,slow=37						
MAW	**Mawson**	**78.89**	**158**	LR	LR	19 45 10.4	
	comp=Z,140nm,21.1s,MS4.3,baz=68,slow=29						
ARCES	**ARCESS Array B**	**79.09**	**12**	LR	LR	19 51 57.7	
	comp=Z,154nm,20.5s,MS4.3,baz=207,slow=34						
CTA	**Charters Tower**	**146.34**	**140**	PKPbc	PKPbc	19 26 51.9	+0.8
	1.6nm,0.8s,baz=282,slow=5.0,SNR=5.1						

GUC 16 19:10:54.7±0.6, 29.75S×71.61W, h17km±13km, ML3.6, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.81**	**121**	⇓*iP*	Pb	19 11 10.1	+0.1
TLL				*i* S	Sb	19 11 21.8	+1.3
TLL				AMP		19 11 23.2	
	comp=N,4μm,0.6s						
VACH	**Vallenar**	**1.39**	**33**	⇑*iP*	Pn	19 11 18.9	-0.6
VACH				*i* S	Sb	19 11 36.3	-0.8
CMCH	**Combarbala**	**1.51**	**160**	*e*P	Pn	19 11 20.6	-0.7
CMCH				*i* S	Sn	19 11 40.3	-0.3
CMCH				AMP		19 11 49.0	
	comp=E,1μm,0.9s						
FCH	**Farellones**	**3.74**	**163**	*e*P	Pn	19 11 53.4	+0.4

*MOS **16** 19:28:24.8±1.0, 54.56N×161.41E, h44km, mb4.1/1, Error ellipse: s-maj=67.6km s-min=22.2km az=72.1*
*KRSC **16** 19:28:25.0±0.5, 54.56N×161.58E, h40km±20km, ML4.0*

ISC 16 19:28:24.6±0.5, 54.55N±0.02×161.64E±0.06, h40km, n28, σ0.82/56, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**1.13**	**311**	*i* P	**P**	**19 28 43.9**	**-0.2**
TUMR				*e*S	**S**	**19 28 58.0**	**-0.7**
KMNR	**Kamenistaya**	**1.45**	**327**	*i* P	**P**	**19 28 49.0**	**+0.2**
KMNR				*e*S	**S**	**19 29 06.5**	**-0.3**
KPT	**Kopyto**	**1.63**	**331**	*e*P	**P**	**19 28 51.6**	**+0.2**
KPT				*e*S	**S**	**19 29 10.9**	**-0.5**
SPN	**Mys Shipunski**	**1.74**	**214**	P	**P**	**19 28 51.9**	**-1.0**
SPN				S	**S**	**19 29 11.3**	**-2.8**
SPN	**Mys Shipunski**	**1.74**	**214**	*i* P	**P**	**19 28 51.9**	**-1.0**
SPN				*i* S	**S**	**19 29 11.7**	**-2.4**
KBG	**Krutoberegovo**	**1.81**	**19**	*e*P	**P**	**19 28 55.1**	**+1.2**
KBG				*e*S	**S**	**19 29 17.1**	**+1.3**
KBG				Smax			
	2μm,1.2s						
KOZR	**Kozyr**	**1.82**	**327**	PN	**P**	**19 28 54.2**	**+0.3**
KOZR				S	**S**	**19 29 16.5**	**+0.6**
KOZ	**Kozyrevsk**	**1.82**	**327**	P	**P**	**19 28 54.2**	**+0.2**
KOZ				S	**S**	**19 29 16.5**	**+0.6**
KOZ	**Kozyrevsk**	**1.82**	**327**	*i* P	**P**	**19 28 54.3**	**+0.3**
KOZ				*e*S	**S**	**19 29 15.4**	**-0.5**
NLC	**Nalytchevo**	**1.94**	**225**	P	**P**	**19 28 56.0**	**+0.3**
NLC				S	**S**	**19 29 18.3**	**-0.7**
NLC	**Nalytchevo**	**1.94**	**225**	*e*P	**P**	**19 28 55.6**	**-0.1**
NLC				*e*S	**S**	**19 29 17.9**	**-1.1**
SDLR	**Sedlovina**	**2.07**	**233**	*i* P	**P**	**19 28 58.0**	**+0.4**
SDLR				*e*S	**S**	**19 29 22.6**	**+0.3**
SRDR	**Sredinnyy**	**2.08**	**329**	*i* P	**P**	**19 28 57.3**	**-0.4**
SRDR				*e*S	**S**	**19 29 20.6**	**-2.0**
SMAR	**Somma**	**2.12**	**234**	*i* P	**P**	**19 28 58.9**	**+0.6**
SMAR				*e*S	**S**	**19 29 24.0**	**+0.5**
UGLR	**Uglovaya**	**2.14**	**232**	*i* P	**P**	**19 28 59.3**	**+0.7**
UGLR				*e*S	**S**	**19 29 24.1**	**-0.1**
AVH	**Avacha**	**2.15**	**234**	*i* P	**P**	**19 28 59.3**	**+0.6**
AVH				*e*S	**S**	**19 29 24.9**	**+0.6**
ESO	**Esso**	**2.17**	**310**	*i* P	**P**	**19 28 59.6**	**+0.5**
ESO				*e*S	**S**	**19 29 24.5**	**-0.5**
ESO				Smax			
	110nm,0.7s						
KOK	**Koryaka**	**2.18**	**236**	*e*P	**P**	**19 28 59.4**	**+0.3**
KOK				*e*S	**S**	**19 29 24.9**	**-0.2**
GNL	**Ganaly**	**2.34**	**250**	*i* P	**P**	**19 29 01.9**	**+0.5**
GNL				*e*S	**S**	**19 29 29.0**	**-0.2**
PET	**Petropavlovsk**	**2.34**	**230**	P	**P**	**19 29 01.7**	**+0.2**
PET				S	**S**	**19 29 28.5**	**-0.7**
PET	**Petropavlovsk**	**2.34**	**230**	*e*PN	**P**	**19 29 01.7**	**+0.2**
PET				*e*S	**S**	**19 29 28.8**	**-0.4**
PET				pmax	pmax		
	comp=Z,68nm,0.4s						
PET				smax			
	comp=N,388nm,0.7s						
PET				smax			
	comp=E,322nm,0.4s						
PET	**Petropavlovsk**	**2.34**	**230**	*i* P	**P**	**19 29 01.8**	**+0.3**
PET				*e*S	**S**	**19 29 28.5**	**-0.7**
BKI	**Bering**	**2.59**	**74**	*i* P	**P**	**19 29 04.1**	**-0.9**
BKI				*i* S	**S**	**19 29 32.8**	**-2.6**
KRMR	**Karymshinskiy**	**2.71**	**232**	*e*P	**P**	**19 29 07.3**	**+0.6**
KRMR				*e*S	**S**	**19 29 38.8**	**+0.3**
RUS	**Russkaya**	**2.83**	**223**	P	**P**	**19 29 08.5**	**+0.1**
RUS				S	**S**	**19 29 40.2**	**-1.4**
RUS	**Russkaya**	**2.83**	**223**	*e*P	**P**	**19 29 08.6**	**+0.2**
RUS				*e*S	**S**	**19 29 39.8**	**-1.8**
GRL	**Gorelyy**	**2.92**	**228**	*e*P	**P**	**19 29 11.2**	**+1.4**
GRL				*e*S	**S**	**19 29 45.1**	**+1.1**
APC	**Apacha**	**3.12**	**240**	*e*P	**P**	**19 29 12.8**	**+0.2**
APC				*e*S	**S**	**19 29 48.3**	**-0.7**

IDC 16 19:41:13.9±3.0, 33.81S×179.02W, mb4.1/2, mb1 4.3/3, mb1mx3.9/12, mbtmp4.1/3, ML4.0/1, Error ellipse: s-maj=69.0km s-min=35.9km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.43**	**214**	Pn	Pn	19 42 36.8	-1.4
	5.2nm,0.3s,baz=27,slow=4.8,SNR=24						
URZ				Sn	Sn	19 43 39.0	-3.4
	4.3nm,0.3s,baz=138,slow=19,SNR=8.5						
ASAR	**Alice Springs**	**42.18**	**271**	P	P	19 49 09.0	-1.1
	2.1nm,0.7s,baz=112,slow=7.1,SNR=28						
WRA	**Warramunga Arr**	**43.48**	**276**	P	P	19 49 18.5	-2.3
	2.2nm,0.7s,baz=119,slow=7.3,SNR=12						
FINES	**FINESS Array B**	**148.00**	**337**	PKPbc	PKPdf	20 00 59.8	+0.7
	3.5nm,0.8s,baz=45,slow=2.7,SNR=6.0						

IDC 16 20:11:48.3±4.5, 6.00N×94.82E, mb3.5/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=171.9km s-min=24.8km az=65.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**42.85**	**11**	P	P	20 19 48.2	-1.6
	1.1nm,0.7s,baz=195,slow=7.7,SNR=9.6						
WRA	**Warramunga Arr**	**46.64**	**125**	P	P	20 20 19.1	-1.6
	0.5nm,0.5s,baz=304,slow=9.3,SNR=3.2						
ASAR	**Alice Springs**	**48.21**	**129**	P	P	20 20 30.7	-2.2
	0.2nm,0.5s,baz=298,slow=7.3,SNR=4.6						
ZAL	**Zalesovo**	**48.49**	**352**	P	P	20 20 32.5	-2.2
	0.8nm,0.8s,baz=315,slow=7.5,SNR=4.5						

*IDC **16** 20:17:48.7±0.3, 10.87N×140.88E, mb6.0/31, mb1 6.0/34, mb1mx6.0/36, mbtmp6.0/34, ML5.8/3, MS6.5/25, Ms1 6.5/25, ms1mx6.4/29, Error ellipse: s-maj=18.8km s-min=9.2km az=80.0*
*GUC **16** 20:17:50.4±0.0, 10.95N×140.84E, h10km, mb6.3(NEIC), MS6.6(NEIC), MW6.6(NEIC)*
*BJI **16** 20:17:51.5, 10.89N×141.25E, h39km, mB6.8, mb5.9, Ms6.7, Msz6.6*
*HRVD **16** 20:17:52.8±0.1, 10.88N×140.86E, h12km, MW6.6/77, Centroid moment Tensor Solution. LP body waves: s76,c196;Mantle waves: s77,c362; Half duration: 4s8 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.73±.00; $M_{\theta\theta}$0.83±.00; $M_{\phi\phi}$-0.10±.00; $M_{r\theta}$0.53±.01; $M_{\theta\phi}$-0.18±.00; $M_{\phi r}$0.06±.01; Best double couple: M_0.958×10^{19} NP1: ϕ_s113°,δ30°,λ-70°. NP2:ϕ_s270°,δ62°,λ-101°. Principal axes: T 1.012, Plg16°, Azm9°; N -.11, Plg10°, Azm276°; P -.903, Plg71°, Azm155°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **16** 20:17:52.8±1.7, 10.93N×140.84E, h25km±11km, mb6.3/116, ME6.9, MS6.7/43, MW6.6 Error ellipse: s-maj=3.7km s-min=3.3km az=92.0 Broadband fault plane solution: P waves. NP1:ϕ_s275°,δ70°,λ-120°. NP2:ϕ_s154°, δ36°,λ-36°. Principal axes: T Plg19°, Azm27°; N Plg0°, Azm0°; P Plg55°, Azm147°; Moment Tensor Solution. s42 Moment tensor: Scale 10^{18} Nm; M_{rr}-5.67; $M_{\theta\theta}$5.60; $M_{\phi\phi}$0.07; $M_{r\theta}$4.13; $M_{\theta\phi}$2.29; $M_{\phi r}$-1.79; Best double couple: $M_0$7.6×10^{18} NP1:ϕ_s49°,δ35°,λ-129°. NP2:ϕ_s273°,δ64°, λ-67°. Principal axes: T 7.33, Plg15°, Azm346°; N .45, Plg21°, Azm82°; P -7.78, Plg64°, Azm222°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt on Ulithi.
*MOS **16** 20:17:52.3±1.0, 10.92N×140.83E, h33km, mb6.5/71, MS6.7/53 Error ellipse: s-maj=6.8km s-min=4.4km az=105.1*
*IGIL **16** 20:17:55.2, 10.95N×140.77E, h55km, MS7.1*

ISC 16 20:17:54.6±0.6, 10.88N±0.02×140.90E±0.02, h52km±5km, h50km±2.5km: pP-P, n850, σ1§15/569, mb6.2/162, MS6.7/94, 69C-130D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**7.47**	**39**	*e*P	**P**	**20 19 41.0**	**-2.6**
BIPH	**Bislig**	**14.59**	**261**	*e*P	**P**	**20 21 19.0**	**-0.7**
MATI	**Mati**	**14.98**	**256**	*e*P	**P**	**20 21 27.8**	**+2.9**
BUTP	**Butuan**	**15.17**	**264**	*e*P	**P**	**20 21 30.4**	**+3.1**
SCPH	**Surigao**	**15.20**	**267**	⇑*e*P	**P**	**20 21 28.1**	**+0.4**
	1060μm,1.3s						
DAV	**Davao City (W)**	**15.60**	**257**	⇓*e*P	**P**	**20 21 35.0**	**+2.2**
PLP	**Palo**	**15.63**	**273**	*e*P	**P**	**20 21 36.5**	**+3.2**
	910μm,1.0s						
MSLP	**Maasin**	**15.79**	**269**	*e*P	**P**	**20 21 37.2**	**+1.9**
BUKP	**Musuan**	**15.91**	**261**	*e*P	**P**	**20 21 40.7**	**+3.9**
OCLP	**Ormoc**	**16.00**	**272**	*e*P	**P**	**20 21 41.5**	**+3.7**
KCP	**Kidapawan**	**16.08**	**258**	⇓*e*P	**P**	**20 21 42.7**	**+3.8**
CGP	**Cagayan de Oro**	**16.16**	**263**	⇓*e*P	**P**	**20 21 41.0**	**+1.1**
CBIJ	**Chichi jima**	**16.18**	**4**	Pn	**P**	**20 21 42.5**	**+2.4**
	57nm,0.3s,baz=170,slow=6.3,SNR=17						
CBIJ				Sn	**S**	**20 24 48.9**	**+11**
	5.0nm,0.3s,baz=270,slow=20,SNR=3.0						
CBIJ				LR	LR	20 26 47.7	
	comp=Z,177μm,19.5s,baz=174,slow=33						
PVCP	**Virac**	**16.59**	**281**	*e*P	**P**	**20 21 48.5**	**+3.2**
LLLP	**Lapu-Lapu**	**16.66**	**270**	⇑*e*P	**P**	**20 21 48.1**	**+2.0**
MMPH	**Masbate**	**16.99**	**277**	*e*P	**P**	**20 21 54.5**	**+4.2**
DCPH	**Dipolog City**	**17.45**	**264**	⇑*iP*	**P**	**20 21 57.4**	**+1.3**
PAGZ	**Pagadian**	**17.55**	**262**	*e*P	**P**	**20 21 59.5

comp=Z,212nm,0.5s,baz=77,slow=23,SNR=3.6
JHJ LR LR 20 29 40.7
comp=Z,344μm,20.9s,MS6.8,baz=4.7,slow=32
BATP Bataraza 22.85 267 *e*P **P 20 22 55.6 +1.0**
TATO Taipei 23.15 310 *e*P **P 20 22 56.4 -1.0**
comp=Z,417nm,0.9s,mb5.9
TATO LR LR
comp=Z,150μm,19.0s,MS6.5
KAKA Kakadu 24.89 200⇓*i*P **P 20 23 13.5 -0.9**
comp=Z,5μm,1.8s,mb6.8
BUNI Buntu Taipa 25.06 236⇑*e*P **P 20 23 14.8 -1.2**
comp=Z,60nm,0.4s,mb5.5
QZH Quanzhou 25.37 306 PR 20 23 17.6
QZH S **S 20 27 39.3 +0.3**
QZH AMB AMB
comp=Z,430nm,1.2s,mb5.8
QZH AMB AMB
comp=Z,36μm,8.8s
QZH LR LR
comp=N,37μm,13.5s,MS6.4
QZH LR LR
comp=E,71μm,12.0s,MS6.4
QZH LR LR
comp=Z,145μm,16.5s,MS6.6
MAJO Matsushiro 25.67 355⇑*e*P **P 20 23 18.2 -3.3**
MAJO pmax pmax
comp=Z,510nm,1.0s,mb6.0
MAJO MLR MLR
comp=Z,84μm,19.0s,MS6.3
MAJO Matsushiro 25.67 355⇑*e*P **P 20 23 18.2 -3.3**
comp=Z,510nm,1.0s,mb6.0
MAJO LR LR
comp=Z,84μm,19.0s,MS6.3
MAT Matsushiro 25.67 355 *e*P **P 20 23 18.0 -3.5**
MAT *e*S **S 20 27 45.0 +1.1**
MAT pmax pmax
comp=Z,65nm,0.7s,mb5.3
MAT Matsushiro 25.67 355 *e*P **P 20 23 18.0 -3.5**
comp=Z,65nm,0.7s,mb5.3
MAT *e*S **S 20 27 45.0 +1.1**
MAT Matsushiro 25.67 355 P **P 20 23 18.0 -3.5**
MAT S **S 20 27 45.0 +1.1**
TANI Tanete Lipujan 25.71 238⇓*e*P **P 20 23 21.2 -0.9**
TANI pmax pmax
comp=Z,188nm,0.8s,mb5.7
TANI Tanete Lipujan 25.71 238⇓*e*P **P 20 23 21.2 -0.9**
comp=Z,188nm,0.8s,mb5.7
WAKE Wake Island 26.20 68 PFAKE 20 23 40.0 +13
WAKE LR LR
comp=Z,39μm,20.0s,MS5.9
SSE Sheshan 27.18 321 ⇓P **P 20 23 34.4 -1.1**
SSE AP pP 20 23 48.6 +0.1
SSE S **S 20 28 09.8 +1.1**
SSE AMB AMB
comp=Z,140nm,1.2s,mb5.4
SSE AMB AMB
comp=Z,5μm,9.5s
SSE LR LR
comp=N,21μm,17.9s,MS6.3
SSE LR LR
comp=E,73μm,17.9s,MS6.3
SSE LR LR
comp=Z,83μm,20.1s,MS6.3
HKC Hong Kong 27.97 297 *i*P **P 20 23 45.0 +2.2**
HKC *i*S **S 20 28 30.0 +8.5**
NJ2 Nanjing 29.30 319 *e*P **P 20 23 53.6 -0.9**
NJ2 AP pP 20 24 03.1 -4.6
NJ2 XP sP 20 24 07.1 -6.9
NJ2 PP PP 20 24 48.3 -2.5
NJ2 S **S 20 28 46.0 +3.4**
NJ2 XS 20 29 02.0
NJ2 AMB AMB
comp=Z,150nm,1.1s,mb5.6
NJ2 AMB AMB
comp=Z,25μm,10.4s
NJ2 LR LR
comp=N,211μm,14.8s,MS7.0
NJ2 LR LR
comp=E,145μm,16.7s,MS7.0
NJ2 LR LR
comp=Z,225μm,16.6s,MS6.9
INCN Inchon 29.44 336⇑*e*P **P 20 23 53.8 -1.9**
comp=Z,578nm,1.5s,mb6.1
INCN LR LR
comp=Z,155μm,20.0s,MS6.6
QIZ Qiongzhong 31.04 289 P **P 20 24 09.8 -0.3**
QIZ AP pP 20 24 17.1 -6.3
QIZ S **S 20 29 11.6 +1.4**
QIZ AMB AMB
comp=Z,306nm,1.5s,mb5.9
QIZ AMB AMB
comp=Z,8μm,10.8s
QIZ LR LR
comp=E,45μm,18.3s
QIZ LR LR
comp=Z,72μm,19.4s,MS6.3
QIZ Qiongzhong 31.04 289 *e*P **P 20 24 08.9 -1.2**
comp=Z,607nm,1.4s,mb6.2
QIZ LR LR
comp=Z,75μm,20.0s,MS6.3
CTA Charters Tower 31.21 170⇓*i*P **P 20 24 10.8 -0.8**
comp=Z,230nm,1.0s,mb6.0
CTA Charters Tower 31.21 170⇓*i*P **P 20 24 10.8 -0.8**
CTA pmax pmax
comp=Z,230nm,1.0s
CTA Charters Tower 31.21 170 S **S 20 29 05.6 -7.3**
comp=Z,28nm,1.2s,baz=259,slow=16,SNR=2.6
CTA LR LR 20 35 51.1
comp=Z,90μm,19.8s,MS6.4,baz=352,slow=35
CTAO Charters Tower 31.21 170⇓*i*P **P 20 24 10.7 -0.9**
CTAO pmax pmax
comp=Z,2μm,1.6s,mb6.7
CTAO MLR MLR
comp=Z,88μm,20.0s,MS6.4
CTAO Charters Tower 31.21 170⇓*i*P **P 20 24 10.7 -0.9**
comp=Z,2μm,1.6s,mb6.7
CTAO LR LR
comp=Z,88μm,20.0s,MS6.4
KEDI Kedomdong 31.28 233⇓*e*P **P 20 24 09.1 -3.1**
KEDI pmax pmax
comp=Z,548nm,1.0s,mb6.3
KEDI Kedomdong 31.28 233⇓*e*P **P 20 24 09.1 -3.1**
comp=Z,548nm,1.0s,mb6.3
WRAB Tennant Creek 31.29 192⇓*e*P **P 20 24 10.2 -2.0**
WRAB pmax pmax
comp=Z,1μm,0.9s,mb6.7
WRAB MLR MLR
comp=Z,46μm,20.0s,MS6.1
WRAB Tennant Creek 31.29 192⇓*e*P **P 20 24 10.2 -2.0**
comp=Z,1μm,0.9s,mb6.7
WRAB LR LR
comp=Z,46μm,20.0s,MS6.2
WB2 Warramunga Arr 31.30 192 *e*P **P 20 24 11.2 -1.1**
WRA Warramunga Arr 31.30 192 P **P 20 24 10.8 -1.5**
comp=Z,135nm,1.2s,mb5.7,baz=10,slow=9.3,SNR=69
WRA S **S 20 29 12.3 -1.9**
comp=Z,6.8nm,1.1s,baz=352,slow=25,SNR=2.5
WRA P3KP 20 57 02.5
comp=Z,3.3nm,1.2s,baz=135,slow=3.5,SNR=5.2
WHN Wuhan 31.48 312 ⇑P **P 20 24 14.0 +0.2**
WHN S **S 20 29 19.0 +2.0**
WHN AMB AMB
comp=Z,19μm,10.4s
WHN LR LR
comp=Z,149μm,16.5s,MS6.7
RATI Rata 31.88 233⇓*e*P **P 20 24 15.3 -2.2**
KELI Kelakatan 32.41 235⇑*e*P **P 20 24 21.2 -0.9**
comp=Z,1μm,1.0s,mb6.6
FITZ Fitzroy Crossi 32.50 208⇓*i*P **P 20 24 21.3 -1.5**
comp=Z,232nm,0.9s,mb6.0
SRDI Scrawed 32.84 235⇓*e*P **P 20 24 24.5 -1.4**
SRDI pmax pmax
comp=Z,213nm,1.1s,mb6.0
SRDI Scrawed 32.84 235⇓*e*P **P 20 24 24.5 -1.4**
comp=Z,212nm,1.1s,mb6.0
VLA Vladivostok 33.07 348⇓*i*P **P 20 24 29.0 +1.5**
VLA *i* 20 25 42.0
VLA *i*SS SS 20 31 45.0 +0.5
VLA *i*SSS SSS 20 32 05.0 -4.6
VLA pmax pmax
comp=N,11μm,15.0s
VLA pmax pmax
comp=E,1μm,15.0s
VLA pmax pmax
comp=Z,18μm,15.0s
VLA pmax pmax
comp=Z,16μm,9.0s
VLA pmax pmax
comp=N,17μm,10.0s
VLA pmax pmax
comp=E,2μm,14.0s
VLA MLR MLR
comp=Z,44μm,18.0s,MS6.2
VLA MLR MLR
comp=N,43μm,14.0s,MS6.4
VLA MLR MLR
comp=E,35μm,17.0s,MS6.4
ASAJ Asahikawa 33.15 2 P **P 20 24 26.9 -1.3**
comp=E,50nm,0.6s,mb5.6,baz=213,slow=9.3,SNR=16
ASAJ S **S 20 29 55.8 +13**
comp=E,17nm,1.0s,baz=165,slow=18,SNR=2.1
ASAJ LR LR 20 37 12.7
comp=E,55μm,19.8s,MS6.3,baz=199,slow=35
TIA Tai'an 33.15 323 ⇑P **P 20 24 27.3 -1.0**
TIA S **S 20 29 50.0 +7.0**
TIA AMB AMB
comp=Z,167nm,1.2s,mb5.8
TIA AMB AMB
comp=Z,6μm,11.0s
TIA LR LR
comp=N,51μm,16.0s,MS6.5
TIA LR LR
comp=E,51μm,14.0s,MS6.5
YUK Yuzh-Kuril'sk 33.32 7 *e*P **P 20 24 25.0 -4.7**
YUK *e*SS **S 20 29 41.0 -4.5**
YUK pmax pmax
comp=Z,10μm,10.0s
YUK pmax pmax
comp=N,5μm,12.0s
YUK pmax pmax
comp=Z,1μm,0.9s,mb6.8
YUK pmax pmax
comp=N,230nm,0.5s
YUK pmax pmax
comp=E,1μm,1.2s
YUK MLR MLR
comp=Z,67μm,19.0s,MS6.4
YUK MLR MLR
comp=N,50μm,20.0s,MS6.4
YUK MLR MLR
comp=E,48μm,18.0s,MS6.4
SNY Shenyang 34.37 337 ⇑P **P 20 24 38.1 -0.7**
SNY S **S 20 29 54.8 -7.1**
SNY LR LR
comp=N,66μm,17.7s,MS6.7
SNY LR LR
comp=E,108μm,18.3s,MS6.7
SNY LR LR
comp=Z,144μm,20.6s,MS6.7
ENH Enshi 34.99 308 *e*P **P 20 24 44.2 0.0**
comp=Z,403nm,1.0s,mb6.3
ENH LR LR
comp=Z,44μm,20.0s,MS6.2
ASAR Alice Springs 35.00 191 P **P 20 24 43.5 -0.8**
comp=Z,79nm,0.6s,mb5.8,baz=19,slow=12,SNR=233
ASAR PcP PcP 20 27 14.8 -1.0
comp=Z,28nm,0.8s,baz=4.6,slow=3.1,SNR=3.6
ASAR PKiKP 20 34 36.8
comp=Z,2.0nm,0.8s,baz=359,slow=1.1,SNR=3.5
ASAR LR LR 20 38 32.1
comp=Z,61μm,21.1s,MS6.3,baz=2.7,slow=36
ASAR P3KPbc 20 55 32.5
comp=Z,0.8nm,0.6s,baz=189,slow=3.8,SNR=12
ASAR P3KP 20 57 05.0
comp=Z,6.6nm,1.2s,baz=112,slow=2.5,SNR=7.1
MDJ Mudanjiang 35.00 346 P **P 20 24 42.8 -1.3**
MDJ AP pP 20 24 49.3 -8.3
MDJ PP PP 20 26 02.9 -0.7
MDJ PCP PcP 20 27 14.4 -1.3
MDJ S **S 20 30 14.4 +2.8**
MDJ SCP 20 30 58.9
MDJ PCS 20 31 01.4
MDJ SCS ScS 20 35 02.3 +4.4
MDJ AMB AMB
comp=Z,10μm,11.0s
MDJ LR LR
comp=N,38μm,24.2s
MDJ LR LR
comp=E,87μm,32.0s
MDJ LR LR
comp=Z,89μm,27.3s,MS6.4
MDJ Mudanjiang 35.00 346 *e*P **P 20 24 41.9 -2.3**
comp=Z,8.8nm,0.7s
MDJ LR LR
comp=Z,82μm,21.0s
UBT Ubonrachathani 35.20 281 P **P 20 24 46.0 -0.1**
YSS Yuzh-Sakhalins 35.99 2α*i*P **P 20 24 50.0 -2.5**
YSS *e**SP sP 20 25 04.0 -8.5
YSS *e* 20 26 13.0
YSS *e*PPP PPP 20 26 38.0 +2.5
YSS *e*S **S 20 30 26.0 -0.8**
YSS *e* 20 30 39.0
YSS *e*SS SS 20 32 45.0 -6.4
YSS pmax pmax
comp=Z,220nm,0.9s,mb6.1
YSS pmax pmax
comp=N,6μm,13.0s
YSS pmax pmax
comp=Z,8μm,13.0s
YSS pmax pmax
comp=N,11μm,12.0s
YSS pmax pmax
comp=Z,12μm,12.0s
YSS MLR MLR
comp=Z,63μm,17.0s,MS6.5
YSS MLR MLR
comp=N,43μm,16.0s
YSS Yuzh-Sakhalins 35.99 2 *e*P **P 20 24 50.1 -2.4**
comp=N,288nm,0.9s,mb6.2
YSS LR LR
comp=Z,64μm,19.0s,MS6.4
BJT Baijiatuau 36.37 327 *e*P **P 20 24 55.0 -0.8**
BJT pmax pmax
comp=Z,253nm,0.6s
BJT MLR MLR
comp=Z,139μm,19.0s
BJT Baijiatuau 36.37 327 *e*P **P 20 24 55.0 -0.8**
comp=Z,253nm,0.6s,mb6.3
BJT LR LR
comp=Z,139μm,19.0s,MS6.8
TIY Taiyuan 36.97 321 ⇑P **P 20 25 02.2 +1.4**
TIY LR LR
comp=N,79μm,16.0s
XAN Xi'an 37.22 313 P **P 20 25 02.3 -0.7**
XAN S **S 20 30 46.8 +1.1**
XAN AMB AMB
comp=Z,52nm,1.1s,mb5.3
XAN AMB AMB
comp=Z,10μm,11.7s
XAN LR LR
comp=N,22μm,19.5s,MS6.2
XAN LR LR
comp=E,30μm,16.8s,MS6.2
XAN LR LR
comp=Z,62μm,17.4s,MS6.5
KKTK Khon Kaen 37.37 283 ⇓P **P 20 25 05.0 +0.7**
MBWA Marble Bar 38.03 213 *e*P **P 20 25 07.4 -2.4**
comp=Z,327nm,1.4s,mb5.9
MBWA LR LR
comp=Z,26μm,20.0s,MS6.0
KLR Kul'dur 38.99 350 *e*P **P 20 25 13.8 -3.7**
KLR *e*S **S 20 31 08.5 -3.9**
KLR pmax pmax
comp=Z,330nm,1.4s,mb5.9
KLR pmax pmax
comp=Z,16μm,12.0s
KLR MLR MLR
comp=N,34μm,14.0s
KLR MLR MLR
comp=Z,42μm,14.0s,MS6.4
NANT Nan 39.58 286 ⇓P **P 20 25 24.0 +1.3**
comp=Z,472nm,1.1s,mb6.1
NST Nakhon Sawan 39.92 281 ⇑P **P 20 25 27.0 +1.4**
comp=Z,183nm,1.4s,mb5.6
NNT Nongplab 40.32 277 P **P 20 25 31.0 +2.1**
CHRT Chiangrai 40.55 288 ⇓P **P 20 25 32.5 +1.7**
comp=Z,3μm,0.9s,mb6.9
NOUC Port Laguerre 41.17 143 *e*P **P 20 25 35.9 +0.1**
CMAR Chiang Mai Arr 41.21 286 P **P 20 25 37.7 +1.5**
CMAR pmax pmax
comp=Z,931nm,1.3s
CMAR MLR MLR
comp=Z,37μm,20.8s
CMAR Chiang Mai Arr 41.21 286 P **P 20 25 37.6 +1.5**
comp=Z,931nm,1.3s,mb6.3,baz=88,slow=5.8,SNR=466
CMAR LR LR 20 41 07.6
comp=Z,37μm,20.8s,MS6.2,baz=100,slow=34
DZM Mont Dzumac 41.23 143⇓*i*P **P 20 25 37.0 +0.7**
CHG Chiang Mai 41.24 286⇓P **P 20 25 36.9 +0.5**
comp=Z,150nm,1.1s,mb5.5
SKR Severo-Kuril's 41.62 15 *e*P **P 20 25 34.0 -5.2**
SKR *e* 20 27 12.0
SKR *e*PPP PPP 20 27 33.0 -17
SKR *e*S **S 20 31 48.0 -3.6**
SKR pmax pmax
comp=Z,360nm,1.0s,mb6.0
SKR pmax pmax
comp=N,160nm,0.9s
SKR pmax pmax
comp=E,160nm,0.9s
SKR pmax pmax
comp=Z,11μm,14.0s
SKR pmax pmax
comp=N,8μm,12.0s
SKR pmax pmax
comp=E,8μm,12.0s
SKR smax
comp=N,41μm,20.0s
SKR smax
comp=E,22μm,20.0s
SKR MLR MLR
comp=Z,59μm,18.0s,MS6.5
SKR MLR MLR
comp=N,31μm,16.0s,MS6.4
SKR MLR MLR
comp=E,28μm,16.0s,MS6.4
LZH Lanzhou 41.85 313⇓P **P 20 25 42.1 +0.7**
LZH AP pP 20 25 56.5 +1.4
LZH PP PP 20 27 22.0 +0.2
LZH S **S 20 31 54.5 -0.8**
LZH XS 20 32 19.0
LZH SS SS 20 34 57.3 -0.2
LZH AMB AMB
comp=Z,1μm,1.5s,mb6.3
LZH AMB AMB
comp=Z,14μm,9.3s
LZH LR LR
comp=E,46μm,14.8s
LZH LR LR
comp=Z,74μm,18.2s,MS6.6
HIA Hailar 42.12 339 *e*P **P 20 25 42.7 -0.7**
HIA pmax pmax
comp=Z,67nm,0.8s
HIA MLR MLR
comp=Z,98μm,20.0s
HIA Hailar 42.12 339 *e*P **P 20 25 42.7 -0.7**
comp=Z,67nm,0.8s,mb5.3
HIA LR LR
comp=Z,98μm,20.0s,MS6.7
STKA Stephens Creek 42.51 179⇓*i*P **P 20 25 45.5 -1.4**
comp=Z,139nm,0.8s,mb5.7
STKA Stephens Creek 42.51 179 P **P 20 25 45.8 -1.0**
comp=Z,70nm,0.7s,mb5.5,baz=353,slow=7.7,SNR=62
STKA S **S 20 32 02.9 -2.2**
comp=Z,18nm,1.2s,baz=319,slow=20,SNR=2.3
STKA LR LR 20 44 31.0
comp=Z,151μm,18.7s,MS6.9,baz=345,slow=38
MIDW Midway 42.68 60 PFAKE 20 26 00.0 +12
MIDW LR LR
comp=Z,39μm,19.0s,MS6.3
FORT Forrest 43.21 196⇓*i*P **P 20 25 52.4 -0.2**
comp=Z,2μm,0.9s,mb6.9
PET Petropavlovsk 44.40 15⇑*i*P **P 20 26 00.6 -1.2**
PET *e* 20 27 44.6
PET *e*S **S 20 32 32.1 0.0**
PET *e*SS SS 20 35 49.9 +6.4
PET *e*SSS SSS 20 36 42.4 +0.7
PET pmax pmax
comp=Z,155nm,1.3s,mb5.6
PET pmax pmax
comp=Z,12μm,12.5s
PET pmax pmax
comp=N,6μm,14.0s
PET pmax pmax
comp=E,2μm,13.7s
PET pmax pmax
comp=Z,12μm,13.3s
PET pmax pmax
comp=N,7μm,17.1s
PET smax
comp=N,84μm,24.3s
PET smax
comp=E,38μm,25.7s
PET smax
comp=N,44μm,21.8s
PET smax
comp=E,18μm,22.2s
PET MLR MLR
comp=Z,52μm,19.0s,MS6.5
PET MLR MLR
comp=Z,45μm,19.0s
PET Petropavlovsk 44.40 15 *e*P **P 20 25 59.3 -2.6**
comp=Z,214nm,1.1s,mb5.8
PET LR LR
comp=Z,48μm,19.0s,MS6.4
ADE Adelaide 45.64 183 *e*P **P 20 26 12.9 +0.9**
ULN Ulaanbaatar 46.54 329 P **P 20 26 18.8 -0.1**
ULN Ulaanbaatar 46.54 329 P **P 20 26 18.3 -0.6**
ULN pmax pmax
comp=Z,370nm,1.4s,mb6.1
ULN MLR MLR
comp=Z,100μm,19.0s,MS6.8
ULN Ulaanbaatar 46.54 329 *e*P **P 20 26 18.7 -0.2**
comp=Z,371nm,1.4s,mb6.1
ULN LR LR
comp=Z,104μm,19.0s,MS6.8
IMP Imphal 46.57 294 *e*P **P 20 26 18.6 -0.9**
CNB Canberra Magne 46.63 170⇑*i*P **P 20 26 20.4 +0.6**
comp=Z,10μm,1.8s
SONM Songino Array 46.85 328 P **P 20 26 21.9 +0.5**
comp=Z,80nm,0.9s,mb5.7,baz=137,slow=6.7,SNR=136
SONM PcP PcP 20 27 54.4 +0.4
comp=Z,104nm,1.1s,baz=148,slow=2.9,SNR=6.8
SONM S **S 20 33 06.1 -1.2**
comp=Z,7.7nm,1.3s,baz=98,slow=10,SNR=2.3
CLNS Chul'man 47.51 348 *e*P **P 20 26 25.8 -0.6**
CLNS *e* 20 27 54.1
CLNS *e* 20 28 09.5
CLNS *e*S **S 20 33 17.5 +1.1**
CLNS *e*SS SS 20 36 42.7 +4.1
CLNS pmax pmax
comp=Z,308nm,1.0s,mb6.3
CLNS pmax pmax
comp=N,216nm,1.2s
CLNS pmax pmax
comp=E,137nm,1.1s
CLNS pmax pmax
comp=N,146nm,1.0s
CLNS pmax pmax
comp=E,57nm,1.0s
CLNS pmax pmax
comp=Z,213nm,1.0s,mb6.1
CLNS smax
comp=N,110nm,1.3s
CLNS smax
comp=Z,37nm,1.2s
CLNS smax
comp=E,66nm,1.6s
TOO Toolangi 48.38 175 *e*P **P 20 26 34.7 +1.2**
comp=E,318nm,1.1s,mb6.3
TOO Toolangi 48.38 175 *e*P **P 20 26 34.7 +1.2**
TOO pmax pmax
comp=Z,318nm,1.1s,mb6.3
SHL Shillong 48.53 294⇓*i*P **P 20 26 35.2 +0.4**
SHL *e* 20 31 56.0
MUN Mundaring 48.73 208⇓*i*P **P 20 26 35.5 -0.7**
comp=Z,193nm,0.8s,mb6.2
MUN *e*S **S 20 33 37.4 +3.5**
MUN Mundaring 48.73 208⇓*i*P **P 20 26 35.5 -0.7**
MUN *e*S **S 20 33 37.4 +3.5**
MUN pmax pmax
comp=Z,193nm,0.8s,mb6.2
AGT Agartala 48.88 292⇑*i*P **P 20 26 37.0 -0.5**
AGT *i* 20 29 40.0
NWAO Narrogin (SRO) 49.06 207 P **P 20 26 37.8 -1.0**
NWAO Narrogin (SRO) 49.06 207⇓*e*P **P 20 26 38.0 -0.8**
NWAO pmax pmax
comp=Z,671nm,1.5s
NWAO Narrogin (SRO) 49.06 207 LR LR 20 48 55.2

comp=Z,236nm,21.3s,baz=40,slow=38
NWAO Narrogin (SRO) 49.06 207⇓ *e*P **P 20 26 38.0 -0.8**
comp=Z,671nm,1.5s,mb6.5
MA2 Magadan 49.16 7 *d* iP **P 20 26 36.9 -2.3**
MA2 *i* S **S 20 33 38.3 -1.3**
MA2 pmax pmax
comp=Z,100nm,1.3s,mb5.7
MA2 pmax pmax
comp=N,60nm,1.4s
MA2 MLR MLR
comp=Z,32μm,21.0s,MS6.3
MA2 Magadan 49.16 7 *e*P **P 20 26 36.7 -2.5**
comp=Z,266nm,1.2s,mb6.2
FX1 Attu Island--F 49.27 25 P **P 20 26 39.6 -0.5**
FX1 pmax pmax
comp=Z,92nm,0.4s
FX1 Attu Island--F 49.27 25 P **P 20 26 39.6 -0.5**
comp=Z,92nm,0.4s,mb6.2,baz=249,slow=7.4
COCO West Island 49.40 244 *e*P **P 20 26 40.6 -1.0**
comp=Z,2μm,1.3s,mb7.0
SMY Shemya 49.56 26 *e*P **P 20 26 41.6 -0.7**
SMY pmax pmax
comp=Z,1μm,1.1s,mb6.8
SMY MLR MLR
comp=Z,180μm,20.0s,MS7.1
SMY Shemya 49.56 26 *e*P **P 20 26 40.4 -1.9**
LSA Lhasa 49.87 300 P **P 20 26 46.4 +1.4**
LSA AP pP 20 27 02.3 +3.4
LSA XP sP 20 27 05.4 +0.5
LSA PCP PcP 20 28 05.9 +0.7
LSA PP PP 20 28 39.1 -1.8
LSA SCP 20 31 58.8
LSA PCS 20 32 04.9
LSA XS 20 34 11.9
LSA SCS ScS 20 36 31.1 +2.4
LSA SS SS 20 37 22.5 +3.1
LSA AMB AMB
comp=Z,150nm,1.2s,mb5.9
LSA AMB AMB
comp=Z,10μm,10.6s
LSA LR LR
comp=N,24μm,25.6s
LSA LR LR
comp=E,32μm,19.9s
LSA LR LR
comp=Z,44μm,24.7s,MS6.4
LSA Lhasa 49.87 300 *e*P **P 20 26 45.9 +0.9**
LSA pmax pmax
comp=Z,222nm,1.0s,mb6.2
LSA MLR MLR
comp=Z,44μm,21.0s,MS6.4
LSA Lhasa 49.87 300 *e*P **P 20 26 45.9 +0.8**
comp=Z,222nm,1.0s,mb6.2
LSA LR LR
comp=Z,44μm,21.0s,MS6.4
ZAK Zakamensk 50.05 329⇓ *i*P **P 20 26 46.1 -0.1**
ZAK *e* 20 28 04.8
ZAK *e* 20 33 55.2
TLY Talaya 50.70 331 *d* iP **P 20 26 50.7 -0.3**
TLY *e*S **S 20 33 58.4 -2.6**
TLY *e*PS PS 20 34 21.8 +4.5
TLY *e* 20 36 36.3
TLY MLR MLR
comp=Z,91μm,19.0s,MS6.8
TLY Talaya 50.70 331⇓ *e*P **P 20 26 50.7 -0.4**
comp=Z,23nm,1.1s
TLY LR LR
comp=Z,25μm,19.0s
IRK Irkutsk 50.76 332 *e*P **P 20 26 51.2 -0.4**
IRK *e*S **S 20 34 03.6 +1.7**
BOD Bodaibo 51.16 342 *e*P **P 20 26 52.7 -1.8**
YAK Yakutsk 51.72 353 *c* iP **P 20 26 57.3 -1.3**
YAK *e* pP 20 27 09.7 -2.9
YAK *e* 20 28 51.1
YAK *i* S **S 20 34 13.1 -1.8**
YAK *e* 20 34 29.9
YAK pmax pmax
comp=Z,420nm,0.9s,mb6.4
YAK pmax pmax
comp=N,267nm,1.3s
YAK pmax pmax
comp=E,77nm,1.1s
YAK pmax pmax
comp=E,44nm,1.1s
YAK pmax pmax
comp=Z,31nm,1.1s,mb5.2
YAK pmax pmax
comp=N,49nm,1.2s
YAK smax
comp=E,59nm,1.0s
YAK smax
comp=Z,28nm,0.9s
YAK smax
comp=N,34nm,0.7s
YAK Yakutsk 51.72 353⇓ *e*P **P 20 26 56.2 -2.4**
comp=N,830nm,0.8s,mb6.7
MOY Mondy 51.98 330 *e*P **P 20 27 00.4 -0.3**
SEY Seymchan 52.62 7 *e*P **P 20 27 04.0 -1.4**
SEY 20 28 12.2
SEY 20 29 04.9
SEY PPP PPP 20 30 15.8 +4.0
SEY pmax pmax
comp=Z,500nm,0.9s,mb6.4
SEY pmax pmax
comp=N,300nm,1.0s
SEY pmax pmax
comp=E,210nm,1.0s
SEY MLR MLR
comp=Z,128μm,18.0s,MS7.0
SEY MLR MLR
comp=N,100μm,17.0s,MS7.0
SEY MLR MLR
comp=E,69μm,20.0s,MS7.0
AFI Afiamalu 53.00 117⇓ *e*P **P 20 27 08.0 -0.8**
AFI pmax pmax
comp=Z,710nm,1.3s,mb6.4
AFI Afiamalu 53.00 117⇓ *e*P **P 20 27 08.0 -0.9**
comp=Z,714nm,1.4s,mb6.4
KIWB Kanaga Island 53.12 31 *e*P **P 20 27 07.3 -1.9**
KIWB *e* 20 27 12.8
KIWB *e* pP 20 27 20.2 -3.1
BWNR Bhubaneshwar 53.69 287 *e*P **P 20 27 13.1 -0.8**
BWNR *e* 20 27 16.0
comp=Z,628nm,1.6s
BWNR *e*S **S 20 34 42.7 +0.4**
GSTR Great Sitkin T 53.81 31 *e*P **P 20 27 13.1 -1.2**
TAU Tasmania Unive 53.84 174 *e*P **P 20 27 14.3 -0.4**
TAU pmax pmax
comp=Z,1μm,1.5s,mb6.7
TAU Tasmania Unive 53.84 174 *e*P **P 20 27 14.3 -0.4**
comp=Z,1μm,1.5s,mb6.7
OUZ Omahuta 55.30 147 ⇓P **P 20 27 26.2 +0.7**
VIS Vishakhapatnam 56.03 284 *e*P **P 20 27 31.9 +1.0**
VIS *e* 20 27 34.7
comp=Z,462nm,1.3s
WCZ Waipu Caves 56.25 147 P **P 20 27 32.4 +0.2**
WCZ *e*E pP 20 27 47.5 +1.1
WMQ Urumqi 56.28 316⇓ *i*P **P 20 27 31.6 -0.7**
WMQ AP pP 20 27 47.5 +1.0
WMQ PP PP 20 29 38.7 -0.8
WMQ S **S 20 35 14.2 -2.5**
WMQ XS 20 35 41.4
WMQ AMB AMB
comp=Z,618nm,1.4s,mb6.4
WMQ AMB AMB
comp=Z,14μm,5.0s
WMQ LR LR
comp=N,21μm,20.6s,MS6.5
WMQ LR LR
comp=E,29μm,18.1s,MS6.5
WMQ LR LR
comp=Z,37μm,19.6s,MS6.5
BLSP Bilaspur 57.15 289 *e*P **P 20 27 39.0 +0.2**
BLSP *e* 20 27 41.8
comp=Z,988nm,1.6s
BLSP *e*S **S 20 35 33.3 +4.8**
QRZ Quartz Range 59.16 152 P **P 20 27 52.1 -0.5**
QRZ *e*E pP 20 28 08.6 +1.7
MGZ Maungaku 59.19 149 P **P 20 27 53.0 +0.2**
MDRS Chennai 59.26 279 *e*P **P 20 27 54.0 +0.4**
MDRS *e* 20 27 57.1
comp=Z,817nm,1.7s
MDRS *e* 20 31 56.0
MDRS *e*S **S 20 36 01.6 +5.5**
MDRS *i* 20 36 06.0

KIP Kipapa 59.30 72 *e*P **P 20 27 53.1 -0.7**
KIP pmax pmax
comp=Z,530nm,0.9s,mb6.6
KIP Kipapa 59.30 72 *e*P **P 20 27 53.0 -0.8**
comp=Z,533nm,0.9s,mb6.6
HON Honolulu 59.31 72⇑ *e*P **P 20 27 53.6 -0.3**
NGZ Ngauruhoe 59.35 149 P **P 20 27 54.0 0.0**
NGZ pP pP 20 28 08.0 -0.2
URZ Urewera 59.45 147 P **P 20 27 53.0 -1.6**
comp=Z,42nm,0.5s,mb5.7,baz=334,slow=5.6,SNR=39
URZ S **S 20 36 12.8 +15**
comp=Z,2.0nm,0.4s,baz=180,slow=20,SNR=2.5
PALK Pallekele 59.48 272⇓ *e*P **P 20 27 54.9 -0.3**
comp=Z,576nm,1.4s,mb6.4
DSZ Denniston Nort 59.58 154 P **P 20 27 54.8 -0.7**
MWZ Matawai 59.72 147 *e*P **P 20 27 56.3 -0.2**
BKZ Black Stump Fm 59.80 148 P **P 20 27 55.3 -1.7**
BKZ pP pP 20 28 10.8 -0.5
PUZ Puketiti 59.92 146 *e*P **P 20 27 57.3 -0.6**
NGP Nagpur 60.02 288 *e*P **P 20 27 58.2 -0.5**
NGP *e*S **S 20 36 10.0 +4.3**
THZ Tophouse 60.08 153 *e*P **P 20 27 56.3 -2.6**
TSZ Takapari Road 60.20 149 P **P 20 27 58.3 -1.5**
JHNI Jhansi 60.52 293⇑ *i*P **P 20 28 00.0 -2.2**
HYB Hyderabad 60.59 284⇓ *e*P **P 20 28 03.0 +0.2**
HYB *e*S **S 20 36 20.0 +6.8**
HYB pmax pmax
comp=Z,2μm,1.5s,mb6.9
HYB Hyderabad 60.59 284⇓ *e*P **P 20 28 03.0 +0.2**
comp=Z,2μm,1.5s,mb6.9
HYB *e*S **S 20 36 20.0 +6.8**
HYB *e*P'P' 20 57 08.0
HYB Hyderabad 60.59 284⇓ *i*P **P 20 28 03.0 +0.2**
comp=Z,2μm,1.5s,mb6.9
HYB *e* 20 28 08.0
HYB *e* 20 28 11.5
HYB *e*PcP PcP 20 28 45.5 -1.0
HYB *e*PP PP 20 30 12.0 -6.7
HYB *e*S **S 20 36 20.0 +6.8**
HYB *e*ScS ScS 20 37 48.0 +2.8
HYB *e*SS SS 20 40 12.0 -1.4
HYB LR LR 20 53 00.0
comp=Z,19nm,20.0s
HYB *e*PKPPKP 20 57 18.0
MKAR Makanchi Array 60.81 318 *i* P **P 20 28 03.1 -0.7**
MKAR pmax pmax
comp=Z,910nm,1.3s
RPZ Rata Peaks 60.87 155 P **P 20 28 03.2 -1.1**
comp=Z,351nm,1.0s,mb6.4,baz=331,slow=1.5,SNR=26
RPZ LR LR 20 49 46.7
comp=Z,34μm,19.4s,MS6.5,baz=324,slow=32
RPZ Rata Peaks 60.87 155 P **P 20 28 02.0 -2.3**
HKL Haleakala 60.94 72 *e*P **P 20 28 05.5 +0.4**
LBZ Lake Benmore 61.08 156 *e*P **P 20 28 03.6 -2.1**
TIXI Tiksi 61.18 356 *e*P **P 20 28 03.5 -2.5**
TIXI *e* 20 30 19.0
TIXI *e*S **S 20 36 22.3 +2.3**
TIXI pmax pmax
comp=Z,153nm,1.1s,mb6.0
TIXI pmax pmax
comp=N,71nm,1.3s
TIXI pmax pmax
comp=E,65nm,1.6s
TIXI pmax pmax
comp=Z,9μm,10.4s
TIXI MLR MLR
comp=Z,28μm,17.0s,MS6.5
TIXI MLR MLR
comp=N,23μm,21.0s,MS6.5
TIXI MLR MLR
comp=E,19μm,16.0s,MS6.5
TIXI Tiksi 61.18 356⇑ *i*P **P 20 28 04.0 -2.0**
DDI Dehra Dun 61.20 299 *e*P **P 20 28 05.4 -1.3**
DDI *e* 20 36 12.5
BHPL Bhopal 61.51 291 *e*P **P 20 28 08.5 -0.4**
BHPL *e* 20 28 11.2
comp=Z,486nm,1.8s
ZAL Zalesovo 61.64 326 P **P 20 28 08.1 -1.2**
ZAL pmax pmax
comp=Z,28nm,0.5s
ZAL Zalesovo 61.64 326 P **P 20 28 08.1 -1.2**
comp=Z,28nm,0.5s,mb5.7,baz=0.3,slow=6.4,SNR=132
ZAL Zalesovo 61.64 326 P **P 20 28 08.1 -1.2**
NDI New Delhi 61.83 297 *e*P **P 20 28 08.5 -2.4**
NDI *e*S **S 20 36 29.0 +0.2**
TUZ Tuapeka 62.19 158 P **P 20 28 12.6 -0.5**
TUZ pP pP 20 28 26.4 -1.0
KOD Kodaikanal 62.26 276 *e*P **P 20 28 15.0 +1.0**
LATR Latur 62.44 285 *e*P **P 20 28 15.5 +0.3**
BHK Bhakra 62.68 300 *e*P **P 20 28 15.9 -0.7**
BHK *e*S **S 20 36 39.7 +0.2**
NVS Novosibirsk 62.82 327 *i* P **P 20 28 15.1 -2.1**
NVS *i* S **S 20 36 42.4 +1.5**
NVS pmax pmax
comp=N,219nm,1.3s
NVS pmax pmax
comp=E,581nm,1.3s
NVS pmax pmax
comp=Z,927nm,1.3s,mb6.8
NVS smax
comp=E,261nm,1.6s
NVS smax
comp=N,152nm,1.8s
TRD Trivandrum 62.98 274 *e*P **P 20 28 23.4 +4.6**
TRD *e* 20 28 32.1
comp=Z,495nm,2.0s
TRD *i* 20 32 47.4
DLH Dalhousie 63.14 301 *e*P **P 20 28 18.0 -1.7**
DLH *e* pP 20 28 36.0 +1.9
AAA Alma-Ata 63.70 313 *e*P **P 20 28 23.0 -0.2**
AAA *e* 20 32 12.0
AAA *e*S **S 20 36 56.0 +3.9**
AAA pmax pmax
comp=Z,10μm,14.0s
AAA Alma-Ata 63.70 313 *i* Pr 20 28 23.0
ULHL Ulahol 64.04 312 P **P 20 28 26.0 +0.6**
SNR=5.9
AJM Ajmer 64.05 294⇓ *i*P **P 20 28 25.0 -0.7**
MNGI Mangalore 64.53 279 *i* P **P 20 28 28.9 -0.2**
TKM2 Tokmak 2 64.62 312 P **P 20 28 28.9 -0.3**
SNR=120
KZA Kyzart 64.75 311 P **P 20 28 30.7 +0.7**
SNR=261
KAD Karad 64.77 284⇓ *i*P **P 20 28 29.9 -0.6**
POO Poona 65.00 285 *e*P **P 20 28 31.0 -1.0**
POO *e* 20 28 34.2
comp=Z,694nm,1.8s
POO *i* 20 37 20.0
KBK Karagaybulak 65.05 312 P **P 20 28 32.0 +0.1**
SNR=152
ANM Nome 65.16 23 *e*P **P 20 28 31.0 -1.3**
CHMS Chumysh 65.24 312 P **P 20 28 32.6 -0.6**
SNR=234
GOA Goa 65.25 282⇓ *i*P **P 20 28 40.2 +6.5**
comp=Z,16nm,70.5s,baz=20
GOA *i* S S 20 37 24.0 +12
UCH Uchtor 65.31 311 P **P 20 28 34.3 +0.7**
SNR=456
FRU Bishkek 65.32 312⇓ *i*P **P 20 28 33.0 -0.7**
FRU *i* S S 20 37 17.5 +5.5
FRU pmax pmax
comp=Z,540nm,1.7s,mb6.3
FRU pmax pmax
comp=Z,8μm,12.0s
AAK Ala-Archa 65.38 312 P **P 20 28 34.0 -0.1**
SNR=125
AAK Ala-Archa 65.38 312 *d* iP **P 20 28 32.9 -1.2**
AAK pmax pmax
comp=Z,291nm,1.7s,mb6.0
AAK Ala-Archa 65.38 312⇓ *e*P **P 20 28 32.7 -1.3**
comp=Z,277nm,1.3s,mb6.1
USP Ospenovka 65.47 313 P **P 20 28 34.1 -0.6**
SNR=122
AML Almayashu 65.90 311 P **P 20 28 38.3 +0.9**
SNR=283
EKS2 Erkin-Say 65.91 312 P **P 20 28 37.6 +0.1**
SNR=133
BOM Bombay 65.96 286 *i* P **P 20 28 37.6 -0.6**
BOM *e* 20 37 13.9
RAR Rarotonga 66.41 119 P **P 20 28 41.6 +0.6**
RAR pmax pmax
comp=Z,84nm,1.2s
RAR MLR MLR
comp=Z,34μm,20.0s

RAR Rarotonga 66.41 119 P **P 20 28 41.6 +0.6**
comp=Z,84nm,1.2s,mb5.7,baz=234,slow=6.3,SNR=9.5
RAR LR LR 20 52 29.9
comp=Z,34μm,20.0s,MS6.6,baz=296,slow=31
RAR Rarotonga 66.41 119 *e*P **P 20 28 41.3 +0.3**
comp=Z,783nm,1.8s,mb6.4
SVW2 Sparrevohn 67.87 28 *e*P **P 20 28 48.4 -1.1**
KDAK Kodiak Island 68.41 32 *e*P **P 20 28 53.0 +0.1**
BHJ Bhuj 68.65 291⇓ *e*P **P 20 28 55.9 +0.9**
comp=Z,10μm,19.0s
BHJ *e* 20 38 00.9
RSO Redoubt South 69.02 29 *e*P **P 20 28 54.1 -2.4**
SPU Mount Spurr 69.54 28 *e*P **P 20 28 58.3 -1.5**
CHKZ Chkalovo 69.65 323 P **P 20 28 59.5 -1.1**
CHKZ pmax pmax
comp=Z,746nm,1.3s,mb6.5
CHKZ Chkalovo 69.65 323⇓ *e*P **P 20 28 59.5 -1.1**
comp=Z,740nm,1.2s,mb6.5
BVA0 Borovoye Array 69.68 323 P **P 20 29 00.3 -0.5**
BVA0 pmax pmax
comp=Z,167nm,1.2s,mb5.8
BVAR Borovoye Array 69.68 323 P **P 20 28 60.0 -0.8**
comp=Z,150nm,0.7s,mb6.0,baz=101,slow=7.6,SNR=668
BVAR PKPPKP 20 57 07.0
comp=Z,1.4nm,0.8s,baz=180,slow=2.9,SNR=7.4
BRVK Borovoye 69.75 323⇓ *e*P **P 20 29 00.7 -0.5**
BRVK pmax pmax
comp=Z,1μm,1.1s,mb6.7
BRVK Borovoye 69.75 323⇓ *e*P **P 20 29 00.7 -0.5**
comp=Z,1μm,1.1s,mb6.7
SLKM Skilak Lake 70.24 29 *e*P **P 20 29 02.8 -1.3**
IMA Indian Mountai 70.25 23 P **P 20 29 03.8 -0.3**
IMA pmax pmax
comp=Z,770nm,1.0s,mb6.6
IMA Indian Mountai 70.25 23 *e*P **P 20 29 03.4 -0.7**
DGAR Diego Garcia 70.50 258 *e*P **P 20 29 06.4 0.0**
DGAR pmax pmax
comp=Z,2μm,1.5s,mb6.8
DGAR Diego Garcia 70.50 258 *e*P **P 20 29 06.4 0.0**
comp=Z,2μm,1.5s,mb6.8
PWA Palmer West 70.67 28 *e*P **P 20 29 04.8 -1.8**
PMR Palmer 71.00 28 *e*P **P 20 29 06.5 -2.1**
COLA College 72.28 25 P **P 20 29 14.5 -1.7**
COLA pmax pmax
comp=Z,45nm,0.6s,mb5.6
COLA College 72.28 25 *e*P **P 20 29 14.4 -1.8**
ILAR Eielson Array 72.66 25 P **P 20 29 16.4 -2.0**
ILAR pmax pmax
comp=Z,91nm,0.6s
ILAR MLR MLR
comp=Z,44μm,20.3s
ILAR Eielson Array 72.66 25 P **P 20 29 16.4 -2.1**
comp=Z,91nm,0.6s,mb5.9,baz=248,slow=5.5,SNR=806
ILAR LR LR 20 59 21.5
comp=Z,44μm,20.2s,MS6.7,baz=270,slow=34
MENT Mentasta 73.73 27 *e*P **P 20 29 24.2 -0.5**
PPT Papeete 74.24 112 *e*P **P 20 29 30.3 +1.7**
comp=Z,565nm,1.5s,mb6.3
PPT Papeete 74.24 112 *e*LQ 20 48 45.9
PPT *e*LR LR 20 52 07.6
comp=Z,49μm,20.8s,baz=289
PPT Papeete 74.24 112 P **P 20 29 31.2 +2.6**
PPT pmax pmax
comp=Z,122nm,1.0s
PPT Papeete 74.24 112 P **P 20 29 31.2 +2.7**
comp=Z,122nm,1.0s,mb5.8,baz=327,slow=1.9,SNR=20
PAE Paea 74.27 112 *e*P **P 20 29 30.2 +1.5**
comp=Z,1μm,1.4s,mb6.6
TIAR Tiarei 74.45 112 *e*P **P 20 29 31.4 +1.6**
comp=Z,2μm,1.5s,mb6.8
TVO Taravao 74.60 112 *e*P **P 20 29 32.4 +1.8**
comp=Z,1μm,1.5s,mb6.7
PMOR Pomariorio Ree 75.07 109 *e*P **P 20 29 34.8 +1.4**
comp=Z,1μm,1.3s,mb6.6
SVE Sverdlovsk 75.65 326⇓ *i*P **P 20 29 36.6 +0.7**
SVE *e*PPP PPP 20 34 19.0 +4.8
SVE *e*S S 20 39 11.0 -0.8
SVE *e* 20 39 35.0
SVE *e*SS SS 20 44 11.6 +5.1
SVE pmax pmax
comp=Z,880nm,1.3s,mb6.5
SVE pmax pmax
comp=Z,9μm,12.0s
MEH Mehetia 75.71 112 *e*P **P 20 29 38.3 +1.3**
comp=Z,316nm,1.3s,mb6.1
DAWY Dawson 75.79 27 *e*P **P 20 29 36.4 -0.1**
TBI Tubuai 76.10 117 *e*P **P 20 29 39.8 +0.7**
comp=Z,736nm,1.2s,mb6.5
TBI *e*LQ 20 49 59.6
TBI *e*LR LR 20 52 46.4
comp=Z,38μm,21.2s,baz=291
ARU Arti 76.79 326⇓ *i*P **P 20 29 38.1 -4.2**
ARU *e* pP 20 29 51.0 -6.1
ARU *i* 20 32 30.2
ARU *i* S S 20 39 18.3 -5.9
ARU *i* 20 39 57.7
ARU pmax pmax
comp=Z,259nm,0.9s,mb6.2
DRV Dumont d'Urvil 77.33 180 P **P 20 29 47.0 +1.8**
ASH Ashkhabad 77.56 307 *e*P **P 20 29 47.5 +0.5**
SIT Sitka 77.57 34 *e*P **P 20 29 46.8 +0.1**
SIT pmax pmax
comp=Z,429nm,1.4s,mb6.2
SIT Sitka 77.57 34 *e*P **P 20 29 46.8 +0.1**
comp=Z,429nm,1.4s,mb6.2
SOKR Solikamsk 77.72 329 *d* iP **P 20 29 46.7 -0.8**
SOKR *i* S S 20 39 25.7 -8.6
SOKR pmax pmax
comp=Z,400nm,1.2s,mb6.2
SOKR MLR MLR
comp=Z,76μm,19.0s,MS7.0
INK Inuvik 78.34 22 P **P 20 29 49.8 -0.9**
comp=Z,123nm,0.9s,mb5.8,baz=287,slow=4.7,SNR=277
INK PKKPbc 20 48 48.6
comp=Z,4.8nm,1.0s,baz=102,slow=2.1,SNR=6.3
INK PKPPKP 20 56 45.5
comp=Z,5.7nm,1.3s,baz=74,slow=4.5,SNR=4.1
INK LR LR 21 04 52.8
comp=Z,33μm,21.0s,MS6.6,baz=248,slow=36
INK Inuvik 78.34 22⇓ *e*P **P 20 29 49.7 -1.0**
comp=Z,0.9nm,1.0s
WBK Wadi Bani Khal 78.52 291 P **P 20 29 53.2 +0.6**
SNR=60
BIDO Bidbid 79.18 292 P **P 20 29 57.0 +0.8**
SNR=111
SMDO Samad 79.31 292 P **P 20 29 57.2 +0.3**
SNR=45
JMDO Jabal Madar 79.34 291 P **P 20 29 57.5 +0.4**
SNR=25
HOQ Hoqain 79.91 292 P **P 20 30 00.4 +0.2**
SNR=114
BSY Bisya 80.12 291 P **P 20 30 01.6 +0.2**
SNR=61
CASY Casey 80.13 192 *e*P **P 20 30 01.0 +0.6**
DLBC Dease Lake 80.34 32 P **P 20 30 02.4 +0.6**
comp=Z,98nm,0.7s,mb5.8,baz=286,slow=5.2,SNR=114
DLBC PKKPbc 20 48 45.5
comp=Z,2.6nm,0.7s,baz=138,slow=14,SNR=4.0
DLBC LR LR 20 59 13.3
comp=Z,14μm,21.7s,MS6.3,baz=50,slow=31
DLBC Dease Lake 80.34 32 *e*P **P 20 30 02.3 +0.6**
ARQ Araqi 80.66 292 P **P 20 30 04.6 +0.4**
SNR=64
RBK Rabkut 83.68 287 P **P 20 30 20.1 +0.2**
SNR=149
WHFO Wadi Hawf 84.02 287 P **P 20 30 21.4 -0.3**
SNR=87
MIR Mirnyy 84.73 197 κ*e*P **P 20 30 23.4 -0.6**
MIR *e* 20 33 44.0
MIR *e*PPP PPP 20 35 35.0 -3.1
MIR pmax pmax
comp=Z,800nm,1.8s,mb6.5
MIR pmax pmax
comp=Z,5μm,12.5s
PECR Pechory 84.80 326⇓ *i*P **P 20 30 24.0 -0.6**
PECR *i* 20 33 49.0
PECR *i* S S 20 40 50.0 +2.9
PECR *i* 20 41 45.0
PECR pmax pmax
comp=Z,13μm,12.0s
PECR pmax pmax
comp=Z,11μm,12.0s
PECR pmax pmax
comp=N,4μm,15.0s
PECR smax
comp=N,46μm,14.0s

MAK	**Makhachkala**	**85.15**	**313**	*c iP*	**P**	**20 30 26.8 +0.1**
MAK				*e*		20 33 46.5
MAK				*e*PPP	PPP	20 35 44.0 +1.5
MAK				*e*S	S	20 40 55.0 +4.1
MAK				*i* PS	PS	20 41 56.0 +1.4
MAK				pmax	pmax	
	comp=N,4μm,10.0s					
MAK				pmax	pmax	
	comp=E,5μm,10.0s					
MAK				pmax	pmax	
	comp=Z,18μm,10.0s					
MAK				pmax	pmax	
	comp=E,4μm,10.0s					
MAK				pmax	pmax	
	comp=Z,6μm,10.0s					
MAK				smax		
	comp=N,28μm,13.0s					
MAK				smax		
	comp=E,18μm,13.0s					
MAK	**Makhachkala**	**85.15**	**313**	*e*P	**P**	**20 30 28.0 +1.3**
PGC	**Sidney**	**85.63**	**41**	*e*P	**P**	**20 30 29.8 +0.9**
	comp=E,566nm,1.1s,mb6.7					
LVZ	**Lovozero**	**86.02**	**339**	P	**P**	**20 30 30.0 -0.3**
	comp=E,1μm,1.3s,mb7.0,SNR=12					
LVZ	**Lovozero**	**86.02**	**339**	*e*P	**P**	**20 30 29.3 -1.0**
LVZ				*e*S	S	20 40 45.3 -13
LVZ				pmax	pmax	
	comp=Z,297nm,1.2s,mb6.4					
LVZ				pmax	pmax	
	comp=N,51nm,1.0s					
LVZ				pmax	pmax	
	comp=E,16nm,1.0s					
LVZ				MLR	MLR	
	comp=Z,26μm,18.0s,MS6.7					
LVZ				MLR	MLR	
	comp=N,5μm,14.0s,MS6.7					
LVZ				MLR	MLR	
	comp=E,23μm,19.0s,MS6.7					
COR	**Corvallis**	**86.55**	**45**	*e*P	**P**	**20 30 34.8 +1.3**
COR				pmax	pmax	
	comp=Z,798nm,1.2s,mb6.8					
COR	**Corvallis**	**86.55**	**45**	*e*P	**P**	**20 30 34.8 +1.3**
	comp=Z,798nm,1.2s,mb6.8					
APA	**Apatity**	**86.58**	**338**	⇑*i*P	**P**	**20 30 31.9 -1.2**
APA				*i* *PP	pP	20 30 46.3 -1.8
APA				*i* S	S	20 40 55.0 -9.1
APA				*i* PS	PS	20 42 12.0 +0.1
APA				pmax	pmax	
	comp=Z,280nm,1.2s,mb6.4					
APA				pmax	pmax	
	comp=Z,10μm,9.0s					
KRMB	**Red Mountain**	**86.73**	**49**	*e*P	**P**	**20 30 35.9 +1.4**
HSP	**Hornsund**	**86.91**	**349**	*e*P	**P**	**20 30 35.2 +0.6**
STD	**Studebaker Rid**	**86.94**	**44**	P	**P**	**20 30 36.9 +1.6**
KHMM	**Horse Mountain**	**86.99**	**49**	*e*P	**P**	**20 30 37.2 +1.4**
YKW3	**Yellowknife Ar**	**87.00**	**27**	*e*P	**P**	**20 30 35.6 +0.3**
YKA	**Yellowknife Ar**	**87.03**	**27**	P	**P**	**20 30 35.4 0.0**
	comp=Z,126nm,0.6s,mb6.3,baz=289,slow=5.3,SNR=876					
YKA				PKKPbc		20 48 25.4
	comp=Z,1.0nm,1.0s,baz=96,slow=7.1,SNR=4.2					
YKA				PKPPKP		20 56 27.8
	comp=Z,0.1nm,0.4s,baz=76,slow=2.5,SNR=6.5					
YKA	**Yellowknife Ar**	**87.03**	**27**	P	**P**	**20 30 35.4 0.0**
YKA				PKKPbc		20 48 25.4
YKA				P'P'		20 56 27.8
HUMO	**Hull Mountain**	**87.20**	**47**	⇓*e*P	**P**	**20 30 37.9 +1.2**
	comp=Z,564nm,1.3s,mb6.6					
HUMO				LR	LR	
	comp=Z,27μm,22.0s,MS6.6					
DUS	**Dusheti**	**87.35**	**312**	P	**P**	**20 30 39.3 +1.8**
MTA	**Mtatsminda**	**87.37**	**312**	P	**P**	**20 30 36.9 -0.7**
MTA				S	SKS	20 40 42.5 -16
HBO	**Huckleberry Mo**	**87.39**	**46**	P	**P**	**20 30 38.7 +1.1**
TI2	**Plekhanov**	**87.39**	**312**	⇓*i*P	**P**	**20 30 38.2 +0.5**
TI2				*i* S	S	20 41 04.8 -7.6
TI2				pmax	pmax	
	comp=Z,1μm,1.0s,mb7.0					
YBH	**Yreka Blue Hor**	**87.56**	**48**	P	**P**	**20 30 39.8 +1.3**
YBH				pmax	pmax	
	comp=Z,161nm,0.8s					
YBH	**Yreka Blue Hor**	**87.56**	**48**	P	**P**	**20 30 39.8 +1.3**
	comp=Z,161nm,0.8s,mb6.3,baz=271,slow=1.9,SNR=269					
YBH	**Yreka Blue Hor**	**87.56**	**48**	⇓*i*P	**P**	**20 30 39.8 +1.3**
	comp=Z,272nm,1.0s,mb6.4					
BJO	**Bjornoya**	**87.61**	**347**	*e*P	**P**	**20 30 39.9 +1.9**
BJO				*e*SKSa		20 41 00.5
BJO				AMS	AMS	21 13 26.3
	comp=Z,23μm,17.7s,MS6.6					
GNI	**Garni**	**87.73**	**310**	*e*P	**P**	**20 30 39.6 +0.3**
GNI	**Garni**	**87.73**	**310**	*d iP*	**P**	**20 30 39.1 -0.2**
GNI				pmax	pmax	
	comp=Z,580nm,1.7s					
GNI				MLR	MLR	
	comp=Z,10μm,19.0s					
GNI	**Garni**	**87.73**	**310**	P	**P**	**20 30 40.4 +1.1**
	comp=Z,264nm,1.2s,mb6.3,baz=190,slow=3.8,SNR=57					
GNI				PKPPKP		20 56 33.6
	comp=Z,1.1nm,0.5s,baz=204,slow=21,SNR=3.4					
ZEI	**Tsey**	**87.79**	**313**	*e*P	**P**	**20 30 39.1 -0.4**
ZEI				*i* *PP	pP	20 30 49.7 -4.9
ZEI				*i*		20 34 05.2
ZEI				*i* S	S	20 41 07.0 -9.1
HOPS	**Hopland**	**87.87**	**51**	*e*P	**P**	**20 30 40.9 +0.9**
	comp=Z,231nm,1.1s,mb6.3					
GOF	**Gofitskoye**	**87.88**	**315**	⇑*i*P	**P**	**20 30 39.0 -0.9**
GOF				*i* S	S	20 41 06.0 -11
GOF				pmax	pmax	
	comp=Z,350nm,1.2s,mb6.5					
GOF				pmax	pmax	
	comp=Z,12μm,10.0s					
EBG	**Ellensburg**	**87.90**	**43**	P	**P**	**20 30 41.2 +1.2**
WDC	**Whiskeytown Da**	**87.94**	**49**	⇓*e*P	**P**	**20 30 41.2 +0.9**
WDC				pmax	pmax	
	comp=Z,525nm,1.5s,mb6.5					
WDC	**Whiskeytown Da**	**87.94**	**49**	⇓*e*P	**P**	**20 30 41.1 +0.8**
	comp=Z,525nm,1.5s,mb6.5					
RES	**Resolute Bay**	**88.05**	**13**	P	**P**	**20 30 40.2 +0.1**
RES				pmax	pmax	
	comp=Z,82nm,0.9s,mb6.0					
RES	**Resolute Bay**	**88.05**	**13**	⇓*e*P	**P**	**20 30 40.0 -0.1**
	comp=Z,82nm,0.9s,mb6.0					
ONI	**Oni**	**88.15**	**313**	P	**P**	**20 30 41.6 +0.4**
ONI				S	SKS	20 40 48.2 -15
MXC	**Moxie City**	**88.17**	**43**	P	**P**	**20 30 42.4 +1.1**
NSHM	**Saint Helena R**	**88.33**	**51**	*e*P	**P**	**20 30 42.5 +0.3**
KIV	**Kislovodsk**	**88.38**	**314**	P	**P**	**20 30 42.9 +0.6**
	comp=Z,522nm,1.5s,mb6.5,SNR=60					
KIV	**Kislovodsk**	**88.38**	**314**	*d iP*	**P**	**20 30 41.5 -0.8**
KIV				MLR	MLR	
	comp=Z,19μm,22.0s,MS6.5					
KIV	**Kislovodsk**	**88.38**	**314**	*e*P	**P**	**20 30 42.2 -0.2**
	comp=Z,180nm,1.3s,mb6.1					
ARCES	**ARCESS Array B**	**88.44**	**341**	P	**P**	**20 30 41.8 -0.2**
ARCES				pmax	pmax	
	comp=Z,109nm,0.7s					
ARCES				MLR	MLR	
	comp=Z,43μm,19.6s					
ARCES	**ARCESS Array B**	**88.44**	**341**	P	**P**	**20 30 41.8 -0.3**
	comp=Z,109nm,0.7s,mb6.2,baz=67,slow=6.8,SNR=252					
ARCES				LR	LR	21 13 39.6
	comp=Z,43μm,19.6s,MS6.9,baz=64,slow=38					
EPH	**Ephrata**	**88.44**	**42**	P	**P**	**20 30 43.2 +0.7**
MOS	**Moscow**	**88.45**	**327**	*i* P	**P**	**20 30 41.6 -0.8**
MOS				*e*	pP	20 30 54.1 -3.4
MOS				*e*		20 34 05.5
MOS				*i* S	S	20 41 07.5 -14
MOS				pmax	pmax	
	comp=Z,569nm,1.2s,mb6.7					
MOS				MLR	MLR	
	comp=E,78μm,19.6s					
MOS				MLR	MLR	
	comp=Z,80μm,19.6s,MS7.1					
SAC	**San Andreas**	**88.68**	**52**	*e*P	**P**	**20 30 44.7 +0.8**
VOR	**Voronezh**	**88.69**	**322**	*e*P	**P**	**20 30 42.5 -1.1**
VOR				pmax	pmax	
	comp=Z,440nm,1.4s,mb6.6					
KARS	**Kars**	**88.86**	**311**	*e*P	**P**	**20 30 45.5 +0.8**
WRD	**Warden**	**88.88**	**43**	P	**P**	**20 30 46.3 +1.6**
OHCM	**Honcut**	**89.00**	**50**	*e*P	**P**	**20 30 45.9 +0.5**
VNDA	**Vanda**	**89.05**	**176**	P	**P**	**20 30 45.3 +0.5**
	comp=Z,27nm,1.0s,mb5.5,baz=324,slow=5.7,SNR=39					
VNDA				PP	PP	20 34 17.8 +0.3
	comp=Z,9.7nm,0.9s,baz=320,slow=10.0,SNR=3.0					
VNDA				PKKPbc		20 48 26.4
	comp=Z,2.8nm,1.0s,baz=225,slow=1.4,SNR=3.3					
VNDA				LR	LR	21 10 11.7
	comp=Z,39μm,18.6s,MS6.8,baz=349,slow=35					
VANB	**Van**	**89.09**	**309**	*e*P	**P**	**20 30 47.1 +1.2**
TVAN	**Van**	**89.10**	**309**	*i* P	**P**	**20 30 45.9 0.0**
OBN	**Obninsk**	**89.22**	**326**	*d iP*	**P**	**20 30 43.3 -2.7**
OBN				*i*		20 34 18.1
OBN				*i* S	S	20 41 16.7 -12
OBN				*i* PS	PS	20 42 37.5 -6.0
OBN				*i* SS	SS	20 47 22.9 -4.4
OBN				pmax	pmax	
	comp=Z,644nm,1.2s,mb6.8					
OBN				MLR	MLR	
	comp=Z,71μm,19.0s,MS7.1					
OBN	**Obninsk**	**89.22**	**326**	*e*P	**P**	**20 30 42.8 -3.2**
	comp=Z,970nm,1.4s,mb6.9					
MOD	**Modoc**	**89.28**	**48**	⇓*i*P	**P**	**20 30 47.6 +1.0**
	comp=Z,598nm,1.3s,mb6.8					
KTK1	**Kautokeino**	**89.40**	**341**	*e*P	**P**	**20 30 46.8 +0.2**
	comp=Z,220nm,1.4s,mb6.3					
KTK1	**Kautokeino**	**89.40**	**341**	*e*P	**P**	**20 30 46.8 +0.2**
KTK1				AMb	AMB	20 30 55.5
	comp=Z,220nm,1.4s,mb6.3					
SAO	**San Andreas Ge**	**89.62**	**53**	P	**P**	**20 30 49.3 +0.9**
SAO				pmax	pmax	
	comp=Z,310nm,1.4s,mb6.5					
SAO	**San Andreas Ge**	**89.62**	**53**	*e*P	**P**	**20 30 49.3 +0.9**
	comp=Z,305nm,1.4s,mb6.4					
BCA	**Borcka**	**89.74**	**312**	P	**P**	**20 30 49.0 +0.1**
BCA	**Borcka**	**89.74**	**312**	Pn	**P**	**20 30 49.3 +0.5**
SBA	**Scott Base**	**89.77**	**175**	⇓*e*P	**P**	**20 30 49.6 +1.4**
SBA				pmax	pmax	
	comp=Z,527nm,1.8s,mb6.6					
SBA	**Scott Base**	**89.77**	**175**	⇓*e*P	**P**	**20 30 49.6 +1.4**
	comp=Z,527nm,1.8s,mb6.6					
LRV	**Little Rabbit**	**90.03**	**53**	*e*P	**P**	**20 30 51.5 +1.1**
CMB	**Columbia Colle**	**90.14**	**51**	P	**P**	**20 30 51.7 +0.9**
CMB	**Columbia Colle**	**90.14**	**51**	⇓*i*P	**P**	**20 30 51.7 +0.9**
CMB				pmax	pmax	
	comp=Z,211nm,1.1s,mb6.4					
CMB	**Columbia Colle**	**90.14**	**51**	⇓*i*P	**P**	**20 30 51.7 +0.9**
	comp=Z,212nm,1.1s,mb6.4					
ERZM	**Erzurum**	**90.31**	**311**	*i* P	**P**	**20 30 52.4 +0.9**
EZM	**Erzurum**	**90.31**	**311**	P	**P**	**20 30 52.8 +1.2**
WCN	**Washoe City**	**90.31**	**50**	P	**P**	**20 30 53.2 +1.6**
WCN				pmax	pmax	
	comp=Z,330nm,1.2s,mb6.5					
WCN	**Washoe City**	**90.31**	**50**	⇓*e*P	**P**	**20 30 53.0 +1.5**
WVOR	**Wild Horse Val**	**90.34**	**47**	⇓*e*P	**P**	**20 30 52.7 +1.1**
WVOR				pmax	pmax	
	comp=Z,301nm,1.1s,mb6.5					
WVOR	**Wild Horse Val**	**90.34**	**47**	⇓*e*P	**P**	**20 30 52.6 +1.0**
	comp=Z,301nm,1.1s,mb6.5					
TRO	**Tromso**	**90.37**	**343**	*e*P	**P**	**20 30 49.0 -2.2**
TRO				AMb	AMB	20 31 01.1
	comp=Z,242nm,1.3s,mb6.4					
TRO				*e*SKSa		20 41 14.8
TRO				AMS	AMS	21 15 06.7
	comp=Z,29μm,20.1s,MS6.7					
VRT	**Varto**	**90.38**	**310**	P	**P**	**20 30 53.6 +1.7**
SOC	**Sochi**	**90.56**	**315**	*i* P	**P**	**20 30 50.4 -2.2**
SOC				*e*		20 34 30.7
SOC				*e*PPP	PPP	20 36 21.0 -9.1
SOC				*i* S	SKS	20 41 18.8 +1.1
SOC				*i*		20 41 39.4
SOC				*e*PS	PS	20 43 02.0 +2.9
SOC				*e*SS	SS	20 47 51.3 +4.2
SOC				*e*SSS	SSS	20 51 19.8 -3.7
SOC				pmax	pmax	
	comp=Z,92nm,0.9s,mb6.1					
SOC				pmax	pmax	
	comp=N,20nm,1.0s					
SOC				pmax	pmax	
	comp=E,19nm,1.2s					
SOC	**Sochi**	**90.56**	**315**	⇓*i*P	**P**	**20 30 50.7 -1.9**
RAYN	**Ar Rayn**	**90.60**	**294**	P	**P**	**20 30 53.5 +0.2**
	comp=E,536nm,0.9s,mb6.9,SNR=80					
EDM	**Edmonton**	**90.60**	**35**	⇓*e*P	**P**	**20 30 53.0 +0.4**
BMO	**Blue Mountains**	**90.63**	**44**	⇓*e*P	**P**	**20 30 53.5 +0.6**
BMO				pmax	pmax	
	comp=Z,527nm,1.4s,mb6.7					
BMO	**Blue Mountains**	**90.63**	**44**	⇓*e*P	**P**	**20 30 53.5 +0.6**
	comp=Z,527nm,1.4s,mb6.7					
BTMT	**Batman**	**90.64**	**309**	P	**P**	**20 30 54.6 +1.4**
PUL	**Pulkovo**	**90.75**	**332**	*e*P	**P**	**20 30 51.7 -1.4**
PUL				*e*		20 34 25.2
PUL				*e*S	SKS	20 41 20.2 +1.7
PUL				*e*SS	SS	20 47 54.7 +5.3
PUL				pmax	pmax	
	comp=Z,328nm,0.9s,mb6.7					
PUL				pmax	pmax	
	comp=N,356nm,1.4s					
PUL				pmax	pmax	
	comp=E,569nm,1.2s					
PUL				pmax	pmax	
	comp=Z,1μm,1.7s,mb6.9					
PUL				pmax	pmax	
	comp=N,288nm,1.6s					
PUL				pmax	pmax	
	comp=E,1μm,1.5s					
PUL				MLR	MLR	
	comp=N,21μm,17.0s,MS7.0					
PUL				MLR	MLR	
	comp=E,39μm,18.0s,MS7.0					
PUL				MLR	MLR	
	comp=Z,49μm,18.0s,MS7.0					
PUL	**Pulkovo**	**90.75**	**332**	*i* P	**P**	**20 30 52.7 -0.4**
BEST	**Besiri**	**90.88**	**309**	*i* P	**P**	**20 30 54.5 +0.2**
BINT	**Bingol**	**91.23**	**310**	P	**P**	**20 30 56.1 +0.2**
OMM	**Old Mammoth Mi**	**91.31**	**51**	*e*P	**P**	**20 30 57.8 +1.5**
EZC	**Erzincan**	**91.50**	**311**	P	**P**	**20 30 60.0 +2.9**
KAF	**Kangasniemi**	**91.54**	**335**	*e*p	**P**	**20 30 54.5 -2.2**
	comp=Z,77nm,0.6s,mb6.2					
GUMT	**Gumushane**	**91.56**	**312**	P	**P**	**20 30 58.3 +1.0**
WALA	**Waterton Lakes**	**91.61**	**39**	*e*P	**P**	**20 30 58.7 +1.4**
	comp=Z,301nm,1.4s,mb6.4					
NVAR	**Mina Array Bea**	**91.63**	**51**	LR	LR	21 07 48.0
	comp=Z,13μm,19.8s,MS6.4,baz=275,slow=33					
DIY	**Diyarbakir**	**91.68**	**309**	P	**P**	**20 30 57.7 -0.3**
DAG	**Danmarks Havn**	**91.69**	**355**	⇓*i*P	**P**	**20 30 57.1 -0.1**
DAG				pmax	pmax	
	comp=Z,61nm,1.0s,mb5.9					
DAG	**Danmarks Havn**	**91.69**	**355**	⇓*i*P	**P**	**20 30 57.1 -0.1**
	comp=Z,61nm,1.0s,mb5.9					
MNV	**Mina**	**91.74**	**50**	⇓*e*P	**P**	**20 30 59.4 +1.1**
MNV				pmax	pmax	
	comp=Z,284nm,1.2s,mb6.5					
MNV	**Mina**	**91.74**	**50**	⇓*e*P	**P**	**20 30 59.4 +1.2**
	comp=Z,284nm,1.2s,mb6.5					
ANN	**Anapa**	**91.79**	**316**	*i* P	**P**	**20 30 56.8 -1.5**
ANN						20 34 45.7
ANN				*e*S	SKS	20 41 26.5 +1.7
ANN				*e*		20 41 58.3
ANN				*e*SP	SP	20 43 11.6 +4.9
ANN				*e*SS	SS	20 48 05.2 +0.8
ANN				pmax	pmax	
	comp=Z,409nm,1.5s,mb6.5					
ANN	**Anapa**	**91.79**	**316**	*i* P	**P**	**20 30 55.3 -3.0**
BMN	**Battle Mountai**	**91.90**	**48**	⇓*e*P	**P**	**20 31 00.1 +1.2**
BMN				pmax	pmax	
	comp=Z,304nm,1.4s,mb6.4					
BMN	**Battle Mountai**	**91.90**	**48**	⇓*e*P	**P**	**20 31 00.1 +1.2**
	comp=Z,304nm,1.4s,mb6.4					
FINES	**FINESS Array B**	**91.94**	**334**	P	**P**	**20 30 57.0 -1.6**
FINES				pmax	pmax	
	comp=Z,98nm,0.6s					
FINES				MLR	MLR	
	comp=Z,30μm,18.3s					
FINES	**FINESS Array B**	**91.94**	**334**	P	**P**	**20 30 57.0 -1.6**
	comp=Z,98nm,0.6s,mb6.3,baz=77,slow=5.0,SNR=310					
FINES				LR	LR	21 17 40.4
	comp=Z,30μm,18.2s,MS6.8,baz=66,slow=39					
FINES	**FINESS Array B**	**91.94**	**334**	P	**P**	**20 30 57.0 -1.6**
FINES				LR	LR	21 17 40.4
PTK	**Pertek**	**92.05**	**310**	P	**P**	**20 31 00.6 +1.0**
MSO	**Missoula**	**92.30**	**42**	PFAKE		20 31 10.0 +9.4
MSO				LR	LR	
	comp=Z,17μm,20.0s,MS6.5					
ELZG	**Elazig**	**92.46**	**310**	*i* P	**P**	**20 31 02.6 +1.1**
TPH	**Tonopah**	**92.55**	**51**	⇓*i*P	**P**	**20 31 03.1 +1.1**
TPH				pmax	pmax	
	comp=Z,286nm,1.2s,mb6.6					
TPH	**Tonopah**	**92.55**	**51**	⇓*i*P	**P**	**20 31 03.1 +1.1**
	comp=Z,286nm,1.2s,mb6.6					
CHMT	**Chamberlain Mo**	**92.72**	**41**	*e*P	**P**	**20 31 02.6 +0.1**
DAC	**Darwin (Calif)**	**92.74**	**52**	⇓*e*P	**P**	**20 31 04.1 +1.2**
DAC				pmax	pmax	
	comp=Z,224nm,1.3s,mb6.4					
DAC	**Darwin (Calif)**	**92.74**	**52**	⇓*e*P	**P**	**20 31 04.1 +1.2**
	comp=Z,224nm,1.3s,mb6.4					
LOF	**Lofoten**	**92.84**	**343**	*e*P	**P**	**20 31 04.3 +1.7**
	comp=Z,246nm,1.6s,mb6.4					
LOF	**Lofoten**	**92.84**	**343**	*e*P	**P**	**20 31 04.3 +1.7**
LOF				AMb	AMB	20 31 13.9
	comp=Z,246nm,1.6s,mb6.4					
URFA	**Urfa**	**92.88**	**309**	*e*P	**P**	**20 31 01.9 -1.6**
MYA	**Malataya**	**92.93**	**310**	*e*P	**P**	**20 31 05.5 +1.8**
MALT	**Malatya**	**92.94**	**310**	*e*P	**P**	**20 31 03.7 0.0**
MALT	**Malatya**	**92.94**	**310**	P	**P**	**20 31 03.5 -0.2**
MALT				pmax	pmax	
	comp=Z,200nm,1.3s,mb6.4					
VSU	**Vasula**	**92.98**	**331**	*i* P	**P**	**20 31 02.2 -1.2**
HLID	**Hailey**	**93.00**	**45**	⇓*e*P	**P**	**20 31 05.1 +1.2**
	comp=Z,144nm,0.9s,mb6.4					
SVST	**Sivas**	**93.62**	**311**	*i* P	**P**	**20 31 07.5 +0.7**
MCMT	**McKenzie Canyo**	**93.66**	**43**	*e*P	**P**	**20 31 07.7 +0.8**
HRY	**Holter Researc**	**93.70**	**41**	*e*P	**P**	**20 31 07.8 +0.9**
TRCR	**Troy Canyon**	**93.71**	**50**	⇓*e*P	**P**	**20 31 08.8 +1.5**
MOR8	**Moi Rana**	**93.78**	**341**	*e*P	**P**	**20 31 04.2 -2.6**
	comp=Z,248nm,1.3s,mb6.5					
MOR8	**Moi Rana**	**93.78**	**341**	*e*P	**P**	**20 31 04.2 -2.6**
MOR8				AMb	AMB	20 31 30.9
	comp=Z,248nm,1.3s,mb6.5					
GZT	**Gaziantep**	**93.86**	**309**	*i* P	**P**	**20 31 08.4 +0.4**
SIM	**Simferopol'**	**93.98**	**317**	*d iP*	**P**	**20 31 08.0 -0.3**
SIM				*i* S	S	20 42 15.0 +3.6
SIM				*e*PS	PS	20 43 38.0 -0.2
SIM				pmax	pmax	
	comp=Z,77nm,0.8s,mb6.2					
SIM	**Simferopol'**	**93.98**	**317**	⇓*e*P	**P**	**20 31 08.1 -0.2**
MNK	**Minsk**	**94.14**	**327**	P	**P**	**20 31 05.0 -3.8**
GAZ	**Gaziantep**	**94.18**	**309**	*e*P	**P**	**20 31 10.1 +0.7**
BOZ	**Bozeman (W)**	**94.20**	**42**	P	**P**	**20 31 10.3 +1.0**
BOZ				pmax	pmax	
	comp=Z,340nm,1.4s,mb6.6					
BOZ	**Bozeman (W)**	**94.20**	**42**	⇓*e*P	**P**	**20 31 10.3 +1.0**
	comp=Z,341nm,1.5s,mb6.6					
KAHT	**Ahir Dag**	**94.31**	**309**	*i* P	**P**	**20 31 09.6 -0.3**
IDID	**Didziasalis**	**94.36**	**328**	*e*P	**P**	**20 31 08.9 -0.9**
IDID				AMPb	AMB	20 31 12.1
	comp=Z,32nm,1.6s,mb5.5					
PFO	**Pinyon Flat Ob**	**94.37**	**55**	⇓*e*P	**P**	**20 31 11.0 +0.7**
PFO				pmax	pmax	
	comp=Z,253nm,1.4s,mb6.5					
PFO	**Pinyon Flat Ob**	**94.37**	**55**	⇓*e*P	**P**	**20 31 11.0 +0.7**
	comp=Z,253nm,1.4s,mb6.5					
IZAR	**Zarasai**	**94.42**	**329**	*e*P	**P**	**20 31 08.9 -1.1**
IZAR				AMPb	AMB	20 31 12.2
	comp=Z,40nm,1.4s,mb5.7					
ISAL	**Salakas**	**94.56**	**329**	*e*P	**P**	**20 31 09.8 -0.9**
ISAL				AMPb	AMB	20 31 13.0
	comp=Z,30nm,1.5s,mb5.5					
BOYT	**Boyabat**	**94.59**	**314**	*i* P	**P**	**20 31 11.6 +0.4**
IIGN	**Ignalina**	**94.61**	**329**	*e*P	**P**	**20 31 09.9 -0.9**
IIGN				AMPb	AMB	20 31 13.2
	comp=Z,25nm,1.4s,mb5.5					
QLMT	**Earthquake Lak**	**94.61**	**43**	*e*P	**P**	**20 31 12.8 +1.6**
BYBT	**Boyabat**	**94.67**	**314**	*e*P	**P**	**20 31 08.2 -3.3**
HVU	**Hansel Valley**	**94.71**	**46**	*e*P	**P**	**20 31 12.7 +1.0**
BGU	**Big Grassy Mou**	**94.80**	**47**	*e*P	**P**	**20 31 12.8 +0.6**
CTKT	**Corum**	**94.93**	**313**	*i* P	**P**	**20 31 12.5 -0.2**
YMR	**Madison River**	**94.98**	**43**	⇓*e*P	**P**	**20 31 14.9 +2.1**
NEN	**Nelson**	**95.06**	**52**	*e*P	**P**	**20 31 14.6 +1.1**
SPUT	**South Promonto**	**95.09**	**46**	⇓*e*P	**P**	**20 31 14.4 +0.9**
YFT	**Old Faithful**	**95.14**	**43**	⇓*e*P	**P**	**20 31 16.8 +3.2**
YNR	**Norris Junctio**	**95.15**	**43**	*e*P	**P**	**20 31 16.3 +2.6**
IMW	**Indian Meadow**	**95.27**	**44**	⇓*e*P	**P**	**20 31 15.6 +1.4**
TOS	**Tosya**	**95.35**	**313**	*e*P	**P**	**20 31 13.5 -1.1**
CEYT	**Ceyhan**	**95.35**	**309**	*e*P	**P**	**20 31 11.1 -3.7**
MOOW	**Moose Ponds**	**95.45**	**44**	⇓*e*P	**P**	**20 31 16.2 +1.1**
MAW	**Mawson**	**95.46**	**202**	*e*P	**P**	**20 31 16.1 +1.6**
	comp=Z,75nm,0.9s,mb6.1					
MAW	**Mawson**	**95.46**	**202**	P	**P**	**20 31 15.1 +0.6**
	comp=Z,30nm,0.9s,mb5.7,baz=68,slow=5.8,SNR=25					
MAW				PP	PP	20 35 09.5 +1.6
	comp=Z,13nm,1.0s,baz=71,slow=9.7,SNR=3.6					
MAW				PKKP	PKKP	20 48 07.2 +10
	comp=Z,6.3nm,0.9s,baz=353,slow=2.0,SNR=4.2					
MAW				LR	LR	21 13 59.1
	comp=Z,19μm,18.0s,MS6.6,baz=70,slow=35					
AVNT	**Avonos**	**95.47**	**311**	*i* P	**P**	**20 31 15.0 -0.2**
WUWY	**Wally Ulrich**	**95.53**	**44**	*e*P	**P**	**20 31 16.7 +1.3**
NOQ	**North Oquirrh**	**95.54**	**47**	⇓*e*P	**P**	**20 31 16.0 +0.5**
SNOW	**Snow King Moun**	**95.54**	**44**	⇓*e*P	**P**	**20 31 16.5 +1.0**
AHID	**Auburn Hatcher**	**95.55**	**45**	⇓*e*P	**P**	**20 31 16.5 +1.0**
	comp=Z,240nm,1.2s,mb6.5					
LOHW	**Long Hollow**	**95.59**	**44**	*e*P	**P**	**20 31 16.4 +0.8**
NSS	**Namsos**	**95.62**	**340**	*e*P	**P**	**20 31 13.5 -1.8**
	comp=Z,149nm,1.5s,mb6.2					
NSS				*e*SKSac		20 41 45.0
NSS	**Namsos**	**95.62**	**340**	*e*P	**P**	**20 31 13.5 -1.8**
NSS				AMb	AMB	20 31 22.9
	comp=Z,149nm,1.5s,mb6.2					
NSS				*e*SKSa		20 41 44.2
NSS				*e*SS	SS	20 49 10.2 +12
NSS				AMS	AMS	21 17 33.0
	comp=Z,45μm,23.5s,MS6.9					
BALT	**Daday**	**95.63**	**314**	*i* P	**P**	**20 31 15.1 -0.8**
JMIC	**Jan Mayen**	**95.74**	**350**	LR	LR	21 19 28.9
	comp=Z,10μm,18.5s,MS6.3,baz=27,slow=39					
JMIC	**Jan Mayen**	**95.74**	**350**	AMS	AMS	21 13 30.8
	comp=

SUW	**Suwalki**	**96.80**	**328**	*e*P	**P**	**20 31 19.9**	**-1.0**
SUW				*e*SKS	SKS	20 41 55.3	+3.2
SUW				*e*S	S	20 42 43.6	+8.4
SUW				*e*SS	SS	20 49 24.7	+9.4
SUW				MLR	MLR	21 15 20.7	
	comp=Z,34µm,22.0s,MS6.8						
SGKT	**Sivrigoynuk**	**96.91**	**313**	*i* P	**P**	**20 31 20.6**	**-1.1**
SRU	**San Rafael**	**97.22**	**48**	*e*P	**P**	**20 31 23.4**	**+0.2**
LAO	**LASA Array**	**97.29**	**40⇓**	*e*P	**P**	**20 31 24.2**	**+0.8**
	comp=Z,329nm,1.0s,mb6.7						
TLCR		**97.39**	**319**	⇑P	**P**	**20 31 23.1**	**-0.7**
KIZT	**Kizilcal**	**97.63**	**312**	P	**P**	**20 31 24.5**	**-0.5**
KIZT	**Kizilcal**	**97.63**	**312**	Pn	**P**	**20 31 24.8**	**-0.2**
FCC	**Fort Churchill**	**97.69**	**26**	*e*P	**P**	**20 31 23.9**	**-0.9**
FCC				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.7						
FCC	**Fort Churchill**	**97.69**	**26**	*e*P	**P**	**20 31 23.9**	**-0.9**
	comp=Z,18nm,0.7s,mb5.7						
HFS	**Hagfors**	**97.76**	**336**	P	**P**	**20 31 23.6**	**-1.5**
HFS						20 35 25.4	
HFS				pmax	pmax		
	comp=Z,17nm,0.8s						
HFS	**Hagfors**	**97.76**	**336**	P	**P**	**20 31 23.6**	**-1.5**
	comp=Z,17nm,0.8s,mb5.7,baz=106,slow=3.7,SNR=39						
HFS				PP	PP	20 35 25.4	-1.1
	comp=Z,4.7nm,0.6s,baz=45,slow=8.2,SNR=2.5						
DGMT	**Dagmar**	**97.78**	**38**	*e*P	**P**	**20 31 25.6**	**+0.2**
	comp=Z,157nm,1.0s,mb6.5						
CFR	**Carcaliu**	**97.84**	**319⇑**	*i*P	**P**	**20 31 24.8**	**-1.0**
CSS	**Prodhromos**	**97.85**	**308**	*e*P	**P**	**20 31 25.0**	**-1.2**
	comp=Z,72nm,0.9s,mb6.2						
NB2	**NORSAR Subarra**	**98.14**	**338**	P	**P**	**20 31 25.0**	**-1.8**
	comp=Z,34nm,1.1s,mb5.8,baz=52,slow=4.5						
NB2	**NORSAR Subarra**	**98.14**	**338**	P	**P**	**20 31 25.0**	**-1.8**
	baz=52,slow=4.6						
NOA	**NORSAR Array B**	**98.14**	**338**	P	**P**	**20 31 25.5**	**-1.3**
	comp=Z,9.6nm,0.7s,mb5.4,baz=51,slow=4.7,SNR=18						
NOA				PP	PP	20 35 19.9	-9.5
	comp=Z,5.2nm,1.1s,baz=63,slow=6.3,SNR=2.3						
NOA				LR	LR	21 19 19.0	
	comp=Z,35µm,20.3s,MS6.8,baz=50,slow=38						
ESKT	**Eskisehir**	**98.15**	**313**	*i* P	**P**	**20 31 25.9**	**-1.4**
EIL	**Elat**	**98.20**	**302**	LR	LR	21 22 14.2	
	comp=Z,9µm,19.0s,MS6.3,baz=173,slow=39						
EIL	**Elat**	**98.20**	**302**	*e*P	**P**	**20 31 27.6**	**-0.2**
	comp=Z,60nm,1.2s,mb6.0						
DOMB	**Dombas**	**98.25**	**339**	*e*P	**P**	**20 31 26.8**	**-0.5**
	comp=Z,95nm,1.5s,mb6.1						
DOMB	**Dombas**	**98.25**	**339**	*e*P	**P**	**20 31 26.8**	**-0.5**
DOMB				AMb	AMB	20 31 29.3	
	comp=Z,95nm,1.5s,mb6.1						
LVV	**L'vov**	**98.32**	**324**	*e*P	**P**	**20 31 27.2**	**-0.7**
LVV				*e*		20 35 31.4	
LVV				*e*		20 37 33.8	
LVV				*e*		20 41 59.6	
LVV				*e*S	S	20 42 46.6	-1.5
LVV				*e*		20 44 27.6	
VRI	**Vrincioaia**	**98.45**	**320⇑**	*i*P	**P**	**20 31 28.3**	**-0.3**
BURAR	**Bucovina Array**	**98.63**	**322**	⇑P	**P**	**20 31 28.8**	**-0.5**
WAR	**Warsaw**	**98.81**	**327**	*e*P	**P**	**20 31 30.7**	**+0.7**
WAR				*e*S	S	20 42 57.6	+5.5
WAR				*e*SS	SS	20 49 41.3	-2.1
WAR				MLR	MLR		
	comp=Z,92µm,20.5s,MS7.3						
WAR	**Warsaw**	**98.81**	**327**	*e*P	**P**	**20 31 30.7**	**+0.7**
WAR				*e*SKS	SKS	20 42 12.4	+10
WAR				*e*S	S	20 42 57.6	+5.5
WAR				*e*SS	SS	20 49 41.3	-2.1
WAR				LR	LR		
	comp=Z,92µm,20.5s,MS7.3						
WAR	**Warsaw**	**98.81**	**327**	*e*P	**P**	**20 31 30.7**	**+0.7**
WAR				*e*SKS	SKS	20 42 12.4	+10
WAR				*e*S	S	20 42 57.6	+5.6
WAR				*e*SS	SS	20 49 41.4	-2.0
WAR				MLR	MLR	21 18 31.2	
	comp=Z,92µm,20.5s,MS7.3						
ALT	**Altintas**	**98.85**	**313**	*e*P	**P**	**20 31 29.0**	**-1.6**
ISP	**Isparta**	**99.00**	**311**	*e*P	**P**	**20 31 29.7**	**-1.6**
ISP				pmax	pmax		
	comp=Z,78nm,1.2s,mb6.1						
ISP	**Isparta**	**99.00**	**311**	*e*P	**P**	**20 31 29.7**	**-1.6**
	comp=Z,78nm,1.2s,mb6.1						
MLR	**Muntele Rosu**	**99.11**	**320**	P	**P**	**20 31 31.3**	**-0.3**
	comp=Z,33nm,1.3s,mb5.7,baz=339,slow=4.0,SNR=16						
MLR				PKKPbc		20 47 57.9	
	comp=Z,8.1nm,1.0s,baz=193,slow=3.4,SNR=6.2						
MLR	**Muntele Rosu**	**99.11**	**320**	⇑P	**P**	**20 31 31.1**	**-0.5**
MLR	**Muntele Rosu**	**99.11**	**320⇑**	*i*P	**P**	**20 31 25.8**	**-5.8**
PRD	**Provadia**	**99.13**	**317**	P	**P**	**20 31 30.0**	**-1.7**
ULDT	**Uludag**	**99.14**	**314**	*i* P	**P**	**20 31 31.3**	**-0.5**
KWP	**Kalwaria**	**99.17**	**325**	*e*P	**P**	**20 31 31.7**	**-0.1**
KWP				*e*PP	PP	20 35 43.2	+6.2
KWP				*e*SKS	SKS	20 42 10.8	+6.4
KWP				*e*SS	SS	20 49 45.0	-3.5
KWP				MLR	MLR	21 16 27.7	
	comp=Z,50µm,23.8s,MS6.9						
TUC	**Tucson**	**99.30**	**55**	Pdiff	**P**	**20 31 34.4**	**+1.6**
TUC				PP	PP	20 35 40.2	+1.7
TUC				Sdiff		20 43 07.3	
TUC				PS	PS	20 44 39.3	+4.5
TUC	**Tucson**	**99.30**	**55**	*e*P	**P**	**20 31 33.7**	**+0.9**
TUC				pmax	pmax		
	comp=Z,71nm,1.5s,mb6.0						
TUC	**Tucson**	**99.30**	**55**	*e*P	**P**	**20 31 33.7**	**+0.9**
	comp=Z,71nm,1.5s,mb6.0						
KOLS	**Kolonicke sedl**	**99.76**	**324**	*e*P	**P**	**20 31 34.4**	**0.0**
KOLS	**Kolonicke sedl**	**99.76**	**324**	PDIF	**P**	**20 31 34.4**	**0.0**
ELL	**Elmali**	**99.85**	**310**	*e*P	**P**	**20 31 35.2**	**0.0**
PHWY	**Pilot Hill**	**99.99**	**44**	*e*Pdif	**P**	**20 31 36.0**	**+0.3**
DNZL	**Cakiroluk**	**100.14**	**312**	*i* P	P	20 31 36.5	0.0
MANT	**Manisa**	**100.19**	**312**	*i* P	P	20 31 36.0	-0.7
GKP	**Gorka Klasztor**	**100.21**	**329**	*e*P	P	20 31 36.0	-0.4
GKP				*e*PP	PP	20 35 50.3	+5.1
GKP				*e*SKS	SKS	20 42 11.6	+2.2
GKP				*e*S	S	20 43 05.9	+2.1
GKP				*e*SS	SS	20 50 13.8	+11
GKP				MLR	MLR	21 18 40.1	
	comp=Z,44µm,20.5s,MS7.0						
CRVS	**Cervenica-Dubn**	**100.24**	**324**	*e*P	P	20 31 36.7	+0.1
CRVS				*e*		20 35 38.0	
CRVS				*e*S	SKS	20 42 16.9	+7.3
CRVS				*e*PS	PS	20 44 33.8	-10
CRVS	**Cervenica-Dubn**	**100.24**	**324**	PDIF	P	20 31 36.7	+0.1
CRVS				*e*PP	PP	20 35 38.0	-7.6
BSD	**Bornholm Skovb**	**100.27**	**332**	*e*P	P	20 31 37.0	+0.4
BSD				*i* S	SKS	20 42 07.9	-1.7
BSD				*i*		20 45 27.4	
BSD				pmax	pmax		
	comp=Z,58nm,0.9s						
BSD	**Bornholm Skovb**	**100.27**	**332**	*e*P	P	20 31 37.0	+0.4
	comp=Z,58nm,0.9s						
BSD				*e*		20 34 28.9	
BSD				*i* S	SKS	20 42 07.9	-1.7
BSD				*i*		20 45 27.4	
BSD	**Bornholm Skovb**	**100.27**	**332**	*i* P	P	20 31 37.0	+0.4
	comp=Z,58nm,0.9s						
BSD				*e*		20 34 28.9	
BSD				*i* S	SKS	20 42 07.9	-1.7
BSD				*i*		20 45 27.4	
	comp=Z,52µm,20.0s						
ISCO	**Idaho Springs**	**100.49**	**46**	*e*P	P	20 31 39.3	+1.3
ISCO				pmax	pmax		
	comp=Z,24nm,1.1s						
ISCO	**Idaho Springs**	**100.49**	**46**	*e*P	P	20 31 39.3	+1.3
	comp=Z,24nm,1.1s						
OJC	**Ojcow**	**100.50**	**326**	*e*P	P	20 31 37.0	-0.8
OJC				*e*PP	PP	20 35 46.3	-1.4
OJC				*e*SKS	SKS	20 42 17.0	+6.1
OJC				MLR	MLR	21 20 40.2	
	comp=Z,80µm,19.2s,MS7.2						
NIE	**Niedzica**	**100.63**	**325⇑**	*e*P	P	20 31 38.8	+0.4
BER	**Bergen**	**100.70**	**339**	*e*PP	PP	20 35 45.4	-3.6
BER				*e*SKSa		20 42 15.0	
BER				*e*SS	SS	20 50 12.7	+2.9
BER				AMS	AMS	21 20 50.0	
	comp=Z,17µm,14.0s,MS6.7						
QSPA	**South Pole Qui**	**100.73**	**180⇑**	*i*P	P	20 31 40.1	+1.9
	comp=Z,384nm,1.9s						
KECS	**Kecovo**	**101.01**	**324**	*e*P	P	20 31 40.3	+0.2
KECS	**Kecovo**	**101.01**	**324**	PDIF	P	20 31 40.3	+0.2
COP	**Copenhagen**	**101.05**	**333**	*e*P	P	20 31 43.8	+3.7
COP				*i*		20 50 24.1	
COP				pmax	pmax		
	comp=Z,47nm,0.9s						
COP				MLR	MLR		
	comp=Z,25µm,19.0s,MS6.7						
COP	**Copenhagen**	**101.05**	**333**	*e*P	P	20 31 43.8	+3.7
	comp=Z,47nm,0.9s						
COP				*i*		20 34 43.2	
COP				*i*		20 44 36.2	
COP				*i*		20 50 24.1	
COP				LR	LR		
	comp=Z,25µm,19.0s,MS6.7						
COP	**Copenhagen**	**101.05**	**333**	*i* P	P	20 31 43.8	+3.7
	comp=Z,47nm,0.9s						
COP				*i*		20 34 43.2	
COP				*i*		20 44 36.2	
COP				*i*		20 50 24.1	
	comp=Z,25µm,19.0s						
KDAG	**Bornova**	**101.16**	**313**	*i* P	P	20 31 39.8	-1.2
IZM	**Izmir**	**101.16**	**313**	*e*P	P	20 31 37.8	-3.3
SDCO	**Great Sand Dun**	**101.39**	**48**	*e*Pdif	P	20 31 43.0	+0.9
	comp=Z,37nm,1.4s						
LAZ	**Ladron**	**101.44**	**51**	*e*Pdif	P	20 31 43.5	+1.2
RAC	**Raciborz**	**101.45**	**326**	*e*P	P	20 31 42.0	-0.1
RAC				*e*		20 35 52.8	
RAC				*e*SP	SP	20 44 48.4	-2.0
RAC				*e*SS	SS	20 50 21.8	+1.3
RAC				MLR	MLR		
	comp=Z,124µm,18.4s,MS7.5						
RAC	**Raciborz**	**101.45**	**326**	*e*P	P	20 31 42.0	-0.1
RAC				*e*PP	PP	20 35 52.8	-2.0
RAC				*e*SKSac		20 42 23.3	
RAC				*e*SP	SP	20 44 48.4	-2.0
RAC				*e*SS	SS	20 50 21.8	+1.3
RAC				LR	LR		
	comp=Z,124µm,18.4s,MS7.5						
RAC	**Raciborz**	**101.45**	**326**	*e*P	P	20 31 42.0	-0.1
RAC				*e*PP	PP	20 35 52.8	-2.0
RAC				⇑*e*SKSa		20 42 23.3	
RAC				*e*SP	SP	20 44 48.4	-2.0
RAC				*e*SS	SS	20 50 21.8	+1.3
RAC				LMN		21 11 10.6	
RAC				LME		21 21 11.6	
RAC				MLR	MLR	21 21 16.1	
	comp=Z,124µm,18.4s,MS7.5						
PGB	**Panagyurishte**	**101.55**	**318**	*i* P	P	20 31 42.5	-0.2
OKC	**Ostrava-Krasne**	**101.61**	**326**	*e*P	P	20 31 42.9	+0.1
OKC				*e*SP	SP	20 45 02.4	+10
OKC	**Ostrava-Krasne**	**101.61**	**326**	*e*Pdif	P	20 31 42.9	+0.1
OKC				*e*pP		20 31 56.1	
OKC				*e*		20 34 58.4	
OKC				*e*PP	PP	20 36 19.5	+24
OKC				*e*SKS	SKS	20 42 25.0	+8.7
OKC				*e*SP	SP	20 45 02.4	+10
OKC				*e*		20 50 55.4	
OKC	**Ostrava-Krasne**	**101.61**	**326**	*e*PDIF	P	20 31 42.9	+0.1
OKC				*e*pP		20 31 56.1	
OKC				*e*x	x	20 34 58.4	
OKC				*e*x	x	20 36 19.5	
OKC				*e*SKS	SKS	20 42 25.0	+8.7
OKC				*e*PS	PS	20 45 02.4	+4.1
OKC				*e*PKKP	PKKP	20 48 02.2	+16
OKC				*e*x	x	20 50 55.4	
OKC				AMS	AMS	21 20 50.0	
	comp=Z,83µm,18.2s						
PSZ	**Piszkesteto**	**101.64**	**324**	P	P	20 31 42.4	-0.5
PSZ				pmax	pmax		
	comp=Z,66nm,1.3s						
PSZ	**Piszkesteto**	**101.64**	**324⇑**	*i*P	P	20 31 42.9	0.0
PSZ	**Piszkesteto**	**101.64**	**324⇑**	*i*P	P	20 31 43.0	+0.1
LENM	**Lemitar**	**101.65**	**52**	*e*Pdif	P	20 31 44.3	+1.0
ANMO	**Albuquerque**	**101.75**	**51**	P	P	20 31 45.8	+2.0
	comp=Z,22nm,1.2s,baz=263,slow=4.8,SNR=21						
ANMO				PP	PP	20 35 53.3	-4.0
	comp=Z,12nm,1.1s,baz=299,slow=8.0,SNR=10.0						
ANMO				PKKPbc		20 47 51.8	
	comp=Z,12nm,1.4s,baz=137,slow=5.5,SNR=3.3						
ANMO	**Albuquerque**	**101.75**	**51**	*e*Pdif	P	20 31 44.8	+1.0
	comp=Z,30nm,1.3s						
LPM	**Los Pinos Moun**	**101.86**	**51**	*e*Pdif	P	20 31 45.9	+1.6
VYHS	**Vyhne**	**101.94**	**325**	*i* P	P	20 31 44.7	+0.4
VYHS				*e*		20 35 56.0	
VYHS				*e*S	SKS	20 42 23.3	+5.4
VYHS				*e*PS	PS	20 44 51.5	-10
VYHS				*e*SS	SS	20 50 43.5	+16
VYHS	**Vyhne**	**101.94**	**325**	*i* P	P	20 31 44.7	+0.4
VYHS				*e*		20 32 00.0	
VYHS				*e*		20 32 17.1	
VYHS				*e*PP	PP	20 35 56.0	-2.3
VYHS				*e*S	SKS	20 42 23.3	+5.4
VYHS				*e*PS	PS	20 44 51.5	-10
VYHS				*e*SS	SS	20 50 43.5	+16
VYHS	**Vyhne**	**101.94**	**325**	PDIF	P	20 31 44.7	+0.4
VYHS				*e*		20 32 00.0	
VYHS				*e*		20 32 17.1	
VYHS				*e*PP	PP	20 35 56.0	-2.3
MUD	**Monsted U'grnd**	**101.95**	**335**	*i* P	P	20 31 49.8	+5.7
MUD	**Monsted U'grnd**	**101.95**	**335**	*i* S	SKS	20 42 26.5	+8.8
MORC	**Moravsky Berou**	**101.97**	**326**	P	P	20 31 44.6	+0.2
MORC				pmax	pmax		
	comp=Z,58nm,1.5s						
MORC	**Moravsky Berou**	**101.97**	**326**	⇑P	P	20 31 44.8	+0.4
KSP	**Ksiaz**	**102.05**	**328**	*e*P	Pdif	20 31 44.1	-0.6
KSP				*e*		20 35 51.0	
KSP	**Ksiaz**	**102.05**	**328**	*e*P	Pdif	20 31 44.1	-0.6
KSP				*e*		20 31 48.8	
KSP				*e*PP	PP	20 35 51.0	-8.0
KSP	**Ksiaz**	**102.05**	**328**	*e*P	Pdif	20 31 44.5	-0.3
KSP				*e*PP	PP	20 36 04.7	+5.7
KSP				*e*SKS	SKS	20 42 24.0	+5.7
KSP				*e*S	S	20 43 29.3	+10
KSP				*e*SS	SS	20 50 42.3	+13
KSP				MLR	MLR	21 21 33.0	
	comp=Z,108µm,19.4s,MS7.4						
VTS	**Vitosha**	**102.17**	**318**	⇑P	Pdif	20 31 45.0	-0.4
VTS	**Vitosha**	**102.17**	**318**	*i* P	Pdif	20 31 45.5	+0.1
PKSN	**Nyarlorinc**	**102.17**	**323⇑**	*e*P	Pdif	20 31 45.7	+0.3
MMB	**Musomiste**	**102.27**	**317**	*i* P	Pdif	20 31 45.5	-0.4
DPC	**Dobruska-Polom**	**102.31**	**327**	*e*P	Pdif	20 31 45.5	-0.4
DPC				*e*		20 36 02.1	
DPC				*e*		20 42 27.1	
DPC				*e*SP	SP	20 45 02.5	+3.2
DPC				MLR	MLR		
	comp=Z,80µm,19.9s,MS7.2						
DPC	**Dobruska-Polom**	**102.31**	**327**	*e*Pdif	Pdif	20 31 45.5	-0.4
DPC				*e*PP	PP	20 36 02.1	+1.0
DPC				*e*SKS	SKS	20 42 27.1	+7.5
DPC				*e*SP	SP	20 45 02.5	+3.2
DPC				*e*		20 50 56.5	
DPC				LR	LR		
	comp=Z,80µm,19.9s,MS7.2						
DPC	**Dobruska-Polom**	**102.31**	**327**	*e*PDIF	Pdif	20 31 45.5	-0.4
DPC				*e*PP	PP	20 36 02.1	+1.0
DPC				*e*SKS	SKS	20 42 27.1	+7.5
DPC				*e*SP	SP	20 45 02.5	+3.2
DPC				*e*PKKP	PKKP	20 47 49.2	+3.8
DPC				*e*x	x	20 50 56.5	
DPC				AMS	AMS	21 20 50.0	
	comp=Z,80µm,19.9s						
RUE	**Ruedersdorf**	**102.37**	**330**	*e*Pdif	Pdif	20 31 46.0	-0.1
	comp=Z,107nm,1.1s						
UPC	**Upice**	**102.39**	**328**	*e*P	Pdif	20 31 45.9	-0.3
UPC				*e*		20 36 02.7	
UPC	**Upice**	**102.39**	**328**	*e*PDIF	Pdif	20 31 45.9	-0.3
UPC				*e*x	x	20 34 50.9	
UPC				*e*PP	PP	20 36 02.7	+1.0
UPC				*e*PKKP	PKKP	20 48 11.4	+26
BOLS	**Boljevac**	**102.40**	**320⇓**	*i*P	Pdif	20 31 45.7	-0.7
KKB	**Krupnik**	**102.58**	**317**	*i* P	Pdif	20 31 47.0	-0.3
SRO2	**Moca**	**102.58**	**324**	*e*P	Pdif	20 31 47.0	-0.1
SRO2	**Moca**	**102.58**	**324**	PDIF	Pdif	20 31 47.0	-0.1
SRO	**Srobarova**	**102.60**	**324**	PDIF	Pdif	20 31 46.9	-0.3
SRO1	**Iza**	**102.67**	**324**	*e*P	Pdif	20 31 47.6	+0.1
SRO1	**Iza**	**102.67**	**324**	PDIF	Pdif	20 31 47.6	+0.1
SMOL	**Smolenice**	**102.72**	**325**	*i* P	Pdif	20 31 48.3	+0.6
SMOL				*e*		20 32 02.5	
SMOL	**Smolenice**	**102.72**	**325**	PDIF	Pdif	20 31 48.3	+0.6
SMOL				*e*		20 32 02.5	
VRAC	**Vranov**	**102.75**	**326**	P	Pdif	20 31 48.4	+0.6
	comp=Z,28nm,1.0s,baz=56,slow=5.5,SNR=29						
VRAC				PKKP	PKKP	20 48 01.4	+17
	comp=Z,2.0nm,0.4s,baz=286,slow=2.6,SNR=3.4						
ZST	**Bratislava**	**103.08**	**325**	*e*P	Pdif	20 31 49.2	-0.1
ZST				*e*		20 36 02.4	
ZST				*e*PS	PS	20 45 18.1	+4.0
ZST				*e*SS	SS	20 51 04.4	+21
ZST	**Bratislava**	**103.08**	**325**	*e*P	Pdif	20 31 49.2	-0.1
ZST				*e*		20 32 22.4	
ZST				*e*PP	PP	20 36 02.4	-4.8
ZST				*e*S	SKS	20 42 33.8	+11
ZST				*e*PS	PS	20 45 18.1	+4.0
ZST				*e*SS	SS	20 51 04.4	+21
ZST	**Bratislava**	**103.08**	**325**	PDIF	Pdif	20 31 49.2	-0.1
ZST				*e*		20 32 22.4	
ZST				*e*PP	PP	20 36 02.4	-4.8
BSEG	**Bad Segeberg**	**103.10**	**333**	*e*P	Pdif	20 31 49.1	-0.2
PVCC	**Panska Ves**	**103.13**	**328**	*e*P	Pdif	20 31 49.9	+0.4
PVCC				*e*		20 42 31.1	
PVCC				*e*SP	SP	20 45 04.0	-4.1
PVCC				*e*		20 51 03.9	
PVCC				MLR	MLR		
	comp=Z,61µm,17.7s,MS7.2						
PVCC	**Panska Ves**	**103.13**	**328**	*e*Pdif	Pdif	20 31 49.9	+0.4
PVCC				*e*pP		20 32 04.0	
PVCC				*e*		20 35 01.3	
PVCC				*e*PP	PP	20 36 18.6	+11
PVCC				*e*SKS	SKS	20 42 31.1	+7.7
PVCC				*e*SP	SP	20 45 04.0	-4.1
PVCC				*e*		20 51 03.9	
PVCC				LR	LR		
	comp=Z,61µm,17.7s,MS7.2						
PVCC	**Panska Ves**	**103.13**	**328**	*e*PDIF	Pdif	20 31 49.9	+0.4
PVCC				*e*pP		20 32 04.0	
PVCC				*e*x	x	20 35 01.3	
PVCC				*e*x	x	20 36 18.6	
PVCC				*e*SKS	SKS	20 42 31.1	+7.7
PVCC				*e*SP	SP	20 45 04.0	-4.1
PVCC				*e*PKKP	PKKP	20 48 01.2	+17
PVCC				*e*x	x	20 51 03.9	
PVCC				AMS	AMS	21 22 50.0	
	comp=Z,61µm,17.7s						
GRUS	**Gruza**	**103.16**	**320⇓**	*i*P	Pdif	20 31 49.4	-0.4
BRG	**Berggiesshubel**	**103.25**	**329**	*i* P	Pdif	20 31 49.9	-0.1
BRG				*i*		20 36 11.0	
BRG				*i* S	SKS	20 42 20.0	-3.9
BRG				*i*		20 45 08.0	
BRG				*i* SS	SS	20 51 05.0	+20
BRG				pmax	pmax		
	comp=Z,64nm,1.3s						
BRG				MLR	MLR		
	comp=N,36µm,18.8s,MS7.2						
BRG				MLR	MLR		
	comp=E,47µm,18.8s,MS7.2						
BRG				MLR	MLR		
	comp=Z,65µm,18.8s,MS7.2						
BRG	**Berggiesshubel**	**103.25**	**329**	*i* PKP	Pdif	20 31 49.9	-0.1
	comp=Z,64nm,1.3s						
BRG				*i*		20 32 05.8	
BRG				*i*		20 34 57.7	
BRG				*i*		20 36 11.0	
BRG				*i* S	SKS	20 42 20.0	-3.9
BRG				*i*		20 45 08.0	
BRG				*i*		20 47 59.6	
BRG				*i* SS	SS	20 51 05.0	+20
BRG				LR	LR		
	comp=Z,65µm,18.8s,MS7.2						
PKSM	**Moragy**	**103.25**	**323⇑**	*e*P	Pdif	20 31 50.0	-0.1
PKS9	**Tamasi**	**103.27**	**323⇑**	*e*P	Pdif	20 31 50.0	-0.2
SANT	**Santorini**	**103.29**	**312**	*e*Pdif	Pdif	20 31 48.6	-1.9
	comp=Z,312nm,1.4s						
PRU	**Pruhonice**	**103.46**	**328**	*e*P	Pdif	20 31 51.0	+0.1
PRU				*e*		20 36 08.8	
PRU				*e*		20 42 32.2	
PRU				*e*SP	SP	20 45 07.1	-4.3
PRU				MLR	MLR		
	comp=Z,61µm,19.0s,MS7.2						
PRU	**Pruhonice**	**103.46**	**328**	*e*Pdif	Pdif	20 31 51.0	+0.1
PRU				*e*pP		20 32 03.9	
PRU				*e*		20 35 10.2	
PRU				*e*PP	PP	20 36 08.8	-1.0
PRU				*e*SKS	SKS	20 42 32.2	+7.3
PRU				*e*SP	SP	20 45 07.1	-4.3
PRU				*e*		20 51 12.3	
PRU				LR	LR		
	comp=Z,61µm,19.0s,MS7.2						
PRU	**Pruhonice**	**103.46**	**328**	*e*PDIF	Pdif	20 31 51.0	+0.1
PRU				*e*pP		20 32 03.9	
PRU				*e*x	x	20 35 10.2	
PRU				*e*PP	PP	20 36 08.8	-1.0
PRU				*e*SKS	SKS	20 42 32.2	+7.3
PRU				*e*SP	SP	20 45 07.1	-4.3
PRU				*e*PKKP	PKKP	20 47 45.3	+2.0
PRU				*e*x	x	20 51 12.3	
PRU				AMS	AMS	21 22 30.0	
	comp=Z,61µm,19.0s						
CLL	**Collm**	**103.46**	**329**	*i* P	Pdif	20 31 50.6	-0.3
CLL				pmax	pmax		
	comp=Z,79nm,1.3s						
CLL				MLR	MLR		
	comp=Z,47µm,16.4s,MS7.1						
CLL	**Collm**	**103.46**	**329**	*i* P	Pdif	20 31 50.6	-0.3
	comp=Z,79nm,1.3s						
CLL				*e*SKS	SKS	20 42 18.0	-6.9
CLL				PKKP	PKKP	20 47 45.3	+2.0
CLL				PKKP	PKKP	20 48 00.5	+17
CLL				P'P'		20 55 48.0	
CLL				LR	LR		
	comp=Z,47µm,16.4s,MS7.1						
CLL	**Collm**	**103.46**	**329**	*i* PDIF	Pdif	20 31 50.6	-0.3
CLL				*i*		20 31 55.1	
CLL				*i*		20 35 06.7	
CLL				*i*		20 35 11.0	
CLL				*e*PP	PP	20 36 05.0	-4.8
CLL				*e*		20 37 53.0	
CLL				*e*		20 38 59.0	
CLL				*e*		20 40 20.0	
CLL				*e*		20 42 18.0	
CLL				*e*PS	PS	20 45 11.0	-6.8
CLL				*e*PPS	PPS	20 46 02.0	-

NKC AMS AMS 21 21 20.0
comp=Z,49μm,19.2s
CLZ Clausthal 104.42 331 *e*Pdif Pdif 20 31 55.7 +0.6
GDL2 Guadalupe Moun 104.42 53 *e*Pdif Pdif 20 31 56.5 +0.9
KHC Kasperske Hory 104.47 327 *e*P Pdif 20 31 55.2 -0.2
KHC *e* 20 36 14.0
KHC *e*SP SP 20 45 23.8 +2.2
KHC MLR MLR
comp=Z,72μm,19.0s,MS7.2
KHC Kasperske Hory 104.47 327 *e*Pdif Pdif 20 31 55.2 -0.2
KHC *e*pP 20 32 08.9
KHC *e* 20 35 10.6
KHC *e*PP PP 20 36 14.0 -3.4
KHC *e*SKS SKS 20 42 40.2 +11
KHC *e*SP SP 20 45 23.8 +2.2
KHC *e* 20 51 30.9
KHC LR LR
comp=Z,72μm,19.0s,MS7.2
KHC Kasperske Hory 104.47 327 *e*PDIF Pdif 20 31 55.2 -0.2
KHC *e*pP 20 32 08.9
KHC *e*x x 20 35 10.6
KHC *e*PP PP 20 36 14.0 -3.4
KHC *e*x x 20 42 40.2
KHC *e*SP SP 20 45 23.8 +2.2
KHC *e*PKKP PKKP 20 47 41.3 -0.2
KHC *e*x x 20 51 30.9
KHC AMS AMS 21 23 00.0
comp=Z,72μm,19.0s
CPRX Cap Rock 104.48 52 *e*Pdif Pdif 20 31 57.0 +1.2
ARSA Arzberg 104.49 325 ⇑*i*P Pdif 20 31 56.1 +0.5
comp=Z,25nm,1.4s
MOX Moxa 104.56 329 *e*P Pdif 20 31 55.8 0.0
MOX pmax pmax
comp=Z,46nm,1.5s
MOX MLR MLR
comp=Z,28μm,19.0s,MS6.8
MOX Moxa 104.56 329 *e*P Pdif 20 31 55.8 0.0
comp=Z,46nm,1.5s
MOX *e*PP PP 20 36 18.0 -0.1
MOX *e*SKS SKS 20 42 30.0 +0.1
MOX *e*S S 20 43 30.0 -10
MOX *e*PS PS 20 45 28.0 -0.8
MOX *e*SS SS 20 51 00.0 -3.0
MOX LR LR
comp=Z,28μm,19.0s,MS6.8
MOX Moxa 104.56 329 *i* P Pdif 20 31 55.8 0.0
comp=Z,logA/T=1.5
MOX PP PP 20 36 18.0 -0.1
MOX SKS SKS 20 42 30.0 +0.1
MOX S S 20 43 30.0 -10
MOX PS PS 20 45 28.0 -0.8
MOX SS SS 20 51 00.0 -3.0
MOX L 21 22 53.0
GEC2 GERESS Array S 104.57 327 *e*P Pdif 20 31 56.0 +0.1
GERES GERESS Array B 104.57 327 P Pdif 20 31 55.7 -0.2
GERES *i* 20 36 12.1
GERES pmax pmax
comp=Z,8.0nm,0.8s
GERES GERESS Array B 104.57 327 Pdiff Pdif 20 31 55.7 -0.2
comp=Z,8.0nm,0.8s,baz=45,slow=3.8,SNR=63
GERES PKiKP 20 36 12.1
comp=Z,8.8nm,1.1s,baz=86,slow=1.4,SNR=7.0
GERES PKKPbc 20 47 39.9
comp=Z,2.4nm,0.8s,baz=207,slow=2.2,SNR=8.0
GERES PKPPKP 20 55 57.5
comp=Z,0.9nm,0.9s,baz=315,slow=1.4,SNR=4.6
WET Wettzell 104.83 328 *e*P Pdif 20 31 57.4 +0.4
MOA Molln 104.85 326 ⇑*i*P Pdif 20 31 57.6 +0.5
comp=Z,47nm,1.2s
PERS Pernice 105.07 325 *i* Pdiff Pdif 20 31 57.2 -0.9
PERS *e* 20 32 02.5
EYMN Ely 105.32 34 *e*Pdif Pdif 20 31 59.1 -0.1
comp=Z,44nm,1.4s
GRA1 Grafenberg Arr 105.35 329 *e*Pdif Pdif 20 31 59.7 +0.4
GRA1 *e*PKKPbc 20 47 38.0
GRA1 *e*PKKPab 20 47 55.5
GRA1 LR LR
comp=Z,57μm,19.8s,MS7.1
GRF Grafenberg Arr 105.35 329 *e*P Pdif 20 31 59.7 +0.4
GRF MLR MLR
comp=Z,57μm,19.8s,MS7.1
GRF Grafenberg Arr 105.35 329 *e*P Pdif 20 31 59.7 +0.4
GRF MLR MLR
comp=Z,57μm,19.8s,MS7.1
GRF Grafenberg Arr 105.35 329 *e*Pdif Pdif 20 31 59.7 +0.4
GRF PKKPbc 20 47 38.0
GRF PKKPab 20 47 55.5
GRF LR LR
comp=Z,57μm,19.8s,MS7.1
AMTX Amarillo 105.37 49 *e*Pdif Pdif 20 32 01.2 +1.5
comp=Z,71nm,1.5s
BOJS Bojanci 105.63 324 *e*Pdiff Pdif 20 32 00.1 -0.5
BOJS *i* 20 32 07.9
BOJS *e*SKSac 20 42 39.7
KBA Koelnbreinsper 105.81 326 *i* CP 20 32 01.5
comp=Z,38nm,1.3s
KBA Koelnbreinsper 105.81 326 ⇑*i*P Pdif 20 32 01.5 +0.2
KBA pmax pmax
comp=Z,38nm,1.3s
KBA Koelnbreinsper 105.81 326 ⇑*i*P Pdif 20 32 01.5 +0.2
comp=Z,38nm,1.3s
WTSB Winterswijk 106.00 332 *e*Pdif Pdif 20 32 02.0 -0.1
comp=Z,25nm,1.8s
TXAR Lajitas Array 106.08 55 Pdiff Pdif 20 32 04.9 +1.9
comp=Z,8.6nm,1.2s,baz=288,slow=4.0,SNR=26
TXAR PKiKP 20 36 17.9
comp=Z,2.7nm,0.9s,baz=5.4,slow=0.6,SNR=3.8
TXAR PKKPbc 20 47 38.1
comp=Z,5.0nm,1.1s,baz=126,slow=5.2,SNR=7.4
TXAR PKPPKP 20 56 03.0
comp=Z,1.0nm,1.0s,baz=117,slow=4.0,SNR=4.0
VOY Vojsko 106.11 325 *e* Pdif 20 32 02.6 -0.1
FUR Furstenfeldbru 106.27 328 *e*P Pdif 20 32 04.2 +0.8
WATA Walderalm 106.62 327 ⇓*i*P Pdif 20 32 05.0 +0.1
comp=Z,37nm,1.5s
WATA Walderalm 106.62 327 ⇓*i*P Pdif 20 32 05.0 +0.1
WATA pmax pmax
comp=Z,37nm,1.5s
TOD Tromm 106.62 330 *e*P Pdif 20 32 04.6 -0.3
WTTA Wattenberg 106.63 327 ⇑*i*P Pdif 20 32 05.5 +0.5
comp=Z,64nm,1.4s
WTTA Wattenberg 106.63 327 ⇑*i*P Pdif 20 32 05.5 +0.5
WTTA pmax pmax
comp=Z,64nm,1.4s
MOTA Moosalm 106.87 327 ⇑*i*P Pdif 20 32 06.0 0.0
comp=Z,23nm,1.4s
MOTA Moosalm 106.87 327 ⇑*i*P Pdif 20 32 06.0 0.0
MOTA pmax pmax
comp=Z,23nm,1.4s
SQTA Sankt Quirin 106.89 327 ⇑*i*P Pdif 20 32 06.5 +0.4
comp=Z,25nm,1.3s
SQTA Sankt Quirin 106.89 327 ⇑*i*P Pdif 20 32 06.5 +0.4
SQTA pmax pmax
comp=Z,25nm,1.3s
STU Stuttgart 106.97 329 *e*P Pdif 20 32 06.3 -0.1
STU pmax pmax
comp=Z,37nm,1.1s
STU Stuttgart 106.97 329 *e*Pdif Pdif 20 32 06.3 -0.1
comp=Z,37nm,1.1s
ABH Alteburg 107.06 331 *e*P Pdif 20 32 06.1 -0.7
HGN Heimansgroeve 107.22 332 *e*Pdif Pdif 20 32 06.8 -0.7
HGN *e*PP PP 20 36 26.7 -11
HGN *e*SS tx 20 45 54.5
HGN *e*SSS tx 20 52 02.0
RUP Ruppelstein 107.41 331 *e*P Pdif 20 32 07.6 -0.7
EKA Eskdalemuir Ar 107.49 339 Pdiff Pdif 20 32 08.7 +0.1
comp=Z,4.7nm,0.9s,baz=31,slow=4.9,SNR=5.5
EKA PKiKP 20 36 19.2
comp=Z,5.7nm,0.9s,baz=18,slow=2.2,SNR=4.2
DAVA Damuels 107.56 327 ⇑*i*P Pdif 20 32 09.7 +0.7
comp=Z,42nm,1.5s
WMOK Wichita Mounta 107.58 48 P Pdif 20 32 09.9 +0.4
WMOK *e* 20 36 38.7
WMOK pmax pmax
comp=Z,11nm,1.0s
WMOK Wichita Mounta 107.58 48 *e*Pdif Pdif 20 32 09.7 +0.2
comp=Z,11nm,1.1s
BFO Black Forest 107.69 329 *e*P Pdif 20 32 09.8 +0.2
DAVOX Davos 107.87 327 Pdiff Pdif 20 32 11.1 +0.7
baz=3.3,slow=4.8
DAVOX PKiKP 20 36 19.0
comp=Z,6.0nm,0.7s,baz=332,slow=2.8,SNR=6.8
DAVOX PKKPbc 20 47 30.2
comp=Z,6.5nm,0.9s,baz=140,slow=1.4,SNR=7.7

WLS Welschbruch 108.13 329 *e*P Pdif 20 32 11.3 -0.2
CDF Champ du Feu 108.17 329 *e*P Pdif 20 32 12.0 +0.3
comp=Z,83nm,1.5s
CDF Champ du Feu 108.17 329 *e*P Pdif 20 32 12.0 +0.3
CDF pmax pmax
comp=Z,42nm,1.5s
GIVF Givet 108.19 332 *e*P Pdif 20 32 12.1 +0.3
ECH Echery 108.36 329 *e*P Pdif 20 32 14.6 +2.1
BAIF Baives 108.51 332 *e*P Pdif 20 32 13.5 +0.4
comp=Z,45nm,1.4s
BAIF Baives 108.51 332 *e*P Pdif 20 32 13.5 +0.4
BAIF pmax pmax
comp=Z,23nm,1.4s
MOF Molkenrain 108.61 329 *e*P Pdif 20 32 15.7 +2.0
JCT Junction City 108.68 53 P Pdif 20 32 16.3 +1.9
JCT Junction City 108.68 53 Pdif Pdif 20 32 15.8 +1.4
comp=Z,6.8nm,0.6s
HINF Hinteralfeld 108.77 329 *e*P Pdif 20 32 14.3 -0.1
comp=Z,22nm,1.2s
HINF Hinteralfeld 108.77 329 *e*P Pdif 20 32 14.3 -0.1
HINF pmax pmax
comp=Z,11nm,1.2s
HAU Haudompre 108.90 330 *e*P Pdif 20 32 14.9 0.0
comp=Z,38nm,1.4s
HAU *e*R
comp=Z,51μm,19.5s
HAU Haudompre 108.90 330 *e*P Pdif 20 32 14.9 0.0
HAU pmax pmax
comp=Z,19nm,1.4s
HAU MLR MLR
comp=Z,51μm,19.5s,MS7.1
MEZF Maizieres J'vi 109.20 331 *e*P Pdif 20 32 16.9 +0.7
comp=Z,64nm,1.3s
CABF La Chapelle 109.97 329 *e*P Pdif 20 32 20.0 +0.3
comp=Z,63nm,1.7s
LPL La Plagne 110.36 327 *e*P Pdif 20 32 22.1 +0.7
comp=Z,17nm,0.9s
LPG La Plagne 110.36 327 *e*P Pdif 20 32 22.3 +0.9
comp=Z,26nm,0.9s
SCHQ Schefferville 110.50 17 SKP 20 39 59.2
comp=Z,4.4nm,0.6s,baz=0.7,slow=4.2,SNR=8.5
SCHQ PKKPbc 20 47 21.4
comp=Z,4.0nm,0.9s,baz=170,slow=3.8,SNR=5.4
BNI Bardonecchia 110.70 327 *e*P Pdif 20 32 23.3 +0.4
MBDF Montbardon 110.86 327 *e*P Pdif 20 32 24.0 +0.4
comp=Z,44nm,1.5s
SAOF Saorge 110.92 326 *e*P Pdif 20 32 25.3 +1.4
SSF Saint Saulge 110.95 330 *e*P Pdif 20 32 24.1 +0.1
PGF Pioggiola 111.01 324 *e*P Pdif 20 32 25.6 +1.2
comp=Z,66nm,1.3s
SBF Sospel 111.06 326 *e*P Pdif 20 32 25.0 +0.5
comp=Z,41nm,1.0s
SMF Signal de Mont 111.07 330 *e*P Pdif 20 32 24.6 +0.1
comp=Z,73nm,1.6s
CCM Cathedral Cave 111.15 42 *e*PKiKP 20 36 23.6
ORIF Oris-en-Rattie 111.21 327 *e*P Pdif 20 32 26.3 +1.1
comp=Z,35nm,1.3s
ORIF *e*R
comp=Z,81μm,19.0s
AVF Avril sur Loir 111.21 330 *e*P Pdif 20 32 25.4 +0.3
comp=Z,64nm,1.5s
HYF Humbligny 111.22 331 *e*P Pdif 20 32 26.1 +0.9
MIAR Mount Ida 111.43 46 *e*PKiKP 20 36 26.4
MIAR LR LR
comp=Z,30μm,19.0s,MS6.9
BGF Bois d'Agland 111.62 330 *e*P Pdif 20 32 27.4 +0.4
PLDF La Plantade 111.65 329 *e*P Pdif 20 32 29.2 +2.1
FRF La Foret Royal 111.69 326 *e*P Pdif 20 32 27.8 +0.5
comp=Z,27nm,1.1s
LMR La Mourre 111.92 326 *e*P Pdif 20 32 28.9 +0.6
comp=Z,35nm,1.3s
SMRF Simiane la Rot 112.00 327 *e*P Pdif 20 32 29.5 +0.8
comp=Z,48nm,1.5s
TCF Toulx Ste Croi 112.12 330 *e*P Pdif 20 32 30.9 +1.7
comp=Z,63nm,1.6s
MFF Saint Martin d 113.01 332 *e*P Pdif 20 32 34.0 +0.9
comp=Z,142nm,1.9s
CAF Calviac 113.17 329 *e*P Pdif 20 32 34.9 +1.1
comp=Z,45nm,1.5s
RJF Les Rejaudoux 113.17 330 *e*P Pdif 20 32 34.6 +0.8
comp=Z,60nm,1.5s
RJF *e*R
comp=Z,61μm,22.0s
AAM Ann Arbor 113.17 34 PFAKE 20 36 40.0 +13
AAM LR LR
comp=Z,69μm,21.0s,MS7.2
BLO Bloomington 113.50 39 *e*PKiKP 20 36 28.7
LFF La Frestale 113.81 330 *e*P Pdif 20 32 36.9 +0.3
WCI Wyandotte Cave 114.21 39 *e*PKiKP 20 36 30.0
EJON La Jonquera 114.48 327 PKP PKPdf 20 36 33.4 +4.2
WVT Waverly 114.49 42 *e*PKiKP 20 36 28.8
LSZ Lusaka 114.53 258 *e*PKPdf PKPdf 20 36 32.6 +2.7
ACSO Alum Creek Sta 114.92 36 *e*PKiKP 20 36 30.8
SNAA Sanae 115.37 192 PKPdf 20 36 34.5 +4.3
SNAA Sanae 115.37 192 ⇑*i* PKPdf 20 36 46.1 +16
SNAA Sanae 115.37 192 PKP PKPdf 20 36 32.0 +1.8
comp=Z,5.8nm,0.9s,baz=202,slow=5.4
SNAA Sanae 115.37 192 P PKPdf 20 36 34.5 +4.3
EBIE Bielsa 115.74 329 PKP PKPdf 20 36 34.1 +2.5
EPOB Poblet 116.21 327 PKP PKPdf 20 36 34.5 +2.0
ESAC San Caprasio 116.75 328 PKP PKPdf 20 36 35.9 +2.3
NCB Newcomb 116.77 28 *e*PKPdf PKPdf 20 36 34.8 +1.3
LRAL Lakeview Retre 116.84 44 *e*PKPdf PKPdf 20 36 35.3 +1.4
VNA2 Neumayer--Watz 116.86 191 ⇑*i* PKPdf 20 36 35.7 +2.6
VNA2 Neumayer--Watz 116.86 191 ⇑*i* PKPdf 20 36 51.5 +18
ERTA Horta de San J 116.89 327 PKP PKPdf 20 36 36.1 +2.3
EBR Ebro Roquetas 116.90 327 *e*PKPDF PKPdf 20 36 36.0 +2.1
MIV Mineville/With 117.00 27 *e*PKPdf PKPdf 20 36 35.2 +1.2
VNA3 Neumayer Olymp 117.01 190 ⇓*i* PKPdf 20 36 36.5 +3.1
VNA3 Neumayer Olymp 117.01 190 ⇑*i* PKPdf 20 36 52.2 +19
ELAN Lanestosa 117.09 331 PKP PKPdf 20 36 37.5 +3.4
MDV Middlebury 117.22 27 *e*PKPdf PKPdf 20 36 35.1 +0.8
VNA1 Neumayer--Stat 117.25 191 ⇑*i* PKPdf 20 36 37.0 +3.2
VNA1 Neumayer--Stat 117.25 191 PKPdf 20 36 52.6 +19
BINY Binghamton 117.28 30 *e*PKPdf PKPdf 20 36 35.5 +0.9
ACCN Adirondack Com 117.48 28 *e*PKPdf PKPdf 20 36 36.1 +1.2
MYNC Murphy 117.53 41 PFAKE 20 36 50.0 +15
MYNC LR LR
comp=Z,30μm,21.0s,MS6.9
BOSA Boshof 117.59 243 *e*PKPdf PKPdf 20 36 37.4 +1.9
BOSA LR LR
comp=Z,6μm,20.0s,MS6.2
EIBI Ibiza 117.69 325 PKP PKPdf 20 36 35.2 -0.2
EMOS Mosqueruela 117.74 327 PKP PKPdf 20 36 38.3 +2.8
HNH Hanover 117.85 27 *e*PKPdf PKPdf 20 36 37.6 +2.1
EARI Arriondas 117.85 333 PKP PKPdf 20 36 41.3 +5.7
FWV Forest Hill 117.95 37 *e*PKPdf PKPdf 20 36 37.1 +1.2
PWV Princeton 117.97 37 *e*PKPdf PKPdf 20 36 37.6 +1.6
ELN Prospectdale 118.22 37 *e*PKPdf PKPdf 20 36 37.8 +1.3
EPON Pontenova 118.69 334 PKP PKPdf 20 36 43.9 +6.6
EBEN Beniarda 118.79 326 PKP PKPdf 20 36 40.4 +2.8
SDMD Soldier's Deli 118.90 33 *e*PKPdf PKPdf 20 36 39.0 +1.2
GOGA Godfrey 118.99 42 *e*PKPdf PKPdf 20 36 40.4 +2.3
PAL Palisades 119.20 30 *e*PKPdf PKPdf 20 36 40.2 +1.9
WES Weston 119.33 27 PFAKE 20 36 50.0 +11
WES LR LR
comp=Z,24μm,20.0s,MS6.8
GUD Guadarrama 119.41 330 PKP PKPdf 20 36 41.4 +2.6
CBN Corbin 119.48 34 *e*PKPdf PKPdf 20 36 40.4 +1.5
ECAL Calabor 119.62 333 PKP PKPdf 20 36 41.5 +2.4
PBRG Braganca 119.73 333 *e*PKP PKPdf 20 36 40.8 +1.4
JSC Jenkinsville 119.86 40 *e*PKPdf PKPdf 20 36 42.0 +2.2
EMUR La Murta 119.97 326 PKP PKPdf 20 36 40.3 +0.3
ESDC Sonseca Array 120.05 329 PKP PKPdf 20 36 41.9 +1.8
comp=Z,4.2nm,0.8s,baz=38,slow=1.5,SNR=14
ESDC PP PP 20 38 07.3 -2.0
comp=Z,12nm,1.0s,baz=34,slow=6.6,SNR=6.1
ESDC PKKPab 20 46 51.1
comp=Z,3.9nm,0.9s,baz=230,slow=2.8,SNR=11
ESDC Sonseca Array 120.05 329 PKP PKPdf 20 36 42.1 +2.1
EVIA Vianos 120.07 327 PKP PKPdf 20 36 42.1 +2.0
ELOB Lobios 120.27 334 *e*PKP PKPdf 20 36 44.4 +4.0
PVRL Vila Real 120.59 333 *e*PKP PKPdf 20 36 43.8 +2.7
EQES Quesada 120.99 327 PKP PKPdf 20 36 43.0 +1.1
SUR Sutherland 121.11 239 *e*PKPdf PKPdf 20 36 45.5 +3.3
PVIS Viseu 121.12 333 *e*PKP PKPdf 20 36 44.3 +2.2
ENIJ Nijar 121.13 326 PKP PKPdf 20 36 42.7 +0.6
MTE Manteigas 121.21 332 *e*PKP PKPdf 20 36 44.4 +2.1
comp=Z,38μm,14.3s
MTE Manteigas 121.21 332 *e*PKPdf PKPdf 20 36 44.3 +2.1
EADA Adamuz 121.50 328 PKP PKPdf 20 36 44.8 +2.0
EBER Berja 121.56 326 PKP PKPdf 20 36 41.9 -1.1
PCBR Castelo Branco 121.63 332 *e*PKP PKPdf 20 36 45.3 +2.2
ELUQ Luque 121.80 328 PKP PKPdf 20 36 45.7 +2.2

ERON Agron 121.96 327 PKP PKPdf 20 36 45.4 +1.6
PTOM Tomar 122.24 332 *e*PKP PKPdf 20 36 46.1 +1.8
EBAD Badajoz 122.27 331 PKP PKPdf 20 36 46.7 +2.4
EALB Alboran 122.33 326 PKP PKPdf 20 36 40.8 -3.7
EMIJ Mijas 122.81 327 PKP PKPdf 20 36 45.8 +0.4
EMIN Mina Concepcio 122.87 330 PKP PKPdf 20 36 46.6 +1.0
EVO Evora 122.92 331 *e*PKIKP PKPdf 20 36 47.5 +1.9
comp=Z,209nm,1.4s
EVO *e*R
comp=Z,72μm,20.5s
ESPR Espera 123.15 328 PKP PKPdf 20 36 47.6 +1.5
PLOU Loures 123.17 332 *e*PKP PKPdf 20 36 47.0 +0.9
PBEJ Beja 123.25 331 *e*PKP PKPdf 20 36 49.0 +2.7
LIS Lisbon 123.30 332 *e*PP PP 20 38 25.3 -6.7
LIS *e*SS SS 20 55 09.0 -1.8
LIS *e*SS SS 20 55 09.4 -1.4
LIS AMS AMS 21 35 07.7
comp=Z,46μm,22.2s,MS7.1
EGRO El Granado 123.45 330 PKP PKPdf 20 36 48.0 +1.3
PALC Alcoutim 123.51 330 *e*PKP PKPdf 20 36 49.1 +2.3
PTEO Sao Teotonio 124.05 331 *e*PKP PKPdf 20 36 50.7 +2.9
PAYG Puerto Ayora 128.16 82 *e*PKPdf PKPdf 20 36 59.6 +3.2
JTS JuntasAbangare 129.79 67 *e*PKPdf PKPdf 20 37 00.9 +1.4
JTS LR LR
comp=Z,3μm,19.0s,MS6.0
PDA Ponta Delgada 130.02 346 *i* PP PP 20 39 22.0 +5.8
PDA *i* 20 40 30.0
PDA *i* 20 49 23.0
PDA *i* SS SS 20 56 48.0 +13
PDA Ponta Delgada 130.02 346 *e*LR LR 21 18 41.0
OTAV Otavalo 139.35 77 *e*PKPpre 20 37 11.0
OTAV *e*PKPdf PKPdf 20 37 19.3 +2.1
OTAV *e*PP PP 20 40 13.4 -2.1
SJG San Juan 140.72 43 PKhKP 20 37 14.6
comp=Z,32nm,0.7s,baz=67,slow=5.1,SNR=11
SJG San Juan 140.72 43 *e*PKPpre 20 37 13.0
DBIC Dimbokro 141.72 296 PKPdf PKPdf 20 37 17.0 -4.5
DBIC Dimbokro 141.72 296 PKhKP 20 37 17.8
comp=Z,29nm,1.1s,baz=45,slow=4.2,SNR=22
DBIC Dimbokro 141.72 296 PKP PKPdf 20 37 17.8 -3.8
SDV Santo Domingo 142.99 59 PKPdf PKPdf 20 37 20.4 -3.3
SDV Santo Domingo 142.99 59 PKhKP 20 37 22.0
comp=Z,65nm,0.8s,baz=316,slow=3.5,SNR=43
SDV Santo Domingo 142.99 59 *e*PKPpre 20 37 21.2
NNA Nana 143.00 96 *e*PKPpre 20 37 22.4
CLCH Cerro Calan 143.50 133 ⇓*i*P PKPbc 20 37 23.1 +0.4
FCH Farellones 143.71 133 ⇓*i*P PKPbc 20 37 23.7 +0.5
CPB Codrington 143.85 39 *e*P PKPbc 20 37 24.6 +0.5
CMCH Combarbala 144.22 129 ⇑*i*P PKPbc 20 37 25.7 +0.9
BPA Boggy Peak 144.28 39 *e*P PKPbc 20 37 25.2 -0.2
TRIS Tristan da Cun 144.48 218 PKPdf PKPdf 20 37 27.3 +1.7
TRIS Tristan da Cun 144.48 218 *e*PKPdf PKPdf 20 37 27.3 +1.7
TLL Tololo Astrono 144.83 128 ⇓*i*P PKPdf 20 37 27.7 +1.2
MDZ Mendoza 144.97 133 *e*P PKPdf 20 37 27.1 +0.5
MDZ *e* 20 47 42.5
SEG Port Louis 144.99 40 *e*P PKPdf 20 37 28.2 +1.1
DEG La Desirade 145.33 39 *e*P PKPdf 20 37 29.5 +1.8
BBL Barber's Block 145.66 41 *e*P PKPdf 20 37 29.9 +1.7
BBL Barber's Block 145.66 41 *e*P PKPdf 20 37 30.9 +2.7
MDN Morne-Daniel 145.87 41 ⇓*e*P PKPdf 20 37 31.7 +3.1
MDN Morne-Daniel 145.87 41 *e*P PKPdf 20 37 31.7 +3.1
TRQA Tornquist 146.04 147 *e*PKPdf PKPdf 20 37 30.5 +2.2
FDF Fort de France 146.46 41 ⇑*e*P PKPdf 20 37 33.6 +4.0
CRM Caravelle 146.59 41 ⇑*e*P PKPdf 20 37 32.7 +2.8
BIM Bigot 146.67 41 ⇑*e*P PKPdf 20 37 34.0 +4.0
MVM Montagne Vaucl 146.75 41 ⇑*e*P PKPdf 20 37 32.5 +2.3
GRW Mount Saint Ca 147.97 45 *e*P PKPdf 20 37 39.0 +6.9
ARE Arequipa 148.06 104 ⇑*i*P PKPdf 20 37 36.9 +4.7
LVC Limon Verde 149.23 116 PKPbc PKPdf 20 37 38.0 +4.0
comp=Z,149nm,0.9s,baz=253,slow=2.9,SNR=18
TPR Prospect 149.27 45 *e*P PKPdf 20 37 39.1 +4.9
BOT Bacolet 149.32 45 *e*P PKPdf 20 37 39.0 +4.7
BUAY Buenos Aires 149.36 48 *e*P PKPdf 20 37 40.1 +5.7
TPP Pointe-a-Pierr 149.39 47 *e*P PKPdf 20 37 39.9 +5.4
TBH Brigand Hill 149.55 47 *e*P PKPdf 20 37 38.9 +4.2
LPA La Plata 150.56 147 *de*PKP PKPdf 20 37 38.0 +2.3
LPA *ep*PKP 20 37 40.0
LPA *ep*PKP 20 37 46.0
LPA *e*PP PP 20 41 19.0 -2.2
comp=Z,16μm,18.0s
LPAZ La Paz 151.29 104 PKPdf PKPdf 20 37 40.1 +2.8
LPAZ PKPdf PKPdf 20 37 46.5 +9.2
LPAZ La Paz 151.29 104 PKP PKPdf 20 37 40.1 +2.9
comp=Z,112nm,1.2s,baz=350,slow=2.0,SNR=118
LPAZ PKPbc PKPdf 20 37 46.5 +9.2
comp=Z,275nm,0.9s,baz=292,slow=3.0,SNR=102
LPAZ La Paz 151.29 104 *e*PKPdf PKPdf 20 37 40.0 +2.7
LPAZ *e*PKPbc PKPdf 20 37 46.8 +10
LPAZ LR LR
comp=Z,10μm,19.0s,MS6.7
SAML Samuel 156.20 88 *e*PKPdf PKPdf 20 37 45.9 +1.8
SAML *e*PKPab PKPab 20 38 14.3 -0.3
CPUP Villa Florida 156.92 134 PKPdf PKPdf 20 37 47.2 +2.5
CPUP PKPab PKPab 20 38 17.8 +0.4
BDFB Brasilia 170.11 120 PKP PKPdf 20 37 59.5 +2.4
comp=Z,37nm,1.1s,baz=307,slow=1.0,SNR=26
BDFB PKPab PKPab 20 39 15.9 +0.9
comp=Z,75nm,1.2s,baz=260,slow=4.4,SNR=8.9
BAO Brasilia Array 170.13 120 P PKPdf 20 37 58.9 +1.7
BAO *i* 20 39 15.1
BAO *i* 20 39 31.7
BAO *i* 20 39 40.8
BAO *i* 20 39 48.6
RCBR Riachuelo 174.07 328 *e*PKPdf PKPdf 20 38 01.3 +2.1
RCBR LR LR
comp=Z,13μm,20.0s

IDC 16 20:25:35.7±1.1, 10.99N×140.25E, h37km±9km, mb4.0/4, mb1 4.3/4, mb1mx4.1/15, mbtmp4.2/4, Error ellipse: s-maj=41.2km s-min=22.6km az=97.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.28**	**191**	P	P	20 31 50.9	-3.8
	11nm,1.2s,baz=1.4,slow=9.8,SNR=3.1						
WRA				pP	pP	20 32 02.2	-2.9
	2.6nm,0.6s,baz=7.4,slow=9.4,SNR=1.8						
ASAR	**Alice Springs**	**34.99**	**190**	P	P	20 32 25.9	-1.0
	2.5nm,0.7s,baz=20,slow=12,SNR=4.2						
ASAR				pP	pP	20 32 36.5	-0.9
	2.0nm,0.6s,baz=17,slow=13,SNR=2.2						
CMAR	**Chiang Mai Arr**	**40.57**	**286**	P	P	20 33 12.2	-1.4
	1.0nm,0.8s,baz=88,slow=6.9,SNR=3.5						
YKA	**Yellowknife Ar**	**87.21**	**27**	P	P	20 38 18.1	-1.1
	1.6nm,0.7s,baz=297,slow=4.9,SNR=4.8						
YKA				pP	pP	20 38 29.1	-1.5
	0.8nm,0.4s,baz=290,slow=4.9,SNR=2.8						

IDC 16 20:26:24.6±2.8, 33.64S×179.17W, mb4.2/2, mb1 4.5/3, mb1mx4.1/12, mbtmp4.3/3, ML4.2/1, Error ellipse: s-maj=68.8km s-min=44.3km az=123.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**4.89**	**205**	*e*P	Pn	20 27 36.3	-4.9
PUZ				*e*S	Sn	20 28 31.7	-7.7
MWZ	**Matawai**	**5.39**	**209**	*e*P	Pn	20 27 43.9	-4.4
MWZ				*e*S	Sn	20 28 45.7	-6.4
URZ	**Urewera**	**5.51**	**212**	Pn	Pn	20 27 46.9	-3.0
	7.3nm,0.3s,baz=15,slow=3.2,SNR=14						
URZ				Sn	Sn	20 28 48.7	-6.2
	4.7nm,0.3s,baz=100,slow=19,SNR=6.9						
KNZ	**Kokohu**	**5.94**	**204**	*e*P	Pn	20 27 47.5	-8.5
BKZ	**Black Stump Fm**	**6.53**	**211**	*e*S	Sn	20 29 11.6	-8.9
TSZ	**Takapari Road**	**7.50**	**210**	*e*S	Sn	20 29 33.3	-11
ASAR	**Alice Springs**	**42.06**	**271**	P	P	20 34 19.4	-0.4
	2.7nm,0.7s,baz=112,slow=7.4,SNR=6.3						
WRA	**Warramunga Arr**	**43.34**	**276**	P	P	20 34 27.7	-2.7
	2.4nm,0.6s,baz=115,slow=7.8,SNR=8.1						
FINES	**FINESS Array B**	**147.79**	**337**	PKPbc	PKPdf	20 46 10.0	+0.5
	2.3nm,0.7s,baz=49,slow=5.9,SNR=9.8						

*IDC **16** 20:28:01.1±0.8, 10.80N×141.18E, h32km±4km, mb4.1/8, mb1 4.3/8, mb1mx4.2/15, mbtmp4.3/8, Error ellipse: s-maj=24.7km s-min=17.1km az=92.0*
*NEIC **16** 20:28:01.1±0.6, 10.71N×141.10E, mb4.0/3, Error ellipse: s-maj=23.6km s-min=12.6km az=90.0*

ISC 16 20:27:59.1±0.8, 10.7N±0.1×141.1E±0.2, h34km, h34km±2.7km: pP-P, n14, σ1°05/13, mb4.3/10, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	20.86	163	P	P	20 32 35.0	-5.8
	3.7nm,0.6s						
WRAB	Tennant Creek	31.15	192	eP	P	20 34 16.9	-0.3
	3.2nm,0.6s,mb4.3						
WRA	Warramunga Arr	31.16	192	P	P	20 34 16.6	-0.8
	8.5nm,1.0s,mb4.5,baz=9.7,slow=9.7,SNR=4.7						
ASAR	Alice Springs	34.87	192	P	P	20 34 50.6	+1.2
	2.0nm,0.6s,mb4.2,baz=21,slow=12,SNR=6.8						
ASAR				pP	pP	20 35 01.1	+1.7
	2.9nm,0.6s,baz=18,slow=12,SNR=5.8						
CMAR	Chiang Mai Arr	41.44	286	P	P	20 35 44.8	+0.3
	8.2nm,1.1s,mb4.3,baz=87,slow=6.3,SNR=9.9						
CMAR				pP	pP	20 35 56.3	+1.9
	2.8nm,0.8s,baz=88,slow=7.3,SNR=3.8						
ULN	Ulaanbaatar	46.79	329	P	P	20 36 31.6	+4.4
	0.7nm,0.6s,mb3.8						
SONM	Songino Array	47.10	328	P	P	20 36 29.9	+0.2
	1.0nm,0.8s,mb3.8,baz=134,slow=7.8,SNR=2.6						
SONM				pP	pP	20 36 39.7	0.0
	1.8nm,0.7s,baz=144,slow=8.5,SNR=2.4						
BVAR	Borovoye Array	69.93	323	P	P	20 39 09.1	+0.4
	4.9nm,0.8s,mb4.5,baz=109,slow=7.3,SNR=6.8						
BVAR				pP	pP	20 39 18.2	-1.0
	5.6nm,0.7s,baz=106,slow=7.6,SNR=4.5						
ILAR	Eielson Array	72.74	25	P	P	20 39 24.7	-0.7
	1.8nm,0.7s,mb4.1,baz=248,slow=6.3,SNR=6.1						
ILAR				pP	pP	20 39 33.8	-2.1
	1.2nm,0.6s,baz=260,slow=5.0,SNR=2.7						
YKA	Yellowknife Ar	87.10	27	P	P	20 40 43.8	+1.5
	3.3nm,0.8s,mb4.6,baz=287,slow=5.0,SNR=12						
YKA				pP	pP	20 40 53.5	+0.5
	1.6nm,0.6s,baz=290,slow=5.1,SNR=7.7						
YKA	Yellowknife Ar	87.10	27	P	P	20 40 43.9	+1.5
YKA				pP	pP	20 40 53.5	+0.5
ARCES	ARCESS Array B	88.66	342	pP	pP	20 40 59.4	-1.0
	2.7nm,0.7s,baz=34,slow=4.4,SNR=1.5						
FINES	FINESS Array B	92.18	334	P	P	20 41 03.9	-2.4
	1.6nm,0.6s,mb4.5,baz=68,slow=7.5,SNR=4.6						
FINES				pP	pP	20 41 14.8	-2.3
	3.3nm,0.6s,baz=90,slow=5.7,SNR=3.2						
FINES	FINESS Array B	92.18	334	P	P	20 41 03.9	-2.4
FINES				pP	pP	20 41 14.8	-2.3

*TEH **16** 20:33:24.1, 37.85N×46.80E, Mn4.1*
*CSEM **16** 20:33:24.0±0.2, 37.89N×46.93E, h14km, ML4.6/2, Error ellipse: s-maj=5.0km s-min=2.7km az=77.0*
*THR **16** 20:33:24.6±0.6, 37.86N×46.93E, h14km±10km, ML3.7*
ISC 16 20:33:25.2±0.8, 37.89N±0.04×47.03E±0.08, h14km, n20, σ0°98/23, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBST	Bostanabad	0.22	210	Pg	Pg	20 33 26.7	-3.5
IHRS	Heris	0.43	1	Pg	Pg	20 33 33.5	-0.6
IHSH	Hashtroud	0.46	24	Pg	Pg	20 33 35.0	+0.3
GRMI	Germi	1.14	36	ePG	Pg	20 33 46.8	-1.3
GRMI				eSG	Sg	20 34 03.7	+0.2
GRMI				AML	AML	20 34 08.0	
	comp=N,2μm,0.2s						
GRMI	Germi	1.14	36	ePg	Pg	20 33 46.8	-1.4
	SNR=90						
GRMI				eSg	Sg	20 34 03.7	+0.2
	comp=N,2μm,0.2s,SNR=90						
MAKU	Maku	2.35	309	ePN	Pn	20 34 04.6	+0.6
MAKU				eSG	Sg	20 34 37.0	-6.5
MAKU				AML	AML	20 34 49.1	
	comp=N,361nm,0.8s						
MAKU	Maku	2.35	309	ePn	Pn	20 34 04.6	+0.6
	SNR=52						
MAKU				eSg	Sg	20 34 37.0	-6.5
	comp=N,361nm,0.8s,SNR=90						
SNGE	Sanandaj	2.80	175	ePN	Pn	20 34 11.0	+0.5
SNGE				AML	AML	20 34 57.5	
	comp=E,197nm,0.5s						
IGZV	Gazvin	2.96	120	Pn	Pn	20 34 22.1	+9.4
IRAZ	Razeghan	3.40	136	Pn	Pn	20 34 19.3	+0.3
MSL	Mosul	3.53	244	ePn	Px	20 33 50.0	
MSL				i Pb	x	20 33 56.5	
MSL				i Sn	x	20 34 39.5	
MSL				i Sb	x	20 35 50.0	
IMHD	Mahdasht	3.66	126	Pn	Pn	20 34 22.8	+0.2
ASAO	Ashtian	4.12	143	ePN	Pn	20 34 29.6	+0.4
IAFJ	Afjeh	4.27	117	Pn	Pn	20 34 31.7	+0.4
IQOM	Qom	4.46	132	Sn	Sn	20 35 25.3	-0.9
DAMV	Damavand	4.56	118	ePN	Pn	20 34 36.4	+0.9
IDMV	Damavand	4.63	118	Pn	Pn	20 34 38.2	+1.7
IVRN	Varamin	4.76	126	Pn	Pn	20 34 38.0	-0.3
IVRN				Sn	Sn	20 35 32.9	-1.0
BHD	Baghdad	5.09	206	ePn	Px	20 33 54.0	
BHD				eSn	Sx	20 34 45.0	
IFIR	Firoozkooh	5.11	114	Pn	Pn	20 34 47.7	+4.4

IDC 16 20:37:07.6±1.2, 11.02N×140.49E, mb4.1/4, mb1 4.3/4, mb1mx4.0/15, mbtmp4.1/4, Error ellipse: s-maj=87.4km s-min=27.2km az=101.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	31.36	191	P	P	20 43 29.8	-2.6
	1.9nm,0.8s,baz=9.6,slow=9.5,SNR=7.5						
ASAR	Alice Springs	35.07	191	P	P	20 44 03.0	-1.6
	0.8nm,0.5s,baz=18,slow=12,SNR=12						
YKA	Yellowknife Ar	87.08	27	P	P	20 49 55.2	-1.0
	0.7nm,0.7s,baz=289,slow=5.2,SNR=4.6						
FINES	FINESS Array B	91.63	334	P	P	20 50 16.9	-0.7
	1.6nm,0.9s,baz=108,slow=6.0,SNR=4.4						
LPAZ	La Paz	151.72	104	PKPbc	PKPdf	20 57 05.0	+4.6
	1.3nm,0.8s,baz=270,slow=4.0,SNR=4.3						

*IDC **16** 20:38:27.8±0.8, 10.98N×141.08E, mb4.0/9, mb1 4.2/9, mb1mx4.1/17, mbtmp4.0/9, Error ellipse: s-maj=31.6km s-min=21.7km az=95.0*
*NEIC **16** 20:38:29.2±0.6, 10.90N×141.12E, h10km, mb3.8/2, Error ellipse: s-maj=23.3km s-min=12.5km az=85.0*
ISC 16 20:38:27.3±0.7, 10.86N±0.09×141.1E±0.2, h10km, n13, σ1°11/11, mb3.9/11, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	21.01	163	P	P	20 43 12.6	-1.0
	1.6nm,0.3s,mb3.8						
WRAB	Tennant Creek	31.31	192	eP	P	20 44 49.9	-0.3
	0.7nm,0.5s,mb3.8						
WRA	Warramunga Arr	31.33	192	P	P	20 44 50.2	-0.1
	1.7nm,1.1s,mb3.8,baz=11,slow=9.6,SNR=5.3						
ASAR	Alice Springs	35.03	192	P	P	20 45 23.6	+1.1
	0.7nm,0.5s,mb3.8,baz=17,slow=13,SNR=5.8						
CMAR	Chiang Mai Arr	41.42	286	P	P	20 46 17.0	+1.1
	0.7nm,0.8s,mb3.4,baz=88,slow=6.8,SNR=4.1						
SONM	Songino Array	46.98	328	P	P	20 47 00.3	-0.1
	0.3nm,0.8s,mb3.3,baz=146,slow=4.5,SNR=3.5						
BVAR	Borovoye Array	69.82	323	P	P	20 49 38.9	-1.1
	1.6nm,0.6s,mb4.1,baz=106,slow=11,SNR=6.2						
ILAR	Eielson Array	72.59	25	P	P	20 49 55.2	-1.2
	1.5nm,0.7s,mb4.0,baz=267,slow=5.0,SNR=8.1						
YKA	Yellowknife Ar	86.94	27	P	P	20 51 15.1	+1.6
	2.4nm,0.9s,mb4.4,baz=291,slow=5.3,SNR=9.1						
YBH	Yreka Blue Hor	87.42	48	P	P	20 51 18.1	+1.7
	2.2nm,1.1s,mb4.3,baz=252,slow=9.6,SNR=4.4						
FINES	FINESS Array B	92.04	334	P	P	20 51 36.0	-1.5
	2.5nm,0.9s,mb4.6,slow=1.4,SNR=4.0						
LPAZ	La Paz	151.08	104	PKPbc	PKPdf	20 58 25.3	+6.5
	1.7nm,1.0s,baz=259,slow=10,SNR=3.1						
LPAZ	La Paz	151.08	104	PKPbc	PKPdf	20 58 25.3	+6.5

*IDC **16** 20:41:21.1±0.7, 10.93N×140.99E, h35km±5km, mb3.8/8, mb1 4.0/8, mb1mx3.9/16, mbtmp4.0/8, Error ellipse: s-maj=35.8km s-min=15.5km az=89.0*
*NEIC **16** 20:41:21.0±0.5, 10.95N×141.07E, mb4.2/5, Error ellipse: s-maj=22.1km s-min=11.4km az=78.0*
ISC 16 20:41:19.0±0.6, 10.91N±0.09×141.1E±0.2, h37km, h37km±1.7km: pP-P, n15, σ0°94/14, mb4.0/12, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	21.07	163	P	P	20 46 03.4	+0.9
	2.2nm,0.5s,mb3.7						
WRAB	Tennant Creek	31.36	192	P	P	20 47 38.4	-0.3
	1.2nm,0.5s,mb4.0						
WRA	Warramunga Arr	31.37	192	P	P	20 47 38.5	-0.3
	0.6nm,0.6s,mb3.6,baz=9.9,slow=9.1,SNR=4.7						
WRA				pP	pP	20 47 49.6	+0.4
	1.2nm,1.0s,baz=11,slow=9.9,SNR=3.9						
ASAR	Alice Springs	35.07	191	P	P	20 48 11.4	+0.6
	0.7nm,0.5s,mb3.8,baz=19,slow=12,SNR=8.0						
ASAR				sP	sP	20 48 24.5	-1.6
	0.7nm,0.5s,baz=19,slow=12,SNR=6.1						
SONM	Songino Array	46.91	328	P	P	20 49 49.0	+1.2
	0.5nm,0.9s,mb3.4,baz=148,slow=6.3,SNR=3.2						
SONM				pP	pP	20 50 00.0	+1.6
	0.5nm,0.6s,baz=135,slow=6.2,SNR=2.6						
AFI	Afiamalu	52.86	117	eP	P	20 50 32.6	-1.2
	18nm,0.7s						
RAR	Rarotonga	66.28	119	eP	P	20 52 05.9	-0.3
	5.0nm,0.5s,mb4.8						
CHKZ	Chkalovo	69.72	323	eP	P	20 52 25.9	-1.2
	0.7nm,0.6s,mb3.8						
BVAR	Borovoye Array	69.75	323	P	P	20 52 27.0	-0.3
	0.6nm,0.6s,mb3.7,baz=90,slow=10,SNR=3.1						
BVAR				pP	pP	20 52 37.5	-1.0
	1.2nm,0.6s,baz=68,slow=7.8,SNR=4.0						
ILAR	Eielson Array	72.56	25	P	P	20 52 43.9	0.0
	1.3nm,0.8s,mb3.9,baz=250,slow=5.9,SNR=9.3						
YKA	Yellowknife Ar	86.92	27	P	P	20 54 03.3	+2.3
	0.6nm,0.4s,mb4.1,baz=289,slow=5.2,SNR=11						
YKA				pP	pP	20 54 13.8	+1.3
	0.8nm,0.7s,baz=289,slow=5.3,SNR=5.3						
ARCES	ARCESS Array B	88.46	341	P	P	20 54 08.4	+0.1
	4.4nm,1.0s,mb4.7,baz=78,slow=8.3,SNR=5.1						
FINES	FINESS Array B	91.98	334	P	P	20 54 23.7	-1.2
	1.5nm,0.8s,mb4.4,baz=45,slow=5.4,SNR=7.0						
FINES				pP	pP	20 54 36.0	-0.5
	1.8nm,0.8s,baz=56,slow=6.9,SNR=2.4						
FINES	FINESS Array B	91.98	334	P	P	20 54 23.7	-1.2
FINES				pP	pP	20 54 36.0	-0.5
LPAZ	La Paz	151.13	104	PKPbc	PKPdf	21 01 12.7	+9.4
	1.6nm,0.6s,baz=306,slow=3.1,SNR=5.5						

*IDC **16** 20:45:06.6±0.5, 10.86N×141.16E, h39km±4km, mb4.0/12, mb1 4.2/12, mb1mx4.1/18, mbtmp4.2/12, Error ellipse: s-maj=22.2km s-min=11.5km az=85.0*
*NEIC **16** 20:45:06.9±0.5, 10.82N×141.05E, mb4.5/5, Error ellipse: s-maj=22.4km s-min=9.7km az=81.0*
ISC 16 20:45:05.1±0.6, 10.76N±0.07×141.0E±0.2, h40km, h40km±1.0km: pP-P, n25, σ1°23/23, mb4.2/14, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	20.95	163	P	P	20 49 45.6	-1.4
	10nm,0.7s,baz=319,slow=7.2,SNR=5.5						
PMG	Port Moresby	20.95	163	eP	P	20 49 45.6	-1.4
	23nm,1.1s						
CTA	Charters Tower	31.09	170	P	P	20 51 22.9	+0.9
	3.1nm,0.8s,mb4.2,baz=328,slow=13,SNR=7.1						
CTA				pP	pP	20 51 33.7	+0.6
	5.3nm,0.9s,baz=326,slow=9.9,SNR=5.3						
CTA	Charters Tower	31.09	170	P	P	20 51 22.9	+0.9
CTA				pP	pP	20 51 33.7	+0.6
CTAO	Charters Tower	31.09	170	eP	P	20 51 22.7	+0.7
	6.4nm,1.0s,mb4.4						
WRAB	Tennant Creek	31.19	192	eP	P	20 51 22.6	-0.3
	7.6nm,0.8s,mb4.6						
WRAB				e	pP	20 51 34.1	0.0
WB2	Warramunga Arr	31.20	192	eP	P	20 51 22.9	-0.1
WB2				e	pP	20 51 33.0	-1.1
WB2				eP'P'		20 57 02.6	
WRA	Warramunga Arr	31.20	192	P	P	20 51 22.7	-0.4
	3.8nm,0.7s,mb4.3,baz=7.9,slow=9.6,SNR=20						
WRA				pP	pP	20 51 33.7	-0.5
	2.3nm,0.6s,baz=8.5,slow=9.7,SNR=7.3						
ASAR	Alice Springs	34.91	191	P	P	20 51 55.6	+0.5
	2.5nm,0.6s,mb4.3,baz=17,slow=13,SNR=31						
ASAR				pP	pP	20 52 07.0	+0.7
	2.4nm,0.5s,baz=18,slow=12,SNR=11						
ASPA	Alice Springs	34.91	191	eP	P	20 51 55.8	+0.7
ASPA				e	pP	20 52 07.3	+0.9
ENH	Enshi	35.14	308	eP	P	20 51 55.9	-1.2
	7.1nm,0.9s,mb4.6						
CMAR	Chiang Mai Arr	41.33	286	P	P	20 52 50.9	+2.0
	5.1nm,0.9s,mb4.2,baz=96,slow=6.6,SNR=24						
CMAR				pP	pP	20 53 02.1	+1.9
	5.0nm,1.1s,baz=89,slow=6.6,SNR=4.4						
STKA	Stephens Creek	42.40	179	P	P	20 52 57.5	0.0
	1.1nm,0.6s,mb3.7,baz=319,slow=9.3,SNR=3.4						
SONM	Songino Array	47.00	328	P	P	20 53 35.1	+0.9
	0.9nm,0.8s,mb3.8,baz=137,slow=6.8,SNR=5.4						
SONM				PcP	PcP	20 55 05.4	-1.0
	0.8nm,0.8s,baz=149,slow=3.4,SNR=3.3						
CHKZ	Chkalovo	69.80	323	eP	P	20 56 11.9	-1.3
	1.3nm,0.5s,mb4.1						
BVAR	Borovoye Array	69.83	323	P	P	20 56 11.7	-1.7
	1.5nm,0.5s,mb4.2,baz=114,slow=8.5,SNR=8.7						
BVAR				pP	pP	20 56 24.8	-0.7
	2.5nm,0.6s,baz=112,slow=8.0,SNR=7.9						
ILAR	Eielson Array	72.73	25	P	P	20 56 28.1	-2.5
	0.5nm,0.5s,mb3.7,baz=251,slow=6.0,SNR=11						
ILAR				pP	pP	20 56 41.0	-1.6
	1.7nm,0.7s,baz=263,slow=6.5,SNR=9.4						
DAWY	Dawson	75.85	26	P	P	20 56 50.1	+1.4
YKA	Yellowknife Ar	87.09	27	P	P	20 57 48.8	+1.4
	1.4nm,0.7s,mb4.3,baz=290,slow=5.3,SNR=15						
YKA				pP	pP	20 58 00.3	+0.5
	4.0nm,1.0s,baz=291,slow=5.4,SNR=9.7						
YKA	Yellowknife Ar	87.09	27	P	P	20 57 48.9	+1.4
YKA				pP	pP	20 58 00.3	+0.5
ARCES	ARCESS Array B	88.58	341	P	P	20 57 56.4	+1.9
	3.5nm,0.8s,mb4.8,baz=60,slow=7.3,SNR=3.8						
ARCES	ARCESS Array B	88.58	341	P	P	20 57 56.4	+1.9
FINES	FINESS Array B	92.08	334	P	P	20 58 09.9	-1.2
	2.0nm,0.8s,mb4.5,baz=90,slow=5.7,SNR=4.9						
FINES				pP	pP	20 58 21.8	-1.7
	1.7nm,0.7s,baz=63,slow=8.5,SNR=1.8						
LPAZ	La Paz	151.17	104	PKPbc	PKPdf	21 04 58.2	+9.3
	2.2nm,0.6s,baz=278,slow=3.5,SNR=9.7						
LPAZ	La Paz	151.17	104	ePKPbc	PKPdf	21 04 57.5	+8.5

*NEIC **16** 20:52:44.6±0.7, 10.82N×141.24E, mb3.8/2, Error ellipse: s-maj=28.4km s-min=14.1km az=92.0*
*IDC **16** 20:52:45.0±0.9, 10.85N×141.16E, h40km±7km, mb3.7/6, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, Error ellipse: s-maj=28.6km s-min=17.3km az=94.0*
ISC 16 20:52:42.8±0.8, 10.8N±0.1×141.2E±0.2, h39km, h39km±.8km: pP-P, n9, σ0°91/9, mb3.9/8, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	31.26	193	eP	P	20 59 00.5	-0.9
	1.1nm,0.5s,mb3.9						
WRA	Warramunga Arr	31.27	193	P	P	20 59 01.2	-0.3
	0.9nm,0.8s,mb3.6,baz=8.8,slow=9.7,SNR=4.9						
WRA				pP	pP	20 59 11.7	-0.7
	1.4nm,0.8s,baz=9.1,slow=9.8,SNR=3.1						
ASAR	Alice Springs	34.98	192	P	P	20 59 34.6	+1.1
	1.1nm,0.5s,mb4.0,baz=18,slow=12,SNR=13						
ASAR				pP	pP	20 59 45.2	+0.8
	0.6nm,0.5s,baz=19,slow=12,SNR=4.1						
CMAR	Chiang Mai Arr	41.53	286	P	P	21 00 28.9	+0.5
	1.4nm,0.7s,mb3.7,baz=98,slow=6.6,SNR=10						
CMAR				pP	pP	21 00 40.2	+0.7
	1.2nm,0.9s,baz=99,slow=7.2,SNR=3.6						
CHKZ	Chkalovo	69.91	323	eP	P	21 03 51.4	-0.2
	0.6nm,0.6s,mb3.7						
BVAR	Borovoye Array	69.94	323	P	P	21 03 51.4	-0.5
	0.6nm,0.4s,mb3.9,baz=110,slow=7.8,SNR=6.0						
BVAR				pP	pP	21 04 03.0	-0.6
	0.9nm,0.7s,baz=105,slow=7.4,SNR=3.0						
ILAR	Eielson Array	72.61	25	P	P	21 04 06.5	-1.1
	0.5nm,0.5s,mb3.7,baz=246,slow=6.0,SNR=7.8						
YKA	Yellowknife Ar	86.97	27	P	P	21 05 26.4	+1.7
	0.7nm,0.4s,mb4.2,baz=290,slow=5.3,SNR=7.8						
YKA				pP	pP	21 05 38.9	+2.2
	0.3nm,0.4s,baz=291,slow=5.1,SNR=3.6						
YKA	Yellowknife Ar	86.97	27	P	P	21 05 26.4	+1.7
YKA				pP	pP	21 05 38.9	+2.2

*IDC **16** 20:54:20.2±1.0, 11.00N×140.94E, mb4.2/7, mb1 4.4/7, mb1mx4.1/16, mbtmp4.1/7, Error ellipse: s-maj=59.8km s-min=21.8km az=97.0*
*NEIC **16** 20:54:21.9±0.7, 11.02N×140.94E, h10km, mb4.4/2, Error ellipse: s-maj=40.7km s-min=13.4km az=94.0*
ISC 16 20:54:20.2±0.8, 11.0N±0.1×140.9E±0.3, h10km, n9, σ0°78/9, mb4.2/9, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	31.38	192	eP	P	21 00 44.4	+0.8
	7.1nm,1.1s,mb4.4						
WRA	Warramunga Arr	31.39	192	P	P	21 00 42.8	-0.9
	1.7nm,1.1s,mb3.8,baz=13,slow=10.0,SNR=3.5						
ASAR	Alice Springs	35.10	191	P	P	21 01 16.0	+0.1
	8.5nm,1.5s,mb4.5,baz=17,slow=12,SNR=3.9						
CHKZ	Chkalovo	69.56	323	eP	P	21 05 31.1	-0.2
	1.0nm,0.5s,mb4.0						
BVAR	Borovoye Array	69.59	323	P	P	21 05 32.1	+0.5
	0.9nm,0.5s,mb3.9,baz=110,slow=7.8,SNR=4.5						
ILAR	Eielson Array	72.58	25	P	P	21 05 48.1	-1.2
	0.6nm,0.6s,mb3.7,baz=250,slow=6.5,SNR=5.7						
YKA	Yellowknife Ar	86.94	27	P	P	21 07 07.9	+1.5
	2.7nm,1.0s,mb4.4,baz=291,slow=5.3,SNR=8.9						
ARCES	ARCESS Array B	88.34	341	P	P	21 07 13.0	0.0
	4.0nm,0.9s,mb4.6,baz=82,slow=6.4,SNR=4.3						
FINES	FINESS Array B	91.84	334	P	P	21 07 29.1	-0.5
	1.4nm,0.6s,mb4.5,baz=90,slow=5.6,SNR=9.2						

IDC 16 21:03:20.6±1.6, 1.63N×127.12E, mb3.4/3, mb1 3.6/3, mb1mx3.5/15, mbtmp3.5/3, Error ellipse: s-maj=187.0km s-min=25.4km az=73.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.57	162	P	P	21 08 23.6	-0.6
	0.4nm,0.4s,baz=341,slow=11,SNR=4.6						
ASAR	Alice Springs	25.99	166	P	P	21 08 54.7	-2.4
	0.2nm,0.4s,baz=353,slow=7.5,SNR=4.0						
SONM	Songino Array	49.40	342	P	P	21 12 12.3	-1.9
	1.1nm,0.7s,baz=146,slow=5.7,SNR=8.8						

*NEIC **16** 21:03:22.6±0.7, 38.06N×134.64E, h377km±13km, mb3.3/2, Error ellipse: s-maj=21.6km s-min=17.8km az=53.0*
*IDC **16** 21:03:30.8±14.0, 38.12N×134.47E, h476km±195km, mb2.6/5, mb1 2.7/5, mb1mx2.6/21, mbtmp3.4/5, Error ellipse: s-maj=50.9km s-min=20.7km az=115.0*
ISC 16 21:03:21.8±0.9, 38.1N±0.2×134.7E±0.2, h387km±17km, n10, σ0°66/10, mb3.0/7, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAJO	Matsushiro	3.19	117	eP	P	21 04 25.9	-0.1
MAT	Matsushiro	3.19	117	eP	P	21 04 26.0	0.0
MAT	Matsushiro	3.19	117	P	P	21 04 25.8	-0.2
ULN	Ulaanbaatar	22.37	305	P	P	21 07 50.1	+0.4
	1.5nm,0.6s,mb3.6						
SONM	Songino Array	22.79	304	P	P	21 07 53.6	+0.2
	1.1nm,0.6s,mb3.5,baz=113,slow=10,SNR=10.0						
CMAR	Chiang Mai Arr	36.75	248	P	P	21 09 56.4	+1.0
	0.5nm,0.5s,mb3.1,baz=42,slow=7.9,SNR=9.7						
CHKZ	Chkalovo	45.67	312	P	P	21 11 05.8	-1.0
	0.9nm,0.9s,mb3.1						
BVAR	Borovoye Array	45.89	311	P	P	21 11 07.7	-0.8
	0.3nm,0.4s,mb3.0,baz=53,slow=8.7,SNR=4.2						
ILAR	Eielson Array	51.49	32	P	P	21 11 51.5	+0.8
	0.2nm,0.6s,mb2.5,baz=277,slow=6.7,SNR=4.9						
ASAR	Alice Springs	61.41	181	P	P	21 12 59.7	-0.6
	0.1nm,0.5s,mb2.5,baz=350,slow=5.5,SNR=3.7						

*CSEM **16** 21:04:07.5, 36.91N×19.85E, h43km, MD3.6/3, After ATH*
ATH 16 21:04:07.5, 36.91N×19.85E, h43km, MD3.6/3, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	1.40	25	eP	P	21 04 32.5	+1.5
VLS				eS	S	21 04 50.0	+1.6
ITM	Ithomi	1.68	80	eP	P	21 04 35.0	0.0
VLI	Veliai	2.48	93	eP	P	21 04 48.0	+1.6

*BJI **16** 21:10:34.3, 8.70N×93.31E, h22km, mb4.7*
*IDC **16** 21:10:42.3±0.7, 9.52N×93.84E, h20km±4km, mb3.7/10, mb1 3.9/11, mb1mx3.8/19, mbtmp3.8/11, ML3.5/1, Error ellipse: s-maj=31.8km s-min=14.9km az=50.0*
*NEIC **16** 21:10:42.5±0.4, 9.55N×93.85E, mb4.2/9, Error ellipse: s-maj=10.5km s-min=9.8km az=220.0*
ISC 16 21:10:40.7±0.5, 9.51N±0.08×93.80E±0.06, h22km, h22km±1.1km: pP-P, n37, σ1°00/39, mb4.0/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.20	29	Pn	P	21 13 12.5	+3.4
	0.1nm,0.3s,baz=216,slow=15,SNR=12						
VIS	Vishakhapatnam	13.04	310	eP	P	21 13 46.7	-0.9
VIS				eS	S	21 16 01.2	-12
VIS				e		21 16 06.9	
	comp=N,14nm,1.0s						
VIS				e		21 16 07.9	
	comp=E,14nm,0.7s						
PALK	Pallekele	13.15	261	P	P	21 13 48.6	-0.3
PALK				eS	S	21 16 03.3	-12
BWNR	Bhubaneshwar	13.21	325	eP	P	21 13 47.5	-2.3
BWNR				e		21 13 50.4	
	comp=Z,22nm,0.9s						
BWNR				eS	S	21 16 03.7	-13
BWNR				e		21 16 09.2	
	comp=E,33nm,0.5s						
BWNR				e		21 16 09.5	
	comp=N,

KMBO **Kilima Mbogo 57.28 263** P **P** **21 20 31.0 +1.3**
comp=Z,0.6nm,0.6s,mb3.8,baz=45,slow=13,SNR=4.3
CTAO **Charters Tower 59.40 120** *eP* **P** **21 20 45.0 +0.6**
comp=Z,14nm,1.3s,mb4.8
BRTR **Keskin Array B 61.12 310** P **P** **21 20 54.1 -1.8**
comp=Z,0.7nm,0.7s,mb3.9,baz=117,slow=7.1,SNR=3.7
BRTR pP pP 21 21 00.9 -1.8
comp=Z,1.0nm,0.8s,baz=114,slow=7.2,SNR=3.1
LSZ **Lusaka 69.50 250** *eP* **P** **21 21 50.6 +0.3**
comp=Z,0.8nm,0.5s,mb3.9
ARCES **ARCESS Array B 73.62 340** P **P** **21 22 14.2 +0.2**
comp=Z,1.2nm,0.6s,mb4.0,baz=89,slow=6.0,SNR=6.1
ARCES pP pP 21 22 21.7 +0.9
comp=Z,2.5nm,0.8s,baz=90,slow=7.3,SNR=1.5
GERES **GERESS Array B 76.39 318** P **P** **21 22 30.2 -0.1**
comp=Z,0.4nm,0.5s,mb3.6,baz=90,slow=5.3,SNR=6.3
LPG **La Plagne 81.23 315** *eP* **P** **21 22 57.2 +0.5**
comp=Z,5.1nm,0.8s,mb4.2
ILAR **Eielson Array 93.37 22** P **P** **21 23 55.6 +0.5**
comp=Z,0.5nm,1.1s,mb3.8,baz=328,slow=5.0,SNR=4.3
ILAR pP pP 21 24 01.3 -0.8
comp=Z,0.1nm,0.7s,baz=320,slow=35,SNR=3.0
TXAR **Lajitas Array 137.87 23** PKP PKPdf 21 30 05.1 -3.7
comp=Z,0.2nm,0.6s,baz=288,slow=0.7,SNR=4.2
TXAR **Lajitas Array 137.87 23** PKP PKPdf 21 30 05.1 -3.7

*BJI **16** 21:15:39.7, 11.18N×140.49E, h14km, mb4.7*
*IDC **16** 21:15:41.7±0.9, 10.92N×140.89E, h36km±7km, mb4.2/13, mb1 4.3/13, mb1mx4.2/22, mbtmp4.4/13, Error ellipse: s-maj=25.2km s-min=13.1km az=83.0*
*NEIC **16** 21:15:41.6±0.4, 10.88N×140.80E, mb4.5/7, Error ellipse: s-maj=17.4km s-min=7.9km az=80.0*
ISC 16 21:15:39.8±0.5, 10.84N±0.07×140.8E±0.1, h38km, h38km±1.1km; pP-P, n26, σ1°04/25, mb4.3/18, 2D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**		**21.08 162**	P		**P**	**21 20 23.5**	**+0.2**
	27nm,1.1s,mb4.5,baz=321,slow=6.3,SNR=5.3							
PMG	**Port Moresby**		**21.08 162**	*eP*		**P**	**21 20 21.8**	**-1.5**
	36nm,1.3s,mb4.5							
CTA	**Charters Tower**		**31.20 170**	P		**P**	**21 21 58.7**	**+0.7**
	1.6nm,0.7s,mb4.0,baz=332,slow=9.0,SNR=5.7							
CTA	**Charters Tower**		**31.20 170**	P		**P**	**21 21 58.7**	**+0.7**
CTAO	**Charters Tower**		**31.20 170**	*eP*		**P**	**21 21 57.5**	**-0.5**
	8.7nm,1.2s,mb4.5							
WRAB	**Tennant Creek**		**31.24 192**	*eP*		**P**	**21 21 57.9**	**-0.5**
	7.5nm,0.8s,mb4.6							
WB2	**Warramunga Arr**		**31.25 192**	||*iP*		**P**	**21 21 57.8**	**-0.6**
WRA	**Warramunga Arr**		**31.25 192**	P		**P**	**21 21 57.9**	**-0.6**
	5.9nm,0.8s,mb4.5,baz=10.0,slow=9.4,SNR=20							
WRA				pP		pP	21 22 09.0	-0.1
	2.5nm,1.1s,baz=11,slow=9.5,SNR=7.6							
ENH	**Enshi**		**34.95 308**	*eP*		**P**	**21 22 27.7**	**-2.8**
	6.6nm,0.9s,mb4.6							
ASAR	**Alice Springs**		**34.96 191**	P		**P**	**21 22 31.1**	**+0.6**
	2.0nm,0.5s,mb4.3,baz=19,slow=12,SNR=24							
ASAR				pP		pP	21 22 41.7	+0.5
	0.8nm,0.6s,baz=16,slow=13,SNR=5.7							
ASAR				PcP		PcP	21 25 03.0	+0.4
	0.5nm,0.7s,baz=25,slow=2.4,SNR=4.4							
ASPA	**Alice Springs**		**34.96 191**	||*iP*		**P**	**21 22 31.1**	**+0.5**
CMAR	**Chiang Mai Arr**		**41.15 286**	P		**P**	**21 23 24.1**	**+1.7**
	3.2nm,1.0s,mb3.9,baz=86,slow=6.0,SNR=13							
ULN	**Ulaanbaatar**		**46.52 329**	*eP*		**P**	**21 24 05.2**	**-0.2**
	5.2nm,1.2s,mb4.3							
SONM	**Songino Array**		**46.84 329**	P		**P**	**21 24 08.0**	**+0.1**
	1.3nm,0.8s,mb3.9,baz=139,slow=6.4,SNR=10							
SONM				pP		pP	21 24 18.5	-0.3
	0.9nm,0.7s,baz=138,slow=6.2,SNR=4.7							
SONM				PcP		PcP	21 25 41.1	+0.2
	4.3nm,1.3s,baz=140,slow=2.8,SNR=4.5							
WMQ	**Urumqi**		**56.25 316**	*eP*		**P**	**21 25 19.0**	**+0.2**
HYB	**Hyderabad**		**60.53 284**	*iP*		**P**	**21 25 52.0**	**+3.0**
CHKZ	**Chkalovo**		**69.63 323**	*eP*		**P**	**21 26 46.3**	**-0.9**
	6.0nm,1.4s,mb4.3							
BVAR	**Borovoye Array**		**69.66 323**	P		**P**	**21 26 47.2**	**-0.2**
	2.4nm,0.7s,mb4.2,baz=112,slow=8.0,SNR=17							
BRVK	**Borovoye**		**69.73 323**	*eP*		**P**	**21 26 47.3**	**-0.5**
	5.2nm,1.1s,mb4.4							
ILAR	**Eielson Array**		**72.72 25**	P		**P**	**21 27 04.1**	**-1.5**
	1.1nm,0.6s,mb4.0,baz=244,slow=6.2,SNR=14							
INK	**Inuvik**		**78.39 22**	P		**P**	**21 27 37.8**	**0.0**
	2.2nm,0.9s,mb4.1,baz=287,slow=5.8,SNR=5.7							
YKA	**Yellowknife Ar**		**87.09 27**	P		**P**	**21 28 23.6**	**+1.1**
	2.0nm,0.8s,mb4.4,baz=291,slow=5.2,SNR=17							
YBH	**Yreka Blue Hor**		**87.64 48**	P		**P**	**21 28 27.7**	**+2.0**
	2.5nm,0.8s,mb4.5,baz=322,slow=3.2,SNR=6.1							
ARCES	**ARCESS Array B**		**88.44 341**	P		**P**	**21 28 29.1**	**+0.3**
	3.0nm,0.8s,mb4.6,baz=34,slow=4.4,SNR=5.6							
FINES	**FINESS Array B**		**91.93 334**	P		**P**	**21 28 44.8**	**-0.6**
	2.1nm,0.8s,mb4.5,baz=276,slow=7.9,SNR=7.5							
LPAZ	**La Paz**		**151.35 104**	PKPbc		PKPdf	21 35 33.8	+9.5
	4.7nm,0.9s,baz=304,slow=2.2,SNR=12							

IDC 16 21:20:37.0±3.4, 13.40N×92.58E, mb3.6/3, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=87.9km s-min=30.8km az=84.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**		**7.92 50**	Pn		Pn	21 22 33.0	-3.2
	0.2nm,0.3s,baz=242,slow=15,SNR=8.5							
CMAR				Sn		Sn	21 23 55.8	-12
	0.1nm,0.3s,baz=239,slow=28,SNR=4.5							
SONM	**Songino Array**		**36.21 16**	P		P	21 27 42.1	-1.3
	0.4nm,0.7s,baz=198,slow=7.1,SNR=3.8							
WRA	**Warramunga Arr**		**52.79 128**	P		P	21 29 53.6	-2.9
	0.6nm,0.6s,baz=309,slow=7.8,SNR=5.1							
ASAR	**Alice Springs**		**54.68 132**	P		P	21 30 08.6	-1.9
	0.3nm,0.5s,baz=309,slow=6.7,SNR=6.8							

IDC 16 21:30:00.0±9.8, 11.49N×140.93E, mb4.1/5, mb1 4.3/5, mb1mx3.9/18, mbtmp4.1/5, Error ellipse: s-maj=298.6km s-min=54.6km az=178.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BVAR	**Borovoye Array**		**69.21 322**	P		P	21 41 09.8	-0.8
	0.8nm,0.5s,baz=104,slow=8.7,SNR=9.0							
ILAR	**Eielson Array**		**72.10 25**	P		P	21 41 25.8	-2.1
	0.4nm,0.6s,baz=256,slow=5.4,SNR=6.3							
YKA	**Yellowknife Ar**		**86.47 27**	P		P	21 42 45.5	-0.1
	0.6nm,0.5s,baz=291,slow=5.3,SNR=11							
ARCES	**ARCESS Array B**		**87.87 341**	P		P	21 42 50.0	-2.1
	6.1nm,1.1s,baz=59,slow=7.1,SNR=3.8							
FINES	**FINESS Array B**		**91.40 334**	P		P	21 43 06.0	-3.0
	0.9nm,0.6s,baz=63,slow=6.2,SNR=6.3							

*IDC **16** 21:32:34.4±0.5, 10.90N×141.08E, h41km±4km, mb3.9/14, mb1 4.1/14, mb1mx4.0/21, mbtmp4.2/14, Error ellipse: s-maj=24.1km s-min=11.0km az=83.0*
*NEIC **16** 21:32:34.4±0.4, 10.85N×141.04E, mb4.3/4, Error ellipse: s-maj=19.2km s-min=8.0km az=80.0*
ISC 16 21:32:32.5±0.5, 10.81N±0.08×141.0E±0.2, h42km, h42km±1.4km; pP-P, n25, σ0°85/22, mb4.2/16, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**		**20.99 163**	P		**P**	**21 37 14.6**	**-0.1**
	14nm,1.0s,baz=311,slow=7.5,SNR=5.4							
PMG	**Port Moresby**		**20.99 163**	*eP*		**P**	**21 37 14.6**	**-0.1**
CTA	**Charters Tower**		**31.13 170**	P		**P**	**21 38 50.5**	**+0.8**
	2.2nm,0.6s,mb4.2,baz=338,slow=7.9,SNR=5.3							
CTA				sP		sP	21 39 07.7	+1.3
	3.6nm,1.0s,baz=299,slow=11,SNR=2.9							
CTAO	**Charters Tower**		**31.13 170**	*eP*		**P**	**21 38 50.4**	**+0.7**
	1.4nm,0.5s,mb4.0							
WRAB	**Tennant Creek**		**31.25 192**	*eP*		**P**	**21 38 50.1**	**-0.6**
	4.4nm,0.7s,mb4.4							
WRA	**Warramunga Arr**		**31.26 192**	P		**P**	**21 38 50.5**	**-0.3**
	1.6nm,0.6s,mb4.0,baz=12,slow=9.5,SNR=10							
WRA				pP		pP	21 39 03.3	+1.1
	2.6nm,0.9s,baz=9.8,slow=9.4,SNR=3.6							
WRA				sP		sP	21 39 08.8	+1.2
	2.5nm,0.9s,baz=11,slow=9.7,SNR=3.1							
ASAR	**Alice Springs**		**34.97 191**	P		**P**	**21 39 23.6**	**+0.7**
	2.1nm,0.5s,mb4.3,baz=18,slow=12,SNR=24							
ASAR				pP		pP	21 39 35.8	+1.4
	0.5nm,0.5s,baz=20,slow=12,SNR=3.2							
ASAR				PcP		PcP	21 41 55.6	+0.8
	0.5nm,0.7s,baz=27,slow=3.2,SNR=4.4							
CMAR	**Chiang Mai Arr**		**41.35 286**	P		**P**	**21 40 17.9**	**+1.6**
	2.9nm,1.0s,mb3.9,baz=89,slow=6.7,SNR=13							
STKA	**Stephens Creek**		**42.45 179**	P		**P**	**21 40 24.8**	**-0.4**
	1.0nm,0.5s,mb3.8,baz=4.8,slow=13,SNR=3.4							
STKA	**Stephens Creek**		**42.45 179**	P		**P**	**21 40 24.8**	**-0.4**
SONM	**Songino Array**		**46.97 328**	P		**P**	**21 41 00.8**	**-0.4**
	0.6nm,0.5s,mb3.8,baz=131,slow=6.0,SNR=9.2							
SONM				pP		pP	21 41 12.4	-0.5
	0.8nm,0.7s,baz=140,slow=8.2,SNR=4.5							
SONM				PcP		PcP	21 42 33.3	-0.2
	0.6nm,0.7s,baz=148,slow=2.6,SNR=4.3							
SONM				pPcP			21 42 46.0	
	0.7nm,0.6s,baz=144,slow=3.1,SNR=4.6							
CHKZ	**Chkalovo**		**69.78 323**	*eP*		**P**	**21 43 39.1**	**-1.2**
	1.7nm,0.6s,mb4.2							
CHKZ				*ep*P		pP	21 43 51.5	-1.1
BVAR	**Borovoye Array**		**69.81 323**	P		**P**	**21 43 40.0**	**-0.5**
	2.1nm,0.6s,mb4.3,baz=105,slow=7.9,SNR=16							
BVAR				pP		pP	21 43 52.4	-0.5
	3.7nm,0.6s,baz=103,slow=7.4,SNR=14							
BRVK	**Borovoye**		**69.87 323**	*eP*		**P**	**21 43 40.5**	**-0.4**
	2.8nm,0.7s,mb4.3							
ILAR	**Eielson Array**		**72.67 25**	P		**P**	**21 43 56.3**	**-1.1**
	0.9nm,0.5s,mb3.9,baz=260,slow=6.6,SNR=15							
INK	**Inuvik**		**78.35 22**	P		**P**	**21 44 30.7**	**+1.0**
	1.7nm,0.9s,mb4.0,baz=263,slow=0.4,SNR=5.0							
YKA	**Yellowknife Ar**		**87.03 27**	P		**P**	**21 45 15.7**	**+1.3**
	1.2nm,0.5s,mb4.3,baz=289,slow=5.2,SNR=12							
YKA				pP		pP	21 45 27.8	+0.7
	1.5nm,0.8s,baz=289,slow=5.0,SNR=8.0							
YKA	**Yellowknife Ar**		**87.03 27**	P		**P**	**21 45 15.7**	**+1.3**
YKA				pP		pP	21 45 27.8	+0.7
ARCES	**ARCESS Array B**		**88.54 341**	P		**P**	**21 45 22.8**	**+1.2**
	1.9nm,0.7s,mb4.6,baz=50,slow=9.5,SNR=6.0							
ARCES				pP		pP	21 45 33.8	-0.5
	1.8nm,0.7s,baz=72,slow=7.7,SNR=1.7							
VNDA	**Vanda**		**88.97 176**	P		**P**	**21 45 23.0**	**-0.5**
	0.7nm,0.8s,mb4.0,baz=162,slow=20,SNR=2.2							
VNDA				pP		pP	21 45 36.6	+0.3
	1.0nm,0.9s,baz=181,slow=3.3,SNR=2.3							
VNDA	**Vanda**		**88.97 176**	P		**P**	**21 45 23.0**	**-0.5**
VNDA				pP		pP	21 45 36.6	+0.3
KAF	**Kangasniemi**		**91.65 335**	*ep*		pP	21 45 47.1	-2.0
FINES	**FINESS Array B**		**92.05 334**	P		**P**	**21 45 37.3**	**-0.8**
	4.1nm,0.9s,mb4.8,baz=89,slow=5.4,SNR=10							
FINES				pP		pP	21 45 49.9	-1.1
	2.1nm,0.5s,baz=76,slow=5.2,SNR=3.5							
LPAZ	**La Paz**		**151.15 104**	PKPbc		PKPdf	21 52 25.3	+9.1
	3.1nm,0.7s,baz=292,slow=3.2,SNR=13							
LPAZ	**La Paz**		**151.15 104**	*e*PKPbc		PKPdf	21 52 25.2	+9.0

*IDC **16** 21:40:21.6±0.7, 10.86N×141.12E, h34km±4km, mb3.8/9, mb1 4.0/9, mb1mx3.9/18, mbtmp4.0/9, Error ellipse: s-maj=26.8km s-min=15.5km az=96.0*
*NEIC **16** 21:40:21.5±0.6, 10.86N×141.11E, mb3.8/1, Error ellipse: s-maj=23.6km s-min=13.8km az=87.0*
ISC 16 21:40:19.7±0.8, 10.8N±0.1×141.1E±0.2, h32km, h32km±.9km; pP-P, n13, σ0°91/12, mb3.9/10, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**		**31.29 192**	P		**P**	**21 46 38.5**	**-0.8**
	2.7nm,0.9s,mb4.0,baz=11,slow=9.6,SNR=8.5							
WRA				pP		pP	21 46 48.1	-0.8
	0.4nm,0.4s,baz=8.7,slow=25,SNR=2.8							
ASAR	**Alice Springs**		**34.99 191**	P		**P**	**21 47 11.9**	**+0.5**
	0.9nm,0.5s,mb4.0,baz=18,slow=12,SNR=12							
ASAR				pP		pP	21 47 21.2	+0.2
	0.7nm,0.5s,baz=19,slow=12,SNR=5.6							
CMAR	**Chiang Mai Arr**		**41.37 286**	P		**P**	**21 48 05.6**	**+0.9**
	1.3nm,1.1s,mb3.5,baz=91,slow=7.2,SNR=5.4							
CMAR				pP		pP	21 48 16.4	+1.9
	0.6nm,0.7s,baz=92,slow=7.5,SNR=4.2							
SONM	**Songino Array**		**46.97 328**	P		**P**	**21 48 49.1**	**-0.4**
	0.4nm,0.9s,mb3.3,baz=153,slow=6.4,SNR=3.0							
CHKZ	**Chkalovo**		**69.77 323**	*eP*		**P**	**21 51 28.7**	**-0.1**
	0.5nm,0.5s,mb3.7							
CHKZ				*ep*P		pP	21 51 38.5	-0.4
BVAR	**Borovoye Array**		**69.80 323**	P		**P**	**21 51 27.8**	**-1.2**
	0.6nm,0.6s,mb3.7,baz=117,slow=6.6,SNR=4.0							
BVAR	**Borovoye Array**		**69.80 323**	P		**P**	**21 51 27.8**	**-1.2**
ILAR	**Eielson Array**		**72.64 25**	P		**P**	**21 51 44.9**	**-0.9**
	0.4nm,0.6s,mb3.5,baz=243,slow=5.5,SNR=6.7							
ILAR				pP		pP	21 51 55.9	-0.1
	0.6nm,0.6s,baz=248,slow=5.8,SNR=4.2							
YKA	**Yellowknife Ar**		**87.00 27**	P		**P**	**21 53 04.1**	**+1.3**
	0.6nm,0.6s,mb4.0,baz=291,slow=5.2,SNR=9.1							
YKA				pP		pP	21 53 14.4	+1.2
	0.3nm,0.5s,baz=292,slow=5.4,SNR=4.3							
ARCES	**ARCESS Array B**		**88.53 341**	P		**P**	**21 53 11.5**	**+1.5**
	2.2nm,0.7s,mb4.6,baz=74,slow=8.8,SNR=3.2							
ARCES				pP		pP	21 53 20.8	+0.4
	2.7nm,0.8s,baz=68,slow=6.5,SNR=1.8							
ARCES	**ARCESS Array B**		**88.53 341**	P		**P**	**21 53 11.5**	**+1.5**
ARCES				pP		pP	21 53 20.8	+0.4
FINES	**FINESS Array B**		**92.04 334**	P		**P**	**21 53 25.9**	**-0.7**
	2.5nm,0.9s,mb4.5,baz=315,slow=5.4,SNR=2.4							
FINES				pP		pP	21 53 36.3	-0.7
	3.6nm,1.0s,baz=63,slow=4.3,SNR=2.1							
LPAZ	**La Paz**		**151.13 104**	PKPbc		PKPdf	22 00 12.4	+2.5
	1.0nm,0.6s,baz=272,slow=4.0,SNR=4.2							

*IDC **16** 21:50:50.7±1.1, 9.35N×91.80E, mb3.8/6, mb1 3.9/7, mb1mx3.7/18, mbtmp3.7/7, ML3.4/1, Error ellipse: s-maj=45.0km s-min=21.8km az=55.0*
*NEIC **16** 21:50:57.1±1.6, 9.34N×91.97E, h42km±16km, mb4.0/3, Error ellipse: s-maj=14.5km s-min=13.1km az=209.0*
ISC 16 21:50:52.0±4.8, 9.4N±0.1×91.9E±0.1, h21km±36km, n14, σ0°36/14, mb3.9/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**		**11.27 260**	*eP*		**P**	**21 53 35.1**	**0.0**
PALK				S		**S**	**21 55 31.7**	**-10**
CMAR	**Chiang Mai Arr**		**11.34 36**	Pn		**P**	**21 53 35.9**	**-0.3**
	0.1nm,0.3s,baz=229,slow=15,SNR=6.1							
HYB	**Hyderabad**		**15.25 303**	*eP*		**P**	**21 54 33.0**	**+4.9**
HYB	**Hyderabad**		**15.25 303**	*iP*		**P**	**21 54 33.0**	**+4.9**
LSA	**Lhasa**		**20.26 358**	*eP*		**P**	**21 55 29.9**	**+0.9**
	5.4nm,0.8s							
SONM	**Songino Array**		**40.27 15**	P		**P**	**21 58 29.0**	**-0.2**
	0.5nm,0.7s,mb3.4,baz=199,slow=9.6,SNR=4.7							
CHKZ	**Chkalovo**		**47.41 343**	*eP*		**P**	**21 59 26.6**	**-0.2**
	1.5nm,0.9s,mb3.9							
WRA	**Warramunga Arr**		**50.92 125**	P		**P**	**21 59 54.1**	**-0.1**
	0.6nm,0.4s,mb3.8,baz=306,slow=8.4,SNR=6.3							
WRAB	**Tennant Creek**		**50.92 125**	P		**P**	**21 59 54.1**	**-0.1**
	1.7nm,0.6s,mb4.2							
ASAR	**Alice Springs**		**52.56 129**	P		**P**	**22 00 06.6**	**0.0**
	0.4nm,0.6s,mb3.5,baz=300,slow=7.1,SNR=4.2							
STKA	**Stephens Creek**		**62.72 133**	P		**P**	**22 01 18.6**	**+0.5**
	1.0nm,0.5s,mb4.2,baz=315,slow=8.9,SNR=3.2							
FINES	**FINESS Array B**		**70.38 332**	P		**P**	**22 02 06.0**	**-0.3**
	2.7nm,0.9s,mb4.2,baz=147,slow=32,SNR=4.2							
GERES	**GERESS Array B**		**75.26 318**	P		**P**	**22 02 35.1**	**-0.1**
	0.8nm,0.8s,mb3.7,baz=90,slow=4.0,SNR=9.2							
PDAR	**Pinedale Array**		**124.56 19**	PKP		PKPdf	22 09 53.6	-1.0
	0.5nm,0.4s,baz=63,slow=18,SNR=7.5							

*IDC **16** 21:54:45.8±1.0, 7.55N×92.18E, mb3.8/8, mb1 4.0/9, mb1mx3.9/19, mbtmp3.8/9, ML4.1/1, Error ellipse: s-maj=41.6km s-min=18.6km az=53.0*
*BJI **16** 21:54:49.9, 7.70N×92.40E, h30km, mb4.5*
*NEIC **16** 21:54:50.9±0.6, 7.72N×92.43E, h30km, mb4.4/5, Error ellipse: s-maj=15.4km s-min=11.9km az=48.0*
ISC 16 21:54:48.8±0.6, 7.70N±0.09×92.44E±0.09, h30km, n19, σ0°95/20, mb4.1/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**		**11.65 269**	*eP*		**P**	**21 57 37.2**	**+0.9**
PALK				*e*S		**S**	**21 59 37.0**	**-9.3**
CMAR	**Chiang Mai Arr**		**12.42 30**	Pn		**P**	**21 57 47.5**	**+0.8**
	0.4nm,0.3s,baz=230,slow=14,SNR=45							
HYB	**Hyderabad**		**16.63 307**	*iP*		**P**	**21 58 43.0**	**+1.3**
LSA	**Lhasa**		**21.92 357**	P		**P**	**21 59 41.4**	**-0.2**
LSA	**Lhasa**		**21.92 357**	*eP*		**P**	**21 59 41.2**	**-0.4**
	8.4nm,0.8s,mb4.2							
SONM	**Songino Array**		**41.72 14**	P		**P**	**22 02 38.7**	**+2.0**
	2.2nm,1.4s,mb3.6,baz=202,slow=7.4,SNR=4.1							
ZAL	**Zalesovo**		**46.52 354**	P		**P**	**22 03 15.8**	**+0.5**
	0.6nm,0.6s,mb3.7,baz=303,slow=13,SNR=3.9							
ZAL	**Zalesovo**		**46.52 354**	P		**P**	**22 03 15.8**	**+0.5**
BVAR	**Borovoye Array**		**48.63 342**	P		**P**	**22 03 30.7**	**-1.1**
	1.7nm,0.9s,mb4.1,baz=127,slow=7.2,SNR=7.9							
BRVK	**Borovoye**		**48.69 342**	P		**P**	**22 03 31.0**	**-1.3**
	1.3nm,0.6s,mb4.1							
CHKZ	**Chkalovo**		**49.13 343**	*eP*		**P**	**22 03 34.5**	**-1.2**
	4.5nm,1.0s,mb4.5							
WRA	**Warramunga Arr**		**49.54 124**	P		**P**	**22 03 40.1**	**+0.8**
	0.7nm,0.6s,mb3.9,baz=306,slow=8.5,SNR=4.0							
WRA	**Warramunga Arr**		**49.54 124**	P		**P**	**22 03 40.1**	**+0.8**
WRAB	**Tennant Creek**		**49.54 124**	P		**P**	**22 03 39.2**	**-0.1**
	9.8nm,1.3s,mb4.7							
ASAR	**Alice Springs**		**51.10 129**	P		**P**	**22 03 51.5**	**+0.3**
	1.0nm,0.9s,mb3.8,baz=301,slow=7.4,SNR=6.3							
KIV	**Kislovodsk**		**56.33 319**	*eP*		**P**	**22 04 29.0**	**-0.4**
	7.4nm,1.1s,mb4.6							
STKA	**Stephens Creek**		**61.21 133**	P		**P**	**22 05 02.6**	**-1.0**
	0.7nm,0.4s,mb4.2,baz=47,slow=2.3,SNR=3.2							
BRTR	**Keskin Array B**		**61.27 311**	P		**P**	**22 05 02.9**	**-1.0**
	1.6nm,0.8s,mb4.2,baz=123,slow=6.8,SNR=6.9							
GERES	**GERESS Array B**		**76.84 318**	P		**P**	**22 06 39.7**	**+0.1**
	1.0nm,0.8s,mb3.8,baz=108,slow=4.2,SNR=10.0							

*IDC **16** 22:02:02.2±0.9, 10.95N×140.84E, h33km±6km, mb4.0/9, mb1 4.1/9, mb1mx3.8/20, mbtmp4.1/9, Error ellipse: s-maj=39.9km s-min=18.8km az=99.0*
*NEIC **16** 22:02:02.1±0.5, 10.93N×140.75E, mb4.2/2, Error ellipse: s-maj=33.2km s-min=12.8km az=95.0*
ISC 16 22:02:00.3±0.7, 10.9N±0.1×140.8E±0.3, h33km, h33km±.9km; pP-P, n13, σ0°83/12, mb4.2/11, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**		**31.26 192**	*eP*		**P**	**22 08 18.7**	**-0.7**
	4.4nm,0.8s,mb4.3							
WRA	**Warramunga Arr**		**31.27 192**	P		**P**	**22 08 19.2**	**-0.3**
	1.7nm,0.8s,mb3.9,baz=12,slow=9.6,SNR=8.8							
ASAR	**Alice Springs**		**34.98 191**	P		**P**	**22 08 52.7**	**+1.0**
	1.1nm,0.5s,mb4.0,baz=19,slow=12,SNR=14							
CHKZ	**Chkalovo**		**69.56 323**	*eP*		**P**	**22 13 07.7**	**-0.1**
	1.1nm,0.7s,mb3.9							
BVAR	**Borovoye Array**		**69.59 323**	P		**P**	**22 13 08.9**	**+0.9**
	0.7nm,0.6s,mb3.8,baz=105,slow=7.3,SNR=5.7							
BVAR				pP		pP	22 13 19.1	+0.7
	1.4nm,0.8s,baz=104,slow=6.1,SNR=5.8							
ILAR	**Eielson Array**		**72.73 25**	P		**P**	**22 13 25.4**	**-1.2**
	0.6nm,0.6s,mb3.7,baz=249,slow=5.8,SNR=16							
ILAR				pP		pP	22 13 36.3	-0.7
	0.6nm,0.6s,baz=244,slow=6.2,SNR=3.2							
INK	**Inuvik**		**78.39 22**	P		**P**	**22 13 59.0**	**+0.2**
	1.2nm,0.9s,mb3.8,baz=204,slow=7.7,SNR=3.3							
INK	**Inuvik**		**78.39 22**	*eP*		**P**	**22 13 58.9**	**+0.1**
YKA	**Yellowknife Ar**		**87.09 27**	P		**P**	**22 14 45.1**	**+1.6**
	0.7nm,0.5s,mb4.1,baz=291,slow=5.4,SNR=14							
ARCES	**ARCESS Array B**		**88.39 341**	P		**P**	**22 14 49.5**	**-0.1**
	3.0nm,0.8s,mb4.5,baz=45,slow=6.9,SNR=4.4							
FINES	**FINESS Array B**		**91.87 334**	P		**P**	**22 15 06.0**	**-0.1**
	8.3nm,1.1s,mb5.0,baz=72,slow=6.0,SNR=7.5							
FINES				pP		pP	22 15 16.4	-0.4
	2.9nm,0.8s,baz=148,slow=29,SNR=1.9							
NOA	**NORSAR Array B**		**98.08 338**	P		**P**	**22 15 33.4**	**-1.1**
	1.4nm,0.8s,mb4.5,baz=249,slow=6.5,SNR=3.5							
**LPAZ

CHKZ Chkalovo 52.52 342 *eP* **P 22 46 10.0 -0.1**
3.8nm,0.7s,mb4.4
BRTR Keskin Array B 64.92 312 P **P 22 47 35.9 -0.8**
1.1nm,0.8s,mb3.9,baz=136,slow=6.4,SNR=4.9
GERES GERESS Array B 80.52 319 P **P 22 49 08.8 +0.5**
0.6nm,0.7s,mb3.6,baz=104,slow=5.5,SNR=6.8

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*IDC **16** 22:38:01.4±0.9, 10.96N×141.24E, h43km±7km, mb3.4/5, mb1 3.6/5, mb1mx3.5/19, mbtmp3.7/5, Error ellipse: s-maj=39.1km s-min=20.2km az=97.0*
*NEIC **16** 22:38:01.3±1.1, 10.95N×141.21E, mb3.6/1, Error ellipse: s-maj=46.4km s-min=25.2km az=90.0*
ISC 16 22:37:59.6±1.1, 10.9N±0.2×141.1E±0.3, h44km, (h44km±.8km):pP-P), n7, σ1§22/7, mb3.7/6, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**35.10**	**192**	P		**22 44 51.0**	**+0.1**
	0.5nm,0.5s,mb3.7,baz=18,slow=12,SNR=8.7						
ASAR				pP	pP	22 45 03.0	+0.1
	0.4nm,0.5s,baz=18,slow=12,SNR=4.0						
SONM	**Songino Array**	**46.91**	**328**	P		**22 46 29.0**	**+1.4**
	0.2nm,0.4s,mb3.4,baz=135,slow=6.1,SNR=3.1						
CHKZ	**Chkalovo**	**69.73**	**323**	*eP*		**22 49 05.5**	**-1.4**
	0.5nm,0.6s,mb3.6						
BVAR	**Borovoye Array**	**69.76**	**323**	P		**22 49 06.8**	**-0.3**
	1.1nm,0.8s,mb3.8,baz=98,slow=10,SNR=5.0						
BVAR				pP	pP	22 49 19.2	-0.7
	0.9nm,0.7s,baz=101,slow=7.6,SNR=3.7						
ILAR	**Eielson Array**	**72.52**	**25**	P		**22 49 21.9**	**-1.5**
	0.5nm,0.6s,mb3.6,baz=251,slow=5.4,SNR=6.9						
ILAR				pP	pP	22 49 35.3	-1.0
	0.4nm,0.6s,baz=248,slow=5.5,SNR=3.8						
YKA	**Yellowknife Ar**	**86.88**	**27**	P		**22 50 42.3**	**+1.8**
	0.4nm,0.5s,mb3.9,baz=288,slow=5.4,SNR=8.6						
YKA				pP	pP	22 50 55.3	+1.6
	0.5nm,0.4s,baz=288,slow=5.2,SNR=6.4						
YKA	**Yellowknife Ar**	**86.88**	**27**	P		**22 50 42.3**	**+1.8**
YKA				pP	pP	22 50 55.4	+1.6

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*IDC **16** 22:39:34.9±0.8, 10.96N×141.01E, h34km±5km, mb3.6/7, mb1 3.8/7, mb1mx3.7/19, mbtmp3.8/7, Error ellipse: s-maj=35.9km s-min=17.5km az=91.0*
*NEIC **16** 22:39:35.1±0.7, 10.91N×140.92E, mb4.1/1, Error ellipse: s-maj=36.9km s-min=16.8km az=88.0*
ISC 16 22:39:33.0±0.9, 10.9N±0.1×140.9E±0.3, h35km, h35km±2.6km:pP-P, n10, σ0§95/9, mb3.8/8, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.30**	**192**	P		**22 45 52.0**	**-0.4**
	1.6nm,0.9s,mb3.9,baz=10,slow=9.6,SNR=5.1						
WRA				pP	pP	22 46 03.8	+1.4
	1.3nm,0.7s,baz=10,slow=9.7,SNR=4.5						
ASAR	**Alice Springs**	**35.01**	**191**	P		**22 46 24.9**	**+0.5**
	0.8nm,0.5s,mb3.9,baz=19,slow=12,SNR=6.5						
SONM	**Songino Array**	**46.86**	**328**	P		**22 48 02.7**	**+1.1**
	0.3nm,0.5s,mb3.5,baz=135,slow=7.0,SNR=3.5						
SONM				pP	pP	22 48 12.5	+0.7
	0.3nm,0.4s,baz=46,slow=46,SNR=3.0						
CHKZ	**Chkalovo**	**69.65**	**323**	*eP*		**22 50 40.2**	**-0.6**
	2.2nm,1.1s,mb4.0						
BVAR	**Borovoye Array**	**69.68**	**323**	P		**22 50 41.1**	**+0.1**
	0.7nm,0.5s,mb3.9,baz=108,slow=9.4,SNR=5.6						
BVAR				pP	pP	22 50 52.1	+0.3
	2.1nm,0.9s,baz=90,slow=7.4,SNR=6.5						
ILAR	**Eielson Array**	**72.66**	**25**	P		**22 50 57.5**	**-1.1**
	0.6nm,1.0s,mb3.5,baz=246,slow=6.3,SNR=4.3						
ILAR				pP	pP	22 51 08.6	-0.9
	0.3nm,0.5s,baz=247,slow=6.1,SNR=2.3						
YKA	**Yellowknife Ar**	**87.02**	**27**	P		**22 52 17.3**	**+1.6**
	0.2nm,0.5s,mb3.6,baz=291,slow=5.2,SNR=4.2						
YKA				pP	pP	22 52 26.4	-0.3
	0.2nm,0.4s,baz=291,slow=4.8,SNR=3.7						
YKA	**Yellowknife Ar**	**87.02**	**27**	P		**22 52 17.3**	**+1.6**
YKA				pP	pP	22 52 26.4	-0.3
FINES	**FINESS Array B**	**91.94**	**334**	P		**22 52 37.8**	**-1.2**
	1.7nm,0.8s,mb4.4,baz=71,slow=4.7,SNR=3.3						
FINES				pP	pP	22 52 49.4	-0.7
	4.2nm,1.1s,baz=45,slow=2.7,SNR=1.5						
LPAZ	**La Paz**	**151.28**	**104**	PKPbc	PKPdf	22 59 27.5	+10
	1.3nm,0.8s,baz=19,slow=5.4,SNR=5.4						

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*IDC **16** 22:40:36.0±1.5, 15.86S×174.10W, mb4.0/6, mb1 4.3/6, mb1mx4.1/13, mbtmp4.0/6, Error ellipse: s-maj=109.2km s-min=21.5km az=149.0*
*NEIC **16** 22:40:51.9±1.7, 16.01S×174.16W, h133km±13km, mb4.0/2, Error ellipse: s-maj=73.0km s-min=12.1km az=148.0*
ISC 16 22:40:50.0±2.1, 15.8S±0.6×174.3W±0.4, h126km±17km, n9, σ0§81/10, mb3.9/8, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.08**	**52**	⇑*i*P		**22 41 40.1**	**+1.7**
AFI				*e*S		**22 42 13.8**	**-1.3**
STKA	**Stephens Creek**	**43.09**	**240**	P		**22 48 38.3**	**-1.1**
	2.2nm,0.5s,mb4.1,baz=89,slow=6.5,SNR=7.0						
WRAB	**Tennant Creek**	**48.91**	**257**	*eP*		**22 49 25.3**	**-0.1**
	2.3nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**48.92**	**257**	P		**22 49 26.1**	**+0.6**
	2.7nm,0.7s,mb4.3,baz=92,slow=7.3,SNR=18						
ASAR	**Alice Springs**	**49.17**	**252**	P		**22 49 27.2**	**-0.1**
	9.4nm,0.9s,mb4.7,baz=84,slow=8.5,SNR=66						
HLID	**Hailey**	**80.49**	**40**	P		**22 52 49.1**	**-0.4**
	1.3nm,0.8s,mb3.8						
TXAR	**Lajitas Array**	**81.55**	**56**	P		**22 52 56.0**	**+0.5**
	0.4nm,0.8s,mb3.3,baz=197,slow=9.4,SNR=3.4						
ILAR	**Eielson Array**	**83.02**	**11**	P		**22 53 02.5**	**+0.2**
	0.3nm,0.8s,mb3.2,baz=211,slow=3.3,SNR=4.6						
PDAR	**Pinedale Array**	**83.14**	**42**	P		**22 53 03.4**	**+0.1**
	0.6nm,0.6s,mb3.6,baz=188,slow=3.2,SNR=6.6						

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*NEIC **16** 22:42:32.9, 36.71N×11.76W, MG4.2(MDD), After MDD.*
*INMG **16** 22:42:34.3±0.7, 36.66N×11.83W, h10km, MD2.7, ML2.5, Error ellipse: s-maj=3.7km s-min=2.9km az=70.0*
*IGIL **16** 22:42:34.1, 36.70N×11.80W, h0km, ML2.9*
*CSEM **16** 22:42:34.6±0.3, 36.70N×11.80W, h40km, ML3.5/13, Error ellipse: s-maj=5.4km s-min=3.4km az=63.0*
MDD 16 22:42:32.9±1.7, 36.68N×11.76W, mbLg3.0/20, Error ellipse: s-maj=15.0km s-min=11.6km az=55.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**2.58**	**70**	*e*Pn	Pn	22 43 14.9	-1.7
PTEO				*e*Sn	Sn	22 43 46.0	-3.1
PTEO	**Sao Teotonio**	**2.58**	**70**	P	Pn	22 43 14.8	-1.7
PTEO				S	Sn	22 43 44.8	-4.2
PTEO	**Sao Teotonio**	**2.58**	**70**	P	Pn	22 43 14.9	-1.7
PTEO				S	Sn	22 43 44.8	-4.3
PLOU	**Loures**	**3.02**	**42**	*e*Pn	Pn	22 43 20.9	-2.0
PLOU				*e*Sn	Sn	22 43 56.5	-3.8
	16nm,0.1s						
PLOU	**Loures**	**3.02**	**42**	*e*Pn	Pn	22 43 20.9	-2.0
PLOU				*e*Sn	Sn	22 43 56.5	-3.8
	16nm,0.1s						
MOE	**Montemor**	**3.27**	**55**	*e*Pn	Pn	22 43 25.7	-0.8
MOE				*e*Sn	Sn	22 44 02.3	-4.4
MOE	**Montemor**	**3.27**	**55**	P	Pn	22 43 24.1	-2.4
MOE				S	Sn	22 44 01.9	-4.8
MOE	**Montemor**	**3.27**	**55**	*e*Pn	Pn	22 43 25.7	-0.8
MOE				*e*Sn	Sn	22 44 02.3	-4.4
MOE	**Montemor**	**3.27**	**55**	P	Pn	22 43 24.1	-2.4
MOE				S	Sn	22 44 01.9	-4.8
PBEJ	**Beja**	**3.38**	**65**	*e*Pn	Pn	22 43 25.7	-2.3
PBEJ				*e*Sn	Sn	22 44 04.9	-4.6
PBEJ	**Beja**	**3.38**	**65**	P	Pn	22 43 25.4	-2.6
PBEJ				S	Sn	22 44 04.2	-5.2
PBEJ	**Beja**	**3.38**	**65**	P	Pn	22 43 25.4	-2.6
PBEJ	**Beja**	**3.38**	**65**	*e*Pn	Pn	22 43 25.7	-2.3
PBEJ				S	Sn	22 44 04.2	-5.3
PBEJ				*e*Sn	Sn	22 44 04.9	-4.6
PALC	**Alcoutim**	**3.51**	**76**	*e*Pn	Pn	22 43 27.6	-2.3
PALC				*e*Sn	Sn	22 44 07.9	-4.9
	5.0nm,0.1s						
PALC	**Alcoutim**	**3.51**	**76**	P	Pn	22 43 27.4	-2.5
PALC				S	Sn	22 44 07.9	-5.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALC	**Alcoutim**	**3.51**	**76**	P	Pn	22 43 27.6	-2.3
PALC				S	Sn	22 44 07.9	-4.9
	2.5nm,0.1s						
PALC	**Alcoutim**	**3.51**	**76**	P	Pn	22 43 27.4	-2.5
PALC				S	Sn	22 44 07.9	-4.9
EGRO	**El Granado**	**3.52**	**75**	Pn	Pn	22 43 27.5	-2.5
EGRO				Sn	Sn	22 44 08.0	-5.1
EGRO	**El Granado**	**3.52**	**75**	P	Pn	22 43 27.5	-2.5
	2.1nm,0.1s,SNR=7.9						
EGRO				S	Sn	22 44 08.3	-4.8
	3.6nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.52**	**75**	Pn	Pn	22 43 27.5	-2.6
	2.1nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	22 44 08.0	-5.1
	3.6nm,0.1s,SNR=7.9						
ALMR	**Almeirim**	**3.53**	**45**	*e*P	Pn	22 43 27.9	-2.2
ALMR				*e*S	Sn	22 44 08.6	-4.6
ALMR				*e*S	Sn	22 44 08.6	-4.6
ALMR				AML	AML	22 44 09.8	
	comp=E,34nm,0.2s						
ALMR	**Almeirim**	**3.53**	**45**	P	Pn	22 43 27.9	-2.2
ALMR				S	Sn	22 44 08.6	-4.6
	comp=E,17nm,0.2s						
PTOM	**Tomar**	**3.94**	**41**	*e*Pn	Pn	22 43 33.7	-2.3
PTOM				*e*Sn	Sn	22 44 19.3	-4.4
	comp=E,17nm,0.2s						
PTOM	**Tomar**	**3.94**	**41**	P	Pn	22 43 33.7	-2.4
PTOM				S	Sn	22 44 16.9	-6.9
PTOM	**Tomar**	**3.94**	**41**	P	Pn	22 43 33.7	-2.3
PTOM				S	Sn	22 44 19.3	-4.4
	comp=E,8.4nm,0.2s						
PTOM	**Tomar**	**3.94**	**41**	P	Pn	22 43 33.7	-2.3
PTOM				S	Sn	22 44 16.9	-6.8
EMIN	**Mina Concepcio**	**4.20**	**74**	Pn	Pn	22 43 36.7	-3.1
EMIN				Sn	Sn	22 44 24.6	-5.7
EMIN	**Mina Concepcio**	**4.20**	**74**	P	Pn	22 43 36.7	-3.1
	comp=E,2.0nm,0.1s,SNR=59						
EMIN				S	Sn	22 44 24.8	-5.5
	comp=E,2.6nm,0.2s,SNR=10						
EMIN	**Mina Concepcio**	**4.20**	**74**	Pn	Pn	22 43 36.7	-3.0
	comp=E,2.0nm,0.1s,SNR=59						
EMIN				Sn	Sn	22 44 24.6	-5.7
	comp=E,3.2nm,0.2s,SNR=10						
EBAD	**Badajoz**	**4.29**	**60**	Pn	Pn	22 43 38.3	-2.7
EBAD				Sn	Sn	22 44 25.8	-6.8
EBAD	**Badajoz**	**4.29**	**60**	P	Pn	22 43 38.3	-2.7
	comp=E,1.5nm,0.1s,SNR=14						
EBAD				S	Sn	22 44 25.8	-6.8
	comp=E,10.0nm,0.2s,SNR=8.2						
EBAD	**Badajoz**	**4.29**	**60**	Pn	Pn	22 43 38.3	-2.7
	comp=E,1.5nm,0.1s,SNR=14						
EBAD				Sn	Sn	22 44 25.8	-6.8
	comp=E,14nm,0.2s,SNR=8.2						
PCBR	**Castelo Branco**	**4.62**	**46**	*e*Pn	Pn	22 43 42.7	-2.9
PCBR				*e*Sn	Sn	22 44 33.8	-6.9
	comp=E,5.2nm,0.2s						
PCBR	**Castelo Branco**	**4.62**	**46**	P	Pn	22 43 42.5	-3.1
PCBR				S	Sn	22 44 33.8	-7.0
PCBR	**Castelo Branco**	**4.62**	**46**	P	Pn	22 43 42.7	-2.9
PCBR				S	Sn	22 44 33.8	-6.9
	comp=E,2.6nm,0.2s						
PCBR	**Castelo Branco**	**4.62**	**46**	P	Pn	22 43 42.5	-3.1
PCBR				S	Sn	22 44 33.8	-6.9
ESPR	**Espera**	**4.74**	**86**	Pn	Pn	22 43 43.6	-3.8
ESPR				Sn	Sn	22 44 35.9	-8.1
ESPR	**Espera**	**4.74**	**86**	P	Pn	22 43 43.6	-3.8
	comp=E,9.1nm,0.1s,SNR=22						
ESPR				S	Sn	22 44 36.2	-7.8
	comp=E,15nm,0.3s						
ESPR	**Espera**	**4.74**	**86**	Pn	Pn	22 43 43.6	-3.8
	comp=E,9.1nm,0.1s,SNR=22						
ESPR				Sn	Sn	22 44 35.9	-8.1
	comp=E,14nm,0.3s						
MTE	**Manteigas**	**4.97**	**40**	*e*Sn	Sn	22 44 42.4	-7.3
	comp=E,7.2nm,0.1s						
MTE	**Manteigas**	**4.97**	**40**	P	Pn	22 43 48.0	-2.6
MTE				S	Sn	22 44 42.5	-7.2
MTE	**Manteigas**	**4.97**	**40**	P	Pn	22 43 48.0	-2.6
MTE				S	Sn	22 44 42.4	-7.3
	comp=E,3.6nm,0.1s						
MTE	**Manteigas**	**4.97**	**40**	P	Pn	22 43 48.0	-2.6
MTE				S	Sn	22 44 42.5	-7.2
PVIS	**Viseu**	**5.04**	**36**	*e*Pn	Pn	22 43 48.3	-3.2
PVIS				*e*Sn	Sn	22 44 44.0	-7.3
	comp=E,14nm,0.1s						
PVIS	**Viseu**	**5.04**	**36**	P	Pn	22 43 48.3	-3.2
PVIS				S	Sn	22 44 43.8	-7.6
PVIS	**Viseu**	**5.04**	**36**	P	Pn	22 43 48.3	-3.2
PVIS				S	Sn	22 44 44.0	-7.3
	comp=E,7.1nm,0.1s						
PVIS	**Viseu**	**5.04**	**36**	S	Sn	22 44 43.8	-7.5
PVRL	**Vila Real**	**5.56**	**33**	*e*Pn	Pn	22 43 55.8	-3.2
PVRL				*e*Sn	Sn	22 44 55.9	-8.7
	comp=E,9.4nm,0.1s						
PVRL	**Vila Real**	**5.56**	**33**	P	Pn	22 43 55.8	-3.2
PVRL				S	Sn	22 44 55.6	-9.0
PVRL	**Vila Real**	**5.56**	**33**	P	Pn	22 43 55.8	-3.2
PVRL				S	Sn	22 44 55.9	-8.7
	comp=E,4.7nm,0.1s						
PVRL	**Vila Real**	**5.56**	**33**	P	Pn	22 43 55.8	-3.2
PVRL				S	Sn	22 44 55.6	-9.0
EADA	**Adamuz**	**5.91**	**73**	Pn	Pn	22 44 00.3	-3.5
EADA				Sn	Sn	22 45 04.5	-8.7
EADA	**Adamuz**	**5.91**	**73**	P	Pn	22 44 00.3	-3.5
	comp=E,3.3nm,0.2s,SNR=28						
EADA				S	Sn	22 45 05.2	-8.0
	comp=E,1.1nm,0.1s						
EADA	**Adamuz**	**5.91**	**73**	Pn	Pn	22 44 00.3	-3.5
	comp=E,3.3nm,0.2s,SNR=28						
EADA				Sn	Sn	22 45 04.5	-8.7
	comp=E,2.1nm,0.2s						
ELOB	**Lobios**	**5.92**	**28**	Pn	Pn	22 44 00.8	-3.2
ELOB				Sn	Sn	22 45 04.9	-8.6
ELOB	**Lobios**	**5.92**	**28**	P	Pn	22 44 00.8	-3.2
	comp=E,1.4nm,0.2s,SNR=17						
ELOB				S	Sn	22 45 04.5	-9.0
	comp=E,4.5nm,0.1s						
ELOB	**Lobios**	**5.92**	**28**	Pn	Pn	22 44 00.8	-3.2
	comp=E,1.4nm,0.2s,SNR=17						
ELOB				Sn	Sn	22 45 04.9	-8.6
	comp=E,4.5nm,0.1s						
EZAM	**Zamans**	**5.95**	**23**	Pn	Pn	22 44 00.2	-4.3
EZAM				Sn	Sn	22 45 03.9	-10
EZAM	**Zamans**	**5.95**	**23**	P	Pn	22 44 02.1	-2.3
	comp=E,0.3nm,0.2s,SNR=4.0						
EZAM				S	Sn	22 45 04.7	-10
	comp=E,1.9nm,0.1s						
EZAM	**Zamans**	**5.95**	**23**	Pn	Pn	22 44 00.2	-4.3
	comp=E,5.9nm,0.6s,SNR=5.7						
EZAM				Sn	Sn	22 45 03.9	-10
	comp=E,3.4nm,0.2s						
PBRG	**Braganca**	**6.43**	**36**	*e*Sn	Sn	22 45 17.1	-9.1
	comp=E,3.5nm,0.2s						
PBRG	**Braganca**	**6.43**	**36**	S	Sn	22 45 17.1	-9.1
	comp=E,1.8nm,0.2s						
PBRG	**Braganca**	**6.43**	**36**	S	Sn	22 45 16.8	-9.4
ECAL	**Calabor**	**6.54**	**35**	Pn	Pn	22 44 08.7	-4.0
ECAL				Sn	Sn	22 45 18.8	-10
ECAL	**Calabor**	**6.54**	**35**	P	Pn	22 44 09.5	-3.2
	comp=E,1.4nm,0.3s,SNR=13						
ECAL				S	Sn	22 45 19.7	-9.3
	comp=E,10.0nm,0.3s						
ECAL	**Calabor**	**6.54**	**35**	Pn	Pn	22 44 08.7	-4.0
	comp=E,1.4nm,0.3s,SNR=13						
ECAL				Sn	Sn	22 45 18.8	-10
	comp=E,5.1nm,0.2s						
EMAZ	**Mazaricos**	**6.62**	**18**	Pn	Pn	22 44 08.9	-4.9
EMAZ				Sn	Sn	22 45 19.1	-12
EMAZ	**Mazaricos**	**6.62**	**18**	P	Pn	22 44 10.6	-3.2
	comp=E,1.1nm,0.1s,SNR=16						
EMAZ				S	Sn	22 45 18.8	-12
	comp=E,6.9nm,0.2s						
EMAZ	**Mazaricos**	**6.62**	**18**	Pn	Pn	22 44 08.9	-4.9
	comp=E,1.1nm,0.1s,SNR=16						
ERUA	**La Rua**	**6.73**	**31**	Pn	Pn	22 44 11.1	-4.3
ERUA				Sn	Sn	22 45 23.8	-10
ERUA	**La Rua**	**6.73**	**31**	P	Pn	22 44 11.6	-3.7
	comp=E,1.5nm,0.4s,SNR=7.9						
ERUA				S	Sn	22 45 24.3	-9.3
	comp=E,2.1nm,0.1s,SNR=7.9						
ERUA	**La Rua**	**6.73**	**31**	Pn	Pn	22 44 11.1	-4.3
	comp=E,1.5nm,0.4s,SNR=7.9						
ERUA				Sn	Sn	22 45 23.8	-10
	comp=E,2.0nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**6.83**	**62**	Pn	Pn	22 44 13.1	-3.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC				Sn	Sn	22 45 26.2	-10
ESDC	**Sonseca Array**	**6.83**	**62**	P	Pn	22 44 13.1	-3.8
	comp=E,1.4nm,0.1s,baz=247,slow=13,SNR=17						
ESDC				S	Sn	22 45 26.2	-10
	comp=E,0.3nm,0.4s,baz=247,slow=23,SNR=4.8						
ESDC	**Sonseca Array**	**6.83**	**62**	Pn	Pn	22 44 13.1	-3.7
	comp=E,1.4nm,0.1s,SNR=17						
ESDC				Sn	Sn	22 45 26.2	-10
	comp=E,0.3nm,0.4s,SNR=4.8						
EINC	**Incio**	**6.87**	**28**	Pn	Pn	22 44 13.5	-3.9
EINC				Sn	Sn	22 45 27.0	-10
EINC	**Incio**	**6.87**	**28**	P	Pn	22 44 13.5	-3.9
	comp=E,0.7nm,0.2s,SNR=7.9						
EINC				S	Sn	22 45 27.2	-10
	comp=E,2.3nm,0.1s,SNR=8.5						
EINC	**Incio**	**6.87**	**28**	Pn	Pn	22 44 13.5	-3.9
	comp=E,0.7nm,0.2s,SNR=7.9						
EINC				Sn	Sn	22 45 27.0	-10
	comp=E,2.2nm,0.1s,SNR=8.5						
EQES	**Quesada**	**7.02**	**78**	Pn	Pn	22 44 14.3	-5.2
EQES				Sn	Sn	22 45 32.0	-9.1
EQES	**Quesada**	**7.02**	**78**	P	Pn	22 44 14.5	-5.0
	comp=E,0.7nm,0.2s,SNR=6.2						
EQES				S	Sn	22 45 31.8	-9.3
	comp=E,1.4nm,0.2s						
EQES	**Quesada**	**7.02**	**78**	Pn	Pn	22 44 14.3	-5.2
	comp=E,0.7nm,0.2s,SNR=6.2						
GUD	**Guadarrama**	**7.14**	**54**	Pn	Pn	22 44 16.8	-4.4
GUD				Sn	Sn	22 45 34.8	-9.3
GUD	**Guadarrama**	**7.14**	**54**	P	Pn	22 44 17.2	-4.1
	comp=E,0.8nm,0.4s,SNR=7.9						
GUD				S	Sn	22 45 35.1	-9.0
	comp=E,1.2nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**7.14**	**54**	Pn	Pn	22 44 16.8	-4.5
	comp=E,0.8nm,0.4s,SNR=7.9						
GUD				Sn	Sn	22 45 34.8	-9.3
	comp=E,0.7nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**7.52**	**27**	Pn	Pn	22 44 22.1	-4.4
EPON				Sn	Sn	22 45 42.2	-11
EPON	**Pontenova**	**7.52**	**27**	P	Pn	22 44 21.8	-4.7
	comp=E,4.0nm,0.8s,SNR=7.9						
EPON				S	Sn	22 45 42.3	-11
	comp=E,1.5nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**7.52**	**27**	Pn	Pn	22 44 22.1	-4.4
	comp=E,4.0nm,0.8s,SNR=7.9						
EPON				Sn	Sn	22 45 42.2	-11
	comp=E,0.6nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**8.30**	**35**	Pn	P	22 44 33.6	-3.8
EARI				Sn	Sn	22 46 01.9	-11
EARI	**Arriondas**	**8.30**	**35**	P	P	22 44 33.9	-3.5
	comp=E,1.4nm,0.6s,SNR=7.9						
EARI				S	Sn	22 46 02.9	-10
	comp=E,0.5nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**8.30**	**35**	Pn	P	22 44 33.6	-3.8
	comp=E,1.4nm,0.6s,SNR=7.9						
EARI				Sn	Sn	22 46 01.9	-11
	comp=E,1.6nm,0.6s,SNR=7.9						

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*IDC **16** 22:47:24.7±0.4, 8.72N×93.73E, mb4.9/23, mb1 5.0/24, mb1mx4.9/26, mbtmp4.8/24, ML5.1/1, Error ellipse: s-maj=22.4km s-min=11.3km az=49.0*
*BJI **16** 22:47:27.9, 8.41N×93.48E, h48km, mB5.2, mb4.8, Ms4.9, Msz4.7*
*MOS **16** 22:47:28.3±0.8, 8.76N×93.57E, h33km, mb5.2/57, Error ellipse: s-maj=10.8km s-min=4.7km az=124.0*
*NEIC **16** 22:47:29.1±0.1, 8.66N×93.62E, h30km, mb5.0/73, MS4.9/2, Error ellipse: s-maj=5.8km s-min=3.8km az=220.0*
ISC 16 22:47:27.3±0.2, 8.61N±0.03×93.63E±0.03, h31km, h31km±2.6km:pP-P, n297, σ0§93/302, mb4.9/110, MS4.8/7, 19C-21D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.15**	**344**	*eP*	**Pn**	**22 48 18.4**	**+2.2**
PBA				*e*S	**Sn**	**22 48 51.6**	**-1.5**
SNG	**Songkhla**	**7.07**	**101**	P	**Sn**	**22 50 27.5**	**-4.0**
NNT	**Nongplab**	**7.19**	**56**	P	**Pn**	**22 49 14.5**	**+1.4**
NST	**Nakhon Sawan**	**9.47**	**42**	P	**P**	**22 49 46.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**11.07**	**27**	Pn	**P**	**22 50 10.1**	**+3.2**
	4.3nm,0.3s,baz=213,slow=14,SNR=47						
CMAR				Sn	**S**	**22 52 12.0**	**+1.5**
	0.7nm,0.3s,baz=307,slow=26,SNR=4.8						
CHG	**Chiang Mai**	**11.38**	**26**	⇑P	**P**	**22 50 17.1**	**+6.0**
	14nm,0.8s						
KKTK	**Khon Kaen**	**11.81**	**49**	P	**P**	**22 50 20.0**	**+3.1**
PALK	**Pallekele**	**12.87**	**265**	*e*Pn	**P**	**22 50 30.8**	**-0.3**
PALK				*e*Sn	**S**	**22 52 40.4**	**-14**
VIS	**Vishakhapatnam**	**13.51**	**313**	*eP*	**P**	**22 50 36.5**	**-3.1**
	comp=Z,147nm,1.4s						
VIS				*e*S	x	22 52 47.3	
VIS				*e*	**S**	**22 53 00.4**	**-9.1**
	comp=E,138nm,0.4s						
VIS				*e*		22 53 00.6	
	comp=N,199nm,0.6s						
KOD	**Kodaikanal**	**16.03**	**277**	*eP*	**P**	**22 51 14.3**	**+1.9**
KOD				*e*		22 51 20.0	
	comp=Z,64nm,1.0s						
TRD	**Trivandrum**	**16.49**	**271**	*eP*	**P**

XAN AMB AMB
comp=Z,8.0nm,0.8s,mb4.5
NJ2 Nanjing 33.05 42 *eP* **P 22 54 02.0 -0.4**
NJ2 AP pP 22 54 11.4 -0.1
NJ2 PP PP 22 55 12.8 -0.6
NJ2 S **S 22 59 17.0 -1.1**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.3
NJ2 AMB AMB
comp=Z,60nm,4.2s
NJ2 LR LR
comp=N,4µm,21.6s
NJ2 LR LR
comp=E,3µm,15.8s
NJ2 LR LR
comp=Z,3µm,23.5s,MS4.9
SSE Sheshan 34.06 45 *eP* **P 22 54 09.4 -1.8**
SSE AMB AMB
comp=Z,34nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,302nm,5.6s
WMQ Urumqi 35.46 353 P **P 22 54 23.4 +0.4**
WMQ AP pP 22 54 33.1 +1.0
WMQ XP sP 22 54 37.0 +1.0
WMQ PP PP 22 55 43.5 +0.3
WMQ S **S 22 59 55.1 -0.2**
WMQ AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
WMQ AMB AMB
comp=Z,55nm,4.8s
WMQ LR LR
comp=N,1µm,19.3s,MS4.9
WMQ LR LR
comp=E,1µm,19.9s,MS4.9
WMQ LR LR
comp=Z,2µm,20.0s,MS4.9
KZA Kyzart 37.07 337 P **P 22 54 37.5 +0.9**
SNR=12
BJT Baijiatuau 37.19 29 *eP* **P 22 54 39.3 +1.7**
BJT pmax pmax
comp=Z,7.0nm,0.8s
BJT Baijiatuau 37.19 29 *eP* **P 22 54 39.3 +1.7**
comp=Z,7.3nm,0.8s,mb4.6
UCH Uchtor 37.48 336 P **P 22 54 41.0 +1.0**
SNR=15
BSY Bisya 37.66 296 ⇓P **P 22 54 45.0 +3.3**
SNR=9.3
TKM2 Tokmak 2 37.66 338 P **P 22 54 42.1 +0.5**
SNR=9.3
KBK Karagaybulak 37.68 337 P **P 22 54 42.8 +1.1**
SNR=21
AML Almayashu 37.73 336 P **P 22 54 43.4 +1.2**
SNR=48
HOQ Hoqain 37.80 298 ⇓P **P 22 54 46.0 +3.1**
SNR=8.6
AAK Ala-Archa 37.84 337 P **P 22 54 44.1 +1.0**
SNR=22
AAK Ala-Archa 37.84 337 *eP* **P 22 54 42.9 -0.1**
AAK pmax pmax
comp=Z,31nm,0.9s,mb5.0
AAK Ala-Archa 37.84 337 *eP* **P 22 54 42.9 -0.1**
comp=Z,31nm,0.9s,mb5.0
FRU Bishkek 37.96 337 *eP* **P 22 54 45.0 +1.0**
CHMS Chumysh 38.05 337 P **P 22 54 45.0 +0.2**
SNR=17
EKS2 Erkin-Say 38.14 336 P **P 22 54 46.7 +1.1**
SNR=19
USP Ospenovka 38.37 337 P **P 22 54 47.9 +0.4**
SNR=22
MBWA Marble Bar 39.15 139 *eP* **P 22 54 53.8 -0.4**
comp=Z,3.5nm,0.5s,mb4.3
MKAR Makanchi Array 39.27 348 *i* P **P 22 54 54.4 -0.6**
MKAR pmax pmax
comp=Z,19nm,1.0s
WHFO Wadi Hawf 39.81 288 ⇓P **P 22 55 02.2 +2.4**
SNR=19
ABTO Aybut 40.18 287 ⇓P **P 22 55 05.3 +2.5**
SONM Songino Array 40.56 13 P **P 22 55 05.9 +0.2**
comp=Z,15nm,1.1s,mb4.6,baz=200,slow=6.5,SNR=58
SONM PcP PcP 22 57 08.5 +0.3
comp=Z,3.4nm,0.7s,baz=214,slow=4.5,SNR=7.1
ULN Ulaanbaatar 40.75 14 *eP* **P 22 55 07.3 +0.2**
ULN pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
ULN MLR MLR
comp=Z,2µm,20.0s,MS5.0
ULN Ulaanbaatar 40.75 14 *eP* **P 22 55 07.3 +0.1**
comp=Z,9.4nm,0.8s,mb4.5
ULN LR LR
comp=Z,2µm,20.0s,MS5.0
SNY Shenyang 42.34 34 ⇓P **P 22 55 22.8 +2.5**
ZAK Zakamensk 42.41 9⇑*eP* **P 22 55 19.8 -1.0**
ZAK *e* 22 57 14.3
TLY Talaya 43.73 9 *eP* **P 22 55 32.1 +0.7**
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
TLY Talaya 43.73 9 *eP* **P 22 55 32.1 +0.7**
comp=Z,5.3nm,0.8s,mb4.3
ZAL Zalesovo 45.76 353 P **P 22 55 48.3 +0.6**
comp=Z,8.1nm,0.8s,mb4.7,baz=298,slow=6.8,SNR=47
MUN Mundaring 45.76 153 *eP* **P 22 55 49.3 +1.2**
comp=Z,39nm,0.9s,mb5.3
MUN Mundaring 45.76 153 *eP* **P 22 55 49.3 +1.2**
MUN pmax pmax
comp=Z,39nm,0.9s,mb5.3
HIA Hailar 46.05 24 *eP* **P 22 55 50.2 +0.1**
HIA pmax pmax
comp=Z,21nm,0.8s
HIA Hailar 46.05 24 *eP* **P 22 55 50.2 +0.1**
comp=Z,21nm,0.8s,mb5.1
NVS Novosibirsk 46.85 352 *eP* **P 22 55 54.8 -1.5**
NVS pmax pmax
comp=N,23nm,1.4s
NVS pmax pmax
comp=E,16nm,1.4s
NVS pmax pmax
comp=Z,44nm,1.4s,mb5.2
NWAO Narrogin (SRO) 47.03 153 *eP* **P 22 55 58.6 +0.6**
NWAO *e* pP 22 56 09.4 +2.1
NWAO pmax pmax
comp=Z,34nm,0.9s
NWAO Narrogin (SRO) 47.03 153 P **P 22 55 58.7 +0.6**
comp=Z,41nm,0.9s,mb5.4,baz=328,slow=10.0,SNR=19
NWAO Narrogin (SRO) 47.03 153 *eP* **P 22 55 58.6 +0.6**
comp=Z,34nm,0.9s,mb5.3
NWAO *e* pP 22 56 09.4 +2.0
MDJ Mudanjiang 47.49 35 P **P 22 56 00.1 -1.4**
MDJ PP PP 22 57 50.6 -1.6
MDJ SCP 23 01 22.0
MDJ PCS 23 01 25.8
MDJ S **S 23 02 53.3 +0.1**
MDJ SCS ScS 23 05 51.9 +1.7
MDJ SS SS 23 06 21.1 +6.3
MDJ AMB AMB
comp=Z,8.0nm,1.4s,mb4.5
MDJ LR LR
comp=N,454nm,27.8s,MS4.5
MDJ LR LR
comp=E,549nm,24.3s,MS4.5
MDJ LR LR
comp=Z,776nm,25.6s,MS4.6
BVA0 Borovoye Array 48.14 341 P **P 22 56 05.5 -0.9**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
BVAR Borovoye Array 48.14 341 P **P 22 56 05.4 -1.1**
comp=Z,5.1nm,0.6s,mb4.7,baz=143,slow=9.7,SNR=31
BRVK Borovoye 48.20 341 *eP* **P 22 56 05.2 -1.7**
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
BRVK Borovoye 48.20 341 *eP* **P 22 56 05.2 -1.8**
comp=Z,5.1nm,0.6s,mb4.7
RAYN Ar Rayn 48.33 294 P **P 22 56 10.5 +2.2**
comp=Z,204nm,0.6s,SNR=36
CHKZ Chkalovo 48.62 342⇓*eP* **P 22 56 09.5 -0.7**
CHKZ *e* 22 57 35.0
CHKZ pmax pmax
comp=Z,20nm,0.7s,mb5.3
CHKZ Chkalovo 48.62 342⇓*eP* **P 22 56 09.5 -0.7**
comp=Z,20nm,0.7s,mb5.3
CHKZ *e*PcP PcP 22 57 35.0 -0.7
MAT Matsushiro 49.05 48 PCP PcP 22 57 37.8 +0.3
WRA Warramunga Arr 49.10 126 P **P 22 56 13.5 -0.8**
comp=Z,7.9nm,0.6s,mb4.9,baz=305,slow=8.5,SNR=33
WRA PcP PcP 22 57 38.1 +0.2
comp=Z,3.0nm,0.8s,baz=312,slow=3.1,SNR=5.8
WRAB Tennant Creek 49.10 126 *eP* **P 22 56 13.5 -0.8**
WRAB *e* 22 57 37.6
WRAB pmax pmax
comp=Z,12nm,0.6s,mb5.1
WRAB MLR MLR
comp=Z,1µm,20.0s,MS4.9
WRAB Tennant Creek 49.10 126 *eP* **P 22 56 13.5 -0.9**
comp=Z,12nm,0.6s,mb5.1
WRAB *e*PcP PcP 22 57 37.6 -0.3
WRAB LR LR
comp=Z,1µm,20.0s,MS4.9
WB2 Warramunga Arr 49.11 126⇑*iP* **P 22 56 13.7 -0.7**
ASPA Alice Springs 50.77 130 *eP* **P 22 56 25.5 -1.5**
ASAR Alice Springs 50.77 130 P **P 22 56 26.0 -1.1**
comp=Z,8.0nm,0.6s,mb4.8,baz=302,slow=6.9,SNR=92
ASAR PcP PcP 22 57 44.3 +0.4
comp=Z,4.6nm,0.7s,baz=306,slow=3.6,SNR=12
BOD Bodaibo 51.56 14 *eP* **P 22 56 31.6 -1.0**
GNI Garni 53.57 314 *eP* **P 22 56 46.9 -0.9**
GNI pmax pmax
comp=Z,16nm,0.8s
GNI Garni 53.57 314 *eP* **P 22 56 46.9 -0.9**
comp=Z,16nm,0.8s,mb5.0
ARU Arti 55.02 337⇓*iP* **P 22 56 53.0 -5.3**
ARU *e*PPP PPP 23 00 08.3 -7.5
ARU *e*S **S 23 04 32.1 -4.5**
ARU pmax pmax
comp=Z,17nm,0.8s,mb5.1
ZEI Tsey 55.16 317 *eP* **P 22 56 59.0 -0.5**
ZEI *i* *PP pP 22 57 05.3 -3.6
ZEI *i* 22 59 04.4
ZEI *i* S **S 23 04 32.3 -6.3**
ZEI pmax pmax
comp=Z,15nm,0.9s,mb5.0
PMG Port Moresby 56.23 107 P **P 22 57 08.0 +0.5**
comp=Z,13nm,0.9s,mb4.9,baz=313,slow=7.5,SNR=4.9
KIV Kislovodsk 56.44 318 P **P 22 57 08.8 +0.2**
comp=Z,205nm,0.9s,SNR=12
KIV Kislovodsk 56.44 318 *eP* **P 22 57 07.8 -0.8**
KIV pmax pmax
comp=Z,31nm,0.9s,mb5.3
KIV Kislovodsk 56.44 318 *eP* **P 22 57 07.8 -0.8**
comp=Z,31nm,0.9s,mb5.3
YSS Yuzh-Sakhalins 56.52 38 *i* P **P 22 57 09.4 +0.2**
YSS pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
GOF Gofitskoye 56.65 319 *eP* **P 22 57 09.0 -1.1**
GOF pmax pmax
comp=Z,40nm,1.1s,mb5.4
KMBO Kilima Mbogo 57.01 263 P **P 22 57 13.3 +0.2**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 57.01 263 P **P 22 57 15.2 +2.1**
comp=Z,1.3nm,0.6s,mb4.2,baz=51,slow=16,SNR=2.6
KMBO Kilima Mbogo 57.01 263 P **P 22 57 13.3 +0.2**
comp=Z,3.3nm,0.8s,mb4.4
ASF Jabal al Asfar 57.40 303 P **P 22 57 16.6 +1.0**
comp=Z,7.9nm,0.9s,mb4.7,baz=360,slow=9.0,SNR=6.4
MALT Malatya 57.61 310 *eP* **P 22 57 16.0 -1.0**
MALT pmax pmax
comp=Z,15nm,1.1s,mb4.9
MALT Malatya 57.61 310 *eP* **P 22 57 16.0 -1.0**
comp=Z,15nm,1.1s,mb4.9
SOC Sochi 58.30 316 *eP* **P 22 57 16.0 -5.8**
SOC *e* 22 58 08.7
SOC *e* 22 59 28.5
SOC *e*S **S 23 05 15.7 -4.5**
SOC pmax pmax
comp=Z,20nm,1.0s,mb5.1
SOC pmax pmax
comp=N,7.0nm,1.1s
SOC pmax pmax
comp=E,3.0nm,0.8s
SOC MLR MLR
comp=Z,406nm,17.0s,MS4.6
SOC MLR MLR
comp=N,370nm,22.0s,MS4.6
SOC MLR MLR
comp=E,251nm,19.0s,MS4.6
EIL Elat 58.63 299 *eP* **P 22 57 22.9 -1.3**
comp=E,23nm,1.1s,mb5.1
CTA Charters Tower 59.11 119 *eP* **P 22 57 28.2 +0.5**
comp=E,6.5nm,0.4s,mb5.0
CTA Charters Tower 59.11 119 *eP* **P 22 57 28.2 +0.5**
CTA pmax pmax
comp=Z,7.0nm,0.4s
CTAO Charters Tower 59.11 119 *eP* **P 22 57 27.8 +0.1**
CTAO pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
CTAO Charters Tower 59.11 119 *eP* **P 22 57 27.8 +0.1**
comp=Z,2.6nm,0.6s,mb4.4
YAK Yakutsk 59.47 19 *eP* **P 22 57 28.6 -1.0**
YAK pmax pmax
comp=Z,70nm,0.8s,mb5.7
YAK Yakutsk 59.47 19 *eP* **P 22 57 28.6 -1.0**
comp=Z,70nm,0.8s,mb5.7
STKA Stephens Creek 60.98 134 *eP* **P 22 57 39.0 -1.3**
comp=Z,2.7nm,0.8s,mb4.4
STKA Stephens Creek 60.98 134 P **P 22 57 39.7 -0.6**
comp=Z,6.0nm,0.9s,mb4.7,baz=327,slow=11,SNR=8.3
STKA PcP PcP 22 58 22.2 -0.9
comp=Z,5.5nm,1.1s,baz=272,slow=5.1,SNR=3.2
BRTR Keskin Array B 61.57 311 P **P 22 57 42.8 -1.5**
comp=Z,12nm,0.8s,mb5.1,baz=121,slow=7.6,SNR=56
SIM Simferopol' **62.55 316** *eP* **P 22 57 50.0 -0.8**
SIM pmax pmax
comp=Z,23nm,0.9s,mb5.3
MBAR Mbarara 63.32 265 *eP* **P 22 57 57.2 +1.0**
ISP Isparta 63.59 308 P **P 22 57 56.3 -1.4**
ISP pmax pmax
comp=Z,13nm,1.0s,mb4.9
ISP Isparta 63.59 308 P **P 22 57 56.3 -1.5**
comp=Z,13nm,1.0s,mb4.9
MOS Moscow 64.19 329 *eP* **P 22 57 59.0 -2.4**
MOS pmax pmax
comp=Z,76nm,1.3s,mb5.6
OBN Obninsk 64.49 328*d* *iP* **P 22 58 00.2 -3.1**
OBN *e**PP PcP 22 58 37.3 +0.1
OBN *e* 23 00 25.3
OBN *e*S **S 23 06 29.3 -9.3**
OBN pmax pmax
comp=Z,43nm,1.2s,mb5.3
MA2 Magadan 66.36 28 *eP* **P 22 58 15.2 0.0**
MA2 pmax pmax
comp=Z,57nm,0.8s,mb5.7
MA2 Magadan 66.36 28 *eP* **P 22 58 15.2 0.0**
comp=Z,57nm,0.8s,mb5.7
TIXI Tiksi 66.62 11⇓*iP* **P 22 58 15.4 -1.3**
TIXI pmax pmax
comp=Z,58nm,0.7s,mb5.7
CFR Carcaliu 66.72 316⇑*iP* **P 22 58 16.8 -1.0**
IDI Anoyia 67.74 305 P **P 22 58 24.3 -0.1**
comp=Z,15nm,0.6s,mb5.2,baz=82,slow=13,SNR=11
VRI Vrincioaia 67.83 316⇑*iP* **P 22 58 24.8 0.0**
KDZ Kurdzhali 68.07 311 P **P 22 58 25.7 -0.7**
MLR Muntele Rosu 68.30 316 P **P 22 58 27.8 +0.1**
comp=Z,21nm,0.8s,mb5.2,baz=119,slow=2.8,SNR=23
MLR Muntele Rosu 68.30 316⇑*iP* **P 22 58 27.7 0.0**
SEY Seymchan 68.48 25 *eP* **P 22 58 28.3 -0.2**
SEY *e* 23 02 40.1
SEY pmax pmax
comp=Z,20nm,0.8s,mb5.2
LSZ Lusaka 69.04 250 *eP* **P 22 58 34.5 +1.7**
LSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LSZ Lusaka 69.04 250 *eP* **P 22 58 34.5 +1.7**
comp=Z,3.5nm,0.8s,mb4.3
BURAR Bucovina Array 69.17 318 ⇓P **P 22 58 32.9 -0.2**
MMB Musomiste 69.32 311 *i* P **P 22 58 32.5 -1.6**
VTS Vitosha 69.82 312 ⇓P **P 22 58 36.2 -0.9**
VTS Vitosha 69.82 312 *i* P **P 22 58 36.5 -0.6**
KKB Krupnik 69.83 311 *i* P **P 22 58 36.0 -1.2**
AGG Agios Georgios 70.11 308 *eP* **P 22 58 36.5 -2.4**
BOLS Boljevac 70.87 313⇑*iP* **P 22 58 42.7 -0.8**
APA Apatity 70.99 339⇑*iP* **P 22 58 45.0 +1.2**
APA pmax pmax
comp=Z,21nm,1.0s,mb5.0
KWP Kalwaria 71.15 320 *eP* **P 22 58 44.6 -0.4**
KOLS Kolonicke sedl 71.32 319 *i* P **P 22 58 46.0 -0.1**
SUW Suwalki 71.62 324 *eP* **P 22 58 46.5 -1.3**
FINES FINESS Array B 71.83 332 P **P 22 58 48.0 -0.9**
comp=Z,7.2nm,0.7s,mb4.7,baz=89,slow=5.4,SNR=30
CRVS Cervenica-Dubn 71.85 319 *eP* **P 22 58 50.3 +1.0**
KAF Kangasniemi 71.91 333 *ep* **P 22 58 48.2 -1.2**
comp=Z,3.3nm,0.6s,mb4.4
KECS Kecovo 72.44 318 *eP* **P 22 58 52.0 -0.8**
NIE Niedzica 72.66 319 *eP* **P 22 58 54.5 +0.4**
PSZ Piszkesteto 72.76 317 *eP* **P 22 58 53.9 -0.8**
PSZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
PSZ Piszkesteto 72.76 317 *eP* **P 22 58 53.9 -0.8**
comp=Z,9.1nm,0.9s,mb4.7
OJC Ojcow 73.09 320 *eP* **P 22 58 56.1 -0.5**
PKSM Moragy 73.45 316 ⇓P **P 22 58 57.8 -1.0**
VYHS Vyhne 73.53 318 *eP* **P 22 58 58.5 -0.7**
SRO2 Moca 73.75 317 *eP* **P 22 59 00.5 0.0**
SRO Srobarova 73.81 317 *eP* **P 22 59 00.9 +0.1**
SRO1 Iza 73.86 317 *eP* **P 22 59 01.0 -0.1**
OKC Ostrava-Krasne 74.11 319 *eP* **P 22 59 02.7 +0.2**
ARCES ARCESS Array B 74.41 340 P **P 22 59 04.0 +0.1**
comp=Z,6.3nm,0.7s,mb4.6,baz=102,slow=7.2,SNR=26
SMOL Smolenice 74.46 318 *eP* **P 22 59 04.2 -0.4**
MORC Moravsky Berou 74.49 319 ⇑P **P 22 59 05.1 +0.4**
ZST Bratislava 74.65 318 *eP* **P 22 59 05.7 0.0**
GKP Gorka Klasztor 75.01 323 *eP* **P 22 58 58.4 -9.2**
GKP Gorka Klasztor 75.01 323 *eP* **P 22 58 58.4 -9.3**
DPC Dobruska-Polom 75.32 320 *eP* **P 22 59 09.9 +0.4**
KSP Ksiaz 75.38 320 *eP* **P 22 59 09.6 -0.2**
KSP Ksiaz 75.38 320 *eP* **P 22 59 09.9 +0.1**
UPC Upice 75.53 320 *eP* **P 22 59 10.9 +0.2**
BOSA Boshof 75.55 238 *eP* **P 22 59 12.9 +1.7**
BOSA pmax pmax
comp=Z,128nm,2.2s,mb5.5
BOSA Boshof 75.55 238 *eP* **P 22 59 12.9 +1.6**
comp=Z,128nm,2.2s,mb5.5
BILL Bilibino 75.60 22 *eP* **P 22 59 10.4 -0.3**
BILL pmax pmax
comp=Z,22nm,1.2s,mb5.0
BILL Bilibino 75.60 22 *eP* **P 22 59 10.4 -0.3**
comp=Z,22nm,1.2s,mb5.0
ARSA Arzberg 75.66 317⇓*iP* **P 22 59 11.6 +0.1**
comp=Z,14nm,1.3s,mb4.7
BOJS Bojanci 75.77 315 *i* P **P 22 59 11.7 -0.5**
PERS Pernice 75.91 316 *eP* **P 22 59 12.8 -0.1**
LJU Ljubljana 76.30 315 *i* P **P 22 59 15.5 +0.4**
PRU Pruhonice 76.44 319 *eP* **P 22 59 16.3 +0.5**
PVCC Panska Ves 76.45 320 *eP* **P 22 59 16.2 +0.3**
BRG Berggiesshubel 76.87 320 *i* P **P 22 59 18.6 +0.4**
BRG pmax pmax
comp=Z,11nm,0.9s,mb4.8
BRG Berggiesshubel 76.87 320 *i* P **P 22 59 18.6 +0.4**
comp=Z,11nm,0.9s,mb4.8
GEC2 GERESS Array S 76.95 318 *eP* **P 22 59 19.0 +0.3**
GEC2 pmax pmax
comp=Z,18nm,1.0s,mb5.0
GEC2 GERESS Array S 76.95 318 *eP* **P 22 59 19.0 +0.3**
comp=Z,18nm,1.0s,mb5.0
GERES GERESS Array B 76.95 318 P **P 22 59 19.1 +0.4**
comp=Z,8.9nm,0.7s,mb4.8,baz=90,slow=5.3,SNR=89
ROBS Robic 77.01 315 *eP* **P 22 59 18.6 -0.4**
KHC Kasperske Hory 77.04 318 *eP* **P 22 59 19.3 +0.1**
RUE Ruedersdorf 77.04 322 *eP* **P 22 59 19.3 +0.2**
comp=Z,19nm,0.6s,mb5.2
KBA Koelnbreinsper 77.14 316⇑*iP* **P 22 59 21.1 +1.3**
comp=Z,17nm,1.4s,mb4.8
KBA Koelnbreinsper 77.14 316⇑*iP* **P 22 59 21.1 +1.3**
KBA pmax pmax
comp=Z,17nm,1.4s,mb4.8
CLL Collm 77.48 321 P **P 22 59 21.0 -0.5**
WET Wettzell 77.50 318 *eP* **P 22 59 21.9 +0.2**
WET pmax pmax
comp=Z,14nm,1.1s,mb4.8
WET Wettzell 77.50 318 *eP* **P 22 59 21.9 +0.2**
comp=Z,14nm,1.1s,mb4.8
NKC Novy Kostel 77.80 320 *eP* **P 22 59 24.0 +0.7**
WTTA Wattenberg 78.31 316⇓*iP* **P 22 59 25.8 -0.4**
comp=Z,13nm,0.8s,mb4.9
WTTA Wattenberg 78.31 316⇓*iP* **P 22 59 25.8 -0.4**
WTTA pmax pmax
comp=Z,13nm,0.8s,mb4.9
MOX Moxa 78.34 320 *eP* **P 22 59 26.0 -0.3**
WATA Walderalm 78.35 317⇑*iP* **P 22 59 25.9 -0.5**
comp=Z,9.8nm,1.1s,mb4.7
WATA Walderalm 78.35 317⇑*iP* **P 22 59 25.9 -0.5**
WATA pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
GRA1 Grafenberg Arr 78.59 319 *eP* **P 22 59 28.3 +0.6**
comp=Z,15nm,0.9s,mb4.9
GRF Grafenberg Arr 78.59 319 *eP* **P 22 59 28.3 +0.6**
GRF pmax pmax
comp=Z,15nm,0.9s,mb4.9
GRF Grafenberg Arr 78.59 319 *eP* **P 22 59 28.3 +0.6**
GRF pmax pmax
comp=Z,15nm,0.9s,mb4.9
GRF Grafenberg Arr 78.59 319 *eP* **P 22 59 28.3 +0.6**
comp=Z,15nm,0.9s,mb4.9
SQTA Sankt Quirin 78.60 316⇑*iP* **P 22 59 27.3 -0.5**
comp=Z,8.9nm,0.9s,mb4.7
SQTA Sankt Quirin 78.60 316⇑*iP* **P 22 59 27.3 -0.5**
SQTA pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MOTA Moosalm 78.67 317⇑*iP* **P 22 59 27.5 -0.7**
comp=Z,7.9nm,1.0s,mb4.6
MOTA Moosalm 78.67 317⇑*iP* **P 22 59 27.5 -0.7**
MOTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
NB2 NORSAR Subarra 78.85 331 P **P 22 59 28.4 -0.5**
comp=Z,12nm,0.7s,mb4.9,baz=96,slow=5.0
NB2 NORSAR Subarra 78.85 331 P **P 22 59 28.4 -0.5**
baz=96,slow=5.3
NOA NORSAR Array B 78.85 331 P **P 22 59 28.4 -0.5**
comp=Z,9.4nm,0.7s,mb4.8,baz=92,slow=5.7,SNR=27
CLZ Clausthal 79.13 321 *eP* **P 22 59 30.9 +0.3**
comp=Z,18nm,0.9s,mb5.0
MAW Mawson 79.15 192 P **P 22 59 32.2 +1.9**
comp=Z,5.8nm,0.9s,mb4.5,baz=335,slow=20,SNR=3.9
BSEG Bad Segeberg 79.16 323 *eP* **P 22 59 31.2 +0.5**
DAVA Damuels 79.50 317⇑*iP* **P 22 59 32.4 -0.3**
comp=Z,17nm,1.1s,mb4.9
DAVOX Davos 79.51 316 P **P 22 59 33.2 +0.4**
comp=Z,12nm,0.8s,mb4.9,baz=111,slow=6.2,SNR=21
DAVOX Davos 79.51 316 P **P 22 59 33.2 +0.4**
MUD Monsted U'grnd 79.82 326 *i* P **P 22 59 35.2 +1.0**
MUD pmax pmax
comp=Z,13nm,0.6s,mb5.0
MUD Monsted U'grnd 79.82 326 *i* P **P 22 59 35.2 +1.0**
comp=Z,13nm,0.6s,mb5.0
PGF Pioggiola 80.30 312 *eP* **P 22 59 37.1 0.0**
comp=Z,58nm,1.3s,mb5.1
PGF Pioggiola 80.30 312 *eP* **P 22 59 37.1 0.0**
PGF pmax pmax
comp=Z,29nm,1.3s,mb5.0
BFO Black Forest 80.51 318 *eP* **P 22 59 38.2 +0.1**
BFO pmax pmax
comp=Z,14nm,1.2s,mb4.8
BFO Black Forest 80.51 318 *eP* **P 22 59 38.2 +0.1**
comp=Z,14nm,1.2s,mb4.8
FIN Finale Ligure 80.79 313 P **P 22 59 38.9 -0.7**
ORX Oropa 80.88 315 P **P 22 59 39.8 -0.2**
ROB Roburent 81.03 314 P **P 22 59 40.7 -0.2**
CDF Champ du Feu 81.21 318 *eP* **P 22 59 41.3 -0.5**
comp=Z,19nm,1.1s,mb4.6
CDF Champ du Feu 81.21 318 *eP* **P 22 59 41.3 -0.5**
CDF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SBF Sospel 81.36 313 *eP* **P 22 59 42.4 -0.2**
comp=Z,43nm,0.9s,mb5.1
SBF Sospel 81.36 313 *eP* **P 22 59 42.4 -0.2**
SBF pmax pmax
comp=Z,21nm,0.9s,mb5.1
RSP Reno Superiore 81.41 314 P **P 22 59 42.3 -0.6**
STV Sta Anna Valdi 81.42 314 P **P 22 59 42.8 -0.1**
BHB Bricherasio 81.43 314 P **P 22 59 41.3 -1.6**
LSD Ceresole Reale 81.47 315 P **P 22 59 43.5 +0.4**
HINF Hinteralfeld 81.53 317 *eP* **P 22 59 43.1 -0.3**
LPG La Plagne 81.75 315 *eP* **P 22 59 44.9 +0.3**
comp=Z,38nm,0.8s,mb5.1
LPG La Plagne 81.75 315 *eP* **P 22 59 44.9 +0.3**
LPG pmax pmax
comp=Z,19nm,0.8s,mb5.1
LPL La Plagne 81.76 315 *eP* **P 22 59 44.9 +0.3**
comp=Z,51nm,0.8s,mb5.2
LPL La Plagne 81.76 315 *eP* **P 22 59 44.9 +0.3**
LPL pmax pmax
comp=Z,26nm,0.8s,mb5.2
RRL Cesana Torines 81.76 314 P **P 22 59 43.5 -1.2**
MBDF Montbardon 81.78 314 *eP* **P 22 59 44.1 -0.7**
comp=Z,12nm,0.8s,mb4.6
MBDF Montbardon 81.78 314 *eP* **P 22 59 44.1 -0.7**
MBDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6

BNI Bardonecchia 81.83 314 *eP* **P 22 59 44.9 -0.1**
BNI pmax pmax
comp=Z,20nm,1.0s,mb5.0
BNI Bardonecchia 81.83 314 *eP* **P 22 59 44.9 -0.1**
comp=Z,20nm,1.0s,mb5.0
HAU Haudompre 81.86 317 *eP* **P 22 59 44.7 -0.4**
comp=Z,39nm,0.9s,mb5.0
HAU Haudompre 81.86 317 *eP* **P 22 59 44.7 -0.4**
HAU pmax pmax
comp=Z,19nm,0.9s,mb5.0
FRF La Foret Royal 81.96 313 *eP* **P 22 59 45.7 0.0**
comp=Z,42nm,1.2s,mb5.0
FRF La Foret Royal 81.96 313 *eP* **P 22 59 45.7 0.0**
FRF pmax pmax
comp=Z,21nm,1.2s,mb4.9
LMR La Mourre 82.07 313 *eP* **P 22 59 46.2 -0.1**
comp=Z,30nm,1.1s,mb4.8
LMR La Mourre 82.07 313 *eP* **P 22 59 46.2 -0.1**
LMR pmax pmax
comp=Z,15nm,1.1s,mb4.8
CABF La Chapelle 82.13 316 *eP* **P 22 59 46.6 +0.1**
comp=Z,38nm,1.2s,mb4.9
CABF La Chapelle 82.13 316 *eP* **P 22 59 46.6 +0.1**
CABF pmax pmax
comp=Z,19nm,1.2s,mb4.9
ORIF Oris-en-Rattie 82.40 314 *eP* **P 22 59 48.2 +0.2**
comp=Z,25nm,1.1s,mb4.8
ORIF Oris-en-Rattie 82.40 314 *eP* **P 22 59 48.2 +0.2**
ORIF pmax pmax
comp=Z,12nm,1.1s,mb4.7
MEZF Maizieres J'vi 82.68 318 *eP* **P 22 59 49.2 -0.2**
SMRF Simiane la Rot 82.70 313 *eP* **P 22 59 50.0 +0.4**
comp=Z,35nm,1.3s,mb4.9
BAIF Baives 83.10 320 *eP* **P 22 59 51.5 0.0**
comp=Z,45nm,1.1s,mb5.1
BAIF Baives 83.10 320 *eP* **P 22 59 51.5 0.0**
BAIF pmax pmax
comp=Z,23nm,1.1s,mb5.1
VIVF Saint-Julien-l 83.26 314 *eP* **P 22 59 52.4 -0.1**
comp=Z,23nm,1.0s,mb4.8
VIVF Saint-Julien-l 83.26 314 *eP* **P 22 59 52.4 -0.1**
VIVF pmax pmax
comp=Z,11nm,1.0s,mb4.8
SMF Signal de Mont 83.67 316 *eP* **P 22 59 54.1 -0.4**
comp=Z,22nm,0.9s,mb5.0
SMF Signal de Mont 83.67 316 *eP* **P 22 59 54.1 -0.4**
SMF pmax pmax
comp=Z,11nm,0.9s,mb5.0
SSF Saint Saulge 83.86 317 *eP* **P 22 59 55.0 -0.4**
LASF Ste Croix 83.92 314 *eP* **P 22 59 56.2 +0.3**
comp=Z,21nm,1.2s,mb4.8
AVF Avril sur Loir 83.99 316 *eP* **P 22 59 55.8 -0.3**
comp=Z,49nm,1.6s,mb5.1
AVF Avril sur Loir 83.99 316 *eP* **P 22 59 55.8 -0.3**
AVF pmax pmax
comp=Z,24nm,1.6s,mb5.1
BGF Bois d'Agland 84.36 316 *eP* **P 22 59 58.0 0.0**
comp=Z,22nm,0.9s,mb5.0
BGF Bois d'Agland 84.36 316 *eP* **P 22 59 58.0 0.0**
BGF pmax pmax
comp=Z,11nm,0.9s,mb5.0
TCF Toulx Ste Croi 84.83 316 *eP* **P 23 00 00.5 +0.2**
comp=Z,39nm,1.5s,mb5.0
CAF Calviac 85.10 315 *eP* **P 23 00 02.1 +0.4**
comp=Z,18nm,1.1s,mb4.8
MTLF Montolieu 85.19 313 *eP* **P 23 00 02.4 +0.2**
comp=Z,15nm,0.9s,mb4.8
RJF Les Rejaudoux 85.44 315 *eP* **P 23 00 03.8 +0.4**
comp=Z,30nm,1.1s,mb5.0
SYO Syowa Base 85.95 197 ⇓P **P 23 00 05.7 -0.3**
SYO Syowa Base 85.95 197 ⇑PcP PcP 23 00 13.1 +4.6
LFF La Frestale 86.03 315 *eP* **P 23 00 06.8 +0.4**
LDF La Druitiere 86.09 318 *eP* **P 23 00 06.5 -0.1**
comp=Z,25nm,0.9s,mb5.1
FLN La Foliniere 86.30 319 *eP* **P 23 00 07.5 -0.1**
comp=Z,27nm,0.9s,mb5.2
MFF Saint Martin d 86.40 316 *eP* **P 23 00 08.0 -0.2**
comp=Z,30nm,1.1s,mb5.2
ETSF Etsaut 87.26 313 *eP* **P 23 00 12.9 +0.5**
comp=Z,27nm,1.1s,mb5.1
SJPF Ste Jean 87.71 313 *eP* **P 23 00 14.9 +0.3**
comp=Z,27nm,1.2s,mb5.1
SGMF Saint Gilles 87.74 318 *eP* **P 23 00 14.8 +0.2**
ROSF Rostrenen 88.20 318 *eP* **P 23 00 16.8 0.0**
comp=Z,69nm,1.3s,mb5.4
QUIF Quistinic 88.21 318 *eP* **P 23 00 16.6 -0.2**
ESDC Sonseca Array 90.36 310 P **P 23 00 28.2 +1.0**
comp=Z,4.2nm,0.8s,mb4.8,baz=61,slow=4.5,SNR=14
IMA Indian Mountai 91.14 22 *eP* **P 23 00 32.2 +2.1**
SPU Mount Spurr 93.86 26 *eP* **P 23 00 43.8 +1.0**
ILAR Eielson Array 94.26 22 P **P 23 00 44.1 -0.4**
comp=Z,3.6nm,0.7s,mb4.9,baz=295,slow=2.4,SNR=20
SLKM Skilak Lake 94.96 26 *eP* **P 23 00 48.4 +0.6**
INK Inuvik 96.43 16 P **P 23 00 54.9 +0.5**
comp=Z,7.1nm,0.8s,mb5.1,baz=337,slow=6.1,SNR=22
INK Inuvik 96.43 16 P **P 23 00 54.9 +0.5**
DBIC Dimbokro 97.34 278 P **P 23 01 01.6 +1.9**
comp=Z,3.4nm,0.9s,mb4.8,baz=74,slow=3.5,SNR=7.3
YKA Yellowknife Ar 105.83 13 Pdiff Pdif 23 01 38.9 +2.5
comp=Z,0.1nm,0.5s,baz=329,slow=4.9,SNR=3.8
YKA PP PP 23 05 54.4 -7.9
comp=Z,0.4nm,0.7s,baz=335,slow=8.0,SNR=5.5
YKA Yellowknife Ar 105.83 13 Pdif Pdif 23 01 38.9 +2.5
YKA PP PP 23 05 54.4 -7.8
PMSA Palmer Station 121.76 191 *e*PKPdf PKPdf 23 06 20.8 -2.6
PDAR Pinedale Array 124.67 21 PKP PKPdf 23 06 25.6 -3.9
comp=Z,1.6nm,0.6s,baz=135,slow=2.1,SNR=7.8
MSU Marysvale 127.32 25 *eP* PKPdf 23 06 32.5 -2.2
ANMO Albuquerque 132.70 23 PKP PKPdf 23 06 43.4 -1.8
comp=Z,1.5nm,0.7s,baz=38,slow=1.4,SNR=6.6
GDL2 Guadalupe Moun 135.93 22 *e*PKPdf PKPdf 23 06 48.4 -2.7
TXAR Lajitas Array 138.76 23 PKhKP 23 06 46.5
comp=Z,0.3nm,0.6s,baz=91,slow=1.3,SNR=4.1
TXAR PKP PKPdf 23 06 54.0 -2.5
comp=Z,1.3nm,0.5s,baz=60,slow=0.2,SNR=26
TXAR PP PP 23 09 44.0 -3.0
comp=Z,0.8nm,0.8s,slow=2.5,SNR=4.8
TXAR Lajitas Array 138.76 23 PKP 23 06 46.5
TXAR PKP PKPdf 23 06 54.0 -2.5
TXAR PP PP 23 09 44.0 -3.0
JCT Junction City 139.05 18 *e*PKPdf PKPdf 23 06 54.1 -2.8
BDFB Brasilia 141.90 256 PKhKP 23 06 55.9
comp=Z,1.7nm,0.4s,baz=167,slow=2.3,SNR=3.3
BDFB PKP PKPdf 23 07 01.4 -1.0
comp=Z,5.4nm,0.9s,baz=162,slow=3.6,SNR=4.2
SDV Santo Domingo 156.60 318 *e*PKPab PKPab 23 07 51.2 -0.5
LPAZ La Paz 160.63 245 PKP PKPdf 23 07 27.8 -2.2
comp=Z,1.7nm,0.7s,baz=77,slow=0.2,SNR=7.7
LPAZ La Paz 160.63 245 *e*PKPdf PKPdf 23 07 28.1 -1.9

IDC 16 22:53:04.3±1.9, 6.31N×92.89E, mb3.9/4, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, ML4.1/1, Error ellipse: s-maj=74.5km s-min=28.9km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.44**	**26**	Pn	P	22 56 22.4	+3.4
0.3nm,0.3s,baz=231,slow=14,SNR=12							
SONM	**Songino Array**	**42.95**	**13**	P	P	23 01 04.6	-2.1
1.0nm,0.7s,baz=201,slow=7.9,SNR=4.8							
ZAL	**Zalesovo**	**47.94**	**354**	P	P	23 01 44.9	-1.6
1.3nm,0.4s,baz=317,slow=7.0,SNR=7.4							
ASAR	**Alice Springs**	**49.91**	**128**	P	P	23 02 00.1	-1.9
1.5nm,0.7s,baz=297,slow=7.4,SNR=9.5							
GERES	**GERESS Array B**	**78.16**	**318**	P	P	23 05 05.6	-1.5
0.5nm,0.8s,baz=108,slow=4.2,SNR=3.5							

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*BJI **16** 22:56:28.7, 10.90N×141.20E, h43km, mb4.9*
*IDC **16** 22:56:30.0±0.7, 10.92N×141.04E, h43km±6km, mb4.1/13, mb1 4.3/13, mb1mx4.2/21, mbtmp4.4/13, Error ellipse: s-maj=32.4km s-min=12.9km az=91.0*
*NEIC **16** 22:56:29.7±0.4, 10.89N×141.21E, mb4.4/6, Error ellipse: s-maj=17.4km s-min=8.0km az=81.0*
ISC 16 22:56:27.8±0.5, 10.85N±0.07×141.2E±0.2, h43km, h43km±1.7km:pP-P, n23, σ0.9 82/21, mb4.3/16, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**20.98**	**163**	P	**P**	**23 01 10.5**	**+0.6**
14nm,0.7s,baz=352,slow=9.5,SNR=8.7							
PMG	**Port Moresby**	**20.98**	**163**	*eP*	**P**	**23 01 10.0**	**+0.1**
20nm,0.9s							
CTAO	**Charters Tower**	**31.14**	**171**	*eP*	**P**	**23 02 44.7**	**-0.3**
5.3nm,1.0s,mb4.3							
WRAB	**Tennant Creek**	**31.31**	**192**	*eP*	**P**	**23 02 45.5**	**-1.0**
8.1nm,0.8s,mb4.6							
WRA	**Warramunga Arr**	**31.33**	**192**	P	**P**	**23 02 46.1**	**-0.5**
3.2nm,0.6s,mb4.3,baz=10,slow=9.4,SNR=11							
WRA				pP	pP	23 02 59.3	+1.1
2.9nm,1.0s,baz=11,slow=9.5,SNR=4.7							
ASAR	**Alice Springs**	**35.03**	**192**	P	**P**	**23 03 19.4**	**+0.7**
2.5nm,0.5s,mb4.4,baz=18,slow=12,SNR=25							
ASAR				pP	pP	23 03 30.7	+0.4
1.2nm,0.5s,baz=20,slow=12,SNR=6.3							
ENH	**Enshi**	**35.22**	**308**	*eP*	**P**	**23 03 19.8**	**-0.5**
4.1nm,0.7s,mb4.5							
CMAR	**Chiang Mai Arr**	**41.47**	**286**	P	**P**	**23 04 14.8**	**+2.4**
1.8nm,0.7s,mb3.8,baz=96,slow=7.3,SNR=5.4							
STKA	**Stephens Creek**	**42.48**	**179**	P	**P**	**23 04 21.1**	**+0.3**
3.3nm,0.9s,mb3.9,baz=333,slow=7.2,SNR=4.5							
STKA				pP	pP	23 04 32.8	+0.2
2.7nm,0.9s,baz=343,slow=12,SNR=2.4							
ULN	**Ulaanbaatar**	**46.70**	**329**	*eP*	**P**	**23 04 53.6**	**-0.7**
4.4nm,1.1s,mb4.3							
SONM	**Songino Array**	**47.02**	**328**	P	**P**	**23 04 56.5**	**-0.2**
1.1nm,0.6s,mb4.0,baz=140,slow=7.2,SNR=8.7							
NWAO	**Narrogin (SRO)**	**49.16**	**207**	*eP*	**P**	**23 05 13.5**	**-0.2**
BVAR	**Borovoye Array**	**69.86**	**323**	P	**P**	**23 07 35.6**	**-0.4**
5.9nm,0.5s,mb4.7,baz=111,slow=5.9,SNR=8.5							
ILAR	**Eielson Array**	**72.58**	**25**	P	**P**	**23 07 51.2**	**-0.9**
1.5nm,0.5s,mb4.2,baz=247,slow=6.1,SNR=26							
INK	**Inuvik**	**78.26**	**22**	P	**P**	**23 08 25.1**	**+0.7**
2.0nm,0.9s,mb4.1,baz=252,slow=5.7,SNR=6.5							
INK	**Inuvik**	**78.26**	**22**	*eP*	**P**	**23 08 24.1**	**-0.4**
3.8nm,1.1s,mb4.2							
YKA	**Yellowknife Ar**	**86.93**	**27**	P	**P**	**23 09 10.9**	**+1.7**
1.8nm,0.5s,mb4.5,baz=289,slow=5.1,SNR=23							
YKA				pP	pP	23 09 23.6	+1.5
1.3nm,0.6s,baz=292,slow=5.4,SNR=8.1							
YKA	**Yellowknife Ar**	**86.93**	**27**	P	**P**	**23 09 10.9**	**+1.7**
YKA				pP	pP	23 09 23.6	+1.5
ARCES	**ARCESS Array B**	**88.55**	**342**	P	**P**	**23 09 17.5**	**+0.7**
3.0nm,0.6s,mb4.8,baz=74,slow=8.8,SNR=10							
ARCES				pP	pP	23 09 29.8	+0.1
3.5nm,0.9s,baz=63,slow=5.4,SNR=1.5							
FINES	**FINESS Array B**	**92.08**	**334**	P	**P**	**23 09 33.0**	**-0.5**
1.3nm,0.4s,mb4.6,baz=92,slow=5.5,SNR=6.6							
AKASG	**Malin Array Be**	**95.12**	**324**	P	**P**	**23 09 47.2**	**-0.4**
0.4nm,0.3s,mb4.3,baz=84,slow=5.1,SNR=3.3							
LPAZ	**La Paz**	**151.02**	**104**	PKPbc	PKPdf	23 16 21.2	+10
3.5nm,0.8s,baz=258,slow=2.3,SNR=11							
LPAZ	**La Paz**	**151.02**	**104**	*e*PKPbc	PKPdf	23 16 20.9	+10

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*MOS **16** 22:57:37.7±1.1, 4.68N×95.18E, h33km, mb5.1/13, Error ellipse: s-maj=19.0km s-min=7.7km az=125.8*
*BJI **16** 22:57:39.9, 4.49N×95.02E, h72km, mB5.5, mb4.9, Ms5.0, Msz4.9*
*IDC **16** 22:57:42.0±0.6, 4.76N×95.24E, h54km±3km, mb4.3/18, mb1 4.4/19, mb1mx4.3/24, mbtmp4.6/19, MS4.4/2, Ms1 4.5/2, ms1mx3.9/24, Error ellipse: s-maj=28.2km s-min=10.1km az=43.0*
*NEIC **16** 22:57:42.0±0.2, 4.72N×95.20E, mb4.8/11, Error ellipse: s-maj=10.4km s-min=4.7km az=45.0*
NEIC Felt [II] at Banda Aceh.
ISC 16 22:57:39.9±0.3, 4.58N±0.06×95.13E±0.05, h53km, h53km±1.9km:pP-P, n95, σ1.9 10/95, mb4.7/39, MS4.8/3, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.04**	**64**	P	**P**	**22 59 09.0**	**+0.2**
226nm,0.9s							
NNT	**Nongplab**	**9.17**	**29**	P	**P**	**22 59 54.0**	**+1.8**
NST	**Nakhon Sawan**	**12.07**	**24**	P	**P**	**23 00 33.0**	**+1.3**
KKTK	**Khon Kaen**	**13.91**	**32**	P	**P**	**23 01 05.0**	**+8.9**
CMAR	**Chiang Mai Arr**	**14.29**	**15**	P	**P**	**23 01 06.6**	**+5.6**
2.0nm,0.3s,baz=208,slow=11,SNR=62							
CMAR				LR	LR	23 06 38.3	
comp=Z,921nm,20.7s,baz=227,slow=38							
PALK	**Pallekele**	**14.60**	**281**	*eP*	**P**	**23 01 05.2**	**+0.1**
CHG	**Chiang Mai**	**14.63**	**14**	P	**P**	**23 01 10.3**	**+4.8**
COCO	**West Island**	**16.75**	**174**	P	**P**	**23 01 36.5**	**+4.1**
32nm,0.5s							
HYB	**Hyderabad**	**20.65**	**309**	*eP*	**P**	**23 02 18.0**	**+0.3**
HYB				*eS*	**S**	**23 05 57.0**	**-3.4**
HYB	**Hyderabad**	**20.65**	**309**	*i* P	**P**	**23 02 18.0**	**+0.3**
HYB				*e*		23 05 57.0	
HYB				*eS*	**S**	**23 06 04.0**	**+3.6**
POO	**Poona**	**24.99**	**305**	*eP*	**S**	**23 07 26.5**	**+8.7**
LSA	**Lhasa**	**25.27**	**352**	P	**P**	**23 03 02.0**	**-1.0**
LSA				PP	PP	23 03 45.8	+3.1
LSA				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.5							
XAN	**Xi'an**	**32.00**	**22**	P	**P**	**23 04 01.3**	**-2.2**
XAN				AMB	AMB		
comp=Z,41nm,0.7s,mb5.4							
MBWA	**Marble Bar**	**35.16**	**138**	P	**P**	**23 04 31.2**	**+0.3**
MBWA				*e*		23 05 20.9	
NJ2	**Nanjing**	**35.23**	**36**	*eP*	**P**	**23 04 35.1**	**+3.7**
NJ2				AP	pP	23 04 44.6	-0.6
NJ2				XS		23 10 27.0	
NJ2				AMB	AMB		
comp=Z,20nm,1.0s,mb5.0							
NJ2				AMB	AMB		
comp=Z,740nm,4.7s							
NJ2				LR	LR		
comp=N,2μm,18.0s							
NJ2				LR	LR		
comp=E,1μm,30.0s							
NJ2				LR	LR		
comp=Z,2μm,19.7s,MS5.0							
SSE	**Sheshan**	**36.01**	**40**	*eP*	**P**	**23 04 37.9**	**-0.1**
SSE				AMB	AMB		
comp=Z,25nm,0.7s,mb5.2							
SSE				AMB	AMB		
comp=Z,256nm,4.7s							
FITZ	**Fitzroy Crossi**	**37.59**	**128**	*eP*	**P**	**23 04 51.1**	**-0.3**
comp=Z,6.6nm,0.6s,mb4.5							
WMQ	**Urumqi**	**39.63**	**352**	*eP*	**P**	**23 05 07.6**	**-0.5**
WMQ				PP	PP	23 06 42.8	-0.7
WMQ				S	**S**	**23 11 06.8**	**-0.3**
WMQ				AMB	AMB		
comp=Z,31nm,1.2s,mb4.9							
WMQ				AMB	AMB		
comp=Z,65nm,4.9s							
WMQ				LR	LR		
comp=N,715nm,19.6s,MS4.7							
WMQ				LR	LR		
comp=E,754nm,20.3s,MS4.7							
WMQ				LR	LR		
comp=Z,988nm,20.4s,MS4.6							
BJT	**Baijiatuau**	**40.07**	**25**	*eP*	**P**	**23 05 12.8**	**+1.1**
BJT				pmax	pmax		
comp=Z,20nm,0.7s							
BJT	**Baijiatuau**	**40.07**	**25**	*eP*	**P**	**23 05 12.8**	**+1.1**
comp=Z,20nm,0.7s,mb5.0							
KZA	**Kyzart**	**41.34**	**337**	P	**P**	**23 05 23.5**	**+1.4**
SNR=9.3							
UCH	**Uchtor**	**41.75**	**337**	P	**P**	**23 05 26.9**	**+1.3**
SNR=39							
TKM2	**Tokmak 2**	**41.93**	**338**	P	**P**	**23 05 28.0**	**+0.9**
SNR=13							
KBK	**Karagaybulak**	**41.95**	**338**	P	**P**	**23 05 28.7**	**+1.5**
SNR=42							
AML	**Almayashu**	**41.99**	**336**	P	**P**	**23 05 29.1**	**+1.5**
SNR=36							
AAK	**Ala-Archa**	**42.10**	**337**	P	**P**	**23 05 29.6**	**+1.1**
SNR=23							
AAK	**Ala-Archa**	**42.10**	**337**	*i* P	**P**	**23 05 28.6**	**+0.1**
AAK				pmax	pmax		
comp=Z,39nm,1.7s,mb4.8							
AAK	**Ala-Archa**	**42.10**	**337**	*eP*	**P**	**23 05 28.4**	**-0.1**
FRU	**Bishkek**	**42.22**	**337**	*eP*	**P**	**23 05 31.4**	**+1.9**
CHMS	**Chumysh**	**42.31**	**338**	P	**P**	**23 05 30.7**	**+0.5**
SNR=12							
EKS2	**Erkin-Say**	**42.41**	**337**	P	**P**	**23 05 32.4**	**+1.4**
SNR=17							
USP	**Ospenovka**	**42.64**	**338**	P	**P**	**23 05 33.5**	**+0.6**
SNR=56							
SONM	**Songino Array**	**44.17**	**11**	P	**P**	**23 05 43.7**	**-1.6**
comp=Z,1.5nm,0.7s,mb3.8,baz=183,slow=8.7,SNR=5.5							
SONM				PcP	PcP	23 07 29.7	-0.2
comp=Z,2.2nm,0.5s,baz=194,slow=3.8,SNR=5.5							
ULN	**Ulaanbaatar**	**44.33**	**11**	*i* P	**P**	**23 05 49.4**	**+2.9**
SNY	**Shenyang**	**44.95**	**30**	⇑P	**P**	**23 05 50.9**	**-0.7**
SNY				AMB	AMB		
comp=Z,20nm,0.6s,mb5.1							
WRA	**Warramunga Arr**	**45.59**	**124**	P	**P**	**23 05 57.4**	**+0.4**
comp=Z,19nm,0.6s,mb5.2,baz=302,slow=9.1,SNR=79							
WRA				pP	pP	23 06 09.9	-1.2
comp=Z,8.1nm,0.8s,baz=307,slow=9.3,SNR=7.3							
WRAB	**Tennant Creek**	**45.60**	**124**	*eP*	**P**	**23 05 57.6**	**+0.6**
WRAB				pmax	pmax		
comp=Z,36nm,0.8s,mb5.3							
WRAB	**Tennant Creek**	**45.60**	**124**	*eP*	**P**	**23 05 57.6**	**+0.6**
comp=Z,36nm,0.8s,mb5.3							
WB2	**Warramunga Arr**	**45.60**	**124**	*eP*	**P**	**23 05 57.6**	**+0.5**
ASPA	**Alice Springs**	**47.08**	**128**	*eP*	**P**	**23 06 09.1**	**+0.4**
ASAR	**Alice Springs**	**47.09**	**128**	P	**P**	**23 06 09.2**	**+0.4**
comp=Z,4.3nm,0.6s,mb4.6,baz=299,slow=7.9,SNR=38							
ASAR				pP	pP	23 06 22.6	-0.3
comp=Z,3.3nm,0.5s,baz=300,slow=8.0,SNR=8.0							
HIA	**Hailar**	**49.19**	**21**	*eP*	**P**	**23 06 23.7**	**-1.0**
HIA				pmax	pmax		
comp=Z,4.0nm,0.6s							
HIA	**Hailar**	**49.19**	**21**	*eP*	**P**	**23 06 23.7**	**-1.0**
comp=Z,4.3nm,0.6s,mb4.7							
ZAL	**Zalesovo**	**49.92**	**352**	P	**P**	**23 06 29.6**	**-0.7**
comp=Z,6.8nm,0.5s,mb4.9,baz=300,slow=6.2,SNR=39							
ZAL				pP	pP	23 06 42.8	-1.8
comp=Z,2.7nm,0.4s,baz=30,slow=5.6,SNR=4.4							
JHJ	**Hachijo jima 2**	**50.34**	**50**	P	**P**	**23 06 31.1**	**-2.7**
comp=Z,1μm,0.7s,baz=268,slow=22,SNR=5.8							
NVS	**Novosibirsk**	**51.03**	**351**	*eP*	**P**	**23 06 36.1**	**-2.6**
NVS				pmax	pmax		
comp=N,3.0nm,0.5s							
NVS				pmax	pmax		
comp=E,2.0nm,0.5s							
NVS				pmax	pmax		
comp=Z,5.0nm,0.5s,mb4.7							
BVAR	**Borovoye Array**	**52.40**	**341**	P	**P**	**23 06 48.2**	**-0.8**
comp=Z,14nm,0.6s,mb5.0,baz=141,slow=9.5,SNR=74							
BVAR				pP	pP	23 07 02.0	-1.4
comp=Z,4.4nm,0.6s,baz=143,slow=7.4,SNR=5.6							
BRVK	**Borovoye**	**52.47**	**341**	*eP*	**P**	**23 06 48.2**	**-1.3**
BRVK				pmax	pmax		
comp=Z,15nm,0.6s,mb5.1							
BRVK	**Borovoye**	**52.47**	**341**	*eP*	**P**	**23 06 48.1**	**-1.4**
comp=Z,15nm,0.6s,mb5.1							
CHKZ	**Chkalovo**	**52.89**	**342**	*eP*	**P**	**23 06 51.7**	**-1.0**
CHKZ				pmax	pmax		
comp=Z,30nm,0.7s,mb5.3							
CHKZ	**Chkalovo**	**52.89**	**342**	*eP*	**P**	**23 06 51.7**	**-1.0**
comp=Z,30nm,0.7s,mb5.3							
PMG	**Port Moresby**	**53.68**	**105**	P	**P**	**23 06 58.4**	**-0.7**
comp=Z,5.6nm,0.8s,mb4.6,baz=236,slow=11,SNR=2.3							
BOD	**Bodaibo**	**55.12**	**12**	*eP*	**P**	**23 07 05.2**	**-3.8**
CTA	**Charters Tower**	**55.88**	**118**	P	**P**	**23 07 14.4**	**-0.5**
comp=Z,5.9nm,1.1s,mb4.5,baz=305,slow=4.7,SNR=7.1							
CTAO	**Charters Tower**	**55.88**	**118**	*eP*	**P**	**23 07 14.3**	**-0.6**
STKA	**Stephens Creek**	**57.15**	**133**	P	**P**	**23 07 24.1**	**+0.2**
comp=Z,1.6nm,0.8s,mb4.1,baz=312,slow=11,SNR=4.2							
GNI	**Garni**	**57.44**	**316**	*eP*	**P**	**23 07 25.7**	**-0.2**
GNI				pmax	pmax		
comp=Z,15nm,1.3s							
GNI	**Garni**	**57.44**	**316**	P	**P**	**23 07 26.0**	**+0.1**
comp=Z,3.0nm,0.7s,mb4.5,baz=36,slow=10,SNR=5.7							
GNI	**Garni**	**57.44**	**316**	*eP*	**P**	**23 07 25.7**	**-0.2**
comp=Z,14nm,1.3s,mb4.8							
KMBO	**Kilima Mbogo**	**58.10**	**266**	LR	LR	23 28 08.4	
comp=Z,678nm,19.2s,MS4.8,baz=98,slow=31							
KIV	**Kislovodsk**	**60.42**	**319**	*eP*	**P**	**23 07 45.2**	**-1.2**
KIV				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.6							
KIV	**Kislovodsk**	**60.42**	**319**	*eP*	**P**	**23 07 45.2**	**-1.1**
comp=Z,6.3nm,0.9s,mb4.7							
MALT	**Malatya**	**61.35**	**311**	*eP*	**P**	**23 07 52.5**	**-0.3**
MALT				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.4							
MALT	**Malatya**	**61.35**	**311**	*eP*	**P**	**23 07 52.5**	**-0.2**
comp=Z,3.2nm,0.9s,mb4.5							
SOC	**Sochi**	**62.24**	**317**	*eP*	**P**	**23 07 54.3**	**-4.4**
SOC				*e*		23 10 09.6	
SOC				*e*PPP	PPP	23 11 44.7	-3.2
SOC				*e*S	**S**	**23 16 13.6**	**-5.2**
SOC				*e*		23 17 40.0	
SOC				*e*SS	SS	23 20 22.6	-1.9
SOC				pmax	pmax		
comp=N,3.0nm,0.7s							
SOC				pmax	pmax		
comp=Z,11nm,0.7s,mb5.1							
SOC				pmax	pmax		
comp=E,4.0nm,0.9s							
BRTR	**Keskin Array B**	**65.33**	**312**	P	**P**	**23 08 18.1**	**-0.9**
comp=E,4.4nm,0.6s,mb4.6,baz=133,slow=7.4,SNR=20							
BRTR				pP	pP	23 08 33.5	-0.4
comp=E,1.6nm,0.6s,baz=121,slow=7.0,SNR=3.8							
OBN	**Obninsk**	**68.67**	**328**	*i* P	**P**	**23 08 37.2**	**-2.5**
OBN				*e*S	S	23 17 35.9	-1.4
OBN				pmax	pmax		
comp=Z,17nm,1.4s,mb4.8							
TIXI	**Tiksi**	**70.26**	**11**	*eP*	**P**	**23 08 46.7**	**-2.5**
TIXI				pmax	pmax		
comp=Z,10.0nm,0.7s,mb4.8							
IDI	**Anoyia**	**71.26**	**306**	P	**P**	**23 08 55.5**	**-0.3**
comp=Z,20nm,1.0s,mb5.0,baz=194,slow=3.9,SNR=5.7							
AKASG	**Malin Array Be**	**71.34**	**322**	P	**P**	**23 08 54.4**	**-1.6**
comp=Z,3.2nm,0.4s,mb4.6,baz=87,slow=5.1,SNR=41							
AKASG				pP	pP	23 09 10.2	-0.9
comp=Z,1.5nm,0.4s,baz=83,slow=5.1,SNR=2.7							
MLR	**Muntele Rosu**	**72.21**	**316**	P	**P**	**23 09 00.9**	**-0.3**
comp=Z,6.6nm,0.8s,mb4.6,baz=108,slow=3.2,SNR=15							
MLR				pP	pP	23 09 17.4	+1.0
comp=Z,15nm,1.2s,baz=118,slow=5.8,SNR=3.6							
KWP	**Kalwaria**	**75.17**	**320**	*eP*	**P**	**23 09 18.8**	**+0.3**
KOLS	**Kolonicke sedl**	**75.32**	**319**	*i* P	**P**	**23 09 20.0**	**+0.7**
KOLS				*e*		23 09 24.9	
SUW	**Suwalki**	**75.74**	**325**	*eP*	**P**	**23 09 20.9**	**-0.7**
CRVS	**Cervenica-Dubn**	**75.84**	**319**	*eP*	**P**	**23 09 24.1**	**+1.8**
FINES	**FINESS Array B**	**76.07**	**332**	P	**P**	**23 09 22.2**	**-1.1**
comp=Z,3.6nm,0.4s,mb4.6,baz=100,slow=6.1,SNR=42							
FINES				pP	pP	23 09 38.9	+0.5
comp=Z,2.0nm,0.6s,baz=98,slow=6.3,SNR=2.0			

*BJI **16** 22:58:24.5, 5.00N×94.50E, h50km, mb4.8*
*NEIC **16** 22:58:25.5±0.4, 5.02N×94.45E, mb4.7/10, Error ellipse: s-maj=13.5km s-min=8.9km az=222.0*
*IDC **16** 22:58:26.1±0.8, 5.09N×94.59E, h50km±6km, mb4.2/8, mb1 4.5/9, mb1mx4.1/18, mbtmp4.5/9, Error ellipse: s-maj=30.5km s-min=15.4km az=52.0*
ISC 16 22:58:23.5±0.5, 5.05N±0.08×94.47E±0.08, h50km, h50km±1.7km:pP-P, n36, σ1°00/33, mb4.7/21, 2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**13.86**	**280**	P		**P**		**23 01 37.4**	**-1.8**
CMAR	**Chiang Mai Arr**	**14.02**	**18**	P		**P**		**23 01 46.8**	**+5.5**
	2.1nm,0.3s,baz=214,slow=12,SNR=9.7								
HYB	**Hyderabad**	**19.84**	**310**	*i* P			**P**	**23 02 53.0**	**-0.1**
LSA	**Lhasa**	**24.71**	**353**	*e*P			**P**	**23 03 43.7**	**+2.1**
LSA					pmax		pmax		
	comp=Z,18nm,0.5s,mb4.9								
LSA	**Lhasa**	**24.71**	**353**	*e*P			**P**	**23 03 43.7**	**+2.1**
	comp=Z,18nm,0.5s,mb4.8								
ENH	**Enshi**	**28.81**	**28**	*e*P			**P**	**23 04 18.2**	**-0.9**
	comp=Z,10nm,0.6s,mb4.7								
LZH	**Lanzhou**	**32.06**	**14**	*e*P			**P**	**23 04 45.1**	**-2.8**
LZH					AMB		AMB		
	comp=Z,25nm,1.5s,mb4.8								
MBWA	**Marble Bar**	**35.95**	**137**	*e*P			**P**	**23 05 20.1**	**-1.3**
	comp=Z,17nm,1.3s,mb4.8								
FITZ	**Fitzroy Crossi**	**38.40**	**128**	*e*P			**P**	**23 05 41.5**	**-0.5**
	comp=Z,13nm,0.6s,mb4.8								
SONM	**Songino Array**	**43.83**	**12**	P			**P**	**23 06 26.6**	**+0.2**
	comp=Z,3.1nm,0.5s,mb4.3,baz=196,slow=7.0,SNR=11								
SONM					pP		pP	23 06 40.4	+0.5
	comp=Z,3.4nm,0.8s,baz=185,slow=7.6,SNR=4.0								
ULN	**Ulaanbaatar**	**44.00**	**12**	*e*P			**P**	**23 06 27.4**	**-0.4**
ULN					pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.2								
ULN	**Ulaanbaatar**	**44.00**	**12**	*e*P			**P**	**23 06 27.4**	**-0.4**
	comp=Z,2.9nm,0.6s,mb4.2								
ZAK	**Zakamensk**	**45.78**	**8**	*e*P			pP	23 06 53.1	-2.3
WRA	**Warramunga Arr**	**46.40**	**124**	P			**P**	**23 06 47.6**	**+0.4**
	comp=Z,16nm,0.5s,mb5.2,baz=302,slow=9.1,SNR=18								
WRA					pP		pP	23 07 00.1	-0.7
	comp=Z,11nm,0.6s,baz=302,slow=8.8,SNR=3.6								
WRAB	**Tennant Creek**	**46.41**	**124**	*e*P			**P**	**23 06 47.7**	**+0.4**
WRAB					pmax		pmax		
	comp=Z,29nm,0.6s,mb5.4								
WRAB	**Tennant Creek**	**46.41**	**124**	*e*P			**P**	**23 06 47.7**	**+0.4**
	comp=Z,29nm,0.6s,mb5.4								
WB2	**Warramunga Arr**	**46.41**	**124**	⇓*i*P			**P**	**23 06 47.7**	**+0.4**
ASAR	**Alice Springs**	**47.89**	**128**	P			**P**	**23 06 59.0**	**+0.1**
	comp=Z,5.4nm,0.6s,mb4.8,baz=298,slow=7.7,SNR=9.7								
ASAR					pP		pP	23 07 12.6	+0.1
	comp=Z,6.2nm,0.7s,baz=301,slow=7.6,SNR=4.3								
ZAL	**Zalesovo**	**49.37**	**352**	P			**P**	**23 07 11.0**	**+1.1**
	comp=Z,5.6nm,0.5s,mb4.8,baz=316,slow=4.5,SNR=7.0								
ZAL					pP		pP	23 07 24.1	+0.6
	comp=Z,4.1nm,0.5s,baz=314,slow=10,SNR=2.6								
NVS	**Novosibirsk**	**50.46**	**352**	*e*P			**P**	**23 07 17.4**	**-0.9**
NVS					pmax		pmax		
	comp=N,4.0nm,0.5s								
NVS					pmax		pmax		
	comp=E,4.0nm,0.5s								
NVS					pmax		pmax		
	comp=Z,6.0nm,0.5s,mb4.9								
CHKZ	**Chkalovo**	**52.24**	**342**	P			**P**	**23 07 31.6**	**-0.1**
CHKZ					pmax		pmax		
	comp=Z,14nm,0.8s,mb4.9								
CHKZ	**Chkalovo**	**52.24**	**342**	P			**P**	**23 07 31.6**	**0.0**
	comp=Z,14nm,0.8s,mb4.9								
KMBO	**Kilima Mbogo**	**57.48**	**265**	*e*P			**P**	**23 08 11.6**	**+1.2**
KMBO					pmax		pmax		
	comp=Z,5.0nm,1.2s								
KMBO	**Kilima Mbogo**	**57.48**	**265**	P			**P**	**23 08 12.4**	**+2.0**
	comp=Z,1.2nm,0.6s,mb4.1,baz=48,slow=8.1,SNR=4.6								
KMBO	**Kilima Mbogo**	**57.48**	**265**	*e*P			**P**	**23 08 11.6**	**+1.3**
	comp=Z,5.5nm,1.2s,mb4.5								
ARU	**Arti**	**58.60**	**338**	⇓*i*P			**P**	**23 08 11.9**	**-5.6**
ARU				*e*				23 10 30.4	
ARU				*e*				23 18 04.2	
ARU					pmax		pmax		
	comp=Z,9.0nm,1.1s,mb4.7								
EIL	**Elat**	**61.12**	**301**	*e*P			**P**	**23 08 35.5**	**+0.3**
	comp=Z,4.7nm,0.9s,mb4.6								
OBN	**Obninsk**	**67.93**	**328**	*e*P			**P**	**23 09 17.6**	**-1.4**
LSZ	**Lusaka**	**68.67**	**252**	*e*P			**P**	**23 09 24.5**	**+0.3**
LSZ					pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.3								
LSZ	**Lusaka**	**68.67**	**252**	*e*P			**P**	**23 09 24.5**	**+0.3**
	comp=Z,4.4nm,0.9s,mb4.4								
TIXI	**Tiksi**	**69.92**	**11**	*e*P			**P**	**23 09 31.1**	**+0.1**
TIXI					pmax		pmax		
	comp=Z,6.0nm,0.5s,mb4.8								
FINES	**FINESS Array B**	**75.34**	**332**	P			**P**	**23 10 03.0**	**-0.2**
	comp=Z,4.8nm,1.0s,mb4.4,baz=107,slow=7.2,SNR=3.6								
FINES					pP		pP	23 10 19.1	+1.5
	comp=Z,2.2nm,0.5s,baz=87,slow=6.0,SNR=2.4								
GERES	**GERESS Array B**	**80.14**	**319**	P			**P**	**23 10 31.0**	**+1.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=90,slow=5.3,SNR=4.1								
GERES					pP		pP	23 10 45.1	+0.6
	comp=Z,2.6nm,0.6s,baz=100,slow=4.9,SNR=4.2								
CLL	**Collm**	**80.74**	**321**	*e*PP			pP	23 10 47.0	-0.6
ILAR	**Eielson Array**	**97.22**	**22**	P			**P**	**23 11 52.9**	**+1.3**
	comp=Z,0.4nm,0.6s,mb4.0,baz=304,slow=4.8,SNR=6.3								
TXAR	**Lajitas Array**	**141.63**	**26**	PKP			PKPdf	23 17 53.9	+3.8
	comp=Z,0.3nm,0.5s,baz=263,slow=0.3,SNR=3.7								
TXAR					pPKP			23 18 08.7	
	comp=Z,0.5nm,0.7s,baz=177,slow=0.1,SNR=2.4								

*IDC **16** 23:26:31.5±1.5, 5.54N×94.47E, mb3.9/6, mb1 4.1/7, mb1mx3.9/19, mbtmp3.9/7, ML4.1/1, Error ellipse: s-maj=67.1km s-min=26.9km az=55.0*
*NEIC **16** 23:26:35.8±0.5, 5.57N×94.57E, h30km, mb4.4/5, Error ellipse: s-maj=28.2km s-min=9.5km az=68.0*
ISC 16 23:26:33.9±0.7, 5.6N±0.1×94.6E±0.2, h30km, n12, σ0°63/12, mb4.0/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.47**	**18**	Pn			**P**	**23 29 52.9**	**+7.3**
	0.3nm,0.3s,baz=207,slow=14,SNR=13								
COCO	**West Island**	**17.80**	**173**	*e*P			**P**	**23 30 41.4**	**0.0**
	69nm,0.5s								
SONM	**Songino Array**	**43.28**	**12**	P			**P**	**23 34 35.1**	**+0.5**
	0.4nm,0.6s,mb3.3,baz=188,slow=8.7,SNR=4.1								
WRAB	**Tennant Creek**	**46.60**	**124**	*e*P			**P**	**23 35 00.7**	**-0.8**
	2.6nm,0.9s,mb4.2								
KURK	**Kurchatov**	**46.92**	**346**	*e*P			**P**	**23 35 03.1**	**-0.5**
	2.4nm,0.5s,mb4.4								
ASAR	**Alice Springs**	**48.13**	**129**	P			**P**	**23 35 14.1**	**+0.6**
	0.4nm,0.5s,mb3.7,baz=304,slow=8.0,SNR=7.7								
ZAL	**Zalesovo**	**48.85**	**352**	P			**P**	**23 35 19.5**	**+0.8**
	2.2nm,0.4s,mb4.5,baz=282,slow=4.4,SNR=9.6								
BVAR	**Borovoye Array**	**51.28**	**341**	P			**P**	**23 35 36.7**	**-0.5**
	1.5nm,0.6s,mb4.1,baz=141,slow=9.2,SNR=12								
BRVK	**Borovoye**	**51.34**	**341**	*e*P			**P**	**23 35 36.8**	**-0.9**
	1.5nm,0.6s,mb4.1								
CHKZ	**Chkalovo**	**51.77**	**342**	*e*P			**P**	**23 35 40.4**	**-0.5**
	3.0nm,0.5s,mb4.5								
FINES	**FINESS Array B**	**74.93**	**332**	P			**P**	**23 38 14.6**	**+0.9**
	2.8nm,1.1s,mb4.1,baz=153,slow=4.3,SNR=4.0								
GERES	**GERESS Array B**	**79.82**	**318**	P			**P**	**23 38 41.5**	**+0.4**
	0.2nm,0.6s,mb3.3,baz=104,slow=4.0,SNR=8.4								

*IDC **16** 23:53:55.3±1.8, 11.82N×92.87E, mb3.4/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=47.3km s-min=33.7km az=58.0*
ISC 16 23:53:53.9±0.9, 11.72N±0.08×92.8E±0.1, h10km, n8, σ0°89/9, mb3.4/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.10**	**234**	*i* P			**Pg**	**23 53 56.0**	**-0.6**
PBA				*e*S			**Sg**	**23 53 58.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**8.93**	**41**	Pn			**P**	**23 56 04.1**	**-1.9**
	0.3nm,0.3s,baz=234,slow=15,SNR=14								
JIRN	**Jiri**	**17.04**	**340**	*e*			**P**	**23 57 53.6**	**-0.4**
GKN	**Gorkha**	**17.93**	**336**	*e*			**P**	**23 58 05.9**	**+0.8**
KOLN	**Koldanda**	**18.16**	**333**	*e*			**P**	**23 58 08.1**	**0.0**
SONM	**Songino Array**	**37.76**	**15**	P			**P**	**00 01 12.2**	**+0.3**
	0.7nm,1.0s,mb3.4,baz=207,slow=8.3,SNR=3.7								
WRA	**Warramunga Arr**	**51.57**	**127**	P			**P**	**00 03 03.8**	**+1.1**
	0.4nm,0.6s,mb3.6,baz=308,slow=7.6,SNR=3.7								
GERES	**GERESS Array B**	**74.12**	**318**	P			**P**	**00 05 33.4**	**+1.1**
	0.2nm,0.7s,mb3.2,baz=112,slow=5.3,SNR=3.7								

IDC 17 00:12:06.6±46.0, 15.19S×176.59W, mb4.4/3, mb1 4.6/3, mb1mx3.8/13, mbtmp4.4/3, 1D, Error ellipse: s-maj=867.0km s-min=157.1km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.50**	**239**	P			P	00 19 55.3	-1.9
	3.9nm,0.7s,baz=98,slow=7.0,SNR=9.6								
WRA	**Warramunga Arr**	**46.90**	**257**	P			P	00 20 37.7	-3.2
	1.3nm,0.7s,baz=91,slow=7.6,SNR=4.8								
ASAR	**Alice Springs**	**47.26**	**252**	P			P	00 20 43.2	-0.4
	7.9nm,0.5s,baz=89,slow=8.2,SNR=143								
ASPA	**Alice Springs**	**47.26**	**252**	⇓*i*P			P	00 20 43.2	-0.5

*IDC **17** 00:25:02.6±0.8, 7.04N×82.26W, mb4.3/12, mb1 4.5/14, mb1mx4.3/22, mbtmp4.3/14, MS3.9/6, Ms1 3.9/6, ms1mx3.4/25, Error ellipse: s-maj=28.3km s-min=15.5km az=46.0*
*BJI **17** 00:25:04.4, 7.10N×82.30W, h10km, mB4.6, Ms5.1, Msz4.9*
*CASC **17** 00:25:04.0±2.4, 6.90N±82.38W, h20km±41km, MD4.3, MW4.8, mb5.0(NEIC)*
*NEIC **17** 00:25:04.5±0.4, 7.06N×82.26W, h10km, mb4.7/20, Error ellipse: s-maj=13.6km s-min=5.6km az=53.0*
ISC 17 00:25:03.3±1.2, 6.93N±0.04×82.32W±0.04, h18km±9km, n92, σ1°22/98, mb4.5/29, MS4.2/6, 13C-8D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PTP1	**Petroterminal**	**1.27**	**355**	⇑*e*P			**Pb**	**00 25 29.0**	**+2.5**
DVD	**David**	**1.50**	**355**	⇑*e*P			**Pn**	**00 25 29.0**	**-0.7**
BRU2	**Volcan**	**1.89**	**349**	⇑*e*P			**Pn**	**00 25 34.4**	**-0.8**
ACR	**Cerro Adams**	**1.91**	**334**	⇑*e*P			**Pn**	**00 25 33.9**	**-1.6**
ACR	**Cerro Adams**	**1.91**	**334**	⇑*e*P			**Pn**	**00 25 33.6**	**-1.8**
ACR				*e*S			**Sn**	**00 25 59.0**	**-0.2**
AZU	**Azuero**	**2.20**	**67**	⇓*e*P			**Pn**	**00 25 40.6**	**+0.9**
CNI	**Changuinola**	**2.48**	**356**	⇑*e*P			**Pn**	**00 25 45.3**	**+1.6**
BUS	**Buena Vista**	**2.97**	**332**	⇑*e*P			**Pn**	**00 25 50.4**	**-0.2**
BUS	**Buena Vista**	**2.97**	**332**	⇑*e*P			**Pn**	**00 25 50.2**	**-0.4**
BUS				*e*S			**Sn**	**00 26 25.8**	**-0.4**
LIO	**Limon**	**3.14**	**347**	*e*P			**Pn**	**00 25 55.0**	**+2.1**
LIO				*e*S			**Sn**	**00 26 31.6**	**+1.2**
URSC	**Urasca**	**3.23**	**334**	*e*P			**Pn**	**00 25 54.0**	**-0.3**
URSC	**Urasca**	**3.23**	**334**	⇑*e*P			**Pn**	**00 25 54.1**	**-0.2**
URSC				*e*S			**Sn**	**00 26 33.2**	**+0.6**
LCR2	**La Lucha 2**	**3.25**	**329**	⇑*i*P			**Pn**	**00 25 54.2**	**-0.4**
LCR2	**La Lucha 2**	**3.25**	**329**	⇑*i*P			**Pn**	**00 25 54.2**	**-0.4**
LCR2				*e*S			**Sn**	**00 26 33.1**	**-0.2**
ICR	**Volcan Irazu**	**3.38**	**334**	*e*P			**Pn**	**00 25 56.5**	**0.0**
ICR	**Volcan Irazu**	**3.38**	**334**	⇑*e*P			**Pn**	**00 25 56.5**	**0.0**
ICR				*e*S			**Sn**	**00 26 38.5**	**+2.0**
LAJ	**Bijagual**	**3.42**	**329**	*e*P			**Pn**	**00 25 57.2**	**+0.3**
LAJ	**Bijagual**	**3.42**	**329**	⇓*e*P			**Pn**	**00 25 57.3**	**+0.3**
UPA	**Univ. de Panam**	**3.43**	**53**	*i* P			**Pn**	**00 25 58.0**	**+0.8**
UPA				⇓*e*P				00 25 58.2	
UPA				*e*S			**Sn**	**00 26 38.0**	**+0.1**
SJS	**Escuela Geolog**	**3.45**	**330**	⇓*e*P			**Pn**	**00 25 56.4**	**-1.1**
SJS				*e*S			**Sn**	**00 26 37.2**	**-1.1**
SJS	**Escuela Geolog**	**3.45**	**330**	⇓*i*P			**Pn**	**00 25 56.2**	**-1.2**
SJS				*e*S			**Sn**	**00 26 37.2**	**-1.0**
PRS1	**Puriscal**	**3.62**	**327**	*e*P			**Pn**	**00 25 57.9**	**-1.9**
JEF	**Cerro Jefe**	**3.70**	**52**	⇓*e*P			**Pn**	**00 26 01.3**	**+0.3**
VPS2	**Volcan Poas 2**	**3.75**	**330**	*e*P			**Pn**	**00 26 01.5**	**-0.2**
VPS2	**Volcan Poas 2**	**3.75**	**330**	⇓*e*P			**Pn**	**00 26 01.7**	**-0.1**
TRTC	**Tortuguero**	**3.88**	**339**	*e*P			**Pn**	**00 26 03.5**	**0.0**
TRTC	**Tortuguero**	**3.88**	**339**	⇓*e*P			**Pn**	**00 26 03.6**	**+0.1**
TRTC				*e*S			**Sn**	**00 26 49.2**	**+0.2**
JCR	**Jicaral**	**4.01**	**317**	*e*P			**Pn**	**00 26 04.1**	**-1.2**
JCR	**Jicaral**	**4.01**	**317**	⇑*e*P			**Pn**	**00 26 04.5**	**-0.8**
FORC	**Fortuna**	**4.22**	**327**	*e*P			**Pn**	**00 26 09.8**	**+1.5**
FORC	**Fortuna**	**4.22**	**327**	*e*P			**Pn**	**00 26 07.5**	**-0.8**
JTS	**JuntasAbangare**	**4.24**	**322**	*e*Pn			**Pn**	**00 26 06.0**	**-2.6**
OTAV	**Otavalo**	**7.69**	**150**	*e*Pn			**Pn**	**00 26 57.2**	**0.0**
	13nm,0.7s								
OTAV				*e*Sn			**Sn**	**00 28 10.3**	**-14**
SDV	**Santo Domingo**	**11.74**	**80**	Pn			**P**	**00 27 51.3**	**-1.8**
	0.4nm,0.3s,baz=273,slow=8.0,SNR=8.0								
SDV				Sn			**S**	**00 29 56.8**	**-7.9**
	1.8nm,0.3s,baz=129,slow=22,SNR=9.2								
SDV	**Santo Domingo**	**11.74**	**80**	*e*Pn			**P**	**00 27 51.8**	**-1.4**
	14nm,1.0s								
SJG	**San Juan**	**19.29**	**53**	P			**P**	**00 29 29.5**	**-0.6**
	1.1nm,0.3s,baz=252,slow=5.2,SNR=9.0								
SJG				LR			LR	00 36 09.6	
	comp=Z,178nm,21.7s,baz=272,slow=35								
SJG	**San Juan**	**19.29**	**53**	*e*P			**P**	**00 29 30.6**	**+0.5**
	39nm,0.9s								
NNA	**Nana**	**19.57**	**164**	*e*P			**P**	**00 29 32.5**	**-0.8**
ARE	**Arequipa**	**25.59**	**155**	*e*P			**P**	**00 30 37.0**	**+3.6**
LRAL	**Lakeview Retre**	**26.34**	**351**	*e*P			**P**	**00 30 39.9**	**-0.3**
	26nm,1.1s,mb4.7								
LPAZ	**La Paz**	**27.01**	**149**	P			**P**	**00 30 46.6**	**+0.2**
	1.4nm,0.5s,mb3.8,baz=325,slow=7.8,SNR=5.7								
LPAZ				LR			LR	00 42 55.4	
	comp=Z,288nm,18.9s,MS3.9,baz=290,slow=40								
JCT	**Junction City**	**28.60**	**327**	*e*P			**P**	**00 31 00.7**	**-0.1**
	8.3nm,0.8s,mb4.5								
UALR	**University of**	**29.21**	**343**	*e*P			**P**	**00 31 04.3**	**-2.0**
	23nm,0.9s,mb4.9								
TXAR	**Lajitas Array**	**30.02**	**321**	P			**P**	**00 31 14.1**	**+0.4**
	3.0nm,1.0s,mb4.0,baz=140,slow=9.8,SNR=19								
TXAR				PcP			PcP	00 34 16.7	+1.1
	0.5nm,0.7s,baz=150,slow=6.2,SNR=7.8								
TXAR				LR			LR	00 44 25.1	
	comp=Z,223nm,18.8s,MS3.8,baz=70,slow=39								
CCM	**Cathedral Cave**	**32.03**	**347**	*e*P			**P**	**00 31 29.0**	**-2.1**
	15nm,0.8s,mb4.9								
LVC	**Limon Verde**	**32.16**	**156**	P			**P**	**00 31 34.1**	**+1.7**
	3.1nm,1.0s,mb4.1,baz=219,slow=6.1,SNR=2.9								
LVC	**Limon Verde**	**32.16**	**156**	*e*P			**P**	**00 31 33.7**	**+1.3**
	8.2nm,1.2s,mb4.4								
GDL2	**Guadalupe Moun**	**32.47**	**324**	*e*P			**P**	**00 31 35.9**	**+0.9**
MNTX	**Cornudas Mount**	**32.72**	**322**	*e*P			**P**	**00 31 37.1**	**-0.2**
	32nm,1.1s,mb5.2								
KSU1	**Kansas State U**	**34.52**	**340**	*e*P			**P**	**00 31 50.6**	**-2.2**
ANMO	**Albuquerque**	**35.65**	**325**	P			**P**	**00 32 03.9**	**+1.4**
	3.9nm,0.7s,mb4.4,baz=141,slow=9.3,SNR=20								
ANMO	**Albuquerque**	**35.65**	**325**	*e*P			**P**	**00 32 03.3**	**+0.8**
	4.9nm,0.9s,mb4.4								
LAZ	**Ladron**	**35.66**	**323**	*e*P			**P**	**00 32 04.5**	**+2.0**
TUC	**Tucson**	**36.60**	**317**	*e*P			**P**	**00 32 12.0**	**+1.5**
	7.9nm,0.9s,mb4.5								
SDCO	**Great Sand Dun**	**37.20**	**329**	*e*P			**P**	**00 32 16.0**	**+0.5**
	13nm,1.0s,mb4.7								
ISCO	**Idaho Springs**	**38.84**	**331**	*e*P			**P**	**00 32 29.8**	**+0.6**
	6.0nm,1.0s,mb4.3								
BDFB	**Brasilia**	**40.71**	**124**	LR			LR	00 50 03.4	
	comp=Z,284nm,18.3s,MS4.2,baz=286,slow=37								
SRU	**San Rafael**	**40.89**	**326**	*e*P			**P**	**00 32 47.2**	**+1.1**
NEN	**Nelson**	**41.30**	**318**	*e*P			**P**	**00 32 51.4**	**+1.9**
MSU	**Marysvale**	**41.43**	**324**	*e*P			**P**	**00 32 52.5**	**+2.0**
MVU	**Marysvale**	**41.44**	**324**	*e*P			**P**	**00 32 52.6**	**+2.0**
	5.6nm,0.8s,mb4.2								
DAU	**Daniels Canyon**	**42.20**	**327**	*e*P			**P**	**00 32 58.3**	**+1.3**
BW06	**Boulder Array**	**43.02**	**330**	*e*P			**P**	**00 33 03.3**	**-0.3**
	6.7nm,1.1s,mb4.3								
PDAR	**Pinedale Array**	**43.02**	**330**	P			**P**	**00 33 03.0**	**-0.7**
	1.9nm,0.7s,mb4.0,baz=135,slow=8.4,SNR=16								
PDAR				PcP			PcP	00 34 52.7	-1.7
	0.7nm,0.6s,baz=122,slow=4.9,SNR=4.6								
PDAR				LR			LR	00 54 58.5	
	comp=Z,89nm,18.4s,MS3.7,baz=112,slow=42								
BGU	**Big Grassy Mou**	**43.53**	**326**	*e*P			**P**	**00 33 08.8**	**+1.0**
HVU	**Hansel Valley**	**43.98**	**327**	*e*P			**P**	**00 33 12.0**	**+0.7**
NVAR	**Mina Array Bea**	**45.16**	**319**	P			**P**	**00 33 22.6**	**+1.7**
	4.1nm,0.6s,mb4.4,baz=130,slow=7.0,SNR=46								
DGMT	**Dagmar**	**45.37**	**340**	*e*P			**P**	**00 33 21.7**	**-0.8**
	24nm,0.9s,mb5.0								
BMN	**Battle Mountai**	**45.66**	**322**	*e*P			**P**	**00 33 26.7**	**+1.9**
	40nm,0.9s,mb5.3								
HLID	**Hailey**	**46.08**	**328**	*e*P			**P**	**00 33 29.0**	**+0.9**
	8.4nm,0.8s,mb4.7								
MCMT	**McKenzie Canyo**	**46.15**	**330**	*e*P			**P**	**00 33 29.8**	**+1.1**
WVOR	**Wild Horse Val**	**47.72**	**324**	*e*P			**P**	**00 33 41.6**	**+0.5**
	46nm,1.2s,mb5.4								
BMO	**Blue Mountains**	**48.49**	**327**	*e*P			**P**	**00 33 45.9**	**-1.2**
	9.3nm,1.0s,mb4.8								
SCHQ	**Schefferville**	**49.36**	**12**	P			**P**	**00 33 51.6**	**-2.0**
	5.7nm,0.9s,mb4.6,baz=205,slow=7.5,SNR=5.8								
YBH	**Yreka Blue Hor**	**49.80**	**321**	P			**P**	**00 33 55.0**	**-2.2**
	2.3nm,0.8s,mb4.2,baz=109,slow=3.6,SNR=6.6								
FFC	**Flin Flon**	**50.21**	**345**	*e*P			**P**	**00 33 58.2**	**-1.9**
	5.2nm,0.6s,mb4.7								
FCC	**Fort Churchill**	**52.50**	**352**	*e*P			**P**	**00 34 15.4**	**-2.0**
	12nm,1.0s,mb4.8								
EDM	**Edmonton**	**52.61**	**337**	*e*P			**P**	**00 34 16.6**	**-1.7**
YKA	**Yellowknife Ar**	**60.28**	**343**	P			**P**	**00 35 10.7**	**-2.3**
	7.8nm,0.7s,mb4.8,baz=138,slow=6.9,SNR=155								
YKA				PcP			PcP	00 35 56.9	-1.1
	0.8nm,0.7s,baz=135,slow=4.2,SNR=5.7								
YKA	**Yellowknife Ar**	**60.28**	**343**	P			**P**	**00 35 10.7**	**-2.3**
YKA				PcP			PcP	00 35 56.9	-1.1
YKW3	**Yellowknife Ar**	**60.33**	**343**	*e*P			**P**	**00 35 11.8**	**-1.6**
DLBC	**Dease Lake**	**63.04**	**334**	LR			LR	01 06 07.7	
	comp=Z,206nm,19.7s,MS4.3,baz=49,slow=39								
INK	**Inuvik**	**69.97**	**342**	*e*P			**P**	**00 36 15.1**	**-0.3**
ILAR	**Eielson Array**	**73.08**	**336**	P			**P**	**00 36 33.9**	**-0.2**
	3.0nm,0.8s,mb4.3,baz=101,slow=5.2,SNR=24								
IMA	**Indian Mountai**	**76.18**	**337**	*e*P			**P**	**00 36 51.6**	**-0.3**
ESDC	**Sonseca Array**	**76.66**	**51**	P			**P**	**00 36 55.6**	**+0.5**
	1.4nm,0.8s,mb4.0,baz=280,slow=5.8,SNR=7.0								
DBIC	**Dimbokro**	**76.83**	**85**	P			**P**	**00 36 56.7**	**+0.1**
	1.8nm,1.0s,mb4.0,baz=277,slow=7.7,SNR=3.2								
DBIC	**Dimbokro**	**76.83**	**85**	P			**P**	**00 36 56.7**	**+0.1**
MDJ	**Mudanjiang**	**121.20**	**334**	PKP			PKPdf	00 43 55.6	-3.9
NJ2	**Nanjing**	**136.29**	**334**	*e*PKP			PKPdf	00 44 27.5	-1.0
LZH	**Lanzhou**	**136.82**	**353**	*e*PKP			PKPdf	00 44 27.6	-1.8
LZH				XPKP				00 44 32.1	
LZH				LR			LR		
	comp=E,232nm,18.0s								
LZH				LR			LR		
	comp=Z,376nm,20.3s,MS5.1								
WRAB	**Tennant Creek**	**142.16**	**246**	*e*PKPdf			PKPdf	00 44 40.2	+0.7

*BJI **17** 00:36:10.2, 5.10N×94.20E, h46km, mB5.3, mb5.1, Ms4.4, Msz4.1*
*MOS **17** 00:36:11.6±1.2, 5.47N×94.33E, h33km, mb5.1/33, Error ellipse: s-maj=11.2km s-min=6.0km az=117.0*
*IDC **17** 00:36:15.5±0.6, 5.52N×94.27E, h46km±4km, mb4.5/18, mb1 4.6/19, mb1mx4.5/22, mbtmp4.7/19, MS4.1/6, Ms1 4.1/6, ms1mx3.7/30, Error ellipse: s-maj=19.5km s-min=10.6km az=47.0*
*NEIC **17** 00:36:15.4±0.2

AAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
AAK Ala-Archa 40.93 338 *eP* **P 00 43 53.7 +0.5**
comp=Z,4.8nm,0.7s,mb4.2
FRU Bishkek 41.06 338 *eP* **P 00 43 56.5 +2.2**
KAKA Kakadu 41.98 116 *eP* **P 00 44 01.7 -0.5**
comp=Z,10nm,0.4s,mb4.8
SONM Songino Array 43.41 12 P **P 00 44 13.8 +0.4**
comp=Z,18nm,0.8s,mb4.8,baz=195,slow=7.4,SNR=141
SONM pP pP 00 44 25.5 -0.6
comp=Z,8.0nm,0.9s,baz=194,slow=8.3,SNR=6.6
SONM PcP PcP 00 46 02.1 +0.3
comp=Z,3.2nm,0.6s,baz=194,slow=3.3,SNR=7.8
SONM pPcP 00 46 15.0
comp=Z,3.3nm,0.7s,baz=194,slow=5.1,SNR=4.4
SONM ScP 00 49 50.1
comp=Z,1.0nm,0.8s,baz=196,slow=3.3,SNR=5.5
ULN Ulaanbaatar 43.57 12 *eP* **P 00 44 14.7 -0.1**
ULN pmax pmax
comp=Z,11nm,0.9s,mb4.6
ULN Ulaanbaatar 43.57 12 *eP* **P 00 44 14.7 -0.1**
comp=Z,12nm,0.9s,mb4.6
SNY Shenyang 44.55 31 ⇓P **P 00 44 23.1 +0.3**
SNY AMB AMB
comp=Z,30nm,0.7s,mb5.2
ZAK Zakamensk 45.33 8 *eP* **P 00 44 28.2 -0.7**
ZAK *e* 00 46 07.6
ZAK *e* 00 46 53.5
WRA Warramunga Arr 46.77 124 P **P 00 44 40.7 +0.1**
comp=Z,28nm,0.6s,mb5.4,baz=303,slow=9.2,SNR=30
WRA pP pP 00 44 54.6 +1.3
comp=Z,19nm,0.6s,baz=303,slow=9.3,SNR=9.4
WRAB Tennant Creek 46.77 124 *i* P **P 00 44 40.3 -0.4**
WB2 Warramunga Arr 46.78 124⇑*i*P **P 00 44 41.0 +0.3**
WB2 *e*S **S 00 51 26.3 -0.3**
KURK Kurchatov 46.92 346 *eP* **P 00 44 42.0 +0.5**
KURK pmax pmax
comp=Z,29nm,0.9s,mb5.2
KURK Kurchatov 46.92 346 *eP* **P 00 44 42.0 +0.5**
comp=Z,29nm,0.9s,mb5.2
ASPA Alice Springs 48.28 129⇑*i*P **P 00 44 52.5 0.0**
ASPA *e*S **S 00 51 51.0 +3.1**
ASAR Alice Springs 48.29 129 P **P 00 44 52.5 0.0**
comp=Z,13nm,0.6s,mb5.1,baz=300,slow=7.5,SNR=89
ASAR pP pP 00 45 06.3 +1.1
comp=Z,10nm,0.6s,baz=301,slow=7.8,SNR=6.5
FORT Forrest 48.40 140 *eP* **P 00 44 54.0 +0.7**
comp=Z,46nm,0.7s,mb5.6
HIA Hailar 48.61 22 *eP* **P 00 44 55.2 +0.6**
HIA pmax pmax
comp=Z,13nm,0.9s
HIA Hailar 48.61 22 *eP* **P 00 44 55.2 +0.6**
comp=Z,13nm,0.9s,mb5.0
ZAL Zalesovo 48.89 353 P **P 00 44 57.5 +0.8**
comp=Z,21nm,0.7s,mb5.3,baz=300,slow=5.6,SNR=121
ZAL sP sP 00 45 14.2 -0.7
comp=Z,8.9nm,0.8s,baz=277,slow=3.5,SNR=5.7
ZAL LR LR 01 10 11.3
comp=Z,176nm,20.0s,MS4.0,baz=198,slow=42
ZAL Zalesovo 48.89 353 P **P 00 44 57.5 +0.8**
ZAL sP sP 00 45 14.2 -0.7
ZAL LR LR 01 10 11.3
NVS Novosibirsk 49.98 352 *eP* **P 00 45 04.3 -0.8**
NVS *e*S **S 00 52 11.7 +0.6**
NVS pmax pmax
comp=E,9.0nm,0.6s
NVS pmax pmax
comp=Z,28nm,0.6s,mb5.5
NVS pmax pmax
comp=N,23nm,1.0s
NVS smax
comp=N,26nm,1.6s
NVS smax
comp=E,52nm,1.6s
JHJ Hachijo jima 2 50.35 51 P **P 00 45 09.4 +1.2**
comp=E,456nm,0.2s,baz=270,slow=24,SNR=9.4
BRVK Borovoye 51.33 342 *eP* **P 00 45 14.8 -0.6**
BRVK pmax pmax
comp=Z,14nm,0.7s,mb5.0
BRVK Borovoye 51.33 342 *eP* **P 00 45 14.8 -0.6**
comp=Z,14nm,0.7s,mb5.0
KLR Kul'dur 53.81 30 *eP* **P 00 45 31.2 -2.7**
BOD Bodaibo 54.38 13 *eP* **P 00 45 37.3 -0.7**
PMG Port Moresby 54.69 106 P **P 00 45 40.4 -0.5**
comp=Z,14nm,0.6s,mb5.2,baz=272,slow=3.6,SNR=8.8
GNI Garni 56.22 315 *eP* **P 00 45 50.7 -0.9**
GNI pmax pmax
comp=Z,4.0nm,0.9s
GNI Garni 56.22 315 *eP* **P 00 45 50.7 -0.8**
comp=Z,4.4nm,0.9s,mb4.5
CLNS Chul'man 56.57 20 *eP* **P 00 45 51.6 -2.2**
CLNS pmax pmax
comp=Z,12nm,1.0s,mb4.9
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CTA Charters Tower 57.02 118 P **P 00 45 56.7 -0.8**
comp=E,4.2nm,0.8s,mb4.5,baz=287,slow=7.3,SNR=9.5
CTAO Charters Tower 57.02 118 *eP* **P 00 45 55.8 -1.7**
CTAO pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
CTAO Charters Tower 57.02 118 *eP* **P 00 45 55.8 -1.7**
comp=Z,5.5nm,1.0s,mb4.5
ASAJ Asahikawa 57.07 40 P **P 00 45 57.2 -0.4**
comp=Z,7.8nm,0.7s,mb4.8,baz=280,slow=18,SNR=4.3
KMBO Kilima Mbogo 57.39 265 P **P 00 46 00.4 +0.1**
comp=Z,3.9nm,0.9s,mb4.4,baz=64,slow=8.7,SNR=12
KMBO LR LR 01 05 58.9
comp=Z,245nm,21.8s,MS4.3,baz=275,slow=31
KMBO Kilima Mbogo 57.39 265 *eP* **P 00 46 00.8 +0.5**
KMBO *e* pP 00 46 13.1 -0.2
KMBO LR LR 01 05 58.9
SVE Sverdlovsk 57.65 339 *eP* **P 00 46 00.0 -1.4**
ZEI Tsey 57.89 318 *eP* **P 00 46 02.9 -0.4**
ZEI *i* 00 48 16.0
ZEI pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ARU Arti 58.12 338⇑*i*P **P 00 46 00.4 -4.3**
ARU *e* 00 46 49.0
ARU *e*S **S 00 53 59.0 -1.7**
ARU *e* 00 55 48.8
ARU *e*SS SS 00 57 50.7 -3.5
ARU pmax pmax
comp=Z,19nm,0.9s,mb5.1
STKA Stephens Creek 58.36 133 *eP* **P 00 46 06.5 -0.3**
comp=Z,6.2nm,0.6s,mb4.8
STKA Stephens Creek 58.36 133 P **P 00 46 06.7 -0.1**
comp=Z,7.4nm,0.6s,mb4.9,baz=315,slow=6.0,SNR=24
YSS Yuzh-Sakhalins 58.52 37⇑*eP* **P 00 46 07.0 -0.7**
YSS *e* pP 00 46 24.0 +3.3
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.4
KIV Kislovodsk 59.19 319*d i*P **P 00 46 11.7 -0.7**
KIV pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
KIV Kislovodsk 59.19 319 *eP* **P 00 46 11.3 -1.0**
comp=Z,10nm,0.4s,mb5.2
MALT Malatya 60.14 311 P **P 00 46 18.4 -0.6**
MALT pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
MALT Malatya 60.14 311 P **P 00 46 18.4 -0.6**
comp=Z,0.8nm,0.7s,mb3.9
EIL Elat 60.77 301 LR LR 01 14 11.2
comp=Z,209nm,18.3s,MS4.3,baz=353,slow=38
SOC Sochi 61.02 317 *eP* **P 00 46 22.0 -2.9**
SOC *e* 00 47 00.8
SOC *e* 00 48 42.5
SOC *e*S **S 00 54 40.9 +2.5**
SOC *e* 00 56 10.5
SOC *e*SS SS 00 58 39.6 -0.2
SOC pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
SOC pmax pmax
comp=N,4.0nm,0.6s
SOC pmax pmax
comp=E,6.0nm,0.7s
YAK Yakutsk 62.15 18 *eP* **P 00 46 29.8 -2.4**
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=Z,16nm,0.9s,mb5.2
YAK pmax pmax
comp=E,3.0nm,1.0s
BRTR Keskin Array B 64.11 312 P **P 00 46 44.5 -1.0**
comp=E,2.8nm,0.7s,mb4.4,baz=128,slow=7.8,SNR=18

MOS Moscow 67.18 329 *eP* **P 00 47 02.8 -2.0**
MOS pmax pmax
comp=Z,34nm,0.8s,mb5.4
OBN Obninsk 67.46 328 *eP* **P 00 47 04.4 -2.2**
OBN *e* pP 00 47 18.2 -1.8
OBN pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
LSZ Lusaka 68.69 251 *eP* **P 00 47 14.6 -0.3**
MA2 Magadan 68.75 27 *eP* **P 00 47 14.1 -0.5**
MA2 pmax pmax
comp=Z,14nm,0.6s,mb5.1
MA2 Magadan 68.75 27 *eP* **P 00 47 14.1 -0.5**
comp=Z,14nm,0.6s,mb5.1
SEY Seymchan 70.97 24 *eP* **P 00 47 27.5 -0.6**
SEY *e* 00 57 25.7
SEY pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
JOF Joensuu 73.04 335 *ep* **P 00 47 39.4 -0.9**
comp=Z,9.0nm,0.8s,mb4.8
KWP Kalwaria 73.94 320 *eP* **P 00 47 45.9 +0.1**
KOLS Kolonicke sedl 74.10 319 *eP* **P 00 47 46.9 +0.2**
KOLS *ep*P pP 00 48 01.8 +1.6
SUW Suwalki 74.52 325 *eP* **P 00 47 48.5 -0.6**
FINES FINESS Array B 74.87 332 P **P 00 47 50.4 -0.6**
comp=Z,5.8nm,0.5s,mb4.8,baz=100,slow=6.0,SNR=51
KAF Kangasniemi 74.96 333 *ep* **P 00 47 50.3 -1.2**
comp=Z,5.5nm,0.5s,mb4.7
KAF Kangasniemi 74.96 333 *eP* **P 00 47 50.3 -1.2**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
KECS Kecovo 75.19 319 *eP* pP 00 48 04.5 -2.0
KECS Kecovo 75.19 319 *e* pP 00 48 04.5 -2.0
OJC Ojcow 75.89 320 *eP* **P 00 47 57.2 +0.2**
VYHS Vyhne 76.28 318 *eP* **P 00 47 59.0 -0.3**
OKC Ostrava-Krasne 76.90 320 *eP* **P 00 48 03.3 +0.6**
OKC *ep*P pP 00 48 17.3 +1.1
KEV Kevo 77.11 341 *ep* **P 00 48 03.0 -0.5**
ZST Bratislava 77.39 318 *eP* **P 00 48 06.5 +1.0**
ZST *ep*P pP 00 48 19.8 +0.7
ARCES ARCESS Array B 77.53 340 P **P 00 48 05.7 -0.2**
comp=Z,2.9nm,0.6s,mb4.4,baz=99,slow=5.2,SNR=16
ARCES pP pP 00 48 19.9 +0.6
comp=Z,5.8nm,0.8s,baz=94,slow=5.8,SNR=2.8
ARCES LR LR 01 25 10.7
comp=Z,177nm,19.0s,MS4.4,baz=200,slow=38
GKP Gorka Klasztor 77.88 323 *eP* **P 00 48 07.9 -0.2**
DPC Dobruska-Polom 78.12 320 *eP* **P 00 48 10.6 +1.1**
DPC *ep*P pP 00 48 23.8 +0.8
KSP Ksiaz 78.19 321 *eP* **P 00 48 10.4 +0.6**
KSP *e**PP pP 00 48 22.1 -1.3
KSP Ksiaz 78.19 321 *eP* **P 00 48 10.6 +0.8**
UPC Upice 78.33 320 *eP* **P 00 48 11.9 +1.3**
ARSA Arzberg 78.37 317⇑*i*P **P 00 48 11.8 +0.9**
comp=Z,11nm,1.1s,mb4.7
PRU Pruhonice 79.23 320 *eP* **P 00 48 16.5 +0.9**
PRU *ep*P pP 00 48 29.9 +0.8
PVCC Panska Ves 79.25 320 *eP* **P 00 48 16.5 +0.8**
PVCC *ep*P pP 00 48 31.6 +2.3
BRG Berggiesshubel 79.68 321 *i* P **P 00 48 18.7 +0.7**
BRG *e* pP 00 48 32.3 +0.8
BRG pmax pmax
comp=Z,11nm,0.9s,mb4.8
BRG Berggiesshubel 79.68 321 *i* P **P 00 48 18.7 +0.7**
comp=Z,11nm,0.9s,mb4.8
BRG *e* pP 00 48 32.3 +0.8
GERES GERESS Array B 79.70 319 P **P 00 48 18.9 +0.7**
comp=Z,9.4nm,0.8s,mb4.8,baz=90,slow=5.3,SNR=80
GERES pP pP 00 48 31.6 -0.1
comp=Z,4.7nm,0.7s,baz=90,slow=5.3,SNR=7.2
KHC Kasperske Hory 79.80 319 *eP* **P 00 48 19.3 +0.6**
KHC *ep*P pP 00 48 31.4 -0.8
CLL Collm 80.30 321 *i* P **P 00 48 21.5 +0.2**
CLL *i* pP 00 48 33.8 -1.1
CLL pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CLL Collm 80.30 321 *i* P **P 00 48 21.5 +0.2**
comp=Z,8.0nm,1.0s,mb4.6
CLL *i* pP 00 48 33.8 -1.1
CLL Collm 80.30 321 P **P 00 48 21.5 +0.2**
comp=Z,logA/T=0.9,mb4.6
CLL *i* *PP pP 00 48 33.8 -1.1
NKC Novy Kostel 80.59 320 *eP* **P 00 48 24.4 +1.5**
NKC *ep*P pP 00 48 38.2 +1.7
WTTA Wattenberg 81.02 317⇑*i*P **P 00 48 25.3 +0.1**
comp=Z,15nm,1.2s,mb4.8
WTTA Wattenberg 81.02 317⇑*i*P **P 00 48 25.3 +0.1**
WTTA pmax pmax
comp=Z,15nm,1.2s,mb4.8
WATA Walderalm 81.06 317⇑*i*P **P 00 48 25.1 -0.3**
comp=Z,10nm,1.2s,mb4.6
WATA Walderalm 81.06 317⇑*i*P **P 00 48 25.1 -0.3**
WATA pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
MOX Moxa 81.14 320 *eP* **P 00 48 24.4 -1.3**
MOX *e**PP pP 00 48 40.0 +0.6
MOX pmax pmax
comp=Z,30nm,2.0s,mb4.9
MOX Moxa 81.14 320 *eP* **P 00 48 24.4 -1.3**
comp=Z,30nm,2.0s,mb4.9
MOX *ep*P pP 00 48 40.0 +0.6
MOX Moxa 81.14 320 *i* P **P 00 48 24.4 -1.3**
comp=Z,logA/T=1.2,mb4.9
MOX pP pP 00 48 40.0 +0.6
SQTA Sankt Quirin 81.31 317⇑*i*P **P 00 48 26.8 +0.1**
comp=Z,4.5nm,0.8s,mb4.5
SQTA Sankt Quirin 81.31 317⇑*i*P **P 00 48 26.8 +0.1**
SQTA pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
GRA1 Grafenberg Arr 81.36 319 *eP* **P 00 48 27.8 +0.9**
comp=Z,19nm,1.0s,mb5.0
GRA1 *ep*P pP 00 48 40.9 +0.4
GRF Grafenberg Arr 81.36 319 *eP* **P 00 48 27.8 +0.9**
GRF *e**PP pP 00 48 40.9 +0.4
GRF pmax pmax
comp=Z,19nm,1.0s,mb5.0
GRF Grafenberg Arr 81.36 319 *eP* **P 00 48 27.8 +0.9**
GRF *e**PP pP 00 48 40.9 +0.4
GRF pmax pmax
comp=Z,19nm,1.0s,mb5.0
GRF Grafenberg Arr 81.36 319 *eP* **P 00 48 27.8 +0.9**
comp=Z,19nm,1.0s,mb5.0
GRF *ep*P pP 00 48 40.9 +0.4
MOTA Moosalm 81.38 317⇑*i*P **P 00 48 26.9 -0.2**
comp=Z,5.9nm,1.0s,mb4.5
MOTA Moosalm 81.38 317⇑*i*P **P 00 48 26.9 -0.2**
MOTA pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
NB2 NORSAR Subarra 81.86 331 P **P 00 48 28.9 -0.4**
comp=Z,1.7nm,0.6s,mb4.2,baz=98,slow=5.3
NB2 NORSAR Subarra 81.86 331 P **P 00 48 28.9 -0.4**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
NOA NORSAR Array B 81.86 331 P **P 00 48 28.8 -0.5**
comp=Z,2.5nm,0.8s,mb4.2,baz=94,slow=5.7,SNR=6.0
NOA LR LR 01 28 05.1
comp=Z,83nm,21.9s,MS4.0,baz=295,slow=38
DAVOX Davos 82.21 316 P **P 00 48 32.4 +1.0**
comp=Z,12nm,0.6s,mb5.0,baz=139,slow=11
DAVA Damuels 82.21 317⇑*i*P **P 00 48 32.1 +0.7**
LPG La Plagne 84.41 315 *eP* **P 00 48 43.3 +0.7**
comp=Z,17nm,0.9s,mb4.9
LPG La Plagne 84.41 315 *eP* **P 00 48 43.3 +0.7**
LPG pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
BNI Bardonecchia 84.47 315 *eP* **P 00 48 45.7 +2.8**
BNI pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
BNI Bardonecchia 84.47 315 *eP* **P 00 48 45.7 +2.7**
comp=Z,7.2nm,1.0s,mb4.8
VNDA Vanda 90.60 168 P **P 00 49 12.6 +0.8**
comp=Z,0.6nm,0.6s,mb4.1,baz=304,slow=7.6,SNR=4.5
VNDA Vanda 90.60 168 P **P 00 49 12.6 +0.8**
ESDC Sonseca Array 92.87 310 P **P 00 49 24.2 +1.1**
comp=Z,0.3nm,0.4s,mb4.0,baz=68,slow=3.9,SNR=6.5
IMA Indian Mountai 93.71 22 *eP* **P 00 49 28.0 +1.8**
ILAR Eielson Array 96.83 22 P **P 00 49 41.2 +0.8**
comp=Z,1.3nm,0.5s,mb4.6,baz=310,slow=4.4,SNR=34
YKA Yellowknife Ar 108.65 14 Pdiff Pdif 00 50 34.1 +1.0
comp=Z,0.2nm,0.7s,baz=302,slow=5.0,SNR=4.7
YKA pPdiff 00 50 45.2
comp=Z,0.8nm,1.0s,baz=287,slow=4.9,SNR=5.5
YKA PKiKP 00 54 38.8
comp=Z,0.1nm,0.6s,baz=351,slow=1.8,SNR=4.5
YKA PP PP 00 54 59.5 -8.6
comp=Z,0.7nm,0.7s,baz=333,slow=7.7,SNR=5.4

PDAR Pinedale Array 127.27 22 PKP PKPdf 00 55 15.4 +1.8
comp=Z,1.9nm,0.8s,baz=21,slow=2.0,SNR=14
MSU Marysvale 129.76 27 *e*PKPdf PKPdf 00 55 22.2 +3.7
NEN Nelson 130.72 32 *e*PKPdf PKPdf 00 55 24.2 +3.8
TXAR Lajitas Array 141.26 26 PKhKP 00 55 35.8
comp=Z,0.4nm,0.5s,baz=297,slow=2.8,SNR=4.1
JCT Junction City 141.73 20 *e*PKPpre 00 55 36.8

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*CSEM **17** 00:45:32.1±0.2,35.04N×2.92W,h12km,MD3.1,Error ellipse: s-maj=5.0km s-min=4.4km az=89.0*
*CNRM **17** 00:45:33.0,34.97N×2.64W,h18km,MD3.1*
*MDD **17** 00:45:34.2±0.4,34.97N×2.84W,h12km±3km,mb3.6/12, Error ellipse: s-maj=4.9km s-min=4.2km az=92.0,PRXIMO*
*NEIC **17** 00:45:34.7,35.00N×2.91W,h15km,MG3.5(MDD),After MDD.*

ISC 17 00:45:32.7±0.4,**35.05N**±0.02×**2.94W**±0.03,**h10**km,**n69,**
σ**1§26**/110,**1D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.18**	**117**	P	**Pg**	**00 45 36.0**	**-0.7**
ZAI				S	**Sg**	**00 45 39.0**	**-0.4**
ZAI	**Zaio**	**0.18**	**117**	*i* P	**Pg**	**00 45 36.0**	**-0.7**
EMEL	**Melilla**	**0.25**	**357**	⇓P	**Pg**	**00 45 40.5**	**+2.6**
	176nm,0.2s,SNR=18						
EMEL				S	**Sg**	**00 45 45.7**	**+4.3**
	258nm,0.1s,SNR=9.1						
EMLI	**Melilla**	**0.25**	**358**	P	**Pg**	**00 45 40.5**	**+2.6**
	176nm,0.2s,SNR=18						
EMLI				S	**Sg**	**00 45 46.3**	**+4.9**
	203nm,0.2s,SNR=9.1						
TAF	**Taforalt**	**0.49**	**119**	P	**Pg**	**00 45 42.0**	**-0.7**
TAF				S	**Sg**	**00 45 55.0**	**+5.6**
TOU	**Touzarine**	**0.67**	**262**	*i* P	**Pb**	**00 45 48.0**	**+2.0**
TOU				*i* S	**Sb**	**00 45 59.0**	**+3.8**
EALB	**Alboran**	**0.89**	**355**	P	**Pb**	**00 45 51.4**	**+1.6**
EALB				S	**Sb**	**00 46 02.9**	**+1.6**
EALB	**Alboran**	**0.89**	**355**	P	**Pb**	**00 45 51.5**	**+1.8**
	10nm,0.1s,SNR=7.9						
EALB				S	**Sb**	**00 46 03.9**	**+2.5**
	55nm,0.3s,SNR=7.9						
EALB	**Alboran**	**0.89**	**355**	P	**Pb**	**00 45 51.3**	**+1.6**
	15nm,0.2s,SNR=7.9						
EALB				S	**Sb**	**00 46 02.9**	**+1.5**
	SNR=7.9						
TZK	**Tazeka**	**1.41**	**227**	*i* P	**Pn**	**00 45 58.0**	**-0.5**
TZK				*i* S	**Sb**	**00 46 17.0**	**+0.6**
EBER	**Berja**	**1.84**	**1**	P	**Pn**	**00 46 05.5**	**+0.8**
EBER				S	**Sn**	**00 46 28.5**	**+0.3**
EBER	**Berja**	**1.84**	**1**	P	**Pn**	**00 46 05.3**	**+0.6**
	4.9nm,0.4s,SNR=14						
EBER				S	**Sn**	**00 46 28.7**	**+0.5**
	18nm,0.4s,SNR=6.1						
EBER	**Berja**	**1.84**	**1**	P	**Pn**	**00 46 05.5**	**+0.8**
	7.4nm,0.4s,SNR=14						
EBER				S	**Sn**	**00 46 28.5**	**+0.3**
	11nm,0.4s,SNR=6.1						
ENIJ	**Nijar**	**2.00**	**17**	P	**Pn**	**00 46 07.3**	**+0.3**
ENIJ				S	**Sn**	**00 46 30.6**	**-1.7**
ENIJ	**Nijar**	**2.00**	**17**	P	**Pn**	**00 46 07.3**	**+0.3**
	2.6nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**00 46 30.9**	**-1.4**
	7.1nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**2.00**	**17**	P	**Pn**	**00 46 07.3**	**+0.3**
	1.6nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**00 46 30.6**	**-1.8**
	SNR=7.9						
ERON	**Agron**	**2.08**	**341**	P	**Pn**	**00 46 08.5**	**+0.3**
ERON				S	**Sn**	**00 46 32.8**	**-1.6**
ERON	**Agron**	**2.08**	**341**	P	**Pn**	**00 46 08.6**	**+0.5**
	1.9nm,0.4s,SNR=7.9						
ERON				S	**Sn**	**00 46 32.8**	**-1.6**
	1.3nm,0.3s,SNR=7.9						
ERON	**Agron**	**2.08**	**341**	P	**Pn**	**00 46 08.5**	**+0.4**
	0.7nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**00 46 32.8**	**-1.5**
	SNR=7.9						
EMIJ	**Mijas**	**2.12**	**316**	P	**Pn**	**00 46 08.8**	**+0.2**
EMIJ				S	**Sn**	**00 46 33.5**	**-1.8**
EMIJ	**Mijas**	**2.12**	**316**	P	**Pn**	**00 46 08.6**	**0.0**
	2.7nm,0.2s,SNR=11						
EMIJ				S	**Sn**	**00 46 33.7**	**-1.5**
	4.3nm,0.4s,SNR=5.0						
EMIJ	**Mijas**	**2.12**	**316**	P	**Pn**	**00 46 08.8**	**+0.1**
	0.9nm,0.1s,SNR=11						
EMIJ				S	**Sn**	**00 46 33.5**	**-1.8**
	13nm,0.8s,SNR=5.0						
MIF	**Mishlifen**	**2.51**	**230**	*i* P	**Pn**	**00 46 14.0**	**-0.2**
MIF				*i* S	**Sn**	**00 46 44.0**	**-1.1**
EQES	**Quesada**	**2.75**	**358**	P	**Pn**	**00 46 20.6**	**+3.0**
EQES				S	**Sn**	**00 46 54.3**	**+3.1**
EQES	**Quesada**	**2.75**	**358**	P	**Pn**	**00 46 20.2**	**+2.6**
	6.6nm,0.4s,SNR=28						
EQES				S	**Sn**	**00 46 54.3**	**+3.1**
	6.2nm,0.3s,SNR=5.0						
EQES	**Quesada**	**2.75**	**358**	S	**Sn**	**00 46 54.3**	**+3.1**
	2.8nm,0.5s,SNR=5.0						
ESPR	**Espera**	**2.98**	**308**	P	**Pn**	**00 46 23.5**	**+2.6**
ESPR				S	**Sn**	**00 46 55.6**	**-1.5**
ESPR	**Espera**	**2.98**	**308**	P	**Pn**	**00 46 23.3**	**+2.4**
	1.6nm,0.3s,SNR=7.9						
ESPR				S	**Sn**	**00 46 56.1**	**-1.0**
	2.0nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.98**	**308**	S	**Sn**	**00 46 55.6**	**-1.5**
	SNR=7.9						
ESPR	**Espera**	**2.98**	**308**	P	**Pn**	**00 46 23.5**	**+2.6**
	1.5nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**3.10**	**26**	P	**Pn**	**00 46 23.9**	**+1.3**
EMUR				S	**Sn**	**00 46 57.4**	**-2.9**
EMUR	**La Murta**	**3.10**	**26**	P	**Pn**	**00 46 23.1**	**+0.4**
	2.7nm,0.3s,SNR=8.7						
EMUR				S	**Sn**	**00 46 57.4**	**-2.9**
	1.3nm,0.3s						
EMUR	**La Murta**	**3.10**	**26**	S	**Sn**	**00 46 57.4**	**-2.8**
	4.5nm,0.6s						
EMUR	**La Murta**	**3.10**	**26**	P	**Pn**	**00 46 23.9**	**+1.2**
	1.0nm,0.3s,SNR=8.7						
EADA	**Adamuz**	**3.38**	**338**	P	**Pn**	**00 46 28.3**	**+1.7**
EADA				S	**Sn**	**00 47 06.0**	**-1.1**
EADA	**Adamuz**	**3.38**	**338**	P	**Pn**	**00 46 27.6**	**+1.1**
	2.0nm,0.3s,SNR=12						
EADA				S	**Sn**	**00 47 06.0**	**-1.1**
	1.4nm,0.3s						
EADA	**Adamuz**	**3.38**	**338**	P	**Pn**	**00 46 28.3**	**+1.7**
	0.9nm,0.2s,SNR=12						
EADA				S	**Sn**	**00 47 06.0**	**-1.1**
	6.6nm,1.1s						
EVIA	**Vianos**	**3.60**	**5**	S	**Sn**	**00 47 11.5**	**-1.2**
	3.5nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**3.60**	**5**	S	**Sn**	**00 47 11.3**	**-1.4**
	SNR=7.9						
EMIN	**Mina Concepcio**	**4.05**	**313**	P	**Pn**	**00 46 36.5**	**+0.4**
EMIN				S	**Sn**	**00 47 18.8**	**-5.4**
EMIN	**Mina Concepcio**	**4.05**	**313**	P	**Pn**	**00 46 36.1**	**0.0**
	0.8nm,0.3s,SNR=8.8						
EMIN				S	**Sn**	**00 47 18.9**	**-5.3**
	0.7nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.05**	**313**	P	**Pn**	**00 46 36.5**	**+0.4**
	4.5nm,0.4s,SNR=8.8						
EBEN	**Beniarda**	**4.24**	**30**	P	**Pn**	**00 46 38.9**	**0.0**
	0.1nm,0.2s,SNR=4.0						
PALC	**Alcoutim**	**4.38**	**305**	*e*Pn	**Pn**	**00 46 40.8**	**-0.1**
PALC				*e*Sn	**Sn**	**00 47 28.7**	**-4.0**
EGRO	**El Granado**	**4.43**	**305**	P	**Pn**	**00 46 41.1**	**-0.4**
EGRO				S	**Sn**	**00 47 29.1**	**-4.6**
EGRO	**El Granado**	**4.43**	**305**	P	**Pn**	**00 46 41.1**	**-0.4**
	2.2nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**00 47 30.0**	**-3.7**
	0.5nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.43**	**305**	P	**Pn**	**00 46 41.1**	**-0.4**
	2.9nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**4.68**	**350**	P	**Pn**	**00 46 46.7**	**+1.5**
	0.2nm,0.2s,baz=172,slow=12,SNR=10						
ESDC				S	**Sn**	**00 47 38.9**	**-1.4**
	0.8nm,0.7s,baz=168,slow=23,SNR=3.8						
ESDC	**Sonseca Array**	**4.68**	**350**	P	**Pn**	**00 46 46.7**	**+1.5**
	0.2nm,0.2s,SNR=10						
EBAD	**Badajoz**	**4.93**	**320**	P	**Pn**	**00 46 48.6**	**-0.1**
	1.2nm,0.2s,SNR=9.0						
EBAD				S	**Sn**	**00 47 43.1**	**-3.4**
	1.1nm,0.2s,SNR=5.0						
EBAD	**Badajoz**	**4.93**	**320**	P	**Pn**	**00 46 48.8**	**+0.2**
	1.1nm,0.3s,SNR=9.0						
EBAD				S	**Sn**	**00 47 42.8**	**-3.6**

16nm,1.4s,SNR=5.0
PBEJ Beja 4.95 308 *e*Pn **Pn 00 46 48.4 -0.6**
EIBI Ibiza 5.24 40 P **Pn 00 46 51.8 -1.3**
EIBI S **Sn 00 47 48.1 -6.2**
EIBI Ibiza 5.24 40 P **Pn 00 46 52.3 -0.7**
1.4nm,0.2s,SNR=7.9
EIBI S **Sn 00 47 47.9 -6.3**
0.2nm,0.1s,SNR=7.9
EIBI Ibiza 5.24 40 P **Pn 00 46 51.8 -1.2**
0.5nm,0.1s,SNR=7.9
GUD Guadarrama 5.66 351 P **Pn 00 46 59.3 +0.3**
0.4nm,0.2s,SNR=4.0
PCBR Castelo Branco 5.99 324 *e*Pn **Pn 00 47 03.7 +0.2**
PTOM Tomar 6.30 318 *e*Pn **Pn 00 47 08.6 +0.6**
ERTA Horta de San J 6.43 23 P **Pn 00 47 09.9 0.0**
ERTA Horta de San J 6.43 23 P **Pn 00 47 10.7 +0.8**
1.3nm,0.4s,SNR=7.9
ERTA Horta de San J 6.43 23 P **Pn 00 47 09.9 0.0**
PVRL Vila Real 7.26 330 *e*Pn **Pn 00 47 21.0 -0.5**
PBRG Braganca 7.37 337 *e*Pn **Pn 00 47 23.0 0.0**
ECAL Calabor 7.49 338 P **Pn 00 47 23.6 -1.1**
ECAL Calabor 7.49 338 P **Pn 00 47 23.9 -0.8**
0.5nm,0.3s,SNR=7.9
ECAL Calabor 7.49 338 P **Pn 00 47 23.6 -1.1**
ELOB Lobios 7.90 331 P **Pn 00 47 28.2 -2.2**
ELOB Lobios 7.90 331 P **Pn 00 47 29.9 -0.5**
0.3nm,0.2s,SNR=7.9
ELOB Lobios 7.90 331 P **Pn 00 47 28.2 -2.2**

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*LDG **17** 00:49:26.5±0.1,33.91N×79.52E,h10km,Mb4.4/12, Ms3.4/1,Error ellipse: s-maj=21.1km s-min=4.0km az=45.0*
*MOS **17** 00:49:29.7±0.9,34.36N×80.06E,h33km,mb4.5/19,Error ellipse: s-maj=16.3km s-min=7.2km az=118.0*
*IDC **17** 00:49:31.5±6.2,34.25N×80.01E,h37km±53km,mb3.8/13, mb1 4.0/15,mb1mx3.9/21,mbtmp4.0/15,ML3.9/2,Error ellipse: s-maj=25.4km s-min=18.2km az=13.0*
*NEIC **17** 00:49:32.0±1.1,34.27N×80.01E,h39km±11km,mb4.4/16, Error ellipse: s-maj=10.3km s-min=7.6km az=54.0*
*BJI **17** 00:49:35.5,34.56N×80.29E,h49km,mb3.9,ML3.9*
ISC 17 00:49:31.7±0.7,34.29N±0.04×80.04E±0.06,h54km±8km, **n93,σ1°12/91,mb4.1**/28,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**3.83**	**244**	*e*P	**P**	**00 50 28.0**	**-1.6**
DLH				*e*S	**S**	**00 51 16.0**	**+2.2**
NDI	**New Delhi**	**6.08**	**204**	*e*P	**P**	**00 50 57.5**	**-3.7**
KOLN	**Koldanda**	**7.18**	**154**	*e*P	**P**	**00 51 15.3**	**-1.2**
19nm,0.4s							
GKN	**Gorkha**	**7.40**	**147**	*e*P	**P**	**00 51 20.1**	**+0.5**
31nm,0.5s							
KKN	**Kakani**	**7.88**	**144**	*e*P	**P**	**00 51 26.5**	**+0.3**
12nm,0.4s							
PKI	**Pulchoki**	**8.13**	**144**	*e*P	**P**	**00 51 29.6**	**0.0**
13nm,0.5s							
JIRN	**Jiri**	**8.45**	**140**	*e*P	**P**	**00 51 34.2**	**+0.1**
42nm,0.4s							
KZA	**Kyzart**	**8.64**	**336**	P	**P**	**00 51 38.0**	**+1.3**
SNR=6.6							
UCH	**Uchtor**	**9.04**	**333**	P	**P**	**00 51 42.0**	**-0.1**
SNR=77							
TKM2	**Tokmak 2**	**9.29**	**339**	P	**P**	**00 51 46.9**	**+1.3**
SNR=7.1							
AAK	**Ala-Archa**	**9.40**	**334**	P	**P**	**00 51 47.1**	**+0.1**
SNR=20							
AAK	**Ala-Archa**	**9.40**	**334**	*e*P	**P**	**00 51 45.2**	**-1.8**
AAK				pmax	pmax		
comp=Z,11nm,0.6s							
AAK	**Ala-Archa**	**9.40**	**334**	*e*P	**P**	**00 51 45.1**	**-1.9**
comp=Z,11nm,0.6s							
EKS2	**Erkin-Say**	**9.69**	**331**	P	**P**	**00 51 53.5**	**+2.4**
SNR=7.5							
LSA	**Lhasa**	**10.48**	**113**	P	**P**	**00 52 04.8**	**+2.9**
LSA	**Lhasa**	**10.48**	**113**	P	**P**	**00 51 59.9**	**-2.0**
LSA				pmax	pmax		
comp=Z,6.0nm,0.7s							
LSA	**Lhasa**	**10.48**	**113**	P	**P**	**00 51 59.9**	**-2.0**
comp=Z,6.2nm,0.7s							
WMQ	**Urumqi**	**11.22**	**30**	*e*P	**P**	**00 52 11.9**	**+0.1**
KURK	**Kurchatov**	**16.45**	**357**	*e*P	**P**	**00 53 19.9**	**-0.2**
KURK				pmax	pmax		
comp=Z,7.0nm,1.0s							
KURK	**Kurchatov**	**16.45**	**357**	*e*P	**P**	**00 53 19.9**	**-0.2**
comp=Z,7.0nm,1.0s							
HYB	**Hyderabad**	**16.85**	**185**	*e*P	**P**	**00 53 26.0**	**+0.6**
HYB	**Hyderabad**	**16.85**	**185**	*i* P	**P**	**00 53 26.0**	**+0.6**
ZAL	**Zalesovo**	**19.93**	**8**	P	**P**	**00 54 00.9**	**-0.6**
ZAL				pmax	pmax		
comp=Z,1.0nm,0.3s							
ZAL	**Zalesovo**	**19.93**	**8**	P	**P**	**00 54 00.9**	**-0.6**
comp=Z,0.5nm,0.3s,baz=287,slow=9.1,SNR=5.0							
BVAR	**Borovoye Array**	**19.96**	**343**	P	**P**	**00 53 59.4**	**-2.4**
comp=Z,1.0nm,0.3s,baz=153,slow=13,SNR=16							
BRVK	**Borovoye**	**20.01**	**343**	*e*P	**P**	**00 54 00.6**	**-1.8**
BRVK				pmax	pmax		
comp=Z,3.0nm,0.6s							
BRVK	**Borovoye**	**20.01**	**343**	*e*P	**P**	**00 54 00.6**	**-1.8**
comp=Z,3.1nm,0.6s							
NVS	**Novosibirsk**	**20.67**	**5**	*e*P	**P**	**00 54 06.8**	**-2.4**
CMAR	**Chiang Mai Arr**	**23.07**	**128**	P	**P**	**00 54 33.6**	**+0.2**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.4s							
CMAR	**Chiang Mai Arr**	**23.07**	**128**	P	**P**	**00 54 33.6**	**+0.2**
comp=Z,1.2nm,0.4s,mb3.7,baz=309,slow=10,SNR=8.9							
SONM	**Songino Array**	**23.90**	**48**	P	**P**	**00 54 42.5**	**+1.4**
comp=Z,1.2nm,0.9s,mb3.3,baz=248,slow=7.3,SNR=9.5							
ULN	**Ulaanbaatar**	**24.32**	**48**	*e*P	**P**	**00 54 48.5**	**+3.4**
ULN				pmax	pmax		
comp=Z,3.0nm,0.9s,mb3.7							
ULN	**Ulaanbaatar**	**24.32**	**48**	*e*P	**P**	**00 54 48.5**	**+3.4**
comp=Z,3.2nm,0.9s,mb3.8							
ARU	**Arti**	**26.58**	**333**	*e*P	**P**	**00 55 04.9**	**-1.5**
ARU				*e*	pP	00 55 16.4	-3.5
ARU				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.2							
ARU	**Arti**	**26.58**	**333**	*e*P	**P**	**00 55 04.9**	**-1.5**
comp=Z,6.3nm,0.7s,mb4.2							
ARU				*e*	pP	00 55 16.4	-3.4
BRTR	**Keskin Array B**	**37.13**	**292**	P	**P**	**00 56 39.9**	**+1.2**
BRTR				pmax	pmax		
comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**37.13**	**292**	P	**P**	**00 56 39.9**	**+1.1**
comp=Z,0.5nm,0.7s,mb3.5,baz=98,slow=10,SNR=3.4							
JOF	**Joensuu**	**41.53**	**329**	*e*p	**P**	**00 57 17.2**	**+2.3**
comp=Z,3.1nm,0.6s,mb4.1							
JOF	**Joensuu**	**41.53**	**329**	*e*P	**P**	**00 57 17.2**	**+2.3**
JOF				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.1							
MLR	**Muntele Rosu**	**42.26**	**302**	P	**P**	**00 57 21.2**	**+0.1**
MLR				pmax	pmax		
comp=Z,6.0nm,0.8s							
MLR	**Muntele Rosu**	**42.26**	**302**	P	**P**	**00 57 21.2**	**+0.1**
comp=Z,5.9nm,0.8s,mb4.3,baz=279,slow=8.2,SNR=9.9							
FINES	**FINESS Array B**	**43.46**	**326**	P	**P**	**00 57 30.6**	**-0.1**
FINES				pmax	pmax		
comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**43.46**	**326**	P	**P**	**00 57 30.6**	**-0.2**
comp=Z,1.3nm,0.5s,mb4.0,baz=104,slow=16,SNR=12							
KAF	**Kangasniemi**	**43.52**	**327**	*e*p	**P**	**00 57 33.6**	**+2.4**
comp=Z,0.2nm,0.3s,mb3.3							
ARCES	**ARCESS Array B**	**46.06**	**337**	P	**P**	**00 57 50.5**	**-0.9**
ARCES				pmax	pmax		
comp=Z,3.0nm,0.6s							
ARCES	**ARCESS Array B**	**46.06**	**337**	P	**P**	**00 57 50.5**	**-1.0**
comp=Z,2.8nm,0.6s,mb4.4,baz=98,slow=8.6,SNR=9.1							
GERES	**GERESS Array B**	**50.17**	**308**	P	**P**	**00 58 23.6**	**-0.1**
GERES				pmax	pmax		
comp=Z,1.0nm,0.9s							
GERES	**GERESS Array B**	**50.17**	**308**	P	**P**	**00 58 23.6**	**-0.1**
comp=Z,0.5nm,0.9s,mb3.5,baz=84,slow=8.9,SNR=2.6							
NOA	**NORSAR Array B**	**50.55**	**324**	P	**P**	**00 58 25.8**	**-0.6**
NOA				pmax	pmax		
comp=Z,10.0nm,1.4s							
NOA	**NORSAR Array B**	**50.55**	**324**	P	**P**	**00 58 25.8**	**-0.6**
comp=Z,9.9nm,1.4s,mb4.5,baz=106,slow=6.3,SNR=2.3							
CDF	**Champ du Feu**	**54.44**	**309**	*e*P	**P**	**00 58 56.1**	**+0.6**
comp=Z,2.0nm,0.6s,mb4.0							
CDF	**Champ du Feu**	**54.44**	**309**	*e*P	**P**	**00 58 56.1**	**+0.6**
CDF				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.9							
HINF	**Hinteralfeld**	**54.85**	**308**	*e*P	**P**	**00 58 59.2**	**+0.6**
SBF	**Sospel**	**55.51**	**303**	*e*P	**P**	**00 59 02.9**	**-0.5**
comp=Z,15nm,0.8s,mb4.8							
SBF	**Sospel**	**55.51**	**303**	*e*P	**P**	**00 59 02.9**	**-0.5**
SBF				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.7							
LPG	**La Plagne**	**55.52**	**305**	*e*P	**P**	**00 59 03.9**	**+0.4**
comp=Z,8.4nm,0.8s,mb4.5							
LPG	**La Plagne**	**55.52**	**305**	*e*P	**P**	**00 59 03.9**	**+0.4**
LPG				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.5							
LPL	**La Plagne**	**55.53**	**305**	*e*P	**P**	**00 59 03.8**	**+0.3**
comp=Z,8.0nm,0.8s,mb4.5							
LPL	**La Plagne**	**55.53**	**305**	*e*P	**P**	**00 59 03.8**	**+0.3**
LPL				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.5							
MBDF	**Montbardon**	**55.72**	**304**	*e*P	**P**	**00 59 04.3**	**-0.6**
comp=Z,3.9nm,0.7s,mb4.2							
MBDF	**Montbardon**	**55.72**	**304**	*e*P	**P**	**00 59 04.3**	**-0.6**
MBDF				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.3							
FRF	**La Foret Royal**	**56.15**	**303**	*e*P	**P**	**00 59 07.8**	**-0.1**
comp=Z,5.4nm,0.7s,mb4.4							
FRF	**La Foret Royal**	**56.15**	**303**	*e*P	**P**	**00 59 07.8**	**-0.1**
FRF				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.4							
ORIF	**Oris-en-Rattie**	**56.28**	**305**	*e*P	**P**	**00 59 08.9**	**0.0**
VIVF	**Saint-Julien-l**	**57.12**	**305**	*e*P	**P**	**00 59 14.4**	**-0.5**
SSF	**Saint Saulge**	**57.24**	**308**	*e*P	**P**	**00 59 15.6**	**-0.1**
SSF				pmax	pmax		
comp=Z,10.0nm,1.3s,mb4.7							
SSF	**Saint Saulge**	**57.24**	**308**	*e*P	**P**	**00 59 15.6**	**-0.1**
comp=Z,10nm,1.3s,mb4.7							
LASF	**Ste Croix**	**57.91**	**304**	*e*P	**P**	**00 59 19.7**	**-0.7**
comp=Z,4.3nm,0.8s,mb4.2							
CAF	**Calviac**	**58.86**	**306**	*e*P	**P**	**00 59 27.0**	**0.0**
comp=Z,5.8nm,0.8s,mb4.3							
CAF	**Calviac**	**58.86**	**306**	*e*P	**P**	**00 59 27.0**	**0.0**
CAF				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.4							
LDF	**La Druitiere**	**59.12**	**310**	*e*P	**P**	**00 59 29.3**	**+0.5**
EPOB	**Poblet**	**60.76**	**302**	P	**P**	**00 59 35.8**	**-4.4**
comp=Z,39nm,1.3s							
ETSF	**Etsaut**	**61.33**	**304**	*e*P	**P**	**00 59 43.6**	**-0.4**
comp=Z,9.2nm,1.1s,mb4.5							
ETSF	**Etsaut**	**61.33**	**304**	*e*P	**P**	**00 59 43.6**	**-0.4**
ETSF				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.6							
EMOS	**Mosqueruela**	**62.22**	**302**	P	**P**	**00 59 47.9**	**-2.1**
comp=Z,388nm,4.8s							
GUD	**Guadarrama**	**64.69**	**303**	P	**P**	**01 00 05.2**	**-0.9**
GUD				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.5							
GUD	**Guadarrama**	**64.69**	**303**	P	**P**	**01 00 05.2**	**-0.9**
comp=Z,3.8nm,0.8s,mb4.5							
ESDC	**Sonseca Array**	**64.95**	**302**	P	**P**	**01 00 07.2**	**-0.7**
comp=Z,1.6nm,0.6s,mb4.3,baz=55,slow=6.5,SNR=17							
ESDC	**Sonseca Array**	**64.95**	**302**	P	**P**	**01 00 07.4**	**-0.4**
comp=Z,4.6nm,0.6s,mb4.7							
EQES	**Quesada**	**65.11**	**300**	P	**P**	**01 00 09.5**	**+0.6**
comp=Z,449nm,3.5s							
ILAR	**Eielson Array**	**74.67**	**19**	P	**P**	**01 01 07.0**	**+0.4**
ILAR				pmax	pmax		
comp=Z,2.0nm,0.8s							
ILAR	**Eielson Array**	**74.67**	**19**	P	**P**	**01 01 07.0**	**+0.4**
comp=Z,1.6nm,0.8s,mb4.0,baz=313,slow=4.1,SNR=18							
INK	**Inuvik**	**74.69**	**12**	P	**P**	**01 01 07.8**	**+1.2**
INK				pmax	pmax		
comp=Z,1.0nm,0.6s							
INK	**Inuvik**	**74.69**	**12**	P	**P**	**01 01 07.8**	**+1.2**
comp=Z,1.3nm,0.6s,mb4.0,baz=351,slow=9.5,SNR=11							
INK	**Inuvik**	**74.69**	**12**	*e*P	**P**	**01 01 07.8**	**+1.2**
comp=Z,1.4nm,0.6s,mb4.1							
DBIC	**Dimbokro**	**82.08**	**273**	P	**P**	**01 01 48.4**	**+0.3**
DBIC				pmax	pmax		
comp=Z,1.0nm,0.7s							
DBIC	**Dimbokro**	**82.08**	**273**	P	**P**	**01 01 48.4**	**+0.2**
comp=Z,1.0nm,0.7s,mb3.9,baz=54,slow=6.4,SNR=3.7							
YKA	**Yellowknife Ar**	**82.84**	**7**	P	**P**	**01 01 51.9**	**+0.9**
YKA				pmax	pmax		
comp=Z,2.0nm,0.7s							
YKA	**Yellowknife Ar**	**82.84**	**7**	P	**P**	**01 01 51.9**	**+0.9**
comp=Z,2.3nm,0.7s,mb4.3,baz=343,slow=5.1,SNR=28							
YKA	**Yellowknife Ar**	**82.84**	**7**	P	**P**	**01 01 51.9**	**+0.9**
LPAZ	**La Paz**	**146.29**	**294**	PKP2	PKPab	01 09 08.0	-1.7
LPAZ				pmax	pmax		
comp=Z,2.0nm,0.8s							
LPAZ	**La Paz**	**146.29**	**294**	PKPbc	PKPbc	01 09 08.0	+1.2
comp=Z,2.3nm,0.8s,baz=9.6,slow=6.2,SNR=7.8							
LPAZ	**La Paz**	**146.29**	**294**	PKPbc	PKPbc	01 09 08.0	+1.2

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*BJI **17** 00:50:04.1,15.50S×173.20W,h10km,mB5.5,mb5.1, Ms5.6,Msz5.3*
*NEIC **17** 00:50:04.2±0.2,15.50S×173.18W,h10km,mb5.2/20, Error ellipse: s-maj=9.3km s-min=4.8km az=139.0*
*MOS **17** 00:50:09.6±1.8,14.56S×173.67W,h33km,mb5.3/9,Error ellipse: s-maj=21.6km s-min=10.9km az=141.2*
*IDC **17** 00:50:12.1±0.6,15.51S×173.25W,h71km±4km,mb4.4/15, mb1 4.6/16,mb1mx4.5/20,mbtmp4.7/16,MS4.2/11, Ms1 4.2/11,ms1mx4.0/24,Error ellipse: s-maj=23.3km s-min=11.8km az=131.0*
ISC 17 00:50:02.6±0.3,15.51S±0.08×173.23W±0.08,h10km, **n175,σ0°76/93,mb4.9**/35,**MS4.3**/13,**7C,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.12**	**41**	*e*P	**Pn**	**00 50 38.3**	**-0.4**
RAR	**Rarotonga**	**13.97**	**116**	P	**P**	**00 53 19.1**	**-3.9**
5.8nm,0.3s,baz=308,slow=5.8,SNR=9.2							
RAR				S	**S**	**00 55 43.9**	**-15**
2.0nm,0.3s,baz=108,slow=20,SNR=4.2							
RAR				LR	LR	00 57 10.0	
comp=Z,561nm,21.7s,baz=52,slow=30							
RAR	**Rarotonga**	**13.97**	**116**	*e*P	**P**	**00 53 19.0**	**-4.0**
DZM	**Mont Dzumac**	**20.31**	**248**	*e*P	**P**	**00 54 48.1**	**+6.5**
DZM	**Mont Dzumac**	**20.31**	**248**	*e*P	**P**	**00 54 48.1**	**+6.5**
NOUC	**Port Laguerre**	**20.45**	**248**	*e*P	**P**	**00 54 50.1**	**+7.0**
PPT	**Papeete**	**22.76**	**98**	*e*P	**P**	**00 54 53.2**	**-13**
PPT				eLQ		00 59 18.7	
PPT				eLR	LR	01 00 02.8	
1μm,28.5s,baz=259							
TBI	**Tubuai**	**23.70**	**113**	eLQ		00 59 44.8	
TBI				eLR	LR	01 00 33.7	
915nm,29.0s							
URZ	**Urewera**	**24.21**	**199**	P	**P**	**00 55 20.8**	**+0.4**
32nm,0.4s,mb5.1,baz=346,slow=3.4,SNR=28							
RPZ	**Rata Peaks**	**31.14**	**202**	P	**P**	**00 56 23.2**	**-0.5**
24nm,1.0s,mb5.0,baz=27,slow=2.3,SNR=3.3							
RPZ				LR	LR	01 07 58.3	
comp=Z,543nm,19.8s,MS4.2,baz=248,slow=34							
CTA	**Charters Tower**	**38.78**	**257**	P	**P**	**00 57 28.4**	**-0.9**
0.8nm,0.3s,mb4.0,baz=90,slow=13,SNR=2.6							
CTA				LR	LR	01 11 09.2	
comp=Z,332nm,21.4s,MS4.1,baz=56,slow=32							
PMG	**Port Moresby**	**39.11**	**274**	LR	LR	01 10 42.9	
comp=Z,231nm,21.8s,MS4.0,baz=327,slow=32							
STKA	**Stephens Creek**	**44.13**	**240**	*e*P	**P**	**00 58 13.2**	**0.0**
7.0nm,0.6s,mb4.6							
STKA	**Stephens Creek**	**44.13**	**240**	P	**P**	**00 58 12.8**	**-0.4**
9.8nm,0.6s,mb4.7,baz=71,slow=7.4,SNR=23							
STKA				LR	LR	01 14 09.3	
comp=Z,224nm,20.4s,MS4.1,baz=25,slow=33							
WB2	**Warramunga Arr**	**49.97**	**257**	*e*P	**P**	**00 58 58.2**	**-1.0**
WRAB	**Tennant Creek**	**49.97**	**257**	*e*P	**P**	**00 58 58.2**	**-1.0**
WRAB				pmax	pmax		
comp=Z,9.0nm,1.1s,mb4.7							
WRAB				MLR	MLR		
comp=Z,159nm,21.0s,MS4.0							
WRAB	**Tennant Creek**	**49.97**	**257**	*e*P	**P**	**00 58 58.2**	**-1.1**
comp=Z,8.5nm,1.1s,mb4.7							
WRAB				LR	LR		
comp=Z,159nm,21.0s,MS4.0							
WRA	**Warramunga Arr**	**49.98**	**257**	P	**P**	**00 58 58.1**	**-1.2**
comp=Z,3.6nm,0.9s,mb4.4,baz=93,slow=7.0,SNR=24							
ASAR	**Alice Springs**	**50.23**	**252**	P	**P**	**00 59 00.4**	**-0.8**
comp=Z,18nm,0.7s,mb5.2,baz=87,slow=8.0,SNR=201							
ASAR				LR	LR	01 18 48.2	
comp=Z,324nm,20.4s,MS4.3,baz=90,slow=34							
ASPA	**Alice Springs**	**50.24**	**252**	*e*P	**P**	**00 59 00.6**	**-0.6**
SBA	**Scott Base**	**63.15**	**185**	P	**P**	**01 00 33.5**	**+0.9**
comp=Z,14nm,0.9s,mb5.1							
VNDA	**Vanda**	**63.28**	**186**	P	**P**	**01 00 34.2**	**+0.8**
comp=Z,6.1nm,0.9s,mb4.7,baz=8.3,slow=5.9,SNR=16							
MBWA	**Marble Bar**	**63.49**	**254**	P	**P**	**01 00 36.3**	**+0.8**
comp=Z,27nm,1.3s,mb5.2							
CMB	**Columbia Colle**	**72.74**	**41**	*e*P	**P**	**01 01 32.1**	**-1.0**
CMB				pmax	pmax		
comp=Z,21nm,1.4s,mb4.9							
CMB				MLR	MLR		
comp=Z,133nm,20.0s,MS4.2							
CMB	**Columbia Colle**	**72.74**	**41**	*e*P	**P**	**01 01 32.1**	**-1.0**
comp=Z,21nm,1.4s,mb4.9							
CMB				LR	LR		
comp=Z,133nm,20.0s,MS4.2							
OHCM	**Honcut**	**72.83**	**40**	*e*P	**P**	**01 01 33.0**	**-0.6**
WDC	**Whiskeytown Da**	**72.96**	**38**	*e*P	**P**	**01 01 34.1**	**-0.3**
HUMO	**Hull Mountain**	**74.00**	**36**	*e*P	**P**	**01 01 40.6**	**+0.2**
comp=Z,29nm,1.3s,mb5.0							
NVAR	**Mina Array Bea**	**74.30**	**42**	P	**P**	**01 01 42.1**	**-0.1**
comp=Z,15nm,0.9s,mb4.9,baz=228,slow=8.6,SNR=76							
NVAR				LR	LR	01 26 32.2	
comp=Z,184nm,19.1s,MS4.4,baz=270,slow=29							
MNV	**Mina**	**74.40**	**42**	*e*P	**P**	**01 01 42.4**	**-0.4**
MNV				pmax	pmax		
comp=Z,39nm,1.2s,mb5.2							
MNV	**Mina**	**74.40**	**42**	*e*P	**P**	**01 01 42.4**	**-0.3**
comp=Z,39nm,1.2s,mb5.2							
QSPA	**South Pole Qui**	**74.53**	**180⇑**	*i*P	**P**	**01 01 44.4**	**+1.7**
comp=Z,19nm,1.2s,mb4.9							
TPH	**Tonopah**	**74.80**	**43**	*e*P	**P**	**01 01 45.0**	**-0.1**
TPH				*e*		01 02 04.0	
TPH				pmax	pmax		
comp=Z,47nm,1.0s,mb5.4							
TPH	**Tonopah**	**74.80**	**43**	*e*P	**P**	**01 01 45.0**	**-0.1**
comp=Z,47nm,1.0s,mb5.4							
TPH				*e*		01 02 04.0	
NEN	**Nelson**	**75.08**	**46**	*e*P	**P**	**01 01 46.4**	**-0.4**
NEN				*e*		01 01 59.5	
MOD	**Modoc**	**75.11**	**38**	*e*P	**P**	**01 01 46.6**	**-0.1**
comp=Z,41nm,1.2s,mb5.2							
BMN	**Battle Mountai**	**76.13**	**41**	*e*P	**P**	**01 01 52.4**	**-0.2**
BMN				pmax	pmax		
comp=Z,30nm,1.2s,mb5.1							
BMN	**Battle Mountai**	**76.13**	**41**	*e*P	**P**	**01 01 52.4**	**-0.3**
comp=Z,30nm,1.2s,mb5.1							
TUC	**Tucson**	**76.33**	**51**	*e*P	**P**	**01 01 53.8**	**-0.1**
WVOR	**Wild Horse Val**	**76.42**	**38**	*e*P	**P**	**01 01 54.0**	**-0.2**
WVOR				pmax	pmax		
comp=Z,37nm,1.2s,mb5.2							
WVOR	**Wild Horse Val**	**76.42**	**38**	*e*P	**P**	**01 01 54.0**	**-0.2**
comp=Z,37nm,1.2s,mb5.2							
VFP	**Flag Point**	**76.55**	**35**	P	**P**	**01 01 55.3**	**+0.4**
CROR	**Criterion Ridg**	**76.60**	**35**	P	**P**	**01 01 55.4**	**+0.2**
MVU	**Marysvale**	**78.36**	**44**	*e*P	**P**	**01 02 05.6**	**+0.6**
comp=Z,39nm,1.2s,mb5.2							
MSU	**Marysvale**	**78.39**	**44**	*e*P	**P**	**01 02 06.0**	**+0.8**
GBL	**Gable Mountain**	**78.44**	**35**	P	**P**	**01 02 05.7**	**+0.4**
BMO	**Blue Mountains**	**78.61**	**37**	*e*P	**P**	**01 02 05.9**	**-0.4**
comp=Z,23nm,1.1s,mb5.0							
EPH	**Ephrata**	**78.83**	**34**	P	**P**	**01 02 07.4**	**0.0**
MDJ	**Mudanjiang**	**79.22**	**322**	P	**P**	**01 02 11.5**	**+1.9**
MDJ				AMB	AMB		
comp=Z,13nm,1.3s,mb4.7							
MDJ				AMB	AMB		
comp=Z,200nm,4.9s							
OD2	**Odessa Site #2**	**79.33**	**34**	P	**P**	**01 02 10.2**	**+0.1**
TMUT	**Trail Mountain**	**79.44**	**44**	*e*P	**P**	**01 02 11.6**	**+0.7**
MPU	**Maple Canyon**	**79.51**	**43**	*e*P	**P**	**01 02 11.1**	**-0.2**
NOQ	**North Oquirrh**	**79.52**	**43**	*e*P	**P**	**01 02 11.4**	**+0.1**
HLID	**Hailey**	**79.61**	**39**	*e*P	**P**	**01 02 12.0**	**+0.3**
comp=Z,33nm,1.0s,mb5.2							
SPUT	**South Promonto**	**79.64**	**42**	*e*P	**P**	**01 02 11.9**	**0.0**
HVU	**Hansel Valley**	**79.68**	**41**	*e*P	**P**	**01 02 12.1**	**0.0**
SRU	**San Rafael**	**79.81**	**45**	*e*P	**P**	**01 02 13.0**	**+0.1**
JLU	**Jordanelle**	**79.93**	**43**	*e*P	**P**	**01 02 13.2**	**-0.3**
DAU	**Daniels Canyon**	**79.96**	**43**	*e*P	**P**	**01 02 14.0**	**+0.3**
LAZ	**Ladron**	**80.00**	**50**	*e*P	**P**	**01 02 14.9**	**+0.8**
TCUT	**Toone Canyon**	**80.22**	**43**	*e*P	**P**	**01 02 15.5**	**+0.5**
LPM	**Los Pinos Moun**	**80.34**	**50**	*e*P	**P**	**01 02 16.1**	**+0.3**
NJ2	**Nanjing**	**80.37**	**307**	*e*P	**P**	**01 02 17.4**	**+1.4**
NJ2				AMB	AMB		
comp=Z,20nm,0.6s,mb5.2							
NJ2				AMB	AMB		
comp=Z,490nm,10.1s							
TXAR	**Lajitas Array**	**80.53**	**56**	P	**P**	**01 02 16.9**	**-0.1**
comp=Z,7.1nm,0.9s,mb4.6,baz=225,slow=5.3,SNR=43							
TXAR				LR	LR	01 29 03.6	
comp=Z,148nm,21.1s,MS4.3,baz=275,slow=29							
TXAR	**Lajitas Array**	**80.53**	**56**	P	**P**	**01 02 16.9**	**-0.1**
TXAR				LR	LR	01 29 03.6	
ANMO	**Albuquerque**	**80.75**	**50**	*e*P	**P**	**01 02 17.5**	**-0.5**
ANMO				pmax	pmax		
comp=Z

PVCC Panska Ves 144.51 351 *e*PKP PKPdf 01 09 40.1 -2.2
PVCC *ex* x 01 09 59.5
OKC Ostrava-Krasne 144.54 347 *e*PKP PKPdf 01 09 39.7 -2.6
OKC *ex* x 01 09 58.2
CRVS Cervenica-Dubn 144.59 343 *e*PKP PKPdf 01 09 42.8 +0.3
MOX Moxa 144.74 355 *e*PKIKP PKPdf 01 09 40.2 -2.5
MOX Moxa 144.74 355 *i* P PKPbc 01 09 40.2 +0.6
comp=Z,logA/T=1.0
PRU Pruhonice 145.04 351 *e*PKP PKPdf 01 09 41.2 -2.0
PRU *ex* x 01 09 59.7
NKC Novy Kostel 145.07 354 *e*PKP PKPdf 01 09 41.2 -2.1
NKC *ex* x 01 09 59.5
KECS Kecovo 145.24 344 *e*PKP PKPdf 01 09 42.5 -1.1
VRAC Vranov 145.35 349 PKPbc PKPbc 01 09 42.0 +0.8
comp=Z,9.6nm,1.0s,baz=26,slow=4.4,SNR=11
VRAC pPKPbc 01 10 01.2
comp=Z,9.1nm,1.1s,baz=42,slow=5.1,SNR=3.9
GIVF Givet 145.47 2 *e*PKP1 PKPbc 01 09 41.8 +0.3
comp=Z,8.0nm,0.6s
BAIF Baives 145.48 3 *e*PKP1 PKPbc 01 09 42.1 +0.6
comp=Z,33nm,1.0s
KMBO Kilima Mbogo 145.64 244 PKPbc PKPbc 01 09 44.1 +1.1
comp=Z,14nm,1.3s,baz=261,slow=1.2,SNR=8.2
KMBO Kilima Mbogo 145.64 244 *e*PKPdf PKPdf 01 09 45.9 +0.6
VYHS Vyhne 145.65 346 *i* PKP PKPdf 01 09 43.8 -0.5
VYHS *e* 01 10 02.0
GRA1 Grafenberg Arr 145.72 355 *e*PKP PKPdf 01 09 43.8 -0.6
GRA1 *e*pPKP 01 10 02.6
GRF Grafenberg Arr 145.72 355 *e*PKP PKPdf 01 09 43.8 -0.6
GRF *e*pPKP 01 10 02.6
PSZ Piszkesteto 145.92 344 *e*PKIKP PKPdf 01 09 43.2 -1.6
WLF Walferdange 145.94 1 *e*PKIKP PKPdf 01 09 43.9 -0.9
SMOL Smolenice 145.94 347 *e*PKP PKPdf 01 09 45.2 +0.4
KHC Kasperske Hory 146.01 352 *e*PKP PKPdf 01 09 44.5 -0.4
KHC *ex* x 01 10 03.7
MLR Muntele Rosu 146.04 336 PKPbc PKPbc 01 09 45.4 +2.3
comp=Z,14nm,1.1s,baz=11,slow=6.9,SNR=6.0
GERES GERESS Array B 146.28 352 PKPbc PKPbc 01 09 45.2 +1.7
comp=Z,4.8nm,1.0s,baz=45,slow=1.9,SNR=24
GERES pPKPbc 01 10 04.4
comp=Z,2.3nm,1.0s,slow=1.3,SNR=3.7
FLN La Foliniere 146.31 9 *e*PKP1 PKPbc 01 09 44.6 +1.0
comp=Z,33nm,1.0s
FLN *e*R
comp=Z,185nm,19.2s
ZST Bratislava 146.31 348 *e*PKP PKPdf 01 09 45.6 +0.1
ZST *e* 01 10 03.1
BRTR Keskin Array B 146.35 321 PKPbc PKPbc 01 09 45.9 +1.9
comp=Z,6.3nm,0.9s,baz=95,slow=2.1,SNR=20
BRTR pPKPbc 01 10 06.0
comp=Z,4.9nm,0.8s,baz=112,slow=2.5,SNR=6.4
SRO Srobarova 146.41 346 *e*PKP PKPdf 01 09 46.4 +0.8
SRO2 Moca 146.44 346 *e*PKP PKPdf 01 09 45.7 0.0
SRO1 Iza 146.47 346 *e*PKP PKPdf 01 09 47.2 +1.5
GRR Gorron 146.62 9 *e*PKP1 PKPbc 01 09 45.1 +0.8
comp=Z,25nm,1.0s
MEZF Maizieres J'vi 147.07 2 *e*PKP1 PKPdf 01 09 46.9 +0.2
MOA Molln 147.17 351 ⇑*i*P PKPdf 01 09 48.0 +1.1
WLS Welschbruch 147.19 359 PKP PKPdf 01 09 46.4 -0.5
CDF Champ du Feu 147.19 359 *e*PKP1 PKPdf 01 09 47.2 +0.3
comp=Z,41nm,1.3s
THEF They Montfort 147.37 1 PKP PKPdf 01 09 48.2 +1.0
ARSA Arzberg 147.53 349 ⇑*i*P PKPdf 01 09 49.0 +1.5
HAU Haudompre 147.60 1 *e*PKP1 PKPdf 01 09 48.3 +0.7
comp=Z,23nm,1.0s
HAU *e*R
comp=Z,135nm,17.0s
HINF Hinteralfeld 147.79 360 *e*PKP1 PKPdf 01 09 48.7 +0.8
MOTA Moosalm 148.06 354 ⇑*i*P PKPdf 01 09 50.1 +1.8
WTTA Wattenberg 148.09 354 ⇑*i*P PKPdf 01 09 50.5 +2.1
SQTA Sankt Quirin 148.17 354 ⇑*i*P PKPdf 01 09 50.6 +2.1
PERS Pernice 148.20 349 *e*PKPbc PKPdf 01 09 49.9 +1.3
DAVA Damuels 148.22 356 ⇑*i*P PKPdf 01 09 51.1 +2.5
LOMF Lomont 148.26 360 PKP PKPdf 01 09 47.1 -1.5
SSF Saint Saulge 148.43 4 *e*PKP1 PKPdf 01 09 50.5 +1.6
AVF Avril sur Loir 148.69 5 *e*PKP1 PKPdf 01 09 50.8 +1.4
GOLS Golise 148.70 348 *e*PKPbc PKPdf 01 09 51.5 +2.1
DAVOX Davos 148.72 356 PKPbc PKPdf 01 09 52.0 +2.6
comp=Z,6.0nm,1.0s,baz=22,slow=2.4,SNR=8.4
BGF Bois d'Agland 148.88 5 *e*PKP1 PKPdf 01 09 51.5 +1.8
LJU Ljubljana 148.88 350 *e*PKPbc PKPdf 01 09 51.9 +2.2
CABF La Chapelle 148.99 1 *e*PKP1 PKPdf 01 09 52.7 +2.9
comp=Z,19nm,1.0s
PYM Petit Puy Mans 149.69 5 PKP PKPdf 01 09 56.5 +5.5
LPL La Plagne 150.09 0 *e*PKP1 PKPdf 01 09 55.8 +4.2
comp=Z,47nm,1.4s
LPG La Plagne 150.11 0 *e*PKP1 PKPdf 01 09 56.0 +4.3
comp=Z,24nm,1.1s
LBL Lubilhac 150.23 5 PKP PKPdf 01 09 57.9 +6.0
LFF La Frestale 150.23 9 *e*PKP1 PKPdf 01 09 55.0 +3.1
CAF Calviac 150.41 7 *e*PKP1 PKPdf 01 09 55.6 +3.5
comp=Z,26nm,1.4s
BNI Bardonecchia 150.56 0 *e*PKPbc PKPdf 01 09 57.4 +5.0
BNI *e*PKPab PKPab 01 10 03.8 +0.1
ERUA La Rua 150.66 21 P PKPdf 01 09 55.3 +2.7
ORIF Oris-en-Rattie 150.68 1 *e*PKP1 PKPdf 01 09 56.7 +4.2
comp=Z,16nm,1.1s
ORIF *e*R
comp=Z,204nm,20.0s
VIVF Saint-Julien-l 150.70 3 *e*PKP1 PKPdf 01 09 56.7 +4.1
comp=Z,16nm,1.1s
ELOB Lobios 150.78 23 P PKPdf 01 09 56.7 +3.9
ECAL Calabor 151.20 21 P PKPdf 01 09 56.9 +3.5
LASF Ste Croix 151.42 4 *e*PKP1 PKPdf 01 09 58.3 +4.6
comp=Z,22nm,1.1s
SMRF Simiane la Rot 151.61 2 *e*PKP1 PKPdf 01 09 59.2 +5.2
comp=Z,52nm,1.5s
VILF Villemus 151.74 2 PKP PKPdf 01 10 00.3 +6.1
PRAF Pradon 151.77 2 PKP PKPdf 01 10 00.3 +6.1
ETSF Etsaut 151.99 12 *e*PKP1 PKPdf 01 09 59.5 +4.9
comp=Z,15nm,0.9s
PUYF Puyloubier 152.06 2 PKP PKPdf 01 10 00.5 +5.8
GUD Guadarrama 153.22 19 P PKPdf 01 10 01.2 +4.9
EVO Evora 153.63 27 *e*PKP2 PKPab 01 10 15.0 -1.9
comp=Z,20nm,1.1s
ESDC Sonseca Array 154.16 19 PKPbc PKPdf 01 10 03.6 +5.9
comp=Z,1.6nm,0.9s,baz=336,slow=4.7,SNR=6.7
ESDC PKPab PKPab 01 10 17.9 -1.2
comp=Z,1.9nm,0.9s,baz=332,slow=4.3,SNR=6.1
ESDC Sonseca Array 154.16 19 P PKPdf 01 10 04.2 +6.5
EMUR La Murta 156.66 16 P PKPdf 01 10 11.9 +11
DBIC Dimbokro 165.60 126 PKPab PKPab 01 11 07.8 -1.4
comp=Z,3.6nm,0.9s,baz=213,slow=4.1,SNR=6.3

IDC 17 00:51:36.2±2.7, 11.45N×139.15E, mb3.6/3, mb1 4.0/3, mb1mx3.7/18, mbtmp3.6/3, Error ellipse: s-maj=308.3km s-min=32.3km az=105.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.55**	**189**	P	P	00 58 00.1	-2.6
	0.6nm,0.6s,baz=4.4,slow=9.6,SNR=3.7						
ASAR	**Alice Springs**	**35.27**	**188**	P	P	00 58 33.1	-1.8
	0.5nm,0.6s,baz=17,slow=12,SNR=6.6						
YKA	**Yellowknife Ar**	**87.29**	**27**	P	P	01 04 24.6	-1.1
	1.3nm,1.1s,baz=289,slow=5.2,SNR=5.3						

NEIC 17 00:54:02.4±1.9, 9.46N×140.58E, h10km, mb3.9/1, Error ellipse: s-maj=97.5km s-min=28.3km az=37.0

IDC 17 00:54:01.5±2.8, 9.63N×140.68E, mb4.1/4, mb1 4.2/4, mb1mx3.9/19, mbtmp4.0/4, Error ellipse: s-maj=129.5km s-min=42.5km az=35.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**47.80**	**329**	P	P	01 02 39.9	-2.7
	0.4nm,0.7s,baz=127,slow=6.2,SNR=3.8						
CHKZ	**Chkalovo**	**70.51**	**324**	*e*P	P	01 05 17.8	-2.3
	0.7nm,0.7s						
BVAR	**Borovoye Array**	**70.53**	**323**	P	P	01 05 19.2	-1.0
	1.1nm,0.7s,baz=101,slow=7.6,SNR=6.8						
YKA	**Yellowknife Ar**	**88.24**	**27**	P	P	01 06 55.0	-0.6
	0.5nm,0.5s,baz=288,slow=5.0,SNR=8.6						
YKA	**Yellowknife Ar**	**88.24**	**27**	P	P	01 06 55.0	-0.7
FINES	**FINESS Array B**	**92.95**	**334**	P	P	01 07 15.3	-2.3
	4.8nm,1.2s,baz=68,slow=10,SNR=3.6						
LPAZ	**La Paz**	**151.18**	**106**	PKPab	PKPab	01 14 05.7	-2.1
	0.8nm,0.4s,baz=270,slow=4.0,SNR=3.6						

NEIC 17 00:54:11.3±31.96S×71.39W, h43km±3km, MD3.7(GUC), After GUC.

GUC 17 00:54:11.3±0.6, 31.96S×71.39W, h43km±3km, MD3.7, ML2.4, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.38**	**30**	*e*P	P	00 54 20.7	+0.1
ILCH				*i* S	S	00 54 28.0	+0.8
ILCH				AMP		00 54 28.4	
	comp=N,472nm,0.2s						
PTCH	**Petorca**	**0.49**	**128**	⇓*i*P	P	00 54 22.3	+0.2
PTCH				*i* S	S	00 54 30.5	+0.9
PTCH				AMP		00 54 31.1	
	comp=N,929nm,0.3s						
CMCH	**Combarbala**	**0.85**	**23**	⇑*i*P	P	00 54 27.7	+0.7
CMCH				*i* S	S	00 54 40.1	+1.6
CMCH				AMP		00 54 40.7	
	comp=E,366nm,0.9s						
RCDM	**Rinconada Maip**	**1.60**	**162**	*e*P	P	00 54 38.2	+0.5
RCDM				*i* S	S	00 54 58.5	+1.3
RCDM				AMP		00 55 03.0	
	comp=E,96nm,0.2s						
FCH	**Farellones**	**1.65**	**146**	*e*P	P	00 54 39.4	+1.1
FCH				*i* S	S	00 55 00.6	+2.1
FCH				AMP		00 55 03.0	
	comp=E,28nm,0.2s						

IDC 17 00:54:34.3±0.8, 10.94N×141.04E, h38km±4km, mb3.9/11, mb1 4.1/11, mb1mx4.0/20, mbtmp4.1/11, Error ellipse: s-maj=23.6km s-min=18.8km az=93.0
NEIC 17 00:54:34.3±0.5, 10.88N×140.98E, mb4.5/6, Error ellipse: s-maj=20.6km s-min=11.7km az=88.0

ISC 17 00:54:32.2±0.6, 10.84N±0.09×141.0E±0.2, h37km, h37km±.9km: pP-P, n22, σ1s05/20, mb4.2/16, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**31.26**	**192**	P	P	**01 00 50.5**	**-0.7**
	8.7nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**31.27**	**192**	P	P	**01 00 50.8**	**-0.4**
	5.6nm,0.8s,mb4.4,baz=11,slow=9.5,SNR=4.6						
ASAR	**Alice Springs**	**34.98**	**191**	P	P	**01 01 24.0**	**+0.7**
	1.9nm,0.5s,mb4.3,baz=15,slow=12,SNR=2.0						
CMAR	**Chiang Mai Arr**	**41.27**	**286**	P	P	**01 02 17.9**	**+2.1**
	1.3nm,0.4s,mb3.9,baz=96,slow=8.2,SNR=4.8						
CMAR				pP	pP	01 02 28.8	+2.3
	1.4nm,0.6s,baz=87,slow=6.5,SNR=3.0						
ULN	**Ulaanbaatar**	**46.59**	**329**	*e*P	P	**01 02 58.7**	**+0.2**
	4.3nm,1.2s,mb4.2						
SONM	**Songino Array**	**46.91**	**328**	P	P	**01 03 01.8**	**+0.8**
	0.4nm,0.7s,mb3.4,baz=133,slow=5.6,SNR=4.6						
SONM				pP	pP	01 03 12.6	+1.0
	1.4nm,0.7s,baz=136,slow=6.6,SNR=3.2						
ZAL	**Zalesovo**	**61.69**	**326**	P	P	**01 04 47.0**	**-2.0**
	0.4nm,0.3s,mb4.0,baz=330,slow=16,SNR=2.1						
ZAL				pP	pP	01 04 59.5	-0.5
	1.1nm,0.6s,baz=9.8,slow=4.3,SNR=4.2						
KURK	**Kurchatov**	**64.27**	**321**	*e*P	P	**01 05 05.2**	**-0.8**
	11nm,0.9s,mb4.9						
KURK				*e*	pP	01 05 16.3	-0.8
CHKZ	**Chkalovo**	**69.71**	**323**	*e*P	P	**01 05 39.4**	**-0.8**
	1.7nm,0.5s,mb4.2						
CHKZ				*e*	pP	01 05 50.7	-0.7
BVAR	**Borovoye Array**	**69.74**	**323**	P	P	**01 05 39.7**	**-0.7**
	1.0nm,0.6s,mb3.9,baz=101,slow=7.6,SNR=6.2						
BVAR				pP	pP	01 05 51.1	-0.5
	3.8nm,0.7s,baz=101,slow=7.6,SNR=13						
BRVK	**Borovoye**	**69.81**	**323**	*e*P	P	**01 05 41.2**	**+0.4**
	7.2nm,1.0s,mb4.6						
BRVK				*e*	pP	01 05 51.5	-0.5
ILAR	**Eielson Array**	**72.67**	**25**	P	P	**01 05 56.1**	**-1.7**
	0.9nm,0.6s,mb3.9,baz=249,slow=6.0,SNR=9.5						
DAWY	**Dawson**	**75.79**	**27**	*e*P	P	**01 06 17.5**	**+1.6**
DAWY				*e*	pP	01 06 27.3	+0.2
INK	**Inuvik**	**78.35**	**22**	P	P	**01 06 30.0**	**-0.1**
	1.1nm,0.8s,mb3.8,baz=223,slow=18,SNR=3.2						
INK				pP	pP	01 06 41.7	+0.3
	1.8nm,0.9s,baz=243,slow=6.6,SNR=3.9						
INK	**Inuvik**	**78.35**	**22**	*e*P	P	**01 06 30.2**	**+0.1**
	7.7nm,1.4s,mb4.4						
INK				pP	pP	01 06 41.7	+0.3
YKA	**Yellowknife Ar**	**87.03**	**27**	P	P	**01 07 16.2**	**+1.4**
	1.7nm,0.8s,mb4.3,baz=290,slow=5.3,SNR=16						
YKA				pP	pP	01 07 27.7	+1.4
	2.1nm,0.8s,baz=290,slow=5.3,SNR=10						
YKA	**Yellowknife Ar**	**87.03**	**27**	P	P	**01 07 16.2**	**+1.4**
YKA				pP	pP	01 07 27.7	+1.4
ARCES	**ARCESS Array B**	**88.48**	**341**	P	P	**01 07 22.3**	**+0.6**
	3.2nm,0.8s,mb4.6,baz=30,slow=9.8,SNR=3.6						
ARCES				pP	pP	01 07 33.7	+0.6
	3.3nm,0.6s,baz=68,slow=6.5,SNR=2.7						
ARCES	**ARCESS Array B**	**88.48**	**341**	P	P	**01 07 22.3**	**+0.6**
ARCES				pP	pP	01 07 33.7	+0.6
FINES	**FINESS Array B**	**91.99**	**334**	P	P	**01 07 37.6**	**-0.6**
	2.4nm,0.8s,mb4.6,baz=108,slow=6.0,SNR=4.8						
FINES				pP	pP	01 07 49.0	-0.8
	1.5nm,0.5s,baz=90,slow=5.7,SNR=2.2						
LPAZ	**La Paz**	**151.23**	**104**	PKPbc	PKPdf	01 14 25.9	+9.3
	2.7nm,0.7s,baz=74,slow=0.3,SNR=9.8						
LPAZ	**La Paz**	**151.23**	**104**	*e*PKPbc	PKPdf	01 14 26.4	+10
LPAZ				*e*		01 14 30.0	

MEX 17 00:55:19.2±0.8, 16.01N×98.35W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.44**	**29**	*i* P	Pg	00 55 27.1	-1.0
PNIG				*i* S	Sg	00 55 33.9	-0.1
VHO	**Vista Hermosa**	**1.88**	**55**	*i* P	Pn	00 55 50.0	-2.4
VHO				*i* S	Sn	00 56 12.7	-4.0
OXX	**Oaxaca**	**1.89**	**55**	*i* P	Pn	00 55 53.5	+1.0
OXX				*i* S	Sn	00 56 14.0	-3.0

IDC 17 00:55:27.8±1.1, 3.42S×135.67E, mb3.9/5, mb1 4.1/7, mb1mx4.0/13, mbtmp4.0/7, ML4.2/2, Error ellipse: s-maj=54.4km s-min=21.4km az=75.0
NEIC 17 00:55:29.6±0.8, 3.51S×135.34E, h10km, mb3.8/2, Error ellipse: s-maj=24.5km s-min=11.5km az=86.0

ISC 17 00:55:30.9±0.8, 3.60S±0.08×135.3E±0.2, h33km, n11, σ0s98/13, mb3.7/4, 1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.49**	**197**	*e*P	P	**00 57 48.5**	**+0.2**
	2.5nm,0.2s						
KAKA				*e*		00 57 52.1	
KAKA				*e*S	S	**00 59 29.6**	**-5.4**
WRA	**Warramunga Arr**	**16.27**	**183**	Pn	P	**00 59 19.5**	**+0.8**
	1.1nm,0.3s,baz=5.8,slow=12,SNR=14						
FITZ	**Fitzroy Crossi**	**17.25**	**213**	*e*P	P	**00 59 29.7**	**-1.3**
	4.8nm,0.6s						
FITZ				*e*S	S	**01 02 31.8**	**-8.3**
CTA	**Charters Tower**	**19.56**	**148**	P	P	**00 59 58.4**	**-0.5**
	0.3nm,0.3s,baz=334,slow=11,SNR=3.8						
CTAO	**Charters Tower**	**19.56**	**148**	*e*P	P	**00 59 58.5**	**-0.3**
	3.3nm,0.7s						
ASAR	**Alice Springs**	**20.00**	**184**	P	P	**01 00 04.0**	**+0.4**
	9.7nm,0.5s,baz=7.4,slow=11,SNR=8.6						
ASPA	**Alice Springs**	**20.00**	**184**	⇓*i*P	P	**01 00 04.3**	**+0.7**
SONM	**Songino Array**	**57.14**	**337**	P	P	**01 05 17.1**	**+0.3**
	0.4nm,0.7s,mb3.5,baz=151,slow=4.4,SNR=2.6						
ZAL	**Zalesovo**	**71.03**	**331**	P	P	**01 06 47.6**	**+0.2**
	0.5nm,0.6s,mb3.6,baz=153,slow=2.3,SNR=2.9						
BVAR	**Borovoye Array**	**78.12**	**326**	P	P	**01 07 29.0**	**+0.7**
	0.9nm,0.7s,mb3.8,baz=129,slow=9.2,SNR=3.9						
ILAR	**Eielson Array**	**88.05**	**25**	P	P	**01 08 17.2**	**-1.6**
	0.5nm,0.6s,mb3.9,baz=262,slow=4.5,SNR=6.7						

NEIC 17 00:58:41.9, 31.36S×71.65W, h30km, ML2.8(GUC), After GUC.

GUC 17 00:58:41.9±0.7, 31.36S×71.65W, h30km±4km, MD3.9, ML2.8, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.50**	**124**	*e*P	Pb	00 58 52.2	-0.1
ILCH				*i* S	Sb	00 58 59.6	+0.3
ILCH				AMP		00 59 00.1	
	comp=E,1μm,0.1s						
CMCH	**Combarbala**	**0.59**	**72**	⇑*i*P	Pb	00 58 53.9	+0.2
CMCH				*i* S	Sb	00 59 02.6	+0.8
CMCH				AMP		00 59 03.2	
	comp=N,1μm,0.5s						
PTCH	**Petorca**	**1.09**	**146**	*e*P	Pn	00 59 01.3	-0.1
PTCH				*i* S	Sn	00 59 15.7	+0.1
PTCH				AMP		00 59 16.4	
	comp=E,628nm,0.1s						
TLL	**Tololo Astrono**	**1.39**	**32**	*e*P	Pn	00 59 06.5	+0.8
TLL				*i* S	Sn	00 59 24.9	+1.7
TLL				AMP		00 59 28.7	
	comp=E,140nm,0.1s						
CLCH	**Cerro Calan**	**2.24**	**155**	*i* S	Sn	00 59 46.6	+1.8
CLCH				AMP		00 59 58.0	
	comp=E,102nm,0.2s						
FCH	**Farellones**	**2.28**	**150**	*e*P	Pn	00 59 19.6	+1.2
FCH				*i* S	Sn	00 59 48.2	+2.5
FCH				AMP		00 59 53.6	
	comp=E,65nm,0.4s						

IDC 17 00:59:40.1±0.8, 10.89N×140.98E, h40km±5km, mb3.8/11, mb1 4.0/11, mb1mx3.9/20, mbtmp4.0/11, Error ellipse: s-maj=28.2km s-min=17.0km az=87.0
NEIC 17 00:59:40.1±0.6, 10.90N×140.98E, mb4.0/2, Error ellipse: s-maj=24.7km s-min=12.7km az=84.0

ISC 17 00:59:38.2±0.6, 10.85N±0.10×141.0E±0.2, h40km, h40km±.6km: pP-P, n16, σ0s83/15, mb4.0/12, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**21.04**	**163**	P	P	**01 04 21.2**	**0.0**
	6.8nm,0.7s,mb4.1,baz=279,slow=10,SNR=3.5						
CTAO	**Charters Tower**	**31.18**	**170**	*e*P	P	**01 05 51.5**	**-4.6**
	14nm,1.1s,mb4.7						
CTAO				*e*	pP	01 06 01.9	-5.2
WRA	**Warramunga Arr**	**31.29**	**192**	P	P	**01 05 56.0**	**-1.0**
	3.3nm,0.8s,mb4.2,baz=14,slow=9.5,SNR=4.8						
ASAR	**Alice Springs**	**35.00**	**191**	P	P	**01 06 30.1**	**+1.0**
	1.9nm,0.5s,mb4.3,baz=18,slow=12,SNR=7.0						
CMAR	**Chiang Mai Arr**	**41.28**	**286**	P	P	**01 07 22.1**	**+0.5**
	0.8nm,0.4s,mb3.7,baz=96,slow=6.5,SNR=4.7						
SONM	**Songino Array**	**46.91**	**328**	P	P	**01 08 07.1**	**+0.5**
	0.5nm,0.8s,mb3.5,baz=126,slow=5.5,SNR=3.4						
SONM				pP	pP	01 08 18.7	+0.7
	0.9nm,0.6s,baz=138,slow=7.6,SNR=6.4						
SONM				PcP	PcP	01 09 39.0	-0.3
	0.3nm,0.6s,baz=115,slow=3.0,SNR=3.3						
SONM				pPcP		01 09 50.5	
	0.5nm,0.6s,baz=158,slow=3.8,SNR=3.9						
ZAL	**Zalesovo**	**61.70**	**326**	pP	pP	01 10 05.1	-1.2
	0.6nm,0.5s,baz=335,slow=9.6,SNR=2.0						
BVAR	**Borovoye Array**	**69.74**	**323**	P	P	**01 10 45.8**	**-0.3**
	0.5nm,0.5s,mb3.7,baz=102,slow=7.7,SNR=5.6						
BVAR				pP	pP	01 10 57.7	-0.3
	3.1nm,0.9s,baz=106,slow=7.3,SNR=7.9						
ILAR	**Eielson Array**	**72.65**	**25**	P	P	**01 11 02.3**	**-1.0**
	0.4nm,0.6s,mb3.5,baz=261,slow=6.7,SNR=5.0						
INK	**Inuvik**	**78.33**	**22**	P	P	**01 11 36.0**	**+0.4**
	1.3nm,1.0s,mb3.8,baz=276,slow=4.6,SNR=3.4						
INK	**Inuvik**	**78.33**	**22**	*e*P	P	**01 11 36.4**	**+0.8**
	0.2nm,0.5s,mb3.3						
YKA	**Yellowknife Ar**	**87.01**	**27**	P	P	**01 12 21.5**	**+1.2**
	0.4nm,0.5s,mb3.9,baz=290,slow=5.3,SNR=8.8						
YKA				pP	pP	01 12 34.0	+1.4
	1.3nm,0.8s,baz=289,slow=5.3,SNR=10						
YKA	**Yellowknife Ar**	**87.01**	**27**	P	P	**01 12 21.6**	**+1.2**
YKA				pP	pP	01 12 34.0	+1.4
ARCES	**ARCESS Array B**	**88.48**	**341**	P	P	**01 12 27.0**	**-0.2**
	2.8nm,0.8s,mb4.5,baz=330,slow=9.8,SNR=4.2						
ARCES				pP	pP	01 12 39.3	-0.2
	3.1nm,0.7s,baz=67,slow=9.2,SNR=2.7						
FINES	**FINESS Array B**	**91.99**	**334**	P	P	**01 12 42.4**	**-1.4**
	1.6nm,0.7s,mb4.4,baz=79,slow=9.7,SNR=3.9						
FINES				pP	pP	01 12 54.9	-1.2
	2.8nm,0.9s,baz=90,slow=5.7,SNR=1.6						
FINES	**FINESS Array B**	**91.99**	**334**	P	P	**01 12 42.4**	**-1.4**
FINES				pP	pP	01 12 54.9	-1.2

IDC 17 01:07:15.0±0.8, 10.91N×140.87E, h41km±6km, mb3.9/10, mb1 4.1/10, mb1mx4.0/19, mbtmp4.2/10, MS4.0/3, Ms1 4.0/3, ms1mx3.2/25, Error ellipse: s-maj=32.5km s-min=15.8km az=89.0
NEIC 17 01:07:15.2±0.4, 10.90N×140.88E, mb4.4/7, Error ellipse: s-maj=21.9km s-min=7.9km az=86.0

ISC 17 01:07:13.2±0.5, 10.87N±0.07×140.8E±0.2, h42km, h42km±1.7km: pP-P, n32, σ0s92/21, mb4.2/15, MS4.0/3, 2C, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**21.11**	**162**	*e*P	P	**01 11 56.0**	**-0.6**
	17nm,1.1s,mb4.3						
CTA	**Charters Tower**	**31.22**	**170**	P	P	**01 13 31.0**	**-0.2**
	2.5nm,0.8s,mb4.1,baz=308,slow=10,SNR=5.0						
CTAO	**Charters Tower**	**31.22**	**170**	*e*P	P	**01 13 31.6**	**+0.4**
	2.1nm,0.7s,mb4.1						
WRAB	**Tennant Creek**	**31.26**	**192**	*e*P	P	**01 13 31.5**	**0.0**
	7.5nm,0.8s,mb4.6						
WB2	**Warramunga Arr**	**31.27**	**192**	⇑*i*P	P	**01 13 31.5**	**-0.1**
WRA	**Warramunga Arr**	**31.27**	**192**	P	P	**01 13 30.9**	**-0.7**
	4.2nm,0.7s,mb4.3,baz=8.5,slow=9.3,SNR=14						
ASAJ	**Asahikawa**	**33.16**	**2**	LR	LR	01 26 29.1	
	comp=Z,126nm,19.6s,MS3.6,baz=127,slow=35						
ASAR	**Alice Springs**	**34.98**	**191**	P	P	**01 14 04.2**	**+0.5**
	2.4nm,0.5s,mb4.4,baz=18,slow=12,SNR=30						
ASPA	**Alice Springs**	**34.98**	**191**	⇑*i*P	P	**01 14 04.7**	**+1.0**
CMAR	**Chiang Mai Arr**	**41.12**	**286**	pP	pP	01 15 06.2	-0.6
	1.4nm,0.7s,baz=92,slow=6.7,SNR=3.0						
SONM	**Songino Array**	**46.81**	**329**	P	P	**01 15 41.6**	**+0.9**
	0.5nm,0.5s,mb3.7,baz=133,slow=6.4,SNR=5.6						
SONM				pP	pP	01 15 53.2	+0.8
	1.3nm,0.6s,baz=140,slow=7.6,SNR=8.4						
SONM				PcP	PcP	01 17 13.7	0.0
	0.4nm,0.6s,baz=126,slow=3.7,SNR=2.3						
SONM				pPcP		01 17 25.4	
	0.8nm,0.6s,baz=147,slow=4.1,SNR=5.7						
ZAL	**Zalesovo**	**61.59**	**326**	pP	pP	01 17 40.1	-0.7
	1.0nm,0.4s,baz=356,slow=4.4,SNR=4.7						
KURK	**Kurchatov**	**64.16**	**321**	*e*P	P	**01 17 45

FINES	**FINESS Array B**	**91.90 334**	P		**P**	**01 20 14.8**	**-3.4**
	2.7nm,1.0s,mb4.5,baz=90,slow=3.8,SNR=4.0						
FINES			pP		pP	01 20 29.6	-1.4
	3.6nm,0.6s,baz=78,slow=5.4,SNR=3.6						
FINES			LR		LR	02 04 32.1	
	comp=Z,73nm,18.4s,MS4.2,baz=347,slow=37						
LPAZ	**La Paz**	**151.37 104**	PKPbc		PKPdf	01 27 06.3	+9.2
	1.7nm,0.7s,baz=277,slow=2.2,SNR=7.9						
LPAZ	**La Paz**	**151.37 104**	*e*PKPbc		PKPdf	01 27 06.3	+9.1

IDC 17 01:14:24.8±2.5, 12.93N×140.75E, mb3.5/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.5/4, Error ellipse: s-maj=354.1km s-min=24.7km az=107.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.27 191**		P	P	01 21 04.0	-2.3
	1.5nm,1.0s,baz=10,slow=10.0,SNR=4.9						
ASAR	**Alice Springs**	**36.98 190**		P	P	01 21 36.2	-1.8
	0.2nm,0.5s,baz=17,slow=12,SNR=3.4						
ILAR	**Eielson Array**	**70.88 26**		P	P	01 25 43.1	-2.2
	0.2nm,0.7s,baz=248,slow=6.1,SNR=4.5						
YKA	**Yellowknife Ar**	**85.27 27**		P	P	01 27 03.6	-0.7
	0.2nm,0.4s,baz=289,slow=5.0,SNR=6.1						

IDC 17 01:16:51.4±0.8, 10.35N×142.88E, mb4.0/8, mb1 4.2/8, mb1mx4.0/19, mbtmp4.0/8, Error ellipse: s-maj=41.8km s-min=20.5km az=94.0
NEIC 17 01:16:57.2±0.5, 10.29N×142.84E, h40km, mb4.5/1, Error ellipse: s-maj=26.4km s-min=11.5km az=94.0
ISC 17 01:16:55.6±0.8, 10.3N±0.1×142.7E±0.3, h40km, n14, σ0°78/12, mb4.1/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**31.10 195**		*e*P	**P**	**01 23 12.1**	**-0.6**
	10nm,1.1s,mb4.6						
WRA	**Warramunga Arr**	**31.11 195**		P	**P**	**01 23 12.5**	**-0.4**
	1.7nm,0.7s,mb4.0,baz=12,slow=9.7,SNR=6.6						
ASAR	**Alice Springs**	**34.79 194**		P	**P**	**01 23 45.5**	**+0.8**
	1.6nm,0.5s,mb4.2,baz=18,slow=12,SNR=17						
SONM	**Songino Array**	**48.32 328**		P	**P**	**01 25 34.2**	**-0.9**
	0.5nm,0.5s,mb3.8,baz=130,slow=6.7,SNR=4.7						
CHKZ	**Chkalovo**	**71.21 323**		P	**P**	**01 28 07.3**	**-5.0**
BVAR	**Borovoye Array**	**71.25 323**		P	**P**	**01 28 13.1**	**+0.5**
	1.0nm,0.6s,mb3.9,baz=106,slow=11,SNR=6.3						
ILAR	**Eielson Array**	**72.47 25**		P	**P**	**01 28 18.2**	**-1.4**
	0.3nm,0.6s,mb3.4,baz=246,slow=5.7,SNR=6.9						
YKA	**Yellowknife Ar**	**86.78 27**		P	**P**	**01 29 37.6**	**+1.1**
	0.3nm,0.5s,mb3.8,baz=291,slow=5.4,SNR=6.1						
YKA				pP	pP	01 29 49.6	+0.9
	1.0nm,0.8s,baz=289,slow=5.2,SNR=7.7						
ARCES	**ARCESS Array B**	**89.59 342**		P	**P**	**01 29 50.2**	**+0.3**
	2.9nm,0.8s,mb4.7,baz=63,slow=8.1,SNR=3.0						
ARCES	**ARCESS Array B**	**89.59 342**		P	**P**	**01 29 50.2**	**+0.3**
FINES	**FINESS Array B**	**93.27 335**		P	**P**	**01 30 07.6**	**+0.5**
	1.4nm,0.6s,mb4.5,baz=90,slow=5.7,SNR=5.9						
FINES	**FINESS Array B**	**93.27 335**		P	**P**	**01 30 07.6**	**+0.5**
LPAZ	**La Paz**	**149.41 105**	PKPab		PKPab	01 36 47.5	-0.7
	0.6nm,0.5s,baz=294,slow=4.4,SNR=5.5						
LPAZ	**La Paz**	**149.41 105**	*e*PKPab		PKPab	01 36 47.8	-0.5

NIED 17 01:44:00, 41.80N×144.10E, h23km, Mw3.7 Best double couple: M0=4.12×10^14 NP1:φs71°, δ63°, λ102°. NP2:φs226°, δ29°, λ68°.
IDC 17 01:44:45.4±4.4, 41.78N×143.93E, mb3.9/5, mb1 4.1/5, mb1mx3.7/21, mbtmp3.9/5, Error ellipse: s-maj=112.5km s-min=34.1km az=179.0
JMA 17 01:44:49.9±0.2, 41.81N×144.09E, h40km±4km, M3.6
NEIC 17 01:44:52.7±2.8, 41.89N×143.90E, h50km, mb4.0/1, Error ellipse: s-maj=76.4km s-min=20.1km az=179.0
ISC 17 01:44:50.9±1.7, 41.9N±0.1×144.1E±0.1, h50km±11km, n15, σ0°65/18, mb3.9/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.68 281**		P	**P**	**01 45 04.0**	**-0.4**
JEM				*e*S	**S**	**01 45 13.9**	**-0.4**
JCH	**Churui**	**0.88 325**		P	**P**	**01 45 07.3**	**+0.1**
JCH				*e*S	**S**	**01 45 19.9**	**+0.7**
JNBK	**Urakawa-nobuka**	**1.04 292**		P	**P**	**01 45 09.9**	**+0.5**
JAK	**Akkeshi**	**1.20 23**		P	**P**	**01 45 11.4**	**-0.2**
JAR	**Ashorobuto**	**1.42 352**		P	**P**	**01 45 14.5**	**-0.3**
JBT2	**Biratori 2**	**1.53 306**		P	**P**	**01 45 17.6**	**+1.2**
JFR	**Furan**	**1.66 320**		P	**P**	**01 45 18.1**	**-0.1**
JNK	**Nakash**	**1.76 16**		P	**P**	**01 45 18.8**	**-0.8**
JNK				*e*S	**S**	**01 45 40.8**	**-0.1**
ZAL	**Zalesovo**	**40.34 308**		P	**P**	**01 52 24.7**	**-0.2**
	0.7nm,0.4s,mb3.8,baz=14,slow=10.0,SNR=5.1						
ILAR	**Eielson Array**	**44.32 35**		P	**P**	**01 52 57.5**	**+0.3**
	1.2nm,0.8s,mb3.7,baz=285,slow=9.9,SNR=10						
CHKZ	**Chkalovo**	**48.60 311**		*e*P	**P**	**01 53 29.9**	**-1.1**
	0.9nm,0.6s,mb4.0						
INK	**Inuvik**	**49.15 29**		P	**P**	**01 53 35.7**	**+0.5**
	0.9nm,0.5s,mb4.1,baz=296,slow=5.6,SNR=13						
INK	**Inuvik**	**49.15 29**		P	**P**	**01 53 35.7**	**+0.5**
FINES	**FINESS Array B**	**65.47 332**		P	**P**	**01 55 29.6**	**-0.8**
	1.9nm,0.6s,mb4.3,baz=56,slow=6.9,SNR=6.3						
TXAR	**Lajitas Array**	**85.58 54**		P	**P**	**01 57 26.4**	**+1.3**
	0.3nm,0.5s,mb3.7,baz=307,slow=4.6,SNR=4.6						

IDC 17 02:02:25.4±1.4, 7.77N×93.63E, mb3.9/7, mb1 4.0/8, mb1mx3.8/19, mbtmp3.8/8, Error ellipse: s-maj=46.8km s-min=26.7km az=55.0
NEIC 17 02:02:29.6±1.0, 7.77N×93.44E, h30km, mb4.2/2, Error ellipse: s-maj=20.5km s-min=10.8km az=165.0
ISC 17 02:02:27.3±1.1, 7.6N±0.1×93.38E±0.08, h30km, n17, σ0°98/17, mb4.1/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.04 26**		Pn	**P**	**02 05 15.8**	**-4.3**
	baz=215,slow=14,SNR=2.2						
PALK	**Pallekele**	**12.57 269**		Sn	**S**	**02 07 46.4**	**-0.8**
JIRN	**Jiri**	**21.04 342**		*e*P	**P**	**02 07 10.2**	**-1.1**
	9.4nm,0.4s,mb4.4						
PKI	**Pulchoki**	**21.21 340**		*e*P	**P**	**02 07 12.8**	**-0.2**
	5.3nm,0.5s,mb4.2						
DMN	**Daman**	**21.35 339**		*e*P	**P**	**02 07 15.2**	**+0.8**
	8.2nm,0.3s,mb4.6						
KKN	**Kakani**	**21.45 340**		*e*P	**P**	**02 07 15.5**	**0.0**
	10.0nm,0.6s,mb4.3						
GKN	**Gorkha**	**21.87 339**		*e*P	**P**	**02 07 20.0**	**+0.3**
	7.2nm,0.3s,mb4.6						
LSA	**Lhasa**	**22.04 355**		*e*P	**P**	**02 07 19.7**	**-1.6**
	3.6nm,0.4s,mb4.2						
KOLN	**Koldanda**	**22.06 336**		*e*P	**P**	**02 07 23.0**	**+1.5**
	9.2nm,0.6s,mb4.4						
SONM	**Songino Array**	**41.56 13**		P	**P**	**02 10 13.0**	**-0.9**
	0.4nm,0.4s,mb3.5,baz=198,slow=8.9,SNR=6.0						
ZAL	**Zalesovo**	**46.68 353**		P	**P**	**02 10 55.2**	**+0.1**
	2.8nm,0.4s,mb4.5,baz=329,slow=3.9,SNR=13						
WRA	**Warramunga Arr**	**48.75 125**		P	**P**	**02 11 11.1**	**-0.6**
	0.2nm,0.4s,mb3.5,baz=306,slow=8.4,SNR=4.0						
BVAR	**Borovoye Array**	**48.97 342**		P	**P**	**02 11 12.4**	**-0.5**
	0.3nm,0.3s,mb3.7,baz=143,slow=9.4,SNR=5.0						
CHKZ	**Chkalovo**	**49.46 342**		*e*P	**P**	**02 11 16.4**	**-0.3**
	1.0nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**72.56 332**		P	**P**	**02 13 54.1**	**+0.8**
	3.5nm,1.0s,mb4.2,baz=113,slow=8.0,SNR=6.0						
ARCES	**ARCESS Array B**	**75.23 340**		P	**P**	**02 14 09.8**	**+1.1**
	2.6nm,0.8s,mb4.2,baz=100,slow=7.1,SNR=9.3						
GERES	**GERESS Array B**	**77.49 318**		P	**P**	**02 14 23.7**	**+1.9**
	0.2nm,0.5s,mb3.3,baz=90,slow=5.9,SNR=3.8						

IDC 17 02:14:45.8±2.7, 49.05S×124.64E, mb3.8/3, mb1 4.0/3, mb1mx3.8/9, mbtmp3.8/3, Error ellipse: s-maj=116.1km s-min=26.7km az=98.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.38 43**		P	P	02 19 35.0	-2.0
	2.4nm,0.6s,baz=221,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**26.37 19**		P	P	02 20 23.1	-2.3
	1.2nm,0.7s,baz=191,slow=9.4,SNR=13						
VNDA	**Vanda**	**31.89 166**		P	P	02 21 11.9	-2.5
	1.0nm,0.8s,baz=331,slow=8.4,SNR=3.5						
YKA	**Yellowknife Ar**	**145.41 45**	PKPbc		PKPbc	02 34 24.3	-0.5
	0.6nm,0.7s,baz=269,slow=3.5,SNR=17						

IDC 17 02:16:36.0±3.2, 13.79N×142.22E, mb3.5/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.5/3, Error ellipse: s-maj=508.6km s-min=31.4km az=108.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**38.10 192**		P	P	02 23 56.9	-1.7
	0.4nm,0.6s,baz=17,slow=12,SNR=4.1						
ILAR	**Eielson Array**	**69.50 26**		P	P	02 27 46.9	-1.2
	0.2nm,0.5s,baz=258,slow=5.7,SNR=5.0						
YKA	**Yellowknife Ar**	**83.86 27**		P	P	02 29 06.6	-1.9
	0.3nm,0.4s,baz=290,slow=5.2,SNR=7.5						

IDC 17 02:19:17.1±1.4, 59.32S×148.35E, mb4.3/5, mb1 4.4/6, mb1mx4.1/12, mbtmp4.2/6, ML3.4/1, MS4.6/10, Ms1 4.6/10, ms1mx4.1/19, Error ellipse: s-maj=104.4km s-min=19.6km az=85.0
NEIC 17 02:19:18.3±0.5, 59.33S×148.64E, h10km, mb4.5/5, Error ellipse: s-maj=34.8km s-min=7.7km az=81.0
ISC 17 02:19:16.4±0.7, 59.37S±0.09×148.6E±0.7, h10km, n23, σ0°64/13, mb4.2/7, MS4.5/9, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**16.50 357**		P	**P**	**02 23 09.9**	**+0.6**
	234nm,1.7s						
VNDA	**Vanda**	**18.77 171**		P	**P**	**02 23 37.4**	**0.0**
	0.1nm,0.3s,baz=334,slow=11,SNR=13						
VNDA				S	**S**	**02 26 54.6**	**-8.9**
	0.1nm,0.3s,baz=26,slow=5.9,SNR=3.3						
VNDA				LR	LR	02 30 14.7	
	comp=Z,3μm,18.7s,baz=341,slow=35						
SBA	**Scott Base**	**19.52 169**		*e*P	**P**	**02 23 46.0**	**-0.2**
	13nm,0.9s						
RPZ	**Rata Peaks**	**20.81 51**		LR	LR	02 30 27.6	
	comp=Z,3μm,19.3s,MS4.7,baz=199,slow=32						
URZ	**Urewera**	**27.87 53**		LR	LR	02 35 15.1	
	comp=Z,1μm,18.4s,MS4.6,baz=222,slow=34						
STKA	**Stephens Creek**	**27.90 347**		P	**P**	**02 25 08.9**	**+0.6**
	1.1nm,0.5s,mb3.8,baz=170,slow=12,SNR=2.8						
STKA				LR	LR	02 33 59.6	
	comp=Z,555nm,19.5s,MS4.2,baz=175,slow=32						
STKA	**Stephens Creek**	**27.90 347**		P	**P**	**02 25 08.9**	**+0.6**
STKA				LR	LR	02 33 59.6	
MAW	**Mawson**	**36.11 220**		LR	LR	02 40 14.7	
	comp=Z,880nm,21.5s,MS4.5,baz=106,slow=35						
ASAR	**Alice Springs**	**37.16 337**		P	**P**	**02 26 28.7**	**-0.4**
	2.9nm,0.8s,mb4.2,baz=168,slow=9.1,SNR=16						
ASAR				PcP	PcP	02 28 51.7	+2.0
	1.3nm,0.9s,baz=168,slow=3.8,SNR=4.3						
ASAR				LR	LR	02 39 16.6	
	comp=Z,403nm,20.6s,MS4.2,baz=164,slow=32						
CTA	**Charters Tower**	**39.27 356**		P	**P**	**02 26 46.1**	**-0.7**
	5.0nm,0.7s,mb4.3,baz=170,slow=9.3,SNR=12						
CTA				LR	LR	02 41 14.9	
	comp=Z,1μm,18.4s,MS4.8,baz=182,slow=34						
CTAO	**Charters Tower**	**39.27 356**		*e*P	**P**	**02 26 47.0**	**+0.2**
	11nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**40.70 339**		P	**P**	**02 26 57.1**	**-1.6**
	4.9nm,1.0s,mb4.1,baz=166,slow=7.0,SNR=16						
WRAB	**Tennant Creek**	**40.71 339**		*e*P	**P**	**02 26 59.1**	**+0.4**
	12nm,0.8s,mb4.6						
MBWA	**Marble Bar**	**43.39 319**		*e*P	**P**	**02 27 20.9**	**+0.3**
	4.7nm,0.7s,mb4.3						
SNAA	**Sanae**	**47.74 192**		P	**P**	**02 27 55.1**	**+0.5**
	2.8nm,0.9s,mb4.3,baz=82,slow=23,SNR=3.6						
PMG	**Port Moresby**	**49.87 358**		LR	LR	02 45 47.1	
	comp=Z,599nm,20.6s,MS4.6,baz=356,slow=32						
RAR	**Rarotonga**	**52.72 67**		LR	LR	02 45 39.1	
	comp=Z,362nm,20.9s,MS4.4,baz=112,slow=30						
LPAZ	**La Paz**	**98.89 144**		LR	LR	03 09 42.5	
	comp=Z,127nm,18.5s,MS4.5,baz=163,slow=31						
YKA	**Yellowknife Ar**	**142.07 49**		PKP	PKPdf	02 38 48.0	-2.2
	0.1nm,0.5s,baz=235,slow=2.6,SNR=3.8						
YKA	**Yellowknife Ar**	**142.07 49**		PKP	PKPdf	02 38 48.0	-2.2
GERES	**GERESS Array B**	**152.09 268**		PKPbc	PKPdf	02 39 13.0	+6.0
	0.5nm,0.5s,baz=180,slow=1.3,SNR=6.5						
FINES	**FINESS Array B**	**152.33 299**		PKPbc	PKPdf	02 39 12.4	+5.4
	3.4nm,0.9s,baz=153,slow=4.3,SNR=5.5						
KHC	**Kasperske Hory**	**152.34 268**	*e*PKPab		PKPab	02 39 26.5	+2.9
KHC				x	x	02 39 38.5	

IDC 17 02:44:45.5±1.0, 12.36N×144.30E, mb3.9/6, mb1 4.1/6, mb1mx3.9/19, mbtmp3.8/6, Error ellipse: s-maj=55.9km s-min=21.4km az=101.0
NEIC 17 02:44:52.0±2.7, 12.40N×143.97E, h45km±29km, mb4.2/2, Error ellipse: s-maj=51.0km s-min=15.8km az=103.0
ISC 17 02:44:47.6±6.6, 12.4N±0.1×143.7E±0.2, h20km±49km, n9, σ1°09/10, mb3.9/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.67 44**		*e*P	**Pn**	**02 45 16.1**	**0.0**
GUMO				*e*S	**Sn**	**02 45 37.4**	**+0.2**
WRAB	**Tennant Creek**	**33.41 196**		*e*P	**P**	**02 51 27.3**	**0.0**
	1.9nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**33.42 196**		P	**P**	**02 51 27.1**	**-0.3**
	1.4nm,0.8s,mb3.9,baz=20,slow=9.5,SNR=4.3						
ASAR	**Alice Springs**	**37.09 195**		P	**P**	**02 51 59.1**	**+0.4**
	0.8nm,0.6s,mb3.7,baz=20,slow=10,SNR=12						
CHKZ	**Chkalovo**	**70.07 323**		*e*P	**P**	**02 55 58.3**	**-2.0**
	3.0nm,1.0s,mb4.2						
BVAR	**Borovoye Array**	**70.14 322**		P	**P**	**02 56 02.7**	**+2.0**
	1.0nm,0.4s,mb4.1,baz=112,slow=8.3,SNR=10						
ILAR	**Eielson Array**	**70.14 25**		P	**P**	**02 55 57.4**	**-3.1**
	0.4nm,0.9s,mb3.4,baz=252,slow=5.6,SNR=7.3						
YKA	**Yellowknife Ar**	**84.45 27**		P	**P**	**02 57 20.1**	**+0.2**
	0.2nm,0.5s,mb3.5,baz=287,slow=5.0,SNR=5.1						
FINES	**FINESS Array B**	**91.75 335**		P	**P**	**02 57 55.4**	**+0.5**
	3.0nm,1.1s,mb4.6,baz=101,slow=7.1,SNR=2.9						

BJI 17 02:45:14.0, 14.70N×92.52E, h13km, mB5.0, mb4.6, Ms4.5, Msz4.2
IDC 17 02:45:14.4±0.6, 14.53N×92.37E, h22km±2km, mb4.4/18, mb1 4.5/19, mb1mx4.4/23, mbtmp4.5/19, ML4.0/1, MS4.2/5, Ms1 4.2/5, ms1mx3.8/27, Error ellipse: s-maj=22.7km s-min=11.4km az=49.0
HRVD 17 02:45:14.8±0.6, 14.57N×92.21E, h16km±2km, MW5.0/41, Centroid moment Tensor Solution. LP body waves: s5,c5; Mantle waves: s41,c57; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.92±.41; Mθθ 1.24±.24; Mφφ 1.69±.23; Mrθ 0.99±.85; Mrφ 1.20±.12; Mθφ 1.82±.67; Best double couple: M=3.483×10^16 NP1:φs45°, δ27°, λ-80°. NP2: φs213°, δ63°, λ-95°. Principal axes: T 3.349, Plg18°, Azm307°; N .277, Plg5°, Azm216°; P -3.616, Plg71°, Azm112°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 17 02:45:14.8±0.3, 14.57N×92.59E, mb5.0/35 Error ellipse: s-maj=13.6km s-min=7.8km az=49.0
MOS 17 02:45:18.3±3.0, 14.75N×92.38E, h33km, mb5.3/29, Error ellipse: s-maj=13.3km s-min=5.6km az=117.5
ISC 17 02:45:12.5±0.3, 14.55N±0.04×92.57E±0.04, h18km, h18km±1.5km: pP-P, n172, σ1°55/161, mb4.9/59, MS4.3/8, 4C-4D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.88 177**		*e*P	**Pn**	**02 45 56.0**	**-2.5**
NNT	**Nongplab**	**7.24 105**		P	**Pn**	**02 47 02.2**	**+2.1**
CMAR	**Chiang Mai Arr**	**7.25 57**		Pn	**Pn**	**02 46 59.5**	**-0.8**
	0.6nm,0.3s,baz=246,slow=15,SNR=2.7						
CMAR				Sn	**Sn**	**02 48 21.7**	**-1.2**
	1.5nm,0.3s,baz=231,slow=19,SNR=3.9						
CMAR				LR	LR	02 50 50.2	
	comp=Z,416nm,19.4s,baz=235,slow=45						
NST	**Nakhon Sawan**	**7.39 80**		P	**Pn**	**02 47 04.2**	**+1.9**
CHRT	**Chiangrai**	**8.69 51**		PG	**P**	**02 47 18.0**	**-2.4**
CHRT				SG	Sn	02 49 25.5	+27
NANT	**Nan**	**8.87 60**		P	**P**	**02 47 31.8**	**+9.0**
VIS	**Vishakhapatnam**	**9.42 291**		*e*P	**P**	**02 47 23.9**	**-6.5**
	comp=Z,81nm,0.4s						
VIS				*e*		02 48 58.3	
SHL	**Shillong**	**10.98 357**		*e*P	**P**	**02 47 45.0**	**-6.9**
SHL				*e*S	**S**	**02 49 43.0**	**-12**
BLSP	**Bilaspur**	**12.45 309**		*e*P	**P**	**02 48 05.2**	**-6.6**
BLSP				*e*S	**S**	**02 50 14.9**	**-16**
PALK	**Pallekele**	**13.70 239**		P	**P**	**02 48 20.5**	**-8.1**
PALK				*e*S	**S**	**02 50 41.7**	**-20**
HYB	**Hyderabad**	**13.77 284**		*e*P	**P**	**02 48 21.0**	**-8.4**
HYB				*e*S	**S**	**02 50 53.0**	**-10**
HYB	**Hyderabad**	**13.77 284**		*i* P	**P**	**02 48 31.0**	**+1.6**
HYB				*e*		02 50 43.0	
HYB				*e*S	**S**	**02 50 53.0**	**-10**
JIRN	**Jiri**	**14.33 337**		*e*P	**P**	**02 48 31.6**	**-5.2**
	comp=Z,43nm,0.4s						
PKI	**Pulchoki**	**14.57 334**		*e*P	**P**	**02 48 34.7**	**-5.2**
	comp=Z,101nm,0.8s						
DMN	**Daman**	**14.74 333**		*e*P	**P**	**02 48 37.7**	**-4.3**
	comp=Z,106nm,0.7s						
KKN	**Kakani**	**14.82 334**		*e*P	**P**	**02 48 38.1**	**-5.0**
	comp=Z,47nm,0.5s						
LSA	**Lhasa**	**15.14 355**		P	**P**	**02 48 44.6**	**-2.7**
LSA				AP		02 48 54.9	
LSA				XP		02 49 00.0	
LSA				LR	LR		
	comp=N,530nm,14.6s						
LSA				LR	LR		
	comp=E,1μm,14.6s						
LSA				LR	LR		
	comp=Z,1μm,11.1s						
LSA	**Lhasa**	**15.14 355**		*e*P	**P**	**02 48 44.1**	**-3.2**
LSA				*e*S	**S**	**02 51 27.0**	**-8.1**
LSA				pmax	pmax		
	comp=Z,12nm,0.6s						
LSA	**Lhasa**	**15.14 355**		*e*P	**P**	**02 48 44.1**	**-3.2**
	comp=Z,12nm,0.6s						
LSA				*e*S	**S**	**02 51 27.0**	**-8.1**
GKN	**Gorkha**	**15.28 332**		*e*P	**P**	**02 48 44.3**	**-4.9**
	comp=Z,88nm,0.3s						
KOLN	**Koldanda**	**15.58 329**		*e*P	**P**	**02 48 48.5**	**-4.5**
	comp=Z,34nm,0.2s						
LATR	**Latur**	**15.82 286**		*e*P	**P**	**02 48 53.0**	**-3.2**
AKL	**Akola**	**16.03 295**		*e*	**P**	**02 49 02.0**	**+3.2**
BHPL	**Bhopal**	**16.72 303**		*e*P	**P**	**02 49 03.3**	**-4.3**
BHPL				*e*		02 49 18.1	
	comp=Z,57nm,1.0s						
KAD	**Karad**	**17.89 281**		*e*P	**P**	**02 49 19.0**	**-3.2**
KAD				*e*P		02 49 23.2	
KAD				*e*		02 49 25.9	
	comp=Z,25nm,1.4s						
KAD				*e*		02 49 30.1	
	comp=E,42nm,1.3s						
GOA	**Goa**	**18.13 275**		*e*P	**P**	**02 49 21.0**	**-4.3**
BOM	**Bombay**	**19.40 286**		*e*P	**P**	**02 49 35.1**	**-5.5**
BOM				*e*S	**S**	**02 53 14.9**	**+2.0**
NDI	**New Delhi**	**20.00 317**		*e*P	**P**	**02 49 44.0**	**-3.2**
NDI				*e*P		02 49 46.0	
NDI				*e*		02 49 54.3	
	comp=Z,65nm,1.2s						
NDI				*e*S	**S**	**02 53 28.0**	**+2.2**
SMLA	**Simla**	**21.72 322**		*e*P	**P**	**02 50 01.2**	**-3.6**
SMLA				*e*		02 50 22.4	
	comp=Z,119nm,1.2s						
ENH	**Enshi**	**22.08 42**		*e*P	**P**	**02 50 08.9**	**+0.6**
	comp=Z,90nm,1.3s,mb5.0						
LZH	**Lanzhou**	**23.71 23**		⇑P	**P**	**02 50 27.0**	**+2.7**
LZH				AP		02 50 33.1	
LZH				XP		02 50 36.3	
LZH				*e*S	**S**	**02 54 45.0**	**+10**
LZH				AMB	AMB		
	comp=Z,53nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,201nm,4.6s						
LZH				LR	LR		
	comp=E,803nm,10.2s						
LZH				LR	LR		
	comp=Z,1μm,12.9s,MS4.6						
XAN	**Xi'an**	**24.41 34**		P	**P**	**02 50 32.0**	**+0.9**
XAN				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.4						
WMQ	**Urumqi**	**29.47 353**		P	**P**	**02 51 21.5**	**+3.9**
SSE	**Sheshan**	**30.97 53**		P	**P**	**02 51 30.4**	**-0.6**
SSE				XP	sP	02 51 41.6	+2.8
SSE				S	**S**	**02 56 33.4**	**-0.1**
SSE				XS		02 56 48.5	
SSE				AMB	AMB		
	comp=Z,35nm,0.6s,mb5.4						
SSE				AMB	AMB		
	comp=Z,142nm,7.6s						
SSE				LR	LR		
	comp=N,399nm,19.7s,MS4.1						
SSE				LR	LR		
	comp=E,213nm,19.7s,MS4.1						
SSE				LR	LR		
	comp=Z,290nm,23.7s,MS3.9						
AAK	**Ala-Archa**	**32.03 334**		*i* P	**P**	**02 51 39.3**	**-0.9**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.2						
AAK	**Ala-Archa**	**32.03 334**		*e*P	**P**	**02 51 38.5**	**-1.7**
	comp=Z,18nm,1.2s,mb4.8						
FRU	**Bishkek**	**32.14 335**		*e*P	**P**	**02 51 48.0**	**+6.8**
BJT	**Baijiatuau**	**32.72 35**		*e*P	**P**	**02 51 55.0**	**+8.7**
	comp=Z,24nm,1.3s,mb5.0						
MKAR	**Makanchi Array**	**33.28 347**		P	**P**	**02 51 50.1**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,29nm,0.9s						
SONM	**Songino Array**	**35.12 16**		P	**P**	**02 52 07.3**	**+0.4**
	comp=Z,3.7nm,0.9s,mb4.3,baz=207,slow=8.3,SNR=18						
SONM				pP	pP	02 52 14.2	+1.9
	comp=Z,29nm,1.2s,baz=201,slow=8.2,SNR=32						
ULN	**Ulaanbaatar**	**35.33 17**		*e*P	**P**	**02 52 09.3**	**+0.6**
ULN				*e*	pP	02 52 16.6	+2.5
ULN				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.1						
ULN	**Ulaanbaatar**	**35.33 17**		*e*P	**P**	**02 52 09.3**	**+0.6**

ARU	**Arti**	**49.19**	**336**	*e*P		**P**	**02 54 00.1**	**-1.3**
	comp=Z,32nm,1.1s,mb5.3							
ZEI	**Tsey**	**50.22**	**314**	*e*P		**P**	**02 54 12.8**	**+3.3**
ZEI				pmax	pmax			
	comp=Z,24nm,1.1s,mb5.1							
KIV	**Kislovodsk**	**51.44**	**315**	P		**P**	**02 54 22.3**	**+3.5**
	comp=Z,236nm,0.9s,SNR=8.6							
KIV	**Kislovodsk**	**51.44**	**315**	*e*P		**P**	**02 54 19.1**	**+0.3**
KIV				pmax	pmax			
	comp=Z,40nm,1.0s,mb5.3							
KIV	**Kislovodsk**	**51.44**	**315**	*e*P		**P**	**02 54 19.1**	**+0.4**
	comp=Z,40nm,1.0s,mb5.3							
MUN	**Mundaring**	**51.51**	**154**	*e*P		**P**	**02 54 20.0**	**+0.5**
	comp=Z,19nm,1.2s,mb4.9							
MUN	**Mundaring**	**51.51**	**154**	*e*P		**P**	**02 54 20.0**	**+0.5**
MUN				pmax	pmax			
	comp=Z,19nm,1.2s,mb4.9							
GOF	**Gofitskoye**	**51.57**	**317**	*e*P		**P**	**02 54 23.0**	**+3.3**
SOKR	**Solikamsk**	**52.06**	**338**	*i* P		**P**	**02 54 25.1**	**+1.8**
SOKR				pmax	pmax			
	comp=Z,30nm,1.0s,mb5.2							
SOKR				MLR	MLR			
	comp=Z,210nm,19.0s,MS4.2							
YSS	**Yuzh-Sakhalins**	**52.66**	**41**	*i* P		pP	02 54 33.6	+0.1
YSS				pmax	pmax			
	comp=Z,25nm,1.2s,mb5.0							
NWAO	**Narrogin (SRO)**	**52.77**	**154**	*e*P		**P**	**02 54 27.6**	**-1.3**
NWAO	**Narrogin (SRO)**	**52.77**	**154**	P		**P**	**02 54 28.1**	**-0.8**
	comp=Z,86nm,1.4s,mb5.5,baz=304,slow=10,SNR=4.3							
MALT	**Malatya**	**53.10**	**307**	*e*P		**P**	**02 54 31.9**	**+0.6**
MALT				pmax	pmax			
	comp=Z,16nm,1.3s,mb4.8							
MALT	**Malatya**	**53.10**	**307**	*e*P		**P**	**02 54 31.9**	**+0.6**
	comp=Z,16nm,1.3s,mb4.8							
SOC	**Sochi**	**53.38**	**314**	*e*P		**P**	**02 54 30.4**	**-2.9**
SOC				*e*			02 55 42.6	
SOC				*e*			02 56 31.3	
SOC				*e*PPP	PPP		02 57 39.5	-2.9
SOC				*e*S		**S**	**03 02 02.4**	**-0.4**
SOC				*e*			03 04 15.1	
SOC				pmax	pmax			
	comp=Z,26nm,1.2s,mb5.0							
SOC				pmax	pmax			
	comp=N,8.0nm,1.0s							
SOC				pmax	pmax			
	comp=E,7.0nm,0.8s							
ASF	**Jabal al Asfar**	**53.46**	**299**	LR	LR		03 20 53.0	
	comp=E,187nm,18.8s,MS4.2,baz=134,slow=40							
WRA	**Warramunga Arr**	**53.50**	**129**	P		**P**	**02 54 34.5**	**0.0**
WRA				pP		pP	02 55 48.7	
WRA	**Warramunga Arr**	**53.50**	**129**	P		**P**	**02 54 34.5**	**+0.1**
	comp=E,24nm,1.0s,mb5.1,baz=310,slow=8.2,SNR=47							
WRA				PcP		PcP	02 55 41.0	-0.3
	comp=E,1.5nm,0.8s,baz=313,slow=3.0,SNR=5.6							
WRA				pPcP			02 55 48.7	
	comp=E,2.6nm,0.8s,baz=307,slow=3.9,SNR=6.0							
WRAB	**Tennant Creek**	**53.51**	**129**	*e*P		**P**	**02 54 34.5**	**0.0**
WRAB				pmax	pmax			
	comp=Z,52nm,1.0s,mb5.4							
WRAB	**Tennant Creek**	**53.51**	**129**	*e*P		**P**	**02 54 34.5**	**-0.1**
	comp=Z,52nm,1.0s,mb5.4							
WB2	**Warramunga Arr**	**53.51**	**129**	⇓*i*P		**P**	**02 54 34.6**	**+0.1**
YAK	**Yakutsk**	**54.26**	**21**	*e*P		pP	02 54 45.2	+0.2
YAK				pmax	pmax			
	comp=Z,14nm,0.8s,mb4.9							
YAK				pmax	pmax			
	comp=N,7.0nm,1.2s							
YAK				pmax	pmax			
	comp=E,7.0nm,1.2s							
ASPA	**Alice Springs**	**55.46**	**133**	⇓*i*P		**P**	**02 54 48.8**	**+0.1**
ASAR	**Alice Springs**	**55.46**	**133**	P		**P**	**02 54 49.0**	**+0.2**
	comp=E,56nm,1.3s,mb5.4,baz=310,slow=6.9,SNR=81							
ASAR				PcP		PcP	02 55 48.8	+0.1
	comp=E,3.0nm,0.9s,baz=303,slow=3.9,SNR=4.3							
ASAR				pPcP			02 55 56.1	
	comp=E,5.0nm,0.9s,baz=313,slow=4.1,SNR=6.0							
FORT	**Forrest**	**56.53**	**143**	*e*P		**P**	**02 54 56.9**	**+0.5**
	comp=E,30nm,0.5s,mb5.6							
KMBO	**Kilima Mbogo**	**56.90**	**259**	*e*P		**P**	**02 54 59.0**	**-0.3**
KMBO				pmax	pmax			
	comp=Z,6.0nm,1.2s							
KMBO	**Kilima Mbogo**	**56.90**	**259**	pP		pP	02 55 04.5	-0.4
	comp=Z,5.8nm,1.2s,baz=56,slow=11,SNR=5.6							
KMBO	**Kilima Mbogo**	**56.90**	**259**	*e*P		**P**	**02 54 59.0**	**-0.3**
	comp=Z,6.3nm,1.2s,mb4.5							
BRTR	**Keskin Array B**	**57.02**	**308**	P		**P**	**02 54 57.6**	**-2.2**
	comp=Z,4.0nm,0.9s,mb4.5,baz=124,slow=6.7,SNR=14							
BRTR				pP		pP	02 55 04.8	-0.6
	comp=Z,9.8nm,0.8s,baz=117,slow=7.3,SNR=24							
SIM	**Simferopol'**	**57.62**	**314**	P		**P**	**02 55 06.4**	**+2.5**
SIM				pmax	pmax			
	comp=Z,24nm,0.9s,mb5.2							
MOS	**Moscow**	**58.64**	**327**	*e*P		**P**	**02 55 16.1**	**+5.3**
MOS				pmax	pmax			
	comp=Z,59nm,1.3s,mb5.5							
OBN	**Obninsk**	**58.97**	**326**	*e*P		**P**	**02 55 13.0**	**-0.2**
OBN				*i*			02 56 06.7	
OBN				pmax	pmax			
	comp=Z,51nm,1.4s,mb5.4							
OBN	**Obninsk**	**58.97**	**326**	*e*P		**P**	**02 55 12.7**	**-0.5**
	comp=Z,48nm,1.3s,mb5.4							
PMG	**Port Moresby**	**59.13**	**110**	P		**P**	**02 55 14.7**	**-0.1**
	comp=Z,12nm,0.9s,mb4.9,baz=288,slow=4.5,SNR=4.3							
TIXI	**Tiksi**	**61.06**	**12**	⇑*i*P		**P**	**02 55 25.9**	**-1.4**
TIXI				pmax	pmax			
	comp=Z,29nm,1.1s,mb5.3							
TIXI				MLR	MLR			
	comp=Z,147nm,18.0s,MS4.2							
MA2	**Magadan**	**61.67**	**29**	P		**P**	**02 55 30.7**	**-0.9**
MA2				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb5.0							
MA2	**Magadan**	**61.67**	**29**	P		**P**	**02 55 30.7**	**-0.9**
	comp=Z,9.5nm,0.9s,mb4.9							
CTA	**Charters Tower**	**63.02**	**122**	⇑*i*P		**P**	**02 55 42.3**	**+1.3**
	comp=Z,6.8nm,1.1s,mb4.7							
CTA	**Charters Tower**	**63.02**	**122**	⇑*i*P		**P**	**02 55 42.3**	**+1.3**
CTA				pmax	pmax			
	comp=Z,7.0nm,1.1s							
CTA	**Charters Tower**	**63.02**	**122**	P		**P**	**02 55 41.3**	**+0.3**
	comp=Z,6.7nm,1.0s,mb4.7,baz=298,slow=8.2,SNR=10							
CTAO	**Charters Tower**	**63.02**	**122**	*e*P		**P**	**02 55 41.7**	**+0.7**
CTAO				pmax	pmax			
	comp=Z,78nm,1.9s,mb5.5							
CTAO	**Charters Tower**	**63.02**	**122**	*e*P		**P**	**02 55 41.7**	**+0.7**
	comp=Z,78nm,1.9s,mb5.5							
JOF	**Joensuu**	**64.21**	**334**	*e*p		pP	02 55 54.3	+0.3
	comp=Z,0.4nm,0.3s							
LVV	**L'vov**	**65.19**	**318**	*e*P		**P**	**02 55 59.1**	**+4.3**
STKA	**Stephens Creek**	**65.86**	**135**	*e*P		**P**	**02 55 59.7**	**+0.2**
	comp=Z,3.0nm,0.9s,mb4.3							
STKA	**Stephens Creek**	**65.86**	**135**	P		**P**	**02 55 58.9**	**-0.6**
	comp=Z,1.3nm,0.6s,mb4.1,baz=324,slow=7.7,SNR=4.0							
STKA				LR		LR	03 23 43.9	
	comp=Z,359nm,21.3s,MS4.5,baz=113,slow=35							
KWP	**Kalwaria**	**66.02**	**318**	*e*P		**P**	**02 56 02.6**	**+2.4**
KWP				*e*pP		pP	02 56 05.8	-0.1
KWP	**Kalwaria**	**66.02**	**318**	*e*P		**P**	**02 56 02.6**	**+2.4**
KWP				*e*pP		pP	02 56 05.8	-0.1
FINES	**FINESS Array B**	**66.14**	**331**	P		**P**	**02 55 57.6**	**-3.1**
	comp=Z,3.3nm,0.7s,mb4.5,baz=108,slow=12,SNR=11							
FINES				pP		pP	02 56 06.5	0.0
	comp=Z,7.4nm,0.8s,baz=90,slow=9.5,SNR=6.5							
FINES				LR		LR	03 25 40.8	
	comp=Z,152nm,18.9s,MS4.2,baz=343,slow=37							
KAF	**Kangasniemi**	**66.20**	**332**	*e*p		**P**	**02 56 02.2**	**+1.1**
	comp=Z,0.4nm,0.3s,mb3.9							
KOLS	**Kolonicke sedl**	**66.24**	**317**	*e*P		**P**	**02 56 04.5**	**+2.9**
SUW	**Suwalki**	**66.25**	**323**	*e*P		**P**	**02 56 03.0**	**+1.4**
SUW				*e*pP		pP	02 56 06.5	-0.8
SUW	**Suwalki**	**66.25**	**323**	*e*P		**P**	**02 56 03.0**	**+1.4**
SUW				*e*pP		pP	02 56 06.5	-0.8
CRVS	**Cervenica-Dubn**	**66.77**	**317**	*e*P		**P**	**02 56 09.7**	**+4.7**
CRVS	**Cervenica-Dubn**	**66.77**	**317**	*e*		**P**	**02 56 09.7**	**+4.7**
NIE	**Niedzica**	**67.56**	**318**	*e*P		pP	02 56 16.7	+1.0
OJC	**Ojcow**	**67.94**	**319**	*e*P		pP	02 56 18.1	0.0
VYHS	**Vyhne**	**68.48**	**317**	*e*P		pP	02 56 21.4	0.0
VYHS	**Vyhne**	**68.48**	**317**	*e*pP		pP	02 56 21.4	0.0
ARCES	**ARCESS Array B**	**68.51**	**340**	P		**P**	**02 56 13.8**	**-1.7**
	comp=Z,3.6nm,0.9s,mb4.3,baz=80,slow=7.4,SNR=5.9							
ARCES				pP		pP	02 56 21.8	+0.5
	comp=Z,7.6nm,0.9s,baz=90,slow=6.1,SNR=3.9							
ARCES				LR		LR	03 29 30.9	
	comp=Z,315nm,19.6s,MS4.5,baz=122,slow=39							
ARCES	**ARCESS Array B**	**68.51**	**340**	P		**P**	**02 56 13.8**	**-1.7**
ARCES				pP		pP	02 56 21.8	+0.5
ARCES				LR		LR	03 29 30.9	
SRO2	**Moca**	**68.75**	**316**	*e*P		pP	02 56 24.0	+0.9
SRO2	**Moca**	**68.75**	**316**	*e*pP		pP	02 56 24.0	+0.9
SRO	**Srobarova**	**68.81**	**316**	*e*P		pP	02 56 24.0	+0.5
SRO	**Srobarova**	**68.81**	**316**	*e*pP		pP	02 56 24.0	+0.5
OKC	**Ostrava-Krasne**	**68.98**	**318**	*e*P		**P**	**02 56 20.6**	**+1.8**
OKC				*e*pP		pP	02 56 24.7	+0.2
MORC	**Moravsky Berou**	**69.37**	**318**	*e*P		**P**	**02 56 19.9**	**-1.3**
MORC				*e*		pP	02 56 27.1	+0.2
MORC				pmax	pmax			
	comp=Z,18nm,1.0s,mb5.0							
MORC	**Moravsky Berou**	**69.37**	**318**	*e*P		**P**	**02 56 19.9**	**-1.3**
	comp=Z,18nm,1.0s,mb5.0							
MORC				*e*		pP	02 56 27.1	+0.2
ZST	**Bratislava**	**69.63**	**316**	*e*P		pP	02 56 28.9	+0.4
ZST	**Bratislava**	**69.63**	**316**	*e*pP		pP	02 56 28.9	+0.4
DPC	**Dobruska-Polom**	**70.17**	**319**	*e*P		**P**	**02 56 29.1**	**+3.0**
DPC				*e*pP		pP	02 56 32.6	+0.8
LSZ	**Lusaka**	**70.20**	**248**	*e*P		**P**	**02 56 25.5**	**-1.3**
LSZ				pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.6							
LSZ	**Lusaka**	**70.20**	**248**	*e*P		**P**	**02 56 25.5**	**-1.3**
	comp=Z,9.1nm,1.1s,mb4.6							
KSP	**Ksiaz**	**70.20**	**319**	*e*P		**P**	**02 56 29.0**	**+2.8**
KSP				*e*pP		pP	02 56 32.5	+0.6
KSP	**Ksiaz**	**70.20**	**319**	*e*P		**P**	**02 56 28.4**	**+2.1**
KSP				*e*pP		pP	02 56 32.9	+0.9
UPC	**Upice**	**70.38**	**319**	*e*P		pP	02 56 34.1	+1.1
PVCC	**Panska Ves**	**71.30**	**319**	*e*P		pP	02 56 39.8	+1.2
PRU	**Pruhonice**	**71.32**	**318**	*e*P		**P**	**02 56 30.5**	**-2.5**
PRU				*e*pP		pP	02 56 36.3	-2.4
BRG	**Berggiesshubel**	**71.69**	**319**	*e*P		**P**	**02 56 38.6**	**+3.4**
BRG				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.7							
BRG	**Berggiesshubel**	**71.69**	**319**	*e*P		**P**	**02 56 38.6**	**+3.4**
	comp=Z,10nm,1.1s,mb4.7							
BRG				*e*			02 56 41.7	
GERES	**GERESS Array B**	**71.89**	**317**	P		**P**	**02 56 35.2**	**-1.3**
	comp=Z,7.0nm,0.8s,mb4.6,baz=90,slow=5.3,SNR=18							
GERES				pP		pP	02 56 42.3	+0.1
	comp=Z,7.2nm,0.8s,baz=90,slow=5.3,SNR=27							
CADS	**Cadrg**	**71.95**	**314**	*e*P		**P**	**02 56 42.3**	**+5.4**
KHC	**Kasperske Hory**	**71.96**	**317**	*e*P		**P**	**02 56 39.5**	**+2.6**
KHC				*e*pP		pP	02 56 42.8	+0.2
CLL	**Collm**	**72.28**	**320**	*e*P		**P**	**02 56 42.0**	**+3.3**
CLL				*i*			02 56 44.4	
CLL	**Collm**	**72.28**	**320**	P		**P**	**02 56 42.0**	**+3.3**
CLL				*i* *PP		pP	02 56 44.4	-0.1
NKC	**Novy Kostel**	**72.66**	**318**	*e*P		**P**	**02 56 42.1**	**+1.1**
NKC				*e*pP		pP	02 56 47.7	+1.0
MOX	**Moxa**	**73.17**	**319**	*e*P		pP	02 56 50.6	+0.8
MOX				pmax	pmax			
	comp=Z,54nm,2.2s,mb5.1							
MOX	**Moxa**	**73.17**	**319**	*e*P		pP	02 56 50.6	+0.8
	comp=Z,54nm,2.2s							
MOX				*e*pP		pP	02 56 55.0	+5.2
MOX	**Moxa**	**73.17**	**319**	*i* P		pP	02 56 50.6	+0.8
	comp=Z,logA/T=1.4							
MOX				pP		pP	02 56 55.0	+5.2
NB2	**NORSAR Subarra**	**73.21**	**330**	P		**P**	**02 56 45.7**	**+1.7**
	comp=Z,17nm,1.1s,mb4.9,baz=91,slow=4.8							
NB2	**NORSAR Subarra**	**73.21**	**330**	P		**P**	**02 56 45.7**	**+1.7**
	baz=91,slow=5.1							
NOA	**NORSAR Array B**	**73.21**	**330**	P		**P**	**02 56 42.5**	**-1.4**
	comp=Z,8.0nm,1.0s,mb4.6,baz=90,slow=6.0,SNR=7.8							
NOA				pP		pP	02 56 49.3	-0.5
	comp=Z,5.1nm,0.9s,baz=96,slow=5.9,SNR=7.5							
GRA1	**Grafenberg Arr**	**73.47**	**318**	*e*P		**P**	**02 56 49.0**	**+3.2**
	comp=Z,24nm,1.2s,mb5.0							
GRA1				*e*pP		pP	02 56 52.5	+1.0
GRF	**Grafenberg Arr**	**73.47**	**318**	*e*P		**P**	**02 56 49.0**	**+3.2**
GRF				pmax	pmax			
	comp=Z,24nm,1.2s,mb5.0							
GRF	**Grafenberg Arr**	**73.47**	**318**	*e*P		**P**	**02 56 49.0**	**+3.2**
GRF				pmax	pmax			
	comp=Z,24nm,1.2s,mb5.0							
GRF	**Grafenberg Arr**	**73.47**	**318**	*e*P		**P**	**02 56 49.0**	**+3.2**
	comp=Z,24nm,1.2s,mb5.0							
GRF				*e*pP		pP	02 56 52.5	+1.0
LPG	**La Plagne**	**76.87**	**314**	*e*P		**P**	**02 57 04.5**	**-0.8**
	comp=Z,35nm,1.0s,mb5.0							
EMIR	**Miracle**	**81.20**	**311**	P		**P**	**02 57 33.5**	**+4.7**
	comp=Z,137nm,2.0s,mb5.5							
EPOB	**Poblet**	**81.64**	**310**	P		**P**	**02 57 33.9**	**+2.8**
	comp=Z,731nm,5.3s							
EBIE	**Bielsa**	**82.04**	**312**	P		**P**	**02 57 36.2**	**+3.1**
	comp=Z,52nm,1.8s,mb5.2							
EMOS	**Mosqueruela**	**83.00**	**310**	P		**P**	**02 57 41.8**	**+3.6**
	comp=Z,384nm,4.3s							
EALK	**Alkurruntz**	**83.11**	**313**	P		**P**	**02 57 42.9**	**+4.3**
	comp=Z,401nm,4.6s							
GUD	**Guadarrama**	**85.66**	**311**	P		**P**	**02 57 54.6**	**+3.0**
	comp=Z,9.2nm,0.9s,mb5.0							
ESDC	**Sonseca Array**	**85.77**	**310**	P		**P**	**02 57 52.7**	**+0.5**
	comp=Z,4.7nm,1.0s,mb4.7,baz=50,slow=4.7,SNR=4.6							
ESDC				pP		pP	02 57 58.7	+0.7
	comp=Z,3.2nm,0.9s,baz=42,slow=4.8,SNR=9.9							
ESDC	**Sonseca Array**	**85.77**	**310**	P		**P**	**02 57 55.3**	**+3.1**
	comp=Z,5.5nm,1.1s,mb4.7							
IMA	**Indian Mountai**	**86.06**	**22**	*e*P		**P**	**02 57 54.0**	**+1.0**
ILAR	**Eielson Array**	**89.17**	**22**	P		**P**	**02 58 09.0**	**+1.0**
	comp=Z,1.5nm,1.2s,mb4.2,baz=270,slow=1.8,SNR=3.6							
ILAR				pP		pP	02 58 16.0	+2.1
	comp=Z,1.5nm,0.8s,baz=289,slow=4.7,SNR=10.0							
PWA	**Palmer West**	**89.69**	**25**	*e*P		pP	02 58 18.5	+2.1
INK	**Inuvik**	**91.03**	**16**	P		**P**	**02 58 16.4**	**-0.2**
	comp=Z,1.4nm,0.9s,mb4.3,baz=278,slow=6.8,SNR=5.5							
INK	**Inuvik**	**91.03**	**16**	*e*P		**P**	**02 58 16.4**	**-0.2**
	comp=Z,10nm,1.2s,mb5.0							
YKA	**Yellowknife Ar**	**100.31**	**12**	P		P	02 58 59.3	+0.3
	comp=Z,0.4nm,1.1s,baz=219,slow=4.0,SNR=3.6							
YKA				pP			02 59 06.3	
	comp=Z,0.6nm,0.9s,baz=331,slow=4.3,SNR=7.5							
YKA	**Yellowknife Ar**	**100.31**	**12**	P		P	02 58 59.3	+0.3
YKA				pP			02 59 06.3	
SDV	**Santo Domingo**	**151.37**	**323**	*e*PKPbc		PKPdf	03 05 06.6	+2.7
SDV				*e*PKPab		PKPab	03 05 13.7	-3.0

NEIC ***17*** *02:46:36.0, 33.82S×72.03W, h11km, ML3.4(GUC), After GUC.*

GUC 17 02:46:36.0±0.6, 33.82S×72.03W, h11km±3km, MD4.1, ML3.4, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.52**	**48**	⇑*i*P	Pg	02 46 46.5	0.0
LCCH				*i* S	Sg	02 46 54.2	+0.7
LNV	**Longovilo**	**0.53**	**105**	⇓*i*P	Pg	02 46 47.2	+0.4
LNV				*i* S	Sg	02 46 54.8	+0.9
IHA	**Instituto Hidr**	**0.86**	**22**	*e*P	Pb	02 46 51.9	-0.6
IHA				*i* S	Sb	02 47 03.9	+0.1
TACH	**Talagante**	**0.93**	**80**	*e*P	Pb	02 46 52.9	-0.8
TACH				*i* S	Sb	02 47 05.6	-0.1
RCDM	**Rinconada Maip**	**1.07**	**72**	*e*P	Pb	02 46 55.1	-1.0
RCDM				*i* S	Sb	02 47 09.5	-0.6
RCDM				AMP		02 47 12.0	
	comp=N,1μm,0.7s						
CHCH	**Chadas Angostu**	**1.15**	**96**	⇑*i*P	Pb	02 46 56.8	-0.7
CHCH				*i* S	Sb	02 47 12.3	+0.1
SFDO	**San Fernando**	**1.15**	**133**	*e*P	Pb	02 46 56.0	-1.5
ANTU	**Antumapu**	**1.19**	**78**	*e*P	Pb	02 46 57.2	-0.9
ANTU				*i* S	Sb	02 47 13.5	0.0
ANTU				AMP		02 47 15.5	
	comp=E,1μm,0.5s						
ROCH	**El Roble**	**1.20**	**45**	*i* P	Pb	02 46 57.9	-0.5
STL	**Santa Lucia**	**1.22**	**72**	*e*P	Pb	02 46 57.5	-1.2
STL				*i* S	Sb	02 47 14.4	+0.1
CACH	**El Canelo**	**1.22**	**104**	*e*P	Pb	02 46 58.6	-0.1
PCH	**Pirque**	**1.28**	**81**	*e*P	Pb	02 46 58.7	-1.0
PCH				*i* S	Sb	02 47 16.1	+0.1
DSCH	**Colegio Aleman**	**1.29**	**71**	*e*P	Pb	02 46 59.2	-0.6
DSCH				*i* S	Sb	02 47 16.3	0.0
DSCH				AMP		02 47 18.5	
	comp=E,1μm,0.4s						
FSR	**Penalolen**	**1.30**	**75**	*e*P	Pb	02 46 59.1	-0.9
FSR				*i* S	Sb	02 47 16.6	+0.1
FSR				AMP		02 47 21.8	
	comp=N,967nm,0.4s						
CLCH	**Cerro Calan**	**1.32**	**72**	*e*P	Pb	02 46 59.4	-0.9
CLCH				*i* S	Sb	02 47 17.3	+0.2
CLCH				AMP		02 47 19.3	
	comp=E,868nm,0.4s						
NICH	**Los Niches**	**1.35**	**151**	*e*P	Pb	02 46 59.9	-1.0
NICH				*i* S	Sb	02 47 17.8	-0.3
LMEL	**Las Melosas**	**1.52**	**91**	*e*P	Pn	02 47 02.7	-0.6
LMEL				*i* S	Sb	02 47 23.3	+0.3
LMEL				AMP		02 47 26.8	
	comp=E,1μm,0.5s						
FCH	**Farellones**	**1.53**	**72**	⇓*i*P	Pn	02 47 02.9	-0.6
FCH				*i* S	Sb	02 47 23.9	+0.5
FCH				AMP		02 47 29.4	
	comp=N,1μm,0.4s						
TALC	**Talca**	**1.60**	**168**	*e*P	Pn	02 47 03.7	-0.9
TALC				*i* S	Sn	02 47 24.8	-0.6
TALC				AMP		02 47 30.0	
	comp=E,3μm,0.4s						
JACH	**Jahuel**	**1.66**	**47**	*e*P	Pn	02 47 04.6	-0.7
JACH				*i* S	Sn	02 47 26.7	0.0
PTCH	**Petorca**	**1.81**	**31**	*e*P	Pn	02 47 07.9	+0.4
LNCH	**Linares**	**2.05**	**170**	⇑*i*P	Pn	02 47 11.1	+0.2
LNCH				*i* S	Sn	02 47 37.2	+0.5
LNCH				AMP		02 47 39.8	
	comp=E,266nm,0.3s						
CMCH	**Combarbala**	**2.78**	**18**	*e*P	Pn	02 47 18.8	-2.6

BJI ***17*** *02:53:34.1, 3.37N×95.83E, h42km, mB5.2, mb5.2, Ms4.8, Msz4.6*

IDC ***17*** *02:53:40.9±0.5, 4.03N×95.97E, h45km±4km, mb4.6/25, mb1 4.6/26, mb1mx4.6/26, mbtmp4.8/26, MS4.1/4, Ms1 4.2/4, ms1mx3.7/26, Error ellipse: s-maj=17.7km s-min=9.6km az=45.0*

HRVD ***17*** *02:53:40.6±0.6, 3.58N×95.92E, h46km±1km, MW5.0/32, Centroid moment Tensor Solution. LP body waves: s20,c26;Mantle waves: s32,c45; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.93±.35; Mθθ-2.40±.22; Mφφ-1.54±.27; Mrθ0.60±.19; Mrφ1.83±.14; Mθφ-1.38±.20; Best double couple: M0=4.169×10^16 NP1:φ=300°, δ36°, λ75°. NP2:φ=138°, δ55°, λ101°. Principal axes: T 4.263, Plg77°, Azm83°; N -.198, Plg9°, Azm312°; P -4.074, Plg10°, Azm220°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***17*** *02:53:40.6±0.2, 3.87N×95.92E, mb4.9/48 Error ellipse: s-maj=7.0km s-min=4.5km az=225.0*

NEIC Felt [II] at Banda Aceh.

MOS ***17*** *02:53:40.7±1.0, 4.48N×95.81E, h33km, mb5.3/39, Error ellipse: s-maj=13.0km s-min=6.1km az=116.2*

ISC 17 02:53:38.5±1.3, 3.89N±0.04×95.97E±0.04, h39km±11km, h43km±1.7km: pP-P, n218, σ1§07/193, mb5.0/80, MS4.5/10, 20C-7D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**5.66**	**55**	P		**P**	**02 55 03.0**	**+0.7**
	560nm,0.9s						
NNT	**Nongplab**	**9.41**	**23**	P		**P**	**02 55 58.0**	**+3.4**
NST	**Nakhon Sawan**	**12.40**	**19**	P		**P**	**02 56 39.0**	**+3.6**
KKTK	**Khon Kaen**	**14.08**	**28**	P		**P**	**02 57 07.0**	**+9.3**
	988nm,0.5s						
CMAR	**Chiang Mai Arr**	**14.77**	**11**	P		**P**	**02 57 09.9**	**+3.3**
	2.7nm,0.3s,baz=208,slow=13,SNR=22						
CMAR				LR	LR		03 03 07.0	
	comp=Z,649nm,19.6s,baz=195,slow=39						
CMAR				ScP			03 05 46.8	
	0.6nm,0.3s,baz=226,slow=2.8,SNR=4.8						
CHG	**Chiang Mai**	**15.12**	**11**	⇓PN		**P**	**02 57 13.5**	**+2.4**
	35nm,0.9s						
NANT	**Nan**	**15.52**	**17**	P		**P**	**02 57 20.3**	**+3.9**
PALK	**Pallekele**	**15.56**	**283**	P		**P**	**02 57 14.2**	**-2.8**
	52nm,1.2s						
PALK				*e*			02 57 22.6	
COCO	**West Island**	**15.99**	**177**	P		**P**	**02 57 20.8**	**-1.7**
QIZ	**Qiongzhong**	**20.25**	**41**	P		**P**	**02 58 14.6**	**+1.2**
QIZ				*e*S		**S**	**03 01 55.3**	**+1.9**
QIZ				LR	LR			
	comp=N,797nm,16.8s							
QIZ				LR	LR			
	comp=Z,805nm,15.5s,MS4.2							
QIZ	**Qiongzhong**	**20.25**	**41**	*e*P		**P**	**02 58 13.7**	**+0.3**
	comp=Z,34nm,0.8s							
HYB	**Hyderabad**	**21.73**	**309**	*e*P		**P**	**02 58 30.0**	**+1.5**
HYB				*e*			02 58 47.0	
HYB				pmax	pmax			
	comp=Z,46nm,0.8s,mb5.0							
HYB	**Hyderabad**	**21.73**	**309**	*e*P		**P**	**02 58 30.0**	**+1.5**
	comp=

SONM				PcP	PcP	03 03 31.3	-0.6
	comp=Z,9.5nm,0.6s,baz=191,slow=3.7,SNR=11							
SONM				pPcP		03 03 45.9		
	comp=Z,5.0nm,0.6s,baz=186,slow=3.6,SNR=4.4							
SONM				ScP		03 07 19.2		
	comp=Z,2.0nm,1.2s,baz=225,slow=1.7,SNR=4.3							
SONM	**Songino Array**	**44.69**	**10**	P	**P**	**03 01 49.0**	**-0.5**	
SONM				PcP	PcP	03 03 31.3	-0.6	
SONM				pPcP		03 03 45.9		
SONM				ScP		03 07 19.2		
ULN	**Ulaanbaatar**	**44.84**	**11**	*e*P	**P**	**03 01 49.8**	**-0.9**	
ULN				pmax	pmax			
	comp=Z,22nm,0.6s,mb5.2							
ULN	**Ulaanbaatar**	**44.84**	**11**	*e*P	**P**	**03 01 49.8**	**-0.8**	
	comp=Z,22nm,0.6s,mb5.2							
SNY	**Shenyang**	**45.13**	**29**	⇓P	**P**	**03 01 53.1**	**0.0**	
SNY				AMB	AMB			
	comp=Z,20nm,0.6s,mb5.1							
SNY				LR	LR			
	comp=N,310nm,13.2s,MS4.8							
SNY				LR	LR			
	comp=E,690nm,11.3s,MS4.8							
SNY				LR	LR			
	comp=Z,550nm,12.3s,MS4.7							
ASPA	**Alice Springs**	**46.00**	**128**	*e*P	**P**	**03 02 00.3**	**+0.1**	
ASAR	**Alice Springs**	**46.00**	**128**	P	**P**	**03 02 00.4**	**+0.1**	
	comp=Z,9.6nm,0.6s,mb4.9,baz=298,slow=7.9,SNR=94							
ASAR				PcP	PcP	03 03 36.0	-0.9	
	comp=Z,3.5nm,0.6s,baz=301,slow=4.5,SNR=4.3							
ASAR				LR	LR	03 24 36.2		
	comp=Z,150nm,18.5s,MS4.0,baz=300,slow=40							
FORT	**Forrest**	**46.11**	**141**	⇓*i*P	**P**	**03 02 02.3**	**+1.2**	
	comp=Z,119nm,0.6s,mb6.0							
ZAK	**Zakamensk**	**46.74**	**6**	*e*P	**P**	**03 02 00.9**	**-4.8**	
ZAK				*e*		03 03 38.6		
MOY	**Mondy**	**47.80**	**4**	*e*P	**P**	**03 02 13.9**	**-0.1**	
TLY	**Talaya**	**48.06**	**6**	*e*P	**P**	**03 02 15.5**	**-0.5**	
TLY				*e*		03 03 43.0		
TLY				*e*S	**S**	**03 09 03.0**	**-7.6**	
TLY				*e*SS	ScS	03 12 04.8	+1.8	
TLY				pmax	pmax			
	comp=Z,9.0nm,0.7s,mb4.9							
TLY				MLR	MLR			
	comp=Z,385nm,20.0s,MS4.4							
TLY	**Talaya**	**48.06**	**6**	*e*P	**P**	**03 02 15.8**	**-0.2**	
	comp=Z,8.4nm,0.6s,mb5.0							
HIA	**Hailar**	**49.53**	**20**	*e*P	**P**	**03 02 27.0**	**-0.4**	
HIA				pmax	pmax			
	comp=Z,12nm,0.6s							
HIA	**Hailar**	**49.53**	**20**	*e*P	**P**	**03 02 27.0**	**-0.4**	
	comp=Z,12nm,0.6s,mb5.1							
MDJ	**Mudanjiang**	**50.17**	**31**	P	**P**	**03 02 33.1**	**+0.7**	
MDJ				AMB	AMB			
	comp=Z,16nm,0.9s,mb5.0							
MDJ				AMB	AMB			
	comp=Z,160nm,4.9s							
MDJ	**Mudanjiang**	**50.17**	**31**	*e*P	**P**	**03 02 32.5**	**+0.1**	
	comp=Z,6.8nm,0.5s,mb4.9							
MAT	**Matsushiro**	**50.59**	**44**	*e*P	**P**	**03 02 38.0**	**+2.3**	
MAT	**Matsushiro**	**50.59**	**44**	P	**P**	**03 02 36.5**	**+0.8**	
NVS	**Novosibirsk**	**51.84**	**351**	*e*P	**P**	**03 02 42.2**	**-2.6**	
NVS				pmax	pmax			
	comp=N,12nm,0.5s							
NVS				pmax	pmax			
	comp=E,5.0nm,0.5s							
NVS				pmax	pmax			
	comp=Z,20nm,0.5s,mb5.3							
RAYN	**Ar Rayn**	**52.44**	**297**	P	**P**	**03 02 50.7**	**+0.9**	
	comp=Z,104nm,0.6s,mb5.9,SNR=15							
PMG	**Port Moresby**	**52.69**	**105**	*e*P	**P**	**03 02 51.0**	**-0.8**	
PMG				*e*	pP	03 03 01.7	-1.4	
PMG				pmax	pmax			
	comp=Z,56nm,0.8s							
PMG	**Port Moresby**	**52.69**	**105**	P	**P**	**03 02 51.5**	**-0.2**	
	comp=Z,58nm,0.7s,mb5.7,baz=330,slow=2.2,SNR=27							
PMG				pP	pP	03 03 05.4	+2.3	
	comp=Z,42nm,0.7s,baz=16,slow=3.0,SNR=8.6							
PMG	**Port Moresby**	**52.69**	**105**	*e*P	**P**	**03 02 51.0**	**-0.7**	
	comp=Z,56nm,0.8s,mb5.5							
PMG				*e*	pP	03 03 01.7	-1.4	
BVAR	**Borovoye Array**	**53.33**	**341**	P	**P**	**03 02 54.0**	**-2.0**	
	comp=Z,12nm,0.7s,mb4.9,baz=135,slow=8.4,SNR=32							
BRVK	**Borovoye**	**53.39**	**341**	*e*P	**P**	**03 02 54.7**	**-1.8**	
BRVK				pmax	pmax			
	comp=Z,13nm,0.9s,mb4.9							
BRVK	**Borovoye**	**53.39**	**341**	*e*P	**P**	**03 02 54.6**	**-1.8**	
	comp=Z,13nm,0.9s,mb4.9							
CHKZ	**Chkalovo**	**53.80**	**342**	*e*P	**P**	**03 02 57.8**	**-1.7**	
KLR	**Kul'dur**	**54.44**	**28**	*e*P	**P**	**03 03 00.0**	**-4.3**	
KLR				pmax	pmax			
	comp=E,23nm,1.2s							
KLR				pmax	pmax			
	comp=Z,28nm,1.2s,mb5.1							
CTA	**Charters Tower**	**54.81**	**118**	*e*P	**P**	**03 03 07.3**	**0.0**	
	comp=Z,13nm,0.8s,mb5.0							
CTA	**Charters Tower**	**54.81**	**118**	*e*P	**P**	**03 03 07.3**	**0.0**	
CTA				pmax	pmax			
	comp=Z,13nm,0.8s							
CTA	**Charters Tower**	**54.81**	**118**	P	**P**	**03 03 07.4**	**0.0**	
	comp=Z,16nm,0.8s,mb5.1,baz=296,slow=8.4,SNR=29							
CTAO	**Charters Tower**	**54.81**	**118**	*e*P	**P**	**03 03 06.9**	**-0.4**	
CTAO				pmax	pmax			
	comp=Z,36nm,1.3s,mb5.2							
CTAO	**Charters Tower**	**54.81**	**118**	*e*P	**P**	**03 03 06.9**	**-0.4**	
	comp=Z,36nm,1.3s,mb5.2							
STKA	**Stephens Creek**	**56.06**	**133**	*e*P	**P**	**03 03 16.3**	**+0.1**	
	comp=Z,12nm,0.8s,mb5.0							
STKA	**Stephens Creek**	**56.06**	**133**	P	**P**	**03 03 16.0**	**-0.2**	
	comp=Z,15nm,0.8s,mb5.1,baz=316,slow=7.2,SNR=20							
ASAJ	**Asahikawa**	**57.30**	**38**	P	**P**	**03 03 23.6**	**-1.3**	
	comp=Z,14nm,0.6s,mb5.2,baz=298,slow=1.6,SNR=12							
CLNS	**Chul'man**	**57.57**	**18**	*e*P	**P**	**03 03 25.5**	**-1.1**	
CLNS				pmax	pmax			
	comp=N,24nm,0.7s							
CLNS				pmax	pmax			
	comp=Z,48nm,0.7s,mb5.6							
CLNS				pmax	pmax			
	comp=E,19nm,0.8s							
GNI	**Garni**	**58.52**	**316**	*e*P	**P**	**03 03 31.9**	**-1.6**	
GNI				pmax	pmax			
	comp=Z,23nm,1.0s							
GNI	**Garni**	**58.52**	**316**	P	**P**	**03 03 32.1**	**-1.4**	
	comp=Z,2.9nm,0.5s,mb4.5,baz=3.3,slow=4.5,SNR=10							
GNI	**Garni**	**58.52**	**316**	*e*P	**P**	**03 03 31.9**	**-1.6**	
	comp=Z,23nm,1.0s,mb5.2							
YSS	**Yuzh-Sakhalins**	**58.86**	**36**⇑	*e*P	**P**	**03 03 34.0**	**-1.8**	
YSS				pmax	pmax			
	comp=Z,40nm,1.1s,mb5.4							
YSS	**Yuzh-Sakhalins**	**58.86**	**36**	*e*P	**P**	**03 03 35.2**	**-0.6**	
KMBO	**Kilima Mbogo**	**58.90**	**266**	*e*P	**P**	**03 03 37.4**	**+1.0**	
KMBO				pmax	pmax			
	comp=Z,5.0nm,0.9s							
KMBO	**Kilima Mbogo**	**58.90**	**266**	P	**P**	**03 03 36.2**	**-0.2**	
	comp=Z,2.8nm,1.1s,mb4.2,baz=49,slow=17,SNR=5.0							
KMBO				LR	LR	03 24 23.7		
	comp=Z,202nm,21.0s,MS4.2,baz=96,slow=31							
KMBO	**Kilima Mbogo**	**58.90**	**266**	*e*P	**P**	**03 03 37.4**	**+1.0**	
	comp=Z,5.0nm,0.9s,mb4.5							
ZEI	**Tsey**	**60.19**	**318**	*e*P	**P**	**03 03 44.8**	**-0.2**	
ZEI				*i* *PP	pP	03 04 01.8	+5.3	
ZEI				pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.9							
EIDS	**Eidsvold**	**60.81**	**122**	*e*P	**P**	**03 03 49.2**	**-0.3**	
	comp=Z,4.7nm,0.5s,mb4.9							
KIV	**Kislovodsk**	**61.49**	**319**	*e*P	**P**	**03 03 51.2**	**-2.5**	
KIV				*e*	pP	03 04 02.5	-2.8	
KIV				pmax	pmax			
	comp=Z,16nm,0.6s,mb5.3							
KIV	**Kislovodsk**	**61.49**	**319**	*e*P	**P**	**03 03 51.2**	**-2.6**	
	comp=Z,16nm,0.6s,mb5.3							
KIV				*e*	pP	03 04 02.5	-2.8	
GOF	**Gofitskoye**	**61.73**	**320**	*e*P	**P**	**03 03 54.0**	**-1.3**	
GOF				pmax	pmax			
	comp=Z,30nm,1.0s,mb5.4							
ASF	**Jabal al Asfar**	**61.93**	**304**	P	**P**	**03 03 56.2**	**-0.7**	
	comp=Z,2.0nm,0.5s,mb4.5,baz=201,slow=6.5,SNR=3.0							
MALT	**Malatya**	**62.43**	**312**	*e*P	**P**	**03 03 59.6**	**-0.6**	
MALT				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.6							
MALT	**Malatya**	**62.43**	**312**	*e*P	**P**	**03 03 59.6**	**-0.6**	
	comp=Z,3.6nm,0.8s,mb4.5							
EIL	**Elat**	**63.01**	**301**	LR	LR	03 31 27.1		
	comp=Z,235nm,18.3s,MS4.4,baz=295,slow=36							
EIL	**Elat**	**63.01**	**301**	*e*P	**P**	**03 04 02.3**	**-1.8**	
SOKR	**Solikamsk**	**63.15**	**339**	*e*P	**P**	**03 04 01.7**	**-2.9**	
SOKR				pmax	pmax			
	comp=Z,20nm,1.1s,mb5.2							
YAK	**Yakutsk**	**63.21**	**17**	*e*P	**P**	**03 04 02.8**	**-2.2**	
YAK				pmax	pmax			
	comp=Z,62nm,0.9s,mb5.7							
YAK				pmax	pmax			
	comp=N,17nm,1.1s							
YAK				pmax	pmax			
	comp=E,10.0nm,0.9s							
SOC	**Sochi**	**63.32**	**317**	*e*P	**P**	**03 04 02.2**	**-3.8**	
SOC				*e*		03 04 43.8		
SOC				*e*		03 06 26.4		
SOC				*e*PPP	PPP	03 07 49.8	-8.6	
SOC				*e*S	**S**	**03 12 34.2**	**+0.6**	
SOC				*e*		03 13 45.8		
SOC				*e*SS	SS	03 16 41.1	-1.3	
SOC				pmax	pmax			
	comp=Z,20nm,0.9s,mb5.2							
SOC				pmax	pmax			
	comp=N,8.0nm,0.8s							
SOC				pmax	pmax			
	comp=E,5.0nm,0.9s							
BRTR	**Keskin Array B**	**66.41**	**312**	P	**P**	**03 04 24.6**	**-1.4**	
	comp=E,8.9nm,0.8s,mb4.9,baz=129,slow=6.9,SNR=43							
BRTR				pP	pP	03 04 38.2	+0.4	
	comp=E,9.5nm,0.9s,baz=127,slow=6.5,SNR=9.5							
SIM	**Simferopol'**	**67.57**	**317**	P	pP	03 04 45.1	+0.1	
SIM				pmax	pmax			
	comp=Z,19nm,1.0s,mb5.1							
ISP	**Isparta**	**68.34**	**309**	*e*P	**P**	**03 04 37.9**	**-0.2**	
MA2	**Magadan**	**69.47**	**26**	*e*P	**P**	**03 04 44.3**	**-0.4**	
MA2				pmax	pmax			
	comp=Z,20nm,0.9s,mb5.0							
MA2	**Magadan**	**69.47**	**26**	*e*P	**P**	**03 04 44.2**	**-0.5**	
	comp=Z,18nm,0.7s,mb5.1							
LSZ	**Lusaka**	**69.73**	**252**	P	**P**	**03 04 46.2**	**-0.8**	
LSZ				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
LSZ	**Lusaka**	**69.73**	**252**	P	**P**	**03 04 46.2**	**-0.8**	
	comp=Z,2.7nm,0.7s,mb4.3							
PET	**Petropavlovsk**	**70.71**	**35**⇓	*i*P	**P**	**03 04 51.8**	**-0.6**	
PET				*e*		03 21 44.5		
PET				pmax	pmax			
	comp=Z,45nm,0.6s,mb5.6							
PET				MLR	MLR			
	comp=Z,200nm,22.0s,MS4.3							
TIXI	**Tiksi**	**70.78**	**10**⇑	*i*P	**P**	**03 04 50.9**	**-1.6**	
TIXI				pmax	pmax			
	comp=Z,46nm,0.8s,mb5.5							
CFR	**Carcaliu**	**71.71**	**316**⇓	*i*P	pP	03 05 09.3	-1.0	
SEY	**Seymchan**	**71.80**	**24**	*e*P	**P**	**03 04 58.7**	**0.0**	
SEY				*e*		03 07 37.2		
SEY				*e*PPP	PPP	03 09 24.9	+3.0	
SEY				*e*S	S	03 14 20.8	+5.9	
SEY						03 14 56.2		
SEY				pmax	pmax			
	comp=Z,20nm,0.9s,mb5.0							
SEY				pmax	pmax			
	comp=N,10.0nm,0.7s							
SEY				pmax	pmax			
	comp=E,10.0nm,0.7s							
SEY				MLR	MLR			
	comp=E,500nm,20.0s							
SEY				MLR	MLR			
	comp=Z,940nm,20.0s,MS5.0							
AKASG	**Malin Array Be**	**72.39**	**322**	P	**P**	**03 05 01.0**	**-1.4**	
	comp=Z,0.7nm,0.5s,mb3.9,baz=86,slow=4.8,SNR=18							
BURAR	**Bucovina Array**	**74.21**	**318**	⇓P	**P**	**03 05 16.9**	**+3.7**	
VTS	**Vitosha**	**74.71**	**313**	⇑P	**P**	**03 05 16.1**	**-0.1**	
MAW	**Mawson**	**75.04**	**193**	P	**P**	**03 05 19.1**	**+1.5**	
	comp=Z,2.2nm,0.6s,mb4.3,baz=319,slow=9.3,SNR=5.5							
LVV	**L'vov**	**75.42**	**320**	*e*P	**P**	**03 05 18.5**	**-1.6**	
KWP	**Kalwaria**	**76.23**	**320**	*e*P	**P**	**03 05 24.8**	**+0.1**	
SUW	**Suwalki**	**76.79**	**325**	*e*P	**P**	**03 05 26.8**	**-0.9**	
CRVS	**Cervenica-Dubn**	**76.91**	**319**	*e*P	**P**	**03 05 28.2**	**-0.4**	
FINES	**FINESS Array B**	**77.06**	**332**	*e*P	**P**	**03 05 28.5**	**-0.7**	
FINES	**FINESS Array B**	**77.06**	**332**	P	**P**	**03 05 28.7**	**-0.5**	
	comp=Z,6.8nm,0.6s,mb4.7,baz=96,slow=6.6,SNR=31							
FINES	**FINESS Array B**	**77.06**	**332**	P	**P**	**03 05 28.7**	**-0.5**	
KAF	**Kangasniemi**	**77.15**	**333**	*e*p	**P**	**03 05 28.1**	**-1.5**	
	comp=Z,7.3nm,0.7s,mb4.7							
KAF	**Kangasniemi**	**77.15**	**333**	*e*P	**P**	**03 05 28.1**	**-1.5**	
KAF				pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.7							
KAF	**Kangasniemi**	**77.15**	**333**	*e*P	**P**	**03 05 28.1**	**-1.5**	
KAF				pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.7							
PSZ	**Piszkesteto**	**77.80**	**318**⇑	*i*P	**P**	**03 05 33.5**	**0.0**	
OJC	**Ojcow**	**78.18**	**320**	*e*P	**P**	**03 05 36.0**	**+0.4**	
OJC				*e*	pP	03 05 49.8	+2.3	
VYHS	**Vyhne**	**78.58**	**319**	*e*P	**P**	**03 05 38.0**	**+0.2**	
VYHS				*e*pP	pP	03 05 49.6	-0.1	
SRO2	**Moca**	**78.78**	**318**	*e*P	**P**	**03 05 39.9**	**+1.0**	
SRO	**Srobarova**	**78.84**	**318**	*e*P	**P**	**03 05 40.0**	**+0.7**	
KEV	**Kevo**	**79.18**	**341**	*e*p	**P**	**03 05 39.4**	**-1.3**	
	comp=Z,16nm,0.9s,mb4.9							
KEV	**Kevo**	**79.18**	**341**	*e*P	**P**	**03 05 39.4**	**-1.3**	
KEV				pmax	pmax			
	comp=Z,16nm,0.9s,mb5.0							
KEV	**Kevo**	**79.18**	**341**	*e*P	**P**	**03 05 39.4**	**-1.3**	
KEV				pmax	pmax			
	comp=Z,16nm,0.9s,mb5.0							
OKC	**Ostrava-Krasne**	**79.19**	**320**	*e*P	**P**	**03 05 41.8**	**+0.7**	
OKC				*e*pP	pP	03 05 54.2	+1.2	
MORC	**Moravsky Berou**	**79.57**	**320**	*e*P	**P**	**03 05 43.4**	**+0.2**	
MORC				pmax	pmax			
	comp=Z,12nm,1.4s,mb4.6							
MORC	**Moravsky Berou**	**79.57**	**320**	*e*P	**P**	**03 05 43.4**	**+0.2**	
	comp=Z,12nm,1.4s,mb4.7							
ARCES	**ARCESS Array B**	**79.61**	**340**	P	**P**	**03 05 43.0**	**0.0**	
	comp=Z,5.7nm,0.6s,mb4.7,baz=98,slow=5.7,SNR=34							
ARCES				sP	sP	03 06 00.2	+0.9	
	comp=Z,6.3nm,0.7s,baz=95,slow=5.2,SNR=3.5							
ZST	**Bratislava**	**79.69**	**318**	*e*P	**P**	**03 05 44.8**	**+0.9**	
ZST				*e*	pP	03 05 59.1	+3.3	
DPC	**Dobruska-Polom**	**80.41**	**320**	*e*P	**P**	**03 05 48.5**	**+0.8**	
DPC				*e*pP	pP	03 06 02.7	+3.1	
KSP	**Ksiaz**	**80.48**	**321**	*e*P	**P**	**03 05 48.7**	**+0.7**	
KSP				*e**PP	pP	03 05 59.8	-0.2	
KSP	**Ksiaz**	**80.48**	**321**	*e*P	**P**	**03 05 48.3**	**+0.2**	
UPC	**Upice**	**80.62**	**320**	*e*P	**P**	**03 05 49.7**	**+0.9**	
UPC				*e*pP	pP	03 06 03.7	+2.9	
ARSA	**Arzberg**	**80.67**	**317**⇑	*i*P	**P**	**03 05 49.8**	**+0.7**	
	comp=Z,9.7nm,1.1s,mb4.7							
PERS	**Pernice**	**80.91**	**316**	*e*P	**P**	**03 05 51.0**	**+0.7**	
LJU	**Ljubljana**	**81.28**	**316**	*e*P	**P**	**03 05 53.2**	**+0.9**	
PRU	**Pruhonice**	**81.52**	**320**	*e*P	**P**	**03 05 54.1**	**+0.6**	
PRU				*e*pP	pP	03 06 07.4	+1.9	
PVCC	**Panska Ves**	**81.55**	**320**	*e*P	**P**	**03 05 54.0**	**+0.4**	
PVCC				*e*pP	pP	03 06 09.7	+4.1	
VOY	**Vojsko**	**81.72**	**316**	*e*P	**P**	**03 05 54.9**	**+0.3**	
VOY				*e*	pP	03 06 06.1	-0.5	
RPZ	**Rata Peaks**	**81.96**	**135**	P	**P**	**03 05 56.3**	**+0.3**	
	comp=Z,15nm,0.6s,mb5.1,baz=177,slow=22,SNR=3.9							
BRG	**Berggiesshubel**	**81.97**	**321**	*e*P	**P**	**03 05 56.5**	**+0.7**	
BRG				*e*	pP	03 06 09.5	+1.7	
BRG				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.7							
BRG	**Berggiesshubel**	**81.97**	**321**	*e*P	**P**	**03 05 56.5**	**+0.7**	
	comp=Z,10nm,1.1s,mb4.7							
BRG				*e*	pP	03 06 09.5	+1.7	
BRG				*i*		03 06 13.4		
GEC2	**GERESS Array S**	**82.00**	**319**	*e*P	**P**	**03 05 56.5**	**+0.5**	
GEC2				pmax	pmax			
	comp=Z,42nm,1.7s,mb5.1							
GEC2	**GERESS Array S**	**82.00**	**319**	*e*P	**P**	**03 05 56.5**	**+0.5**	
	comp=Z,42nm,1.7s,mb5.1							
GERES	**GERESS Array B**	**82.00**	**319**	P	**P**	**03 05 56.4**	**+0.4**	
	comp=Z,4.0nm,0.7s,mb4.5,baz=102,slow=5.1,SNR=42							
GERES				pP	pP	03 06 10.1	+2.1	
	comp=Z,7.0nm,0.9s,baz=108,slow=6.2,SNR=10							
KHC	**Kasperske Hory**	**82.10**	**319**	*e*P	**P**	**03 05 56.7**	**+0.2**	
KHC				*e*pP	pP	03 06 11.0	+2.5	
SYO	**Syowa Base**	**82.17**	**198**	⇓pP	pP	03 06 12.5	+4.0	
WET	**Wettzell**	**82.56**	**319**	*e*P	**P**	**03 05 59.6**	**+0.8**	
WET				pmax	pmax			
	comp=Z,11nm,0.9s,mb4.9							
WET	**Wettzell**	**82.56**	**319**	*e*P	**P**	**03 05 59.6**	**+0.8**	
	comp=Z,11nm,0.9s,mb4.9							
CLL	**Collm**	**82.58**	**321**	*i*P	**P**	**03 05 58.9**	**0.0**	
CLL				*e*	pP	03 06 10.0	-0.9	
CLL				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.8							
CLL	**Collm**	**82.58**	**321**	*i*P	**P**	**03 05 58.9**	**0.0**	
	comp=Z,10.0nm,1.1s,mb4.8							
CLL				*e*	pP	03 06 10.0	-0.9	
CLL	**Collm**	**82.58**	**321**	P	**P**	**03 05 58.9**	**0.0**	
	comp=Z,logA/T=1.0,mb4.8							
NKC	**Novy Kostel**	**82.88**	**320**	*e*P	**P**	**03 06 05.2**	**+4.7**	
NKC				*e*pP	pP	03 06 15.3	+2.8	
WTTA	**Wattenberg**	**83.32**	**317**⇑	*i*P	**P**	**03 06 02.9**	**+0.1**	
	comp=Z,10nm,0.7s,mb5.0							
WTTA	**Wattenberg**	**83.32**	**317**⇑	*i*P	**P**	**03 06 02.9**	**+0.1**	
WTTA				pmax	pmax			
	comp=Z,10.0nm,0.7s,mb5.0							
WATA	**Walderalm**	**83.36**	**317**⇑	*i*P	**P**	**03 06 02.7**	**-0.3**	
	comp=Z,3.3nm,0.8s,mb4.4							
WATA	**Walderalm**	**83.36**	**317**⇑	*i*P	**P**	**03 06 02.7**	**-0.3**	
WATA				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4							
SQTA	**Sankt Quirin**	**83.61**	**317**⇑	*i*P	**P**	**03 06 04.3**	**0.0**	
	comp=Z,4.4nm,0.7s,mb4.7							
SQTA	**Sankt Quirin**	**83.61**	**317**⇑	*i*P	**P**	**03 06 04.3**	**0.0**	
SQTA				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.7							
GRA1	**Grafenberg Arr**	**83.66**	**319**	*e*P	**P**	**03 06 05.3**	**+0.9**	
	comp=Z,64nm,1.9s,mb5.4							
GRF	**Grafenberg Arr**	**83.66**	**319**	*e*P	**P**	**03 06 05.3**	**+0.9**	
GRF				pmax	pmax			
	comp=Z,64nm,1.9s,mb5.4							
GRF	**Grafenberg Arr**	**83.66**	**319**	*e*P	**P**	**03 06 05.3**	**+0.9**	
GRF				pmax	pmax			
	comp=Z,64nm,1.9s,mb5.4							
GRF	**Grafenberg Arr**	**83.66**	**319**	*e*P	**P**	**03 06 05.3**	**+0.9**	
	comp=Z,64nm,1.9s,mb5.4							
MOTA	**Moosalm**	**83.68**	**317**⇑	*i*P	**P**	**03 06 04.6**	**0.0**	
	comp=Z,6.1nm,1.0s,mb4.7							
MOTA	**Moosalm**	**83.68**	**317**⇑	*i*P	**P**	**03 06 04.6**	**0.0**	
MOTA				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.7							
NB2	**NORSAR Subarra**	**84.08**	**331**	P	**P**	**03 06 05.3**	**-1.0**	
	comp=Z,2.0nm,0.8s,mb4.3,baz=90,slow=5.6							
NB2	**NORSAR Subarra**	**84.08**	**331**	P	**P**	**03 06 05.3**	**-1.0**	
NB2				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.3							
NOA	**NORSAR Array B**	**84.08**	**331**	P	**P**	**03 06 04.8**	**-1.5**	
	comp=Z,3.7nm,0.8s,mb4.5,baz=88,slow=5.6,SNR=7.3							
NOA				pP	pP	03 06 18.9	+0.5	
	comp=Z,6.6nm,0.8s,baz=92,slow=5.4,SNR=8.1							
NOA				PP	PP	03 09 15.9	-6.4	
	comp=Z,1.2nm,0.8s,baz=76,slow=9.2,SNR=3.3							
CLZ	**Clausthal**	**84.24**	**322**	*e*P	**P**	**03 06 08.1**	**+0.7**	
	comp=Z,11nm,0.9s,mb5.0							
BSEG	**Bad Segeberg**	**84.32**	**324**	*e*P	**P**	**03 06 08.6**	**+0.9**	
DAVA	**Damuels**	**84.51**	**317**⇑	*i*P	**P**	**03 06 09.4**	**+0.6**	
	comp=Z,11nm,0.8s,mb5.0							
URZ	**Urewera**	**85.44**	**129**	P	**P**	**03 06 13.2**	**-0.5**	
	comp=Z,6.2nm,0.6s,mb5.0,baz=138,slow=2.3,SNR=5.7							
BFO	**Black Forest**	**85.55**	**318**	*e*P	**P**	**03 06 14.2**	**+0.3**	
BFO				pmax	pmax			
	comp=Z,13nm,1.0s,mb5.1							
BFO	**Black Forest**	**85.55**	**318**	*e*P	**P**	**03 06 14.2**	**+0.3**	
	comp=Z,13nm,1.0s,mb5.1							
LPG	**La Plagne**	**86.71**	**315**⇑	*i*P	**P**	**03 06 20.7**	**+1.0**	
	comp=Z,24nm,0.7s,mb5.2							
LPG	**La Plagne**	**86.71**	**315**⇑	*i*P	**P**	**03 06 20.7**	**+1.0**	
LPG				pmax	pmax			
	comp=Z,12nm,0.7s,mb5.2							
VNDA	**Vanda**	**88.69**	**169**	P	**P**	**03 06 29.4**	**+0.9**	
	comp=Z,1.5nm,0.8s,mb4.3,baz=305,slow=4.5,SNR=6.0							
EMIR	**Miracle**	**90.74**	**312**	P	**P**	**03 06 40.2**	**+1.2**	
	comp=Z,261nm,3.3s							
EPOB	**Poblet**	**91.13**	**311**	P	**P**	**03 06 41.6**	**+0.8**	
	comp=Z,266nm,4.1s							
EIBI	**Ibiza**	**91.17**	**309**	P	**P**	**03 06 42.4**	**+1.3**	
	comp=Z,185nm,2.6s,mb6.0							
EBIE	**Bielsa**	**91.67**	**313**	P	**P**	**03 06 44.1**	**+0.8**	
	comp=Z,682nm,6.4s							
ERTA	**Horta de San J**	**91.73**	**311**	P	**P**	**03 06 44.7**	**+1.1**	
	comp=Z,318nm,3.5s							
ESAC	**San

INK	**Inuvik**	**72.94**	**10**	*e*P	**P**	**03 04 52.8**	**0.0**
	4.4nm,1.3s,mb4.0						
YKA	**Yellowknife Ar**	**80.36**	**3**	P	**P**	**03 05 33.9**	**-0.1**
	0.1nm,0.4s,mb2.8,baz=351,slow=5.3,SNR=4.8						

*BJI **17** 02:54:37.1, 13.49N×92.25E, h23km, mB4.9, mb5.0, Ms4.5, Msz4.3*
*MOS **17** 02:54:40.5±2.4, 13.71N×92.19E, h33km, mb5.3/14, Error ellipse: s-maj=19.6km s-min=10.1km az=108.1*
*IDC **17** 02:54:42.7±1.7, 14.33N×92.06E, mb4.5/5, mb1 4.6/6, mb1mx4.3/19, mbtmp4.4/6, ML4.0/1, Error ellipse: s-maj=53.2km s-min=22.2km az=66.0*
*NEIC **17** 02:54:46.2±0.6, 14.34N×92.09E, mb4.9/10, Error ellipse: s-maj=17.7km s-min=7.6km az=60.0*

ISC 17 02:54:41.7±3.0, 14.38N±0.08×92.20E±0.05, h5km±18km, n48, σ1§23/55, mb4.9/19, MS4.5/1, 2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.64**	**57**	Pn	**Pn**	**02 56 38.1**	**+1.7**
	0.6nm,0.3s,baz=238,slow=17,SNR=9.2						
CHRT	**Chiangrai**	**9.07**	**52**	PG	**P**	**02 56 54.0**	**-2.4**
VIS	**Vishakhapatnam**	**9.14**	**292**	*e*P	**P**	**02 56 58.1**	**+0.8**
VIS				AMb	AMB	02 57 01.6	
	comp=Z,66nm,1.3s						
VIS				*e*S	**Sn**	**02 58 32.4**	**-9.4**
SHL	**Shillong**	**11.13**	**359**	*e*P	**P**	**02 57 25.0**	**+0.3**
BLSP	**Bilaspur**	**12.27**	**310**	*e*P	**P**	**02 57 39.7**	**-0.4**
BLSP				AMb	AMB	02 57 42.1	
	comp=Z,23nm,0.4s						
BLSP				*e*S	**S**	**02 59 45.6**	**-13**
HYB	**Hyderabad**	**13.46**	**285**	*i* P	**P**	**02 58 02.0**	**+5.9**
HYB				*e*		03 00 18.0	
HYB				*e*S	**S**	**03 00 27.0**	**-0.2**
NGP	**Nagpur**	**14.21**	**300**	*e*P	**P**	**02 58 07.5**	**+1.6**
NGP				*e*	**S**	**03 00 37.5**	**-7.6**
JIRN	**Jiri**	**14.34**	**338**	*e*P	**P**	**02 58 04.0**	**-3.7**
	comp=Z,96nm,0.9s						
PKI	**Pulchoki**	**14.56**	**335**	*e*P	**P**	**02 58 06.8**	**-3.8**
	comp=Z,52nm,0.6s						
DMN	**Daman**	**14.72**	**334**	*e*P	**P**	**02 58 09.2**	**-3.4**
	comp=Z,65nm,0.6s						
KKN	**Kakani**	**14.81**	**335**	*e*P	**P**	**02 58 10.1**	**-3.7**
	comp=Z,66nm,0.9s						
GKN	**Gorkha**	**15.27**	**334**	*e*P	**P**	**02 58 16.3**	**-3.5**
	comp=Z,42nm,0.4s						
LSA	**Lhasa**	**15.27**	**357**	P	**P**	**02 58 24.3**	**+4.5**
LSA	**Lhasa**	**15.27**	**357**	*e*P	**P**	**02 58 21.8**	**+1.9**
	comp=Z,48nm,1.1s						
KOLN	**Koldanda**	**15.54**	**330**	*e*P	**P**	**02 58 21.0**	**-2.3**
	comp=Z,52nm,0.6s						
BHPL	**Bhopal**	**16.51**	**304**	*e*P	**P**	**02 58 36.1**	**+0.3**
BHPL				*e*		02 58 39.3	
	comp=Z,32nm,1.9s						
BHPL				*e*	**S**	**03 01 33.0**	**-6.2**
KAD	**Karad**	**17.57**	**282**	*e*P	**P**	**02 59 04.0**	**+15**
KAD				*i* S	**S**	**03 02 03.5**	**+0.1**
POO	**Poona**	**18.07**	**286**	*e*P	**P**	**02 59 07.0**	**+12**
POO				*i* S	**S**	**03 02 20.0**	**+5.3**
NDI	**New Delhi**	**19.88**	**318**	*e*	**P**	**02 59 29.0**	**+12**
LZH	**Lanzhou**	**24.00**	**24**	*e*P	**P**	**02 59 59.8**	**+1.5**
LZH				AP		03 00 10.3	
LZH				XP		03 00 14.5	
LZH				AMB	AMB		
	comp=Z,39nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,157nm,5.2s						
LZH				LR	LR		
	comp=E,956nm,13.1s						
LZH				LR	LR		
	comp=Z,1μm,16.9s,MS4.5						
XAN	**Xi'an**	**24.74**	**35**	P	**P**	**03 00 05.4**	**-0.1**
XAN				AMB	AMB		
	comp=Z,51nm,0.7s,mb5.2						
AAK	**Ala-Archa**	**32.02**	**335**	P	**P**	**03 01 11.8**	**+0.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3						
AAK	**Ala-Archa**	**32.02**	**335**	P	**P**	**03 01 11.8**	**+0.5**
	comp=Z,5.4nm,1.1s,mb4.3						
SONM	**Songino Array**	**35.38**	**17**	P	**P**	**03 01 40.5**	**+0.2**
	comp=Z,13nm,1.3s,mb4.7,baz=203,slow=9.4,SNR=24						
SONM	**Songino Array**	**35.38**	**17**	P	**P**	**03 01 40.5**	**+0.2**
ULN	**Ulaanbaatar**	**35.59**	**17**	*i* P	**P**	**03 01 42.7**	**+0.6**
ULN	**Ulaanbaatar**	**35.59**	**17**	*e*P	**P**	**03 01 40.9**	**-1.2**
	comp=Z,8.1nm,1.3s,mb4.5						
KURK	**Kurchatov**	**37.87**	**346**	*e*P	**P**	**03 02 02.0**	**+0.7**
	comp=Z,24nm,1.1s,mb4.8						
BVAR	**Borovoye Array**	**42.25**	**341**	P	**P**	**03 02 37.8**	**+0.3**
	comp=Z,2.4nm,1.0s,mb3.8,baz=135,slow=8.2,SNR=5.4						
BRVK	**Borovoye**	**42.31**	**340**	*e*P	**P**	**03 02 38.5**	**+0.5**
BRVK				*e*		03 02 45.3	
CHKZ	**Chkalovo**	**42.73**	**341**	*e*P	**P**	**03 02 42.0**	**+0.6**
CHKZ				*e*		03 02 49.0	
CHKZ				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**42.73**	**341**	*e*P	**P**	**03 02 42.0**	**+0.5**
	comp=Z,14nm,0.8s,mb4.7						
CHKZ				*e*		03 02 49.0	
FITZ	**Fitzroy Crossi**	**46.15**	**133**	*e*P	**P**	**03 03 09.8**	**+0.5**
	comp=Z,14nm,1.2s,mb4.8						
BOD	**Bodaibo**	**46.37**	**16**	*e*P	**P**	**03 03 11.1**	**+0.5**
KAKA	**Kakadu**	**48.10**	**122**	*e*P	**P**	**03 03 24.0**	**-0.8**
	comp=Z,30nm,1.4s,mb5.1						
SVE	**Sverdlovsk**	**48.69**	**337**	*e*P	**P**	**03 03 31.6**	**+2.8**
SVE				pmax	pmax		
	comp=Z,100nm,1.4s,mb5.7						
ARU	**Arti**	**49.19**	**336**	*e*P	**P**	**03 03 30.8**	**-1.9**
	comp=Z,30nm,1.3s,mb5.2						
WRA	**Warramunga Arr**	**53.68**	**128**	P	**P**	**03 04 06.8**	**-0.3**
	comp=Z,13nm,0.9s,mb4.9,baz=310,slow=8.1,SNR=7.2						
WRAB	**Tennant Creek**	**53.69**	**128**	*e*P	**P**	**03 04 06.2**	**-0.9**
	comp=Z,28nm,1.0s,mb5.1						
ASAR	**Alice Springs**	**55.61**	**132**	P	**P**	**03 04 21.6**	**+0.5**
	comp=Z,4.0nm,0.7s,mb4.6,baz=311,slow=6.3,SNR=5.5						
MOS	**Moscow**	**58.58**	**327**	*e*P	**P**	**03 04 42.7**	**+1.0**
MOS				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.5						
OBN	**Obninsk**	**58.91**	**326**	*e*P	**P**	**03 04 43.0**	**-1.0**
OBN				*i*		03 04 58.0	
OBN				pmax	pmax		
	comp=Z,44nm,1.6s,mb5.2						
VRI	**Vrincioaia**	**62.76**	**314**	⇓*i*P	**P**	**03 05 05.9**	**-4.4**
CTA	**Charters Tower**	**63.24**	**122**	P	**P**	**03 05 13.8**	**0.0**
	comp=Z,3.2nm,0.8s,mb4.5,baz=274,slow=10,SNR=3.8						
CTAO	**Charters Tower**	**63.24**	**122**	*e*P	**P**	**03 05 14.1**	**+0.3**
	comp=Z,19nm,1.5s,mb5.0						
MLR	**Muntele Rosu**	**63.26**	**314**	⇓*i*P	**P**	**03 05 08.5**	**-5.1**
JOF	**Joensuu**	**64.19**	**334**	*e*p	**P**	**03 05 16.9**	**-2.6**
	comp=Z,8.1nm,0.7s,mb4.9						
KOLS	**Kolonicke sedl**	**66.11**	**317**	*i* P	**P**	**03 05 26.2**	**-5.9**
KOLS				*es*P	sP	03 05 42.8	+8.6

*NEIC **17** 02:55:17.9±1.2, 17.30S×177.65W, h371km±13km, mb3.9/7, Error ellipse: s-maj=17.0km s-min=9.8km az=145.0*
*IDC **17** 02:55:20.1±5.9, 17.475×177.65W, h394km±61km, mb3.5/9, mb1 3.7/9, mb1mx3.6/15, mbtmp4.3/9, Error ellipse: s-maj=24.0km s-min=20.0km az=32.0*

ISC 17 02:55:16.1±1.1, 17.4S±0.1×177.7W±0.1, h357km±14km, n43, σ0§74/24, mb3.9/14, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.66**	**60**	*e*P	**P**	**02 56 56.0**	**+0.6**
AFI				*es*	**S**	**02 58 13.2**	**-0.3**
URZ	**Urewera**	**21.29**	**191**	P	**P**	**02 59 34.7**	**-1.3**
	21nm,0.7s,mb4.5,baz=342,slow=6.8,SNR=12						
CTA	**Charters Tower**	**34.21**	**260**	*e*P	**P**	**03 01 31.2**	**+0.2**
	3.3nm,0.7s,mb3.7						
CTA	**Charters Tower**	**34.21**	**260**	P	**P**	**03 01 31.1**	**+0.1**
	3.8nm,0.6s,mb3.8,baz=90,slow=11,SNR=10						
CTAO	**Charters Tower**	**34.21**	**260**	*e*P	**P**	**03 01 30.9**	**0.0**
	4.3nm,0.7s,mb3.8						
PMG	**Port Moresby**	**35.06**	**278**	P	**P**	**03 01 38.3**	**+0.2**
	9.1nm,0.6s,mb4.2,baz=91,slow=7.5,SNR=3.9						
PMG	**Port Moresby**	**35.06**	**278**	P	**P**	**03 01 38.3**	**+0.2**
TOO	**Toolangi**	**38.03**	**231**	*e*P	**P**	**03 02 03.8**	**+1.2**
	13nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**39.48**	**241**	*e*P	**P**	**03 02 15.4**	**+0.8**
	3.3nm,0.3s,mb4.0						
STKA	**Stephens Creek**	**39.48**	**241**	P	**P**	**03 02 15.2**	**+0.6**
	4.5nm,0.3s,mb4.2,baz=86,slow=7.1,SNR=27						
WRAB	**Tennant Creek**	**45.40**	**259**	*e*P	**P**	**03 03 02.8**	**+0.5**
WRA	**Warramunga Arr**	**45.40**	**259**	P	**P**	**03 03 01.0**	**-1.3**
	4.0nm,0.5s,mb3.8,baz=98,slow=7.1,SNR=6.9						
ASAR	**Alice Springs**	**45.59**	**254**	P	**P**	**03 03 03.2**	**-0.5**
	38nm,0.4s,mb4.9,baz=90,slow=7.8,SNR=73						
ASPA	**Alice Springs**	**45.60**	**254**	*e*P	**P**	**03 03 03.3**	**-0.5**
SBA	**Scott Base**	**60.98**	**184**	*e*P	**P**	**03 04 55.5**	**+1.5**
	0.9nm,0.4s,mb3.5						
VNDA	**Vanda**	**61.02**	**185**	P	**P**	**03 04 53.4**	**-0.9**
	2.2nm,0.9s,mb3.6,baz=16,slow=5.0,SNR=8.6						
QSPA	**South Pole Qui**	**72.66**	**180**	⇑*i*P	**P**	**03 06 06.8**	**+0.3**
	5.3nm,0.6s,mb4.5						
NVAR	**Mina Array Bea**	**78.58**	**44**	P	**P**	**03 06 39.7**	**-0.6**
	0.4nm,0.4s,mb3.5,baz=225,slow=6.4,SNR=4.5						
HLID	**Hailey**	**83.79**	**41**	*e*P	**P**	**03 07 07.2**	**0.0**
	0.7nm,0.7s,mb3.6						
TXAR	**Lajitas Array**	**85.14**	**57**	P	**P**	**03 07 14.6**	**+0.4**
	0.4nm,0.8s,mb3.3,baz=207,slow=5.6,SNR=5.4						
TXAR	**Lajitas Array**	**85.14**	**57**	P	**P**	**03 07 14.6**	**+0.4**
ILAR	**Eielson Array**	**85.23**	**13**	P	**P**	**03 07 13.8**	**0.0**
	0.3nm,0.5s,mb3.4,baz=230,slow=5.0,SNR=8.8						
ILAR	**Eielson Array**	**85.23**	**13**	P	**P**	**03 07 13.8**	**0.0**
BVAR	**Borovoye Array**	**116.88**	**321**	PKP	PKPdf	03 13 17.2	-1.2
	2.0nm,0.3s,baz=121,slow=1.8,SNR=13						
BDFB	**Brasilia**	**120.51**	**121**	PKhKP		03 13 22.0	
	4.2nm,0.6s,baz=166,slow=3.3,SNR=8.8						
ARCES	**ARCESS Array B**	**125.93**	**350**	PKP	PKPdf	03 13 34.9	-0.6
	4.4nm,0.9s,baz=54,slow=0.7,SNR=11						
FINES	**FINESS Array B**	**132.88**	**345**	PKP	PKPdf	03 13 47.8	-1.1
	4.5nm,1.0s,baz=90,slow=1.9,SNR=3.7						
KSP	**Ksiaz**	**144.80**	**345**	*e*P	PKPdf	03 14 10.3	-0.2
BRTR	**Keskin Array B**	**144.90**	**316**	PKP	PKPdf	03 14 11.7	+0.6
	3.4nm,0.5s,baz=123,slow=4.0,SNR=25						
CLL	**Collm**	**145.10**	**348**	*i* PKP1	PKPbc	03 14 10.3	-1.4
GERES	**GERESS Array B**	**147.28**	**346**	PKPbc	PKPdf	03 14 17.2	+2.5
	0.7nm,0.5s,baz=27,slow=3.0,SNR=7.9						
FLN	**La Foliniere**	**148.63**	**4**	*e*PKP1	PKPdf	03 14 20.6	+3.7
CDF	**Champ du Feu**	**148.79**	**354**	*e*PKP1	PKPdf	03 14 21.5	+4.3
	3.5nm,0.5s						
LDF	**La Druitiere**	**148.81**	**3**	*e*PKP1	PKPdf	03 14 21.0	+3.8
	2.6nm,0.5s						
GRR	**Gorron**	**148.97**	**4**	*e*PKP1	PKPdf	03 14 21.6	+4.2
	6.3nm,0.5s						
SSF	**Saint Saulge**	**150.40**	**358**	*e*PKP1	PKPdf	03 14 25.4	+5.7
	5.2nm,0.6s						
AVF	**Avril sur Loir**	**150.67**	**359**	*e*PKP1	PKPdf	03 14 25.5	+5.3
CABF	**La Chapelle**	**150.69**	**355**	*e*PKP1	PKPdf	03 14 26.8	+6.6
TCF	**Toulx Ste Croi**	**151.19**	**0**	*e*PKP1	PKPdf	03 14 26.8	+5.9
LPL	**La Plagne**	**151.71**	**353**	*e*PKP1	PKPdf	03 14 29.3	+7.6
LPG	**La Plagne**	**151.73**	**353**	*e*PKP1	PKPdf	03 14 29.4	+7.6
ORIF	**Oris-en-Rattie**	**152.39**	**355**	*e*PKP1	PKPdf	03 14 30.2	+7.5
MBDF	**Montbardon**	**152.49**	**353**	*e*PKP1	PKPdf	03 14 30.4	+7.5
	7.0nm,0.7s						

*NEIC **17** 02:55:44.7, 16.67N×99.91W, h5km, MD3.8(MEX), After MEX.*

MEX 17 02:55:44.7±0.8, 16.67N×99.91W, h5km±8km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.20**	**359**	*i* P	Pg	02 55 48.5	-0.2
ACX				*i* S	Sg	02 55 51.5	+0.1
CAIG	**El Cayaco**	**0.51**	**318**	*e*P	Pg	02 55 53.6	-1.2
CAIG				*es*	Sg	02 56 01.5	-0.1
PNIG	**Pinotepa**	**1.73**	**99**	*i* P	Pn	02 56 11.5	-4.3
PNIG				*i* S	Sn	02 56 33.8	-4.7
ZIIG	**Zihuatanejo**	**1.75**	**302**	*i* P	Pn	02 56 13.8	-2.2
ZIIG				*i* S	Sn	02 56 33.5	-5.4
PLIG	**Platanillo**	**1.76**	**13**	*e*P	Pn	02 56 11.1	-5.0
PLIG				*es*	Sn	02 56 34.0	-5.0
YAIG	**Yautepec**	**2.32**	**20**	*i* P	Pn	02 56 19.4	-4.8
YAIG				*i* S	Sn	02 56 49.4	-4.1
PPM	**Popocatepetl**	**2.68**	**27**	*e*P	Pn	02 56 27.0	-2.2
PPM				*i* S	Sn	02 56 58.4	-4.1
UNM	**Universidad Na**	**2.73**	**15**	*e*P	Pn	02 56 32.5	+2.4
VHO	**Vista Hermosa**	**3.07**	**82**	*e*P	Pn	02 56 33.2	-1.6
VHO				*i* S	Sn	02 57 05.5	-6.9
OXX	**Oaxaca**	**3.08**	**82**	*e*P	Pn	02 56 40.0	+5.0
OXX				*i* S	Sn	02 57 11.0	-1.7
IISM	**Ciudad Serdan**	**3.34**	**46**	*e*P	Pn	02 56 37.5	-1.1

*IDC **17** 03:06:18.8±1.4, 3.23S×127.69E, mb4.0/4, mb1 4.2/5, mb1mx4.0/14, mbtmp4.0/5, ML3.5/1, Error ellipse: s-maj=86.0km s-min=20.6km az=64.0*
*NEIC **17** 03:06:26.3±2.5, 3.47S×127.19E, h56km±27km, mb4.1/4, Error ellipse: s-maj=54.7km s-min=13.4km az=67.0*

ISC 17 03:06:21.4±0.7, 3.5S±0.2×127.1E±0.3, h33km, n18, σ0§83/18, mb4.3/12, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.55**	**150**	*e*P	**P**	**03 08 54.2**	**+0.7**
	14nm,0.8s						
WRAB	**Tennant Creek**	**17.78**	**157**	*e*P	**P**	**03 10 26.5**	**-1.6**
	4.9nm,0.5s						
WRA	**Warramunga Arr**	**17.78**	**157**	P	**P**	**03 10 26.8**	**-1.4**
	0.2nm,0.3s,baz=342,slow=11,SNR=5.1						
WB2	**Warramunga Arr**	**17.79**	**157**	*e*P	**P**	**03 10 27.7**	**-0.5**
ASAR	**Alice Springs**	**21.07**	**162**	P	**P**	**03 11 06.7**	**+1.5**
	12nm,1.0s,mb4.2,baz=344,slow=12,SNR=44						
ASPA	**Alice Springs**	**21.07**	**162**	*e*P	**P**	**03 11 06.7**	**+1.5**
STKA	**Stephens Creek**	**31.32**	**156**	P	**P**	**03 12 41.4**	**+0.3**
	1.9nm,0.6s,mb4.1,baz=340,slow=9.7,SNR=3.5						
CMAR	**Chiang Mai Arr**	**35.28**	**309**	P	**P**	**03 13 16.9**	**+1.3**
	0.8nm,0.4s,mb4.0,baz=145,slow=6.8,SNR=4.2						
JIRN	**Jiri**	**50.12**	**311**	*e*P	**P**	**03 15 15.5**	**-0.3**
	9.7nm,0.9s,mb4.8						
PKI	**Pulchoki**	**50.67**	**310**	*e*P	**P**	**03 15 19.5**	**-0.5**
	3.9nm,0.7s,mb4.5						
KKN	**Kakani**	**50.88**	**310**	*e*P	**P**	**03 15 21.4**	**-0.2**
	10nm,0.9s,mb4.8						
DMN	**Daman**	**50.92**	**310**	*e*P	**P**	**03 15 21.4**	**-0.5**
GKN	**Gorkha**	**51.48**	**310**	*e*P	**P**	**03 15 25.9**	**-0.2**
	3.2nm,0.2s,mb4.8						
KOLN	**Koldanda**	**52.15**	**309**	*e*P	**P**	**03 15 31.3**	**+0.1**
	10nm,0.9s,mb4.8						
ULN	**Ulaanbaatar**	**54.12**	**343**	*e*P	**P**	**03 15 45.8**	**+0.3**
	3.6nm,1.2s,mb4.2						
SONM	**Songino Array**	**54.28**	**343**	P	**P**	**03 15 47.0**	**+0.4**
	0.8nm,0.8s,mb3.7,baz=153,slow=8.3,SNR=5.6						
KURK	**Kurchatov**	**68.06**	**329**	*e*P	**P**	**03 17 19.5**	**-0.3**
	4.2nm,1.0s,mb4.4						
CHKZ	**Chkalovo**	**73.81**	**329**	*e*P	**P**	**03 17 53.7**	**-0.6**
	2.6nm,1.3s,mb4.0						

IDC 17 03:16:52.5±1.0, 10.90N×141.22E, mb3.7/5, mb1 4.0/5, mb1mx3.8/18, mbtmp3.7/5, Error ellipse: s-maj=65.4km s-min=22.4km az=102.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.39**	**192**	P	P	03 23 14.6	-2.9
	0.9nm,0.8s,baz=12,slow=9.7,SNR=3.9						
ASAR	**Alice Springs**	**35.09**	**192**	P	P	03 23 48.1	-1.5
	0.8nm,0.5s,baz=18,slow=12,SNR=9.7						
BVAR	**Borovoye Array**	**69.84**	**323**	P	P	03 28 05.2	-1.7
	0.5nm,0.7s,baz=101,slow=7.3,SNR=3.8						
ILAR	**Eielson Array**	**72.51**	**25**	P	P	03 28 20.1	-2.6
	0.3nm,0.5s,baz=242,slow=5.8,SNR=7.1						
YKA	**Yellowknife Ar**	**86.86**	**27**	P	P	03 29 39.6	-0.3
	0.4nm,0.5s,baz=290,slow=4.9,SNR=9.6						

IDC 17 03:24:00.1±1.2, 14.58N×93.22E, mb3.8/5, mb1 4.0/5, mb1mx3.7/16, mbtmp3.8/5, Error ellipse: s-maj=58.7km s-min=22.4km az=55.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**14.57**	**334**	*e*P	P	03 27 16.5	-13
	3.8nm,0.3s						
PKI	**Pulchoki**	**14.83**	**332**	*e*P	P	03 27 19.5	-14
	5.0nm,0.3s						
KKN	**Kakani**	**15.08**	**332**	*e*P	P	03 27 23.7	-13
	2.3nm,0.2s						
GKN	**Gorkha**	**15.56**	**331**	*e*P	P	03 27 28.9	-14
	14nm,0.3s						
KOLN	**Koldanda**	**15.89**	**327**	*e*P	P	03 27 33.1	-14
	3.8nm,0.2s						
SONM	**Songino Array**	**34.92**	**16**	P	P	03 30 53.3	-2.2
	0.2nm,0.6s,baz=203,slow=8.2,SNR=2.9						
WRA	**Warramunga Arr**	**53.03**	**129**	P	P	03 33 19.3	-2.2
	0.9nm,0.7s,baz=299,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**55.02**	**133**	P	P	03 33 33.6	-2.4
	0.7nm,0.6s,baz=309,slow=6.8,SNR=9.8						
FINES	**FINESS Array B**	**66.42**	**331**	P	P	03 34 51.3	-1.7
	2.0nm,0.9s,baz=117,slow=6.2,SNR=4.2						
GERES	**GERESS Array B**	**72.29**	**317**	P	P	03 35 27.6	-1.8
	0.5nm,0.8s,baz=108,slow=6.2,SNR=3.4						

*CSEM **17** 03:36:05.4±0.1, 45.60N×7.58E, h5km, ML2.2/7, Error ellipse: s-maj=2.7km s-min=2.1km az=90.0*
*GEN **17** 03:36:05.2, 45.73N×7.51E, h8km, ML2.6*
*ZUR **17** 03:36:05.4, 45.79N×7.53E, h3km, ML1.6/9*
*NEIC **17** 03:36:05.2, 45.74N×7.51E, h8km, ML2.6(GEN), ML2.2(LDG), After GEN.*
*LDG **17** 03:36:07.4±0.2, 45.67N×7.40E, h3km, Md2.4/2, Ml2.2/10, Error ellipse: s-maj=3.9km s-min=2.2km az=88.0*

ISC 17 03:36:04.5±0.3, 45.70N±0.01×7.49E±0.03, h7km±3km, n57, σ1§01/86, 2C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRAV		**0.26**	**135**	P	**Pg**	**03 36 10.9**	**+1.1**
TRAV				S	**Sg**	**03 36 14.6**	**+1.2**
LSD	**Ceresole Reale**	**0.33**	**224**	P	**Pg**	**03 36 12.9**	**+1.6**
LSD				S	**Sg**	**03 36 18.2**	**+2.4**
LSD	**Ceresole Reale**	**0.33**	**224**	P	**Pg**	**03 36 12.9**	**+1.6**
ORX	**Oropa**	**0.35**	**100**	P	**Pg**	**03 36 12.1**	**+0.4**
ORX				S	**Sg**	**03 36 16.7**	**+0.2**
ORX	**Oropa**	**0.35**	**100**	P	**Pg**	**03 36 12.1**	**+0.4**
DIX	**Grande Dixence**	**0.39**	**352**	⇑*i*Pg	**Pg**	**03 36 12.0**	**-0.3**
DIX				*es*Sg	**Sg**	**03 36 16.5**	**-1.1**
MMK	**Mattmark**	**0.49**	**43**	⇓*i*Pg	**Pg**	**03 36 13.7**	**-0.6**
EMV	**Vieux Emosson**	**0.55**	**312**	*i* Pg	**Pg**	**03 36 15.9**	**+0.4**
EMV				*es*Sg	**Sg**	**03 36 23.3**	**+0.4**
LPG	**La Plagne**	**0.55**	**249**	*e*Pg	**Pg**	**03 36 16.4**	**+0.8**
LPG				*es*Sg	**Sg**	**03 36 22.7**	**-0.3**
	14nm,0.2s						
LPL	**La Plagne**	**0.56**	**251**	*e*Pg	**Pg**	**03 36 16.5**	**+0.8**
LPL				*es*Sg	**Sg**	**03 36 22.4**	**-0.8**
	10nm,0.3s						
RSP	**Reno Superiore**	**0.57**	**197**	P	**Pg**	**03 36 16.9**	**+0.9**
RSP				S	**Sg**	**03 36 24.9**	**+1.4**
RSP	**Reno Superiore**	**0.57**	**197**	P	**Pg**	**03 36 16.9**	**+1.0**
SALAN	**Lac Salanfe**	**0.57**	**322**	*e*Pg	**Pg**	**03 36 16.2**	**+0.2**
GRYON	**Gryon**	**0.61**	**335**	⇑*i*Pg	**Pg**	**03 36 16.4**	**-0.4**
SENIN	**Lac Senin**	**0.68**	**349**	*e*Pg	**Pg**	**03 36 17.4**	**-0.7**
FENE	**Fenestrelle**	**0.73**	**204**	P	**Pb**	**03 36 19.9**	**+0.8**
FENE				S	**Sg**	**03 36 29.5**	**+0.6**
FENE	**Fenestrelle**	**0.73**	**204**	S	**Sg**	**03 36 29.5**	**+0.6**
FENE	**Fenestrelle**	**0.73**	**204**	P	**Pb**	**03 36 19.9**	**+0.8**
AIGLE	**Aigle**	**0.74**	**330**	*e*Pg	**Pg**	**03 36 19.3**	**-0.1**
BNI	**Bardonecchia**	**0.86**	**222**	*e*Pg	**Pg**	**03 36 21.9**	**+0.2**
BNI				*es*Sg	**Sg**	**03 36 33.2**	**0.0**
BNI	**Bardonecchia**	**0.86**	**222**	*e*Pg	**Pg**	**03 36 21.9**	**+0.2**
BNI				*es*Sg	**Sg**	**03 36 33.2**	**0.0**
BHB	**Bricherasio**	**0.87**	**190**	P	**Pb**	**03 36 22.1**	**+0.6**
BHB				S	**Sb**	**03 36 33.6**	**+0.5**
BHB	**Bricherasio**	**0.87**	**190**	P	**Pb**	**03 36 22.1**	**+0.6**
BHB				S	**Sb**	**03 36 33.6**	**+0.5**
RRL	**Cesana Torines**	**0.92**	**213**	P	**Pb**	**03 36 23.2**	**+0.8**
RRL				S	**Sb**	**03 36 35.3**	**+0.7**
RRL	**Cesana Torines**	**0.92**	**213**	P	**Pb**	**03 36 23.2**	**+0.8**
MBDF	**Montbardon**	**1.09**	**208**	*e*Pg	**Pg**	**03 36 26.8**	**+0.4**
MBDF				*es*Sg	**Sg**	**03 36 40.0**	**-1.0**
	9.6nm,0.2s						
MUGIO	**Muggio**	**1.11**	**78**	*e*P*P		04 36 25.7	
FUSIO	**Fusio**	**1.12**	**47**	*e*Pg	**Pg**	**03 36 26.1**	**-0.7**
PZZ	**Prazzo**	**1.22**	**193**	P	**Pb**	**03 36 27.4**	**-0.1**
PZZ				S	**Sb**	**03 36 42.5**	**-0.8**
PZZ	**Prazzo**	**1.22**	**193**	P	**Pb**	**03 36 27.4**	**-0.1**
PZZ				S	**Sb**	**03 36 42.5**	**-0.9**
CABF	**La Chapelle**	**1.33**	**314**	*e*Pn	**Pn**	**03 36

MOS ***17*** *03:55:42.0±0.7, 14.60N×93.37E, h33km, mb5.1/36, Error ellipse: s-maj=13.3km s-min=5.7km az=127.4*
BJI ***17*** *03:55:43.9, 14.50N×93.20E, h33km, mB4.8, mb4.5, Ms3.9, Msz3.8*
IDC ***17*** *03:55:44.0±0.5, 14.53N×93.22E, h32km±3km, mb4.4/22, mb1 4.5/23, mb1mx4.5/24, mbtmp4.6/23, ML4.1/1, MS4.0/8, Ms1 4.1/8, ms1mx3.8/18, Error ellipse: s-maj=18.1km s-min=10.0km az=45.0*
NEIC ***17*** *03:55:43.9±0.2, 14.48N×93.20E, mb4.9/41, Error ellipse: s-maj=5.9km s-min=4.0km az=222.0*
HRVD ***17*** *03:55:43.9±1.2, 14.48N×93.13E, h31km±2km, MW4.8/36, Centroid moment Tensor Solution. LP body waves: s3,c3; Mantle waves: s36,c48; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.31±.40; $M_{\theta\theta}$1.44±.24; $M_{\phi\phi}$-0.12±.22; $M_{r\theta}$0.14±.23; $M_{\theta\phi}$1.28±.12; $M_{\phi r}$-0.70±.23; Best double couple: $M_0$1.986×10^{16} NP1:ϕ_s271°, δ51°, λ-43°. NP2: ϕ_s31°, δ58°, λ-133°. Principal axes: T 2.172, Plg4°, Azm150°; N -.366, Plg35°, Azm57°; P -1.8, Plg55°, Azm245°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 17 03:55:42.0±0.2, 14.56N±0.04×93.23E±0.03, h33km, h33km±.8km:pP-P,n188,σ1900/193, mb4.8/64, MS4.1/9, 12C-15D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNT	**Nongplab**	**6.62**	**106**	⇓P		**Pn**	**03 57 21.5**	**+1.8**
	915nm,0.9s						
CMAR	**Chiang Mai Arr**	**6.71**	**54**	Pn		**Pn**	**03 57 20.2**	**-0.8**
	0.9nm,0.3s,baz=242,slow=15,SNR=19						
CMAR				Sn		**Sn**	**03 58 34.1**	**-3.0**
	5.7nm,0.3s,baz=243,slow=28,SNR=7.8						
CMAR				LR		LR	04 00 39.1	
	comp=Z,977nm,18.2s,baz=236,slow=44						
CMAR	**Chiang Mai Arr**	**6.71**	**54**	Pn		**Pn**	**03 57 20.2**	**-0.8**
CMAR				Sn		**Sn**	**03 58 34.1**	**-3.0**
CMAR				LR		LR	04 00 39.1	
NST	**Nakhon Sawan**	**6.76**	**80**	P		**Pn**	**03 57 22.5**	**+0.9**
CHG	**Chiang Mai**	**6.92**	**52**	PN		**Pn**	**03 57 23.1**	**-0.8**
CHRT	**Chiangrai**	**8.19**	**49**	PG		**P**	**03 57 47.5**	**+5.9**
CHRT				SG		**Sn**	**03 59 08.5**	**-5.6**
NANT	**Nan**	**8.31**	**58**	P		**P**	**03 57 49.0**	**+5.8**
BWNR	**Bhubaneshwar**	**9.09**	**310**	*e*P		**P**	**03 57 50.0**	**-4.0**
BWNR				*e*S		**Sn**	**03 59 23.3**	**-13**
BWNR				AML		AML	03 59 26.9	
	comp=E,1μm,0.5s						
BWNR				AML		AML	03 59 27.7	
	comp=N,887nm,0.5s						
KKTK	**Khon Kaen**	**9.42**	**78**	P		**P**	**03 58 03.0**	**+4.4**
	comp=N,617nm,0.5s						
VIS	**Vishakhapatnam**	**10.02**	**290**	*e*P		**P**	**03 58 04.5**	**-2.4**
VIS				*e*S		**S**	**03 59 47.1**	**-12**
VIS				*e*			04 00 03.0	
	comp=N,473nm,0.8s						
VIS				*e*			04 00 04.1	
	comp=E,193nm,0.6s						
IMP	**Imphal**	**10.19**	**4**	*e*P		**P**	**03 58 07.0**	**-2.3**
SHL	**Shillong**	**11.02**	**354**	*e*P		**P**	**03 58 15.0**	**-5.7**
SHL				*e*			04 00 15.0	
VJD	**Vijayawada**	**12.28**	**281**	*e*P		**P**	**03 58 33.5**	**-4.1**
VJD				*i* S		**S**	**04 00 40.0**	**-14**
BLSP	**Bilaspur**	**12.94**	**307**	*e*P		**P**	**03 58 45.3**	**-1.1**
BLSP				*e*S		**S**	**04 00 55.0**	**-15**
BLSP				AML		AML	04 01 29.4	
	comp=N,149nm,0.5s						
BLSP				AML		AML	04 01 30.4	
	comp=E,120nm,0.5s						
PALK	**Pallekele**	**14.26**	**241**	*e*P		**P**	**03 59 01.9**	**-2.0**
PALK				*e*S		**S**	**04 01 28.0**	**-14**
HYB	**Hyderabad**	**14.39**	**283**	⇑*e*P		**P**	**03 59 04.0**	**-1.6**
HYB				*e*S		**S**	**04 01 44.0**	**-0.8**
HYB				pmax		pmax		
	comp=Z,85nm,1.0s						
HYB	**Hyderabad**	**14.39**	**283**	⇑*e*P		**P**	**03 59 04.0**	**-1.6**
	comp=Z,85nm,1.0s						
HYB				*e*			03 59 13.0	
HYB				*e*S		**S**	**04 01 44.0**	**-0.8**
HYB	**Hyderabad**	**14.39**	**283**	⇑*i*P		**P**	**03 59 04.0**	**-1.6**
	comp=Z,85nm,1.0s						
HYB				*e*			03 59 13.0	
HYB				*e*			04 01 38.0	
HYB				*e*S		**S**	**04 01 44.0**	**-0.8**
HYB				*e*			04 01 57.5	
JIRN	**Jiri**	**14.59**	**334**	*e*P		**P**	**03 59 07.8**	**-0.3**
	comp=Z,100nm,0.7s						
PKI	**Pulchoki**	**14.85**	**332**	*e*P		**P**	**03 59 10.6**	**-1.0**
	comp=Z,34nm,0.3s						
NGP	**Nagpur**	**15.00**	**298**	*e*P		**P**	**03 59 13.8**	**+0.3**
NGP				*e*			04 01 49.5	
DMN	**Daman**	**15.03**	**331**	*e*P		**P**	**03 59 12.3**	**-1.5**
	comp=Z,73nm,0.7s						
KKN	**Kakani**	**15.10**	**332**	*e*P		**P**	**03 59 14.1**	**-0.7**
	comp=Z,38nm,0.6s						
LSA	**Lhasa**	**15.19**	**353**	P		**P**	**03 59 21.8**	**+5.8**
LSA				LR		LR		
	comp=N,250nm,20.2s						
LSA				LR		LR		
	comp=E,440nm,21.1s						
LSA				LR		LR		
	comp=Z,590nm,20.2s						
LSA	**Lhasa**	**15.19**	**353**	*e*P		**P**	**03 59 19.3**	**+3.3**
LSA				pmax		pmax		
	comp=Z,8.0nm,0.6s						
GKN	**Gorkha**	**15.58**	**331**	*e*P		**P**	**03 59 19.0**	**-2.0**
	comp=Z,71nm,0.4s						
KOLN	**Koldanda**	**15.91**	**327**	*e*P		**P**	**03 59 22.9**	**-2.3**
	comp=Z,48nm,0.6s						
LATR	**Latur**	**16.43**	**286**	*e*P		**P**	**03 59 35.5**	**+3.5**
BHPL	**Bhopal**	**17.25**	**302**	*e*P		**P**	**03 59 43.0**	**+0.8**
BHPL				*e*			03 59 46.3	
	comp=Z,42nm,0.8s						
BHPL				*i*			04 02 41.2	
KAD	**Karad**	**18.51**	**281**	*e*P		**P**	**03 59 57.9**	**-0.1**
KAD				*e*			04 00 01.7	
	comp=Z,27nm,0.7s						
POO	**Poona**	**18.99**	**285**	⇑*i*P		**P**	**04 00 04.0**	**+0.4**
	baz=1.0						
POO				*i*			04 03 18.0	
PTH	**Pithoragarh**	**19.16**	**323**	*e*P		**P**	**04 00 06.0**	**+0.5**
PTH				*e*			04 03 28.0	
BOM	**Bombay**	**20.02**	**285**	*e*P		**P**	**04 00 16.2**	**+1.2**
BOM				*e*			04 03 36.7	
NDI	**New Delhi**	**20.44**	**316**	*e*P		**P**	**04 00 19.5**	**+0.1**
NDI				*e*			04 03 49.0	
DDI	**Dehra Dun**	**21.00**	**321**	*e*P		**P**	**04 00 24.8**	**-0.4**
DDI				*e*S		**S**	**04 04 14.1**	**+1.7**
AJM	**Ajmer**	**21.03**	**307**	⇓*i*P		**P**	**04 00 26.0**	**+0.5**
ENH	**Enshi**	**21.65**	**41**	*e*P		**P**	**04 00 32.5**	**+0.9**
	comp=Z,39nm,1.1s,mb4.8						
DLH	**Dalhousie**	**23.83**	**322**	*e*P		**P**	**04 00 55.0**	**+1.9**
XAN	**Xi'an**	**24.04**	**33**	P		**P**	**04 00 56.1**	**+0.9**
XAN				AMB		AMB		
	comp=Z,7.0nm,0.7s,mb4.2						
TGY	**Tagaytay City**	**26.85**	**87**	LR		LR	04 10 52.9	
	comp=Z,380nm,20.8s,MS3.9,baz=112,slow=34						
AAK	**Ala-Archa**	**32.30**	**334**	*d i*P		**P**	**04 02 10.5**	**+0.4**
AAK				pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
AAK	**Ala-Archa**	**32.30**	**334**	*e*P		**P**	**04 02 10.7**	**+0.6**
	comp=Z,6.0nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**33.41**	**346**	*i* P		**P**	**04 02 20.2**	**+0.4**
MKAR				pmax		pmax		
	comp=Z,10.0nm,0.8s						
JOW	**Kunigami**	**34.87**	**64**	LR		LR	04 17 14.8	
	comp=Z,363nm,18.4s,MS4.2,baz=289,slow=37						
SONM	**Songino Array**	**34.93**	**16**	P		**P**	**04 02 33.8**	**+0.9**
	comp=Z,2.8nm,1.0s,mb4.1,baz=201,slow=8.7,SNR=13						
SONM				PcP		PcP	04 05 06.2	+1.0
	comp=Z,1.0nm,0.8s,baz=180,slow=3.7,SNR=3.7						
SONM				pPcP			04 05 15.6	
	comp=Z,0.8nm,0.6s,baz=209,slow=2.5,SNR=5.3						
ULN	**Ulaanbaatar**	**35.13**	**16**	*i P*		**P**	**04 02 35.7**	**+1.1**
ZAK	**Zakamensk**	**36.65**	**11**	*e*P		**P**	**04 02 57.6**	**+10**
KURK	**Kurchatov**	**37.95**	**345**	*e*P		**P**	**04 02 58.7**	**+0.4**
KURK				pmax		pmax		
	comp=Z,17nm,1.1s,mb4.7						
KURK	**Kurchatov**	**37.95**	**345**	*e*P		**P**	**04 02 58.6**	**+0.4**
	comp=Z,17nm,1.1s,mb4.7						
ZAL	**Zalesovo**	**39.84**	**352**	P		**P**	**04 03 14.8**	**+0.7**
	comp=Z,2.7nm,0.8s,mb4.0,baz=307,slow=7.2,SNR=15						
BVAR	**Borovoye Array**	**42.43**	**340**	P		**P**	**04 03 35.4**	**+0.2**
	comp=Z,1.5nm,0.7s,mb3.8,baz=135,slow=10,SNR=7.4						
BVAR				PcP		PcP	04 05 28.2	-0.3
	comp=Z,1.2nm,0.7s,baz=172,slow=10,SNR=2.7						
BVAR				pPcP			04 05 39.5	
	comp=Z,1.5nm,0.7s,baz=146,slow=5.3,SNR=3.5						
CHKZ	**Chkalovo**	**42.90**	**340**	*e*P		**P**	**04 03 39.2**	**+0.1**
CHKZ				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**42.90**	**340**	*e*P		**P**	**04 03 39.2**	**+0.2**
	comp=Z,6.9nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**45.55**	**134**	*e*P		**P**	**04 03 59.8**	**-1.0**
	comp=Z,31nm,0.8s,mb5.3						
BOD	**Bodaibo**	**45.93**	**15**	*e*P		**P**	**04 03 58.0**	**-5.4**
BOD				*e*			04 04 03.6	
SVE	**Sverdlovsk**	**48.91**	**337**	*e*P		**P**	**04 04 27.4**	**+0.7**
GNI	**Garni**	**49.28**	**311**	P		**P**	**04 04 31.8**	**+2.0**
	comp=Z,14nm,0.7s,mb5.1,baz=294,slow=0.4,SNR=18						
ARU	**Arti**	**49.45**	**335**	⇓*i*P		**P**	**04 04 25.9**	**-4.9**
ARU				*e*S		**S**	**04 11 33.1**	**-1.5**
ARU				*e*SS		SS	04 15 06.0	+3.4
ARU				pmax		pmax		
	comp=Z,11nm,0.9s,mb4.9						
ARU	**Arti**	**49.45**	**335**	*e*P		**P**	**04 04 27.7**	**-3.1**
	comp=Z,6.3nm,0.7s,mb4.8						
ZEI	**Tsey**	**50.68**	**314**	*e*P		**P**	**04 04 42.3**	**+1.9**
ZEI				*i*			04 06 38.5	
ZEI				pmax		pmax		
	comp=Z,16nm,0.9s,mb5.0						
MUN	**Mundaring**	**51.25**	**155**	*e*P		**P**	**04 04 44.7**	**-0.2**
	comp=Z,24nm,0.8s,mb5.2						
MUN	**Mundaring**	**51.25**	**155**	*e*P		**P**	**04 04 44.7**	**-0.2**
MUN				pmax		pmax		
	comp=Z,24nm,0.8s,mb5.2						
KIV	**Kislovodsk**	**51.89**	**315**	P		**P**	**04 04 50.2**	**+0.6**
	comp=Z,319nm,0.7s,SNR=12						
KIV	**Kislovodsk**	**51.89**	**315**	*e*P		**P**	**04 04 50.7**	**+1.1**
KIV				pmax		pmax		
	comp=Z,70nm,1.1s,mb5.5						
KIV	**Kislovodsk**	**51.89**	**315**	*e*P		**P**	**04 04 50.7**	**+1.1**
	comp=Z,70nm,1.1s,mb5.5						
GOF	**Gofitskoye**	**52.01**	**316**	⇓*i*P		**P**	**04 04 51.0**	**+0.5**
GOF				pmax		pmax		
	comp=Z,50nm,1.2s,mb5.3						
SOKR	**Solikamsk**	**52.30**	**338**	⇑*i*P		**P**	**04 04 51.6**	**-0.9**
SOKR				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
SOKR				MLR		MLR		
	comp=Z,210nm,19.0s,MS4.2						
NWAO	**Narrogin (SRO)**	**52.50**	**154**	*e*P		**P**	**04 04 53.1**	**-1.3**
NWAO				pmax		pmax		
	comp=Z,33nm,1.0s						
NWAO	**Narrogin (SRO)**	**52.50**	**154**	P		**P**	**04 04 53.4**	**-1.0**
	comp=Z,29nm,0.9s,mb5.2,baz=330,slow=8.1,SNR=8.5						
NWAO	**Narrogin (SRO)**	**52.50**	**154**	*e*P		**P**	**04 04 53.1**	**-1.2**
	comp=Z,33nm,1.0s,mb5.2						
WRA	**Warramunga Arr**	**53.01**	**129**	P		**P**	**04 04 57.2**	**-1.2**
	comp=Z,22nm,0.7s,mb5.2,baz=312,slow=7.8,SNR=105						
WRA				pP		pP	04 05 07.4	-0.9
	comp=Z,9.7nm,0.8s,baz=312,slow=7.8,SNR=12						
WRA				PcP		PcP	04 06 06.7	+0.1
	comp=Z,2.1nm,0.6s,baz=317,slow=3.2,SNR=6.0						
WRA				pPcP			04 06 16.1	
	comp=Z,2.2nm,0.6s,baz=318,slow=3.0,SNR=7.0						
WRAB	**Tennant Creek**	**53.02**	**129**	*e*P		**P**	**04 04 57.3**	**-1.1**
WRAB				*e*		pP	04 05 06.8	-1.6
WRAB				pmax		pmax		
	comp=Z,35nm,0.7s,mb5.4						
WRAB	**Tennant Creek**	**53.02**	**129**	*e*P		**P**	**04 04 57.3**	**-1.0**
	comp=Z,35nm,0.7s,mb5.4						
WRAB				*e*		pP	04 05 06.8	-1.5
WB2	**Warramunga Arr**	**53.02**	**129**	⇑*i*P		**P**	**04 04 57.4**	**-1.0**
MALT	**Malatya**	**53.61**	**307**	*e*P		**P**	**04 05 02.8**	**+0.3**
MALT				pmax		pmax		
	comp=Z,11nm,1.1s,mb4.7						
MALT	**Malatya**	**53.61**	**307**	*e*P		**P**	**04 05 02.8**	**+0.4**
	comp=Z,11nm,1.1s,mb4.7						
SOC	**Sochi**	**53.84**	**314**	*e*P		**P**	**04 05 01.0**	**-3.1**
SOC				*e*			04 06 03.6	
SOC				*e*S		**S**	**04 12 34.0**	**-1.1**
SOC				*e*			04 14 47.6	
SOC				*e*SS		SS	04 16 22.3	+6.7
SOC				pmax		pmax		
	comp=Z,18nm,0.9s,mb5.0						
SOC				pmax		pmax		
	comp=N,6.0nm,0.8s						
SOC				pmax		pmax		
	comp=E,8.0nm,0.7s						
ASF	**Jabal al Asfar**	**54.01**	**299**	P		**P**	**04 05 04.7**	**-0.8**
	comp=E,6.2nm,0.9s,mb4.6,baz=216,slow=19,SNR=5.2						
YAK	**Yakutsk**	**54.02**	**20**	*i P*		**P**	**04 05 03.8**	**-1.3**
YAK				pmax		pmax		
	comp=Z,16nm,0.7s,mb5.1						
ASPA	**Alice Springs**	**55.00**	**133**	*e*P		**P**	**04 05 12.0**	**-0.9**
ASAR	**Alice Springs**	**55.00**	**133**	P		**P**	**04 05 12.0**	**-0.9**
	comp=Z,8.2nm,0.7s,mb4.8,baz=312,slow=6.8,SNR=80						
ASAR				PcP		PcP	04 06 14.8	+0.7
	comp=Z,1.5nm,0.7s,baz=327,slow=3.3,SNR=4.0						
ASAR				pPcP			04 06 24.8	
	comp=Z,2.3nm,0.6s,baz=314,slow=3.4,SNR=5.8						
ASAR				LR		LR	04 27 24.9	
	comp=Z,86nm,21.7s,MS3.8,baz=153,slow=35						
BRTR	**Keskin Array B**	**57.52**	**308**	P		**P**	**04 05 30.1**	**-0.6**
	comp=Z,12nm,0.8s,mb5.0,baz=121,slow=7.5,SNR=57						
BRTR				pP		pP	04 05 40.4	-0.4
	comp=Z,5.9nm,0.9s,baz=129,slow=7.9,SNR=8.0						
KMBO	**Kilima Mbogo**	**57.53**	**259**	*e*P		**P**	**04 05 33.7**	**+2.6**
KMBO	**Kilima Mbogo**	**57.53**	**259**	P		**P**	**04 05 31.9**	**+0.8**
	comp=Z,2.6nm,1.1s,mb4.2,baz=52,slow=12,SNR=4.4						
KMBO				LR		LR	04 29 27.9	
	comp=Z,98nm,19.1s,MS3.9,baz=88,slow=35						
KMBO	**Kilima Mbogo**	**57.53**	**259**	*e*P		**P**	**04 05 32.2**	**+1.1**
	comp=Z,4.2nm,1.2s,mb4.3						
KMBO				LR		LR	04 29 27.9	
SIM	**Simferopol'**	**58.07**	**314**	*e*P		**P**	**04 05 34.9**	**+0.4**
SIM				pmax		pmax		
	comp=Z,26nm,0.6s,mb5.4						
PMG	**Port Moresby**	**58.54**	**111**	*e*P		**P**	**04 05 38.0**	**-0.1**
PMG				pmax		pmax		
	comp=Z,12nm,0.7s						
PMG	**Port Moresby**	**58.54**	**111**	P		**P**	**04 05 38.3**	**+0.2**
	comp=Z,18nm,0.9s,mb5.1,baz=310,slow=9.0,SNR=4.4						
PMG	**Port Moresby**	**58.54**	**111**	*e*P		**P**	**04 05 38.0**	**-0.1**
	comp=Z,12nm,0.7s,mb5.0						
OBN	**Obninsk**	**59.32**	**326**	*e*P		**P**	**04 05 40.7**	**-2.3**
OBN				*e*		pP	04 05 50.9	-2.3
OBN				pmax		pmax		
	comp=Z,25nm,1.2s,mb5.1						
OBN				MLR		MLR		
	comp=Z,200nm,19.0s,MS4.3						
ISP	**Isparta**	**59.73**	**305**	*i P*		**P**	**04 05 43.9**	**-2.2**
TIXI	**Tiksi**	**60.91**	**12**	*e*P		**P**	**04 05 51.9**	**-1.8**
TIXI				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
MA2	**Magadan**	**61.35**	**29**	*i P*		**P**	**04 06 03.9**	**+7.1**
AKASG	**Malin Array Be**	**62.44**	**320**	P		**P**	**04 06 02.9**	**-1.3**
	comp=Z,11nm,1.1s,mb4.9,baz=82,slow=5.0,SNR=17						
CTA	**Charters Tower**	**62.48**	**122**	*e*P		**P**	**04 06 04.9**	**0.0**
	comp=Z,7.2nm,0.9s,mb4.8						
CTA	**Charters Tower**	**62.48**	**122**	*e*P		**P**	**04 06 04.9**	**0.0**
CTA				pmax		pmax		
	comp=Z,7.0nm,0.9s						
CTAO	**Charters Tower**	**62.48**	**122**	*e*P		**P**	**04 06 04.7**	**-0.2**
CTAO				*e*		pP	04 06 14.0	-1.1
CTAO				pmax		pmax		
	comp=Z,16nm,1.2s,mb5.0						
CTAO	**Charters Tower**	**62.48**	**122**	*e*P		**P**	**04 06 04.7**	**-0.2**
	comp=Z,16nm,1.2s,mb5.0						
CTAO				*e*		pP	04 06 14.0	-1.1
IDI	**Anoyia**	**64.14**	**302**	P		**P**	**04 06 15.1**	**-0.6**
	comp=Z,22nm,1.0s,mb5.1,baz=142,slow=7.5,SNR=5.5						
JOF	**Joensuu**	**64.48**	**333**	*e*p		**P**	**04 06 16.4**	**-1.1**
	comp=Z,6.0nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**65.42**	**136**	*e*P		**P**	**04 06 23.5**	**-0.5**
	comp=Z,5.9nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**65.42**	**136**	P		**P**	**04 06 23.6**	**-0.4**
	comp=Z,7.6nm,0.7s,mb4.8,baz=313,slow=6.9,SNR=19						
LVV	**L'vov**	**65.60**	**318**	*e*P		**P**	**04 06 24.3**	**-0.6**
KWP	**Kalwaria**	**66.44**	**318**	*e*P		**P**	**04 06 30.4**	**+0.1**
FINES	**FINESS Array B**	**66.44**	**331**	*e*P		**P**	**04 06 29.3**	**-0.7**
FINES	**FINESS Array B**	**66.44**	**331**	P		**P**	**04 06 29.6**	**-0.4**
	comp=Z,13nm,1.0s,mb4.9,baz=108,slow=7.2,SNR=23						
FINES				LR		LR	04 37 33.7	
	comp=Z,150nm,19.0s,MS4.2,baz=167,slow=38						
KAF	**Kangasniemi**	**66.49**	**332**	*e*p		**P**	**04 06 28.6**	**-1.7**
	comp=Z,2.2nm,0.7s,mb4.3						
KAF	**Kangasniemi**	**66.49**	**332**	*e*P		**P**	**04 06 28.6**	**-1.7**
KAF				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
SUW	**Suwalki**	**66.63**	**323**	*e*P		**P**	**04 06 31.1**	**-0.3**
KOLS	**Kolonicke sedl**	**66.66**	**317**	*e*P		**P**	**04 06 32.3**	**+0.6**
KOLS				*e*			04 06 37.8	
CRVS	**Cervenica-Dubn**	**67.19**	**317**	*e*P		**P**	**04 06 35.7**	**+0.6**
NIE	**Niedzica**	**67.98**	**318**	*e*P		**P**	**04 06 40.9**	**+0.9**
PSZ	**Piszkesteto**	**68.18**	**316**	*e*P		**P**	**04 06 41.5**	**+0.2**
PSZ				pmax		pmax		
	comp=Z,11nm,0.8s,mb4.9						
PSZ	**Piszkesteto**	**68.18**	**316**	*e*P		**P**	**04 06 41.5**	**+0.2**
	comp=Z,11nm,0.8s,mb5.0						
OJC	**Ojcow**	**68.36**	**319**	*e*P		**P**	**04 06 42.5**	**+0.2**
ARCES	**ARCESS Array B**	**68.72**	**340**	P		**P**	**04 06 44.4**	**+0.1**
	comp=Z,3.9nm,0.6s,mb4.5,baz=90,slow=4.9,SNR=13						
ARCES				LR		LR	04 40 34.4	
	comp=Z,208nm,18.7s,MS4.4,baz=209,slow=39						
VYHS	**Vyhne**	**68.91**	**317**	*e*P		**P**	**04 06 45.9**	**+0.1**
SRO2	**Moca**	**69.19**	**316**	*i P*		**P**	**04 06 47.9**	**+0.4**
SRO	**Srobarova**	**69.24**	**316**	*i P*		**P**	**04 06 48.6**	**+0.8**
OKC	**Ostrava-Krasne**	**69.40**	**318**	*e*P		**P**	**04 06 49.5**	**+0.7**
OKC				*e*pP		pP	04 06 56.6	-2.3
MORC	**Moravsky Berou**	**69.79**	**318**	*e*P		**P**	**04 06 51.4**	**+0.3**
MORC				pmax		pmax		
	comp=Z,19nm,1.1s,mb4.9						
MORC	**Moravsky Berou**	**69.79**	**318**	*e*P		**P**	**04 06 51.4**	**+0.3**
	comp=Z,19nm,1.1s,mb4.9						
ZST	**Bratislava**	**70.06**	**316**	*e*P		**P**	**04 06 53.7**	**+0.9**
DPC	**Dobruska-Polom**	**70.59**	**319**	*e*P		**P**	**04 06 56.7**	**+0.7**
DPC				*e*pP		pP	04 07 08.1	+1.9
KSP	**Ksiaz**	**70.61**	**319**	⇓*e*P		**P**	**04 06 56.5**	**+0.4**
KSP				*e**PP		pP	04 07 05.1	-1.2
KSP	**Ksiaz**	**70.61**	**319**	*e*P		**P**	**04 06 56.8**	**+0.7**
UPC	**Upice**	**70.79**	**319**	*e*P		**P**	**04 06 57.9**	**+0.7**
LSZ	**Lusaka**	**70.79**	**248**	*e*P		**P**	**04 06 58.5**	**+0.7**
LSZ				*e*		pP	04 07 10.1	+2.1
LSZ				pmax		pmax		
	comp=Z,29nm,1.3s,mb5.0						
LSZ	**Lusaka**	**70.79**	**248**	*e*P		**P**	**04 06 58.5**	**+0.7**
	comp=Z,29nm,1.3s,mb5.0						
LSZ				*e*		pP	04 07 10.1	+2.1
ARSA	**Arzberg**	**71.13**	**315**	⇓*i*P		**P**	**04 06 59.9**	**+0.6**
	comp=Z,9.0nm,0.9s,mb4.7						
PDKS	**Podkum**	**71.53**	**314**	*e*P		**P**	**04 07 02.6**	**+0.8**
PVCC	**Panska Ves**	**71.71**	**319**	*e*P		**P**	**04 07 03.8**	**+1.1**
PRU	**Pruhonice**	**71.73**	**318**	*e*P		**P**	**04 07 03.6**	**+0.7**
PRU				*e*pP		pP	04 07 13.7	+0.6
MOA	**Molln**	**71.97**	**316**	⇑*i*P		**P**	**04 07 04.7**	**+0.4**
	comp=Z,12nm,0.9s,mb4.8						
BRG	**Berggiesshubel**	**72.10**	**319**	*e*P		**P**	**04 07 05.7**	**+0.6**
BRG				*e*		pP	04 07 15.7	+0.4
BRG				pmax		pmax		
	comp=Z,18nm,1.0s,mb5.0						
BRG	**Berggiesshubel**	**72.10**	**319**	*e*P		**P**	**04 07 05.7**	**+0.6**
	comp=Z,18nm,1.0s,mb5.0						
BRG				*e*		pP	04 07 15.7	+0.4
GEC2	**GERESS Array S**	**72.31**	**317**	*e*P		**P**	**04 07 06.7**	**+0.4**
GEC2				pmax		pmax		
	comp=Z,19nm,1.0s,mb5.0						
GEC2	**GERESS Array S**	**72.31**	**317**	*e*P		**P**	**04 07 06.7**	**+0.4**
	comp=Z,19nm,1.0s,mb5.0						
GERES	**GERESS Array B**	**72.31**	**317**	P		**P**	**04 07 06.6**	**+0.3**
	comp=Z,10nm,0.7s,mb4.9,baz=87,slow=5.9,SNR=77						
GERES				pP		pP	04 07 17.4	+0.8
	comp=Z,4.0nm,0.7s,baz=90,slow=5.3,SNR=7.1						
KHC	**Kasperske Hory**	**72.38**	**317**	*e*P		**P**	**04 07 07.4**	**+0.6**
KHC				*e*pP		pP	04 07 18.2	+1.2
CADS	**Cadrg**	**72.40**	**314**	*e*P		**P**	**04 07 06.8**	**-0.1**
KBA	**Koelnbreinsper**	**72.63**	**315**	⇓*i*P		**P**	**04 07 08.1**	**-0.1**
	comp=Z,18nm,1.6s,mb4.7						
KBA	**Koelnbreinsper**	**72.63**	**315**	⇓*i*P		**P**	**04 07 08.1**	**-0.1**
KBA				pmax		pmax		
	comp=Z,18nm,1.6s,mb4.8						
CLL	**Collm**	**72.68**	**320**	*i* P		**P**	**04 07 08.4**	**-0.1**
CLL				*i*		pP	04 07 19.4	+0.7
CLL				pmax		pmax		

INK	**Inuvik**	**90.85**	**16**	P	**P**	**04 08 43.8**	**+0.8**
	comp=Z,1.5nm,0.7s,mb4.4,baz=330,slow=5.4,SNR=9.0						
INK				pP	pP	04 08 54.2	+0.7
	comp=Z,2.4nm,0.6s,baz=356,slow=7.6,SNR=6.3						
INK	**Inuvik**	**90.85**	**16**	P	**P**	**04 08 43.8**	**+0.8**
INK				*e*P	pP	04 08 53.8	+0.2
INK				pP	pP	04 08 54.2	+0.7
DBIC	**Dimbokro**	**96.11**	**278**	P	**P**	**04 09 09.7**	**+1.2**
	comp=Z,2.9nm,0.9s,mb4.7,baz=65,slow=4.1,SNR=6.3						
YKA	**Yellowknife Ar**	**100.16**	**13**	PP	PP	04 13 28.8	-5.2
	comp=Z,0.2nm,0.8s,baz=341,slow=7.8,SNR=2.6						
PDAR	**Pinedale Array**	**119.24**	**19**	PKP	PKPdf	04 14 30.2	-3.2
	comp=Z,0.5nm,0.7s,baz=234,slow=0.7,SNR=3.9						
PDAR				pPKP		04 14 39.9	
	comp=Z,0.4nm,0.8s,baz=118,slow=3.0,SNR=2.7						
NVAR	**Mina Array Bea**	**119.58**	**28**	PKP	PKPdf	04 14 32.3	-1.9
	comp=Z,1.5nm,1.0s,baz=28,slow=0.9,SNR=9.4						
NVAR				pPKP		04 14 42.8	
	comp=Z,0.6nm,0.6s,baz=284,slow=3.6,SNR=5.3						
TXAR	**Lajitas Array**	**133.41**	**20**	PKP	PKPdf	04 14 59.3	-1.7
	comp=Z,0.4nm,0.6s,baz=111,slow=0.6,SNR=4.4						
TXAR				pPKP		04 15 09.0	
	comp=Z,0.5nm,0.6s,baz=55,slow=0.6,SNR=4.8						
BDFB	**Brasilia**	**142.60**	**263**	PKP	PKPdf	04 15 15.4	-2.6
	comp=Z,2.0nm,0.9s,baz=78,slow=18,SNR=3.2						
LPAZ	**La Paz**	**161.94**	**262**	PKPab	PKPab	04 16 28.6	-0.3
	comp=Z,1.1nm,0.9s,baz=176,slow=10,SNR=2.7						
LPAZ	**La Paz**	**161.94**	**262**	*e*PKPab	PKPab	04 16 28.4	-0.5

*MOS **17** 04:01:19.8±1.3, 44.43N×147.93E, h102km, mb4.1/9, Error ellipse: s-maj=20.0km s-min=15.4km az=88.0*
*JMA **17** 04:01:22.1±0.3, 44.04N×147.96E, h92km, M4.3*
*IDC **17** 04:01:24.5±3.0, 44.49N×147.71E, h126km±30km, mb3.6/12, mb1 3.8/13, mb1mx3.7/22, mbtmp4.0/13, Error ellipse: s-maj=50.6km s-min=17.4km az=179.0*
*NEIC **17** 04:01:25.2±2.5, 44.61N×147.74E, h127km±15km, mb4.1/6, Error ellipse: s-maj=36.0km s-min=10.2km az=172.0*

ISC 17 04:01:19.5±0.7, 44.33N±0.07×147.98E±0.09, h100km±5km, n49, σ1§14/61, mb4.0/17, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.91**	**355**	⇓*i*PN	**P**	**04 01 38.0**	**-1.2**
KUR				*i* S	**S**	**04 01 52.5**	**-1.4**
KUR				pmax	pmax		
	comp=N,170nm,0.4s						
KUR				pmax	pmax		
	comp=E,100nm,0.4s						
KUR				pmax	pmax		
	comp=Z,510nm,0.4s						
KUR				smax			
	comp=N,2μm,0.5s						
KUR				smax			
	comp=E,1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.55**	**260**	*e*PN	**P**	**04 01 46.5**	**-0.4**
YUK				*e*S	**S**	**04 02 05.8**	**-1.4**
YUK				pmax	pmax		
	comp=Z,860nm,0.2s						
YUK				smax			
	comp=N,3μm,0.8s						
YUK				smax			
	comp=E,6μm,0.8s						
YUK				smax			
	comp=N,3μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
NEM2	**Nemuro 2**	**1.89**	**240**	P	**P**	**04 01 51.3**	**+0.2**
NEM2				*e*S	**S**	**04 02 13.2**	**-1.3**
JRA	**Rausu**	**2.10**	**260**	P	**P**	**04 01 55.2**	**+1.3**
JRA				*e*S	**S**	**04 02 21.2**	**+1.8**
JNK	**Nakash**	**2.47**	**254**	P	**P**	**04 01 59.8**	**+0.8**
JNK				*e*S	**S**	**04 02 29.0**	**+0.5**
JAK	**Akkeshi**	**2.73**	**242**	P	**P**	**04 02 02.6**	**0.0**
JAK				*e*S	**S**	**04 02 32.9**	**-2.0**
JTKR	**Abashiri--Toko**	**2.95**	**264**	P	**P**	**04 02 06.7**	**+1.0**
JTKR				*e*S	**S**	**04 02 40.5**	**+0.1**
JAR	**Ashorobuto**	**3.22**	**253**	P	**P**	**04 02 10.5**	**+1.2**
JAR				*e*S	**S**	**04 02 46.6**	**-0.2**
JCH	**Churui**	**3.77**	**245**	P	**P**	**04 02 17.1**	**+0.2**
JCH				*e*S	**S**	**04 02 58.1**	**-2.4**
JKK2	**Kamakawa 2**	**3.80**	**265**	P	**P**	**04 02 18.4**	**+1.2**
JKK2				*e*S	**S**	**04 03 01.8**	**+0.8**
ASAJ	**Asahikawa**	**3.88**	**269**	PN	**P**	**04 02 19.7**	**+1.4**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ	**Asahikawa**	**3.88**	**269**	P	**P**	**04 02 19.6**	**+1.4**
	comp=Z,6.3nm,0.3s,baz=81,slow=19,SNR=16						
JSE	**Soyaes**	**3.90**	**281**	P	**P**	**04 02 19.7**	**+1.1**
JFR	**Furan**	**4.07**	**255**	P	**P**	**04 02 22.1**	**+1.1**
JNBK	**Urakawa-nobuka**	**4.33**	**244**	P	**P**	**04 02 23.8**	**-0.7**
JNBK				*e*S	**S**	**04 03 10.4**	**-3.8**
JWK2	**Keihoku**	**4.44**	**285**	P	**P**	**04 02 28.3**	**+2.3**
YSS	**Yuzh-Sakhalins**	**4.51**	**307**	*i* PN	**P**	**04 02 27.4**	**+0.5**
YSS	**Yuzh-Sakhalins**	**4.51**	**307**	*e*P	**P**	**04 02 27.4**	**+0.5**
JKB	**Kayabe**	**5.64**	**247**	P	**P**	**04 02 41.9**	**-0.4**
JKB				*e*S	**S**	**04 03 41.3**	**-5.1**
JOT	**Ohata**	**5.89**	**242**	*e*S	**S**	**04 03 45.6**	**-6.8**
JANG	**Nango**	**6.21**	**233**	*e*S	**S**	**04 03 52.2**	**-8.2**
ULN	**Ulaanbaatar**	**28.36**	**292**	*e*P	**P**	**04 07 04.9**	**-1.1**
	comp=Z,1.2nm,0.6s,mb3.6						
SONM	**Songino Array**	**28.80**	**292**	P	**P**	**04 07 09.1**	**-0.8**
	comp=Z,0.4nm,0.5s,mb3.3,baz=77,slow=8.9,SNR=5.6						
IMA	**Indian Mountai**	**37.86**	**34**	*e*P	**P**	**04 08 28.0**	**+0.3**
	comp=Z,20nm,0.8s,mb5.0						
MCK	**McKinley**	**39.81**	**38**	P	**P**	**04 08 44.4**	**+0.5**
	comp=Z,0.7nm,0.5s,mb3.8						
COLA	**College**	**40.25**	**36**	P	**P**	**04 08 48.6**	**+1.0**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
COLA	**College**	**40.25**	**36**	P	**P**	**04 08 48.6**	**+1.1**
	comp=Z,3.5nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**40.66**	**37**	P	**P**	**04 08 51.4**	**+0.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**40.66**	**37**	P	**P**	**04 08 51.4**	**+0.4**
	comp=Z,1.1nm,0.5s,mb4.0,baz=270,slow=8.8,SNR=20						
INK	**Inuvik**	**45.60**	**31**	*e*P	**P**	**04 09 31.6**	**+0.8**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	**Inuvik**	**45.60**	**31**	P	**P**	**04 09 31.8**	**+1.0**
	comp=Z,2.1nm,0.3s,mb4.3,baz=301,slow=7.2,SNR=22						
INK	**Inuvik**	**45.60**	**31**	*e*P	**P**	**04 09 31.6**	**+0.9**
	comp=Z,2.1nm,0.4s,mb4.2						
RES	**Resolute Bay**	**54.24**	**17**	*e*P	**P**	**04 10 35.3**	**-1.3**
RES				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
RES	**Resolute Bay**	**54.24**	**17**	*e*P	**P**	**04 10 35.3**	**-1.3**
	comp=Z,1.9nm,0.5s,mb4.4						
YKA	**Yellowknife Ar**	**54.99**	**34**	P	**P**	**04 10 42.2**	**0.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**54.99**	**34**	P	**P**	**04 10 42.2**	**0.0**
	comp=Z,1.0nm,0.6s,mb4.0,baz=299,slow=6.9,SNR=16						
YKA	**Yellowknife Ar**	**54.99**	**34**	P	**P**	**04 10 42.2**	**0.0**
ARCES	**ARCESS Array B**	**58.91**	**340**	P	**P**	**04 11 07.6**	**-2.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**58.91**	**340**	P	**P**	**04 11 07.5**	**-2.2**
	comp=Z,2.2nm,0.8s,mb4.3,baz=31,slow=7.1,SNR=5.9						
FINES	**FINESS Array B**	**64.63**	**333**	P	**P**	**04 11 46.0**	**-2.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.63**	**333**	P	**P**	**04 11 46.0**	**-2.0**
	comp=Z,1.3nm,0.5s,mb4.0,baz=34,slow=6.9,SNR=9.8						
NVAR	**Mina Array Bea**	**66.76**	**59**	P	**P**	**04 12 03.1**	**+1.1**
	comp=Z,0.8nm,0.5s,mb3.8,baz=300,slow=7.3,SNR=9.0						
PDAR	**Pinedale Array**	**69.08**	**50**	P	**P**	**04 12 16.0**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.5,baz=292,slow=0.8,SNR=5.2						
NOA	**NORSAR Array B**	**69.28**	**339**	P	**P**	**04 12 16.5**	**-0.7**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
NOA	**NORSAR Array B**	**69.28**	**339**	P	**P**	**04 12 16.5**	**-0.8**
	comp=Z,1.5nm,1.1s,mb3.8,baz=36,slow=5.6,SNR=2.6						
AKASG	**Malin Array Be**	**71.47**	**324**	P	**P**	**04 12 29.6**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.47**	**324**	P	**P**	**04 12 29.6**	**-1.0**
	comp=Z,0.5nm,0.3s,mb3.8,baz=37,slow=5.9,SNR=7.3						
GERES	**GERESS Array B**	**78.94**	**331**	P	**P**	**04 13 12.7**	**-0.4**
	comp=Z,0.3nm,0.5s,mb3.4,baz=56,slow=3.5,SNR=3.7						
TXAR	**Lajitas Array**	**81.83**	**57**	P	**P**	**04 13 30.4**	**+1.5**
	comp=Z,1.4nm,0.5s,mb4.1,baz=292,slow=4.0,SNR=33						

*NEIC **17** 04:18:49.5, 31.27S×67.85W, h150km, After GUC.*

GUC 17 04:18:49.5±0.7, 31.27S×67.85W, h150km, ML4.5, 1C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**1.82**	**208**	*e*P	P	04 19 19.7	-3.2
MDZ				*e*		04 19 22.4	
MDZ				S	S	04 19 44.4	-4.2
CMCH	**Combarbala**	**2.70**	**271**	⇓*i*P	P	04 19 33.7	-0.1
CMCH				*i* S	S	04 20 07.6	-0.1
CMCH				AMP		04 20 10.8	
	comp=N,4μm,0.8s						
JACH	**Jahuel**	**2.73**	**238**	*e*P	P	04 19 34.5	+0.5
TLL	**Tololo Astrono**	**2.77**	**293**	*e*P	P	04 19 35.1	+0.4
TLL				*i* S	S	04 20 10.2	+1.0
TLL				AMP		04 20 16.0	
	comp=E,423nm,0.4s						
PTCH	**Petorca**	**2.81**	**249**	*e*P	P	04 19 34.6	-0.5
PTCH				*i* S	S	04 20 09.4	-0.5
PTCH				AMP		04 20 15.6	
	comp=N,1μm,0.3s						
FCH	**Farellones**	**2.91**	**225**	*e*P	P	04 19 37.1	+0.6
FCH				*i* S	S	04 20 16.0	+3.7
CLCH	**Cerro Calan**	**3.11**	**226**	*e*P	P	04 19 38.9	-0.1
CLCH				*i* S	S	04 20 18.7	+1.8
CLCH				AMP		04 20 25.1	
	comp=N,847nm,0.7s						
DSCH	**Colegio Aleman**	**3.13**	**227**	⇑*i*P	P	04 19 39.7	+0.4
PCH	**Pirque**	**3.25**	**223**	*e*P	P	04 19 42.1	+1.3
PACH	**Papudo**	**3.30**	**247**	*e*P	P	04 19 39.9	-1.6
RCDM	**Rinconada Maip**	**3.34**	**228**	*e*P	P	04 19 42.4	+0.4
TACH	**Talagante**	**3.53**	**227**	*i* P	P	04 19 44.3	-0.2
CHCH	**Chadas Angostu**	**3.56**	**221**	*i* P	P	04 19 45.1	+0.3

IGQ 17 04:26:32.9, 0.94S×81.32W, h12km±21km, mb4.2, 4C-5D, Error ellipse: s-maj=21.5km s-min=5.5km az=175.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.74**	**101**	P	Pn	04 27 18.3	+0.8
IGUA				S	Sn	04 27 51.8	+1.0
JUA2	**San Juan 2**	**2.81**	**75**	P	Pn	04 27 20.0	+1.5
TERV	**Terraza Guagua**	**2.82**	**74**	⇓P	Pn	04 27 20.5	+1.8
PINO	**Pino**	**2.83**	**74**	⇑P	Pn	04 27 20.2	+1.5
JOR1	**San Jorge 1**	**2.84**	**71**	P	Pn	04 27 19.3	+0.3
NAS1	**Nasa**	**2.86**	**84**	P	Pn	04 27 21.7	+2.4
YANA	**Yana**	**2.87**	**73**	⇓P	Pn	04 27 20.7	+1.3
CUSU	**Cusua**	**2.89**	**100**	P	Pn	04 27 21.4	+1.8
JUIV	**Juive**	**2.90**	**100**	P	Pn	04 27 20.8	+1.0
RETU	**Refugio**	**2.92**	**100**	P	Pn	04 27 22.2	+2.1
ARRY	**Arrayan**	**2.92**	**101**	⇑P	Pn	04 27 21.1	+1.0
ARRY				S	Sn	04 27 56.0	+0.5
VC1	**Cotopaxi 1**	**2.94**	**84**	P	Pn	04 27 23.1	+2.8
VC1				S	Sn	04 28 05.7	+10
PISA	**Pisayambo**	**2.94**	**92**	P	Pn	04 27 21.9	+1.6
PATA	**Patacocha**	**2.94**	**101**	P	Pn	04 27 22.3	+1.9
PATA				S	Sn	04 27 57.4	+1.4
RUN2	**Runtun**	**2.95**	**99**	⇑P	Pn	04 27 21.6	+1.1
ULBA	**Ulba**	**2.96**	**100**	⇑P	Pn	04 27 22.6	+2.0
TAMB	**Tambo**	**2.97**	**85**	P	Pn	04 27 24.3	+3.5
ANTI	**Antisana**	**3.20**	**81**	⇓P	Pn	04 27 26.4	+2.4
COTA	**Cotacachi**	**3.24**	**67**	P	Pn	04 27 26.2	+1.6
CAYR	**Refugio Cayamb**	**3.45**	**74**	⇓P	Pn	04 27 31.4	+3.8
CAYR				S	Sn	04 28 13.6	+4.8
CAYA	**Cayambe**	**3.48**	**73**	⇓P	Pn	04 27 31.6	+3.5

IDC 17 04:28:04.6±4.4, 6.68N×91.04E, mb3.5/3, mb1 3.9/4, mb1mx3.6/16, mbtmp3.6/4, ML3.7/1, MS3.0/1, Ms1 3.2/1, ms1mx2.6/17, Error ellipse: s-maj=121.2km s-min=31.6km az=76.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.02**	**33**	Pn	P	04 31 22.9	-4.1
	0.1nm,0.3s,baz=231,slow=14,SNR=22						
CMAR				LR	LR	04 36 29.3	
	comp=Z,61nm,18.4s,baz=118,slow=36						
SONM	**Songino Array**	**43.06**	**15**	P	P	04 36 07.1	-0.8
	0.2nm,0.4s,baz=207,slow=9.0,SNR=4.0						
WRA	**Warramunga Arr**	**50.14**	**123**	P	P	04 37 01.7	-2.4
	0.6nm,0.8s,baz=306,slow=8.8,SNR=3.8						
ASAR	**Alice Springs**	**51.58**	**127**	P	P	04 37 13.0	-2.0
	0.2nm,0.7s,baz=293,slow=6.8,SNR=4.5						

*NIED **17** 04:28:00, 37.00N×141.60E, h17km, Mw3.6 Best double couple: M₀2.91×10¹⁴ NP1:φs15°, δ76°, λ82°. NP2:φs226°, δ16°, λ121°.*
*JMA **17** 04:28:33.1±0.2, 36.98N×141.63E, h53km±3km, M3.7*

ISC 17 04:28:32.8±1.6, 36.99N±0.05×141.68E±0.09, h31km±6km, n11, σ0§78/22, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.72**	**279**	⇓P	**Pb**	**04 28 46.5**	**-0.3**
ONAJ				S	**Sb**	**04 28 56.1**	**-0.3**
JFK	**Kawauchi**	**0.75**	**301**	⇓P	**Pb**	**04 28 47.0**	**-0.3**
JFK				S	**Sb**	**04 28 57.6**	**+0.3**
JHO	**Hitachi**	**0.97**	**248**	⇓P	**Pn**	**04 28 49.6**	**-0.9**
JHO				S	**Sn**	**04 29 03.0**	**-0.3**
JMM	**Marumori**	**1.13**	**321**	P	**Pn**	**04 28 52.6**	**-0.1**
JMM				S	**Sn**	**04 29 06.6**	**-0.7**
JFT	**Otama**	**1.20**	**297**	⇓P	**Pn**	**04 28 54.5**	**+0.8**
JFT				S	**Sn**	**04 29 08.2**	**-0.9**
JIO	**Ouri**	**1.49**	**350**	⇓P	**Pn**	**04 28 57.3**	**-0.6**
JIO				S	**Sn**	**04 29 14.7**	**-1.7**
JOU	**Okura**	**1.60**	**330**	P	**Pn**	**04 29 00.2**	**+0.8**
JOU				S	**Sn**	**04 29 19.9**	**+0.7**
JFY	**Yanaizu**	**1.64**	**285**	P	**Pn**	**04 29 00.8**	**+0.8**
JFY				S	**Sn**	**04 29 20.2**	**0.0**
JYS	**Shirataka**	**1.78**	**314**	P	**Pn**	**04 29 02.9**	**+0.8**
JYS				S	**Sn**	**04 29 25.0**	**+1.2**
JAG	**Ashikaga**	**1.88**	**253**	P	**Pn**	**04 29 03.4**	**-0.1**
JAG				S	**Sn**	**04 29 25.6**	**-0.7**
MAT	**Matsushiro**	**2.83**	**262**	P	**Pn**	**04 29 18.1**	**+1.1**
MAT				S	**Sn**	**04 29 54.3**	**+3.9**

*NEIC **17** 04:30:39.2, 33.81S×72.04W, h9km±3km, ML2.8(GUC), After GUC.*

GUC 17 04:30:39.2±0.7, 33.81S×72.04W, h9km±3km, MD3.8, ML2.8, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.51**	**50**	⇑*i*P	Pg	04 30 49.8	+0.2
LCCH				*i* S	Sg	04 30 57.5	+1.2
LNV	**Longovilo**	**0.54**	**106**	⇓*i*P	Pg	04 30 50.5	+0.4
LNV				*i* S	Sg	04 30 58.7	+1.3
TACH	**Talagante**	**0.93**	**81**	*e*P	Pb	04 30 56.2	-0.8
TACH				*i* S	Sb	04 31 09.0	-0.2
RCDM	**Rinconada Maip**	**1.07**	**73**	⇑*i*P	Pb	04 30 58.7	-0.9
RCDM				*i* S	Sb	04 31 13.3	-0.2
RCDM				AMP		04 31 15.1	
	comp=N,404nm,0.6s						
CHCH	**Chadas Angostu**	**1.16**	**97**	*i* P	Pb	04 31 00.1	-0.9
SFDO	**San Fernando**	**1.17**	**134**	*e*P	Pb	04 31 00.6	-0.6
ANTU	**Antumapu**	**1.19**	**79**	*e*P	Pb	04 31 00.7	-0.9
ANTU				*i* S	Sb	04 31 17.2	+0.2
ANTU				AMP		04 31 18.7	
	comp=E,486nm,0.5s						
ROCH	**El Roble**	**1.20**	**46**	*e*P	Pb	04 31 00.7	-0.9
ROCH				*i* S	Sb	04 31 17.8	+0.8
CACH	**El Canelo**	**1.23**	**105**	*e*P	Pb	04 31 02.1	-0.1
CACH				*i* S	Sb	04 31 19.5	+1.4
PCH	**Pirque**	**1.28**	**82**	*e*P	Pb	04 31 02.0	-1.1
DSCH	**Colegio Aleman**	**1.29**	**72**	*e*P	Pb	04 31 02.5	-0.7
DSCH				*i* S	Sb	04 31 20.1	+0.3
DSCH				AMP		04 31 26.4	
	comp=N,508nm,0.5s						
FSR	**Penalolen**	**1.30**	**76**	*e*P	Pb	04 31 02.3	-1.1
FSR				*i* S	Sb	04 31 19.9	-0.2
FSR				AMP		04 31 30.2	
	comp=N,308nm,0.6s						
CLCH	**Cerro Calan**	**1.32**	**72**	⇓*i*P	Pb	04 31 03.0	-0.7
CLCH				*i* S	Sb	04 31 20.8	+0.3
CLCH				AMP		04 31 22.5	
	comp=E,272nm,0.5s						
PACH	**Papudo**	**1.36**	**22**	*i* P	Pb	04 31 02.5	-2.0
LMEL	**Las Melosas**	**1.52**	**92**	*e*P	Pn	04 31 05.9	-0.9
LMEL				*i* S	Sb	04 31 26.4	-0.2
LMEL				AMP		04 31 29.9	
	comp=E,240nm,0.9s						
FCH	**Farellones**	**1.53**	**72**	*e*P	Pn	04 31 06.2	-0.8
FCH				*i* S	Sb	04 31 27.5	+0.7
FCH				AMP		04 31 32.8	
	comp=N,297nm,0.3s						
JACH	**Jahuel**	**1.65**	**48**	*e*P	Pn	04 31 08.3	-0.3

CSEM 17 05:17:00.5, 66.50N×17.55W, h13km, ML3.6, After REY, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**0.19**	**284**	P	Pg	05 17 04.5	-0.4
IGRI				S	Sg	05 17 07.5	-0.4
IFLA	**Flatey**	**0.36**	**200**	P	Pg	05 17 07.4	-0.6
IFLA				S	Sg	05 17 12.8	-0.3
IBRE	**Brettingsstaoi**	**0.40**	**201**	P	Pg	05 17 08.1	-0.8
IBRE				S	Sg	05 17 13.9	-0.6
ILEI	**Leirhofn**	**0.44**	**102**	P	Pg	05 17 08.5	-1.0
ILEI				S	Sg	05 17 14.6	-0.9
IGRA	**Granastaoir**	**0.58**	**181**	P	Pb	05 17 10.7	-1.4
IGRA				S	Sb	05 17 18.5	-1.4
IGIL	**Gilhagi**	**0.64**	**131**	P	Pb	05 17 11.7	-1.4
IGIL				S	Sb	05 17 20.3	-1.4
IHLA	**Hella**	**0.65**	**212**	P	Pb	05 17 11.8	-1.4
IHLA				S	Sb	05 17 20.4	-1.5
ISIG	**Siglufjorour**	**0.66**	**237**	P	Pb	05 17 11.7	-1.7
ISIG				S	Sb	05 17 19.9	-2.3
IREN	**Reynihlio**	**0.89**	**163**	P	Pb	05 17 15.7	-1.7
IREN				S	Sb	05 17 27.6	-1.4
IGRS	**Grimsstaoir**	**1.04**	**145**	P	Pb	05 17 18.0	-1.9
IGRS				S	Sb	05 17 32.0	-1.3
IHRN	**Hraun**	**1.11**	**251**	P	Pb	05 17 18.2	-2.9
IHRN				S	Sb	05 17 31.8	-3.4
ISVA	**Svartarkot**	**1.17**	**174**	P	Pb	05 17 20.1	-2.0
ISVA				S	Sb	05 17 35.8	-1.3
IADA	**Aoalbol**	**1.69**	**150**	P	Pn	05 17 28.7	-1.4
IHVA	**Hvannstoosfjol**	**1.70**	**155**	P	Pn	05 17 28.4	-1.7
IBRU	**Bruarjokull**	**1.78**	**159**	P	Pn	05 17 29.9	-1.4
IHVE	**Hveravellir**	**1.84**	**208**	P	Pn	05 17 30.8	-1.3
IHVE				S	Sn	05 17 54.5	-0.8
IVSH	**V-Sauoahnukur**	**1.86**	**155**	P	Pn	05 17 31.1	-1.3
ISKR	**Skrokkalda**	**1.98**	**191**	P	Pn	05 17 32.7	-1.4
ISKR				S	Sn	05 17 59.2	+0.3
IASB	**`sbjarnarst**	**2.35**	**223**	P	Pn	05 17 38.1	-1.4
IASB				S	Sn	05 18 08.1	-0.4
IGYG	**Gygjarholskot**	**2.49**	**208**	P	Pn	05 17 40.7	-0.8
IHEI	**Heioarbar**	**2.78**	**215**	P	Pn	05 17 45.7	+0.1
IKUD	**Kuludalsa**	**2.84**	**222**	P	Pn	05 17 44.8	-1.6

IDC 17 05:17:50.7±1.0, 10.85N×141.35E, mb3.8/5, mb1 4.1/5, mb1mx3.8/17, mbtmp3.8/5, MS3.1/1, Ms1 3.1/1, ms1mx2.5/26, Error ellipse: s-maj=44.1km s-min=22.9km az=107.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**20.11**	**324**	LR	LR	05 29 00.4	
	comp=Z,56nm,18.4s,baz=93,slow=33						
WRA	**Warramunga Arr**	**31.37**	**193**	P	P	05 24 12.8	-2.8
	1.1nm,0.7s,baz=12,slow=9.9,SNR=3.9						
ASAR	**Alice Springs**	**35.07**	**192**	P	P	05 24 46.0	-1.7
	0.6nm,0.5s,baz=17,slow=12,SNR=11						
CMAR	**Chiang Mai Arr**	**41.64**	**286**	P	P	05 25 41.2	-1.5
	0.6nm,0.4s,baz=98,slow=6.9,SNR=4.6						
ILAR	**Eielson Array**	**72.50**	**25**	P	P	05 29 18.4	-2.6
	0.4nm,0.5s,baz=257,slow=6.1,SNR=7.9						
YKA	**Yellowknife Ar**	**86.85**	**27**	P	P	05 30 37.9	-0.3
	0.4nm,0.4s,baz=288,slow=5.0,SNR=14						

*IDC **17** 05:27:56.3±0.9, 10.89N×141.25E, mb4.1/8, mb1 4.3/8, mb1mx4.1/17, mbtmp4.1/8, Error ellipse: s-maj=40.9km s-min=20.7km az=106.0*
*NEIC **17** 05:28:00.6±0.7, 10.88N×141.16E, h30km, mb4.1/3, Error ellipse: s-maj=30.2km s-min=14.8km az=97.0*

ISC 17 05:27:58.8±0.7, 10.8N±0.1×141.2E±0.2, h30km, n11, σ1§20/11, mb4.1/10, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**31.29**	**192**	*e*P	**P**	**05 34 18.1**	**-0.6**
	3.9nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**31.30**	**192**	P	**P**	**05 34 18.3**	**-0.6**
	1.2nm,0.6s,mb3.9,baz=11,slow=9.7,SNR=3.8						
ASAR	**Alice Springs**	**35.00**	**192**	P	**P**	**05 34 51.9**	**+0.9**
	1.1nm,0.6s,mb4.0,baz=17,slow=12,SNR=12						
CMAR	**Chiang Mai Arr**	**41.48**	**286**	P	**P**	**05 35 46.0**	**+1.0**
	0.6nm,0.4s,mb3.6,baz=95,slow=6.5,SNR=5.1						
KURK	**Kurchatov**	**64.41**	**321**	*e*P	**P**	**05 38 32.1**	**-2.4**
	2.6nm,1.0s,mb4.2						
ILAR	**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YKA	**Yellowknife Ar**	**87.01**	**27**	P	**P**	**05 46 48.8**	**+1.1**
ARCES	**ARCESS Array B**	**88.42**	**341**	P	**P**	**05 46 54.5**	**+0.2**
	7.9nm,1.1s,mb4.9,baz=72,slow=7.7,SNR=9.8						
BMO	**Blue Mountains**	**90.62**	**44**	*e*P	**P**	**05 47 06.2**	**+0.9**
	5.5nm,1.3s,mb4.7						
KAF	**Kangasniemi**	**91.53**	**335**	*e*p	**P**	**05 47 07.6**	**-1.5**
	1.4nm,0.7s,mb4.4						
NVAR	**Mina Array Bea**	**91.62**	**51**	P	**P**	**05 47 11.8**	**+1.7**
	2.4nm,0.8s,mb4.6,baz=262,slow=6.4,SNR=18						
FINES	**FINESS Array B**	**91.93**	**334**	P	**P**	**05 47 09.9**	**-1.0**
	1.6nm,0.5s,mb4.6,baz=64,slow=5.4,SNR=13						
FINES				pP	pP	05 47 22.9	-0.8
	3.3nm,0.9s,baz=90,slow=1.9,SNR=2.8						
LPAZ	**La Paz**	**151.29**	**104**	PKPbc	PKPdf	05 53 59.2	+10
	3.6nm,0.6s,baz=299,slow=2.6,SNR=18						
LPAZ	**La Paz**	**151.29**	**104**	*e*PKPbc	PKPdf	05 53 58.7	+9.0

*IDC **17** 05:43:14.9±1.2,23.30S×66.71W,h196km±10km,mb3.5/9, mb1 3.7/12,mb1mx3.7/14,mbtmp4.0/12,Error ellipse: s-maj=18.1km s-min=14.4km az=76.0*
*NEIC **17** 05:43:14.8±0.8,23.35S×66.75W,h197km±8km,mb4.1/2, Error ellipse: s-maj=13.8km s-min=9.7km az=62.0*

ISC 17 05:43:14.0±0.9,23.34S±0.07×66.8W±0.1,h204km±9km, n25,σ1§16/28,mb3.7/10,1C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.10**	**290**	P	**P**	**05 43 56.0**	**+1.8**
	39nm,0.3s,baz=97,slow=6.7,SNR=703						
LVC				S	**S**	**05 44 26.0**	**+0.9**
	113nm,0.3s,baz=245,slow=21,SNR=75						
LVC	**Limon Verde**	**2.10**	**290**	⇑*i*Pn	**P**	**05 43 55.9**	**+1.7**
LVC				*e*Sn	**S**	**05 44 23.4**	**-1.8**
LPAZ	**La Paz**	**7.13**	**349**	P	**P**	**05 44 58.3**	**+1.5**
	1.2nm,0.3s,baz=160,slow=6.9,SNR=36						
LPAZ				S	**S**	**05 46 17.6**	**+0.7**
	baz=107,slow=25,SNR=3.0						
LPAZ	**La Paz**	**7.13**	**349**	*e*Pn	**P**	**05 44 58.0**	**+1.3**
LPAZ				S	**S**	**05 46 17.6**	**+0.7**
ARE	**Arequipa**	**8.15**	**326**	*e*P	**P**	**05 45 09.0**	**-1.1**
ARE				*e*S	**S**	**05 46 39.0**	**-1.8**
TRQA	**Tornquist**	**15.23**	**165**	*e*P	**P**	**05 46 38.4**	**-1.6**
	1.5nm,0.4s						
BDFB	**Brasilia**	**19.26**	**70**	P	**P**	**05 47 24.9**	**-0.2**
	1.0nm,0.3s,baz=250,slow=7.1,SNR=17						
BAO	**Brasilia Array**	**19.29**	**70**	*e*P	**P**	**05 47 25.2**	**-0.1**
BAO				*e*		05 47 34.1	
SDV	**Santo Domingo**	**32.25**	**353**	P	**P**	**05 49 23.9**	**-1.6**
	1.0nm,0.5s,mb3.6,baz=313,slow=10,SNR=3.3						
SDV	**Santo Domingo**	**32.25**	**353**	*e*P	**P**	**05 49 24.3**	**-1.2**
SNAA	**Sanae**	**59.90**	**161**	P	**P**	**05 52 59.8**	**-0.3**
	2.0nm,0.8s,mb3.8,baz=35,slow=10,SNR=2.8						
TXAR	**Lajitas Array**	**63.26**	**324**	P	**P**	**05 53 23.4**	**+0.3**
	0.2nm,0.5s,mb3.0,baz=151,slow=7.0,SNR=4.2						
TXAR	**Lajitas Array**	**63.26**	**324**	P	**P**	**05 53 23.4**	**+0.3**
DBIC	**Dimbokro**	**67.40**	**72**	P	**P**	**05 53 47.9**	**-1.9**
	1.2nm,0.7s,mb3.7,baz=209,slow=9.1,SNR=5.0						
DBIC	**Dimbokro**	**67.40**	**72**	P	**P**	**05 53 47.9**	**-1.9**
PDAR	**Pinedale Array**	**76.69**	**329**	P	**P**	**05 54 44.1**	**0.0**
	0.3nm,0.5s,mb3.1,baz=139,slow=6.2,SNR=4.1						
SCHQ	**Schefferville**	**77.85**	**360**	P	**P**	**05 54 50.2**	**0.0**
	4.6nm,1.0s,mb4.1,baz=156,slow=1.4,SNR=5.6						
SCHQ	**Schefferville**	**77.85**	**360**	*e*P	**P**	**05 54 50.2**	**0.0**
NVAR	**Mina Array Bea**	**78.15**	**321**	P	**P**	**05 54 53.1**	**+0.9**
	0.6nm,0.9s,mb3.2,baz=143,slow=4.5,SNR=2.5						
MAW	**Mawson**	**82.00**	**163**	P	**P**	**05 55 12.8**	**+0.9**
	4.6nm,0.3s,mb4.1,baz=294,slow=9.2,SNR=4.3						
LSZ	**Lusaka**	**88.49**	**106**	*e*P	**P**	**05 55 47.0**	**+2.1**
	7.7nm,1.4s,mb4.3						
YKA	**Yellowknife Ar**	**93.58**	**340**	P	**P**	**05 56 08.2**	**+0.8**
	0.7nm,0.6s,mb3.9,baz=134,slow=4.5,SNR=33						
YKA	**Yellowknife Ar**	**93.58**	**340**	*e*P	**P**	**05 56 08.2**	**+0.8**
ASAR	**Alice Springs**	**129.14**	**205**	PKP	PKPdf	06 01 59.8	+1.3
	0.3nm,0.4s,baz=166,slow=1.6,SNR=4.3						
SONM	**Songino Array**	**154.96**	**11**	PKPab	PKPab	06 03 09.6	+0.1
	1.4nm,1.2s,baz=322,slow=3.8,SNR=5.1						

*BJI **17** 05:43:53.5,11.25N×140.85E,h10km,mB5.2,mb5.1, Ms4.7,Ms2.4.5*
*HRVD **17** 05:43:53.4±0.4,10.89N×140.81E,h13km±2km,MW5.0/51, Centroid moment Tensor Solution. LP body waves: s16,c18;Mantle waves: s51,c75; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.30±.22; $M_{\theta\theta}$2.80±.16; $M_{\phi\phi}$-1.50±.13; $M_{r\theta}$2.46±.54; $M_{r\phi}$0.40±.11; $M_{\theta r}$0.04±.39; Best double couple: $M_0$3.225×10^{16} NP1:ϕ_s66°, δ22°, λ-116°. NP2:ϕ_s273°, δ71°, λ-80°. Principal axes: T 3.978, Plg25°, Azm356°; N -1.506, Plg9°, Azm90°; P -2.472, Plg63°, Azm199°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **17** 05:43:53.4±0.2,10.92N×140.80E,h10km,mb5.1/43, MS4.3/7 Error ellipse: s-maj=7.5km s-min=5.1km az=94.0*
*MOS **17** 05:43:54.5±0.9,10.94N×140.90E,h33km,mb5.3/34,Error ellipse: s-maj=10.8km s-min=6.2km az=99.5*
*IDC **17** 05:43:55.3±4.2,10.90N×140.87E,h22km±26km,mb4.9/24, mb1 5.0/27,mb1mx5.0/30,mbtmp5.1/27,ML5.0/3,MS4.3/16, Ms1 4.3/16,ms1mx4.2/22,Error ellipse: s-maj=17.9km s-min=10.7km az=82.0*

ISC 17 05:43:51.2±1.5,10.91N±0.04×140.78E±0.04,h7km±9km, h15km±5.4km:pP-P,n182,σ1§16/176,mb5.1/91,MS4.3/30, 8C-7D,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.81**	**56**	*e*P	**Pn**	**05 45 07.0**	**+1.2**
CBIJ	**Chichi jima**	**16.16**	**5**	Pn	**P**	**05 47 42.6**	**+2.1**
	20nm,0.3s,baz=292,slow=22,SNR=5.9						
CBIJ				LR	LR	05 53 26.0	
	comp=Z,639nm,20.4s,baz=182,slow=35						
TGY	**Tagaytay City**	**19.62**	**281**	P	**P**	**05 48 24.8**	**+1.5**
	30nm,0.3s,baz=162,slow=12,SNR=4.4						
TGY				LR	LR	05 55 11.7	
	comp=Z,732nm,19.9s,baz=100,slow=34						
JOW	**Kunigami**	**19.74**	**325**	P	**P**	**05 48 26.0**	**+1.4**
	3.1nm,0.3s,baz=162,slow=7.5,SNR=6.0						
JOW				LR	LR	05 54 20.6	
	comp=Z,824nm,19.2s,baz=155,slow=32						
PMG	**Port Moresby**	**21.16**	**162**	P	**P**	**05 48 38.3**	**-1.2**
	85nm,0.8s,mb5.1,baz=342,slow=8.0,SNR=22						
PMG				LR	LR	05 54 49.0	
	comp=Z,663nm,20.7s,MS4.0,baz=348,slow=31						
PPR	**Puerto Princes**	**21.72**	**269**	*e*P	**P**	**05 48 44.9**	**-0.2**
JHJ	**Hachijo jima 2**	**22.12**	**358**	LR	LR	05 55 24.9	
	comp=Z,2μm,18.6s,MS4.5,baz=88,slow=31						
KAKA	**Kakadu**	**24.88**	**200**	*e*P	**P**	**05 49 15.8**	**-0.4**
	57nm,0.6s,mb5.3						
MAJO	**Matsushiro**	**25.62**	**355**	*e*P	**P**	**05 49 20.6**	**-2.4**
MAJO				pmax	pmax		
	comp=Z,25nm,0.6s,mb4.9						
MAJO	**Matsushiro**	**25.62**	**355**	*e*P	**P**	**05 49 20.6**	**-2.4**
	comp=Z,25nm,0.6s,mb4.9						
MAT	**Matsushiro**	**25.62**	**355**	*e*P	**P**	**05 49 22.0**	**-1.0**
MAT				pmax	pmax		
	comp=Z,21nm,0.7s,mb4.8						
MAT	**Matsushiro**	**25.62**	**355**	*e*P	**P**	**05 49 22.0**	**-1.0**
	comp=Z,21nm,0.7s,mb4.8						
MAT	**Matsushiro**	**25.62**	**355**	P	**P**	**05 49 21.5**	**-1.5**
SSE	**Sheshan**	**27.07**	**321**	P	**P**	**05 49 35.3**	**-1.2**
SSE				XP	sP	05 49 47.8	+8.3
SSE				S	**S**	**05 54 13.5**	**+0.6**
SSE				AMB	AMB		
	comp=Z,63nm,0.9s,mb5.2						
SSE				AMB	AMB		
	comp=Z,134nm,7.2s						
SSE				LR	LR		
	comp=N,220nm,23.0s,MS3.8						
SSE				LR	LR		
	comp=E,202nm,23.0s,MS3.8						
SSE				LR	LR		
	comp=Z,356nm,22.1s,MS3.9						
NJ2	**Nanjing**	**29.19**	**319**	*e*P	**P**	**05 49 56.0**	**+0.4**
NJ2				AP	pP	05 50 06.0	+8.3
NJ2				PP	PP	05 50 49.3	-0.7
NJ2				PPP	PPP	05 51 03.5	+0.3
NJ2				S	**S**	**05 54 48.0**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,204nm,4.2s						
NJ2				LR	LR		
	comp=N,920nm,10.0s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,14.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,2μm,16.0s,MS4.9						
QIZ	**Qiongzhong**	**30.91**	**289**	*e*P	**P**	**05 50 08.8**	**-2.2**
QIZ				*e*S	**S**	**05 55 13.0**	**-1.3**
QIZ				LR	LR		
	comp=E,329nm,18.2s						
QIZ				LR	LR		
	comp=Z,402nm,19.6s,MS4.1						
CTA	**Charters Tower**	**31.27**	**170**	*e*P	**P**	**05 50 14.2**	**0.0**
	comp=Z,16nm,0.8s,mb4.9						
CTA	**Charters Tower**	**31.27**	**170**	*e*P	**P**	**05 50 14.2**	**0.0**
CTA				pmax	pmax		
	comp=Z,16nm,0.8s						
CTA	**Charters Tower**	**31.27**	**170**	P	**P**	**05 50 14.1**	**-0.1**
	comp=Z,19nm,0.7s,mb5.0,baz=340,slow=9.8,SNR=40						
CTA				LR	LR	06 01 40.1	
	comp=Z,371nm,19.2s,MS4.1,baz=342,slow=34						
CTAO	**Charters Tower**	**31.27**	**170**	*e*P	**P**	**05 50 13.9**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.1						
CTAO	**Charters Tower**	**31.27**	**170**	*e*P	**P**	**05 50 13.9**	**-0.3**
	comp=Z,30nm,0.9s,mb5.1						
WRAB	**Tennant Creek**	**31.30**	**192**	⇓*i*P	**P**	**05 50 13.3**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,68nm,0.8s,mb5.5						
WRAB				MLR	MLR		
	comp=Z,308nm,21.0s,MS4.0						
WRAB	**Tennant Creek**	**31.30**	**192**	⇓*i*P	**P**	**05 50 13.3**	**-1.1**
	comp=Z,68nm,0.8s,mb5.5						
WRAB				LR	LR		
	comp=Z,308nm,21.0s,MS4.0						
WB2	**Warramunga Arr**	**31.30**	**192**	*e*P	**P**	**05 50 13.6**	**-0.9**
WRA	**Warramunga Arr**	**31.31**	**192**	P	**P**	**05 50 13.6**	**-0.8**
	comp=Z,42nm,0.8s,mb5.3,baz=10,slow=9.4,SNR=73						
WHN	**Wuhan**	**31.36**	**312**	*e*P	**P**	**05 50 15.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**32.47**	**208**	*e*P	**P**	**05 50 18.6**	**-6.1**
	comp=Z,14nm,0.9s,mb4.8						
ASAJ	**Asahikawa**	**33.12**	**2**	P	**P**	**05 50 28.7**	**-1.4**
	comp=Z,12nm,0.6s,mb5.0,baz=31,slow=3.4,SNR=6.8						
ASAJ				LR	LR	06 01 47.8	
	comp=Z,442nm,19.9s,MS4.2,baz=151,slow=32						
ENH	**Enshi**	**34.87**	**308**	*e*P	**P**	**05 50 46.4**	**+1.0**
	comp=Z,66nm,0.9s,mb5.6						
MDJ	**Mudanjiang**	**34.94**	**346**	P	**P**	**05 50 45.6**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,147nm,4.4s						
MDJ				LR	LR		
	comp=N,292nm,29.5s						
MDJ				LR	LR		
	comp=E,144nm,20.7s						
MDJ				LR	LR		
	comp=Z,442nm,28.2s,MS4.1						
ASAR	**Alice Springs**	**35.01**	**191**	P	**P**	**05 50 46.3**	**-0.4**
	comp=Z,18nm,0.5s,mb5.2,baz=18,slow=12,SNR=139						
ASAR				PcP	PcP	05 53 18.8	-0.3
	comp=Z,2.6nm,0.8s,baz=20,slow=2.2,SNR=5.7						
ASAR				LR	LR	06 04 31.1	
	comp=Z,401nm,20.6s,MS4.2,baz=8.4,slow=35						
ASAR	**Alice Springs**	**35.01**	**191**	P	**P**	**05 50 46.3**	**-0.4**
ASAR				PcP	PcP	05 53 18.8	-0.3
ASAR				LR	LR	06 04 31.1	
ASPA	**Alice Springs**	**35.02**	**191**	*e*P	**P**	**05 50 46.4**	**-0.3**
YSS	**Yuzh-Sakhalins**	**35.96**	**2**	⇑*e*P	**P**	**05 50 52.0**	**-2.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
YSS	**Yuzh-Sakhalins**	**35.96**	**2**	*e*P	**P**	**05 50 52.8**	**-1.6**
	comp=Z,22nm,0.8s,mb5.2						
BJT	**Baijiatuau**	**36.27**	**327**	*e*P	**P**	**05 50 57.1**	**-0.1**
BJT				pmax	pmax		
	comp=Z,30nm,0.5s						
BJT				MLR	MLR		
	comp=Z,697nm,19.0s						
BJT	**Baijiatuau**	**36.27**	**327**	*e*P	**P**	**05 50 57.1**	**-0.1**
	comp=Z,30nm,0.5s,mb5.5						
BJT				LR	LR		
	comp=Z,697nm,19.0s,MS4.5						
XAN	**Xi'an**	**37.11**	**313**	P	**P**	**05 51 04.3**	**+0.1**
XAN				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.6						
MBWA	**Marble Bar**	**37.99**	**213**	P	**P**	**05 51 11.4**	**-0.3**
	comp=Z,1.1nm,0.6s						
KLR	**Kul'dur**	**38.93**	**351**	⇓*i*P	**P**	**05 51 16.2**	**-3.2**
KLR				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.2						
NANT	**Nan**	**39.45**	**286**	P	**P**	**05 51 26.5**	**+2.5**
CHRT	**Chiangrai**	**40.42**	**288**	⇑P	**P**	**05 51 34.5**	**+2.5**
	comp=Z,184nm,0.8s,mb5.9						
CMAR	**Chiang Mai Arr**	**41.08**	**286**	P	**P**	**05 51 39.8**	**+2.3**
	comp=Z,11nm,0.8s,mb4.5,baz=88,slow=6.3,SNR=55						
CMAR				LR	LR	06 07 23.0	
	comp=Z,209nm,18.2s,MS4.0,baz=115,slow=34						
CHG	**Chiang Mai**	**41.11**	**286**	⇑P	**P**	**05 51 39.8**	**+2.1**
	comp=Z,10nm,1.0s,mb4.4						
NOUC	**Port Laguerre**	**41.27**	**143**	*e*P	**P**	**05 51 39.9**	**+0.9**
NOUC	**Port Laguerre**	**41.27**	**143**	*e*P	**P**	**05 51 39.9**	**+0.9**
LZH	**Lanzhou**	**41.74**	**313**	⇑P	**P**	**05 51 43.8**	**+1.1**
LZH				AP	pP	05 51 47.0	+2.2
LZH				PP	PP	05 53 23.5	+1.0
LZH				*e*S	**S**	**05 58 00.3**	**+0.4**
LZH				XS		05 58 07.6	
LZH				SS	SS	06 01 01.3	+1.3
LZH				AMB	AMB		
	comp=Z,41nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,265nm,6.1s						
LZH				LR	LR		
	comp=N,1μm,13.0s						
LZH				LR	LR		
	comp=Z,2μm,17.2s,MS5.0						
HIA	**Hailar**	**42.05**	**339**	*e*P	**P**	**05 51 45.0**	**-0.1**
HIA				*e*		05 51 56.4	
HIA				pmax	pmax		
	comp=Z,34nm,1.0s						
HIA	**Hailar**	**42.05**	**339**	*e*P	**P**	**05 51 45.0**	**-0.1**
	comp=Z,34nm,1.0s,mb4.9						
HIA				*e*		05 51 56.4	
STKA	**Stephens Creek**	**42.55**	**179**	*e*P	**P**	**05 51 48.8**	**-0.7**
	comp=Z,13nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**42.55**	**179**	P	**P**	**05 51 48.7**	**-0.7**
	comp=Z,9.9nm,0.7s,mb4.7,baz=344,slow=8.3,SNR=24						
STKA				LR	LR	06 10 31.0	
	comp=Z,547nm,18.5s,MS4.5,baz=17,slow=38						
FORT	**Forrest**	**43.21**	**196**	*e*P	**P**	**05 51 55.3**	**+0.4**
	comp=Z,152nm,0.7s,mb5.8						
PET	**Petropavlovsk**	**44.40**	**15**	*e*P	**P**	**05 52 02.9**	**-1.3**
PET				*e*S	**S**	**05 58 38.7**	**+0.2**
PET				pmax	pmax		
	comp=Z,22nm,2.1s,mb4.5						
PET				smax			
	comp=N,200nm,23.7s						
PET				MLR	MLR		
	comp=Z,300nm,22.0s,MS4.2						
ULN	**Ulaanbaatar**	**46.44**	**329**	*e*P	**P**	**05 52 21.0**	**+0.5**
ULN				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
ULN				MLR	MLR		
	comp=Z,572nm,19.0s,MS4.5						
ULN	**Ulaanbaatar**	**46.44**	**329**	*e*P	**P**	**05 52 21.0**	**+0.5**
	comp=Z,20nm,0.9s,mb5.1						
ULN				LR	LR		
	comp=Z,572nm,19.0s,MS4.5						
SONM	**Songino Array**	**46.76**	**329**	P	**P**	**05 52 23.8**	**+0.8**
	comp=Z,11nm,0.8s,mb4.9,baz=140,slow=6.8,SNR=47						
SONM				PcP	PcP	05 53 56.6	-0.2
	comp=Z,3.5nm,0.6s,baz=151,slow=4.2,SNR=5.4						
SONM				ScP		05 57 48.9	
	comp=Z,2.2nm,1.1s,baz=135,slow=3.5,SNR=5.9						
CLNS	**Chul'man**	**47.45**	**348**	*e*P	**P**	**05 52 27.3**	**-1.0**
CLNS				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.1						
CLNS				pmax	pmax		
	comp=N,15nm,1.0s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.9s						
TOO	**Toolangi**	**48.43**	**175**	*e*P	**P**	**05 52 37.3**	**+1.1**
	comp=E,9.6nm,0.6s,mb5.0						
TOO	**Toolangi**	**48.43**	**175**	*e*P	**P**	**05 52 37.3**	**+1.1**
TOO				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
MUN	**Mundaring**	**48.70**	**208**	*e*P	**P**	**05 52 37.9**	**-0.5**
	comp=Z,9.7nm,0.6s,mb5.0						
MUN	**Mundaring**	**48.70**	**208**	*e*P	**P**	**05 52 37.9**	**-0.5**
MUN				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
NWAO	**Narrogin (SRO)**	**49.04**	**206**	*e*P	**P**	**05 52 40.7**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**49.04**	**206**	P	**P**	**05 52 40.5**	**-0.6**
	comp=Z,9.2nm,0.5s,mb5.1,baz=78,slow=6.8,SNR=3.4						
NWAO	**Narrogin (SRO)**	**49.04**	**206**	*e*P	**P**	**05 52 40.7**	**-0.3**
	comp=Z,7.8nm,0.6s,mb4.9						
MA2	**Magadan**	**49.15**	**7**	*e*P	**P**	**05 52 39.8**	**-1.6**
MA2				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
MA2	**Magadan**	**49.15**	**7**	*e*P	**P**	**05 52 39.8**	**-1.7**
	comp=Z,11nm,0.8s,mb4.9						
LSA	**Lhasa**	**49.74**	**300**	P	**P**	**05 52 48.0**	**+1.5**
LSA	**Lhasa**	**49.74**	**300**	*e*P	**P**	**05 52 48.7**	**+2.2**
LSA				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.2						
LSA	**Lhasa**	**49.74**	**300**	*e*P	**P**	**05 52 48.7**	**+2.2**
	comp=Z,25nm,1.0s,mb5.2						
ZAK	**Zakamensk**	**49.96**	**329**	⇓*i*P	**P**	**05 52 48.1**	**+0.3**
TLY	**Talaya**	**50.60**	**331**	P	**P**	**05 52 53.1**	**+0.4**
	comp=Z,156nm,0.7s,mb6.0,SNR=8.4						
TLY	**Talaya**	**50.60**	**331**	*e*P	**P**	**05 52 52.8**	**+0.1**
TLY				*e*S	**S**	**06 00 05.0**	**-1.3**
TLY				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.1						
TLY				MLR	MLR		
	comp=Z,425nm,18.0s,MS4.5						
TLY	**Talaya**	**50.60**	**331**	*e*P	**P**	**05 52 53.2**	**+0.5**
	comp=Z,16nm,0.9s,mb4.9						
BOD	**Bodaibo**	**51.09**	**342**	*e*P	**P**	**05 52 55.2**	**-1.1**
YAK	**Yakutsk**	**51.67**	**353**	*e*P	**P**	**05 52 59.3**	**-1.3**
	comp=Z,126nm,0.7s,mb6.0						
YAK				LR	LR		
	comp=Z,383nm,20.0s,MS4.4						
MOY	**Mondy**	**51.89**	**330**	*e*P	**P**	**05 53 01.8**	**-0.7**
SEY	**Seymchan**	**52.60**	**7**	*e*P	**P**	**05 53 06.9**	**-0.8**
SEY				*e*		05 53 15.2	
SEY				*e*		05 54 14.5	
SEY				*e*		06 00 23.2	
SEY				pmax	pmax		
	comp=N,30nm,0.8s						
SEY				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.5						
JIRN	**Jiri**	**53.73**	**296**	*e*P	**P**	**05 53 17.7**	**+1.2**
	comp=Z,44nm,0.8s,mb5.5						
PKI	**Pulchoki**	**54.40**	**296**	*e*P	**P**	**05 53 22.0**	**+0.6**
	comp=Z,59nm,1.1s,mb5.4						
KKN	**Kakani**	**54.54**	**296**	*e*P	**P**	**05 53 22.8**	**+0.3**
	comp=Z,47nm,0.9s,mb5.5						
DMN	**Daman**	**54.67**	**296**	*e*P	**P**	**05 53 24.2**	**+0.8**
	comp=Z,91nm,1.1s,mb5.7						
GKN	**Gorkha**	**55.13**	**296**	*e*P	**P**	**05 53 27.1**	**+0.3**
	comp=Z,89nm,1.0s,mb5.8						
KOLN	**Koldanda**	**56.02**	**296**	*e*P	**P**	**05 53 33.5**	**+0.3**
	comp=Z,60nm,0.9s,mb5.6						
WMQ	**Urumqi**	**56.17**	**316**	⇑*i*P	**P**	**05 53 34.5**	**+0.5**
WMQ				AP	pP	05 53 38.5	+2.3
WMQ				XP	sP	05 53 41.0	+4.0
WMQ				PP	PP	05 55 41.1	+0.3
WMQ				AMB	AMB		
	comp=Z,19nm,1.7s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,100nm,5.5s						
WMQ				LR	LR		
	comp=N,1μm,20.6s,MS5.1						
WMQ				LR	LR		
	comp=E,1μm,21.7s,MS5.1						
WMQ				LR	LR		
	comp=Z,2μm,21.7s,MS5.1						
URZ	**Urewera**	**59.54**	**147**	P	**P**	**05 53 56.1**	**-1.8**
	comp=Z,6.9nm,0.7s,mb4.8,baz=18,slow=23,SNR=3.7						
HYB	**Hyderabad**	**60.47**	**284**	*e*P	**P**	**05 54 05.5**	**+1.1**
HYB	**Hyderabad**	**60.47**	**284**	*i*P	**P**	**05 54 05.5**	**+1.1**
MKAR	**Makanchi Array**	**60.70**	**318**	*i*P	**P**	**05 54 05.7**	**0.0**
MKAR				pmax	pmax		
	comp=Z,12nm,0.7s						
MKAR	**Makanchi Array**	**60.70**	**318**	*i*P	**P**	**05 54 05.8**	**+0.1**
RPZ	**Rata Peaks**	**60.95**	**155**	P	**P**	**05 54 05.8**	**-1.6**
	comp=Z,38nm,0.8s,mb5.5,baz=206,slow=4.0,SNR=6.7						
DDI	**Dehra Dun**	**61.07**	**299**	*e*P	**P**	**05 54 07.4**	**-1.0**
TIXI	**Tiksi**	**61.13**	**356**	*e*P	**P**	**05 54 06.6**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.1						
TIXI				MLR	MLR		
	comp=Z,152nm,16.0s,MS4.2						
NVS	**Novosibirsk**	**62.72**	**327**	*e*P	**P**	**05 54 17.6**	**-1.5**
NVS				pmax	pmax		
	comp=N,11nm,1.3s						
NVS				pmax	pmax		
	comp=E,24nm,1.3s						
NVS				pmax	pmax		
	comp=Z,42nm,1.3s,mb5.4						
TNA	**Tin City**	**64.76**	**21**	*e*P	**P**	**05 54 31.0**	**-1.3**
	comp=Z,4.6nm,0.9s,mb4.5						
POO	**Poona**	**64.87**	**285**	⇓*i*P	**P**	**05 54 34.0**	**+0.2**
	comp=Z,30nm,1.0s,mb5.3						
ANM	**Nome**	**65.18**	**23**	*e*P	**P**	**05 54 33.8**	**-1.2**
FRU	**Bishkek**	**65.20**	**312**	*e*P	**P**	**05 54 35.5**	**-0.1**
AAK	**Ala-Archa**	**65.26**	**312**	*e*P	**P**	**05 54 35.1**	**-0.9**
	comp=Z,12nm,0.9s,mb4.9						
AAK				LR	LR		
	comp=Z,68nm,19.0s,MS

comp=Z,11nm,0.6s,mb5.2,baz=290,slow=5.2,SNR=161
YKA LR LR 06 37 37.5
comp=Z,134nm,18.1s,MS4.4,baz=275,slow=37
HUMO Hull Mountain 87.27 47 *e*P **P 05 56 41.5 +1.5**
comp=Z,27nm,1.3s,mb5.3
GNI Garni 87.61 310 *i* P **P 05 56 42.6 +0.9**
YBH Yreka Blue Hor 87.63 48 P **P 05 56 43.7 +1.9**
comp=Z,11nm,0.8s,mb5.1,baz=54,slow=2.1,SNR=27
YBH Yreka Blue Hor 87.63 48 *e*P **P 05 56 43.3 +1.5**
comp=Z,20nm,1.1s,mb5.3
ZEI Tsey 87.67 313 *e*P **P 05 56 41.6 -0.3**
ZEI pmax pmax
comp=Z,12nm,1.1s,mb5.0
GOF Gofitskoye 87.77 315 *e*P **P 05 56 46.0 +3.6**
KEV Kevo 87.79 341 *e*p **P 05 56 40.8 -1.1**
KIV Kislovodsk 88.27 314 *i* P **P 05 56 45.0 +0.2**
MOS Moscow 88.36 327 *e*P **P 05 56 44.6 -0.3**
MOS pmax pmax
comp=Z,43nm,0.7s,mb5.8
ARCES ARCESS Array B 88.36 341 P **P 05 56 44.5 -0.1**
comp=Z,25nm,0.7s,mb5.6,baz=69,slow=7.9,SNR=66
ARCES LR LR 06 37 14.1
comp=Z,214nm,20.1s,MS4.6,baz=199,slow=36
JOF Joensuu 89.00 334 *e*p **P 05 56 46.5 -1.3**
comp=Z,26nm,0.8s,mb5.6
OHCM Honcut 89.08 50 *e*P **P 05 56 49.5 +0.8**
OBN Obninsk 89.12 326 *e*P **P 05 56 46.2 -2.3**
OBN pmax pmax
comp=Z,48nm,1.4s,mb5.6
OBN MLR MLR
comp=Z,300nm,20.0s,MS4.7
OBN Obninsk 89.12 326 *i* P **P 05 56 46.3 -2.2**
OBN LR LR
comp=Z,300nm,20.0s,MS4.7
MOD Modoc 89.35 48 *e*P **P 05 56 51.2 +1.3**
comp=Z,23nm,1.3s,mb5.4
CMB Columbia Colle 90.22 51 *e*P **P 05 56 55.1 +0.9**
comp=Z,1.2nm,0.4s,mb4.6
WVOR Wild Horse Val 90.41 47 *e*P **P 05 56 56.3 +1.4**
WVOR pmax pmax
comp=Z,24nm,1.2s,mb5.4
WVOR Wild Horse Val 90.41 47 *e*P **P 05 56 56.3 +1.4**
comp=Z,24nm,1.2s,mb5.4
SOC Sochi 90.44 315 *e*P **P 05 56 51.1 -3.9**
SOC *e* 06 00 30.4
SOC *e*S SKS 06 07 18.8 -10
SOC *e*SS SS 06 13 42.8 -9.1
SOC *e*SSS SSS 06 17 29.9 +2.1
SOC pmax pmax
comp=Z,6.0nm,0.6s,mb5.1
SOC pmax pmax
comp=N,8.0nm,0.8s
SOC pmax pmax
comp=E,7.0nm,0.5s
EDM Edmonton 90.65 35 *e*P **P 05 56 56.9 +1.2**
BMO Blue Mountains 90.69 44 *e*P **P 05 56 56.7 +0.6**
comp=E,17nm,1.3s,mb5.2
KAF Kangasniemi 91.45 335 *e*p **P 05 56 57.7 -1.5**
comp=E,30nm,0.8s,mb5.7
KAF Kangasniemi 91.45 335 *e*P **P 05 56 57.7 -1.5**
KAF pmax pmax
comp=Z,30nm,0.8s,mb5.7
NVAR Mina Array Bea 91.70 50 P **P 05 57 03.0 +2.0**
comp=Z,12nm,1.0s,mb5.2,baz=260,slow=5.5,SNR=48
MNV Mina 91.82 50 *e*P **P 05 57 02.8 +1.3**
comp=Z,17nm,1.2s,mb5.2
FINES FINESS Array B 91.85 334 P **P 05 57 00.2 -0.9**
comp=Z,18nm,0.6s,mb5.6,baz=68,slow=5.6,SNR=58
FINES LR LR 06 40 51.8
comp=Z,166nm,19.6s,MS4.5,baz=52,slow=37
FINES FINESS Array B 91.85 334 P **P 05 57 00.2 -0.9**
FINES LR LR 06 40 51.8
TPH Tonopah 92.62 51 *e*P **P 05 57 06.2 +1.0**
comp=Z,14nm,1.1s,mb5.3
HLID Hailey 93.06 45 *e*P **P 05 57 08.6 +1.6**
comp=Z,8.5nm,1.0s,mb5.1
MCMT McKenzie Canyo 93.72 43 *e*P **P 05 57 11.8 +1.8**
HRY Holter Researc 93.76 41 *e*P **P 05 57 11.7 +1.5**
BOZ Bozeman (W) 94.26 42 *e*P **P 05 57 14.0 +1.5**
comp=Z,11nm,1.3s,mb5.1
PFO Pinyon Flat Ob 94.45 55 *e*P **P 05 57 14.6 +0.9**
comp=Z,3.3nm,0.9s,mb4.8
QLMT Earthquake Lak 94.67 43 *e*P **P 05 57 16.9 +2.4**
YMR Madison River 95.04 43 *e*P **P 05 57 18.2 +2.0**
NEN Nelson 95.14 52 *e*P **P 05 57 18.1 +1.3**
NEN *e* 05 57 29.5
YFT Old Faithful 95.20 43 *e*P **P 05 57 19.9 +3.0**
MAW Mawson 95.44 202 P **P 05 57 17.5 +0.1**
comp=Z,4.9nm,0.9s,mb4.9,baz=91,slow=2.4,SNR=5.6
MAW LR LR 06 35 21.9
comp=Z,156nm,18.4s,MS4.5,baz=252,slow=32
BRTR Keskin Array B 95.94 312 P **P 05 57 20.4 0.0**
comp=Z,1.4nm,0.9s,mb4.4,baz=243,slow=2.8,SNR=2.9
JLU Jordanelle 96.11 47 P **P 05 57 20.3 -0.8**
BW06 Boulder Array 96.67 44 *e*P **P 05 57 24.1 +0.4**
comp=Z,0.3nm,0.4s,mb4.1
PDAR Pinedale Array 96.67 44 P **P 05 57 24.6 +0.9**
comp=Z,0.5nm,0.7s,mb4.0,baz=245,slow=2.8,SNR=4.2
PDAR PP PP 06 01 15.4 -5.4
comp=Z,0.6nm,0.8s,baz=292,slow=4.9,SNR=4.0
LAO LASA Array 97.34 40 *e*P **P 05 57 29.4 +2.9**
comp=Z,14nm,0.9s,mb5.4
FCC Fort Churchill 97.71 25 *e*P **P 05 57 28.7 +0.8**
comp=Z,6.1nm,1.1s,mb5.0
NOA NORSAR Array B 98.06 338 P **P 05 57 28.2 -1.2**
comp=Z,1.9nm,0.8s,mb4.7,baz=52,slow=4.5,SNR=4.0
NOA LR LR 06 42 01.1
comp=Z,109nm,18.3s,MS4.4,baz=295,slow=36
SYO Syowa Base 104.13 201 ||Pdiff Pdif 05 57 55.2 -1.3
SYO Syowa Base 104.13 201 ||PP PP 06 02 16.7 -0.1
GERES GERESS Array B 104.48 327 Pdiff Pdif 05 57 57.5 -1.0
comp=Z,0.9nm,0.8s,baz=45,slow=3.8,SNR=5.9
TXAR Lajitas Array 106.16 55 PP PP 06 02 30.7 -2.3
comp=Z,0.4nm,0.8s,baz=326,slow=3.3,SNR=3.7
DBIC Dimbokro 141.59 296 PKhKP 06 03 21.3
comp=Z,2.2nm,0.8s,baz=202,slow=3.1,SNR=5.9
SDV Santo Domingo 143.08 59 *e*PKPpre 06 03 24.4
TRQA Tornquist 146.14 147 *e*PKPdf PKPdf 06 03 33.9 -0.5
ARE Arequipa 148.19 104 *e*P PKPdf 06 03 41.0 +2.7
LVC Limon Verde 149.35 116 *e*PKPdf PKPdf 06 03 40.2 +0.2
LVC *e*PKPbc PKPdf 06 03 44.4 +4.4
LPAZ La Paz 151.42 104 PKP PKPdf 06 03 42.8 -0.5
comp=Z,2.9nm,1.1s,baz=324,slow=4.7,SNR=5.9
LPAZ PKPbc PKPdf 06 03 49.4 +6.1
comp=Z,18nm,0.7s,baz=287,slow=2.1,SNR=69
LPAZ PKPab PKPab 06 03 58.8 +1.5
comp=Z,22nm,0.8s,baz=353,slow=3.2,SNR=13
LPAZ La Paz 151.42 104 *e*PKPdf PKPdf 06 03 43.5 +0.2
LPAZ *e*PKPbc PKPdf 06 03 49.3 +6.0

*IDC **17** 05:49:55.2±0.7, 10.97N×140.71E, mb4.0/9, mb1 4.1/9, mb1mx4.1/17, mbtmp3.9/9, Error ellipse: s-maj=40.0km s-min=18.0km az=88.0*
*NEIC **17** 05:50:00.8±0.4, 10.91N×140.82E, h40km, mb4.0/4, Error ellipse: s-maj=24.5km s-min=9.8km az=88.0*
ISC 17 05:49:58.2±0.6, 10.89N±0.09×140.8E±0.2, h33km, n16, σ0§73/14, mb3.9/13, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**31.27**	**192**	*e*P	**P**	**05 56 17.1**	**-0.4**
	2.2nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**31.28**	**192**	P	**P**	**05 56 16.9**	**-0.7**
	2.5nm,0.9s,mb4.1,baz=11,slow=9.5,SNR=6.1						
ASAR	**Alice Springs**	**34.99**	**191**	P	**P**	**05 56 49.9**	**+0.2**
	0.8nm,0.5s,mb3.9,baz=19,slow=12,SNR=7.5						
STKA	**Stephens Creek**	**42.52**	**179**	P	**P**	**05 57 53.5**	**+1.0**
	0.6nm,0.5s,mb3.6,baz=22,slow=11,SNR=2.6						
SONM	**Songino Array**	**46.77**	**329**	P	**P**	**05 58 27.0**	**+0.7**
	0.3nm,0.4s,mb3.5,baz=143,slow=7.2,SNR=3.8						
KURK	**Kurchatov**	**64.12**	**321**	*e*P	**P**	**06 00 31.1**	**-0.2**
	1.9nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**69.56**	**323**	*e*P	**P**	**06 01 05.3**	**-0.4**
	0.5nm,0.4s,mb3.8						
BVAR	**Borovoye Array**	**69.59**	**323**	P	**P**	**06 01 06.2**	**+0.3**
	1.0nm,0.6s,mb3.9,baz=90,slow=7.4,SNR=3.9						
ILAR	**Eielson Array**	**72.71**	**25**	P	**P**	**06 01 23.1**	**-1.4**
	0.5nm,0.9s,mb3.4,baz=260,slow=6.4,SNR=6.8						
INK	**Inuvik**	**78.38**	**22**	*e*P	**P**	**06 01 56.5**	**-0.2**
	0.2nm,0.5s,mb3.3						
YKA	**Yellowknife Ar**	**87.08**	**27**	P	**P**	**06 02 42.8**	**+1.4**
	0.4nm,0.6s,mb3.8,baz=287,slow=5.0,SNR=5.6						
YKA	**Yellowknife Ar**	**87.08**	**27**	P	**P**	**06 02 42.8**	**+1.4**
ARCES	**ARCESS Array B**	**88.39**	**341**	P	**P**	**06 02 48.1**	**+0.5**
	1.4nm,0.6s,mb4.3,baz=27,slow=8.1,SNR=5.4						
FINES	**FINESS Array B**	**91.87**	**334**	P	**P**	**06 03 03.4**	**-0.7**
	4.3nm,0.9s,mb4.8,baz=104,slow=5.7,SNR=5.7						
LPAZ	**La Paz**	**151.42**	**104**	PKPbc	PKPdf	06 09 52.9	+9.5
	1.0nm,0.7s,baz=291,slow=1.6,SNR=4.8						
LPAZ				PKPab	PKPab	06 10 03.2	+3.1
	0.8nm,0.5s,baz=256,slow=3.4,SNR=5.8						
LPAZ	**La Paz**	**151.42**	**104**	*e*PKPbc	PKPdf	06 09 52.6	+9.3
LPAZ				PKPab	PKPab	06 10 03.2	+3.1

*MDD **17** 05:59:20.1±2.4, 36.77N×12.16W, mbLg2.6/7, Error ellipse: s-maj=21.4km s-min=17.4km az=32.0, PRXIMO*
*CSEM **17** 05:59:20.9±0.8, 36.93N×12.01W, h20km, ML2.1, Error ellipse: s-maj=14.4km s-min=10.0km az=32.0*
*NEIC **17** 05:59:20.0, 36.76N×12.15W, MN2.8(MDD), After MDD.*
INMG 17 05:59:21.5±0.8, 36.70N×12.20W, h10km, ML2.1, Error ellipse: s-maj=6.8km s-min=4.7km az=67.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**2.90**	**72**	*e*Pn	Pn	06 00 06.4	-2.3
PTEO				*e*Sn	Sn	06 00 38.9	-5.0
PTEO	**Sao Teotonio**	**2.90**	**72**	P	Pn	06 00 06.3	-2.4
PTEO				S	Sn	06 00 38.9	-5.1
PLOU	**Loures**	**3.25**	**47**	*e*Sn	Sn	06 00 47.8	-5.0
MOE	**Montemor**	**3.56**	**58**	*e*Sn	Sn	06 00 54.7	-5.8
MOE	**Montemor**	**3.56**	**58**	P	Pn	06 00 15.7	-2.2
MOE				S	Sn	06 00 54.7	-5.8
PBEJ	**Beja**	**3.69**	**68**	*e*Sn	Sn	06 00 58.0	-6.0
PBEJ	**Beja**	**3.69**	**68**	S	Sn	06 00 58.4	-5.6
PALC	**Alcoutim**	**3.85**	**77**	*e*Pn	Pn	06 00 18.9	-3.3
PALC				*e*Sn	Sn	06 01 02.0	-6.0
	2.3nm,0.2s						
PALC	**Alcoutim**	**3.85**	**77**	P	Pn	06 00 19.0	-3.2
PALC				S	Sn	06 01 02.0	-6.0
PALC	**Alcoutim**	**3.85**	**77**	P	Pn	06 00 18.9	-3.3
PALC				S	Sn	06 01 02.0	-6.0
	1.1nm,0.2s						
PALC	**Alcoutim**	**3.85**	**77**	P	Pn	06 00 19.0	-3.2
PALC	**Alcoutim**	**3.85**	**77**	S	Sn	06 01 02.0	-6.0
EGRO	**El Granado**	**3.86**	**76**	P	Pn	06 00 18.7	-3.6
EGRO				S	Sn	06 01 01.3	-6.9
EGRO	**El Granado**	**3.86**	**76**	P	Pn	06 00 19.1	-3.2
	0.2nm,0.1s,SNR=5.0						
EGRO				S	Sn	06 01 01.6	-6.5
	2.8nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.86**	**76**	P	Pn	06 00 18.7	-3.5
	0.2nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.86**	**76**	S	Sn	06 01 01.3	-6.9
	1.1nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**4.17**	**45**	*e*Sn	Sn	06 01 10.5	-5.6
PTOM	**Tomar**	**4.17**	**45**	S	Sn	06 01 09.2	-6.9
EMIN	**Mina Concepcio**	**4.54**	**75**	P	Pn	06 00 26.9	-5.0
EMIN				S	Sn	06 01 17.4	-7.9
EMIN	**Mina Concepcio**	**4.54**	**75**	P	Pn	06 00 27.6	-4.3
	0.1nm,0.1s,SNR=7.9						
EMIN				S	Sn	06 01 17.7	-7.7
	1.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.54**	**75**	P	Pn	06 00 26.9	-5.0
	0.1nm,0.1s,SNR=7.9						
EMIN				S	Sn	06 01 17.4	-7.9
	0.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.59**	**62**	P	Pn	06 00 27.7	-5.0
EBAD				S	Sn	06 01 18.5	-8.2
EBAD	**Badajoz**	**4.59**	**62**	P	Pn	06 00 28.4	-4.2
	0.4nm,0.1s,SNR=7.9						
EBAD				S	Sn	06 01 18.9	-7.9
	3.7nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.59**	**62**	P	Pn	06 00 27.7	-5.0
	0.4nm,0.1s,SNR=7.9						
EBAD				S	Sn	06 01 18.5	-8.3
	2.3nm,0.2s,SNR=7.9						
ESPR	**Espera**	**5.09**	**86**	S	Sn	06 01 31.3	-8.1
	5.8nm,0.2s,SNR=7.9						
ESPR	**Espera**	**5.09**	**86**	S	Sn	06 01 31.0	-8.4
	5.8nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**5.23**	**39**	*e*Sn	Sn	06 01 33.9	-9.0
ELOB	**Lobios**	**6.08**	**31**	P	Pn	06 00 48.3	-5.3
ELOB				S	Sn	06 01 54.3	-10
ELOB	**Lobios**	**6.08**	**31**	P	Pn	06 00 48.3	-5.3
	2.8nm,0.3s,SNR=7.9						
ELOB				S	Sn	06 01 54.0	-10
	0.5nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**6.08**	**31**	P	Pn	06 00 48.3	-5.3
	2.8nm,0.3s,SNR=7.9						
ELOB				S	Sn	06 01 54.3	-10
	1.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.24**	**74**	P	Pn	06 00 51.3	-4.7
	1.6nm,0.3s,SNR=7.9						
EADA				S	Sn	06 01 59.1	-8.9
	1.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.24**	**74**	P	Pn	06 00 50.8	-5.1
	1.6nm,0.3s,SNR=7.9						
EADA				S	Sn	06 01 58.6	-9.5
	1.8nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.71**	**21**	P	Pn	06 00 58.2	-4.4
EMAZ				S	Sn	06 02 04.3	-16
EMAZ	**Mazaricos**	**6.71**	**21**	P	Pn	06 00 57.9	-4.7
	7.6nm,0.4s,SNR=7.9						
EMAZ				S	Sn	06 02 04.1	-16
	0.8nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.71**	**21**	P	Pn	06 00 58.2	-4.4
	7.6nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**6.73**	**37**	P	Pn	06 00 57.2	-5.6
ECAL				S	Sn	06 02 10.4	-10
ECAL	**Calabor**	**6.73**	**37**	P	Pn	06 00 57.6	-5.3
	1.0nm,0.3s,SNR=7.9						
ECAL				S	Sn	06 02 10.6	-10
	0.2nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.73**	**37**	P	Pn	06 00 57.2	-5.6
	1.0nm,0.3s,SNR=7.9						
ECAL				S	Sn	06 02 10.4	-10
	3.4nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**7.67**	**29**	P	Pn	06 01 10.1	-5.9
EPON	**Pontenova**	**7.67**	**29**	P	Pn	06 01 09.8	-6.2
	SNR=4.0						
EPON	**Pontenova**	**7.67**	**29**	P	Pn	06 01 10.1	-5.9

*IDC **17** 06:13:22.3±0.7, 14.45N×92.19E, mb4.1/13, mb1 4.2/14, mb1mx4.1/19, mbtmp4.1/14, ML3.8/1, MS2.7/1, Ms1 2.9/1, ms1mx2.6/23, Error ellipse: s-maj=32.2km s-min=14.4km az=50.0*
*BJI **17** 06:13:25.4, 14.31N×92.73E, h26km, mB4.8, mb4.1, Ms4.0, Msz4.1*
*NEIC **17** 06:13:25.8±0.5, 14.52N×92.27E, mb4.5/11, Error ellipse: s-maj=14.1km s-min=8.1km az=54.0*
ISC 17 06:13:23.5±0.4, 14.55N±0.05×92.23E±0.05, h23km, n47, σ1§22/51, mb4.3/23, MS4.0/1, 1C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.52**	**58**	Pn	**Pn**	**06 15 15.3**	**+0.6**
	0.4nm,0.3s,baz=250,slow=15,SNR=5.3						
CMAR				Sn	**Sn**	**06 16 38.2**	**-2.0**
	0.3nm,0.3s,baz=247,slow=27,SNR=5.4						
CMAR				LR	LR	06 18 53.1	
	comp=Z,61nm,20.5s,baz=210,slow=44						
BWNR	**Bhubaneshwar**	**8.38**	**314**	*e*P	**P**	**06 15 23.6**	**-3.1**
BWNR				*e*		06 16 45.5	
BWNR				*e*	**Sn**	**06 16 55.6**	**-6.1**
	comp=N,151nm,0.3s						
BWNR				*e*		06 16 55.7	
	comp=E,197nm,0.2s						
VIS	**Vishakhapatnam**	**9.12**	**291**	*e*P	**P**	**06 15 35.8**	**-1.1**
VIS				*e*S	**Sn**	**06 17 09.6**	**-10**
VIS				*e*		06 17 17.1	
	comp=N,107nm,0.2s						
VIS				*e*		06 17 17.1	
	comp=E,69nm,0.2s						
AGT	**Agartala**	**9.33**	**354**	*e*P	**P**	**06 15 41.0**	**+1.1**
BLSP	**Bilaspur**	**12.19**	**310**	*e*P	**P**	**06 16 16.5**	**-2.4**
BLSP				*e*		06 19 08.8	
	comp=Z,25nm,1.0s						
BLSP				AML	AML	06 19 11.2	
	comp=N,26nm,0.3s						
BLSP				AML	AML	06 19 13.5	
	comp=E,20nm,0.5s						
PALK	**Pallekele**	**13.43**	**239**	*e*Sn	**S**	**06 18 48.1**	**-17**
HYB	**Hyderabad**	**13.46**	**284**	*i* P	**P**	**06 16 43.5**	**+7.7**
HYB				*e*		06 18 55.5	
HYB				*e*S	**S**	**06 19 05.0**	**-0.6**
JIRN	**Jiri**	**14.21**	**338**	*e*P	**P**	**06 16 43.9**	**-1.8**
	comp=E,32nm,0.8s						
PKI	**Pulchoki**	**14.43**	**335**	*e*P	**P**	**06 16 47.9**	**-0.8**
	comp=E,9.0nm,0.3s						
DMN	**Daman**	**14.59**	**334**	*e*P	**P**	**06 16 50.1**	**-0.6**
KKN	**Kakani**	**14.68**	**335**	*e*P	**P**	**06 16 50.3**	**-1.6**
LSA	**Lhasa**	**15.11**	**356**	*e*P	**P**	**06 16 57.8**	**+0.2**
	comp=E,18nm,0.9s						
GKN	**Gorkha**	**15.14**	**333**	*e*P	**P**	**06 16 56.9**	**-1.0**
	comp=E,21nm,0.3s						
KOLN	**Koldanda**	**15.41**	**330**	*e*P	**P**	**06 17 01.0**	**-0.5**
	comp=E,16nm,0.5s						
BHPL	**Bhopal**	**16.45**	**304**	*e*P	**P**	**06 17 17.5**	**+2.7**
BHPL				*e*		06 17 24.0	
	comp=Z,12nm,1.6s						
BHPL				*e*	**S**	**06 20 11.0**	**-5.1**
POO	**Poona**	**18.06**	**285**	*e*	**S**	**06 20 44.0**	**-8.8**
NDI	**New Delhi**	**19.79**	**318**	*e*	**S**	**06 21 32.0**	**+0.6**
DDI	**Dehra Dun**	**20.41**	**323**	*e*	**P**	**06 18 03.0**	**+1.1**
DDI				*e*	**S**	**06 21 49.8**	**+5.4**
ENH	**Enshi**	**22.30**	**43**	P	**P**	**06 18 19.2**	**-1.8**
	comp=Z,17nm,1.1s,mb4.4						
LZH	**Lanzhou**	**23.84**	**24**	⇑P	**P**	**06 18 38.5**	**+2.4**
LZH				AP		06 18 45.1	
LZH				XP		06 18 48.5	
LZH				AMB	AMB		
	comp=Z,35nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,98nm,4.9s						
LZH				LR	LR		
	comp=N,257nm,13.3s						
LZH				LR	LR		
	comp=Z,493nm,17.0s,MS4.0						
XAN	**Xi'an**	**24.59**	**35**	P	**P**	**06 18 42.8**	**-0.6**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.0						
SONM	**Songino Array**	**35.21**	**17**	P	**P**	**06 20 19.0**	**+0.8**
	comp=Z,2.8nm,1.0s,mb4.1,baz=214,slow=4.5,SNR=14						
ULN	**Ulaanbaatar**	**35.42**	**17**	*e*P	**P**	**06 20 20.2**	**+0.2**
	comp=Z,6.6nm,1.2s,mb4.4						
KURK	**Kurchatov**	**37.72**	**346**	*e*P	**P**	**06 20 40.9**	**+1.6**
	comp=Z,25nm,1.1s,mb4.8						
KURK				*e*	pP	06 20 47.9	+1.8
ZAL	**Zalesovo**	**39.73**	**353**	P	**P**	**06 20 56.9**	**+0.9**
	comp=Z,1.0nm,0.5s,mb3.9						
ZAL	**Zalesovo**	**39.73**	**353**	P	**P**	**06 20 56.9**	**+0.9**
BVAR	**Borovoye Array**	**42.11**	**340**	P	**P**	**06 21 16.0**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.4,baz=104,slow=12,SNR=3.5						
CHKZ	**Chkalovo**	**42.59**	**341**	*e*P	**P**	**06 21 21.2**	**+1.7**
	comp=Z,5.9nm,1.0s,mb4.3						
CHKZ				*e*	pP	06 21 27.8	+1.4
FITZ	**Fitzroy Crossi**	**46.23**	**134**	*e*P	**P**	**06 21 48.6**	**-0.6**
	comp=Z,8.0nm,1.1s,mb4.6						
GNI	**Garni**	**48.56**	**311**	P	**P**	**06 22 08.5**	**+1.3**
	comp=Z,2.1nm,0.4s,mb4.5,baz=143,slow=11,SNR=5.0						
KIV	**Kislovodsk**	**51.21**	**315**	P	**P**	**06 22 25.4**	**-2.1**
	comp=Z,6.5nm,0.4s,mb4.9						
WRA	**Warramunga Arr**	**53.76**	**129**	P	**P**	**06 22 46.0**	**-0.7**
	comp=Z,4.5nm,0.9s,mb4.4,baz=309,slow=7.7,SNR=13						
WRAB	**Tennant Creek**	**53.76**	**129**	*e*P	**P**	**06 22 46.5**	**-0.3**
	comp=Z,17nm,1.2s,mb4.9						
WB2	**Warramunga Arr**	**53.77**	**129**	||*i*P	**P**	**06 22 46.3**	**-0.5**
ASPA	**Alice Springs**	**55.70**	**132**	*e*P	**P**	**06 23 00.2**	**-0.7**
ASAR	**Alice Springs**	**55.70**	**132**	P	**P**	**06 23 00.1**	**-0.7**
	comp=Z,1.8nm,0.4s,mb4.5,baz=310,slow=7.1,SNR=66						
ASAR				PcP	PcP	06 23 59.8	-0.2
	comp=Z,1.3nm,0.9s,baz=319,slow=3.6,SNR=4.8						
BRTR	**Keskin Array B**	**56.76**	**308**	P	**P**	**06 23 09.2**	**+0.8**
	comp=Z,2.1nm,1.0s,mb4.1,baz=98,slow=8.7,SNR=4.0						
CTA	**Charters Tower**	**63.29**	**122**	P	**P**	**06 23 53.9**	**+0.6**
	comp=Z,1.1nm,0.4s,mb4.3,baz=349,slow=5.8,SNR=4.2						
FINES	**FINESS Array B**	**65.98**	**331**	P	**P**	**06 24 09.9**	**-0.2**
	comp=Z,7.6nm,1.1s,mb4.6,baz=153,slow=4.3,SNR=4.7						
STKA	**Stephens Creek**	**66.09**	**135**	P	**P**	**06 24 11.8**	**+0.5**
	comp=Z,0.8nm,0.5s,mb4.0,baz=300,slow=3.7,SNR=3.5						
STKA	**Stephens Creek**	**66.09**	**135**	P	**P**	**06 24 11.8**	**+0.5**
ARCES	**ARCESS Array B**	**68.39**	**340**	P	**P**	**06 24 27.1**	**+1.9**
	comp=Z,5.3nm,1.1s,mb4.5,baz=104,slow=5.0,SNR=3.6						
GERES	**GERESS Array B**	**71.66**	**317**	P	**P**	**06 24 46.7**	**+1.2**
	comp=Z,2.4nm,0.9s,mb4.1,baz=63,slow=3.0,SNR=6.6						
GRA1	**Grafenberg Arr**	**73.26**	**318**	*e*P	pP	06 25 03.7	+1.6
	comp=Z,6.0nm,1.0s						
GRF	**Grafenberg Arr**	**73.26**	**318**	*e*P	pP	06 25 03.7	+1.6
	comp=Z,6.0nm,1.0s						
LPG	**La Plagne**	**76.64**	**314**	*e*P	**P**	**06 25 16.0**	**+1.6**
	comp=Z,7.7nm,0.8s,mb4.4						
ESDC	**Sonseca Array**	**85.52**	**310**	P	**P**	**06 26 01.8**	**+0.5**
	comp=Z,1.0nm,0.8s,mb4.1,baz=322,slow=43,SNR=3.0						

*IDC **17** 06:20:00.2±0.8, 10.81N×141.28E, mb3.9/7, mb1 4.1/7, mb1mx4.0/15, mbtmp3.9/7, Error ellipse: s-maj=30.7km s-min=20.6km az=88.0*
*NEIC **17** 06:20:05.8±0.6, 10.80N×141.22E, mb4.2/3, Error ellipse: s-maj=24.2km s-min=14.1km az=88.0*
ISC 17 06:20:04.1±0.7, 10.8N±0.1×141.1E±0.2, h37km, n14, σ0§96/10, mb3.9/10, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**31.25**	**192**	*e*P	**P**	**06 26 23.3**	**+0.4**
	4.9nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**31.27**	**192**	P	**P**	**06 26 22.1**	**-0.8**
	2.8nm,1.0s,mb4.1,baz=10,slow=9.4,SNR=8.7						
ASAR	**Alice Springs**	**34.97**	**192**	P	**P**	**06 26 55.2**	**+0.2**
	0.6nm,0.7s,mb3.6,baz=18,slow=13,SNR=5.1						
CMAR	**Chiang Mai Arr**	**41.45**	**286**	P	**P**	**06 27 50.1**	**+0.9**
	2.0nm,0.9s,mb3.8,baz=97,slow=6.6,SNR=5.7						
SONM	**Songino Array**	**47.04**	**328**	P	**P**	**06 28 34.6**	**+0.7**
	0.5nm,0.9s,mb3.4,baz=125,slow=4.4,SNR=3.2						
TLY	**Talaya**	**50.88**	**331**	P	pP	06 29 14.6	+0.4
	248nm,0.7s,SNR=14						
KURK	**Kurchatov**	**64.42**	**321**	*e*P	**P**	**06 30 37.5**	**-1.3**
	3.1nm,0.8s,mb4.4						
KURK				*e*pP	pP	06 30 49.2

0.3nm,0.5s,mb3.5,baz=244,slow=6.0,SNR=11
INK Inuvik 78.30 22 *e*P **P 06 34 58.6 -0.2**
0.2nm,0.6s,mb3.2
YKA Yellowknife Ar 87.00 27 P **P 06 35 45.5 +2.0**
0.7nm,0.6s,mb4.0,baz=289,slow=4.9,SNR=14
YKA Yellowknife Ar 87.00 27 P **P 06 35 45.5 +2.0**
ARCES ARCESS Array B 88.39 341 P **P 06 35 50.4 +0.2**
2.3nm,0.7s,mb4.5,baz=68,slow=6.5,SNR=8.7
FINES FINESS Array B 91.90 334 P **P 06 36 05.9 -0.8**
2.7nm,0.7s,mb4.7,baz=104,slow=7.9,SNR=8.4
LPAZ La Paz 151.31 104 PKPbc PKPdf 06 42 54.8 +9.1
1.9nm,0.7s,baz=286,slow=2.2,SNR=9.5

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*IDC **17** 06:23:25.2±0.7, 10.89N×140.98E, mb4.3/10, mb1 4.5/10, mb1mx4.3/17, mbtmp4.2/10, MS4.1/1, Ms1 4.0/1, ms1mx3.0/23, Error ellipse: s-maj=32.4km s-min=18.2km az=93.0*
*NEIC **17** 06:23:29.5±0.4, 10.87N×140.97E, mb4.7/6, Error ellipse: s-maj=19.5km s-min=8.8km az=85.0*
ISC 17 06:23:27.5±0.5, 10.85N±0.07×141.0E±0.2, h28km, n25, σ0§94/22, mb4.4/15, MS4.2/1, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**21.03**	**163**	*e*P	**P**	**06 28 11.8**	**+0.1**
	34nm,1.3s,mb4.5						
CTA	**Charters Tower**	**31.17**	**170**	P	**P**	**06 29 45.5**	**-1.1**
	1.7nm,0.7s,mb4.0,baz=349,slow=8.4,SNR=6.1						
CTA	**Charters Tower**	**31.17**	**170**	P	**P**	**06 29 45.5**	**-1.1**
CTAO	**Charters Tower**	**31.17**	**170**	*e*P	**P**	**06 29 45.9**	**-0.7**
	4.7nm,0.9s,mb4.3						
WRAB	**Tennant Creek**	**31.27**	**192**	*e*P	**P**	**06 29 47.1**	**-0.4**
	12nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**31.28**	**192**	*e*P	**P**	**06 29 47.3**	**-0.3**
WRA	**Warramunga Arr**	**31.29**	**192**	P	**P**	**06 29 47.1**	**-0.5**
	6.5nm,0.7s,mb4.5,baz=10,slow=9.5,SNR=17						
ASAR	**Alice Springs**	**34.99**	**191**	P	**P**	**06 30 20.4**	**+0.7**
	3.7nm,0.5s,mb4.6,baz=18,slow=12,SNR=23						
ASPA	**Alice Springs**	**34.99**	**191**	*e*P	**P**	**06 30 20.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**41.30**	**286**	P	**P**	**06 31 14.1**	**+1.6**
	0.9nm,0.4s,mb3.8,baz=76,slow=6.5,SNR=4.5						
SONM	**Songino Array**	**46.92**	**328**	P	**P**	**06 31 57.3**	**-0.2**
	0.6nm,0.7s,mb3.6,baz=149,slow=8.4,SNR=3.6						
KURK	**Kurchatov**	**64.29**	**321**	*e*P	**P**	**06 34 01.6**	**-0.9**
	13nm,0.8s,mb5.0						
KURK				*e*	pP	06 34 09.6	-1.8
BRVK	**Borovoye**	**69.82**	**323**	*e*P	**P**	**06 34 37.4**	**-0.1**
	5.7nm,0.7s,mb4.6						
BRVK				*e*	pP	06 34 47.1	+0.8
ILAR	**Eielson Array**	**72.65**	**25**	P	**P**	**06 34 53.2**	**-1.0**
	0.6nm,0.5s,mb3.8,baz=248,slow=5.7,SNR=6.5						
INK	**Inuvik**	**78.33**	**22**	*e*P	**P**	**06 35 26.6**	**+0.2**
	8.8nm,1.4s,mb4.5						
YKA	**Yellowknife Ar**	**87.01**	**27**	P	**P**	**06 36 12.9**	**+1.7**
	1.3nm,0.7s,mb4.3,baz=288,slow=5.0,SNR=8.9						
YKA	**Yellowknife Ar**	**87.01**	**27**	P	**P**	**06 36 12.9**	**+1.7**
ARCES	**ARCESS Array B**	**88.49**	**341**	P	**P**	**06 36 17.6**	**-0.7**
	4.5nm,0.8s,mb4.8,baz=74,slow=13,SNR=3.1						
NVAR	**Mina Array Bea**	**91.58**	**51**	P	**P**	**06 36 36.5**	**+3.1**
	1.1nm,0.7s,mb4.3,baz=262,slow=6.4,SNR=6.2						
NVAR	**Mina Array Bea**	**91.58**	**51**	P	**P**	**06 36 36.5**	**+3.1**
FINES	**FINESS Array B**	**92.00**	**334**	P	**P**	**06 36 33.7**	**-1.0**
	3.3nm,1.0s,mb4.6,baz=63,slow=6.2,SNR=3.6						
FINES	**FINESS Array B**	**92.00**	**334**	P	**P**	**06 36 33.7**	**-1.0**
MAW	**Mawson**	**95.46**	**202**	LR	LR	07 18 35.4	
	comp=Z,97nm,21.2s,MS4.2,baz=250,slow=35						
LPAZ	**La Paz**	**151.19**	**104**	PKPbc	PKPdf	06 43 22.8	+4.7
	4.1nm,0.7s,baz=305,slow=2.3,SNR=11						
LPAZ	**La Paz**	**151.19**	**104**	*e*PKPbc	PKPdf	06 43 22.7	+4.6

IDC 17 06:35:17.3±3.0, 10.53N×142.25E, mb3.8/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.8/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/21, Error ellipse: s-maj=548.5km s-min=28.3km az=108.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**20.90**	**323**	LR	LR	06 46 07.0	
	comp=Z,87nm,20.4s,baz=121,slow=31						
ASAR	**Alice Springs**	**34.95**	**193**	P	P	06 42 11.1	-2.2
	2.3nm,0.7s,baz=12,slow=11,SNR=12						
ILAR	**Eielson Array**	**72.41**	**25**	P	P	06 46 44.2	-2.7
	0.4nm,0.9s,baz=247,slow=6.4,SNR=6.2						
YKA	**Yellowknife Ar**	**86.73**	**27**	P	P	06 48 04.0	-0.1
	0.4nm,0.5s,baz=289,slow=5.1,SNR=12						

MAN 17 06:36:32.4, 16.18N×119.84E, h30km, mb3.6, ML2.3, MS2.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.22**	**19**	*e*P	Pb	06 36 40.1	+1.3
SCZP	**Santa Cruz**	**0.40**	**170**	*e*P	Pb	06 36 42.7	+1.4
SCZP				*e*S	Sb	06 36 50.3	+2.9
BCPH	**Baguio City Da**	**0.74**	**74**	⇑*i*P	Pb	06 36 47.5	+0.8
BCPH				*i* S	Sb	06 36 58.4	+1.8
BALP	**Baler**	**1.73**	**104**	*e*P	Pn	06 37 03.1	+2.2
BALP				*e*S	Sn	06 37 05.0	-17

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*IDC **17** 06:51:06.2±0.7, 10.93N×141.10E, mb4.2/12, mb1 4.4/12, mb1mx4.3/17, mbtmp4.2/12, MS3.7/4, Ms1 3.7/4, ms1mx3.4/21, Error ellipse: s-maj=30.9km s-min=15.5km az=89.0*
*NEIC **17** 06:51:12.3±0.4, 10.86N×140.88E, h40km, mb4.4/5, Error ellipse: s-maj=14.5km s-min=9.0km az=95.0*
ISC 17 06:51:11.9±2.7, 10.79N±0.08×140.8E±0.1, h52km±25km, n22, σ1§02/21, mb4.2/15, MS3.5/3, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.85**	**55**	*e*P	**P**	**06 52 22.6**	**-1.6**
GUMO				*e*S	**S**	**06 53 21.3**	**+1.6**
CBIJ	**Chichi jima**	**16.27**	**4**	LR	LR	06 59 33.6	
	comp=Z,353nm,18.4s,baz=33,slow=32						
PMG	**Port Moresby**	**21.04**	**162**	LR	LR	07 03 41.4	
	comp=Z,155nm,19.6s,MS3.4,baz=359,slow=36						
CTA	**Charters Tower**	**31.15**	**170**	P	**P**	**06 57 28.4**	**+0.1**
	3.0nm,0.8s,mb4.2,baz=341,slow=9.4,SNR=5.3						
CTA				LR	LR	07 11 00.2	
	comp=Z,77nm,18.1s,MS3.4,baz=149,slow=38						
CTAO	**Charters Tower**	**31.15**	**170**	*e*P	**P**	**06 57 28.8**	**+0.6**
	5.3nm,1.0s,mb4.3						
WRAB	**Tennant Creek**	**31.19**	**192**	*e*P	**P**	**06 57 28.3**	**-0.2**
	8.7nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**31.20**	**192**	P	**P**	**06 57 28.5**	**-0.1**
	5.1nm,0.8s,mb4.4,baz=10,slow=9.4,SNR=18						
ASAR	**Alice Springs**	**34.91**	**191**	P	**P**	**06 58 01.5**	**+0.8**
	1.9nm,0.6s,mb4.2,baz=17,slow=12,SNR=19						
ASAR				PcP	PcP	07 00 34.0	+1.3
	0.7nm,1.0s,baz=39,slow=2.4,SNR=4.2						
ASAR				LR	LR	07 12 02.7	
	comp=Z,180nm,19.4s,MS3.8,baz=15,slow=36						
CMAR	**Chiang Mai Arr**	**41.14**	**286**	P	**P**	**06 58 54.8**	**+2.0**
	0.8nm,0.4s,mb3.7,baz=96,slow=7.4,SNR=9.5						
STKA	**Stephens Creek**	**42.43**	**179**	P	**P**	**06 59 02.9**	**-0.6**
	2.1nm,0.9s,mb3.8,baz=1.7,slow=7.3,SNR=3.9						
SONM	**Songino Array**	**46.87**	**329**	P	**P**	**06 59 39.1**	**+0.4**
	0.5nm,0.4s,mb3.8,baz=139,slow=6.9,SNR=4.9						
SONM				PcP	PcP	07 01 10.9	-0.4
	1.8nm,0.9s,baz=143,slow=2.9,SNR=11						
KURK	**Kurchatov**	**64.21**	**321**	*e*P	**P**	**07 01 42.4**	**-1.2**
	3.8nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**69.68**	**323**	P	**P**	**07 02 18.1**	**+0.1**
	2.0nm,0.5s,mb4.3,baz=90,slow=10,SNR=11						
BRVK	**Borovoye**	**69.75**	**323**	*e*P	**P**	**07 02 18.8**	**+0.4**
	2.5nm,0.6s,mb4.3						
ILAR	**Eielson Array**	**72.78**	**25**	P	**P**	**07 02 34.0**	**-2.3**
	1.1nm,0.7s,mb3.9,baz=255,slow=4.8,SNR=9.3						
INK	**Inuvik**	**78.45**	**22**	P	**P**	**07 03 07.8**	**-0.7**
	1.1nm,0.9s,mb3.8,baz=261,slow=5.0,SNR=5.0						
INK	**Inuvik**	**78.45**	**22**	*e*P	**P**	**07 03 07.7**	**-0.8**
	3.9nm,1.1s,mb4.2						
YKA	**Yellowknife Ar**	**87.14**	**27**	P	**P**	**07 03 53.7**	**+0.6**
	2.3nm,0.8s,mb4.5,baz=291,slow=5.3,SNR=23						
YKA	**Yellowknife Ar**	**87.14**	**27**	P	**P**	**07 03 53.7**	**+0.6**
ARCES	**ARCESS Array B**	**88.48**	**341**	P	**P**	**07 03 59.9**	**+0.5**
	3.9nm,0.7s,mb4.7,baz=45,slow=5.1,SNR=5.4						
BMO	**Blue Mountains**	**90.76**	**44**	*e*P	**P**	**07 04 11.7**	**+1.0**
FINES	**FINESS Array B**	**91.97**	**334**	P	**P**	**07 04 14.7**	**-1.2**
	3.5nm,0.8s,mb4.8,baz=90,slow=5.7,SNR=7.2						

IDC 17 07:05:27.6±12.0, 10.45N×91.92E, mb3.8/3, mb1 4.0/3, mb1mx3.7/14, mbtmp3.8/3, Error ellipse: s-maj=412.5km s-min=31.1km az=74.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.21**	**15**	P	P	07 12 57.5	-1.6
	0.6nm,0.6s,baz=197,slow=8.3,SNR=7.4						
WRA	**Warramunga Arr**	**51.54**	**126**	P	P	07 14 35.1	-2.6
	1.4nm,0.7s,baz=305,slow=8.3,SNR=7.9						
ASAR	**Alice Springs**	**53.24**	**130**	P	P	07 14 48.6	-1.8
	1.0nm,0.7s,baz=306,slow=6.8,SNR=11						

IDC 17 07:16:17.3±3.0, 33.87S×178.92W, mb4.0/2, mb1 4.3/3, mb1mx3.9/11, mbtmp4.1/3, ML3.8/1, Error ellipse: s-maj=69.9km s-min=35.8km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.43**	**215**	Pn	Pn	07 17 40.5	-0.9
	2.9nm,0.3s,baz=4.8,slow=6.2,SNR=16						
URZ				Sn	Sn	07 18 43.1	-2.5
	3.7nm,0.3s,baz=142,slow=23,SNR=9.3						
ASAR	**Alice Springs**	**42.27**	**271**	P	P	07 24 12.2	-1.9
	1.7nm,0.7s,baz=116,slow=7.7,SNR=20						
WRA	**Warramunga Arr**	**43.57**	**276**	P	P	07 24 23.2	-1.6
	1.3nm,0.5s,baz=120,slow=7.5,SNR=8.5						
FINES	**FINESS Array B**	**148.09**	**337**	PKPbc	PKPdf	07 36 03.3	+0.7
	1.6nm,0.6s,baz=45,slow=5.4,SNR=6.8						

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*IDC **17** 07:19:20.3±0.9, 9.23N×93.48E, mb3.9/8, mb1 4.1/9, mb1mx4.0/17, mbtmp3.9/9, ML3.6/1, MS3.7/6, Ms1 3.7/6, ms1mx3.3/24, Error ellipse: s-maj=41.6km s-min=17.2km az=51.0*
*NEIC **17** 07:19:24.1±6.3, 9.18N×93.35E, h29km±44km, mb4.4/3, Error ellipse: s-maj=16.2km s-min=10.2km az=188.0*
ISC 17 07:19:22.5±4.6, 9.2N±0.1×93.5E±0.1, h27km±32km, n31, σ1§00/29, mb4.1/11, MS3.9/5, 2C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.57**	**29**	Pn	**P**	**07 21 55.5**	**-0.1**
	0.1nm,0.3s,baz=225,slow=14,SNR=4.2						
CMAR				LR	LR	07 26 32.4	
	comp=Z,83nm,19.3s,baz=205,slow=41						
PALK	**Pallekele**	**12.86**	**262**	*e*Sn	**S**	**07 24 42.4**	**-7.3**
VIS	**Vishakhapatnam**	**13.04**	**311**	*e*P	**P**	**07 22 28.4**	**-0.5**
VIS				*e*		07 22 32.4	
	comp=Z,27nm,1.4s						
VIS				*e*S	**S**	**07 24 42.9**	**-11**
BWNR	**Bhubaneshwar**	**13.31**	**327**	*e*P	**P**	**07 22 30.2**	**-2.2**
BWNR				*e*		07 22 32.1	
	comp=Z,24nm,3.2s						
BWNR				*e*S	**S**	**07 24 46.0**	**-14**
SHL	**Shillong**	**16.33**	**355**	*e*P	**P**	**07 23 12.0**	**+0.1**
HYB	**Hyderabad**	**16.70**	**301**	⇑*e*P	**P**	**07 23 22.5**	**+6.0**
HYB	**Hyderabad**	**16.70**	**301**	⇑*i*P	**P**	**07 23 15.5**	**-1.0**
HYB				*e*		07 23 22.5	
HYB				*e*		07 23 29.0	
BLSP	**Bilaspur**	**16.88**	**321**	*e*P	**P**	**07 23 19.6**	**+0.8**
BLSP				*e*		07 23 23.6	
	comp=Z,25nm,1.0s						
BLSP				*e*		07 25 43.1	
JIRN	**Jiri**	**19.61**	**340**	*e*P	**P**	**07 23 53.5**	**+1.5**
	comp=Z,59nm,1.1s						
PKI	**Pulchoki**	**19.80**	**338**	*e*P	**P**	**07 23 54.5**	**+0.4**
	comp=Z,64nm,1.2s						
KKN	**Kakani**	**20.05**	**338**	*e*P	**P**	**07 23 56.7**	**0.0**
	comp=Z,24nm,1.0s						
GKN	**Gorkha**	**20.48**	**337**	*e*P	**P**	**07 24 01.5**	**+0.3**
	comp=Z,44nm,0.7s						
KOLN	**Koldanda**	**20.70**	**334**	*e*P	**P**	**07 24 03.3**	**-0.1**
	comp=Z,129nm,1.5s						
BHPL	**Bhopal**	**20.80**	**314**	*i* P	**P**	**07 24 06.9**	**+2.4**
BHPL				*e*		07 24 08.3	
	comp=Z,29nm,1.6s						
NDI	**New Delhi**	**24.71**	**324**	*e*P	**P**	**07 24 44.0**	**+0.9**
DDI	**Dehra Dun**	**25.50**	**328**	*e*	**P**	**07 24 51.2**	**+0.7**
SONM	**Songino Array**	**39.99**	**13**	P	**P**	**07 26 56.1**	**-0.7**
	comp=Z,0.8nm,1.0s,mb3.4,baz=194,slow=10,SNR=4.6						
BVAR	**Borovoye Array**	**47.53**	**341**	P	**P**	**07 27 56.0**	**-1.5**
	comp=Z,1.3nm,0.8s,mb4.0,baz=124,slow=11,SNR=4.7						
BRVK	**Borovoye**	**47.59**	**341**	P	**P**	**07 27 57.1**	**-0.9**
	comp=Z,7.8nm,1.4s,mb4.5						
WRA	**Warramunga Arr**	**49.52**	**126**	P	**P**	**07 28 13.0**	**-0.4**
	comp=Z,1.0nm,0.8s,mb3.9,baz=301,slow=8.4,SNR=6.2						
WRAB	**Tennant Creek**	**49.53**	**126**	*e*P	**P**	**07 28 13.8**	**+0.4**
	comp=Z,1.0nm,0.4s,mb4.2						
ASAR	**Alice Springs**	**51.23**	**130**	P	**P**	**07 28 25.8**	**-0.5**
	comp=Z,1.7nm,0.8s,mb4.0,baz=311,slow=7.2,SNR=16						
ASAR				PcP	PcP	07 29 42.0	+0.4
	comp=Z,1.9nm,1.1s,baz=312,slow=3.7,SNR=6.4						
ASAR				LR	LR	07 53 15.0	
	comp=Z,44nm,18.1s,MS3.5,baz=131,slow=40						
GNI	**Garni**	**53.08**	**314**	LR	LR	07 52 01.9	
	comp=Z,81nm,21.0s,MS3.8,baz=284,slow=37						
KMBO	**Kilima Mbogo**	**57.00**	**263**	LR	LR	07 50 17.8	
	comp=Z,80nm,21.3s,MS3.8,baz=93,slow=33						
CTA	**Charters Tower**	**59.48**	**120**	P	**P**	**07 29 27.1**	**+1.0**
	comp=Z,2.6nm,0.8s,mb4.3,baz=306,slow=12,SNR=3.1						
BRTR	**Keskin Array B**	**61.11**	**310**	P	**P**	**07 29 36.6**	**-0.3**
	comp=Z,1.1nm,0.9s,mb4.0,baz=129,slow=9.2,SNR=3.8						
ARCES	**ARCESS Array B**	**73.81**	**340**	P	**P**	**07 30 56.7**	**+0.5**
	comp=Z,2.8nm,0.9s,mb4.2,baz=98,slow=6.6,SNR=12						
ARCES				LR	LR	08 05 03.7	
	comp=Z,109nm,19.2s,MS4.2,baz=78,slow=37						
GERES	**GERESS Array B**	**76.44**	**318**	P	**P**	**07 31 12.1**	**+0.4**
	comp=Z,1.6nm,0.9s,mb4.0,baz=72,slow=4.2,SNR=6.9						
MAW	**Mawson**	**79.73**	**191**	LR	LR	07 58 59.3	
	comp=Z,79nm,18.6s,MS4.1,baz=64,slow=30						
LPG	**La Plagne**	**81.26**	**315**	*e*P	**P**	**07 31 34.9**	**-3.0**
	comp=Z,7.2nm,0.7s,mb4.4						
PDAR	**Pinedale Array**	**124.13**	**20**	PKP	PKPdf	07 38 20.1	-3.9
	comp=Z,0.9nm,1.0s,baz=342,slow=4.7,SNR=5.1						

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*NIED **17** 07:36:00, 43.00N×145.40E, h47km, Mw4.4 Best double couple: M0:3.79×10^15 NP1:φs=24°, δ70°, λ80°. NP2:φs=231°, δ22°, λ116°.*
*MOS **17** 07:36:19.4±1.0, 42.90N×145.49E, h40km, mb4.8/34, Error ellipse: s-maj=11.1km s-min=5.8km az=101.6*
*SKHL **17** 07:36:20.4±0.9, 42.86N×145.71E, h51km±10km, mb4.7/7, msh5.2/1*
*BJI **17** 07:36:20.7, 42.98N×145.73E, h69km, mB5.2, mb4.8, Ms4.2, Msz4.1*
*JMA **17** 07:36:22.4±0.1, 42.98N×145.43E, h47km±1km, M4.4*
JMA Felt II J1.
*NEIC **17** 07:36:22.4±0.8, 42.95N×145.47E, h47km±6km, mb4.6/22, MW4.4(NIED), Error ellipse: s-maj=7.4km s-min=5.4km az=124.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
*IDC **17** 07:36:24.9±2.4, 42.97N×145.45E, h70km±19km, mb4.1/23, mb1 4.3/24, mb1mx4.3/27, mbtmp4.4/24, MS3.4/2, Ms1 3.5/2, ms1mx3.0/25, Error ellipse: s-maj=16.1km s-min=14.3km az=146.0*
ISC 17 07:36:20.8±0.6, 42.96N±0.05×145.49E±0.05, h48km±4km, h49km±9.9km: pP-P, n154, σ1§02/162, mb4.5/54, MS3.8/2, 6C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.45**	**24**	⇑P	**P**	**07 36 32.6**	**+1.3**
NEM2				*e*S	**S**	**07 36 39.7**	**+0.9**
JAK	**Akkeshi**	**0.59**	**274**	⇓P	**P**	**07 36 33.9**	**+0.9**
JAK				*e*S	**S**	**07 36 42.3**	**+0.4**
JNK	**Nakash**	**0.84**	**318**	⇓P	**P**	**07 36 37.1**	**+0.6**
JNK				*e*S	**S**	**07 36 47.5**	**-0.6**
JRA	**Rausu**	**1.02**	**345**	⇓P	**P**	**07 36 39.9**	**+1.0**
JRA				*e*S	**S**	**07 36 52.9**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**1.11**	**14**	*e*PN	**P**	**07 36 40.0**	**-0.2**
YUK				*e*S	**S**	**07 36 54.0**	**-0.6**
YUK				pmax	pmax		
	comp=Z,810nm,0.3s						
YUK				pmax	pmax		
	comp=N,520nm,0.4s						
YUK				pmax	pmax		
	comp=E,420nm,0.3s						
YUK				pmax	pmax		
	comp=Z,3μm,0.8s						
YUK				smax			
	comp=N,32μm,1.0s						
YUK				smax			
	comp=E,30μm,0.6s						
YUK				smax			
	comp=N,18μm,0.5s						
YUK				smax			
	comp=E,12μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.11**	**14**	*e*P	**P**	**07 36 40.0**	**-0.2**
YUK				AMB	AMB	07 36 41.0	
	comp=E,520nm,0.3s						
YUK				AMB	AMB	07 36 41.0	
	comp=E,420nm,0.3s						
YUK				AMB	AMB	07 36 41.0	
	comp=E,810nm,0.3s						
YUK				AMB	AMB	07 36 41.0	
	comp=E,3μm,1.0s						
YUK				*e*S	**S**	**07 36 54.0**	**-0.6**
YUK				A		07 36 56.0	
	comp=E,32μm,1.0s						
YUK				A		07 36 56.0	
	comp=E,30μm,1.0s						
YUK				A		07 36 58.5	
	comp=E,18μm,0.5s						
YUK				A		07 36 58.5	
	comp=E,12μm,0.5s						
JAR	**Ashorobuto**	**1.31**	**286**	⇓P	**P**	**07 36 43.8**	**+0.7**
JAR				*e*S	**S**	**07 36 59.4**	**-0.3**
JTKR	**Abashiri--Toko**	**1.54**	**312**	⇓P	**P**	**07 36 47.4**	**+1.1**
ASAJ	**Asahikawa**	**2.40**	**300**	PN	**P**	**07 36 59.8**	**+1.2**
ASAJ				S	**S**	**07 37 31.2**	**+4.3**
ASAJ				pmax	pmax		
	comp=Z,97nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,767nm,20.0s						
ASAJ	**Asahikawa**	**2.40**	**300**	P	**P**	**07 36 59.8**	**+1.2**
	comp=Z,96nm,0.3s,baz=118,slow=11,SNR=131						
ASAJ				S	**S**	**07 37 31.1**	**+4.2**
	comp=Z,67nm,0.3s,baz=331,slow=27,SNR=5.0						
ASAJ				LR	LR	07 38 12.9	
	comp=Z,767nm,20.6s,baz=180,slow=46						
KUR	**Kuril'sk**	**2.85**	**36**	*e*PN	**P**	**07 37 03.5**	**-1.4**
KUR				*e*S	**S**	**07 37 36.5**	**-1.7**
KUR				pmax	pmax		
	comp=Z,240nm,0.4s						
KUR				smax			
	comp=N,1μm,0.5s						
KUR				smax			
	comp=E,1μm,0.5s						
KUR				smax			
	comp=N,5μm,3.0s						
KUR	**Kuril'sk**	**2.85**	**36**	*e*P	**P**	**07 37 03.5**	**-1.4**
KUR				AMB	AMB	07 37 08.0	
	comp=N,240nm,0.4s						
KUR				*e*S	**S**	**07 37 36.5**	**-1.7**
KUR				A		07 37 43.5	
	comp=N,1μm,0.5s						
KUR				A		07 37 43.5	
	comp=N,1μm,0.5s						
KUR				A		07 37 54.0	
	comp=N,5μm,3.0s						
YSS	**Yuzh-Sakhalins**	**4.44**	**335**	⇑*e*PN	**P**	**07 37 27.4**	**-0.1**
YSS				MLR	MLR		
	comp=Z,400nm,14.0s						
YSS	**Yuzh-Sakhalins**	**4.44**	**335**	*e*P	**P**	**07 37 27.5**	**+0.1**
YSS	**Yuzh-Sakhalins**	**4.44**	**335**	*i* P	**P**	**07 37 27.4**	**-0.1**
YSS				*i* S	**S**	**07 38 12.0**	**-6.5**
YSS				A		07 38 15.0	
	comp=Z,130nm,0.9s						
YSS				AMS	AMS	07 39 22.0	
	comp=Z,400nm,14.0s						
UGL	**Uglegorsk**	**6.57**	**340**	*e*P	**P**	**07 37 54.9**	**-2.3**
UGL				AMB	AMB	07 37 58.0	
	comp=Z,47nm,0.7s						
TYV	**Tymovskoe**	**8.14**	**347**	*e*rx	rx	07 38 17.0	
MAJO	**Matsushiro**	**8.51**	**224**	*e*PN	**P**	**07 38 22.7**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,16nm,0.4s						
MAJO	**Matsushiro**	**8.51**	**224**	*e*P	**P**	**07 38 22.6**	**-1.5**
	comp=Z,16nm,0.4s						
MAT	**Matsushiro**	**8.51**	**224**	*e*PN	**P**	**07 38 22.0**	**-2.2**
MAT				pmax	pmax		
	comp=Z,12nm,0.5s						
MAT	**Matsushiro**	**8.51**	**224**	*e*P	**P**	**07 38 22.0**	**-2.2**
	comp=Z,12nm,0.5s						
MAT				*e*S	**S**	**07 39 56.0**	**-3.9**
MAT	**Matsushiro**	**8.51**	**224**	P	**P**	**07 38 22.3**	**-1.9**
MAT				S	**S**	**07 39 56.3**	**-3.6**
KLR	**Kul'dur**	**11.41**	**308**	*e*PN	**P**	**07 39 04.0**	**+0.3**
KLR	**Kul'dur**	**11.41**	**308**	*e*rx	rx	07 39 00.4	
MDJ	**Mudanjiang**	**11.62**	**284**	P	**P**	**07 39 08.4**	**+1.9**
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.6s						
MDJ				AMB	AMB		
	comp=Z,104nm,3.8s						
MDJ	**Mudanjiang**	**11.62**	**284**	*e*P	**P**	**07 39 07.2**	**+0.7**
	comp=Z,11nm,1.0s						
YASR	**Yasnyy**	**15.56**	**318**	*e*P	**P**	**07 39 56.5**	**-1.8**
YASR				AMB	AMB	07 39 58.4	
	comp=Z,3.0nm,0.9s						
YASR				AMB	AMB	07 39 58.4	
	comp=Z,5.0nm,0.9s						
YASR				AMB	AMB	07 39 58.4	
	comp=Z,8.0nm,0.9s						
BMKR	**Bomnak**	**16.03**	**323**	*e*P	**P**	**07 40 02.6**	**-1.5**
BMKR				AMB	AMB	07 40 04.1	
	comp=Z,23nm,0.9s						
ZEA	**Zeya**	**16.18**	**318**	*e*P	**P**	**07 40 07.9**	**+1.9**
ZEA				AMB	AMB	07 40 19.3	
	comp=Z,24nm,1.0s						
ZEA				AMB	AMB	07 40 19.3	
	comp=Z,27nm,1.0s						
ZEA				AMB	AMB	07 40 19.3	
	comp=Z,29nm,1.0s						
KROS	**Kirovskiy**	**16.71**	**320**	*e*P	**P**	**07 40 11.9**	**-0.9**
KROS				AMB	AMB	07 40

LZH				AMB	AMB		
	comp=Z,127nm,4.5s						
LZH				LR	LR		
	comp=N,219nm,14.9s						
LZH				LR	LR		
	comp=Z,344nm,18.0s,MS4.1						
IMA	**Indian Mountai**	**40.01**	**34**	*e*P	**P**	**07 43 52.6**	**+0.5**
WMQ	**Urumqi**	**41.27**	**292**	*e*P	**P**	**07 44 03.1**	**+0.4**
COLA	**College**	**42.42**	**36**	*e*P	**P**	**07 44 11.2**	**-0.6**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
COLA	**College**	**42.42**	**36**	*e*P	**P**	**07 44 11.2**	**-0.7**
	comp=Z,8.7nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**42.84**	**36**	P	**P**	**07 44 15.0**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ILAR	**Eielson Array**	**42.84**	**36**	P	**P**	**07 44 14.9**	**-0.3**
	comp=Z,1.1nm,0.4s,mb3.9,baz=231,slow=16,SNR=5.9						
MKAR	**Makanchi Array**	**43.88**	**298**	*i* P	**P**	**07 44 23.5**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KURK	**Kurchatov**	**44.97**	**304**	*e*P	**P**	**07 44 31.8**	**-0.8**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
KURK	**Kurchatov**	**44.97**	**304**	*e*P	**P**	**07 44 31.8**	**-0.8**
	comp=Z,2.9nm,0.6s,mb4.3						
CMAR	**Chiang Mai Arr**	**46.14**	**253**	P	**P**	**07 44 41.0**	**-1.3**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,55nm,21.7s						
CMAR	**Chiang Mai Arr**	**46.14**	**253**	P	**P**	**07 44 41.0**	**-1.3**
	comp=Z,1.7nm,0.8s,mb4.0,baz=28,slow=8.7,SNR=6.2						
CMAR				LR	LR	08 03 51.3	
	comp=Z,55nm,21.7s,MS3.5,baz=17,slow=36						
INK	**Inuvik**	**47.70**	**30**	*e*P	**P**	**07 44 53.9**	**0.0**
INK	**Inuvik**	**47.70**	**30**	P	**P**	**07 44 53.1**	**-0.8**
	comp=Z,2.3nm,0.3s,mb4.6,baz=274,slow=6.6,SNR=67						
BVA0	**Borovoye Array**	**49.07**	**309**	P	**P**	**07 45 04.1**	**-0.7**
BVAR	**Borovoye Array**	**49.07**	**309**	P	**P**	**07 45 04.5**	**-0.3**
	comp=Z,4.1nm,0.4s,mb4.8,baz=80,slow=8.3,SNR=58						
BVAR				PcP	PcP	07 46 28.1	-0.1
	comp=Z,2.3nm,0.6s,baz=90,slow=4.4,SNR=4.4						
BRVK	**Borovoye**	**49.12**	**309**	*e*P	**P**	**07 45 04.7**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
BRVK	**Borovoye**	**49.12**	**309**	*e*P	**P**	**07 45 04.7**	**-0.5**
	comp=Z,2.5nm,0.6s,mb4.4						
JIRN	**Jiri**	**49.76**	**272**	*e*P	**P**	**07 45 10.6**	**+0.2**
	comp=Z,4.7nm,0.3s,mb5.0						
KKN	**Kakani**	**50.36**	**273**	*e*P	**P**	**07 45 14.9**	**-0.1**
	comp=Z,20nm,1.0s,mb5.1						
PKI	**Pulchoki**	**50.38**	**273**	*e*P	**P**	**07 45 14.6**	**-0.6**
GKN	**Gorkha**	**50.71**	**274**	*e*P	**P**	**07 45 16.8**	**-0.9**
	comp=Z,11nm,0.5s,mb5.1						
KOLN	**Koldanda**	**51.60**	**274**	*e*P	**P**	**07 45 24.2**	**-0.2**
	comp=Z,8.0nm,0.5s,mb4.9						
RES	**Resolute Bay**	**56.07**	**16**	*e*P	**P**	**07 45 55.8**	**-0.8**
RES				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2						
RES	**Resolute Bay**	**56.07**	**16**	*e*P	**P**	**07 45 55.8**	**-0.9**
	comp=Z,16nm,0.7s,mb5.2						
YKA	**Yellowknife Ar**	**57.13**	**33**	P	**P**	**07 46 03.4**	**-1.0**
YKA	**Yellowknife Ar**	**57.13**	**33**	P	**P**	**07 46 03.3**	**-1.0**
	comp=Z,0.7nm,0.5s,mb4.0,baz=301,slow=7.4,SNR=20						
ARCES	**ARCESS Array B**	**59.57**	**339**	P	**P**	**07 46 20.3**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**59.57**	**339**	P	**P**	**07 46 20.3**	**-0.9**
	comp=Z,3.3nm,0.8s,mb4.4,baz=35,slow=7.9,SNR=5.6						
JOF	**Joensuu**	**62.22**	**332**	*ep*	**P**	**07 46 38.0**	**-1.3**
	comp=Z,1.4nm,0.3s,mb4.6						
JOF	**Joensuu**	**62.22**	**332**	*e*P	**P**	**07 46 38.0**	**-1.3**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.4						
WRA	**Warramunga Arr**	**63.42**	**192**	P	**P**	**07 46 46.5**	**-1.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**63.42**	**192**	P	**P**	**07 46 46.5**	**-1.3**
	comp=Z,1.1nm,0.7s,mb4.1,baz=13,slow=6.9,SNR=6.3						
KAF	**Kangasniemi**	**64.48**	**333**	*ep*	**P**	**07 46 52.6**	**-1.4**
	comp=Z,0.7nm,0.3s,mb4.2						
KAF	**Kangasniemi**	**64.48**	**333**	*e*P	**P**	**07 46 52.6**	**-1.4**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
FINES	**FINESS Array B**	**65.03**	**333**	P	**P**	**07 46 56.4**	**-1.2**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.5s						
FINES	**FINESS Array B**	**65.03**	**333**	P	**P**	**07 46 56.4**	**-1.2**
	comp=Z,5.8nm,0.5s,mb4.9,baz=54,slow=7.9,SNR=43						
OBN	**Obninsk**	**65.23**	**323**	*e*P	**P**	**07 46 53.7**	**-5.3**
OBN				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
ASAR	**Alice Springs**	**67.14**	**192**	P	**P**	**07 47 11.8**	**+0.1**
	comp=Z,1.1nm,0.7s,mb4.0,baz=8.9,slow=5.9,SNR=16						
GOF	**Gofitskoye**	**68.49**	**312**	*e*P	**P**	**07 47 19.0**	**-0.7**
NVAR	**Mina Array Bea**	**69.03**	**57**	P	**P**	**07 47 24.7**	**+1.6**
	comp=Z,1.8nm,0.8s,mb4.0,baz=286,slow=6.6,SNR=12						
KIV	**Kislovodsk**	**69.38**	**311**	⇓*i* P	**P**	**07 47 24.9**	**-0.3**
KIV				*i* *PP	PcP	07 47 50.7	+2.1
KIV				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
KIV	**Kislovodsk**	**69.38**	**311**	*e*P	**P**	**07 47 26.4**	**+1.2**
	comp=Z,20nm,0.8s,mb5.1						
NB2	**NORSAR Subarra**	**69.90**	**338**	P	**P**	**07 47 27.5**	**-0.6**
	comp=Z,4.5nm,0.6s,mb4.6,baz=33,slow=6.2						
NB2	**NORSAR Subarra**	**69.90**	**338**	P	**P**	**07 47 27.5**	**-0.6**
NB2				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
NOA	**NORSAR Array B**	**69.90**	**338**	P	**P**	**07 47 27.7**	**-0.4**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NOA	**NORSAR Array B**	**69.90**	**338**	P	**P**	**07 47 27.7**	**-0.4**
	comp=Z,5.7nm,0.6s,mb4.7,baz=35,slow=6.1,SNR=18						
HFS	**Hagfors**	**69.95**	**337**	P	**P**	**07 47 27.4**	**-1.0**
HFS				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HFS	**Hagfors**	**69.95**	**337**	P	**P**	**07 47 27.4**	**-1.0**
	comp=Z,7.2nm,0.5s,mb4.9,baz=56,slow=5.2,SNR=5.9						
GNI	**Garni**	**70.67**	**307**	⇓*i* P	**P**	**07 47 37.7**	**+4.6**
GNI				pmax	pmax		
	comp=Z,17nm,2.6s						
SOC	**Sochi**	**71.25**	**312**	*e*P	**P**	**07 47 34.6**	**-2.0**
SOC				*e*		07 50 10.4	
SOC				*e*PPP	PPP	07 51 52.6	-5.7
SOC				*e*S	S	07 56 47.2	-1.8
SOC				*e*SSS	SSS	08 04 35.8	+3.2
SOC				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
SOC				pmax	pmax		
	comp=N,2.0nm,0.3s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.4s						
BW06	**Boulder Array**	**71.34**	**49**	*e*P	**P**	**07 47 37.6**	**+0.4**
	comp=E,1.3nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	**71.34**	**49**	P	**P**	**07 47 37.5**	**+0.4**
	comp=E,1.5nm,0.5s,mb4.2,baz=223,slow=0.3,SNR=18						
AKASG	**Malin Array Be**	**71.50**	**323**	P	**P**	**07 47 37.4**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.5s						
AKASG	**Malin Array Be**	**71.50**	**323**	P	**P**	**07 47 37.4**	**-0.5**
	comp=Z,6.5nm,0.5s,mb4.8,baz=41,slow=6.0,SNR=36						
KWP	**Kalwaria**	**75.09**	**326**	*e*P	**P**	**07 48 00.0**	**+1.2**
KOLS	**Kolonicke sedl**	**75.81**	**325**	*i* P	**P**	**07 48 04.2**	**+1.2**
OJC	**Ojcow**	**75.81**	**327**	*e*P	**P**	**07 48 03.5**	**+0.6**
CRVS	**Cervenica-Dubn**	**76.17**	**326**	*i* P	**P**	**07 48 05.9**	**+0.9**
MLR	**Muntele Rosu**	**76.83**	**321**	P	**P**	**07 48 09.8**	**+1.0**
MLR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MLR	**Muntele Rosu**	**76.83**	**321**	P	**P**	**07 48 09.8**	**+0.9**
	comp=Z,3.4nm,0.9s,mb4.2						
UPC	**Upice**	**77.03**	**330**	*e*P	**P**	**07 48 10.9**	**+1.0**
DPC	**Dobruska-Polom**	**77.04**	**329**	*e*P	**P**	**07 48 11.0**	**+1.1**
DPC				*ex*	x	07 48 29.9	
MORC	**Moravsky Berou**	**77.04**	**328**	*e*P	**P**	**07 48 10.4**	**+0.5**
MORC				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
MORC	**Moravsky Berou**	**77.04**	**328**	*e*P	**P**	**07 48 10.4**	**+0.5**
	comp=Z,12nm,1.4s,mb4.6						
BRTR	**Keskin Array B**	**77.21**	**313**	P	**P**	**07 48 11.8**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	**77.21**	**313**	P	**P**	**07 48 11.8**	**+0.7**
	comp=Z,2.1nm,0.7s,mb4.2,baz=90,slow=3.7,SNR=8.2						
CLL	**Collm**	**77.45**	**332**	*i* P	**P**	**07 48 12.0**	**-0.2**
CLL				*e*	pP	07 48 24.0	-2.1
CLL				*i*	pP	07 48 29.7	+3.6
CLL				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
CLL	**Collm**	**77.45**	**332**	*i* P	**P**	**07 48 12.0**	**-0.2**
	comp=Z,15nm,1.0s,mb4.9						
CLL				*e*	pP	07 48 24.0	-2.1
CLL				*i*	pP	07 48 29.7	+3.6
CLL	**Collm**	**77.45**	**332**	P	**P**	**07 48 12.0**	**-0.2**
	comp=Z,logA/T=1.2,mb4.9						
CLL				*e**PP	pP	07 48 24.0	-2.1
CLL				*i* *SP	sP	07 48 29.7	-1.8
VYHS	**Vyhne**	**77.56**	**327**	*i* P	**P**	**07 48 14.0**	**+1.1**
VRAC	**Vranov**	**77.78**	**329**	P	**P**	**07 48 14.8**	**+0.7**
VRAC				pmax	pmax		
	comp=Z,3.0nm,0.5s						
VRAC	**Vranov**	**77.78**	**329**	P	**P**	**07 48 14.8**	**+0.8**
	comp=Z,2.8nm,0.5s,mb4.4,baz=64,slow=7.9,SNR=4.9						
PRU	**Pruhonice**	**78.00**	**330**	*e*P	**P**	**07 48 16.1**	**+0.9**
PRU				*e*pP	pP	07 48 30.9	+1.7
EKA	**Eskdalemuir Ar**	**78.52**	**342**	P	**P**	**07 48 18.5**	**+0.5**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
EKA	**Eskdalemuir Ar**	**78.52**	**342**	P	**P**	**07 48 18.5**	**+0.5**
	comp=Z,2.1nm,0.4s,mb4.4,baz=18,slow=5.2,SNR=9.5						
NKC	**Novy Kostel**	**78.54**	**331**	*e*P	**P**	**07 48 16.7**	**-1.5**
NKC				*e*pP	pP	07 48 36.0	+3.8
SCHQ	**Schefferville**	**78.76**	**18**	P	**P**	**07 48 19.6**	**+0.3**
	comp=Z,3.7nm,1.1s,mb4.2,baz=310,slow=7.9,SNR=6.4						
KHC	**Kasperske Hory**	**79.06**	**330**	*e*P	**P**	**07 48 22.1**	**+1.0**
KHC				*e*pP	pP	07 48 33.7	-1.4
KHC				*ex*	x	07 48 39.1	
GERES	**GERESS Array B**	**79.25**	**330**	P	**P**	**07 48 22.1**	**0.0**
GERES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GERES	**GERESS Array B**	**79.25**	**330**	P	**P**	**07 48 22.1**	**0.0**
	comp=Z,2.8nm,1.0s,mb4.2,baz=45,slow=5.7,SNR=9.3						
GRA1	**Grafenberg Arr**	**79.43**	**332**	*e*P	**P**	**07 48 23.8**	**+0.8**
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	**Grafenberg Arr**	**79.43**	**332**	*e*P	**P**	**07 48 23.8**	**+0.8**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	**Grafenberg Arr**	**79.43**	**332**	*e*P	**P**	**07 48 23.8**	**+0.8**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	**Grafenberg Arr**	**79.43**	**332**	*e*P	**P**	**07 48 23.8**	**+0.8**
	comp=Z,6.0nm,0.9s,mb4.5						
DAVOX	**Davos**	**82.38**	**331**	P	**P**	**07 48 39.3**	**+0.7**
	comp=Z,4.0nm,0.9s,mb4.3,baz=70,slow=3.1,SNR=3.8						
CABF	**La Chapelle**	**83.83**	**333**	*e*P	**P**	**07 48 46.8**	**+0.9**
TXAR	**Lajitas Array**	**84.10**	**55**	P	**P**	**07 48 49.0**	**+1.2**
	comp=Z,4.8nm,1.2s,mb4.5,baz=291,slow=3.0,SNR=15						
AVF	**Avril sur Loir**	**84.55**	**335**	*e*P	**P**	**07 48 49.2**	**-0.3**
	comp=Z,17nm,1.1s,mb4.8						
AVF	**Avril sur Loir**	**84.55**	**335**	*e*P	**P**	**07 48 49.2**	**-0.3**
AVF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
LPL	**La Plagne**	**84.57**	**332**	*e*P	**P**	**07 48 50.9**	**+1.2**
LPG	**La Plagne**	**84.58**	**332**	*e*P	**P**	**07 48 51.2**	**+1.5**
MBDF	**Montbardon**	**85.25**	**332**	*e*P	**P**	**07 48 54.1**	**+1.0**
	comp=Z,7.3nm,0.8s,mb4.6						
MBDF	**Montbardon**	**85.25**	**332**	*e*P	**P**	**07 48 54.1**	**+1.0**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
ORIF	**Oris-en-Rattie**	**85.38**	**332**	*e*P	**P**	**07 48 54.6**	**+0.9**
	comp=Z,9.9nm,0.9s,mb4.6						
ORIF	**Oris-en-Rattie**	**85.38**	**332**	*e*P	**P**	**07 48 54.6**	**+0.9**
ORIF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
VIVF	**Saint-Julien-I**	**85.84**	**333**	*e*P	**P**	**07 48 56.9**	**+0.9**
LMR	**La Mourre**	**86.56**	**331**	*e*P	**P**	**07 49 00.0**	**+0.5**
	comp=Z,10.0nm,0.6s,mb4.9						
LMR	**La Mourre**	**86.56**	**331**	*e*P	**P**	**07 49 00.0**	**+0.5**
LMR				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.9						
CAF	**Calviac**	**86.62**	**335**	*e*P	**P**	**07 49 01.0**	**+1.2**
	comp=Z,18nm,0.9s,mb5.0						
CAF	**Calviac**	**86.62**	**335**	*e*P	**P**	**07 49 01.0**	**+1.2**
CAF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.0						
MTLF	**Montolieu**	**87.99**	**334**	*e*P	**P**	**07 49 06.6**	**+0.1**
ETSF	**Etsaut**	**89.26**	**336**	*e*P	**P**	**07 49 13.8**	**+1.3**
	comp=Z,6.0nm,0.7s,mb4.7						
ETSF	**Etsaut**	**89.26**	**336**	*e*P	**P**	**07 49 13.8**	**+1.3**
ETSF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.7						
VNA2	**Neumayer--Watz**	**148.88**	**197**	*e*	PKPdf	07 56 05.1	+7.4
VNA2	**Neumayer--Watz**	**148.88**	**197**	*e*	PKPdf	07 56 13.4	+16
VNA2	**Neumayer--Watz**	**148.88**	**197**	⇑*i* P	PKPdf	07 55 59.2	+1.5
VNA2				*e*		07 56 05.1	
VNA2				*e*		07 56 13.4	
VNA3	**Neumayer Olymp**	**149.09**	**195**	⇑*i*	PKPdf	07 56 00.0	+1.9
VNA1	**Neumayer--Stat**	**149.28**	**197**	⇑*i*	PKPdf	07 56 01.9	+3.5

JMA 17 07:36:31.6±0.2, 42.96N×145.42E, h46km±2km, M4.6
ISC 17 07:36:29.4±1.7, 42.9N±0.1×145.5E±0.1, h57km±19km, n5, σ1§12/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.48**	**24**	*e*S	**S**	**07 36 49.1**	**-0.5**
JAK	**Akkeshi**	**0.58**	**278**	P	**P**	**07 36 42.7**	**+0.6**
JAK				*e*S	**S**	**07 36 51.6**	**+0.2**
JNK	**Nakash**	**0.86**	**320**	P	**P**	**07 36 46.4**	**+0.7**
JNK				*e*S	**S**	**07 36 56.6**	**-1.3**
JAR	**Ashorobuto**	**1.30**	**287**	P	**P**	**07 36 53.1**	**+1.1**
MAT	**Matsushiro**	**8.48**	**224**	P	**P**	**07 38 32.1**	**0.0**
MAT				S	**S**	**07 40 06.3**	**-1.0**

CSEM 17 07:38:54.0, 34.82N×26.50E, h10km, MD3.5/4, After ATH
ATH 17 07:38:54.0, 34.82N×26.50E, h10km, MD3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**1.92**	**43**	*e*PG	Pg	07 39 29.9	-2.5
VAM	**Vamos**	**1.98**	**288**	*e*PN	Pn	07 39 29.9	+2.0
BDRM	**Kayabasi**	**2.37**	**19**	*i* P	Pn	07 39 18.9	-15
BDRM				*i* S	Sn	07 39 25.1	-38
KSL	**Kastellorizon**	**2.84**	**61**	*e*PB	Pb	07 39 41.0	-3.5
AYDN	**Tasoluk**	**3.05**	**21**	*i* P	Pn	07 39 25.0	-18
AYDN				*i* S	Sn	07 39 34.5	-46
DNZL	**Cakiroluk**	**3.53**	**35**	*i* P	Pn	07 39 33.8	-16
DNZL				*i* S	Sn	07 39 52.7	-40
KDAG	**Bornova**	**3.63**	**10**	*i* P	Pn	07 39 39.7	-12
KDAG				*i* S	Sn	07 40 03.2	-32
MANT	**Manisa**	**4.02**	**24**	*i* P	Pn	07 39 40.3	-17
MANT				*i* S	Sn	07 40 05.7	-39
PRK	**Paraskevi**	**4.42**	**358**	*e*PN	Pn	07 40 03.5	+0.7
AYVA	**Ayvalik**	**4.48**	**2**	*i* P	Pn	07 40 03.2	-0.5
AYVA				*i* S	Sn	07 40 35.3	-21
BTOK	**Tokmak**	**5.08**	**13**	*i* P	Pn	07 40 05.9	-6.2
BTOK				*i* S	Sn	07 40 50.9	-21
ULDT	**Uludag**	**5.71**	**21**	*i* P	Pn	07 40 17.1	-3.9
ULDT				*i* S	Sn	07 41 01.4	-26

JMA 17 07:42:12.8±0.2, 41.49N×147.34E, M4.0, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.22**	**328**	P	Pn	07 42 51.8	+0.5
NEM2				*e*S	Sn	07 43 20.3	+0.5
JAK	**Akkeshi**	**2.47**	**308**	P	Pn	07 42 55.7	+0.7
JAK				*e*S	Sn	07 43 27.1	+0.8
JRA	**Rausu**	**2.94**	**327**	P	Pn	07 43 02.1	+0.4
JRA				*e*S	Sn	07 43 38.4	+0.2
JCH	**Churui**	**3.17**	**292**	P	Pn	07 43 05.7	+0.8
JCH				*e*S	Sn	07 43 43.3	-0.7
JAR	**Ashorobuto**	**3.20**	**306**	P	Pn	07 43 06.0	+0.6
JAR				*e*S	Sn	07 43 43.8	-1.0
JNBK	**Urakawa-nobuka**	**3.52**	**284**	P	Pn	07 43 10.2	+0.4
JNBK				*e*S	Sn	07 43 52.6	-0.1
JTKR	**Abashiri--Toko**	**3.54**	**316**	P	Pn	07 43 11.3	+1.1
JFR	**Furan**	**3.90**	**297**	*e*S	Sn	07 44 00.9	-1.5
JANG	**Nango**	**4.55**	**258**	P	Pn	07 43 20.9	-3.6
JANG				*e*S	Sn	07 44 10.7	-8.3
JOT	**Ohata**	**4.73**	**271**	P	Pn	07 43 25.7	-1.4
JOT				*e*S	Sn	07 44 18.0	-5.5
JOM	**Ohasama**	**5.03**	**248**	P	Pn	07 43 27.4	-4.0
JOM				*e*S	Sn	07 44 22.8	-8.3
JMK	**Ichinoseki**	**5.33**	**244**	P	Pn	07 43 30.7	-4.8
JMK				*e*S	Sn	07 44 27.5	-11

TAP 17 07:45:28.3, 24.01N×122.32E, h26km±1km, ML2.8
JMA 17 07:45:29.8±0.4, 24.07N×122.39E, h15km, M2.4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.69**	**55**	P	Pb	07 45 42.9	-0.1
YOJ				*e*S	Sb	07 45 52.0	0.0
IRIF	**Iriomote-Funau**	**1.25**	**78**	P	Pb	07 45 53.0	+0.4
IRIF				*e*S	Sb	07 46 09.9	+1.6
HATJ	**Hateruma jima**	**1.29**	**90**	P	Pb	07 45 52.8	-0.5
HATJ				*e*S	Sb	07 46 09.7	+0.1
JKRS	**Kuro-shima**	**1.49**	**83**	P	Pn	07 45 56.1	-0.1
JKRS				*e*S	Sb	07 46 15.4	+0.2
JIJ	**Ishigaki jima**	**1.63**	**79**	P	Pn	07 45 57.5	-0.7
JIJ				*e*S	Sn	07 46 15.9	-3.0

IDC 17 07:57:34.3±2.3, 11.80N×141.75E, mb3.3/3, mb1 3.6/3, mb1mx3.4/14, mbtmp3.3/3, Error ellipse: s-maj=303.1km s-min=31.9km az=108.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.38**	**193**	P	P	08 04 06.4	-1.7
	0.4nm,0.6s,baz=14,slow=9.6,SNR=2.9						
ASAR	**Alice Springs**	**36.08**	**192**	P	P	08 04 37.4	-2.5
	0.3nm,0.5s,baz=20,slow=12,SNR=4.8						
YKA	**Yellowknife Ar**	**85.83**	**27**	P	P	08 10 15.6	-1.1
	0.1nm,0.4s,baz=290,slow=5.1,SNR=5.3						

IDC 17 08:11:26.2±2.0, 5.02N×92.30E, mb3.8/4, mb1 4.0/5, mb1mx3.8/16, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=74.7km s-min=26.1km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.85**	**25**	Pn	P	08 14 59.3	-0.1
	0.3nm,0.3s,baz=230,slow=14,SNR=5.8						
SONM	**Songino Array**	**44.34**	**14**	P	P	08 19 37.6	-2.2
	0.3nm,0.8s,baz=190,slow=9.3,SNR=2.8						
WRA	**Warramunga Arr**	**48.19**	**122**	P	P	08 20 07.9	-2.8
	1.8nm,0.7s,baz=302,slow=9.1,SNR=8.0						
ASAR	**Alice Springs**	**49.58**	**127**	P	P	08 20 20.4	-1.0
	0.7nm,0.6s,baz=298,slow=8.1,SNR=6.6						
ARCES	**ARCESS Array B**	**77.33**	**341**	P	P	08 23 22.5	-1.5
	3.3nm,0.9s,baz=98,slow=6.4,SNR=3.9						

IDC 17 08:13:02.2±1.1, 10.99N×140.94E, mb3.8/7, mb1 3.9/7, mb1mx3.8/18, mbtmp3.8/7, Error ellipse: s-maj=55.9km s-min=22.2km az=92.0
NEIC 17 08:13:07.9±0.7, 10.92N×140.95E, h40km, mb3.9/1, Error ellipse: s-maj=40.0km s-min=13.2km az=92.0
ISC 17 08:13:05.4±0.8, 10.9N±0.1×140.9E±0.3, h33km, n9, σ0§71/9, mb3.8/8, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**31.29**	**192**	*e*P	**P**	**08 19 24.1**	**-0.7**
	1.3nm,0.6s,mb3.9						
WRAB				*e*	pP	08 19 35.2	+0.7
WRA	**Warramunga Arr**	**31.30**	**192**	P	**P**	**08 19 24.8**	**-0.2**
	0.9nm,0.8s,mb3.7,baz=12,slow=9.6,SNR=4.0						
ASAR	**Alice Springs**	**35.01**	**191**	P	**P**	**08 19 58.0**	**+1.0**
	0.4nm,0.5s,mb3.6,baz=20,slow=12,SNR=5.3						
SONM	**Songino Array**	**46.82**	**328**	P	**P**	**08 21 34.1**	**+0.2**
	0.2nm,0.6s,mb3.2,baz=115,slow=8.2,SNR=2.6						
BVAR	**Borovoye Array**	**69.64**	**323**	P	**P**	**08 24 13.8**	**+0.3**
	1.2nm,0.9s,mb3.8,baz=108,slow=9.1,SNR=4.4						
INK	**Inuvik**	**78.34**	**22**	P	**P**	**08 25 02.8**	**-0.9**
	1.3nm,1.1s,mb3.8,baz=217,slow=5.1,SNR=3.0						
YKA	**Yellowknife Ar**	**87.04**	**27**	P	**P**	**08 25 49.5**	**+1.1**
	0.2nm,0.4s,mb3.7,baz=292,slow=5.5,SNR=7.2						
YKA	**Yellowknife Ar**	**87.04**	**27**	P	**P**	**08 25 49.5**	**+1.1**
FINES	**FINESS Array B**	**91.91**	**334**	P	**P**	**08 26 10.9**	**-0.6**
	1.5nm,0.9s,mb4.3,baz=72,slow=8.8,SNR=3.9						

IDC 17 08:35:33.0±1.0, 11.00N×91.67E, mb4.0/8, mb1 4.1/9, mb1mx3.9/17, mbtmp4.0/9, ML3.9/1, MS3.0/1, Ms1 3.2/1, ms1mx2.7/21, Error ellipse: s-maj=38.1km s-min=18.9km az=51.0
*NEIC 17 08:35:37

NEIC 17 08:51:52.7±0.6, 10.83N×141.53E, mb3.7/1, Error ellipse: s-maj=25.1km s-min=12.7km az=95.0

ISC 17 08:51:50.7±0.7, 10.8N±0.1×141.5E±0.2, h37km, h37km±2.2km: pP-P, n11, σ0=92/11, mb3.7/9, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res
WRAB	Tennant Creek	31.34	193	P		P		08 58 09.5	-0.8
	0.5nm,0.4s,mb3.7								
WRA	Warramunga Arr	31.35	193	P		P		08 58 09.8	-0.6
	1.5nm,0.8s,mb3.9,baz=11,slow=9.1,SNR=6.0								
WRA				pP		pP		08 58 21.4	+0.7
	1.3nm,0.8s,baz=9.8,slow=9.5,SNR=4.5								
ASAR	Alice Springs	35.05	192	P		P		08 58 43.5	+1.1
	0.3nm,0.6s,mb3.4,baz=21,slow=13,SNR=3.6								
ASAR				pP		pP		08 58 54.3	+1.5
	0.3nm,0.5s,baz=18,slow=12,SNR=2.6								
CMAR	Chiang Mai Arr	41.81	286	P		P		08 59 39.9	+1.0
	0.9nm,0.5s,mb3.7,baz=96,slow=8.2,SNR=3.6								
CMAR				pP		pP		08 59 49.3	-0.2
	1.2nm,0.4s,baz=98,slow=6.4,SNR=2.0								
SONM	Songino Array	47.23	328	P		P		09 00 21.4	-0.7
	0.2nm,0.3s,mb3.5,baz=124,slow=5.2,SNR=4.2								
BVAR	Borovoye Array	70.11	323	P		P		09 03 00.5	-0.6
	0.6nm,0.6s,mb3.7,baz=98,slow=10,SNR=3.7								
BVAR				pP		pP		09 03 11.4	-1.0
	1.5nm,0.7s,baz=104,slow=6.1,SNR=4.5								
ILAR	Eielson Array	72.48	25	P		P		09 03 14.7	-0.5
	0.6nm,1.0s,mb3.5,baz=243,slow=6.7,SNR=6.3								
INK	Inuvik	78.18	22	P		P		09 03 47.2	-0.5
	1.1nm,1.0s,mb3.7,baz=301,slow=5.9,SNR=2.1								
INK				pP		pP		09 03 59.5	+0.6
	1.2nm,1.1s,baz=219,slow=6.5,SNR=3.1								
INK	Inuvik	78.18	22	P		P		09 03 47.4	-0.3
INK				pP		pP		09 03 59.5	+0.6
YKA	Yellowknife Ar	86.83	27	P		P		09 04 34.1	+1.8
	0.4nm,0.6s,mb3.8,baz=288,slow=5.2,SNR=9.0								
YKA				pP		pP		09 04 44.5	+0.7
	0.3nm,0.6s,baz=288,slow=5.0,SNR=3.9								
YKA	Yellowknife Ar	86.83	27	P		P		09 04 34.1	+1.8
YKA				pP		pP		09 04 44.5	+0.7

TAP 17 09:29:25.3, 23.71N×121.64E, h32km, ML3.5
TAP Felt I J at Shilin.
JMA 17 09:29:26.3±0.4, 23.82N×121.66E, h70km, M3.1

ISC 17 09:29:25.5±0.3, 23.71N±0.02×121.67E±0.02, h30km±2km, n51, σ0=75/86, 11C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res
ESL	Shilin	0.24	295	⇑iP			Pb	09 29 32.4	+0.2
ESL					S		Sb	09 29 37.2	+0.5
HWA	Hwalien	0.27	347	eP			Pb	09 29 33.2	+0.6
HWA					S		Sb	09 29 39.1	+1.8
TWD	Chiawan	0.38	349	iP			Pb	09 29 34.3	+0.3
TWD					S		Sb	09 29 41.0	+1.2
EHY	Hungye	0.38	238	⇑iP			Pb	09 29 34.1	0.0
EHY					S		Sb	09 29 39.7	-0.2
TWF1	Yuli	0.50	224	⇑iP			Pb	09 29 35.8	-0.1
TWF1					S		Sb	09 29 42.6	-0.3
WHF	Hehuan Shan	0.57	319	⇑iP			Pb	09 29 36.7	-0.4
WHF					S		Sb	09 29 44.6	-0.4
CHKT	Chengkung	0.67	205	eP			Pb	09 29 38.9	+0.1
CHKT					S		Sb	09 29 49.3	+1.6
YUS	Yu-Shan	0.70	252	⇑iP			Pb	09 29 39.5	+0.3
YUS					S		Sb	09 29 48.0	-0.4
TWT	Tachien	0.71	320	⇑iP			Pb	09 29 39.2	-0.1
TWT					S		Sb	09 29 47.9	-0.9
ENA	Nanau	0.72	5	eP			Pb	09 29 39.1	-0.3
ENA					S		Sb	09 29 49.1	+0.1
SMLT	Sun Moon Lake	0.73	284	⇑iP			Pb	09 29 39.3	-0.4
SMLT					S		Sb	09 29 49.7	+0.3
TYC	Yuchr	0.77	285	⇑iP			Pb	09 29 39.8	-0.6
TYC					S		Sb	09 29 50.0	-0.6
NNS	Nan Shan	0.78	339	eP			Pb	09 29 38.7	-1.8
NNS					S		Sb	09 29 49.1	-1.6
ELDTW	Lidau	0.80	229	eP			Pb	09 29 39.8	-1.0
ELDTW					S		Sb	09 29 50.4	-0.8
ALS	Alishan	0.82	256	⇑P			Pn	09 29 41.3	+0.1
ALS					S		Sb	09 29 51.8	-0.2
TWC	Suao	0.91	10	eP			Pn	09 29 42.5	+0.1
TWC					S		Sb	09 29 54.6	+0.2
CHN5	Tsauling	0.92	263	P			Pn	09 29 42.7	+0.1
CHN5					S		Sb	09 29 54.4	-0.4
WNT	Mingjian	0.92	281	⇑P			Pn	09 29 43.0	+0.4
WNT					S		Sb	09 29 54.6	-0.2
ENTT	Nioudou	0.93	354	eP			Pn	09 29 42.3	-0.4
ENTT					S		Sb	09 29 55.0	-0.1
NSK	Sanguang	1.00	343	P			Pn	09 29 43.3	-0.5
NSK					S		Sn	09 29 55.2	-1.8
STYT	Tauyuan	1.00	237	eP			Pn	09 29 43.5	-0.3
STYT					S		Sn	09 29 56.5	-0.5
TWE	Neicheng	1.01	360	eP			Pn	09 29 43.3	-0.5
TCU	Taichung	1.01	296	eP			Pn	09 29 44.2	+0.3
TWQ1	Liyutan	1.04	308	⇑iP			Pn	09 29 44.8	+0.6
TWQ1					S		Sn	09 29 57.7	-0.1
TWG	Pinlang	1.04	212	eP			Pn	09 29 43.2	-1.1
TWG					S		Sn	09 29 55.7	-2.3
CHN4	Tsaushan	1.05	250	eP			Pn	09 29 45.0	+0.5
CHN4					S		Sn	09 29 59.0	+0.8
WTP	Ta-pu	1.08	245	eP			Pn	09 29 45.3	+0.5
WTP					S		Sn	09 29 59.7	+0.9
NSY	Sanyi	1.09	310	eP			Pn	09 29 45.3	+0.3
NSY					S		Sn	09 29 59.7	+0.5
CHY	Chiayi	1.17	260	eP			Pn	09 29 46.6	+0.5
CHN1	Nanshi	1.18	244	eP			Pn	09 29 46.5	+0.2
CHN1					S		Sn	09 30 01.6	+0.3
TWK	Hsinying	1.18	248	eP			Pn	09 29 46.2	0.0
TWK					S		Sn	09 30 01.2	-0.1
SGST	Jiashian	1.18	238	eP			Pn	09 29 46.4	+0.1
SGST					S		Sn	09 30 02.2	+0.7
TWA	Mucha	1.27	356	eP			Pn	09 29 49.4	+1.9
WTCT	Ta-ch'eng	1.28	277	eP			Pn	09 29 47.9	+0.1
WTCT					S		Sn	09 30 05.3	+1.2
ECL	Taimali	1.29	211	eP			Pn	09 29 46.2	-1.6
TWB1	Santiao Chiao	1.32	12	eP			Pn	09 29 49.4	+1.1
SSD	Sandimen	1.36	225	eP			Pn	09 29 49.3	+0.5
NWF	Wu-fen Shan	1.36	4	eP			Pn	09 29 49.2	+0.3
CHN8	Yiju	1.39	255	eP			Pn	09 29 49.5	+0.2
YOJ	Yonaguni jima	1.43	58	P			Pn	09 29 50.1	+0.2
EAST	Anshuo	1.52	210	eP			Pn	09 29 53.3	+2.1
SCZT	Fangliau	1.65	216	eP			Pn	09 29 53.5	+0.5
LAY	Lan-yu	1.67	184	eP			Pn	09 29 52.5	-0.8
WDGT	Dungji	1.90	257	eP			Pn	09 29 56.0	-0.6
PNG	Penghu	1.95	266	eP			Pn	09 29 56.6	-0.6
IRIF	Iriomote-Funau	1.98	71	P			Pn	09 29 57.9	+0.2
IRIF					eS		Sn	09 30 22.2	+0.4
HATJ	Hateruma jima	1.98	80	P			Pn	09 29 58.0	+0.3
HATJ					eS		Sn	09 30 21.6	-0.2
JKRS	Kuro-shima	2.20	76	P			Pn	09 30 01.7	+0.8
JKRS					eS		Sn	09 30 27.7	+0.3
JIJ	Ishigaki jima	2.35	73	P			Pn	09 30 02.9	-0.1
JIJ					eS		Sn	09 30 32.2	-1.0
JTJ	Tarama	2.92	71	P			Pn	09 30 10.7	-0.4
JTJ					eS		Sn	09 30 44.3	-1.3
JOGS	Gusukube	3.56	72	eS			Sn	09 31 02.2	+0.3

NEIC 17 09:37:26.4±0.7, 3.67N×94.94E, h30km, mb4.2/5, Error ellipse: s-maj=26.2km s-min=10.9km az=59.0
IDC 17 09:37:32.6±13.0, 3.93N×95.29E, h78km±113km, mb3.6/7, mb1 3.8/8, mb1mx3.6/17, mbtmp3.9/8, ML4.2/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/15, Error ellipse: s-maj=97.7km s-min=17.5km az=55.0

ISC 17 09:37:24.8±0.8, 3.7N±0.1×95.0E±0.2, h30km, n19, σ0=87/19, mb4.1/15, MS3.5/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res
CMAR	Chiang Mai Arr	15.20	14	P			P	09 41 00.1	+0.8
	0.3nm,0.3s,baz=210,slow=12,SNR=14								
JIRN	Jiri	25.30	341	eP			P	09 42 51.8	+1.2
	6.1nm,0.4s,mb4.5								
PKI	Pulchoki	25.48	340	eP			P	09 42 51.9	-0.3
	7.6nm,0.6s,mb4.4								
KKN	Kakani	25.72	340	eP			P	09 42 55.5	+1.0
GKN	Gorkha	26.14	339	eP			P	09 42 59.1	+0.7
	7.9nm,0.5s,mb4.5								
LSA	Lhasa	26.15	352	P			P	09 42 54.1	-4.3
	7.9nm,0.6s,mb4.4								
KOLN	Koldanda	26.32	337	eP			P	09 43 00.9	+0.8
SONM	Songino Array	45.08	11	P			P	09 45 38.2	-1.9
	1.0nm,0.8s,mb3.7,baz=180,slow=6.2,SNR=3.5								
WRA	Warramunga Arr	45.20	123	P			P	09 45 40.7	-0.7
	0.8nm,0.5s,mb3.8,baz=300,slow=9.1,SNR=11								
WRAB	Tennant Creek	45.20	123	eP			P	09 45 42.5	+1.0
	1.2nm,0.4s,mb4.1								
ASAR	Alice Springs	46.62	128	P			P	09 45 53.0	+0.4
	0.3nm,0.4s,mb3.5,baz=296,slow=7.9,SNR=11								
ASAR				PcP		PcP		09 47 27.4	+0.8
	0.7nm,0.9s,baz=292,slow=3.8,SNR=5.8								
ASAR				LR		LR		10 08 33.2	
	comp=Z,62nm,20.2s,MS3.5,baz=126,slow=40								
KURK	Kurchatov	48.87	346	eP			P	09 46 08.7	-1.1
	2.8nm,1.0s,mb4.2								
BVAR	Borovoye Array	53.22	342	P			P	09 46 42.0	-0.7
	1.8nm,0.9s,mb4.0,baz=149,slow=8.6,SNR=7.6								
BRVK	Borovoye	53.29	342	eP			P	09 46 42.6	-0.6
	1.0nm,0.4s,mb4.1								
CHKZ	Chkalovo	53.71	342	eP			P	09 46 45.8	-0.5
	2.0nm,0.6s,mb4.2								
FINES	FINESS Array B	76.81	333	P			P	09 49 15.4	+0.1
	1.9nm,0.7s,mb4.1,baz=104,slow=7.9,SNR=7.4								
ARCES	ARCESS Array B	79.49	340	P			P	09 49 28.9	-0.9
	3.7nm,1.0s,mb4.3,baz=90,slow=3.6,SNR=5.5								
ARCES	ARCESS Array B	79.49	340	P			P	09 49 28.9	-0.9
GERES	GERESS Array B	81.53	319	P			P	09 49 41.5	+0.5
	0.3nm,0.4s,mb3.6,baz=101,slow=6.8,SNR=4.8								

IDC 17 09:40:09.0±0.5, 10.96N×84.72W, h173km±9km, mb3.6/6, mb1 3.9/7, mb1mx3.5/18, mbtmp4.2/7, Error ellipse: s-maj=38.3km s-min=19.4km az=51.0
CASC 17 09:40:10.7±2.0, 10.71N×84.98W, h184km±6km, MD4.1, ML3.8, mb4.5(NEIC)
NEIC 17 09:40:10.5±0.4, 10.80N×84.98W, mb4.5/4, MD4.2(CASC), Error ellipse: s-maj=16.6km s-min=6.9km az=56.0

ISC 17 09:40:09.6±0.4, 10.67N±0.07×85.00W±0.07, h197km±3km, n60, σ0=93/81, mb3.8/10, 6C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res
JTS	JuntasAbangare	0.38	173	P			P	09 40 35.1	-1.2
	0.3nm,0.3s,baz=75,slow=20,SNR=19								
JTS				S			S	09 40 54.2	-2.6
	1.1nm,0.3s,baz=68,slow=23,SNR=64								
JTS	JuntasAbangare	0.38	173	ePn			P	09 40 34.8	-1.5
JTS				eSn			S	09 40 53.8	-3.1
FORC	Fortuna	0.39	121	eP			P	09 40 36.4	+0.1
FORC	Fortuna	0.39	121	⇑iP			P	09 40 35.3	-1.0
FORC				⇑iP				09 40 36.4	
FORC				iS			S	09 40 54.9	-1.9
VCR	Vista de Mar	0.82	229	eP			P	09 40 37.9	-0.2
VCR	Vista de Mar	0.82	229	⇑iP			P	09 40 38.0	-0.1
VCR				eS			S	09 40 59.4	-0.8
JCR	Jicaral	0.82	188	eP			P	09 40 38.1	-0.1
JCR	Jicaral	0.82	188	⇓iP			P	09 40 38.3	+0.2
JCR				eS			S	09 40 59.4	-0.8
CGA2	Cerro Gallo 2	0.84	141	eP			P	09 40 38.4	+0.2
CGA2				eS			S	09 40 59.2	-1.2
CGA2	Cerro Gallo 2	0.84	141	eP			P	09 40 38.4	+0.2
CGA2				eS			S	09 40 59.0	-1.4
MADN	Villa Maderas	0.90	325	eP			P	09 40 38.2	-0.4
PRS1	Puriscal	0.96	135	⇑iP			P	09 40 39.9	+0.9
PRS1				eS			S	09 41 04.2	+2.5
SSNN	San Juan del S	1.03	306	eP			P	09 40 39.1	-0.3
SSNN				eS			S	09 41 01.5	-1.0
CONN	Concepcion	1.08	325	eP			P	09 40 39.4	-0.4
LAJ	Bijagual	1.18	133	eP			P	09 40 40.5	-0.2
LAJ	Bijagual	1.18	133	⇓eP			P	09 40 40.5	-0.1
LAJ				eS			S	09 41 03.8	-0.8
SJS	Escuela Geolog	1.18	128	⇓iP			P	09 40 40.2	-0.4
SJS				eS			S	09 41 03.3	-1.4
SJS	Escuela Geolog	1.18	128	⇓iP			P	09 40 40.2	-0.4
SJS				eS			S	09 41 04.6	-0.1
TRTC	Tortuguero	1.27	94	eP			P	09 40 41.5	+0.1
TRTC				eS			S	09 41 04.4	-1.5
TRTC	Tortuguero	1.27	94	⇓iP			P	09 40 41.6	+0.3
TRTC				eS			S	09 41 04.2	-1.7
ICR	Volcan Irazu	1.34	121	eP			P	09 40 42.7	+0.7
ICR	Volcan Irazu	1.34	121	eP			P	09 40 42.6	+0.6
LCR2	La Lucha 2	1.35	133	eP			P	09 40 42.8	+0.7
LCR2				eS			S	09 41 07.1	0.0
LCR2	La Lucha 2	1.35	133	⇑iP			P	09 40 42.9	+0.8
URSC	Urasca	1.47	125	eP			P	09 40 44.0	+0.9
URSC	Urasca	1.47	125	⇑eP			P	09 40 44.1	+1.0
URSC				eS			S	09 41 09.6	+0.7
APON	Apoyo	1.62	320	eP			P	09 40 44.5	0.0
BUS	Buena Vista	1.65	132	eP			P	09 40 46.4	+1.6
BUS				eS			S	09 41 13.6	+1.6
BUS	Buena Vista	1.65	132	eP			P	09 40 46.3	+1.4
BUS				eS			S	09 41 12.7	+0.7
MASN	Masaya	1.73	319	eP			P	09 40 45.4	-0.1
TICN	Ticuantepe	1.81	318	eP			P	09 40 46.5	+0.1
TICN				eS			S	09 41 16.5	+1.8
WILN	Americas 2	1.88	322	eP			P	09 40 47.0	-0.1
MGAN	Managua	1.91	320	eP			P	09 40 47.2	-0.1
MGAN				i				09 41 18.4	
	comp=E,761nm,0.3s								
XAVN	Gruta Xavier	1.96	319	eP			P	09 40 47.8	0.0
XAVN				eS			S	09 41 17.7	+0.5
APYN	Apoyeque	2.04	320	eP			P	09 40 48.8	+0.2
APYN				eS			S	09 41 20.8	+2.1
PYTN	Playitas	2.12	331	eP			P	09 40 49.4	-0.2
COPN	Copaltepe	2.16	314	eP			P	09 40 50.1	+0.1
MOMJ	Momotombo	2.29	319	eP			P	09 40 51.2	-0.3
MIRN	Miramar	2.43	317	eP			P	09 40 53.2	+0.3
CNGN	Cerro Negro	2.46	318	eP			P	09 40 53.6	+0.2
LEON	Leon	2.54	313	eP			P	09 40 54.5	+0.3
TEL3	Telica 3	2.61	316	eP			P	09 40 55.6	+0.5
TELN	Telica	2.62	317	eP			P	09 40 55.8	+0.6
ACR	Cerro Adams	2.70	138	eP			P	09 40 57.5	+1.4
ACR				eS			S	09 41 35.0	+3.0
ACR	Cerro Adams	2.70	138	eP			P	09 40 57.5	+1.4
ACR				eS			S	09 41 33.8	+1.8
TEIG	Tepich	10.01	342	ePn			P	09 42 30.3	+0.4
SDV	Santo Domingo	14.27	96	P			P	09 43 25.1	+0.9
	comp=E,1.1nm,0.3s,baz=294,slow=6.5,SNR=11								
SDV	Santo Domingo	14.27	96	eP			P	09 43 25.0	+0.8
	comp=E,19nm,0.8s								
LRAL	Lakeview Retre	22.33	356	eP			P	09 44 52.5	+0.8
	comp=E,20nm,0.7s,mb4.8								
JCT	Junction City	24.04	327	eP			P	09 45 08.6	+0.5
	comp=E,2.4nm,0.6s,mb4.0								
TXAR	Lajitas Array	25.47	319	P			P	09 45 21.7	+0.3
	comp=E,0.3nm,0.4s,mb3.2,baz=147,slow=9.1,SNR=12								
TXAR				pP		pP		09 45 58.1	-2.2
	comp=E,0.6nm,0.8s,baz=129,slow=11,SNR=3.7								
TXAR				PcP		PcP		09 48 48.5	+0.1
	comp=E,0.3nm,0.7s,baz=180,slow=4.5,SNR=3.7								
CCM	Cathedral Cave	27.84	349	eP			P	09 45 40.8	-2.1
	comp=E,4.0nm,0.6s,mb4.2								
SDCO	Great Sand Dun	32.65	329	eP			P	09 46 26.7	+1.6
	comp=E,0.3nm,0.5s,mb3.1								
PDAR	Pinedale Array	38.48	331	P			P	09 47 13.4	-0.8
	comp=E,0.3nm,0.6s,mb3.0,baz=108,slow=8.6,SNR=2.9								
PDAR				PcP		PcP		09 49 23.2	-0.3
	comp=E,0.8nm,0.8s,baz=130,slow=5.1,SNR=5.5								
BDFB	Brasilia	45.00	125	P			P	09 48 07.4	-0.1
	comp=E,2.4nm,0.5s,mb3.8,baz=300,slow=8.0,SNR=5.2								
SCHQ	Schefferville	46.34	14	P			P	09 48 15.2	-2.3
	comp=E,12nm,0.6s,mb4.4,baz=217,slow=6.2,SNR=24								
YKA	Yellowknife Ar	55.96	344	P			P	09 49 26.9	-2.4
	comp=E,0.4nm,0.4s,mb3.3,baz=139,slow=7.3,SNR=8.0								
YKA				pP		pP		09 50 09.5	-4.4
	comp=E,1.1nm,1.1s,baz=136,slow=7.2,SNR=2.8								
YKA				PcP		PcP		09 50 24.0	-1.3
	comp=E,0.7nm,0.9s,baz=138,slow=3.9,SNR=5.9								
ARCES	ARCESS Array B	87.07	19	P			P	09 52 31.9	-1.7
	comp=E,2.0nm,0.7s,mb3.9,baz=278,slow=5.6,SNR=7.2								
ASAR	Alice Springs	140.78	246	PKhKP				09 59 14.4	
	comp=E,0.3nm,0.6s,baz=115,slow=3.5,SNR=7.4								
ASAR				PKP		PKPdf		09 59 18.1	+1.3
	comp=E,3.0nm,1.2s,baz=97,slow=1.9,SNR=8.4								
WRA	Warramunga Arr	141.04	252	PKhKP				09 59 14.1	
	comp=E,1.5nm,0.6s,baz=96,slow=2.7,SNR=19								
WRA				PKP		PKPdf		09 59 19.7	+2.5
	comp=E,1.2nm,0.5s,baz=94,slow=2.6,SNR=13								

NEIC 17 09:44:32.6, 33.82S×72.02W, h10km, ML3.0(GUC), After GUC.

GUC 17 09:44:32.6±0.5, 33.82S×72.02W, h10km±3km, MD4.0, ML3.0, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res
LCCH	Las Cruces	0.51	47	⇑iP			Pg	09 44 42.9	-0.1
LCCH				iS			Sg	09 44 50.8	+0.9
LNV	Longovilo	0.53	105	⇓iP			Pg	09 44 43.6	+0.4
LNV				iS			Sg	09 44 51.2	+0.9
IHA	Instituto Hidr	0.86	22	⇑iP			Pb	09 44 48.6	-0.5
IHA				iS			Sb	09 45 00.5	+0.2
TACH	Talagante	0.92	80	⇑iP			Pb	09 44 49.4	-0.7
TACH				iS			Sb	09 45 02.3	+0.2
RCDM	Rinconada Maip	1.07	72	eP			Pb	09 44 51.7	-1.0
RCDM				iS			Sb	09 45 06.4	-0.1
RCDM				AMP				09 45 08.5	
	comp=N,512nm,0.2s								
CHCH	Chadas Angostu	1.14	96	eP			Pb	09 44 53.0	-1.0
CHCH				iS			Sb	09 45 08.9	+0.2
SFDO	San Fernando	1.15	134	eP			Pb	09 44 52.6	-1.5
SFDO				iS			Sb	09 45 09.0	+0.1
CACH	El Canelo	1.22	104	eP			Pb	09 44 55.6	+0.4
CACH				iS			Sb	09 45 12.6	+1.8
PCH	Pirque	1.27	81	eP			Pb	09 44 55.2	-1.0
CLCH	Cerro Calan	1.31	71	eP			Pb	09 44 56.0	-0.8
CLCH				iS			Sb	09 45 13.8	+0.3
CLCH				AMP				09 45 24.6	
	comp=E,380nm,0.7s								
PACH	Papudo	1.37	21	eP			Pn	09 44 55.4	-2.4
PACH				iS			Sb	09 45 13.8	-1.5
LMEL	Las Melosas	1.51	91	eP			Pn	09 44 59.0	-0.9
LMEL				iS			Sb	09 45 19.7	+0.3
LMEL				AMP				09 45 23.9	
	comp=N,585nm,0.2s								
FCH	Farellones	1.53	72	⇓eP			Pn	09 44 59.2	-0.9
FCH				iS			Sb	09 45 20.5	+0.7
FCH				AMP				09 45 22.4	
	comp=N,313nm,0.3s								
TALC	Talca	1.60	169	eP			Pn	09 45 00.5	-0.6
TALC				iS			Sn	09 45 21.5	-0.6
TALC				AMP				09 45 26.4	
	comp=E,1μm,0.4s								
JACH	Jahuel	1.65	47	eP			Pn	09 45 01.3	-0.5
JACH				iS			Sn	09 45 23.9	+0.6
LNCH	Linares	2.05	170	iS			Sn	09 45 34.0	+0.6
LNCH				AMP				09 45 36.3	
	comp=N,109nm,0.3s								

OTT 17 09:46:03.7±1.1, 75.68N×121.32W, h18km, ML3.4/5, 80km southwest from Mould Bay, Nt Sverdrup Seismic Zone., Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res
RES	Resolute Bay	6.81	85	PN			Pn	09 47 43.1	-2.3
RES				SN			Sn	09 48 53.7	-10
RES				Trac				09 49 05.7	
	comp=Z,6.9nm,0.3s								
INK	Inuvik	8.29	213	PN			P	09 48 00.3	-5.6
INK				SN			Sn	09 49 29.6	-10
INK				Trac				09 49 35.8	
	comp=Z,2.0nm,0.3s								
LUPN	Lupin Mine	10.50	157	PN			P	09 48 33.0	-3.3
LUPN				SN			S	09 50 23.4	-11
IGL	Igloolik	13.16	98	PN			P	09 49 10.5	-1.7
IGL				SN			S	09 51 26.9	-12
IGL				Trac				09 51 33.4	
	comp=Z,0.2nm,0.0s								
IGLN	Igloolik	13.16	98	PN			P	09 49 06.7	-5.5
IGLN				SN			S	09 51 24.2	-15
IGLN				Trac				09 51 55.8	
	comp=Z,2.3nm,0.4s								
YKW3	Yellowknife Ar	13.38	166	PN			P	09 49 10.2	-4.9
YKW3				SN			S	09 51 32.7	-12
YKW3				Trac				09 52 44.6	
	comp=Z,0.5nm,0.3s								
YRTN	Rankin Inlet	16.24	127	PN			P	09 49 48.4	-3.7
YRTN				SN			S	09 52 36.4	-15

IDC 17 09:46:18.6±2.0, 5.77S×150.97E, mb3.5/3, mb1 3.9/3, mb1mx3.6/10, mbtmp3.6/3, Error ellipse: s-maj=134.3km s-min=29.0km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res
WRA	Warramunga Arr	21.45	227	P			P	09 51 08.6	-2.1
	1.0nm,0.6s,baz=54,slow=10,SNR=8.7	

WRA	**Warramunga Arr**	**18.96**	**127**	P	P	10 12 34.6	-2.7
	0.2nm,0.3s,baz=299,slow=13,SNR=10						
ASAR	**Alice Springs**	**20.92**	**137**	P	P	10 12 57.0	-1.9
	0.6nm,0.4s,baz=311,slow=9.8,SNR=14						
SONM	**Songino Array**	**57.40**	**350**	P	P	10 18 02.4	-2.4
	0.3nm,0.6s,baz=167,slow=9.0,SNR=4.0						

*IDC **17** 10:24:08.1±0.7, 5.22N×93.17E, mb4.1/11, mb1 4.2/12, mb1mx4.1/20, mbtmp4.1/12, ML4.4/1, MS2.6/1, Ms1 2.8/1, ms1mx2.4/25, Error ellipse: s-maj=39.9km s-min=14.9km az=52.0*

*NEIC **17** 10:24:12.7±0.4, 5.25N×93.21E, h30km, mb4.3/5, Error ellipse: s-maj=17.2km s-min=7.8km az=59.0*

ISC 17 10:24:10.6±0.6, 5.3N±0.1×93.2E±0.1, h30km, n19, σ0§69/18, mb4.2/16, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.26**	**23**	Pn	**P**	**10 27 32.9**	**0.0**
	0.5nm,0.3s,baz=220,slow=12,SNR=6.4						
CMAR				LR	LR	10 32 56.2	
	comp=Z,26nm,20.1s,baz=25,slow=37						
AAK	**Ala-Archa**	**40.77**	**339**	*e*P	**P**	**10 31 51.8**	**+1.0**
	6.2nm,1.3s,mb4.1						
SONM	**Songino Array**	**43.91**	**13**	P	**P**	**10 32 16.7**	**+0.3**
	1.0nm,0.6s,mb3.7,baz=195,slow=8.1,SNR=11						
SONM				PcP	PcP	10 34 03.5	+0.8
	0.8nm,0.5s,baz=206,slow=3.5,SNR=7.5						
NWAO	**Narrogin (SRO)**	**44.28**	**151**	P	**P**	**10 32 19.9**	**+0.2**
	5.7nm,0.6s,mb4.5,baz=135,slow=7.9,SNR=3.2						
KURK	**Kurchatov**	**46.94**	**347**	*e*P	**P**	**10 32 40.9**	**+0.4**
	1.8nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**47.54**	**123**	P	**P**	**10 32 45.6**	**-0.1**
	1.7nm,0.7s,mb4.2,baz=301,slow=9.2,SNR=21						
WRAB	**Tennant Creek**	**47.54**	**123**	*e*P	**P**	**10 32 45.6**	**-0.1**
	8.2nm,0.6s,mb4.9						
WRAB				*e*pP	pP	10 32 51.3	-3.5
ASAR	**Alice Springs**	**48.99**	**128**	P	**P**	**10 32 56.8**	**-0.1**
	0.7nm,0.9s,mb3.7,baz=302,slow=7.7,SNR=4.7						
ASAR				PcP	PcP	10 34 21.2	+0.3
	0.3nm,0.5s,baz=309,slow=2.6,SNR=3.9						
BVAR	**Borovoye Array**	**51.19**	**342**	P	**P**	**10 33 13.1**	**-0.1**
	0.9nm,0.6s,mb3.9,baz=143,slow=7.4,SNR=7.0						
BRVK	**Borovoye**	**51.25**	**342**	*e*P	**P**	**10 33 11.7**	**-1.9**
	1.6nm,0.8s,mb4.0						
CHKZ	**Chkalovo**	**51.69**	**343**	*e*P	**P**	**10 33 16.5**	**-0.6**
	3.7nm,0.7s,mb4.4						
GNI	**Garni**	**55.65**	**316**	P	**P**	**10 33 45.7**	**-0.7**
	2.4nm,0.5s,mb4.5,baz=152,slow=15,SNR=2.4						
STKA	**Stephens Creek**	**58.99**	**132**	P	**P**	**10 34 10.0**	**-0.2**
	4.8nm,1.2s,mb4.4,baz=281,slow=10,SNR=3.2						
STKA	**Stephens Creek**	**58.99**	**132**	P	**P**	**10 34 10.0**	**-0.2**
BRTR	**Keskin Array B**	**63.47**	**312**	P	**P**	**10 34 40.0**	**-0.4**
	2.0nm,0.9s,mb4.3,baz=131,slow=7.4,SNR=7.0						
FINES	**FINESS Array B**	**74.60**	**333**	P	**P**	**10 35 48.5**	**0.0**
	5.3nm,1.0s,mb4.4,baz=92,slow=6.4,SNR=8.6						
ARCES	**ARCESS Array B**	**77.42**	**341**	P	**P**	**10 36 04.9**	**+0.6**
	2.0nm,0.6s,mb4.2,baz=92,slow=5.5,SNR=13						
GERES	**GERESS Array B**	**79.18**	**319**	P	**P**	**10 36 15.8**	**+1.5**
	1.9nm,0.7s,mb4.1,baz=101,slow=6.8,SNR=14						
TXAR	**Lajitas Array**	**141.97**	**24**	PKP	PKPdf	10 43 44.3	-1.3
	0.2nm,0.6s,baz=22,slow=0.7,SNR=3.8						

*NEIC **17** 10:35:47.1, 36.86N×27.61E, h16km, MD3.2(ATH), ML3.3(ISK), After ISK.*

*ISK **17** 10:35:48.4, 36.93N×27.69E, h17km, MD3.3*

*CSEM **17** 10:35:50.9±0.2, 37.13N×28.05E, h10km, MD3.3, Error ellipse: s-maj=8.6km s-min=3.2km az=43.0*

*ATH **17** 10:35:51.2, 37.03N×27.87E, h10km±1km, MD3.2/4*

ISC 17 10:35:51.1±0.5, 37.03N±0.03×27.87E±0.04, h10km, n24, σ1§19/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.27**	**345**	PG	**Pg**	**10 35 56.6**	**-0.2**
MLSB	**Milas**	**0.27**	**345**	Pg	**Pg**	**10 35 56.7**	**-0.2**
MLSB	**Milas**	**0.27**	**345**	Pg	**Pg**	**10 35 56.7**	**-0.1**
BDRM	**Kayabasi**	**0.34**	**276**	*i* P	**Pg**	**10 35 57.0**	**-1.1**
BDRM				*i* S	**Sg**	**10 36 03.0**	**+0.3**
AYDN	**Tasoluk**	**0.63**	**1**	*i* P	**Pb**	**10 36 03.2**	**-0.5**
AYDN				*i* S	**Sg**	**10 36 12.5**	**+0.2**
DALT	**Dalyan (Mudla)**	**0.67**	**113**	Pg	**Pg**	**10 36 02.8**	**-1.8**
DALT				Sg	**Sg**	**10 36 15.8**	**+2.1**
ARG	**Arkhangelos**	**0.84**	**165**	*e*PB	**Pb**	**10 36 07.5**	**+0.2**
ARG				*e*SB	**Sb**	**10 36 19.0**	**+0.6**
FETY	**Fethiye**	**1.05**	**112**	PN	**Pn**	**10 36 10.2**	**-1.6**
FETY				SN	**Sn**	**10 36 26.5**	**-0.1**
SMG	**Samos**	**1.06**	**310**	*e*PB	**Pb**	**10 36 11.2**	**+0.1**
DNZL	**Cakiroluk**	**1.15**	**55**	*i* P	**Pb**	**10 36 11.9**	**-0.7**
DNZL				*i* S	**Sb**	**10 36 31.5**	**+4.1**
DENT	**Denizli**	**1.18**	**52**	PN	**Pn**	**10 36 13.1**	**-0.5**
DENT	**Denizli**	**1.18**	**52**	Pn	**Pn**	**10 36 13.2**	**-0.4**
IZM	**Izmir**	**1.45**	**341**	PN	**Pn**	**10 36 15.4**	**-2.0**
IZM	**Izmir**	**1.45**	**341**	Pn	**Pn**	**10 36 15.5**	**-2.0**
IZM	**Izmir**	**1.45**	**341**	Pn	**Pn**	**10 36 15.5**	**-1.9**
KDAG	**Bornova**	**1.45**	**341**	*i* P	**Pn**	**10 36 18.3**	**+0.8**
KDAG				*i* S	**Sb**	**10 36 39.1**	**+3.0**
MANT	**Manisa**	**1.56**	**20**	*i* P	**Pn**	**10 36 19.7**	**+0.7**
MANT				*i* S	**Sb**	**10 36 41.0**	**+1.7**
KSL	**Kastellorizon**	**1.64**	**122**	*e*PB	**Pb**	**10 36 22.0**	**+1.0**
AKS	**Akhisar**	**1.85**	**359**	PN	**Pn**	**10 36 21.6**	**-1.6**
AKS	**Akhisar**	**1.85**	**359**	Pn	**Pn**	**10 36 21.6**	**-1.5**
APE	**Apeiranthos**	**1.87**	**272**	*e*PN	**Pn**	**10 36 25.5**	**+2.0**
ALT	**Altintas**	**2.69**	**41**	*e*PN	**Pn**	**10 36 34.3**	**-0.9**
ALT	**Altintas**	**2.69**	**41**	Pn	**Pn**	**10 36 34.4**	**-0.8**
ALT	**Altintas**	**2.69**	**41**	Pn	**Pn**	**10 36 34.4**	**-0.8**

*IDC **17** 10:48:27.1±2.2, 1.92N×100.78W, mb4.3/7, mb1 4.6/7, mb1mx4.2/14, mbtmp4.3/7, MS4.1/1, Ms1 4.1/1, ms1mx2.2/21, Error ellipse: s-maj=110.5km s-min=19.2km az=56.0*

*NEIC **17** 10:48:30.5±0.9, 2.15N×100.45W, h10km, mb4.4/15, Error ellipse: s-maj=27.9km s-min=8.9km az=49.0*

ISC 17 10:48:28.6±1.1, 2.1N±0.2×100.5W±0.2, h10km, n38, σ0§98/38, mb4.3/22, MS4.0/1, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**22.10**	**95**	*e*P	**P**	**10 53 26.5**	**+0.6**
	24nm,1.4s,mb4.4						
TXAR	**Lajitas Array**	**27.22**	**354**	P	**P**	**10 54 15.1**	**+0.3**
	5.1nm,1.1s,mb4.0,baz=180,slow=8.8,SNR=19						
TXAR				PcP	PcP	10 57 33.5	-1.8
	0.5nm,1.1s,baz=153,slow=2.0,SNR=3.0						
TXAR				LR	LR	11 04 07.5	
	comp=Z,384nm,18.4s,MS4.0,baz=145,slow=34						
JCT	**Junction City**	**28.20**	**1**	*e*P	**P**	**10 54 23.2**	**-0.4**
	13nm,0.9s,mb4.5						
MNTX	**Cornudas Mount**	**29.77**	**352**	*e*P	**P**	**10 54 36.6**	**-1.2**
	11nm,1.3s,mb4.4						
GDL2	**Guadalupe Moun**	**30.13**	**353**	*e*P	**P**	**10 54 41.2**	**+0.2**
CPRX	**Cap Rock**	**30.90**	**354**	*e*P	**P**	**10 54 48.2**	**+0.4**
TUC	**Tucson**	**31.55**	**343**	*e*P	**P**	**10 54 53.0**	**-0.4**
	2.9nm,1.1s,mb4.0						
WMOK	**Wichita Mounta**	**32.48**	**3**	*e*P	**P**	**10 55 01.0**	**-0.6**
	2.0nm,1.0s,mb3.9						
ANMO	**Albuquerque**	**33.12**	**351**	*e*P	**P**	**10 55 07.7**	**+0.5**
	7.2nm,1.4s,mb4.4						
PFO	**Pinyon Flat Ob**	**34.70**	**336**	*e*P	**P**	**10 55 21.6**	**+0.7**
	6.9nm,1.2s,mb4.5						
SDCO	**Great Sand Dun**	**35.74**	**353**	*e*P	**P**	**10 55 30.9**	**+1.2**
	3.4nm,1.0s,mb4.2						
WVT	**Waverly**	**35.80**	**18**	*e*P	**P**	**10 55 29.2**	**-0.9**
	10nm,1.1s,mb4.7						
NEN	**Nelson**	**35.92**	**340**	*e*P	**P**	**10 55 31.4**	**+0.2**
LPAZ	**La Paz**	**36.82**	**121**	P	**P**	**10 55 38.9**	**-0.1**
	4.4nm,1.2s,mb4.2,baz=294,slow=9.7,SNR=5.1						
LPAZ	**La Paz**	**36.82**	**121**	*e*P	**P**	**10 55 38.9**	**0.0**
ISCO	**Idaho Springs**	**37.78**	**354**	*e*P	**P**	**10 55 47.5**	**+0.7**
	6.5nm,1.3s,mb4.2						
NLU	**North Lily Min**	**39.10**	**346**	*e*P	**P**	**10 55 59.5**	**+1.7**
DAU	**Daniels Canyon**	**39.34**	**347**	*e*P	**P**	**10 56 00.5**	**+0.7**
LVC	**Limon Verde**	**39.41**	**130**	P	**P**	**10 56 00.6**	**0.0**
	2.2nm,0.8s,mb4.0,baz=333,slow=7.5,SNR=3.7						
LVC	**Limon Verde**	**39.41**	**130**	*e*P	**P**	**10 56 03.0**	**+2.4**
JLU	**Jordanelle**	**39.56**	**347**	*e*P	**P**	**10 56 02.4**	**+0.6**
NVAR	**Mina Array Bea**	**39.64**	**338**	P	**P**	**10 56 02.2**	**-0.2**
	0.7nm,0.8s,mb3.5,baz=166,slow=7.4,SNR=4.2						
BW06	**Boulder Array**	**41.27**	**350**	*e*P	**P**	**10 56 15.9**	**+0.3**
	9.2nm,1.1s,mb4.3						
PDAR	**Pinedale Array**	**41.27**	**350**	P	**P**	**10 56 15.8**	**+0.2**
	9.4nm,1.2s,mb4.3,baz=153,slow=6.6,SNR=23						
OHCM	**Honcut**	**41.69**	**335**	*e*P	**P**	**10 56 20.5**	**+1.3**
SNOW	**Snow King Moun**	**42.16**	**349**	P	**P**	**10 56 24.6**	**+1.6**
LOHW	**Long Hollow**	**42.27**	**349**	*e*P	**P**	**10 56 23.7**	**-0.3**
MOOW	**Moose Ponds**	**42.43**	**349**	*e*P	**P**	**10 56 25.4**	**+0.1**
WVOR	**Wild Horse Val**	**43.30**	**340**	*e*P	**P**	**10 56 33.0**	**+0.6**
	9.9nm,1.3s,mb4.3						
MCMT	**McKenzie Canyo**	**43.90**	**347**	*e*P	**P**	**10 56 38.0**	**+0.8**
BOZ	**Bozeman (W)**	**44.43**	**349**	*e*P	**P**	**10 56 42.3**	**+0.8**
	1.7nm,0.7s,mb3.9						
EDM	**Edmonton**	**52.03**	**350**	*e*P	**P**	**10 57 38.9**	**-1.6**
YKA	**Yellowknife Ar**	**61.14**	**353**	P	**P**	**10 58 43.1**	**-2.2**
	3.5nm,1.1s,mb4.4,baz=159,slow=6.5,SNR=20						
DAWY	**Dawson**	**67.97**	**343**	*e*P	**P**	**10 59 28.8**	**-1.0**
INK	**Inuvik**	**69.77**	**348**	*e*P	**P**	**10 59 39.2**	**-1.6**
	13nm,1.3s,mb4.7						
ILAR	**Eielson Array**	**70.81**	**341**	P	**P**	**10 59 45.6**	**-1.5**
	16nm,1.4s,mb4.8,baz=150,slow=4.4,SNR=20						
MCK	**McKinley**	**70.86**	**339**	*e*P	**P**	**10 59 46.5**	**-1.0**
RES	**Resolute Bay**	**72.55**	**2**	*e*P	**P**	**10 59 55.4**	**-2.0**
	7.7nm,1.2s,mb4.5						

IDC 17 10:50:03.8±7.2, 1.35N×99.22W, mb3.6/5, mb1 4.1/5, mb1mx3.8/13, mbtmp3.6/5, Error ellipse: s-maj=195.1km s-min=132.0km az=96.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**28.15**	**352**	P	P	10 55 58.4	-1.5
	0.9nm,0.9s,baz=173,slow=10,SNR=4.1						
NVAR	**Mina Array Bea**	**40.84**	**337**	P	P	10 57 47.5	-1.5
	0.4nm,0.6s,baz=163,slow=9.4,SNR=4.3						
PDAR	**Pinedale Array**	**42.26**	**349**	P	P	10 57 58.8	-1.8
	0.6nm,0.6s,baz=153,slow=8.1,SNR=4.3						
YKA	**Yellowknife Ar**	**62.08**	**352**	P	P	11 00 26.4	-2.1
	0.4nm,0.8s,baz=156,slow=6.9,SNR=3.7						
ILAR	**Eielson Array**	**71.96**	**341**	P	P	11 01 28.8	-2.1
	1.3nm,0.7s,baz=152,slow=5.2,SNR=14						

*IDC **17** 10:50:30.7±0.4, 10.99N×140.69E, mb5.6/26, mb1 5.6/27, mb1mx5.6/27, mbtmp5.6/27, ML5.6/2, MS5.8/23, Ms1 5.8/23, ms1mx5.6/29, Error ellipse: s-maj=20.7km s-min=10.6km az=82.0*

*BJI **17** 10:50:31.1, 10.93N×141.14E, h24km, mB6.4, mb5.7, Ms6.0, Msz5.9*

*GUC **17** 10:50:32.1±0.0, 10.99N×140.67E, h10km, mb5.9(NEIC), MS5.9(NEIC), MW6.1(NEIC)*

*HRVD **17** 10:50:32.6±0.1, 10.89N×140.75E, h13km, MW6.1/74, Centroid moment Tensor Solution. LP body waves: s70,c168; Mantle waves: s74,c291; Half duration: 2§6 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.26±.01; $M_{\theta\theta}$1.34±.01; $M_{\phi\phi}$-0.07±.01; $M_{r\theta}$0.70±.03; $M_{\theta\phi}$-0.31±.01; $M_{\phi r}$-0.01±.03; Best double couple: $M_0$1.505×10^{18} NP1: ϕ_s108°, δ32°, λ-80°. NP2:ϕ_s276°, δ59°, λ-96°. Principal axes: T 1.572, Plg14°, Azm11°; N -.132, Plg5°, Azm280°; P -1.438, Plg75°, Azm169°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **17** 10:50:32.6±0.1, 10.99N×140.68E, h12km, mb5.9/92, ME6.2, MS5.9/116, MW6.1 Error ellipse: s-maj=4.8km s-min=3.6km az=113.0 Broadband fault plane solution: P waves. NP1:ϕ_s285°, δ75°, λ-90°. NP2:ϕ_s105°, δ15°, λ-90°. Principal axes: T Plg30°, Azm15°; N Plg0°, Azm0°; P Plg60°, Azm195°; Moment Tensor Solution. s36 Moment tensor: Scale 10^{18} Nm; M_{rr}-1.43; $M_{\theta\theta}$1.22; $M_{\phi\phi}$0.21; $M_{r\theta}$0.45; $M_{\theta\phi}$0.34; $M_{\phi r}$-0.06; Best double couple: $M_0$1.4×10^{18} NP1:ϕ_s67°, δ37°, λ-101°. NP2:ϕ_s260°, δ54°, λ-82°. Principal axes: T 1.38, Plg8°, Azm344°; N .13, Plg6°, Azm75°; P -1.51, Plg79°, Azm201°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

*MOS **17** 10:50:34.3±1.3, 11.00N×140.68E, h33km, mb6.1/74, MS5.9/50 Error ellipse: s-maj=6.7km s-min=4.6km az=97.2*

ISC 17 10:50:35.7±0.1, 10.91N±0.03×140.78E±0.02, h45km, h45km±2.4km: pP-P, n624, σ1§24/466, mb5.8/155, MS5.9/161, 42C-73D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.80**	**56**	*e*P	**P**	**10 51 44.3**	**-3.2**
BIPH	**Bislig**	**14.47**	**260**	*e*P	**P**	**10 54 06.5**	**+6.8**
BUTP	**Butuan**	**15.05**	**264**	*e*P	**P**	**10 54 07.1**	**-0.1**
SCPH	**Surigao**	**15.08**	**267**	↓*e*P	**P**	**10 54 09.2**	**+1.6**
DAV	**Davao City (W)**	**15.49**	**257**	↓*e*P	**P**	**10 54 15.0**	**+2.2**
PLP	**Palo**	**15.51**	**272**	*e*P	**P**	**10 54 14.5**	**+1.4**
MSLP	**Maasin**	**15.67**	**269**	*e*P	**P**	**10 54 16.5**	**+1.3**
BUKP	**Musuan**	**15.79**	**260**	*e*P	**P**	**10 54 18.3**	**+1.5**
OCLP	**Ormoc**	**15.87**	**272**	*e*P	**P**	**10 54 18.1**	**+0.4**
KCP	**Kidapawan**	**15.97**	**257**	↓*e*P	**P**	**10 54 19.1**	**+0.1**
CGP	**Cagayan de Oro**	**16.04**	**263**	↓*e*P	**P**	**10 54 21.6**	**+1.7**
CBIJ	**Chichi jima**	**16.15**	**5**	Pn	**P**	**10 54 21.9**	**+0.7**
	66nm,0.3s,baz=162,slow=7.5,SNR=17						
CBIJ				LR	LR	10 59 24.9	
	comp=Z,32μm,19.5s,baz=175,slow=33						
PVCP	**Virac**	**16.46**	**281**	*e*P	**P**	**10 54 29.4**	**+4.2**
LLP	**Lapu-Lapu**	**16.54**	**270**	↑*e*P	**P**	**10 54 27.4**	**+1.3**
TBP	**Tagbilaran**	**16.69**	**267**	*i* P	**P**	**10 54 28.6**	**+0.6**
DCPH	**Dipolog City**	**17.33**	**264**	*e*P	**P**	**10 54 43.6**	**+7.6**
SNPH	**Sibulan**	**17.34**	**266**	↓*i* P	**P**	**10 54 36.0**	**-0.2**
	3μm,1.0s						
PAGZ	**Pagadian**	**17.43**	**261**	*e*P	**P**	**10 54 39.1**	**+1.8**
RCP	**Roxas**	**17.70**	**274**	*e*P	**P**	**10 54 42.1**	**+1.4**
AUQP	**San Andres**	**17.86**	**280**	*e*P	**P**	**10 54 42.6**	**-0.1**
GUIM	**Jordan**	**17.87**	**271**	*e*P	**P**	**10 54 43.8**	**+1.0**
KALP	**Kalibo**	**18.10**	**274**	*i* P	**P**	**10 54 36.0**	**-10**
GQP	**Guinayangan**	**18.15**	**281**	↑*e*P	**P**	**10 54 47.2**	**+0.9**
OTRP	**Odiongan**	**18.43**	**276**	*e*P	**P**	**10 54 50.7**	**+1.0**
BOAC	**Boac**	**18.68**	**280**	*e*P	**P**	**10 54 53.4**	**+0.7**
POLP	**Polilio Island**	**18.75**	**284**	*e*P	**P**	**10 54 53.7**	**+0.1**
LQP	**Lukban**	**19.05**	**282**	↑*e*P	**P**	**10 54 56.2**	**-0.8**
BALP	**Baler**	**19.29**	**286**	*e*P	**P**	**10 54 58.2**	**-1.5**
SJMP	**San Jose**	**19.31**	**277**	*e*P	**P**	**10 55 00.8**	**+0.8**
CUYO	**Cuyo Island**	**19.41**	**272**	*e*P	**P**	**10 55 01.1**	**+0.1**
CVP	**Callao Caves**	**19.56**	**292**	↓*e*P	**P**	**10 55 04.0**	**+1.3**
TGY	**Tagaytay City**	**19.63**	**281**	↑*e*P	**P**	**10 55 04.8**	**+1.4**
TGY	**Tagaytay City**	**19.63**	**281**	P	**P**	**10 55 04.3**	**+0.9**
TGY				pmax	pmax		
	comp=Z,40nm,0.3s						
TGY				MLR	MLR		
	comp=Z,28μm,19.2s						
TGY	**Tagaytay City**	**19.63**	**281**	P	**P**	**10 55 04.3**	**+0.9**
	comp=Z,40nm,0.3s,baz=118,slow=1.7,SNR=37						
TGY				LR	LR	11 01 22.6	
	comp=Z,28μm,19.2s,baz=84,slow=33						
JOW	**Kunigami**	**19.74**	**325**	P	**P**	**10 55 05.8**	**+1.2**
	baz=133,slow=10						
JOW				LR	LR	11 01 02.2	
	comp=Z,26μm,20.2s,baz=144,slow=32						
APYP	**Conner**	**20.13**	**292**	*e*P	**P**	**10 55 09.6**	**+0.8**
BUSP	**Coron**	**20.20**	**275**	*e*P	**P**	**10 55 07.7**	**-1.9**
LUBP	**Lubang**	**20.25**	**280**	↑*e*P	**P**	**10 55 10.2**	**+0.2**
LUBP	**Lubang**	**20.25**	**280**	*e*P	**P**	**10 55 10.2**	**+0.1**
BCPH	**Baguio City Da**	**20.36**	**288**	↓*i* P	**P**	**10 55 10.9**	**-0.3**
BBP	**Basco**	**20.42**	**300**	*e*P	**P**	**10 55 12.2**	**+0.4**
ABRA	**Dolores**	**20.55**	**291**	*e*P	**P**	**10 55 16.2**	**+2.9**
SCZP	**Santa Cruz**	**20.86**	**286**	*e*P	**P**	**10 55 16.8**	**+0.4**
ENPP	**El Nido**	**20.96**	**273**	*e*P	**P**	**10 55 17.9**	**+0.5**
BOLP	**Bolinao**	**20.98**	**287**	*e*P	**P**	**10 55 15.9**	**-1.7**
PMG	**Port Moresby**	**21.16**	**162**	P	**P**	**10 55 17.5**	**-1.9**
PMG				pmax	pmax		
	comp=Z,410nm,1.0s						
PMG				MLR	MLR		
	comp=Z,27μm,18.3s						
PMG	**Port Moresby**	**21.16**	**162**	P	**P**	**10 55 17.5**	**-1.9**
	comp=Z,410nm,1.0s,mb5.7,baz=353,slow=7.4,SNR=59						
PMG				LR	LR	11 03 04.3	
	comp=Z,27μm,18.3s,MS5.7,baz=130,slow=35						
PMG	**Port Moresby**	**21.16**	**162**	↓*i* P	**P**	**10 55 16.6**	**-2.8**
	comp=Z,810nm,1.1s,mb6.0						
PMG				LR	LR		
	comp=Z,24μm,20.0s,MS5.6						
PPR	**Puerto Princes**	**21.72**	**269**	↑*i* P	**P**	**10 55 26.4**	**+1.5**
JHJ	**Hachijo jima 2**	**22.12**	**358**	LR	LR	11 02 27.6	
	comp=Z,59μm,19.0s,MS6.0,baz=175,slow=32						
BATP	**Bataraza**	**22.73**	**267**	*e*P	**P**	**10 55 37.2**	**+2.1**
TATO	**Taipei**	**23.03**	**310**	*e*P	**P**	**10 55 39.3**	**+1.4**
	comp=Z,429nm,1.2s,mb5.8						
TATO				LR	LR		
	comp=Z,28μm,19.0s,MS5.7						
KAKA	**Kakadu**	**24.89**	**200**	↓*i* P	**P**	**10 55 55.2**	**-0.8**
	comp=Z,3μm,1.9s,mb6.5						
KAKA				*e*		10 56 08.7	
BUNI	**Buntu Taipa**	**24.98**	**236**	↓*e*P	**P**	**10 55 55.5**	**-1.5**
	comp=Z,50nm,0.8s,mb5.1						
QZH	**Quanzhou**	**25.25**	**307**	PR		10 55 58.6	
QZH				S	**S**	**11 00 21.5**	**+2.2**
QZH				AMB	AMB		
	comp=Z,470nm,1.5s,mb5.8						
QZH				AMB	AMB		
	comp=Z,12μm,5.4s						
QZH				LR	LR		
	comp=N,3μm,9.0s						
QZH				LR	LR		
	comp=E,20μm,14.2s						
QZH				LR	LR		
	comp=Z,34μm,17.8s,MS5.9						
TANI	**Tanete Lipujan**	**25.62**	**237**	↓*e*P	**P**	**10 56 01.7**	**-1.3**
TANI				pmax	pmax		
	comp=Z,114nm,1.0s,mb5.4						
TANI	**Tanete Lipujan**	**25.62**	**237**	↓*e*P	**P**	**10 56 01.7**	**-1.3**
	comp=Z,114nm,1.0s,mb5.4						
MAJO	**Matsushiro**	**25.62**	**355**	*e*P	**P**	**10 55 58.1**	**-4.7**
	comp=Z,76nm,0.7s,mb5.3						
MAJO				LR	LR		
	comp=Z,20μm,21.0s,MS5.6						
MAT	**Matsushiro**	**25.62**	**355**	*e*P	**P**	**10 56 00.0**	**-2.8**
MAT				*e*S	**S**	**11 00 31.0**	**+5.6**
MAT				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.1						
MAT				MLR	MLR		
	comp=Z,20μm,20.0s,MS5.6						
MAT	**Matsushiro**	**25.62**	**355**	*e*P	**P**	**10 56 00.0**	**-2.8**
	comp=Z,40nm,0.7s,mb5.1						
MAT				*e*S	**S**	**11 00 31.0**	**+5.6**
MAT				LR	LR		
	comp=Z,20μm,20.0s,MS5.6						
MAT	**Matsushiro**	**25.62**	**355**	P	**P**	**10 55 59.6**	**-3.2**
MAT				S	**S**	**11 00 31.0**	**+5.6**
NINI	**Niniconang**	**25.88**	**235**	↓*e*P	**P**	**10 56 03.9**	**-1.5**
NINI				pmax	pmax		
	comp=Z,414nm,1.6s,mb5.7						
NINI	**Niniconang**	**25.88**	**235**	↓*e*P	**P**	**10 56 03.9**	**-1.5**
	comp=Z,414nm,1.6s,mb5.7						
WAKE	**Wake Island**	**26.30**	**68**	PFAKE		10 56 20.0	+11
WAKE				LR	LR		
	comp=Z,40μm,19.0s,MS6.0						
SSE	**Sheshan**	**27.07**	**321**	P	**P**	**10 56 13.9**	**-2.4**
SSE				S	**S**	**11 00 50.3**	**+1.0**
SSE				AMB	AMB		
	comp=Z,178nm,1.3s,mb5.4						
SSE				AMB	AMB		
	comp=Z,1μm,8.7s						
SSE				LR	LR		
	comp=N,8μm,16.3s,MS5.6						
SSE				LR	LR		
	comp=E,12μm,16.3s,MS5.6						
SSE				LR	LR		
	comp=Z,15μm,17.1s,MS5.6						
HKC	**Hong Kong**	**27.84**	**297**	*i* P	**P**	**10 56 26.0**	**+2.6**
HKC				*i* S	**S**	**11 01 06.0**	**+4.2**
NJ2	**Nanjing**	**29.19**	**319**	*e*P	**P**	**10 56 34.3**	**-0.9**
NJ2				PP	PP	10 57 31.1	+0.3
NJ2				S	**S**	**11 01 19.0**	**-4.1**
NJ2				XS		11 01 43.0	
NJ2				AMB	AMB		
	comp=Z,130nm,1.2s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,6μm,8.2s						
NJ2				LR	LR		
	comp=N,30μm,16.1s,MS6.1						
NJ2				LR	LR		
	comp=E,28μm,17.2s,MS6.1						
NJ2				LR	LR		
	comp=Z,18μm,17.0s,MS5.8						
INCN	**Inchon**	**29.36**	**337**	*e*P	**P**	**10 56 33.4**	**-3.3**
	comp=Z,61nm,0.9s,mb5.3						
INCN				LR	LR		
	comp=Z,28μm,19.0s,MS5.9						
QIZ	**Qiongzhong**	**30.91**	**289**	P	**P**	**10 56 50.3**	**-0.4**
QIZ				S	**S**	**11 01 55.5**	**+5.0**

VLA smax
comp=N,4μm,10.0s
VLA smax
comp=E,9μm,10.0s
VLA smax
comp=Z,8μm,8.0s
TIA Tai'an 33.05 323 *e*P **P 10 57 08.8 -0.4**
TIA S **S 11 02 29.0 +5.3**
TIA AMB AMB
comp=Z,216nm,1.7s,mb5.8
TIA AMB AMB
comp=Z,2μm,9.0s
TIA LR LR
comp=N,15μm,16.0s,MS5.9
TIA LR LR
comp=E,15μm,16.0s,MS5.9
ASAJ Asahikawa 33.12 2 P **P 10 57 08.1 -1.7**
ASAJ pmax pmax
comp=Z,36nm,0.6s
ASAJ MLR MLR
comp=Z,8μm,21.7s
ASAJ Asahikawa 33.12 2 P **P 10 57 08.1 -1.7**
comp=Z,36nm,0.6s,mb5.5,baz=220,slow=7.4,SNR=25
ASAJ LR LR 11 10 09.3
comp=Z,8μm,21.7s,MS5.4,baz=200,slow=36
YUK Yuzh-Kuril'sk 33.29 7 *e*P **P 10 57 10.0 -1.2**
SNY Shenyang 34.29 337 ⇑P **P 10 57 18.3 -1.6**
SNY AP pP 10 57 27.8 -4.2
SNY XP sP 10 57 31.8 -5.9
SNY PP PP 10 58 31.8 -4.1
SNY S **S 11 02 38.4 -4.5**
SNY XS 11 02 55.1
SNY AMB AMB
comp=Z,60nm,2.1s,mb5.2
SNY AMB AMB
comp=Z,4μm,8.0s
SNY LR LR
comp=N,31μm,18.0s,MS6.2
SNY LR LR
comp=E,19μm,18.2s,MS6.2
SNY LR LR
comp=Z,31μm,18.0s,MS6.1
ENH Enshi 34.87 308⇓*e*P **P 10 57 25.5 +0.6**
comp=Z,292nm,1.0s,mb6.2
ENH *e*PcP PcP 10 59 57.1 -0.3
MDJ Mudanjiang 34.94 346 P **P 10 57 24.9 -0.5**
MDJ AP pP 10 57 27.9 -10
MDJ PP PP 10 58 40.4 -3.9
MDJ S **S 11 02 47.8 -5.1**
MDJ SS SS 11 05 12.8 +3.6
MDJ AMB AMB
comp=Z,2μm,7.3s
MDJ LR LR
comp=N,15μm,15.3s,MS5.9
MDJ LR LR
comp=E,5μm,15.3s,MS5.9
MDJ LR LR
comp=Z,20μm,16.0s,MS6.0
MDJ Mudanjiang 34.94 346 *e*P **P 10 57 24.0 -1.4**
comp=Z,48nm,1.4s,mb5.2
MDJ *e*PcP PcP 10 59 57.1 -0.3
MDJ *e*ScP 11 03 41.3
ASAR Alice Springs 35.02 191 P **P 10 57 26.6 +0.4**
comp=Z,72nm,0.5s,mb5.8,baz=18,slow=12,SNR=440
ASAR PcP PcP 10 59 57.6 -0.2
comp=Z,19nm,0.8s,baz=26,slow=2.3,SNR=6.7
ASAR LR LR 11 11 30.9
comp=Z,12μm,18.1s,MS5.7,baz=3.2,slow=36
ASPA Alice Springs 35.02 191⇓*i*P **P 10 57 25.3 -0.9**
ASPA *e* pP 10 57 38.9 +0.5
YSS Yuzh-Sakhalins 35.96 2α *i*P **P 10 57 31.7 -2.3**
YSS *e**SP sP 10 57 42.0 -10
YSS *e* 10 58 50.0
YSS *e*PPP PPP 10 59 14.0 -2.6
YSS *e*S **S 11 03 04.0 -4.6**
YSS *e* 11 03 20.0
YSS *e*SSS SS 11 05 30.0 -2.6
YSS pmax pmax
comp=Z,110nm,1.1s,mb5.7
YSS pmax pmax
comp=Z,2μm,6.0s
YSS smax
comp=N,180nm,1.2s
YSS smax
comp=E,160nm,1.5s
YSS MLR MLR
comp=Z,14μm,19.0s,MS5.8
YSS MLR MLR
comp=N,11μm,18.0s
YSS Yuzh-Sakhalins 35.96 2⇑*e*P **P 10 57 31.5 -2.6**
comp=N,79nm,0.8s,mb5.7
YSS *e*ScP 11 03 45.4
YSS LR LR
comp=Z,11μm,20.0s,MS5.6
BJT Baijiatuau 36.27 327 *e*P **P 10 57 34.7 -2.0**
BJT *e* 11 00 01.2
BJT pmax pmax
comp=Z,496nm,1.3s
BJT Baijiatuau 36.27 327 *e*P **P 10 57 34.7 -2.0**
comp=Z,496nm,1.3s,mb6.3
BJT *e*PcP PcP 11 00 01.2 -0.2
BJT *e*ScP 11 03 46.4
TIY Taiyuan 36.86 321 ⇑P **P 10 57 43.0 +1.3**
TIY LR LR
comp=E,10μm,16.0s
XAN Xi'an 37.11 313 P **P 10 57 43.5 -0.3**
XAN S **S 11 03 25.8 -0.5**
XAN AMB AMB
comp=Z,66nm,1.5s,mb5.2
XAN AMB AMB
comp=Z,3μm,8.9s
XAN LR LR
comp=N,4μm,18.7s,MS5.6
XAN LR LR
comp=E,8μm,17.5s,MS5.6
XAN LR LR
comp=Z,14μm,17.0s,MS5.8
KKTK Khon Kaen 37.24 283 P **P 10 57 47.0 +2.0**
comp=Z,679nm,1.0s,mb6.4
MBWA Marble Bar 37.99 213⇓*e*P **P 10 57 49.2 -2.1**
comp=Z,220nm,1.4s,mb5.7
MBWA *e* pP 10 58 01.9 -1.6
MBWA *e*PcP PcP 11 00 06.3 -0.5
MBWA LR LR
comp=Z,8μm,19.0s,MS5.5
KLR Kul'dur 38.93 351⇓*i*P **P 10 57 54.5 -4.3**
KLR *i* S **S 11 03 50.5 -3.4**
KLR pmax pmax
comp=Z,5μm,8.0s
KLR MLR MLR
comp=E,8μm,14.0s
KLR MLR MLR
comp=Z,14μm,14.0s,MS6.0
NANT Nan 39.45 286⇓P **P 10 58 04.8 +1.3**
comp=Z,330nm,1.5s,mb5.8
NST Nakhon Sawan 39.79 281⇑P **P 10 58 08.0 +1.7**
comp=Z,127nm,1.0s,mb5.6
SNG Songkhla 39.81 268 P **P 10 58 07.0 +0.5**
comp=Z,340nm,0.9s,mb6.1
NNT Nongplab 40.19 277⇑P **P 10 58 12.1 +2.5**
comp=Z,1μm,1.4s,mb6.4
CHRT Chiangrai 40.42 288 P **P 10 58 13.5 +2.0**
comp=Z,1μm,1.2s,mb6.6
CMAR Chiang Mai Arr 41.08 286 P **P 10 58 19.0 +2.1**
comp=Z,203nm,0.9s,mb5.8,baz=90,slow=6.0,SNR=519
CMAR ScP 11 04 07.4
comp=Z,1.9nm,0.8s,baz=45,slow=2.7,SNR=4.2
CMAR LR LR 11 13 44.0
comp=Z,7μm,20.4s,MS5.5,baz=100,slow=34
CHG Chiang Mai 41.11 286⇓P **P 10 58 18.9 +1.7**
comp=Z,150nm,1.2s,mb5.5
CHG Chiang Mai 41.11 286⇓P **P 10 58 18.9 +1.7**
comp=Z,150nm,1.2s,mb5.5
CHG S **S 11 04 32.8 +6.1**
NOUC Port Laguerre 41.27 143 *e*P **P 10 58 18.5 +0.1**
NOUC Port Laguerre 41.27 143 *e*P **P 10 58 18.5 +0.1**
SKR Severo-Kuril's 41.61 15 *e*P **P 10 58 16.0 -5.0**
SKR *e* pP 10 58 26.9 -6.4
SKR *e*PPP PPP 11 00 19.0 -13
SKR *e*S **S 11 04 30.0 -3.9**
SKR *e*SSS SSS 11 08 14.0 -3.6
SKR pmax pmax
comp=Z,220nm,1.0s,mb5.7
SKR pmax pmax
comp=N,2μm,4.0s
SKR pmax pmax
comp=E,2μm,4.0s
SKR pmax pmax
comp=Z,2μm,4.0s
SKR smax
comp=N,3μm,10.0s
SKR smax
comp=E,3μm,10.0s
SKR MLR MLR
comp=Z,13μm,16.0s,MS5.9
SKR MLR MLR
comp=N,5μm,14.0s,MS5.7
SKR MLR MLR
comp=E,5μm,14.0s,MS5.7
LZH Lanzhou 41.74 313⇓P **P 10 58 22.4 +0.2**
LZH PP PP 11 00 01.5 -0.6
LZH S **S 11 04 38.5 +2.5**
LZH SS SS 11 07 37.6 +0.1
LZH AMB AMB
comp=Z,527nm,1.5s,mb6.0
LZH AMB AMB
comp=Z,4μm,8.2s
LZH LR LR
comp=N,6μm,13.2s
LZH LR LR
comp=Z,11μm,16.8s,MS5.8
HIA Hailar 42.05 339 *e*P **P 10 58 23.9 -0.7**
HIA *e* 11 00 18.8
HIA pmax pmax
comp=Z,136nm,1.1s
HIA Hailar 42.05 339 *e*P **P 10 58 23.9 -0.6**
comp=Z,136nm,1.1s,mb5.5
HIA *e*PcP PcP 11 00 18.8 -0.7
HIA *e*ScP 11 04 08.0
STKA Stephens Creek 42.55 179⇓*i*P **P 10 58 27.8 -1.2**
comp=Z,31nm,0.6s,mb5.2
STKA Stephens Creek 42.55 179 P **P 10 58 27.9 -1.0**
comp=Z,40nm,0.8s,mb5.2,baz=353,slow=8.3,SNR=67
STKA LR LR 11 17 01.7
comp=Z,20μm,18.4s,MS6.0,baz=346,slow=37
MIDW Midway 42.77 60 PFAKE 10 58 40.0 +9.1
MIDW LR LR
comp=Z,7μm,20.0s,MS5.6
FORT Forrest 43.21 196⇓*i*P **P 10 58 34.4 0.0**
comp=Z,703nm,0.7s,mb6.5
FORT *e* 11 00 24.5
PET Petropavlovsk 44.40 15*c i*P **P 10 58 41.4 -2.2**
PET *e* pP 10 58 53.8 -2.2
PET *e*S **S 11 05 14.7 +0.2**
PET *e*SS SS 11 08 31.0 +5.4
PET pmax pmax
comp=Z,56nm,1.1s,mb5.2
PET pmax pmax
comp=N,1μm,13.7s
PET pmax pmax
comp=Z,2μm,10.1s
PET pmax pmax
comp=Z,3μm,11.9s
PET pmax pmax
comp=Z,2μm,10.1s
PET smax
comp=E,7μm,26.6s
PET smax
comp=N,15μm,23.8s
PET smax
comp=E,3μm,24.9s
PET smax
comp=N,8μm,23.8s
PET MLR MLR
comp=Z,7μm,17.0s,MS5.7
PET MLR MLR
comp=Z,7μm,17.0s
PET Petropavlovsk 44.40 15⇑*e*P **P 10 58 41.2 -2.4**
comp=Z,89nm,1.1s,mb5.4
PET LR LR
comp=Z,9μm,21.0s,MS5.7
ADE Adelaide 45.67 182 *e*P **P 10 58 54.3 +0.2**
ULN Ulaanbaatar 46.44 329 *e*P **P 10 58 59.9 -0.1**
comp=Z,193nm,1.1s,mb5.9
ULN LR LR
comp=Z,22μm,19.0s,MS6.1
IMP Imphal 46.45 294⇑*i*P **P 10 59 00.0 -0.3**
SONM Songino Array 46.76 329 P **P 10 59 02.4 0.0**
comp=Z,26nm,0.7s,mb5.3,baz=139,slow=7.8,SNR=110
SONM PcP PcP 11 00 35.4 -0.3
comp=Z,35nm,0.7s,baz=145,slow=2.8,SNR=7.2
SONM ScP 11 04 27.4
comp=Z,15nm,1.0s,baz=135,slow=5.2,SNR=7.2
CLNS Chul'man 47.45 348 *e*P **P 10 59 05.4 -2.3**
CLNS *e* 11 00 37.5
CLNS *e*S **S 11 05 51.8 -6.1**
CLNS *e*SS SS 11 09 17.6 -2.1
CLNS pmax pmax
comp=Z,66nm,0.9s,mb5.6
CLNS pmax pmax
comp=N,43nm,1.1s
CLNS pmax pmax
comp=E,17nm,1.0s
CLNS pmax pmax
comp=Z,15nm,1.0s,mb4.9
CLNS pmax pmax
comp=N,27nm,1.1s
CLNS pmax pmax
comp=E,28nm,1.0s
CLNS smax
comp=N,7μm,17.2s
CLNS smax
comp=Z,910nm,15.4s
CLNS smax
comp=E,265nm,13.7s
CLNS Chul'man 47.45 348 *e*P **P 10 59 06.5 -1.2**
SHL Shillong 48.40 294 *i* P **P 10 59 16.0 +0.4**
SHL *i* 11 06 07.0
TOO Toolangi 48.43 175⇓*i*P **P 10 59 16.3 +0.6**
comp=E,74nm,0.7s,mb5.8
TOO Toolangi 48.43 175⇓*i*P **P 10 59 16.3 +0.6**
TOO pmax pmax
comp=Z,74nm,0.7s,mb5.8
MUN Mundaring 48.70 208⇓*i*P **P 10 59 17.2 -0.6**
comp=Z,35nm,0.5s,mb5.6
MUN *e* pP 10 59 29.6 -0.6
MUN Mundaring 48.70 208⇓*i*P **P 10 59 17.2 -0.6**
MUN *e* pP 10 59 29.6 -0.6
MUN pmax pmax
comp=Z,35nm,0.5s,mb5.7
AGT Agartala 48.76 292⇑*i*P **P 10 59 17.0 -1.4**
AGT *i* 11 01 53.0
NWAO Narrogin (SRO) 49.04 206 P **P 10 59 20.2 -0.2**
NWAO 11 00 44.5
NWAO pmax pmax
comp=Z,48nm,0.6s
NWAO pmax pmax
comp=Z,38nm,0.8s
NWAO Narrogin (SRO) 49.04 206 P **P 10 59 20.2 -0.2**
comp=Z,48nm,0.6s,mb5.7,baz=38,slow=8.4,SNR=29
NWAO PcP PcP 11 00 44.5 +0.4
comp=Z,38nm,0.8s,baz=60,slow=4.5,SNR=3.0
NWAO Narrogin (SRO) 49.04 206 *e*P **P 10 59 19.6 -0.8**
comp=Z,353nm,1.4s,mb6.2
NWAO LR LR
comp=Z,8μm,19.0s,MS5.7
MA2 Magadan 49.14 7 *e*P **P 10 59 18.2 -2.7**
comp=Z,141nm,0.9s,mb6.0
MA2 LR LR
comp=Z,6μm,19.0s,MS5.6
FX1 Attu Island--F 49.29 25 P **P 10 59 21.0 -1.1**
FX1 pmax pmax
comp=Z,160nm,0.9s
FX1 Attu Island--F 49.29 25 P **P 10 59 21.0 -1.1**
comp=Z,160nm,0.9s,mb6.0,baz=159,slow=9.5
SMY Shemya 49.58 26 *e*P **P 10 59 22.9 -1.4**
SMY MLR MLR
comp=Z,26μm,20.0s,MS6.2
LSA Lhasa 49.74 300 P **P 10 59 27.0 +1.1**
LSA AP pP 10 59 40.1 +1.8
LSA PCP PcP 11 00 44.0 -2.6
LSA PP PP 11 01 22.6 +1.3
LSA SCP 11 04 35.3
LSA PCS 11 04 41.4
LSA S **S 11 06 32.3 +1.8**
LSA SCS ScS 11 09 12.5 +2.1
LSA AMB AMB
comp=Z,110nm,1.3s,mb5.7
LSA AMB AMB
comp=Z,3μm,8.5s
LSA LR LR
comp=N,3μm,18.2s,MS5.7
LSA LR LR
comp=E,6μm,17.7s,MS5.7
LSA LR LR
comp=Z,7μm,18.7s,MS5.7
LSA Lhasa 49.74 300 *e*P **P 10 59 26.3 +0.4**
LSA pmax pmax
comp=Z,156nm,1.2s,mb5.9
LSA Lhasa 49.74 300 *e*P **P 10 59 26.3 +0.4**
comp=Z,156nm,1.2s,mb5.9
ZAK Zakamensk 49.96 329⇑*i*P **P 10 59 27.0 -0.3**
ZAK *e* 11 00 46.6
TLY Talaya 50.60 331 P **P 10 59 32.6 +0.4**
comp=Z,426nm,1.8s,mb6.1,SNR=75
TLY Talaya 50.60 331*c i*P **P 10 59 32.1 -0.1**
TLY *e* 11 01 30.1
TLY *e*S **S 11 06 41.2 -0.9**
TLY *e* 11 07 01.7
TLY *e* 11 09 21.1
TLY pmax pmax
comp=Z,168nm,1.1s,mb5.9
TLY MLR MLR
comp=Z,15μm,17.0s,MS6.1
TLY Talaya 50.60 331 *e*P **P 10 59 31.5 -0.7**
comp=Z,23nm,1.0s,mb5.1
IRK Irkutsk 50.67 332 *e*P **P 10 59 32.4 -0.3**
IRK *e* 11 09 18.1
BOD Bodaibo 51.09 342 *e*P **P 10 59 33.3 -2.4**
YAK Yakutsk 51.67 353*c i*P **P 10 59 37.9 -2.1**
YAK *e**PP pP 10 59 50.0 -2.5
YAK *e* 11 00 54.8
YAK *e* 11 01 32.5
YAK *e*S **S 11 06 53.3 -3.3**
YAK *e* 11 09 25.2
YAK pmax pmax
comp=N,99nm,1.0s
YAK pmax pmax
comp=Z,220nm,1.0s,mb6.0
YAK pmax pmax
comp=E,16nm,0.8s
YAK pmax pmax
comp=N,17nm,0.9s
YAK pmax pmax
comp=Z,28nm,0.9s,mb5.2
YAK pmax pmax
comp=E,23nm,1.2s
YAK smax
comp=E,84nm,1.1s
YAK smax
comp=Z,28nm,0.9s
YAK smax
comp=N,101nm,1.1s
YAK MLR MLR
comp=Z,9μm,16.0s,MS5.9
YAK MLR MLR
comp=N,9μm,17.0s,MS5.9
YAK MLR MLR
comp=E,5μm,16.0s,MS5.9
YAK Yakutsk 51.67 353 *e*P **P 10 59 37.6 -2.4**
comp=E,531nm,0.9s,mb6.5
YAK *e* pP 10 59 49.8 -2.8
YAK LR LR
comp=Z,12μm,22.0s,MS5.9
MOY Mondy 51.89 330 *e*P **P 10 59 41.4 -0.4**
MOY *e* pP 10 59 51.1 -3.2
AFI Afiamalu 53.12 117 *e*P **P 10 59 51.0 -0.6**
AFI pmax pmax
comp=Z,178nm,1.4s,mb5.8
AFI MLR MLR
comp=Z,12μm,20.0s,MS5.9
AFI Afiamalu 53.12 117 *e*P **P 10 59 51.0 -0.6**
comp=Z,178nm,1.4s,mb5.8
AFI LR LR
comp=Z,12μm,20.0s,MS5.9
KIWB Kanaga Island 53.15 31 *e*P **P 10 59 49.5 -1.8**
JIRN Jiri 53.73 296 *e*P **P 10 59 56.1 +0.2**
TAU Tasmania Unive 53.89 174 *e*P **P 10 59 56.2 -0.7**
comp=Z,166nm,0.8s,mb6.0
TAU LR LR
comp=Z,5μm,19.0s,MS5.6
GUN Gumba 54.03 297 *e*P **P 10 59 58.3 +0.2**
comp=Z,1μm,1.4s,mb6.7
PKI Pulchoki 54.40 296 *e*P **P 11 00 00.6 -0.2**
comp=Z,616nm,1.4s,mb6.3
KKN Kakani 54.54 296 *e*P **P 11 00 01.6 -0.2**
comp=Z,533nm,1.4s,mb6.4
DMN Daman 54.67 296 *e*P **P 11 00 02.8 0.0**
comp=Z,655nm,1.3s,mb6.5
GKN Gorkha 55.13 296 *e*P **P 11 00 05.8 -0.3**
comp=Z,924nm,1.3s,mb6.7
OUZ Omahuta 55.40 147 P **P 11 00 08.4 +0.4**
VIS Vishakhapatnam 55.90 284 *e*P **P 11 00 11.3 -0.5**
VIS *e* 11 00 15.2
comp=Z,339nm,1.4s
KOLN Koldanda 56.02 296 *e*P **P 11 00 12.2 -0.3**
comp=Z,553nm,1.3s,mb6.4
WMQ Urumqi 56.17 316⇓*i*P **P 11 00 12.3 -1.1**
WMQ AMB AMB
comp=Z,93nm,1.7s,mb5.5
WMQ AMB AMB
comp=Z,501nm,5.5s
WMQ LR LR
comp=N,5μm,20.6s,MS5.7
WMQ LR LR
comp=E,5μm,21.7s,MS5.7
WMQ LR LR
comp=Z,7μm,21.7s,MS5.7
RAO Raoul Island 56.41 136 PFAKE 11 00 30.0 +15
RAO LR LR
comp=Z,13μm,19.0s,MS6.0
BLSP Bilaspur 57.02 289 *i* P **P 11 00 18.0 -1.8**
ALBI Allahabad 57.44 293 *e*P **P 11 00 19.5 -3.2**
KUZ Kuaotunu 57.68 147 P **P 11 00 23.3 -0.9**
MDRS Chennai 59.13 279 *e*P **P 11 00 32.0 -2.6**
MDRS *e*S **S 11 08 42.0 +5.2**
PTH Pithoragarh 59.14 298 *e*P **P 11 00 34.0 -0.5**
PTH *e* 11 08 23.0
PALK Pallekele 59.35 272 *e*P **P 11 00 35.8 -0.4**
comp=Z,271nm,1.3s,mb6.1
PALK LR LR
comp=Z,1μm,22.0s,MS4.9
KIP Kipapa 59.40 72 *e*P **P 11 00 34.4 -2.0**
comp=Z,476nm,1.5s,mb6.3
KIP LR LR
comp=Z,8μm,20.0s,MS5.8
BILL Bilibino 59.49 11 *e*P **P 11 00 33.3 -3.1**
BILL pmax pmax
comp=Z,130nm,0.8s,mb6.0
BILL Bilibino 59.49 11 *e*P **P 11 00 33.3 -3.1**
comp=Z,129nm,0.8s,mb6.0
BILL LR LR
comp=Z,5μm,20.0s,MS5.7
URZ Urewera 59.54 147 P **P 11 00 35.8 -1.4**
comp=Z,19nm,0.5s,mb5.4,baz=83,slow=0.7,SNR=16
UNV Unalaska Valle 59.74 33 *e*P **P 11 00 35.5 -2.7**
comp=Z,496nm,1.1s,mb6.5
UNV LR LR
comp=Z,23μm,22.0s,MS6.3
PUZ Puketiti 60.02 146 P **P 11 00 38.6 -1.9**
THZ Tophouse 60.17 153 P **P 11 00 39.6 -1.8**
HYB Hyderabad 60.47 284⇓*e*P **P 11 00 43.5 -0.2**
HYB *e*S **S 11 09 01.0 +7.0**
HYB Hyderabad 60.47 284⇓*i*P **P 11 00 43.5 -0.2**
comp=Z,900nm,1.4s,mb6.6
HYB *e* 11 01 28.0
HYB *e*PP PP 11 02 56.0 -3.3
HYB *e*S **S 11 08 58.0 +4.0**
HYB *e*ScS ScS 11 10 30.0 +3.2
MSZ Milford Sound 60.54 158 P **P 11 00 42.3 -1.6**
MKAR Makanchi Array 60.70 318 *i* P **P 11 00 44.7 -0.2**
MKAR pmax pmax
comp=Z,295nm,1.3s
RPZ Rata Peaks 60.95 155 P **P 11 00 45.2 -1.5**
comp=Z,122nm,0.7s,mb6.1,baz=13,slow=5.0,SNR=29
RPZ ScS ScS 11 10 36.6 +6.5
comp=Z,62nm,1.3s,baz=22,slow=6.7,SNR=3.1
RPZ LR LR 11 22 25.8
comp=Z,7μm,18.3s,MS5.9,baz=227,slow=31
RPZ Rata Peaks 60.95 155 P **P 11 00 44.6 -2.1**
DDI Dehra Dun 61.07 299 *e*P **P 11 00 45.4 -2.3**
DDI *e* 11 08 37.1
TIXI Tiksi 61.13 356⇑*i*P **P 11 00 44.8 -2.8**
TIXI *e* 11 03 01.5
TIXI *e*S **S 11 09 03.0 +1.2**
TIXI pmax pmax
comp=Z,38nm,1.0s,mb5.5

TIXI MLR MLR
comp=Z,4μm,16.0s,MS5.6
TIXI Tiksi 61.13 356 ⇓*i*P **P 11 00 44.3 -3.2**
TIXI LR LR
comp=Z,6μm,19.0s,MS5.8
BHPL Bhopal 61.38 291 *e*P **P 11 00 49.5 -0.4**
BHPL *e* 11 00 51.7
comp=Z,330nm,1.2s
NDI New Delhi 61.70 297 ⇓*i*P **P 11 00 48.0 -4.0**
NDI *e*S **S 11 09 10.0 +0.4**
KOD Kodaikanal 62.13 276 ⇓*i*P **P 11 00 54.0 -1.0**
LATR Latur 62.31 285 *e*P **P 11 00 54.6 -1.5**
BHK Bhakra 62.55 300 *e*P **P 11 00 56.9 -0.7**
BHK *e*S **S 11 09 22.1 +1.8**
NVS Novosibirsk 62.72 327 *i*P **P 11 00 57.0 -1.4**
NVS *i*S **S 11 09 23.5 +1.4**
NVS *i* *SS 11 10 42.8
NVS pmax pmax
comp=Z,265nm,1.6s,mb6.1
NVS pmax pmax
comp=N,153nm,1.8s
NVS pmax pmax
comp=E,162nm,1.8s
NVS pmax pmax
comp=Z,172nm,2.7s,mb5.7
NVS pmax pmax
comp=E,81nm,1.5s
NVS pmax pmax
comp=N,104nm,2.3s
NVS smax
comp=E,202nm,2.2s
NVS smax
comp=N,53nm,1.8s
TRD Trivandrum 62.85 274 *e*P **P 11 01 00.7 +0.9**
TRD *e* 11 01 02.5
comp=Z,393nm,1.1s
DLH Dalhousie 63.02 301 *e*P **P 11 00 59.0 -1.7**
DLH *e* pP 11 01 15.0 +1.4
AAA Alma-Ata 63.59 313 *e*P **P 11 01 03.6 -0.7**
AAA *e*S **S 11 09 34.0 +0.9**
AAA pmax pmax
comp=Z,3μm,8.0s
AAA smax
comp=N,600nm,6.0s
AJM Ajmer 63.92 294 *e*P **P 11 01 06.4 -0.4**
AJM *e* 11 01 08.4
comp=Z,377nm,1.1s
ULHL Ulahol 63.93 312 P **P 11 01 07.2 +0.6**
SNR=14
MNGI Mangalore 64.40 279 *i*P **P 11 01 09.0 -1.1**
comp=Z,986nm,9.5s
MNGI *e* 11 09 34.7
TKM2 Tokmak 2 64.50 312 P **P 11 01 10.5 +0.3**
SNR=24
KZA Kyzart 64.63 311 P **P 11 01 12.3 +1.2**
SNR=59
KAD Karad 64.64 284 ⇓*i*P **P 11 01 11.4 -0.1**
KAD *e*P 11 01 11.5
KAD *e* 11 01 14.1
comp=Z,542nm,1.4s
TNA Tin City 64.75 21 *e*P **P 11 01 09.3 -2.2**
comp=Z,28nm,0.9s,mb5.3
TNA LR LR
comp=Z,3μm,19.0s,MS5.5
POO Poona 64.88 285 *e*P **P 11 01 12.7 -0.3**
POO *e* 11 01 14.8
comp=Z,429nm,1.1s
POO *i*S **S 11 09 54.0 +4.6**
KBK Karagaybulak 64.94 312 P **P 11 01 13.4 +0.3**
SNR=26
GOA Goa 65.12 282 *e* **P 11 01 20.7 +6.0**
comp=Z,293nm,0.3s,mb6.8,baz=21
GOA *e* 11 10 00.1
CHMS Chumysh 65.13 312 P **P 11 01 13.9 -0.4**
SNR=59
ANM Nome 65.18 23 *e*P **P 11 01 12.8 -1.4**
UCH Uchtor 65.19 311 P **P 11 01 16.0 +1.3**
SNR=82
FRU Bishkek 65.20 312 ⇓*i*P **P 11 01 15.0 +0.2**
FRU *i*S S 11 09 56.0 +3.0
FRU pmax pmax
comp=Z,340nm,1.8s,mb6.1
AAK Ala-Archa 65.26 312 P **P 11 01 15.6 +0.4**
SNR=31
AAK Ala-Archa 65.26 312 ⇓*i*P **P 11 01 11.9 -3.3**
AAK pmax pmax
comp=Z,93nm,1.3s,mb5.7
AAK MLR MLR
comp=Z,7μm,20.0s,MS5.8
AAK Ala-Archa 65.26 312 ⇓*e*P **P 11 01 14.3 -0.9**
comp=Z,136nm,1.4s,mb5.8
AAK LR LR
comp=Z,1μm,19.0s,MS5.2
USP Ospenovka 65.35 313 P **P 11 01 15.2 -0.5**
SNR=30
AML Almayashu 65.78 311 P **P 11 01 19.2 +0.7**
SNR=39
EKS2 Erkin-Say 65.79 312 P **P 11 01 18.9 +0.3**
SNR=33
BOM Bombay 65.83 286 *e*P **P 11 01 19.8 +0.6**
BOM *e*S S 11 10 06.8 +5.7
RAR Rarotonga 66.54 119 P **P 11 01 23.8 +0.2**
comp=Z,28nm,0.8s,mb5.3,baz=207,slow=7.0,SNR=4.3
RAR LR LR 11 27 09.6
comp=Z,5μm,18.1s,MS5.8,baz=296,slow=33
SVW2 Sparrevohn 67.90 28 *e*P **P 11 01 30.4 -1.1**
KDAK Kodiak Island 68.44 32 *e*P **P 11 01 33.8 -1.2**
comp=Z,170nm,1.1s,mb6.0
KDAK LR LR
comp=Z,3μm,20.0s,MS5.5
BHJ Bhuj 68.53 291 ⇓*e* **P 11 01 40.4 +4.3**
BHJ *e* 11 10 47.4
comp=Z,425nm,1.2s
RSO Redoubt South 69.04 29 *e*P **P 11 01 36.9 -1.7**
CHKZ Chkalovo 69.55 323 *e*P **P 11 01 40.8 -1.0**
CHKZ pmax pmax
comp=Z,201nm,1.3s,mb5.9
CHKZ Chkalovo 69.55 323 *e*P **P 11 01 40.8 -1.0**
comp=Z,201nm,1.3s,mb5.9
BVA0 Borovoye Array 69.57 323 P **P 11 01 41.5 -0.5**
BVA0 pmax pmax
comp=Z,27nm,1.0s,mb5.1
BVAR Borovoye Array 69.57 323 P **P 11 01 42.1 +0.1**
comp=Z,79nm,0.7s,mb5.8,baz=109,slow=8.0,SNR=191
BRVK Borovoye 69.64 323 *e*P **P 11 01 41.6 -0.8**
comp=Z,345nm,1.2s,mb6.2
BRVK LR LR
comp=Z,2μm,19.0s,MS5.4
SLKM Skilak Lake 70.27 29 *e*P **P 11 01 44.3 -1.8**
DGAR Diego Garcia 70.39 258 ⇑*i*P **P 11 01 44.8 -2.8**
DGAR Diego Garcia 70.39 258 *e*P **P 11 01 47.6 0.0**
comp=Z,2μm,1.7s,mb6.7
DGAR LR LR
comp=Z,872nm,20.0s,MS5.0
FIB Fire Island 70.44 29 *e*P **P 11 01 47.0 -0.1**
FIB MLR MLR
comp=Z,5μm,21.0s,MS5.7
PMR Palmer 71.03 28 *e*P **P 11 01 48.5 -2.2**
SML Sawmill 71.45 28 *e*P **P 11 01 51.9 -1.3**
MCK McKinley 71.59 26 *e*P **P 11 01 51.7 -2.3**
comp=Z,96nm,1.1s,mb5.6
MCK LR LR
comp=Z,4μm,20.0s,MS5.7
COLA College 72.30 25 P **P 11 01 56.7 -1.5**
COLA pmax pmax
comp=Z,20nm,0.7s,mb5.2
COLA College 72.30 25 *e*P **P 11 01 56.6 -1.6**
EYAK Cordova Ski Ar 72.45 30 *e*P **P 11 01 58.1 -1.0**
DIV Divide 72.53 29 *e*P **P 11 01 59.1 -0.4**
comp=Z,718nm,1.5s,mb6.4
DIV LR LR
comp=Z,19μm,21.0s,MS6.3
ILAR Eielson Array 72.69 25 P **P 11 01 58.4 -2.1**
comp=Z,40nm,0.6s,mb5.5,baz=248,slow=6.1,SNR=507
ILAR LR LR 11 31 08.0
comp=Z,7μm,21.5s,MS5.9,baz=271,slow=34
THY Trims Highway 72.92 27 *e*P **P 11 02 01.3 -0.5**
MENT Mentasta 73.76 27 *e*P **P 11 02 06.6 -0.2**
PPT Papeete 74.37 112 *e*P **P 11 02 13.2 +2.0**
comp=Z,97nm,1.1s,mb5.7
PPT Papeete 74.37 112 *e*LQ 11 21 25.7
PPT *e*LR LR 11 24 26.8
comp=Z,8μm,21.0s,baz=288
PPT Papeete 74.37 112 P **P 11 02 13.0 +1.8**
PPT pmax pmax
comp=Z,54nm,0.7s
PPT Papeete 74.37 112 P **P 11 02 13.0 +1.8**
comp=Z,54nm,0.7s,mb5.6,baz=55,slow=23,SNR=8.7
PAE Paea 74.39 112 *e*P **P 11 02 13.2 +1.9**
comp=Z,144nm,0.9s,mb5.9
TIAR Tiarei 74.58 112 *e*P **P 11 02 14.4 +2.0**
comp=Z,331nm,1.0s,mb6.2
TVO Taravao 74.73 112 *e*P **P 11 02 15.5 +2.2**
comp=Z,94nm,0.7s,mb5.8
PMOR Pomariorio Ree 75.20 109 *e*P **P 11 02 17.8 +1.8**
comp=Z,227nm,1.0s,mb6.0
SVE Sverdlovsk 75.55 326 ⇓*i*P **P 11 02 17.4 +0.2**
SVE *e* pP 11 02 34.5 +4.2
SVE *e* 11 12 19.0
SVE *e*SS SS 11 16 52.0 +4.8
SVE pmax pmax
comp=Z,300nm,1.6s,mb6.0
SVE pmax pmax
comp=Z,460nm,2.0s,mb6.1
SVE pmax pmax
comp=N,9μm,21.0s
SVE pmax pmax
comp=E,2μm,21.0s
SVE MLR MLR
comp=Z,19μm,18.5s,MS6.4
DAWY Dawson 75.81 27 *e*P **P 11 02 18.4 -0.1**
MEH Mehetia 75.83 112 *e*P **P 11 02 21.4 +1.8**
comp=Z,70nm,1.2s,mb5.5
TBI Tubuai 76.22 117 *e*P **P 11 02 22.9 +1.2**
comp=Z,186nm,0.8s,mb6.1
TBI *e*LQ 11 22 41.0
TBI *e*LR LR 11 25 31.1
comp=Z,6μm,26.0s,baz=292
ARU Arti 76.69 326 ⇑*i*P **P 11 02 19.3 -4.4**
ARU *i* pP 11 02 28.4 -8.4
ARU *e* pP 11 02 33.0 -3.8
ARU *i* 11 05 12.0
ARU *e*PPP PPP 11 06 57.1 -8.6
ARU *i*S S 11 12 01.3 -4.3
ARU *i* 11 12 27.3
ARU *i*SS SS 11 16 59.8 -4.9
ARU pmax pmax
comp=Z,90nm,1.0s,mb5.7
ARU MLR MLR
comp=N,5μm,18.0s,MS6.3
ARU MLR MLR
comp=E,11μm,18.0s,MS6.3
ARU MLR MLR
comp=Z,15μm,18.0s,MS6.3
DRV Dumont d'Urvil 77.37 180 P **P 11 02 26.0 -1.3**
SIT Sitka 77.61 34 *e*P **P 11 02 28.2 -0.6**
SIT pmax pmax
comp=Z,105nm,1.1s,mb5.7
SIT MLR MLR
comp=Z,6μm,20.0s,MS5.9
SIT Sitka 77.61 34 *e*P **P 11 02 28.1 -0.6**
comp=Z,105nm,1.1s,mb5.7
SIT LR LR
comp=Z,6μm,20.0s,MS5.9
SOKR Solikamsk 77.63 329 ⇑*i*P **P 11 02 26.8 -2.0**
SOKR pmax pmax
comp=Z,140nm,1.1s,mb5.8
SOKR MLR MLR
comp=Z,15μm,18.0s,MS6.3
INK Inuvik 78.35 22 *e*P **P 11 02 31.3 -1.3**
INK pmax pmax
comp=Z,208nm,1.4s
INK Inuvik 78.35 22 LR LR 11 37 41.9
comp=Z,6μm,20.6s,MS5.9,baz=249,slow=36
INK Inuvik 78.35 22 *e*P **P 11 02 31.3 -1.3**
comp=Z,208nm,1.4s,mb5.9
WBK Wadi Bani Khal 78.39 291 P **P 11 02 34.8 +1.0**
SNR=18
WBK P 11 02 34.8
SNR=18
BIDO Bidbid 79.05 292 P **P 11 02 38.2 +0.8**
SNR=26
BIDO P 11 02 38.2
SNR=26
SMDO Samad 79.18 292 P **P 11 02 38.8 +0.6**
SNR=16
SMDO P 11 02 38.8
SNR=16
JMDO Jabal Madar 79.22 291 P **P 11 02 38.8 +0.4**
SNR=12
JMDO P 11 02 38.8
SNR=12
HOQ Hoqain 79.78 292 P **P 11 02 42.2 +0.8**
SNR=36
HOQ P 11 02 42.2
SNR=36
BSY Bisya 80.00 291 P **P 11 02 42.9 +0.4**
SNR=30
BSY P 11 02 42.9
SNR=30
CASY Casey 80.14 192 *e*P **P 11 02 42.7 +0.3**
comp=Z,766nm,2.0s,mb6.3
CASY LR LR
comp=Z,5μm,20.0s,MS5.8
DLBC Dease Lake 80.38 32 *e*P **P 11 02 44.4 +0.6**
ARQ Araqi 80.53 292 P **P 11 02 46.2 +0.8**
SNR=43
ARQ P 11 02 46.2
SNR=43
TAOE Nuku Hiva Isla 81.07 101 *e*LQ 11 24 21.9
TAOE *e*LR LR 11 28 39.2
baz=281
RBK Rabkut 83.56 287 P **P 11 03 01.9 +0.7**
SNR=94
WHFO Wadi Hawf 83.89 287 P **P 11 03 02.6 -0.2**
SNR=68
WHFO P 11 03 02.6
SNR=68
ABTO Aybut 84.43 287 P **P 11 03 06.0 +0.4**
SNR=84
ABTO P 11 03 06.0
SNR=84
PECR Pechory 84.70 326 *e*P **P 11 03 05.6 -0.4**
PECR *e* 11 06 26.0
PECR *e*S S 11 13 25.0 -3.7
PECR *e* 11 14 16.0
PECR pmax pmax
comp=Z,4μm,10.0s
PECR MLR MLR
comp=Z,5μm,16.0s,MS6.0
MIR Mirnyy 84.73 197 κ*e*P **P 11 03 05.7 -0.2**
MIR *e* 11 06 22.0
MIR *e*PPP PPP 11 08 27.0 +7.2
MIR *e*S S 11 13 32.0 +3.3
MIR pmax pmax
comp=Z,480nm,1.6s,mb6.4
MIR pmax pmax
comp=Z,6μm,9.0s
MIR smax
comp=E,2μm,10.0s
MIR smax
comp=N,2μm,9.2s
MIR MLR MLR
comp=N,2μm,18.0s,MS5.6
MIR MLR MLR
comp=E,2μm,18.0s,MS5.6
MIR MLR MLR
comp=Z,7μm,18.0s,MS6.1
MAK Makhachkala 85.03 313 ⇑*i*P **P 11 03 08.5 +0.5**
MAK *e* 11 06 27.0
MAK *i*S S 11 13 29.8 -2.5
MAK *i*PS PS 11 14 22.0 -13
MAK pmax pmax
comp=Z,400nm,1.5s,mb6.3
MAK pmax pmax
comp=N,2μm,7.0s
MAK pmax pmax
comp=E,2μm,7.0s
MAK pmax pmax
comp=Z,6μm,7.0s
MAK smax
comp=N,9μm,10.5s
MAK smax
comp=E,5μm,10.5s
PGC Sidney 85.69 41 *e*P **P 11 03 12.3 +1.2**
comp=E,135nm,1.0s,mb6.1
LVZ Lovozero 85.94 339 ⇑*e*P **P 11 03 12.1 +0.3**
LVZ *e* 11 13 42.3
LVZ pmax pmax
comp=Z,78nm,1.1s,mb5.8
CPW Capitol Peak 86.23 43 P **P 11 03 15.5 +1.7**
GMW Gold Mountain 86.35 42 P **P 11 03 16.2 +1.9**
APA Apatity 86.50 338 ⇑*i*P **P 11 03 14.3 -0.3**
APA *i* 11 06 39.0
APA *i* 11 13 36.0
APA *i*S S 11 13 46.0 +0.2
APA *e*SS SS 11 19 26.0 -4.1
APA pmax pmax
comp=Z,130nm,1.5s,mb5.9
APA pmax pmax
comp=Z,3μm,7.0s
COR Corvallis 86.61 45 *e*P **P 11 03 17.2 +1.5**
COR pmax pmax
comp=Z,105nm,0.9s,mb6.1
COR MLR MLR
comp=Z,2μm,19.0s,MS5.5
COR Corvallis 86.61 45 *e*P **P 11 03 17.2 +1.5**
comp=Z,105nm,0.9s,mb6.1
COR LR LR
comp=Z,2μm,19.0s,MS5.5
KRMB Red Mountain 86.80 48 *e*P **P 11 03 17.8 +1.1**
RPW Rockport 86.98 41 P **P 11 03 18.1 +0.7**
YKW3 Yellowknife Ar 87.02 27 *e*P **P 11 03 17.4 +0.1**
YKA Yellowknife Ar 87.05 27 P **P 11 03 18.1 +0.7**
comp=Z,37nm,0.7s,mb5.7,baz=288,slow=5.0,SNR=331
YKA PKKP PKKP 11 21 01.8 +7.7
comp=Z,0.4nm,0.8s,baz=105,slow=2.5,SNR=6.8
YKA PKKPbc 11 21 09.4
comp=Z,0.2nm,0.6s,baz=109,slow=2.4,SNR=5.2
YKA LR LR 11 43 10.5
comp=Z,6μm,19.6s,MS6.0,baz=275,slow=36
YKA Yellowknife Ar 87.05 27 P **P 11 03 18.1 +0.7**
YKA PKKP PKKP 11 21 01.9 +7.7
YKA PKKPbc 11 21 09.4
YKA LR LR 11 43 10.4
KHMM Horse Mountain 87.06 49 *e*P **P 11 03 19.7 +1.7**
SSOR Sweet Springs 87.14 45 P **P 11 03 19.8 +1.5**
DUS Dusheti 87.24 312 P **P 11 03 19.3 +0.5**
MTA Mtatsminda 87.25 312 P **P 11 03 19.1 +0.2**
MTA S S 11 13 43.9 -10
HUMO Hull Mountain 87.27 47 *e*P **P 11 03 20.3 +1.4**
comp=Z,104nm,1.4s,mb5.9
HUMO LR LR
comp=Z,5μm,21.0s,MS5.9
TI2 Plekhanov 87.28 312 ⇓*i*P **P 11 03 18.8 -0.2**
TI2 *i* 11 03 23.8
TI2 *i*S S 11 13 45.8 -8.1
TI2 *i*S S 11 13 45.8 -8.1
TI2 pmax pmax
comp=Z,150nm,0.8s,mb6.3
TI2 pmax pmax
comp=Z,3μm,4.0s
TI2 smax
comp=E,2μm,4.0s
GNI Garni 87.61 310 *e*P **P 11 03 21.3 +0.6**
GNI pmax pmax
comp=Z,439nm,1.5s
GNI MLR MLR
comp=Z,4μm,19.0s
GNI Garni 87.61 310 *e*P **P 11 03 21.3 +0.6**
comp=Z,439nm,1.5s,mb6.5
GNI LR LR
comp=Z,4μm,19.0s,MS5.9
YBH Yreka Blue Hor 87.63 48 *e*P **P 11 03 22.3 +1.6**
YBH pmax pmax
comp=Z,89nm,1.3s
YBH MLR MLR
comp=Z,5μm,22.0s
YBH Yreka Blue Hor 87.63 48 *e*P **P 11 03 22.3 +1.6**
comp=Z,89nm,1.3s,mb5.8
YBH LR LR
comp=Z,5μm,22.0s,MS5.9
ZEI Tsey 87.67 313 *e*P **P 11 03 21.0 +0.1**
ZEI *i* *PP pP 11 03 31.5 -2.9
ZEI *i* 11 06 46.7
ZEI *i*S 11 13 45.8
ZEI pmax pmax
comp=Z,167nm,1.4s,mb6.1
STE Stepanavan 87.69 311 *i*P **P 11 03 20.0 -1.0**
STE *e*S S 11 13 50.0 -7.8
GOF Gofitskoye 87.77 315 ⇑*i*P **P 11 03 21.0 -0.3**
GOF *e*S S 11 13 46.0 -12
GOF pmax pmax
comp=Z,200nm,1.4s,mb6.2
KEV Kevo 87.79 341 *e*p **P 11 03 19.6 -1.2**
comp=Z,42nm,0.9s,mb5.7
KEV Kevo 87.79 341 *e*P **P 11 03 19.6 -1.2**
KEV pmax pmax
comp=Z,42nm,0.9s,mb5.7
HOPS Hopland 87.95 51 *e*P **P 11 03 23.0 +0.7**
comp=Z,56nm,1.2s,mb5.7
HOPS LR LR
comp=Z,4μm,19.0s,MS5.9
WDC Whiskeytown Da 88.00 49 *e*P **P 11 03 23.9 +1.4**
WDC pmax pmax
comp=Z,58nm,1.3s,mb5.7
WDC MLR MLR
comp=Z,4μm,19.0s,MS5.8
WDC Whiskeytown Da 88.00 49 *e*P **P 11 03 23.9 +1.3**
comp=Z,58nm,1.3s,mb5.7
WDC LR LR
comp=Z,4μm,19.0s,MS5.8
ONI Oni 88.04 313 P **P 11 03 22.9 +0.3**
ONI S S 11 13 50.5 -10
RES Resolute Bay 88.05 13 *e*P **P 11 03 21.8 -0.2**
RES pmax pmax
comp=Z,1.0nm,0.8s
RES Resolute Bay 88.05 13 *e*P **P 11 03 21.8 -0.2**
comp=Z,0.7nm,0.8s
AKH Akhalkalaki 88.27 312 P **P 11 03 24.2 +0.4**
AKH S S 11 13 53.1 -10
KIV Kislovodsk 88.27 314 P **P 11 03 24.9 +1.2**
comp=Z,216nm,1.3s,mb6.2,SNR=17
KIV Kislovodsk 88.27 314 ⇓*i*P **P 11 03 22.1 -1.6**
KIV pmax pmax
comp=Z,55nm,1.7s,mb5.5
KIV MLR MLR
comp=Z,2μm,18.0s,MS5.7
KIV Kislovodsk 88.27 314 *e*P **P 11 03 23.3 -0.4**
comp=Z,58nm,1.3s,mb5.7
KIV LR LR
comp=Z,990nm,19.0s,MS5.2
MOS Moscow 88.36 327 *e*P **P 11 03 23.4 -0.4**
MOS *e* 11 03 30.0
MOS *e* 11 07 00.4
MOS *e*S 11 13 47.3
MOS *e* 11 14 01.9
MOS pmax pmax
comp=Z,500nm,1.6s,mb6.5
MOS pmax pmax
comp=Z,325nm,1.4s,mb6.4
MOS pmax pmax
comp=N,144nm,1.2s
MOS pmax pmax
comp=E,112nm,1.1s
MOS smax
comp=E,4μm,6.2s
MOS MLR MLR
comp=Z,14μm,19.2s,MS6.4
MOS MLR MLR
comp=E,12μm,19.6s
ARCES ARCESS Array B 88.36 341 P **P 11 03 23.2 -0.4**
ARCES pmax pmax
comp=Z,47nm,0.7s
ARCES MLR MLR
comp=Z,8μm,19.5s
ARCES ARCESS Array B 88.36 341 P **P 11 03 23.2 -0.4**
comp=Z,47nm,0.7s,mb5.9,baz=64,slow=5.6,SNR=112
ARCES LR LR 11 46 16.3
comp=Z,8μm,19.5s,MS6.1,baz=64,slow=38
ARCES ARCESS Array B 88.36 341 P **P 11 03 23.2 -0.4**
ARCES LR LR 11 46 16.3
VIPM Ingram Point 88.50 45 P **P 11 03 26.3 +1.5**
EPH Ephrata 88.50 42 P **P 11 03 25.7 +1.0**
TVAN Van 88.98 309 *i*P **P 11 03 27.4 +0.1**
JOF Joensuu 89.00 334 *e*p **P 11 03 25.0 -1.7**
comp=Z,89nm,1.0s,mb6.0
JOF Joensuu 89.00 334 *e*P **P 11 03 25.0 -1.7**
JOF pmax pmax
comp=Z,89nm,1.0s,mb6.0
OD2 Odessa Site #2 89.07 42 P **P 11 03 28.8 +1.3**
OHCM Honcut 89.08 50 P **P 11 03 28.4 +0.7**
VNDA Vanda 89.09 176 LR LR 11 44 49.0
comp=Z,4μm,18.0s,MS5.9,baz=349,slow=36
OBN Obninsk 89.12 326 ⇓*i*P **P 11 03 24.8 -2.7**
OBN *e* pP 11 03 33.5 -7.5
OBN *i*S 11 13 51.1

OBN *i* 11 14 09.5
OBN *i* PS PS 11 15 14.8 -9.2
OBN *i* SS SS 11 20 09.3 +1.2
OBN pmax pmax
comp=Z,325nm,1.3s,mb6.5
OBN MLR MLR
comp=Z,13μm,20.0s,MS6.4
OBN Obninsk 89.12 326 *e*P **P 11 03 24.9 -2.6**
comp=Z,382nm,1.4s,mb6.5
OBN LR LR
comp=Z,3μm,19.0s,MS5.8
MOD Modoc 89.34 48 *e*P **P 11 03 29.9 +1.0**
comp=Z,97nm,1.3s,mb6.0
MOD LR LR
comp=Z,4μm,19.0s,MS5.8
SAO San Andreas Ge 89.69 53 *e*P **P 11 03 31.9 +1.2**
SAO MLR MLR
comp=Z,4μm,19.0s,MS5.9
SBA Scott Base 89.81 175 *e*P **P 11 03 31.6 +1.3**
SBA pmax pmax
comp=Z,664nm,2.5s,mb6.5
SBA MLR MLR
comp=Z,3μm,19.0s,MS5.7
SBA Scott Base 89.81 175 *e*P **P 11 03 31.6 +1.3**
comp=Z,664nm,2.5s,mb6.5
SBA LR LR
comp=Z,3μm,19.0s,MS5.7
LRV Little Rabbit 90.11 53 *e*P **P 11 03 34.2 +1.6**
ERZM Erzurum 90.19 311 *i* P **P 11 03 33.2 +0.3**
CMB Columbia Colle 90.22 51 *e*P **P 11 03 33.6 +0.5**
CMB pmax pmax
comp=Z,39nm,1.1s,mb5.7
CMB MLR MLR
comp=Z,3μm,19.0s,MS5.8
CMB Columbia Colle 90.22 51 *e*P **P 11 03 33.6 +0.6**
comp=Z,39nm,1.1s,mb5.7
CMB LR LR
comp=Z,3μm,19.0s,MS5.8
WCN Washoe City 90.39 50 *e*P **P 11 03 35.0 +1.2**
WCN pmax pmax
comp=Z,35nm,1.1s,mb5.6
WCN Washoe City 90.39 50 *e*P **P 11 03 35.0 +1.2**
comp=Z,35nm,1.1s,mb5.6
WVOR Wild Horse Val 90.41 47 *e*P **P 11 03 34.7 +0.8**
WVOR pmax pmax
comp=Z,74nm,1.1s,mb5.9
WVOR MLR MLR
comp=Z,6μm,19.0s,MS6.0
WVOR Wild Horse Val 90.41 47 *e*P **P 11 03 34.7 +0.9**
comp=Z,74nm,1.1s,mb5.9
WVOR LR LR
comp=Z,6μm,19.0s,MS6.0
SOC Sochi 90.44 315 *i* P **P 11 03 31.7 -2.3**
SOC *e* 11 07 05.3
SOC *e*PPP PPP 11 09 05.8 -5.0
SOC *e*S 11 14 00.1
SOC *e* 11 14 19.4
SOC *e*PS PS 11 15 32.4 -6.9
SOC *e*SS SS 11 20 21.5 -6.4
SOC *e*SSS SSS 11 24 01.9 -2.1
SOC pmax pmax
comp=Z,42nm,1.4s,mb5.6
SOC pmax pmax
comp=N,9.0nm,0.9s
SOC pmax pmax
comp=E,10.0nm,1.1s
SOC Sochi 90.44 315⇓*i*P **P 11 03 32.5 -1.5**
RAYN Ar Rayn 90.47 294 P **P 11 03 34.4 -0.2**
comp=E,265nm,0.9s,mb6.6,SNR=43
EDM Edmonton 90.65 35 *e*P **P 11 03 35.4 +0.7**
PUL Pulkovo 90.66 332 *de*P **P 11 03 34.3 -0.3**
PUL *e* 11 07 04.7
PUL *e* 11 14 23.7
PUL *e*SP SP 11 15 32.2 -3.0
PUL *e*PS PS 11 15 40.9 -0.6
PUL pmax pmax
comp=Z,147nm,0.3s,mb6.8
PUL pmax pmax
comp=N,125nm,0.5s
PUL pmax pmax
comp=E,198nm,1.0s
PUL MLR MLR
comp=Z,10μm,18.0s,MS6.3
PUL MLR MLR
comp=N,3μm,13.0s,MS6.3
PUL MLR MLR
comp=E,8μm,17.0s,MS6.3
PUL Pulkovo 90.66 332⇑*i*P **P 11 03 33.2 -1.4**
BMO Blue Mountains 90.69 44 *e*P **P 11 03 35.5 +0.4**
BMO pmax pmax
comp=Z,76nm,1.3s,mb5.9
BMO MLR MLR
comp=Z,7μm,20.0s,MS6.1
BMO Blue Mountains 90.69 44 *e*P **P 11 03 35.5 +0.3**
comp=Z,76nm,1.3s,mb5.9
BMO LR LR
comp=Z,7μm,20.0s,MS6.1
BEST Besiri 90.76 309 *i* P **P 11 03 35.0 -0.6**
OMM Old Mammoth Mi 91.39 51 *e*P **P 11 03 40.3 +1.7**
KAF Kangasniemi 91.45 335 *e*p **P 11 03 36.0 -2.2**
comp=Z,98nm,1.0s,mb6.1
KAF Kangasniemi 91.45 335 *e*P **P 11 03 36.0 -2.2**
KAF pmax pmax
comp=Z,98nm,1.0s,mb6.1
DAG Danmarks Havn 91.65 355⇓*i*P **P 11 03 39.0 +0.1**
DAG pmax pmax
comp=Z,28nm,1.0s,mb5.5
DAG Danmarks Havn 91.65 355⇓*i*P **P 11 03 39.0 +0.1**
comp=Z,28nm,1.0s,mb5.5
WALA Waterton Lakes 91.66 39 *e*P **P 11 03 41.3 +1.8**
comp=Z,174nm,1.7s,mb6.1
ANN Anapa 91.68 316 *e*P **P 11 03 38.0 -1.7**
ANN *i* *PP pP 11 03 55.0 +1.7
ANN *e*S 11 14 05.7
ANN *e*SS SS 11 20 53.9 +8.7
ANN pmax pmax
comp=Z,150nm,1.3s,mb6.2
NVAR Mina Array Bea 91.70 50 P **P 11 03 41.7 +1.7**
comp=Z,26nm,0.7s,mb5.7,baz=262,slow=6.4,SNR=125
NVAR LR LR 11 40 37.1
comp=Z,2μm,19.6s,MS5.6,baz=290,slow=33
MNV Mina 91.82 50 *e*P **P 11 03 41.6 +1.1**
MNV pmax pmax
comp=Z,60nm,1.3s,mb5.8
MNV MLR MLR
comp=Z,3μm,20.0s,MS5.7
MNV Mina 91.82 50 *e*P **P 11 03 41.6 +1.1**
comp=Z,60nm,1.3s,mb5.8
MNV LR LR
comp=Z,3μm,20.0s,MS5.7
FINES FINESS Array B 91.85 334 *i* P **P 11 03 38.6 -1.5**
FINES pmax pmax
comp=Z,48nm,0.7s
FINES FINESS Array B 91.85 334 P **P 11 03 38.6 -1.5**
comp=Z,48nm,0.7s,mb6.0,baz=78,slow=4.9,SNR=90
FINES LR LR 11 50 17.7
comp=Z,7μm,18.3s,MS6.2,baz=65,slow=39
BMN Battle Mountai 91.97 48 *e*P **P 11 03 42.0 +0.8**
BMN pmax pmax
comp=Z,90nm,1.7s,mb5.8
BMN MLR MLR
comp=Z,4μm,19.0s,MS5.9
BMN Battle Mountai 91.97 48 *e*P **P 11 03 42.0 +0.9**
comp=Z,90nm,1.7s,mb5.8
BMN LR LR
comp=Z,4μm,19.0s,MS5.9
ELZG Elazig 92.34 310 *i* P **P 11 03 43.5 +0.6**
TPH Tonopah 92.62 51 *e*P **P 11 03 45.8 +1.6**
TPH pmax pmax
comp=Z,40nm,1.0s,mb5.8
TPH MLR MLR
comp=Z,2μm,20.0s,MS5.7
TPH Tonopah 92.62 51 *e*P **P 11 03 45.8 +1.6**
comp=Z,40nm,1.0s,mb5.8
TPH LR LR
comp=Z,2μm,20.0s,MS5.7
MALT Malatya 92.82 310 *e*P **P 11 03 45.4 +0.3**
MALT pmax pmax
comp=Z,128nm,1.5s,mb6.1
MALT Malatya 92.82 310 *e*P **P 11 03 45.4 +0.2**
comp=Z,128nm,1.5s,mb6.1
DAC Darwin (Calif) 92.82 52 *e*P **P 11 03 46.9 +1.7**
comp=Z,37nm,0.9s,mb5.8
DAC LR LR
comp=Z,4μm,19.0s,MS5.9
VSU Vasula 92.89 331⇑*i*P **P 11 03 43.4 -1.5**

HLID Hailey 93.06 45 *e*P **P 11 03 47.3 +1.3**
comp=Z,36nm,1.1s,mb5.7
HLID LR LR
comp=Z,7μm,20.0s,MS6.1
MCMT McKenzie Canyo 93.72 43 *e*P **P 11 03 50.2 +1.2**
GZT Gaziantep 93.74 309 *i* P **P 11 03 49.1 -0.2**
HRY Holter Researc 93.76 41 *e*P **P 11 03 50.0 +0.8**
PTCN Pitcairn Islan 93.77 115 PFAKE 11 04 00.0 +10
PTCN LR LR
comp=Z,4μm,20.0s,MS5.9
TRCR Troy Canyon 93.78 50 *e*P **P 11 03 50.9 +1.4**
SIM Simferopol' 93.87 317 *e*P **P 11 03 48.5 -1.2**
SIM *e* 11 07 38.0
SIM *e* 11 14 24.0
SIM *i* S S 11 14 57.0 +3.9
SIM *e*PS PS 11 16 11.0 -7.6
SIM *e*SS SS 11 21 14.0 -2.9
SIM pmax pmax
comp=Z,810nm,15.2s
SIM Simferopol' 93.87 317 *e*P **P 11 03 49.6 -0.1**
KAHT Ahir Dag 94.19 309 *i* P **P 11 03 50.6 -0.7**
BOZ Bozeman (W) 94.26 42 *e*P **P 11 03 52.3 +0.9**
BOZ *e* 11 07 37.1
BOZ pmax pmax
comp=Z,43nm,1.3s,mb5.7
BOZ MLR MLR
comp=Z,5μm,21.0s,MS6.0
BOZ Bozeman (W) 94.26 42 *e*P **P 11 03 52.3 +0.9**
comp=Z,44nm,1.3s,mb5.7
BOZ *e*PP PP 11 07 37.1 -4.3
BOZ LR LR
comp=Z,5μm,21.0s,MS6.0
PFO Pinyon Flat Ob 94.45 55 *e*P **P 11 03 53.5 +0.9**
comp=Z,27nm,1.0s,mb5.6
PFO LR LR
comp=Z,1μm,19.0s,MS5.4
BOYT Boyabat 94.48 313 *i* P **P 11 03 49.2 -3.3**
QLMT Earthquake Lak 94.67 43 *e*P **P 11 03 55.0 +1.7**
HVU Hansel Valley 94.77 46 *e*P **P 11 03 54.9 +1.0**
CTKT Corum 94.81 313 *i* P **P 11 03 51.9 -2.2**
AKASG Malin Array Be 94.84 324 P **P 11 03 52.2 -1.8**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 94.84 324 P **P 11 03 52.1 -1.8**
comp=Z,4.8nm,0.8s,mb5.0,baz=55,slow=4.4,SNR=36
BGU Big Grassy Mou 94.87 47 *e*P **P 11 03 55.2 +0.8**
YMR Madison River 95.04 43 *e*P **P 11 03 56.4 +1.4**
NEN Nelson 95.14 52 *e*P **P 11 03 56.6 +0.9**
SPUT South Promonto 95.16 46 *e*P **P 11 03 56.7 +1.0**
SPUT PP PP 11 07 48.9 +0.9
YFT Old Faithful 95.20 43 *e*P **P 11 03 58.9 +3.1**
YNR Norris Junctio 95.21 43 *e*P **P 11 03 58.2 +2.3**
IMW Indian Meadow 95.33 44 *e*P **P 11 03 58.0 +1.6**
IMW *e*PP PP 11 07 47.3 -1.9
MAW Mawson 95.44 202⇓*i*P **P 11 03 57.0 +0.7**
comp=Z,35nm,0.9s,mb5.8
MAW Mawson 95.44 202⇓*i*P **P 11 03 57.0 +0.7**
MAW pmax pmax
comp=Z,35nm,0.9s
MAW Mawson 95.44 202 P **P 11 03 56.3 -0.1**
comp=Z,21nm,0.9s,mb5.6,baz=85,slow=6.5,SNR=24
MAW LR LR 11 46 38.2
comp=Z,5μm,18.1s,MS6.0,baz=73,slow=35
MOOW Moose Ponds 95.51 44 *e*P **P 11 03 58.3 +1.1**
MOOW *e*PP PP 11 07 48.7 -2.0
BALT Daday 95.52 314 *i* P **P 11 03 51.0 -6.3**
WUWY Wally Ulrich 95.58 44 *e*P **P 11 03 58.7 +1.2**
WUWY *e*PP PP 11 07 47.2 -4.2
SNOW Snow King Moun 95.60 44 *e*P **P 11 03 58.9 +1.3**
NOQ North Oquirrh 95.61 47 *e*P **P 11 03 58.4 +0.7**
LOHW Long Hollow 95.65 44 *e*P **P 11 03 59.1 +1.2**
LOHW *e*PP PP 11 07 49.0 -2.9
JMIC Jan Mayen 95.69 350 LR LR 11 44 21.0
comp=Z,2μm,21.3s,MS5.6,baz=209,slow=34
ELDT Eldivan 95.84 313 *i* P **P 11 03 57.9 -0.9**
NLU North Lily Min 95.87 48 *e*P **P 11 03 59.4 +0.5**
BRTR Keskin Array B 95.94 312 P **P 11 03 58.6 -0.6**
BRTR pmax pmax
comp=Z,8.0nm,0.9s
BRTR Keskin Array B 95.94 312 P **P 11 03 58.5 -0.7**
comp=Z,8.0nm,0.9s,mb5.1,baz=90,slow=3.7,SNR=29
TCUT Toone Canyon 95.96 46 *e*P **P 11 04 00.3 +1.0**
TCUT *e*PP PP 11 07 52.9 -1.5
JLU Jordanelle 96.11 47 *e*P **P 11 04 00.9 +0.9**
JLU *e*PP PP 11 07 55.0 -0.6
MPU Maple Canyon 96.17 47 *e*P **P 11 04 01.4 +1.1**
MPU *e*PP PP 11 07 54.8 -1.3
FFC Flin Flon 96.18 31 *e*P **P 11 04 00.1 +0.2**
FFC pmax pmax
comp=Z,25nm,1.0s,mb5.6
FFC Flin Flon 96.18 31 *e*P **P 11 04 00.1 +0.1**
comp=Z,25nm,1.0s,mb5.6
MVU Marysvale 96.25 49 *e*P **P 11 04 02.2 +1.6**
comp=Z,30nm,1.5s,mb5.5
MVU LR LR
comp=Z,3μm,19.0s,MS5.8
MSU Marysvale 96.27 49 *e*P **P 11 04 02.0 +1.2**
DAU Daniels Canyon 96.31 47 *e*P **P 11 04 02.1 +1.2**
DAU *e* 11 07 54.2
KIS Kishinev 96.56 320 *e*P **P 11 04 04.0 +2.1**
KIS *e* 11 08 00.0
KIS *e* 11 14 36.0
KIS *e* 11 15 18.0
BW06 Boulder Array 96.67 44 *e*P **P 11 04 02.8 +0.3**
comp=Z,19nm,1.5s,mb5.3
BW06 LR LR
comp=Z,4μm,20.0s,MS5.9
PDAR Pinedale Array 96.67 44 P **P 11 04 03.1 +0.6**
comp=Z,1.5nm,0.6s,baz=242,slow=2.1,SNR=16
PDAR PP PP 11 07 57.1 -2.9
comp=Z,2.9nm,0.9s,baz=313,slow=3.6,SNR=5.4
PDAR PKKPbc 11 20 47.5
comp=Z,1.2nm,0.8s,baz=123,slow=4.2,SNR=6.5
PDAR LR LR 11 48 06.7
comp=Z,3μm,18.6s,baz=314,slow=36
SUW Suwalki 96.70 328 *e*P **P 11 04 01.0 -1.3**
SUW MLR MLR 11 52 52.2
comp=Z,10μm,16.5s,MS6.4
SRU San Rafael 97.29 48 *e*P **P 11 04 05.7 +0.3**
SRU *e* 11 08 03.1
LAO LASA Array 97.34 40 *e*P **P 11 04 06.5 +1.0**
comp=Z,55nm,0.9s,mb6.0
LAO *e*PP PP 11 08 03.6 -1.7
LAO LR LR
comp=Z,5μm,21.0s,MS6.0
HFS Hagfors 97.68 336 P **P 11 04 05.9 -0.8**
HFS pmax pmax
comp=Z,4.0nm,0.6s
HFS Hagfors 97.68 336 P **P 11 04 05.9 -0.8**
comp=Z,4.4nm,0.6s,mb5.2,baz=90,slow=3.0,SNR=11
DGMT Dagmar 97.83 37 *e*P **P 11 04 06.8 -0.8**
comp=Z,50nm,1.3s,mb5.9
DGMT LR LR
comp=Z,12μm,21.0s,MS6.4
NB2 NORSAR Subarra 98.06 338 P **P 11 04 06.4 -1.9**
comp=Z,7.4nm,0.8s,mb5.3,baz=48,slow=4.8
NOA NORSAR Array B 98.06 338 P **P 11 04 06.5 -1.8**
comp=Z,2.9nm,0.7s,mb4.9,baz=53,slow=4.4,SNR=8.8
NOA PKKPbc 11 20 43.0
comp=Z,2.1nm,0.8s,baz=93,slow=3.1,SNR=3.6
NOA LR LR 11 55 10.3
comp=Z,7μm,18.1s,MS6.2,baz=20,slow=40
LVV L'vov 98.22 324 *e*P **P 11 04 07.5 -1.9**
VRI Vrincioaia 98.34 320⇑P **P 11 04 10.5 +0.5**
BURAR Bucovina Array 98.52 322⇓P **P 11 04 10.2 -0.6**
ISP Isparta 98.89 311 *e*P **P 11 04 10.1 -2.6**
MLR Muntele Rosu 99.00 320⇑P **P 11 04 13.7 +0.7**
KWP Kalwaria 99.07 324 *e*P **P 11 04 12.7 -0.5**
KWP MLR MLR 11 49 04.9
comp=Z,8μm,24.0s,MS6.1
TUC Tucson 99.38 55 *e*P **P 11 04 15.6 +0.5**
TUC *e* 11 08 18.4
TUC pmax pmax
comp=Z,9.0nm,1.4s,mb5.1
TUC MLR MLR
comp=Z,4μm,19.0s,MS5.9
TUC Tucson 99.38 55 *e*Pdif **P 11 04 15.6 +0.5**
comp=Z,9.0nm,1.4s,mb5.1
TUC *e*PP PP 11 08 18.4 -2.6
TUC LR LR
comp=Z,4μm,19.0s,MS5.9
KONO Kongsberg 99.58 337 PFAKE 11 04 30.0 +15
KONO LR LR
comp=Z,11μm,20.0s,MS6.3

KOLS Kolonicke sedl 99.66 324 *e*P **P 11 04 16.0 +0.1**
KOLS Kolonicke sedl 99.66 324 PDIF **P 11 04 16.0 +0.1**
PHWY Pilot Hill 100.05 44 *e*Pdif P 11 04 18.9 +1.0
GKP Gorka Klasztor 100.11 329 *e*P P 11 04 17.3 -0.6
GKP MLR MLR 11 55 49.6
comp=Z,11μm,16.6s,MS6.5
CRVS Cervenica-Dubn 100.14 324 *e*P P 11 04 20.1 +2.0
CRVS Cervenica-Dubn 100.14 324 PDIF P 11 04 20.1 +2.0
OJC Ojcow 100.41 326 *e*P P 11 04 17.3 -2.0
OJC ⇑*e*SKSa 11 14 54.9
OJC MLR MLR 11 53 17.3
comp=Z,13μm,19.4s,MS6.5
ISCO Idaho Springs 100.55 46 *e*P P 11 04 21.6 +1.4
ISCO pmax pmax
comp=Z,12nm,1.5s
ISCO MLR MLR
comp=Z,5μm,20.0s,MS6.0
ISCO Idaho Springs 100.55 46 *e*Pdif P 11 04 21.6 +1.4
comp=Z,12nm,1.5s
ISCO LR LR
comp=Z,5μm,20.0s,MS6.0
QSPA South Pole Qui 100.77 180⇑*i*P P 11 04 22.1 +1.8
comp=Z,301nm,2.3s
KECS Kecovo 100.91 324 *e*P P 11 04 20.8 -0.8
KECS Kecovo 100.91 324 PDIF P 11 04 20.8 -0.8
SDCO Great Sand Dun 101.45 48 *e*Pdif P 11 04 25.2 +0.9
comp=Z,8.1nm,1.5s
SDCO LR LR
comp=Z,4μm,20.0s,MS5.9
OKC Ostrava-Krasne 101.51 326 *e*P P 11 04 23.8 -0.4
OKC *e* 11 08 42.7
OKC *e* 11 15 01.5
OKC *e*SP SP 11 17 39.8 +6.3
OKC *e*PS tx 11 18 18.4
OKC MLR MLR
comp=Z,16μm,17.8s,MS6.6
OKC Ostrava-Krasne 101.51 326 *e*PDIF P 11 04 23.8 -0.4
OKC *e*PP PP 11 08 42.7 +5.6
OKC *e*SKS SKS 11 15 01.5 +3.1
OKC *e*SP SP 11 17 39.8 +6.3
OKC *e*x x 11 18 18.4
OKC *e*x x 11 23 23.3
OKC AMS AMS 11 54 00.0
comp=Z,16μm,17.8s
PSZ Piszkesteto 101.53 324 *e*P P 11 04 23.9 -0.5
PSZ pmax pmax
comp=Z,29nm,1.4s
PSZ Piszkesteto 101.53 324 *e*Pdif P 11 04 23.9 -0.5
comp=Z,29nm,1.4s
ANMO Albuquerque 101.83 51 *e*P P 11 04 27.2 +1.2
ANMO pmax pmax
comp=Z,4.0nm,1.2s
ANMO MLR MLR
comp=Z,3μm,19.0s
ANMO Albuquerque 101.83 51 *e*Pdif P 11 04 27.2 +1.1
comp=Z,4.3nm,1.2s
ANMO LR LR
comp=Z,3μm,19.0s,MS5.9
VYHS Vyhne 101.84 325 *i* P P 11 04 25.8 0.0
VYHS Vyhne 101.84 325 PDIF P 11 04 25.8 0.0
KSP Ksiaz 101.95 328 *e*P P 11 04 25.9 -0.3
KSP *e* 11 08 39.0
KSP *e* 11 15 03.0
KSP *e*S S 11 16 08.0 +7.0
KSP *e*SP SP 11 17 35.0 -2.9
KSP MLR MLR
comp=Z,27μm,17.6s,MS6.8
KSP Ksiaz 101.95 328 *e*P P 11 04 25.9 -0.3
KSP *e*PP PP 11 08 39.0 -1.1
KSP *e*SKS SKS 11 15 03.0 +2.5
KSP *e*S S 11 16 08.0 +7.0
KSP *e*SP SP 11 17 35.0 -2.9
KSP *e*SS SS 11 22 57.0 -13
KSP LR LR
comp=Z,27μm,17.6s,MS6.8
KSP Ksiaz 101.95 328 *e*P P 11 04 25.5 -0.7
KSP MLR MLR 11 55 06.2
comp=Z,22μm,17.5s,MS6.7
VTS Vitosha 102.06 318⇑P Pdif 11 04 25.8 -1.1
DPC Dobruska-Polom 102.22 327 *e*P Pdif 11 04 27.5 +0.1
DPC *e* 11 08 46.7
DPC *e* 11 15 07.1
DPC *e*SP SP 11 17 34.8 -5.9
DPC *e*PS tx 11 18 37.8
DPC *e*SS SS 11 23 26.7 +13
DPC MLR MLR
comp=Z,15μm,19.1s,MS6.5
DPC Dobruska-Polom 102.22 327 *e*PDIF Pdif 11 04 27.5 +0.1
DPC *e*x x 11 04 53.5
DPC *e*PP PP 11 08 46.7 +4.5
DPC *e*SKS SKS 11 15 07.1 +5.4
DPC *e*SP SP 11 17 34.8 -5.9
DPC *e*x x 11 18 37.8
DPC *e*SS SS 11 23 26.7 +13
DPC AMS AMS 11 53 40.0
comp=Z,15μm,19.1s
UPC Upice 102.29 328 *e*PDIF Pdif 11 04 27.6 -0.1
ZST Bratislava 102.98 325 *e*PP PP 11 08 41.9 -6.5
PVCC Panska Ves 103.03 328 *e*PDIF Pdif 11 04 31.2 +0.2
PVCC *e*PP PP 11 08 52.8 +4.1
PVCC *e*SKS SKS 11 15 10.3 +4.7
PVCC *e*SP SP 11 17 57.1 +7.4
PVCC *e*x x 11 18 40.2
PVCC *e*SS SS 11 23 20.7 -4.3
PVCC AMS AMS 11 55 30.0
comp=Z,14μm,17.5s
BRG Berggiesshubel 103.15 329 *e*P Pdif 11 04 31.3 -0.2
BRG pmax pmax
comp=Z,33nm,1.4s
BRG Berggiesshubel 103.15 329 *e*Pdif Pdif 11 04 31.3 -0.2
comp=Z,33nm,1.4s
PRU Pruhonice 103.36 328 *e*PDIF Pdif 11 04 32.6 +0.2
PRU *e*PP PP 11 08 54.4 +3.4
PRU *e*SKS SKS 11 15 12.7 +5.6
PRU *e*SP SP 11 17 54.1 +1.1
PRU *e*x x 11 18 46.4
PRU *e*SS SS 11 23 27.7 -1.5
PRU AMS AMS 11 55 20.0
comp=Z,14μm,19.1s
CLL Collm 103.37 329⇓*i*P Pdif 11 04 31.0 -1.4
CLL pmax pmax
comp=Z,30nm,1.4s
CLL MLR MLR
comp=Z,12μm,15.4s,MS6.5
CLL Collm 103.37 329⇓*i*P Pdif 11 04 31.0 -1.4
comp=Z,30nm,1.4s
CLL *e* 11 04 39.0
CLL LR LR
comp=Z,12μm,15.4s,MS6.5
CLL Collm 103.37 329⇓*i*PDIF Pdif 11 04 31.0 -1.4
CLL *e* 11 04 39.0
CLL *i* 11 07 43.8
CLL *e*PP PP 11 08 52.0 +1.0
CLL *e* 11 09 03.0
CLL *e*PS PS 11 17 54.0 -4.5
CLL *e*PPS PPS 11 18 42.0 -10
CLL *e*SS SS 11 23 48.0 +19
PRA Prague 103.37 328 AMS AMS 11 56 00.0
KMBO Kilima Mbogo 103.49 271 *e*P Pdif 11 04 34.5 +0.6
KMBO pmax pmax
comp=Z,13nm,1.5s
KMBO MLR MLR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 103.49 271 Pdiff Pdif 11 04 34.6 +0.7
comp=Z,0.8nm,0.6s,baz=48,slow=22,SNR=7.5
KMBO Kilima Mbogo 103.49 271 *e*Pdif Pdif 11 04 34.5 +0.6
comp=Z,13nm,1.5s
KMBO LR LR
comp=Z,2μm,20.0s,MS5.6
SKO Skopje 103.51 318 *i* P Pdif 11 04 32.5 -0.8
MNTX Cornudas Mount 103.89 53 *e*Pdif Pdif 11 04 36.5 +1.3
comp=Z,16nm,1.5s
MNTX LR LR
comp=Z,3μm,19.0s,MS5.9
SYO Syowa Base 104.13 201⇑Pdiff Pdif 11 04 35.6 +0.2
SYO Syowa Base 104.13 201⇓PP PP 11 08 55.8 -0.3
NKC Novy Kostel 104.30 329 *e*PDIF Pdif 11 04 36.5 -0.1
NKC *e*PP PP 11 09 01.4 +3.5
NKC *e*SKS SKS 11 15 17.6 +6.2
NKC *e*SP SP 11 18 04.0 +1.6
NKC *e*x x 11 19 02.6
NKC *e*SS SS 11 23 43.6 +1.9
NKC AMS AMS 11 54 10.0

comp=Z,8μm,19.6s
KHC Kasperske Hory 104.37 327 *e*P Pdif 11 04 36.8 -0.1
KHC *e* 11 09 02.8
KHC *e* 11 15 17.2
KHC *e*SP SP 11 18 07.2 +4.1
KHC *e*PS tx 11 18 57.5
KHC *e*SS SS 11 23 49.8 +7.0
KHC MLR MLR
comp=Z,14μm,20.2s,MS6.5
KHC Kasperske Hory 104.37 327 *e*PDIF Pdif 11 04 36.8 -0.1
KHC *ex* x 11 05 06.8
KHC *e*PP PP 11 09 02.8 +4.3
KHC *e*SKS SKS 11 15 17.2 +5.5
KHC *e*SP SP 11 18 07.2 +4.1
KHC *ex* x 11 18 57.5
KHC *e*SS SS 11 23 49.8 +7.0
KHC AMS AMS 11 55 40.0
comp=Z,14μm,20.2s
MOX Moxa 104.47 329 *e*P Pdif 11 04 37.7 +0.4
MOX pmax pmax
comp=Z,28nm,1.5s
MOX MLR MLR
comp=Z,7μm,18.0s,MS6.3
MOX Moxa 104.47 329 *e*P Pdif 11 04 37.7 +0.4
comp=Z,28nm,1.5s
MOX *e*PS PS 11 18 06.0 -3.5
MOX LR LR
comp=Z,7μm,18.0s,MS6.3
MOX Moxa 104.47 329 *i* P Pdif 11 04 37.7 +0.4
comp=Z,logA/T=1.3
MOX PS PS 11 18 06.0 -3.5
MOX L 11 57 42.0
GERES GERESS Array B 104.48 327 P Pdif 11 04 37.3 -0.1
GERES 11 08 54.9
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES GERESS Array B 104.48 327 Pdiff Pdif 11 04 37.3 0.0
comp=Z,3.2nm,0.8s,baz=45,slow=3.8,SNR=17
GERES PP PP 11 08 54.9 -4.4
comp=Z,0.8nm,0.6s,baz=90,slow=2.7,SNR=4.1
GERES PKKPbc 11 20 23.7
comp=Z,1.3nm,0.7s,baz=225,slow=3.8,SNR=7.4
GERES PKKPab 11 20 43.7
comp=Z,1.0nm,0.8s,baz=270,slow=2.7,SNR=3.8
GRA1 Grafenberg Arr 105.26 329 *e*Pdif Pdif 11 04 41.1 +0.3
GRA1 LR LR
comp=Z,10μm,19.0s,MS6.4
GRF Grafenberg Arr 105.26 329 *e*P Pdif 11 04 41.1 +0.3
GRF MLR MLR
comp=Z,10μm,19.0s,MS6.4
AMTX Amarillo 105.44 49 PFAKE 11 09 10.0
AMTX LR LR
comp=Z,3μm,20.0s,MS5.9
TXAR Lajitas Array 106.16 55 Pdiff Pdif 11 04 46.2 +1.0
comp=Z,0.9nm,1.0s,baz=252,slow=4.0,SNR=7.0
TXAR PP PP 11 08 59.0 -13
comp=Z,0.9nm,0.7s,baz=288,slow=1.4,SNR=4.7
TXAR PKKPbc 11 20 20.2
comp=Z,1.1nm,0.8s,baz=126,slow=5.2,SNR=5.9
TXAR PKKPab 11 20 35.0
comp=Z,2.0nm,0.9s,baz=124,slow=4.5,SNR=8.3
TXAR Lajitas Array 106.16 55 Pdif Pdif 11 04 46.2 +1.0
TXAR PP PP 11 08 59.0 -13
TXAR PKKPbc 11 20 20.2
TXAR PKKPab 11 20 35.0
KSU1 Kansas State U 107.08 43 *e*PKP 11 08 59.3
EKA Eskdalemuir Ar 107.42 339 PP PP 11 09 18.9 -2.4
comp=Z,5.9nm,1.0s,baz=45,slow=5.9,SNR=4.4
ESK Eskdalemuir 107.45 339 PFAKE 11 09 10.0
ESK LR LR
comp=Z,848nm,19.0s,MS5.3
WMOK Wichita Mounta 107.65 48 PFAKE 11 09 10.0
WMOK LR LR
comp=Z,4μm,20.0s,MS6.0
CDF Champ du Feu 108.07 329 *e*P Pdif 11 04 47.2 -6.0
GIVF Givet 108.10 332 *e*P Pdif 11 04 48.3 -5.0
JCT Junction City 108.76 53 *e*PKP 11 09 02.6
JCT LR LR
comp=Z,4μm,19.0s,MS6.0
JFWS Jewell Farm 109.04 37 PFAKE 11 09 10.0
JFWS LR LR
comp=Z,10μm,21.0s,MS6.4
MBAR Mbarara 109.78 273 PFAKE 11 09 20.0
MBAR LR LR
comp=Z,435nm,22.0s,MS5.0
CABF La Chapelle 109.87 329 *e*P Pdif 11 04 55.1 -6.1
LPG La Plagne 110.27 327 *e*P Pdif 11 04 58.4 -4.5
SCHQ Schefferville 110.50 17 PKKPbc 11 20 03.9
comp=Z,2.9nm,0.8s,baz=97,slow=7.9,SNR=6.8
MBDF Montbardon 110.76 327 *e*P Pdif 11 05 00.0 -5.1
PGF Pioggiola 110.91 324 *e*P Pdif 11 05 01.6 -4.2
comp=Z,36nm,1.2s
SBF Sospel 110.96 326 *e*P Pdif 11 05 00.0 -6.0
ORIF Oris-en-Rattie 111.11 327 *e*P Pdif 11 05 02.2 -4.5
ORIF *e*R
comp=Z,14μm,18.5s
AVF Avril sur Loir 111.12 330 *e*P Pdif 11 05 00.4 -6.2
comp=Z,13nm,1.0s
CCM Cathedral Cave 111.20 42 *e*PKIKP PKPdf 11 09 06.1 +1.3
CCM MLR MLR
comp=Z,734nm,20.0s,MS5.3
MIAR Mount Ida 111.49 46 *e*PKIKP PKPdf 11 09 07.7 +2.3
MIAR MLR MLR
comp=Z,6μm,19.0s,MS6.2
TCF Toulx Ste Croi 112.03 330 *e*P Pdif 11 05 06.4 -4.3
HKT Hockley 112.07 51 PFAKE 11 09 20.0 +13
HKT LR LR
comp=Z,917nm,19.0s,MS5.4
NATX Nacogdoches 112.09 49 PFAKE 11 09 20.0 +13
NATX LR LR
comp=Z,5μm,19.0s,MS6.1
RJF Les Rejaudoux 113.08 330 *e*P Pdif 11 05 10.5 -4.8
RJF *e*R
comp=Z,10μm,22.0s
AAM Ann Arbor 113.22 34 PFAKE 11 09 20.0 +11
AAM LR LR
comp=Z,12μm,21.0s,MS6.5
BLO Bloomington 113.54 39 *e*PKIKP PKPdf 11 09 10.7 +1.4
WCI Wyandotte Cave 114.27 39 *e*PKIKP PKPdf 11 09 12.2 +1.4
WCI MLR MLR
comp=Z,1μm,21.0s,MS5.5
OXF Oxford 114.41 44 PFAKE 11 09 20.0 +8.8
OXF LR LR
comp=Z,4μm,19.0s,MS6.1
LSZ Lusaka 114.41 258 *e*PKIKP PKPdf 11 09 13.6 +2.0
LSZ MLR MLR
comp=Z,2μm,20.0s,MS5.8
WVT Waverly 114.54 42 *e*PKIKP PKPdf 11 09 12.2 +0.8
WVT MLR MLR
comp=Z,4μm,20.0s,MS6.0
ACSO Alum Creek Sta 114.97 36 *e*PKP PKPdf 11 09 13.4 +1.2
ACSO LR LR
comp=Z,16μm,21.0s,MS6.6
ERPA Erie 115.33 33 PFAKE 11 09 30.0 +17
ERPA LR LR
comp=Z,5μm,19.0s,MS6.2
SNAA Sanae 115.38 192 *e* PKPdf 11 09 13.8 +1.6
EBIE Bielsa 115.65 329 PKP PKPdf 11 09 18.6 +5.2
EPOB Poblet 116.11 327 PKP PKPdf 11 09 10.9 -3.4
ERTA Horta de San J 116.79 327 PKP PKPdf 11 09 17.1 +1.5
NCB Newcomb 116.79 28 *e*PKPdf PKPdf 11 09 16.8 +1.2
NCB LR LR
comp=Z,4μm,22.0s,MS6.0
VNA2 Neumayer--Watz 116.87 191 *e* PKPdf 11 09 17.0 +1.9
VNA2 Neumayer--Watz 116.87 191 ⇑*i*P PKPdf 11 09 15.4 +0.3
VNA2 *e* 11 09 17.0
LRAL Lakeview Retre 116.90 44 *e*PKPdf PKPdf 11 09 17.4 +1.4
LRAL LR LR
comp=Z,5μm,19.0s,MS6.2
ELAN Lanestosa 117.00 331 PKP PKPdf 11 09 17.0 +1.0
VNA3 Neumayer Olymp 117.02 190 *e* PKPdf 11 09 16.8 +1.5
VNA3 Neumayer Olymp 117.02 190 ⇑*i*P PKPdf 11 09 14.8 -0.5
VNA3 *e* 11 09 16.8
MCWV Mont Chateau 117.13 34 *e*PKPdf PKPdf 11 09 17.6 +1.3
MCWV LR LR
comp=Z,14μm,21.0s,MS6.5
VNA1 Neumayer--Stat 117.26 191 *e* PKPdf 11 09 18.3 +2.5
VNA1 Neumayer--Stat 117.26 191 ⇑*i*P PKPdf 11 09 16.2 +0.4
VNA1 *e* 11 09 18.3
BINY Binghamton 117.31 30 *e*PKPdf PKPdf 11 09 18.0 +1.4
BINY LR LR
comp=Z,6μm,19.0s,MS6.2
BOSA Boshof 117.49 243 *e*PKIKP PKPdf 11 09 19.2 +2.0
BOSA MLR MLR
comp=Z,1μm,19.0s,MS5.5
MYNC Murphy 117.58 41 *e*PKIKP PKPdf 11 09 18.7 +1.5
MYNC MLR MLR
comp=Z,5μm,20.0s,MS6.1
EMOS Mosqueruela 117.64 327 PKP PKPdf 11 09 21.3 +4.1
EARI Arriondas 117.77 333 PKP PKPdf 11 09 18.4 +1.1
WVL Waterville 118.28 24 PFAKE 11 09 30.0 +12
WVL LR LR
comp=Z,19μm,22.0s,MS6.7
EPON Pontenova 118.60 334 PKP PKPdf 11 09 19.9 +0.9
EBEN Beniarda 118.69 326 PKP PKPdf 11 09 30.7 +11
EMMW East Machias 119.02 23 PFAKE 11 09 30.0 +10
EMMW LR LR
comp=Z,15μm,19.0s,MS6.7
GOGA Godfrey 119.04 42 *e*PKIKP PKPdf 11 09 21.9 +1.7
GOGA MLR MLR
comp=Z,5μm,22.0s,MS6.1
HRV Harvard--Oak R 119.15 27 PFAKE 11 09 30.0 +10
HRV LR LR
comp=Z,4μm,20.0s,MS6.0
EINC Incio 119.23 333 PKP PKPdf 11 09 22.9 +2.6
GUD Guadarrama 119.32 330 PKIKP PKPdf 11 09 23.1 +2.6
WES Weston 119.35 27 PFAKE 11 09 30.0 +9.4
WES LR LR
comp=Z,5μm,19.0s,MS6.2
CBN Corbin 119.52 34 PFAKE 11 09 30.0 +9.0
CBN LR LR
comp=Z,16μm,20.0s,MS6.7
ECAL Calabor 119.53 333 PKP PKPdf 11 09 23.9 +3.0
STS Santiago 119.56 334 PKIKP PKPdf 11 09 23.3 +2.3
ESDC Sonseca Array 119.96 329 PKP PKPdf 11 09 23.7 +1.9
comp=Z,3.3nm,0.8s,baz=71,slow=1.7,SNR=11
ESDC PP PP 11 10 51.5 +1.0
comp=Z,4.0nm,0.9s,baz=34,slow=7.1,SNR=4.8
ESDC PKKPbc 11 19 33.0
comp=Z,2.8nm,0.8s,baz=235,slow=2.3,SNR=7.2
ESDC Sonseca Array 119.96 329 PKP PKPdf 11 09 26.0 +4.2
EVIA Vianos 119.97 327 PKIKP PKPdf 11 09 24.6 +2.7
ELOB Lobios 120.18 333 PKP PKPdf 11 09 24.2 +2.0
EQES Quesada 120.89 327 PKP PKPdf 11 09 25.9 +2.3
SUR Sutherland 121.02 239 *e*PKPdf PKPdf 11 09 26.9 +2.8
SUR LR LR
comp=Z,396nm,20.0s,MS5.0
MTE Manteigas 121.12 332 *e*PKPdf PKPdf 11 09 26.4 +2.3
NHSC New Hope 121.36 40 PFAKE 11 09 40.0 +15
NHSC LR LR
comp=Z,4μm,20.0s,MS6.1
EADA Adamuz 121.41 328 PKP PKPdf 11 09 31.2 +6.5
EBER Berja 121.46 326 PKP PKPdf 11 09 25.0 +0.2
ELUQ Luque 121.70 328 PKIKP PKPdf 11 09 27.4 +2.2
ELOJ Sierra Loja 121.95 327 PKIKP PKPdf 11 09 27.6 +1.9
EBAD Badajoz 122.17 331 PKP PKPdf 11 09 29.5 +3.4
EALB Alboran 122.23 325 PKP PKPdf 11 09 22.3 -4.0
TEIG Tepich 122.67 57 PFAKE 11 09 40.0 +13
TEIG LR LR
comp=Z,1μm,19.0s,MS5.6
EMIN Mina Concepcio 122.78 330 PKP PKPdf 11 09 31.2 +3.9
EVO Evora 122.83 331 *e*PKIKP PKPdf 11 09 29.5 +2.1
EVO *e*R
comp=Z,102nm,1.3s
comp=Z,12μm,20.5s
ESPR Espera 123.06 328 PKP PKPdf 11 09 31.7 +3.8
EGRO El Granado 123.36 330 PKP PKPdf 11 09 30.7 +2.3
PMSA Palmer Station 123.50 168 PFAKE 11 09 40.0 +12
PMSA LR LR
comp=Z,2μm,20.0s,MS5.8
DWPF Disney 123.67 45 *e*PKPdf PKPdf 11 09 30.8 +1.5
DWPF LR LR
comp=Z,883nm,20.0s,MS5.4
PAYG Puerto Ayora 128.27 82 PFAKE 11 09 50.0 +11
PAYG LR LR
comp=Z,4μm,19.0s,MS6.1
JTS JuntasAbangare 129.89 67 PFAKE 11 09 50.0 +8.4
JTS LR LR
comp=Z,607nm,19.0s,MS5.3
USHA Ushuaia 130.49 158 PKP PKPdf 11 09 44.5 +2.8
comp=Z,16nm,1.1s,baz=107,slow=6.0,SNR=3.6
BBSR BB Station 130.55 29 PFAKE 11 10 00.0 +18
BBSR LR LR
comp=Z,3μm,20.0s,MS6.0
OTAV Otavalo 139.47 77 *e*PKPpre 11 09 53.1
OTAV LR LR
comp=Z,4μm,19.0s,MS6.2
SJG San Juan 140.78 43 *i* PKHKP 11 09 55.6
SJG San Juan 140.78 43 PKhKP 11 09 55.6
SJG San Juan 140.78 43 *e*PKPpre 11 09 55.9
SJG LR LR
comp=Z,3μm,22.0s,MS6.0
DBIC Dimbokro 141.59 296 *i* PKHKP 11 09 58.8
DBIC pmax pmax
comp=Z,8.0nm,0.5s
DBIC Dimbokro 141.59 296 PKhKP 11 09 58.8
comp=Z,8.3nm,0.5s,baz=58,slow=3.4,SNR=29
SDV Santo Domingo 143.08 59 PKhKP 11 10 04.8
comp=Z,43nm,0.8s,baz=295,slow=3.4,SNR=41
SDV Santo Domingo 143.08 59 *e*PKPpre 11 10 03.5
SDV LR LR
comp=Z,2μm,20.0s,MS5.9
NNA Nana 143.13 95 *e*PKPpre 11 10 03.9
NNA LR LR
comp=Z,651nm,19.0s,MS5.4
CLCH Cerro Calan 143.61 133‖*e*P PKPbc 11 10 04.2 -0.7
FCH Farellones 143.82 133‖*e*P PKPbc 11 10 05.7 +0.2
BPA Boggy Peak 144.33 39 *e*P PKPbc 11 10 08.9 +1.5
TLL Tololo Astrono 144.95 128‖*e*P PKPdf 11 10 09.9 +1.2
SEG Port Louis 145.04 39 *e*P PKPdf 11 10 09.0 -0.1
MDZ Mendoza 145.09 133 *e*P PKPdf 11 10 08.9 +0.1
MDZ *e* 11 10 28.5
DEG La Desirade 145.38 39 *e*P PKPdf 11 10 11.3 +1.5
BBL Barber's Block 145.72 40 *e*P PKPdf 11 10 11.5 +1.2
TRQA Tornquist 146.14 147 *e*PKPdf PKPdf 11 10 12.6 +2.1
TRQA LR LR
comp=Z,4μm,20.0s,MS6.1
FDF Fort de France 146.51 41‖*e*P PKPdf 11 10 14.2 +2.5
CRM Caravelle 146.65 41‖*e*P PKPdf 11 10 13.8 +1.9
BIM Bigot 146.72 41‖*e*P PKPdf 11 10 15.9 +3.9
MVM Montagne Vaucl 146.81 41 *e*P PKPdf 11 10 14.2 +2.0
TRN Trinidad (W) 149.26 47 *e*P PKPdf 11 10 19.8 +3.6
TPR Prospect 149.33 45 *e*P PKPdf 11 10 20.4 +4.1
LVC Limon Verde 149.35 116 PKP PKPdf 11 10 20.0 +3.9
comp=Z,92nm,0.7s,baz=235,slow=2.5,SNR=23
LVC PKPbc PKPdf 11 10 24.0 +7.9
comp=Z,136nm,0.7s,baz=263,slow=4.2,SNR=128
LVC Limon Verde 149.35 116 *e*PKPdf PKPdf 11 10 19.3 +3.2
LVC *e*PKPbc PKPdf 11 10 23.6 +7.5
LVC LR LR
comp=Z,2μm,19.0s,MS6.0
TPP Pointe-a-Pierr 149.45 47 *e*P PKPdf 11 10 19.9 +3.4
TBH Brigand Hill 149.61 46 *e*P PKPdf 11 10 19.1 +2.3
LPA La Plata 150.66 147 *de*PKP PKPdf 11 10 24.0 +6.2
LPA *es*PKP 11 10 36.0
comp=Z,4μm,18.0s
LPAZ La Paz 151.42 104 *e*PKIKP PKPdf 11 10 22.5 +3.1
LPAZ *e* 11 10 28.0
LPAZ La Paz 151.42 104 PKP PKPdf 11 10 22.3 +2.9
comp=Z,260nm,1.6s,baz=318,slow=1.4,SNR=49
LPAZ PKPbc PKPdf 11 10 28.6 +9.2
comp=Z,154nm,0.7s,baz=257,slow=4.0,SNR=217
CPUP Villa Florida 157.03 134 PKPdf PKPdf 11 10 29.4 +2.5
CPUP PKPab PKPab 11 10 60.0 +0.2
BDFB Brasilia 170.24 120 PKIKP PKPdf 11 10 42.0 +2.8
BDFB pmax pmax
comp=Z,15nm,1.0s
BDFB Brasilia 170.24 120 PKP PKPdf 11 10 42.0 +2.8
comp=Z,15nm,1.0s,baz=355,slow=1.3,SNR=11
BAO Brasilia Array 170.26 120 P PKPdf 11 10 41.8 +2.6
BAO *e* 11 10 49.7
BAO *e* 11 10 57.8
BAO *i* 11 11 57.9
RCBR Riachuelo 173.97 327 *e*PKPdf PKPdf 11 10 43.2 +2.1
RCBR *e*PKPab PKPab 11 12 13.3 -0.8
RCBR LR LR
comp=Z,3μm,20.0s

*IDC **17** 11:05:50.9±0.8, 8.33N×91.87E, mb4.1/12, mb1 4.2/13, mb1mx4.1/18, mbtmp4.1/13, ML4.4/1, Error ellipse:*
s-maj=38.2km s-min=16.8km az=49.0
*BJI **17** 11:05:51.5, 8.30N×91.90E, h30km, mb5.0*
*NEIC **17** 11:05:55.6±0.4, 8.32N×91.92E, h30km, mb4.5/6, Error ellipse: s-maj=13.5km s-min=7.3km az=55.0*
ISC 17 11:05:54.1±0.6, 8.3N±0.1×91.97E±0.09, h33km, n24, σ0:67/22, mb4.2/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.13**	**33**	Pn		**P**		**11 08 47.8**	**+0.2**
	0.8nm,0.3s,baz=230,slow=14,SNR=33								
HYB	**Hyderabad**	**15.89**	**306**	*i* P		**P**		**11 09 42.0**	**+5.0**
HYB				*e*				11 12 20.5	
HYB				*e*S		**S**		**11 12 32.0**	**+0.1**
LSA	**Lhasa**	**21.27**	**358**	*e*P		**P**		**11 10 39.9**	**+0.1**
	41nm,0.8s,mb4.8								
LSA				*e*pP				11 10 43.5	
AAK	**Ala-Archa**	**37.47**	**339**	*e*P		**P**		**11 13 06.6**	**+0.3**
	5.2nm,0.9s,mb4.4								
SONM	**Songino Array**	**41.23**	**15**	P		**P**		**11 13 37.6**	**+0.1**
	3.2nm,0.7s,mb4.0,baz=197,slow=9.0,SNR=16								
BVAR	**Borovoye Array**	**47.89**	**343**	P		**P**		**11 14 29.8**	**-1.1**
	0.5nm,0.4s,mb3.9,baz=127,slow=7.4,SNR=4.6								
CHKZ	**Chkalovo**	**48.39**	**343**	*e*P		**P**		**11 14 34.6**	**-0.2**
	3.5nm,0.5s,mb4.7								
WRA	**Warramunga Arr**	**50.28**	**124**	P		**P**		**11 14 49.4**	**-0.3**
	1.0nm,0.7s,mb4.0,baz=303,slow=8.8,SNR=24								
WRAB	**Tennant Creek**	**50.28**	**124**	*e*P		**P**		**11 14 49.3**	**-0.5**
	1.4nm,0.4s,mb4.3								
WB2	**Warramunga Arr**	**50.29**	**124**	*e*P		**P**		**11 14 49.5**	**-0.3**
ASAR	**Alice Springs**	**51.86**	**129**	P		**P**		**11 15 01.6**	**0.0**
	0.7nm,0.6s,mb3.7,baz=301,slow=7.1,SNR=14								
GNI	**Garni**	**52.59**	**315**	*e*P		**P**		**11 15 06.3**	**-0.5**
	3.8nm,0.4s,mb4.7								
BRTR	**Keskin Array B**	**60.51**	**311**	P		**P**		**11 16 03.0**	**-0.4**
	2.5nm,0.9s,mb4.4,baz=135,slow=7.0,SNR=4.8								
STKA	**Stephens Creek**	**61.98**	**133**	P		**P**		**11 16 14.4**	**+1.0**
	2.1nm,1.1s,mb4.2,baz=299,slow=18,SNR=3.2								
AKASG	**Malin Array Be**	**66.47**	**322**	P		**P**		**11 16 40.4**	**-2.0**
	1.2nm,0.7s,mb4.1,baz=84,slow=5.8,SNR=4.3								
FINES	**FINESS Array B**	**71.31**	**332**	P		**P**		**11 17 12.0**	**-0.1**
	3.1nm,0.9s,mb4.2,baz=112,slow=10,SNR=3.3								
ARCES	**ARCESS Array B**	**74.12**	**340**	P		**P**		**11 17 28.9**	**+0.4**
	3.2nm,0.9s,mb4.2,slow=4.9,SNR=4.0								
GERES	**GERESS Array B**	**76.06**	**318**	P		**P**		**11 17 40.9**	**+0.9**
	2.0nm,1.0s,mb4.0,baz=90,slow=6.7,SNR=4.9								
LPG	**La Plagne**	**80.78**	**315**	*e*P		**P**		**11 18 06.9**	**+0.9**
	4.2nm,0.4s,mb4.4								
EKA	**Eskdalemuir Ar**	**86.13**	**325**	P		**P**		**11 18 33.9**	**+1.0**
	2.5nm,0.8s,mb4.5,baz=98,slow=5.9,SNR=5.1								
ILAR	**Eielson Array**	**95.12**	**22**	P		**P**		**11 19 14.8**	**+0.1**
	0.6nm,0.7s,mb4.2,baz=303,slow=5.9,SNR=9.4								
PDAR	**Pinedale Array**	**125.49**	**19**	PKP		PKPdf		11 24 55.0	+2.7
	0.3nm,0.6s,baz=90,slow=1.5,SNR=3.4								
NVAR	**Mina Array Bea**	**125.60**	**29**	PKP		PKPdf		11 24 56.0	+3.4
	0.5nm,0.6s,baz=297,slow=2.0,SNR=5.9								
TXAR	**Lajitas Array**	**139.64**	**21**	PKhKP				11 25 24.2	
	0.3nm,0.6s,baz=356,slow=0.5,SNR=7.1								

*BJI **17** 11:08:53.1, 10.32N×141.62E, h10km, mb4.8, Ms4.8, Msz4.5*
*NEIC **17** 11:09:01.8±0.2, 10.98N×140.77E, h10km, mb4.9/32, Error ellipse: s-maj=8.3km s-min=5.5km az=94.0*
*IDC **17** 11:09:06.5±0.4, 11.00N×140.94E, h41km±3km, mb4.4/13, mb1 4.7/14, mb1mx4.5/19, mbtmp4.7/14, ML4.9/1, Error ellipse: s-maj=18.1km s-min=11.9km az=83.0*
ISC 17 11:09:04.5±0.2, 10.92N±0.05×140.68E±0.06, h40km, h40km±.8km:pP-P, n78, σ1:02/74, mb4.8/51, MS4.5/1, 1D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**16.16**	**5**	P		**P**		**11 12 47.4**	**-2.9**
	20nm,0.3s,baz=277,slow=22,SNR=2.8								
PMG	**Port Moresby**	**21.19**	**162**	P		**P**		**11 13 47.6**	**-1.3**
	71nm,1.2s,mb4.9,baz=310,slow=5.9,SNR=6.0								
PMG				pP				11 13 59.4	
	30nm,1.0s,baz=333,slow=10,SNR=4.1								
PMG	**Port Moresby**	**21.19**	**162**	*e*P		**P**		**11 13 47.2**	**-1.7**
	46nm,1.1s,mb4.7								
TATO	**Taipei**	**22.95**	**310**	*e*P		**P**		**11 14 05.1**	**-1.4**
	40nm,0.6s,mb5.0								
KAKA	**Kakadu**	**24.86**	**199**	*e*P		**P**		**11 14 25.5**	**+0.5**
	19nm,0.7s,mb4.7								
WRAB	**Tennant Creek**	**31.28**	**192**	*e*P		**P**		**11 15 22.1**	**-1.1**
	24nm,1.0s,mb5.0								
WB2	**Warramunga Arr**	**31.29**	**192**‖	*i*P		**P**		**11 15 22.5**	**-0.8**
CTAO	**Charters Tower**	**31.29**	**170**	*e*P		**P**		**11 15 22.9**	**-0.4**
	14nm,1.1s,mb4.7								
WRA	**Warramunga Arr**	**31.29**	**192**	P		**P**		**11 15 22.7**	**-0.6**
	13nm,0.9s,mb4.8,baz=11,slow=9.4,SNR=47								
FITZ	**Fitzroy Crossi**	**32.43**	**207**	*e*P		**P**		**11 15 31.9**	**-1.4**
	6.1nm,0.8s,mb4.5								
ENH	**Enshi**	**34.80**	**308**	*e*P		**P**		**11 15 54.7**	**+1.2**
	14nm,1.1s,mb4.8								
ASAR	**Alice Springs**	**35.00**	**191**	P		**P**		**11 15 55.8**	**+0.4**
	5.1nm,0.5s,mb4.7,baz=18,slow=12,SNR=51								
ASAR				pP		pP		11 16 07.8	+1.3
	1.5nm,0.5s,baz=20,slow=12,SNR=5.8								
ASAR				PcP		PcP		11 18 27.8	+0.5
	1.0nm,0.7s,baz=20,slow=2.3,SNR=4.6								
ASPA	**Alice Springs**	**35.00**	**191**	*e*P		**P**		**11 15 55.9**	**+0.5**
BJT	**Baijiatuau**	**36.22**	**327**	*e*P		**P**		**11 16 04.9**	**-0.6**
	6.2nm,0.5s,mb4.8								
CMAR	**Chiang Mai Arr**	**40.99**	**286**	P		**P**		**11 16 48.7**	**+3.2**
	5.9nm,0.9s,mb4.2,baz=86,slow=7.0,SNR=32								
CMAR				pP		pP		11 16 59.7	+2.9
	5.5nm,0.6s,baz=88,slow=6.4,SNR=6.8								
HIA	**Hailar**	**42.01**	**340**	*e*P		**P**		**11 16 52.1**	**-1.4**
	3.1nm,0.5s,mb4.2								
STKA	**Stephens Creek**	**42.56**	**179**	P		**P**		**11 16 57.5**	**-0.8**
	2.9nm,0.9s,mb4.0,baz=351,slow=6.2,SNR=4.6								
FORT	**Forrest**	**43.19**	**196**	*e*P		**P**		**11 17 04.0**	**+0.5**
	42nm,0.7s,mb5.3								
ULN	**Ulaanbaatar**	**46.39**	**329**	*e*P		**P**		**11 17 28.5**	**-0.4**
	5.4nm,1.0s,mb4.4								
SONM	**Songino Array**	**46.70**	**329**	P		**P**		**11 17 32.2**	**+0.9**
	1.4nm,0.8s,mb4.0,baz=141,slow=7.3,SNR=8.9								
SONM				PcP		PcP		11 19 04.7	-0.1
	3.7nm,0.8s,baz=151,slow=3.3,SNR=9.8								
YAK	**Yakutsk**	**51.65**	**353**	*e*P		**P**		**11 18 07.9**	**-1.3**
	20nm,0.6s,mb5.2								
JIRN	**Jiri**	**53.64**	**296**	*e*P		**P**		**11 18 25.0**	**+0.5**
	7.7nm,0.5s,mb4.9								
GUN	**Gumba**	**53.94**	**297**	*e*P		**P**		**11 18 28.2**	**+1.4**
	30nm,0.8s,mb5.3								
PKI	**Pulchoki**	**54.32**	**296**	*e*P		**P**		**11 18 28.9**	**-0.6**
	7.9nm,0.5s,mb4.9								
KKN	**Kakani**	**54.46**	**296**	*e*P		**P**		**11 18 31.6**	**+1.1**
DMN	**Daman**	**54.59**	**296**	*e*P		**P**		**11 18 32.5**	**+1.0**
	16nm,0.8s,mb5.1								
GKN	**Gorkha**	**55.05**	**297**	*e*P		**P**		**11 18 35.7**	**+0.9**
KOLN	**Koldanda**	**55.93**	**296**	*e*P		**P**		**11 18 42.3**	**+1.1**
	18nm,0.9s,mb5.1								
WMQ	**Urumqi**	**56.10**	**316**	*e*P		**P**		**11 18 42.5**	**+0.3**
WMQ				AP		pP		11 18 46.5	-7.3
WMQ				XP		sP		11 18 49.0	-9.5
WMQ				PP		PP		11 20 49.1	+0.3
WMQ				S		**S**		**11 26 29.2**	**+2.8**
WMQ				AMB		AMB			
	comp=Z,6.0nm,1.7s,mb4.3								
WMQ				LR		LR			
	comp=N,312nm,20.6s,MS4.6								
WMQ				LR		LR			
	comp=E,385nm,21.7s,MS4.6								
WMQ				LR		LR			
	comp=Z,411nm,21.7s,MS4.5								
BILL	**Bilibino**	**59.50**	**11**	*e*P		**P**		**11 19 03.5**	**-2.2**
	comp=Z,5.7nm,1.0s,mb4.6								
HYB	**Hyderabad**	**60.38**	**284**	*i* P		**P**		**11 19 13.0**	**+0.6**
KURK	**Kurchatov**	**64.04**	**321**	*e*P		**P**		**11 19 36.3**	**-0.1**
	comp=Z,10nm,0.8s,mb4.9								
TNA	**Tin City**	**64.78**	**21**	*e*P		**P**		**11 19 38.9**	**-2.0**
	comp=Z,1.2nm,0.6s,mb4.1								
AAK	**Ala-Archa**	**65.19**	**312**	*e*P		**P**		**11 19 43.1**	**-0.9**
	comp=Z,3.2nm,0.8s,mb4.4								
CHKZ	**Chkalovo**	**69.49**	**323**	*e*P		**P**		**11 20 09.9**	**-0.9**
	comp=Z,8.2nm,1.2s,mb4.5								
BVAR	**Borovoye Array**	**69.51**	**323**	P		**P**		**11 20 11.3**	**+0.4**
	comp=Z,5.5nm,0.7s,mb4.6,baz=101,slow=7.6,SNR=26								
BVAR				pP		pP		11 20 24.1	+1.3
	comp=Z,5.4nm,0.7s,baz=114,slow=8.1,SNR=7.3								
BRVK	**Borovoye**	**69.58**	**323**	*e*P		**P**		**11 20 10.9**	**-0.5**
	comp=Z,13nm,1.1s,mb4.8								
SML	**Sawmill**	**71.49**	**28**	*e*P		**P**		**11 20 20.8**	**-1.9**

MCK	**McKinley**	**71.63**	**26**	*eP*	**P**		**11 20 21.9**	**-1.7**
	comp=Z,3.6nm,0.9s,mb4.3							
ILAR	**Eielson Array**	**72.72**	**25**	P	**P**		**11 20 27.8**	**-2.1**
	comp=Z,3.4nm,0.8s,mb4.3,baz=248,slow=6.2,SNR=39							
ILAR				pP	pP		11 20 39.8	-2.2
	comp=Z,1.8nm,0.5s,baz=246,slow=5.8,SNR=8.0							
DAWY	**Dawson**	**75.85**	**27**	*eP*	**P**		**11 20 48.0**	**-0.1**
INK	**Inuvik**	**78.38**	**22**	*eP*	**P**		**11 21 00.9**	**-1.2**
	comp=Z,8.3nm,1.1s,mb4.6							
DLBC	**Dease Lake**	**80.42**	**32**	*eP*	**P**		**11 21 13.7**	**+0.3**
YKW3	**Yellowknife Ar**	**87.06**	**27**	*eP*	**P**		**11 21 46.9**	**0.0**
YKA	**Yellowknife Ar**	**87.09**	**27**	P	**P**		**11 21 47.3**	**+0.4**
	comp=Z,7.8nm,0.9s,mb4.9,baz=290,slow=5.3,SNR=65							
YKA				pP	pP		11 21 59.6	+0.4
	comp=Z,9.2nm,1.0s,baz=289,slow=5.0,SNR=13							
KHMM	**Horse Mountain**	**87.13**	**49**	*eP*	**P**		**11 21 48.1**	**+0.4**
RES	**Resolute Bay**	**88.06**	**13**	*eP*	**P**		**11 21 51.4**	**0.0**
	comp=Z,3.0nm,0.8s,mb4.6							
WDC	**Whiskeytown Da**	**88.07**	**49**	*eP*	**P**		**11 21 52.2**	**0.0**
	comp=Z,14nm,1.1s,mb5.1							
ARCES	**ARCESS Array B**	**88.33**	**341**	P	**P**		**11 21 52.5**	**-0.2**
	comp=Z,6.6nm,0.7s,mb5.0,baz=67,slow=7.8,SNR=13							
ARCES				pP	pP		11 22 04.6	-0.4
	comp=Z,4.6nm,0.7s,baz=53,slow=6.1,SNR=2.4							
JOF	**Joensuu**	**88.96**	**334**	*ep*	**P**		**11 21 54.5**	**-1.4**
	comp=Z,9.6nm,0.9s,mb5.1							
MOD	**Modoc**	**89.41**	**48**	*eP*	**P**		**11 21 59.5**	**+0.9**
	comp=Z,7.0nm,0.8s,mb5.0							
CMB	**Columbia Colle**	**90.28**	**51**	*eP*	**P**		**11 22 03.5**	**+0.8**
	comp=Z,10nm,1.2s,mb5.0							
WCN	**Washoe City**	**90.45**	**50**	*eP*	**P**		**11 22 04.3**	**+0.8**
	comp=Z,9.6nm,1.2s,mb5.0							
BMO	**Blue Mountains**	**90.75**	**44**	*eP*	**P**		**11 22 04.8**	**0.0**
KAF	**Kangasniemi**	**91.41**	**335**	*ep*	**P**		**11 22 05.9**	**-1.5**
	comp=Z,10nm,1.0s,mb5.1							
NVAR	**Mina Array Bea**	**91.77**	**50**	P	**P**		**11 22 10.5**	**+0.9**
	comp=Z,6.8nm,0.8s,mb5.0,baz=260,slow=5.5,SNR=29							
NVAR				pP	pP		11 22 22.7	+0.7
	comp=Z,6.1nm,0.9s,baz=260,slow=5.5,SNR=11							
NVAR	**Mina Array Bea**	**91.77**	**50**	P	**P**		**11 22 10.5**	**+0.9**
NVAR				pP	pP		11 22 22.7	+0.7
FINES	**FINESS Array B**	**91.81**	**334**	P	**P**		**11 22 08.4**	**-0.8**
	comp=Z,7.2nm,0.7s,mb5.1,baz=62,slow=6.3,SNR=16							
MNV	**Mina**	**91.89**	**50**	*eP*	**P**		**11 22 11.2**	**+1.0**
	comp=Z,8.4nm,1.1s,mb5.0							
TPH	**Tonopah**	**92.69**	**51**	*eP*	**P**		**11 22 14.6**	**+0.7**
	comp=Z,8.6nm,1.0s,mb5.1							
HLID	**Hailey**	**93.12**	**45**	*eP*	**P**		**11 22 16.7**	**+1.0**
	comp=Z,4.7nm,0.8s,mb5.0							
HLID				*e*	pP		11 22 28.4	+0.3
MCMT	**McKenzie Canyo**	**93.78**	**43**	*eP*	**P**		**11 22 19.5**	**+0.8**
BOZ	**Bozeman (W)**	**94.32**	**42**	*eP*	**P**		**11 22 22.0**	**+0.9**
	comp=Z,2.6nm,0.6s,mb4.8							
QLMT	**Earthquake Lak**	**94.73**	**43**	*eP*	**P**		**11 22 24.4**	**+1.5**
NEN	**Nelson**	**95.21**	**52**	P	**P**		**11 22 25.5**	**+0.1**
IMW	**Indian Meadow**	**95.39**	**44**	*eP*	**P**		**11 22 27.1**	**+1.0**
MOOW	**Moose Ponds**	**95.57**	**44**	*eP*	**P**		**11 22 27.9**	**+1.1**
NLU	**North Lily Min**	**95.94**	**48**	*eP*	**P**		**11 22 29.0**	**+0.4**
JLU	**Jordanelle**	**96.17**	**47**	*eP*	**P**		**11 22 30.3**	**+0.6**
MVU	**Marysvale**	**96.32**	**49**	*eP*	**P**		**11 22 30.9**	**+0.5**
	comp=Z,3.7nm,1.1s,mb4.7							
MSU	**Marysvale**	**96.34**	**49**	*eP*	**P**		**11 22 31.8**	**+1.4**
PDAR	**Pinedale Array**	**96.73**	**44**	P	**P**		**11 22 32.7**	**+0.5**
	comp=Z,0.6nm,0.8s,mb4.1,baz=180,slow=0.9,SNR=3.2							
PDAR				pP	pP		11 22 44.8	+0.3
	comp=Z,1.2nm,1.1s,baz=180,slow=3.0,SNR=2.0							
LAO	**LASA Array**	**97.40**	**40**	*eP*	**P**		**11 22 35.3**	**+0.2**
	comp=Z,15nm,1.1s,mb5.3							
DBIC	**Dimbokro**	**141.50**	**295**	PKP	PKPdf		11 28 36.6	+4.0
	comp=Z,0.9nm,0.5s,baz=76,slow=1.8,SNR=2.4							
LVC	**Limon Verde**	**149.44**	**116**	PKPbc	PKPdf		11 28 53.1	+7.5
	comp=Z,8.0nm,0.8s,baz=286,slow=2.6,SNR=16							
LVC				PKPab	PKPab		11 28 56.7	-0.4
	comp=Z,16nm,1.2s,baz=332,slow=2.2,SNR=6.2							
LVC				pPKPbc			11 29 05.0	
	comp=Z,5.4nm,0.7s,baz=278,slow=5.8,SNR=5.6							
LVC	**Limon Verde**	**149.44**	**116**	*e*PKPbc	PKPdf		11 28 52.5	+6.8
LPAZ	**La Paz**	**151.51**	**104**	PKPbc	PKPdf		11 28 57.7	+8.8
	comp=Z,9.5nm,0.7s,baz=320,slow=1.7,SNR=14							
LPAZ				pPKPbc			11 29 09.8	
	comp=Z,9.7nm,0.8s,baz=123,slow=0.4,SNR=7.8							
LPAZ	**La Paz**	**151.51**	**104**	*e*PKPdf	PKPdf		11 28 52.1	+3.2
LPAZ				PKPbc	PKPdf		11 28 57.7	+8.8
LPAZ				*e*PKPbc	PKPdf		11 28 57.9	+8.9
LPAZ				pPKPbc			11 29 09.8	

*IDC **17** 11:17:07.5±1.0, 4.78N×94.78E, mb4.1/9, mb1 4.2/10, mb1mx4.1/17, mbtmp4.1/10, ML4.3/1, MS5.1/1, Ms1 5.1/1, ms1mx3.6/27, Error ellipse: s-maj=54.9km s-min=17.2km az=50.0*
*NEIC **17** 11:17:11.4±0.6, 4.55N×94.54E, h30km, mb4.5/5, Error ellipse: s-maj=21.8km s-min=9.5km az=58.0*

ISC 17 11:17:09.5±0.7, 4.6N±0.1×94.6E±0.2, h30km, n23, σ0§81/21, mb4.3/20, MS5.2/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.46**	**17**	Pn	**P**	**11 20 35.7**	**+1.4**
	0.4nm,0.3s,baz=210,slow=11,SNR=27						
JIRN	**Jiri**	**24.32**	**342**	*eP*	**P**	**11 22 26.5**	**+0.6**
	12nm,0.6s,mb4.5						
PKI	**Pulchoki**	**24.49**	**340**	*eP*	**P**	**11 22 26.6**	**-0.9**
	7.3nm,0.6s,mb4.3						
GUN	**Gumba**	**24.65**	**341**	*eP*	**P**	**11 22 29.7**	**+0.6**
	6.0nm,0.4s,mb4.5						
KKN	**Kakani**	**24.73**	**340**	*eP*	**P**	**11 22 29.7**	**-0.2**
	9.9nm,0.8s,mb4.4						
GKN	**Gorkha**	**25.15**	**339**	*eP*	**P**	**11 22 33.9**	**0.0**
	12nm,0.6s,mb4.6						
KOLN	**Koldanda**	**25.33**	**337**	*eP*	**P**	**11 22 36.2**	**+0.7**
	19nm,0.7s,mb4.7						
AAK	**Ala-Archa**	**41.90**	**338**	*eP*	**P**	**11 24 59.0**	**0.0**
	1.6nm,0.7s,mb3.8						
SONM	**Songino Array**	**44.30**	**11**	P	**P**	**11 25 16.6**	**-1.8**
	1.5nm,0.7s,mb3.8,baz=191,slow=7.4,SNR=12						
SONM				PcP	PcP	11 27 02.4	-0.5
	0.6nm,0.4s,baz=220,slow=4.4,SNR=6.1						
WRA	**Warramunga Arr**	**46.06**	**123**	P	**P**	**11 25 33.1**	**+0.3**
	3.5nm,1.0s,mb4.3,baz=302,slow=9.2,SNR=28						
WRAB	**Tennant Creek**	**46.06**	**123**	*eP*	**P**	**11 25 33.0**	**+0.1**
	5.5nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**47.52**	**128**	P	**P**	**11 25 44.6**	**+0.3**
	0.9nm,0.6s,mb4.0,baz=297,slow=7.6,SNR=16						
KURK	**Kurchatov**	**47.91**	**346**	*eP*	**P**	**11 25 46.3**	**-0.7**
	4.2nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**52.24**	**342**	P	**P**	**11 26 19.6**	**-0.5**
	1.3nm,0.4s,mb4.2,baz=143,slow=7.4,SNR=17						
BRVK	**Borovoye**	**52.30**	**342**	*eP*	**P**	**11 26 19.6**	**-0.9**
	3.1nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**52.73**	**342**	*eP*	**P**	**11 26 23.0**	**-0.7**
	5.9nm,0.7s,mb4.6						
KMBO	**Kilima Mbogo**	**57.53**	**266**	LR	LR	11 47 22.2	
	comp=Z,2μm,19.8s,MS5.2,baz=91,slow=31						
STKA	**Stephens Creek**	**57.55**	**132**	P	**P**	**11 26 58.4**	**-0.6**
	1.4nm,0.8s,mb4.0,baz=325,slow=20,SNR=2.8						
BRTR	**Keskin Array B**	**64.92**	**312**	P	**P**	**11 27 48.7**	**+0.1**
	1.0nm,0.6s,mb4.0,baz=140,slow=7.7,SNR=5.1						
FINES	**FINESS Array B**	**75.82**	**333**	P	**P**	**11 28 54.0**	**-0.4**
	1.3nm,0.5s,mb4.1,baz=108,slow=6.0,SNR=4.1						
DRV	**Dumont d'Urvil**	**78.10**	**163**	R		11 28 00.0	
ARCES	**ARCESS Array B**	**78.50**	**340**	P	**P**	**11 29 09.9**	**+0.8**
	3.7nm,0.9s,mb4.3,baz=98,slow=7.2,SNR=14						
GERES	**GERESS Array B**	**80.56**	**319**	P	**P**	**11 29 22.6**	**+2.0**
	1.0nm,0.7s,mb3.9,baz=76,slow=5.5,SNR=7.3						

IGQ 17 11:17:18.2, 1.01S×81.27W, h12km±25km, mb4.1, 2C-4D, Error ellipse: s-maj=24.9km s-min=6.7km az=173.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.67**	**100**	P	Pn	11 18 03.0	+1.1
IGUA				S	Sn	11 18 36.8	+2.3
TERV	**Terraza Guagua**	**2.79**	**73**	P	Pn	11 18 04.9	+1.3
PINO	**Pino**	**2.79**	**72**	⇑P	Pn	11 18 04.8	+1.2
NAS1	**Nasa**	**2.82**	**82**	P	Pn	11 18 09.1	+5.2
JUIV	**Juive**	**2.83**	**98**	P	Pn	11 18 06.2	+2.0
YANA	**Yana**	**2.84**	**72**	⇓P	Pn	11 18 05.4	+1.1
ARRY	**Arrayan**	**2.85**	**100**	P	Pn	11 18 05.3	+0.8
ARRY				S	Sn	11 18 39.1	0.0
RETU	**Refugio**	**2.85**	**99**	P	Pn	11 18 07.2	+2.7
PATA	**Patacocha**	**2.88**	**100**	⇓P	Pn	11 18 06.5	+1.7
PATA				S	Sn	11 18 41.1	+1.5
PISA	**Pisayambo**	**2.88**	**91**	P	Pn	11 18 06.6	+1.7
RUN2	**Runtun**	**2.88**	**98**	P	Pn	11 18 06.5	+1.6
VC1	**Cotopaxi 1**	**2.89**	**83**	P	Pn	11 18 07.5	+2.5
ULBA	**Ulba**	**2.89**	**99**	P	Pn	11 18 06.3	+1.3
TAMB	**Tambo**	**2.92**	**84**	P	Pn	11 18 08.5	+3.1
ANTI	**Antisana**	**3.16**	**80**	⇓P	Pn	11 18 10.8	+2.0
ANTI				S	Sn	11 18 54.0	+7.3
COTA	**Cotacachi**	**3.22**	**65**	⇑P	Pn	11 18 11.3	+1.6
COTA				S	Sn	11 18 55.7	+7.3
CAYR	**Refugio Cayamb**	**3.42**	**73**	⇓P	Pn	11 18 15.8	+3.4

*KRSC **17** 11:27:07.7±1.3, 48.76N×156.78E, h42km±29km, ML4.6*
*MOS **17** 11:27:08.7±1.3, 49.05N×156.05E, h34km, mb4.5/11, Error ellipse: s-maj=15.1km s-min=6.8km az=82.7*
*BJI **17** 11:27:11.6, 49.00N×156.00E, h42km, mb4.6*
*NEIC **17** 11:27:11.6±0.7, 49.00N×155.98E, mb4.5/4, Error ellipse: s-maj=18.4km s-min=13.0km az=144.0*
*IDC **17** 11:27:11.7±0.5, 48.92N×156.07E, h43km±4km, mb3.5/12, mb1 3.9/13, mb1mx3.8/20, mbtmp3.9/13, ML3.7/1, Error ellipse: s-maj=21.5km s-min=11.7km az=137.0*

ISC 17 11:27:09.4±0.5, 49.00N±0.05×156.11E±0.10, h44km, h44km±2.7km: pP-P, n77, σ1§40/95, mb4.2/23, 3C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.69**	**0**	*e*PN	**P**	**11 27 35.5**	**-1.5**
SKR				pmax	pmax		
	comp=N,140nm,0.5s						
SKR				pmax	pmax		
	comp=Z,220nm,0.5s						
ALID	**Alaid**	**1.91**	**349**	*eP*	**P**	**11 27 43.2**	**+3.1**
ALID				*eS*	**S**	**11 28 10.8**	**+7.8**
PAU	**Pauzhetka**	**2.52**	**10**	*eP*	**P**	**11 27 50.0**	**+1.2**
PAU				*eS*	**S**	**11 28 20.5**	**+2.1**
PAU				Smax			
	comp=Z,1μm,0.5s						
RUS	**Russkaya**	**3.77**	**23**	P	**P**	**11 28 05.2**	**-1.3**
RUS				S	**S**	**11 28 48.2**	**-1.9**
RUS	**Russkaya**	**3.77**	**23**	*eP*	**P**	**11 28 05.1**	**-1.4**
RUS				*eS*	**S**	**11 28 47.9**	**-2.2**
GRL	**Gorelyy**	**3.77**	**19**	*i P*	**P**	**11 28 07.1**	**+0.5**
GRL				*eS*	**S**	**11 28 50.0**	**-0.3**
APC	**Apacha**	**3.99**	**9**	*eP*	**P**	**11 28 11.0**	**+1.3**
APC				*eS*	**S**	**11 28 57.5**	**+1.7**
KRMR	**Karymshinskiy**	**4.05**	**18**	P	**P**	**11 28 12.5**	**+2.0**
KRMR				*eS*	**S**	**11 28 59.8**	**+2.6**
PET	**Petropavlovsk**	**4.34**	**21**	*e*PN	**P**	**11 28 14.0**	**-0.7**
PET				*eS*	**S**	**11 29 06.2**	**+1.5**
PET				pmax	pmax		
	comp=Z,32nm,0.5s						
PET				smax			
	comp=N,258nm,0.5s						
PET				smax			
	comp=E,246nm,0.5s						
PET	**Petropavlovsk**	**4.34**	**21**	*e*Pn	**P**	**11 28 13.4**	**-1.2**
UGLR	**Uglovaya**	**4.55**	**21**	*eP*	**P**	**11 28 17.6**	**0.0**
UGLR				*eS*	**S**	**11 29 07.3**	**-2.7**
AVH	**Avacha**	**4.58**	**20**	*eP*	**P**	**11 28 18.6**	**+0.5**
AVH				*eS*	**S**	**11 29 09.0**	**-1.8**
SMAR	**Somma**	**4.60**	**21**	*eP*	**P**	**11 28 18.4**	**+0.1**
SMAR				*eS*	**S**	**11 29 10.2**	**-0.9**
SDLR	**Sedlovina**	**4.63**	**21**	*eP*	**P**	**11 28 18.0**	**-0.7**
SDLR				*eS*	**S**	**11 29 08.5**	**-3.4**
NLC	**Nalytchevo**	**4.65**	**25**	P	**P**	**11 28 17.3**	**-1.7**
NLC	**Nalytchevo**	**4.65**	**25**	*eP*	**P**	**11 28 16.6**	**-2.4**
NLC				*eS*	**S**	**11 29 08.1**	**-4.4**
SPN	**Mys Shipunski**	**4.79**	**30**	P	**P**	**11 28 20.0**	**-1.0**
SPN				S	**S**	**11 29 11.3**	**-4.7**
SPN	**Mys Shipunski**	**4.79**	**30**	*eP*	**P**	**11 28 20.0**	**-1.0**
SPN				*eS*	**S**	**11 29 12.2**	**-3.8**
GNL	**Ganaly**	**4.84**	**13**	*i P*	**P**	**11 28 23.0**	**+1.2**
GNL				*eS*	**S**	**11 29 17.5**	**+0.2**
KBTR	**Krutoberegovo**	**8.30**	**27**	P	**P**	**11 29 07.5**	**-2.4**
KBTR				S	**S**	**11 30 32.8**	**-11**
KBTR	**Krutoberegovo**	**8.30**	**27**	*eP*	**P**	**11 29 07.4**	**-2.5**
KBTR				*eS*	**S**	**11 30 35.5**	**-7.8**
BKI	**Bering**	**8.69**	**41**	*eS*	**S**	**11 30 37.8**	**-15**
YSS	**Yuzh-Sakhalins**	**9.19**	**262**	*e*PN	**P**	**11 29 23.0**	**+0.8**
ASAJ	**Asahikawa**	**10.50**	**247**	PN	**P**	**11 29 39.6**	**-0.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.50**	**247**	P	**P**	**11 29 39.6**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=265,slow=10,SNR=4.4						
MA2	**Magadan**	**11.04**	**346**	*i* PN	**P**	**11 29 47.4**	**-0.1**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.3s						
YAK	**Yakutsk**	**19.67**	**321**	*eP*	**P**	**11 31 37.9**	**+0.8**
YAK				pmax	pmax		
	comp=Z,30nm,0.5s						
YAK	**Yakutsk**	**19.67**	**321**	*eP*	**P**	**11 31 37.9**	**+0.8**
	comp=Z,30nm,0.5s						
BILL	**Bilibino**	**19.77**	**11**	⇑*i* P	**P**	**11 31 37.3**	**-0.9**
TIXI	**Tiksi**	**25.95**	**341**	*eP*	**P**	**11 32 37.0**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
SSE	**Sheshan**	**31.79**	**249**	P	**P**	**11 33 29.6**	**-2.2**
SSE				AMB	AMB		
	comp=Z,50nm,0.7s						
SONM	**Songino Array**	**32.54**	**287**	P	**P**	**11 33 37.5**	**-0.7**
	comp=Z,0.2nm,0.4s,mb3.4,baz=74,slow=7.9,SNR=4.2						
NJ2	**Nanjing**	**32.59**	**253**	*eP*	**P**	**11 33 39.8**	**+1.1**
NJ2				AP	pP	11 33 54.8	+4.3
NJ2				XP	sP	11 34 01.8	+5.7
NJ2				PP	PP	11 34 50.8	+2.6
NJ2				S	**S**	**11 38 50.0**	**-0.1**
NJ2				XS		11 39 15.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
COLA	**College**	**33.12**	**40**	*eP*	**P**	**11 33 42.0**	**-1.0**
ILAR	**Eielson Array**	**33.53**	**41**	P	**P**	**11 33 48.8**	**+2.2**
ILAR				*PP	pP	11 33 58.9	+0.5
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**33.53**	**41**	P	**P**	**11 33 48.8**	**+2.3**
	comp=Z,1.2nm,1.0s,mb3.8,baz=270,slow=7.6,SNR=7.5						
ILAR				pP	pP	11 33 58.9	+0.5
	comp=Z,1.1nm,0.8s,baz=268,slow=8.5,SNR=7.2						
ILAR	**Eielson Array**	**33.53**	**41**	P	**P**	**11 33 48.8**	**+2.3**
ILAR				pP	pP	11 33 58.9	+0.5
INK	**Inuvik**	**38.67**	**34**	P	**P**	**11 34 30.9**	**+1.0**
	comp=Z,0.8nm,0.5s,mb3.8,baz=297,slow=4.3,SNR=12						
INK				pP	pP	11 34 43.2	+1.3
	comp=Z,1.4nm,0.5s,baz=325,slow=5.4,SNR=4.8						
INK	**Inuvik**	**38.67**	**34**	*eP*	**P**	**11 34 31.1**	**+1.1**
INK				pP	pP	11 34 43.2	+1.3
KURK	**Kurchatov**	**47.81**	**303**	*eP*	**P**	**11 35 43.7**	**-0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
KURK	**Kurchatov**	**47.81**	**303**	*eP*	**P**	**11 35 43.7**	**-0.4**
	comp=Z,2.4nm,0.6s,mb4.4						
YKA	**Yellowknife Ar**	**47.91**	**39**	P	**P**	**11 35 45.5**	**+0.8**
YKA				*PP	pP	11 35 58.5	+1.7
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**47.91**	**39**	P	**P**	**11 35 45.5**	**+0.8**
	comp=Z,0.7nm,0.8s,mb3.8,baz=293,slow=7.3,SNR=9.6						
YKA				pP	pP	11 35 58.5	+1.7
	comp=Z,1.1nm,0.7s,baz=293,slow=7.1,SNR=13						
YKA	**Yellowknife Ar**	**47.91**	**39**	P	**P**	**11 35 45.5**	**+0.8**
YKA				pP	pP	11 35 58.5	+1.7
RES	**Resolute Bay**	**48.05**	**20**	*eP*	**P**	**11 35 47.0**	**+1.3**
RES				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
RES	**Resolute Bay**	**48.05**	**20**	*eP*	**P**	**11 35 47.0**	**+1.3**
	comp=Z,2.4nm,1.0s,mb4.2						
CHKZ	**Chkalovo**	**50.53**	**310**	*eP*	**P**	**11 36 02.2**	**-2.8**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.7						
CHKZ	**Chkalovo**	**50.53**	**310**	*eP*	**P**	**11 36 02.2**	**-2.7**
	comp=Z,2.7nm,0.3s,mb4.7						
CMAR	**Chiang Mai Arr**	**54.84**	**257**	P	**P**	**11 36 38.4**	**+0.9**
CMAR				*PP	pP	11 36 51.0	+1.1
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**54.84**	**257**	P	**P**	**11 36 38.4**	**+0.9**
	comp=Z,1.8nm,0.9s,mb4.1,baz=36,slow=7.5,SNR=8.0						
CMAR				pP	pP	11 36 51.0	+1.0
	comp=Z,2.2nm,0.7s,baz=32,slow=7.3,SNR=5.7						
ARCES	**ARCESS Array B**	**56.38**	**341**	P	**P**	**11 36 47.5**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ARCES	**ARCESS Array B**	**56.38**	**341**	P	**P**	**11 36 47.5**	**-0.5**
	comp=Z,6.5nm,1.1s,mb4.5,baz=44,slow=8.8,SNR=5.2						
ARCES	**ARCESS Array B**	**56.38**	**341**	P	**P**	**11 36 47.5**	**-0.5**
JIRN	**Jiri**	**56.76**	**275**	*eP*	**P**	**11 36 51.5**	**+0.3**
	comp=Z,5.5nm,0.5s,mb4.9						
KKN	**Kakani**	**57.27**	**276**	*eP*	**P**	**11 36 54.6**	**-0.3**
	comp=Z,7.7nm,0.5s,mb5.0						
PKI	**Pulchoki**	**57.34**	**276**	*eP*	**P**	**11 36 53.1**	**-2.2**
	comp=Z,9.5nm,0.6s,mb5.0						
DMN	**Daman**	**57.51**	**276**	*eP*	**P**	**11 36 54.6**	**-1.9**
GKN	**Gorkha**	**57.55**	**277**	*eP*	**P**	**11 36 57.2**	**+0.4**
	comp=Z,6.5nm,0.4s,mb5.0						
KOLN	**Koldanda**	**58.39**	**277**	*eP*	**P**	**11 37 01.0**	**-1.6**
PDAR	**Pinedale Array**	**61.81**	**56**	P	**P**	**11 37 27.6**	**+1.8**
	comp=Z,0.6nm,0.9s,mb3.7,slow=3.6,SNR=4.4						
PDAR				sP	sP	11 37 44.6	+1.2
	comp=Z,0.9nm,0.8s,baz=333,slow=3.3,SNR=5.3						
FINES	**FINESS Array B**	**62.85**	**336**	P	**P**	**11 37 31.5**	**-1.0**
FINES				pmax	pmax		
	comp=Z,29nm,1.4s						
FINES	**FINESS Array B**	**62.85**	**336**	P	**P**	**11 37 31.5**	**-1.1**
	comp=Z,28nm,1.4s,mb5.2,baz=53,slow=9.5,SNR=5.8						
KIV	**Kislovodsk**	**70.65**	**315**	⇑*i P*	**P**	**11 38 21.1**	**-0.8**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
WRA	**Warramunga Arr**	**71.32**	**202**	P	**P**	**11 38 25.1**	**-1.3**
WRA				*PP	pP	11 38 38.5	-0.7
WRA				*SP	sP	11 38 43.5	-0.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**71.32**	**202**	P	**P**	**11 38 25.1**	**-1.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=20,slow=6.5,SNR=4.8						
WRA				pP	pP	11 38 38.5	-0.7
	comp=Z,0.9nm,0.9s,baz=22,slow=6.8,SNR=4.1						
WRA				sP	sP	11 38 43.5	-0.4
	comp=Z,0.7nm,0.7s,baz=17,slow=6.3,SNR=3.7						
GNI	**Garni**	**72.58**	**312**	*i P*	**P**	**11 38 34.1**	**+0.7**
TXAR	**Lajitas Array**	**74.66**	**63**	P	**P**	**11 38 46.6**	**+0.8**
	comp=Z,0.2nm,0.5s,mb3.4,baz=298,slow=4.8,SNR=6.6						
TXAR				pP	pP	11 38 58.5	-0.2
	comp=Z,0.6nm,0.5s,baz=300,slow=5.1,SNR=7.9						
ASAR	**Alice Springs**	**75.00**	**201**	P	**P**	**11 38 48.3**	**+0.4**
	comp=Z,0.3nm,0.5s,mb3.4,baz=14,slow=5.0,SNR=5.6						
ASAR				pP	pP	11 39 00.8	+0.1
	comp=Z,0.7nm,1.0s,baz=14,slow=4.8,SNR=3.5						
DPC	**Dobruska-Polom**	**75.19**	**335**	*eP*	**P**	**11 38 50.6**	**+2.2**
CLL	**Collm**	**75.22**	**337**	P	**P**	**11 38 49.8**	**+1.2**
PRU	**Pruhonice**	**76.01**	**336**	*eP*	**P**	**11 38 55.1**	**+2.0**
KHC	**Kasperske Hory**	**77.05**	**336**	*eP*	**P**	**11 38 54.9**	**-4.1**
KHC				*e*		11 39 01.1	
KHC	**Kasperske Hory**	**77.05**	**336**	*ex*	x	11 39 01.1	
GERES	**GERESS Array B**	**77.28**	**336**	P	**P**	**11 39 02.1**	**+1.8**
GERES				*PP	pP	11 39 13.8	+0.6
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**77.28**	**336**	P	**P**	**11 39 02.1**	**+1.8**
	comp=Z,0.9nm,0.6s,mb3.9,baz=37,slow=6.7,SNR=5.8						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**6.70**	**99**	P	**P**	**12 05 09.0**	**+2.1**
NST	**Nakhon Sawan**	**7.21**	**74**	P	**P**	**12 05 13.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**7.43**	**50**	Pn	**Pn**	**12 05 15.7**	**-1.7**
	1.8nm,0.3s,baz=241,slow=15,SNR=33						
CMAR				Sn	**Sn**	**12 06 35.6**	**-5.8**
	3.8nm,0.3s,baz=237,slow=27,SNR=11						
CHRT	**Chiangrai**	**8.95**	**46**	P	**S**	**12 07 11.5**	**-7.5**
	184nm,1.2s						
NANT	**Nan**	**8.99**	**55**	P	**S**	**12 07 10.5**	**-9.4**
BWNR	**Bhubaneshwar**	**9.46**	**315**	*e*	**P**	**12 05 57.0**	**+12**
VIS	**Vishakhapatnam**	**10.09**	**294**	*eP*	**P**	**12 05 52.5**	**-1.6**
VIS				*eS*	**S**	**12 07 38.6**	**-8.6**
VIS				*e*		12 07 40.6	
	comp=N,89nm,0.2s						
VIS				*e*		12 07 40.6	
	comp=E,53nm,0.4s						
SHL	**Shillong**	**11.82**	**355**	*eP*	**P**	**12 06 13.0**	**-4.7**
SHL				*eS*	**S**	**12 08 18.0**	**-12**
BLSP	**Bilaspur**	**13.26**	**311**	*eP*	**P**	**12 06 40.3**	**+3.4**
BLSP				*e*	**S**	**12 08 52.8**	**-11**
HYB	**Hyderabad**	**14.35**	**287**	*i P*	**P**	**12 06 57.0**	**+5.7**
HYB				*e*		12 09 19.5	
HYB				*eS*	**S**	**12 09 29.0**	**-1.3**
JIRN	**Jiri**	**15.24**	**337**	*eP*	**P**	**12 07 03.1**	**+0.3**
	comp=E,22nm,0.5s						
PKI	**Pulchoki**	**15.47**	**334**	*eP*	**P**	**12 07 04.3**	**-1.6**
	comp=E,52nm,0.8s						
ALBI	**Allahabad**	**15.58**	**319**	*eS*	**S**	**12 10 05.0**	**+5.9**
DMN	**Daman**	**15.64**	**333**	*eP*	**P**	**12 07 07.1**	**-0.9**
	comp=E,69nm,0.8s						
KKN	**Kakani**	**15.72**	**334**	*eP*	**P**	**12 07 08.1**	**-0.9**
LSA	**Lhasa**	**15.99**	**354**	P	**P**	**12 07 16.0**	**+3.6**
LSA	**Lhasa**	**15.99**	**354**	*eP*	**P**	**12 07 13.4**	**+1.0**
	comp=E,6.3nm,0.5s						
GKN	**Gorkha**	**16.18**	**333**	*eP*	**P**	**12 07 13.4**	**-1.6**
KOLN	**Koldanda**	**16.48**	**329**	*eP*	**P**	**12 07 17.8**	**-0.8**
	comp=E,27nm,0.6s						
KAD	**Karad**	**18.44**	**284**	*e*	**P**	**12 07 34.0**	**-9.3**
KAD				*e*	**S**	**12 10 57.0**	**-7.4**
POO	**Poona**	**18.96**	**287**	*eP*	**P**	**12 07 50.0**	**+0.4**
POO				*i S*	**S**	**12 11 30.0**	**+14**
PTH	**Pithoragarh**	**19.68**	**325**	*e*	**S**	**12 11 22.0**	**-10**
NDI	**New Delhi**	**20.86**	**318**	*e*	**S**	**12 11 42.5**	**-13**
DDI	**Dehra Dun**	**21.49**	**323**	*eP*	**P**	**12 08 17.2**	**+0.9**
DDI				*e*		12 12 06.2	
ENH	**Enshi**	**22.45**	**40**	*eP*	**P**	**12 08 25.5**	**-0.4**
	comp=E,13nm,0.8s,mb4.4						
LZH	**Lanzhou**	**24.32**	**22**	⇓P	**P**	**12 08 46.5**	**+2.3**
LZH				AP		12 08 53.5	
LZH				XP		12 08 57.3	
LZH				AMB	AMB		
	comp=Z,61nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,241nm,5.1s						
LZH				LR	LR		
	comp=N,531nm,10.0s						
LZH				LR	LR		
	comp=Z,957nm,13.5s,MS4.5						
XAN	**Xi'an**	**24.88**	**33**	P	**P**	**12 08 49.1**	**-0.5**
XAN				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.5						
SONM	**Songino Array**	**35.80**	**16**	P	**P**	**12 10 27.6**	**+1.0**
	comp=Z,3.9nm,1.0s,mb4.3,baz=207,slow=8.3,SNR=18						
KURK	**Kurchatov**	**38.69**	**345**	*eP*	**P**	**12 10 51.4**	**+0.7**
	comp=Z,3.9nm,0.9s,mb4.1						
BVAR	**Borovoye Array**	**43.12**	**340**	P	**P**	**12 11 28.6**	**+1.4**
	comp=Z,0.7nm,0.6s,mb3.6,baz=153,slow=6.6,SNR=4.1						
CHKZ	**Chkalovo**	**43.59**	**341**	*eP*	**P**	**12 11 32.1**	**+1.0**
	comp=Z,6.1nm,1.0s,mb4.3						
FITZ	**Fitzroy Crossi**	**45.16**	**134**	*eP*	**P**	**12 11 44.5**	**+0.4**
	comp=Z,5.5nm,1.1s,mb4.3						
WRA	**Warramunga Arr**	**52.70**	**129**	P	**P**	**12 12 41.9**	**-0.3**
	comp=Z,1.3nm,0.5s,mb4.1,baz=298,slow=9.7,SNR=43						
WRA				PcP	PcP	12 13 53.0	+1.2
	comp=Z,0.7nm,0.4s,baz=321,slow=3.2,SNR=10						
WRAB	**Tennant Creek**	**52.70**	**129**	*eP*	**P**	**12 12 40.8**	**-1.5**
	comp=Z,6.0nm,0.7s,mb4.6						
WB2	**Warramunga Arr**	**52.70**	**129**	⇑*iP*	**P**	**12 12 41.3**	**-1.0**
ASPA	**Alice Springs**	**54.62**	**133**	*eP*	**P**	**12 12 55.7**	**-0.7**
ASAR	**Alice Springs**	**54.62**	**133**	P	**P**	**12 12 55.9**	**-0.6**
	comp=Z,3.5nm,0.4s,mb4.8,baz=309,slow=6.9,SNR=151						
BRTR	**Keskin Array B**	**57.82**	**308**	P	**P**	**12 13 19.6**	**+0.5**
	comp=Z,2.8nm,0.8s,mb4.3,baz=122,slow=8.3,SNR=11						
STKA	**Stephens Creek**	**65.01**	**135**	P	**P**	**12 14 07.5**	**-0.2**
	comp=Z,1.3nm,0.7s,mb4.1,baz=307,slow=9.5,SNR=4.7						
FINES	**FINESS Array B**	**67.04**	**331**	P	**P**	**12 14 20.6**	**+0.5**
	comp=Z,1.5nm,0.7s,mb4.1,baz=149,slow=11,SNR=5.8						
ARCES	**ARCESS Array B**	**69.41**	**340**	P	**P**	**12 14 36.1**	**+1.4**
	comp=Z,2.3nm,0.7s,mb4.2,baz=90,slow=6.1,SNR=7.8						
GERES	**GERESS Array B**	**72.74**	**317**	P	**P**	**12 14 56.2**	**+1.2**
	comp=Z,1.0nm,0.6s,mb3.9,baz=104,slow=5.5,SNR=6.4						
NOA	**NORSAR Array B**	**74.11**	**330**	P	**P**	**12 15 03.7**	**+0.9**
	comp=Z,2.0nm,1.0s,mb4.0,baz=90,slow=5.7,SNR=3.2						
LPG	**La Plagne**	**77.71**	**314**	*eP*	**P**	**12 15 25.5**	**+1.9**
	comp=Z,10nm,0.8s,mb4.5						
TXAR	**Lajitas Array**	**134.28**	**20**	PKhKP		12 22 41.3	
	comp=Z,0.3nm,0.9s,baz=117,slow=2.8,SNR=3.6						

JMA 17 12:14:28.4±0.1, 25.98N×129.70E, h45km, M3.5, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**1.38**	**96**	P	P	12 14 51.8	+0.1
JMZ				*eS*	S	12 15 07.5	-1.5
JOW	**Kunigami**	**1.53**	**304**	P	P	12 14 54.2	+0.3
JOW				*eS*	S	12 15 11.8	-1.0
JJT2	**Tamagusuku 2**	**1.76**	**276**	P	P	12 14 57.8	+0.8
JJT2				*eS*	S	12 15 18.6	+0.2
NAH1	**Naha**	**1.82**	**277**	P	P	12 14 58.4	+0.5
NAH1				*eS*	S	12 15 19.0	-0.8
JIH	**Iheya**	**1.88**	**304**	P	P	12 14 59.0	+0.4
JIH				*eS*	S	12 15 20.3	-0.9
JTK	**Tokunoshima**	**1.92**	**340**	P	P	12 14 59.8	+0.5
JTK				*eS*	S	12 15 20.7	-1.6
JAGN	**Aguni-jima**	**2.29**	**286**	P	P	12 15 04.5	0.0
JAGN				*eS*	S	12 15 30.7	-0.9
JZK	**Kikaishima**	**2.34**	**6**	S	S	12 15 33.1	+0.2
JAM	**Amami Oshima**	**2.42**	**358**	P	P	12 15 07.9	+1.4
JAM				*eS*	S	12 15 32.5	-2.6
JKE	**Kume jima 2**	**2.64**	**278**	P	P	12 15 08.9	-0.7
JKE				S	S	12 15 38.1	-2.5
JOGS	**Gusukube**	**4.07**	**254**	*eS*	S	12 16 12.4	-4.4
JTJ	**Tarama**	**4.72**	**255**	*eS*	S	12 16 28.0	-5.0

IDC 17 12:23:44.5±2.2, 12.20N×139.56E, mb3.6/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=238.1km s-min=30.1km az=105.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.35**	**189**	P	P	12 30 15.4	-2.6
	0.6nm,0.7s,baz=8.7,slow=9.8,SNR=7.6						
ASAR	**Alice Springs**	**36.07**	**189**	P	P	12 30 48.5	-1.5
	0.4nm,0.7s,baz=18,slow=12,SNR=5.8						
YKA	**Yellowknife Ar**	**86.44**	**27**	P	P	12 36 28.7	-1.2
	0.6nm,0.7s,baz=287,slow=5.0,SNR=9.8						

*MAN **17** 12:36:50.9, 9.01N×125.87E, h7km, mb4.5, ML3.4, MS3.3*
*IDC **17** 12:37:02.2±34.0, 7.33N×126.76E, mb3.7/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=588.7km s-min=115.6km az=157.0*
ISC 17 12:36:49.2±0.9, 9.08N±0.04×126.09E±0.05, h26km±6km, n14, σ1°09/22, mb3.7/4, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.47**	**257**	*eP*	**Pb**	**12 36 57.4**	**-1.6**
BUTP				*eS*	**Sb**	**12 37 03.8**	**-2.0**
SCPH	**Surigao**	**0.91**	**320**	⇓*eP*	**Pb**	**12 37 06.7**	**+0.4**
SCPH				*eS*	**Sb**	**12 37 19.9**	**+1.8**
BIPH	**Bislig**	**0.93**	**163**	⇓*iP*	**Pb**	**12 37 07.1**	**+0.5**
BIPH				*i S*	**Sb**	**12 37 19.7**	**+1.1**
CGP	**Cagayan de Oro**	**1.51**	**246**	⇑*eP*	**Pn**	**12 37 14.5**	**-0.5**
CGP				*eS*	**Sn**	**12 37 35.6**	**-0.3**
BUKP	**Musuan**	**1.57**	**220**	*eP*	**Pn**	**12 37 15.6**	**-0.2**
BUKP				*eS*	**Sn**	**12 37 36.7**	**+1.3**
MSLP	**Maasin**	**1.60**	**311**	*eP*	**Pn**	**12 37 16.4**	**+0.1**
MSLP				*eS*	**Sn**	**12 37 36.9**	**+0.6**
TBP	**Tagbilaran**	**2.28**	**286**	*eP*	**Pn**	**12 37 25.9**	**-0.1**
TBP				*eS*	**Sn**	**12 37 53.2**	**-0.2**
KCP	**Kidapawan**	**2.28**	**206**	⇑*eP*	**Pn**	**12 37 26.9**	**+0.9**
KCP				*i S*	**Sn**	**12 37 55.3**	**+1.7**
PLP	**Palo**	**2.34**	**332**	*eP*	**Pn**	**12 37 30.9**	**+4.0**
BESP	**Borongan**	**2.58**	**346**	*eP*	**Pn**	**12 37 35.1**	**+4.8**
WRA	**Warramunga Arr**	**29.96**	**164**	P	**P**	**12 42 55.8**	**-2.2**
	0.3nm,0.5s,mb3.3,baz=346,slow=9.5,SNR=4.0						
ASAR	**Alice Springs**	**33.43**	**167**	P	**P**	**12 43 27.1**	**-1.2**
	0.3nm,0.4s,mb3.6,baz=353,slow=7.2,SNR=18						
CTA	**Charters Tower**	**35.13**	**146**	P	**P**	**12 43 42.5**	**-0.5**
	1.9nm,0.8s,mb4.1,baz=339,slow=8.6,SNR=4.2						
STKA	**Stephens Creek**	**43.34**	**161**	P	**P**	**12 44 50.7**	**-0.5**
	0.8nm,0.3s,mb3.9,baz=351,slow=9.1,SNR=9.5						

*IDC **17** 13:07:30.2±1.5, 2.81N×94.10E, h21km±5km, mb3.7/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, ML3.7/1, MS3.3/1, Ms1 3.5/1, ms1mx3.2/19, Error ellipse: s-maj=54.9km s-min=17.0km az=58.0*
*NEIC **17** 13:07:30.1±0.7, 2.73N×94.01E, mb4.5/5, Error ellipse: s-maj=23.2km s-min=9.0km az=60.0*
ISC 17 13:07:28.1±1.0, 2.7N±0.1×94.0E±0.2, h23km, h23km±4km: pP-P, n13, σ0°61/13, mb4.1/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.37**	**17**	Pn	**P**	**13 11 18.9**	**+0.5**
	0.1nm,0.3s,baz=213,slow=11,SNR=22						
CMAR				LR	LR	13 17 45.7	
	comp=Z,94nm,18.6s,baz=200,slow=38						
LSA	**Lhasa**	**26.96**	**355**	*eP*	**P**	**13 13 10.9**	**+0.8**
	7.2nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**45.57**	**121**	P	**P**	**13 15 48.3**	**-0.3**
	2.0nm,1.0s,mb4.0,baz=300,slow=8.8,SNR=8.3						
WRAB	**Tennant Creek**	**45.57**	**121**	*eP*	**P**	**13 15 48.8**	**+0.2**
	11nm,1.2s,mb4.7						
WRAB				*ep*P	pP	13 15 55.1	-0.3
SONM	**Songino Array**	**46.19**	**12**	P	**P**	**13 15 52.2**	**-0.9**
	1.9nm,0.9s,mb4.0,baz=188,slow=8.9,SNR=12						
SONM				pP	pP	13 15 59.3	-0.7
	2.3nm,0.8s,baz=193,slow=7.9,SNR=11						
ASAR	**Alice Springs**	**46.88**	**126**	P	**P**	**13 15 59.0**	**+0.2**
	2.0nm,1.1s,mb3.9,baz=305,slow=7.3,SNR=6.9						
ASAR				pP	pP	13 16 05.8	+0.1
	4.1nm,1.2s,baz=296,slow=7.7,SNR=7.8						
KURK	**Kurchatov**	**49.54**	**347**	*eP*	**P**	**13 16 19.2**	**-0.1**
	2.8nm,1.0s,mb4.2						
KURK				*ep*P	pP	13 16 26.3	+0.2
ZAL	**Zalesovo**	**51.60**	**353**	P	**P**	**13 16 35.1**	**+0.3**
	1.2nm,0.6s,mb4.0,baz=276,slow=4.0,SNR=8.5						
BVAR	**Borovoye Array**	**53.80**	**343**	P	**P**	**13 16 50.8**	**-0.4**
	1.1nm,0.8s,mb3.8,baz=180,slow=7.2,SNR=5.8						
BVAR				pP	pP	13 16 57.4	-0.8
	2.3nm,0.9s,baz=127,slow=7.4,SNR=6.2						
BVAR	**Borovoye Array**	**53.80**	**343**	P	**P**	**13 16 50.8**	**-0.4**
BVAR				pP	pP	13 16 57.4	-0.8
BRVK	**Borovoye**	**53.86**	**343**	*eP*	**P**	**13 16 51.0**	**-0.7**
	2.0nm,0.7s,mb4.2						
BRVK				*ep*P	pP	13 16 58.3	-0.2
CHKZ	**Chkalovo**	**54.30**	**343**	*eP*	**P**	**13 16 54.1**	**-0.7**
	6.8nm,1.0s,mb4.5						
CHKZ				*ep*P	pP	13 17 01.0	-0.8
GERES	**GERESS Array B**	**81.55**	**319**	P	**P**	**13 19 46.7**	**+1.2**
	0.4nm,0.7s,mb3.5,baz=104,slow=5.5,SNR=3.8						

*IDC **17** 13:32:45.9±1.0, 12.92N×93.91E, mb4.0/8, mb1 4.2/9, mb1mx4.0/18, mbtmp4.0/9, ML3.8/1, MS2.9/1, Ms1 3.1/1, ms1mx2.5/24, Error ellipse: s-maj=36.4km s-min=18.9km az=54.0*
*BJI **17** 13:32:48.9, 12.70N×93.80E, h42km, mB4.9, mb4.2, Ms4.0, Msz4.0*
*NEIC **17** 13:32:50.6±0.5, 12.94N×93.98E, h30km, mb4.2/3, Error ellipse: s-maj=14.5km s-min=8.8km az=60.0*
ISC 17 13:32:48.6±0.7, 12.94N±0.09×93.98E±0.09, h30km, n22, σ0°72/22, mb4.1/11, MS4.0/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.27**	**40**	Pn	**Pn**	**13 34 34.5**	**-1.1**
	0.4nm,0.3s,baz=234,slow=15,SNR=15						
CMAR				LR	LR	13 37 59.1	
	comp=Z,94nm,21.6s,baz=220,slow=43						
CMAR	**Chiang Mai Arr**	**7.27**	**40**	Pn	**Pn**	**13 34 34.5**	**-1.1**
CMAR				LR	LR	13 37 59.1	
SHL	**Shillong**	**12.71**	**351**	*eP*	**P**	**13 35 46.0**	**-4.3**
HYB	**Hyderabad**	**15.54**	**289**	*i P*	**P**	**13 36 28.0**	**+0.6**
JIRN	**Jiri**	**16.35**	**335**	*eP*	**P**	**13 36 37.7**	**-0.1**
	29nm,0.6s						
PKI	**Pulchoki**	**16.61**	**332**	*eP*	**P**	**13 36 41.0**	**-0.1**
	45nm,0.7s						
DMN	**Daman**	**16.79**	**332**	*eP*	**P**	**13 36 43.8**	**+0.5**
	25nm,0.7s						
KKN	**Kakani**	**16.86**	**332**	*eP*	**P**	**13 36 43.9**	**-0.3**
LSA	**Lhasa**	**16.88**	**351**	*eP*	**P**	**13 36 45.9**	**+1.4**
	7.4nm,0.6s						
GKN	**Gorkha**	**17.34**	**331**	*eP*	**P**	**13 36 49.7**	**-0.5**
	31nm,0.5s						
KOLN	**Koldanda**	**17.66**	**328**	*eP*	**P**	**13 36 52.8**	**-1.3**
	35nm,0.6s						
LZH	**Lanzhou**	**24.70**	**19**	*eP*	**P**	**13 38 10.5**	**+2.0**
LZH				AP		13 38 20.3	
LZH				XP		13 38 24.1	
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,98nm,4.5s						
LZH				LR	LR		
	comp=N,193nm,13.2s						
LZH				LR	LR		
	comp=Z,394nm,17.3s,MS4.0						
SONM	**Songino Array**	**36.30**	**14**	P	**P**	**13 39 51.6**	**+0.2**
	comp=Z,2.2nm,1.0s,mb4.0,baz=202,slow=7.7,SNR=11						
ZAL	**Zalesovo**	**41.54**	**352**	P	**P**	**13 40 35.3**	**+0.4**
	comp=Z,2.2nm,0.5s,mb4.1,baz=350,slow=5.1,SNR=6.2						
CHKZ	**Chkalovo**	**44.66**	**340**	*eP*	**P**	**13 40 59.9**	**-0.4**
	comp=Z,4.1nm,1.1s,mb4.2						
WRA	**Warramunga Arr**	**51.43**	**129**	P	**P**	**13 41 53.4**	**-0.1**
	comp=Z,1.1nm,0.9s,mb3.8,baz=308,slow=8.0,SNR=18						
WRAB	**Tennant Creek**	**51.44**	**129**	*eP*	**P**	**13 41 53.6**	**+0.1**
	comp=Z,2.8nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**53.37**	**133**	P	**P**	**13 42 07.8**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=307,slow=7.0,SNR=11						
BRTR	**Keskin Array B**	**59.09**	**309**	P	**P**	**13 42 48.8**	**+0.1**
	comp=Z,1.2nm,0.6s,mb4.1,baz=125,slow=7.1,SNR=5.2						
FINES	**FINESS Array B**	**68.20**	**331**	P	**P**	**13 43 47.5**	**-0.6**
	comp=Z,2.9nm,0.9s,mb4.3,baz=135,slow=9.8,SNR=4.6						
ARCES	**ARCESS Array B**	**70.48**	**340**	P	**P**	**13 44 02.0**	**-0.1**
	comp=Z,3.8nm,0.9s,mb4.3,baz=63,slow=5.4,SNR=6.8						
GERES	**GERESS Array B**	**73.99**	**317**	P	**P**	**13 44 23.1**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=104,slow=5.5,SNR=5.5						

*IDC **17** 13:47:23.6±11.0, 14.03N×91.33E, mb4.0/2, mb1 4.0/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=243.3km s-min=51.3km az=116.0*
ISC 17 13:47:25.9±1.3, 14.2N±0.1×91.4E±0.2, h33km, n8, σ0°52/8, mb4.0/2, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.43**	**58**	Pn	**P**	**13 49 28.8**	**+0.1**
	baz=244,slow=15,SNR=3.1						
JIRN	**Jiri**	**14.29**	**341**	*eP*	**P**	**13 50 46.9**	**-1.0**
	6.3nm,0.3s						
PKI	**Pulchoki**	**14.47**	**338**	*eP*	**P**	**13 50 50.4**	**+0.1**
	5.5nm,0.4s						
DMN	**Daman**	**14.61**	**337**	*eP*	**P**	**13 50 52.1**	**-0.1**
	6.9nm,0.4s						
KKN	**Kakani**	**14.71**	**338**	*eP*	**P**	**13 50 53.7**	**+0.2**
GKN	**Gorkha**	**15.14**	**337**	*eP*	**P**	**13 51 00.0**	**+0.8**
	15nm,0.3s						
WRA	**Warramunga Arr**	**54.16**	**128**	P	**P**	**13 56 50.2**	**-0.4**
	1.0nm,0.7s,mb3.9,baz=306,slow=11,SNR=17						
ASAR	**Alice Springs**	**56.05**	**132**	P	**P**	**13 57 04.6**	**+0.4**
	0.8nm,0.4s,mb4.1,baz=310,slow=7.0,SNR=33						

IDC 17 13:50:33.2±26.0, 23.01S×173.51W, mb4.2/4, mb1 4.4/4, mb1mx4.0/14, mbtmp4.2/4, Error ellipse: s-maj=481.1km s-min=139.8km az=79.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.46**	**267**	P	P	13 57 49.5	-0.8
	4.4nm,0.4s,baz=93,slow=12,SNR=13						
STKA	**Stephens Creek**	**40.58**	**247**	P	P	13 58 13.7	-2.5
	0.8nm,0.4s,baz=103,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**48.06**	**258**	P	P	13 59 14.4	-2.1
	0.7nm,0.4s,baz=95,slow=7.4,SNR=39						
ASPA	**Alice Springs**	**48.06**	**258**	*eP*	P	13 59 14.5	-2.1
WB2	**Warramunga Arr**	**48.41**	**263**	*eP*	P	13 59 17.5	-1.9
WRA	**Warramunga Arr**	**48.42**	**263**	P	P	13 59 17.8	-1.7
	1.6nm,0.3s,baz=101,slow=8.3,SNR=70						

*MAN **17** 13:55:53.7, 12.16N×125.75E, h1km, mb4.9, ML3.8, MS3.8*
*IDC **17** 13:55:53.3±0.7, 12.07N×125.85E, mb3.9/10, mb1 4.1/11, mb1mx4.1/19, mbtmp4.0/11, ML4.5/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/20, Error ellipse: s-maj=38.1km s-min=15.4km az=68.0*
*BJI **17** 13:55:55.6, 11.58N×126.63E, h83km, mB5.2, mb4.5*
*NEIC **17** 13:56:03.6±2.1, 11.99N×125.68E, h83km±19km, mb4.4/6, Error ellipse: s-maj=24.7km s-min=8.0km az=63.0*
ISC 17 13:55:55.0±1.6, 12.13N±0.04×125.84E±0.06, h21km±12km, n46, σ1°04/54, mb4.1/17, 5C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.65**	**217**	*eP*	**Pb**	**13 56 06.0**	**-1.6**
PLP	**Palo**	**1.27**	**221**	*eP*	**Pn**	**13 56 16.8**	**-1.1**
PLP				*eS*	**Sb**	**13 56 30.4**	**-3.7**
OCLP	**Ormoc**	**1.61**	**229**	*eP*	**Pn**	**13 56 22.8**	**+0.2**
OCLP				*eS*	**Sn**	**13 56 48.6**	**+5.6**
MMPH	**Masbate**	**2.18**	**276**	*eP*	**Pn**	**13 56 32.0**	**+1.2**
MMPH				*i S*	**Sn**	**13 57 01.0**	**+3.6**
PVCP	**Virac**	**2.20**	**312**	*eP*	**Pn**	**13 56 29.8**	**-1.3**
PVCP				*eS*	**Sn**	**13 56 53.0**	**-4.9**
MSLP	**Maasin**	**2.20**	**206**	*eP*	**Pn**	**13 56 32.8**	**+1.7**
SCPH	**Surigao**	**2.35**	**188**	⇑*eP*	**Pn**	**13 56 33.9**	**+0.5**
SCPH				*eS*	**Sn**	**13 57 07.9**	**+6.0**
LLP	**Lapu-Lapu**	**2.57**	**226**	⇑*eP*	**Pn**	**13 56 36.8**	**+0.4**
LLP				*eS*	**Sn**	**13 57 07.8**	**+0.4**
RCP	**Roxas**	**3.08**	**260**	⇑*eP*	**Pn**	**13 56 43.8**	**+0.1**
TBP	**Tagbilaran**	**3.10**	**219**	*i P*	**Pn**	**13 56 45.1**	**+1.1**
BUTP	**Butuan**	**3.15**	**184**	*eP*	**Pn**	**13 56 49.5**	**+4.9**
GUIM	**Jordan**	**3.52**	**245**	*eP*	**Pn**	**13 56 50.1**	**+0.2**
GUIM				*eS*	**Sn**	**13 57 29.6**	**-1.8**
OTRP	**Odiongan**	**3.74**	**274**	*eP*	**Pn**	**13 56 52.6**	**-0.4**
GQP	**Guinayangan**	**3.75**	**298**	*eP*	**Pn**	**13 56 53.6**	**+0.5**
BIPH	**Bislig**	**3.95**	**172**	⇑*eP*	**Pn**	**13 57 01.7**	**+5.7**
BIPH				*eS*	**Sn**	**13 57 39.2**	**-3.1**
BOAC	**Boac**	**4.12**	**289**	*eP*	**Pn**	**13 56 58.3**	**-0.1**
BUKP	**Musuan**	**4.29**	**190**	*eP*	**Pn**	**13 57 05.2**	**+4.4**
POLP	**Polilio Island**	**4.59**	**305**	*eP*	**Pn**	**13 57 07.6**	**+2.5**
LQP	**Lukban**	**4.63**	**296**	⇑*eP*	**Pn**	**13 57 06.5**	**+0.8**
LQP				*i S*	**Sn**	**13 57 46.0**	**-14**
PAGZ	**Pagadian**	**4.89**	**210**	*eP*	**Pn**	**13 57 11.7**	**+2.3**
TGY	**Tagaytay City**	**5.16**	**293**	Pn	**Pn**	**13 57 17.6**	**+4.4**
	16nm,0.3s,baz=128,slow=8.6,SNR=6.5						
BUSP	**Coron**	**5.52**	**269**	*eP*	**Pn**	**13 57 17.8**	**-0.4**
LUBP	**Lubang**	**5.68**	**287**	*eP*	**Pn**	**13 57 25.9**	**+5.4**
CAUP	**Cauayan**	**6.17**	**321**	*eP*	**Pn**	**13 57 27.2**	**-0.2**
ENPP	**El Nido**	**6.35**	**262**	*eP*	**Pn**	**13 57 29.8**	**-0.2**
APYP	**Conner**	**7.23**	**323**	*eP*	**Pn**	**13 57 41.5**	**-0.8**
JOW	**Kunigami**	**14.81**	**9**	LR	LR	14 04 01.4	
	comp=Z,273nm,19.0s,baz=272,slow=33						
ENH	**Enshi**	**23.58**	**322**	P	**P**	**14 01 05.7**	**+0.4**
	3.9nm,0.4s,mb4.2						
CMAR	**Chiang Mai Arr**	**26.68**	**287**	P	**P**	**14 01 34.9**	**+0.1**
	1.6nm,0.7s,mb3.6,baz=96,slow=8.2,SNR=12						
WRA	**Warramunga Arr**	**32.95**	**165**	P	**P**	**14 02 28.2**	**-2.4**
	0.6nm,0.6s,mb3.7,baz=344,slow=9.3,SNR=5.7						
WRA				PcP	PcP	14 05 13.8	-1.0
	0.6nm,0.7s,baz=349,slow=3.2,SNR=4.9						
ASAR	**Alice Springs**	**36.44**	**167**	P	**P**	**14 02 59.5**	**-1.0**
	1.5nm,0.6s,mb4.1,baz=347,slow=7.2,SNR=21						
ASAR				PcP	PcP	14 05 23.4	-1.4
	0.6nm,0.4s,baz=347,slow=3.3,SNR=5.8						
CTAO	**Charters Tower**	**37.80**	**148**

TUZ SN Sn 14 16 25.0 +3.1
ODZ Otahua Downs 2.73 83 PN Pn 14 16 05.2 -1.7
FOZ Fox Glacier 2.78 48 PN Pn 14 16 08.0 +0.4
DSZ Denniston Nort 5.17 46 PN Pn 14 16 38.2 -3.3

IDC 17 14:19:19.5±12.0, 4.92N×94.25E, mb3.3/2, mb1 3.6/3, mb1mx3.4/18, mbtmp3.3/3, ML4.0/1, Error ellipse: s-maj=312.0km s-min=49.4km az=83.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.22**	**18**	Pn	P	14 22 42.5	-1.9
	0.2nm,0.3s,baz=210,slow=14,SNR=4.3						
WRA	**Warramunga Arr**	**46.51**	**123**	P	P	14 27 48.6	-2.2
	0.1nm,0.3s,baz=303,slow=8.9,SNR=4.9						
ASAR	**Alice Springs**	**47.98**	**128**	P	P	14 28 00.7	-1.7
	0.5nm,0.9s,baz=304,slow=7.7,SNR=4.2						

IDC 17 14:24:12.2±11.0, 12.85N×91.26E, mb3.8/2, mb1 3.8/3, mb1mx3.5/17, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=246.0km s-min=51.2km az=110.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.26**	**52**	Pn	P	14 26 27.4	-2.6
	0.1nm,0.3s,baz=240,slow=16,SNR=4.1						
CMAR				Sn	Sn	14 28 04.2	-12
	0.4nm,0.3s,baz=241,slow=29,SNR=8.1						
WRA	**Warramunga Arr**	**53.47**	**127**	P	P	14 33 33.9	-2.9
	0.6nm,0.7s,baz=307,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**55.28**	**131**	P	P	14 33 48.2	-1.8
	0.4nm,0.4s,baz=309,slow=7.1,SNR=16						

IDC 17 14:24:43.3±9.9, 13.55N×91.33E, mb3.8/2, mb1 3.9/3, mb1mx3.5/17, mbtmp3.6/3, ML3.4/1, MS4.0/1, Ms1 4.0/1, ms1mx3.3/17, Error ellipse: s-maj=203.9km s-min=51.6km az=113.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.79**	**55**	Pn	P	14 26 50.4	-4.3
	0.1nm,0.3s,baz=242,slow=15,SNR=4.1						
ASAJ	**Asahikawa**	**53.14**	**45**	LR	LR	14 58 29.6	
	comp=Z,140nm,18.5s,baz=136,slow=38						
WRA	**Warramunga Arr**	**53.84**	**127**	P	P	14 34 08.2	-2.4
	0.9nm,0.7s,baz=298,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**55.69**	**131**	P	P	14 34 22.2	-1.9
	0.5nm,0.5s,baz=309,slow=6.8,SNR=12						

*IDC **17** 14:51:25.3±1.9, 53.90N×166.70W, h70km±15km, mb4.0/17, mb1 4.1/19, mb1mx4.1/23, mbtmp4.3/19, MS3.2/1, Ms1 3.3/1, ms1mx2.9/28, Error ellipse: s-maj=20.7km s-min=12.8km az=5.0*

*NEIC **17** 14:51:25.5±0.2, 53.82N×166.74W, h74km±2km, mb4.2/5, Error ellipse: s-maj=6.3km s-min=2.8km az=157.0*

ISC 17 14:51:24.5±0.3, 53.84N±0.05×166.77W±0.05, h82km±2km, n88, σ0°96/95, mb4.2/25, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAT	**Makushin Natee**	**0.07**	**45**	P	**P**	**14 51 35.9**	**-0.3**
MSW	**Makushin Switc**	**0.08**	**353**	P	**P**	**14 51 36.2**	**0.0**
MTBL	**Makushin Table**	**0.14**	**21**	P	**P**	**14 51 36.7**	**+0.4**
UNV	**Unalaska Valle**	**0.16**	**86**	P	**P**	**14 51 35.6**	**-0.7**
UNV				S	**S**	**14 51 43.9**	**-1.3**
LVA	**Lava Point**	**0.54**	**53**	P	**P**	**14 51 39.4**	**+0.5**
AHB	**Akutan Harbor**	**0.63**	**63**	P	**P**	**14 51 39.7**	**-0.1**
AKA	**Akutan**	**0.66**	**62**	P	**P**	**14 51 40.0**	**-0.2**
AKA				S	**S**	**14 51 51.3**	**-0.4**
OKCD	**Okmok Cone D**	**0.90**	**244**	P	**P**	**14 51 42.7**	**0.0**
OKCD				S	**S**	**14 51 56.3**	**-0.1**
OKCE	**Okmok Cone E**	**0.93**	**244**	P	**P**	**14 51 43.3**	**+0.3**
WESS	**West Dahl Sout**	**1.36**	**61**	P	**P**	**14 51 48.8**	**+0.1**
WESS				S	**S**	**14 52 07.9**	**+1.4**
WFAR	**Faris Peak**	**1.36**	**58**	P	**P**	**14 51 49.1**	**+0.4**
WESN	**West Dahl Nort**	**1.48**	**59**	P	**P**	**14 51 50.4**	**+0.2**
NIKO	**Nikolski**	**1.52**	**236**	P	**P**	**14 51 50.4**	**-0.3**
NIKO				S	**S**	**14 52 10.8**	**+0.9**
WTUG	**Tugumak**	**1.72**	**53**	P	**P**	**14 51 53.7**	**+0.4**
WTUG				S	**S**	**14 52 15.9**	**+1.3**
SSLW	**Shishaldin Wes**	**1.81**	**58**	P	**P**	**14 51 54.8**	**+0.3**
SSLS	**Shishaldin Sou**	**1.84**	**60**	P	**P**	**14 51 55.3**	**+0.3**
SSLS				S	**S**	**14 52 19.1**	**+1.8**
FALS	**False Pass**	**2.21**	**61**	P	**P**	**14 52 00.5**	**+0.4**
FALS				S	**S**	**14 52 25.7**	**-0.6**
BALA	**Baldy Mountain**	**2.69**	**58**	P	**P**	**14 52 07.5**	**+0.8**
DT1	**Dutton Round H**	**2.91**	**62**	P	**P**	**14 52 09.7**	**-0.1**
DTNA	**Dutton South F**	**2.94**	**62**	P	**P**	**14 52 10.4**	**+0.1**
DOL	**Dolgoi Island**	**3.15**	**63**	P	**P**	**14 52 12.9**	**-0.2**
HAG	**Hague Volcano**	**3.20**	**60**	P	**P**	**14 52 14.2**	**+0.5**
PVV	**Pavlof Volcano**	**3.28**	**60**	P	**P**	**14 52 14.1**	**-0.8**
SPIA	**Saint Paul Isl**	**3.89**	**331**	P	**P**	**14 52 26.2**	**+2.8**
ATKA	**Atka Island**	**4.77**	**253**	P	**P**	**14 52 34.8**	**-0.8**
GSMY	**Great Sitkin M**	**5.90**	**256**	P	**P**	**14 52 50.1**	**-0.9**
KIWB	**Kanaga Island**	**6.60**	**257**	*eP*	**P**	**14 53 01.3**	**+0.6**
KIMD	**Kanaga Island**	**6.68**	**256**	P	**P**	**14 53 01.1**	**-0.9**
KDAK	**Kodiak Island**	**8.91**	**58**	P	**P**	**14 53 29.1**	**-3.3**
SVW2	**Sparrevohn**	**9.44**	**35**	*eP*	**P**	**14 53 41.4**	**+1.8**
ILW	**Iliamna West**	**9.70**	**45**	P	**P**	**14 53 41.1**	**-1.9**
RSO	**Redoubt South**	**10.09**	**43**	*eP*	**P**	**14 53 49.9**	**+1.7**
CNPM	**China Poot**	**10.26**	**50**	P	**P**	**14 53 48.8**	**-1.7**
GAMB	**Gambell**	**10.29**	**348**	P	**P**	**14 53 51.3**	**+0.4**
CKL	**Chakachamna La**	**10.69**	**41**	P	**P**	**14 53 55.2**	**-1.1**
TT01	**Tatalina**	**10.69**	**27**	P	**P**	**14 53 54.5**	**-1.8**
SPU	**Mount Spurr**	**10.79**	**41**	*eP*	**P**	**14 54 00.0**	**+2.4**
ANM	**Nome**	**10.79**	**3**	P	**P**	**14 53 56.7**	**-0.9**
TNA	**Tin City**	**11.78**	**358**	P	**P**	**14 54 09.8**	**-1.1**
PWA	**Palmer West**	**11.91**	**42**	*eP*	**P**	**14 54 19.1**	**+6.4**
FX1	**Attu Island--F**	**12.03**	**274**	P	**P**	**14 54 15.1**	**+0.8**
	0.9nm,0.3s,baz=108,slow=16,SNR=4.9						
DIV	**Divide**	**13.40**	**49**	*eP*	**P**	**14 54 31.2**	**-1.1**
COLA	**College**	**14.60**	**33**	*eP*	**P**	**14 54 46.7**	**-1.0**
	8.0nm,0.9s						
ILAR	**Eielson Array**	**14.85**	**35**	P	**P**	**14 54 48.3**	**-2.7**
	0.2nm,0.3s,baz=234,slow=10,SNR=16						
ILAR				LR	LR	15 00 51.4	
	comp=Z,91nm,20.7s,baz=76,slow=38						
ILAR				ScP		15 03 23.0	
	0.0nm,0.3s,baz=263,slow=2.8,SNR=4.5						
DAWY	**Dawson**	**17.29**	**43**	*eP*	**P**	**14 55 22.7**	**+1.1**
DLBC	**Dease Lake**	**20.80**	**62**	P	**P**	**14 56 02.8**	**+2.0**
	9.4nm,0.8s,baz=297,slow=11,SNR=12						
DLBC	**Dease Lake**	**20.80**	**62**	*eP*	**P**	**14 56 00.1**	**-0.7**
INK	**Inuvik**	**21.25**	**34**	P	**P**	**14 56 03.0**	**-2.3**
	6.1nm,0.5s,mb4.2,baz=218,slow=12,SNR=17						
INK				ScP		15 03 37.0	
	1.4nm,0.9s,baz=216,slow=4.0,SNR=5.7						
INK	**Inuvik**	**21.25**	**34**	*eP*	**P**	**14 56 03.0**	**-2.3**
	6.0nm,0.5s,mb4.2						
MA2	**Magadan**	**23.68**	**301**	*eP*	**P**	**14 56 31.0**	**+2.2**
	2.3nm,0.6s,mb3.7						
YKW3	**Yellowknife Ar**	**28.08**	**51**	*eP*	**P**	**14 57 09.1**	**-0.9**
YKA	**Yellowknife Ar**	**28.10**	**51**	P	**P**	**14 57 09.8**	**-0.3**
	2.3nm,0.4s,mb4.0,baz=275,slow=8.3,SNR=52						
YKA				PcP	PcP	15 00 21.5	-1.2
	0.4nm,0.6s,baz=287,slow=2.3,SNR=5.1						
YKA				ScP		15 03 56.5	
	1.3nm,0.8s,baz=282,slow=3.2,SNR=18						
YKA	**Yellowknife Ar**	**28.10**	**51**	P	**P**	**14 57 09.8**	**-0.3**
YKA				PcP	PcP	15 00 21.6	-1.2
YKA				ScP		15 03 56.5	
EDM	**Edmonton**	**31.13**	**69**	*eP*	**P**	**14 57 36.9**	**-0.2**
YBH	**Yreka Blue Hor**	**31.47**	**94**	P	**P**	**14 57 40.9**	**+0.7**
	2.6nm,0.8s,mb4.0,baz=281,slow=5.0,SNR=7.9						
HRY	**Holter Researc**	**35.04**	**79**	*eP*	**P**	**14 58 10.9**	**-0.1**
MCMT	**McKenzie Canyo**	**35.48**	**82**	*eP*	**P**	**14 58 14.5**	**-0.2**
NVAR	**Mina Array Bea**	**36.17**	**95**	PcP	PcP	15 00 45.4	+0.5
	0.8nm,0.7s,baz=270,slow=1.8,SNR=4.8						
FFC	**Flin Flon**	**36.63**	**62**	P	**P**	**14 58 24.6**	**+0.3**
YMR	**Madison River**	**36.68**	**81**	*eP*	**P**	**14 58 25.1**	**+0.3**
BW06	**Boulder Array**	**38.62**	**83**	*eP*	**P**	**14 58 41.4**	**+0.4**
	2.1nm,0.7s,mb4.1						
PDAR	**Pinedale Array**	**38.62**	**83**	P	**P**	**14 58 41.2**	**+0.3**
	2.4nm,0.7s,mb4.2,baz=295,slow=4.0,SNR=14						
FCC	**Fort Churchill**	**38.80**	**53**	*eP*	**P**	**14 58 42.1**	**-0.2**
	10nm,0.8s,mb4.7						
SDCO	**Great Sand Dun**	**44.20**	**86**	*eP*	**P**	**14 59 26.9**	**+0.1**
MNTX	**Cornudas Mount**	**48.46**	**91**	*eP*	**P**	**15 00 00.4**	**0.0**
	2.4nm,0.9s,mb4.0						
SUMG	**Summit**	**48.91**	**18**	*eP*	**P**	**15 00 03.6**	**+0.3**
TXAR	**Lajitas Array**	**51.19**	**92**	P	**P**	**15 00 20.7**	**-0.6**
	1.6nm,0.5s,mb4.3,baz=303,slow=5.6,SNR=26						
TXAR				PcP	PcP	15 01 35.8	0.0
	0.7nm,0.5s,baz=278,slow=2.3,SNR=3.9						
SONM	**Songino Array**	**51.89**	**301**	P	**P**	**15 00 26.4**	**+0.1**
	0.6nm,0.5s,mb3.9,baz=24,slow=6.8,SNR=7.6						
SONM				PcP	PcP	15 01 38.4	+0.3
	2.7nm,0.6s,baz=48,slow=1.8,SNR=19						
SONM				ScP		15 05 27.4	
	0.9nm,0.7s,baz=34,slow=3.1,SNR=6.7						
SCHQ	**Schefferville**	**53.29**	**45**	P	**P**	**15 00 35.4**	**-1.3**
	3.5nm,0.7s,mb4.5,baz=300,slow=7.7,SNR=9.9						
ARCES	**ARCESS Array B**	**56.62**	**355**	P	**P**	**15 01 00.6**	**+0.1**
	6.3nm,1.1s,mb4.6,baz=337,slow=6.9,SNR=3.7						
ARCES				PcP	PcP	15 01 55.1	-0.7
	5.7nm,0.7s,baz=13,slow=5.2,SNR=8.1						
ZAL	**Zalesovo**	**57.40**	**318**	P	**P**	**15 01 05.8**	**-0.6**
	1.2nm,0.3s,mb4.4,baz=342,slow=6.0,SNR=4.4						
ZAL				PcP	PcP	15 01 59.4	+0.3
	1.7nm,0.4s,baz=114,slow=6.0,SNR=7.7						
BVAR	**Borovoye Array**	**63.41**	**325**	P	**P**	**15 01 47.3**	**+0.2**
	3.5nm,0.6s,mb4.5,baz=53,slow=7.4,SNR=32						
BVAR				PcP	PcP	15 02 22.9	-0.2
	2.3nm,0.6s,baz=63,slow=3.3,SNR=9.5						
BVAR				ScP		15 06 18.6	
	0.8nm,0.7s,baz=90,slow=1.5,SNR=4.0						
FINES	**FINESS Array B**	**64.62**	**353**	P	**P**	**15 01 54.0**	**-0.8**
	1.9nm,0.6s,mb4.1,baz=14,slow=7.9,SNR=8.4						
FINES	**FINESS Array B**	**64.62**	**353**	P	**P**	**15 01 54.0**	**-0.8**
AKASG	**Malin Array Be**	**74.97**	**350**	P	**P**	**15 02 57.1**	**-0.8**
	1.7nm,0.5s,mb4.1,baz=13,slow=5.7,SNR=7.4						
JIRN	**Jiri**	**77.42**	**300**	*eP*	**P**	**15 03 12.7**	**+0.6**
	8.4nm,0.5s,mb4.7						
GERES	**GERESS Array B**	**77.69**	**360**	P	**P**	**15 03 13.4**	**+0.3**
	0.5nm,0.5s,mb3.5,slow=4.0,SNR=4.7						
KKN	**Kakani**	**77.78**	**300**	*eP*	**P**	**15 03 13.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**77.80**	**284**	P	**P**	**15 03 15.7**	**+1.4**
	169nm,0.3s,baz=24,slow=6.0,SNR=4.1						
GKN	**Gorkha**	**77.93**	**301**	*eP*	**P**	**15 03 14.8**	**-0.1**
	5.6nm,0.5s,mb4.5						
KOLN	**Koldanda**	**78.65**	**302**	*eP*	**P**	**15 03 18.5**	**-0.4**
CABF	**La Chapelle**	**79.75**	**5**	*e*PKP1	**P**	**15 03 28.1**	**+3.7**
	7.3nm,0.8s,mb4.3						
VIVF	**Saint-Julien-I**	**81.41**	**6**	*e*PKP1	**P**	**15 03 33.8**	**+0.5**
MBDF	**Montbardon**	**81.66**	**5**	*e*PKP1	**P**	**15 03 33.3**	**-1.3**
	9.8nm,0.8s,mb4.4						
ETSF	**Etsaut**	**82.92**	**10**	*e*PKP1	**P**	**15 03 42.6**	**+1.5**
	5.2nm,0.7s,mb4.2						
BRTR	**Keskin Array B**	**85.17**	**344**	P	**P**	**15 03 54.0**	**+1.6**
	3.1nm,0.7s,mb4.3,baz=47,slow=2.4,SNR=13						
WRA	**Warramunga Arr**	**89.14**	**234**	P	**P**	**15 04 11.9**	**0.0**
	1.8nm,0.8s,mb4.1,baz=37,slow=5.6,SNR=11						
ASAR	**Alice Springs**	**92.54**	**232**	P	**P**	**15 04 27.8**	**+0.2**
	0.9nm,0.8s,mb4.1,baz=27,slow=5.5,SNR=6.8						

*IDC **17** 14:54:49.8±2.0, 5.36N×94.33E, mb3.7/5, mb1 3.8/6, mb1mx3.6/19, mbtmp3.7/6, ML4.0/1, MS2.6/1, Ms1 2.8/1, ms1mx2.5/28, Error ellipse: s-maj=92.3km s-min=22.4km az=57.0*

*NEIC **17** 14:54:53.1±1.0, 5.11N×93.98E, h30km, mb4.1/3, Error ellipse: s-maj=30.8km s-min=14.0km az=66.0*

ISC 17 14:54:50.7±1.2, 5.1N±0.2×93.9E±0.2, h30km, n10, σ1°93/10, mb3.8/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.14**	**20**	Pn	**P**	**14 58 11.8**	**+0.5**
	0.2nm,0.3s,baz=208,slow=14,SNR=6.8						
CMAR				LR	LR	15 04 12.2	
	comp=Z,25nm,19.8s,baz=65,slow=41						
AAK	**Ala-Archa**	**41.13**	**338**	*eP*	**P**	**15 02 31.6**	**-2.2**
	2.3nm,0.7s,mb3.9						
SONM	**Songino Array**	**43.89**	**12**	P	**P**	**15 02 55.4**	**-0.9**
	0.6nm,0.8s,mb3.4,baz=191,slow=6.4,SNR=2.8						
WRA	**Warramunga Arr**	**46.92**	**123**	P	**P**	**15 03 20.8**	**-0.1**
	0.7nm,0.9s,mb3.6,baz=300,slow=9.2,SNR=9.2						
KURK	**Kurchatov**	**47.21**	**347**	P	**P**	**15 03 23.1**	**+0.4**
	1.2nm,0.5s,mb4.1						
ASAR	**Alice Springs**	**48.39**	**128**	P	**P**	**15 03 32.2**	**-0.1**
	0.2nm,0.6s,mb3.4,baz=299,slow=7.9,SNR=6.8						
BVAR	**Borovoye Array**	**51.50**	**342**	P	**P**	**15 03 56.0**	**+0.3**
	0.9nm,0.7s,mb3.8,baz=146,slow=10,SNR=4.1						
BVAR	**Borovoye Array**	**51.50**	**342**	P	**P**	**15 03 56.0**	**+0.3**
CHKZ	**Chkalovo**	**52.00**	**343**	*eP*	**P**	**15 03 59.4**	**0.0**
	1.5nm,0.7s,mb4.0						
ARCES	**ARCESS Array B**	**77.75**	**340**	P	**P**	**15 06 48.5**	**+2.2**
	2.3nm,0.8s,mb4.2,baz=113,slow=6.9,SNR=3.5						

*IDC **17** 15:04:13.4±0.8, 10.90N×141.34E, mb3.7/8, mb1 3.9/8, mb1mx3.9/18, mbtmp3.7/8, Error ellipse: s-maj=33.7km s-min=18.4km az=90.0*

ISC 17 15:04:16.7±0.8, 10.8N±0.1×141.3E±0.2, h33km, n9, σ0°80/8, mb3.7/8, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.35**	**193**	P	**P**	**15 10 36.5**	**-0.2**
	1.0nm,0.6s,mb3.8,baz=11,slow=9.8,SNR=12						
ASAR	**Alice Springs**	**35.05**	**192**	P	**P**	**15 11 08.2**	**-0.5**
	0.6nm,0.5s,mb3.8,baz=21,slow=12,SNR=14						
CMAR	**Chiang Mai Arr**	**41.59**	**286**	P	**P**	**15 12 04.0**	**+0.5**
	0.4nm,0.4s,mb3.4,baz=100,slow=6.3,SNR=4.5						
STKA	**Stephens Creek**	**42.48**	**180**	P	**P**	**15 12 11.2**	**+0.6**
	1.9nm,0.8s,mb3.8,baz=58,slow=12,SNR=3.7						
SONM	**Songino Array**	**47.09**	**328**	P	**P**	**15 12 47.7**	**+0.5**
	0.3nm,0.6s,mb3.4,baz=135,slow=6.1,SNR=3.0						
BVAR	**Borovoye Array**	**69.94**	**323**	P	**P**	**15 15 25.4**	**-1.1**
	0.6nm,0.5s,mb3.8,baz=101,slow=7.6,SNR=5.5						
ILAR	**Eielson Array**	**72.53**	**25**	P	**P**	**15 15 40.8**	**-1.0**
	0.3nm,0.6s,mb3.4,baz=246,slow=5.9,SNR=9.9						
YKA	**Yellowknife Ar**	**86.88**	**27**	P	**P**	**15 17 00.3**	**+1.3**
	0.4nm,0.4s,mb4.0,baz=288,slow=4.9,SNR=7.2						
LPAZ	**La Paz**	**150.90**	**104**	PKPbc	PKPdf	15 24 10.3	+9.2
	1.4nm,0.5s,baz=283,slow=2.6,SNR=6.2						

*LDG **17** 15:07:01.5±0.1, 42.60N×0.83E, h3km, Md2.9/2, Ml2.9/13, Error ellipse: s-maj=1.2km s-min=0.6km az=3.0*

*CSEM **17** 15:07:01.8±0.0, 42.62N×0.83E, h10km, ML2.9/13, Error ellipse: s-maj=0.9km s-min=0.7km az=18.0*

*NEIC **17** 15:07:01.2, 42.60N×0.82E, h5km, ML2.9(LDG), ML2.7(STR), ML2.3(MRB), MN2.2(MDD), After STR.*

MDD 17 15:07:01.8±0.2, 42.61N×0.82E, h10km, mbLg2.4/21, 2C, Error ellipse: s-maj=1.7km s-min=1.1km az=15.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELF	**Melles**	**0.27**	**350**	Pg	Pg	15 07 07.4	0.0
MELF				Lg		15 07 11.2	
MELF	**Melles**	**0.27**	**350**	Pg	Pg	15 07 07.4	-0.1
MELF				Sg	Sg	15 07 11.1	-0.2
SALF	**Salau**	**0.31**	**61**	Pg	Pg	15 07 07.8	-0.4
SALF				Lg		15 07 11.9	
SALF	**Salau**	**0.31**	**61**	Pg	Pg	15 07 07.8	-0.4
SALF				Sg	Sg	15 07 11.4	-1.1
CSOR	**Sort**	**0.33**	**135**	Pg	Pg	15 07 08.0	-0.6
CSOR				Sg	Sg	15 07 12.5	-0.6
CSOR	**Sort**	**0.33**	**135**	Pg	Pg	15 07 08.0	-0.6
CSOR				Lg		15 07 12.4	
	169nm,0.1s						
CSOR	**Sort**	**0.33**	**135**	Pg	Pg	15 07 08.0	-0.6
CSOR				Sg	Sg	15 07 12.5	-0.6
MLS	**Moulis**	**0.40**	**30**	Pg	Pg	15 07 09.6	-0.4
MLS				Lg		15 07 14.3	
RESF	**Ens**	**0.41**	**299**	Pg	Pg	15 07 09.8	-0.4
RESF				Lg		15 07 15.3	
RESF	**Ens**	**0.41**	**299**	Pg	Pg	15 07 09.8	-0.4
RESF				Sg	Sg	15 07 15.3	-0.5
EBIE	**Bielsa**	**0.51**	**279**	⇑Pg	Pg	15 07 11.4	-0.7
EBIE				Lg		15 07 18.3	
EBIE	**Bielsa**	**0.51**	**279**	⇑Pg	Pg	15 07 11.4	-0.7
	17nm,0.1s,SNR=18						
EBIE				Lg		15 07 17.9	
	75nm,0.1s,SNR=130						
EBIE	**Bielsa**	**0.51**	**279**	Pg	Pg	15 07 11.4	-0.7
	17nm,0.1s,SNR=18						
CORG	**Organya**	**0.53**	**136**	Pg	Pg	15 07 11.5	-1.0
CORG				Sg	Sg	15 07 18.8	-0.8
CORG	**Organya**	**0.53**	**136**	Pg	Pg	15 07 11.5	-1.0
CORG				Lg		15 07 18.7	
	54nm,0.1s						
CORG	**Organya**	**0.53**	**136**	Pg	Pg	15 07 11.5	-1.0
CORG				Sg	Sg	15 07 18.8	-0.8
PAND	**Andorre**	**0.54**	**99**	Pg	Pg	15 07 11.6	-1.1
PAND				Lg		15 07 18.2	
EPF	**Esparros**	**0.55**	**320**	*e*Pg	Pg	15 07 12.3	-0.7
EPF				*e*Sg	Sg	15 07 19.7	-0.7
	79nm,0.2s						
GRBF	**Gourbit**	**0.57**	**66**	Pg	Pg	15 07 12.6	-0.8
GRBF				Lg		15 07 20.0	
VIEF	**Viey**	**0.65**	**295**	Pg	Pg	15 07 13.9	-1.0
VIEF				Lg		15 07 22.3	
LABF	**Labassere**	**0.70**	**309**	Pg	Pg	15 07 15.0	-1.0
LABF				Lg		15 07 24.7	
LABF	**Labassere**	**0.70**	**309**	Pg	Pg	15 07 15.2	-0.8
LABF				Sg	Sg	15 07 24.5	-1.0
CAVN	**Les Avellanes**	**0.73**	**184**	Pg	Pg	15 07 15.7	-0.7
CAVN				Sg	Sg	15 07 26.3	+0.1
CAVN	**Les Avellanes**	**0.73**	**184**	Pg	Pg	15 07 15.7	-0.8
CAVN				Lg		15 07 26.3	
	40nm,0.1s						
CAVN	**Les Avellanes**	**0.73**	**184**	Pg	Pg	15 07 15.7	-0.8
CAVN				Sg	Sg	15 07 26.3	+0.1
CLLI	**Llivia**	**0.86**	**98**	Pg	Pg	15 07 17.2	-1.9
CLLI				Sg	Sg	15 07 29.1	-1.5
CLLI	**Llivia**	**0.86**	**98**	Pg	Pg	15 07 17.2	-1.9
CLLI				Lg		15 07 29.0	
CLLI	**Llivia**	**0.86**	**98**	Pg	Pg	15 07 17.2	-1.9
CLLI				Sg	Sg	15 07 29.1	-1.5
LPEF	**Le Peyrat**	**0.87**	**67**	Pg	Pg	15 07 18.3	-0.9
LPEF				Lg		15 07 29.7	
EMIR	**Miracle**	**0.87**	**143**	Pg	Pg	15 07 18.0	-1.2
EMIR				Lg		15 07 29.9	
EMIR	**Miracle**	**0.87**	**143**	Pg	Pg	15 07 18.0	-1.2
	8.4nm,0.1s,SNR=21						
EMIR				Lg		15 07 30.1	
	30nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**0.87**	**143**	Pg	Pg	15 07 18.0	-1.2
	8.4nm,0.1s,SNR=21						
CARF	**Carcanieres**	**0.95**	**83**	Pg	Pg	15 07 19.5	-1.4
CARF				Lg		15 07 31.9	
CARF	**Carcanieres**	**0.95**	**83**	Pg	Pg	15 07 19.5	-1.4
CARF				Sg	Sg	15 07 31.9	-1.7
REYF	**Montagne du Re**	**1.01**	**298**	Pg	Pg	15 07 20.5	-1.5
REYF				Lg		15 07 33.7	
REYF	**Montagne du Re**	**1.01**	**298**	Pg	Pg	15 07 20.3	-1.7
REYF				Sg	Sg	15 07 33.6	-1.9
FDAF	**Les Forges d'A**	**1.05**	**282**	Pg	Pg	15 07 20.0	-2.8
FDAF				Lg		15 07 33.9	
FDAF	**Les Forges d'A**	**1.05**	**282**	Pg	Pg	15 07 20.1	-2.7
FDAF				Sg	Sg	15 07 35.2	-1.6
ETSF	**Etsaut**	**1.06**	**286**	*e*Pg	Pg	15 07 21.2	-1.8
ETSF				*e*Sg	Sg	15 07 35.3	-1.9
	78nm,0.2s						
ATE	**Arette**	**1.22**	**294**	Pg	Pg	15 07 24.1	-2.1
ATE				Lg		15 07 40.2	
MTLF	**Montolieu**	**1.26**	**54**	*e*Pn	Pn	15 07 25.2	-0.2
MTLF				*e*Pg	Pg	15 07 25.5	-1.5
MTLF				*e*Sg	Sg	15 07 41.2	-2.6
	30nm,0.3s						
MTLF	**Montolieu**	**1.26**	**54**	*e*Pg	Pg	15 07 25.5	-1.5
MTLF				*e*Sg	Sg	15 07 41.2	-2.6
	15nm,0.3s						
EPOB	**Poblet**	**1.27**	**171**	Pg	Pg	15 07 25.1	-2.1
EPOB				Lg		15 07 42.1	
EPOB	**Poblet**	**1.27**	**171**	Pg	Pg	15 07 25.1	-2.1
	3.1nm,0.2s,SNR=22						
EPOB				Lg		15 07 42.4	
	25nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.27**	**171**	Pg	Pg	15 07 25.1	-2.1
	3.1nm,0.2s,SNR=22						
FILF	**Fillols**	**1.28**	**92**	Pg	Pg	15 07 23.7	-3.8
FILF				Lg		15 07 39.2	
FILF	**Fillols**	**1.28**	**92**	Pg	Pg	15 07 23.8	-3.7
LRDF	**Laroque-de-Fa**	**1.30**	**75**	Pg	Pg	15 07 26.0	-2.0
LRDF			

VIVF				*e*Sn	Sn	15 08 36.1	-5.3
VIVF				*e*Sg	Sg	15 08 54.1	-7.0
	2.7nm,0.2s						
SMRF	**Simiane la Rot**	**3.73**	**67**	*e*Pn	Pn	15 07 58.2	-2.5
SMRF				*e*Pg	Pg	15 08 10.5	-5.8
TCF	**Toulx Ste Croi**	**3.81**	**15**	*e*Sg	Sg	15 09 01.5	-7.2
	2.6nm,0.2s						
MFF	**Saint Martin d**	**4.05**	**350**	*e*Pn	Pn	15 08 02.7	-2.6
BGF	**Bois d'Agland**	**4.20**	**19**	*e*Sg	Sg	15 09 13.7	-8.1
	10nm,0.3s						
LMR	**La Mourre**	**4.23**	**78**	*e*Sg	Sg	15 09 14.3	-8.5
	5.3nm,0.4s						
EARI	**Arriondas**	**4.48**	**281**	Pn	Pn	15 08 10.0	-1.4
EARI				Sn	Sn	15 08 59.3	-4.9
EARI	**Arriondas**	**4.48**	**281**	Pn	Pn	15 08 10.0	-1.4
	0.2nm,0.1s,SNR=7.9						
EARI				Sn	Sn	15 08 58.9	-5.3
	0.4nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**4.48**	**281**	Pn	Pn	15 08 10.0	-1.4
	0.2nm,0.1s,SNR=7.9						
EARI				Sn	Sn	15 08 59.3	-4.9
	0.4nm,0.2s,SNR=7.9						
AVF	**Avril sur Loir**	**4.55**	**22**	*e*Sn	Sn	15 08 59.9	-6.1
AVF				*e*Sg	Sg	15 09 24.3	-9.1
	0.9nm,0.2s						

IDC 17 15:11:06.1±1.4, 10.37S×113.25E, mb3.7/5, mb1 3.9/5, mb1mx3.7/14, mbtmp3.8/5, Error ellipse: s-maj=51.8km s-min=20.5km az=61.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.45**	**118**	P	P	15 16 07.1	-1.2
	0.6nm,0.6s,baz=292,slow=11,SNR=11						
NWAO	**Narrogin (SRO)**	**22.75**	**171**	P	P	15 16 10.3	-0.9
	6.5nm,0.8s,baz=5.7,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**23.72**	**126**	P	P	15 16 19.2	-1.6
	0.6nm,0.8s,baz=303,slow=9.1,SNR=10						
SONM	**Songino Array**	**58.26**	**355**	P	P	15 21 03.3	-1.5
	0.6nm,0.6s,baz=169,slow=8.3,SNR=5.0						
ZAL	**Zalesovo**	**68.45**	**342**	P	P	15 22 09.5	-2.5
	1.6nm,0.4s,baz=309,slow=3.9,SNR=7.3						

IDC 17 15:18:33.8±4.7, 10.02S×165.93E, mb3.8/3, mb1 4.1/3, mb1mx3.7/14, mbtmp3.8/3, Error ellipse: s-maj=247.0km s-min=32.2km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.02**	**248**	P	P	15 25 02.7	-1.7
	0.8nm,0.7s,baz=80,slow=9.6,SNR=7.3						
ASAR	**Alice Springs**	**33.43**	**242**	P	P	15 25 14.2	-2.4
	0.9nm,0.7s,baz=64,slow=10,SNR=11						
ILAR	**Eielson Array**	**82.48**	**18**	P	P	15 30 57.9	-1.4
	1.0nm,0.9s,baz=232,slow=5.6,SNR=5.8						

IDC 17 15:23:03.8±9.3, 7.06N×90.32E, mb3.4/2, mb1 3.7/3, mb1mx3.4/17, mbtmp3.4/3, ML3.7/1, MS3.5/1, Ms1 3.5/1, ms1mx3.0/17, Error ellipse: s-maj=202.6km s-min=54.3km az=95.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.10**	**36**	Pn	P	15 26 25.4	-1.8
	0.1nm,0.3s,baz=232,slow=14,SNR=8.8						
WRA	**Warramunga Arr**	**50.95**	**123**	P	P	15 32 06.9	-2.6
	0.6nm,0.9s,baz=304,slow=9.1,SNR=4.0						
ASAR	**Alice Springs**	**52.38**	**127**	P	P	15 32 18.6	-1.7
	0.4nm,0.8s,baz=296,slow=7.6,SNR=4.8						
EIL	**Elat**	**56.56**	**301**	LR	LR	15 55 32.0	
	comp=Z,44nm,20.4s,baz=86,slow=34						

*BJI **17** 15:37:03.9, 7.40S×129.20E, h75km, mB5.3, mb4.9, Ms5.2, Msz4.8*
*MOS **17** 15:37:03.7±1.3, 7.58S×129.01E, h100km, mb4.4/7, Error ellipse: s-maj=22.7km s-min=9.3km az=116.1*
*NEIC **17** 15:37:03.9±1.6, 7.39S×129.17E, h76km±17km, mb4.6/13, Error ellipse: s-maj=12.1km s-min=9.9km az=49.0*
*IDC **17** 15:37:06.0±5.0, 7.40S×129.21E, h91km±48km, mb4.0/8, mb1 4.3/11, mb1mx4.1/16, mbtmp4.5/11, MS3.7/2, Ms1 3.7/2, ms1mx2.9/18, Error ellipse: s-maj=28.9km s-min=16.9km az=61.0*

ISC 17 15:37:06.4±1.5, 7.62S±0.06×129.36E±0.06, h132km±16km, n65, σ0=95/72, mb4.5/26, 3C-6D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.90**	**149**	*e*P	**P**	**15 38 33.5**	**+1.0**
	65nm,0.1s						
KAKA				*e*S	**S**	**15 39 39.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**11.03**	**199**	*e*P	**P**	**15 39 40.2**	**-1.2**
	26nm,0.3s						
FITZ				*e*S	**S**	**15 41 35.4**	**-7.3**
WRAB	**Tennant Creek**	**13.16**	**159**	⇓*e*P	**P**	**15 40 07.9**	**-1.3**
WRAB	**Tennant Creek**	**13.16**	**159**	*e*Pn	**P**	**15 40 08.6**	**-0.6**
	60nm,0.6s						
WRAB				*e*Sn	**S**	**15 42 26.1**	**-6.7**
WRA	**Warramunga Arr**	**13.16**	**159**	P	**P**	**15 40 08.7**	**-0.5**
	5.8nm,0.3s,baz=338,slow=10,SNR=156						
WRA				S	**S**	**15 42 26.9**	**-6.1**
	11nm,0.3s,baz=346,slow=21,SNR=9.3						
WB2	**Warramunga Arr**	**13.17**	**159**	⇓*i*P	**P**	**15 40 08.8**	**-0.5**
WB2				*e*S	**S**	**15 42 24.2**	**-8.8**
MBWA	**Marble Bar**	**16.36**	**214**	*e*Pn	**P**	**15 40 50.2**	**+0.4**
ASPA	**Alice Springs**	**16.54**	**165**	*e*P	**P**	**15 40 53.5**	**+1.5**
ASPA				*e*S	**S**	**15 43 46.4**	**-4.0**
ASAR	**Alice Springs**	**16.54**	**165**	P	**P**	**15 40 53.1**	**+1.1**
	1.1nm,0.3s,baz=343,slow=14,SNR=113						
ASAR				S	**S**	**15 43 49.8**	**-0.6**
	3.1nm,0.3s,baz=350,slow=26,SNR=5.2						
ASAR				LR	LR	15 48 06.7	
	comp=Z,39nm,20.2s,baz=321,slow=39						
PMG	**Port Moresby**	**17.69**	**97**	⇓*i*P	**P**	**15 41 09.8**	**+3.7**
PMG	**Port Moresby**	**17.69**	**97**	P	**P**	**15 41 07.6**	**+1.5**
	3.6nm,0.3s,baz=294,slow=7.0,SNR=16						
PMG				S	**S**	**15 44 16.7**	**+0.5**
	0.4nm,0.3s,baz=196,slow=22,SNR=10						
CTA	**Charters Tower**	**20.53**	**129**	⇓*i*P	**P**	**15 41 41.2**	**+5.0**
	9.3nm,0.8s						
CTA	**Charters Tower**	**20.53**	**129**	⇓*i*P	**P**	**15 41 41.2**	**+5.0**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CTA	**Charters Tower**	**20.53**	**129**	P	**P**	**15 41 41.5**	**+5.3**
	comp=Z,11nm,0.7s,baz=315,slow=14,SNR=19						
CTA				S	**S**	**15 45 22.9**	**+10**
	comp=Z,5.8nm,1.0s,baz=59,slow=21,SNR=3.6						
CTAO	**Charters Tower**	**20.53**	**129**	*e*P	**P**	**15 41 40.3**	**+4.1**
CTAO				*e*S	**S**	**15 45 23.0**	**+10**
CTAO				pmax	pmax		
	comp=Z,19nm,1.0s						
CTAO	**Charters Tower**	**20.53**	**129**	*e*P	**P**	**15 41 40.3**	**+4.1**
	comp=Z,19nm,1.0s						
CTAO				*e*S	**S**	**15 45 23.0**	**+10**
STKA	**Stephens Creek**	**26.69**	**156**	*e*P	**P**	**15 42 39.6**	**+4.4**
	comp=Z,2.3nm,0.6s,mb4.0						
STKA				*e*S		15 47 48.0	
STKA	**Stephens Creek**	**26.69**	**156**	P	**P**	**15 42 39.5**	**+4.4**
	comp=Z,1.4nm,0.4s,mb4.0,baz=334,slow=7.4,SNR=11						
NWAO	**Narrogin (SRO)**	**27.58**	**202**	P	**P**	**15 42 45.2**	**+1.9**
	comp=Z,3.1nm,0.6s,mb4.2,baz=169,slow=15,SNR=2.4						
SSE	**Sheshan**	**39.28**	**349**	P	**P**	**15 44 23.4**	**-0.6**
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,148nm,7.0s						
CMAR	**Chiang Mai Arr**	**39.65**	**311**	P	**P**	**15 44 27.7**	**+0.6**
	comp=Z,3.1nm,0.7s,mb4.0,baz=140,slow=7.3,SNR=23						
CMAR				PcP	PcP	15 46 35.1	+3.1
	comp=Z,2.4nm,1.0s,baz=164,slow=2.9,SNR=7.8						
CHRT	**Chiangrai**	**39.92**	**314**	⇑P	**P**	**15 44 30.5**	**+1.1**
	comp=Z,132nm,0.9s						
NJ2	**Nanjing**	**40.70**	**346**	*e*P	**P**	**15 44 36.5**	**+0.9**
NJ2				PP	PP	15 46 17.0	+2.7
NJ2				S	**S**	**15 50 36.0**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,470nm,5.4s						
NJ2				LR	LR		
	comp=N,1μm,14.2s						
NJ2				LR	LR		
	comp=E,1μm,18.3s						
NJ2				LR	LR		
	comp=Z,1μm,13.9s						
JHJ	**Hachijo jima 2**	**41.71**	**13**	LR	LR	15 58 50.1	
	comp=Z,706nm,21.2s,baz=20,slow=31						
MAJO	**Matsushiro**	**44.71**	**10**	*e*P	**P**	**15 45 06.3**	**-1.8**
	comp=Z,12nm,0.7s,mb4.6						
MAT	**Matsushiro**	**44.71**	**10**	*e*P	**P**	**15 45 07.0**	**-1.1**
	comp=Z,12nm,0.8s,mb4.6						
MAT	**Matsushiro**	**44.71**	**10**	P	**P**	**15 45 06.5**	**-1.6**
BJT	**Baijiatuan**	**48.94**	**347**	*e*P	**P**	**15 45 40.6**	**-0.6**
	comp=Z,8.8nm,0.4s,mb4.7						
LSA	**Lhasa**	**52.21**	**317**	P	**P**	**15 46 07.0**	**+0.8**
LSA	**Lhasa**	**52.21**	**317**	*e*P	**P**	**15 46 06.8**	**+0.6**
	comp=Z,18nm,0.6s,mb4.9						
JIRN	**Jiri**	**54.52**	**312**	*e*P	**P**	**15 46 23.0**	**-0.1**
	comp=Z,30nm,0.6s,mb5.2						
PKI	**Pulchoki**	**55.05**	**311**	*e*P	**P**	**15 46 26.6**	**-0.4**
	comp=Z,22nm,0.5s,mb5.1						
KKN	**Kakani**	**55.27**	**311**	*e*P	**P**	**15 46 28.0**	**-0.6**
	comp=Z,26nm,0.6s,mb5.2						
DMN	**Daman**	**55.30**	**311**	*e*P	**P**	**15 46 28.5**	**-0.3**
GKN	**Gorkha**	**55.86**	**311**	*e*P	**P**	**15 46 32.5**	**-0.3**
	comp=Z,49nm,0.4s						
KOLN	**Koldanda**	**56.51**	**310**	*e*P	**P**	**15 46 37.4**	**-0.1**
	comp=Z,39nm,0.7s,mb5.3						
ULN	**Ulaanbaatar**	**58.66**	**343**	⇑*i*P	**P**	**15 46 50.8**	**-1.4**
ULN	**Ulaanbaatar**	**58.66**	**343**	*e*P	**P**	**15 46 52.0**	**-0.2**
	comp=Z,3.0nm,0.8s,mb4.2						
SONM	**Songino Array**	**58.83**	**342**	P	**P**	**15 46 53.7**	**+0.4**
	comp=Z,1.9nm,0.6s,mb4.1,baz=157,slow=6.8,SNR=20						
SONM				PcP	PcP	15 47 42.4	+1.3
	comp=Z,1.4nm,0.7s,baz=149,slow=3.3,SNR=4.4						
ZAK	**Zakamensk**	**62.04**	**341**	*e*P	**P**	**15 47 14.9**	**-0.3**
MOY	**Mondy**	**63.89**	**341**	*e*P	**P**	**15 47 28.0**	**+0.7**
PET	**Petropavlovsk**	**65.34**	**19**	*i*P	**P**	**15 47 36.4**	**-0.3**
BOD	**Bodaibo**	**66.41**	**351**	*e*P	**P**	**15 47 41.7**	**-1.7**
MKAR	**Makanchi Array**	**68.40**	**327**	*e*P	**P**	**15 47 56.1**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MA2	**Magadan**	**69.13**	**11**	⇑*i*P	**P**	**15 48 00.1**	**-0.1**
MA2				*i* *PP	sP	15 48 40.0	-6.9
MA2				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
MA2	**Magadan**	**69.13**	**11**	*e*P	**P**	**15 48 00.7**	**+0.5**
	comp=Z,6.9nm,0.8s,mb4.4						
YAK	**Yakutsk**	**69.44**	**0**	⇓*i*P	**P**	**15 48 01.9**	**-0.2**
YAK				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.0						
YAK	**Yakutsk**	**69.44**	**0**	*e*P	**P**	**15 48 01.9**	**-0.2**
	comp=Z,28nm,0.8s,mb5.0						
AAK	**Ala-Archa**	**70.61**	**320**	*e*P	**P**	**15 48 09.7**	**+0.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
AAK	**Ala-Archa**	**70.61**	**320**	*e*P	**P**	**15 48 09.7**	**+0.2**
	comp=Z,2.4nm,0.5s,mb4.2						
ZAL	**Zalesovo**	**71.86**	**334**	P	**P**	**15 48 16.9**	**+0.2**
	comp=Z,4.5nm,0.6s,mb4.4,baz=342,slow=6.2,SNR=22						
KURK	**Kurchatov**	**72.72**	**329**	*e*P	**P**	**15 48 21.4**	**-0.4**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.6						
KURK	**Kurchatov**	**72.72**	**329**	*e*P	**P**	**15 48 21.4**	**-0.4**
	comp=Z,7.8nm,0.6s,mb4.6						
NVS	**Novosibirsk**	**73.14**	**334**	*i*P	**P**	**15 48 22.5**	**-1.7**
BVA0	**Borovoye Array**	**78.25**	**328**	P	**P**	**15 48 54.9**	**+1.9**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.5						
BVAR	**Borovoye Array**	**78.25**	**328**	P	**P**	**15 48 54.0**	**+0.9**
	comp=Z,1.7nm,0.5s,mb3.9,baz=121,slow=8.8,SNR=15						
CHKZ	**Chkalovo**	**78.46**	**329**	P	**P**	**15 48 54.7**	**+0.5**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.2						
CHKZ	**Chkalovo**	**78.46**	**329**	*e*P	**P**	**15 48 53.9**	**-0.2**
	comp=Z,2.6nm,0.8s,mb3.9						
TIXI	**Tiksi**	**79.11**	**360**	*e*P	**P**	**15 48 57.1**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
ILAR	**Eielson Array**	**94.17**	**25**	P	**P**	**15 50 12.2**	**+1.1**
	comp=Z,0.8nm,0.8s,mb3.9,baz=260,slow=4.8,SNR=6.5						
SOC	**Sochi**	**94.94**	**313**	*e*P	**P**	**15 50 09.7**	**-5.3**
SOC				*e*		15 54 01.8	
SOC				*e*PPP	PPP	15 56 05.6	-8.1
SOC				*e*		16 01 10.5	
SOC				*e*SS	SS	16 07 38.6	-7.8
SOC				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.1						
SOC				pmax	pmax		
	comp=N,4.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.4s						
ARCES	**ARCESS Array B**	**101.94**	**340**	P	P	15 50 46.7	+0.7
	comp=E,1.8nm,0.8s,baz=83,slow=7.3,SNR=5.2						
GERES	**GERESS Array B**	**112.49**	**320**	PKiKP		15 55 30.9	
	comp=E,0.3nm,0.5s,baz=45,slow=1.9,SNR=4.6						
LPAZ	**La Paz**	**150.60**	**144**	PKPbc	PKPdf	15 56 49.6	+12
	comp=E,0.8nm,0.5s,baz=74,slow=4.1,SNR=3.6						
LPAZ	**La Paz**	**150.60**	**144**	PKPbc	PKPdf	15 56 49.6	+12
LPAZ				*e*PKPab	PKPab	15 56 55.9	+2.7

*NEIC **17** 15:41:56.8±0.6, 10.87N×141.05E, h10km, mb4.6/2, Error ellipse: s-maj=27.5km s-min=14.6km az=73.0*
*IDC **17** 15:42:00.2±0.9, 10.86N×141.04E, h32km±4km, mb3.8/9, mb1 4.0/9, mb1mx3.9/18, mbtmp4.0/9, MS3.5/3, Ms1 3.5/3, ms1mx3.2/25, Error ellipse: s-maj=25.5km s-min=22.8km az=54.0*

ISC 17 15:41:58.1±0.7, 10.8N±0.1×141.0E±0.2, h33km, h33km±.8km: pP-P, n15, σ0=99/11, mb4.0/10, MS3.4/3, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**20.97**	**163**	*e*P	**P**	**15 46 41.9**	**+0.8**
	30nm,1.1s						
CTA	**Charters Tower**	**31.11**	**170**	LR	LR	16 00 03.1	
	comp=Z,74nm,20.4s,MS3.3,baz=143,slow=35						
WRA	**Warramunga Arr**	**31.25**	**192**	P	**P**	**15 48 16.3**	**-1.0**
	4.9nm,0.9s,mb4.3,baz=9.2,slow=10,SNR=3.2						
ASAJ	**Asahikawa**	**33.23**	**2**	LR	LR	15 59 23.5	
	comp=Z,112nm,21.1s,MS3.5,baz=186,slow=32						
ASAR	**Alice Springs**	**34.95**	**191**	LR	LR	16 04 48.6	
	comp=Z,61nm,19.1s,MS3.4,baz=41,slow=39						
CMAR	**Chiang Mai Arr**	**41.36**	**286**	P	**P**	**15 49 43.8**	**+0.8**
	1.3nm,1.0s,mb3.5,baz=95,slow=7.5,SNR=4.4						
CMAR				pP	pP	15 49 54.4	+1.5
	1.0nm,0.7s,baz=98,slow=6.7,SNR=10						
SONM	**Songino Array**	**46.99**	**328**	P	**P**	**15 50 29.8**	**+1.8**
	0.5nm,1.0s,mb3.4,baz=124,slow=8.9,SNR=3.1						
SONM				PcP	PcP	15 51 59.9	-0.5
	0.4nm,0.7s,baz=149,slow=3.9,SNR=2.2						
SONM				pPcP		15 52 11.2	
	0.9nm,0.7s,baz=156,slow=4.4,SNR=5.4						
ZAL	**Zalesovo**	**61.78**	**326**	P	**P**	**15 52 14.7**	**-1.2**
	0.6nm,0.3s,mb4.2,baz=333,slow=12,SNR=2.1						
ZAL				pP	pP	15 52 24.7	-1.5
	0.6nm,0.6s,baz=33,slow=3.4,SNR=2.7						
CHKZ	**Chkalovo**	**69.79**	**323**	P	**P**	**15 53 07.0**	**-0.2**
	4.9nm,1.2s,mb4.3						
BVAR	**Borovoye Array**	**69.82**	**323**	P	**P**	**15 53 06.6**	**-0.8**
	1.3nm,0.9s,mb3.9,baz=90,slow=4.4,SNR=4.2						
BVAR				pP	pP	15 53 17.3	-0.4
	2.6nm,0.8s,baz=104,slow=6.1,SNR=10						
ILAR	**Eielson Array**	**72.68**	**25**	P	**P**	**15 53 23.1**	**-1.2**
	0.2nm,0.6s,mb3.2,baz=246,slow=5.4,SNR=4.4						
YKA	**Yellowknife Ar**	**87.03**	**27**	P	**P**	**15 54 42.6**	**+1.3**
	1.2nm,1.0s,mb4.1,baz=289,slow=5.2,SNR=9.3						
YKA				pP	pP	15 54 52.1	+0.3
	2.1nm,0.8s,baz=290,slow=5.2,SNR=13						
ARCES	**ARCESS Array B**	**88.56**	**341**	P	**P**	**15 54 48.6**	**+0.2**
	3.4nm,0.8s,mb4.7,baz=67,slow=6.9,SNR=3.4						
ARCES				pP	pP	15 54 59.5	+0.5
	6.8nm,1.0s,baz=76,slow=7.4,SNR=2.6						
FINES	**FINESS Array B**	**92.07**	**334**	P	**P**	**15 55 04.5**	**-0.4**
	3.1nm,0.9s,mb4.6,baz=315,slow=2.0,SNR=3.1						
FINES				pP	pP	15 55 14.8	-0.6
	3.8nm,0.8s,baz=45,slow=3.9,SNR=3.2						
LPAZ	**La Paz**	**151.14**	**104**	PKPbc	PKPdf	16 01 52.8	+4.5
	1.1nm,0.6s,baz=195,slow=0.2,SNR=5.3						
LPAZ				PKPab	PKPab	16 02 01.8	+2.9
	1.2nm,0.6s,baz=281,slow=3.8,SNR=4.7						

IDC 17 15:48:21.6±10.0, 5.59S×125.94E, h347km±136km, mb3.4/1, mb1 3.1/3, mb1mx2.9/14, mbtmp3.8/3, Error ellipse: s-maj=188.9km s-min=36.7km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.44**	**151**	P	P	15 51 51.9	-2.4
	0.5nm,0.3s,baz=327,slow=12,SNR=16						
WRA				S	S	15 54 48.0	+2.9
	0.1nm,0.3s,baz=333,slow=23,SNR=2.6						
ASAR	**Alice Springs**	**19.55**	**158**	P	P	15 52 25.2	-0.3
	0.2nm,0.3s,baz=334,slow=11,SNR=8.2						
SONM	**Songino Array**	**55.91**	**344**	P	P	15 57 24.5	-2.0
	0.9nm,1.1s,baz=135,slow=4.1,SNR=4.3						

IDC 17 15:52:21.7±14.0, 9.53N×140.47E, mb3.6/3, mb1 3.8/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=367.7km s-min=35.8km az=60.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.90**	**192**	P	P	15 58 30.9	-2.8
	0.9nm,0.9s,baz=12,slow=8.7,SNR=4.6						
ASAR	**Alice Springs**	**33.61**	**191**	P	P	15 59 04.5	-1.7
	0.6nm,0.6s,baz=19,slow=12,SNR=5.4						
CMAR	**Chiang Mai Arr**	**41.18**	**287**	P	P	16 00 08.3	-1.5
	0.4nm,0.7s,baz=86,slow=6.8,SNR=5.0						

*CSEM **17** 15:56:15.9±0.3, 37.53N×20.35E, h15km, MD3.8, Error ellipse: s-maj=7.5km s-min=3.8km az=51.0*
*NEIC **17** 15:56:16.3, 37.50N×20.33E, h41km, MD3.8(ATH), After ATH.*

ATH 17 15:56:16.3, 37.50N×20.33E, h41km±6km, MD3.8/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.71**	**17**	*e*P	P	15 56 30.2	+0.3
VLS				*e*S	S	15 56 42.3	+2.5
RLS	**Riolos of Patr**	**1.06**	**58**	*e*P	P	15 56 35.5	+0.6
RLS				*e*S	S	15 56 50.3	+1.7
AGG	**Agios Georgios**	**2.19**	**45**	*e*P	P	15 56 53.3	+2.3
VLI	**Veliai**	**2.23**	**110**	*e*P	P	15 56 53.1	+1.6
KEK	**Kerkira**	**2.25**	**349**	*e*P	P	15 56 52.8	+0.9
LKR	**Lokris**	**2.40**	**61**	*e*P	P	15 56 55.2	+1.2
KZN	**Kozani**	**3.02**	**21**	*e*P	P	15 57 04.9	+2.0
LIT	**Litokhoron**	**3.10**	**32**	*e*P	P	15 57 05.2	+1.3
FNA	**Florina**	**3.38**	**14**	*e*P	P	15 57 09.3	+1.3
GRG	**Griva**	**3.81**	**24**	*e*P	P	15 57 14.7	+0.6
SOH	**Sokhos**	**4.07**	**34**	*e*P	P	15 57 19.0	+1.3
KNT	**Kendrikon**	**4.16**	**28**	*e*P	P	15 57 20.0	+1.0
SRS	**Serrai**	**4.41**	**34**	*e*P	P	15 57 22.9	+0.3
SKO	**Skopje**	**4.55**	**10**	*e*Pn	P	15 57 34.5	+10
SKO				*i*		15 57 45.0	

*NEIC **17** 15:56:22.1±0.4, 10.99N×141.24E, h10km, mb4.5/3, Error ellipse: s-maj=18.8km s-min=9.3km az=83.0*
*IDC **17** 15:56:26.7±0.7, 10.97N×141.25E, h40km±5km, mb3.8/11, mb1 4.0/11, mb1mx3.9/20, mbtmp4.0/11, MS3.4/1, Ms1 3.4/1, ms1mx2.8/24, Error ellipse: s-maj=23.7km s-min=13.6km az=85.0*

ISC 17 15:56:24.7±0.6, 10.91N±0.08×141.2E±0.2, h42km, h42km±1.3km: pP-P, n16, σ0=70/15, mb4.1/14, MS3.2/1, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**21.04**	**163**	P	**P**	**16 01 08.2**	**+0.7**
	11nm,0.9s,mb4.2,baz=279,slow=7.8,SNR=3.5						
PMG				pP		16 01 16.6	
	10nm,0.8s,baz=257,slow=2.1,SNR=2.8						
PMG				LR	LR	16 08 32.1	
	comp=Z,91nm,18.1s,MS3.2,baz=90,slow=34						
WRAB	**Tennant Creek**	**31.38**	**192**	*e*P	**P**	**16 02 43.4**	**-0.7**
	5.3nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**31.39**	**192**	P	**P**	**16 02 43.6**	**-0.6**
	2.4nm,0.8s,mb4.1,baz=11,slow=9.8,SNR=13						
WRA				pP	pP	16 02 55.6	0.0
	2.0nm,0.7s,baz=9.2,slow=9.7,SNR=8.5						
ASAR	**Alice Springs**	**35.10**	**192**	P	**P**	**16 03 16.5**	**+0.3**
	0.9nm,0.6s,mb3.9,baz=18,slow=12,SNR=10						
ASAR				pP	pP	16 03 28.8	+1.1
	0.4nm,0.5s,baz=20,slow=12,SNR=3.0						
ASAR				PcP	PcP	16 05 48.8	+1.3
	0.3nm,0.9s,baz=46,slow=2.1,SNR=3.8						
CMAR	**Chiang Mai Arr**	**41.48**	**285**	P	**P**	**16 04 10.4**	**+1.0**
	1.2nm,0.8s,mb3.6,baz=89,slow=7.0,SNR=10						
CMAR				pP	pP	16 04 21.8	+0.6
	0.9nm,0.7s,baz=90,slow=7.0,SNR=4.1						
SONM	**Songino Array**	**46.97**	**328**	P	**P**	**16 04 53.9**	**+0.4**
	0.3nm,0.5s,mb3.5,baz=137,slow=5.2,SNR=3.9						
SONM				PcP	PcP	16 06 26.4	+0.6
	0.3nm,0.6s,baz=126,slow=1.9,SNR=3.1						
KURK	**Kurchatov**	**64.36**	**321**	*e*P	**P**	**16 06 57.4**	**-1.1**
	5.6nm,1.0s,mb4.5						
CHKZ	**Chkalovo**	**69.79**	**323**	*e*P	**P**	**16 07 32.3**	**-0.3**
	1.9nm,0.9s,mb4.0						
BVAR	**Borovoye Array**	**69.82**	**323**	P	**P**	**16 07 32.9**	**+0.1**
	1.1nm,0.5s,mb4.0,baz

0.3nm,0.4s,baz=22,slow=12,SNR=2.8
CMAR Chiang Mai Arr 40.16 285 pP pP 16 19 00.5 -0.2
0.8nm,0.9s,baz=103,slow=6.6,SNR=6.3
STKA Stephens Creek 42.89 178 P P 16 19 09.2 -2.8
0.9nm,0.7s,baz=104,slow=18,SNR=2.9
STKA pP pP 16 19 19.8 -3.3
2.8nm,1.0s,baz=13,slow=14,SNR=1.9
SONM Songino Array 46.04 329 pP pP 16 19 45.2 -3.0
0.3nm,0.6s,baz=137,slow=6.0,SNR=2.6
ILAR Eielson Array 72.77 25 P P 16 22 38.9 -2.3
0.6nm,0.7s,baz=248,slow=6.4,SNR=8.8
ILAR pP pP 16 22 50.5 -2.5
0.4nm,0.6s,baz=252,slow=5.7,SNR=3.2
INK Inuvik 78.39 22 P P 16 23 12.0 -1.1
1.0nm,0.8s,baz=222,slow=6.5,SNR=3.0
INK pP pP 16 23 24.5 -0.5
1.3nm,0.9s,baz=243,slow=2.3,SNR=2.9
INK Inuvik 78.39 22 P P 16 23 12.0 -1.1
INK pP pP 16 23 24.5 -0.5
YKA Yellowknife Ar 87.16 27 P P 16 23 56.2 -2.0
0.4nm,0.5s,baz=287,slow=5.0,SNR=8.1
YKA pP pP 16 24 09.5 -0.7
0.5nm,0.4s,baz=289,slow=4.8,SNR=5.3
YKA Yellowknife Ar 87.16 27 P P 16 23 56.2 -2.0
YKA pP pP 16 24 09.6 -0.7
LPAZ La Paz 152.33 104 PKPbc PKPdf 16 31 08.8 +7.7
1.1nm,0.6s,baz=1.0,slow=1.3,SNR=5.0
LPAZ PKPab PKPab 16 31 19.6 -0.8
0.6nm,0.5s,baz=317,slow=2.4,SNR=4.6

IDC 17 16:38:42.9±6.5, 11.99N×95.80E, mb3.1/2, mb1 3.3/3, mb1mx3.2/17, mbtmp3.0/3, ML3.3/1, Error ellipse: s-maj=160.2km s-min=40.1km az=89.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.11	25	Pn	Pn	16 40 27.1	-3.8
	0.1nm,0.3s,baz=207,slow=14,SNR=5.6						
WRA	Warramunga Arr	49.45	130	P	P	16 47 36.1	-1.1
	0.2nm,0.9s,baz=299,slow=9.7,SNR=5.3						
ASAR	Alice Springs	51.42	134	P	P	16 47 49.5	-2.6
	0.2nm,0.7s,baz=311,slow=7.0,SNR=5.3						

CSEM 17 16:39:18.6, 36.14N×6.63E, ML4.0, After ALG, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CASM	Ain Smara	0.16	317	P	Pg	16 39 24.0	+2.1
CTEI	Djebel Teioual	0.19	247	P	Pg	16 39 24.5	+2.0
CKFL	Kef-Lekhel	0.27	16	P	Pg	16 39 26.5	+2.5
CAEH	'Ain El Ouahch	0.66	16	P	Pg	16 39 38.5	+6.6
ABSA	Djebel Ababsia	0.70	79	P	Pg	16 39 39.0	+6.4
DFRA	Djebel Bou Aff	0.73	304	P	Pg	16 39 34.5	+1.4
CMER	Merouana	0.79	229	P	Pg	16 39 37.0	+2.7
CMAH	Djebel Manchou	0.80	53	P	Pg	16 39 41.0	+6.4
SET	Setif	0.99	274	P	Pb	16 39 41.0	+2.6

KRSC 17 16:40:59.8±1.0, 49.65N×156.57E, h27km±29km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.07	344	*i* P	Pn	16 41 18.0	-1.3
SKR				*i* S	Sb	16 41 31.9	-1.4
ALID	Alaid	1.39	332	*i* P	Pn	16 41 24.7	+1.0
ALID				*e*S	Sn	16 41 42.2	+1.0
PAU	Pauzhetka	1.83	5	*e*P	Pn	16 41 30.6	+0.6
PAU				*e*S	Sn	16 41 52.6	+0.2
RUS	Russkaya	3.04	23	*i* P	Pn	16 41 47.0	-0.4
RUS				*i* S	Sn	16 42 20.7	-2.7
GRL	Gorelyy	3.06	17	*e*P	Pn	16 41 48.4	+0.8
GRL				*e*S	Sn	16 42 23.4	-0.3
APC	Apacha	3.30	6	*e*P	Pn	16 41 52.0	+1.0
KRMR	Karymshinskiy	3.33	17	*e*S	Sn	16 42 32.2	+1.6
UGLR	Uglovaya	3.83	21	*e*P	Pn	16 41 59.1	+0.5
UGLR				*e*S	Sn	16 42 43.4	+0.1
AVH	Avacha	3.87	20	*e*P	Pn	16 41 59.9	+0.8
AVH				*e*S	Sn	16 42 45.0	+0.9
KOK	Koryaka	3.87	19	*i* P	Pn	16 42 00.3	+1.2
KOK				*e*S	Sn	16 42 44.2	0.0
SMAR	Somma	3.88	20	*e*P	Pn	16 41 59.3	+0.1
SDLR	Sedlovina	3.91	21	*i* P	Pn	16 41 59.6	-0.1
SDLR				*e*S	Sn	16 42 43.9	-1.4
NLC	Nalytchevo	3.93	25	*e*P	Pn	16 41 58.3	-1.7
NLC				*e*S	Sn	16 42 42.0	-3.8
SPN	Mys Shipunski	4.07	31	*e*P	Pn	16 42 01.3	-0.7
SPN				*e*S	Sn	16 42 46.2	-3.2
GNL	Ganaly	4.14	11	*i* P	Pn	16 42 03.6	+0.6

OTT 17 16:57:53.7±0.5, 52.83N×67.14W, MN2.6/5, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	2.01	5	PN	Pn	16 58 28.1	-1.2
SCHQ				SN	Sn	16 58 59.2	+3.6
SCHQ				Trac		16 59 00.3	
	comp=Z,7.7nm,0.1s						
MNQ	Manicouagan	2.52	204	PN	Pn	16 58 35.7	-0.8
MNQ				SN	Sn	16 59 05.1	-3.2
MNQ				Trac		16 59 11.7	
	comp=Z,5.0nm,0.1s						
SMQ	Clarke City	2.63	174	PN	Pn	16 58 37.0	-1.1
SMQ				SN	Sn	16 59 06.6	-4.5
SMQ				Trac		16 59 14.1	
	comp=Z,3.8nm,0.1s						
ICQ	Pointe Anglais	3.31	181	PN	Pn	16 58 45.3	-2.6
ICQ				SN	Sn	16 59 24.4	-4.2
CNQ	Baie Comeau	3.58	190	PN	Pn	16 58 50.0	-1.6
CNQ				SN	Sn	16 59 32.1	-3.3
CNQ				Trac		16 59 47.9	
	comp=Z,2.7nm,0.1s						
LG4Q	La Grande 4	4.25	284	PN	Pn	16 58 58.6	-2.6
LG4Q				PG	Pg	16 59 06.6	-12
LG4Q				SN	Sn	16 59 48.5	-3.9
LG4Q				SG	Sg	17 00 05.2	-10
LG4Q				Trac		17 00 07.7	
	comp=Z,3.1nm,0.2s						
LMQ	La Malbaie	5.67	202	PN	Pn	16 59 12.6	-8.7
DRLN	Deer Lake	7.05	117	PN	Pn	16 59 35.1	-5.6
MALO	McAlpine Lake	8.37	255	PN	P	16 59 52.9	-6.3
VIMO	Victor Mine	10.05	277	PN	P	17 00 09.7	-13
SILO	Sutton Inlier	10.68	286	PN	P	17 00 23.2	-7.6

*IDC **17** 16:58:57.7±1.5, 36.74S×177.80E, h286km±14km, mb3.7/4, mb1 3.8/5, mb1mx3.5/13, mbtmp4.4/5, Error ellipse: s-maj=37.3km s-min=27.4km az=158.0*
*WEL **17** 16:58:59.5±0.6, 36.42S×177.60E, h259km±5km, ML4.5/7, Error ellipse: s-maj=6.8km s-min=5.7km az=90.0*
*NEIC **17** 16:58:59.6, 36.49S×177.61E, h263km, mb4.0/3, After WEL.*
ISC 17 16:58:57.6±0.9, 36.69S±0.08×177.7E±0.2, h297km±8km, n63, σ0§83/70, mb4.0/6, 4C-4D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.99	152	P	P	16 59 36.9	-0.9
MXZ				S	S	17 00 05.8	-3.4
MXZ	Matakaoa Point	0.99	152	PN	P	16 59 36.9	-0.9
MXZ				SN	S	17 00 05.9	-3.3
PUZ	Puketiti	1.44	163	P	P	16 59 40.6	+0.2
PUZ				S	S	17 00 12.4	-1.4
PUZ	Puketiti	1.44	163	PN	P	16 59 40.6	+0.2
PUZ				SN	S	17 00 12.4	-1.4
MARZ	Manawahe	1.54	212	PN	P	16 59 40.9	-0.1
EDRZ	Edgecumbe	1.61	209	PN	P	16 59 41.9	+0.3
URZ	Urewera	1.64	197	P	P	16 59 41.6	-0.1
	22nm,0.3s,baz=305,slow=1.8,SNR=175						
URZ				S	S	17 00 13.9	-2.2
	24nm,0.3s,baz=188,slow=12,SNR=10						
URZ	Urewera	1.64	197	P	P	16 59 41.5	-0.2
URZ	Urewera	1.64	197	⇓PN	P	16 59 41.5	-0.2
URZ				SN	S	17 00 14.3	-1.8
MWZ	Matawai	1.65	185	P	P	16 59 42.4	+0.7
MWZ	Matawai	1.65	185	⇑PN	P	16 59 42.4	+0.7
TAZ	Tarawera	1.81	212	PN	P	16 59 43.8	+0.9
PATZ	Paeroa	2.05	214	PN	P	16 59 45.7	+1.0
KNZ	Kokohu	2.33	181	P	P	16 59 48.3	+1.1
KNZ	Kokohu	2.33	181	PN	P	16 59 48.3	+1.1
KNZ				SN	S	17 00 25.7	-0.1
BKZ	Black Stump Fm	2.65	201	P	P	16 59 50.5	+0.3
BKZ	Black Stump Fm	2.65	201	⇓PN	P	16 59 50.5	+0.3
BKZ				SN	S	17 00 31.2	0.0
WTVZ	West Tongariro	2.95	214	PN	P	16 59 53.7	+0.7
TWVZ	Taurewa	2.98	217	PN	P	16 59 54.0	+0.6
NGZ	Ngauruhoe	2.99	213	PN	P	16 59 54.1	+0.7
CNZ	Chateau	3.03	214	PN	P	16 59 54.7	+0.8
WPVZ	Whakapapa	3.04	214	PN	P	16 59 54.7	+0.7
TUVZ	Tukino	3.04	212	PN	P	16 59 54.6	+0.6
MOVZ	Moawhango	3.12	209	PN	P	16 59 54.8	0.0
VRZ	Vera Road	3.37	223	PN	P	16 59 57.8	+0.3
PWZ	Pawanui	3.40	191	PN	P	16 59 58.7	+1.0
PWZ				SN	S	17 00 46.0	+1.5
TSZ	Takapari Road	3.63	202	PN	P	17 00 00.5	+0.3
WAZ	Wanganui	3.74	214	PN	P	17 00 02.1	+0.8
BFZ	Birch Farm	4.15	196	PN	P	17 00 06.2	+0.5
MRZ	Mangatainoka R	4.30	202	PN	P	17 00 07.7	+0.1
MRZ				SN	S	17 01 03.1	+0.9
KIW	Kapiti Island	4.71	207	PN	P	17 00 11.9	-0.2
MTW	Mount Morrison	4.78	200	PN	P	17 00 12.8	-0.2
CAW	Cannon Point	4.87	204	PN	P	17 00 13.8	-0.2
PAWZ	Paruwai Farm	5.01	200	PN	P	17 00 15.6	0.0
MSWZ	Moikau Station	5.09	201	PN	P	17 00 16.5	-0.1
MRW	Makara Radio	5.10	207	PN	P	17 00 16.3	-0.5
TUWZ	Tuamarina	5.57	211	PN	P	17 00 21.7	-0.5
NNZ	Nelson	5.64	215	PN	P	17 00 21.8	-1.3
QRZ	Quartz Range	5.79	223	PN	P	17 00 23.3	-1.6
BSWZ	Blackbirch Sta	5.83	210	PN	P	17 00 25.5	0.0
THZ	Tophouse	6.29	215	PN	P	17 00 30.0	-1.0
KHZ	Kahutara	6.56	208	PN	P	17 00 34.2	-0.1
LTZ	Lake Taylor	7.39	213	PN	P	17 00 44.1	-0.3
MQZ	McQueen's Vall	8.01	207	PN	P	17 00 51.4	-0.6
WVZ	Waitaha Valley	8.33	218	PN	P	17 00 54.3	-1.7
RPZ	Rata Peaks	8.67	214	P	P	17 00 59.2	-0.9
	1.5nm,0.3s,baz=354,slow=14,SNR=7.9						
RPZ				S	S	17 02 36.6	0.0
	2.6nm,0.3s,baz=106,slow=4.7,SNR=12						
RPZ	Rata Peaks	8.67	214	PN	P	17 00 58.9	-1.2
FOZ	Fox Glacier	9.21	219	PN	P	17 01 04.1	-2.7
LBZ	Lake Benmore	9.58	214	PN	P	17 01 11.1	-0.3
ODZ	Otahua Downs	9.91	210	PN	P	17 01 16.5	+1.1
STKA	Stephens Creek	30.11	268	P	P	17 04 43.4	+1.2
	1.3nm,0.6s,mb3.7,baz=103,slow=12,SNR=4.5						
CTA	Charters Tower	32.06	292	P	P	17 04 58.6	-0.5
	2.2nm,0.8s,mb3.8,baz=121,slow=8.8,SNR=5.8						
CTAO	Charters Tower	32.06	292	*e*P	P	17 04 58.5	-0.6
	1.1nm,0.4s,mb3.7						
ASAR	Alice Springs	39.71	277	P	P	17 06 03.8	+0.6
	6.7nm,0.5s,mb4.2,baz=118,slow=8.0,SNR=172						
ASPA	Alice Springs	39.72	277	⇑*i*P	P	17 06 03.7	+0.5
WB2	Warramunga Arr	41.29	282	⇑*i*P	P	17 06 15.8	-0.3
WRAB	Tennant Creek	41.29	282	*e*P	P	17 06 15.7	-0.4
	9.2nm,0.5s,mb4.3						
WRA	Warramunga Arr	41.30	282	P	P	17 06 16.0	-0.2
	6.5nm,0.6s,mb4.0,baz=120,slow=7.8,SNR=143						
QSPA	South Pole Qui	53.43	180	⇓*i*P	P	17 07 55.9	+7.3
	3.8nm,0.7s,mb3.8						
SYO	Syowa Base	70.17	195	⇓PcP	PcP	17 10 01.8	+2.2
SYO	Syowa Base	70.17	195	⇑pP	pP	17 10 41.3	-6.1
ARCES	ARCESS Array B	143.81	344	PKP	PKPdf	17 17 56.9	+0.7
	2.4nm,0.9s,baz=90,slow=0.9,SNR=4.1						
FINES	FINESS Array B	149.50	333	PKPbc	PKPdf	17 18 11.9	+6.1
	1.3nm,0.6s,baz=63,slow=4.3,SNR=10						

IDC 17 17:05:35.3±1.2, 13.02N×93.86E, mb3.9/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.7/5, ML3.1/1, Error ellipse: s-maj=38.5km s-min=27.1km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.29	41	Pn	Pn	17 07 21.1	-4.5
	0.1nm,0.3s,baz=242,slow=15,SNR=6.4						
CMAR				Sn	Sn	17 08 47.7	-2.5
	baz=233,slow=29,SNR=4.2						
WRA	Warramunga Arr	51.57	129	P	P	17 14 43.9	-1.7
	0.7nm,0.6s,baz=296,slow=9.6,SNR=15						
WRA				PcP	PcP	17 15 55.7	-4.1
	0.4nm,0.6s,baz=318,slow=3.0,SNR=12						
ASAR	Alice Springs	53.50	133	P	P	17 14 59.0	-1.1
	1.3nm,0.5s,baz=308,slow=6.7,SNR=48						
ASAR				PcP	PcP	17 16 02.5	-4.4
	0.3nm,0.6s,baz=314,slow=3.4,SNR=3.8						
STKA	Stephens Creek	63.89	135	P	P	17 16 10.8	-1.6
	1.3nm,0.8s,baz=321,slow=6.5,SNR=3.9						
GERES	GERESS Array B	73.86	317	P	P	17 17 13.1	-0.6
	0.4nm,0.5s,baz=90,slow=8.0,SNR=4.9						

*MOS **17** 17:07:49.0±1.4, 7.06N×92.20E, h33km, mb4.9/14, Error ellipse: s-maj=19.0km s-min=9.9km az=103.2*
*BJI **17** 17:07:51.3, 7.20N×92.10E, h20km, mB5.0, mb4.6, Ms4.5, Msz4.2*
*IDC **17** 17:07:51.7±0.8, 7.28N×92.26E, h19km±3km, mb3.9/10, mb1 4.0/11, mb1mx3.9/20, mbtmp4.0/11, ML3.8/1, Error ellipse: s-maj=34.7km s-min=13.3km az=56.0*
*NEIC **17** 17:07:51.4±3.2, 7.17N×92.13E, h21km±22km, mb4.5/8, Error ellipse: s-maj=13.6km s-min=6.3km az=47.0*
ISC 17 17:07:51.2±0.4, 7.24N±0.06×92.22E±0.06, h33km, (h16km±2.6km:pP-P), n68, σ1§16/62, mb4.5/32, MS4.1/1, 3C-4D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	4.42	7	*e*P	P	17 09 01.4	+3.8
PALK	Pallekele	11.42	271	*e*Pn	P	17 10 37.0	+1.8
	10nm,0.4s						
CMAR	Chiang Mai Arr	12.93	30	Pn	P	17 10 55.5	+0.1
	0.2nm,0.3s,baz=231,slow=14,SNR=23						
BWNR	Bhubaneshwar	14.39	335	*e*P	P	17 11 20.4	+5.7
BWNR				*e*	S	17 13 52.7	-1.2
BWNR				*e*		17 13 58.0	
	comp=N,18nm,0.5s						
TRD	Trivandrum	15.17	276	*e*	P	17 11 24.4	-0.5
HYB	Hyderabad	16.73	308	*e*P	P	17 11 45.0	+0.2
HYB	Hyderabad	16.73	308	*i* P	P	17 11 45.0	+0.2
IMP	Imphal	17.52	5	*e*P	P	17 11 55.2	+0.6
SHL	Shillong	18.22	359	*e*P	P	17 12 05.0	+1.5
SHL				*e*		17 14 35.0	
JIRN	Jiri	21.09	345	*e*P	P	17 12 35.9	+0.7
	comp=N,35nm,1.2s,mb4.6						
PKI	Pulchoki	21.22	343	*e*P	P	17 12 36.7	+0.2
	comp=N,40nm,1.1s,mb4.7						
DMN	Daman	21.35	342	*e*P	P	17 12 38.4	+0.6
KKN	Kakani	21.47	343	*e*P	P	17 12 38.7	-0.3
	comp=N,24nm,1.1s,mb4.4						
GKN	Gorkha	21.86	342	*e*P	P	17 12 43.5	+0.6
	comp=N,33nm,0.8s,mb4.8						
KOLN	Koldanda	21.99	339	*e*P	P	17 12 44.5	+0.3
LSA	Lhasa	22.36	358	P	P	17 12 49.0	+1.1
LSA				AP		17 12 56.8	
LSA				XP		17 13 00.8	
LSA				LR	LR		
	comp=N,300nm,15.0s,MS4.2						
LSA				LR	LR		
	comp=E,650nm,16.3s,MS4.2						
LSA				LR	LR		
	comp=Z,460nm,14.6s,MS4.0						
DDI	Dehra Dun	26.53	332	*e*	P	17 13 28.4	+0.5
ENH	Enshi	28.06	33	*e*P	P	17 13 43.8	+1.9
	comp=Z,4.9nm,0.5s,mb4.4						
AAK	Ala-Archa	38.56	339	⇓*i*P	P	17 15 12.6	0.0
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.2						
AAK	Ala-Archa	38.56	339	*e*P	P	17 15 13.3	+0.7
	comp=Z,4.4nm,1.1s,mb4.1						
MKAR	Makanchi Array	40.32	349	*e*P	P	17 15 26.8	-0.3
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FITZ	Fitzroy Crossi	41.50	128	*e*P	P	17 15 37.7	+0.4
	comp=Z,35nm,0.9s,mb5.0						
SONM	Songino Array	42.21	14	P	P	17 15 42.9	+0.1
	comp=Z,1.3nm,1.0s,mb3.5,baz=204,slow=5.3,SNR=7.4						
SONM				pP	pP	17 15 48.7	-3.9
	comp=Z,1.9nm,0.8s,baz=201,slow=6.5,SNR=13						
ULN	Ulaanbaatar	42.41	15	⇑*i*P	P	17 15 42.5	-1.8
KURK	Kurchatov	44.79	348	*e*P	P	17 16 03.4	-0.1
KURK				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.6						
KURK	Kurchatov	44.79	348	*e*P	P	17 16 03.4	-0.2
	comp=Z,11nm,1.2s,mb4.6						
ZAL	Zalesovo	46.94	354	P	P	17 16 20.8	+0.2
	comp=Z,1.0nm,0.5s,mb4.0,baz=305,slow=7.2,SNR=7.2						
ZAL				pP	pP	17 16 27.1	-3.3
	comp=Z,1.2nm,0.6s,baz=309,slow=7.2,SNR=4.1						
BVA0	Borovoye Array	48.99	343	*i* P	P	17 16 35.8	-0.8
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.8						
BVAR	Borovoye Array	48.99	343	P	P	17 16 36.1	-0.5
	comp=Z,2.6nm,1.0s,mb4.2,baz=135,slow=8.4,SNR=8.6						
BVAR				pP	pP	17 16 41.8	-4.6
	comp=Z,2.9nm,0.8s,baz=143,slow=7.4,SNR=9.3						
BRVK	Borovoye	49.05	343	*e*P	P	17 16 37.0	0.0
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BRVK	Borovoye	49.05	343	*e*P	P	17 16 37.0	0.0
	comp=Z,3.7nm,0.9s,mb4.4						
WRA	Warramunga Arr	49.47	124	P	P	17 16 40.4	-0.3
	comp=Z,2.8nm,0.9s,mb4.3,baz=303,slow=8.9,SNR=13						
WRA				pP	pP	17 16 47.2	-3.4
	comp=Z,6.5nm,1.1s,baz=304,slow=8.5,SNR=16						
WRAB	Tennant Creek	49.48	124	⇑*i*P	P	17 16 39.3	-1.4
WRAB	Tennant Creek	49.48	124	*e*P	P	17 16 40.5	-0.2
	comp=Z,4.6nm,0.9s,mb4.5						
WB2	Warramunga Arr	49.48	124	*e*P	P	17 16 40.4	-0.4
CHKZ	Chkalovo	49.50	343	*e*P	P	17 16 40.2	-0.3
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
CHKZ	Chkalovo	49.50	343	*e*P	P	17 16 40.2	-0.2
	comp=Z,2.6nm,0.4s,mb4.6						
ASAR	Alice Springs	51.00	128	P	P	17 16 52.4	0.0
	comp=Z,1.5nm,1.0s,mb3.9,baz=304,slow=7.2,SNR=8.1						
ASAR				pP	pP	17 16 58.9	-3.3
	comp=Z,1.0nm,0.6s,baz=300,slow=7.2,SNR=8.2						
BOD	Bodaibo	53.21	14	*e*P	P	17 17 06.0	-2.4
BOD				*e*		17 17 13.5	
KLR	Kul'dur	53.40	31	*e*P	P	17 17 13.3	+3.3
GNI	Garni	53.53	315	*e*P	P	17 17 11.1	+0.1
GNI				pmax	pmax		
	comp=Z,10.0nm,1.7s						
GNI	Garni	53.53	315	P	P	17 17 12.7	+1.7
	comp=Z,0.9nm,0.4s,mb4.0,baz=129,slow=6.5,SNR=2.6						
GNI	Garni	53.53	315	*e*P	P	17 17 10.9	-0.1
	comp=Z,3.2nm,0.8s,mb4.3						
SVE	Sverdlovsk	55.30	340	*e*P	P	17 17 28.7	+5.0
SVE				pmax	pmax		
	comp=Z,40nm,1.8s,mb5.2						
ARU	Arti	55.74	338	⇓*i*P	P	17 17 33.1	+6.2
ARU				*e*		17 18 25.6	
ARU				*e*		17 19 36.2	
ARU				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
KIV	Kislovodsk	56.52	319	⇓*i*P	P	17 17 31.4	-1.3
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
KIV	Kislovodsk	56.52	319	*e*P	P	17 17 32.0	-0.7
	comp=Z,2.5nm,0.4s,mb4.6						
SOC	Sochi	58.34	317	*e*P	P	17 17 41.7	-3.8
SOC				*e*		17 18 31.8	
SOC				*e*		17 19 58.1	
SOC				*e*S	S	17 25 41.8	-2.2
SOC				*e*		17 27 23.1	
SOC				*e*SS	SS	17 29 33.3	-4.4
SOC				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
SOC				pmax	pmax		
	comp=N,7.0nm,1.1s						
SOC				pmax	pmax		
	comp=E,8.0nm,1.0s						
ANN	Anapa	60.31	318	*e*P	pP	17 18 04.9	-4.4
ANN				pmax	pmax		
	comp=Z,42nm,1.2s,mb5.3						
STKA	Stephens Creek	61.07	132	*e*P	pP	17 18 12.4	-2.2
	comp=Z,4.8nm,0.8s						
STKA	Stephens Creek	61.07	132	P	P	17 18 05.0	+0.5
	comp=Z,1.1nm,0.8s,mb4.0,baz=336,slow=5.8,SNR=2.5						
STKA	Stephens Creek	61.07	132	P	P	17 18 05.0	+0.5
YAK	Yakutsk	61.20	19	⇓*i*P	P	17 18 02.3	-2.6
YAK				pmax	pmax		
	comp=Z,18nm,1.5s,mb5.0						
OBN	Obninsk	64.90	328	⇑*i*P	P	17 18 26.4	-3.0
OBN				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
MA2	Magadan	68.21	28	*e*P	P	17 18 47.2	-3.1
MA2				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.6						
TIXI	Tiksi	68.23	12	*e*P	P	17 18 48.1	-2.1
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
FINES	FINESS Array B	72.38	333	P	P	17 19 16.4	+0.9
	comp=Z,1.8nm,0.8s,mb4.0,baz=90,slow=1.4,SNR=3.0						
FINES	FINESS Array B	72.38	333	P	P	17 19 16.4	+0.9
GERES	GERESS Array B	77.03	318	P	P	17 19 43.3	+0.6
	comp=Z,1.4nm,0.9s,mb3.9,baz=90,slow=6.7,SNR=6.5						
GERES				pP	pP	17 19 50.0	-2.9
	comp=Z,1.0nm,0.7s,baz=82,slow=6.9,SNR=6.1						
KHC	Kasperske Hory	77.13	319	*e*P	pP	17 19 49.5	-4.0
KHC	Kasperske Hory	77.13	319	*e*pP	pP	17 19 49.5	-4.0
BILL	Bilibino	77.37	22	*e*P	P	17 19 44.9	+0.7
BILL				pmax	pmax		
	comp=Z,11nm,2.5s,mb4.3						
NKC	Novy Kostel	77.93	320	*e*P	P	17 19 44.2	-3.4
LPG	La Plagne	81.71	315	*e*P	pP	17 20 16.0	-2.4
	comp=Z,26nm,1.5s						
ILAR	Eielson Array	96.04	22	P	P	17 21 18.4	+2.4
	comp=Z,0.8nm,1.2s,mb4.0,baz=225,slow=3.8,SNR=3.0						
ILAR				pP	pP	17 21 24.1	-2.6
	comp=Z,0.3nm,0.8s,baz=240,slow=4.6,SNR=2.3						
NVAR	Mina Array Bea	126.42	30	PKP	PKPdf	17 26 54.8	+3.4
	comp=Z,0.2nm,0.5s,slow=1.8,SNR=2.8						
PDAR	Pinedale Array	126.42	20	PKP	PKPdf	17 26 53.4	+2.1
	comp=Z,0.9nm,1.1s,baz=315,slow=1.3,SNR=3.1						
PDAR				pPKP		17 27 00.1	
	comp=Z,0.9nm,0.9s,ba

QIZ Qiongzhong 20.32 54 *e*P **P 17 12 41.2 -1.1**
comp=Z,79nm,1.3s
KAD Karad 20.38 300 ⇓*i*P **P 17 12 42.5 -0.5**
POO Poona 21.22 303 *e* **P 17 12 52.0 +0.4**
BHPL Bhopal 21.34 319 *e*P **P 17 12 49.8 -2.9**
BHPL *e* 17 12 54.9
comp=Z,27nm,1.0s
BHPL *e* 17 17 05.5
LSA Lhasa 22.10 357 *e*P **P 17 13 04.2 +3.9**
LSA pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
LSA Lhasa 22.10 357 *e*P **P 17 13 04.2 +3.9**
comp=Z,5.7nm,0.8s,mb4.0
NDI New Delhi 25.54 327 *e*P **P 17 13 32.4 -1.3**
comp=Z,3.0nm,0.8s,mb3.9
LZH Lanzhou 30.25 18 *e*P **P 17 14 17.0 +0.6**
LZH AP pP 17 14 24.3 +0.6
LZH XP sP 17 14 27.5 +0.6
LZH AMB AMB
comp=Z,23nm,1.5s,mb4.7
LZH AMB AMB
comp=Z,102nm,4.5s
LZH LR LR
comp=N,446nm,12.9s
LZH LR LR
comp=Z,719nm,17.0s,MS4.4
NJ2 Nanjing 34.56 42 *e*P **P 17 14 56.1 +2.0**
NJ2 AP pP 17 15 06.6 +5.1
NJ2 XP sP 17 15 09.8 +5.2
NJ2 PP PP 17 16 15.0 +4.3
NJ2 PPP PPP 17 16 32.8 +4.1
NJ2 S **S 17 20 23.0 +2.4**
NJ2 XS 17 20 37.0
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.3
NJ2 AMB AMB
comp=Z,682nm,5.6s
NJ2 LR LR
comp=N,1μm,13.2s,MS4.9
NJ2 LR LR
comp=E,820nm,15.3s,MS4.9
NJ2 LR LR
comp=Z,330nm,10.9s,MS4.3
WMQ Urumqi 36.40 354 *e*P **P 17 15 12.0 +2.5**
WMQ AP pP 17 15 17.9 +1.0
WMQ XP sP 17 15 20.8 +0.7
WMQ PP PP 17 16 36.1 +2.7
WMQ S **S 17 20 52.6 +3.8**
WMQ XS 17 21 02.3
WMQ AMB AMB
comp=Z,3.0nm,1.0s,mb4.2
WMQ AMB AMB
comp=Z,28nm,4.9s
WMQ LR LR
comp=N,745nm,19.4s,MS4.6
WMQ LR LR
comp=E,711nm,20.0s,MS4.6
WMQ LR LR
comp=Z,940nm,20.2s,MS4.6
AAK Ala-Archa 38.42 338 ⇑*i*P **P 17 15 25.9 -0.6**
AAK Ala-Archa 38.42 338 *e*P **P 17 15 27.3 +0.8**
comp=Z,12nm,1.3s,mb4.5
SONM Songino Array 41.86 14 P **P 17 15 56.6 +1.8**
comp=Z,6.8nm,0.9s,mb4.3,baz=198,slow=6.9,SNR=22
ULN Ulaanbaatar 42.05 15 ⇑*i*P **P 17 15 57.6 +1.2**
ULN Ulaanbaatar 42.05 15 *e*P **P 17 15 57.2 +0.7**
comp=Z,2.5nm,1.1s,mb3.8
ZAK Zakamensk 43.65 10 *e*P **P 17 16 03.6 -5.8**
SNY Shenyang 43.83 34 ⇑P **P 17 16 18.0 +7.0**
SNY AMB AMB
comp=Z,20nm,1.7s,mb4.6
SNY LR LR
comp=N,400nm,13.2s
SNY LR LR
comp=Z,620nm,13.7s,MS4.7
MOY Mondy 44.55 7 *e*P **P 17 16 19.6 +2.9**
KURK Kurchatov 44.58 347 *e*P **P 17 16 17.9 +0.9**
KURK pmax pmax
comp=Z,23nm,1.5s,mb4.8
KURK Kurchatov 44.58 347 *e*P **P 17 16 17.9 +0.8**
comp=Z,24nm,1.5s,mb4.8
ZAL Zalesovo 46.70 354 P **P 17 16 34.4 +0.7**
comp=Z,14nm,1.2s,mb4.8,baz=289,slow=9.4,SNR=15
HIA Hailar 47.47 24 *e*P **P 17 16 40.8 +0.9**
NVS Novosibirsk 47.77 353 *i*P **P 17 16 40.8 -1.4**
NVS pmax pmax
comp=N,19nm,1.6s
NVS pmax pmax
comp=E,5.0nm,1.6s
NVS pmax pmax
comp=Z,19nm,1.6s,mb4.9
BVAR Borovoye Array 48.82 342 P **P 17 16 50.4 +0.1**
comp=Z,8.2nm,0.7s,mb4.8,baz=141,slow=9.5,SNR=25
BRVK Borovoye 48.88 342 *e*P **P 17 16 50.4 -0.4**
BRVK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
BRVK Borovoye 48.88 342 *e*P **P 17 16 50.4 -0.4**
comp=Z,4.4nm,1.0s,mb4.4
CHKZ Chkalovo 49.33 343 *e*P **P 17 16 54.5 +0.3**
CHKZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
CHKZ Chkalovo 49.33 343 *e*P **P 17 16 54.5 +0.3**
comp=Z,6.7nm,0.9s,mb4.7
WRA Warramunga Arr 49.36 124 P **P 17 16 54.7 -0.2**
comp=Z,20nm,0.8s,mb5.2,baz=304,slow=8.8,SNR=44
WRA PcP PcP 17 18 18.9 +1.4
comp=Z,2.8nm,0.9s,baz=312,slow=3.2,SNR=3.5
WRAB Tennant Creek 49.36 124 ⇓*i*P **P 17 16 53.9 -1.0**
WRAB Tennant Creek 49.36 124 *e*P **P 17 16 54.8 -0.1**
comp=Z,34nm,0.8s,mb5.4
ASPA Alice Springs 50.91 129 *e*P **P 17 16 59.2 -7.5**
ASAR Alice Springs 50.92 129 P **P 17 17 06.5 -0.2**
comp=Z,12nm,1.0s,mb4.8,baz=308,slow=7.2,SNR=35
ASAR PcP PcP 17 18 23.9 +0.7
comp=Z,2.7nm,0.8s,baz=306,slow=4.4,SNR=5.4
BOD Bodaibo 52.86 14 *e*P **P 17 17 20.9 -0.1**
BOD *e* pP 17 17 28.2 -0.4
BOD Bodaibo 52.86 14 *e* **P 17 17 20.9 -0.1**
GNI Garni 53.56 315 *e*P **P 17 17 25.3 -1.0**
GNI pmax pmax
comp=Z,13nm,1.0s
GNI Garni 53.56 315 P **P 17 17 27.0 +0.6**
comp=Z,7.2nm,0.8s,mb4.6,baz=176,slow=4.8,SNR=6.3
GNI Garni 53.56 315 *e*P **P 17 17 26.5 +0.1**
comp=Z,13nm,1.0s,mb4.8
ZEI Tsey 55.22 318 *e*P **P 17 17 37.2 -1.3**
ZEI *i* *PP pP 17 17 47.2 +1.1
ZEI pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
ARU Arti 55.60 338 *e*P **P 17 17 37.0 -4.1**
ARU pmax pmax
comp=Z,29nm,1.3s,mb5.2
ARU Arti 55.60 338 *e*P **P 17 17 37.0 -4.1**
comp=Z,29nm,1.3s,mb5.2
ARU Arti 55.60 338 *e*S **S 17 25 26.4 +2.9**
KMBO Kilima Mbogo 55.82 264 P **P 17 17 43.0 -0.2**
comp=Z,0.8nm,0.4s,mb4.1,baz=52,slow=7.9,SNR=6.0
KMBO Kilima Mbogo 55.82 264 *e*P **P 17 17 42.8 -0.4**
KIV Kislovodsk 56.52 319 ⇓*i*P **P 17 17 46.3 -1.5**
KIV pmax pmax
comp=Z,18nm,1.0s,mb5.1
KIV Kislovodsk 56.52 319 *e*P **P 17 17 45.8 -2.1**
comp=Z,16nm,1.0s,mb5.0
PMG Port Moresby 56.94 106 P **P 17 17 52.2 +0.9**
comp=Z,9.8nm,0.7s,mb4.9,baz=174,slow=7.7,SNR=3.8
PMG Port Moresby 56.94 106 *e*P **P 17 17 51.5 +0.3**
comp=Z,14nm,0.9s,mb5.0
ASF Jabal al Asfar 57.09 303 P **P 17 17 52.6 +0.5**
comp=Z,4.4nm,0.8s,mb4.5,baz=83,slow=8.1,SNR=3.2
MALT Malatya 57.49 311 *e*P **P 17 17 54.2 -0.5**
comp=Z,6.4nm,1.1s,mb4.6
SOC Sochi 58.35 317 *e*P **P 17 17 56.0 -4.7**
SOC *e* 17 18 51.9
SOC *e* 17 20 03.7
SOC *e*S **S 17 25 54.6 -5.4**
SOC *e* 17 27 44.9
SOC *e*SS SS 17 29 49.9 -4.0
SOC pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
SOC pmax pmax
comp=N,17nm,1.5s
SOC pmax pmax
comp=E,5.0nm,0.7s
SOKR Solikamsk 58.56 340 *i*P **P 17 18 01.1 -0.9**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.1
SOKR MLR MLR
comp=Z,280nm,20.0s,MS4.4
CTA Charters Tower 59.52 118 *e*P **P 17 18 09.3 +0.1**
comp=Z,6.3nm,1.0s,mb4.6
CTA Charters Tower 59.52 118 P **P 17 18 09.6 +0.5**
comp=Z,8.9nm,1.0s,mb4.8,baz=292,slow=7.3,SNR=11
CTAO Charters Tower 59.52 118 *e*P **P 17 18 09.1 -0.1**
comp=Z,10nm,1.0s,mb4.8
YAK Yakutsk 60.83 19 *e*P **P 17 18 16.9 -0.6**
YAK *e* pP 17 18 24.2 -1.1
YAK pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK Yakutsk 60.83 19 *e*P **P 17 18 17.1 -0.4**
comp=E,2.7nm,0.4s,mb4.7
STKA Stephens Creek 61.02 133 P **P 17 18 19.7 +0.5**
comp=E,5.1nm,0.6s,mb4.8,baz=312,slow=6.7,SNR=12
STKA LR LR 17 48 04.9
comp=E,130nm,18.3s,MS4.1,baz=27,slow=39
STKA Stephens Creek 61.02 133 P **P 17 18 19.7 +0.5**
comp=E,4.8nm,0.8s,mb4.7
STKA LR LR 17 48 04.9
BRTR Keskin Array B 61.47 311 P **P 17 18 20.1 -2.1**
comp=E,3.3nm,1.0s,mb4.4,baz=135,slow=7.0,SNR=7.7
MOS Moscow 64.56 329 *e*P **P 17 18 48.2 +5.8**
MOS pmax pmax
comp=Z,26nm,0.6s,mb5.4
OBN Obninsk 64.84 328 ⇑*i*P **P 17 18 40.8 -3.4**
OBN *e* pP 17 18 49.4 -2.5
OBN pmax pmax
comp=Z,19nm,1.1s,mb5.0
LSZ Lusaka 67.67 250 *e*P **P 17 19 02.0 -0.9**
comp=Z,3.3nm,0.9s,mb4.4
MA2 Magadan 67.81 28 ⇑*i*P **P 17 19 02.6 -0.4**
MA2 pmax pmax
comp=Z,20nm,1.2s,mb5.0
MA2 Magadan 67.81 28 *e*P **P 17 19 02.8 -0.3**
comp=Z,3.3nm,1.0s,mb4.3
TIXI Tiksi 67.89 12 *e*P **P 17 19 04.2 +0.8**
TIXI pmax pmax
comp=Z,21nm,0.9s,mb5.2
JOF Joensuu 70.48 335 *e*p **P 17 19 18.2 -1.2**
comp=Z,0.8nm,0.4s,mb4.0
JOF Joensuu 70.48 335 *e*P **P 17 19 18.2 -1.2**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
CRVS Cervenica-Dubn 71.95 319 *i*P **P 17 19 29.3 +0.8**
FINES FINESS Array B 72.28 332 P **P 17 19 29.2 -1.0**
comp=Z,24nm,1.2s,mb5.0,baz=100,slow=7.0,SNR=12
KAF Kangasniemi 72.38 333 *e*p **P 17 19 29.4 -1.4**
comp=Z,0.4nm,0.4s,mb3.7
PSZ Piszkesteto 72.84 318 *e*P **P 17 19 33.0 -0.8**
comp=Z,3.1nm,0.6s,mb4.4
OJC Ojcow 73.23 320 *e*P **P 17 19 35.9 -0.1**
VYHS Vyhne 73.61 318 *i*P **P 17 19 38.2 -0.1**
ZST Bratislava 74.73 318 *i*P **P 17 19 45.7 +0.9**
ARCES ARCESS Array B 75.06 340 P **P 17 19 46.2 0.0**
comp=Z,5.8nm,0.9s,mb4.5,baz=45,slow=5.1,SNR=4.1
ARCES ARCESS Array B 75.06 340 P **P 17 19 46.2 0.0**
DPC Dobruska-Polom 75.46 320 *e*P **P 17 19 49.7 +0.8**
DPC *e*pP pP 17 19 56.9 +0.2
UPC Upice 75.67 320 *e*P **P 17 19 50.6 +0.5**
UPC *e*pP pP 17 19 56.9 -1.0
PRU Pruhonice 76.56 320 *e*P **P 17 19 55.9 +0.8**
PRU *e*pP pP 17 20 03.1 +0.1
PVCC Panska Ves 76.59 320 *e*P **P 17 19 55.5 +0.2**
BILL Bilibino 76.99 22 *e*P **P 17 19 56.3 -0.9**
BILL pmax pmax
comp=Z,11nm,2.5s,mb4.3
BRG Berggiesshubel 77.01 320 *e*P **P 17 19 58.5 +0.9**
BRG *e* pP 17 20 05.9 +0.4
BRG pmax pmax
comp=Z,25nm,1.9s,mb4.8
BRG Berggiesshubel 77.01 320 *e*P **P 17 19 58.5 +0.9**
comp=Z,25nm,1.9s,mb4.8
BRG *e* pP 17 20 05.9 +0.4
GERES GERESS Array B 77.03 318 P **P 17 19 57.7 0.0**
comp=Z,5.2nm,0.8s,mb4.5,baz=90,slow=5.3,SNR=22
KHC Kasperske Hory 77.13 319 *e*P **P 17 19 58.8 +0.5**
KHC Kasperske Hory 77.13 319 *e* **P 17 19 58.8 +0.5**
CLL Collm 77.63 321 *e*PP pP 17 20 07.0 -1.9
GRA1 Grafenberg Arr 78.69 319 *e*P **P 17 20 07.3 +0.4**
comp=Z,13nm,1.4s,mb4.7
GRF Grafenberg Arr 78.69 319 *e*P **P 17 20 07.3 +0.4**
GRF pmax pmax
comp=Z,13nm,1.4s,mb4.7
GRF Grafenberg Arr 78.69 319 *e*P **P 17 20 07.3 +0.4**
comp=Z,13nm,1.4s,mb4.7
NB2 NORSAR Subarra 79.26 331 P **P 17 20 08.7 -1.0**
comp=Z,3.5nm,0.8s,mb4.3,baz=95,slow=5.6
NOA NORSAR Array B 79.26 331 P **P 17 20 09.2 -0.5**
comp=Z,2.8nm,0.9s,mb4.2,baz=96,slow=5.3,SNR=5.4
SYO Syowa Base 84.61 197 ⇓pP pP 17 20 47.3 +1.9
ESDC Sonseca Array 90.23 310 P **P 17 21 05.2 -0.1**
comp=Z,4.3nm,0.9s,mb4.8,baz=60,slow=4.6,SNR=6.9
ILAR Eielson Array 95.66 22 P **P 17 21 30.4 +0.9**
comp=Z,1.0nm,1.0s,mb4.2,baz=287,slow=4.5,SNR=8.5
ILAR PP PP 17 25 22.4 -1.0
comp=Z,1.1nm,1.1s,baz=317,slow=7.6,SNR=4.5
DBIC Dimbokro 96.43 278 P **P 17 21 33.4 -0.9**
comp=Z,1.6nm,1.0s,mb4.4,baz=63,slow=6.8,SNR=2.1
DBIC Dimbokro 96.43 278 P **P 17 21 33.4 -0.9**
INK Inuvik 97.76 16 P **P 17 21 40.9 +1.9**
comp=Z,1.8nm,1.0s,mb4.6,baz=3.6,slow=5.1,SNR=4.2
YKA Yellowknife Ar 107.12 13 PP PP 17 26 45.0 -5.9
comp=Z,0.8nm,0.8s,baz=336,slow=7.8,SNR=9.8
MOOW Moose Ponds 124.77 20 *e*PKPdf PKPdf 17 27 06.3 -1.6
LOHW Long Hollow 124.94 20 *e*PKPdf PKPdf 17 27 06.9 -1.3
NVAR Mina Array Bea 126.02 30 PKP PKPdf 17 27 09.2 -1.2
comp=Z,3.4nm,0.8s,baz=315,slow=2.6,SNR=18
BW06 Boulder Array 126.05 20 *e*PKPdf PKPdf 17 27 07.9 -2.4
PDAR Pinedale Array 126.05 20 PKP PKPdf 17 27 08.1 -2.2
comp=Z,2.4nm,0.8s,baz=50,slow=1.2,SNR=15
MNV Mina 126.09 30 *e*PKPdf PKPdf 17 27 08.5 -2.0
MVU Marysvale 128.74 25 *e*PKPdf PKPdf 17 27 14.9 -0.7
MSU Marysvale 128.75 25 *e*PKPdf PKPdf 17 27 14.1 -1.5
MSU *e* 17 27 22.6
ANMO Albuquerque 134.10 22 *e*PKPdf PKPdf 17 27 22.6 -3.2
LAZ Ladron 134.33 23 *e*PKPdf PKPdf 17 27 24.6 -1.7
TXAR Lajitas Array 140.17 22 PKP PKPdf 17 27 34.6 -2.5
comp=Z,1.3nm,0.6s,baz=315,slow=1.8,SNR=6.6
JCT Junction City 140.40 17 *e*PKPdf PKPdf 17 27 35.1 -2.4

IDC 17 17:18:43.2±1.6, 11.44N×139.77E, mb3.5/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.5/4, Error ellipse: s-maj=113.9km s-min=24.7km az=107.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.64**	**190**	P	P	17 25 07.8	-2.7
0.7nm,0.7s,baz=10,slow=9.9,SNR=6.3							
ASAR	**Alice Springs**	**35.35**	**189**	P	P	17 25 41.1	-1.5
0.3nm,0.6s,baz=21,slow=12,SNR=6.6							
ILAR	**Eielson Array**	**72.64**	**25**	P	P	17 30 12.1	-2.2
0.4nm,0.7s,baz=250,slow=5.9,SNR=5.5							
YKA	**Yellowknife Ar**	**87.03**	**27**	P	P	17 31 31.3	-0.2
0.2nm,0.5s,baz=289,slow=5.4,SNR=4.8							
LPAZ	**La Paz**	**152.50**	**103**	PKPbc	PKPdf	17 38 42.2	+5.0
0.7nm,0.5s,baz=224,slow=2.0,SNR=3.6							
LPAZ				PKPab	PKPab	17 38 53.7	-1.3
1.3nm,0.8s,baz=266,slow=6.0,SNR=4.1							

*IDC **17** 17:19:23.4±0.9, 10.85N×92.22E, h27km±5km, mb3.9/12, mb1 4.0/13, mb1mx3.9/20, mbtmp4.1/13, ML4.2/1, MS4.0/1, Ms1 4.0/1, ms1mx3.3/18, Error ellipse: s-maj=27.5km s-min=13.9km az=49.0*

*NEIC **17** 17:19:23.1±0.3, 10.82N×92.15E, mb4.5/14, Error ellipse: s-maj=10.2km s-min=5.3km az=48.0*

*BJI **17** 17:19:24.1, 10.80N×92.10E, h29km, mB5.0, mb4.4, Ms4.2, Msz4.3*

ISC 17 17:19:20.9±0.4, 10.78N±0.05×92.11E±0.05, h28km, h28km±1.5km: pP-P, n52, σ0.9 99/58, mb4.4/24, MS4.0/2, 1C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.07**	**36**	*e*P	**Pn**	**17 19 41.0**	**+0.9**
PBA				*e*S	**Sn**	**17 19 53.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**10.10**	**40**	Pn	**P**	**17 21 45.5**	**-1.9**
0.5nm,0.3s,baz=236,slow=15,SNR=18							
CMAR				Sn	**S**	**17 23 34.2**	**-6.5**
baz=235,slow=28,SNR=3.6							
VIS	**Vishakhapatnam**	**10.95**	**310**	*e*P	**P**	**17 21 55.3**	**-3.7**
VIS				*e*S	**S**	**17 23 43.8**	**-18**
VIS				AML	AML	17 23 51.0	
comp=E,68nm,0.5s							
VIS				AML	AML	17 23 51.7	
comp=N,80nm,0.6s							
BWNR	**Bhubaneshwar**	**11.24**	**328**	*e*P	**P**	**17 21 56.8**	**-6.1**
BWNR				*e*S	Sx	17 23 45.8	
MDRS	**Chennai**	**11.83**	**282**	*e*	**P**	**17 22 15.0**	**+4.1**
HYB	**Hyderabad**	**14.70**	**298**	*e*P	**P**	**17 22 48.0**	**-1.0**
HYB				*e*S	**S**	**17 25 29.5**	**-2.3**
HYB	**Hyderabad**	**14.70**	**298**	*i*P	**P**	**17 22 48.0**	**-1.0**
HYB				*e*S	**S**	**17 25 29.5**	**-2.3**
SHL	**Shillong**	**14.71**	**359**	*e*	**P**	**17 22 52.0**	**+2.9**
SHL				*e*S	**S**	**17 25 20.0**	**-12**
BLSP	**Bilaspur**	**14.78**	**321**	*e*P	**P**	**17 22 44.6**	**-5.4**
BLSP				AMb	AMB	17 22 49.9	
comp=Z,25nm,0.0s							
BLSP				*e*		17 25 11.9	
JIRN	**Jiri**	**17.69**	**342**	*e*P	**P**	**17 23 27.3**	**+0.3**
comp=Z,14nm,0.5s							
PKI	**Pulchoki**	**17.85**	**340**	*e*P	**P**	**17 23 29.1**	**0.0**
comp=Z,38nm,0.8s							
DMN	**Daman**	**17.99**	**339**	*e*P	**P**	**17 23 30.2**	**-0.6**
GKN	**Gorkha**	**18.51**	**339**	*e*P	**P**	**17 23 37.2**	**-0.1**
comp=Z,21nm,0.5s							
KAD	**Karad**	**18.55**	**292**	*e*	**P**	**17 23 46.5**	**+8.7**
KAD				*e*		17 26 50.5	
KOLN	**Koldanda**	**18.70**	**336**	*e*P	**P**	**17 23 38.9**	**-0.6**
comp=Z,24nm,0.7s							
BHPL	**Bhopal**	**18.70**	**313**	*e*P	**P**	**17 23 37.4**	**-2.2**
BHPL				AMb	AMB	17 23 43.5	
comp=Z,14nm,1.2s							
LSA	**Lhasa**	**18.84**	**357**	P	**P**	**17 23 43.6**	**+2.4**
LSA				AMB	AMB		
comp=Z,20nm,0.7s							
LSA	**Lhasa**	**18.84**	**357**	*e*P	**P**	**17 23 41.7**	**+0.5**
comp=Z,11nm,0.6s							
POO	**Poona**	**19.26**	**296**	*e*P	**P**	**17 23 47.0**	**+0.8**
POO				*e*	**S**	**17 27 11.0**	**-5.4**
NDI	**New Delhi**	**22.62**	**324**	*e*P	**P**	**17 24 24.0**	**+3.1**
DDI	**Dehra Dun**	**23.43**	**328**	*e*	**P**	**17 24 30.4**	**+1.6**
ENH	**Enshi**	**25.25**	**37**	*e*P	**P**	**17 24 45.4**	**-0.9**
comp=Z,6.7nm,0.6s,mb4.3							
LZH	**Lanzhou**	**27.35**	**21**	*e*P	**P**	**17 25 05.6**	**0.0**
LZH				AMB	AMB		
comp=Z,24nm,1.5s,mb4.5							
LZH				AMB	AMB		
comp=Z,102nm,4.5s							
LZH				LR	LR		
comp=N,225nm,13.2s							
LZH				LR	LR		
comp=Z,367nm,17.1s,MS4.0							
SONM	**Songino Array**	**38.84**	**15**	P	**P**	**17 26 45.5**	**+0.2**
comp=Z,0.9nm,0.9s,mb3.5,baz=204,slow=8.6,SNR=6.5							
SONM				pP	pP	17 26 53.8	-0.1
comp=Z,2.6nm,0.9s,baz=207,slow=8.7,SNR=8.9							
KURK	**Kurchatov**	**41.33**	**347**	*e*P	**P**	**17 27 06.5**	**+0.7**
comp=Z,4.8nm,1.0s,mb4.1							
KURK				*e*pP	pP	17 27 14.7	+0.4
KURK				*e*sP	sP	17 27 18.3	+0.4
FITZ	**Fitzroy Crossi**	**43.81**	**131**	*e*P	**P**	**17 27 26.6**	**+0.1**
comp=Z,40nm,0.7s,mb5.3							
BVAR	**Borovoye Array**	**45.61**	**342**	P	**P**	**17 27 40.5**	**+0.1**
comp=Z,0.5nm,0.7s,mb3.6,baz=141,slow=9.5,SNR=3.9							
BVAR				pP	pP	17 27 51.0	+2.0
comp=Z,1.0nm,0.5s,baz=144,slow=9.6,SNR=6.3							
BRVK	**Borovoye**	**45.67**	**342**	P	**P**	**17 27 40.7**	**-0.2**
comp=Z,1.8nm,0.6s,mb4.2							
CHKZ	**Chkalovo**	**46.11**	**342**	*e*P	**P**	**17 27 44.5**	**+0.2**
comp=Z,2.8nm,0.8s,mb4.2							
KAKA	**Kakadu**	**46.35**	**119**	*e*P	**P**	**17 27 45.8**	**-1.0**
comp=Z,3.9nm,0.6s,mb4.5							
GNI	**Garni**	**50.99**	**313**	P	**P**	**17 28 24.2**	**+1.9**
comp=Z,1.0nm,0.4s,mb4.1,baz=343,slow=11,SNR=2.2							
GNI	**Garni**	**50.99**	**313**	*e*P	**P**	**17 28 22.9**	**+0.6**
comp=Z,14nm,1.1s,mb4.8							
GNI				*e*pP	pP	17 28 33.2	+2.2
WRA	**Warramunga Arr**	**51.58**	**126**	P	**P**	**17 28 26.9**	**-0.3**
comp=Z,19nm,0.6s,mb5.2,baz=306,slow=8.3,SNR=362							
WRAB	**Tennant Creek**	**51.58**	**126**	*e*P	**P**	**17 28 26.7**	**-0.4**
comp=Z,33nm,0.6s,mb5.4							
WB2	**Warramunga Arr**	**51.59**	**126**	⇑*i*P	**P**	**17 28 26.9**	**-0.3**
ASPA	**Alice Springs**	**53.31**	**130**	⇓*i*P	**P**	**17 28 40.0**	**0.0**
ASAR	**Alice Springs**	**53.31**	**130**	P	**P**	**17 28 39.9**	**-0.2**
comp=Z,5.2nm,0.5s,mb4.7,baz=306,slow=7.0,SNR=196							
KIV	**Kislovodsk**	**53.83**	**317**	*e*P	**P**	**17 28 44.0**	**+0.4**
comp=Z,4.9nm,0.6s,mb4.6							
KIV				*e*pP	pP	17 28 52.3	0.0
ASAJ	**Asahikawa**	**54.61**	**43**	LR	LR	17 53 58.8	
comp=Z,124nm,18.3s,MS4.0,baz=247,slow=38							
YAK	**Yakutsk**	**57.92**	**20**	*e*P	**P**	**17 29 11.0**	**-1.7**
comp=Z,4.3nm,0.5s,mb4.7							
PMG	**Port Moresby**	**58.32**	**108**	P	**P**	**17 29 15.7**	**-0.5**
comp=Z,9.0nm,0.7s,mb4.9,baz=282,slow=11,SNR=7.6							
BRTR	**Keskin Array B**	**59.03**	**310**	P	**P**	**17 29 21.4**	**+0.6**
comp=Z,0.4nm,0.6s,mb3.6,baz=180,slow=3.7,SNR=2.5							
BRTR				pP	pP	17 29 28.8	-0.9
comp=Z,2.0nm,1.0s,baz=141,slow=7.9,SNR=4.0							
CTA	**Charters Tower**	**61.48**	**120**	*e*P	**P**	**17 29 38.4**	**+0.6**
comp=Z,2.4nm,0.6s,mb4.5							
CTA	**Charters Tower**	**61.48**	**120**	P	**P**	**17 29 37.8**	**0.0**
comp=Z,4.1nm,0.8s,mb4.6,baz=292,slow=6.7,SNR=8.7							
STKA	**Stephens Creek**	**63.55**	**134**	*e*P	**P**	**17 29 52.3**	**+0.8**
comp=Z,6nm,0.6s,mb4.4							
STKA	**Stephens Creek**	**63.55**	**134**	P	**P**	**17 29 52.4**	**+0.9**
comp=Z,4.2nm,0.8s,mb4.5,baz=292,slow=6.0,SNR=13							
FINES	**FINESS Array B**	**69.22**	**332**	P	**P**	**17 30 26.7**	**-0.3**
comp=Z,1.5nm,0.8s,mb4.0,baz=143,slow=6.9,SNR=4.3							
FINES	**FINESS Array B**	**69.22**	**332**	P	**P**	**17 30 26.7**	**-0.4**
ARCES	**ARCESS Array B**	**71.87**	**340**	P	**P**	**17 30 44.0**	**+1.1**
comp=Z,3.1nm,0.8s,mb4.3,baz=60,slow=7.3,SNR=2.4							
GERES	**GERESS Array B**	**74.34**	**318**	P	**P**	**17 30 58.4**	**+0.7**
comp=Z,0.5nm,0.7s,mb3.5,baz=80,slow=8.1,SNR=3.7							
LPG	**La Plagne**	**79.16**	**314**	*e*P	**P**	**17 31 25.3**	**+0.5**
comp=Z,11nm,1.0s,mb4.4							
ILAR	**Eielson Array**	**92.81**	**22**	P	**P**	**17 32 32.2**	**+0.5**
comp=Z,0.3nm,0.7s,mb3.8,baz=290,slow=4.5,SNR=4.9							
ILAR				pP	pP	17 32 40.5	-0.3
comp=Z,0.6nm,0.8s,baz=296,slow=4.0,SNR=5.2							

*NEIC **17** 17:24:32.7, 15.74N×61.51W, h24km, MD3.6(TRN), After TRN.*

TRN 17 17:24:35.1, 15.79N×61.53W, h3km, M2.7(FDF), 3C-3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGG	**Marie-Galante**	**0.24**	**57**	⇑*i*P	Pg	17 24 39.9	0.0
BBL	**Barber's Block**	**0.26**	**168**	⇓*i*P	Pg	17 24 40.2	-0.2
BBL				*e*S	Sg	17 24 44.2	+0.3
BBL	**Barber's Block**	**0.26**	**168**	⇓*i*P	Pg	17 24 40.2	-0.2
BBL	**Barber's Block**	**0.26**	**168**	⇓*i*P	Pg	17 24 40.2	-0.2
BBL				*e*S	Sg	17 24 44.2	+0.3
SCG	**Saint Claude**	**0.28**	**329**	⇑*i*P	Pg	17 24 40.9	+0.1
BCG	**Bois Riant Cap**	**0.31**	**344**	*e*P	Pg	17 24 41.2	-0.2
DBCT	**Belle View Cho**	**0.54**	**161**	*e*P	Pg	17 24 45.2	-0.7
DBCT				*e*S	Sg	17 24 53.0	-0.1
DSHT	**Scott's Head**	**0.59**	**165**	*e*P	Pg	17 24 45.7	-1.2
SEG	**Port Louis**	**0.61**	**2**	⇑*e*P	Pg	17 24 46.2	-1.2
BPA	**Boggy Peak**	**1.29**	**346**	*e*P	Pb	17 24 58.2	-1.5
BPA				*i*S	Sb	17 25 15.1	-1.5
CPB	**Codrington**	**1.87**	**351**	*e*P	Pn	17 25 06.0	-2.3
CPB				*e*S	Sn	17 25 28.9	-3.8

*BJI **17** 17:33:29.2, 39.90N×40.70E, h5km, mB5.2, mb4.9, Ms4.8*

*ISK **17** 17:33:29.9, 39.95N×40.72E, h5km, MD4.4*

*ZUR_RM **17** 17:33:29, 39.93N×40.71E, h18km, Mw4.6/11, Moment Tensor Solution. s11 Moment tensor: Scale 10^{16}Nm; M_{rr}0.11; $M_{\theta\theta}$-0.70; $M_{\phi\phi}$0.58; $M_{r\theta}$-0.23; $M_{\theta\phi}$-0.68; $M_{\phi r}$-0.04; Best double couple: M_0.96×10^{16} NP1:ϕ_s112°, δ85°, λ-169°. NP2:ϕ_s21°, δ79°, λ-5°. Principal axes: T.8832, Plg4°, Azm246°; N.1545, Plg78°, Azm136°; P-1.0377, Plg11°, Azm337°;*

*NEIC **17** 17:33:29.2, 39.93N×40.71E, h5km, mb4.3/27, ML4.1(ISK),*

After ISK.
MOS ***17*** *17:33:29.2±1.1, 39.92N×40.72E, h10km, mb4.4/37, Error ellipse: s-maj=6.1km s-min=4.8km az=114.3*
TIF ***17*** *17:33:30.6, 39.95N×40.76E, h20km±6km*
CSEM ***17*** *17:33:30.4±0.1, 39.97N×40.73E, h10km, mb4.2/15, Error ellipse: s-maj=1.8km s-min=1.6km az=135.0*
IDC ***17*** *17:33:31.8±1.8, 39.94N×40.86E, h15km±12km, mb4.0/13, mb1 4.2/18, mb1mx4.1/23, mbtmp4.1/18, ML3.8/4, MS3.5/3, Ms1 3.5/3, ms1mx3.0/20, Error ellipse: s-maj=16.7km s-min=8.8km az=6.0*
ISC 17 17:33:30.1±0.2, 39.93N±0.02×40.71E±0.02, h10km, n205, σ1$31/224, mb4.2/44, MS4.0/2, 7C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.50**	**93**	*i* PG	**Pg**	**17 33 39.8**	**-0.5**
ERZM	**Erzurum**	**0.51**	**93**	*i* P	**Pg**	**17 33 39.8**	**-0.6**
ERZM				*i* S	**Sg**	**17 33 42.6**	**-4.6**
EZC	**Erzincan**	**0.71**	**255**	*i* PG	**Pg**	**17 33 50.2**	**+5.8**
EZC	**Erzincan**	**0.71**	**255**	Pg	**Pg**	**17 33 50.2**	**+5.8**
VRT	**Varto**	**1.02**	**141**	*i* PG	**Pg**	**17 33 49.7**	**-0.9**
VRT	**Varto**	**1.02**	**141**	Pg	**Pg**	**17 33 49.8**	**-0.8**
VRT	**Varto**	**1.02**	**141**	Pg	**Pg**	**17 33 49.8**	**-0.8**
BINT	**Bingol**	**1.07**	**189**	*i* PN	**Pn**	**17 33 50.5**	**-0.5**
BINT	**Bingol**	**1.07**	**189**	Pg	**Pg**	**17 33 50.6**	**-0.9**
GUMT	**Gumushane**	**1.08**	**300**	*i* PN	**Pn**	**17 33 51.4**	**+0.2**
GUMT	**Gumushane**	**1.08**	**300**	Pn	**Pn**	**17 33 51.4**	**+0.2**
PTK	**Pertek**	**1.46**	**225**	*i* PN	**Pn**	**17 33 57.4**	**+0.8**
PTK				*i* SN	**Sn**	**17 34 18.1**	**+2.3**
BCA	**Borcka**	**1.66**	**24**	*i* PN	**Pn**	**17 34 00.7**	**+1.1**
BCA				*i* SN	**Sn**	**17 34 21.6**	**+0.5**
BCA	**Borcka**	**1.66**	**24**	Pn	**Pn**	**17 34 00.8**	**+1.2**
BCA	**Borcka**	**1.66**	**24**	Pn	**Pn**	**17 34 00.8**	**+1.2**
BCA				*i* Sn	**Sn**	**17 34 21.6**	**+0.5**
BTMT	**Batman**	**1.84**	**160**	*i* PN	**Pn**	**17 34 04.0**	**+1.9**
KARS	**Kars**	**1.95**	**69**	PN	**Pn**	**17 34 04.9**	**+1.3**
ELZG	**Elazig**	**1.96**	**224**	*i* P	**Pn**	**17 34 05.4**	**+1.6**
ELZG				*i* S	**Sn**	**17 34 33.9**	**+5.2**
DIY	**Diyarbakir**	**2.07**	**191**	PN	**Pn**	**17 34 07.1**	**+1.8**
BEST	**Besiri**	**2.08**	**168**	*i* P	**Pn**	**17 34 07.1**	**+1.5**
BEST				*i* S	**Sn**	**17 34 37.6**	**+5.8**
MYA	**Malataya**	**2.39**	**229**	PN	**Pn**	**17 34 11.6**	**+1.6**
MYA	**Malataya**	**2.39**	**229**	Pn	**Pn**	**17 34 11.7**	**+1.7**
MALT	**Malatya**	**2.40**	**228**	PN	**Pn**	**17 34 11.2**	**+1.1**
VANB	**Van**	**2.47**	**122**	PN	**Pn**	**17 34 12.2**	**+1.1**
VANB	**Van**	**2.47**	**122**	Pn	**Pn**	**17 34 12.3**	**+1.1**
VANT	**Van**	**2.56**	**125**	*e*PN	**Pn**	**17 34 12.4**	**0.0**
VANT	**Van**	**2.56**	**125**	Pn	**Pn**	**17 34 12.5**	**+0.1**
AKH	**Akhalkalaki**	**2.58**	**54**	P	**Pn**	**17 34 13.1**	**+0.4**
AKH				S	**Sg**	**17 34 57.8**	**+1.7**
URFA	**Urfa**	**2.89**	**211**	*e*PN	**Pn**	**17 34 18.4**	**+1.3**
SVST	**Sivas**	**2.90**	**268**	*i* P	**Pn**	**17 34 22.7**	**+5.5**
SVST				*i* S	**Sg**	**17 35 05.8**	**-0.7**
STE	**Stepanavan**	**3.01**	**68**	*e*P	**Pn**	**17 34 18.0**	**-0.8**
GNI	**Garni**	**3.10**	**85**	*e*PN	**Pn**	**17 34 21.6**	**+1.5**
GNI	**Garni**	**3.10**	**85**	P	**Pn**	**17 34 19.7**	**-0.4**
GNI				pmax	pmax		
	comp=Z,5.0nm,0.3s						
GNI				pmax	pmax		
	comp=Z,19nm,0.3s						
GNI				MLR	MLR		
	comp=Z,1μm,19.6s						
GNI	**Garni**	**3.10**	**85**	Pn	**Pn**	**17 34 19.7**	**-0.5**
	comp=Z,4.8nm,0.3s,baz=228,slow=7.8,SNR=18						
GNI				Pg	**Pg**	**17 34 26.9**	**-5.2**
	comp=Z,19nm,0.3s,baz=296,slow=6.6,SNR=85						
GNI				LR	LR	17 35 51.6	
	comp=Z,1μm,19.6s,baz=266,slow=47						
GNI	**Garni**	**3.10**	**85**	Pn	**Pn**	**17 34 21.7**	**+1.5**
GNI	**Garni**	**3.10**	**85**	Pn	**Pn**	**17 34 21.7**	**+1.6**
ONI	**Oni**	**3.36**	**37**	P	**Pn**	**17 34 24.3**	**+0.6**
ONI				S	**Sn**	**17 35 16.2**	**+12**
TI2	**Plekhanov**	**3.56**	**58**	⇑*i*P	**Pn**	**17 34 26.6**	**+0.1**
TI2				pmax	pmax		
	comp=Z,90nm,0.6s						
TI2				pmax	pmax		
	comp=Z,2μm,1.2s						
TI2				pmax	pmax		
	comp=Z,260nm,0.8s						
TI2				MLR	MLR		
	comp=N,6μm,10.0s						
TI2				MLR	MLR		
	comp=E,2μm,10.0s						
TI2				MLR	MLR		
	comp=Z,2μm,10.0s						
TI2	**Plekhanov**	**3.56**	**58**	*i* P	**Pn**	**17 34 26.6**	**+0.1**
	comp=Z,130nm,0.8s						
GZT	**Gaziantep**	**3.56**	**225**	*i* P	**Pn**	**17 34 27.3**	**+0.7**
GZT				*i* S	**Sn**	**17 35 19.8**	**+11**
MTA	**Mtatsminda**	**3.56**	**59**	P	**Pn**	**17 34 26.7**	**0.0**
MTA				S	**Sg**	**17 35 29.7**	**+0.9**
DUS	**Dusheti**	**3.71**	**53**	P	**Pn**	**17 34 29.0**	**+0.3**
DUS				S	**Pg**	**17 34 44.9**	**+0.7**
ZEI	**Tsey**	**3.72**	**39**	*i* P	**Pn**	**17 34 29.0**	**+0.2**
ZEI				*e*		17 35 15.4	
ZEI				pmax	pmax		
	comp=Z,135nm,0.4s						
ZEI				smax			
	comp=Z,380nm,1.0s						
ZEI	**Tsey**	**3.72**	**39**	*i* P	**Pn**	**17 34 29.0**	**+0.2**
	comp=Z,190nm,1.0s						
ZEI				*e*S	**Sn**	**17 35 15.4**	**+2.2**
SOC	**Sochi**	**3.72**	**349**	*i* P	**Pn**	**17 34 28.8**	**-0.1**
SOC				*e*		17 35 16.0	
SOC				pmax	pmax		
	comp=N,556nm,1.1s						
SOC				pmax	pmax		
	comp=Z,504nm,1.1s						
SOC				pmax	pmax		
	comp=E,267nm,0.9s						
SOC				MLR	MLR		
	comp=Z,816nm,16.0s						
SOC				MLR	MLR		
	comp=N,791nm,17.0s						
SOC				MLR	MLR		
	comp=E,2μm,18.0s						
SOC	**Sochi**	**3.72**	**349**	*i* P	**Pn**	**17 34 28.8**	**-0.1**
SOC				*e*S	**Sn**	**17 35 16.0**	**+2.6**
	comp=E,396nm,17.0s						
KAHT	**Ahir Dag**	**3.78**	**234**	*i* P	**Pn**	**17 34 30.1**	**+0.4**
GAZ	**Gaziantep**	**3.89**	**226**	*e*PN	**Pn**	**17 34 32.6**	**+1.3**
GAZ	**Gaziantep**	**3.89**	**226**	Pn	**Pn**	**17 34 32.7**	**+1.4**
BNN	**Bunyan**	**3.92**	**256**	PN	**Pn**	**17 34 32.7**	**+1.0**
BNN	**Bunyan**	**3.92**	**256**	Pn	**Pn**	**17 34 32.7**	**+1.0**
YOZ	**Yozgat**	**4.16**	**268**	*e*PN	**Pn**	**17 34 36.7**	**+1.5**
YOZ	**Yozgat**	**4.16**	**268**	Pn	**Pn**	**17 34 36.7**	**+1.5**
KIV	**Kislovodsk**	**4.28**	**19**	Pn	**Pn**	**17 34 39.7**	**+2.8**
	comp=E,502nm,0.5s,SNR=21						
KIV	**Kislovodsk**	**4.28**	**19**	*e*P	**Pn**	**17 34 38.4**	**+1.5**
KIV	**Kislovodsk**	**4.28**	**19**	*e*Pn	**Pn**	**17 34 38.6**	**+1.7**
KIV	**Kislovodsk**	**4.28**	**19**	*e*Pn	**Pn**	**17 34 38.6**	**+1.7**
CTKT	**Corum**	**4.58**	**281**	*i* P	**Pn**	**17 34 50.6**	**+10**
BOYT	**Boyabat**	**4.66**	**290**	*i* P	**Pn**	**17 34 49.3**	**+7.0**
AVNT	**Avonos**	**4.68**	**258**	*i* P	**Pn**	**17 34 52.5**	**+10**
BYBT	**Boyabat**	**4.77**	**291**	*e*PN	**Pn**	**17 34 45.0**	**+1.2**
COBT	**Iskenderun**	**4.89**	**227**	*i* P	**Pn**	**17 34 48.6**	**+3.1**
HTY	**Hatay**	**5.24**	**225**	*i* PN	**Pn**	**17 34 50.7**	**+0.2**
HTY	**Hatay**	**5.24**	**225**	Pn	**Pn**	**17 34 50.7**	**+0.2**
GOF	**Gofitskoye**	**5.40**	**18**	⇑*i*P	**Pn**	**17 34 56.5**	**+3.8**
GOF				*e*S	**Sn**	**17 35 55.5**	**-0.3**
GOF				pmax	pmax		
	comp=Z,40nm,1.2s						
GOF				smax			
	comp=E,140nm,1.3s						
KAMT	**Kaman**	**5.43**	**266**	*e*PN	**Pn**	**17 34 54.4**	**+1.3**
KAMT	**Kaman**	**5.43**	**266**	Pn	**Pn**	**17 34 54.4**	**+1.3**
ANN	**Anapa**	**5.44**	**335**	*e*P	**Pn**	**17 34 54.6**	**+1.4**
ANN				*e*S	**Sn**	**17 36 04.7**	**+8.1**
ANN				pmax	pmax		
	comp=Z,35nm,0.7s						
ANN	**Anapa**	**5.44**	**335**	*e*P	**Pn**	**17 34 54.6**	**+1.4**
	comp=Z,18nm,0.7s						
BRTR	**Keskin Array B**	**5.45**	**270**	Pn	**Pn**	**17 34 53.9**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=96,slow=11,SNR=12						
BRTR				Lg		17 36 31.4	
	baz=113,slow=26,SNR=2.6						
BRTR	**Keskin Array B**	**5.45**	**270**	*i* Pn	**Pn**	**17 34 53.8**	**+0.4**
ELDT	**Eldivan**	**5.60**	**278**	*i* P	**Pn**	**17 35 06.1**	**+11**
HWQ	**Hawqa**	**6.80**	**215**	*e*PN	**Pn**	**17 35 12.9**	**+0.4**
KIZT	**Kizilcal**	**6.92**	**264**	*e*PN	**Pn**	**17 35 15.3**	**+1.2**
KIZT	**Kizilcal**	**6.92**	**264**	Pn	**Pn**	**17 35 15.3**	**+1.2**
SIM	**Simferopol'**	**6.99**	**318**	*e*P	**Pn**	**17 35 18.6**	**+3.5**
SIM				pmax	pmax		
	comp=Z,95nm,0.3s						
BHL	**Bhannes**	**7.25**	**216**	*e*Pn	**Pn**	**17 35 19.2**	**+0.4**
CSS	**Prodhromos**	**7.68**	**232**	P	**Pn**	**17 35 22.6**	**-2.2**
ASF	**Jabal al Asfar**	**8.33**	**203**	Pn	**P**	**17 35 33.7**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=247,slow=14,SNR=6.4						
ASF				Lg		17 37 59.2	
	comp=Z,0.5nm,0.3s,baz=57,slow=22,SNR=3.1						
EIL	**Elat**	**11.27**	**207**	Lg		17 39 36.2	
	comp=Z,0.3nm,0.3s,baz=295,slow=19,SNR=3.2						
MLR	**Muntele Rosu**	**12.19**	**302**	P	**P**	**17 36 27.9**	**+1.2**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR	**Muntele Rosu**	**12.19**	**302**	Pn	**P**	**17 36 27.9**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=168,slow=5.3,SNR=17						
AKASG	**Malin Array Be**	**13.45**	**327**	P	**P**	**17 36 40.6**	**-2.8**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AKASG	**Malin Array Be**	**13.45**	**327**	Pn	**P**	**17 36 40.6**	**-2.8**
	comp=Z,3.7nm,0.3s,baz=138,slow=14,SNR=20						
OBN	**Obninsk**	**15.44**	**351**	⇓*i*P	**P**	**17 37 06.9**	**-2.5**
OBN				pmax	pmax		
	comp=Z,36nm,0.8s						
OBN				MLR	MLR		
	comp=Z,300nm,19.0s						
OBN	**Obninsk**	**15.44**	**351**	*e*P	**P**	**17 37 10.6**	**+1.2**
	comp=Z,38nm,0.8s						
OBN	**Obninsk**	**15.44**	**351**	*e*P	**P**	**17 37 10.6**	**+1.2**
	comp=Z,38nm,0.8s						
KOLS	**Kolnicke sedl**	**15.92**	**310**	*e*P	**P**	**17 37 19.1**	**+3.5**
MOS	**Moscow**	**15.95**	**354**	*e*P	**P**	**17 37 11.7**	**-4.3**
MOS				*e*S	**S**	**17 40 14.2**	**+1.2**
MOS				pmax	pmax		
	comp=Z,29nm,0.6s						
CRVS	**Cervenica-Dubn**	**16.38**	**310**	*e*P	**P**	**17 37 24.2**	**+2.6**
CRVS				*e*S	**S**	**17 40 38.9**	**+16**
PSZ	**Piszkesteto**	**16.95**	**305**	*e*P	**P**	**17 37 27.7**	**-1.1**
PSZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PSZ	**Piszkesteto**	**16.95**	**305**	*e*P	**P**	**17 37 27.7**	**-1.1**
	comp=Z,5.2nm,0.8s						
PSZ	**Piszkesteto**	**16.95**	**305**	*e*P	**P**	**17 37 27.7**	**-1.1**
	comp=Z,2.5nm,0.8s						
VYHS	**Vyhne**	**17.82**	**306**	*e*P	**P**	**17 37 41.8**	**+2.2**
OJC	**Ojcow**	**17.94**	**312**	*e*P	**P**	**17 37 44.0**	**+2.9**
SUW	**Suwalki**	**18.40**	**326**	*e*P	**P**	**17 37 43.8**	**-3.1**
OKC	**Ostrava-Krasne**	**18.74**	**309**	*e*P	**P**	**17 37 55.1**	**+4.1**
ZST	**Bratislava**	**18.82**	**304**	*e*P	**P**	**17 37 55.8**	**+3.9**
VRAC	**Vranov**	**19.49**	**307**	P	**P**	**17 37 59.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=287,slow=8.5,SNR=2.5						
DPC	**Dobruska-Polom**	**20.02**	**309**	*e*P	**P**	**17 38 09.4**	**+3.6**
ARU	**Arti**	**20.25**	**29**	*e*P	**P**	**17 38 03.7**	**-4.4**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ARU	**Arti**	**20.25**	**29**	*e*P	**P**	**17 38 04.1**	**-4.0**
ARU				*e*		17 38 22.5	
ARU				*e*S	**S**	**17 41 56.0**	**+6.1**
ARU				*e*SS	SS	17 42 17.0	-2.1
ARU	**Arti**	**20.25**	**29**	*e*P	**P**	**17 38 03.7**	**-4.4**
	comp=Z,7.3nm,0.7s						
UPC	**Upice**	**20.27**	**310**	*e*P	**P**	**17 38 14.5**	**+6.2**
MOA	**Molln**	**20.56**	**301**	⇑*i*P	**P**	**17 38 08.4**	**-3.0**
	comp=Z,8.8nm,1.0s						
VAE	**Valguarnera**	**20.65**	**272**	LR	LR	17 47 05.5	
	comp=Z,505nm,20.7s,MS3.9,baz=3.8,slow=39						
AQU	**L'Aquila**	**20.68**	**286**	*e*P	**P**	**17 38 10.6**	**-2.0**
AQU				pmax	pmax		
	comp=Z,24nm,0.8s						
AQU	**L'Aquila**	**20.68**	**286**	*e*P	**P**	**17 38 10.6**	**-2.1**
	comp=Z,24nm,0.8s						
PRU	**Pruhonice**	**20.97**	**307**	*e*P	**P**	**17 38 14.5**	**-1.1**
PVCC	**Panska Ves**	**21.13**	**309**	*e*P	**P**	**17 38 23.7**	**+6.4**
GERES	**GERESS Array B**	**21.17**	**304**	P	**P**	**17 38 17.5**	**-0.1**
GERES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GERES	**GERESS Array B**	**21.17**	**304**	P	**P**	**17 38 17.5**	**-0.1**
	comp=Z,2.6nm,0.9s,mb3.6,baz=111,slow=11,SNR=18						
KHC	**Kosperske Hory**	**21.32**	**305**	*e*P	**P**	**17 38 19.2**	**0.0**
SVE	**Sverdlovsk**	**21.34**	**31**	*e*P	**P**	**17 38 20.4**	**+1.1**
BRG	**Berggiesshubel**	**21.62**	**309**	*e*P	**P**	**17 38 25.7**	**+3.5**
BRG				pmax	pmax		
	comp=Z,16nm,1.8s,mb4.2						
BRG	**Berggiesshubel**	**21.62**	**309**	*e*P	**P**	**17 38 25.7**	**+3.5**
	comp=Z,8.0nm,1.8s,mb3.9						
NKC	**Novy Kostel**	**22.33**	**307**	*e*P	**P**	**17 38 30.1**	**+0.8**
CLL	**Collm**	**22.33**	**310**	*i* P	**P**	**17 38 30.7**	**+1.4**
CLL				*e*		17 38 38.0	
CLL				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.2						
CLL	**Collm**	**22.33**	**310**	*i* P	**P**	**17 38 30.7**	**+1.4**
	comp=Z,11nm,1.2s,mb4.2						
CLL				*e*		17 38 38.0	
CLL	**Collm**	**22.33**	**310**	P	**P**	**17 38 30.7**	**+1.4**
	comp=Z,logA/T=1.0,mb4.2						
CLL				*e*		17 38 38.0	
CLL				*e*		17 38 48.0	
MOTA	**Moosalm**	**22.57**	**299**	⇑*i*P	**P**	**17 38 32.0**	**+0.3**
	comp=Z,6.5nm,1.1s,mb4.0						
MOTA	**Moosalm**	**22.57**	**299**	⇑*i*P	**P**	**17 38 32.0**	**+0.3**
MOTA				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.0						
GRA1	**Grafenberg Arr**	**22.95**	**305**	*e*P	**P**	**17 38 36.5**	**+1.2**
	comp=Z,6.0nm,1.1s,mb3.9						
GRF	**Grafenberg Arr**	**22.95**	**305**	*e*P	**P**	**17 38 36.5**	**+1.2**
GRF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.2						
GRF	**Grafenberg Arr**	**22.95**	**305**	*e*P	**P**	**17 38 36.5**	**+1.2**
GRF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.2						
GRF	**Grafenberg Arr**	**22.95**	**305**	*e*P	**P**	**17 38 36.5**	**+1.2**
	comp=Z,6.0nm,1.1s,mb3.9						
MOX	**Moxa**	**22.96**	**307**	*e*P	**P**	**17 38 33.9**	**-1.5**
MOX	**Moxa**	**22.96**	**307**	*i* P	**P**	**17 38 33.9**	**-1.5**
FINES	**FINESS Array B**	**23.34**	**342**	P	**P**	**17 38 39.5**	**+0.5**
FINES				pmax	pmax		
	comp=Z,8.0nm,0.7s						
FINES	**FINESS Array B**	**23.34**	**342**	P	**P**	**17 38 39.5**	**+0.5**
	comp=Z,7.5nm,0.7s,mb4.3,baz=141,slow=9.2,SNR=23						
JOF	**Joensuu**	**23.70**	**349**	*e*p	**P**	**17 38 42.3**	**-0.2**
	comp=Z,12nm,0.8s,mb4.4						
JOF	**Joensuu**	**23.70**	**349**	*e*P	**P**	**17 38 42.3**	**-0.2**
JOF				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.4						
KAF	**Kangasniemi**	**23.88**	**343**	*e*p	**P**	**17 38 44.7**	**+0.5**
	comp=Z,16nm,1.0s,mb4.4						
KAF	**Kangasniemi**	**23.88**	**343**	*e*P	**P**	**17 38 44.7**	**+0.5**
KAF				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.4						
PGF	**Pioggiola**	**23.92**	**287**	*e*P	**P**	**17 38 42.5**	**-2.3**
	comp=Z,7.6nm,0.8s,mb3.9						
PGF	**Pioggiola**	**23.92**	**287**	*e*P	**P**	**17 38 42.5**	**-2.3**
PGF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
BRVK	**Borovoye**	**24.02**	**47**	*e*P	**P**	**17 38 45.4**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
BRVK	**Borovoye**	**24.02**	**47**	*e*P	**P**	**17 38 45.4**	**-0.3**
	comp=Z,4.4nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**24.07**	**47**	P	**P**	**17 38 46.5**	**+0.4**
	comp=Z,1.8nm,0.6s,mb3.7,baz=248,slow=8.0,SNR=11						
CHKZ	**Chkalovo**	**24.44**	**46**	*e*P	**P**	**17 38 49.3**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
CHKZ	**Chkalovo**	**24.44**	**46**	*e*P	**P**	**17 38 49.3**	**-0.4**
	comp=Z,2.4nm,0.7s,mb3.7						
CDF	**Champ du Feu**	**25.27**	**301**	*e*P	**P**	**17 38 57.1**	**-0.7**
MBDF	**Montbardon**	**25.43**	**292**	*e*P	**P**	**17 38 57.6**	**-1.7**
	comp=Z,15nm,0.7s,mb4.3						
MBDF	**Montbardon**	**25.43**	**292**	*e*P	**P**	**17 38 57.6**	**-1.7**
MBDF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.4						
AAK	**Ala-Archa**	**25.44**	**73**	⇓*i*P	**P**	**17 38 58.5**	**-0.9**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
AAK	**Ala-Archa**	**25.44**	**73**	*e*P	**P**	**17 38 58.9**	**-0.5**
AAK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.3						
AAK	**Ala-Archa**	**25.44**	**73**	*e*P	**P**	**17 38 58.9**	**-0.5**
	comp=Z,12nm,1.1s,mb4.3						
LPG	**La Plagne**	**25.44**	**294**	*e*P	**P**	**17 38 58.4**	**-1.0**
	comp=Z,12nm,0.9s,mb4.1						
LPG	**La Plagne**	**25.44**	**294**	*e*P	**P**	**17 38 58.4**	**-1.0**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1						
LPL	**La Plagne**	**25.45**	**294**	*e*P	**P**	**17 38 58.5**	**-1.0**
	comp=Z,5.2nm,0.7s,mb3.9						
LPL	**La Plagne**	**25.45**	**294**	*e*P	**P**	**17 38 58.5**	**-1.0**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
HINF	**Hinteralfeld**	**25.49**	**299**	*e*P	**P**	**17 38 58.8**	**-1.0**
BNI	**Bardonecchia**	**25.49**	**293**	*e*P	**P**	**17 38 59.3**	**-0.6**
BNI				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.4						
BNI	**Bardonecchia**	**25.49**	**293**	*e*P	**P**	**17 38 59.3**	**-0.6**
	comp=Z,14nm,1.1s,mb4.4						
FRF	**La Foret Royal**	**25.57**	**289**	*e*P	**P**	**17 38 58.4**	**-2.2**
	comp=Z,8.8nm,0.9s,mb4.0						
FRF	**La Foret Royal**	**25.57**	**289**	*e*P	**P**	**17 38 58.4**	**-2.2**
FRF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
LMR	**La Mourre**	**25.68**	**289**	*e*P	**P**	**17 38 59.3**	**-2.4**
	comp=Z,3.6nm,0.8s,mb3.6						
LMR	**La Mourre**	**25.68**	**289**	*e*P	**P**	**17 38 59.3**	**-2.4**
LMR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
CABF	**La Chapelle**	**25.93**	**296**	*e*P	**P**	**17 39 02.2**	**-1.8**
	comp=Z,21nm,0.9s,mb4.3						
CABF	**La Chapelle**	**25.93**	**296**	*e*P	**P**	**17 39 02.2**	**-1.8**
CABF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
ORIF	**Oris-en-Rattie**	**26.06**	**293**	*e*P	**P**	**17 39 03.7**	**-1.5**
SMRF	**Simiane la Rot**	**26.32**	**290**	*e*P	**P**	**17 39 05.5**	**-2.1**
	comp=Z,15nm,1.1s,mb4.1						
HFS	**Hagfors**	**26.32**	**329**	P	**P**	**17 39 08.0**	**+0.6**
HFS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HFS	**Hagfors**	**26.32**	**329**	P	**P**	**17 39 08.0**	**+0.5**
	comp=Z,5.2nm,0.7s,mb4.2,baz=121,slow=8.6,SNR=5.2						
SMF	**Signal de Mont**	**27.48**	**296**	*e*P	**P**	**17 39 17.1**	**-1.1**
	comp=Z,33nm,1.3s,mb4.4						
SMF	**Signal de Mont**	**27.48**	**296**	*e*P	**P**	**17 39 17.1**	**-1.1**
SMF				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.4						
LASF	**Ste Croix**	**27.55**	**291**	*e*P	**P**	**17 39 16.6**	**-2.2**
	comp=Z,22nm,1.3s,mb4.3						
SSF	**Saint Saulge**	**27.71**	**297**	*e*P	**P**	**17 39 19.2**	**-1.1**
SSF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
SSF	**Saint Saulge**	**27.71**	**297**	*e*P	**P**	**17 39 19.2**	**-1.1**
	comp=Z,4.2nm,0.8s,mb4.1						
NOA	**NORSAR Array B**	**27.84**	**329**	P	**P**	**17 39 21.1**	**-0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,14nm,20.3s						
NOA	**NORSAR Array B**	**27.84**	**329**	P	**P**	**17 39 21.1**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=144,slow=23,SNR=2.9						
NOA				LR	LR	17 52 33.5	
	comp=Z,14nm,20.3s,baz=280,slow=41						
BGF	**Bois d'Agland**	**28.16**	**296**	*e*P	**P**	**17 39 22.9**	**-1.5**
	comp=Z,6.7nm,0.7s,mb4.1						
BGF	**Bois d'Agland**	**28.16**	**296**	*e*P	**P**	**17 39 22.9**	**-1.5**
BGF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
KURK	**Kurchatov**	**28.46**	**55**	*e*P	**P**	**17 39 26.0**	**-1.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
KURK	**Kurchatov**	**28.46**	**55**	*e*P	**P**	**17 39 26.0**	**-1.0**
	comp=Z,2.5nm,0.8s,mb3.9						
TCF	**Toulx Ste Croi**	**28.61**	**296**	*e*P	**P**	**17 39 26.7**	**-1.7**
ARCES	**ARCESS Array B**	**30.75**	**350**	P	**P**	**17 39 45.8**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARCES	**ARCESS Array B**	**30.75**	**350**	P	**P**	**17 39 45.8**	**-1.4**
	comp=Z,4.9nm,1.0s,mb4.3,baz=14,slow=5.0,SNR=5.1						
ETSF	**Etsaut**	**30.87**	**289**	*e*P	**P**	**17 39 46.6**	**-2.0**
ZAL	**Zalesovo**	**32.63**	**50**	P	**P**	**17 40 01.9**	**-2.0**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**32.63**	**50**	P	**P**	**17 40 01.9**	**-2.0**
	comp=Z,0.9nm,0.4s,mb4.1,baz=247,slow=6.2,SNR=3.7						
EKA	**Eskdalemuir Ar**

QRZ	**Quartz Range**	**0.66 250**	⇑PN	P	17 42 17.3	-0.7
QRZ			SN	S	17 42 35.8	-1.8
TUWZ	**Tuamarina**	**0.94 151**	⇑PN	P	17 42 19.7	+0.1
TUWZ			SN	S	17 42 39.5	-0.9
BSWZ	**Blackbirch Sta**	**1.18 160**	P	P	17 42 21.7	+0.1
BSWZ	**Blackbirch Sta**	**1.18 160**	PN	P	17 42 21.7	+0.1
BSWZ			SN	S	17 42 43.9	0.0
MRW	**Makara Radio**	**1.20 122**	P	P	17 42 21.6	-0.2
MRW	**Makara Radio**	**1.20 122**	⇑PN	P	17 42 21.6	-0.2
MRW			SN	S	17 42 42.8	-1.5
THZ	**Tophouse**	**1.20 196**	P	P	17 42 21.5	-0.3
THZ			S	S	17 42 43.2	-1.1
THZ	**Tophouse**	**1.20 196**	⇑PN	P	17 42 21.5	-0.3
THZ			SN	S	17 42 43.2	-1.2
KIW	**Kapiti Island**	**1.22 103**	P	P	17 42 21.6	-0.3
KIW	**Kapiti Island**	**1.22 103**	PN	P	17 42 21.6	-0.3
KIW			SN	S	17 42 42.5	-2.1
WEL	**Wellington**	**1.27 123**	P	P	17 42 22.2	-0.2
WEL	**Wellington**	**1.27 123**	PN	P	17 42 22.2	-0.3
WEL			SN	S	17 42 44.4	-1.1
CAW	**Cannon Point**	**1.40 111**	P	P	17 42 23.2	-0.4
CAW	**Cannon Point**	**1.40 111**	PN	P	17 42 23.2	-0.5
CAW			SN	S	17 42 46.4	-1.2
BHW	**Baring Head**	**1.41 125**	P	P	17 42 23.2	-0.5
BHW	**Baring Head**	**1.41 125**	⇑PN	P	17 42 23.2	-0.5
BHW			SN	S	17 42 45.5	-2.1
WAZ	**Wanganui**	**1.52 56**	PN	P	17 42 24.8	0.0
WAZ			SN	S	17 42 48.6	-1.0
DSZ	**Denniston Nort**	**1.63 225**	P	P	17 42 24.6	-1.2
DSZ	**Denniston Nort**	**1.63 225**	PN	P	17 42 24.6	-1.3
DSZ			SN	S	17 42 48.7	-2.8
MSWZ	**Moikau Station**	**1.65 120**	PN	P	17 42 25.5	-0.6
MSWZ			SN	S	17 42 49.7	-2.2
MRZ	**Mangatainoka R**	**1.70 93**	PN	P	17 42 25.8	-0.8
MRZ			SN	S	17 42 50.5	-2.3
MTW	**Mount Morrison**	**1.73 109**	PN	P	17 42 26.2	-0.7
MTW			SN	S	17 42 51.2	-2.1
PAWZ	**Paruwai Farm**	**1.75 117**	PN	P	17 42 26.5	-0.6
PAWZ			SN	S	17 42 51.6	-2.2
KHZ	**Kahutara**	**1.81 175**	P	P	17 42 27.0	-0.7
KHZ	**Kahutara**	**1.81 175**	⇑PN	P	17 42 27.0	-0.8
KHZ			SN	S	17 42 52.7	-2.1
VRZ	**Vera Road**	**1.84 37**	PN	P	17 42 26.2	-1.8
VRZ			SN	S	17 42 52.7	-2.6
TSZ	**Takapari Road**	**2.07 76**	PN	P	17 42 29.7	-0.9
TSZ			SN	S	17 42 57.2	-2.7
WPVZ	**Whakapapa**	**2.20 51**	PN	P	17 42 30.5	-1.5
CNZ	**Chateau**	**2.20 51**	PN	P	17 42 30.2	-1.9
MOVZ	**Moawhango**	**2.20 58**	PN	P	17 42 30.4	-1.7
TUVZ	**Tukino**	**2.22 54**	PN	P	17 42 30.7	-1.7
TWVZ	**Taurewa**	**2.23 47**	PN	P	17 42 30.1	-2.2
NGZ	**Ngauruhoe**	**2.25 51**	PN	P	17 42 30.8	-1.8
WTVZ	**West Tongariro**	**2.28 50**	PN	P	17 42 31.3	-1.7
LTZ	**Lake Taylor**	**2.32 200**	P	P	17 42 32.3	-1.1
LTZ	**Lake Taylor**	**2.32 200**	PN	P	17 42 32.3	-1.1
LTZ			SN	S	17 43 01.7	-3.1
MGZ	**Maungaku**	**2.33 47**	PN	P	17 42 31.5	-2.0
PWZ	**Pawanui**	**2.75 79**	PN	P	17 42 37.0	-1.6
BKZ	**Black Stump Fm**	**2.82 60**	PN	P	17 42 36.8	-2.6
CRLZ	**Canterbury Las**	**3.01 190**	SN	S	17 43 14.5	-5.2
MQZ	**McQueen's Vall**	**3.14 189**	PN	P	17 42 40.5	-2.9
WVZ	**Waitaha Valley**	**3.14 217**	PN	P	17 42 40.6	-2.8

*IDC **17** 17:42:43.6±2.2,2.60N×95.46E,h22km±6km,mb3.6/4, mb1 3.8/5,mb1mx3.5/19,mbtmp3.7/5,ML3.6/1,Error ellipse: s-maj=77.1km s-min=28.1km az=58.0*
*NEIC **17** 17:42:44.0±1.1,2.56N×95.38E,mb4.2/1,Error ellipse: s-maj=39.7km s-min=17.6km az=69.0*
ISC 17 17:42:40.6±1.6,2.4N±0.2×95.2E±0.3,h24km, h24km±.8km;pP-P,n9,σ0§23/7,mb3.8/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.33**	**13**	Pn	**P**	**17 46 30.5**	**+0.2**
	0.1nm,0.3s,baz=198,slow=11,SNR=6.7						
WRA	**Warramunga Arr**	**44.39**	**122**	P	**P**	**17 50 51.6**	**+0.1**
	0.5nm,0.5s,mb3.5,baz=299,slow=9.2,SNR=5.2						
SONM	**Songino Array**	**46.24**	**10**	P	**P**	**17 51 05.4**	**-0.5**
	0.4nm,0.6s,mb3.5,baz=193,slow=8.3,SNR=4.8						
SONM				pP	pP	17 51 12.6	-0.4
	0.2nm,0.5s,baz=186,slow=11,SNR=3.2						
ZAL	**Zalesovo**	**52.03**	**352**	P	**P**	**17 51 50.5**	**0.0**
	0.9nm,0.6s,mb3.9,baz=276,slow=8.3,SNR=4.4						
ZAL				pP	pP	17 51 57.4	-0.4
	1.0nm,0.4s,baz=310,slow=9.0,SNR=3.1						
ZAL	**Zalesovo**	**52.03**	**352**	P	**P**	**17 51 50.5**	**0.0**
ZAL				pP	pP	17 51 57.4	-0.4
BVAR	**Borovoye Array**	**54.44**	**342**	P	**P**	**17 52 08.4**	**+0.2**
	0.9nm,0.5s,mb3.9,baz=143,slow=9.9,SNR=8.2						
BVAR				pP	pP	17 52 15.4	-0.1
	1.0nm,0.7s,baz=135,slow=10,SNR=5.0						
CHKZ	**Chkalovo**	**54.93**	**342**	*e*P	**P**	**17 52 11.9**	**0.0**
	1.1nm,0.4s,mb4.2						
CHKZ				*e*pP	pP	17 52 19.8	+0.6
TXAR	**Lajitas Array**	**143.60**	**28**	PKP	PKPdf	18 02 17.9	-0.8
	0.3nm,0.5s,baz=14,slow=10,SNR=2.7						
TXAR	**Lajitas Array**	**143.60**	**28**	PKP	PKPdf	18 02 17.9	-0.8

IDC 17 17:45:34.1±2.5,11.21N×139.87E,mb3.4/3,mb1 3.8/3, mb1mx3.5/17,mbtmp3.4/3,Error ellipse: s-maj=303.4km s-min=34.3km az=106.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.43**	**190**	P	P	17 51 57.3	-2.3
	0.2nm,0.5s,baz=11,slow=9.7,SNR=1.9						
ILAR	**Eielson Array**	**72.80**	**25**	P	P	17 57 03.5	-2.6
	0.4nm,0.8s,baz=240,slow=5.9,SNR=4.7						
YKA	**Yellowknife Ar**	**87.18**	**27**	P	P	17 58 23.1	0.0
	0.1nm,0.3s,baz=283,slow=5.0,SNR=4.2						

*MOS **17** 17:51:40.1±1.9,49.34N×156.82E,h47km,mb3.8/4,Error ellipse: s-maj=36.8km s-min=15.4km az=85.7*
*IDC **17** 17:51:41.7±6.8,49.31N×156.82E,h33km±48km,mb3.4/6, mb1 3.8/7,mb1mx3.5/21,mbtmp3.7/7,ML3.0/1,MS4.0/1, Ms1 3.9/1,ms1mx3.0/12,Error ellipse: s-maj=76.5km s-min=19.4km az=139.0*
*NEIC **17** 17:51:41.6±0.8,49.35N×156.52E,h35km,mb3.7/2,Error ellipse: s-maj=21.9km s-min=14.6km az=105.0*
*KRSC **17** 17:51:43.1±1.0,49.48N×156.91E,h60km±33km,ML4.0*
ISC 17 17:51:43.8±1.1,49.52N±0.07×156.9E±0.1,h65km±11km, n33,σ1§16/51,mb3.5/8,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.25**	**338**	*e*PN	**P**	**17 52 04.6**	**-1.1**
SKR				*e*S	**S**	**17 52 20.7**	**-1.3**
SKR				pmax	pmax		
	comp=N,300nm,0.4s						
SKR				pmax	pmax		
	comp=E,240nm,0.4s						
SKR				pmax	pmax		
	comp=Z,540nm,0.4s						
SKR				smax			
	comp=N,1μm,0.4s						
SKR				smax			
	comp=E,2μm,0.2s						
ALID	**Alaid**	**1.59**	**329**	*i* P	**P**	**17 52 10.5**	**+0.2**
ALID				*e*S	**S**	**17 52 30.8**	**+0.9**
PAU	**Pauzhetka**	**1.95**	**359**	*i* P	**P**	**17 52 15.6**	**+0.4**
PAU				*e*S	**S**	**17 52 39.1**	**+0.6**
PAU				Smax			
	comp=E,680nm,0.3s						
RUS	**Russkaya**	**3.10**	**19**	*i* P	**P**	**17 52 31.0**	**-0.5**
RUS				*e*S	**S**	**17 53 05.7**	**-1.8**
GRL	**Gorelyy**	**3.13**	**14**	*i* P	**P**	**17 52 32.6**	**+0.7**
GRL				*e*S	**S**	**17 53 08.2**	**-0.1**
KRMR	**Karymshinskiy**	**3.41**	**13**	*e*P	**P**	**17 52 36.6**	**+0.8**
KRMR				*e*S	**S**	**17 53 17.1**	**+1.8**
APC	**Apacha**	**3.41**	**3**	*e*P	**P**	**17 52 36.8**	**+0.9**
APC				*e*S	**S**	**17 53 15.8**	**+0.4**
PET	**Petropavlovsk**	**3.69**	**17**	⇓*i*PN	**P**	**17 52 39.6**	**-0.1**
PET				*e*S	**S**	**17 53 22.5**	**+0.3**
PET				pmax	pmax		
	comp=Z,40nm,0.5s						
PET				smax			
	comp=E,90nm,0.6s						
PET				smax			
	comp=N,90nm,0.4s						
PET	**Petropavlovsk**	**3.69**	**17**	*e*Pn	**P**	**17 52 39.1**	**-0.6**
PET				*e*Sn	**S**	**17 53 21.8**	**-0.4**
UGLR	**Uglovaya**	**3.89**	**18**	*i* P	**P**	**17 52 43.4**	**+0.8**
UGLR				*e*S	**S**	**17 53 27.6**	**+0.2**
AVH	**Avacha**	**3.93**	**17**	*i* P	**P**	**17 52 44.4**	**+1.3**
AVH				*e*S	**S**	**17 53 29.8**	**+1.5**
KOK	**Koryaka**	**3.94**	**16**	*i* P	**P**	**17 52 44.9**	**+1.7**
KOK				*e*S	**S**	**17 53 30.2**	**+1.7**
SMAR	**Somma**	**3.94**	**17**	*i* P	**P**	**17 52 44.0**	**+0.7**
SMAR				*e*S	**S**	**17 53 26.9**	**-1.7**
SDLR	**Sedlovina**	**3.97**	**18**	*i* P	**P**	**17 52 43.9**	**+0.2**
SDLR				*e*S	**S**	**17 53 28.2**	**-1.2**
NLC	**Nalytchevo**	**3.98**	**22**	*i* P	**P**	**17 52 42.5**	**-1.2**
NLC				*e*S	**S**	**17 53 26.3**	**-3.1**
SPN	**Mys Shipunski**	**4.10**	**28**	*i* P	**P**	**17 52 45.3**	**-0.1**
SPN				*e*S	**S**	**17 53 30.2**	**-2.3**
GNL	**Ganaly**	**4.23**	**9**	*i* P	**P**	**17 52 48.5**	**+1.1**
GNL				*e*S	**S**	**17 53 34.9**	**-1.1**
KBTR	**Krutoberegovo**	**7.61**	**26**	*e*P	**P**	**17 53 32.7**	**-1.5**
KBTR				*e*S	**S**	**17 54 53.2**	**-6.5**
MA2	**Magadan**	**10.67**	**343**	*e*PN	**P**	**17 54 14.8**	**-1.1**
FX1	**Attu Island--F**	**10.77**	**66**	Pn	**P**	**17 54 13.4**	**-3.9**
	comp=N,0.4nm,0.3s,baz=235,slow=18,SNR=4.7						
FX1				Sn	**S**	**17 56 09.2**	**-7.9**
	comp=N,1.2nm,0.3s,baz=272,slow=22,SNR=5.7						
ILAR	**Eielson Array**	**32.82**	**41**	P	**P**	**17 58 12.8**	**+0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ILAR	**Eielson Array**	**32.82**	**41**	P	**P**	**17 58 12.8**	**+0.3**
	comp=Z,0.6nm,1.1s,mb3.3,baz=264,slow=8.2,SNR=4.2						
INK	**Inuvik**	**37.96**	**35**	P	**P**	**17 58 57.4**	**+1.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**37.96**	**35**	P	**P**	**17 58 57.4**	**+1.3**
	comp=Z,0.6nm,0.7s,mb3.5						
ZAL	**Zalesovo**	**43.08**	**305**	LR	LR	18 20 10.9	
	comp=Z,161nm,18.9s,baz=159,slow=40						
CHKZ	**Chkalovo**	**50.57**	**310**	*e*P	**P**	**18 00 33.7**	**-3.6**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**50.57**	**310**	*e*P	**P**	**18 00 33.7**	**-3.6**
	comp=Z,0.9nm,0.6s,mb4.0						
NVAR	**Mina Array Bea**	**58.97**	**66**	P	**P**	**18 01 39.6**	**+1.1**
	comp=Z,0.5nm,0.9s,mb3.6,baz=319,slow=8.3,SNR=2.1						
PDAR	**Pinedale Array**	**61.11**	**57**	P	**P**	**18 01 53.1**	**0.0**
	comp=Z,0.7nm,1.0s,mb3.6,slow=5.9,SNR=4.0						
WRA	**Warramunga Arr**	**71.99**	**202**	P	**P**	**18 03 00.8**	**-1.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
WRA	**Warramunga Arr**	**71.99**	**202**	P	**P**	**18 03 00.8**	**-1.5**
	comp=Z,0.7nm,1.1s,mb3.4,baz=12,slow=6.5,SNR=2.8						
TXAR	**Lajitas Array**	**73.98**	**64**	P	**P**	**18 03 15.1**	**+1.3**
	comp=Z,0.5nm,0.5s,mb3.5,baz=301,slow=4.3,SNR=5.2						
ASAR	**Alice Springs**	**75.67**	**202**	P	**P**	**18 03 22.1**	**-1.4**
	comp=Z,0.2nm,0.5s,mb3.1,baz=18,slow=5.5,SNR=6.5						

IDC 17 18:21:57.7±7.6,10.28N×92.89E,mb3.3/2,mb1 3.5/3, mb1mx3.3/18,mbtmp3.2/3,ML2.9/1,Error ellipse: s-maj=168.8km s-min=46.2km az=95.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.02**	**35**	Pn	P	18 24 22.9	-3.1
	0.0nm,0.3s,baz=227,slow=15,SNR=4.1						
WRA	**Warramunga Arr**	**50.66**	**126**	P	P	18 30 58.8	-2.4
	0.3nm,0.6s,baz=306,slow=8.4,SNR=4.6						
ASAR	**Alice Springs**	**52.40**	**131**	P	P	18 31 12.5	-1.8
	0.4nm,0.9s,baz=306,slow=7.8,SNR=3.1						

*IDC **17** 18:28:17.8±1.0,14.39N×92.97E,mb3.8/6,mb1 4.1/6, mb1mx3.8/18,mbtmp3.8/6,ML2.8/1,Error ellipse: s-maj=33.3km s-min=19.3km az=56.0*
*NEIC **17** 18:28:22.7±0.6,14.41N×93.01E,h30km,mb4.2/2,Error ellipse: s-maj=16.9km s-min=11.0km az=53.0*
ISC 17 18:28:21.0±0.8,14.4N±0.1×93.00E±0.09,h33km,n9, σ0§58/10,mb3.9/8,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.00**	**54**	Pn	**Pn**	**18 30 03.2**	**-0.8**
	0.1nm,0.3s,baz=243,slow=16,SNR=3.2						
CMAR				Sn	**Sn**	**18 31 23.9**	**+0.7**
	0.1nm,0.3s,baz=239,slow=25,SNR=3.1						
SONM	**Songino Array**	**35.17**	**16**	P	**P**	**18 35 12.6**	**-1.1**
	0.2nm,0.7s,mb3.1,baz=206,slow=10.0,SNR=2.8						
BVAR	**Borovoye Array**	**42.53**	**340**	P	**P**	**18 36 14.9**	**-0.1**
	0.5nm,0.6s,mb3.4,baz=158,slow=7.8,SNR=3.4						
CHKZ	**Chkalovo**	**43.00**	**341**	*e*P	**P**	**18 36 19.4**	**+0.6**
	1.5nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**53.06**	**129**	P	**P**	**18 37 37.5**	**0.0**
	2.0nm,0.8s,mb4.1,baz=309,slow=7.6,SNR=15						
WRA				PcP	PcP	18 38 44.4	-1.4
	0.5nm,1.2s,baz=311,slow=3.2,SNR=4.6						
WRAB	**Tennant Creek**	**53.07**	**129**	*e*P	**P**	**18 37 37.5**	**0.0**
	5.2nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**55.03**	**133**	P	**P**	**18 37 52.1**	**+0.2**
	1.1nm,0.4s,mb4.2,baz=309,slow=7.0,SNR=25						
FINES	**FINESS Array B**	**66.50**	**331**	P	**P**	**18 39 09.0**	**-0.2**
	4.4nm,1.1s,mb4.4,baz=90,slow=3.8,SNR=4.1						
GERES	**GERESS Array B**	**72.30**	**317**	P	**P**	**18 39 45.8**	**+0.8**
	0.6nm,0.6s,mb3.7,baz=90,slow=5.3,SNR=5.2						

*CSEM **17** 18:38:10.8±0.2,35.00N×3.90W,h12km,MD3.1,Error ellipse: s-maj=6.5km s-min=5.3km az=88.0*
*MDD **17** 18:38:12.5±0.5,34.99N×3.91W,h5km±5km,mbLg2.2/9, Error ellipse: s-maj=5.2km s-min=3.8km az=64.0,PRXIMO*
*CNRM **17** 18:38:12.0,34.98N×3.89W,h6km,MD3.1*
*NEIC **17** 18:38:14.0,35.16N×3.95W,h0km,MG3.1(MDD),After MDD.*
ISC 17 18:38:12.3±0.6,35.05N±0.03×4.01W±0.04,h18km±6km, n36,σ0§95/63,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.18**	**17**	P	**Pb**	**18 38 16.5**	**-0.5**
MPAL				S	**Sb**	**18 38 20.5**	**+0.3**
MPAL	**Palemas**	**0.18**	**17**	*i* P	**Pb**	**18 38 16.5**	**-0.5**
TOU	**Touzarine**	**0.23**	**114**	P	**Pb**	**18 38 14.5**	**-3.2**
TOU				S	**Sb**	**18 38 17.0**	**-4.3**
TOU	**Touzarine**	**0.23**	**114**	*i* P	**Pb**	**18 38 14.5**	**-3.2**
EMEL	**Melilla**	**0.89**	**74**	P	**Pb**	**18 38 28.6**	**-0.4**
	45nm,0.1s,SNR=7.9						
EMEL				S	**Sb**	**18 38 40.6**	**+0.1**
	245nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**0.90**	**74**	P	**Pb**	**18 38 29.0**	**0.0**
	48nm,0.1s,SNR=7.9						
EMLI				S	**Sb**	**18 38 41.2**	**+0.6**
	130nm,0.1s,SNR=7.9						
TZK	**Tazeka**	**0.97**	**189**	*i* P	**Pb**	**18 38 30.5**	**+0.2**
TZK				*i* S	**Sb**	**18 38 42.0**	**-0.7**
EALB	**Alboran**	**1.19**	**42**	P	**Pb**	**18 38 33.4**	**-0.6**
EALB				S	**Sb**	**18 38 49.3**	**+0.4**
EALB	**Alboran**	**1.19**	**42**	P	**Pb**	**18 38 33.6**	**-0.4**
	5.7nm,0.1s,SNR=7.9						
EALB				S	**Sb**	**18 38 49.3**	**+0.4**
	22nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.19**	**42**	P	**Pb**	**18 38 33.4**	**-0.6**
	3.4nm,0.1s,SNR=7.9						
EALB				S	**Sb**	**18 38 49.3**	**+0.4**
	16nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.63**	**338**	P	**Pn**	**18 38 41.8**	**+1.4**
EMIJ				S	**Sn**	**18 39 01.5**	**+0.3**
EMIJ	**Mijas**	**1.63**	**338**	P	**Pn**	**18 38 42.0**	**+1.5**
	1.9nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**18 39 01.2**	**+0.1**
	7.6nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.63**	**338**	P	**Pn**	**18 38 41.8**	**+1.3**
	0.6nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**18 39 01.5**	**+0.4**
	4.6nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.05**	**26**	P	**Pn**	**18 38 46.9**	**+0.4**
EBER				S	**Sn**	**18 39 10.9**	**-0.9**
EBER	**Berja**	**2.05**	**26**	P	**Pn**	**18 38 47.1**	**+0.6**
	1.0nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**18 39 11.2**	**-0.6**
	4.2nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.05**	**26**	P	**Pn**	**18 38 46.9**	**+0.4**
	0.3nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**18 39 10.9**	**-0.9**
	2.3nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.35**	**321**	S	**Sn**	**18 39 19.3**	**-0.1**
	3.3nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.84**	**15**	P	**Pn**	**18 38 58.2**	**+0.4**
EQES				S	**Sn**	**18 39 30.9**	**-1.0**
EQES	**Quesada**	**2.84**	**15**	P	**Pn**	**18 38 59.3**	**+1.5**
	1.8nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**18 39 33.2**	**+1.3**
	3.4nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.84**	**15**	P	**Pn**	**18 38 58.2**	**+0.4**
	1.4nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**18 39 31.0**	**-0.9**
EADA	**Adamuz**	**3.14**	**352**	P	**Pn**	**18 39 02.2**	**+0.2**
EADA				S	**Sn**	**18 39 37.7**	**-1.7**
EADA	**Adamuz**	**3.14**	**352**	P	**Pn**	**18 39 03.0**	**+1.0**
	0.3nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**18 39 38.9**	**-0.6**
	1.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.14**	**352**	S	**Sn**	**18 39 37.7**	**-1.7**
	0.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.14**	**352**	P	**Pn**	**18 39 02.2**	**+0.2**
	0.4nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.46**	**322**	P	**Pn**	**18 39 06.8**	**+0.3**
EMIN				S	**Sn**	**18 39 46.6**	**-0.9**
EMIN	**Mina Concepcio**	**3.46**	**322**	P	**Pn**	**18 39 07.3**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**18 39 46.7**	**-0.8**
	0.3nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.46**	**322**	S	**Sn**	**18 39 46.6**	**-0.8**
	0.6nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.46**	**322**	P	**Pn**	**18 39 06.8**	**+0.3**
	0.4nm,0.1s,SNR=7.9						
PALC	**Alcoutim**	**3.69**	**312**	*e*Pn	**Pn**	**18 39 12.6**	**+2.7**
PALC				*e*Sn	**Sn**	**18 39 54.0**	**+0.6**
EGRO	**El Granado**	**3.74**	**312**	P	**Pn**	**18 39 11.3**	**+0.7**
EGRO				S	**Sn**	**18 39 54.0**	**-0.7**
EGRO	**El Granado**	**3.74**	**312**	P	**Pn**	**18 39 11.4**	**+0.8**
	1.0nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**18 39 53.5**	**-1.2**
	1.4nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.74**	**312**	S	**Sn**	**18 39 54.0**	**-0.7**
	1.1nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.74**	**312**	P	**Pn**	**18 39 11.3**	**+0.7**
	0.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.41**	**328**	P	**Pn**	**18 39 20.8**	**+0.7**
EBAD				S	**Sn**	**18 40 09.4**	**-2.2**
EBAD	**Badajoz**	**4.41**	**328**	P	**Pn**	**18 39 20.5**	**+0.5**
	0.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**18 40 08.9**	**-2.7**
	1.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.41**	**328**	P	**Pn**	**18 39 20.8**	**+0.7**
	0.3nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**18 40 09.4**	**-2.2**
	2.3nm,0.2s,SNR=7.9						

*NEIC **17** 18:45:51.8±1.0,8.31N×93.56E,h30km,mb4.0/2,Error ellipse: s-maj=29.3km s-min=17.3km az=67.0*
*IDC **17** 18:45:59.3±8.8,8.52N×93.94E,h90km±74km,mb3.4/7, mb1 3.6/8,mb1mx3.5/18,mbtmp3.7/8,ML4.0/1,Error ellipse: s-maj=77.7km s-min=18.6km az=56.0*
ISC 17 18:45:49.6±1.0,8.3N±0.1×93.6E±0.2,h30km,n10, σ0§77/10,mb3.8/9,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.35**	**27**	P	**P**	**18 48 33.6**	**+0.6**
	0.3nm,0.3s,baz=212,slow=15,SNR=15						
LSA	**Lhasa**	**21.39**	**354**	P	**P**	**18 50 35.9**	**-1.2**
	2.4nm,0.6s,mb3.7						
SONM	**Songino Array**	**40.85**	**13**	P	**P**	**18 53 30.3**	**-0.1**
	0.7nm,0.8s,mb3.3,baz=188,slow=8.7,SNR=4.9						
ZAL	**Zalesovo**	**46.03**	**353**	P	**P**	**18 54 12.8**	**+0.6**
	1.3nm,0.3s,mb4.3,baz=319,slow=7.9,SNR=5.7						
CHKZ	**Chkalovo**	**48.87**	**342**	*e*P	**P**	**18 54 33.8**	**-0.7**
	1.1nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**48.99**	**125**	P	**P**	**18 54 35.8**	**0.0**
	0.5nm,0.8s,mb3.6,baz=309,slow=9.1,SNR=4.0						
ASAR	**Alice Springs**	**50.64**	**130**	P	**P**	**18 54 48.2**	**-0.3**
	0.9nm,1.1s,mb3.6,baz=304,slow=7.8,SNR=3.7						
FINES	**FINESS Array B**	**72.05**	**332**	P	**P**	**18 57 12.4**	**-0.2**
	3.1nm,0.9s,mb4.2,baz=90,slow=11,SNR=4.1						
GERES	**GERESS Array B**	**77.11**	**318**	P	**P**	**18 57 45.4**	**+3.4**
	0.5nm,0.8s,mb3.5,baz=90,slow=1.3,SNR=3.6						
NOA	**NORSAR Array B**	**79.06**	**331**	P	**P**	**18 57 53.0**	**+0.6**
	0.8nm,0.7s,mb3.8,baz=98,slow=5.5,SNR=3.2						

*NEIC **17** 18:46:40.9,44.97S×167.42E,h100km,ML4.1(WEL), After WEL.*
WEL 17 18:46:41.5±0.3,45.00S×167.48E,h98km±2km,ML4.0/6, 1C,Error ellipse: s-maj=2.2km s-min=1.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.46**	**44**	⇑PN	P	18 46 56.8	-0.1
MSZ				SN	S	18 47 07.9	-0.6
DCZ

CMAR Chiang Mai Arr 10.50 37 Pn P 18 55 09.8 -2.3
2.0nm,0.3s,baz=224,slow=15,SNR=17
SONM Songino Array 39.41 15 P P 19 00 08.6 -1.9
2.0nm,0.3s,baz=201,slow=8.7,SNR=5.5
WRA Warramunga Arr 51.10 126 P P 19 01 41.1 -2.9
0.6nm,0.3s,baz=306,slow=8.4,SNR=26
WB2 Warramunga Arr 51.11 126 *eP* P 19 01 41.3 -2.8
GNI Garni 51.52 314 LR LR 19 28 30.2
comp=Z,293nm,18.2s,baz=232,slow=42
ASAR Alice Springs 52.80 130 P P 19 01 54.5 -2.3
1.6nm,0.6s,baz=304,slow=6.8,SNR=25
STKA Stephens Creek 63.02 134 P P 19 03 07.2 -1.3
1.9nm,0.9s,baz=316,slow=7.3,SNR=6.5

IDC 17 18:58:04.0±1.0, 11.78N×141.24E, mb3.5/7, mb1 3.8/7, mb1mx3.7/18, mbtmp3.5/7, MS4.2/1, Ms1 4.2/1, ms1mx3.2/14, Error ellipse: s-maj=37.9km s-min=21.8km az=93.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**21.28**	**357**	LR	LR	19 09 00.7	
	comp=Z,574nm,19.7s,baz=270,slow=31						
WRA	**Warramunga Arr**	**32.25**	**192**	P	P	19 04 33.9	-2.8
	0.8nm,0.8s,baz=12,slow=9.7,SNR=5.1						
ASAR	**Alice Springs**	**35.95**	**191**	P	P	19 05 07.3	-1.3
	0.3nm,0.5s,baz=20,slow=12,SNR=3.9						
CMAR	**Chiang Mai Arr**	**41.29**	**285**	P	P	19 05 50.9	-2.2
	0.7nm,0.9s,baz=92,slow=5.6,SNR=4.3						
SONM	**Songino Array**	**46.26**	**328**	P	P	19 06 32.9	0.0
	0.4nm,0.9s,baz=108,slow=4.6,SNR=2.8						
BVAR	**Borovoye Array**	**69.16**	**322**	P	P	19 09 11.3	-3.1
	0.7nm,0.6s,baz=112,slow=8.0,SNR=4.8						
ILAR	**Eielson Array**	**71.71**	**25**	P	P	19 09 26.9	-2.7
	0.4nm,0.7s,baz=246,slow=5.4,SNR=5.3						
YKA	**Yellowknife Ar**	**86.07**	**27**	P	P	19 10 47.1	-0.6
	0.5nm,0.7s,baz=287,slow=4.9,SNR=7.6						

IDC 17 18:59:32.7±2.1, 11.34N×92.39E, mb3.4/4, mb1 3.5/5, mb1mx3.4/18, mbtmp3.3/5, ML3.4/1, Error ellipse: s-maj=64.7km s-min=25.1km az=68.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.50**	**41**	Pn	P	19 01 50.0	-3.8
	0.1nm,0.3s,baz=236,slow=15,SNR=4.2						
SONM	**Songino Array**	**38.24**	**15**	P	P	19 06 55.1	-1.0
	0.3nm,0.6s,baz=201,slow=11,SNR=3.6						
BVAR	**Borovoye Array**	**45.18**	**341**	P	P	19 07 51.0	-2.0
	0.4nm,0.5s,baz=141,slow=9.2,SNR=3.1						
WRA	**Warramunga Arr**	**51.68**	**127**	P	P	19 08 41.8	-2.1
	0.3nm,0.4s,baz=300,slow=10,SNR=8.9						
ASAR	**Alice Springs**	**53.46**	**131**	P	P	19 08 54.7	-2.5
	0.2nm,0.8s,baz=311,slow=7.2,SNR=7.4						

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*MOS **17** 19:04:41.5±1.1, 3.49N×92.76E, h33km, mb4.9/12, Error ellipse: s-maj=23.6km s-min=11.9km az=107.0*
*BJI **17** 19:04:42.8, 3.40N×92.70E, h31km, mB4.5, mb4.4, Ms4.0, Msz3.8*
*NEIC **17** 19:04:42.8±0.4, 3.44N×92.70E, mb4.7/9, Error ellipse: s-maj=14.4km s-min=7.5km az=45.0*
*IDC **17** 19:04:43.2±0.8, 3.46N×92.71E, h31km±4km, mb3.9/9, mb1 4.1/10, mb1mx4.0/20, mbtmp4.1/10, ML3.9/1, MS3.2/1, Ms1 3.4/1, ms1mx3.0/27, Error ellipse: s-maj=32.0km s-min=15.0km az=51.0*
ISC 17 19:04:40.6±0.5, 3.28N±0.09×92.59E±0.09, h32km, h32km±.7km: pP-P, n55, σ1$05/50, mb4.6/27, MS4.4/1, 1C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.48**	**289**	*e*Pn	**P**	**19 07 37.8**	**-1.2**
PALK				*e*Sn	**S**	**19 09 46.7**	**-11**
CMAR	**Chiang Mai Arr**	**16.31**	**22**	Pn	**P**	**19 08 25.4**	**-3.8**
	0.2nm,0.3s,baz=217,slow=13,SNR=62						
CMAR				LR	LR	19 13 45.2	
	comp=Z,83nm,21.2s,baz=210,slow=34						
HYB	**Hyderabad**	**19.67**	**317**	*e*P	**P**	**19 08 59.0**	**-11**
HYB				*e*S	**S**	**19 12 45.0**	**+0.5**
HYB	**Hyderabad**	**19.67**	**317**	*i* P	**P**	**19 09 10.0**	**-0.1**
HYB				*e*S	**S**	**19 12 46.0**	**+1.5**
SHL	**Shillong**	**22.17**	**358**	*e*P	**P**	**19 09 35.0**	**-0.6**
SHL				*e*S	**S**	**19 13 35.0**	**+2.1**
JIRN	**Jiri**	**25.00**	**346**	*e*P	**P**	**19 10 08.4**	**+5.1**
	81nm,1.2s,mb5.1						
PKI	**Pulchoki**	**25.11**	**345**	*e*P	**P**	**19 10 09.4**	**+5.1**
	79nm,1.3s,mb5.1						
DMN	**Daman**	**25.22**	**344**	*e*P	**P**	**19 10 10.0**	**+4.6**
KKN	**Kakani**	**25.35**	**345**	*e*P	**P**	**19 10 11.0**	**+4.4**
	72nm,1.3s,mb5.0						
GKN	**Gorkha**	**25.73**	**344**	*e*P	**P**	**19 10 13.8**	**+3.7**
KOLN	**Koldanda**	**25.82**	**341**	*e*P	**P**	**19 10 14.7**	**+3.8**
	83nm,1.4s,mb5.1						
LSA	**Lhasa**	**26.31**	**357**	P	**P**	**19 10 16.4**	**+1.0**
LSA	**Lhasa**	**26.31**	**357**	*e*P	**P**	**19 10 16.4**	**+1.0**
LSA				*e**PP	pP	19 10 25.6	+0.8
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**26.31**	**357**	*e*P	**P**	**19 10 16.4**	**+0.9**
	comp=Z,7.0nm,0.6s,mb4.4						
LSA				*e*pP	pP	19 10 25.6	+0.9
FITZ	**Fitzroy Crossi**	**38.89**	**124**	⇓*i* P	**P**	**19 12 04.9**	**-0.3**
	comp=Z,7.2nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**44.25**	**350**	*i* P	pP	19 12 58.0	-0.5
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SONM	**Songino Array**	**45.95**	**13**	P	**P**	**19 13 02.3**	**-0.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=192,slow=9.0,SNR=7.2						
SONM				pP	pP	19 13 11.6	-0.4
	comp=Z,1.8nm,0.8s,baz=194,slow=9.1,SNR=9.9						
SONM				PcP	PcP	19 14 38.7	-0.7
	comp=Z,0.7nm,0.7s,SNR=3.8						
SONM				pPcP		19 14 49.1	
	comp=Z,1.0nm,0.6s,baz=204,slow=4.0,SNR=5.0						
WRA	**Warramunga Arr**	**47.05**	**121**	P	**P**	**19 13 11.7**	**+0.2**
	comp=Z,4.7nm,0.6s,mb4.6,baz=298,slow=9.0,SNR=41						
WRAB	**Tennant Creek**	**47.05**	**121**	*e*P	**P**	**19 13 11.6**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
WRAB	**Tennant Creek**	**47.05**	**121**	*e*P	**P**	**19 13 11.6**	**+0.1**
	comp=Z,7.6nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**47.05**	**121**	*e*P	**P**	**19 13 11.5**	**0.0**
ZAK	**Zakamensk**	**47.80**	**9**	*e*P	pP	19 13 26.1	-0.6
ASAR	**Alice Springs**	**48.33**	**126**	P	**P**	**19 13 21.8**	**+0.3**
	comp=Z,2.1nm,0.8s,mb4.2,baz=298,slow=7.3,SNR=19						
ASAR				PcP	PcP	19 14 48.5	+0.4
	comp=Z,0.9nm,0.6s,baz=310,slow=3.3,SNR=6.3						
KURK	**Kurchatov**	**48.71**	**348**	*e*P	**P**	**19 13 23.5**	**-0.5**
KURK				*e**PP	pP	19 13 33.2	-0.5
KURK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
KURK	**Kurchatov**	**48.71**	**348**	*e*P	**P**	**19 13 23.5**	**-0.6**
	comp=Z,9.9nm,1.0s,mb4.8						
KURK				*e*pP	pP	19 13 33.2	-0.6
ZAL	**Zalesovo**	**50.90**	**354**	*e*P	**P**	**19 13 40.2**	**-0.5**
	comp=Z,1.6nm,0.5s,mb4.2,baz=317,slow=6.8,SNR=7.6						
ZAL				pP	pP	19 13 49.7	-0.7
	comp=Z,3.7nm,0.7s,baz=285,slow=5.9,SNR=8.9						
NVS	**Novosibirsk**	**51.96**	**353**	*e*P	**P**	**19 13 46.5**	**-2.3**
NVS				pmax	pmax		
	comp=N,12nm,1.2s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
BVAR	**Borovoye Array**	**52.86**	**343**	P	**P**	**19 13 54.2**	**-1.3**
	comp=Z,2.0nm,0.8s,mb4.1,baz=153,slow=6.6,SNR=8.6						
BVAR				pP	pP	19 14 04.0	-1.4
	comp=Z,5.4nm,0.7s,baz=143,slow=7.4,SNR=18						
BRVK	**Borovoye**	**52.92**	**343**	P	**P**	**19 13 54.7**	**-1.3**
BRVK				*e**PP	pP	19 14 04.6	-1.2
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
BRVK	**Borovoye**	**52.92**	**343**	P	**P**	**19 13 54.7**	**-1.3**
	comp=Z,9.3nm,1.0s,mb4.7						
BRVK				*e*pP	pP	19 14 04.6	-1.2
CHKZ	**Chkalovo**	**53.38**	**344**	*e*P	**P**	**19 13 58.2**	**-1.1**
CHKZ				*e**PP	pP	19 14 07.8	-1.3
CHKZ				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
CHKZ	**Chkalovo**	**53.38**	**344**	*e*P	**P**	**19 13 58.2**	**-1.1**
	comp=Z,19nm,1.0s,mb5.0						
CHKZ				*e*pP	pP	19 14 07.8	-1.3
GNI	**Garni**	**56.62**	**317**	P	**P**	**19 14 23.6**	**+0.4**
	comp=Z,1.1nm,0.5s,mb4.2,baz=165,slow=19,SNR=2.2						
GNI				pP	pP	19 14 33.4	+0.5
	comp=Z,1.8nm,0.5s,baz=179,slow=23,SNR=3.3						
GNI	**Garni**	**56.62**	**317**	P	**P**	**19 14 23.6**	**+0.4**
GNI				*e*pP	pP	19 14 31.9	-1.1
GNI				pP	pP	19 14 33.4	+0.5
BOD	**Bodaibo**	**56.94**	**13**	*e*P	**P**	**19 14 20.1**	**-5.1**
BOD				*e*	pP	19 14 31.0	-4.0
STKA	**Stephens Creek**	**58.18**	**131**	*e*P	**P**	**19 14 34.9**	**+0.7**
	comp=Z,3.6nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**58.18**	**131**	P	**P**	**19 14 35.1**	**+0.9**
	comp=Z,4.5nm,0.6s,mb4.7,baz=308,slow=6.6,SNR=15						
ZEI	**Tsey**	**58.41**	**320**	*e*P	pP	19 14 45.7	+0.1
ZEI				*i* *PP	pP	19 14 53.2	+7.6
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
KIV	**Kislovodsk**	**59.75**	**320**	*e*P	**P**	**19 14 46.1**	**+1.2**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
KIV				pmax	pmax		
	comp=E,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=N,210nm,20.0s,MS4.4						
KIV				MLR	MLR		
	comp=Z,264nm,20.0s,MS4.4						
KIV				MLR	MLR		
	comp=E,160nm,17.0s,MS4.4						
MALT	**Malatya**	**60.33**	**313**	*e*P	**P**	**19 14 48.6**	**-0.4**
MALT				*e**PP	pP	19 14 59.6	+0.7
MALT				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
MALT	**Malatya**	**60.33**	**313**	*e*P	**P**	**19 14 48.6**	**-0.4**
	comp=Z,6.3nm,1.1s,mb4.6						
MALT				*e*pP	pP	19 14 59.6	+0.7
BRTR	**Keskin Array B**	**64.32**	**313**	P	**P**	**19 15 15.3**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.7,baz=107,slow=8.8,SNR=3.8						
BRTR				pP	pP	19 15 25.2	-0.3
	comp=Z,1.6nm,0.8s,baz=112,slow=6.7,SNR=6.0						
YAK	**Yakutsk**	**64.81**	**18**	*e*P	**P**	**19 15 19.4**	**+1.0**
YAK				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
OBN	**Obninsk**	**68.46**	**329**	⇓*i* P	**P**	**19 15 48.5**	**+6.8**
OBN				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
TIXI	**Tiksi**	**72.01**	**11**	⇑*i* P	**P**	**19 16 02.1**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
VYHS	**Vyhne**	**76.80**	**319**	*e*P	pP	19 16 40.7	-0.4
VYHS	**Vyhne**	**76.80**	**319**	*e*pP	pP	19 16 40.7	-0.4
ZST	**Bratislava**	**77.89**	**319**	*e*P	pP	19 16 47.8	+0.7
ZST	**Bratislava**	**77.89**	**319**	*e*pP	pP	19 16 47.8	+0.7
GERES	**GERESS Array B**	**80.22**	**319**	P	**P**	**19 16 51.3**	**+1.7**
	comp=Z,2.2nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=18						
GERES				pP	pP	19 17 00.6	+0.8
	comp=Z,4.7nm,0.8s,baz=90,slow=5.3,SNR=13						
BRG	**Berggiesshubel**	**80.30**	**321**	P	pP	19 17 01.3	+1.2
KHC	**Kasperske Hory**	**80.33**	**319**	*e*P	**P**	**19 16 45.6**	**-4.6**
LPG	**La Plagne**	**84.75**	**315**	*e*P	**P**	**19 17 14.4**	**+1.3**
	comp=Z,4.0nm,0.7s,mb4.3						
LPG	**La Plagne**	**84.75**	**315**	*e*P	**P**	**19 17 14.4**	**+1.3**
LPG				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
PDAR	**Pinedale Array**	**129.98**	**21**	PKP	PKPdf	19 23 50.0	-2.9
	comp=Z,0.3nm,0.9s,baz=90,slow=1.8,SNR=2.7						
PDAR				pPKP		19 24 00.7	
	comp=Z,0.4nm,0.8s,baz=117,slow=3.3,SNR=3.2						

MAN 17 19:13:15.1, 7.85N×124.93E, h31km, mb3.8, ML2.5, MS2.0, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.13**	**79**	*e*P	Pn	19 13 21.3	+0.5
BUKP				*e*S	Sn	19 13 27.5	+3.4
CGP	**Cagayan de Oro**	**0.64**	**338**	⇑*i* P	Pb	19 13 28.9	+1.1
CGP				*i* S	Sb	19 13 38.4	+1.8
KCP	**Kidapawan**	**0.85**	**169**	⇓*e*P	Pn	19 13 31.9	+0.8
KCP				*e*S	Sb	19 13 43.2	+0.7

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*IDC **17** 19:22:47.1±0.8, 8.44N×93.11E, mb4.2/12, mb1 4.3/13, mb1mx4.1/20, mbtmp4.1/13, ML3.9/1, MS3.8/3, Ms1 3.9/3, ms1mx3.5/24, Error ellipse: s-maj=42.5km s-min=15.0km az=52.0*
*BJI **17** 19:22:49.8, 8.17N×92.57E, h55km, mB5.2, mb4.3, Ms4.5, Msz4.1*
*MOS **17** 19:22:50.2±0.9, 8.56N×93.24E, h33km, mb4.7/10, Error ellipse: s-maj=19.7km s-min=10.6km az=103.4*
*NEIC **17** 19:22:51.1±0.4, 8.35N×93.03E, h30km, mb4.5/8, Error ellipse: s-maj=13.8km s-min=7.5km az=57.0*
ISC 17 19:22:49.3±0.5, 8.44N±0.07×93.14E±0.08, h30km, n44, σ1$06/45, mb4.3/22, MS4.2/3, 4C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.45**	**29**	Pn	**P**	**19 25 35.8**	**+1.8**
	0.2nm,0.3s,baz=218,slow=14,SNR=14						
CMAR				LR	LR	19 30 19.7	
	comp=Z,129nm,18.5s,baz=195,slow=40						
CMAR				PcP	PcP	19 31 26.6	+1.7
	0.1nm,0.3s,baz=249,slow=4.9,SNR=4.3						
HYB	**Hyderabad**	**16.77**	**304**	⇓*e*P	**P**	**19 26 49.0**	**+5.1**
HYB				*e*S	**S**	**19 29 51.0**	**+2.9**
HYB	**Hyderabad**	**16.77**	**304**	⇑*i*P	**P**	**19 26 49.0**	**+5.1**
HYB				*e*S	**S**	**19 29 46.5**	**-1.6**
SHL	**Shillong**	**17.07**	**356**	*e*P	**P**	**19 26 49.0**	**+1.4**
SHL				*e*S	**S**	**19 30 12.0**	**+17**
LSA	**Lhasa**	**21.23**	**355**	P	**P**	**19 27 35.6**	**+0.4**
LSA	**Lhasa**	**21.23**	**355**	*e*P	**P**	**19 27 35.1**	**-0.1**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.2						
LSA	**Lhasa**	**21.23**	**355**	*e*P	**P**	**19 27 35.1**	**-0.1**
	comp=Z,7.2nm,0.6s,mb4.2						
ENH	**Enshi**	**26.57**	**33**	*e*P	**P**	**19 28 27.3**	**+0.5**
	comp=Z,5.4nm,0.4s,mb4.4						
SONM	**Songino Array**	**40.84**	**14**	P	**P**	**19 30 31.3**	**+1.3**
	comp=Z,1.6nm,0.4s,mb4.0,baz=202,slow=7.8,SNR=28						
SONM				PcP	PcP	19 32 32.3	+1.2
	comp=Z,1.0nm,1.0s,baz=190,slow=4.9,SNR=3.0						
ULN	**Ulaanbaatar**	**41.03**	**14**	*e*P	**P**	**19 30 29.1**	**-2.4**
ZAK	**Zakamensk**	**42.65**	**10**	*e*P	**P**	**19 30 44.4**	**-0.4**
ZAK				*e*		19 32 29.1	
MUN	**Mundaring**	**45.84**	**152**	*e*P	**P**	**19 31 13.2**	**+2.5**
	comp=Z,12nm,1.0s,mb4.8						
MUN	**Mundaring**	**45.84**	**152**	*e*P	**P**	**19 31 13.2**	**+2.5**
MUN				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
ZAL	**Zalesovo**	**45.87**	**353**	P	**P**	**19 31 09.7**	**-1.0**
	comp=Z,2.3nm,0.4s,mb4.5,baz=312,slow=5.0,SNR=8.3						
ZAL				PcP	PcP	19 32 48.6	+0.7
	comp=Z,1.2nm,0.4s,baz=277,slow=5.6,SNR=3.0						
BVAR	**Borovoye Array**	**48.14**	**342**	P	**P**	**19 31 27.9**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.8,baz=146,slow=9.4,SNR=5.5						
BVAR				PcP	PcP	19 32 57.7	+1.7
	comp=Z,3.2nm,1.2s,baz=146,slow=5.2,SNR=2.9						
CHKZ	**Chkalovo**	**48.63**	**342**	*e*P	**P**	**19 31 32.4**	**+0.1**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**48.63**	**342**	*e*P	**P**	**19 31 32.4**	**+0.1**
	comp=Z,2.0nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**49.40**	**125**	P	**P**	**19 31 38.1**	**-0.6**
	comp=Z,2.0nm,0.5s,mb4.4,baz=305,slow=8.5,SNR=50						
WRA				PcP	PcP	19 33 03.4	+2.4
	comp=Z,0.8nm,0.7s,baz=317,slow=2.6,SNR=3.6						
WRAB	**Tennant Creek**	**49.40**	**125**	*e*P	**P**	**19 31 38.7**	**0.0**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**49.40**	**125**	*e*P	**P**	**19 31 38.7**	**0.0**
	comp=Z,4.0nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**49.41**	**125**	*e*P	**P**	**19 31 38.4**	**-0.4**
ASPA	**Alice Springs**	**51.04**	**130**	*e*P	**P**	**19 31 51.2**	**0.0**
ASAR	**Alice Springs**	**51.04**	**130**	P	**P**	**19 31 51.2**	**+0.1**
	comp=Z,1.8nm,0.4s,mb4.4,baz=303,slow=7.8,SNR=83						
ASAR				PcP	PcP	19 33 07.7	+0.7
	comp=Z,1.3nm,0.7s,baz=303,slow=3.6,SNR=8.4						
BOD	**Bodaibo**	**51.84**	**14**	*e*P	**P**	**19 31 54.6**	**-2.2**
GNI	**Garni**	**53.33**	**314**	P	**P**	**19 32 09.4**	**+1.2**
	comp=Z,4.7nm,0.9s,mb4.4,baz=176,slow=4.6,SNR=3.3						
KIV	**Kislovodsk**	**56.23**	**318**	P	**P**	**19 32 28.9**	**-0.3**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
KIV	**Kislovodsk**	**56.23**	**318**	P	**P**	**19 32 28.9**	**-0.4**
	comp=Z,5.7nm,0.9s,mb4.6						
YSS	**Yuzh-Sakhalins**	**56.96**	**39**	*e*P	**P**	**19 32 34.5**	**+0.1**
ASF	**Jabal al Asfar**	**57.08**	**303**	LR	LR	19 59 11.4	
	comp=Z,93nm,20.7s,MS3.9,baz=215,slow=38						
YAK	**Yakutsk**	**59.78**	**19**	⇑*i*P	**P**	**19 32 51.9**	**-2.0**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**61.21**	**133**	P	**P**	**19 33 03.8**	**-0.3**
	comp=Z,1.5nm,0.6s,mb4.3,baz=330,slow=7.4,SNR=5.6						
BRTR	**Keskin Array B**	**61.31**	**311**	P	**P**	**19 33 03.9**	**-0.7**
	comp=Z,2.1nm,0.8s,mb4.3,baz=135,slow=7.0,SNR=9.2						
MA2	**Magadan**	**66.73**	**28**	⇑*i*P	**P**	**19 33 38.8**	**-0.9**
MA2				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.5						
MA2	**Magadan**	**66.73**	**28**	*e*P	**P**	**19 33 39.2**	**-0.5**
MA2				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
MA2	**Magadan**	**66.73**	**28**	*e*P	**P**	**19 33 39.2**	**-0.5**
	comp=Z,4.6nm,1.0s,mb4.5						
TIXI	**Tiksi**	**66.88**	**12**	*e*P	**P**	**19 33 39.8**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,127nm,17.0s,MS4.2						
FINES	**FINESS Array B**	**71.75**	**332**	P	**P**	**19 34 10.7**	**+0.1**
	comp=Z,2.6nm,0.8s,mb4.2,baz=180,slow=25,SNR=4.7						
ARCES	**ARCESS Array B**	**74.40**	**340**	P	**P**	**19 34 26.8**	**+0.9**
	comp=Z,6.9nm,1.0s,mb4.5,baz=92,slow=7.1,SNR=9.5						
ARCES				LR	LR	20 10 42.3	
	comp=Z,182nm,19.1s,MS4.4,baz=18,slow=39						
ARCES	**ARCESS Array B**	**74.40**	**340**	P	**P**	**19 34 26.8**	**+0.9**
ARCES				LR	LR	20 10 42.3	
GERES	**GERESS Array B**	**76.74**	**318**	P	**P**	**19 34 40.3**	**+0.7**
	comp=Z,0.6nm,0.5s,mb3.8,baz=108,slow=4.2,SNR=8.5						
LPG	**La Plagne**	**81.52**	**315**	*e*P	**P**	**19 35 05.2**	**-0.3**
	comp=Z,9.1nm,0.8s,mb4.4						
LPG	**La Plagne**	**81.52**	**315**	*e*P	**P**	**19 35 05.2**	**-0.3**
LPG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
ILAR	**Eielson Array**	**94.60**	**22**	P	**P**	**19 36 09.6**	**+1.4**
	comp=Z,0.3nm,0.7s,mb3.8,baz=301,slow=4.2,SNR=3.8						
PDAR	**Pinedale Array**	**124.99**	**20**	PKP	PKPdf	19 41 50.1	-2.1
	comp=Z,0.9nm,0.8s,baz=27,slow=3.3,SNR=6.6						

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*NEIC **17** 19:33:03.4, 33.16S×70.23W, h8km, ML2.5(GUC), After GUC.*
GUC 17 19:33:03.4±0.9, 33.16S×70.23W, h8km±2km, MD3.6, ML2.5, 2C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.17**	**197**	⇑*i*P	Pg	19 33 08.1	+0.9
FCH				*i* S	Sg	19 33 10.7	+1.1
FCH				AMP		19 33 11.1	
	comp=E,2μm,0.2s						
CLCH	**Cerro Calan**	**0.35**	**228**	*i* P	Pg	19 33 11.3	+0.8
CLCH				*i* S	Sg	19 33 16.7	+1.5
CLCH				AMP		19 33 19.7	
	comp=N,815nm,0.6s						
DSCH	**Colegio Aleman**	**0.37**	**230**	*e*P	Pg	19 33 11.6	+0.7
DSCH				*i* S	Sg	19 33 17.3	+1.4
DSCH				AMP		19 33 18.0	
	comp=N,1μm,0.3s						
PCH	**Pirque**	**0.52**	**207**	⇓*i*P	Pg	19 33 14.5	+0.7
PCH				*i* S	Sg	19 33 22.0	+1.3
JACH	**Jahuel**	**0.57**	**327**	⇓*i*P	Pg	19 33 14.7	-0.1
LMEL	**Las Melosas**	**0.69**	**178**	⇑*i*P	Pg	19 33 17.4	+0.2
LMEL				*i* S	Sg	19 33 27.4	+1.1
LMEL				AMP		19 33 31.2	
	comp=N,241nm,0.1s						
TACH	**Talagante**	**0.77**	**230**	*i* P	Pb	19 33 18.2	-0.4
TACH				*i* S	Sb	19 33 29.1	+0.1
CHCH	**Chadas Angostu**	**0.85**	**204**	*e*P	Pb	19 33 19.8	-0.1
CACH	**El Canelo**	**1.00**	**198**	*e*P	Pb	19 33 22.7	+0.1
CACH				*i* S	Sb	19 33 37.5	+1.7
LCCH	**Las Cruces**	**1.17**	**254**	*e*P	Pb	19 33 24.7	-0.7
LCCH				*i* S	Sb	19 33 40.3	-0.2
LNV	**Longovilo**	**1.27**	**231**	*e*P	Pb	19 33 26.1	-1.0
SFDO	**San Fernando**	**1.59**	**204**	*i* P	Pn	19 33 32.8	+0.8
SFDO				*i* S	Sb	19 33 54.2	+1.4

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*IDC **17** 19:37:34.2±8.4, 17.90S×177.68W, h409km±92km, mb3.4/9, mb1 3.7/9, mb1mx3.6/14, mbtmp4.2/9, Error ellipse: s-maj=27.9km s-min=20.6km az=40.0*
*NEIC **17** 19:37:36.9±5.0, 17.94S×177.74W, h442km±57km, mb4.2/7, Error ellipse: s-maj=22.2km s-min=16.7km az=218.0*
ISC 17 19:37:32.0±0.7, 17.9S±0.1×177.7W±0.1, h400km, n19, σ0$78/19, mb3.8/12, 2D, Fiji Islands region

| Code | Station Name | Δ° | AZ° | Phase ID

Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.12**	**17**	Pn	P	19 55 52.5	+3.4
	0.2nm,0.3s,baz=208,slow=12,SNR=14						
SONM	**Songino Array**	**43.97**	**11**	P	P	20 00 34.5	-1.5
	0.3nm,1.0s,baz=189,slow=6.2,SNR=3.5						
WRA	**Warramunga Arr**	**46.08**	**124**	P	P	20 00 50.7	-2.6
	0.4nm,0.6s,baz=301,slow=9.7,SNR=4.9						
ASAR	**Alice Springs**	**47.57**	**128**	P	P	20 01 03.8	-1.2
	0.2nm,0.3s,baz=302,slow=8.5,SNR=2.7						
ZAL	**Zalesovo**	**49.59**	**352**	LR	LR	20 25 27.3	
	comp=Z,208nm,18.9s,baz=28,slow=40						
BVAR	**Borovoye Array**	**52.01**	**342**	P	P	20 01 36.2	-2.5
	0.2nm,0.3s,baz=146,slow=10,SNR=3.6						

*MOS **17** 20:11:29.9±1.0,3.72N×94.91E,h33km,mb4.9/16,Error ellipse: s-maj=19.2km s-min=8.4km az=104.5*
*BJI **17** 20:11:32.1,4.02N×95.00E,h30km,mB5.2,mb4.8,Ms4.3,Msz4.2*
*NEIC **17** 20:11:33.7±0.2,4.00N×94.86E,mb4.7/17,Error ellipse: s-maj=8.3km s-min=5.0km az=47.0*
*IDC **17** 20:11:34.1±0.4,4.09N×94.88E,h32km±2km,mb4.2/18, mb1 4.3/18,mb1mx4.3/20,mbtmp4.4/18,ML5.2/1,MS3.6/3, Ms1 3.7/3,ms1mx3.6/13,Error ellipse: s-maj=19.1km s-min=9.7km az=48.0*

ISC 17 20:11:32.2±0.3,4.05N±0.05×95.01E±0.05,h32km, h32km±.7km:pP-P,n113,σ1°15/111,mb4.7/46,MS3.9/3, 8C-3D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.39**	**61**	P	**Pn**	20 13 05.0	**-1.7**
	160nm,0.9s						
PALK	**Pallekele**	**14.59**	**283**	P	**P**	**20 14 56.5**	**-2.1**
CMAR	**Chiang Mai Arr**	**14.83**	**15**	Pn	**P**	**20 15 04.5**	**+2.9**
	3.7nm,0.3s,baz=210,slow=12,SNR=312						
CMAR				LR	LR	20 19 55.2	
	comp=Z,208nm,21.0s,baz=195,slow=34						
CHG	**Chiang Mai**	**15.17**	**14**	⇑P	**P**	**20 15 11.2**	**+5.1**
CHG				S	**S**	**20 18 10.0**	**+16**
NANT	**Nan**	**15.68**	**20**	P	**P**	**20 15 19.0**	**+6.3**
QIZ	**Qiongzhong**	**20.78**	**43**	P	**P**	**20 16 15.0**	**+1.7**
HYB	**Hyderabad**	**20.89**	**311**	*e*P	**P**	**20 16 14.5**	**0.0**
HYB				*e*S	**S**	**20 19 57.0**	**-3.9**
HYB	**Hyderabad**	**20.89**	**311**	*i* P	**P**	**20 16 14.5**	**0.0**
HYB				*e*S	**S**	**20 19 57.0**	**-3.9**
SHL	**Shillong**	**21.61**	**352**	*e*P	**P**	**20 16 19.0**	**-2.6**
SHL				*e*S	**S**	**20 20 11.0**	**-3.1**
JIRN	**Jiri**	**24.94**	**341**	*e*P	**P**	**20 16 54.7**	**+0.4**
	30nm,0.3s,mb5.2						
PKI	**Pulchoki**	**25.12**	**340**	*e*P	**P**	**20 16 56.0**	**0.0**
	27nm,0.5s,mb5.0						
DMN	**Daman**	**25.26**	**339**	*e*P	**P**	**20 16 58.0**	**+0.7**
	18nm,0.6s,mb4.8						
KKN	**Kakani**	**25.37**	**340**	*e*P	**P**	**20 16 58.4**	**+0.1**
	64nm,0.8s,mb5.2						
LSA	**Lhasa**	**25.77**	**352**	P	**P**	**20 17 03.8**	**+1.7**
LSA	**Lhasa**	**25.77**	**352**	*e*P	**P**	**20 17 03.0**	**+0.9**
LSA				pmax	pmax		
	comp=Z,36nm,0.6s,mb5.1						
LSA	**Lhasa**	**25.77**	**352**	*e*P	**P**	**20 17 03.0**	**+0.9**
	comp=Z,36nm,0.6s,mb5.1						
GKN	**Gorkha**	**25.79**	**339**	*e*P	**P**	**20 17 03.0**	**+0.7**
	comp=Z,86nm,0.7s,mb5.4						
KOLN	**Koldanda**	**25.98**	**336**	*e*P	**P**	**20 17 04.9**	**+0.9**
	comp=Z,42nm,0.5s,mb5.2						
ENH	**Enshi**	**29.46**	**26**	*e*P	**P**	**20 17 34.3**	**-1.3**
	comp=Z,2.7nm,0.5s,mb4.2						
XAN	**Xi'an**	**32.53**	**22**	P	**P**	**20 18 01.0**	**-1.6**
XAN				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.8						
FITZ	**Fitzroy Crossi**	**37.37**	**127**	*e*P	**P**	**20 18 43.8**	**-0.3**
	comp=Z,26nm,0.8s,mb5.1						
FITZ				*e*	pP	20 18 53.6	-0.1
WBK	**Wadi Bani Khal**	**39.45**	**301**	⇑P	**P**	**20 19 02.8**	**+1.3**
JMDO	**Jabal Madar**	**40.10**	**300**	⇓P	**P**	**20 19 08.0**	**+1.1**
WMQ	**Urumqi**	**40.13**	**352**	*e*P	**P**	**20 19 08.5**	**+1.6**
SMDO	**Samad**	**40.40**	**301**	⇑P	**P**	**20 19 10.7**	**+1.4**
	SNR=8.6						
BIDO	**Bidbid**	**40.52**	**302**	⇓P	**P**	**20 19 12.1**	**+1.9**
BJT	**Baijiatuan**	**40.60**	**25**	*e*P	**P**	**20 19 12.3**	**+1.6**
BJT				pmax	pmax		
	comp=Z,16nm,1.1s						
BJT	**Baijiatuan**	**40.60**	**25**	*e*P	**P**	**20 19 12.2**	**+1.5**
	comp=Z,16nm,1.1s,mb4.6						
KAKA	**Kakadu**	**40.75**	**115**	*e*P	**P**	**20 19 12.2**	**0.0**
	comp=Z,6.1nm,0.6s,mb4.4						
KAKA				*e*S	tx	20 21 03.2	
BSY	**Bisya**	**41.02**	**300**	⇓P	**P**	**20 19 15.6**	**+1.3**
	SNR=6.9						
HOQ	**Hoqain**	**41.23**	**302**	⇑P	**P**	**20 19 17.5**	**+1.4**
ARQ	**Araqi**	**41.81**	**301**	⇑P	**P**	**20 19 22.2**	**+1.3**
RBK	**Rabkut**	**42.14**	**292**	⇑P	**P**	**20 19 24.4**	**+0.7**
	SNR=9.7						
UCH	**Uchtor**	**42.19**	**337**	P	**P**	**20 19 25.2**	**+1.4**
	SNR=7.5						
KBK	**Karagaybulak**	**42.39**	**338**	P	**P**	**20 19 27.4**	**+2.0**
	SNR=11						
AML	**Almayashu**	**42.43**	**336**	P	**P**	**20 19 27.4**	**+1.6**
	SNR=8.4						
AAK	**Ala-Archa**	**42.54**	**338**	*e*P	**P**	**20 19 26.3**	**-0.4**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**42.54**	**338**	*e*P	**P**	**20 19 26.3**	**-0.4**
	comp=Z,4.4nm,0.8s,mb4.2						
WHFO	**Wadi Hawf**	**42.64**	**292**	P	**P**	**20 19 28.2**	**+0.4**
	SNR=28						
EKS2	**Erkin-Say**	**42.84**	**337**	P	**P**	**20 19 30.6**	**+1.5**
	SNR=6.9						
ABTO	**Aybut**	**42.95**	**291**	⇑P	**P**	**20 19 30.7**	**+0.4**
	SNR=6.6						
USP	**Ospenovka**	**43.08**	**338**	P	**P**	**20 19 32.1**	**+1.0**
	SNR=5.8						
MKAR	**Makanchi Array**	**43.99**	**347**	*e*P	**P**	**20 19 38.9**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SONM	**Songino Array**	**44.71**	**11**	P	**P**	**20 19 44.0**	**-0.2**
	comp=Z,2.4nm,0.9s,mb4.0,baz=189,slow=8.7,SNR=18						
SONM				pP	pP	20 19 54.2	+0.3
	comp=Z,2.5nm,1.0s,baz=196,slow=7.9,SNR=7.4						
SONM				PcP	PcP	20 21 27.1	+0.4
	comp=Z,1.5nm,0.5s,baz=189,slow=3.5,SNR=8.8						
SONM				pPcP		20 21 37.0	
	comp=Z,1.8nm,0.6s,baz=198,slow=4.0,SNR=4.6						
WRA	**Warramunga Arr**	**45.40**	**123**	P	**P**	**20 19 50.5**	**+0.4**
	comp=Z,36nm,0.6s,mb5.4,baz=301,slow=9.0,SNR=16						
WRA				pP	pP	20 20 00.6	+0.8
	comp=Z,34nm,0.9s,baz=302,slow=8.9,SNR=20						
WRAB	**Tennant Creek**	**45.41**	**123**	*e*P	**P**	**20 19 50.1**	**0.0**
WRAB				*e**PP	pP	20 20 00.3	+0.5
WRAB				pmax	pmax		
	comp=Z,59nm,0.7s,mb5.5						
WRAB	**Tennant Creek**	**45.41**	**123**	*e*P	**P**	**20 19 50.1**	**0.0**
	comp=Z,59nm,0.7s,mb5.5						
WRAB				*e*pP	pP	20 20 00.3	+0.5
WB2	**Warramunga Arr**	**45.41**	**123**	*e*P	**P**	**20 19 50.8**	**+0.6**
WB2				*e*	pP	20 20 00.9	+1.1
SNY	**Shenyang**	**45.47**	**30**	⇑P	**P**	**20 19 50.8**	**+0.5**
SNY				AP	pP	20 20 00.8	+0.8
SNY				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
ZAK	**Zakamensk**	**46.70**	**7**	*e*P	**P**	**20 19 59.9**	**0.0**
FORT	**Forrest**	**46.85**	**140**	*e*P	**P**	**20 20 02.2**	**+0.8**
	comp=Z,118nm,0.6s						
ASPA	**Alice Springs**	**46.85**	**128**	*e*P	**P**	**20 20 01.8**	**+0.3**
ASPA				*e*	pP	20 20 11.7	+0.5
ASAR	**Alice Springs**	**46.85**	**128**	P	**P**	**20 20 01.9**	**+0.4**
	comp=Z,14nm,0.8s,mb4.9,baz=298,slow=8.1,SNR=124						
ASAR				pP	pP	20 20 11.9	+0.7
	comp=Z,5.9nm,0.5s,baz=295,slow=7.4,SNR=17						
ASAR				PcP	PcP	20 21 34.5	+0.1
	comp=Z,3.4nm,0.7s,baz=303,slow=3.2,SNR=7.4						
ASAR				LR	LR	20 40 59.7	
	comp=Z,85nm,19.5s,MS3.7,baz=344,slow=38						
KURK	**Kurchatov**	**48.51**	**346**	*e*P	**P**	**20 20 14.0**	**-0.1**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
KURK	**Kurchatov**	**48.51**	**346**	*e*P	**P**	**20 20 14.0**	**-0.1**
	comp=Z,3.8nm,0.6s,mb4.6						
HIA	**Hailar**	**49.73**	**21**	*e*P	**P**	**20 20 23.6**	**+0.1**
HIA				pmax	pmax		
	comp=Z,18nm,1.0s						
HIA	**Hailar**	**49.73**	**21**	*e*P	**P**	**20 20 23.6**	**+0.1**
	comp=Z,18nm,1.0s,mb5.0						
ZAL	**Zalesovo**	**50.43**	**352**	P	**P**	**20 20 28.7**	**-0.1**
	comp=Z,4.1nm,0.3s,mb4.9,baz=306,slow=6.0,SNR=22						
RAYN	**Ar Rayn**	**51.51**	**297**	P	**P**	**20 20 37.1**	**-0.2**
	comp=Z,122nm,0.7s,SNR=18						
NVS	**Novosibirsk**	**51.53**	**351**	*e*P	**P**	**20 20 35.4**	**-1.7**
NVS				*i* S	**S**	**20 27 54.0**	**+0.1**
NVS				pmax	pmax		
	comp=E,4.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
NVS				pmax	pmax		
	comp=N,7.0nm,0.9s						
NVS				smax			
	comp=N,7.0nm,1.3s						
NVS				smax			
	comp=E,10.0nm,1.3s						
BVAR	**Borovoye Array**	**52.87**	**342**	P	**P**	**20 20 46.5**	**-0.7**
	comp=E,4.9nm,0.8s,mb4.5,baz=141,slow=9.5,SNR=18						
BVAR				PcP	PcP	20 21 55.9	-0.1
	comp=E,3.2nm,0.8s,baz=135,slow=8.4,SNR=2.5						
BRVK	**Borovoye**	**52.93**	**342**	*e*P	**P**	**20 20 46.6**	**-1.0**
BRVK				*e**PP	pP	20 20 55.1	-2.4
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BRVK	**Borovoye**	**52.93**	**342**	*e*P	**P**	**20 20 46.6**	**-1.0**
	comp=Z,4.4nm,0.8s,mb4.4						
BRVK				*e*pP	pP	20 20 55.1	-2.4
CHKZ	**Chkalovo**	**53.35**	**342**	*e*P	**P**	**20 20 49.8**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
CHKZ	**Chkalovo**	**53.35**	**342**	*e*P	**P**	**20 20 49.8**	**-1.0**
	comp=Z,10nm,0.6s,mb4.9						
KLR	**Kul'dur**	**54.76**	**29**	*e*P	**P**	**20 20 57.7**	**-3.5**
BOD	**Bodaibo**	**55.67**	**12**	*e*P	**P**	**20 21 05.9**	**-1.7**
CTA	**Charters Tower**	**55.74**	**118**	*e*P	**P**	**20 21 09.1**	**+0.5**
	comp=Z,4.5nm,0.9s,mb4.5						
CTA	**Charters Tower**	**55.74**	**118**	*e*P	**P**	**20 21 09.1**	**+0.5**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CTA	**Charters Tower**	**55.74**	**118**	P	**P**	**20 21 08.8**	**+0.2**
	comp=Z,3.7nm,0.8s,mb4.5,baz=284,slow=7.3,SNR=7.8						
CTA				pP	pP	20 21 18.9	+0.4
	comp=Z,4.7nm,0.7s,baz=302,slow=7.8,SNR=5.5						
CTAO	**Charters Tower**	**55.74**	**118**	*e*P	**P**	**20 21 08.7**	**+0.1**
CTAO				*e**PP	pP	20 21 17.8	-0.7
STKA	**Stephens Creek**	**56.88**	**132**	*e*P	**P**	**20 21 16.2**	**-0.5**
	comp=Z,6.2nm,1.9s,mb4.3						
STKA	**Stephens Creek**	**56.88**	**132**	P	**P**	**20 21 16.2**	**-0.4**
	comp=Z,2.9nm,0.7s,mb4.4,baz=310,slow=9.3,SNR=11						
STKA				pP	pP	20 21 26.8	+0.2
	comp=Z,3.2nm,0.7s,baz=330,slow=8.2,SNR=5.1						
GNI	**Garni**	**57.74**	**316**	P	**P**	**20 21 20.8**	**-1.8**
GNI	**Garni**	**57.74**	**316**	P	**P**	**20 21 20.7**	**-1.8**
	comp=Z,1.0nm,0.4s,mb4.2,baz=48,slow=18,SNR=3.4						
KMBO	**Kilima Mbogo**	**57.94**	**266**	P	**P**	**20 21 24.2**	**-0.1**
	comp=Z,2.7nm,0.7s,mb4.4,baz=60,slow=12,SNR=11						
KMBO				pP	pP	20 21 33.9	-0.5
	comp=Z,2.4nm,0.9s,baz=58,slow=9.3,SNR=4.5						
KMBO				LR	LR	20 43 22.6	
	comp=Z,51nm,18.3s,MS3.7,baz=92,slow=33						
YSS	**Yuzh-Sakhalins**	**59.30**	**36**	*e*P	**P**	**20 21 33.0**	**-0.4**
ZEI	**Tsey**	**59.43**	**318**	*e*P	**P**	**20 21 33.6**	**-0.7**
ZEI				*i* *PP	pP	20 21 49.0	+4.7
ZEI				*i*		20 23 45.3	
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KIV	**Kislovodsk**	**60.73**	**319**	*e*P	**P**	**20 21 41.4**	**-1.8**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
KIV	**Kislovodsk**	**60.73**	**319**	*e*P	**P**	**20 21 41.4**	**-1.8**
	comp=Z,3.8nm,0.6s,mb4.7						
MALT	**Malatya**	**61.61**	**312**	*e*P	**P**	**20 21 47.9**	**-1.3**
MALT				*e**PP	pP	20 21 57.2	-2.1
EIL	**Elat**	**62.10**	**301**	*e*P	**P**	**20 21 51.3**	**-1.4**
BRTR	**Keskin Array B**	**65.59**	**312**	P	**P**	**20 22 13.8**	**-1.6**
	comp=Z,2.8nm,0.7s,mb4.4,baz=129,slow=7.1,SNR=18						
BRTR				pP	pP	20 22 23.6	-1.9
	comp=Z,2.2nm,0.8s,baz=124,slow=7.5,SNR=7.8						
LSZ	**Lusaka**	**68.86**	**252**	*e*P	**P**	**20 22 34.6**	**-1.8**
OBN	**Obninsk**	**69.06**	**328**	*e*P	**P**	**20 22 33.4**	**-3.6**
OBN				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
TIXI	**Tiksi**	**70.80**	**11**	*e*P	**P**	**20 22 46.7**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
TIXI				MLR	MLR		
	comp=Z,134nm,16.0s,MS4.3						
IDI	**Anoyia**	**71.47**	**306**	P	**P**	**20 22 50.6**	**-1.3**
	comp=Z,9.8nm,0.5s,mb5.0,baz=188,slow=19,SNR=7.7						
AKASG	**Malin Array Be**	**71.68**	**322**	P	**P**	**20 22 51.0**	**-2.0**
	comp=Z,0.9nm,0.6s,mb3.9,baz=88,slow=4.9,SNR=13						
JOF	**Joensuu**	**74.65**	**335**	*ep*	**P**	**20 23 08.7**	**-1.4**
	comp=Z,4.5nm,0.6s,mb4.6						
MAW	**Mawson**	**74.99**	**192**	P	**P**	**20 23 12.0**	**+0.1**
	comp=Z,2.6nm,0.8s,mb4.2,baz=356,slow=8.9,SNR=3.4						
MAW				pP	pP	20 23 23.2	+1.1
	comp=Z,3.2nm,0.9s,baz=18,slow=11,SNR=2.6						
FINES	**FINESS Array B**	**76.48**	**333**	P	**P**	**20 23 19.9**	**-0.6**
	comp=Z,3.6nm,0.4s,mb4.6,baz=98,slow=6.4,SNR=46						
FINES				pP	pP	20 23 29.4	-1.2
	comp=Z,5.5nm,0.9s,baz=109,slow=6.2,SNR=3.6						
KAF	**Kangasniemi**	**76.57**	**333**	*ep*	**P**	**20 23 18.2**	**-2.8**
	comp=Z,3.4nm,0.5s,mb4.5						
KAF	**Kangasniemi**	**76.57**	**333**	*e*P	**P**	**20 23 18.2**	**-2.8**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ARCES	**ARCESS Array B**	**79.14**	**340**	P	**P**	**20 23 35.0**	**+0.1**
	comp=Z,2.6nm,0.6s,mb4.3,baz=101,slow=6.2,SNR=14						
ARCES				pP	pP	20 23 43.8	-1.4
	comp=Z,2.8nm,0.7s,baz=98,slow=6.4,SNR=2.2						
DPC	**Dobruska-Polom**	**79.67**	**320**	*e*P	**P**	**20 23 38.7**	**+0.4**
PRU	**Pruhonice**	**80.78**	**320**	*e*P	**P**	**20 23 44.1**	**-0.1**
GERES	**GERESS Array B**	**81.24**	**319**	P	**P**	**20 23 46.7**	**+0.1**
	comp=Z,3.1nm,0.6s,mb4.4,baz=112,slow=5.3,SNR=35						
GERES				pP	pP	20 23 56.7	-0.2
	comp=Z,5.0nm,0.9s,baz=104,slow=5.5,SNR=12						
KHC	**Kasperske Hory**	**81.34**	**319**	*e*P	**P**	**20 23 48.8**	**+1.7**
CLL	**Collm**	**81.86**	**321**	*e**PP	pP	20 24 00.0	0.0
NKC	**Novy Kostel**	**82.14**	**320**	*e*P	**P**	**20 23 43.6**	**-7.6**
NB2	**NORSAR Subarra**	**83.47**	**331**	P	**P**	**20 23 56.7**	**-1.2**
	comp=Z,2.5nm,0.9s,mb4.2,baz=91,slow=4.8						
NB2	**NORSAR Subarra**	**83.47**	**331**	P	**P**	**20 23 56.7**	**-1.2**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
NOA	**NORSAR Array B**	**83.47**	**331**	P	**P**	**20 23 57.0**	**-0.8**
	comp=Z,1.5nm,0.7s,mb4.1,baz=94,slow=5.0,SNR=4.3						
LPG	**La Plagne**	**85.92**	**315**	*e*P	**P**	**20 24 10.3**	**-0.2**
	comp=Z,15nm,0.9s,mb4.9						
LPG	**La Plagne**	**85.92**	**315**	*e*P	**P**	**20 24 10.3**	**-0.2**
LPG				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.9						
VNDA	**Vanda**	**89.03**	**168**	P	**P**	**20 24 25.6**	**+0.7**
	comp=Z,1.5nm,0.9s,mb4.3,baz=280,slow=5.4,SNR=3.1						
ESDC	**Sonseca Array**	**94.33**	**310**	P	**P**	**20 24 50.6**	**+0.4**
	comp=Z,0.9nm,0.6s,mb4.4,baz=84,slow=4.7,SNR=5.5						
NVAR	**Mina Array Bea**	**127.69**	**33**	PKP	PKPdf	20 30 38.1	-2.3
	comp=Z,1.2nm,0.6s,baz=297,slow=2.0,SNR=14						
NVAR				pPKP		20 30 48.4	
	comp=Z,1.0nm,0.6s,baz=337,slow=2.2,SNR=7.5						
PDAR	**Pinedale Array**	**128.37**	**23**	PKP	PKPdf	20 30 38.4	-3.2
	comp=Z,1.0nm,0.6s,baz=92,slow=2.2,SNR=9.2						
PDAR				pPKP		20 30 48.8	
	comp=Z,1.1nm,0.7s,baz=315,slow=2.1,SNR=8.8						
MNTX	**Cornudas Mount**	**139.50**	**27**	PKP	PKPdf	20 30 59.1	-3.4
TXAR	**Lajitas Array**	**142.28**	**27**	PKP	PKPdf	20 31 04.9	-2.7
	comp=Z,1.0nm,0.7s,baz=151,slow=1.3,SNR=4.9						
TXAR				pPKP		20 31 16.0	
	comp=Z,1.9nm,1.0s,baz=17,slow=0.8,SNR=3.5						
JCT	**Junction City**	**142.86**	**21**	*e*PKPdf	PKPdf	20 31 05.3	-3.2
LPAZ	**La Paz**	**159.45**	**233**	PKPab	PKPab	20 32 07.8	-0.7
	comp=Z,1.3nm,0.7s,baz=103,slow=6.3,SNR=5.2						

MAN 17 20:26:58.4,7.12N×126.10E,h47km,mb3.5,ML2.2,MS1.7, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.23**	**139**	*e*P	P	20 27 07.9	+1.2
MATI				*e*S	S	20 27 15.5	+3.1
KCP	**Kidapawan**	**1.01**	**264**	⇓*i*P	P	20 27 16.8	+0.4
KCP				*i* S	S	20 27 59.8	+30
BUKP	**Musuan**	**1.28**	**306**	*e*P	P	20 27 21.0	+0.8
BUKP				*e*S	S	20 27 36.8	+0.4

*IDC **17** 20:52:43.7±4.3,20.09N×121.57E,h52km±44km,mb3.3/5, mb1 3.6/6,mb1mx3.4/19,mbtmp3.7/6,ML3.8/1,MS3.1/1, Ms1 3.1/1,ms1mx2.8/9,Error ellipse: s-maj=30.8km s-min=22.2km az=77.0*

ISC 17 20:52:42.5±1.7,20.15N±0.08×121.6E±0.2,h58km±19km, n7,σ1°00/8,mb3.4/5,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**2.44**	**174**	⇑*e*P	**P**	**20 53 20.9**	**0.0**
CVP				*e*S	**S**	**20 53 50.0**	**+0.4**
JOW	**Kunigami**	**9.06**	**41**	P	**P**	**20 54 52.9**	**-0.2**
	2.4nm,0.3s,baz=188,slow=13,SNR=6.9						
JOW				LR	LR	20 58 12.0	
	comp=Z,107nm,18.8s,baz=267,slow=36						
CMAR	**Chiang Mai Arr**	**21.43**	**269**	P	**P**	**20 57 27.6**	**0.0**
	0.6nm,0.6s,mb3.1,baz=79,slow=8.0,SNR=8.0						
SONM	**Songino Array**	**30.24**	**339**	P	**P**	**20 58 49.4**	**-0.4**
	0.7nm,0.7s,mb3.5,baz=157,slow=11,SNR=6.7						
WRA	**Warramunga Arr**	**41.76**	**162**	P	**P**	**21 00 26.7**	**-1.3**
	0.6nm,0.6s,mb3.4,baz=343,slow=9.1,SNR=5.3						
ASAR	**Alice Springs**	**45.17**	**164**	P	**P**	**21 00 55.8**	**+0.1**
	0.3nm,0.5s,mb3.4,baz=353,slow=7.2,SNR=4.8						
YKA	**Yellowknife Ar**	**86.54**	**23**	P	**P**	**21 05 21.4**	**+1.4**
	0.3nm,0.5s,mb3.8,baz=307,slow=4.7,SNR=9.3						

*IDC **17** 20:58:14.1±1.3,7.29N×92.22E,mb3.8/5,mb1 4.0/6, mb1mx3.8/18,mbtmp3.8/6,ML3.8/1,Error ellipse: s-maj=48.8km s-min=22.3km az=54.0*
*NEIC **17** 20:58:19.0±0.5,7.32N×92.32E,h30km,mb4.1/3,Error ellipse: s-maj=11.9km s-min=9.9km az=225.0*

ISC 17 20:58:16.9±0.7,7.3N±0.1×92.3E±0.1,h30km,n12, σ0°59/12,mb3.9/8,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.50**	**271**	*e*P	**P**	**21 01 02.4**	**0.0**
CMAR	**Chiang Mai Arr**	**12.84**	**30**	Pn	**P**	**21 01 20.1**	**-0.2**
	0.2nm,0.3s,baz=230,slow=14,SNR=19						
LSA	**Lhasa**	**22.30**	**357**	*e*P	**P**	**21 03 15.0**	**+1.4**
	3.7nm,0.6s,mb4.0						
SONM	**Songino Array**	**42.14**	**14**	P	**P**	**21 06 08.0**	**-0.3**
	0.4nm,0.6s,mb3.2,baz=194,slow=7.6,SNR=6.3						
KURK	**Kurchatov**	**44.74**	**348**	*e*P	**P**	**21 06 28.9**	**-0.5**
	1.7nm,0.6s,mb4.0						
BRVK	**Borovoye**	**49.02**	**343**	P	**P**	**21 07 02.4**	**-0.6**
WRA	**Warramunga Arr**	**49.44**	**124**	P	**P**	**21 07 05.8**	**-0.8**
	0.6nm,0.4s,mb3.9,baz=303,slow=8.9,SNR=13						
WRAB	**Tennant Creek**	**49.44**	**124**	*e*P	**P**	**21 07 06.9**	**+0.2**
CHKZ	**Chkalovo**	**49.46**	**343**	*e*P	**P**	**21 07 06.3**	**-0.1**
	2.5nm,0.9s,mb4.2						
CHKZ				*e*		21 07 11.9	
ASAR	**Alice Springs**	**50.97**	**128**	P	**P**	**21 07 19.1**	**+0.7**
	0.7nm,0.5s,mb3.9,baz=301,slow=7.2,SNR=11						
FINES	**FINESS Array B**	**72.36**	**333**	P	**P**	**21 09 41.5**	**-0.3**
	2.4nm,0.9s,mb4.1,baz=108,slow=4.4,SNR=5.3						
GERES	**GERESS Array B**	**77.03**	**318**	P	**P**	**21 10 09.3**	**+0.4**
	0.2nm,0.4s,mb3.4,baz=90,slow=6.7,SNR=5.2						

CASC 17 21:00:13.8±2.1,8.75N×83.34W,h4km±12km,MD4.0, 2C-2D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.20**	**120**	⇑*i*P	Pg	21 00 18.8	+1.0
BUS	**Buena Vista**	**0.90**	**333**	*e*P	Pb	21 00 31.3	-0.2
BUS				*e*S	Sb	21 00 45.2	+1.7
DVD	**David**	**0.94**	**110**	*e*P	Pb	21 00 29.6	-2.5
CNI	**Changuinola**	**1.05**	**51**	⇓*e*P	Pb	21 00 33.4	-0.7
PTP1	**Petroterminal**	**1.05**	**121**	⇑*i*P	Pb	21 00 30.3	-3.9
URSC	**Urasca**	**1.16**	**338**	*e*P	Pb	21 00 35.2	-0.8
LCR2	**La Lucha 2**	**1.18**	**326**	⇓*e*P	Pb	21 00 35.4	-0.9
LIO	**Limon**	**1.28**	**14**	*e*P	Pb	21 00 36.

Error ellipse: s-maj=8.0km s-min=2.9km az=23.0
*NEIC **17** 21:25:34.5±1.0, 50.25N×18.87E, h5km, ML2.6(VIE), Error ellipse: s-maj=13.5km s-min=8.3km az=180.0*
*PRU **17** 21:25:35.2, 50.26N×18.80E*
*IPEC **17** 21:25:35.6±0.3, 50.26N×18.77E, ML1.9/4, Error ellipse: s-maj=2.4km s-min=2.0km az=139.0*

WAR 17 21:25:34.5, 50.24N×18.92E, h0km, ML2.6, 1C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.49**	**252**	*e*PG	Pg	21 25 45.0	+0.6
RAC				*e*SG	Sg	21 25 52.0	+1.0
OJC	**Ojcow**	**0.56**	**92**	*e*PG	Pg	21 25 46.0	+0.3
OJC				*e*SG	Sg	21 25 54.0	+0.8
OJC	**Ojcow**	**0.56**	**92**	*e*Pg	Pg	21 25 45.9	+0.2
OJC				*e*Sg	Sg	21 25 53.9	+0.7
OKC	**Ostrava-Krasne**	**0.64**	**232**	*e*PG	Pg	21 25 47.1	-0.2
OKC				*e*SG	Sg	21 25 56.5	+0.6
OKC	**Ostrava-Krasne**	**0.64**	**232**	*e*Pg	Pg	21 25 47.0	-0.3
OKC				*e*Sg	Sg	21 25 56.5	+0.6
MORC	**Moravsky Berou**	**1.00**	**243**	*e*P	Pb	21 25 52.8	-1.6
MORC	**Moravsky Berou**	**1.00**	**243**	*e*P	Pb	21 25 52.8	-1.6
MORC	**Moravsky Berou**	**1.00**	**243**	*e*Pg	Pg	21 25 53.2	-1.3
MORC				*e*Sg	Sg	21 26 05.3	-2.6
	16nm,0.1s						
LIKS	**Likavka**	**1.20**	**174**	*e*PG	Pg	21 25 57.6	-0.8
LIKS				*i* SG	Sg	21 26 15.6	+1.3
NIE	**Niedzica**	**1.22**	**132**	*e*PG	Pg	21 25 58.0	-0.8
NIE				*e*SG	Sg	21 26 16.0	+1.0
DPC	**Dobruska-Polom**	**1.67**	**275**	*e*PG	Pg	21 26 04.0	-3.9
DPC				*e*SG	Sg	21 26 26.4	-3.8
	16nm,0.2s						
KOLL	**Kolacno**	**1.70**	**192**	*e*PG	Pg	21 26 08.2	-0.2
KOLL				*i* SG	Sg	21 26 29.0	-2.0
VYHS	**Vyhne**	**1.75**	**182**	*i* PG	Pg	21 26 07.7	-1.7
VYHS				*e*SN	Sn	21 26 29.1	-0.4
VYHS				*i* SG	Sg	21 26 30.9	-1.8
VRAC	**Vranov**	**1.77**	**239**	*e*Pn	Pn	21 26 06.6	0.0
VRAC				*e*Sg	Sg	21 26 28.7	-4.9
	18nm,0.3s						
KSP	**Ksiaz**	**1.78**	**291**	*e*PN	Pn	21 26 05.0	-1.8
KSP				*e*PG	Pg	21 26 08.0	-2.1
KSP				*e*SG	Sg	21 26 31.0	-2.9
KSP	**Ksiaz**	**1.78**	**291**	*e*Pn	Pn	21 26 05.5	-1.3
KSP				*i* Pg	Pg	21 26 07.8	-2.3
KSP				*e*Sg	Sg	21 26 31.2	-2.7
KSP	**Ksiaz**	**1.78**	**291**	*i* Pg	Pg	21 26 07.8	-2.3
KSP				*e*Sg	Sg	21 26 31.2	-2.7
UPC	**Upice**	**1.88**	**279**	*e*PG	Pg	21 26 08.4	-3.7
UPC				*e*SG	Sg	21 26 33.5	-3.7
KRUC	**Moravsky**	**2.02**	**235**	*e*Pn	Pn	21 26 10.3	+0.1
KRUC				*e*Sg	Sg	21 26 35.9	-5.9
	5.4nm,0.2s						
KECS	**Kecovo**	**2.03**	**149**	*e*PG	Pg	21 26 13.7	-1.4
CRVS	**Cervenica-Dubn**	**2.13**	**128**	*e*PG	Pg	21 26 15.1	-1.8
CRVS				*e*SN	Sn	21 26 42.7	+3.6
ZST	**Bratislava**	**2.37**	**211**	*e*SN	Sn	21 26 45.1	-0.2
KWP	**Kalwaria**	**2.52**	**103**	*e*PG	Pg	21 26 25.0	+0.2
KWP	**Kalwaria**	**2.52**	**103**	*e*Pn	Pn	21 26 24.6	+7.3
KOLS	**Kolonicke sedl**	**2.54**	**120**	*e*PG	Pg	21 26 22.8	-2.4
KOLS				*e*SG	Sg	21 26 58.8	-0.3
PVCC	**Panska Ves**	**2.80**	**278**	*e*PG	Pg	21 26 24.9	-5.5
PRU	**Pruhonice**	**2.83**	**267**	*e*PG	Pg	21 26 25.7	-5.3
PRU				*e*SG	Sg	21 27 03.0	-5.8
KHC	**Kasperske Hory**	**3.64**	**254**	*e*PN	Pn	21 26 31.0	-2.3
KHC				*ex*	x	21 26 36.6	
KHC				*e*PG	Pg	21 26 40.1	-7.1
KHC				*e*SG	Sg	21 27 29.3	-6.5
KHC	**Kasperske Hory**	**3.64**	**254**	*e*Pg	Pg	21 26 40.1	-7.1
KHC				*e*Sg	Sg	21 27 29.3	-6.5
MOA	**Molln**	**3.89**	**234**	⇑*i*PN	Pn	21 26 35.0	-1.7
MOA				*i* SG	Sg	21 27 35.2	-8.7
	3.7nm,0.5s						
CLL	**Collm**	**3.91**	**288**	*e*SG	Sg	21 27 40.0	-4.6
NKC	**Novy Kostel**	**4.16**	**272**	*e*PG	Pg	21 26 47.8	-10
NKC				*e*SG	Sg	21 27 45.9	-7.0

*IDC **17** 21:28:53.9±0.9, 55.07S×28.11W, mb4.1/3, mb1 4.2/3, mb1mx3.7/10, mbtmp4.1/3, Error ellipse: s-maj=46.4km s-min=28.9km az=80.0*
*NEIC **17** 21:28:55.4±0.5, 55.08S×28.21W, h10km, mb4.7/1, Error ellipse: s-maj=24.0km s-min=10.0km az=66.0*

ISC 17 21:28:53.5±0.9, 55.1S±0.1×28.0W±0.4, h10km, n13, σ0§83/8, mb4.3/4, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**18.29**	**158**	⇑*i*	**P**	**21 33 10.4**	**+1.8**
SNAA	**Sanae**	**19.84**	**157**		**P**	**21 33 25.8**	**-1.1**
QSPA	**South Pole Qui**	**35.19**	**180**	*e*P	**P**	**21 35 48.3**	**-0.8**
	6.6nm,0.6s,mb4.7						
LVC	**Limon Verde**	**44.40**	**300**	*e*P	**P**	**21 37 06.0**	**+0.1**
VNDA	**Vanda**	**47.54**	**183**	P	**P**	**21 37 30.2**	**0.0**
	2.3nm,0.7s,mb4.3,baz=192,slow=7.2,SNR=23						
VNDA	**Vanda**	**47.54**	**183**	P	**P**	**21 37 30.2**	**0.0**
LPAZ	**La Paz**	**49.42**	**305**	P	**P**	**21 37 45.6**	**+0.2**
	1.8nm,0.7s,mb4.2,baz=145,slow=8.3,SNR=5.9						
DBIC	**Dimbokro**	**64.47**	**26**	P	**P**	**21 39 32.4**	**-0.1**
	1.3nm,0.9s,mb4.0,baz=113,slow=7.7,SNR=3.2						
ASAR	**Alice Springs**	**100.07**	**163**	P	P	21 42 40.5	+0.2
	0.4nm,0.7s,baz=176,slow=4.2,SNR=8.0						
YKA	**Yellowknife Ar**	**135.12**	**319**	PKP	PKPdf	21 48 13.6	-1.5
	0.4nm,0.6s,baz=130,slow=2.1,SNR=6.2						
INK	**Inuvik**	**144.74**	**322**	PKP	PKPdf	21 48 29.8	-2.1
	2.4nm,0.8s,baz=100,slow=5.0,SNR=7.6						
ILAR	**Eielson Array**	**149.10**	**313**	PKPbc	PKPdf	21 48 42.2	+2.9
	5.2nm,0.8s,baz=109,slow=1.5,SNR=44						
SONM	**Songino Array**	**151.12**	**85**	PKPbc	PKPdf	21 48 48.0	+5.1
	1.5nm,0.8s,baz=219,slow=4.1,SNR=16						

*LDG **17** 21:31:13.5±0.0, 47.28N×0.78W, h5km, Md2.9/1, Ml2.8/19, Error ellipse: s-maj=0.6km s-min=0.4km az=46.0*
*MDD **17** 21:31:13.9±0.4, 47.29N×0.77W, h11km, mbLg2.1/15, Error ellipse: s-maj=4.4km s-min=2.6km az=48.0*
*CSEM **17** 21:31:13.5±0.0, 47.28N×0.78W, h5km, MD2.9/1, ML2.8/18, Error ellipse: s-maj=0.6km s-min=0.4km az=46.0, After LDG*
*NEIC **17** 21:31:13.5, 47.28N×0.78W, h5km, ML2.8(LDG), After LDG.*

ISC 17 21:31:10.2±0.4, 47.24N±0.02×0.75W±0.02, h8km±2km, n25, σ1§31/79, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFF	**Saint Martin d**	**0.76**	**147**	*e*Pg	**Pg**	**21 31 28.8**	**+3.3**
MFF				*e*Pn	**Pn**	**21 31 29.8**	**+2.9**
MFF				*e*Sg	**Sg**	**21 31 39.2**	**+3.6**
MFF				*e*Sn	**Sn**	**21 31 41.6**	**+3.0**
	81nm,0.2s						
GRR	**Gorron**	**1.15**	**356**	*e*Pg	**Pg**	**21 31 34.6**	**+1.3**
GRR				*e*Sg	**Sg**	**21 31 48.7**	**0.0**
	28nm,0.2s						
LDF	**La Druitiere**	**1.42**	**17**	*e*Pn	**Pn**	**21 31 37.8**	**+1.4**
LDF				*e*Pg	**Pg**	**21 31 39.5**	**+0.9**
LDF				*e*Sn	**Sn**	**21 31 55.3**	**-0.1**
LDF				*e*Sg	**Sg**	**21 31 57.6**	**0.0**
	16nm,0.2s						
FLN	**La Foliniere**	**1.54**	**7**	*e*Pn	**Pn**	**21 31 39.3**	**+1.3**
FLN				*e*Pg	**Pg**	**21 31 41.5**	**+0.6**
FLN				*e*Sn	**Sn**	**21 31 57.6**	**-0.7**
FLN				*e*Sg	**Sg**	**21 32 00.3**	**-1.1**
	26nm,0.2s						
SGMF	**Saint Gilles**	**1.59**	**310**	*e*Pn	**Pn**	**21 31 40.1**	**+1.3**
SGMF				*e*Pg	**Pg**	**21 31 42.0**	**+0.1**
SGMF				*e*Sn	**Sn**	**21 31 59.3**	**-0.3**
SGMF				*e*Sg	**Sg**	**21 32 02.0**	**-1.1**
	8.2nm,0.2s						
QUIF	**Quistinic**	**1.77**	**293**	*e*Pn	**Pn**	**21 31 42.8**	**+1.4**
QUIF				*e*Pg	**Pg**	**21 31 45.5**	**-0.1**
QUIF				*e*Sn	**Sn**	**21 32 03.8**	**-0.4**
QUIF				*e*Sg	**Sg**	**21 32 08.0**	**-1.2**
	8.3nm,0.2s						
ROSF	**Rostrenen**	**2.02**	**304**	*e*Pn	**Pn**	**21 31 45.9**	**+0.9**
ROSF				*e*Pg	**Pg**	**21 31 49.8**	**-0.9**
ROSF				*e*Sn	**Sn**	**21 32 09.7**	**-1.0**
ROSF				*e*Sg	**Sg**	**21 32 15.5**	**-2.2**
	7.3nm,0.2s						
TCF	**Toulx Ste Croi**	**2.25**	**114**	*e*Pn	**Pn**	**21 31 50.0**	**+1.8**
TCF				*e*Pg	**Pg**	**21 31 55.9**	**+0.8**
TCF				*e*Sn	**Sn**	**21 32 16.3**	**-0.1**
TCF				*e*Sg	**Sg**	**21 32 24.8**	**-0.2**
	7.2nm,0.2s						
HYF	**Humbligny**	**2.31**	**88**	*e*Pn	**Pn**	**21 31 50.8**	**+1.7**
HYF				*e*Sn	**Sn**	**21 32 17.7**	**-0.3**
HYF				*e*Sg	**Sg**	**21 32 26.5**	**-0.7**
RJF	**Les Rejaudoux**	**2.49**	**140**	*e*Pn	**Pn**	**21 31 53.6**	**+1.9**
RJF				*e*Pg	**Pg**	**21 32 00.6**	**+0.6**
RJF				*e*Sn	**Sn**	**21 32 23.0**	**+0.4**
RJF				*e*Sg	**Sg**	**21 32 33.6**	**+0.4**
	15nm,0.2s						
LFF	**La Frestale**	**2.52**	**155**	*e*Pn	**Pn**	**21 31 54.0**	**+1.9**
LFF				*e*Pg	**Pg**	**21 32 01.2**	**+0.6**
LFF				*e*Sn	**Sn**	**21 32 23.2**	**-0.2**
LFF				*e*Sg	**Sg**	**21 32 35.6**	**+1.4**
	17nm,0.3s						
BGF	**Bois d'Agland**	**2.56**	**104**	*e*Pn	**Pn**	**21 31 54.2**	**+1.5**
BGF				*e*Pg	**Pg**	**21 32 01.4**	**+0.1**
BGF				*e*Sn	**Sn**	**21 32 24.1**	**-0.2**
BGF				*e*Sg	**Sg**	**21 32 34.6**	**-0.8**
	21nm,0.3s						
AVF	**Avril sur Loir**	**2.84**	**98**	*e*Pn	**Pn**	**21 31 58.6**	**+1.9**
AVF				*e*Pg	**Pg**	**21 32 06.8**	**-0.2**
AVF				*e*Sn	**Sn**	**21 32 30.7**	**-0.8**
AVF				*e*Sg	**Sg**	**21 32 42.1**	**-2.8**
	4.3nm,0.3s						
SSF	**Saint Saulge**	**2.91**	**92**	*e*Pn	**Pn**	**21 31 58.9**	**+1.2**
SSF				*e*Pg	**Pg**	**21 32 08.0**	**-0.3**
SSF				*e*Sn	**Sn**	**21 32 32.2**	**-1.0**
SSF				*e*Sg	**Sg**	**21 32 45.2**	**-1.9**
	6.9nm,0.3s						
CAF	**Calviac**	**3.03**	**139**	*e*Pn	**Pn**	**21 32 01.8**	**+2.4**
CAF				*e*Pg	**Pg**	**21 32 10.3**	**-0.4**
CAF				*e*Sn	**Sn**	**21 32 35.9**	**-0.4**
CAF				*e*Sg	**Sg**	**21 32 50.1**	**-1.1**
	5.7nm,0.2s						
SMF	**Signal de Mont**	**3.20**	**99**	*e*Pn	**Pn**	**21 32 02.9**	**+1.1**
SMF				*e*Pg	**Pg**	**21 32 13.2**	**-0.9**
SMF				*e*Sn	**Sn**	**21 32 39.5**	**-1.1**
SMF				*e*Sg	**Sg**	**21 32 54.4**	**-2.4**
	3.1nm,0.2s						
SFTF	**Sexfontaines**	**4.03**	**74**	*e*Sn	**Sn**	**21 32 58.7**	**-2.7**
SFTF				*e*Sg	**Sg**	**21 33 19.9**	**-4.4**
	2.3nm,0.2s						
EALK	**Alkurruntz**	**4.05**	**188**	Pn	**Pn**	**21 32 17.5**	**+3.6**
	1.0nm,0.4s,SNR=4.0						
EALK				Sn	**Sn**	**21 33 00.8**	**-1.3**
	1.6nm,0.4s,SNR=7.9						
EALK				Lg		21 33 23.6	
	2.7nm,0.3s,SNR=4.0						
SJPF	**Ste Jean**	**4.14**	**185**	*e*Pg	**Pg**	**21 32 30.9**	**-1.9**
SJPF				*e*Sn	**Sn**	**21 33 02.2**	**-2.1**
SJPF				*e*Sg	**Sg**	**21 33 24.2**	**-3.8**
	2.8nm,0.4s						
EPF	**Esparros**	**4.28**	**169**	*e*Pn	**Pn**	**21 32 18.6**	**+1.5**
EPF				*e*Sn	**Sn**	**21 33 05.5**	**-2.3**
EPF				*e*Sg	**Sg**	**21 33 28.7**	**-3.9**
	3.0nm,0.3s						
BAIF	**Baives**	**4.33**	**48**	*e*Pn	**Pn**	**21 32 19.2**	**+1.3**
ELAN	**Lanestosa**	**4.43**	**206**	Sn	**Sn**	**21 33 10.0**	**-1.7**
	0.6nm,0.4s,SNR=4.0						
EBIE	**Bielsa**	**4.60**	**172**	Pn	**Pn**	**21 32 25.5**	**+3.8**
	0.1nm,0.2s,SNR=4.0						
EBIE				Sn	**Sn**	**21 33 14.1**	**-1.8**
	0.4nm,0.1s,SNR=7.9						
EBIE				Lg		21 33 40.7	
	1.0nm,0.3s,SNR=7.9						
GIVF	**Givet**	**4.67**	**50**	*e*Pn	**Pn**	**21 32 22.0**	**-0.7**
GIVF				*e*Sn	**Sn**	**21 33 13.5**	**-4.4**
GIVF				*e*Sg	**Sg**	**21 33 39.6**	**-6.3**
	2.1nm,0.2s						
EARI	**Arriondas**	**5.04**	**220**	Sn	**Sn**	**21 33 21.8**	**-5.2**
	0.3nm,0.2s,SNR=7.9						

*THR **17** 21:38:36.7±0.9, 37.26N×55.49E, h15km, ML3.4*
*CSEM **17** 21:38:42.2±0.1, 36.86N×55.00E, h2km, ML3.8, Error ellipse: s-maj=6.1km s-min=2.6km az=151.0*
*TEH **17** 21:38:46.3, 36.81N×55.03E, h14km, Mn3.8*

ISC 17 21:38:44.3±0.7, 36.9N±0.1×54.96E±0.07, h10km, n20, σ1§02/20, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMIN	**Minoodasht**	**0.35**	**39**	Pg	**Pg**	**21 38 52.0**	**+0.4**
IGLO	**Galoogah**	**1.30**	**245**	Pg	**Pg**	**21 39 01.1**	**-9.3**
IANJ	**Anjiloo**	**1.63**	**211**	Pn	**Pn**	**21 39 11.7**	**-1.7**
IFIR	**Firoozkooh**	**2.16**	**236**	Pn	**Pn**	**21 39 21.8**	**+0.9**
IFIR				Sn	**Sn**	**21 39 48.4**	**+0.4**
ILAS	**Lasjerd**	**2.19**	**228**	Pn	**Pn**	**21 39 22.0**	**+0.6**
IPRN	**Paran-Amol**	**2.27**	**255**	Pn	**Pn**	**21 39 21.7**	**-0.8**
IDMV	**Damavand**	**2.69**	**242**	Pn	**Pn**	**21 39 29.3**	**+0.8**
DAMV	**Damavand**	**2.71**	**244**	*e*PN	**Pn**	**21 39 30.3**	**+1.5**
DAMV				AML	AML	21 40 16.2	
	comp=E,151nm,0.4s						
DAMV				AML	AML	21 40 18.8	
	comp=N,114nm,0.6s						
IAFJ	**Afjeh**	**2.81**	**250**	Pn	**Pn**	**21 39 31.0**	**+0.8**
IKRD	**Kardeh**	**2.86**	**91**	Pn	**Pn**	**21 39 41.2**	**+10**
IPAY	**Payeh**	**3.27**	**96**	Pn	**Pn**	**21 39 35.9**	**-0.9**
IMOG	**Moghan**	**3.61**	**101**	Pn	**Pn**	**21 39 40.6**	**-1.0**
MHI	**Mashhad**	**3.67**	**97**	Pn	**Pn**	**21 39 44.2**	**+1.7**
IQOM	**Qom**	**3.75**	**239**	Pn	**Pn**	**21 39 43.5**	**0.0**
IRAZ	**Razeghan**	**4.33**	**252**	Lg		21 41 02.2	
IRAZ	**Razeghan**	**4.33**	**252**	Pn	**Pn**	**21 39 51.4**	**-0.3**
NASN	**Na'in**	**4.43**	**204**	*e*PN	**Pn**	**21 39 53.1**	**-0.1**
ASAO	**Ashtian**	**4.63**	**241**	*e*PN	**Pn**	**21 39 55.7**	**-0.4**
ASAO				AML	AML	21 41 15.9	
	comp=N,12nm,0.6s						
GRMI	**Germi**	**5.92**	**291**	*e*PN	**Pn**	**21 40 10.0**	**-4.3**
SNGE	**Sanandaj**	**6.42**	**256**	*e*PN	**Pn**	**21 40 19.9**	**-1.4**

*IDC **17** 21:50:32.8±1.2, 10.90N×141.19E, mb3.9/7, mb1 4.1/7, mb1mx3.9/17, mbtmp3.9/7, Error ellipse: s-maj=40.3km s-min=31.2km az=114.0*
*NEIC **17** 21:50:34.2±0.8, 10.91N×141.16E, h10km, mb4.3/3, Error ellipse: s-maj=27.5km s-min=19.0km az=101.0*

ISC 17 21:50:32.4±1.0, 10.9N±0.1×141.1E±0.2, h10km, n11, σ1§01/11, mb4.0/10, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.36**	**192**	P	**P**	**21 56 55.3**	**-0.4**
	0.4nm,0.6s,mb3.5,baz=11,slow=10,SNR=2.2						
CMAR	**Chiang Mai Arr**	**41.43**	**286**	P	**P**	**21 58 22.6**	**+1.5**
	0.5nm,0.7s,mb3.2,baz=96,slow=5.9,SNR=5.6						
SONM	**Songino Array**	**46.97**	**328**	P	**P**	**21 59 05.6**	**+0.3**
	0.4nm,0.8s,mb3.4,baz=141,slow=7.6,SNR=3.5						
SONM				PcP	PcP	22 00 38.4	+0.1
	0.3nm,0.5s,baz=142,slow=3.2,SNR=4.0						
MA2	**Magadan**	**49.12**	**6**	P	**P**	**21 59 21.6**	**-0.4**
	4.3nm,0.6s,mb4.7						
KURK	**Kurchatov**	**64.34**	**321**	*e*P	**P**	**22 01 09.7**	**-0.9**
	1.4nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**69.78**	**323**	*e*P	**P**	**22 01 43.5**	**-1.3**
	0.6nm,0.5s,mb3.8						
ILAR	**Eielson Array**	**72.55**	**25**	P	**P**	**22 02 00.9**	**-0.4**
	0.9nm,0.9s,mb3.7,baz=241,slow=5.8,SNR=6.3						
YKA	**Yellowknife Ar**	**86.91**	**27**	P	**P**	**22 03 20.6**	**+2.1**
	0.6nm,0.6s,mb4.0,baz=287,slow=5.3,SNR=10						
YKA	**Yellowknife Ar**	**86.91**	**27**	P	**P**	**22 03 20.6**	**+2.1**
ARCES	**ARCESS Array B**	**88.50**	**342**	P	**P**	**22 03 26.6**	**+0.6**
	3.5nm,0.9s,mb4.6,baz=60,slow=7.3,SNR=4.0						
FINES	**FINESS Array B**	**92.03**	**334**	P	**P**	**22 03 41.8**	**-0.8**
	1.4nm,0.7s,mb4.4,baz=56,slow=5.0,SNR=5.9						

IDC 17 21:56:54.9±4.0, 9.15N×91.87E, mb3.6/3, mb1 3.9/4, mb1mx3.6/17, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=111.5km s-min=29.0km az=79.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.53**	**36**	Pn	P	21 59 40.2	-3.7
	0.3nm,0.3s,baz=224,slow=15,SNR=10						
SONM	**Songino Array**	**40.47**	**15**	P	P	22 04 35.6	-1.4
	0.9nm,0.9s,baz=209,slow=7.9,SNR=6.7						
WRA	**Warramunga Arr**	**50.83**	**125**	P	P	22 05 57.5	-2.2
	0.8nm,0.8s,baz=303,slow=8.1,SNR=3.7						
ASAR	**Alice Springs**	**52.45**	**129**	P	P	22 06 09.8	-2.1
	0.6nm,0.7s,baz=302,slow=7.6,SNR=5.8						

IDC 17 21:58:04.7±32.0, 16.79N×144.78E, mb3.9/4, mb1 4.1/4, mb1mx3.7/18, mbtmp3.9/4, Error ellipse: s-maj=571.3km s-min=140.0km az=8.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.67**	**178**	P	P	22 05 12.6	-2.6
	1.2nm,0.5s,baz=352,slow=11,SNR=3.5						
WB2	**Warramunga Arr**	**37.91**	**196**	*e*P	P	22 05 23.8	-1.9
WRA	**Warramunga Arr**	**37.91**	**196**	P	P	22 05 23.9	-1.8
	1.7nm,0.6s,baz=16,slow=9.3,SNR=7.5						
FITZ	**Fitzroy Crossi**	**39.46**	**209**	*e*P	P	22 05 39.8	+1.2
	7.1nm,1.5s						
ASAR	**Alice Springs**	**41.59**	**195**	P	P	22 05 55.1	-1.0
	1.3nm,1.0s,baz=21,slow=12,SNR=8.2						
STKA	**Stephens Creek**	**48.48**	**184**	P	P	22 06 48.7	-2.5
	1.2nm,0.8s,baz=344,slow=7.4,SNR=4.2						

*CSEM **17** 22:22:37.1±0.1, 39.21N×27.68E, h24km±1km, MD3.1, Error ellipse: s-maj=3.8km s-min=2.1km az=123.0*
*ISK **17** 22:22:37.4, 39.19N×27.74E, h21km, MD3.1*

ISC 17 22:22:37.7±0.6, 39.19N±0.03×27.78E±0.04, h7km±6km, n16, σ0§85/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.31**	**176**	*i* PG	**Pg**	**22 22 44.3**	**+0.4**
BALB	**Balikesir**	**0.46**	**9**	*i* PG	**Pg**	**22 22 47.2**	**+0.2**
BALB				*i* SG	**Sg**	**22 22 54.6**	**+1.4**
DST	**Dursunbey**	**0.78**	**57**	*i* PG	**Pg**	**22 22 53.5**	**+0.2**
AYVA	**Ayvalik**	**0.86**	**279**	*i* P	**Pb**	**22 22 54.6**	**+0.1**
AYVA				*i* S	**Sb**	**22 23 06.9**	**+0.9**
KDAG	**Bornova**	**0.88**	**208**	*i* P	**Pb**	**22 22 54.6**	**-0.3**
KDAG				*i* S	**Sb**	**22 23 07.7**	**+1.1**
IZM	**Izmir**	**0.89**	**208**	*i* PG	**Pg**	**22 22 55.2**	**-0.2**
MANT	**Manisa**	**0.92**	**139**	*i* P	**Pb**	**22 22 55.6**	**0.0**
MANT				*i* S	**Sb**	**22 23 08.4**	**+0.6**
BLCB	**Balcova**	**0.99**	**216**	PG	**Pg**	**22 22 56.6**	**-0.8**
BLCB				SG	**Sg**	**22 23 10.0**	**-0.6**
EDC	**Edincik**	**1.16**	**3**	*e*PN	**Pn**	**22 22 58.1**	**-2.2**
KCT	**Karacabey**	**1.17**	**22**	PN	**Pn**	**22 22 58.8**	**-1.6**
ULDT	**Uludag**	**1.42**	**47**	*i* P	**Pn**	**22 23 04.7**	**+0.7**
AYDN	**Tasoluk**	**1.52**	**177**	*i* P	**Pn**	**22 23 10.8**	**+5.3**
AYDN				*i* S	**Sb**	**22 23 24.9**	**-0.3**
DNZL	**Cakiroluk**	**1.79**	**146**	*i* P	**Pn**	**22 23 10.1**	**+0.8**
DNZL				*i* S	**Sn**	**22 23 36.4**	**+3.9**
ALT	**Altintas**	**1.81**	**93**	*e*PN	**Pn**	**22 23 09.0**	**-0.7**
ESKT	**Eskisehir**	**2.40**	**81**	*e*PN	**Pn**	**22 23 17.5**	**-0.6**
ESKT	**Eskisehir**	**2.40**	**81**	*i* P	**Sn**	**22 23 48.2**	**+0.2**

GUC 17 22:28:15.8±0.7, 33.77S×72.00W, h6km±3km, MD3.6, ML2.0, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.53**	**111**	*e*P	Pg	22 28 26.5	+0.1
LNV				*i* S	Sg	22 28 34.8	+1.3
RCDM	**Rinconada Maip**	**1.04**	**75**	⇑*i*P	Pb	22 28 35.0	-0.7
RCDM				*i* S	Sb	22 28 49.7	+0.3
RCDM				AMP		22 28 51.8	
	comp=N,87nm,0.1s						
CHCH	**Chadas Angostu**	**1.14**	**99**	*i* P	Pb	22 28 36.7	-0.7
CHCH				*i* S	Sb	22 28 52.3	0.0
CACH	**El Canelo**	**1.22**	**107**	⇓*i*P	Pb	22 28 39.0	+0.1
CACH				*i* S	Sb	22 28 56.3	+1.7
FCH	**Farellones**	**1.50**	**74**	*e*P	Pn	22 28 42.7	-0.6
FCH				*i* S	Sb	22 29 03.5	+0.8
FCH				AMP		22 29 09.1	
	comp=N,41nm,0.3s						

*CSEM **17** 22:30:38.6±0.2, 34.93N×2.94W, h8km, MD3.3, Error ellipse: s-maj=5.1km s-min=3.4km az=168.0*
*MDD **17** 22:30:40.1±0.7, 34.89N×2.91W, mb3.6/13, Error ellipse: s-maj=5.7km s-min=3.3km az=171.0, PRXIMO*
*CNRM **17** 22:30:40.0, 34.95N×2.87W, h13km, MD3.3*
*NEIC **17** 22:30:40.0, 34.89N×2.87W, MG3.5(MDD), After MDD.*
*SFS **17** 22:30:40.0, 34.89N×2.87W*

ISC 17 22:30:39.4±0.8, 34.91N±0.04×2.86W±0.04, h18km±3km, n65, σ1§00/107, 1D, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.11**	**58**	P	**Pb**	**22 30 43.0**	**-0.2**
ZAI				S	**Sb**	**22 30 45.0**	**-0.8**
ZAI	**Zaio**	**0.11**	**58**	*i* P	**Pb**	**22 30 43.0**	**-0.2**
MELI	**Melilla**	**0.39**	**351**	P	**Pb**	**22 30 47.3**	**-0.1**
MELI				S	**Sb**	**22 30 52.4**	**-0.5**
MELI	**Melilla**	**0.

7.5nm,0.4s,SNR=41
EQES S **Sn** **22 32 01.5 +1.4**
12nm,0.4s,SNR=8.6
ESPR Espera 3.12 310 P **Pn** **22 31 30.1 +1.4**
ESPR S **Sn** **22 32 06.2 +0.3**
ESPR Espera 3.12 310 P **Pn** **22 31 30.0 +1.3**
1.5nm,0.3s,SNR=4.6
ESPR S **Sn** **22 32 05.8 -0.1**
1.3nm,0.3s,SNR=7.9
ESPR Espera 3.12 310 P **Pn** **22 31 30.1 +1.3**
1.1nm,0.2s,SNR=4.6
ESPR S **Sn** **22 32 06.2 +0.3**
5.1nm,0.6s,SNR=7.9
EMUR La Murta 3.20 24 P **Pn** **22 31 30.1 +0.1**
EMUR S **Sn** **22 32 04.5 -3.5**
EMUR La Murta 3.20 24 P **Pn** **22 31 30.2 +0.3**
3.2nm,0.3s,SNR=8.2
EMUR S **Sn** **22 32 04.8 -3.2**
12nm,0.5s,SNR=7.9
EMUR La Murta 3.20 24 P **Pn** **22 31 30.1 +0.1**
2.2nm,0.4s,SNR=8.2
EADA Adamuz 3.53 337 P **Pn** **22 31 35.0 +0.4**
EADA S **Sn** **22 32 16.4 0.0**
EADA Adamuz 3.53 337 P **Pn** **22 31 35.0 +0.4**
10nm,0.4s,SNR=16
EADA S **Sn** **22 32 16.7 +0.4**
5.0nm,0.4s,SNR=7.9
EADA Adamuz 3.53 337 P **Pn** **22 31 35.0 +0.4**
2.2nm,0.2s,SNR=16
EADA S **Sn** **22 32 16.4 +0.1**
3.4nm,0.3s,SNR=7.9
EVIA Vianos 3.73 4 P **Pn** **22 31 38.5 +1.0**
EVIA S **Sn** **22 32 21.5 +0.1**
EVIA Vianos 3.73 4 P **Pn** **22 31 38.4 +0.9**
1.2nm,0.2s,SNR=7.9
EVIA S **Sn** **22 32 21.9 +0.5**
9.3nm,0.5s,SNR=7.9
EVIA Vianos 3.73 4 P **Pn** **22 31 38.5 +1.1**
0.3nm,0.1s,SNR=7.9
EVIA S **Sn** **22 32 21.5 +0.1**
3.2nm,0.2s,SNR=7.9
EMIN Mina Concepcio 4.20 314 P **Pn** **22 31 43.3 -0.8**
EMIN S **Sn** **22 32 27.3 -5.9**
EMIN Mina Concepcio 4.20 314 P **Pn** **22 31 43.0 -1.1**
1.6nm,0.3s,SNR=8.7
EMIN S **Sn** **22 32 27.5 -5.6**
1.1nm,0.3s,SNR=7.9
EMIN Mina Concepcio 4.20 314 P **Pn** **22 31 43.3 -0.7**
1.2nm,0.3s,SNR=8.7
EBEN Beniarda 4.33 28 P **Pn** **22 31 46.9 +0.9**
1.0nm,0.3s,SNR=7.9
EBEN S **Sn** **22 32 35.8 -0.9**
2.9nm,0.4s,SNR=7.9
PALC Alcoutim 4.52 306 *e*Pn **Pn** **22 31 48.4 -0.3**
PALC *e*Sn **Sn** **22 32 35.9 -5.5**
EGRO El Granado 4.56 306 P **Pn** **22 31 48.4 -0.8**
2.2nm,0.3s,SNR=4.0
EGRO S **Sn** **22 32 39.1 -3.3**
2.1nm,0.3s,SNR=7.9
ESDC Sonseca Array 4.83 350 P **Pn** **22 31 53.8 +0.7**
1.3nm,0.2s,baz=172,slow=12,SNR=8.3
ESDC S **Sn** **22 32 47.2 -2.1**
0.5nm,0.4s,baz=169,slow=23,SNR=4.0
ESDC Sonseca Array 4.83 350 P **Pn** **22 31 53.8 +0.7**
1.3nm,0.2s,SNR=8.3
ESDC S **Sn** **22 32 47.2 -2.1**
0.5nm,0.4s,SNR=4.0
EBAD Badajoz 5.08 320 P **Pn** **22 31 55.6 -0.9**
EBAD S **Sn** **22 32 51.0 -4.5**
EBAD Badajoz 5.08 320 P **Pn** **22 31 55.8 -0.8**
0.7nm,0.4s,SNR=7.9
EBAD S **Sn** **22 32 51.0 -4.5**
3.9nm,0.3s,SNR=7.9
EBAD Badajoz 5.08 320 P **Pn** **22 31 55.7 -0.9**
PBEJ Beja 5.09 309 *e*Pn **Pn** **22 31 56.7 -0.1**
EIBI Ibiza 5.31 38 P **Pn** **22 31 59.6 -0.2**
EIBI S **Sn** **22 32 57.5 -3.7**
EIBI Ibiza 5.31 38 P **Pn** **22 31 59.9 +0.1**
1.2nm,0.2s,SNR=7.9
EIBI S **Sn** **22 32 58.2 -3.1**
1.1nm,0.3s,SNR=7.9
EIBI Ibiza 5.31 38 P **Pn** **22 31 59.6 -0.2**
GUD Guadarrama 5.81 350 P **Pn** **22 32 07.3 +0.4**
0.5nm,0.3s,SNR=7.9
PCBR Castelo Branco 6.14 325 *e*Pn **Pn** **22 32 10.8 -0.8**
ERTA Horta de San J 6.54 22 P **Pn** **22 32 18.3 +1.1**
ERTA Horta de San J 6.54 22 P **Pn** **22 32 18.5 +1.3**
1.1nm,0.4s,SNR=7.9
ERTA Horta de San J 6.54 22 P **Pn** **22 32 18.3 +1.1**
ECAL Calabor 7.65 338 P **Pn** **22 32 31.8 -0.9**
1.6nm,0.3s,SNR=7.9

*CSEM **17** 22:53:32.8, 35.20N×26.72E, h11km, MD3.5/6, After ATH*
*NEIC **17** 22:53:32.8, 35.20N×26.72E, h11km, MD3.5(ATH), After ATH.*
ATH 17 22:53:32.8, 35.20N×26.72E, h11km, MD3.5/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.50**	**46**	*e*PB	Pb	22 53 42.2	-0.9
XRY	**Khrisi**	**0.90**	**249**	*e*PG	Pg	22 53 49.5	-1.4
NPS	**Neapolis**	**0.91**	**274**	*e*PG	Pg	22 53 50.3	-0.8
ARG	**Arkhangelos**	**1.53**	**48**	*e*PB	Pb	22 54 02.7	+2.0
APE	**Apeiranthos**	**2.10**	**333**	*e*PN	Pn	22 54 09.5	+1.1
VLI	**Veliai**	**3.42**	**297**	*e*PN	Pn	22 54 28.8	+1.6

*BJI **17** 22:59:35.4, 8.90N×92.20E, h32km, mb4.3*
*IDC **17** 22:59:35.7±0.8, 8.86N×92.11E, h33km±4km, mb3.6/9, mb1 3.8/10, mb1mx3.7/18, mbtmp3.8/10, ML3.9/1, MS3.5/3, Ms1 3.5/3, ms1mx3.4/16, Error ellipse: s-maj=31.2km s-min=14.2km az=52.0*
*NEIC **17** 22:59:35.5±0.5, 8.92N×92.21E, mb4.3/5, Error ellipse: s-maj=10.6km s-min=9.9km az=218.0*
ISC 17 22:59:33.4±0.6, **8.95N**±0.08×**92.13E**±0.07, **h32**km, **h32**km±.4km:**pP-P, n37,** σ0°**85**/38, **mb3.9**/13, **MS3.6/2,**
Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.44**	**262**	P	**P**	**23 02 17.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**11.54**	**34**	Pn	**P**	**23 02 18.6**	**-0.5**
	0.2nm,0.3s,baz=231,slow=14,SNR=9.5						
CMAR				LR	LR	23 07 50.0	
	comp=Z,100nm,18.1s,baz=215,slow=42						
VIS	**Vishakhapatnam**	**12.22**	**316**	*e*P	**P**	**23 02 26.7**	**-1.6**
VIS				*e*S	**S**	**23 04 27.9**	**-17**
VIS				*e*S	**S**	**23 04 28.8**	**-16**
VIS				*e*		23 04 37.7	
	comp=N,72nm,0.4s						
VIS				*e*		23 04 37.9	
	comp=E,51nm,0.3s						
BWNR	**Bhubaneshwar**	**12.83**	**332**	*e*P	**P**	**23 02 32.1**	**-4.4**
BWNR				*e*		23 02 33.7	
	comp=Z,76nm,0.3s						
BWNR				*e*S	**S**	**23 04 40.9**	**-18**
BWNR				*e*S	**S**	**23 04 41.1**	**-18**
HYB	**Hyderabad**	**15.67**	**304**	*e*P	**P**	**23 03 20.5**	**+6.8**
HYB				*e*S	**S**	**23 06 05.0**	**-1.4**
HYB	**Hyderabad**	**15.67**	**304**	*i* P	**P**	**23 03 20.5**	**+6.8**
HYB				*e*S	**S**	**23 06 05.0**	**-1.4**
SHL	**Shillong**	**16.53**	**359**	*e*P	**P**	**23 03 23.0**	**-1.7**
SHL				*e*		23 06 12.0	
JIRN	**Jiri**	**19.44**	**344**	*e*P	**P**	**23 04 00.8**	**+0.5**
PKI	**Pulchoki**	**19.59**	**342**	*e*P	**P**	**23 04 02.2**	**+0.3**
	comp=Z,34nm,0.7s						
DMN	**Daman**	**19.72**	**341**	*e*P	**P**	**23 04 03.7**	**+0.4**
	comp=Z,63nm,0.9s						
KKN	**Kakani**	**19.83**	**342**	*e*P	**P**	**23 04 04.4**	**-0.2**
GKN	**Gorkha**	**20.23**	**341**	*e*P	**P**	**23 04 09.3**	**+0.5**
	comp=Z,40nm,0.5s						
KOLN	**Koldanda**	**20.38**	**338**	*e*P	**P**	**23 04 10.9**	**+0.6**
	comp=Z,33nm,0.6s						
LSA	**Lhasa**	**20.67**	**358**	P	**P**	**23 04 13.4**	**+0.1**
LSA	**Lhasa**	**20.67**	**358**	*e*P	**P**	**23 04 13.1**	**-0.2**
	comp=Z,14nm,0.7s						
DDI	**Dehra Dun**	**25.01**	**330**	*e*P	**P**	**23 04 57.3**	**+1.2**
ENH	**Enshi**	**26.71**	**35**	*e*P	**P**	**23 05 10.9**	**-1.0**
	comp=Z,12nm,0.8s,mb4.5						
JOW	**Kunigami**	**38.53**	**58**	LR	LR	23 24 13.1	
	comp=Z,121nm,18.2s,MS3.8,baz=297,slow=38						
SONM	**Songino Array**	**40.60**	**15**	P	**P**	**23 07 13.0**	**+1.2**
	comp=Z,0.6nm,0.5s,mb3.5,baz=197,slow=7.5,SNR=9.2						
SONM				pP	pP	23 07 22.4	+1.0
	comp=Z,1.1nm,0.5s,baz=205,slow=8.7,SNR=5.8						
ULN	**Ulaanbaatar**	**40.80**	**15**	*e*P	**P**	**23 07 12.9**	**-0.5**
	comp=Z,3.3nm,1.1s,mb3.9						
KURK	**Kurchatov**	**43.12**	**347**	*e*P	**P**	**23 07 32.9**	**+0.5**
	comp=Z,6.0nm,1.0s,mb4.3						
ZAL	**Zalesovo**	**45.25**	**354**	P	**P**	**23 07 51.4**	**+1.8**
	comp=Z,0.8nm,0.4s,mb3.9,baz=308,slow=7.4,SNR=3.6						
ZAL				pP	pP	23 08 01.0	+1.8
	comp=Z,0.9nm,0.5s,baz=304,slow=11,SNR=4.4						
ZAL	**Zalesovo**	**45.25**	**354**	P	**P**	**23 07 51.4**	**+1.8**
ZAL				pP	pP	23 08 01.0	+1.8
BVAR	**Borovoye Array**	**47.36**	**342**	P	**P**	**23 08 07.0**	**+0.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=141,slow=9.5,SNR=4.8						
BVAR				pP	pP	23 08 16.9	+1.0
	comp=Z,1.1nm,0.8s,baz=143,slow=7.4,SNR=5.1						
BRVK	**Borovoye**	**47.42**	**342**	P	**P**	**23 08 06.2**	**-0.6**
CHKZ	**Chkalovo**	**47.86**	**343**	*e*P	**P**	**23 08 10.1**	**0.0**
	comp=Z,2.2nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**50.50**	**125**	P	**P**	**23 08 30.5**	**-0.4**
	comp=Z,0.6nm,0.5s,mb3.9,baz=304,slow=8.9,SNR=4.4						
WRA				pP	pP	23 08 40.5	-0.2
	comp=Z,2.4nm,0.8s,baz=305,slow=8.6,SNR=6.3						
WRAB	**Tennant Creek**	**50.50**	**125**	*e*P	**P**	**23 08 29.6**	**-1.3**
ASAR	**Alice Springs**	**52.12**	**129**	P	**P**	**23 08 43.2**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=296,slow=5.8,SNR=4.4						
ASAR				pP	pP	23 08 52.9	-0.1
	comp=Z,2.6nm,1.0s,baz=304,slow=6.6,SNR=12						
KMBO	**Kilima Mbogo**	**55.58**	**262**	LR	LR	23 27 13.3	
	comp=Z,48nm,21.9s,MS3.5,baz=99,slow=30						
BRTR	**Keskin Array B**	**60.23**	**311**	P	**P**	**23 09 41.5**	**+0.4**
	comp=Z,0.6nm,0.7s,mb3.7,baz=63,slow=3.2,SNR=3.1						
BRTR				pP	pP	23 09 50.6	-0.4
	comp=Z,0.8nm,0.8s,baz=140,slow=9.6,SNR=3.6						
FINES	**FINESS Array B**	**70.84**	**332**	P	**P**	**23 10 49.3**	**+0.5**
	comp=Z,3.0nm,0.9s,mb4.2,baz=139,slow=20,SNR=4.6						
FINES				pP	pP	23 10 59.9	+1.0
	comp=Z,2.5nm,0.9s,baz=124,slow=5.0,SNR=1.9						
ARCES	**ARCESS Array B**	**73.59**	**340**	P	**P**	**23 11 04.5**	**-0.5**
	comp=Z,4.2nm,0.9s,mb4.4,baz=96,slow=8.2,SNR=3.8						
GERES	**GERESS Array B**	**75.71**	**318**	P	**P**	**23 11 18.7**	**+1.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=106,slow=7.1,SNR=4.3						
GERES				pP	pP	23 11 28.8	+1.1
	comp=Z,0.9nm,0.9s,baz=90,slow=4.9,SNR=2.2						
HFS	**Hagfors**	**76.54**	**330**	pP	pP	23 11 32.6	+0.5
	comp=Z,2.8nm,0.8s,baz=124,slow=5.2,SNR=1.6						
LPG	**La Plagne**	**80.46**	**315**	*e*P	pP	23 11 57.5	+3.6
	comp=Z,7.6nm,0.8s						
ILAR	**Eielson Array**	**94.50**	**22**	pP	pP	23 13 04.1	+2.4
	comp=Z,0.4nm,0.8s,baz=310,slow=5.2,SNR=3.7						

*LDG **17** 23:25:34.5±0.2, 36.99N×5.38W, h10km, Md3.8/1, Ml3.1/4, Error ellipse: s-maj=5.8km s-min=2.4km az=172.0*
*INMG **17** 23:25:34.6±1.1, 37.02N×5.32W, h18km±3km, MD3.0, ML2.9, Error ellipse: s-maj=1.7km s-min=1.6km az=105.0*
*CSEM **17** 23:25:34.4±0.1, 37.08N×5.35W, h10km, ML3.4/15, Error ellipse: s-maj=1.2km s-min=1.0km az=171.0*
*NEIC **17** 23:25:34.1, 37.03N×5.33W, h9km, ML3.1(LDG), MN2.9(MDD), After MDD.*
NEIC Felt [II] at Coripe and Olvera.
*SFS **17** 23:25:34.0, 37.03N×5.31W*
MDD 17 23:25:34.1±0.2, **37.05N**×**5.32W, h6**km±3km, **mbLg2.9**/23, **6C-10D, Error ellipse: s-maj=2.8km s-min=1.8km az=175.0, PRXIMO, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.15**	**205**	⇓Pg	Pg	23 25 36.2	-1.1
LIJA				Lg		23 25 38.6	
LIJA	**Lijar**	**0.15**	**205**	*i* Pg	Pg	23 25 36.2	-1.1
ESPR	**Espera**	**0.46**	**248**	⇑Pg	Pg	23 25 42.8	-0.6
ESPR				Lg		23 25 49.4	
ESPR	**Espera**	**0.46**	**248**	⇑Pg	Pg	23 25 42.9	-0.5
	203nm,0.4s,SNR=18						
ESPR				Lg		23 25 49.4	
	1μm,0.4s						
ESPR	**Espera**	**0.46**	**248**	Pg	Pg	23 25 42.8	-0.6
	267nm,0.5s,SNR=18						
GIBL	**Gibalbin**	**0.56**	**248**	Pg	Pg	23 25 45.1	-0.2
GIBL				Lg		23 25 50.9	
GIBL	**Gibalbin**	**0.56**	**248**	*i* P	Pg	23 25 45.1	-0.2
EJIF	**Jimena Fronter**	**0.60**	**191**	Pg	Pg	23 25 46.3	+0.1
EJIF				Lg		23 25 53.2	
EJIF	**Jimena Fronter**	**0.60**	**191**	Pg	Pg	23 25 46.6	+0.4
	0.9nm,0.1s,SNR=4.0						
EJIF				Lg		23 25 53.2	
	0.7nm,0.2s,SNR=4.0						
EJIF	**Jimena Fronter**	**0.60**	**191**	Pg	Pg	23 25 46.3	+0.1
	1.1nm,0.2s,SNR=4.0						
EMIJ	**Mijas**	**0.65**	**137**	⇓Pg	Pg	23 25 44.8	-2.4
EMIJ				Lg		23 25 54.6	
EMIJ	**Mijas**	**0.65**	**137**	⇓Pg	Pg	23 25 45.0	-2.2
	80nm,0.2s,SNR=18						
EMIJ				Lg		23 25 54.8	
	441nm,0.4s,SNR=26						
EMIJ	**Mijas**	**0.65**	**137**	Pg	Pg	23 25 44.8	-2.3
	33nm,0.3s,SNR=18						
MOMI	**Momias**	**0.78**	**204**	⇑Pg	Pg	23 25 51.0	+1.2
MOMI				Lg		23 26 03.9	
MOMI	**Momias**	**0.78**	**204**	*i* P	Pb	23 25 51.0	+1.3
MOMI				*e*S	Sg	23 26 03.9	+3.7
SCRT	**Cerro San Cris**	**0.80**	**239**	⇑Pg	Pg	23 25 50.2	+0.2
SCRT				Lg		23 26 01.5	
SCRT	**Cerro San Cris**	**0.80**	**239**	*i* P	Pb	23 25 50.2	+0.3
SCRT				*e*S	Sg	23 26 01.5	+0.8
CNIL	**Conil**	**0.89**	**221**	⇑Pg	Pg	23 25 51.7	-0.2
CNIL				Lg		23 26 04.5	
CNIL	**Conil**	**0.89**	**221**	*i* P	Pb	23 25 51.7	+0.1
CNIL				*e*S	Sb	23 26 04.6	+1.1
SFS	**San Fernando**	**0.92**	**231**	*e*P	Pb	23 25 51.9	-0.1
SFS	**San Fernando**	**0.92**	**231**	⇑Pg	Pg	23 25 52.3	-0.1
SFS				Lg		23 26 07.1	
SFS	**San Fernando**	**0.92**	**231**	*i* P	Pb	23 25 52.3	+0.4
SFS				*e*S	Sb	23 26 07.1	+3.0
ELOJ	**Sierra Loja**	**0.94**	**83**	Pg	Pg	23 25 51.8	-1.1
ELOJ				Lg		23 26 06.0	
ELOJ	**Sierra Loja**	**0.94**	**83**	Pg	Pg	23 25 51.9	-1.0
	32nm,0.1s,SNR=64						
ELOJ				Lg		23 26 05.9	
	108nm,0.4s,SNR=15						
ELOJ	**Sierra Loja**	**0.94**	**83**	Pg	Pg	23 25 51.8	-1.1
	38nm,0.2s,SNR=64						
ELUQ	**Luque**	**0.99**	**58**	Pg	Pg	23 25 52.8	-1.0
ELUQ				Lg		23 26 06.5	
ELUQ	**Luque**	**0.99**	**58**	Pg	Pg	23 25 52.9	-0.9
	73nm,0.2s,SNR=81						
ELUQ				Lg		23 26 06.2	
	249nm,0.2s						
ELUQ	**Luque**	**0.99**	**58**	Pg	Pg	23 25 52.8	-1.0
	65nm,0.2s,SNR=81						
EADA	**Adamuz**	**1.27**	**28**	⇓Pg	Pg	23 25 57.0	-2.4
EADA				Lg		23 26 14.3	
EADA	**Adamuz**	**1.27**	**28**	⇓Pg	Pg	23 25 57.0	-2.4
	65nm,0.2s,SNR=18						
EADA				Lg		23 26 14.6	
	138nm,0.2s						
EADA	**Adamuz**	**1.27**	**28**	Pg	Pg	23 25 57.0	-2.4
	6.6nm,0.1s,SNR=18						
EMIN	**Mina Concepcio**	**1.29**	**304**	⇓Pg	Pg	23 25 56.7	-3.3
EMIN				Lg		23 26 14.6	
EMIN	**Mina Concepcio**	**1.29**	**304**	⇓Pg	Pg	23 25 56.7	-3.3
	44nm,0.1s,SNR=18						
EMIN				Lg		23 26 14.4	
	165nm,0.3s						
EMIN	**Mina Concepcio**	**1.29**	**304**	Pg	Pg	23 25 56.7	-3.3
	44nm,0.1s,SNR=18						
PALC	**Alcoutim**	**1.77**	**284**	*e*Pn	Pn	23 26 03.1	-2.4
PALC				*e*Sg	Sg	23 26 30.1	-2.9
	102nm,0.6s						
PALC	**Alcoutim**	**1.77**	**284**	⇓Pn	Pn	23 26 03.1	-2.4
PALC				Lg		23 26 30.1	
	51nm,0.6s						
PALC	**Alcoutim**	**1.77**	**284**	Pn	Pn	23 26 03.0	-2.5
PALC				Sn	Sn	23 26 22.3	-6.2
PALC				*e*Sg	Sg	23 26 30.1	-2.9
	102nm,0.6s						
EGRO	**El Granado**	**1.79**	**286**	Pn	Pn	23 26 02.3	-3.5
EGRO				Lg		23 26 29.6	
EGRO	**El Granado**	**1.79**	**286**	Pn	Pn	23 26 02.3	-3.5
	50nm,0.3s,SNR=7.9						
EGRO				Pg	Pg	23 26 06.2	-3.7
	38nm,0.2s,SNR=7.9						
EGRO				Lg		23 26 29.1	
	101nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**1.79**	**286**	Pn	Pn	23 26 02.3	-3.5
	39nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.95**	**66**	Pn	Pn	23 26 06.7	-1.3
EQES				Pg	Pg	23 26 11.2	-1.8
EQES				Sn	Sn	23 26 30.9	-2.1
EQES				Lg		23 26 37.3	
EQES	**Quesada**	**1.95**	**66**	Pn	Pn	23 26 06.6	-1.4
	1.2nm,0.1s,SNR=31						
EQES				Pg	Pg	23 26 10.0	-2.9
	13nm,0.2s,SNR=7.9						
EQES				Sn	Sn	23 26 31.0	-2.0
	16nm,0.2s,SNR=12						
EQES				Lg		23 26 36.6	
	81nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.95**	**66**	Pn	Pn	23 26 06.7	-1.3
	0.7nm,0.1s,SNR=31						
EQES	**Quesada**	**1.95**	**66**	Pg	Pg	23 26 11.2	-1.7
	11nm,0.1s,SNR=7.9						
EQES				Sn	Sn	23 26 30.9	-2.1
	90nm,0.3s,SNR=12						
EBER	**Berja**	**1.95**	**94**	Pn	Pn	23 26 07.2	-0.9
EBER				Pg	Pg	23 26 10.6	-2.5
EBER				Lg		23 26 37.8	
EBER	**Berja**	**1.95**	**94**	Pn	Pn	23 26 07.2	-0.9
	2.0nm,0.3s,SNR=62						
EBER				Pg	Pg	23 26 10.7	-2.4
	38nm,0.3s,SNR=7.9						
EBER				Lg		23 26 37.6	
	51nm,0.3s						
EBER	**Berja**	**1.95**	**94**	Pn	Pn	23 26 07.2	-0.9
	34nm,0.3s,SNR=62						
EBER	**Berja**	**1.95**	**94**	Pg	Pg	23 26 10.6	-2.5
	38nm,0.3s,SNR=7.9						
EALB	**Alboran**	**2.15**	**120**	Pn	Pn	23 26 09.7	-1.3
EALB				Lg		23 26 39.5	
EALB	**Alboran**	**2.15**	**120**	Pn	Pn	23 26 09.1	-1.8
	15nm,0.2s,SNR=7.9						
EALB				Pg	Pg	23 26 12.4	-4.6
	15nm,0.2s,SNR=7.9						
EALB				Lg		23 26 39.5	
	9.4nm,0.4s,SNR=4.0						
EALB	**Alboran**	**2.15**	**120**	Pn	Pn	23 26 09.7	-1.2
	6.6nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.17**	**322**	⇓Pn	Pn	23 26 08.9	-2.3
EBAD				Sn	Sn	23 26 35.2	-3.5
EBAD				Lg		23 26 46.3	
EBAD	**Badajoz**	**2.17**	**322**	⇓Pn	Pn	23 26 08.9	-2.3
	15nm,0.1s,SNR=18						
EBAD				Pg	Pg	23 26 13.1	-4.3
	28nm,0.2s,SNR=7.9						
EBAD				Sn	Sn	23 26 35.4	-3.3
	55nm,0.2s						
EBAD				Lg		23 26 46.3	
	87nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.17**	**322**	Pn	Pn	23 26 08.9	-2.3
	14nm,0.1s,SNR=18						
EBAD				Sn	Sn	23 26 35.2	-3.5
	49nm,0.3s						
PBEJ	**Beja**	**2.25**	**297**	*e*Pn	Pn	23 26 09.7	-2.6
PBEJ				*e*Sg	Sg	23 26 44.2	-4.7
	46nm,0.3s						
PBEJ	**Beja**	**2.25**	**297**	Pn	Pn	23 26 09.5	-2.8
PBEJ				Sn	Sn	23 26 34.6	-6.1
PBEJ				*e*Sg	Sg	23 26 44.2	-4.7
	46nm,0.3s						
ENIJ	**Nijar**	**2.50**	**91**	Pn	Pn	23 26 14.0	-1.9
ENIJ				Pg	Pg	23 26 20.3	-3.6
ENIJ				Lg		23 26 55.3	
ENIJ	**Nijar**	**2.50**	**91**	Pn	Pn	23 26 14.0	-1.9
	3.8nm,0.3s,SNR=12						
ENIJ				Pg	Pg	23 26 20.4	-3.5
	22nm,0.5s,SNR=7.9						
ENIJ				Lg		23 26 53.6	
	30nm,0.7s,SNR=4.0						
EVO	**Evora**	**2.60**	**306**	*e*Pn	Pn	23 26 15.8	-1.5
EVO				*e*Pg	Pg	23 26 23.3	-2.7
EVO				*e*Sn	Sn	23 26 46.2	-3.4
EVO				*e*Sg	Sg	23 26 58.4	-2.2
	78nm,0.3s						
EVIA	**Vianos**	**2.74**	**54**	Pn	Pn	23 26 17.2	-2.2
EVIA				Pg	Pg	23 26 24.5	-4.4
EVIA				Sn	Sn	23 26 50.0	-3.2
EVIA				Lg		23 27 02.4	
EVIA	**Vianos**	**2.74**	**54**	Pn	Pn	23 26 17.3	-2.1
	1.3nm,0.2s,SNR=15						
EVIA				Pg	Pg	23 26 24.3	-4.5
	15nm,0.3s,SNR=7.9						
EVIA				Sn	Sn	23 26 49.6	-3.6
	14nm,0.2s,SNR=7.5						
EVIA				Lg		23 27 01.1	
	28nm,0.4s,SNR=7.1						
EVIA	**Vianos**	**2.74**	**54**	Pn	Pn	23 26 17.2	-2.2
	1.2nm,0.1s,SNR=15						
EVIA	**Vianos**	**2.74**	**54**	Pg	Pg	23 26 24.5	-4.3
	9.5nm,0.3s,SNR=7.9						
EVIA				Sn	Sn	23 26 50.0	-3.2
	14nm,0.3s,SNR=7.5						
PTEO	**Sao Teotonio**	**2.76**	**281**	*e*Pn	Pn	23 26 16.8	-2.8
	52nm,0.7s						
PTEO	**Sao Teotonio**	**2.76**	**281**	Pn	Pn	23 26 16.7	-2.9
MOE	**Montemor**	**2.82**	**303**	*e*Pn	Pn	23 26 17.9	-2.6
MOE				*e*Sn	Sn	23 26 52.0	-3.1
MOE				*e*Sg	Sg	23 27 04.7	-3.2
MOE	**Montemor**	**2.82**	**303**	Pn	Pn	23 26 17.9	-2.6
MOE				Sn	Sn	23 26 51.2	-3.9
MOE				Lg		23 27 04.6	
MOE	**Montemor**	**2.82**	**303**	Pn	Pn	23 26 17.9	-2.6
MOE				Sn	Sn	23 26 52.0	-3.1
MOE				Lg		23 27 04.6	
MOE	**Montemor**	**2.82**	**303**	Pn	Pn	23 26 17.9	-2.6
MOE				Sn	Sn	23 26 51.2	-3.9
MOE				*e*Sg	Sg	23 27 04.7	-3.2
ESDC	**Sonseca Array**	**2.83**	**22**	Pn	Pn	23 26 19.0	-1.8
	2.6nm,0.2s,baz=202,slow=13,SNR=42						
ESDC				Pg	Pg	23 26 27.8	-2.9
	4.4nm,0.1s,baz=202,slow=16,SNR=8.0						
ESDC				Sn	Sn	23 26 51.5	-4.1
	6.6nm,0.3s,baz=203,slow=17,SNR=9.9						
ESDC				Lg		23 27 06.5	
	24nm,0.6s,baz=206,slow=28,SNR=5.0						
ESDC	**Sonseca Array**	**2.83**	**22**	Pn	Pn	23 26 19.0	-1.7
	2.6nm,0.2s,SNR=42						
ESDC	**Sonseca Array**	**2.83**	**22**	Pg	Pg	23 26 27.8	-2.9
	4.4nm,0.1s,SNR=8.0						
ESDC				Sn	Sn

1.9nm,0.2s,SNR=6.5
GUD Sn Sn 23 27 14.1 -3.6
4.3nm,0.3s,SNR=4.0
GUD Lg 23 27 31.0
6.6nm,0.3s,SNR=4.0
GUD Guadarrama 3.71 14 Pn Pn 23 26 31.3 -1.8
1.6nm,0.2s,SNR=11
GUD Guadarrama 3.71 14 Pg Pg 23 26 43.6 -4.5
2.4nm,0.3s,SNR=6.5
GUD Sn Sn 23 27 14.1 -3.6
8.8nm,0.4s,SNR=4.0
MTE Manteigas 3.77 333 *e*Pn Pn 23 26 31.9 -2.2
MTE *e*Sn Sn 23 27 14.7 -4.7
MTE *e*Sg Sg 23 27 33.2 -6.5
43nm,0.5s
MTE Manteigas 3.77 333 Pn Pn 23 26 31.0 -3.1
MTE Sn Sn 23 27 13.3 -6.0
MTE Lg 23 27 33.0
MTE Manteigas 3.77 333 Pn Pn 23 26 31.9 -2.2
MTE Sn Sn 23 27 14.7 -4.7
MTE Lg 23 27 33.2
22nm,0.5s
MTE Manteigas 3.77 333 Pn Pn 23 26 31.0 -3.1
MTE Sn Sn 23 27 13.3 -6.0
MTE *e*Sg Sg 23 27 33.2 -6.5
43nm,0.5s
PVIS Viseu 4.18 332 *e*Pn Pn 23 26 36.8 -3.0
PVIS *e*Sn Sn 23 27 23.7 -5.9
PVIS *e*Sg Sg 23 27 46.6 -6.6
18nm,0.6s
PVIS Viseu 4.18 332 *e*Pn Pn 23 26 36.8 -3.0
PVIS *e*Sn Sn 23 27 23.7 -5.9
PVIS *e*Sg Sg 23 27 46.6 -6.6
18nm,0.6s
EBEN Beniarda 4.36 66 Pn Pn 23 26 39.6 -2.8
EBEN Pg Pg 23 26 53.3 -7.8
EBEN Sn Sn 23 27 31.6 -2.6
EBEN Lg 23 27 50.6
EBEN Beniarda 4.36 66 Pn Pn 23 26 39.6 -2.8
0.3nm,0.1s,SNR=7.9
EBEN Pg Pg 23 26 53.3 -7.9
1.4nm,0.2s,SNR=7.9
EBEN Sn Sn 23 27 31.0 -3.2
1.2nm,0.5s,SNR=7.9
EBEN Lg 23 27 50.6
20nm,0.6s,SNR=7.9
EBEN Beniarda 4.36 66 Pn Pn 23 26 39.6 -2.8
SNR=7.9
EBEN Beniarda 4.36 66 Pg Pg 23 26 53.3 -7.8
SNR=7.9
EBEN Sn Sn 23 27 31.6 -2.6
SNR=7.9
PVRL Vila Real 4.62 337 *e*Pn Pn 23 26 42.8 -3.2
PVRL *e*Sn Sn 23 27 34.1 -6.6
19nm,0.1s
PVRL Vila Real 4.62 337 Pn Pn 23 26 42.8 -3.2
PVRL Sn Sn 23 27 34.1 -6.6
9.4nm,0.1s
PBRG Braganca 4.88 347 *e*Pn Pn 23 26 46.5 -3.3
PBRG *e*Sn Sn 23 27 40.6 -6.7
PBRG *e*Sg Sg 23 28 06.3 -10
9.1nm,0.4s
PBRG Braganca 4.88 347 Pn Pn 23 26 46.5 -3.3
PBRG Sn Sn 23 27 40.6 -6.7
PBRG Lg 23 28 06.3
4.6nm,0.4s
PBRG Braganca 4.88 347 Pn Pn 23 26 46.2 -3.6
PBRG Sn Sn 23 27 40.7 -6.6
ECAL Calabor 5.01 348 Pn Pn 23 26 49.1 -2.6
ECAL Sn Sn 23 27 43.7 -6.9
ECAL Lg 23 28 13.2
ECAL Calabor 5.01 348 Pn Pn 23 26 49.0 -2.6
1.0nm,0.2s,SNR=7.9
ECAL Sn Sn 23 27 43.7 -6.9
9.5nm,0.4s,SNR=5.0
ECAL Lg 23 28 13.0
56nm,0.8s,SNR=6.5
ECAL Calabor 5.01 348 Pn Pn 23 26 49.1 -2.5
SNR=7.9
ECAL Sn Sn 23 27 43.7 -6.9
4.6nm,0.3s,SNR=5.0
EMOS Mosqueruela 5.04 47 Pn Pn 23 26 49.2 -2.8
EMOS Pg Pg 23 27 06.2 -8.4
EMOS Sn Sn 23 27 44.7 -6.6
EMOS Lg 23 28 14.0
EMOS Mosqueruela 5.04 47 Pn Pn 23 26 49.5 -2.5
0.6nm,0.2s,SNR=7.9
EMOS Pg Pg 23 27 05.5 -9.2
2.8nm,0.5s,SNR=4.0
EMOS Sn Sn 23 27 44.9 -6.4
5.0nm,0.4s,SNR=12
EMOS Lg 23 28 12.4
1.0nm,0.2s,SNR=4.0
EMOS Mosqueruela 5.04 47 Pn Pn 23 26 49.2 -2.8
SNR=7.9
EMOS Mosqueruela 5.04 47 Pg Pg 23 27 06.3 -8.4
SNR=4.0
EMOS Sn Sn 23 27 44.7 -6.6
2.7nm,0.3s,SNR=12
ELOB Lobios 5.26 337 Pn Pn 23 26 51.6 -3.6
ELOB Sn Sn 23 27 49.2 -7.7
ELOB Lg 23 28 22.9
ELOB Lobios 5.26 337 Pn Pn 23 26 51.6 -3.6
1.4nm,0.1s,SNR=9.7
ELOB Sn Sn 23 27 48.6 -8.3
6.2nm,0.3s,SNR=7.9
ELOB Lg 23 28 22.3
16nm,0.4s,SNR=4.0
ELOB Lobios 5.26 337 Pn Pn 23 26 51.6 -3.6
1.4nm,0.1s,SNR=9.7
ELOB Sn Sn 23 27 49.2 -7.7
SNR=7.9
EIBI Ibiza 5.62 67 Pn Pn 23 26 56.8 -3.5
EIBI Sn Sn 23 27 58.4 -7.6
EIBI Ibiza 5.62 67 Pn Pn 23 26 56.9 -3.4
0.4nm,0.1s,SNR=4.0
EIBI Sn Sn 23 27 58.4 -7.6
1.3nm,0.3s,SNR=4.0
EIBI Ibiza 5.62 67 Pn Pn 23 26 56.8 -3.4
SNR=4.0
EIBI Sn Sn 23 27 58.4 -7.6
SNR=4.0
EZAM Zamans 5.72 334 Lg 23 28 37.1
9.0nm,0.4s,SNR=4.0
EINC Incio 5.82 345 Pn Pn 23 27 00.0 -3.0
0.4nm,0.2s,SNR=7.9
EINC Sn Sn 23 28 03.4 -7.6
1.1nm,0.2s,SNR=7.9
EINC Lg 23 28 39.0
4.2nm,0.3s,SNR=4.5
ERTA Horta de San J 5.89 47 Pn Pn 23 27 00.6 -3.4
ERTA Sn Sn 23 28 08.0 -4.6
ERTA Lg 23 28 38.0
ERTA Horta de San J 5.89 47 Pn Pn 23 26 59.6 -4.4
0.6nm,0.2s,SNR=4.0
ERTA Sn Sn 23 28 08.0 -4.6
0.4nm,0.1s,SNR=4.0
ERTA Lg 23 28 38.1
6.5nm,0.5s,SNR=4.0
ERTA Horta de San J 5.89 47 Pn Pn 23 27 00.6 -3.4
SNR=4.0
ERTA Sn Sn 23 28 08.0 -4.6
SNR=4.0
ESAC San Caprasio 6.00 37 Pn Pn 23 27 02.5 -3.0
ESAC Lg 23 28 45.3
ESAC San Caprasio 6.00 37 Pn Pn 23 27 02.3 -3.2
6.9nm,0.2s,SNR=7.9
ESAC Lg 23 28 43.6
13nm,0.3s,SNR=4.0
ESAC San Caprasio 6.00 37 Pn Pn 23 27 02.5 -3.0
6.9nm,0.2s,SNR=7.9
EARI Arriondas 6.25 1 Pn Pn 23 27 05.8 -3.4
EARI Sn Sn 23 28 11.7 -10
EARI Lg 23 28 54.3
EARI Arriondas 6.25 1 Pn Pn 23 27 05.8 -3.4
0.5nm,0.3s,SNR=4.0
EARI Sn Sn 23 28 11.7 -10
0.2nm,0.2s,SNR=7.9
EARI Lg 23 28 52.6
9.9nm,0.8s,SNR=4.0
EARI Arriondas 6.25 1 Pn Pn 23 27 05.8 -3.3
SNR=4.0
ELAN Lanestosa 6.35 13 Pn Pn 23 27 07.2 -3.3
ELAN Sn Sn 23 28 17.1 -7.0
ELAN Lg 23 28 57.6
ELAN Lanestosa 6.35 13 Pn Pn 23 27 06.9 -3.6
0.3nm,0.1s,SNR=5.6
ELAN Sn Sn 23 28 17.1 -7.0
1.3nm,0.2s,SNR=4.0
ELAN Lg 23 28 55.9
7.8nm,0.9s,SNR=4.0
ELAN Lanestosa 6.35 13 Pn Pn 23 27 07.2 -3.3
4.0nm,0.6s,SNR=5.6
ELAN Sn Sn 23 28 17.1 -7.0
EPON Pontenova 6.43 348 Pn Pn 23 27 07.5 -4.1
EPON Sn Sn 23 28 17.1 -9.0
EPON Lg 23 29 00.5
EPON Pontenova 6.43 348 Pn Pn 23 27 08.6 -3.0
0.5nm,0.2s,SNR=4.0
EPON Sn Sn 23 28 17.2 -9.0
0.7nm,0.2s,SNR=7.9
EPON Lg 23 28 56.8
5.4nm,0.3s,SNR=4.0
EPON Pontenova 6.43 348 Pn Pn 23 27 07.5 -4.1
EPON Sn Sn 23 28 17.1 -9.1
EMAZ Mazaricos 6.53 336 Pn Pn 23 27 08.6 -4.5
EMAZ Sn Sn 23 28 17.7 -11
EMAZ Lg 23 29 02.4
EMAZ Mazaricos 6.53 336 Pn Pn 23 27 08.7 -4.3
1.3nm,0.3s,SNR=7.9
EMAZ Sn Sn 23 28 17.7 -11
1.4nm,0.2s,SNR=4.0
EMAZ Lg 23 29 02.2
3.6nm,0.4s,SNR=4.0
EMAZ Mazaricos 6.53 336 Pn Pn 23 27 08.6 -4.5
EALK Alkurruntz 6.82 24 Pn Pn 23 27 14.2 -3.0
3.1nm,0.4s,SNR=7.0
EALK Sn Sn 23 28 29.0 -7.1
2.4nm,0.3s,SNR=4.0
EALK Alkurruntz 6.82 24 Sn Sn 23 28 29.0 -7.1
SJPF Ste Jean 6.83 26 *e*Pn Pn 23 27 13.8 -3.4
SJPF *e*Sn Sn 23 28 27.6 -8.5
1.6nm,0.5s
ETSF Etsaut 6.89 31 *e*Pn Pn 23 27 14.4 -3.8
ETSF *e*Sn Sn 23 28 29.2 -8.6
1.0nm,0.3s
EBIE Bielsa 7.03 35 Pn Pn 23 27 16.2 -3.8
EBIE Bielsa 7.03 35 Pn Pn 23 27 16.4 -3.7
4.3nm,0.4s,SNR=25
EBIE Bielsa 7.03 35 Pn Pn 23 27 16.2 -3.9
EMIR Miracle 7.19 45 Pn Pn 23 27 18.7 -3.6
1.1nm,0.2s,SNR=4.0
EMIR Miracle 7.19 45 Pn Pn 23 27 18.7 -3.6
EPF Esparros 7.39 34 *e*Pn Pn 23 27 21.2 -3.9
EPF *e*Sn Sn 23 28 40.7 -9.5
2.6nm,0.4s
EJON La Jonquera 8.31 47 Pn P 23 27 32.3 -5.7
EJON La Jonquera 8.31 47 Pn P 23 27 32.4 -5.6
0.6nm,0.3s,SNR=4.0
MTLF Montolieu 8.53 40 *e*Pn P 23 27 36.4 -4.7
LFF La Frestale 9.12 28 *e*Pn P 23 27 42.9 -6.3
CAF Calviac 9.65 33 *e*Pn P 23 27 51.6 -4.9
LASF Ste Croix 9.90 42 *e*Pn P 23 27 54.3 -5.6
QUIF Quistinic 10.98 8 *e*Pn P 23 28 09.4 -5.3

*NEIC **17** 23:38:13.5, 60.02N×151.96W, h74km, After AEIC.*
*IDC **17** 23:38:16.3±4.9, 60.30N×151.76W, h110km±37km, mb3.5/8, mb1 3.7/10, mb1mx3.5/19, mbtmp3.8/10, Error ellipse: s-maj=37.2km s-min=22.5km az=33.0*
ISC 17 23:38:11.2±0.3,**60.03N**±0.02×**151.98W**±0.05,**h94**km±2km,
n89,σ0=**76**/103,**mb3.8**/8,**Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNL	**Ninilchik**	**0.34**	**87**	P	**P**	**23 38 26.2**	**+0.9**
HOM	**Homer**	**0.41**	**155**	P	**P**	**23 38 26.1**	**+0.4**
HOM				S	**S**	**23 38 36.1**	**-0.6**
ILIM	**Iliamna**	**0.49**	**277**	P	**P**	**23 38 26.3**	**-0.1**
IVE	**Iliamna Volcan**	**0.52**	**269**	P	**P**	**23 38 26.3**	**-0.3**
IVE				S	**S**	**23 38 36.7**	**-1.4**
INE	**Iliamna NE**	**0.54**	**274**	P	**P**	**23 38 26.6**	**-0.2**
ILW	**Iliamna West**	**0.58**	**274**	P	**P**	**23 38 27.1**	**0.0**
RSO	**Redoubt South**	**0.58**	**319**	P	**P**	**23 38 27.4**	**+0.2**
REF	**Redoubt East F**	**0.59**	**322**	P	**P**	**23 38 27.2**	**+0.1**
REF				S	**S**	**23 38 38.6**	**-0.5**
RDT	**Redoubt**	**0.59**	**339**	P	**P**	**23 38 27.2**	**0.0**
RDT				S	**S**	**23 38 37.5**	**-1.6**
XLV	**Seldovia**	**0.59**	**167**	P	**P**	**23 38 26.9**	**-0.3**
RDN	**Redoubt North**	**0.62**	**322**	P	**P**	**23 38 27.6**	**0.0**
CNPM	**China Poot**	**0.63**	**143**	P	**P**	**23 38 27.8**	**+0.2**
DFR	**Drift River**	**0.67**	**328**	P	**P**	**23 38 27.9**	**0.0**
DFR				S	**S**	**23 38 39.8**	**-0.6**
NCT	**North Crescent**	**0.71**	**319**	P	**P**	**23 38 28.4**	**+0.1**
OPT	**Oil Point**	**0.73**	**240**	P	**P**	**23 38 28.6**	**+0.1**
NKA	**Nikishka**	**0.81**	**27**	P	**P**	**23 38 31.3**	**+2.0**
AUE	**Augustine Isla**	**0.97**	**227**	P	**P**	**23 38 31.4**	**+0.3**
SLKM	**Skilak Lake**	**1.00**	**60**	P	**P**	**23 38 31.4**	**0.0**
SLKM				S	**S**	**23 38 45.5**	**-1.0**
AUW	**Augustine West**	**1.00**	**230**	P	**P**	**23 38 31.8**	**+0.4**
AUI	**Augustine Isla**	**1.01**	**227**	P	**P**	**23 38 31.7**	**+0.2**
AUI				S	**S**	**23 38 46.3**	**-0.5**
SPU	**Mount Spurr**	**1.16**	**358**	*e*P	**P**	**23 38 33.7**	**+0.4**
CKN	**Chakachatna No**	**1.21**	**355**	P	**P**	**23 38 34.7**	**+0.8**
VOGL	**Vogel Lake**	**1.24**	**38**	P	**P**	**23 38 36.0**	**+1.7**
CRP	**Crater Peak**	**1.25**	**356**	P	**P**	**23 38 35.2**	**+0.8**
CRP				S	**S**	**23 38 53.4**	**+1.6**
BGL	**Barrier Glacie**	**1.26**	**351**	P	**P**	**23 38 35.1**	**+0.6**
SEW	**Seward**	**1.27**	**85**	P	**P**	**23 38 34.1**	**-0.7**
SEW				S	**S**	**23 38 51.2**	**-1.1**
CGLM	**Capps Glacier**	**1.28**	**359**	P	**P**	**23 38 35.8**	**+0.8**
CGLM				S	**S**	**23 38 53.4**	**+0.8**
MPA	**Moose Pass**	**1.39**	**69**	P	**P**	**23 38 36.3**	**+0.2**
SYI	**Shuyak Island**	**1.44**	**189**	P	**P**	**23 38 37.1**	**+0.4**
SYI				S	**S**	**23 38 55.8**	**+0.1**
FIB	**Fire Island**	**1.45**	**37**	P	**P**	**23 38 38.6**	**+1.7**
MCNL	**McNeil River**	**1.47**	**236**	P	**P**	**23 38 36.8**	**-0.3**
STLK	**Strandline Lak**	**1.48**	**3**	P	**P**	**23 38 38.3**	**+1.1**
RC01	**Rabbit Creek A**	**1.54**	**45**	P	**P**	**23 38 38.4**	**+0.4**
RC01				S	**S**	**23 38 57.8**	**0.0**
KAPH	**Katmai Pasha**	**1.88**	**221**	P	**P**	**23 38 42.9**	**+0.5**
PWA	**Palmer West**	**1.93**	**31**	P	**P**	**23 38 43.9**	**+0.9**
SVW2	**Sparrevohn**	**2.08**	**303**	P	**P**	**23 38 44.7**	**-0.3**
KAHC	**Katmai Hardscr**	**2.08**	**230**	P	**P**	**23 38 45.0**	**0.0**
PMR	**Palmer**	**2.10**	**40**	*e*P	**P**	**23 38 46.0**	**+0.6**
KAWH	**Katmai**	**2.20**	**223**	P	**P**	**23 38 46.9**	**+0.2**
KNK	**Knik Glacier**	**2.22**	**50**	P	**P**	**23 38 47.2**	**+0.2**
KDAK	**Kodiak Island**	**2.27**	**188**	P	**P**	**23 38 46.7**	**-1.1**
GHO	**Glory Hole Cre**	**2.30**	**39**	P	**P**	**23 38 48.4**	**+0.2**
MGLS	**Mageik LS**	**2.51**	**225**	P	**P**	**23 38 51.5**	**+0.4**
MGLS				S	**S**	**23 39 21.5**	**+0.7**
SML	**Sawmill**	**2.52**	**43**	P	**P**	**23 38 50.7**	**-0.5**
CUT	**Chulitna**	**2.52**	**18**	P	**P**	**23 38 51.8**	**+0.5**
HIN	**Hinchinbrook I**	**2.76**	**80**	P	**P**	**23 38 53.5**	**-1.0**
SCM	**Sheep Creek Mo**	**2.91**	**49**	P	**P**	**23 38 56.4**	**-0.2**
MID	**Middleton Isla**	**2.92**	**99**	P	**P**	**23 38 57.0**	**+0.3**
EYAK	**Cordova Ski Ar**	**3.15**	**78**	*e*P	**P**	**23 38 59.1**	**-0.7**
TT01	**Tatalina**	**3.48**	**328**	P	**P**	**23 39 04.1**	**-0.3**
TRF	**Thorofare Moun**	**3.53**	**12**	P	**P**	**23 39 04.7**	**-0.4**
KTH	**Kantishna Hill**	**3.57**	**8**	P	**P**	**23 39 05.9**	**+0.2**
RND	**Reindeer**	**3.70**	**22**	P	**P**	**23 39 07.5**	**+0.1**
MCK	**McKinley**	**3.99**	**20**	P	**P**	**23 39 11.6**	**+0.2**
GLB	**Gilahina Butte**	**4.25**	**67**	P	**P**	**23 39 13.9**	**-1.2**
PAX	**Paxson**	**4.29**	**44**	P	**P**	**23 39 15.3**	**-0.3**
BWN	**Browne**	**4.32**	**15**	P	**P**	**23 39 16.7**	**+0.7**
THY	**Trims Highway**	**4.51**	**38**	*e*P	**P**	**23 39 18.6**	**+0.1**
NEA	**Nenana**	**4.76**	**15**	P	**P**	**23 39 21.6**	**-0.4**
BALM	**Baldy**	**4.87**	**74**	P	**P**	**23 39 23.6**	**+0.2**
MENT	**Mentasta**	**4.92**	**50**	*e*P	**P**	**23 39 26.2**	**+2.0**
HDA	**Harding Lake**	**4.98**	**26**	P	**P**	**23 39 25.3**	**+0.3**
CCB	**Clear Creek Bu**	**5.03**	**21**	P	**P**	**23 39 24.9**	**-0.8**
MLY	**Manley**	**5.05**	**6**	P	**P**	**23 39 26.6**	**+0.6**
YAH	**Yahtse**	**5.12**	**82**	P	**P**	**23 39 27.6**	**+0.7**
COLA	**College**	**5.23**	**20**	P	**P**	**23 39 27.7**	**-0.6**
MDM	**Murphy Dome**	**5.25**	**18**	P	**P**	**23 39 28.0**	**-0.6**
GCSA	**Galena City Sc**	**5.25**	**336**	P	**P**	**23 39 26.3**	**-2.4**
IL1	**Eielson Array**	**5.32**	**24**	P	**P**	**23 39 29.0**	**-0.6**
ILAR	**Eielson Array**	**5.32**	**24**	P	**P**	**23 39 28.9**	**-0.7**
	2.7nm,0.3s,baz=214,slow=14,SNR=138						
ILAR				S	**S**	**23 40 26.9**	**-3.2**
	3.2nm,0.3s,baz=203,slow=15,SNR=5.3						
BCA3	**Beaver Creek A**	**5.75**	**54**	P	**P**	**23 39 34.7**	**-0.7**
IM3	**Indian Mountai**	**6.03**	**353**	P	**P**	**23 39 38.9**	**-0.5**
IMA	**Indian Mountai**	**6.11**	**353**	*e*P	**P**	**23 39 40.3**	**-0.2**
PNL	**Peninsula**	**6.35**	**88**	P	**P**	**23 39 43.6**	**-0.2**
DAWY	**Dawson**	**7.17**	**50**	P	**P**	**23 39 54.5**	**-0.5**
ANM	**Nome**	**7.72**	**312**	P	**P**	**23 40 02.2**	**-0.3**
BM3	**Burnt Mountain**	**8.10**	**21**	P	**P**	**23 40 06.3**	**-1.5**
TNA	**Tin City**	**9.15**	**314**	*e*P	**P**	**23 40 21.7**	**-0.3**
YKA	**Yellowknife Ar**	**17.97**	**66**	P	**P**	**23 42 16.5**	**+0.6**
	0.5nm,0.3s,baz=277,slow=9.7,SNR=40						
YKA				PcP	PcP	23 46 46.9	-0.3
	0.1nm,0.3s,baz=273,slow=1.5,SNR=4.4						
YKA	**Yellowknife Ar**	**17.97**	**66**	P	**P**	**23 42 16.5**	**+0.6**
YKA				PcP	PcP	23 46 46.9	-0.3
PDAR	**Pinedale Array**	**30.90**	**105**	P	**P**	**23 44 21.8**	**+1.1**
	0.3nm,0.6s,mb3.2,baz=321,slow=5.5,SNR=4.0						
ARCES	**ARCESS Array B**	**50.72**	**1**	P	**P**	**23 47 01.2**	**-1.3**
	3.9nm,0.8s,mb4.5,baz=0.3,slow=6.7,SNR=7.3						
SONM	**Songino Array**	**55.19**	**307**	P	**P**	**23 47 36.5**	**+0.6**
	0.7nm,0.5s,mb3.9,baz=50,slow=6.1,SNR=11						
ZAL	**Zalesovo**	**57.67**	**324**	P	**P**	**23 47 54.4**	**+0.9**
	0.5nm,0.6s,mb3.8,baz=174,slow=12,SNR=3.6						
FINES	**FINESS Array B**	**58.85**	**1**	P	**P**	**23 48 00.5**	**-1.0**
	2.6nm,0.9s,mb4.2,baz=342,slow=6.0,SNR=6.1						
FINES	**FINESS Array B**	**58.85**	**1**	P	**P**	**23 48 00.5**	**-1.0**
BVAR	**Borovoye Array**	**62.28**	**333**	P	**P**	**23 48 25.0**	**0.0**
	0.2nm,0.3s,mb3.6,baz=63,slow=6.6,SNR=4.3						
AKASG	**Malin Array Be**	**69.62**	**359**	P	**P**	**23 49 10.8**	**-0.7**
	1.0nm,0.4s,mb4.0,baz=2.6,slow=5.9,SNR=9.6						
GERES	**GERESS Array B**	**70.86**	**10**	P	**P**	**23 49 19.5**	**+0.4**
	0.3nm,0.6s,mb3.3,baz=333,slow=6.6,SNR=2.5						

IDC 17 23:48:40.6±2.2,**5.21N**×**93.54E**,**mb3.7**/5,**mb1 3.9**/5,
mb1mx3.6/18,**mbtmp3.7**/5,**Error ellipse:**
s-maj=102.0km s-min=23.4km az=56.0,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**43.88**	**12**	P	P	23 56 49.1	-1.5
	0.4nm,0.7s,baz=191,slow=6.3,SNR=4.0						
WRA	**Warramunga Arr**	**47.27**	**123**	P	P	23 57 16.3	-1.7
	1.6nm,0.6s,baz=302,slow=8.9,SNR=9.3						
ASAR	**Alice Springs**	**48.72**	**128**	P	P	23 57 26.9	-2.4
	0.6nm,0.9s,baz=306,slow=7.8,SNR=4.1						
BVAR	**Borovoye Array**	**51.31**	**342**	P	P	23 57 45.9	-2.7
	0.4nm,0.6s,baz=149,slow=8.4,SNR=3.1						
ARCES	**ARCESS Array B**	**77.55**	**340**	P	P	00 00 38.6	-1.1
	4.6nm,0.9s,baz=90,slow=5.4,SNR=4.1						

*CSEM **17** 23:52:05.1±0.4, 38.63N×29.11W, ML2.1, Error ellipse: s-maj=5.8km s-min=4.2km az=23.0, After PDA*
*PDA **17** 23:52:05.1±0.4, 38.63N×29.11W, MD3.0, ML2.1, Error ellipse: s-maj=5.8km s-min=4.2km az=23.0*
SVSA 17 23:52:05.1±0.4,**38.63N**×**29.11W**,**MD3.0**,**ML2.1**,**Error ellipse: s-maj=5.8km s-min=4.2km az=23.0**,**Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.32**	**90**	*i* P	Pg	23 52 11.2	-0.3
PCED				*i* S	Sg	23 52 15.7	-0.1
	56nm,0.3s						
PCED	**Cedros**	**0.32**	**90**	*i* S	Sg	23 52 15.7	-0.1
	56nm,0.3s						
	56nm,0.3s						
CALA	**Caldeira**	**0.33**	**99**	*e*P	Pg	23 52 11.3	-0.3
CALA				*e*S	Sg	23 52 16.0	+0.1
HOR	**Horta**	**0.39**	**105**	*e*P	Pg	23 52 12.2	-0.7
PICO	**Pico**	**0.55**	**103**	*e*P	Pg	23 52 15.2	-1.0
PICO				*e*S	Sg	23 52 22.7	-0.8
ROSA	**Rosais**	**0.69**	**82**	*e*P	Pg	23 52 17.1	-1.7

IDC 17 23:53:46.1±2.9,**11.71N**×**92.02E**,**mb3.4**/4,**mb1 3.6**/4,
mb1mx3.4/18,**mbtmp3.4**/4,**Error ellipse:**
s-maj=113.6km s-min=26.8km az=65.0,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**37.98**	**16**	P	P	00 01 05.4	-1.9
	0.4nm,0.7s,baz=205,slow=8.2,SNR=4.7						
BVAR	**Borovoye Array**	**44.71**	**342**	P	P	00 02 01.0	-1.7
	0.2nm,0.6s,baz=156,slow=14,SNR=2.2						
WRA	**Warramunga Arr**	**52.20**	**127**	P	P	00 02 58.8	-2.5
	0.4nm,0.6s,baz=306,slow=8.5,SNR=4.8						
ASAR	**Alice Springs**	**53.98**	**131**	P	P	00 03 12.6	-1.8
	0.2nm,0.3s,baz=298,slow=6.2,SNR=5.1						

*ISK **17** 23:54:29.6, 36.10N×26.51E, h25km, MD3.5*
*ATH **17** 23:54:30.0, 35.68N×26.97E, h22km±3km, MD3.4/6*
*CSEM **17** 23:54:30.4±0.1, 35.71N×26.94E, h15km, MD3.4, Error ellipse: s-maj=4.4km s-min=2.3km az=147.0*
*NEIC **17** 23:54:30.0, 35.68N×26.97E, h22km, MD3.4(ATH), After ATH.*
*HLW **17** 23:54:33.9, 35.68N×27.23E, h19km, Mb3.2*
ISC 17 23:54:31.0±1.1,**35.62N**±0.05×**26.98E**±0.05,**h16**km±11km,
n18,σ0=**22**/23,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.17**	**117**	*e*PB	**Pb**	**23 54 35.4**	**0.0**
ARG	**Arkhangelos**	**1.10**	**57**	*e*PN	**Pn**	**23 54 51.3**	**-0.6**
ARG				*e*SN	**Sn**	**23 55 05.8**	**-1.0**
NPS	**Neapolis**	**1.17**	**252**	*e*PN	**Pn**	**23 54 52.3**	**-0.5**
NPS				*e*SN	**Sn**	**23 55 08.1**	**-0.4**
XRY	**Khrisi**	**1.29**	**235**	*e*PN	**Pn**	**23 54 55.5**	**+1.0**
BDRM	**Kayabasi**	**1.49**	**15**	*i* P	**Pn**	**23 54 56.9**	**-0.4**
YER	**Yerkesik**	**1.84**	**35**	PN	**Pn**	**23 54 59.7**	**-2.7**
YER				SN	**Sn**	**23 55 20.7**	**-4.8**
FETY	**Fethiye**	**1.98**	**59**	*e*PN	**Pn**	**23 55 04.0**	**-0.4**
SMG	**Samos**	**2.08**	**357**	*e*PB	**Pb**	**23 55 04.3**	**-3.7**
AYDN	**Tasoluk**	**2.16**	**19**	*i* P	**Pn**	**23 55 08.2**	**+1.2**
ELL	**Elmali**	**2.62**	**64**	*e*PN	**Pn**	**23 55 13.7**	**+0.1**
ELL				*e*SN	**Sn**	**23 55 47.4**	**+2.0**
DNZL	**Cakiroluk**	**2.65**	**38**	*i* P	**Pn**	**23 55 15.9**	**+1.9**
VLI	**Veliai**	**3.45**	**290**	*e*PN	**Pn**	**23 55 25.0**	**-0.3**
SLUM		**4.38**	**200**	P	**Pn**	**23 55 40.2**	**+1.7**
SLUM		**4.38**	**200**	P	**Pn**	**23 55 40.2**	**+1.7**
HMAT	**Matruh**	**4.52**	**179**	P	**Pn**	**23 55 41.7**	**+1.2**
HMAT				S	**Sn**	**23 56 31.7**	**-1.6**
SWA1		**6.43**	**190**	P	**Pn**	**23 56 07.9**	**+0.3**
SWA2		**6.49**	**192**	P	**Pn**	**23 56 08.3**	**-0.1**
AMAG	**Maghara**	**7.21**	**132**	P	**Pn**	**23 56 15.4**	**-3.1**

*NEIC **18** 00:37:36.1±2.7, 19.97S×177.84W, h420km±28km, mb4.6/9, Error ellipse: s-maj=12.3km s-min=11.1km az=121.0*
*IDC **18** 00:37:37.0±2.4, 19.89S×177.88W, h426km±24km, mb3.6/13, mb1 3.9/13, mb1mx3.9/14, mbtmp4.3/13, Error ellipse: s-maj=26.4km s-min=10.3km az=154.0*
ISC 18 00:37:34.8±2.6,**20.0S**±0.1×**177.89W**±0.09,**h417**km±26km,
n85,σ0=**73**/31,**mb4.1**/20,**3C-7D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.64**	**264**	*e*P	**P**	**00 43 41.1**	**+0.9**
	24nm,0.4s,mb4.9						
CTA	**Charters Tower**	**33.64**	**264**	P	**P**	**00 43 41.0**	**+0.8**
	30nm,0.4s,mb5.0,baz=92,slow=10,SNR=88						
CTAO	**Charters Tower**	**33.64**	**264**	*i* P	**P**	**00 43 41.2**	**+1.0**
	32nm,0.5s,mb4.9						
STKA	**Stephens Creek**	**38.10**	**244**	*e*P	**P**	**00 44 18.1**	**+0.9**
	3.1nm,0.5s,mb3.9						
STKA	**Stephens Creek**	**38.10**	**244**	P	**P**	**00 44 18.1**	**+0.8**
	4.4nm,0.6s,mb4.0,baz=90,slow=9.7,SNR=13						
ASAR	**Alice Springs**	**44.73**	**256**	P	**P**	**00 45 10.7**	**0.0**
	18nm,0.7s,mb4.5,baz=93,slow=8.1,SNR=271						
ASAR				PcP	PcP	00 46 45.1	0.0
	1.2nm,0.9s,baz=99,slow=4.2,SNR=4.5						
ASAR				S	**S**	**00 51 15.9**	**0.0**
	1.6nm,0.8s,baz=93,slow=15,SNR=9.4						
ASPA	**Alice Springs**	**44.74**	**256**	*e*P	**P**	**00 45 10.7**	**-0.1**
WB2	**Warramunga Arr**	**44.76**	**262**	*e*P	**P**	**00 45 10.3**	**-0.7**
WRAB	**Tennant Creek**	**44.76**	**262**	*e*P	**P**	**00 45 10.3**	**-0.7**
	8.3nm,0.7s,mb4.2						

VNDA	Vanda	58.42	185	P	P	00 46 50.6	+0.3	
	1.5nm,0.9s,mb3.3,baz=34,slow=9.4,SNR=4.3							
QSPA	South Pole Qui	70.08	180	P	P	00 48 05.0	+0.7	
	5.2nm,0.7s,mb4.2							
YBH	Yreka Blue Hor	79.83	39	P	P	00 48 59.6	0.0	
	1.0nm,0.5s,mb3.7,baz=210,slow=1.8,SNR=2.8							
NVAR	Mina Array Bea	80.59	43	P	P	00 49 02.6	-1.0	
	1.7nm,0.8s,mb3.9,baz=211,slow=5.3,SNR=8.0							
MAW	Mawson	82.07	200	P	P	00 49 11.2	+0.6	
	1.9nm,0.6s,mb4.0,baz=111,slow=13,SNR=2.6							
ENH	Enshi	85.84	304	eP	P	00 49 31.4	+1.3	
	7.3nm,0.5s,mb4.7							
TXAR	Lajitas Array	86.70	57	P	P	00 49 34.5	+0.3	
	0.9nm,0.6s,mb3.7,baz=218,slow=6.8,SNR=12							
MCMT	McKenzie Canyo	87.50	40	eP	P	00 49 39.1	+1.4	
ILAR	Eielson Array	87.80	13	P	P	00 49 37.9	-0.8	
	1.4nm,0.5s,mb3.9,baz=229,slow=5.0,SNR=31							
PDAR	Pinedale Array	88.53	43	P	P	00 49 42.1	-0.4	
	0.9nm,0.6s,mb3.7,baz=202,slow=2.8,SNR=10							
VNA3	Neumayer Olymp	88.64	176	⇓i	P	00 49 41.4	-1.0	
DAWY	Dawson	88.94	16	eP	P	00 49 44.4	+0.4	
VNA2	Neumayer--Watz	89.08	177	⇓i	P	00 49 44.1	-0.4	
CMAR	Chiang Mai Arr	90.04	290	P	P	00 49 51.5	+1.4	
	4.6nm,1.0s,mb4.2,baz=113,slow=2.9,SNR=14							
SONM	Songino Array	95.44	319	P	P	00 50 14.5	+0.3	
	0.2nm,0.6s,mb3.3,baz=149,slow=2.5,SNR=3.6							
YKA	Yellowknife Ar	96.01	25	P	P	00 50 15.5	-1.0	
	0.1nm,0.6s,mb3.1,baz=242,slow=4.7,SNR=5.3							
ZAL	Zalesovo	110.17	321	PKiKP		00 55 18.0		
	0.3nm,0.3s,baz=293,slow=7.7,SNR=4.1							
BVAR	Borovoye Array	118.75	320	PKP	PKPdf	00 55 34.9	+0.8	
	2.0nm,0.5s,baz=112,slow=1.0,SNR=14							
ARCES	ARCESS Array B	128.44	350	PKP	PKPdf	00 55 53.2	+0.9	
	1.5nm,0.5s,baz=9.3,slow=1.5,SNR=18							
JOF	Joensuu	132.68	342	ep	PKPdf	00 56 01.8	+1.3	
KAF	Kangasniemi	134.69	344	ep	PKPdf	00 56 05.3	+1.0	
FINES	FINESS Array B	135.31	344	PKP	PKPdf	00 56 07.1	+1.7	
	3.2nm,1.0s,baz=34,slow=5.0,SNR=3.9							
FINES	FINESS Array B	135.31	344	PKP	PKPdf	00 56 07.1	+1.7	
NB2	NORSAR Subarra	138.49	353	PKP	PKPdf	00 56 04.2	-7.0	
	0.4nm,0.6s,baz=17,slow=2.6							
AKASG	Malin Array Be	142.62	331	PKhKP		00 56 15.8		
	1.4nm,0.3s,baz=41,slow=4.0,SNR=11							
EKA	Eskdalemuir Ar	144.49	5	PKP	PKPdf	00 56 22.1	+0.3	
	4.8nm,0.7s,baz=352,slow=3.6,SNR=10							
KWP	Kalwaria	146.16	336	ePKPbc	PKPbc	00 56 28.1	+1.7	
BRTR	Keskin Array B	146.57	313	PKPbc	PKPbc	00 56 29.4	+1.9	
	3.0nm,0.8s,baz=131,slow=4.6,SNR=17							
ASF	Jabal al Asfar	146.62	298	PKPbc	PKPbc	00 56 29.6	+1.5	
	5.3nm,0.7s,baz=196,slow=1.6,SNR=5.2							
KOLS	Kolonicke sedl	146.89	335	ePKP	PKPdf	00 56 31.1	+5.0	
CRVS	Cervenica-Dubn	147.23	336	ePKP	PKPdf	00 56 34.9	+8.2	
KSP	Ksiaz	147.24	343	eP	PKPdf	00 56 31.5	+4.9	
OKC	Ostrava-Krasne	147.59	340	ePKPbc	PKPdf	00 56 32.6	+5.4	
CLL	Collm	147.59	347	⇓iPKP1	PKPdf	00 56 32.6	+5.4	
CLL				ePKP2	PKPab	00 56 36.0	-0.4	
UPC	Upice	147.62	343	ePKPbc	PKPdf	00 56 33.3	+6.1	
DPC	Dobruska-Polom	147.67	343	ePKPbc	PKPdf	00 56 33.3	+6.0	
DPC				ePKPab	PKPab	00 56 37.3	+0.5	
BRG	Berggiesshubel	147.79	346	iP	PKPdf	00 56 33.3	+5.8	
BRG				i		00 56 36.8		
MLR	Muntele Rosu	147.85	328	PKPbc	PKPdf	00 56 32.4	+4.6	
	4.9nm,0.8s,baz=120,slow=18,SNR=7.7							
PVCC	Panska Ves	147.97	345	ePKPbc	PKPdf	00 56 33.8	+6.0	
PRU	Pruhonice	148.47	345	ePKPbc	PKPdf	00 56 34.9	+6.3	
PRU				ePKPab	PKPab	00 56 39.9	-0.1	
VYHS	Vyhne	148.53	338	iPKP	PKPdf	00 56 35.1	+6.4	
NKC	Novy Kostel	148.72	347	ePKPbc	PKPdf	00 56 35.7	+6.7	
SMOL	Smolenice	148.98	340	ePKP	PKPdf	00 56 36.8	+7.3	
ZST	Bratislava	149.36	340	ePKP	PKPdf	00 56 37.9	+7.8	
GRA1	Grafenberg Arr	149.48	348	ePKP	PKPdf	00 56 37.2	+7.0	
KHC	Kasperske Hory	149.50	345	ePKPbc	PKPdf	00 56 37.6	+7.3	
KHC				ePKPab	PKPab	00 56 44.4	+0.1	
GERES	GERESS Array B	149.74	345	PKPbc	PKPdf	00 56 38.0	+7.3	
	5.9nm,0.7s,baz=27,slow=2.3,SNR=41							
GIVF	Givet	149.88	357	ePKP1	PKPdf	00 56 38.1	+7.2	
	22nm,0.6s							
BAIF	Baives	149.95	357	ePKP1	PKPdf	00 56 38.3	+7.3	
	43nm,1.1s							
MOA	Molln	150.51	343	⇓iP	PKPdf	00 56 39.6	+7.7	
FLN	La Foliniere	151.22	4	ePKP1	PKPdf	00 56 40.7	+7.8	
	17nm,0.6s							
CDF	Champ du Feu	151.34	353	ePKP1	PKPdf	00 56 41.4	+8.3	
	7.5nm,0.5s							
PERS	Pernice	151.37	341	iP	PKPdf	00 56 40.9	+7.7	
LDF	La Druitiere	151.41	3	ePKP1	PKPdf	00 56 41.1	+7.9	
	14nm,0.5s							
MEZF	Maizieres J'vi	151.46	356	ePKP1	PKPdf	00 56 41.9	+8.6	
	22nm,0.8s							
KBA	Koelnbreinsper	151.47	344	⇑iP	PKPdf	00 56 41.8	+8.5	
SGMF	Saint Gilles	151.55	7	ePKP1	PKPdf	00 56 41.3	+7.9	
GRR	Gorron	151.57	4	ePKP1	PKPdf	00 56 41.6	+8.2	
	21nm,0.7s							
WTTA	Wattenberg	151.71	346	⇓iP	PKPdf	00 56 42.6	+9.0	
MOTA	Moosalm	151.75	347	⇓iP	PKPdf	00 56 42.6	+8.9	
HAU	Haudompre	151.84	354	ePKP1	PKPdf	00 56 42.4	+8.6	
	9.4nm,0.6s							
SQTA	Sankt Quirin	151.84	347	⇓iP	PKPdf	00 56 42.7	+8.9	
HINF	Hinteralfeld	151.98	353	ePKP1	PKPdf	00 56 42.4	+8.4	
	5.2nm,0.6s							
CRES	Cresnjev	151.98	340	iP	PKPdf	00 56 42.9	+8.8	
DAVA	Damuels	152.05	349	⇑iP	PKPdf	00 56 43.7	+10	
BOJS	Bojanci	152.34	340	iP	PKPdf	00 56 43.7	+9.2	
CEY	Cerknica	152.38	341	iP	PKPdf	00 56 43.2	+8.6	
DAVOX	Davos	152.53	348	PKPbc	PKPdf	00 56 43.9	+9.1	
	4.2nm,0.5s,baz=243,slow=4.1,SNR=10							
SSF	Saint Saulge	152.97	358	ePKP1	PKPdf	00 56 45.0	+10	
	24nm,1.1s							
MFF	Saint Martin d	153.39	3	ePKP1	PKPdf	00 56 45.0	+9.0	
	11nm,0.7s							
TCF	Toulx Ste Croi	153.77	360	ePKP1	PKPdf	00 56 47.4	+11	
	23nm,1.1s							
MBDF	Montbardon	155.03	352	ePKP1	PKPdf	00 56 49.6	+11	
	4.6nm,0.8s							

*NEIC **18** 00:38:21.1, 41.01S×174.45E, h53km, ML4.5(WEL), After WEL.*

WEL 18 00:38:21.1±0.1, 41.00S×174.45E, h53km±1km, ML4.6/11, 8C-2D, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0, MM 5., Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRW	Makara Radio	0.30	140	P	P	00 38 30.0	-0.5
MRW				S	S	00 38 36.9	-0.4
MRW	Makara Radio	0.30	140	⇑PN	P	00 38 30.0	-0.4
MRW				SN	S	00 38 36.9	-0.4
WEL	Wellington	0.37	140	P	P	00 38 30.9	-0.3
WEL				S	S	00 38 38.5	-0.1
WEL	Wellington	0.37	140	⇑PN	P	00 38 30.9	-0.3
WEL				SN	S	00 38 38.3	-0.2
KIW	Kapiti Island	0.38	69	P	P	00 38 30.4	-0.8
KIW				S	S	00 38 37.3	-1.3
KIW	Kapiti Island	0.38	69	⇓PN	P	00 38 30.4	-0.9
KIW				SN	S	00 38 37.5	-1.1
CAW	Cannon Point	0.48	103	⇑PN	P	00 38 32.0	-0.3
CAW				SN	S	00 38 40.5	0.0
BHW	Baring Head	0.52	142	P	P	00 38 32.5	-0.2
BHW	Baring Head	0.52	142	⇑PN	P	00 38 32.5	-0.3
BHW				SN	S	00 38 41.1	-0.2
MSWZ	Moikau Station	0.73	125	P	P	00 38 34.9	-0.5
MSWZ	Moikau Station	0.73	125	⇑PN	P	00 38 34.9	-0.5
MSWZ				SN	S	00 38 45.2	-0.8
MTW	Mount Morrison	0.81	102	P	P	00 38 35.7	-0.8
MTW	Mount Morrison	0.81	102	⇑PN	P	00 38 35.7	-0.8
MTW				SN	S	00 38 46.5	-1.4
PAWZ	Paruwai Farm	0.83	118	⇑PN	P	00 38 36.0	-0.7
PAWZ				SN	S	00 38 47.6	-0.7
NNZ	Nelson	0.84	255	PN	P	00 38 36.2	-0.6
MRZ	Mangatainoka R	0.92	69	P	P	00 38 37.2	-0.8
MRZ	Mangatainoka R	0.92	69	⇓PN	P	00 38 37.2	-0.8
MRZ				SN	S	00 38 49.9	-0.7
WAZ	Wanganui	1.31	18	P	P	00 38 43.2	-0.3
WAZ	Wanganui	1.31	18	PN	P	00 38 43.2	-0.3
WAZ				SN	S	00 39 00.0	-0.2
THZ	Tophouse	1.39	236	P	P	00 38 44.0	-0.6
THZ	Tophouse	1.39	236	PN	P	00 38 43.9	-0.7
BFZ	Birch Farm	1.40	77	P	P	00 38 42.9	-1.9
BFZ	Birch Farm	1.40	77	PN	P	00 38 43.0	-1.8
BFZ				SN	S	00 38 58.7	-3.6
QRZ	Quartz Range	1.47	276	P	P	00 38 44.7	-1.0
QRZ	Quartz Range	1.47	276	PN	P	00 38 44.7	-1.0
QRZ				SN	S	00 39 03.4	-0.5
TSZ	Takapari Road	1.49	51	P	P	00 38 44.5	-1.5
TSZ	Takapari Road	1.49	51	PN	P	00 38 44.5	-1.5
KHZ	Kahutara	1.57	205	P	P	00 38 46.4	-0.7
KHZ	Kahutara	1.57	205	PN	P	00 38 46.4	-0.7
KHZ				SN	S	00 39 04.7	-1.7
DFE	Dawson Falls	1.69	351	P	P	00 38 48.6	-0.2
DFE	Dawson Falls	1.69	351	PN	P	00 38 48.5	-0.3
NRZ	Ngariki Road	1.71	346	P	P	00 38 48.5	-0.5
NRZ	Ngariki Road	1.71	346	PN	P	00 38 48.6	-0.5
RAEZ	Rainy Point	1.71	359	P	P	00 38 48.8	-0.3
RAEZ	Rainy Point	1.71	359	PN	P	00 38 48.4	-0.7
NEZ	North Egmont	1.75	351	P	P	00 38 49.5	-0.1
NEZ	North Egmont	1.75	351	PN	P	00 38 49.1	-0.5
NWEZ	Newall Road	1.78	345	P	P	00 38 49.4	-0.6
NWEZ	Newall Road	1.78	345	PN	P	00 38 49.2	-0.8
PKE	Pukeiti	1.84	349	P	P	00 38 50.2	-0.6
PKE	Pukeiti	1.84	349	PN	P	00 38 50.2	-0.7
MOVZ	Moawhango	1.88	33	P	P	00 38 49.8	-1.6
MOVZ	Moawhango	1.88	33	PN	P	00 38 49.7	-1.7
VRZ	Vera Road	1.89	7	P	P	00 38 50.9	-0.6
VRZ	Vera Road	1.89	7	⇑PN	P	00 38 50.9	-0.7
VRZ				SN	S	00 39 12.8	-1.4
WNVZ	Wahianoa	1.89	28	PN	P	00 38 49.9	-1.6
DRZ	Dome Shelter	1.92	27	P	P	00 38 46.3	-5.7
DRZ				P		00 38 51.2	
DRZ	Dome Shelter	1.92	27	PN	P	00 38 51.1	-0.9
FWVZ	Far West T-bar	1.94	26	P	P	00 38 51.6	-0.6
FWVZ	Far West T-bar	1.94	26	PN	P	00 38 51.4	-0.8
TUVZ	Tukino	1.96	29	P	P	00 38 51.7	-0.9
TUVZ	Tukino	1.96	29	PN	P	00 38 51.7	-0.8
WPVZ	Whakapapa	1.98	26	P	P	00 38 52.2	-0.6
WPVZ	Whakapapa	1.98	26	PN	P	00 38 52.2	-0.7
CNZ	Chateau	1.99	25	P	P	00 38 52.2	-0.7
CNZ	Chateau	1.99	25	PN	P	00 38 52.1	-0.8
NGZ	Ngauruhoe	2.03	26	P	P	00 38 52.7	-0.8
NGZ				P		00 38 52.9	
NGZ	Ngauruhoe	2.03	26	PN	P	00 38 52.9	-0.6
OTVZ	Oturere	2.06	27	PN	P	00 38 53.1	-0.9
TWVZ	Taurewa	2.07	22	P	P	00 38 53.0	-1.1
TWVZ	Taurewa	2.07	22	PN	P	00 38 53.0	-1.1
WTVZ	West Tongariro	2.08	25	P	P	00 38 53.2	-1.0
WTVZ	West Tongariro	2.08	25	PN	P	00 38 53.2	-1.0
PWZ	Pawanui	2.08	63	eP	P	00 38 51.7	-2.6
KRVZ	Karewarewa	2.11	26	PN	P	00 38 53.7	-1.0
DSZ	Denniston Nort	2.12	249	P	P	00 38 53.8	-1.1
DSZ	Denniston Nort	2.12	249	PN	P	00 38 53.8	-1.0
MGZ	Maungaku	2.17	23	P	P	00 38 54.3	-1.2
MGZ	Maungaku	2.17	23	PN	P	00 38 54.3	-1.2
KATZ	Kakaramea	2.24	26	P	P	00 38 55.7	-0.8
KATZ	Kakaramea	2.24	26	PN	P	00 38 55.7	-0.8
RATZ	Rangitukua	2.36	26	P	P	00 38 57.8	-0.4
RATZ	Rangitukua	2.36	26	PN	P	00 38 57.3	-0.9
BKZ	Black Stump Fm	2.41	41	eP	P	00 38 56.1	-2.9
BKZ	Black Stump Fm	2.41	41	PN	P	00 38 56.1	-2.8
LTZ	Lake Taylor	2.41	222	P	P	00 38 57.2	-1.8
LTZ	Lake Taylor	2.41	222	PN	P	00 38 57.2	-1.7
LTZ				SN	S	00 39 24.2	-3.1
WATZ	Wairara	2.49	24	P	P	00 38 58.7	-1.4
WATZ	Wairara	2.49	24	PN	P	00 38 58.7	-1.5
HIZ	Hauiti	2.50	7	P	P	00 38 59.1	-1.2
HIZ	Hauiti	2.50	7	PN	P	00 38 58.9	-1.3
HIZ				SN	S	00 39 29.3	-0.4
CRLZ	Canterbury Las	2.91	207	P	P	00 39 02.7	-3.3
CRLZ	Canterbury Las	2.91	207	PN	P	00 39 02.5	-3.5
CRLZ				SN	S	00 39 34.0	-6.0
MQZ	McQueen's Vall	3.01	206	P	P	00 39 03.7	-3.8
KNZ	Kokohu	3.17	52	eP	P	00 39 05.4	-4.3
TOZ	Tahuroa Road	3.37	14	P	P	00 39 10.4	-2.1
URZ	Urewera	3.42	38	eP	P	00 39 08.5	-4.8
WVZ	Waitaha Valley	3.46	232	P	P	00 39 11.0	-2.8
MWZ	Matawai	3.57	43	P	P	00 39 10.5	-4.8
RPZ	Rata Peaks	3.70	222	P	P	00 39 14.1	-3.1
MKAZ	Moumakai	3.92	8	P	P	00 39 18.4	-1.9
WTAZ	Waiatarua	4.06	1	P	P	00 39 21.0	-1.3
MTAZ	Motutapu	4.22	5	P	P	00 39 22.7	-1.9
KUZ	Kuaotunu	4.36	14	eP	P	00 39 23.6	-2.9
MXZ	Matakaoa Point	4.55	42	eP	P	00 39 23.9	-5.3
LBZ	Lake Benmore	4.62	221	eP	P	00 39 25.7	-4.4
ODZ	Otahua Downs	4.91	213	eP	P	00 39 29.4	-4.8
WCZ	Waipu Caves	5.05	359	eP	P	00 39 33.5	-2.7
JCZ	Jackson Bay	5.21	232	eP	P	00 39 33.9	-4.4
WKZ	Wanaka	5.53	224	eP	P	00 39 38.0	-4.7
OUZ	Omahuta	5.81	353	eP	P	00 39 44.1	-2.6
TUZ	Tuapeka	6.07	214	eP	P	00 39 45.4	-4.9

*BER **18** 00:57:12.2±4.4, 67.34N×18.95E, MD3.0, ML1.4*

HEL 18 00:57:09.0±0.1, 67.34N×18.90E, h9km, ML1.7, ML2.0(UPP), ML1.4(BER), 3C-1D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	Nikkaluokta	0.53	5	⇑iP	Pg	00 57 18.6	-1.2
NIKU				i S	Sg	00 57 25.6	-1.3
DUNU	Dundret	0.69	108	⇓iP	Pb	00 57 21.2	-1.5
DUNU				i S	Sg	00 57 30.4	-1.6
KUA	Kurravaara	0.83	41	iP	Pb	00 57 23.9	-1.3
MASU	Masugnsbyn	1.20	83	⇑eP	Pb	00 57 30.5	-1.1
MASU				eS	Sb	00 57 46.3	-0.7
LANU	Lannavaara	1.38	57	eP	Pn	00 57 33.5	-1.0
ERTU	Ertsjaerv	1.52	120	eP	Pn	00 57 35.5	-1.0
PAJU	Pajala	1.67	99	eP	Pn	00 57 38.2	-0.5
PAJU				eS	Sn	00 58 00.4	-0.1
KIF	Kilpisjarvi	1.82	22	eP	Pn	00 57 41.4	+0.5
KIF				eS	Sn	00 58 04.7	+0.4
LILU	Lilltraesk	2.10	169	eP	Pn	00 57 44.4	-0.4
MOR8	Moi Rana	2.12	239	eP	Pn	00 57 43.0	-2.2
MOR8				eS	Sn	00 58 09.0	-2.9
SJUU	Sjulsmark	2.14	148	⇑eP	Pn	00 57 44.9	-0.5
SJUU				eS	Sn	00 58 12.4	+0.1
TRO	Tromso	2.31	0	eP	Pn	00 57 47.0	-0.8
TRO				eS	Sn	00 58 18.6	+2.0
TRO				AML	AML	00 58 23.1	
	comp=Z,4.2nm,0.4s						
KTK1	Kautokeino	2.33	42	eP	Pn	00 57 49.6	+1.4
KTK1				eS	Sn	00 58 18.3	+0.9
BURU	Burvik	2.95	159	eP	Pn	00 57 56.6	-0.4
SGF	Sodankyl	2.95	84	eP	Pn	00 57 55.8	-1.2
SGF				eSG	Sg	00 58 39.5	-7.7
SGF				MSG		00 58 41.8	
	comp=Z,2.3nm,0.2s						
OUL	Oulu	3.63	125	eP	Pn	00 58 05.3	-1.3
OUL				eS	Sn	00 58 47.3	-2.7
OUL				eSG	Sg	00 58 59.3	-10
OUL				MSG		00 59 03.0	
	comp=Z,2.0nm,0.2s						
KEV	Kevo	3.84	47	eP	Pn	00 58 08.2	-1.5
KEV				eS	Sn	00 58 51.6	-3.9
KEV				eSG	Sg	00 59 07.3	-10
KEV				MSG		00 59 10.8	
	comp=Z,1.0nm,0.2s						
NSS	Namsos	4.00	228	eS	Sn	00 59 00.2	+0.6
HUSU	Husum	4.02	178	eP	Pn	00 58 11.1	-1.1
MSF	Maaselka	4.29	105	eP	Pn	00 58 14.0	-2.0
MSF				eSG	Sg	00 59 20.8	-11
MSF				MSG		00 59 23.2	
	comp=Z,1.6nm,0.3s						
KU4	Oulanka	4.33	98	eS	Sn	00 59 03.6	-4.2
KU4				eSG	Sg	00 59 20.6	-13
VAF	Ylistaro	4.60	158	eP	Pn	00 58 18.5	-1.9
VAF				eS	Sn	00 59 09.8	-4.8
VAF				eSG	Sg	00 59 28.4	-14
KJN	Kajaani	4.89	128	eP	Pn	00 58 22.1	-2.5
KJN				eS	Sn	00 59 17.0	-5.0
KJN				eSG	Sg	00 59 37.5	-14
KJN				MSG		00 59 41.2	
	comp=Z,0.9nm,0.2s						
SUF	Sumiainen	5.56	143	eP	Pn	00 58 31.8	-2.2
SUF				eS	Sn	00 59 34.2	-4.7
SUF				eSG	Sg	01 00 00.0	-14
SUF				MSG		01 00 06.4	
	comp=Z,0.5nm,0.2s						
KEF	Keuruu	5.78	151	eP	Pn	00 58 35.1	-2.0
KEF				eS	Sn	00 59 38.2	-6.3
KEF				eSG	Sg	01 00 07.5	-14
KEF				MSG		01 00 12.3	
	comp=Z,0.5nm,0.3s						
KAF	Kangasniemi	6.13	145	eP	Pn	00 58 39.2	-2.8
KAF				eS	Sn	00 59 46.5	-6.5
KAF				eSG	Sg	01 00 17.2	-16
KAF				MSG		01 00 25.4	
	comp=Z,0.4nm,0.2s						
FIA0	FINESS Array S	6.68	149	eS	Sn	00 59 59.8	-7.1
FIA0				eSG	Sg	01 00 35.9	-16
FIA0				MSG		01 00 37.7	
	comp=Z,0.3nm,0.2s						
JOF	Joensuu	6.85	124	eSG	Sg	01 00 38.3	-19
JOF				MSG		01 00 43.2	
	comp=Z,0.4nm,0.2s						

*IDC **18** 01:08:05.0±0.9, 13.00N×92.15E, mb3.8/8, mb1 3.9/9, mb1mx3.8/19, mbtmp3.8/9, Error ellipse: s-maj=35.4km s-min=16.8km az=48.0*

*NEIC **18** 01:08:09.6±0.6, 13.00N×92.20E, h30km, mb4.4/4, Error ellipse: s-maj=16.4km s-min=11.0km az=57.0*

ISC 18 01:08:07.8±0.7, 13.12N±0.09×92.33E±0.09, h30km, n13, σ0=91/14, mb4.0/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.29	49	Pn	P	01 10 09.6	+0.5
	baz=239,slow=15,SNR=14						
CMAR				Sn	Sn	01 11 41.2	-1.4
	0.2nm,0.3s,baz=238,slow=27,SNR=5.3						
LSA	Lhasa	16.54	356	eP	P	01 12 03.5	+4.1
	9.8nm,0.9s						
ENH	Enshi	23.30	40	P	P	01 13 16.0	+1.7
	9.9nm,1.0s,mb4.2						
SONM	Songino Array	36.55	16	P	P	01 15 13.3	+0.5
	1.4nm,1.1s,mb3.7,baz=198,slow=7.0,SNR=6.0						
BVAR	Borovoye Array	43.48	341	P	P	01 16 11.3	+1.3
	0.4nm,0.6s,mb3.3,baz=111,slow=13,SNR=2.3						
CHKZ	Chkalovo	43.97	342	eP	P	01 16 13.5	-0.5
	5.0nm,0.6s,mb4.4						
GNI	Garni	49.57	312	P	P	01 16 57.8	-0.5
	0.6nm,0.3s,mb4.0,baz=194,slow=4.2,SNR=2.5						
WRA	Warramunga Arr	52.80	128	P	P	01 17 22.5	-0.5
	1.2nm,0.3s,mb4.2,baz=300,slow=9.9,SNR=14						
WRAB	Tennant Creek	52.80	128	eP	P	01 17 23.2	+0.2
	3.5nm,0.5s,mb4.5						
ASAR	Alice Springs	54.67	132	P	P	01 17 36.4	-0.3
	1.5nm,0.6s,mb4.2,baz=309,slow=7.0,SNR=16						
BRTR	Keskin Array B	57.73	309	P	P	01 17 56.9	-1.5
	0.6nm,0.8s,mb3.6,baz=90,slow=7.2,SNR=2.6						
STKA	Stephens Creek	65.02	135	P	P	01 18 48.1	+0.4
	2.8nm,0.9s,mb4.3,baz=287,slow=2.8,SNR=5.0						
GERES	GERESS Array B	72.77	317	P	P	01 19 35.1	-0.2
	0.3nm,0.8s,mb3.3,baz=63,slow=6.6,SNR=3.2						

*CSEM **18** 01:38:43.9±0.5, 38.70N×28.59W, h13km±5km, ML1.6, Error ellipse: s-maj=2.7km s-min=1.6km az=158.0, After PDA*

*PDA **18** 01:38:43.9±0.5, 38.70N×28.59W, h13km±5km, MD2.8, ML1.6, Error ellipse: s-maj=2.7km s-min=1.6km az=158.0*

SVSA 18 01:38:43.9±0.5, 38.70N×28.59W, h13km±5km, MD2.8, ML1.6, Error ellipse: s-maj=2.7km s-min=1.6km az=158.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.11	231	eP	Pg	01 38 46.6	-0.6
PCED				eS	Sg	01 38 48.8	-0.6
	50nm,0.2s						
	50nm,0.2s						
CALA	Caldeira	0.15	217	eP	Pg	01 38 47.4	-0.3
CALA				eS	Sg	01 38 49.9	-0.3
HOR	Horta	0.17	190	eP	Pg	01 38 47.3	-0.8
HOR				eS	Sg	01 38 50.1	-0.9
PICO	Pico	0.24	147	eP	Pg	01 38 48.5	-0.7
PICO				eS	Sg	01 38 51.9	-0.8
ROSA	Rosais	0.27	86	eS	Sg	01 38 52.7	-1.2

IDC 18 01:41:15.4±1.8, 3.58N×94.18E, mb3.8/5, mb1 4.0/6, mb1mx3.7/19, mbtmp3.8/6, ML4.3/1, Error ellipse: s-maj=73.5km s-min=23.4km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.50	17	Pn	P	01 44 56.4	-0.8
	0.

0.4nm,0.3s,baz=236,slow=21,SNR=4.2
SONM Songino Array 34.49 15 P P 01 59 51.4 -1.9
0.3nm,0.6s,baz=203,slow=8.1,SNR=5.1
ZAL Zalesovo 39.69 351 P P 02 00 35.3 -1.6
0.8nm,0.4s,baz=304,slow=7.3,SNR=3.6
WRA Warramunga Arr 52.61 130 P P 02 02 17.3 -2.2
0.3nm,0.3s,baz=315,slow=8.1,SNR=4.9
ASAR Alice Springs 54.64 134 P P 02 02 31.8 -2.6
0.4nm,0.5s,baz=313,slow=6.7,SNR=8.9

IDC 18 02:01:33.6±1.3, 11.30N×140.92E, mb3.6/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=58.9km s-min=32.9km az=99.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**35.42**	**191**	P	P	02 08 31.5	-2.1
	0.3nm,0.5s,baz=18,slow=13,SNR=2.8						
BVAR	**Borovoye Array**	**69.36**	**323**	P	P	02 12 43.4	-1.6
	0.6nm,0.5s,baz=100,slow=9.0,SNR=6.9						
ILAR	**Eielson Array**	**72.27**	**25**	P	P	02 13 00.1	-2.5
	0.2nm,0.5s,baz=242,slow=6.5,SNR=4.4						
YKA	**Yellowknife Ar**	**86.64**	**27**	P	P	02 14 19.7	-0.3
	0.3nm,0.5s,baz=290,slow=5.0,SNR=9.6						
FINES	**FINESS Array B**	**91.57**	**334**	P	P	02 14 41.3	-2.0
	3.4nm,1.2s,baz=45,slow=2.7,SNR=4.9						

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*NIED **18** 02:08:00,37.40N×139.00E,h5km,Mw3.5 Best double couple: M0 2.12×10^14 NP1:φs185°,δ61°,λ56°. NP2:φs60°, δ44°,λ136°.*
*JMA **18** 02:08:11.0,37.37N×139.00E,h8km±2km,M3.7*
JMA Felt II J1.
ISC 18 02:08:10.5±0.7, 37.38N±0.03×138.99E±0.06, h12km±5km, n8, σ0§37/13, 1C-6D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.14**	**170**	⇓P	**Pg**	**02 08 13.8**	**-0.2**
JHK				S	**Sg**	**02 08 16.1**	**-0.3**
JIZZ	**Izumozaki**	**0.27**	**304**	⇓P	**Pg**	**02 08 17.1**	**+0.8**
JNS	**Sasagawa**	**0.51**	**31**	⇑P	**Pb**	**02 08 20.7**	**-0.1**
JNS				S	**Sg**	**02 08 27.9**	**+0.1**
JFY	**Yanaizu**	**0.57**	**87**	⇓P	**Pb**	**02 08 22.0**	**+0.1**
JFY				S	**Sb**	**02 08 29.7**	**0.0**
JKT	**Katashina**	**0.65**	**161**	⇓P	**Pb**	**02 08 23.1**	**-0.1**
JKT				S	**Sb**	**02 08 31.9**	**0.0**
JSD	**Sado**	**0.87**	**319**	⇓P	**Pb**	**02 08 26.4**	**-0.7**
JAG	**Ashikaga**	**1.02**	**159**	⇓P	**Pb**	**02 08 30.2**	**+0.5**
MAT	**Matsushiro**	**1.04**	**217**	P	**Pb**	**02 08 29.6**	**-0.4**
MAT				S	**Sb**	**02 08 43.7**	**+0.3**

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*IDC **18** 02:17:05.8±2.9,6.81N×73.02W,h158km±28km,mb3.5/8, mb1 3.8/9,mb1mx3.5/19,mbtmp3.9/9,Error ellipse: s-maj=32.3km s-min=14.5km az=65.0*
*FUNV **18** 02:17:05.3,6.74N×73.21W,h168km,MW3.5*
*NEIC **18** 02:17:07.0±1.9,6.79N×73.01W,h171km±19km,mb4.1/3, Error ellipse: s-maj=28.2km s-min=10.4km az=62.0*
ISC 18 02:17:07.1±0.8, 6.94N±0.05×72.83W±0.06, h184km±6km, n32, σ0§97/42, mb3.8/11, 6C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.06**	**29**	⇑i P	**P**	**02 17 35.3**	**-0.5**
CAPV				eS	**S**	**02 17 56.6**	**-1.4**
SOCV	**Socops**	**2.37**	**56**	⇑i P	**P**	**02 17 50.1**	**+1.0**
SOCV				eS	**S**	**02 18 22.4**	**+1.0**
VIGV	**El Vigia**	**2.39**	**37**	⇑i P	**P**	**02 17 49.8**	**+0.6**
VIGV				eS	**S**	**02 18 22.9**	**+1.3**
SDV	**Santo Domingo**	**2.92**	**48**	P	**P**	**02 17 56.9**	**+1.4**
	22nm,0.3s,baz=266,slow=5.5,SNR=97						
SDV				S	**S**	**02 18 33.7**	**+0.9**
	33nm,0.3s,baz=353,slow=7.5,SNR=24						
ELOV	**Elorza**	**3.33**	**89**	⇑i P	**P**	**02 18 01.4**	**+0.9**
ELOV				eS	**S**	**02 18 42.5**	**+0.8**
VIRV	**Villa del Rosa**	**3.57**	**7**	⇑e P	**P**	**02 18 02.2**	**-1.3**
VIRV				eS	**S**	**02 18 44.4**	**-2.8**
DABV	**Dabajuro**	**4.51**	**29**	e P	**P**	**02 18 16.1**	**+0.5**
DABV				eS	**S**	**02 19 08.3**	**-0.3**
TEPV	**Terepaima**	**4.69**	**50**	⇓i P	**P**	**02 18 19.1**	**+1.2**
TEPV				eS	**S**	**02 19 13.4**	**+0.7**
SIQV	**Siquisique**	**4.75**	**39**	e P	**P**	**02 18 19.2**	**+0.6**
SIQV				eS	**S**	**02 19 14.0**	**0.0**
BAUV	**El Baul**	**5.15**	**67**	eS	**S**	**02 19 22.9**	**-0.4**
PAYV	**Puerto Ayacuch**	**5.36**	**106**	⇑i P	**P**	**02 18 25.8**	**-0.7**
PAYV				eS	**S**	**02 19 26.2**	**-2.0**
IMOV	**Isla Los Monje**	**5.71**	**19**	e P	**P**	**02 18 30.9**	**-0.3**
MONV	**Montecano**	**5.73**	**29**	e P	**P**	**02 18 31.4**	**0.0**
MONV				eS	**S**	**02 19 35.1**	**-1.8**
TURV	**Turiamo**	**6.04**	**54**	e P	**P**	**02 18 35.6**	**+0.1**
CAOV	**Caicara del Or**	**6.47**	**86**	⇓i P	**P**	**02 18 40.6**	**-0.5**
CAOV				eS	**S**	**02 19 52.5**	**-1.8**
LPAZ	**La Paz**	**23.54**	**169**	P	**P**	**02 22 02.1**	**+0.1**
	1.1nm,0.6s,mb3.6,baz=326,slow=12,SNR=3.9						
BDFB	**Brasilia**	**33.28**	**133**	P	**P**	**02 23 29.5**	**+0.2**
	2.6nm,0.6s,mb4.2,baz=288,slow=8.4,SNR=7.2						
TXAR	**Lajitas Array**	**36.60**	**311**	P	**P**	**02 23 56.7**	**-0.6**
	0.7nm,0.5s,mb3.5,baz=128,slow=9.6,SNR=9.1						
TXAR				PcP	PcP	02 26 17.6	+0.8
	0.3nm,0.6s,baz=129,slow=5.8,SNR=3.5						
TXAR	**Lajitas Array**	**36.60**	**311**	P	**P**	**02 23 56.7**	**-0.6**
TXAR				PcP	PcP	02 26 17.6	+0.8
ISCO	**Idaho Springs**	**43.98**	**323**	P	**P**	**02 24 59.0**	**+1.2**
	4.8nm,1.1s,mb4.0						
MSU	**Marysvale**	**47.41**	**318**	e P	**P**	**02 25 25.7**	**+0.9**
SCHQ	**Schefferville**	**48.00**	**5**	P	**P**	**02 25 30.5**	**+1.4**
	4.1nm,0.8s,mb4.1,baz=149,slow=4.3,SNR=9.5						
SCHQ	**Schefferville**	**48.00**	**5**	P	**P**	**02 25 30.5**	**+1.4**
PDAR	**Pinedale Array**	**48.15**	**324**	P	**P**	**02 25 30.3**	**-0.1**
	0.7nm,0.5s,mb3.5,baz=122,slow=9.9,SNR=7.5						
DGMT	**Dagmar**	**49.18**	**333**	P	**P**	**02 25 37.3**	**-0.9**
	13nm,0.6s,mb4.8						
HLID	**Hailey**	**51.52**	**322**	P	**P**	**02 25 56.1**	**+0.1**
	0.9nm,0.5s,mb3.7						
NVAR	**Mina Array Bea**	**51.61**	**314**	P	**P**	**02 25 55.9**	**-0.8**
	0.7nm,0.7s,mb3.4,baz=108,slow=5.7,SNR=6.3						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**02 27 17.2**	**-0.7**
	2.6nm,0.6s,mb4.2,baz=133,slow=6.6,SNR=92						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**02 27 17.2**	**-0.8**
ILAR	**Eielson Array**	**76.98**	**335**	P	**P**	**02 28 40.8**	**+0.1**
	0.3nm,0.8s,mb3.0,baz=108,slow=4.5,SNR=6.1						
ASAR	**Alice Springs**	**149.41**	**234**	PKPbc	PKPdf	02 36 35.5	+5.2
	0.5nm,0.5s,baz=119,slow=3.5,SNR=7.4						
WRA	**Warramunga Arr**	**150.64**	**241**	PKPbc	PKPdf	02 36 38.3	+6.0
	0.7nm,0.4s,baz=106,slow=2.9,SNR=7.5						

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*IDC **18** 02:36:40.7±0.6, 10.49N×91.81E, mb4.4/21, mb1 4.5/22, mb1mx4.4/26, mbtmp4.4/22, ML4.4/1, MS4.5/15, Ms1 4.5/15, ms1mx4.3/23, Error ellipse: s-maj=25.2km s-min=12.0km az=51.0*
*BJI **18** 02:36:43.5, 10.41N×92.02E, h38km, mB5.1, mb4.8, Ms5.0, Msz4.7*
*MOS **18** 02:36:44.2±1.1, 10.60N×92.05E, h33km, mb5.2/17, MS4.7/6, Error ellipse: s-maj=13.8km s-min=7.7km az=106.8*
*HRVD **18** 02:36:45.5±0.3, 10.57N×91.93E, h12km, MW5.0/45, Centroid moment Tensor Solution. LP body waves: s21,c29;Mantle waves: s45,c70; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.58±.14; Mθθ1.68±.13; Mφφ-4.26±.12; Mrθ1.06±.40; Mθφ0.29±.12; Mφr-1.89±.33; Best double couple: M0 4.178×10^16 NP1:φs26°,δ37°,λ135°. NP2:φs155°,δ65°,λ62°. Principal axes: T 3.561, Plg60°, Azm23°; N 1.233, Plg25°, Azm168°; P -4.794, Plg15°, Azm265°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **18** 02:36:45.5±2.3, 10.62N×92.02E, h28km±16km, mb4.9/20 Error ellipse: s-maj=7.6km s-min=5.7km az=223.0*
ISC 18 02:36:43.5±1.4, 10.61N±0.04×92.01E±0.03, h27km±10km, h33km±2.7km: pP-P, n135, σ1§10/144, mb4.8/57, MS4.7/26, 13C-4D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.82**	**75**	P	**Pn**	**02 38 40.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**10.29**	**40**	Pn	**P**	**02 39 10.8**	**-1.9**
	0.9nm,0.3s,baz=235,slow=15,SNR=13						
CMAR				Sn	**S**	**02 41 16.8**	**+8.6**
	0.3nm,0.3s,baz=235,slow=28,SNR=3.5						
CMAR				LR	LR	02 43 50.1	
	comp=Z,2μm,20.8s,baz=220,slow=41						
VIS	**Vishakhapatnam**	**10.99**	**311**	e P	**P**	**02 39 18.6**	**-3.7**
VIS				eS	**S**	**02 41 11.8**	**-14**
VIS				e		02 41 18.3	
	comp=N,131nm,0.3s						
VIS				e		02 41 18.9	
	comp=E,114nm,0.4s						
BWNR	**Bhubaneshwar**	**11.33**	**329**	e P	**P**	**02 39 21.7**	**-5.2**
BWNR				e		02 39 22.5	
	comp=Z,123nm,0.3s						
BWNR				eS	**S**	**02 41 18.6**	**-15**
BWNR				e		02 41 24.5	
	comp=E,265nm,0.4s						
BWNR				e		02 41 25.4	
	comp=N,117nm,0.4s						
PALK	**Pallekele**	**11.65**	**254**	e P	**P**	**02 39 31.0**	**-0.2**
PALK				eS	**S**	**02 41 29.8**	**-12**
MDRS	**Chennai**	**11.77**	**283**	e P	**P**	**02 39 30.0**	**-2.8**
MDRS				e	**S**	**02 41 30.0**	**-14**
CHRT	**Chiangrai**	**11.88**	**38**	⇑P	**P**	**02 39 35.5**	**+1.3**
	comp=N,110nm,0.9s						
IMP	**Imphal**	**14.22**	**7**	e	**P**	**02 40 00.0**	**-5.4**
KOD	**Kodaikanal**	**14.31**	**270**	e P	**P**	**02 40 06.0**	**-0.6**
HYB	**Hyderabad**	**14.70**	**299**	e P	**P**	**02 40 10.0**	**-1.7**
HYB				eS	**S**	**02 42 54.0**	**-0.5**
HYB	**Hyderabad**	**14.70**	**299**	e P	**P**	**02 40 10.0**	**-1.7**
HYB				e		02 40 20.0	
HYB				eS	**S**	**02 42 54.0**	**-0.5**
HYB	**Hyderabad**	**14.70**	**299**	i P	**P**	**02 40 10.0**	**-1.7**
HYB				e		02 40 20.0	
HYB				eS	**S**	**02 42 54.0**	**-0.5**
BLSP	**Bilaspur**	**14.86**	**322**	e P	**P**	**02 40 11.8**	**-2.0**
BLSP				e		02 40 13.1	
	comp=Z,20nm,0.4s						
BLSP				e	**S**	**02 42 49.8**	**-8.4**
SHL	**Shillong**	**14.88**	**360**	e P	**P**	**02 40 13.0**	**-1.0**
SHL				e		02 42 22.0	
TRD	**Trivandrum**	**14.99**	**263**	e P	**P**	**02 40 17.1**	**+1.7**
TRD				i S	**S**	**02 43 03.4**	**+2.1**
MNGI	**Mangalore**	**16.98**	**280**	e P	**P**	**02 40 42.3**	**+1.2**
MNGI				e	**S**	**02 43 32.8**	**-15**
JIRN	**Jiri**	**17.82**	**343**	e P	**P**	**02 40 52.2**	**+0.7**
PKI	**Pulchoki**	**17.98**	**341**	e P	**P**	**02 40 54.8**	**+1.4**
	comp=Z,46nm,0.5s						
DMN	**Daman**	**18.12**	**340**	e P	**P**	**02 40 56.3**	**+1.2**
	comp=Z,79nm,0.6s						
KKN	**Kakani**	**18.23**	**341**	e P	**P**	**02 40 56.2**	**-0.3**
	comp=Z,19nm,0.4s						
GOA	**Goa**	**18.36**	**287**	e	**P**	**02 41 07.5**	**+9.3**
KAD	**Karad**	**18.53**	**293**	e P	**P**	**02 41 00.2**	**0.0**
KAD				i		02 44 08.6	
GKN	**Gorkha**	**18.64**	**339**	e P	**P**	**02 41 00.2**	**-1.3**
	comp=Z,42nm,0.3s						
BHPL	**Bhopal**	**18.75**	**314**	e P	**P**	**02 41 02.8**	**-0.1**
BHPL				e		02 41 07.0	
	comp=Z,20nm,0.9s						
BHPL				e	**S**	**02 44 17.5**	**-10**
KOLN	**Koldanda**	**18.82**	**336**	e P	**P**	**02 41 03.8**	**+0.2**
LSA	**Lhasa**	**19.01**	**358**	P	**P**	**02 41 05.0**	**-1.0**
LSA				AP		02 41 13.0	
LSA				XP		02 41 17.4	
LSA				S	**S**	**02 44 42.4**	**+8.7**
LSA				AMB	AMB		
	comp=Z,590nm,8.0s						
LSA				LR	LR		
	comp=N,1μm,17.6s						
LSA				LR	LR		
	comp=E,3μm,18.4s						
LSA				LR	LR		
	comp=Z,2μm,18.4s						
LSA	**Lhasa**	**19.01**	**358**	e P	**P**	**02 41 07.1**	**+1.1**
LSA				pmax	pmax		
	comp=Z,37nm,0.6s						
LSA	**Lhasa**	**19.01**	**358**	e P	**P**	**02 41 07.1**	**+1.2**
	comp=Z,37nm,0.6s						
QIZ	**Qiongzhong**	**19.15**	**62**	P	**P**	**02 41 08.1**	**+0.4**
QIZ				AP		02 41 14.6	
QIZ				PP	PP	02 41 24.5	-0.1
QIZ				S	**S**	**02 44 38.0**	**+1.1**
QIZ				SS	SS	02 45 03.3	+0.6
QIZ				LR	LR		
	comp=N,2μm,18.4s						
QIZ				LR	LR		
	comp=Z,2μm,16.1s						
POO	**Poona**	**19.25**	**296**	e P	**P**	**02 41 05.0**	**-3.8**
POO				i	**S**	**02 44 55.0**	**+16**
NDI	**New Delhi**	**22.70**	**324**	e P	**P**	**02 41 45.0**	**+0.5**
NDI				e	S	02 46 11.0	+24
AJM	**Ajmer**	**22.76**	**316**	⇓i P	**P**	**02 41 47.0**	**+1.9**
DDI	**Dehra Dun**	**23.53**	**329**	e P	**P**	**02 41 53.3**	**+0.8**
DDI				eS	**S**	**02 46 09.5**	**+8.5**
ENH	**Enshi**	**25.45**	**37**	e P	**P**	**02 42 10.4**	**-0.6**
	comp=Z,52nm,0.4s,mb5.4						
LZH	**Lanzhou**	**27.54**	**21**	e P	**P**	**02 42 31.0**	**+0.8**
LZH				AP	pP	02 42 43.3	+5.2
LZH				XP	sP	02 42 48.9	+7.2
LZH				AMB	AMB		
	comp=Z,43nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,235nm,6.5s						
LZH				LR	LR		
	comp=E,2μm,15.7s						
LZH				LR	LR		
	comp=Z,3μm,16.9s,MS4.9						
XAN	**Xi'an**	**28.00**	**31**	P	**P**	**02 42 33.0**	**-1.3**
XAN				AMB	AMB		
	comp=Z,13nm,0.6s,mb4.7						
XAN				LR	LR		
	comp=N,1μm,14.3s,MS4.8						
XAN				LR	LR		
	comp=E,1μm,16.0s,MS4.8						
XAN				LR	LR		
	comp=Z,1μm,13.3s,MS4.7						
NJ2	**Nanjing**	**32.71**	**45**	e P	**P**	**02 43 16.0**	**0.0**
NJ2				AP	pP	02 43 24.6	+0.5
NJ2				XP	sP	02 43 30.5	+2.9
NJ2				PP	PP	02 44 26.4	+0.8
NJ2				S	**S**	**02 48 30.0**	**+0.3**
NJ2				XS		02 48 49.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,400nm,5.3s						
NJ2				LR	LR		
	comp=N,3μm,15.8s,MS5.2						
NJ2				LR	LR		
	comp=E,2μm,17.8s,MS5.2						
NJ2				LR	LR		
	comp=Z,2μm,17.4s,MS4.8						
WMQ	**Urumqi**	**33.30**	**354**	e P	**P**	**02 43 22.3**	**+1.2**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,54nm,4.7s						
WMQ				LR	LR		
	comp=N,2μm,19.2s,MS4.8						
WMQ				LR	LR		
	comp=E,1μm,19.8s,MS4.8						
WMQ				LR	LR		
	comp=Z,2μm,19.2s,MS4.8						
SSE	**Sheshan**	**33.87**	**49**	P	**P**	**02 43 22.6**	**-3.6**
SSE				S	**S**	**02 48 44.8**	**-2.9**
SSE				AMB	AMB		
	comp=Z,34nm,0.6s,mb5.5						
SSE				AMB	AMB		
	comp=Z,90nm,6.0s						
SSE				LR	LR		
	comp=N,512nm,11.3s,MS4.7						
SSE				LR	LR		
	comp=E,743nm,11.6s,MS4.7						
SSE				LR	LR		
	comp=Z,611nm,12.9s,MS4.5						
AAK	**Ala-Archa**	**35.38**	**337**	⇓e P	**P**	**02 43 40.1**	**+1.1**
AAK				pmax	pmax		
	comp=Z,28nm,1.6s,mb4.9						
AAK	**Ala-Archa**	**35.38**	**337**	e P	**P**	**02 43 39.5**	**+0.4**
	comp=Z,21nm,1.0s,mb5.0						
BJT	**Baijiatuau**	**36.29**	**32**	e P	**P**	**02 43 47.9**	**+1.2**
	comp=Z,30nm,0.8s,mb5.3						
MKAR	**Makanchi Array**	**37.00**	**349**	e P	**P**	**02 43 52.8**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
JOW	**Kunigami**	**37.78**	**60**	LR	LR	03 02 24.8	
	comp=Z,570nm,18.3s,MS4.4,baz=245,slow=41						
SONM	**Songino Array**	**39.04**	**15**	P	**P**	**02 44 10.7**	**+1.0**
	comp=Z,6.2nm,0.6s,mb4.5,baz=200,slow=8.7,SNR=48						
SONM				PcP	PcP	02 46 19.2	-0.8
	comp=Z,1.8nm,0.8s,baz=197,slow=4.2,SNR=4.3						
ULN	**Ulaanbaatar**	**39.24**	**16**	⇑e P	**P**	**02 44 10.8**	**-0.6**
ULN	**Ulaanbaatar**	**39.24**	**16**	e P	**P**	**02 44 11.9**	**+0.6**
	comp=Z,9.8nm,0.8s,mb4.6						
ZAK	**Zakamensk**	**40.73**	**11**	e P	**P**	**02 44 22.6**	**-1.0**
ZAK				e		02 46 27.2	
TLY	**Talaya**	**42.04**	**11**	e P	**P**	**02 44 36.0**	**+1.6**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
TLY				MLR	MLR		
	comp=Z,524nm,16.0s,MS4.5						
ZAL	**Zalesovo**	**43.60**	**354**	P	**P**	**02 44 48.2**	**+1.1**
	comp=Z,4.2nm,0.7s,mb4.3,baz=305,slow=8.4,SNR=21						
FITZ	**Fitzroy Crossi**	**43.77**	**130**	e P	**P**	**02 44 48.5**	**-0.4**
	comp=Z,9.2nm,0.3s,mb5.0						
FITZ				e		02 44 52.8	
NVS	**Novosibirsk**	**44.67**	**353**	i P	**P**	**02 44 54.4**	**-1.3**
NVS				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.6						
NVS				pmax	pmax		
	comp=E,2.0nm,0.8s						
NVS				pmax	pmax		
	comp=N,9.0nm,1.2s						
HIA	**Hailar**	**44.91**	**26**	e P	**P**	**02 44 57.2**	**-0.5**
	comp=N,6.6nm,0.7s,mb4.6						
BVA0	**Borovoye Array**	**45.75**	**342**	P	**P**	**02 45 04.9**	**+0.6**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
BVAR	**Borovoye Array**	**45.75**	**342**	P	**P**	**02 45 04.9**	**+0.6**
	comp=Z,2.5nm,0.6s,mb4.4,baz=158,slow=8.0,SNR=9.9						
RAYN	**Ar Rayn**	**46.08**	**292**	P	**P**	**02 45 09.3**	**+2.0**
	comp=Z,80nm,1.1s,mb5.6,SNR=12						
KAKA	**Kakadu**	**46.35**	**119**	e P	**P**	**02 45 08.3**	**-1.2**
	comp=Z,8.8nm,0.6s,mb4.9						
MDJ	**Mudanjiang**	**46.81**	**37**	P	**P**	**02 45 12.5**	**-0.3**
MDJ				AP	pP	02 45 21.4	+0.4
MDJ				XP	sP	02 45 25.6	+1.3
MDJ				PCS		02 50 37.9	
MDJ				S	**S**	**02 52 08.8**	**+8.3**
MDJ				AMB	AMB		
	comp=Z,9.0nm,2.2s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,88nm,4.7s						
MDJ				LR	LR		
	comp=N,342nm,16.8s,MS4.8						
MDJ				LR	LR		
	comp=E,815nm,17.2s,MS4.8						
MDJ				LR	LR		
	comp=Z,842nm,16.4s,MS4.8						
MUN	**Mundaring**	**48.26**	**152**	e P	**P**	**02 45 25.3**	**+0.9**
	comp=Z,20nm,1.0s,mb5.1						
JHJ	**Hachijo jima 2**	**49.16**	**55**	LR	LR	03 06 13.8	
	comp=Z,516nm,19.2s,MS4.5,baz=145,slow=36						
NWAO	**Narrogin (SRO)**	**49.53**	**152**	P	**P**	**02 45 33.4**	**-0.7**
	comp=Z,19nm,0.7s,mb5.2,baz=310,slow=7.0,SNR=4.5						
NWAO	**Narrogin (SRO)**	**49.53**	**152**	P	**P**	**02 45 33.4**	**-0.7**
CBIJ	**Chichi jima**	**49.90**	**64**	LR	LR	03 05 55.6	
	comp=Z,254nm,19.5s,MS4.2,baz=330,slow=35						
BOD	**Bodaibo**	**50.03**	**15**	e P	**P**	**02 45 37.2**	**-0.4**
KLR	**Kul'dur**	**50.68**	**33**	e P	**P**	**02 45 38.7**	**-4.0**
GNI	**Garni**	**51.04**	**314**	c i P	**P**	**02 45 46.8**	**+1.3**
GNI				pmax	pmax		
	comp=Z,42nm,1.5s						
GNI	**Garni**	**51.04**	**314**	e P	**P**	**02 45 46.7**	**+1.2**
	comp=Z,49nm,1.1s,mb5.3						
WRA	**Warramunga Arr**	**51.56**	**126**	i P	**P**	**02 45 49.4**	**-0.3**
WRA				pmax	pmax		
	comp=Z,13nm,0.5s						
WRA	**Warramunga Arr**	**51.56**	**126**	P	**P**	**02 45 49.0**	**-0.7**
	comp=Z,13nm,0.5s,mb5.1,baz=306,slow=8.4,SNR=69						
WRAB	**Tennant Creek**	**51.56**	**126**	c i P	**P**	**02 45 49.2**	**-0.5**
WRAB	**Tennant Creek**	**51.56**	**126**	e P	**P**	**02 45 49.2**	**-0.6**
	comp=Z,38nm,0.5s,mb5.6						
WB2	**Warramunga Arr**	**51.57**	**126**	e P	**P**	**02 45 49.1**	**-0.7**
WB2				e		02 45 53.7	
TI2	**Plekhanov**	**51.63**	**315**	e P	**P**	**02 45 51.4**	**+1.4**
ARU	**Arti**	**52.57**	**337**	⇑i P	**P**	**02 45 48.6**	**-8.3**
ARU				e		02 47 00.3	
ARU				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
ZEI	**Tsey**	**52.62**	**316**	e P	**P**	**02 45 58.9**	**+1.5**
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
CLNS	**Chul'man**	**52.66**	**22**	e P	**P**	**02 45 57.0**	**-0.5**
CLNS				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
CLNS				pmax	pmax		
	comp=N,13nm,0.9s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.9s						
ASPA	**Alice Springs**	**53.27**	**130**	e P	**P**	**02 46 01.9**	**-0.6**
ASPA				e		02 46 07.0	
ASAR	**Alice Springs**	**53.27**	**130**	P	**P**	**02 46 01.8**	**-0.7**
	comp=E,2.6nm,0.4s,mb4.5,baz=315,slow=6.3,SNR=37						
ASAR				PcP	PcP	02 47 10.9	+1.0
	comp=E,3.8nm,0.6s,baz=314,slow=4.3,SNR=3.8						
KIV	**Kislovodsk**	**53.89**	**317**	P	**P**	**02 46 07.0**	**+0.2**
	comp=E,186nm,1.2s,SNR=8.1						
KIV	**Kislovodsk**	**53.89**	**317**	e P	**P**	**02 46 07.3**	**+0.5**
KIV				pmax	pmax		
	comp=N,21nm,1.1s						
KIV				pmax	pmax		
	comp=E,16nm,1.1s						
KIV				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.2						
KIV				MLR	MLR		
	comp=N,249nm,17.0s,MS4.5						
KIV				MLR	MLR		
	comp=E,220nm,17.0s,MS4.5						
KIV				MLR	MLR		
	comp=Z,563nm,17.0s,MS4.7						
KIV	**Kislovodsk**	**53.89**	**317**	e P	**P**	**02 46 07.1**	**+0.4**
	comp=Z,63nm,1.2s,mb5.4						
GOF	**Gofitskoye**	**54.10**	**319**	e P	**P**	**02 46 09.0**	**+0.8**
ASAJ	**Asahikawa**	**54.80**	**43**	P	**P**	**02 46 15.4**	**+1.9**
	comp=Z,8.1nm,0.8s,mb4.8,baz=253,slow=24,SNR=4.5						
ASAJ				LR	LR	03 12 13.5	
	comp=Z,579nm,20.0s,MS4.7,baz=43,slow=39						
ASF	**Jabal al Asfar**	**54.98**	**302**	LR	LR	03 12 54.9	
	comp=Z,804nm,18.0s,MS4.8,baz=317,slow=40						
MALT	**Malatya**	**55.11**	**309**	e P	**P**	**02 46 15.6**	**-0.2**
	comp=Z,11nm,1.1s,mb4.8						
SOKR	**Solikamsk**	**55.51**	**339**	⇑i P	**P**	**02 46 16.2**	**-2.

comp=Z,45nm,1.6s,mb5.3
OBN MLR MLR
STKA Stephens Creek 63.50 134 *e*P **P 02 47 14.3 +0.4**
comp=Z,7.7nm,0.6s,mb4.9
STKA Stephens Creek 63.50 134 P **P 02 47 13.8 -0.1**
comp=Z,4.5nm,0.6s,mb4.7,baz=312,slow=7.0,SNR=15
STKA LR LR 03 18 23.5
comp=Z,465nm,20.9s,MS4.6,baz=125,slow=39
AKASG Malin Array Be 64.72 321 P **P 02 47 20.5 -1.1**
comp=Z,0.9nm,0.5s,mb4.1,baz=83,slow=4.9,SNR=6.7
TIXI Tiksi 65.00 12⇑*e*P **P 02 47 22.2 -0.8**
TIXI pmax pmax
comp=Z,20nm,1.4s,mb5.0
VRI Vrincioaia 65.28 316 ⇑P **P 02 47 23.9 -1.4**
MA2 Magadan 65.36 29⇑*e*P **P 02 47 25.0 -0.5**
MA2 pmax pmax
comp=Z,11nm,1.3s,mb4.7
MA2 Magadan 65.36 29 *e*P **P 02 47 24.1 -1.5**
comp=Z,6.7nm,0.5s,mb4.9
MLR Muntele Rosu 65.76 315 ⇓P **P 02 47 29.5 +1.2**
BURAR Bucovina Array 66.62 317 ⇑P **P 02 47 34.7 +0.9**
JOF Joensuu 67.49 334 *e*p **P 02 47 38.8 -0.2**
PET Petropavlovsk 67.59 37 *e*P **P 02 47 44.3 +4.4**
PET MLR MLR
comp=Z,500nm,19.0s,MS4.8
LSZ Lusaka 68.24 249 *e*P **P 02 47 45.2 +0.7**
comp=Z,4.6nm,0.8s,mb4.6
SUW Suwalki 69.07 324 *e*P **P 02 47 47.8 -1.2**
comp=Z,54nm,0.8s,mb5.5
FINES FINESS Array B 69.33 332 P **P 02 47 49.3 -1.1**
comp=Z,2.6nm,0.7s,mb4.3,baz=96,slow=6.8,SNR=20
FINES LR LR 03 24 48.8
comp=Z,157nm,20.4s,MS4.2,baz=193,slow=42
KAF Kangasniemi 69.41 333 *e*p **P 02 47 50.7 -0.3**
OJC Ojcow 70.54 320 *e*P **P 02 47 58.7 +0.7**
KEV Kevo 71.58 341 *e*p **P 02 48 02.6 -1.4**
ARCES ARCESS Array B 72.00 340 P **P 02 48 06.3 -0.2**
comp=Z,3.5nm,0.5s,mb4.6,baz=90,slow=5.8,SNR=41
ARCES LR LR 03 22 21.9
comp=Z,794nm,19.0s,MS5.0,baz=291,slow=38
BILL Bilibino 74.35 22⇓*e*P **P 02 48 20.4 +0.2**
BILL 02 48 40.0
BILL pmax pmax
comp=Z,12nm,1.8s,mb4.5
BILL MLR MLR
comp=Z,800nm,15.0s,MS5.1
BILL Bilibino 74.35 22 *e*P **P 02 48 19.6 -0.6**
comp=Z,3.3nm,0.6s,mb4.4
GERES GERESS Array B 74.40 318 P **P 02 48 20.0 -0.8**
comp=Z,1.0nm,0.8s,mb3.8,baz=90,slow=5.3,SNR=6.9
CLL Collm 74.93 320 P **P 02 48 25.0 +1.1**
HFS Hagfors 75.05 330 P **P 02 48 23.8 -0.6**
comp=Z,2.1nm,0.5s,mb4.3,baz=117,slow=6.6,SNR=8.7
BOSA Boshof 75.28 237 *e*P **P 02 48 27.8 +1.4**
comp=Z,9.8nm,0.7s,mb4.8
NB2 NORSAR Subarra 76.33 330 P **P 02 48 31.7 +0.1**
comp=Z,1.4nm,0.7s,mb4.0,baz=97,slow=5.3
NOA NORSAR Array B 76.33 330 P **P 02 48 31.4 -0.3**
comp=Z,7.8nm,1.1s,mb4.5,baz=93,slow=5.7,SNR=5.1
NOA LR LR 03 27 37.5
comp=Z,472nm,19.4s,MS4.8,baz=50,slow=40
LPG La Plagne 79.21 314 *e*P **P 02 48 47.3 -0.5**
comp=Z,9.8nm,0.6s,mb4.6
MAW Mawson 80.78 191 LR LR 03 20 02.4
comp=Z,286nm,18.6s,MS4.7,baz=53,slow=32
EKA Eskdalemuir Ar 84.29 325 P **P 02 49 15.0 +0.9**
comp=Z,1.0nm,0.5s,mb4.2,baz=89,slow=5.4,SNR=8.0
SYO Syowa Base 87.39 197 ⇑sP sP 02 49 44.7 +4.0
ESDC Sonseca Array 87.86 310 P **P 02 49 32.5 +0.4**
comp=Z,0.7nm,0.6s,mb4.1,baz=61,slow=4.2,SNR=5.7
ILAR Eielson Array 93.01 22 P **P 02 49 55.2 -0.2**
comp=Z,1.3nm,0.8s,mb4.4,baz=266,slow=5.0,SNR=19
ILAR PP PP 02 53 41.2 +0.1
comp=Z,0.6nm,0.8s,baz=294,slow=7.4,SNR=4.6
ILAR LR LR 03 34 25.2
comp=Z,228nm,18.1s,MS4.7,baz=75,slow=37
INK Inuvik 94.95 15 P **P 02 50 05.0 +0.7**
comp=Z,1.9nm,0.8s,mb4.6,baz=84,slow=0.8,SNR=5.8
DBIC Dimbokro 95.49 278 LR LR 03 35 27.5
comp=Z,186nm,19.5s,MS4.6,baz=32,slow=37
YKA Yellowknife Ar 104.25 12 PP PP 02 55 04.9 -2.2
comp=Z,0.4nm,0.8s,baz=330,slow=7.6,SNR=3.8
PDAR Pinedale Array 123.34 19 PKP PKPdf 02 55 40.2 -3.0
comp=Z,0.7nm,0.7s,baz=159,slow=0.2,SNR=5.9
TXAR Lajitas Array 137.51 20 PKhKP 02 55 59.2
comp=Z,0.3nm,0.6s,baz=128,slow=0.4,SNR=6.1
JCT Junction City 137.60 15 *e*PKP PKPdf 02 56 08.8 -1.8
LPAZ La Paz 159.88 252 PKPab PKPab 02 57 21.8 -0.6
comp=Z,1.2nm,0.4s,baz=79,slow=6.0,SNR=3.7

*BJI **18** 02:43:14.8, 10.65N×141.35E, h34km, mB4.8, mb4.7*
*IDC **18** 02:43:14.7±0.7, 11.08N×141.14E, mb4.3/13, mb1 4.5/13, mb1mx4.3/21, mbtmp4.3/13, Error ellipse: s-maj=26.3km s-min=17.7km az=83.0*
*NEIC **18** 02:43:16.1±0.4, 11.08N×141.15E, h10km, mb4.7/4, Error ellipse: s-maj=18.0km s-min=9.9km az=79.0*
*MOS **18** 02:43:17.7±1.1, 11.03N×141.04E, h33km, mb4.8/4, Error ellipse: s-maj=25.7km s-min=12.2km az=105.7*

ISC 18 02:43:17.6±0.5, 11.03N±0.08×141.1E±0.1, h33km, n29, σ0.9 94/28, mb4.4/18, 1D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**21.18**	**163**	P		**P**	**02 48 03.5 +0.9**
	20nm,0.8s,mb4.5,baz=5.3,slow=4.6,SNR=5.1						
WRAB	**Tennant Creek**	**31.47**	**192**	P		**P**	**02 49 38.9 +0.2**
WRAB				pmax		pmax	
	comp=Z,3.0nm,0.5s,mb4.4						
WRAB	**Tennant Creek**	**31.47**	**192**	P		**P**	**02 49 38.9 +0.1**
	comp=Z,2.7nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**31.49**	**192**	P		**P**	**02 49 37.7 -1.1**
	comp=Z,2.0nm,0.8s,mb4.0,baz=11,slow=9.2,SNR=5.8						
ENH	**Enshi**	**35.04**	**308**	*e*P		**P**	**02 50 11.0 +1.5**
	comp=Z,6.0nm,0.7s,mb4.6						
ASAR	**Alice Springs**	**35.19**	**191**	P		**P**	**02 50 10.4 -0.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=18,slow=12,SNR=4.9						
CMAR	**Chiang Mai Arr**	**41.34**	**285**	P		**P**	**02 51 03.6 +1.3**
	comp=Z,9.0nm,1.2s,mb4.3,baz=90,slow=6.6,SNR=18						
ULN	**Ulaanbaatar**	**46.50**	**329**⇓	*e*P		**P**	**02 51 43.3 -0.3**
SONM	**Songino Array**	**46.82**	**328**	P		**P**	**02 51 46.2 +0.2**
	comp=Z,1.5nm,0.6s,mb4.1,baz=130,slow=6.1,SNR=12						
SONM				PcP		PcP	02 53 19.3 0.0
	comp=Z,1.0nm,0.6s,baz=148,slow=2.9,SNR=4.0						
ZAK	**Zakamensk**	**50.01**	**329**	*e*P		**P**	**02 52 10.8 0.0**
BOD	**Bodaibo**	**51.07**	**342**	*e*P		**P**	**02 52 17.1 -1.7**
BILL	**Bilibino**	**59.31**	**11**	*e*P		**P**	**02 53 19.2 +0.8**
BILL				pmax		pmax	
	comp=Z,4.0nm,1.1s,mb4.4						
ZAL	**Zalesovo**	**61.61**	**326**	P		**P**	**02 53 33.8 -0.4**
	comp=Z,1.4nm,0.5s,mb4.4,baz=16,slow=2.2,SNR=6.0						
KURK	**Kurchatov**	**64.20**	**321**	*e*P		**P**	**02 53 50.4 -0.9**
KURK				pmax		pmax	
	comp=Z,11nm,0.9s,mb4.9						
KURK	**Kurchatov**	**64.20**	**321**	*e*P		**P**	**02 53 50.4 -1.0**
	comp=Z,12nm,0.9s,mb4.9						
BVAR	**Borovoye Array**	**69.67**	**323**	P		**P**	**02 54 25.8 0.0**
	comp=Z,4.8nm,0.7s,mb4.6,baz=101,slow=7.5,SNR=28						
BRVK	**Borovoye**	**69.73**	**323**	*e*P		**P**	**02 54 25.8 -0.4**
BRVK				pmax		pmax	
	comp=Z,7.0nm,0.7s,mb4.7						
BRVK	**Borovoye**	**69.73**	**323**	*e*P		**P**	**02 54 25.8 -0.4**
	comp=Z,7.2nm,0.7s,mb4.7						
ILAR	**Eielson Array**	**72.45**	**25**	P		**P**	**02 54 41.9 -0.4**
	comp=Z,1.1nm,0.5s,mb4.0,baz=246,slow=5.6,SNR=18						
INK	**Inuvik**	**78.12**	**22**	P		**P**	**02 55 14.6 -0.1**
	comp=Z,1.7nm,0.9s,mb4.0,baz=258,slow=13,SNR=3.3						
YKA	**Yellowknife Ar**	**86.81**	**27**	P		**P**	**02 56 01.4 +1.9**
YKA	**Yellowknife Ar**	**86.81**	**27**	P		**P**	**02 56 01.3 +1.8**
	comp=Z,1.8nm,0.8s,mb4.4,baz=291,slow=5.2,SNR=23						
ZEI	**Tsey**	**87.82**	**313**	*e*P		**P**	**02 56 05.4 +0.5**
ARCES	**ARCESS Array B**	**88.35**	**341**	P		**P**	**02 56 08.0 +1.2**
	comp=Z,2.0nm,0.6s,mb4.5,baz=59,slow=7.1,SNR=9.8						
OBN	**Obninsk**	**89.19**	**326**	P		**P**	**02 56 08.7 -2.4**
NVAR	**Mina Array Bea**	**91.39**	**51**	P		**P**	**02 56 21.5 -0.4**
	comp=Z,0.9nm,0.7s,mb4.2,baz=297,slow=4.0,SNR=1.7						
KAF	**Kangasniemi**	**91.48**	**335**	*e*p		**P**	**02 56 20.9 -0.8**
FINES	**FINESS Array B**	**91.88**	**334**	P		**P**	**02 56 24.0 +0.5**
	comp=Z,5.4nm,0.8s,mb4.9,baz=68,slow=6.9,SNR=17						
LPAZ	**La Paz**	**151.15**	**104**	PKPbc		PKPdf	03 03 12.9 +11
	comp=Z,1.3nm,0.6s,baz=261,slow=5.6,SNR=6.8						

WEL 18 02:46:10.3±0.4, 38.06S×176.16E, h168km±4km, ML3.6/4, Error ellipse: s-maj=8.5km s-min=5.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.78**	**105**	PN	P	02 46 35.2	-0.3
URZ				SN	S	02 46 54.5	-0.5
MWZ	**Matawai**	**1.12**	**105**	PN	P	02 46 38.0	0.0
MWZ				SN	S	02 46 59.1	-0.3
BKZ	**Black Stump Fm**	**1.14**	**167**	PN	P	02 46 38.3	+0.1
BKZ				SN	S	02 46 59.3	-0.4
KNZ	**Kokohu**	**1.53**	**129**	*e*PN	P	02 46 41.8	-0.2
MXZ	**Matakaoa Point**	**1.77**	**74**	PN	P	02 46 44.1	-0.3
MXZ				SN	S	02 47 10.0	-0.8
TSZ	**Takapari Road**	**2.00**	**184**	PN	P	02 46 46.0	-0.9
TSZ				SN	S	02 47 13.3	-1.8
MRZ	**Mangatainoka R**	**2.64**	**190**	PN	P	02 46 52.2	-2.3
MRZ				SN	S	02 47 25.1	-3.5
MSWZ	**Moikau Station**	**3.42**	**191**	PN	P	02 47 00.7	-3.7
KHZ	**Kahutara**	**4.79**	**204**	PN	P	02 47 17.5	-4.6
KHZ				SN	S	02 48 12.4	-5.1
MQZ	**McQueen's Vall**	**6.24**	**204**	SN	S	02 48 41.0	-11

IDC 18 02:48:46.3±1.0, 11.18N×140.46E, mb3.8/6, mb1 4.1/6, mb1mx3.8/18, mbtmp3.8/6, Error ellipse: s-maj=83.0km s-min=23.2km az=105.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.51**	**191**	P	P	02 55 09.4	-3.0
	0.6nm,0.9s,baz=13,slow=9.6,SNR=2.3						
ASAR	**Alice Springs**	**35.22**	**190**	P	P	02 55 43.1	-1.4
	0.4nm,0.6s,baz=17,slow=12,SNR=4.5						
ILAR	**Eielson Array**	**72.58**	**25**	P	P	03 00 13.9	-3.0
	0.3nm,0.5s,baz=247,slow=6.2,SNR=6.0						
YKA	**Yellowknife Ar**	**86.95**	**27**	P	P	03 01 33.6	-0.6
	0.6nm,0.8s,baz=291,slow=5.3,SNR=9.3						
FINES	**FINESS Array B**	**91.47**	**334**	P	P	03 01 54.8	-0.8
	2.0nm,0.8s,baz=56,slow=5.0,SNR=3.9						
NVAR	**Mina Array Bea**	**91.77**	**50**	P	P	03 01 57.4	-0.1
	0.8nm,0.8s,baz=255,slow=7.8,SNR=4.8						
LPAZ	**La Paz**	**151.79**	**104**	PKPbc	PKPdf	03 08 44.8	+5.6
	1.1nm,0.6s,baz=278,slow=4.1,SNR=4.2						

IDC 18 02:54:07.0±2.1, 11.08N×140.57E, mb3.4/4, mb1 3.7/4, mb1mx3.6/17, mbtmp3.4/4, Error ellipse: s-maj=280.6km s-min=25.9km az=107.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.43**	**191**	P	P	03 00 30.5	-1.9
	0.4nm,0.6s,baz=13,slow=9.8,SNR=2.4						
ASAR	**Alice Springs**	**35.14**	**191**	P	P	03 01 02.4	-2.2
	0.2nm,0.4s,baz=18,slow=12,SNR=5.9						
ILAR	**Eielson Array**	**72.63**	**25**	P	P	03 05 36.9	-1.1
	0.2nm,0.6s,baz=245,slow=6.5,SNR=5.8						
YKA	**Yellowknife Ar**	**87.00**	**27**	P	P	03 06 53.1	-2.1
	0.1nm,0.3s,baz=292,slow=5.0,SNR=3.8						

*MOS **18** 03:02:54.0±1.0, 22.99N×94.76E, h110km, mb5.0/37, Error ellipse: s-maj=9.0km s-min=5.1km az=117.2*
*BJI **18** 03:02:55.3, 22.96N×94.57E, h123km, mB5.3, mb5.2*
*IDC **18** 03:02:55.2±0.5, 22.99N×94.71E, h106km±3km, mb4.4/22, mb1 4.5/23, mb1mx4.4/24, mbtmp4.7/23, MS3.7/2, Ms1 3.7/2, ms1mx3.4/20, Error ellipse: s-maj=15.1km s-min=7.9km az=47.0*
*NEIC **18** 03:02:55.1±0.2, 22.97N×94.70E, mb5.0/52, Error ellipse: s-maj=7.3km s-min=5.0km az=223.0*
NEIC Felt in Arunachal Pradesh and Manipur, India. Also felt in southeastern Bangladesh.
*HRVD **18** 03:02:55.1±0.4, 22.73N×94.52E, h89km±7km, MW4.8/39, Centroid moment Tensor Solution. LP body waves: s5,c6; Mantle waves: s39,c57; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.86±.17; $M_{\theta\theta}$-0.78±.14; $M_{\phi\phi}$-0.08±.15; $M_{r\theta}$0.76±.08; $M_{\theta\phi}$1.14±.15; $M_{\phi r}$-1.58±.07; Best double couple: M_o2.225×10^{16} NP1:ϕ_s271°, δ28°, λ31°. NP2: ϕ_s153°, δ76°, λ115°. Principal axes: T 2.039, Plg53°, Azm93°; N .372, Plg24°, Azm327°; P -2.411, Plg27°, Azm224°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 03:02:53.4±0.2, 22.94N±0.03×94.60E±0.03, h105km, h105km±1.5km: pP-P, n252, σ1.9 26/263, mb4.9/80, 26C-23D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**1.93**	**342**⇑	*i*P	**P**	**03 03 25.6**	**-0.2**
AGT	**Agartala**	**3.22**	**288**	*i*P	**P**	**03 03 39.0**	**-4.3**
AGT				*i*		03 08 04.0	
SHL	**Shillong**	**3.60**	**317**	*e*P	**P**	**03 03 46.0**	**-2.5**
SHL				*e*S	**S**	**03 04 23.5**	**-6.9**
LKP	**Lekhapani**	**4.57**	**17**	*e*P	**P**	**03 04 02.0**	**+0.3**
LKP				*e*	**S**	**03 04 59.0**	**+5.0**
CHRT	**Chiangrai**	**5.71**	**121**	PG	**P**	**03 04 17.5**	**+0.4**
CHRT				SG	**S**	**03 05 33.0**	**+11**
CAL	**Calcutta**	**5.80**	**267**	*e*	**S**	**03 05 12.0**	**-12**
CMAR	**Chiang Mai Arr**	**6.03**	**137**	P	**P**	**03 04 21.1**	**-0.4**
	2.1nm,0.3s,baz=311,slow=14,SNR=30						
CMAR				ScP		03 14 36.9	
	0.4nm,0.3s,baz=293,slow=1.9,SNR=11						
SLGI	**Shiliguri**	**6.75**	**305**	*e*	**S**	**03 05 36.3**	**-11**
SLGI				*e*		03 05 39.5	
GTK	**Gangtok**	**6.97**	**310**	*e*P	**P**	**03 04 30.0**	**-4.5**
GTK				*e*S	**S**	**03 05 40.0**	**-13**
NANT	**Nan**	**7.03**	**125**	⇑P	**P**	**03 04 34.0**	**-1.4**
	149nm,1.0s						
LSA	**Lhasa**	**7.41**	**336**	P	**P**	**03 04 41.0**	**+0.5**
LSA				S	**S**	**03 06 05.9**	**+2.4**
LSA				Smax			
	comp=N,4μm,0.2s						
LSA				Smax			
	comp=E,6μm,0.3s						
LSA	**Lhasa**	**7.41**	**336**	*e*Pn	**P**	**03 04 40.5**	**0.0**
BOK	**Bokaro**	**8.05**	**278**	*e*P	**P**	**03 04 45.2**	**-4.0**
BOK				*e*S	**S**	**03 06 07.6**	**-12**
BOK				*e*		03 06 15.5	
	comp=Z,1μm,0.5s						
BOK				*e*		03 06 16.2	
	comp=N,932nm,0.5s						
JIRN	**Jiri**	**8.95**	**303**	*e*Pn	**P**	**03 04 58.5**	**-2.7**
PKI	**Pulchoki**	**9.51**	**301**	*e*Pn	**P**	**03 05 05.8**	**-3.1**
PKI				*e*Sn	**S**	**03 06 44.6**	**-10**
	comp=N,493nm,0.4s						
KKN	**Kakani**	**9.71**	**302**	*e*Pn	**P**	**03 05 08.2**	**-3.4**
KKN				*e*Sn	**S**	**03 06 50.4**	**-9.1**
	comp=N,877nm,0.5s						
DMN	**Daman**	**9.77**	**300**	*e*Pn	**P**	**03 05 09.0**	**-3.4**
DMN				*e*Sn	**S**	**03 06 51.3**	**-10**
	comp=N,510nm,0.4s						
GKN	**Gorkha**	**10.32**	**301**	*e*Pn	**P**	**03 05 16.3**	**-3.4**
GKN				*e*Sn	**S**	**03 07 04.0**	**-10**
	comp=N,742nm,0.4s						
KOLN	**Koldanda**	**11.05**	**298**	*e*Pn	**P**	**03 05 25.2**	**-4.3**
KOLN				*e*Sn	**S**	**03 07 20.0**	**-11**
	comp=N,786nm,0.5s						
BLSP	**Bilaspur**	**11.56**	**268**	*e*P	**P**	**03 05 34.2**	**-2.0**
BLSP				*e*P		03 05 35.0	
BLSP				*e*S	**S**	**03 07 29.6**	**-14**
BLSP				*i* S	**S**	**03 07 30.0**	**-14**
BLSP				*e*		03 07 36.0	
	comp=N,378nm,0.3s						
BLSP				*e*		03 07 38.2	
	comp=E,282nm,0.3s						
VIS	**Vishakhapatnam**	**11.78**	**246**	*e*P	**P**	**03 05 35.1**	**-4.1**
VIS				*e*S	**S**	**03 07 34.1**	**-15**
VIS				*e*		03 07 37.4	
	comp=E,106nm,0.2s						
VIS				*e*		03 07 37.5	
	comp=N,128nm,0.4s						
ALBI	**Allahabad**	**11.92**	**284**	*e*P	**P**	**03 05 36.0**	**-5.0**
PTH	**Pithoragarh**	**14.48**	**300**	*e*P	**P**	**03 06 12.0**	**-2.4**
VJD	**Vijayawada**	**14.61**	**247**	*i*	**P**	**03 06 20.0**	**+3.9**
QIZ	**Qiongzhong**	**14.75**	**102**	P	**P**	**03 06 20.6**	**+2.6**
QIZ	**Qiongzhong**	**14.75**	**102**	*e*P	**P**	**03 06 22.5**	**+4.5**
	comp=N,143nm,1.0s						
ENH	**Enshi**	**15.17**	**58**	*e*P	**P**	**03 06 22.6**	**-0.6**
	comp=N,159nm,0.6s						
LZH	**Lanzhou**	**15.36**	**29**	⇑P	**P**	**03 06 26.8**	**+1.3**
LZH				AP		03 06 42.8	
LZH				XP		03 06 57.5	
LZH				S	**S**	**03 09 12.6**	**-0.2**
LZH				AMB	AMB		
	comp=Z,246nm,1.2s						
LZH				AMB	AMB		
	comp=Z,644nm,4.7s						
LZH				LR	LR		
	comp=N,862nm,7.4s						
LZH				LR	LR		
	comp=Z,1μm,10.7s						
BHPL	**Bhopal**	**15.81**	**274**	*e*P	**P**	**03 06 30.4**	**-0.9**
BHPL				*e*		03 06 33.2	
	comp=Z,38nm,0.6s						
BHPL				*e*	**S**	**03 09 13.6**	**-10**
HYB	**Hyderabad**	**16.04**	**253**	*e*P	**P**	**03 06 31.0**	**-3.1**
HYB				*e*		03 06 36.5	
HYB				*e*S	**S**	**03 09 16.0**	**-12**
HYB	**Hyderabad**	**16.04**	**253**	*i* P	**P**	**03 06 37.0**	**+2.9**
	comp=Z,138nm,0.8s						
HYB				*e*S	**S**	**03 09 16.0**	**-12**
DDI	**Dehra Dun**	**16.51**	**300**	*e*P	**P**	**03 06 39.5**	**-0.5**
DDI				*e*	**S**	**03 09 26.7**	**-12**
NDI	**New Delhi**	**16.66**	**294**	*e*P	**P**	**03 06 39.0**	**-2.8**
NDI				*e*	**S**	**03 09 27.5**	**-15**
XAN	**Xi'an**	**16.73**	**46**	P	**P**	**03 06 42.0**	**-0.7**
XAN				AMB	AMB		
	comp=Z,140nm,0.7s						
LATR	**Latur**	**17.47**	**258**	*e*P	**P**	**03 06 52.5**	**+0.5**
LATR				*e*	S	03 09 24.3	-36
BHK	**Bhakra**	**18.23**	**301**	*e*	**P**	**03 07 02.0**	**+1.1**
AJM	**Ajmer**	**18.47**	**285**⇓	*i*P	**P**	**03 07 02.0**	**-1.6**
AJM				*i*	**S**	**03 10 10.0**	**-13**
DLH	**Dalhousie**	**19.04**	**304**	*e*	**S**	**03 10 35.0**	**+0.1**
WHN	**Wuhan**	**19.18**	**63**	*e*P	**P**	**03 07 12.0**	**+0.7**
POO	**Poona**	**19.90**	**261**	*e*P	**P**	**03 07 19.1**	**+0.2**
POO				*e*		03 07 19.6	
	comp=Z,52nm,0.6s						
POO				*e*	**S**	**03 10 46.8**	**-5.3**
KAD	**Karad**	**19.97**	**257**	*e*P	**P**	**03 07 19.5**	**-0.2**
KAD				*e*	**S**	**03 10 47.8**	**-5.7**
PALK	**Pallekele**	**20.53**	**223**	*e*P	**P**	**03 07 25.6**	**+0.1**
	comp=Z,107nm,0.8s						
PALK				*e*S	**S**	**03 11 01.6**	**-2.6**
BOM	**Bombay**	**20.75**	**263**	*e*	**S**	**03 11 01.2**	**-6.9**
WMQ	**Urumqi**	**21.59**	**346**	P	**P**	**03 07 38.8**	**+2.9**
WMQ				S	**S**	**03 11 25.2**	**+1.6**
NJ2	**Nanjing**	**23.30**	**62**	*e*P	**P**	**03 07 54.4**	**+1.7**
NJ2				AP		03 08 17.4	
NJ2				XP		03 08 30.8	
NJ2				PP	PP	03 08 32.0	+4.5
NJ2				S	**S**	**03 11 59.0**	**+5.2**
NJ2				AMB	AMB		
	comp=Z,90nm,0.5s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,1μm,11.2s						
NJ2				LR	LR		
	comp=N,350nm,12.4s						
NJ2				LR	LR		
	comp=E,460nm,17.2s						
NJ2				LR	LR		
	comp=Z,660nm,11.7s						
TIA	**Tai'an**	**23.56**	**51**	*e*P	**P**	**03 07 57.6**	**+2.5**
TIA				AMB	AMB		
	comp=Z,143nm,1.6s,mb5.0						
ULHL	**Ulahol**	**24.60**	**326**	P		03 08 34.2	
	SNR=7.3						
BJT	**Baijiatuau**	**24.96**	**42**	*e*P	**P**	**03 08 08.9**	**+0.4**
BJT				pmax	pmax		
	comp=Z,64nm,0.8s						
BJT	**Baijiatuau**	**24.96**	**42**	*e*P	**P**	**03 08 08.9**	**+0.4**
	comp=Z,64nm,0.8s,mb5.1						
SSE	**Sheshan**	**24.99**	**65**	P	**P**	**03 08 11.4**	**+2.5**
SSE				AMB	AMB		
	comp=Z,80nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,390nm,4.0s						
KZA	**Kyzart**	**25.01**	**324**	P	pP	03 08 37.4	+5.8
	SNR=5.8						
TKM2	**Tokmak 2**	**25.42**	**326**	P	pP	03 08 42.7	+7.2
	SNR=11						
UCH	**Uchtor**	**25.51**	**324**	P	pP	03 08 41.4	+5.0
	SNR=6.4						
MKAR	**Makanchi Array**	**25.79**	**340**	*e*P	**P**	**03 08 17.5**	**+1.3**
MKAR				pmax	pmax		
	comp=Z,15nm,0.5s						
AAK	**Ala-Archa**	**25.79**	**324**	*e*P	**P**	**03 08 17.2**	**+0.9**
AAK				*e*	pP	03 08 43.3	+4.3
AAK				pmax	pmax		
	comp=Z,36nm,0.7s,mb4.9						
AAK	**Ala-Archa**	**25.79**	**324**	*e*P	**P**	**03 08 17.2**	**+0.9**
	comp=Z,36nm,0.7s,mb4.9						
AAK				*e*	pP	03 08 43.3	+4.3
CHMS	**Chumysh**	**25.91**	**325**	P	pP	03 08 46.8	+6.7
	SNR=9.2						
EKS2	**Erkin-Say**	**26.20**	**324**	P	pP	03 08 48.8	+5.9
	SNR=5.7						
SONM	**Songino Array**	**26.57**	**18**	P	**P**	**03 08 23.4**	**0.0**
	comp=Z,3.3nm,0.5s,mb4.1,baz=199,slow=8.8,SNR=31						
SONM				pP	pP	03 08 49.5	+3.3
	comp=Z,22nm,1.1s,baz=192,slow=11,SNR=9.2						
SONM				ScP		03 15 15.2	
	comp=Z,8.6nm,0.7s,baz=203,slow=3.1,SNR=39						
ULN	**Ulaanbaatar**	**26.79**	**19**⇑	*e*P	**P**	**03 08 24.5**	**-0.9**
ULN	**Ulaanbaatar**	**26.79**	**19**	P	**P**	**03 08 25.9**	**+0.5**
	comp=Z,25nm,1.0s,mb4.7						
ULN				*e*	pP	03 08 51.9	+3.6
ZAK	**Zakamensk**	**28.22**	**12**	*e*P	**P**	**03 08 38.2**	**-0.2**
ZAK				*e*	pP	03 09 01.3	-0.1
MOY	**Mondy**	**29.10**	**8**	*e*P	**P**	**03 08 46.1**	**-0.1**
TLY	**Talaya**	**29.53**	**11**	*e*P	**P**	**03 08 51.0**	**+1.0**
TLY				*e*	pP	03 09 17.0	+3.7
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
KURK	**Kurchatov**	**30.40**	**340**⇑	*i*P	**P**	**03 08 57.9**	**+0.2**
KURK				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.0						
KURK	**Kurchatov**	**30.40**	**340**⇑	*i*P	**P**	**03 08 57.9**	**+0.2**
	comp=Z,23nm,0.6s,mb5.0						
JOW	**Kunigami**	**30.74**	**76**	P	**P**	**03 09 00.1**	**-0.8**
	comp=Z,41nm,0.7s,mb5.3,baz=207,slow=3.3,SNR=7.6						
JOW				LR	LR

BVAR S **S** **03 15 03.2 -1.4**
comp=Z,4.3nm,1.0s,baz=135,slow=19,SNR=4.6
BVAR ScP 03 15 44.5
comp=Z,2.4nm,0.6s,baz=146,slow=5.3,SNR=6.2
BRVK Borovoye 35.31 335 *eP* **P** **03 09 40.3 +0.2**
BRVK *e* pP 03 10 06.4 +2.3
BRVK pmax pmax
comp=Z,60nm,1.0s,mb5.4
BRVK Borovoye 35.31 335 *eP* **P** **03 09 40.3 +0.2**
comp=Z,60nm,1.0s,mb5.4
BRVK *e* pP 03 10 06.4 +2.3
MDJ Mudanjiang 35.84 44 P **P** **03 09 44.4 -0.3**
MDJ AMB AMB
comp=Z,13nm,1.8s,mb4.6
MDJ AMB AMB
comp=Z,204nm,7.2s
MDJ LR LR
comp=N,72nm,20.2s
MDJ LR LR
comp=E,115nm,21.3s
MDJ LR LR
comp=Z,116nm,19.0s
BOD Bodaibo 37.56 17 *eP* **P** **03 09 58.2 -0.7**
RBK Rabkut 38.21 269 P **P** **03 10 06.2 +1.5**
SNR=17
WHFO Wadi Hawf 38.50 270 P **P** **03 10 08.0 +0.9**
SNR=17
ABTO Aybut 39.08 270 P **P** **03 10 13.0 +1.0**
SNR=15
KLR Kul'dur 39.25 39 *eP* **P** **03 10 09.8 -3.3**
KLR *e* 03 11 46.8
MAJO Matsushiro 39.88 60 *eP* **P** **03 10 18.0 -0.5**
MAJO *e* pP 03 10 40.1 -2.7
MAJO pmax pmax
comp=Z,28nm,0.7s,mb5.2
MAJO Matsushiro 39.88 60 *eP* **P** **03 10 18.0 -0.4**
comp=Z,28nm,0.7s,mb5.2
MAJO *e* pP 03 10 40.1 -2.7
MAT Matsushiro 39.88 60 *eP* **P** **03 10 18.0 -0.5**
MAT pmax pmax
comp=Z,26nm,0.8s,mb5.1
MAT Matsushiro 39.88 60 *eP* **P** **03 10 18.0 -0.5**
comp=Z,26nm,0.8s,mb5.1
MAT Matsushiro 39.88 60 P **P** **03 10 17.5 -1.0**
SVE Sverdlovsk 41.92 333 *eP* **P** **03 10 36.3 +1.4**
ARU Arti 42.58 331⇓*iP* **P** **03 10 37.1 -3.2**
ARU *e* 03 12 26.5
ARU *eS* **S** **03 16 51.1 -3.5**
ARU *eSS* SS 03 20 07.4 +6.3
ARU *e* 03 20 25.5
ARU *eSSS* SSS 03 20 49.6 -4.6
ARU pmax pmax
comp=Z,15nm,0.5s,mb5.0
ASAJ Asahikawa 44.50 50 P **P** **03 10 55.6 -0.4**
comp=Z,5.8nm,0.4s,mb4.6,baz=254,slow=7.4,SNR=5.8
RAYN Ar Rayn 44.94 281 P **P** **03 11 00.2 +0.3**
comp=Z,171nm,0.6s,SNR=28
GNI Garni 45.22 304⇓*eP* **P** **03 11 03.8 +2.0**
GNI pmax pmax
comp=Z,12nm,1.7s
GNI Garni 45.22 304 P **P** **03 11 03.1 +1.3**
comp=Z,3.8nm,0.7s,mb4.3,baz=333,slow=9.1,SNR=6.2
GNI Garni 45.22 304 *eP* **P** **03 11 03.0 +1.2**
comp=Z,10.0nm,0.8s,mb4.6
YSS Yuzh-Sakhalins 45.28 46⇑*iP* **P** **03 11 02.0 -0.2**
YAK Yakutsk 45.78 22 *iP* **P** **03 11 04.8 -1.1**
YAK pmax pmax
comp=Z,32nm,0.8s,mb5.1
ZEI Tsey 46.20 308 *eP* **P** **03 11 11.6 +2.1**
ZEI *i* *PP pP 03 11 37.2 +3.0
ZEI *i* 03 13 01.9
ZEI pmax pmax
comp=Z,27nm,0.8s,mb5.0
GOF Gofitskoye 47.19 311 *eP* **P** **03 11 18.5 +1.2**
GOF pmax pmax
comp=Z,40nm,1.4s,mb5.0
KIV Kislovodsk 47.26 309 P **P** **03 11 19.9 +2.1**
comp=Z,199nm,0.7s,SNR=9.6
KIV Kislovodsk 47.26 309 *eP* **P** **03 11 18.8 +1.0**
KIV *e*PP pP 03 11 45.0 +2.4
KIV *e* 03 12 47.6
KIV *eS* **S** **03 18 06.2 +4.3**
KIV pmax pmax
comp=N,17nm,1.0s
KIV pmax pmax
comp=Z,30nm,1.0s,mb5.0
KIV Kislovodsk 47.26 309 *eP* **P** **03 11 19.0 +1.2**
comp=Z,29nm,0.6s,mb5.2
BEST Besiri 47.73 301 *iP* **P** **03 11 22.8 +1.2**
ERZM Erzurum 47.77 304 *iP* **P** **03 11 24.4 +2.5**
SOC Sochi 49.34 308 *eP* **P** **03 11 32.9 -1.0**
SOC *e* 03 12 54.6
SOC *e*PPP PPP 03 14 28.9 +2.7
SOC *eS* **S** **03 18 35.4 +4.3**
SOC *e* 03 21 06.6
SOC *eSS* SS 03 22 06.0 +5.9
SOC *eSSS* SSS 03 23 30.1 -1.1
SOC pmax pmax
comp=Z,22nm,0.7s,mb5.2
SOC pmax pmax
comp=N,5.0nm,0.5s
SOC pmax pmax
comp=E,5.0nm,0.8s
ELZG Elazig 49.55 302 *iP* **P** **03 11 37.5 +1.8**
MALT Malatya 49.99 301 *eP* **P** **03 11 40.4 +1.4**
MALT pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MALT Malatya 49.99 301 *eP* **P** **03 11 40.4 +1.4**
comp=Z,10nm,0.7s,mb4.9
GZT Gaziantep 50.67 300 *iP* **P** **03 11 45.0 +0.8**
FITZ Fitzroy Crossi 50.83 141 *eP* **P** **03 11 45.0 -0.7**
comp=Z,10nm,0.8s,mb4.9
KAHT Ahir Dag 51.22 301 *iP* **P** **03 11 49.2 +0.9**
KAKA Kakadu 51.27 130 *eP* **P** **03 11 48.0 -1.0**
comp=Z,3.8nm,0.9s,mb4.4
ASF Jabal al Asfar 51.46 294 P **P** **03 11 50.9 +0.7**
comp=Z,15nm,0.6s,mb5.2,baz=325,slow=6.0,SNR=33
COBT Iskenderun 51.73 299 *iP* **P** **03 11 53.6 +1.3**
TIXI Tiksi 52.49 13 *eP* **P** **03 11 55.6 -1.8**
TIXI pmax pmax
comp=Z,25nm,0.5s,mb5.5
BOYT Boyabat 52.76 305 *iP* **P** **03 12 00.4 +0.6**
OBN Obninsk 53.30 323k *iP* **P** **03 12 02.8 -0.8**
OBN *e* pP 03 12 28.0 -0.9
OBN pmax pmax
comp=Z,15nm,0.6s,mb5.2
OBN Obninsk 53.30 323 P **P** **03 12 01.3 -2.3**
comp=Z,14nm,0.5s,mb5.3
EIL Elat 53.40 291 *eP* **P** **03 12 04.8 +0.1**
comp=Z,33nm,0.7s,mb5.5
MA2 Magadan 53.50 32 *eP* **P** **03 12 03.0 -2.0**
MA2 pmax pmax
comp=Z,24nm,0.8s,mb5.3
MA2 Magadan 53.50 32 *eP* **P** **03 12 03.0 -2.0**
comp=Z,24nm,0.8s,mb5.3
BRTR Keskin Array B 53.72 303 P **P** **03 12 06.5 -0.4**
comp=Z,2.7nm,0.7s,mb4.4,baz=95,slow=7.4,SNR=16
BRTR pP pP 03 12 33.1 +0.9
comp=Z,2.4nm,0.6s,baz=79,slow=7.3,SNR=4.1
BRTR ScP 03 16 58.7
comp=Z,2.0nm,0.8s,baz=117,slow=5.5,SNR=6.5
ELDT Eldivan 53.87 304 *iP* **P** **03 12 08.5 +0.5**
BALT Daday 53.90 305 *iP* **P** **03 12 08.6 +0.4**
AKASG Malin Array Be 57.09 316 P **P** **03 12 29.8 -1.2**
comp=Z,4.1nm,0.5s,mb4.8,baz=79,slow=6.4,SNR=34
AKASG pP pP 03 12 56.3 -0.3
comp=Z,18nm,0.7s,baz=79,slow=5.9,SNR=7.2
WRA Warramunga Arr 57.62 135 P **P** **03 12 33.3 -1.8**
comp=Z,9.6nm,0.5s,mb5.1,baz=323,slow=7.4,SNR=27
WRA pP pP 03 12 58.7 -2.1
comp=Z,13nm,1.0s,baz=322,slow=7.4,SNR=5.1
WRA S **S** **03 20 22.9 -0.2**
comp=Z,0.7nm,0.6s,baz=317,slow=15,SNR=4.0
WRAB Tennant Creek 57.62 135c *iP* **P** **03 12 35.2 0.0**
WRAB Tennant Creek 57.62 135 *eP* **P** **03 12 34.4 -0.8**
comp=Z,11nm,0.5s,mb5.1
WB2 Warramunga Arr 57.63 135⇑*iP* **P** **03 12 35.2 0.0**
CFR Carcaliu 57.70 310⇑P **P** **03 12 32.4 -3.0**
JOF Joensuu 57.71 331 *ep* **P** **03 12 34.5 -0.7**
APA Apatity 58.11 337⇑*iP* **P** **03 12 37.1 -0.8**
APA *i* pP 03 13 02.9 -0.7
APA pmax pmax
comp=Z,20nm,0.8s,mb5.2
MUN Mundaring 58.39 158 *eP* **P** **03 12 40.6 +0.2**
comp=Z,14nm,0.6s,mb5.2
MUN Mundaring 58.39 158 *eP* **P** **03 12 40.6 +0.2**
MUN pmax pmax
comp=Z,15nm,0.6s,mb5.2
VRI Vrincioaia 58.68 311⇑*iP* **P** **03 12 44.2 +2.0**
ISR Istrita 58.83 310⇓*iP* **P** **03 12 46.4 +3.2**
MLR Muntele Rosu 59.24 310⇑*iP* **P** **03 12 46.9 +0.9**
NWAO Narrogin (SRO) 59.61 158 P **P** **03 12 48.5 -0.3**
comp=Z,18nm,0.8s,mb5.2,baz=105,slow=13,SNR=6.3
BURAR Bucovina Array 59.67 313 ⇓P **P** **03 12 49.2 +0.2**
KAF Kangasniemi 59.85 330 *ep* **P** **03 12 49.2 -0.8**
comp=Z,2.6nm,0.4s,mb4.6
KAF Kangasniemi 59.85 330 *eP* **P** **03 12 49.2 -0.8**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
FINES FINESS Array B 59.87 329 P **P** **03 12 49.6 -0.5**
comp=Z,6.1nm,0.5s,mb4.9,baz=100,slow=6.7,SNR=74
FINES pP pP 03 13 14.6 -1.4
comp=Z,6.2nm,0.6s,baz=101,slow=9.7,SNR=4.4
ASPA Alice Springs 60.04 138⇑*iP* **P** **03 12 52.1 +0.3**
ASAR Alice Springs 60.04 138 P **P** **03 12 51.9 0.0**
comp=Z,7.7nm,0.7s,mb4.8,baz=321,slow=7.1,SNR=86
PMG Port Moresby 60.65 116 P **P** **03 12 55.9 -0.2**
comp=Z,31nm,0.8s,mb5.4,baz=277,slow=8.4,SNR=7.8
KMBO Kilima Mbogo 60.68 255 *iP* **P** **03 12 56.6 +0.3**
KMBO pmax pmax
comp=Z,12nm,0.7s
KMBO Kilima Mbogo 60.68 255 P **P** **03 12 56.6 +0.2**
comp=Z,12nm,0.7s,mb5.0,baz=48,slow=11,SNR=47
KMBO LR LR 03 39 06.7
comp=Z,52nm,21.2s,baz=280,slow=36
KMBO Kilima Mbogo 60.68 255 *eP* **P** **03 12 56.3 0.0**
comp=Z,14nm,0.9s,mb5.0
SUW Suwalki 60.91 320 *eP* **P** **03 12 57.3 0.0**
SUW pmax pmax
comp=Z,73nm,1.0s,mb5.7
SUW Suwalki 60.91 320 *eP* **P** **03 12 57.3 0.0**
comp=Z,73nm,1.0s,mb5.7
KEV Kevo 60.95 338 *ep* **P** **03 12 56.6 -0.8**
comp=Z,10nm,0.5s,mb5.1
KEV Kevo 60.95 338 *eP* **P** **03 12 56.6 -0.8**
KEV pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
KWP Kalwaria 61.27 315 *eP* **P** **03 12 59.5 -0.3**
KWP *e* pP 03 13 26.2 +0.4
KWP pmax pmax
comp=Z,24nm,0.5s,mb5.5
KWP Kalwaria 61.27 315 *eP* **P** **03 12 59.5 -0.3**
comp=Z,24nm,0.5s,mb5.5
KWP *e* pP 03 13 26.2 +0.4
VTS Vitosha 61.41 307⇑P **P** **03 13 01.1 +0.2**
ARCES ARCESS Array B 61.41 338 P **P** **03 13 00.5 0.0**
comp=Z,9.3nm,0.5s,mb5.1,baz=95,slow=7.7,SNR=122
ARCES pP pP 03 13 26.9 +0.3
comp=Z,30nm,1.0s,baz=90,slow=6.1,SNR=7.2
KOLS Kolonicke sedl 61.58 314 *iP* **P** **03 13 03.3 +1.4**
BILL Bilibino 62.08 24 *eP* **P** **03 13 03.2 -1.8**
BILL pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
BILL Bilibino 62.08 24 *eP* **P** **03 13 03.1 -1.9**
comp=Z,5.2nm,0.5s,mb4.8
KTK1 Kautokeino 62.12 337⇑*iP* **P** **03 13 06.0 +0.7**
KTK1 *ep*P pP 03 13 31.5 +0.2
CRVS Cervenica-Dubn 62.12 314 *iP* **P** **03 13 08.2 +2.7**
SKO Skopje 62.79 307 *eP* **P** **03 13 09.0 -1.1**
TRO Tromso 63.71 338 *eP* **P** **03 13 14.3 -1.4**
TRO *ep*P pP 03 13 39.1 -2.8
VYHS Vyhne 63.89 314 *iP* **P** **03 13 18.5 +1.3**
OKC Ostrava-Krasne 64.21 316 *eP* **P** **03 13 20.2 +1.0**
PKSM Moragy 64.27 312 *eP* **P** **03 13 20.0 +0.3**
KSP Ksiaz 65.28 317 *eP* **P** **03 13 26.0 -0.2**
KSP *e*PP pP 03 13 51.2 -1.2
MOR8 Moi Rana 65.28 334⇑*iP* **P** **03 13 24.7 -1.2**
comp=Z,44nm,1.4s,mb5.1
MOR8 Moi Rana 65.28 334⇑*iP* **P** **03 13 24.7 -1.2**
MOR8 AMb AMB 03 13 27.1
comp=Z,44nm,1.4s,mb5.1
MOR8 *ep*P pP 03 13 50.5 -1.6
DPC Dobruska-Polom 65.32 316 *eP* **P** **03 13 22.5 -3.9**
DPC *ep*P pP 03 13 52.4 -0.2
UPC Upice 65.50 317 *ep*P pP 03 13 51.6 -2.2
LOF Lofoten 65.61 336 *eP* **P** **03 13 28.4 +0.4**
comp=Z,189nm,1.8s,mb5.6
LOF Lofoten 65.61 336 *eP* **P** **03 13 28.4 +0.4**
LOF AMb AMB 03 13 29.8
comp=Z,189nm,1.8s,mb5.6
LOF *ep*P pP 03 13 54.7 +0.5
CTA Charters Tower 66.09 126 *eP* **P** **03 13 32.4 +0.5**
comp=Z,10.0nm,0.6s,mb4.8
CTA Charters Tower 66.09 126 *eP* **P** **03 13 32.4 +0.5**
CTA pmax pmax
comp=Z,10.0nm,0.6s
MBAR Mbarara 66.30 259⇓*eP* **P** **03 13 32.3 -1.0**
MBAR pmax pmax
comp=Z,17nm,0.7s,mb5.0
MBAR Mbarara 66.30 259⇓*eP* **P** **03 13 32.3 -0.9**
comp=Z,17nm,0.7s,mb5.0
NSS Namsos 66.39 332 *eP* **P** **03 13 31.0 -2.0**
comp=Z,99nm,1.7s,mb5.4
NSS Namsos 66.39 332 *eP* **P** **03 13 31.0 -2.0**
NSS AMb AMB 03 13 34.9
comp=Z,99nm,1.7s,mb5.4
PVCC Panska Ves 66.41 317 *eP* **P** **03 13 33.4 0.0**
PVCC *ep*P pP 03 13 58.7 -1.0
PRU Pruhonice 66.50 316 *eP* **P** **03 13 35.7 +1.8**
PRU *ep*P pP 03 13 58.8 -1.5
BRG Berggiesshubel 66.76 317 *eP* **P** **03 13 35.9 +0.4**
BRG *i* pP 03 14 02.6 +0.7
BRG pmax pmax
comp=Z,16nm,1.4s,mb4.7
BRG Berggiesshubel 66.76 317 *eP* **P** **03 13 35.9 +0.4**
comp=Z,16nm,1.4s,mb4.6
BRG *i* pP 03 14 02.6 +0.7
MOA Molln 67.00 314⇑*iP* **P** **03 13 37.0 -0.1**
comp=Z,4.4nm,0.6s,mb4.5
NB2 NORSAR Subarra 67.03 328 P **P** **03 13 36.1 -1.0**
comp=Z,7.8nm,0.6s,mb4.7,baz=84,slow=6.2
NB2 NORSAR Subarra 67.03 328 P **P** **03 13 36.1 -1.0**
baz=84,slow=6.5
NOA NORSAR Array B 67.03 328 P **P** **03 13 36.4 -0.7**
comp=Z,7.0nm,0.6s,mb4.7,baz=85,slow=6.3,SNR=29
NOA pP pP 03 14 02.3 -1.1
comp=Z,20nm,1.1s,baz=85,slow=6.4,SNR=5.3
GERES GERESS Array B 67.22 315 P **P** **03 13 38.6 +0.1**
comp=Z,3.4nm,0.7s,mb4.3,baz=67,slow=6.4,SNR=27
GERES pP pP 03 14 04.8 0.0
comp=Z,7.9nm,0.6s,baz=68,slow=6.1,SNR=8.0
KHC Kasperske Hory 67.25 315 *eP* **P** **03 13 40.1 +1.4**
KHC *ep*P pP 03 14 04.9 -0.1
CLL Collm 67.28 318 *e*PP pP 03 14 06.0 +0.8
VOY Vojsko 67.56 312 *eP* **P** **03 13 40.7 +0.1**
VOY *e* pP 03 14 03.1 -3.9
KBA Koelnbreinsper 67.75 313⇑*iP* **P** **03 13 41.5 -0.3**
comp=Z,3.6nm,0.6s,mb4.4
KBA Koelnbreinsper 67.75 313⇑*iP* **P** **03 13 41.5 -0.3**
KBA pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
DOMB Dombas 67.94 330 *eP* **P** **03 13 42.4 -0.3**
comp=Z,50nm,1.9s,mb5.0
DOMB Dombas 67.94 330 *eP* **P** **03 13 42.4 -0.3**
DOMB AMb AMB 03 13 46.4
comp=Z,50nm,1.9s,mb5.0
DOMB *ep*P pP 03 14 08.7 -0.4
MOX Moxa 68.25 317 *eP* **P** **03 13 46.8 +2.0**
MOX *e*PP pP 03 14 12.2 +0.9
MOX pmax pmax
comp=Z,24nm,1.3s,mb4.9
MOX Moxa 68.25 317 *eP* **P** **03 13 46.8 +2.0**
comp=Z,24nm,1.3s,mb4.9
MOX *ep*P pP 03 14 12.2 +0.9
MOX Moxa 68.25 317 *iP* **P** **03 13 46.8 +2.0**
MOX pP pP 03 14 12.0 +0.7
GRA1 Grafenberg Arr 68.67 316 *eP* **P** **03 13 49.4 +2.0**
comp=Z,8.0nm,1.0s,mb4.5
GRA1 *ep*P pP 03 14 14.8 +0.9
GRF Grafenberg Arr 68.67 316 *eP* **P** **03 13 49.4 +2.0**
GRF *e*PP pP 03 14 14.8 +0.9
GRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
GRF Grafenberg Arr 68.67 316 *eP* **P** **03 13 49.4 +2.0**
GRF *e*PP pP 03 14 14.8 +0.9
GRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
GRF Grafenberg Arr 68.67 316 *eP* **P** **03 13 49.4 +2.0**
comp=Z,8.0nm,1.0s,mb4.5
GRF *ep*P pP 03 14 14.8 +0.9
WTTA Wattenberg 68.86 314⇓*iP* **P** **03 13 48.3 -0.3**
comp=Z,7.5nm,0.9s,mb4.5
WTTA Wattenberg 68.86 314⇓*iP* **P** **03 13 48.3 -0.3**
WTTA pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
WATA Walderalm 68.89 314⇓*iP* **P** **03 13 49.9 +1.1**
comp=Z,5.6nm,1.1s,mb4.3
WATA Walderalm 68.89 314⇓*iP* **P** **03 13 49.9 +1.1**
WATA pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
SQTA Sankt Quirin 69.15 314⇓*iP* **P** **03 13 49.7 -0.8**
comp=Z,2.5nm,0.9s,mb4.0
SQTA Sankt Quirin 69.15 314⇓*iP* **P** **03 13 49.7 -0.8**
SQTA pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
MOTA Moosalm 69.20 314⇓*iP* **P** **03 13 49.4 -1.3**
comp=Z,4.0nm,1.0s,mb4.2
MOTA Moosalm 69.20 314⇓*iP* **P** **03 13 49.4 -1.3**
MOTA pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
DAVA Damuels 70.03 314⇑*iP* **P** **03 13 58.1 +2.3**
comp=Z,10nm,0.9s,mb4.7
STKA Stephens Creek 70.65 139 *eP* **P** **03 13 58.5 -1.3**
comp=Z,5.4nm,0.9s,mb4.4
STKA Stephens Creek 70.65 139 P **P** **03 13 59.5 -0.3**
comp=Z,6.0nm,0.9s,mb4.4,baz=352,slow=4.5,SNR=12
LPG La Plagne 72.55 313 *eP* **P** **03 14 11.6 +0.7**
comp=Z,7.7nm,0.5s,mb4.5
LPG La Plagne 72.55 313 *eP* **P** **03 14 11.6 +0.7**
LPG pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
DAG Danmarks Havn 72.94 347⇑*iP* **P** **03 14 12.8 +0.3**
DAG pmax pmax
comp=Z,20nm,0.9s,mb5.0
DAG Danmarks Havn 72.94 347⇑*iP* **P** **03 14 12.8 +0.3**
comp=Z,20nm,0.9s,mb5.0
LSZ Lusaka 75.26 246 *eP* **P** **03 14 27.4 +0.4**
LSZ pmax pmax
comp=Z,57nm,0.6s,mb5.5
LSZ Lusaka 75.26 246 *eP* **P** **03 14 27.4 +0.4**
comp=Z,57nm,0.6s,mb5.5
COLA College 80.30 23⇑*eP* **P** **03 14 53.5 -0.4**
MCK McKinley 80.54 24 P **P** **03 14 53.3 -1.9**
MCK pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
MCK McKinley 80.54 24 P **P** **03 14 53.3 -1.9**
comp=Z,3.4nm,1.0s,mb4.1
ILAR Eielson Array 80.70 22 P **P** **03 14 54.9 -1.2**
comp=Z,2.7nm,0.9s,mb4.1,baz=297,slow=5.2,SNR=21
ESDC Sonseca Array 81.93 310 P **P** **03 15 02.4 -0.6**
comp=Z,0.7nm,0.7s,baz=61,slow=5.7,SNR=4.2
RES Resolute Bay 82.42 3 *eP* **P** **03 15 04.7 -0.1**
RES pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
RES Resolute Bay 82.42 3 *eP* **P** **03 15 04.7 -0.1**
comp=Z,6.2nm,0.6s,mb4.6
INK Inuvik 82.47 16 *eP* **P** **03 15 04.8 -0.4**
INK pmax pmax
comp=Z,6.0nm,0.6s
INK Inuvik 82.47 16 *eP* **P** **03 15 04.8 -0.4**
comp=Z,6.1nm,0.6s,mb4.6
BOSA Boshof 84.19 236 *eP* **P** **03 15 15.0 +0.3**
BOSA pmax pmax
comp=Z,52nm,0.8s,mb5.4
BOSA Boshof 84.19 236 *eP* **P** **03 15 15.0 +0.3**
comp=Z,52nm,0.8s,mb5.4
YKA Yellowknife Ar 91.74 13 *iP* **P** **03 15 49.6 -0.4**
YKA pmax pmax
comp=Z,3.0nm,1.0s
YKA Yellowknife Ar 91.74 13 P **P** **03 15 49.6 -0.3**
comp=Z,2.5nm,1.0s,mb4.4,baz=327,slow=4.4,SNR=27
YKA PP PP 03 19 27.1 -5.0
comp=Z,0.3nm,0.6s,baz=334,slow=7.9,SNR=5.5
YKA PKKPbc 03 33 08.4
comp=Z,0.1nm,0.4s,baz=149,slow=2.0,SNR=3.7
YKA SKKPbc 03 36 36.4
comp=Z,0.2nm,0.6s,baz=158,slow=2.3,SNR=5.3
YKA Yellowknife Ar 91.74 13 P **P** **03 15 49.6 -0.3**
YKA PP PP 03 19 27.1 -5.0
YKA PKKPbc 03 33 08.4
YKA SKKPbc 03 36 36.4
DBIC Dimbokro 96.07 280 P **P** **03 16 11.8 +0.9**
comp=Z,2.3nm,0.4s,mb5.0,baz=52,slow=6.3,SNR=18
SYO Syowa Base 99.85 197⇑Pdiff **P** **03 16 28.7 +1.9**
SYO Syowa Base 99.85 197⇓*p*Pdiff 03 16 57.4
PDAR Pinedale Array 110.93 19 PKiKP 03 21 17.4
comp=Z,0.3nm,0.7s,baz=51,slow=5.8,SNR=4.3
NVAR Mina Array Bea 111.59 27 SKP 03 24 42.9
comp=Z,0.6nm,0.6s,baz=6.9,slow=2.4,SNR=6.0
JCT Junction City 125.11 15 *e*PKP PKPdf 03 21 42.9 +0.8
TXAR Lajitas Array 125.13 20 PKP PKPdf 03 21 43.4 +1.2
comp=Z,1.1nm,0.8s,baz=3.6,slow=0.3,SNR=11
TXAR *p*PKP 03 22 12.4
comp=Z,0.9nm,0.6s,baz=113,slow=0.6,SNR=4.7
TXAR SKPbc 03 24 48.3
comp=Z,0.6nm,0.8s,baz=47,slow=1.0,SNR=3.6
TXAR SKP 03 25 09.8
comp=Z,0.7nm,0.6s,baz=77,slow=0.9,SNR=9.6
TXAR SKKPbc 03 35 05.0
comp=Z,0.3nm,0.8s,baz=124,slow=4.5,SNR=3.5
TXAR Lajitas Array 125.13 20 PKP PKPdf 03 21 43.4 +1.2
TXAR *p*PKP 03 22 12.4
TXAR SKPbc 03 24 48.3
TXAR SKP 03 25 09.8
TXAR SKKPbc 03 35 05.0
BAO Brasilia Array 144.03 275 P PKPbc 03 22 18.0 +1.3
BAO *e* 03 22 40.9
BAO *i* 03 22 47.0
BDFB Brasilia 144.05 275 PKP PKPdf 03 22 18.2 +0.9
comp=Z,6.1nm,0.8s,baz=318,slow=4.8,SNR=7.7
BDFB *p*PKP 03 22 46.8
comp=Z,10.0nm,0.6s,baz=80,slow=4.4,SNR=6.1
BDFB SKPbc 03 25 49.1
comp=Z,7.7nm,1.0s,baz=51,slow=3.7,SNR=6.0
SDV Santo Domingo 145.22 334 PKPbc PKPbc 03 22 21.0 +1.0
comp=Z,21nm,0.5s,baz=81,slow=2.8,SNR=24
SDV *p*PKPbc 03 22 48.5
comp=Z,61nm,1.2s,baz=342,slow=2.3,SNR=3.7
SDV SKPbc 03 25 50.8
comp=Z,26nm,0.6s,baz=144,slow=4.1,SNR=20
SDV Santo Domingo 145.22 334 *e*PKPdf PKPdf 03 22 20.7 +1.2
LPAZ La Paz 162.45 289 PKP PKPdf 03 22 46.3 +3.3
comp=Z,1.2nm,0.7s,baz=42,slow=5.9,SNR=3.9
LVC Simon Verde 164.79 268 PKPab PKPab 03 23 44.9 +1.1
comp=Z,3.2nm,0.8s,baz=88,slow=5.6,SNR=4.3

IDC ***18*** *03:31:23.7±14.0, 15.43S×175.05W, h240km±147km, mb3.5/6, mb1 3.8/6, mb1mx3.5/14, mbtmp4.1/6, Error ellipse: s-maj=153.0km s-min=24.5km az=153.0*
NEIC ***18*** *03:31:23.6±1.2, 15.32S×175.13W, h239km±22km, mb3.7/1, Error ellipse: s-maj=117.0km s-min=13.5km az=150.0*
ISC 18 03:31:22.6±1.6, 15.4S±0.9×175.1W±0.6, h242km±29km, n11, σ0°33/8, mb3.6/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.57**	**66**	*e*Pn	**P**	**03 32 21.4**	**0.0**
WRAB	**Tennant Creek**	**48.20**	**257**	*eP*	**P**	**03 39 40.9**	**-0.1**
	2.1nm,0.6s,mb3.6						
WRA	**Warramunga Arr**	**48.22**	**257**	P	**P**	**03 39 41.1**	**+0.1**
	1.4nm,0.6s,mb3.5,baz=90,slow=7.0,SNR=14						
ASAR	**Alice Springs**	**48.52**	**252**	P	**P**	**03 39 43.3**	**0.0**
	12nm,0.7s,mb4.4,baz=88,slow=8.2,SNR=40						
YBH	**Yreka Blue Hor**	**74.60**	**38**	P	**P**	**03 42 37.5**	**+0.5**
	1.0nm,0.5s,mb3.7,baz=136,slow=9.2,SNR=4.1						
NVAR	**Mina Array Bea**	**75.44**	**43**	P	**P**	**03 42 41.4**	**-0.3**
	0.7nm,0.8s,mb3.3,baz=217,slow=8.2,SNR=4.3						
ILAR	**Eielson Array**	**82.75**	**12**	P	**P**	**03 43 20.1**	**-0.1**
	0.7nm,0.7s,mb3.5,baz=241,slow=5.8,SNR=5.4						
PDAR	**Pinedale Array**	**83.37**	**42**	P	**P**	**03 43 23.9**	**-0.1**
	0.6nm,0.8s,mb3.4,baz=225,slow=4.2,SNR=5.6						
BRTR	**Keskin Array B**	**145.06**	**320**	PKPbc	PKPbc	03 50 33.1	+1.4
	0.9nm,0.5s,baz=99,slow=3.1,SNR=5.8						
KHC	**Kasperske Hory**	**145.58**	**350**	*e*PKP	PKPdf	03 50 32.0	+0.3
GERES	**GERESS Array B**	**145.84**	**350**	PKPbc	PKPbc	03 50 33.4	+0.1
	0.5nm,0.6s,baz=45,slow=1.9,SNR=5.3						

IDC ***18*** *03:36:19.7±0.8, 13.43N×92.71E, h28km±5km, mb3.9/10, mb1 4.1/11, mb1mx3.9/19, mbtmp4.1/11, ML3.8/1, MS2.7/1, Ms1 2.9/1, ms1mx2.6/25, Error ellipse: s-maj=34.1km s-min=15.2km az=48.0*
NEIC ***18*** *03:36:19.7±0.5, 13.49N×92.74E, mb4.4/3, Error ellipse: s-maj=15.2km s-min=9.8km az=48.0*

ISC 18 03:36:17.8±0.7, 13.58N±0.08×92.86E±0.07, h29km, h29km±1.4km: pP-P, n21, σ0§95/24, mb4.1/12, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.60**	**50**	Pn	**Pn**	**03 38 10.0**	**+0.5**
	0.4nm,0.3s,baz=234,slow=14,SNR=3.1						
CMAR				Sn	**Sn**	**03 39 34.2**	**-1.4**
	1.1nm,0.3s,baz=239,slow=27,SNR=15						
CMAR				LR	LR	03 41 40.4	
	comp=Z,53nm,19.3s,baz=340,slow=41						
VIS	**Vishakhapatnam**	**10.05**	**295**	*e*P	**P**	**03 38 40.7**	**-2.9**
VIS				*e*S	**S**	**03 40 23.0**	**-13**
VIS				*e*		03 40 27.3	
	comp=E,121nm,0.2s						
VIS				*e*		03 40 27.5	
	comp=N,182nm,0.2s						
HYB	**Hyderabad**	**14.30**	**287**	*i* P	**P**	**03 39 45.5**	**+4.9**
JIRN	**Jiri**	**15.33**	**337**	*e*P	**P**	**03 39 52.5**	**-1.5**
	comp=N,4.7nm,0.3s						
PKI	**Pulchoki**	**15.56**	**335**	*e*P	**P**	**03 39 57.0**	**0.0**
	comp=N,3.1nm,0.2s						
PKI				*e*S	**S**	**03 42 39.5**	**-9.2**
DMN	**Daman**	**15.72**	**334**	*e*P	**P**	**03 40 00.0**	**+0.9**
KKN	**Kakani**	**15.80**	**335**	*e*P	**P**	**03 39 59.8**	**-0.3**
GKN	**Gorkha**	**16.27**	**333**	*e*P	**P**	**03 40 07.0**	**+1.0**
	comp=N,8.3nm,0.3s						
SONM	**Songino Array**	**35.97**	**16**	P	**P**	**03 43 20.0**	**+2.1**
	comp=N,2.1nm,1.1s,mb4.0,baz=200,slow=6.8,SNR=8.0						
SONM				PcP	PcP	03 45 46.6	+2.0
	comp=N,0.3nm,0.7s,baz=204,slow=3.5,SNR=3.4						
KURK	**Kurchatov**	**38.80**	**346**	*e*P	**P**	**03 43 41.4**	**-0.3**
	comp=N,7.2nm,1.1s,mb4.3						
ZAL	**Zalesovo**	**40.76**	**353**	P	**P**	**03 43 59.2**	**+1.3**
	comp=N,2.9nm,0.4s,mb4.2,baz=298,slow=8.1,SNR=14						
BVAR	**Borovoye Array**	**43.22**	**340**	P	**P**	**03 44 17.9**	**-0.1**
	comp=N,0.7nm,0.6s,mb3.6,baz=143,slow=11,SNR=5.5						
WRA	**Warramunga Arr**	**52.69**	**128**	P	**P**	**03 45 31.8**	**-0.5**
	comp=N,1.6nm,0.6s,mb4.1,baz=313,slow=8.1,SNR=9.0						
WRA				pP	pP	03 45 40.3	-0.8
	comp=N,2.0nm,0.6s,baz=307,slow=8.1,SNR=8.7						
WRAB	**Tennant Creek**	**52.69**	**128**	*e*P	**P**	**03 45 32.3**	**0.0**
	comp=N,5.6nm,0.7s,mb4.6						
ASAR	**Alice Springs**	**54.60**	**132**	P	**P**	**03 45 46.2**	**-0.1**
	comp=N,0.7nm,0.3s,mb4.2,baz=308,slow=6.9,SNR=9.3						
ASAR				pP	pP	03 45 54.6	-0.6
	comp=N,1.7nm,0.8s,baz=310,slow=6.9,SNR=5.6						
BRTR	**Keskin Array B**	**57.84**	**308**	P	**P**	**03 46 08.4**	**-0.8**
	comp=N,0.9nm,0.9s,mb3.8,baz=124,slow=8.9,SNR=4.0						
BRTR				pP	pP	03 46 18.4	+0.2
	comp=N,0.8nm,0.8s,baz=143,slow=6.2,SNR=3.6						
FINES	**FINESS Array B**	**67.12**	**331**	P	**P**	**03 47 10.4**	**-0.3**
	comp=N,3.0nm,0.8s,mb4.3,baz=135,slow=8.1,SNR=8.2						
ARCES	**ARCESS Array B**	**69.50**	**340**	P	**P**	**03 47 26.1**	**+0.7**
	comp=N,6.3nm,1.0s,mb4.5,baz=80,slow=7.4,SNR=10						
GERES	**GERESS Array B**	**72.78**	**317**	P	**P**	**03 47 45.7**	**+0.2**
	comp=N,1.7nm,0.9s,mb4.0,baz=80,slow=6.0,SNR=12						
NB2	**NORSAR Subarra**	**74.18**	**330**	P	**P**	**03 47 53.9**	**+0.6**
	comp=N,1.2nm,0.6s,mb4.0,baz=89,slow=5.6						
NOA	**NORSAR Array B**	**74.18**	**330**	P	**P**	**03 47 53.5**	**+0.1**
	comp=N,1.2nm,0.6s,mb4.0,baz=90,slow=5.8,SNR=4.5						

IDC 18 03:38:44.1±3.6, 4.77N×126.71E, mb4.0/3, mb1 4.2/3, mb1mx3.7/17, mbtmp4.0/3, Error ellipse: s-maj=176.7km s-min=66.5km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.75**	**183**	*e*P	P	03 43 53.4	+4.1
	6.9nm,1.3s						
WRA	**Warramunga Arr**	**25.67**	**163**	P	P	03 44 15.8	-1.8
	1.6nm,0.5s,baz=342,slow=10,SNR=14						
ASAR	**Alice Springs**	**29.12**	**166**	P	P	03 44 47.3	-1.6
	0.7nm,0.4s,baz=353,slow=7.7,SNR=13						
ASAR				PcP	PcP	03 47 54.6	-2.4
	0.7nm,0.5s,baz=343,slow=2.0,SNR=6.6						
STKA	**Stephens Creek**	**39.10**	**160**	P	P	03 46 12.7	-2.2
	1.0nm,0.4s,baz=326,slow=8.6,SNR=4.0						

IDC 18 03:42:26.7±8.1, 32.29S×179.78E, h382km±96km, mb3.1/2, mb1 3.3/3, mb1mx3.0/12, mbtmp3.8/3, Error ellipse: s-maj=112.1km s-min=44.5km az=3.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.34**	**199**	P	P	03 44 03.5	+0.4
	1.1nm,0.3s,baz=280,slow=9.5,SNR=17						
URZ				S	S	03 45 19.2	+0.2
	2.3nm,0.3s,baz=263,slow=23,SNR=13						
ASAR	**Alice Springs**	**41.16**	**270**	P	P	03 49 36.0	-0.8
	0.4nm,0.3s,baz=104,slow=7.5,SNR=5.2						
WRA	**Warramunga Arr**	**42.33**	**275**	P	P	03 49 44.8	-1.6
	0.8nm,0.2s,baz=112,slow=7.8,SNR=10						
FINES	**FINESS Array B**	**146.21**	**337**	PKPbc	PKPbc	04 01 21.1	-0.5
	1.4nm,0.6s,baz=63,slow=3.1,SNR=5.6						

*CASC **18** 03:42:39.4±2.3, 13.63N×91.16W, h68km±32km, MD4.3, ML4.5, mb4.4(NEIC)*
*NEIC **18** 03:42:42.0±1.2, 13.63N×90.98W, h62km±10km, mb4.4/14, Error ellipse: s-maj=18.3km s-min=9.4km az=210.0*
*IDC **18** 03:42:49.0±5.8, 14.04N×90.67W, h111km±47km, mb3.8/11, mb1 4.0/12, mb1mx3.8/22, mbtmp4.2/12, Error ellipse: s-maj=41.5km s-min=18.0km az=29.0*

ISC 18 03:42:39.2±0.7, 13.51N±0.05×91.15W±0.04, h54km±5km, n73, σ1§14/85, mb4.3/20, 4C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.93**	**330**	⇑*e*P	**P**	**03 42 55.2**	**-1.1**
JAT				*e*S	**S**	**03 43 10.5**	**+1.5**
IXG	**Ixpaco**	**0.95**	**46**	⇓*e*P	**P**	**03 42 55.6**	**-0.8**
IXG				*e*S	**S**	**03 43 08.0**	**-1.4**
FUG	**Fuego 3**	**0.98**	**18**	⇓*i*P	**P**	**03 42 56.3**	**-0.7**
PCG	**Pacaya**	**1.03**	**31**	⇑*e*P	**P**	**03 42 57.1**	**-0.5**
TP2	**Tecpan 2**	**1.28**	**6**	⇓*e*P	**P**	**03 43 00.8**	**-0.3**
TP2				*e*S	**S**	**03 43 18.0**	**+0.6**
NBG	**Las Nubes**	**1.33**	**36**	⇑*e*P	**P**	**03 43 02.2**	**+0.3**
NBG				*e*S	**S**	**03 43 18.4**	**-0.4**
RTR	**El Retiro**	**1.52**	**75**	*e*P	**P**	**03 43 04.1**	**-0.4**
SBLS	**San Blas**	**1.52**	**77**	*e*P	**P**	**03 43 04.2**	**-0.4**
RBDL	**Robledal**	**1.55**	**67**	*e*P	**P**	**03 43 04.9**	**-0.1**
SNJE	**San Jose**	**1.55**	**76**	*e*P	**P**	**03 43 04.6**	**-0.4**
BOQS	**Boqueron**	**1.84**	**83**	*e*P	**P**	**03 43 08.8**	**-0.1**
SNET	**Serv Nac Est T**	**1.88**	**84**	*e*P	**P**	**03 43 09.4**	**-0.1**
SNET				*e*S	**S**	**03 43 34.9**	**+2.8**
SNET				*i*		03 43 38.5	
	comp=Z,5μm,0.5s						
LFU	**La Fuente**	**2.00**	**83**	*e*P	**P**	**03 43 11.4**	**+0.2**
LFRS	**El Faro**	**2.04**	**86**	*e*P	**P**	**03 43 12.1**	**+0.4**
LBRS	**Las Brisas**	**2.06**	**83**	*e*P	**P**	**03 43 12.4**	**+0.2**
LBRS				*e*S	**S**	**03 43 39.5**	**+2.8**
LCBS	**La Ceiba**	**2.12**	**86**	*e*P	**P**	**03 43 13.2**	**+0.3**
SNVI	**San Vicente**	**2.25**	**87**	*e*P	**P**	**03 43 15.7**	**+0.8**
SNVI				*e*S	**S**	**03 43 43.6**	**+2.2**
CAHU	**Cacacuatique**	**2.87**	**84**	*e*P	**P**	**03 43 23.5**	**-0.1**
CCIG	**Comitan**	**2.92**	**341**	*i* P	**P**	**03 43 24.8**	**+0.5**
CCIG				*i* S	**S**	**03 43 58.7**	**+0.4**
CNCH	**Conchagua**	**3.24**	**94**	*e*P	**P**	**03 43 28.4**	**-0.4**
CNCH				*e*S	**S**	**03 44 08.0**	**+1.6**
TEL3	**Telica 3**	**4.30**	**102**	*e*P	**P**	**03 43 42.9**	**-0.9**
TELN	**Telica**	**4.31**	**102**	*e*P	**P**	**03 43 42.6**	**-1.2**
CNGN	**Cerro Negro**	**4.46**	**102**	⇑*e*P	**P**	**03 43 45.7**	**-0.3**
MIRN	**Miramar**	**4.46**	**103**	*e*P	**P**	**03 43 45.2**	**-0.8**
COPN	**Copaltepe**	**4.64**	**106**	*e*P	**P**	**03 43 47.9**	**-0.7**
APYN	**Apoyeque**	**4.85**	**105**	*e*P	**P**	**03 43 51.2**	**-0.2**
XAVN	**Gruta Xavier**	**4.90**	**105**	*e*P	**P**	**03 43 52.9**	**+0.8**
MGAN	**Managua**	**4.97**	**105**	*e*P	**P**	**03 43 54.3**	**+1.2**
MGAN				*e*S	**S**	**03 44 49.8**	**-0.2**
TICN	**Ticuantepe**	**5.02**	**106**	*e*P	**P**	**03 43 53.8**	**0.0**
CMIG	**Matias Romero**	**5.06**	**315**	*i* P	**P**	**03 43 52.1**	**-2.4**
CMIG				*i* S	**S**	**03 44 47.5**	**-4.9**
OXX	**Oaxaca**	**6.44**	**304**	*e*P	**P**	**03 44 10.0**	**-3.7**
VHO	**Vista Hermosa**	**6.45**	**304**	*i* P	**P**	**03 44 13.8**	**0.0**
VHO				*i* S	**S**	**03 45 22.4**	**-4.3**
JTS	**JuntasAbangare**	**6.86**	**117**	*e*Pn	**P**	**03 44 19.4**	**-0.1**
TEIG	**Tepich**	**7.23**	**22**	*e*P	**P**	**03 44 24.5**	**-0.1**
PPM	**Popocatepetl**	**9.06**	**309**	*i* P	**P**	**03 44 50.6**	**+0.8**
PPM				*i* S	**S**	**03 46 27.4**	**-4.0**
OTAV	**Otavalo**	**18.23**	**135**	P	**P**	**03 46 56.1**	**+6.0**
	comp=Z,6.8nm,1.1s						
JCT	**Junction City**	**18.68**	**336**	*e*P	**P**	**03 46 56.4**	**+0.9**
	comp=Z,12nm,0.8s						
TXAR	**Lajitas Array**	**19.56**	**326**	P	**P**	**03 47 06.1**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=154,slow=12,SNR=67						
TXAR				PcP	PcP	03 51 24.3	+0.8
	comp=Z,0.1nm,0.3s,baz=180,slow=2.5,SNR=4.0						
TXAR	**Lajitas Array**	**19.56**	**326**	P	**P**	**03 47 06.1**	**+0.8**
TXAR				PcP	PcP	03 51 24.3	+0.8
LRAL	**Lakeview Retre**	**19.81**	**10**	P	**P**	**03 47 07.8**	**-0.1**
	comp=Z,29nm,1.0s						
SDV	**Santo Domingo**	**20.64**	**101**	P	**P**	**03 47 16.4**	**-0.4**
	comp=Z,4.5nm,0.6s,baz=312,slow=8.2,SNR=5.6						
SDV	**Santo Domingo**	**20.64**	**101**	P	**P**	**03 47 15.5**	**-1.3**
	comp=Z,5.2nm,0.6s						
MIAR	**Mount Ida**	**21.06**	**354**	*e*P	**P**	**03 47 16.6**	**-4.3**
	comp=Z,23nm,1.3s,mb4.3						
UALR	**University of**	**21.20**	**357**	P	**P**	**03 47 19.1**	**-3.2**
GDL2	**Guadalupe Moun**	**22.19**	**329**	*e*P	**P**	**03 47 32.5**	**+0.3**
WMOK	**Wichita Mounta**	**22.24**	**343**	*e*P	**P**	**03 47 32.6**	**0.0**
	comp=Z,3.5nm,0.7s,mb3.9						
MNTX	**Cornudas Mount**	**22.32**	**327**	*e*P	**P**	**03 47 33.5**	**-0.1**
	comp=Z,20nm,0.8s,mb4.6						
MYNC	**Murphy**	**22.39**	**15**	*e*P	**P**	**03 47 34.1**	**0.0**
	comp=Z,17nm,0.7s,mb4.6						
CPRX	**Cap Rock**	**22.63**	**331**	*e*P	**P**	**03 47 35.8**	**-0.8**
AMTX	**Amarillo**	**23.32**	**338**	*e*P	**P**	**03 47 42.9**	**-0.3**
	comp=Z,11nm,0.8s,mb4.3						
CCM	**Cathedral Cave**	**24.45**	**360**	*e*P	**P**	**03 47 53.2**	**-1.0**
	comp=Z,14nm,0.7s,mb4.5						
WCI	**Wyandotte Cave**	**25.00**	**9**	*e*P	**P**	**03 47 56.9**	**-2.6**
	comp=Z,10.0nm,0.7s,mb4.5						
WCI				*e*		03 48 13.8	
LPM	**Los Pinos Moun**	**25.02**	**329**	P	**P**	**03 48 01.2**	**+1.4**
LENM	**Lemitar**	**25.08**	**328**	*e*P	**P**	**03 48 02.3**	**+2.0**
ANMO	**Albuquerque**	**25.44**	**330**	P	**P**	**03 48 05.0**	**+1.3**
	comp=Z,2.1nm,0.6s,mb3.8,baz=150,slow=10,SNR=12						
NEN	**Nelson**	**30.67**	**320**	*e*P	**P**	**03 48 52.2**	**+1.2**
SADO	**Sadowa**	**32.80**	**16**	P	**P**	**03 49 06.8**	**-2.7**
	comp=Z,5.2nm,0.5s,mb4.7,baz=208,slow=11,SNR=3.3						
PDAR	**Pinedale Array**	**33.21**	**335**	P	**P**	**03 49 13.1**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=135,slow=9.4,SNR=5.7						
PDAR				PcP	PcP	03 51 54.5	-0.4
	comp=Z,0.5nm,0.6s,baz=148,slow=4.0,SNR=4.0						
NVAR	**Mina Array Bea**	**34.57**	**321**	P	**P**	**03 49 27.3**	**+2.5**
	comp=Z,4.3nm,0.6s,mb4.5,baz=144,slow=7.2,SNR=47						
NVAR				PcP	PcP	03 52 00.2	+1.5
	comp=Z,2.0nm,0.7s,baz=174,slow=3.2,SNR=8.0						
NVAR	**Mina Array Bea**	**34.57**	**321**	P	**P**	**03 49 27.3**	**+2.6**
NVAR				PcP	PcP	03 52 00.2	+1.5
HLID	**Hailey**	**36.00**	**331**	*e*P	**P**	**03 49 38.2**	**+1.2**
	comp=Z,3.3nm,0.9s,mb4.3						
MCMT	**McKenzie Canyo**	**36.27**	**334**	*e*P	**P**	**03 49 41.4**	**+2.1**
WVOR	**Wild Horse Val**	**37.36**	**326**	*e*P	**P**	**03 49 49.5**	**+1.1**
	comp=Z,12nm,1.1s,mb4.6						
MOD	**Modoc**	**37.95**	**324**	*e*P	**P**	**03 49 54.8**	**+1.6**
	comp=Z,2.5nm,0.6s,mb4.1						
YBH	**Yreka Blue Hor**	**39.26**	**322**	P	**P**	**03 50 04.6**	**+0.5**
	comp=Z,3.0nm,1.1s,mb3.9,baz=146,slow=6.1,SNR=3.9						
SCHQ	**Schefferville**	**45.40**	**20**	P	**P**	**03 50 51.5**	**-2.6**
	comp=Z,6.7nm,0.8s,mb4.5,baz=207,slow=5.6,SNR=12						
YKA	**Yellowknife Ar**	**51.69**	**346**	P	**P**	**03 51 40.8**	**-1.9**
	comp=Z,1.1nm,0.5s,mb4.1,baz=148,slow=7.7,SNR=36						
YKA				PcP	PcP	03 52 54.1	-1.6
	comp=Z,0.2nm,0.4s,baz=152,slow=3.5,SNR=5.9						
YKA	**Yellowknife Ar**	**51.69**	**346**	P	**P**	**03 51 40.8**	**-1.9**
YKA				PcP	PcP	03 52 54.1	-1.6
INK	**Inuvik**	**61.14**	**343**	P	**P**	**03 52 48.1**	**-2.0**
	comp=Z,1.5nm,0.5s,mb4.3,baz=87,slow=5.2,SNR=6.3						
ILAR	**Eielson Array**	**63.62**	**337**	P	**P**	**03 53 04.8**	**-1.7**
	comp=Z,1.7nm,0.7s,mb4.2,baz=169,slow=4.8,SNR=22						
RSO	**Redoubt South**	**64.48**	**331**	*e*P	**P**	**03 53 12.6**	**+0.4**
DBIC	**Dimbokro**	**84.89**	**84**	P	**P**	**03 55 08.4**	**-1.8**
	comp=Z,3.1nm,0.8s,mb4.5,baz=233,slow=2.8,SNR=8.6						
CMAR	**Chiang Mai Arr**	**146.72**	**342**	PKPbc	PKPbc	04 02 17.6	+1.9
	comp=Z,10.0nm,1.0s,baz=335,slow=3.6,SNR=30						

*IDC **18** 04:09:16.0±0.6, 36.76N×121.45E, mb4.1/22, mb1 4.3/23, mb1mx4.3/27, mbtmp4.1/23, ML4.2/1, MS3.4/1, Ms1 3.4/1, ms1mx3.0/30, Error ellipse: s-maj=19.8km s-min=15.9km az=68.0*
*BJI **18** 04:09:17.7, 36.82N×121.46E, h27km, mb4.2, ML4.4, Ms4.7, Msz4.2*
*MOS **18** 04:09:18.4±1.1, 36.75N×121.51E, h33km, mb4.4/21, Error ellipse: s-maj=19.7km s-min=8.3km az=113.7*
*NEIC **18** 04:09:24.7±1.5, 36.76N×121.11E, h65km±13km, mb4.5/8, Error ellipse: s-maj=15.2km s-min=10.8km az=218.0*

ISC 18 04:09:18.8±0.4, 36.76N±0.06×121.41E±0.10, h33km, n70, σ1§03/73, mb4.2/27, 1C, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIA	**Tai'an**	**3.50**	**262**	P	**P**	**04 10 11.8**	**-0.4**
TIA				PG	**P**	**04 10 20.1**	**+7.9**
TIA				SG	**S**	**04 11 08.0**	**+15**
TIA				Smax			
	comp=N,273nm,0.6s						
INCN	**Inchon**	**4.24**	**79**	*e*Pn	**Pn**	**04 10 33.0**	**+10**
NJ2	**Nanjing**	**5.15**	**205**	*e*P	**P**	**04 10 35.3**	**-0.3**
NJ2				PG	**P**	**04 10 51.4**	**+16**
NJ2				SG	S	04 11 58.3	+24
NJ2				Smax			
	comp=N,640nm,0.7s						
NJ2				Smax			
	comp=E,630nm,0.6s						
BJT	**Baijiatuau**	**5.25**	**310**	*e*P	**P**	**04 10 35.5**	**-1.5**
SNY	**Shenyang**	**5.34**	**18**	⇑P	**P**	**04 10 37.0**	**-1.2**
SNY				PG	**P**	**04 10 56.6**	**+18**
SNY				SG	S	04 12 02.5	+23
SNY				Smax			
	comp=N,430nm,0.7s						
SNY				Smax			
	comp=E,460nm,0.6s						
JOW	**Kunigami**	**11.48**	**148**	LR	LR	04 17 00.1	
	comp=E,196nm,19.0s,baz=308,slow=40						
HIA	**Hailar**	**12.56**	**355**	P	**P**	**04 12 17.0**	**-0.9**
MAJO	**Matsushiro**	**13.49**	**86**	P	**P**	**04 12 42.4**	**+12**
ULN	**Ulaanbaatar**	**15.34**	**321**	*e*P	**P**	**04 12 54.4**	**+0.1**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ULN	**Ulaanbaatar**	**15.34**	**321**	*e*P	**P**	**04 12 54.4**	**+0.1**
	comp=Z,4.7nm,0.7s						
SONM	**Songino Array**	**15.65**	**320**	Pn	**P**	**04 12 58.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=136,slow=12,SNR=16						
SONM				Sn	**S**	**04 15 38.3**	**-13**
	comp=Z,0.1nm,0.3s,baz=126,slow=21,SNR=6.3						
ZAK	**Zakamensk**	**18.85**	**322**	*e*P	**P**	**04 13 39.8**	**+1.3**
MOY	**Mondy**	**20.79**	**322**	*e*P	**P**	**04 14 05.0**	**+5.6**
BOD	**Bodaibo**	**21.64**	**349**	*e*P	**P**	**04 14 07.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**26.88**	**233**	P	**P**	**04 14 59.2**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**26.88**	**233**	P	**P**	**04 14 59.2**	**+0.5**
	comp=Z,0.9nm,0.3s,mb3.8,baz=30,slow=8.4,SNR=6.9						
ZAL	**Zalesovo**	**30.49**	**316**	P	**P**	**04 15 32.6**	**+1.9**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**30.49**	**316**	P	**P**	**04 15 32.5**	**+1.8**
	comp=Z,1.0nm,0.4s,mb3.9,baz=101,slow=5.2,SNR=3.1						
AAK	**Ala-Archa**	**36.20**	**294**	P	**P**	**04 16 18.7**	**-1.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
AAK	**Ala-Archa**	**36.20**	**294**	P	**P**	**04 16 18.7**	**-1.5**
	comp=Z,2.5nm,0.7s,mb4.2						
BVAR	**Borovoye Array**	**38.74**	**311**	P	**P**	**04 16 42.5**	**+1.1**
	comp=Z,1.0nm,0.6s,mb3.7,baz=91,slow=10.0,SNR=4.7						
BRVK	**Borovoye**	**38.81**	**311**	*e*P	**P**	**04 16 41.3**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**38.81**	**311**	*e*P	**P**	**04 16 41.2**	**-0.7**
	comp=Z,2.9nm,0.6s,mb4.2						
MBWA	**Marble Bar**	**57.62**	**182**	*e*P	**P**	**04 19 06.3**	**-1.8**
	comp=Z,5.8nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**57.70**	**166**	P	**P**	**04 19 08.1**	**-0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**57.70**	**166**	P	**P**	**04 19 08.1**	**-0.6**
	comp=Z,1.0nm,0.9s,mb3.8,baz=349,slow=7.3,SNR=5.2						
COLA	**College**	**57.70**	**30**	*e*P	**P**	**04 19 06.3**	**-1.8**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
COLA	**College**	**57.70**	**30**	*e*P	**P**	**04 19 06.3**	**-1.8**
	comp=Z,4.5nm,0.6s,mb4.7						
JOF	**Joensuu**	**58.05**	**327**	*e*p	**P**	**04 19 09.4**	**-1.2**
ARCES	**ARCESS Array B**	**58.08**	**336**	P	**P**	**04 19 10.2**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**58.08**	**336**	P	**P**	**04 19 10.2**	**-0.5**
	comp=Z,1.5nm,0.6s,mb4.2,baz=53,slow=6.1,SNR=7.5						
ILAR	**Eielson Array**	**58.12**	**30**	P	**P**	**04 19 10.9**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**58.12**	**30**	P	**P**	**04 19 10.9**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.9,baz=292,slow=8.0,SNR=18						
KAF	**Kangasniemi**	**60.51**	**327**	*e*p	**P**	**04 19 26.6**	**-1.0**
FINES	**FINESS Array B**	**60.88**	**327**	P	**P**	**04 19 29.8**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**60.88**	**327**	P	**P**	**04 19 29.8**	**-0.3**
	comp=Z,1.9nm,0.4s,mb4.5,baz=64,slow=6.0,SNR=21						
FINES	**FINESS Array B**	**60.88**	**327**	P	**P**	**04 19 29.8**	**-0.3**
ASAR	**Alice Springs**	**61.24**	**167**	P	**P**	**04 19 32.5**	**-0.6**
	comp=Z,0.2nm,0.4s,mb3.6,baz=346,slow=3.5,SNR=4.1						
INK	**Inuvik**	**61.61**	**24**	*e*P	**P**	**04 19 34.5**	**-0.4**
INK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
INK	**Inuvik**	**61.61**	**24**	P	**P**	**04 19 35.4**	**+0.5**
	comp=Z,2.6nm,0.5s,mb4.7,baz=316,slow=6.6,SNR=14						
INK	**Inuvik**	**61.61**	**24**	*e*P	**P**	**04 19 34.5**	**-0.5**
	comp=Z,3.8nm,0.5s,mb4.8						
AKASG	**Malin Array Be**	**63.87**	**315**	P	**P**	**04 19 50.3**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**63.87**	**315**	P	**P**	**04 19 50.3**	**+0.2**
	comp=Z,2.4nm,0.6s,mb4.4,baz=56,slow=6.5,SNR=13						
BRTR	**Keskin Array B**	**66.21**	**303**	P	**P**	**04 20 05.7**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**66.21**	**303**	P	**P**	**04 20 05.7**	**+0.3**
	comp=Z,1.2nm,0.8s,mb4.0,baz=79,slow=3.9,SNR=4.1						
HFS	**Hagfors**	**66.83**	**329**	P	**P**	**04 20 08.5**	**-0.4**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**66.83**	**329**	P	**P**	**04 20 08.5**	**-0.4**
	comp=Z,1.4nm,0.5s,mb4.2,baz=90,slow=5.9,SNR=6.8						
NB2	**NORSAR Subarra**	**67.32**	**330**	P	**P**	**04 20 11.6**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.3,baz=55,slow=6.5						
NB2	**NORSAR Subarra**	**67.32**	**330**	P	**P**	**04 20 11.6**	**-0.4**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
NOA	**NORSAR Array B**	**67.32**	**330**	P	**P**	**04 20 12.0**	**0.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**67.32**	**330**	P	**P**	**04 20 12.0**	**0.0**
	comp=Z,2.5nm,0.7s,mb4.3,baz=57,slow=6.3,SNR=8.4						
MLR	**Muntele Rosu**	**68.30**	**311**	P	**P**	**04 20 19.7**	**+1.3**
MLR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MLR	**Muntele Rosu**	**68.30**	**311**	P	**P**	**04 20 19.7**	**+1.3**
	comp=Z,3.0nm,0.8s,mb4.4,baz=72,slow=22,SNR=5.5						
STKA	**Stephens Creek**	**70.84**	**162**	P	**P**	**04 20 35.0**	**+0.8**
	comp=Z,2.1nm,0.9s,mb4.1,baz=324,slow=12,SNR=3.5						
YKA	**Yellowknife Ar**	**71.38**	**24**	P	**P**	**04 20 37.2**	**+0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**71.38**	**24**	P	**P**	**04 20 37.2**	**+0.3**
	comp=Z,1.0nm,0.5s,mb4.0,baz=312,slow=6.2,SNR=38						
YKA	**Yellowknife Ar**

s24,c30;Mantle waves: s45,c61; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.12±.36; $M_{\theta\theta}$-0.04±.25; $M_{\phi\phi}$-3.08±.23; $M_{r\theta}$0.30±.47; $M_{\theta\phi}$0.95±.16; $M_{\phi r}$-2.85±.35; Best double couple: $M_0$4.325×10^{16} NP1:ϕ_s336°,δ25°,λ77°. NP2:ϕ_s171°,δ66°,λ96°. Principal axes: T 4.232, Plg69°, Azm92°; N .189, Plg5°, Azm348°; P -4.419, Plg21°, Azm256°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 18 04:26:51.2±3.9,20.00S±0.07×168.49E±0.07,h29km±27km, n105,σ1$05/51,mb4.7/28,MS4.2/11,8C-4D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.81**	**222**	*e*P		**P**	**Pn**	**04 27 34.6**	**-0.8**
DZM				*e*S		**Sn**	**Sn**	**04 28 07.1**	**-1.5**
DZM	**Mont Dzumac**	**2.81**	**222**	*e*P		**P**	**Pn**	**04 27 34.6**	**-0.8**
DZM				*e*S		**Sn**	**Sn**	**04 28 07.1**	**-1.5**
NOUC	**Port Laguerre**	**2.92**	**224**	*e*P		**P**	**Pn**	**04 27 36.8**	**-0.2**
NOUC				*e*S		**Sn**	**Sn**	**04 28 10.9**	**-0.6**
NOUC	**Port Laguerre**	**2.92**	**224**	*e*P		**P**	**Pn**	**04 27 36.8**	**-0.2**
NOUC				*e*S		**Sn**	**Sn**	**04 28 10.9**	**-0.6**
URZ	**Urewera**	**19.68**	**159**	P		**P**	**P**	**04 31 21.6**	**+0.5**
	0.6nm,0.3s,baz=8.7,slow=7.9,SNR=7.0								
URZ				LR		LR	LR	04 38 15.2	
	comp=Z,947nm,18.6s,baz=357,slow=34								
CTA	**Charters Tower**	**20.89**	**266**	*e*P		**P**	**P**	**04 31 38.7**	**+4.9**
	20nm,0.7s								
CTA	**Charters Tower**	**20.89**	**266**	P		**P**	**P**	**04 31 35.9**	**+2.1**
	27nm,0.9s,baz=89,slow=13,SNR=25								
CTA				LR		LR	LR	04 38 59.4	
	comp=Z,597nm,19.3s,MS4.0,baz=81,slow=34								
CTAO	**Charters Tower**	**20.89**	**266**	*e*P		**P**	**P**	**04 31 35.3**	**+1.6**
	31nm,0.8s								
CTAO				*e*				04 31 49.2	
PMG	**Port Moresby**	**23.13**	**294**	P		**P**	**P**	**04 31 58.2**	**+2.0**
	42nm,1.2s,mb4.8,baz=210,slow=2.5,SNR=3.9								
PMG				LR		LR	LR	04 39 22.9	
	comp=Z,397nm,18.9s,MS3.9,baz=329,slow=32								
STKA	**Stephens Creek**	**26.84**	**238**	*e*P		**P**	**P**	**04 32 32.8**	**+1.5**
	9.6nm,1.0s,mb4.3								
STKA	**Stephens Creek**	**26.84**	**238**	P		**P**	**P**	**04 32 33.1**	**+1.8**
	6.7nm,0.9s,mb4.2,baz=58,slow=7.4,SNR=11								
STKA				LR		LR	LR	04 43 15.3	
	comp=Z,471nm,18.2s,MS4.1,baz=31,slow=36								
RAR	**Rarotonga**	**29.71**	**98**	LR		LR	LR	04 41 14.0	
	comp=Z,298nm,20.4s,MS3.9,baz=270,slow=29								
WB2	**Warramunga Arr**	**32.05**	**264**	*e*P		**P**	**P**	**04 33 17.1**	**-0.8**
WRAB	**Tennant Creek**	**32.05**	**264**	*e*P		**P**	**P**	**04 33 16.8**	**-1.2**
	15nm,0.9s,mb4.8								
WRA	**Warramunga Arr**	**32.06**	**264**	P		**P**	**P**	**04 33 17.4**	**-0.7**
	12nm,1.0s,mb4.7,baz=93,slow=8.9,SNR=38								
ASAR	**Alice Springs**	**32.26**	**257**	P		**P**	**P**	**04 33 19.4**	**-0.4**
	26nm,0.8s,mb5.1,baz=82,slow=9.0,SNR=198								
ASAR				LR		LR	LR	04 47 00.9	
	comp=Z,523nm,18.4s,MS4.3,baz=86,slow=37								
ASPA	**Alice Springs**	**32.26**	**257**	*e*P		**P**	**P**	**04 33 19.7**	**-0.1**
KAKA	**Kakadu**	**35.28**	**276**	*e*P		**P**	**P**	**04 33 45.8**	**-0.1**
	6.2nm,0.8s,mb4.6								
TBI	**Tubuai**	**39.13**	**103**	*e*LQ				04 43 17.1	
TBI				*e*LR		LR	LR	04 44 56.8	
	347nm,27.0s,baz=260								
PPT	**Papeete**	**39.71**	**94**	*e*S		**S**	**S**	**04 40 11.9**	**-13**
PPT				*e*LR		LR	LR	04 45 15.0	
	620nm,25.5s,baz=244								
FITZ	**Fitzroy Crossi**	**40.47**	**265**	*e*P		**P**	**P**	**04 34 30.2**	**+1.0**
	40nm,0.7s,mb5.3								
MBWA	**Marble Bar**	**45.52**	**260**	*e*P		**P**	**P**	**04 35 11.3**	**+1.0**
	31nm,0.8s,mb5.3								
MBWA				*e*pP		pP	pP	04 35 23.1	+4.1
KLBR	**Kellerberrin**	**46.75**	**245**	*e*P		**P**	**P**	**04 35 20.1**	**+0.1**
	628nm,1.4s								
CBIJ	**Chichi jima**	**53.30**	**330**	LR		LR	LR	04 57 25.5	
	comp=Z,139nm,20.3s,MS4.0,baz=254,slow=34								
VNDA	**Vanda**	**57.66**	**182**	P		**P**	**P**	**04 36 41.3**	**+0.3**
	1.6nm,0.9s,mb4.0,baz=70,slow=6.0,SNR=4.4								
VNDA				LR		LR	LR	04 59 35.9	
	comp=Z,197nm,18.4s,MS4.2,baz=343,slow=34								
SBA	**Scott Base**	**57.91**	**180**	P		**P**	**P**	**04 36 44.1**	**+1.4**
	14nm,1.1s,mb4.9								
QSPA	**South Pole Qui**	**70.06**	**180**	⇓*i*P		**P**	**P**	**04 38 02.7**	**+0.6**
	9.2nm,1.0s,mb4.7								
MDJ	**Mudanjiang**	**73.45**	**332**	P		**P**	**P**	**04 38 22.6**	**-0.3**
MDJ						AMB	AMB		
	comp=Z,9.0nm,2.1s,mb4.3								
MDJ						AMB	AMB		
	comp=Z,187nm,7.0s								
MAW	**Mawson**	**77.47**	**202**	LR		LR	LR	05 11 55.5	
	comp=Z,169nm,18.0s,MS4.4,baz=69,slow=35								
CMAR	**Chiang Mai Arr**	**78.17**	**295**	P		**P**	**P**	**04 38 52.4**	**+2.3**
	comp=Z,1.1nm,0.5s,mb4.1,baz=136,slow=4.4,SNR=8.4								
SYO	**Syowa Base**	**84.01**	**196**	⇑P		**P**	**P**	**04 39 19.7**	**-0.1**
SYO	**Syowa Base**	**84.01**	**196**	⇓pP			pP	04 39 35.4	+6.3
ULN	**Ulaanbaatar**	**87.05**	**324**	*e*P		**P**	**P**	**04 39 34.4**	**-0.9**
	comp=Z,10nm,0.9s,mb5.1								
SONM	**Songino Array**	**87.40**	**323**	P		**P**	**P**	**04 39 37.9**	**+0.9**
	comp=Z,2.7nm,0.9s,mb4.5,baz=135,slow=4.5,SNR=13								
BILL	**Bilibino**	**87.79**	**359**	*e*P		**P**	**P**	**04 39 37.1**	**-1.3**
	comp=Z,14nm,1.1s,mb5.1								
CMB	**Columbia Colle**	**88.19**	**48**	*e*P		**P**	**P**	**04 39 40.2**	**-0.9**
	comp=Z,9.3nm,1.0s,mb5.0								
YBH	**Yreka Blue Hor**	**88.33**	**44**	P		**P**	**P**	**04 39 41.6**	**0.0**
	comp=Z,3.7nm,0.9s,mb4.6,baz=197,slow=4.0,SNR=5.3								
SNAA	**Sanae**	**88.38**	**183**	⇑*i*		**P**	**P**	**04 39 38.9**	**-2.3**
SNAA	**Sanae**	**88.38**	**183**	P		**P**	**P**	**04 39 41.9**	**+0.7**
	comp=Z,2.4nm,1.0s,mb4.4,baz=190,slow=17,SNR=4.6								
SNAA	**Sanae**	**88.38**	**183**	*e*P		**P**	**P**	**04 39 42.1**	**+0.9**
	comp=Z,92nm,0.8s								
VNA3	**Neumayer Olymp**	**88.99**	**181**	⇑*i*P		**P**	**P**	**04 39 44.0**	**-0.1**
VNA3				*e*				04 39 56.7	
VNA2	**Neumayer--Watz**	**89.28**	**181**	⇑*i*P		**P**	**P**	**04 39 45.2**	**-0.3**
VNA2				*e*				04 39 57.7	
VNA1	**Neumayer--Stat**	**89.57**	**181**	⇑*i*P		**P**	**P**	**04 39 48.9**	**+2.0**
VNA1				*e*				04 40 04.3	
NVAR	**Mina Array Bea**	**89.83**	**49**	P		**P**	**P**	**04 39 48.7**	**-0.1**
	comp=Z,2.9nm,1.0s,mb4.6,baz=202,slow=4.8,SNR=17								
NVAR				LR		LR	LR	05 13 53.2	
	comp=Z,189nm,18.5s,MS4.5,baz=145,slow=31								
MOD	**Modoc**	**90.00**	**45**	*e*P		**P**	**P**	**04 39 48.7**	**-0.9**
	comp=Z,12nm,1.1s,mb5.1								
COLA	**College**	**90.97**	**17**	*e*P		**P**	**P**	**04 39 51.7**	**-1.7**
	comp=Z,7.1nm,1.0s,mb5.0								
ILAR	**Eielson Array**	**91.16**	**18**	P		**P**	**P**	**04 39 52.0**	**-2.3**
	comp=Z,0.7nm,0.7s,mb4.1,baz=237,slow=5.2,SNR=8.9								
WVOR	**Wild Horse Val**	**91.35**	**45**	*e*P		**P**	**P**	**04 39 55.4**	**-0.3**
	comp=Z,10nm,1.0s,mb5.1								
WMQ	**Urumqi**	**97.21**	**314**	*e*P		**P**	**P**	**04 40 22.5**	**0.0**
WMQ						AP	pP	04 40 36.0	+4.1
WMQ						XP	sP	04 40 41.2	+6.4
WMQ						PP	PP	04 44 21.5	-0.2
WMQ						S	S	04 51 38.6	-1.9
WMQ						XS		04 52 01.6	
WMQ						AMB	AMB		
	comp=Z,9.0nm,1.3s,mb5.0								
WMQ						AMB	AMB		
	comp=Z,63nm,5.5s								
WMQ						LR	LR		
	comp=N,214nm,19.1s,MS4.9								
WMQ						LR	LR		
	comp=E,322nm,18.6s,MS4.9								
WMQ						LR	LR		
	comp=Z,316nm,19.2s,MS4.8								
INK	**Inuvik**	**97.48**	**19**	P		**P**	**P**	**04 40 26.1**	**+3.0**
	comp=Z,5.5nm,1.2s,mb4.9								
PDAR	**Pinedale Array**	**97.65**	**47**	P		**P**	**P**	**04 40 24.6**	**0.0**
	comp=Z,1.0nm,1.1s,mb4.2,baz=270,slow=2.7,SNR=2.7								
TXAR	**Lajitas Array**	**97.75**	**62**	P		**P**	**P**	**04 40 25.1**	**-0.3**
	comp=Z,0.7nm,1.0s,mb4.2,baz=225,slow=5.3,SNR=4.0								
TXAR				LR		LR	LR	05 15 24.6	
	comp=Z,141nm,21.4s,MS4.4,baz=60,slow=30								
YKA	**Yellowknife Ar**	**101.66**	**28**	P			P	04 40 42.1	-0.1
	comp=Z,0.2nm,0.6s,baz=254,slow=4.7,SNR=5.2								
YKA						PKiKP		04 45 05.3	
	comp=Z,0.5nm,1.1s,baz=245,slow=1.4,SNR=3.8								
FRB	**Frobisher Bay**	**122.14**	**26**	PKP		PKPdf		04 45 42.9	-5.1
	comp=Z,2.1nm,0.9s,baz=300,slow=7.2,SNR=4.6								
ARCES	**ARCESS Array B**	**125.61**	**345**	PKP		PKPdf		04 45 50.4	-4.1
	comp=Z,2.6nm,0.8s,baz=45,slow=3.4,SNR=5.9								
CLL	**Collm**	**143.29**	**334**	*e*PKP				04 46 34.0	
EKA	**Eskdalemuir Ar**	**144.16**	**352**	PKP		PKPdf		04 46 23.2	-5.7
	comp=Z,4.6nm,1.0s,baz=5.6,slow=1.8,SNR=3.9								
MOX	**Moxa**	**144.37**	**335**	*e*PKP		PKPdf		04 46 25.3	-4.2
MOX	**Moxa**	**144.37**	**335**	*i* P		PKPbc		04 46 25.3	+1.3
	comp=Z,logA/T=1.2								
SKO	**Skopje**	**144.58**	**316**	*e*PKP		PKPdf		04 46 26.1	-4.1
GERES	**GERESS Array B**	**144.81**	**331**	PKP		PKPdf		04 46 26.0	-4.3
	comp=Z,2.9nm,0.8s,baz=45,slow=1.9,SNR=17								
ARSA	**Arzberg**	**145.03**	**327**	⇑*i*P		PKPbc		04 46 25.2	-0.8
	comp=Z,16nm,1.1s								
MOA	**Molln**	**145.25**	**329**	⇑*i*P		PKPbc		04 46 28.1	+1.6
	comp=Z,21nm,1.0s								
GRA1	**Grafenberg Arr**	**145.26**	**334**	*e*PKP		PKPdf		04 46 27.9	-3.2
GRF	**Grafenberg Arr**	**145.26**	**334**	*e*PKP		PKPdf		04 46 27.9	-3.2
VOY	**Vojsko**	**146.69**	**327**	*e*P		PKPbc		04 46 32.8	+2.8
VOY				*e*				04 46 39.2	
STU	**Stuttgart**	**146.81**	**335**	*e*PKPbc		PKPbc		04 46 31.8	+1.5
STU				*e*				04 46 45.0	
MOTA	**Moosalm**	**147.10**	**331**	⇑*i*P		PKPdf		04 46 32.5	-1.8
	comp=Z,23nm,1.6s								
SQTA	**Sankt Quirin**	**147.14**	**331**	⇓*i*P		PKPdf		04 46 33.7	-0.7
	comp=Z,36nm,1.7s								
WLF	**Walferdange**	**147.21**	**339**	*e*PKPbc		PKPdf		04 46 34.2	-0.1
GIVF	**Givet**	**147.27**	**340**	*e*PKP1		PKPdf		04 46 33.3	-1.2
	comp=Z,99nm,1.3s								
BAIF	**Baives**	**147.50**	**341**	*e*PKP1		PKPdf		04 46 34.0	-0.8
DAVA	**Damuels**	**147.68**	**332**	⇓*i*P		PKPdf		04 46 40.3	+5.1
	comp=Z,23nm,1.1s								
CDF	**Champ du Feu**	**147.85**	**336**	*e*PKP1		PKPdf		04 46 35.0	-0.5
	comp=Z,25nm,1.0s								
DAVOX	**Davos**	**148.07**	**332**	PKPbc		PKPdf		04 46 36.4	+0.5
	comp=Z,8.4nm,1.1s,baz=337,slow=7.7,SNR=5.3								
HINF	**Hinteralfeld**	**148.50**	**336**	*e*PKP1		PKPdf		04 46 36.5	0.0
HAU	**Haudompre**	**148.54**	**337**	*e*PKP1		PKPdf		04 46 36.8	+0.2
	comp=Z,46nm,1.2s								
MEZF	**Maizieres J'vi**	**148.58**	**339**	*e*PKP1		PKPdf		04 46 37.3	+0.7
	comp=Z,42nm,1.0s								
CABF	**La Chapelle**	**149.79**	**336**	*e*PKP1		PKPdf		04 46 39.2	+0.6
FLN	**La Foliniere**	**149.96**	**345**	*e*PKP1		PKPdf		04 46 39.7	+0.9
LDF	**La Druitiere**	**150.03**	**345**	*e*PKP1		PKPdf		04 46 39.9	+1.0
SSF	**Saint Saulge**	**150.35**	**339**	*e*PKP1		PKPdf		04 46 41.3	+1.8
	comp=Z,98nm,1.5s								
GRR	**Gorron**	**150.40**	**346**	*e*PKP1		PKPdf		04 46 40.9	+1.4
	comp=Z,137nm,1.4s								
LPL	**La Plagne**	**150.42**	**334**	*e*PKP1		PKPdf		04 46 42.0	+2.4
	comp=Z,35nm,1.4s								
LPG	**La Plagne**	**150.43**	**333**	*e*PKP1		PKPdf		04 46 42.3	+2.7
	comp=Z,4.9nm,0.8s								
SMF	**Signal de Mont**	**150.59**	**338**	*e*PKP1		PKPdf		04 46 41.8	+1.9
	comp=Z,31nm,1.1s								
AVF	**Avril sur Loir**	**150.64**	**339**	*e*PKP1		PKPdf		04 46 41.3	+1.4
BNI	**Bardonecchia**	**150.82**	**333**	*e*PKPbc		PKPdf		04 46 42.9	+2.7
SGMF	**Saint Gilles**	**150.89**	**348**	*e*PKP1		PKPdf		04 46 41.8	+1.6
ROSF	**Rostrenen**	**150.95**	**349**	*e*PKP1		PKPdf		04 46 41.8	+1.5
BGF	**Bois d'Agland**	**151.01**	**339**	*e*PKP1		PKPdf		04 46 42.7	+2.2
MBDF	**Montbardon**	**151.04**	**332**	*e*PKP1		PKPdf		04 46 42.9	+2.3
ORIF	**Oris-en-Rattie**	**151.26**	**334**	*e*PKP1		PKPdf		04 46 44.4	+3.5
SBF	**Sospel**	**151.41**	**331**	*e*PKP1		PKPdf		04 46 44.5	+3.3
TCF	**Toulx Ste Croi**	**151.46**	**340**	*e*PKP1		PKPdf		04 46 43.7	+2.6
	comp=Z,56nm,1.4s								
PGF	**Pioggiola**	**151.63**	**327**	*e*PKP1		PKPdf		04 46 44.4	+2.9
VIVF	**Saint-Julien-l**	**151.80**	**335**	*e*PKP1		PKPdf		04 46 44.9	+3.2
FRF	**La Foret Royal**	**152.01**	**331**	*e*PKP1		PKPdf		04 46 44.8	+2.7
SMRF	**Simiane la Rot**	**152.15**	**333**	*e*PKP1		PKPdf		04 46 45.9	+3.6
LMR	**La Mourre**	**152.25**	**331**	*e*PKP1		PKPdf		04 46 45.5	+3.1
CAF	**Calviac**	**152.71**	**339**	*e*PKP1		PKPdf		04 46 46.6	+3.6
LASF	**Ste Croix**	**152.78**	**335**	*e*PKP1		PKPdf		04 46 47.1	+4.0
LFF	**La Frestale**	**153.13**	**341**	*e*PKP1		PKPdf		04 46 48.2	+4.6
MTLF	**Montolieu**	**154.03**	**337**	*e*PKP1		PKPdf		04 46 49.4	+4.5
DBIC	**Dimbokro**	**165.26**	**207**	PKPab		PKPab		04 47 54.7	+1.5
	comp=Z,1.0nm,0.7s,baz=180,slow=6.1,SNR=2.7								

*IDC **18** 04:33:32.9±2.9, 13.66N×90.54W, mb3.8/3, mb1 4.0/4, mb1mx3.6/17, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=67.8km s-min=53.0km az=20.0*
*CASC **18** 04:33:37.5±2.6, 13.52N×91.12W, h20km±13km, MD3.8*

ISC 18 04:33:37.3±1.2,13.45N±0.10×91.19W±0.06,h62km±11km, n20,σ0$76/26,mb3.8/3,4C-9D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.97**	**333**	⇑*e*P		**P**	**P**	**04 33 54.2**	**-1.0**
JAT				*e*S		**S**	**S**	**04 34 09.5**	**+1.0**
FUG	**Fuego 3**	**1.05**	**19**	⇓*e*P		**P**	**P**	**04 33 55.2**	**-1.1**
TP2	**Tecpan 2**	**1.34**	**7**	⇓*e*P		**P**	**P**	**04 33 59.7**	**-0.7**
TP2				*e*S		**S**	**S**	**04 34 16.7**	**-0.7**
NBG	**Las Nubes**	**1.40**	**36**	⇓*e*P		**P**	**P**	**04 34 01.0**	**-0.2**
NBG				*e*S		**S**	**S**	**04 34 20.4**	**+1.7**
RTR	**El Retiro**	**1.56**	**73**	⇑*e*P		**P**	**P**	**04 34 03.0**	**-0.4**
RTR				*e*S		**S**	**S**	**04 34 22.7**	**0.0**
SBLS	**San Blas**	**1.57**	**75**	⇑*e*P		**P**	**P**	**04 34 02.9**	**-0.6**
SBLS				*e*S		**S**	**S**	**04 34 23.0**	**+0.2**
RBDL	**Robledal**	**1.60**	**65**	⇓*e*P		**P**	**P**	**04 34 03.9**	**0.0**
BOQS	**Boqueron**	**1.88**	**81**	⇓*e*P		**P**	**P**	**04 34 07.7**	**0.0**
SNET	**Serv Nac Est T**	**1.92**	**83**	*e*P		**P**	**P**	**04 34 08.0**	**-0.3**
MTO2	**Montecristo 2**	**2.01**	**62**	⇓*e*P		**P**	**P**	**04 34 09.8**	**+0.3**
LFU	**La Fuente**	**2.04**	**81**	⇓*e*P		**P**	**P**	**04 34 10.5**	**+0.6**
LFRS	**El Faro**	**2.07**	**85**	⇓*e*P		**P**	**P**	**04 34 10.9**	**+0.4**
LFRS				*e*S		**S**	**S**	**04 34 34.8**	**-0.3**
LBRS	**Las Brisas**	**2.10**	**82**	*e*P		**P**	**P**	**04 34 11.0**	**+0.1**
LCBS	**La Ceiba**	**2.16**	**84**	⇓*e*P		**P**	**P**	**04 34 12.3**	**+0.6**
SNVI	**San Vicente**	**2.29**	**86**	⇑*e*P		**P**	**P**	**04 34 14.3**	**+0.8**
SNVI				*e*S		**S**	**S**	**04 34 40.0**	**-0.5**
TXAR	**Lajitas Array**	**19.59**	**326**	P		**P**	**P**	**04 38 05.0**	**+1.8**
	0.1nm,0.3s,baz=155,slow=13,SNR=14								
NVAR	**Mina Array Bea**	**34.59**	**321**	P		**P**	**P**	**04 40 26.8**	**+4.5**
	1.2nm,0.7s,mb4.0,baz=146,slow=6.5,SNR=5.1								
NVAR				PcP		PcP	PcP	04 42 59.4	+3.5
	0.5nm,0.7s,baz=116,slow=3.3,SNR=3.9								
SCHQ	**Schefferville**	**45.47**	**20**	P		**P**	**P**	**04 41 50.7**	**-1.3**
	1.8nm,0.8s,mb4.0,baz=207,slow=16,SNR=4.1								
YKA	**Yellowknife Ar**	**51.74**	**346**	P		**P**	**P**	**04 42 40.1**	**-0.2**
	0.2nm,0.4s,mb3.4,baz=150,slow=7.8,SNR=7.6								
CMAR	**Chiang Mai Arr**	**146.76**	**342**	PKPbc		PKPbc		04 53 16.6	+3.7
	1.7nm,0.6s,baz=327,slow=2.9,SNR=5.7								

*NEIC **18** 04:34:43.9±0.7, 31.81S×66.56W, h133km±13km, mb4.2/1, MD4.1(GUC), Error ellipse: s-maj=12.5km s-min=7.3km az=88.0*
*IDC **18** 04:34:45.0±4.0, 31.76S×66.64W, h148km±44km, mb4.0/4, mb1 3.9/6, mb1mx3.6/14, mbtmp4.3/6, Error ellipse: s-maj=43.7km s-min=20.3km az=109.0*
*GUC **18** 04:34:46.2±0.7, 31.88S×66.92W, h160km, MD4.1, ML4.3*

ISC 18 04:34:44.1±0.9,31.84S±0.06×66.77W±0.10, h157km±14km,n26,σ1$02/30,mb4.2/4,3C-1D,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**2.04**	**239**	*e*P		**P**	**P**	**04 35 19.7**	**-0.8**
MDZ				*e*S		**S**	**S**	**04 35 53.9**	**+5.4**
FCH	**Farellones**	**3.32**	**243**	⇑*i*P		**P**	**P**	**04 35 37.6**	**+1.1**
FCH						AMP		04 36 21.1	
	comp=E,119nm,0.6s								
CLCH	**Cerro Calan**	**3.54**	**243**	⇑*i*P		**P**	**P**	**04 35 39.6**	**+0.3**
CLCH				*i* S		**S**	**S**	**04 36 20.7**	**-1.0**
CLCH						AMP		04 36 26.0	
	comp=E,241nm,0.1s								
PTCH	**Petorca**	**3.56**	**262**	*e*P		**P**	**P**	**04 35 39.9**	**+0.3**
PTCH				*i* S		**S**	**S**	**04 36 21.4**	**-0.9**
PTCH						AMP		04 36 24.8	
	comp=E,481nm,0.3s								
PTCH						AMP		04 36 24.9	
	comp=N,503nm,0.2s								
DSCH	**Colegio Aleman**	**3.56**	**243**	*e*P		**P**	**P**	**04 35 40.5**	**+0.8**
PCH	**Pirque**	**3.62**	**240**	*e*P		**P**	**P**	**04 35 41.4**	**+1.0**
CMCH	**Combarbala**	**3.67**	**279**	*e*P		**P**	**P**	**04 35 42.3**	**+1.2**
CMCH				*i* S		**S**	**S**	**04 36 24.7**	**-0.3**
ILCH	**Illapel**	**3.75**	**272**	*i* S		**S**	**S**	**04 36 25.6**	**-1.1**
ILCH						AMP		04 36 28.4	
	comp=E,340nm,0.2s								
RCDM	**Rinconada Maip**	**3.78**	**243**	*e*P		**P**	**P**	**04 35 43.1**	**+0.6**
RCDM						AMP		04 36 31.1	
	comp=E,201nm,0.6s								
TLL	**Tololo Astrono**	**3.84**	**295**	*e*P		**P**	**P**	**04 35 44.8**	**+1.5**
TLL				*i* S		**S**	**S**	**04 36 28.9**	**0.0**
CHCH	**Chadas Angostu**	**3.87**	**236**	*i* P		**P**	**P**	**04 35 44.5**	**+0.8**
CACH	**El Canelo**	**3.94**	**234**	*i* P		**P**	**P**	**04 35 45.5**	**+1.0**
PACH	**Papudo**	**4.02**	**259**	*i* P		**P**	**P**	**04 35 44.9**	**-0.6**
PACH				*i* S		**S**	**S**	**04 36 30.2**	**-2.6**
TRQA	**Tornquist**	**7.34**	**149**	*e*P		**P**	**P**	**04 36 28.0**	**-1.7**
TRQA				*e*				04 37 03.4	
LVC	**Limon Verde**	**9.39**	**348**	P		**P**	**P**	**04 36 55.9**	**-0.8**
	comp=E,0.8nm,0.3s,baz=221,slow=8.8,SNR=15								
LVC	**Limon Verde**	**9.39**	**348**	*e*P		**P**	**P**	**04 36 56.0**	**-0.7**
LPAZ	**La Paz**	**15.53**	**355**	P		**P**	**P**	**04 38 17.8**	**+1.8**
	comp=E,0.5nm,0.3s,baz=180,slow=8.1,SNR=26								
LPAZ	**La Paz**	**15.53**	**355**	*e*P		**P**	**P**	**04 38 17.2**	**+1.3**
	comp=E,11nm,0.7s								
LPAZ				*e*				04 39 02.6	
USHA	**Ushuaia**	**23.01**	**182**	P		**P**	**P**	**04 39 37.4**	**+1.7**
	comp=E,13nm,0.9s,mb4.4								
BDFB	**Brasilia**	**23.50**	**51**	P		**P**	**P**	**04 39 39.9**	**-0.9**
	comp=E,13nm,0.7s,mb4.5,baz=228,slow=8.5,SNR=26								
BAO	**Brasilia Array**	**23.52**	**51**	P		**P**	**P**	**04 39 40.0**	**-1.0**
SNAA	**Sanae**	**51.95**	**159**	P		**P**	**P**	**04 43 38.6**	**+0.1**
	comp=E,1.7nm,0.7s,mb3.8,baz=294,slow=12,SNR=9.7								
SYO	**Syowa Base**	**66.21**	**158**	⇓pP		**P**	**P**	**04 45 16.0**	**-0.7**
SYO	**Syowa Base**	**66.21**	**158**	⇑pP			pP	04 45 47.1	-7.2
DBIC	**Dimbokro**	**70.28**	**69**	P		**P**	**P**	**04 45 42.2**	**-0.4**
	comp=E,1.4nm,0.6s,mb3.9,baz=216,slow=6.2,SNR=5.9								
WRA	**Warramunga Arr**	**124.68**	**204**	PKP		PKPdf		04 53 27.2	+1.7
	comp=E,0.6nm,0.5s,baz=168,slow=1.7,SNR=14								

IDC 18 04:40:57.7±4.3,11.27N×141.70E,mb4.0/7,mb1 4.2/7, mb1mx3.9/19,mbtmp4.0/7,Error ellipse: s-maj=126.2km s-min=37.4km az=170.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**41.86**	**285**	P		**P**	P	**04 48 50.2**	**-1.2**
	1.4nm,0.4s,baz=100,slow=7.3,SNR=5.9								
SONM	**Songino Array**	**46.93**	**328**	P		**P**	P	04 49 30.4	-1.5
	0.2nm,0.5s,baz=124,slow=5.2,SNR=2.4								
BVAR	**Borovoye Array**	**69.84**	**322**	P		**P**	P	04 52 10.5	-1.6
	1.1nm,0.6s,baz=101,slow=7.6,SNR=5.9								
ILAR	**E

*IDC **18** 05:02:58.4±3.2, 8.47S×122.63E, mb3.7/2, mb1 4.0/4, mb1mx3.8/13, mbtmp3.8/4, ML4.0/2, Error ellipse: s-maj=242.8km s-min=27.1km az=63.0*
*NEIC **18** 05:03:14.4±2.6, 8.08S×123.88E, h122km±26km, mb4.1/1, Error ellipse: s-maj=20.7km s-min=19.6km az=197.0*
ISC 18 05:03:14.0±1.8, 8.1S±0.1×123.9E±0.1, h143km±19km, n10, σ0§70/16, mb3.5/2, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.57**	**119**	*eP*	**P**	**05 05 29.8**	**+0.3**
	13nm,0.5s						
FITZ	**Fitzroy Crossi**	**10.11**	**171**	*eP*	**P**	**05 05 35.1**	**-1.4**
	11nm,0.3s						
FITZ				*eS*	**S**	**05 07 21.9**	**-6.2**
MBWA	**Marble Bar**	**13.62**	**197**	P	**P**	**05 06 23.3**	**+0.9**
WRA	**Warramunga Arr**	**15.54**	**140**	Pn	**P**	**05 06 45.7**	**-0.9**
	1.2nm,0.3s,baz=313,slow=14,SNR=33						
WRA				Sn	**S**	**05 09 27.5**	**-6.9**
	1.1nm,0.3s,baz=301,slow=22,SNR=7.8						
WRAB	**Tennant Creek**	**15.54**	**140**	*eP*	**P**	**05 06 47.5**	**+1.0**
	7.5nm,0.6s						
WRAB				*eS*	**S**	**05 09 25.5**	**-8.9**
WB2	**Warramunga Arr**	**15.54**	**140**	*eP*	**P**	**05 06 46.8**	**+0.1**
WB2				*eS*	**S**	**05 09 27.8**	**-6.8**
ASPA	**Alice Springs**	**18.23**	**149**	*eP*	**P**	**05 07 19.0**	**+0.1**
ASPA				*eS*	**S**	**05 10 35.0**	**+0.7**
ASAR	**Alice Springs**	**18.23**	**149**	P	**P**	**05 07 19.1**	**+0.2**
	0.4nm,0.3s,baz=325,slow=12,SNR=16						
ASAR				S	**S**	**05 10 33.6**	**-0.7**
	0.3nm,0.3s,baz=216,slow=25,SNR=4.9						
STKA	**Stephens Creek**	**28.84**	**148**	P	**P**	**05 09 00.9**	**-0.2**
	0.6nm,0.6s,mb3.5,baz=321,slow=15,SNR=3.5						
SONM	**Songino Array**	**57.78**	**346**	P	**P**	**05 12 52.2**	**-0.2**
	0.4nm,0.7s,mb3.4,baz=163,slow=7.6,SNR=4.3						

*IDC **18** 05:20:28.2±2.5, 9.77N×91.93E, mb3.8/5, mb1 4.0/6, mb1mx3.7/18, mbtmp3.8/6, ML3.9/1, MS2.9/1, Ms1 3.1/1, ms1mx2.6/16, Error ellipse: s-maj=80.5km s-min=22.2km az=74.0*
*NEIC **18** 05:20:35.1±4.4, 9.90N×92.09E, h50km±34km, mb4.5/5, Error ellipse: s-maj=44.1km s-min=11.1km az=64.0*
ISC 18 05:20:31.3±1.1, 9.87N±0.10×92.1E±0.2, h33km, n11, σ0§60/11, mb4.2/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.83**	**37**	Pn	**P**	**05 23 07.5**	**+0.3**
	0.2nm,0.3s,baz=234,slow=15,SNR=7.5						
CMAR				LR	LR	05 27 26.4	
	comp=Z,54nm,18.3s,baz=195,slow=38						
LSA	**Lhasa**	**19.75**	**358**	*eP*	**P**	**05 25 00.2**	**-1.0**
	10nm,0.7s						
ENH	**Enshi**	**26.00**	**36**	*eP*	**P**	**05 26 02.4**	**-0.7**
	18nm,0.7s,mb4.7						
SONM	**Songino Array**	**39.72**	**15**	P	**P**	**05 28 03.3**	**+1.0**
	1.3nm,0.7s,mb3.8,baz=202,slow=8.2,SNR=14						
MBWA	**Marble Bar**	**41.11**	**139**	*eP*	**P**	**05 28 14.3**	**+0.3**
	52nm,1.1s,mb5.1						
MBWA				*e*		05 28 28.2	
ZAL	**Zalesovo**	**44.33**	**354**	P	**P**	**05 28 40.6**	**+0.7**
	0.6nm,0.6s,mb3.5,baz=315,slow=24,SNR=3.3						
CHKZ	**Chkalovo**	**46.96**	**343**	*eP*	**P**	**05 29 00.5**	**-0.2**
	1.9nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**51.08**	**126**	P	**P**	**05 29 33.0**	**0.0**
	0.9nm,0.5s,mb3.9,baz=305,slow=8.5,SNR=9.8						
WRAB	**Tennant Creek**	**51.09**	**126**	*eP*	**P**	**05 29 32.6**	**-0.5**
	4.1nm,0.8s,mb4.4						
ASAR	**Alice Springs**	**52.76**	**130**	P	**P**	**05 29 45.1**	**-0.5**
	1.4nm,0.8s,mb3.9,baz=310,slow=7.1,SNR=11						
STKA	**Stephens Creek**	**62.96**	**133**	P	**P**	**05 30 57.8**	**+0.6**
	1.9nm,0.9s,mb4.2,baz=308,slow=7.1,SNR=4.5						

*PRU **18** 05:22:14.6, 51.51N×16.13E*
WAR 18 05:22:16.1, 51.47N×16.02E, h1km, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**165**	*ePG*	Pg	05 22 28.0	-1.1
KSP				*eSG*	Sg	05 22 36.0	-1.8
UPC	**Upice**	**0.97**	**180**	*ePG*	Pg	05 22 34.0	-1.4
DPC	**Dobruska-Polom**	**1.14**	**170**	*ePG*	Pg	05 22 37.4	-1.4
DPC				*eSG*	Sg	05 22 51.9	-2.1
PVCC	**Panska Ves**	**1.32**	**225**	*ePG*	Pg	05 22 40.6	-1.8
PRU	**Pruhonice**	**1.76**	**213**	*ePG*	Pg	05 22 48.0	-3.2
PRU				*eSG*	Sg	05 23 11.6	-3.1
CLL	**Collm**	**1.90**	**266**	*ePG*	Pg	05 22 51.0	-3.0
CLL				*e*		05 23 11.0	
CLL				*eSG*	Sg	05 23 17.0	-2.3
OKC	**Ostrava-Krasne**	**2.12**	**140**	*eSG*	Sg	05 23 22.0	-4.8
NKC	**Novy Kostel**	**2.58**	**243**	*ePG*	Pg	05 23 05.1	-2.6
NKC				*eSG*	Sg	05 23 41.4	-0.7
KHC	**Kasperske Hory**	**2.82**	**215**	*ePN*	Pn	05 23 00.6	-2.5
KHC				*ePG*	Pg	05 23 07.0	-5.4
KHC				*eSN*	Sn	05 23 35.2	-3.0
KHC				*eSG*	Sg	05 23 47.7	-2.3

*TEH **18** 05:25:05.2, 32.69N×48.26E, h2km, Mn3.0*
*CSEM **18** 05:25:10.5±0.2, 33.43N×48.24E, h20km, ML3.7/1, Error ellipse: s-maj=5.6km s-min=2.7km az=85.0*
*THR **18** 05:25:10.1±0.5, 33.45N×48.26E, h17km, ML2.6*
ISC 18 05:25:12.0±0.7, 33.42N±0.05×48.27E±0.09, h17km, n13, σ1§21/16, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**0.98**	**320**	Pn	**Pn**	**05 25 28.1**	**-2.8**
SHGO	**Shushtar**	**1.39**	**161**	*ePG*	**Pn**	**05 25 36.0**	**-0.7**
SHGR	**Shooshtar-Gavs**	**1.39**	**161**	*ePG*	**Pn**	**05 25 36.0**	**-0.8**
SHGR				*eSG*	**Sb**	**05 25 55.4**	**+1.1**
SHGR				AML	AML	05 25 58.5	
	comp=N,116nm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.39**	**161**	*ePg*	**Pn**	**05 25 36.0**	**-0.7**
	SNR=91						
SHGR				*eSg*	**Sb**	**05 25 55.4**	**+1.1**
	comp=N,116nm,0.5s,SNR=91						
SNGE	**Sanandaj**	**1.83**	**336**	*ePG*	**Pn**	**05 25 43.3**	**+0.2**
SNGE				AML	AML	05 26 15.3	
	comp=N,59nm,0.4s						
SNGE				AML	AML	05 26 20.1	
	comp=E,52nm,0.5s						
ASAO	**Ashtian**	**1.84**	**52**	*ePG*	**Pn**	**05 25 43.7**	**+0.4**
ASAO				AML	AML	05 26 20.1	
	comp=N,35nm,0.7s						
IDHR	**Dehrash**	**2.02**	**310**	Pn	**Pn**	**05 25 47.0**	**+1.3**
IRAZ	**Razeghan**	**2.41**	**34**	Pn	**Pn**	**05 25 53.5**	**+2.1**
IRAZ				Sn	**Sn**	**05 26 29.9**	**+9.2**
IQOM	**Qom**	**2.72**	**58**	Pn	**Pn**	**05 25 55.6**	**-0.3**
IVRN	**Varamin**	**3.27**	**60**	Pn	**Pn**	**05 26 07.3**	**+3.7**
IAFJ	**Afjeh**	**3.74**	**49**	Pn	**Pn**	**05 26 10.3**	**0.0**
IDMV	**Damavand**	**3.78**	**54**	Pn	**Pn**	**05 26 10.2**	**-0.7**
IFIR	**Firoozkooh**	**4.32**	**58**	Pn	**Pn**	**05 26 17.0**	**-1.5**

*CSEM **18** 05:35:13.2±0.3, 37.51N×24.62W, h0km, ML3.1, Error ellipse: s-maj=9.2km s-min=2.6km az=65.0, After PDA*
*PDA **18** 05:35:13.2±1.0, 37.51N×24.62W, h0km±11km, MD2.6, ML3.1, Error ellipse: s-maj=17.1km s-min=2.9km az=83.0*
SVSA 18 05:35:13.2±1.0, 37.51N×24.62W, h0km±11km, MD2.6, ML3.1, Error ellipse: s-maj=17.1km s-min=2.9km az=83.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BART	**Pico Bartolome**	**0.51**	**302**	*eP*	Pg	05 35 22.0	-1.4
BART				*eS*	Sg	05 35 29.1	-1.2
	1μm,0.2s						
MIRA	**Miradouro**	**0.59**	**298**	*i P*	Pg	05 35 23.5	-1.5
MIRA				*i S*	Sg	05 35 31.8	-1.1
PSMN	**Pico do Norte,**	**0.62**	**215**	*i P*	Pg	05 35 23.8	-1.7
PSMN				*i S*	Sg	05 35 32.1	-1.6
FRA1	**Furnas**	**0.63**	**292**	*i S*	Sg	05 35 32.6	-1.6
PFAD	**Fenais da Ajud**	**0.65**	**301**	*eS*	Sg	05 35 33.0	-1.8
VIF	**Vila Franca**	**0.69**	**290**	*i P*	Pg	05 35 25.3	-1.7
VIF				*i S*	Sg	05 35 34.5	-1.8
	453nm,0.2s						
MESC	**Monte Escuro**	**0.71**	**294**	*i P*	Pg	05 35 25.4	-2.1
MESC				*i S*	Sg	05 35 35.0	-2.0
LFA	**Lagoa do Fogo**	**0.73**	**291**	*i P*	Pg	05 35 25.9	-2.0
PMAT	**Coroa da Mata**	**0.74**	**295**	*eP*	Pg	05 35 25.9	-2.1
PMAT				*i S*	Sg	05 35 35.5	-2.4
	170nm,0.2s						
PVER	**Pico Vermelho**	**0.77**	**292**	*i P*	Pg	05 35 26.3	-2.2
CML	**Cha da Macela**	**0.78**	**290**	*i P*	Pg	05 35 26.5	-2.3
CML				*i S*	Sg	05 35 36.8	-2.4
FAC	**Faja de Cima**	**0.86**	**288**	*i P*	Pg	05 35 28.1	-2.3
FAC				*i S*	Sg	05 35 38.6	-3.2
PSET	**Sete Cidades**	**0.93**	**290**	*eP*	Pg	05 35 28.8	-3.0
PSET				*eS*	Sg	05 35 40.2	-3.9
	447nm,0.3s						
PSAN	**Santo Antonio**	**0.94**	**292**	*i P*	Pg	05 35 29.0	-3.0
PSAN				*i S*	Sg	05 35 40.5	-4.1
PFET	**Feteiras**	**0.98**	**289**	*i P*	Pb	05 35 29.6	-3.1
PFET				*i S*	Sg	05 35 41.3	-4.5
SET2	**Ginetes**	**1.00**	**290**	*i P*	Pb	05 35 29.9	-3.2
SET2				*i S*	Sg	05 35 41.9	-4.6
SET4	**Mosteiros**	**1.00**	**292**	*eP*	Pb	05 35 29.9	-3.3
SET4				*i S*	Sg	05 35 41.9	-4.8
PFAV	**Pico das Favas**	**2.29**	**302**	*i S*	Sn	05 36 12.7	-9.3
	27nm,0.1s						
PVNV	**Vila Nova**	**2.36**	**303**	*eS*	Sn	05 36 14.6	-9.2
	12nm,0.1s						
PPAD	**Pico dos Padre**	**2.42**	**300**	*eS*	Sn	05 36 16.4	-8.9
	11nm,0.2s						
ASBA	**Santa Barbara**	**2.45**	**300**	*eS*	Sn	05 36 17.4	-8.8
	17nm,0.2s						
PICO	**Pico**	**3.17**	**289**	*eP*		05 34 29.8	
PICO				*eS*		05 34 30.9	

*HRVD **18** 05:44:42.7±0.6, 10.95N×140.88E, h14km±2km, MW4.8/34, Centroid moment Tensor Solution. LP body waves: s8,c9; Mantle waves: s34,c46; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.53±.28; $M_{\theta\theta}$1.59±.16; $M_{\phi\phi}$-0.05±.17; $M_{r\theta}$0.71±.30; $M_{\theta\phi}$-0.43±.10; $M_{\phi r}$0.99±.53; Best double couple: $M_0$1.992×10^{16} NP1:ϕ_s127°, δ43°, λ-47°. NP2: ϕ_s256°, δ60°, λ-122°. Principal axes: T 1.775, Plg10°, Azm8°; N .442, Plg27°, Azm273°; P -2.208, Plg61°, Azm116°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **18** 05:44:42.7±0.3, 11.04N×140.83E, h10km, mb4.9/25 Error ellipse: s-maj=10.1km s-min=6.3km az=89.0*
*BJI **18** 05:44:43.5, 11.31N×140.94E, h10km, mB5.3, mb4.8, Ms4.9, Msz4.6*
*MOS **18** 05:44:44.2±1.1, 11.06N×140.85E, h33km, mb5.2/20, Error ellipse: s-maj=14.7km s-min=7.7km az=99.9*
*IDC **18** 05:44:51.5±6.2, 10.93N×141.09E, h87km±57km, mb4.3/13, mb1 4.5/14, mb1mx4.4/20, mbtmp4.6/14, ML4.4/1, MS3.9/7, Ms1 3.9/7, ms1mx3.8/20, Error ellipse: s-maj=26.3km s-min=15.3km az=72.0*
ISC 18 05:44:44.5±0.3, 11.00N±0.05×140.93E±0.06, h33km, n97, σ1§19/93, mb4.8/48, MS4.2/11, 5C-3D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.63**	**56**	P	**P**	**05 45 54.0**	**0.0**
CBIJ	**Chichi jima**	**16.05**	**4**	LR	LR	05 53 32.5	
	comp=Z,448nm,18.1s,baz=204,slow=32						
JOW	**Kunigami**	**19.75**	**325**	P	**P**	**05 49 16.7**	**+2.1**
	1.6nm,0.3s,baz=154,slow=15,SNR=6.1						
JOW				LR	LR	05 56 19.9	
	comp=Z,168nm,20.3s,baz=265,slow=35						
PMG	**Port Moresby**	**21.20**	**163**	*eP*	**P**	**05 49 29.2**	**-0.5**
PMG				pmax	pmax		
	comp=Z,118nm,1.1s						
PMG	**Port Moresby**	**21.20**	**163**	P	**P**	**05 49 29.6**	**0.0**
	comp=Z,62nm,1.0s,mb4.9,baz=345,slow=5.6,SNR=9.3						
PMG				LR	LR	05 56 41.6	
	comp=Z,243nm,19.3s,MS3.6,baz=355,slow=34						
PMG	**Port Moresby**	**21.20**	**163**	*eP*	**P**	**05 49 29.2**	**-0.5**
	comp=Z,118nm,1.1s,mb5.1						
JHJ	**Hachijo jima 2**	**22.04**	**357**	LR	LR	05 57 19.7	
	comp=Z,560nm,19.0s,MS4.0,baz=120,slow=34						
KAKA	**Kakadu**	**25.02**	**200**	*eP*	**P**	**05 50 07.5**	**+0.2**
	comp=Z,34nm,1.2s,mb4.8						
MAT	**Matsushiro**	**25.55**	**355**	*eP*	**P**	**05 50 11.0**	**-1.1**
MAT				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
MAT	**Matsushiro**	**25.55**	**355**	*eP*	**P**	**05 50 11.0**	**-1.1**
	comp=Z,4.7nm,0.6s,mb4.2						
MAT	**Matsushiro**	**25.55**	**355**	P	**P**	**05 50 11.2**	**-0.9**
MAT				*eS*	**S**	**05 54 39.0**	**+3.9**
CTA	**Charters Tower**	**31.33**	**170**	*eP*	**P**	**05 51 05.6**	**+1.2**
	comp=Z,4.0nm,0.9s,mb4.2						
CTA	**Charters Tower**	**31.33**	**170**	*eP*	**P**	**05 51 05.6**	**+1.2**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CTAO	**Charters Tower**	**31.33**	**170**	*eP*	**P**	**05 51 05.2**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
CTAO	**Charters Tower**	**31.33**	**170**	*eP*	**P**	**05 51 05.2**	**+0.8**
	comp=Z,8.9nm,0.9s,mb4.6						
WRAB	**Tennant Creek**	**31.41**	**192**	*eP*	**P**	**05 51 04.6**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**31.41**	**192**	*eP*	**P**	**05 51 04.5**	**-0.6**
	comp=Z,13nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**31.42**	**192**	*eP*	**P**	**05 51 04.7**	**-0.5**
WRA	**Warramunga Arr**	**31.42**	**192**	P	**P**	**05 51 03.7**	**-1.5**
	comp=Z,3.9nm,0.6s,mb4.4,baz=10,slow=9.2,SNR=23						
ASAJ	**Asahikawa**	**33.03**	**2**	LR	LR	06 02 49.8	
	comp=Z,202nm,20.9s,MS3.8,baz=185,slow=33						
MDJ	**Mudanjiang**	**34.89**	**346**	P	**P**	**05 51 35.3**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,9.0nm,2.4s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,155nm,5.4s						
ENH	**Enshi**	**34.94**	**308**	*eP*	**P**	**05 51 36.4**	**+0.8**
	comp=Z,41nm,1.0s,mb5.3						
ASAR	**Alice Springs**	**35.13**	**191**	P	**P**	**05 51 36.0**	**-1.3**
	comp=Z,2.3nm,0.5s,mb4.3,baz=18,slow=12,SNR=16						
ASAR				LR	LR	06 05 24.4	
	comp=Z,227nm,20.2s,MS3.9,baz=9.9,slow=35						
BJT	**Baijiatuau**	**36.28**	**327**	*eP*	**P**	**05 51 45.8**	**-1.0**
BJT				pmax	pmax		
	comp=Z,16nm,0.8s						
BJT	**Baijiatuau**	**36.28**	**327**	*eP*	**P**	**05 51 45.8**	**-1.1**
	comp=Z,16nm,0.8s,mb5.0						
KLR	**Kul'dur**	**38.87**	**350**	*eP*	**P**	**05 52 05.8**	**-2.6**
CMAR	**Chiang Mai Arr**	**41.20**	**285**	P	**P**	**05 52 30.9**	**+2.9**
	comp=Z,10nm,0.9s,mb4.5,baz=90,slow=6.5,SNR=45						
LZH	**Lanzhou**	**41.79**	**313**	*eP*	**P**	**05 52 34.5**	**+1.8**
LZH				AP	pP	05 52 44.0	+1.4
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.6						
HIA	**Hailar**	**42.02**	**339**	*eP*	**P**	**05 52 35.1**	**+0.7**
HIA				pmax	pmax		
	comp=Z,19nm,0.9s						
HIA	**Hailar**	**42.02**	**339**	*eP*	**P**	**05 52 35.1**	**+0.7**
	comp=Z,19nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**42.64**	**179**	P	**P**	**05 52 38.9**	**-0.8**
	comp=Z,1.7nm,0.4s,mb4.1,baz=345,slow=7.6,SNR=3.9						
STKA				LR	LR	06 11 14.3	
	comp=Z,174nm,18.0s,MS4.0,baz=25,slow=37						
STKA	**Stephens Creek**	**42.64**	**179**	P	**P**	**05 52 38.9**	**-0.8**
PET	**Petropavlovsk**	**44.27**	**15**	*eP*	**P**	**05 52 42.4**	**-10**
PET				*e*	**S**	**05 59 22.2**	**-1.5**
PET				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.7						
ULN	**Ulaanbaatar**	**46.44**	**329**	*c iP*	**P**	**05 53 11.4**	**+1.4**
ULN	**Ulaanbaatar**	**46.44**	**329**	*eP*	**P**	**05 53 10.0**	**0.0**
	comp=Z,8.7nm,1.0s,mb4.6						
ULN				*e*		05 53 33.3	
ULN				*e*PcP	PcP	05 54 45.9	+1.0
SONM	**Songino Array**	**46.76**	**328**	P	**P**	**05 53 12.4**	**-0.2**
	comp=Z,4.0nm,0.7s,mb4.5,baz=139,slow=6.7,SNR=26						
SONM				PcP	PcP	05 54 45.3	-0.7
	comp=Z,3.4nm,0.7s,baz=144,slow=3.0,SNR=7.9						
MA2	**Magadan**	**49.04**	**7**	*i P*	**P**	**05 53 26.8**	**-3.3**
MA2				MLR	MLR		
	comp=Z,100nm,24.0s,MS3.7						
LSA	**Lhasa**	**49.83**	**300**	P	**P**	**05 53 36.3**	**-0.3**
LSA				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
LSA	**Lhasa**	**49.83**	**300**	P	**P**	**05 53 36.3**	**-0.3**
	comp=Z,11nm,0.8s,mb4.9						
ZAK	**Zakamensk**	**49.96**	**329**	*i P*	**P**	**05 53 37.4**	**+0.1**
ZAK				*e*		05 54 57.7	
TLY	**Talaya**	**50.60**	**331**	*eP*	**P**	**05 53 42.5**	**+0.3**
TLY				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
BOD	**Bodaibo**	**51.05**	**342**	*eP*	**P**	**05 53 43.2**	**-2.3**
YAK	**Yakutsk**	**51.60**	**353**	*eP*	**P**	**05 53 48.2**	**-1.4**
YAK				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.1						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK	**Yakutsk**	**51.60**	**353**	*eP*	**P**	**05 53 48.9**	**-0.7**
	comp=N,54nm,0.6s,mb5.7						
JIRN	**Jiri**	**53.82**	**296**	*eP*	**P**	**05 54 06.7**	**0.0**
	comp=N,24nm,0.6s,mb5.3						
PKI	**Pulchoki**	**54.50**	**296**	*eP*	**P**	**05 54 12.1**	**+0.5**
	comp=N,35nm,1.1s,mb5.2						
KKN	**Kakani**	**54.64**	**296**	*eP*	**P**	**05 54 13.1**	**+0.5**
	comp=N,24nm,0.9s,mb5.2						
DMN	**Daman**	**54.77**	**296**	*eP*	**P**	**05 54 14.3**	**+0.7**
	comp=N,23nm,0.7s,mb5.3						
GKN	**Gorkha**	**55.23**	**296**	*eP*	**P**	**05 54 17.3**	**+0.4**
	comp=N,34nm,0.9s,mb5.4						
KOLN	**Koldanda**	**56.12**	**296**	*eP*	**P**	**05 54 24.2**	**+0.9**
	comp=N,35nm,0.9s,mb5.4						
WMQ	**Urumqi**	**56.21**	**316**	*eP*	**P**	**05 54 24.6**	**+0.8**
WMQ				PP	PP	05 56 31.4	+0.9
WMQ				AMB	AMB		
	comp=Z,11nm,1.6s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,63nm,5.5s						
WMQ				LR	LR		
	comp=N,866nm,20.6s,MS4.9						
WMQ				LR	LR		
	comp=E,726nm,21.7s,MS4.9						
WMQ				LR	LR		
	comp=Z,1μm,21.7s,MS4.9						
BILL	**Bilibino**	**59.37**	**11α**	*i P*	**P**	**05 54 44.9**	**-0.8**
BILL				*e*	pP	05 54 53.2	-2.6
BILL				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
BILL				MLR	MLR		
	comp=Z,300nm,11.0s,MS4.7						
BILL	**Bilibino**	**59.37**	**11**	*eP*	**P**	**05 54 43.5**	**-2.2**
	comp=Z,11nm,0.9s,mb4.9						
HYB	**Hyderabad**	**60.59**	**284**	*i P*	**P**	**05 54 55.5**	**+0.8**
MKAR	**Makanchi Array**	**60.74**	**318**	*i P*	**P**	**05 54 55.5**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TIXI	**Tiksi**	**61.06**	**356**	*eP*	**P**	**05 54 55.6**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.6						
NVS	**Novosibirsk**	**62.73**	**327**	*i P*	**P**	**05 55 07.8**	**-0.8**
KURK	**Kurchatov**	**64.12**	**321**	*eP*	**P**	**05 55 16.6**	**-1.2**
KURK				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.4						
KURK	**Kurchatov**	**64.12**	**321**	*eP*	**P**	**05 55 16.6**	**-1.2**
	comp=Z,34nm,0.9s,mb5.4						
AAK	**Ala-Archa**	**65.32**	**312**	*eP*	**P**	**05 55 25.8**	**+0.2**
AAK				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.8						
AAK				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.5						
AAK	**Ala-Archa**	**65.32**	**312**	*eP*	**P**	**05 55 24.7**	**-0.9**
	comp=Z,7.0nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**69.56**	**323**	*eP*	**P**	**05 55 50.4**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
CHKZ	**Chkalovo**	**69.56**	**323**	*eP*	**P**	**05 55 50.4**	**-1.7**
	comp=Z,10nm,0.7s,mb4.9						
BRVK	**Borovoye**	**69.66**	**323**	*eP*	**P**	**05 55 51.9**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.2						
BRVK	**Borovoye**	**69.66**	**323**	*eP*	**P**	**05 55 51.9**	**-0.8**
	comp=Z,19nm,0.6s,mb5.2						
COLA	**College**	**72.16**	**25**	*eP*	**P**	**05 56 05.8**	**-1.7**
ILAR	**Eielson Array**	**72.54**	**25**	P	**P**	**05 56 07.5**	**-2.2**
	comp=Z,2.9nm,0.6s,mb4.4,baz=251,slow=4.7,SNR=43						
THY	**Trims Highway**	**72.78**	**27**	*eP*	**P**	**05 56 11.5**	**+0.4**
DAWY	**Dawson**	**75.66**	**27**	*eP*	**P**	**05 56 29.0**	**+1.1**
INK	**Inuvik**	**78.21**	**22**	*eP*	**P**	**05 56 42.1**	**0.0**
INK				pmax	pmax		
	comp=Z,12nm,1.0s						
INK	**Inuvik**	**78.21**	**22**	*eP*	**P**	**05 56 42.1**	**0.0**
	comp=Z,12nm,1.0s,mb4.8						
YKW3	**Yellowknife Ar**	**86.88**	**27**	*eP*	**P**	**05 57 28.2**	**+1.4**
YKA	**Yellowknife Ar**	**86.90**	**27**	P	**P**	**05 57 27.3**	**+0.4**
	comp=Z,10nm,0.9s,mb5.1,baz=290,slow=5.3,SNR=96						
GNI	**Garni**	**87.67**	**310**	*i P*	**P**	**05 57 33.9**	**+2.7**
KEV	**Kevo**	**87.76**	**341**	*ep*	**P**	**05 57 30.8**	**-0.1**
RES	**Resolute Bay**	**87.93**	**13**	*eP*	**P**	**05 57 32.8**	**+1.2**
RES				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.7						
RES	**Resolute Bay**	**87.93**	**13**	*eP*	**P**	**05 57 32.8**	**+1.2**
	comp=Z,4.2nm,0.9s,mb4.7						
ARCES	**ARCESS Array B**	**88.33**	**341**	P	**P**	**05 57 32.8**	**-0.9**
	comp=Z,7.2nm,0.7s,mb5.0,baz=59,slow=7.1,SNR=9.6						
JOF	**Joensuu**	**88.99**	**334**	*ep*	**P**	**05 57 35.9**	**-1.0**
OBN	**Obninsk**	**89.13**	**326**	*eP*	**P**	**05 57 36.3**	**-1.5**
OBN						06 01 02.0	
OBN				SS	SS	06 14 23.0	+3.6
OBN				pmax	pmax		
	comp=Z,23nm,1.4s,mb5.3						
OBN				MLR	MLR		
	comp=Z,600nm,12.0s,MS5.2						
**M

NP2:φ₀36°, δ25°, λ-71°. Principal axes: T 5.477, Plg21°, Azm291°; N 1.495, Plg8°, Azm198°; P -6.973, Plg67°, Azm89°;

ISC 18 05:50:37.1±0.3, 57.09N±0.07×33.97W±0.06, h10km, n106, σ1§16/99, mb4.7/44, MS4.6/12, 1C, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**9.82**	**33**	Pn	**P**	**05 52 59.9**	**-1.3**
	1.1nm,0.3s,baz=307,slow=5.1,SNR=5.3						
BORG				Sn	**Sn**	**05 54 48.7**	**-4.0**
	0.3nm,0.3s,baz=63,slow=18,SNR=3.8						
BORG				LR	LR	05 55 42.1	
	comp=Z,2μm,21.9s,baz=190,slow=31						
BORG	**Borgarnes**	**9.82**	**33**	*e*P	**P**	**05 53 01.4**	**+0.1**
SUMG	**Summit**	**15.66**	**355**	*e*P	**P**	**05 54 18.2**	**-0.8**
	38nm,1.2s						
SUMG	**Summit**	**15.66**	**355**	*e*P	**P**	**05 54 18.2**	**-0.9**
	38nm,1.2s						
EKA	**Eskdalemuir Ar**	**17.16**	**83**	P	**P**	**05 54 39.2**	**+1.0**
	0.1nm,0.3s,baz=292,slow=12,SNR=3.4						
FRB	**Frobisher Bay**	**18.14**	**306**	P	**P**	**05 54 52.3**	**+1.9**
	0.1nm,0.3s,baz=102,slow=13,SNR=9.0						
SCHQ	**Schefferville**	**18.44**	**277**	P	**P**	**05 54 56.4**	**+2.2**
	0.3nm,0.3s,baz=76,slow=6.8,SNR=11						
SCHQ				LR	LR	06 00 39.7	
	comp=Z,2μm,21.3s,baz=100,slow=32						
NOA	**NORSAR Array B**	**23.19**	**61**	P	**P**	**05 55 45.2**	**+0.8**
	0.5nm,0.6s,baz=293,slow=8.8,SNR=2.7						
NOA				LR	LR	06 02 27.9	
	comp=Z,562nm,19.2s,baz=295,slow=31						
HFS	**Hagfors**	**24.58**	**63**	P	**P**	**05 55 58.6**	**+0.7**
	3.6nm,0.8s,mb4.0,baz=292,slow=8.0,SNR=5.1						
ESDC	**Sonseca Array**	**26.15**	**119**	P	**P**	**05 56 12.0**	**-0.9**
	2.1nm,1.0s,mb3.6,baz=319,slow=8.3,SNR=4.0						
MOX	**Moxa**	**27.21**	**84**	*i* P	**P**	**05 56 24.6**	**+2.1**
	logA/T=1.6,mb4.9						
MOX	**Moxa**	**27.21**	**84**	*e*P	**P**	**05 56 24.6**	**+2.1**
	78nm,2.2s,mb4.8						
GRA1	**Grafenberg Arr**	**27.50**	**86**	*e*P	**P**	**05 56 25.4**	**+0.2**
	45nm,2.2s,mb4.7						
GRF	**Grafenberg Arr**	**27.50**	**86**	*e*P	**P**	**05 56 25.4**	**+0.2**
	45nm,2.2s,mb4.7						
CLL	**Collm**	**27.62**	**82**	*e*P	**P**	**05 56 28.0**	**+1.8**
NKC	**Novy Kostel**	**27.88**	**84**	*e*P	**P**	**05 56 30.4**	**+1.8**
NKC				AMS	AMS	06 06 40.0	
ARCES	**ARCESS Array B**	**28.13**	**40**	P	**P**	**05 56 28.8**	**-2.0**
	3.2nm,0.8s,mb4.0,baz=262,slow=8.6,SNR=11						
PVCC	**Panska Ves**	**28.87**	**82**	AMS	AMS	06 06 10.0	
KHC	**Kasperske Hory**	**29.10**	**85**	*e*P	**P**	**05 56 44.2**	**+4.6**
KHC				AMS	AMS	06 06 00.0	
GERES	**GERESS Array B**	**29.33**	**86**	P	**P**	**05 56 41.7**	**0.0**
	0.7nm,0.6s,baz=292,slow=7.2,SNR=6.2						
KSP	**Ksiaz**	**29.64**	**80**	*e*P	**P**	**05 56 45.7**	**+1.3**
UPC	**Upice**	**29.66**	**81**	*e*P	**P**	**05 56 49.0**	**+4.3**
DPC	**Dobruska-Polom**	**29.91**	**81**	*e*P	**P**	**05 56 46.2**	**-0.7**
DPC				AMS	AMS	06 06 10.0	
FINES	**FINESS Array B**	**30.03**	**56**	P	**P**	**05 56 45.8**	**-2.1**
	1.4nm,0.6s,mb3.9,baz=270,slow=7.6,SNR=7.3						
VRAC	**Vranov**	**30.64**	**83**	*e*P	**P**	**05 56 53.6**	**+0.3**
GENY	**Geneseo**	**31.05**	**262**	P	**P**	**05 56 54.7**	**-2.3**
GENY	**Geneseo**	**31.05**	**262**	P	**P**	**05 56 54.7**	**-2.3**
OKC	**Ostrava-Krasne**	**31.18**	**81**	AMS	AMS	06 06 10.0	
ERPA	**Erie**	**32.66**	**263**	P	**P**	**05 57 07.6**	**-3.6**
	64nm,0.9s,mb5.5						
VSL	**Villasalto**	**33.08**	**103**	*e*P	**P**	**05 57 11.7**	**-3.1**
	14nm,1.0s,mb4.8						
PSZ	**Piszkesteto**	**33.23**	**82**	*e*P	**P**	**05 57 17.1**	**+1.1**
	11nm,1.0s,mb4.8						
PSZ	**Piszkesteto**	**33.23**	**82**	*e*P	**P**	**05 57 17.1**	**+1.1**
	11nm,1.0s,mb4.8						
PKSM	**Moragy**	**33.58**	**86**	*e*P	**P**	**05 57 22.6**	**+3.5**
AKASG	**Malin Array Be**	**36.56**	**72**	P	**P**	**05 57 41.3**	**-3.2**
	1.4nm,0.5s,mb4.0,baz=306,slow=8.3,SNR=10						
YKA	**Yellowknife Ar**	**38.44**	**313**	P	**P**	**05 57 59.8**	**-0.3**
	2.4nm,1.0s,mb3.9,baz=60,slow=9.1,SNR=8.0						
YKA				LR	LR	06 13 16.6	
	comp=Z,2μm,19.1s,MS4.9,baz=60,slow=35						
YKA	**Yellowknife Ar**	**38.44**	**313**	P	**P**	**05 57 59.8**	**-0.3**
EDM	**Edmonton**	**43.12**	**300**	P	**P**	**05 58 38.7**	**+0.1**
EDM	**Edmonton**	**43.12**	**300**	P	**P**	**05 58 38.7**	**+0.1**
LAO	**LASA Array**	**43.76**	**289**	*e*P	**P**	**05 58 45.2**	**+1.3**
	22nm,0.6s,mb5.1						
LAO	**LASA Array**	**43.76**	**289**	*e*P	**P**	**05 58 45.2**	**+1.3**
	22nm,0.6s,mb5.1						
KSU1	**Kansas State U**	**43.82**	**274**	*e*P	**P**	**05 58 43.7**	**-0.9**
BRTR	**Keskin Array B**	**46.07**	**82**	P	**P**	**05 59 03.1**	**+0.5**
	3.2nm,0.6s,mb4.4,baz=315,slow=5.9,SNR=11						
DAWY	**Dawson**	**46.48**	**324**	*e*P	**P**	**05 59 06.1**	**+0.7**
DAWY	**Dawson**	**46.48**	**324**	*e*P	**P**	**05 59 06.1**	**+0.7**
PDAR	**Pinedale Array**	**48.17**	**287**	P	**P**	**05 59 19.0**	**-0.1**
	1.6nm,0.7s,mb4.2,baz=69,slow=7.2,SNR=12						
PDAR				LR	LR	06 18 29.4	
	comp=Z,856nm,19.0s,MS4.8,baz=26,slow=35						
ILAR	**Eielson Array**	**48.25**	**328**	P	**P**	**05 59 19.9**	**+0.6**
	1.6nm,0.7s,mb4.2,baz=40,slow=7.3,SNR=14						
ILAR				PcP	PcP	06 00 46.4	-0.4
	0.5nm,0.5s,baz=357,slow=2.9,SNR=7.4						
ILAR				LR	LR	06 19 52.9	
	comp=Z,346nm,19.6s,MS4.3,baz=54,slow=36						
ILAR	**Eielson Array**	**48.25**	**328**	PcP	PcP	06 00 46.3	-0.5
MCMT	**McKenzie Canyo**	**48.43**	**291**	*e*P	**P**	**05 59 22.4**	**+1.4**
MCK	**McKinley**	**49.62**	**328**	P	**P**	**05 59 31.3**	**+1.4**
	34nm,1.8s,mb5.1						
MCK	**McKinley**	**49.62**	**328**	P	**P**	**05 59 31.3**	**+1.4**
	34nm,1.8s,mb5.1						
AMTX	**Amarillo**	**49.67**	**274**	*e*P	**P**	**05 59 31.9**	**+1.2**
	11nm,0.8s,mb4.9						
AMTX	**Amarillo**	**49.67**	**274**	*e*P	**P**	**05 59 31.9**	**+1.2**
	11nm,0.8s,mb4.9						
MALT	**Malatya**	**49.67**	**80**	*e*P	**P**	**05 59 30.6**	**0.0**
	12nm,1.0s,mb4.9						
MALT	**Malatya**	**49.67**	**80**	*e*P	**P**	**05 59 30.6**	**-0.1**
	12nm,1.0s,mb4.9						
BMO	**Blue Mountains**	**50.66**	**294**	*e*P	**P**	**05 59 38.0**	**-0.1**
	5.9nm,0.9s,mb4.5						
BMO	**Blue Mountains**	**50.66**	**294**	*e*P	**P**	**05 59 38.0**	**-0.1**
	5.8nm,0.9s,mb4.5						
DAU	**Daniels Canyon**	**50.75**	**286**	*e*P	**P**	**05 59 40.0**	**+1.2**
DAU	**Daniels Canyon**	**50.75**	**286**	*e*P	**P**	**05 59 40.0**	**+1.2**
GNI	**Garni**	**51.68**	**73**	*e*P	**P**	**05 59 46.0**	**0.0**
	21nm,1.1s,mb5.0						
GNI	**Garni**	**51.68**	**73**	*e*P	**P**	**05 59 46.0**	**+0.1**
	21nm,1.1s,mb5.0						
JCT	**Junction City**	**51.99**	**269**	*e*P	**P**	**05 59 47.5**	**-0.9**
	18nm,0.9s,mb5.0						
JCT	**Junction City**	**51.99**	**269**	*e*P	**P**	**05 59 47.5**	**-0.9**
	18nm,0.9s,mb5.0						
TNA	**Tin City**	**52.83**	**338**	*e*P	**P**	**05 59 53.5**	**-0.7**
TNA	**Tin City**	**52.83**	**338**	*e*P	**P**	**05 59 53.5**	**-0.7**
WVOR	**Wild Horse Val**	**53.07**	**293**	*e*P	**P**	**05 59 57.3**	**+1.0**
	5.5nm,0.8s,mb4.5						
WVOR	**Wild Horse Val**	**53.07**	**293**	*e*P	**P**	**05 59 57.3**	**+0.9**
	5.5nm,0.8s,mb4.5						
GDL2	**Guadalupe Moun**	**53.16**	**274**	*e*P	**P**	**05 59 55.8**	**-1.4**
GDL2	**Guadalupe Moun**	**53.16**	**274**	*e*P	**P**	**05 59 55.8**	**-1.3**
ASF	**Jabal al Asfar**	**53.44**	**86**	LR	LR	06 24 15.8	
	comp=Z,340nm,20.4s,MS4.4,baz=350,slow=38						
CHKZ	**Chkalovo**	**53.73**	**46**	*e*P	**P**	**05 59 59.3**	**-1.6**
	47nm,1.9s,mb5.1						
CHKZ	**Chkalovo**	**53.73**	**46**	*e*P	**P**	**05 59 59.3**	**-1.7**
	47nm,1.9s,mb5.1						
BRVK	**Borovoye**	**54.06**	**46**	*e*P	**P**	**06 00 01.5**	**-1.9**
	56nm,1.9s,mb5.2						
BRVK	**Borovoye**	**54.06**	**46**	*e*P	**P**	**06 00 01.5**	**-1.9**
	56nm,1.9s,mb5.2						
MOD	**Modoc**	**54.30**	**293**	*e*P	**P**	**06 00 04.9**	**-0.5**
	9.4nm,1.1s,mb4.6						
MOD	**Modoc**	**54.30**	**293**	*e*P	**P**	**06 00 04.9**	**-0.4**
	9.4nm,1.1s,mb4.6						
TXAR	**Lajitas Array**	**54.99**	**271**	P	**P**	**06 00 10.4**	**-0.2**
	1.1nm,0.6s,mb4.1,baz=57,slow=6.3,SNR=10						
TXAR				LR	LR	06 23 24.0	
	comp=Z,650nm,18.3s,MS4.7,baz=25,slow=36						
DBIC	**Dimbokro**	**55.22**	**144**	P	**P**	**06 00 09.8**	**-2.7**
	2.8nm,0.5s,mb4.5,baz=327,slow=7.6,SNR=12						
DBIC				LR	LR	06 20 31.0	
	comp=Z,499nm,21.0s,MS4.6,baz=333,slow=33						
DBIC	**Dimbokro**	**55.22**	**144**	P	**P**	**06 00 09.8**	**-2.7**
MNV	**Mina**	**55.80**	**289**	*e*P	**P**	**06 00 15.1**	**-1.2**
	9.5nm,1.2s,mb4.7						
MNV	**Mina**	**55.80**	**289**	*e*P	**P**	**06 00 15.1**	**-1.2**
	9.5nm,1.2s,mb4.7						
NVAR	**Mina Array Bea**	**55.88**	**289**	P	**P**	**06 00 17.1**	**+0.2**
	1.0nm,0.6s,mb4.0,baz=50,slow=5.5,SNR=6.5						
NVAR				LR	LR	06 23 19.2	
	comp=Z,877nm,18.6s,MS4.9,baz=90,slow=35						
PFO	**Pinyon Flat Ob**	**58.59**	**284**	*e*P	**P**	**06 00 35.3**	**-0.9**
	5.9nm,0.8s,mb4.7						
PFO	**Pinyon Flat Ob**	**58.59**	**284**	*e*P	**P**	**06 00 35.3**	**-0.9**
	5.9nm,0.8s,mb4.7						
ZAL	**Zalesovo**	**58.64**	**37**	P	**P**	**06 00 35.7**	**-0.6**
	0.9nm,0.7s,mb3.9,baz=130,slow=11,SNR=4.7						
ZAL	**Zalesovo**	**58.64**	**37**	P	**P**	**06 00 35.7**	**-0.6**
OTAV	**Otavalo**	**66.86**	**230**	P	**P**	**06 01 31.8**	**+0.4**
	10nm,1.3s,mb4.7						
OTAV	**Otavalo**	**66.86**	**230**	P	**P**	**06 01 31.8**	**+0.4**
	10nm,1.3s,mb4.7						
WMQ	**Urumqi**	**68.24**	**42**	*e*P	**P**	**06 01 40.2**	**+0.6**
WMQ				AP	pP	06 01 44.9	+2.2
WMQ				XP	sP	06 01 47.2	+3.4
WMQ				PP	PP	06 04 12.2	0.0
WMQ				S	S	06 10 38.6	0.0
WMQ				XS		06 10 46.4	
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,63nm,5.5s						
WMQ				LR	LR		
	comp=N,312nm,19.1s,MS4.7						
WMQ				LR	LR		
	comp=E,328nm,18.6s,MS4.7						
WMQ				LR	LR		
	comp=Z,403nm,19.2s,MS4.7						
SONM	**Songino Array**	**70.37**	**27**	P	**P**	**06 01 51.9**	**-0.7**
	comp=Z,1.5nm,0.8s,mb4.0,baz=323,slow=6.3,SNR=9.9						
ULN	**Ulaanbaatar**	**70.51**	**27**	*e*P	**P**	**06 01 51.2**	**-2.2**
	comp=Z,46nm,1.8s,mb5.1						
BDFB	**Brasilia**	**73.40**	**194**	P	**P**	**06 02 09.8**	**-1.3**
	comp=Z,1.6nm,0.7s,mb4.0,baz=23,slow=13,SNR=1.8						
BDFB				LR	LR	06 27 34.5	
	comp=Z,133nm,19.3s,MS4.2,baz=70,slow=30						
KOLN	**Koldanda**	**80.53**	**53**	*e*P	**P**	**06 02 50.5**	**-0.2**
LZH	**Lanzhou**	**80.58**	**33**	⇑P	**P**	**06 02 51.5**	**+0.7**
LZH				AP	pP	06 02 54.8	+0.9
LZH				XP	sP	06 02 56.3	+1.3
LZH				PP	PP	06 05 56.0	-0.3
LZH				*e*S	S	06 12 54.8	-1.5
LZH				SS	SS	06 18 08.8	-3.1
LZH				AMB	AMB		
	comp=Z,41nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,116nm,5.1s						
LZH				LR	LR		
	comp=N,506nm,15.0s						
LZH				LR	LR		
	comp=Z,689nm,17.9s,MS5.0						
GKN	**Gorkha**	**80.78**	**52**	*e*P	**P**	**06 02 52.5**	**+0.5**
KMBO	**Kilima Mbogo**	**80.83**	**106**	LR	LR	06 39 21.1	
	comp=Z,178nm,18.8s,MS4.4,baz=280,slow=36						
KKN	**Kakani**	**81.24**	**51**	*e*P	**P**	**06 02 55.0**	**+0.6**
	comp=Z,16nm,0.6s,mb5.1						
DMN	**Daman**	**81.33**	**52**	*e*P	**P**	**06 02 55.4**	**+0.6**
	comp=Z,18nm,0.7s,mb5.1						
JIRN	**Jiri**	**81.74**	**51**	*e*P	**P**	**06 02 57.6**	**+0.6**
	comp=Z,15nm,0.6s,mb5.1						
SHL	**Shillong**	**85.94**	**47**	*e*P	**P**	**06 03 18.5**	**+0.2**
ENH	**Enshi**	**87.66**	**31**	*e*P	**P**	**06 03 26.8**	**+0.2**
	comp=Z,59nm,1.5s,mb5.6						
NJ2	**Nanjing**	**88.28**	**23**	*e*P	**P**	**06 03 28.4**	**-1.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,490nm,10.1s						
SSE	**Sheshan**	**89.68**	**21**	P	**P**	**06 03 35.5**	**-0.7**
SSE				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,134nm,5.3s						
CMAR	**Chiang Mai Arr**	**95.11**	**44**	P	**P**	**06 04 01.9**	**+0.5**
	comp=Z,2.0nm,0.9s,mb4.6,baz=324,slow=6.3,SNR=6.7						
CMAR				LR	LR	06 52 41.3	
	comp=Z,95nm,19.3s,MS4.3,baz=225,slow=39						
WRA	**Warramunga Arr**	**141.90**	**18**	PKP	PKPdf	06 10 10.0	-2.0
	comp=Z,0.8nm,0.8s,baz=349,slow=3.3,SNR=4.9						
ASAR	**Alice Springs**	**145.47**	**20**	PKPbc	PKPbc	06 10 15.2	-0.3
	comp=Z,2.8nm,0.8s,baz=352,slow=2.5,SNR=21						
QSPA	**South Pole Qui**	**146.99**	**180**	P	PKPbc	06 10 24.0	+6.4

MAN 18 05:52:08.0, 9.44N×125.67E, h44km, mb3.6, ML2.4, MS1.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.38**	**332**	⇑*e*P	P	05 52 18.7	+1.2
SCPH				*e*S	S	05 52 27.7	+3.5
BUTP	**Butuan**	**0.47**	**186**	*e*P	P	05 52 20.4	+1.8
BIPH	**Bislig**	**1.42**	**151**	*e*P	P	05 52 31.4	-0.5
BIPH				*e*S	S	05 52 46.7	-3.0

*NEIC **18** 05:54:38.8, 41.44S×175.76E, h14km, ML3.8(WEL), After WEL.*

WEL 18 05:54:38.8±0.2, 41.43S×175.76E, h14km±1km, ML3.8/12, 11C-5D, Error ellipse: s-maj=1.6km s-min=1.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAWZ	**Paruwai Farm**	**0.25**	**280**	⇓PG	Pg	05 54 44.1	-0.3
PAWZ				SG	Sg	05 54 48.4	+0.3
MTW	**Mount Morrison**	**0.33**	**324**	⇓P	Pg	05 54 45.5	-0.3
MTW				S	Sg	05 54 50.7	+0.2
MTW	**Mount Morrison**	**0.33**	**324**	⇓PG	Pg	05 54 45.5	-0.3
MTW				SG	Sg	05 54 50.7	+0.2
MSWZ	**Moikau Station**	**0.38**	**272**	⇑P	Pb	05 54 46.4	-0.4
MSWZ				S	Sg	05 54 52.4	+0.3
MSWZ	**Moikau Station**	**0.38**	**272**	⇑PG	Pg	05 54 46.4	-0.4
MSWZ				SG	Sg	05 54 52.3	+0.1
CAW	**Cannon Point**	**0.61**	**301**	⇓P	Pb	05 54 50.8	+0.2
CAW				S	Sb	05 54 59.8	+1.0
CAW	**Cannon Point**	**0.61**	**301**	⇓P*	Pb	05 54 50.8	+0.1
CAW				SG	Sg	05 54 59.5	0.0
BHW	**Baring Head**	**0.67**	**271**	⇑P	Pb	05 54 51.6	0.0
BHW				S	Sb	05 55 01.5	+1.1
BHW	**Baring Head**	**0.67**	**271**	⇑P*	Pb	05 54 51.6	0.0
BHW				SG	Sg	05 55 01.0	-0.3
WEL	**Wellington**	**0.76**	**280**	⇑P	Pb	05 54 53.4	+0.2
WEL				S	Sb	05 55 04.4	+1.3
WEL	**Wellington**	**0.76**	**280**	⇑P*	Pb	05 54 53.4	+0.2
WEL				SG	Sg	05 55 04.4	0.0
MRZ	**Mangatainoka R**	**0.78**	**350**	P	Pb	05 54 53.8	+0.3
MRZ				S	Sb	05 55 05.4	+1.8
MRZ	**Mangatainoka R**	**0.78**	**350**	P*	Pb	05 54 53.8	+0.3
MRZ				SG	Sg	05 55 04.9	0.0
MRW	**Makara Radio**	**0.82**	**284**	⇑P	Pb	05 54 54.2	-0.1
MRW				S	Sb	05 55 05.8	+0.9
MRW	**Makara Radio**	**0.82**	**284**	⇑P*	Pb	05 54 54.2	-0.1
MRW				SG	Sg	05 55 05.2	-1.2
BFZ	**Birch Farm**	**0.83**	**27**	⇑P	Pb	05 54 54.6	+0.1
BFZ	**Birch Farm**	**0.83**	**27**	P*	Pb	05 54 54.6	+0.1
KIW	**Kapiti Island**	**0.85**	**311**	⇑P	Pb	05 54 55.0	+0.2
KIW				S	Sb	05 55 06.7	+0.8
KIW	**Kapiti Island**	**0.85**	**311**	⇑P*	Pb	05 54 55.0	+0.2
KIW				SG	Sg	05 55 06.2	-1.2
CMWZ	**Cape Campbell**	**1.20**	**254**	P*	Pb	05 54 59.7	-1.1
TSZ	**Takapari Road**	**1.38**	**7**	P*	Pb	05 55 02.8	-1.0
NNZ	**Nelson**	**1.80**	**276**	PN	Pn	05 55 08.5	-1.2
MOVZ	**Moawhango**	**2.02**	**360**	PN	Pn	05 55 12.5	-0.3
TUVZ	**Tukino**	**2.16**	**358**	PN	Pn	05 55 15.4	+0.5
THZ	**Tophouse**	**2.17**	**260**	PN	Pn	05 55 12.4	-2.6
FWVZ	**Far West T-bar**	**2.17**	**356**	PN	Pn	05 55 15.5	+0.4
FWVZ				SN	Sn	05 55 41.6	-0.4
CNZ	**Chateau**	**2.23**	**356**	PN	Pn	05 55 15.9	0.0
NGZ	**Ngauruhoe**	**2.25**	**357**	PN	Pn	05 55 16.5	+0.3
BKZ	**Black Stump Fm**	**2.33**	**14**	PN	Pn	05 55 15.3	-1.9
BKZ				SN	Sn	05 55 43.4	-2.4
URZ	**Urewera**	**3.33**	**19**	PN	Pn	05 55 27.9	-3.7

*IDC **18** 05:58:14.7±1.3, 48.07N×156.11E, mb3.6/3, mb1 4.0/4, mb1mx3.6/20, mbtmp3.9/4, ML4.3/1, Error ellipse: s-maj=79.2km s-min=24.6km az=132.0*
*MOS **18** 05:58:28.3±0.7, 48.09N×155.05E, h175km, mb3.5/1, Error ellipse: s-maj=86.5km s-min=27.4km az=66.7*
*KRSC **18** 05:58:34.3±0.6, 48.92N×154.27E, h162km±14km, ML3.9*

ISC 18 05:58:36.1±1.0, 49.2N±0.2×154.3E±0.4, h214km±10km, n26, σ1§24/39, mb3.2/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.84**	**27**	*e*P	**P**	**05 59 13.8**	**-0.6**
SKR	**Severo-Kuril's**	**1.89**	**39**	*e*PN	**P**	**05 59 12.8**	**-2.1**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,180nm,0.5s						
PAU	**Pauzhetka**	**2.77**	**35**	*i* P	**P**	**05 59 24.6**	**+0.3**
MIPR	**Malaya Ipel'ka**	**3.44**	**27**	*e*P	**P**	**05 59 32.0**	**-0.1**
GRL	**Gorelyy**	**4.11**	**35**	*i* P	**P**	**05 59 41.7**	**+1.4**
GRL				*e*S	**S**	**06 00 31.4**	**+1.4**
APC	**Apacha**	**4.12**	**25**	*e*P	**P**	**05 59 39.2**	**-1.3**
RUS	**Russkaya**	**4.19**	**39**	*i* P	**P**	**05 59 41.5**	**+0.2**
RUS				*e*S	**S**	**06 00 31.2**	**-0.6**
PET	**Petropavlovsk**	**4.70**	**34**	*e*PN	**P**	**05 59 49.6**	**+2.0**
PET				*e*S	**S**	**06 00 46.0**	**+2.8**
PET				pmax	pmax		
	comp=Z,16nm,0.4s						
PET				smax			
	comp=N,38nm,0.5s						
PET				MLR	MLR		
	comp=Z,100nm,12.0s						
PET	**Petropavlovsk**	**4.70**	**34**	*e*P	**P**	**05 59 49.4**	**+1.8**
PET				*e*S	**S**	**06 00 43.4**	**+0.2**
UGLR	**Uglovaya**	**4.91**	**34**	*i* P	**P**	**05 59 52.0**	**+1.7**
UGLR				*e*S	**S**	**06 00 48.3**	**+0.4**
AVH	**Avacha**	**4.92**	**33**	*e*P	**P**	**05 59 52.0**	**+1.5**
AVH				*e*S	**S**	**06 00 48.4**	**+0.2**
SMAR	**Somma**	**4.94**	**34**	*i* P	**P**	**05 59 52.6**	**+1.9**
SMAR				*e*S	**S**	**06 00 49.2**	**+0.5**
SDLR	**Sedlovina**	**4.99**	**34**	*i* P	**P**	**05 59 52.5**	**+1.2**
SDLR				*e*S	**S**	**06 00 49.8**	**+0.1**
GNL	**Ganaly**	**5.03**	**26**	*i* P	**P**	**05 59 51.4**	**-0.4**
GNL				*e*S	**S**	**06 00 48.0**	**-2.6**
NLC	**Nalytchevo**	**5.08**	**37**	*e*P	**P**	**05 59 51.7**	**-0.7**
NLC				*e*S	**S**	**06 00 48.6**	**-3.2**
SPN	**Mys Shipunski**	**5.30**	**41**	*e*P	**P**	**05 59 55.2**	**-0.1**
SPN				*e*S	**S**	**06 00 54.3**	**-2.7**
KII	**Karymskiy**	**5.79**	**32**	*i* P	**P**	**06 00 02.7**	**+1.1**
KII				*e*S	**S**	**06 01 07.0**	**-1.2**
ESO	**Esso**	**7.23**	**20**	*e*P	**P**	**06 00 20.2**	**+0.1**
KMNR	**Kamenistaya**	**7.48**	**27**	*e*P	**P**	**06 00 22.8**	**-0.6**
KBTR	**Krutoberegovo**	**8.70**	**33**	*e*P	**P**	**06 00 37.3**	**-1.9**
KBTR				*e*S	**S**	**06 02 10.5**	**-5.0**
ASAJ	**Asahikawa**	**9.50**	**242**	Pn	**P**	**06 00 42.4**	**-7.1**
	comp=Z,3.2nm,0.3s,baz=60,slow=12,SNR=14						
MDJ	**Mudanjiang**	**17.43**	**264**	P	**P**	**06 02 34.4**	**+7.3**
MDJ				AMB	AMB		
	comp=Z,11nm,1.9s						
MDJ				AMB	AMB		
	comp=Z,243nm,6.5s						
ILAR	**Eielson Array**	**34.15**	**41**	P	**P**	**06 05 02.4**	**+0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**34.15**	**41**	P	**P**	**06 05 02.4**	**+0.3**
	comp=Z,0.6nm,0.7s,mb3.2,baz=259,slow=6.0,SNR=13						
YKA	**Yellowknife Ar**	**48.49**	**38**	P	**P**	**06 06 58.9**	**+0.7**
	comp=Z,0.4nm,0.6s,mb2.9,baz=298,slow=7.2,SNR=4.1						
ASAR	**Alice Springs**	**74.81**	**199**	P	**P**	**06 09 52.8**	**-1.6**
	comp=Z,0.4nm,0.4s,mb3.4,baz=7.3,slow=5.0,SNR=6.9						

IDC 18 06:13:52.5±3.3, 12.89N×91.72E, mb3.7/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=89.2km s-min=28.4km az=82.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.89**	**51**	Pn	P	06 16 00.8	-4.4
	baz=242,slow=15,SNR=4.8						
SONM	**Songino Array**	**36.93**	**16**	P	P	06 21 03.4	-1.6
	0.4nm,0.9s,baz=200,slow=8.3,SNR=3.2						
FITZ	**Fitzroy Crossi**	**45.48**	**132**	*e*P	P	06 22 13.6	-2.0
	3.5nm,1.0s						
WRA	**Warramunga Arr**	**53.13**	**127**	P	P	06 23 12.3	-2.

WEL 18 06:24:05.7±0.2, 41.43S×175.75E, h17km±1km, ML3.7/12, 5C-5D, Error ellipse: s-maj=1.2km s-min=1.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAWZ	**Paruwai Farm**	**0.25**	**282**	⇓P*		Pb	06 24 11.0 -0.4
PAWZ				S*		Sb	06 24 15.4 +0.1
MTW	**Mount Morrison**	**0.33**	**325**	⇓P*		Pb	06 24 12.4 -0.3
MTW				S*		Sb	06 24 17.6 +0.1
MSWZ	**Moikau Station**	**0.38**	**273**	⇓P*		Pb	06 24 13.3 -0.2
MSWZ				S*		Sb	06 24 19.2 +0.4
CAW	**Cannon Point**	**0.61**	**302**	⇓P*		Pb	06 24 17.7 +0.2
CAW				S*		Sb	06 24 27.0 +1.4
BHW	**Baring Head**	**0.66**	**272**	⇑P*		Pb	06 24 18.6 +0.2
BHW				S*		Sb	06 24 27.6 +0.5
WEL	**Wellington**	**0.76**	**281**	⇑P*		Pb	06 24 20.3 +0.4
WEL				S*		Sb	06 24 31.1 +1.4
MRZ	**Mangatainoka R**	**0.78**	**350**	⇑P*		Pb	06 24 20.7 +0.3
MRZ				S*		Sb	06 24 32.5 +1.9
MRW	**Makara Radio**	**0.82**	**284**	⇑P*		Pb	06 24 21.1 +0.1
MRW				S*		Sb	06 24 32.8 +1.2
BFZ	**Birch Farm**	**0.84**	**27**	⇓P*		Pb	06 24 21.5 +0.1
KIW	**Kapiti Island**	**0.85**	**312**	⇑P*		Pb	06 24 21.9 +0.2
KIW				S*		Sb	06 24 33.5 +0.9
TSZ	**Takapari Road**	**1.38**	**7**	P*		Pb	06 24 29.6 -1.0
TSZ				S*		Sb	06 24 46.8 -1.1
WAZ	**Wanganui**	**1.77**	**341**	PN		Pn	06 24 38.4 +2.4
NNZ	**Nelson**	**1.80**	**276**	PN		Pn	06 24 35.7 -0.7
MOVZ	**Moawhango**	**2.02**	**0**	PN		Pn	06 24 39.4 -0.2
MOVZ				SN		Sn	06 25 05.6 +1.0
THZ	**Tophouse**	**2.16**	**260**	PN		Pn	06 24 39.2 -2.3
WPVZ	**Whakapapa**	**2.23**	**356**	PN		Pn	06 24 43.0 +0.5
CNZ	**Chateau**	**2.24**	**356**	PN		Pn	06 24 42.0 -0.6
NGZ	**Ngauruhoe**	**2.26**	**357**	PN		Pn	06 24 43.2 +0.2
BKZ	**Black Stump Fm**	**2.33**	**14**	PN		Pn	06 24 42.2 -1.8
BKZ				SN		Sn	06 25 10.6 -1.9

*IDC **18** 06:45:22.5±1.1, 27.62S×176.16W, mb4.3/6, mb1 4.6/7, mb1mx4.3/13, mbtmp4.3/7, ML3.8/1, MS3.9/3, Ms1 3.9/3, ms1mx3.3/20, Error ellipse: s-maj=46.2km s-min=21.4km az=151.0*

*NEIC **18** 06:45:32.8±5.7, 28.15S×176.11W, h92km±58km, mb4.8/4, Error ellipse: s-maj=65.6km s-min=15.8km az=174.0*

ISC 18 06:45:26.5±0.9, 27.5S±0.1×176.4W±0.2, h33km, n19, σ0°76/14, mb4.4/9, MS3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**12.05**	**205**	Pn		**P**	**06 48 14.7 -4.1**
URZ	0.6nm,0.3s,baz=215,slow=15,SNR=3.6			Sn		**S**	**06 50 33.2 +0.2**
CTA	4.2nm,0.3s,baz=173,slow=20,SNR=14 **Charters Tower**	**34.89**	**274**	P		**P**	**06 52 19.0 +1.9**
CTAO	6.3nm,0.4s,mb5.0,baz=94,slow=11,SNR=12 **Charters Tower**	**34.89**	**274**	*e*P		**P**	**06 52 18.9 +1.8**
PMG	8.2nm,0.8s,mb4.7 **Port Moresby**	**38.80**	**291**	LR		LR	07 07 06.8
ASAR	comp=Z,167nm,18.5s,MS3.9,baz=312,slow=33 **Alice Springs**	**44.78**	**263**	P		**P**	**06 53 39.0 -0.1**
ASAR	1.2nm,0.5s,mb4.0,baz=98,slow=6.9,SNR=14			LR		LR	07 11 28.8
ASPA	comp=Z,138nm,18.2s,MS3.9,baz=106,slow=35 **Alice Springs**	**44.79**	**263**	*e*P		**P**	**06 53 39.2 +0.1**
WB2	**Warramunga Arr**	**45.51**	**268**	*e*P		**P**	**06 53 44.4 -0.5**
WRAB	**Tennant Creek**	**45.51**	**268**	*e*P		**P**	**06 53 43.8 -1.1**
WRA	16nm,1.0s,mb4.9 **Warramunga Arr**	**45.52**	**268**	P		**P**	**06 53 44.2 -0.8**
WRA	5.2nm,0.9s,mb4.5,baz=106,slow=7.9,SNR=18			PcP	PcP		06 55 24.3 +0.4
FITZ	1.0nm,0.8s,baz=104,slow=4.3,SNR=5.3 **Fitzroy Crossi**	**53.87**	**267**	*e*P		**P**	**06 54 49.0 0.0**
CBIJ	5.0nm,0.9s,mb4.4 **Chichi jima**	**67.33**	**320**	LR		LR	07 18 12.3
NVAR	comp=Z,85nm,21.2s,MS3.9,baz=153,slow=29 **Mina Array Bea**	**85.14**	**42**	P		**P**	**06 58 01.1 +0.5**
TXAR	1.7nm,1.0s,mb4.1,baz=238,slow=10.0,SNR=7.0 **Lajitas Array**	**89.61**	**56**	P		**P**	**06 58 22.1 -0.3**
ENH	0.2nm,0.8s,mb3.5,baz=201,slow=7.7,SNR=5.1 **Enshi**	**91.17**	**304**	*e*P		**P**	**06 58 30.6 +0.9**
ILAR	18nm,1.2s,mb5.3 **Eielson Array**	**94.79**	**12**	P		**P**	**06 58 45.0 -0.4**
HFS	0.4nm,0.8s,mb3.9,baz=235,slow=4.1,SNR=4.6 **Hagfors**	**146.66**	**351**	PKPbc	PKPbc		07 05 05.9 +1.9
KONO	25nm,1.1s,baz=27,slow=6.4,SNR=2.4 **Kongsberg**	**147.60**	**354**	*e*PKPbc	PKPdf		07 05 05.8 +1.7
AKASG	**Malin Array Be**	**149.76**	**327**	PKP	PKPdf		07 05 09.5 +1.6
AKASG	3.4nm,0.8s,baz=40,slow=2.9,SNR=3.5			PKPbc	PKPdf		07 05 13.0 +5.1
BRTR	3.2nm,0.8s,baz=38,slow=3.2,SNR=10 **Keskin Array B**	**152.33**	**304**	PKPbc	PKPdf		07 05 20.0 +7.9
BRTR	0.5nm,0.4s,baz=117,slow=6.4,SNR=4.1			PKPab	PKPab		07 05 32.7 +1.4
	0.9nm,0.6s,baz=90,slow=1.4,SNR=4.5						

IDC 18 06:52:40.1±2.2, 11.15N×140.29E, mb3.4/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.4/3, Error ellipse: s-maj=250.6km s-min=31.8km az=106.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.45**	**191**	P		P	06 59 02.0 -3.7
	0.2nm,0.5s,baz=10,slow=9.5,SNR=4.9						
ASAR	**Alice Springs**	**35.16**	**190**	P		P	06 59 37.0 -0.9
	0.3nm,0.6s,baz=20,slow=12,SNR=4.1						
YKA	**Yellowknife Ar**	**87.05**	**27**	P		P	07 05 27.4 -1.1
	0.3nm,0.7s,baz=288,slow=5.1,SNR=6.0						

*IGIL **18** 06:58:59.4, 57.30N×33.80W, h2km, MS5.6*

*BJI **18** 06:59:01.7, 57.00N×33.80W, h10km, mB5.7, mb5.2, Ms5.5, Msz5.2*

*IDC **18** 06:59:01.9±0.5, 57.10N×33.85W, mb4.8/21, mb1 4.9/25, mb1mx4.9/26, mbtmp4.8/25, ML3.9/4, MS5.3/17, Ms1 5.3/17, ms1mx5.0/20, Error ellipse: s-maj=16.5km s-min=10.5km az=2.0*

*MOS **18** 06:59:02.0±0.9, 57.16N×33.82W, h10km, mb5.7/130, MS5.4/72, Error ellipse: s-maj=6.1km s-min=4.8km az=176.9*

*HRVD **18** 06:59:03.7±0.1, 57.08N×33.63W, h12km, MW5.6/71, Centroid moment Tensor Solution. LP body waves: s62,c110;Mantle waves: s71,c212; Half duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.37±.04; $M_{\theta\theta}$0.21±.05; $M_{\phi\phi}$3.16±.04; $M_{r\theta}$-0.23±.13; $M_{\theta\phi}$1.20±.04; $M_{\phi r}$-0.65±.12; Best double couple: $M_0$3.545×10^{17} NP1: ϕ_s200°, δ39°, λ-90°. NP2:ϕ_s20°, δ51°, λ-90°. Principal axes: T 3.653, Plg6°, Azm110°; N -.218, Plg0°, Azm20°; P -3.437, Plg84°, Azm289°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **18** 06:59:03.7±0.1, 57.05N×33.81W, h10km, mb5.5/181, MS5.5/110, MW5.7 Error ellipse: s-maj=4.7km s-min=1.9km az=190.0, Moment Tensor Solution. s16 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.18; $M_{\theta\theta}$-0.28; $M_{\phi\phi}$3.46; $M_{r\theta}$-1.48; $M_{\theta\phi}$0.35; $M_{\phi r}$-0.57; Best double couple: $M_0$3.7×10^{17} NP1:ϕ_s165°, δ43°, λ-123°. NP2:ϕ_s26°, δ55°, λ-63°. Principal axes: T 3.58, Plg6°, Azm98°; N .25, Plg22°, Azm190°; P -3.82, Plg67°, Azm352°;*

*ZUR_RM **18** 06:59:03, 57.05N×33.81W, h9km, Mw5.7/10, Moment Tensor Solution. s10 Moment tensor: Scale 10^{17}Nm; M_{rr}-4.83; $M_{\theta\theta}$1.42; $M_{\phi\phi}$3.41; $M_{r\theta}$0.82; $M_{\theta\phi}$0.81; $M_{\phi r}$-0.06; Best double couple: $M_0$4.32×10^{17} NP1:ϕ_s207°, δ47°, λ-80°. NP2:ϕ_s12°, δ44°, λ-101°. Principal axes: T 3.696, Plg1°, Azm290°; N 1.238, Plg7°, Azm20°; P -4.934, Plg82°, Azm189°;*

*BGS **18** 06:59:04.0±2.6, 57.05N×33.81W, h15km, mb5.6*

*CSEM **18** 06:59:05.4, 57.11N×33.86W, h33km, mb5.6*

ISC 18 06:59:02.1±0.1, 57.11N±0.03×33.82W±0.02, h10km, (h12km±1.1km-pP-P), n868, σ1°04/835, mb5.4/230, MS5.4/143, 29C-14D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRS	**Narsarsuaq**	**7.21**	**309**	*i* P		**Pn**	**07 00 50.6 +0.4**
	57nm,1.3s						
BORG	**Borgarnes**	**9.76**	**33**	Pn		**P**	**07 01 24.4 -1.0**
	7.8nm,0.3s,baz=204,slow=10.0,SNR=23						
BORG				Sn		**Sn**	**07 03 08.3 -7.9**
	0.9nm,0.3s,baz=73,slow=20,SNR=6.0						
BORG				LR		LR	07 04 16.6
	comp=Z,26μm,20.2s,baz=223,slow=32						
BORG	**Borgarnes**	**9.76**	**33**	*e*P		**P**	**07 01 25.1 -0.3**
BORG	**Borgarnes**	**9.76**	**33**	*e*P		**P**	**07 01 25.1 -0.3**
SCO	**Scoresbysund**	**14.36**	**16**	*i* P		**P**	**07 02 36.7 +10**
	17nm,1.2s						
DCN	**Croghan**	**15.56**	**93**	*e*P		**P**	**07 02 41.0 -1.8**
SUMG	**Summit**	**15.65**	**355**	*e*P		**P**	**07 02 43.3 -0.6**
	144nm,1.1s						
DLF	**Lyons Farm**	**15.99**	**92**	*e*P		**P**	**07 02 44.0 -4.3**
ESK	**Eskdalemuir**	**17.05**	**83**	*e*P		**P**	**07 03 00.0 -1.8**
ESK				pmax		pmax	
	comp=Z,952nm,1.9s						
ESK	**Eskdalemuir**	**17.05**	**83**	*e*P		**P**	**07 02 60.0 -1.9**
	comp=Z,952nm,1.9s						
ESK	**Eskdalemuir**	**17.05**	**83**	*e*P		**P**	**07 03 00.0 -1.8**
	comp=Z,476nm,1.9s						
EKA	**Eskdalemuir Ar**	**17.07**	**83**	P		**P**	**07 03 02.8 +0.7**
	comp=Z,0.5nm,0.3s,baz=290,slow=9.8,SNR=17						
EKA	**Eskdalemuir Ar**	**17.07**	**83**	*e*P		**P**	**07 03 02.8 +0.7**
	comp=Z,50nm,12.0s						
JMIC	**Jan Mayen**	**17.56**	**28**	LR		LR	07 08 20.9
	comp=Z,7μm,20.5s,baz=219,slow=32						
SBD1	**Bryn Du**	**17.94**	**91**	*e*P		**P**	**07 03 12.2 -0.7**
SBD1				AMb		AMB	07 03 16.2
	comp=Z,519nm,1.6s						
FRB	**Frobisher Bay**	**18.19**	**306**	P		**P**	**07 03 16.4 +0.4**
	comp=Z,0.4nm,0.3s,baz=105,slow=12,SNR=47						
FRB				LR		LR	07 09 01.8
	comp=Z,15μm,21.6s,baz=104,slow=33						
SSP1	**Stoney Pound**	**18.24**	**92**	*e*P		**P**	**07 03 16.3 -0.4**
HLM1	**Long Mynd**	**18.32**	**91**	*e*P		**P**	**07 03 17.6 -0.1**
HLM1				AMb		AMB	07 03 25.4
	comp=Z,526nm,1.6s						
MCH1	**Michaelchurch**	**18.49**	**93**	*e*P		**P**	**07 03 19.1 -0.8**
MCH1				AMb		AMB	07 03 29.8
	comp=Z,540nm,1.6s						
SCHQ	**Schefferville**	**18.52**	**277**	P		**P**	**07 03 20.5 +0.4**
	comp=Z,0.9nm,0.3s,baz=69,slow=9.3,SNR=28						
SCHQ				LR		LR	07 09 24.6
	comp=Z,15μm,18.3s,baz=80,slow=34						
HAE	**Alders End**	**18.72**	**92**	*e*P		**P**	**07 03 22.2 -0.4**
HAE				AMb		AMB	07 03 26.2
	comp=Z,642nm,1.7s						
HGH	**Gray Hill**	**18.77**	**94**	*e*P		**P**	**07 03 22.7 -0.5**
HGH				AMb		AMB	07 03 28.6
	comp=Z,321nm,1.7s						
ROSF	**Rostrenen**	**20.33**	**103**	*e*P		**P**	**07 03 40.2 -0.6**
	comp=Z,414nm,1.7s						
ROSF	**Rostrenen**	**20.33**	**103**	*e*P		**P**	**07 03 40.2 -0.6**
ROSF				pmax		pmax	
	comp=Z,207nm,1.7s						
DAG	**Danmarks Havn**	**20.48**	**10**	*i* P		**P**	**07 03 43.7 +1.4**
DAG				pmax		pmax	
	comp=Z,108nm,1.2s						
DAG	**Danmarks Havn**	**20.48**	**10**	*i* P		**P**	**07 03 43.7 +1.4**
	comp=Z,107nm,1.2s						
QUIF	**Quistinic**	**20.64**	**103**	*e*P		**P**	**07 03 41.6 -2.5**
	comp=Z,710nm,1.9s						
QUIF	**Quistinic**	**20.64**	**103**	*e*P		**P**	**07 03 41.6 -2.5**
QUIF				pmax		pmax	
	comp=Z,355nm,1.8s						
SGMF	**Saint Gilles**	**20.76**	**102**	*e*P		**P**	**07 03 44.5 -0.8**
	comp=Z,326nm,1.4s						
SGMF	**Saint Gilles**	**20.76**	**102**	*e*P		**P**	**07 03 44.5 -0.8**
SGMF				pmax		pmax	
	comp=Z,163nm,1.4s						
EMAZ	**Mazaricos**	**21.18**	**121**	P		**P**	**07 03 46.7 -2.9**
	comp=Z,551nm,1.6s,mb5.6						
STS	**Santiago**	**21.42**	**121**	P		**P**	**07 03 49.6 -2.5**
STS				pmax		pmax	
	comp=Z,432nm,1.7s,mb5.5						
STS	**Santiago**	**21.42**	**121**	P		**P**	**07 03 49.6 -2.5**
	comp=Z,432nm,1.7s,mb5.5						
STS	**Santiago**	**21.42**	**121**	P		**P**	**07 03 49.6 -2.5**
	comp=Z,216nm,1.7s,mb5.2						
FLN	**La Foliniere**	**21.57**	**98**	*e*P		**P**	**07 03 52.0 -1.6**
	comp=Z,588nm,1.6s,mb5.5						
FLN				*e*R			
	comp=Z,18μm,20.2s						
FLN	**La Foliniere**	**21.57**	**98**	*e*P		**P**	**07 03 52.0 -1.6**
FLN				pmax		pmax	
	comp=Z,294nm,1.5s,mb5.5						
FLN				MLR		MLR	
	comp=Z,18μm,20.3s,MS5.5						
GRR	**Gorron**	**21.59**	**100**	*e*P		**P**	**07 03 52.3 -1.4**
	comp=Z,1μm,1.8s,mb5.8						
GRR	**Gorron**	**21.59**	**100**	*e*P		**P**	**07 03 52.3 -1.4**
GRR				pmax		pmax	
	comp=Z,671nm,1.8s,mb5.8						
EPON	**Pontenova**	**21.75**	**118**	P		**P**	**07 03 52.2 -3.2**
	comp=Z,575nm,1.5s,mb5.8						
LDF	**La Druitiere**	**21.86**	**98**	*e*P		**P**	**07 03 56.5 0.0**
	comp=Z,740nm,1.6s,mb5.6						
LDF	**La Druitiere**	**21.86**	**98**	*e*P		**P**	**07 03 56.5 0.0**
LDF				pmax		pmax	
	comp=Z,370nm,1.6s,mb5.6						
EZAM	**Zamans**	**21.93**	**122**	P		**P**	**07 03 54.4 -2.8**
EZAM				pmax		pmax	
	comp=Z,525nm,2.0s,mb5.6						
EZAM	**Zamans**	**21.93**	**122**	P		**P**	**07 03 54.4 -2.8**
	comp=Z,525nm,2.0s,mb5.6						
EZAM	**Zamans**	**21.93**	**122**	P		**P**	**07 03 54.4 -2.8**
	comp=Z,262nm,2.0s,mb5.3						
ELOB	**Lobios**	**22.44**	**122**	P		**P**	**07 03 58.1 -4.3**
	comp=Z,157nm,1.5s,mb5.2						
ERUA	**La Rua**	**22.47**	**120**	P		**P**	**07 04 05.2 +2.6**
ERUA				pmax		pmax	
	comp=Z,263nm,1.7s,mb5.4						
ERUA	**La Rua**	**22.47**	**120**	P		**P**	**07 04 05.2 +2.6**
	comp=Z,263nm,1.7s,mb5.4						
KONO	**Kongsberg**	**22.60**	**65**	PFAKE			07 04 20.0 +16
KONO				LR		LR	
	comp=Z,8μm,20.0s,MS5.1						
LCHF	**La Chataignera**	**22.71**	**103**	*e*P		**P**	**07 04 04.4 -0.4**
EARI	**Arriondas**	**22.72**	**115**	P		**P**	**07 04 03.0 -1.9**
	comp=Z,743nm,1.6s,mb5.9						
EARI	**Arriondas**	**22.72**	**115**	P		**P**	**07 04 03.0 -1.9**
	comp=Z,743nm,1.6s,mb5.9						
ECAL	**Calabor**	**23.01**	**120**	P		**P**	**07 04 08.6 +0.8**
	comp=Z,237nm,1.8s,mb5.3						
ECAL	**Calabor**	**23.01**	**120**	P		**P**	**07 04 08.6 +0.8**
	comp=Z,237nm,1.8s,mb5.3						
MFF	**Saint Martin d**	**23.07**	**103**	*e*P		**P**	**07 04 08.1 -0.2**
	comp=Z,941nm,1.8s,mb5.6						
MFF	**Saint Martin d**	**23.07**	**103**	*e*P		**P**	**07 04 08.1 -0.2**
MFF				pmax		pmax	
	comp=Z,470nm,1.8s,mb5.6						
PVRL	**Vila Real**	**23.07**	**122**	*e*P		**P**	**07 04 09.3 +0.9**
UCC	**Uccle**	**23.10**	**89**	P		**P**	**07 04 08.7 +0.2**
PBRG	**Braganca**	**23.11**	**120**	*e*P		**P**	**07 04 10.9 +2.1**
NB2	**NORSAR Subarra**	**23.11**	**61**	P		**P**	**07 04 08.9 +0.3**
	comp=Z,1.1nm,0.7s,baz=281,slow=9.3						
NOA	**NORSAR Array B**	**23.11**	**61**	P		**P**	**07 04 09.3 +0.8**
	comp=Z,141nm,1.3s,mb5.2,baz=281,slow=9.6,SNR=13						
NOA				LR		LR	07 11 43.5
	comp=Z,4μm,21.9s,MS4.8,baz=275,slow=33						
NOA	**NORSAR Array B**	**23.11**	**61**	P		**P**	**07 04 09.3 +0.8**
NOA				LR		LR	07 11 43.5
SNF	**Seneffe**	**23.20**	**90**	P		**P**	**07 04 08.3 -1.3**
	comp=Z,114nm,1.9s,mb5.0						
MUD	**Monsted U'grnd**	**23.28**	**73**	*i* P		**P**	**07 04 13.4 +3.2**
MUD				pmax		pmax	
	comp=Z,77nm,1.2s,mb5.0						
MUD				MLR		MLR	
	comp=Z,6μm,18.0s,MS5.1						
MUD	**Monsted U'grnd**	**23.28**	**73**	*i* P		**P**	**07 04 13.4 +3.2**
	comp=Z,77nm,1.2s,mb5.0						
	comp=Z,6μm,18.0s						
WIT	**Witteveen**	**23.38**	**83**	*e*P		**P**	**07 04 14.2 +2.9**
BAIF	**Baives**	**23.40**	**91**	*e*P		**P**	**07 04 10.4 -1.1**
	comp=Z,567nm,1.8s,mb5.4						
BAIF	**Baives**	**23.40**	**91**	*e*P		**P**	**07 04 10.4 -1.1**
BAIF				pmax		pmax	
	comp=Z,284nm,1.8s,mb5.4						
PVIS	**Viseu**	**23.43**	**123**	*e*P		**P**	**07 04 12.3 +0.4**
DOU	**Dourbes**	**23.59**	**91**	P		**P**	**07 04 13.6 +0.3**
	comp=Z,98nm,2.7s,mb4.8						
ELAN	**Lanestosa**	**23.66**	**113**	P		**P**	**07 04 14.7 +0.6**
	comp=Z,479nm,2.0s,mb5.6						
ELAN	**Lanestosa**	**23.66**	**113**	P		**P**	**07 04 14.7 +0.7**
	comp=Z,479nm,2.0s,mb5.6						
GIVF	**Givet**	**23.71**	**91**	*e*P		**P**	**07 04 15.4 +0.9**
	comp=Z,594nm,1.7s,mb5.4						
GIVF	**Givet**	**23.71**	**91**	*e*P		**P**	**07 04 15.4 +0.9**
GIVF				pmax		pmax	
	comp=Z,297nm,1.7s,mb5.4						
MTE	**Manteigas**	**23.84**	**123**	*e*P		**P**	**07 04 17.7 +1.8**
	comp=Z,348nm,1.7s,mb5.5						
MTE				*e*S		**S**	**07 08 26.8 -1.6**
MTE				*i* -			07 09 54.6
	comp=Z,13μm,20.0s						
MTE	**Manteigas**	**23.84**	**123**	*e*P		**P**	**07 04 13.6 -2.3**
	comp=Z,184nm,1.1s,mb5.4						
MTE	**Manteigas**	**23.84**	**123**	*e*P		**P**	**07 04 13.6 -2.3**
	comp=Z,184nm,1.1s,mb5.4						
WTSB	**Winterswijk**	**23.85**	**85**	*e*P		**P**	**07 04 16.9 +1.1**
	comp=Z,240nm,2.1s,mb5.3						
HGN	**Heimansgroeve**	**23.97**	**88**	*e*P		**P**	**07 04 16.6 -0.4**
	comp=Z,142nm,2.2s,mb5.0						
HGN				*e*S		**S**	**07 08 39.2 +8.7**
PTOM	**Tomar**	**24.09**	**126**	*e*P		**P**	**07 04 18.8 +0.5**
MEM	**Membach**	**24.09**	**89**	P		**P**	**07 04 18.3 +0.1**
	comp=Z,148nm,2.1s,mb5.0						
HYF	**Humbligny**	**24.14**	**98**	*e*P		**P**	**07 04 18.6 -0.2**
EMMW	**East Machias**	**24.29**	**254**	P		**P**	**07 04 18.4 -1.8**
	comp=Z,3μm,1.8s						
PCBR	**Castelo Branco**	**24.32**	**254**	*e*P		**P**	**07 04 20.4 -0.2**
PLOU	**Loures**	**24.37**	**128**	*e*P		**P**	**07 04 22.2 +1.2**
	comp=Z,541nm,1.7s,mb5.7						
HFS	**Hagfors**	**24.50**	**63**	P		**P**	**07 04 23.4 +1.4**
	comp=Z,26nm,0.8s,mb4.8,baz=260,slow=9.0,SNR=22						
LIS	**Lisbon**	**24.51**	**128**	*e*P		**P**	**07 04 20.9 -1.5**
LIS				*e*S		**S**	**07 08 44.0 +4.2**
LIS				*e*S		**S**	**07 08 44.0 +4.2**
LIS				AMS		AMS	07 11 58.3
	comp=Z,16μm,18.1s,MS5.5						
TCF	**Toulx Ste Croi**	**24.52**	**101**	*e*P		**P**	**07 04 21.9 -0.6**
	comp=Z,122nm,1.2s,mb5.0						
TCF	**Toulx Ste Croi**	**24.52**	**101**	*e*P		**P**	**07 04 21.9 -0.6**
TCF				pmax		pmax	
	comp=Z,61nm,1.2s,mb5.0						
LFF	**La Frestale**	**24.62**	**105**	*e*P		**P**	**07 04 23.0 -0.4**
	comp=Z,288nm,1.4s,mb5.3						
LFF	**La Frestale**	**24.62**	**105**	*e*P		**P**	**07 04 23.0 -0.4**
LFF				pmax		pmax	
	comp=Z,144nm,1.4s,mb5.3						
EALK	**Alkurruntz**	**24.64**	**110**	P		**P**	**07 04 23.0 -0.7**
	comp=Z,327nm,1.6s,mb5.6						
EALK	**Alkurruntz**	**24.64**	**110**	P		**P**	**07 04 23.0 -0.6**
	comp=Z,327nm,1.6s,mb5.6						
WLF	**Walferdange**	**24.67**	**90**	*e*P		**P**	**07 04 26.5 +2.6**
WLF				pmax		pmax	
	comp=Z,160nm,1.5s,mb5.3						
WLF	**Walferdange**	**24.67**	**90**	*e*P		**P**	**07 04 26.5 +2.6**
	comp=Z,160nm,1.5s,mb5.3						
BGF	**Bois d'Agland**	**24.70**	**100**	*e*P		**P**	**07 04 23.5 -0.6**
	comp=Z,170nm,0.9s,mb5.3						
BGF	**Bois d'Agland**	**24.70**	**100**	*e*P		**P**	**07 04 23.5 -0.6**
BGF				pmax		pmax	
	comp=Z,85nm,0.9s,mb5.3						
MEZF	**Maizieres J'vi**	**24.72**	**94**	*e*P		**P**	**07 04 23.6 -0.8**
SSF	**Saint Saulge**	**24.74**	**98**	*e*P		**P**	**07 04 23.8 -0.7**
SSF				pmax		pmax	
	comp=Z,26nm,0.9s,mb4.8						
SSF	**Saint Saulge**	**24.74**	**98**	*e*P		**P**	**07 04 23.8 -0.7**
	comp=Z,13nm,0.9s,mb4.5						
RJF	**Les Rejaudoux**	**24.79**	**103**	*e*P		**P**	**07 04 24.3 -0.7**
	comp=Z,313nm,1.6s,mb5.3						
RJF				*e*R			
	comp=Z,31μm,23.0s						
RJF	**Les Rejaudoux**	**24.79**	**103**	*e*P		**P**	**07 04 24.3 -0.7**
RJF				pmax		pmax	
	comp=Z,157nm,1.6s,mb5.3						
RJF				MLR		MLR	
	comp=Z,31μm,23.0s,MS5.7						
AVF	**Avril sur Loir**	**24.82**	**99**	*e*P		**P**	**07 04 24.9 -0.4**
	comp=Z,240nm,1.7s,mb5.2						
AVF	**Avril sur Loir**	**24.82**	**99**	*e*P		**P**	**07 04 24.9 -0.4**
AVF				pmax		pmax	
	comp=Z,120nm,1.7s,mb5.2						
SJPF	**Ste Jean**	**24.86**	**110**	*e*P		**P**	**07 04 25.4 -0.4**
VERF	**Verneugheol**	**25.02**	**101**	*e*P		**P**	**07 04 27.8 +0.6**
RUP	**Ruppelstein**	**25.15**	**90**	*e*P		**P**	**07 04 30.9 +2.5**
EVO	**Evora**	**25.16**	**127**	*e*P		**P**	**07 04 27.9 -0.7**
	comp=Z,674nm,1.6s,mb5.6						
EVO				*e*R			
	comp=Z,20μm,19.0s						
AGO	**Saint Agoulin**	**25.17**	**100**	*e*P		**P**	**07 04 31.1 +2.5**
SMF	**Signal de Mont**	**25.18**	**98**	*e*P		**P**	**07 04 28.0 -0.7**
	comp=Z,287nm,1.5s,mb5.3						
SMF	**Signal de Mont**	**25.18**	**98**	*e*P		**P**	**07 04 28.0 -0.7**
SMF				pmax		pmax	
	comp=Z,143nm,1.5s,mb5.3						
GUD	**Guadarrama**	**25.25**	**118**	P		**P**	**07 04 30.8 +1.4**
GUD				pmax		pmax	
	comp=Z,124nm,1.3s,mb5.3						
GUD	**Guadarrama**	**25.25**	**118**	P		**P**	**07 04 30.8 +1.4**
	comp=Z,124nm,1.3s,mb5.3						
GUD	**Guadarrama**	**25.25**	**118**	P		**P**	**07 04 30.8 +1.4**
	comp=Z,62nm,1.3s,mb5.0						
COP	**Copenhagen**	**25.26**	**73**	*e*P		**P**	**07 04 32.6 +3.2

comp=Z,86nm,1.5s,mb5.1
HINF Hinteralfeld 26.10 93 *e*P **P 07 04 37.4 0.0**
comp=Z,543nm,1.8s,mb5.5
HINF Hinteralfeld 26.10 93 *e*P **P 07 04 37.4 0.0**
HINF pmax pmax
comp=Z,272nm,1.8s,mb5.5
MLS Moulis 26.17 108 *e*P **P 07 04 38.5 +0.5**
EGRO El Granado 26.22 127 P **P 07 04 37.2 -1.3**
comp=Z,184nm,1.9s,mb5.3
EGRO El Granado 26.22 127 P **P 07 04 37.2 -1.3**
comp=Z,184nm,1.9s,mb5.3
MOF Molkenrain 26.23 93 *e*P **P 07 04 40.4 +1.8**
ESAC San Caprasio 26.26 112 P **P 07 04 38.4 -0.5**
comp=Z,522nm,1.8s,mb5.8
ESAC San Caprasio 26.26 112 P **P 07 04 38.4 -0.4**
comp=Z,522nm,1.8s,mb5.8
PALC Alcoutim 26.28 127 *e*P **P 07 04 40.8 +1.7**
comp=Z,139nm,1.3s,mb5.3
LIBD Limburg 26.32 92 *e*P **P 07 04 43.6 +4.3**
LOMF Lomont 26.37 94 *e*P **P 07 04 38.4 -1.4**
EMIN Mina Concepcio 26.38 126 P **P 07 04 37.3 -2.7**
comp=Z,318nm,1.5s,mb5.6
CABF La Chapelle 26.41 96 *e*P **P 07 04 40.5 +0.3**
comp=Z,357nm,1.5s,mb5.4
CABF La Chapelle 26.41 96 *e*P **P 07 04 40.5 +0.3**
CABF pmax pmax
comp=Z,179nm,1.5s,mb5.4
MTLF Montolieu 26.49 106 *e*P **P 07 04 40.5 -0.5**
comp=Z,475nm,1.7s,mb5.4
MTLF Montolieu 26.49 106 *e*P **P 07 04 40.5 -0.5**
MTLF pmax pmax
comp=Z,238nm,1.7s,mb5.5
LPEF Le Peyrat 26.60 107 *e*P **P 07 04 43.6 +1.6**
BFO Black Forest 26.61 91 *e*P **P 07 04 44.5 +2.5**
BFO pmax pmax
comp=Z,76nm,1.6s,mb5.0
BFO Black Forest 26.61 91 *e*P **P 07 04 44.5 +2.5**
comp=Z,76nm,1.6s,mb5.0
FELD Feldberg 26.70 92 *e*P **P 07 04 43.9 +1.1**
VIVF Saint-Julien-l 26.77 101 *e*P **P 07 04 43.1 -0.4**
comp=Z,239nm,1.8s,mb5.1
VIVF Saint-Julien-l 26.77 101 *e*P **P 07 04 43.1 -0.4**
VIVF pmax pmax
comp=Z,120nm,1.8s,mb5.1
BSD Bornholm Skovb 26.79 73 *i*P **P 07 04 43.8 +0.2**
BSD pmax pmax
comp=Z,130nm,1.2s,mb5.3
BSD MLR MLR
comp=Z,6µm,18.0s,MS5.2
BSD Bornholm Skovb 26.79 73 *i*P **P 07 04 43.8 +0.2**
comp=Z,134nm,1.2s,mb5.3
comp=Z,6µm,18.0s
LASF Ste Croix 26.85 103 *e*P **P 07 04 44.2 -0.1**
OG01 Vacheresse 26.91 96 *e*P **P 07 04 42.1 -2.7**
LRDF Laroque-de-Fa 26.94 106 *e*P **P 07 04 45.7 +0.6**
EADA Adamuz 27.00 122 P **P 07 04 43.7 -2.1**
comp=Z,150nm,1.8s,mb5.2
EADA Adamuz 27.00 122 P **P 07 04 43.7 -2.0**
comp=Z,150nm,1.8s,mb5.2
MOX Moxa 27.13 84 *e*P **P 07 04 47.8 +1.1**
MOX pmax pmax
comp=Z,295nm,1.9s,mb5.5
MOX MLR MLR
comp=Z,8µm,18.0s,MS5.3
MOX Moxa 27.13 84 *e*P **P 07 04 47.8 +1.1**
comp=Z,295nm,1.9s,mb5.5
MOX LR LR
comp=Z,8µm,18.0s,MS5.3
MOX Moxa 27.13 84 *i*P **P 07 04 47.8 +1.1**
comp=Z,logA/T=2.2,mb5.5
MOX L 07 15 06.0
FILF Fillols 27.21 107 *e*P **P 07 04 48.3 +0.7**
ERTA Horta de San J 27.23 112 P **P 07 04 42.0 -5.8**
comp=Z,210nm,1.9s,mb5.3
EMOS Mosqueruela 27.27 114 P **P 07 04 47.2 -0.9**
comp=Z,211nm,2.1s,mb5.3
EMOS Mosqueruela 27.27 114 P **P 07 04 47.2 -0.9**
comp=Z,211nm,2.1s,mb5.3
EPOB Poblet 27.32 110 P **P 07 04 48.5 -0.1**
comp=Z,118nm,1.8s,mb5.1
ORIF Oris-en-Rattie 27.38 99 *e*P **P 07 04 49.5 +0.4**
comp=Z,358nm,1.8s,mb5.3
ORIF *e*R
comp=Z,17µm,17.5s
EBR Ebro Roquetas 27.41 112 *e*P **P 07 04 43.0 -6.4**
GRA1 Grafenberg Arr 27.42 86 *e*P **P 07 04 51.0 +1.6**
comp=Z,217nm,1.5s,mb5.5
GRA1 *e*PcP PcP 07 08 08.2 -0.4
GRA1 LR LR
comp=Z,6µm,21.0s,MS5.2
GRA1 Grafenberg Arr 27.42 86 *e*PcP PcP 07 08 08.2 -0.4
comp=Z,3µm,21.0s
GRF Grafenberg Arr 27.42 86 *e*P **P 07 04 51.0 +1.6**
GRF *e* 07 08 08.2
GRF pmax pmax
comp=Z,217nm,1.5s,mb5.5
GRF MLR MLR
comp=Z,6µm,21.0s,MS5.2
GRF Grafenberg Arr 27.42 86 *e*P **P 07 04 51.0 +1.6**
GRF *e* 07 08 08.2
GRF pmax pmax
comp=Z,217nm,1.5s,mb5.5
GRF MLR MLR
comp=Z,6µm,21.0s,MS5.2
GRF Grafenberg Arr 27.42 86 *e*P **P 07 04 51.0 +1.6**
comp=Z,217nm,1.5s,mb5.5
GRF *e*PcP PcP 07 08 08.2 -0.4
GRF LR LR
comp=Z,6µm,21.0s,MS5.2
GRF Grafenberg Arr 27.42 86 *e*P **P 07 04 51.0 +1.6**
comp=Z,3µm,21.0s
GRF Grafenberg Arr 27.42 86 *e*PcP PcP 07 08 08.2 -0.4
SJAF Saint Jean de 27.44 106 *e*P **P 07 04 48.9 -0.7**
LPL La Plagne 27.45 97 *e*P **P 07 04 49.7 0.0**
comp=Z,239nm,1.6s,mb5.2
LPL La Plagne 27.45 97 *e*P **P 07 04 49.7 0.0**
LPL pmax pmax
comp=Z,120nm,1.6s,mb5.2
EJON La Jonquera 27.47 106 P **P 07 04 48.7 -1.2**
comp=Z,162nm,1.7s,mb5.3
LPG La Plagne 27.47 97 *e*P **P 07 04 49.6 -0.3**
comp=Z,435nm,1.9s,mb5.3
LPG La Plagne 27.47 97 *e*P **P 07 04 49.6 -0.3**
LPG pmax pmax
comp=Z,217nm,1.9s,mb5.4
ESPR Espera 27.49 125 P **P 07 04 47.5 -2.6**
comp=Z,288nm,1.6s,mb5.6
ESPR Espera 27.49 125 P **P 07 04 47.5 -2.7**
comp=Z,288nm,1.6s,mb5.6
HNH Hanover 27.52 257 P **P 07 04 52.8 +2.4**
HNH Hanover 27.52 257 P **P 07 04 52.8 +2.4**
CLL Collm 27.54 82⇑*i*P **P 07 04 50.6 +0.2**
CLL pmax pmax
comp=Z,156nm,1.7s,mb5.4
CLL Collm 27.54 82 *i*P **P 07 04 44.5 -5.9**
CLL ⇑*i*P 07 04 50.6
CLL *e* 07 05 05.0
CLL Collm 27.54 82⇑P **P 07 04 50.6 +0.2**
comp=Z,logA/T=2.0,mb5.4
CLL *e* 07 05 05.0
CLL *e* 07 05 30.0
CLL Collm 27.54 82 *i*P **P 07 04 50.6 +0.2**
comp=Z,78nm,1.7s,mb5.1
EVIA Vianos 27.61 119 P **P 07 04 48.6 -2.6**
EVIA pmax pmax
comp=Z,66nm,1.2s,mb5.1
EVIA Vianos 27.61 119 P **P 07 04 48.6 -2.7**
comp=Z,66nm,1.2s,mb5.1
EVIA Vianos 27.61 119 P **P 07 04 48.6 -2.6**
comp=Z,33nm,1.2s,mb4.8
ELUQ Luque 27.64 122 P **P 07 04 50.9 -0.6**
ELUQ pmax pmax
comp=Z,250nm,1.7s,mb5.6
ELUQ Luque 27.64 122 P **P 07 04 50.9 -0.6**
comp=Z,250nm,1.7s,mb5.6
ELUQ Luque 27.64 122 P **P 07 04 50.9 -0.6**
comp=Z,125nm,1.7s,mb5.3
BNI Bardonecchia 27.72 98 *e*P **P 07 04 52.0 -0.2**
BNI pmax pmax
comp=Z,340nm,1.9s,mb5.7
BNI Bardonecchia 27.72 98 *e*P **P 07 04 52.0 -0.2**
comp=Z,340nm,1.9s,mb5.7
BNI Bardonecchia 27.72 98 *e*P **P 07 04 52.0 -0.2**
comp=Z,170nm,1.9s,mb5.3
NKC Novy Kostel 27.80 84 *e*P **P 07 04 52.4 -0.4**
NKC AMS AMS 07 15 40.0
comp=Z,10µm,14.4s
MDV Middlebury 27.80 259 *e*P **P 07 04 53.7 +0.7**
SMRF Simiane la Rot 27.84 101 *e*P **P 07 04 53.0 -0.3**
comp=Z,302nm,1.8s,mb5.3
WES Weston 27.93 254 P **P 07 04 54.2 +0.1**
WES pmax pmax
comp=Z,194nm,1.1s,mb5.7
WES Weston 27.93 254 P **P 07 04 54.1 +0.1**
comp=Z,194nm,1.1s,mb5.7
WES Weston 27.93 254 P **P 07 04 54.2 +0.1**
comp=Z,97nm,1.1s,mb5.3
MIV Mineville/With 27.94 259 *e*P **P 07 04 54.7 +0.5**
MIV Mineville/With 27.94 259 *e*P **P 07 04 54.7 +0.5**
HRV Harvard--Oak R 27.97 255 PFAKE 07 05 10.0 +16
HRV LR LR
comp=Z,4µm,19.0s,MS5.0
TREF Trevaresse 27.97 102 *e*P **P 07 04 55.5 +1.0**
MBDF Montbardon 27.98 99 *e*P **P 07 04 54.5 -0.1**
comp=Z,260nm,1.7s,mb5.3
MBDF Montbardon 27.98 99 *e*P **P 07 04 54.5 -0.1**
MBDF pmax pmax
comp=Z,130nm,1.7s,mb5.3
EQES Quesada 28.00 120 P **P 07 04 53.1 -1.7**
comp=Z,229nm,1.9s,mb5.5
EQES Quesada 28.00 120 P **P 07 04 53.1 -1.7**
comp=Z,229nm,1.9s,mb5.5
ELOJ Sierra Loja 28.03 123 P **P 07 04 54.8 -0.3**
ELOJ pmax pmax
comp=Z,73nm,1.7s,mb5.0
ELOJ Sierra Loja 28.03 123 P **P 07 04 54.8 -0.3**
comp=Z,73nm,1.7s,mb5.0
ELOJ Sierra Loja 28.03 123 P **P 07 04 54.8 -0.3**
comp=Z,36nm,1.7s,mb4.7
MSNY Massena 28.05 262 *e*P **P 07 04 55.7 +0.5**
MSNY Massena 28.05 262 *e*P **P 07 04 55.7 +0.5**
ARCES ARCESS Array B 28.07 40 P **P 07 04 54.1 -1.0**
comp=Z,36nm,1.2s,mb4.9,baz=270,slow=7.3,SNR=20
ARCES LR LR 07 13 52.8
comp=Z,3µm,20.1s,MS4.9,baz=262,slow=32
DAVA Damuels 28.07 92⇓*i*P **P 07 04 56.2 +0.9**
comp=Z,52nm,1.7s,mb4.9
SURF Saint Ours 28.17 99 *e*P **P 07 04 58.3 +2.1**
PUYF Puyloubier 28.20 102 *e*P **P 07 04 56.6 0.0**
EMIJ Mijas 28.23 124 P **P 07 04 54.2 -2.6**
comp=Z,98nm,1.2s,mb5.3
EMIJ Mijas 28.23 124 P **P 07 04 54.2 -2.6**
comp=Z,98nm,1.2s,mb5.3
BRG Berggiesshubel 28.27 82 *i*P **P 07 04 58.1 +1.0**
BRG *i* 07 05 45.5
BRG *i* 07 08 09.9
BRG pmax pmax
comp=Z,62nm,1.6s,mb5.0
BRG MLR MLR
comp=N,12µm,15.0s,MS5.8
BRG MLR MLR
comp=E,12µm,15.0s,MS5.8
BRG MLR MLR
comp=Z,15µm,15.0s,MS5.7
BRG Berggiesshubel 28.27 82 *i*P **P 07 04 58.1 +1.0**
comp=Z,62nm,1.6s,mb5.0
BRG *i* 07 05 45.5
BRG *i* 07 08 09.9
BRG LR LR
comp=Z,15µm,15.0s,MS5.7
BRG Berggiesshubel 28.27 82 *i*P **P 07 04 58.1 +1.0**
comp=Z,31nm,1.6s,mb4.7
BRG Berggiesshubel 28.27 82 *i*PcP PcP 07 08 09.9 -0.7
TAVF Tavernes 28.34 101 *e*P **P 07 04 57.7 -0.1**
DAVOX Davos 28.37 92 P **P 07 04 59.3 +1.2**
comp=Z,9.5nm,1.1s,mb4.3,baz=318,slow=14,SNR=8.6
DAVOX PcP PcP 07 08 10.7 -0.3
comp=Z,7.7nm,0.7s,baz=355,slow=12,SNR=6.4
DAVOX Davos 28.37 92 PcP PcP 07 08 10.7 -0.2
NCB Newcomb 28.38 260 PFAKE 07 05 10.0 +12
NCB LR LR
comp=Z,13µm,19.0s,MS5.5
KEV Kevo 28.57 39 *e*p **P 07 04 56.1 -3.5**
RES Resolute Bay 28.59 331 *e*P **P 07 04 59.6 -0.2**
RES pmax pmax
comp=Z,81nm,1.3s,mb5.3
RES Resolute Bay 28.59 331 *e*P **P 07 04 59.6 -0.2**
comp=Z,81nm,1.3s,mb5.3
RES Resolute Bay 28.59 331 *e*P **P 07 04 59.6 -0.2**
comp=Z,40nm,1.3s,mb5.0
WET Wettzell 28.63 86 *e*P **P 07 05 00.9 +0.6**
WET pmax pmax
comp=Z,140nm,1.8s,mb5.4
WET Wettzell 28.63 86 *e*P **P 07 05 00.9 +0.6**
comp=Z,70nm,1.8s,mb5.1
EBEN Beniarda 28.66 115 P **P 07 04 59.7 -1.0**
comp=Z,195nm,1.6s,mb5.6
EBEN Beniarda 28.66 115 P **P 07 04 59.7 -1.0**
comp=Z,195nm,1.6s,mb5.6
FRF La Foret Royal 28.69 101 *e*P **P 07 05 00.7 -0.3**
comp=Z,304nm,1.6s,mb5.5
FRF La Foret Royal 28.69 101 *e*P **P 07 05 00.7 -0.3**
FRF pmax pmax
comp=Z,152nm,1.6s,mb5.5
TOUF Mont Tournerai 28.71 99 *e*P **P 07 05 02.3 +1.2**
LMR La Mourre 28.77 101 *e*P **P 07 05 01.3 -0.4**
comp=Z,260nm,1.7s,mb5.4
LMR La Mourre 28.77 101 *e*P **P 07 05 01.3 -0.4**
LMR pmax pmax
comp=Z,130nm,1.7s,mb5.4
PVCC Panska Ves 28.79 82 *e*P **P 07 05 02.1 +0.3**
PVCC AMS AMS 07 16 30.0
comp=Z,13µm,14.2s
EBER Berja 28.82 121 P **P 07 04 59.2 -2.9**
comp=Z,204nm,1.5s,mb5.6
SQTA Sankt Quirin 28.83 91⇑*i*P **P 07 05 03.8 +1.6**
comp=Z,171nm,2.1s,mb5.4
SQTA Sankt Quirin 28.83 91⇑*i*P **P 07 05 03.8 +1.6**
SQTA pmax pmax
comp=Z,171nm,2.1s,mb5.4
GKP Gorka Klasztor 28.84 76 *e*P **P 07 05 03.2 +1.1**
GKP *e*pP pP 07 05 06.9 +1.8
GKP MLR MLR 07 15 12.2
comp=Z,8µm,22.5s,MS5.3
EMUR La Murta 28.84 118 P **P 07 05 01.5 -0.9**
comp=Z,76nm,1.8s,mb5.1
EMUR La Murta 28.84 118 P **P 07 05 01.5 -0.9**
comp=Z,76nm,1.8s,mb5.1
SAOF Saorge 28.89 99 *e*P **P 07 05 03.6 +0.8**
SBF Sospel 28.91 99 *e*P **P 07 05 02.5 -0.4**
comp=Z,138nm,1.5s,mb5.2
SBF Sospel 28.91 99 *e*P **P 07 05 02.5 -0.4**
SBF pmax pmax
comp=Z,69nm,1.5s,mb5.2
KHC Kasperske Hory 29.02 85 *e*P **P 07 05 03.1 -0.7**
KHC *e*PP PP 07 06 04.4 +6.7
KHC AMS AMS 07 15 50.0
comp=Z,9µm,15.4s
KHC Kasperske Hory 29.02 85 *i*P **P 07 05 02.0 -1.8**
WTTA Wattenberg 29.04 90⇑*i*P **P 07 05 06.3 +2.2**
comp=Z,38nm,1.8s,mb4.8
WTTA Wattenberg 29.04 90⇑*i*P **P 07 05 06.3 +2.2**
WTTA pmax pmax
comp=Z,38nm,1.8s,mb4.8
PRU Pruhonice 29.07 83 *e*P **P 07 05 04.2 -0.1**
PRU *e*PP PP 07 06 01.8 +3.5
PRU AMS AMS 07 15 20.0
comp=Z,9µm,22.7s
ENIJ Nijar 29.08 120 P **P 07 05 05.3 +0.8**
ENIJ pmax pmax
comp=Z,94nm,1.3s,mb5.4
ENIJ Nijar 29.08 120 P **P 07 05 05.3 +0.8**
comp=Z,94nm,1.3s,mb5.4
ENIJ Nijar 29.08 120 P **P 07 05 05.3 +0.8**
comp=Z,47nm,1.3s,mb5.1
EIBI Ibiza 29.19 113 P **P 07 05 06.6 +1.1**
comp=Z,182nm,1.8s,mb5.5
EIBI Ibiza 29.19 113 P **P 07 05 06.6 +1.1**
comp=Z,182nm,1.8s,mb5.5
GEC2 GERESS Array S 29.24 86 *e*P **P 07 05 07.1 +1.2**
GEC2 pmax pmax
comp=Z,175nm,2.2s,mb5.4
GEC2 GERESS Array S 29.24 86 *e*P **P 07 05 07.1 +1.2**
comp=Z,88nm,2.2s,mb5.1
GERES GERESS Array B 29.24 86 P **P 07 05 06.7 +0.8**
comp=Z,2.8nm,0.7s,baz=302,slow=7.0,SNR=18
GERES PcP PcP 07 08 11.9 -1.2
comp=Z,0.9nm,0.7s,slow=1.3,SNR=3.7
GERES GERESS Array B 29.24 86 PcP PcP 07 08 11.9 -1.2
EALB Alboran 29.53 123 P **P 07 05 07.2 -1.5**
comp=Z,241nm,1.4s,mb5.7
EALB Alboran 29.53 123 P **P 07 05 07.2 -1.4**
comp=Z,241nm,1.4s,mb5.7
KSP Ksiaz 29.55 81⇑*e*P **P 07 05 09.0 +0.4**
KSP LR LR
comp=Z,34µm,16.9s,MS6.0
KSP Ksiaz 29.55 81 *e*P **P 07 05 08.9 +0.3**
KSP *e*pP pP 07 05 12.3 +0.7
KSP MLR MLR 07 17 36.8
comp=Z,30µm,16.9s,MS6.0
UPC Upice 29.58 81 *e*P **P 07 05 08.1 -0.8**
DPC Dobruska-Polom 29.83 81 *e*P **P 07 05 10.7 -0.4**
DPC *e*PP PP 07 06 04.1 -4.2
DPC AMS AMS 07 17 00.0
comp=Z,12µm,15.1s
KAF Kangasniemi 29.84 55 *e*p **P 07 05 09.6 -1.5**
comp=Z,17nm,0.8s,mb4.8
KAF Kangasniemi 29.84 55 *e*P **P 07 05 09.6 -1.5**
KAF pmax pmax
comp=Z,17nm,0.8s,mb4.8
AVE Averroes 29.87 132 P **P 07 05 11.5 -0.1**
FINES FINESS Array B 29.95 56 *e*P **P 07 05 10.6 -1.5**
FINES FINESS Array B 29.95 56 P **P 07 05 10.9 -1.2**
comp=Z,13nm,0.8s,mb4.7,baz=292,slow=6.1,SNR=18
FINES LR LR 07 15 57.2
comp=Z,2µm,19.7s,MS4.8,baz=281,slow=34
KBA Koelnbreinsper 30.08 89⇓*i*P **P 07 05 15.3 +1.9**
comp=Z,82nm,1.9s,mb5.1
KBA Koelnbreinsper 30.08 89⇓*i*P **P 07 05 15.3 +1.9**
KBA pmax pmax
comp=Z,82nm,1.9s,mb5.1
MOA Molln 30.13 87⇓*i*P **P 07 05 14.6 +0.8**
comp=Z,38nm,1.6s,mb4.9
BINY Binghamton 30.53 259 PFAKE 07 05 30.0 +13
BINY LR LR
comp=Z,12µm,19.0s,MS5.6
VRAC Vranov 30.55 83 *e*P **P 07 05 17.9 +0.4**
PGF Pioggiola 30.64 100 *e*P **P 07 05 18.1 -0.3**
comp=Z,265nm,1.7s,mb5.5
PGF Pioggiola 30.64 100 *e*P **P 07 05 18.1 -0.3**
PGF pmax pmax
comp=Z,133nm,1.7s,mb5.5
MORC Moravsky Berou 30.80 81 *e*P **P 07 05 18.9 -0.8**
MORC pmax pmax
comp=Z,40nm,1.6s,mb5.0
MORC Moravsky Berou 30.80 81 *e*P **P 07 05 18.9 -0.9**
comp=Z,40nm,1.6s,mb5.0
MORC Moravsky Berou 30.80 81 *e*P **P 07 05 20.6 +0.9**
RAC Raciborz 30.98 80 *e*P **P 07 05 22.0 +0.7**
RAC MLR MLR
comp=N,9µm,21.7s
RAC MLR MLR
comp=Z,19µm,16.5s
RAC MLR MLR
comp=E,16µm,16.1s
VOY Vojsko 31.02 90 *e*P **P 07 05 19.3 -2.4**
VOY *e* 07 05 53.2
OBKA Obir 31.09 89⇑*i*P **P 07 05 22.7 +0.4**
comp=E,37nm,1.4s,mb5.0
OKC Ostrava-Krasne 31.10 81 *e*P **P 07 05 23.1 +0.8**
OKC AMS AMS 07 18 00.0
comp=E,13µm,16.1s
FCC Fort Churchill 31.10 299 *e*P **P 07 05 22.1 -0.2**
FCC pmax pmax
comp=Z,118nm,1.1s,mb5.6
FCC Fort Churchill 31.10 299 *e*P **P 07 05 22.1 -0.2**
comp=Z,118nm,1.1s,mb5.6
FCC Fort Churchill 31.10 299 *e*P **P 07 05 22.0 -0.3**
comp=Z,118nm,1.1s,mb5.6
GENY Geneseo 31.13 262 *e*P **P 07 05 22.4 -0.2**
GENY Geneseo 31.13 262 *e*P **P 07 05 22.4 -0.3**
ARSA Arzberg 31.17 87⇑*i*P **P 07 05 23.9 +0.9**
comp=Z,70nm,1.9s,mb5.2
APA Apatity 31.25 43⇓*i*P **P 07 05 23.5 0.0**
APA pmax pmax
comp=Z,190nm,1.7s,mb5.7
APA Apatity 31.25 43 *i*P **P 07 05 23.5 0.0**
comp=Z,95nm,1.7s,mb5.3
PERS Pernice 31.32 88 *e*P **P 07 05 26.7 +2.4**
WAR Warsaw 31.34 75 *e*P **P 07 05 23.2 -1.2**
WAR *e*pP pP 07 05 26.1 -1.3
WAR MLR MLR 07 20 42.4
comp=Z,7µm,14.8s,MS5.5
VSU Vasula 31.36 62 *i*P **P 07 05 24.8 +0.3**
LJU Ljubljana 31.36 90 *e*P **P 07 05 27.5 +2.8**
LJU *e*PP PcP 07 08 17.5 -1.1
ZST Bratislava 31.47 84 *e*P **P 07 05 26.7 +1.1**
ZST *e*PCP PcP 07 08 18.6 -0.2
CEY Cerknica 31.50 90 *i*P **P 07 05 26.2 +0.3**
OUK Oukaimeden 31.52 134 *i*P **P 07 05 24.0 -2.2**
SUW Suwalki 31.58 71 *e*P **P 07 05 25.9 -0.6**
SUW *e*pP pP 07 05 29.4 -0.1
SUW MLR MLR 07 16 04.0
comp=Z,4µm,26.3s,MS5.0
LVZ Lovozero 31.63 42⇓*e*P **P 07 05 25.0 -1.8**
LVZ *e*S **S 07 10 33.7 -0.9**
LVZ pmax pmax
comp=Z,46nm,1.5s,mb5.1
LVZ pmax pmax
comp=N,9.0nm,1.2s
LVZ pmax pmax
comp=E,26nm,1.3s
LVZ smax
comp=E,2µm,6.2s
LVZ Lovozero 31.63 42 *e*P **P 07 05 25.0 -1.8**
comp=E,4.5nm,1.2s
LVZ *e*S **S 07 10 33.7 -0.9**
OJC Ojcow 31.77 79 *e*P **P 07 05 27.8 -0.4**
JOF Joensuu 31.77 52 *e*p **P 07 05 26.4 -1.7**
LIKS Likavka 32.06 81 *e*P **P 07 05 33.5 +2.7**
BOJS Bojanci 32.10 90 *i*P **P 07 05 31.3 +0.2**
VYHS Vyhne 32.23 83 *i*P **P 07 05 32.5 +0.2**
VYHS *e*PCP PcP 07 08 18.9 -2.0
SRO1 Iza 32.34 84 *e*P **P 07 05 35.0 +1.8**
SRO Srobarova 32.35 84 *e*P **P 07 05 34.2 +0.9**
NIE Niedzica 32.50 80 *e*P **P 07 05 35.0 +0.4**
ERPA Erie 32.75 263 PFAKE 07 05 50.0 +13
ERPA LR LR
comp=Z,17µm,19.0s,MS5.8
SDMD Soldier's Deli 32.97 256 *e*P **P 07 05 34.8 -4.0**
VSL Villasalto 33.00 103 *e*P **P 07 05 39.7 +0.6**
comp=Z,26nm,1.3s,mb5.0
VSL Villasalto 33.00 103 *e*P **P 07 05 39.7 +0.6**
comp=Z,26nm,1.3s,mb5.0
KECS Kecovo 33.13 81 *e*P **P 07 05 40.4 +0.3**
PSZ Piszkesteto 33.14 83⇑*e*P **P 07 05 41.1 +0.9**
PSZ Piszkesteto 33.14 83⇑*e*P **P 07 05 41.2 +1.0**
PSZ Piszkesteto 33.14 83 *e*P **P 07 05 41.1 +0.9**
ALLY Alegheny Colle 33.15 262 *e*P **P 07 05 41.6 +1.2**
ALLY Alegheny Colle 33.15 262 *e*P **P 07 05 41.6 +1.2**
AQU L'Aquila 33.16 96 P **P 07 05 40.6 +0.2**
AQU pmax pmax
comp=Z,18nm,0.6s,mb5.2
AQU L'Aquila 33.16 96 P **P 07 05 40.6 +0.2**
comp=Z,18nm,0.6s,mb5.2
AQU L'Aquila 33.16 96 P **P 07 05 40.6 +0.2**
comp=Z,9.0nm,0.6s,mb4.9
CRVS Cervenica-Dubn 33.41 80 *e*P **P 07 05 46.9 +4.4**
PKSM Moragy 33.50 86⇑*e*P **P 07 05 43.4 0.0**
PKSM Moragy 33.50 86 *e*P **P 07 05 43.4 0.0**
KWP Kalwaria 33.66 78 *e*P **P 07 05 45.6 +0.9**
KWP *e*pP pP 07 05 48.8 +1.1
KWP MLR MLR 07 20 45.5
comp=Z,6µm,16.4s,MS5.4
KOLS Kolonicke sedl 33.83 79 *e*P **P 07 05 46.7 +0.5**
KOLS *e*PCP PcP 07 08 24.3 -1.0
UZH Uzhgorod 34.02 80 *e*P **P 07 05 50.0 +2.2**
CBN Corbin 34.14 255 PFAKE 07 06 00.0 +11
CBN LR LR
comp=Z,9µm,19.0s,MS5.5
LVV L'vov 34.26 77⇓*i*P **P 07 05 49.7 -0.2**
LVV MLR MLR
comp=Z,5µm,19.0s,MS5.3
LVV MLR MLR
comp=N,4µm,18.8s,MS5.2
LVV MLR MLR
comp=E,3µm,18.8s,MS5.2
LVV L'vov 34.26 77 *e*P **P 07 05 49.0 -0.9**
LVV *e*S Sx 07 11 01.0
LVV L'vov 34.26 77 *e*P **P 07 05 49.0 -0.9**
MCWV Mont Chateau 34.40 260 *e*P **P 07 05 50.9 -0.3**
comp=E,116nm,1.4s,mb5.6
MCWV LR LR
comp=Z,14µm,19.0s,MS5.7
MCWV Mont Chateau 34.40 260 *e*P **P 07 05 50.9 -0.3**
comp=Z,116nm,1.4s,mb5.6

AAM Ann Arbor 34.61 266 P **P 07 05 53.3 +0.3**
AAM pmax pmax
comp=Z,138nm,1.4s,mb5.7
AAM MLR MLR
comp=Z,22µm,19.0s,MS5.9
AAM Ann Arbor 34.61 266 P **P 07 05 53.3 +0.3**
comp=Z,138nm,1.4s,mb5.7
AAM LR LR
comp=Z,22µm,19.0s,MS5.9
AAM Ann Arbor 34.61 266 P **P 07 05 53.3 +0.3**
comp=Z,11µm,19.0s
BEO Belgrade 35.37 87⇑*i*P **P 07 06 00.2 +0.7**
DIVS Divcibare 35.58 88⇑*i*P **P 07 05 59.8 -1.5**
ACSO Alum Creek Sta 35.68 263 *e*P **P 07 06 02.3 +0.2**
comp=Z,271nm,1.4s,mb6.0
ACSO LR LR
comp=Z,15µm,20.0s,MS5.8
GRUS Gruza 36.12 88⇑*i*P **P 07 06 05.8 0.0**
SVIS Svilajnac 36.12 87 *e*P **P 07 06 05.3 -0.6**
AKASG Malin Array Be 36.48 72 P **P 07 06 07.9 -0.9**
comp=Z,21nm,0.7s,mb5.2,baz=304,slow=8.2,SNR=46
AKASG PcP PcP 07 08 30.6 -2.4
comp=Z,4.5nm,0.9s,baz=292,slow=3.6,SNR=5.5
BOLS Boljevac 36.83 87⇓*i*P **P 07 06 11.6 -0.2**
FFC Flin Flon 36.83 296 *e*P **P 07 06 11.7 0.0**
FFC pmax pmax
comp=Z,154nm,1.4s,mb5.6
FFC Flin Flon 36.83 296 *e*P **P 07 06 11.7 0.0**
comp=Z,154nm,1.4s,mb5.6
FFC Flin Flon 36.83 296 *e*P **P 07 06 11.7 0.0**
comp=Z,77nm,1.4s,mb5.3
TIP Timpagrande 37.20 97 *e*P **P 07 06 14.2 -0.7**
TIP Timpagrande 37.20 97 *e*P **P 07 06 14.2 -0.7**
BARS Barje 37.43 88⇓*i*P **P 07 06 16.7 -0.1**
OBN Obninsk 37.71 62*a i*P **P 07 06 16.9 -2.1**
OBN 07 07 49.0
OBN *e* 07 08 33.1
OBN *e*S **S 07 12 06.6 -2.2**
OBN *e*SSS SSS 07 15 20.8 +6.0
OBN pmax pmax
comp=Z,322nm,2.0s,mb5.7
OBN MLR MLR
comp=Z,4µm,19.0s,MS5.3
OBN Obninsk 37.71 62 *e*P **P 07 06 16.2 -2.9**
comp=Z,145nm,1.0s,mb5.7
OBN LR LR
comp=Z,2µm,19.0s,MS4.8
OBN Obninsk 37.71 62 *i*P **P 07 06 16.9 -2.1**
comp=Z,161nm,2.0s,mb5.4
OBN Obninsk 37.71 62 *e*PcP PcP 07 08 33.1 -3.6
OBN *e*S **S 07 12 06.6 -2.2**
SKO Skopje 37.79 89 *i*P **P 07 06 19.5 -0.4**
SKO *i* pP 07 06 23.0 +0.1
SKO pmax pmax
comp=Z,142nm,1.1s,mb5.6
SKO Skopje 37.79 89 *i*P **P 07 06 19.5 -0.4**
comp=Z,0.1nm,1.1s
SKO ⇓*i* pP 07 06 23.0 +0.1
JFWS Jewell Farm 37.80 273 *e*P **P 07 06 16.9 -3.0**
JFWS pmax pmax
comp=Z,82nm,1.3s,mb5.3
JFWS MLR MLR
comp=Z,3µm,22.0s,MS5.1
JFWS Jewell Farm 37.80 273 *e*P **P 07 06 16.9 -3.0**
comp=Z,82nm,1.3s,mb5.3
JFWS LR LR
comp=Z,3µm,22.0s,MS5.1
MOS Moscow 37.88 61 *e*P **P 07 06 20.4 0.0**
MOS pmax pmax
comp=Z,94nm,1.2s,mb5.4
MOS MLR MLR
comp=Z,4µm,20.5s,MS5.2
MOS MLR MLR
comp=N,3µm,19.6s
MOS Moscow 37.88 61 *e*P **P 07 06 20.4 0.0**
comp=N,1µm,19.6s
MLR Muntele Rosu 37.92 81⇑*i*P **P 07 06 18.7 -2.2**
MLR Muntele Rosu 37.92 81⇑*i*P **P 07 06 18.6 -2.3**
OHR Ohrid 38.03 91 *i*P **P 07 06 23.3 +1.4**
VRI Vrincioaia 38.10 80⇑*e*P **P 07 06 23.3 +0.9**
VTS Vitosha 38.34 87 *e*P **P 07 06 25.0 +0.5**
BLO Bloomington 38.35 265 *e*P **P 07 06 25.2 +0.6**
BLO pmax pmax
comp=Z,209nm,1.4s,mb5.7
BLO Bloomington 38.35 265 *e*P **P 07 06 25.2 +0.6**
comp=Z,209nm,1.4s,mb5.7
BLO Bloomington 38.35 265 *e*P **P 07 06 25.2 +0.6**
comp=Z,104nm,1.4s,mb5.4
YKW3 Yellowknife Ar 38.45 313 *e*P **P 07 06 24.8 -0.4**
YKW3 Yellowknife Ar 38.45 313 *e*P **P 07 06 24.8 -0.4**
ISR Istrita 38.48 82⇑*i*P **P 07 06 26.6 +1.0**
YKA Yellowknife Ar 38.48 313 P **P 07 06 24.9 -0.5**
comp=Z,7.6nm,0.8s,mb4.5,baz=59,slow=8.5,SNR=45
YKA PP PP 07 07 55.3 -1.8
comp=Z,2.2nm,1.0s,baz=64,slow=13,SNR=2.7
YKA PcP PcP 07 08 38.2 -0.8
comp=Z,0.9nm,0.7s,baz=51,slow=3.4,SNR=3.8
YKA LR LR 07 21 42.6
comp=Z,19µm,18.4s,MS6.0,baz=55,slow=35
YKA Yellowknife Ar 38.48 313 P **P 07 06 24.9 -0.5**
YKA PP PP 07 07 55.3 -1.8
YKA PcP PcP 07 08 38.2 -0.8
YKA LR LR 07 21 42.6
YKA Yellowknife Ar 38.48 313 PcP PcP 07 08 38.2 -0.8
KIS Kishinev 38.50 78 *e*P **P 07 06 25.0 -0.8**
KIS *e*PPP PPP 07 08 18.0 -2.0
KIS *e*S **S 07 12 16.0 -4.9**
KIS *e*SSS SS 07 15 08.0 +7.1
KIS MLR MLR
comp=Z,5µm,14.0s,MS5.5
KIS MLR MLR
comp=N,5µm,13.0s,MS5.6
KIS MLR MLR
comp=E,4µm,13.0s,MS5.6
KIS MLR MLR
comp=Z,6µm,15.0s
KIS Kishinev 38.50 78 *e*PP PP 07 07 50.0 -7.4
KKB Krupnik 38.76 88 *e*P **P 07 06 28.5 +0.5**
PGB Panagyurishte 38.89 86 *e*P **P 07 06 30.0 +0.9**
WCI Wyandotte Cave 38.91 264 *e*P **P 07 06 29.8 +0.5**
WCI pmax pmax
comp=Z,131nm,1.2s,mb5.5
WCI MLR MLR
comp=Z,14µm,19.0s,MS5.8
WCI Wyandotte Cave 38.91 264 *e*P **P 07 06 29.8 +0.5**
comp=Z,131nm,1.2s,mb5.5
WCI LR LR
comp=Z,14µm,19.0s,MS5.8
WCI Wyandotte Cave 38.91 264 *e*P **P 07 06 29.8 +0.5**
comp=Z,7µm,19.0s
PVL Pavlikeni 39.08 85 *e*P **P 07 06 29.0 -1.6**
CFR Carcaliu 39.30 80⇓*e*P **P 07 06 31.1 -1.4**
MMB Musomiste 39.30 88 *e*P **P 07 06 33.0 +0.4**
TWB Tillmans-White 39.45 253 *e*P **P 07 06 38.3 +4.4**
NHSC New Hope 39.50 253 PFAKE 07 06 50.0 +16
NHSC LR LR
comp=Z,10µm,20.0s,MS5.7
RZN Rozhen 39.77 87 *e*P **P 07 06 36.0 -0.5**
USIN University of 39.84 265 *e*P **P 07 06 37.5 +0.4**
MYNC Murphy 40.08 259 *e*P **P 07 06 39.6 +0.6**
MYNC pmax pmax
comp=Z,61nm,1.0s,mb5.3
MYNC MLR MLR
comp=Z,11µm,20.0s,MS5.7
MYNC Murphy 40.08 259 *e*P **P 07 06 39.6 +0.6**
comp=Z,61nm,1.0s,mb5.3
MYNC LR LR
comp=Z,11µm,20.0s,MS5.7
MYNC Murphy 40.08 259 *e*P **P 07 06 39.6 +0.6**
comp=Z,6µm,20.0s
SLM Saint Louis 40.76 268 *e*P **P 07 06 45.2 +0.6**
VOR Voronezh 40.94 65 P **P 07 06 49.0 +3.1**
VOR pmax pmax
comp=Z,300nm,1.7s,mb5.7
GOGA Godfrey 40.99 256 *e*P **P 07 06 47.2 +0.7**
GOGA pmax pmax
comp=Z,102nm,1.1s,mb5.4
GOGA MLR MLR
comp=Z,6µm,20.0s,MS5.4
GOGA Godfrey 40.99 256 *e*P **P 07 06 47.2 +0.6**
comp=Z,102nm,1.1s,mb5.4
GOGA LR LR
comp=Z,6µm,20.0s,MS5.4
GOGA Godfrey 40.99 256 *e*P **P 07 06 47.2 +0.7**
comp=Z,3µm,20.0s

WVT Waverly 41.28 263 *e*P **P 07 06 49.3 +0.4**
WVT pmax pmax
comp=Z,121nm,1.3s,mb5.4
WVT MLR MLR
comp=Z,12µm,22.0s,MS5.7
WVT Waverly 41.28 263 *e*P **P 07 06 49.3 +0.4**
comp=Z,121nm,1.3s,mb5.4
WVT LR LR
comp=Z,12µm,22.0s,MS5.7
WVT Waverly 41.28 263 *e*P **P 07 06 49.3 +0.4**
comp=Z,6µm,22.0s
FVM French Village 41.33 267 *e*P **P 07 06 50.0 +0.7**
DGMT Dagmar 41.63 289 *e*P **P 07 06 53.0 +1.5**
comp=Z,322nm,1.2s,mb5.8
DGMT LR LR
comp=Z,9µm,19.0s,MS5.7
DGMT Dagmar 41.63 289 *e*P **P 07 06 53.0 +1.5**
comp=Z,322nm,1.2s,mb5.8
UTMT University of 41.68 264 *e*P **P 07 06 52.9 +0.8**
UTMT University of 41.68 264 *e*P **P 07 06 52.9 +0.8**
CCM Cathedral Cave 41.73 268 *e*P **P 07 06 52.9 +0.5**
CCM pmax pmax
comp=Z,168nm,1.4s,mb5.5
CCM MLR MLR
comp=Z,13µm,19.0s,MS5.8
CCM Cathedral Cave 41.73 268 *e*P **P 07 06 52.9 +0.5**
comp=Z,168nm,1.4s,mb5.5
CCM LR LR
comp=Z,13µm,19.0s,MS5.8
CCM Cathedral Cave 41.73 268 *e*P **P 07 06 52.9 +0.5**
comp=Z,6µm,19.0s
INK Inuvik 41.95 327 *e*P **P 07 06 53.0 -0.8**
INK pmax pmax
comp=Z,41nm,1.6s
INK Inuvik 41.95 327 *e*P **P 07 06 53.0 -0.8**
comp=Z,20nm,1.6s,mb4.5
GNAR Gosnell 42.59 265 *e*P **P 07 07 00.3 +0.8**
GNAR Gosnell 42.59 265 *e*P **P 07 07 00.3 +0.8**
LRAL Lakeview Retre 43.17 259 *e*P **P 07 07 04.5 +0.3**
comp=Z,115nm,1.3s,mb5.5
LRAL LR LR
comp=Z,20µm,19.0s,MS6.0
LRAL Lakeview Retre 43.17 259 *e*P **P 07 07 04.5 +0.2**
comp=Z,115nm,1.3s,mb5.5
EDM Edmonton 43.18 300 *e*P **P 07 07 04.7 +0.6**
EDM *e* 07 08 55.9
HBAR Harrisburg 43.24 265 P **P 07 07 03.2 -1.7**
HBAR Harrisburg 43.24 265 P **P 07 07 03.2 -1.6**
ULDT Uludag 43.26 85 *i*P **P 07 07 05.8 +0.9**
OXF Oxford 43.34 263 *e*P **P 07 07 04.9 -0.8**
OXF pmax pmax
comp=Z,461nm,1.3s,mb6.0
OXF MLR MLR
comp=Z,14µm,20.0s,MS5.9
OXF Oxford 43.34 263 *e*P **P 07 07 04.9 -0.8**
comp=Z,460nm,1.3s,mb6.0
OXF LR LR
comp=Z,14µm,20.0s,MS5.9
OXF Oxford 43.34 263 *e*P **P 07 07 04.9 -0.8**
comp=Z,7µm,20.0s
KDAG Bornova 43.47 88 *i*P **P 07 07 08.2 +1.4**
HENT Hendek 43.73 83 *i*P **P 07 07 10.9 +2.1**
LAO LASA Array 43.83 289 *e*P **P 07 07 11.0 +1.5**
comp=Z,137nm,0.9s,mb5.7
LAO LR LR
comp=Z,14µm,19.0s,MS5.9
LAO LASA Array 43.83 289 *e*P **P 07 07 11.0 +1.5**
comp=Z,137nm,0.9s,mb5.7
KSU1 Kansas State U 43.90 274 *e*P **P 07 07 09.8 -0.3**
KSU1 Kansas State U 43.90 274 *e*P **P 07 07 09.9 -0.3**
SOKR Solikamsk 44.08 47⇓*i*P **P 07 07 09.4 -1.9**
SOKR pmax pmax
comp=Z,80nm,1.3s,mb5.3
SOKR Solikamsk 44.08 47 *i*P **P 07 07 09.4 -1.9**
comp=Z,40nm,1.3s,mb5.0
DWPF Disney 44.13 250 PFAKE 07 07 20.0 +7.8
DWPF LR LR
comp=Z,3µm,21.0s,MS5.1
MDU Mudurnu 44.16 83 *e*P **P 07 07 12.9 +0.7**
MDU Mudurnu 44.16 83 P **P 07 07 12.9 +0.7**
ANN Anapa 44.49 74 *e*P **P 07 07 13.6 -1.3**
ANN *e*S **S 07 13 48.5 -1.0**
ANN pmax pmax
comp=Z,104nm,1.5s,mb5.3
ANN Anapa 44.49 74 *e*P **P 07 07 13.6 -1.3**
comp=Z,52nm,1.5s,mb5.0
ANN *e*S **S 07 13 48.5 -1.0**
BALT Daday 44.58 80 *i*P **P 07 07 20.1 +4.5**
ESKT Eskisehir 44.63 84 *e*P **P 07 07 15.5 -0.5**
ESKT Eskisehir 44.63 84 P **P 07 07 15.6 -0.4**
ESKT Eskisehir 44.63 84 *i*P **P 07 07 16.8 +0.7**
ESKT Eskisehir 44.63 84 P **P 07 07 15.6 -0.4**
UALR University of 44.74 266 *e*P **P 07 07 17.0 0.0**
UALR University of 44.74 266 *e*P **P 07 07 17.0 0.0**
ELDT Eldivan 45.33 81 *i*P **P 07 07 22.3 +0.7**
ANTO Ankara 45.43 83 *e*P **P 07 07 23.1 +0.6**
ANTO Ankara 45.43 83 P **P 07 07 23.2 +0.8**
ANTO Ankara 45.43 83 P **P 07 07 23.2 +0.8**
BOYT Boyabat 45.47 79 *i*P **P 07 07 24.0 +1.2**
MIAR Mount Ida 45.58 267 *e*P **P 07 07 23.7 0.0**
MIAR pmax pmax
comp=Z,110nm,1.4s,mb5.6
MIAR MLR MLR
comp=Z,17µm,20.0s,MS6.0
MIAR Mount Ida 45.58 267 *e*P **P 07 07 23.7 0.0**
comp=Z,110nm,1.4s,mb5.6
MIAR LR LR
comp=Z,17µm,20.0s,MS6.0
MIAR Mount Ida 45.58 267 *e*P **P 07 07 23.7 0.0**
comp=Z,8µm,20.0s
KIZT Kizilcal 45.64 84 *e*P **P 07 07 23.9 -0.2**
KIZT Kizilcal 45.64 84 P **P 07 07 22.4 -1.8**
KIZT Kizilcal 45.64 84 P **P 07 07 22.4 -1.7**
SJG San Juan 45.78 225 P **P 07 07 25.4 -0.1**
SJG pmax pmax
comp=Z,101nm,1.4s
SJG MLR MLR
comp=Z,867nm,20.0s
SJG San Juan 45.78 225 P **P 07 07 25.4 -0.1**
comp=Z,100nm,1.4s,mb5.6
SJG LR LR
comp=Z,867nm,20.0s,MS4.7
SJG San Juan 45.78 225 P **P 07 07 25.4 -0.1**
comp=Z,434nm,20.0s
CTKT Corum 45.97 80 *i*P **P 07 07 27.7 +1.0**
BRTR Keskin Array B 45.99 82 P **P 07 07 27.4 +0.5**
comp=Z,28nm,0.7s,mb5.3,baz=313,slow=5.9,SNR=44
BRTR PcP PcP 07 09 02.9 -1.2
comp=Z,4.7nm,1.0s,baz=212,slow=1.7,SNR=4.0
BRTR Keskin Array B 45.99 82 PcP PcP 07 09 02.9 -1.2
WALA Waterton Lakes 46.14 296 *e*P **P 07 07 28.3 +0.5**
comp=Z,166nm,1.3s,mb5.8
WALA Waterton Lakes 46.14 296 *e*P **P 07 07 28.3 +0.4**
comp=Z,166nm,1.3s,mb5.8
CORM Corum 46.20 81 *e*P **P 07 07 30.4 +1.9**
GCMT Greycliff 46.20 290 *e*P **P 07 07 29.1 +0.6**
GCMT Greycliff 46.20 290 *e*P **P 07 07 29.1 +0.6**
KAMT Kaman 46.29 82 *i*P **P 07 07 30.0 +0.8**
DAWY Dawson 46.51 324 *e*P **P 07 07 31.6 +1.0**
DAWY Dawson 46.51 324 *e*P **P 07 07 31.5 +0.9**
SOC Sochi 46.52 74 *i*P **P 07 07 30.4 -0.6**
SOC *e* 07 09 18.3
SOC *e*PPP PPP 07 10 04.4 -0.8
SOC *e*S **S 07 14 17.3 -1.3**
SOC *e* 07 17 21.8
SOC *e*SS SS 07 17 41.8 +4.7
SOC *e*SSS SSS 07 18 52.5 +8.2
SOC pmax pmax
comp=N,56nm,1.9s
SOC pmax pmax
comp=Z,107nm,1.9s,mb5.5
SOC pmax pmax
comp=E,72nm,2.0s
SOC MLR MLR
comp=Z,3µm,18.0s,MS5.2
SOC MLR MLR
comp=N,1µm,19.0s,MS5.2
SOC MLR MLR
comp=E,3µm,20.0s,MS5.2
SOC Sochi 46.52 74 *e*P **P 07 07 30.8 -0.2**
SOC *e*S **S 07 14 17.3 -1.3**
SOC *e*ScS ScS 07 17 21.8 -2.0
KONT Konya--Tatoy 46.58 85 *e*P **P 07 07 31.9 +0.4**
KONT Konya--Tatoy 46.58 85 P **P 07 07 31.6 +0.1**
KONT Konya--Tatoy 46.58 85 P **P 07 07 31.6 +0.1**

HRY Holter Researc 46.68 292 *e*P **P 07 07 33.0 +0.8**
HRY Holter Researc 46.68 292 *e*P **P 07 07 33.0 +0.8**
ARU Arti 46.83 50⇓*i*P **P 07 07 28.9 -4.3**
ARU *e* 07 09 02.0
ARU *e* 07 09 17.3
ARU *e*S **S 07 14 15.2 -7.6**
ARU *e*SS SS 07 17 40.5 -1.6
ARU pmax pmax
comp=Z,90nm,1.5s,mb5.5
ARU Arti 46.83 50 *e*P **P 07 07 29.9 -3.3**
comp=Z,244nm,1.8s,mb5.8
ARU Arti 46.83 50 *e*PcP PcP 07 09 02.0 -4.7
DLBC Dease Lake 47.02 314 *e*P **P 07 07 36.0 +1.2**
DLBC Dease Lake 47.02 314 *e*P **P 07 07 36.0 +1.3**
PHWY Pilot Hill 47.12 283 *e*P **P 07 07 35.4 -0.3**
GOF Gofitskoye 47.22 70⇓*i*P **P 07 07 36.0 -0.5**
GOF pmax pmax
comp=Z,160nm,1.5s,mb5.7
GOF pmax pmax
comp=Z,1µm,2.0s,mb6.4
GOF MLR MLR
comp=Z,6µm,16.0s,MS5.6
GOF Gofitskoye 47.22 70 *i*P **P 07 07 36.0 -0.5**
comp=Z,3µm,16.0s
BOZ Bozeman (W) 47.31 291 *e*P **P 07 07 37.4 +0.2**
BOZ pmax pmax
comp=Z,200nm,1.3s,mb5.9
BOZ MLR MLR
comp=Z,7µm,20.0s,MS5.6
BOZ Bozeman (W) 47.31 291 *e*P **P 07 07 37.4 +0.2**
comp=Z,200nm,1.3s,mb5.9
BOZ LR LR
comp=Z,7µm,20.0s,MS5.6
BOZ Bozeman (W) 47.31 291 *e*P **P 07 07 37.3 +0.1**
comp=Z,200nm,1.3s,mb5.9
AVNT Avonos 47.33 82 *i*P **P 07 07 38.4 +1.0**
SVE Sverdlovsk 47.41 48 *e*P **P 07 07 38.6 +0.7**
SVE *e*S **S 07 14 29.0 -2.0**
SVE pmax pmax
comp=Z,200nm,2.0s,mb5.7
SVE Sverdlovsk 47.41 48 *e*P **P 07 07 38.6 +0.7**
comp=Z,100nm,2.0s,mb5.4
SVE *e*S **S 07 14 29.0 -2.0**
YNR Norris Junctio 47.46 290 *e*P **P 07 07 42.9 +4.4**
YMR Madison River 47.64 290 *e*P **P 07 07 39.5 -0.4**
YMR Madison River 47.64 290 *e*P **P 07 07 39.5 -0.4**
MSO Missoula 47.66 294 *e*P **P 07 07 39.7 -0.3**
comp=Z,15nm,1.0s,mb5.0
MSO LR LR
comp=Z,6µm,19.0s,MS5.6
MSO Missoula 47.66 294 *e*P **P 07 07 39.7 -0.3**
comp=Z,15nm,1.0s,mb5.0
NIG Nigde 47.68 83 *e*P **P 07 07 40.7 +0.5**
YFT Old Faithful 47.73 289 *e*P **P 07 07 42.6 +2.1**
YFT Old Faithful 47.73 289 *e*P **P 07 07 42.6 +2.1**
QLMT Earthquake Lak 47.77 290 *e*P **P 07 07 41.8 +0.9**
QLMT Earthquake Lak 47.77 290 *e*P **P 07 07 41.8 +1.0**
KIV Kislovodsk 47.81 71 *i*P **P 07 07 41.8 +0.6**
KIV pmax pmax
comp=Z,66nm,1.2s,mb5.5
KIV pmax pmax
comp=Z,4µm,18.0s
KIV Kislovodsk 47.81 71 *e*P **P 07 07 41.3 +0.1**
comp=Z,177nm,1.2s,mb6.0
KIV LR LR
comp=Z,728nm,19.0s,MS4.7
KIV Kislovodsk 47.81 71 *e*P **P 07 07 41.3 +0.1**
comp=Z,177nm,1.2s,mb6.0
IMW Indian Meadow 48.17 289 *e*P **P 07 07 44.8 +0.8**
IMW Indian Meadow 48.17 289 *e*P **P 07 07 44.8 +0.8**
MOOW Moose Ponds 48.17 289 *e*P **P 07 07 44.4 +0.4**
MOOW Moose Ponds 48.17 289 *e*P **P 07 07 44.4 +0.4**
LOHW Long Hollow 48.19 288 *e*P **P 07 07 44.6 +0.4**
LOHW Long Hollow 48.19 288 *e*P **P 07 07 44.6 +0.4**
NEW Newport 48.24 297 *e*P **P 07 07 44.6 +0.2**
NEW pmax pmax
comp=Z,51nm,1.1s
NEW MLR MLR
comp=Z,12µm,19.0s
NEW Newport 48.24 297 *e*P **P 07 07 44.6 +0.2**
comp=Z,51nm,1.1s,mb5.5
NEW LR LR
comp=Z,12µm,19.0s,MS5.9
NEW Newport 48.24 297 *e*P **P 07 07 44.6 +0.2**
comp=Z,6µm,19.0s
BW06 Boulder Array 48.24 287 *e*P **P 07 07 44.0 -0.6**
comp=Z,53nm,1.1s,mb5.5
BW06 LR LR
comp=Z,11µm,19.0s,MS5.9
BW06 Boulder Array 48.24 287 *e*P **P 07 07 44.0 -0.6**
comp=Z,53nm,1.1s,mb5.5
PDAR Pinedale Array 48.24 287 P **P 07 07 44.1 -0.4**
comp=Z,7.3nm,0.8s,mb4.8,baz=63,slow=6.8,SNR=37
PDAR PP PP 07 09 31.4 -5.1
comp=Z,3.0nm,1.1s,baz=74,slow=13,SNR=2.3
PDAR LR LR 07 27 04.5
comp=Z,10µm,18.3s,MS5.8,baz=16,slow=35
ISCO Idaho Springs 48.27 281 *e*P **P 07 07 45.8 +1.0**
ISCO pmax pmax
comp=Z,106nm,1.3s,mb5.7
ISCO MLR MLR
comp=Z,9µm,20.0s,MS5.7
ISCO Idaho Springs 48.27 281 *e*P **P 07 07 45.8 +1.0**
comp=Z,106nm,1.3s,mb5.7
ISCO LR LR
comp=Z,9µm,20.0s,MS5.7
ISCO Idaho Springs 48.27 281 *e*P **P 07 07 45.8 +1.0**
comp=Z,4µm,20.0s
ILAR Eielson Array 48.28 328 P **P 07 07 44.9 +0.4**
comp=Z,64nm,0.6s,mb5.8,baz=37,slow=6.0,SNR=4.3
ILAR LR LR 07 28 27.8
comp=Z,4µm,18.6s,MS5.4,baz=68,slow=37
ILAR Eielson Array 48.28 328 P **P 07 07 44.8 +0.3**
WMOK Wichita Mounta 48.28 271 *e*P **P 07 07 44.6 -0.3**
WMOK pmax pmax
comp=Z,104nm,1.3s,mb5.7
WMOK MLR MLR
comp=Z,7µm,22.0s,MS5.6
WMOK Wichita Mounta 48.28 271 *e*P **P 07 07 44.6 -0.3**
comp=Z,104nm,1.3s,mb5.7
WMOK LR LR
comp=Z,7µm,22.0s,MS5.6
WMOK Wichita Mounta 48.28 271 *e*P **P 07 07 44.6 -0.3**
comp=Z,3µm,22.0s
NATX Nacogdoches 48.29 265 *e*P **P 07 07 44.8 -0.3**
comp=Z,140nm,1.0s,mb6.0
NATX LR LR
comp=Z,11µm,19.0s,MS5.9
WUWY Wally Ulrich 48.32 288 *e*P **P 07 07 44.2 -0.9**
WUWY Wally Ulrich 48.32 288 *e*P **P 07 07 44.2 -0.9**
SNOW Snow King Moun 48.38 288 *e*P **P 07 07 46.2 +0.7**
SNOW Snow King Moun 48.38 288 *e*P **P 07 07 46.2 +0.6**
COLA College 48.48 329 *e*P **P 07 07 45.6 -0.4**
COLA pmax pmax
comp=Z,157nm,1.4s,mb5.8
COLA MLR MLR
comp=Z,4µm,19.0s,MS5.4
COLA College 48.48 329 *e*P **P 07 07 45.6 -0.4**
comp=Z,157nm,1.4s,mb5.8
COLA LR LR
comp=Z,4µm,19.0s,MS5.4
COLA College 48.48 329 *e*P **P 07 07 45.6 -0.4**
comp=Z,2µm,19.0s
MCMT McKenzie Canyo 48.50 291 *e*P **P 07 07 47.3 +0.8**
MCMT McKenzie Canyo 48.50 291 *e*P **P 07 07 47.3 +0.8**
THY Trims Highway 48.95 326 *e*P **P 07 07 50.7 +1.0**
THY Trims Highway 48.95 326 *e*P **P 07 07 50.7 +1.0**
BCA Borcka 49.03 75 *e*P **P 07 07 49.7 -1.0**
AHID Auburn Hatcher 49.05 288 *e*P **P 07 07 51.3 +0.6**
comp=Z,27nm,0.8s,mb5.3
AHID LR LR
comp=Z,12µm,19.0s,MS5.9
AHID Auburn Hatcher 49.05 288 *e*P **P 07 07 51.3 +0.5**
comp=Z,27nm,0.8s,mb5.3
ONI Oni 49.17 72 P **P 07 07 52.3 +0.5**
KAHT Ahir Dag 49.25 82 *i*P **P 07 07 52.9 +0.5**
ZEI Tsey 49.27 72 *e*P **P 07 07 53.2 +0.7**
ZEI *i* *PP pP 07 07 56.9 +1.4
ZEI *i* 07 09 47.3
ZEI *i*S **S 07 14 58.0 +0.6**
ZEI pmax pmax
comp=Z,33nm,1.2s,mb5.2
ZEI Tsey 49.27 72 *e*P **P 07 07 53.2 +0.7**
comp=Z,16nm,1.2s,mb4.9
ZEI *i*S **S 07 14 58.0 +0.6**

EZC	**Erzincan**	**49.29**	**77**	*eP*	**P**	**07 07 51.5**	**-1.2**
MYA	**Malataya**	**49.58**	**80**	*eP*	**P**	**07 07 55.8**	**+0.9**
MYA	**Malataya**	**49.58**	**80**	P	**P**	**07 07 55.9**	**+1.0**
MALT	**Malatya**	**49.59**	**80**	*eP*	**P**	**07 07 55.6**	**+0.6**
MALT				pmax	pmax		
	comp=Z,241nm,1.6s,mb6.0						
MALT	**Malatya**	**49.59**	**80**	*eP*	**P**	**07 07 55.6**	**+0.6**
	comp=Z,241nm,1.6s,mb6.0						
MALT	**Malatya**	**49.59**	**80**	*eP*	**P**	**07 07 55.6**	**+0.6**
	comp=Z,120nm,1.6s,mb5.7						
MCK	**McKinley**	**49.65**	**328**	*eP*	**P**	**07 07 55.3**	**+0.2**
MCK				pmax	pmax		
	comp=Z,107nm,1.4s,mb5.7						
MCK				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.2						
MCK	**McKinley**	**49.65**	**328**	*eP*	**P**	**07 07 55.3**	**+0.2**
	comp=Z,107nm,1.4s,mb5.7						
MCK				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
MCK	**McKinley**	**49.65**	**328**	*eP*	**P**	**07 07 55.3**	**+0.2**
	comp=Z,1μm,20.0s						
PTK	**Pertek**	**49.68**	**78**	*eP*	**P**	**07 07 58.2**	**+2.4**
SDCO	**Great Sand Dun**	**49.70**	**279**	*eP*	**P**	**07 07 56.5**	**+0.6**
	comp=Z,103nm,1.4s,mb5.7						
SDCO				LR	LR		
	comp=Z,13μm,20.0s,MS5.9						
COBT	**Iskenderun**	**49.73**	**83**	*i* P	**P**	**07 07 56.0**	**-0.2**
AMTX	**Amarillo**	**49.75**	**274**	*eP*	**P**	**07 07 57.0**	**+0.8**
	comp=Z,99nm,1.1s,mb5.8						
AMTX				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
AMTX	**Amarillo**	**49.75**	**274**	*eP*	**P**	**07 07 57.0**	**+0.7**
	comp=Z,99nm,1.1s,mb5.8						
ELZG	**Elazig**	**49.75**	**79**	*i* P	**P**	**07 07 57.1**	**+0.9**
GAZ	**Gaziantep**	**49.77**	**82**	*eP*	**P**	**07 07 55.9**	**-0.5**
GZT	**Gaziantep**	**49.83**	**81**	*i* P	**P**	**07 07 57.0**	**+0.2**
EZM	**Erzurum**	**50.00**	**76**	*eP*	**P**	**07 07 59.5**	**+1.4**
ERZM	**Erzurum**	**50.00**	**76**	*i* P	**P**	**07 08 00.1**	**+1.9**
WTV	**Waterville**	**50.00**	**298**	P	**P**	**07 07 57.2**	**-0.8**
WTV	**Waterville**	**50.00**	**298**	P	**P**	**07 07 57.2**	**-0.8**
SIT	**Sitka**	**50.03**	**316**	PFAKE		07 08 10.0	+12
SIT				LR	LR		
	comp=Z,21μm,19.0s,MS6.2						
AKH	**Akhalkalaki**	**50.03**	**73**	P	**P**	**07 07 59.1**	**+0.7**
DUS	**Dusheti**	**50.17**	**72**	P	**P**	**07 07 59.8**	**+0.4**
HLID	**Hailey**	**50.19**	**291**	*eP*	**P**	**07 08 00.3**	**+0.8**
	comp=Z,88nm,1.3s,mb5.6						
HLID				LR	LR		
	comp=Z,6μm,20.0s,MS5.6						
HKT	**Hockley**	**50.32**	**265**	*eP*	**P**	**07 08 00.3**	**-0.4**
HKT				pmax	pmax		
	comp=Z,89nm,1.7s,mb5.5						
HKT				MLR	MLR		
	comp=Z,8μm,20.0s,MS5.8						
HKT	**Hockley**	**50.32**	**265**	*eP*	**P**	**07 08 00.3**	**-0.4**
	comp=Z,89nm,1.7s,mb5.5						
HKT				LR	LR		
	comp=Z,8μm,20.0s,MS5.8						
HKT	**Hockley**	**50.32**	**265**	*eP*	**P**	**07 08 00.3**	**-0.4**
	comp=Z,4μm,20.0s						
TCUT	**Toone Canyon**	**50.39**	**287**	*eP*	**P**	**07 08 01.1**	**+0.1**
TCUT	**Toone Canyon**	**50.39**	**287**	*eP*	**P**	**07 08 01.1**	**0.0**
TI2	**Plekhanov**	**50.45**	**72**	*eP*	**P**	**07 08 01.6**	**0.0**
TI2				*e*		07 08 02.6	
TI2				*eS*	**S**	**07 15 26.0**	**+12**
TI2				MLR	MLR		
	comp=N,2μm,15.0s,MS5.4						
TI2				MLR	MLR		
	comp=E,2μm,15.0s,MS5.4						
TI2				MLR	MLR		
	comp=Z,4μm,15.0s,MS5.5						
MTA	**Mtatsminda**	**50.51**	**72**	P	**P**	**07 08 02.4**	**+0.4**
MTA				S	**S**	**07 15 25.5**	**+11**
HVU	**Hansel Valley**	**50.62**	**288**	*eP*	**P**	**07 08 02.3**	**-0.5**
VRT	**Varto**	**50.65**	**77**	*eP*	**P**	**07 08 04.0**	**+0.9**
TBM	**Table Mountain**	**50.69**	**298**	P	**P**	**07 08 03.0**	**-0.2**
TBM	**Table Mountain**	**50.69**	**298**	P	**P**	**07 08 03.0**	**-0.2**
BMO	**Blue Mountains**	**50.72**	**294**	*eP*	**P**	**07 08 02.4**	**-1.1**
	comp=Z,37nm,0.8s,mb5.4						
BMO				LR	LR		
	comp=Z,7μm,19.0s,MS5.7						
JLU	**Jordanelle**	**50.78**	**286**	*eP*	**P**	**07 08 03.6**	**-0.5**
SPUT	**South Promonto**	**50.79**	**288**	*eP*	**P**	**07 08 03.9**	**-0.2**
SPUT	**South Promonto**	**50.79**	**288**	*eP*	**P**	**07 08 03.9**	**-0.2**
DAU	**Daniels Canyon**	**50.82**	**286**	*eP*	**P**	**07 08 04.8**	**+0.5**
EBG	**Ellensburg**	**50.85**	**298**	P	**P**	**07 08 04.5**	**0.0**
EBG	**Ellensburg**	**50.85**	**298**	P	**P**	**07 08 04.5**	**0.0**
SML	**Sawmill**	**50.95**	**326**	*eP*	**P**	**07 08 05.5**	**+0.5**
TIXI	**Tiksi**	**50.96**	**7**	*eP*	**P**	**07 08 04.8**	**-0.2**
TIXI				*eS*	**S**	**07 15 20.1**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,73nm,1.8s,mb5.3						
TIXI				MLR	MLR		
	comp=Z,523nm,18.0s,MS4.6						
TIXI	**Tiksi**	**50.96**	**7**	*i* P	**P**	**07 08 05.5**	**+0.5**
TIXI				LR	LR		
	comp=Z,806nm,20.0s,MS4.7						
TIXI	**Tiksi**	**50.96**	**7**	*i* P	**P**	**07 08 05.5**	**+0.5**
TIXI	**Tiksi**	**50.96**	**7**	*eS*	**S**	**07 15 20.1**	**-0.3**
	comp=Z,262nm,18.0s						
NOQ	**North Oquirrh**	**51.10**	**287**	*eP*	**P**	**07 08 06.1**	**-0.3**
NOQ	**North Oquirrh**	**51.10**	**287**	*eP*	**P**	**07 08 06.1**	**-0.3**
MPU	**Maple Canyon**	**51.30**	**286**	*eP*	**P**	**07 08 08.0**	**-0.1**
MPU	**Maple Canyon**	**51.30**	**286**	*eP*	**P**	**07 08 08.0**	**0.0**
BGU	**Big Grassy Mou**	**51.37**	**288**	*eP*	**P**	**07 08 08.1**	**-0.4**
BGU	**Big Grassy Mou**	**51.37**	**288**	*eP*	**P**	**07 08 08.1**	**-0.4**
SRU	**San Rafael**	**51.38**	**284**	*eP*	**P**	**07 08 08.1**	**-0.5**
BEST	**Besiri**	**51.42**	**78**	*i* P	**P**	**07 08 10.8**	**+1.8**
NLU	**North Lily Min**	**51.58**	**286**	*eP*	**P**	**07 08 10.5**	**+0.3**
NLU	**North Lily Min**	**51.58**	**286**	*eP*	**P**	**07 08 10.5**	**+0.4**
GNI	**Garni**	**51.60**	**73**	*eP*	**P**	**07 08 10.2**	**0.0**
TMUT	**Trail Mountain**	**51.61**	**285**	*eP*	**P**	**07 08 10.2**	**-0.1**
TMUT	**Trail Mountain**	**51.61**	**285**	*eP*	**P**	**07 08 10.2**	**-0.1**
FIB	**Fire Island**	**52.01**	**327**	*eP*	**P**	**07 08 13.4**	**+0.3**
FIB				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.1						
FIB	**Fire Island**	**52.01**	**327**	*eP*	**P**	**07 08 13.4**	**+0.3**
	comp=Z,896nm,19.0s						
VANB	**Van**	**52.03**	**76**	*eP*	**P**	**07 08 15.6**	**+2.1**
JCT	**Junction City**	**52.07**	**269**	*eP*	**P**	**07 08 12.9**	**-1.1**
JCT				pmax	pmax		
	comp=Z,297nm,1.3s,mb6.1						
JCT				MLR	MLR		
	comp=Z,8μm,20.0s,MS5.8						
JCT	**Junction City**	**52.07**	**269**	*eP*	**P**	**07 08 12.9**	**-1.1**
	comp=Z,297nm,1.3s,mb6.1						
JCT				LR	LR		
	comp=Z,8μm,20.0s,MS5.8						
JCT	**Junction City**	**52.07**	**269**	*eP*	**P**	**07 08 12.9**	**-1.1**
	comp=Z,4μm,20.0s						
TVAN	**Van**	**52.09**	**76**	*i* P	**P**	**07 08 15.6**	**+1.6**
ANMO	**Albuquerque**	**52.29**	**278**	*eP*	**P**	**07 08 15.5**	**-0.1**
ANMO				pmax	pmax		
	comp=Z,31nm,1.4s						
ANMO				MLR	MLR		
	comp=Z,11μm,19.0s						
ANMO	**Albuquerque**	**52.29**	**278**	*eP*	**P**	**07 08 15.5**	**-0.1**
	comp=Z,31nm,1.4s,mb5.0						
ANMO				LR	LR		
	comp=Z,11μm,19.0s,MS5.9						
ANMO	**Albuquerque**	**52.29**	**278**	*eP*	**P**	**07 08 15.5**	**-0.1**
	comp=Z,5μm,19.0s						
CPRX	**Cap Rock**	**52.34**	**274**	*eP*	**P**	**07 08 15.9**	**0.0**
CPRX	**Cap Rock**	**52.34**	**274**	*eP*	**P**	**07 08 15.9**	**0.0**
MSU	**Marysvale**	**52.70**	**285**	*eP*	**P**	**07 08 19.0**	**+0.4**
MVU	**Marysvale**	**52.72**	**285**	*eP*	**P**	**07 08 19.1**	**+0.4**
	comp=Z,57nm,1.2s,mb5.4						
MVU				LR	LR		
	comp=Z,10μm,22.0s,MS5.8						
MVU	**Marysvale**	**52.72**	**285**	*eP*	**P**	**07 08 19.1**	**+0.4**
	comp=Z,57nm,1.2s,mb5.4						
TNA	**Tin City**	**52.84**	**338**	*eP*	**P**	**07 08 18.9**	**-0.4**
TNA	**Tin City**	**52.84**	**338**	*eP*	**P**	**07 08 18.9**	**-0.3**
LPM	**Los Pinos Moun**	**52.87**	**277**	*eP*	**P**	**07 08 20.8**	**+0.9**
LPM	**Los Pinos Moun**	**52.87**	**277**	*eP*	**P**	**07 08 20.8**	**+0.9**
LAZ	**Ladron**	**53.07**	**278**	*eP*	**P**	**07 08 21.6**	**+0.2**
LAZ	**Ladron**	**53.07**	**278**	*eP*	**P**	**07 08 21.6**	**+0.2**
WVOR	**Wild Horse Val**	**53.14**	**293**	*eP*	**P**	**07 08 21.3**	**-0.5**
WVOR				pmax	pmax		
	comp=Z,197nm,1.3s,mb5.9						
WVOR				MLR	MLR		
	comp=Z,10μm,20.0s,MS5.9						
WVOR	**Wild Horse Val**	**53.14**	**293**	*eP*	**P**	**07 08 21.3**	**-0.5**
	comp=Z,198nm,1.3s,mb5.9						
WVOR				LR	LR		
	comp=Z,10μm,20.0s,MS5.9						
WVOR	**Wild Horse Val**	**53.14**	**293**	*eP*	**P**	**07 08 21.3**	**-0.5**
	comp=Z,5μm,20.0s						
LENM	**Lemitar**	**53.16**	**277**	*eP*	**P**	**07 08 23.1**	**+1.0**
LENM	**Lemitar**	**53.16**	**277**	*eP*	**P**	**07 08 23.1**	**+1.0**
GDL2	**Guadalupe Moun**	**53.24**	**274**	*eP*	**P**	**07 08 22.7**	**0.0**
GDL2	**Guadalupe Moun**	**53.24**	**274**	*eP*	**P**	**07 08 22.7**	**0.0**
MSL	**Mosul**	**53.58**	**78**	*eP*	**P**	**07 08 24.0**	**-1.1**
MSL				*eS*	**S**	**07 16 02.5**	**+5.8**
MSL				*eScS*	ScS	07 18 05.0	-6.5
CHKZ	**Chkalovo**	**53.65**	**46**	P	**P**	**07 08 24.4**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,163nm,1.7s,mb5.7						
CHKZ	**Chkalovo**	**53.65**	**46**	*i* P	**P**	**07 08 24.4**	**-1.0**
CHKZ	**Chkalovo**	**53.65**	**46**	P	**P**	**07 08 24.4**	**-1.0**
	comp=Z,82nm,1.7s,mb5.4						
COR	**Corvallis**	**53.86**	**298**	P	**P**	**07 08 27.4**	**+0.4**
COR				pmax	pmax		
	comp=Z,383nm,1.4s,mb6.1						
COR				MLR	MLR		
	comp=Z,9μm,19.0s,MS5.8						
COR	**Corvallis**	**53.86**	**298**	P	**P**	**07 08 27.4**	**+0.4**
	comp=Z,383nm,1.4s,mb6.1						
COR				LR	LR		
	comp=Z,9μm,19.0s,MS5.8						
COR	**Corvallis**	**53.86**	**298**	P	**P**	**07 08 27.4**	**+0.4**
	comp=Z,4μm,19.0s						
BMN	**Battle Mountai**	**53.90**	**290**	*eP*	**P**	**07 08 27.6**	**+0.2**
BMN				pmax	pmax		
	comp=Z,91nm,1.4s,mb5.5						
BMN				MLR	MLR		
	comp=Z,9μm,19.0s,MS5.8						
BMN	**Battle Mountai**	**53.90**	**290**	*eP*	**P**	**07 08 27.6**	**+0.2**
	comp=Z,91nm,1.4s,mb5.5						
BMN				LR	LR		
	comp=Z,9μm,19.0s,MS5.8						
BMN	**Battle Mountai**	**53.90**	**290**	*eP*	**P**	**07 08 27.5**	**+0.1**
	comp=Z,91nm,1.4s,mb5.5						
BRVK	**Borovoye**	**53.99**	**46**	*eP*	**P**	**07 08 26.8**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,118nm,1.5s,mb5.6						
BRVK				MLR	MLR		
	comp=Z,675nm,22.0s,MS4.7						
BRVK	**Borovoye**	**53.99**	**46**	*eP*	**P**	**07 08 26.8**	**-1.0**
	comp=Z,118nm,1.5s,mb5.6						
BRVK				LR	LR		
	comp=Z,675nm,22.0s,MS4.7						
BRVK	**Borovoye**	**53.99**	**46**	*eP*	**P**	**07 08 26.8**	**-1.0**
	comp=Z,338nm,22.0s						
TEIG	**Tepich**	**54.13**	**251**	PFAKE		07 08 40.0	+11
TEIG				LR	LR		
	comp=Z,2μm,21.0s,MS5.1						
MNTX	**Cornudas Mount**	**54.18**	**274**	*eP*	**P**	**07 08 28.0**	**-1.5**
	comp=Z,67nm,1.2s,mb5.4						
MNTX				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
MNTX	**Cornudas Mount**	**54.18**	**274**	*eP*	**P**	**07 08 28.0**	**-1.5**
	comp=Z,67nm,1.2s,mb5.4						
EIL	**Elat**	**54.22**	**90**	*eP*	**P**	**07 08 29.8**	**0.0**
	comp=Z,185nm,1.6s,mb5.8						
EIL	**Elat**	**54.22**	**90**	*eP*	**P**	**07 08 29.8**	**-0.1**
	comp=Z,185nm,1.6s,mb5.8						
BILL	**Bilibino**	**54.29**	**351**	*eP*	**P**	**07 08 29.3**	**-0.5**
BILL				*e*		07 08 38.4	
BILL						07 10 34.0	
BILL				*eS*	**S**	**07 16 02.2**	**-3.6**
BILL				*e*		07 16 12.5	
BILL				*e*		07 18 14.3	
BILL				pmax	pmax		
	comp=Z,42nm,1.9s,mb5.0						
BILL				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.5						
BILL	**Bilibino**	**54.29**	**351**	*eP*	**P**	**07 08 29.3**	**-0.5**
	comp=Z,25nm,1.1s,mb5.1						
BILL				LR	LR		
	comp=Z,4μm,20.0s,MS5.5						
BILL	**Bilibino**	**54.29**	**351**	*eP*	**P**	**07 08 29.3**	**-0.5**
	comp=Z,21nm,1.9s,mb4.7						
MOD	**Modoc**	**54.37**	**294**	*eP*	**P**	**07 08 30.5**	**-0.3**
	comp=Z,139nm,1.3s,mb5.7						
MOD				LR	LR		
	comp=Z,6μm,19.0s,MS5.7						
MOD	**Modoc**	**54.37**	**294**	*eP*	**P**	**07 08 30.5**	**-0.3**
	comp=Z,139nm,1.3s,mb5.7						
TRCR	**Troy Canyon**	**54.60**	**287**	*eP*	**P**	**07 08 32.8**	**+0.2**
TRCR	**Troy Canyon**	**54.60**	**287**	*eP*	**P**	**07 08 32.8**	**+0.2**
TXAR	**Lajitas Array**	**55.07**	**271**	P	**P**	**07 08 35.8**	**-0.4**
	comp=Z,8.5nm,1.0s,mb4.7,baz=64,slow=5.6,SNR=39						
HUMO	**Hull Mountain**	**55.16**	**296**	*eP*	**P**	**07 08 34.7**	**-1.9**
	comp=Z,40nm,1.4s,mb5.3						
HUMO				LR	LR		
	comp=Z,5μm,21.0s,MS5.5						
HUMO	**Hull Mountain**	**55.16**	**296**	*eP*	**P**	**07 08 34.7**	**-1.9**
	comp=Z,40nm,1.4s,mb5.3						
DBIC	**Dimbokro**	**55.19**	**144**	P	**P**	**07 08 34.5**	**-2.8**
	comp=Z,15nm,0.7s,mb5.1,baz=321,slow=7.3,SNR=25						
DBIC				LR	LR	07 29 27.0	
	comp=Z,5μm,18.5s,MS5.6,baz=338,slow=33						
KDAK	**Kodiak Island**	**55.46**	**325**	*eP*	**P**	**07 08 38.6**	**0.0**
	comp=Z,238nm,1.4s,mb6.0						
KDAK				LR	LR		
	comp=Z,925nm,19.0s,MS4.9						
KDAK	**Kodiak Island**	**55.46**	**325**	*eP*	**P**	**07 08 38.6**	**0.0**
	comp=Z,238nm,1.4s,mb6.0						
TPH	**Tonopah**	**55.66**	**288**	*eP*	**P**	**07 08 39.8**	**-0.5**
TPH				pmax	pmax		
	comp=Z,139nm,1.3s,mb5.8						
TPH				MLR	MLR		
	comp=Z,7μm,20.0s,MS5.7						
TPH	**Tonopah**	**55.66**	**288**	*eP*	**P**	**07 08 39.8**	**-0.5**
	comp=Z,139nm,1.3s,mb5.8						
TPH				LR	LR		
	comp=Z,7μm,20.0s,MS5.7						
TPH	**Tonopah**	**55.66**	**288**	*eP*	**P**	**07 08 39.8**	**-0.5**
	comp=Z,3μm,20.0s						
YBH	**Yreka Blue Hor**	**55.69**	**295**	*eP*	**P**	**07 08 38.1**	**-2.4**
YBH				pmax	pmax		
	comp=Z,57nm,1.4s						
YBH				MLR	MLR		
	comp=Z,7μm,20.0s						
YBH	**Yreka Blue Hor**	**55.69**	**295**	P	**P**	**07 08 38.3**	**-2.1**
	comp=Z,14nm,1.1s,mb4.9,baz=93,slow=4.9,SNR=9.0						
YBH	**Yreka Blue Hor**	**55.69**	**295**	*eP*	**P**	**07 08 38.1**	**-2.4**
	comp=Z,57nm,1.4s,mb5.4						
YBH				LR	LR		
	comp=Z,7μm,20.0s,MS5.7						
MNV	**Mina**	**55.87**	**289**	*eP*	**P**	**07 08 41.4**	**-0.4**
MNV				pmax	pmax		
	comp=Z,106nm,1.5s,mb5.7						
MNV				MLR	MLR		
	comp=Z,8μm,19.0s,MS5.8						
MNV	**Mina**	**55.87**	**289**	*eP*	**P**	**07 08 41.4**	**-0.4**
	comp=Z,106nm,1.5s,mb5.7						
MNV				LR	LR		
	comp=Z,8μm,19.0s,MS5.8						
MNV	**Mina**	**55.87**	**289**	*eP*	**P**	**07 08 41.4**	**-0.4**
	comp=Z,4μm,19.0s						
SDV	**Santo Domingo**	**55.93**	**226**	*eP*	**P**	**07 08 41.7**	**-0.8**
	comp=Z,90nm,1.5s,mb5.6						
SDV				LR	LR		
	comp=Z,617nm,20.0s,MS4.7						
SDV	**Santo Domingo**	**55.93**	**226**	*eP*	**P**	**07 08 41.7**	**-0.8**
	comp=Z,90nm,1.5s,mb5.6						
NVAR	**Mina Array Bea**	**55.95**	**289**	P	**P**	**07 08 42.1**	**-0.2**
	comp=Z,3.7nm,0.7s,mb4.5,baz=53,slow=5.5,SNR=34						
NVAR				LR	LR	07 32 03.8	
	comp=Z,9μm,18.4s,MS5.9,baz=75,slow=35						
WCN	**Washoe City**	**56.04**	**291**	*eP*	**P**	**07 08 43.8**	**+0.8**
NEN	**Nelson**	**56.25**	**285**	*eP*	**P**	**07 08 43.7**	**-0.8**
NEN	**Nelson**	**56.25**	**285**	*eP*	**P**	**07 08 43.7**	**-0.9**
KRMB	**Red Mountain**	**56.44**	**296**	*eP*	**P**	**07 08 45.4**	**-0.5**
KRMB	**Red Mountain**	**56.44**	**296**	*eP*	**P**	**07 08 45.4**	**-0.4**
WDC	**Whiskeytown Da**	**56.48**	**294**	*eP*	**P**	**07 08 45.1**	**-1.0**
WDC				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.3						
WDC				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.5						
WDC	**Whiskeytown Da**	**56.48**	**294**	*eP*	**P**	**07 08 45.1**	**-1.0**
	comp=Z,29nm,1.0s,mb5.3						
WDC				LR	LR		
	comp=Z,4μm,20.0s,MS5.5						
WDC	**Whiskeytown Da**	**56.48**	**294**	*eP*	**P**	**07 08 45.1**	**-1.0**
	comp=Z,2μm,20.0s						
TUC	**Tucson**	**56.63**	**279**	*eP*	**P**	**07 08 47.6**	**+0.2**
TUC				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.8						
TUC				MLR	MLR		
	comp=Z,8μm,20.0s,MS5.8						
TUC	**Tucson**	**56.63**	**279**	*eP*	**P**	**07 08 47.5**	**+0.2**
	comp=Z,16nm,1.5s,mb4.8						
TUC				LR	LR		
	comp=Z,8μm,20.0s,MS5.8						
TUC	**Tucson**	**56.63**	**279**	*eP*	**P**	**07 08 47.5**	**+0.1**
	comp=Z,16nm,1.5s,mb4.8						
KHMM	**Horse Mountain**	**56.84**	**295**	*eP*	**P**	**07 08 47.1**	**-1.7**
KHMM	**Horse Mountain**	**56.84**	**295**	*eP*	**P**	**07 08 47.1**	**-1.7**
OHCM	**Honcut**	**56.89**	**292**	*eP*	**P**	**07 08 47.7**	**-1.4**
OHCM	**Honcut**	**56.89**	**292**	*eP*	**P**	**07 08 47.7**	**-1.4**
OMM	**Old Mammoth Mi**	**56.92**	**289**	*eP*	**P**	**07 08 49.7**	**+0.4**
OMM	**Old Mammoth Mi**	**56.92**	**289**	*eP*	**P**	**07 08 49.7**	**+0.4**
DAC	**Darwin (Calif)**	**57.21**	**287**	*eP*	**P**	**07 08 51.6**	**+0.1**
DAC				pmax	pmax		
	comp=Z,114nm,1.4s,mb5.7						
DAC				MLR	MLR		
	comp=Z,3μm,21.0s,MS5.4						
DAC	**Darwin (Calif)**	**57.21**	**287**	*eP*	**P**	**07 08 51.6**	**+0.1**
	comp=Z,114nm,1.4s,mb5.7						
DAC				LR	LR		
	comp=Z,3μm,21.0s,MS5.4						
DAC	**Darwin (Calif)**	**57.21**	**287**	*eP*	**P**	**07 08 51.6**	**+0.1**
	comp=Z,2μm,21.0s						
NVS	**Novosibirsk**	**57.31**	**38**	*i* P	**P**	**07 08 50.5**	**-1.4**
NVS				pmax	pmax		
	comp=Z,198nm,1.8s,mb5.8						
NVS				pmax	pmax		
	comp=E,15nm,1.2s						
NVS				pmax	pmax		
	comp=N,81nm,2.1s						
NVS	**Novosibirsk**	**57.31**	**38**	*i* P	**P**	**07 08 50.5**	**-1.4**
	comp=N,40nm,2.1s,mb5.1						
CMB	**Columbia Colle**	**57.32**	**291**	*eP*	**P**	**07 08 51.3**	**-0.9**
CMB				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.9						
CMB				MLR	MLR		
	comp=Z,7μm,20.0s,MS5.7						
CMB	**Columbia Colle**	**57.32**	**291**	*eP*	**P**	**07 08 51.3**	**-0.9**
	comp=Z,19nm,1.4s,mb4.9						
CMB				LR	LR		
	comp=Z,7μm,20.0s,MS5.7						
CMB	**Columbia Colle**	**57.32**	**291**	*eP*	**P**	**07 08 51.3**	**-0.9**
	comp=Z,3μm,20.0s						
HOPS	**Hopland**	**57.95**	**293**	*eP*	**P**	**07 08 57.2**	**+0.6**
	comp=Z,131nm,1.4s,mb5.8						
HOPS				LR	LR		
	comp=Z,6μm,19.0s,MS5.7						
HOPS	**Hopland**	**57.95**	**293**	*eP*	**P**	**07 08 57.2**	**+0.7**
	comp=Z,131nm,1.4s,mb5.8						
NSHM	**Saint Helena R**	**58.07**	**292**	P	**P**	**07 08 59.0**	**+1.6**
NSHM	**Saint Helena R**	**58.07**	**292**	P	**P**	**07 08 59.0**	**+1.6**
ZAL	**Zalesovo**	**58.58**	**37**	P	**P**	**07 08 59.9**	**-0.8**
	comp=Z,3.9nm,0.6s,mb4.6,baz=147,slow=8.5,SNR=17						
ZAL				LR	LR	07 36 54.7	
	comp=Z,591nm,20.8s,MS4.7,baz=154,slow=39						
PFO	**Pinyon Flat Ob**	**58.66**	**284**	*eP*	**P**	**07 09 01.7**	**+0.1**
PFO				pmax	pmax		
	comp=Z,78nm,1.1s,mb5.7						
PFO				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.1						
PFO	**Pinyon Flat Ob**	**58.66**	**284**	*eP*	**P**	**07 09 01.7**	**0.0**
	comp=Z,78nm,1.1s,mb5.7						
PFO				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
PFO	**Pinyon Flat Ob**	**58.66**	**284**	*eP*	**P**	**07 09 01.7**	**+0.1**
	comp=Z,668nm,20.0s						
SAO	**San Andreas Ge**	**58.83**	**290**	*eP*	**P**	**07 09 02.5**	**-0.3**
SAO				pmax	pmax		
	comp=Z,60nm,1.3s,mb5.5						
SAO				MLR	MLR		
	comp=Z,5μm,20.0s,MS5.6						
SAO	**San Andreas Ge**	**58.83**	**290**	*eP*	**P**	**07 09 02.5**	**-0.3**
	comp=Z,60nm,1.3s,mb5.5						
SAO				LR	LR		
	comp=Z,5μm,20.0s,MS5.6						
SAO	**San Andreas Ge**	**58.83**	**290**	*eP*	**P**	**07 09 02.5**	**-0.3**
	comp=Z,2μm,20.0s						
LRV	**Little Rabbit**	**58.87**	**290**	P	**P**	**07 09 04.2**	**+1.1**
LRV	**Little Rabbit**	**58.87**	**290**	P	**P**	**07 09 04.2**	**+1.1**
KURK	**Kurchatov**	**59.04**	**43**	*eP*	**P**	**07 09 02.3**	**-1.7**
KURK				pmax	pmax		
	comp=Z,69nm,1.3s,mb5.5						
KURK	**Kurchatov**	**59.04**	**43**	*eP*	**P**	**07 09 02.3**	**-1.7**
	comp=Z,69nm,1.3s,mb5.5						
KURK	**Kurchatov**	**59.04**	**43**	*eP*	**P**	**07 09 02.3**	**-1.7**
	comp=Z,34nm,1.3s,mb5.2						
SEY	**Seymchan**	**60.19**	**357**	*eP*	**P**	**07 09 11.9**	**+0.1**
SEY						07 09 54.8	
SEY				*e*		07 11 27.7	
SEY				PPP	PPP	07 12 57.7	+4.7
SEY				*eS*	**S**	**07 17 24.5**	**+0.8**
SEY				*ePS*	PS	07 17 48.3	+8.3
SEY						07 18 57.4	
SEY				*e

CLNS MLR MLR
comp=Z,900nm,17.0s,MS5.0
CLNS MLR MLR
comp=N,300nm,12.0s
CLNS MLR MLR
comp=E,100nm,20.0s
CLNS Chul'man 65.12 13 *e*P **P 07 09 42.8 -1.7**
comp=E,150nm,12.0s
MOY Mondy 65.41 29 *e*P **P 07 09 46.4 0.0**
IRK Irkutsk 65.72 27 *e*P **P 07 09 46.7 -1.7**
IRK *e* 07 12 10.3
TLY Talaya 66.08 27 P **P 07 09 50.6 -0.1**
comp=E,49nm,1.0s,mb5.5,SNR=14
TLY Talaya 66.08 27 *e*P **P 07 09 49.8 -0.9**
TLY *e*S S 07 18 34.6 -2.7
TLY pmax pmax
comp=Z,18nm,2.0s,mb4.8
TLY MLR MLR
comp=Z,829nm,13.0s,MS5.1
TLY Talaya 66.08 27 *e*P **P 07 09 49.9 -0.8**
comp=Z,28nm,1.4s,mb5.1
TLY Talaya 66.08 27 *e*P **P 07 09 49.9 -0.8**
comp=Z,28nm,1.4s,mb5.1
OTAV Otavalo 66.94 230 *e*P **P 07 09 57.1 +0.3**
comp=Z,155nm,1.5s,mb5.8
OTAV LR LR
comp=Z,883nm,22.0s,MS4.9
OTAV Otavalo 66.94 230 *e*P **P 07 09 57.1 +0.3**
comp=Z,155nm,1.5s,mb5.8
ZAK Zakamensk 67.18 28 *e*P **P 07 09 56.6 -1.1**
ZAK *e* 07 12 23.9
SMY Shemya 68.16 342 PFAKE 07 10 20.0 +16
SMY LR LR
comp=Z,2μm,21.0s,MS5.4
WMQ Urumqi 68.17 42 ⇑P **P 07 10 04.8 +0.7**
WMQ AP pP 07 10 09.5 +2.3
WMQ XP sP 07 10 11.8 +3.5
WMQ PP PP 07 12 36.8 +0.2
WMQ S S 07 19 03.2 +0.5
WMQ XS 07 19 11.0
WMQ AMB AMB
comp=Z,13nm,1.2s,mb4.8
WMQ AMB AMB
comp=Z,100nm,5.5s
WMQ LR LR
comp=N,687nm,19.2s,MS5.0
WMQ LR LR
comp=E,588nm,18.6s,MS5.0
WMQ LR LR
comp=Z,823nm,19.5s,MS5.0
PET Petropavlovsk 69.75 352 *e*P **P 07 10 13.9 +0.3**
PET *e* 07 12 52.5
PET *e*S S 07 19 17.9 -3.4
PET *e*PS PS 07 19 50.8 +1.9
PET *e*SS SS 07 23 54.2 +3.0
PET *e*SSS SSS 07 26 57.8 +2.3
PET pmax pmax
comp=Z,47nm,1.2s,mb5.3
PET pmax pmax
comp=Z,300nm,7.5s
PET smax
comp=E,600nm,15.2s
PET Petropavlovsk 69.75 352 *e*P **P 07 10 12.7 -0.9**
comp=E,93nm,1.2s,mb5.6
PET LR LR
comp=Z,2μm,22.0s,MS5.3
PET Petropavlovsk 69.75 352 *e*P **P 07 10 12.7 -0.9**
comp=Z,93nm,1.2s,mb5.6
SONM Songino Array 70.32 27 P **P 07 10 16.3 -0.9**
comp=Z,14nm,0.8s,mb4.9,baz=323,slow=6.2,SNR=45
ULN Ulaanbaatar 70.45 27 *e*P **P 07 10 17.5 -0.5**
ULN pmax pmax
comp=Z,200nm,1.7s,mb5.8
ULN MLR MLR
comp=Z,944nm,21.0s,MS5.0
ULN Ulaanbaatar 70.45 27 *e*P **P 07 10 17.5 -0.5**
comp=Z,200nm,1.7s,mb5.8
ULN LR LR
comp=Z,944nm,21.0s,MS5.0
ULN Ulaanbaatar 70.45 27 *e*P **P 07 10 17.5 -0.5**
comp=Z,472nm,21.0s
HIA Hailar 71.75 18 *e*P **P 07 10 25.6 -0.2**
HIA pmax pmax
comp=Z,12nm,0.7s
HIA MLR MLR
comp=Z,1μm,20.0s
HIA Hailar 71.75 18 *e*P **P 07 10 25.6 -0.2**
comp=Z,12nm,0.7s,mb5.0
HIA LR LR
comp=Z,1μm,20.0s,MS5.2
HIA Hailar 71.75 18 *e*P **P 07 10 25.6 -0.2**
comp=Z,656nm,20.0s
PAYG Puerto Ayora 73.05 241 PFAKE 07 10 50.0 +16
PAYG LR LR
comp=Z,1μm,21.0s,MS5.2
KLR Kul'dur 73.35 10 *e*P **P 07 10 31.8 -3.3**
KLR *e*S S 07 20 05.5 +2.8
KLR pmax pmax
comp=E,110nm,2.8s
KLR pmax pmax
comp=Z,180nm,2.8s,mb5.5
KLR MLR MLR
comp=E,2μm,17.0s
BAO Brasilia Array 73.43 194 P **P 07 10 35.3 -0.9**
BAO Brasilia Array 73.43 194 P **P 07 10 35.3 -0.9**
BDFB Brasilia 73.44 194 P **P 07 10 35.2 -1.0**
comp=E,4.8nm,0.8s,mb4.5,baz=8.3,slow=6.6,SNR=7.8
BDFB LR LR 07 37 36.2
comp=E,2μm,19.6s,MS5.3,baz=0.2,slow=32
BDFB Brasilia 73.44 194 P **P 07 10 35.2 -1.0**
DDI Dehra Dun 75.81 56 *e*P **P 07 10 48.8 -0.9**
DDI *e* 07 12 14.0
YSS Yuzh-Sakhalins 76.27 2⇑*e*P **P 07 10 48.0 -3.9**
YSS *e*S S 07 20 32.0 -3.0
YSS pmax pmax
comp=Z,260nm,1.9s,mb5.8
YSS Yuzh-Sakhalins 76.27 2 *e*P **P 07 10 50.8 -1.1**
comp=Z,83nm,1.2s,mb5.5
YSS LR LR
comp=Z,1μm,20.0s,MS5.2
YSS Yuzh-Sakhalins 76.27 2 *e*P **P 07 10 50.8 -1.1**
comp=Z,83nm,1.2s,mb5.5
NDI New Delhi 76.82 57 *e*P **P 07 10 54.0 -1.4**
NDI *e* 07 13 48.0
MBAR Mbarara 76.96 112 *e*P **P 07 10 56.5 0.0**
MBAR pmax pmax
comp=Z,25nm,1.4s,mb5.0
MBAR MLR MLR
comp=Z,892nm,19.0s,MS5.1
MBAR Mbarara 76.96 112 *e*P **P 07 10 56.5 0.0**
comp=Z,25nm,1.4s,mb5.0
MBAR LR LR
comp=Z,892nm,19.0s,MS5.1
MBAR Mbarara 76.96 112 *e*P **P 07 10 56.5 0.0**
comp=Z,446nm,19.0s
NNA Nana 77.45 223 *e*P **P 07 10 58.4 -0.7**
comp=Z,35nm,1.9s,mb5.0
NNA LR LR
comp=Z,199nm,20.0s,MS4.4
NNA Nana 77.45 223 *e*P **P 07 10 58.4 -0.7**
comp=Z,35nm,1.9s,mb5.0
AJM Ajmer 77.48 61 *e*P **P 07 10 59.6 +0.6**
AJM *e* 07 11 05.1
comp=Z,32nm,1.3s
MDJ Mudanjiang 77.69 12 P **P 07 10 59.9 0.0**
MDJ S S 07 20 55.8 +5.2
MDJ SS SS 07 25 56.5 +3.1
MDJ AMB AMB
comp=Z,27nm,2.0s,mb4.8
MDJ AMB AMB
comp=Z,346nm,6.1s
MDJ LR LR
comp=N,319nm,22.3s,MS5.0
MDJ LR LR
comp=E,626nm,19.6s,MS5.0
MDJ LR LR
comp=Z,415nm,23.1s,MS4.7
MDJ Mudanjiang 77.69 12 *e*P **P 07 10 58.7 -1.2**
comp=Z,58nm,1.4s,mb5.3
MDJ LR LR
comp=Z,746nm,21.0s,MS5.0
MDJ Mudanjiang 77.69 12 *e*P **P 07 10 58.7 -1.2**
comp=Z,58nm,1.4s,mb5.3
ASAJ Asahikawa 79.10 3 P **P 07 11 06.8 -0.8**
comp=Z,22nm,1.1s,mb5.0,baz=346,slow=8.3,SNR=2.7
BJT Baijiatuau 79.98 23 *e*P **P 07 11 11.1 -1.4**
BJT pmax pmax
comp=Z,186nm,1.8s
BJT MLR MLR
comp=Z,1μm,19.0s
BJT Baijiatuau 79.98 23 *e*P **P 07 11 11.1 -1.4**
comp=Z,186nm,1.8s,mb5.7
BJT LR LR
comp=Z,1μm,19.0s,MS5.3
BJT Baijiatuau 79.98 23 *e*P **P 07 11 11.1 -1.4**
comp=Z,739nm,19.0s
KOLN Koldanda 80.46 53 *e*P **P 07 11 14.8 -0.4**
comp=Z,268nm,1.6s,mb5.9
LZH Lanzhou 80.52 34 ⇑P **P 07 11 16.1 +0.7**
LZH AP pP 07 11 19.4 +0.8
LZH PP PP 07 14 20.3 -0.4
LZH *e*S S 07 21 19.5 -1.1
LZH SS SS 07 26 33.5 -2.4
LZH AMB AMB
comp=Z,97nm,1.4s,mb5.5
LZH AMB AMB
comp=Z,413nm,5.8s
LZH LR LR
comp=N,1μm,15.0s
LZH LR LR
comp=Z,2μm,18.1s,MS5.4
GKN Gorkha 80.70 52 *e*P **P 07 11 16.3 -0.2**
comp=Z,209nm,1.4s,mb5.9
KMBO Kilima Mbogo 80.76 107 P **P 07 11 17.6 +0.5**
KMBO pP 07 11 22.1 +1.8
KMBO pmax pmax
comp=Z,22nm,1.5s
KMBO Kilima Mbogo 80.76 107 P **P 07 11 22.1 +5.0**
comp=Z,3.0nm,1.1s,baz=312,slow=6.9,SNR=7.4
KMBO LR LR 07 47 57.2
comp=Z,1μm,18.2s,baz=281,slow=36
KMBO Kilima Mbogo 80.76 107 P **P 07 11 17.6 +0.5**
comp=Z,22nm,1.5s,mb4.9
KMBO P pP 07 11 22.1 +1.8
KMBO LR LR 07 47 57.2
KMBO Kilima Mbogo 80.76 107 P **P 07 11 17.6 +0.5**
comp=Z,11nm,1.5s,mb4.6
KKN Kakani 81.17 52 *e*P **P 07 11 19.7 +0.7**
comp=Z,76nm,0.7s,mb5.8
DMN Daman 81.25 52 *e*P **P 07 11 19.8 +0.4**
comp=Z,298nm,1.4s,mb6.0
PKI Pulchoki 81.41 52 *e*P **P 07 11 20.5 +0.2**
comp=Z,245nm,1.6s,mb5.9
BHPL Bhopal 81.55 60 *e*P **P 07 11 20.0 -1.1**
BHPL *e* 07 11 28.5
comp=Z,55nm,1.0s
JIRN Jiri 81.67 51 *e*P **P 07 11 22.3 +0.7**
comp=Z,156nm,0.9s,mb5.9
LSA Lhasa 81.89 46 P **P 07 11 21.4 -1.3**
LSA Lhasa 81.89 46 *e*P **P 07 11 24.0 +1.3**
LSA pmax pmax
comp=Z,142nm,1.6s,mb5.7
LSA MLR MLR
comp=Z,1μm,20.0s,MS5.2
LSA Lhasa 81.89 46 *e*P **P 07 11 23.9 +1.2**
comp=Z,142nm,1.6s,mb5.7
LSA LR LR
comp=Z,1μm,20.0s,MS5.2
LSA Lhasa 81.89 46 *e*P **P 07 11 24.0 +1.3**
comp=Z,577nm,20.0s
POO Poona 83.82 65 *e*P **P 07 11 33.6 +0.8**
POO *e* 07 11 40.6
comp=Z,53nm,1.2s
TIA Tai'an 83.85 23 *e*P **P 07 11 32.8 +0.2**
XAN Xi'an 83.90 30 P **P 07 11 32.3 -0.6**
XAN AMB AMB
comp=Z,22nm,1.4s,mb5.1
INCN Inchon 84.33 16 PFAKE 07 11 50.0 +15
INCN LR LR
comp=Z,651nm,20.0s,MS5.0
LVC Limon Verde 84.71 212 LR LR 07 47 00.5
comp=Z,497nm,18.7s,MS4.9,baz=345,slow=34
LVC Limon Verde 84.71 212 *e*P **P 07 11 37.7 +0.5**
comp=Z,172nm,1.6s,mb5.9
LVC LR LR
comp=Z,589nm,20.0s,MS5.0
SHL Shillong 85.87 47 *i*P **P 07 11 42.5 -0.4**
MAJO Matsushiro 86.47 6 PFAKE 07 12 00.0 +14
MAJO LR LR
comp=Z,1μm,19.0s,MS5.3
HYB Hyderabad 87.08 62 *e*P **P 07 11 46.0 -3.0**
HYB Hyderabad 87.08 62 *i*P **P 07 11 49.0 0.0**
ENH Enshi 87.60 31 *e*P **P 07 11 51.0 -0.3**
comp=Z,245nm,1.5s,mb6.2
ENH LR LR
comp=Z,2μm,22.0s,MS5.4
NJ2 Nanjing 88.23 23 *e*P **P 07 11 53.4 -0.8**
NJ2 AP pP 07 12 02.6 +5.2
NJ2 XP sP 07 12 08.4 +10
NJ2 SKS SKS 07 22 18.0 -7.6
NJ2 S S 07 22 32.0 -4.8
NJ2 XS 07 22 48.0
NJ2 AMB AMB
comp=Z,70nm,1.4s,mb5.7
NJ2 AMB AMB
comp=Z,830nm,5.2s
NJ2 LR LR
comp=N,2μm,19.6s,MS5.5
NJ2 LR LR
comp=E,980nm,21.2s,MS5.5
NJ2 LR LR
comp=Z,2μm,16.7s,MS5.5
LSZ Lusaka 88.41 122 *e*P **P 07 11 55.0 -0.4**
LSZ pmax pmax
comp=Z,21nm,1.0s,mb5.3
LSZ MLR MLR
comp=Z,3μm,19.0s,MS5.7
LSZ Lusaka 88.41 122 *e*P **P 07 11 55.0 -0.4**
comp=Z,21nm,1.0s,mb5.3
LSZ LR LR
comp=Z,3μm,19.0s,MS5.7
LSZ Lusaka 88.41 122 *e*P **P 07 11 55.0 -0.4**
comp=Z,1μm,19.0s
WHN Wuhan 88.64 27 *e*P **P 07 11 56.0 -0.2**
VIS Vishakhapatnam 89.07 58 *e*P **P 07 11 58.0 -0.6**
VIS *e* 07 12 06.8
comp=Z,88nm,1.3s
MIDW Midway 89.61 328 PFAKE 07 12 10.0 +9.1
MIDW LR LR
comp=Z,3μm,20.0s,MS5.7
SSE Sheshan 89.63 21 P **P 07 12 00.3 -0.6**
SSE S S 07 22 49.3 -0.5
SSE AMB AMB
comp=Z,19nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,277nm,7.8s
SSE LR LR
comp=N,619nm,18.5s,MS5.2
SSE LR LR
comp=E,648nm,18.5s,MS5.2
SSE LR LR
comp=Z,785nm,19.6s,MS5.1
CMAR Chiang Mai Arr 95.04 44 P **P 07 12 26.1 -0.1**
comp=Z,5.9nm,0.9s,mb5.0,baz=321,slow=6.1,SNR=11
CMAR LR LR 08 00 38.9
comp=Z,617nm,20.5s,MS5.1,slow=39
TATO Taipei 95.62 22 PFAKE 07 12 40.0 +11
TATO LR LR
comp=Z,995nm,21.0s,MS5.3
PALK Pallekele 96.85 65 PFAKE 07 12 50.0 +16
PALK LR LR
comp=Z,324nm,20.0s,MS4.8
TRQA Tornquist 97.74 202 PFAKE 07 12 50.0 +12
TRQA LR LR
comp=Z,1μm,20.0s,MS5.5
QIZ Qiongzhong 98.29 35 PFAKE 07 12 50.0 +9.2
QIZ LR LR
comp=Z,903nm,21.0s,MS5.2
BOSA Boshof 98.78 130 PFAKE 07 12 50.0 +7.2
BOSA LR LR
comp=Z,2μm,19.0s,MS5.5
SUR Sutherland 100.33 135 PFAKE 07 13 00.0 +10
SUR LR LR
comp=Z,437nm,20.0s,MS5.0
WAKE Wake Island 101.99 340 PFAKE 07 13 10.0 +12
WAKE LR LR
comp=Z,66μm,20.0s
GUMO Guam 109.56 1 PFAKE 07 17 50.0
GUMO LR LR
comp=Z,2μm,22.0s,MS5.6
AFI Afiamalu 126.42 306 PFAKE 07 18 20.0 +12
AFI LR LR
comp=Z,2μm,19.0s,MS5.8
SNAA Sanae 130.31 168 *e*PKIKP PKPdf 07 18 10.1 -4.3
PMG Port Moresby 132.41 359 PFAKE 07 18 30.0 +10
PMG LR LR
comp=Z,487nm,20.0s,MS5.2
MBWA Marble Bar 139.17 39 PFAKE 07 18 40.0 +7.9
MBWA LR LR
comp=Z,613nm,19.0s,MS5.4
WRAB Tennant Creek 141.85 18 PFAKE 07 18 50.0 +13
WRAB LR LR
comp=Z,271nm,21.0s,MS5.0
WRA Warramunga Arr 141.86 18 PKhKP 07 18 31.0
comp=Z,2.1nm,0.7s,baz=348,slow=3.5,SNR=7.8
WRA PKP PKPdf 07 18 35.1 -1.8
comp=Z,2.1nm,0.8s,baz=338,slow=3.0,SNR=7.2
WRA PP PP 07 21 42.1 -0.3
comp=Z,2.2nm,1.2s,baz=345,slow=6.0,SNR=5.2
CTAO Charters Tower 143.03 360 PFAKE 07 18 50.0 +16
CTAO LR LR
comp=Z,588nm,20.0s,MS5.3
ASAR Alice Springs 145.42 20 PKPbc PKPbc 07 18 40.0 -0.5
comp=Z,24nm,0.8s,baz=349,slow=2.6,SNR=62
ASPA Alice Springs 145.42 20 *e*PKP PKPdf 07 18 40.4 -2.5
QSPA South Pole Qui 147.01 180⇑*i*P PKPdf 07 18 44.0 0.0
QSPA LR LR
comp=Z,937nm,22.0s,MS5.5
MUN Mundaring 147.50 52 *e*PKP PKPdf 07 18 46.8 +0.6
comp=Z,53nm,1.6s
KLBR Kellerberrin 147.82 50 *e*PKP PKPdf 07 18 47.3 +0.6
comp=Z,970nm,1.3s
NWAO Narrogin (SRO) 148.75 52 PKP2 PKPab 07 18 50.1 -4.8
NWAO MLR MLR
comp=Z,661nm,20.0s
NWAO Narrogin (SRO) 148.75 52 PKPbc PKPdf 07 18 50.0 +1.9
comp=Z,23nm,1.0s,baz=301,slow=7.7,SNR=4.6
FORT Forrest 150.81 33 *e*PKP PKPdf 07 18 53.8 +2.4
comp=Z,93nm,0.8s
STKA Stephens Creek 154.57 9 *e*PKP PKPdf 07 18 59.3 +2.6
comp=Z,9.0nm,1.6s
STKA Stephens Creek 154.57 9 PKP PKPdf 07 18 57.2 +0.5
comp=Z,1.2nm,0.9s,baz=315,slow=14,SNR=2.3
SBA Scott Base 158.01 191 PFAKE 07 19 10.0 +10
SBA LR LR
comp=Z,988nm,21.0s,MS5.6
VNDA Vanda 158.79 189 PKP PKPdf 07 19 01.1 +0.2
comp=Z,2.2nm,1.2s,baz=150,slow=0.5,SNR=4.3
VNDA PKPab PKPab 07 19 36.0 -0.1
comp=Z,3.1nm,1.0s,baz=162,slow=2.9,SNR=5.9
VNDA Vanda 158.79 189 PKP PKPdf 07 19 01.1 +0.2
VNDA PKPab PKPab 07 19 36.0 -0.1
CASY Casey 161.04 133 PFAKE 07 19 10.0 +6.5
CASY LR LR
comp=Z,2μm,20.0s
TAU Tasmania Unive 165.76 357 PFAKE 07 19 20.0 +11
TAU LR LR
comp=Z,623nm,19.0s

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*ATH **18** 06:59:22.9, 36.98N×27.89E, h31km±5km, MD3.2/4*
*CSEM **18** 06:59:22.4±0.1, 37.05N×27.92E, h20km, MD3.3, Error ellipse: s-maj=2.7km s-min=2.5km az=27.0*
*ISK **18** 06:59:22.3, 37.03N×27.86E, h20km, MD3.3*
*NEIC **18** 06:59:22.9, 36.98N×27.89E, h31km, MD3.2(ATH), After ATH.*

ISC 18 06:59:23.0±0.6, 36.98N±0.04×27.85E±0.04, h20km±6km, n15, σ0°91/21, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.34**	**284**	*i* P	**Pb**	**06 59 29.8**	**-0.5**
BDRM				*i* S	**Sb**	**06 59 35.6**	**+0.4**
YER	**Yerkesik**	**0.38**	**66**	*i* PG	**Pb**	**06 59 29.5**	**-1.4**
YER				*i* SG	**Sb**	**06 59 36.5**	**+0.3**
AYDN	**Tasoluk**	**0.68**	**2**	*i* P	**Pb**	**06 59 35.5**	**-0.5**
AYDN				*i* S	**Sb**	**06 59 45.8**	**+0.9**
NISR	**Nisiros**	**0.69**	**238**	*e*PN	**Pn**	**06 59 37.0**	**-0.5**
NISR				*e*SN	**Sn**	**06 59 48.1**	**+0.5**
ARG	**Arkhangelos**	**0.80**	**164**	PN	**Pn**	**06 59 39.0**	**0.0**
FETY	**Fethiye**	**1.05**	**109**	PG	**Pb**	**06 59 42.9**	**+0.7**
FETY				SG	**Sb**	**06 59 57.0**	**+1.5**
SMG	**Samos**	**1.09**	**312**	PN	**Pn**	**06 59 43.4**	**+0.2**
SMG				SN	**Sn**	**06 59 59.6**	**+1.9**
DNZL	**Cakiroluk**	**1.19**	**53**	*i* P	**Pn**	**06 59 44.2**	**-0.4**
DENT	**Denizli**	**1.22**	**50**	PN	**Pn**	**06 59 45.1**	**+0.1**
IZM	**Izmir**	**1.49**	**342**	*e*PN	**Pn**	**06 59 47.9**	**-1.1**
KDAG	**Bornova**	**1.49**	**342**	*i* P	**Pn**	**06 59 50.5**	**+1.5**
KARP	**Karpathos**	**1.54**	**202**	*e*PB	**Pb**	**06 59 50.0**	**-0.6**
BLCB	**Balcova**	**1.54**	**336**	*e*PN	**Pn**	**06 59 48.9**	**-0.8**
ELL	**Elmali**	**1.67**	**97**	*e*PN	**Pn**	**06 59 51.5**	**0.0**
AKS	**Akhisar**	**1.89**	**359**	*e*PN	**Pn**	**06 59 52.8**	**-1.9**

IDC 18 07:07:23.6±12.0, 12.40N×93.47E, mb3.6/2, mb1 3.8/3, mb1mx3.5/18, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=283.2km s-min=45.8km az=102.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.01**	**41**	Pn	P	07 09 20.9	-3.2
	0.2nm,0.3s,baz=229,slow=15,SNR=4.2						
WRA	**Warramunga Arr**	**51.49**	**128**	P	P	07 16 31.3	-2.0
	0.2nm,0.3s,baz=298,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**53.37**	**132**	P	P	07 16 45.1	-2.2
	0.3nm,0.4s,baz=310,slow=7.1,SNR=7.4						

IDC 18 07:42:42.6±6.3, 3.36N×93.44E, mb3.5/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML4.0/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/12, Error ellipse: s-maj=186.2km s-min=31.5km az=73.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.95**	**19**	Pn	P	07 46 28.8	-1.4
	0.2nm,0.3s,baz=212,slow=12,SNR=5.2						
NWAO	**Narrogin (SRO)**	**42.54**	**150**	LR	LR	08 05 04.4	
	comp=Z,16nm,20.9s,baz=33,slow=32						
SONM	**Songino Array**	**45.70**	**12**	P	P	07 51 05.3	-1.8
	0.4nm,0.5s,baz=180,slow=7.2,SNR=3.2						
WRA	**Warramunga Arr**	**46.36**	**122**	P	P	07 51 10.7	-2.0
	0.5nm,0.5s,baz=300,slow=9.0,SNR=4.9						
ASAR	**Alice Springs**	**47.69**	**126**	P	P	07 51 21.4	-1.8
	0.6nm,0.5s,baz=293,slow=7.8,SNR=7.0						

IDC 18 08:07:15.9±0.9, 11.14N×140.51E, mb3.6/6, mb1 3.9/6, mb1mx3.8/18, mbtmp3.6/6, Error ellipse: s-maj=58.9km s-min=19.7km az=95.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.48**	**191**	P	P	08 13 38.7	-3.0
	0.8nm,1.0s,baz=11,slow=9.7,SNR=5.5						
ASAR	**Alice Springs**	**35.19**	**191**	P	P	08 14 11.8	-2.1
	0.5nm,0.5s,baz=18,slow=12,SNR=9.1						
STKA	**Stephens Creek**	**42.78**	**179**	P	P	08 15 15.9	-1.2
	1.1nm,0.8s,baz=331,slow=13,SNR=2.7						
SONM	**Songino Array**	**46.43**	**329**	P	P	08 15 44.6	-1.5
	0.1nm,0.4s,baz=127,slow=7.2,SNR=2.8						
ILAR	**Eielson Array**	**72.59**	**25**	P	P	08 18 44.7	-1.9
	0.4nm,0.7s,baz=253,slow=6.1,SNR=5.3						
YKA	**Yellowknife Ar**	**86.97**	**27**	P	P	08 20 02.7	-1.2
	0.4nm,0.5s,baz=288,slow=4.8,SNR=18						

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*IDC **18** 08:19:42.1±0.7, 47.55N×27.47W, mb3.7/13, mb1 4.0/16, mb1mx3.9/23, mbtmp3.8/16, ML4.3/3, Error ellipse: s-maj=23.7km s-min=14.8km az=12.0*
*NEIC **18** 08:19:43.7±0.5, 47.52N×27.47W, h10km, mb4.0/1, Error ellipse: s-maj=12.8km s-min=9.1km az=196.0*
*CSEM **18** 08:19:45.1±0.1, 47.51N×27.39W, h33km, mb4.0/1, Error ellipse: s-maj=7.2km s-min=5.3km az=21.0*

ISC 18 08:19:41.8±0.6, 47.5N±0.1×27.5W±0.1, h10km, n28, σ1°00/25, mb3.8/14, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.99**	**54**	Pn	**P**	**08 23 40.9**	**0.0**
	0.1nm,0.3s,baz=249,slow=9.9,SNR=4.2						
BORG	**Borgarnes**	**17.60**	**9**	P	**P**	**08 23 49.4**	**+1.0**
	0.5nm,0.3s,baz=312,slow=5.5,SNR=2.7						
ESDC	**Sonseca Array**	**18.69**	**106**	P	**P**	**08 24 02.6**	**+0.4**

1.2nm,0.3s,baz=306,slow=11,SNR=5.9
SCHQ Schefferville 25.47 301 P **P 08 25 12.4 +1.2**
3.1nm,0.8s,mb3.9,baz=259,slow=19,SNR=2.1
SCHQ Schefferville 25.47 301 P **P 08 25 12.4 +1.2**
GERES GERESS Array B 27.25 72 P **P 08 25 29.6 +1.9**
0.3nm,0.5s,mb3.1,baz=309,slow=6.3,SNR=2.3
ARCES ARCESS Array B 33.72 30 P **P 08 26 23.3 -1.6**
2.3nm,0.8s,mb4.2,baz=282,slow=8.3,SNR=4.1
AKASG Malin Array Be 36.48 63 P **P 08 26 47.2 -1.4**
0.3nm,0.2s,mb3.9,baz=282,slow=8.5,SNR=3.1
RES Resolute Bay 38.94 337 *eP* **P 08 27 09.7 +0.6**
3.6nm,1.0s,mb4.1
RES Resolute Bay 38.94 337 *eP* **P 08 27 09.7 +0.6**
3.6nm,1.0s,mb4.1
DBIC Dimbokro 45.05 147 P **P 08 27 59.0 -0.7**
3.0nm,1.0s,mb4.1,baz=338,slow=6.4,SNR=3.5
DBIC Dimbokro 45.05 147 P **P 08 27 59.0 -0.7**
YKA Yellowknife Ar 48.18 322 P **P 08 28 23.2 -0.5**
0.4nm,0.9s,mb3.4,baz=66,slow=7.5,SNR=2.7
YKA PcP PcP 08 29 50.0 -1.4
0.2nm,0.8s,baz=74,slow=3.4,SNR=3.7
YKA Yellowknife Ar 48.18 322 P **P 08 28 23.2 -0.5**
YKA PcP PcP 08 29 50.0 -1.4
YKA Yellowknife Ar 48.18 322 PcP PcP 08 29 50.0 -1.4
PDAR Pinedale Array 55.53 298 P **P 08 29 18.1 -1.0**
0.6nm,0.8s,mb3.7,baz=37,slow=7.4,SNR=5.7
PDAR Pinedale Array 55.53 298 P **P 08 29 18.1 -1.1**
BVAR Borovoye Array 58.00 45 P **P 08 29 35.1 -1.5**
0.5nm,0.7s,mb3.6,baz=307,slow=7.2,SNR=3.4
ILAR Eielson Array 58.57 334 P **P 08 29 40.3 -0.1**
0.3nm,0.7s,mb3.4,baz=35,slow=7.3,SNR=5.3
MSU Marysvale 59.68 295 *eP* **P 08 29 49.3 +0.8**
MSU Marysvale 59.68 295 *eP* **P 08 29 49.3 +0.8**
TXAR Lajitas Array 60.04 282 P **P 08 29 51.2 +0.1**
0.9nm,0.9s,mb3.8,baz=78,slow=7.2,SNR=7.8
TXAR Lajitas Array 60.04 282 P **P 08 29 51.2 +0.1**
NVAR Mina Array Bea 63.44 299 P **P 08 30 12.9 -0.9**
0.3nm,0.8s,mb3.5,baz=67,slow=6.9,SNR=2.7
KMBO Kilima Mbogo 74.03 110 P **P 08 31 20.9 +1.2**
0.6nm,0.5s,mb3.8,baz=42,slow=21,SNR=2.7
SONM Songino Array 76.89 30 P **P 08 31 36.0 +0.6**
3.1nm,1.1s,mb4.1,baz=314,slow=5.8,SNR=15
VNDA Vanda 149.66 184 PKPbc PKPdf 08 39 32.1 +3.7
1.7nm,0.9s,baz=201,slow=3.0,SNR=3.9
ASAR Alice Springs 151.94 39 PKPbc PKPdf 08 39 37.9 +4.5
0.2nm,0.5s,baz=350,slow=2.7,SNR=4.0

IDC 18 08:26:01.7±2.5,4.72N×92.99E,mb3.6/3,mb1 3.9/4, mb1mx3.6/18,mbtmp3.7/4,ML4.3/1,MS3.2/2,Ms1 3.2/2, ms1mx2.8/19,Error ellipse: s-maj=79.2km s-min=28.8km az=73.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.84**	**23**	Pn	P	08 29 33.9	-1.0
	0.4nm,0.3s,baz=214,slow=11,SNR=8.5						
SONM	**Songino Array**	**44.47**	**13**	P	P	08 34 14.5	-1.9
	0.7nm,0.7s,baz=198,slow=7.6,SNR=8.6						
WRA	**Warramunga Arr**	**47.45**	**122**	P	P	08 34 38.2	-2.3
	0.9nm,0.6s,baz=302,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**48.86**	**127**	P	P	08 34 49.9	-1.4
	0.4nm,0.7s,baz=300,slow=8.1,SNR=5.5						
ZAL	**Zalesovo**	**49.52**	**354**	LR	LR	08 58 52.6	
	comp=Z,5.8nm,18.8s,baz=249,slow=40						
ASF	**Jabal al Asfar**	**59.02**	**305**	LR	LR	08 59 47.5	
	comp=Z,99nm,21.7s,baz=206,slow=34						
CPUP	**Villa Florida**	**144.41**	**230**	PKP	PKPdf	08 45 39.9	-2.6
	0.0nm,0.3s,baz=113,slow=2.0,SNR=1.6						

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*BJI **18** 08:27:43.2,3.81N×94.63E,h39km,mB5.1,mb4.8,Ms4.8, Msz4.6*
*MOS **18** 08:27:43.2±1.0,4.00N×94.56E,h33km,mb4.9/17,Error ellipse: s-maj=14.1km s-min=8.1km az=107.5*
*IDC **18** 08:27:44.9±0.5,4.06N×94.52E,h30km±3km,mb4.3/22, mb1 4.4/23,mb1mx4.4/26,mbtmp4.5/23,ML5.1/1,MS4.1/2, Ms1 4.2/2,ms1mx3.3/21,Error ellipse: s-maj=20.1km s-min=10.9km az=47.0*
*NEIC **18** 08:27:44.5±0.3,4.01N×94.55E,h30km,mb4.8/17,Error ellipse: s-maj=8.6km s-min=6.2km az=49.0*
ISC 18 08:27:43.4±0.3,4.02N±0.05×94.57E±0.05,h34km, h34km±1.7km:pP-P,n96,σ1$03/93,mb4.7/51,MS4.7/4, 3C-1D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.17**	**284**	*eP*	**P**	**08 31 03.4**	**-0.5**
PALK				*eS*	**S**	**08 33 25.2**	**-16**
CMAR	**Chiang Mai Arr**	**14.98**	**16**	Pn	**P**	**08 31 15.8**	**+1.3**
	2.7nm,0.3s,baz=205,slow=12,SNR=36						
CMAR				LR	LR	08 36 48.1	
	comp=Z,181nm,19.6s,baz=98,slow=36						
HYB	**Hyderabad**	**20.59**	**311**	*eP*	**P**	**08 32 22.0**	**-0.1**
HYB	**Hyderabad**	**20.59**	**311**	*iP*	**P**	**08 32 22.0**	**-0.1**
HYB				*eS*	**S**	**08 36 14.0**	**+8.5**
QIZ	**Qiongzhong**	**21.10**	**44**	*eP*	**P**	**08 32 29.3**	**+1.9**
SHL	**Shillong**	**21.58**	**353**	*eP*	**P**	**08 32 29.8**	**-2.4**
JIRN	**Jiri**	**24.83**	**342**	*eP*	**P**	**08 33 05.2**	**+1.1**
	21nm,0.6s,mb4.9						
DMN	**Daman**	**25.14**	**340**	*eP*	**P**	**08 33 08.6**	**+1.5**
	19nm,0.7s,mb4.7						
GKN	**Gorkha**	**25.66**	**339**	*eP*	**P**	**08 33 12.9**	**+0.9**
	19nm,0.4s,mb5.0						
LSA	**Lhasa**	**25.75**	**353**	P	**P**	**08 33 15.4**	**+2.6**
LSA	**Lhasa**	**25.75**	**353**	*eP*	**P**	**08 33 14.4**	**+1.6**
LSA				pmax	pmax		
	comp=Z,24nm,0.5s,mb5.0						
LSA	**Lhasa**	**25.75**	**353**	*eP*	**P**	**08 33 14.4**	**+1.6**
	comp=Z,24nm,0.5s,mb5.0						
KOLN	**Koldanda**	**25.83**	**337**	*eP*	**P**	**08 33 14.4**	**+0.8**
	comp=Z,26nm,0.8s,mb4.8						
ENH	**Enshi**	**29.68**	**27**	*eP*	**P**	**08 33 46.6**	**-1.7**
	comp=Z,14nm,0.8s,mb4.7						
XAN	**Xi'an**	**32.72**	**22**	P	**P**	**08 34 14.0**	**-1.2**
XAN				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
LZH	**Lanzhou**	**33.04**	**14**	*eP*	**P**	**08 34 17.5**	**-0.4**
LZH				AP	pP	08 34 27.0	-0.8
LZH				XP	sP	08 34 31.3	-1.0
LZH				PP	PP	08 35 26.5	-2.5
LZH				*eS*	**S**	**08 39 29.6**	**-3.6**
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,121nm,5.5s						
LZH				LR	LR		
	comp=N,765nm,13.3s						
LZH				LR	LR		
	comp=Z,1μm,16.9s,MS4.7						
MBWA	**Marble Bar**	**35.13**	**136**	*eP*	pP	08 34 46.2	+0.2
NJ2	**Nanjing**	**36.01**	**36**	*eP*	**P**	**08 34 43.5**	**+0.1**
NJ2				AP	pP	08 34 53.1	-0.3
NJ2				XP	sP	08 34 58.3	+0.5
NJ2				PP	PP	08 36 06.3	+0.6
NJ2				S	**S**	**08 40 20.0**	**+0.8**
NJ2				XS		08 40 39.0	
NJ2				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,280nm,7.2s						
NJ2				LR	LR		
	comp=N,700nm,19.2s,MS4.7						
NJ2				LR	LR		
	comp=E,760nm,15.5s,MS4.7						
NJ2				LR	LR		
	comp=Z,820nm,12.3s,MS4.7						
SSE	**Sheshan**	**36.79**	**40**	P	**P**	**08 34 48.9**	**-1.1**
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,100nm,7.6s						
FITZ	**Fitzroy Crossi**	**37.70**	**127**	*eP*	**P**	**08 34 57.1**	**-0.6**
	comp=Z,18nm,0.8s,mb4.8						
JOW	**Kunigami**	**39.40**	**51**	P	**P**	**08 35 12.9**	**+1.2**
	comp=Z,12nm,0.7s,mb4.7,baz=318,slow=18,SNR=2.9						
WMQ	**Urumqi**	**40.10**	**352**	*eP*	**P**	**08 35 17.2**	**-0.2**
WMQ				AP	pP	08 35 27.0	-0.5
WMQ				XP	sP	08 35 31.0	-0.8
WMQ				PP	PP	08 36 52.4	-1.0
WMQ				S	**S**	**08 41 16.4**	**-4.8**
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,35nm,4.9s						
WMQ				LR	LR		
	comp=N,654nm,19.6s,MS4.6						
WMQ				LR	LR		
	comp=E,663nm,20.3s,MS4.6						
WMQ				LR	LR		
	comp=Z,847nm,20.4s,MS4.6						
BJT	**Baijiatuau**	**40.81**	**26**	*eP*	**P**	**08 35 24.8**	**+1.5**
BJT				pmax	pmax		
	comp=Z,36nm,0.7s						
BJT	**Baijiatuau**	**40.81**	**26**	*eP*	**P**	**08 35 24.8**	**+1.4**
	comp=Z,36nm,0.7s,mb5.1						
AAK	**Ala-Archa**	**42.40**	**338**	*iP*	**P**	**08 35 37.6**	**+1.2**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**42.40**	**338**	*eP*	**P**	**08 35 36.9**	**+0.4**
	comp=Z,11nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**43.92**	**348**	*iP*	**P**	**08 35 49.6**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**44.83**	**11**	P	**P**	**08 35 55.9**	**-0.1**
	comp=Z,3.9nm,0.9s,mb4.2,baz=187,slow=9.2,SNR=26						
ULN	**Ulaanbaatar**	**44.99**	**12**	P	**P**	**08 35 55.2**	**-2.0**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
ULN	**Ulaanbaatar**	**44.99**	**12**	P	**P**	**08 35 55.2**	**-2.0**
	comp=Z,2.6nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**45.75**	**123**	P	**P**	**08 36 03.8**	**0.0**
	comp=Z,5.3nm,0.5s,mb4.7,baz=300,slow=9.1,SNR=42						
WRA				pP	pP	08 36 13.3	-0.6
	comp=Z,18nm,0.5s,baz=300,slow=9.0,SNR=30						
WRAB	**Tennant Creek**	**45.76**	**123**	*cP*	**P**	**08 36 04.1**	**+0.3**
WRAB	**Tennant Creek**	**45.76**	**123**	*eP*	**P**	**08 36 13.4**	**+10**
	comp=Z,31nm,0.5s,mb5.5						
WB2	**Warramunga Arr**	**45.76**	**123**	⇑*iP*	**P**	**08 36 04.0**	**+0.2**
ZAK	**Zakamensk**	**46.79**	**8**	*eP*	**P**	**08 36 09.8**	**-1.6**
FORT	**Forrest**	**47.11**	**140**	*eP*	**P**	**08 36 14.9**	**+0.6**
	comp=Z,53nm,0.7s,mb5.6						
ASPA	**Alice Springs**	**47.18**	**128**	⇑*iP*	**P**	**08 36 14.9**	**0.0**
ASAR	**Alice Springs**	**47.18**	**128**	P	**P**	**08 36 14.8**	**-0.1**
	comp=Z,1.8nm,0.4s,mb4.3,baz=295,slow=7.8,SNR=24						
ASAR				pP	pP	08 36 24.7	-0.4
	comp=Z,5.2nm,0.5s,baz=299,slow=7.7,SNR=20						
ASAR				PcP	PcP	08 37 46.4	-0.1
	comp=Z,2.2nm,0.6s,baz=305,slow=3.4,SNR=8.2						
ASAR				pPcP		08 37 57.1	
	comp=Z,1.5nm,0.6s,baz=307,slow=3.4,SNR=5.9						
HIA	**Hailar**	**49.91**	**21**	*eP*	**P**	**08 36 35.5**	**-0.2**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HIA	**Hailar**	**49.91**	**21**	*eP*	**P**	**08 36 35.5**	**-0.3**
	comp=Z,9.2nm,0.7s,mb4.9						
ZAL	**Zalesovo**	**50.40**	**353**	P	**P**	**08 36 40.5**	**+1.1**
	comp=Z,2.5nm,0.4s,mb4.6,baz=306,slow=6.6,SNR=8.7						
ZAL				sP	sP	08 36 52.3	-1.5
	comp=Z,4.4nm,0.5s,baz=303,slow=6.6,SNR=5.3						
MDJ	**Mudanjiang**	**50.79**	**32**	P	**P**	**08 36 44.3**	**+1.8**
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,275nm,9.6s						
RAYN	**Ar Rayn**	**51.13**	**297**	P	**P**	**08 36 46.1**	**+0.8**
	comp=Z,94nm,0.7s,SNR=11						
NVS	**Novosibirsk**	**51.50**	**352**	*eP*	**P**	**08 36 42.8**	**-4.9**
BVAR	**Borovoye Array**	**52.76**	**342**	P	**P**	**08 36 55.8**	**-1.3**
	comp=Z,3.5nm,0.8s,mb4.4,baz=141,slow=9.5,SNR=13						
BVAR				sP	sP	08 37 09.0	-2.6
	comp=Z,4.7nm,0.8s,baz=141,slow=9.5,SNR=8.6						
BRVK	**Borovoye**	**52.82**	**342**	*eP*	**P**	**08 36 56.3**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
BRVK	**Borovoye**	**52.82**	**342**	*eP*	**P**	**08 36 56.3**	**-1.3**
	comp=Z,7.1nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**53.25**	**342**	*eP*	**P**	**08 37 00.6**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
CHKZ	**Chkalovo**	**53.25**	**342**	*eP*	**P**	**08 37 00.6**	**-0.2**
	comp=Z,18nm,1.0s,mb5.0						
PMG	**Port Moresby**	**54.08**	**105**	LR	LR	08 59 12.5	
	comp=Z,754nm,19.6s,MS4.8,baz=152,slow=35						
KLR	**Kul'dur**	**55.00**	**29**	*eP*	**P**	**08 37 06.7**	**-7.0**
STKA	**Stephens Creek**	**57.18**	**132**	P	**P**	**08 37 29.0**	**-0.6**
	comp=Z,0.6nm,0.3s,mb4.0,baz=294,slow=10.0,SNR=3.7						
STKA	**Stephens Creek**	**57.18**	**132**	P	**P**	**08 37 29.0**	**-0.6**
GNI	**Garni**	**57.45**	**316**	*iP*	**P**	**08 37 33.5**	**+2.1**
GNI				pmax	pmax		
	comp=Z,7.0nm,1.5s						
KMBO	**Kilima Mbogo**	**57.50**	**266**	*eP*	**P**	**08 37 32.7**	**+0.6**
KMBO				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KMBO	**Kilima Mbogo**	**57.50**	**266**	P	**P**	**08 37 32.6**	**+0.5**
	comp=Z,4.0nm,0.9s,mb4.4,baz=228,slow=22,SNR=9.2						
KMBO	**Kilima Mbogo**	**57.50**	**266**	*eP*	**P**	**08 37 32.7**	**+0.6**
	comp=Z,9.4nm,1.2s,mb4.7						
ARU	**Arti**	**59.59**	**338**	*eP*	**P**	**08 37 40.2**	**-5.9**
KIV	**Kislovodsk**	**60.47**	**319**	*iP*	**P**	**08 37 50.8**	**-1.5**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ASF	**Jabal al Asfar**	**60.70**	**305**	P	**P**	**08 37 53.5**	**-0.6**
	comp=Z,2.1nm,0.6s,mb4.4,baz=78,slow=17,SNR=2.6						
YAK	**Yakutsk**	**63.51**	**18**	*iP*	**P**	**08 38 11.3**	**-1.0**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
BRTR	**Keskin Array B**	**65.28**	**312**	P	**P**	**08 38 23.2**	**-1.0**
	comp=Z,2.6nm,0.8s,mb4.3,baz=127,slow=6.2,SNR=12						
LSZ	**Lusaka**	**68.44**	**252**	P	**P**	**08 38 43.8**	**-0.7**
LSZ				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
LSZ	**Lusaka**	**68.44**	**252**	P	**P**	**08 38 43.8**	**-0.7**
	comp=Z,2.5nm,0.5s,mb4.5						
OBN	**Obninsk**	**68.86**	**329**	*eP*	**P**	**08 38 43.2**	**-3.2**
OBN				*e*	pP	08 38 56.5	-0.6
OBN				*e*		08 48 21.4	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
TIXI	**Tiksi**	**70.91**	**11**	⇓*iP*	**P**	**08 38 58.1**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
IDI	**Anoyia**	**71.13**	**306**	P	**P**	**08 39 01.1**	**+0.4**
	comp=Z,8.1nm,0.8s,mb4.7,baz=111,slow=21,SNR=3.3						
AKASG	**Malin Array Be**	**71.44**	**322**	P	**P**	**08 39 00.9**	**-1.3**
	comp=Z,2.0nm,0.6s,mb4.2,baz=91,slow=4.7,SNR=11						
MLR	**Muntele Rosu**	**72.23**	**317**	P	**P**	**08 39 07.0**	**+0.1**
	comp=Z,5.5nm,0.7s,mb4.6,baz=140,slow=8.5,SNR=7.1						
BOSA	**Boshof**	**73.94**	**239**	*eP*	**P**	**08 39 17.2**	**-0.2**
BOSA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
BOSA	**Boshof**	**73.94**	**239**	*eP*	**P**	**08 39 17.2**	**-0.2**
	comp=Z,7.8nm,0.8s,mb4.7						
MAW	**Mawson**	**74.87**	**192**	P	**P**	**08 39 23.3**	**+1.3**
	comp=Z,2.8nm,0.6s,mb4.4,baz=321,slow=4.8,SNR=3.8						
FINES	**FINESS Array B**	**76.31**	**333**	P	**P**	**08 39 29.9**	**-0.5**
	comp=Z,6.8nm,0.7s,mb4.7,baz=96,slow=5.8,SNR=26						
FINES				pP	pP	08 39 39.7	-1.2
	comp=Z,5.5nm,1.0s,baz=108,slow=6.9,SNR=3.5						
KAF	**Kangasniemi**	**76.40**	**333**	*ep*	**P**	**08 39 29.8**	**-1.1**
	comp=Z,5.1nm,0.6s,mb4.6						
KAF	**Kangasniemi**	**76.40**	**333**	*eP*	**P**	**08 39 29.8**	**-1.1**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
OJC	**Ojcow**	**77.19**	**321**	*eP*	**P**	**08 39 36.2**	**+0.6**
ARCES	**ARCESS Array B**	**79.02**	**340**	P	**P**	**08 39 45.7**	**+0.5**
	comp=Z,3.5nm,0.7s,mb4.4,baz=103,slow=5.8,SNR=11						
BILL	**Bilibino**	**79.50**	**21**	*iP*	**P**	**08 39 45.6**	**-2.3**
GERES	**GERESS Array B**	**80.98**	**319**	P	**P**	**08 39 56.3**	**+0.2**
	comp=Z,7.0nm,0.8s,mb4.7,baz=90,slow=5.3,SNR=37						
GERES				pP	pP	08 40 07.1	+0.3
	comp=Z,1.5nm,0.5s,baz=101,slow=6.8,SNR=5.6						
KHC	**Kasperske Hory**	**81.08**	**319**	*eP*	**P**	**08 39 57.0**	**+0.3**
CLL	**Collm**	**81.60**	**321**	P	**P**	**08 40 00.0**	**+0.7**
HFS	**Hagfors**	**81.99**	**330**	P	**P**	**08 40 01.1**	**0.0**
	comp=Z,2.4nm,0.6s,mb4.3,baz=108,slow=4.7,SNR=5.4						
NB2	**NORSAR Subarra**	**83.28**	**331**	P	**P**	**08 40 07.6**	**-0.1**
	comp=Z,2.1nm,0.7s,mb4.3,baz=90,slow=5.3						
NB2	**NORSAR Subarra**	**83.28**	**331**	P	**P**	**08 40 07.6**	**-0.1**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
NOA	**NORSAR Array B**	**83.28**	**331**	P	**P**	**08 40 07.6**	**-0.2**
	comp=Z,1.8nm,0.7s,mb4.2,baz=93,slow=5.3,SNR=4.9						
DAVOX	**Davos**	**83.45**	**316**	P	**P**	**08 40 09.7**	**+0.8**
	comp=Z,12nm,0.6s,mb5.1,baz=140,slow=7.6,SNR=12						
DAVOX				sP	sP	08 40 22.7	-0.7
	comp=Z,4.9nm,0.5s,baz=318,slow=4.1,SNR=3.6						
LPG	**La Plagne**	**85.63**	**315**	*eP*	**P**	**08 40 20.5**	**+0.6**
	comp=Z,13nm,0.9s,mb4.9						
LPG	**La Plagne**	**85.63**	**315**	*eP*	**P**	**08 40 20.5**	**+0.6**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.8						
EKA	**Eskdalemuir Ar**	**91.12**	**326**	P	**P**	**08 40 46.1**	**+0.2**
	comp=Z,2.0nm,0.8s,mb4.5,baz=97,slow=6.7,SNR=4.6						
ESDC	**Sonseca Array**	**94.01**	**310**	P	**P**	**08 40 59.9**	**+0.4**
	comp=Z,0.6nm,0.5s,mb4.3,baz=78,slow=3.4,SNR=3.9						
NVAR	**Mina Array Bea**	**127.95**	**33**	PKP	PKPdf	08 46 49.5	+3.1
	comp=Z,0.7nm,0.7s,baz=247,slow=3.3,SNR=7.0						
NVAR				pPKP		08 47 00.5	
	comp=Z,0.8nm,0.7s,baz=40,slow=2.1,SNR=5.6						
NVAR	**Mina Array Bea**	**127.95**	**33**	PKP	PKPdf	08 46 49.5	+3.1
NVAR				pPKP		08 47 00.5	
PDAR	**Pinedale Array**	**128.56**	**23**	PKP	PKPdf	08 46 49.6	+2.2
	comp=Z,0.5nm,0.6s,baz=90,slow=1.5,SNR=5.0						
BDFB	**Brasilia**	**141.44**	**250**	PKP	PKPdf	08 47 13.4	+1.4
	comp=Z,1.9nm,0.5s,baz=96,slow=3.4,SNR=2.7						
TXAR	**Lajitas Array**	**142.51**	**27**	PKhKP		08 47 12.9	
	comp=Z,0.7nm,0.9s,baz=180,slow=1.8,SNR=5.7						
TXAR				PKP	PKPdf	08 47 16.2	+2.7
	comp=Z,0.4nm,0.6s,baz=303,slow=1.7,SNR=5.7						
TXAR				pPKP		08 47 26.3	
	comp=Z,0.6nm,0.6s,baz=265,slow=0.6,SNR=6.3						
CPUP	**Villa Florida**	**145.12**	**228**	PKPbc	PKPbc	08 47 19.6	+1.1
	comp=Z,0.0nm,0.6s,baz=61,slow=18,SNR=1.5						

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*IDC **18** 08:36:02.5±0.7,41.29S×175.75E,mb4.8/9,mb1 4.8/11, mb1mx4.7/14,mbtmp4.8/11,ML4.4/2,MS4.3/6,Ms1 4.3/6, ms1mx3.8/14,Error ellipse: s-maj=18.4km s-min=17.7km az=37.0*
*WEL **18** 08:36:04.2±0.1,41.46S×175.79E,h19km,ML5.3/32,Error ellipse: s-maj=0.7km s-min=0.6km az=90.0*
WEL Felt between Wanganui, Wairarapa and Nelson, maximum reported intensity MM 6.
*BJI **18** 08:36:04.4,41.50S×175.80E,h20km,mB5.7,mb5.4*
*NEIC **18** 08:36:04.4,41.46S×175.78E,h20km,mb5.1/14, ML5.3(WEL),After WEL.*
NEIC Felt widely in Wairarapa South and Wellington. Also felt at Palmerston North.
*HRVD **18** 08:36:04.4±0.6,41.42S×176.02E,h19km±2km,MW5.2/41, Centroid moment Tensor Solution. LP body waves: s21,c25;Mantle waves: s41,c64; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.74±.42; $M_{\theta\theta}$-0.12±.30; $M_{\phi\phi}$-3.62±.34; $M_{r\theta}$-1.41±.73; $M_{\theta\phi}$-1.33±.25; $M_{\phi r}$5.31±.93; Best double couple: $M_0$6.728×10^{16} NP1:φ±218°,δ23°, λ133°. NP2:φ±353°,δ74°,λ74°. Principal axes: T 7.01, Plg58°, Azm241°; N -.564, Plg15°, Azm358°; P -6.446, Plg27°, Azm96°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 18 08:36:00.9±0.8,41.61S±0.02×175.89E±0.03,h9km±5km, n146,σ1$04/127,mb5.0/19,MS4.4/5,15C-14D,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAWZ	**Paruwai Farm**	**0.41**	**302**	⇓P*	**Pb**	**08 36 10.1**	**+0.2**
PAWZ				S*	**Sb**	**08 36 14.9**	**-1.0**
MSWZ	**Moikau Station**	**0.52**	**291**	⇓P	**Pg**	**08 36 12.4**	**+1.1**
MSWZ				S	**Sg**	**08 36 18.9**	**+0.6**
MSWZ	**Moikau Station**	**0.52**	**291**	⇓P*	**Pb**	**08 36 12.4**	**+0.7**
MSWZ				S*	**Sb**	**08 36 18.5**	**-0.5**
MTW	**Mount Morrison**	**0.53**	**327**	⇓P	**Pg**	**08 36 11.5**	**-0.1**
MTW				S	**Sg**	**08 36 17.1**	**-1.7**
MTW	**Mount Morrison**	**0.53**	**327**	⇓P*	**Pb**	**08 36 11.5**	**-0.4**
MTW				S*	**Sb**	**08 36 17.1**	**-2.2**
BHW	**Baring Head**	**0.79**	**284**	⇑P	**Pb**	**08 36 17.6**	**+1.3**
BHW				S	**Sb**	**08 36 27.9**	**+1.0**
BHW	**Baring Head**	**0.79**	**284**	⇑P*	**Pb**	**08 36 17.6**	**+1.3**
BHW				S*	**Sb**	**08 36 27.9**	**+1.0**
CAW	**Cannon Point**	**0.79**	**308**	⇓P	**Pb**	**08 36 16.7**	**+0.3**
CAW				S	**Sb**	**08 36 26.4**	**-0.5**
CAW	**Cannon Point**	**0.79**	**308**	⇓P*	**Pb**	**08 36 16.7**	**+0.4**
CAW				S*	**Sb**	**08 36 26.4**	**-0.6**
WEL	**Wellington**	**0.90**	**290**	⇑P	**Pb**	**08 36 19.1**	**+0.9**
WEL	**Wellington**	**0.90**	**290**	⇑P*	**Pb**	**08 36 19.2**	**+1.0**
WEL				S*	**Sb**	**08 36 30.1**	**0.0**
BFZ	**Birch Farm**	**0.96**	**16**	⇑P	**Pb**	**08 36 20.5**	**+1.3**
BFZ	**Birch Farm**	**0.96**	**16**	⇓P*	**Pb**	**08 36 20.5**	**+1.3**
MRW	**Makara Radio**	**0.97**	**292**	⇑P	**Pb**	**08 36 20.2**	**+0.8**
MRW				S	**Sb**	**08 36 33.0**	**+0.9**
MRW	**Makara Radio**	**0.97**	**292**	⇑P*	**Pb**	**08 36 20.2**	**+0.8**
MRW				S*	**Sb**	**08 36 33.0**	**+0.9**
MRZ	**Mangatainoka R**	**0.97**	**346**	P	**Pb**	**08 36 19.7**	**+0.3**
MRZ				S	**Sb**	**08 36 32.0**	**-0.1**
MRZ	**Mangatainoka R**	**0.97**	**346**	P*	**Pb**	**08 36 19.7**	**+0.4**
MRZ				S*	**Sb**	**08 36 31.7**	**-0.4**

TOO	Toolangi	23.71	270	eP		P	08 41 15.9	+2.2
	18nm,0.8s,mb4.5							
RAR	Rarotonga	28.89	53	LR		LR	08 50 07.4	
	comp=Z,606nm,20.0s,MS4.2,baz=228,slow=29							
STKA	Stephens Creek	28.98	278	⇑iP		P	08 42 02.7	-0.1
	20nm,1.0s,mb4.8							
STKA	Stephens Creek	28.98	278	P		P	08 42 03.4	+0.6
	26nm,1.0s,mb4.9,baz=112,slow=9.9,SNR=35							
STKA				LR		LR	08 53 14.5	
	comp=Z,590nm,18.1s,MS4.2,baz=318,slow=36							
CTA	Charters Tower	33.02	301	⇓iP		P	08 42 38.4	-0.1
	22nm,0.9s,mb5.1							
CTA	Charters Tower	33.02	301	P		P	08 42 38.1	-0.3
	24nm,1.0s,mb5.1,baz=132,slow=8.5,SNR=19							
CTA				LR		LR	08 55 39.5	
	comp=Z,794nm,18.4s,MS4.5,baz=21,slow=36							
CTAO	Charters Tower	33.02	301	eP		P	08 42 37.8	-0.7
	26nm,0.9s,mb5.2							
CTAO				e			08 42 43.6	
VNDA	Vanda	36.49	185	P		P	08 43 12.2	+4.5
	0.8nm,0.7s,baz=17,slow=11,SNR=6.5							
PPT	Papeete	38.02	61	eP		P	08 43 07.9	-13
PPT				eLR		LR	08 52 39.5	
	319nm,22.5s							
ASAR	Alice Springs	39.18	284	P		P	08 43 29.9	-0.9
	10nm,0.5s,mb4.8,baz=128,slow=7.4,SNR=193							
ASAR				PcP		PcP	08 45 39.9	-0.8
	2.7nm,0.6s,baz=121,slow=3.9,SNR=4.8							
ASAR				S		S	08 49 31.4	+0.8
	0.7nm,0.9s,baz=124,slow=16,SNR=4.3							
ASAR				LR		LR	09 00 19.5	
	comp=Z,298nm,18.3s,MS4.2,baz=128,slow=37							
ASPA	Alice Springs	39.18	284	eP		P	08 43 29.5	-1.3
FORT	Forrest	39.64	270	eP		P	08 43 34.2	-0.3
	57nm,0.6s,mb5.5							
PMG	Port Moresby	40.86	314	P		P	08 43 45.5	+0.8
	21nm,0.6s,mb4.9,baz=135,slow=6.3,SNR=7.8							
PMG	Port Moresby	40.86	314	eP		P	08 43 44.7	0.0
	64nm,0.8s,mb5.3							
WB2	Warramunga Arr	41.20	289	⇑iP		P	08 43 46.5	-1.0
WRAB	Tennant Creek	41.21	289	⇑eP		P	08 43 46.4	-1.1
	22nm,0.5s,mb5.0							
WRA	Warramunga Arr	41.21	289	P		P	08 43 46.6	-0.9
	11nm,0.5s,mb4.7,baz=126,slow=8.3,SNR=235							
CASY	Casey	42.99	213	eP		P	08 44 03.0	+1.5
	8.4nm,0.6s,mb4.7							
NWAO	Narrogin (SRO)	46.69	261	P		P	08 44 31.6	0.0
	8.9nm,0.7s,mb4.8,baz=102,slow=14,SNR=2.2							
KAKA	Kakadu	47.48	294	⇓iP		P	08 44 36.7	-1.4
	12nm,0.7s,mb4.9							
QSPA	South Pole Qui	48.52	180	eP		P	08 44 50.7	+5.3
	38nm,1.2s,mb5.3							
FITZ	Fitzroy Crossi	48.67	283	eP		P	08 44 46.6	-0.7
	17nm,0.6s,mb5.2							
MBWA	Marble Bar	51.16	276	eP		P	08 45 03.8	-2.5
	20nm,0.9s,mb5.1							
MAW	Mawson	60.09	204	P		P	08 46 12.0	+1.8
	2.6nm,0.8s,mb4.3,baz=123,slow=20,SNR=4.3							
MAW				LR		LR	09 12 09.0	
	comp=Z,944nm,18.1s,MS5.0,baz=263,slow=36							
SYO	Syowa Base	65.06	196	⇓P		P	08 46 44.3	+1.2
SNAA	Sanae	67.03	180	⇑iP		P	08 46 59.5	+3.9
SNAA	Sanae	67.03	180	P		P	08 46 55.8	+0.2
	419nm,1.3s							
VNA3	Neumayer Olymp	67.39	178	⇓iP		P	08 47 03.8	+5.9
VNA3	Neumayer Olymp	67.39	178	e		PcP	08 47 17.4	-8.1
VNA2	Neumayer--Watz	67.76	179	⇓iP		P	08 47 03.9	+3.7
VNA2	Neumayer--Watz	67.76	179	e		PcP	08 47 18.7	-8.3
VNA1	Neumayer--Stat	68.02	179	⇓iP		P	08 47 01.6	-0.3
CMAR	Chiang Mai Arr	92.72	292	P		P	08 49 16.1	+1.4
	5.3nm,0.8s,mb5.0,baz=148,slow=3.3,SNR=21							
MDJ	Mudanjiang	95.33	329	P		P	08 49 28.5	+2.3
MDJ				AMB		AMB		
	comp=Z,6.0nm,1.8s,mb4.7							
MDJ				AMB		AMB		
	comp=Z,230nm,8.4s							
INK	Inuvik	115.92	19	PKP		PKPdf	08 54 46.0	0.0
	comp=Z,1.0nm,0.8s,baz=315,slow=2.9,SNR=2.0							
YKA	Yellowknife Ar	117.64	29	PKP		PKPdf	08 54 48.6	-0.8
	comp=Z,1.3nm,0.7s,baz=250,slow=1.3,SNR=8.9							
YKA				PP		PP	08 56 03.9	-0.2
	comp=Z,0.2nm,0.4s,baz=286,slow=5.0,SNR=5.2							
YKA				PKKPbc			09 05 14.3	
	comp=Z,0.2nm,0.7s,baz=49,slow=4.3,SNR=5.2							
YKA	Yellowknife Ar	117.64	29	PKP		PKPdf	08 54 48.6	-0.8
YKA				PP		PP	08 56 03.9	-0.2
YKA				PKKPbc			09 05 14.3	
ZAL	Zalesovo	122.81	315	PKP		PKPdf	08 54 58.7	-0.9
	comp=Z,1.9nm,0.2s,baz=196,slow=2.1,SNR=4.7							
KMBO	Kilima Mbogo	123.36	232	PKP		PKPdf	08 55 02.2	+0.5
	comp=Z,0.4nm,0.3s,baz=35,slow=23,SNR=2.8							
BVAR	Borovoye Array	130.41	310	PKP		PKPdf	08 55 13.6	-0.7
	comp=Z,2.0nm,0.8s,baz=90,slow=5.9,SNR=6.1							
GNI	Garni	143.43	284	PKP		PKPdf	08 55 39.6	+1.3
	comp=Z,1.6nm,0.3s,baz=352,slow=14,SNR=2.7							
DBIC	Dimbokro	145.21	179	PKPbc		PKPbc	08 55 42.8	+3.2
	comp=Z,18nm,0.6s,baz=159,slow=4.1,SNR=77							
VRT	Varto	145.45	281	P		PKPbc	08 55 42.9	+3.4
ERZM	Erzurum	145.81	283	iP		PKPbc	08 55 43.8	+3.4
EZM	Erzurum	145.81	283	eP		PKPbc	08 55 43.5	+3.1
ASF	Jabal al Asfar	146.15	267	PKPbc		PKPbc	08 55 44.9	+3.5
	comp=Z,12nm,0.9s,baz=182,slow=4.3,SNR=4.4							
EIL	Elat	146.37	262	ePKPbc		PKPbc	08 55 45.1	+3.1
PTK	Pertek	146.94	280	eP		PKPbc	08 55 45.7	+2.7
GUMT	Gumushane	147.36	283	eP		PKPdf	08 55 47.1	+2.1
MALT	Malatya	147.47	279	ePKPbc		PKPdf	08 55 48.0	+2.7
KEV	Kevo	147.52	340	ep		PKPdf	08 55 47.7	+3.3
GAZ	Gaziantep	147.98	276	P		PKPdf	08 55 49.9	+3.7
ARCES	ARCESS Array B	148.05	341	PKPbc		PKPdf	08 55 46.5	+1.3
	comp=Z,11nm,0.9s,baz=53,slow=2.5,SNR=18							
KAHT	Ahir Dag	148.39	277	iP		PKPdf	08 55 50.9	+4.2
COBT	Iskenderun	148.46	274	iP		PKPdf	08 55 51.2	+4.3
JOF	Joensuu	150.21	328	ep		PKPdf	08 55 53.4	+4.6
NIG	Nigde	150.24	276	eP		PKPdf	08 55 59.5	+10
CTKT	Corum	150.84	281	iP		PKPdf	08 55 57.0	+6.5
CORM	Corum	150.84	280	eP		PKPdf	08 55 56.3	+5.7
BOYT	Boyabat	150.95	283	iP		PKPdf	08 55 56.4	+5.8
KAMT	Kaman	151.30	278	eP		PKPdf	08 55 57.6	+6.4
BRTR	Keskin Array B	151.45	279	PKPbc		PKPdf	08 55 57.0	+5.5
	comp=Z,10nm,0.8s,baz=146,slow=4.5,SNR=39							
ELDT	Eldivan	151.81	280	iP		PKPdf	08 56 01.7	+10
KAF	Kangasniemi	152.61	329	ep		PKPdf	08 55 56.0	+3.6
FINES	FINESS Array B	153.08	328	PKPbc		PKPdf	08 55 59.3	+6.3
	comp=Z,6.5nm,0.8s,baz=104,slow=7.9,SNR=5.7							
ESKT	Eskisehir	153.47	277	eP		PKPdf	08 56 01.3	+7.0
ESKT	Eskisehir	153.47	277	iP		PKPdf	08 56 02.0	+7.7
ULDT	Uludag	154.90	278	iP		PKPdf	08 56 03.7	+7.5
MLR	Muntele Rosu	157.94	290	PKPab		PKPab	08 56 31.9	-0.7
	comp=Z,3.6nm,0.8s,baz=83,slow=8.0,SNR=3.8							
GERES	GERESS Array B	165.53	306	PKPab		PKPab	08 57 06.0	+0.6
	comp=Z,0.9nm,0.7s,baz=56,slow=4.8,SNR=3.4							

*IDC **18** 08:46:08.7±1.2,2.22S×139.75E,mb4.0/4,mb1 4.2/5, mb1mx3.8/13,mbtmp3.9/5,ML3.7/1,Error ellipse: s-maj=74.7km s-min=24.6km az=103.0*

ISC 18 08:46:12.6±1.0,2.2S±0.1×139.5E±0.5,h33km,n8,σ0§87/7, mb3.9/4,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	18.32	195	eP		P	08 50 26.6	+0.4
WRA	Warramunga Arr	18.33	196	P		P	08 50 24.4	-1.8
	0.3nm,0.3s,baz=19,slow=12,SNR=15							
ASAR	Alice Springs	22.00	194	P		P	08 51 05.8	0.0
	2.0nm,0.5s,mb3.8,baz=26,slow=11,SNR=13							
ASPA	Alice Springs	22.00	194	eP		P	08 51 07.2	+1.4
BVAR	Borovoye Array	79.33	325	P		P	08 58 16.7	+0.1
	0.8nm,0.6s,mb3.9,baz=90,slow=5.8,SNR=4.4							
TAOE	Nuku Hiva Isla	80.17	99	eLR		LR	08 58 10.0	
ILAR	Eielson Array	85.06	24	P		P	08 58 46.1	+0.1
	0.4nm,0.8s,mb3.6,baz=264,slow=4.1,SNR=5.2							
INK	Inuvik	90.92	22	P		P	08 59 13.7	-0.4
	1.2nm,0.9s,mb4.2,baz=231,slow=10,SNR=2.3							

*NEIC **18** 08:46:41.9,41.44S×175.78E,h18km,ML3.8(WEL),After WEL.*

WEL 18 08:46:41.7±0.3,41.45S×175.78E,h19km±2km,ML3.8/14, 12C-5D,Error ellipse: s-maj=1.8km s-min=1.6km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAWZ	Paruwai Farm	0.27	283	⇓P*		Pb	08 46 47.6	-0.2
PAWZ				S*		Sb	08 46 51.8	-0.1
MTW	Mount Morrison	0.35	324	⇓P		Pb	08 46 48.9	-0.3
MTW				S		Sb	08 46 54.2	0.0
MTW	Mount Morrison	0.35	324	⇓P*		Pb	08 46 48.9	-0.3
MTW				S*		Sb	08 46 53.9	-0.3
MSWZ	Moikau Station	0.40	274	⇑P		Pb	08 46 49.9	0.0
MSWZ				S		Sb	08 46 56.5	+1.0
MSWZ	Moikau Station	0.40	274	⇑P*		Pb	08 46 49.9	0.0
MSWZ				S*		Sb	08 46 56.4	+0.9
CAW	Cannon Point	0.63	302	⇓P		Pb	08 46 54.2	+0.3
CAW				S		Sb	08 47 03.5	+1.3
CAW	Cannon Point	0.63	302	⇓P*		Pb	08 46 54.3	+0.4
CAW				S*		Sb	08 47 02.9	+0.7
BHW	Baring Head	0.68	273	⇑P		Pb	08 46 55.0	+0.3
BHW				S		Sb	08 47 05.4	+1.7
BHW	Baring Head	0.68	273	⇑P*		Pb	08 46 55.0	+0.3
BHW				S*		Sb	08 47 04.7	+1.0
WEL	Wellington	0.77	281	⇑P		Pb	08 46 56.6	+0.3
WEL	Wellington	0.77	281	P*		Pb	08 46 56.6	+0.3
MRZ	Mangatainoka R	0.80	349	⇑P		Pb	08 46 57.0	+0.3
MRZ				S		Sb	08 47 08.3	+1.4
MRZ	Mangatainoka R	0.80	349	P*		Pb	08 46 57.0	+0.3
MRZ				S*		Sb	08 47 08.1	+1.1
MRW	Makara Radio	0.84	284	⇑P		Pb	08 46 57.6	+0.2
MRW				S		Sb	08 47 09.7	+1.5
MRW	Makara Radio	0.84	284	⇑P*		Pb	08 46 57.6	+0.2
MRW				S*		Sb	08 47 09.5	+1.3
BFZ	Birch Farm	0.84	25	⇑P		Pb	08 46 57.7	+0.2
BFZ	Birch Farm	0.84	25	P*		Pb	08 46 57.7	+0.2
KIW	Kapiti Island	0.88	311	⇑P		Pb	08 46 58.3	+0.2
KIW				S		Sb	08 47 10.9	+1.6
KIW	Kapiti Island	0.88	311	⇑P*		Pb	08 46 58.3	+0.3
KIW				S*		Sb	08 47 10.6	+1.4
TUWZ	Tuamarina	1.38	270	eP*		Pb	08 47 04.7	-1.9
TSZ	Takapari Road	1.39	6	P*		Pb	08 47 06.0	-0.8
BSWZ	Blackbirch Sta	1.45	259	PN		Pn	08 47 06.1	-1.1
PWZ	Pawanui	1.64	31	eP		Pn	08 47 07.8	-2.1
PWZ	Pawanui	1.64	31	PN		Pn	08 47 08.1	-1.8
WAZ	Wanganui	1.79	340	eP		Pn	08 47 14.2	+2.1
WAZ	Wanganui	1.79	340	PN		Pn	08 47 12.4	+0.3
NNZ	Nelson	1.82	276	eP		Pn	08 47 11.7	-0.8
NNZ	Nelson	1.82	276	PN		Pn	08 47 11.6	-0.9
KHZ	Kahutara	1.93	239	P		Pn	08 47 12.0	-2.1
KHZ	Kahutara	1.93	239	⇑PN		Pn	08 47 12.0	-2.1
MOVZ	Moawhango	2.03	360	P		Pn	08 47 15.5	-0.1
TUVZ	Tukino	2.17	358	P		Pn	08 47 18.0	+0.4
TUVZ				P			08 47 18.2	
THZ	Tophouse	2.18	261	eP		Pn	08 47 15.7	-1.9
THZ	Tophouse	2.18	261	PN		Pn	08 47 15.7	-2.0
FWVZ	Far West T-bar	2.19	355	eP		Pn	08 47 18.2	+0.3
FWVZ	Far West T-bar	2.19	355	PN		Pn	08 47 18.3	+0.4
CNZ	Chateau	2.25	356	P		Pn	08 47 18.4	-0.3
CNZ	Chateau	2.25	356	PN		Pn	08 47 19.2	+0.5
NGZ	Ngauruhoe	2.27	357	P		Pn	08 47 19.5	+0.5
BKZ	Black Stump Fm	2.34	14	eP		Pn	08 47 18.8	-1.2
BKZ	Black Stump Fm	2.34	14	PN		Pn	08 47 18.8	-1.2
BKZ				SN		Sn	08 47 46.8	-1.6
QRZ	Quartz Range	2.53	283	eP		Pn	08 47 22.0	-0.7
QRZ	Quartz Range	2.53	283	PN		Pn	08 47 22.1	-0.6
LTZ	Lake Taylor	2.93	242	eP		Pn	08 47 25.5	-2.9
DSZ	Dennistón Nort	2.99	263	eP		Pn	08 47 27.3	-2.0
HIZ	Hauiti	3.01	346	eP		Pn	08 47 30.0	+0.5
MQZ	McQueen's Vall	3.23	225	eP		Pn	08 47 28.9	-3.7
URZ	Urewera	3.34	18	eP		Pn	08 47 29.9	-4.3
MWZ	Matawai	3.38	24	eP		Pn	08 47 31.2	-3.6
LBZ	Lake Benmore	5.05	233	eP		Pn	08 47 55.0	-3.5
ODZ	Otahua Downs	5.20	224	eP		Pn	08 47 56.4	-4.1

*IDC **18** 09:00:04.8±0.7,4.72N×93.01E,mb4.2/10,mb1 4.4/11, mb1mx4.2/20,mbtmp4.2/11,ML4.3/1,Error ellipse: s-maj=30.3km s-min=15.6km az=49.0*
*BJI **18** 09:00:07.8,4.70N×93.10E,h20km,mB5.2,mb4.7*
*NEIC **18** 09:00:07.8±0.5,4.74N×93.12E,h20km,mb4.7/5,Error ellipse: s-maj=18.0km s-min=11.9km az=64.0*

ISC 18 09:00:04.7±7.5,4.7N±0.1×93.14E±0.10,h13km±47km,n36, σ1§14/32,mb4.5/22,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.82	22	Pn	P	09 03 35.0	-1.0
	0.5nm,0.3s,baz=218,slow=14,SNR=46						
VIS	Vishakhapatnam	16.13	324	eP	P	09 03 51.2	-1.7
VIS				e		09 03 52.6	
	comp=Z,25nm,0.5s						
VIS				eS	S	09 06 36.8	-15
HYB	Hyderabad	19.09	313	iP	P	09 04 31.0	+1.2
BLSP	Bilaspur	20.36	329	eP	P	09 04 41.6	-2.3
BLSP				e		09 04 52.8	
	comp=Z,27nm,0.9s						
SHL	Shillong	20.80	357	eP	P	09 04 41.5	-6.9
JIRN	Jiri	23.79	345	eP	P	09 05 19.9	+1.7
	comp=Z,29nm,0.9s,mb4.7						
BHPL	Bhopal	23.89	322	eP	P	09 05 19.3	+0.2
BHPL				e		09 05 21.6	
	comp=Z,3.5nm,0.3s						
PKI	Pulchoki	23.93	343	eP	P	09 05 20.5	+1.0
	comp=Z,26nm,1.0s,mb4.6						
DMN	Daman	24.05	342	eP	P	09 05 21.7	+1.0
KKN	Kakani	24.17	343	eP	P	09 05 23.0	+1.1
	comp=Z,26nm,0.8s,mb4.7						
GKN	Gorkha	24.57	342	eP	P	09 05 26.6	+0.9
	comp=Z,48nm,0.8s,mb5.0						
KOLN	Koldanda	24.69	339	eP	P	09 05 27.9	+0.9
	comp=Z,16nm,0.8s,mb4.6						
LSA	Lhasa	24.96	356	P	P	09 05 32.4	+2.9
LSA	Lhasa	24.96	356	eP	P	09 05 31.3	+1.9
	comp=Z,13nm,0.7s,mb4.6						
XAN	Xi'an	32.69	25	P	P	09 06 38.6	-0.5
XAN				AMB	AMB		
	comp=Z,19nm,0.9s,mb5.0						
LZH	Lanzhou	32.77	16	eP	P	09 06 39.6	-0.2
LZH				AP	pP	09 06 45.8	+2.3
LZH				XP	sP	09 06 48.3	+3.1
LZH				AMB	AMB		
	comp=Z,28nm,1.3s,mb5.0						
SONM	Songino Array	44.48	13	P	P	09 08 17.6	+0.1
	comp=Z,3.6nm,0.7s,mb4.2,baz=196,slow=8.2,SNR=30						
SONM				PcP	PcP	09 10 01.3	-0.2
	comp=Z,1.2nm,0.6s,baz=198,slow=3.8,SNR=5.8						
ULN	Ulaanbaatar	44.66	13	P	P	09 08 16.5	-2.4
	comp=Z,1.7nm,0.8s,mb3.9						
WRA	Warramunga Arr	47.31	123	P	P	09 08 41.1	+0.8
	comp=Z,4.9nm,0.8s,mb4.5,baz=300,slow=9.0,SNR=30						
WRAB	Tennant Creek	47.32	123	eP	P	09 08 38.9	-1.5
	comp=Z,7.8nm,0.8s,mb4.7						
ASAR	Alice Springs	48.72	127	P	P	09 08 52.1	+0.9
	comp=Z,1.5nm,0.8s,mb4.1,baz=300,slow=7.5,SNR=14						
ASAR				PcP	PcP	09 10 16.8	+0.1
	comp=Z,0.6nm,0.6s,baz=300,slow=4.2,SNR=5.0						
ZAL	Zalesovo	49.58	354	P	P	09 08 57.5	0.0
	comp=Z,3.5nm,0.6s,mb4.5,baz=334,slow=4.1,SNR=11						
ZAL	Zalesovo	49.58	354	P	P	09 08 57.5	0.0
HIA	Hailar	49.84	23	eP	P	09 08 59.7	+0.2
	comp=Z,12nm,0.7s,mb5.0						
HIA				e		09 09 05.9	
BVAR	Borovoye Array	51.70	343	P	P	09 09 12.3	-1.3
	comp=Z,2.9nm,0.6s,mb4.4,baz=149,slow=8.6,SNR=15						
CHKZ	Chkalovo	52.20	343	eP	P	09 09 16.4	-1.0
	comp=Z,5.8nm,0.6s,mb4.7						
GNI	Garni	55.99	316	P	P	09 09 45.8	+0.4
	comp=Z,1.3nm,0.3s,mb4.4,baz=202,slow=23,SNR=2.0						
KMBO	Kilima Mbogo	56.13	266	P	P	09 09 46.1	-0.7
	comp=Z,1.1nm,1.0s,mb3.9,baz=38,slow=18,SNR=3.6						
STKA	Stephens Creek	58.68	132	P	P	09 10 05.3	+0.7
	comp=Z,2.9nm,0.7s,mb4.4,baz=294,slow=7.2,SNR=7.5						
BRTR	Keskin Array B	63.78	312	P	P	09 10 37.2	-1.7
	comp=Z,4.4nm,1.0s,mb4.4,baz=135,slow=6.7,SNR=10						
GERES	GERESS Array B	79.54	319	P	P	09 12 13.1	+0.2
	comp=Z,3.6nm,1.1s,mb4.2,baz=104,slow=5.5,SNR=9.3						
NVAR	Mina Array Bea	128.15	31	PKP	PKPdf	09 19 15.4	+0.6
	comp=Z,0.4nm,0.6s,baz=278,slow=2.9,SNR=5.5						
PDAR	Pinedale Array	128.49	21	PKP	PKPdf	09 19 14.6	-0.7
	comp=Z,0.7nm,0.8s,baz=45,slow=2.1,SNR=5.3						
TXAR	Lajitas Array	142.53	25	PKP	PKPdf	09 19 41.7	+0.1
	comp=Z,0.3nm,0.5s,baz=276,slow=0.6,SNR=6.0						
TXAR	Lajitas Array	142.53	25	PKP	PKPdf	09 19 41.7	+0.1
CPUP	Villa Florida	144.49	230	PKP	PKPdf	09 19 42.8	-2.2
	comp=Z,0.0nm,0.3s,baz=14,slow=20,SNR=1.6						

*CSEM **18** 09:16:18.1±1.5,45.49N×26.51E,h121km±12km,MD3.5/4, Error ellipse: s-maj=15.1km s-min=8.2km az=15.0,After BUC*
*NEIC **18** 09:16:18.1,45.64N×26.51E,h122km,After BUC.*

BUC 18 09:16:18.4±0.3,45.46N×26.52E,h121km,MD3.5,12C-6D, Error ellipse: s-maj=9.1km s-min=7.7km az=355.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISR	Istrita	0.34	178	⇓iP	P	09 16 36.8	+1.1
ISR				iS	S	09 16 51.2	+2.4
ISR	Istrita	0.34	178	⇓iP	P	09 16 36.8	+1.1
ISR				iS	S	09 16 51.2	+2.4
BRD	Bordesti	0.37	75	⇑iP	P	09 16 37.0	+1.2
BRD				iS	S	09 16 51.2	+2.2
BRD	Bordesti	0.37	75	⇑iP	P	09 16 37.0	+1.2
BRD				iS	S	09 16 51.2	+2.2
MLR	Muntele Rosu	0.41	274	⇑iP	P	09 16 36.1	+0.1
MLR				iS	S	09 16 48.7	-0.7
MLR	Muntele Rosu	0.41	274	⇑iP	P	09 16 36.1	+0.1
MLR				S	S	09 16 48.7	-0.7
VRI	Vrincioaia	0.43	19	⇑iP	P	09 16 35.8	-0.4
VRI				iS	S	09 16 48.5	-1.1
VRI	Vrincioaia	0.43	19	⇑iP	P	09 16 35.8	-0.4
VRI				iS	S	09 16 48.5	-1.1
SNX	Sinaia	0.72	262	⇑iP	P	09 16 38.3	+0.2
SNX				iS	S	09 16 53.3	+0.2
SNX	Sinaia	0.72	262	⇑iP	P	09 16 38.3	+0.2
SNX				iS	S	09 16 53.3	+0.2
CFR	Carcaliu	1.17	103	⇑iP	P	09 16 42.8	+0.2
CFR				iS	S	09 17 00.1	-0.7
CFR	Carcaliu	1.17	103	⇑iP	P	09 16 42.8	+0.2
CFR				iS	S	09 17 00.1	-0.6
HARR	Harsova	1.26	127	⇑iP	P	09 16 42.9	-0.7
HARR				iS	S	09 17 00.9	-1.6
HARR	Harsova	1.26	127	⇑iP	P	09 16 42.9	-0.7
HARR				iS	S	09 17 00.9	-1.6
TLCR		1.64	99	⇓iP	P	09 16 48.5	+0.5
TLCR				iS	S	09 17 10.9	+0.6
TLCR		1.64	99	⇓iP	P	09 16 48.5	+0.6
TLCR				S	S	09 17 10.9	+0.6
BURAR	Bucovina Array	2.34	338	⇓iP	P	09 16 56.1	-0.6
BURAR	Bucovina Array	2.34	338	⇓iP	P	09 16 56.1	-0.7

WEL 18 09:18:22.2±0.3,37.01S×177.38E,h150km±2km,ML3.5/5, Error ellipse: s-maj=4.2km s-min=3.3km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.92	127	PN	P	09 18 46.3	-0.2
MXZ				SN	S	09 19 04.8	-0.4
URZ	Urewera	1.27	190	PN	P	09 18 49.5	-0.1
URZ				SN	S	09 19 10.3	-0.5
MWZ	Matawai	1.33	175	PN	P	09 18 50.3	+0.1
MWZ				SN	S	09 19 11.1	-0.9
KNZ	Kokohu	2.02	174	PN	P	09 18 57.6	-0.2
BKZ	Black Stump Fm	2.26	198	PN	P	09 19 00.5	-0.4
BKZ				SN	S	09 19 30.2	-0.4
MGZ	Maungaku	2.46	216	ePN	P	09 19 05.0	+1.6
NGZ	Ngauruhoe	2.58	212	PN	P	09 19 05.1	+0.2
CNZ	Chateau	2.62	213	ePN	P	09 19 06.3	+0.9
TUVZ	Tukino	2.63	211	PN	P	09 19 05.7	+0.2
MOVZ	Moawhango	2.71	208	PN	P	09 19 05.7	-0.9
TSZ	Takapari Road	3.24	200	PN	P	09 19 11.0	-2.3
MRZ	Mangatainoka R	3.91	201	PN	P	09 19 18.9	-3.1
MRZ				SN	S	09 20 03.5	-4.6
KIW	Kapiti Island	4.30	206	PN	P	09 19 23.9	-3.4
MTW	Mount Morrison	4.39	199	PN	P	09 19 24.6	-3.8
CAW	Cannon Point	4.47	203	PN	P	09 19 25.7	-3.7
PAWZ	Paruwai Farm	4.62	199	PN	P	09 19 27.3	-4.2
NNZ	Nelson	5.23	215	PN	P	09 19 36.3	-3.2

ellipse: s-maj=0.9km s-min=0.6km az=90.0, Unusually long period.

WEL Felt from Taranaki to Wairarapa, maximum reported intensity MM 6.

*BJI **18** 09:26:00.5, 41.50S×175.80E, h24km, mB5.6, mb4.8, Msz4.2*

*NEIC **18** 09:26:00.5, 41.45S×175.78E, h24km, mb4.9/11, ML5.2(WEL), After WEL.*

*HRVD **18** 09:26:00.5±0.5, 41.56S×176.14E, h27km±2km, MW5.0/39, Centroid moment Tensor Solution. LP body waves: s14,c20;Mantle waves: s39,c55; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.44±.42; Mθθ-0.60±.25; Mφφ-2.84±.26; Mrθ-0.21±.54; Mθφ-0.55±.15; Mφr2.40±.46; Best double couple: M0=4×10^16 NP1:φ=200°, δ=28°, λ=105°. NP2:φ=3°, δ=63°, λ=82°. Principal axes: T 4.281, Plg71°, Azm257°; N -.561, Plg7°, Azm7°; P -3.719, Plg18°, Azm99°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 09:25:58.8±1.0, 41.54S±0.04×175.85E±0.06, h21km±6km, n126, σ1$05/106, mb4.8/15, MS4.2/8, 22C-10D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAWZ	Paruwai Farm	0.36	296	⇓P*	Pb	09 26 06.1	-0.3
PAWZ				S*	Sb	09 26 10.7	-0.9
MTW	Mount Morrison	0.46	325	⇓P	Pb	09 26 07.4	-0.8
MTW				S	Sb	09 26 13.3	-1.3
MTW	Mount Morrison	0.46	325	⇓P*	Pb	09 26 07.4	-0.8
MTW				S*	Sb	09 26 13.3	-1.3
MSWZ	Moikau Station	0.47	285	⇑P	Pb	09 26 08.4	+0.1
MSWZ				S	Sb	09 26 15.0	+0.2
MSWZ	Moikau Station	0.47	285	⇑P*	Pb	09 26 08.4	+0.1
MSWZ				S*	Sb	09 26 14.6	-0.2
CAW	Cannon Point	0.73	306	⇓P	Pb	09 26 12.8	+0.1
CAW				S	Sb	09 26 21.9	-0.4
CAW	Cannon Point	0.73	306	⇓P*	Pb	09 26 12.8	+0.1
CAW				S*	Sb	09 26 21.9	-0.4
BHW	Baring Head	0.75	280	⇑P	Pb	09 26 13.6	+0.6
BHW				S	Sb	09 26 23.8	+1.0
BHW	Baring Head	0.75	280	⇑P*	Pb	09 26 13.6	+0.6
BHW				S*	Sb	09 26 23.8	+1.0
WEL	Wellington	0.85	287	⇑P	Pb	09 26 15.2	+0.4
WEL				S	Sb	09 26 26.0	+0.2
WEL	Wellington	0.85	287	P*	Pb	09 26 15.4	+0.5
WEL				S*	Sb	09 26 26.0	+0.2
MRZ	Mangatainoka R	0.90	347	⇑P	Pb	09 26 15.6	0.0
MRZ				S	Sb	09 26 27.7	+0.5
MRZ	Mangatainoka R	0.90	347	⇑P*	Pb	09 26 15.6	0.0
MRZ				S*	Sb	09 26 27.7	+0.5
BFZ	Birch Farm	0.91	19	⇑eP	Pb	09 26 16.2	+0.5
BFZ	Birch Farm	0.91	19	⇓P*	Pb	09 26 16.2	+0.5
MRW	Makara Radio	0.92	289	⇑P	Pb	09 26 16.1	+0.2
MRW				S	Sb	09 26 28.4	+0.7
MRW	Makara Radio	0.92	289	⇑P*	Pb	09 26 16.1	+0.2
MRW				S*	Sb	09 26 28.0	+0.3
KIW	Kapiti Island	0.98	313	⇑P	Pb	09 26 16.9	-0.1
KIW				S	Sb	09 26 29.6	+0.1
KIW	Kapiti Island	0.98	313	⇑P*	Pb	09 26 16.9	0.0
KIW				S*	Sb	09 26 29.6	+0.1
CMWZ	Cape Campbell	1.25	260	P*	Pb	09 26 21.7	+0.2
CMWZ				S*	Sb	09 26 42.8	+5.7
TUWZ	Tuamarina	1.44	274	S*	Sb	09 26 44.0	+1.3
TSZ	Takapari Road	1.48	3	eP	Pn	09 26 24.6	0.0
TSZ	Takapari Road	1.48	3	P*	Pb	09 26 24.6	-0.9
TSZ				S*	Sb	09 26 42.0	-2.0
BSWZ	Blackbirch Sta	1.49	263	⇑PN	Pn	09 26 24.7	0.0
PWZ	Pawanui	1.69	27	eP	Pn	09 26 26.5	-1.1
NNZ	Nelson	1.89	279	eP	Pn	09 26 30.3	-0.1
NNZ	Nelson	1.89	279	⇓PN	Pn	09 26 30.2	-0.2
NNZ				SN	Sn	09 26 58.9	+5.1
WAZ	Wanganui	1.90	339	PN	Pn	09 26 32.3	+1.7
WAZ				SN	Sn	09 26 57.9	+3.8
KHZ	Kahutara	1.93	242	P	Pn	09 26 30.5	-0.5
KHZ	Kahutara	1.93	242	PN	Pn	09 26 30.5	-0.6
MOVZ	Moawhango	2.13	358	P	Pn	09 26 34.1	+0.2
MOVZ	Moawhango	2.13	358	PN	Pn	09 26 33.9	0.0
WNVZ	Wahianoa	2.22	355	P	Pn	09 26 34.8	-0.3
THZ	Tophouse	2.22	263	eP	Pn	09 26 34.2	-1.0
THZ	Tophouse	2.22	263	PN	Pn	09 26 34.2	-1.0
DRZ	Dome Shelter	2.27	354	PN	Pn	09 26 36.4	+0.5
TUVZ	Tukino	2.27	356	P	Pn	09 26 36.5	+0.6
TUVZ				P		09 26 36.7	
TUVZ	Tukino	2.27	356	PN	Pn	09 26 36.5	+0.6
FWVZ	Far West T-bar	2.29	354	P	Pn	09 26 36.9	+0.7
FWVZ	Far West T-bar	2.29	354	PN	Pn	09 26 36.9	+0.7
WPVZ	Whakapapa	2.34	354	PN	Pn	09 26 37.7	+0.7
CNZ	Chateau	2.35	354	P	Pn	09 26 37.9	+0.9
CNZ	Chateau	2.35	354	PN	Pn	09 26 37.6	+0.5
NGZ	Ngauruhoe	2.37	355	P	Pn	09 26 38.1	+0.8
NGZ	Ngauruhoe	2.37	355	PN	Pn	09 26 37.9	+0.6
BKZ	Black Stump Fm	2.42	12	P	Pn	09 26 37.3	-0.7
BKZ	Black Stump Fm	2.42	12	PN	Pn	09 26 37.0	-1.0
WTVZ	West Tongariro	2.43	355	P	Pn	09 26 38.9	+0.8
RAEZ	Rainy Point	2.51	333	P	Pn	09 26 43.6	+4.3
VRZ	Vera Road	2.55	341	eP	Pn	09 26 41.3	+1.4
QRZ	Quartz Range	2.61	285	eP	Pn	09 26 40.5	-0.2
QRZ	Quartz Range	2.61	285	PN	Pn	09 26 40.3	-0.4
NRZ	Ngariki Road	2.64	326	eP	Pn	09 26 43.6	+2.4
RATZ	Rangitukua	2.67	359	P	Pn	09 26 41.5	-0.1
PKE	Pukeiti	2.74	328	P	Pn	09 26 46.3	+3.7
LTZ	Lake Taylor	2.94	244	eP	Pn	09 26 44.2	-1.2
LTZ	Lake Taylor	2.94	244	PN	Pn	09 26 44.1	-1.3
DSZ	Denniston Nort	3.04	265	eP	Px	09 26 45.7	
HIZ	Hauiti	3.12	345	P	Px	09 26 48.7	
CRLZ	Canterbury Las	3.14	228	eP	Px	09 26 47.0	
PATZ	Paeroa	3.17	6	P	Px	09 27 01.8	
MOZ	McQueen's Vall	3.20	226	P	Px	09 26 47.4	
URZ	Urewera	3.42	17	Pn	Px	09 26 49.7	
URZ	11nm,0.3s,baz=202,slow=5.0,SNR=40			Sn	Sx	09 27 28.6	
URZ	38nm,0.3s,baz=198,slow=20,SNR=7.1			LR	LR	09 27 57.0	
MWZ	comp=Z,870nm,19.0s,baz=225,slow=39 Matawai	3.45	22	eP	Px	09 26 50.3	
WVZ	Waitaha Valley	4.09	246	P	Px	09 26 59.9	
RPZ	Rata Peaks	4.16	237	Pn	Px	09 27 01.0	
RPZ	24nm,0.3s,baz=95,slow=1.4,SNR=51			Pg	Px	09 27 17.8	
RPZ	76nm,0.3s,baz=304,slow=2.6,SNR=27			Sn	Sx	09 27 45.6	
RPZ	31nm,0.3s,baz=356,slow=19,SNR=10			Lg		09 28 18.1	
RPZ	28nm,0.3s,baz=168,slow=14,SNR=3.8	4.16	237	eP	Px	09 27 00.7	
MXZ	Matakaoa Point	4.40	26	P	Px	09 27 02.9	
LBZ	Lake Benmore	5.04	234	eP	Px	09 27 13.8	
ODZ	Otahua Downs	5.17	226	P	Px	09 27 14.6	
JCZ	Jackson Bay	5.80	242	eP	Px	09 27 23.0	
EAZ	Earnscleugh	6.03	230	eP	Px	09 27 26.4	
TUZ	Tuapeka	6.30	223	eP	Px	09 27 30.9	
TOO	Toolangi	23.68	270	⇓iP	P	09 31 11.5	+1.8
STKA	18nm,1.0s,mb4.5 Stephens Creek	28.95	278	⇑iP	P	09 31 58.8	+0.1
STKA	19nm,1.1s,mb4.7 Stephens Creek	28.95	278	P	P	09 31 58.4	-0.4
STKA	24nm,1.0s,mb4.9,baz=107,slow=9.6,SNR=34			LR	LR	09 41 42.6	
CTA	comp=Z,250nm,19.3s,MS3.8,baz=301,slow=33 Charters Tower	32.96	301	⇓iP	P	09 32 34.1	-0.1
CTA	16nm,0.9s,mb4.9 Charters Tower	32.96	301	P	P	09 32 33.7	-0.5
CTA	18nm,0.8s,mb5.0,baz=134,slow=9.3,SNR=19			LR	LR	09 46 01.5	
CTAO	comp=Z,577nm,18.1s,MS4.3,baz=24,slow=37 Charters Tower	32.96	301	eP	P	09 32 33.7	-0.5
VNDA	22nm,0.8s,mb5.1 Vanda	36.55	185	P	P	09 33 08.0	+3.5
ASAR	1.6nm,1.1s,mb3.8,baz=19,slow=14,SNR=3.1 Alice Springs	39.14	284	P	P	09 33 25.8	-0.9
ASAR	7.6nm,0.6s,mb4.6,baz=132,slow=8.2,SNR=60			LR	LR	09 49 08.3	
ASAR	comp=Z,125nm,19.4s,MS3.8,baz=127,slow=36 Alice Springs	39.14	284	P	P	09 33 25.8	-0.9
ASPA	Alice Springs	39.14	284	eP	P	09 33 25.5	-1.2
FORT	Forrest	39.61	270	⇓iP	P	09 33 30.2	-0.3
PMG	56nm,0.7s,mb5.4 Port Moresby	40.80	314	P	P	09 33 38.7	-1.7
PMG	29nm,0.9s,mb4.9,baz=129,slow=7.2,SNR=9.5			LR	LR	09 49 18.6	
PMG	comp=Z,162nm,18.3s,MS3.9,baz=2.3,slow=35 Port Moresby	40.80	314	eP	P	09 33 40.7	+0.3
WB2	42nm,0.8s,mb5.1 Warramunga Arr	41.16	289	⇑iP	P	09 33 42.2	-1.1
WRAB	Tennant Creek	41.16	289	eP	P	09 33 41.8	-1.5
WRA	20nm,0.6s,mb4.9 Warramunga Arr	41.16	289	P	P	09 33 42.3	-1.1
CASY	8.5nm,0.7s,mb4.5,baz=128,slow=7.7,SNR=51 Casey	43.03	213	eP	P	09 33 59.5	+1.4
KAKA	23nm,1.1s,mb4.8 Kakadu	47.42	294	eP	P	09 34 32.5	-1.4
QSPA	10.0nm,0.9s,mb4.8 South Pole Qui	48.59	180	⇑iP	P	09 34 46.1	+4.0
FITZ	Fitzroy Crossi	48.63	283	⇑iP	P	09 34 41.7	-1.5
MBWA	16nm,0.9s,mb5.0 Marble Bar	51.12	275	eP	P	09 34 59.7	-2.5
MAW	11nm,0.9s,mb4.8 Mawson	60.14	204	LR	LR	10 02 13.0	
SYO	comp=Z,515nm,18.1s,MS4.7,baz=256,slow=36 Syowa Base	65.11	196	⇑P	P	09 36 36.1	-3.4
SYO	Syowa Base	65.11	196	⇑PcP	PcP	09 37 11.4	-0.7
SNAA	Sanae	67.09	180	⇑iP	P	09 36 53.8	+1.6
SNAA				e		09 37 06.7	
VNA3	Neumayer Olymp	67.46	178	⇑iP	P	09 36 50.8	-3.7
VNA3				e		09 37 02.9	
VNA2	Neumayer--Watz	67.82	179	⇑iP	P	09 37 00.0	+3.2
VNA2				e		09 37 13.0	
VNA1	Neumayer--Stat	68.08	179	e	P	09 37 04.2	+5.8
CBIJ	Chichi jima	75.07	329	LR	LR	10 06 02.3	
LVC	comp=Z,156nm,18.5s,MS4.3,baz=87,slow=32 Limon Verde	92.47	123	LR	LR	10 10 08.0	
CMAR	comp=Z,108nm,19.6s,MS4.3,baz=308,slow=29 Chiang Mai Arr	92.67	292	P	P	09 39 11.6	+1.0
CMAR	4.4nm,0.7s,mb5.0,baz=146,slow=3.3,SNR=13			LR	LR	10 18 58.4	
MDJ	comp=Z,56nm,19.1s,MS4.0,baz=315,slow=34 Mudanjiang	95.26	329	P	P	09 39 23.3	+1.4
MDJ				AMB	AMB		
MDJ	comp=Z,5.0nm,1.8s,mb4.6			AMB	AMB		
YKA	comp=Z,130nm,8.1s Yellowknife Ar	117.60	29	PKP	PKPdf	09 44 43.9	-2.8
YKA	comp=Z,0.4nm,0.6s,baz=251,slow=1.5,SNR=16			PKKPbc		09 55 10.9	
YKA	comp=Z,0.2nm,0.8s,baz=48,slow=4.6,SNR=6.3 Yellowknife Ar	117.60	29	PKP	PKPdf	09 44 43.9	-2.8
YKA				PKKPbc		09 55 10.9	
ZAL	comp=Z,1.0nm,0.3s,baz=60,slow=13,SNR=3.5 Zalesovo	122.75	315	PKP	PKPdf	09 44 54.4	-2.5
KMBO	comp=Z,0.9nm,0.7s,baz=233,slow=22,SNR=2.6 Kilima Mbogo	123.37	232	PKP	PKPdf	09 44 58.8	-0.3
BVAR	comp=Z,2.3nm,0.9s,baz=117,slow=3.2,SNR=4.1 Borovoye Array	130.35	310	PKP	PKPdf	09 45 08.9	-2.6
DBIC	comp=Z,14nm,0.8s,baz=142,slow=4.7,SNR=26 Dimbokro	145.27	179	PKPbc	PKPbc	09 45 38.4	+2.6
VRT	comp=Z,14nm,0.8s,baz=142,slow=4.7,SNR=26 Varto	145.41	281	iP	PKPbc	09 45 38.6	+3.2
EZM	Erzurum	145.77	283	eP	PKPbc	09 45 39.8	+3.5
BCA	Borcka	146.03	285	eP	PKPbc	09 45 38.3	+1.4
ASF	Jabal al Asfar	146.12	267	PKPbc	PKPbc	09 45 40.9	+3.5
PTK	comp=Z,13nm,1.0s,baz=316,slow=5.5,SNR=3.5 Pertek	146.91	280	eP	PKPbc	09 45 42.3	+3.3
GUMT	Gumushane	147.31	283	eP	PKPdf	09 45 43.5	+1.2
MALT	Malatya	147.43	279	ePKPbc	PKPdf	09 45 43.7	+1.1
ARCES	ARCESS Array B	147.98	341	PKPbc	PKPdf	09 45 41.1	-1.4
JOF	comp=Z,9.5nm,0.9s,baz=90,slow=1.2,SNR=12 Joensuu	150.14	328	ep	PKPdf	09 45 50.5	+4.5
NIG	Nigde	150.21	276	eP	PKPdf	09 45 51.0	+4.0
KAMT	Kaman	151.26	278	eP	PKPdf	09 45 52.0	+3.5
BRTR	Keskin Array B	151.41	279	PKPbc	PKPdf	09 45 52.5	+3.9
KAF	comp=Z,12nm,0.9s,baz=153,slow=5.5,SNR=37 Kangasniemi	152.54	329	ep	PKPdf	09 45 47.6	-2.0
FINES	FINESS Array B	153.01	328	PKPbc	PKPdf	09 45 53.9	+3.6
GERES	comp=Z,4.1nm,0.9s,baz=180,slow=5.7,SNR=6.3 GERESS Array B	165.47	306	PKPab	PKPab	09 47 01.3	+0.1
	comp=Z,0.2nm,0.3s,baz=79,slow=5.0,SNR=3.5						

IDC 18 09:29:18.2±7.9, 10.55N×91.74E, mb3.6/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=271.7km s-min=29.5km az=76.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	39.16	16	P	P	09 36 47.5	-1.8
WRA	0.2nm,0.7s,baz=211,slow=8.4,SNR=2.4 Warramunga Arr	51.74	126	P	P	09 38 27.0	-2.9
ASAR	0.9nm,0.5s,baz=301,slow=9.6,SNR=11 Alice Springs	53.44	130	P	P	09 38 41.2	-1.3
STKA	1.2nm,1.0s,baz=308,slow=6.5,SNR=5.5 Stephens Creek	63.66	133	P	P	09 39 51.7	-2.2
	0.7nm,0.7s,baz=319,slow=9.3,SNR=3.4						

IGQ 18 09:34:07.0, 0.75N×80.50W, h12km±34km, mb4.2, 3C-5D, Error ellipse: s-maj=33.3km s-min=10.8km az=29.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOR1	San Jorge 1	2.01	112	P	Pn	09 34 43.6	+2.5
PINO	Pino	2.10	116	⇓P	Pn	09 34 43.5	+1.1
TERV	Terraza Guagua	2.11	116	⇓P	Pn	09 34 44.1	+1.5
YANA	Yana	2.12	114	⇑P	Pn	09 34 44.0	+1.3
YANA				S	Sn	09 35 12.5	+3.4
JUA2	San Juan 2	2.13	117	P	Pn	09 34 44.2	+1.4
COTA	Cotacachi	2.21	101	⇑P	Pn	09 34 46.3	+2.4
COTA				S	Sn	09 35 14.1	+2.7
NAS1	Nasa	2.45	124	P	Pn	09 34 48.9	+1.5
VC1	Cotopaxi 1	2.52	123	P	Pn	09 34 51.0	+2.6
TAMB	Tambo	2.58	124	P	Pn	09 34 52.4	+3.2
CAYR	Refugio Cayamb	2.60	106	⇓P	Pn	09 34 53.3	+3.7
CAYA	Cayambe	2.60	105	⇓P	Pn	09 34 53.2	+3.6
ANTI	Antisana	2.63	117	⇓P	Pn	09 34 52.7	+2.7
CONE	Cono NE Rev Vo	2.98	106	⇑P	Pn	09 35 00.1	+5.2
ULBA	Ulba	3.03	136	P	Pn	09 34 58.1	+2.4
ARRY	Arrayan	3.04	138	P	Pn	09 34 58.2	+2.4

IDC 18 09:57:07.9±3.3, 5.76N×92.74E, mb3.5/4, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=107.0km s-min=25.4km az=69.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.00	25	Pn	P	10 00 25.8	-4.2
SONM	0.2nm,0.3s,baz=233,slow=14,SNR=14 Songino Array	43.52	13	P	P	10 05 14.8	0.0
WRA	0.4nm,0.7s,baz=193,slow=4.1,SNR=3.1 Warramunga Arr	48.23	123	P	P	10 05 50.4	-2.2
ZAL	0.5nm,0.6s,baz=303,slow=9.0,SNR=6.8 Zalesovo	48.47	354	P	P	10 05 50.4	-3.6
ASAR	0.8nm,0.4s,baz=338,slow=1.8,SNR=3.1 Alice Springs	49.68	128	P	P	10 06 01.9	-1.9
	0.5nm,0.8s,baz=310,slow=6.7,SNR=5.6						

*NEIC **18** 10:09:12.0, 33.85S×147.19E, h13km, ML3.7(AUST), After AUST.*

AUST 18 10:09:12.8, 33.85S×147.19E, h13km, ML3.7, New South Wales

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YNG	Young	1.10	115	eP	Pb	10 09 33.0	-0.1
YNG				eS	Sb	10 09 47.1	-0.1
CNB	384nm,0.3s Canberra Magne	2.32	130	eP	Pn	10 09 52.5	+1.2
CNB				eS	Sn	10 10 23.2	+3.4
CMSA	431nm,0.2s Cobar Meteorol	2.62	331	eP	Pn	10 09 55.2	-0.5
CMSA				eS	Sn	10 10 33.9	+6.2
MGCD	71nm,0.2s Mangrove Creek	3.33	80	eP	Pn	10 10 07.8	+2.1
MGCD				eS	Sn	10 10 38.8	-6.8
TOO	16nm,0.6s Toolangi	3.97	200	eP	Pn	10 10 14.8	+0.1
TOO				eS	Sn	10 10 58.8	-2.9
STKA	8.6nm,0.4s Stephens Creek	5.10	291	eP	Pn	10 10 30.1	-0.7
STKA				eS	Sn	10 11 27.0	-3.3
STKA	4.7nm,0.6s Stephens Creek	5.10	291	eP	Pn	10 10 30.1	-0.7
	4.7nm,0.6s						
STKA				eS	Sn	10 11 27.0	-3.3

*NNC **18** 10:11:39.9±14.0, 36.90N×78.29E, mpv3.8, Error ellipse: s-maj=131.2km s-min=93.7km az=13.0*

BJI 18 10:11:43.7, 37.13N×78.38E, h15km, ML3.5, 2C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	6.25	333	⇑P	Pn	10 13 15.7	-2.1
AAK	19nm,2.1s			S	Sn	10 14 31.8	+2.1
MK31	6.4nm,0.8s Makanchi Array	10.08	16	⇑P	P	10 14 09.3	-1.8
MK31	1.1nm,0.5s,baz=203,slow=13,SNR=32			S	S	10 16 06.2	+1.4
	7.5nm,0.9s,baz=192,slow=24,SNR=15						

IDC 18 10:34:48.8±1.8, 13.17S×179.30W, mb3.9/2, mb1 4.2/2, mb1mx3.6/13, mbtmp3.9/2, Error ellipse: s-maj=56.8km s-min=33.8km az=124.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	31.55	193	P	P	10 41 12.5	-2.6
WRA	27nm,0.9s,baz=15,slow=9.7,SNR=3.6 Warramunga Arr	44.84	255	P	P	10 43 05.9	-1.0
ASAR	0.1nm,0.3s,baz=84,slow=8.3,SNR=8.0 Alice Springs	45.43	250	P	P	10 43 09.2	-2.4
ILAR	2.7nm,0.4s,baz=84,slow=8.4,SNR=63 Eielson Array	81.50	13	P	P	10 47 07.8	-1.3
	0.1nm,0.4s,baz=225,slow=5.1,SNR=4.3						

*IDC **18** 10:44:57.9±2.0, 51.78N×167.06W, mb3.4/4, mb1 3.5/5, mb1mx3.4/21, mbtmp3.3/5, ML3.1/1, Error ellipse: s-maj=50.7km s-min=28.0km az=4.0*

*NEIC **18** 10:45:02.7±1.2, 51.89N×167.16W, ML2.8(AEIC), Error ellipse: s-maj=17.3km s-min=12.4km az=197.0*

ISC 18 10:44:59.9±2.8, 51.75N±0.07×167.2W±0.1, h30km±22km, n13, σ0$71/18, mb3.4/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	Nikolski	1.59	321	P	Pn	10 45 26.1	-0.5
NIKO				S	Sn	10 45 45.2	-1.1
OKCD	Okmok Cone D	1.77	342	P	Pn	10 45 29.4	+0.3
OKCD				S	Sn	10 45 50.4	-0.5
OKCE	Okmok Cone E	1.78	341	P	Pn	10 45 30.0	+0.8
OKCE				S	Sn	10 45 51.0	0.0
UNV	Unalaska Valle	2.14	11	P	Pn	10 45 34.2	-0.1
UNV				S	Sn	10 46 00.2	0.0
MSW	Makushin Switc	2.18	6	P	Pn	10 45 35.2	+0.3
MSW				S	Sn	10 46 02.2	+1.0
MTBL	Makushin Table	2.24	8	P	Pn	10 45 36.5	+0.6
ILAR	Eielson Array	16.75	31	Pn	P	10 48 51.7	-1.9
DAWY	0.0nm,0.3s,baz=230,slow=12,SNR=3.4 Dawson	19.04	39	eP	P	10 49 21.7	-0.2
YKA	Yellowknife Ar	29.65	48	P	P	10 51 04.7	+0.1
YKA	0.1nm,0.6s,mb2.7,baz=272,slow=6.6,SNR=3.7			pP	pP	10 51 13.6	+0.4
TXAR	0.1nm,0.4s,baz=274,slow=8.6,SNR=18 Lajitas Array	51.41	90	P	P	10 54 03.5	-0.5
TXAR	0.2nm,0.4s,mb3.4,baz=308,slow=5.8,SNR=7.2			pP	pP	10 54 12.8	-0.3
TXAR	0.1nm,0.5s,baz=288,slow=4.3,SNR=4.1 Lajitas Array	51.41	90	P	P	10 54 03.5	-0.5
TXAR				pP	pP	10 54 12.8	-0.3
SONM	Songino Array	52.77	302	P	P	10 54 14.7	+0.7
BVAR	0.5nm,0.7s,mb3.5,baz=60,slow=5.9,SNR=3.7 Borovoye Array	64.98	326	P	P	10 55 39.5	+0.8
	1.1nm,0.8s,mb4.0,baz=34,slow=10,SNR=3.6						

*NEIC **18** 10:47:11.1, 41.42S×175.78E, h17km, ML3.9(WEL), After WEL.*

WEL 18 10:47:10.5±0.2, 41.46S×175.80E, h20km±1km, ML3.9/19, 11C-7D, Error ellipse: s-maj=1.4km s-min=1.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAWZ	Paruwai Farm	0.29	285	⇓P*	Pb	10 47 16.8	-0.3
PAWZ				S*	Sb	10 47 21.6	+0.1
MTW	Mount Morrison	0.38	323	⇓P	Pb	10 47 17.9	-0.5
MTW				S	Sb	10 47 23.5	-0.3
MTW	Mount Morrison	0.38	323	⇓P*	Pb	10 47 17.9	-0.5
MTW				S*	Sb	10 47 23.6	-0.2
MSWZ	Moikau Station	0.42	276	⇓P	Pb	10 47 19.1	0.0
MSWZ				S	Sb	10 47 25.4	+0.4
MSWZ	Moikau Station	0.42	276	⇓P*	Pb	10 47 19.1	-0.1
MSWZ				S*	Sb	10 47 24.9	-0.1
CAW	Cannon Point	0.66	302	⇓P	Pb	10 47 23.4	+0.3
CAW				S	Sb	10 47 31.2	-0.6
CAW	Cannon Point	0.66	302	⇓P*	Pb	10 47 23.4	+0.3
CAW				S*	Sb	10 47 33.5	+1.7
BHW	Baring Head	0.70	274	⇑P	Pb	10 47 24.2	+0.3
BHW				S	Sb	10 47 34.6	+1.5
BHW	Baring Head	0.70	274	⇑P*	Pb	10 47 24.2	+0.2
BHW				S*	Sb	10 47 34.6	+1.5
WEL	Wellington	0.80	282	⇑P	Pb	10 47 25.7	+0.1
WEL				S	Sb	10 47 37.5	+1.6
WEL	Wellington	0.80	282	⇑P*	Pb	10 47 25.7	+0.2
WEL				S*	Sb	10 47 37.4	+1.5
MRZ	Mangatainoka R	0.81	348	⇑P	Pb	10 47 26.0	+0.2
MRZ				S	Sb	10 47 37.4	+1.0
MRZ	Mangatainoka R	0.81	348	⇑P*	Pb	10 47 26.0	+0.2
MRZ				S*	Sb	10 47 37.4	+1.0
BFZ	Birch Farm	0.85	23	⇑P	Pb	10 47 26.5	+0.1
BFZ	Birch Farm	0.85	23	P*	Pb	10 47 26.6	+0.2
MRW	Makara Radio	0.86	285	⇑P	Pb	10 47 26.7	+0.1
MRW				S	Sb	10 47 39.5	+1.8
MRW	Makara Radio	0.86	285	⇑P*	Pb	10 47 26.7	+0.1
MRW				S*	Sb	10 47 39.1	+1.3
KIW	Kapiti Island	0.90	311	⇑P	Pb	10 47 27.3	0.0
KIW				S	Sb	10 47 40.1	+1.2
KIW	Kapiti Island	0.90	311	⇑P*	Pb	10 47 27.3	0.0
KIW				S*	Sb	10 47 40.1	+1.2
CMWZ	Cape Campbell	1.23	256	P*	Pb	10 47 32.2	-0.7
TSZ	Takapari Road	1.40	5	P	Pn	10 47 34.7	-0

ASAR	**Alice Springs**	**50.80**	**130**	P		**P**	**10 58 20.6**	**-0.2**
	0.3nm,0.6s,mb3.4,baz=310,slow=8.1,SNR=4.3							
BRTR	**Keskin Array B**	**61.54**	**311**	P		**P**	**10 59 36.7**	**-0.8**
	1.2nm,0.9s,mb4.0,baz=121,slow=8.3,SNR=4.1							
FINES	**FINESS Array B**	**71.82**	**332**	P		**P**	**11 00 42.9**	**+0.5**
	8.1nm,1.2s,mb4.5,baz=272,slow=37,SNR=3.9							
ARCES	**ARCESS Array B**	**74.41**	**340**	P		**P**	**11 00 57.7**	**+0.4**
	9.8nm,1.2s,mb4.6,baz=107,slow=5.3,SNR=5.6							
ARCES	**ARCESS Array B**	**74.41**	**340**	P		**P**	**11 00 57.7**	**+0.4**
GERES	**GERESS Array B**	**76.92**	**318**	P		**P**	**11 01 12.6**	**+0.6**
	0.3nm,0.4s,mb3.6,baz=90,slow=4.9,SNR=5.3							
CPUP	**Villa Florida**	**147.23**	**234**	PKPbc		PKPdf	11 09 01.8	-2.9
	0.0nm,0.4s,baz=234,slow=19,SNR=1.7							
CPUP	**Villa Florida**	**147.23**	**234**	PKPbc		PKPdf	11 09 01.8	-2.9

*NEIC **18** 10:51:16.1±1.0,5.26N×94.85E,h30km,mb4.4/3,Error ellipse: s-maj=45.0km s-min=11.0km az=56.0*
*IDC **18** 10:51:29.9±8.9,5.28N×94.91E,h157km±80km,mb3.3/6, mb1 3.5/7,mb1mx3.3/19,mbtmp3.7/7,MS2.3/1,Ms1 2.5/1, ms1mx2.3/25,Error ellipse: s-maj=50.0km s-min=16.8km az=56.0*

ISC 18 10:51:30.9±6.0,5.3N±0.2×94.9E±0.3,h187km±51km,n11, σ0§84/11,mb3.7/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.70**	**17**	P		**P**	**10 54 38.8**	**+0.3**
	0.2nm,0.3s,baz=207,slow=12,SNR=7.4							
CMAR				LR		LR	10 59 22.0	
	comp=Z,14nm,20.5s,baz=300,slow=34							
LSA	**Lhasa**	**24.55**	**352**	P		**P**	**10 56 35.2**	**+0.2**
	4.2nm,0.4s,mb4.3							
SONM	**Songino Array**	**43.54**	**11**	P		**P**	**10 59 16.9**	**-0.8**
	0.3nm,0.5s,mb3.1,baz=193,slow=9.6,SNR=4.5							
WRA	**Warramunga Arr**	**46.19**	**124**	P		**P**	**10 59 38.8**	**-0.2**
	1.3nm,0.7s,mb3.7,baz=302,slow=9.3,SNR=10							
WRAB	**Tennant Creek**	**46.19**	**124**	eP		**P**	**10 59 38.8**	**-0.3**
	4.7nm,0.7s,mb4.2							
ASAR	**Alice Springs**	**47.71**	**129**	P		**P**	**10 59 50.6**	**-0.2**
	0.5nm,0.6s,mb3.3,baz=300,slow=7.9,SNR=7.4							
ZAL	**Zalesovo**	**49.21**	**352**	P		**P**	**11 00 01.0**	**-0.9**
	1.5nm,0.5s,mb3.9,baz=332,slow=6.2,SNR=6.0							
JHJ	**Hachijo jima 2**	**50.10**	**51**	P		**P**	**11 00 10.2**	**+1.2**
	342nm,0.6s,baz=68,slow=24,SNR=5.1							
BVAR	**Borovoye Array**	**51.67**	**341**	P		**P**	**11 00 20.1**	**-0.4**
	0.4nm,0.3s,mb3.6,baz=130,slow=11,SNR=3.6							
CHKZ	**Chkalovo**	**52.16**	**342**	P		**P**	**11 00 23.3**	**-0.7**
	2.7nm,0.6s,mb4.0							
GERES	**GERESS Array B**	**80.24**	**319**	P		**P**	**11 03 24.4**	**+2.3**
	0.2nm,0.3s,mb3.2,baz=90,slow=3.9,SNR=2.6							

*NIED **18** 10:58:00,37.20N×138.80E,h8km,Mw3.5 Best double couple: M0:1.89×10^14 NP1:φs162°,δ66°,λ31°. NP2:φs58°, δ62°,λ153°.*

JMA 18 10:58:29.9,37.19N×138.81E,h9km±1km,M3.4,1C-3D Broadband fault plane solution: P waves. NP1:φs13°, δ44°,λ66°. NP2:φs225°,δ50°,λ112°. Principal axes: T Plg73°, Azm200°; N Plg17°, Azm31°; P Plg3°, Azm300°; **Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.17**	**71**	⇓P		Pg	10 58 33.6	-0.2
JHK				eS		Sg	10 58 36.5	+0.2
JIZZ	**Izumozaki**	**0.35**	**347**	P		Pg	10 58 37.4	+0.3
JIZZ				eS		Sg	10 58 43.5	+1.6
JKT	**Katashina**	**0.55**	**140**	⇓P		Pg	10 58 40.4	-0.6
JKT				eS		Sg	10 58 48.2	-0.2
JGK	**Kuni**	**0.64**	**192**	P		Pg	10 58 42.3	-0.5
JGK				eS		Sg	10 58 51.2	-0.2
JNS	**Sasagawa**	**0.75**	**33**	P		Pb	10 58 43.5	-1.1
JNS				eS		Sb	10 58 53.6	-1.0
MAT	**Matsushiro**	**0.81**	**217**	⇑P		Pb	10 58 44.6	-1.0
MAT				S		Sb	10 58 55.2	-1.2
JAG	**Ashikaga**	**0.92**	**146**	⇓P		Pb	10 58 47.4	-0.2
JAG				eS		Sb	10 58 59.7	0.0
JSD	**Sado**	**0.95**	**333**	P		Pb	10 58 46.4	-1.7

*NIED **18** 11:09:00,37.00N×142.30E,h32km,Mw3.9 Best double couple: M0:7.12×10^14 NP1:φs17°,δ63°,λ102°. NP2:φs173°, δ29°,λ68°.*
*IDC **18** 11:09:44.2±1.9,36.95N×142.37E,mb3.6/4,mb1 3.8/5, mb1mx3.5/21,mbtmp3.7/5,ML3.6/1,Error ellipse: s-maj=65.0km s-min=22.0km az=79.0*
*JMA **18** 11:09:45.4±0.3,37.01N×142.33E,h25km±5km,M3.9*

ISC 18 11:09:44.3±1.8,36.96N±0.05×142.35E±0.06,h14km±12km, n15,σ0§82/23,mb3.6/4,2C-4D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.25**	**290**	⇓P		**Pb**	**11 10 08.8**	**-0.3**
JFK				eS		**Sb**	**11 10 22.7**	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.25**	**277**	⇓P		**Pb**	**11 10 07.0**	**-0.2**
ONAJ				eS		**Sb**	**11 10 22.9**	**0.0**
JHO	**Hitachi**	**1.47**	**257**	⇑P		**Pn**	**11 10 10.6**	**+0.1**
JHO				eS		**Sb**	**11 10 29.5**	**+0.2**
JMM	**Marumori**	**1.54**	**307**	P		**Pn**	**11 10 11.0**	**-0.5**
JIO	**Ouri**	**1.69**	**332**	⇓P		**Pn**	**11 10 13.3**	**-0.4**
JIO				eS		**Sn**	**11 10 33.8**	**-1.5**
JFT	**Otama**	**1.70**	**290**	⇓P		**Pn**	**11 10 14.4**	**+0.6**
JFT				eS		**Sn**	**11 10 35.6**	**+0.1**
JOU	**Okura**	**1.94**	**317**	P		**Pn**	**11 10 17.5**	**+0.2**
JFY	**Yanaizu**	**2.16**	**283**	P		**Pn**	**11 10 21.4**	**+1.0**
JFY				eS		**Sn**	**11 10 48.0**	**+0.9**
JMK	**Ichinoseki**	**2.18**	**336**	⇑P		**Pn**	**11 10 21.0**	**+0.3**
MAT	**Matsushiro**	**3.35**	**264**	P		**Pn**	**11 10 38.2**	**+0.8**
MAT				eS		**Sn**	**11 11 16.0**	**-1.4**
ASAJ	**Asahikawa**	**7.16**	**1**	Pn		**Pn**	**11 11 29.5**	**-1.6**
	0.9nm,0.3s,baz=140,slow=21,SNR=4.2							
ASAJ				Sn		**Sn**	**11 12 54.6**	**+1.6**
	0.3nm,0.3s,baz=109,slow=32,SNR=2.6							
SONM	**Songino Array**	**28.45**	**304**	P		**P**	**11 15 40.1**	**-0.5**
	0.9nm,0.9s,mb3.4,baz=90,slow=7.4,SNR=5.8							
ZAL	**Zalesovo**	**42.53**	**312**	P		**P**	**11 17 42.2**	**+1.5**
	0.5nm,0.4s,mb3.6,baz=8.8,slow=14,SNR=4.2							
WRA	**Warramunga Arr**	**57.09**	**189**	P		**P**	**11 19 31.7**	**-0.9**
	0.5nm,0.7s,mb3.7,baz=7.7,slow=7.3,SNR=5.3							
ASAR	**Alice Springs**	**60.82**	**189**	P		**P**	**11 19 58.7**	**+0.3**
	0.3nm,0.7s,mb3.6,baz=15,slow=6.3,SNR=4.0							

*IDC **18** 11:19:13.2±1.4,23.99S×66.76W,h191km±10km,mb3.1/3, mb1 3.5/6,mb1mx3.3/13,mbtmp3.7/6,MS2.8/1,Ms1 2.9/1, ms1mx2.6/11,Error ellipse: s-maj=25.9km s-min=16.0km az=23.0*
*NEIC **18** 11:19:13.5±0.9,24.05S×66.75W,h197km±7km,Error ellipse: s-maj=17.4km s-min=9.0km az=201.0*

ISC 18 11:19:12.4±1.1,24.1S±0.1×66.8W±0.1,h201km±10km,n11, σ0§52/13,mb3.1/3,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.45**	**306**	P		**P**	**11 19 56.8**	**+0.6**
	19nm,0.3s,baz=129,slow=6.6,SNR=363							
LVC				S		**S**	**11 20 29.1**	**-0.9**
	32nm,0.3s,baz=252,slow=21,SNR=57							
LVC	**Limon Verde**	**2.45**	**306**	ePn		**P**	**11 19 56.8**	**+0.6**
LVC				S		**S**	**11 20 29.1**	**-0.9**
LVC				eSn		**S**	**11 20 29.6**	**-0.5**
LPAZ	**La Paz**	**7.86**	**350**	P		**P**	**11 21 05.3**	**+0.7**
	baz=166,slow=8.3							
LPAZ				S		**S**	**11 22 32.2**	**0.0**
LPAZ				LR		LR	11 23 45.7	
	comp=Z,68nm,20.2s,baz=330,slow=35							
CPUP	**Villa Florida**	**8.85**	**107**	P		**P**	**11 21 17.6**	**+0.2**
	0.0nm,0.3s,baz=199,slow=14,SNR=1.6							
BDFB	**Brasília**	**19.53**	**68**	P		**P**	**11 23 25.6**	**-0.8**
	0.4nm,0.3s,baz=243,slow=11,SNR=6.5							
BAO	**Brasilia Array**	**19.55**	**68**	P		**P**	**11 23 26.5**	**-0.1**
TXAR	**Lajitas Array**	**63.86**	**324**	P		**P**	**11 29 25.3**	**-0.5**
	0.3nm,0.9s,mb2.9,baz=149,slow=5.3,SNR=2.7							
PDAR	**Pinedale Array**	**77.32**	**329**	P		**P**	**11 30 46.7**	**+0.5**
	0.3nm,0.7s,mb3.0,baz=153,slow=8.1,SNR=2.9							
YKA	**Yellowknife Ar**	**94.27**	**340**	P		**P**	**11 32 09.3**	**+0.1**
	0.3nm,0.7s,mb3.4,baz=136,slow=4.6,SNR=15							
ASAR	**Alice Springs**	**128.47**	**204**	PKP		PKPdf	11 37 57.7	+1.9
	0.3nm,0.6s,baz=132,slow=2.2,SNR=5.8							
WRA	**Warramunga Arr**	**131.65**	**207**	PKP		PKPdf	11 38 03.9	+1.9
	0.2nm,0.3s,baz=154,slow=2.0,SNR=11							

*NEIC **18** 11:26:52.9±1.7,29.56N×139.02E,h460km±16km,mb3.9/2, Error ellipse: s-maj=26.8km s-min=16.5km az=118.0*
*JMA **18** 11:26:53.4±0.1,29.59N×139.38E,h436km,M3.4*
*IDC **18** 11:26:56.2±1.6,29.45N×138.87E,h500km±18km,mb3.0/8, mb1 3.2/10,mb1mx2.9/23,mbtmp4.0/10,Error ellipse: s-maj=23.1km s-min=14.9km az=92.0*

ISC 18 11:26:51.3±0.6,29.50N±0.06×139.1E±0.1,h465km±7km, n30,σ1§02/31,mb3.5/10,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.59**	**131**	P		**P**	**11 28 03.9**	**-0.7**
JHJ	**Hachijo jima 2**	**3.65**	**8**	P		**P**	**11 28 12.5**	**+7.4**
	25nm,0.3s,baz=243,slow=21,SNR=2.5							
JHHJ	**Haha-jima-NKT**	**3.92**	**136**	P		**P**	**11 28 07.2**	**-0.1**
JWZ	**Kozaga**	**4.97**	**325**	P		**P**	**11 28 17.5**	**+0.6**
JIE	**Ise**	**5.30**	**338**	P		**P**	**11 28 21.7**	**+1.6**
BSO1	**Boso 1**	**5.37**	**16**	eS		**S**	**11 29 31.9**	**+0.4**
HMMJ	**Hamamatsu 2**	**5.48**	**348**	P		**P**	**11 28 22.9**	**+1.0**
BSO4	**Boso 4**	**5.57**	**10**	eS		**S**	**11 29 34.8**	**-0.2**
JOD2	**Odawara 2**	**5.75**	**360**	P		**P**	**11 28 24.3**	**-0.3**
JNY	**Yasuok**	**5.95**	**350**	P		**P**	**11 28 27.8**	**+1.2**
JAO	**Obara**	**5.97**	**345**	P		**P**	**11 28 28.3**	**+1.5**
JHU	**Hanno**	**6.34**	**1**	P		**P**	**11 28 29.8**	**-0.8**
JHU				eS		**S**	**11 29 46.8**	**-2.3**
JRY	**Ryogami san**	**6.51**	**358**	P		**P**	**11 28 32.3**	**0.0**
JAG	**Ashikaga**	**6.92**	**2**	P		**P**	**11 28 35.1**	**-1.5**
MAJO	**Matsushiro**	**7.07**	**354**	eP		**P**	**11 28 36.7**	**-1.6**
JHO	**Hitachi**	**7.20**	**9**	P		**P**	**11 28 39.3**	**-0.3**
JFK	**Kawauchi**	**7.98**	**10**	P		**P**	**11 28 48.6**	**+0.6**
JMK	**Ichinoseki**	**9.59**	**10**	P		**P**	**11 29 06.4**	**+0.9**
JOW	**Kunigami**	**9.95**	**257**	P		**P**	**11 29 10.1**	**+0.6**
	0.9nm,0.3s,baz=84,slow=7.6,SNR=2.8							
ENH	**Enshi**	**25.69**	**279**	eP		**P**	**11 31 42.2**	**-2.3**
	6.7nm,0.7s,mb4.2							
SONM	**Songino Array**	**31.13**	**315**	P		**P**	**11 32 32.0**	**+0.3**
	0.3nm,0.5s,mb3.0,baz=120,slow=8.7,SNR=3.6							
CMAR	**Chiang Mai Arr**	**38.17**	**262**	P		**P**	**11 33 31.1**	**+0.3**
	0.6nm,0.5s,mb3.3,baz=71,slow=4.2,SNR=5.2							
WRA	**Warramunga Arr**	**49.37**	**186**	P		**P**	**11 34 58.7**	**-0.2**
	0.3nm,0.3s,mb3.1,baz=1.2,slow=7.9,SNR=31							
CHKZ	**Chkalovo**	**54.30**	**317**	eP		**P**	**11 35 32.6**	**-1.7**
	1.4nm,0.4s,mb3.6							
BVAR	**Borovoye Array**	**54.46**	**316**	P		**P**	**11 35 34.5**	**-1.1**
	1.2nm,0.4s,mb3.5,baz=101,slow=6.3,SNR=11							
INK	**Inuvik**	**61.98**	**25**	P		**P**	**11 36 27.6**	**+1.4**
	0.5nm,0.5s,mb3.2,baz=262,slow=7.1,SNR=3.0							
ARCES	**ARCESS Array B**	**70.39**	**340**	P		**P**	**11 37 19.0**	**+0.7**
	3.1nm,0.9s,mb3.9,baz=69,slow=10,SNR=4.3							
FINES	**FINESS Array B**	**74.61**	**333**	P		**P**	**11 37 42.8**	**+0.1**
	1.9nm,0.9s,mb3.6,baz=76,slow=5.7,SNR=4.6							
NOA	**NORSAR Array B**	**80.38**	**337**	P		**P**	**11 38 14.6**	**+0.8**
	0.4nm,0.6s,mb3.1,baz=55,slow=4.1,SNR=2.6							
NOA	**NORSAR Array B**	**80.38**	**337**	P		**P**	**11 38 14.6**	**+0.8**

*NEIC **18** 11:28:50.6,38.94S×174.95E,h221km,After WEL.*

WEL 18 11:28:50.7±0.3,38.91S×174.99E,h221km±2km,ML4.0/9, 5C-4D,Error ellipse: s-maj=2.9km s-min=2.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.28**	**219**	P		P	11 29 18.8	-1.1
VRZ	**Vera Road**	**0.28**	**219**	PN		P	11 29 18.8	-1.1
VRZ				SN		S	11 29 40.5	-2.0
TWVZ	**Taurewa**	**0.39**	**115**	PN		P	11 29 20.0	-0.2
HIZ	**Hauiti**	**0.41**	**346**	eP		P	11 29 19.4	-0.8
HIZ				S		S	11 29 42.1	-1.0
HIZ	**Hauiti**	**0.41**	**346**	PN		P	11 29 19.4	-0.8
HIZ				SN		S	11 29 42.1	-1.0
MGZ	**Maungaku**	**0.44**	**102**	PN		P	11 29 20.1	-0.2
CNZ	**Chateau**	**0.53**	**124**	PN		P	11 29 20.5	-0.1
WPVZ	**Whakapapa**	**0.53**	**124**	PN		P	11 29 20.6	0.0
WPVZ				SN		S	11 29 42.5	-1.3
NGZ	**Ngauruhoe**	**0.55**	**119**	P		P	11 29 20.6	-0.1
NGZ	**Ngauruhoe**	**0.55**	**119**	PN		P	11 29 20.6	0.0
NGZ				SN		S	11 29 42.6	-1.3
FWVZ	**Far West T-bar**	**0.56**	**128**	PN		P	11 29 20.5	-0.2
FWVZ				SN		S	11 29 41.8	-2.1
OTVZ	**Oturere**	**0.59**	**116**	PN		P	11 29 21.0	+0.2
OTVZ				SN		S	11 29 43.5	-0.6
RAEZ	**Rainy Point**	**0.60**	**230**	P		P	11 29 20.2	-0.6
RAEZ	**Rainy Point**	**0.60**	**230**	PN		P	11 29 20.2	-0.7
TUVZ	**Tukino**	**0.63**	**125**	PN		P	11 29 21.0	0.0
TUVZ				SN		S	11 29 43.2	-1.2
WNVZ	**Wahianoa**	**0.63**	**131**	P		P	11 29 20.0	-1.0
WNVZ	**Wahianoa**	**0.63**	**131**	PN		P	11 29 20.0	-1.0
WNVZ				SN		S	11 29 42.1	-2.3
MOVZ	**Moawhango**	**0.78**	**130**	P		P	11 29 21.1	-0.5
MOVZ				S		S	11 29 43.1	-2.5
MOVZ	**Moawhango**	**0.78**	**130**	PN		P	11 29 21.1	-0.5
MOVZ				SN		S	11 29 43.3	-2.3
NEZ	**North Egmont**	**0.78**	**242**	P		P	11 29 21.3	-0.3
NEZ	**North Egmont**	**0.78**	**242**	⇓PN		P	11 29 21.3	-0.3
WAZ	**Wanganui**	**0.84**	**180**	P		P	11 29 21.7	-0.2
WAZ	**Wanganui**	**0.84**	**180**	⇑PN		P	11 29 21.7	-0.2
WAZ				SN		S	11 29 45.3	-0.9
NRZ	**Ngariki Road**	**0.92**	**242**	PN		P	11 29 21.7	-0.6
BKZ	**Black Stump Fm**	**1.20**	**103**	P		P	11 29 23.8	-0.4
BKZ	**Black Stump Fm**	**1.20**	**103**	⇓PN		P	11 29 23.8	-0.5
BKZ				SN		S	11 29 48.0	-2.2
TAZ	**Tarawera**	**1.37**	**61**	PN		P	11 29 25.1	-0.5
TSZ	**Takapari Road**	**1.38**	**147**	P		P	11 29 25.2	-0.4
TSZ	**Takapari Road**	**1.38**	**147**	⇑PN		P	11 29 25.2	-0.4
TSZ				SN		S	11 29 51.1	-1.5
LIRZ	**Lichensteins R**	**1.42**	**51**	PN		P	11 29 25.2	-0.7
MARZ	**Manawahe**	**1.61**	**56**	PN		P	11 29 26.9	-0.7
URZ	**Urewera**	**1.79**	**69**	P		P	11 29 27.7	-1.4
URZ	**Urewera**	**1.79**	**69**	⇓PN		P	11 29 27.7	-1.4
URZ				SN		S	11 29 56.4	-2.4
MRZ	**Mangatainoka R**	**1.81**	**166**	P		P	11 29 28.2	-1.1
MRZ	**Mangatainoka R**	**1.81**	**166**	⇑PN		P	11 29 28.2	-1.1
MRZ				SN		S	11 29 56.3	-2.9
PWZ	**Pawanui**	**1.83**	**128**	P		P	11 29 29.2	-0.4
PWZ	**Pawanui**	**1.83**	**128**	PN		P	11 29 29.2	-0.4
KIW	**Kapiti Island**	**1.95**	**182**	P		P	11 29 29.3	-1.4
KIW	**Kapiti Island**	**1.95**	**182**	⇑PN		P	11 29 29.3	-1.4
KIW				SN		S	11 29 58.7	-2.8
BFZ	**Birch Farm**	**2.02**	**152**	P		P	11 29 30.2	-1.1
BFZ	**Birch Farm**	**2.02**	**152**	PN		P	11 29 30.2	-1.1
MWZ	**Matawai**	**2.07**	**75**	⇓PN		P	11 29 30.7	-1.2
KNZ	**Kokohu**	**2.10**	**94**	P		P	11 29 31.5	-0.6
KNZ	**Kokohu**	**2.10**	**94**	PN		P	11 29 31.4	-0.7
CAW	**Cannon Point**	**2.20**	**178**	P		P	11 29 31.6	-1.5
CAW	**Cannon Point**	**2.20**	**178**	⇑PN		P	11 29 31.6	-1.5
MTW	**Mount Morrison**	**2.28**	**170**	PN		P	11 29 32.2	-1.8
MRW	**Makara Radio**	**2.33**	**185**	P		P	11 29 32.7	-1.8
MRW	**Makara Radio**	**2.33**	**185**	PN		P	11 29 32.7	-1.8
WEL	**Wellington**	**2.38**	**184**	P		P	11 29 33.1	-2.0
WEL	**Wellington**	**2.38**	**184**	PN		P	11 29 33.0	-2.0
WEL				PN		P	11 29 33.2	-1.9
BHW	**Baring Head**	**2.50**	**182**	P		P	11 29 34.3	-2.0
MSWZ	**Moikau Station**	**2.51**	**175**	P		P	11 29 34.5	-2.0
NNZ	**Nelson**	**2.62**	**208**	P		P	11 29 35.1	-2.5
QRZ	**Quartz Range**	**2.69**	**224**	P		P	11 29 35.3	-3.1
BSWZ	**Blackbirch Sta**	**2.93**	**196**	P		P	11 29 39.4	-1.7
MXZ	**Matakaoa Point**	**2.94**	**64**	P		P	11 29 39.7	-1.5
THZ	**Tophouse**	**3.26**	**209**	P		P	11 29 41.9	-3.1
KHZ	**Kahutara**	**3.67**	**197**	P		P	11 29 47.2	-2.7
DSZ	**Denniston Nort**	**3.73**	**220**	P		P	11 29 46.7	-3.9
LTZ	**Lake Taylor**	**4.38**	**207**	P		P	11 29 54.6	-3.9
CRLZ	**Canterbury Las**	**4.99**	**200**	eP		P	11 30 01.5	-4.6
MQZ	**McQueen's Vall**	**5.11**	**199**	eP		P	11 30 02.8	-4.8
WVZ	**Waitaha Valley**	**5.26**	**216**	eP		P	11 30 05.4	-4.1
RPZ	**Rata Peaks**	**5.64**	**210**	eP		P	11 30 09.5	-4.9

IDC 18 11:45:17.9±12.0,8.90N×91.49E,mb3.4/3,mb1 3.7/3, mb1mx3.5/17,mbtmp3.4/3,Error ellipse: s-maj=409.9km s-min=34.1km az=73.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**40.80**	**15**	P		P	11 53 01.0	-1.6
	0.3nm,0.4s,baz=192,slow=9.9,SNR=4.0							
WRA	**Warramunga Arr**	**51.00**	**125**	P		P	11 54 21.8	-2.1
	0.5nm,0.4s,baz=303,slow=8.8,SNR=12							
WRA				pP		pP	11 54 30.6	+6.7
	0.4nm,0.5s,baz=305,slow=8.5,SNR=6.7							
ASAR	**Alice Springs**	**52.59**	**129**	P		P	11 54 33.8	-2.1
	0.3nm,0.5s,baz=302,slow=7.0,SNR=6.2							

IDC 18 11:45:59.0±1.7,14.60N×145.26E,mb3.7/4,mb1 4.0/4, mb1mx3.6/17,mbtmp3.7/4,Error ellipse: s-maj=169.9km s-min=27.2km az=109.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.97**	**198**	P		P	11 53 01.6	-2.0
	1.4nm,0.5s,baz=20,slow=9.4,SNR=28							
ASAR	**Alice Springs**	**39.62**	**196**	P		P	11 53 32.6	-1.6
	0.4nm,0.5s,baz=18,slow=13,SNR=7.0							
STKA	**Stephens Creek**	**46.34**	**184**	P		P	11 54 26.6	-2.1
	0.8nm,0.5s,baz=3.5,slow=10,SNR=5.4							
YKA	**Yellowknife Ar**	**81.80**	**28**	P		P	11 58 19.6	-1.3
	0.5nm,1.2s,baz=277,slow=5.0,SNR=2.5							

*MOS **18** 11:57:53.0±2.2,53.57N×91.86E,h10km,mb4.2/2,Error ellipse: s-maj=33.8km s-min=21.8km az=7.1*
*IDC **18** 11:57:54.2±1.1,53.23N×91.91E,mb3.5/3,mb1 3.8/5, mb1mx3.6/21,mbtmp3.5/5,ML3.5/2,Error ellipse: s-maj=30.9km s-min=11.0km az=5.0*
*NNC **18** 11:57:56.9±29.0,52.44N×93.00E,mpv4.0,Error ellipse: s-maj=268.7km s-min=160.8km az=90.0*
*NEIC **18** 11:57:56.1±0.9,53.23N×91.88E,h10km,mb4.0/2,Error ellipse: s-maj=24.0km s-min=11.4km az=167.0*

ISC 18 11:57:54.9±0.8,53.58N±0.08×91.4E±0.1,h10km,n18, σ1§21/19,mb3.7/4,1C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**3.95**	**278**	Pn		**Pn**	**11 59 02.3**	**+5.4**
	6.4nm,0.3s,baz=13,slow=11,SNR=48							
ZAL				Sn		**Sn**	**11 59 54.1**	**+10**
	4.5nm,0.3s,baz=22,slow=20,SNR=3.5							
ZAL				Lg			12 00 08.1	
	19nm,0.3s,baz=291,slow=14,SNR=10							
NVS	**Novosibirsk**	**4.97**	**288**	ePN		**Pn**	**11 59 11.2**	**-0.2**
NVS				e			11 59 27.5	
NVS				e			12 00 11.6	
NVS				e			12 00 34.5	
KURK	**Kurchatov**	**8.38**	**255**	eP		**P**	**11 59 59.8**	**+0.5**
KURK				eS		**Sn**	**12 01 33.9**	**-1.1**
MK31	**Makanchi Array**	**8.96**	**224**	Pn		**P**	**12 00 08.2**	**+0.8**
	3.4nm,0.6s,baz=49,slow=14,SNR=5.5							
MK31				⇓Sn		**Sn**	**12 01 50.1**	**+0.7**
	2.9nm,0.6s,baz=36,slow=27,SNR=14							
MK31				⇓Lg			12 02 39.7	
	9.5nm,0.7s,baz=55,slow=31,SNR=2.6							
SONM	**Songino Array**	**11.09**	**115**	Pg		Px	12 01 08.5	
	0.1nm,0.3s,baz=302,slow=19,SNR=4.1							
SONM				Lg			12 03 32.2	
	0.1nm,0.3s,baz=302,slow=27,SNR=3.2							
CHKZ	**Chkalovo**	**12.35**	**279**	⇑P		Px	12 01 09.6	
	6.4nm,2.0s							
CHKZ	**Chkalovo**	**12.35**	**279**	eP		**P**	**12 00 55.5**	**+1.9**
BVA0	**Borovoye Array**	**12.59**	**276**	⇓P		Px	12 01 11.2	
	1.9nm,2.5s							
BVAR	**Borovoye Array**	**12.59**	**276**	Pn		**P**	**12 00 56.0**	**-0.8**
	0.2nm,0.3s,baz=80,slow=13,SNR=4.4							
BVAR				Sn		**S**	**12 03 17.8**	**-0.3**
	0.6nm,0.3s,baz=77,slow=26,SNR=6.7							
BOD	**Bodaibo**	**13.40**	**62**	eP		**P**	**12 01 01.2**	**-6.3**
ARU	**Arti**	**18.96**	**292**	P		**P**	**12 02 17.3**	**-1.0**
ARU				pmax	pmax			
	comp=Z,4.0nm,0.6s							
ARU	**Arti**	**18.96**	**292**	P		**P**	**12 02 17.3**	**-1.0**
	comp=Z,4.4nm,0.6s							
ILAR	**Eielson Array**	**53.77**	**27**	P		**P**	**12 07 19.5**	**+0.5**
	comp=Z,0.4nm,0.7s,mb3.5,baz=319,slow=5.0,SNR=11							
INK	**Inuvik**	**53.97**	**19**	P		**P**	**12 07 21.5**	**+1.2**
INK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
INK	**Inuvik**	**53.97**	**19**	P		**P**	**12 07 21.5**	**+1.2**
	comp=Z,1.1nm,0.6s,mb4.0							
YKA	**Yellowknife Ar**	**62.48**	**13**	P		**P**	**12 08 20.1**	**0.0**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.8s		

NEIC ***18*** *12:42:02.2, 32.66S×71.61W, h36km, MD3.5(GUC), After GUC.*

GUC 18 12:42:02.2±0.5, 32.66S×71.61W, h36km±3km, MD3.5, ML2.4, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.18**	**50**	⇓*i*P	P	12 42 09.1	+0.2
PACH				*i*S	S	12 42 14.0	+0.5
ROCH	**El Roble**	**0.59**	**122**	*i*S	S	12 42 23.6	+1.0
LCCH	**Las Cruces**	**0.82**	**178**	*i*P	P	12 42 17.5	+0.3
JACH	**Jahuel**	**0.85**	**92**	*e*P	P	12 42 18.0	+0.2
JACH				*i*S	S	12 42 30.6	+1.4
RCDM	**Rinconada Maip**	**1.07**	**141**	⇓*i*P	P	12 42 21.0	+0.1
RCDM				*i*S	S	12 42 35.8	+1.1
RCDM				AMP		12 42 38.2	
	comp=E,185nm,0.1s						
LNV	**Longovilo**	**1.31**	**173**	*i*P	P	12 42 24.9	+0.5
PCH	**Pirque**	**1.33**	**137**	*e*P	P	12 42 25.2	+0.6
PCH				*i*S	S	12 42 43.3	+2.0
CHCH	**Chadas Angostu**	**1.50**	**148**	⇑*i*P	P	12 42 28.3	+1.2

JMA ***18*** *12:50:04.9, 37.39N×138.93E, h10km±1km, M2.9*

ISC 18 12:50:04.8±0.6, 37.38N±0.04×138.93E±0.05, h14km±5km, n6, σ0§30/12, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.14**	**153**	P	**Pg**	**12 50 08.4**	**-0.2**
JHK				S	**Sg**	**12 50 11.1**	**-0.1**
JIZZ	**Izumozaki**	**0.23**	**311**	P	**Pg**	**12 50 09.9**	**-0.2**
JIZZ				S	**Sg**	**12 50 14.3**	**+0.6**
JNS	**Sasagawa**	**0.54**	**35**	P	**Pb**	**12 50 15.2**	**-0.2**
JNS				S	**Sb**	**12 50 22.3**	**-0.3**
JFY	**Yanaizu**	**0.61**	**87**	P	**Pb**	**12 50 16.8**	**+0.1**
JFY				S	**Sb**	**12 50 25.2**	**+0.3**
JKT	**Katashina**	**0.66**	**157**	P	**Pb**	**12 50 17.5**	**0.0**
JKT				S	**Sb**	**12 50 26.7**	**+0.5**
MAT	**Matsushiro**	**1.02**	**215**	P	**Pb**	**12 50 23.2**	**-0.4**
MAT				S	**Sb**	**12 50 36.5**	**-0.1**

NIED ***18*** *12:50:00, 37.40N×139.00E, h8km, Mw4.5 Best double couple: M0 7.09×10^15 NP1:φs30°, δ49°, λ81°. NP2:φs223°, δ42°, λ100°.*

CSEM ***18*** *12:50:28.5, 37.26N×139.53E, h2km, mb5.6*

JMA ***18*** *12:50:32.8, 37.37N×139.00E, h8km±2km, M4.7 Broadband fault plane solution: P waves. NP1:φs59°, δ43°, λ106°. NP2:φs218°, δ49°, λ76°. Principal axes: T Plg79°, Azm63°; N Plg11°, Azm227°; P Plg3°, Azm318°;*

JMA Felt IV J1.

BJI ***18*** *12:50:34.0, 37.30N×138.90E, h20km, mB5.0, mb4.6, Ms4.4, Msz4.2*

NEIC ***18*** *12:50:34.0±1.4, 37.33N×138.87E, h21km±9km, mb4.8/38, MW4.5(NIED), Error ellipse: s-maj=5.8km s-min=5.3km az=113.0*

NEIC Recorded [4 JMA] in Niigata; [2 JMA] in Fukushima; [1 JMA] in Gumma, Ishikawa, Nagano, Saitama and Yamagata Prefectures. Also recorded [1 JMA] on Sadoga-shima.

MOS ***18*** *12:50:34.1±1.2, 37.36N×138.90E, h33km, mb5.0/45, Error ellipse: s-maj=9.8km s-min=5.5km az=99.1*

IDC ***18*** *12:50:36.6±3.5, 37.36N×138.82E, h37km±29km, mb4.3/33, mb1 4.4/35, mb1mx4.4/38, mbtmp4.5/35, ML4.1/2, Error ellipse: s-maj=13.4km s-min=10.8km az=90.0*

ISC 18 12:50:32.2±0.4, 37.39N±0.02×138.93E±0.03, h19km±2km, n203, σ1§16/208, mb4.7/73, MS4.5/4, 10C-8D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.15**	**154**	⇓P	**Pb**	**12 50 35.6**	**-1.0**
JHK				S	**Sb**	**12 50 37.9**	**-1.7**
JIZZ	**Izumozaki**	**0.23**	**309**	P	**Pb**	**12 50 38.9**	**+1.2**
JIZZ				*e*S	**Sb**	**12 50 42.5**	**+1.1**
JNS	**Sasagawa**	**0.53**	**35**	P	**Pb**	**12 50 42.6**	**-0.1**
JNS				S	**Sb**	**12 50 49.6**	**-0.2**
JFY	**Yanaizu**	**0.61**	**88**	⇓P	**Pb**	**12 50 43.8**	**-0.3**
JFY				S	**Sb**	**12 50 51.7**	**-0.6**
JKT	**Katashina**	**0.67**	**158**	⇓P	**Pb**	**12 50 44.9**	**-0.2**
JKT				S	**Sb**	**12 50 53.6**	**-0.2**
MAJO	**Matsushiro**	**1.02**	**215**	⇑*i*P	**Pb**	**12 50 51.7**	**+0.6**
MAT	**Matsushiro**	**1.02**	**215**	*e*P	**Pb**	**12 50 52.0**	**+0.9**
MAT				*e*S	**Sb**	**12 51 05.0**	**+0.9**
MAT	**Matsushiro**	**1.02**	**215**	P	**Pb**	**12 50 51.7**	**+0.6**
MAT				S	**Sb**	**12 51 05.2**	**+1.1**
JAG	**Ashikaga**	**1.05**	**156**	⇓P	**Pb**	**12 50 52.0**	**+0.5**
JHJ	**Hachijo jima 2**	**4.31**	**170**	Pn	**Pn**	**12 51 40.5**	**+1.8**
	41nm,0.3s,baz=233,slow=23,SNR=5.0						
JHJ				Sn	**Sn**	**12 52 31.2**	**+2.2**
	33nm,0.3s,baz=54,slow=22,SNR=4.5						
ASAJ	**Asahikawa**	**7.27**	**21**	P	**Pn**	**12 52 21.9**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ	**Asahikawa**	**7.27**	**21**	Pn	**Pn**	**12 52 21.9**	**+1.5**
	comp=Z,2.9nm,0.3s,baz=215,slow=10,SNR=18						
YSS	**Yuzh-Sakhalins**	**9.97**	**15**	⇑*i*P	**P**	**12 52 57.0**	**-0.7**
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS				MLR	MLR		
	comp=Z,700nm,11.0s						
YSS				MLR	MLR		
	comp=N,300nm,10.0s						
YSS				MLR	MLR		
	comp=E,400nm,13.0s						
YSS	**Yuzh-Sakhalins**	**9.97**	**15**	*e*P	**P**	**12 52 57.4**	**-0.3**
MDJ	**Mudanjiang**	**10.09**	**319**	P	**P**	**12 53 03.0**	**+3.6**
MDJ				AP		12 53 07.6	
MDJ				XP		12 53 10.8	
MDJ				S	**S**	**12 55 03.0**	**+10**
MDJ				AMB	AMB		
	comp=Z,22nm,1.9s						
MDJ				AMB	AMB		
	comp=Z,339nm,10.1s						
MDJ				LR	LR		
	comp=N,374nm,14.7s						
MDJ				LR	LR		
	comp=E,566nm,13.8s						
MDJ				LR	LR		
	comp=Z,889nm,14.9s						
MDJ	**Mudanjiang**	**10.09**	**319**	*e*P	**P**	**12 53 02.4**	**+3.0**
KLR	**Kul'dur**	**12.93**	**339**	*e*P	**P**	**12 53 37.3**	**-0.5**
NJ2	**Nanjing**	**17.34**	**258**	*e*P	**P**	**12 54 38.8**	**+3.9**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,520nm,11.3s						
NJ2				LR	LR		
	comp=N,370nm,19.8s						
NJ2				LR	LR		
	comp=E,410nm,18.6s						
NJ2				LR	LR		
	comp=Z,610nm,19.9s						
TIA	**Tai'an**	**17.51**	**273**	*e*P	**P**	**12 54 40.0**	**+3.0**
BJT	**Baijiatuau**	**17.96**	**285**	*e*P	**P**	**12 54 43.7**	**+1.2**
BJT				pmax	pmax		
	comp=Z,24nm,0.8s						
BJT	**Baijiatuau**	**17.96**	**285**	*e*P	**P**	**12 54 43.7**	**+1.1**
	comp=Z,24nm,0.8s						
HIA	**Hailar**	**18.27**	**317**	*e*P	**P**	**12 54 46.1**	**-0.3**
HIA				pmax	pmax		
	comp=Z,15nm,1.0s						
HIA	**Hailar**	**18.27**	**317**	*e*P	**P**	**12 54 46.1**	**-0.3**
	comp=Z,15nm,1.0s						
CLNS	**Chul'man**	**21.60**	**339**	*e*P	**P**	**12 55 20.6**	**-2.3**
CLNS				*e**PP		12 55 38.3	
CLNS				*e*S	**S**	**12 59 16.1**	**-0.2**
CLNS				*e**SS		12 59 49.9	
CLNS				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.6s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.8s						
CLNS				smax			
	comp=N,113nm,10.9s						
CLNS				smax			
	comp=Z,94nm,9.6s						
CLNS				smax			
	comp=E,52nm,10.7s						
MA2	**Magadan**	**23.48**	**15**	*c i*P	**P**	**12 55 40.8**	**-0.5**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2						
MA2	**Magadan**	**23.48**	**15**	*e*P	**P**	**12 55 39.5**	**-1.9**
	comp=Z,29nm,1.0s,mb4.7						
YAK	**Yakutsk**	**25.33**	**350**	*e*P	**P**	**12 55 58.3**	**-0.9**
YAK				pmax	pmax		
	comp=Z,22nm,0.7s,mb4.8						
YAK	**Yakutsk**	**25.33**	**350**	*e*P	**P**	**12 55 58.2**	**-0.9**
	comp=Z,22nm,0.7s,mb4.8						
ENH	**Enshi**	**25.40**	**263**	*e*P	**P**	**12 55 58.8**	**-1.4**
	comp=Z,47nm,0.8s,mb5.1						
ULN	**Ulaanbaatar**	**25.52**	**304**	*e*P	**P**	**12 56 00.1**	**-1.0**
ULN				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.6						
ULN	**Ulaanbaatar**	**25.52**	**304**	*e*P	**P**	**12 56 00.1**	**-1.0**
	comp=Z,16nm,0.8s,mb4.6						
SONM	**Songino Array**	**25.95**	**304**	P	**P**	**12 56 04.0**	**-1.1**
	comp=Z,6.3nm,0.9s,mb4.1,baz=106,slow=9.0,SNR=42						
BOD	**Bodaibo**	**26.20**	**329**	*e*P	**P**	**12 56 04.8**	**-2.5**
SEY	**Seymchan**	**26.87**	**14**	*e*P	**P**	**12 56 15.1**	**+1.7**
SEY				*e*		12 57 05.9	
SEY				*e*S	**S**	**13 00 44.6**	**-2.6**
SEY				pmax	pmax		
	comp=N,30nm,1.1s						
SEY				pmax	pmax		
	comp=E,10.0nm,1.1s						
SEY				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.7						
SEY				MLR	MLR		
	comp=Z,230nm,19.0s,MS3.8						
SEY				MLR	MLR		
	comp=N,90nm,15.0s,MS4.0						
SEY				MLR	MLR		
	comp=E,310nm,16.0s,MS4.0						
LZH	**Lanzhou**	**28.06**	**278**	*e*P	**P**	**12 56 22.9**	**-1.6**
LZH				AP	pP	12 56 30.3	+0.4
LZH				XP	sP	12 56 33.8	+1.4
LZH				PP	PP	12 57 12.5	-2.2
LZH				*e*S	**S**	**13 01 03.3**	**-3.3**
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.6						
LZH				AMB	AMB		
	comp=Z,117nm,4.7s						
LZH				LR	LR		
	comp=E,806nm,11.5s						
LZH				LR	LR		
	comp=Z,1μm,14.9s,MS4.6						
ZAK	**Zakamensk**	**28.50**	**309**	*e*P	**P**	**12 56 23.8**	**-4.5**
BILL	**Bilibino**	**34.27**	**18**	α *i*P	**P**	**12 57 17.8**	**-1.2**
BILL						12 59 56.0	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.8s,mb4.3						
BILL				pmax	pmax		
	comp=Z,100nm,1.9s,mb5.4						
BILL				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.1						
BILL				pmax	pmax		
	comp=Z,700nm,3.8s						
BILL				pmax	pmax		
	comp=Z,59nm,1.0s,mb5.5						
TIXI	**Tiksi**	**34.73**	**354**	*e*P	**P**	**12 57 19.7**	**-3.1**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
WMQ	**Urumqi**	**38.91**	**296**	*e*P	**P**	**12 57 59.2**	**+0.8**
WMQ				AP	pP	12 58 06.6	+2.6
WMQ				XP	sP	12 58 10.0	+3.7
WMQ				PP	PP	12 59 32.7	+1.2
WMQ				S	**S**	**13 03 55.8**	**+0.4**
WMQ				XS		13 04 08.1	
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,35nm,4.9s						
WMQ				LR	LR		
	comp=N,654nm,19.6s,MS4.6						
WMQ				LR	LR		
	comp=E,663nm,20.3s,MS4.6						
WMQ				LR	LR		
	comp=Z,863nm,20.4s,MS4.6						
CMAR	**Chiang Mai Arr**	**39.69**	**253**	P	**P**	**12 58 03.7**	**-1.4**
CMAR						13 00 12.1	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**39.69**	**253**	P	**P**	**12 58 03.6**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=41,slow=8.3,SNR=3.3						
CMAR				PcP	PcP	13 00 12.1	-0.2
	comp=Z,0.8nm,0.4s,baz=19,slow=2.0,SNR=7.8						
LSA	**Lhasa**	**40.21**	**273**	P	**P**	**12 58 10.5**	**+1.2**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
LSA	**Lhasa**	**40.21**	**273**	P	**P**	**12 58 10.5**	**+1.2**
	comp=Z,6.3nm,0.8s,mb4.4						
ZAL	**Zalesovo**	**40.23**	**312**	P	**P**	**12 58 09.6**	**+0.4**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL	**Zalesovo**	**40.23**	**312**	P	**P**	**12 58 09.6**	**+0.4**
	comp=Z,2.0nm,0.6s,mb4.0,baz=13,slow=7.8,SNR=10						
ZAL	**Zalesovo**	**40.23**	**312**	P	**P**	**12 58 09.6**	**+0.4**
TNA	**Tin City**	**41.53**	**30**	*e*P	**P**	**12 58 20.0**	**+0.4**
KURK	**Kurchatov**	**44.15**	**308**	*e*P	**P**	**12 58 38.9**	**-2.3**
KURK				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.8						
KURK	**Kurchatov**	**44.15**	**308**	*e*P	**P**	**12 58 38.9**	**-2.4**
	comp=Z,13nm,0.7s,mb4.8						
AAK	**Ala-Archa**	**48.58**	**297**	P	**P**	**12 59 14.8**	**-1.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**48.58**	**297**	P	**P**	**12 59 14.8**	**-1.5**
	comp=Z,5.4nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**48.62**	**313**	*e*P	**P**	**12 59 14.9**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
CHKZ	**Chkalovo**	**48.62**	**313**	*e*P	**P**	**12 59 14.9**	**-1.5**
	comp=Z,8.8nm,0.8s,mb4.8						
BVAR	**Borovoye Array**	**48.87**	**312**	P	**P**	**12 59 17.8**	**-0.5**
	comp=Z,5.8nm,0.8s,mb4.7,baz=90,slow=7.4,SNR=26						
BVAR				PcP	PcP	13 00 41.7	-1.5
	comp=Z,2.9nm,0.6s,baz=117,slow=3.3,SNR=5.1						
BRVK	**Borovoye**	**48.92**	**312**	*e*P	**P**	**12 59 17.6**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
BRVK	**Borovoye**	**48.92**	**312**	*e*P	**P**	**12 59 17.6**	**-1.2**
	comp=Z,11nm,0.9s,mb4.9						
MCK	**McKinley**	**49.44**	**34**	*e*P	**P**	**12 59 21.7**	**-1.0**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
MCK	**McKinley**	**49.44**	**34**	*e*P	**P**	**12 59 21.7**	**-1.0**
	comp=Z,3.2nm,0.8s,mb4.4						
ILAR	**Eielson Array**	**50.26**	**32**	P	**P**	**12 59 28.6**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**50.26**	**32**	P	**P**	**12 59 28.6**	**-0.4**
	comp=Z,2.3nm,0.8s,mb4.3,baz=278,slow=6.8,SNR=25						
ARU	**Arti**	**54.78**	**318**	⇑*i*P	**P**	**12 59 57.6**	**-5.2**
ARU				*e*S	**S**	**13 07 31.0**	**-10**
ARU				*e*SS	SS	13 11 24.8	+0.9
ARU				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.2						
ARU	**Arti**	**54.78**	**318**	*e*P	**P**	**12 59 57.7**	**-5.1**
	comp=Z,22nm,0.9s,mb5.2						
INK	**Inuvik**	**54.97**	**27**	*e*P	**P**	**13 00 02.5**	**-1.6**
INK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
INK	**Inuvik**	**54.97**	**27**	P	**P**	**13 00 03.7**	**-0.4**
	comp=Z,3.7nm,0.8s,mb4.5,baz=284,slow=7.9,SNR=8.7						
INK	**Inuvik**	**54.97**	**27**	*e*P	**P**	**13 00 02.5**	**-1.6**
	comp=Z,4.8nm,0.7s,mb4.6						
HYB	**Hyderabad**	**56.24**	**267**	*e*P	**P**	**13 00 13.0**	**-0.9**
HYB	**Hyderabad**	**56.24**	**267**	*i*P	**P**	**13 00 13.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**56.59**	**195**	*e*P	**P**	**13 00 15.7**	**-0.7**
	comp=Z,8.3nm,1.2s,mb4.6						
WRAB	**Tennant Creek**	**57.17**	**185**	*e*P	**P**	**13 00 17.3**	**-3.2**
WRAB				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**57.17**	**185**	*e*P	**P**	**13 00 17.3**	**-3.3**
	comp=Z,12nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**57.18**	**185**	P	**P**	**13 00 18.7**	**-1.9**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WRA	**Warramunga Arr**	**57.18**	**185**	P	**P**	**13 00 18.7**	**-1.9**
	comp=Z,6.0nm,0.7s,mb4.7,baz=0.8,slow=7.5,SNR=41						
CTA	**Charters Tower**	**57.58**	**172**	P	**P**	**13 00 22.0**	**-1.4**
CTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CTA	**Charters Tower**	**57.58**	**172**	P	**P**	**13 00 22.0**	**-1.4**
	comp=Z,5.9nm,1.0s,mb4.6,baz=326,slow=7.3,SNR=3.1						
CTAO	**Charters Tower**	**57.58**	**172**	*e*P	**P**	**13 00 21.1**	**-2.3**
CTAO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
CTAO	**Charters Tower**	**57.58**	**172**	*e*P	**P**	**13 00 21.1**	**-2.3**
	comp=Z,8.4nm,0.9s,mb4.8						
DLBC	**Dease Lake**	**59.56**	**38**	P	**P**	**13 00 37.5**	**+0.9**
	comp=Z,1.3nm,0.7s,mb4.1,baz=244,slow=17,SNR=4.5						
ASAR	**Alice Springs**	**60.91**	**185**	P	**P**	**13 00 45.2**	**-1.1**
	comp=Z,3.7nm,0.8s,mb4.5,baz=12,slow=5.8,SNR=16						
MBWA	**Marble Bar**	**60.98**	**201**	*e*P	**P**	**13 00 44.9**	**-1.9**
	comp=Z,6.8nm,0.8s,mb4.8						
RES	**Resolute Bay**	**62.74**	**14**	*e*P	**P**	**13 00 56.4**	**-1.6**
RES				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
RES	**Resolute Bay**	**62.74**	**14**	*e*P	**P**	**13 00 56.4**	**-1.6**
	comp=Z,5.5nm,0.8s,mb4.7						
ARCES	**ARCESS Array B**	**62.96**	**339**	P	**P**	**13 00 58.5**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ARCES	**ARCESS Array B**	**62.96**	**339**	P	**P**	**13 00 58.5**	**-1.0**
	comp=Z,5.8nm,0.8s,mb4.8,baz=45,slow=6.9,SNR=5.9						
YKA	**Yellowknife Ar**	**64.49**	**30**	*i*P	**P**	**13 01 08.7**	**-0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**64.49**	**30**	P	**P**	**13 01 08.7**	**-0.7**
	comp=Z,0.7nm,0.7s,mb3.8,baz=304,slow=6.7,SNR=23						
YKA	**Yellowknife Ar**	**64.49**	**30**	P	**P**	**13 01 08.7**	**-0.7**
OBN	**Obninsk**	**66.62**	**322**	*e*P	**P**	**13 01 20.9**	**-2.4**
OBN				pmax	pmax		
	comp=Z,56nm,2.4s,mb5.2						
OBN				MLR	MLR		
	comp=Z,700nm,19.0s,MS4.9						
KAF	**Kangasniemi**	**67.08**	**332**	*e*p	**P**	**13 01 23.2**	**-2.9**
	comp=Z,7.4nm,0.6s,mb4.9						
KAF	**Kangasniemi**	**67.08**	**332**	*e*P	**P**	**13 01 23.2**	**-2.9**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
FINES	**FINESS Array B**	**67.57**	**331**	*i*P	**P**	**13 01 28.5**	**-0.7**
FINES				pmax	pmax		
	comp=Z,15nm,0.9s						
FINES	**FINESS Array B**	**67.57**	**331**	P	**P**	**13 01 28.5**	**-0.7**
	comp=Z,15nm,0.8s,mb5.0,baz=76,slow=7.9,SNR=21						
GOF	**Gofitskoye**	**68.38**	**311**	*e*P	**P**	**13 01 33.0**	**-1.5**
WBK	**Wadi Bani Khal**	**68.94**	**283**	⇑P	**P**	**13 01 36.5**	**-1.9**
STKA	**Stephens Creek**	**68.95**	**178**	P	**P**	**13 01 37.7**	**-0.6**
	comp=Z,5.9nm,0.8s,mb4.5,baz=345,slow=8.1,SNR=10						
STKA	**Stephens Creek**	**68.95**	**178**	P	**P**	**13 01 37.7**	**-0.6**
KIV	**Kislovodsk**	**69.17**	**310**	P	**P**	**13 01 40.3**	**+0.8**
	comp=Z,177nm,1.0s,SNR=7.2						
KIV	**Kislovodsk**	**69.17**	**310**	*e*P	**P**	**13 01 39.2**	**-0.2**
KIV				*e*PPP	PPP	13 05 55.1	+2.2
KIV				*e*S	S	13 10 42.4	-0.4
KIV				pmax	pmax		
	comp=N,20nm,1.0s						
KIV				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
KIV	**Kislovodsk**	**69.17**	**310**	*e*P	**P**	**13 01 39.4**	**0.0**
	comp=Z,46nm,1.0s,mb5.4						
JMDO	**Jabal Madar**	**69.74**	**283**	P	**P**	**13 01 43.2**	**-0.1**
	SNR=7.0						
JMDO				P		13 01 43.2	
	SNR=7.0						
GNI	**Garni**	**69.90**	**306**	P	**P**	**13 01 45.1**	**+1.1**
GNI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GNI	**Garni**	**69.90**	**306**	P	**P**	**13 01 45.1**	**+1.2**
	comp=Z,4.3nm,0.7s,mb4.5,baz=164,slow=18,SNR=4.9						
NEW	**Newport**	**71.24**	**43**	*e*P	**P**	**13 01 50.1**	**-1.9**
NEW				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NEW	**Newport**	**71.24**	**43**	*e*P	**P**	**13 01 50.1**	**-1.8**
	comp=Z,6.3nm,0.7s,mb4.7						
YBH	**Yreka Blue Hor**	**71.68**	**51**	P	**P**	**13 01 55.4**	**+0.7**
YBH				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YBH	**Yreka Blue Hor**	**71.68**	**51**	P	**P**	**13 01 55.4**	**+0.7**
	comp=Z,2.4nm,0.8s,mb4.2,baz=31,slow=2.5,SNR=7.7						
ANN	**Anapa**	**71.85**	**313**	*e*P	**P**	**13 01 47.1**	**-8.6**
ANN				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.1						
AKASG	**Malin Array Be**	**72.80**	**321**	P	**P**	**13 02 00.4**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,16nm,1.0s						
AKASG	**Malin Array Be**	**72.80**	**321**	P	**P**	**13 02 00.4**	**-0.7**
	comp=Z,16nm,0.9s,mb4.9,baz=46,slow=6.1,SNR=31						
NWAO	**Narrogin (SRO)**	**72.82**	**199**	P	**P**	**13 02 01.0**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**72.82**	**199**	P	**P**	**13 02 00.9**	**-0.7**
	comp=Z,7.1nm,0.8s,mb4.7,baz=17,slow=9.3,SNR=2.8						
HFS	**Hagfors**	**72.94**	**335**	P	**P**	**13 02 01.2**	**-0.5**
HFS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HFS	**Hagfors**	**72.94**	**335**	P	**P**	**13 02 01.2**	**-0.6**
	comp=Z,4.7nm,0.9s,mb4.4,baz=86,slow=19,SNR=4.8						
NB2	**NORSAR Subarra**	**73.08**	**336**	P	**P**	**13 02 02.1**	**-0.5**
	comp=Z,4.1nm,0.6s,mb4.5,baz=40,slow=6.2						
NB2	**NORSAR Subarra**	**73.08**	**336**	P	**P**	**13 02 02.1**	**-0.5**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
NOA	**NORSAR Array B**	**73.08**	**336**	P	**P**	**13 02 02.1**	**-0.5**
NOA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NOA	**NORSAR Array B**	**73.08**	**336**	P	**P**	**13 02 02.1**	**-0.5**
	comp=Z,7.8nm,0.8s,mb4.7,baz=40,slow=5.9,SNR=20						
BMO	**Blue Mountains**	**73.13**	**46**	*e*P	**P**	**13 02 03.4**	**+0.2**
	comp=Z,5.6nm,0.9s,mb4.5						
WVOR	**Wild Horse Val**	**73.77**	**49**	*e*P	**P**	**13 02 05.2**	**-1.7**
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
WVOR	**Wild Horse Val**	**73.77**	**49**	*e*P	**P**	**13 02 05.2**	**-1.7**
	comp=Z,9.0nm,1.0s,mb4.7						
OHCM	**Honcut**	**73.81**	**53**	*e*P	**P**	**13 02 07.5**	**+0.2**
HRY	**Holter Researc**	**75.04**	**42**	*e*P	**P**	**13 02 14.8**	**+0.6**
CMB	**Columbia Colle**	**75.26**	**53**	*e*P	**P**	**13 02 16.6**	**+0.9**
CMB				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
CMB	**Columbia Colle**	**75.26**	**53**	*e*P	**P**	**13 02 16.6**	**+0.9**
	comp=Z,8.4

CRVS Cervenica-Dubn 77.77 323 *i* P **P 13 02 30.4 +0.9**
MLR Muntele Rosu 77.82 319 P **P 13 02 30.6 +0.8**
MLR pmax pmax
comp=Z,8.0nm,1.1s
MLR Muntele Rosu 77.82 319 P **P 13 02 30.6 +0.7**
comp=Z,8.2nm,1.1s,mb4.6,baz=124,slow=11,SNR=5.4
MLR Muntele Rosu 77.82 319 P **P 13 02 30.6 +0.7**
OKC Ostrava-Krasne 78.65 325 *eP* **P 13 02 36.2 +1.9**
RAYN Ar Rayn 78.69 291 P **P 13 02 35.9 +0.9**
comp=Z,166nm,0.8s,SNR=16
PDAR Pinedale Array 78.81 44 P **P 13 02 36.0 +0.7**
comp=Z,3.2nm,0.7s,mb4.3,baz=291,slow=2.9,SNR=26
DPC Dobruska-Polom 79.09 327 *eP* **P 13 02 37.9 +1.2**
UPC Upice 79.11 327 *eP* **P 13 02 37.4 +0.6**
PSZ Piszkesteto 79.21 323⇓*eP* **P 13 02 38.5 +1.1**
VYHS Vyhne 79.30 324 *i* P **P 13 02 38.8 +1.0**
DAU Daniels Canyon 79.38 47 *eP* **P 13 02 39.3 +0.8**
MPU Maple Canyon 79.42 47 *eP* **P 13 02 39.8 +1.1**
ASF Jabal al Asfar 79.66 303 P **P 13 02 41.1 +1.0**
comp=Z,4.6nm,0.9s,mb4.4,baz=356,slow=2.7,SNR=5.6
PVCC Panska Ves 79.72 328 *eP* **P 13 02 41.1 +1.0**
BRG Berggiesshubel 79.73 328 *eP* **P 13 02 40.5 +0.4**
BRG pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BRG Berggiesshubel 79.73 328 P **P 13 02 40.5 +0.4**
comp=Z,6.7nm,0.8s,mb4.6
VRAC Vranov 79.73 326 P **P 13 02 41.4 +1.2**
VRAC pmax pmax
comp=Z,7.0nm,0.8s
VRAC Vranov 79.73 326 P **P 13 02 41.4 +1.2**
comp=Z,6.5nm,0.8s,mb4.6,baz=38,slow=4.5,SNR=5.9
CLL Collm 79.79 329⇑*iP* **P 13 02 40.3 -0.1**
CLL pmax pmax
comp=Z,20nm,1.3s,mb4.9
CLL Collm 79.79 329⇑*iP* **P 13 02 40.3 -0.1**
comp=Z,20nm,1.3s,mb4.9
CLL Collm 79.79 329 ⇑P **P 13 02 40.3 -0.1**
comp=Z,logA/T=1.2,mb4.9
MSU Marysvale 80.06 49 *eP* **P 13 02 43.7 +1.5**
SRO1 Iza 80.10 324 *eP* **P 13 02 41.1 -1.1**
PRU Pruhonice 80.13 327 *eP* **P 13 02 42.7 +0.4**
CLZ Clausthal 80.44 331 *eP* **P 13 02 44.2 +0.3**
comp=Z,30nm,1.5s,mb5.0
NKC Novy Kostel 80.83 328 *eP* **P 13 02 46.7 +0.7**
KHC Kasperske Hory 81.19 327 *eP* **P 13 02 48.5 +0.6**
GEC2 GERESS Array S 81.35 327 *eP* **P 13 02 49.7 +0.9**
GEC2 pmax pmax
comp=Z,11nm,1.2s,mb4.7
GEC2 GERESS Array S 81.35 327 *eP* **P 13 02 49.7 +0.9**
comp=Z,11nm,1.2s,mb4.7
GERES GERESS Array B 81.35 327 P **P 13 02 48.9 +0.1**
GERES pmax pmax
comp=Z,6.0nm,1.0s
GERES GERESS Array B 81.35 327 P **P 13 02 48.9 +0.1**
comp=Z,6.2nm,1.0s,mb4.5,baz=40,slow=5.3,SNR=24
GRA1 Grafenberg Arr 81.76 329 *eP* **P 13 02 51.9 +1.1**
comp=Z,51nm,1.3s,mb5.3
GRF Grafenberg Arr 81.76 329 *eP* **P 13 02 51.9 +1.1**
GRF pmax pmax
comp=Z,51nm,1.3s,mb5.3
GRF Grafenberg Arr 81.76 329 *eP* **P 13 02 51.9 +1.1**
GRF pmax pmax
comp=Z,51nm,1.3s,mb5.3
GRF Grafenberg Arr 81.76 329 *eP* **P 13 02 51.9 +1.1**
comp=Z,51nm,1.3s,mb5.3
EKA Eskdalemuir Ar 82.12 339 P **P 13 02 52.6 0.0**
EKA pmax pmax
comp=Z,6.0nm,1.1s
EKA Eskdalemuir Ar 82.12 339 P **P 13 02 52.5 0.0**
comp=Z,6.0nm,1.1s,mb4.4,baz=35,slow=8.7,SNR=3.3
EIL Elat 82.52 302 *eP* **P 13 02 54.5 -0.7**
comp=Z,23nm,0.9s,mb5.2
BFO Black Forest 84.01 329 *eP* **P 13 03 02.8 +0.4**
BFO pmax pmax
comp=Z,20nm,1.0s,mb5.2
BFO Black Forest 84.01 329 *eP* **P 13 03 02.8 +0.4**
comp=Z,20nm,1.0s,mb5.2
DAVOX Davos 84.59 328 P **P 13 03 06.3 +0.9**
comp=Z,5.6nm,0.7s,mb4.8,baz=332,slow=22,SNR=4.2
DAVOX Davos 84.59 328 P **P 13 03 06.3 +0.9**
IDI Anoyia 85.28 311 P **P 13 03 08.7 -0.5**
comp=Z,42nm,0.8s,mb5.6,baz=46,slow=7.7,SNR=6.1
SCHQ Schefferville 85.52 15 P **P 13 03 10.0 +0.2**
comp=Z,3.4nm,0.8s,mb4.6,baz=349,slow=6.0,SNR=4.2
ANMO Albuquerque 85.85 48 P **P 13 03 14.3 +2.4**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ANMO Albuquerque 85.85 48 P **P 13 03 14.3 +2.3**
comp=Z,2.1nm,0.8s,mb4.4,baz=294,slow=4.9,SNR=6.8
ANMO Albuquerque 85.85 48 P **P 13 03 14.3 +2.3**
LPG La Plagne 86.93 329 *eP* **P 13 03 06.9 -10**
comp=Z,8.4nm,0.8s,mb4.7
KSU1 Kansas State U 88.33 40 *eP* **P 13 03 24.0 +0.1**
TXAR Lajitas Array 91.45 51 P **P 13 03 39.6 +0.9**
comp=Z,1.1nm,0.6s,mb4.3,baz=299,slow=3.1,SNR=16
DBIC Dimbokro 124.66 314 PKIKP PKPdf 13 09 32.1 -3.2
DBIC pmax pmax
comp=Z,2.0nm,0.9s
DBIC Dimbokro 124.66 314 PKP PKPdf 13 09 32.1 -3.2
comp=Z,1.9nm,0.9s,baz=5.9,slow=4.0,SNR=3.2
QSPA South Pole Qui 127.13 180 PKP PKPdf 13 09 36.0 -2.3
VNA2 Neumayer--Watz 142.09 197⇓*iP* PKPdf 13 09 58.3 -7.8
VNA3 Neumayer Olymp 142.38 196⇓*iP* PKPdf 13 10 01.7 -4.9
VNA1 Neumayer--Stat 142.49 197⇓*iP* PKPdf 13 09 58.8 -8.0
LVC Limon Verde 151.88 66 PKPbc PKPdf 13 10 29.1 +5.5
comp=Z,3.6nm,1.0s,baz=245,slow=7.3,SNR=3.2
BDFB Brasilia 157.48 18 PKP2 PKPab 13 11 01.3 -0.3
BDFB pmax pmax
comp=Z,2.0nm,0.5s
BDFB Brasilia 157.48 18 PKPab PKPab 13 11 01.3 -0.3
comp=Z,2.0nm,0.5s,baz=274,slow=3.5,SNR=3.3

*BJI **18** 12:51:02.5, 5.50N×94.60E, h30km, mb4.7, Ms4.3, Msz4.0*
*NEIC **18** 12:51:04.5±0.5, 5.54N×94.60E, h30km, mb4.7/4, Error ellipse: s-maj=20.7km s-min=10.0km az=48.0*
*IDC **18** 12:51:12.1±6.3, 5.52N×94.58E, h102km±58km, mb3.8/12, mb1 4.0/13, mb1mx3.9/21, mbtmp4.2/13, Error ellipse: s-maj=26.5km s-min=15.5km az=48.0*
ISC 18 12:51:03.0±0.6,**5.5N**±0.1×**94.6E**±0.1,**h33**km,**n32,**
σ0s83/30,mb4.3/19,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.56**	**18**	P	P		**P**	**12 54 21.9**	**+6.2**
	0.6nm,0.3s,baz=208,slow=14,SNR=27								
JIRN	**Jiri**	**23.44**	**341**	*eP*			**P**	**12 56 10.4**	**0.0**
	19nm,0.6s,mb4.7								
PKI	**Pulchoki**	**23.62**	**339**	*eP*			**P**	**12 56 12.6**	**+0.4**
	8.6nm,0.5s,mb4.4								
DMN	**Daman**	**23.77**	**339**	*eP*			**P**	**12 56 14.6**	**+1.1**
GUN	**Gumba**	**23.77**	**341**	*eP*			**P**	**12 56 12.5**	**-1.1**
KKN	**Kakani**	**23.87**	**339**	*eP*			**P**	**12 56 15.0**	**+0.5**
	8.7nm,0.7s,mb4.3								
LSA	**Lhasa**	**24.29**	**353**	P			**P**	**12 56 20.0**	**+1.4**
LSA	**Lhasa**	**24.29**	**353**	*eP*			**P**	**12 56 20.1**	**+1.5**
	6.4nm,0.6s,mb4.2								
GKN	**Gorkha**	**24.30**	**338**	*eP*			**P**	**12 56 18.8**	**+0.1**
KOLN	**Koldanda**	**24.49**	**336**	*eP*			**P**	**12 56 20.7**	**+0.1**
TGY	**Tagaytay City**	**27.30**	**70**	P			**P**	**12 56 45.6**	**-1.4**
	120nm,0.3s,slow=2.0,SNR=2.4								
SONM	**Songino Array**	**43.37**	**12**	P			**P**	**12 59 03.9**	**-0.2**
	1.6nm,0.8s,mb3.8,baz=198,slow=7.2,SNR=5.5								
SONM				PcP			PcP	13 00 52.4	-0.4
	0.5nm,0.5s,baz=193,slow=4.0,SNR=5.4								
WRA	**Warramunga Arr**	**46.55**	**124**	P			**P**	**12 59 30.0**	**+0.3**
	2.1nm,0.6s,mb4.2,baz=303,slow=9.1,SNR=23								
WRAB	**Tennant Creek**	**46.55**	**124**	*eP*			**P**	**12 59 30.2**	**+0.4**
	3.9nm,0.6s,mb4.5								
WB2	**Warramunga Arr**	**46.56**	**124**	*eP*			**P**	**12 59 30.1**	**+0.3**
KURK	**Kurchatov**	**47.01**	**346**	*eP*			**P**	**12 59 33.1**	**+0.2**
	9.4nm,0.8s,mb4.8								
ASPA	**Alice Springs**	**48.07**	**129**	*eP*			**P**	**12 59 41.9**	**+0.2**
ASAR	**Alice Springs**	**48.07**	**129**	P			**P**	**12 59 42.1**	**+0.4**
	1.2nm,0.5s,mb4.2,baz=301,slow=7.8,SNR=24								
ZAL	**Zalesovo**	**48.94**	**352**	P			**P**	**12 59 48.6**	**+0.6**
	4.2nm,0.5s,mb4.8,baz=325,slow=6.0,SNR=10								
BVAR	**Borovoye Array**	**51.37**	**342**	P			**P**	**13 00 05.8**	**-0.7**
	2.6nm,0.6s,mb4.4,baz=143,slow=12,SNR=8.3								
CHKZ	**Chkalovo**	**51.85**	**342**	*eP*			**P**	**13 00 09.5**	**-0.7**
	8.6nm,0.6s,mb4.9								
KMBO	**Kilima Mbogo**	**57.64**	**265**	P			**P**	**13 00 52.4**	**-0.5**
	0.9nm,0.9s,mb3.8,baz=33,slow=21,SNR=2.3								
KMBO	**Kilima Mbogo**	**57.64**	**265**	P			**P**	**13 00 52.4**	**-0.5**
BRTR	**Keskin Array B**	**64.32**	**312**	P			**P**	**13 01 35.6**	**-2.2**
	0.2nm,0.4s,mb3.5,baz=143,slow=6.2,SNR=4.1								
MLR	**Muntele Rosu**	**71.18**	**316**	P			**P**	**13 02 22.7**	**+2.2**
	0.8nm,0.3s,mb4.1,baz=127,slow=19,SNR=3.0								
ARCES	**ARCESS Array B**	**77.64**	**340**	P			**P**	**13 02 56.6**	**-0.9**
	2.0nm,0.8s,mb4.1,baz=90,slow=6.3,SNR=4.4								
GERES	**GERESS Array B**	**79.89**	**319**	P			**P**	**13 03 10.0**	**-0.1**
	1.5nm,0.6s,mb4.1,baz=104,slow=5.5,SNR=6.6								
DAVOX	**Davos**	**82.40**	**316**	P			**P**	**13 03 23.5**	**+0.2**
	2.9nm,0.5s,mb4.5,baz=315,slow=2.9,SNR=3.7								
DAVOX	**Davos**	**82.40**	**316**	P			**P**	**13 03 23.5**	**+0.2**
ILAR	**Eielson Array**	**96.76**	**22**	P			**P**	**13 04 30.8**	**-0.4**
	0.2nm,0.6s,mb3.7,baz=297,slow=4.5,SNR=6.2								
TXAR	**Lajitas Array**	**141.17**	**26**	PKhKP				13 10 28.2	
	0.1nm,0.5s,baz=180,slow=3.8,SNR=3.8								
TXAR				PKP			PKPdf	13 10 35.0	+3.9
	0.4nm,0.7s,baz=118,slow=1.0,SNR=5.5								
TXAR	**Lajitas Array**	**141.17**	**26**	PKP			PKPdf	13 10 35.0	+3.9

IDC 18 12:52:37.2±2.9,**10.21S**×**111.98E,mb3.4**/4,**mb1 3.5**/4,
mb1mx3.5/14,**mbtmp3.4**/4,**MS4.0**/1,**Ms1 4.0**/1,
ms1mx2.9/15,**Error ellipse: s-maj=110.3km**
s-min=25.5km az=57.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.63**	**117**	P			P	12 57 52.1	+1.1
	0.5nm,0.7s,baz=292,slow=12,SNR=8.5								
ASAR	**Alice Springs**	**24.83**	**125**	P			P	12 58 01.7	-0.9
	0.4nm,0.8s,baz=303,slow=9.2,SNR=5.8								
STKA	**Stephens Creek**	**34.85**	**133**	P			P	12 59 28.4	-3.8
	0.9nm,0.4s,baz=313,slow=10,SNR=9.9								
JOW	**Kunigami**	**40.07**	**23**	LR			LR	13 19 28.3	
	comp=Z,188nm,19.1s,baz=342,slow=40								
SONM	**Songino Array**	**58.00**	**356**	P			P	13 02 31.8	-2.3
	0.4nm,0.6s,baz=179,slow=2.2,SNR=3.7								

WEL 18 12:58:12.3±0.3,**34.57S**×**177.57E,h237**km±11km,**ML3.6**/1,
Error ellipse: s-maj=17.2km s-min=7.2km az=90.0,
North of New Zealand

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**3.70**	**186**	*eP*	N		P	12 59 12.6	0.0
URZ					SN		S	12 59 58.2	-1.1
URZ				*e*	SN		S	12 59 58.5	-0.8
MWZ	**Matawai**	**3.76**	**180**	PN			P	12 59 12.8	-0.4
MWZ					SN		S	12 59 59.2	-1.3
MWZ				*e*	SN		S	12 59 59.4	-1.2
BKZ	**Black Stump Fm**	**4.67**	**190**	*eP*	N		P	12 59 23.8	-0.4
NNZ	**Nelson**	**7.42**	**205**	*eP*	N		P	12 59 58.8	0.0
NNZ					SN		S	13 01 21.9	-0.3
NNZ					SN		S	13 01 22.5	+0.2

*NEIC **18** 12:58:37.0, 15.67N×61.51W, h24km, MD3.7(TRN), After TRN.*
TRN 18 12:58:38.7, 15.75N×61.53W, h5km, MD3.8, M3.5(FDF),
2C-7D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BBL	**Barber's Block**	**0.23**	**166**	⇓*iP*			Pg	12 58 43.0	-0.5
BBL					*e*	S	Sg	12 58 47.9	+1.2
BBL	**Barber's Block**	**0.23**	**166**	⇓*iP*			Pg	12 58 42.0	-1.5
BBL	**Barber's Block**	**0.23**	**166**	⇓*iP*			Pg	12 58 43.0	-0.5
BBL					*e*	S	Sg	12 58 47.9	+1.2
MGG	**Marie-Galante**	**0.26**	**52**	⇑*eP*			Pg	12 58 43.8	-0.2
DOG	**Dongo Capester**	**0.29**	**343**	⇓*eP*			Pg	12 58 44.7	+0.1
SCG	**Saint Claude**	**0.31**	**332**	⇓*iP*			Pg	12 58 45.0	0.0
BCG	**Bois Riant Cap**	**0.34**	**345**	⇑*iP*			Pg	12 58 45.0	-0.6
MDN	**Morne-Daniel**	**0.45**	**163**	⇓*iP*			Pg	12 58 46.8	-1.0
MDN					*e*	S	Sg	12 58 53.1	-0.8
DBCT	**Belle View Cho**	**0.51**	**160**	*eP*			Pg	12 58 47.9	-1.1
DSTT	**Stowe**	**0.55**	**157**	*eP*			Pg	12 58 48.5	-1.2
DSTT					*e*	S	Sg	12 58 56.4	-0.7
DSHT	**Scott's Head**	**0.56**	**164**	*eP*			Pg	12 58 48.9	-1.1
DSHT					*e*	S	Sg	12 58 57.2	-0.2
SEG	**Port Louis**	**0.65**	**2**	⇓*eP*			Pg	12 58 50.6	-1.1
SEG					*e*	S	Sg	12 59 01.1	+0.9
BPA	**Boggy Peak**	**1.32**	**346**	*eP*			Pb	12 59 02.5	-1.1
BPA					*e*	S	Sb	12 59 20.8	0.0
CPB	**Codrington**	**1.90**	**351**	*eP*			Pn	12 59 10.5	-1.6
CPB					*e*	S	Sn	12 59 36.1	-0.5

*NEIC **18** 13:14:30.5±4.3, 13.56N×92.65E, h36km±35km, mb4.1/3, Error ellipse: s-maj=44.9km s-min=9.6km az=52.0*
*IDC **18** 13:14:34.9±7.4, 13.79N×92.99E, h68km±63km, mb3.6/8, mb1 3.7/9, mb1mx3.5/19, mbtmp3.8/9, ML3.2/1, Error ellipse: s-maj=50.7km s-min=17.0km az=54.0*
ISC 18 13:14:28.9±0.7,**13.71N**±0.09×**92.99E**±0.09,**h33**km,**n13,**
σ0s65/14,mb3.8/10,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.42**	**50**	P			**P**	**13 16 21.6**	**+4.1**
	0.1nm,0.3s,baz=237,slow=15,SNR=4.0								
CMAR					S		**S**	**13 17 41.0**	**-0.5**
	0.1nm,0.3s,baz=240,slow=28,SNR=4.5								
LSA	**Lhasa**	**16.01**	**354**	P			**P**	**13 18 14.1**	**+0.8**
	3.8nm,0.5s								
ZAL	**Zalesovo**	**40.65**	**353**	P			**P**	**13 22 08.1**	**+0.5**
	1.1nm,0.6s,mb3.7,baz=300,slow=5.1,SNR=6.9								
ZAL	**Zalesovo**	**40.65**	**353**	P			**P**	**13 22 08.1**	**+0.5**
BVAR	**Borovoye Array**	**43.14**	**340**	P			**P**	**13 22 27.8**	**-0.2**
	0.4nm,0.6s,mb3.2,baz=135,slow=4.1,SNR=2.7								
CHKZ	**Chkalovo**	**43.62**	**341**	*eP*			**P**	**13 22 31.8**	**-0.1**
	1.9nm,0.6s,mb4.0								
WRA	**Warramunga Arr**	**52.66**	**129**	P			**P**	**13 23 42.6**	**+0.1**
	0.4nm,0.6s,mb3.5,baz=301,slow=10,SNR=16								
WRA					PcP		PcP	13 24 52.6	+0.4
	0.3nm,0.5s,baz=315,slow=3.8,SNR=6.4								
WRAB	**Tennant Creek**	**52.66**	**129**	*eP*			**P**	**13 23 42.6**	**0.0**
	3.2nm,0.5s,mb4.5								
ASAR	**Alice Springs**	**54.59**	**133**	P			**P**	**13 23 56.8**	**0.0**
	0.4nm,0.7s,mb3.5,baz=312,slow=7.0,SNR=7.6								
FINES	**FINESS Array B**	**67.07**	**331**	P			**P**	**13 25 19.8**	**-1.1**
	1.7nm,0.9s,mb4.1,baz=117,slow=4.3,SNR=4.5								
ARCES	**ARCESS Array B**	**69.43**	**340**	P			**P**	**13 25 34.6**	**-0.8**
	5.1nm,1.1s,mb4.3,baz=82,slow=8.6,SNR=4.7								
GERES	**GERESS Array B**	**72.78**	**317**	P			**P**	**13 25 55.7**	**-0.1**
	0.7nm,0.5s,mb3.9,baz=90,slow=6.7,SNR=5.7								
ILAR	**Eielson Array**	**89.79**	**22**	P			**P**	**13 27 26.2**	**+1.1**
	0.2nm,0.7s,mb3.6,baz=311,slow=4.3,SNR=4.2								

*IDC **18** 13:17:47.1±1.0, 13.37N×94.18E, mb3.8/9, mb1 4.0/10, mb1mx3.9/19, mbtmp3.8/10, ML3.5/1, Error ellipse: s-maj=32.4km s-min=19.8km az=55.0*
*NEIC **18** 13:17:51.7±0.8, 13.47N×94.25E, h30km, mb4.1/3, Error ellipse: s-maj=19.4km s-min=15.5km az=49.0*
ISC 18 13:17:51.2±2.8,**13.4N**±0.1×**94.29E**±0.08,**h44**km±23km,
n20,σ0s96/21,mb3.9/12,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.73**	**41**	Pn			**P**	**13 19 27.6**	**-2.4**
	0.2nm,0.3s,baz=234,slow=14,SNR=12								
CMAR					Sn		**S**	**13 20 47.0**	**+0.7**
	0.1nm,0.3s,baz=231,slow=19,SNR=2.6								
JIRN	**Jiri**	**16.08**	**333**	*eP*			**P**	**13 21 36.2**	**+0.4**
	8.8nm,0.3s								
PKI	**Pulchoki**	**16.36**	**331**	*eP*			**P**	**13 21 39.9**	**+0.5**
	9.6nm,0.4s								
DMN	**Daman**	**16.54**	**330**	*eP*			**P**	**13 21 41.8**	**+0.2**
	14nm,0.6s								
KKN	**Kakani**	**16.61**	**331**	*eP*			**P**	**13 21 42.6**	**+0.1**
GKN	**Gorkha**	**17.10**	**330**	*eP*			**P**	**13 21 48.8**	**+0.2**
	9.7nm,0.3s								
KOLN	**Koldanda**	**17.44**	**327**	*eP*			**P**	**13 21 53.2**	**+0.3**
	29nm,0.8s								
ENH	**Enshi**	**21.89**	**37**	*eP*			**P**	**13 22 41.9**	**-0.2**
	7.6nm,0.9s,mb4.1								
SONM	**Songino Array**	**35.79**	**14**	P			**P**	**13 24 48.3**	**+0.2**
	1.1nm,1.0s,mb3.7,baz=196,slow=9.0,SNR=5.3								
KURK	**Kurchatov**	**39.34**	**344**	*eP*			**P**	**13 25 15.5**	**-2.4**
	3.4nm,0.9s,mb4.1								
ZAL	**Zalesovo**	**41.13**	**351**	P			**P**	**13 25 33.7**	**+1.1**
	1.5nm,0.4s,mb4.0,baz=305,slow=6.7,SNR=7.9								
ZAL	**Zalesovo**	**41.13**	**351**	P			**P**	**13 25 33.7**	**+1.1**
BVAR	**Borovoye Array**	**43.87**	**339**	P			**P**	**13 25 56.9**	**+1.9**
	0.5nm,0.9s,mb3.2,baz=139,slow=13,SNR=2.5								
CHKZ	**Chkalovo**	**44.34**	**340**	*eP*			**P**	**13 25 57.5**	**-1.2**
	1.3nm,0.6s,mb3.8								
WRA	**Warramunga Arr**	**51.48**	**129**	P			**P**	**13 26 55.2**	**+0.4**
	1.1nm,0.8s,mb3.8,baz=311,slow=7.7,SNR=6.9								
ASAR	**Alice Springs**	**53.45**	**133**	P			**P**	**13 27 10.2**	**+0.7**
	0.6nm,0.8s,mb3.6,baz=314,slow=6.4,SNR=5.1								
BRTR	**Keskin Array B**	**59.04**	**308**	P			**P**	**13 27 47.9**	**-1.4**
	1.5nm,1.0s,mb4.0,baz=146,slow=4.5,SNR=3.8								
FINES	**FINESS Array B**	**67.95**	**331**	P			**P**	**13 28 47.4**	**+0.1**
	2.5nm,0.8s,mb4.3,baz=173,slow=33,SNR=3.2								
ARCES	**ARCESS Array B**	**70.16**	**340**	P			**P**	**13 29 00.3**	**-0.6**
	2.4nm,0.8s,mb4.2,baz=102,slow=8.3,SNR=2.4								
NOA	**NORSAR Array B**	**75.04**	**330**	P			**P**	**13 29 29.9**	**+0.2**
	0.8nm,0.7s,mb3.8,baz=111,slow=6.1,SNR=3.1								

IDC 18 13:21:48.2±1.1,**10.86N**×**140.95E,mb3.6**/6,**mb1 3.9**/6,
mb1mx3.8/18,**mbtmp3.6**/6,**MS3.3**/1,**Ms1 3.3**/1,
ms1mx2.6/23,**Error ellipse: s-maj=38.0km**
s-min=21.6km az=94.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.29**	**192**	P			P	13 28 09.6	-2.8
	2.2nm,1.1s,baz=11,slow=9.8,SNR=9.9								
ASAR	**Alice Springs**	**35.00**	**191**	P			P	13 28 43.0	-1.6
	0.7nm,0.5s,baz=18,slow=12,SNR=14								
ASAR					LR		LR	13 42 39.9	
	comp=Z,55nm,21.7s,baz=340,slow=36								
CMAR	**Chiang Mai Arr**	**41.26**	**286**	P			P	13 29 35.8	-1.2
	1.8nm,0.9s,baz=85,slow=6.6,SNR=9.5								
SONM	**Songino Array**	**46.89**	**328**	P			P	13 30 19.8	-2.3
	0.2nm,0.4s,baz=117,slow=6.4,SNR=2.9								
ILAR	**Eielson Array**	**72.66**	**25**	P			P	13 33 19.4	0.0
	0.2nm,0.6s,baz=234,slow=5.7,SNR=4.4								
YKA	**Yellowknife Ar**	**87.02**	**27**	P			P	13 34 33.6	-2.9
	0.5nm,0.9s,baz=291,slow=5.3,SNR=5.9								

*IDC **18** 13:24:46.1±2.4, 10.61N×91.35E, mb3.9/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.8/6, ML3.6/1, MS2.7/1, Ms1 2.9/1, ms1mx2.5/25, Error ellipse: s-maj=76.3km s-min=22.2km az=74.0*
*NEIC **18** 13:24:50.1±1.3, 10.67N×91.47E, mb4.7/2, Error ellipse: s-maj=33.8km s-min=14.0km az=84.0*
ISC 18 13:24:48.4±1.5,**10.7N**±0.1×**91.6E**±0.3,**h25**km,**n10,**
σ0s57/10,mb4.1/7,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.50**	**42**	Pn			**P**	**13 27 20.9**	**+0.2**
	0.1nm,0.3s,baz=234,slow=15,SNR=6.1								
CMAR					LR		LR	13 32 14.1	
	comp=Z,45nm,20.8s,baz=230,slow=42								
ENH	**Enshi**	**25.64**	**38**	*eP*			**P**	**13 30 17.2**	**-0.7**
	18nm,0.7s,mb4.7								
ENH				*e*			pP	13 30 25.1	-0.1
SONM	**Songino Array**	**39.07**	**16**	P			**P**	**13 32 16.4**	**+1.1**
	1.2nm,0.8s,mb3.7,baz=206,slow=8.1,SNR=9.5								
ZAL	**Zalesovo**	**43.48**	**354**	P			**P**	**13 32 50.7**	**-0.6**
	2.8nm,1.0s,mb4.0,baz=360,slow=17,SNR=2.5								
ZAL	**Zalesovo**	**43.48**	**354**	P			**P**	**13 32 50.7**	**-0.6**
WRA	**Warramunga Arr**	**51.94**	**126**	P			**P**	**13 33 57.7**	**-0.2**
	1.2nm,0.6s,mb4.0,baz=305,slow=8.5,SNR=23								
WRAB	**Tennant Creek**	**51.94**	**126**	*eP*			**P**	**13 33 57.7**	**-0.2**
	4.2nm,0.6s,mb4.5								
WRAB				*e*			pP	13 34 04.3	-1.2
ASAR	**Alice Springs**	**53.64**	**130**	P			**P**	**13 34 10.3**	**-0.2**
	1.0nm,0.6s,mb3.9,baz=307,slow=7.0,SNR=22								
STKA	**Stephens Creek**	**63.85**	**133**	P			**P**	**13 35 22.2**	**+0.6**
	0.5nm,0.6s,mb3.7,baz=309,slow=14,SNR=2.8								
STKA	**Stephens Creek**	**63.85**	**133**	P			**P**	**13 35 22.2**	**+0.6**

*CSEM **18** 13:27:58.4, 37.75N×32.19E, h5km, MD3.5, After ISK*
*ISK **18** 13:27:58.4, 37.75N×32.19E, h5km, MD3.5*
ISC 18 13:27:59.0±0.5,**37.74N**±0.03×**32.21E**±0.05,**h5**km,**n17,**
σ0s66/25,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KONT	**Konya--Tatoy**	**0.23**	**30**	*i* PG			**Pg**	**13 28 03.9**	**+0.1**
KONT				*i* SG			**Sg**	**13 28 07.4**	**+0.5**
HDMB	**Hadim**	**0.81**	**164**	PG			**Pg**	**13 28 14.3**	**-0.9**
HDMB				SG			**Sg**	**13 28 26.2**	**+0.2**
KIZT	**Kizilcal**	**1.16**	**347**	*i* PN			**Pn**	**13 28 21.4**	**-0.5**
KIZT				*i* SN			**Sn**	**13 28 36.6**	**-1.7**
BCK	**Bucak**	**1.32**	**258**	PN			**Pn**	**13 28 23.3**	**-0.8**
NIG	**Nigde**	**1.

FINES FINESS Array B 72.68 330 P **P 13 44 00.5 -0.3**
2.3nm,0.7s,mb4.2,baz=72,slow=6.0,SNR=11
BRTR Keskin Array B 75.61 307 P **P 13 44 19.5 +1.3**
0.7nm,0.6s,mb3.8,baz=343,slow=11,SNR=2.6
MLR Muntele Rosu 78.73 315 P **P 13 44 36.7 +1.2**
0.7nm,0.4s,mb3.9,baz=297,slow=23,SNR=2.5
HFS Hagfors 78.73 332 P **P 13 44 35.4 +0.2**
10nm,1.2s,mb4.7,baz=45,slow=2.1,SNR=4.2
YKA Yellowknife Ar 81.04 24 P **P 13 44 47.1 -0.4**
0.3nm,0.6s,mb3.4,baz=304,slow=5.0,SNR=6.9

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*BJI **18** 13:40:37.1, 5.14N×94.81E, h38km, mb4.8*
*NEIC **18** 13:40:38.4±0.3, 5.29N×94.86E, h30km, mb4.8/8, Error ellipse: s-maj=14.1km s-min=5.6km az=49.0*
*IDC **18** 13:40:41.2±8.2, 5.33N×94.86E, h52km±74km, mb4.1/19, mb1 4.2/20, mb1mx4.1/26, mbtmp4.4/20, ML4.6/1, Error ellipse: s-maj=25.3km s-min=12.9km az=45.0*
ISC 18 13:40:37.1±0.5, 5.26N±0.09×94.9E±0.1, h33km, n45, σ0.5 76/43, mb4.5/32, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.71**	**16**	P	**P**	**13 43 57.1**	**+5.5**
	0.9nm,0.3s,baz=211,slow=11,SNR=35						
JIRN	**Jiri**	**23.77**	**341**	*eP*	**P**	**13 45 48.5**	**+0.8**
	15nm,0.5s,mb4.7						
PKI	**Pulchoki**	**23.96**	**339**	*eP*	**P**	**13 45 48.7**	**-0.8**
	7.2nm,0.6s,mb4.2						
DMN	**Daman**	**24.10**	**338**	*eP*	**P**	**13 45 50.1**	**-0.8**
	8.7nm,0.6s,mb4.4						
KKN	**Kakani**	**24.20**	**339**	*eP*	**P**	**13 45 51.1**	**-0.8**
	8.8nm,0.6s,mb4.4						
LSA	**Lhasa**	**24.57**	**352**	P	**P**	**13 45 57.0**	**+1.5**
LSA	**Lhasa**	**24.57**	**352**	*eP*	**P**	**13 45 56.9**	**+1.4**
	16nm,0.5s,mb4.8						
GKN	**Gorkha**	**24.63**	**338**	*eP*	**P**	**13 45 56.1**	**0.0**
	16nm,0.5s,mb4.8						
KOLN	**Koldanda**	**24.83**	**336**	*eP*	**P**	**13 45 58.1**	**+0.1**
	25nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**38.20**	**128**	*eP*	**P**	**13 47 54.8**	**-0.9**
	6.7nm,0.4s,mb4.7						
UCH	**Uchtor**	**41.04**	**337**	P	**P**	**13 48 20.4**	**+1.4**
	SNR=7.7						
KBK	**Karagaybulak**	**41.23**	**338**	P	**P**	**13 48 22.1**	**+1.5**
	SNR=8.5						
AML	**Almayashu**	**41.28**	**336**	P	**P**	**13 48 22.2**	**+1.2**
	SNR=6.1						
AAK	**Ala-Archa**	**41.39**	**337**	P	**P**	**13 48 23.8**	**+1.8**
	SNR=5.9						
AAK	**Ala-Archa**	**41.39**	**337**	*eP*	**P**	**13 48 21.5**	**-0.4**
	6.2nm,0.7s,mb4.3						
USP	**Ospenovka**	**41.93**	**338**	P	**P**	**13 48 26.8**	**+0.4**
	SNR=9.5						
SONM	**Songino Array**	**43.55**	**11**	P	**P**	**13 48 39.2**	**-0.4**
	2.7nm,0.6s,mb4.1,baz=192,slow=7.8,SNR=27						
SONM				PcP	PcP	13 50 26.8	-0.7
	1.1nm,0.5s,baz=188,slow=3.8,SNR=12						
WRA	**Warramunga Arr**	**46.16**	**124**	P	**P**	**13 49 01.1**	**+0.2**
	5.8nm,0.7s,mb4.7,baz=303,slow=9.2,SNR=75						
WRAB	**Tennant Creek**	**46.17**	**124**	*eP*	**P**	**13 49 00.9**	**0.0**
	5.6nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**46.17**	**124**	↑*iP*	**P**	**13 49 01.1**	**+0.1**
KURK	**Kurchatov**	**47.31**	**346**	*eP*	**P**	**13 49 09.0**	**-0.5**
	9.7nm,0.9s,mb4.7						
ASPA	**Alice Springs**	**47.69**	**129**	↓*iP*	**P**	**13 49 13.0**	**+0.2**
ASAR	**Alice Springs**	**47.69**	**129**	P	**P**	**13 49 12.9**	**+0.1**
	2.6nm,0.4s,mb4.6,baz=298,slow=8.0,SNR=95						
HIA	**Hailar**	**48.65**	**22**	*eP*	**P**	**13 49 19.4**	**-0.5**
	4.1nm,0.5s,mb4.7						
ZAL	**Zalesovo**	**49.23**	**352**	P	**P**	**13 49 24.1**	**-0.2**
	8.6nm,0.5s,mb5.1,baz=303,slow=6.1,SNR=24						
BVAR	**Borovoye Array**	**51.63**	**341**	P	**P**	**13 49 42.1**	**-1.0**
	2.9nm,0.5s,mb4.5,baz=135,slow=10,SNR=25						
CHKZ	**Chkalovo**	**52.18**	**342**	*eP*	**P**	**13 49 46.0**	**-0.7**
	13nm,0.6s,mb5.0						
PMG	**Port Moresby**	**54.09**	**106**	P	**P**	**13 50 01.1**	**-0.3**
	15nm,1.1s,mb4.8,baz=14,slow=8.3,SNR=4.2						
PMG	**Port Moresby**	**54.09**	**106**	P	**P**	**13 50 01.1**	**-0.3**
CTA	**Charters Tower**	**56.40**	**118**	*eP*	**P**	**13 50 19.5**	**+1.4**
	2.8nm,0.4s,mb4.7						
CTA	**Charters Tower**	**56.40**	**118**	P	**P**	**13 50 19.5**	**+1.4**
	3.1nm,0.3s,mb4.8,baz=89,slow=10,SNR=6.9						
ASAJ	**Asahikawa**	**56.92**	**39**	P	**P**	**13 50 21.6**	**0.0**
	13nm,1.1s,mb4.8,baz=49,slow=18,SNR=2.2						
STKA	**Stephens Creek**	**57.78**	**133**	P	**P**	**13 50 27.4**	**-0.3**
	0.8nm,0.6s,mb3.9,baz=298,slow=8.2,SNR=5.6						
KMBO	**Kilima Mbogo**	**57.91**	**265**	P	**P**	**13 50 29.5**	**+0.6**
	0.4nm,0.5s,mb3.7,baz=54,slow=22,SNR=1.8						
BRTR	**Keskin Array B**	**64.70**	**312**	P	**P**	**13 51 12.4**	**-2.0**
	1.4nm,0.9s,mb4.0,baz=129,slow=5.3,SNR=4.0						
IDI	**Anoyia**	**70.67**	**305**	P	**P**	**13 51 51.4**	**-0.4**
	12nm,0.7s,mb4.9,baz=39,slow=16,SNR=6.6						
MLR	**Muntele Rosu**	**71.56**	**316**	P	**P**	**13 51 57.0**	**+0.1**
	1.1nm,0.4s,mb4.2,baz=350,slow=22,SNR=5.2						
FINES	**FINESS Array B**	**75.36**	**332**	P	**P**	**13 52 18.1**	**-0.8**
	0.8nm,0.4s,mb4.0,baz=113,slow=8.4,SNR=11						
ARCES	**ARCESS Array B**	**77.97**	**340**	P	**P**	**13 52 33.0**	**-0.3**
	2.5nm,0.6s,mb4.3,baz=90,slow=4.9,SNR=16						
GERES	**GERESS Array B**	**80.27**	**319**	P	**P**	**13 52 46.8**	**+0.5**
	2.1nm,0.7s,mb4.2,baz=109,slow=5.3,SNR=16						
HFS	**Hagfors**	**81.08**	**330**	P	**P**	**13 52 49.9**	**-0.4**
	1.3nm,0.5s,mb4.2,baz=135,slow=4.2,SNR=6.5						
DAVOX	**Davos**	**82.78**	**316**	P	**P**	**13 52 59.8**	**+0.4**
	7.4nm,0.7s,mb4.8,baz=111,slow=4.3,SNR=9.0						
ILAR	**Eielson Array**	**96.87**	**22**	P	**P**	**13 54 05.8**	**0.0**
	0.3nm,0.5s,mb4.0,baz=292,slow=4.5,SNR=7.9						
NVAR	**Mina Array Bea**	**126.74**	**32**	PKP	PKPdf	13 59 39.9	+1.9
	0.2nm,0.5s,baz=270,slow=1.8,SNR=3.7						
PDAR	**Pinedale Array**	**127.30**	**23**	PKP	PKPdf	13 59 40.0	+1.0
	0.4nm,0.5s,baz=115,slow=3.0,SNR=9.0						

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*IDC **18** 13:48:13.2±0.8, 54.39N×35.27W, mb3.7/10, mb1 3.9/12, mb1mx3.8/23, mbtmp3.7/12, ML3.1/2, MS4.3/2, Ms1 4.3/2, ms1mx3.2/27, Error ellipse: s-maj=27.4km s-min=15.9km az=14.0*
*NEIC **18** 13:48:14.9±0.6, 54.20N×35.22W, h10km, mb4.0/2, Error ellipse: s-maj=18.5km s-min=11.2km az=194.0*
*CSEM **18** 13:48:15.7±0.1, 54.23N×35.17W, h33km, mb4.1/1, Error ellipse: s-maj=8.6km s-min=4.2km az=14.0*
ISC 18 13:48:12.9±0.7, 54.2N±0.1×35.3W±0.1, h10km, n22, σ1.9 07/18, mb3.7/11, MS4.3/1, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.27**	**285**	P	**P**	**13 52 28.8**	**+1.0**
	0.4nm,0.3s,baz=78,slow=8.3,SNR=8.9						
SUMG	**Summit**	**18.48**	**357**	*eP*	**P**	**13 52 33.4**	**+3.0**
	8.4nm,0.9s						
SUMG	**Summit**	**18.48**	**357**	*eP*	**P**	**13 52 33.4**	**+3.0**
	8.4nm,0.9s						
FRB	**Frobisher Bay**	**19.40**	**313**	P	**P**	**13 52 41.9**	**+0.5**
	0.2nm,0.3s,baz=104,slow=5.1,SNR=2.4						
FRB				LR	LR	13 59 06.8	
	comp=Z,476nm,18.1s,baz=239,slow=34						
FRB	**Frobisher Bay**	**19.40**	**313**	P	**P**	**13 52 41.8**	**+0.4**
NOA	**NORSAR Array B**	**25.32**	**56**	P	**P**	**13 53 39.4**	**-1.4**
	1.8nm,0.9s,mb3.6,baz=277,slow=9.0,SNR=3.2						
ESDC	**Sonseca Array**	**25.58**	**112**	P	**P**	**13 53 44.7**	**+1.3**
	0.5nm,0.4s,mb3.4,baz=319,slow=9.5,SNR=4.9						
SADO	**Sadowa**	**29.59**	**270**	LR	LR	14 05 11.6	
	comp=Z,844nm,21.6s,MS4.3,baz=72,slow=34						
GERES	**GERESS Array B**	**30.41**	**80**	P	**P**	**13 54 27.1**	**-0.1**
	0.4nm,0.6s,mb3.3,baz=297,slow=6.0,SNR=3.7						
YKA	**Yellowknife Ar**	**39.90**	**315**	P	**P**	**13 55 47.4**	**-0.7**
	0.5nm,0.7s,mb3.3,baz=62,slow=8.8,SNR=7.6						
BRTR	**Keskin Array B**	**47.29**	**78**	P	**P**	**13 56 48.9**	**+0.9**
	1.6nm,0.9s,mb4.0,baz=323,slow=6.2,SNR=4.3						
PDAR	**Pinedale Array**	**48.35**	**288**	P	**P**	**13 56 55.8**	**-0.4**
	1.1nm,1.1s,mb3.8,baz=77,slow=4.2,SNR=4.7						
ILAR	**Eielson Array**	**50.32**	**329**	P	**P**	**13 57 08.1**	**-3.0**
	1.5nm,1.2s,mb3.9,baz=43,slow=6.5,SNR=6.7						
DBIC	**Dimbokro**	**53.37**	**141**	P	**P**	**13 57 34.0**	**-0.7**
	1.8nm,0.6s,mb4.2,baz=344,slow=7.1,SNR=7.4						
DBIC	**Dimbokro**	**53.37**	**141**	P	**P**	**13 57 34.0**	**-0.7**
TXAR	**Lajitas Array**	**54.33**	**272**	P	**P**	**13 57 41.5**	**-0.1**
	0.8nm,0.8s,mb3.7,baz=80,slow=7.6,SNR=5.4						
CHKZ	**Chkalovo**	**56.29**	**43**	P	**P**	**13 57 54.8**	**-0.6**
	2.2nm,1.0s,mb4.1						
CHKZ	**Chkalovo**	**56.29**	**43**	P	**P**	**13 57 54.8**	**-0.6**
	2.2nm,1.0s,mb4.1						
BVAR	**Borovoye Array**	**56.68**	**44**	P	**P**	**13 57 58.7**	**+0.4**
	0.5nm,0.6s,mb3.7,baz=315,slow=8.4,SNR=5.1						
ASAR	**Alice Springs**	**148.42**	**19**	PKPbc	PKPdf	14 07 59.9	+1.1
	3.1nm,0.8s,baz=353,slow=2.4,SNR=31						
ASAR	**Alice Springs**	**148.42**	**19**	PKPbc	PKPdf	14 07 59.8	+1.0
VNDA	**Vanda**	**155.79**	**189**	PKPab	PKPab	14 08 35.5	+1.4
	1.6nm,0.9s,baz=163,slow=1.5,SNR=3.9						

MAN 18 13:48:16.1, 14.30N×122.14E, h36km, mb3.6, ML2.4, MS1.9, Luzon

*IDC **18** 13:54:14.0±4.4, 24.82N×122.66E, h93km±40km, mb3.5/9, mb1 3.7/11, mb1mx3.5/22, mbtmp4.0/11, Error ellipse: s-maj=31.0km s-min=14.9km az=82.0*
*JMA **18** 13:54:15.8±0.1, 24.73N×122.67E, h95km±1km, M3.5*
*TAP **18** 13:54:15.4, 24.58N×122.71E, h85km±1km, ML4.5*
*NEIC **18** 13:54:15.1±0.8, 24.80N×122.66E, h106km±7km, mb3.7/3, Error ellipse: s-maj=11.8km s-min=10.5km az=59.0*
ISC 18 13:54:13.9±0.5, 24.79N±0.06×122.67E±0.05, h110km±5km, n31, σ0.9 91/44, mb3.6/12, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.45**	**136**	P	**P**	**13 54 30.5**	**-0.1**
YOJ				S	**S**	**13 54 41.6**	**-1.6**
IRIF	**Iriomote-Funau**	**1.06**	**115**	P	**P**	**13 54 36.3**	**+0.2**
IRIF				S	**S**	**13 54 52.0**	**-0.8**
TATO	**Taipei**	**1.09**	**280**	*e*Pn	**P**	**13 54 36.8**	**+0.4**
HATJ	**Hateruma jima**	**1.27**	**125**	P	**P**	**13 54 38.8**	**+0.4**
HATJ				S	**S**	**13 54 56.3**	**-0.5**
JKRS	**Kuro-shima**	**1.34**	**114**	P	**P**	**13 54 39.9**	**+0.7**
JKRS				S	**S**	**13 54 57.8**	**-0.5**
JIJ	**Ishigaki jima**	**1.41**	**107**	P	**P**	**13 54 40.5**	**+0.4**
JIJ				S	**S**	**13 54 58.6**	**-1.1**
JTJ	**Tarama**	**1.85**	**94**	P	**P**	**13 54 46.8**	**+1.3**
JTJ				*e*S	**S**	**13 55 09.6**	**+0.4**
JMJ	**Miyako jima 2**	**2.38**	**89**	*e*S	**S**	**13 55 22.2**	**+0.6**
JOGS	**Gusukube**	**2.49**	**90**	P	**P**	**13 54 55.4**	**+1.5**
JOGS				*e*S	**S**	**13 55 25.2**	**+1.2**
JKE	**Kume jima 2**	**4.02**	**67**	P	**P**	**13 55 16.1**	**+1.4**
JKE				S	**S**	**13 56 03.2**	**+2.1**
JAGN	**Aguni-jima**	**4.50**	**66**	P	**P**	**13 55 22.4**	**+1.2**
JAGN				*e*S	**S**	**13 56 12.7**	**-0.1**
JJT2	**Tamagusuku 2**	**4.78**	**73**	P	**P**	**13 55 25.9**	**+0.9**
JIH	**Iheya**	**5.27**	**64**	P	**P**	**13 55 32.0**	**+0.4**
JIH				*e*S	**S**	**13 56 30.7**	**-0.9**
JOW	**Kunigami**	**5.45**	**67**	P	**P**	**13 55 34.0**	**0.0**
	16nm,0.3s,baz=190,slow=9.1,SNR=148						
JOW				S	**S**	**13 56 33.9**	**-2.0**
JOW	**Kunigami**	**5.45**	**67**	P	**P**	**13 55 33.8**	**-0.2**
JOW				*e*S	**S**	**13 56 34.4**	**-1.5**
JTK	**Tokunoshima**	**6.38**	**61**	P	**P**	**13 55 45.9**	**-0.8**
JAM	**Amami Oshima**	**7.18**	**58**	P	**P**	**13 55 56.5**	**-1.2**
JAM				*e*S	**S**	**13 57 15.6**	**-2.6**
CBIJ	**Chichi jima**	**17.70**	**78**	P	**P**	**13 58 13.8**	**-1.0**
	13nm,0.3s,baz=113,slow=23,SNR=3.1						
ASAJ	**Asahikawa**	**25.22**	**35**	P	**P**	**13 59 30.9**	**+0.1**
	10nm,0.9s,mb4.2,baz=248,slow=30,SNR=4.8						
SONM	**Songino Array**	**26.37**	**335**	P	**P**	**13 59 41.5**	**+0.1**
	1.2nm,0.8s,mb3.4,baz=155,slow=8.3,SNR=7.1						
WRA	**Warramunga Arr**	**45.89**	**165**	P	**P**	**14 02 26.5**	**-0.7**
	0.6nm,0.6s,mb3.5,baz=346,slow=8.7,SNR=14						
CHKZ	**Chkalovo**	**48.12**	**321**	P	**P**	**14 02 43.7**	**-0.5**
	0.6nm,0.5s,mb3.7						
ASAR	**Alice Springs**	**49.38**	**166**	P	**P**	**14 02 53.9**	**-0.5**
	0.2nm,0.8s,mb3.1,baz=354,slow=8.6,SNR=7.1						
STKA	**Stephens Creek**	**59.18**	**161**	P	**P**	**14 04 06.5**	**+0.9**
	0.8nm,0.8s,mb3.8,baz=343,slow=14,SNR=2.1						
ILAR	**Eielson Array**	**68.06**	**28**	P	**P**	**14 05 03.6**	**+0.5**
	0.4nm,1.1s,mb3.2,baz=302,slow=8.4,SNR=7.6						
ARCES	**ARCESS Array B**	**69.49**	**338**	P	**P**	**14 05 11.6**	**-0.3**
	1.5nm,0.8s,mb3.9,baz=84,slow=8.2,SNR=2.8						
DAWY	**Dawson**	**71.38**	**27**	*e*P	**P**	**14 05 23.7**	**+0.4**
FINES	**FINESS Array B**	**71.61**	**330**	P	**P**	**14 05 24.3**	**-0.4**
	4.6nm,1.1s,mb4.2,baz=90,slow=5.7,SNR=7.1						
INK	**Inuvik**	**72.16**	**22**	P	**P**	**14 05 27.1**	**-0.8**
	1.3nm,0.8s,mb3.8						
RES	**Resolute Bay**	**77.85**	**10**	P	**P**	**14 06 00.5**	**+0.3**
	0.5nm,0.6s,mb3.4						
YKA	**Yellowknife Ar**	**81.89**	**23**	P	**P**	**14 06 22.2**	**+0.2**
	0.1nm,0.3s,mb3.1,baz=309,slow=5.2,SNR=5.1						

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*NIED **18** 14:09:00, 42.80N×145.00E, h50km, Mw6.2 Best double couple: M0=2.4×10^18 NP1:φs=30°, δ=64°, λ=81°. NP2:φs=229°, δ=27°, λ=107°.*
*DHMR **18** 14:09:01.2±3.0, 42.92N×144.95E, h10km, mb6.3*
*BJI **18** 14:09:04.2, 42.99N×144.93E, h44km, mB6.7, mb6.3, Ms6.0, Msz6.0*
*MOS **18** 14:09:04.5±0.9, 42.91N×144.88E, h42km, mb6.4/113, MS6.0/65, Error ellipse: s-maj=6.2km s-min=3.5km az=102.6*
MOS Felt (III) at Malokuril'skoe, Yuzhno-Kuril'sk; (II-III) at Kuril'sk.
*JMA **18** 14:09:06.6±0.1, 42.88N×145.01E, h50km±1km, M6.4 Broadband fault plane solution: P waves. NP1:φs=235°, δ=28°, λ=123°. NP2:φs=19°, δ=66°, λ=74°. Principal axes: T Plg65°, Azm261°; N Plg15°, Azm25°; P Plg20°, Azm121°;*
*GUC **18** 14:09:06.1±0.0, 42.92N×144.88E, h42km, mb6.3(NEIC), MS5.7(NEIC), MW6.3(NEIC)*
*NEIC **18** 14:09:06.2±0.1, 42.95N×144.87E, h42km, mb6.3/228, ME6.1, MS5.7/110, MW6.3, MW6.2(NIED), Error ellipse: s-maj=2.7km s-min=2.2km az=159.0 Broadband fault plane solution: P waves. NP1:φs=25°, δ=55°, λ=80°. NP2: φs=222°, δ=36°, λ=104°. Principal axes: T Plg77°, Azm261°; N Plg0°, Azm0°; P Plg9°, Azm122°; Moment Tensor Solution. s53 Moment tensor: Scale 10^18 Nm; Mrr=2.08; Mθθ=0.98; Mφφ=-1.10; Mrθ=0.63; Mφθ=-1.18; Mφr=1.80; Best double couple: M0=2.9×10^18 NP1:φs=239°, δ=27°, λ=118°. NP2:φs=28°, δ=66°, λ=76°. Principal axes: T 2.89, Plg66°, Azm274°; N -.04, Plg12°, Azm33°; P -2.86, Plg20°, Azm128°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt widely on Hokkaido and at Misawa, Honshu. Felt [III] on Shikotan, at Kuril'sk, Iturup and at Yuzhno-Kuril'sk, Kunashir. Recorded [5U JMA] in the Kushiro area; [5L JMA] in eastern Hokkaido; [4 JMA] in south-central Hokkaido; [3 JMA] in the Tomakomai area; [2 JMA] in central and southwestern Hokkaido. Also recorded [3 JMA] in Aomori; [2 JMA] in Iwate and Miyagi; [1 JMA] in Akita, Fukushima and Ibaraki Prefectures, Honshu.
*HRVD **18** 14:09:06.2±0.1, 42.80N×145.06E, h53km, MW6.2/75, Centroid moment Tensor Solution. LP body waves: s69,c169; Mantle waves: s75,c279; Half duration: 3s 0 Moment tensor: Scale 10^18 Nm; Mrr=1.69±.02; Mθθ=0.82±.02; Mφφ=-0.86±.02; Mrθ=0.42±.02; Mφφ=-1.29±.01; Mφr=1.32±.01; Best double couple: M0=2.382×10^18 NP1: φs=244°, δ=32°, λ=123°. NP2:φs=27°, δ=64°, λ=71°. Principal axes: T 2.254, Plg66°, Azm264°; N .257, Plg17°, Azm36°; P -2.511, Plg17°, Azm131°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **18** 14:09:07.0±0.2, 42.87N×145.05E, h51km±1km, mb5.6/35, mb1 5.7/38, mb1mx5.7/39, mbtmp5.8/38, MS5.8/30, Ms1 5.8/30, ms1mx5.6/37 Error ellipse: s-maj=6.7km s-min=5.7km az=90.0*
*BGS **18** 14:09:08.2±1.2, 43.17N×143.56E, h33km, mb6.3*
ISC 18 14:09:05.3±0.2, 42.82N±0.01×144.92E±0.02, h50km±1km, h44km±1.0km: pP-P, n1240, σ0.9 9/1234, mb6.2/324, MS5.8/165, 492C-65D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.24**	**317**	↓P	**P**	**14 09 15.3**	**+1.4**
JAK				S	**S**	**14 09 21.8**	**+1.7**
JNK	**Nakash**	**0.77**	**349**	↓P	**P**	**14 09 20.7**	**+0.6**
JNK				S	**S**	**14 09 30.8**	**-0.2**
JOB	**Onbets**	**0.80**	**276**	↓P	**P**	**14 09 22.4**	**+1.9**
JOB				*e*S	**S**	**14 09 33.2**	**+1.6**
NEM2	**Nemuro 2**	**0.81**	**48**	↑P	**P**	**14 09 20.2**	**-0.4**
NEM2				*e*S	**S**	**14 09 29.8**	**-2.1**
JAR	**Ashorobuto**	**0.96**	**300**	↓P	**P**	**14 09 24.4**	**+1.7**
JAR				*e*S	**S**	**14 09 37.1**	**+1.4**
JRA	**Rausu**	**1.12**	**8**	↓P	**P**	**14 09 25.2**	**+0.2**
JRA				*e*S	**S**	**14 09 38.8**	**-0.8**
JCH	**Churui**	**1.17**	**260**	↓P	**P**	**14 09 27.1**	**+1.6**
JCH				*e*S	**S**	**14 09 42.0**	**+1.4**
JTKR	**Abashiri--Toko**	**1.36**	**328**	↓P	**P**	**14 09 29.8**	**+1.3**
JTKR				*e*S	**S**	**14 09 45.5**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**1.39**	**29**	α*i*PN	**P**	**14 09 27.4**	**-1.5**
YUK				*i* S	**S**	**14 09 43.8**	**-2.5**
YUK				pmax	pmax		
	comp=E,7μm,0.3s						
YUK				pmax	pmax		
	comp=Z,28μm,0.3s						
YUK				pmax	pmax		
	comp=N,13μm,0.5s						
YUK				pmax	pmax		
	comp=Z,171μm,2.0s						
YUK				pmax	pmax		
	comp=N,184μm,3.0s						
YUK				pmax	pmax		
	comp=E,131μm,1.2s						
JEM	**Erimo**	**1.53**	**239**	P	**P**	**14 09 32.6**	**+1.8**
JMP	**Maruseppu**	**1.64**	**317**	↓P	**P**	**14 09 34.0**	**+1.7**
JNBK	**Urakawa-nobuka**	**1.69**	**252**	↓P	**P**	**14 09 34.4**	**+1.4**
JFR	**Furan**	**1.74**	**282**	↓P	**P**	**14 09 35.2**	**+1.5**
JBT2	**Biratori 2**	**1.88**	**269**	↓P	**P**	**14 09 36.6**	**+0.9**
JKK2	**Kamakawa 2**	**1.90**	**304**	↓P	**P**	**14 09 38.0**	**+2.1**
JAB	**Ashibetsu**	**2.08**	**290**	↓P	**P**	**14 09 41.3**	**+2.7**
ASAJ	**Asahikawa**	**2.13**	**308**	P	**P**	**14 09 41.3**	**+2.1**
	comp=E,5μm,0.3s,baz=136,slow=9.7,SNR=9704						
ASAJ				S	**S**	**14 10 09.9**	**+5.6**
	comp=E,2μm,0.3s,baz=337,slow=17,SNR=6.4						
ASAJ				LR	LR	14 10 14.2	
	comp=E,225μm,19.7s,baz=39,slow=31						
ASAJ	**Asahikawa**	**2.13**	**308**	↓P	**P**	**14 09 41.4**	**+2.2**
JHR	**Hokuryu**	**2.50**	**293**	↓P	**P**	**14 09 46.9**	**+2.3**
JEW	**Eniwo**	**2.55**	**272**	↓P	**P**	**14 09 47.2**	**+2.0**
JSE	**Soyaes**	**2.72**	**322**	↓P	**P**	**14 09 48.4**	**+0.8**
JSS	**Shosan**	**2.73**	**306**	↓P	**P**	**14 09 50.4**	**+2.7**
JNB	**Noboribetsu**	**2.88**	**264**	↓P	**P**	**14 09 51.4**	**+1.4**
JYG	**Yagishiri**	**3.00**	**303**	↓P	**P**	**14 09 53.4**	**+1.8**
JKB	**Kayabe**	**3.03**	**253**	↓P	**P**	**14 09 54.3**	**+2.3**
KUR	**Kuril'sk**	**3.21**	**40**	α*i*PN	**P**	**14 09 52.4**	**-2.2**
KUR				*i* S	**S**	**14 10 29.0**	**-3.0**
KUR				pmax	pmax		
	comp=N,48μm,2.5s						
KUR				pmax	pmax		
	comp=E,42μm,2.5s						
KUR				pmax	pmax		
	comp=Z,43μm,2.5s						
KUR				pmax	pmax		
	comp=N,4μm,0.8s						
KUR				pmax	pmax		
	comp=E,4μm,0.8s						
KUR				pmax	pmax		
	comp=Z,14μm,0.8s						
JOT	**Ohata**	**3.22**	**245**	↑P	**P**	**14 09 56.2**	**+1.5**
JSK	**Shakotan**	**3.30**	**281**	P	**P**	**14 09 56.7**	**+0.9**
JWK2	**Keihoku**	**3.31**	**320**	↓P	**P**	**14 09 58.0**	**+2.1**
JYM2	**Yakumo 2**	**3.44**	**260**	↓P	**P**	**14 09 59.5**	**+1.7**
JRR	**Rishiri**	**3.48**	**313**	↓P	**P**	**14 10 00.2**	**+1.8**
JTM	**Tenmabayashi**	**3.52**	**236**	P	**P**	**14 10 00.0**	**+1.0**
JANG	**Nango**	**3.54**	**227**	P	**P**	**14 09 59.2**	**0.0**
JSR	**Shiriuchi**	**3.58**	**250**	P	**P**	**14 10 01.5**	**+1.6**
JSH	**Shimam**	**3.59**	**269**	P	**P**	**14 10 01.3**	**+1.3**
JTH	**Tanohata**	**3.69**	**220**	P	**P**	**14 10 00.3**	**-1.0**
JSI2	**Shiura 2**	**3.80**	**244**	P	**P**	**14 10 04.4**	**+1.6**
JKZ	**Kuzumaki**	**3.92**	**225**	P	**P**	**14 10 04.6**	**+0.1**
MIYJ	**Miyakonagasawa**	**4.00**	**217**	P	**P**	**14 10 05.1**	**-0.6**
JOSM	**Okushiri--Mats**	**4.09**	**261**	P	**P**	**14 10 08.2**	**+1.2**
JAH	**Hinai**	**4.16**	**232**	P	**P**	**14 10 08.4**	**+0.5**
JIW	**Iwasaki**	**4.30**	**240**	P	**P**	**14 10 10.6**	**+0.7**
JOM	**Ohasama**	**4.32**	**220**	P	**P**	**14 10 10.1**	**-0.2**
YSS	**Yuzh-Sakhalins**	**4.41**	**340**	α*i*PN	**P**	**14 10 10.7**	**-0.7**
YSS				*i* S	**S**	**14 10 59.7**	**-2.3**
YSS				pmax	pmax		
	comp=N,5μm,1.5s						
YSS				pmax	pmax		
	comp=Z,5μm,1.5s						
YSS				pmax	pmax		
	comp=E,5μm,1.6s						
YSS				pmax	pmax		
	comp=Z,14μm,5.0s						
YSS				pmax	pmax		
	comp=N,16μm,4.0s						
YSS				pmax	pmax		
	comp=E,7μm,4.0s						
YSS				MLR	MLR		
	comp=N,158μm,16.0s						
YSS				MLR	MLR		
	comp=E,165μm,16.0s						
YSS				MLR	MLR		
	comp=Z,220μm,16.0s						
YSS	**Yuzh-Sakhalins**	**4.41**	**340**	↓*i*P	**P**	**14 10 10.5**	**-0.9**
OFUJ	**Ofunato**	**4.48**	**214**	P	**P**	**14 10 11.7**	**

TYV			MLR	MLR		
	comp=N,62μm,20.0s					
TYV			MLR	MLR		
	comp=Z,84μm,20.0s					
TYV			MLR	MLR		
	comp=E,70μm,18.0s					
JRY	**Ryogami san**	**8.24 216**	P	**P**	**14 11 02.6**	**-2.2**
JNG	**Nsakai**	**8.29 222**	P	**P**	**14 11 05.0**	**-0.5**
JTT	**Ttatey**	**8.53 226**	P	**P**	**14 11 08.8**	**0.0**
JJH	**Hakui**	**8.59 229**	P	**P**	**14 11 09.8**	**+0.1**
BSO4	**Boso 4**	**8.60 206**	S	**S**	**14 12 43.2**	**-3.2**
BSO2	**Boso 2**	**8.69 203**	S	**S**	**14 12 44.4**	**-4.3**
JGN	**Niukaw**	**8.83 224**	P	**P**	**14 11 12.8**	**-0.1**
JYN	**Shimob**	**8.83 216**	P	**P**	**14 11 11.4**	**-1.6**
JNY	**Yasuok**	**9.25 219**	P	**P**	**14 11 17.7**	**-1.1**
JGF	**Kuroka**	**9.29 222**	P	**P**	**14 11 19.4**	**0.0**
JKG	**Kaga**	**9.31 228**	P	**P**	**14 11 19.4**	**-0.2**
JIZS	**Izushimoda**	**9.36 212**	P	**P**	**14 11 16.9**	**-3.5**
JGM	**Miyama**	**9.54 224**	P	**P**	**14 11 22.1**	**-0.6**
VLA	**Vladivostok**	**9.55 276**	⇓*i*PN	**P**	**14 11 24.0**	**+1.1**
VLA			pmax	pmax		
	comp=Z,14μm,9.0s					
VLA			pmax	pmax		
	comp=E,21μm,8.0s					
VLA			pmax	pmax		
	comp=N,6μm,5.0s					
JAO	**Obara**	**9.61 221**	P	**P**	**14 11 22.0**	**-1.7**
JFM	**Mihama**	**10.05 227**	P	**P**	**14 11 29.6**	**-0.2**
JEG	**Eigenji**	**10.14 224**	P	**P**	**14 11 30.2**	**-0.8**
JKY	**Yasaka**	**10.46 230**	P	**P**	**14 11 35.3**	**0.0**
TSUJ	**Tsu 2**	**10.47 222**	P	**P**	**14 11 34.1**	**-1.3**
JHJ2	**Mitsune**	**10.50 204**	P	**P**	**14 11 33.6**	**-2.2**
JHJ	**Hachijo jima 2**	**10.50 204**	P	**P**	**14 11 33.6**	**-2.3**
	comp=N,123nm,0.3s,baz=75,slow=22,SNR=8.9					
JHJ			S	**S**	**14 13 21.4**	**-12**
	comp=N,814nm,0.3s,baz=67,slow=23,SNR=16					
JHJ			LR	LR	14 15 56.0	
	comp=N,48μm,22.0s,baz=34,slow=39					
JWT	**Wachi**	**10.55 228**	P	**P**	**14 11 36.4**	**-0.2**
JIE	**Ise**	**10.58 220**	P	**P**	**14 11 35.3**	**-1.7**
JKSM	**Kasumi**	**10.74 231**	P	**P**	**14 11 38.4**	**-0.7**
JHE	**Heguri**	**10.88 224**	P	**P**	**14 11 39.3**	**-1.7**
SKR	**Severo-Kuril's**	**10.98 40**	*e*PN	**P**	**14 11 37.0**	**-5.4**
SKR			pmax	pmax		
	comp=N,5μm,2.0s					
SKR			pmax	pmax		
	comp=E,3μm,2.0s					
SKR			pmax	pmax		
	comp=Z,8μm,2.0s					
SKR			pmax	pmax		
	comp=Z,12μm,2.0s					
SKR			pmax	pmax		
	comp=N,3μm,1.5s					
SKR			pmax	pmax		
	comp=E,280nm,0.5s					
SKR			MLR	MLR		
	comp=E,51μm,14.0s					
SKR			MLR	MLR		
	comp=Z,52μm,14.0s					
SKR			MLR	MLR		
	comp=N,17μm,16.0s					
SKR	**Severo-Kuril's**	**10.98 40**	*e*P	**P**	**14 11 38.0**	**-4.4**
SKR			*e*S	**S**	**14 13 50.0**	**+5.3**
JKS	**Kasai**	**11.08 228**	P	**P**	**14 11 43.1**	**-0.6**
JMIK	**Miki**	**11.10 227**	P	**P**	**14 11 43.1**	**-0.9**
SAI	**Saigo**	**11.12 237**	P	**P**	**14 11 44.6**	**+0.3**
KLR	**Kul'dur**	**11.16 310**κ	*i*PN	**P**	**14 11 42.8**	**-2.0**
KLR			*e*		14 13 50.5	
KLR			pmax	pmax		
	comp=N,260nm,1.4s					
KLR			pmax	pmax		
	comp=E,500nm,1.4s					
KLR			pmax	pmax		
	comp=Z,270nm,1.4s					
KLR			pmax	pmax		
	comp=N,4μm,8.0s					
KLR			pmax	pmax		
	comp=E,7μm,8.0s					
KLR			pmax	pmax		
	comp=Z,7μm,8.0s					
MDJ	**Mudanjiang**	**11.24 284**	P	**P**	**14 11 46.5**	**+0.7**
MDJ			XP		14 12 03.1	
MDJ			S	**S**	**14 13 53.6**	**+2.7**
MDJ			SCP		14 21 05.9	
MDJ			SCS	ScS	14 24 41.0	+1.9
MDJ			AMB	AMB		
	comp=Z,683nm,1.2s					
MDJ			AMB	AMB		
	comp=Z,7μm,7.0s					
MDJ			LR	LR		
	comp=N,15μm,21.0s					
MDJ			LR	LR		
	comp=E,42μm,22.3s					
MDJ			LR	LR		
	comp=Z,56μm,21.0s					
MDJ	**Mudanjiang**	**11.24 284**⇑	*i*P	**P**	**14 11 46.2**	**+0.3**
JKR	**Kurayoshi**	**11.38 233**	P	**P**	**14 11 47.6**	**-0.1**
JAJ2	**Tsuna**	**11.48 226**	P	**P**	**14 11 47.0**	**-2.1**
JAD	**Aida**	**11.49 230**	P	**P**	**14 11 48.6**	**-0.6**
JWZ	**Kozaga**	**11.76 221**	P	**P**	**14 11 50.5**	**-2.4**
JJS	**Sakaide**	**12.03 229**	P	**P**	**14 11 54.6**	**-2.0**
JHS	**Saijyo**	**12.05 234**	P	**P**	**14 11 56.4**	**-0.5**
JAI	**Aioi**	**12.19 226**	P	**P**	**14 11 56.2**	**-2.5**
JJG	**Jouge**	**12.28 232**	P	**P**	**14 11 59.0**	**-0.9**
JHT	**Toyohira**	**12.70 234**	P	**P**	**14 12 04.9**	**-0.6**
JET	**Tanbara**	**12.97 230**	P	**P**	**14 12 07.1**	**-1.9**
JHM	**Kurahashi**	**13.00 232**	P	**P**	**14 12 07.9**	**-1.6**
JHIK	**Hikimi**	**13.09 235**	P	**P**	**14 12 10.3**	**-0.3**
JKU	**Kubokawa**	**13.31 228**	P	**P**	**14 12 11.4**	**-2.1**
JKD	**Kudamatsu**	**13.45 234**	P	**P**	**14 12 14.2**	**-1.1**
UWA2	**Uwa jima 2**	**13.62 229**	P	**P**	**14 12 15.7**	**-1.9**
PET	**Petropavlovsk**	**13.72 37**	*de*P	**P**	**14 12 17.9**	**-0.8**
PET			*e*S	**S**	**14 14 51.1**	**+0.7**
PET			pmax	pmax		
	comp=Z,64nm,0.7s					
PET			pmax	pmax		
	comp=Z,1μm,8.4s					
PET			pmax	pmax		
	comp=Z,2μm,6.5s					
PET			pmax	pmax		
	comp=Z,477nm,1.4s					
PET			pmax	pmax		
	comp=Z,4μm,11.7s					
PET			pmax	pmax		
	comp=Z,6μm,7.7s					
PET			smax			
	comp=N,6μm,27.6s					
PET			MLR	MLR		
	comp=N,41μm,20.0s					
PET			MLR	MLR		
	comp=N,33μm,17.0s					
PET			MLR	MLR		
	comp=Z,44μm,21.0s					
PET			MLR	MLR		
	comp=Z,32μm,19.0s					
PET	**Petropavlovsk**	**13.72 37**	*e*P	**P**	**14 12 18.1**	**-0.6**
	comp=Z,38nm,0.6s					
JTO	**Tosashimizu**	**13.79 228**	P	**P**	**14 12 17.4**	**-2.4**
JTY	**Toyota**	**13.79 236**	P	**P**	**14 12 19.5**	**-0.3**
JKI	**Kunimi**	**13.92 233**	P	**P**	**14 12 20.5**	**-1.0**
JUS	**Usuki**	**14.22 231**	P	**P**	**14 12 23.6**	**-1.9**
JFA	**Akaike**	**14.33 235**	P	**P**	**14 12 25.6**	**-1.2**
JNU	**Nakatsue**	**14.69 233**	P	**P**	**14 12 30.0**	**-1.6**
JFI	**Itaya**	**14.77 235**	P	**P**	**14 12 31.6**	**-1.0**
JII	**Iki**	**14.93 238**	P	**P**	**14 12 33.6**	**-1.0**
INCN	**Inchon**	**14.96 255**	*e*P	**P**	**14 12 34.2**	**-0.8**
	comp=Z,371nm,1.0s					
JTSN	**Tsuno**	**14.97 230**	P	**P**	**14 12 33.4**	**-1.8**
JTA	**Tamana**	**15.01 234**	P	**P**	**14 12 34.5**	**-1.2**
SNY	**Shenyang**	**15.81 274**	⇑P	**P**	**14 12 45.6**	**-0.3**
SNY			AP		14 12 49.4	
SNY			PP	PP	14 12 56.8	-2.2
SNY			S	**S**	**14 15 29.8**	**-10**
SNY			AMB	AMB		
	comp=Z,230nm,0.9s					
SNY			LR	LR		
	comp=N,16μm,12.7s					
SNY			LR	LR		
	comp=E,36μm,18.1s					
SNY			LR	LR		
	comp=Z,38μm,18.6s					
CBIJ	**Chichi jima**	**15.85 189**	P	**P**	**14 12 44.6**	**-1.9**
	comp=Z,28nm,0.3s,baz=262,slow=23,SNR=6.5					
CBIJ			S	**S**	**14 15 27.0**	**-13**
	comp=Z,134nm,0.3s,baz=240,slow=23,SNR=10					
CBIJ			LR	LR	14 18 52.0	
	comp=Z,16μm,21.1s,baz=174,slow=37					
MA2	**Magadan**	**17.16 10***c*	*i*P	**P**	**14 13 01.0**	**-1.7**
MA2			*e*S	**S**	**14 16 09.7**	**-0.6**
MA2			pmax	pmax		
	comp=Z,600nm,1.8s					
MA2			MLR	MLR		
	comp=Z,86μm,18.3s					
MA2	**Magadan**	**17.16 10**⇑	*i*P	**P**	**14 13 00.2**	**-2.5**
	comp=Z,383nm,1.4s					
HIA	**Hailar**	**18.57 299**	*e*P	**P**	**14 13 16.9**	**-3.4**
HIA			pmax	pmax		
	comp=Z,278nm,0.5s					
HIA	**Hailar**	**18.57 299**	*e*P	**P**	**14 13 16.9**	**-3.5**
	comp=Z,278nm,0.5s					
CLNS	**Chul'man**	**18.96 325***c*	*i*P	**P**	**14 13 21.5**	**-3.3**
CLNS			*e*S	**S**	**14 16 54.8**	**+3.9**
CLNS			pmax	pmax		
	comp=Z,302nm,0.9s					
CLNS			pmax	pmax		
	comp=N,324nm,1.4s					
CLNS			pmax	pmax		
	comp=E,118nm,1.0s					
CLNS			pmax	pmax		
	comp=Z,2μm,1.4s					
CLNS			pmax	pmax		
	comp=N,1μm,1.3s					
CLNS			pmax	pmax		
	comp=E,595nm,1.1s					
CLNS			smax			
	comp=N,5μm,11.6s					
CLNS			smax			
	comp=Z,4μm,11.9s					
CLNS			smax			
	comp=E,2μm,12.2s					
CLNS			MLR	MLR		
	comp=Z,17μm,12.0s					
CLNS			MLR	MLR		
	comp=N,17μm,13.0s					
CLNS			MLR	MLR		
	comp=E,3μm,15.0s					
JMZ	**Minamidaito 2**	**20.34 218**	P	**P**	**14 13 40.9**	**+1.0**
SEY	**Seymchan**	**20.61 10**	*e*P	**P**	**14 13 39.0**	**-3.5**
SEY					14 14 03.4	
SEY			pmax	pmax		
	comp=Z,2μm,1.9s					
SEY			pmax	pmax		
	comp=N,840nm,1.6s					
SEY			pmax	pmax		
	comp=E,590nm,1.6s					
JOW	**Kunigami**	**20.94 226**	P	**P**	**14 13 45.9**	**-0.2**
	comp=E,1μm,1.3s,baz=9.5,slow=11,SNR=139					
JOW			sP		14 14 06.3	
	comp=E,399nm,0.8s,baz=44,slow=11,SNR=5.3					
JOW			S	**S**	**14 17 37.8**	**+6.1**
	comp=E,37nm,1.0s,baz=228,slow=14,SNR=2.2					
JOW			LR	LR	14 22 33.6	
	comp=E,42μm,20.9s,MS5.8,baz=46,slow=38					
JOW	**Kunigami**	**20.94 226**	P	**P**	**14 13 46.5**	**+0.4**
JIH	**Iheya**	**20.94 227**	P	**P**	**14 13 45.3**	**-0.8**
YAK	**Yakutsk**	**21.26 340***c*	*i*P	**P**	**14 13 42.7**	**-6.3**
YAK			*e*		14 14 00.9	
YAK			*e*PPP		14 14 07.4	
YAK			*e*S	**S**	**14 17 28.2**	**-9.1**
YAK			*e*		14 17 55.2	
YAK			*e*		14 25 04.9	
YAK			pmax	pmax		
	comp=Z,198nm,0.9s,mb5.4					
YAK			pmax	pmax		
	comp=N,88nm,1.2s					
YAK			pmax	pmax		
	comp=E,39nm,1.0s					
YAK			smax			
	comp=N,3μm,10.3s					
YAK			smax			
	comp=Z,3μm,9.5s					
YAK			smax			
	comp=E,3μm,10.1s					
YAK			MLR	MLR		
	comp=N,28μm,19.0s,MS5.8					
YAK			MLR	MLR		
	comp=Z,43μm,19.0s,MS5.9					
YAK			MLR	MLR		
	comp=E,31μm,20.0s,MS5.8					
YAK	**Yakutsk**	**21.26 340**	*i*P	**P**	**14 13 48.4**	**-0.6**
YAK			LR	LR		
	comp=Z,44μm,20.0s,MS5.8					
FX1	**Attu Island--F**	**21.33 52**	P	**P**	**14 13 50.1**	**+0.3**
FX1			*PP		14 14 01.1	
FX1			S	**S**	**14 17 40.8**	**+2.1**
FX1			pmax	pmax		
	comp=Z,172nm,0.5s					
FX1	**Attu Island--F**	**21.33 52**	P	**P**	**14 13 50.1**	**+0.3**
	comp=Z,172nm,0.5s,mb5.6,baz=264,slow=10,SNR=1.7					
FX1			pP		14 14 01.1	
	comp=Z,702nm,0.7s,baz=160,slow=2.2,SNR=6.0					
FX1			S	**S**	**14 17 40.8**	**+2.1**
	comp=Z,18nm,0.5s,baz=112,slow=10,SNR=5.6					
BJT	**Baijiatuau**	**21.70 272**⇑	*i*P	**P**	**14 13 52.0**	**-1.5**
BJT			pmax	pmax		
	comp=Z,1μm,0.6s					
BJT	**Baijiatuau**	**21.70 272**⇑	*i*P	**P**	**14 13 52.0**	**-1.5**
	comp=Z,1μm,0.6s,mb6.5					
NAH1	**Naha**	**21.76 226**	P	**P**	**14 13 56.3**	**+2.1**
JJT2	**Tamagusuku 2**	**21.78 226**	P	**P**	**14 13 56.2**	**+1.7**
SMY	**Shemya**	**21.83 53**	*e*P	**P**	**14 13 56.6**	**+1.8**
SMY			pmax	pmax		
	comp=Z,3μm,1.4s,mb6.6					
SMY			MLR	MLR		
	comp=Z,38μm,22.0s,MS5.8					
SMY	**Shemya**	**21.83 53**	*e*P	**P**	**14 13 56.6**	**+1.8**
	comp=Z,3μm,1.4s,mb6.6					
SMY			LR	LR		
	comp=Z,38μm,22.0s,MS5.8					
SSE	**Sheshan**	**22.20 246**	P	**P**	**14 13 58.5**	**-0.2**
SSE			XP		14 14 13.8	
SSE			S	**S**	**14 17 58.8**	**+3.8**
SSE			XS		14 18 11.1	
SSE			AMB	AMB		
	comp=Z,1μm,1.2s,mb6.2					
SSE			AMB	AMB		
	comp=Z,11μm,4.2s					
SSE			LR	LR		
	comp=N,21μm,14.8s,MS5.8					
SSE			LR	LR		
	comp=E,14μm,15.0s,MS5.8					
SSE			LR	LR		
	comp=Z,25μm,21.0s					
TIA	**Tai'an**	**22.37 262**	⇑P	**P**	**14 13 59.0**	**-1.3**
TIA			S	**S**	**14 17 52.5**	**-5.5**
TIA			XS		14 18 20.0	
TIA			AMB	AMB		
	comp=Z,693nm,1.4s,mb5.9					
TIA			AMB	AMB		
	comp=Z,5μm,5.0s					
TIA			LR	LR		
	comp=N,10μm,12.0s,MS5.6					
TIA			LR	LR		
	comp=E,7μm,11.0s,MS5.6					
NJ2	**Nanjing**	**23.23 251**	*e*P	**P**	**14 14 08.5**	**-0.2**
NJ2			AP		14 14 19.5	
NJ2			XP		14 14 22.9	
NJ2			PP	PP	14 14 38.4	-2.3
NJ2			PPP	PPP	14 14 49.3	-1.8
NJ2			S	**S**	**14 18 10.0**	**-3.3**
NJ2			XS		14 18 29.0	
NJ2			AMB	AMB		
	comp=Z,570nm,0.8s,mb6.0					
NJ2			AMB	AMB		
	comp=Z,37μm,4.8s					
NJ2			LR	LR		
	comp=N,75μm,19.0s,MS6.3					
NJ2			LR	LR		
	comp=E,53μm,16.9s,MS6.3					
NJ2			LR	LR		
	comp=Z,99μm,18.3s,MS6.3					
JOGS	**Gusukube**	**24.14 228**	P	**P**	**14 14 19.9**	**+2.4**
JMJ	**Miyako jima 2**	**24.16 228**	P	**P**	**14 14 19.6**	**+1.9**
BOD	**Bodaibo**	**24.50 318**	*e*P	**P**	**14 14 15.7**	**-5.1**
JTJ	**Tarama**	**24.62 229**	P	**P**	**14 14 22.7**	**+0.4**
JIJ	**Ishigaki jima**	**25.15 230**	P	**P**	**14 14 26.7**	**-0.6**
TIY	**Taiyuan**	**25.21 269**	⇑P	**P**	**14 14 29.8**	**+2.1**
TIY			S	**S**	**14 18 50.0**	**+3.1**
TIY			LR	LR		
	comp=E,13μm,16.0s					
TIY			LR	LR		
	comp=Z,5μm,10.0s					
JKRS	**Kuro-shima**	**25.33 230**	P	**P**	**14 14 28.5**	**-0.5**
IRIF	**Iriomote-Funau**	**25.41 230**	P	**P**	**14 14 28.5**	**-1.2**
TATO	**Taipei**	**26.23 235**	*e*P	**P**	**14 14 37.5**	**+0.2**
	comp=Z,2μm,1.4s,mb6.5					
TATO			LR	LR		
	comp=Z,39μm,21.0s,MS5.9					
ULN	**Ulaanbaatar**	**26.89 294**⇑	*i*P	**P**	**14 14 42.8**	**-0.5**
ULN			pmax	pmax		
	comp=Z,725nm,1.4s,mb6.0					
ULN			MLR	MLR		
	comp=Z,73μm,19.0s,MS6.3					
ULN	**Ulaanbaatar**	**26.89 294**⇑	*i*P	**P**	**14 14 42.8**	**-0.4**
	comp=Z,725nm,1.4s,mb6.0					
ULN			LR	LR		
	comp=Z,73μm,19.0s,MS6.3					
WHN	**Wuhan**	**27.25 253**⇑	*i*P	**P**	**14 14 47.5**	**+0.8**
WHN			AP	pP	14 15 03.8	+4.3
WHN			S	**S**	**14 19 25.0**	**+4.5**
WHN			LR	LR		
	comp=E,47μm,18.8s					
WHN			LR	LR		
	comp=Z,51μm,27.2s					
SONM	**Songino Array**	**27.34 294**	P	**P**	**14 14 47.2**	**-0.1**
	comp=Z,446nm,0.9s,mb6.0,baz=81,slow=8.0,SNR=1103					
SONM			sP	sP	14 15 06.0	-0.3
	comp=Z,111nm,0.7s,baz=93,slow=11,SNR=3.1					
SONM			P3KP		14 48 25.8	
	comp=Z,1.9nm,1.2s,baz=225,slow=1.7,SNR=3.7					
BILL	**Bilibino**	**27.71 17**	*e*P	**P**	**14 14 45.1**	**-5.4**
BILL			pmax	pmax		
	comp=Z,49nm,0.9s,mb5.1					
BILL	**Bilibino**	**27.71 17**	*e*P	**P**	**14 14 45.1**	**-5.5**
	comp=Z,49nm,0.9s,mb5.1					
BILL			*i*P		14 14 48.8	
BILL			LR	LR		
	comp=Z,33μm,21.0s,MS5.9					
QZH	**Quanzhou**	**28.03 239**⇑	*i*P	**P**	**14 14 55.1**	**+1.2**
QZH			S	**S**	**14 19 38.0**	**+4.8**
QZH			AMB	AMB		
	comp=Z,1μm,1.1s,mb6.4					
QZH			AMB	AMB		
	comp=Z,12μm,4.0s					
QZH			LR	LR		
	comp=N,8μm,15.1s					
QZH			LR	LR		
	comp=E,43μm,21.0s					
QZH			LR	LR		
	comp=Z,31μm,21.2s					
IRK	**Irkutsk**	**28.67 303**⇑	*i*P	**P**	**14 14 57.2**	**-2.1**
IRK			*e*	pP	14 15 14.9	+2.7
IRK			*e*		14 18 09.0	
IRK			*e*		14 19 52.3	
TLY	**Talaya**	**29.04 302**	P	**P**	**14 15 01.5**	**-1.0**
	comp=Z,359nm,1.3s,mb5.9,SNR=50					
TLY	**Talaya**	**29.04 302**	*e*P	**P**	**14 15 01.6**	**-0.9**
TLY			*e*		14 16 03.1	
TLY			*e*S	**S**	**14 19 47.6**	**-1.4**
TLY			pmax	pmax		
	comp=Z,74nm,1.0s,mb5.4					
TLY			MLR	MLR		
	comp=Z,49μm,18.0s,MS6.2					
TLY	**Talaya**	**29.04 302**⇑	*e*P	**P**	**14 15 01.3**	**-1.3**
	comp=Z,7.5nm,0.6s					
GUMO	**Guam**	**29.13 180**	PFAKE		14 15 20.0	+16
GUMO			LR	LR		
	comp=Z,15μm,22.0s,MS5.5					
ZAK	**Zakamensk**	**29.27 300**⇓	*i*P	**P**	**14 15 03.4**	**-1.2**
ZAK			*e*		14 18 11.1	
XAN	**Xi'an**	**29.35 265**	P	**P**	**14 15 05.8**	**+0.3**
XAN			S	**S**	**14 19 48.8**	**-5.3**
XAN			AMB	AMB		
	comp=Z,528nm,1.3s,mb6.1					
XAN			AMB	AMB		
	comp=Z,8μm,10.5s					
XAN			LR	LR		
	comp=N,6μm,17.1s,MS5.5					
XAN			LR	LR		
	comp=E,8μm,19.5s,MS5.5					
XAN			LR	LR		
	comp=Z,13μm,18.6s,MS5.6					
BBP	**Basco**	**29.49 228**	*e*P	**P**	**14 15 10.0**	**+3.1**
WAKE	**Wake Island**	**29.79 135**	PFAKE		14 15 20.0	+10
WAKE			LR	LR		
	comp=Z,86μm,19.0s,MS6.4					
TIXI	**Tiksi**	**29.96 350**⇑	*i*P	**P**	**14 15 04.5**	**-6.0**
TIXI			*e*		14 16 02.7	
TIXI			*e*S	**S**	**14 19 56.4**	**-7.0**
TIXI			*e*SS	SS	14 21 37.9	-4.7
TIXI			pmax	pmax		
	comp=Z,21nm,0.8s					
TIXI			MLR	MLR		
	comp=Z,17μm,15.0s					
TIXI	**Tiksi**	**29.96 350**	PFAKE		14 15 20.0	+9.5
TIXI			LR	LR		
	comp=Z,26μm,22.0s,MS5.8					
MOY	**Mondy**	**30.69 302**	*e*P	**P**	**14 15 16.5**	**-0.7**
ENH	**Enshi**	**30.87 258**⇑	*i*P	**P**	**14 15 18.9**	**-0.2**
	comp=Z,673nm,0.8s,mb6.5					
CVP	**Callao Caves**	**31.81 225**⇑	*e*P	**P**	**14 15 27.9**	**+0.5**
	comp=Z,75μm,1.0s					
APYP	**Conner**	**31.98 226**	*e*P	**P**	**14 15 27.0**	**-1.9**
LZH	**Lanzhou**	**32.17 272**⇑	*i*P	**P**	**14 15 30.5**	**+0.1**
LZH			AP	pP	14 15 42.1	-1.4
LZH			XP	sP	14 15 47.5	-2.3
LZH			PP	PP	14 16 36.9	-1.5
LZH			S	**S**	**14 20 37.4**	**-1.1**
LZH			XS		14 20 57.3	
LZH			SS	SS	14 22 32.1	-2.5
LZH			AMB	AMB		
	comp=Z,553nm,1.5s,mb6.2					
LZH			AMB	AMB		
	comp=Z,2μm,6.3s					
LZH			LR	LR		
	comp=E,15μm,13.1s					
LZH			LR	LR		
	comp=Z,24μm,16.9s,MS6.0					
CAUP	**Cauayan**	**32.44 224**	*e*P	**P**	**14 15 33.9**	**+0.9**
HKC	**Hong Kong**	**32.74 241**⇑	*i*P	**P**	**14 15 38.0**	**+2.5**
HKC			*i*S	**S**	**14 20 52.0**	**+4.6**
BCPH	**Baguio City Da**	**33.56 226**⇓	*i*P	**P**	**14 15 43.0**	**+0.4**
BALP	**Baler**	**33.58 224**	*e*P	**P**	**14 15 43.4**	**+0.7**
MIDW	**Midway**	**33.68 103**	PFAKE		14 16 00.0	+16
MIDW			LR	LR		
	comp=Z,13μm,22.0s,MS5.6					
BOLP	**Bolinao**	**33.91 227**	*e*P	**P**	**14 15 45.6**	**0.0**
PVCP	**Virac**	**34.20 218**	*e*P	**P**	**14 15 49.5**	**+1.4**
POLP	**Polilio Island**	**34.26 222**	*e*P	**P**	**14 15 50.0**	**+1.3**
SCZP	**Santa Cruz**	**34.42 226**	*e*P	**P**	**14 15 50.1**	**+0.2**
TNA	**Tin City**	**34.51 33**⇑	*e*P	**P**	**14 15 48.6**	**-1.7**
GQP	**Guinayangan**	**34.72 221**⇑	*e*P	**P**	**14 15 52.9**	**+0.3**
LQP	**Lukban**	**34.99 222**⇑	*e*P	**P**	**14 15 56.2**	**+1.4**
AUQP	**San Andres**	**35.12 220**	*e*P	**P**	**14 15 57.7**	**+1.7**
TGY	**Tagaytay City**	**35.29 223**⇑	*e*P	**P**	**14 15 59.4**	**+2.0**
TGY	**Tagaytay City**	**35.29 223**	P	**P**	**14 15 59.1**	**+1.7**
	comp=Z,2μm,0.6s,mb7.2,baz=89,slow=5.6,SNR=72					
TGY			sP	sP	14 16 17.7	+0.7
	comp=Z,2μm,0.8s,baz=59,slow=6.3,SNR=5.4					
BOAC	**Boac**	**35.40 221**	*e*P	**P**	**14 15 59.3**	**+1.0**
LUBP	**Lubang**	**35.96 224**⇑	*e*P	**P**	**14 16 03.1**	**+0.1**
LUBP	**Lubang**	**35.96 224**	*e*P	**P**	**14 16 03.5**	**+0.4**
PLP	**Palo**	**36.00 215**	*i*P	**P**	**14 16 05.1**	**+1.6**
OCLP	**Ormoc**	**36.26 215**	*e*P	**P**	**14 16 08.0**	**+2.3**
OTRP	**Odiongan**	**36.26 220**	*e*P	**P**	**14 16 07.1**	**+1.4**
SJMP	**San Jose**	**36.61 221**	*e*P	**P**	**14 16 09.8**	**+1.2**
RCP	**Roxas**	**36.63 218**⇑	*e*P	**P**	**14 16 10.4**	**+1.6**
MSLP	**Maasin**	**36.98 214**	*e*P	**P**	**14 16 13.1**	**+1.4**
SCPH	**Surigao**	**37.04 213**⇑	*e*P	**P**	**14 16 13.2**	**+1.0**
LLP	**Lapu-Lapu**	**37.19 216**	*e*P	**P**	**14 16 14.9**	**+1.4**
	comp=Z,493μm,0.7s					
BUSP	**Coron**	**37.45 222**	*e*P	**P**	**14 16 16.9**	**+1.3**
GUIM	**Jordan**	**37.52 218**	*e*P	**P**	**14 16 17.5**	**+1.3**
TBP	**Tagbilaran**	**37.80 215**	*e*P	**P**	**14 16 19.1**	**+0.6**
QIZ	**Qiongzhong**	**37.90 242**⇑	*i*P	**P**	**14 16 21.9**	**+2.6**
QIZ			AP	pP	14 16 34.5	+1.9
QIZ			XP	sP	14 16 40.0	+1.2
QIZ			PP	PP	14 17 49.3	-0.2
QIZ			PPP	PPP	14 18 11.1	-0.8
QIZ			S	**S**	**14 22 10.5**	**+3.7**
QIZ			SS	SS	14 24 48.6	+3.5
QIZ			AMB	AMB		
	comp=Z,323nm,1.7s,mb5.8					
QIZ			AMB	AMB		

comp=Z,5μm,6.8s
QIZ LR LR
comp=E,17μm,21.4s
QIZ LR LR
comp=Z,19μm,19.4s,MS5.9
QIZ Qiongzhong 37.90 242⇑ *i* P P 14 16 21.5 +2.2
comp=Z,595nm,1.4s,mb6.1
CUYO Cuyo Island 38.05 220 *e*P P 14 16 22.4 +1.7
ENPP El Nido 38.52 223 *e*P P 14 16 26.3 +1.8
CGP Cagayan de Oro 38.57 213⇓ *e*P P 14 16 25.9 +1.0
BUKP Musuan 38.94 212 *e*P P 14 16 29.3 +1.2
MATI Mati 39.34 210 *e*P P 14 16 32.3 +0.9
DAV Davao City (W) 39.48 211⇑ *e*P P 14 16 33.8 +1.2
comp=Z,2500μm,1.8s
PAGZ Pagadian 39.65 215 *e*P P 14 16 34.9 +0.9
KCP Kidapawan 39.73 212 *e*P P 14 16 36.6 +2.1
IPIL Ipil 40.05 216 *e*P P 14 16 38.1 +0.8
PPR Puerto Princes 40.09 222⇑ *e*P P 14 16 40.0 +2.4
ZAL Zalesovo 40.28 308 P **P 14 16 37.8 -0.9**
ZAL 14 18 42.3
ZAL pmax pmax
comp=Z,135nm,1.2s
ZAL MLR MLR
comp=Z,49μm,19.1s
ZAL Zalesovo 40.28 308 P **P 14 16 37.8 -0.9**
comp=Z,134nm,1.2s,mb5.6,baz=31,slow=8.7,SNR=169
ZAL PcP PcP 14 18 42.3 0.0
comp=Z,140nm,0.7s,baz=21,slow=3.4,SNR=11
ZAL LR LR 14 35 03.3
comp=Z,49μm,19.1s,MS6.4,baz=34,slow=39
WMQ Urumqi 40.92 292⇑ *i* P P 14 16 43.8 -0.4
WMQ AP pP 14 16 53.6 -3.9
WMQ XP sP 14 16 57.6 -6.0
WMQ PP PP 14 18 21.8 -0.2
WMQ S **S 14 22 52.3 +0.3**
WMQ XS 14 23 08.5
WMQ AMB AMB
comp=Z,164nm,1.5s,mb5.4
WMQ AMB AMB
comp=Z,908nm,5.0s
WMQ LR LR
comp=N,21μm,19.8s,MS6.1
WMQ LR LR
comp=E,20μm,20.5s,MS6.1
WMQ LR LR
comp=Z,20μm,20.6s,MS6.0
NVS Novosibirsk 41.03 309 *i* P **P 14 16 43.4 -1.5**
NVS *i* 14 22 50.6
NVS *i* 14 26 41.3
NVS pmax pmax
comp=Z,938nm,2.3s,mb6.0
NVS pmax pmax
comp=N,141nm,1.6s
NVS pmax pmax
comp=E,442nm,1.6s
KDAK Kodiak Island 41.07 46 *e*P **P 14 16 44.2 -1.0**
comp=E,367nm,1.1s,mb5.9
KDAK LR LR
comp=Z,6μm,22.0s,MS5.4
BATP Bataraza 41.40 223 *e*P **P 14 16 50.8 +2.5**
FIB Fire Island 41.96 41 *e*P **P 14 16 52.5 +0.1**
FIB MLR MLR
comp=Z,5μm,22.0s,MS5.3
MCK McKinley 42.36 37⇑ *i* P P 14 16 55.1 -0.5
MCK pmax pmax
comp=Z,266nm,1.0s,mb5.8
MCK MLR MLR
comp=Z,4μm,22.0s,MS5.3
MCK McKinley 42.36 37⇑ *i* P P 14 16 55.1 -0.6
comp=Z,266nm,1.0s,mb5.8
MCK LR LR
comp=Z,4μm,22.0s,MS5.3
COLA College 42.78 35 P **P 14 16 59.2 +0.2**
COLA pmax pmax
comp=Z,350nm,0.9s,mb6.1
COLA College 42.78 35⇑ *i* P P 14 16 59.0 0.0
comp=Z,475nm,0.9s,mb6.2
COLA LR LR
comp=Z,8μm,21.0s,MS5.6
SML Sawmill 42.78 40 *e*P **P 14 16 58.8 -0.3**
ILAR Eielson Array 43.19 36 P **P 14 17 01.6 -0.9**
comp=Z,156nm,0.8s,mb5.8,baz=263,slow=5.2,SNR=554
ILAR pP pP 14 17 15.1 -0.8
comp=Z,159nm,1.0s,baz=252,slow=5.3,SNR=8.3
ILAR S **S 14 23 22.8 -2.3**
comp=Z,3.1nm,1.1s,baz=270,slow=6.3,SNR=2.5
ILAR LR LR 14 35 08.8
comp=Z,4μm,21.0s,MS5.3,baz=284,slow=36
ILAR P3KP 14 47 47.3
comp=Z,1.1nm,1.0s,baz=224,slow=3.7,SNR=5.5
UBT Ubonrachathani 43.80 243⇑ P **P 14 17 09.5 +1.5**
comp=Z,729nm,1.2s,mb6.3
THY Trims Highway 43.80 37 *e*P **P 14 17 06.3 -1.2**
DIV Divide 44.08 41⇑ *i*P **P 14 17 09.6 -0.1**
CHRT Chiangrai 44.16 253⇑ P **P 14 17 11.5 +0.6**
comp=Z,3μm,1.2s,mb6.9
EYAK Cordova Ski Ar 44.18 42 *e*P **P 14 17 10.2 -0.3**
NANT Nan 44.24 251 PG **P 14 17 10.0 -1.5**
NANT SG Px 14 17 11.5
KKTK Khon Kaen 44.48 247⇑ P **P 14 17 14.6 +1.1**
comp=Z,4μm,0.5s
LSA Lhasa 44.58 271 P **P 14 17 14.8 +0.6**
LSA AP pP 14 17 25.6 -2.0
LSA XP sP 14 17 30.9 -2.7
LSA PCP PcP 14 18 57.3 +0.4
LSA PP PP 14 18 59.0 -0.8
LSA SCP 14 22 46.0
LSA PCS 14 22 51.3
LSA S **S 14 23 43.8 -2.0**
LSA XS 14 24 07.0
LSA SCS ScS 14 27 09.9 +5.0
LSA AMB AMB
comp=Z,260nm,1.2s,mb5.9
LSA LR LR
comp=E,14μm,19.4s
LSA LR LR
comp=Z,19μm,20.7s,MS6.0
LSA Lhasa 44.58 271⇑ *i*P **P 14 17 15.5 +1.3**
LSA pmax pmax
comp=Z,2μm,1.5s,mb6.7
LSA Lhasa 44.58 271⇑ *i*P **P 14 17 15.5 +1.3**
comp=Z,2μm,1.5s,mb6.7
LSA *e* 14 17 21.8
KURK Kurchatov 44.70 304⇑ *i*P **P 14 17 14.4 -0.4**
KURK pmax pmax
comp=Z,1μm,1.3s,mb6.5
KURK Kurchatov 44.70 304⇑ *i*P **P 14 17 14.3 -0.4**
comp=Z,1μm,1.3s,mb6.5
IMP Imphal 45.30 263 *e*P **P 14 17 18.0 -2.0**
CHTO Chiang Mai 45.46 253 P **P 14 17 22.4 +1.2**
CMAR Chiang Mai Arr 45.70 252 P **P 14 17 24.4 +1.3**
comp=Z,125nm,0.7s,mb6.0,baz=44,slow=7.6,SNR=479
CMAR pP pP 14 17 36.9 +0.3
comp=Z,161nm,1.1s,baz=38,slow=7.1,SNR=8.2
CMAR sP sP 14 17 42.8 +0.2
comp=Z,74nm,0.8s,baz=41,slow=6.4,SNR=5.2
CMAR PcP PcP 14 19 01.6 +0.7
comp=Z,22nm,0.6s,baz=11,slow=2.6,SNR=6.3
CMAR ScP 14 22 50.2
comp=Z,11nm,1.2s,baz=37,slow=4.5,SNR=3.9
CMAR LR LR 14 37 50.7
comp=Z,17μm,18.4s,MS6.0,baz=55,slow=38
SHL Shillong 46.35 266⇑ *i* pP 14 17 38.2 -3.5
SHL *e*S **S 14 24 15.2 +4.2**
DAWY Dawson 46.51 36 *e*P **P 14 17 28.4 -0.5**
NST Nakhon Sawan 46.78 249⇓ P **P 14 17 33.4 +1.7**
comp=Z,243nm,1.2s,mb6.0
GTK Gangtok 47.74 270 *e*P **P 14 17 38.0 -1.2**
AGT Agartala 47.80 264⇑ *i*P **P 14 17 38.0 -1.7**
AGT *i* 14 20 16.0
INK Inuvik 48.02 30⇑ *i*P **P 14 17 40.0 -0.8**
INK pmax pmax
comp=Z,145nm,0.5s
INK Inuvik 48.02 30⇑ *i*P **P 14 17 40.0 -0.8**
comp=Z,145nm,0.5s,mb6.3
AAA Alma-Ata 48.38 295 *i* P **P 14 17 45.0 +1.1**
AAA *e* 14 19 39.5
AAA *e*S **S 14 24 40.0 +0.5**
AAA pmax pmax
comp=Z,7μm,8.0s
AAA smax
comp=E,2μm,10.0s
AAA MLR MLR
comp=Z,13μm,16.0s,MS6.0
AAA Alma-Ata 48.38 295 *i* P **P 14 17 45.0 +1.1**
AAA *e*S **S 14 24 40.0 +0.5**
CHKZ Chkalovo 48.48 310⇑ *i*P **P 14 17 43.4 -1.1**
CHKZ pmax pmax
comp=Z,472nm,1.1s,mb6.4
CHKZ Chkalovo 48.48 310⇑ *i*P **P 14 17 43.4 -1.1**
comp=Z,472nm,1.1s,mb6.4
BVAR Borovoye Array 48.83 309 P **P 14 17 46.6 -0.6**
comp=Z,33nm,0.3s,mb5.8,baz=68,slow=8.0,SNR=267
BVAR pP pP 14 18 01.4 +0.7
comp=Z,68nm,0.6s,baz=83,slow=7.7,SNR=7.0
BVAR PcP PcP 14 19 11.3 -0.3
comp=Z,80nm,0.7s,baz=85,slow=4.2,SNR=9.0
BVAR ScP 14 23 00.2
comp=Z,6.2nm,0.8s,baz=45,slow=13,SNR=3.3
BVAR S **S 14 24 43.6 -2.1**
comp=Z,3.9nm,0.8s,baz=63,slow=9.7,SNR=3.1
BVAR PKPPKP 14 48 44.4
comp=Z,1.3nm,0.9s,baz=214,slow=5.3,SNR=3.8
BRVK Borovoye 48.88 309⇑ *i*P **P 14 17 46.8 -0.8**
BRVK pmax pmax
comp=Z,570nm,1.1s,mb6.5
BRVK MLR MLR
comp=Z,10μm,19.0s,MS5.8
BRVK Borovoye 48.88 309⇑ *i*P **P 14 17 46.8 -0.8**
comp=Z,570nm,1.1s,mb6.5
BRVK LR LR
comp=Z,10μm,19.0s,MS5.8
ULHL Ulahol 49.28 294 P **P 14 17 51.1 +0.2**
SNR=11
JIRN Jiri 49.34 272 *e*P **P 14 17 49.2 -2.3**
comp=Z,1μm,1.4s,mb6.8
TKM2 Tokmak 2 49.43 295 P **P 14 17 52.4 +0.4**
SNR=30
KKN Kakani 49.94 273 *e*P **P 14 17 54.4 -1.7**
comp=Z,2μm,1.5s,mb7.0
CHMS Chumysh 49.96 296 P **P 14 17 55.6 -0.4**
SNR=75
PKI Pulchoki 49.97 273 *e*P **P 14 17 54.4 -1.9**
comp=Z,1μm,1.3s,mb6.8
KBK Karagaybulak 49.97 295 P **P 14 17 56.4 +0.2**
SNR=19
USP Ospenovka 50.01 296 P **P 14 17 56.2 -0.2**
SNR=14
KZA Kyzart 50.02 294 P **P 14 17 57.5 +0.9**
SNR=125
FRU Bishkek 50.12 296⇑ *i*P **P 14 17 57.0 -0.3**
FRU *i* 14 25 04.0
FRU pmax pmax
comp=Z,1μm,1.8s,mb6.7
DMN Daman 50.17 273 *e*P **P 14 17 56.3 -1.6**
comp=Z,2μm,1.4s,mb6.9
AAK Ala-Archa 50.28 295 P **P 14 17 58.4 -0.2**
SNR=15
AAK Ala-Archa 50.28 295*c* *i*P **P 14 17 57.5 -1.0**
AAK pmax pmax
comp=Z,578nm,1.7s,mb6.3
AAK MLR MLR
comp=Z,15μm,21.0s,MS6.0
AAK Ala-Archa 50.28 295⇑ *i*P **P 14 17 57.4 -1.2**
comp=Z,151nm,0.6s,mb6.2
AAK LR LR
comp=Z,3μm,20.0s,MS5.3
GKN Gorkha 50.29 273 *e*P **P 14 17 56.8 -2.0**
comp=Z,338nm,0.5s,mb6.6
SIT Sitka 50.30 44 *e*P **P 14 17 58.9 +0.4**
SIT pmax pmax
comp=Z,496nm,1.7s,mb6.3
SIT MLR MLR
comp=Z,9μm,20.0s,MS5.8
SIT Sitka 50.30 44 *e*P **P 14 17 58.9 +0.4**
comp=Z,496nm,1.7s,mb6.3
SIT LR LR
comp=Z,9μm,20.0s,MS5.8
UCH Uchtor 50.45 295 P **P 14 18 00.3 +0.5**
SNR=43
EKS2 Erkin-Say 50.75 296 P **P 14 18 01.9 -0.2**
SNR=32
CAL Calcutta 50.75 265 *e*P **P 14 18 05.7 +3.4**
CAL *e* 14 20 06.5
AML Almayashu 51.04 295 P **P 14 18 04.8 +0.5**
SNR=14
KOLN Koldanda 51.19 274 *e*P **P 14 18 04.1 -1.5**
BUNI Buntu Taipa 51.34 212⇑ *i*P **P 14 18 05.9 -1.0**
comp=Z,23nm,0.4s,mb5.5
TANI Tanete Lipujan 51.51 213⇓ *i*P **P 14 18 07.2 -1.0**
TANI pmax pmax
comp=Z,31nm,1.1s,mb5.2
TANI Tanete Lipujan 51.51 213⇓ *i*P **P 14 18 07.2 -1.0**
comp=Z,31nm,1.1s,mb5.2
KIP Kipapa 51.79 96 PFAKE 14 18 20.0 +10
KIP LR LR
comp=Z,20μm,21.0s,MS6.1
PMG Port Moresby 52.02 177 P **P 14 18 12.1 +0.1**
PMG *PP pP 14 18 25.4 -0.3
PMG S **S 14 25 32.6 +2.3**
PMG pmax pmax
comp=Z,147nm,1.5s
PMG Port Moresby 52.02 177 P **P 14 18 12.1 +0.1**
comp=Z,147nm,1.5s,mb5.7,baz=352,slow=8.6,SNR=5.8
PMG pP pP 14 18 25.4 -0.2
comp=Z,80nm,0.9s,baz=5.4,slow=5.5,SNR=14
PMG ScP 14 23 17.2
comp=Z,5.6nm,0.9s,baz=304,slow=17,SNR=3.6
PMG S **S 14 25 32.6 +2.4**
comp=Z,9.3nm,1.0s,baz=114,slow=21,SNR=2.1
PMG LR LR 14 35 41.1
comp=Z,5μm,21.4s,MS5.5,baz=256,slow=31
PMG Port Moresby 52.02 177 P **P 14 18 12.1 +0.1**
PMG pP pP 14 18 25.4 -0.2
PMG ScP 14 23 17.2
PMG S **S 14 25 32.6 +2.4**
PMG LR LR 14 35 41.1
NINI Niniconang 52.26 212⇑ *i*P **P 14 18 13.4 -0.4**
NINI pmax pmax
comp=Z,1μm,1.8s,mb6.6
NINI Niniconang 52.26 212⇑ *i*P **P 14 18 13.4 -0.4**
comp=Z,1μm,1.8s,mb6.6
DLBC Dease Lake 52.46 41 *e*P **P 14 18 15.2 +0.6**
SVE Sverdlovsk 52.69 317 *e*P **P 14 18 16.0 -0.5**
SVE *e* 14 19 25.0
SVE *e* 14 20 14.5
SVE *e*S **S 14 25 35.0 -3.9**
SVE *e* 14 26 00.0
SVE *e* 14 28 00.0
SVE pmax pmax
comp=Z,4μm,3.9s
SVE MLR MLR
comp=Z,22μm,16.0s,MS6.3
SOKR Solikamsk 53.47 321⇑ *i*P **P 14 18 17.7 -4.5**
SOKR *i* pP 14 18 32.9 -3.1
SOKR *i* S **S 14 25 42.8 -6.6**
SOKR pmax pmax
comp=Z,560nm,1.1s,mb6.4
ARU Arti 53.90 317⇑ *i*P **P 14 18 20.3 -5.1**
ARU *i* S **S 14 25 49.7 -5.6**
ARU *i* 14 28 01.2
ARU pmax pmax
comp=Z,604nm,1.1s,mb6.4
ARU MLR MLR
comp=Z,21μm,19.0s,MS6.2
ARU MLR MLR
comp=N,300nm,18.0s,MS6.1
ARU MLR MLR
comp=E,15μm,18.0s,MS6.1
ARU Arti 53.90 317⇑ *i*P **P 14 18 20.1 -5.3**
comp=E,1μm,1.4s,mb6.6
ARU *e*pP pP 14 18 35.2 -4.0
SMLA Simla 54.03 281⇑ *i* pP 14 18 40.2 -0.4
comp=E,311nm,0.2s
SMLA *i* 14 26 08.2
DLH Dalhousie 54.14 283 *e*P **P 14 18 26.0 -1.5**
DLH *e* pP 14 18 39.0 -2.3
BHK Bhakra 54.42 282 *e*P **P 14 18 27.0 -2.6**
BHK *e* 14 19 26.4
BHK *e* 14 26 04.2
POHA Pohakuloa 54.64 95 PFAKE 14 18 40.0 +8.7
POHA LR LR
comp=Z,1.0nm,20.0s
NDI New Delhi 55.34 279 *e*P **P 14 18 34.0 -2.3**
NDI *e*S **S 14 26 15.0 0.0**
AYAN Aya Nagar 55.52 279 *e*P **P 14 18 36.5 -1.1**
AYAN *e* 14 18 39.1
comp=Z,869nm,1.1s
BLSP Bilaspur 55.55 269 *e*P **P 14 18 36.5 -1.4**
comp=Z,606nm,1.5s,mb6.4
BLSP *i* P 14 18 37.0
BLSP *e* 14 18 38.6
comp=Z,531nm,1.1s
BLSP *i* pP 14 18 50.0 -1.8
AGRA Agra 55.63 277 *e*P **P 14 18 37.6 -0.8**
SONA Sohna 55.68 278 *e*P **P 14 18 38.1 -0.6**
SONA *e* 14 18 40.4
comp=Z,848nm,1.1s
JHNI Jhansi 56.21 275⇑ *i*P **P 14 18 39.0 -3.6**
JHNI *i* pP 14 18 55.0 -1.5
RES Resolute Bay 56.31 16⇑ *e*P **P 14 18 40.9 -1.8**
RES pmax pmax
comp=Z,955nm,0.8s,mb6.9
RES Resolute Bay 56.31 16⇑ *e*P **P 14 18 40.9 -1.9**
comp=Z,955nm,0.8s,mb6.9
HSP Hornsund 56.35 348 *e*P **P 14 18 41.1 -1.8**
KAKA Kakadu 56.43 195 *e*P **P 14 18 43.9 -0.4**
comp=Z,387nm,1.5s,mb6.2
KAKA *i* pP 14 18 57.8 -0.4
VIS Vishakhapatnam 57.41 264 *e*P **P 14 18 51.0 -0.2**
VIS *e* 14 18 54.0
comp=Z,352nm,1.5s
KEDI Kedomdong 57.42 214⇑ *e*P **P 14 18 49.7 -1.7**
KEDI pmax pmax
comp=Z,105nm,0.6s,mb6.0
KEDI Kedomdong 57.42 214⇑ *e*P **P 14 18 49.7 -1.7**
comp=Z,105nm,0.6s,mb6.0
KEDI *i* pP 14 18 51.4
YKW3 Yellowknife Ar 57.43 33 *e*P **P 14 18 49.5 -1.3**
YKA Yellowknife Ar 57.47 33 P **P 14 18 49.7 -1.3**
comp=Z,105nm,1.0s,mb5.8,baz=302,slow=6.9,SNR=298
YKA pP pP 14 19 04.9 -0.1
comp=Z,35nm,0.8s,baz=306,slow=4.6,SNR=6.4
YKA LR LR 14 44 46.2
comp=Z,6μm,21.9s,MS5.7,baz=290,slow=37
YKA PKPPKP 14 48 33.8
comp=Z,1.3nm,0.8s,baz=135,slow=2.1,SNR=6.5
YKA PKP2bc 14 48 50.9
comp=Z,2.1nm,1.0s,baz=127,slow=2.0,SNR=4.8
YKA Yellowknife Ar 57.47 33 P **P 14 18 49.7 -1.3**
YKA pP pP 14 19 04.9 -0.1
YKA LR LR 14 44 46.2
YKA P'P' 14 48 33.9
YKA ⇑*e* 14 48 50.9
BJO Bjornoya 57.53 345 AMS AMS 14 46 40.6
comp=Z,7μm,18.5s,MS5.8
RATI Rata 57.88 215⇓ *i*P **P 14 18 53.0 -1.6**
comp=Z,483nm,1.7s,mb6.2
LVZ Lovozero 57.96 335 P **P 14 18 52.0 -2.4**
comp=Z,1μm,0.7s,mb7.0,SNR=16
LVZ Lovozero 57.96 335⇓ *e*P **P 14 18 52.5 -1.9**
LVZ *e*S **S 14 26 42.8 -6.3**
LVZ pmax pmax
comp=Z,163nm,1.2s,mb5.9
LVZ pmax pmax
comp=N,77nm,1.6s
LVZ pmax pmax
comp=E,52nm,1.5s
LVZ smax
comp=N,1μm,3.7s
SRDI Scrawed 58.26 217⇓ *e*P **P 14 18 54.7 -2.5**
SRDI pmax pmax
comp=Z,85nm,1.1s,mb5.7
SRDI Scrawed 58.26 217⇓ *e*P **P 14 18 54.7 -2.5**
comp=Z,85nm,1.1s,mb5.7
SRDI *i* pP 14 18 56.1
BHPL Bhopal 58.35 273 *e*P **P 14 18 56.5 -1.1**
BHPL *e* 14 18 59.4
comp=Z,1μm,1.2s
NGP Nagpur 58.42 270 *e*P **P 14 18 56.8 -1.4**
NGP *e* 14 18 58.8
NGP *e* 14 26 52.7
AJM Ajmer 58.47 278⇑ *i*P **P 14 18 58.0 -0.5**
APA Apatity 58.54 335⇓ *i*P **P 14 18 56.0 -2.4**
APA *i* 14 19 47.0
APA *e*S **S 14 26 54.0 -2.6**
APA pmax pmax
comp=Z,290nm,1.2s,mb6.2
APA pmax pmax
comp=Z,4μm,6.0s
APA MLR MLR
comp=Z,10μm,20.0s,MS5.9
KEV Kevo 59.00 339 *e*p **P 14 18 59.0 -2.6**
comp=Z,169nm,0.8s,mb6.1
KEV Kevo 59.00 339 *e*P **P 14 18 59.0 -2.6**
KEV pmax pmax
comp=Z,169nm,0.8s,mb6.1
ARCES ARCESS Array B 59.54 339 P **P 14 19 03.7 -1.7**
comp=Z,70nm,0.7s,mb5.8,baz=46,slow=5.0,SNR=103
ARCES PcP PcP 14 19 51.2 -0.8
comp=Z,16nm,0.6s,baz=45,slow=5.1,SNR=5.9
ARCES LR LR 14 48 47.6
comp=Z,10μm,19.9s,MS6.0,baz=43,slow=40
ARCES PKP2ab 14 48 57.4
comp=Z,5.2nm,0.9s,baz=135,slow=1.7,SNR=5.0
DAG Danmarks Havn 60.23 356⇓ *e*P **P 14 19 07.5 -2.5**
DAG pmax pmax
comp=Z,298nm,1.0s,mb6.3
DAG Danmarks Havn 60.23 356⇓ *e*P **P 14 19 07.5 -2.5**
comp=Z,298nm,1.0s,mb6.3
DAG Danmarks Havn 60.23 356⇓ *i*P **P 14 19 07.5 -2.5**
comp=Z,298nm,1.0s,mb6.3
PGC Sidney 60.46 50 *e*P **P 14 19 10.6 -1.3**
comp=Z,559nm,1.5s,mb6.4
PGC *e* pP 14 19 21.6 -4.3
KTK1 Kautokeino 60.49 339⇑ *i*P **P 14 19 11.2 -0.7**
comp=Z,509nm,1.1s,mb6.5
KTK1 Kautokeino 60.49 339⇑ *i*P **P 14 19 11.2 -0.7**
KTK1 AMb AMB 14 19 13.6
comp=Z,509nm,1.1s,mb6.5
PECR Pechory 60.96 321 *e*P **P 14 19 12.4 -2.8**
PECR *e* 14 21 24.7
PECR *e*S **S 14 27 25.0 -3.0**
PECR *e* 14 27 52.0
PECR *e* 14 28 55.0
PECR pmax pmax
comp=N,3μm,10.0s
PECR pmax pmax
comp=E,4μm,10.0s
PECR pmax pmax
comp=Z,6μm,10.0s
PECR smax
comp=N,6μm,14.0s
PECR MLR MLR
comp=Z,26μm,20.0s,MS6.4
PECR MLR MLR
comp=N,8μm,14.0s
PECR MLR MLR
comp=E,9μm,19.0s
HYB Hyderabad 61.11 267⇑ *e*P **P 14 19 15.5 -1.3**
HYB *e*S **S 14 27 28.0 -2.4**
HYB pmax pmax
comp=Z,450nm,1.0s,mb6.5
HYB Hyderabad 61.11 267⇑ *e*P **P 14 19 15.5 -1.3**
comp=Z,450nm,1.0s,mb6.5
HYB *e*S **S 14 27 28.0 -2.4**
HYB *e*P'P' 14 48 37.0
HYB Hyderabad 61.11 267⇑ *i*P **P 14 19 15.5 -1.3**
comp=Z,450nm,1.0s,mb6.5
HYB *e*pP pP 14 19 28.0 -2.8
HYB *e*sP sP 14 19 36.0 -0.6
HYB *e*PcP PcP 14 19 58.5 -0.5
HYB *e*PP PP 14 21 32.0 -1.8
HYB *e*S **S 14 27 28.0 -2.4**
HYB *e*sS 14 27 51.0
HYB *e*ScS ScS 14 29 00.0 +0.3
HYB *e* 14 29 24.0
HYB *e*SS SS 14 31 32.0 -0.2
HYB LR LR 14 47 32.0
comp=Z,6.3nm,20.0s
HYB *e*PKPPKP 14 48 30.5
HYB *e* 14 48 37.0
HYB *e* 14 48 50.0
TRO Tromso 61.12 341⇑ *i*P **P 14 19 13.2 -2.9**
TRO *e* 14 27 27.0
TRO LR LR
comp=Z,11531μm,16.9s
TRO Tromso 61.12 341⇑ *i*P **P 14 19 13.2 -2.9**
TRO *e*S **S 14 27 25.0 -4.8**
TRO AMS AMS 14 51 07.2
comp=Z,12μm,16.9s,MS6.1
LATR Latur 61.95 270⇑ *i*P **P 14 19 20.0 -2.3**
JOF Joensuu 62.14 332 *e*p **P 14 19 20.0 -3.0**
PNT Penticton 62.21 47 P **P 14 19 22.9 -0.8**
NLW Nelson Butte 62.51 49 P **P 14 19 25.4 -0.3**
CTA Charters Tower 62.61 179 *e*P **P 14 19 26.6 -0.2**

comp=Z,48nm,1.6s,mb5.4
CTA e pP 14 19 38.8 -2.0
CTA Charters Tower 62.61 179 P **P 14 19 26.0 -0.8**
comp=Z,35nm,0.7s,mb5.6,baz=360,slow=7.8,SNR=39
CTA pP pP 14 19 39.7 -1.1
comp=Z,122nm,1.1s,baz=354,slow=7.8,SNR=19
CTA S **S 14 27 50.5 +1.2**
comp=Z,3.4nm,0.9s,baz=264,slow=13,SNR=2.4
CTA LR LR 14 42 53.2
comp=Z,6μm,21.7s,MS5.7,baz=270,slow=32
CTA PKP2bc 14 48 34.8
comp=Z,11nm,1.0s,baz=342,slow=3.3,SNR=6.4
CTA PKP2ab 14 48 43.1
comp=Z,6.8nm,0.8s,baz=157,slow=2.3,SNR=3.6
CTAO Charters Tower 62.61 179⇑ *eP* **P 14 19 25.9 -0.9**
CTAO *e* pP 14 19 39.0 -1.8
CTAO pmax pmax
comp=Z,427nm,1.4s,mb6.4
CTAO MLR MLR
comp=Z,5μm,21.0s,MS5.7
CTAO Charters Tower 62.61 179⇑ *eP* **P 14 19 25.9 -0.9**
comp=Z,427nm,1.4s,mb6.4
CTAO *e* pP 14 19 39.0 -1.8
CTAO LR LR
comp=Z,5μm,21.0s,MS5.7
MDRS Chennai 62.69 262 *i* P **P 14 19 27.0 -0.3**
MDRS *e* 14 21 46.0
COR Corvallis 62.78 53 *eP* **P 14 19 28.1 +0.5**
COR pmax pmax
comp=Z,566nm,1.5s,mb6.5
COR MLR MLR
comp=Z,931nm,20.0s,MS5.0
COR Corvallis 62.78 53 *eP* **P 14 19 28.1 +0.5**
comp=Z,566nm,1.5s,mb6.5
COR LR LR
comp=Z,931nm,20.0s,MS5.0
TBM Table Mountain 62.88 50 P **P 14 19 27.8 -0.4**
NAC Naches 63.00 50 P **P 14 19 28.8 -0.2**
EBG Ellensburg 63.04 50 P **P 14 19 29.3 0.0**
BHV Bhavnagar 63.12 275 *eP* **P 14 19 30.0 -0.2**
FITZ Fitzroy Crossi 63.17 201 *eP* **P 14 19 30.8 +0.3**
comp=Z,250nm,1.4s,mb6.2
FITZ *e* pP 14 19 42.0 -2.6
EDM Edmonton 63.18 41 *eP* **P 14 19 28.8 -1.3**
WRAB Tennant Creek 63.20 191⇑ *iP* **P 14 19 29.6 -1.1**
WRAB *e* pP 14 19 43.0 -1.8
WRAB pmax pmax
comp=Z,567nm,1.1s,mb6.6
WRAB MLR MLR
comp=Z,2μm,22.0s,MS5.2
WRAB Tennant Creek 63.20 191⇑ *iP* **P 14 19 29.6 -1.1**
comp=Z,567nm,1.1s,mb6.6
WRAB *e* pP 14 19 43.0 -1.8
WRAB LR LR
comp=Z,2μm,22.0s,MS5.2
WB2 Warramunga Arr 63.21 191 *eP* **P 14 19 29.5 -1.2**
WB2 *i* pP 14 19 43.8 -1.0
WB2 *e*S **S 14 27 54.9 -1.9**
WRA Warramunga Arr 63.21 191 *iP* **P 14 19 29.7 -1.1**
WRA pmax pmax
comp=Z,66nm,1.0s
WRA Warramunga Arr 63.21 191 P **P 14 19 29.7 -1.0**
comp=Z,66nm,1.0s,mb5.7,baz=11,slow=7.3,SNR=242
WRA pP pP 14 19 43.6 -1.2
comp=Z,183nm,1.0s,baz=12,slow=7.3,SNR=29
WRA S **S 14 27 55.0 -1.8**
comp=Z,2.8nm,1.2s,baz=19,slow=15,SNR=6.6
WRA PKP2bc 14 48 33.0
comp=Z,14nm,0.8s,baz=208,slow=2.0,SNR=22
WRA Warramunga Arr 63.21 191 P **P 14 19 29.7 -1.0**
WRA pP pP 14 19 43.6 -1.2
WRA S **S 14 27 55.0 -1.8**
WRA ⇑ *e* 14 48 33.0
VFP Flag Point 63.44 52 P **P 14 19 31.9 0.0**
LOF Lofoten 63.53 342⇑ *iP* **P 14 19 33.1 +1.0**
comp=Z,332nm,1.4s,mb6.2
LOF Lofoten 63.53 342⇑ *iP* **P 14 19 33.1 +1.0**
LOF AMb AMB 14 19 35.2
comp=Z,332nm,1.4s,mb6.2
OD2 Odessa Site #2 63.80 49 P **P 14 19 33.5 -0.7**
POO Poona 63.87 272⇑ *iP* **P 14 19 34.0 -1.1**
comp=Z,6.0nm,0.0s,baz=1.5
POO *i* S **S 14 28 08.0 +2.9**
BHJ Bhuj 64.02 278 *e* **P 14 19 39.8 +3.8**
BHJ *e* 14 29 04.4
HUMO Hull Mountain 64.11 55 *eP* **P 14 19 36.4 +0.2**
comp=Z,240nm,1.5s,mb6.0
HUMO LR LR
comp=Z,6μm,22.0s,MS5.7
KRMB Red Mountain 64.15 57 *eP* **P 14 19 36.8 +0.3**
NEW Newport 64.16 47⇑ *iP* **P 14 19 35.8 -0.7**
NEW pmax pmax
comp=Z,757nm,1.7s
NEW MLR MLR
comp=Z,5μm,22.0s
NEW Newport 64.16 47⇑ *iP* **P 14 19 35.8 -0.7**
comp=Z,757nm,1.7s,mb6.5
NEW LR LR
comp=Z,5μm,22.0s,MS5.7
MOS Moscow 64.22 323α *iP* **P 14 19 35.0 -1.7**
MOS *i* pP 14 19 51.7 +0.8
MOS *e* 14 20 10.7
MOS *e*PPP PPP 14 23 29.1 -3.7
MOS *i* S **S 14 28 05.2 -3.6**
MOS *i* PS PS 14 28 26.7 -8.9
MOS *e* 14 28 41.9
MOS *i* 14 29 22.4
MOS pmax pmax
comp=Z,4μm,2.7s,mb7.0
MOS pmax pmax
comp=Z,1μm,1.8s,mb6.6
MOS pmax pmax
comp=E,436nm,1.6s
MOS smax
comp=N,4μm,4.8s
MOS smax
comp=E,3μm,4.4s
MOS MLR MLR
comp=Z,13μm,15.0s,MS6.2
MOS MLR MLR
comp=N,9μm,16.6s,MS6.3
MOS MLR MLR
comp=E,12μm,14.1s,MS6.3
MOS Moscow 64.22 323⇑ *iP* **P 14 19 35.6 -1.1**
MOS *i* S **S 14 28 06.1 -2.7**
KAD Karad 64.39 270⇑ *iP* **P 14 19 36.2 -2.3**
KAF Kangasniemi 64.40 333 *ep* **P 14 19 35.2 -2.6**
comp=E,62nm,0.5s,mb5.9
KAF Kangasniemi 64.40 333 *eP* **P 14 19 35.2 -2.6**
KAF pmax pmax
comp=Z,62nm,0.5s,mb5.9
BOM Bombay 64.40 273 *eP* **P 14 19 37.1 -1.5**
BOM *e*S **S 14 28 15.3 +3.7**
PUL Pulkovo 64.58 329⇑ *eP* **P 14 19 37.9 -1.1**
PUL *e*S **S 14 28 09.8 -3.4**
PUL pmax pmax
comp=Z,244nm,0.8s,mb6.3
PUL pmax pmax
comp=N,304nm,1.9s
PUL pmax pmax
comp=E,255nm,1.7s
PUL smax
comp=N,4μm,5.1s
PUL MLR MLR
comp=Z,35μm,25.0s,MS6.5
PUL MLR MLR
comp=N,17μm,23.0s,MS6.3
PUL MLR MLR
comp=E,12μm,22.0s,MS6.3
PUL Pulkovo 64.58 329 *iP* **P 14 19 38.5 -0.5**
KHMM Horse Mountain 64.64 57 *eP* **P 14 19 40.1 +0.4**
YBH Yreka Blue Hor 64.77 56 *eP* **P 14 19 40.8 +0.3**
YBH pmax pmax
comp=Z,118nm,1.2s
YBH MLR MLR
comp=Z,4μm,20.0s
YBH Yreka Blue Hor 64.77 56 PKP2bc 14 48 28.2
comp=Z,4.0nm,1.2s,baz=118,slow=11,SNR=3.2
YBH Yreka Blue Hor 64.77 56 *eP* **P 14 19 40.8 +0.3**
comp=Z,118nm,1.2s,mb5.8
YBH LR LR
comp=Z,4μm,20.0s,MS5.7
MOR8 Moi Rana 64.86 340⇑ *iP* **P 14 19 37.8 -2.9**
comp=Z,763nm,1.1s,mb6.6
MOR8 Moi Rana 64.86 340⇑ *iP* **P 14 19 37.8 -2.9**
MOR8 AMb AMB 14 19 40.4
comp=Z,763nm,1.1s,mb6.7
SUMG Summit 64.88 1⇑ *iP* **P 14 19 40.4 -0.8**
comp=Z,951nm,0.8s,mb6.9
JMIC Jan Mayen 64.90 351 P **P 14 19 41.0 +0.1**
comp=Z,137nm,0.7s,mb6.1,baz=345,slow=2.3,SNR=4.5
JMIC pP pP 14 19 54.5 -0.6
comp=Z,152nm,0.5s,baz=232,slow=6.1,SNR=3.5
JMIC LR LR 14 46 36.7
comp=Z,3μm,21.1s,MS5.5,baz=30,slow=35
FINES FINESS Array B 64.95 332 P **P 14 19 39.8 -1.6**
FINES pmax pmax
comp=Z,116nm,0.5s
FINES MLR MLR
comp=Z,16μm,18.7s
FINES FINESS Array B 64.95 332 P **P 14 19 39.8 -1.5**
comp=Z,116nm,0.5s,mb6.2,baz=52,slow=8.1,SNR=657
FINES LR LR 14 51 05.0
comp=Z,16μm,18.7s,MS6.2,baz=51,slow=39
OBN Obninsk 65.08 323c *iP* **P 14 19 39.2 -3.2**
OBN *i* *PP pP 14 19 51.9 -4.6
OBN *i* *SP sP 14 19 55.3 -6.8
OBN *e* 14 20 15.6
OBN *e* 14 22 04.0
OBN *i* S S 14 28 14.4 -5.0
OBN *i* PS PS 14 28 45.9 -0.9
OBN *i* 14 29 26.7
OBN *e*SS SS 14 32 29.0 -5.1
OBN pmax pmax
comp=Z,200nm,1.7s,mb5.9
OBN pmax pmax
comp=Z,842nm,1.2s,mb6.7
OBN MLR MLR
comp=Z,12μm,15.0s,MS6.2
OBN Obninsk 65.08 323⇑ *iP* **P 14 19 39.0 -3.4**
comp=Z,652nm,1.0s,mb6.6
OBN LR LR
comp=Z,4μm,19.0s,MS5.6
WALA Waterton Lakes 65.39 45⇑ *eP* **P 14 19 43.9 -0.6**
comp=Z,279nm,1.4s,mb6.1
WALA *e* pP 14 19 55.8 -2.9
LASM Arnica Sink 65.53 55 P **P 14 19 45.8 +0.3**
WDC Whiskeytown Da 65.54 57 *eP* **P 14 19 45.3 -0.3**
WDC pmax pmax
comp=Z,286nm,1.4s,mb6.1
WDC MLR MLR
comp=Z,3μm,20.0s,MS5.4
WDC Whiskeytown Da 65.54 57 *eP* **P 14 19 45.3 -0.2**
comp=Z,286nm,1.4s,mb6.1
WDC LR LR
comp=Z,3μm,20.0s,MS5.4
GOA Goa 65.82 269 *i* S S 14 28 30.7 +1.7
BMO Blue Mountains 66.09 50⇑ *iP* **P 14 19 48.7 -0.3**
comp=Z,245nm,1.4s,mb6.0
BMO LR LR
comp=Z,6μm,22.0s,MS5.8
MOD Modoc 66.12 54 *eP* **P 14 19 49.0 -0.2**
comp=Z,127nm,1.5s,mb5.7
MOD LR LR
comp=Z,4μm,22.0s,MS5.6
HOPS Hopland 66.15 58⇑ *eP* **P 14 19 49.2 -0.2**
comp=Z,326nm,1.4s,mb6.2
HOPS LR LR
comp=Z,4μm,19.0s,MS5.6
PALK Pallekele 66.25 257⇑ *iP* **P 14 19 50.2 -0.3**
comp=Z,249nm,0.8s,mb6.3
PALK LR LR
comp=Z,1μm,21.0s,MS5.1
KOD Kodaikanal 66.59 262⇑ *iP* **P 14 19 51.0 -1.6**
KOD *e*S PP 14 22 15.0 -6.6
SCO Scoresbysund 66.60 355 *i* P **P 14 19 50.8 -1.0**
comp=Z,107nm,0.8s,mb5.9
NSHM Saint Helena R 66.73 59 *eP* **P 14 19 52.8 -0.3**
MNGI Mangalore 66.74 266 *i* P **P 14 19 52.6 -0.9**
MNGI *i* 14 28 38.4
MSO Missoula 66.75 47⇑ *eP* **P 14 19 52.6 -0.4**
comp=Z,277nm,1.4s,mb6.1
MSO LR LR
comp=Z,2μm,19.0s,MS5.3
WVOR Wild Horse Val 66.79 53⇑ *iP* **P 14 19 53.4 0.0**
WVOR pmax pmax
comp=Z,362nm,1.5s,mb6.2
WVOR MLR MLR
comp=Z,5μm,20.0s,MS5.7
WVOR Wild Horse Val 66.79 53⇑ *iP* **P 14 19 53.4 0.0**
comp=Z,362nm,1.5s,mb6.2
WVOR LR LR
comp=Z,5μm,20.0s,MS5.7
NSS Namsos 66.80 340 *eP* **P 14 19 50.4 -2.7**
NSS *e* 14 28 38.0
NSS AMS AMS 14 53 27.0
comp=Z,16μm,21.2s,MS6.2
ASAR Alice Springs 66.93 191 P **P 14 19 54.8 +0.1**
comp=Z,61nm,0.9s,mb5.6,baz=10,slow=5.5,SNR=277
ASAR pP pP 14 20 08.6 -0.3
comp=Z,126nm,0.9s,baz=6.6,slow=4.3,SNR=21
ASAR LR LR 14 48 02.9
comp=Z,1μm,21.3s,MS5.1,baz=8.2,slow=35
ASAR PKPPKP 14 48 20.7
comp=Z,7.6nm,0.9s,baz=183,slow=3.0,SNR=6.0
ASPA Alice Springs 66.93 191 *eP* **P 14 19 54.6 0.0**
ASPA *e* pP 14 20 09.3 +0.4
OHCM Honcut 66.94 57 *eP* **P 14 19 53.7 -0.7**
MAK Makhachkala 67.03 308d *iP* **P 14 19 54.0 -0.9**
MAK *i* 14 20 20.0
MAK *i* S S 14 28 44.0 +0.7
MAK *i* PS PS 14 29 10.0 -3.1
MAK pmax pmax
comp=Z,1μm,1.5s,mb6.6
MAK pmax pmax
comp=Z,6μm,7.0s
MAK smax
comp=N,11μm,10.0s
SAC San Andreas 67.41 59 P **P 14 19 57.3 -0.1**
NOUC Port Laguerre 67.54 159 *eP* **P 14 20 01.5 +3.0**
NOUC Port Laguerre 67.54 159 *eP* **P 14 20 01.5 +3.0**
DZM Mont Dzumac 67.55 158 *eP* **P 14 19 59.8 +1.2**
FCC Fort Churchill 67.63 29⇑ *iP* **P 14 19 57.2 -1.2**
FCC pmax pmax
comp=Z,672nm,1.2s,mb6.5
FCC Fort Churchill 67.63 29⇑ *iP* **P 14 19 57.2 -1.2**
comp=Z,672nm,1.2s,mb6.5
MBWA Marble Bar 67.77 205⇑ *iP* **P 14 19 59.4 -0.5**
comp=Z,214nm,1.1s,mb6.1
MBWA LR LR
comp=Z,2μm,20.0s,MS5.2
HRY Holter Researc 67.95 46 *eP* **P 14 20 00.4 -0.2**
WCN Washoe City 68.02 56 P **P 14 20 01.6 +0.4**
WCN pmax pmax
comp=Z,210nm,1.2s,mb6.0
WCN Washoe City 68.02 56⇑ *iP* **P 14 20 01.4 +0.2**
WCN *e* pP 14 20 11.9 -3.5
TRON Trondheim 68.07 340⇑ *iP* **P 14 20 00.9 -0.1**
TRD Trivandrum 68.12 261 *eP* **P 14 20 02.3 +0.1**
TRD *e* 14 20 04.2
comp=Z,1μm,1.1s
GOF Gofitskoye 68.26 312⇓ *iP* **P 14 20 02.5 -0.1**
GOF *i* S S 14 29 00.0 +2.0
GOF pmax pmax
comp=Z,3μm,1.8s,mb7.0
GOF pmax pmax
comp=Z,4μm,4.0s
GOF smax
comp=E,8.0nm,4.0s
GOF MLR MLR
comp=N,50μm,18.0s
GOF MLR MLR
comp=Z,37μm,18.0s,MS6.7
CMB Columbia Colle 68.41 58⇑ *iP* **P 14 20 03.5 -0.1**
CMB *e* pP 14 20 13.2 -4.7
CMB pmax pmax
comp=Z,456nm,1.5s,mb6.3
CMB MLR MLR
comp=Z,4μm,21.0s,MS5.6
CMB Columbia Colle 68.41 58⇑ *iP* **P 14 20 03.5 -0.2**
comp=Z,456nm,1.5s,mb6.3
CMB *e* pP 14 20 13.2 -4.7
CMB LR LR
comp=Z,4μm,21.0s,MS5.6
SAO San Andreas Ge 68.52 59⇑ *eP* **P 14 20 03.9 -0.5**
SAO pmax pmax
comp=Z,286nm,1.6s,mb6.0
SAO MLR MLR
comp=Z,4μm,20.0s,MS5.6
SAO San Andreas Ge 68.52 59⇑ *eP* **P 14 20 03.9 -0.4**
comp=Z,286nm,1.6s,mb6.0
SAO LR LR
comp=Z,4μm,20.0s,MS5.6
HLID Hailey 68.53 50 *eP* **P 14 20 04.3 +0.1**
comp=Z,278nm,1.5s,mb6.0
HLID *e* pP 14 20 15.3 -3.2
HLID LR LR
comp=Z,5μm,20.0s,MS5.7
MCMT McKenzie Canyo 68.60 48 *eP* **P 14 20 04.2 -0.5**
BOZ Bozeman (W) 68.74 47⇑ *iP* **P 14 20 05.7 +0.2**
BOZ pmax pmax
comp=Z,59nm,0.6s,mb5.7
BOZ MLR MLR
comp=Z,4μm,19.0s,MS5.6
BOZ Bozeman (W) 68.74 47⇑ *iP* **P 14 20 05.7 +0.1**
comp=Z,59nm,0.6s,mb5.7
BOZ LR LR
comp=Z,4μm,19.0s,MS5.6
BMN Battle Mountai 68.86 54⇑ *eP* **P 14 20 06.8 +0.4**
BMN pmax pmax
comp=Z,218nm,1.2s,mb6.0
BMN MLR MLR
comp=Z,4μm,21.0s,MS5.6
BMN Battle Mountai 68.86 54⇑ *eP* **P 14 20 06.8 +0.4**
comp=Z,218nm,1.2s,mb6.0
BMN LR LR
comp=Z,4μm,21.0s,MS5.6
IZAR Zarasai 68.96 328 *i* P **P 14 20 05.8 -0.9**
IZAR AMPb AMB 14 20 08.0
comp=Z,102nm,0.9s,mb5.7
LRV Little Rabbit 69.00 60 *eP* **P 14 20 07.5 +0.2**
AFI Afiamalu 69.02 134 PFAKE 14 20 20.0 +12
AFI LR LR
comp=Z,6μm,21.0s,MS5.8
IDID Didziasalis 69.08 327 *i* P **P 14 20 06.7 -0.8**
IDID AMPb AMB 14 20 09.6
comp=Z,165nm,1.2s,mb5.8
ISAL Salakas 69.13 328 *i* P **P 14 20 07.0 -0.8**
ISAL AMPb AMB 14 20 09.3
comp=Z,182nm,0.9s,mb6.0
KIV Kislovodsk 69.15 311 P **P 14 20 08.7 +0.6**
comp=Z,5μm,0.8s
KIV Kislovodsk 69.15 311c *iP* **P 14 20 08.3 +0.2**
KIV pmax pmax
comp=Z,2μm,1.6s,mb6.8
KIV MLR MLR
comp=Z,16μm,17.0s,MS6.3
KIV Kislovodsk 69.15 311⇑ *iP* **P 14 20 08.1 0.0**
comp=Z,647nm,0.8s,mb6.6
KIV LR LR
comp=Z,5μm,20.0s,MS5.7
DUS Dusheti 69.19 308 P **P 14 20 08.6 +0.2**
DUS S S 14 29 12.3 +3.2
ZEI Tsey 69.22 309 *eP* **P 14 20 07.0 -1.6**
ZEI *i* *PP pP 14 20 19.9 -3.0
ZEI *i* 14 22 39.4
ZEI *e*S S 14 29 10.3 +0.8
ZEI pmax pmax
comp=Z,298nm,1.4s,mb6.0
IIGN Ignalina 69.26 328 *i* P **P 14 20 07.8 -0.7**
IIGN AMPb AMB 14 20 10.1
comp=Z,206nm,1.0s,mb6.0
QLMT Earthquake Lak 69.37 48 *eP* **P 14 20 09.7 +0.3**
TI2 Plekhanov 69.39 308⇑ *iP* **P 14 20 10.2 +0.6**
TI2 *e* 14 22 42.0
TI2 *e* 14 24 26.0
TI2 *e*S S 14 29 13.0 +1.5
TI2 *i* S SKS 14 30 03.0 +1.8
TI2 MLR MLR
comp=N,5μm,17.0s,MS6.0
TI2 MLR MLR
comp=E,6μm,17.0s,MS6.0
TI2 MLR MLR
comp=Z,8μm,17.0s,MS6.0
MTA Mtatsminda 69.39 308 P **P 14 20 09.9 +0.2**
MTA S S 14 29 11.8 +0.3
NVAR Mina Array Bea 69.45 56 P **P 14 20 10.6 +0.5**
comp=Z,69nm,0.8s,mb5.6,baz=289,slow=7.1,SNR=156
NVAR pP pP 14 20 23.6 -0.8
comp=Z,88nm,1.1s,baz=301,slow=5.6,SNR=11
NVAR LR LR 14 47 33.6
comp=Z,3μm,18.8s,MS5.6,baz=270,slow=33
NVAR PKPPKP 14 48 12.0
comp=Z,3.0nm,1.0s,baz=110,slow=6.8,SNR=8.6
OMM Old Mammoth Mi 69.53 57 *eP* **P 14 20 10.8 +0.2**
MNV Mina 69.54 56⇑ *eP* **P 14 20 10.8 +0.2**
MNV pmax pmax
comp=Z,286nm,1.4s,mb6.0
MNV MLR MLR
comp=Z,3μm,20.0s,MS5.6
MNV Mina 69.54 56⇑ *eP* **P 14 20 10.8 +0.2**
comp=Z,286nm,1.4s,mb6.0
MNV LR LR
comp=Z,3μm,20.0s,MS5.6
DOMB Dombas 69.60 339⇑ *iP* **P 14 20 09.6 -0.9**
comp=Z,522nm,1.4s,mb6.3
DOMB Dombas 69.60 339⇑ *iP* **P 14 20 09.6 -0.9**
DOMB AMb AMB 14 20 12.2
comp=Z,522nm,1.4s,mb6.3
ONI Oni 69.60 309 P **P 14 20 11.4 +0.5**
ONI S S 14 29 16.3 +2.3
GCMT Greycliff 69.69 46 *eP* **P 14 20 11.7 +0.3**
YMR Madison River 69.73 48 *eP* **P 14 20 11.9 +0.3**
YNR Norris Junctio 69.85 47 *eP* **P 14 20 13.3 +1.0**
NB2 NORSAR Subarra 69.86 338 P **P 14 20 11.0 -1.2**
comp=Z,235nm,0.8s,mb6.2,baz=33,slow=6.2
NB2 NORSAR Subarra 69.86 338 P **P 14 20 11.0 -1.2**
baz=33,slow=6.5
NOA NORSAR Array B 69.86 338 P **P 14 20 11.1 -1.1**
NOA pmax pmax
comp=Z,134nm,0.7s
NOA MLR MLR
comp=Z,15μm,19.7s
NOA NORSAR Array B 69.86 338 P **P 14 20 11.1 -1.1**
comp=Z,134nm,0.7s,mb6.0,baz=35,slow=6.1,SNR=354
NOA LR LR 14 55 26.1
comp=Z,15μm,19.7s,MS6.2,baz=20,slow=40
HFS Hagfors 69.90 336 P **P 14 20 11.1 -1.3**
HFS *SP sP 14 20 31.4 -0.7
HFS pmax pmax
comp=Z,196nm,0.6s
HFS Hagfors 69.90 336 P **P 14 20 11.1 -1.2**
comp=Z,196nm,0.6s,mb6.2,baz=53,slow=7.4,SNR=536
HFS sP sP 14 20 31.4 -0.7
comp=Z,77nm,0.6s,baz=34,slow=5.3,SNR=4.8
YFT Old Faithful 69.94 48 *eP* **P 14 20 14.4 +1.5**
IMW Indian Meadow 70.25 48 *eP* **P 14 20 15.7 +1.0**
AKH Akhalkalaki 70.33 308 P **P 14 20 16.3 +1.0**
AKH S S 14 29 26.1 +3.7
TPH Tonopah 70.33 56⇑ *iP* **P 14 20 15.7 +0.3**
TPH pmax pmax
comp=Z,336nm,1.3s,mb6.1
TPH MLR MLR
comp=Z,2μm,20.0s,MS5.5
TPH Tonopah 70.33 56⇑ *iP* **P 14 20 15.7 +0.3**
comp=Z,336nm,1.3s,mb6.1
TPH LR LR
comp=Z,2μm,20.0s,MS5.5
GNI Garni 70.41 307c *iP* **P 14 20 17.0 +1.2**
GNI pmax pmax
comp=Z,845nm,1.4s
GNI MLR MLR
comp=Z,12μm,19.0s
GNI Garni 70.41 307 P **P 14 20 17.1 +1.3**
comp=Z,139nm,1.1s,mb5.8,baz=13,slow=1.2,SNR=120
GNI LR LR 14 54 26.8
comp=Z,10μm,18.8s,MS6.1,baz=7,3,slow=39
GNI Garni 70.41 307⇑ *iP* **P 14 20 16.8 +1.0**
comp=Z,1μm,1.6s,mb6.6
GNI LR LR
comp=Z,12μm,22.0s,MS6.1
MOOW Moose Ponds 70.45 48 *eP* **P 14 20 16.6 +0.5**
WUWY Wally Ulrich 70.59 48 *eP* **P 14 20 17.4 +0.6**
WUWY *e*pP pP 14 20 28.2 -3.0
WUWY *e* pP 14 20 32.2 +1.0
HVU Hansel Valley 70.59 51 *eP* **P 14 20 17.4 +0.5**
LOHW Long Hollow 70.61 48 *eP* **P 14 20 17.6 +0.6**
SNOW Snow King Moun 70.63 48 *eP* **P 14 20 17.9 +0.8**
DGMT Dagmar 70.67 41 *eP* **P 14 20 16.7 -0.6**
comp=Z,489nm,1.2s,mb6.3
DGMT *e* pP 14 20 29.7 -2.0
DGMT LR LR
comp=Z,7μm,21.0s,MS5.9
LAO LASA Array 70.88 44 *eP* **P 14 20 18.5 -0.1**
comp=Z,372nm,1.3s,mb6.2
LAO *e* pP 14 20 31.3 -1.7

LAO LR LR
comp=Z,5μm,22.0s,MS5.7
AHID Auburn Hatcher 70.90 49⇑eP P 14 20 19.0 +0.2
comp=Z,167nm,1.1s,mb5.9
AHID LR LR
comp=Z,6μm,22.0s,MS5.8
OSL Oslo 70.92 338 eP **P 14 20 17.0 -1.6**
FOO Floro 70.98 341⇑iP P 14 20 18.2 -0.8
comp=Z,419nm,1.7s,mb6.1
FOO Floro 70.98 341⇑iP P 14 20 18.2 -0.8
FOO AMb AMB 14 20 20.8
comp=Z,419nm,1.7s,mb6.1
BGU Big Grassy Mou 71.00 52 eP **P 14 20 19.8 +0.4**
BGU epP pP 14 20 30.5 -3.3
SOC Sochi 71.03 312 i P **P 14 20 18.7 -0.8**
SOC e pP 14 20 35.5 +1.6
SOC e 14 22 54.3
SOC ePPP PPP 14 24 43.2 +2.5
SOC i S S 14 29 30.3 -0.2
SOC e 14 30 16.8
SOC eSS SS 14 34 07.9 +1.5
SOC pmax pmax
comp=Z,726nm,1.7s,mb6.3
SOC pmax pmax
comp=N,346nm,2.0s
SOC pmax pmax
comp=E,423nm,1.9s
SOC MLR MLR
comp=Z,31μm,22.0s,MS6.5
SOC MLR MLR
comp=N,19μm,21.0s,MS6.5
SOC MLR MLR
comp=E,16μm,20.0s,MS6.5
HYA Hoyanger 71.08 340⇓iP P 14 20 20.0 +0.5
comp=E,680nm,1.2s,mb6.5
HYA Hoyanger 71.08 340⇓iP P 14 20 20.0 +0.5
HYA AMb AMB 14 20 21.8
comp=Z,680nm,1.2s,mb6.5
SPUT South Promonto 71.09 51 eP **P 14 20 19.9 0.0**
TRCR Troy Canyon 71.15 55 eP **P 14 20 20.6 +0.2**
DAC Darwin (Calif) 71.25 58 eP **P 14 20 21.3 +0.3**
DAC e*PP pP 14 20 30.3 -5.0
DAC e*SP sP 14 20 34.4 -6.3
DAC pmax pmax
comp=Z,91nm,1.2s,mb5.6
DAC MLR MLR
comp=Z,4μm,21.0s,MS5.6
DAC Darwin (Calif) 71.25 58 eP **P 14 20 21.2 +0.3**
comp=Z,91nm,1.2s,mb5.6
DAC epP pP 14 20 30.3 -5.0
DAC esP sP 14 20 34.4 -6.3
DAC LR LR
comp=Z,4μm,21.0s,MS5.6
AKASG Malin Array Be 71.35 323 P **P 14 20 20.2 -1.1**
AKASG pmax pmax
comp=Z,306nm,0.9s
AKASG Malin Array Be 71.35 323 P **P 14 20 20.2 -1.1**
comp=Z,306nm,0.8s,mb6.3,baz=40,slow=5.9,SNR=363
SUW Suwalki 71.44 328 eP **P 14 20 20.8 -1.0**
SUW e*PP pP 14 20 33.6 -2.5
SUW eS S 14 29 33.1 -1.9
SUW pmax pmax
comp=Z,5μm,3.4s
SUW MLR MLR
comp=E,15μm,23.4s,MS6.4
SUW MLR MLR
comp=Z,28μm,20.4s,MS6.5
SUW MLR MLR
comp=N,19μm,20.8s,MS6.4
SUW Suwalki 71.44 328 eP **P 14 20 20.8 -0.9**
comp=N,5μm,3.4s
SUW epP pP 14 20 33.6 -2.5
SUW eS S 14 29 33.1 -1.9
SUW esS 14 29 52.3
SUW LME 14 53 35.7
comp=N,15μm,23.4s
SUW MLR MLR 14 53 48.6
comp=N,28μm,20.4s,MS6.5
SUW LMN 14 53 54.1
comp=N,19μm,20.8s
ANN Anapa 71.44 314 eP **P 14 20 19.3 -2.7**
ANN e*PP pP 14 20 29.4 -6.9
ANN e pP 14 20 37.8 +1.5
ANN e 14 23 05.7
ANN ePPP PPP 14 24 38.0 -6.4
ANN eS S 14 29 34.4 -0.9
ANN pmax pmax
comp=N,119nm,1.6s
ANN pmax pmax
comp=E,133nm,1.6s
ANN pmax pmax
comp=Z,621nm,1.6s,mb6.3
KONO Kongsberg 71.47 338 PFAKE 14 20 30.0 +8.1
KONO LR LR
comp=Z,18μm,19.0s,MS6.4
SUE Sulen 71.52 341⇑iP P 14 20 21.8 -0.3
comp=Z,693nm,1.8s,mb6.3
SUE Sulen 71.52 341⇑iP P 14 20 21.8 -0.3
SUE AMb AMB 14 20 24.3
comp=Z,693nm,1.8s,mb6.3
NOQ North Oquirrh 71.70 51 eP **P 14 20 24.1 +0.5**
BW06 Boulder Array 71.75 48⇑eP P 14 20 23.8 0.0
comp=Z,299nm,1.4s,mb6.0
BW06 LR LR
comp=Z,5μm,21.0s,MS5.7
PDAR Pinedale Array 71.75 48 P **P 14 20 23.8 0.0**
comp=Z,135nm,1.1s,mb5.8,baz=280,slow=0.2,SNR=185
PDAR pP pP 14 20 36.5 -1.6
comp=Z,57nm,0.6s,baz=232,slow=2.5,SNR=14
PDAR sP sP 14 20 42.8 -0.9
comp=Z,98nm,1.1s,baz=202,slow=2.6,SNR=6.5
PDAR PKP2bc 14 48 04.2
comp=Z,0.0nm,0.3s,baz=90,slow=1.5,SNR=8.5
PDAR Pinedale Array 71.75 48 P **P 14 20 23.8 0.0**
PDAR pP pP 14 20 36.5 -1.6
PDAR sP sP 14 20 42.8 -0.9
PDAR ⇑e 14 48 04.2
TCUT Toone Canyon 71.80 51 eP **P 14 20 24.8 +0.6**
ASK Askoy 71.91 340⇑iP P 14 20 24.3 -0.2
comp=Z,5μm,1.7s,mb7.2
ASK Askoy 71.91 340⇑iP P 14 20 24.3 -0.2
ASK AMb AMB 14 20 26.9
comp=Z,1μm,1.4s,mb6.7
RUND Rundenannen 71.93 340⇑iP P 14 20 24.5 -0.1
RUND AMb AMB 14 20 27.0
comp=Z,603nm,1.1s,mb6.4
BER Bergen 71.97 340⇑iP P 14 20 24.5 -0.3
comp=Z,706nm,1.9s
BER LR LR
comp=Z,3955μm,17.1s
BER Bergen 71.97 340⇑iP P 14 20 24.5 -0.3
BER AMb AMB 14 20 28.8
comp=Z,704nm,1.8s,mb6.3
BER eS S 14 29 42.3 +1.3
ODD1 Odda 72.04 339⇑iP P 14 20 24.0 -1.3
comp=Z,601nm,1.4s,mb6.3
ODD1 Odda 72.04 339⇑iP P 14 20 24.0 -1.3
ODD1 AMb AMB 14 20 26.6
comp=Z,601nm,1.4s,mb6.3
EGD Espegrend 72.09 340 eP **P 14 20 25.2 -0.3**
comp=Z,4μm,1.7s,mb7.1
EGD Espegrend 72.09 340 eP **P 14 20 25.2 -0.3**
EGD AMb AMB 14 20 28.2
comp=Z,1μm,1.9s,mb6.5
JLU Jordanelle 72.12 51 eP **P 14 20 26.2 +0.2**
WBK Wadi Bani Khal 72.12 284 P **P 14 20 27.4 +1.0**
SNR=97
BIDO Bidbid 72.15 286 P **P 14 20 26.9 +0.4**
SNR=50
NLU North Lily Min 72.19 52 eP **P 14 20 26.8 +0.3**
BORG Borgarnes 72.23 354 P **P 14 20 27.2 +0.9**
comp=Z,214nm,0.8s,mb6.1,baz=35,slow=2.6,SNR=38
BORG pP pP 14 20 39.7 -0.9
comp=Z,92nm,0.9s,baz=22,slow=9.2,SNR=4.5
BORG LR LR 14 52 38.4
comp=Z,3μm,20.0s,MS5.6,baz=323,slow=36
BORG Borgarnes 72.23 354 eP **P 14 20 27.1 +0.8**
comp=Z,634nm,1.3s,mb6.4
BORG LR LR
comp=Z,1μm,21.0s,MS5.2
TVAN Van 72.24 306 i P **P 14 20 26.3 -0.5**
DAU Daniels Canyon 72.36 51 eP **P 14 20 28.0 +0.5**
MPU Maple Canyon 72.40 52 eP **P 14 20 28.0 +0.3**
SMDO Samad 72.50 285 P **P 14 20 29.0 +0.4**
SNR=45

BLS5 Blasjo 72.51 339⇑iP P 14 20 28.9 +1.0
comp=Z,212nm,1.4s,mb5.9
BLS5 Blasjo 72.51 339⇑iP P 14 20 28.9 +1.0
BLS5 AMb AMB 14 20 31.4
comp=Z,212nm,1.4s,mb5.9
ERZM Erzurum 72.53 308 i P **P 14 20 29.8 +1.3**
HOQ Hoqain 72.69 286 P **P 14 20 29.8 +0.1**
SNR=85
JMDO Jabal Madar 72.89 285 P **P 14 20 31.3 +0.3**
SNR=110
SIM Simferopol' 73.06 316c iP **P 14 20 31.5 0.0**
SIM eS S 14 29 55.0 +1.3
SIM pmax pmax
comp=Z,227nm,1.3s,mb5.9
SIM MLR MLR
comp=Z,20μm,17.0s,MS6.5
MVU Marysvale 73.06 53⇑iP P 14 20 32.6 +0.9
comp=Z,162nm,1.3s,mb5.8
MVU LR LR
comp=Z,4μm,21.0s,MS5.7
MSU Marysvale 73.08 53 eP **P 14 20 32.4 +0.7**
TMUT Trail Mountain 73.12 52 eP **P 14 20 32.4 +0.4**
STAV Stavanger 73.13 339 eP **P 14 20 31.9 +0.3**
comp=Z,453nm,1.5s,mb6.2
STAV Stavanger 73.13 339 eP **P 14 20 31.9 +0.3**
STAV AMb AMB 14 20 33.8
comp=Z,453nm,1.5s,mb6.2
ARMA Armidale 73.14 174 eP **P 14 20 34.0 +1.7**
ARMA e pP 14 20 47.5 +0.8
SNART Snartemo 73.24 338⇑iP P 14 20 32.2 -0.1
comp=Z,540nm,1.1s,mb6.4
SNART Snartemo 73.24 338⇑iP P 14 20 32.2 -0.1
SNART AMb AMB 14 20 34.7
comp=Z,540nm,1.1s,mb6.4
BSY Bisya 73.30 286 P **P 14 20 33.7 +0.4**
SNR=169
NEN Nelson 73.35 57 eP **P 14 20 33.7 +0.3**
ARQ Araqi 73.40 287 P **P 14 20 34.2 +0.3**
SNR=83
BSD Bornholm Skovb 73.58 333⇑iP P 14 20 33.6 -0.7
BSD i S S 14 29 59.3 0.0
BSD pmax pmax
comp=Z,340nm,0.9s,mb6.3
BSD MLR MLR
comp=Z,7μm,16.0s,MS6.0
BSD Bornholm Skovb 73.58 333⇑iP P 14 20 33.6 -0.7
comp=Z,343nm,0.9s,mb6.3
BSD i S S 14 29 59.3 0.0
comp=Z,7μm,16.0s
WAR Warsaw 73.63 328⇑iP P 14 20 34.8 +0.1
WAR eS S 14 30 00.4 +0.5
WAR pmax pmax
comp=Z,4μm,1.7s,mb7.1
WAR MLR MLR
comp=Z,20μm,22.8s,MS6.3
WAR Warsaw 73.63 328⇑iP P 14 20 34.8 +0.1
comp=Z,4μm,1.7s,mb7.1
WAR eS S 14 30 00.4 +0.5
WAR MLR MLR 14 54 35.2
comp=Z,20μm,22.8s,MS6.3
SRU San Rafael 73.64 52⇑iP P 14 20 35.2 +0.2
WAL1 Walls 73.68 343 eP **P 14 20 34.4 -0.4**
PFO Pinyon Flat Ob 73.68 59⇑iP P 14 20 35.0 -0.4
PFO e pP 14 20 45.0 -4.8
PFO pmax pmax
comp=Z,129nm,1.3s,mb5.7
PFO MLR MLR
comp=Z,2μm,22.0s,MS5.4
PFO Pinyon Flat Ob 73.68 59⇑iP P 14 20 35.0 -0.4
comp=Z,129nm,1.3s,mb5.7
PFO e pP 14 20 45.0 -4.7
PFO LR LR
comp=Z,2μm,22.0s,MS5.4
LRW Lerwick 73.69 343⇑eP P 14 20 33.9 -0.9
RSSD Black Hills 73.77 44 PFAKE 14 20 50.0 +14
RSSD LR LR
comp=Z,1.0nm,21.0s
SAN1 Sandwick 73.81 343⇑eP P 14 20 34.9 -0.7
BEST Besiri 73.93 307 i P **P 14 20 37.5 +0.8**
COP Copenhagen 73.93 334⇑iP P 14 20 36.1 -0.2
COP pmax pmax
comp=Z,220nm,0.9s,mb6.1
COP MLR MLR
comp=Z,6μm,17.0s,MS5.9
COP Copenhagen 73.93 334⇑iP P 14 20 36.1 -0.2
comp=Z,221nm,0.9s,mb6.1
comp=Z,6μm,17.0s
KIS Kishinev 74.20 320 eP **P 14 20 36.0 -2.1**
KIS e pP 14 20 46.0 -6.5
KIS eS S 14 30 05.0 -1.4
KIS pmax pmax
comp=N,880nm,2.0s
KIS pmax pmax
comp=E,810nm,1.8s
KIS MLR MLR
comp=Z,11μm,16.0s,MS6.2
KIS MLR MLR
comp=N,9μm,17.0s,MS6.3
KIS MLR MLR
comp=E,8μm,14.0s,MS6.3
KIS MLR MLR
comp=Z,11μm,16.0s
GKP Gorka Klasztor 74.25 330⇑iP P 14 20 38.2 -0.1
GKP eS S 14 30 05.7 -1.1
GKP pmax pmax
comp=Z,7μm,4.6s
GKP MLR MLR
comp=Z,30μm,20.3s,MS6.6
GKP Gorka Klasztor 74.25 330⇑iP P 14 20 38.2 -0.1
comp=Z,7.1nm,4.6s
GKP eS S 14 30 05.7 -1.1
GKP LR LR
comp=Z,30μm,20.3s,MS6.6
GKP Gorka Klasztor 74.25 330⇑iP P 14 20 38.2 -0.1
comp=Z,7μm,4.6s
GKP eS S 14 30 05.7 -1.1
GKP MLR MLR 14 56 00.5
comp=Z,30μm,20.3s,MS6.6
LVV L'vov 74.25 325 i P **P 14 20 38.0 -0.3**
LVV eS S 14 30 06.0 -0.9
MUD Monsted U'grnd 74.29 336⇑iP P 14 20 38.3 -0.1
MUD pmax pmax
comp=Z,200nm,0.8s,mb6.1
MUD MLR MLR
comp=Z,14μm,18.0s,MS6.3
MUD Monsted U'grnd 74.29 336⇑iP P 14 20 38.3 -0.1
comp=Z,198nm,0.8s,mb6.1
comp=Z,14μm,18.0s
STKA Stephens Creek 74.40 183 eP **P 14 20 40.1 +0.5**
comp=Z,32nm,0.9s,mb5.2
STKA e pP 14 20 54.4 +0.4
STKA Stephens Creek 74.40 183 P **P 14 20 40.1 +0.5**
comp=Z,35nm,0.9s,mb5.3,baz=345,slow=7.0,SNR=89
STKA pP pP 14 20 54.3 +0.3
comp=Z,96nm,0.9s,baz=353,slow=7.7,SNR=19
STKA sP sP 14 21 00.5 +1.1
comp=Z,58nm,0.8s,baz=352,slow=11,SNR=7.3
STKA LR LR 14 51 05.9
comp=Z,5μm,21.8s,MS5.8,baz=358,slow=34
RGN Rugen 74.58 333⇑eP P 14 20 40.2 +0.1
comp=Z,810nm,1.2s,mb6.5
ELZG Elazig 74.85 309 i P **P 14 20 43.4 +1.4**
FORT Forrest 74.86 195 eP **P 14 20 43.1 +0.8**
comp=Z,839nm,1.7s,mb6.4
OST Stronsay 74.94 343⇑eP P 14 20 41.7 -0.4
KWP Kalwaria 74.96 325⇑iP P 14 20 42.9 +0.5
KWP e*PP pP 14 20 52.2 -4.6
KWP eS S 14 30 13.7 -1.0
KWP pmax pmax
comp=Z,4μm,1.8s,mb7.1
KWP MLR MLR
comp=Z,12μm,24.9s,MS6.1
KWP Kalwaria 74.96 325⇑iP P 14 20 42.9 +0.5
comp=Z,4μm,1.8s,mb7.1
KWP epP pP 14 20 52.2 -4.6
KWP eS S 14 30 13.7 -1.0
KWP MLR MLR 14 53 53.1
comp=Z,12μm,24.9s,MS6.1
PHWY Pilot Hill 74.98 47 eP **P 14 20 41.9 -0.8**
BOYT Boyabat 75.11 313 i P **P 14 20 44.3 +0.9**
SVST Sivas 75.13 311 i P **P 14 20 44.7 +1.1**
MALT Malatya 75.29 309⇑iP P 14 20 45.5 +0.9
MALT pmax pmax
comp=Z,457nm,1.2s,mb6.3
MALT Malatya 75.29 309⇑iP P 14 20 45.5 +0.9
comp=Z,457nm,1.2s,mb6.3

OBR Brabster 75.50 343⇑eP P 14 20 44.9 -0.5
KOLS Kolonicke sedl 75.67 325 i P **P 14 20 46.7 +0.2**
OJC Ojcow 75.69 327⇑iP P 14 20 46.7 +0.1
OJC ePcP PcP 14 20 59.6 +0.1
OJC eS S 14 30 21.5 -1.3
OJC MLR MLR 14 56 53.8
comp=Z,21μm,19.6s,MS6.5
ORE Reay 75.69 344⇑eP P 14 20 46.5 +0.1
CTKT Corum 75.73 312 i P **P 14 20 47.8 +0.8**
MLA1 Latheron 75.83 343⇑iP P 14 20 47.1 -0.1
BALT Daday 75.84 314 i P **P 14 20 48.7 +1.1**
CFR Carcaliu 75.86 319⇑iP P 14 20 47.6 0.0
ISCO Idaho Springs 75.94 48⇑iP P 14 20 48.8 +0.6
ISCO pmax pmax
comp=Z,215nm,1.5s,mb5.9
ISCO MLR MLR
comp=Z,5μm,22.0s,MS5.8
ISCO Idaho Springs 75.94 48⇑iP P 14 20 48.8 +0.6
comp=Z,215nm,1.5s,mb5.9
ISCO LR LR
comp=Z,5μm,22.0s,MS5.8
VRI Vrincioaia 76.02 321⇑iP P 14 20 48.9 +0.4
NRS Narsarsuaq 76.03 5 i P **P 14 20 46.9 -1.4**
comp=Z,105nm,1.0s,mb5.7
CRVS Cervenica-Dubn 76.04 325 i P **P 14 20 48.9 +0.3**
CRVS i S S 14 30 22.3 -4.4
BSEG Bad Segeberg 76.07 334 eP **P 14 20 48.8 +0.2**
BSEG pmax pmax
comp=Z,452nm,1.1s,mb6.3
NIE Niedzica 76.11 326⇑iP P 14 20 49.6 +0.6
RUE Ruedersdorf 76.12 332⇑iP P 14 20 48.9 -0.1
comp=Z,926nm,1.4s,mb6.5
MVH1 Achvaich 76.35 344⇑iP P 14 20 49.9 -0.3
RAC Raciborz 76.43 328⇑eP P 14 20 51.5 +0.7
RAC eS S 14 30 31.5 +0.6
RAC MLR MLR
comp=E,19μm,23.9s,MS6.6
RAC MLR MLR
comp=N,27μm,21.5s,MS6.6
RAC MLR MLR
comp=Z,30μm,22.5s,MS6.5
GZT Gaziantep 76.45 309 i P **P 14 20 52.3 +1.2**
MCD Coleburn Disti 76.47 343⇑iP P 14 20 50.4 -0.5
RIV Riverview 76.50 175 eP **P 14 20 53.3 +1.8**
RIV i pP 14 21 07.3 +1.3
KSP Ksiaz 76.55 329⇑iP P 14 20 51.6 +0.2
KSP e*PP pP 14 21 04.1 -1.8
KSP eS S 14 30 31.4 -0.8
KSP e 14 30 56.0
KSP MLR MLR
comp=Z,57nm,22.6s,MS6.8
KSP Ksiaz 76.55 329⇑iP P 14 20 51.6 +0.2
KSP epP pP 14 21 04.1 -1.8
KSP eS S 14 30 31.4 -0.8
KSP eSKS SKS 14 30 56.0 +2.4
KSP eSS SS 14 35 44.0 +13
KSP LR LR
comp=Z,57μm,22.6s,MS6.8
KSP Ksiaz 76.55 329⇑iP P 14 20 51.7 +0.3
comp=Z,6μm,3.2s
KSP eS S 14 30 31.4 -0.8
KSP LME 14 55 59.5
comp=Z,19μm,23.5s
KSP MLR MLR 14 56 27.1
comp=Z,50μm,22.6s,MS6.8
KSP LMN 14 56 34.4
comp=Z,32μm,22.2s
ELDT Eldivan 76.56 313 i P **P 14 20 52.4 +0.7**
OKC Ostrava-Krasne 76.64 328 P **P 14 20 52.2 +0.2**
OKC Ostrava-Krasne 76.64 328⇑iP P 14 20 52.3 +0.3
OKC AMS AMS 14 56 30.0
comp=Z,22μm,23.5s
MME1 Meikle Cairn 76.66 343⇑eP P 14 20 51.3 -0.6
ISR Istrita 76.66 320⇑iP P 14 20 53.0 +0.8
MLR Muntele Rosu 76.66 321 P **P 14 20 52.3 +0.1**
MLR pmax pmax
comp=Z,105nm,1.1s
MLR MLR MLR
comp=Z,13μm,20.3s
MLR Muntele Rosu 76.66 321 P **P 14 20 52.3 +0.1**
comp=Z,105nm,1.1s,mb5.7,baz=351,slow=6.3,SNR=81
MLR LR LR 14 58 38.1
comp=Z,13μm,20.3s,MS6.2,baz=48,slow=39
MLR Muntele Rosu 76.66 321⇑iP P 14 20 52.4 +0.2
MLR Muntele Rosu 76.66 321⇑iP P 14 20 52.4 +0.2
KECS Kecovo 76.77 326 i P **P 14 20 53.0 +0.3**
MDO Dochfour 76.84 344⇑iP P 14 20 52.4 -0.5
UPC Upice 76.93 329⇑iP P 14 20 53.9 +0.3
MORC Moravsky Berou 76.93 328 eP **P 14 20 54.0 +0.4**
MORC pmax pmax
comp=Z,143nm,1.0s,mb5.9
MORC Moravsky Berou 76.93 328 eP **P 14 20 54.0 +0.4**
comp=Z,143nm,1.0s,mb5.9
DPC Dobruska-Polom 76.94 329 P **P 14 20 54.0 +0.4**
DPC Dobruska-Polom 76.94 329⇑iP P 14 20 54.3 +0.7
DPC epP pP 14 21 11.0 +2.9
DPC eS S 14 30 38.4 +2.0
DPC AMS AMS 14 57 10.0
comp=Z,25μm,19.1s
PSN Preselentsi 76.94 318 P **P 14 20 54.0 +0.2**
BRTR Keskin Array B 76.98 312 P **P 14 20 54.2 +0.1**
comp=Z,31nm,0.8s,mb5.3,baz=81,slow=3.1,SNR=138
AVNT Avonos 76.98 311 i P **P 14 20 54.5 +0.3**
SGKT Sivrigoynuk 77.23 314 i P **P 14 20 56.2 +0.7**
ANTO Ankara 77.34 313 P **P 14 20 56.6 +0.5**
ANTO PP PP 14 23 51.1 -1.1
ANTO S S 14 30 42.2 +1.2
ANTO Ankara 77.34 313 P **P 14 20 56.6 +0.5**
CLL Collm 77.36 331⇑iP P 14 20 55.6 -0.4
CLL i 14 21 02.1
CLL eS S 14 30 40.0 -1.0
CLL pmax pmax
comp=Z,453nm,1.0s,mb6.4
CLL MLR MLR
comp=Z,17μm,17.2s,MS6.4
CLL Collm 77.36 331⇑iP P 14 20 55.6 -0.4
comp=Z,453nm,1.0s,mb6.4
CLL i 14 21 02.1
CLL eS S 14 30 40.0 -1.0
CLL P'P' 14 47 48.0
CLL LR LR
comp=Z,17μm,17.2s,MS6.4
CLL Collm 77.36 331⇑P P 14 20 55.6 -0.4
comp=Z,logA/T=2.7,mb6.4
CLL i 14 21 02.1
CLL i *SP sP 14 21 12.1 -3.9
CLL e 14 21 22.0
CLL eS S 14 30 40.0 -1.0
CLL eSCS ScS 14 31 03.0 -3.2
CLL e 14 47 48.0
CLL e 14 48 06.0
BRG Berggiesshubel 77.39 331⇑iP P 14 20 55.8 -0.3
BRG eS S 14 30 44.0 +2.7
BRG pmax pmax
comp=Z,637nm,1.8s,mb6.2
BRG MLR MLR
comp=N,17μm,17.6s,MS6.5
BRG MLR MLR
comp=E,8μm,17.6s,MS6.5
BRG MLR MLR
comp=Z,27μm,17.6s,MS6.6
BRG Berggiesshubel 77.39 331⇑iP P 14 20 55.8 -0.3
comp=Z,637nm,1.8s,mb6.2
BRG i 14 21 22.3
BRG eS S 14 30 44.0 +2.7
BRG eSS SS 14 36 04.0 +21
BRG eP'P' 14 48 08.6
BRG LR LR
comp=Z,27μm,17.6s,MS6.6
VYHS Vyhne 77.44 327 i P **P 14 20 57.1 +0.6**
VYHS i S S 14 30 39.5 -2.4
PVCC Panska Ves 77.44 330⇑iP P 14 20 56.8 +0.3
PVCC eS S 14 30 43.1 +1.2
PVCC AMS AMS 14 57 50.0
comp=Z,27μm,20.0s
SDCO Great Sand Dun 77.44 50⇓eP P 14 20 57.1 +0.4
comp=Z,142nm,1.5s,mb5.7
SDCO LR LR
comp=Z,4μm,22.0s,MS5.7
PSZ Piszkesteto 77.46 326⇑iP P 14 20 57.2 +0.6
KOLL Kolacno 77.55 327 P **P 14 20 57.2 +0.1**
ADE Adelaide 77.62 185⇑iP P 14 20 59.0 +1.2
HENT Hendek 77.66 315 i P **P 14 20 57.0 -0.8**
VRAC Vranov 77.67 328 P **P 14 20 58.3 +0.6**

VRAC pmax pmax
comp=Z,212nm,1.0s
VRAC MLR MLR
comp=Z,24µm,19.7s
VRAC Vranov 77.67 328 P P 14 20 58.3 +0.6
comp=Z,212nm,1.0s,mb6.0,baz=39,slow=6.5,SNR=170
VRAC LR LR 14 58 34.7
comp=Z,24µm,19.7s,MS6.5,baz=105,slow=38
PRD Provadia 77.68 318 *eP* **P 14 20 57.5 -0.4**
COBT Iskenderun 77.78 309 *i P* **P 14 20 59.7 +1.1**
CLZ Clausthal 77.82 333 *eP* **P 14 20 58.7 +0.2**
comp=Z,606nm,1.1s,mb6.4
CNB Canberra Magne 77.87 176 *eP* **P 14 21 00.4 +1.3**
comp=Z,2µm,1.8s,mb6.8
PRU Pruhonice 77.90 330 P **P 14 20 58.9 0.0**
PRU Pruhonice 77.90 330⇑ *iP* **P 14 20 59.3 +0.4**
PRU *eS* S 14 30 48.0 +1.2
PRU AMS AMS 14 58 10.0
comp=Z,26µm,18.2s
EDI Edinburgh 77.98 342⇑ *eP* **P 14 20 58.7 -0.6**
SMOL Smolenice 77.99 327 *i P* **P 14 21 00.6 +1.1**
TUC Tucson 78.09 57⇑ *eP* **P 14 21 01.0 +0.6**
TUC *e* pP 14 21 13.6 -1.3
TUC pmax pmax
comp=Z,139nm,1.3s,mb5.7
TUC MLR MLR
comp=Z,4µm,22.0s,MS5.7
TUC Tucson 78.09 57⇑ *eP* **P 14 21 01.0 +0.6**
comp=Z,138nm,1.3s,mb5.7
TUC *e* pP 14 21 13.6 -1.2
TUC LR LR
comp=Z,4µm,22.0s,MS5.7
KLBR Kellerberrin 78.14 203 *eP* **P 14 21 00.9 +0.2**
comp=Z,4µm,1.5s,mb7.1
BUD Budapest 78.16 326⇑ *iP* **P 14 21 01.1 +0.6**
BUD Budapest 78.16 326 *i* Pc 14 21 01.1
WIT Witteveen 78.17 336⇑ *eP* **P 14 21 01.1 +0.8**
SRO Srobarova 78.19 326 P **P 14 21 03.1 +2.5**
SRO Srobarova 78.19 326 *i P* **P 14 21 01.8 +1.2**
SRO2 Moca 78.20 326 *i P* **P 14 21 01.5 +0.8**
SRO1 Iza 78.27 326 *i P* **P 14 21 01.9 +0.9**
SZH Strazhica 78.34 319 P **P 14 21 01.2 -0.3**
ZST Bratislava 78.37 327 *i P* **P 14 21 02.5 +0.9**
ZST *i S* S 14 30 54.0 +2.1
MOX Moxa 78.40 332 *eP* **P 14 21 01.5 -0.2**
MOX *e* pP 14 21 15.0 -1.2
MOX pmax pmax
comp=Z,694nm,1.9s,mb6.3
MOX MLR MLR
comp=Z,11µm,19.0s,MS6.2
MOX Moxa 78.40 332 *eP* **P 14 21 01.5 -0.2**
comp=Z,694nm,1.9s,mb6.3
MOX *e*pP pP 14 21 15.0 -1.2
MOX LR LR
comp=Z,11µm,19.0s,MS6.2
MOX Moxa 78.40 332 *i P* **P 14 21 01.5 -0.2**
comp=Z,logA/T=2.6,mb6.3
MOX pP pP 14 21 15.0 -1.2
MOX L 14 59 40.0
NKC Novy Kostel 78.45 331 P **P 14 21 02.0 0.0**
NKC Novy Kostel 78.45 331⇑ *iP* **P 14 21 02.1 +0.1**
NKC *eS* S 14 30 54.4 +1.7
NKC AMS AMS 14 59 10.0
comp=Z,15µm,18.6s
PKSG 78.50 326⇑ *eP* **P 14 21 02.8 +0.5**
EKA Eskdalemuir Ar 78.52 342 P **P 14 21 02.2 -0.1**
EKA pmax pmax
comp=Z,75nm,0.6s
EKA Eskdalemuir Ar 78.52 342 P **P 14 21 02.2 -0.1**
comp=Z,75nm,0.6s,mb5.8,baz=26,slow=4.9,SNR=86
ESK Eskdalemuir 78.55 342⇑ *eP* **P 14 21 02.2 -0.2**
ESK pmax pmax
comp=Z,378nm,1.3s,mb6.2
ESK MLR MLR
comp=Z,2µm,19.0s,MS5.5
ESK Eskdalemuir 78.55 342⇑ *eP* **P 14 21 02.2 -0.2**
comp=Z,378nm,1.3s,mb6.2
ESK LR LR
comp=Z,2µm,19.0s,MS5.5
ESK Eskdalemuir 78.55 342⇑ *iP* **P 14 21 01.9 -0.5**
ESK AMb AMB 14 21 04.1
comp=Z,490nm,1.4s,mb6.2
JMB Yambol 78.62 318 P **P 14 21 03.3 +0.2**
VKA Vienna 78.63 328⇑ *iP* **P 14 21 03.7 +0.7**
comp=Z,3µm,3.0s
VKA Vienna 78.63 328⇑ *iP* **P 14 21 03.7 +0.7**
VKA pmax pmax
comp=Z,3µm,3.0s
ESKT Eskisehir 78.63 314 *i P* **P 14 21 03.2 0.0**
BBH Bruntsheil 78.65 342⇑ *iP* **P 14 21 02.8 -0.2**
PVL Pavlikeni 78.66 320 P **P 14 21 04.0 +0.7**
LCP Cassop 78.67 341⇑ *eP* **P 14 21 02.8 -0.3**
BHH Howats Hill 78.75 342⇑ *iP* **P 14 21 03.5 -0.1**
BWH Wardlaw 78.78 342⇑ *iP* **P 14 21 03.6 -0.1**
BTA Talkin 78.80 342⇑ *iP* **P 14 21 03.9 +0.1**
BCC1 Chapelcross 78.83 342⇑ *eP* **P 14 21 04.0 0.0**
RBK Rabkut 78.83 283 P **P 14 21 04.2 -0.5**
SNR=73
LWH Whinny Nab 78.84 340⇑ *eP* **P 14 21 03.4 -0.6**
LAZ Ladron 78.84 53 *eP* **P 14 21 05.4 +0.9**
ANMO Albuquerque 78.86 53⇑ *eP* **P 14 21 05.5 +0.9**
ANMO pmax pmax
comp=Z,205nm,1.5s
ANMO MLR MLR
comp=Z,3µm,22.0s
ANMO Albuquerque 78.86 53 LR LR 14 52 34.4
comp=Z,2µm,21.5s,MS5.5,slow=33
ANMO Albuquerque 78.86 53⇑ *eP* **P 14 21 05.5 +0.9**
comp=Z,205nm,1.5s,mb5.8
ANMO LR LR
comp=Z,3µm,22.0s,MS5.6
WTSB Winterswijk 78.86 335⇑ *iP* **P 14 21 03.9 -0.3**
comp=Z,544nm,1.6s,mb6.2
WTSB *ex* x 14 21 17.0
MEST Erdemli 78.94 310 *i P* **P 14 21 05.0 0.0**
BDL Dobcross Hall 78.96 342⇑ *iP* **P 14 21 04.9 +0.2**
KHC Kasperske Hory 78.96 330 P **P 14 21 04.7 -0.1**
KHC Kasperske Hory 78.96 330⇑ *iP* **P 14 21 05.1 +0.3**
KHC *e*PCP PcP 14 21 09.0 -4.6
KHC *e*pP pP 14 21 21.5 +2.2
KHC *e*S S 14 31 01.3 +3.2
KHC AMS AMS 14 58 40.0
comp=Z,31µm,18.5s
MUN Mundaring 78.96 205 *eP* **P 14 21 05.3 +0.1**
comp=Z,85nm,1.2s,mb5.5
MUN Mundaring 78.96 205 *eP* **P 14 21 05.3 +0.1**
MUN pmax pmax
comp=Z,85nm,1.2s,mb5.5
SOP Sopron 79.00 327⇑ *iP* **P 14 21 06.0 +0.9**
SCHQ Schefferville 79.02 18 P **P 14 21 04.7 -0.3**
comp=Z,76nm,0.8s,mb5.7,baz=345,slow=5.4,SNR=66
SCHQ LR LR 15 01 33.7
comp=Z,5µm,19.9s,MS5.8,baz=336,slow=40
ULDT Uludag 79.07 315 *i P* **P 14 21 06.0 +0.4**
BBO1 Bothel 79.09 342⇑ *iP* **P 14 21 05.4 0.0**
LENM Lemitar 79.11 53 *eP* **P 14 21 06.6 +0.7**
GEC2 GERESS Array S 79.15 330 *eP* **P 14 21 05.9 0.0**
GEC2 pmax pmax
comp=Z,569nm,1.8s,mb6.2
GEC2 GERESS Array S 79.15 330 *eP* **P 14 21 05.9 0.0**
comp=Z,569nm,1.8s,mb6.2
GERES GERESS Array B 79.15 330 P **P 14 21 05.8 -0.1**
comp=Z,60nm,0.9s,mb5.5,baz=37,slow=5.3,SNR=135
GERES PKKPbc 14 39 57.2
comp=Z,1.9nm,0.7s,baz=225,slow=1.9,SNR=9.1
GERES PKP2bc 14 47 41.4
comp=Z,0.2nm,0.4s,baz=292,slow=7.2,SNR=3.5
GERES PKPPKP 14 47 58.6
comp=Z,2.0nm,1.1s,baz=270,slow=5.3,SNR=5.7
GERES GERESS Array B 79.15 330 P **P 14 21 05.8 -0.1**
GERES PKKPbc 14 39 57.2
GERES ⇑*e* 14 47 41.4
GERES P'P' 14 47 58.6
PKS9 Tamasi 79.19 326⇑ *iP* **P 14 21 05.9 -0.2**
LPM Los Pinos Moun 79.21 53 *eP* **P 14 21 06.8 +0.3**
WET Wettzell 79.21 330 *eP* **P 14 21 06.5 +0.3**
WET pmax pmax
comp=Z,802nm,1.7s,mb6.4
WET Wettzell 79.21 330 *eP* **P 14 21 06.5 +0.3**
comp=Z,802nm,1.7s,mb6.4
PKSM Moragy 79.33 325⇑ *eP* **P 14 21 06.4 -0.5**
GRA1 Grafenberg Arr 79.34 331 *eP* **P 14 21 07.2 +0.3**
comp=Z,640nm,1.1s,mb6.5
GRA1 LR LR
comp=Z,16µm,21.2s,MS6.3
GRF Grafenberg Arr 79.34 331 *eP* **P 14 21 07.2 +0.3**
GRF pmax pmax
comp=Z,640nm,1.1s,mb6.5
GRF MLR MLR
comp=Z,16µm,21.2s,MS6.3
GRF Grafenberg Arr 79.34 331 *eP* **P 14 21 07.2 +0.3**
GRF pmax pmax
comp=Z,640nm,1.1s,mb6.5
GRF MLR MLR
comp=Z,16µm,21.2s,MS6.3
GRF Grafenberg Arr 79.34 331 *eP* **P 14 21 07.2 +0.3**
comp=Z,640nm,1.1s,mb6.5
GRF LR LR
comp=Z,16µm,21.2s,MS6.3
HPK Haverah Park 79.42 341⇑ *iP* **P 14 21 07.0 -0.2**
DIM Dimitrovgrad 79.45 319 P **P 14 21 09.0 +1.4**
NWAO Narrogin (SRO) 79.54 203 P **P 14 21 09.1 +0.8**
NWAO *PP pP 14 21 23.4 +0.6
NWAO *SP sP 14 21 29.5 +1.1
NWAO pmax pmax
comp=Z,109nm,0.9s
NWAO Narrogin (SRO) 79.54 203 P **P 14 21 09.1 +0.7**
comp=Z,109nm,0.9s,mb5.8,baz=38,slow=6.1,SNR=22
NWAO pP pP 14 21 23.4 +0.6
comp=Z,127nm,0.8s,baz=17,slow=5.5,SNR=12
NWAO sP sP 14 21 29.5 +1.1
comp=Z,113nm,0.8s,baz=31,slow=4.7,SNR=7.2
NWAO Narrogin (SRO) 79.54 203⇑ *iP* **P 14 21 09.0 +0.7**
comp=Z,414nm,1.4s,mb6.2
NWAO LR LR
comp=Z,1µm,19.0s,MS5.2
LDU Leeds Universi 79.54 341 *eP* **P 14 21 07.5 -0.4**
ABTO Aybut 79.58 284 P **P 14 21 08.5 -0.2**
SNR=85
BEO Belgrade 79.66 323⇓ *iP* **P 14 21 08.3 -0.4**
SART Tekirdag 79.66 317 *i P* **P 14 21 08.6 -0.2**
RHK1 Bakonya 79.67 326⇑ *iP* **P 14 21 08.4 -0.3**
PGB Panagyurishte 79.73 320 P **P 14 21 10.0 +0.9**
SVIS Svilajnac 79.73 323⇑ *iP* **P 14 21 08.5 -0.6**
MOA Molln 79.76 329⇑ *iP* **P 14 21 09.0 -0.2**
comp=Z,227nm,1.9s,mb5.8
MOA *i* pP 14 21 24.9 +1.2
BOLS Boljevac 79.76 322⇓ *iP* **P 14 21 08.5 -0.8**
ARSA Arzberg 79.76 328⇑ *iP* **P 14 21 09.6 +0.4**
comp=Z,248nm,1.3s,mb6.0
PLD Plovdiv 79.81 319 P **P 14 21 10.0 +0.4**
KDZ Kurdzhali 79.81 318 P **P 14 21 10.8 +1.2**
BTOK Tokmak 79.92 316 *i P* **P 14 21 10.3 +0.1**
WIM Isle of Man 79.96 342⇑ *eP* **P 14 21 10.0 -0.1**
WIM AMb AMB 14 21 12.5
comp=Z,888nm,1.5s,mb6.5
TOO Toolangi 80.02 180 *eP* **P 14 21 12.4 +1.6**
comp=Z,25nm,0.8s,mb5.2
KBI1 Birley Grange 80.04 340⇑ *eP* **P 14 21 10.2 -0.3**
ALN Alexandroupoli 80.07 318 *eP* **P 14 21 10.2 -0.8**
RZN Rozhen 80.12 319 P **P 14 21 11.8 +0.6**
PHNC Paralimni 80.13 309 P **P 14 21 11.6 +0.2**
VTS Vitosha 80.15 320 P **P 14 21 12.0 +0.6**
HGN Heimansgroeve 80.18 335 *eP* **P 14 21 10.9 -0.4**
comp=Z,463nm,1.9s,mb6.1
HGN *ex* x 14 21 24.0
SIND Sindeldorf 80.19 332 P **P 14 21 11.3 -0.2**
SIND Sindeldorf 80.19 332⇑ *eP* **P 14 21 11.1 -0.4**
TOD Tromm 80.25 333⇑ *eP* **P 14 21 11.5 -0.2**
TOD Tromm 80.25 333⇑ *eP* **P 14 21 11.7 0.0**
GRUS Gruza 80.28 323⇓ *iP* **P 14 21 11.8 -0.2**
KWE Weaver Farm 80.33 340⇑ *eP* **P 14 21 11.3 -0.8**
HRI Mount Hermon 80.37 307 P **P 14 21 13.6 +0.8**
SWS Schriesheim 80.39 333 P **P 14 21 14.0 +1.5**
SWS Schriesheim 80.39 333⇑ *eP* **P 14 21 12.2 -0.3**
ABH Alteburg 80.43 334⇑ *eP* **P 14 21 12.4 -0.3**
ABH Alteburg 80.43 334⇑ *eP* **P 14 21 12.5 -0.2**
PERS Pernice 80.43 328 *i P* **P 14 21 12.9 +0.1**
DIVS Divcibare 80.43 323⇓ *iP* **P 14 21 12.5 -0.3**
ASF Jabal al Asfar 80.45 305 LR LR 15 02 05.8
comp=Z,5µm,18.6s,MS5.8,baz=18,slow=40
CSS Prodhromos 80.56 309 P **P 14 21 13.9 +0.2**
WME Myndd Eilian 80.57 342⇑ *iP* **P 14 21 13.1 -0.3**
WME AMb AMB 14 21 15.7
comp=Z,616nm,1.6s,mb6.3
MANT Manisa 80.59 315 *i P* **P 14 21 13.9 +0.1**
WPM1 Penmaenmawr 80.61 342⇑ *eP* **P 14 21 13.4 -0.1**
WPM1 AMb AMB 14 21 16.1
comp=Z,956nm,1.5s,mb6.5
FUR Furstenfeldbru 80.61 331 *eP* **P 14 21 14.0 +0.3**
FUR pmax pmax
comp=Z,703nm,1.3s,mb6.4
FUR Furstenfeldbru 80.61 331 *eP* **P 14 21 14.0 +0.3**
comp=Z,703nm,1.3s,mb6.4
BARS Barje 80.61 321⇑ *iP* **P 14 21 13.2 -0.6**
HDH Heidenheim 80.64 331 P **P 14 21 13.7 -0.1**
HDH Heidenheim 80.64 331⇑ *eP* **P 14 21 13.4 -0.4**
DMUB Kingscourt 80.67 344⇑ *iP* **P 14 21 14.0 +0.1**
MMB Musomiste 80.67 319 P **P 14 21 15.0 +0.8**
KTD Kalmit 80.73 333 *eP* **P 14 21 14.1 -0.2**
KTD Kalmit 80.73 333⇑ *eP* **P 14 21 14.2 -0.1**
RUP Ruppelstein 80.74 334⇑ *eP* **P 14 21 14.1 -0.3**
RUP Ruppelstein 80.74 334⇑ *eP* **P 14 21 14.3 -0.1**
KBA Koelnbreinsper 80.75 329⇓ *iP* **P 14 21 14.6 +0.1**
comp=Z,398nm,1.1s,mb6.3
KBA Koelnbreinsper 80.75 329⇓ *iP* **P 14 21 14.6 +0.1**
KBA pmax pmax
comp=Z,398nm,1.1s,mb6.3
OBKA Obir 80.75 328⇑ *iP* **P 14 21 14.4 -0.1**
comp=Z,149nm,0.9s,mb5.9
KKB Krupnik 80.77 320 P **P 14 21 15.0 +0.3**
YLL Llanberis 80.78 342⇑ *iP* **P 14 21 14.4 -0.1**
YLL AMb AMB 14 21 16.9
comp=Z,883nm,1.6s,mb6.4
SBD1 Bryn Du 80.78 341⇑ *iP* **P 14 21 14.8 +0.3**
STU Stuttgart 80.83 332⇑ *iP* **P 14 21 14.7 -0.1**
STU pmax pmax
comp=Z,386nm,1.2s,mb6.2
STU Stuttgart 80.83 332⇑ *iP* **P 14 21 14.7 -0.1**
comp=Z,386nm,1.2s,mb6.2
ALFC Alevga 80.83 310⇑ P **P 14 21 14.6 -0.6**
comp=Z,2.5nm,0.8s
ALFC Alevga 80.83 310⇑ *eP* **P 14 21 14.6 -0.6**
HNTI Hanita 80.83 307⇑ P **P 14 21 15.8 +0.6**
RAYN Ar Rayn 80.89 293 P **P 14 21 16.9 +1.2**
comp=Z,2µm,1.1s,mb6.9
DNZL Cakiroluk 80.93 314 *i P* **P 14 21 16.0 +0.4**
AYVA Ayvalik 80.95 316 *i P* **P 14 21 13.9 -1.7**
SZAC Souni-Zanaja 80.96 309⇑ P **P 14 21 15.9 +0.1**
SZAC Souni-Zanaja 80.96 309⇑ *iP* **P 14 21 15.9 +0.1**
YRE Yr Eifl 80.98 342⇑ *eP* **P 14 21 15.5 0.0**
YRE AMb AMB 14 21 17.5
comp=Z,642nm,1.3s,mb6.4
HLM1 Long Mynd 81.04 341⇑ *iP* **P 14 21 15.6 -0.3**
HLM1 AMb AMB 14 21 17.8
comp=Z,399nm,1.4s,mb6.2
BUCH Bad Urach 81.05 332 P **P 14 21 16.4 +0.4**
BUCH Bad Urach 81.05 332⇑ *eP* **P 14 21 16.2 +0.2**
LBG Lerchenberg 81.06 332 P **P 14 21 16.4 +0.4**
LBG Lerchenberg 81.06 332⇑ *eP* **P 14 21 16.0 0.0**
WLF Walferdange 81.07 334 *eP* **P 14 21 15.3 -0.8**
WLF pmax pmax
comp=Z,513nm,1.6s,mb6.2
WLF Walferdange 81.07 334 *eP* **P 14 21 15.3 -0.8**
comp=Z,513nm,1.6s,mb6.2
AKMC Akamas 81.08 310⇑ P **P 14 21 16.0 -0.5**
AKMC Akamas 81.08 310⇑ *iP* **P 14 21 16.0 -0.5**
GIVF Givet 81.10 335⇑ *iP* **P 14 21 15.8 -0.4**
comp=Z,847nm,1.6s,mb6.1
GIVF Givet 81.10 335⇑ *iP* **P 14 21 15.8 -0.4**
GIVF pmax pmax
comp=Z,424nm,1.6s,mb6.1
SRS Serrai 81.10 319 *eP* **P 14 21 15.5 -1.0**
LANF Langenberg 81.12 333⇑ *eP* **P 14 21 16.1 -0.3**
HAF Haifa 81.14 307⇑ P **P 14 21 17.3 +0.5**
LJU Ljubljana 81.15 328 *eP* **P 14 21 16.2 -0.3**
MMLI Mount Malkishu 81.15 306⇑ P **P 14 21 17.5 +0.6**
DLF Lyons Farm 81.16 343⇑ *iP* **P 14 21 16.7 +0.2**
DSB Dublin 81.17 343⇑ *eP* **P 14 21 16.3 -0.2**
comp=Z,146nm,0.9s,mb5.9
PPCY Paphos 81.17 310⇑ P **P 14 21 16.6 -0.4**
PPCY Paphos 81.17 310⇑ *eP* **P 14 21 16.6 -0.4**
SSP1 Stoney Pound 81.19 341⇑ *eP* **P 14 21 16.7 0.0**
WATA Walderalm 81.20 330⇑ *iP* **P 14 21 17.0 +0.2**
comp=Z,240nm,0.9s,mb6.1
WATA Walderalm 81.20 330⇑ *iP* **P 14 21 17.0 +0.2**
WATA pmax pmax
comp=Z,240nm,0.9s,mb6.1
VISS Visnje 81.22 327 *eP* **P 14 21 16.6 -0.3**
KSU1 Kansas State U 81.23 44 *eP* **P 14 21 16.2 -1.0**
WTTA Wattenberg 81.24 330⇑ *iP* **P 14 21 17.5 +0.5**
comp=Z,419nm,1.1s,mb6.3
WTTA Wattenberg 81.24 330⇑ *iP* **P 14 21 17.5 +0.5**
WTTA pmax pmax
comp=Z,419nm,1.1s,mb6.3
DCN Croghan 81.27 344⇑ *iP* **P 14 21 17.3 +0.3**
OFRI 'Ofer 81.27 307⇑ P **P 14 21 18.1 +0.6**
LOS Limnos 81.28 318 *eP* **P 14 21 16.9 -0.5**
BOJS Bojanci 81.30 327 *i P* **P 14 21 17.1 -0.3**
PLE Pljevlja 81.31 323⇑ *iP* **P 14 21 18.3 +0.8**
BAIF Baives 81.33 336⇑ *iP* **P 14 21 17.1 -0.3**
comp=Z,652nm,1.6s,mb6.0
BAIF Baives 81.33 336⇑ *iP* **P 14 21 17.1 -0.3**
BAIF pmax pmax
comp=Z,326nm,1.6s,mb6.0
JFWS Jewell Farm 81.33 38 *eP* **P 14 21 16.2 -1.4**
JFWS *e* pP 14 21 26.7 -5.5
JFWS pmax pmax
comp=Z,58nm,0.9s,mb5.5
JFWS MLR MLR
comp=Z,6µm,22.0s,MS5.9
JFWS Jewell Farm 81.33 38 *eP* **P 14 21 16.2 -1.4**
comp=Z,58nm,0.9s,mb5.5
JFWS *e* pP 14 21 26.7 -5.4
JFWS LR LR
comp=Z,6µm,22.0s,MS5.9
KDAG Bornova 81.33 315 *i P* **P 14 21 17.5 -0.2**
MOTA Moosalm 81.36 330⇑ *iP* **P 14 21 18.0 +0.3**
comp=Z,217nm,0.9s,mb6.1
MOTA Moosalm 81.36 330⇑ *iP* **P 14 21 18.0 +0.3**
MOTA pmax pmax
comp=Z,217nm,0.9s,mb6.1
ROBS Robic 81.38 328 *eP* **P 14 21 16.5 -1.3**
DRE Drenchia 81.39 328⇑ *eP* **P 14 21 16.0 -1.8**
KNT Kendrikon 81.40 320 *eP* **P 14 21 18.1 +0.1**
HAE Alders End 81.40 340⇑ *iP* **P 14 21 17.8 0.0**
HAE AMb AMB 14 21 19.7
comp=Z,457nm,1.1s,mb6.3
VOY Vojsko 81.41 328 *eP* **P 14 21 16.8 -1.1**
SQTA Sankt Quirin 81.43 330⇑ *iP* **P 14 21 18.3 +0.3**
comp=Z,262nm,1.0s,mb6.1
SQTA Sankt Quirin 81.43 330⇑ *iP* **P 14 21 18.3 +0.3**
SQTA pmax pmax
comp=Z,262nm,1.0s,mb6.1
VAY Valandovo 81.43 320⇑ *iP* **P 14 21 18.7 +0.5**
UBR Uberruh 81.44 331 P **P 14 21 18.0 -0.1**
UBR Uberruh 81.44 331⇑ *eP* **P 14 21 17.9 -0.1**
SOH Sokhos 81.44 319 *eP* **P 14 21 17.5 -0.7**
IVA Berane 81.45 322⇑ *iP* **P 14 21 18.1 -0.1**
SKO Skopje 81.45 321⇑ *iP* **P 14 21 19.0 +0.7**
SKO pmax pmax
comp=Z,493nm,1.1s,mb6.3
SKO Skopje 81.45 321⇑ *iP* **P 14 21 19.0 +0.7**
comp=Z,0.5nm,1.1s
GUT Gutenstein 81.45 332 P **P 14 21 18.2 +0.1**
GUT Gutenstein 81.45 332⇑ *eP* **P 14 21 18.1 0.0**
STR Strasbourg 81.47 333⇑ *eP* **P 14 21 18.5 +0.3**
BAD Bernadia 81.49 328⇓ *eP* **P 14 21 17.0 -1.3**
MENF Mencas 81.49 337⇑ *eP* **P 14 21 18.0 -0.2**
BFO Black Forest 81.50 332 *eP* **P 14 21 18.3 -0.1**
BFO pmax pmax
comp=Z,354nm,1.3s,mb6.1
BFO Black Forest 81.50 332 *eP* **P 14 21 18.3 -0.1**
comp=Z,354nm,1.3s,mb6.1
SLTI Sal'it 81.51 306⇑ P **P 14 21 19.7 +0.9**
OUR Ouranopolis 81.52 318 *eP* **P 14 21 18.4 -0.2**
COLI Coloredo 81.52 328⇑ *eP* **P 14 21 17.0 -1.5**
HTR Trewern Hill 81.54 341⇑ *eP* **P 14 21 18.5 0.0**
SPAK Spaichingen 81.54 332 P **P 14 21 19.2 +0.6**
SPAK Spaichingen 81.54 332⇑ *eP* **P 14 21 18.7 +0.1**
RAR Rarotonga 81.54 129 LR LR 14 51 01.1
comp=Z,6µm,21.2s,MS5.9,baz=314,slow=31
RAR Rarotonga 81.54 129 PFAKE 14 21 30.0 +11
RAR LR LR
comp=Z,7µm,22.0s,MS6.0
BUA Buia 81.55 328⇑ *eP* **P 14 21 17.0 -1.7**
MCH1 Michaelchurch 81.55 341⇑ *iP* **P 14 21 18.6 0.0**
AYDN Tasoluk 81.57 314 *i P* **P 14 21 19.9 +0.9**
MPRI Monte Prat 81.58 329⇑ *iP* **P 14 21 17.0 -1.8**
UPM Unac-Piva 81.62 323⇑ *iP* **P 14 21 18.3 -0.8**
KNDS Knezji Dol 81.63 327 *eP* **P 14 21 18.6 -0.5**
PVY Plav 81.63 322⇑ *iP* **P 14 21 18.5 -0.7**
AMTX Amarillo 81.64 50⇑ *eP* **P 14 21 19.8 +0.4**
comp=Z,138nm,0.9s,mb5.9
AMTX LR LR
comp=Z,5µm,22.0s,MS5.8
AFL Alpe Faloria 81.65 329⇑ *eP* **P 14 21 18.0 -1.2**
CPRX Cap Rock 81.73 52 *eP* **P 14 21 20.0 +0.1**
CPRX *ep*P pP 14 21 30.3 -4.2
CPRX *es*P sP 14 21 33.9 -6.1
WLS Welschbruch 81.76 333⇑ *eP* **P 14 21 19.5 -0.2**
DRGI Dragot 81.76 306⇑ P **P 14 21 20.4 +0.3**
THE Thessaloniki 81.78 319 *eP* **P 14 21 19.4 -0.6**
CDF Champ du Feu 81.79 333⇑ *iP* **P 14 21 19.8 -0.1**
comp=Z,767nm,1.4s,mb6.2
CDF Champ du Feu 81.79 333⇑ *iP* **P 14 21 19.8 -0.1**
CDF pmax pmax
comp=Z,384nm,1.4s,mb6.1
MNTX Cornudas Mount 81.79 54 *eP* **P 14 21 20.8 +0.6**
comp=Z,178nm,1.2s,mb5.9
MNTX *ep*P pP 14 21 29.5 -5.4
MNTX *es*P sP 14 21 33.6 -6.7
MNTX LR LR
comp=Z,2µm,19.0s,MS5.6
GRG Griva 81.80 320 *eP* **P 14 21 19.9 -0.1**
MLNI Malnisio 81.80 329⇑ *iP* **P 14 21 19.0 -1.0**
HGH Gray Hill 81.83 340⇑ *eP* **P 14 21 19.9 -0.1**
HGH AMb AMB 14 21 21.7
comp=Z,368nm,1.3s,mb6.2
SISB Singen-Sch Ber 81.84 332 P **P 14 21 20.4 +0.3**
DAVA Damuels 81.85 331⇑ *iP* **P 14 21 20.5 +0.3**
comp=Z,288nm,1.1s,mb6.1
NKY Niksic 81.89 323⇑ *iP* **P 14 21 19.8 -0.7**
LIBD Limburg 81.91 333⇑ *eP* **P 14 21 20.4 -0.1**
LIBD Limburg 81.91 333⇑ *eP* **P 14 21 20.6 +0.1**
SLE Schleitheim 81.93 332⇑ P **P 14 21 20.2 -0.4**
KIZ Kirchzarten 81.97 332 P **P 14 21 20.5 -0.3**
KIZ Kirchzarten 81.97 332⇑ *eP* **P 14 21 20.4 -0.4**
OUZ Omahuta 81.97 157 P **P 14 21 24.7 +3.6**
OUZ pP pP 14 21 38.6 +2.9
PAIG Paliouri 81.98 318 *eP* **P 14 21 20.8 -0.2**
MZDA Masada 81.98 305⇑ P **P 14 21 21.7 +0.5**
ECH Echery 82.00 333⇑ *eP* **P 14 21 20.6 -0.3**
FELD Feldberg 82.00 332⇑ *eP* **P 14 21 20.9 -0.1**
BRY Bratogost 82.02 323⇑ *iP* **P 14 21 20.2 -1.0**
GDL2 Guadalupe Moun 82.04 53 *eP* **P 14 21 22.3 +0.8**
GDL2 *ep*P pP 14 21 31.3 -4.8
GDL2 *es*P sP 14 21 35.3 -6.3
TTG Podgorica 82.08 323⇑ *iP* **P 14 21 20.8 -0.7**
WILA Wila 82.09 332⇑ P **P 14 21 21.4 0.0**
NVLJ Novalja 82.23 326 *i P* **P 14 21 21.0 -1.2**
BDRM Kayabasi 82.24 314 *i P* **P 14 21 22.3 -0.1**
ZUR Zurich 82.24 332⇑ P **P 14 21 22.2 0.0**
SULZ Sulz-Cheisache 82.27 332⇑ P **P 14 21 22.2 -0.1**
DAVOX Davos 82.28 331 P **P 14 21 22.9 +0.4**
comp=Z,60nm,0.9s,mb5.5,baz=22,slow=3.1,SNR=40
DAVOX pP pP 14 21 38.0 +0.9
comp=Z,60nm,0.9s,baz=297,slow=10,SNR=7.3
DAVOX Davos 82.28 331 P **P 14 21 22.9 +0.4**
DAVOX pP pP 14 21 38.0 +0.9
MOF Molkenrain 82.32 333⇑ *eP* **P 14 21 22.4 -0.2**
BUM Brajici-Budva 82.35 323⇑ *iP* **P 14 21 22.1 -0.8**
DGAR Diego Garcia 82.35 253 *eP* **P 14 21 22.8 -0.7**
DGAR pmax pmax
comp=Z,508nm,1.2s,mb6.3
DGAR MLR MLR
comp=Z,847nm,19.0s,MS5.1
DGAR Diego Garcia 82.35 253 *eP* **P 14 21 22.8 -0.7**
comp=Z,508nm,1.2s,mb6.3
DGAR LR LR
comp=Z,847nm,19.0s,MS5.1
THEF They Montfort 82.37 334⇑ *eP* **P 14 21 22.8 -0.1**
HCY Herceg Novi 82.41 323⇑ *iP* **P 14 21 22.4 -0.7**
FNA Florina 82.41 320 *eP* **P 14 21 23.0 -0.2**
LIT Litokhoron 82.42 319 *eP* **P 14 21 22.5 -0.7**
OHR Ohrid 82.43 321⇑ *iP* **P 14 21 23.3 0.0**
OHR *i* pP 14 21 35.9 -2.0
MEZF Maizieres J'vi 82.43 334⇑ *iP* **P 14 21 23.3 +0.1**
comp=Z,906nm,1.3s,mb6.2
HINF Hinteralfeld 82.45 333⇑ *iP* **P 14 21 22.8 -0.4**
comp=Z,160nm,1.0s,mb5.6
HINF Hinteralfeld 82.45 333⇑ *iP* **P 14 21 22.8 -0.4**

HINF pmax pmax
comp=Z,80nm,1.0s,mb5.6
HAU Haudompre 82.45 333⇑*i*P P 14 21 23.0 -0.3
comp=Z,551nm,1.6s,mb6.0
HAU *e*R
comp=Z,18µm,21.2s
HAU Haudompre 82.45 333⇑*i*P P 14 21 23.0 -0.3
HAU pmax pmax
comp=Z,276nm,1.5s,mb6.0
HAU MLR MLR
comp=Z,18µm,21.3s,MS6.4
ULC Ulcinj 82.46 322⇑*i*P P 14 21 23.2 -0.3
QSH Qafa e Shtames 82.51 322 *i* p P 14 21 24.2 +0.5
BBS Basel-Blauen 82.53 332⇑*e*P P 14 21 23.7 0.0
BBS Basel-Blauen 82.53 332⇑*e*P P 14 21 23.6 -0.1
LLS Linth-Limmern 82.54 331 ⇑P P 14 21 23.9 +0.2
MASH Mash'abbe Sade 82.55 306 ⇑P P 14 21 24.7 +0.5
MUO Muotathal 82.57 331 ⇑P P 14 21 24.0 +0.1
ZFRI Zfri 82.63 305 ⇑P P 14 21 25.1 +0.5
XOR Xorichti 82.65 318 *e*P P 14 21 23.8 -0.6
TIR Tirane 82.67 322⇑*i*p P 14 21 25.2 +0.7
VDL Val di Lei 82.68 331 ⇑P P 14 21 25.0 +0.5
KZIT Kziot 82.85 306 ⇑P P 14 21 26.0 +0.3
LOMF Lomont 82.86 333⇑*e*P P 14 21 25.6 +0.2
KMTI Karmit 83.23 305 ⇑P P 14 21 28.0 +0.4
MBH Mount Berech 83.33 305 P P 14 21 28.7 +0.6
AGG Agios Georgios 83.34 319 *e*P P 14 21 26.3 -1.6
WMOK Wichita Mounta 83.36 48⇑*i*P P 14 21 28.2 0.0
WMOK pmax pmax
comp=Z,208nm,1.4s,mb6.0
WMOK MLR MLR
comp=Z,4µm,22.0s,MS5.7
WMOK Wichita Mounta 83.36 48⇑*i*P P 14 21 28.2 0.0
comp=Z,208nm,1.4s,mb6.0
WMOK LR LR
comp=Z,4µm,22.0s,MS5.7
EIL Elat 83.40 305 LR LR 15 05 10.1
comp=Z,6µm,20.2s,MS6.0,baz=48,slow=40
EIL Elat 83.40 305 ⇑P P 14 21 29.0 +0.5
LKBD Leukerbad 83.42 332 ⇑P P 14 21 28.4 +0.2
CSA1 St Austell 83.53 341⇑*e*P P 14 21 28.8 +0.2
MMK Mattmark 83.59 331 ⇑P P 14 21 29.7 +0.7
CABF La Chapelle 83.75 333⇑*i*P P 14 21 30.1 +0.3
comp=Z,194nm,1.1s,mb5.8
CABF La Chapelle 83.75 333⇑*i*P P 14 21 30.1 +0.3
CABF pmax pmax
comp=Z,97nm,1.1s,mb5.8
DIX Grande Dixence 83.76 332 ⇑P P 14 21 30.5 +0.6
CCA1 Carnmenellis 83.76 341⇑*e*P P 14 21 30.0 +0.2
CRQ2 Rosemanowes 2 83.77 341⇑*i*P P 14 21 30.1 +0.3
CRQ2 AMb AMB 14 21 31.9
comp=Z,890nm,1.4s,mb6.7
OG01 Vacheresse 83.80 332⇑*e*P P 14 21 27.8 -2.3
SANT Santorini 83.81 315 *e*P P 14 21 29.2 -1.1
comp=Z,1µm,1.5s,mb6.8
CMA1 Manaccan 83.84 341⇑*e*P P 14 21 30.5 +0.3
CGW Gweek 83.84 341⇑*e*P P 14 21 30.4 +0.2
FLN La Foliniere 83.85 338⇑*i*P P 14 21 30.2 -0.1
comp=Z,248nm,1.0s,mb6.0
FLN *e*R
comp=Z,15µm,21.8s
FLN La Foliniere 83.85 338⇑*i*P P 14 21 30.2 -0.1
FLN pmax pmax
comp=Z,124nm,1.0s,mb6.0
FLN MLR MLR
comp=Z,15µm,21.8s,MS6.3
CGH1 Goonhilly 83.88 341⇑*e*P P 14 21 30.6 +0.2
CPZ Penzance 83.88 341⇑*e*P P 14 21 30.4 +0.1
CPZ AMb AMB 14 21 32.5
comp=Z,638nm,1.3s,mb6.6
IGT Igoumenitsa 83.89 320 *e*P P 14 21 30.5 -0.2
LDF La Druitiere 83.91 338⇑*i*P P 14 21 30.4 -0.1
comp=Z,168nm,0.9s,mb5.9
LDF La Druitiere 83.91 338⇑*i*P P 14 21 30.4 -0.1
LDF pmax pmax
comp=Z,84nm,0.9s,mb5.9
ORX Oropa 83.95 331 P P 14 21 30.4 -0.4
EMV Vieux Emosson 83.95 332 ⇑P P 14 21 31.2 +0.3
TRAV 84.14 331 P P 14 21 31.5 -0.3
GRAM 84.17 329 P P 14 21 32.5 +0.5
PMOR Pomariorio Ree 84.18 116 *e*P P 14 21 35.5 +2.8
comp=Z,128nm,1.2s,mb5.9
PMOR *e*pP pP 14 21 48.0 +0.7
comp=Z,274nm,1.2s
SSF Saint Saulge 84.20 335⇑*i*P P 14 21 32.2 +0.1
SSF pmax pmax
comp=Z,75nm,0.9s,mb5.8
SSF Saint Saulge 84.20 335⇑*i*P P 14 21 32.2 +0.1
comp=Z,75nm,0.9s,mb5.8
VALM 84.22 329 P P 14 21 33.1 +0.9
HYF Humbligny 84.28 335⇑*i*P P 14 21 32.9 +0.4
GRR Gorron 84.30 338⇑*i*P P 14 21 32.8 +0.3
comp=Z,200nm,0.9s,mb6.0
GRR Gorron 84.30 338⇑*i*P P 14 21 32.8 +0.3
GRR pmax pmax
comp=Z,100nm,0.9s,mb6.0
SARO Sassorosso 84.30 329 P P 14 21 33.5 +0.8
VLC Villacollemand 84.33 329 *e*P P 14 21 33.2 +0.4
comp=Z,719nm,1.5s,mb6.6
CODM 84.33 329 P P 14 21 33.2 +0.3
RSL Roselend 84.37 332⇑*e*P P 14 21 33.3 +0.3
LSD Ceresole Reale 84.39 332 P P 14 21 33.9 +0.8
VINC Vinca 84.43 329 P P 14 21 32.9 -0.4
SMF Signal de Mont 84.46 334⇑*i*P P 14 21 33.5 +0.1
comp=Z,382nm,0.9s,mb6.2
SMF Signal de Mont 84.46 334⇑*i*P P 14 21 33.5 +0.1
SMF pmax pmax
comp=Z,191nm,0.9s,mb6.2
OG05 Jujurieux 84.46 333⇑*e*P P 14 21 33.8 +0.4
AVF Avril sur Loir 84.49 335⇑*i*P P 14 21 33.8 +0.3
comp=Z,387nm,0.9s,mb6.2
AVF Avril sur Loir 84.49 335⇑*i*P P 14 21 33.8 +0.3
AVF pmax pmax
comp=Z,193nm,0.9s,mb6.2
LPL La Plagne 84.49 332⇑*i*P P 14 21 34.4 +0.8
comp=Z,691nm,1.5s,mb6.2
LPL La Plagne 84.49 332⇑*i*P P 14 21 34.4 +0.8
LPL pmax pmax
comp=Z,345nm,1.5s,mb6.3
MAIM 84.50 329 P P 14 21 33.1 -0.5
LPG La Plagne 84.50 332⇑*i*P P 14 21 34.6 +1.0
comp=Z,642nm,1.3s,mb6.3
LPG La Plagne 84.50 332⇑*i*P P 14 21 34.6 +1.0
LPG pmax pmax
comp=Z,321nm,1.3s,mb6.3
TXAR Lajitas Array 84.52 55 P P 14 21 34.9 +0.8
comp=Z,58nm,0.8s,mb5.8,baz=296,slow=2.8,SNR=132
TXAR pP pP 14 21 47.9 -0.9
comp=Z,42nm,0.8s,baz=304,slow=3.9,SNR=11
TXAR PKKPbc 14 39 46.3
comp=Z,1.7nm,0.7s,baz=146,slow=4.5,SNR=11
TXAR PKPPKP 14 47 43.1
comp=Z,0.4nm,0.5s,baz=162,slow=4.0,SNR=5.8
TXAR LR LR 14 58 28.9
comp=Z,3µm,20.8s,MS5.7,baz=300,slow=35
TXAR Lajitas Array 84.52 55 P P 14 21 34.9 +0.8
TXAR pP pP 14 21 47.9 -0.9
TXAR PKKPbc 14 39 46.3
TXAR P'P' 14 47 43.1
TXAR LR LR 14 58 28.9
MUKL Al Mukalla 84.54 285⇑*e*P P 14 21 35.0 +0.5
RSP Reno Superiore 84.62 331 P P 14 21 33.4 -0.8
GENL Genova Univers 84.65 330 P P 14 21 34.2 -0.2
AQU L'Aquila 84.66 326⇑*i*P P 14 21 34.9 +0.4
AQU pmax pmax
comp=Z,1µm,1.4s,mb6.8
AQU L'Aquila 84.66 326⇑*i*P P 14 21 34.9 +0.4
comp=Z,1µm,1.4s,mb6.8
AAM Ann Arbor 84.66 34⇑*e*P P 14 21 34.7 +0.2
AAM pmax pmax
comp=Z,78nm,0.5s,mb6.1
AAM MLR MLR
comp=Z,6µm,21.0s,MS5.9
AAM Ann Arbor 84.66 34⇑*e*P P 14 21 34.7 +0.2
comp=Z,78nm,0.5s,mb6.1
AAM LR LR
comp=Z,6µm,21.0s,MS5.9
PCP Pian Castagno 84.69 330 P P 14 21 34.2 -0.4
CCM Cathedral Cave 84.70 41⇑*e*P P 14 21 34.6 -0.2
CCM pmax pmax
comp=Z,557nm,1.4s,mb6.5
CCM MLR MLR
comp=Z,1µm,22.0s,MS5.2
CCM Cathedral Cave 84.70 41⇑*e*P P 14 21 34.6 -0.2
comp=Z,557nm,1.4s,mb6.5
CCM LR LR
comp=Z,1µm,22.0s,MS5.2
SLM Saint Louis 84.73 40 *e*P P 14 21 35.0 +0.1
SLM *e* pP 14 21 47.7 -1.9
FENE Fenestrelle 84.79 331 P **P 14 21 35.6 +0.5**
CII Carovilli 84.81 325 *e*P P 14 21 35.6 +0.4
comp=Z,2µm,2.0s,mb7.0
BGF Bois d'Agland 84.85 335⇑*i*P P 14 21 35.7 +0.4
comp=Z,112nm,0.7s,mb5.8
BGF Bois d'Agland 84.85 335⇑*i*P P 14 21 35.7 +0.4
BGF pmax pmax
comp=Z,56nm,0.7s,mb5.8
SGMF Saint Gilles 84.88 339⇑*i*P P 14 21 36.0 +0.6
comp=Z,2µm,1.6s,mb6.8
SGMF Saint Gilles 84.88 339⇑*i*P P 14 21 36.0 +0.6
SGMF pmax pmax
comp=Z,1µm,1.6s,mb6.8
BHB Bricherasio 84.89 331 P **P 14 21 34.1 -1.4**
BNI Bardonecchia 84.91 332 *e*P P 14 21 36.2 +0.5
BNI pmax pmax
comp=Z,203nm,1.2s,mb6.1
BNI Bardonecchia 84.91 332 *e*P P 14 21 36.2 +0.5
comp=Z,203nm,1.2s,mb6.1
PPT Papeete 84.96 119 *e*P P 14 21 39.4 +2.8
comp=Z,46nm,1.3s,mb5.4
PPT *e*pP pP 14 21 51.9 +0.7
comp=Z,121nm,1.3s
PPT Papeete 84.96 119 *e*LR LR 14 47 39.4
comp=Z,50µm,32.2s,baz=317
PPT Papeete 84.96 119 pP pP 14 21 51.7 +0.5
comp=Z,95nm,1.1s,baz=295,slow=4.4,SNR=5.8
GDM Grand'Maison 84.97 332⇑*e*P P 14 21 36.7 +0.7
RRL Cesana Torines 84.99 332 P **P 14 21 36.8 +0.8**
ROSF Rostrenen 84.99 339⇑*i*P P 14 21 36.6 +0.6
comp=Z,2µm,1.5s,mb6.8
OG22 Abries 85.02 331⇑*e*P P 14 21 36.7 +0.5
PAE Paea 85.03 119 *e*P P 14 21 39.6 +2.7
comp=Z,94nm,1.4s,mb5.7
PAE *e*pP pP 14 21 52.1 +0.5
comp=Z,138nm,1.1s
GRN Grenoble 85.06 332⇑*e*P P 14 21 37.4 +1.0
FIN Finale Ligure 85.09 330 P **P 14 21 35.8 -0.8**
TAOE Nuku Hiva Isla 85.10 107 *e*P P 14 21 39.9 +2.6
TAOE *e*pP pP 14 21 51.8 -0.2
TAOE *e*LR LR 14 47 49.4
baz=317
TIAR Tiarei 85.10 119 *e*P P 14 21 39.9 +2.6
comp=Z,123nm,1.0s,mb6.0
TIAR *e*pP pP 14 21 52.5 +0.6
comp=Z,427nm,1.1s
PLDF La Plantade 85.13 334⇑*e*P P 14 21 38.3 +1.6
ROB Roburent 85.14 331 P **P 14 21 36.5 -0.4**
FVM French Village 85.15 41 *e*P P 14 21 36.9 -0.2
MBDF Montbardon 85.16 331⇑*i*P P 14 21 37.2 +0.3
comp=Z,416nm,1.1s,mb6.2
AGO Saint Agoulin 85.21 334⇑*e*P P 14 21 39.0 +1.9
PZZ Prazzo 85.24 331 P **P 14 21 36.2 -1.1**
TCF Toulx Ste Croi 85.29 335⇑*i*P P 14 21 38.1 +0.6
comp=Z,1µm,1.7s,mb6.5
ORIF Oris-en-Rattie 85.30 332⇑*i*P P 14 21 38.4 +0.8
comp=Z,248nm,0.9s,mb6.0
ORIF *e*R
comp=Z,18µm,22.2s
TVO Taravao 85.33 119 *e*P P 14 21 41.3 +2.9
comp=Z,75nm,1.0s,mb5.8
TVO *e*pP pP 14 21 53.9 +0.8
comp=Z,211nm,1.1s
QUIF Quistinic 85.35 339⇑*i*P P 14 21 38.0 +0.2
comp=Z,1µm,1.5s,mb6.5
SURF Saint Ours 85.36 331⇑*e*P P 14 21 38.5 +0.6
ENR Entracque 85.36 331 P **P 14 21 36.5 -1.5**
MONE Monesi 85.37 331 P **P 14 21 37.8 -0.2**
TAU Tasmania Unive 85.38 178 *e*P P 14 21 39.7 +1.6
comp=Z,464nm,2.0s,mb6.3
TAU LR LR
comp=Z,920nm,20.0s,MS5.2
STV Sta Anna Valdi 85.38 331 P **P 14 21 36.4 -1.6**
IMI Imperia 85.47 330 P **P 14 21 37.2 -1.3**
COLF Collangettes 85.51 334⇑*e*P P 14 21 39.5 +0.9
PYM Petit Puy Mans 85.52 334⇑*e*P P 14 21 40.5 +1.8
SAOF Saorge 85.52 331⇑*e*P P 14 21 38.5 -0.2
AUTN L'Aution 85.56 331⇑*e*P P 14 21 38.8 -0.1
NEGI Negi 85.59 330 P **P 14 21 38.7 -0.3**
TOUF Mont Tournerai 85.61 331⇑*e*P P 14 21 39.2 0.0
MSNY Massena 85.64 27 *e*P P 14 21 38.5 -0.7
SBF Sospel 85.67 331⇑*i*P P 14 21 39.3 -0.2
comp=Z,750nm,1.0s,mb6.6
VERF Vneugheol 85.69 335⇑*e*P P 14 21 40.0 +0.5
GVD Gavdhos 85.70 315 *e*P P 14 21 39.2 -0.6
comp=Z,737nm,1.1s,mb6.8
OG25 Le Caire 85.72 332⇑*e*P P 14 21 40.3 +0.6
MFF Saint Martin d 85.72 337⇑*i*P P 14 21 40.3 +0.7
comp=Z,553nm,0.9s,mb6.5
MVIF Mont Vial 85.75 331⇑*e*P P 14 21 39.8 0.0
VIVF Saint-Julien-l 85.77 333⇑*i*P P 14 21 40.6 +0.7
comp=Z,1µm,1.6s,mb6.6
OCF Saint Nazaire 85.80 332⇑*e*P P 14 21 41.1 +1.0
OG26 St.-Nazaire-De 85.80 332⇑*e*P P 14 21 41.1 +1.0
REVF Revere 85.81 331⇑*e*P P 14 21 40.0 -0.1
TIP Timpagrande 85.82 322 *e*P P 14 21 40.4 +0.1
LCHF La Chataignera 85.83 337⇑*e*P P 14 21 41.7 +1.6
URZ Urewera 85.84 155 P **P 14 21 42.1 +1.7**
comp=Z,9.2nm,0.8s,mb5.1,baz=97,slow=13,SNR=3.2
URZ pP pP 14 21 54.9 -0.3
comp=Z,58nm,1.1s,baz=350,slow=3.0,SNR=8.0
URZ LR LR 14 55 15.0
comp=Z,6µm,20.9s,MS6.0,baz=345,slow=32
LBL Lubilhac 85.90 334⇑*e*P P 14 21 42.7 +2.1
JCT Junction City 85.95 51⇑*i*P P 14 21 41.3 +0.2
comp=Z,511nm,1.6s,mb6.5
JCT *e* pP 14 21 53.5 -2.4
JCT LR LR
comp=Z,3µm,22.0s,MS5.7
FRNF Fournols 85.99 334⇑*e*P P 14 21 42.2 +1.3
BLO Bloomington 86.01 38⇑*i*P P 14 21 41.1 -0.1
comp=Z,81nm,0.7s,mb6.1
MWZ Matawai 86.04 155 P **P 14 21 43.1 +1.7**
MWZ pP pP 14 21 56.5 +0.4
LRYF La Roche-sur-Y 86.14 338⇑*e*P P 14 21 42.1 +0.4
MEH Mehetia 86.16 119 *e*P P 14 21 45.3 +2.9
comp=Z,36nm,1.1s,mb5.5
MEH *e*pP pP 14 21 57.8 +0.7
comp=Z,167nm,1.2s
FRF La Foret Royal 86.22 331⇑*i*P P 14 21 42.1 0.0
comp=Z,1µm,1.5s,mb6.6
PGF Pioggiola 86.23 329⇑*i*P P 14 21 42.1 -0.1
comp=Z,792nm,1.4s,mb6.5
SMRF Simiane la Rot 86.23 332⇑*i*P P 14 21 42.9 +0.7
comp=Z,912nm,1.6s,mb6.5
MIAR Mount Ida 86.28 45 *e*P P 14 21 43.0 +0.4
comp=Z,236nm,1.1s,mb6.3
MIAR LR LR
comp=Z,6µm,22.0s,MS6.0
ERPA Erie 86.28 32⇑*e*P P 14 21 42.6 +0.1
comp=Z,368nm,1.2s,mb6.5
ERPA LR LR
comp=Z,3µm,22.0s,MS5.7
VILF Villemus 86.29 332⇑*e*P P 14 21 43.3 +0.8
TAVF Tavernes 86.38 331⇑*e*P P 14 21 43.6 +0.7
RJF Les Rejaudoux 86.39 335⇑*i*P P 14 21 43.8 +0.9
comp=Z,1µm,1.4s,mb6.6
RJF *e*R
comp=Z,15µm,22.8s
LMR La Mourre 86.47 331⇑*i*P P 14 21 43.5 +0.1
comp=Z,2µm,1.4s,mb6.8
USIN University of 86.47 39⇑*e*P P 14 21 43.4 -0.1
PRAF Pradon 86.53 332⇑*e*P P 14 21 44.4 +0.8
GENY Geneseo 86.55 30 *e*P P 14 21 43.0 -0.7
CAF Calviac 86.56 335⇑*i*P P 14 21 45.1 +1.3
comp=Z,2µm,1.4s,mb6.8
PUYF Puyloubier 86.58 332⇑*e*P P 14 21 44.6 +0.7
TREF Trevaresse 86.61 332⇑*e*P P 14 21 45.1 +1.1
ALLY Alegheny Colle 86.62 32 *e*P P 14 21 44.4 +0.2
ACSO Alum Creek Sta 86.67 35⇑*e*P P 14 21 44.6 +0.1
comp=Z,181nm,0.9s,mb6.3
ACSO LR LR
comp=Z,5µm,22.0s,MS5.9
LASF Ste Croix 86.73 333⇑*i*P P 14 21 45.6 +1.0
comp=Z,872nm,1.4s,mb6.5
UALR University of 86.73 44⇑*i*P P 14 21 45.0 +0.1
NCB Newcomb 86.76 27 *e*P P 14 21 44.2 -0.6
comp=Z,131nm,1.2s,mb6.0
NCB LR LR
comp=Z,4µm,20.0s,MS5.8
BERF Bertagne 86.78 331⇑*e*P P 14 21 45.7 +0.8
GELF Grande-Etoile 86.81 332⇑*e*P P 14 21 45.5 +0.5
WCI Wyandotte Cave 86.88 38⇑*e*P P 14 21 45.7 +0.2
comp=Z,433nm,1.4s,mb6.5
WCI *e* pP 14 21 58.7 -1.6
WCI LR LR
comp=Z,970nm,21.0s,MS5.2
MIV Mineville/With 86.89 27 *e*P P 14 21 44.9 -0.6
GNAR Gosnell 86.96 42⇑*i*P P 14 21 46.6 +0.7
LFF La Frestale 86.96 335⇑*i*P P 14 21 46.8 +1.1
comp=Z,2µm,1.4s,mb6.9
HBAR Harrisburg 86.97 42 *e*P P 14 21 46.6 +0.5
MDV Middlebury 87.08 26 *e*P P 14 21 45.7 -0.7
TSZ Takapari Road 87.16 157 pP pP 14 22 02.4 +0.8
UTMT University of 87.21 41 *e*P P 14 21 47.9 +0.7
ACCN Adirondack Com 87.46 27 *e*P P 14 21 48.0 -0.3
NNZ Nelson 87.52 159 P **P 14 21 50.5 +2.0**
NNZ pP pP 14 22 05.0 +1.7
LBOS 87.63 287⇑*e*P P 14 21 50.6 +0.9
HNH Hanover 87.63 26 *e*P P 14 21 48.4 -0.6
WVL Waterville 87.67 24 *e*P P 14 21 49.0 -0.1
comp=Z,469nm,1.0s,mb6.7
BINY Binghamton 87.70 29 *e*P P 14 21 49.1 -0.3
comp=Z,1µm,2.2s,mb6.8
BINY LR LR
comp=Z,6µm,22.0s,MS6.0
NATX Nacogdoches 87.86 47 *e*P P 14 21 50.9 +0.5
comp=Z,1µm,1.6s,mb6.9
NATX LR LR
comp=Z,6µm,22.0s,MS6.0
WVT Waverly 87.88 40⇑*i*P P 14 21 50.6 +0.2
comp=Z,121nm,0.9s,mb6.1
WVT LR LR
comp=Z,4µm,20.0s,MS5.8
MTLF Montolieu 87.92 334⇑*i*P P 14 21 51.5 +1.1
comp=Z,619nm,1.2s,mb6.4
EMMW East Machias 88.18 22 *e*P P 14 21 52.0 +0.4
LRDF Laroque-de-Fa 88.18 333⇑*e*P P 14 21 53.0 +1.4
VAE Valguarnera 88.27 323 LR LR 15 05 40.0
comp=Z,8µm,18.9s,MS6.2,baz=55,slow=38
LPEF Le Peyrat 88.38 334⇑*e*P P 14 21 53.7 +1.1
OXF Oxford 88.42 42⇑*e*P P 14 21 52.8 -0.2
comp=Z,419nm,1.0s,mb6.6
OXF *e* pP 14 22 05.8 -2.0
OXF LR LR
comp=Z,5µm,21.0s,MS5.9
MCWV Mont Chateau 88.44 33⇑*e*P P 14 21 53.6 +0.6
comp=Z,728nm,1.4s,mb6.7
MCWV LR LR
comp=Z,6µm,20.0s,MS6.0
SJAF Saint Jean de 88.47 333⇑*e*P P 14 21 53.5 +0.5
EJON La Jonquera 88.50 333 P **P 14 21 53.8 +0.6**
comp=Z,34nm,0.9s,mb5.7
FILF Fillols 88.51 333⇑*e*P P 14 21 54.2 +1.0
HKT Hockley 88.60 49 *e*P P 14 21 54.1 +0.2
comp=Z,267nm,2.0s,mb6.2
HKT LR LR
comp=Z,1µm,22.0s,MS5.2
WVZ Waitaha Valley 88.60 161 pP pP 14 22 09.8 +1.3
MLS Moulis 88.63 334⇑*e*P P 14 21 54.7 +0.9
VSL Villasalto 88.70 327⇑*i*P P 14 21 53.7 -0.5
comp=Z,827nm,2.0s,mb6.7
SALF Salau 88.78 334⇑*e*P P 14 21 54.7 +0.2
EPF Esparros 88.80 335⇑*i*P P 14 21 55.0 +0.4
comp=Z,523nm,1.4s,mb6.4
MELF Melles 88.81 334⇑*e*P P 14 21 55.2 +0.5
TRBA At Turbah 88.87 287⇓*e*P P 14 21 56.4 +0.8
TRBA AMb AMB 14 21 57.9
comp=Z,196nm,0.8s,mb6.5
HRV Harvard--Oak R 88.94 26⇑*e*P P 14 21 55.8 +0.5
comp=Z,568nm,1.4s,mb6.7
HRV LR LR
comp=Z,5µm,21.0s,MS5.9
RESF Ens 89.01 335⇑*e*P P 14 21 57.0 +1.4
VIEF Viey 89.03 335⇑*e*P P 14 21 57.3 +1.6
WES Weston 89.13 26 *e*P P 14 21 56.6 +0.4
LSCT Lakeside 89.13 28 PFAKE 14 22 10.0 +14
LSCT LR LR
comp=Z,6.0nm,21.0s
EBIE Bielsa 89.18 335 P **P 14 21 57.9 +1.5**
comp=Z,55nm,0.8s,mb5.9
EALK Alkurruntz 89.20 336 P **P 14 21 56.8 +0.4**
comp=Z,45nm,0.8s,mb5.8
ETSF Etsaut 89.20 335⇑*i*P P 14 21 57.6 +1.1
comp=Z,186nm,0.9s,mb6.1
SJPF Ste Jean 89.21 336⇑*i*P P 14 21 58.8 +2.3
RPZ Rata Peaks 89.28 161 P **P 14 21 58.6 +1.7**
comp=Z,17nm,0.7s,mb5.5,baz=33,slow=8.7,SNR=6.2
RPZ LR LR 14 56 14.2
comp=Z,7µm,21.9s,MS6.0,baz=331,slow=32
RPZ Rata Peaks 89.28 161 P **P 14 21 58.6 +1.7**
RPZ LR LR 14 56 14.2
TBI Tubuai 89.30 123 *e*P P 14 22 00.9 +3.5
comp=Z,62nm,1.0s,mb5.9
TBI *e*pP pP 14 22 13.4 +1.1
comp=Z,357nm,1.2s
TBI *e*LR LR 14 49 42.0
comp=Z,14µm,33.8s,baz=312
EMIR Miracle 89.43 334 P **P 14 21 59.0 +1.4**
comp=Z,71nm,1.0s,mb6.0
PAL Palisades 89.49 28 *e*P P 14 21 57.9 0.0
comp=Z,545nm,1.5s,mb6.7
BRNJ Basking Ridge 89.55 29 *e*P P 14 21 58.3 +0.2
CPNY Central Park 89.66 28 *e*P P 14 21 58.8 +0.1
LBZ Lake Benmore 89.72 162 P **P 14 22 00.9 +2.0**
LBZ pP pP 14 22 15.2 +1.5
ELAN Lanestosa 89.74 337 P **P 14 21 59.3 +0.2**
comp=Z,123nm,0.9s,mb6.2
SDMD Soldier's Deli 89.82 31 *e*P P 14 21 59.2 -0.3
EPOB Poblet 90.08 334 P **P 14 22 01.2 +0.5**
comp=Z,66nm,0.8s,mb6.0
EARI Arriondas 90.17 339 P **P 14 22 02.1 +1.1**
comp=Z,58nm,0.9s,mb5.9
ESAC San Caprasio 90.24 335 P **P 14 22 02.7 +1.3**
comp=Z,249nm,0.9s,mb6.5
MYNC Murphy 90.47 38⇑*e*P P 14 22 02.8 +0.1
comp=Z,311nm,1.6s,mb6.4
MYNC *e* pP 14 22 15.6 -1.9
MYNC LR LR
comp=Z,6µm,22.0s,MS6.0
EPON Pontenova 90.65 340 P **P 14 22 02.5 -0.8**
comp=Z,46nm,0.7s,mb5.9
CBN Corbin 90.67 32 *e*P P 14 22 04.0 +0.5
comp=Z,143nm,1.0s,mb6.3
CBN LR LR
comp=Z,7µm,21.0s,MS6.1
ERTA Horta de San J 90.68 334 P **P 14 22 03.8 +0.3**
comp=Z,72nm,1.0s,mb6.0
EBR Ebro Roquetas 90.75 334 *e*P P 14 22 04.0 +0.2
CJM Chamela 90.75 62 *i* P P 14 22 04.5 +0.2
LRAL Lakeview Retre 90.79 41 *e*P P 14 22 03.6 -0.6
comp=Z,60nm,1.2s,mb5.8
LRAL LR LR
comp=Z,4µm,20.0s,MS5.8
TUZ Tuapeka 91.09 163 P **P 14 22 07.8 +2.5**
TUZ pP pP 14 22 22.0 +1.8
EINC Incio 91.32 340 P **P 14 22 04.2 -2.2**
comp=Z,254nm,1.5s,mb6.3
EMOS Mosqueruela 91.48 334 P **P 14 22 08.0 +0.8**
comp=Z,83nm,0.9s,mb6.1
ERUA La Rua 91.52 340 P **P 14 22 06.4 -1.0**
comp=Z,29nm,0.7s,mb5.7
ECAL Calabor 91.84 339 P **P 14 22 07.7 -1.1**
comp=Z,300nm,1.8s,mb6.3
PBRG Braganca 91.97 339 *e*P P 14 22 09.2 -0.2
comp=Z,162nm,1.7s,mb6.1
EIBI Ibiza 92.08 332 P **P 14 22 09.8 -0.3**
comp=Z,299nm,1.2s,mb6.5
EZAM Zamans 92.14 341 P **P 14 22 09.6 -0.6**
comp=Z,39nm,0.8s,mb5.8
GOGA Godfrey 92.15 39⇑*e*P P 14 22 10.6 +0.1
comp=Z,245nm,1.6s,mb6.3
GOGA LR LR
comp=Z,5µm,22.0s,MS5.9
ELOB Lobios 92.25 340 P **P 14 22 09.4 -1.3**
comp=Z,157nm,1.6s,mb6.1
GUD Guadarrama 92.34 337 P **P 14 22 11.4 +0.2**
comp=Z,82nm,1.0s,mb6.0
JSC Jenkinsville 92.41 37 *e*P P 14 22 11.8 +0.1
PVRL Vila Real 92.72 340 *e*P P 14 22 12.3 -0.6
comp=Z,260nm,1.7s,mb6.4
EBEN Beniarda 92.90 333 P **P 14 22 14.3 +0.5**
comp=Z,349nm,1.6s,mb6.5
ESDC Sonseca Array 93.18 336 P **P 14 22 15.0 0.0**
comp=Z,25nm,0.7s,mb5.8,baz=16,slow=3.9,SNR=60
ESDC pP pP 14 22 29.8 -0.2
comp=Z,7.1nm,0.6s,baz=18,slow=3.9,SNR=4.5

ESDC	**Sonseca Array**	**93.18**	**336**	P		**P**	**14 22 15.0**	**-0.1**
	comp=Z,23nm,0.7s,mb5.7							
PVIS	**Viseu**	**93.29**	**340**	*e*P		**P**	**14 22 14.9**	**-0.6**
	comp=Z,207nm,1.6s,mb6.3							
MTE	**Manteigas**	**93.50**	**339**	*e*P		**P**	**14 22 16.2**	**-0.3**
	comp=Z,232nm,1.6s,mb6.4							
MTE	**Manteigas**	**93.50**	**339**	*e*P		**P**	**14 22 16.0**	**-0.4**
	comp=Z,168nm,1.2s,mb6.3							
EVIA	**Vianos**	**93.69**	**335**	P		**P**	**14 22 18.1**	**+0.7**
	comp=Z,94nm,1.0s,mb6.2							
NHSC	**New Hope**	**93.89**	**37**	PFAKE			14 22 30.0	+12
NHSC				LR	LR			
	comp=Z,9μm,22.0s,MS6.2							
PCBR	**Castelo Branco**	**94.00**	**339**	*e*P		**P**	**14 22 17.9**	**-0.8**
	comp=Z,160nm,1.5s,mb6.2							
EMUR	**La Murta**	**94.02**	**334**	P		**P**	**14 22 18.6**	**-0.2**
	comp=Z,26nm,0.8s,mb5.7							
PTOM	**Tomar**	**94.45**	**340**	*e*P		**P**	**14 22 20.5**	**-0.3**
	comp=Z,171nm,1.4s,mb6.3							
EQES	**Quesada**	**94.63**	**335**	P		**P**	**14 22 22.7**	**+1.1**
	comp=Z,12nm,0.7s,mb5.4							
EADA	**Adamuz**	**94.75**	**336**	P		**P**	**14 22 21.3**	**-0.9**
EBAD	**Badajoz**	**94.90**	**338**	P		**P**	**14 22 21.3**	**-1.6**
	comp=Z,112nm,1.3s,mb6.1							
ENIJ	**Nijar**	**95.12**	**334**	P		**P**	**14 22 23.8**	**-0.1**
	comp=Z,51nm,0.9s,mb6.0							
PPM	**Popocatepetl**	**95.17**	**58**	*i* P		**P**	**14 22 26.0**	**+1.4**
ELUQ	**Luque**	**95.22**	**336**	P		**P**	**14 22 24.3**	**-0.1**
	comp=Z,115nm,1.2s,mb6.2							
EVO	**Evora**	**95.37**	**339**	⇑*i*P		**P**	**14 22 24.6**	**-0.5**
	comp=Z,280nm,1.5s,mb6.2							
EVO				*e*R				
	comp=Z,9μm,22.8s							
ELOJ	**Sierra Loja**	**95.57**	**336**	P		**P**	**14 22 26.1**	**+0.2**
	comp=Z,34nm,1.2s,mb5.7							
EMIN	**Mina Concepcio**	**95.73**	**338**	P		**P**	**14 22 26.1**	**-0.6**
	comp=Z,204nm,1.7s,mb6.3							
PBEJ	**Beja**	**95.81**	**339**	*e*P		**P**	**14 22 26.4**	**-0.6**
	comp=Z,128nm,1.7s,mb6.1							
EGRO	**El Granado**	**96.17**	**338**	P		**P**	**14 22 27.2**	**-1.4**
	comp=Z,149nm,1.6s,mb6.2							
EMIJ	**Mijas**	**96.30**	**336**	P		**P**	**14 22 27.7**	**-1.6**
	comp=Z,52nm,1.4s,mb5.8							
ESPR	**Espera**	**96.33**	**337**	P		**P**	**14 22 27.5**	**-1.9**
	comp=Z,201nm,1.9s,mb6.2							
PTEO	**Sao Teotonio**	**96.49**	**339**	*e*P		**P**	**14 22 29.6**	**-0.5**
	comp=Z,285nm,1.5s,mb6.5							
DWPF	**Disney**	**97.54**	**40**	PFAKE			14 22 50.0	+15
DWPF				LR	LR			
	comp=Z,1μm,22.0s,MS5.3							
BBSR	**BB Station**	**100.39**	**25**	PFAKE			14 23 00.0	+12
BBSR				LR	LR			
	comp=Z,3μm,20.0s,MS5.8							
TEIG	**Tepich**	**100.44**	**50**	PFAKE			14 23 00.0	+12
TEIG				LR	LR			
	comp=Z,948nm,20.0s,MS5.3							
PTCN	**Pitcairn Islan**	**103.13**	**112**	PFAKE			14 23 10.0	+10
PTCN				LR	LR			
	comp=Z,6μm,22.0s,MS6.1							
KMBO	**Kilima Mbogo**	**103.68**	**281**	Pdiff		Pdif	14 23 04.4	+1.4
	comp=Z,25nm,1.1s,baz=25,slow=6.8,SNR=47							
KMBO				PP	PP		14 27 19.9	-2.6
	comp=Z,15nm,1.2s,baz=29,slow=10.0,SNR=6.9							
KMBO				PKKP	PKKP		14 38 58.0	+3.8
	comp=Z,1.6nm,0.8s,baz=64,slow=23,SNR=3.6							
KMBO	**Kilima Mbogo**	**103.68**	**281**	⇑*i*P		Pdif	14 23 04.2	+1.2
	comp=Z,67nm,1.3s							
KMBO				LR	LR			
	comp=Z,9μm,19.0s,MS6.3							
MBAR	**Mbarara**	**107.96**	**286**	PFAKE			14 27 40.0	
MBAR				LR	LR			
	comp=Z,852nm,19.0s,MS5.3							
JTS	**JuntasAbangare**	**110.27**	**53**	PFAKE			14 27 50.0	+18
JTS				LR	LR			
	comp=Z,443nm,22.0s,MS5.0							
CASY	**Casey**	**111.95**	**194**	⇑*i*P		PP	14 28 19.0	-3.1
CASY	**Casey**	**111.95**	**194**	PFAKE			14 27 50.0	+16
CASY				LR	LR			
	comp=Z,2μm,21.0s,MS5.7							
SJG	**San Juan**	**112.96**	**32**	PFAKE			14 27 50.0	+13
SJG				LR	LR			
	comp=Z,3μm,22.0s,MS5.8							
PAYG	**Puerto Ayora**	**115.33**	**65**	PFAKE			14 28 00.0	+18
PAYG				LR	LR			
	comp=Z,3μm,22.0s,MS5.8							
LSZ	**Lusaka**	**119.78**	**277**	*e*PKP		PKPdf	14 27 52.0	+1.7
LSZ				*e*PP		PP	14 29 14.4	-3.9
LSZ				LR	LR			
	comp=Z,7μm,21.0s,MS6.2							
VNDA	**Vanda**	**120.53**	**176**	PKP		PKPdf	14 27 52.0	+1.6
	comp=Z,15nm,0.7s,baz=320,slow=4.3,SNR=75							
VNDA				PKKPbc			14 37 58.8	
	comp=Z,9.6nm,0.9s,baz=175,slow=3.5,SNR=18							
SBA	**Scott Base**	**121.15**	**175**	*e*PKP		PKPdf	14 27 53.6	+2.1
SBA				LR	LR			
	comp=Z,2μm,22.0s,MS5.8							
OTAV	**Otavalo**	**122.14**	**54**	*e*PKP		PKPdf	14 27 56.4	+1.5
OTAV				LR	LR			
	comp=Z,2μm,22.0s,MS5.6							
DBIC	**Dimbokro**	**123.59**	**323**	PKP		PKPdf	14 27 58.3	+0.5
	comp=Z,34nm,0.8s,baz=18,slow=2.3,SNR=48							
DBIC				PKKPab			14 37 49.2	
	comp=Z,1.8nm,0.6s,baz=150,slow=5.1,SNR=4.6							
MAW	**Mawson**	**125.91**	**208**	⇑*i*P		PKPdf	14 28 02.7	+2.0
	comp=Z,33nm,0.8s							
MAW	**Mawson**	**125.91**	**208**	PKP		PKPdf	14 28 02.8	+2.1
	comp=Z,33nm,0.7s,baz=18,slow=1.6,SNR=36							
MAW				pPKP			14 28 17.6	
	comp=Z,25nm,0.8s,baz=177,slow=1.6,SNR=8.3							
BOSA	**Boshof**	**130.00**	**266**	PKPdf		PKPdf	14 28 05.5	-4.2
BOSA				PKPdf		PKPdf	14 28 11.3	+1.6
BOSA	**Boshof**	**130.00**	**266**	*e*PKP		PKPdf	14 28 11.0	+1.3
QSPA	**South Pole Qui**	**132.56**	**180**	*e*P		PKPdf	14 28 14.9	+1.7
NNA	**Nana**	**132.59**	**62**	*e*PKP		PKPdf	14 28 16.0	+1.0
NNA				LR	LR			
	comp=Z,404nm,22.0s,MS5.1							
SYO	**Syowa Base**	**134.58**	**209**	⇓pPdiff			14 25 31.3	
SYO	**Syowa Base**	**134.58**	**209**	⇓PKPdf		PKPdf	14 28 17.8	+0.6
SUR	**Sutherland**	**135.24**	**264**	PFAKE			14 28 30.0	+11
SUR				LR	LR			
	comp=Z,771nm,20.0s,MS5.4							
ARE	**Arequipa**	**139.37**	**61**	*e*P		PKPdf	14 28 30.0	+2.7
RCBR	**Riachuelo**	**143.15**	**1**	*e*PKPdf		PKPdf	14 28 31.5	-2.5
RCBR				LR	LR			
	comp=Z,3μm,22.0s,MS6.0							
LVC	**Limon Verde**	**145.45**	**65**	PKPbc		PKPbc	14 28 41.0	+2.5
	comp=Z,198nm,0.9s,baz=303,slow=3.0,SNR=189							
LVC				pPKPbc			14 28 54.1	
	comp=Z,828nm,1.4s,baz=288,slow=0.8,SNR=15							
LVC	**Limon Verde**	**145.45**	**65**	*e*PKPdf		PKPdf	14 28 40.5	+2.7
LVC				*e*			14 28 54.6	
LVC				LR	LR			
	comp=Z,4μm,22.0s,MS6.2							
SNAA	**Sanae**	**147.07**	**198**	⇓*i*		PKPdf	14 28 45.6	+6.5
SNAA	**Sanae**	**147.07**	**198**	⇑*i*PKPdf		PKPdf	14 28 40.8	+1.7
SNAA				⇓*i*P			14 28 45.6	
TLL	**Tololo Astrono**	**148.86**	**78**	*e*P		PKPdf	14 28 45.2	+1.9
VNA1	**Neumayer--Stat**	**149.03**	**197**	⇓*i*P		PKPdf	14 28 46.7	+4.5
BDFB	**Brasilia**	**150.73**	**26**	PKP		PKPdf	14 28 48.5	+2.0
	comp=Z,27nm,0.9s,baz=338,slow=2.9,SNR=11							
BDFB				PKPbc		PKPdf	14 28 54.0	+7.6
	comp=Z,181nm,0.7s,baz=320,slow=2.0,SNR=88							
BAO	**Brasilia Array**	**150.73**	**26**	*e*P		PKPdf	14 28 48.8	+2.3
BAO				*i*			14 28 53.8	
BAO				*i*			14 28 55.6	
BAO				*i*			14 29 02.3	
BAO				*e*			14 32 27.5	
FCH	**Farellones**	**150.89**	**83**	*e*P		PKPdf	14 28 48.2	+1.9
LMEL	**Las Melosas**	**151.20**	**84**	*e*P		PKPdf	14 28 48.1	+1.4
MDZ	**Mendoza**	**151.72**	**81**	*e*P		PKPdf	14 28 55.9	+8.4
MDZ				*e*			14 29 09.9	
PMSA	**Palmer Station**	**152.60**	**153**	*e*PKPbc		PKPdf	14 28 57.5	+10
PMSA				LR	LR			
	comp=Z,3μm,20.0s,MS6.0							
COYC	**Coyhaique**	**153.48**	**109**	*e*P		PKPdf	14 28 50.5	+0.9
PLCA	**Paso Flores**	**153.59**	**98**	PKP		PKPdf	14 28 51.9	+2.0
	comp=Z,37nm,1.2s,baz=318,slow=3.1,SNR=16							
PLCA				PKPbc		PKPdf	14 28 60.0	+10
	comp=Z,51nm,0.7s,baz=290,slow=3.6,SNR=56							
PLCA				PKPab		PKPab	14 29 13.4	+0.7
	comp=Z,97nm,1.0s,baz=283,slow=3.3,SNR=15							
PLCA				pPKPab			14 29 27.8	
	comp=Z,111nm,1.0s,baz=272,slow=5.9,SNR=9.0							
PLCA	**Paso Flores**	**153.59**	**98**	*e*PKPdf		PKPdf	14 28 51.1	+1.2
CPUP	**Villa Florida**	**155.49**	**55**	PKPdf		PKPdf	14 28 54.3	+1.4
CPUP				pPKPdf			14 29 09.3	
CPUP	**Villa Florida**	**155.49**	**55**	PKP		PKPdf	14 28 54.2	+1.3
	comp=Z,0.0nm,0.3s,baz=222,slow=16,SNR=1.4							
CPUP				PKPbc		PKPdf	14 29 04.1	+11
	comp=Z,0.0nm,0.4s,baz=249,slow=19,SNR=2.2							
CPUP				pPKP			14 29 09.4	
	comp=Z,0.0nm,0.3s,baz=60,slow=19,SNR=1.3							
CPUP				pPKPbc			14 29 18.2	
	comp=Z,0.0nm,0.4s,baz=183,slow=14,SNR=1.5							
CPUP				PKPab		PKPab	14 29 20.2	-1.1
	comp=Z,0.0nm,0.3s,baz=236,slow=12,SNR=1.7							
CPUP				pPKPab			14 29 33.8	
	comp=Z,0.0nm,0.3s,baz=265,slow=14,SNR=1.7							
CPUP	**Villa Florida**	**155.49**	**55**	PKP		PKPdf	14 28 54.2	+1.3
CPUP				PKPbc		PKPdf	14 29 04.1	+11
CPUP				pPKP			14 29 09.4	
CPUP				pPKPbc			14 29 18.2	
CPUP				PKPab		PKPab	14 29 20.2	-1.1
CPUP				pPKPab			14 29 33.8	
TRQA	**Tornquist**	**159.02**	**86**	PFAKE			14 29 10.0	+13
TRQA				LR	LR			
	comp=Z,3μm,20.0s,MS6.1							
LPA	**La Plata**	**160.57**	**74**	*ce*PKP		PKPdf	14 29 01.0	+2.2
LPA				*ep*PKP			14 29 13.0	
LPA				*ep*PKP			14 29 54.0	
LPA				*es*PKP			14 30 02.0	
LPA				*e*PP		PP	14 33 24.0	-2.3
	comp=Z,6μm,24.0s							
TRIS	**Tristan da Cun**	**161.64**	**281**	PFAKE			14 29 10.0	+10
TRIS				LR	LR			
	comp=Z,4μm,21.0s							

*IDC **18** 14:33:53.9±2.2, 41.52N×142.07E, h45km±21km, mb3.8/12, mb1 3.9/14, mb1mx3.7/26, mbtmp4.1/14, ML3.6/2, Error ellipse: s-maj=20.6km s-min=14.1km az=94.0*
*JMA **18** 14:33:54.7±0.1, 41.56N×142.08E, h65km±3km, M3.6 Broadband fault plane solution: P waves. NP1:φs156°, δ12°, λ45°. NP2:φs22°, δ81°, λ99°. Principal axes: T Plg53°, Azm302°; N Plg9°, Azm200°; P Plg36°, Azm104°; JMA Felt I J1.*
*MOS **18** 14:33:56.0±1.5, 41.61N×142.21E, h86km, mb4.1/7 Error ellipse: s-maj=28.0km s-min=11.3km az=78.1*
*NEIC **18** 14:33:59.2±1.3, 41.56N×142.10E, h98km±12km, mb4.0/1, Error ellipse: s-maj=18.4km s-min=9.5km az=101.0*

ISC 18 14:33:54.3±0.4, 41.55N±0.03×142.08E±0.04, h67km±4km, n47, σ0s75/62, mb3.9/13, 2C-9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.79**	**258**	⇓P		**14 34 10.5**	**+0.3**
JOT				*e*S		**14 34 22.4**	**+0.4**
JKB	**Kayabe**	**0.85**	**294**	⇓P		**14 34 10.8**	**-0.2**
JKB				*e*S		**14 34 22.8**	**-0.5**
JNBK	**Urakawa-nobuka**	**0.89**	**34**	⇑P		**14 34 10.9**	**-0.5**
JNBK				*e*S		**14 34 23.7**	**-0.4**
JEM	**Erimo**	**0.93**	**60**	P		**14 34 11.6**	**-0.4**
JEM				*e*S		**14 34 24.7**	**-0.4**
JTM	**Tenmabayashi**	**1.08**	**225**	⇓P		**14 34 14.6**	**+0.7**
JTM				*e*S		**14 34 28.8**	**+0.4**
JNB	**Noboribetsu**	**1.20**	**320**	⇓P		**14 34 15.2**	**-0.3**
JNB				*e*S		**14 34 30.2**	**-1.2**
JBT2	**Biratori 2**	**1.25**	**10**	⇓P		**14 34 16.4**	**+0.2**
JBT2				*e*S		**14 34 33.5**	**+1.1**
JSR	**Shiriuchi**	**1.25**	**270**	⇓P		**14 34 16.4**	**+0.2**
JANG	**Nango**	**1.25**	**200**	⇑P		**14 34 16.6**	**+0.4**
JANG				*e*S		**14 34 32.2**	**-0.3**
JEW	**Eniwo**	**1.37**	**340**	⇓P		**14 34 18.2**	**+0.2**
JEW				*e*S		**14 34 35.5**	**0.0**
JYM2	**Yakumo 2**	**1.40**	**295**	⇓P		**14 34 18.7**	**+0.4**
JCH	**Churui**	**1.43**	**41**	⇓P		**14 34 19.3**	**+0.5**
JCH				*e*S		**14 34 37.5**	**+0.7**
JFR	**Furan**	**1.66**	**13**	P		**14 34 21.9**	**+0.1**
JOSM	**Okushiri--Mats**	**2.02**	**286**	P		**14 34 26.4**	**-0.3**
JOSM				*e*S		**14 34 50.5**	**-0.2**
JAR	**Ashorobuto**	**2.15**	**35**	P		**14 34 28.7**	**+0.1**
JAR				*e*S		**14 34 53.5**	**-0.5**
JSK	**Shakotan**	**2.16**	**327**	P		**14 34 28.9**	**+0.2**
JOM	**Ohasama**	**2.16**	**196**	P		**14 34 29.5**	**+0.8**
ASAJ	**Asahikawa**	**2.59**	**8**	P		**14 34 35.4**	**+0.5**
ASAJ				S		**14 35 04.4**	**-0.9**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ	**Asahikawa**	**2.59**	**8**	P		**14 34 35.4**	**+0.4**
	comp=Z,7.4nm,0.3s,baz=108,slow=31,SNR=44						
ASAJ				S		**14 35 04.4**	**-0.9**
	comp=Z,4.8nm,0.3s,baz=0.4,slow=32,SNR=8.4						
YUK	**Yuzh-Kuril'sk**	**3.73**	**47**	P		**14 34 48.5**	**-2.3**
YUK				*i* S		**14 35 29.3**	**-4.5**
YUK				pmax	pmax		
	comp=Z,220nm,0.4s						
YUK				smax			
	comp=N,350nm,0.5s						
YUK				smax			
	comp=E,410nm,0.5s						
YSS	**Yuzh-Sakhalins**	**5.43**	**5**	P		**14 35 16.3**	**+1.9**
MAJO	**Matsushiro**	**5.84**	**212**	P		**14 35 25.0**	**+4.9**
JOW	**Kunigami**	**18.56**	**222**	P		**14 38 07.0**	**-1.1**
	comp=E,0.4nm,0.3s,baz=126,slow=14,SNR=2.4						
FX1	**Attu Island--F**	**23.77**	**51**	P		**14 39 02.8**	**+1.8**
FX1				pmax	pmax		
	comp=Z,16nm,0.8s						
FX1	**Attu Island--F**	**23.77**	**51**	P		**14 39 02.8**	**+1.8**
	comp=Z,16nm,0.8s,mb4.4,baz=258,slow=14,SNR=2.7						
SONM	**Songino Array**	**25.97**	**296**	P		**14 39 22.8**	**+0.7**
	comp=Z,1.1nm,0.6s,mb3.5,baz=86,slow=7.9,SNR=12						
ZAL	**Zalesovo**	**39.40**	**308**	P		**14 41 18.7**	**0.0**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAL	**Zalesovo**	**39.40**	**308**	P		**14 41 18.7**	**0.0**
	comp=Z,1.3nm,0.8s,mb3.8,baz=11,slow=5.7,SNR=6.0						
ILAR	**Eielson Array**	**45.45**	**35**	P		**14 42 08.4**	**+0.6**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**45.45**	**35**	P		**14 42 08.4**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.6,baz=265,slow=5.1,SNR=8.4						
CHKZ	**Chkalovo**	**47.70**	**310**	*e*P		**14 42 25.3**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
CHKZ	**Chkalovo**	**47.70**	**310**	*e*P		**14 42 25.3**	**-0.3**
	comp=Z,1.1nm,0.4s,mb4.0						
BVAR	**Borovoye Array**	**48.01**	**310**	P		**14 42 28.4**	**+0.3**
	comp=Z,1.5nm,0.4s,mb4.2,baz=78,slow=9.5,SNR=14						
INK	**Inuvik**	**50.16**	**29**	P		**14 42 44.3**	**-0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**50.16**	**29**	P		**14 42 44.3**	**-0.2**
	comp=Z,0.8nm,0.5s,mb4.0,baz=308,slow=5.0						
PMG	**Port Moresby**	**50.92**	**174**	P		**14 42 50.5**	**-0.4**
PMG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PMG	**Port Moresby**	**50.92**	**174**	P		**14 42 50.5**	**-0.5**
	comp=Z,7.0nm,0.8s,mb4.8,baz=348,slow=19,SNR=2.5						
ARCES	**ARCESS Array B**	**59.97**	**339**	P		**14 43 56.9**	**+1.5**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES	**ARCESS Array B**	**59.97**	**339**	P		**14 43 56.9**	**+1.5**
	comp=Z,3.8nm,0.9s,mb4.4,baz=56,slow=3.3,SNR=3.3						
ARCES	**ARCESS Array B**	**59.97**	**339**	P		**14 43 56.9**	**+1.5**
WRA	**Warramunga Arr**	**61.60**	**188**	P		**14 44 05.4**	**-1.7**
	comp=Z,0.3nm,0.4s,mb3.7,baz=6.4,slow=6.9,SNR=14						
FINES	**FINESS Array B**	**65.08**	**332**	P		**14 44 28.7**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**65.08**	**332**	P		**14 44 28.7**	**-0.7**
	comp=Z,1.6nm,0.7s,mb4.0,baz=63,slow=8.5,SNR=8.0						
FINES	**FINESS Array B**	**65.08**	**332**	P		**14 44 28.7**	**-0.7**
ASAR	**Alice Springs**	**65.32**	**188**	P		**14 44 31.0**	**-0.6**
	comp=Z,0.3nm,0.7s,mb3.3,baz=11,slow=7.8,SNR=7.2						
NOA	**NORSAR Array B**	**70.23**	**337**	P		**14 45 01.1**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**70.23**	**337**	P		**14 45 01.1**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.6,baz=42,slow=5.8,SNR=2.7						

*IDC **18** 14:37:16.4±3.2, 25.64N×141.41E, h51km±33km, mb3.5/7, mb1 3.7/7, mb1mx3.5/20, mbtmp3.8/7, Error ellipse: s-maj=37.5km s-min=16.4km az=92.0*

ISC 18 14:37:15.2±2.6, 25.6N±0.1×141.5E±0.3, h59km±27km, n8, σ0s81/9, mb3.8/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.60**	**24**	P		**14 37 40.6**	**-1.2**
	73nm,0.3s,baz=238,slow=11,SNR=19						
CBIJ				S		**14 38 02.4**	**+1.0**
	96nm,0.3s,baz=225,slow=22,SNR=17						
SONM	**Songino Array**	**35.33**	**318**	P		**14 44 07.2**	**+0.6**
	0.2nm,0.6s,mb3.3,baz=124,slow=9.1,SNR=4.2						
WRA	**Warramunga Arr**	**45.83**	**189**	P		**14 45 32.6**	**-0.8**
	1.8nm,0.6s,mb4.2,baz=8.7,slow=8.6,SNR=16						
ASAR	**Alice Springs**	**49.55**	**189**	P		**14 46 02.9**	**+0.6**
	0.4nm,0.8s,mb3.5,baz=13,slow=11,SNR=3.2						
STKA	**Stephens Creek**	**57.19**	**180**	P		**14 46 59.6**	**+0.9**
	2.4nm,1.2s,mb4.1,baz=5.3,slow=18,SNR=2.9						
BVAR	**Borovoye Array**	**58.67**	**318**	P		**14 47 09.0**	**+0.3**
	0.4nm,0.6s,mb3.7,baz=117,slow=9.7,SNR=3.1						
ILAR	**Eielson Array**	**59.31**	**28**	P		**14 47 12.6**	**-0.4**
	0.3nm,0.8s,mb3.4,baz=252,slow=5.7,SNR=4.0						
FINES	**FINESS Array B**	**78.96**	**334**	P		**14 49 12.6**	**-1.1**
	9.3nm,1.2s,mb4.6,baz=90,slow=4.2,SNR=3.6						

MAN 18 14:53:30.1, 12.28N×123.78E, h9km, mb3.9, ML2.7, MS2.3, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.17**	**297**	⇑*i*P	Pg	14 53 34.5	+0.8
MMPH				*i* S	Sg	14 53 37.5	+1.3
RCP	**Roxas**	**1.24**	**235**	⇑*e*P	Pb	14 53 53.2	0.0
RCP				*e*S	Sb	14 54 10.3	+1.2
PVCP	**Virac**	**1.35**	**16**	*e*P	Pb	14 53 53.8	-1.4
OCLP	**Ormoc**	**1.47**	**146**	*e*P	Pn	14 53 57.0	+0.1
AUQP	**San Andres**	**1.49**	**314**	*e*P	Pn	14 53 57.9	+0.7
PLP	**Palo**	**1.62**	**133**	*e*P	Pn	14 53 57.8	-1.3
PLP				*e*S	Sn	14 54 18.5	-1.7
OTRP	**Odiongan**	**1.72**	**273**	*e*P	Pn	14 53 58.4	-2.0
BESP	**Borongan**	**1.76**	**112**	*e*P	Pn	14 54 01.0	-0.1
GUIM	**Jordan**	**2.02**	**215**	*e*P	Pn	14 54 04.0	-0.7

IDC 18 14:56:31.2±10.0, 5.19N×95.53E, h208km±94km, mb3.1/5, mb1 3.2/6, mb1mx3.1/18, mbtmp3.6/6, Error ellipse: s-maj=91.3km s-min=14.7km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.60**	**14**	P	P	14 59 36.5	-0.6
	0.2nm,0.3s,baz=208,slow=11,SNR=10						
SONM	**Songino Array**	**43.50**	**11**	P	P	15 04 13.8	-1.8
	0.2nm,0.4s,baz=194,slow=5.0,SNR=2.8						
WRA	**Warramunga Arr**	**45.60**	**124**	P	P	15 04 30.9	-1.8
	0.6nm,0.5s,baz=300,slow=9.6,SNR=8.9						
ASAR	**Alice Springs**	**47.15**	**129**	P	P	15 04 43.0	-1.7
	0.4nm,0.8s,baz=299,slow=7.8,SNR=8.1						
ZAL	**Zalesovo**	**49.38**	**352**	P	P	15 04 59.6	-1.8
	0.7nm,0.3s,baz=290,slow=5.4,SNR=3.5						
BVAR	**Borovoye Array**	**51.96**	**341**	P	P	15 05 18.3	-2.4
	4.0nm,1.1s,baz=135,slow=8.4,SNR=11						
ARCES	**ARCESS Array B**	**78.24**	**340**	P	P	15 08 08.1	-0.8
	2.4nm,1.1s,baz=79,slow=6.2,SNR=4.3						

IDC 18 15:07:29.7±6.9, 4.72S×148.74E, mb3.3/3, mb1 3.6/4, mb1mx3.4/13, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=98.2km s-min=85.5km az=21.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.91**	**199**	Pn	Pn	15 08 42.8	-3.7
	4.7nm,0.3s,baz=49,slow=3.7,SNR=12						
PMG				Sn	Sn	15 09 26.4	-18
	3.1nm,0.3s,baz=310,slow=18,SNR=3.2						
WRA	**Warramunga Arr**	**20.62**	**222**	P	P	15 12 09.6	-3.9
	0.2nm,0.4s,baz=47,slow=11,SNR=13						
ASAR	**Alice Springs**	**23.65**	**216**	P	P	15 12 42.9	-0.8
	0.7nm,0.5s,baz=53,slow=8.8,SNR=31						
STKA	**Stephens Creek**	**27.83**	**193**	P	P	15 13 22.6	-0.3
	0.7nm,0.5s,baz=14,slow=10,SNR=5.3						

MAN 18 15:16:44.1, 15.80N×119.20E, h10km, mb4.1, ML3.0, MS2.7, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.69**	**92**	*e*P	Pb	15 16 57.4	-0.2
BOLP	**Bolinao**	**0.90**	**50**	*e*P	Pb	15 17 01.1	-0.2
BCPH	**Baguio City Da**	**1.45**

SARP	**Sargodha**	**5.37**	**132**	P	**Pn**	**15 31 40.0**	**-1.3**
DLH	**Dalhousie**	**7.31**	**112**	*e*P	**Pn**	**15 32 07.0**	**-1.6**
DLH				*e*	**Sn**	**15 33 42.0**	**+10**
AML	**Almayashu**	**7.92**	**33**	P	**Pn**	**15 32 17.1**	**-0.1**
	SNR=146						
BHK	**Bhakra**	**8.20**	**118**	*e*	**P**	**15 32 29.8**	**+8.8**
BHK				*e*	**Sn**	**15 34 00.6**	**+6.5**
VAN	**Vannovskaya**	**8.24**	**290**	*e*P	**P**	**15 32 18.0**	**-3.6**
UCH	**Uchtor**	**8.37**	**36**	P	**P**	**15 32 23.5**	**+0.1**
	SNR=193						
EKS2	**Erkin-Say**	**8.39**	**31**	P	**P**	**15 32 23.5**	**-0.2**
	SNR=39						
KZA	**Kyzart**	**8.63**	**39**	P	**P**	**15 32 26.7**	**-0.2**
	SNR=20						
AAK	**Ala-Archa**	**8.68**	**34**	P	**P**	**15 32 27.1**	**-0.6**
	SNR=42						
AAK	**Ala-Archa**	**8.68**	**34**	*i* P	**P**	**15 32 26.4**	**-1.3**
AAK				pmax	pmax		
	comp=Z,191nm,0.6s						
AAK				MLR	MLR		
	comp=Z,8μm,16.0s						
AAK	**Ala-Archa**	**8.68**	**34**	*e*P	**P**	**15 32 25.6**	**-2.1**
FRU	**Bishkek**	**8.89**	**34**⇑	*i*P	**P**	**15 32 29.0**	**-1.6**
FRU				*e*S	**Sn**	**15 34 07.5**	**-3.8**
FRU				pmax	pmax		
	comp=Z,1μm,2.2s						
FRU				smax			
	comp=E,2μm,1.5s						
SMLA	**Simla**	**8.90**	**117**⇑	*i*	**P**	**15 32 42.7**	**+12**
SMLA				*i*		15 35 13.4	
KBK	**Karagaybulak**	**8.91**	**35**	P	**P**	**15 32 31.1**	**+0.3**
	SNR=49						
JASL	**Jaisalmer**	**9.00**	**163**	*e*P	**P**	**15 32 27.8**	**-4.2**
CHMS	**Chumysh**	**9.09**	**33**	P	**P**	**15 32 33.9**	**+0.7**
	SNR=27						
USP	**Ospenovka**	**9.19**	**31**	P	**P**	**15 32 34.3**	**-0.4**
	SNR=49						
ULHL	**Ulahol**	**9.27**	**42**	P	**P**	**15 32 34.9**	**-0.9**
	SNR=55						
TKM2	**Tokmak 2**	**9.42**	**37**	P	**P**	**15 32 37.7**	**-0.2**
	SNR=48						
KLP	**Kalpa**	**9.50**	**112**	*e*P	**P**	**15 32 37.6**	**-1.4**
RTK	**Rohtak**	**9.69**	**130**	*e*P	**P**	**15 32 40.6**	**-1.1**
KHET	**Khetri**	**10.03**	**136**	*e*P	**P**	**15 32 42.0**	**-4.4**
AAA	**Alma-Ata**	**10.36**	**39**	*i* P	**P**	**15 32 48.0**	**-2.7**
AAA				pmax	pmax		
	comp=Z,2μm,4.0s						
AAA				MLR	MLR		
	comp=Z,8μm,14.0s						
NDI	**New Delhi**	**10.44**	**129**	*e*P	**P**	**15 32 47.0**	**-4.9**
NDI				*e*P		15 32 47.0	
NDI				*e*	**S**	**15 34 50.0**	**+0.7**
AYAN	**Aya Nagar**	**10.52**	**130**	*e*P	**P**	**15 32 49.8**	**-3.3**
SONA	**Sohna**	**10.66**	**131**	*e*P	**P**	**15 32 51.6**	**-3.4**
SONA				*e*S	**S**	**15 34 39.6**	**-15**
AJM	**Ajmer**	**10.74**	**146**⇑	*i*P	**P**	**15 32 55.0**	**-1.0**
JOSI	**Joshimath**	**10.95**	**114**	*e*P	**P**	**15 32 53.7**	**-5.2**
JOSI				*e*	**S**	**15 35 03.8**	**+1.9**
AGRA	**Agra**	**11.92**	**132**	*e*P	**P**	**15 33 09.9**	**-2.2**
JHNI	**Jhansi**	**13.59**	**135**	*e*P	**P**	**15 33 31.0**	**-3.4**
JHNI				*e*	**S**	**15 36 15.0**	**+9.3**
BHPL	**Bhopal**	**14.80**	**144**	*e*P	**P**	**15 33 46.1**	**-4.2**
BHPL				*e*		15 33 52.4	
	comp=Z,79nm,1.1s						
BHPL				*e*	**S**	**15 36 21.1**	**-13**
KOLN	**Koldanda**	**15.42**	**116**	*e*P	**P**	**15 33 53.4**	**-4.9**
	comp=Z,165nm,0.9s						
MK31	**Makanchi Array**	**15.53**	**39**⇑	P	**P**	**15 33 56.8**	**-2.8**
	comp=Z,142nm,0.8s,baz=223,slow=9.5,SNR=798						
MKAR	**Makanchi Array**	**15.53**	**39**	*i* P	**P**	**15 33 56.3**	**-3.2**
MKAR				pmax	pmax		
	comp=Z,82nm,0.7s						
GKN	**Gorkha**	**16.06**	**113**	*e*P	**P**	**15 34 00.3**	**-6.3**
DMN	**Daman**	**16.62**	**114**	*e*P	**P**	**15 34 08.0**	**-5.7**
	comp=Z,180nm,0.7s						
KKN	**Kakani**	**16.66**	**113**	*e*P	**P**	**15 34 07.8**	**-6.3**
	comp=Z,167nm,0.6s						
PKI	**Pulchoki**	**16.87**	**113**	*e*P	**P**	**15 34 11.5**	**-5.3**
	comp=Z,162nm,0.7s						
KURK	**Kurchatov**	**16.98**	**24**	*e*P	**P**	**15 34 14.1**	**-3.9**
KURK				pmax	pmax		
	comp=Z,182nm,1.2s						
KURK	**Kurchatov**	**16.98**	**24**	*e*P	**P**	**15 34 14.1**	**-3.9**
	comp=Z,182nm,1.2s						
WMQ	**Urumqi**	**17.25**	**56**	*e*P	**P**	**15 34 21.5**	**+0.1**
WMQ				AP		15 34 24.5	
WMQ				XP		15 34 28.0	
WMQ				PP	PP	15 34 36.0	+0.1
WMQ				S	**S**	**15 37 31.4**	**+0.3**
WMQ				XS		15 37 37.0	
WMQ				AMB	AMB		
	comp=Z,153nm,1.0s						
WMQ				AMB	AMB		
	comp=Z,2μm,4.0s						
WMQ				LR	LR		
	comp=N,11μm,15.0s						
WMQ				LR	LR		
	comp=E,5μm,12.3s						
WMQ				LR	LR		
	comp=Z,8μm,10.2s						
NGP	**Nagpur**	**17.36**	**143**	*e*P	**P**	**15 34 23.7**	**+0.7**
NGP				*e*		15 34 27.6	
NGP				*e*	**S**	**15 37 27.2**	**-6.7**
JIRN	**Jiri**	**17.41**	**112**	*e*P	**P**	**15 34 19.3**	**-4.3**
	comp=Z,162nm,0.6s						
BVA0	**Borovoye Array**	**17.52**	**5**	⇓P	**P**	**15 34 22.5**	**-2.2**
	comp=Z,27nm,1.6s						
BVA0				⇓S	**S**	**15 37 27.9**	**-9.4**
	comp=Z,34nm,1.5s						
BVA0	**Borovoye Array**	**17.52**	**5**	P	**P**	**15 34 23.4**	**-1.4**
BVA0				S	**S**	**15 37 27.8**	**-9.5**
BVA0				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BVAR	**Borovoye Array**	**17.52**	**5**	P	**P**	**15 34 21.4**	**-3.4**
	comp=Z,3.5nm,0.3s,baz=180,slow=13,SNR=40						
BVAR				S	**S**	**15 37 29.6**	**-7.7**
	comp=Z,1.7nm,0.3s,baz=205,slow=27,SNR=3.4						
BRVK	**Borovoye**	**17.55**	**5**	*e*P	**P**	**15 34 22.6**	**-2.5**
BRVK				*e*S	**S**	**15 37 30.3**	**-7.6**
BRVK				pmax	pmax		
	comp=Z,130nm,0.7s						
BRVK	**Borovoye**	**17.55**	**5**	*e*P	**P**	**15 34 22.6**	**-2.5**
	comp=Z,130nm,0.7s						
BRVK				*e*S	**S**	**15 37 30.2**	**-7.6**
POO	**Poona**	**17.77**	**161**	*e*P	**P**	**15 34 27.0**	**-1.1**
POO				*i*	S	15 38 12.0	+29
CHKZ	**Chkalovo**	**18.18**	**5**	*e*P	**P**	**15 34 29.7**	**-3.4**
CHKZ				pmax	pmax		
	comp=Z,217nm,1.2s						
CHKZ	**Chkalovo**	**18.18**	**5**	*e*P	**P**	**15 34 29.7**	**-3.4**
	comp=Z,217nm,1.2s						
BLSP	**Bilaspur**	**18.25**	**133**	*e*P	**P**	**15 34 32.2**	**-1.9**
BLSP				*e*		15 34 37.6	
	comp=Z,87nm,0.9s						
BLSP				*e*S	**S**	**15 37 54.2**	**+0.2**
LATR	**Latur**	**18.73**	**154**	*e*P	**P**	**15 34 40.0**	**+0.1**
GNI	**Garni**	**18.86**	**291**	*e*P	**P**	**15 34 41.8**	**+0.4**
GNI				pmax	pmax		
	comp=Z,507nm,1.3s						
GNI	**Garni**	**18.86**	**291**	P	**P**	**15 34 39.7**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=135,slow=1.9,SNR=34						
GNI				LR	LR	15 44 00.6	
	comp=Z,2μm,18.9s,baz=102,slow=44						
GNI	**Garni**	**18.86**	**291**	*e*P	**P**	**15 34 41.8**	**+0.4**
	comp=Z,506nm,1.3s						
KAD	**Karad**	**19.03**	**161**	*e*	**P**	**15 34 48.3**	**+4.7**
KAD				*e*		15 34 54.2	
	comp=Z,35nm,1.8s						
KAD				*e*		15 38 44.3	
MTA	**Mtatsminda**	**19.06**	**296**	P	**P**	**15 34 39.4**	**-4.3**
MTA				S	**S**	**15 38 22.0**	**+10**
TI2	**Plekhanov**	**19.10**	**296**	*i* P	**P**	**15 34 43.0**	**-1.2**
DUS	**Dusheti**	**19.21**	**297**	P	**P**	**15 34 44.0**	**-1.4**
ZEI	**Tsey**	**19.94**	**298**	*e*P	**P**	**15 34 54.2**	**+0.5**
ZEI				pmax	pmax		
	comp=Z,32nm,1.3s						
AKH	**Akhalkalaki**	**19.98**	**294**	P	**P**	**15 34 54.6**	**+0.5**
AKH				S	**S**	**15 38 44.7**	**+12**
ONI	**Oni**	**20.22**	**298**	P	**P**	**15 34 54.0**	**-2.6**
ONI				S	S	15 38 59.3	+22
LSA	**Lhasa**	**20.38**	**100**	P	**P**	**15 34 58.3**	**-0.1**
LSA				AP		15 35 05.8	
LSA				XP		15 35 09.9	
LSA				S	**S**	**15 38 44.8**	**+4.2**
LSA				AMB	AMB		
	comp=Z,40nm,1.7s						
LSA				LR	LR		
	comp=N,2μm,16.0s,MS4.7						
LSA				LR	LR		
	comp=E,2μm,18.4s,MS4.7						
LSA				LR	LR		
	comp=Z,2μm,13.0s						
LSA	**Lhasa**	**20.38**	**100**⇓	*e*P	**P**	**15 34 58.1**	**-0.3**
LSA				pmax	pmax		
	comp=Z,62nm,0.7s						
LSA				MLR	MLR		
	comp=Z,1μm,22.0s,MS4.2						
LSA	**Lhasa**	**20.38**	**100**⇓	*e*P	**P**	**15 34 58.1**	**-0.3**
	comp=Z,62nm,0.7s						
LSA				LR	LR		
	comp=Z,1μm,22.0s,MS4.2						
HYB	**Hyderabad**	**20.41**	**150**	*e*P	**P**	**15 34 56.0**	**-2.7**
HYB				*e*S	**S**	**15 38 48.0**	**+6.8**
HYB				pmax	pmax		
	comp=Z,114nm,1.2s						
HYB	**Hyderabad**	**20.41**	**150**	*e*P	**P**	**15 34 56.0**	**-2.7**
	comp=Z,114nm,1.2s						
HYB				*e*S	**S**	**15 38 48.0**	**+6.8**
HYB	**Hyderabad**	**20.41**	**150**	*i* P	**P**	**15 34 56.0**	**-2.7**
	comp=Z,114nm,1.2s						
HYB				*e*S	**S**	**15 38 42.0**	**+0.8**
KIV	**Kislovodsk**	**21.08**	**301**	P	**P**	**15 35 04.4**	**-1.1**
	comp=Z,313nm,0.6s,mb5.8,SNR=12						
KIV	**Kislovodsk**	**21.08**	**301**	*e*P	**P**	**15 35 04.7**	**-0.8**
KIV				*e*		15 35 23.5	
KIV				*e*S	**S**	**15 39 01.0**	**+6.7**
KIV				*e*SS	SS	15 39 17.7	-10
KIV				pmax	pmax		
	comp=Z,41nm,0.7s,mb4.9						
KIV				MLR	MLR		
	comp=N,1μm,18.0s,MS4.5						
KIV				MLR	MLR		
	comp=E,1μm,18.0s,MS4.5						
KIV				MLR	MLR		
	comp=Z,2μm,18.0s,MS4.5						
KIV	**Kislovodsk**	**21.08**	**301**	*e*P	**P**	**15 35 04.2**	**-1.3**
	comp=Z,49nm,0.7s,mb4.9						
KIV				LR	LR		
	comp=Z,561nm,20.0s,MS4.0						
GOF	**Gofitskoye**	**21.15**	**304**⇑	*i*P	**P**	**15 35 05.5**	**-0.7**
GOF				pmax	pmax		
	comp=Z,440nm,1.6s,mb5.5						
GOF				pmax	pmax		
	comp=Z,600nm,2.0s,mb5.6						
ZAL	**Zalesovo**	**21.80**	**27**	P	**P**	**15 35 12.7**	**0.0**
ZAL				S	**S**	**15 39 19.0**	**+11**
ZAL				pmax	pmax		
	comp=Z,96nm,1.0s						
ZAL				MLR	MLR		
	comp=Z,3μm,18.2s						
ZAL	**Zalesovo**	**21.80**	**27**	P	**P**	**15 35 12.7**	**0.0**
	comp=Z,96nm,1.0s,mb5.2,baz=254,slow=8.7,SNR=120						
ZAL				S	**S**	**15 39 19.0**	**+11**
	comp=Z,4.1nm,0.8s,baz=125,slow=21,SNR=2.2						
ZAL				LR	LR	15 45 12.0	
	comp=Z,3μm,18.2s,MS4.8,baz=251,slow=41						
ARU	**Arti**	**21.80**	**346**⇓	*i*P	**P**	**15 35 08.9**	**-3.8**
ARU				*i* S	**S**	**15 39 04.8**	**-2.9**
ARU				pmax	pmax		
	comp=Z,46nm,0.9s,mb4.9						
ARU				MLR	MLR		
	comp=N,1μm,15.0s,MS4.5						
ARU				MLR	MLR		
	comp=E,800nm,14.0s,MS4.5						
ARU	**Arti**	**21.80**	**346**	*e*P	**P**	**15 35 08.5**	**-4.1**
	comp=E,31nm,0.6s,mb4.9						
SVE	**Sverdlovsk**	**21.82**	**349**	*e*P	**P**	**15 35 13.9**	**+1.1**
SVE				*e*S	**S**	**15 39 12.0**	**+4.1**
SVE				*e*SS	SS	15 39 58.0	+12
SVE				pmax	pmax		
	comp=Z,160nm,1.4s,mb5.3						
SVE				MLR	MLR		
	comp=Z,5μm,12.0s,MS5.1						
BWNR	**Bhubaneshwar**	**21.87**	**129**	*e*P	**P**	**15 35 15.7**	**+2.1**
BWNR				*e*		15 35 16.8	
	comp=Z,112nm,1.1s						
BWNR				*e*		15 39 17.5	
NVS	**Novosibirsk**	**21.97**	**24**	*i* P	**P**	**15 35 13.5**	**-0.8**
NVS				*e**PP		15 35 30.0	
NVS				*e*S	**S**	**15 39 10.9**	**+0.1**
NVS				pmax	pmax		
	comp=E,118nm,1.3s						
NVS				pmax	pmax		
	comp=Z,266nm,1.3s,mb5.5						
NVS				pmax	pmax		
	comp=N,305nm,1.4s						
NVS				smax			
	comp=N,192nm,1.8s						
NVS				smax			
	comp=E,50nm,1.9s						
VIS	**Vishakhapatnam**	**22.43**	**139**	*e*P	**P**	**15 35 21.5**	**+2.3**
VIS				*e*		15 35 26.7	
	comp=Z,80nm,1.3s						
SHL	**Shillong**	**22.85**	**109**	*e*P	**P**	**15 35 23.0**	**-0.3**
SHL				*e*S	**S**	**15 39 35.0**	**+8.0**
SOC	**Sochi**	**23.10**	**299**	*i* P	**P**	**15 35 27.1**	**+1.6**
SOC				*e*		15 35 48.4	
SOC				*e*S	**S**	**15 39 36.8**	**+5.5**
SOC				pmax	pmax		
	comp=Z,67nm,1.4s,mb4.9						
SOC				pmax	pmax		
	comp=N,40nm,1.7s						
SOC				pmax	pmax		
	comp=E,40nm,1.3s						
SOC				MLR	MLR		
	comp=N,992nm,11.0s,MS4.6						
SOC				MLR	MLR		
	comp=E,526nm,11.0s,MS4.6						
SOC				MLR	MLR		
	comp=Z,1μm,11.0s,MS4.5						
SOC	**Sochi**	**23.10**	**299**	*e*P	**P**	**15 35 27.0**	**+1.5**
AGT	**Agartala**	**23.29**	**114**⇑	*i*P	**P**	**15 35 27.0**	**-0.6**
AGT				*i*		15 37 14.0	
MNGI	**Mangalore**	**23.38**	**163**	*i* P	**P**	**15 35 32.5**	**+3.9**
	comp=Z,98nm,1.4s,mb5.0						
MNGI				*i* S	**S**	**15 39 43.5**	**+6.9**
MALT	**Malatya**	**23.71**	**285**	*e*P	**P**	**15 35 33.7**	**+2.2**
MALT				pmax	pmax		
	comp=Z,74nm,1.3s,mb5.0						
MALT	**Malatya**	**23.71**	**285**	*e*P	**P**	**15 35 33.7**	**+2.3**
	comp=Z,74nm,1.3s,mb5.0						
IMP	**Imphal**	**24.84**	**109**	*e*P	**P**	**15 35 43.0**	**+0.4**
ANN	**Anapa**	**24.94**	**301**	*e*P	**P**	**15 35 44.8**	**+1.4**
ANN				*e*		15 36 24.0	
ANN				*e*S	**S**	**15 40 06.3**	**+3.4**
ANN				*e*SS	SS	15 41 03.2	+1.4
ANN				pmax	pmax		
	comp=Z,160nm,1.3s,mb5.4						
ANN				pmax	pmax		
	comp=N,104nm,1.9s						
ANN				pmax	pmax		
	comp=E,111nm,1.8s						
MDRS	**Chennai**	**25.02**	**151**	*e*P	**P**	**15 35 45.3**	**+1.0**
MDRS				*e*		15 35 48.5	
	comp=Z,84nm,0.7s						
SOKR	**Solikamsk**	**25.08**	**347**	*e*P	**P**	**15 35 46.4**	**+1.9**
SOKR				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.7						
SOKR				MLR	MLR		
	comp=Z,680nm,19.0s,MS4.2						
ASF	**Jabal al Asfar**	**25.95**	**271**	P	**P**	**15 35 55.0**	**+2.0**
	comp=Z,11nm,1.2s,mb4.3,baz=130,slow=16,SNR=2.0						
ASF				LR	LR	15 47 12.1	
	comp=Z,2μm,18.8s,MS4.7,baz=307,slow=39						
VOR	**Voronezh**	**26.09**	**317**	P	**P**	**15 35 54.0**	**-0.1**
VOR				pmax	pmax		
	comp=Z,150nm,1.7s,mb5.2						
SIM	**Simferopol'**	**27.29**	**300**	*e*P	**P**	**15 36 03.3**	**-1.8**
SIM				*e*S	**S**	**15 40 39.0**	**-2.7**
SIM				MLR	MLR		
	comp=Z,700nm,17.0s,MS4.3						
BRTR	**Keskin Array B**	**27.38**	**289**	P	**P**	**15 36 06.7**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRTR	**Keskin Array B**	**27.38**	**289**	P	**P**	**15 36 06.7**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=101,slow=9.0,SNR=18						
TRD	**Trivandrum**	**28.18**	**161**	*e*	**P**	**15 36 06.7**	**-6.8**
EIL	**Elat**	**28.32**	**267**	LR	LR	15 48 51.5	
	comp=Z,1μm,18.6s,MS4.6,baz=254,slow=39						
MOY	**Mondy**	**28.50**	**45**	*e*P	**P**	**15 36 18.3**	**+2.3**
MOS	**Moscow**	**28.87**	**324**	*e*P	**P**	**15 36 18.9**	**-0.4**
MOS				pmax	pmax		
	comp=Z,127nm,1.3s,mb5.5						
LZH	**Lanzhou**	**29.00**	**78**⇑	P	**P**	**15 36 20.5**	**-0.2**
LZH				AP	pP	15 36 23.8	-3.0
LZH				PP	PP	15 37 14.5	-0.2
LZH				*e*S	**S**	**15 41 09.4**	**0.0**
LZH				SS	SS	15 42 37.6	-0.9
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,197nm,5.3s						
LZH				LR	LR		
	comp=N,2μm,12.6s						
LZH				LR	LR		
	comp=Z,3μm,15.1s,MS5.0						
OBN	**Obninsk**	**29.08**	**322**⇑	*i*P	**P**	**15 36 19.6**	**-1.6**
OBN				*i*		15 36 35.9	
OBN				*i*		15 37 12.6	
OBN				*e*S	**S**	**15 41 09.5**	**-0.8**
OBN				pmax	pmax		
	comp=Z,82nm,1.0s,mb5.4						
OBN				MLR	MLR		
	comp=Z,1μm,12.0s,MS4.7						
OBN	**Obninsk**	**29.08**	**322**	*e*P	**P**	**15 36 19.3**	**-1.9**
	comp=Z,49nm,0.7s,mb5.3						
OBN				LR	LR		
	comp=Z,735nm,19.0s,MS4.3						
ZAK	**Zakamensk**	**29.45**	**49**⇓	*e*P	**P**	**15 36 25.9**	**+1.3**
TLY	**Talaya**	**30.06**	**46**	P	**P**	**15 36 32.6**	**+2.6**
	comp=Z,92nm,1.1s,mb5.4,SNR=11						
TLY	**Talaya**	**30.06**	**46**	*e*P	**P**	**15 36 32.5**	**+2.5**
TLY				pmax	pmax		
	comp=Z,26nm,1.2s,mb4.8						
TLY				MLR	MLR		
	comp=Z,2μm,14.0s,MS4.8						
IRK	**Irkutsk**	**30.61**	**46**	*e*P	**P**	**15 36 35.1**	**+0.3**
SONM	**Songino Array**	**30.88**	**55**	P	**P**	**15 36 37.4**	**+0.1**
	comp=Z,14nm,0.8s,mb4.8,baz=261,slow=8.7,SNR=41						
ULN	**Ulaanbaatar**	**31.33**	**55**	*e*P	**P**	**15 36 40.9**	**-0.3**
ULN				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.9						
ULN				MLR	MLR		
	comp=Z,3μm,22.0s,MS5.0						
ULN	**Ulaanbaatar**	**31.33**	**55**	*e*P	**P**	**15 36 40.9**	**-0.3**
	comp=Z,17nm,0.9s,mb4.9						
ULN				LR	LR		
	comp=Z,3μm,22.0s,MS5.0						
CFR	**Carcaliu**	**31.53**	**300**⇓	*i*P	**P**	**15 36 45.7**	**+2.7**
AKASG	**Malin Array Be**	**31.63**	**311**	P	**P**	**15 36 42.7**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,16nm,0.9s						
AKASG	**Malin Array Be**	**31.63**	**311**	P	**P**	**15 36 42.7**	**-1.1**
	comp=Z,16nm,0.9s,mb4.9,baz=92,slow=7.1,SNR=32						
CHRT	**Chiangrai**	**32.06**	**111**	P	**P**	**15 36 51.0**	**+3.1**
CMAR	**Chiang Mai Arr**	**32.27**	**114**	P	**P**	**15 36 48.1**	**-1.7**
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,547nm,21.4s						
CMAR	**Chiang Mai Arr**	**32.27**	**114**	P	**P**	**15 36 48.1**	**-1.7**
	comp=Z,8.0nm,0.9s,mb4.5,baz=300,slow=9.6,SNR=33						
CMAR				LR	LR	15 51 58.0	
	comp=Z,547nm,21.4s,MS4.2,baz=300,slow=40						
VRI	**Vrincioaia**	**32.56**	**301**⇑	P	**P**	**15 36 57.1**	**+5.1**
VRI	**Vrincioaia**	**32.56**	**301**⇑	*i*P	**P**	**15 36 57.3**	**+5.3**
VRI	**Vrincioaia**	**32.56**	**301**⇑	*i*P	**P**	**15 36 57.3**	**+5.3**
ISR	**Istrita**	**32.65**	**300**⇑	*i*P	**P**	**15 36 58.1**	**+5.3**
MLR	**Muntele Rosu**	**33.09**	**300**⇑	*e*P	**P**	**15 36 58.8**	**+2.2**
XAN	**Xi'an**	**33.51**	**81**	P	**P**	**15 36 59.4**	**-1.0**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
LVV	**L'vov**	**34.75**	**308**	*e*P	**P**	**15 37 11.3**	**+0.4**
LVV				*e*S	**S**	**15 42 33.3**	**-5.8**
LVV				MLR	MLR		
	comp=Z,530nm,16.0s,MS4.4						
LVV				MLR	MLR		
	comp=N,900nm,15.0s,MS4.7						
LVV				MLR	MLR		
	comp=E,400nm,15.0s,MS4.7						
NST	**Nakhon Sawan**	**34.91**	**116**	P	**P**	**15 37 09.5**	**-3.1**
ENH	**Enshi**	**35.08**	**87**	*e*P	**P**	**15 37 12.8**	**-1.2**
	comp=E,43nm,0.9s,mb5.4						
ENH				LR	LR		
	comp=Z,1μm,21.0s,MS4.7						
VTS	**Vitosha**	**35.10**	**295**	⇓P	**P**	**15 37 18.9**	**+4.9**
JOF	**Joensuu**	**35.47**	**332**	*e*p	**P**	**15 37 15.5**	**-1.4**
KWP	**Kalwaria**	**35.58**	**307**	*e*P	**P**	**15 37 20.0**	**+2.0**
KWP	**Kalwaria**	**35.58**	**307**	*e*P	**P**	**15 37 20.0**	**+2.0**
KOLS	**Kolonicke sedl**	**35.80**	**306**	*i* P	**P**	**15 37 21.1**	**+1.2**
CRVS	**Cervenica-Dubn**	**36.33**	**306**	*i* P	**P**	**15 37 29.6**	**+5.3**
CRVS	**Cervenica-Dubn**	**36.33**	**306**	*i* sP	sP	15 37 29.6	-3.5
FINES	**FINESS Array B**	**36.90**	**328**	P	**P**	**15 37 29.2**	**+0.2**
FINES				pmax	pmax		
	comp=Z,13nm,0.7s						
FINES	**FINESS Array B**	**36.90**	**328**	P	**P**	**15 37 29.1**	**+0.2**
	comp=Z,13nm,0.7s,mb4.9,baz=121,slow=11,SNR=20						
KAF	**Kangasniemi**	**37.09**	**329**	*e*p	**P**	**15 37 31.0**	**+0.4**
	comp=Z,16nm,0.7s,mb5.0						
KAF	**Kangasniemi**	**37.09**	**329**	*e*P	**P**	**15 37 31.0**	**+0.4**
KAF				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.0						
NIE	**Niedzica**	**37.12**	**307**	*e*P	**P**	**15 37 33.5**	**+2.6**
PSZ	**Piszkesteto**	**37.33**	**304**	P	**P**	**15 37 36.2**	**+3.5**
PSZ				pmax	pmax		
	comp=Z,56nm,1.4s,mb5.2						
PSZ	**Piszkesteto**	**37.33**	**304**	P	**P**	**15 37 36.2**	**+3.4**
	comp=Z,56nm,1.4s,mb5.2						
DIVS	**Divcibare**	**37.34**	**298**⇓	*i*P	**P**	**15 37 36.2**	**+3.3**
OJC	**Ojcow**	**37.50**	**308**	*e*P	**P**	**15 37 34.9**	**+0.7**
APA	**Apatity**	**37.57**	**339**⇑	*i*P	**P**	**15 37 35.5**	**+0.9**
APA				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.0						
BOD	**Bodaibo**	**37.62**	**39**	*e*P	**P**	**15 37 35.0**	**-0.1**
VYHS	**Vyhne**	**38.05**	**305**	*i* P	**P**	**15 37 43.8**	**+5.0**
VYHS	**Vyhne**	**38.05**	**305**	*i* sP	sP	15 37 43.8	-3.7
PKSM	**Moragy**	**38.20**	**302**	*e*P	**P**	**15 37 41.3**	**+1.3**
OKC	**Ostrava-Krasne**	**38.55**	**307**	*e*P	**P**	**15 37 48.2**	**+5.3**
OKC				AMS	AMS	15 53 00.0	
WHN	**Wuhan**	**38.93**	**84**	*e*P	**P**	**15 37 46.0**	**-0.4**
ZST	**Bratislava**	**39.20**	**305**	*e*P	**P**	**15 37 54.2**	**+5.7**
ZST	**Bratislava**	**39.20**	**305**	*e*	**P**	**15 37 54.2**	**+5.7**
DPC	**Dobruska-Polom**	**39.74**	**308**	*e*P	**P**	**15 37 54.2**	**+1.

KHC Kasperske Hory 41.52 306 *e*P P 15 38 09.1 +1.6
KHC AMS AMS 15 55 20.0
KBA Koelnbreinsper 41.79 303 ⇑ *i*P **P 15 38 11.2 +1.5**
CLL Collm 41.86 310 *e*P **P 15 38 11.0 +0.8**
CLL *e* 15 40 08.0
CLL Collm 41.86 310 *e*P **P 15 38 11.0 +0.8**
CLL *i* 15 38 30.3
CLL *e*PcP PcP 15 40 08.0 +1.4
CLL Collm 41.86 310 P **P 15 38 11.0 +0.8**
CLL *i* 15 38 30.3
CLL *e*PCP PcP 15 40 08.0 +1.4
NJ2 Nanjing 42.06 80 *e*P **P 15 38 14.1 +2.0**
NJ2 AP pP 15 38 23.5 +5.2
NJ2 PP PP 15 39 53.9 +1.2
NJ2 S **S 15 44 30.0 0.0**
NJ2 XS 15 44 44.0
NJ2 AMB AMB
comp=Z,50nm,0.6s,mb5.3
NJ2 AMB AMB
comp=Z,690nm,10.3s
NJ2 LR LR
comp=N,6μm,18.3s,MS5.5
NJ2 LR LR
comp=E,3μm,19.5s,MS5.5
NJ2 LR LR
comp=Z,2μm,13.2s
NKC Novy Kostel 42.22 308 *e*P **P 15 38 14.3 +1.1**
NKC AMS AMS 15 53 50.0
MOX Moxa 42.74 309 *e*P **P 15 38 19.0 +1.5**
MOX pmax pmax
comp=Z,29nm,1.6s,mb4.8
MOX Moxa 42.74 309 *e*P **P 15 38 19.0 +1.5**
comp=Z,29nm,1.6s,mb4.8
MOX Moxa 42.74 309 *i* P **P 15 38 19.0 +1.5**
comp=Z,logA/T=1.3,mb4.8
GRA1 Grafenberg Arr 43.03 307 *e*P **P 15 38 22.0 +2.1**
comp=Z,23nm,1.2s,mb4.8
GRF Grafenberg Arr 43.03 307 *e*P **P 15 38 22.0 +2.1**
GRF pmax pmax
comp=Z,23nm,1.2s,mb4.8
GRF Grafenberg Arr 43.03 307 *e*P **P 15 38 22.0 +2.1**
GRF pmax pmax
comp=Z,23nm,1.2s,mb4.8
GRF Grafenberg Arr 43.03 307 *e*P **P 15 38 22.0 +2.1**
comp=Z,23nm,1.2s,mb4.8
SNY Shenyang 43.21 64 ⇑P **P 15 38 22.5 +1.1**
SNY AP pP 15 38 28.3 +0.7
SNY XP sP 15 38 31.0 +0.9
SNY PCP PcP 15 40 15.6 +4.4
SNY AMB AMB
comp=Z,20nm,1.2s,mb4.7
SNY AMB AMB
comp=Z,570nm,10.2s
SNY LR LR
comp=E,2μm,14.9s
SNY LR LR
comp=Z,2μm,15.9s,MS5.1
CLNS Chul'man 43.25 42 *e*P **P 15 38 21.6 +0.1**
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,20nm,0.9s
CLNS pmax pmax
comp=Z,36nm,0.9s,mb5.1
CLNS MLR MLR
comp=Z,4μm,23.0s,MS5.2
CLNS MLR MLR
comp=N,2μm,16.0s
CLNS MLR MLR
comp=E,400nm,14.0s
MOR8 Moi Rana 43.42 332 *e*P **P 15 38 22.7 -0.1**
comp=E,76nm,1.9s,mb5.1
MOR8 Moi Rana 43.42 332 *e*P **P 15 38 22.7 -0.1**
MOR8 AMb AMB 15 38 41.2
comp=Z,76nm,1.9s,mb5.1
NB2 NORSAR Subarra 43.64 324 P **P 15 38 24.3 -0.3**
comp=Z,10.0nm,0.6s,mb4.7,baz=100,slow=7.9
NB2 NORSAR Subarra 43.64 324 P **P 15 38 24.3 -0.3**
baz=100,slow=8.6
NOA NORSAR Array B 43.64 324 P **P 15 38 24.3 -0.3**
NOA pmax pmax
comp=Z,10.0nm,0.6s
NOA NORSAR Array B 43.64 324 P **P 15 38 24.3 -0.3**
comp=Z,9.7nm,0.6s,mb4.7,baz=101,slow=8.0,SNR=19
DAVA Damuels 44.12 304 ⇓ *i*P **P 15 38 29.8 +1.1**
MUD Monsted U'grnd 44.24 317 *e*P **P 15 38 35.8 +6.3**
MUD pmax pmax
comp=Z,32nm,1.2s,mb4.9
MUD Monsted U'grnd 44.24 317 *e*P **P 15 38 35.8 +6.3**
comp=Z,32nm,1.2s,mb4.9
MUD Monsted U'grnd 44.24 317 *i* P **P 15 38 35.8 +6.3**
comp=Z,32nm,1.2s,mb4.9
SSE Sheshan 44.26 80 P **P 15 38 30.9 +0.8**
SSE AP pP 15 38 34.1 -2.1
SSE S **S 15 45 01.9 -0.2**
SSE AMB AMB
comp=Z,32nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,402nm,9.7s
SSE LR LR
comp=N,2μm,19.3s,MS5.1
SSE LR LR
comp=E,1μm,19.3s,MS5.1
SSE LR LR
comp=Z,780nm,12.9s
PGF Pioggiola 45.49 297 *e*P **P 15 38 38.3 -1.5**
comp=Z,55nm,1.0s,mb5.0
PGF Pioggiola 45.49 297 *e*P **P 15 38 38.3 -1.5**
PGF pmax pmax
comp=Z,28nm,1.0s,mb5.0
CDF Champ du Feu 45.73 306 *e*P **P 15 38 40.0 -1.6**
HINF Hinteralfeld 46.09 305 *e*P **P 15 38 43.4 -1.0**
YAK Yakutsk 46.14 35 *e*P **P 15 38 44.8 +0.2**
YAK *e**PP pP 15 38 54.6 +3.8
YAK *e* 15 40 32.8
YAK *e*PPP PPP 15 41 16.1 -1.0
YAK *e*S **S 15 45 36.5 +7.8**
YAK *e**SS 15 45 50.1
YAK pmax pmax
comp=Z,74nm,1.0s,mb5.6
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,38nm,1.2s
YAK pmax pmax
comp=Z,18nm,1.0s,mb5.0
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK smax
comp=N,5.0nm,1.1s
YAK smax
comp=E,6.0nm,1.3s
YAK MLR MLR
comp=Z,1μm,15.0s,MS4.9
YAK MLR MLR
comp=N,297nm,10.0s,MS4.8
YAK MLR MLR
comp=E,503nm,12.0s,MS4.8
YAK Yakutsk 46.14 35 *e*P **P 15 38 43.7 -0.9**
comp=E,175nm,0.9s,mb6.0
YAK LR LR
comp=Z,1μm,22.0s,MS4.8
SBF Sospel 46.35 300 *e*P **P 15 38 45.6 -0.9**
comp=Z,79nm,1.0s,mb5.3
SBF Sospel 46.35 300 *e*P **P 15 38 45.6 -0.9**
SBF pmax pmax
comp=Z,40nm,1.0s,mb5.3
HAU Haudompre 46.40 305 *e*P **P 15 38 45.8 -1.1**
comp=Z,18nm,0.8s,mb4.8
HAU Haudompre 46.40 305 *e*P **P 15 38 45.8 -1.1**
HAU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KMBO Kilima Mbogo 46.41 225 P **P 15 38 46.3 -1.1**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 46.41 225 P **P 15 38 46.3 -1.1**
comp=Z,1.9nm,0.8s,mb4.1,baz=9.1,slow=11,SNR=4.2
LPG La Plagne 46.53 302 *e*P **P 15 38 47.3 -0.6**
comp=Z,57nm,1.2s,mb5.1
LPG La Plagne 46.53 302 *e*P **P 15 38 47.3 -0.6**
LPG pmax pmax
comp=Z,28nm,1.3s,mb5.0
LPL La Plagne 46.54 302 *e*P **P 15 38 47.5 -0.5**
comp=Z,11nm,0.6s,mb4.7
LPL La Plagne 46.54 302 *e*P **P 15 38 47.5 -0.5**
LPL pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
MBDF Montbardon 46.65 301 *e*P **P 15 38 47.6 -1.3**
comp=Z,34nm,1.0s,mb4.9
MBDF Montbardon 46.65 301 *e*P **P 15 38 47.6 -1.3**
MBDF pmax pmax
comp=Z,17nm,1.0s,mb4.9
CABF La Chapelle 46.79 303 *e*P **P 15 38 49.4 -0.6**
comp=Z,108nm,1.4s,mb5.3
CABF La Chapelle 46.79 303 *e*P **P 15 38 49.4 -0.6**
CABF pmax pmax
comp=Z,54nm,1.4s,mb5.3
MDJ Mudanjiang 47.00 59 P **P 15 38 53.3 +1.7**
MDJ S **S 15 45 46.8 +5.6**
MDJ AMB AMB
comp=Z,12nm,2.0s,mb4.5
MDJ LR LR
comp=N,754nm,16.1s,MS4.9
MDJ LR LR
comp=E,919nm,18.8s,MS4.9
MDJ LR LR
comp=Z,1μm,19.9s,MS4.8
GIVF Givet 47.12 308 *e*P **P 15 38 49.9 -2.6**
BAIF Baives 47.52 308 *e*P **P 15 38 55.6 -0.1**
comp=Z,81nm,1.1s,mb5.4
BAIF Baives 47.52 308 *e*P **P 15 38 55.6 -0.1**
BAIF pmax pmax
comp=Z,40nm,1.1s,mb5.4
TIXI Tiksi 47.55 22 *e*P **P 15 38 54.6 -1.0**
TIXI pmax pmax
comp=Z,54nm,0.8s,mb5.6
TIXI MLR MLR
comp=Z,847nm,17.0s,MS4.8
TIXI Tiksi 47.55 22 *i* P **P 15 38 55.7 +0.1**
KLR Kul'dur 47.67 53 *e*P **P 15 38 53.8 -3.1**
KLR *e* 15 40 48.8
VIVF Saint-Julien-l 48.09 301 *e*P **P 15 38 59.5 -0.7**
comp=Z,78nm,1.1s,mb5.3
VIVF Saint-Julien-l 48.09 301 *e*P **P 15 38 59.5 -0.7**
VIVF pmax pmax
comp=Z,39nm,1.1s,mb5.3
SMF Signal de Mont 48.31 304 *e*P **P 15 39 00.9 -1.0**
comp=Z,67nm,1.0s,mb5.3
SMF Signal de Mont 48.31 304 *e*P **P 15 39 00.9 -1.0**
SMF pmax pmax
comp=Z,33nm,1.0s,mb5.3
SSF Saint Saulge 48.46 305 *e*P **P 15 39 01.8 -1.2**
SSF pmax pmax
comp=Z,17nm,1.1s,mb5.0
SSF Saint Saulge 48.46 305 *e*P **P 15 39 01.8 -1.2**
comp=Z,17nm,1.1s,mb5.0
AVF Avril sur Loir 48.61 304 *e*P **P 15 39 03.2 -1.0**
comp=Z,85nm,1.3s,mb5.3
AVF Avril sur Loir 48.61 304 *e*P **P 15 39 03.2 -1.0**
AVF pmax pmax
comp=Z,42nm,1.3s,mb5.3
LASF Ste Croix 48.83 301 *e*P **P 15 39 05.1 -0.8**
comp=Z,64nm,1.4s,mb5.2
TCF Toulx Ste Croi 49.48 304 *e*P **P 15 39 10.4 -0.5**
comp=Z,119nm,1.4s,mb5.4
TCF Toulx Ste Croi 49.48 304 *e*P **P 15 39 10.4 -0.5**
TCF pmax pmax
comp=Z,60nm,1.4s,mb5.4
CAF Calviac 49.89 302 *e*P **P 15 39 12.4 -1.6**
MTLF Montolieu 50.16 300 *e*P **P 15 39 15.0 -1.2**
comp=Z,16nm,0.9s,mb4.8
MTLF Montolieu 50.16 300 *e*P **P 15 39 15.0 -1.2**
MTLF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
RJF Les Rejaudoux 50.18 303 *e*P **P 15 39 14.8 -1.4**
comp=Z,41nm,1.0s,mb5.1
RJF Les Rejaudoux 50.18 303 *e*P **P 15 39 14.8 -1.4**
RJF pmax pmax
comp=Z,21nm,1.0s,mb5.1
LDF La Druitiere 50.56 307 *e*P **P 15 39 17.9 -1.2**
comp=Z,40nm,0.9s,mb5.0
LDF La Druitiere 50.56 307 *e*P **P 15 39 17.9 -1.2**
LDF pmax pmax
comp=Z,20nm,0.9s,mb5.0
FLN La Foliniere 50.76 307 *e*P **P 15 39 19.3 -1.3**
GRR Gorron 51.08 307 *e*P **P 15 39 20.5 -2.5**
comp=Z,123nm,1.3s,mb5.4
GRR Gorron 51.08 307 *e*P **P 15 39 20.5 -2.5**
GRR pmax pmax
comp=Z,61nm,1.3s,mb5.4
EPF Esparros 51.57 300 *e*P **P 15 39 25.3 -1.6**
comp=Z,47nm,1.3s,mb5.0
EPF Esparros 51.57 300 *e*P **P 15 39 25.3 -1.6**
EPF pmax pmax
comp=Z,24nm,1.3s,mb5.0
SGMF Saint Gilles 52.21 307 *e*P **P 15 39 30.4 -1.3**
YSS Yuzh-Sakhalins 55.36 53 *e*P **P 15 39 54.0 -0.9**
YSS S **S 15 47 27.0 -9.2**
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.7
YSS MLR MLR
comp=E,900nm,16.0s
YSS MLR MLR
comp=Z,800nm,16.0s,MS4.9
YSS Yuzh-Sakhalins 55.36 53 *e*P **P 15 39 54.4 -0.5**
comp=Z,57nm,0.8s,mb5.7
YSS LR LR
comp=Z,1μm,19.0s,MS5.0
MAJO Matsushiro 55.59 67 *e*P **P 15 39 55.3 -1.3**
MAJO pmax pmax
comp=Z,41nm,0.9s,mb5.5
MAJO MLR MLR
comp=Z,1μm,20.0s,MS4.9
MAJO Matsushiro 55.59 67 *e*P **P 15 39 55.3 -1.3**
comp=Z,41nm,0.9s,mb5.5
MAJO LR LR
comp=Z,1μm,20.0s,MS4.9
MAT Matsushiro 55.59 67 *e*P **P 15 39 55.0 -1.6**
MAT Matsushiro 55.59 67 P **P 15 39 54.6 -2.0**
MAT *e*S **S 15 47 41.4 +2.0**
ESDC Sonseca Array 55.69 297 P **P 15 39 56.1 -1.2**
comp=Z,5.4nm,0.8s,mb4.7,baz=64,slow=7.8,SNR=11
SEY Seymchan 56.54 33 *e*P **P 15 40 05.6 +2.5**
SEY pmax pmax
comp=N,20nm,1.2s
SEY pmax pmax
comp=Z,70nm,1.2s,mb5.6
SEY pmax pmax
comp=E,20nm,1.0s
MA2 Magadan 56.60 37 *e*P **P 15 40 05.0 +1.4**
MA2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
MA2 Magadan 56.60 37 *e*P **P 15 40 03.5 -0.1**
MA2 LR LR
comp=Z,769nm,20.0s,MS4.8
BORG Borgarnes 58.15 330 LR LR 16 05 42.4
comp=Z,673nm,21.6s,MS4.7,baz=145,slow=36
EVO Evora 59.04 297 *e*P **P 15 40 20.3 -0.7**
comp=Z,21nm,0.9s,mb4.9
BILL Bilibino 60.50 25 *e*P **P 15 40 30.9 +0.2**
BILL *e* 15 40 39.4
BILL pmax pmax
comp=Z,34nm,1.8s,mb5.2
BILL MLR MLR
comp=Z,800nm,16.0s,MS5.0
BILL Bilibino 60.50 25 *i* P **P 15 40 31.2 +0.6**
SUMG Summit 61.12 341 *e*P **P 15 40 36.1 +1.3**
comp=Z,19nm,0.7s,mb5.3
LSZ Lusaka 63.06 224 *e*P **P 15 40 46.4 -2.1**
LSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
LSZ MLR MLR
comp=Z,2μm,20.0s,MS5.2
LSZ Lusaka 63.06 224 *e*P **P 15 40 46.4 -2.1**
comp=Z,5.5nm,0.8s,mb4.7
LSZ LR LR
comp=Z,2μm,20.0s,MS5.2
TNA Tin City 70.33 21 *e*P **P 15 41 34.1 +0.3**
FX1 Attu Island--F 70.66 38 P **P 15 41 37.9 +1.9**
FX1 pmax pmax
comp=Z,11nm,0.5s
FX1 Attu Island--F 70.66 38 P **P 15 41 37.9 +1.9**
comp=Z,11nm,0.5s,mb5.0,baz=200,slow=14,SNR=4.8
DBIC Dimbokro 72.17 265 P **P 15 41 43.7 -2.1**
DBIC pmax pmax
comp=Z,4.0nm,0.7s
DBIC Dimbokro 72.17 265 P **P 15 41 43.7 -2.0**
comp=Z,4.2nm,0.7s,mb4.5,baz=39,slow=6.2,SNR=12
DBIC Dimbokro 72.17 265 P **P 15 41 43.7 -2.1**
IMA Indian Mountai 73.72 16 *e*P **P 15 41 54.5 +0.7**
FRB Frobisher Bay 75.17 342 P **P 15 42 03.8 +1.5**
FRB pmax pmax
comp=Z,8.0nm,0.9s
FRB Frobisher Bay 75.17 342 P **P 15 42 03.8 +1.5**
comp=Z,7.9nm,0.9s,mb4.7,baz=33,slow=4.2,SNR=12
INK Inuvik 75.18 8 *e*P **P 15 42 04.5 +2.2**
INK pmax pmax
comp=Z,20nm,0.8s
INK Inuvik 75.18 8 P **P 15 42 02.7 +0.5**
comp=Z,16nm,0.8s,mb5.0,baz=359,slow=7.9,SNR=28
INK Inuvik 75.18 8 *e*P **P 15 42 04.5 +2.2**
comp=Z,20nm,0.8s,mb5.1
BOSA Boshof 75.48 218 *e*P **P 15 42 01.7 -3.1**
BOSA pmax pmax
comp=Z,13nm,1.0s,mb4.8
BOSA Boshof 75.48 218 *e*P **P 15 42 01.7 -3.1**
comp=Z,13nm,1.0s,mb4.8
COLA College 76.02 15 *e*P **P 15 42 08.0 +0.9**
COLA pmax pmax
comp=Z,43nm,1.1s,mb5.3
COLA MLR MLR
comp=Z,746nm,22.0s,MS5.0
COLA College 76.02 15 *e*P **P 15 42 08.0 +0.9**
comp=Z,43nm,1.1s,mb5.3
COLA LR LR
comp=Z,746nm,22.0s,MS5.0
ILAR Eielson Array 76.31 15 P **P 15 42 08.6 -0.1**
comp=Z,11nm,1.0s,mb4.7,baz=322,slow=4.8,SNR=46
ILAR LR LR 16 21 19.6
comp=Z,462nm,19.7s,MS4.8,baz=351,slow=40
FITZ Fitzroy Crossi 76.38 124 *e*P **P 15 42 10.3 +0.3**
comp=Z,18nm,0.9s,mb5.0
MCK McKinley 76.78 16 *e*P **P 15 42 11.6 +0.2**
MCK pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MCK MLR MLR
comp=Z,418nm,20.0s,MS4.8
MCK McKinley 76.78 16 *e*P **P 15 42 11.6 +0.2**
comp=Z,8.1nm,1.1s,mb4.6
MCK LR LR
comp=Z,418nm,20.0s,MS4.8
THY Trims Highway 77.74 15 *e*P **P 15 42 18.8 +2.1**
DAWY Dawson 78.35 12 *e*P **P 15 42 21.4 +1.4**
SML Sawmill 78.59 17 *e*P **P 15 42 22.1 +0.7**
SCHQ Schefferville 81.93 335 P **P 15 42 41.0 +1.7**
comp=Z,4.5nm,0.7s,mb4.5,baz=17,slow=1.5,SNR=9.5
YKW3 Yellowknife Ar 82.17 1 *e*P **P 15 42 41.5 +1.1**
YKA Yellowknife Ar 82.24 1 P **P 15 42 40.9 +0.2**
YKA pmax pmax
comp=Z,6.0nm,0.8s
YKA MLR MLR
comp=Z,683nm,18.7s
YKA Yellowknife Ar 82.24 1 P **P 15 42 40.9 +0.1**
comp=Z,5.7nm,0.8s,mb4.6,baz=352,slow=4.8,SNR=43
YKA LR LR 16 21 38.1
comp=Z,683nm,18.7s,MS5.0,baz=40,slow=37
WRA Warramunga Arr 83.64 120 P **P 15 42 47.9 -1.0**
WRA pmax pmax
comp=Z,5.0nm,0.6s
WRA Warramunga Arr 83.64 120 P **P 15 42 47.9 -0.9**
comp=Z,4.7nm,0.6s,mb4.8,baz=321,slow=4.8,SNR=37
WRAB Tennant Creek 83.65 120 *e*P **P 15 42 48.4 -0.5**
WRAB pmax pmax
comp=Z,31nm,0.9s,mb5.4
WRAB MLR MLR
comp=Z,200nm,22.0s,MS4.5
WRAB Tennant Creek 83.65 120 *e*P **P 15 42 48.4 -0.5**
comp=Z,31nm,0.9s,mb5.4
WRAB LR LR
comp=Z,200nm,22.0s,MS4.5
WB2 Warramunga Arr 83.65 120 *e*P **P 15 42 48.3 -0.6**
FCC Fort Churchill 84.82 351 *e*P **P 15 42 55.7 +1.8**
FCC pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
FCC Fort Churchill 84.82 351 *e*P **P 15 42 55.7 +1.8**
comp=Z,8.1nm,0.6s,mb5.0
DLBC Dease Lake 85.13 9 P **P 15 42 58.8 +3.3**
comp=Z,4.4nm,0.9s,mb4.6,baz=166,slow=26,SNR=4.4
ASPA Alice Springs 85.80 123 *e*P **P 15 43 00.6 +1.0**
ASAR Alice Springs 85.80 123 P **P 15 42 59.1 -0.5**
comp=Z,7.5nm,0.9s,mb4.9,baz=315,slow=4.8,SNR=36
EDM Edmonton 91.55 1 *e*P **P 15 43 27.3 +1.1**
CTA Charters Tower 92.44 113 P **P 15 43 32.0 +0.9**
CTA pmax pmax
comp=Z,6.0nm,0.7s
CTA Charters Tower 92.44 113 P **P 15 43 31.9 +0.9**
comp=Z,5.8nm,0.7s,mb5.0,baz=323,slow=4.5,SNR=7.1
PDAR Pinedale Array 101.99 358 PP PP 15 48 27.8 0.0
comp=Z,1.1nm,1.2s,baz=14,slow=3.7,SNR=2.4
NVAR Mina Array Bea 106.13 5 PP PP 15 48 54.1 -4.9
comp=Z,0.4nm,0.7s,baz=357,slow=2.9,SNR=3.6
PLCA Paso Flores 147.19 248 PKP2 PKPdf 15 50 02.9 -0.7
PLCA pmax pmax
comp=Z,3.0nm,0.9s
PLCA Paso Flores 147.19 248 PKPbc PKPdf 15 50 02.9 -0.8
comp=Z,2.7nm,0.9s,baz=90,slow=3.0,SNR=2.6

MAN 18 15:35:27.7, 11.07N×125.01E, h1km, mb3.8, ML2.6, MS2.1, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.10**	**342**	*e*P	Pg	15 35 29.9	+0.2
PLP				*e*S	Sg	15 35 52.6	+21
OCLP	**Ormoc**	**0.39**	**267**	*e*P	Pg	15 35 35.5	0.0
MSLP	**Maasin**	**0.94**	**189**	*e*P	Pb	15 35 47.4	+0.9

*NEIC **18** 15:36:18.1, 18.27N×100.64W, h68km, MD3.7(MEX), After MEX.*

MEX 18 15:36:18.1±0.5, 18.27N×100.64W, h68km±17km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**1.03**	**230**	*i* P	P	15 36 35.2	-1.9
ZIIG				*i* S	S	15 36 49.2	-2.0
PLIG	**Platanillo**	**1.08**	**83**	*i* P	P	15 36 36.3	-1.6
PLIG				*i* S	S	15 36 49.5	-3.0
CAIG	**El Cayaco**	**1.26**	**164**	*i* P	P	15 36 38.5	-1.8
CAIG				*i* S	S	15 36 54.8	-1.9
PPM	**Popocatepetl**	**2.06**	**67**	*i* P	P	15 36 50.7	-0.6
PPM				*i* S	S	15 37 15.3	-0.5

IDC 18 15:43:15.6±2.0, 13.57N×91.61E, mb3.9/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=64.9km s-min=25.5km az=70.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.56**	**54**	Pn	P	15 45 21.6	-2.2
	0.1nm,0.3s,baz=242,slow=16,SNR=4.7						
ZAL	**Zalesovo**	**40.63**	**354**	P	P	15 50 57.0	-1.8
	0.6nm,0.4s,baz=156,slow=4.8,SNR=3.2						
WRA	**Warramunga Arr**	**53.63**	**128**	P	P	15 52 38.2	-3.2
	0.4nm,0.5s,baz=306,slow=10,SNR=17						
ASAR	**Alice Springs**	**55.49**	**132**	P	P	15 52 52.8	-2.2
	0.6nm,0.4s,baz=310,slow=7.1,SNR=25						
STKA	**Stephens Creek**	**65.83**	**134**	P	P	15 54 03.9	-1.4
	0.9nm,0.7s,baz=304,slow=11,SNR=2.8						

IDC 18 15:45:51.3±6.6, 4.33N×93.08E, mb3.3/2, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=188.1km s-min=37.2km az=73.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.17**	**22**	Pn	P	15 49 27.6	-1.2
	0.1nm,0.3s,baz=215,slow=12,SNR=5.6						
SONM	**Songino Array**	**44.83**	**13**	P	P	15 54 07.1	-1.9
	0.2nm,0.6s,baz=203,slow=11,SNR=2.2						
WRA	**Warramunga Arr**	**47.17**	**122**	P	P	15 54 25.9	-1.9
	0.5nm,0.6s,baz=302,slow=9.1,SNR=5.9						

*NEIC **18** 16:23:43.6, 30.92S×71.50W, h70km, MD3.6(GUC), After GUC.*

GUC 18 16:23:43.6±1.0, 30.92S×71.50W, h70km±8km, MD3.6, ML3.6, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.49**	**120**	⇑*i*P	P	16 23 57.3	+0.8
CMCH				*i*S	S	16 24 07.2	+1.2
CMCH				AMP		16 24 08.2	
	comp=E,5μm,0.5s						
ILCH	**Illapel**	**0.76**	**158**	*e*P	P	16 23 59.5	+0.1
ILCH				*i*S	S	16 24 11.3	+0.1
ILCH	**Illapel**	**0.76**	**158**	*e*P	P	16 23 59.5	+0.1
ILCH				*i*S	S	16 24 11.3	+0.1
ILCH				AMP		16 24 11.7	
	comp=N,3μm,0.1s						
TLL	**Tololo Astrono**	**0.96**	**39**	*e*P	P	16 24 02.6	+0.7
TLL				*i*S	S	16 24 16.6	+1.1
TLL				AMP		16 24 19.2	
	comp=N,1μm,0.4s						
LSCH	**La Serena**	**1.04**	**12**	*e*P	P	16 24 02.9	0.0
LSCH				*i*S	S	16 24 17.0	-0.1
LSCH				AMP		16 24 18.1	
	comp=N,601nm,0.3s						
PTCH	**Petorca**	**1.42**	**160**	*e*P	P	16 24 07.9	-0.1
PTCH				*i*S	S	16 24 26.1	0.0
PTCH				AMP		16 24 27.4	
	comp=E,2μm,0.3s						
PACH	**Papudo**	**1.61**	**178**	*e*P	P	16 24 09.6	-0.9
PACH				*i*S	S	16 24 29.4	-1.0
JACH	**Jahuel**	**1.92**	**156**	⇓*i*P	P	16 24 14.8	+0.1
JACH				*i*S	S	16 24 38.7	+1.0
FCH	**Farellones**	**2.61**	**157**	*e*P	P	16 24 24.9	+0.4
FCH				*i*S	S	16 24 55.9	+1.0
FCH				AMP		16 24 58.8	
	comp=E,4μm,0.3s						
RCDM	**Rinconada Maip**	**2.62**	**167**	*i*P	P	16 24 23.9	-0.8
RCDM				*i*S	S	16 24 54.5	-0.9
RCDM				AMP		16 24 58.4	
	comp=N,244nm,0.0s						

IDC 18 16:40:46.0±1.4, 4.33N×95.04E, mb3.4/4, mb1 3.5/5, mb1mx3.4/18, mbtmp3.3/5, ML3.1/1, Error ellipse: s-maj=55.2km s-min=24.2km az=51.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.55**	**15**	Pn	P	16 44 13.5	-1.9
	0.0nm,0.3s,baz=194,slow=15,SNR=3.0						
SONM	**Songino Array**	**44.43**	**11**	P	P	16 48 58.5	-1.9
	0.2nm,0.7s,baz=190,slow=10,SNR=2.7						
WRA	**Warramunga Arr**	**45.53**	**123**	P	P	16 49 08.4	-1.1
	0.3nm,0.6s,baz=302,slow=9.3,SNR=5.7						
ASAR	**Alice Springs**	**47.00**	**128**	P	P	16 49 18.7	-2.4
	0.2nm,0.5s,baz=301,slow=7.9,SNR=8.8						
BRTR	**Keskin Array B**	**65.43**	**312**	P	P	16 51 31.1	-1.9
	1.3nm,0.8s,baz=136,slow=11,SNR=2.0						

*THR **18** 16:46:38.7±0.7, 32.51N×49.75E, h14km±7km, ML4.3*
*CSEM **18** 16:46:39.8, 32.47N×49.64E, h40km, mb4.7*
*TEH **18** 16:46:39.9, 32.37N×49.55E, h21km, Mn4.6*
*BJI **18** 16:46:39.5, 32.40N×49.70E, h23km, mB5.2, mb4.7, Ms4.7, Msz4.6*
*IDC **18** 16:46:39.7±2.7, 32.47N×49.68E, h21km±16km, mb4.4/20, mb1 4.5/23, mb1mx4.5/24, mbtmp4.5/23, ML4.3/2, MS3.6/3, Ms1 3.6/3, ms1mx3.5/18, Error ellipse: s-maj=19.4km s-min=12.7km az=12.0*
*NEIC **18** 16:46:39.5±2.5, 32.38N×49.72E, h23km±17km, mb4.6/29, Error ellipse: s-maj=8.6km s-min=6.2km az=171.0*
*MOS **18** 16:46:39.5±1.0, 32.46N×49.69E, h33km, mb4.7/44, Error ellipse: s-maj=9.1km s-min=4.6km az=122.3*
*OMAN **18** 16:46:41.0, 32.00N×49.74E, h10km, Error ellipse: s-maj=14.1km s-min=2.5km az=332.0*

ISC 18 16:46:38.2±0.7, 32.32N±0.02×49.66E±0.02, h28km±5km, h25km±4.0km; pP-P, n239, σ1°19/254, mb4.5/53, MS4.3/5, 12C-11D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGO	**Shushtar**	**0.75**	**254**	*e*PG	**Pb**	**16 46 55.5**	**+2.9**
SHGO	**Shushtar**	**0.75**	**254**	*e*Pg	**Pb**	**16 46 55.5**	**+2.8**
	SNR=90						
SHGR	**Shooshtar-Gavs**	**0.75**	**254**	*e*PG	**Pb**	**16 46 55.5**	**+2.9**
SHGR				AML	AML	16 47 20.8	
	comp=E,9μm,0.9s						
IBRJ	**Borojen**	**1.48**	**112**	Pn	**Pn**	**16 47 03.3**	**0.0**
ASAO	**Ashtian**	**2.24**	**8**	*e*PG	**Pn**	**16 47 15.8**	**+1.5**
ASAO				AML	AML	16 47 59.9	
	comp=N,2μm,0.6s						
IKOM	**Komasi**	**2.58**	**316**	Pn	**Pn**	**16 47 22.6**	**+3.5**
NASN	**Na'in**	**2.71**	**79**	*e*PN	**Pn**	**16 47 22.4**	**+1.4**
IQOM	**Qom**	**2.78**	**25**	Pn	**Pn**	**16 47 22.9**	**+0.9**
IQOM				Sn	**Sn**	**16 47 54.8**	**-0.1**
IRAZ	**Razeghan**	**3.08**	**4**	Pn	**Pn**	**16 47 27.5**	**+1.2**
IRAZ				Sn	**Sn**	**16 48 01.2**	**-1.5**
IVIS	**Veys**	**3.21**	**314**	Pn	**Pn**	**16 47 28.9**	**+0.8**
IGHG	**Ghaleghazi**	**3.27**	**309**	Pn	**Pn**	**16 47 27.5**	**-1.4**
SNGE	**Sanandaj**	**3.37**	**326**	*e*PN	**Pn**	**16 47 31.7**	**+1.4**
SNGE				AML	AML	16 48 34.4	
	comp=N,822nm,0.6s						
ISAD	**Sadrabad**	**3.44**	**96**	Pn	**Pn**	**16 47 33.1**	**+1.7**
IMHD	**Mahdasht**	**3.46**	**14**	Pn	**Pn**	**16 47 32.2**	**+0.6**
IMHD				Sn	**Sn**	**16 48 10.5**	**-1.7**
IDHR	**Dehrash**	**3.62**	**312**	Pn	**Pn**	**16 47 33.0**	**-0.9**
IDMV	**Damavand**	**3.80**	**31**	Pn	**Pn**	**16 47 36.9**	**+0.4**
DAMV	**Damavand**	**3.82**	**30**	*e*PN	**Pn**	**16 47 37.2**	**+0.4**
DAMV				AML	AML	16 48 52.1	
	comp=N,409nm,0.6s						
IPAR	**Pars**	**3.82**	**129**	Pn	**Pn**	**16 47 38.4**	**+1.6**
IAFJ	**Afjeh**	**3.92**	**25**	Pn	**Pn**	**16 47 38.4**	**+0.3**
IAFJ				Sn	**Sn**	**16 48 21.8**	**-1.9**
ICHK	**Chekchek**	**4.03**	**90**	Pn	**Pn**	**16 47 40.4**	**+0.7**
ISRV	**Sarvestan**	**4.18**	**134**	Pn	**Pn**	**16 47 43.0**	**+1.2**
IFIR	**Firoozkooh**	**4.19**	**37**	Pn	**Pn**	**16 47 42.4**	**+0.3**
IFIR				Sn	**Sn**	**16 48 28.9**	**-1.9**
IMOK	**Mook**	**4.20**	**140**	Pn	**Pn**	**16 47 43.5**	**+1.4**
IMEH	**Mehriz**	**4.32**	**101**	Pn	**Pn**	**16 47 44.7**	**+0.8**
BHD	**Baghdad**	**4.54**	**283**	*e*Pn	**Pn**	**16 47 43.0**	**-4.0**
BHD				*i* Pb	**Pb**	**16 47 55.5**	**-1.6**
BHD				*e*Sn	**Sn**	**16 48 55.0**	**+15**
BHD				*i* Sb	**Sb**	**16 49 03.0**	**+11**
BHD				*i* Lg		16 49 13.0	
BHD				*i* Sg	Sn	16 49 18.0	+38
IBAF	**Bafgh**	**5.08**	**97**	Pn	**Pn**	**16 47 54.8**	**+0.2**
GRMI	**Germi**	**6.63**	**348**	*e*PN	**Pn**	**16 48 15.6**	**-0.8**
TVAN	**Van**	**8.02**	**322**	*i* P	**P**	**16 48 36.4**	**+0.5**
MAKU	**Maku**	**8.09**	**331**	*e*PN	**P**	**16 48 36.5**	**-0.4**
GNI	**Garni**	**8.76**	**334**	*i* P	**P**	**16 48 49.5**	**+3.3**
GNI				pmax	pmax		
	comp=Z,24nm,2.0s						
GNI				MLR	MLR		
	comp=Z,800nm,15.0s						
GNI	**Garni**	**8.76**	**334**	Pn	**P**	**16 48 45.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=168,slow=19,SNR=2.5						
GNI	**Garni**	**8.76**	**334**	*e*P	**P**	**16 48 43.3**	**-2.8**
GNI	**Garni**	**8.76**	**334**	*i* P	**P**	**16 48 49.5**	**+3.3**
	comp=Z,400nm,15.0s						
BEST	**Besiri**	**8.83**	**311**	*i* P	**P**	**16 48 44.8**	**-2.4**
BEST				*i* S	**Sn**	**16 50 24.7**	**-2.2**
RAYN	**Ar Rayn**	**9.50**	**204**	Pn	**P**	**16 48 55.8**	**-0.7**
	comp=Z,582nm,0.7s,SNR=76						
ERZM	**Erzurum**	**10.11**	**321**	*i* P	**P**	**16 49 10.4**	**+5.7**
ELZG	**Elazig**	**10.66**	**308**	*i* P	**P**	**16 49 09.9**	**-2.4**
ASF	**Jabal al Asfar**	**10.80**	**273**	Pn	**P**	**16 49 13.2**	**-1.1**
	comp=Z,6.5nm,0.3s,baz=330,slow=14,SNR=28						
ASF				Sn	**S**	**16 51 15.5**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=38,slow=23,SNR=4.1						
ARQ	**Araqi**	**10.81**	**144**	P	**P**	**16 49 12.1**	**-2.4**
	SNR=33						
ARQ	**Araqi**	**10.81**	**144**	P	**P**	**16 49 12.2**	**-2.3**
	SNR=33						
ARQ				P		16 49 12.2	
	SNR=33						
ARQ				⇓S	**S**	**16 51 09.2**	**-6.4**
MALT	**Malatya**	**10.94**	**306**	*e*P	**P**	**16 49 13.6**	**-2.6**
HOQ	**Hoqain**	**11.02**	**140**	P	**P**	**16 49 15.0**	**-2.3**
	SNR=19						
HOQ				S	**S**	**16 51 17.0**	**-3.7**
HOQ	**Hoqain**	**11.02**	**140**	P	**P**	**16 49 15.0**	**-2.3**
	SNR=19						
HOQ				P		16 49 15.0	
	SNR=19						
HOQ				⇑S	**S**	**16 51 17.0**	**-3.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZT	**Gaziantep**	**11.13**	**300**	*i* P	**P**	**16 49 15.7**	**-3.0**
ZEI	**Tsey**	**11.38**	**338**	*e*P	**P**	**16 49 25.7**	**+3.6**
BIDO	**Bidbid**	**11.53**	**137**	P	**P**	**16 49 21.7**	**-2.5**
	SNR=15						
BIDO				P		16 49 21.7	
	SNR=15						
BSY	**Bisya**	**11.65**	**143**	P	**P**	**16 49 24.4**	**-1.5**
	SNR=36						
BSY				P		16 49 24.4	
	SNR=36						
BSYO	**Bisya**	**11.68**	**143**	P	**P**	**16 49 24.4**	**-1.9**
	SNR=36						
SMDO	**Samad**	**11.85**	**139**	P	**P**	**16 49 25.7**	**-2.8**
	SNR=75						
SMDO				P		16 49 25.7	
	SNR=75						
JMDO	**Jabal Madar**	**12.43**	**141**	P	**P**	**16 49 35.0**	**-1.3**
	SNR=58						
JMDO				P		16 49 35.0	
	SNR=58						
WBK	**Wadi Bani Khal**	**12.72**	**137**	P	**P**	**16 49 38.2**	**-1.9**
	SNR=13						
WBK				P		16 49 38.2	
	SNR=13						
KIV	**Kislovodsk**	**12.84**	**337**	*i* P	**P**	**16 49 45.1**	**+3.4**
KIV				pmax	pmax		
	comp=Z,27nm,2.2s						
KIV	**Kislovodsk**	**12.84**	**337**	P	**P**	**16 49 42.4**	**+0.7**
KIV	**Kislovodsk**	**12.84**	**337**	P	**P**	**16 49 42.4**	**+0.7**
EIL	**Elat**	**12.89**	**262**	Pn	**P**	**16 49 41.4**	**-1.0**
	comp=Z,2.3nm,0.3s,baz=84,slow=11,SNR=12						
EIL				LR	LR	16 55 09.2	
	comp=Z,392nm,20.6s,baz=115,slow=39						
EIL	**Elat**	**12.89**	**262**	*e*P	**P**	**16 49 40.3**	**-2.1**
AVNT	**Avonos**	**13.66**	**302**	*i* P	**P**	**16 50 02.6**	**+10**
SOC	**Sochi**	**13.69**	**328**	*e*P	**P**	**16 49 55.1**	**+2.2**
SOC				pmax	pmax		
	comp=N,8.0nm,0.8s						
SOC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.9s						
SOC				MLR	MLR		
	comp=Z,667nm,12.0s						
SOC				MLR	MLR		
	comp=N,587nm,11.0s						
SOC				MLR	MLR		
	comp=E,342nm,13.0s						
SOC	**Sochi**	**13.69**	**328**	*e*P	**P**	**16 49 55.1**	**+2.2**
	comp=E,294nm,11.0s						
CTKT	**Corum**	**14.53**	**309**	*i* P	**P**	**16 50 12.3**	**+8.3**
BOYT	**Boyabat**	**14.88**	**312**	*i* P	**P**	**16 50 09.6**	**+1.1**
BRTR	**Keskin Array B**	**14.90**	**304**	Pn	**P**	**16 50 09.0**	**+0.1**
	comp=E,0.3nm,0.3s,baz=125,slow=12,SNR=16						
ABTO	**Aybut**	**15.26**	**167**	P	**P**	**16 50 12.9**	**-0.8**
	SNR=39						
ABTO				P		16 50 12.9	
	SNR=39						
RBK	**Rabkut**	**15.32**	**163**	P	**P**	**16 50 13.6**	**-0.8**
	SNR=35						
RBK				P		16 50 13.6	
	SNR=35						
ELDT	**Eldivan**	**15.38**	**307**	*i* P	**P**	**16 50 20.1**	**+5.0**
BALT	**Daday**	**15.91**	**310**	*i* P	**P**	**16 50 22.3**	**+0.4**
ESKT	**Eskisehir**	**16.82**	**301**	*i* P	**P**	**16 50 38.9**	**+5.5**
DNZL	**Cakiroluk**	**17.70**	**293**	*i* P	**P**	**16 50 44.8**	**+0.4**
MANT	**Manisa**	**18.25**	**296**	*i* P	**P**	**16 50 52.9**	**+1.6**
ULDT	**Uludag**	**18.27**	**301**	*i* P	**P**	**16 50 50.4**	**-1.2**
SANT	**Santorini**	**20.37**	**288**	*e*P	**P**	**16 51 13.8**	**-1.6**
	comp=E,98nm,0.6s						
SANT	**Santorini**	**20.37**	**288**	*e*P	**P**	**16 51 13.8**	**-1.6**
	comp=E,98nm,0.6s						
IDI	**Anoyia**	**20.78**	**285**	P	**P**	**16 51 20.3**	**+0.7**
	comp=E,84nm,0.5s,baz=77,slow=14,SNR=90						
VOR	**Voronezh**	**20.85**	**342**	P	**P**	**16 51 19.5**	**-0.8**
VOR				pmax	pmax		
	comp=Z,100nm,1.7s						
VOR	**Voronezh**	**20.85**	**342**	P	**P**	**16 51 19.5**	**-0.8**
	comp=Z,50nm,1.7s						
CFR	**Carcaliu**	**21.05**	**314**	⇓*i*P	**P**	**16 51 22.1**	**-0.2**
ISR	**Istrita**	**22.01**	**312**	⇓*i*P	**P**	**16 51 33.4**	**+1.4**
AAK	**Ala-Archa**	**22.16**	**55**	*e*P	**P**	**16 51 31.8**	**-1.7**
AAK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.3						
AAK	**Ala-Archa**	**22.16**	**55**	*e*P	**P**	**16 51 31.8**	**-1.7**
	comp=Z,12nm,1.0s,mb4.3						
AAK	**Ala-Archa**	**22.16**	**55**	*e*P	**P**	**16 51 31.8**	**-1.7**
	comp=Z,6.0nm,1.0s,mb4.0						
VRI	**Vrincioaia**	**22.25**	**314**	⇑*i*P	**P**	**16 51 35.8**	**+1.4**
MLR	**Muntele Rosu**	**22.55**	**312**	P	**P**	**16 51 39.3**	**+1.9**
	comp=Z,26nm,0.6s,mb4.8,baz=0.3,slow=15,SNR=24						
MLR	**Muntele Rosu**	**22.55**	**312**	⇓*i*P	**P**	**16 51 39.4**	**+2.0**
VTS	**Vitosha**	**23.28**	**304**	⇓P	**P**	**16 51 46.0**	**+1.6**
VTS	**Vitosha**	**23.28**	**304**	P	**P**	**16 51 46.0**	**+1.6**
AKASG	**Malin Array Be**	**23.77**	**327**	P	**P**	**16 51 48.4**	**-0.7**
AKASG						16 55 33.3	
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.4s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**23.77**	**327**	P	**P**	**16 51 48.4**	**-0.7**
	comp=Z,5.5nm,0.4s,mb4.3,baz=136,slow=8.6,SNR=63						
AKASG				PcP	PcP	16 55 33.3	-0.7
	comp=Z,1.1nm,0.5s,baz=75,slow=2.6,SNR=7.5						
BURAR	**Bucovina Array**	**24.03**	**317**	⇑P	**P**	**16 51 53.8**	**+2.1**
BURAR	**Bucovina Array**	**24.03**	**317**	⇑P	**P**	**16 51 53.8**	**+2.1**
BOLS	**Boljevac**	**24.53**	**306**	⇑*i*P	**P**	**16 51 58.2**	**+1.6**
OBN	**Obninsk**	**24.59**	**342**	*e*P	**P**	**16 51 55.0**	**-2.0**
OBN				*e*		16 52 49.7	
OBN				pmax	pmax		
	comp=Z,29nm,0.5s,mb5.1						
OBN				MLR	MLR		
	comp=Z,300nm,20.0s,MS3.8						
OBN	**Obninsk**	**24.59**	**342**	*e*P	**P**	**16 51 54.2**	**-2.8**
	comp=Z,67nm,0.5s,mb5.4						
OBN	**Obninsk**	**24.59**	**342**	*i* P	**P**	**16 51 55.0**	**-2.0**
	comp=Z,14nm,0.5s,mb4.8						
MOS	**Moscow**	**24.88**	**344**	*e*P	**P**	**16 52 03.0**	**+3.1**
MOS				pmax	pmax		
	comp=Z,84nm,0.9s,mb5.3						
ARU	**Arti**	**24.89**	**12**	⇑*i*P	**P**	**16 51 57.0**	**-2.9**
ARU				*e*		16 52 36.4	
ARU				*e*PPP	PPP	16 52 47.3	-0.8
ARU				*e*SS	rx	16 57 35.1	
ARU				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.5						
ARU	**Arti**	**24.89**	**12**	*e*P	**P**	**16 51 56.4**	**-3.5**
	comp=Z,19nm,1.1s,mb4.5						
ARU	**Arti**	**24.89**	**12**	*i* P	**P**	**16 51 57.0**	**-2.9**
	comp=Z,8.5nm,1.0s,mb4.2						
GRUS	**Gruza**	**25.40**	**305**	⇓*i*P	**P**	**16 52 06.8**	**+1.9**
BRVK	**Borovoye**	**25.51**	**30**	*e*P	**P**	**16 52 05.0**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
BRVK	**Borovoye**	**25.51**	**30**	*e*P	**P**	**16 52 05.0**	**-0.8**
	comp=Z,2.0nm,0.8s,mb3.7						
BVAR	**Borovoye Array**	**25.53**	**30**	P	**P**	**16 52 06.0**	**0.0**
	comp=Z,2.3nm,0.5s,mb4.0,baz=230,slow=7.4,SNR=27						
BVAR				PcP	PcP	16 55 37.0	-0.8
	comp=Z,0.9nm,0.5s,baz=190,slow=3.6,SNR=9.8						
BVAR				ScP		16 59 14.3	
	comp=Z,1.0nm,0.5s,baz=213,slow=2.3,SNR=10						
LVV	**L'vov**	**25.86**	**320**	*e*P	**P**	**16 52 11.1**	**+2.0**
CHKZ	**Chkalovo**	**26.09**	**29**	*e*P	**P**	**16 52 10.6**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
CHKZ	**Chkalovo**	**26.09**	**29**	*e*P	**P**	**16 52 10.6**	**-0.6**
	comp=Z,2.4nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**26.09**	**29**	*e*P	**P**	**16 52 10.6**	**-0.6**
	comp=Z,1.0nm,0.5s,mb3.6						
KOLS	**Kolonicke sedl**	**26.39**	**317**	*i* P	**P**	**16 52 18.3**	**+4.3**
KWP	**Kalwaria**	**26.49**	**319**	*e*P	**P**	**16 52 15.1**	**+0.2**
KWP				pmax	pmax		
	comp=Z,21nm,0.6s,mb4.8						
KWP	**Kalwaria**	**26.49**	**319**	*e*P	**P**	**16 52 15.1**	**+0.2**
	comp=Z,21nm,0.6s,mb4.8						
KWP	**Kalwaria**	**26.49**	**319**	*e*P	**P**	**16 52 15.1**	**+0.2**
	comp=Z,10nm,0.6s,mb4.5						
CRVS	**Cervenica-Dubn**	**26.85**	**316**	*e*P	**P**	**16 52 19.2**	**+1.0**
PSZ	**Piszkesteto**	**27.36**	**313**	*e*P	**P**	**16 52 22.7**	**-0.2**
PSZ				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.5						
PSZ	**Piszkesteto**	**27.36**	**313**	*e*P	**P**	**16 52 22.7**	**-0.2**
	comp=Z,7.9nm,0.5s,mb4.5						
PSZ	**Piszkesteto**	**27.36**	**313**	*e*P	**P**	**16 52 22.7**	**-0.2**
	comp=Z,4.0nm,0.5s,mb4.2						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKSM	**Moragy**	**27.53**	**309**	⇑*e*P	**P**	**16 52 25.8**	**+1.4**
PKSM	**Moragy**	**27.53**	**309**	*e*P	**P**	**16 52 25.8**	**+1.4**
KURK	**Kurchatov**	**28.16**	**41**	*e*P	**P**	**16 52 30.1**	**+0.1**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
KURK	**Kurchatov**	**28.16**	**41**	*e*P	**P**	**16 52 30.1**	**+0.1**
	comp=Z,5.0nm,0.8s,mb4.2						
KURK	**Kurchatov**	**28.16**	**41**	*e*P	**P**	**16 52 30.1**	**+0.1**
	comp=Z,2.5nm,0.8s,mb3.9						
VYHS	**Vyhne**	**28.24**	**314**	*e*P	**P**	**16 52 31.4**	**+0.6**
OJC	**Ojcow**	**28.42**	**318**	*e*P	**P**	**16 52 32.7**	**+0.3**
OKC	**Ostrava-Krasne**	**29.20**	**316**	*e*P	**P**	**16 52 38.8**	**-0.7**
MORC	**Moravsky Berou**	**29.53**	**316**	*e*P	**P**	**16 52 42.3**	**-0.2**
BOJS	**Bojanci**	**29.59**	**306**	*i* P	**P**	**16 52 43.8**	**+0.7**
ARSA	**Arzberg**	**29.89**	**310**	⇑*i*P	**P**	**16 52 46.8**	**+1.1**
VRAC	**Vranov**	**29.92**	**314**	P	**P**	**16 52 45.9**	**0.0**
VRAC				pmax	pmax		
	comp=Z,4.0nm,0.5s						
VRAC	**Vranov**	**29.92**	**314**	P	**P**	**16 52 45.9**	**-0.1**
	comp=Z,3.6nm,0.5s,mb4.4,baz=85,slow=10,SNR=5.3						
VRAC	**Vranov**	**29.92**	**314**	*e*P	**P**	**16 52 45.8**	**-0.1**
HYB	**Hyderabad**	**30.00**	**113**	*i* P	**P**	**16 52 48.5**	**+1.5**
CEY	**Cerknica**	**30.21**	**307**	*i* P	**P**	**16 52 50.1**	**+1.6**
GKN	**Gorkha**	**30.47**	**89**	*e*P	**P**	**16 52 51.3**	**+0.3**
	comp=Z,12nm,0.5s,mb4.8						
DPC	**Dobruska-Polom**	**30.48**	**316**	*e*P	**P**	**16 52 50.4**	**-0.5**
JAVS	**Javornik**	**30.49**	**307**	*i* P	**P**	**16 52 51.6**	**+0.6**
UPC	**Upice**	**30.73**	**316**	*e*P	**P**	**16 52 52.7**	**-0.3**
MOA	**Molln**	**30.88**	**311**	⇑*i*P	**P**	**16 52 54.4**	**0.0**
DMN	**Daman**	**30.98**	**89**	*e*P	**P**	**16 52 56.5**	**+1.0**
KKN	**Kakani**	**31.07**	**89**	*e*P	**P**	**16 52 56.9**	**+0.6**
	comp=Z,27nm,0.7s,mb5.2						
PKI	**Pulchoki**	**31.25**	**89**	*e*P	**P**	**16 52 59.3**	**+1.4**
KBA	**Koelnbreinsper**	**31.27**	**309**	⇑*i*P	**P**	**16 52 58.3**	**+0.5**
GERES	**GERESS Array B**	**31.54**	**312**	P	**P**	**16 52 59.7**	**-0.5**
GERES						16 55 52.6	
GERES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**31.54**	**312**	P	**P**	**16 52 59.7**	**-0.5**
	comp=Z,4.0nm,0.5s,mb4.5,baz=111,slow=8.4,SNR=62						
GERES				PcP	PcP	16 55 52.6	0.0
	comp=Z,0.6nm,0.5s,baz=135,slow=3.8,SNR=5.4						
GERES				ScP		16 59 35.3	
	comp=Z,0.4nm,0.7s,baz=104,slow=5.5,SNR=3.6						
PVCC	**Panska Ves**	**31.59**	**316**	*e*P	**P**	**16 53 00.5**	**-0.1**
KHC	**Kasperske Hory**	**31.71**	**313**	*e*P	**P**	**16 53 00.4**	**-1.3**
KHC				*e*		16 53 12.0	
KHC	**Kasperske Hory**	**31.71**	**313**	*e*P	**P**	**16 53 00.4**	**-1.3**
KHC				pP	pP	16 53 12.0	+2.1
WMQ	**Urumqi**	**31.81**	**58**	*e*P	**P**	**16 53 03.8**	**+1.2**
WMQ				AP	pP	16 53 11.0	+0.2
WMQ				XP	sP	16 53 14.1	-0.2
WMQ				PP	PP	16 54 09.4	+1.1
WMQ				S	**S**	**16 58 11.4**	**+1.4**
WMQ				XS		16 58 23.5	
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,20nm,4.3s						
WMQ				LR	LR		
	comp=N,654nm,18.4s,MS4.5						
WMQ				LR	LR		
	comp=E,622nm,18.9s,MS4.5						
WMQ				LR	LR		
	comp=Z,872nm,19.0s,MS4.5						
JIRN	**Jiri**	**31.88**	**89**	*e*P	**P**	**16 53 04.2**	**+0.8**
	comp=Z,20nm,0.7s,mb5.1						
WTTA	**Wattenberg**	**32.44**	**309**	⇑*i*P	**P**	**16 53 08.4**	**+0.3**
WATA	**Walderalm**	**32.50**	**309**	⇓*i*P	**P**	**16 53 08.6**	**0.0**
NVS	**Novosibirsk**	**32.64**	**36**	*e*P	**P**	**16 53 09.8**	**+0.1**
SQTA	**Sankt Quirin**	**32.72**	**308**	⇓*i*P	**P**	**16 53 10.1**	**-0.4**
NKC	**Novy Kostel**	**32.76**	**314**	*e*P	**P**	**16 53 04.5**	**-6.3**
JOF	**Joensuu**	**32.76**	**345**	*e*p	**P**	**16 53 08.5**	**-2.2**
CLL	**Collm**	**32.80**	**316**	*e*P	**P**	**16 53 12.0**	**+0.9**
CLL				*e*		16 53 17.0	
CLL	**Collm**	**32.80**	**316**	P	**P**	**16 53 12.0**	**+0.9**
CLL				*e**PP	pP	16 53 17.0	-2.3
MOTA	**Moosalm**	**32.82**	**309**	⇑*i*P	**P**	**16 53 10.5**	**-0.8**
FINES	**FINESS Array B**	**32.91**	**339**	*i* P	**P**	**16 53 10.5**	**-1.5**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.5s						
FINES	**FINESS Array B**	**32.91**	**339**	P	**P**	**16 53 10.5**	**-1.5**
	comp=Z,5.2nm,0.5s,mb4.7,baz=142,slow=9.7,SNR=32						
FINES	**FINESS Array B**	**32.91**	**339**	*i* P	**P**	**16 53 10.5**	**-1.5**
	comp=Z,2.5nm,0.

NB2 NORSAR Subarra 38.04 331 P **P** **16 53 54.2 -1.5**
comp=Z,4.1nm,0.5s,mb4.4,baz=123,slow=8.6
NB2 NORSAR Subarra 38.04 331 P **P** **16 53 54.2 -1.5**
NB2 pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
NOA NORSAR Array B 38.04 331 P **P** **16 53 54.6 -1.1**
NOA 16 55 22.2
NOA pmax pmax
comp=Z,4.0nm,0.5s
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,13nm,18.5s
NOA NORSAR Array B 38.04 331 P **P** **16 53 54.5 -1.1**
comp=Z,3.9nm,0.5s,baz=122,slow=8.3,SNR=25
NOA PP PP 16 55 22.1 -3.9
comp=Z,2.1nm,0.7s,baz=128,slow=11,SNR=4.1
NOA LR LR 17 09 38.3
comp=Z,13nm,18.5s,baz=310,slow=36
CAF Calviac 38.73 303 *eP* **P** **16 54 01.9 +0.3**
KEV Kevo 39.57 348 *ep* **P** **16 54 06.6 -1.8**
ARCES ARCESS Array B 39.66 347 P **P** **16 54 08.8 -0.4**
ARCES 16 55 39.1
ARCES 17 00 03.2
ARCES pmax pmax
comp=Z,4.0nm,0.6s
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES pmax pmax
comp=N,2.0nm,0.7s
ARCES ARCESS Array B 39.66 347 P **P** **16 54 08.8 -0.4**
comp=N,4.0nm,0.6s,mb4.4,baz=151,slow=6.9,SNR=26
ARCES PP PP 16 55 39.1 -5.0
comp=N,3.9nm,0.8s,baz=150,slow=9.8,SNR=4.5
ARCES ScP 17 00 03.2
comp=N,2.1nm,0.7s,baz=135,slow=3.4,SNR=11
ARCES ARCESS Array B 39.66 347 P **P** **16 54 08.8 -0.4**
ARCES PP PP 16 55 39.1 -5.0
ARCES ScP 17 00 03.2
FLN La Foliniere 40.71 309 *eP* **P** **16 54 17.5 -0.5**
ZAK Zakamensk 43.09 49 *eP* **P** **16 54 37.9 +0.5**
ESDC Sonseca Array 43.45 295 P **P** **16 54 41.9 +1.4**
comp=N,0.4nm,0.4s,mb3.5,baz=82,slow=10,SNR=4.7
LZH Lanzhou 44.49 70 *eP* **P** **16 54 49.3 +0.3**
LZH AP pP 16 54 56.5 -0.8
LZH XP sP 16 54 59.6 -1.2
LZH PP PP 16 56 34.5 +0.5
LZH AMB AMB
comp=Z,24nm,1.5s,mb4.7
LZH AMB AMB
comp=Z,112nm,5.0s
LZH LR LR
comp=N,446nm,13.2s
LZH LR LR
comp=Z,587nm,17.0s,MS4.6
SONM Songino Array 45.09 53 P **P** **16 54 55.2 +1.6**
comp=Z,0.6nm,0.5s,mb3.7,baz=281,slow=8.1,SNR=9.5
ULN Ulaanbaatar 45.53 53 *eP* **P** **16 54 57.6 +0.5**
ULN pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ULN Ulaanbaatar 45.53 53 *eP* **P** **16 54 57.6 +0.5**
comp=Z,6.5nm,0.9s,mb4.6
CMAR Chiang Mai Arr 46.24 95 P **P** **16 55 03.7 +0.6**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CMAR Chiang Mai Arr 46.24 95 P **P** **16 55 03.7 +0.6**
comp=Z,3.8nm,0.7s,mb4.4,baz=292,slow=8.2,SNR=29
BOD Bodaibo 49.79 39 *eP* **P** **16 55 28.7 -1.5**
LSZ Lusaka 51.60 207 P **P** **16 55 45.8 +1.3**
LSZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
LSZ Lusaka 51.60 207 P **P** **16 55 45.8 +1.2**
comp=Z,2.2nm,0.6s,mb4.3
TIXI Tiksi 56.30 22 *eP* **P** **16 56 19.1 +0.8**
TIXI pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
DBIC Dimbokro 56.66 256 P **P** **16 56 22.4 +0.7**
DBIC pmax pmax
comp=Z,5.0nm,0.7s
DBIC MLR MLR
comp=Z,213nm,21.4s
DBIC Dimbokro 56.66 256 P **P** **16 56 22.4 +0.7**
comp=Z,5.1nm,0.7s,mb4.7,baz=24,slow=7.7,SNR=8.9
DBIC LR LR 17 23 53.1
comp=Z,213nm,21.4s,MS4.2,baz=253,slow=39
DBIC Dimbokro 56.66 256 P **P** **16 56 22.4 +0.7**
MDJ Mudanjiang 61.44 53 P **P** **16 56 52.5 -1.9**
MDJ SCP 17 01 34.5
MDJ PCS 17 01 37.5
MDJ S **S** **17 05 12.3 +0.3**
MDJ AMB AMB
comp=Z,323nm,10.8s
MDJ LR LR
comp=N,172nm,25.1s,MS4.3
MDJ LR LR
comp=E,196nm,25.1s,MS4.3
MDJ LR LR
comp=Z,410nm,25.9s,MS4.5
BILL Bilibino 69.49 21 *eP* **P** **16 57 46.8 +1.0**
BILL pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
SCHQ Schefferville 77.55 328 P **P** **16 58 32.5 -0.4**
comp=Z,2.3nm,0.4s,mb4.4,baz=315,slow=8.6,SNR=18
INK Inuvik 79.65 1 *eP* **P** **16 58 43.2 -0.9**
INK pmax pmax
comp=Z,2.0nm,0.5s
INK Inuvik 79.65 1 *eP* **P** **16 58 43.2 -0.9**
comp=Z,2.2nm,0.5s,mb4.3
IMA Indian Mountai 80.29 9 *eP* **P** **16 58 47.8 +0.3**
COLA College 82.16 7 P **P** **16 58 58.5 +1.2**
COLA pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
COLA College 82.16 7 P **P** **16 58 58.5 +1.1**
comp=Z,3.2nm,0.6s,mb4.4
ILAR Eielson Array 82.36 7 P **P** **16 58 58.3 -0.1**
ILAR pmax pmax
comp=Z,2.0nm,0.6s
ILAR Eielson Array 82.36 7 P **P** **16 58 58.3 -0.1**
comp=Z,1.6nm,0.6s,mb4.1,baz=318,slow=4.1,SNR=14
MCK McKinley 83.14 8 *eP* **P** **16 59 02.5 0.0**
MCK pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
MCK McKinley 83.14 8 *eP* **P** **16 59 02.5 0.0**
comp=Z,1.1nm,0.6s,mb4.1
FCC Fort Churchill 84.36 342 *eP* **P** **16 59 08.8 +0.2**
FCC pmax pmax
comp=Z,6.0nm,0.5s,mb5.0
FCC Fort Churchill 84.36 342 *eP* **P** **16 59 08.8 +0.1**
comp=Z,5.7nm,0.5s,mb5.0
YKW3 Yellowknife Ar 84.61 353 *eP* **P** **16 59 09.3 -0.5**
YKA Yellowknife Ar 84.67 353 P **P** **16 59 10.4 +0.3**
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 84.67 353 P **P** **16 59 10.4 +0.3**
comp=Z,2.3nm,0.6s,mb4.5,baz=6.0,slow=5.0,SNR=33
NWAO Narrogin (SRO) 90.93 129 P **P** **16 59 42.5 +1.5**
NWAO pmax pmax
comp=Z,4.0nm,0.6s
NWAO Narrogin (SRO) 90.93 129 P **P** **16 59 42.5 +1.5**
comp=Z,4.3nm,0.6s,mb5.0,baz=85,slow=23,SNR=4.6
WRA Warramunga Arr 96.12 110 P **P** **17 00 05.3 +0.2**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 96.12 110 P **P** **17 00 05.3 +0.2**
comp=Z,0.5nm,0.6s,mb4.1,baz=316,slow=4.1,SNR=8.1
ASAR Alice Springs 97.74 113 P **P** **17 00 11.9 -0.4**
comp=Z,0.3nm,0.6s,mb4.0,baz=308,slow=4.2,SNR=7.6

IDC 18 16:47:33.5±26.0, 22.63S×173.92W, mb3.8/4, mb1 3.9/4, mb1mx3.7/15, mbtmp3.8/4, Error ellipse: s-maj=483.2km s-min=140.2km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.11**	**266**	P		16 54 46.5	-1.2
	2.5nm,0.5s,baz=104,slow=12,SNR=10						
STKA	**Stephens Creek**	**40.38**	**247**	P		16 55 13.2	-1.6
	0.7nm,0.8s,baz=66,slow=12,SNR=2.4						
ASAR	**Alice Springs**	**47.77**	**258**	P		16 56 12.6	-1.9
	0.9nm,1.0s,baz=90,slow=8.2,SNR=11						
WRA	**Warramunga Arr**	**48.10**	**263**	P		16 56 14.6	-2.5
	0.2nm,0.4s,baz=104,slow=8.4,SNR=15						

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*IDC **18** 16:56:37.1±2.5, 34.08N×104.81E, mb3.3/2, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, ML3.6/2, Error ellipse: s-maj=96.3km s-min=28.6km az=91.0*
*BJI **18** 16:56:39.4, 34.21N×104.83E, h15km, mB4.8, mb4.1, ML3.7, Ms3.6*
ISC 18 16:56:35.6±1.2, 34.19N±0.06×104.99E±0.07, h8km±8km, n6, σ0§70/12, mb3.5/2, Gansu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	**2.12**	**334**	P		**16 57 16.1**	**+4.4**
LZH				PG		**16 57 18.0**	**+0.2**
LZH				SG		**16 57 46.3**	**+0.3**
LZH				Smax			
	comp=N,2μm,1.0s						
LZH				Smax			
	comp=E,2μm,1.0s						
XAN	**Xi'an**	**3.27**	**91**	P		**16 57 33.8**	**+5.7**
XAN				PG		**16 57 39.3**	**-1.5**
XAN				S		**16 58 14.3**	**+6.7**
XAN				SG		**16 58 25.1**	**+0.8**
XAN				Smax			
	comp=N,448nm,1.1s						
XAN				Smax			
	comp=E,269nm,0.6s						
SONM	**Songino Array**	**13.68**	**4**	Pn		**16 59 52.3**	**+0.2**
	comp=E,0.3nm,0.3s,baz=187,slow=14,SNR=13						
SONM				Sn		**17 02 24.7**	**-0.6**
	comp=E,0.1nm,0.3s,baz=184,slow=20,SNR=3.5						
SONM				Lg		17 03 58.9	
	comp=E,0.1nm,0.3s,baz=196,slow=31,SNR=3.7						
CMAR	**Chiang Mai Arr**	**16.57**	**201**	Pn		**17 00 29.4**	**-0.4**
	comp=E,0.0nm,0.3s,baz=9.6,slow=12,SNR=7.0						
WRA	**Warramunga Arr**	**60.65**	**148**	P		**17 06 49.6**	**0.0**
	comp=E,0.5nm,1.0s,mb3.6,baz=340,slow=7.1,SNR=5.1						
ASAR	**Alice Springs**	**63.76**	**150**	P		**17 07 11.3**	**+0.9**
	comp=E,0.3nm,0.7s,mb3.4,baz=328,slow=6.3,SNR=4.1						

IDC 18 17:05:00.6±2.4, 21.62N×143.10E, h311km±24km, mb3.1/8, mb1 3.3/9, mb1mx3.1/22, mbtmp3.9/9, Error ellipse: s-maj=36.9km s-min=12.5km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.52**	**352**	P		17 06 24.1	-1.0
	14nm,0.3s,baz=275,slow=21,SNR=4.1						
SONM	**Songino Array**	**39.35**	**321**	P		17 12 01.3	-0.4
	0.2nm,0.5s,baz=127,slow=7.5,SNR=3.8						
WRA	**Warramunga Arr**	**42.18**	**192**	P		17 12 23.7	-1.4
	0.6nm,0.4s,baz=16,slow=9.1,SNR=38						
ASAR	**Alice Springs**	**45.89**	**192**	P		17 12 52.9	-1.7
	0.4nm,0.7s,baz=17,slow=9.6,SNR=5.2						
STKA	**Stephens Creek**	**53.21**	**182**	P		17 13 47.2	-2.2
	0.2nm,0.3s,baz=101,slow=12,SNR=3.1						
BVAR	**Borovoye Array**	**62.68**	**320**	P		17 14 52.5	-1.8
	1.3nm,0.4s,baz=100,slow=7.7,SNR=15						
YKA	**Yellowknife Ar**	**76.56**	**28**	P		17 16 17.2	-0.9
	0.8nm,0.8s,baz=290,slow=5.6,SNR=7.0						
ARCES	**ARCESS Array B**	**78.97**	**341**	P		17 16 29.9	-1.1
	2.5nm,0.9s,baz=53,slow=6.1,SNR=5.8						
FINES	**FINESS Array B**	**83.22**	**334**	P		17 16 50.3	-2.8
	2.6nm,0.9s,baz=63,slow=6.2,SNR=5.4						

IDC 18 17:12:13.9±7.4, 4.95S×135.55E, mb4.1/1, mb1 4.0/4, mb1mx3.7/12, mbtmp3.9/4, ML3.1/3, Error ellipse: s-maj=105.3km s-min=46.9km az=156.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**12.34**	**112**	Pn		17 15 10.3	-3.6
	0.3nm,0.3s,baz=290,slow=12,SNR=2.4						
WRA	**Warramunga Arr**	**14.95**	**184**	Pn		17 15 45.4	-3.1
	0.1nm,0.3s,baz=6.5,slow=13,SNR=5.7						
WRA				Sn		17 18 36.4	+0.6
	0.1nm,0.3s,baz=1.5,slow=23,SNR=4.3						
ASAR	**Alice Springs**	**18.67**	**185**	P		17 16 32.6	-3.1
	0.4nm,0.3s,baz=11,slow=11,SNR=40						
STKA	**Stephens Creek**	**27.38**	**169**	P		17 18 01.9	-1.1
	1.2nm,0.5s,baz=330,slow=8.1,SNR=5.8						

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*CSEM **18** 17:15:29.5±2.3, 45.13N×28.87E, MD3.0/4, Error ellipse: s-maj=16.7km s-min=9.3km az=119.0, After BUC*
*NEIC **18** 17:15:30.3, 45.14N×28.88E, h0km, ML3.8(BUC), After BUC.*
BUC 18 17:15:29.4±1.8, 45.12N×28.86E, MD3.0/4, 6C-6D, Error ellipse: s-maj=12.9km s-min=6.8km az=118.0, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLCR		**0.07**	**332**	↓*iP*		17 15 30.7	-0.1
TLCR				*i* S		17 15 32.5	+0.7
TLCR		**0.07**	**332**	↓*iP*		17 15 30.7	-0.1
TLCR				*i* S		17 15 32.5	+0.7
CFR	**Carcaliu**	**0.52**	**276**	↓*iP*		17 15 39.6	-0.1
CFR				*i* S		17 15 47.7	+1.1
CFR	**Carcaliu**	**0.52**	**276**	↓*iP*		17 15 39.6	-0.1
CFR				*i* S		17 15 47.7	+1.1
BRD	**Bordesti**	**1.36**	**289**	↑*iP*		17 15 57.5	+2.0
BRD				*i* S		17 16 19.4	+6.0
BRD	**Bordesti**	**1.36**	**289**	↑*iP*		17 15 57.5	+2.0
BRD				*i* S		17 16 19.4	+6.0
ISR	**Istrita**	**1.64**	**271**	↑*iP*		17 16 00.9	+1.2
ISR				*i* S		17 16 24.8	+3.4
ISR	**Istrita**	**1.64**	**271**	↑*iP*		17 16 00.9	+1.2
ISR				*i* S		17 16 24.8	+3.3
VRI	**Vrincioaia**	**1.68**	**297**	↓*iP*		17 16 01.0	+0.9
VRI				*i* S		17 16 23.7	+1.3
VRI	**Vrincioaia**	**1.68**	**297**	↓*iP*		17 16 01.0	+0.8
VRI				*i* S		17 16 23.7	+1.3
MLR	**Muntele Rosu**	**2.09**	**281**	↑*iP*		17 16 07.2	+1.1
MLR				*i* S		17 16 36.7	+3.5
MLR	**Muntele Rosu**	**2.09**	**281**	↑*iP*		17 16 07.2	+1.1
MLR				*i* S		17 16 36.7	+3.5

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*IDC **18** 17:23:44.4±0.9, 67.08N×21.17E, mb1 2.9/4, mb1mx2.9/18, mbtmp2.9/4, ML2.4/4, Error ellipse: s-maj=18.5km s-min=8.0km az=118.0*
*HEL **18** 17:23:44.0±0.1, 67.07N×20.94E, ML1.7, ML1.7(UPP), Explosion*
ISC 18 17:23:42.5±0.4, 67.02N±0.02×20.94E±0.09, n20, σ1§13/29, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.18**	**306**	*i P*		**17 23 46.5**	**+0.5**
DUNU				*i* S		**17 23 48.7**	**+0.3**
MASU	**Masugnsbyn**	**0.60**	**43**	*i P*		**17 23 54.0**	**-0.6**
SJUU	**Sjulsmark**	**1.54**	**170**	*eP*		**17 24 12.6**	**+1.2**
KIF	**Kilpisjarvi**	**2.00**	**359**	*eP*		**17 24 18.6**	**+0.8**
KIF				*eS*		**17 24 44.1**	**+0.1**
KTK1	**Kautokeino**	**2.18**	**22**	*eP*		**17 24 22.0**	**+1.4**
SGF	**Sodankyl**	**2.21**	**76**	*eP*		**17 24 21.4**	**+0.3**
SGF				*e*SB		**17 24 50.9**	**-0.4**
SGF				MSG		17 24 53.8	
	comp=Z,3.1nm,0.2s						
BURU	**Burvik**	**2.45**	**176**	*eP*		**17 24 26.4**	**+2.0**
SVAU	**Svanoeiden**	**2.60**	**193**	*eP*		**17 24 28.0**	**+1.5**
MOR8	**Moi Rana**	**2.73**	**255**	*e*SG		**17 25 05.1**	**-8.4**
TRO	**Tromso**	**2.73**	**345**	*e*SB		**17 25 05.2**	**-1.1**
OUL	**Oulu**	**2.80**	**132**	*eP*		**17 24 30.7**	**+1.2**
ARCES	**ARCESS Array B**	**3.04**	**32**	Pn		**17 24 32.2**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=209,slow=14,SNR=52						
ARCES				Sn		**17 25 10.5**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=214,slow=24,SNR=3.8						
UMAU	**Umeaa**	**3.15**	**182**	*eP*		**17 24 34.6**	**+0.2**
BREU	**Bredtraesk**	**3.29**	**199**	*eP*		**17 24 37.2**	**+0.8**
KEV	**Kevo**	**3.55**	**36**	*eP*		**17 24 38.5**	**-1.6**
KEV				*eS*		**17 25 19.1**	**-4.2**
VAF	**Ylistaro**	**4.06**	**169**	*eP*		**17 24 48.1**	**+0.8**
VAF				*eS*		**17 25 35.0**	**-1.3**
KJN	**Kajaani**	**4.07**	**133**	*eP*		**17 24 48.0**	**+0.6**
FINES	**FINESS Array B**	**6.03**	**156**	Pn		**17 25 15.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=350,slow=14,SNR=3.2						
FINES				Sn		**17 26 23.6**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=351,slow=25,SNR=5.0						
NOA	**NORSAR Array B**	**7.36**	**220**	Pn		**17 25 32.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=30,slow=24,SNR=2.5						
NOA				Sn		**17 26 55.5**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=292,slow=16,SNR=2.5						
HFS	**Hagfors**	**7.62**	**208**	Pn		**17 25 35.9**	**-1.7**
	comp=Z,0.0nm,0.3s,baz=24,slow=14,SNR=2.7						
HFS				Sn		**17 27 02.2**	**-3.6**
	comp=Z,0.0nm,0.3s,baz=29,slow=27,SNR=2.2						

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*ISK **18** 17:27:31.0, 36.90N×27.71E, h13km, MD3.9, ML4.2*
*THE **18** 17:27:32.6, 36.88N×28.05E, h7km, ML4.1*
*CSEM **18** 17:27:32.9±0.1, 36.96N×27.88E, h12km, MD3.9, Error ellipse: s-maj=1.4km s-min=1.0km az=19.0*
*MOS **18** 17:27:32.1±1.0, 36.94N×27.89E, h10km, mb4.2/9, Error ellipse: s-maj=7.6km s-min=5.1km az=119.8*
*ATH **18** 17:27:33.0, 36.87N×27.77E, h12km±8km, MD3.8/15*
*NEIC **18** 17:27:33.7, 36.86N×27.64E, h3km, mb4.1/9, MD3.8(ATH), ML4.0(ISK), After ATH.*
*NIC **18** 17:27:36.1±0.3, 37.18N×27.92E, h25km, mb4.4, ML4.0, MW3.6*
*IDC **18** 17:27:36.7±2.9, 37.00N×27.77E, h35km±25km, mb3.8/10, mb1 3.9/17, mb1mx3.8/25, mbtmp3.9/17, ML3.7/7, Error ellipse: s-maj=17.6km s-min=15.2km az=1.0*
*HLW **18** 17:27:42.8, 36.38N×28.05E, h30km, Mb3.7*
ISC 18 17:27:31.7±0.5, 36.89N±0.02×27.83E±0.02, h7km±3km, n183, σ1§12/203, mb3.9/10, 6C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.35**	**299**	*i P*		**17 27 39.5**	**+0.7**
BDRM				*i* S		**17 27 44.8**	**+1.2**
MLSB	**Milas**	**0.40**	**354**	*i* PG		**17 27 39.6**	**-0.2**
MLSB	**Milas**	**0.40**	**354**	Pg		**17 27 39.6**	**-0.2**
MLSB	**Milas**	**0.40**	**354**	Pg		**17 27 39.7**	**-0.1**
YER	**Yerkesik**	**0.44**	**56**	*i* PG		**17 27 40.9**	**+0.4**
YER	**Yerkesik**	**0.44**	**56**	Pg		**17 27 40.9**	**+0.4**
DALT	**Dalyan (Mudla)**	**0.66**	**101**	*i* PG		**17 27 46.6**	**+1.7**
DALT	**Dalyan (Mudla)**	**0.66**	**101**	Pg		**17 27 46.7**	**+1.8**
ARG	**Arkhangelos**	**0.72**	**160**	Pg		**17 27 47.5**	**+1.5**
ARG				Sg		**17 28 00.2**	**+4.6**
AYDN	**Tasoluk**	**0.77**	**3**	*i P*		**17 27 46.5**	**-0.4**
AYDN				*i* S		**17 27 56.1**	**-1.2**
FETY	**Fethiye**	**1.04**	**104**	*i* PN		**17 27 53.6**	**+1.1**
SMG	**Samos**	**1.14**	**316**	PG		**17 27 53.4**	**-0.9**
SMG				SB		**17 28 09.1**	**+1.2**
DNZL	**Cakiroluk**	**1.26**	**50**	*i* P		**17 27 55.5**	**+0.3**
DNZL				*i* S		**17 28 13.2**	**+1.7**
DENT	**Denizli**	**1.29**	**48**	*i* PN		**17 27 56.2**	**+0.1**
DENT	**Denizli**	**1.29**	**48**	Pn		**17 27 56.2**	**+0.2**
KARP	**Karpathos**	**1.45**	**202**	PG		**17 27 59.3**	**-1.3**
KARP				SB		**17 28 19.5**	**+2.5**
IZM	**Izmir**	**1.57**	**344**	PN		**17 27 59.6**	**-0.4**
IZM	**Izmir**	**1.57**	**344**	Pn		**17 27 59.7**	**-0.4**
IZM	**Izmir**	**1.57**	**344**	Pn		**17 27 59.7**	**-0.3**
KDAG	**Bornova**	**1.57**	**344**	*i P*		**17 27 59.2**	**-0.8**
KDAG				*i* S		**17 28 20.9**	**+0.3**
KSL	**Kastellorizon**	**1.60**	**117**	*e*Pb		**17 28 03.3**	**+2.2**
KSL				Sb		**17 28 30.9**	**+10**
BLCB	**Balcova**	**1.61**	**338**	PN		**17 27 59.4**	**-1.3**
BLCB	**Balcova**	**1.61**	**338**	Pn		**17 27 59.4**	**-1.3**
ELL	**Elmali**	**1.68**	**94**	*e*PN		**17 28 01.6**	**0.0**
ELL	**Elmali**	**1.68**	**94**	Pn		**17 28 01.7**	**+0.1**
ELL	**Elmali**	**1.68**	**94**	Pn		**17 28 01.7**	**+0.1**
MANT	**Manisa**	**1.70**	**20**	*i P*		**17 28 01.6**	**-0.2**
MANT				*i* S		**17 28 25.6**	**+1.6**
APE	**Apeiranthos**	**1.85**	**276**	PN		**17 28 01.5**	**-2.5**
APE	**Apeiranthos**	**1.85**	**276**	Pn		**17 28 01.6**	**-2.5**
APE	**Apeiranthos**	**1.85**	**276**	*e*Pn		**17 28 04.5**	**+0.5**
KHL	**Karahalli**	**1.96**	**43**	PN		**17 28 06.3**	**+0.6**
KHL	**Karahalli**	**1.96**	**43**	Pn		**17 28 06.4**	**+0.7**
SANT	**Santorini**	**1.98**	**255**	*e*Pn		**17 28 10.5**	**+4.7**
AKS	**Akhisar**	**1.98**	**360**	PN		**17 28 05.3**	**-0.7**
AKS	**Akhisar**	**1.98**	**360**	Pn		**17 28 05.4**	**-0.6**
AKS	**Akhisar**	**1.98**	**360**	Pn		**17 28 05.4**	**-0.6**
ANTB	**Antalya**	**2.27**	**89**	PN		**17 28 10.6**	**+0.6**
BCK	**Bucak**	**2.28**	**75**	PN		**17 28 10.6**	**+0.4**
BCK	**Bucak**	**2.28**	**75**	Pn		**17 28 10.7**	**+0.5**
BCK	**Bucak**	**2.28**	**75**	Pn		**17 28 10.7**	**+0.5**
NPS	**Neapolis**	**2.42**	**228**	*e*PN		**17 28 14.5**	**+2.2**
AYVA	**Ayvalik**	**2.57**	**340**	*i P*		**17 28 20.9**	**+6.4**
AYVA				*i* S		**17 28 52.0**	**+5.8**
PRK	**Paraskevi**	**2.65**	**333**	PG		**17 28 23.0**	**-1.6**
BALB	**Balikesir**	**2.74**	**1**	PN		**17 28 16.3**	**-0.6**
BALB	**Balikesir**	**2.74**	**1**	Pn		**17 28 16.3**	**-0.5**
ALT	**Altintas**	**2.81**	**39**	*e*PN		**17 28 18.1**	**+0.2**
ALT	**Altintas**	**2.81**	**39**	Pn		**17 28 18.2**	**+0.3**
IDI	**Anoyia**	**2.87**	**237**	Pn		**17 28 20.0**	**+1.3**
	4.4nm,0.3s,baz=58,slow=14,SNR=18						
IDI				Sn		**17 28 57.7**	**+3.9**
	9.1nm,0.3s,baz=125,slow=15,SNR=4.7						
BTOK	**Tokmak**	**2.87**	**3**	*i P*		**17 28 17.5**	**-1.1**
PTL	**Penteli**	**3.36**	**291**	*e*PN		**17 28 26.0**	**+0.4**
KCT	**Karacabey**	**3.39**	**7**	*e*PN		**17 28 24.9**	**-1.2**
KCT	**Karacabey**	**3.39**	**7**	Pn		**17 28 24.9**	**-1.2**
ULDT	**Uludag**	**3.40**	**17**	*i P*		**17 28 26.6**	**+0.4**
ULDT				*i* S		**17 29 23.8**	**+16**
BNT	**Bandirma**	**3.46**	**1**	*e*PN		**17 28 25.5**	**-1.5**
BNT	**Bandirma**	**3.46**	**1**	Pn		**17 28 25.5**	**-1.5**
MPAR	**Parnis Oros**	**3.49**	**292**	*e*PN		**17 28 28.0**	**+0.6**
ESKT	**Eskisehir**	**3.54**	**41**	*e*PN		**17 28 28.3**	**+0.1**
ESKT	**Eskisehir**	**3.54**	**41**	Pn		**17 28 28.3**	**+0.1**
ESKT	**Eskisehir**	**3.54**	**41**	*i P*		**17 28 31.3**	**+3.1**
NAIG	**Nisos Aigina**	**3.56**	**285**	*e*PG		**17 28 39.5**	**-3.3**
NSAL	**Nisos Salamina**	**3.62**	**288**	*e*PG		**17 28 40.0**	**-3.9**
MRMT	**Marmara Adasi**	**3.71**	**357**	*e*PN		**17 28 30.4**	**-0.2**
LOS	**Limnos**	**3.72**	**325**	*e*Pn		**17 28 31.0**	**+0.2**
HDMB	**Hadim**	**3.73**	**88**	*e*PN		**17 28 31.0**	**+0.1**
KONT	**Konya--Tatoy**	**3.76**	**72**	*e*PN		**17 28 32.0**	**+0.7**
KIZT	**Kizilcal**	**3.77**	**57**	*e*PN		**17 28 32.0**	**+0.6**
MGER	**Gerania Oros**	**3.79**	**288**	*e*PN		**17 28 32.0**	**+0.2**
SART	**Tekirdag**	**3.82**	**353**	*i P*		**17 28 32.8**	**+0.6**
AOS	**Alonnisos**	**3.86**	**307**	*e*Pn		**17 28 32.5**	**-0.2**
YLV	**Yalova**	**3.86**	**18**	*e*PN		**17 28 33.1**	**+0.3**
MFT	**Murefte**	**3.91**	**354**	*e*PN		**17 28 32.6**	**-0.9**
VLI	**Veliai**	**3.93**	**269**	*e*PB		**17 28 39.0**	**-2.0**
AKMC	**Akamas**	**4.10**	**116**	P		**17 28 36.6**	**+0.5**
HRT	**Hereke**	**4.18**	**20**	*e*PN		**17 28 36.9**	**-0.3**
HRT	**Hereke**	**4.18**	**20**	Pn		**17 28 37.4**	**+0.2**
HRT	**Hereke**	**4.18**	**20**	Pn		**17 28 37.4**	**+0.2**
PPCY	**Paphos**	**4.18**	**117**	P		**17 28 38.8**	**+1.5**
ALN	**Alexandroupoli**	**4.23**	**341**	*e*Pn		**17 28 36.8**	**-1.3**
ALFC	**Alevga**	**4.24**	**113**	P		**17 28 38.9**	**+0.8**
	11nm,0.3s						
ALFC				S		**17 29 27.9**	**-0.5**
ISK	**Istanbul-Kandi**	**4.28**	**13**	*e*PN		**17 28 38.3**	**-0.3**
XOR	**Xorichti**	**4.41**	**305**	*e*Pn		**17 28 40.3**	**-0.3**
LEF	**Lefka**	**4.47**	**112**	*e*PN		**17 28 41.4**	**0.0**
LEF	**Lefka**	**4.47**	**112**	Pn		**17 28 41.4**	**0.0**
OUR	**Ouranopolis**	**4.57**	**320**	*e*Pn		**17 28 42.4**	**-0.4**
HENT	**Hendek**	**4.60**	**30**	*i P*		**17 28 57.8**	**+15**
RDO	**Rodhopi**	**4.61**	**338**	*e*PN		**17 28 42.0**	**-1.3**
SZAC	**Souni-Zanaja**	**4.63**	**116**	↑*iP*		**17 28 44.3**	**+0.7**
	6.8nm,0.3s						
SZAC

KNT	Kendrikon	5.74	320	*e*Pn	Pn	17 28 59.3 +0.1
KNT				*e*Sn	Sn	17 30 06.2 +0.1
KNT	Kendrikon	5.74	320	P	Pn	17 28 59.3 0.0
KNT				S	Sn	17 30 06.2 0.0
SLUM		5.81	203	P	Pn	17 29 01.1 +0.8
GRG	Griva	5.86	315	*e*Pn	Pn	17 29 01.4 +0.4
KKB	Krupnik	6.18	325	P	Pn	17 29 05.2 -0.3
BALT	Daday	6.33	41	*i* P	Pn	17 29 07.5 -0.2
CTKT	Corum	6.59	53	*i* P	Pn	17 29 13.0 +1.6
VTS	Vitosha	6.71	329	*e*P	Pn	17 29 14.0 +1.0
HTY	Hatay	6.74	94	*e*PN	Pn	17 29 13.7 +0.3
HTY	Hatay	6.74	94	Pn	Pn	17 29 13.7 +0.3
COBT	Iskenderun	6.78	91	*i* P	Pn	17 29 15.2 +1.1
BOYT	Boyabat	7.12	48	*i* P	Pn	17 29 18.5 -0.2
HMYD	Mayadein	7.50	160	⇑P	Pn	17 29 22.3 -1.9
HNAT	Natroun	7.61	161	P	Pn	17 29 24.5 -1.1
AMAG	Maghara	7.67	143	P	Pn	17 29 25.6 -0.9
KOT	Kottamia	7.71	153	⇑P	Pn	17 29 25.1 -2.0
SWA1		7.81	194	P	Pn	17 29 28.0 -0.5
SWA2		7.88	195	P	Pn	17 29 28.6 -0.8
SWA2				S	Sn	17 30 46.8 -13
HSAF	As Saff	7.90	156	⇑P	Pn	17 29 27.8 -1.8
GLL	Jalalah	7.99	155	⇑P	Pn	17 29 28.9 -2.0
HNKL	Nakhl	8.64	142	P	P	17 29 38.8 -1.2
MLR	Muntele Rosu	8.71	351	Pn	P	17 29 39.6 -1.3
	comp=Z,0.1nm,0.3s,baz=159,slow=18,SNR=5.2					
ASF	Jabal al Asfar	8.84	120	Pn	P	17 29 42.5 -0.2
	comp=Z,1.4nm,0.3s,baz=204,slow=21,SNR=11					
ASF				Sn	Sn	17 31 21.2 -2.4
	comp=Z,1.1nm,0.3s,baz=276,slow=19,SNR=3.3					
TIP	Timpagrande	9.03	288	*e*P	P	17 29 44.3 -1.0
TIP	Timpagrande	9.03	288	*e*P	P	17 29 44.3 -1.1
EIL	Elat	9.35	138	Pn	P	17 29 49.3 -0.5
	comp=Z,1.1nm,0.3s,baz=353,slow=9.0,SNR=8.0					
EIL				Sn	Sn	17 31 29.4 -6.9
	comp=Z,2.5nm,0.3s,slow=15,SNR=5.5					
TR2		9.83	148	P	P	17 29 54.9 -1.6
TR1		10.26	148	P	P	17 30 00.8 -1.5
PGF	Pioggiola	15.54	297	*e*P	P	17 31 14.4 +1.7
GERES	GERESS Array B	15.78	324	Pn	P	17 31 20.7 +5.0
	comp=Z,0.2nm,0.3s,baz=140,slow=10,SNR=13					
DAVOX	Davos	16.59	312	Pn	P	17 31 30.4 +4.2
	comp=Z,0.2nm,0.3s,baz=176,slow=17,SNR=2.4					
BRG	Berggiesshubel	17.15	329	*e*P	P	17 31 40.0 +6.9
BRG				pmax	pmax	
	comp=Z,42nm,2.0s					
BRG	Berggiesshubel	17.15	329	*e*P	P	17 31 40.0 +6.9
	comp=Z,42nm,1.9s					
BRG				*e*		17 32 01.0
GRA1	Grafenberg Arr	17.55	322	*e*P	P	17 31 43.6 +5.4
GRF	Grafenberg Arr	17.55	322	*e*P	P	17 31 43.6 +5.4
MBDF	Montbardon	17.73	303	*e*P	P	17 31 42.1 +1.7
	comp=Z,17nm,1.0s					
MBDF	Montbardon	17.73	303	*e*P	P	17 31 42.1 +1.7
MBDF				pmax	pmax	
	comp=Z,9.0nm,1.0s					
CLL	Collm	17.86	328	*i* P	P	17 31 47.2 +5.1
CLL				pmax	pmax	
	comp=Z,10.0nm,1.1s					
CLL	Collm	17.86	328	*i* P	P	17 31 47.2 +5.1
	comp=Z,10.0nm,1.1s					
CLL				*i*		17 31 49.8
CLL	Collm	17.86	328	P	P	17 31 47.2 +5.1
	comp=Z,logA/T=1.0					
CLL				*i*		17 31 49.8
LPG	La Plagne	18.00	305	*e*P	P	17 31 45.9 +2.0
	comp=Z,7.0nm,0.8s					
LPG	La Plagne	18.00	305	*e*P	P	17 31 45.9 +2.0
LPG				pmax	pmax	
	comp=Z,4.0nm,0.8s					
LPL	La Plagne	18.02	305	*e*P	P	17 31 45.7 +1.6
	comp=Z,18nm,0.9s					
LPL	La Plagne	18.02	305	*e*P	P	17 31 45.7 +1.6
LPL				pmax	pmax	
	comp=Z,9.0nm,0.9s					
ORIF	Oris-en-Rattie	18.39	303	*e*P	P	17 31 51.1 +2.4
CABF	La Chapelle	18.85	308	*e*P	P	17 31 55.9 +1.6
	comp=Z,54nm,1.3s					
CABF	La Chapelle	18.85	308	*e*P	P	17 31 55.9 +1.6
CABF				pmax	pmax	
	comp=Z,27nm,1.3s					
VIVF	Saint-Julien-l	19.19	302	*e*P	P	17 31 59.5 +1.2
LASF	Ste Croix	19.55	299	*e*P	P	17 32 03.8 +1.2
SMF	Signal de Mont	20.30	306	*e*P	P	17 32 09.5 -1.2
	comp=Z,21nm,0.8s					
SMF	Signal de Mont	20.30	306	*e*P	P	17 32 09.5 -1.2
SMF				pmax	pmax	
	comp=Z,10.0nm,0.8s					
SSF	Saint Saulge	20.66	307	*e*P	P	17 32 14.6 +0.2
SSF				pmax	pmax	
	comp=Z,11nm,0.8s					
SSF	Saint Saulge	20.66	307	*e*P	P	17 32 14.6 +0.2
	comp=Z,11nm,0.8s					
AVF	Avril sur Loir	20.67	306	*e*P	P	17 32 15.3 +0.8
	comp=Z,56nm,1.4s					
AVF	Avril sur Loir	20.67	306	*e*P	P	17 32 15.3 +0.8
AVF				pmax	pmax	
	comp=Z,28nm,1.4s					
FINES	FINESS Array B	24.60	358	P	P	17 32 52.5 -0.7
FINES				pmax	pmax	
	comp=Z,3.0nm,0.8s					
FINES	FINESS Array B	24.60	358	P	P	17 32 52.5 -0.7
	comp=Z,2.9nm,0.8s,mb3.9,baz=169,slow=9.7,SNR=6.3					
HFS	Hagfors	24.96	343	P	P	17 32 55.6 -1.1
HFS				pmax	pmax	
	comp=Z,5.0nm,0.9s					
HFS	Hagfors	24.96	343	P	P	17 32 55.7 -1.0
HFS	Hagfors	24.96	343	P	P	17 32 55.6 -1.1
	comp=Z,4.6nm,0.9s,mb4.0,baz=162,slow=14,SNR=3.1					
HFS	Hagfors	24.96	343	P	P	17 32 55.7 -1.0
ESDC	Sonseca Array	25.04	286	P	P	17 32 57.7 0.0
	comp=Z,2.3nm,0.7s,mb3.8,baz=80,slow=10,SNR=6.1					
ZAL	Zalesovo	42.23	48	P	P	17 35 26.7 +0.1
ZAL				pmax	pmax	
	comp=Z,1.0nm,0.4s					
ZAL	Zalesovo	42.23	48	P	P	17 35 26.7 +0.1
	comp=Z,0.6nm,0.4s,mb3.6,baz=339,slow=21,SNR=2.3					
DBIC	Dimbokro	42.34	233	P	P	17 35 29.0 +1.0
DBIC				pmax	pmax	
	comp=Z,2.0nm,0.6s					
DBIC	Dimbokro	42.34	233	P	P	17 35 29.0 +1.0
	comp=Z,1.9nm,0.6s,mb3.9,baz=357,slow=7.9,SNR=5.4					
DBIC	Dimbokro	42.34	233	P	P	17 35 29.0 +1.0
ZAK	Zakamensk	53.98	50	⇓*i* P	P	17 36 57.2 -0.9
SONM	Songino Array	56.72	52	P	P	17 37 17.5 -0.5
	comp=Z,1.7nm,0.6s,mb4.2,baz=290,slow=8.1,SNR=20					
FRB	Frobisher Bay	60.28	329	P	P	17 37 39.8 -2.9
FRB				pmax	pmax	
	comp=Z,3.0nm,0.9s					
FRB	Frobisher Bay	60.28	329	P	P	17 37 39.8 -2.9
	comp=Z,2.5nm,0.8s,mb4.3,baz=70,slow=10,SNR=3.6					
SCHQ	Schefferville	63.27	320	P	P	17 37 59.4 -3.4
	comp=Z,1.9nm,0.8s,mb4.3,baz=48,slow=12,SNR=3.6					
CMAR	Chiang Mai Arr	64.25	86	P	P	17 38 08.5 -1.3
CMAR				pmax	pmax	
	comp=Z,1.0nm,0.8s					
CMAR	Chiang Mai Arr	64.25	86	P	P	17 38 08.4 -1.4
	comp=Z,0.6nm,0.8s,mb3.7,baz=298,slow=8.0,SNR=6.0					
CMAR	Chiang Mai Arr	64.25	86	P	P	17 38 08.4 -1.4
YKA	Yellowknife Ar	76.45	343	P	P	17 39 21.1 -1.9
YKA	Yellowknife Ar	76.45	343	P	P	17 39 21.0 -2.0
	comp=Z,0.3nm,0.5s,mb3.5,baz=34,slow=5.4,SNR=8.4					
ASAR	Alice Springs	116.24	101	PKP	PKPdf	17 46 15.8 -3.0
	comp=Z,0.3nm,0.8s,baz=319,slow=1.3,SNR=5.1					

*IDC **18** 17:39:59.2±1.2, 49.97S×161.29E, mb4.1/5, mb1 4.4/7, mb1mx4.1/11, mbtmp4.2/7, ML4.0/2, MS3.7/2, Ms1 3.6/2, ms1mx2.8/13, Error ellipse: s-maj=27.7km s-min=25.1km az=30.0*

*NEIC **18** 17:39:59.9±0.6, 50.04S×161.19E, h10km, mb4.4/6, Error ellipse: s-maj=13.2km s-min=12.0km az=62.0*

ISC 18 17:39:58.5±0.5, 50.01S×0.07×161.20E±0.08, h10km, n30, σ1§58/33, mb4.2/11, MS3.6/2, North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	6.12	50	P	Pn	17 41 33.2	+1.8
WHZ				S	Sn	17 42 40.9	-1.4
MLZ	Mavora Lakes	6.63	48	P	Pn	17 41 40.4	+1.9
MLZ				S	Sn	17 42 54.5	-0.4
TUZ	Tuapeka	6.96	58	P	Pn	17 41 44.5	+1.3
TUZ				S	Sn	17 43 00.7	-2.6
MSZ	Milford Sound	7.03	43	P	Pn	17 41 47.4	+3.3
EAZ	Earnscleugh	7.27	52	P	Pn	17 41 48.4	+0.9
EAZ				S	Sn	17 43 09.8	-1.2
WKZ	Wanaka	7.42	49	P	Pn	17 41 52.4	+2.9
JCZ	Jackson Bay	7.87	44	P	Pn	17 41 59.1	+3.3
ODZ	Otahua Downs	8.10	56	*e*P	P	17 41 58.5	-0.5
LBZ	Lake Benmore	8.31	51	P	P	17 42 01.1	-0.9
FOZ	Fox Glacier	8.69	45	P	P	17 42 10.2	+3.0
RPZ	Rata Peaks	9.23	51	Pn	P	17 42 13.2	-1.5
	2.3nm,0.3s,baz=44,slow=14,SNR=8.7					
RPZ				Sn	Sn	17 43 57.1	-2.6
	2.4nm,0.3s,baz=4.4,slow=24,SNR=6.3					
WVZ	Waitahu Valley	9.55	47	*e*P	P	17 42 21.3	+2.2
DSZ	Denniston Nort	11.08	46	*e*P	P	17 42 36.3	-3.8
TAU	Tasmania Unive	11.91	301	*e*P	P	17 42 48.3	-3.0
QRZ	Quartz Range	12.14	45	P	P	17 42 55.4	+0.9
URZ	Urewera	16.34	50	Pn	P	17 43 50.1	+0.5
	0.3nm,0.3s,baz=270,slow=9.1,SNR=3.3					
STKA	Stephens Creek	23.28	314	P	P	17 45 09.9	+2.9
	1.9nm,0.8s,mb3.6,baz=126,slow=11,SNR=3.8					
STKA				LR	LR	17 52 12.8	
	comp=Z,136nm,21.9s,MS3.4,baz=114,slow=32					
VNDA	Vanda	27.61	180	P	P	17 45 48.8	+1.3
	1.6nm,1.0s,mb3.6,baz=342,slow=13,SNR=4.3					
SBA	Scott Base	28.03	177	P	P	17 45 49.1	-2.1
	3.3nm,0.6s,mb4.1					
CASY	Casey	30.21	218	*e*P	P	17 46 11.3	+0.5
	3.8nm,0.7s,mb4.2					
ASAR	Alice Springs	33.83	311	P	P	17 46 43.2	+0.2
	4.5nm,1.0s,mb4.4,baz=148,slow=8.2,SNR=35					
WB2	Warramunga Arr	36.81	315	*e*P	P	17 47 06.6	-1.8
WRA	Warramunga Arr	36.82	315	P	P	17 47 08.5	0.0
	5.8nm,0.8s,mb4.5,baz=146,slow=8.0,SNR=36					
WRAB	Tennant Creek	36.82	315	*e*P	P	17 47 07.7	-0.8
	6.0nm,0.9s,mb4.4					
QSPA	South Pole Qui	40.11	180	*e*P	P	17 47 33.1	-2.3
	7.5nm,0.8s,mb4.5					
FITZ	Fitzroy Crossi	42.68	305	*e*P	P	17 47 57.5	+0.4
	7.1nm,0.9s,mb4.4					
MBWA	Marble Bar	43.49	296	*e*P	P	17 48 02.6	-1.0
	6.2nm,0.8s,mb4.4					
MAW	Mawson	47.94	211	LR	LR	18 05 25.1	
	comp=Z,141nm,20.2s,MS3.9,baz=70,slow=32					
CMAR	Chiang Mai Arr	87.44	303	P	P	17 52 48.0	+0.6
	1.8nm,0.9s,mb4.3,baz=166,slow=4.9,SNR=4.5					
FRB	Frobisher Bay	150.43	43	PKPbc	PKPdf	17 59 49.9	+3.3
	2.1nm,0.8s,baz=256,slow=10.0,SNR=3.1					

*IDC **18** 17:41:17.8±4.0, 37.30N×42.76E, mb3.8/3, mb1 3.9/4, mb1mx3.5/16, mbtmp3.7/4, ML0.9/1, Error ellipse: s-maj=87.6km s-min=20.9km az=137.0*

*TIF **18** 17:41:19.0, 39.89N×48.42E, h10km±13km*

*THR **18** 17:41:21.0±0.7, 39.69N×48.61E, h24km±8km, ML3.7*

*CSEM **18** 17:41:22.5±0.4, 39.58N×48.61E, h35km, ML4.7/1, Error ellipse: s-maj=9.3km s-min=3.7km az=13.0*

*TEH **18** 17:41:25.6, 39.39N×48.52E, h20km, Mn3.5*

ISC 18 17:41:20.0±0.7, 39.67N±0.05×48.61E±0.06, h10km, n20, σ0§97/29, mb3.7/3, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	Germi	1.02	213	*e*PG	Pg	17 41 40.5	0.0
GRMI				*e*SG	Sg	17 41 54.2	+0.1
GRMI				AML	AML	17 41 55.2	
	comp=N,2μm,0.2s						
GRMI				AML	AML	17 41 55.3	
	comp=E,2μm,0.4s						
GRMI	Germi	1.02	213	*e*Pg	Pg	17 41 40.5	0.0
	SNR=95						
GRMI				*e*Sg	Sg	17 41 54.2	0.0
	comp=E,2μm,0.4s,SNR=95						
IHRS	Heris	1.82	223	Pn	Pn	17 41 52.2	+0.5
IBST	Bostanabad	2.38	215	Pn	Pn	17 42 00.5	+0.7
ISHB	Shabestar	2.71	240	Pn	Pn	17 42 00.5	-4.0
GNI	Garni	3.01	280	Pn	Pn	17 42 09.7	+1.0
	comp=E,3.4nm,0.3s,baz=43,slow=1.1,SNR=12						
GNI				Pg	Pg	17 42 19.5	-0.7
	comp=E,8.3nm,0.3s,baz=346,slow=2.7,SNR=28						
GNI				Lg		17 43 01.3	
	comp=E,10nm,0.3s,baz=87,slow=22,SNR=4.8						
MAKU	Maku	3.05	265	*e*PN	Pn	17 42 09.9	+0.6
MAKU				SN	Sn	17 42 46.1	-0.2
MTA	Mtatsminda	3.53	306	P	Pn	17 42 21.0	+4.8
MTA				S	Sn	17 42 56.8	-1.7
IRAZ	Razeghan	4.39	166	Pn	Pn	17 42 27.2	-1.1
IRAZ				Sn	Sn	17 43 13.0	-7.1
IAFJ	Afjeh	4.53	146	Pn	Pn	17 42 30.0	-0.4
IAFJ				Sn	Sn	17 43 17.9	-5.9
SNGE	Sanandaj	4.68	193	*e*PN	Pn	17 42 32.6	+0.2
DAMV	Damavand	4.84	145	*e*PN	Pn	17 42 34.6	-0.1
ONI	Oni	4.86	308	P	Pn	17 42 35.2	+0.2
ONI				S	Sn	17 43 29.2	-2.8
IDMV	Damavand	4.91	145	Pn	Pn	17 42 35.9	+0.2
IFIR	Firoozkooh	5.20	139	Pn	Pn	17 42 39.4	-0.4
IFIR				Sn	Sn	17 43 34.2	-6.3
IQOM	Qom	5.21	157	Pn	Pn	17 42 38.6	-1.3
ASAO	Ashtian	5.24	167	*e*PN	Pn	17 42 41.1	+0.7
FINES	FINESS Array B	25.82	335	P	P	17 46 55.5	+2.7
	comp=E,1.7nm,0.9s,mb3.6,baz=139,slow=13,SNR=5.0						
ARCES	ARCESS Array B	32.34	345	P	P	17 47 57.6	+6.4
	comp=E,6.5nm,1.1s,mb4.4,baz=160,slow=11,SNR=2.7						
YKA	Yellowknife Ar	77.29	352	P	P	17 53 24.4	+8.8
	comp=E,0.1nm,0.4s,mb3.1,baz=18,slow=5.9,SNR=5.2						

*IDC **18** 17:46:19.8±0.7, 13.83N×93.29E, mb4.1/12, mb1 4.2/13, mb1mx4.1/20, mbtmp4.1/13, ML4.6/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/25, Error ellipse: s-maj=31.3km s-min=15.0km az=58.0*

*BJI **18** 17:46:22.6, 13.59N×93.37E, h53km, mB4.8, mb4.3*

*NEIC **18** 17:46:24.5±0.5, 13.94N×93.37E, h30km, mb4.3/6, Error ellipse: s-maj=14.1km s-min=9.2km az=65.0*

ISC 18 17:46:22.0±0.6, 14.03N±0.07×93.23E±0.05, h30km, n39, σ1§50/43, mb4.1/17, MS4.0/1, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	Nongplab	6.50	102	P	Pn	17 48 02.0	+3.8
NST	Nakhon Sawan	6.88	75	P	Pn	17 48 02.0	-1.5
CMAR	Chiang Mai Arr	7.04	51	Pn	Pn	17 48 05.0	-0.8
	2.7nm,0.3s,baz=240,slow=15,SNR=94						
CMAR				Sn	Sn	17 49 24.1	-1.4
	1.2nm,0.3s,baz=239,slow=28,SNR=7.9						
CMAR				LR	LR	17 50 49.0	
	comp=Z,138nm,19.4s,baz=231,slow=38						
CHRT	Chiangrai	8.55	46	⇓P	P	17 48 32.5	+5.7
	153nm,1.1s						
BWNR	Bhubaneshwar	9.44	312	*e*P	P	17 48 36.1	-3.0
BWNR				*e*S	Sn	17 50 14.4	-11
BWNR				*e*		17 50 23.4	
	comp=N,68nm,0.4s						
BWNR				*e*		17 50 23.6	
	comp=E,85nm,0.3s						
VIS	Vishakhapatnam	10.20	292	*e*P	P	17 48 47.8	-2.0
VIS				*e*S	S	17 50 36.0	-8.2
VIS				*e*		17 50 40.7	
	comp=N,120nm,0.4s						
VIS				*e*		17 50 40.8	
	comp=E,58nm,0.5s						
IMP	Imphal	10.72	3	*e*P	P	17 48 56.3	-0.5
SHL	Shillong	11.54	354	*e*P	P	17 49 03.0	-5.0
SHL				*e*		17 51 11.0	
BLSP	Bilaspur	13.27	309	*e*P	P	17 49 30.1	-0.8
BLSP				*e*S	S	17 51 47.9	-11
HYB	Hyderabad	14.52	285	*i* P	P	17 49 52.0	+4.4
HYB				*e*S	S	17 52 20.0	-8.4
JIRN	Jiri	15.06	335	*e*P	P	17 49 54.9	+0.2
	comp=E,11nm,0.3s						
PKI	Pulchoki	15.32	333	*e*P	P	17 49 57.4	-0.6
DMN	Daman	15.49	332	*e*P	P	17 49 58.5	-1.7
KKN	Kakani	15.56	333	*e*P	P	17 50 00.7	-0.4
	comp=E,19nm,0.5s						
LSA	Lhasa	15.71	353	P	P	17 50 08.0	+5.0
LSA	Lhasa	15.71	353	*e*P	P	17 50 04.3	+1.3
	comp=E,12nm,0.6s						
GKN	Gorkha	16.04	331	*e*P	P	17 50 05.9	-1.3
KOLN	Koldanda	16.35	328	*e*P	P	17 50 10.0	-1.2
ENH	Enshi	22.05	40	*e*P	P	17 51 15.7	-0.4
	comp=E,21nm,1.1s,mb4.5						
JOW	Kunigami	35.10	63	LR	LR	18 08 48.4	
	comp=E,244nm,19.8s,MS4.0,baz=281,slow=38						
SONM	Songino Array	35.44	15	P	P	17 53 18.9	+1.3
	comp=E,2.1nm,0.8s,mb4.1,baz=198,slow=7.8,SNR=16						
ULN	Ulaanbaatar	35.64	16	*e*P	P	17 53 20.4	+1.1
	comp=E,4.9nm,1.3s,mb4.3						
KURK	Kurchatov	38.49	345	*e*P	P	17 53 44.0	+1.0
	comp=E,5.0nm,0.8s,mb4.3						
ZAL	Zalesovo	40.36	352	P	P	17 54 00.7	+2.0
	comp=E,2.8nm,0.8s,mb4.0,baz=294,slow=7.0,SNR=11						
BRVK	Borovoye	42.98	340	*e*P	P	17 54 21.8	+1.7
	comp=E,2.1nm,0.7s,mb4.0						
CHKZ	Chkalovo	43.39	341	*e*P	P	17 54 24.9	+1.4
	comp=E,3.1nm,0.6s,mb4.2						
NWAO	Narrogin (SRO)	52.03	154	P	P	17 55 29.5	-1.7
	comp=E,9.9nm,0.8s,mb4.8,baz=187,slow=21,SNR=3.2						
WRA	Warramunga Arr	52.68	129	P	P	17 55 34.4	-1.9
	comp=E,0.7nm,0.6s,mb3.7,baz=305,slow=9.9,SNR=13						
WRA				PcP	PcP	17 56 45.1	-0.8
	comp=E,0.3nm,0.4s,baz=319,slow=3.1,SNR=10						
ASAR	Alice Springs	54.64	133	P	P	17 55 49.1	-1.6
	comp=E,0.8nm,0.6s,mb4.0,baz=314,slow=6.8,SNR=12						
BRTR	Keskin Array B	57.84	308	P	P	17 56 15.2	+1.9
	comp=E,1.6nm,0.8s,mb4.1,baz=122,slow=6.7,SNR=9.1						
STKA	Stephens Creek	65.04	135	P	P	17 57 02.3	+0.2
	comp=E,1.2nm,0.8s,mb4.0,baz=343,slow=11,SNR=2.8						
FINES	FINESS Array B	66.90	331	P	P	17 57 14.1	+0.7
	comp=E,1.9nm,0.7s,mb4.2,baz=45,slow=2.7,SNR=5.1						
FINES	FINESS Array B	66.90	331	P	P	17 57 14.1	+0.7
GERES	GERESS Array B	72.70	317	P	P	17 57 50.5	+1.4
	comp=E,1.1nm,0.6s,mb3.9,baz=90,slow=5.9,SNR=9.4						
NB2	NORSAR Subarra	73.97	330	P	P	17 57 56.4	+0.2
	comp=E,2.4nm,0.8s,mb4.2,baz=91,slow=5.8						
NOA	NORSAR Array B	73.97	330	P	P	17 57 58.2	+2.0
	comp=E,2.0nm,0.9s,mb4.0,baz=96,slow=5.5,SNR=4.9						
NOA	NORSAR Array B	73.97	330	P	P	17 57 58.2	+2.0
ILAR	Eielson Array	89.40	22	P	P	17 59 19.5	+2.6
	comp=E,0.4nm,0.8s,mb3.8,baz=294,slow=4.2,SNR=5.2						
INK	Inuvik	91.35	16	P	P	17 59 29.2	+3.4
	comp=E,0.7nm,0.6s,mb4.2,baz=7.5,slow=8.2,SNR=2.3						

*NEIC **18** 17:59:25.7±2.1, 3.45S×137.01E, h76km±21km, mb4.4/9, Error ellipse: s-maj=19.2km s-min=14.0km az=70.0*

*IDC **18** 17:59:31.8±3.2, 3.48S×137.36E, h137km±30km, mb3.6/8, mb1 3.9/11, mb1mx3.9/13, mbtmp4.2/11, MS3.5/1, Ms1 3.5/1, ms1mx2.9/15, Error ellipse: s-maj=23.9km s-min=10.1km az=73.0*

ISC 18 17:59:24.6±2.0, 3.51S±0.06×136.95E±0.08, h82km±19km, n24, σ1§16/34, mb3.9/11, 1C-3D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	10.17	206	⇓*i* P	P	18 01 51.0	+1.3
	184nm,0.4s						
KAKA				*e*S	S	18 03 42.3	-0.5
PMG	Port Moresby	11.71	120	P	P	18 02 09.8	-0.6
	6.4nm,0.3s,baz=301,slow=6.6,SNR=25						
PMG				S	S	18 04 12.2	-7.7
	1.9nm,0.3s,baz=203,slow=23,SNR=5.5						
PMG	Port Moresby	11.71	120	P	P	18 02 09.8	-0.6
PMG				S	S	18 04 12.2	-7.7
WRAB	Tennant Creek	16.52	189	*e*P	P	18 03 12.2	-0.4
	50nm,0.7s						
WRAB				*e*S	S	18 06 02.8	-10
WB2	Warramunga Arr	16.53	189	⇓*i* P	P	18 03 12.0	-0.7
WB2				*e*S	S	18 06 08.2	-4.6
WRA	Warramunga Arr	16.53	189	P	P	18 03 12.0	-0.7
	2.2nm,0.3s,baz=1.9,slow=13,SNR=83						
WRA				S	S	18 06 06.5	-6.3
	4.3nm,0.3s,baz=13,slow=22,SNR=6.8						
FITZ	Fitzroy Crossi	18.25	217	*e*P	P	18 03 38.7	+4.8
	66nm,0.9s						
FITZ				*e*S	S	18 06 48.9	-2.4
CTA	Charters Tower	18.81	152	⇓*i* P	P	18 03 40.7	+0.3
	6.4nm,0.4s						
CTA	Charters Tower	18.81	152	P	P	18 03 40.1	-0.2
	0.8nm,0.3s,baz=324,slow=12,SNR=10						
CTA				S	S	18 07 04.4	+0.5
	0.4nm,0.3s,baz=52,slow=19,SNR=2.9						
CTA				LR	LR	18 11 06.9	
	comp=Z,140nm,20.6s,baz=140,slow=37						
CTAO	Charters Tower	18.81	152	*e*P	P	18 03 40.7	+0.4
	19nm,1.0s						
ASAR	Alice Springs	20.25	188	P	P	18 03 58.6	+2.9
	9.8nm,0.4s,baz=17,slow=9.6,SNR=207						
ASAR				S	S	18 07 37.6	+4.3
	8.2nm,0.6s,baz=15,slow=25,SNR=5.5						
ASPA	Alice Springs	20.26	188	⇑*i* P	P	18 03 58.9	+3.1
ASPA				*e*S	S	18 07 37.2	+3.9
MBWA	Marble Bar	24.25	222	*e*P	P	18 04 41.1	+5.8
	13nm,0.6s,mb4.4						
STKA	Stephens Creek	28.56	172	*e*P	P	18 05 16.0	+1.1
	5.0nm,1.5s,mb3.9						
STKA	Stephens Creek	28.56	172	P	P	18 05 14.0	-0.9
	1.4nm,0.5s,mb3.9,baz=343,slow=9.6,SNR=13						
ENH	Enshi	42.63	324	P	P	18 07 14.3	-0.4
	2.8nm,0.6s,mb4.2						
CMAR	Chiang Mai Arr	43.33	302	P	P	18 07 22.6	+2.1
	1.1nm,0.8s,mb3

0.7nm,0.3s,mb3.9,baz=120,slow=7.7,SNR=30
MAW Mawson 65.64 202 P **P 18 18 04.4 -12**
3.4nm,0.9s,mb4.2,baz=23,slow=8.8,SNR=4.9

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*NEIC **18** 18:12:55.9±3.7, 38.07N×72.19E, h180km±26km, mb3.8/3, Error ellipse: s-maj=42.4km s-min=18.8km az=163.0*
*MOS **18** 18:12:56.6±1.0, 38.26N×72.13E, h192km, mb4.1/3, Error ellipse: s-maj=39.2km s-min=15.8km az=85.0*
*IDC **18** 18:13:02.4±5.5, 38.13N×72.16E, h249km±53km, mb3.4/6, mb1 3.5/8, mb1mx3.1/22, mbtmp4.0/8, MS3.7/1, Ms1 3.9/1, ms1mx3.3/16, Error ellipse: s-maj=43.1km s-min=18.4km az=162.0*
ISC 18 18:12:48.6±1.1, 37.41N±0.06×72.7E±0.1, h171km±13km, n34, σ1§19/34, mb3.8/6, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=87	**4.78**	**9**	P	**P**	**18 13 60.0**	**-0.3**
UCH	**Uchtor** SNR=20	**5.01**	**16**	P	**P**	**18 14 04.1**	**+0.8**
KZA	**Kyzart** SNR=7.2	**5.07**	**22**	P	**P**	**18 14 05.0**	**+1.0**
EKS2	**Erkin-Say** SNR=17	**5.31**	**9**	P	**P**	**18 14 07.6**	**+0.4**
AAK	**Ala-Archa** SNR=10	**5.40**	**14**	P	**P**	**18 14 09.1**	**+0.8**
AAK	**Ala-Archa**	**5.40**	**14**	*e*Pn	**P**	**18 14 07.5**	**-0.9**
DLH	**Dalhousie**	**5.56**	**150**	*e*PG	rx	18 15 02.0	
DLH				*e*SG	**S**	**18 15 12.0**	**-2.0**
CHMS	**Chumysh** SNR=6.2	**5.80**	**15**	P	**P**	**18 14 14.3**	**+0.6**
NDI	**New Delhi**	**9.50**	**155**	*e*P	**S**	**18 16 40.0**	**-7.3**
KOLN	**Koldanda** 4.8nm,0.3s	**13.30**	**133**	*e*P	**P**	**18 15 51.4**	**-0.3**
GKN	**Gorkha** 15nm,0.4s	**13.75**	**130**	*e*P	**P**	**18 15 57.4**	**0.0**
KURK	**Kurchatov**	**13.96**	**16**	P	**P**	**18 15 58.8**	**-1.1**
KURK	comp=Z,4.0nm,0.9s			pmax	pmax		
KURK	**Kurchatov** comp=Z,4.4nm,0.9s	**13.96**	**16**	P	**P**	**18 15 58.8**	**-1.0**
KKN	**Kakani** comp=Z,3.0nm,0.2s	**14.30**	**128**	*e*P	**P**	**18 16 04.3**	**0.0**
DMN	**Daman** comp=Z,5.0nm,0.4s	**14.32**	**129**	*e*P	**P**	**18 16 04.6**	**0.0**
PKI	**Pulchoki** comp=Z,9.4nm,0.4s	**14.54**	**129**	*e*P	**P**	**18 16 07.7**	**+0.5**
JIRN	**Jiri** comp=Z,13nm,0.4s	**14.97**	**127**	*e*P	**P**	**18 16 13.8**	**+1.2**
BVAR	**Borovoye Array** comp=Z,0.4nm,0.3s,baz=161,slow=12,SNR=10.0	**15.70**	**355**	P	**P**	**18 16 20.7**	**-0.8**
BVAR	comp=Z,0.1nm,0.3s,baz=163,slow=20,SNR=4.6			S	**S**	**18 19 09.1**	**-1.1**
CHKZ	**Chkalovo**	**16.33**	**356**	*e*P	**P**	**18 16 26.0**	**-3.3**
CHKZ	comp=Z,1.0nm,0.6s			pmax	pmax		
CHKZ	**Chkalovo** comp=Z,0.8nm,0.6s	**16.33**	**356**	*e*P	**P**	**18 16 26.0**	**-3.4**
ZAL	**Zalesovo**	**18.53**	**23**	P	**P**	**18 16 56.0**	**+1.8**
ZAL	comp=Z,2.0nm,0.3s			pmax	pmax		
ZAL	**Zalesovo** comp=Z,2.0nm,0.3s,baz=267,slow=4.6,SNR=13	**18.53**	**23**	P	**P**	**18 16 56.0**	**+1.8**
ZAL	**Zalesovo**	**18.53**	**23**	P	**P**	**18 16 56.0**	**+1.8**
GNI	**Garni**	**21.91**	**286**	*e*P	**P**	**18 17 29.8**	**+1.4**
GNI	comp=Z,2.0nm,0.6s			pmax	pmax		
GNI	**Garni** comp=Z,1.2nm,0.4s,mb3.7,baz=29,slow=24,SNR=3.0	**21.91**	**286**	P	**P**	**18 17 30.1**	**+1.7**
GNI	**Garni** comp=Z,2.3nm,0.6s,mb3.8	**21.91**	**286**	*e*P	**P**	**18 17 29.8**	**+1.4**
SONM	**Songino Array** comp=Z,0.4nm,0.7s,mb3.1,baz=286,slow=9.0,SNR=4.2	**26.71**	**56**	P	**P**	**18 18 18.2**	**+4.5**
CMAR	**Chiang Mai Arr** comp=Z,118nm,18.3s,baz=120,slow=43	**29.76**	**122**	LR	LR	18 34 49.5	
FINES	**FINESS Array B**	**37.49**	**325**	P	**P**	**18 19 44.3**	**-2.7**
FINES	comp=Z,5.0nm,1.1s			pmax	pmax		
FINES	**FINESS Array B** comp=Z,4.5nm,1.1s,mb4.0,baz=149,slow=11,SNR=3.6	**37.49**	**325**	P	**P**	**18 19 44.3**	**-2.7**
IDI	**Anoyia** comp=Z,18nm,0.9s,mb4.7,baz=57,slow=5.1,SNR=3.2	**38.22**	**282**	P	**P**	**18 19 55.0**	**+1.7**
ARCES	**ARCESS Array B**	**40.83**	**337**	P	**P**	**18 20 12.4**	**-2.0**
ARCES	comp=Z,4.0nm,1.0s			pmax	pmax		
ARCES	**ARCESS Array B** comp=Z,3.7nm,1.0s,mb4.0,baz=119,slow=9.3,SNR=4.3	**40.83**	**337**	P	**P**	**18 20 12.4**	**-2.0**
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.6s,mb3.1,baz=350,slow=5.5,SNR=9.7	**80.27**	**3**	P	**P**	**18 24 41.5**	**+0.5**

IDC 18 18:30:38.2±4.5, 3.79N×32.13W, mb4.0/5, mb1 4.2/5, mb1mx3.7/19, mbtmp3.9/5, MS3.8/3, Ms1 3.8/3, ms1mx3.1/17, Error ellipse: s-maj=200.7km s-min=33.4km az=11.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia** comp=Z,205nm,21.6s,baz=73,slow=33	**24.90**	**219**	LR	LR	18 44 19.1	
DBIC	**Dimbokro** 3.1nm,1.0s,baz=227,slow=13,SNR=3.9	**27.30**	**83**	P	P	18 36 24.9	-1.9
LPAZ	**La Paz** comp=Z,98nm,20.0s,baz=60,slow=34	**40.81**	**240**	LR	LR	18 54 00.4	
PLCA	**Paso Flores** comp=Z,160nm,20.6s,baz=260,slow=38	**56.54**	**214**	LR	LR	19 05 58.1	
TXAR	**Lajitas Array** 0.2nm,0.4s,baz=72,slow=5.7,SNR=3.5	**72.07**	**299**	P	P	18 42 05.3	-1.2
PDAR	**Pinedale Array** 0.6nm,1.0s,baz=63,slow=10,SNR=2.9	**78.21**	**313**	P	P	18 42 39.7	-1.7
YKA	**Yellowknife Ar** 0.8nm,0.9s,baz=95,slow=5.5,SNR=11	**83.17**	**332**	P	P	18 43 06.1	-1.3
ILAR	**Eielson Array** 0.5nm,0.9s,baz=45,slow=3.8,SNR=5.6	**96.88**	**337**	P	P	18 44 11.4	-0.8

IDC 18 18:32:00.1±14.0, 15.02S×169.43E, mb3.4/3, mb1 3.6/3, mb1mx3.5/14, mbtmp3.4/3, Error ellipse: s-maj=430.5km s-min=53.2km az=128.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=80,slow=6.2,SNR=6.1	**33.78**	**257**	P	P	18 38 44.5	-1.6
ASAR	**Alice Springs** 0.3nm,0.4s,baz=77,slow=9.4,SNR=9.8	**34.53**	**250**	P	P	18 38 50.1	-2.4
SONM	**Songino Array** 0.4nm,1.1s,baz=117,slow=3.2,SNR=3.6	**83.97**	**323**	P	P	18 44 32.4	-1.2

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*NIED **18** 18:47:00, 42.90N×145.10E, h44km, Mw3.8 Best double couple: M0:6.44×10^14 NP1:φs=50°, δ=69°, λ=79°. NP2:φs=258°, δ=23°, λ=116°.*
*JMA **18** 18:47:22.7±0.1, 42.88N×145.11E, h47km±1km, M3.9*
JMA Felt I J1.
*IDC **18** 18:47:22.7±7.0, 42.54N×145.06E, h61km±45km, mb3.5/5, mb1 3.7/6, mb1mx3.3/22, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=65.0km s-min=29.7km az=178.0*
*MOS **18** 18:47:24.8±1.8, 43.20N×145.10E, h64km, mb4.1/3, Error ellipse: s-maj=43.0km s-min=29.8km az=93.0*
ISC 18 18:47:22.0±0.9, 42.89N±0.07×145.13E±0.07, h52km±6km, n18, σ0§68/27, mb3.6/5, 1C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.34**	**289**	⇓P	**P**	**18 47 31.8**	**+0.1**
JAK				*e*S	**S**	**18 47 38.5**	**-0.1**
NEM2	**Nemuro 2**	**0.65**	**43**	⇑P	**P**	**18 47 35.6**	**+0.4**
NEM2				*e*S	**S**	**18 47 44.8**	**-0.3**
JNK	**Nakash**	**0.76**	**337**	⇓P	**P**	**18 47 37.1**	**+0.5**
JNK				*e*S	**S**	**18 47 47.4**	**0.0**
JOB	**Onbets**	**0.95**	**271**	⇓P	**P**	**18 47 39.4**	**+0.1**
JOB				*e*S	**S**	**18 47 52.1**	**0.0**
JRA	**Rausu**	**1.05**	**360**	⇓P	**P**	**18 47 41.3**	**+0.6**
JRA				*e*S	**S**	**18 47 54.7**	**+0.2**
JAR	**Ashorobuto**	**1.08**	**293**	⇓P	**P**	**18 47 41.3**	**+0.2**
JAR				*e*S	**S**	**18 47 54.6**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**1.26**	**25**	*e*PN	**P**	**18 47 43.0**	**-0.7**
YUK				*i* S	**S**	**18 47 58.5**	**-1.3**
YUK	comp=Z,540nm,0.3s			pmax	pmax		
YUK	comp=N,2.0nm,0.5s			smax			
YUK	comp=E,5μm,0.7s			smax			
YUK	comp=N,2μm,0.5s			smax			
YUK	comp=E,2μm,0.4s			smax			
JCH	**Churui**	**1.33**	**259**	P	**P**	**18 47 44.2**	**-0.5**
JCH				*e*S	**S**	**18 48 01.0**	**-0.6**
JTKR	**Abashiri--Toko**	**1.40**	**321**	⇓P	**P**	**18 47 46.6**	**+0.9**
ASAJ	**Asahikawa** comp=E,26nm,0.3s,baz=133,slow=10.0,SNR=146	**2.21**	**305**	P	**P**	**18 47 58.5**	**+1.5**
ASAJ	comp=E,8.9nm,0.3s,baz=38,slow=30,SNR=6.9			S	**S**	**18 48 28.4**	**+5.0**
SONM	**Songino Array** comp=E,0.9nm,0.7s,mb3.4,baz=79,slow=8.4,SNR=8.5	**27.46**	**294**	P	**P**	**18 53 04.7**	**-0.3**
ILAR	**Eielson Array** comp=E,0.2nm,0.6s,mb3.0,baz=268,slow=6.1,SNR=4.0	**43.05**	**36**	P	**P**	**18 55 19.2**	**+1.4**
INK	**Inuvik**	**47.89**	**30**	P	**P**	**18 55 56.6**	**+0.4**
INK	comp=Z,1.0nm,0.4s			pmax	pmax		
INK	**Inuvik** comp=Z,0.6nm,0.4s,mb4.0,baz=315,slow=5.3,SNR=4.1	**47.89**	**30**	P	**P**	**18 55 56.6**	**+0.3**
FINES	**FINESS Array B**	**64.97**	**332**	P	**P**	**18 57 56.9**	**-1.1**
FINES	comp=Z,1.0nm,0.6s			pmax	pmax		
FINES	**FINESS Array B** comp=Z,0.9nm,0.6s,mb4.0,baz=63,slow=8.5,SNR=5.7	**64.97**	**332**	P	**P**	**18 57 56.9**	**-1.1**
NOA	**NORSAR Array B**	**69.86**	**338**	P	**P**	**18 58 27.9**	**-0.8**
NOA	comp=Z,1.0nm,1.0s			pmax	pmax		
NOA	**NORSAR Array B** comp=Z,0.9nm,1.0s,mb3.6,baz=49,slow=5.2,SNR=2.5	**69.86**	**338**	P	**P**	**18 58 27.9**	**-0.8**

IDC 18 19:01:51.1±52.0, 16.45S×177.17W, mb3.8/3, mb1 4.0/3, mb1mx3.7/14, mbtmp3.8/3, Error ellipse: s-maj=959.6km s-min=162.1km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.7nm,0.5s,baz=82,slow=15,SNR=4.5	**40.37**	**240**	P	P	19 09 32.0	-0.5
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=96,slow=7.4,SNR=14	**46.07**	**258**	P	P	19 10 16.6	-2.3
ASAR	**Alice Springs** 2.0nm,0.4s,baz=90,slow=7.9,SNR=56	**46.33**	**253**	P	P	19 10 18.9	-2.1

IDC 18 19:03:38.0±5.9, 7.18N×94.32E, mb3.3/3, mb1 3.5/4, mb1mx3.4/18, mbtmp3.2/4, ML3.2/1, Error ellipse: s-maj=171.9km s-min=30.1km az=77.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.0nm,0.3s,baz=228,slow=14,SNR=8.6	**12.08**	**21**	Pn	P	19 06 32.2	-2.3
SONM	**Songino Array** 0.4nm,0.9s,baz=194,slow=5.9,SNR=2.7	**41.80**	**12**	P	P	19 11 29.1	-1.8
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=306,slow=9.0,SNR=7.1	**47.72**	**125**	P	P	19 12 16.4	-2.4
ASAR	**Alice Springs** 0.2nm,0.6s,baz=300,slow=7.3,SNR=3.2	**49.34**	**130**	P	P	19 12 29.9	-1.4

IDC 18 19:10:02.0±4.6, 9.55N×92.70E, mb3.5/3, mb1 3.5/4, mb1mx3.4/18, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=126.8km s-min=29.7km az=81.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=210,slow=30,SNR=2.7	**10.73**	**34**	Pn	P	19 12 37.4	-2.7
SONM	**Songino Array** 0.1nm,0.4s,baz=204,slow=7.2,SNR=3.1	**39.88**	**14**	P	P	19 17 37.5	-1.7
WRA	**Warramunga Arr** 0.7nm,0.4s,baz=306,slow=8.5,SNR=37	**50.39**	**126**	P	P	19 19 01.6	-1.8
ASAR	**Alice Springs** 0.4nm,0.5s,baz=309,slow=6.9,SNR=9.4	**52.08**	**130**	P	P	19 19 13.8	-2.4

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*JMA **18** 19:14:32.2±0.3, 29.66N×138.79E, h510km, M4.3*
*BJI **18** 19:14:32.5, 29.47N×138.44E, h500km, mB5.1, mb4.4*
*IDC **18** 19:14:33.2±0.7, 29.57N×138.48E, h479km±8km, mb3.1/13, mb1 3.3/17, mb1mx3.3/23, mbtmp4.1/17, Error ellipse: s-maj=14.2km s-min=9.3km az=86.0*
*NEIC **18** 19:14:33.6±0.8, 29.64N×138.39E, h483km±8km, mb3.7/8, Error ellipse: s-maj=11.6km s-min=8.0km az=112.0*
ISC 18 19:14:32.4±0.4, 29.57N±0.04×138.48E±0.07, h487km±4km, n50, σ1§05/61, mb3.7/24, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2** 64nm,0.3s,baz=183,slow=8.9,SNR=14	**3.71**	**17**	P	**P**	**19 15 49.0**	**+0.8**
JHJ	92nm,0.3s,baz=239,slow=21,SNR=7.3			S	**S**	**19 16 49.8**	**+1.4**
JHJ2	**Mitsune**	**3.71**	**18**	P	**P**	**19 15 48.8**	**+0.5**
JHJ2				*e*S	**S**	**19 16 47.5**	**-0.9**
CBIJ	**Chichi jima** 8.4nm,0.3s,baz=296,slow=23,SNR=4.4	**4.09**	**126**	P	**P**	**19 15 50.4**	**-1.0**
CBIJ	73nm,0.3s,baz=286,slow=22,SNR=15			S	**S**	**19 16 52.9**	**-1.1**
CBIJ	**Chichi jima**	**4.09**	**126**	*e*S	**S**	**19 16 52.6**	**-1.4**
JHHJ	**Haha-jima-NKT**	**4.39**	**131**	*e*S	**S**	**19 16 58.9**	**+0.3**
JWZ	**Kozaga**	**4.60**	**330**	P	**P**	**19 15 57.4**	**+1.6**
JIE	**Ise**	**5.04**	**343**	P	**P**	**19 16 01.5**	**+1.7**
JIM2	**Oshima 3**	**5.19**	**9**	P	**P**	**19 16 01.3**	**0.0**
JIM2				*e*S	**S**	**19 17 12.5**	**+0.8**
BSO1	**Boso 1**	**5.49**	**22**	P	**P**	**19 16 03.6**	**-0.6**
BSO1				S	**S**	**19 17 16.0**	**-0.8**
JOD2	**Odawara 2**	**5.70**	**5**	P	**P**	**19 16 05.6**	**-0.6**
JOD2				S	**S**	**19 17 19.9**	**-0.5**
JTO	**Tosashimizu**	**5.86**	**305**	P	**P**	**19 16 09.5**	**+1.7**
JRY	**Ryogami san**	**6.44**	**3**	P	**P**	**19 16 12.8**	**-0.7**
JRY				*e*S	**S**	**19 17 32.5**	**-1.1**
MAJO	**Matsushiro**	**6.96**	**358**	*e*P	**P**	**19 16 17.5**	**-1.3**
MAT	**Matsushiro** 43nm,0.8s	**6.96**	**358**	*e*P	**P**	**19 16 17.0**	**-1.8**
MAT				*e*S	**S**	**19 17 40.0**	**-3.1**
MAT	**Matsushiro**	**6.96**	**358**	P	**P**	**19 16 17.2**	**-1.6**
MAT				*e*S	**S**	**19 17 45.2**	**+2.1**
MAT	**Matsushiro**	**6.96**	**358**	P	**P**	**19 16 17.6**	**-1.2**
MAT				*e*S	**S**	**19 17 45.2**	**+2.1**
JHS	**Saijyo**	**7.06**	**321**	P	**P**	**19 16 21.1**	**+1.2**
JOW	**Kunigami** baz=79,slow=7.5	**9.40**	**256**	P	**P**	**19 16 45.6**	**+0.9**
JMK	**Ichinoseki**	**9.63**	**13**	P	**P**	**19 16 47.1**	**0.0**
JMK				*e*S	**S**	**19 18 32.0**	**-2.2**
JOT	**Ohata**	**11.97**	**9**	P	**P**	**19 17 12.2**	**+0.4**
ASAJ	**Asahikawa** 0.5nm,0.3s,baz=186,slow=9.2,SNR=3.4	**14.88**	**12**	P	**P**	**19 17 42.8**	**+0.8**
YSS	**Yuzh-Sakhalins** 6.8nm,0.4s	**17.67**	**10**	P	**P**	**19 18 11.8**	**+2.0**
WHN	**Wuhan**	**20.90**	**279**	*e*P	**P**	**19 18 41.0**	**+0.3**
ENH	**Enshi** 46nm,0.7s	**25.11**	**279**	*e*P	**P**	**19 19 18.1**	**-0.9**
XAN	**Xi'an**	**25.46**	**288**	P	**P**	**19 19 21.3**	**-0.8**
XAN	comp=Z,10.0nm,0.6s,mb4.4			AMB	AMB		
SONM	**Songino Array** comp=Z,0.3nm,0.6s,mb2.9,baz=122,slow=8.0,SNR=4.9	**30.67**	**315**	P	**P**	**19 20 07.5**	**0.0**
CMAR	**Chiang Mai Arr** comp=Z,3.0nm,0.5s,mb4.0,baz=75,slow=4.6,SNR=50	**37.60**	**262**	P	**P**	**19 21 06.2**	**+0.4**
ZAL	**Zalesovo** comp=Z,0.4nm,0.5s,mb3.1,baz=140,slow=19,SNR=3.0	**45.49**	**318**	P	**P**	**19 22 08.1**	**-0.2**
JIRN	**Jiri** comp=Z,33nm,0.4s	**45.62**	**281**	*e*P	**P**	**19 22 10.4**	**+0.7**
PKI	**Pulchoki** comp=Z,12nm,0.8s,mb4.4	**46.31**	**281**	*e*P	**P**	**19 22 14.6**	**-0.4**
KKN	**Kakani** comp=Z,8.5nm,0.4s,mb4.5	**46.36**	**281**	*e*P	**P**	**19 22 15.4**	**0.0**
DMN	**Daman** comp=Z,9.6nm,0.5s,mb4.5	**46.56**	**281**	*e*P	**P**	**19 22 16.6**	**-0.3**
GKN	**Gorkha** comp=Z,20nm,0.8s,mb4.6	**46.86**	**282**	*e*P	**P**	**19 22 18.5**	**-0.7**
KOLN	**Koldanda** comp=Z,2.2nm,0.8s,mb3.5	**47.80**	**282**	*e*P	**P**	**19 22 23.6**	**-2.8**
KURK	**Kurchatov** comp=Z,3.0nm,0.5s,mb3.9	**48.92**	**313**	*e*P	**P**	**19 22 33.1**	**-1.4**
WRAB	**Tennant Creek**	**49.38**	**185**	*e*P	**P**	**19 22 38.0**	**-0.3**
WRA	**Warramunga Arr** comp=Z,1.7nm,0.5s,mb3.6,baz=1.1,slow=7.7,SNR=54	**49.39**	**185**	P	**P**	**19 22 38.2**	**-0.2**
WRA	comp=Z,0.2nm,0.6s,baz=352,slow=4.9,SNR=4.7			ScP		19 26 59.4	
ASAR	**Alice Springs** comp=Z,0.9nm,0.8s,mb3.1,baz=16,slow=9.4,SNR=12	**53.11**	**185**	P	**P**	**19 23 05.5**	**-0.1**
CHKZ	**Chkalovo** comp=Z,1.8nm,0.5s,mb3.7	**53.84**	**317**	*e*P	**P**	**19 23 08.7**	**-1.8**
ILAR	**Eielson Array** comp=Z,0.5nm,0.7s,mb2.9,baz=286,slow=8.8,SNR=10	**57.14**	**29**	P	**P**	**19 23 34.0**	**+0.7**
STKA	**Stephens Creek** comp=Z,3.9nm,0.7s,mb4.0,baz=353,slow=6.4,SNR=21	**61.18**	**177**	P	**P**	**19 24 01.0**	**+0.3**
INK	**Inuvik** comp=Z,0.5nm,0.4s,mb3.3	**62.15**	**25**	P	**P**	**19 24 06.2**	**-0.4**
ARCES	**ARCESS Array B** comp=Z,2.4nm,0.9s,mb3.7,baz=72,slow=8.8,SNR=7.4	**70.12**	**340**	P	**P**	**19 24 54.8**	**-1.1**
RES	**Resolute Bay** comp=Z,1.6nm,0.6s,mb3.7	**70.41**	**13**	P	**P**	**19 24 57.4**	**-0.1**
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.6s,mb3.3,baz=298,slow=6.0,SNR=9.9	**71.51**	**28**	P	**P**	**19 25 04.2**	**+0.1**
FINES	**FINESS Array B** comp=Z,1.6nm,0.8s,mb3.6,baz=53,slow=6.9,SNR=3.8	**74.27**	**333**	P	**P**	**19 25 19.2**	**-0.7**
HLID	**Hailey** comp=Z,1.0nm,0.7s,mb3.5	**81.32**	**45**	*e*P	**P**	**19 26 00.4**	**+2.3**
NVAR	**Mina Array Bea** comp=Z,0.8nm,0.6s,mb3.4,baz=281,slow=7.6,SNR=4.1	**81.52**	**51**	P	**P**	**19 26 00.9**	**+1.7**
BRTR	**Keskin Array B** comp=Z,1.6nm,0.7s,mb3.7,baz=90,slow=3.2,SNR=8.6	**81.92**	**311**	P	**P**	**19 26 01.6**	**+0.4**
PDAR	**Pinedale Array** comp=Z,0.3nm,0.6s,mb3.1,baz=270,slow=3.6,SNR=3.3	**84.71**	**43**	P	**P**	**19 26 16.9**	**+1.9**

NDI 18 19:24:28.1±4.5, 30.55N×79.40E, h15km±32km, ML2.7, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSI	**Joshimath**	**0.14**	**86**	*e*P	Pb	19 24 30.6	-1.2
JOSI				*e*S	Sb	19 24 35.0	+0.8
JOSI	comp=N,844nm,0.2s			*e*		19 24 36.5	
JOSI	comp=E,3μm,0.2s			*e*		19 24 36.7	
KALG	**Kalgarh**	**1.18**	**209**	*e*P	Pb	19 24 34.6	-15
KALG				*e*S	Sb	19 24 48.1	-16
KALG	comp=N,12nm,0.0s			*e*		19 24 55.4	
KALG	comp=E,273nm,0.1s			*e*		19 24 55.6	
DDI	**Dehra Dun**	**1.18**	**259**	*e*P	Pb	19 24 43.8	-5.9
DDI				*e*S	Sb	19 24 59.8	-4.9
KLP	**Kalpa**	**1.39**	**315**	*e*P	Pn	19 24 52.9	-0.2
KLP				*e*		19 25 11.2	
KLP				*e*S	Sb	19 25 12.7	+1.9
SMLA	**Simla**	**2.01**	**287**	*i* S	Sn	19 25 41.0	+14
KKR	**Kurukshetra**	**2.31**	**256**	*e*	Pn	19 24 39.3	-27
KKR				*i*		19 25 34.4	
NDI	**New Delhi**	**2.66**	**226**	*e*P	Pn	19 25 10.0	-1.2
NDI				*e*S	Sn	19 25 42.0	-1.4
AYAN	**Aya Nagar**	**2.86**	**224**	*e*P	Pn	19 25 14.7	+0.6
AYAN				*e*S	Sn	19 25 47.6	-0.9
SONA	**Sohna**	**3.05**	**222**	*e*P	Pn	19 25 18.3	+1.5
SONA				*e*S	Sn	19 25 49.8	-3.6
SONA				*e*S	Sn	19 25 50.3	-3.1
SONA	comp=E,64nm,0.2s			*e*		19 26 00.4	
SONA	comp=N,29nm,0.1s			*e*		19 26 00.5	
KHET	**Khetri**	**3.99**	**233**	*e*P	Pn	19 25 29.2	-1.0
KHET				*e*S	Sn	19 26 12.0	-5.2
KHET	comp=N,56nm,0.9s			*e*		19 26 28.6	
KHET	comp=E,16nm,0.6s			*e*		19 26 28.6	

IDC 18 19:48:15.6±3.4, 10.31N×91.50E, h20km±6km, mb3.4/3, mb1 3.5/4, mb1mx3.3/16, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=97.1km s-min=22.5km az=78.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=237,slow=14,SNR=4.8	**10.84**	**41**	Pn	P	19 50 50.4	-2.6
SONM	**Songino Array** 0.6nm,0.6s,baz=200,slow=8.0,SNR=8.0	**39.45**	**16**	P	P	19 55 44.4	-1.8
SONM	0.3nm,0.6s,baz=203,slow=9.4,SNR=3.0			pP	pP	19 55 50.5	-1.6
ZAL	**Zalesovo** 0.4nm,0.3s,baz=288,slow=16,SNR=1.9	**43.84**	**354**	pP	pP	19 56 27.6	-0.4
WRA	**Warramunga Arr** 0.6nm,0.8s,baz=300,slow=9.9,SNR=8.6	**51.79**	**126**	P	P	19 57 22.2	-2.4
WRA	1.1nm,0.9s,baz=305,slow=8.6,SNR=5.2			pP	pP	19 57 28.3	-2.3
ASAR	**Alice Springs** 0.4nm,0.8s,baz=315,slow=7.7,SNR=3.3	**53.47**	**130**	P	P	19 57 35.0	-2.0
ASAR	0.9nm,0.7s,baz=304,slow=7.3,SNR=6.3			pP	pP	19 57 41.2	-1.9
STKA	**Stephens Creek** 1.2nm,0.9s,baz=281,slow=5.2,SNR=1.3	**63.67**	**133**	pP	pP	19 58 53.8	-0.5

IDC 18 20:10:37.4±1.7, 3.38N×94.66E, mb3.5/5, mb1 3.7/6, mb1mx3.5/18, mbtmp3.5/6, ML3.5/1, Error ellipse: s-maj=68.3km s-min=22.2km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=207,slow=11,SNR=11	**15.56**	**15**	Pn	P	20 14 16.5	-3.5
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=299,slow=9.3,SNR=5.1	**45.33**	**122**	P	P	20 18 57.4	-2.0
SONM	**Songino Array** 0.2nm,0.7s,baz=194,slow=5.9,SNR=3.3	**45.43**	**11**	P	P	20 18 58.1	-1.7
ASAR	**Alice Springs** 0.3nm,0.9s,baz=297,slow=8.1,SNR=2.8	**46.72**	**127**	P	P	20 19 08.7	-1.6
BVAR	**Borovoye Array** 1.0nm,0.7s,baz=124,slow=11,SNR=4.1	**53.39**	**342**	P	P	20 20 00.5	-0.5
FINES	**FINESS Array B** 2.3nm,0.8s,baz=104,slow=5.7,SNR=3.3	**76.91**	**333**	P	P	20 22 30.4	-2.7

IDC 18 20:15:25.3±1.1, 11.05N×140.84E, mb3.6/6, mb1 3.8/6, mb1mx3.7/18, mbtmp3.6/6, Error ellipse: s-maj=40.4km s-min=22.6km az=80.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.4nm,0.8s,baz=9.3,slow=9.7,SNR=8.4	**31.45**	**192**	P	P	20 21 48.0	-2.9
ASAR	**Alice Springs** 0.6nm,0.6s,baz=18,slow=12,SNR=6.7	**35.16**	**191**	P	P	20 22 21.5	-1.5
CMAR	**Chiang Mai Arr** 0.4nm,0.9s,baz=63,slow=6.4,SNR=3.1	**41.10**	**285**	P	P	20 23 11.4	-1.3
SONM	**Songino Array** 0.5nm,0.9s,baz=112,slow=5.1,SNR=2.9	**46.67**	**328**	P	P	20 23 57.0	-0.4
BVAR	**Borovoye Array** 0.8nm,0.7s,baz=108,slow=14,SNR=3.7	**69.50**	**323**	P	P	20 26 33.9	-3.7
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=296,slow=5.6,SNR=4.4	**86.90**	**27**	P	P	20 28

ASAR Alice Springs 34.98 191 P **P 20 29 41.5 +0.4**
2.1nm,0.5s,mb4.3,baz=17,slow=12,SNR=27
ENH Enshi 35.09 308 P **P 20 29 41.6 -0.4**
7.8nm,1.0s,mb4.6
CMAR Chiang Mai Arr 41.30 286 P **P 20 30 36.2 +2.2**
2.8nm,0.9s,mb3.9,baz=101,slow=7.0,SNR=21
CMAR Chiang Mai Arr 41.30 286 P **P 20 30 36.2 +2.2**
1.6nm,0.8s,mb3.7,baz=342,slow=8.0,SNR=4.2
SONM Songino Array 46.94 328 P **P 20 31 20.0 +0.9**
0.6nm,0.8s,mb3.6,baz=136,slow=6.5,SNR=5.7
NWAO Narrogin (SRO) 49.06 207 P **P 20 31 36.4 +0.4**
5.4nm,0.8s,mb4.6,baz=37,slow=23,SNR=3.7
KURK Kurchatov 64.30 321 P **P 20 33 23.6 -0.4**
3.1nm,0.6s,mb4.5
CHKZ Chkalovo 69.74 323 *e*P **P 20 33 57.1 -1.2**
1.5nm,0.6s,mb4.1
BVAR Borovoye Array 69.77 323 P **P 20 33 57.6 -0.9**
1.9nm,0.6s,mb4.2,baz=110,slow=7.4,SNR=13
BRVK Borovoye 69.83 323 P **P 20 33 58.4 -0.5**
2.2nm,0.6s,mb4.3
ILAR Eielson Array 72.67 25 P **P 20 34 14.2 -1.5**
1.0nm,0.6s,mb3.9,baz=247,slow=6.2,SNR=16
YKA Yellowknife Ar 87.03 27 P **P 20 35 33.8 +1.1**
1.2nm,0.6s,mb4.3,baz=291,slow=5.3,SNR=17
YKA Yellowknife Ar 87.03 27 P **P 20 35 33.8 +1.1**
ARCES ARCESS Array B 88.50 341 P **P 20 35 40.6 +1.0**
3.2nm,0.8s,mb4.7,baz=39,slow=7.8,SNR=4.2
NVAR Mina Array Bea 91.59 51 P **P 20 35 56.5 +1.6**
0.7nm,0.8s,mb4.1,baz=263,slow=4.9,SNR=5.5
FINES FINESS Array B 92.01 334 P **P 20 35 55.5 -0.8**
5.4nm,1.1s,mb4.8,baz=90,slow=1.9,SNR=6.9
FINES FINESS Array B 92.01 334 P **P 20 35 55.5 -0.8**
LPAZ La Paz 151.19 104 PKPbc PKPdf 20 42 44.6 +10
1.2nm,0.6s,baz=295,slow=2.2,SNR=7.5

IDC 18 20:23:39.9±2.8, 3.45N×94.91E, mb3.6/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=109.8km s-min=29.0km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.43**	**15**	Pn	P	20 27 18.4	-2.2
0.1nm,0.3s,baz=206,slow=11,SNR=19							
DLH	**Dalhousie**	**33.96**	**331**	*e*P	P	20 30 16.0	-11
WRA	**Warramunga Arr**	**45.16**	**123**	P	P	20 31 58.8	-1.7
1.7nm,1.0s,baz=300,slow=8.8,SNR=6.4							
ASAR	**Alice Springs**	**46.57**	**127**	P	P	20 32 09.6	-2.0
0.7nm,0.7s,baz=294,slow=7.6,SNR=6.5							
BVAR	**Borovoye Array**	**53.40**	**342**	P	P	20 33 01.4	-2.2
0.5nm,0.8s,baz=143,slow=7.2,SNR=3.1							

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*IDC **18** 20:26:46.2±5.5, 3.42N×93.98E, mb3.6/4, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=170.3km s-min=29.8km az=74.0*
*NEIC **18** 20:26:52.4±1.6, 3.48N×94.32E, h30km, mb4.0/2, Error ellipse: s-maj=51.9km s-min=15.1km az=69.0*
ISC 18 20:26:49.6±1.7, 3.5N±0.2×94.2E±0.4, h30km, n8, σ0°88/8, mb3.7/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.63**	**17**	Pn	P	20 30 29.5	-0.1
0.2nm,0.3s,baz=211,slow=12,SNR=14							
CMAR	**Chiang Mai Arr**	**15.63**	**17**	Pn	P	20 30 29.5	-0.1
LSA	**Lhasa**	**26.26**	**354**	*e*P	P	20 32 27.4	+3.1
3.5nm,0.6s,mb4.1							
SONM	**Songino Array**	**45.45**	**12**	P	P	20 35 07.5	-0.3
0.4nm,0.8s,mb3.3,baz=200,slow=9.3,SNR=3.0							
WRA	**Warramunga Arr**	**45.79**	**122**	P	P	20 35 10.4	-0.4
0.9nm,0.7s,mb3.8,baz=301,slow=9.0,SNR=5.0							
ASAR	**Alice Springs**	**47.16**	**127**	P	P	20 35 21.5	-0.1
0.3nm,0.4s,mb3.6,baz=292,slow=7.8,SNR=6.7							
CHKZ	**Chkalovo**	**53.67**	**343**	*e*P	P	20 36 09.8	-0.9
0.9nm,0.7s,mb3.8							
STKA	**Stephens Creek**	**57.10**	**132**	P	P	20 36 36.5	+0.6
1.2nm,0.8s,mb4.0,baz=298,slow=16,SNR=3.0							

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*IDC **18** 20:31:34.5±1.0, 10.80N×141.33E, mb3.6/6, mb1 3.8/6, mb1mx3.7/19, mbtmp3.6/6, Error ellipse: s-maj=49.9km s-min=21.2km az=94.0*
ISC 18 20:31:37.7±1.0, 10.7N±0.1×141.4E±0.3, h33km, n6, σ1°35/6, mb3.6/6, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.25**	**193**	P	P	20 37 56.5	-0.3
0.5nm,0.5s,mb3.6,baz=9.4,slow=9.7,SNR=9.2							
ASAR	**Alice Springs**	**34.95**	**192**	P	P	20 38 29.2	+0.4
0.6nm,0.5s,mb3.8,baz=18,slow=12,SNR=8.1							
SONM	**Songino Array**	**47.21**	**328**	P	P	20 40 10.4	+1.2
0.3nm,0.9s,mb3.2,baz=129,slow=9.2,SNR=2.4							
BVAR	**Borovoye Array**	**70.06**	**323**	P	P	20 42 46.9	-1.4
0.5nm,0.5s,mb3.7,baz=113,slow=11,SNR=5.9							
ILAR	**Eielson Array**	**72.61**	**25**	P	P	20 43 02.4	-0.9
0.4nm,0.8s,mb3.4,baz=244,slow=6.2,SNR=6.0							
YKA	**Yellowknife Ar**	**86.96**	**27**	P	P	20 44 21.4	+1.0
0.2nm,0.4s,mb3.7,baz=290,slow=5.4,SNR=5.3							

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*BJI **18** 20:35:09.3, 7.45N×93.58E, h30km, mB5.0, mb4.5, Ms4.8, Msz4.5*
*MOS **18** 20:35:15.7±1.1, 8.15N×93.94E, h33km, mb5.1/28, Error ellipse: s-maj=11.8km s-min=6.9km az=108.1*
*IDC **18** 20:35:17.3±2.1, 8.16N×94.02E, h31km±14km, mb4.4/20, mb1 4.5/21, mb1mx4.5/23, mbtmp4.6/21, ML4.7/1, MS4.2/9, Ms1 4.2/9, ms1mx3.8/28, Error ellipse: s-maj=21.5km s-min=10.9km az=52.0*
*NEIC **18** 20:35:17.0±0.3, 8.16N×93.99E, h30km, mb4.8/25, Error ellipse: s-maj=8.5km s-min=6.6km az=48.0*
ISC 18 20:35:16.9±0.9, 8.17N±0.05×93.96E±0.04, h42km±8km, h38km±3.1km: pP-P, n147, σ1°13/148, mb4.8/57, MS4.4/12, 5C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.67**	**98**	P	P	20 36 56.5	+1.6
300nm,0.9s							
NNT	**Nongplab**	**7.18**	**52**	P	P	20 37 02.6	+0.6
NST	**Nakhon Sawan**	**9.60**	**38**	P	P	20 37 32.5	-3.0
CMAR	**Chiang Mai Arr**	**11.32**	**25**	Pn	P	20 38 00.9	+1.9
1.5nm,0.3s,baz=213,slow=14,SNR=240							
CMAR				LR	LR	20 42 34.2	
comp=Z,453nm,19.9s,baz=215,slow=39							
CMAR				ScP		20 47 21.3	
0.1nm,0.3s,baz=214,slow=3.3,SNR=4.9							
CMAR	**Chiang Mai Arr**	**11.32**	**25**	Pn	P	20 38 00.9	+1.9
CMAR				ScP		20 47 21.3	
CHRT	**Chiangrai**	**12.93**	**25**	P	P	20 38 24.5	+3.8
PALK	**Pallekele**	**13.17**	**267**	*e*P	P	20 38 23.0	-0.8
PALK				*e*S	S	20 40 38.4	-11
VIS	**Vishakhapatnam**	**14.04**	**314**	*e*P	P	20 38 33.2	-2.2
VIS				*e*		20 38 36.1	
comp=Z,86nm,1.0s							
VIS				*e*		20 39 59.0	
BWNR	**Bhubaneshwar**	**14.41**	**328**	*e*P	P	20 38 36.9	-3.2
BWNR				*e*S	S	20 41 09.5	-10
AGT	**Agartala**	**15.84**	**351**	⇑*i*	P	20 38 58.0	-0.7
AGT				*i*		20 40 21.0	
IMP	**Imphal**	**16.52**	**360**	*e*P	P	20 39 02.6	-4.7
TRD	**Trivandrum**	**16.82**	**272**	*e*	P	20 39 17.5	+6.3
comp=Z,20nm,0.8s							
TRD				*e*S	S	20 42 27.4	+12
SHL	**Shillong**	**17.41**	**354**	*e*P	P	20 39 12.0	-6.5
SHL				*e*		20 40 36.0	
HYB	**Hyderabad**	**17.60**	**303**	*e*P	P	20 39 21.0	+0.2
HYB				pmax	pmax		
comp=Z,70nm,1.0s							
HYB	**Hyderabad**	**17.60**	**303**	*i* P	P	20 39 21.0	+0.2
comp=Z,70nm,1.0s							
HYB				*e*		20 42 11.0	
HYB				*e*S	S	20 42 28.5	-4.6
BLSP	**Bilaspur**	**17.95**	**322**	*e*P	P	20 39 25.0	-0.2
BLSP				*e*		20 39 30.8	
comp=Z,32nm,0.5s							
BLSP				*e*S	S	20 42 35.8	-5.3
QIZ	**Qiongzhong**	**18.82**	**53**	P	P	20 39 40.4	+4.6
QIZ				S	S	20 43 12.3	+12
QIZ				AMB	AMB		
comp=Z,215nm,5.1s							
QIZ				LR	LR		
comp=N,2μm,13.8s							
QIZ				LR	LR		
comp=Z,1μm,10.4s							
MNGI Mangalore 19.40 286 *e*P **P 20 39 44.2 +1.8**							
MNGI				*e*	S	20 43 07.4	-6.3
AKL Akola 20.57 309 *i* **P 20 39 47.3 -7.6**							
JIRN Jiri 20.73 340 *e*P **P 20 39 56.6 +0.1**							
comp=Z,287nm,1.2s							
PKI Pulchoki 20.93 338 *e*P **P 20 39 58.4 0.0**							
comp=Z,431nm,1.3s							
DMN Daman 21.07 338 *e*P **P 20 40 00.0 +0.1**							
comp=Z,141nm,0.8s,mb5.3							
KKN Kakani 21.17 338 *e*P **P 20 40 00.6 -0.3**							
comp=Z,215nm,1.2s,mb5.4							
KAD Karad 21.30 297 *e*P **P 20 40 02.5 +0.3**							
KAD				*e*		20 40 06.7	
comp=Z,38nm,0.9s							
KAD				*e*	S	20 44 02.8	+11
LSA Lhasa 21.58 353 P **P 20 40 05.0 0.0**							
LSA				S	S	20 44 00.0	+3.4
LSA Lhasa 21.58 353 *e*P **P 20 40 04.6 -0.4**							
LSA				pmax	pmax		
comp=Z,90nm,0.9s,mb5.2							
LSA Lhasa 21.58 353 *e*P **P 20 40 04.6 -0.4**							
comp=Z,90nm,0.9s,mb5.2							
GKN Gorkha 21.61 337 *e*P **P 20 40 05.5 +0.2**							
comp=Z,213nm,0.9s,mb5.6							
KOLN Koldanda 21.82 335 *e*P **P 20 40 07.8 +0.4**							
comp=Z,477nm,1.4s,mb5.7							
BHPL Bhopal 21.82 315 *e*P **P 20 40 08.5 +1.1**							
BHPL				*e*		20 40 10.0	
comp=Z,40nm,1.1s							
BHPL				*e*		20 44 36.0	
POO Poona 22.09 300 *e*P **P 20 40 11.0 +0.9**							
POO				*e*	S	20 44 26.0	+20
NDI New Delhi 25.79 324 *e*P **P 20 40 45.5 -0.5**							
AJM Ajmer 25.85 317 ⇑*i*P **P 20 40 48.0 +1.5**							
ENH Enshi 26.36 31 *e*P **P 20 40 51.2 -0.1**							
comp=Z,14nm,0.9s,mb4.5							
DDI Dehra Dun 26.60 328 *e*P **P 20 40 52.6 -0.8**							
NJ2 Nanjing 33.16 41 *e*P **P 20 41 52.3 +0.5**							
NJ2				AP	pP	20 42 02.3	-0.9
NJ2				XP	sP	20 42 06.4	-2.2
NJ2				PP	PP	20 43 04.1	+0.5
NJ2				PPP	PPP	20 43 22.3	+2.3
NJ2				S	S	20 47 12.0	+4.7
NJ2				XS		20 47 25.0	
NJ2				AMB	AMB		
comp=Z,20nm,0.6s,mb5.2							
NJ2				AMB	AMB		
comp=Z,240nm,10.2s							
NJ2				LR	LR		
comp=N,940nm,11.6s							
NJ2				LR	LR		
comp=E,780nm,17.9s							
NJ2				LR	LR		
comp=Z,560nm,13.6s,MS4.4							
SSE Sheshan 34.14 44 P **P 20 41 59.4 -0.8**							
SSE				XP	sP	20 42 11.8	-5.2
SSE				S	S	20 47 24.5	+2.1
SSE				AMB	AMB		
comp=Z,25nm,0.6s,mb5.3							
SSE				AMB	AMB		
comp=Z,44nm,4.5s							
SSE				LR	LR		
comp=N,580nm,13.1s,MS4.5							
SSE				LR	LR		
comp=E,263nm,13.1s,MS4.5							
SSE				LR	LR		
comp=Z,301nm,11.4s,MS4.3							
WMQ Urumqi 35.93 352 *e*P **P 20 42 15.0 -0.3**							
WMQ				AP	pP	20 42 24.7	-2.2
WMQ				XP	sP	20 42 28.6	-3.6
WMQ				PP	PP	20 43 36.8	-0.9
WMQ				S	S	20 47 50.1	+0.1
WMQ				XS		20 48 06.1	
WMQ				AMB	AMB		
comp=Z,5.0nm,0.9s,mb4.4							
WMQ				AMB	AMB		
comp=Z,44nm,4.8s							
WMQ				LR	LR		
comp=N,945nm,19.1s,MS4.7							
WMQ				LR	LR		
comp=E,911nm,19.9s,MS4.7							
WMQ				LR	LR		
comp=Z,1μm,20.0s,MS4.7							
JOW Kunigami 37.44 56 LR LR 20 58 31.0							
comp=Z,273nm,19.9s,MS4.0,baz=278,slow=37							
UCH Uchtor 38.01 336 P **P 20 42 33.8 +1.0**							
SNR=5.5							
KBK Karagaybulak 38.21 337 P **P 20 42 35.5 +1.1**							
SNR=13							
AML Almayashu 38.26 335 P **P 20 42 36.0 +1.1**							
SNR=18							
AAK Ala-Archa 38.36 337 P **P 20 42 37.0 +1.3**							
SNR=7.0							
AAK Ala-Archa 38.36 337 *d i*P **P 20 42 36.0 +0.3**							
AAK				pmax	pmax		
comp=Z,21nm,1.5s,mb4.7							
AAK Ala-Archa 38.36 337 *e*P **P 20 42 35.3 -0.4**							
comp=Z,9.4nm,0.9s,mb4.5							
CHMS Chumysh 38.57 337 P **P 20 42 38.1 +0.6**							
SNR=6.4							
EKS2 Erkin-Say 38.67 336 P **P 20 42 39.7 +1.4**							
SNR=5.1							
USP Ospenovka 38.90 337 P **P 20 42 40.4 +0.3**							
SNR=8.1							
SONM Songino Array 40.92 13 P **P 20 42 57.8 +1.0**							
comp=Z,2.7nm,0.6s,mb4.0,baz=195,slow=8.5,SNR=22							
SONM				PcP	PcP	20 44 57.7	+0.3
comp=Z,1.0nm,0.7s,baz=197,slow=4.6,SNR=4.4							
SONM				ScP		20 48 44.7	
comp=Z,1.1nm,0.9s,baz=224,slow=5.0,SNR=4.9							
ZAK Zakamensk 42.79 9⇑*e*P **P 20 43 12.5 +0.3**							
ZAK				*e*		20 44 55.6	
MOY Mondy 43.75 6 *e*P **P 20 43 21.9 +1.9**							
KURK Kurchatov 44.28 346 *e*P **P 20 43 23.1 -1.2**							
KURK				pmax	pmax		
comp=Z,48nm,1.5s,mb5.0							
KURK Kurchatov 44.28 346 *e*P **P 20 43 23.1 -1.2**							
comp=Z,48nm,1.5s,mb5.0							
ZAL Zalesovo 46.23 353 P **P 20 43 39.8 0.0**							
comp=Z,10nm,0.5s,mb5.0,baz=287,slow=5.5,SNR=46							
ZAL				ScP		20 49 06.0	
comp=Z,0.5nm,0.4s,baz=257,slow=8.3,SNR=3.7							
HIA Hailar 46.32 23 *e*P **P 20 43 39.7 -0.8**							
HIA				pmax	pmax		
comp=Z,16nm,1.0s							
HIA Hailar 46.32 23 *e*P **P 20 43 39.7 -0.8**							
comp=Z,16nm,1.0s,mb4.9							
NWAO Narrogin (SRO) 46.49 153 P **P 20 43 41.8 -0.3**							
comp=Z,19nm,0.7s,mb5.1,baz=318,slow=11,SNR=11							
NVS Novosibirsk 47.33 352 *i* P **P 20 43 47.5 -0.9**							
NVS				pmax	pmax		
comp=Z,23nm,1.2s,mb5.0							
NVS				pmax	pmax		
comp=E,20nm,1.3s							
NVS				pmax	pmax		
comp=N,28nm,1.5s							
MDJ Mudanjiang 47.67 34 P **P 20 43 49.8 -1.4**							
MDJ				AMB	AMB		
comp=Z,8.0nm,2.3s,mb4.3							
MDJ				AMB	AMB		
comp=Z,101nm,5.2s							
WRA Warramunga Arr 48.58 126 P **P 20 43 56.7 -1.8**							
comp=Z,10nm,0.6s,mb5.0,baz=304,slow=8.6,SNR=132							
WRA				PcP	PcP	20 45 23.7	-0.5
comp=Z,2.1nm,0.8s,baz=314,slow=2.8,SNR=5.6							
WRA				ScP		20 49 13.3	
comp=Z,0.8nm,0.6s,baz=307,slow=4.4,SNR=11							
WRAB Tennant Creek 48.58 126 *i* P **P 20 43 57.5 -1.1**							
WRAB Tennant Creek 48.58 126 *e*P **P 20 43 56.6 -2.0**							
comp=Z,12nm,0.7s,mb5.0							
BVAR Borovoye Array 48.65 341 P **P 20 43 57.8 -0.9**							
comp=Z,1.7nm,0.6s,mb4.3,baz=135,slow=10,SNR=18							
BVAR				PcP	PcP	20 45 24.8	+0.8
comp=Z,1.2nm,0.6s,baz=153,slow=3.2,SNR=3.2							
BVAR				ScP		20 49 17.3	
comp=Z,2.3nm,0.8s,baz=146,slow=5.2,SNR=7.7							
BVAR Borovoye Array 48.65 341 P **P 20 43 57.8 -0.9**							
BVAR				PcP	PcP	20 45 24.8	+0.8
BVAR				ScP		20 49 17.3	
BRVK Borovoye 48.72 341 *e*P **P 20 43 57.2 -2.0**							
BRVK				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.5							
BRVK Borovoye 48.72 341 *e*P **P 20 43 57.2 -2.0**							
comp=Z,4.1nm,0.8s,mb4.5							
RAYN Ar Rayn 48.80 294 P **P 20 44 01.6 +1.3**							
comp=Z,146nm,0.7s,SNR=18							
CHKZ Chkalovo 49.14 342 *e*P **P 20 44 01.8 -0.6**							
CHKZ				*e*		20 45 26.4	
CHKZ				pmax	pmax		
comp=Z,7.0nm,0.6s,mb4.9							
CHKZ Chkalovo 49.14 342 *e*P **P 20 44 01.8 -0.6**							
comp=Z,7.4nm,0.6s,mb4.9							
CHKZ				*e*PcP	PcP	20 45 26.4	+0.7
ASAR Alice Springs 50.24 130 P **P 20 44 09.3 -2.0**							
comp=Z,7.9nm,0.7s,mb4.8,baz=302,slow=6.8,SNR=67							
ASAR				PcP	PcP	20 45 29.6	-0.5
comp=Z,3.5nm,0.8s,baz=304,slow=3.5,SNR=8.9							
ASAR				ScP		20 49 23.1	
comp=Z,0.8nm,0.7s,baz=311,slow=5.3,SNR=4.9							
ASAR				LR	LR	21 08 39.6	
comp=Z,105nm,20.5s,MS3.8,baz=8.9,slow=40							
BOD Bodaibo 51.91 13 *e*P **P 20 44 22.8 -0.6**							
BOD				*e*		20 44 29.0	
GNI Garni 54.10 314 *e*P **P 20 44 39.2 -0.8**							
GNI				pmax	pmax		
comp=Z,13nm,1.0s							
GNI Garni 54.10 314 P **P 20 44 40.4 +0.4**							
comp=Z,2.6nm,0.6s,mb4.4,baz=162,slow=22,SNR=5.1							
GNI				LR	LR	21 13 26.7	
comp=Z,261nm,18.3s,MS4.3,baz=151,slow=42							
GNI Garni 54.10 314 *e*P **P 20 44 39.2 -0.8**							
comp=Z,13nm,1.0s,mb4.8							
CLNS Chul'man 54.22 20 *e*P **P 20 44 34.0 -6.6**							
CLNS				pmax	pmax		
comp=Z,22nm,0.9s,mb5.1							
CLNS				pmax	pmax		
comp=N,8.0nm,0.8s							
CLNS				pmax	pmax		
comp=E,12nm,0.8s							
SVE Sverdlovsk 55.06 338 *e*P **P 20 44 45.5 -1.3**							
ARU Arti 55.55 337 ⇓*i*P **P 20 44 45.7 -4.6**							
ARU				*e*S	S	20 52 28.8	-2.2
ARU				*e*		20 54 28.3	
ARU				*e*SS	SS	20 56 14.2	-1.9
ARU				pmax	pmax		
comp=Z,12nm,1.1s,mb4.8							
PMG Port Moresby 55.79 107 P **P 20 44 52.9 +0.3**							
comp=Z,16nm,0.9s,mb5.0,baz=292,slow=5.4,SNR=3.6							
YSS Yuzh-Sakhalins 56.66 38 *i* P **P 20 44 58.3 -0.1**							
YSS				pmax	pmax		
comp=Z,9.0nm,1.1s,mb4.7							
KIV Kislovodsk 56.98 318 *i* P **P 20 45 00.3 -0.4**							
KIV				pmax	pmax		
comp=Z,17nm,1.2s,mb5.0							
KIV Kislovodsk 56.98 318 *e*P **P 20 44 58.5 -2.3**							
comp=Z,13nm,0.9s,mb5.0							
KMBO Kilima Mbogo 57.28 263 *e*P **P 20 45 04.3 +1.0**							
KMBO				pmax	pmax		
comp=Z,8.0nm,0.9s							
KMBO Kilima Mbogo 57.28 263 P **P 20 45 05.0 +1.7**							
comp=Z,5.3nm,0.8s,mb4.6,baz=57,slow=11,SNR=22							
KMBO				LR	LR	21 07 55.4	
comp=Z,94nm,20.1s,MS3.9,baz=102,slow=34							
KMBO Kilima Mbogo 57.28 263 *e*P **P 20 45 04.3 +1.0**							
comp=Z,8.5nm,0.9s,mb4.8							
ASF Jabal al Asfar 57.91 303 LR LR 21 13 23.7							
comp=Z,152nm,18.6s,MS4.1,baz=262,slow=39							
MALT Malatya 58.14 310 *e*P **P 20 45 04.7 -4.2**							
MALT				pmax	pmax		
comp=Z,7.0nm,1.1s,mb4.6							
MALT Malatya 58.14 310 *e*P **P 20 45 04.7 -4.2**							
comp=Z,6.7nm,1.1s,mb4.6							
SOC Sochi 58.84 316 *i* P **P 20 45 10.1 -3.7**							
SOC				*e*		20 45 56.7	
SOC				*e*		20 47 17.9	
SOC				*e*S	S	20 53 13.4	-1.2
SOC				*e*		20 54 57.3	
SOC				*e*SS	SS	20 57 08.5	-1.5
SOC				*e*SSS	SSS	20 59 41.2	+6.0
SOC				pmax	pmax		
comp=Z,21nm,1.2s,mb5.0							
SOC				pmax	pmax		
comp=N,9.0nm,0.8s							
SOC				pmax	pmax		
comp=E,7.0nm,0.7s							
EIL Elat 59.12 300 LR LR 21 10 51.3							
comp=E,189nm,18.6s,MS4.2,baz=229,slow=36							
YAK Yakutsk 59.77 19 *e*P **P 20 45 18.5 -1.5**							
YAK				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
YAK				pmax	pmax		
comp=N,8.0nm,1.2s							
YAK				pmax	pmax		
comp=E,6.0nm,1.2s							
YAK Yakutsk 59.77 19 *e*P **P 20 45 18.4 -1.5**							
comp=E,24nm,0.8s,mb5.3							
STKA Stephens Creek 60.44 134 P **P 20 45 23.4 -1.6**							
comp=E,6.5nm,0.9s,mb4.7,baz=310,slow=6.8,SNR=10							
STKA				PcP	PcP	20 46 09.3	+0.1
comp=E,2.5nm,0.6s,baz=310,slow=9.6,SNR=4.3							
STKA Stephens Creek 60.44 134 P **P 20 45 23.4 -1.6**							
STKA				PcP	PcP	20 46 09.3	+0.1
BRTR Keskin Array B 62.10 311 P **P 20 45 34.2 -1.8**							
comp=E,2.4nm,0.7s,mb4.5,baz=134,slow=7.9,SNR=14							
MBAR Mbarara 63.60 265 ⇑*i*P **P 20 45 47.0 +0.5**							
MBAR Mbarara 63.60 265 *e*P **P 20 45 46.6 +0.1**							
comp=E,4.4nm,1.1s,mb4.4							
OBN Obninsk 65.03 328 *e*P **P 20 45 52.4 -2.6**							
OBN				*e*	pP	20 46 05.2	-2.1
OBN				*e*		20 48 19.1	
OBN				PPP	PPP	20 49 57.0	+2.5
OBN				pmax	pmax		
comp=Z,16nm,1.4s,mb4.9							
OBN				MLR	MLR		
comp=Z,500nm,17.0s,MS4.8							
MA2 Magadan 66.59 28 *e*P **P 20 46 06.3 +1.5**							
MA2				*e*S	S	20 54 55.3	+3.9
MA2				*e*		20 56 00.3	
MA2				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.8							
MA2 Magadan 66.59 28 *e*P **P 20 46 06.6 +1.8**							
comp=Z,26nm,1.0s,mb5.2							
TIXI Tiksi 66.98 11 *e*P **P 20 46 06.3 -0.8**							
TIXI				pmax	pmax		
comp=Z,19nm,0.8s,mb5.2							
AKASG Malin Array Be 67.81 322 P **P 20 46 11.1 -1.6**							
comp=Z,3.3nm,0.8s,mb4.4,baz=87,slow=5.1,SNR=7.8							
IDI Anoyia 68.25 305 P **P 20 46 16.2 +0.4**							
comp=Z,12nm,0.8s,mb4.9,baz=66,slow=11,SNR=2.7							
SEY Seymchan 68.74 25 *e*P **P 20 46 19.1 +0.9**							
SEY				pmax	pmax		
comp=Z,20nm,1.0s,mb5.0							
LSZ Lusaka 69.20 250 *e*P **P 20 46 22.6 +0.8**							
LSZ				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.6							
LSZ Lusaka 69.20 250 *e*P **P 20 46 22.6 +0.7**							
comp=Z,5.6nm,0.7s,mb4.6							
JOF Joensuu 70.51 334 *e*p **P 20 46 27.9

KHC Kasperske Hory 77.58 318 *eP* **P 20 47 10.6 +0.2**
GRA1 Grafenberg Arr 79.13 319 *eP* **P 20 47 19.9 +1.0**
comp=Z,9.0nm,1.2s,mb4.6
GRF Grafenberg Arr 79.13 319 *eP* **P 20 47 19.9 +1.0**
GRF pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
GRF Grafenberg Arr 79.13 319 *eP* **P 20 47 19.9 +1.0**
GRF pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
GRF Grafenberg Arr 79.13 319 *eP* **P 20 47 19.9 +1.0**
comp=Z,9.0nm,1.2s,mb4.6
NB2 NORSAR Subarra 79.39 331 P **P 20 47 19.6 -0.4**
comp=Z,6.9nm,0.7s,mb4.7,baz=97,slow=5.0
NB2 NORSAR Subarra 79.39 331 P **P 20 47 19.6 -0.4**
NB2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
NOA NORSAR Array B 79.39 331 P **P 20 47 19.8 -0.2**
comp=Z,2.5nm,0.5s,mb4.4,baz=95,slow=5.1,SNR=17
LPG La Plagne 82.28 315 *eP* **P 20 47 36.4 +0.8**
comp=Z,35nm,0.9s,mb5.0
LPG La Plagne 82.28 315 *eP* **P 20 47 36.4 +0.8**
LPG pmax pmax
comp=Z,17nm,0.9s,mb5.0
SYO Syowa Base 85.63 197 ⇑P **P 20 47 53.2 +1.3**
SYO Syowa Base 85.63 197 ⇓PcP PcP 20 47 56.0 +0.7
ESDC Sonseca Array 90.89 310 P **P 20 48 19.0 +1.2**
comp=Z,1.3nm,0.5s,mb4.5,baz=63,slow=4.0,SNR=6.3
IMA Indian Mountai 91.42 22 *eP* **P 20 48 20.7 +1.1**
IMA pmax pmax
comp=Z,18nm,0.8s,mb5.5
IMA Indian Mountai 91.42 22 *eP* **P 20 48 20.7 +1.1**
comp=Z,18nm,0.8s,mb5.4
BORG Borgarnes 93.09 337 LR LR 21 36 20.3
comp=Z,584nm,20.3s,MS5.0,baz=2.9,slow=39
VNDA Vanda 93.25 168 P **P 20 48 27.9 +0.1**
comp=Z,1.9nm,0.9s,mb4.5,baz=287,slow=5.9,SNR=7.8
ILAR Eielson Array 94.54 22 P **P 20 48 34.6 +0.7**
comp=Z,0.5nm,0.6s,mb4.2,baz=294,slow=4.4,SNR=10.0
INK Inuvik 96.76 16 P **P 20 48 46.0 +2.1**
comp=Z,1.0nm,0.6s,mb4.4,baz=300,slow=3.6,SNR=3.1
YKA Yellowknife Ar 106.18 13 PKKPbc 21 04 58.7
comp=Z,1.2nm,1.0s,baz=151,slow=2.8,SNR=10
YKA PKKPab 21 05 15.3
comp=Z,0.4nm,0.8s,baz=146,slow=4.4,SNR=4.5
PDAR Pinedale Array 124.96 21 PKP PKPdf 20 54 15.7 +2.6
comp=Z,1.2nm,0.8s,SNR=7.8
TXAR Lajitas Array 139.03 24 PKP PKPdf 20 54 43.0 +3.1
comp=Z,0.8nm,0.6s,baz=82,slow=26,SNR=3.3
PLCA Paso Flores 144.76 201 PKP PKPdf 20 54 51.0 +1.4
comp=Z,16nm,0.9s,baz=162,slow=2.8,SNR=24
PLCA Paso Flores 144.76 201 *e*PKPdf PKPdf 20 54 50.6 +1.0
CPUP Villa Florida 147.30 233 PKPbc PKPdf 20 54 58.4 +4.0
comp=Z,0.0nm,0.3s,baz=228,slow=20,SNR=1.5
LPAZ La Paz 160.74 244 PKP PKPdf 20 55 16.6 +3.6
comp=Z,2.1nm,1.1s,baz=87,slow=1.3,SNR=8.2
LPAZ PKPab PKPab 20 55 58.0 +0.5
comp=Z,1.4nm,0.6s,baz=117,slow=3.8,SNR=8.1
LPAZ La Paz 160.74 244 PKP PKPdf 20 55 16.6 +3.6
LPAZ PKPab PKPab 20 55 58.0 +0.4

*IDC **18** 20:45:23.4±1.2, 17.30S×167.39E, mb4.0/9, mb1 4.2/9, mb1mx4.1/17, mbtmp4.1/9, Error ellipse: s-maj=31.4km s-min=27.2km az=119.0*
ISC 18 20:45:24.7±1.4,**17.74S**±0.08×**167.7E**±0.2,**h33**km,**n10**, σ0§**64**/11,**mb4.0**/**8**,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.48**	**195**	*eP*		**P**	**20 46 31.3**	**-0.7**
DZM				*eS*		**S**	**20 47 24.0**	**+0.3**
CTA	**Charters Tower**	**20.45**	**260**	P		**P**	**20 50 07.7**	**+5.6**
5.1nm,0.9s,baz=111,slow=8.6,SNR=3.0								
URZ	**Urewera**	**22.04**	**160**	P		**P**	**20 50 25.5**	**+7.5**
7.4nm,0.8s,mb4.1,baz=139,slow=22,SNR=2.7								
STKA	**Stephens Creek**	**27.50**	**234**	P		**P**	**20 51 11.3**	**+1.1**
2.8nm,0.9s,mb3.8,baz=43,slow=8.8,SNR=6.4								
WRA	**Warramunga Arr**	**31.65**	**261**	P		**P**	**20 51 46.5**	**-0.8**
1.0nm,0.8s,mb3.7,baz=91,slow=9.2,SNR=7.1								
WRA				PcP		PcP	20 54 42.0	+3.1
0.6nm,1.1s,baz=89,slow=2.8,SNR=4.7								
ASAR	**Alice Springs**	**32.14**	**254**	P		**P**	**20 51 51.1**	**-0.4**
1.6nm,0.5s,mb4.1,baz=79,slow=8.7,SNR=24								
NWAO	**Narrogin (SRO)**	**47.65**	**241**	P		**P**	**20 53 59.9**	**+0.1**
11nm,0.8s,mb5.0,baz=159,slow=9.2,SNR=4.0								
CMAR	**Chiang Mai Arr**	**76.58**	**295**	P		**P**	**20 57 13.9**	**-0.2**
0.6nm,1.0s,mb3.5,baz=135,slow=5.1,SNR=3.4								
SONM	**Songino Array**	**85.17**	**324**	P		**P**	**20 57 59.8**	**+1.0**
0.8nm,0.8s,mb3.9,baz=150,slow=4.2,SNR=6.8								
ILAR	**Eielson Array**	**89.23**	**18**	P		**P**	**20 58 17.8**	**-0.4**
0.6nm,0.8s,mb4.0,baz=239,slow=4.6,SNR=6.8								

*NEIC **18** 20:51:01.1±0.6, 6.57N×92.84E, h30km, mb4.5/3, Error ellipse: s-maj=20.2km s-min=12.3km az=56.0*
*IDC **18** 20:51:03.1±1.0, 6.73N×93.13E, h42km±9km, mb3.6/10, mb1 3.9/11, mb1mx3.7/19, mbtmp3.9/11, ML4.1/1, MS2.5/1, Ms1 2.7/1, ms1mx2.6/24, Error ellipse: s-maj=42.1km s-min=16.5km az=51.0*
ISC 18 20:51:00.7±0.7,**6.6N**±0.1×**92.9E**±0.1,**h42**km, **h42**km±.4km:**pP-P**,**n23**,σ0§**81**/23,**mb4.1**/19,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.18**	**26**	P		**P**	**20 54 08.8**	**+1.0**
0.4nm,0.3s,baz=230,slow=14,SNR=46								
CMAR				LR		LR	20 59 28.6	
comp=Z,20nm,19.8s,baz=300,slow=39								
JIRN	**Jiri**	**21.91**	**344**	*eP*		**P**	**20 55 52.3**	**+0.2**
9.1nm,0.6s,mb4.4								
PKI	**Pulchoki**	**22.05**	**342**	*eP*		**P**	**20 55 53.9**	**+0.3**
7.1nm,0.6s,mb4.3								
DMN	**Daman**	**22.18**	**341**	*eP*		**P**	**20 55 55.3**	**+0.4**
11nm,0.9s,mb4.3								
KKN	**Kakani**	**22.30**	**342**	*eP*		**P**	**20 55 55.6**	**-0.4**
11nm,0.8s,mb4.3								
GKN	**Gorkha**	**22.70**	**341**	*eP*		**P**	**20 56 00.4**	**+0.3**
8.8nm,0.5s,mb4.5								
KOLN	**Koldanda**	**22.85**	**338**	*eP*		**P**	**20 56 01.9**	**+0.4**
17nm,1.0s,mb4.4								
LSA	**Lhasa**	**23.05**	**356**	*eP*		**P**	**20 56 03.8**	**+0.3**
5.1nm,0.6s,mb4.1								
LSA				*e*			20 56 10.1	
SONM	**Songino Array**	**42.68**	**13**	P		**P**	**20 58 53.2**	**-2.0**
0.6nm,0.7s,mb3.5,baz=189,slow=8.0,SNR=5.5								
ZAL	**Zalesovo**	**47.67**	**354**	P		**P**	**20 59 35.0**	**+0.1**
2.3nm,0.4s,mb4.6,baz=297,slow=5.4,SNR=9.5								
ZAL				pP		pP	20 59 46.6	0.0
0.9nm,0.6s,baz=328,slow=3.7,SNR=3.0								
WRA	**Warramunga Arr**	**48.53**	**124**	P		**P**	**20 59 41.4**	**-0.7**
0.9nm,0.9s,mb3.8,baz=299,slow=9.8,SNR=10								
WRA				pP		pP	20 59 53.3	-0.5
2.1nm,0.8s,baz=304,slow=9.0,SNR=8.8								
WRAB	**Tennant Creek**	**48.54**	**124**	*eP*		**P**	**20 59 43.2**	**+1.0**
8.3nm,0.8s,mb4.8								
WRAB				*e*			20 59 51.7	
BVAR	**Borovoye Array**	**49.82**	**342**	P		**P**	**20 59 50.9**	**-0.7**
0.4nm,0.5s,mb3.7,baz=135,slow=10,SNR=4.5								
BVAR				PcP		PcP	21 01 12.5	+0.5
0.5nm,0.6s,baz=153,slow=3.3,SNR=4.5								
ASAR	**Alice Springs**	**50.05**	**128**	P		**P**	**20 59 53.6**	**-0.1**
0.5nm,0.8s,mb3.6,baz=326,slow=12,SNR=5.2								
ASAR				pP		pP	21 00 05.3	-0.2
1.5nm,1.0s,baz=302,slow=7.9,SNR=4.2								
CHKZ	**Chkalovo**	**50.32**	**343**	*eP*		**P**	**20 59 54.4**	**-1.1**
1.8nm,0.4s,mb4.5								
BRTR	**Keskin Array B**	**62.35**	**312**	P		**P**	**21 01 20.9**	**-0.7**
0.7nm,0.6s,mb4.0,baz=143,slow=6.2,SNR=4.9								
IDI	**Anoyia**	**68.30**	**305**	P		**P**	**21 02 01.2**	**+1.3**
84nm,1.4s,baz=196,slow=18,SNR=2.9								
JOF	**Joensuu**	**71.48**	**335**	*ep*		**P**	**21 02 17.8**	**-1.0**
FINES	**FINESS Array B**	**73.28**	**333**	P		**P**	**21 02 29.2**	**-0.2**
1.9nm,0.7s,mb4.1,baz=135,slow=2.7,SNR=6.7								
KAF	**Kangasniemi**	**73.38**	**333**	*ep*		**P**	**21 02 28.7**	**-1.3**
ARCES	**ARCESS Array B**	**76.06**	**340**	P		**P**	**21 02 45.8**	**+0.5**
2.4nm,0.9s,mb4.1,baz=112,slow=6.3,SNR=6.8								
GERES	**GERESS Array B**	**77.97**	**318**	P		**P**	**21 02 57.5**	**+1.1**
1.1nm,0.8s,mb3.8,baz=104,slow=5.5,SNR=7.5								
NOA	**NORSAR Array B**	**80.25**	**331**	P		**P**	**21 03 09.2**	**+0.7**
0.7nm,0.7s,mb3.7,baz=96,slow=6.7,SNR=3.3								

*IDC **18** 20:57:41.7±1.2, 12.89N×91.82E, mb3.5/5, mb1 3.6/6, mb1mx3.5/19, mbtmp3.4/6, ML3.2/1, Error ellipse: s-maj=35.0km s-min=23.5km az=75.0*
*NEIC **18** 20:57:46.5±0.8, 12.92N×91.92E, h30km, mb4.3/2, Error ellipse: s-maj=22.6km s-min=15.7km az=72.0*
ISC 18 20:57:44.7±0.9,**12.9N**±0.1×**91.9E**±0.1,**h30**km,**n9**,σ1§**12**/9, **mb3.7**/**7**,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.76**	**50**	Pn		**P**	**20 59 50.2**	**-2.2**
0.1nm,0.3s,baz=241,slow=15,SNR=5.5								
CMAR				Sn		**Sn**	**21 01 32.2**	**+1.1**
0.2nm,0.3s,baz=241,slow=35,SNR=4.1								
SONM	**Songino Array**	**36.90**	**16**	P		**P**	**21 04 51.0**	**-1.5**
0.5nm,1.0s,mb3.3,baz=211,slow=7.2,SNR=3.7								
BVAR	**Borovoye Array**	**43.59**	**341**	P		**P**	**21 05 48.6**	**+0.8**
0.2nm,0.5s,mb3.1,baz=153,slow=9.7,SNR=2.4								
CHKZ	**Chkalovo**	**44.08**	**342**	P		**P**	**21 05 51.4**	**-0.4**
1.7nm,0.5s,mb4.0								
WRA	**Warramunga Arr**	**52.97**	**127**	P		**P**	**21 07 00.7**	**-0.5**
0.4nm,0.4s,mb3.7,baz=299,slow=9.9,SNR=10								
ASAR	**Alice Springs**	**54.81**	**131**	P		**P**	**21 07 14.7**	**+0.1**
0.3nm,0.5s,mb3.6,baz=308,slow=6.9,SNR=4.4								
STKA	**Stephens Creek**	**65.13**	**134**	P		**P**	**21 08 25.9**	**+0.6**
0.8nm,0.6s,mb4.0,baz=331,slow=17,SNR=2.5								
INK	**Inuvik**	**92.81**	**15**	P		**P**	**21 10 56.7**	**+1.5**
1.4nm,0.8s,mb4.4								
CPUP	**Villa Florida**	**148.18**	**241**	PKPbc		PKPdf	21 17 28.4	-1.7
0.0nm,0.3s,baz=53,slow=20,SNR=1.5								

IDC 18 21:00:50.5±2.4,**12.74N**×**95.73E**,**mb3.6**/4,**mb1 3.7**/5, **mb1mx3.5**/18,**mbtmp3.5**/5,**ML3.0**/1,**Error ellipse: s-maj=83.4km s-min=21.9km az=71.0**,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.47**	**28**	Pn		Pn	21 02 27.4	-2.0
0.1nm,0.3s,baz=237,slow=15,SNR=2.7								
CMAR				Sn		Sn	21 03 49.8	+4.8
0.1nm,0.3s,baz=240,slow=28,SNR=4.6								
SONM	**Songino Array**	**36.11**	**12**	P		P	21 07 53.9	-2.1
0.1nm,0.4s,baz=191,slow=7.3,SNR=2.2								
ZAL	**Zalesovo**	**42.01**	**350**	P		P	21 08 43.5	-1.5
0.6nm,0.3s,baz=163,slow=16,SNR=3.1								
WRA	**Warramunga Arr**	**49.98**	**130**	P		P	21 09 47.1	-1.7
1.1nm,0.6s,baz=313,slow=8.1,SNR=26								
ASAR	**Alice Springs**	**51.98**	**134**	P		P	21 10 01.4	-2.6
0.6nm,0.6s,baz=309,slow=6.9,SNR=9.6								

*CSEM **18** 21:01:08.0±0.3, 36.89N×27.74E, h8km, MD3.1, Error ellipse: s-maj=7.3km s-min=4.3km az=31.0*
*ISK **18** 21:01:08.8, 36.93N×27.77E, h14km, MD3.1*
ISC 18 21:01:10.1±1.1,**36.93N**±0.06×**27.82E**±0.05,**h11**km±5km, **n10**,σ0§**93**/16,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.33**	**295**	*i* P		**Pg**	**21 01 17.3**	**+0.3**
BDRM				*i* S		**Sg**	**21 01 22.5**	**+1.0**
MLSB	**Milas**	**0.37**	**355**	*i* PG		**Pg**	**21 01 16.2**	**-1.5**
MLSB				*i* SG		**Sg**	**21 01 22.5**	**-0.3**
YER	**Yerkesik**	**0.43**	**61**	*i* PG		**Pg**	**21 01 18.8**	**-0.1**
YER				*i* SG		**Sg**	**21 01 25.3**	**+0.6**
AYDN	**Tasoluk**	**0.73**	**4**	*i* P		**Pb**	**21 01 24.2**	**-0.1**
AYDN				*i* S		**Sb**	**21 01 33.2**	**-0.9**
FETY	**Fethiye**	**1.06**	**106**	*e*PN		**Pn**	**21 01 30.0**	**-0.8**
DNZL	**Cakiroluk**	**1.24**	**52**	*i* P		**Pb**	**21 01 33.6**	**+0.6**
DNZL				*i* S		**Sb**	**21 01 48.5**	**-0.4**
DENT	**Denizli**	**1.27**	**49**	*e*PN		**Pn**	**21 01 34.0**	**+0.2**
IZM	**Izmir**	**1.53**	**344**	PN		**Pn**	**21 01 36.3**	**-1.2**
MANT	**Manisa**	**1.67**	**20**	*i* P		**Pn**	**21 01 41.3**	**+1.8**
MANT				*i* S		**Sn**	**21 02 02.8**	**+1.8**
AKS	**Akhisar**	**1.95**	**360**	*e*PN		**Pn**	**21 01 42.7**	**-0.8**

*IDC **18** 21:05:01.8±1.1, 14.52N×92.45E, mb3.6/5, mb1 3.7/6, mb1mx3.5/19, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=32.5km s-min=20.5km az=54.0*
*NEIC **18** 21:05:06.4±0.8, 14.59N×92.54E, h30km, mb4.0/2, Error ellipse: s-maj=20.7km s-min=14.0km az=51.0*
ISC 18 21:05:04.2±0.9,**14.6N**±0.1×**92.52E**±0.09,**h30**km,**n8**, σ0§**88**/9,**mb3.7**/**7**,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.28**	**57**	Pn		**Pn**	**21 06 49.5**	**-1.9**
0.1nm,0.3s,baz=247,slow=14,SNR=3.8								
CMAR				Sn		**Sn**	**21 08 14.4**	**+0.5**
0.1nm,0.3s,baz=233,slow=18,SNR=2.4								
SONM	**Songino Array**	**35.13**	**16**	P		**P**	**21 11 57.9**	**+0.9**
0.1nm,0.4s,mb3.1,baz=179,slow=8.6,SNR=4.1								
BVAR	**Borovoye Array**	**42.20**	**340**	P		**P**	**21 12 57.1**	**+1.1**
0.2nm,0.6s,mb3.0,baz=158,slow=16,SNR=2.2								
CHKZ	**Chkalovo**	**42.68**	**341**	*eP*		**P**	**21 12 59.6**	**-0.3**
1.0nm,0.6s,mb3.7								
WRA	**Warramunga Arr**	**53.54**	**129**	P		**P**	**21 14 24.8**	**0.0**
1.4nm,0.7s,mb4.0,baz=308,slow=7.5,SNR=13								
WRA				PcP		PcP	21 15 31.7	+0.5
0.3nm,0.5s,baz=313,slow=3.5,SNR=5.3								
WRAB	**Tennant Creek**	**53.54**	**129**	*eP*		**P**	**21 14 25.1**	**+0.3**
2.7nm,0.6s,mb4.3								
ASAR	**Alice Springs**	**55.49**	**133**	P		**P**	**21 14 39.2**	**+0.2**
0.7nm,0.4s,mb4.0,baz=309,slow=6.8,SNR=8.2								
BRTR	**Keskin Array B**	**56.98**	**308**	P		**P**	**21 14 48.4**	**-1.1**
0.2nm,0.4s,mb3.5,baz=104,slow=5.9,SNR=2.9								

*CSEM **18** 21:19:30.4, 23.08S×178.30E, h33km, mb5.8*
*MOS **18** 21:20:29.8±1.0, 22.84S×179.06E, h566km, mb5.3/24, Error ellipse: s-maj=9.8km s-min=8.4km az=146.2*
*BJI **18** 21:20:31.8, 22.49S×178.78E, h564km, mB5.5, mb5.1*
*IDC **18** 21:20:31.9±0.4, 22.97S×179.04E, h583km±3km, mb4.6/27, mb1 4.7/29, mb1mx4.7/29, mbtmp5.5/29, Error ellipse: s-maj=8.6km s-min=6.2km az=160.0*
*HRVD **18** 21:20:32.5±0.2, 22.88S×179.27E, h590km±1km, MW5.8/64, Centroid moment Tensor Solution. LP body waves: s64,c131;Mantle waves: s30,c33; Half duration: 1§9 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.91±.08; $M_{\theta\theta}$-1.60±.13; $M_{\phi\phi}$3.51±.12; $M_{r\theta}$-1.67±.12; $M_{\theta\phi}$-3.20±.10; $M_{\phi r}$-4.10±.12; Best double couple: $M_0$6.253×10^{17} NP1: ϕ_s116°,δ42°,λ-162°. NP2:ϕ_s12°, δ78°, λ-50°. Principal axes: T 6.298, Plg23°, Azm73°; N -.091, Plg39°, Azm183°; P -6.207, Plg42°, Azm320°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
*NEIC **18** 21:20:32.5±0.1, 22.91S×179.04E, mb5.3/47 Error ellipse: s-maj=7.6km s-min=4.6km az=150.0*
*BGS **18** 21:20:37.5±2.5, 22.90S×179.04E, h589km*
ISC 18 21:20:30.3±0.7,**23.01S**±0.04×**179.02E**±0.03,**h578**km±8km, **h587**km±2.0km:**pP-P**,**n499**,σ1§**03**/250,**mb5.3**/**77**,**76C-48D**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.66**	**272**	*eP*		**P**	**21 23 08.4**	**+2.7**
DZM				*eS*		**S**	**21 25 08.7**	**-1.8**
DZM	**Mont Dzumac**	**11.66**	**272**	*eP*		**P**	**21 23 08.4**	**+2.7**
DZM				*eS*		**S**	**21 25 08.7**	**-1.8**
NOUC	**Port Laguerre**	**11.79**	**272**	*eP*		**P**	**21 23 09.5**	**+2.6**
NOUC				*eS*		**S**	**21 25 21.6**	**+8.8**
OUZ	**Omahuta**	**13.05**	**200**	P		**P**	**21 23 23.7**	**+4.1**
MXZ	**Matakaoa Point**	**14.52**	**182**	P		**P**	**21 23 32.4**	**-1.6**
URZ	**Urewera**	**15.29**	**186**	P		**P**	**21 23 40.0**	**-1.5**
44nm,0.3s,baz=325,slow=4.2,SNR=106								
URZ				S		**S**	**21 26 13.2**	**-2.4**
23nm,0.3s,baz=26,slow=23,SNR=14								
URZ	**Urewera**	**15.29**	**186**	P		**P**	**21 23 39.8**	**-1.7**
MWZ	**Matawai**	**15.33**	**184**	P		**P**	**21 23 40.8**	**-1.1**
KNZ	**Kokohu**	**16.00**	**184**	P		**P**	**21 23 47.6**	**-0.8**
MGZ	**Maungaku**	**16.21**	**190**	P		**P**	**21 23 52.3**	**+1.9**
BKZ	**Black Stump Fm**	**16.25**	**187**	P		**P**	**21 23 49.7**	**-1.1**
BKZ				*eS*		**S**	**21 26 29.2**	**-3.2**
NGZ	**Ngauruhoe**	**16.38**	**189**	P		**P**	**21 23 53.2**	**+1.2**
FWVZ	**Far West T-bar**	**16.46**	**190**	P		**P**	**21 23 53.9**	**+1.1**
VRZ	**Vera Road**	**16.47**	**192**	P		**P**	**21 23 55.9**	**+3.0**
TSZ	**Takapari Road**	**17.19**	**188**	P		**P**	**21 23 58.9**	**-0.9**
BFZ	**Birch Farm**	**17.77**	**187**	P		**P**	**21 24 04.2**	**-1.1**
MRZ	**Mangatainoka R**	**17.84**	**189**	P		**P**	**21 24 04.7**	**-1.2**
KIW	**Kapiti Island**	**18.13**	**190**	P		**P**	**21 24 08.4**	**-0.3**
MRW	**Makara Radio**	**18.53**	**190**	P		**P**	**21 24 11.9**	**-0.4**
QRZ	**Quartz Range**	**18.59**	**196**	P		**P**	**21 24 14.4**	**+1.5**
NNZ	**Nelson**	**18.77**	**193**	P		**P**	**21 24 14.9**	**+0.3**
THZ	**Tophouse**	**19.39**	**194**	P		**P**	**21 24 20.3**	**-0.1**
THZ				S		**S**	**21 27 21.5**	**-4.0**
DSZ	**Denniston Nort**	**19.64**	**196**	P		**P**	**21 24 23.8**	**+1.1**
RAR	**Rarotonga**	**19.73**	**89**	P		**P**	**21 24 21.7**	**-2.0**
3.5nm,0.3s,baz=223,slow=7.6,SNR=8.7								
KHZ	**Kahutara**	**19.89**	**192**	P		**P**	**21 24 24.2**	**-0.8**
KHZ				S		**S**	**21 27 29.4**	**-4.4**
LTZ	**Lake Taylor**	**20.50**	**194**	P		**P**	**21 24 29.9**	**-0.7**
LTZ				S		**S**	**21 27 40.8**	**-3.0**
WVZ	**Waitaha Valley**	**21.16**	**197**	P		**P**	**21 24 36.4**	**-0.3**
MQZ	**McQueen's Vall**	**21.30**	**193**	P		**P**	**21 24 37.1**	**-0.9**
RPZ	**Rata Peaks**	**21.68**	**196**	P		**P**	**21 24 41.0**	**-0.3**
61nm,0.4s,mb5.6,baz=165,slow=1.4,SNR=25								
RPZ				S		**S**	**21 28 00.8**	**-2.1**
31nm,0.7s,baz=342,slow=19,SNR=3.8								
RPZ	**Rata Peaks**	**21.68**	**196**	P		**P**	**21 24 40.8**	**-0.6**
FOZ	**Fox Glacier**	**21.91**	**198**	P		**P**	**21 24 42.6**	**-0.9**
LBZ	**Lake Benmore**	**22.53**	**197**	P		**P**	**21 24 48.1**	**-0.9**
JCZ	**Jackson Bay**	**22.65**	**199**	P		**P**	**21 24 50.5**	**+0.4**
WKZ	**Wanaka**	**23.26**	**198**	P		**P**	**21 24 55.1**	**-0.5**
MSZ	**Milford Sound**	**23.45**	**200**	P		**P**	**21 24 58.0**	**+0.7**
WHZ	**Wether Hill Ro**	**24.54**	**199**	P		**P**	**21 25 07.3**	**+0.3**
RIV	**Riverview**	**26.69**	**240**	*eP*		**P**	**21 25 28.1**	**+2.1**
CNB	**Canberra Magne**	**28.54**	**238**	⇑*iP*		**P**	**21 25 44.2**	**+2.2**
3μm,0.6s								
CNB				*e*pP			21 27 17.2	
CNB				*e*sP		sP	21 28 27.9	+6.4
CNB				*e*S		**S**	**21 29 53.7**	**+2.6**
CNB				*e*SCP			21 31 24.2	
TBI	**Tubuai**	**28.95**	**97**	⇑*iP*		**P**	**21 25 45.7**	**+0.1**
883nm,1.3s,mb6.2								
TBI				*e*ScP			21 31 20.6	
196nm,1.2s								
PAE	**Paea**	**29.88**	**86**	⇑*iP*		**P**	**21 25 52.9**	**-0.7**
560nm,1.4s,mb6.0								
PPT	**Papeete**	**29.91**	**85**	⇑*iP*		**P**	**21 25 53.3**	**-0.6**
302nm,1.3s,mb5.8								
PPT	**Papeete**	**29.91**	**85**	P		**P**	**21 25 53.4**	**-0.5**
214nm,1.1s,mb5.7,baz=208,slow=2.2,SNR=20								
TIAR	**Tiarei**	**30.12**	**85**	⇑*iP*		**P**	**21 25 55.3**	**-0.4**
1μm,1.3s,mb6.3								
TVO	**Taravao**	**30.15**	**86**	⇑*iP*		**P**	**21 25 55.4**	**-0.6**
231nm,0.8s,mb5.9								
CTA	**Charters Tower**	**30.58**	**269**	*eP*		**P**	**21 26 00.9**	**+1.3**
227nm,0.6s,mb6.0								
CTA				*e*pP			21 27 33.5	
CTA				*e*PCP		PcP	21 28 40.4	+0.1
CTA				*e*S		**S**	**21 30 23.2**	**+0.3**
CTA				*e*SCP			21 31 30.8	
CTA				*e*SCS		ScS	21 35 29.4	+4.2
CTA	**Charters Tower**	**30.58**	**269**	*eP*		**P**	**21 26 00.9**	**+1.3**
CTA				*e*			21 28 40.4	
CTA				*e*S		**S**	**21 30 23.2**	**+0.3**
CTA				*e*			21 35 29.4	
CTA				pmax		pmax		
comp=Z,227nm,0.6s								
CTA	**Charters Tower**	**30.58**	**269**	P		**P**	**21 26 00.6**	**+1.0**
comp=Z,240nm,0.6s,mb6.0,baz=95,slow=11,SNR=251								
CTA				S		**S**	**21 30 23.2**	**+0.4**
comp=Z,13nm,1.1s,baz=359,slow=23,SNR=11								
CTA				ScP			21 31 29.9	
comp=Z,29nm,1.1s,baz=84,slow=1.6,SNR=7.7								
CTAO	**Charters Tower**	**30.58**	**269**	*eP*		**P**	**21 26 00.9**	**+1.3**
CTAO				pmax		pmax		
comp=Z,302nm,0.6s,mb6.1								
CTAO	**Charters Tower**	**30.58**	**269**	*eP*		**P**	**21 26 00.9**	**+1.3**
comp=Z,302nm,0.6s,mb6.1								
MEH	**Mehetia**	**31.22**	**87**	⇑*iP*		**P**	**21 26 04.3**	**-0.7**
comp=Z,356nm,1.2s,mb5.9								
TOO	**Toolangi**	**32.19**	**235**	⇑*iP*		**P**	**21 26 15.0**	**+1.9**
comp=Z,154nm,0.6s,mb5.8								
TOO				*e*pP			21 27 51.9	
TOO				*e*S		**S**	**21 30 47.6**	**+0.3**
TOO				*e*SCP			21 31 35.5	
TOO				*e*SCS		ScS	21 35 35.6	+2.4
TOO	**Toolangi**	**32.19**	**235**	⇑*iP*		**P**	**21 26 15.0**	**+1.9**
TOO				*e*S		**S**	**21 30 47.6**	**+0.3**
TOO				*e*			21 35 35.6	
TOO				pmax		pmax		
comp=Z,154nm,0.6s,mb5.8								
**PM

FORT eS S 21 34 04.4 -0.6
GUMO Guam 49.41 314 eP P 21 28 29.1 -1.1
GUMO pmax pmax
comp=Z,542nm,0.7s,mb6.1
GUMO Guam 49.41 314 eP P 21 28 29.1 -1.1
comp=Z,542nm,0.7s,mb6.1
FITZ Fitzroy Crossi 50.01 265⇓iP P 21 28 34.5 0.0
comp=Z,143nm,0.8s,mb5.5
FITZ epP pP 21 30 23.0 +1.4
FITZ eSCP 21 32 47.3
FITZ eS S 21 35 03.7 +0.8
KLBR Kellerberrin 54.51 247 eP P 21 29 06.2 -0.3
comp=Z,747nm,0.8s,mb6.1
KLBR epP pP 21 30 56.8 +0.2
MBWA Marble Bar 54.64 260 eP P 21 29 06.9 -0.6
comp=Z,154nm,0.7s,mb5.4
MBWA e pP 21 30 57.3 -0.4
NWAO Narrogin (SRO) 54.79 245⇓eP P 21 29 08.2 -0.2
NWAO pmax pmax
comp=Z,22nm,0.5s
NWAO Narrogin (SRO) 54.79 245 P P 21 29 08.3 -0.1
comp=Z,28nm,0.5s,mb4.9,baz=105,slow=7.2,SNR=64
NWAO PcP PcP 21 29 60.0 -1.9
comp=Z,18nm,0.8s,baz=42,slow=7.2,SNR=1.8
NWAO pP pP 21 30 57.8 -1.0
comp=Z,29nm,1.1s,baz=281,slow=8.4,SNR=2.7
NWAO Narrogin (SRO) 54.79 245⇓eP P 21 29 08.2 -0.2
comp=Z,22nm,0.5s,mb4.8
VNDA Vanda 55.19 184 P P 21 29 11.2 +0.6
comp=Z,8.0nm,0.9s,baz=351,slow=8.0,SNR=31
VNDA PcP PcP 21 30 01.6 -1.3
comp=Z,8.3nm,0.9s,baz=312,slow=5.0,SNR=6.9
SBA Scott Base 55.21 183 eP P 21 29 12.7 +1.9
SBA e 21 30 03.8
SBA pmax pmax
comp=Z,42nm,0.8s,mb4.8
SBA Scott Base 55.21 183 eP P 21 29 12.7 +1.9
comp=Z,42nm,0.8s,mb4.8
SBA ePcP PcP 21 30 03.8 +0.8
MUN Mundaring 55.77 246⇓iP P 21 29 15.4 +0.2
comp=Z,45nm,0.7s,mb4.8
MUN epP pP 21 31 12.7 +6.6
MUN Mundaring 55.77 246⇓iP P 21 29 15.4 +0.2
MUN pmax pmax
comp=Z,45nm,0.7s,mb4.8
NINI Niniconang 60.05 278⇑iP P 21 29 43.7 -0.6
NINI pmax pmax
comp=Z,939nm,0.7s,mb6.1
NINI Niniconang 60.05 278⇑iP P 21 29 43.7 -0.6
comp=Z,939nm,0.7s,mb6.1
CASY Casey 60.52 206 eP P 21 29 46.3 -0.3
comp=Z,61nm,0.9s,mb4.8
TANI Tanete Lipujan 60.79 279⇓iP P 21 29 47.7 -1.5
TANI pmax pmax
comp=Z,32nm,0.7s,mb4.7
TANI Tanete Lipujan 60.79 279⇓iP P 21 29 47.7 -1.5
comp=Z,32nm,0.7s,mb4.7
BUTP Butuan 61.15 295 eP P 21 29 51.4 -0.1
CBIJ Chichi jima 61.23 322 P P 21 29 50.9 -1.0
comp=Z,219nm,0.8s,mb5.4,baz=76,slow=1.1,SNR=11
SCPH Surigao 61.70 296⇑eP P 21 29 54.7 -0.3
KEDI Kedomdong 61.83 273⇓eP P 21 29 55.2 -0.7
KEDI pmax pmax
comp=Z,362nm,0.5s,mb5.9
KEDI Kedomdong 61.83 273⇓eP P 21 29 55.2 -0.7
comp=Z,362nm,0.5s
KEDI iP Px 21 29 56.4
RATI Rata 62.28 272⇓eP P 21 29 58.5 -0.3
comp=Z,1μm,0.5s
RATI iP Px 21 29 59.0
MSLP Maasin 62.41 296 eP P 21 29 59.3 -0.3
TBP Tagbilaran 63.00 295 eP P 21 30 03.3 -0.1
OCLP Ormoc 63.11 296 eP P 21 30 04.0 -0.1
RCP Roxas 64.92 296⇑eP P 21 30 15.2 -0.5
QSPA South Pole Qui 67.07 180⇓iP P 21 30 29.4 +1.5
comp=Z,73nm,0.7s,mb5.2
TGY Tagaytay City 67.76 297 P P 21 30 33.2 +0.1
comp=Z,105nm,0.4s,mb5.6,baz=129,slow=13,SNR=6.1
MAJO Matsushiro 70.66 326⇓iP P 21 30 49.6 -0.3
MAJO pmax pmax
comp=Z,56nm,0.8s,mb5.2
MAJO Matsushiro 70.66 326⇓iP P 21 30 49.6 -0.4
comp=Z,56nm,0.8s,mb5.1
MAT Matsushiro 70.66 326 eP P 21 30 50.0 +0.1
MAT eS S 21 39 17.0 -1.7
MAT pmax pmax
comp=Z,183nm,1.3s,mb5.5
MAT Matsushiro 70.66 326 eP P 21 30 50.0 +0.1
comp=Z,183nm,1.3s,mb5.5
MAT eS S 21 39 17.0 -1.7
MAT Matsushiro 70.66 326 P P 21 30 49.6 -0.3
MAT S S 21 39 16.0 -2.7
TATO Taipei 73.40 307 eP P 21 31 05.0 -0.9
comp=Z,225nm,0.8s,mb5.8
KIWB Kanaga Island 74.61 2 eP P 21 31 11.5 -0.7
NIKO Nikolski 76.39 8 eP P 21 31 20.3 -1.7
YSS Yuzh-Sakhalins 76.95 335biP P 21 31 25.5 +0.4
YSS i 21 31 34.0
YSS iS S 21 40 30.0 +3.1
YSS pmax pmax
comp=N,40nm,0.6s
YSS pmax pmax
comp=Z,100nm,0.6s,mb5.4
YSS pmax pmax
comp=Z,1μm,4.0s
YSS smax
comp=N,1μm,8.0s
YSS smax
comp=E,700nm,8.0s
YSS Yuzh-Sakhalins 76.95 335⇓iP P 21 31 26.4 +1.3
comp=E,100nm,0.6s,mb5.4
UNV Unalaska Valle 77.55 9 eP P 21 31 26.6 -1.5
PET Petropavlovsk 77.76 348⇓iP P 21 31 28.7 -0.6
PET i 21 34 39.6
PET pmax pmax
comp=Z,182nm,1.7s,mb5.2
PET Petropavlovsk 77.76 348 eP P 21 31 28.5 -0.7
comp=Z,80nm,0.6s,mb5.3
INCN Inchon 77.77 320⇓eP P 21 31 30.5 +0.8
comp=Z,71nm,0.8s,mb5.2
MAW Mawson 78.27 201 eP P 21 31 32.8 +1.1
comp=Z,13nm,0.6s,mb4.5
MAW Mawson 78.27 201 eP P 21 31 32.8 +1.1
MAW pmax pmax
comp=Z,13nm,0.6s
MAW Mawson 78.27 201 P P 21 31 32.8 +1.2
comp=Z,26nm,0.9s,mb4.7,baz=132,slow=7.6,SNR=23
MAW pP pP 21 33 36.2 +2.1
comp=Z,19nm,1.2s,baz=69,slow=3.2,SNR=3.2
SAO San Andreas Ge 81.75 44 eP P 21 31 50.9 +0.6
SAO pmax pmax
comp=Z,78nm,1.2s,mb5.1
SAO San Andreas Ge 81.75 44 eP P 21 31 50.9 +0.5
comp=Z,78nm,1.2s,mb5.1
UBT Ubonrachathani 81.75 290 P P 21 31 52.5 +1.8
LRV Little Rabbit 81.82 45 eP P 21 31 51.9 +1.2
HOPS Hopland 82.07 42 eP P 21 31 52.6 +0.6
comp=Z,101nm,1.1s,mb5.3
KHMM Horse Mountain 82.84 40 eP P 21 31 56.9 +1.1
KRMB Red Mountain 83.14 39 eP P 21 31 58.3 +1.0
CMB Columbia Colle 83.18 44 eP P 21 31 57.7 +0.2
CMB e pP 21 34 04.5 +2.8
CMB pmax pmax
comp=Z,98nm,1.1s,mb5.2
CMB Columbia Colle 83.18 44 eP P 21 31 57.7 +0.2
comp=Z,98nm,1.1s,mb5.2
CMB e pP 21 34 04.5 +2.8
OHCM Honcut 83.26 42 eP P 21 31 57.9 +0.1
OHCM e pP 21 34 04.5 +2.4
PFO Pinyon Flat Ob 83.30 49 eP P 21 31 58.5 +0.3
PFO pmax pmax
comp=Z,40nm,1.3s,mb4.8
PFO Pinyon Flat Ob 83.30 49 eP P 21 31 58.5 +0.3
comp=Z,40nm,1.3s,mb4.8
KLR Kul'dur 83.32 331αiP P 21 31 55.6 -2.4
KLR pmax pmax
comp=N,75nm,2.4s
KLR pmax pmax
comp=E,75nm,2.4s
KLR pmax pmax
comp=Z,190nm,2.4s,mb5.2
WDC Whiskeytown Da 83.37 41⇑eP P 21 31 58.7 +0.3
WDC e pP 21 34 05.6 +3.0
WDC pmax pmax
comp=Z,42nm,1.1s,mb4.9
WDC Whiskeytown Da 83.37 41⇑eP P 21 31 58.7 +0.3
comp=Z,42nm,1.1s,mb4.9
WDC e pP 21 34 05.6 +3.0
USHA Ushuaia 83.53 147 P P 21 31 59.5 +0.7
comp=Z,11nm,0.8s,mb4.5,baz=249,slow=6.0,SNR=4.9
USHA pP pP 21 34 06.2 +3.0
comp=Z,12nm,1.0s,baz=117,slow=1.9,SNR=3.0
SYO Syowa Base 83.66 194⇓P P 21 31 59.1 -0.1
SYO Syowa Base 83.66 194⇑PcP PcP 21 32 00.5 -1.9
SYO Syowa Base 83.66 194⇓pP pP 21 34 02.8 -0.7
SYO Syowa Base 83.66 194 SH 21 41 30.6
OMM Old Mammoth Mi 83.83 45⇑eP P 21 32 01.0 +0.3
YBH Yreka Blue Hor 83.97 40 eP P 21 32 02.2 +0.9
YBH e pP 21 34 08.2 +2.4
YBH pmax pmax
comp=Z,54nm,1.1s
YBH Yreka Blue Hor 83.97 40 P P 21 32 02.1 +0.8
comp=Z,39nm,1.1s,mb4.8,baz=179,slow=3.7,SNR=30
YBH pP pP 21 34 08.2 +2.5
comp=Z,4.3nm,0.9s,baz=172,slow=9.1,SNR=3.7
YBH Yreka Blue Hor 83.97 40 eP P 21 32 02.2 +0.9
comp=Z,54nm,1.1s,mb5.0
YBH e pP 21 34 08.2 +2.5
LBCM Butte Creek Ri 84.24 41 P P 21 32 02.9 +0.2
HUMO Hull Mountain 84.37 39⇑eP P 21 32 04.4 +1.1
comp=Z,79nm,1.1s,mb5.2
HUMO e pP 21 34 11.3 +3.5
BUOR Burton Butte 84.58 40 P P 21 32 05.3 +1.1
NVAR Mina Array Bea 84.74 44 P P 21 32 05.5 +0.4
comp=Z,63nm,1.3s,mb5.1,baz=229,slow=8.3,SNR=71
NVAR pP pP 21 34 12.1 +2.2
comp=Z,3.0nm,0.8s,baz=239,slow=5.4,SNR=3.4
NVAR PKKPbc 21 50 12.4
comp=Z,0.7nm,0.6s,baz=79,slow=3.7,SNR=6.0
NVAR Mina Array Bea 84.74 44 P P 21 32 05.5 +0.4
NVAR pP pP 21 34 12.1 +2.2
NVAR PKKPbc 21 50 12.4
TPH Tonopah 85.25 45 eP P 21 32 08.0 +0.4
TPH pmax pmax
comp=Z,85nm,1.3s,mb5.2
TPH Tonopah 85.25 45 eP P 21 32 08.0 +0.3
comp=Z,85nm,1.3s,mb5.2
MA2 Magadan 85.50 346 eP P 21 32 07.9 -0.4
MA2 pmax pmax
comp=Z,87nm,0.8s,mb5.4
MA2 Magadan 85.50 346 eP P 21 32 07.9 -0.4
comp=Z,87nm,0.8s,mb5.4
MOD Modoc 85.51 41 eP P 21 32 09.3 +0.5
comp=Z,42nm,0.9s,mb5.1
MOD e pP 21 34 17.0 +3.2
NEN Nelson 85.52 48 eP P 21 32 09.1 +0.1
NEN ePP PP 21 35 36.4 -2.3
SNAA Sanae 85.56 179⇑iP P 21 32 08.2 -0.2
SNAA Sanae 85.56 179 P P 21 32 08.0 -0.4
comp=Z,5.7nm,0.5s,mb4.5,baz=212,slow=7.4,SNR=122
SNAA pP pP 21 34 12.8 -0.5
comp=Z,2.8nm,1.0s,baz=181,slow=11,SNR=3.6
VNA3 Neumayer Olymp 85.81 177⇑iP P 21 32 10.8 +1.2
NST Nakhon Sawan 86.18 289 P P 21 32 14.0 +1.4
comp=Z,64nm,0.8s,mb5.3
VNA2 Neumayer--Watz 86.21 178⇑iP P 21 32 13.1 +1.6
RSO Redoubt South 86.29 14 eP P 21 32 12.1 0.0
VNA1 Neumayer--Stat 86.46 178⇑iP P 21 32 14.2 +1.6
BMN Battle Mountai 86.56 43 eP P 21 32 13.9 0.0
BMN pmax pmax
comp=Z,98nm,1.4s,mb5.3
BMN Battle Mountai 86.56 43 eP P 21 32 13.9 0.0
comp=Z,98nm,1.4s,mb5.3
BMN e pP 21 34 22.2 +3.1
TUC Tucson 86.70 53 eP P 21 32 15.6 +0.9
TUC pmax pmax
comp=Z,51nm,1.2s,mb5.1
TUC Tucson 86.70 53 eP P 21 32 15.6 +0.9
comp=Z,51nm,1.2s,mb5.1
WVOR Wild Horse Val 86.83 41 eP P 21 32 15.7 +0.7
WVOR e pP 21 34 22.9 +2.5
WVOR pmax pmax
comp=Z,59nm,1.0s,mb5.3
WVOR Wild Horse Val 86.83 41 eP P 21 32 15.7 +0.7
comp=Z,59nm,1.0s,mb5.3
WVOR e pP 21 34 22.9 +2.5
SLKM Skilak Lake 86.90 15 eP P 21 32 14.2 -0.7
NANT Nan 87.01 292 P P 21 32 15.0 -1.4
FIB Fire Island 87.50 14 eP P 21 32 17.1 -0.6
BBB Bella Bella 87.92 29 P P 21 32 20.2 +0.3
comp=Z,20nm,0.6s,mb5.1,baz=195,slow=4.1,SNR=11
SEY Seymchan 88.22 348 eP P 21 32 21.4 +0.3
SEY *PP pP 21 34 29.8 +3.0
SEY e 21 36 00.2
SEY 21 41 53.1
SEY eS S 21 42 17.1 +0.9
SEY SP SP 21 43 23.6 -5.1
SEY SS SS 21 48 25.3 -1.9
SEY pmax pmax
comp=Z,250nm,1.0s,mb5.9
SEY pmax pmax
comp=N,60nm,0.9s
CHRT Chiangrai 88.25 292 P P 21 32 23.5 +1.3
comp=N,210nm,1.0s,mb5.8
MXC Moxie City 88.29 37 P P 21 32 22.3 +0.5
CMAR Chiang Mai Arr 88.38 291 P P 21 32 24.3 +1.5
comp=N,4.5nm,1.1s,baz=18,slow=33,SNR=4.1
CMAR pP pP 21 34 28.6 0.0
comp=N,11nm,1.1s,baz=124,slow=3.3,SNR=9.8
CMAR sP sP 21 35 28.5 +2.8
comp=N,3.0nm,1.2s,baz=121,slow=3.2,SNR=1.0
CMAR PP PP 21 35 57.5 -5.2
comp=N,0.7nm,0.5s,baz=121,slow=5.3,SNR=2.9
CMAR PKKPbc 21 50 02.1
comp=N,2.1nm,0.5s,baz=282,slow=4.5,SNR=19
DIV Divide 88.54 16⇓eP P 21 32 22.0 -0.6
SNIWA Snively Ranch 88.58 37 P P 21 32 24.1 +0.9
MVU Marysvale 88.81 47 eP P 21 32 25.4 +0.9
comp=N,48nm,1.2s,mb5.2
MSU Marysvale 88.83 47 eP P 21 32 25.7 +1.1
TNA Tin City 88.86 5 eP P 21 32 23.4 -0.6
TNA epP pP 21 34 35.0 +5.1
TNA ePP PP 21 35 54.4 -11
BMO Blue Mountains 89.00 40 eP P 21 32 24.8 -0.4
comp=N,21nm,1.1s,mb4.9
EPH Ephrata 89.14 37 P P 21 32 25.8 0.0
PLCA Paso Flores 89.53 135 P P 21 32 28.7 +0.9
comp=N,14nm,1.1s,mb4.7,baz=228,slow=4.4,SNR=14
PLCA pP pP 21 34 35.4 +1.6
comp=N,3.5nm,0.8s,baz=228,slow=7.3,SNR=4.0
TMUT Trail Mountain 89.88 47 eP P 21 32 30.3 +0.9
MPU Maple Canyon 89.96 46 eP P 21 32 30.2 +0.4
MCK McKinley 90.03 14 eP P 21 32 27.9 -1.6
MCK pmax pmax
comp=Z,12nm,0.8s,mb4.8
MCK McKinley 90.03 14 eP P 21 32 27.9 -1.6
comp=Z,12nm,0.8s,mb4.8
MCK e 21 34 39.9
SPUT South Promonto 90.09 45 eP P 21 32 30.5 +0.2
HVU Hansel Valley 90.12 44 eP P 21 32 30.6 +0.2
SRU San Rafael 90.25 47 eP P 21 32 31.6 +0.5
LAZ Ladron 90.37 53 eP P 21 32 32.7 +0.9
LENM Lemitar 90.39 53 eP P 21 32 32.8 +1.0
DAU Daniels Canyon 90.41 46 eP P 21 32 32.3 +0.5
MNTX Cornudas Mount 90.45 56 eP P 21 32 32.4 +0.2
comp=Z,20nm,1.0s,mb4.9
MNTX e pP 21 34 41.4 +2.9
THY Trims Highway 90.49 15 eP P 21 32 30.8 -0.8
TCUT Toone Canyon 90.67 45 eP P 21 32 33.9 +1.0
LPM Los Pinos Moun 90.70 53 eP P 21 32 33.5 +0.2
TXAR Lajitas Array 90.73 58 P P 21 32 33.7 +0.2
comp=Z,9.0nm,0.7s,mb4.8,baz=217,slow=6.3,SNR=68
TXAR pP pP 21 34 40.9 +1.1
comp=Z,1.5nm,0.9s,baz=207,slow=6.0,SNR=3.7
TXAR PP PP 21 36 18.7 -2.2
comp=Z,1.3nm,0.9s,baz=216,slow=11,SNR=3.6
TXAR PKKPbc 21 49 57.2
comp=Z,0.9nm,0.5s,baz=117,slow=3.1,SNR=7.5
ANMO Albuquerque 91.12 52 eP P 21 32 34.4 -0.8
ANMO e pP 21 34 42.8 +1.2
ANMO pmax pmax
comp=Z,24nm,1.1s
ANMO Albuquerque 91.12 52 P P 21 32 35.2 0.0
comp=Z,17nm,1.1s,mb4.9,baz=222,slow=5.8,SNR=13
ANMO pP pP 21 34 42.7 +1.1
comp=Z,4.1nm,0.9s,baz=354,slow=23,SNR=2.2
ANMO Albuquerque 91.12 52 eP P 21 32 34.4 -0.8
comp=Z,24nm,1.1s,mb5.0
ANMO e pP 21 34 42.8 +1.2
IMA Indian Mountai 91.20 11 eP P 21 32 34.8 0.0
COLA College 91.26 13 eP P 21 32 33.4 -1.7
COLA pmax pmax
comp=Z,22nm,0.9s,mb5.1
COLA College 91.26 13 eP P 21 32 33.4 -1.7
comp=Z,22nm,0.9s,mb5.1
BILL Bilibino 91.27 355κiP P 21 32 35.2 +0.1
BILL e 21 36 26.8
BILL e 21 42 11.5
BILL e 21 42 44.2
BILL pmax pmax
comp=Z,102nm,1.7s,mb5.5
BILL MLR MLR
comp=Z,200nm,21.0s
BILL Bilibino 91.27 355⇓iP P 21 32 35.4 +0.3
ILAR Eielson Array 91.38 14 P P 21 32 34.2 -1.5
comp=Z,5.2nm,0.5s,mb4.7,baz=221,slow=5.1,SNR=69
ILAR pP pP 21 34 41.1 -1.0
comp=Z,9.1nm,1.4s,baz=242,slow=5.0,SNR=2.2
ILAR PP PP 21 36 19.7 -5.5
comp=Z,49nm,1.6s,baz=224,slow=6.8,SNR=5.1
ILAR PKiKP 21 37 22.1
comp=Z,0.7nm,0.6s,baz=275,slow=2.9,SNR=6.4
ILAR PKKPbc 21 49 52.2
comp=Z,0.5nm,0.5s,baz=6.9,slow=2.9,SNR=9.0
DLBC Dease Lake 91.45 24 P P 21 32 35.5 -0.6
comp=Z,3.1nm,0.6s,mb4.4,baz=204,slow=27,SNR=4.2
GDL2 Guadalupe Moun 91.45 56 eP P 21 32 37.1 +0.3
GDL2 e pP 21 34 45.6 +2.5
CLNS Chul'man 91.60 334 eP P 21 32 34.7 -2.1
CLNS pmax pmax
comp=Z,26nm,1.0s,mb5.2
CLNS pmax pmax
comp=N,18nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.7s
CPRX Cap Rock 92.19 55 eP P 21 32 41.0 +0.9
CHMT Chamberlain Mo 92.50 39 P P 21 32 39.5 -1.6
QLMT Earthquake Lak 92.52 42 eP P 21 32 40.5 -0.8
DAWY Dawson 92.64 17 eP P 21 32 40.9 -0.5
PDAR Pinedale Array 92.68 44 P P 21 32 42.0 -0.1
comp=E,4.0nm,0.6s,mb4.6,baz=171,slow=2.6,SNR=25
PDAR pP pP 21 34 50.4 +1.7
comp=E,3.4nm,1.1s,baz=214,slow=3.3,SNR=5.7
PDAR PP PP 21 36 30.6 -5.3
comp=E,1.0nm,0.7s,baz=216,slow=7.8,SNR=3.9
PDAR PKiKP 21 37 26.8
comp=E,0.7nm,0.7s,baz=82,slow=40,SNR=1.6
PDAR S SKS 21 42 21.3 +0.8
comp=E,0.2nm,0.6s,baz=90,slow=3.0,SNR=3.9
HRY Holter Researc 93.23 40 P P 21 32 43.6 -0.9
YAK Yakutsk 93.42 339 eP P 21 32 44.5 -0.5
YAK e 21 36 42.7
YAK eS SKS 21 42 18.9 -5.1
YAK e 21 43 04.9
YAK pmax pmax
comp=Z,14nm,1.1s,mb4.9
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,15nm,1.1s,mb4.9
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK smax
comp=N,12nm,1.1s
YAK smax
comp=E,5.0nm,1.1s
YAK Yakutsk 93.42 339 P P 21 32 44.2 -0.8
comp=E,30nm,0.8s,mb5.4
ULN Ulaanbaatar 95.47 320iP P 21 32 54.9 +0.3
ULN Ulaanbaatar 95.47 320iPr 21 32 54.9
SONM Songino Array 95.85 320 P P 21 32 55.4 -0.8
comp=E,47nm,1.4s,mb5.5,baz=124,slow=4.5,SNR=39
SONM PP PP 21 36 49.9 -10
comp=E,0.9nm,0.7s,baz=143,slow=6.2,SNR=3.6
SONM PKiKP 21 37 32.0
comp=E,0.5nm,0.6s,baz=66,slow=1.3,SNR=6.1
SONM S SKS 21 42 35.6 -1.5
comp=E,0.4nm,1.2s,baz=90,slow=4.3,SNR=2.8
SONM PKKPbc 21 49 42.7
comp=E,1.4nm,0.5s,baz=266,slow=3.0,SNR=12
BOD Bodaibo 96.90 331 eP P 21 32 57.4 -3.4
INK Inuvik 97.42 16 eP P 21 33 01.6 -1.3
INK pmax pmax
comp=Z,4.0nm,0.7s
INK Inuvik 97.42 16 P P 21 33 01.6 -1.3
comp=Z,5.0nm,0.9s,mb4.7,baz=204,slow=1.7,SNR=10
INK PP PP 21 37 05.7 -5.6
comp=Z,6.5nm,1.2s,baz=246,slow=7.5,SNR=3.2
INK PKiKP 21 37 33.2
comp=Z,0.8nm,0.6s,baz=224,slow=11,SNR=2.2
INK Inuvik 97.42 16 eP P 21 33 01.6 -1.4
comp=Z,4.4nm,0.7s,mb4.8
ZAK Zakamensk 98.82 321 eP P 21 33 07.2 -2.4
TLY Talaya 99.17 322 eP P 21 33 11.2 +0.1
TLY pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
LVC Limon Verde 99.86 120 PP PP 21 37 24.1 -6.3
comp=Z,1.2nm,0.5s,baz=274,slow=14,SNR=3.6
LVC PKKPbc 21 49 32.6
comp=Z,3.1nm,0.5s,baz=55,slow=2.1,SNR=6.5
YKA Yellowknife Ar 99.95 26 P P 21 33 13.2 -1.2
comp=Z,0.7nm,0.6s,baz=244,slow=4.4,SNR=16
YKA PP PP 21 37 15.6 -14
comp=Z,0.6nm,0.9s,baz=246,slow=6.6,SNR=2.4
YKA PKiKP 21 37 38.5
comp=Z,0.5nm,0.5s,baz=234,slow=1.5,SNR=7.3
YKA PKKPbc 21 49 30.4
comp=Z,0.8nm,0.5s,baz=41,slow=2.5,SNR=9.6
TIXI Tiksi 100.47 346 eP P 21 33 15.2 -1.4
TIXI e 21 37 37.2
TIXI pmax pmax
comp=Z,8.0nm,1.4s
TIXI Tiksi 100.47 346iP P 21 33 15.5 -1.1
LPAZ La Paz 103.61 114 Pdiff Pdif 21 33 32.1 +0.5
comp=Z,0.6nm,0.6s,baz=254,slow=0.7,SNR=2.5
LPAZ PKiKP 21 37 47.8
comp=Z,0.5nm,0.6s,baz=110,slow=0.8,SNR=2.4
LPAZ PP PP 21 37 57.4 -0.8
comp=Z,0.9nm,0.6s,baz=341,slow=8.0,SNR=3.6
ZAL Zalesovo 110.71 321 Pdiff Pdif 21 34 02.3 +0.2
comp=Z,0.6nm,0.6s,baz=119,slow=7.0,SNR=3.3
ZAL PKiKP 21 37 57.7
comp=Z,2.8nm,0.5s,baz=343,slow=1.8,SNR=13
ZAL PP PP 21 38 41.3 -7.6
comp=Z,0.9nm,0.7s,baz=18,slow=5.6,SNR=3.6
ZAL SKiKP 21 40 38.7
comp=Z,0.6nm,0.8s,baz=173,slow=25,SNR=2.6
ZAL Zalesovo 110.71 321 Pdif Pdif 21 34 02.3 +0.2
ZAL PKPdf PKPdf 21 37 57.7 +0.5
ZAL PP PP 21 38 41.3 -7.6
RES Resolute Bay 110.97 16 ePKiKP PKPdf 21 37 57.0 -0.4
NVS Novosibirsk 111.77 322iPKiKP PKPdf 21 37 59.0 -0.3
NVS i 21 43 46.6
NVS pmax pmax
comp=Z,24nm,1.6s
NVS pmax pmax
comp=E,27nm,1.7s
NVS pmax pmax
comp=N,17nm,1.9s
KZA Kyzart 115.01 307 P PKPdf 21 38 05.0 -1.0
SNR=5.7
KBK Karagaybulak 115.32 308 P PKPdf 21 38 07.7 +1.1
SNR=8.3
CHMS Chumysh 115.52 308 P PKPdf 21 38 07.9 +0.9
SNR=9.5
UCH Uchtor 115.58 307 P PKPdf 21 38 09.3 +2.2
SNR=7.7
AAK Ala-Archa 115.65 308 ePKIKP PKPdf 21 38 06.7 -0.5
USP Ospenovka 115.74 308 P PKPdf 21 38 08.3 +0.9
SNR=8.6
AML Almayashu 116.17 307 P PKPdf 21 38 10.1 +1.9
SNR=9.1
BVAR Borovoye Array 119.18 319 PKP PKPdf 21 38 14.3 +0.4
comp=N,11nm,0.4s,baz=124,slow=1.5,SNR=126
BVAR PP PP 21 39 34.4 -13
comp=N,1.6nm,0.8s,baz=90,slow=5.8,SNR=3.2
BVAR SKP 21 40 56.0
comp=N,1.3nm,0.6s,baz=126,slow=4.8,SNR=3.4
BVAR PKKPbc 21 48 30.5
comp=N,1.1nm,0.5s,baz=260,slow=4.0,SNR=14
SJG San Juan 119.21 81 PKP PKPdf 21 38 14.1 -0.6
comp=N,9.8nm,0.4s,baz=191,slow=21,SNR=5.5

SJG SKP 21 40 55.2
comp=N,5.9nm,0.3s,baz=335,slow=16,SNR=3.2
BRVK Borovoye 119.25 319 *e*PKIKP PKPdf 21 38 14.0 0.0
BRVK *e* 21 39 43.8
BDFB Brasilia 120.06 125 PKP PKPdf 21 38 16.8 +0.4
comp=N,6.9nm,0.6s,baz=244,slow=2.7,SNR=11
BDFB PKKPbc 21 48 27.3
comp=N,6.4nm,0.9s,baz=72,slow=3.8,SNR=4.8
FRB Frobisher Bay 120.30 28 PKP PKPdf 21 38 15.3 -0.4
comp=N,15nm,0.5s,baz=293,slow=1.5,SNR=44
FRB SKP 21 40 56.7
comp=N,2.5nm,0.8s,baz=225,slow=4.3,SNR=3.5
FRB PKKPbc 21 48 26.0
comp=N,1.8nm,0.6s,baz=39,slow=2.4,SNR=5.3
FRB Frobisher Bay 120.30 28 PKP PKPdf 21 38 15.3 -0.4
FRB SKP 21 40 56.7
FRB PKKPbc 21 48 26.0
SCHQ Schefferville 122.35 39 PKP PKPdf 21 38 19.3 -0.6
comp=N,5.0nm,0.5s,baz=260,slow=3.5,SNR=19
SCHQ PKKPbc 21 48 19.1
comp=N,1.1nm,0.4s,baz=31,slow=16,SNR=8.6
ARU Arti 125.64 324 *i* PKIKP PKPdf 21 38 22.6 -3.5
ARU *e* 21 40 25.1
KEV Kevo 130.36 348 *e*pkp PKPdf 21 38 24.4 -11
APA Apatity 130.60 343 ⇓*i*PKIKP PKPdf 21 38 35.5 +0.1
APA *i* 21 41 06.0
APA pmax pmax
comp=Z,220nm,2.0s
ARCES ARCESS Array B 130.84 348 PKhKP 21 38 18.2
comp=Z,3.5nm,0.9s,baz=63,slow=2.7,SNR=5.7
ARCES PKP PKPdf 21 38 35.3 -0.5
comp=Z,20nm,0.5s,baz=16,slow=1.0,SNR=56
ARCES SKPbc 21 41 07.3
comp=Z,12nm,0.8s,baz=45,slow=5.1,SNR=11
ARCES PKKPbc 21 47 45.3
comp=Z,0.9nm,0.6s,baz=239,slow=7.1,SNR=3.6
ARCES ARCESS Array B 130.84 348 PKP PKPdf 21 38 35.3 -0.5
ARCES SKPbc 21 41 07.3
ARCES PKKPbc 21 47 45.3
KTK1 Kautokeino 131.71 349 *e*P PKPdf 21 38 39.5 +2.1
TRO Tromso 131.87 351 *e*P PKPdf 21 38 34.3 -3.5
LSZ Lusaka 132.43 220 *e*PKIKP PKPdf 21 38 41.7 +1.5
JOF Joensuu 134.59 340 *e*pkp PKPdf 21 38 30.5 -12
JOF Joensuu 134.59 340 *e*pkp 21 41 18.6
KMBO Kilima Mbogo 135.73 242 PKP PKPdf 21 38 48.9 +2.6
comp=Z,5.9nm,0.6s,baz=62,slow=4.6,SNR=18
KMBO SKP 21 41 28.1
comp=Z,12nm,1.0s,baz=90,slow=2.5,SNR=17
KMBO Kilima Mbogo 135.73 242 *e*PKP PKPdf 21 38 47.0 +0.7
KMBO *e*SKP 21 41 27.4
MOS Moscow 136.70 329 *e*PKIKP PKPdf 21 38 46.7 -0.3
MOS pmax pmax
comp=Z,40nm,1.4s
KAF Kangasniemi 136.72 342 *e*pkp PKPdf 21 38 36.1 -11
KAF Kangasniemi 136.72 342 *e*pkp 21 41 24.1
FINES FINESS Array B 137.32 341 PKhKP 21 38 36.3
comp=Z,3.2nm,0.6s,baz=45,slow=2.7,SNR=22
FINES PKP PKPdf 21 38 49.5 +1.5
comp=Z,14nm,0.6s,baz=72,slow=4.4,SNR=16
FINES SKPbc 21 41 27.4
comp=Z,29nm,1.1s,baz=45,slow=5.4,SNR=12
FINES FINESS Array B 137.32 341 PKP PKPdf 21 38 49.5 +1.5
FINES SKPbc 21 41 27.4
OBN Obninsk 137.55 329 ⇑*i*PKIKP PKPdf 21 38 44.4 -4.2
OBN 21 41 43.0
OBN pmax pmax
comp=Z,13nm,1.6s
OBN pmax pmax
comp=Z,27nm,0.7s
OBN Obninsk 137.55 329 PKP PKPdf 21 38 46.7 -1.8
TI2 Plekhanov 137.66 307 *e*PKIKP PKPdf 21 38 50.6 +1.4
GNI Garni 137.96 305 PKhKP 21 38 42.4
comp=Z,3.2nm,0.6s,baz=218,slow=3.8,SNR=5.5
GNI PKP PKPdf 21 38 52.1 +2.3
comp=Z,7.8nm,0.8s,baz=359,slow=22,SNR=9.2
GNI SKPbc 21 41 31.2
comp=Z,5.2nm,0.8s,baz=178,slow=6.3,SNR=10
GNI Garni 137.96 305 PKP PKPdf 21 38 52.1 +2.3
GNI SKPbc 21 41 31.2
ZEI Tsey 138.05 309 *e*PKHKP 21 38 41.9
GOF Gofitskoye 138.06 313 *e*PKIKP PKPdf 21 38 50.5 +0.7
KIV Kislovodsk 138.61 311 *i* PKIKP PKPdf 21 38 49.3 -1.5
KIV Kislovodsk 138.61 311 *i* PKP PKPdf 21 38 49.4 -1.4
NB2 NORSAR Subarra141.06 351 PKP PKPdf 21 38 49.9 -4.7
comp=Z,7.4nm,0.6s,baz=16,slow=3.1
NB2 NORSAR Subarra141.06 351 PKPa PKPdf 21 38 49.9 -4.7
baz=16,slow=3.2
NOA NORSAR Array B141.06 351 PKhKP 21 38 50.6
comp=Z,11nm,0.5s,baz=16,slow=4.6,SNR=42
NOA SKPbc 21 41 38.1
comp=Z,15nm,1.1s,baz=17,slow=4.2,SNR=4.1
FOO Floro 141.21 355 *e*P PKPdf 21 38 50.9 -3.9
MBAR Mbarara 141.23 237 *i* PKHKP 21 38 53.5
MBAR Mbarara 141.23 237 *e*PKP PKPdf 21 38 53.1 -3.3
HFS Hagfors 141.50 348 PKhKP 21 38 51.2
comp=Z,24nm,0.4s,baz=72,slow=4.7,SNR=197
HFS SKPbc 21 41 38.5
comp=Z,11nm,0.9s,baz=135,slow=6.3,SNR=5.8
HYA Hoyanger 141.55 354 *e*P PKPdf 21 38 53.1 -2.3
ANN Anapa 141.90 314 *i* PKHKP 21 38 48.0
ANN pmax pmax
comp=Z,44nm,1.3s
ASK Askoy 142.31 355 ⇑*i*P PKPdf 21 38 54.6 -2.1
ASK AMb AMB 21 39 02.2
comp=Z,200nm,1.9s
BER Bergen 142.39 355 *e*P PKPdf 21 38 54.8 -2.1
EGD Espegrend 142.51 355 ⇑*i*P PKPdf 21 38 55.4 -1.7
EGD AMb AMB 21 38 58.5
comp=Z,310nm,1.9s
ODD1 Odda 142.74 354 ⇓*i*P PKPdf 21 38 55.1 -2.5
MALT Malatya 143.13 304 ⇑PKIKP PKPdf 21 38 59.5 +0.6
BLS5 Blasjo 143.24 354 ⇑*i*P PKPbc 21 38 58.6 +1.3
BLS5 AMb AMB 21 39 00.3
comp=Z,81nm,0.7s
AKASG Malin Array Be 143.74 327 PKP PKPdf 21 38 59.0 -0.6
comp=Z,69nm,0.5s,baz=42,slow=4.1,SNR=237
AKASG SKPbc 21 41 45.1
comp=Z,15nm,0.9s,baz=43,slow=2.4,SNR=12
SIM Simferopol' 144.00 316 *d*iPKIKP PKPdf 21 39 02.5 +2.3
SIM pmax pmax
comp=Z,149nm,1.2s
SUW Suwalki 144.09 336 *e*PKP PKPdf 21 39 00.9 +0.9
SNART Snartemo 144.22 353 ⇓*i*P PKPdf 21 39 01.4 +1.2
SNART AMb AMB 21 39 04.7
comp=Z,367nm,1.8s
ASF Jabal al Asfar 145.36 294 PKPbc PKPbc 21 39 06.6 +2.5
comp=Z,40nm,0.7s,baz=350,slow=2.6,SNR=52
ASF SKPbc 21 41 51.3
comp=Z,2.7nm,0.6s,baz=352,slow=0.5,SNR=3.8
MUD Monsted U'grnd 145.77 350 *i* P PKPdf 21 39 05.8 +3.0
comp=Z,76nm,0.9s
BSD Bornholm Skovb 145.82 344 ⇓*i*P PKPdf 21 39 05.7 +2.8
comp=Z,290nm,1.2s
BHL Bhannes 146.18 297 *e*P PKPdf 21 39 05.5 +1.3
WAR Warsaw 146.29 335 *e*PKP PKPdf 21 39 08.2 +4.3
BRTR Keskin Array B 146.33 308 PKIKP PKPdf 21 39 05.1 +0.8
BRTR 21 39 08.1
BRTR 21 42 33.8
BRTR Keskin Array B 146.33 308 PKP PKPdf 21 39 05.1 +0.8
comp=Z,36nm,0.7s,baz=72,slow=1.2,SNR=64
BRTR PKPbc PKPbc 21 39 08.1 +1.8
comp=Z,30nm,0.5s,baz=87,slow=1.4,SNR=103
BRTR *p*PKPbc 21 41 20.7
comp=Z,2.4nm,0.7s,baz=113,slow=2.0,SNR=3.0
BRTR PP PP 21 42 33.8 -4.0
comp=Z,2.7nm,1.0s,baz=45,slow=4.1,SNR=2.8
GLH Golan-Tel Qazi 146.35 295 ⇑P PKPdf 21 39 09.4 +4.8
HMDT Nahal Hemdat 146.51 294 ⇑P PKPdf 21 39 09.7 +4.8
MMLI Mount Malkishu 146.57 294 P PKPdf 21 39 10.1 +5.1
DRGI Dragot 146.69 293 ⇑P PKPdf 21 39 09.9 +4.7
HNTI Hanita 146.70 296 P PKPdf 21 39 09.7 +4.5
MZDA Masada 146.75 292 P PKPdf 21 39 10.2 +4.9
GKP Gorka Klasztor 146.77 340 *e*PKP PKPdf 21 39 08.9 +4.3
LVV L'vov 146.82 330 *e*PKIKP PKPdf 21 39 08.0 +3.2
LVV *e* 21 42 36.4
OFRI 'Ofer 146.92 295 P PKPdf 21 39 10.2 +4.7
SLTI Sal'it 146.92 294 P PKPdf 21 39 10.8 +5.2
ZFRI Zfri 146.97 291 P PKPdf 21 39 10.8 +5.1
TLCR 147.17 320 ⇓P PKPdf 21 39 10.1 +4.6
EIL Elat 147.22 289 P PKPdf 21 39 11.5 +5.4
MASH Mash'abbe Sade 147.27 292 P PKPdf 21 39 11.4 +5.2
PHNC Paralimni 147.30 299 P PKPdf 21 39 10.9 +4.8
RTMM Retamin 147.35 292 P PKPdf 21 39 11.6 +5.3
KMTI Karmit 147.39 290 ⇑P PKPdf 21 39 11.6 +5.2

KWP Kalwaria 147.56 331 *e*PKP PKPdf 21 39 11.3 +5.3
CFR Carcaliu 147.58 320 ⇓PKP2 PKPab 21 39 11.3 -5.3
CFR Carcaliu 147.58 320 ⇑*i*P PKPdf 21 39 07.5 +1.3
CFR ⇓P 21 39 11.3
CFR Carcaliu 147.58 320 ⇑*i*P PKPdf 21 39 07.4 +1.2
KZIT Kziot 147.61 292 ⇑P PKPdf 21 39 12.4 +5.7
EKA Eskdalemuir Ar 147.68 2 PKP PKPdf 21 39 07.8 +1.8
comp=Z,16nm,0.4s,baz=349,slow=3.1,SNR=96
EKA PKPbc PKPdf 21 39 10.6 +4.6
comp=Z,15nm,0.4s,baz=355,slow=2.6,SNR=96
EKA *p*PKPbc 21 41 23.8
comp=Z,3.9nm,0.7s,baz=14,slow=3.4,SNR=3.7
BWH Wardlaw 147.82 3⇑*e*P PKPdf 21 39 10.8 +4.6
CSS Prodhromos 147.87 299 P PKPdf 21 39 12.3 +5.3
MAMC Mammari 147.91 300 P PKPdf 21 39 12.6 +5.5
BHH Howats Hill 147.92 2 *e*P PKPdf 21 39 11.2 +4.8
BSEG Bad Segeberg 147.96 347 *e*PKP2 PKPab 21 39 12.2 -5.6
BCC1 Chapelcross 148.00 2 *e*P PKPdf 21 39 11.4 +4.8
VRI Vrincioaia 148.00 322 ⇑PKP2 PKPab 21 39 12.2 -6.0
VRI Vrincioaia 148.00 322 ⇑*i*P PKPdf 21 39 12.7 +5.8
VRI Vrincioaia 148.00 322 ⇑*i*P PKPdf 21 39 12.7 +5.9
BTA Talkin 148.12 2⇑*e*P PKPdf 21 39 12.0 +5.3
BDL Dobcross Hall 148.22 2⇑*e*P PKPdf 21 39 12.2 +5.3
KOLS Kolonicke sedl 148.26 330 *i* PKP PKPdf 21 39 13.7 +6.6
SZAC Souni-Zanaja 148.27 299 P PKPdf 21 39 13.5 +5.9
LCP Cassop 148.32 1⇑*e*P PKPdf 21 39 12.5 +5.5
PSN Preselentsi 148.35 318 P PKPdf 21 39 14.0 +6.6
OJC Ojcow 148.35 334 *e*PKP PKPdf 21 39 13.1 +5.9
ALFC Alevga 148.41 300 P PKPdf 21 39 13.4 +5.6
comp=Z,4.0nm,0.6s
ISR Istrita 148.54 321 ⇑P PKPdf 21 39 09.5 +1.8
ISR ⇓*i*P 21 39 13.1
ISR Istrita 148.54 321 ⇓*i*P PKPdf 21 39 13.1 +5.4
CRVS Cervenica-Dubn 148.65 331 *i* PKP PKPdf 21 39 14.6 +6.9
AKMC Akamas 148.65 300 P PKPdf 21 39 13.6 +5.4
MLR Muntele Rosu 148.66 322 PKP PKPdf 21 39 08.9 +1.0
comp=Z,8.5nm,0.4s,baz=350,slow=3.4,SNR=8.3
MLR PKPbc PKPdf 21 39 13.7 +5.9
comp=Z,21nm,0.4s,baz=3.4,slow=4.7,SNR=65
MLR Muntele Rosu 148.66 322 ⇑P PKPdf 21 39 09.0 +1.1
MLR ⇑P 21 39 14.2
MLR Muntele Rosu 148.66 322 ⇑*i*P PKPdf 21 39 09.0 +1.1
PPCY Paphos 148.67 300 P PKPdf 21 39 13.6 +5.4
NIE Niedzica 148.76 333 *e*PKP PKPdf 21 39 14.8 +6.9
DMUB Kingscourt 148.83 7 *e*P PKPdf 21 39 12.0 +4.2
RAC Raciborz 149.09 336 *e*PKPdf PKPdf 21 39 14.8 +6.4
HPK Haverah Park 149.09 1⇑*e*P PKPdf 21 39 14.4 +6.1
KSP Ksiaz 149.14 338 *e*PKHKP 21 39 10.2
KSP Ksiaz 149.14 338 *e*PKP PKPdf 21 39 15.4 +6.9
BUC1 Bucharest 149.29 320 ⇑PKP2 PKPab 21 39 17.4 -6.1
OKC Ostrava-Krasne 149.30 335 *e*PKHKP
OKC *e* 21 39 22.9
OKC Ostrava-Krasne 149.30 335 *e*PKPDF PKPdf 21 39 10.4 +1.7
OKC ⇑*e*PKPB 21 39 15.5
OKC *e*PKPAB PKPab 21 39 22.9 -0.5
OKC *e*pPKP 21 41 37.2
DCN Croghan 149.34 7 *e*P PKPdf 21 39 13.0 +4.3
KECS Kecovo 149.39 331 *i* PKP PKPdf 21 39 16.9 +8.0
DLF Lyons Farm 149.47 7 *e*P PKPdf 21 39 13.0 +4.1
LHO Holmfirth 149.50 1⇑*e*P PKPdf 21 39 15.2 +6.2
UPC Upice 149.52 338 *e*PKHKP 21 39 10.8
UPC *e* 21 39 24.4
UPC Upice 149.52 338 *e*PKPDF PKPdf 21 39 10.8 +1.8
UPC ⇑*e*PKPB 21 39 16.3
UPC *e*PKPAB PKPab 21 39 24.4 +0.1
UPC *e*pPKP 21 41 37.3
DPC Dobruska-Polom 149.54 338 *e*PKHKP 21 39 12.0
DPC *e* 21 39 24.4
DPC Dobruska-Polom 149.54 338 *e*PKPDF PKPdf 21 39 12.0 +2.9
DPC ⇑*e*PKPB 21 39 16.5
DPC *e*PKPAB PKPab 21 39 24.4 0.0
DPC *e*pPKP 21 41 38.5
LIKS Likavka 149.55 334 *e*PKP PKPdf 21 39 17.7 +8.6
WME Myndd Eilian 149.56 4 *e*P PKPdf 21 39 15.1 +6.0
WME AMb AMB 21 39 17.5
comp=Z,171nm,2.0s
WCB1 Church Bay 149.56 4 *e*P PKPdf 21 39 14.8 +5.8
WCB1 AMb AMB 21 39 17.2
comp=Z,153nm,1.6s
LMK Market Rasen 149.60 359 *e*P PKPdf 21 39 15.2 +6.1
WLF1 Llynfaes 149.66 4 *e*P PKPdf 21 39 15.2 +6.0
WIT Witteveen 149.68 351 *e*PKP PKPdf 21 39 16.9 +7.7
YRC Rhoscolyn 149.68 4 *e*P PKPdf 21 39 15.1 +5.9
YRC AMb AMB 21 39 18.3
comp=Z,204nm,1.6s
WPM1 Penmaenmawr 149.72 3 *e*P PKPdf 21 39 15.5 +6.2
WPM1 AMb AMB 21 39 18.6
comp=Z,75nm,0.6s
CLL Collm 149.75 342 *i* PKHKP 21 39 16.5
CLL *i* 21 39 24.4
CLL pmax pmax
comp=Z,127nm,0.7s
CLL Collm 149.75 342 ⇑*i*PKP1 PKPdf 21 39 16.5 +7.1
CLL *i* PKP1 PKPdf 21 39 17.8 +8.4
CLL *i* PKP2 PKPab 21 39 24.4 -0.8
CLL *i* PKP2 PKPab 21 39 25.3 +0.1
CLL *e**PPKP 21 41 30.0
CLL *i* *PPKP 21 41 37.4
BRG Berggiesshubel 149.86 341 *e*PKP PKPdf 21 39 10.7 +1.1
BRG *i* 21 39 16.9
SZH Strazhica 149.95 319 P PKPdf 21 39 17.0 +7.0
YRE Yr Eifl 149.96 4 *e*P PKPdf 21 39 15.7 +6.0
PVCC Panska Ves 149.97 340 *e*PKPDF PKPdf 21 39 12.1 +2.3
PVCC ⇑*e*PKPB 21 39 17.5
PVCC *e*pPKP 21 41 38.7
JMB Yambol 149.98 317 *e*P PKPdf 21 39 17.0 +6.9
PSZ Piszkesteto 150.08 331 ⇓*e*PKP/p 21 39 17.4
VYHS Vyhne 150.09 333 *i* PKP PKPdf 21 39 17.6 +7.6
SBD1 Bryn Du 150.10 3⇑*e*P PKPdf 21 39 16.6 +6.7
KOLL Kolacno 150.21 334 *i* PKP PKPdf 21 39 18.1 +7.9
VRAC Vranov 150.32 336 PKPbc PKPdf 21 39 18.2 +7.8
comp=Z,17nm,0.6s,baz=50,slow=3.3,SNR=16
VRAC PKPab PKPab 21 39 27.3 -0.3
comp=Z,30nm,0.6s,baz=296,slow=18,SNR=3.2
PVL Pavlikeni 150.34 319 P PKPdf 21 39 19.0 +8.4
PRU Pruhonice 150.45 340 *e*PKIKP PKPdf 21 39 12.4 +1.9
PRU *e* 21 39 28.0
PRU Pruhonice 150.45 340 *e*PKPDF PKPdf 21 39 12.4 +1.9
PRU ⇑*e*PKPB 21 39 18.2
PRU *e*PKPAB PKPab 21 39 28.0 -0.2
PRU *e*pPKP 21 41 39.5
WTSB Winterswijk 150.48 350 *e*PKP PKPdf 21 39 17.9 +7.4
comp=Z,262nm,0.5s
HLM1 Long Mynd 150.50 2⇑*e*P PKPdf 21 39 17.4 +6.9
HLM1 AMb AMB 21 39 19.4
comp=Z,98nm,1.2s
SSP1 Stoney Pound 150.60 3⇑*e*P PKPdf 21 39 17.7 +7.1
MOX Moxa 150.72 344 *e*P PKPdf 21 39 12.0 +1.1
MOX PP2 21 39 18.0
MOX *e* 21 39 26.0
MOX *p*PKP 21 41 31.0
BUD Budapest 150.79 332 ⇑*e*PKP/p 21 39 19.1
NKC Novy Kostel 150.87 342 *e*PKIKP PKPdf 21 39 14.0 +2.9
NKC *e* 21 39 29.4
NKC Novy Kostel 150.87 342 *e*PKPDF PKPdf 21 39 14.0 +2.9
NKC ⇑*e*PKPB 21 39 19.2
NKC *e*PKPAB PKPab 21 39 29.4 -0.5
NKC *e*pPKP 21 41 40.7
BZS Buzias 150.92 326 ⇑PKIKP PKPdf 21 39 19.1 +7.7
SRO1 Iza 150.92 333 *i* PKIKP PKPdf 21 39 19.3 +8.0
SRO1 Iza 150.92 333 *e*PKP PKPdf 21 39 19.3 +8.0
HAE Alders End 151.00 2⇑*e*P PKPdf 21 39 18.5 +7.2
HAE AMb AMB 21 39 22.0
comp=Z,138nm,1.6s
MCH1 Michaelchurch 151.02 3⇑*e*P PKPdf 21 39 18.1 +6.8
ZST Bratislava 151.03 335 *i* PKP PKPdf 21 39 20.1 +8.7
ALN Alexandroupoli 151.13 314 *e*P PKPdf 21 39 18.9 +7.0
KDZ Kurdzhali 151.15 316 P PKPdf 21 39 20.0 +8.2
HGH Gray Hill 151.39 2⇑*e*P PKPdf 21 39 19.2 +7.4
HGH AMb AMB 21 39 21.1
comp=Z,101nm,1.3s
PGB Panagyurishte 151.43 319 P PKPdf 21 39 20.2 +8.0
KHC Kasperske Hory 151.50 340 *e*PKIKP PKPdf 21 39 13.6 +1.5
KHC *e* 21 39 32.4
KHC Kasperske Hory 151.50 340 *e*PKPDF PKPdf 21 39 13.6 +1.5
KHC ⇑*e*PKPB 21 39 20.6
KHC *e*PKPAB PKPab 21 39 32.4 -0.2
KHC *e*pPKP 21 41 38.8
RZN Rozhen 151.57 317 P PKPdf 21 39 20.5 +8.1
SOP Sopron 151.66 335 ⇑*e*PKP/p PKPdf 21 39 20.9 +8.6
GRF Grafenberg Arr 151.69 343 *e*PKIKP PKPdf 21 39 21.3 +9.0

WET Wettzell 151.71 341 *e*PKIKP PKPdf 21 39 20.9 +8.5
WET *e* 21 39 33.1
GEC2 GERESS Array S 151.72 339 *e*PKIKP PKPdf 21 39 21.1 +8.7
GEC2 *e* 21 39 33.2
GERES GERESS Array B 151.72 339 PKIKP PKPdf 21 39 13.5 +1.1
GERES 21 39 32.6
GERES GERESS Array B 151.72 339 PKP PKPdf 21 39 13.5 +1.1
comp=Z,1.1nm,0.6s,baz=45,slow=1.9,SNR=11
GERES PKPbc PKPdf 21 39 20.6 +8.2
comp=Z,16nm,0.6s,baz=21,slow=1.6,SNR=96
GERES PKPab PKPab 21 39 32.6 -0.9
comp=Z,12nm,0.6s,baz=45,slow=3.7,SNR=11
GERES *p*PKPbc 21 41 35.0
comp=Z,4.4nm,0.9s,baz=90,slow=1.3,SNR=4.5
HGN Heimansgroeve 151.78 351 *e*PKP PKPdf 21 39 20.8 +8.4
comp=Z,101nm,2.1s
HGN *ex* x 21 39 32.1
BOLS Boljevac 151.92 323 ⇑*i*PKP PKPdf 21 39 20.7 +7.9
PKSM Moragy 151.93 330 *e*P PKPdf 21 39 15.1 +2.3
PKSM *i* 21 39 21.3
PKSM *e* 21 41 35.4
VTS Vitosha 151.98 320 ⇑PKIKP PKPdf 21 39 21.7 +8.8
VTS Vitosha 151.98 320 P PKPdf 21 39 21.8 +8.9
SVIS Svilajnac 152.02 325 *e*PKP PKPdf 21 39 13.6 +0.7
MMB Musomiste 152.24 318 P PKPdf 21 39 22.0 +8.6
LOS Limnos 152.24 314 *e*P PKPdf 21 39 22.0 +8.6
TOD Tromm 152.36 346 PKIKP PKPdf 21 39 14.6 +1.4
MOA Molln 152.38 338 ⇓*i*P PKPdf 21 39 22.2 +8.9
KKB Krupnik 152.48 319 P PKPdf 21 39 22.5 +8.8
GRUS Gruza 152.56 325 ⇓*i*PKP PKPdf 21 39 21.9 +8.2
GRUS Gruza 152.56 325 ⇓*i*P 21 41 40.7
GIVF Givet 152.58 352 *e*PKP1 PKPdf 21 39 22.7 +9.2
comp=Z,51nm,0.8s
SRS Serrai 152.59 317 *e*P PKPdf 21 39 21.3 +7.4
RUP Ruppelstein 152.62 349 PKIKP PKPdf 21 39 15.4 +1.8
BAIF Baives 152.70 353 *e*PKP1 PKPdf 21 39 22.9 +9.2
OUR Ouranopolis 152.76 315 *e*P PKPdf 21 39 22.5 +8.3
DIVS Divcibare 152.80 326 ⇓*i*PKP PKPdf 21 39 23.2 +9.1
DIVS Divcibare 152.80 326 ⇑*i*(P) 21 41 43.4
KNT Kendrikon 153.00 318 *e*P PKPdf 21 39 23.0 +8.6
FUR Furstenfeldbru 153.06 342 *e*PKIKP PKPdf 21 39 25.0 +11
FUR *e* 21 39 39.0
LANF Langenberg 153.16 347 PKP PKPdf 21 39 15.4 +1.0
THE Thessaloniki 153.25 317 *e*P PKPdf 21 39 23.2 +8.4
NVSS Nova Varos 2 153.36 325 ⇓*i*PKP PKPdf 21 39 24.0 +9.2
SKO Skopje 153.40 321 *i* PKHKP 21 39 24.7
SKO ⇑*i*PKP2 PKPab 21 39 41.7 +0.9
comp=Z,0.1nm,0.8s
GRG Griva 153.42 318 *e*P PKPdf 21 39 21.7 +6.7
AOS Alonnisos 153.43 313 *e*P PKPdf 21 39 24.0 +8.9
PDKS Podkum 153.61 334 *e*PKPbc PKPdf 21 39 24.8 +10
PDKS *e* 21 39 40.8
BFO Black Forest 153.67 346 *e*PKPbc PKPdf 21 39 26.3 +11
BFO *e*PKPab PKPab 21 39 41.2 -0.5
WATA Walderalm 153.72 340 ⇓*i*P PKPdf 21 39 24.9 +10
WTTA Wattenberg 153.76 340 ⇓*i*P PKPdf 21 39 25.2 +10
XOR Xorichti 153.79 314 *e*P PKPdf 21 39 24.6 +9.0
WLS Welschbruch 153.80 347 PKP PKPdf 21 39 15.7 +0.5
LJU Ljubljana 153.81 335 *e*PKPbc PKPdf 21 39 25.3 +10
LJU *e*PKPab PKPab 21 39 41.3 -1.1
CDF Champ du Feu 153.81 347 *e*PKP1 PKPdf 21 39 25.3 +10
comp=Z,11nm,0.5s
LIT Litokhoron 153.85 316 *e*P PKPdf 21 39 25.0 +9.4
BOJS Bojanci 153.96 333 *e*PKPdf PKPdf 21 39 17.3 +1.8
BOJS *e*PKPbc PKPdf 21 39 26.0 +10
BOJS *e*PKPab PKPab 21 39 41.5 -1.5
MEZF Maizieres J'vi 154.11 351 *e*PKP1 PKPdf 21 39 26.3 +11
comp=Z,13nm,0.5s
FNA Florina 154.16 319 *e*P PKPdf 21 39 25.8 +10
FELD Feldberg 154.17 346 PKP PKPdf 21 39 17.6 +1.9
FLN La Foliniere 154.30 359 *e*PKP1 PKPdf 21 39 25.9 +10
comp=Z,19nm,0.4s
OHR Ohrid 154.31 320 *i* PKHKP 21 39 27.0
OHR ⇓*i*PKP2 PKPab 21 39 44.5 -0.2
MOF Molkenrain 154.38 347 PKP PKPdf 21 39 16.3 +0.3
HAU Haudompre 154.38 349 *e*PKP1 PKPdf 21 39 26.3 +10
LDF La Druitiere 154.46 359 *e*PKP1 PKPdf 21 39 26.1 +10
comp=Z,25nm,0.6s
HINF Hinteralfeld 154.47 348 *e*PKP1 PKPdf 21 39 26.6 +10
comp=Z,12nm,0.6s
AGG Agios Georgios 154.54 314 *e*P PKPdf 21 39 26.3 +10
ROSF Rostrenen 154.66 4 *e*PKP1 PKPdf 21 39 27.2 +11
GRR Gorron 154.68 360 *e*PKP1 PKPdf 21 39 26.9 +10
comp=Z,15nm,0.4s
DAVOX Davos 154.72 342 PKP PKPdf 21 39 18.2 +1.7
comp=Z,3.0nm,0.6s,baz=27,slow=2.3,SNR=4.3
DAVOX PKPbc PKPdf 21 39 27.2 +11
comp=Z,11nm,0.6s,baz=299,slow=2.7,SNR=12
DAVOX PKPab PKPab 21 39 45.8 -0.4
comp=Z,28nm,0.5s,baz=24,slow=0.9,SNR=17
MEV Metsovon 154.83 317 *e*P PKPdf 21 39 29.0 +12
SSF Saint Saulge 155.73 353 *e*PKP1 PKPdf 21 39 31.8 +14
comp=Z,15nm,0.6s
CABF La Chapelle 155.77 348 *e*PKP1 PKPdf 21 39 30.0 +12
comp=Z,16nm,0.8s
AVF Avril sur Loir 156.02 353 *e*PKP1 PKPdf 21 39 30.2 +12
ORX Oropa 156.28 344 P PKPab 21 39 52.0 -0.9
BGF Bois d'Agland 156.31 353 *e*PKP1 PKPdf 21 39 32.7 +14
comp=Z,14nm,0.5s
MFF Saint Martin d 156.45 359 *e*PKP1 PKPdf 21 39 30.7 +12
TRAV 156.45 345 P PKPab 21 39 52.9 -0.8
TCF Toulx Ste Croi 156.63 354 *e*PKP1 PKPdf 21 39 33.2 +14
comp=Z,6.0nm,0.6s
LSD Ceresole Reale 156.65 345 P PKPab 21 39 54.5 0.0
LPL La Plagne 156.69 346 *e*PKP1 PKPdf 21 39 33.4 +14
LPG La Plagne 156.70 346 *e*PKP1 PKPdf 21 39 34.0 +15
GRAM 156.73 340 P PKPab 21 39 55.4 +0.5
VALM 156.80 339 P PKPab 21 39 54.5 -0.7
CODM 156.89 340 P PKPab 21 39 55.4 -0.2
SARO Sassorosso 156.90 339 P PKPab 21 39 55.8 +0.2
RSP Reno Superiore 156.91 345 P PKPab 21 39 55.0 -0.6
VINC Vinca 157.02 339 P PKPab 21 39 55.4 -0.8
FENE Fenestrelle 157.07 345 P PKPab 21 39 55.9 -0.4
PCP Pian Castagno 157.15 342 P PKPab 21 39 55.8 -0.9
BHB Bricherasio 157.20 345 P PKPab 21 39 55.5 -1.4
RRL Cesana Torines 157.24 346 P PKPab 21 39 56.9 -0.2
MBDF Montbardon 157.43 346 *e*PKP1 PKPdf 21 39 34.4 +14
comp=Z,30nm,0.9s
ORIF Oris-en-Rattie 157.44 347 *e*PKP1 PKPdf 21 39 34.5 +14
FIN Finale Ligure 157.54 343 P PKPab 21 39 56.8 -1.6
PZZ Prazzo 157.56 345 P PKPab 21 39 56.5 -1.9
ROB Roburent 157.56 343 P PKPab 21 39 57.2 -1.3
ENR Entracque 157.74 344 P PKPab 21 39 57.3 -2.0
STV Sta Anna Valdi 157.75 344 P PKPab 21 39 57.2 -2.1
MONE Monesi 157.79 343 P PKPab 21 39 58.0 -1.5
IMI Imperia 157.91 343 P PKPab 21 39 58.5 -1.5
NEGI Negi 158.02 343 P PKPab 21 39 58.3 -2.2
ESDC Sonseca Array 163.19 8 PKPab PKPab 21 40 21.9 -1.0
comp=Z,5.3nm,0.5s,baz=346,slow=3.8,SNR=22
ESDC PP PP 21 44 09.5 -0.5
comp=Z,3.2nm,1.0s,baz=346,slow=5.3,SNR=2.9
DBIC Dimbokro 163.33 166 PKP PKPdf 21 39 28.2 +0.8
comp=Z,7.6nm,0.5s,baz=158,slow=1.0,SNR=29
DBIC PKPab PKPab 21 40 24.8 +0.5
comp=Z,10nm,0.8s,baz=165,slow=5.7,SNR=9.6

NIED ***18*** *21:22:00,33.30N×142.50E,h5km,Mw4.0 Best double couple: M₀1.15×10¹⁵ NP1:φs317°,δ57°,λ-98°. NP2: φs152°,δ34°,λ-77°.*

JMA 18 21:22:38.7±0.5,33.33N×142.50E,h73km,M3.7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.83**	**317**	P	P	21 23 08.3	-0.4
BSO1				S	S	21 23 32.4	+1.6
BSO2	**Boso 2**	**2.03**	**315**	*e*S	S	21 23 36.1	+0.6
BSO3	**Boso 3**	**2.21**	**312**	P	P	21 23 14.0	0.0
BSO3				*e*S	S	21 23 42.0	+1.9
JHJ2	**Mitsune**	**2.26**	**265**	P	P	21 23 15.1	+0.4
BSO4	**Boso 4**	**2.44**	**313**	P	P	21 23 17.8	+0.6
BSO4				*e*S	S	21 23 46.4	+0.5
JIM2	**Oshima 3**	**2.90**	**299**	P	P	21 23 23.3	-0.4
JIM2				S	S	21 23 55.6	-1.9
JOD2	**Odawara 2**	**3.42**	**305**	P	P	21 23 30.0	-0.9
JOD2				*e*S	S	21 24 10.6	+0.1
JYN	**Shimob**	**3.92**	**305**	P	P	21 23 38.3	+0.4
JYN				*e*S	S	21 24 23.1	+0.1
JAG	**Ashikaga**	**3.98**	**322**	P	P	21 23 37.6	-1.1
JRY	**Ryogami san**	**4.00**	**313**	P	P	21 23 40.1	+1.1
JRY				*e*S	S	21 24 25.3	+0.4

JMM	**Marumori**	**4.74 343**	P	P	21 23 47.1	-2.1
JMM			*e*S	S	21 24 37.0	-6.3
MAT	**Matsushiro**	**4.76 313**	P	P	21 23 49.7	0.0
MAT			S	S	21 24 42.2	-1.9
MAT	**Matsushiro**	**4.76 313**	P	P	21 23 50.6	+0.9
MAT			S	S	21 24 42.4	-1.7
JMK	**Ichinoseki**	**5.71 350**	P	P	21 24 00.9	-1.7
JMK			*e*S	S	21 25 00.8	-6.7
CBIJ	**Chichi jima**	**6.22 183**	P	P	21 24 10.0	+0.2
CBIJ			*e*S	S	21 25 16.9	-3.3

IDC 18 21:35:16.3±16.0, 3.36N×95.46E, h127km±134km, mb3.1/3, mb1 3.2/4, mb1mx3.1/18, mbtmp3.5/4, ML3.9/1, Error ellipse: s-maj=133.0km s-min=26.2km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.38**	**13**	P	P	21 38 46.6	-1.1
	0.2nm,0.3s,baz=206,slow=11,SNR=6.0						
WRA	**Warramunga Arr**	**44.66**	**123**	P	P	21 43 16.6	-1.7
	0.4nm,0.7s,baz=301,slow=9.2,SNR=4.6						
SONM	**Songino Array**	**45.29**	**10**	P	P	21 43 21.1	-1.9
	0.5nm,0.6s,baz=188,slow=8.5,SNR=3.5						
ZAL	**Zalesovo**	**51.16**	**352**	P	P	21 44 06.9	-1.4
	baz=326,slow=4.3,SNR=1.2						
BVAR	**Borovoye Array**	**53.65**	**341**	P	P	21 44 24.0	-2.8
	0.5nm,0.6s,baz=146,slow=5.2,SNR=3.5						

*ATH **18** 21:39:43.9, 39.95N×20.53E, h21km±2km, MD3.2/4*
*NEIC **18** 21:39:43.9, 39.95N×20.53E, h21km, MD3.2(ATH), After ATH.*
*THE **18** 21:39:46.7, 39.74N×20.40E, h10km, ML2.8*
*CSEM **18** 21:39:47.2±0.3, 39.73N×20.40E, h2km, ML2.8, Error ellipse: s-maj=6.8km s-min=4.5km az=144.0*

ISC 18 21:39:45.5±1.1, 39.76N±0.05×20.33E±0.06, h8km±8km, n11, σ1§24/19, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.23**	**179**	*e*Pg	**Pg**	**21 39 50.6**	**+0.3**
IGT				*e*Sg	**Sg**	**21 39 54.7**	**+1.3**
KEK	**Kerkira**	**0.41**	**263**	*e*PN	**Pn**	**21 39 56.0**	**-1.3**
JAN	**Janina**	**0.42**	**104**	*e*PB	**Pb**	**21 39 52.2**	**-2.5**
JAN				*e*SB	**Sb**	**21 39 57.5**	**-3.4**
MEV	**Metsovon**	**0.70**	**88**	*e*Pg	**Pg**	**21 39 58.5**	**-0.9**
MEV				*e*Sg	**Sg**	**21 40 08.5**	**-0.3**
FNA	**Florina**	**1.30**	**38**	*e*Pb	**Pb**	**21 40 10.6**	**+0.9**
FNA				*e*Sb	**Sb**	**21 40 29.6**	**+3.1**
EVR	**Evrytania**	**1.43**	**126**	*e*PN	**Pn**	**21 40 10.5**	**-1.3**
VLS	**Valsamata**	**1.59**	**173**	*e*PN	**Pn**	**21 40 16.0**	**+1.8**
LIT	**Litokhoron**	**1.70**	**78**	*e*Pb	**Pb**	**21 40 16.4**	**-0.2**
LIT				*e*Sb	**Sb**	**21 40 39.2**	**+1.2**
AGG	**Agios Georgios**	**1.72**	**115**	*e*Pb	**Pb**	**21 40 16.5**	**-0.4**
AGG				*e*Sb	**Sb**	**21 40 39.4**	**+0.7**
AGG	**Agios Georgios**	**1.72**	**115**	*e*Pb	**Pb**	**21 40 16.5**	**-0.5**
AGG				*e*Sb	**Sb**	**21 40 39.3**	**+0.6**
GRG	**Griva**	**1.98**	**52**	*e*Pb	**Pb**	**21 40 20.8**	**-0.7**
GRG				*e*Sb	**Sb**	**21 40 47.0**	**+0.6**

*IDC **18** 21:41:43.3±0.6, 33.34N×142.37E, mb4.2/15, mb1 4.3/18, mb1mx4.2/25, mbtmp4.3/18, ML4.4/3, Error ellipse: s-maj=19.6km s-min=13.4km az=98.0*
*JMA **18** 21:41:45.8±0.3, 33.38N×142.40E, h76km, M3.9*
*BJI **18** 21:41:45.0, 33.39N×142.18E, h19km, mB4.9, mb4.4*
*MOS **18** 21:41:45.9±0.9, 33.32N×142.40E, h33km, mb4.5/14, Error ellipse: s-maj=20.6km s-min=9.8km az=119.0*
*NEIC **18** 21:41:47.7±3.6, 33.35N×142.32E, h29km±25km, mb4.6/12, Error ellipse: s-maj=12.2km s-min=6.8km az=86.0*

ISC 18 21:41:44.7±1.5, 33.40N±0.04×142.40E±0.05, h25km±10km, n84, σ1§07/103, mb4.4/33, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.72**	**317**	P	**Pn**	**21 42 14.3**	**+0.7**
BSO2	**Boso 2**	**1.92**	**315**	*e*S	**Sn**	**21 42 41.9**	**+1.8**
BSO3	**Boso 3**	**2.10**	**312**	P	**Pn**	**21 42 20.0**	**+0.9**
BSO3				*e*S	**Sn**	**21 42 46.7**	**+2.0**
JHJ2	**Mitsune**	**2.19**	**263**	P	**Pn**	**21 42 20.9**	**+0.6**
JHJ2				*e*S	**Sn**	**21 42 47.6**	**+0.8**
JHJ	**Hachijo jima 2**	**2.21**	**263**	Pn	**Pn**	**21 42 20.4**	**-0.2**
	151nm,0.3s,baz=274,slow=22,SNR=24						
JHJ				Sn	**Sn**	**21 42 46.0**	**-1.4**
	88nm,0.3s,baz=45,slow=24,SNR=6.4						
BSO4	**Boso 4**	**2.33**	**313**	P	**Pn**	**21 42 23.7**	**+1.3**
BSO4				*e*S	**Sn**	**21 42 50.7**	**+0.1**
JIM2	**Oshima 3**	**2.79**	**299**	P	**Pn**	**21 42 28.6**	**-0.4**
JIM2				S	**Sn**	**21 42 59.9**	**-2.4**
JOD2	**Odawara 2**	**3.31**	**305**	P	**Pn**	**21 42 36.0**	**-0.3**
JOD2				*e*S	**Sn**	**21 43 13.7**	**-1.7**
JYN	**Shimob**	**3.81**	**304**	P	**Pn**	**21 42 43.5**	**+0.1**
JYN				*e*S	**Sn**	**21 43 29.3**	**+1.3**
JAG	**Ashikaga**	**3.87**	**322**	P	**Pn**	**21 42 44.2**	**0.0**
JAG				S	**Sn**	**21 43 29.7**	**+0.2**
JRY	**Ryogami san**	**3.89**	**313**	P	**Pn**	**21 42 44.6**	**+0.1**
JRY				*e*S	**Sn**	**21 43 29.5**	**-0.5**
JMM	**Marumori**	**4.65**	**344**	P	**Pn**	**21 42 53.5**	**-1.8**
JMM				*e*S	**Sn**	**21 43 43.6**	**-5.5**
MAJO	**Matsushiro**	**4.66**	**314**	*e*P	**Pn**	**21 42 56.3**	**+0.9**
MAT	**Matsushiro**	**4.66**	**314**	*e*P	**Pn**	**21 42 56.0**	**+0.6**
MAT				*e*S	**Sn**	**21 43 48.0**	**-1.4**
MAT	**Matsushiro**	**4.66**	**314**	P	**Pn**	**21 42 55.8**	**+0.4**
MAT				S	**Sn**	**21 43 48.0**	**-1.4**
MAT	**Matsushiro**	**4.66**	**314**	P	**Pn**	**21 42 56.4**	**+1.0**
MAT				*e*S	**Sn**	**21 43 47.2**	**-2.2**
JIE	**Ise**	**4.84**	**283**	P	**Pn**	**21 42 58.4**	**+0.4**
JIE				S	**Sn**	**21 43 45.8**	**-8.2**
JNS	**Sasagawa**	**5.08**	**331**	P	**Pn**	**21 43 01.7**	**+0.4**
JNS				*e*S	**Sn**	**21 43 57.6**	**-2.3**
JGM	**Miyama**	**5.22**	**298**	P	**Pn**	**21 43 04.8**	**+1.4**
JWZ	**Kozaga**	**5.59**	**273**	P	**Pn**	**21 43 10.0**	**+1.4**
JMK	**Ichinoseki**	**5.62**	**351**	P	**Pn**	**21 43 06.7**	**-2.3**
JMK				*e*S	**Sn**	**21 44 07.7**	**-6.0**
JSD	**Sado**	**5.72**	**325**	P	**Pn**	**21 43 09.2**	**-1.2**
JYK	**Kaneyama**	**5.75**	**344**	P	**Pn**	**21 43 09.7**	**-1.1**
JYK				*e*S	**Sn**	**21 44 13.1**	**-3.7**
CBIJ	**Chichi jima**	**6.28**	**182**	Pn	**Pn**	**21 43 15.0**	**-3.4**
	72nm,0.3s,baz=291,slow=18,SNR=16						
CBIJ				Sn	**Sn**	**21 44 22.1**	**-8.1**
	17nm,0.3s,baz=279,slow=20,SNR=5.0						
ASAJ	**Asahikawa**	**10.70**	**1**	Pn	**P**	**21 44 15.8**	**-3.9**
	1.9nm,0.3s,baz=202,slow=12,SNR=11						
ASAJ				Sn	**S**	**21 46 09.2**	**-10**
	0.9nm,0.3s,baz=170,slow=28,SNR=3.1						
YSS	**Yuzh-Sakhalins**	**13.54**	**1**	*e*P	**P**	**21 44 53.0**	**-4.7**
YSS	**Yuzh-Sakhalins**	**13.54**	**1**	*e*P	**P**	**21 44 53.9**	**-3.8**
HIA	**Hailar**	**23.12**	**320**	*e*P	**P**	**21 46 50.8**	**+1.1**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HIA	**Hailar**	**23.12**	**320**	*e*P	**P**	**21 46 50.8**	**+1.1**
	comp=Z,5.2nm,0.6s,mb4.1						
XAN	**Xi'an**	**27.79**	**281**	P	**P**	**21 47 32.3**	**-1.5**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.1						
ENH	**Enshi**	**28.07**	**273**	*e*P	**P**	**21 47 35.0**	**-1.5**
	comp=Z,19nm,0.9s,mb4.7						
ULN	**Ulaanbaatar**	**30.17**	**309**	*e*P	**P**	**21 47 56.8**	**+1.7**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
ULN	**Ulaanbaatar**	**30.17**	**309**	*e*P	**P**	**21 47 56.8**	**+1.8**
	comp=Z,4.2nm,0.6s,mb4.3						
SONM	**Songino Array**	**30.59**	**309**	P	**P**	**21 47 59.7**	**+1.0**
	comp=Z,2.3nm,0.7s,mb4.1,baz=105,slow=9.3,SNR=18						
BOD	**Bodaibo**	**31.06**	**330**	*e*P	**P**	**21 48 03.4**	**+0.7**
BOD				*e*		21 48 08.4	
ZAK	**Zakamensk**	**33.24**	**313**	*e*P	**P**	**21 48 21.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**41.51**	**260**	P	**P**	**21 49 31.6**	**-0.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.51**	**260**	P	**P**	**21 49 31.6**	**-0.3**
	comp=Z,1.4nm,0.6s,mb3.8,baz=49,slow=7.5,SNR=16						
KAKA	**Kakadu**	**46.82**	**193**	*e*P	**P**	**21 50 14.3**	**-0.3**
	comp=Z,5.0nm,0.6s,mb4.6						
JIRN	**Jiri**	**48.27**	**279**	*e*P	**P**	**21 50 26.5**	**+0.7**
	comp=Z,13nm,0.5s,mb5.2						
KURK	**Kurchatov**	**48.86**	**311**	*e*P	**P**	**21 50 30.3**	**+0.2**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
KURK	**Kurchatov**	**48.86**	**311**	*e*P	**P**	**21 50 30.3**	**+0.2**
	comp=Z,8.4nm,0.6s,mb5.0						
PKI	**Pulchoki**	**48.95**	**279**	*e*P	**P**	**21 50 30.0**	**-1.0**
	comp=Z,4.9nm,0.7s,mb4.7						
KKN	**Kakani**	**48.97**	**279**	*e*P	**P**	**21 50 31.1**	**-0.1**
	comp=Z,9.2nm,0.6s,mb5.0						
DMN	**Daman**	**49.18**	**279**	*e*P	**P**	**21 50 32.8**	**-0.1**
	comp=Z,5.1nm,0.8s,mb4.6						
GKN	**Gorkha**	**49.42**	**280**	*e*P	**P**	**21 50 34.9**	**+0.2**
	comp=Z,10nm,0.6s,mb5.0						
KOLN	**Koldanda**	**50.36**	**280**	*e*P	**P**	**21 50 42.3**	**+0.4**
	comp=Z,5.8nm,0.6s,mb4.8						
ILAR	**Eielson Array**	**52.16**	**31**	P	**P**	**21 50 55.3**	**+0.3**
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ILAR	**Eielson Array**	**52.16**	**31**	P	**P**	**21 50 55.2**	**+0.2**
	comp=Z,1.9nm,1.0s,mb4.0,baz=268,slow=6.1,SNR=11						
AAK	**Ala-Archa**	**52.99**	**301**	*e*P	**P**	**21 51 00.3**	**-1.3**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
AAK	**Ala-Archa**	**52.99**	**301**	*e*P	**P**	**21 51 00.3**	**-1.3**
	comp=Z,8.0nm,1.0s,mb4.6						
CTA	**Charters Tower**	**53.31**	**175**	P	**P**	**21 51 03.3**	**-0.9**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CTA	**Charters Tower**	**53.31**	**175**	P	**P**	**21 51 03.2**	**-0.9**
	comp=Z,3.4nm,0.7s,mb4.4,baz=222,slow=1.4,SNR=2.9						
CHKZ	**Chkalovo**	**53.42**	**315**	*e*P	**P**	**21 51 03.6**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**53.42**	**315**	*e*P	**P**	**21 51 03.6**	**-1.0**
	comp=Z,2.8nm,0.7s,mb4.3						
WRAB	**Tennant Creek**	**53.59**	**189**	*e*P	**P**	**21 51 05.3**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**53.59**	**189**	*e*P	**P**	**21 51 05.3**	**-0.9**
	comp=Z,8.0nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**53.59**	**189**	P	**P**	**21 51 05.2**	**-1.1**
WRA						21 52 13.3	
WRA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**53.59**	**189**	P	**P**	**21 51 05.2**	**-1.0**
	comp=Z,8.4nm,0.9s,mb4.7,baz=6.9,slow=7.6,SNR=134						
WRA				PcP	PcP	21 52 13.3	+0.7
	comp=Z,1.1nm,0.6s,baz=1.2,slow=4.2,SNR=5.1						
FITZ	**Fitzroy Crossi**	**53.65**	**200**	⇑*i*P	**P**	**21 51 07.0**	**+0.3**
	comp=Z,8.3nm,0.5s,mb4.9						
BVAR	**Borovoye Array**	**53.65**	**314**	P	**P**	**21 51 06.3**	**+0.1**
	comp=Z,1.0nm,0.7s,mb3.9,baz=79,slow=7.6,SNR=6.2						
BRVK	**Borovoye**	**53.71**	**315**	*e*P	**P**	**21 51 07.1**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	**Borovoye**	**53.71**	**315**	*e*P	**P**	**21 51 07.1**	**+0.4**
	comp=Z,1.9nm,0.5s,mb4.3						
INK	**Inuvik**	**57.27**	**26**	*e*P	**P**	**21 51 32.3**	**+0.1**
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	**Inuvik**	**57.27**	**26**	P	**P**	**21 51 33.0**	**+0.8**
	comp=Z,2.4nm,0.8s,mb4.3,baz=277,slow=7.0,SNR=6.9						
INK	**Inuvik**	**57.27**	**26**	*e*P	**P**	**21 51 32.3**	**+0.1**
	comp=Z,2.7nm,0.7s,mb4.4						
INK				P		21 51 33.0	
ASAR	**Alice Springs**	**57.32**	**189**	P	**P**	**21 51 33.0**	**-0.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=16,slow=14,SNR=14						
MBWA	**Marble Bar**	**58.40**	**205**	*e*P	**P**	**21 51 40.0**	**-0.8**
	comp=Z,7.6nm,0.6s,mb4.9						
HYB	**Hyderabad**	**59.00**	**271**	*i* P	**P**	**21 51 45.0**	**0.0**
STKA	**Stephens Creek**	**64.93**	**181**	P	**P**	**21 52 24.6**	**+0.1**
	comp=Z,2.3nm,0.7s,mb4.3,baz=316,slow=20,SNR=4.6						
YKA	**Yellowknife Ar**	**66.55**	**30**	P	**P**	**21 52 34.7**	**+0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**66.55**	**30**	P	**P**	**21 52 34.7**	**+0.3**
	comp=Z,1.0nm,0.8s,mb3.9,baz=298,slow=6.3,SNR=11						
YKA	**Yellowknife Ar**	**66.55**	**30**	P	**P**	**21 52 34.7**	**+0.3**
NWAO	**Narrogin (SRO)**	**70.10**	**202**	P	**P**	**21 52 57.5**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**70.10**	**202**	P	**P**	**21 52 57.5**	**+0.5**
	comp=Z,7.2nm,0.6s,mb4.8,baz=359,slow=7.1,SNR=8.9						
FINES	**FINESS Array B**	**72.41**	**333**	P	**P**	**21 53 11.3**	**+0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**72.41**	**333**	P	**P**	**21 53 11.3**	**+1.0**
	comp=Z,1.7nm,0.7s,mb4.1,baz=27,slow=8.5,SNR=4.0						
FINES	**FINESS Array B**	**72.41**	**333**	P	**P**	**21 53 11.3**	**+1.0**
NVAR	**Mina Array Bea**	**76.53**	**53**	P	**P**	**21 53 36.5**	**+2.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=290,slow=6.5,SNR=5.4						
NB2	**NORSAR Subarra**	**77.85**	**338**	P	**P**	**21 53 42.5**	**+1.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=40,slow=5.3						
NOA	**NORSAR Array B**	**77.85**	**338**	P	**P**	**21 53 42.1**	**+0.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**77.85**	**338**	P	**P**	**21 53 42.1**	**+0.8**
	comp=Z,1.4nm,0.7s,mb4.0,baz=39,slow=5.7,SNR=4.7						
BRTR	**Keskin Array B**	**81.88**	**312**	P	**P**	**21 54 05.3**	**+2.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**81.88**	**312**	P	**P**	**21 54 05.3**	**+2.0**
	comp=Z,1.0nm,0.7s,mb3.9,baz=109,slow=4.6,SNR=8.1						

IDC 18 21:57:20.9±4.4, 7.74N×91.14E, mb3.7/2, mb1 4.0/2, mb1mx3.5/15, mbtmp3.7/2, Error ellipse: s-maj=118.8km s-min=32.2km az=78.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.08**	**35**	Pn	P	22 00 27.7	-3.0
	baz=232,slow=14,SNR=1.2						
JIRN	**Jiri**	**20.36**	**347**	*e*P	P	22 02 16.6	+15
	3.8nm,0.3s						
PKI	**Pulchoki**	**20.46**	**345**	*e*P	P	22 02 18.6	+16
DMN	**Daman**	**20.57**	**345**	*e*P	P	22 02 19.8	+16
	17nm,0.9s						
KKN	**Kakani**	**20.70**	**345**	*e*P	P	22 02 20.5	+15
	4.5nm,0.5s						
GKN	**Gorkha**	**21.07**	**344**	*e*P	P	22 02 24.3	+15
KOLN	**Koldanda**	**21.16**	**341**	*e*P	P	22 02 26.6	+16
SONM	**Songino Array**	**42.01**	**15**	P	P	22 05 14.4	-1.1
	0.2nm,0.7s,baz=208,slow=8.9,SNR=3.0						
WRA	**Warramunga Arr**	**50.63**	**124**	P	P	22 06 21.4	-2.7
	0.5nm,0.6s,baz=306,slow=8.7,SNR=5.7						
ASAR	**Alice Springs**	**52.14**	**128**	P	P	22 06 33.9	-1.7
	0.8nm,0.7s,baz=305,slow=7.0,SNR=5.2						

*BJI **18** 22:04:33.2, 7.46N×93.87E, h30km, mB5.0, mb4.6, Ms4.8, Msz4.4*
*MOS **18** 22:04:38.7±1.1, 8.13N×93.97E, h33km, mb5.1/27, Error ellipse: s-maj=11.7km s-min=6.7km az=112.0*
*IDC **18** 22:04:39.6±2.2, 8.15N×93.99E, h27km±13km, mb4.5/23, mb1 4.5/24, mb1mx4.5/24, mbtmp4.6/24, ML4.3/1, MS4.0/2, Ms1 3.9/2, ms1mx3.4/16, Error ellipse: s-maj=17.7km s-min=11.0km az=51.0*
*NEIC **18** 22:04:39.9±0.2, 8.11N×93.99E, h30km, mb4.9/29, Error ellipse: s-maj=8.4km s-min=5.0km az=56.0*
*HRVD **18** 22:04:39.9±1.1, 8.34N×93.97E, h26km±3km, MW4.8/36, Centroid moment Tensor Solution. LP body waves: s4,c5; Mantle waves: s36,c50; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.83±.27; $M_{\theta\theta}$-0.16±.20; $M_{\phi\phi}$0.99±.21; $M_{r\theta}$-0.18±.35; $M_{\theta\phi}$2.19±.16; $M_{\phi r}$0.08±.39; Best double couple: $M_0$2.282×10^{16} NP1:ϕ_s173°, δ82°, λ-173°. NP2: ϕ_s82°, δ83°, λ-8°. Principal axes: T 2.681, Plg1°, Azm128°; N -.798, Plg80°, Azm222°; P -1.884, Plg10°, Azm38°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 22:04:38.9±1.0, 8.09N±0.04×94.01E±0.04, h36km±8km, h23km±5.4km: pP-P, n160, σ1§07/160, mb4.8/64, MS4.4/8, 5C-6D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.62**	**97**	P	**P**	**22 06 17.0**	**+0.7**
	162nm,0.9s						
NNT	**Nongplab**	**7.19**	**51**	P	**P**	**22 06 25.5**	**+1.2**
NST	**Nakhon Sawan**	**9.63**	**38**	P	**P**	**22 06 58.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**11.37**	**24**	Pn	**P**	**22 07 23.9**	**+2.0**
	0.6nm,0.3s,baz=214,slow=14,SNR=110						
CMAR				ScP		22 16 42.0	
	0.1nm,0.3s,baz=239,slow=2.4,SNR=6.0						
NANT	**Nan**	**12.47**	**31**	P	**P**	**22 07 40.0**	**+3.2**
VIS	**Vishakhapatnam**	**14.13**	**314**	*e*P	**P**	**22 07 54.8**	**-4.0**
VIS				AMb	AMB	22 08 01.9	
	comp=Z,95nm,0.7s						
VIS				*e*S	S	22 10 13.7	-22
VIS	**Vishakhapatnam**	**14.13**	**314**	*e*P	**P**	**22 07 56.0**	**-2.8**
VIS				*e*S	**S**	**22 10 25.3**	**-10**
IMP	**Imphal**	**16.60**	**360**	*e*P	**P**	**22 08 29.2**	**-1.4**
TRD	**Trivandrum**	**16.87**	**273**	*e*	**P**	**22 08 43.9**	**+10**
TRD				*e*		22 08 50.8	
	comp=Z,28nm,1.6s						
SHL	**Shillong**	**17.49**	**354**	*e*P	**P**	**22 08 41.0**	**-0.8**
HYB	**Hyderabad**	**17.68**	**303**	*i* P	**P**	**22 08 44.0**	**-0.2**
HYB				*e*		22 08 52.5	
HYB				*e*	**S**	**22 11 59.5**	**+2.0**
BLSP	**Bilaspur**	**18.04**	**322**	*e*P	**P**	**22 08 47.8**	**-0.8**
BLSP				*e*P		22 08 50.0	
BLSP				*e*		22 08 52.2	
	comp=Z,81nm,0.9s						
BLSP				*e*S	**S**	**22 12 01.6**	**-4.1**
MNGI	**Mangalore**	**19.46**	**286**	*i*	**P**	**22 09 07.4**	**+1.8**
MNGI				*e*S	**S**	**22 12 33.3**	**-4.6**
JIRN	**Jiri**	**20.82**	**340**	*e*P	**P**	**22 09 19.6**	**-0.3**
	comp=Z,221nm,1.2s						
PKI	**Pulchoki**	**21.01**	**338**	*e*P	**P**	**22 09 21.7**	**-0.1**
	comp=Z,309nm,1.2s,mb5.5						
DMN	**Daman**	**21.16**	**338**	*e*P	**P**	**22 09 22.0**	**-1.3**
	comp=Z,87nm,0.7s,mb5.2						
KKN	**Kakani**	**21.26**	**338**	*e*P	**P**	**22 09 23.8**	**-0.5**
	comp=Z,95nm,0.8s,mb5.2						
KAD	**Karad**	**21.38**	**297**	*e*	**P**	**22 09 26.1**	**+0.5**
LSA	**Lhasa**	**21.66**	**353**	P	**P**	**22 09 28.0**	**-0.3**
LSA				S	**S**	**22 13 21.8**	**+0.8**
LSA				AMB	AMB		
	comp=Z,50nm,1.2s,mb4.8						
LSA	**Lhasa**	**21.66**	**353**	*e*P	**P**	**22 09 27.9**	**-0.4**
LSA				pmax	pmax		
	comp=Z,28nm,0.5s,mb5.0						
LSA	**Lhasa**	**21.66**	**353**	*e*P	**P**	**22 09 27.9**	**-0.5**
	comp=Z,28nm,0.5s,mb5.0						
GKN	**Gorkha**	**21.69**	**337**	*e*P	**P**	**22 09 28.6**	**-0.1**
	comp=Z,161nm,0.8s,mb5.5						
KOLN	**Koldanda**	**21.91**	**335**	*e*P	**P**	**22 09 31.1**	**+0.3**
	comp=Z,603nm,1.7s,mb5.8						
BHPL	**Bhopal**	**21.91**	**315**	*e*P	**P**	**22 09 32.0**	**+1.2**
BHPL				*e*		22 09 33.1	
	comp=Z,47nm,1.0s						
POO	**Poona**	**22.16**	**300**	*e*P	**P**	**22 09 32.0**	**-1.4**
POO				*e*		22 09 40.1	
	comp=Z,41nm,0.9s						
POO				*e*	**S**	**22 13 38.0**	**+7.7**
NDI	**New Delhi**	**25.88**	**324**	*e*P	**P**	**22 10 09.0**	**-0.4**
AJM	**Ajmer**	**25.93**	**317**	*i* P	**P**	**22 10 11.0**	**+1.1**
ENH	**Enshi**	**26.40**	**31**	*e*P	**P**	**22 10 14.6**	**+0.4**
	comp=Z,13nm,0.7s,mb4.6						
DDI	**Dehra Dun**	**26.69**	**328**	*e*	**P**	**22 10 14.7**	**-2.1**
XAN	**Xi'an**	**29.25**	**26**	P	**P**	**22 10 39.6**	**-0.3**
LZH	**Lanzhou**	**29.28**	**16**	⇑P	**P**	**22 10 41.3**	**+1.2**
LZH				AP	pP	22 10 50.3	+0.1
LZH				XP	sP	22 10 54.5	-0.3
LZH				PP	PP	22 11 37.6	+2.0
LZH				*e*S	**S**	**22 15 31.3**	**+2.0**
LZH				XS		22 15 47.6	
LZH				AMB	AMB		
	comp=Z,34nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,123nm,5.7s						
LZH				LR	LR		
	comp=N,1μm,13.3s						
LZH				LR	LR		
	comp=Z,2μm,15.1s,MS4.8						
NJ2	**Nanjing**	**33.19**	**41**	*e*P	**P**	**22 11 13.9**	**-0.7**
NJ2				AP	pP	22 11 23.3	-1.5
NJ2				XP	sP	22 11 27.0	-2.5
NJ2				PP	PP	22 12 24.8	-1.5
NJ2				PPP	PPP	22 12 43.8	+1.1
NJ2				S	**S**	**22 16 32.0**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,390nm,6.0s						
NJ2				LR	LR		
	comp=N,790nm,20.6s,MS4.6						
NJ2				LR	LR		
	comp=E,870nm,22.3s,MS4.6						
NJ2				LR	LR		
	comp=Z,720nm,18.0s,MS4.4						
SSE	**Sheshan**	**34.16**	**44**	P	**P**	**22 11 19.9**	**-3.0**
SSE				XP	sP	22 11 32.5	-5.3
SSE				PP	PP	22 12 36.6	-1.4
SSE				S	**S**	**22 16 44.8**	**-1

comp=Z,23nm,1.0s,mb5.0
MUN Mundaring 45.14 153 *e*P **P 22 12 54.5 +0.5**
MUN pmax pmax
comp=Z,23nm,1.0s,mb5.0
KLBR Kellerberrin 45.53 151 *e*P **P 22 12 57.7 +0.5**
comp=Z,2µm,1.8s
HIA Hailar 46.37 23 *e*P **P 22 13 04.2 +0.6**
HIA pmax pmax
comp=Z,11nm,0.9s
HIA Hailar 46.37 23 *e*P **P 22 13 04.2 +0.7**
comp=Z,11nm,0.9s,mb4.8
NWAO Narrogin (SRO) 46.40 153 *e*P **P 22 13 04.4 +0.4**
NWAO pmax pmax
comp=Z,26nm,0.6s
NWAO Narrogin (SRO) 46.40 153 P **P 22 13 04.2 +0.1**
comp=Z,21nm,0.6s,mb5.3,baz=307,slow=8.4,SNR=21
NWAO Narrogin (SRO) 46.40 153 *e*P **P 22 13 04.4 +0.3**
comp=Z,26nm,0.6s,mb5.3
NVS Novosibirsk 47.41 352 *i*P **P 22 13 10.5 -1.1**
NVS *i* 22 13 17.4
NVS *e*S **S 22 19 53.6 -8.8**
NVS pmax pmax
comp=Z,25nm,1.0s,mb5.1
NVS pmax pmax
comp=N,20nm,1.1s
NVS pmax pmax
comp=E,11nm,1.1s
MDJ Mudanjiang 47.70 34 P **P 22 13 12.9 -1.2**
MDJ AMB AMB
comp=Z,9.0nm,2.5s,mb4.4
MDJ AMB AMB
comp=Z,143nm,6.6s
WRA Warramunga Arr 48.50 126 P **P 22 13 19.7 -0.9**
comp=Z,14nm,0.8s,mb5.0,baz=305,slow=8.6,SNR=113
WRA PcP PcP 22 14 46.4 -0.2
comp=Z,3.0nm,0.7s,baz=315,slow=2.8,SNR=10
WRA ScP 22 18 38.7
comp=Z,0.7nm,0.6s,baz=316,slow=3.6,SNR=8.4
WRAB Tennant Creek 48.50 126 *i*P **P 22 13 19.9 -0.7**
WRAB Tennant Creek 48.50 126 *e*P **P 22 13 19.6 -1.1**
comp=Z,18nm,0.9s,mb5.1
WB2 Warramunga Arr 48.51 126 ⇓*i*P **P 22 13 19.4 -1.3**
BVAR Borovoye Array 48.74 341 P **P 22 13 21.2 -0.8**
comp=Z,2.4nm,0.7s,mb4.3,baz=141,slow=9.5,SNR=19
BVAR ScP 22 18 39.9
comp=Z,2.3nm,0.8s,baz=149,slow=8.6,SNR=8.9
BRVK Borovoye 48.80 341 *e*P **P 22 13 21.1 -1.4**
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
BRVK Borovoye 48.80 341 *e*P **P 22 13 21.1 -1.4**
comp=Z,6.5nm,0.8s,mb4.7
RAYN Ar Rayn 48.87 294 P **P 22 13 24.6 +1.1**
comp=Z,115nm,0.6s,SNR=24
CHKZ Chkalovo 49.22 342 *e*P **P 22 13 24.9 -0.8**
CHKZ pmax pmax
comp=Z,14nm,0.8s,mb5.0
CHKZ Chkalovo 49.22 342 *e*P **P 22 13 24.9 -0.8**
comp=Z,14nm,0.8s,mb5.0
ASPA Alice Springs 50.16 130 *e*P **P 22 13 32.5 -0.8**
ASAR Alice Springs 50.16 130 P **P 22 13 32.1 -1.3**
comp=Z,7.0nm,0.7s,mb4.8,baz=306,slow=7.3,SNR=50
ASAR PcP PcP 22 14 52.6 +0.1
comp=Z,4.2nm,0.6s,baz=302,slow=3.6,SNR=11
ASAR LR LR 22 36 52.0
comp=Z,106nm,18.2s,MS3.9,baz=92,slow=38
BOD Bodaibo 51.97 13 *e*P **P 22 13 45.3 -1.2**
GNI Garni 54.19 314 *e*P **P 22 14 02.1 -1.2**
GNI pmax pmax
comp=Z,6.0nm,0.6s
GNI Garni 54.19 314 *e*P **P 22 14 02.0 -1.2**
comp=Z,6.4nm,0.6s,mb4.7
SVE Sverdlovsk 55.15 338 *e*P **P 22 14 08.5 -1.5**
ARU Arti 55.64 337 ⇑*i*P **P 22 14 07.3 -6.2**
ARU *e*S **S 22 21 48.4 -6.9**
ARU *e* 22 23 54.4
ARU *e*SSS SSS 22 27 41.9 -4.6
ARU pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
ARU Arti 55.64 337 *e*P **P 22 14 08.3 -5.2**
ARU pmax pmax
comp=Z,25nm,1.6s,mb5.0
ARU Arti 55.64 337 *e*P **P 22 14 08.3 -5.2**
comp=Z,25nm,1.6s,mb5.0
PMG Port Moresby 55.72 107 P **P 22 14 15.8 +1.0**
comp=Z,24nm,1.1s,mb5.2,baz=261,slow=6.8,SNR=4.2
YSS Yuzh-Sakhalins 56.69 38 *e*P pP 22 14 28.3 -3.7
KIV Kislovodsk 57.06 318 *e*P **P 22 14 22.5 -1.5**
KIV pmax pmax
comp=Z,14nm,0.8s,mb5.0
KIV Kislovodsk 57.06 318 *e*P **P 22 14 22.5 -1.5**
comp=Z,14nm,0.8s,mb5.0
KMBO Kilima Mbogo 57.31 263 *e*P **P 22 14 27.7 +1.5**
KMBO pmax pmax
comp=Z,5.0nm,0.7s
KMBO Kilima Mbogo 57.31 263 P **P 22 14 27.6 +1.4**
comp=Z,4.0nm,0.7s,mb4.6,baz=51,slow=9.6,SNR=19
KMBO Kilima Mbogo 57.31 263 *e*P **P 22 14 27.7 +1.5**
comp=Z,5.4nm,0.7s,mb4.7
MALT Malatya 58.22 310 *e*P **P 22 14 31.6 -0.6**
MALT pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
MALT Malatya 58.22 310 *e*P **P 22 14 31.6 -0.5**
comp=Z,10nm,1.2s,mb4.7
CTA Charters Tower 58.53 119 P **P 22 14 34.2 -0.3**
comp=Z,8.1nm,0.9s,mb4.7,baz=316,slow=7.9,SNR=4.2
CTA PcP PcP 22 15 25.1 +0.6
comp=Z,4.6nm,1.0s,baz=301,slow=5.9,SNR=5.1
SOC Sochi 58.93 316 *e*P **P 22 14 34.3 -2.7**
SOC *e* 22 15 25.9
SOC *e* 22 16 44.1
SOC *e*PPP PPP 22 18 14.8 +1.2
SOC *e*S **S 22 22 34.6 -4.3**
SOC *e* 22 24 17.4
SOC *e*SS SS 22 26 32.6 -1.8
SOC pmax pmax
comp=Z,11nm,1.0s,mb4.8
SOC pmax pmax
comp=N,5.0nm,0.7s
SOC pmax pmax
comp=E,5.0nm,0.7s
YAK Yakutsk 59.83 19 *e*P **P 22 14 42.0 -1.0**
YAK pmax pmax
comp=Z,24nm,0.5s,mb5.5
YAK Yakutsk 59.83 19 *e*P **P 22 14 42.0 -1.0**
comp=Z,24nm,0.5s,mb5.5
STKA Stephens Creek 60.35 134 *e*P **P 22 14 45.9 -1.1**
comp=Z,5.6nm,0.8s,mb4.7
STKA Stephens Creek 60.35 134 P **P 22 14 45.9 -1.1**
comp=Z,5.0nm,0.6s,mb4.7,baz=297,slow=6.6,SNR=12
STKA LR LR 22 44 54.0
comp=Z,141nm,20.0s,MS4.1,baz=21,slow=40
BRTR Keskin Array B 62.18 311 P **P 22 14 56.8 -2.4**
comp=Z,2.3nm,0.6s,mb4.5,baz=127,slow=7.4,SNR=22
MBAR Mbarara 63.65 265 *i*P **P 22 15 11.1 +1.7**
MBAR Mbarara 63.65 265 P **P 22 15 10.2 +0.8**
comp=Z,6.5nm,0.9s,mb4.7
OBN Obninsk 65.12 328 *i*P **P 22 15 15.2 -3.1**
OBN *e* pP 22 15 23.2 -6.0
OBN *e* 22 15 44.0
OBN pmax pmax
comp=Z,34nm,2.3s,mb5.0
TOO Toolangi 66.11 137 *e*P **P 22 15 25.3 +0.4**
comp=Z,13nm,0.7s,mb5.1
TOO Toolangi 66.11 137 *e*P **P 22 15 25.3 +0.4**
TOO pmax pmax
comp=Z,13nm,0.7s,mb5.1
MA2 Magadan 66.63 28 *e*P **P 22 15 28.9 +1.1**
MA2 pmax pmax
comp=Z,38nm,1.3s,mb5.3
MA2 Magadan 66.63 28 *e*P **P 22 15 28.9 +1.1**
comp=Z,38nm,1.3s,mb5.3
TIXI Tiksi 67.04 11 *e*P **P 22 15 29.3 -0.9**
TIXI pmax pmax
comp=Z,16nm,1.0s,mb5.0
AKASG Malin Array Be 67.90 322 P **P 22 15 33.8 -2.1**
comp=Z,2.7nm,0.8s,mb4.4,baz=88,slow=4.9,SNR=9.2
LSZ Lusaka 69.22 250 *e*P **P 22 15 45.2 +0.6**
LSZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LSZ Lusaka 69.22 250 *e*P **P 22 15 45.2 +0.6**
comp=Z,4.5nm,0.6s,mb4.6
JOF Joensuu 70.59 334 *e*p **P 22 15 51.6 -0.6**
FINES FINESS Array B 72.45 332 P **P 22 16 02.1 -1.3**
comp=Z,5.5nm,0.7s,mb4.6,baz=90,slow=6.3,SNR=24
CRVS Cervenica-Dubn 72.48 319 *e*P pP 22 16 13.0 -1.7
CRVS Cervenica-Dubn 72.48 319 *e*pP pP 22 16 13.0 -1.7

KAF Kangasniemi 72.53 333 *e*p **P 22 16 03.2 -0.6**
comp=Z,3.9nm,0.5s,mb4.6
KAF Kangasniemi 72.53 333 *e*P **P 22 16 03.2 -0.6**
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
OJC Ojcow 73.72 320 *e*P **P 22 16 10.5 -0.6**
KEV Kevo 74.58 341 *e*p **P 22 16 15.7 0.0**
ARCES ARCESS Array B 75.02 340 P **P 22 16 19.2 +1.0**
comp=Z,10.0nm,1.1s,mb4.7,baz=90,slow=6.1,SNR=12
ZST Bratislava 75.28 318 *e*P **P 22 16 19.9 -0.2**
BOSA Boshof 75.59 238 *e*P **P 22 16 22.9 +0.6**
BOSA pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
BOSA Boshof 75.59 238 *e*P **P 22 16 22.9 +0.6**
comp=Z,8.2nm,0.6s,mb4.8
BILL Biiibino 75.93 22 *e*P **P 22 16 24.3 +0.9**
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
BILL MLR MLR
comp=Z,100nm,14.0s,MS4.3
DPC Dobruska-Polom 75.95 320 *e*P **P 22 16 24.6 +0.7**
UPC Upice 76.16 320 *e*P **P 22 16 31.1 +6.0**
UPC Upice 76.16 320 *e*pP **P 22 16 31.1 +6.0**
FX1 Attu Island--F 77.05 38 P **P 22 16 30.2 +0.2**
comp=Z,16nm,0.8s,mb5.0
PRU Pruhonice 77.07 319 *e*P **P 22 16 31.3 +1.0**
PVCC Panska Ves 77.08 320 *e*P **P 22 16 31.0 +0.7**
GERES GERESS Array B 77.57 318 P **P 22 16 33.2 +0.1**
comp=Z,3.7nm,0.7s,mb4.4,baz=90,slow=4.0,SNR=31
KHC Kasperske Hory 77.67 318 *e*P **P 22 16 33.8 +0.3**
CLL Collm 78.11 321 P **P 22 16 35.0 -0.9**
MAW Mawson 78.72 192 P **P 22 16 40.4 +1.4**
comp=Z,3.5nm,0.6s,mb4.4,baz=14,slow=5.9,SNR=7.8
GRA1 Grafenberg Arr 79.21 319 *e*P **P 22 16 42.9 +0.9**
GRF Grafenberg Arr 79.21 319 *e*P **P 22 16 42.9 +0.9**
SQTA Sankt Quirin 79.22 316 ⇓*i*P **P 22 16 41.6 -0.5**
MOTA Moosalm 79.29 317 ⇓*i*P **P 22 16 41.3 -1.2**
NB2 NORSAR Subarra 79.47 331 P **P 22 16 42.7 -0.5**
comp=Z,7.3nm,0.7s,mb4.7,baz=98,slow=4.8
NB2 NORSAR Subarra 79.47 331 P **P 22 16 42.7 -0.5**
NB2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
NOA NORSAR Array B 79.47 331 P **P 22 16 42.9 -0.3**
comp=Z,7.3nm,0.7s,mb4.7,baz=95,slow=5.2,SNR=24
DAVA Damuels 80.13 317 ⇑*i*P **P 22 16 47.0 0.0**
LPG La Plagne 82.37 315 *e*P **P 22 16 59.3 +0.6**
comp=Z,40nm,0.9s,mb5.0
LPG La Plagne 82.37 315 *e*P **P 22 16 59.3 +0.6**
LPG pmax pmax
comp=Z,20nm,0.9s,mb5.0
SYO Syowa Base 85.58 197 ⇑P **P 22 17 15.9 +1.5**
SYO Syowa Base 85.58 197 ⇓PcP PcP 22 17 19.1 +1.3
SYO Syowa Base 85.58 197 ⇓pP pP 22 17 26.5 +1.0
ESDC Sonseca Array 90.97 310 P **P 22 17 41.9 +1.0**
comp=Z,2.3nm,0.5s,mb4.8,baz=66,slow=4.2,SNR=21
IMA Indian Mountai 91.47 22 *e*P **P 22 17 44.1 +1.5**
IMA pmax pmax
comp=Z,14nm,0.8s,mb5.3
IMA Indian Mountai 91.47 22 *e*P **P 22 17 44.1 +1.5**
comp=Z,14nm,0.8s,mb5.3
VNDA Vanda 93.17 168 P **P 22 17 50.0 -0.1**
comp=Z,1.7nm,0.9s,mb4.5,baz=290,slow=11,SNR=6.8
ILAR Eielson Array 94.59 22 P **P 22 17 58.5 +1.7**
comp=Z,0.6nm,0.6s,mb4.2,baz=297,slow=4.4,SNR=8.4
INK Inuvik 96.82 16 P **P 22 18 08.3 +1.4**
comp=Z,0.6nm,0.5s,mb4.3,baz=322,slow=4.2,SNR=3.1
DBIC Dimbokro 97.78 278 P **P 22 18 13.5 +1.0**
comp=Z,2.8nm,1.1s,mb4.7,baz=102,slow=2.5,SNR=2.8
YKA Yellowknife Ar 106.24 13 PP PP 22 23 10.0 -6.3
comp=Z,0.4nm,0.8s,baz=334,slow=8.0,SNR=6.0
YKA PKKPbc 22 34 21.3
comp=Z,0.5nm,0.7s,baz=152,slow=3.0,SNR=12
NVAR Mina Array Bea 124.80 31 PKP PKPdf 22 23 39.3 +3.7
comp=Z,0.6nm,0.6s,baz=5.4,slow=3.3,SNR=5.0
PDAR Pinedale Array 125.01 21 PKP PKPdf 22 23 38.2 +2.3
comp=Z,0.7nm,0.8s,SNR=4.3
TXAR Lajitas Array 139.08 24 PKiKP 22 24 07.9
comp=Z,0.4nm,0.4s,baz=355,slow=1.7,SNR=3.8
TXAR SKPbc 22 27 37.5
comp=Z,0.7nm,0.6s,baz=270,slow=2.7,SNR=6.2
PLCA Paso Flores 144.71 201 *e*PKIKP PKPdf 22 24 13.4 +1.1
PLCA Paso Flores 144.71 201 PKP PKPdf 22 24 13.7 +1.5
comp=Z,13nm,0.8s,baz=157,slow=3.1,SNR=23
CPUP Villa Florida 147.29 233 PKPbc PKPdf 22 24 21.3 +4.2
comp=Z,0.0nm,0.4s,baz=232,slow=12,SNR=2.3
LPAZ La Paz 160.75 243 PKP PKPdf 22 24 37.7 +1.9
comp=Z,1.4nm,0.8s,baz=49,slow=3.4,SNR=7.3
LPAZ PKPab PKPab 22 25 20.6 +0.4
comp=Z,1.5nm,0.8s,baz=90,slow=4.3,SNR=6.8

WEL 18 22:13:07.7±0.7, 46.58S×164.93E, h33km, ML3.9/4, Error ellipse: s-maj=7.2km s-min=6.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**2.20**	**73**	PN	Pn	22 13 41.0	-1.8
WHZ				SN	Sn	22 14 06.9	-2.2
MLZ	**Mavora Lakes**	**2.57**	**63**	PN	Pn	22 13 46.2	-1.8
MLZ				*e*SN	Sn	22 14 15.5	-3.0
TUZ	**Tuapeka**	**3.32**	**81**	PN	Pn	22 13 55.8	-2.8
TUZ				SN	Sn	22 14 34.0	-3.5
EAZ	**Earnscleugh**	**3.34**	**68**	PN	Pn	22 13 57.0	-1.9
EAZ				SN	Sn	22 14 34.3	-3.6
JCZ	**Jackson Bay**	**3.68**	**49**	PN	Pn	22 14 02.0	-1.8
JCZ				SN	Sn	22 14 41.5	-5.1
ODZ	**Otahua Downs**	**4.28**	**71**	PN	Pn	22 14 08.0	-4.3
LBZ	**Lake Benmore**	**4.29**	**61**	SN	Sn	22 14 55.6	-6.5
LTZ	**Lake Taylor**	**6.46**	**57**	PN	Pn	22 14 40.3	-2.8
THZ	**Tophouse**	**7.48**	**53**	PN	Pn	22 14 54.4	-3.0

*CSEM **18** 22:39:45.1±0.2, 39.07N×24.29E, h2km, ML2.6, Error ellipse: s-maj=4.6km s-min=3.1km az=110.0*
*THE **18** 22:39:46.2, 39.12N×24.24E, h11km, ML2.6*
*ATH **18** 22:39:49.9, 38.92N×23.92E, h9km, MD2.8/7, ML2.8*
*NEIC **18** 22:39:49.9, 38.92N×23.92E, h9km, ML2.8(ATH), After ATH.*

ISC 18 22:39:45.3±0.7, 39.12N±0.03×24.27E±0.04, h12km±4km, n20, σ0965/32, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.30**	**280**	*e*Pg	**Pg**	**22 39 52.0**	**+0.2**
AOS				*e*Sg	**Sg**	**22 39 56.5**	**+0.5**
AOS	**Alonnisos**	**0.30**	**280**	*e*Pg	**Pg**	**22 39 52.0**	**+0.3**
AOS				*e*Sg	**Sg**	**22 39 56.5**	**+0.5**
NEO	**Neokhori**	**0.83**	**283**	*e*PB	**Pb**	**22 40 02.0**	**+0.9**
XOR	**Xorichti**	**0.87**	**287**	*e*Pg	**Pg**	**22 40 02.5**	**-0.3**
XOR				*e*Sg	**Sg**	**22 40 14.4**	**-0.1**
LOS	**Limnos**	**1.03**	**38**	*e*Pg	**Pg**	**22 40 05.5**	**-0.5**
LOS				*e*Sg	**Sg**	**22 40 20.4**	**+0.6**
MPAR	**Parnis Oros**	**1.05**	**203**	*e*PB	**Pb**	**22 40 03.4**	**-1.5**
PTL	**Penteli**	**1.11**	**197**	*e*PB	**Pb**	**22 40 05.3**	**-0.7**
ATH	**Athens Observa**	**1.22**	**201**	*e*PN	**Pn**	**22 40 08.6**	**+0.4**
OUR	**Ouranopolis**	**1.23**	**350**	*e*Pb	**Pb**	**22 40 08.2**	**+0.2**
NSAL	**Nisos Salamina**	**1.36**	**208**	*e*PN	**Pn**	**22 40 11.0**	**+0.8**
MGER	**Gerania Oros**	**1.38**	**215**	*e*PN	**Pn**	**22 40 11.0**	**+0.6**
NAIG	**Nisos Aigina**	**1.49**	**204**	*e*PB	**Pb**	**22 40 13.3**	**+0.9**
AGG	**Agios Georgios**	**1.51**	**267**	*e*Pb	**Pb**	**22 40 11.9**	**-0.9**
AGG				*e*Sb	**Sb**	**22 40 32.4**	**+0.7**
LIT	**Litokhoron**	**1.69**	**306**	*e*Pb	**Pb**	**22 40 14.4**	**-1.4**
LIT				*e*Sb	**Sb**	**22 40 36.8**	**0.0**
SRS	**Serrai**	**2.06**	**346**	*e*Pn	**Pn**	**22 40 20.1**	**-0.1**
SRS				*e*Sn	**Sn**	**22 40 46.2**	**+0.2**
ALN	**Alexandroupoli**	**2.24**	**37**	*e*Pn	**Pn**	**22 40 22.1**	**-0.6**
ALN				*e*Sn	**Sn**	**22 40 51.2**	**+0.6**
ALN	**Alexandroupoli**	**2.24**	**37**	*e*Pn	**Pn**	**22 40 22.1**	**-0.7**
ALN				*e*Sn	**Sn**	**22 40 51.2**	**+0.6**
KNT	**Kendrikon**	**2.29**	**333**	*e*Pn	**Pn**	**22 40 23.5**	**0.0**
KNT				*e*Sn	**Sn**	**22 40 52.1**	**+0.2**
GRG	**Griva**	**2.33**	**323**	*e*Pn	**Pn**	**22 40 23.3**	**-0.7**
GRG				*e*Sn	**Sn**	**22 40 52.5**	**-0.2**
GRG	**Griva**	**2.33**	**323**	*e*Pn	**Pn**	**22 40 23.3**	**-0.7**
GRG				*e*Sn	**Sn**	**22 40 52.5**	**-0.3**

*IDC **18** 22:46:25.4±0.9, 10.97N×141.22E, mb3.7/7, mb1 3.9/7, mb1mx3.9/17, mbtmp3.7/7, MS4.0/2, Ms1 4.0/2, ms1mx3.2/21, Error ellipse: s-maj=36.5km s-min=22.5km az=95.0*

*NEIC **18** 22:46:26.8±0.7, 11.01N×140.86E, h10km, mb4.2/3, Error ellipse: s-maj=38.4km s-min=15.1km az=92.0*

ISC 18 22:46:28.4±0.8, 10.8N±0.1×141.4E±0.2, h33km, n15, σ1919/14, mb3.8/10, MS3.9/2, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**20.86**	**164**	LR	LR	22 59 01.8	
comp=Z,142nm,19.1s,MS3.4,baz=62,slow=36							
WRAB	**Tennant Creek**	**31.32**	**193**	*e*P	**P**	**22 52 48.2**	**0.0**
1.5nm,0.6s,mb4.0							
WRA	**Warramunga Arr**	**31.33**	**193**	P	**P**	**22 52 47.5**	**-0.8**
1.2nm,0.7s,mb3.8,baz=10.0,slow=9.7,SNR=9.6							
ASAR	**Alice Springs**	**35.03**	**192**	P	**P**	**22 53 20.9**	**+0.6**
0.6nm,0.5s,mb3.8,baz=19,slow=12,SNR=6.1							
CMAR	**Chiang Mai Arr**	**41.72**	**286**	P	**P**	**22 54 16.1**	**-0.2**
0.8nm,0.7s,mb3.5,baz=78,slow=6.3,SNR=5.6							
SONM	**Songino Array**	**47.19**	**328**	P	**P**	**22 54 56.2**	**-3.7**
0.2nm,0.5s,mb3.3,baz=117,slow=3.2,SNR=2.3							
KURK	**Kurchatov**	**64.59**	**321**	*e*P	**P**	**22 57 00.0**	**-4.7**
2.2nm,0.7s,mb4.3							
CHKZ	**Chkalovo**	**70.02**	**323**	P	**P**	**22 57 40.4**	**+1.7**
1.1nm,0.6s,mb4.0							
ILAR	**Eielson Array**	**72.52**	**25**	P	**P**	**22 57 52.1**	**-1.4**
0.4nm,0.7s,mb3.5,baz=259,slow=4.7,SNR=5.2							
YKA	**Yellowknife Ar**	**86.87**	**27**	P	**P**	**22 59 11.9**	**+1.3**
0.3nm,0.6s,mb3.7,baz=284,slow=4.7,SNR=3.6							
YKA	**Yellowknife Ar**	**86.87**	**27**	P	**P**	**22 59 11.9**	**+1.3**
1.3nm,0.8s,mb4.3,baz=79,slow=7.1,SNR=2.2							
FINES	**FINESS Array B**	**92.23**	**334**	P	**P**	**22 59 35.9**	**-0.1**
FINES	**FINESS Array B**	**92.23**	**334**	P	**P**	**22 59 35.9**	**-0.1**
EIL	**Elat**	**98.67**	**302**	LR	LR	23 46 32.3	
comp=Z,141nm,18.5s,MS4.5,baz=135,slow=37							
LPAZ	**La Paz**	**150.78**	**104**	PKPbc	PKPdf	23 06 24.2	+12
1.0nm,0.7s,baz=69,slow=2.3,SNR=5.3							

*IDC **18** 23:02:13.8±1.1, 8.08N×93.92E, mb3.8/8, mb1 4.0/9, mb1mx3.9/17, mbtmp3.8/9, ML4.2/1, Error ellipse: s-maj=44.7km s-min=20.4km az=50.0*
*NEIC **18** 23:02:18.6±0.6, 8.12N×94.02E, h30km, mb4.3/3, Error ellipse: s-maj=18.7km s-min=10.4km az=61.0*

ISC 18 23:02:17.8±6.1, 8.2N±0.2×94.2E±0.2, h33km±52km, n19, σ0978/19, mb4.0/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.24**	**24**	Pn	**P**	**23 04 57.8**	**-1.4**
0.5nm,0.3s,baz=218,slow=15,SNR=6.2							
JIRN	**Jiri**	**20.82**	**340**	*e*P	**P**	**23 06 59.9**	**+0.9**
14nm,0.9s							
PKI	**Pulchoki**	**21.02**	**338**	*e*P	**P**	**23 07 01.6**	**+0.6**
13nm,0.7s,mb4.4							
DMN	**Daman**	**21.17**	**337**	*e*P	**P**	**23 07 03.4**	**+0.9**
11nm,0.8s,mb4.2							
KKN	**Kakani**	**21.27**	**338**	*e*P	**P**	**23 07 03.8**	**+0.3**
10nm,0.9s,mb4.2							
LSA	**Lhasa**	**21.62**	**353**	*e*P	**P**	**23 07 07.8**	**+0.8**
7.8nm,0.7s,mb4.2							
GKN	**Gorkha**	**21.70**	**337**	*e*P	**P**	**23 07 08.1**	**+0.3**
7.6nm,0.6s,mb4.3							
KOLN	**Koldanda**	**21.93**	**334**	*e*P	**P**	**23 07 09.8**	**-0.3**
9.5nm,0.8s,mb4.2							
SONM	**Songino Array**	**40.88**	**13**	P	**P**	**23 09 58.8**	**+0.5**
0.7nm,0.9s,mb3.3,baz=187,slow=7.0,SNR=4.7							
WRA	**Warramunga Arr**	**48.39**	**126**	P	**P**	**23 10 58.7**	**-0.2**
1.0nm,0.6s,mb4.0,baz=305,slow=8.5,SNR=18							
WRAB	**Tennant Creek**	**48.40**	**126**	P	**P**	**23 10 59.3**	**+0.4**
3.3nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**49.22**	**342**	*e*P	**P**	**23 11 04.3**	**-0.6**
1.0nm,0.5s,mb4.1							
ASAR	**Alice Springs**	**50.06**	**130**	P	**P**	**23 11 12.2**	**+0.5**
0.8nm,0.9s,mb3.8,baz=297,slow=6.0,SNR=3.9							
BRTR	**Keskin Array B**	**62.27**	**311**	P	**P**	**23 12 36.1**	**-2.8**
0.4nm,0.7s,mb3.6,baz=108,slow=3.9,SNR=3.6							
FINES	**FINESS Array B**	**72.48**	**332**	P	**P**	**23 13 42.1**	**-0.6**
1.0nm,0.8s,mb3.8,baz=101,slow=7.1,SNR=4.9							
ARCES	**ARCESS Array B**	**75.02**	**340**	P	**P**	**23 13 57.2**	**-0.1**
3.4nm,1.0s,mb4.2,baz=108,slow=5.7,SNR=2.9							
GERES	**GERESS Array B**	**77.64**	**318**	P	**P**	**23 14 12.5**	**-0.1**
0.6nm,0.8s,mb3.5,baz=63,slow=2.2,SNR=3.5							
GERES	**GERESS Array B**	**77.64**	**318**	P	**P**	**23 14 12.5**	**-0.1**
NOA	**NORSAR Array B**	**79.51**	**331**	P	**P**	**23 14 21.8**	**-0.7**
1.4nm,0.9s,mb3.9,baz=108,slow=5.3,SNR=3.4							

*BJI **18** 23:27:26.0, 35.62N×67.87E, h10km, mB5.2, mb4.5, ML4.5, Ms4.6, Msz4.1*
*IDC **18** 23:27:26.3±0.8, 35.39N×67.89E, mb3.9/14, mb1 4.1/16, mb1mx4.1/19, mbtmp3.9/16, MS3.9/3, Ms1 3.9/3, ms1mx3.4/28, Error ellipse: s-maj=26.1km s-min=16.1km az=25.0*
*NEIC **18** 23:27:28.1±0.6, 35.59N×67.95E, h10km, mb4.1/9, Error ellipse: s-maj=11.4km s-min=9.6km az=185.0*
*MOS **18** 23:27:29.8±1.4, 35.57N×67.97E, h33km, mb4.2/17, Error ellipse: s-maj=10.7km s-min=7.7km az=99.2*

ISC 18 23:27:27.4±2.1, 35.54N±0.05×67.95E±0.06, h15km±15km, n79, σ1922/85, mb4.0/21, MS3.9/2, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**7.30**	**112**	*e*P	**Pn**	**23 29 27.0**	**+11**
DLH				*e*S	**Sn**	**23 30 55.0**	**+16**
AML	**Almayashu**	**7.96**	**33**	P	**Pn**	**23 29 25.7**	**+0.3**
SNR=39							
BHK	**Bhakra**	**8.18**	**118**	*e*P	**P**	**23 29 42.5**	**+14**
BHK				*e*S	Sn	23 31 41.9	+40
UCH	**Uchtor**	**8.41**	**36**	P	**P**	**23 29 32.3**	**+0.6**
SNR=46							
EKS2	**Erkin-Say**	**8.43**	**31**	P	**P**	**23 29 33.7**	**+1.8**
SNR=11							
KZA	**Kyzart**	**8.66**	**39**	P	**P**	**23 29 35.5**	**+0.4**
SNR=18							
AAK	**Ala-Archa**	**8.72**	**34**	P	**P**	**23 29 36.5**	**+0.6**
SNR=40							
AAK	**Ala-Archa**	**8.72**	**34**	*c i*P	**P**	**23 29 35.5**	**-0.4**
AAK				*i* S	**Sn**	**23 31 18.7**	**+3.8**
AAK	**Ala-Archa**	**8.72**	**34**	*e*P	**P**	**23 29 33.5**	**-2.4**
FRU	**Bishkek**	**8.93**	**33**	*e*P	**P**	**23 29 39.5**	**+0.6**
FRU				*e*S	**Sn**	**23 31 18.5**	**-1.6**
FRU				pmax	pmax		
comp=Z,35nm,1.5s							
FRU				smax			
comp=E,180nm,2.2s							
KBK	**Karagaybulak**	**8.95**	**35**	P	**P**	**23 29 40.7**	**+1.6**
SNR=25							
CHMS	**Chumysh**	**9.12**	**33**	P	**P**	**23 29 41.8**	**+0.3**
SNR=52							
USP	**Ospenovka**	**9.23**	**31**	P	**P**	**23 29 42.4**	**-0.6**
SNR=10.0							
ULHL	**Ulahol**	**9.30**	**42**	P	**P**	**23 29 44.1**	**+0.1**
SNR=7.0							
TKM2	**Tokmak 2**	**9.46**	**37**	P	**P**	**23 29 46.1**	**-0.1**
SNR=9.1							
KOLN	**Koldanda**	**15.41**	**116**	*e*P	**P**	**23 31 02.5**	**-3.4**
comp=E,26nm,0.9s							
GKN	**Gorkha**	**16.05**	**113**	*e*P	**P**	**23 31 09.8**	**-4.4**
comp=E,33nm,0.5s							
DMN	**Daman**	**16.61**	**114**	*e*P	**P**	**23 31 17.5**	**-3.8**
comp=E,30nm,0.7s							
DMN				*e*S	**S**	**23 34 13.7**	**-11**
KKN	**Kakani**	**16.64**	**113**	*e*P	**P**	**23 31 18.3**	**-3.4**
comp=E,30nm,0.6s							
PKI	**Pulchoki**	**16.86**	**113**	*e*P	**P**	**23 31 20.9**	**-3.5**
comp=E,45nm,0.8s							
KURK	**Kurchatov**	**17.02**	**24**	*e*P	**P**	**23 31 24.5**	**-1.8**
KURK				pmax	pmax		
comp=Z,11nm,0.9s							
KURK	**Kurch

CHKZ	Chkalovo	18.23	5	eP		P	23 31 38.9	-2.5
CHKZ					pmax	pmax			
comp=Z,8.0nm,0.7s									
CHKZ	Chkalovo	18.23	5	eP		P	23 31 38.9	-2.5
comp=Z,7.5nm,0.7s									
GNI	Garni	18.88	291	P		P	23 31 50.2	+0.8
comp=Z,0.4nm,0.3s,baz=51,slow=2.3,SNR=15									
GNI					LR	LR	23 40 10.8		
comp=Z,354nm,19.4s,baz=10,slow=40									
TI2	Plekhanov	19.12	296	eP		P	23 31 51.6	-0.7
ZEI	Tsey	19.96	298	eP		P	23 32 01.2	-0.6
ZEI					pmax	pmax			
comp=Z,6.0nm,1.3s									
HYB	Hyderabad	20.37	150	i P		P	23 32 08.0	+1.8
LSA	Lhasa	20.38	100	P		P	23 32 06.3	+0.1
LSA	Lhasa	20.38	100	eP		P	23 32 06.8	+0.6
LSA					pmax	pmax			
comp=Z,13nm,0.8s									
LSA	Lhasa	20.38	100	eP		P	23 32 06.8	+0.6
comp=Z,13nm,0.8s									
KIV	Kislovodsk	21.10	301	eP		P	23 32 10.7	-2.9
KIV					pmax	pmax			
comp=Z,10.0nm,0.8s,mb4.2									
KIV	Kislovodsk	21.10	301	eP		P	23 32 10.7	-2.9
comp=Z,10.0nm,0.8s,mb4.2									
GOF	Gofitskoye	21.17	304	⇓i P		P	23 32 17.5	+3.2
GOF					pmax	pmax			
comp=Z,50nm,1.6s,mb4.6									
ARU	Arti	21.84	346	⇑i P		P	23 32 17.2	-3.8
ARU				eS		S	23 36 18.2	+1.4
ARU				eSSS		SSS	23 36 54.3	-15
ARU					pmax	pmax			
comp=Z,10.0nm,1.3s,mb4.1									
ARU	Arti	21.84	346	eP		P	23 32 16.6	-4.3
comp=Z,6.3nm,0.8s,mb4.1									
SVE	Sverdlovsk	21.86	349	eP		P	23 32 23.0	+1.9
NVS	Novosibirsk	22.01	24	i P		P	23 32 21.6	-1.1
NVS				e			23 36 50.4		
NVS					pmax	pmax			
comp=Z,40nm,1.9s,mb4.5									
NVS					pmax	pmax			
comp=N,35nm,1.7s									
NVS					pmax	pmax			
comp=E,12nm,1.7s									
NVS					smax				
comp=N,15nm,2.1s									
NVS					smax				
comp=E,66nm,2.2s									
MALT	Malatya	23.71	285	eP		P	23 32 41.6	+2.1
MALT					pmax	pmax			
comp=Z,3.0nm,0.9s,mb3.7									
MALT	Malatya	23.71	285	eP		P	23 32 41.6	+2.1
comp=Z,3.4nm,0.9s,mb3.8									
ASF	Jabal al Asfar	25.95	272	LR		LR	23 44 54.8		
comp=Z,262nm,19.1s,MS3.8,baz=240,slow=40									
BRTR	Keskin Array B	27.39	289	P		P	23 33 14.0	0.0
BRTR					pmax	pmax			
comp=Z,2.0nm,1.0s									
BRTR	Keskin Array B	27.39	289	P		P	23 33 14.0	0.0
comp=Z,2.2nm,1.0s,mb3.6,baz=100,slow=7.5,SNR=9.4									
BRTR	Keskin Array B	27.39	289	P		P	23 33 14.0	0.0
OBN	Obninsk	29.11	322	eP		P	23 33 30.3	+0.9
OBN							23 34 44.0		
OBN					pmax	pmax			
comp=Z,6.0nm,0.9s,mb4.3									
ZAK	Zakamensk	29.48	49	eP		P	23 33 32.6	-0.2
SONM	Songino Array	30.91	55	P		P	23 33 45.7	+0.2
comp=Z,1.5nm,0.6s,mb4.0,baz=262,slow=8.7,SNR=16									
SONM					PP	PP	23 34 57.4	+10
comp=Z,4.3nm,1.4s,baz=243,slow=9.7,SNR=3.0									
AKASG	Malin Array Be	31.65	311	P		P	23 33 50.9	-1.1
AKASG					pmax	pmax			
comp=Z,2.0nm,0.7s									
AKASG	Malin Array Be	31.65	311	P		P	23 33 50.9	-1.1
comp=Z,2.1nm,0.7s,mb4.1,baz=97,slow=6.9,SNR=11									
CMAR	Chiang Mai Arr	32.26	114	P		P	23 33 57.0	-0.6
CMAR					pmax	pmax			
comp=Z,1.0nm,0.3s									
CMAR	Chiang Mai Arr	32.26	114	P		P	23 33 57.0	-0.6
comp=Z,1.2nm,0.3s,mb4.2,baz=311,slow=8.3,SNR=3.8									
FINES	FINESS Array B	36.93	328	P		P	23 34 38.0	+0.8
FINES					pmax	pmax			
comp=Z,1.0nm,0.4s									
FINES	FINESS Array B	36.93	328	P		P	23 34 38.0	+0.8
comp=Z,0.9nm,0.4s,mb3.9,baz=117,slow=8.5,SNR=9.0									
BOD	Bodaibo	37.65	39	eP		P	23 34 43.0	-0.3
ARCES	ARCESS Array B	41.11	339	P		P	23 35 12.4	+0.5
ARCES					pmax	pmax			
comp=Z,2.0nm,0.7s									
ARCES	ARCESS Array B	41.11	339	P		P	23 35 12.4	+0.5
comp=Z,1.9nm,0.7s,mb3.9,baz=111,slow=7.7,SNR=3.9									
GERES	GERESS Array B	41.47	306	P		P	23 35 15.2	+0.1
comp=Z,0.4nm,0.6s,mb3.3,baz=72,slow=4.2,SNR=3.8									
NB2	NORSAR Subarra	43.67	324	P		P	23 35 32.1	-0.7
comp=Z,1.1nm,0.5s,mb3.8,baz=100,slow=7.9									
NB2	NORSAR Subarra	43.67	324	P		P	23 35 32.1	-0.7
NB2					pmax	pmax			
comp=Z,1.0nm,0.5s,mb3.8									
NOA	NORSAR Array B	43.67	324	P		P	23 35 32.5	-0.3
NOA					pmax	pmax			
comp=Z,1.0nm,0.6s									
NOA	NORSAR Array B	43.67	324	P		P	23 35 32.5	-0.3
comp=Z,1.3nm,0.6s,mb3.9,baz=101,slow=8.0,SNR=5.8									
KMBO	Kilima Mbogo	46.38	225	P		P	23 35 53.6	-1.6
KMBO					pmax	pmax			
comp=Z,1.0nm,0.6s									
KMBO	Kilima Mbogo	46.38	225	P		P	23 35 53.6	-1.6
comp=Z,0.5nm,0.6s,mb3.6,baz=52,slow=19,SNR=2.8									
TIXI	Tiksi	47.59	22	i P		P	23 36 05.7	+1.8
ESDC	Sonseca Array	55.71	297	P		P	23 37 04.1	-1.3
comp=Z,2.0nm,0.9s,mb4.1,baz=90,slow=7.7,SNR=4.0									
ASAJ	Asahikawa	56.16	57	LR		LR	00 03 54.6		
comp=Z,134nm,21.3s,MS4.0,baz=173,slow=39									
INK	Inuvik	75.22	8	eP		P	23 39 09.8	-0.7
INK					pmax	pmax			
comp=Z,2.0nm,0.6s									
INK	Inuvik	75.22	8	eP		P	23 39 09.8	-0.7
comp=Z,1.7nm,0.6s,mb4.2									
ILAR	Eielson Array	76.35	15	P		P	23 39 19.2	+2.2
ILAR					pmax	pmax			
comp=Z,1.0nm,0.8s									
ILAR	Eielson Array	76.35	15	P		P	23 39 19.2	+2.2
comp=Z,0.6nm,0.8s,mb3.5,baz=333,slow=3.8,SNR=6.2									
YKA	Yellowknife Ar	82.28	1	P		P	23 39 49.3	+0.3
comp=Z,0.4nm,0.7s,mb3.4,baz=351,slow=5.4,SNR=5.6									
WRA	Warramunga Arr	83.62	120	P		P	23 39 56.5	-0.3
WRA					pmax	pmax			
comp=Z,1.0nm,1.1s									
WRA	Warramunga Arr	83.62	120	P		P	23 39 56.5	-0.3
comp=Z,0.8nm,1.1s,mb3.8,baz=304,slow=6.0,SNR=3.7									
ASAR	Alice Springs	85.78	123	P		P	23 40 07.3	-0.2
comp=Z,1.5nm,1.0s,mb4.2,baz=302,slow=4.5,SNR=6.5									

*WEL **18** 23:41:09.7±0.3, 45.09S×167.43E, h87km±2km, ML4.2/7, Error ellipse: s-maj=2.4km s-min=1.3km az=90.0*
*NEIC **18** 23:41:09.9, 45.06S×167.40E, h79km, ML4.2(WEL), After WEL.*

ISC 18 23:41:08.5±1.2,**45.09S**±0.05×**167.54E**±0.08,**h95**km±8km, **n20**,σ0°**97**/37,**3C-6D, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.47	215	PN	P	23 41 23.1	-0.6
DCZ				SN	S	23 41 33.5	-1.6
MSZ	Milford Sound	0.50	33	⇑PN	P	23 41 24.5	+0.6
MSZ				SN	S	23 41 35.3	-0.2
MLZ	Mavora Lakes	0.51	120	P	P	23 41 24.6	+0.6
MLZ				S	S	23 41 35.1	-0.5
MLZ	Mavora Lakes	0.51	120	⇓PN	P	23 41 24.6	+0.5
MLZ				SN	S	23 41 35.7	+0.1
WHZ	Wether Hill Ro	0.85	161	P	P	23 41 27.7	+0.5
WHZ				S	S	23 41 40.9	-0.1
WHZ	Wether Hill Ro	0.85	161	⇓PN	P	23 41 27.7	+0.5
WHZ				SN	S	23 41 40.9	-0.1
WKZ	Wanaka	1.08	76	P	P	23 41 31.3	+1.6
WKZ				S	S	23 41 46.6	+0.9
WKZ	Wanaka	1.08	76	⇑PN	P	23 41 31.3	+1.6
WKZ				SN	S	23 41 46.6	+0.9
EAZ	Earnscleugh	1.26	97	P	P	23 41 33.2	+1.2
EAZ				S	S	23 41 50.0	+0.5
EAZ	Earnscleugh	1.26	97	⇓PN	P	23 41 33.2	+1.3
EAZ				SN	S	23 41 50.0	+0.6
JCZ	Jackson Bay	1.34	41	P	P	23 41 33.5	+0.6
JCZ				S	S	23 41 51.0	0.0
JCZ	Jackson Bay	1.34	41	⇑PN	P	23 41 33.5	+0.6
JCZ				SN	S	23 41 50.9	-0.1
TUZ	Tuapeka	1.70	121	⇓PN	P	23 41 38.5	+1.0
TUZ				SN	S	23 41 58.9	0.0
LBZ	Lake Benmore	2.01	70	P	P	23 41 41.5	0.0
LBZ	Lake Benmore	2.01	70	⇓PN	P	23 41 41.5	0.0
LBZ				SN	S	23 42 04.7	-1.1
FOZ	Fox Glacier	2.17	46	PN	P	23 41 44.1	+0.4
FOZ				SN	S	23 42 11.1	+1.3
ODZ	Otahua Downs	2.20	90	P	P	23 41 44.4	+0.3
ODZ	Otahua Downs	2.20	90	⇓PN	P	23 41 44.4	+0.4
ODZ				SN	S	23 42 08.8	-1.6
RPZ	Rata Peaks	2.87	63	PN	P	23 41 51.8	-1.5
RPZ				SN	S	23 42 25.1	-1.9
WVZ	Waitaha Valley	3.06	50	PN	P	23 41 54.6	-1.3

*JMA **18** 23:41:39.2±0.2, 23.82N×121.76E, h82km, M2.9*
TAP 18 23:41:38.1,23.73N×**121.73E,h31**km**,ML3.6,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.38	58	P	Pn	23 42 02.4	+0.8
YOJ				S	Sn	23 42 19.8	+0.9
IRIF	Iriomote-Funau	1.93	71	P	Pn	23 42 10.1	+0.7
IRIF				S	Sn	23 42 33.6	+0.9
HATJ	Hateruma jima	1.93	80	P	Pn	23 42 10.0	+0.6
HATJ				S	Sn	23 42 32.9	+0.1
JKRS	Kuro-shima	2.15	76	P	Pn	23 42 13.1	+0.6
JKRS				S	Sn	23 42 39.2	+0.8
JIJ	Ishigaki jima	2.29	74	P	Pn	23 42 14.7	0.0
JIJ				S	Sn	23 42 41.4	-0.7
JTJ	Tarama	2.86	71	P	Pn	23 42 22.7	-0.1
JTJ				S	Sn	23 42 56.0	-0.5

*NEIC **18** 23:43:00.3±3.0, 32.06S×179.59W, h152km±24km, mb4.7/6, Error ellipse: s-maj=31.0km s-min=13.3km az=209.0*
*IDC **18** 23:43:06.7±4.3, 32.60S×179.77W, h207km±40km, mb4.0/5, mb1 4.2/7, mb1mx3.9/16, mbtmp4.6/7, Error ellipse: s-maj=37.7km s-min=20.5km az=13.0*

ISC 18 23:43:08.7±1.5,**32.7S**±0.1×**179.9E**±0.1,**h228**km±15km, **n59**,σ1°**25**/54,**mb4.3**/10,**2C-2D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.04	195	eP	P	23 44 24.0	-1.0
MXZ				S	S	23 45 26.0	+1.6
MXZ	Matakaoa Point	5.04	195	P	P	23 44 23.9	-1.1
MXZ				S	S	23 45 25.6	+1.2
PUZ	Puketiti	5.55	194	eP	P	23 44 30.3	-1.0
PUZ				S	S	23 45 36.7	+1.0
PUZ	Puketiti	5.55	194	eP	P	23 44 30.3	-1.0
PUZ				S	S	23 45 36.6	+0.9
MWZ	Matawai	5.97	199	P	P	23 44 35.2	-1.5
MWZ	Matawai	5.97	199	P	P	23 44 35.1	-1.6
MWZ				S	S	23 45 45.9	+0.6
URZ	Urewera	6.02	202	P	P	23 44 36.7	-0.6
20nm,0.3s,baz=8.0,slow=1.1,SNR=54							
URZ				S	S	23 45 46.7	+0.3
40nm,0.3s,baz=154,slow=23,SNR=15							
URZ	Urewera	6.02	202	P	P	23 44 37.6	+0.3
URZ	Urewera	6.02	202	eP	P	23 44 36.7	-0.6
PATZ	Paeroa	6.42	207	P	P	23 44 47.0	+4.5
KNZ	Kokohu	6.58	196	P	P	23 44 46.7	+2.2
BKZ	Black Stump Fm	7.04	202	eP	P	23 44 52.2	+1.8
BKZ	Black Stump Fm	7.04	202	P	P	23 44 51.9	+1.5
MGZ	Maungaku	7.24	208	P	P	23 44 56.4	+3.4
NGZ	Ngauruhoe	7.37	207	eP	P	23 44 56.3	+1.7
CNZ	Chateau	7.41	207	P	P	23 44 58.1	+3.0
TUVZ	Tukino	7.43	207	P	P	23 44 57.5	+2.1
FWVZ	Far West T-bar	7.46	207	P	P	23 44 58.1	+2.4
PWZ	Pawanui	7.74	198	P	P	23 44 59.3	0.0
TSZ	Takapari Road	8.03	202	P	P	23 45 03.0	0.0
BFZ	Birch Farm	8.51	199	P	P	23 45 08.7	-0.6
MRZ	Mangatainoka R	8.69	203	P	P	23 45 10.6	-1.0
KIW	Kapiti Island	9.10	205	P	P	23 45 15.8	-1.0
MTW	Mount Morrison	9.17	202	P	P	23 45 16.4	-1.3
CAW	Cannon Point	9.26	203	P	P	23 45 17.6	-1.3
MRW	Makara Radio	9.50	205	P	P	23 45 20.7	-1.2
NNZ	Nelson	10.00	210	P	P	23 45 27.3	-1.0
KHZ	Kahutara	10.96	206	P	P	23 45 37.7	-2.8
LTZ	Lake Taylor	11.76	209	P	P	23 45 49.6	-1.1
MQZ	McQueen's Vall	12.40	205	P	P	23 45 56.5	-2.2
RPZ	Rata Peaks	13.03	210	P	P	23 46 06.7	+0.2
1.0nm,0.3s,baz=286,slow=12,SNR=2.6							
RPZ				S	S	23 48 25.7	-1.3
3.3nm,0.3s,baz=344,slow=16,SNR=6.5							
STKA	Stephens Creek	32.31	261	P	P	23 49 20.0	+1.7
1.5nm,0.8s,mb3.6,baz=97,slow=11,SNR=5.0							
STKA	Stephens Creek	32.31	261	P	P	23 49 20.0	+1.7
CTA	Charters Tower	32.54	284	P	P	23 49 20.7	+0.3
6.1nm,0.5s,mb4.4,baz=94,slow=9.3,SNR=10							
CTA	Charters Tower	32.54	284	P	P	23 49 20.7	+0.3
CTAO	Charters Tower	32.54	284	eP	P	23 49 20.6	+0.2
7.7nm,0.4s,mb4.6							
ASAR	Alice Springs	41.30	270	P	P	23 50 34.1	+0.6
5.5nm,0.5s,mb4.2,baz=108,slow=7.6,SNR=63							
ASPA	Alice Springs	41.30	270	eP	P	23 50 34.2	+0.7
WB2	Warramunga Arr	42.49	276	⇓i P	P	23 50 43.4	+0.1
WRAB	Tennant Creek	42.49	276	eP	P	23 50 43.2	-0.1
15nm,0.7s,mb4.5							
WRA	Warramunga Arr	42.50	276	P	P	23 50 43.2	-0.1
18nm,0.7s,mb4.6,baz=115,slow=7.7,SNR=158							
KAKA	Kakadu	47.67	283	⇓i P	P	23 51 23.1	-1.1
20nm,0.8s,mb4.5							
FITZ	Fitzroy Crossi	50.65	273	⇑i P	P	23 51 46.8	0.0
5.1nm,0.5s,mb4.2							
QSPA	South Pole Qui	57.43	180	⇑i P	P	23 52 39.3	+4.2
5.8nm,0.7s,mb4.3							
PMSA	Palmer Station	70.90	156	eP	P	23 54 03.5	+1.2
42nm,0.6s,mb5.2							
NVAR	Mina Array Bea	91.10	44	P	P	23 55 48.2	-0.3
0.9nm,0.7s,mb3.8,baz=216,slow=7.4,SNR=7.7							
NVAR	Mina Array Bea	91.10	44	P	P	23 55 48.2	-0.3
RES	Resolute Bay	119.95	18	ePKP	PKPdf	00 01 30.2	-0.9
BVAR	Borovoye Array	126.78	315	PKP	PKPdf	00 01 44.6	-0.1
0.9nm,0.4s,baz=117,slow=2.0,SNR=12							
ARCES	ARCESS Array B	140.42	346	PKhKP		00 02 02.8	
2.1nm,0.7s,baz=39,slow=1.7,SNR=12							
JOF	Joensuu	143.84	336	epkp	PKPdf	00 02 13.5	-2.2
KAF	Kangasniemi	146.06	338	epkp	PKPdf	00 02 19.5	0.0
baz=57,slow=2.7							
FINES	FINESS Array B	146.63	337	PKPbc	PKPbc	00 02 22.4	+0.2
7.1nm,0.5s,baz=54,slow=5.1,SNR=69							
NB2	NORSAR Subarra	150.70	349	PKP	PKPdf	00 02 33.0	+6.1
2.1nm,0.5s,baz=17,slow=2.6							
NOA	NORSAR Array B	150.70	349	PKPbc	PKPdf	00 02 33.1	+6.2
1.9nm,0.5s,baz=16,slow=4.2,SNR=8.7							
NOA				PKPab	PKPab	00 02 40.3	-2.6
1.0nm,0.6s,baz=18,slow=2.9,SNR=4.7							
HFS	Hagfors	151.08	346	PKPbc	PKPdf	00 02 33.6	+6.1
3.7nm,0.6s,baz=117,slow=3.2,SNR=26							
HFS				PKPab	PKPab	00 02 41.9	-2.6
2.0nm,0.4s,baz=63,slow=3.2,SNR=12							
AKASG	Malin Array Be	151.95	319	PKPbc	PKPdf	00 02 36.0	+6.9
0.9nm,0.4s,baz=52,slow=2.1,SNR=8.6							
BRTR	Keskin Array B	152.03	294	PKPbc	PKPdf	00 02 37.0	+7.4
1.0nm,0.5s,baz=150,slow=4.1,SNR=9.3							
DBIC	Dimbokro	153.73	169	PKPbc	PKPdf	00 02 42.9	+10
1.6nm,0.5s,baz=174,slow=2.0,SNR=7.9							

*IDC **18** 23:47:23.1±0.5, 12.71N×91.82E, mb4.5/20, mb1 4.6/21, mb1mx4.5/25, mbtmp4.4/21, Error ellipse: s-maj=26.1km s-min=12.5km az=52.0*
*BJI **18** 23:47:24.8, 12.43N×91.92E, h39km, mB5.0, mb4.5, Ms4.7, Msz4.4*
*MOS **18** 23:47:26.5±0.8, 12.76N×92.03E, h33km, mb5.0/23, Error ellipse: s-maj=12.9km s-min=6.6km az=116.1*
*NEIC **18** 23:47:26.8±0.2, 12.73N×91.96E, mb4.8/21, Error ellipse: s-maj=7.7km s-min=5.7km az=49.0*

ISC 18 23:47:25.0±0.3,**12.76N**±0.05×**91.92E**±0.05,**h23**km, **h23**km±1.8km:**pP-P,n123**,σ1°**09**/126,**mb4.7**/51,**MS4.3**/3, **8C-1D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.82	49	Pn	P	23 49 33.9	-0.3
baz=235,slow=14,SNR=1.8							
CMAR				Sn	Sn	23 51 08.2	-5.7
0.9nm,0.3s,baz=238,slow=28,SNR=5.9							
VIS	Vishakhapatnam	9.65	302	eP	P	23 49 43.3	-2.5
VIS				eP		23 49 43.6	
VIS				eS	Sn	23 51 22.3	-12
VIS				eS	Sn	23 51 22.3	-12
VIS				eS	Sn	23 51 22.6	-12
PALK	Pallekele	12.32	245	eP	P	23 50 20.7	-1.4
PALK				eS	S	23 52 27.5	-12
SHL	Shillong	12.74	360	e	P	23 50 22.0	-5.7
BLSP	Bilaspur	13.19	316	eP	P	23 50 31.9	-1.7
BLSP				eS	S	23 52 49.5	-11
BLSP				e		23 52 51.4	
comp=N,12nm,0.2s							
BLSP				e		23 53 03.0	
HYB	Hyderabad	13.71	291	eP	P	23 50 48.0	+7.3
HYB				eS	S	23 53 01.0	-12
HYB	Hyderabad	13.71	291	i P	P	23 50 48.0	+7.3
HYB				eS	S	23 53 07.0	-6.2
JIRN	Jiri	15.77	341	eP	P	23 51 04.0	-3.4
comp=N,77nm,1.0s							
PKI	Pulchoki	15.95	338	eP	P	23 51 06.5	-3.3
comp=N,101nm,1.2s							
DMN	Daman	16.09	338	eP	P	23 51 09.3	-2.3
comp=N,68nm,0.8s							
KKN	Kakani	16.19	338	eP	P	23 51 11.2	-1.7
comp=N,41nm,0.9s							
GKN	Gorkha	16.62	337	eP	P	23 51 16.7	-1.6
comp=N,54nm,0.6s							
KOLN	Koldanda	16.84	334	eP	P	23 51 19.5	-1.6
comp=N,146nm,1.2s							
LSA	Lhasa	16.87	358	P	P	23 51 21.0	-0.5
LSA				S	S	23 54 22.3	-4.9
LSA	Lhasa	16.87	358	eP	P	23 51 21.9	+0.4
LSA				pmax	pmax		
comp=Z,30nm,0.8s							
LSA	Lhasa	16.87	358	eP	P	23 51 21.9	+0.4
comp=Z,30nm,0.8s							
BHPL	Bhopal	17.27	309	eP	P	23 51 28.1	+1.6
KAD	Karad	17.72	287	eP	P	23 51 30.2	-1.9
KAD				i		23 54 34.9	
POO	Poona	18.32	291	e	Sx	23 55 16.0	
NDI	New Delhi	20.95	321	eP	P	23 52 09.0	+0.2
AJM	Ajmer	21.20	313	⇓i P	P	23 52 12.0	+0.5
DDI	Dehra Dun	21.68	326	eP	P	23 52 16.8	+0.5
DDI				e	S	23 56 09.0	-1.1
ENH	Enshi	23.83	40	eP	P	23 52 37.6	+0.2
comp=Z,45nm,1.1s,mb4.8							
LZH	Lanzhou	25.59	23	eP	P	23 52 55.4	+1.2
LZH				AP	pP	23 53 02.5	+1.4
LZH				XP	sP	23 53 06.8	+2.6
LZH				AMB	AMB		
comp=Z,29nm,1.5s,mb4.6							
LZH				AMB	AMB		
comp=Z,128nm,4.5s							
LZH				LR	LR		
comp=N,257nm,13.2s							
LZH				LR	LR		
comp=Z,392nm,17.0s,MS4.0							
XAN	Xi'an	26.23	33	P	P	23 52 59.8	-0.4
XAN				AMB	AMB		
comp=Z,9.0nm,0.8s,mb4.3							
WMQ	Urumqi	31.17	354	eP	P	23 53 46.0	+1.5
WMQ				AP	pP	23 53 51.8	+0.4
WMQ				PP	PP	23 54 49.0	+1.6
WMQ				S	S	23 58 50.0	+2.2
WMQ				AMB	AMB		
comp=Z,5.0nm,0.7s,mb4.5							
WMQ				AMB	AMB		
comp=Z,48nm,4.2s							
WMQ				LR	LR		
comp=N,1μm,18.4s,MS4.7							
WMQ				LR	LR		
comp=E,1μm,18.9s,MS4.7							
WMQ				LR	LR		
comp=Z,1μm,19.0s,MS4.7							
NJ2	Nanjing	31.29	48	eP	P	23 53 45.3	-0.4
NJ2				AP	pP	23 53 54.8	+2.2
NJ2				XP	sP	23 53 59.6	+3.9
NJ2				PP	PP	23 54 48.6	-0.6
NJ2				PPP	PPP	23 55 06.3	+2.1
NJ2				S	S	23 58 56.0	+6.0
NJ2				XS		23 59 12.0	
NJ2				AMB	AMB		
comp=Z,310nm,10.9s							
NJ2				LR	LR		
comp=N,650nm,23.5s,MS4.3							
NJ2				LR	LR		
comp=E,220nm,22.0s,MS4.3							
NJ2				LR	LR		
comp=Z,610nm,19.8s,MS4.3							
SSE	Sheshan	32.55	51	P	P	23 53 53.8	-2.9
SSE				AMB	AMB		
comp=Z,43nm,0.7s,mb5.5							
SSE				AMB	AMB		
comp=Z,69nm,4.8s							
AAK	Ala-Archa	33.38	336	eP	P	23 54 04.8	+1.0
AAK				pmax	pmax		
comp=Z,17nm,1.3s,mb4.8							
AAK	Ala-Archa	33.38	336	eP	P	23 54 04.8	+1.0
comp=Z,17nm,1.3s,mb4.8							
BJT	Baijiatuau	34.54	34	P	P	23 54 10.2	-3.7
BJT				pmax	pmax		
comp=Z,6.0nm,0.5s							
BJT	Baijiatuau	34.54	34	P	P	23 54 10.2	-3.7
comp=Z,6.0nm,0.5s,mb4.8							
SONM	Songino Array	37.00	16	P	P	23 54 35.7	+1.1
comp=Z,6.6nm,0.8s,mb4.5,baz=203,slow=7.3,SNR=46							
SONM				PcP	PcP	23 56 55.7	-0.1
comp=Z,0.8nm,0.7s,baz=230,slow=4.7,SNR=4.1							
ULN	Ulaanbaatar	37.21	17	eP	P	23 54 36.9	+0.5
ULN				pmax	pmax		
comp=Z,5.0nm,0.7s,mb4.5							
ULN	Ulaanbaatar	37.21	17	eP	P	23 54 36.9	+0.5
comp=Z,4.9nm,0.7s,mb4.5							
ZAK	Zakamensk	38.65	12	eP	P

comp=Z,16nm,0.7s,mb5.1,baz=299,slow=7.6,SNR=5.8
KIV Kislovodsk 52.28 316 P **P 23 56 38.0 +1.1**
comp=Z,132nm,1.1s,SNR=8.8
KIV Kislovodsk 52.28 316 *eP* **P 23 56 37.4 +0.5**
KIV pmax pmax
comp=Z,31nm,1.0s,mb5.2
KIV Kislovodsk 52.28 316 *eP* **P 23 56 37.4 +0.5**
comp=Z,31nm,1.0s,mb5.2
WRA Warramunga Arr 52.90 127 P **P 23 56 41.1 -0.8**
comp=Z,7.1nm,0.6s,mb4.8,baz=305,slow=8.4,SNR=57
WRA PcP PcP 23 57 50.9 +0.1
comp=Z,1.1nm,0.7s,baz=318,slow=3.5,SNR=2.7
WRAB Tennant Creek 52.90 127 *i* P **P 23 56 38.4 -3.5**
WRAB Tennant Creek 52.90 127 *eP* **P 23 56 41.2 -0.7**
comp=Z,20nm,0.6s,mb5.2
WB2 Warramunga Arr 52.91 127⇑ *iP* **P 23 56 41.0 -0.9**
MALT Malatya 53.70 308 *eP* **P 23 56 47.2 -0.3**
MALT pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
MALT Malatya 53.70 308 *eP* **P 23 56 47.2 -0.2**
comp=Z,9.4nm,1.1s,mb4.6
SOC Sochi 54.18 315 *eP* **P 23 56 48.6 -2.3**
SOC *e* 23 57 48.0
SOC *e* 23 58 53.5
SOC pmax pmax
comp=Z,18nm,0.9s,mb5.0
SOC pmax pmax
comp=N,10.0nm,0.8s
SOC pmax pmax
comp=E,8.0nm,0.8s
ASPA Alice Springs 54.73 131 *eP* **P 23 56 54.9 -0.4**
ASAR Alice Springs 54.73 131 P **P 23 56 54.8 -0.5**
comp=E,8.0nm,0.7s,mb4.9,baz=308,slow=6.7,SNR=38
ASAR PcP PcP 23 57 57.6 0.0
comp=E,1.4nm,0.8s,baz=310,slow=4.2,SNR=2.5
YAK Yakutsk 56.14 20 *iP* **P 23 57 04.1 -0.8**
YAK pmax pmax
comp=Z,19nm,0.8s,mb5.2
BRTR Keskin Array B 57.64 309 P **P 23 57 15.1 -0.8**
comp=Z,3.2nm,0.8s,mb4.4,baz=121,slow=7.4,SNR=25
MOS Moscow 59.80 328 *eP* **P 23 57 30.2 -0.5**
MOS *e* 23 58 20.8
MOS pmax pmax
comp=Z,51nm,1.5s,mb5.3
OBN Obninsk 60.11 327 *eP* **P 23 57 31.2 -1.7**
OBN *e* 23 58 23.1
OBN pmax pmax
comp=Z,27nm,1.6s,mb5.0
OBN Obninsk 60.11 327 P **P 23 57 30.2 -2.6**
comp=Z,9.5nm,0.8s,mb4.9
CFR Carcaliu 62.62 314⇑ *iP* **P 23 57 50.3 +0.4**
CTA Charters Tower 62.63 121 P **P 23 57 49.7 -0.6**
comp=Z,2.0nm,0.4s,mb4.6,baz=319,slow=6.9,SNR=3.3
TIXI Tiksi 62.93 12⇑ *iP* **P 23 57 51.1 -0.5**
TIXI pmax pmax
comp=Z,13nm,1.4s,mb4.9
AKASG Malin Array Be 63.01 321 P **P 23 57 50.7 -1.6**
comp=Z,6.1nm,0.9s,mb4.7,baz=94,slow=4.4,SNR=21
MA2 Magadan 63.53 29 *iP* **P 23 57 55.1 -0.5**
MA2 pmax pmax
comp=Z,22nm,1.4s,mb5.0
VRI Vrincioaia 63.71 315⇑ *iP* **P 23 57 58.6 +1.5**
BUC1 Bucharest 63.98 313 ⇑P **P 23 57 52.3 -6.6**
MLR Muntele Rosu 64.19 314⇑ *iP* **P 23 58 01.6 +1.3**
STKA Stephens Creek 65.05 134 P **P 23 58 06.7 +0.6**
comp=Z,2.0nm,0.8s,mb4.2,baz=297,slow=6.0,SNR=3.7
JOF Joensuu 65.53 334 *eP* **P 23 58 07.5 -1.1**
KWP Kalwaria 66.93 319 *eP* **P 23 58 17.8 0.0**
KWP pmax pmax
comp=Z,14nm,1.1s,mb4.9
KWP Kalwaria 66.93 319 *eP* **P 23 58 17.8 0.0**
comp=Z,14nm,1.1s,mb4.9
FINES FINESS Array B 67.40 332 P **P 23 58 20.1 -0.4**
comp=Z,3.7nm,0.7s,mb4.5,baz=90,slow=7.6,SNR=8.4
KAF Kangasniemi 67.48 332 *eP* **P 23 58 20.8 -0.2**
OJC Ojcow 68.87 319 *eP* **P 23 58 29.8 -0.1**
LSZ Lusaka 68.95 248 *eP* **P 23 58 32.3 +1.4**
LSZ *e* pP 23 58 39.0 +0.8
LSZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LSZ Lusaka 68.95 248 *eP* **P 23 58 32.3 +1.4**
comp=Z,7.1nm,0.9s,mb4.6
LSZ *e* pP 23 58 39.0 +0.8
OKC Ostrava-Krasne 69.90 319 *eP* **P 23 58 37.2 +1.0**
ARCES ARCESS Array B 69.96 340 P **P 23 58 36.6 +0.3**
comp=Z,4.5nm,0.8s,mb4.5,baz=80,slow=7.4,SNR=6.4
DPC Dobruska-Polom 71.10 319 *eP* **P 23 58 44.2 +0.7**
KSP Ksiaz 71.14 320 *eP* **P 23 58 43.2 -0.5**
UPC Upice 71.31 319 *eP* **P 23 58 46.1 +1.4**
PRU Pruhonice 72.23 319 *eP* **P 23 58 51.5 +1.2**
BILL Bilibino 72.40 22⇑ *eP* **P 23 58 51.2 +0.2**
BILL pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
VAE Valguarnera 72.49 305 P **P 23 58 54.6 +2.5**
comp=Z,6.1nm,0.6s,mb4.7,baz=58,slow=10,SNR=2.4
BRG Berggiesshubel 72.63 320 *eP* **P 23 58 53.7 +1.1**
BRG pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
BRG Berggiesshubel 72.63 320 *eP* **P 23 58 53.7 +1.1**
comp=Z,9.9nm,1.2s,mb4.6
GERES GERESS Array B 72.76 317 P **P 23 58 53.9 +0.4**
comp=Z,3.0nm,0.8s,mb4.3,baz=90,slow=5.3,SNR=14
KHC Kasperske Hory 72.85 318 *eP* **P 23 58 54.7 +0.8**
HFS Hagfors 73.17 329 P **P 23 58 55.9 +0.3**
comp=Z,5.2nm,0.7s,mb4.6,baz=101,slow=7.3,SNR=6.2
CLL Collm 73.23 320 P **P 23 58 56.0 -0.1**
GRA1 Grafenberg Arr 74.38 318 *eP* **P 23 59 04.1 +1.3**
comp=Z,7.0nm,1.1s,mb4.5
GRF Grafenberg Arr 74.38 318 *eP* **P 23 59 04.1 +1.3**
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
GRF Grafenberg Arr 74.38 318 *eP* **P 23 59 04.1 +1.3**
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
GRF Grafenberg Arr 74.38 318 *eP* **P 23 59 04.1 +1.3**
comp=Z,7.0nm,1.1s,mb4.5
NOA NORSAR Array B 74.43 330 P **P 23 59 02.8 -0.1**
comp=Z,3.7nm,0.8s,mb4.4,baz=92,slow=5.8,SNR=8.0
DAVOX Davos 75.39 315 P **P 23 59 08.7 0.0**
comp=Z,3.2nm,0.8s,mb4.3,baz=145,slow=14,SNR=3.4
LPG La Plagne 77.66 314 *eP* **P 23 59 21.9 +0.5**
comp=Z,62nm,1.2s,mb5.1
LPG La Plagne 77.66 314 *eP* **P 23 59 21.9 +0.5**
LPG pmax pmax
comp=Z,31nm,1.2s,mb5.1
EKA Eskdalemuir Ar 82.49 325 P **P 23 59 47.2 +0.3**
comp=Z,7.8nm,1.2s,mb4.5,baz=90,slow=4.2,SNR=4.0
ESDC Sonseca Array 86.43 310 P **P 00 00 07.9 +0.7**
comp=Z,1.4nm,0.7s,mb4.3,baz=79,slow=4.0,SNR=4.2
ILAR Eielson Array 91.05 22 P **P 00 00 28.6 +0.1**
comp=Z,0.8nm,0.8s,mb4.1,baz=296,slow=4.0,SNR=7.0
INK Inuvik 92.91 15 P **P 00 00 38.0 +1.0**
comp=Z,2.5nm,1.1s,mb4.6,baz=244,slow=4.2,SNR=3.2
YKA Yellowknife Ar 102.18 12 PP PP 00 05 34.9 +1.2
comp=Z,0.2nm,0.7s,baz=336,slow=7.5,SNR=3.0
PDAR Pinedale Array 121.34 18 PKP PKPdf 00 06 17.4 -3.8
comp=Z,0.5nm,0.7s,baz=63,slow=3.3,SNR=4.3
NVAR Mina Array Bea 121.75 28 PKP PKPdf 00 06 20.7 -1.4
comp=Z,0.6nm,0.8s,baz=246,slow=1.8,SNR=4.0
NVAR Mina Array Bea 121.75 28 PKP PKPdf 00 06 20.7 -1.4
CPUP Villa Florida 148.13 240 PKPbc PKPdf 00 07 10.8 0.0
comp=Z,0.0nm,0.8s,baz=250,slow=16,SNR=1.9
CPUP Villa Florida 148.13 240 PKPbc PKPdf 00 07 10.8 0.0
PLCA Paso Flores 148.17 206 PKPbc PKPdf 00 07 10.6 +0.1
comp=Z,1.8nm,1.0s,baz=309,slow=5.9,SNR=2.8
PLCA Paso Flores 148.17 206 PKPbc PKPdf 00 07 10.6 +0.1
LPAZ La Paz 160.38 257 PKPab PKPdf 00 08 06.8 +0.2
comp=Z,2.7nm,1.1s,baz=43,slow=9.7,SNR=3.9

*IDC **18** 23:50:34.7±0.8, 54.25N×35.14W, mb3.8/11, mb1 4.0/14, mb1mx3.8/24, mbtmp3.8/14, ML3.3/3, MS4.1/3, Ms1 4.1/3, ms1mx3.1/31, Error ellipse: s-maj=27.4km s-min=15.2km az=11.0*
*NEIC **18** 23:50:36.4±0.6, 54.36N×35.13W, h10km, mb4.1/4, Error ellipse: s-maj=16.3km s-min=8.9km az=192.0*
*CSEM **18** 23:50:38.2±0.1, 54.47N×35.09W, h33km, mb4.3/3, Error ellipse: s-maj=7.5km s-min=3.7km az=12.0*
ISC 18 23:50:34.8±0.7,**54.4N**±0.1×**35.1W**±0.1,**h10**km,**n30,**
σ0**83**/26,**mb3.9**/14,**MS4.0**/3,**2D,Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.29**	**284**	P		**P**		**23 54 49.6**	**-0.4**
	0.6nm,0.3s,baz=91,slow=9.4,SNR=14								
SUMG	**Summit**	**18.32**	**357**	*eP*		**P**		**23 54 48.2**	**-2.0**
	7.5nm,0.8s								
EKA	**Eskdalemuir Ar**	**18.35**	**74**	P		**P**		**23 54 50.5**	**-0.2**
	0.1nm,0.3s,baz=270,slow=14,SNR=3.5								
EKA	**Eskdalemuir Ar**	**18.35**	**74**	P		**P**		**23 54 50.5**	**-0.3**
FRB	**Frobisher Bay**	**19.34**	**312**	P		**P**		**23 55 03.6**	**+1.1**
	0.1nm,0.3s,baz=94,slow=13,SNR=3.1								
NOA	**NORSAR Array B**	**25.17**	**56**	P		**P**		**23 56 01.6**	**+0.3**
	0.8nm,0.7s,mb3.4,baz=274,slow=9.1,SNR=3.0								
NOA	**NORSAR Array B**	**25.17**	**56**	P		**P**		**23 56 01.5**	**+0.3**
ESDC	**Sonseca Array**	**25.58**	**112**	P		**P**		**23 56 05.8**	**+0.5**
	1.3nm,0.8s,mb3.5,baz=314,slow=7.2,SNR=3.9								
SADO	**Sadowa**	**29.66**	**269**	LR		LR		00 07 34.4	
	comp=Z,242nm,18.4s,MS3.9,baz=68,slow=34								
RES	**Resolute Bay**	**30.66**	**333**	*eP*		**P**		**23 56 51.3**	**+0.3**
	2.3nm,0.9s,mb4.0								
RES	**Resolute Bay**	**30.66**	**333**	*eP*		**P**		**23 56 51.3**	**+0.3**
	2.3nm,0.9s,mb4.0								
FINES	**FINESS Array B**	**32.15**	**52**	P		**P**		**23 57 03.8**	**-0.4**
	2.8nm,0.9s,mb4.1,baz=290,slow=21,SNR=3.0								
BZS	**Buzias**	**36.60**	**80**	⇓P		**P**		**23 57 43.1**	**+0.5**
BZS	**Buzias**	**36.60**	**80**	⇓P		**P**		**23 57 43.1**	**+0.6**
YKA	**Yellowknife Ar**	**39.83**	**315**	P		**P**		**23 58 09.5**	**+0.1**
	0.4nm,0.6s,mb3.4,baz=63,slow=8.9,SNR=7.3								
YKA				PcP		PcP		00 00 14.2	-1.8
	0.4nm,0.7s,baz=56,slow=3.3,SNR=6.8								
YKA	**Yellowknife Ar**	**39.83**	**315**	P		**P**		**23 58 09.5**	**+0.1**
YKA				PcP		PcP		00 00 14.2	-1.8
INK	**Inuvik**	**43.84**	**328**	LR		LR		00 16 18.0	
	comp=Z,207nm,18.0s,MS4.1,baz=200,slow=35								
BRTR	**Keskin Array B**	**47.19**	**79**	P		**P**		**23 59 10.2**	**+1.1**
	1.1nm,0.7s,mb3.9,baz=316,slow=6.0,SNR=6.6								
BRTR	**Keskin Array B**	**47.19**	**79**	P		**P**		**23 59 10.1**	**+1.1**
PDAR	**Pinedale Array**	**48.36**	**288**	P		**P**		**23 59 17.6**	**-0.6**
	0.4nm,0.6s,mb3.6,baz=63,slow=10,SNR=3.2								
PDAR	**Pinedale Array**	**48.36**	**288**	P		**P**		**23 59 17.6**	**-0.6**
ILAR	**Eielson Array**	**50.22**	**329**	P		**P**		**23 59 32.5**	**+0.3**
	0.8nm,1.0s,mb3.7,baz=51,slow=6.5,SNR=4.2								
DBIC	**Dimbokro**	**53.46**	**141**	P		**P**		**23 59 54.9**	**-2.4**
	2.8nm,0.7s,mb4.3,baz=1.1,slow=5.5,SNR=7.0								
TXAR	**Lajitas Array**	**54.39**	**272**	P		**P**		**00 00 04.4**	**+0.5**
	0.3nm,0.3s,mb3.6,baz=59,slow=5.3,SNR=2.2								
TXAR				LR		LR		00 21 11.7	
	comp=Z,177nm,18.8s,MS4.2,baz=355,slow=34								
CHKZ	**Chkalovo**	**56.12**	**44**	*eP*		**P**		**00 00 15.5**	**-0.6**
	2.3nm,0.8s,mb4.3								
BVAR	**Borovoye Array**	**56.51**	**44**	P		**P**		**00 00 19.0**	**+0.1**
	1.3nm,0.7s,mb4.1,baz=238,slow=41,SNR=6.1								
BVAR				PcP		PcP		00 01 15.1	-0.4
	0.6nm,0.7s,baz=18,slow=4.6,SNR=2.6								
KURK	**Kurchatov**	**61.56**	**41**	*eP*		**P**		**00 00 53.8**	**-0.1**
	2.1nm,0.8s,mb4.3								
SONM	**Songino Array**	**73.09**	**26**	P		**P**		**00 02 07.3**	**+0.9**
	1.1nm,0.7s,mb3.9,baz=326,slow=6.4,SNR=10								
WRA	**Warramunga Arr**	**144.69**	**17**	PKP		PKPdf		00 10 11.3	-3.2
	0.7nm,1.2s,baz=345,slow=3.2,SNR=4.7								
ASAR	**Alice Springs**	**148.24**	**19**	PKPbc		PKPdf		00 10 22.1	+1.7
	3.8nm,0.8s,baz=349,slow=2.3,SNR=37								

*IDC **18** 23:52:53.5±1.3, 6.04S×104.48E, mb3.9/8, mb1 4.1/8, mb1mx3.9/16, mbtmp3.9/8, Error ellipse: s-maj=65.1km s-min=16.3km az=50.0*
*NEIC **18** 23:52:54.9±0.9, 6.12S×104.40E, h10km, mb4.5/5, Error ellipse: s-maj=39.9km s-min=10.4km az=52.0*
ISC 18 23:52:56.5±1.1,**6.1S**±0.2×**104.5E**±0.3,**h33**km,**n13,**
σ0**70**/13,**mb4.1**/12,**Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**24.97**	**347**	P		**P**		**23 58 18.2**	**-0.5**
	0.6nm,0.4s,mb3.5,baz=184,slow=8.6,SNR=5.1								
WRA	**Warramunga Arr**	**32.12**	**118**	P		**P**		**23 59 23.0**	**-0.3**
	1.2nm,0.5s,mb4.0,baz=303,slow=9.2,SNR=23								
ASAR	**Alice Springs**	**33.28**	**125**	P		**P**		**23 59 33.4**	**+0.1**
	0.2nm,0.4s,mb3.4,baz=295,slow=7.9,SNR=3.7								
ENH	**Enshi**	**36.45**	**7**	P		**P**		**00 00 01.5**	**+1.2**
	3.2nm,0.4s,mb4.6								
CTA	**Charters Tower**	**42.88**	**113**	P		**P**		**00 00 52.9**	**-0.9**
	2.6nm,0.7s,mb4.1,baz=294,slow=10.0,SNR=2.5								
STKA	**Stephens Creek**	**43.13**	**131**	*eP*		**P**		**00 00 56.8**	**+1.0**
	3.5nm,0.5s,mb4.3								
STKA	**Stephens Creek**	**43.13**	**131**	P		**P**		**00 00 56.5**	**+0.7**
	3.6nm,0.4s,mb4.4,baz=303,slow=8.6,SNR=17								
SONM	**Songino Array**	**53.70**	**2**	P		**P**		**00 02 17.9**	**+0.5**
	1.4nm,0.7s,mb4.0,baz=180,slow=9.2,SNR=12								
SONM				PcP		PcP		00 03 23.3	0.0
	0.6nm,0.4s,baz=189,slow=4.2,SNR=7.4								
ULN	**Ulaanbaatar**	**53.75**	**2**	P		**P**		**00 02 08.2**	**-10**
	5.8nm,1.3s,mb4.3								
KURK	**Kurchatov**	**60.80**	**341**	*eP*		**P**		**00 03 07.1**	**-0.5**
	3.1nm,0.7s,mb4.5								
BVAR	**Borovoye Array**	**65.55**	**338**	P		**P**		**00 03 38.2**	**-0.7**
	1.0nm,0.6s,mb4.0,baz=153,slow=9.9,SNR=5.6								
CHKZ	**Chkalovo**	**65.99**	**339**	*eP*		**P**		**00 03 41.2**	**-0.5**
	2.3nm,0.6s,mb4.4								
BRTR	**Keskin Array B**	**79.34**	**312**	P		**P**		**00 05 01.6**	**+0.8**
	0.4nm,0.7s,mb3.4,baz=141,slow=9.2,SNR=2.9								

*IDC **18** 23:56:22.9±0.8, 0.34S×126.53E, mb4.5/11, mb1 4.5/11, mb1mx4.3/17, mbtmp4.4/11, MS3.6/1, Ms1 3.6/1, ms1mx3.1/20, Error ellipse: s-maj=42.0km s-min=15.0km az=63.0*
*BJI **18** 23:56:34.9, 0.30S×127.00E, h96km, mB5.2, mb4.6*
*NEIC **18** 23:56:34.9±4.5, 0.32S×127.03E, h96km±46km, mb4.7/11, Error ellipse: s-maj=25.0km s-min=11.9km az=76.0*
ISC 18 23:56:31.1±4.6,**0.19S**±0.10×**127.4E**±0.2,**h78**km±45km,
n34,σ0**88**/34,**mb4.6**/23,**2D,Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.88**	**186**	*eP*		**P**		**00 00 34.7**	**-1.6**
	8.3nm,0.8s								
WRAB	**Tennant Creek**	**20.75**	**161**	*eP*		**P**		**00 01 07.2**	**-0.6**
	10nm,0.6s								
WRA	**Warramunga Arr**	**20.76**	**161**	P		**P**		**00 01 06.9**	**-0.9**
	7.0nm,0.6s,baz=341,slow=11,SNR=24								
WB2	**Warramunga Arr**	**20.76**	**161**	⇓*iP*		**P**		**00 01 07.5**	**-0.4**
PMG	**Port Moresby**	**21.66**	**116**	P		**P**		**00 01 22.8**	**+5.9**
	17nm,0.9s,mb4.4,baz=199,slow=8.4,SNR=3.4								
PMG				LR		LR		00 10 34.0	
	comp=Z,167nm,20.8s,baz=87,slow=38								
PMG	**Port Moresby**	**21.66**	**116**	P		**P**		**00 01 22.8**	**+5.9**
ASPA	**Alice Springs**	**24.16**	**165**	⇓*iP*		**P**		**00 01 44.0**	**+2.7**
ASAR	**Alice Springs**	**24.16**	**165**	P		**P**		**00 01 43.1**	**+1.8**
	3.5nm,0.5s,mb4.0,baz=343,slow=9.8,SNR=36								
JOW	**Kunigami**	**26.88**	**2**	P		**P**		**00 02 06.8**	**+0.1**
	25nm,0.6s,mb4.8,baz=207,slow=6.6,SNR=5.6								
CMAR	**Chiang Mai Arr**	**33.57**	**305**	P		**P**		**00 02 57.5**	**-8.6**
	0.8nm,0.4s,mb4.0,baz=270,slow=13,SNR=4.7								
STKA	**Stephens Creek**	**34.24**	**158**	*eP*		**P**		**00 03 12.6**	**+1.0**
	8.1nm,0.8s,mb4.6								
STKA	**Stephens Creek**	**34.24**	**158**	P		**P**		**00 03 12.4**	**+0.8**
	9.0nm,0.7s,mb4.7,baz=323,slow=8.7,SNR=16								
ENH	**Enshi**	**34.78**	**332**	*eP*		**P**		**00 03 16.4**	**+0.1**
	10nm,0.7s,mb4.8								
XAN	**Xi'an**	**38.23**	**335**	P		**P**		**00 03 45.0**	**-0.2**
BJT	**Baijiatuau**	**41.32**	**347**	*eP*		**P**		**00 04 11.0**	**+0.3**
	12nm,0.8s,mb4.8								
LSA	**Lhasa**	**45.60**	**314**	P		**P**		**00 04 47.0**	**+1.5**
LSA	**Lhasa**	**45.60**	**314**	*eP*		**P**		**00 04 46.7**	**+1.2**
	5.3nm,0.6s,mb4.5								
JIRN	**Jiri**	**48.29**	**308**	*eP*		**P**		**00 05 06.8**	**+0.2**
	11nm,0.5s,mb4.9								
PKI	**Pulchoki**	**48.86**	**308**	*eP*		**P**		**00 05 11.2**	**+0.1**
KKN	**Kakani**	**49.06**	**308**	*eP*		**P**		**00 05 12.2**	**-0.4**
	16nm,0.7s,mb5.1								
DMN	**Daman**	**49.12**	**308**	*eP*		**P**		**00 05 13.8**	**+0.8**
	22nm,0.9s,mb5.1								
GKN	**Gorkha**	**49.66**	**308**	*eP*		**P**		**00 05 17.9**	**+0.6**
	37nm,1.0s,mb5.3								
KOLN	**Koldanda**	**50.38**	**307**	*eP*		**P**		**00 05 23.8**	**+1.0**
	52nm,0.7s,mb5.6								
ULN	**Ulaanbaatar**	**51.04**	**342**	*eP*		**P**		**00 05 27.4**	**-0.1**
	12nm,1.3s,mb4.8								
SONM	**Songino Array**	**51.22**	**342**	P		**P**		**00 05 28.4**	**-0.4**
	2.8nm,0.8s,mb4.4,baz=158,slow=7.1,SNR=21								
MA2	**Magadan**	**62.33**	**13**	*eP*		**P**		**00 06 48.1**	**+0.6**
	13nm,1.0s,mb4.9								
KURK	**Kurchatov**	**65.41**	**328**	*eP*		**P**		**00 07 07.3**	**-0.5**
	9.6nm,0.6s,mb4.8								
BVAR	**Borovoye Array**	**70.98**	**328**	P		**P**		**00 07 41.4**	**-0.8**
	3.0nm,0.8s,mb4.2,baz=135,slow=13,SNR=8.0								
BRVK	**Borovoye**	**71.05**	**328**	*eP*		**P**		**00 07 42.9**	**+0.2**
	7.8nm,0.9s,mb4.5								
CHKZ	**Chkalovo**	**71.16**	**328**	*eP*		**P**		**00 07 42.6**	**-0.7**
	3.3nm,0.9s,mb4.2								
BRTR	**Keskin Array B**	**93.05**	**310**	P		**P**		**00 09 36.3**	**-1.3**
	0.5nm,0.9s,mb3.9,baz=72,slow=4.6,SNR=3.2								
ARCES	**ARCESS Array B**	**94.35**	**340**	P		**P**		**00 09 42.0**	**-0.8**
	1.4nm,0.8s,mb4.4,baz=45,slow=6.9,SNR=4.6								
ARCES	**ARCESS Array B**	**94.35**	**340**	P		**P**		**00 09 42.0**	**-0.8**
FINES	**FINESS Array B**	**95.60**	**332**	P		**P**		**00 09 47.7**	**-0.9**
	2.9nm,0.9s,mb4.7,baz=220,slow=15,SNR=1.5								

*IDC **19** 00:27:29.2±0.7, 11.01N×141.25E, mb4.1/10, mb1 4.3/10, mb1mx4.1/18, mbtmp4.1/10, MS3.6/4, Ms1 3.6/4, ms1mx3.2/23, Error ellipse: s-maj=29.7km s-min=17.6km az=83.0*
*NEIC **19** 00:27:33.5±0.5, 10.99N×141.16E, h30km, mb4.3/4, Error ellipse: s-maj=24.0km s-min=11.5km az=78.0*
ISC 19 00:27:31.8±0.7,**10.95N**±0.09×**141.2E**±0.2,**h33**km,**n18,**
σ1**10**/14,**mb4.1**/14,**MS3.5**/3,**Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**16.09**	**3**	LR		LR		00 36 08.6	
	comp=Z,200nm,18.7s,baz=116,slow=32								
PMG	**Port Moresby**	**21.07**	**163**	P		**P**		**00 32 15.6**	**-0.1**
	12nm,0.7s,mb4.3,baz=323,slow=4.1,SNR=3.6								
PMG				LR		LR		00 40 11.8	
	comp=Z,158nm,19.1s,MS3.4,baz=121,slow=36								
CTA	**Charters Tower**	**31.24**	**171**	LR		LR		00 46 05.9	
	comp=Z,82nm,19.3s,MS3.4,baz=221,slow=36								
WRAB	**Tennant Creek**	**31.41**	**192**	*eP*		**P**		**00 33 52.1**	**-0.3**
	2.8nm,0.6s,mb4.3								
WRA	**Warramunga Arr**	**31.43**	**192**	P		**P**		**00 33 51.4**	**-1.1**
	1.7nm,0.7s,mb4.0,baz=11,slow=9.9,SNR=12								
ASAR	**Alice Springs**	**35.13**	**192**	P		**P**		**00 34 25.5**	**+1.0**
	1.0nm,0.6s,mb3.9,baz=18,slow=12,SNR=7.7								
ASAR				LR		LR		00 47 43.8	
	comp=Z,85nm,18.9s,MS3.5,baz=5.6,slow=34								
CMAR	**Chiang Mai Arr**	**41.47**	**285**	P		**P**		**00 35 19.9**	**+2.5**
	1.8nm,0.9s,mb3.7,baz=90,slow=6.7,SNR=8.9								
SONM	**Songino Array**	**46.94**	**328**	P		**P**		**00 36 01.3**	**+0.1**
	1.3nm,1.1s,mb3.8,baz=135,slow=8.2,SNR=3.9								
KURK	**Kurchatov**	**64.33**	**321**	*eP*		**P**		**00 38 05.4**	**-1.0**
	3.6nm,0.9s,mb4.4								
CHKZ	**Chkalovo**	**69.76**	**323**	*eP*		**P**		**00 38 39.4**	**-1.1**
	0.7nm,0.6s,mb3.8								
BVAR	**Borovoye Array**	**69.80**	**323**	P		**P**		**00 38 40.7**	**0.0**
	1.4nm,0.5s,mb4.2,baz=108,slow=8.3,SNR=11								
BRVK	**Borovoye**	**69.86**	**323**	*eP*		**P**		**00 38 39.6**	**-1.5**
	2.4nm,0.8s,mb4.2								
ILAR	**Eielson Array**	**72.48**	**25**	P		**P**		**00 38 56.0**	**-0.6**
	0.5nm,0.5s,mb3.7,baz=244,slow=6.4,SNR=12								
YKA	**Yellowknife Ar**	**86.83**	**27**	P		**P**		**00 40 15.8**	**+2.0**
	1.1nm,0.7s,mb4.2,baz=289,slow=5.4,SNR=11								
ARCES	**ARCESS Array B**	**88.46**	**342**	P		**P**		**00 40 21.6**	**0.0**
	4.4nm,0.9s,mb4.7,baz=80,slow=7.4,SNR=3.6								
FINES	**FINESS Array B**	**92.00**	**334**	P		**P**		**00 40 39.5**	**+1.2**
	1.3nm,0.6s,mb4.5,baz=45,slow=5.4,SNR=8.1								
LVC	**Limon Verde**	**149.00**	**116**	PKPbc		PKPdf		00 47 21.2	+8.1
	2.2nm,0.8s,baz=263,slow=8.2,SNR=3.6								
LPAZ	**La Paz**	**151.03**	**104**	PKPbc		PKPdf		00 47 26.8	+10
	1.6nm,0.5s,baz=4.4,slow=1.9,SNR=5.7								

*IDC **19** 00:34:54.9±0.7, 8.26N×94.24E, mb4.0/12, mb1 4.1/13, mb1mx4.1/18, mbtmp4.0/13, MS3.4/2, Ms1 3.5/2, ms1mx3.1/17, Error ellipse: s-maj=34.7km s-min=17.6km az=45.0*
*NEIC **19** 00:34:59.3±0.7, 8.10N×94.11E, h30km, mb4.3/5, Error ellipse: s-maj=22.3km s-min=15.5km az=57.0*
ISC 19 00:34:58.0±0.6,**8.11N**±0.09×**94.2E**±0.1,**h33**km,**n29,**
σ1**00**/27,**mb4.2**/21,**MS4.0**/1,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.30**	**24**	Pn		**P**		**00 37 40.6**	**+0.4**
	baz=214,slow=14,SNR=6.6								
CMAR				LR		LR		00 42 41.2	
	comp=Z,65nm,18.5s,baz=315,slow=42								
SHL	**Shillong**	**17.50**	**353**	*eP*		**P**		**00 39 02.0**	**+0.9**
HYB	**Hyderabad**	**17.79**	**303**	*iP*		**P**		**00 39 12.0**	**+7.2**
JIRN	**Jiri**	**20.86**	**340**	*eP*		**P**		**00 39 39.6**	**0.0**
	8.0nm,0.5s								
PKI	**Pulchoki**	**21.05**	**338**	*eP*		**P**		**00 39 42.5**	**+0.9**
	72nm,1.3s,mb4.8								
DMN

CMCH	**Combarbala**	**0.94**	**57**⇑	*i* P	Pb	01 23 02.4	-0.6
CMCH				*i* S	Sb	01 23 15.2	+0.2
CMCH				AMP		01 23 17.4	
	comp=N,5μm,0.7s						
PACH	**Papudo**	**0.94**	**154**⇑	*i* P	Pb	01 23 02.3	-0.8
PACH				*i* S	Sb	01 23 15.3	+0.1
PTCH	**Petorca**	**1.02**	**125**⇑	*i* P	Pb	01 23 03.7	-0.7
PTCH				*i* S	Sb	01 23 17.2	-0.2
PTCH				AMP		01 23 17.5	
	comp=E,5μm,0.2s						
ROCH	**El Roble**	**1.50**	**149**⇓	*i* P	Pn	01 23 11.6	-0.3
JACH	**Jahuel**	**1.50**	**132**⇑	*i* P	Pn	01 23 11.7	-0.2
JACH				*i* S	Sn	01 23 31.1	0.0
TLL	**Tololo Astrono**	**1.79**	**33**⇓	*i* P	Pn	01 23 16.1	+0.1
TLL				*i* S	Sn	01 23 40.4	+1.9
TLL				AMP		01 23 48.5	
	comp=N,730nm,0.6s						
LCCH	**Las Cruces**	**1.81**	**171**⇑	*i* P	Pn	01 23 15.4	-0.9
RCDM	**Rinconada Maip**	**2.03**	**153**⇓	*i* P	Pn	01 23 19.7	+0.2
RCDM				*i* S	Sn	01 23 45.9	+1.3
DSCH	**Colegio Aleman**	**2.05**	**147**⇓	*i* P	Pn	01 23 20.5	+0.6
DSCH				*i* S	Sn	01 23 46.1	+0.9
DSCH				AMP		01 23 50.6	
	comp=E,707nm,0.3s						
CLCH	**Cerro Calan**	**2.07**	**146**⇓	*i* P	Pn	01 23 20.3	+0.2
CLCH				*i* S	Sn	01 23 47.3	+1.8
CLCH				AMP		01 23 55.4	
	comp=E,611nm,0.6s						
TACH	**Talagante**	**2.13**	**157**⇓	*i* P	Pn	01 23 21.5	+0.6
FCH	**Farellones**	**2.14**	**140**⇑	*i* P	Pn	01 23 21.4	+0.3
FCH				*i* S	Sn	01 23 50.0	+2.6
FCH				AMP		01 23 52.3	
	comp=E,242nm,0.4s						
PCH	**Pirque**	**2.27**	**149**	*i* P	Pn	01 23 23.6	+0.8
CHCH	**Chadas Angostu**	**2.48**	**155**	*i* P	Pn	01 23 26.8	+0.8
LMEL	**Las Melosas**	**2.60**	**147**	*i* P	Pn	01 23 28.0	+0.4
LMEL				*i* S	Sn	01 24 00.1	+1.2
LMEL				AMP		01 24 10.9	
	comp=N,222nm,0.2s						
SFDO	**San Fernando**	**3.02**	**166**	*e*P	Pn	01 23 33.7	+0.1

IDC 19 01:37:24.0±2.9, 20.07S×66.32E, mb3.8/6, mb1 3.9/6, mb1mx3.8/16, mbtmp3.8/6, MS3.7/2, Ms1 3.8/2, ms1mx3.4/14, Error ellipse: s-maj=112.7km s-min=27.5km az=42.0, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**49.90**	**42**	LR	LR	02 04 57.7	
	comp=Z,57nm,18.6s,baz=305,slow=33						
ASAR	**Alice Springs**	**62.30**	**107**	P	P	01 47 48.8	-1.9
	1.0nm,0.9s,baz=262,slow=6.4,SNR=6.3						
ASAR				LR	LR	02 13 56.9	
	comp=Z,75nm,18.4s,baz=284,slow=35						
WRA	**Warramunga Arr**	**63.47**	**103**	P	P	01 47 56.0	-2.3
	1.1nm,1.0s,baz=260,slow=5.4,SNR=6.3						
BRTR	**Keskin Array B**	**66.86**	**333**	P	P	01 48 18.5	-1.6
	1.0nm,1.1s,baz=127,slow=7.2,SNR=3.6						
ZAL	**Zalesovo**	**75.41**	**11**	P	P	01 49 09.2	-2.0
	0.4nm,0.3s,baz=132,slow=2.8,SNR=4.3						
SONM	**Songino Array**	**76.56**	**26**	P	P	01 49 16.5	-1.4
	0.6nm,0.9s,baz=225,slow=6.1,SNR=3.8						
AKASG	**Malin Array Be**	**77.67**	**337**	P	P	01 49 21.8	-2.2
	2.0nm,0.9s,baz=152,slow=4.6,SNR=4.1						

*IDC **19** 01:43:52.6±0.9, 13.52N×92.73E, mb4.0/6, mb1 4.2/7, mb1mx3.9/16, mbtmp3.9/7, ML3.5/1, Error ellipse: s-maj=38.0km s-min=18.7km az=51.0*
*NEIC **19** 01:43:57.2±0.5, 13.52N×92.80E, h30km, mb4.3/4, Error ellipse: s-maj=12.3km s-min=7.8km az=63.0*

ISC 19 01:43:51.9±5.6, 13.5N±0.1×92.77E±0.08, h8km±36km, n16, σ0$64/19, mb4.1/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.74**	**49**	Pn	**Pn**	**01 45 46.6**	**-1.0**
	0.2nm,0.3s,baz=242,slow=16,SNR=5.8						
CMAR				Sn	**Sn**	**01 47 07.8**	**-8.6**
	0.3nm,0.3s,baz=246,slow=29,SNR=7.9						
VIS	**Vishakhapatnam**	**10.03**	**296**	*e*P	**P**	**01 46 18.7**	**-0.7**
VIS				*e*S	**S**	**01 47 59.5**	**-14**
VIS				*e*		01 48 18.8	
	comp=N,44nm,0.6s						
VIS				*e*		01 48 18.8	
	comp=E,33nm,0.5s						
BLSP	**Bilaspur**	**13.29**	**312**	*e*P	**P**	**01 47 16.2**	**+13**
BLSP				*e*S	**S**	**01 49 48.9**	**+16**
HYB	**Hyderabad**	**14.25**	**288**	*i* P	**P**	**01 47 17.0**	**+0.7**
LSA	**Lhasa**	**16.23**	**355**	*e*P	**P**	**01 47 43.1**	**+1.2**
	comp=E,3.1nm,0.6s						
ENH	**Enshi**	**22.77**	**40**	P	**P**	**01 48 56.8**	**+0.8**
	comp=E,6.2nm,0.6s,mb4.2						
SONM	**Songino Array**	**36.10**	**16**	P	**P**	**01 50 56.2**	**0.0**
	comp=E,0.1nm,0.3s,mb3.2,baz=208,slow=7.5,SNR=3.3						
FITZ	**Fitzroy Crossi**	**45.11**	**133**	*e*P	**P**	**01 52 11.2**	**+0.4**
	comp=E,5.2nm,1.1s,mb4.3						
WRA	**Warramunga Arr**	**52.68**	**128**	P	**P**	**01 53 09.1**	**-0.2**
	comp=E,2.2nm,0.5s,mb4.3,baz=297,slow=9.6,SNR=41						
WRA				PcP	PcP	01 54 20.0	+0.8
	comp=E,0.5nm,0.5s,baz=318,slow=3.2,SNR=5.4						
WRAB	**Tennant Creek**	**52.68**	**128**	*e*P	**P**	**01 53 09.2**	**-0.1**
	comp=E,7.7nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**52.69**	**128**	*e*P	**P**	**01 53 09.4**	**0.0**
ASAR	**Alice Springs**	**54.59**	**132**	P	**P**	**01 53 23.6**	**+0.3**
	comp=E,1.7nm,0.6s,mb4.2,baz=309,slow=6.7,SNR=24						
BRTR	**Keskin Array B**	**57.84**	**309**	P	**P**	**01 53 46.2**	**-0.2**
	comp=E,0.2nm,0.4s,mb3.5,baz=108,slow=3.9,SNR=3.9						
FINES	**FINESS Array B**	**67.18**	**331**	P	**P**	**01 54 47.0**	**-1.3**
	comp=E,3.5nm,0.9s,mb4.4,baz=159,slow=37,SNR=2.6						
ARCES	**ARCESS Array B**	**69.59**	**340**	P	**P**	**01 55 02.9**	**-0.3**
	comp=E,1.8nm,0.9s,mb4.0,baz=98,slow=7.2,SNR=3.1						
GERES	**GERESS Array B**	**72.81**	**317**	P	**P**	**01 55 23.4**	**+0.5**
	comp=E,0.8nm,0.8s,mb3.7,baz=79,slow=6.8,SNR=3.7						

*CSEM **19** 01:50:17.8±0.1, 36.98N×27.90E, h20km, MD3.1, Error ellipse: s-maj=3.2km s-min=2.6km az=84.0*
*ISK **19** 01:50:17.9, 36.96N×27.85E, h21km, MD3.1*
*ATH **19** 01:50:18.8, 36.90N×27.77E, h31km±4km, MD3.0/4*
*NEIC **19** 01:50:18.8, 36.90N×27.77E, h31km, MD3.0(ATH), After ATH.*

ISC 19 01:50:18.2±0.5, 36.94N±0.03×27.81E±0.05, h20km±7km, n16, σ0$79/22, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.32**	**293**	*i* P	**Pb**	**01 50 23.9**	**-1.2**
BDRM				*i* S	**Sb**	**01 50 31.0**	**+1.1**
MLSB	**Milas**	**0.36**	**356**	*i* PG	**Pb**	**01 50 25.8**	**0.0**
MLSB				*i* SG	**Sb**	**01 50 31.7**	**+0.8**
YER	**Yerkesik**	**0.43**	**63**	*i* PG	**Pb**	**01 50 25.7**	**-1.2**
NISR	**Nisiros**	**0.64**	**239**	*e*PN	**Pn**	**01 50 31.0**	**-1.0**
AYDN	**Tasoluk**	**0.72**	**4**	*i* P	**Pb**	**01 50 32.2**	**+0.2**
AYDN				*i* S	**Sb**	**01 50 40.9**	**-0.5**
ARG	**Arkhangelos**	**0.77**	**160**	*e*PB	**Pb**	**01 50 32.5**	**-0.2**
ARG				*e*SN	**Sn**	**01 50 45.5**	**+0.7**
FETY	**Fethiye**	**1.07**	**106**	PG	**Pb**	**01 50 38.1**	**+0.3**
SMG	**Samos**	**1.09**	**315**	*e*PN	**Pn**	**01 50 39.9**	**+1.5**
DNZL	**Cakiroluk**	**1.24**	**52**	*i* P	**Pn**	**01 50 40.9**	**+0.3**
DNZL				*i* S	**Sb**	**01 50 57.5**	**+1.2**
DENT	**Denizli**	**1.27**	**50**	PN	**Pn**	**01 50 41.2**	**+0.2**
KARP	**Karpathos**	**1.48**	**201**	*e*PB	**Pb**	**01 50 44.3**	**-0.6**
KARP				*e*SN	**Sn**	**01 51 04.0**	**+1.0**
IZM	**Izmir**	**1.52**	**344**	PN	**Pn**	**01 50 43.8**	**-0.8**
BLCB	**Balcova**	**1.57**	**337**	PN	**Pn**	**01 50 44.7**	**-0.6**
ELL	**Elmali**	**1.69**	**96**	*e*PN	**Pn**	**01 50 46.2**	**-0.9**
AKS	**Akhisar**	**1.94**	**0**	*e*PN	**Pn**	**01 50 50.0**	**-0.5**
BCK	**Bucak**	**2.28**	**76**	*e*PN	**Pn**	**01 50 55.5**	**0.0**

*ATH **19** 01:53:11.2, 36.58N×27.22E, h41km, MD3.2/4*
*CSEM **19** 01:53:11.9±0.2, 37.11N×27.92E, h13km±1km, MD3.4, Error ellipse: s-maj=8.0km s-min=2.7km az=28.0*
*ISK **19** 01:53:12.2, 37.10N×27.95E, h17km, MD3.4*

ISC 19 01:53:11.7±0.6, 37.03N±0.04×27.88E±0.04, h13km±4km, n18, σ0$70/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.28**	**343**	*i* PG	**Pg**	**01 53 17.4**	**-0.3**
MLSB				*i* SG	**Sg**	**01 53 23.1**	**+1.4**
YER	**Yerkesik**	**0.34**	**72**	*i* PG	**Pg**	**01 53 18.1**	**-0.7**
YER				*i* SG	**Sg**	**01 53 23.3**	**-0.3**
BDRM	**Kayabasi**	**0.35**	**276**	*i* P	**Pg**	**01 53 18.4**	**-0.7**
BDRM				*i* S	**Sg**	**01 53 24.2**	**+0.2**
AYDN	**Tasoluk**	**0.63**	**360**	*i* P	**Pb**	**01 53 24.2**	**+0.3**
AYDN				*i* S	**Sb**	**01 53 32.8**	**+0.4**
ARG	**Arkhangelos**	**0.84**	**166**	*e*P	**Pb**	**01 53 27.5**	**0.0**
FETY	**Fethiye**	**1.04**	**112**	PG	**Pg**	**01 53 32.4**	**-0.2**
SMG	**Samos**	**1.07**	**310**	*e*P	**Pb**	**01 53 32.5**	**+1.0**
DNZL	**Cakiroluk**	**1.14**	**54**	*i* P	**Pb**	**01 53 32.6**	**-0.1**
DNZL				*i* S	**Sb**	**01 53 51.6**	**+4.5**
DENT	**Denizli**	**1.17**	**51**	PN	**Pn**	**01 53 33.7**	**0.0**
IZM	**Izmir**	**1.45**	**340**	PN	**Pn**	**01 53 36.9**	**-0.8**
KDAG	**Bornova**	**1.45**	**341**	*i* P	**Pn**	**01 53 37.2**	**-0.6**
KDAG				*i* S	**Sb**	**01 53 55.4**	**-0.9**
BLCB	**Balcova**	**1.51**	**334**	*e*PN	**Pn**	**01 53 38.2**	**-0.3**
MANT	**Manisa**	**1.55**	**20**	*i* P	**Pn**	**01 53 39.6**	**+0.5**
MANT				*i* S	**Sb**	**01 54 03.8**	**+4.6**
KARP	**Karpathos**	**1.59**	**202**	*e*P	**Pn**	**01 53 30.5**	**-9.2**
KSL	**Kastellorizon**	**1.63**	**122**	*e*P	**Pn**	**01 53 43.5**	**+3.3**
ELL	**Elmali**	**1.65**	**99**	*e*PN	**Pn**	**01 53 41.0**	**+0.4**
AKS	**Akhisar**	**1.85**	**358**	*e*PN	**Pn**	**01 53 42.6**	**-0.8**
BCK	**Bucak**	**2.20**	**78**	*e*PN	**Pn**	**01 53 49.0**	**+0.5**

JMA 19 02:05:48.7±0.1, 33.31N×140.55E, h31km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.65**	**252**	P	Pb	02 06 01.3	-0.2
JHJ2				*e*S	Sb	02 06 10.2	-0.1
BSO1	**Boso 1**	**1.39**	**15**	P	Pn	02 06 12.1	-0.2
JKO	**Kozu shima**	**1.47**	**307**	*e*S	Sn	02 06 32.0	+0.3
BSO3	**Boso 3**	**1.49**	**359**	P	Pn	02 06 14.3	+0.6
JIM2	**Oshima 3**	**1.68**	**327**	*e*S	Sn	02 06 36.9	-0.3
BSO4	**Boso 4**	**1.69**	**354**	P	Pn	02 06 17.6	+1.1
KTJJ	**Kamata 2**	**2.03**	**323**	P	Pn	02 06 21.9	+0.4
KTJJ				*e*S	Sn	02 06 45.4	-0.6
JOD2	**Odawara 2**	**2.29**	**329**	*e*S	Sn	02 06 51.3	-1.4

IDC 19 02:10:33.3±2.7, 20.40S×65.96E, mb3.8/6, mb1 4.0/6, mb1mx3.8/16, mbtmp3.8/6, Error ellipse: s-maj=86.4km s-min=31.0km az=48.0, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**50.37**	**42**	P	P	02 19 32.1	-2.4
	0.5nm,0.3s,baz=233,slow=9.0,SNR=2.6						
ASAR	**Alice Springs**	**62.53**	**107**	P	P	02 20 59.5	-1.9
	0.7nm,0.7s,baz=264,slow=5.3,SNR=5.8						
WRA	**Warramunga Arr**	**63.73**	**103**	P	P	02 21 07.0	-2.5
	1.0nm,0.8s,baz=255,slow=6.2,SNR=4.6						
BRTR	**Keskin Array B**	**67.00**	**333**	P	P	02 21 27.9	-2.3
	0.7nm,1.0s,baz=143,slow=10,SNR=3.0						
ZAL	**Zalesovo**	**75.79**	**11**	P	P	02 22 21.1	-1.6
	0.6nm,0.3s,baz=175,slow=6.6,SNR=3.8						
SONM	**Songino Array**	**77.00**	**27**	P	P	02 22 28.1	-1.4
	0.2nm,0.5s,baz=211,slow=5.9,SNR=3.7						

*CSEM **19** 02:24:56.0, 37.29N×20.62E, h6km, MD3.5/9, After ATH*
*NEIC **19** 02:24:56.0, 37.29N×20.62E, h6km, MD3.5(ATH), After ATH.*

ATH 19 02:24:56.0, 37.29N×20.62E, h6km, MD3.5/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.89**	**358**	*e*PB	Pb	02 25 13.5	+0.1
VLS				*e*SB	Sb	02 25 25.5	+0.3
ITM	**Ithomi**	**1.05**	**96**	*e*PB	Pb	02 25 14.6	-1.6
ITM				*e*SB	Sb	02 25 30.4	+0.4
EVR	**Evrytania**	**1.88**	**30**	*e*PN	Pn	02 25 30.5	+1.6
VLI	**Veliai**	**1.94**	**106**	*e*PN	Pn	02 25 30.8	+0.9
KYTH	**Kithira**	**2.19**	**117**	*e*PG	Pg	02 25 37.0	-2.6
MGER	**Gerania Oros**	**2.21**	**71**	*e*PB	Pb	02 25 33.5	-2.5
NAIG	**Nisos Aigina**	**2.33**	**78**	*e*PG	Pg	02 25 40.0	-2.5
NSAL	**Nisos Salamina**	**2.34**	**74**	*e*PB	Pb	02 25 35.8	-2.5
MPAR	**Parnis Oros**	**2.62**	**70**	*e*PN	Pn	02 25 42.0	+2.5

*IDC **19** 02:27:35.1±3.5, 10.09N×90.88E, h20km±6km, mb3.7/3, mb1 3.9/4, mb1mx3.5/16, mbtmp3.8/4, ML4.2/1, Error ellipse: s-maj=102.0km s-min=21.3km az=77.0*

ISC 19 02:27:34.1±1.2, 10.1N±0.1×91.1E±0.2, h20km, h20km±.7km: pP-P, n5, σ0$61/6, mb3.8/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**10.70**	**316**	*i* P	**P**	**02 30 09.8**	**+0.2**
VIS				*i* S	**S**	**02 32 00.2**	**-10**
CMAR	**Chiang Mai Arr**	**11.31**	**42**	Pn	**P**	**02 30 18.2**	**+0.3**
	0.5nm,0.3s,baz=222,slow=13,SNR=2.6						
SONM	**Songino Array**	**39.81**	**16**	P	**P**	**02 35 07.1**	**-0.6**
	0.8nm,0.6s,mb3.6,baz=202,slow=8.9,SNR=7.8						
SONM				pP	pP	02 35 13.2	-0.6
	1.6nm,0.9s,baz=202,slow=7.7,SNR=9.2						
WRA	**Warramunga Arr**	**51.99**	**125**	P	**P**	**02 36 44.1**	**-0.4**
	1.4nm,0.7s,mb4.0,baz=304,slow=8.7,SNR=11						
WRA				pP	pP	02 36 50.8	0.0
	1.1nm,0.5s,baz=306,slow=8.4,SNR=6.8						
ASAR	**Alice Springs**	**53.63**	**129**	P	**P**	**02 36 57.2**	**+0.5**
	0.8nm,0.7s,mb3.7,baz=318,slow=6.0,SNR=6.3						
ASAR				pP	pP	02 37 03.1	+0.1
	1.0nm,0.7s,baz=315,slow=7.1,SNR=6.0						

*BJI **19** 02:42:59.8, 7.96N×93.89E, h7km, mb4.6*
*IDC **19** 02:43:00.4±0.8, 7.95N×93.87E, mb4.0/11, mb1 4.1/12, mb1mx4.1/18, mbtmp4.0/12, ML4.4/1, Error ellipse: s-maj=38.1km s-min=18.1km az=50.0*
*NEIC **19** 02:43:01.9±8.0, 7.94N×93.91E, h10km±47km, mb4.3/5, Error ellipse: s-maj=23.9km s-min=9.7km az=49.0*

ISC 19 02:43:03.5±0.8, 8.0N±0.1×94.0E±0.1, h33km, n28, σ0$61/24, mb4.2/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.47**	**24**	Pn	**P**	**02 45 47.9**	**-0.3**
	0.8nm,0.3s,baz=212,slow=14,SNR=7.6						
JIRN	**Jiri**	**20.94**	**340**	*e*P	**P**	**02 47 45.6**	**-0.4**
	16nm,0.8s						
PKI	**Pulchoki**	**21.14**	**338**	*e*P	**P**	**02 47 47.9**	**-0.1**
	42nm,1.0s,mb4.7						
DMN	**Daman**	**21.28**	**338**	*e*P	**P**	**02 47 49.7**	**+0.3**
	32nm,0.8s,mb4.7						
KKN	**Kakani**	**21.38**	**338**	*e*P	**P**	**02 47 51.2**	**+0.8**
LSA	**Lhasa**	**21.79**	**353**	P	**P**	**02 47 54.3**	**-0.2**
LSA	**Lhasa**	**21.79**	**353**	*e*P	**P**	**02 47 54.2**	**-0.3**
	6.9nm,1.0s,mb4.3						
GKN	**Gorkha**	**21.82**	**337**	*e*P	**P**	**02 47 55.0**	**+0.3**
	26nm,0.6s,mb4.9						
KOLN	**Koldanda**	**22.03**	**335**	*e*P	**P**	**02 47 57.5**	**+0.6**
ENH	**Enshi**	**26.50**	**31**	*e*P	**P**	**02 48 40.1**	**+0.1**
	12nm,1.0s,mb4.4						
AAK	**Ala-Archa**	**38.57**	**337**	*e*P	**P**	**02 50 25.2**	**+0.2**
	7.3nm,1.2s,mb4.3						
SONM	**Songino Array**	**41.10**	**13**	P	**P**	**02 50 46.1**	**+0.2**
	1.2nm,0.8s,mb3.6,baz=195,slow=9.5,SNR=8.6						
SONM				PcP	PcP	02 52 47.0	+1.3
	0.5nm,0.4s,baz=215,slow=3.3,SNR=4.2						
KURK	**Kurchatov**	**44.49**	**346**	*e*P	**P**	**02 51 13.2**	**-0.3**
	6.9nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**48.41**	**126**	P	**P**	**02 51 45.1**	**+0.2**
	0.9nm,0.8s,mb3.9,baz=310,slow=9.0,SNR=8.8						
WRA				PcP	PcP	02 53 12.2	+1.0
	0.4nm,0.7s,baz=309,slow=2.9,SNR=5.2						
BVAR	**Borovoye Array**	**48.86**	**341**	P	**P**	**02 51 46.9**	**-1.0**
	1.3nm,0.8s,mb4.0,baz=143,slow=7.4,SNR=6.5						
BVAR				PcP	PcP	02 53 13.1	+0.7
	0.4nm,0.7s,baz=117,slow=3.3,SNR=3.9						
ASAR	**Alice Springs**	**50.06**	**130**	P	**P**	**02 51 57.3**	**-0.2**
	0.8nm,0.9s,mb3.7,baz=313,slow=7.9,SNR=6.1						
BRTR	**Keskin Array B**	**62.28**	**311**	P	**P**	**02 53 23.8**	**-1.0**
	0.9nm,0.7s,mb4.0,baz=113,slow=9.4,SNR=5.1						
AKASG	**Malin Array Be**	**68.01**	**322**	P	**P**	**02 53 59.9**	**-1.6**
	1.4nm,0.7s,mb4.1,baz=88,slow=4.9,SNR=5.5						
FINES	**FINESS Array B**	**72.58**	**332**	P	**P**	**02 54 29.2**	**+0.2**
	1.3nm,0.6s,mb4.0,baz=108,slow=6.0,SNR=6.5						
ARCES	**ARCESS Array B**	**75.14**	**340**	P	**P**	**02 54 44.5**	**+0.6**
	1.9nm,0.7s,mb4.1,baz=90,slow=6.1,SNR=6.6						
GERES	**GERESS Array B**	**77.68**	**318**	P	**P**	**02 54 59.4**	**+0.8**
	1.7nm,0.7s,mb4.1,baz=104,slow=5.5,SNR=9.3						
NB2	**NORSAR Subarra**	**79.59**	**331**	P	**P**	**02 55 09.0**	**+0.2**
	2.2nm,0.7s,mb4.2,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.59**	**331**	P	**P**	**02 55 08.2**	**-0.6**
	1.5nm,0.7s,mb4.0,baz=91,slow=5.7,SNR=3.9						
ESDC	**Sonseca Array**	**91.07**	**310**	P	**P**	**02 56 07.1**	**+0.8**
	0.5nm,0.5s,mb4.1,baz=64,slow=4.4,SNR=4.1						
NVAR	**Mina Array Bea**	**124.90**	**31**	PKP	PKPdf	03 02 03.4	+2.6
	0.4nm,0.7s,baz=288,slow=2.9,SNR=4.0						
PDAR	**Pinedale Array**	**125.12**	**21**	PKP	PKPdf	03 02 03.1	+2.0
	0.4nm,0.8s,baz=225,slow=2.1,SNR=3.8						
TXAR	**Lajitas Array**	**139.19**	**24**	PKP	PKPdf	03 02 30.9	+3.0
	0.2nm,0.6s,baz=355,slow=1.2,SNR=5.5						
PLCA	**Paso Flores**	**144.59**	**200**	PKP	PKPdf	03 02 40.1	+3.0
	3.4nm,0.8s,baz=171,slow=4.7,SNR=6.5						

IDC 19 02:43:20.2±2.8, 20.20S×66.21E, mb3.9/6, mb1 4.1/6, mb1mx3.9/17, mbtmp3.9/6, MS3.9/2, Ms1 3.9/2, ms1mx3.6/12, Error ellipse: s-maj=110.8km s-min=25.9km az=43.0, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**47.44**	**182**	LR	LR	03 06 03.8	
	comp=Z,130nm,18.9s,baz=41,slow=29						
CMAR	**Chiang Mai Arr**	**50.06**	**42**	LR	LR	03 11 03.9	
	comp=Z,89nm,18.0s,baz=235,slow=33						
ASAR	**Alice Springs**	**62.36**	**107**	P	P	02 53 44.9	-2.4
	1.6nm,0.8s,baz=262,slow=6.2,SNR=9.3						
WRA	**Warramunga Arr**	**63.54**	**103**	P	P	02 53 53.1	-2.0
	2.2nm,0.9s,baz=260,slow=5.7,SNR=8.2						
BRTR	**Keskin Array B**	**66.93**	**333**	P	P	02 54 14.6	-2.0
	0.6nm,0.7s,baz=143,slow=7.2,SNR=3.1						
BVAR	**Borovoye Array**	**73.01**	**3**	P	P	02 54 51.0	-2.5
	0.9nm,0.8s,baz=166,slow=6.1,SNR=5.0						
SONM	**Songino Array**	**76.72**	**27**	P	P	02 55 13.6	-1.3
	0.9nm,0.9s,baz=214,slow=4.5,SNR=6.3						
AKASG	**Malin Array Be**	**77.75**	**337**	P	P	02 55 19.1	-1.5
	0.8nm,0.7s,baz=154,slow=4.6,SNR=5.5						

*IDC **19** 02:48:34.6±0.7, 8.01N×93.96E, mb4.2/13, mb1 4.3/14, mb1mx4.3/18, mbtmp4.1/14, ML3.9/1, MS3.7/3, Ms1 3.7/3, ms1mx3.4/18, Error ellipse: s-maj=35.3km s-min=15.1km az=51.0*
*BJI **19** 02:48:39.6, 8.00N×93.94E, h57km, mB4.8, mb4.6, Ms4.7, Msz4.5*
*NEIC **19** 02:48:41.3±1.9, 8.09N×94.08E, h46km±16km, mb4.5/8, Error ellipse: s-maj=15.1km s-min=10.3km az=222.0*

ISC 19 02:48:39.0±1.8, 8.11N±0.08×94.11E±0.06, h40km±15km, n55, σ0$90/51, mb4.5/29, MS4.1/3, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.31**	**24**	Pn	**P**	**02 51 21.3**	**+0.2**
	0.3nm,0.3s,baz=209,slow=14,SNR=15						
CMAR				LR	LR	02 56 03.6	
	comp=Z,171nm,19.6s,baz=223,slow=39						
PALK	**Pallekele**	**13.31**	**267**	P	**P**	**02 51 51.3**	**+3.5**
VIS	**Vishakhapatnam**	**14.19**	**313**	*e*P	**P**	**02 51 59.7**	**+0.2**
VIS				AMb	AMB	02 52 07.9	
	comp=Z,27nm,0.9s						
VIS				*e*S	S	02 54 05.8	-31
SHL	**Shillong**	**17.49**	**353**	*e*P	**P**	**02 52 32.0**	**-10**
HYB	**Hyderabad**	**17.75**	**303**	*e*P	**P**	**02 52 45.0**	**0.0**
HYB				*e*S	**S**	**02 56 07.0**	**+8.0**
HYB	**Hyderabad**	**17.75**	**303**	*i* P	**P**	**02 52 45.0**	**0.0**
HYB				*e*S	**S**	**02 56 04.0**	**+5.0**
QIZ	**Qiongzhong**	**18.74**	**53**	P	**P**	**02 52 57.8**	**+0.7**
QIZ				*e*S	**S**	**02 56 21.3**	**+0.1**
QIZ				AMB	AMB		
	comp=Z,327nm,9.9s						
QIZ				LR	LR		
	comp=N,947nm,12.0s						
QIZ				LR	LR		
	comp=Z,483nm,12.5s						
JIRN	**Jiri**	**20.84**	**340**	*e*P	**P**	**02 53 19.4**	**-0.5**
	comp=Z,67nm,0.9s						
PKI	**Pulchoki**	**21.04**	**338**	*e*P	**P**	**02 53 21.3**	**-0.6**
	comp=Z,94nm,1.0s,mb5.1						
DMN	**Daman**	**21.18**	**337**	*e*P	**P**	**02 53 22.3**	**-1.0**
	comp=Z,77nm,0.8s,mb5.1						
KKN	**Kakani**	**21.28**	**338**	*e*P	**P**	**02 53 23.6**	**-0.7**
	comp=Z,44nm,0.9s,mb4.8						
LSA	**Lhasa**

NOA	NORSAR Array B	79.51	331	P		P	03 00 43.0	0.0
	comp=Z,2.2nm,0.7s,mb4.2,baz=97,slow=5.0,SNR=6.7							
LPG	La Plagne	82.43	315	eP		P	03 00 59.1	+0.4
	comp=Z,21nm,0.9s,mb4.8							
SYO	Syowa Base	85.62	197	⇓PcP		PcP	03 01 22.7	+5.1
ESDC	Sonseca Array	91.04	310	P		P	03 01 42.3	+1.4
	comp=Z,1.3nm,0.7s,mb4.4,baz=69,slow=4.5,SNR=5.9							
IMA	Indian Mountai	91.42	22	eP		P	03 01 44.6	+2.7
	comp=Z,15nm,0.6s,mb5.5							
MCK	McKinley	94.26	23	P		P	03 01 55.7	+0.7
ILAR	Eielson Array	94.54	22	P		P	03 01 56.5	+0.3
	comp=Z,0.5nm,0.9s,mb4.0,baz=285,slow=4.6,SNR=5.6							
YKA	Yellowknife Ar	106.21	13	Pdiff		Pdif	03 02 48.9	+0.3
	comp=Z,0.6nm,1.0s,baz=354,slow=2.4,SNR=5.0							
YKA				PP		PP	03 07 14.4	-1.3
	comp=Z,0.2nm,0.7s,baz=330,slow=7.8,SNR=4.5							
YKA				PKKP		PKKP	03 18 36.5	+11
	comp=Z,0.2nm,0.9s,baz=146,slow=4.5,SNR=5.6							
NVAR	Mina Array Bea	124.74	31	PKP		PKPdf	03 07 37.5	+2.4
	comp=Z,0.7nm,0.8s,baz=346,slow=2.0,SNR=5.2							
PDAR	Pinedale Array	124.96	21	PKP		PKPdf	03 07 36.9	+1.4
	comp=Z,0.6nm,0.8s,baz=270,slow=1.5,SNR=5.2							
TXAR	Lajitas Array	139.03	24	PKP		PKPdf	03 08 02.7	+0.5
	comp=Z,0.3nm,0.5s,slow=0.9,SNR=2.8							
PLCA	Paso Flores	144.75	200	PKP		PKPdf	03 08 14.1	+2.2
	comp=Z,7.6nm,1.0s,baz=178,slow=4.1,SNR=9.5							

*IDC **19** 02:58:45.9±1.4, 8.00N×94.15E, mb3.6/5, mb1 3.8/6, mb1mx3.6/18, mbtmp3.6/6, ML4.4/1, Error ellipse: s-maj=44.4km s-min=30.1km az=57.0*

ISC 19 02:58:48.8±1.2, 8.1N±0.2×94.1E±0.2, h33km, n11, σ0§86/10, mb4.0/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.33	24	Pn	P	03 01 31.8	+0.3
	0.7nm,0.3s,baz=213,slow=14,SNR=8.9						
JIRN	Jiri	20.88	340	eP	P	03 03 30.5	-0.1
	49nm,1.3s						
PKI	Pulchoki	21.07	338	eP	P	03 03 32.8	+0.2
	12nm,0.6s,mb4.4						
DMN	Daman	21.22	337	eP	P	03 03 33.8	-0.3
	22nm,0.8s,mb4.5						
KOLN	Koldanda	21.97	334	eP	P	03 03 39.9	-1.7
	16nm,0.9s,mb4.5						
SONM	Songino Array	40.97	13	P	P	03 06 30.6	+0.5
	0.6nm,0.9s,mb3.2,baz=191,slow=6.3,SNR=4.4						
WRA	Warramunga Arr	48.38	126	P	P	03 07 29.3	-0.6
	0.6nm,0.9s,mb3.6,baz=306,slow=8.6,SNR=3.5						
BVAR	Borovoye Array	48.79	341	P	P	03 07 31.9	-0.7
	0.4nm,0.7s,mb3.6,baz=108,slow=4.6,SNR=3.1						
BRTR	Keskin Array B	62.29	311	P	P	03 09 10.9	+0.8
	0.9nm,0.9s,mb3.9,baz=121,slow=6.5,SNR=6.2						
NOA	NORSAR Array B	79.55	331	P	P	03 10 55.5	+1.7
	2.8nm,1.1s,mb4.1,baz=93,slow=5.6,SNR=3.4						
PLCA	Paso Flores	144.74	200	PKP	PKPdf	03 18 24.8	+2.2
	2.8nm,1.0s,baz=345,slow=0.2,SNR=3.0						

*IDC **19** 03:02:29.6±1.0, 21.38N×121.29E, mb3.7/6, mb1 4.0/6, mb1mx3.8/17, mbtmp3.7/6, MS3.5/2, Ms1 3.5/2, ms1mx2.9/21, Error ellipse: s-maj=35.3km s-min=22.2km az=80.0*

*TAP **19** 03:02:32.4, 21.27N×121.21E, h63km±1km, ML4.2*

*JMA **19** 03:02:37.4±0.3, 21.40N×121.13E, h66km, M4.2*

ISC 19 03:02:35.6±1.2, 21.27N±0.06×121.2E±0.1, h58km±13km, n17, σ0§68/22, mb3.6/6, MS3.2/1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	Basco	1.11	138	i P	P	03 02 54.1	-1.2
BBP				eS	S	03 03 04.9	-5.0
APYP	Conner	3.39	179	eP	P	03 03 17.7	-10
YOJ	Yonaguni jima	3.60	28	P	P	03 03 30.6	+0.3
YOJ				S	S	03 04 11.1	-0.8
CVP	Callao Caves	3.60	170	eP	P	03 03 35.0	+4.6
HATJ	Hateruma jima	3.68	41	P	P	03 03 32.2	+0.7
HATJ				S	S	03 04 13.8	-0.3
IRIF	Iriomote-Funau	3.85	37	P	P	03 03 34.8	+0.9
IRIF				S	S	03 04 18.7	+0.4
JKRS	Kuro-shima	3.94	41	P	P	03 03 36.0	+0.8
JKRS				eS	S	03 04 20.2	-0.4
JIJ	Ishigaki jima	4.12	41	P	P	03 03 38.0	+0.4
JIJ				S	S	03 04 24.4	-0.6
JTJ	Tarama	4.67	43	P	P	03 03 46.0	+0.6
JTJ				eS	S	03 04 38.5	-0.3
JOW	Kunigami	8.53	48	LR	LR	03 08 00.8	
	comp=Z,384nm,20.7s,baz=103,slow=40						
CBIJ	Chichi jima	20.01	69	LR	LR	03 12 52.0	
	comp=Z,109nm,21.3s,MS3.2,baz=105,slow=31						
CMAR	Chiang Mai Arr	21.10	266	P	P	03 07 16.9	-0.5
	1.7nm,0.7s,mb3.5,baz=71,slow=9.4,SNR=8.4						
SONM	Songino Array	29.06	339	P	P	03 08 31.9	-0.7
	0.9nm,0.9s,mb3.5,baz=164,slow=7.6,SNR=5.8						
WRA	Warramunga Arr	42.94	162	P	P	03 10 30.7	-0.1
	1.0nm,0.6s,mb3.8,baz=344,slow=9.1,SNR=8.3						
ASAR	Alice Springs	46.35	164	P	P	03 10 59.0	+0.9
	0.6nm,0.8s,mb3.6,baz=355,slow=14,SNR=5.8						
ILAR	Eielson Array	71.80	27	P	P	03 13 52.6	-0.9
	0.5nm,0.8s,mb3.5,baz=280,slow=5.2,SNR=6.5						
YKA	Yellowknife Ar	85.65	23	P	P	03 15 09.6	+0.9
	0.6nm,0.6s,mb4.0,baz=311,slow=4.8,SNR=24						

*IDC **19** 03:15:35.9±1.5, 7.99N×94.00E, mb3.8/7, mb1 3.9/8, mb1mx3.8/18, mbtmp3.7/8, Error ellipse: s-maj=45.2km s-min=30.5km az=48.0*

ISC 19 03:15:39.2±1.1, 8.0N±0.1×94.1E±0.2, h33km, n12, σ0§57/12, mb3.9/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.38	24	Pn	P	03 18 22.6	+0.1
	baz=218,slow=15,SNR=4.8						
JIRN	Jiri	20.92	340	eP	P	03 20 21.6	+0.1
	36nm,1.4s						
PKI	Pulchoki	21.11	338	eP	P	03 20 23.9	+0.4
	37nm,1.2s,mb4.6						
GKN	Gorkha	21.79	337	eP	P	03 20 30.2	-0.1
KOLN	Koldanda	22.01	334	eP	P	03 20 32.9	+0.5
	22nm,1.0s,mb4.5						
SONM	Songino Array	41.02	13	P	P	03 23 20.4	-0.6
	0.7nm,1.0s,mb3.2,baz=202,slow=7.8,SNR=4.3						
WRA	Warramunga Arr	48.37	126	P	P	03 24 20.4	+0.1
	0.2nm,0.5s,mb3.5,baz=304,slow=9.0,SNR=3.5						
BVAR	Borovoye Array	48.84	341	P	P	03 24 22.5	-0.9
	0.3nm,0.7s,mb3.5,baz=135,slow=8.2,SNR=3.3						
BRTR	Keskin Array B	62.31	311	P	P	03 25 59.5	-1.2
	0.5nm,0.7s,mb3.8,baz=118,slow=6.4,SNR=4.5						
FINES	FINESS Array B	72.56	332	P	P	03 27 04.9	+0.3
	3.0nm,0.9s,mb4.2,baz=117,slow=6.2,SNR=4.5						
ARCES	ARCESS Array B	75.11	340	P	P	03 27 20.0	+0.6
	2.2nm,0.7s,mb4.2,baz=90,slow=7.2,SNR=4.0						
GERES	GERESS Array B	77.70	318	P	P	03 27 35.1	+0.7
	1.2nm,0.9s,mb3.8,baz=68,slow=7.2,SNR=3.8						

*NEIC **19** 03:21:36.2, 36.21S×178.03E, h95km, ML3.9(WEL), After WEL.*

WEL 19 03:21:36.6±0.5, 36.30S×178.17E, h107km±9km, ML3.6/3, 1C, Error ellipse: s-maj=8.3km s-min=6.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.26	175	eP	P	03 22 00.4	-0.4
MXZ	Matakaoa Point	1.26	175	⇑PN	P	03 22 00.4	-0.5
MXZ				SN	S	03 22 18.4	-0.7
MXZ				SN	S	03 22 18.6	-0.6
PUZ	Puketiti	1.77	178	eP	P	03 22 06.6	-0.4
PUZ				S	S	03 22 29.2	-0.5
PUZ	Puketiti	1.77	178	PN	P	03 22 06.6	-0.4
PUZ				SN	S	03 22 29.2	-0.5
PUZ				SN	S	03 22 29.3	-0.4
MWZ	Matawai	2.10	194	eP	P	03 22 11.4	+0.2
MWZ	Matawai	2.10	194	PN	P	03 22 11.4	+0.2
MWZ				SN	S	03 22 36.8	-0.2
URZ	Urewera	2.13	203	eP	P	03 22 11.4	-0.3
URZ	Urewera	2.13	203	PN	P	03 22 11.4	-0.3
URZ				SN	S	03 22 37.3	-0.7
URZ				SN	S	03 22 37.4	-0.6
KNZ	Kokohu	2.74	188	PN	P	03 22 18.2	-1.8
BKZ	Black Stump Fm	3.16	204	eP	P	03 22 24.5	-1.1
BKZ	Black Stump Fm	3.16	204	PN	P	03 22 24.5	-1.1
BKZ				eSN	S	03 23 01.5	-1.1
NGZ	Ngauruhoe	3.52	215	ePN	P	03 22 30.7	+0.1
MRZ	Mangatainoka R	4.81	204	PN	P	03 22 42.9	-5.2
MRZ				SN	S	03 23 35.4	-7.5
KIW	Kapiti Island	5.22	208	ePN	P	03 22 48.6	-5.0

*BJI **19** 03:32:34.7, 8.29N×93.84E, h13km, mb4.5*

*NEIC **19** 03:32:36.2±0.7, 7.99N×93.96E, h30km, mb4.2/3, Error ellipse: s-maj=18.1km s-min=13.1km az=80.0*

*IDC **19** 03:32:38.3±7.7, 8.04N×94.03E, h45km±69km, mb3.5/6, mb1 3.7/7, mb1mx3.6/17, mbtmp3.7/7, Error ellipse: s-maj=63.1km s-min=26.9km az=49.0*

ISC 19 03:32:35.0±6.7, 8.0N±0.2×94.1E±0.2, h34km±55km, n20, σ0§45/17, mb4.2/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.41	24	P	P	03 35 18.8	-0.1
	baz=215,slow=14,SNR=5.5						
JIRN	Jiri	20.91	340	eP	P	03 37 17.3	+0.2
	44nm,1.2s						
PKI	Pulchoki	21.11	338	eP	P	03 37 18.7	-0.4
	68nm,1.4s,mb4.8						
DMN	Daman	21.25	338	eP	P	03 37 20.1	-0.5
KKN	Kakani	21.35	338	eP	P	03 37 21.5	-0.1
	20nm,0.8s,mb4.5						
LSA	Lhasa	21.75	353	P	P	03 37 25.0	-0.5
LSA	Lhasa	21.75	353	eP	P	03 37 24.9	-0.6
	9.2nm,0.9s,mb4.2						
GKN	Gorkha	21.79	337	eP	P	03 37 26.5	+0.6
	16nm,0.6s,mb4.6						
KOLN	Koldanda	22.00	335	eP	P	03 37 29.1	+1.1
	67nm,1.3s,mb4.9						
SONM	Songino Array	41.04	13	P	P	03 40 17.2	+0.3
	1.1nm,1.0s,mb3.5,baz=211,slow=7.2,SNR=6.3						
KURK	Kurchatov	44.46	346	eP	P	03 40 44.8	+0.1
	3.6nm,0.9s,mb4.1						
WRA	Warramunga Arr	48.41	126	P	P	03 41 16.3	+0.1
	0.6nm,1.0s,mb3.6,baz=304,slow=8.7,SNR=4.5						
BVAR	Borovoye Array	48.83	341	P	P	03 41 18.8	-0.2
	0.7nm,0.8s,mb3.8,baz=135,slow=8.4,SNR=4.5						
CHKZ	Chkalovo	49.32	342	eP	P	03 41 22.7	-0.1
	2.9nm,0.8s,mb4.4						
KMBO	Kilima Mbogo	57.36	264	pP	pP	03 42 27.1	-6.1
	1.6nm,0.8s,baz=68,slow=8.2,SNR=3.9						
BRTR	Keskin Array B	62.28	311	P	P	03 42 55.6	-0.6
	0.6nm,0.7s,mb3.8,baz=124,slow=5.2,SNR=5.3						
GERES	GERESS Array B	77.67	318	P	P	03 44 30.5	+0.6
	2.7nm,1.1s,mb4.1,baz=90,slow=5.3,SNR=5.7						
NOA	NORSAR Array B	79.57	331	P	P	03 44 39.7	-0.4
	1.2nm,0.8s,mb3.9,baz=91,slow=5.9,SNR=3.5						
PLCA	Paso Flores	144.65	200	PKP	PKPdf	03 52 10.5	+2.0
	1.1nm,0.6s,baz=208,slow=4.9,SNR=3.9						
PLCA	Paso Flores	144.65	200	PKP	PKPdf	03 52 10.5	+2.0

IDC 19 03:34:05.4±2.7, 2.64N×96.01E, mb4.0/3, mb1 4.1/4, mb1mx3.7/17, mbtmp4.0/4, ML4.5/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/14, Error ellipse: s-maj=95.1km s-min=26.8km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.98	10	Pn	P	03 37 54.0	+0.6
	0.6nm,0.3s,baz=197,slow=11,SNR=9.1						
WRA	Warramunga Arr	43.81	123	P	P	03 42 13.4	-1.6
	2.1nm,0.9s,baz=296,slow=7.6,SNR=15						
ASAR	Alice Springs	45.21	127	LR	LR	04 04 56.3	
	comp=Z,50nm,18.5s,baz=26,slow=41						
SONM	Songino Array	45.91	10	P	P	03 42 29.2	-2.4
	0.9nm,0.4s,baz=191,slow=9.3,SNR=12						
BVAR	Borovoye Array	54.51	341	P	P	03 43 35.0	-2.2
	2.1nm,0.7s,baz=135,slow=8.2,SNR=14						

WEL 19 03:39:47.8±0.5, 37.42S×179.39E, h12km, ML3.5/4, Error ellipse: s-maj=4.0km s-min=3.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.87	260	P*	Pb	03 40 03.6	-0.9
MXZ				S*	Sb	03 40 16.1	+0.3
PUZ	Puketiti	1.11	233	P*	Pb	03 40 08.3	-0.2
PUZ				S*	Sb	03 40 23.5	+0.8
MWZ	Matawai	1.73	237	PN	Pn	03 40 16.7	-1.4
MWZ				SN	Sn	03 40 38.8	-1.5
URZ	Urewera	1.99	244	PN	Pn	03 40 21.0	-0.7
URZ				SN	Sn	03 40 44.9	-1.9
KNZ	Kokohu	2.10	220	PN	Pn	03 40 21.1	-2.1
KNZ				SN	Sn	03 40 47.4	-2.0
BKZ	Black Stump Fm	2.87	232	PN	Pn	03 40 32.1	-2.3
BKZ				eSN	Sn	03 41 05.1	-4.1
TSZ	Takapari Road	3.76	224	PN	Pn	03 40 42.5	-4.4
TSZ				SN	Sn	03 41 26.0	-5.6
BFZ	Birch Farm	4.08	216	ePN	Pn	03 40 47.0	-4.5
MRZ	Mangatainoka R	4.39	221	PN	Pn	03 40 50.6	-5.4

MAN 19 03:45:31.8, 16.60N×120.19E, h52km, mb3.9, ML2.6, MS2.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	Bolinao	0.34	231	eP	P	03 45 43.9	+2.4
BOLP				eS	S	03 45 54.0	+5.4
BCPH	Baguio City Da	0.43	120	eP	P	03 45 44.0	+1.5
BCPH				eS	S	03 45 54.0	+3.8
SCZP	Santa Cruz	0.86	198	i P	P	03 45 48.9	+1.0
SCZP				eS	S	03 46 01.1	+1.3
ABRA	Dolores	1.16	26	i P	P	03 45 52.4	+0.4
BALP	Baler	1.58	122	i P	P	03 45 58.3	+0.3
CAUP	Cauayan	1.60	77	eP	P	03 45 58.9	+0.6
APYP	Conner	1.61	39	eP	P	03 45 58.6	+0.2

*IDC **19** 03:47:16.1±0.6, 25.15N×138.69E, mb4.3/16, mb1 4.5/17, mb1mx4.5/21, mbtmp4.3/17, ML4.0/1, Error ellipse: s-maj=23.4km s-min=14.9km az=85.0*

*NEIC **19** 03:47:17.7±0.2, 25.13N×138.65E, h10km, mb4.7/8, MW4.2(NIED), Error ellipse: s-maj=11.4km s-min=6.4km az=77.0*

*MOS **19** 03:47:19.1±0.7, 25.13N×138.65E, h33km, mb4.7/10, Error ellipse: s-maj=27.4km s-min=10.9km az=110.8*

*BJI **19** 03:47:30.1, 25.10N×138.50E, h114km, mB4.9, mb4.3*

ISC 19 03:47:15.8±0.4, 25.15N±0.07×138.75E±0.08, h10km, n47, σ0§78/45, mb4.4/24, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.65	57	Pn	Pn	03 48 13.4	-0.2
	21nm,0.3s,baz=306,slow=19,SNR=8.2						
CBIJ				Sn	Sn	03 48 55.2	-2.0
	35nm,0.3s,baz=266,slow=22,SNR=6.2						
JOW	Kunigami	9.57	282	Sn	Sn	03 51 12.1	-13
	8.3nm,0.3s,baz=122,slow=26,SNR=8.4						
MAJO	Matsushiro	11.37	358	P	P	03 50 10.6	+9.3
MAJO				pmax	pmax		
	comp=Z,13nm,0.8s						
MAJO	Matsushiro	11.37	358	P	P	03 50 10.6	+9.3
SONM	Songino Array	34.09	320	P	P	03 54 02.5	-0.1
	comp=Z,0.6nm,0.5s,mb3.8,baz=127,slow=5.2,SNR=4.1						
BOD	Bodaibo	37.10	338	eP	P	03 54 26.7	-1.3
ZAK	Zakamensk	37.13	322	eP	P	03 54 28.5	+0.2
WRAB	Tennant Creek	45.02	186	eP	P	03 55 33.3	-0.3
WRAB				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.9						
WRAB	Tennant Creek	45.02	186	eP	P	03 55 33.3	-0.3
	comp=Z,20nm,1.0s,mb4.9						
WRA	Warramunga Arr	45.03	186	P	P	03 55 33.4	-0.3
	comp=Z,7.8nm,0.7s,mb4.7,baz=4.5,slow=8.8,SNR=87						
CTA	Charters Tower	45.55	170	P	P	03 55 37.7	-0.1
	comp=Z,4.1nm,1.0s,mb4.3,baz=349,slow=7.5,SNR=3.6						
BILL	Bilibino	46.06	14	eP	P	03 55 42.3	+1.1
BILL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
BILL	Bilibino	46.06	14	eP	P	03 55 42.5	+1.3
	comp=Z,14nm,1.3s,mb4.7						
ASAR	Alice Springs	48.75	186	P	P	03 56 02.9	0.0
	comp=Z,1.3nm,0.7s,mb4.1,baz=12,slow=12,SNR=12						
MKAR	Makanchi Array	49.37	311	i P	P	03 56 07.7	+0.3
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	Kurchatov	52.18	316	eP	P	03 56 28.3	-0.4
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
KURK	Kurchatov	52.18	316	eP	P	03 56 28.3	-0.3
	comp=Z,2.0nm,0.4s,mb4.4						
AAK	Ala-Archa	54.85	306	eP	P	03 56 48.4	-0.1
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
AAK	Ala-Archa	54.85	306	eP	P	03 56 48.4	-0.2
	comp=Z,3.8nm,0.8s,mb4.5						
STKA	Stephens Creek	56.77	177	P	P	03 57 01.7	-0.9
	comp=Z,3.4nm,0.8s,mb4.4,baz=4.0,slow=4.6,SNR=5.0						
STKA	Stephens Creek	56.77	177	P	P	03 57 01.7	-0.9
CHKZ	Chkalovo	57.28	319	eP	P	03 57 05.0	-0.9
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
CHKZ	Chkalovo	57.28	319	eP	P	03 57 05.0	-0.9
	comp=Z,7.0nm,0.7s,mb4.8						
BVA0	Borovoye Array	57.40	318	P	P	03 57 06.7	0.0
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BVAR	Borovoye Array	57.40	318	P	P	03 57 06.7	-0.1
	comp=Z,13nm,0.6s,mb5.2,baz=94,slow=8.7,SNR=66						
BRVK	Borovoye	57.47	318	eP	P	03 57 07.0	-0.2
BRVK				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
BRVK	Borovoye	57.47	318	eP	P	03 57 07.0	-0.2
	comp=Z,15nm,0.7s,mb5.1						
ILAR	Eielson Array	60.89	28	P	P	03 57 30.3	-0.4
	comp=Z,1.1nm,0.8s,mb4.0,baz=277,slow=6.3,SNR=8.8						
KEV	Kevo	73.78	340	ep	P	03 58 51.4	-0.2
ARCES	ARCESS Array B	74.34	340	P	P	03 58 55.5	+0.6
	comp=Z,3.5nm,0.6s,mb4.5,baz=67,slow=8.5,SNR=19						
YKA	Yellowknife Ar	75.30	27	P	P	03 59 01.0	+0.5
	comp=Z,2.2nm,0.7s,mb4.2,baz=297,slow=5.8,SNR=35						
JOF	Joensuu	75.43	333	ep	P	03 59 00.5	-0.8
KAF	Kangasniemi	77.86	334	ep	P	03 59 14.5	-0.3
	comp=Z,11nm,1.1s,mb4.7,baz=52,slow=6.0						
KAF	Kangasniemi	77.86	334	eP	P	03 59 14.5	-0.3
KAF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
FINES	FINESS Array B	78.30	333	P	P	03 59 17.6	+0.3
	comp=Z,3.8nm,0.5s,mb4.6,baz=73,slow=6.5,SNR=33						
AKASG	Malin Array Be	82.32	323	P	P	03 59 38.7	-0.2
AKASG				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AKASG	Malin Array Be	82.32	323	P	P	03 59 38.7	-0.2
	comp=Z,2.1nm,0.9s,mb4.0,baz=48,slow=5.6,SNR=7.5						
NVAR	Mina Array Bea	84.14	50	P	P	03 59 50.4	+1.8
	comp=Z,1.8nm,0.9s,mb4.2,baz=275,slow=4.3,SNR=12						
NB2	NORSAR Subarra	84.23	337	P	P	03 59 48.1	-0.3
	comp=Z,0.9nm,0.7s,mb4.0,baz=47,slow=5.0						
NB2	NORSAR Subarra	84.23	337	P	P	03 59 48.1	-0.3
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
NOA	NORSAR Array B	84.23	337	P	P	03 59 48.0	-0.4
	comp=Z,1.7nm,0.8s,mb4.3,baz=48,slow=5.0,SNR=4.2						
BRTR	Keskin Array B	85.02	312	P	P	03 59 53.6	+0.7
	comp=Z,1.7nm,0.8s,mb4.2,baz=107,slow=4.1,SNR=6.1						
PDAR	Pinedale Array	87.75	43	P	P	04 00 08.3	+2.0
	comp=Z,0.6nm,0.9s,mb3.8,baz=243,slow=3.3,SNR=4.3						
TXAR	Lajitas Array	99.23	52	P	P	04 01 00.6	+1.1
	comp=Z,0.7nm,0.9s,mb4.2,baz=315,slow=3.5,SNR=6.7						
PLCA	Paso Flores	151.09	130	PKPbc	PKPdf	04 07 11.8	+5.6
	comp=Z,7.0nm,1.1s,baz=81,slow=3.1,SNR=6.2						
LPAZ	La Paz	153.40	76	PKPbc	PKPdf	04 07 17.5	+7.2
	comp=Z,1.2nm,0.8s,baz=193,slow=5.3,SNR=5.2						
LPAZ	La Paz	153.40	76	PKPbc	PKPdf	04 07 17.5	+7.2

*NIED **19** 03:47:00, 30.50N×132.30E, h8km, Mw4.2 Best double couple: M_0:2.58×10^15 NP1:ϕ_s=210°, δ=60°, λ=-94°. NP2:ϕ_s=38°, δ=30°, λ=-84°.*

*IDC **19** 03:47:18.6±0.9, 30.56N×132.25E, mb3.8/8, mb1 3.9/9, mb1mx3.9/21, mbtmp3.8/9, ML3.2/1, Error ellipse: s-maj=31.1km s-min=20.7km az=88.0*

*JMA **19** 03:47:21.7±0.1, 30.50N×132.31E, h62km±5km, M3.9*

ISC 19 03:47:20.6±2.0, 30.53N±0.05×132.38E±0.05, h29km±15km, n20, σ0§84/29, mb3.8/8, 4C, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	Tanegashima 3	1.22	276	⇑P	Pn	03 47 42.1	+0.2
JTN				S	Sn	03 47 57.8	+0.4
JNAR	Kushima--Naru	1.38	316	⇑P	Pn	03 47 45.2	+1.0
JNAR				S	Sn	03 48 02.1	+0.6
JTSR	Tashiro 2	1.41	297	⇑P	Pn	03 47 44.7	+0.1
JTSR				S	Sn	03 48 02.2	-0.1
JTZ	Takazaki	1.76	321	P	Pn	03 47 50.5	+0.9
JTZ				S	Sn	03 48 11.8	+0.5
JNN	Nakanoshima	2.28	253	P	Pn	03 47 57.2	+0.1
JNN				S	Sn	03 48 23.6	-0.8
JTO	Tosashimizu	2.35	9	P	Pn	03 47 57.7	-0.4
JTO				S	Sn	03 48 22.8	-3.5
JIU2	Izumi 2	2.41	327	⇑P	Pn	03 48 00.1	+1.1
JIU2				S	Sn	03 48 27.3	-0.6
JSJ	Shimokoshiki	2.56	297	P	Pn	03 48 01.2	+0.1
JSJ				S	Sn	03 48 30.0	-1.5
UWA2	Uwa jima 2	2.68	4	P	Pn	03 48 02.9	0.0
UWA2				S	Sn	03 48 31.1	-3.6
JOW	Kunigami	5.16	225	Pn	Pn	03 48 36.8	-1.1

33nm,1.2s
PKI Pulchoki 21.10 344 *e*P P 03 59 55.3 +8.5
23nm,1.1s
DMN Daman 21.23 343 *e*P P 03 59 56.6 +8.5
26nm,1.0s
KKN Kakani 21.35 343 *e*P P 03 59 57.9 +8.6
15nm,0.7s
GKN Gorkha 21.74 342 *e*P P 04 00 03.0 +10
13nm,0.6s
KOLN Koldanda 21.86 340 *e*P P 04 00 05.2 +11
11nm,0.7s
SONM Songino Array 42.21 14 P P 04 02 53.0 -1.5
0.6nm,0.9s,baz=185,slow=10,SNR=3.1
WRA Warramunga Arr 49.68 124 P P 04 03 52.1 -2.1
0.8nm,0.8s,baz=303,slow=9.1,SNR=5.0

IDC 19 04:17:49.9±2.3, 3.53N×96.70E, mb4.0/5, mb1 4.2/5, mb1mx3.9/15, mbtmp4.0/5, Error ellipse: s-maj=105.6km s-min=23.9km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.71**	**124**	P	P	04 25 57.6	-1.2
	3.8nm,0.7s,baz=303,slow=9.3,SNR=21						
SONM	**Songino Array**	**44.92**	**9**	P	P	04 26 06.6	-1.7
	0.4nm,0.4s,baz=190,slow=8.5,SNR=4.5						
ASAR	**Alice Springs**	**45.20**	**129**	P	P	04 26 08.4	-2.5
	0.5nm,0.4s,baz=295,slow=7.0,SNR=5.7						
STKA	**Stephens Creek**	**55.28**	**133**	P	P	04 27 25.2	-2.5
	3.1nm,0.9s,baz=297,slow=6.8,SNR=3.1						
ARCES	**ARCESS Array B**	**80.19**	**340**	P	P	04 30 01.9	-1.5
	1.7nm,0.7s,baz=96,slow=6.3,SNR=4.4						

*NEIC **19** 04:38:44.6±0.7, 4.69N×94.42E, mb4.5/1, Error ellipse: s-maj=23.9km s-min=12.4km az=57.0*
*IDC **19** 04:38:45.2±0.9, 4.94N×94.65E, h49km±6km, mb3.8/9, mb1 4.0/10, mb1mx3.8/19, mbtmp4.1/10, Error ellipse: s-maj=49.7km s-min=14.7km az=48.0*
ISC 19 04:38:43.0±0.8, 4.7N±0.1×94.4E±0.2, h49km, h49km±.9km: pP-P, n12, σ0s78/11, mb4.0/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.38**	**18**	P	P	**04 42 06.5**	**+1.1**
	0.8nm,0.3s,baz=212,slow=12,SNR=6.5						
SONM	**Songino Array**	**44.20**	**12**	P	P	**04 46 46.6**	**-2.3**
	0.8nm,0.5s,mb3.7,baz=190,slow=8.1,SNR=9.2						
SONM				PcP	PcP	04 48 31.6	-1.9
	0.2nm,0.4s,baz=186,slow=4.4,SNR=5.6						
WRA	**Warramunga Arr**	**46.24**	**123**	P	P	**04 47 05.5**	**-0.1**
	2.5nm,0.6s,mb4.3,baz=302,slow=9.1,SNR=25						
WRAB	**Tennant Creek**	**46.25**	**123**	*e*P	P	**04 47 05.6**	**-0.1**
	4.5nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**47.71**	**128**	P	P	**04 47 17.4**	**+0.3**
	1.0nm,0.5s,mb4.1,baz=300,slow=7.9,SNR=14						
ASAR				pP	pP	04 47 30.6	+0.2
	0.7nm,0.4s,baz=304,slow=8.4,SNR=3.9						
ASAR				sP	sP	04 47 36.0	-0.1
	0.7nm,0.5s,baz=299,slow=8.0,SNR=3.3						
BVAR	**Borovoye Array**	**52.08**	**342**	P	P	**04 47 49.8**	**-0.3**
	0.5nm,0.3s,mb3.9,baz=149,slow=8.6,SNR=4.9						
BVAR				pP	pP	04 48 02.9	-0.5
	1.4nm,0.7s,baz=143,slow=7.4,SNR=5.7						
BRTR	**Keskin Array B**	**64.73**	**312**	P	P	**04 49 18.8**	**+0.2**
	0.5nm,0.5s,mb3.8,baz=126,slow=6.2,SNR=4.8						
BRTR				pP	pP	04 49 32.3	-0.1
	0.6nm,0.7s,baz=114,slow=8.2,SNR=3.6						
FINES	**FINESS Array B**	**75.64**	**333**	P	P	**04 50 23.9**	**-0.5**
	1.7nm,0.8s,mb4.0,baz=63,slow=4.3,SNR=4.1						
FINES				pP	pP	04 50 38.6	+0.1
	9.7nm,1.3s,baz=90,slow=5.7,SNR=1.2						
ARCES	**ARCESS Array B**	**78.34**	**340**	P	P	**04 50 39.8**	**+0.5**
	14nm,1.3s,mb4.7,baz=95,slow=7.1,SNR=6.0						
GERES	**GERESS Array B**	**80.38**	**319**	P	P	**04 50 51.4**	**+0.6**
	0.5nm,0.6s,mb3.6,baz=108,slow=8.4,SNR=2.5						
HFS	**Hagfors**	**81.33**	**330**	P	P	**04 50 55.7**	**+0.1**
	1.2nm,0.7s,mb3.9,baz=112,slow=8.0,SNR=4.2						
TXAR	**Lajitas Array**	**141.97**	**26**	PKP	PKPdf	04 58 10.7	+0.4
	0.1nm,0.4s,baz=314,slow=1.9,SNR=4.2						

*IDC **19** 04:43:04.8±1.5, 8.18N×94.66E, mb3.7/7, mb1 3.8/7, mb1mx3.7/17, mbtmp3.7/7, Error ellipse: s-maj=61.0km s-min=30.8km az=46.0*
ISC 19 04:43:08.7±1.0, 8.3N±0.2×94.8E±0.1, h33km, n8, σ1s06/8, mb3.7/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**25.55**	**76**	*e*P	P	**04 48 37.0**	**+0.6**
SONM	**Songino Array**	**40.62**	**12**	P	P	**04 50 47.4**	**+0.3**
	0.5nm,0.8s,mb3.2,baz=207,slow=5.5,SNR=4.0						
WRA	**Warramunga Arr**	**47.98**	**126**	P	P	**04 51 45.8**	**-0.8**
	0.4nm,0.9s,mb3.4,baz=308,slow=8.3,SNR=3.4						
BVAR	**Borovoye Array**	**48.81**	**341**	P	P	**04 51 51.5**	**-1.1**
	0.3nm,0.4s,mb3.7,baz=143,slow=7.2,SNR=3.5						
KMBO	**Kilima Mbogo**	**58.11**	**263**	P	P	**04 53 02.7**	**+0.9**
	1.4nm,0.6s,mb4.2,baz=56,slow=16,SNR=5.9						
BRTR	**Keskin Array B**	**62.65**	**310**	P	P	**04 53 30.2**	**-2.2**
	0.6nm,0.7s,mb3.8,baz=119,slow=6.7,SNR=5.4						
FINES	**FINESS Array B**	**72.65**	**332**	P	P	**04 54 35.5**	**+0.9**
	1.7nm,0.8s,mb4.0,baz=124,slow=6.9,SNR=5.4						
GERES	**GERESS Array B**	**77.95**	**318**	P	P	**04 55 06.1**	**+0.9**
	0.6nm,0.5s,mb3.8,baz=101,slow=5.0,SNR=3.6						

*IDC **19** 04:44:43.9±0.8, 7.96N×93.94E, mb3.9/10, mb1 4.1/11, mb1mx4.0/18, mbtmp3.9/11, ML4.0/1, MS3.7/2, Ms1 3.7/2, ms1mx3.4/18, Error ellipse: s-maj=41.6km s-min=18.0km az=53.0*
*BJI **19** 04:44:46.9, 8.29N×93.98E, h14km, mB5.1, mb4.6, Ms4.4, Msz4.0*
*NEIC **19** 04:44:48.3±0.5, 8.01N×94.04E, h30km, mb4.4/5, Error ellipse: s-maj=16.4km s-min=10.4km az=64.0*
ISC 19 04:44:47.2±0.6, 8.08N±0.08×94.11E±0.07, h33km, n34, σ0s97/33, mb4.3/19, MS4.0/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.51**	**98**	P	P	**04 46 26.5**	**+3.4**
NNT	**Nongplab**	**7.12**	**51**	P	P	**04 46 36.0**	**+4.4**
CMAR	**Chiang Mai Arr**	**11.33**	**24**	Pn	P	**04 47 30.4**	**+0.6**
	0.3nm,0.3s,baz=214,slow=13,SNR=5.3						
CMAR				LR	LR	04 52 11.6	
	comp=Z,165nm,18.4s,baz=220,slow=39						
SHL	**Shillong**	**17.52**	**353**	*e*P	P	**04 48 50.0**	**-0.5**
HYB	**Hyderabad**	**17.77**	**303**	*e*P	P	**04 49 03.0**	**+9.2**
HYB	**Hyderabad**	**17.77**	**303**	*i*P	P	**04 49 03.0**	**+9.2**
QIZ	**Qiongzhong**	**18.75**	**53**	P	P	**04 49 08.1**	**+2.2**
QIZ				S	S	**04 52 29.4**	**-0.9**
QIZ				LR	LR		
	comp=N,740nm,11.8s						
QIZ				LR	LR		
	comp=Z,361nm,11.9s						
JIRN	**Jiri**	**20.87**	**340**	*e*P	P	**04 49 28.9**	**0.0**
	comp=Z,106nm,1.2s						
PKI	**Pulchoki**	**21.06**	**338**	*e*P	P	**04 49 31.4**	**+0.5**
	comp=Z,130nm,1.3s,mb5.1						
DMN	**Daman**	**21.21**	**337**	*e*P	P	**04 49 31.9**	**-0.5**
	comp=Z,60nm,0.9s,mb4.9						
KKN	**Kakani**	**21.31**	**338**	*e*P	P	**04 49 33.0**	**-0.3**
	comp=Z,83nm,1.4s,mb4.9						
LSA	**Lhasa**	**21.68**	**353**	P	P	**04 49 37.6**	**+0.5**
LSA	**Lhasa**	**21.68**	**353**	*e*P	P	**04 49 34.4**	**-2.7**
	comp=Z,7.7nm,0.6s,mb4.3						
GKN	**Gorkha**	**21.74**	**337**	*e*P	P	**04 49 38.0**	**+0.3**
	comp=Z,41nm,0.8s,mb4.9						
KOLN	**Koldanda**	**21.96**	**334**	*e*P	P	**04 49 40.8**	**+0.9**
	comp=Z,39nm,0.8s,mb4.9						
ENH	**Enshi**	**26.36**	**31**	*e*P	P	**04 50 20.7**	**-1.6**
	comp=Z,23nm,1.6s,mb4.5						
SONM	**Songino Array**	**40.97**	**13**	P	P	**04 52 29.3**	**+0.9**
	comp=Z,0.7nm,0.7s,mb3.4,baz=203,slow=9.4,SNR=5.6						
SONM				PcP	PcP	04 54 30.8	+1.9
	comp=Z,0.5nm,0.6s,baz=175,slow=5.0,SNR=2.6						
KURK	**Kurchatov**	**44.40**	**346**	*e*P	P	**04 52 56.6**	**+0.2**
	comp=Z,8.3nm,1.0s,mb4.4						
MDJ	**Mudanjiang**	**47.65**	**34**	P	P	**04 53 20.8**	**-1.5**
MDJ				AMB	AMB		
	comp=Z,187nm,5.9s						
WRA	**Warramunga Arr**	**48.40**	**126**	P	P	**04 53 28.1**	**-0.3**
	comp=Z,1.2nm,0.9s,mb3.9,baz=304,slow=8.9,SNR=6.2						
BVAR	**Borovoye Array**	**48.78**	**341**	P	P	**04 53 30.2**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.9,baz=135,slow=8.4,SNR=3.5						
BVAR				PcP	PcP	04 54 57.3	+1.5
	comp=Z,2.1nm,1.1s,baz=135,slow=2.0,SNR=2.9						
CHKZ	**Chkalovo**	**49.27**	**342**	*e*P	P	**04 53 34.6**	**0.0**
	comp=Z,3.4nm,0.9s,mb4.4						
ASAR	**Alice Springs**	**50.07**	**130**	P	P	**04 53 40.8**	**-0.4**
	comp=Z,0.7nm,0.8s,mb3.7,baz=281,slow=7.3,SNR=3.4						
ASAR				PcP	PcP	04 55 01.8	+1.0
	comp=Z,0.6nm,0.8s,baz=304,slow=3.3,SNR=3.0						
STKA	**Stephens Creek**	**60.27**	**134**	P	P	**04 54 54.4**	**-0.6**
	comp=Z,2.4nm,0.9s,mb4.2,baz=119,slow=5.7,SNR=3.3						
STKA				LR	LR	05 24 50.7	
	comp=Z,96nm,18.6s,MS4.0,baz=277,slow=40						
BRTR	**Keskin Array B**	**62.27**	**311**	P	P	**04 55 07.8**	**-0.5**
	comp=Z,0.8nm,0.7s,mb4.0,baz=123,slow=7.3,SNR=5.4						
FINES	**FINESS Array B**	**72.52**	**332**	P	P	**04 56 12.2**	**-0.1**
	comp=Z,2.2nm,0.8s,mb4.2,baz=90,slow=5.7,SNR=5.5						
ARCES	**ARCESS Array B**	**75.06**	**340**	P	P	**04 56 27.5**	**+0.5**
	comp=Z,3.5nm,0.9s,mb4.3,baz=108,slow=7.7,SNR=4.9						
ARCES	**ARCESS Array B**	**75.06**	**340**	P	P	**04 56 27.5**	**+0.5**
GERES	**GERESS Array B**	**77.65**	**318**	P	P	**04 56 42.4**	**+0.4**
	comp=Z,1.2nm,0.7s,mb4.0,baz=124,slow=4.8,SNR=4.7						
NB2	**NORSAR Subarra**	**79.54**	**331**	P	P	**04 56 51.9**	**-0.2**
	comp=Z,2.9nm,1.0s,mb4.2,baz=91,slow=5.8						
NOA	**NORSAR Array B**	**79.54**	**331**	P	P	**04 56 52.1**	**0.0**
	comp=Z,1.6nm,1.0s,mb3.9,baz=96,slow=5.7,SNR=3.8						
IMA	**Indian Mountai**	**91.44**	**22**	*e*P	P	**04 57 53.9**	**+2.8**
TXAR	**Lajitas Array**	**139.05**	**24**	PKP	PKPdf	05 04 13.2	+2.0
	comp=Z,0.1nm,0.8s,baz=319,slow=51,SNR=2.8						
PLCA	**Paso Flores**	**144.73**	**200**	PKP	PKPdf	05 04 22.4	+1.5
	comp=Z,3.0nm,0.9s,baz=205,slow=2.9,SNR=4.8						

WEL 19 04:56:35.5±0.4, 39.77S×173.95E, h220km±3km, ML3.6/8, 1D, Error ellipse: s-maj=4.4km s-min=3.1km az=90.0, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.80**	**89**	PN	P	04 57 07.0	+0.6
WAZ				SN	S	04 57 30.5	+0.2
KIW	**Kapiti Island**	**1.31**	**146**	PN	P	04 57 09.4	-0.4
KIW				SN	S	04 57 34.9	-1.5
WNVZ	**Wahianoa**	**1.35**	**71**	PN	P	04 57 08.6	-1.6
WNVZ				SN	S	04 57 34.2	-2.7
WPVZ	**Whakapapa**	**1.36**	**66**	PN	P	04 57 09.6	-0.7
WPVZ				SN	S	04 57 35.4	-1.6
CNZ	**Chateau**	**1.37**	**66**	PN	P	04 57 09.6	-0.7
NGZ	**Ngauruhoe**	**1.41**	**66**	PN	P	04 57 10.0	-0.6
TUVZ	**Tukino**	**1.42**	**70**	PN	P	04 57 10.2	-0.5
MOVZ	**Moawhango**	**1.44**	**76**	PN	P	04 57 09.8	-1.1
NNZ	**Nelson**	**1.51**	**196**	PN	P	04 57 11.2	-0.3
NNZ				SN	S	04 57 38.0	-1.1
QRZ	**Quartz Range**	**1.51**	**225**	PN	P	04 57 10.7	-0.7
QRZ				SN	S	04 57 37.0	-2.2
MRZ	**Mangatainoka R**	**1.54**	**126**	PN	P	04 57 11.3	-0.4
MRZ				SN	S	04 57 38.5	-1.0
MRW	**Makara Radio**	**1.56**	**159**	PN	P	04 57 11.3	-0.6
CAW	**Cannon Point**	**1.59**	**148**	PN	P	04 57 11.6	-0.5
TUWZ	**Tuamarina**	**1.66**	**180**	PN	P	04 57 12.6	-0.1
TUWZ				SN	S	04 57 40.4	-1.0
MTW	**Mount Morrison**	**1.82**	**140**	PN	P	04 57 13.4	-0.8
BSWZ	**Blackbirch Sta**	**1.94**	**182**	PN	P	04 57 15.4	+0.1
BFZ	**Birch Farm**	**1.98**	**118**	PN	P	04 57 15.2	-0.5
BKZ	**Black Stump Fm**	**2.06**	**74**	PN	P	04 57 15.1	-1.4
BKZ				SN	S	04 57 44.5	-3.6
THZ	**Tophouse**	**2.14**	**201**	PN	P	04 57 16.6	-0.7
THZ				SN	S	04 57 47.4	-2.1
DSZ	**Denniston Nort**	**2.56**	**219**	⇓PN	P	04 57 20.5	-1.2
KHZ	**Kahutara**	**2.66**	**186**	PN	P	04 57 21.6	-1.3
KHZ				SN	S	04 57 57.3	-2.2
KNZ	**Kokohu**	**2.98**	**77**	PN	P	04 57 24.5	-2.0
MWZ	**Matawai**	**3.14**	**64**	PN	P	04 57 25.4	-2.8
LTZ	**Lake Taylor**	**3.26**	**202**	PN	P	04 57 27.9	-1.8
PUZ	**Puketiti**	**3.77**	**65**	PN	P	04 57 32.6	-3.2
MQZ	**McQueen's Vall**	**4.05**	**193**	PN	P	04 57 35.7	-3.5
MQZ				SN	S	04 58 22.9	-5.6
MXZ	**Matakaoa Point**	**4.06**	**59**	PN	P	04 57 36.2	-3.2
WVZ	**Waitaha Valley**	**4.09**	**215**	PN	P	04 57 36.7	-2.9
FOZ	**Fox Glacier**	**4.95**	**219**	PN	P	04 57 46.2	-4.3
LBZ	**Lake Benmore**	**5.39**	**210**	PN	P	04 57 52.2	-3.8
JCZ	**Jackson Bay**	**5.78**	**220**	PN	P	04 57 57.1	-3.9
ODZ	**Otahua Downs**	**5.81**	**204**	PN	P	04 57 58.9	-2.5

*IDC **19** 05:16:27.6±1.1, 8.21N×94.33E, mb3.7/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, Error ellipse: s-maj=40.2km s-min=30.1km az=40.0*
ISC 19 05:16:31.0±1.0, 8.1N±0.2×94.3E±0.2, h33km, n11, σ0s68/10, mb4.0/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**20.93**	**339**	*e*P	P	**05 21 13.3**	**0.0**
	26nm,1.2s						
PKI	**Pulchoki**	**21.13**	**338**	*e*P	P	**05 21 15.7**	**+0.4**
	14nm,0.7s,mb4.4						
DMN	**Daman**	**21.28**	**337**	*e*P	P	**05 21 17.4**	**+0.6**
	7.6nm,0.4s,mb4.4						
GKN	**Gorkha**	**21.82**	**336**	*e*P	P	**05 21 22.4**	**+0.2**
	16nm,0.6s,mb4.6						
KOLN	**Koldanda**	**22.04**	**334**	*e*P	P	**05 21 24.2**	**-0.3**
	13nm,0.8s,mb4.4						
SONM	**Songino Array**	**40.90**	**12**	P	P	**05 24 12.2**	**+0.5**
	0.3nm,0.7s,mb3.0,baz=202,slow=7.8,SNR=2.9						
WRA	**Warramunga Arr**	**48.23**	**126**	P	P	**05 25 11.0**	**+0.1**
	0.5nm,0.6s,mb3.7,baz=304,slow=8.8,SNR=6.9						
KMBO	**Kilima Mbogo**	**57.64**	**264**	P	P	**05 26 21.6**	**+0.7**
	0.9nm,0.4s,mb4.1,baz=55,slow=9.9,SNR=5.9						
FINES	**FINESS Array B**	**72.60**	**332**	P	P	**05 27 54.8**	**-1.8**
	2.2nm,0.9s,mb4.1,baz=147,slow=32,SNR=2.0						
GERES	**GERESS Array B**	**77.79**	**318**	P	P	**05 28 26.0**	**-0.6**
	0.5nm,0.6s,mb3.6,baz=50,slow=4.9,SNR=2.9						
PLCA	**Paso Flores**	**144.82**	**200**	PKP	PKPdf	05 36 05.8	+0.9
	2.1nm,0.8s,baz=204,slow=4.0,SNR=4.8						

MOS 19 05:16:30.6±2.5, 41.44N×48.52E, h15km, mb4.2/1, 1C-2D, Error ellipse: s-maj=21.8km s-min=8.4km az=124.9, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMR	**Kasumkent**	**0.34**	**299**	⇑*i*PG	Pg	05 16 38.5	+0.7
KSMR				*i* S	Sb	05 16 43.5	+0.9
DRN	**Derbent**	**0.61**	**347**	⇓*i*PG	Pg	05 16 41.0	-2.0
DRN				*i* S	Sb	05 16 48.0	-2.4
DRN				pmax	pmax		
	comp=Z,863nm,0.2s						
URKR	**Urkarakh**	**0.98**	**318**	*e*PG	Pg	05 16 49.5	-0.9
URKR				*e*S	Sb	05 17 01.5	+0.2
SGKR	**Sergokala**	**1.21**	**328**	*i* PG	Pg	05 16 53.0	-1.8
SGKR				*i* S	Sb	05 17 08.0	+0.2
SGKR				pmax	pmax		
	comp=Z,174nm,0.2s						
KMKR	**Kumukh**	**1.27**	**303**	⇓*i*PG	Pg	05 16 51.0	-5.0
KMKR				pmax	pmax		
	comp=Z,385nm,0.2s						
MAK	**Makhachkala**	**1.70**	**334**	*e*PN	Pn	05 17 06.6	+6.6
MAK				*i*		05 17 24.9	
XNZR	**Khunzakh**	**1.74**	**310**	*e*PN	Pn	05 17 04.0	+3.3
UNCR	**Uncukul**	**1.81**	**315**	*e*PN	Pn	05 17 04.0	+2.4
UNCR				*e*S	Sn	05 17 27.0	+2.7
UNCR				pmax	pmax		
	comp=Z,86nm,0.2s						
DBC	**Dubki**	**2.02**	**322**	*e*PN	Pn	05 17 07.0	+2.4
TI2	**Plekhanov**	**2.84**	**277**	*i* PN	Pn	05 17 10.8	-5.6
ZEI	**Tsey**	**3.69**	**293**	*e*PN	Pn	05 17 21.4	-6.9
ZEI				*e*		05 17 40.5	
ZEI				*e*		05 18 13.8	
SOC	**Sochi**	**6.85**	**291**	*e*P	Pn	05 18 13.1	+0.1
SOC				*e*		05 19 24.8	
SOC				pmax	pmax		
	comp=Z,14nm,0.7s						
SOC				pmax	pmax		
	comp=N,43nm,0.8s						
SOC				pmax	pmax		
	comp=E,27nm,1.0s						
SOC				MLR	MLR		
	comp=N,441nm,10.0s						
SOC				MLR	MLR		
	comp=E,185nm,10.0s						
SOC				MLR	MLR		
	comp=Z,404nm,10.0s						
ARU	**Arti**	**16.36**	**20**	*e*P	P	05 20 13.2	-7.9
ARU				*e*SS	SS	05 23 14.1	-28

IDC 19 05:29:42.1±4.3, 30.86S×138.26E, mb1 3.4/3, mb1mx3.3/9, mbtmp3.2/3, ML3.0/3, Error ellipse: s-maj=88.4km s-min=16.6km az=37.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.03**	**110**	Pn	Pn	05 30 31.2	-1.0
	0.8nm,0.3s,baz=293,slow=12,SNR=10						
STKA				Pg	Pg	05 30 38.2	-4.3
	3.6nm,0.3s,baz=292,slow=15,SNR=27						
STKA				Lg		05 31 17.2	
	9.5nm,0.3s,baz=25,slow=21,SNR=9.9						
ASAR	**Alice Springs**	**8.15**	**331**	Pn	P	05 31 42.5	-2.0
	0.3nm,0.3s,baz=152,slow=12,SNR=15						
ASAR				Sn	Sn	05 33 13.0	-5.3
	0.6nm,0.3s,baz=153,slow=22,SNR=13						
WRA	**Warramunga Arr**	**11.44**	**341**	Pn	P	05 32 26.6	-3.2
	0.3nm,0.3s,baz=168,slow=12,SNR=20						
WRA				Sn	S	05 34 31.5	-8.0
	0.1nm,0.3s,baz=162,slow=24,SNR=6.3						

IDC 19 05:39:47.1±1.3, 11.27N×91.95E, mb3.5/5, mb1 3.8/5, mb1mx3.6/16, mbtmp3.5/5, Error ellipse: s-maj=60.4km s-min=25.3km az=48.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**38.42**	**16**	P	P	05 47 10.5	-1.6
	0.5nm,1.0s,baz=202,slow=7.8,SNR=3.4						
WRA	**Warramunga Arr**	**51.99**	**126**	P	P	05 48 58.3	-2.4
	0.4nm,0.5s,baz=306,slow=8.5,SNR=7.1						
ASAR	**Alice Springs**	**53.74**	**131**	P	P	05 49 11.9	-1.8
	0.6nm,0.9s,baz=310,slow=6.6,SNR=3.1						
BRTR	**Keskin Array B**	**58.60**	**310**	P	P	05 49 47.2	-1.2
	0.4nm,0.8s,baz=117,slow=9.7,SNR=2.3						
GERES	**GERESS Array B**	**73.88**	**318**	P	P	05 51 23.2	-2.5
	0.7nm,0.7s,baz=100,slow=6.0,SNR=3.5						

IDC 19 05:47:22.9±6.3, 8.90N×94.21E, mb3.7/4, mb1 3.8/5, mb1mx3.6/17, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=166.2km s-min=38.5km az=137.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.55**	**25**	Pn	P	05 50 02.2	+3.6
	0.3nm,0.3s,baz=217,slow=14,SNR=4.4						
SONM	**Songino Array**	**40.15**	**13**	P	P	05 55 00.5	-1.8
	0.4nm,0.9s,baz=194,slow=5.9,SNR=2.9						
KMBO	**Kilima Mbogo**	**57.61**	**263**	P	P	05 57 15.3	-2.2
	0.9nm,0.7s,baz=50,slow=16,SNR=4.1						
BRTR	**Keskin Array B**	**61.81**	**310**	P	P	05 57 43.8	-2.4
	0.6nm,0.6s,baz=122,slow=6.8,SNR=3.4						
GERES	**GERESS Array B**	**77.11**	**318**	P	P	05 59 19.2	-0.7
	1.1nm,0.8s,baz=72,slow=6.2,SNR=3.5						

*IDC **19** 05:53:14.9±1.4, 84.74N×4.33E, mb3.7/7, mb1 3.9/8, mb1mx3.7/19, mbtmp3.8/8, ML3.9/1, Error ellipse: s-maj=79.5km s-min=15.9km az=61.0*
NEIC 19 05:53:17.2±1.1, 84.56N×0.17W, h10km, mb3.8/2, Error ellipse: s-maj=48.0km s-min=11.9km az=54.0, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**15.82**	**146**	Pn	P	05 56 53.4	-7.7
	0.7nm,0.3s,baz=356,slow=9.2,SNR=23						
ARCES	**ARCESS Array B**	**15.82**	**146**	Pn	P	05 56 53.4	-7.7
RES	**Resolute Bay**	**16.76**	**293**	*e*P	P	05 57 09.5	-3.5
	7.1nm,0.9s						
NB2	**NORSAR Subarra**	**23.78**	**166**	P	P	05 58 29.9	0.0
	3.1nm,0.9s,baz=2,0,slow=10						
NOA	**NORSAR Array B**	**23.78**	**166**	P	P	05 58 30.0	+0.1
	1.8nm,0.8s,baz=0.3,slow=9.8,SNR=4.0						
FINES	**FINESS Array B**	**23.92**	**148**	P	P	05 58 28.9	-2.3
	2.1nm,0.9s,baz=331,slow=14,SNR=3.2						
HFS	**Hagfors**	**24.75**	**163**	P	P	05 58 38.5	-0.9
	12nm,1.2s,baz=18,slow=9.1,SNR=3.1						
INK	**Inuvik**	**25.88**	**322**	P	P	05 58 49.0	-1.0
	2.5nm,0.7s,baz=19,slow=10,SNR=10						
ILAR	**Eielson Array**	**30.10**	**332**	P	P	05 59 25.7	-2.6
	0.6nm,0.8s,baz=2.0,slow=8.5,SNR=7.6						
YKA	**Yellowknife Ar**	**30.31**	**303**	P	P	05 59 28.3	-1.9
	0.3nm,0.7s,baz=6.4,slow=8.0,SNR=12						
PDAR	**Pinedale Array**	**49.45**	**294**	P	P	06 02 09.2	+0.4
	0.6nm,0.9s,baz=14,slow=3.7,SNR=4.4						

IDC 19 05:56:35.1±1.6, 7.14N×93.49E, mb3.9/3, mb1 4.1/4, mb1mx3.6/18, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=63.7km s-min=31.6km az=48.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.44**	**25**	Pn	P	05 59 33.1	-3.3
	0.2nm,0.3s,baz=213,slow=15,SNR=5.3						
WRA	**Warramunga Arr**	**48.37**	**125**	P	P	06 05 19.0	-2.0
	0.3nm,0.7s,baz=304,slow=8.7,SNR=6.2						
FINES	**FINESS Array B**	**73.06**	**332**	P	P	06 08 08.0	-0.

IDC ***19*** *06:08:37.3±0.5, 8.22N×94.13E, mb4.6/21, mb1 4.7/22, mb1mx4.7/24, mbtmp4.6/22, ML4.0/1, Error ellipse: s-maj=27.8km s-min=12.3km az=53.0*
BJI ***19*** *06:08:40.8, 7.81N×93.98E, h50km, mB5.0, mb4.7, Ms5.1, Msz4.7*
MOS ***19*** *06:08:40.5±1.9, 8.25N×94.24E, h33km, mb5.1/18, Error ellipse: s-maj=14.6km s-min=7.8km az=113.7*
NEIC ***19*** *06:08:41.5±0.3, 8.22N×94.23E, mb4.8/25, Error ellipse: s-maj=9.6km s-min=6.9km az=61.0*

ISC 19 06:08:39.9±0.3, 8.22N±0.05×94.20E±0.05, h26km, h26km±.9km:pP-P, n128, σ1§11/129, mb4.7/53, MS4.6/3, 6C-4D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.45**	**99**	P	**Pn**	**06 10 20.0**	**+4.3**
	208nm,0.9s						
NNT	**Nongplab**	**6.96**	**51**	P	**Pn**	**06 10 23.2**	**+0.2**
NST	**Nakhon Sawan**	**9.41**	**38**	P	**P**	**06 10 58.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**11.17**	**24**	Pn	**P**	**06 11 22.1**	**+0.8**
	0.3nm,0.3s,baz=216,slow=15,SNR=22						
CHG	**Chiang Mai**	**11.49**	**23**	⇑P	**P**	**06 11 28.0**	**+2.4**
	24nm,1.4s						
PALK	**Pallekele**	**13.41**	**267**	P	**P**	**06 11 58.7**	**+7.5**
VIS	**Vishakhapatnam**	**14.18**	**313**	*e*P	**P**	**06 12 00.3**	**-1.1**
VIS				*e*		06 12 04.7	
	comp=Z,34nm,0.7s						
VIS				*e*S	**S**	**06 14 30.1**	**-8.8**
BWNR	**Bhubaneshwar**	**14.49**	**327**	*e*P	**P**	**06 12 02.9**	**-2.6**
BWNR				*e*		06 12 05.9	
	comp=Z,40nm,0.6s						
IMP	**Imphal**	**16.47**	**359**	*e*P	**P**	**06 12 29.6**	**-1.4**
SHL	**Shillong**	**17.39**	**353**	*e*P	**P**	**06 12 40.5**	**-2.1**
HYB	**Hyderabad**	**17.77**	**302**	*e*P	**P**	**06 12 48.0**	**+0.7**
HYB				*e*S	**S**	**06 15 56.0**	**-6.1**
HYB				pmax	pmax		
	comp=Z,40nm,1.0s						
HYB	**Hyderabad**	**17.77**	**302**	*e*P	**P**	**06 12 48.0**	**+0.7**
	comp=Z,40nm,1.0s						
HYB				*e*S	**S**	**06 15 56.0**	**-6.1**
HYB	**Hyderabad**	**17.77**	**302**	*i* P	**P**	**06 12 48.0**	**+0.7**
	comp=Z,40nm,1.0s						
HYB				*e*S	**S**	**06 15 56.0**	**-6.1**
BLSP	**Bilaspur**	**18.06**	**321**	*e*P	**P**	**06 12 47.9**	**-3.1**
BLSP				*e*		06 12 53.1	
	comp=Z,20nm,1.3s						
QIZ	**Qiongzhong**	**18.60**	**53**	P	**P**	**06 12 59.8**	**+2.2**
QIZ				AMB	AMB		
	comp=Z,318nm,4.8s						
JIRN	**Jiri**	**20.77**	**340**	*e*P	**P**	**06 13 21.8**	**+0.3**
	comp=Z,172nm,1.0s						
PKI	**Pulchoki**	**20.97**	**338**	*e*P	**P**	**06 13 23.8**	**+0.2**
	comp=Z,489nm,1.6s						
DMN	**Daman**	**21.12**	**337**	*e*P	**P**	**06 13 25.2**	**+0.1**
	comp=Z,312nm,0.9s,mb5.6						
KKN	**Kakani**	**21.21**	**338**	*e*P	**P**	**06 13 25.8**	**-0.3**
	comp=Z,211nm,1.2s,mb5.4						
LSA	**Lhasa**	**21.56**	**353**	P	**P**	**06 13 29.4**	**-0.2**
LSA				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.6						
LSA	**Lhasa**	**21.56**	**353**	*e*P	**P**	**06 13 29.6**	**0.0**
LSA				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.6						
LSA	**Lhasa**	**21.56**	**353**	*e*P	**P**	**06 13 29.6**	**+0.1**
	comp=Z,20nm,0.8s,mb4.6						
GKN	**Gorkha**	**21.65**	**337**	*e*P	**P**	**06 13 29.7**	**-0.8**
	comp=Z,201nm,0.9s,mb5.6						
KOLN	**Koldanda**	**21.88**	**334**	*e*P	**P**	**06 13 32.4**	**-0.3**
	comp=Z,611nm,1.6s,mb5.8						
BHPL	**Bhopal**	**21.96**	**315**	*e*P	**P**	**06 13 36.0**	**+2.4**
BHPL				*e*		06 13 41.7	
	comp=Z,59nm,1.0s						
POO	**Poona**	**22.27**	**299**	⇑*i*P	**P**	**06 13 38.5**	**+1.8**
NDI	**New Delhi**	**25.89**	**324**	*e*P	**P**	**06 14 12.0**	**+0.4**
NDI				*e*		06 18 12.0	
ENH	**Enshi**	**26.20**	**31**	*e*P	**P**	**06 14 14.8**	**+0.4**
	comp=Z,39nm,1.1s,mb4.8						
DDI	**Dehra Dun**	**26.68**	**328**	*e*P	**P**	**06 14 20.8**	**+1.9**
XAN	**Xi'an**	**29.06**	**26**	P	**P**	**06 14 40.3**	**-0.1**
XAN				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.5						
LZH	**Lanzhou**	**29.10**	**16**	⇑P	**P**	**06 14 42.1**	**+1.3**
LZH				AP	pP	06 14 51.3	+2.9
LZH				AMB	AMB		
	comp=Z,39nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,113nm,6.3s						
LZH				LR	LR		
	comp=N,446nm,13.2s						
LZH				LR	LR		
	comp=Z,518nm,17.0s,MS4.2						
NJ2	**Nanjing**	**32.97**	**41**	*e*P	**P**	**06 15 12.8**	**-2.1**
NJ2				AMB	AMB		
	comp=Z,710nm,5.6s						
NJ2				LR	LR		
	comp=N,3μm,15.2s,MS5.1						
NJ2				LR	LR		
	comp=E,2μm,17.3s,MS5.1						
NJ2				LR	LR		
	comp=Z,2μm,14.6s,MS4.8						
WMQ	**Urumqi**	**35.92**	**352**	*e*P	**P**	**06 15 42.0**	**+1.9**
WMQ				AP	pP	06 15 49.3	+1.5
WMQ				PP	PP	06 17 03.6	+1.8
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,44nm,4.8s						
WMQ				LR	LR		
	comp=N,765nm,19.3s,MS4.6						
WMQ				LR	LR		
	comp=E,688nm,19.9s,MS4.6						
WMQ				LR	LR		
	comp=Z,956nm,20.0s,MS4.6						
BJT	**Baijiatuau**	**37.26**	**28**	*e*P	**P**	**06 15 49.9**	**-1.5**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJT	**Baijiatuau**	**37.26**	**28**	*e*P	**P**	**06 15 49.9**	**-1.5**
	comp=Z,6.7nm,0.6s,mb4.7						
UCH	**Uchtor**	**38.06**	**336**	P	**P**	**06 15 59.0**	**+0.8**
	SNR=7.8						
AML	**Almayashu**	**38.32**	**335**	P	**P**	**06 16 02.1**	**+1.8**
	SNR=18						
AAK	**Ala-Archa**	**38.41**	**336**	P	**P**	**06 16 01.9**	**+0.9**
	SNR=9.2						
AAK	**Ala-Archa**	**38.41**	**336**	⇑*i*P	**P**	**06 16 00.6**	**-0.5**
AAK				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.6						
AAK	**Ala-Archa**	**38.41**	**336**	*e*P	**P**	**06 16 00.7**	**-0.3**
	comp=Z,13nm,1.0s,mb4.6						
CHMS	**Chumysh**	**38.62**	**337**	P	**P**	**06 16 03.0**	**+0.2**
	SNR=5.4						
EKS2	**Erkin-Say**	**38.72**	**336**	P	**P**	**06 16 04.0**	**+0.3**
	SNR=7.0						
USP	**Ospenovka**	**38.95**	**337**	P	**P**	**06 16 05.6**	**+0.1**
	SNR=11						
MKAR	**Makanchi Array**	**39.77**	**347**	*e*P	**P**	**06 16 11.7**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,15nm,0.9s						
SONM	**Songino Array**	**40.81**	**13**	P	**P**	**06 16 21.8**	**+0.9**
	comp=Z,3.4nm,0.8s,mb4.0,baz=196,slow=8.1,SNR=22						
ULN	**Ulaanbaatar**	**40.99**	**13**	*e*P	**P**	**06 16 23.5**	**+1.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**40.99**	**13**	*e*P	**P**	**06 16 23.4**	**+1.1**
	comp=Z,3.2nm,0.8s,mb4.0						
TLY	**Talaya**	**44.02**	**8**	*e*P	**P**	**06 16 46.8**	**-0.2**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
TLY	**Talaya**	**44.02**	**8**	*e*P	**P**	**06 16 46.8**	**-0.3**
	comp=Z,1.8nm,0.6s,mb4.0						
KURK	**Kurchatov**	**44.29**	**346**	*e*P	**P**	**06 16 48.5**	**-0.8**
KURK				pmax	pmax		
	comp=Z,33nm,1.2s,mb4.9						
KURK	**Kurchatov**	**44.29**	**346**	*e*P	**P**	**06 16 48.5**	**-0.8**
	comp=Z,33nm,1.2s,mb4.9						
ZAL	**Zalesovo**	**46.22**	**352**	P	**P**	**06 17 03.7**	**-0.8**
	comp=Z,4.6nm,0.5s,mb4.7,baz=303,slow=7.1,SNR=14						
NWAO	**Narrogin (SRO)**	**46.43**	**153**	*e*P	**P**	**06 17 06.0**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,20nm,1.1s						
NWAO	**Narrogin (SRO)**	**46.43**	**153**	*e*P	**P**	**06 17 06.0**	**-0.5**
	comp=Z,20nm,1.1s,mb5.0						
WRA	**Warramunga Arr**	**48.41**	**126**	P	**P**	**06 17 20.9**	**-1.3**
	comp=Z,2.7nm,0.6s,mb4.5,baz=308,slow=8.6,SNR=34						
WRA				PcP	PcP	06 18 48.6	-0.1
	comp=Z,1.8nm,0.8s,baz=316,slow=3.0,SNR=6.7						
WRAB	**Tennant Creek**	**48.42**	**126**	⇓*i*P	**P**	**06 17 21.7**	**-0.6**
WRAB	**Tennant Creek**	**48.42**	**126**	*e*P	**P**	**06 17 20.2**	**-2.0**
	comp=Z,14nm,0.9s,mb5.0						
BVAR	**Borovoye Array**	**48.68**	**341**	P	**P**	**06 17 22.4**	**-1.4**
	comp=Z,3.0nm,0.7s,mb4.5,baz=143,slow=7.4,SNR=18						
BVAR				PcP	PcP	06 18 49.8	+0.6
	comp=Z,2.4nm,0.7s,baz=124,slow=5.3,SNR=5.4						
BRVK	**Borovoye**	**48.74**	**341**	*e*P	**P**	**06 17 23.7**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BRVK	**Borovoye**	**48.74**	**341**	*e*P	**P**	**06 17 23.7**	**-0.6**
	comp=Z,3.3nm,0.8s,mb4.4						
RAYN	**Ar Rayn**	**49.00**	**294**	P	**P**	**06 17 27.7**	**+1.0**
	comp=Z,101nm,0.6s,SNR=17						
ASAR	**Alice Springs**	**50.09**	**130**	P	**P**	**06 17 33.5**	**-1.6**
	comp=Z,2.9nm,0.7s,mb4.4,baz=302,slow=7.4,SNR=19						
ASAR				PcP	PcP	06 18 55.3	+0.6
	comp=Z,3.2nm,1.0s,baz=308,slow=3.4,SNR=6.6						
GNI	**Garni**	**54.24**	**314**	*e*P	**P**	**06 18 07.0**	**+1.1**
GNI				pmax	pmax		
	comp=Z,16nm,1.0s						
GNI	**Garni**	**54.24**	**314**	P	**P**	**06 18 05.2**	**-0.7**
	comp=Z,2.7nm,0.6s,mb4.3,baz=72,slow=16,SNR=5.1						
GNI	**Garni**	**54.24**	**314**	*e*P	**P**	**06 18 07.0**	**+1.1**
	comp=Z,16nm,1.0s,mb4.9						
SVE	**Sverdlovsk**	**55.10**	**338**	*e*P	**P**	**06 18 13.4**	**+1.4**
PMG	**Port Moresby**	**55.58**	**107**	P	**P**	**06 18 16.7**	**+0.6**
	comp=Z,14nm,0.7s,mb5.1,baz=272,slow=7.5,SNR=3.6						
ARU	**Arti**	**55.60**	**337**	⇓*i*P	**P**	**06 18 10.2**	**-5.4**
ARU				*e*S	**S**	**06 25 52.3**	**-5.6**
ARU				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
KIV	**Kislovodsk**	**57.10**	**318**	⇑*i*P	**P**	**06 18 26.1**	**-0.5**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
KIV	**Kislovodsk**	**57.10**	**318**	*e*P	**P**	**06 18 25.7**	**-0.9**
	comp=Z,11nm,0.6s,mb5.1						
KMBO	**Kilima Mbogo**	**57.52**	**263**	*i* P	**P**	**06 18 32.0**	**+2.1**
KMBO				pmax	pmax		
	comp=Z,13nm,0.8s						
KMBO	**Kilima Mbogo**	**57.52**	**263**	P	**P**	**06 18 31.7**	**+1.8**
	comp=Z,13nm,0.8s,mb5.0,baz=55,slow=10,SNR=45						
KMBO	**Kilima Mbogo**	**57.52**	**263**	*e*P	**P**	**06 18 31.6**	**+1.7**
	comp=Z,13nm,0.8s,mb5.0						
MALT	**Malatya**	**58.28**	**310**	*e*P	**P**	**06 18 33.8**	**-1.1**
MALT				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
MALT	**Malatya**	**58.28**	**310**	*e*P	**P**	**06 18 33.8**	**-1.2**
	comp=Z,5.7nm,1.1s,mb4.5						
SOKR	**Solikamsk**	**58.50**	**339**	⇓*i*P	**P**	**06 18 36.0**	**-0.1**
SOC	**Sochi**	**58.97**	**316**	*i* P	**P**	**06 18 35.0**	**-4.7**
SOC				*e*		06 19 23.6	
SOC				*e*PPP	PPP	06 22 10.2	-6.0
SOC				*e*S	**S**	**06 26 42.5**	**-0.1**
SOC				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.3						
SOC				pmax	pmax		
	comp=N,12nm,0.8s						
SOC				pmax	pmax		
	comp=E,42nm,0.9s						
STKA	**Stephens Creek**	**60.30**	**134**	P	**P**	**06 18 47.5**	**-1.4**
	comp=E,1.6nm,0.4s,mb4.4,baz=3.7,slow=13,SNR=4.0						
VRSR	**Storozhevoye**	**62.13**	**324**	*e*P	**P**	**06 18 59.4**	**-1.7**
VRSR				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.9						
VRSR				pmax	pmax		
	comp=N,10.0nm,1.3s						
VRSR				pmax	pmax		
	comp=E,8.0nm,0.7s						
BRTR	**Keskin Array B**	**62.25**	**311**	P	**P**	**06 19 00.2**	**-1.8**
	comp=E,4.1nm,0.7s,mb4.7,baz=125,slow=7.4,SNR=32						
MOS	**Moscow**	**64.82**	**329**	*e*P	**P**	**06 19 18.1**	**-0.5**
OBN	**Obninsk**	**65.12**	**328**	*e*P	**P**	**06 19 17.7**	**-2.9**
OBN				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.1						
OBN	**Obninsk**	**65.12**	**328**	P	**P**	**06 19 18.3**	**-2.3**
	comp=Z,68nm,1.7s,mb5.4						
AKASG	**Malin Array Be**	**67.92**	**322**	P	**P**	**06 19 36.0**	**-2.5**
	comp=Z,2.5nm,0.5s,mb4.5,baz=88,slow=5.0,SNR=23						
IDI	**Amoyia**	**68.42**	**305**	P	**P**	**06 19 41.2**	**-0.7**
	comp=Z,11nm,0.7s,mb5.0,baz=101,slow=9.4,SNR=9.3						
LSZ	**Lusaka**	**69.44**	**250**	*e*P	**P**	**06 19 49.4**	**+1.0**
LSZ				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
LSZ	**Lusaka**	**69.44**	**250**	*e*P	**P**	**06 19 49.4**	**+1.0**
	comp=Z,4.5nm,0.8s,mb4.5						
JOF	**Joensuu**	**70.56**	**334**	*e*p	**P**	**06 19 53.3**	**-1.2**
	comp=Z,1.3nm,0.4s,mb4.2						
KWP	**Kalwaria**	**71.81**	**320**	*e*P	**P**	**06 20 01.1**	**-1.1**
KWP				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.1						
KWP	**Kalwaria**	**71.81**	**320**	*e*P	**P**	**06 20 01.1**	**-1.2**
	comp=Z,29nm,1.2s,mb5.1						
FINES	**FINESS Array B**	**72.44**	**332**	P	**P**	**06 20 05.0**	**-0.8**
	comp=Z,7.7nm,0.8s,mb4.7,baz=98,slow=6.7,SNR=26						
CRVS	**Cervenica-Dubn**	**72.51**	**319**	*i* P	**P**	**06 20 07.5**	**+1.1**
CRVS				*i* pP	pP	06 20 15.9	+1.3
KAF	**Kangasniemi**	**72.51**	**333**	*e*p	**P**	**06 20 04.2**	**-2.0**
	comp=Z,3.5nm,0.6s,mb4.5						
KAF	**Kangasniemi**	**72.51**	**333**	*e*P	**P**	**06 20 04.2**	**-2.0**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
PSZ	**Piszkesteto**	**73.43**	**317**	*e*P	**P**	**06 20 11.3**	**-0.5**
	comp=Z,10nm,1.0s,mb4.7						
OJC	**Ojcow**	**73.75**	**320**	*e*P	**P**	**06 20 14.0**	**+0.4**
VYHS	**Vyhne**	**74.19**	**318**	*i* P	**P**	**06 20 16.1**	**-0.1**
VYHS				*i* pP	pP	06 20 24.5	+0.1
KEV	**Kevo**	**74.53**	**341**	*e*p	**P**	**06 20 17.3**	**-0.5**
OKC	**Ostrava-Krasne**	**74.77**	**319**	*e*P	**P**	**06 20 20.2**	**+0.7**
ARCES	**ARCESS Array B**	**74.96**	**340**	P	**P**	**06 20 20.0**	**-0.3**
	comp=Z,2.7nm,0.5s,mb4.5,baz=100,slow=7.1,SNR=28						
ZST	**Bratislava**	**75.32**	**318**	*i* P	**P**	**06 20 23.8**	**+1.1**
ZST				*i* pP	pP	06 20 32.0	+1.0
BOSA	**Boshof**	**75.82**	**238**	*e*P	**P**	**06 20 26.4**	**+0.4**
	comp=Z,6.7nm,0.9s,mb4.6						
DPC	**Dobruska-Polom**	**75.98**	**320**	*e*P	**P**	**06 20 27.5**	**+1.0**
KSP	**Ksiaz**	**76.04**	**320**	*e*P	**P**	**06 20 27.3**	**+0.6**
UPC	**Upice**	**76.19**	**320**	*e*P	**P**	**06 20 27.7**	**+0.1**
PRU	**Pruhonice**	**77.10**	**319**	*e*P	**P**	**06 20 33.0**	**+0.3**
BRG	**Berggiesshubel**	**77.52**	**320**	*i* P	**P**	**06 20 36.0**	**+1.0**
	comp=Z,18nm,1.4s,mb4.8						
BRG				*i*	pP	06 20 43.3	0.0
GERES	**GERESS Array B**	**77.61**	**318**	P	**P**	**06 20 35.5**	**-0.1**
	comp=Z,6.4nm,0.6s,mb4.7,baz=90,slow=5.3,SNR=35						
KHC	**Kasperske Hory**	**77.70**	**318**	*e*P	**P**	**06 20 36.5**	**+0.5**
CLL	**Collm**	**78.13**	**321**	*e*P	**P**	**06 20 39.0**	**+0.6**
CLL				*e*	pP	06 20 47.0	+0.4
CLL	**Collm**	**78.13**	**321**	P	**P**	**06 20 39.0**	**+0.6**
CLL				*e**PP	pP	06 20 47.0	+0.4
HFS	**Hagfors**	**78.19**	**330**	P	**P**	**06 20 38.5**	**0.0**
	comp=Z,5.2nm,0.4s,mb4.8,baz=96,slow=4.4,SNR=26						
MAW	**Mawson**	**78.88**	**192**	P	**P**	**06 20 42.9**	**+0.7**
	comp=Z,3.0nm,0.7s,mb4.3,baz=310,slow=12,SNR=4.7						
GRA1	**Grafenberg Arr**	**79.25**	**319**	*e*P	**P**	**06 20 45.0**	**+0.5**
	comp=Z,12nm,1.0s,mb4.8						
GRF	**Grafenberg Arr**	**79.25**	**319**	*e*P	**P**	**06 20 45.0**	**+0.5**
	comp=Z,12nm,1.0s,mb4.8						
NB2	**NORSAR Subarra**	**79.46**	**331**	P	**P**	**06 20 44.6**	**-0.8**
	comp=Z,2.5nm,0.5s,mb4.4,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**79.46**	**331**	P	**P**	**06 20 45.0**	**-0.4**
	comp=Z,3.4nm,0.6s,mb4.5,baz=92,slow=5.6,SNR=12						
NOA	**NORSAR Array B**	**79.46**	**331**	P	**P**	**06 20 45.0**	**-0.4**
LPG	**La Plagne**	**82.42**	**315**	*e*P	**P**	**06 21 01.7**	**+0.4**
	comp=Z,33nm,0.8s,mb5.0						
SYO	**Syowa Base**	**85.75**	**197**	⇓P	**P**	**06 21 18.8**	**+1.1**
SYO	**Syowa Base**	**85.75**	**197**	⇑PcP	PcP	06 21 19.6	-1.3
EKA	**Eskdalemuir Ar**	**87.47**	**325**	P	**P**	**06 21 26.8**	**+0.4**
	comp=Z,6.0nm,0.7s,mb4.9,baz=94,slow=5.5,SNR=13						
ESDC	**Sonseca Array**	**91.04**	**310**	P	**P**	**06 21 44.2**	**+0.7**
	comp=Z,3.3nm,0.7s,mb4.8,baz=70,slow=4.1,SNR=9.9						
VNDA	**Vanda**	**93.25**	**168**	P	**P**	**06 21 53.4**	**+0.5**
	comp=Z,0.7nm,0.8s,mb4.2,baz=283,slow=11,SNR=3.2						
PMSA	**Palmer Station**	**121.49**	**191**	*e*PKPdf	PKPdf	06 27 34.5	-1.2
PLCA	**Paso Flores**	**144.89**	**200**	PKP	PKPdf	06 28 15.8	-3.9
	comp=Z,11nm,0.8s,baz=171,slow=2.9,SNR=8.5						
PLCA	**Paso Flores**	**144.89**	**200**	*e*PKPdf	PKPdf	06 28 16.0	-3.7
LVC	**Limon Verde**	**158.36**	**227**	PKPab	PKPab	06 29 12.5	+0.2
	comp=Z,5.9nm,0.8s,baz=200,slow=6.9,SNR=3.9						

NIED ***19*** *06:11:00, 34.00N×142.00E, h11km, Mw6.5 Best double couple: M₀5.55×10¹⁸ NP1:φs7°, δ48°, λ105°. NP2:φs165°, δ44°, λ74°.*
JMA ***19*** *06:11:29.9±0.5, 33.94N×142.02E, h31km, M6.8*
JMA Felt I J1.
BJI ***19*** *06:11:33.8, 34.00N×141.62E, h37km, mB6.5, mb5.2, Ms7.0, Msz6.9*
IDC ***19*** *06:11:34.4±1.2, 34.01N×141.48E, h20km±6km, mb4.8/27, mb1 4.9/30, mb1mx4.9/30, mbtmp4.9/30, ML4.7/2, MS6.4/11, Ms1 6.4/11, ms1mx6.0/25, Error ellipse: s-maj=9.1km s-min=6.6km az=101.0*
MOS ***19*** *06:11:35.2±1.5, 34.06N×141.52E, h33km, mb5.9/83, MS7.0/36, Error ellipse: s-maj=7.9km s-min=4.2km az=109.9*
HRVD ***19*** *06:11:36.4±0.1, 34.01N×141.95E, h15km, MW6.5/77, Centroid moment Tensor Solution. LP body waves: s73,c180;Mantle waves: s77,c347; Half duration: 4s5 Moment tensor: Scale 10¹⁸Nm; Mrr5.59±.03; Mθθ-0.15±.03; Mφφ-5.44±.02; Mrθ-0.91±.10; Mθφ0.26±.02; Mφr5.87±.10; Best double couple: M₀8.11×10¹⁸ NP1: φs181°, δ22°, λ98°. NP2:φs353°, δ69°, λ87°. Principal axes: T 8.194, Plg66°, Azm257°; N -.175, Plg3°, Azm354°; P -8.025, Plg24°, Azm85°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***19*** *06:11:36.4±0.2, 34.06N×141.49E, mb5.8/123, ME5.9, MS6.4/107, MW6.4, MW6.5(NIED) Error ellipse: s-maj=5.2km s-min=4.5km az=151.0 Broadband fault plane solution: P waves. NP1:φs345°, δ85°, λ90°. NP2: φs165°, δ5°, λ90°. Principal axes: T Plg50°, Azm255°; N Plg0°, Azm0°; P Plg40°, Azm75°. Moment Tensor Solution. s58 Moment tensor: Scale 10¹⁸ Nm; Mrr1.54; Mθθ-1.32; Mφφ-0.23; Mrθ-0.42; Mθφ2.71; Mφr3.72; Best double couple: M₀4.8×10¹⁸ NP1:φs92°, δ35°, λ20°. NP2: φs346°, δ79°, λ124°. Principal axes: T 4.82, Plg46°, Azm290°; N .05, Plg33°, Azm158°; P -4.87, Plg26°, Azm50°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt lightly in the Tokyo area. A tsunami with a wave height of 30 cm was recorded on Miyake-jima. Recorded [1 JMA] in Aomori, Chiba, Fukushima, Ibaraki, Kanagawa, Miyagi, Nagano, Niigata, Saitama, Shizuoka, Tochigi and Tokyo Prefectures. Also recorded [1 JMA] on Miyake-jima, Mikura-jima and Hachijo-jima.

ISC 19 06:11:32.2±0.6, 33.96N±0.02×141.54E±0.02, h13km, h19km±2.8km:pP-P, n769, σ1§40/715, mb5.6/177, MS6.5/148, 52C-49D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.83**	**326**	P	**Pb**	**06 11 49.9**	**+1.9**
BSO3	**Boso 3**	**1.19**	**315**	P	**Pb**	**06 11 55.5**	**+1.3**
BSO3				*e*S	**Sb**	**06 12 08.4**	**-0.9**
BSO4	**Boso 4**	**1.42**	**316**	P	**Pn**	**06 11 59.1**	**+1.2**
BSO4				*e*S	**Sb**	**06 12 22.4**	**+6.3**
KTR	**Katsuura**	**1.55**	**320**	P	**Pn**	**06 12 01.0**	**+1.2**
JHJ2	**Mitsune**	**1.67**	**240**	P	**Pn**	**06 12 03.6**	**+2.2**
JMY	**Miyakejima3**	**1.68**	**274**	P	**Pn**	**06 12 03.9**	**+2.3**
JHJ	**Hachijo jima 2**	**1.69**	**241**	Pn	**Pn**	**06 12 03.9**	**+2.2**
	350nm,0.3s,baz=319,slow=2.1,SNR=34						
CHOJ	**Chosi**	**1.82**	**342**	P	**Pn**	**06 12 02.8**	**-0.8**
CHOJ				*e*S	**Sn**	**06 12 27.6**	**+0.9**
JIM2	**Oshima 3**	**1.90**	**294**	P	**Pn**	**06 12 05.5**	**+0.8**
JIZS	**Izushimoda**	**2.32**	**290**	P	**Pn**	**06 12 12.2**	**+1.4**
JOD2	**Odawara 2**	**2.40**	**303**	P	**Pn**	**06 12 12.2**	**+0.3**
JYN	**Shimob**	**2.90**	**303**	P	**Pn**	**06 12 19.9**	**+0.9**
SHZ3	**Shizuoka 3**	**2.96**	**293**	P	**Pn**	**06 12 21.7**	**+1.8**
JRY	**Ryogami san**	**2.98**	**314**	P	**Pn**	**06 12 20.4**	**+0.2**
JAG	**Ashikaga**	**2.99**	**326**	⇑P	**Pn**	**06 12 20.4**	**+0.1**
TK04	**Tokai 4**	**3.06**	**279**	P	**Pn**	**06 12 23.8**	**+2.4**
ONAJ	**Iwakimizuishiy**	**3.19**	**349**	⇓P	**Pn**	**06 12 20.6**	**-2.5**
TK01	**Tokai 1**	**3.29**	**268**	P	**Pn**	**06 12 26.1**	**+1.6**
MAJO	**Matsushiro**	**3.75**	**314**	⇑*e*P	**Pn**	**06 12 31.8**	**+0.7**
MAT	**Matsushiro**	**3.75**	**314**	*e*P	**Pn**	**06 12 30.0**	**-1.1**
MAT				*e*S	**Sn**	**06 13 16.0**	**+0.5**
MAT	**Matsushiro**	**3.75**	**314**	P	**Pn**	**06 12 30.4**	**-0.7**
MAT				S	**Sn**	**06 13 16.2**	**+0.7**
JHK	**Hiroka**	**3.87**	**329**	P	**Pn**	**06 12 33.5**	**+0.7**
JGN	**Niukaw**	**4.13**	**304**	P	**Pn**	**06 12 38.6**	**+2.1**
JJN	**Nakama**	**4.17**	**320**	P	**Pn**	**06 12 38.1**	**+1.0**
JNS	**Sasagawa**	**4.25**	**336**	P	**Pn**	**06 12 38.1**	**-0.1**
JSD	**Sado**	**4.86**	**328**	⇓P	**Pn**	**06 12 45.7**	**-1.1**
JMK	**Ichinoseki**	**4.99**	**357**	P	**Pn**	**06 12 45.0**	**-3.6**
CBIJ	**Chichi jima

UGL pmax pmax
comp=N,3μm,5.5s
UGL pmax pmax
comp=Z,5μm,5.5s
UGL pmax pmax
comp=E,2μm,6.0s
UGL smax
comp=N,24μm,12.0s
UGL smax
comp=E,49μm,12.0s
UGL smax
comp=Z,26μm,12.0s
SNY Shenyang 16.18 304 ⇑P P 06 15 21.8 +0.9
SNY AP 06 15 25.3
SNY PP PP 06 15 37.0 +2.8
SNY AMB AMB
comp=Z,140nm,1.9s
SNY AMB AMB
comp=Z,15μm,10.8s
SNY LR LR
comp=N,208μm,13.5s
SNY LR LR
comp=E,174μm,15.3s
SNY LR LR
comp=Z,266μm,13.2s
KLR Kul'dur 16.89 337 *e*P P 06 15 26.0 -3.9
SSE Sheshan 17.40 266 P **P 06 15 36.6 +0.3**
SSE AP 06 15 47.4
SSE XP 06 15 53.0
SSE S **S 06 18 50.8 +2.8**
SSE AMB AMB
comp=Z,77nm,1.0s
SSE AMB AMB
comp=Z,22μm,12.0s
SSE LR LR
comp=N,194μm,13.1s
SSE LR LR
comp=E,416μm,13.1s
SSE LR LR
comp=Z,455μm,13.4s
NJ2 Nanjing 19.11 271 *e*P P 06 15 55.0 -2.4
NJ2 AP 06 16 03.9
NJ2 XP 06 16 08.1
NJ2 PP PP 06 16 16.1 +1.8
NJ2 AMB AMB
comp=Z,250nm,1.2s
NJ2 AMB AMB
comp=Z,62μm,11.5s
NJ2 LR LR
comp=N,220μm,13.1s
NJ2 LR LR
comp=E,742μm,15.2s
NJ2 LR LR
comp=Z,502μm,12.6s
TATO Taipei 19.59 248 P **P 06 16 02.8 -0.2**
comp=Z,819nm,1.6s
SKR Severo-Kuril's 19.82 28⇓*i*P P 06 16 02.0 -3.4
SKR *i* S **S 06 19 46.0 +3.5**
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=Z,270nm,1.0s
SKR smax
comp=N,15μm,12.0s
SKR smax
comp=E,74μm,12.0s
SKR MLR MLR
comp=N,87μm,14.0s
SKR MLR MLR
comp=E,227μm,14.0s
SKR MLR MLR
comp=Z,158μm,14.0s
TIA Tai'an 20.09 283 *e*P P 06 16 04.5 -3.9
TIA LR LR
comp=N,76μm,13.0s,MS6.5
TIA LR LR
comp=E,119μm,13.0s,MS6.5
GUMO Guam 20.51 171 P **P 06 16 15.2 +2.3**
comp=E,5μm,1.6s
GUMO LR LR
comp=Z,63μm,19.0s,MS6.0
BJT Baijiatuau 21.11 294 *e*P P 06 16 17.1 -1.7
comp=Z,31nm,1.1s,mb4.6
QZH Quanzhou 21.87 252⇑*i*P P 06 16 24.3 -2.3
QZH S **S 06 20 30.4 +7.5**
QZH LR LR
comp=N,170μm,14.3s,MS6.8
QZH LR LR
comp=E,230μm,13.8s,MS6.8
QZH LR LR
comp=Z,213μm,14.6s,MS6.7
BBP Basco 21.96 237 *e*P P 06 16 25.9 -1.6
HIA Hailar 22.23 320 *e*P P 06 16 26.8 -3.2
HIA pmax pmax
comp=Z,180nm,1.1s
HIA Hailar 22.23 320 *e*P P 06 16 26.8 -3.2
comp=Z,176nm,1.1s,mb5.4
PET Petropavlovsk 22.64 28*d*i P P 06 16 34.7 +0.7
PET *e* 06 17 02.3
PET *i* S **S 06 20 38.8 +2.1**
PET pmax pmax
comp=Z,8μm,10.9s
PET pmax pmax
comp=Z,10μm,11.7s
PET pmax pmax
comp=Z,35nm,0.8s,mb4.8
PET pmax pmax
comp=Z,41nm,0.8s,mb4.9
PET pmax pmax
comp=Z,11μm,10.1s
PET smax
comp=N,35μm,13.8s
PET MLR MLR
comp=N,74μm,15.0s,MS6.6
PET MLR MLR
comp=E,140μm,14.0s,MS6.6
PET MLR MLR
comp=Z,113μm,18.0s,MS6.3
PET MLR MLR
comp=Z,98μm,22.0s
PET Petropavlovsk 22.64 28 *e*P P 06 16 32.9 -1.1
PET LR LR
comp=Z,100μm,19.0s,MS6.3
WHN Wuhan 23.22 269 P **P 06 16 40.0 +0.1**
WHN S **S 06 20 48.8 +1.5**
WHN LR LR
comp=Z,648μm,16.0s,MS7.2
SGCP Mt. Cagua 23.42 233 *e*P P 06 16 41.2 -0.8
CVP Callao Caves 23.95 232 *e*P P 06 16 48.0 +0.9
APYP Conner 24.22 234 *e*P P 06 16 46.0 -3.8
ABRA Dolores 24.73 234 *e*P P 06 16 50.5 -4.2
CLNS Chul'man 25.55 339 *e*P P 06 17 02.8 +0.7
CLNS *e*PPP PPP 06 17 42.8 -10
CLNS *e*S **S 06 21 17.3 -9.5**
CLNS *e*SS SS 06 22 39.9 +10
CLNS pmax pmax
comp=N,86nm,1.0s
CLNS pmax pmax
comp=Z,209nm,1.0s,mb5.6
CLNS pmax pmax
comp=E,74nm,0.8s
CLNS pmax pmax
comp=Z,319nm,1.0s,mb5.8
CLNS pmax pmax
comp=N,163nm,1.1s
CLNS pmax pmax
comp=E,56nm,0.8s
CLNS smax
comp=E,7μm,12.6s
CLNS smax
comp=N,58μm,12.3s
CLNS smax
comp=Z,49μm,12.3s
CLNS MLR MLR
comp=N,204μm,15.0s,MS6.8
CLNS MLR MLR
comp=Z,315μm,15.0s,MS7.0
CLNS MLR MLR
comp=E,125μm,14.0s,MS6.8
BALP Baler 25.55 230 *e*P P 06 17 01.9 -0.6
PVCP Virac 25.69 222 *e*P P 06 17 04.1 +0.3
PCPH Palayan 25.99 230⇑ *e*P P 06 17 06.5 -0.1
POLP Polilio Island 26.09 228 *e*P P 06 17 07.1 -0.4
BOLP Bolinao 26.16 233 *e*P P 06 17 07.9 -0.3
MA2 Magadan 26.34 11 *e*P P 06 17 08.2 -1.2
MA2 *e* 06 18 02.8
MA2 *e*S **S 06 21 33.0 -6.9**
MA2 pmax pmax
comp=Z,300nm,1.6s,mb5.6
MA2 pmax pmax
comp=N,200nm,1.7s
MA2 pmax pmax
comp=E,50nm,1.5s
MA2 MLR MLR
comp=Z,234μm,24.0s,MS6.7
MA2 Magadan 26.34 11 *e*P P 06 17 08.2 -1.2
comp=Z,612nm,1.9s,mb5.8
MA2 LR LR
comp=Z,66μm,20.0s,MS6.2
HKC Hong Kong 26.70 251⇑*i*P P 06 17 14.0 +0.9
HKC *i* S **S 06 21 48.0 +1.8**
XAN Xi'an 26.98 279 P **P 06 17 13.5 -2.0**
XAN AP pP 06 17 27.8 +8.6
XAN AMB AMB
comp=Z,61nm,1.2s,mb5.0
XAN LR LR
comp=N,166μm,13.1s,MS7.1
XAN LR LR
comp=E,323μm,14.6s,MS7.1
XAN LR LR
comp=Z,455μm,14.6s,MS7.2
BOAC Boac 27.14 226 *e*P P 06 17 15.6 -1.5
TGY Tagaytay City 27.19 228 P **P 06 17 18.5 +0.9**
TGY pmax pmax
comp=Z,215nm,0.3s
TGY Tagaytay City 27.19 228 P **P 06 17 18.5 +0.9**
comp=Z,215nm,0.2s,mb6.2,baz=61,slow=13,SNR=5.6
ENH Enshi 27.33 271 *e*P P 06 17 15.9 -2.9
comp=Z,105nm,1.0s,mb5.3
OTRP Odiongan 27.90 224 *e*P P 06 17 22.8 -1.3
LUBP Lubang 27.90 229 *e*P P 06 17 21.8 -2.3
MSLP Maasin 28.22 217 *e*P P 06 17 26.6 -0.4
SJMP San Jose 28.35 226 *e*P P 06 17 27.5 -0.7
BUTP Butuan 28.86 214 *e*P P 06 17 32.2 -0.6
GUIM Jordan 28.99 221 *e*P P 06 17 33.2 -0.8
YAK Yakutsk 29.09 349 *e*P P 06 17 35.6 +1.3
YAK *e**PP pP 06 17 40.7 +2.7
YAK *e* 06 18 27.3
YAK *e*PPP PPP 06 18 33.7 -7.9
YAK *e*S **S 06 22 24.1 -0.2**
YAK *e* 06 28 16.8
YAK pmax pmax
comp=N,26nm,1.1s
YAK pmax pmax
comp=E,14nm,1.1s
YAK pmax pmax
comp=Z,53nm,1.1s,mb5.2
YAK pmax pmax
comp=Z,99nm,1.0s,mb5.5
YAK pmax pmax
comp=N,66nm,1.2s
YAK pmax pmax
comp=E,61nm,1.2s
YAK smax
comp=E,8μm,13.1s
YAK smax
comp=Z,11μm,16.5s
YAK smax
comp=N,4μm,16.2s
YAK MLR MLR
comp=Z,136μm,16.0s,MS6.7
YAK MLR MLR
comp=N,131μm,17.0s,MS6.7
YAK MLR MLR
comp=E,80μm,15.0s,MS6.7
YAK Yakutsk 29.09 349 *e*P P 06 17 32.4 -2.0
comp=E,427nm,1.3s,mb6.0
YAK LR LR
comp=Z,114μm,19.0s,MS6.5
ULN Ulaanbaatar 29.26 309 *e*P P 06 17 35.8 -0.2
comp=Z,177nm,1.2s,mb5.7
ULN LR LR
comp=Z,150μm,19.0s,MS6.6
BUSP Coron 29.27 227 *e*P P 06 17 35.2 -1.2
FX1 Attu Island--F 29.40 40 LR LR 06 27 36.6
comp=Z,34nm,0.9s,mb5.1,baz=113,slow=9.4,SNR=33
SONM Songino Array 29.68 308 P **P 06 17 39.9 +0.1**
SONM S **S 06 22 33.6 -0.2**
comp=Z,3.5nm,0.9s,baz=22,slow=6.7,SNR=2.4
CUYO Cuyo Island 29.70 224 *e*P P 06 17 38.0 -2.2
SEY Seymchan 29.79 10 *e*P P 06 17 39.5 -1.1
SEY *e*PPP PPP 06 18 43.0 -8.4
SEY *e*S **S 06 22 31.7 -3.7**
SEY pmax pmax
comp=N,100nm,1.1s
SEY pmax pmax
comp=Z,230nm,1.1s,mb5.8
SEY pmax pmax
comp=E,30nm,0.8s
SEY smax
comp=N,23μm,9.8s
SEY smax
comp=E,22μm,10.2s
SEY MLR MLR
comp=Z,251μm,18.0s,MS6.9
SEY MLR MLR
comp=N,170μm,21.0s
SEY MLR MLR
comp=E,132μm,15.0s
SMY Shemya 29.84 41 PFAKE 06 17 50.0 +8.8
SMY LR LR
comp=Z,136μm,20.0s,MS6.6
BUKP Musuan 30.08 214 *e*P P 06 17 42.8 -0.9
BOD Bodaibo 30.21 331 *e*P P 06 17 42.4 -2.0
ENPP El Nido 30.36 227 *e*P P 06 17 44.9 -1.2
MATI Mati 30.37 211 *e*P P 06 17 41.1 -5.2
DAV Davao City (W) 30.56 212⇑ *e*P P 06 17 48.0 +0.1
LZH Lanzhou 30.82 285⇑*i*P P 06 17 48.8 -1.2
LZH AP pP 06 17 59.5 +5.8
LZH XP sP 06 18 04.3 +9.0
LZH PP PP 06 18 52.5 +1.2
LZH S **S 06 22 51.3 -0.6**
LZH XS 06 23 09.1
LZH AMB AMB
comp=Z,17μm,9.2s
LZH LR LR
comp=E,230μm,15.0s
LZH LR LR
comp=Z,292μm,17.5s,MS7.0
PAGZ Pagadian 30.92 217 *e*P P 06 17 50.2 -0.9
QIZ Qiongzhong 31.87 250 P **P 06 18 00.1 +0.7**
QIZ XP sP 06 18 17.0 +12
QIZ PP PP 06 19 09.8 +4.7
QIZ PPP PPP 06 19 24.9 +4.8
QIZ PCP PcP 06 20 44.3 -5.9
QIZ S **S 06 23 09.8 +1.2**
QIZ LR LR
comp=N,91μm,14.8s,MS6.7
QIZ LR LR
comp=E,56μm,13.8s,MS6.7
QIZ LR LR
comp=Z,79μm,15.9s,MS6.5
QIZ Qiongzhong 31.87 250 P **P 06 18 01.8 +2.4**
PPR Puerto Princes 31.90 226 *e*P P 06 18 08.8 +9.1
IRK Irkutsk 32.30 316 *e*P P 06 18 03.2 +0.4
IRK *e* 06 23 13.0
ZAK Zakamensk 32.33 312⇑*i*P P 06 18 02.4 -0.7
TLY Talaya 32.49 315 P **P 06 18 04.0 -0.4**
comp=Z,479nm,1.2s,mb6.2,SNR=65
TLY Talaya 32.49 315 *e*P P 06 18 04.0 -0.4
TLY *e* 06 19 25.8
TLY *e*S **S 06 23 22.0 +4.1**
TLY *e*SS SS 06 25 40.1 +26
TLY pmax pmax
comp=Z,383nm,1.6s,mb6.0
TLY MLR MLR
comp=Z,248μm,16.0s,MS7.0
TLY Talaya 32.49 315 *e*P P 06 18 04.2 -0.2
comp=Z,510nm,0.6s,mb6.5
BATP Bataraza 33.23 227 *e*P P 06 18 11.3 0.0
MOY Mondy 34.06 314 *e*P P 06 18 18.2 +0.1
MIDW Midway 35.48 88 PFAKE 06 18 40.0 +9.4
MIDW LR LR
comp=Z,55μm,21.0s,MS6.3
BILL Bilibino 36.95 15 *e*P P 06 18 40.3 -2.2
BILL *e* 06 18 59.1
BILL *i* S **S 06 24 22.3 -4.4**
BILL *i* SS SS 06 26 46.3 -9.1
BILL pmax pmax
comp=Z,2μm,5.8s
BILL MLR MLR
comp=Z,222μm,18.0s,MS7.0
BILL Bilibino 36.95 15 *e*P P 06 18 40.9 -1.6
comp=Z,47nm,1.1s,mb5.2
BILL LR LR
comp=Z,42μm,19.0s,MS6.2
TIXI Tiksi 38.34 354⇓*i*P P 06 18 52.5 -1.7
TIXI *e*S **S 06 24 46.7 -1.3**
TIXI *e*SS SS 06 27 19.9 -7.2
TIXI pmax pmax
comp=Z,65nm,0.9s,mb5.4
TIXI MLR MLR
comp=N,215μm,15.0s,MS7.2
TIXI MLR MLR
comp=Z,303μm,15.0s,MS7.2
TIXI MLR MLR
comp=E,143μm,16.0s,MS7.2
TIXI Tiksi 38.34 354 PFAKE 06 19 10.0 +16
TIXI LR LR
comp=Z,145μm,19.0s,MS6.8
KKTK Khon Kaen 38.91 253 P **P 06 19 00.0 +0.5**
comp=Z,556nm,0.7s,mb6.4
NANT Nan 39.30 258 ⇑P P 06 19 01.0 -1.7
comp=Z,162nm,1.0s,mb5.7
CHRT Chiangrai 39.51 260 ⇑P P 06 19 03.0 -1.5
comp=Z,387nm,1.3s,mb6.0
CMAR Chiang Mai Arr 40.91 259 P **P 06 19 14.2 -1.7**
comp=Z,10nm,0.9s,baz=46,slow=8.1,SNR=15
CMAR S **S 06 25 26.0 -1.0**
comp=Z,1.5nm,0.5s,baz=51,slow=4.9,SNR=2.6
CMAR LR LR 06 37 14.1
comp=Z,23μm,18.5s,baz=65,slow=38
NST Nakhon Sawan 41.42 254 P **P 06 19 20.0 -0.2**
comp=Z,58nm,1.2s,mb5.1
WMQ Urumqi 42.38 300 *e*P P 06 19 29.3 +1.5
WMQ AP pP 06 19 41.6 +10
WMQ XP sP 06 19 47.0 +14
WMQ S **S 06 25 46.0 -2.5**
WMQ XS 06 26 06.7
WMQ AMB AMB
comp=Z,13μm,6.6s
WMQ LR LR
comp=N,167μm,15.2s,MS7.1
WMQ LR LR
comp=E,80μm,13.4s,MS7.1
WMQ LR LR
comp=Z,75μm,13.4s,MS6.8
BUNI Buntu Taipa 42.44 212⇑*i*P P 06 19 32.9 +4.3
comp=Z,22nm,0.5s,mb5.0
TANI Tanete Lipujan 42.67 214⇑*i*P P 06 19 33.2 +2.7
TANI pmax pmax
comp=Z,15nm,0.8s,mb4.8
TANI Tanete Lipujan 42.67 214⇑*i*P P 06 19 33.2 +2.7
comp=Z,14nm,0.8s,mb4.8
LSA Lhasa 42.68 279 P **P 06 19 30.5 +0.1**
LSA AP pP 06 19 41.1 +6.9
LSA XP sP 06 19 46.0 +10
LSA PP PP 06 21 09.9 -2.2
LSA PCP PcP 06 21 21.1 -1.8
LSA SCP 06 25 08.3
LSA PCS 06 25 13.1
LSA S **S 06 25 48.4 -4.6**
LSA XS 06 26 09.9
LSA SCS ScS 06 29 27.4 -2.0
LSA LR LR
comp=N,26μm,15.3s,MS6.8
LSA LR LR
comp=E,100μm,16.8s,MS6.8
LSA LR LR
comp=Z,100μm,15.3s,MS6.8
LSA Lhasa 42.68 279 *e*P P 06 19 30.7 +0.3
LSA pmax pmax
comp=Z,78nm,1.0s,mb5.4
LSA Lhasa 42.68 279 *e*P P 06 19 30.7 +0.3
comp=Z,78nm,1.1s,mb5.3
NINI Niniconang 43.37 213⇑*i*P pP 06 19 43.4 +3.4
NINI pmax pmax
comp=Z,515nm,1.6s,mb6.0
NINI Niniconang 43.37 213⇑*i*P pP 06 19 43.4 +3.4
comp=Z,515nm,1.6s
PMG Port Moresby 43.46 172 P **P 06 19 35.1 -1.8**
PMG S **S 06 26 04.6 0.0**
PMG pmax pmax
comp=Z,10.0nm,0.8s
PMG Port Moresby 43.46 172 P **P 06 19 35.1 -1.8**
comp=Z,10nm,0.8s,mb4.6,baz=227,slow=9.2,SNR=2.3
PMG S **S 06 26 04.6 0.0**
comp=Z,3.2nm,0.3s,baz=162,slow=16,SNR=1.4
PMG Port Moresby 43.46 172 *e*P P 06 19 38.9 +2.0
comp=Z,82nm,1.0s,mb5.4
PMG S **S 06 26 04.6 0.0**
PMG LR LR
comp=Z,13μm,19.0s,MS5.8
SHL Shillong 43.56 273 *e*P P 06 19 36.0 -1.6
SHL *e* 06 26 11.5
ZAL Zalesovo 44.11 315 P **P 06 19 39.9 -1.8**
comp=Z,5.6nm,0.9s
ZAL LR LR 06 40 14.0
comp=Z,67μm,18.0s,baz=19,slow=39
AGT Agartala 44.77 271⇑*i*P P 06 19 46.0 -1.4
AGT *i* 06 22 05.0
MKAR Makanchi Array 45.89 305 *i* P P 06 19 54.7 -1.3
MKAR pmax pmax
comp=Z,473nm,1.4s
KAKA Kakadu 47.22 192⇑*i*P P 06 20 05.2 -1.7
comp=Z,115nm,0.9s,mb5.8
JIRN Jiri 47.47 278 *e*P P 06 20 08.5 -0.3
comp=Z,2μm,1.3s
CAL Calcutta 47.77 271 *e*P P 06 20 13.7 +2.5
CAL *e* 06 27 13.0
KURK Kurchatov 47.95 310 *e*P P 06 20 10.8 -1.4
KURK pmax pmax
comp=Z,265nm,1.1s,mb6.2
KURK Kurchatov 47.95 310 *e*P P 06 20 10.8 -1.4
comp=Z,265nm,1.1s,mb6.2
PKI Pulchoki 48.15 278 *e*P P 06 20 12.7 -1.4
comp=Z,762nm,1.3s,mb6.6
KKN Kakani 48.17 279 *e*P P 06 20 13.3 -0.9
comp=Z,973nm,1.2s,mb6.7
DMN Daman 48.38 278 *e*P P 06 20 15.0 -0.9
comp=Z,559nm,1.1s,mb6.5
GKN Gorkha 48.62 279 *e*P P 06 20 16.3 -1.4
comp=Z,2μm,1.2s
KEDI Kedomdong 48.62 214⇑*i*P P 06 20 19.7 +1.8
KEDI pmax pmax
comp=Z,351nm,1.2s,mb6.3
KEDI Kedomdong 48.62 214⇑*i*P P 06 20 19.7 +1.8
comp=Z,352nm,1.2s,mb6.3
RATI Rata 49.10 215⇑*i*P P 06 20 24.7 +3.1
comp=Z,366nm,0.8s,mb6.5
KELI Kelakatan 49.17 216⇑*i*P P 06 20 23.0 +0.9
comp=Z,153nm,1.2s,mb5.9
RSO Redoubt South 49.28 37 P **P 06 20 21.8 -0.5**
IMA Indian Mountai 49.30 29 *e*P P 06 20 21.8 -0.6
IMA pmax pmax
comp=Z,1μm,1.9s,mb6.6
IMA Indian Mountai 49.30 29 *e*P P 06 20 21.8 -0.6
KDAK Kodiak Island 49.35 40 *e*P P 06 20 18.3 -4.6
comp=Z,91nm,1.1s,mb5.7
KDAK LR LR
comp=Z,14μm,21.0s,MS5.9
KOLN Koldanda 49.56 279 *e*P P 06 20 23.6 -1.3
comp=Z,1μm,1.3s,mb6.7
SRDI Scrawed 49.57 217⇑*i*P P 06 20 26.4 +1.2
SRDI pmax pmax
comp=Z,82nm,0.9s,mb5.8
SRDI Scrawed 49.57 217⇑*i*P P 06 20 26.4 +1.2
comp=Z,82nm,0.9s,mb5.8
SPU Mount Spurr 49.64 36 *e*P P 06 20 25.3 +0.2
AAA Alma-Ata 50.19 301*c i*P P 06 20 31.0 +1.5
AAA *i* S **S 06 27 44.0 +4.2**
AAA pmax pmax
comp=Z,9μm,12.0s
AAA smax
comp=E,15μm,14.0s
AAA MLR MLR
comp=Z,110μm,14.0s,MS7.0
SLKM Skilak Lake 50.53 37 P **P 06 20 31.3 -0.6**
BWNR Bhubaneshwar 50.87 269 *e*P P 06 20 32.5 -2.6
BWNR *e* 06 20 39.2
comp=Z,268nm,1.4s
TKM2 Tokmak 2 51.23 301 P **P 06 20 37.5 +0.1**
SNR=25
COLA College 51.64 31 *e*P P 06 20 39.7 -0.6
comp=Z,29nm,1.0s,mb5.2
COLA LR LR

comp=Z,20μm,20.0s,MS6.1
KZA Kyzart 51.68 300 P **P 06 20 41.9 +1.1**
SNR=16
CHMS Chumysh 51.81 301 P **P 06 20 41.1 -0.8**
SNR=7.9
USP Ospenovka 51.93 301 P **P 06 20 42.4 -0.4**
SNR=16
FRU Bishkek 51.95 301 *e*P **P 06 20 44.0 +1.1**
FRU *i* S **S 06 28 06.0 +1.9**
FRU pmax pmax
comp=Z,4μm,6.0s
FRU smax
comp=E,13μm,10.0s
ALBI Allahabad 52.00 277 *e* **P 06 20 52.0 +8.4**
ILAR Eielson Array 52.05 31 P **P 06 20 41.3 -2.1**
ILAR S **S 06 28 05.6 +0.4**
ILAR pmax pmax
comp=Z,11nm,0.7s
ILAR Eielson Array 52.05 31 P **P 06 20 41.3 -2.1**
comp=Z,11nm,0.7s,mb4.9,baz=260,slow=5.4,SNR=61
ILAR S **S 06 28 05.5 +0.3**
comp=Z,0.6nm,0.8s,baz=236,slow=6.1,SNR=1.9
AAK Ala-Archa 52.08 301 P **P 06 20 48.4 +4.4**
SNR=12
AAK Ala-Archa 52.08 301 *e*P **P 06 20 42.5 -1.5**
AAK pmax pmax
comp=Z,44nm,1.2s,mb5.3
AAK Ala-Archa 52.08 301 *e*P **P 06 20 42.5 -1.4**
comp=Z,44nm,1.2s,mb5.3
AAK LR LR
comp=Z,14μm,21.0s,MS6.0
UCH Uchtor 52.17 300 P **P 06 20 48.8 +4.2**
SNR=11
EKS2 Erkin-Say 52.59 301 P **P 06 20 50.7 +2.9**
SNR=9.8
BVA0 Borovoye Array 52.74 314 P **P 06 20 46.8 -1.9**
BVA0 pmax pmax
comp=Z,208nm,2.2s,mb5.7
BVAR Borovoye Array 52.74 314 P **P 06 20 46.5 -2.2**
comp=Z,15nm,0.9s,mb4.9,baz=79,slow=7.6,SNR=17
BVAR S **S 06 28 14.5 -0.3**
comp=Z,1.4nm,0.8s,baz=334,slow=29,SNR=1.8
AML Almayashu 52.78 300 P **P 06 20 49.7 +0.5**
SNR=24
BRVK Borovoye 52.80 314 *e*P **P 06 20 48.0 -1.2**
comp=Z,121nm,1.3s,mb5.7
BRVK LR LR
comp=Z,20μm,19.0s,MS6.2
BLSP Bilaspur 53.09 274⇓*i*P **P 06 20 50.3 -1.5**
DDI Dehra Dun 53.11 285 *e*P **P 06 20 51.4 -0.4**
CTA Charters Tower 53.94 175 *e*P **P 06 21 00.2 +2.3**
comp=Z,24nm,0.9s,mb5.1
CTA *e*S **S 06 28 28.1 -3.4**
CTA Charters Tower 53.94 175 *e*P **P 06 21 00.2 +2.3**
CTA *e*S **S 06 28 28.1 -3.4**
CTA pmax pmax
comp=Z,24nm,0.9s
CTA Charters Tower 53.94 175 P **P 06 20 57.5 -0.5**
baz=346,slow=8.1,SNR=13
CTA S **S 06 28 32.7 +1.2**
comp=Z,3.2nm,0.8s,baz=202,slow=18,SNR=2.4
CTAO Charters Tower 53.94 175 *e*P **P 06 20 57.9 0.0**
CTAO pmax pmax
comp=Z,189nm,1.7s,mb5.8
CTAO MLR MLR
comp=Z,11μm,20.0s,MS5.9
CTAO Charters Tower 53.94 175 *e*P **P 06 20 57.9 -0.1**
comp=Z,189nm,1.7s,mb5.8
CTAO LR LR
comp=Z,11μm,20.0s,MS5.9
FITZ Fitzroy Crossi 53.95 199⇑*i*P **P 06 20 57.4 -0.6**
comp=Z,105nm,0.6s,mb5.9
FITZ *e*S **S 06 28 34.8 +3.2**
DLH Dalhousie 53.98 288 *e* **P 06 21 05.0 +6.9**
BHK Bhakra 54.03 287 *e*P **P 06 20 59.9 +1.4**
BHK *e* 06 22 39.3
WRAB Tennant Creek 54.03 188 *e*P **P 06 20 57.3 -1.3**
comp=Z,215nm,1.1s,mb6.0
WRAB LR LR
comp=Z,10μm,22.0s,MS5.8
WB2 Warramunga Arr 54.04 188⇓*i*P **P 06 20 57.3 -1.4**
WB2 *e*S **S 06 28 31.3 -1.6**
WRA Warramunga Arr 54.04 188 P **P 06 20 57.0 -1.7**
WRA S **S 06 28 33.5 +0.6**
WRA pmax pmax
comp=Z,19nm,0.6s
WRA Warramunga Arr 54.04 188 P **P 06 20 57.0 -1.7**
comp=Z,19nm,0.6s,mb5.2,baz=2.4,slow=7.6,SNR=90
WRA S **S 06 28 33.5 +0.6**
comp=Z,8.1nm,1.2s,baz=4.3,slow=14,SNR=3.2
VIS Vishakhapatnam 54.16 268 *e*P **P 06 20 58.8 -0.7**
VIS *e* 06 21 05.1
comp=Z,285nm,1.2s
BISR Bishrakh 54.27 283 *e*P **P 06 20 59.5 -0.8**
KIP Kipapa 54.28 87 PFAKE 06 21 10.0 +10
KIP LR LR
comp=Z,25μm,20.0s,MS6.3
AGRA Agra 54.39 281 *e*P **P 06 20 59.8 -1.4**
NDI New Delhi 54.41 283 *e*P **P 06 20 58.5 -2.8**
NDI *e*S **S 06 28 40.0 +2.3**
AYAN Aya Nagar 54.56 283 *e*P **P 06 21 01.0 -1.4**
AYAN *e* 06 21 08.3
comp=Z,374nm,2.1s
SONA Sohna 54.69 283 *e*P **P 06 21 02.1 -1.2**
SONA *e* 06 21 09.5
comp=Z,424nm,2.1s
DAWY Dawson 55.34 32 *e*P **P 06 21 06.5 -1.2**
KHET Khetri 55.79 283 *e*P **P 06 21 10.2 -1.2**
KHET *e* 06 21 16.7
comp=Z,376nm,1.2s
NGP Nagpur 56.09 274 *e*P **P 06 21 14.8 +1.1**
NGP *e* 06 21 29.4
NGP *e*S **S 06 28 59.2 -1.1**
BHPL Bhopal 56.50 277 *e*P **P 06 21 16.7 +0.1**
BHPL *e* pP 06 21 21.6 +1.1
comp=Z,256nm,1.6s
INK Inuvik 57.08 26 P **P 06 21 18.1 -2.0**
INK S **S 06 29 10.7 -2.1**
INK pmax pmax
comp=Z,7.0nm,0.6s
INK MLR MLR
comp=Z,37μm,21.5s
INK Inuvik 57.08 26 P **P 06 21 18.1 -2.1**
comp=Z,7.0nm,0.6s,mb4.9,baz=297,slow=7.9,SNR=20
INK S **S 06 29 10.7 -2.1**
comp=Z,1.2nm,0.8s,baz=349,slow=13,SNR=1.8
INK LR LR 06 47 31.4
comp=Z,37μm,21.5s,MS6.5,baz=276,slow=38
INK Inuvik 57.08 26 *e*P **P 06 21 18.0 -2.2**
comp=Z,35nm,1.1s,mb5.3
POHA Pohakuloa 57.11 87 PFAKE 06 21 30.0 +9.0
POHA LR LR
comp=Z,1.0nm,20.0s
AJM Ajmer 57.39 282 *i* P **P 06 21 21.0 -1.9**
SVE Sverdlovsk 57.53 320 *e*P **P 06 21 23.5 0.0**
SVE *e* 06 22 19.0
SVE *e*S **S 06 29 19.3 +0.4**
SVE pmax pmax
comp=Z,9μm,6.7s
ASAR Alice Springs 57.77 188 P **P 06 21 24.6 -1.0**
comp=Z,35nm,1.2s,mb5.3,baz=12,slow=5.5,SNR=27
ASAR S **S 06 29 24.1 +1.7**
comp=Z,1.1nm,0.9s,baz=213,slow=29,SNR=2.2
ASPA Alice Springs 57.77 188⇑*i*P **P 06 21 25.0 -0.5**
ASPA *e*S **S 06 29 27.1 +4.7**
HYB Hyderabad 58.27 270⇓*e*P **P 06 21 28.0 -1.1**
HYB *e*S **S 06 29 28.0 -1.1**
HYB pmax pmax
comp=Z,150nm,1.0s,mb6.0
HYB Hyderabad 58.27 270⇓*e*P **P 06 21 28.0 -1.1**
comp=Z,150nm,1.0s,mb6.0
HYB *e* pP 06 21 31.0 -2.0
HYB *e* 06 22 03.0
HYB *e*S **S 06 29 28.0 -1.1**
HYB Hyderabad 58.27 270⇓*i*P **P 06 21 28.0 -1.1**
comp=Z,150nm,1.0s,mb6.0
HYB *e*pP pP 06 21 35.0 +2.0
HYB *e*sP sP 06 21 39.0 +4.5
HYB *e*PcP PcP 06 22 17.5 -2.7
HYB *e*PcS 06 26 23.0
HYB *e*S **S 06 29 28.0 -1.1**
MBWA Marble Bar 58.62 204 *e*P **P 06 21 30.0 -1.5**
comp=Z,91nm,0.9s,mb5.8
MBWA LR LR
comp=Z,9μm,20.0s,MS5.9

SIT Sitka 58.67 39 PFAKE 06 21 40.0 +8.6
SIT LR LR
comp=Z,52μm,21.0s,MS6.6
ARU Arti 58.74 320⇓*i*P **P 06 21 26.4 -5.5**
ARU *i* 06 22 18.0
ARU *i* S **S 06 29 26.8 -8.0**
ARU *i* 06 31 16.7
ARU *e*SS SS 06 33 21.1 -8.6
ARU *e*SSS SSS 06 35 50.2 -2.6
ARU pmax pmax
comp=Z,254nm,1.3s,mb6.1
ARU MLR MLR
comp=Z,198μm,16.5s,MS7.3
ARU MLR MLR
comp=N,62μm,16.0s,MS7.2
ARU MLR MLR
comp=E,135μm,16.0s,MS7.2
ARU Arti 58.74 320 *e*P **P 06 21 25.9 -6.0**
SOKR Solikamsk 58.84 324*d*P **P 06 21 33.4 +0.9**
SOKR pmax pmax
comp=Z,50nm,1.0s,mb5.5
SOKR MLR MLR
comp=Z,111μm,19.0s,MS7.0
MDRS Chennai 59.07 265 *e*P **P 06 21 35.0 +0.3**
LATR Latur 59.44 273 *e*P **P 06 21 35.5 -1.8**
JASL Jaisalmer 60.23 284 *e*P **P 06 21 41.6 -0.9**
NOUC Port Laguerre 60.54 153 *e*P **P 06 21 48.0 +3.3**
NOUC Port Laguerre 60.54 153 *e*P **P 06 21 48.0 +3.3**
DZM Mont Dzumac 60.56 153 *e*P **P 06 21 46.0 +1.1**
DLBC Dease Lake 61.00 37 P **P 06 21 47.0 -0.4**
comp=Z,16nm,1.1s,mb5.1,baz=281,slow=8.7,SNR=10
DLBC S **S 06 30 04.6 +0.9**
comp=Z,0.6nm,0.3s,baz=342,slow=22,SNR=2.0
DLBC Dease Lake 61.00 37 *e*P **P 06 21 46.9 -0.4**
BHV Bhavnagar 61.52 278 *e*P **P 06 21 51.0 -0.4**
POO Poona 61.64 274 *e*P **P 06 21 53.7 +1.5**
POO *e* pP 06 21 56.8 +0.6
comp=Z,264nm,1.8s
POO *i* S **S 06 30 15.0 +2.6**
PALK Pallekele 61.85 259 *e*P **P 06 21 53.1 -0.6**
comp=Z,244nm,1.5s
PALK LR LR
comp=Z,3μm,20.0s
BOM Bombay 62.32 275 *e*S **S 06 30 23.9 +2.9**
BHJ Bhuj 62.87 281 *e* **P 06 22 06.7 +6.3**
BHJ *e* 06 30 45.4
KOD Kodaikanal 62.88 264 *e*P **P 06 22 00.0 -0.5**
GOA Goa 63.16 271 *i* S **S 06 30 41.0 +9.4**
MNGI Mangalore 63.63 268 *i* S **S 06 30 40.7 +3.1**
BBB Bella Bella 64.21 43 P **P 06 22 08.9 +0.2**
comp=Z,34nm,1.2s,mb5.2,baz=342,slow=15,SNR=2.0
BBB S **S 06 30 43.9 -0.3**
comp=Z,24nm,1.0s,baz=275,slow=11,SNR=1.9
TRD Trivandrum 64.24 263 *e*P **P 06 22 10.2 +0.6**
TRD *e* pP 06 22 14.5 +1.0
comp=Z,186nm,1.1s
LVZ Lovozero 64.95 336⇓*e*P **P 06 22 09.2 -4.1**
LVZ *e*S **S 06 30 48.0 -5.0**
LVZ *e*SS SS 06 34 57.4 -9.4
LVZ pmax pmax
comp=E,14nm,1.2s
LVZ pmax pmax
comp=Z,67nm,1.2s,mb5.5
LVZ pmax pmax
comp=N,21nm,1.7s
LVZ smax
comp=N,6μm,9.2s
LVZ smax
comp=E,5μm,10.4s
LVZ MLR MLR
comp=E,102μm,16.0s,MS7.2
LVZ MLR MLR
comp=Z,151μm,16.0s,MS7.3
LVZ MLR MLR
comp=N,68μm,15.0s,MS7.2
AFI Afiamalu 65.11 129 PFAKE 06 22 30.0 +15
AFI LR LR
comp=Z,27μm,22.0s,MS6.4
ASH Ashkhabad 65.26 300⇓*i*P **P 06 22 19.0 +3.2**
ASH S S 06 31 00.0 +2.7
BJO Bjornoya 65.41 346 AMS AMS 06 58 05.0
comp=Z,53μm,20.2s,MS6.7
STKA Stephens Creek 65.49 180 *e*P **P 06 22 17.3 -0.1**
comp=Z,28nm,0.9s,mb5.3
STKA *e*S S 06 31 02.7 +2.4
STKA Stephens Creek 65.49 180 P **P 06 22 15.4 -2.0**
comp=Z,9.0nm,0.8s,mb4.8,baz=358,slow=5.0,SNR=14
STKA S S 06 31 00.0 -0.2
comp=Z,3.6nm,0.9s,baz=358,slow=22,SNR=2.3
STKA LR LR 06 51 30.6
comp=Z,19μm,19.9s,MS6.3,baz=349,slow=37
APA Apatity 65.53 336⇓*i*P **P 06 22 17.7 +0.7**
APA *i* 06 22 24.3
APA *i* 06 22 52.0
APA *e* 06 24 38.0
APA *i* S S 06 31 00.0 -0.1
APA pmax pmax
comp=Z,108nm,1.4s,mb5.7
APA MLR MLR
comp=Z,290μm,16.0s,MS7.6
RES Resolute Bay 65.55 14 *e*P **P 06 22 12.5 -4.6**
RES pmax pmax
comp=Z,64nm,1.1s,mb5.6
RES Resolute Bay 65.55 14 *e*P **P 06 22 12.5 -4.5**
comp=Z,64nm,1.1s,mb5.6
FORT Forrest 65.64 193 *e*P **P 06 22 17.7 -0.7**
comp=Z,647nm,0.7s
FORT *e*S S 06 31 04.6 +2.5
PECR Pechory 66.32 323 *e*P **P 06 22 20.0 -2.2**
PECR *e* 06 22 44.6
PECR *e* 06 24 52.6
PECR *i* S S 06 31 09.2 -0.7
PECR *e* 06 31 34.0
PECR *i* 06 32 15.0
PECR pmax pmax
comp=Z,4μm,11.0s
PECR pmax pmax
comp=N,3μm,10.0s
PECR pmax pmax
comp=E,4μm,10.0s
PECR smax
comp=N,16μm,14.0s
PECR smax
comp=E,12μm,12.0s
KEV Kevo 66.35 340 *e*p **P 06 22 21.6 -0.6**
YKW3 Yellowknife Ar 66.38 29 *e*P **P 06 22 19.7 -2.9**
YKA Yellowknife Ar 66.42 29 P **P 06 22 20.5 -2.2**
comp=E,4.4nm,0.8s,baz=296,slow=6.2,SNR=29
YKA S S 06 31 08.8 -2.2
comp=E,0.4nm,0.9s,baz=178,slow=20,SNR=2.5
ARCES ARCESS Array B 66.91 340 P **P 06 22 24.9 -0.9**
ARCES S S 06 31 16.9 +0.1
ARCES pmax pmax
comp=Z,17nm,1.0s
ARCES ARCESS Array B 66.91 340 P **P 06 22 24.9 -0.9**
comp=Z,16nm,1.0s,mb5.0,baz=63,slow=5.4,SNR=9.7
ARCES S S 06 31 16.9 +0.1
comp=Z,1.6nm,0.8s,baz=305,slow=15,SNR=2.2
ARCES ARCESS Array B 66.91 340 P **P 06 22 24.9 -0.9**
ARCES P pP 06 22 28.2 -1.5
ARCES S S 06 31 16.9 +0.1
PGC Sidney 68.41 45 *e*P **P 06 22 36.4 +0.8**
comp=Z,211nm,1.4s,mb6.0
TRO Tromso 68.65 342 *e*P **P 06 22 38.3 +1.6**
TRO MLR MLR
comp=Z,16μm,15.4s,MS6.4
TRO Tromso 68.65 342 *e*P **P 06 22 38.3 +1.6**
TRO *e*S S 06 31 36.9 -0.8
TRO AMS AMS 07 00 35.0
comp=Z,165μm,15.4s,MS7.4
JOF Joensuu 68.72 333 *e*p **P 06 22 35.7 -1.6**
comp=Z,45nm,0.8s,mb5.5
JOF Joensuu 68.72 333 *e*P **P 06 22 35.7 -1.6**
JOF pmax pmax
comp=Z,45nm,0.8s,mb5.5
DAG Danmarks Havn 68.84 355 *e*P **P 06 22 33.0 -4.8**
DAG MLR MLR
comp=Z,31μm,17.0s,MS6.6
DAG Danmarks Havn 68.84 355 *i* P **P 06 22 33.0 -4.8**
comp=Z,31μm,17.0s
KLBR Kellerberrin 68.95 202 *e*P **P 06 22 39.8 +0.6**
comp=Z,2μm,1.3s
CNB Canberra Magne 69.31 173 *e*P **P 06 22 41.1 -0.2**
comp=Z,497nm,1.2s,mb6.3
RPW Rockport 69.64 45 P **P 06 22 45.9 +2.7**

MOS Moscow 69.78 324κ *i*P **P 06 22 46.9 +3.0**
MOS *e* 06 25 25.4
MOS *i* S S 06 31 52.0 +0.7
MOS *i* 06 32 43.5
MOS pmax pmax
comp=Z,190nm,1.6s,mb5.8
MOS smax
comp=N,4μm,4.5s
MOS MLR MLR
comp=Z,161μm,15.0s,MS7.4
MOS MLR MLR
comp=E,120μm,14.0s
MOS Moscow 69.78 324⇓*i*P **P 06 22 46.6 +2.7**
NWAO Narrogin (SRO) 70.35 202 P **P 06 22 47.1 -0.7**
NWAO S S 06 31 59.9 +1.5
NWAO pmax pmax
comp=Z,60nm,0.9s
NWAO Narrogin (SRO) 70.35 202 P **P 06 22 47.1 -0.7**
comp=Z,60nm,0.9s,mb5.5,baz=27,slow=4.9,SNR=18
NWAO S S 06 31 59.9 +1.4
comp=Z,3.4nm,0.7s,baz=248,slow=13,SNR=2.1
NWAO Narrogin (SRO) 70.35 202 *e*P **P 06 22 47.3 -0.5**
comp=Z,126nm,1.3s,mb5.7
NWAO LR LR
comp=Z,6μm,20.0s,MS5.9
COR Corvallis 70.39 49 PFAKE 06 23 00.0 +12
COR LR LR
comp=Z,5μm,19.0s,MS5.8
MAK Makhachkala 70.44 309*d* *i*P **P 06 22 50.5 +2.4**
MAK *i* 06 23 12.0
MAK *i* S S 06 31 58.0 -1.3
MAK *e*PS PS 06 32 26.0 -2.3
MAK *i* 06 32 50.0
MAK *i* SSS SSS 06 39 28.0 -10
MAK pmax pmax
comp=Z,6μm,6.0s
MAK smax
comp=N,7μm,12.0s
MAK smax
comp=E,12μm,12.0s
MAK MLR MLR
comp=Z,18μm,12.0s,MS6.5
KEBM Edson Butte 70.55 51 *e*P **P 06 22 49.1 +0.3**
OBN Obninsk 70.62 324⇓*e*P **P 06 22 45.1 -3.9**
OBN *e* 06 23 07.1
OBN *i* S S 06 32 04.0 +2.8
OBN *i* SS SS 06 36 29.5 -5.2
OBN pmax pmax
comp=Z,3μm,5.9s
OBN MLR MLR
comp=Z,163μm,14.7s,MS7.4
OBN Obninsk 70.62 324 P **P 06 22 46.3 -2.7**
comp=Z,212nm,1.4s,mb5.9
OBN LR LR
comp=Z,18μm,20.0s,MS6.3
TBM Table Mountain 70.80 46 P **P 06 22 52.0 +1.8**
NAC Naches 70.87 46 P **P 06 22 53.2 +2.5**
PUL Pulkovo 70.89 330⇓*e*P Px 06 22 35.8
PUL *e*S S 06 32 02.6 -1.6
PUL *e* 06 32 49.3
PUL *e* 06 32 53.9
PUL pmax pmax
comp=N,36nm,0.5s
PUL pmax pmax
comp=Z,62nm,0.5s,mb5.8
PUL smax
comp=N,9μm,10.7s
PUL smax
comp=E,9μm,9.2s
PUL MLR MLR
comp=N,51μm,16.0s,MS7.1
PUL MLR MLR
comp=Z,84μm,16.0s,MS7.1
PUL MLR MLR
comp=E,69μm,14.0s,MS7.1
EBG Ellensburg 70.94 46 P **P 06 22 50.9 -0.2**
VOR Voronezh 71.03 320 *e*P **P 06 22 52.0 +0.4**
VOR pmax pmax
comp=Z,120nm,1.2s,mb5.7
KAF Kangasniemi 71.08 333 *e*p **P 06 22 50.2 -1.5**
comp=Z,46nm,0.7s,mb5.5,baz=50,slow=6.1
KAF Kangasniemi 71.08 333 *e*P **P 06 22 50.2 -1.5**
KAF pmax pmax
comp=Z,47nm,0.7s,mb5.5
TOO Toolangi 71.26 177 *e*P **P 06 22 53.8 +0.6**
comp=Z,25nm,0.9s,mb5.2
TOO *e*S S 06 32 13.2 +4.2
TOO Toolangi 71.26 177 *e*P **P 06 22 53.8 +0.6**
TOO *e*S S 06 32 13.2 +4.2
TOO pmax pmax
comp=Z,25nm,0.9s,mb5.1
EPH Ephrata 71.30 45 P **P 06 22 54.8 +1.5**
VRSR Storozhevoye 71.30 320*c* *i*P **P 06 22 51.6 -1.6**
VRSR *e*S S 06 32 04.0 -5.2
VRSR *e* 06 32 45.3
VRSR *e* 06 32 51.2
VRSR *e*SS SS 06 36 35.5 -10
VRSR pmax pmax
comp=Z,2μm,5.7s
VRSR pmax pmax
comp=N,640nm,5.0s
VRSR pmax pmax
comp=E,340nm,5.2s
VRSR smax
comp=N,220nm,4.8s
VRSR smax
comp=Z,140nm,5.0s
VRSR smax
comp=E,620nm,5.9s
VRSR MLR MLR
comp=Z,61μm,13.6s,MS7.0
VRSR MLR MLR
comp=N,25μm,13.9s,MS6.7
VRSR MLR MLR
comp=E,9μm,11.5s,MS6.7
KRMB Red Mountain 71.48 52 *e*P **P 06 22 53.9 -0.5**
HUMO Hull Mountain 71.57 51 *e*P **P 06 22 54.4 -0.5**
comp=E,63nm,1.7s,mb5.3
HUMO LR LR
comp=Z,19μm,22.0s,MS6.3
FINES FINESS Array B 71.58 333 P **P 06 22 52.9 -1.8**
FINES S S 06 32 11.5 -0.7
FINES pmax pmax
comp=Z,33nm,0.9s
FINES MLR MLR
comp=Z,46μm,18.8s
FINES FINESS Array B 71.58 333 P **P 06 22 52.9 -1.8**
comp=Z,33nm,0.9s,mb5.2,baz=46,slow=4.2,SNR=14
FINES S S 06 32 11.4 -0.7
comp=Z,3.8nm,1.0s,baz=140,slow=30,SNR=2.7
FINES LR LR 06 57 43.7
comp=Z,46μm,18.8s,MS6.8,baz=322,slow=39
EDM Edmonton 71.70 38 *e*P **P 06 22 51.9 -3.6**
OD2 Odessa Site #2 71.80 45 P **P 06 22 55.7 -0.6**
WBK Wadi Bani Khal 71.82 285⇑P **P 06 22 57.0 +0.2**
SNR=12
KHMM Horse Mountain 71.91 53 *e*P **P 06 22 58.4 +1.3**
YBH Yreka Blue Hor 72.16 51 P **P 06 22 58.4 -0.1**
comp=Z,9.1nm,0.8s,mb4.7,baz=266,slow=2.7,SNR=17
YBH S S 06 32 19.9 +0.8
comp=Z,0.4nm,0.4s,baz=209,slow=6.4,SNR=3.0
YBH Yreka Blue Hor 72.16 51 P **P 06 22 58.4 -0.1**
YBH S S 06 32 19.9 +0.8
YBH LR LR
comp=Z,21μm,20.0s,MS6.4
GOF Gofitskoye 72.23 313 *i* P **P 06 22 58.0 -0.9**
GOF *i* S S 06 32 24.0 +4.1
GOF pmax pmax
comp=Z,136nm,1.2s,mb5.8
GOF pmax pmax
comp=Z,5μm,6.0s
GOF smax
comp=E,12μm,10.0s
NEW Newport 72.27 43 *e*P **P 06 22 58.4 -0.7**
comp=E,83nm,1.3s,mb5.5
NEW LR LR
comp=Z,14μm,20.0s,MS6.2
MOR8 Moi Rana 72.28 340 *e*P **P 06 22 56.6 -2.2**
SMDO Samad 72.34 286⇓P **P 06 22 59.9 0.0**
SNR=12
JMDO Jabal Madar 72.64 286 P **P 06 23 01.1 -0.5**
SNR=18
HOQ Hoqain 72.67 287⇓P **P 06 23 02.0 +0.1**
DUS Dusheti 72.68 309 P **P 06 23 01.2 -0.3**
DUS S tx 06 33 46.8

MTA	**Mtatsminda**	**72.82**	**309**	P	**P**	**06 23 04.4 +2.1**
MTA				S	S	06 32 28.6 +2.0
WDC	**Whiskeytown Da**	**72.84**	**52**	*e*P	**P**	**06 23 02.1 -0.4**
	comp=Z,68nm,1.3s,mb5.4					
WDC				LR	LR	
	comp=Z,16μm,21.0s,MS6.3					
ZEI	**Tsey**	**72.85**	**310**	*e*P	**P**	**06 23 01.4 -1.1**
ZEI				*i*		06 25 43.5
ZEI				*i* S	S	06 32 27.2 +0.2
ZEI				pmax	pmax	
	comp=Z,39nm,1.3s,mb5.2					
KIV	**Kislovodsk**	**73.00**	**312**	P	**P**	**06 23 03.0 -0.4**
	comp=Z,621nm,1.4s,mb6.3,SNR=58					
KIV	**Kislovodsk**	**73.00**	**312**	*e*P	**P**	**06 23 02.3 -1.1**
KIV				pmax	pmax	
	comp=Z,290nm,1.4s,mb6.0					
KIV	**Kislovodsk**	**73.00**	**312**	*e*P	**P**	**06 23 02.3 -1.1**
	comp=Z,293nm,1.4s,mb6.0					
KIV				LR	LR	
	comp=Z,12μm,19.0s,MS6.2					
VSU	**Vasula**	**73.15**	**330**	*e*P	**P**	**06 23 04.4 +0.4**
BSY	**Bisya**	**73.17**	**286**	P	**P**	**06 23 04.9 +0.1**
	SNR=34					
JMIC	**Jan Mayen**	**73.18**	**350**	*e*P	**P**	**06 23 04.6 +0.7**
JMIC				*e*S	S	06 32 30.1 -0.1
JMIC				AMS	AMS	07 02 27.3
	comp=Z,18μm,21.8s,MS6.3					
ONI	**Oni**	**73.23**	**310**	P	**P**	**06 23 07.7 +3.0**
ONI				S	S	06 32 36.8 +5.5
HOPS	**Hopland**	**73.29**	**54**	PFAKE		06 23 20.0 +15
HOPS				LR	LR	
	comp=Z,46μm,21.0s,MS6.7					
ARQ	**Araqi**	**73.42**	**287**	⇓P	**P**	**06 23 06.4 +0.2**
LBCM	**Butte Creek Ri**	**73.50**	**52**	P	**P**	**06 23 06.0 -0.4**
MOD	**Modoc**	**73.63**	**50**	*e*P	**P**	**06 23 06.6 -0.4**
	comp=Z,40nm,1.1s,mb5.3					
MOD				LR	LR	
	comp=Z,13μm,20.0s,MS6.2					
GNI	**Garni**	**73.63**	**308**	P	**P**	**06 23 10.9 +3.8**
GNI	**Garni**	**73.63**	**308**	⇓*e*P	**P**	**06 23 07.0 -0.1**
GNI				pmax	pmax	
	comp=Z,115nm,2.1s					
GNI				MLR	MLR	
	comp=Z,55μm,15.0s					
GNI	**Garni**	**73.63**	**308**	S	S	06 32 36.7 +0.8
	comp=Z,3.1nm,0.6s,baz=30,slow=16,SNR=1.8					
GNI	**Garni**	**73.63**	**308**	*e*P	**P**	**06 23 07.9 +0.8**
	comp=Z,175nm,1.2s,mb5.9					
GNI				LR	LR	
	comp=Z,55μm,20.0s,MS6.8					
WALA	**Waterton Lakes**	**73.65**	**42**	*e*P	**P**	**06 23 09.4 +2.4**
	comp=Z,77nm,1.2s,mb5.5					
SUMG	**Summit**	**73.75**	**360**	*e*P	**P**	**06 23 06.3 -0.9**
	comp=Z,63nm,1.1s,mb5.5					
AKH	**Akhalkalaki**	**73.80**	**309**	P	**P**	**06 23 10.7 +2.6**
AKH				S	S	06 32 46.5 +8.8
NSHM	**Saint Helena R**	**73.84**	**54**	P	**P**	**06 23 07.9 -0.5**
NSHM				*e*		06 23 15.6
BMO	**Blue Mountains**	**73.95**	**47**	*e*P	**P**	**06 23 08.0 -0.9**
	comp=Z,14nm,0.8s,mb4.9					
BMO				LR	LR	
	comp=Z,13μm,19.0s,MS6.2					
OHCM	**Honcut**	**74.17**	**53**	*e*P	**P**	**06 23 09.1 -1.2**
NSS	**Namsos**	**74.19**	**340**	*e*pP	pP	06 23 19.0 +5.1
NSS				AMS	AMS	07 00 39.2
	comp=Z,86μm,19.0s,MS7.1					
WVOR	**Wild Horse Val**	**74.41**	**49**	*e*P	**P**	**06 23 11.1 -0.4**
	comp=Z,146nm,1.6s,mb5.7					
WVOR				LR	LR	
	comp=Z,14μm,20.0s,MS6.3					
KARS	**Kars**	**74.47**	**309**	*e*P	**P**	**06 23 15.3 +3.3**
MSO	**Missoula**	**74.86**	**44**	*e*P	**P**	**06 23 13.6 -0.5**
	comp=Z,92nm,1.8s,mb5.4					
MSO				LR	LR	
	comp=Z,5μm,21.0s,MS5.8					
BCA	**Borcka**	**74.98**	**310**	P	**P**	**06 23 17.2 +2.3**
SOC	**Sochi**	**75.03**	**313**	*i* P	**P**	**06 23 14.0 -1.2**
SOC				*e*		06 23 29.3
SOC				*e*PPP	PPP	06 27 44.9 -5.5
SOC				*i* S	S	06 32 51.6 +0.2
SOC				*e*		06 33 26.5
SOC				*e*SS	SS	06 37 38.3 -4.2
SOC				*e*SSS	SSS	06 40 57.7 +1.2
MNK	**Minsk**	**75.12**	**326**	*e*P	**P**	**06 23 12.0 -3.4**
SCO	**Scoresbysund**	**75.17**	**354**	*e*P	**P**	**06 23 19.6 +4.2**
SCO	**Scoresbysund**	**75.17**	**354**	*i* P	**P**	**06 23 19.6 +4.2**
VANB	**Van**	**75.33**	**307**	P	**P**	**06 23 21.6 +4.6**
WCN	**Washoe City**	**75.34**	**52**	*e*P	**P**	**06 23 17.3 +0.3**
TVAN	**Van**	**75.36**	**307**	*i* P	**P**	**06 23 19.8 +2.6**
SAO	**San Andreas Ge**	**75.53**	**55**	*e*P	**P**	**06 23 20.9 +2.8**
	comp=Z,26nm,1.0s,mb5.1					
SAO				LR	LR	
	comp=Z,30μm,21.0s,MS6.6					
CMB	**Columbia Colle**	**75.58**	**54**	*e*P	**P**	**06 23 17.9 -0.5**
	comp=Z,49nm,1.3s,mb5.3					
CMB				LR	LR	
	comp=Z,44μm,22.0s,MS6.7					
HKR	**Hakkari**	**75.63**	**306**	*e*P	**P**	**06 23 21.7 +3.0**
ANN	**Anapa**	**75.74**	**315**	*c* *i*P	**P**	**06 23 20.9 +1.7**
ANN				*i*		06 23 33.1
ANN				*e*S	S	06 32 59.3 +0.1
ANN				*e*SP	SP	06 33 46.2 +10
ANN				pmax	pmax	
	comp=Z,188nm,1.7s,mb5.7					
ANN	**Anapa**	**75.74**	**315**	⇑*i*P	**P**	**06 23 20.7 +1.5**
ERZM	**Erzurum**	**75.97**	**309**	*i* P	**P**	**06 23 21.8 +1.2**
EZM	**Erzurum**	**75.97**	**309**	P	**P**	**06 23 20.5 -0.1**
LRV	**Little Rabbit**	**76.00**	**56**	P	**P**	**06 23 22.5 +1.6**
VRT	**Varto**	**76.28**	**308**	*e*P	**P**	**06 23 24.1 +1.7**
BMN	**Battle Mountai**	**76.38**	**50**	*e*P	**P**	**06 23 24.5 +1.6**
	comp=Z,89nm,1.4s,mb5.5					
BMN				LR	LR	
	comp=Z,21μm,20.0s,MS6.4					
HLID	**Hailey**	**76.40**	**47**	*e*P	**P**	**06 23 22.8 -0.1**
	comp=Z,85nm,1.5s,mb5.5					
HLID				LR	LR	
	comp=Z,12μm,22.0s,MS6.2					
TAU	**Tasmania Unive**	**76.69**	**176**	PFAKE		06 23 40.0 +15
TAU				LR	LR	
	comp=Z,3μm,19.0s,MS5.6					
FCC	**Fort Churchill**	**76.70**	**26**	*e*P	**P**	**06 23 23.5 -0.8**
FCC				pmax	pmax	
	comp=Z,130nm,1.3s,mb5.7					
FCC	**Fort Churchill**	**76.70**	**26**	*e*P	**P**	**06 23 23.5 -0.8**
	comp=Z,126nm,1.4s,mb5.7					
OMM	**Old Mammoth Mi**	**76.74**	**54**	*e*P	**P**	**06 23 27.0 +2.1**
NVAR	**Mina Array Bea**	**76.76**	**53**	P	**P**	**06 23 24.9 -0.1**
	comp=Z,7.3nm,0.7s,mb4.7,baz=292,slow=6.6,SNR=39					
NVAR				S	S	06 33 12.9 +2.4
	comp=Z,0.1nm,0.3s,baz=118,slow=27,SNR=2.7					
NVAR				LR	LR	06 51 06.9
	comp=Z,37μm,21.5s,MS6.7,baz=310,slow=31					
NVAR	**Mina Array Bea**	**76.76**	**53**	P	**P**	**06 23 24.9 -0.1**
NVAR				S	S	06 33 12.9 +2.4
NVAR				LR	LR	06 51 06.9
AKASG	**Malin Array Be**	**76.79**	**323**	P	**P**	**06 23 23.9 -1.1**
AKASG				S	S	06 33 08.8 -1.7
AKASG				pmax	pmax	
	comp=Z,12nm,0.5s					
AKASG	**Malin Array Be**	**76.79**	**323**	P	**P**	**06 23 23.9 -1.1**
	comp=Z,12nm,0.5s,mb5.1,baz=45,slow=5.7,SNR=33					
AKASG				S	S	06 33 08.8 -1.8
	comp=Z,0.3nm,0.3s,baz=304,slow=48,SNR=2.3					
BTMT	**Batman**	**76.81**	**307**	*e*P	**P**	**06 23 26.5 +1.1**
BOZ	**Bozeman (W)**	**76.85**	**44**	*e*P	**P**	**06 23 25.3 -0.1**
	comp=Z,94nm,1.3s,mb5.6					
BOZ				LR	LR	
	comp=Z,13μm,19.0s,MS6.3					
MNV	**Mina**	**76.86**	**53**	*e*P	**P**	**06 23 24.9 -0.7**
	comp=Z,99nm,1.8s,mb5.4					
MNV				LR	LR	
	comp=Z,39μm,22.0s,MS6.7					
GUMT	**Gumushane**	**76.88**	**310**	*e*P	**P**	**06 23 26.2 +0.5**
DOMB	**Dombas**	**76.94**	**339**	*e*P	**P**	**06 23 27.9 +2.3**
NB2	**NORSAR Subarra**	**77.06**	**338**	P	**P**	**06 23 25.0 -1.2**
	comp=Z,80nm,1.0s,mb5.6,baz=40,slow=5.6					
NB2	**NORSAR Subarra**	**77.06**	**338**	P	**P**	**06 23 25.0 -1.2**
	baz=40,slow=5.9					
NOA	**NORSAR Array B**	**77.06**	**338**	P	**P**	**06 23 24.9 -1.3**
NOA				S	S	06 33 12.8 -0.4
NOA				pmax	pmax	
	comp=Z,24nm,0.9s					
NOA	**NORSAR Array B**	**77.06**	**338**	P	**P**	**06 23 24.9 -1.3**
	comp=Z,24nm,0.9s,mb5.1,baz=40,slow=5.7,SNR=17					
NOA				S	S	06 33 12.8 -0.4
	comp=Z,1.0nm,0.8s,baz=284,slow=15,SNR=2.2					
NOA	**NORSAR Array B**	**77.06**	**338**	P	**P**	**06 23 24.9 -1.3**
NOA				S	S	06 33 12.8 -0.4
EZC	**Erzincan**	**77.06**	**309**	P	**P**	**06 23 31.9 +5.3**
BINT	**Bingol**	**77.10**	**308**	*e*P	**P**	**06 23 29.1 +2.1**
DGAR	**Diego Garcia**	**77.11**	**252**	PFAKE		06 23 40.0 +13
DGAR				LR	LR	
	comp=Z,2μm,19.0s,MS5.5					
BEST	**Besiri**	**77.12**	**307**	*i* P	**P**	**06 23 28.6 +1.6**
SUW	**Suwalki**	**77.53**	**328**	*e*P	**P**	**06 23 28.3 -0.7**
SUW				*e*pP	pP	06 23 33.3 +0.3
SUW				*e*PcP	PcP	06 23 38.6 -1.2
SUW				*e*S	S	06 33 17.4 -1.1
SUW				*e*SKS	SKS	06 33 36.8 -5.5
SUW				MLR	MLR	07 01 36.5
	comp=Z,81μm,17.4s,MS7.1					
SIM	**Simferopol'**	**77.59**	**316**	*e*P	**P**	**06 23 32.4 +2.9**
SIM				*i* S	S	06 33 28.5 +9.2
SIM				pmax	pmax	
	comp=Z,980nm,8.9s					
SIM	**Simferopol'**	**77.59**	**316**	⇑*e*P	**P**	**06 23 28.2 -1.3**
TPH	**Tonopah**	**77.67**	**52**	*e*P	**P**	**06 23 31.9 +1.8**
	comp=Z,60nm,1.4s,mb5.3					
TPH				LR	LR	
	comp=Z,37μm,22.0s,MS6.7					
PTK	**Pertek**	**77.80**	**309**	P	**P**	**06 23 32.9 +2.0**
YMR	**Madison River**	**77.81**	**44**	*e*P	**P**	**06 23 31.0 +0.3**
YNR	**Norris Junctio**	**77.94**	**44**	*e*P	**P**	**06 23 33.2 +1.7**
YFT	**Old Faithful**	**78.01**	**44**	*e*P	**P**	**06 23 33.9 +2.1**
IMW	**Indian Meadow**	**78.27**	**45**	*e*P	**P**	**06 23 34.2 +0.9**
RBK	**Rabkut**	**78.28**	**283**	P	**P**	**06 23 33.4 -0.4**
	SNR=17					
ELZG	**Elazig**	**78.29**	**309**	*i* P	**P**	**06 23 33.6 +0.1**
RAR	**Rarotonga**	**78.29**	**125**	S	S	06 33 29.6 +2.3
	comp=Z,18nm,1.1s,baz=321,slow=22,SNR=1.8					
RAR				LR	LR	06 51 39.5
	comp=Z,17μm,21.7s,MS6.3,baz=315,slow=31					
RAR	**Rarotonga**	**78.29**	**125**	PFAKE		06 23 50.0 +16
RAR				LR	LR	
	comp=Z,18μm,22.0s,MS6.4					
HVU	**Hansel Valley**	**78.41**	**47**	*e*P	**P**	**06 23 34.3 +0.3**
DAC	**Darwin (Calif)**	**78.41**	**54**	P	**P**	**06 23 34.0 -0.2**
DAC				LR	LR	
	comp=Z,27μm,21.0s,MS6.5					
MOOW	**Moose Ponds**	**78.47**	**45**	*e*P	**P**	**06 23 34.8 +0.5**
TRCR	**Troy Canyon**	**78.58**	**51**	*e*P	**P**	**06 23 34.2 -0.9**
WUWY	**Wally Ulrich**	**78.60**	**45**	*e*P	**P**	**06 23 35.9 +0.8**
SNOW	**Snow King Moun**	**78.64**	**45**	*e*P	**P**	**06 23 36.3 +1.1**
LOHW	**Long Hollow**	**78.64**	**45**	*e*P	**P**	**06 23 35.2 0.0**
KONO	**Kongsberg**	**78.64**	**337**	PFAKE		06 23 50.0 +15
KONO				LR	LR	
	comp=Z,75μm,19.0s,MS7.0					
BGU	**Big Grassy Mou**	**78.74**	**48**	*e*P	**P**	**06 23 35.9 0.0**
MYA	**Malataya**	**78.75**	**309**	*e*P	**P**	**06 23 36.2 +0.2**
MALT	**Malatya**	**78.75**	**309**	*e*P	**P**	**06 23 37.4 +1.3**
MALT	**Malatya**	**78.75**	**309**	*e*P	**P**	**06 23 36.4 +0.4**
MALT				pmax	pmax	
	comp=Z,100nm,1.5s,mb5.5					
MALT	**Malatya**	**78.75**	**309**	*e*P	**P**	**06 23 36.4 +0.4**
	comp=Z,100nm,1.5s,mb5.5					
AHID	**Auburn Hatcher**	**78.84**	**46**	*e*P	**P**	**06 23 38.3 +1.8**
	comp=Z,121nm,1.4s,mb5.6					
AHID				LR	LR	
	comp=Z,14μm,19.0s,MS6.3					
SVST	**Sivas**	**78.87**	**311**	*i* P	**P**	**06 23 39.9 +3.3**
SPUT	**South Promonto**	**78.88**	**48**	*e*P	**P**	**06 23 37.3 +0.6**
URZ	**Urewera**	**79.09**	**152**	LR	LR	06 54 51.8
	comp=Z,17μm,21.6s,MS6.3,baz=330,slow=33					
ABTO	**Aybut**	**79.09**	**284**	P	**P**	**06 23 38.1 -0.2**
	SNR=9.5					
DGMT	**Dagmar**	**79.18**	**38**	*e*P	**P**	**06 23 40.6 +2.5**
	comp=Z,180nm,1.6s,mb5.8					
DGMT				LR	LR	
	comp=Z,20μm,20.0s,MS6.5					
BOYT	**Boyabat**	**79.19**	**313**	*i* P	**P**	**06 23 38.7 +0.3**
LAO	**LASA Array**	**79.24**	**40**	*e*P	**P**	**06 23 38.8 +0.3**
	comp=Z,236nm,1.5s,mb5.9					
LAO				LR	LR	
	comp=Z,17μm,20.0s,MS6.4					
KIS	**Kishinev**	**79.30**	**320**	*e*P	**P**	**06 23 42.0 +3.2**
KIS				*i* S	S	06 33 37.0 -0.5
KIS				pmax	pmax	
	comp=Z,4μm,6.0s					
KIS				pmax	pmax	
	comp=Z,4μm,12.0s					
KIS				smax		
	comp=E,5μm,10.0s					
KIS				smax		
	comp=N,7μm,11.0s					
KIS				MLR	MLR	
	comp=Z,200μm,17.0s,MS7.5					
KIS				MLR	MLR	
	comp=N,172μm,16.0s,MS7.6					
KIS				MLR	MLR	
	comp=E,119μm,15.0s,MS7.6					
KIS				MLR	MLR	
	comp=Z,238μm,16.0s					
BER	**Bergen**	**79.36**	**340**	AMS	AMS	07 06 33.8
	comp=Z,29μm,17.2s,MS6.7					
NOQ	**North Oquirrh**	**79.46**	**48**	*e*P	**P**	**06 23 40.5 +0.7**
KMPD	**K-Podol'skiy**	**79.53**	**322**	P	**P**	**06 23 39.0 -1.1**
TCUT	**Toone Canyon**	**79.62**	**47**	*e*P	**P**	**06 23 41.5 +0.8**
CTU	**Camp Tracy**	**79.67**	**48**	*e*P	**P**	**06 23 45.0 +4.0**
WAR	**Warsaw**	**79.69**	**327**	*e*P	**P**	**06 23 43.6 +2.8**
WAR				*e*pP	PcP	06 23 59.4 +10
WAR				*e*S	S	06 33 43.7 +2.2
WAR				*e*SKS	SKS	06 33 55.2 -2.6
WAR				LR	LR	
	comp=Z,88μm,17.2s,MS7.2					
WAR	**Warsaw**	**79.69**	**327**	*e*P	**P**	**06 23 43.6 +2.8**
WAR				*e*pP	PcP	06 23 59.4 +10
WAR				*e*S	S	06 33 43.7 +2.2
WAR				*e*SKS	SKS	06 33 55.2 -2.6
WAR				MLR	MLR	07 04 00.9
	comp=Z,88μm,17.2s,MS7.2					
CTKT	**Corum**	**79.73**	**312**	*i* P	**P**	**06 23 42.0 +0.8**
FRB	**Frobisher Bay**	**79.74**	**13**	P	**P**	**06 23 39.2 -1.6**
FRB				pmax	pmax	
	comp=Z,24nm,0.8s					
FRB	**Frobisher Bay**	**79.74**	**13**	P	**P**	**06 23 39.2 -1.6**
	comp=Z,24nm,0.8s,mb5.2,baz=337,slow=5.6,SNR=16					
FRB	**Frobisher Bay**	**79.74**	**13**	P	**P**	**06 23 39.2 -1.6**
BW06	**Boulder Array**	**79.75**	**45**	*e*P	**P**	**06 23 40.7 -0.7**
	comp=Z,418nm,2.2s,mb6.0					
BW06				LR	LR	
	comp=Z,14μm,20.0s,MS6.3					
PDAR	**Pinedale Array**	**79.75**	**45**	P	**P**	**06 23 41.0 -0.3**
	comp=Z,8.3nm,0.8s,mb4.7,baz=261,slow=2.0,SNR=35					
PDAR				S	S	06 33 44.0 +1.6
	comp=Z,0.2nm,0.8s,baz=119,slow=37,SNR=2.5					
GZT	**Gaziantep**	**79.86**	**308**	*i* P	**P**	**06 23 42.6 +0.5**
NLU	**North Lily Min**	**79.90**	**49**	*e*P	**P**	**06 23 42.3 +0.1**
JLU	**Jordanelle**	**79.90**	**48**	*e*P	**P**	**06 23 43.0 +0.7**
LVV	**L'vov**	**79.92**	**324**	*i* P	**P**	**06 23 43.2 +1.1**
LVV				*i* S	S	06 33 44.2 +0.2
LVV	**L'vov**	**79.92**	**324**	*e*P	**P**	**06 23 44.0 +1.9**
TOS	**Tosya**	**79.95**	**313**	P	**P**	**06 23 43.1 +0.6**
BALT	**Daday**	**80.04**	**314**	*i* P	**P**	**06 23 43.0 +0.1**
CORM	**Corum**	**80.09**	**312**	P	**P**	**06 23 47.1 +3.9**
BNN	**Bunyan**	**80.10**	**310**	P	**P**	**06 23 44.0 +0.6**
DAU	**Daniels Canyon**	**80.14**	**48**	*e*P	**P**	**06 23 43.9 +0.4**
MPU	**Maple Canyon**	**80.14**	**48**	*e*P	**P**	**06 23 43.8 +0.3**
KAHT	**Ahir Dag**	**80.15**	**309**	*i* P	**P**	**06 23 44.8 +1.2**
GAZ	**Gaziantep**	**80.19**	**308**	*e*P	**P**	**06 23 41.2 -2.7**
BSD	**Bornholm Skovb**	**80.20**	**332**	*i* P	**P**	**06 23 45.1 +1.6**
BSD				*i* S	S	06 33 50.0 +3.3
BSD				pmax	pmax	
	comp=Z,68nm,1.2s,mb5.5					
BSD	**Bornholm Skovb**	**80.20**	**332**	*i* P	**P**	**06 23 45.1 +1.6**
	comp=Z,68nm,1.2s,mb5.5					
BSD				*i* S	S	06 33 50.0 +3.3
BSD	**Bornholm Skovb**	**80.20**	**332**	*i* P	**P**	**06 23 45.1 +1.6**
	comp=Z,68nm,1.2s,mb5.5					
BSD	**Bornholm Skovb**	**80.20**	**332**	*i* S	S	06 33 50.0 +3.3
GKP	**Gorka Klasztor**	**80.60**	**330**	*e*P	**P**	**06 23 45.3 -0.4**
GKP				*e*PP	pP	06 23 53.8 +4.1
GKP				*e*S	S	06 33 52.9 +1.9
GKP				*e*		06 34 00.8
GKP				MLR	MLR	
	comp=Z,125μm,16.6s,MS7.3					
GKP	**Gorka Klasztor**	**80.60**	**330**	*e*P	**P**	**06 23 45.3 -0.4**
GKP				*e*PcP	PcP	06 23 49.6 -3.4
GKP				*e*pP	pP	06 23 53.8 +4.1
GKP				*e*S	S	06 33 52.9 +1.9
GKP				*e*SKS	SKS	06 34 00.8 -3.5
GKP				LR	LR	
	comp=Z,125μm,16.6s,MS7.3					
GKP	**Gorka Klasztor**	**80.60**	**330**	*e*P	**P**	**06 23 45.3 -0.3**
GKP				*e*PcP	PcP	06 23 49.6 -3.4
GKP				*e*pP	pP	06 23 53.8 +4.1
GKP				*e*S	S	06 33 52.9 +1.9
GKP				*e*SKS	SKS	06 34 00.8 -3.5
GKP				MLR	MLR	07 03 41.6
	comp=Z,125μm,16.6s,MS7.3					
NEN	**Nelson**	**80.61**	**53**	*e*P	**P**	**06 23 45.7 -0.3**
SAFT	**Safranbolu**	**80.64**	**314**	*e*P	**P**	**06 23 46.2 +0.1**
ELDT	**Eldivan**	**80.64**	**313**	*i* P	**P**	**06 23 48.3 +2.1**
MVU	**Marysvale**	**80.66**	**50**	*e*P	**P**	**06 23 47.4 +1.1**
	comp=Z,79nm,1.4s,mb5.5					
MVU				LR	LR	
	comp=Z,9μm,19.0s,MS6.2					
PFO	**Pinyon Flat Ob**	**80.67**	**56**	*e*P	**P**	**06 23 44.8 -1.7**
	comp=Z,38nm,1.2s,mb5.2					
PFO				LR	LR	
	comp=Z,15μm,22.0s,MS6.3					
MSU	**Marysvale**	**80.68**	**50**	*e*P	**P**	**06 23 47.5 +1.1**
KWP	**Kalwaria**	**80.68**	**325**	*e*P	**P**	**06 23 47.2 +1.0**
KWP				*e**PP	pP	06 23 56.9 +6.7
KWP				*e*S	S	06 33 53.9 +2.0
KWP				MLR	MLR	
	comp=Z,77μm,18.1s,MS7.1					
KWP	**Kalwaria**	**80.68**	**325**	*e*P	**P**	**06 23 47.2 +1.0**
KWP				*e*PcP	PcP	06 23 51.4 -2.0
KWP				*e*pP	pP	06 23 56.9 +6.7
KWP				*e*S	S	06 33 53.9 +2.0
KWP				*e*SKS	SKS	06 34 11.2 +6.2
KWP				MLR	MLR	07 02 51.6
	comp=Z,77μm,18.1s,MS7.1					
BORG	**Borgarnes**	**80.70**	**353**	PFAKE		06 24 00.0 +14
BORG				LR	LR	
	comp=Z,4μm,19.0s,MS5.8					
COP	**Copenhagen**	**80.71**	**334**	*e*P	**P**	**06 23 49.9 +3.7**
COP				*i* S	S	06 33 46.4 -5.7
COP				pmax	pmax	
	comp=Z,82nm,0.9s,mb5.7					
COP	**Copenhagen**	**80.71**	**334**	*e*P	**P**	**06 23 49.9 +3.7**
	comp=Z,82nm,0.9s,mb5.7					
COP				*i*		06 24 25.9
COP				*i* S	S	06 33 46.4 -5.7
COP	**Copenhagen**	**80.71**	**334**	*i* P	**P**	**06 23 49.9 +3.7**
	comp=Z,82nm,0.9s,mb5.7					
COP				*i*		06 24 25.9
COP				*i* S	S	06 33 46.4 -5.7
AVNT	**Avonos**	**80.77**	**311**	*i* P	**P**	**06 23 47.2 +0.3**
BURAR	**Bucovina Array**	**80.78**	**322**	⇑P	**P**	**06 23 47.0 +0.3**
CFR	**Carcaliu**	**80.81**	**319**	⇑P	**P**	**06 23 48.3 +1.4**
CFR	**Carcaliu**	**80.81**	**319**	⇓*i*P	**P**	**06 23 49.7 +2.7**
CFR	**Carcaliu**	**80.81**	**319**	⇓*i*P	**P**	**06 23 49.7 +2.8**
TMUT	**Trail Mountain**	**80.83**	**49**	*e*P	**P**	**06 23 47.2 +0.1**
BRTR	**Keskin Array B**	**80.97**	**312**	P	**P**	**06 23 47.5 -0.4**
BRTR				S	S	06 33 55.0 -0.1
BRTR				pmax	pmax	
	comp=Z,20nm,1.0s					
BRTR	**Keskin Array B**	**80.97**	**312**	P	**P**	**06 23 47.5 -0.4**
	comp=Z,20nm,1.0s,mb5.0,baz=117,slow=2.8,SNR=35					
BRTR				S	S	06 33 55.0 -0.1
	comp=Z,0.2nm,0.3s,baz=195,slow=23,SNR=2.4					
VRI	**Vrincioaia**	**81.13**	**320**	⇓P	**P**	**06 23 49.4 +0.8**
KAMT	**Kaman**	**81.14**	**312**	*e*P	**P**	**06 23 47.2 -1.5**
COBT	**Iskenderun**	**81.20**	**308**	*i* P	**P**	**06 23 49.7 +0.6**
MUD	**Monsted U'grnd**	**81.28**	**335**	*e*P	**P**	**06 23 54.1 +4.9**
MUD				*e*S	S	06 34 06.7 +8.7
MUD				pmax	pmax	
	comp=Z,47nm,1.2s,mb5.3					
MUD	**Monsted U'grnd**	**81.28**	**335**	*e*P	**P**	**06 23 54.1 +4.9**
	comp=Z,47nm,1.2s,mb5.3					
MUD				*e*S	S	06 34 06.7 +8.7
MUD	**Monsted U'grnd**	**81.28**	**335**	*i* P	**P**	**06 23 54.1 +4.9**
	comp=Z,47nm,1.2s,mb5.3					
MUD	**Monsted U'grnd**	**81.28**	**335**	*e*S	S	06 34 06.7 +8.7
NIG	**Nigde**	**81.32**	**310**	*e*P	**P**	**06 23 51.7 +1.9**
SRU	**San Rafael**	**81.36**	**48**	*e*P	**P**	**06 23 50.0 0.0**
KOLS	**Kolonicke sedl**	**81.37**	**324**	*e*P	**P**	**06 23 51.4 +1.6**
KOLS				*i* S	S	06 34 03.2 +4.2
ANTO	**Ankara**	**81.40**	**313**	P	**P**	**06 23 50.9 +0.8**
ANTO	**Ankara**	**81.40**	**313**	P	**P**	**06 23 52.3 +2.2**
OJC	**Ojcow**	**81.64**	**326**	*e*P	**P**	**06 23 50.5 -0.7**
OJC				*e*S	S	06 33 58.2 -3.6
OJC				MLR	MLR	07 11 17.8
	comp=Z,59μm,17.5s,MS7.0					
ISR	**Istrita**	**81.72**	**320**	⇓*i*P	**P**	**06 23 52.3 +0.6**
PSN	**Preselentsi**	**81.74**	**318**	*e*P	**P**	**06 23 54.0 +2.2**
CRVS	**Cervenica-Dubn**	**81.78**	**325**	*i* P	**P**	**06 23 54.3 +2.4**
CRVS				*i* S	S	06 34 05.7 +2.5
MLR	**Muntele Rosu**	**81.80**	**320**	⇓*i*P	**P**	**06 23 51.9 -0.2**
RPZ	**Rata Peaks**	**81.87**	**159**	LR	LR	06 56 17.3
	comp=Z,15μm,21.7s,MS6.3,baz=340,slow=33					
RAYN	**Ar Rayn**	**81.92**	**293**	P	**P**	**06 23 53.7 +0.5**
	comp=Z,903nm,1.3s,mb6.5,SNR=32					
HENT	**Hendek**	**81.96**	**314**	*i* P	**P**	**06 23 54.0 +1.0**
NIE	**Niedzica**	**81.97**	**326**	*e*P	**P**	**06 23 53.6 +0.7**
MDU	**Mudurnu**	**82.00**	**314**	*e*P	**P**	**06 23 50.7 -2.5**
RSSD	**Black Hills**	**82.06**	**

VYHS **Vyhne** 83.31 326 *i* P P 06 23 59.8 0.0
VYHS *i* S S 06 34 23.9 +5.1
TIAR **Tiarei** 83.34 116 *eP* P 06 24 03.0 +2.4
comp=Z,263nm,1.3s,mb6.1
JMB **Yambol** 83.42 318 *eP* P 06 24 00.0 -0.5
ULDT **Uludag** 83.44 314 *i* P P 06 24 00.8 +0.2
ALT **Altintas** 83.54 313 P P 06 24 01.0 -0.2
TVO **Taravao** 83.56 116 *eP* P 06 24 04.5 +2.8
comp=Z,115nm,1.2s,mb5.9
JAVC **Velka Javorina** 83.59 327 P P 06 24 02.9 +1.7
RW3 **Ridgway** 83.64 48 *eP* P 06 24 04.7 +2.9
EDRB **Edirne** 83.73 317 P P 06 24 04.5 +2.4
PVCC **Panska Ves** 83.74 329 *eP* P 06 24 01.9 0.0
PVCC *eS* S 06 34 25.2 +2.2
PVCC AMS AMS 07 07 10.0
comp=Z,108μm,15.1s
BRG **Berggiesshubel** 83.75 330 *i* P P 06 24 01.9 -0.1
BRG *i* pP 06 24 07.1 +1.1
BRG *i* 06 27 20.6
BRG *i* S S 06 34 28.0 +4.9
BRG *i* SS SS 06 39 49.0 -4.2
BRG pmax pmax
comp=Z,60nm,1.3s,mb5.6
BRG MLR MLR
comp=N,64μm,12.9s,MS7.3
BRG MLR MLR
comp=E,39μm,12.9s,MS7.3
BRG MLR MLR
comp=Z,101μm,12.9s,MS7.4
BRG **Berggiesshubel** 83.75 330 *i* P P 06 24 01.9 -0.1
comp=Z,60nm,1.3s,mb5.6
BRG *i* pP 06 24 07.1 +1.1
BRG *i* 06 24 28.4
BRG *i* PP PP 06 27 20.6 +3.7
BRG *i* S S 06 34 28.0 +4.9
BRG *i* SS SS 06 39 49.0 -4.2
BRG *e* 06 42 00.7
BRG LR LR
comp=Z,101μm,12.9s,MS7.4
VRAC **Vranov** 83.75 327 ⇓P P 06 24 02.6 +0.6
CLL **Collm** 83.81 330⇓*i*P P 06 24 01.7 -0.6
CLL *i* 06 24 16.6
CLL *eS* S 06 34 29.0 +5.3
CLL pmax pmax
comp=Z,102nm,1.3s,mb5.8
CLL MLR MLR
comp=Z,89μm,18.0s,MS7.2
CLL **Collm** 83.81 330⇓*i*P P 06 24 01.7 -0.6
comp=Z,102nm,1.3s,mb5.8
CLL *i* 06 24 16.6
CLL *eS* S 06 34 29.0 +5.3
CLL LR LR
comp=Z,89μm,18.0s,MS7.2
CLL **Collm** 83.81 330 ⇓P P 06 24 01.7 -0.6
comp=Z,logA/T=1.4,mb5.3
CLL *i* pP 06 24 06.4 +0.1
CLL *i* 06 24 16.6
CLL *i* 06 24 27.9
CLL *e*PP PP 06 27 45.0 +28
CLL *e* 06 28 39.0
CLL *eS* S 06 34 29.0 +5.3
ISCO **Idaho Springs** 83.92 46 *eP* P 06 24 03.5 +0.4
comp=Z,64nm,1.5s,mb5.5
ISCO LR LR
comp=Z,15μm,19.0s,MS6.4
BZS **Buzias** 83.96 322 ⇓P P 06 24 02.9 -0.3
BNT **Bandirma** 84.02 315 P P 06 24 04.0 +0.3
KRUC **Moravsky** 84.02 327 P P 06 24 03.6 +0.2
CSS **Prodhromos** 84.03 308 *eP* P 06 24 05.2 +1.3
comp=Z,63nm,0.8s,mb5.8
SRO2 **Moca** 84.04 325 *eP* P 06 24 04.6 +1.1
SRO **Srobarova** 84.04 325 *eP* P 06 24 04.3 +0.8
MFT **Murefte** 84.11 316 *eP* P 06 24 09.2 +5.2
PRA **Prague** 84.14 329 P P 06 24 06.0 +2.0
PRA AMS AMS 07 07 30.0
PRU **Pruhonice** 84.15 329 P P 06 24 04.6 +0.6
PRU **Pruhonice** 84.15 329 *eP* P 06 24 03.7 -0.3
PRU *eS* S 06 34 27.8 +0.7
PRU AMS AMS 07 07 20.0
comp=Z,127μm,14.8s
LEF **Lefka** 84.22 309 *eP* P 06 24 01.2 -3.5
ZST **Bratislava** 84.33 326 *i* P P 06 24 06.2 +1.2
ZST *e* 06 27 42.0
ZST *i* 06 34 40.2
BTOK **Tokmak** 84.33 315 *i* P P 06 24 05.1 -0.1
KHL **Karahalli** 84.36 313 *eP* P 06 24 04.7 -0.7
CLZ **Clausthal** 84.45 332 *eP* P 06 24 05.7 +0.2
comp=Z,142nm,1.2s,mb6.0
MEH **Mehetia** 84.50 116 *eP* P 06 24 09.1 +2.6
comp=Z,76nm,1.3s,mb5.7
BALB **Balikesir** 84.50 315 *eP* P 06 24 03.0 -3.0
ANTB **Antalya** 84.55 311 *eP* P 06 24 07.1 +0.7
KDZ **Kurdzhali** 84.61 317 *eP* P 06 24 10.0 +3.5
VKA **Vienna** 84.64 327⇑*i*P P 06 24 07.5 +1.0
VKA pmax pmax
comp=Z,2μm,4.0s
VKA MLR MLR
comp=Z,45μm,14.0s,MS7.0
VKA **Vienna** 84.64 327⇑*i*P P 06 24 07.5 +1.0
comp=Z,2μm,4.0s
VKA LR LR
comp=Z,45μm,14.0s,MS7.0
PGB **Panagyurishte** 84.70 319 *eP* P 06 24 10.0 +3.0
NKC **Novy Kostel** 84.85 330 P P 06 24 08.3 +0.8
NKC **Novy Kostel** 84.85 330 *eP* P 06 24 07.3 -0.2
NKC *eS* S 06 34 39.0 +4.9
NKC AMS AMS 07 06 40.0
comp=Z,113μm,15.6s
MOX **Moxa** 84.88 331 *eP* P 06 24 07.7 0.0
MOX pmax pmax
comp=Z,258nm,2.0s,mb6.0
MOX MLR MLR
comp=Z,58μm,18.0s,MS7.0
MOX **Moxa** 84.88 331 *eP* P 06 24 07.7 0.0
comp=Z,258nm,2.0s,mb6.0
MOX *eS* S 06 34 39.0 +4.7
MOX *e*PS PS 06 35 30.0 -1.9
MOX *e*PPS PPS 06 36 05.0 +9.2
MOX *e*LQ 06 47 00.0
MOX LR LR
comp=Z,58μm,18.0s,MS7.0
MOX **Moxa** 84.88 331 *i* P P 06 24 07.7 0.0
comp=Z,logA/T=2.1,mb6.0
MOX PP PP 06 27 40.0 +14
MOX S S 06 34 39.0 +4.7
MOX PS PS 06 35 30.0 -1.9
MOX PPS PPS 06 36 05.0 +9.2
MOX LQ 06 47 00.0
MOX L 07 06 07.0
SOP **Sopron** 84.95 326 P P 06 24 09.7 +1.6
RZN **Rozhen** 84.98 318 *eP* P 06 24 09.0 +0.6
DENT **Denizli** 85.02 313 *eP* P 06 24 10.4 +1.8
BOLS **Boljevac** 85.02 321⇑*i*P P 06 24 08.3 -0.2
PKSM **Moragy** 85.03 324⇓*eP* P 06 24 08.0 -0.5
AKS **Akhisar** 85.03 314 P P 06 24 08.0 -0.7
DNZL **Cakiroluk** 85.05 313 *i* P P 06 24 10.3 +1.4
WIT **Witteveen** 85.07 334 *eP* P 06 24 13.3 +4.8
SVIS **Svilajnac** 85.08 322⇑*i*P P 06 24 07.3 -1.5
BEO **Belgrade** 85.11 322⇑*i*P P 06 24 08.6 -0.3
ELL **Elmali** 85.11 311 *eP* P 06 24 08.5 -0.7
VTS **Vitosha** 85.20 319 ⇑P P 06 24 10.0 +0.6
VTS **Vitosha** 85.20 319 *eP* P 06 24 10.0 +0.6
KHC **Kasperske Hory** 85.21 329 *eP* P 06 24 08.5 -0.8
KHC **Kasperske Hory** 85.21 329 *eP* P 06 24 09.2 -0.1
KHC x x 06 24 13.0
KHC x x 06 24 34.5
KHC *eS* S 06 34 37.6 0.0
KHC AMS AMS 07 07 50.0
comp=Z,134μm,16.3s
TUC **Tucson** 85.30 54 *eP* P 06 24 10.3 +0.1
comp=Z,36nm,1.4s,mb5.3
TUC LR LR
comp=Z,37μm,21.0s,MS6.8
SDCO **Great Sand Dun** 85.30 47 *eP* P 06 24 10.5 +0.4
comp=Z,120nm,1.6s,mb5.8
SDCO LR LR
comp=Z,16μm,19.0s,MS6.4
GERES **GERESS Array B** 85.37 328 P P 06 24 09.5 -0.7
GERES S S 06 34 35.2 -4.0
GERES pmax pmax
comp=Z,9.0nm,0.7s
GERES **GERESS Array B** 85.37 328 P P 06 24 09.5 -0.7
comp=Z,9.2nm,0.7s,mb5.0,baz=34,slow=4.8,SNR=16
GERES S S 06 34 35.2 -4.0
comp=Z,0.2nm,0.2s,baz=292,slow=29,SNR=2.6
RHK1 **Bakonya** 85.39 324 *eP* P 06 24 10.3 0.0
MMB **Musomiste** 85.59 318 *eP* P 06 24 12.0 +0.6
GRUS **Gruza** 85.63 321⇓*i*P P 06 24 11.9 +0.3
KDAG **Bornova** 85.67 314 *i* P P 06 24 10.9 -1.0
IZM **Izmir** 85.67 314 *i* P P 06 24 08.7 -3.2
FETY **Fethiye** 85.69 312 *eP* P 06 24 09.4 -2.7
WTSB **Winterswijk** 85.70 334 *eP* P 06 24 10.1 -1.7
comp=Z,81nm,1.5s,mb5.7
WTSB *ex* x 06 24 29.5
ARSA **Arzberg** 85.75 326⇓*i*P P 06 24 12.1 0.0
comp=Z,47nm,1.2s,mb5.6
KKB **Krupnik** 85.76 319 *eP* P 06 24 12.0 -0.3
AYDN **Tasoluk** 85.78 313 *i* P P 06 24 13.0 +0.5
GRA1 **Grafenberg Arr** 85.78 330 *eP* P 06 24 12.4 +0.2
comp=Z,449nm,1.3s,mb6.5
GRA1 *eS* S 06 34 49.5 +6.4
GRA1 LR LR
comp=Z,57μm,18.0s,MS7.0
GRF **Grafenberg Arr** 85.78 330 *eP* P 06 24 12.4 +0.2
GRF *eS* S 06 34 49.5 +6.4
GRF pmax pmax
comp=Z,449nm,1.3s,mb6.5
GRF MLR MLR
comp=Z,57μm,18.0s,MS7.0
GRF **Grafenberg Arr** 85.78 330 *eP* P 06 24 12.4 +0.2
comp=Z,449nm,1.3s,mb6.5
GRF *eS* S 06 34 49.5 +6.4
GRF LR LR
comp=Z,57μm,18.0s,MS7.0
BARS **Barje** 85.78 320⇑*i*P P 06 24 14.6 +2.2
DIVS **Divcibare** 85.85 322⇓*i*P P 06 24 11.8 -0.8
YER **Yerkesik** 85.87 313 *eP* P 06 24 14.2 +1.2
MOA **Molln** 85.87 327⇓*i*P P 06 24 12.8 +0.1
comp=Z,50nm,1.2s,mb5.6
ESK **Eskdalemuir** 86.08 341 PFAKE 06 24 30.0 +16
ESK LR LR
comp=Z,11μm,20.0s,MS6.2
EIL **Elat** 86.14 303 *eP* P 06 24 16.9 +2.5
comp=Z,54nm,1.2s,mb5.7
LAZ **Ladron** 86.40 51 *eP* P 06 24 18.0 +2.4
VAY **Valandovo** 86.41 319⇓*i*P P 06 24 19.0 +3.5
VAY *i* S S 06 34 48.5 -0.9
NVSS **Nova Varos 2** 86.42 322⇑*i*Pn P 06 24 08.9 -6.5
ANMO **Albuquerque** 86.49 50 P P 06 24 17.5 +1.5
comp=Z,3.5nm,1.0s,baz=328,slow=6.4,SNR=7.9
ANMO S S 06 34 43.9 -6.4
comp=Z,0.3nm,0.4s,baz=143,slow=23,SNR=2.9
ANMO **Albuquerque** 86.49 50 *eP* P 06 24 19.7 +3.7
comp=Z,35nm,1.5s,mb5.4
ANMO LR LR
comp=Z,28μm,22.0s,MS6.6
LENM **Lemitar** 86.65 51 *eP* P 06 24 20.0 +3.1
LPM **Los Pinos Moun** 86.78 50 P P 06 24 16.0 -1.5
LEGS **Legarje** 86.81 326 *eP* P 06 24 20.7 +3.4
LEGS *eS* S 06 34 59.6 +6.5
LEGS *e* 06 40 46.9
KBA **Koelnbreinsper** 86.86 327⇓*i*P P 06 24 19.8 +2.2
comp=Z,46nm,1.1s,mb5.6
KBA **Koelnbreinsper** 86.86 327⇓*i*P P 06 24 19.8 +2.2
KBA pmax pmax
comp=Z,46nm,1.1s,mb5.6
PDKS **Podkum** 86.87 326 *eP* P 06 24 21.1 +3.4
TBI **Tubuai** 86.87 121 *eP* P 06 24 21.1 +2.9
comp=Z,171nm,1.4s,mb6.1
TBI *e*LR LR 06 50 38.1
comp=Z,32μm,22.8s,baz=310
HGN **Heimansgroeve** 87.00 334 *eP* P 06 24 18.1 0.0
comp=Z,124nm,1.7s,mb5.9
HGN *ex* x 06 24 59.2
HGN *eS* S 06 34 43.9 -11
STU **Stuttgart** 87.33 331 *eP* P 06 24 15.8 -4.0
STU pmax pmax
comp=Z,88nm,1.1s,mb5.9
STU **Stuttgart** 87.33 331 *eP* P 06 24 15.8 -4.0
comp=Z,88nm,1.1s,mb5.9
CEY **Cerknica** 87.38 326 *eP* P 06 24 22.8 +2.7
CEY *eS* S 06 34 59.6 +1.1
MOTA **Moosalm** 87.64 329⇑*i*P P 06 24 24.4 +3.1
comp=Z,64nm,1.6s,mb5.6
MOTA **Moosalm** 87.64 329⇑*i*P P 06 24 24.4 +3.1
MOTA pmax pmax
comp=Z,64nm,1.6s,mb5.6
SQTA **Sankt Quirin** 87.69 329⇓*i*P P 06 24 24.2 +2.6
comp=Z,256nm,2.4s,mb6.0
SQTA **Sankt Quirin** 87.69 329⇓*i*P P 06 24 24.2 +2.6
SQTA pmax pmax
comp=Z,256nm,2.4s,mb6.0
WLF **Walferdange** 87.81 333 *eP* P 06 24 25.1 +3.0
WLF pmax pmax
comp=Z,141nm,1.5s,mb6.0
WLF **Walferdange** 87.81 333 *eP* P 06 24 25.1 +3.0
comp=Z,141nm,1.5s,mb6.0
GIVF **Givet** 87.95 334 *eP* P 06 24 19.9 -2.8
CBKS **Cedar Bluff** 87.99 43 PFAKE 06 24 40.0 +17
CBKS LR LR
comp=Z,5.0nm,19.0s
SANT **Santorini** 88.08 314 *eP* P 06 24 26.9 +3.1
comp=Z,67nm,1.3s,mb5.7
BAIF **Baives** 88.21 334 *eP* P 06 24 22.0 -1.9
DAVA **Damuels** 88.21 329⇓*i*P P 06 24 25.0 +1.0
comp=Z,72nm,1.6s,mb5.7
SCHQ **Schefferville** 88.26 16 P P 06 24 24.1 +0.1
comp=Z,9.0nm,0.9s,mb5.0,baz=339,slow=6.2,SNR=6.1
SCHQ S S 06 34 53.4 -13
comp=Z,2.2nm,0.9s,baz=150,slow=18,SNR=1.6
SCHQ LR LR 07 12 45.9
comp=Z,18μm,18.4s,MS6.5,baz=346,slow=42
DMUB **Kingscourt** 88.33 342 *eP* pP 06 24 37.0 +8.5
WLS **Welschbruch** 88.35 331 *eP* P 06 24 27.5 +2.8
CDF **Champ du Feu** 88.38 331 *eP* P 06 24 23.1 -1.7
comp=Z,72nm,1.2s,mb5.5
CDF **Champ du Feu** 88.38 331 *eP* P 06 24 23.1 -1.7
CDF pmax pmax
comp=Z,36nm,1.2s,mb5.5
ECH **Echery** 88.59 331 *eP* P 06 24 26.3 +0.5
DLF **Lyons Farm** 88.78 341 *eP* pP 06 24 39.0 +8.3
MOF **Molkenrain** 88.89 331 *eP* P 06 24 31.4 +4.1
DCN **Croghan** 88.93 342 *eP* pP 06 24 40.0 +8.6
MUO **Muotathal** 88.98 330 ⇓P P 06 24 30.7 +2.9
THEF **They Montfort** 89.04 332 *eP* P 06 24 26.5 -1.5
HAU **Haudompre** 89.08 332 *eP* P 06 24 26.0 -2.2
HAU *e*R
comp=Z,88μm,17.2s
MEZF **Maizieres J'vi** 89.18 333 *eP* P 06 24 26.3 -2.3
MNTX **Cornudas Mount** 89.25 52 *eP* P 06 24 30.0 +0.5
comp=Z,146nm,2.7s,mb5.8
MNTX LR LR
comp=Z,10μm,20.0s,MS6.2
CPRX **Cap Rock** 89.37 50 *eP* P 06 24 31.6 +1.7
LOMF **Lomont** 89.42 331 *eP* P 06 24 28.5 -1.3
AMTX **Amarillo** 89.50 47 *eP* P 06 24 34.0 +3.5
comp=Z,8.5nm,0.8s,mb5.1
AMTX LR LR
comp=Z,12μm,19.0s,MS6.3
KSU1 **Kansas State U** 89.54 41 P P 06 24 29.3 -1.3
GDL2 **Guadalupe Moun** 89.59 51 *eP* P 06 24 30.8 -0.2
GVD **Gavdhos** 89.94 313 *eP* P 06 24 34.8 +2.2
comp=Z,89nm,1.1s,mb6.0
JFWS **Jewell Farm** 90.03 35 PFAKE 06 24 40.0 +7.2
JFWS LR LR
comp=Z,26μm,22.0s,MS6.6
CABF **La Chapelle** 90.31 331 *eP* P 06 24 32.3 -1.7
comp=Z,279nm,1.9s,mb6.0
CABF **La Chapelle** 90.31 331 *eP* P 06 24 32.3 -1.7
CABF pmax pmax
comp=Z,140nm,1.9s,mb6.0
AQU **L'Aquila** 90.41 324 *eP* P 06 24 34.7 +0.1
AQU pmax pmax
comp=Z,100nm,1.2s,mb6.0
AQU **L'Aquila** 90.41 324 *eP* P 06 24 34.6 +0.1
comp=Z,102nm,1.2s,mb6.0
CII **Carovilli** 90.44 323 P P 06 24 34.6 -0.2
LPL **La Plagne** 90.94 330 *eP* P 06 24 34.4 -2.5
comp=Z,73nm,1.2s,mb5.6
LPL **La Plagne** 90.94 330 *eP* P 06 24 34.4 -2.5
LPL pmax pmax
comp=Z,36nm,1.2s,mb5.6
LPG **La Plagne** 90.95 330 *eP* P 06 24 34.4 -2.5
comp=Z,144nm,1.4s,mb5.8
LPG **La Plagne** 90.95 330 *eP* P 06 24 34.4 -2.5
LPG pmax pmax
comp=Z,72nm,1.4s,mb5.8
FLN **La Foliniere** 90.95 336 *eP* P 06 24 34.6 -2.2
comp=Z,172nm,1.4s,mb5.9
FLN *e*R
comp=Z,65μm,19.0s
FLN **La Foliniere** 90.95 336 *eP* P 06 24 34.6 -2.2
FLN pmax pmax
comp=Z,86nm,1.4s,mb5.9
FLN MLR MLR
comp=Z,65μm,19.0s,MS7.1
SSF **Saint Saulge** 90.95 333 *eP* P 06 24 34.2 -2.7
SSF pmax pmax
comp=Z,71nm,1.4s,mb5.8
SSF **Saint Saulge** 90.95 333 *eP* P 06 24 34.2 -2.7
comp=Z,71nm,1.4s,mb5.8
LDF **La Druitiere** 90.97 336 *eP* P 06 24 34.6 -2.4
comp=Z,395nm,1.7s,mb6.2
SMF **Signal de Mont** 91.17 332 *eP* P 06 24 35.7 -2.2
comp=Z,442nm,1.8s,mb6.2
AVF **Avril sur Loir** 91.24 333 *eP* P 06 24 35.9 -2.3
comp=Z,95nm,1.1s,mb5.7
AVF **Avril sur Loir** 91.24 333 *eP* P 06 24 35.9 -2.3
AVF pmax pmax
comp=Z,47nm,1.1s,mb5.7
BNI **Bardonecchia** 91.34 330 *eP* P 06 24 41.0 +2.3
comp=Z,48nm,1.3s,mb5.7
WMOK **Wichita Mounta** 91.35 46 *eP* P 06 24 40.6 +1.5
comp=Z,25nm,1.4s,mb5.3
WMOK LR LR
comp=Z,12μm,19.0s,MS6.3
GRR **Gorron** 91.40 336 *eP* P 06 24 36.7 -2.2
comp=Z,204nm,1.1s,mb6.1
GRR **Gorron** 91.40 336 *eP* P 06 24 36.7 -2.2
GRR pmax pmax
comp=Z,102nm,1.1s,mb6.1
MBDF **Montbardon** 91.56 330 *eP* P 06 24 37.0 -2.8
BGF **Bois d'Agland** 91.62 333 *eP* P 06 24 37.8 -2.2
ORIF **Oris-en-Rattie** 91.78 330 *eP* P 06 24 39.0 -1.8
comp=Z,105nm,1.2s,mb5.7
ORIF *e*R
comp=Z,54μm,17.3s
PLDF **La Plantade** 91.82 332 *eP* P 06 24 45.9 +5.0
TXAR **Lajitas Array** 91.91 52 P P 06 24 40.9 -0.8
comp=Z,3.7nm,0.8s,mb4.7,baz=291,slow=2.7,SNR=20
TXAR S S 06 35 18.3 -22
comp=Z,0.5nm,1.0s,baz=92,slow=12,SNR=3.0
TXAR LR LR 06 59 59.3
comp=Z,31μm,21.6s,MS6.7,baz=225,slow=32
AGO **Saint Agoulin** 91.94 332 *eP* P 06 24 45.9 +4.4
SBF **Sospel** 91.97 329 *eP* P 06 24 39.7 -2.0
comp=Z,135nm,1.0s,mb5.9
SBF **Sospel** 91.97 329 *eP* P 06 24 39.7 -2.0
SBF pmax pmax
comp=Z,68nm,1.0s,mb5.9
SGMF **Saint Gilles** 92.08 337 *eP* P 06 24 39.8 -2.3
comp=Z,162nm,1.4s,mb5.9
SGMF **Saint Gilles** 92.08 337 *eP* P 06 24 39.8 -2.3
SGMF pmax pmax
comp=Z,81nm,1.4s,mb5.9
TCF **Toulx Ste Croi** 92.09 333 *eP* P 06 24 39.7 -2.5
comp=Z,104nm,1.3s,mb5.7
TCF **Toulx Ste Croi** 92.09 333 *eP* P 06 24 39.7 -2.5
TCF pmax pmax
comp=Z,52nm,1.3s,mb5.7
PYM **Petit Puy Mans** 92.24 332 *eP* P 06 24 48.9 +6.0
ROSF **Rostrenen** 92.24 337 *eP* P 06 24 40.1 -2.7
comp=Z,313nm,1.7s,mb6.1
VIVF **Saint-Julien-l** 92.32 331 *eP* P 06 24 40.6 -2.7
comp=Z,112nm,1.2s,mb5.8
PGF **Pioggiola** 92.33 327 *eP* P 06 24 39.4 -3.9
comp=Z,169nm,1.3s,mb5.9
PGF **Pioggiola** 92.33 327 *eP* P 06 24 39.4 -3.9
PGF pmax pmax
comp=Z,84nm,1.3s,mb5.9
FRF **La Foret Royal** 92.55 329 *eP* P 06 24 40.9 -3.5
QUIF **Quistinic** 92.57 337 *eP* P 06 24 41.4 -2.9
comp=Z,119nm,1.2s,mb5.9
SMRF **Simiane la Rot** 92.67 330 *eP* P 06 24 42.2 -2.7
comp=Z,399nm,1.7s,mb6.3
MFF **Saint Martin d** 92.69 335 *eP* P 06 24 42.3 -2.6
comp=Z,185nm,1.2s,mb6.1
LMR **La Mourre** 92.80 329 *eP* P 06 24 42.4 -3.1
comp=Z,172nm,1.4s,mb6.0
RJF **Les Rejaudoux** 93.18 333 *eP* P 06 24 44.5 -2.7
comp=Z,103nm,1.3s,mb5.8
RJF *e*R
comp=Z,59μm,17.2s
CCM **Cathedral Cave** 93.18 39 *eP* P 06 24 46.5 -0.9
comp=Z,61nm,1.4s,mb5.8
CCM LR LR
comp=Z,3μm,19.0s,MS5.7
CAF **Calviac** 93.29 332 *eP* P 06 24 44.8 -2.9
comp=Z,197nm,1.5s,mb6.0
LASF **Ste Croix** 93.29 331 *eP* P 06 24 45.3 -2.5
comp=Z,106nm,1.2s,mb5.8
AAM **Ann Arbor** 93.54 32 PFAKE 06 25 00.0 +11
AAM LR LR
comp=Z,18μm,20.0s,MS6.5
JCT **Junction City** 93.64 49 P P 06 24 50.3 +0.6
comp=Z,136nm,2.2s,mb6.0
JCT LR LR
comp=Z,28μm,22.0s,MS6.7
LFF **La Frestale** 93.78 333 *eP* P 06 24 46.7 -3.3
MIAR **Mount Ida** 94.51 43 *eP* P 06 24 52.9 -0.7
comp=Z,46nm,1.4s,mb5.7
MIAR LR LR
comp=Z,15μm,21.0s,MS6.4
MTLF **Montolieu** 94.56 332 *eP* P 06 24 50.4 -3.2
ERPA **Erie** 95.25 30 PFAKE 06 25 10.0 +13
ERPA LR LR
comp=Z,22μm,19.0s,MS6.7
ACSO **Alum Creek Sta** 95.51 33 PFAKE 06 25 10.0 +12
ACSO LR LR
comp=Z,20μm,20.0s,MS6.6
WCI **Wyandotte Cave** 95.55 36 PFAKE 06 25 10.0 +12
WCI LR LR
comp=Z,4μm,19.0s,MS6.0
NCB **Newcomb** 95.87 25 PFAKE 06 25 10.0 +10
NCB LR LR
comp=Z,36μm,19.0s,MS6.9
NATX **Nacogdoches** 95.89 45 PFAKE 06 25 10.0 +10
NATX LR LR
comp=Z,17μm,19.0s,MS6.5
ETSF **Etsaut** 96.01 333 *eP* P 06 24 57.3 -3.0
WVT **Waverly** 96.42 38 PFAKE 06 25 10.0 +7.7
WVT LR LR
comp=Z,14μm,22.0s,MS6.4
HKT **Hockley** 96.47 47 PFAKE 06 25 10.0 +7.3
HKT LR LR
comp=Z,7μm,22.0s,MS6.1
BINY **Binghamton** 96.76 27 PFAKE 06 25 20.0 +16
BINY LR LR
comp=Z,27μm,19.0s,MS6.8
OXF **Oxford** 96.83 40 PFAKE 06 25 20.0 +16
OXF LR LR
comp=Z,14μm,19.0s,MS6.5
MCWV **Mont Chateau** 97.35 31 PFAKE 06 25 20.0 +14
MCWV LR LR
comp=Z,14μm,19.0s,MS6.5
HRV **Harvard--Oak R** 98.08 24 PFAKE 06 25 20.0 +10
HRV LR LR
comp=Z,26μm,19.0s,MS6.8
MYNC **Murphy** 99.11 36 PFAKE 06 25 30.0 +16
MYNC LR LR
comp=Z,23μm,20.0s,MS6.7
LRAL **Lakeview Retre** 99.24 40 PFAKE 06 25 30.0 +15
LRAL LR LR
comp=Z,14μm,19.0s,MS6.5
CBN **Corbin** 99.62 30 PFAKE 06 25 30.0 +13
CBN LR LR
comp=Z,22μm,20.0s,MS6.7
DRV **Dumont d'Urvil** 100.31 181 Pdif tx 06 25 40.0
DRV **Dumont d'Urvil** 100.31 181 PP PP 06 29 43.0 +15
DRV SKKS 06 36 30.0
DRV SP SP 06 38 28.0 +3.5
DRV SS SS 06 43 53.0 +3.2
DRV L 06 53 00.0
GOGA **Godfrey** 100.77 37 PFAKE 06 25 30.0 +8.0
GOGA LR LR
comp=Z,16μm,19.0s,MS6.5
PTCN **Pitcairn Islan** 102.29 112 PFAKE 06 25 40.0 +11
PTCN LR LR
comp=Z,18μm,22.0s,MS6.5
KMBO **Kilima Mbogo** 102.47 277 P Pdif 06 25 29.5 -0.7
comp=Z,0.7nm,0.6s,baz=210,slow=22,SNR=2.3
KMBO PP PP 06 29 40.2 -5.4
comp=Z,1.7nm,0.8s,baz=52,slow=15,SNR=2.6
KMBO S SKS 06 36 08.8 -4.7

comp=Z,0.9nm,0.8s,baz=200,slow=22,SNR=1.9
NHSC New Hope 102.62 35 PFAKE 06 25 40.0 +10
NHSC LR LR
comp=Z,26μm,21.0s,MS6.7
CASY Casey 102.73 192 PFAKE 06 25 40.0 +10
CASY LR LR
comp=Z,5μm,22.0s,MS6.0
DWPF Disney 106.06 39 PFAKE 06 30 10.0
DWPF LR LR
comp=Z,4μm,19.0s,MS5.9
MBAR Mbarara 107.51 281 PFAKE 06 30 10.0
MBAR LR LR
comp=Z,2μm,19.0s,MS5.7
TEIG Tepich 108.21 49 PFAKE 06 30 10.0
TEIG LR LR
comp=Z,6μm,19.0s,MS6.2
BBSR BB Station 109.55 23 PFAKE 06 30 20.0
BBSR LR LR
comp=Z,13μm,20.0s,MS6.5
VNDA Vanda 111.91 175 PP PP 06 30 49.8 -4.0
comp=Z,9.3nm,1.1s,baz=301,slow=20,SNR=1.8
SBA Scott Base 112.59 174 PFAKE 06 30 20.0 +9.3
SBA LR LR
comp=Z,5μm,19.0s,MS6.1
MAW Mawson 116.81 205 PP PP 06 31 27.1 -2.1
comp=Z,8.8nm,1.2s,baz=77,slow=14,SNR=1.7
LSZ Lusaka 117.61 270 *e*PKPdf PKPdf 06 30 21.3 -0.5
LSZ LR LR
comp=Z,10μm,21.0s,MS6.4
JTS JuntasAbangare 117.68 54 PFAKE 06 30 30.0 +8.0
JTS LR LR
comp=Z,2μm,20.0s,MS5.6
PAYG Puerto Ayora 121.35 67 PFAKE 06 30 40.0 +11
PAYG LR LR
comp=Z,14μm,21.0s,MS6.6
SJG San Juan 121.88 31 PFAKE 06 30 40.0 +10
SJG LR LR
comp=Z,8μm,19.0s,MS6.4
QSPA South Pole Qui 123.71 180 P PKPdf 06 30 30.0 -2.3
SYO Syowa Base 125.50 206 ⇑PKPdf PKPdf 06 30 36.5 +0.6
DBIC Dimbokro 128.57 315 PKP PKPdf 06 30 40.4 -2.9
comp=Z,5.3nm,0.9s,baz=9.2,slow=3.1,SNR=3.9
OTAV Otavalo 129.38 56 *e*Pdif Pdif 06 27 28.3 -0.4
OTAV *e*PKPdf PKPdf 06 30 47.7 +2.9
OTAV LR LR
comp=Z,10μm,20.0s,MS6.5
SUR Sutherland 130.97 254 PFAKE 06 31 00.0 +13
SUR LR LR
comp=Z,2μm,19.0s,MS5.7
MAIT Maitri 134.50 201 *e*PKP PKPdf 06 30 57.5 +4.6
SNAA Sanae 137.84 196 *e* PKPdf 06 30 53.9 -5.1
SNAA Sanae 137.84 196 *e* PKPdf 06 31 03.7 +4.7
SNAA Sanae 137.84 196 *e* PKPdf 06 31 07.0 +8.0
SNAA Sanae 137.84 196 ⇑*i*PKIKP PKPdf 06 30 50.9 -8.1
SNAA *e* 06 31 03.7
SNAA *e* 06 33 45.3
SNAA Sanae 137.84 196 ⇑*i*PKPdf PKPdf 06 30 50.9 -8.1
SNAA *e* 06 30 53.9
SNAA *e* 06 31 03.7
SNAA *e* 06 31 07.0
SNAA *e* 06 33 45.3
NNA Nana 138.79 67 PFAKE 06 31 10.0 +7.8
NNA LR LR
comp=Z,2μm,20.0s,MS5.9
VNA2 Neumayer--Watz 139.39 195 ⇑*i*P PKPdf 06 30 55.0 -6.9
VNA2 Neumayer--Watz 139.39 195 ⇑*i*P PKPdf 06 30 55.0 -6.9
VNA2 Neumayer--Watz 139.39 195 *e* PKPdf 06 30 58.2 -3.7
VNA2 Neumayer--Watz 139.39 195 *e* PKPdf 06 31 07.3 +5.4
VNA2 Neumayer--Watz 139.39 195 *e* PKPdf 06 31 09.1 +7.2
VNA2 Neumayer--Watz 139.39 195 *e* PKPdf 06 31 11.0 +9.1
VNA2 Neumayer--Watz 139.39 195 *e* PKPdf 06 31 12.6 +11
VNA2 Neumayer--Watz 139.39 195 *e*P PKPdf 06 30 58.2 -3.7
VNA2 *e* 06 31 07.3
VNA2 *e* 06 31 09.1
VNA2 *e* 06 31 11.0
VNA2 *e* 06 31 12.6
VNA2 *e* 06 33 54.3
VNA3 Neumayer Olymp 139.62 194 *e* PKPdf 06 31 01.0 -1.3
VNA3 Neumayer Olymp 139.62 194 *e* PKPdf 06 31 11.4 +9.1
VNA3 Neumayer Olymp 139.62 194 *e* PKPdf 06 31 13.8 +12
VNA3 Neumayer Olymp 139.62 194 *e* PKPdf 06 31 16.0 +14
VNA3 Neumayer Olymp 139.62 194 ⇑*i*PKPdf PKPdf 06 30 57.9 -4.4
VNA3 *e* 06 31 01.0
VNA3 *e* 06 31 11.4
VNA3 *e* 06 31 13.8
VNA3 *e* 06 31 16.0
VNA3 *e* 06 33 53.0
VNA1 Neumayer--Stat 139.79 195 *e* PKPdf 06 30 59.6 -3.0
VNA1 Neumayer--Stat 139.79 195 *e* PKPdf 06 31 10.3 +7.7
VNA1 Neumayer--Stat 139.79 195 *e* PKPdf 06 31 13.7 +11
VNA1 Neumayer--Stat 139.79 195 *e* PKPdf 06 31 16.4 +14
VNA1 Neumayer--Stat 139.79 195 ⇑*i*PKPdf PKPdf 06 30 57.4 -5.2
VNA1 *e* 06 30 59.6
VNA1 *e* 06 31 10.3
VNA1 *e* 06 31 13.7
VNA1 *e* 06 31 16.4
VNA1 *e* 06 33 56.3
PMSA Palmer Station 145.46 161 PFAKE 06 31 20.0 +10
PMSA LR LR
comp=Z,5μm,21.0s,MS6.3
ARE Arequipa 145.61 68 *e*P PKPbc 06 31 13.0 +1.5
ARE *e* 06 31 19.0
USHA Ushuaia 150.47 144 PKPbc PKPdf 06 31 25.0 +4.1
comp=Z,36nm,1.0s,baz=334,slow=3.3,SNR=8.4
LVC Limon Verde 151.01 75 PKPbc PKPdf 06 31 26.2 +3.5
comp=Z,5.2nm,0.8s,baz=270,slow=5.6,SNR=5.1
LVC Limon Verde 151.01 75 *e*PKPbc PKPdf 06 31 25.9 +3.2
LVC LR LR
comp=Z,11μm,19.0s,MS6.7
RCBR Riachuelo 151.90 355 *e*PKPbc PKPdf 06 31 29.5 +5.2
RCBR LR LR
comp=Z,12μm,19.0s,MS6.7
PLCA Paso Flores 153.71 114 PKIKP PKPdf 06 31 32.9 +6.9
PLCA pmax pmax
comp=Z,4.0nm,0.8s
PLCA Paso Flores 153.71 114 PKPbc PKPdf 06 31 32.9 +6.9
comp=Z,4.4nm,0.8s,baz=272,slow=3.3,SNR=4.2
PLCA Paso Flores 153.71 114 *e*P PKPdf 06 31 33.3 +7.3
TRIS Tristan da Cun 158.51 254 PFAKE 06 31 40.0 +7.5
TRIS LR LR
comp=Z,8μm,19.0s,MS6.6
TRQA Tornquist 160.56 109 PFAKE 06 31 40.0 +5.3
TRQA LR LR
comp=Z,17μm,19.0s
LPA La Plata 163.91 99 *ce*PKP PKPdf 06 31 34.0 -4.1
LPA La Plata 163.91 99 *e*PKP PKPab 06 32 33.0 +3.1
LPA *e*SKKS 06 43 02.0
comp=Z,15μm,18.0s

WEL 19 06:16:13.2±0.6, 37.43S×179.40E, h33km, ML3.7/2, 1C, Error ellipse: s-maj=5.1km s-min=3.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.88**	**261**	⇑PN	Pn	06 16 28.8	-0.6
MXZ				SN	Sn	06 16 39.6	-1.5
PUZ	**Puketiti**	**1.11**	**234**	PN	Pn	06 16 31.7	-1.0
PUZ				SN	Sn	06 16 45.3	-1.7
MWZ	**Matawai**	**1.73**	**238**	PN	Pn	06 16 40.6	-1.0
MWZ				SN	Sn	06 17 00.6	-2.2
MWZ				SN	Sn	06 17 00.6	-2.2
URZ	**Urewera**	**1.99**	**245**	PN	Pn	06 16 44.8	-0.5
URZ				SN	Sn	06 17 07.4	-1.9
KNZ	**Kokohu**	**2.09**	**220**	PN	Pn	06 16 44.7	-2.0
KNZ				SN	Sn	06 17 10.0	-1.9
BKZ	**Black Stump Fm**	**2.87**	**232**	PN	Pn	06 16 55.9	-2.0
BKZ				SN	Sn	06 17 27.4	-4.2
TSZ	**Takapari Road**	**3.76**	**225**	PN	Pn	06 17 06.3	-4.1

*JMA **19** 06:17:07.8±0.3, 34.12N×141.91E, h68km, M4.6*
*NEIC **19** 06:17:07.3±0.3, 34.17N×141.54E, h10km, mb5.3/4, Error ellipse: s-maj=13.9km s-min=7.6km az=99.0*
*MOS **19** 06:17:08.8±0.9, 34.11N×141.62E, h33km, mb4.9/17, Error ellipse: s-maj=25.9km s-min=13.1km az=96.6*
*IDC **19** 06:17:11.5±3.5, 34.08N×141.63E, h37km±30km, mb4.4/24, mb1 4.6/26, mb1mx4.6/28, mbtmp4.6/26, ML4.4/2, MS5.5/1, Ms1 5.5/1, ms1mx4.6/23, Error ellipse: s-maj=16.6km s-min=13.9km az=102.0*

ISC 19 06:17:07.7±1.9, 34.05N±0.04×141.76E±0.06, h25km±14km, n73, σ1º05/80, mb4.6/29, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO4	**Boso 4**	**1.50**	**309**	P	Pn	06 17 34.4	+0.9
BSO4				S	Sn	06 17 53.7	+1.3
KTR	**Katsuura**	**1.62**	**313**	*e*S	Sn	06 17 57.2	+1.9
CHOJ	**Chosi**	**1.81**	**336**	P	Pn	06 17 37.1	-0.7
CHOJ				S	Sn	06 17 58.6	-1.5
JCN	**Nagara**	**1.87**	**317**	P	Pn	06 17 39.4	+0.6
JHJ	**Hachijo jima 2**	**1.89**	**241**	Pn	Pn	06 17 40.4	+1.4
	566nm,0.3s,baz=70,slow=23,SNR=8.2						
JHJ				Sn	Sn	06 18 02.0	-0.3
	687nm,0.3s,baz=67,slow=20,SNR=14						
JIM2	**Oshima 3**	**2.04**	**291**	P	Pn	06 17 42.8	+1.7
JIZS	**Izushimoda**	**2.47**	**286**	P	Pn	06 17 47.1	-0.3
JOD2	**Odawara 2**	**2.51**	**300**	P	Pn	06 17 47.1	-0.8
JYN	**Shimob**	**3.01**	**300**	P	Pn	06 17 54.8	-0.3
JYN				*e*S	Sn	06 18 31.9	+1.1
JAG	**Ashikaga**	**3.03**	**322**	P	Pn	06 17 54.9	-0.4
JAG				*e*S	Sn	06 18 28.6	-2.5
JRY	**Ryogami san**	**3.06**	**311**	P	Pn	06 17 55.5	-0.2
CBIJ	**Chichi jima**	**6.94**	**177**	Pn	Pn	06 18 49.2	-1.3
	32nm,0.3s,baz=320,slow=18,SNR=6.4						
CBIJ				Sn	Sn	06 20 03.0	-6.6
	49nm,0.3s,baz=272,slow=23,SNR=4.3						
CBIJ				LR	LR	06 20 57.9	
	comp=Z,42μm,21.4s,baz=336,slow=32						
ASAJ	**Asahikawa**	**10.07**	**3**	Pn	P	06 19 28.1	-6.0
	2.6nm,0.3s,baz=2.7,slow=24,SNR=4.6						
ASAJ				Sn	S	06 21 16.5	-11
	1.8nm,0.3s,baz=175,slow=33,SNR=3.2						
YSS	**Yuzh-Sakhalins**	**12.91**	**3**	*e*P	P	06 20 16.0	+3.6
YSS	**Yuzh-Sakhalins**	**12.91**	**3**	*e*P	P	06 20 06.9	-5.5
	68nm,0.9s						
SONM	**Songino Array**	**29.77**	**308**	P	P	06 23 14.7	+0.3
	10nm,0.7s,mb4.7,baz=111,slow=8.5,SNR=8.7						
SONM				PcP	PcP	06 26 17.8	-0.1
	1.5nm,0.6s,baz=76,slow=3.4,SNR=4.4						
BOD	**Bodaibo**	**30.23**	**330**	*e*P	P	06 23 16.4	-2.0
CMAR	**Chiang Mai Arr**	**41.11**	**259**	P	P	06 24 50.4	-1.0
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.11**	**259**	P	P	06 24 50.4	-1.0
	comp=Z,6.4nm,0.9s,mb4.2,baz=57,slow=7.3,SNR=4.6						
ZAL	**Zalesovo**	**44.18**	**315**	P	P	06 25 16.0	-0.1
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ZAL	**Zalesovo**	**44.18**	**315**	P	P	06 25 16.0	0.0
	comp=Z,6.4nm,0.8s,mb4.4,baz=248,slow=1.8,SNR=3.1						
ZAL	**Zalesovo**	**44.18**	**315**	P	P	06 25 16.0	0.0
KAKA	**Kakadu**	**47.34**	**192**	*e*P	P	06 25 41.6	-0.1
	comp=Z,26nm,0.7s,mb5.3						
ILAR	**Eielson Array**	**51.88**	**31**	P	P	06 26 15.3	-0.6
ILAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ILAR	**Eielson Array**	**51.88**	**31**	P	P	06 26 15.2	-0.6
	comp=Z,7.5nm,0.8s,mb4.7,baz=262,slow=5.8,SNR=8.8						
BVAR	**Borovoye Array**	**52.82**	**314**	P	P	06 26 22.8	-0.2
	comp=Z,6.9nm,0.9s,mb4.6,baz=108,slow=11,SNR=5.5						
CTA	**Charters Tower**	**54.01**	**175**	P	P	06 26 32.7	+0.5
CTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CTA	**Charters Tower**	**54.01**	**175**	P	P	06 26 32.6	+0.5
	comp=Z,5.0nm,0.7s,mb4.5,baz=347,slow=6.0,SNR=3.0						
FITZ	**Fitzroy Crossi**	**54.09**	**199**	*e*P	P	06 26 33.1	+0.3
	comp=Z,20nm,0.6s,mb5.2						
WB2	**Warramunga Arr**	**54.15**	**189**	*e*P	P	06 26 32.8	-0.5
WRA	**Warramunga Arr**	**54.15**	**189**	P	P	06 26 32.6	-0.7
WRA				pmax	pmax		
	comp=Z,11nm,0.5s						
WRA	**Warramunga Arr**	**54.15**	**189**	P	P	06 26 32.6	-0.7
	comp=Z,11nm,0.5s,mb5.0,baz=5.4,slow=7.6,SNR=14						
INK	**Inuvik**	**56.92**	**26**	P	P	06 26 52.5	-0.2
INK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
INK	**Inuvik**	**56.92**	**26**	P	P	06 26 52.5	-0.3
	comp=Z,6.9nm,0.6s,mb4.8,baz=304,slow=4.7,SNR=9.3						
INK	**Inuvik**	**56.92**	**26**	P	P	06 26 52.5	-0.3
ASAR	**Alice Springs**	**57.88**	**189**	P	P	06 26 59.6	-0.4
	comp=Z,7.0nm,0.8s,mb4.8,baz=359,slow=7.0,SNR=11						
ASPA	**Alice Springs**	**57.88**	**189**	*e*P	P	06 27 00.5	+0.4
HYB	**Hyderabad**	**58.46**	**270**	*i* P	P	06 27 03.0	-1.1
ARU	**Arti**	**58.80**	**320**	*e*P	P	06 26 58.2	-7.8
ARU				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.2						
DLBC	**Dease Lake**	**60.82**	**37**	P	P	06 27 21.0	+1.2
	comp=Z,5.3nm,0.8s,mb4.7,baz=294,slow=11,SNR=4.3						
DLBC	**Dease Lake**	**60.82**	**37**	P	P	06 27 21.0	+1.2
FORT	**Forrest**	**65.77**	**193**	*e*P	P	06 27 53.0	+0.1
	comp=Z,171nm,0.6s						
YKA	**Yellowknife Ar**	**66.25**	**30**	P	P	06 27 54.7	-0.7
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**66.25**	**30**	P	P	06 27 54.7	-0.7
	comp=Z,1.0nm,0.6s,mb4.0,baz=295,slow=5.8,SNR=6.7						
YKA	**Yellowknife Ar**	**66.25**	**30**	P	P	06 27 54.7	-0.7
ARCES	**ARCESS Array B**	**66.89**	**340**	P	P	06 27 57.3	-2.1
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ARCES	**ARCESS Array B**	**66.89**	**340**	P	P	06 27 57.3	-2.0
	comp=Z,6.1nm,1.1s,mb4.6,baz=54,slow=10,SNR=4.2						
JOF	**Joensuu**	**68.73**	**333**	*ep*	P	06 28 09.3	-1.7
	comp=Z,8.8nm,1.0s,mb4.6						
JOF	**Joensuu**	**68.73**	**333**	*e*P	P	06 28 09.3	-1.7
JOF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
NWAO	**Narrogin (SRO)**	**70.50**	**202**	P	P	06 28 22.1	-0.3
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**70.50**	**202**	P	P	06 28 22.1	-0.3
	comp=Z,9.1nm,0.6s,mb4.9,baz=43,slow=9.8,SNR=5.6						
KAF	**Kangasniemi**	**71.09**	**333**	*ep*	P	06 28 21.4	-4.0
	comp=Z,6.3nm,0.7s,mb4.7						
KAF	**Kangasniemi**	**71.09**	**333**	*e*P	P	06 28 21.4	-4.0
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
FINES	**FINESS Array B**	**71.59**	**333**	P	P	06 28 27.3	-1.1
FINES				pmax	pmax		
	comp=Z,7.0nm,0.9s						
FINES	**FINESS Array B**	**71.59**	**333**	P	P	06 28 27.3	-1.1
	comp=Z,7.1nm,0.9s,mb4.6,baz=63,slow=4.3,SNR=4.9						
YBH	**Yreka Blue Hor**	**71.96**	**52**	P	P	06 28 32.3	+1.3
	comp=Z,2.3nm,0.8s,mb4.2,baz=334,slow=4.3,SNR=5.7						
NVAR	**Mina Array Bea**	**76.56**	**53**	P	P	06 28 59.0	+1.4
	comp=Z,2.1nm,0.6s,mb4.2,baz=54,slow=20,SNR=7.3						
AKASG	**Malin Array Be**	**76.83**	**323**	P	P	06 28 58.3	-0.6
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKASG	**Malin Array Be**	**76.83**	**323**	P	P	06 28 58.3	-0.6
	comp=Z,4.2nm,0.5s,mb4.6,baz=47,slow=6.1,SNR=10						
NB2	**NORSAR Subarra**	**77.05**	**338**	P	P	06 28 59.4	-0.4
	comp=Z,4.5nm,0.7s,mb4.5,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**77.05**	**338**	P	P	06 28 59.7	-0.1
NOA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NOA	**NORSAR Array B**	**77.05**	**338**	P	P	06 28 59.7	-0.1
	comp=Z,5.3nm,0.7s,mb4.6,baz=40,slow=5.7,SNR=7.6						
NOA	**NORSAR Array B**	**77.05**	**338**	P	P	06 28 59.7	-0.1
PDAR	**Pinedale Array**	**79.56**	**45**	P	P	06 29 15.2	+1.2
	comp=Z,5.1nm,0.7s,mb4.6,baz=280,slow=1.7,SNR=11						
BRTR	**Keskin Array B**	**81.05**	**312**	P	P	06 29 23.2	+1.2
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRTR	**Keskin Array B**	**81.05**	**312**	P	P	06 29 23.1	+1.2
	comp=Z,3.6nm,0.7s,mb4.4,baz=114,slow=3.8,SNR=4.4						
CLL	**Collm**	**83.82**	**331**	P	P	06 29 36.0	0.0
GERES	**GERESS Array B**	**85.39**	**329**	P	P	06 29 44.0	+0.1
GERES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GERES	**GERESS Array B**	**85.39**	**329**	P	P	06 29 44.0	+0.1
	comp=Z,3.2nm,0.6s,mb4.6,baz=37,slow=6.7,SNR=5.6						
ANMO	**Albuquerque**	**86.29**	**50**	P	P	06 29 50.8	+2.1
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ANMO	**Albuquerque**	**86.29**	**50**	P	P	06 29 50.8	+2.0
	comp=Z,1.7nm,0.8s,mb4.3,baz=332,slow=3.2,SNR=3.3						
SCHQ	**Schefferville**	**88.12**	**16**	P	P	06 29 57.5	+0.5
	comp=Z,3.9nm,0.8s,mb4.7,baz=41,slow=4.8,SNR=3.2						
TXAR	**Lajitas Array**	**91.71**	**53**	P	P	06 30 16.1	+1.7
	comp=Z,0.9nm,0.6s,mb4.3,baz=293,slow=2.6,SNR=7.2						

*IDC **19** 06:20:55.7±0.8, 31.59S×71.82W, mb4.5/9, mb1 4.6/11, mb1mx4.5/16, mbtmp4.4/11, ML4.1/2, MS3.4/2, Ms1 3.3/2, ms1mx3.3/16, Error ellipse: s-maj=30.1km s-min=18.8km az=76.0*
*GUC **19** 06:20:58.5±0.6, 31.67S×71.90W, h30km±2km, MD4.8, ML4.8*
*NEIC **19** 06:20:58.5, 31.67S×71.90W, h30km, ML4.8(GUC), After GUC.*

ISC 19 06:20:56.7±1.0, 31.66S±0.02×72.04W±0.06, h16km±7km, n50, σ0º83/60, mb4.3/9, 12C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.74**	**89**	⇑*i*P	Pb	06 21 10.6	-0.2
ILCH				*i* S	Sb	06 21 19.6	-0.8
CMCH	**Combarbala**	**1.01**	**62**	⇑*i*P	Pb	06 21 15.3	0.0
CMCH				*i* S	Sb	06 21 28.2	+0.1
CMCH				AMP		06 21 30.4	
	comp=N,89μm,0.7s						
PACH	**Papudo**	**1.01**	**150**	*i* P	Pb	06 21 15.4	-0.1
PACH				*i* S	Sb	06 21 28.7	+0.3
PTCH	**Petorca**	**1.12**	**123**	⇑*i*P	Pb	06 21 16.6	-0.6
PTCH				*i* S	Sb	06 21 30.1	-1.2
PTCH				AMP		06 21 34.5	
	comp=N,14μm,0.3s						
OVCH	**Ovalle**	**1.27**	**35**	*e*P	Pb	06 21 20.4	+0.6
IHA	**Instituto Hidr**	**1.41**	**166**	*e*P	Pn	06 21 21.9	+0.1
ROCH	**El Roble**	**1.57**	**147**	⇓*i*P	Pn	06 21 24.7	+0.4
JACH	**Jahuel**	**1.59**	**130**	*e*P	Pn	06 21 24.4	-0.2
TLL	**Tololo Astrono**	**1.82**	**36**	⇑*i*P	Pn	06 21 28.7	+0.9
TLL				*i* S	Sn	06 21 52.8	+2.1
TLL				AMP		06 21 56.2	
	comp=E,21μm,0.3s						
LSCH	**La Serena**	**1.87**	**22**	⇓*i*P	Pn	06 21 29.2	+0.7
LSCH				AMP		06 21 59.6	
	comp=N,9μm,0.4s						
RCDM	**Rinconada Maip**	**2.10**	**151**	*e*P	Pn	06 21 31.9	+0.1
STL	**Santa Lucia**	**2.13**	**147**	*e*P	Pn	06 21 33.0	+0.8
STL				*i* S	Sn	06 21 58.7	+0.1
DSCH	**Colegio Aleman**	**2.13**	**145**	*e*P	Pn	06 21 32.6	+0.4
DSCH				AMP		06 22 05.3	
	comp=N,6μm,0.9s						
CLCH	**Cerro Calan**	**2.15**	**144**	⇑*i*P	Pn	06 21 32.9	+0.4
CLCH				*i* S	Sn	06 21 59.9	+0.9
CLCH				AMP		06 22 03.3	
	comp=N,4μm,0.3s						
TACH	**Talagante**	**2.20**	**155**	*e*P	Pn	06 21 33.7	+0.5
FCH	**Farellones**	**2.23**	**139**	⇑*i*P	Pn	06 21 34.3	+0.7
FCH				*i* S	Sn	06 22 01.5	+0.6
ANTU	**Antumapu**	**2.25**	**149**	*e*P	Pn	06 21 34.4	+0.5
PCH	**Pirque**	**2.34**	**147**	*e*P	Pn	06 21 35.5	+0.3
LNV	**Longovilo**	**2.35**	**167**	*e*P	Pn	06 21 34.8	-0.7
SJCH	**San Jose de Ma**	**2.44**	**145**	*e*P	Pn	06 21 36.8	+0.2
SJCH				*i* S	Sn	06 22 05.8	-0.5
CHCH	**Chadas Angostu**	**2.55**	**153**	*e*P	Pn	06 21 38.3	0.0
LMEL	**Las Melosas**	**2.68**	**145**	*e*P	Pn	06 21 40.2	+0.2
LMEL				*i* S	Sn	06 22 11.5	-0.8
CACH	**El Canelo**	**2.74**	**154**	*e*P	Pn	06 21 41.5	+0.7
MDZ	**Mendoza**	**2.96**	**115**	*e*P	Pn	06 21 46.2	+2.1
MDZ				*e*		06 21 49.3	
MDZ				*e*S	Sn	06 22 28.1	+8.5
SFDO	**San Fernando**	**3.07**	**164**	*e*P	Pn	06 21 45.7	0.0
VACH	**Vallenar**	**3.26**	**20**	*e*P	Pn	06 21 48.5	+0.1
VACH				*i* S	Sn	06 22 26.7	-0.5
VACH				AMP		06 22 42.7	
	comp=N,12μm,0.4s						
NICH	**Los Niches**	**3.41**	**169**	*e*P	Pn	06 21 50.3	-0.1
CPCH	**Copiapo**	**4.53**	**19**	*e*P	Pn	06 22 03.6	-2.8
PLCA	**Paso Flores**	**9.14**	**173**	Pn	P	06 23 09.3	-1.7
	comp=N,0.3nm,0.3s,baz=342,slow=13,SNR=11						
PLCA				LR	LR	06 27 09.7	
	comp=N,182nm,21.0s,baz=347,slow=41						
PLCA	**Paso Flores**	**9.14**	**173**	Pn	P	06 23 09.3	-1.7
PLCA				LR	LR	06 27 09.7	
LVC	**Limon Verde**	**9.43**	**18**	Pn	P	06 23 10.0	-4.9
	comp=N,0.5nm,0.3s,baz=182,slow=8.1,SNR=5.8						
LVC				LR	LR	06 26 47.5	
	comp=N,287nm,21.4s,baz=340,slow=38						
ARE	**Arequipa**	**15.13**	**2**	*e*P	P	06 24 39.0	+7.3
USHA	**Ushuaia**	**23.31**	**175**	P	P	06 26 05.4	+0.8
	comp=N,5.0nm,0.7s,mb4.0,baz=301,slow=8.3,SNR=3.0						
BDFB	**Brasilia**	**27.08**	**59**	P	P	06 26 38.5	-2.2
	comp=N,7.7nm,0.8s,mb4.3,baz=256,slow=8.0,SNR=7.3						
BAO	**Brasilia Array**	**27.10**	**60**	P	P	06 26 39.9	-1.0
VNA3	**Neumayer Olymp**	**51.53**	**159**	⇑*i*P	P	06 30 03.0	-0.4
VNA3	**Neumayer Olymp**	**51.53**	**159**	⇑*i*P	P	06 30 03.0	-0.4
VNA2	**Neumayer--Watz**	**52.17**	**158**	⇑*i*P	P	06 30 07.8	-0.5
VNA2	**Neumayer--Watz**	**52.17**	**158**	⇑*i*P	P	06 30 07.8	-0.5
SNAA	**Sanae**	**53.76**	**158**	⇑*i*P	P	06 30 19.3	-0.7
SNAA	**Sanae**	**53.76**	**158**	⇑*i*P	P	06 30 19.3	-0.7
SNAA	**Sanae**	**53.76**	**158**	P	P	06 30 19.1	-0.9
	comp=N,2.7nm,0.7s,mb4.3,baz=294,slow=8.7,SNR=12						
TXAR	**Lajitas Array**	**67.70**	**330**	P	P	06 31 55.7	+0.2
	comp=N,1.5nm,0.8s,mb4.1,baz=153,slow=8.4,SNR=7.5						
DBIC	**Dimbokro**	**74.44**	**72**	P	P	06 32 35.4	-1.0
	comp=N,9.1nm,0.8s,mb4.8,baz=214,slow=3.5,SNR=4.3						
PDAR	**Pinedale Array**	**81.68**	**333**	P	P	06 33 15.4	-0.1
	comp=N,0.6nm,0.7s,mb3.6,baz=153,slow=3.3,SNR=3.8						
NVAR	**Mina Array Bea**	**81.97**	**325**	P	P	06 33 18.6	+1.5
	comp=N,9.6nm,1.1s,mb4.7,baz=150,slow=6.5,SNR=20						
YBH	**Yreka Blue Hor**	**86.66**	**325**	P	P	06 33 40.7	-0.1
	comp=N,2.6nm,0.6s,mb4.6,baz=83,slow=6.8,SNR=5.4						
YKA	**Yellowknife Ar**	**99.84**	**341**	P	P	06 34 40.1	-1.1
	comp=N,0.4nm,0.5s,mb4.1,baz=145,slow=4.8,SNR=9.1						
BVAR	**Borovoye Array**	**145.53**	**41**	PKPbc	PKPbc	06 40 35.9	+1.6
	comp=N,14nm,0.6s,baz=303,slow=4.1,SNR=15						
ZAL	**Zalesovo**	**152.22**	**30**	PKPbc	PKPdf	06 40 51.5	+3.6
	comp=N,10nm,0.5s,baz=106,slow=0.9,SNR=5.9						

IDC 19 06:22:35.7±1.3, 31.55N×135.52E, mb3.8/4, mb1 4.1/4, mb1mx3.7/21, mbtmp3.8/4, Error ellipse: s-maj=52.4km s-min=26.1km az=87.0, Southeast of Shikoku

| Code | Station Name | Δ° | AZ° | Phase ID

comp=E,79nm,0.1s
LNV Longovilo 1.10 277 *e*P Pb 06 26 41.1 -0.2
LNV *i* S Sb 06 26 56.0 +0.5

NNC ***19*** *06:28:17.6±3.7, 42.14N×79.25E, mpv5.3, Error ellipse: s-maj=28.5km s-min=8.9km az=147.0*
BJI ***19*** *06:28:17.2, 41.89N×79.14E, h26km, mB4.8, mb4.9, ML5.6, Ms4.8, Msz4.8*
MOS ***19*** *06:28:17.3±1.0, 41.94N×79.19E, h33km, mb5.3/71, Error ellipse: s-maj=7.3km s-min=4.1km az=128.2*
IDC ***19*** *06:28:19.8±2.3, 41.89N×79.15E, h40km±20km, mb4.7/26, mb1 4.8/28, mb1mx4.8/30, mbtmp4.9/28, ML4.4/2, Error ellipse: s-maj=14.2km s-min=10.8km az=17.0*
NEIC ***19*** *06:28:19.8±0.7, 41.92N×79.17E, h39km±6km, mb5.1/69, Error ellipse: s-maj=6.1km s-min=4.1km az=203.0*
ISC 19 06:28:17.4±0.4, 41.77N±0.02×79.20E±0.03, h40km±4km, h44km±10.4km: pP-P, n317, σ1 317/323, mb5.1/99, MS5.6/4, 34C-25D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
AAA	**Alma-Ata**	**2.24 313**	*i* PN	**P**	**06 28 52.5**	**-0.4**
AAA			*i*		06 29 20.0	
AAA	**Alma-Ata**	**2.24 313**	*i* P	**P**	**06 28 54.0**	**+1.1**
ULHL	**Ulahol**	**2.25 283**	P	**P**	**06 28 54.1**	**+1.0**
	SNR=4645					
TKM2	**Tokmak 2**	**2.91 295**	P	**P**	**06 29 03.8**	**+1.4**
	SNR=2449					
KZA	**Kyzart**	**2.96 277**	P	**P**	**06 29 04.7**	**+1.5**
	SNR=463					
KBK	**Karagaybulak**	**3.28 287**	P	**P**	**06 29 09.3**	**+1.6**
	SNR=173					
CHMS	**Chumysh**	**3.52 292**	P	**P**	**06 29 11.7**	**+0.7**
	SNR=144					
UCH	**Uchtor**	**3.52 279**	P	**P**	**06 29 12.6**	**+1.5**
	SNR=105					
FRU	**Bishkek**	**3.56 289**	*i* PN	**P**	**06 29 13.0**	**+1.3**
FRU			*i*		06 29 22.0	
FRU			*i*		06 29 57.0	
FRU			pmax	pmax		
	comp=Z,1μm,1.4s					
FRU			smax			
	comp=N,3μm,1.4s					
FRU			smax			
	comp=E,18μm,2.0s					
AAK	**Ala-Archa**	**3.60 285**	⇑Pn	**P**	**06 29 13.5**	**+1.3**
	comp=E,1μm,0.8s					
AAK			⇑Sn	**S**	**06 29 59.3**	**+5.2**
	comp=E,5μm,0.8s					
AAK	**Ala-Archa**	**3.60 285**	P	**P**	**06 29 13.6**	**+1.4**
	SNR=320					
AAK	**Ala-Archa**	**3.60 285**	*c i* PN	**P**	**06 29 12.3**	**+0.1**
AAK	**Ala-Archa**	**3.60 285**	*e*P	**P**	**06 29 12.3**	**+0.1**
USP	**Ospenovka**	**3.78 295**	P	**P**	**06 29 15.2**	**+0.4**
	SNR=232					
AML	**Almayashu**	**4.12 277**	P	**P**	**06 29 20.7**	**+1.1**
	SNR=30					
EKS2	**Erkin-Say**	**4.12 284**	P	**P**	**06 29 20.2**	**+0.6**
	SNR=25					
MK31	**Makanchi Array**	**5.49 23**	⇓Pn	**P**	**06 29 39.3**	**+0.4**
	comp=E,110nm,0.4s,baz=209,slow=15					
MK31			⇑Sn	**S**	**06 30 40.9**	**-0.8**
	comp=E,2μm,0.8s,baz=207,slow=24					
MK31			⇑Lg		06 31 01.9	
	comp=E,565nm,0.5s,baz=207,slow=26					
MKAR	**Makanchi Array**	**5.49 23**	PN	**P**	**06 29 39.4**	**+0.5**
MKAR					06 30 40.8	
MKAR			pmax	pmax		
	comp=Z,42nm,0.3s					
MKAR	**Makanchi Array**	**5.49 23**	*e*P	**P**	**06 29 34.4**	**-4.5**
WMQ	**Urumqi**	**6.58 69**	P	**P**	**06 29 56.5**	**+2.3**
WMQ			S	**S**	**06 31 10.0**	**+1.2**
WMQ			SG	x	06 31 46.2	
WMQ			Smax			
	comp=N,2μm,0.7s					
WMQ			Smax			
	comp=E,1μm,0.6s					
KURK	**Kurchatov**	**8.96 358**	⇑Pn	**P**	**06 30 25.3**	**-2.0**
	comp=E,60nm,0.6s					
KURK			⇑Lg		06 32 51.6	
	comp=E,721nm,0.8s					
KURK	**Kurchatov**	**8.96 358**	*e*P	**P**	**06 30 24.0**	**-3.2**
KURK			pmax	pmax		
	comp=Z,495nm,2.3s					
KURK	**Kurchatov**	**8.96 358**	*e*P	**P**	**06 30 24.0**	**-3.2**
	comp=Z,495nm,2.3s					
CHCP	**Chirah Chowk**	**9.36 212**	P	**P**	**06 30 34.3**	**+1.6**
DLH	**Dalhousie**	**9.56 197**	*e*P	**P**	**06 30 37.0**	**+1.5**
DLH			*e*		06 32 26.0	
CEP	**Cherat**	**9.80 218**	P	**P**	**06 30 38.6**	**-0.2**
CEP			S	**S**	**06 32 29.0**	**+0.3**
KLP	**Kalpa**	**10.24 185**	*e*P	**P**	**06 30 45.4**	**+0.5**
KLP			*e*		06 32 40.5	
BHK	**Bhakra**	**10.57 193**	*e*P	**P**	**06 30 49.8**	**+0.5**
BHK			*e*		06 32 32.6	
THW	**Thamme Wali**	**10.74 216**	⇓P	**P**	**06 30 51.1**	**-0.6**
JOSI	**Joshimath**	**11.19 178**	*e*	**P**	**06 30 52.9**	**-5.0**
JOSI			*e*S	**S**	**06 32 54.9**	**-7.8**
DDI	**Dehra Dun**	**11.46 185**	*e*P	**P**	**06 31 02.1**	**+0.7**
DDI			*e*S	**S**	**06 33 02.5**	**-6.6**
SBDP	**Sheikh Budin**	**11.58 218**	⇑P	**P**	**06 31 02.2**	**-0.8**
DRP	**Derazinda**	**12.32 219**	⇓P	**P**	**06 31 12.2**	**-0.9**
BVA0	**Borovoye Array**	**12.73 335**	⇓Pn	**P**	**06 31 15.1**	**-3.3**
	comp=Z,24nm,1.2s					
BVA0			⇑Lg		06 34 50.0	
	comp=Z,189nm,1.2s					
BVAR	**Borovoye Array**	**12.73 335**	Pn	**P**	**06 31 14.7**	**-3.8**
	comp=Z,6.7nm,0.3s,baz=146,slow=15,SNR=88					
BVAR			Sn	**S**	**06 33 29.0**	**-11**
	comp=Z,2.9nm,0.3s,baz=117,slow=20,SNR=2.7					
BVAR			Lg		06 34 46.7	
	comp=Z,8.5nm,0.3s,baz=144,slow=20,SNR=5.5					
ZAL	**Zalesovo**	**12.74 15**	P	**P**	**06 31 16.1**	**-2.4**
ZAL					06 33 28.9	
ZAL			pmax	pmax		
	comp=Z,4.0nm,0.3s					
ZAL			smax			
	comp=N,22nm,0.3s					
ZAL	**Zalesovo**	**12.74 15**	Pn	**P**	**06 31 16.1**	**-2.5**
	comp=N,3.7nm,0.3s,baz=271,slow=12,SNR=38					
ZAL			Sn	**S**	**06 33 28.9**	**-11**
	comp=N,22nm,0.3s,baz=112,slow=22,SNR=8.4					
BRVK	**Borovoye**	**12.79 335**	*e*P	**P**	**06 31 15.6**	**-3.7**
RTK	**Rohtak**	**12.90 191**	*e*P	**P**	**06 31 18.5**	**-2.3**
RTK			*e*		06 33 39.0	
NDI	**New Delhi**	**13.15 188**	*e*P	**P**	**06 31 22.0**	**-2.1**
NDI			*e*S	**S**	**06 33 39.0**	**-11**
BHGR	**Bahadurgarh**	**13.18 189**	*e*P	**P**	**06 31 22.5**	**-2.0**
CHKZ	**Chkalovo**	**13.23 337**	⇓Pn	**P**	**06 31 21.7**	**-3.3**
	comp=N,47nm,0.8s					
CHKZ			⇓Lg		06 35 01.8	
	comp=N,685nm,1.5s					
NVS	**Novosibirsk**	**13.35 10**	*e*P	**P**	**06 31 26.7**	**+0.1**
NVS			*e*		06 33 47.3	
AYAN	**Aya Nagar**	**13.36 188**	*e*	**P**	**06 31 24.2**	**-2.7**
AYAN			*e*		06 33 47.9	
SONA	**Sohna**	**13.60 188**	*e*	**P**	**06 31 28.0**	**-1.9**
SONA			*e*		06 31 30.5	
	comp=Z,116nm,0.8s					
SONA			*e*		06 33 55.1	
KHET	**Khetri**	**13.94 193**	*e*	**P**	**06 31 31.0**	**-3.4**
KHET			*e*		06 31 36.5	
	comp=Z,81nm,0.6s					
KHET			*e*		06 33 55.4	
KOLN	**Koldanda**	**14.42 164**	*e*P	**P**	**06 31 38.1**	**-2.6**
	comp=Z,116nm,0.8s					
GKN	**Gorkha**	**14.43 160**	*e*P	**P**	**06 31 39.3**	**-1.6**
	comp=Z,271nm,0.8s					
AGRA	**Agra**	**14.54 184**	*e*	**P**	**06 31 39.3**	**-3.0**
AGRA			*e*		06 34 12.7	
KKN	**Kakani**	**14.80 158**	*e*P	**P**	**06 31 44.4**	**-1.3**
	comp=Z,188nm,0.7s					
DMN	**Daman**	**14.93 159**	*e*P	**P**	**06 31 46.3**	**-1.1**
	comp=Z,248nm,0.8s					
PKI	**Pulchoki**	**15.05 158**	*e*P	**P**	**06 31 47.7**	**-1.2**
	comp=Z,188nm,0.7s					
JIRN	**Jiri**	**15.19 156**	*e*P	**P**	**06 31 50.6**	**-0.2**
	comp=Z,187nm,0.6s					
LSA	**Lhasa**	**15.44 137**	*e*P	**P**	**06 31 59.6**	**+5.6**
LSA			pmax	pmax		
	comp=Z,35nm,1.0s					
LSA	**Lhasa**	**15.44 137**	*e*P	**P**	**06 31 59.6**	**+5.6**
	comp=Z,35nm,1.0s					
AJM	**Ajmer**	**15.70 195**	⇑*i*	**P**	**06 31 54.0**	**-3.4**
AJM			*i*		06 34 40.0	
JASL	**Jaisalmer**	**16.30 207**	*e*	**P**	**06 32 02.4**	**-2.5**
MOY	**Mondy**	**17.86 49**	*e*P	**P**	**06 32 23.9**	**-0.4**
BHPL	**Bhopal**	**18.53 185**	*e*P	**P**	**06 32 31.6**	**-1.3**
BHPL			*e*		06 32 39.8	
	comp=Z,96nm,1.6s					
ZAK	**Zakamensk**	**18.73 54**	⇑*i* P	**P**	**06 32 29.4**	**-5.7**
SVE	**Sverdlovsk**	**19.23 328**	*e*P	**P**	**06 32 38.7**	**-2.1**
SVE			*e*		06 36 09.5	
SVE			pmax	pmax		
	comp=Z,130nm,1.0s					
SHL	**Shillong**	**19.27 143**	*i* P	**P**	**06 32 40.0**	**-1.4**
BLSP	**Bilaspur**	**19.73 172**	*e*P	**P**	**06 32 46.2**	**-0.3**
BLSP			*e*		06 36 13.6	
ARU	**Arti**	**19.83 325**	⇑*i*P	**P**	**06 32 41.2**	**-6.1**
ARU			*e*S	**S**	**06 36 20.0**	**-3.3**
ARU			pmax	pmax		
	comp=Z,69nm,0.8s					
BHJ	**Bhuj**	**20.11 206**	*e*P	**P**	**06 32 51.9**	**+1.4**
SONM	**Songino Array**	**20.17 63**	P	**P**	**06 32 51.7**	**+0.7**
	comp=Z,51nm,0.8s,baz=273,slow=11,SNR=188					
ULN	**Ulaanbaatar**	**20.61 63**	*e*P	**P**	**06 32 56.0**	**+0.4**
ULN			pmax	pmax		
	comp=Z,29nm,0.6s					
ULN	**Ulaanbaatar**	**20.61 63**	*e*P	**P**	**06 32 56.0**	**+0.4**
	comp=Z,29nm,0.6s					
IMP	**Imphal**	**20.89 140**	*e*	**P**	**06 33 00.0**	**+1.4**
SOKR	**Solikamsk**	**22.59 330**	⇓*i*P	**P**	**06 33 13.0**	**-2.3**
SOKR			pmax	pmax		
	comp=Z,70nm,0.9s,mb5.1					
SOKR			MLR	MLR		
	comp=Z,5μm,19.0s,MS4.9					
LATR	**Latur**	**23.38 186**	*e*P	**P**	**06 33 25.9**	**+2.5**
POO	**Poona**	**23.61 193**	*e*P	**P**	**06 33 28.9**	**+3.4**
POO			*e*		06 33 34.0	
	comp=Z,64nm,1.2s					
HYB	**Hyderabad**	**24.27 181**	*e*P	**P**	**06 33 33.5**	**+1.5**
HYB			pmax	pmax		
	comp=Z,171nm,1.2s,mb5.3					
HYB	**Hyderabad**	**24.27 181**	*i* P	**P**	**06 33 33.5**	**+1.5**
	comp=Z,171nm,1.2s,mb5.3					
HYB			*e*S	**S**	**06 37 33.0**	**-12**
KAD	**Karad**	**24.75 192**	*e*P	**P**	**06 33 39.0**	**+2.3**
GNI	**Garni**	**25.97 278**	*e*P	**P**	**06 33 50.2**	**+2.2**
GNI			pmax	pmax		
	comp=Z,74nm,1.1s					
GNI	**Garni**	**25.97 278**	P	**P**	**06 33 49.5**	**+1.6**
	comp=Z,26nm,0.8s,mb4.8,baz=13,slow=3.8,SNR=17					
GNI	**Garni**	**25.97 278**	*e*P	**P**	**06 33 50.2**	**+2.3**
	comp=Z,74nm,1.1s,mb5.1					
ZEI	**Tsey**	**26.03 284**	*e*P	**P**	**06 33 47.3**	**-1.2**
ZEI			pmax	pmax		
	comp=Z,14nm,0.9s,mb4.5					
GOF	**Gofitskoye**	**26.34 289**	⇓*i*P	**P**	**06 33 52.0**	**+0.7**
GOF			pmax	pmax		
	comp=Z,105nm,1.5s,mb5.2					
KIV	**Kislovodsk**	**26.72 287**	*e*P	**P**	**06 33 56.3**	**+1.5**
KIV			pmax	pmax		
	comp=Z,35nm,0.6s,mb5.1					
KIV	**Kislovodsk**	**26.72 287**	*e*P	**P**	**06 33 56.3**	**+1.5**
	comp=Z,35nm,0.6s,mb5.1					
ENH	**Enshi**	**26.91 105**	*e*P	**P**	**06 33 58.6**	**+1.8**
	comp=Z,25nm,0.7s,mb4.9					
BOD	**Bodaibo**	**27.21 42**	*e*P	**P**	**06 33 59.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**28.70 138**	P	**P**	**06 34 14.6**	**+1.6**
CMAR			pmax	pmax		
	comp=Z,7.0nm,1.0s					
CMAR	**Chiang Mai Arr**	**28.70 138**	P	**P**	**06 34 14.6**	**+1.6**
	comp=Z,7.2nm,1.0s,mb4.4,baz=319,slow=9.1,SNR=18					
VRSR	**Storozhevoye**	**28.80 303**	*e*P	**P**	**06 34 12.7**	**-0.8**
VRSR			pmax	pmax		
	comp=Z,40nm,0.6s,mb5.3					
VRSR			pmax	pmax		
	comp=N,10.0nm,1.0s					
VRSR			pmax	pmax		
	comp=E,30nm,0.6s					
MOS	**Moscow**	**30.25 312**	*e*P	**P**	**06 34 25.7**	**-0.7**
MOS			*e*		06 35 20.3	
MOS			*e*PPP	PPP	06 35 31.8	-8.6
MOS			pmax	pmax		
	comp=Z,130nm,1.0s,mb5.6					
ANN	**Anapa**	**30.32 290**	*e*P	**P**	**06 34 24.9**	**-2.2**
ANN			pmax	pmax		
	comp=Z,109nm,0.8s,mb5.6					
OBN	**Obninsk**	**30.75 310**	*e*P	**P**	**06 34 28.1**	**-2.8**
OBN			*e*		06 37 24.4	
OBN			pmax	pmax		
	comp=Z,48nm,1.1s,mb5.2					
OBN	**Obninsk**	**30.75 310**	*e*P	**P**	**06 34 28.1**	**-2.8**
	comp=Z,15nm,0.4s,mb5.2					
MALT	**Malatya**	**31.20 277**	*e*P	**P**	**06 34 36.1**	**+1.1**
MALT			pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7					
MALT	**Malatya**	**31.20 277**	*e*P	**P**	**06 34 36.1**	**+1.1**
	comp=Z,12nm,1.0s,mb4.7					
SIM	**Simferopol'**	**32.61 291**	*e*P	**P**	**06 34 47.7**	**+0.4**
SIM			pmax	pmax		
	comp=Z,44nm,0.7s,mb5.5					
NJ2	**Nanjing**	**32.91 94**	*e*P	**P**	**06 34 47.4**	**-2.6**
NJ2			AP	pP	06 35 00.5	-0.6
NJ2			XP	sP	06 35 05.1	-1.1
NJ2			PP	PP	06 35 58.1	-2.7
NJ2			XS		06 40 18.0	
NJ2			AMB	AMB		
	comp=Z,320nm,6.8s					
NJ2			LR	LR		
	comp=N,400nm,10.1s,MS4.6					
NJ2			LR	LR		
	comp=E,680nm,14.2s,MS4.6					
NJ2			LR	LR		
	comp=Z,670nm,10.2s,MS4.6					
RAYN	**Ar Rayn**	**33.42 248**	P	**P**	**06 34 54.7**	**+0.2**
	comp=Z,134nm,0.7s,mb6.0,SNR=10.0					
BRTR	**Keskin Array B**	**34.27 282**	P	**P**	**06 35 02.1**	**+0.4**
BRTR			pmax	pmax		
	comp=Z,21nm,0.8s					
BRTR	**Keskin Array B**	**34.27 282**	P	**P**	**06 35 02.0**	**+0.4**
	comp=Z,21nm,0.8s,mb5.1,baz=93,slow=8.8,SNR=95					
ASF	**Jabal al Asfar**	**34.83 268**	P	**P**	**06 35 06.9**	**+0.3**
	comp=Z,11nm,0.9s,mb4.8,baz=4.6,slow=4.3,SNR=6.3					
JOF	**Joensuu**	**34.95 324**	*ep*	**P**	**06 35 05.4**	**-1.9**
	comp=Z,23nm,0.4s,mb5.5					
JOF	**Joensuu**	**34.95 324**	*e*P	**P**	**06 35 05.4**	**-1.9**
JOF			pmax	pmax		
	comp=Z,23nm,0.4s,mb5.5					
AKASG	**Malin Array Be**	**35.11 302**	P	**P**	**06 35 07.8**	**-0.9**
AKASG			pmax	pmax		
	comp=Z,8.0nm,0.5s					
AKASG	**Malin Array Be**	**35.11 302**	P	**P**	**06 35 07.8**	**-0.9**
	comp=Z,7.6nm,0.5s,mb4.9,baz=66,slow=9.5,SNR=38					
YAK	**Yakutsk**	**35.94 38**	*e*P	**P**	**06 35 14.5**	**-1.2**
YAK			pmax	pmax		
	comp=Z,23nm,0.8s,mb5.2					
YAK			pmax	pmax		
	comp=E,11nm,1.0s					
YAK	**Yakutsk**	**35.94 38**	*e*P	**P**	**06 35 15.1**	**-0.6**
	comp=E,81nm,0.9s,mb5.7					
CFR	**Carcaliu**	**36.71 293**	⇓*i*P	**P**	**06 35 22.7**	**+0.3**
CFR	**Carcaliu**	**36.71 293**	⇓*i*P	**P**	**06 35 22.7**	**+0.4**
KLR	**Kul'dur**	**36.94 60**	*e*P	**P**	**06 35 26.4**	**+2.2**
KAF	**Kangasniemi**	**37.07 322**	*ep*	**P**	**06 35 23.3**	**-1.9**
	baz=109,slow=9.2					
FINES	**FINESS Array B**	**37.09 320**	P	**P**	**06 35 24.8**	**-0.5**
FINES			pmax	pmax		
	comp=Z,16nm,0.7s					
FINES	**FINESS Array B**	**37.09 320**	P	**P**	**06 35 24.8**	**-0.5**
	comp=Z,16nm,0.7s,mb5.0,baz=105,slow=8.7,SNR=73					
EIL	**Elat**	**37.51 266**	*e*P	**P**	**06 35 30.1**	**+0.9**
	comp=Z,46nm,1.1s,mb5.1					
VRI	**Vrincioaia**	**37.52 295**	⇑P	**P**	**06 35 30.2**	**+1.1**
ISR	**Istrita**	**37.82 293**	⇓*i*P	**P**	**06 35 33.8**	**+2.2**
MLR	**Muntele Rosu**	**38.14 294**	⇑*i*P	**P**	**06 35 35.7**	**+1.4**
BURAR	**Bucovina Array**	**38.16 298**	⇓P	**P**	**06 35 35.6**	**+1.2**
TIXI	**Tiksi**	**38.48 23**	*e*P	**P**	**06 35 36.0**	**-0.9**
TIXI			pmax	pmax		
	comp=Z,15nm,0.6s,mb4.9					
KEV	**Kevo**	**38.58 334**	*ep*	**P**	**06 35 36.0**	**-1.7**
	comp=Z,16nm,0.6s,mb4.9					
KEV	**Kevo**	**38.58 334**	*e*P	**P**	**06 35 36.0**	**-1.7**
KEV			pmax	pmax		
	comp=Z,16nm,0.6s,mb4.9					
ARCES	**ARCESS Array B**	**39.01 333**	P	**P**	**06 35 41.1**	**-0.2**
ARCES			pmax	pmax		
	comp=Z,29nm,0.6s					
ARCES	**ARCESS Array B**	**39.01 333**	P	**P**	**06 35 41.0**	**-0.3**
	comp=Z,29nm,0.6s,mb5.2,baz=97,slow=9.3,SNR=166					
KTK1	**Kautokeino**	**39.66 332**	⇑*i*P	**P**	**06 35 47.0**	**+0.3**
	comp=Z,54nm,1.6s,mb5.0					
KTK1	**Kautokeino**	**39.66 332**	⇑*i*P	**P**	**06 35 47.0**	**+0.3**
KTK1			AMb	AMB	06 35 53.0	
	comp=Z,54nm,1.6s,mb5.0					
KOLS	**Kolonicke sedl**	**39.82 300**	*e*P	**P**	**06 35 51.2**	**+3.0**
CRVS	**Cervenica-Dubn**	**40.35 300**	*e*P	**P**	**06 35 54.7**	**+2.1**
VTS	**Vitosha**	**40.85 291**	⇓P	**P**	**06 35 58.2**	**+1.4**
NIE	**Niedzica**	**40.97 301**	*e*P	**P**	**06 35 58.6**	**+0.8**
KECS	**Kecovo**	**41.07 300**	*e*P	**P**	**06 35 59.7**	**+1.1**
OJC	**Ojcow**	**41.13 303**	*e*P	**P**	**06 35 58.9**	**-0.1**
APE	**Apeiranthos**	**41.17 282**	⇑P	**P**	**06 35 59.6**	**+0.1**
PSZ	**Piszkesteto**	**41.59 299**	*e*P	**P**	**06 36 03.2**	**+0.4**
VYHS	**Vyhne**	**42.13 300**	*e*P	**P**	**06 36 07.7**	**+0.5**
OKC	**Ostrava-Krasne**	**42.26 303**	*e*P	**P**	**06 36 07.8**	**-0.4**
IDI	**Anoyia**	**42.38 280**	P	**P**	**06 36 09.5**	**0.0**
	comp=Z,13nm,0.6s,mb4.8,baz=27,slow=9.9,SNR=12					
DIVS	**Divcibare**	**42.60 294**	⇓*i*P	**P**	**06 36 11.4**	**+0.3**
MOR8	**Moi Rana**	**42.61 327**	⇑*i*P	**P**	**06 36 09.6**	**-1.3**
	comp=Z,69nm,1.4s,mb5.2					
MOR8	**Moi Rana**	**42.61 327**	⇑*i*P	**P**	**06 36 09.6**	**-1.3**
MOR8			AMb	AMB	06 36 11.6	
	comp=Z,69nm,1.4s,mb5.2					
PKSM	**Moragy**	**42.87 297**	⇓P	**P**	**06 36 13.8**	**+0.5**
LOF	**Lofoten**	**43.05 330**	⇑*i*P	**P**	**06 36 15.4**	**+1.0**
	comp=Z,87nm,1.5s,mb5.3					
LOF	**Lofoten**	**43.05 330**	⇑*i*P	**P**	**06 36 15.4**	**+1.0**
LOF			AMb	AMB	06 36 20.0	
	comp=Z,87nm,1.6s,mb5.2					
BSD	**Bornholm Skovb**	**43.14 311**	*i* P	**P**	**06 36 14.7**	**-0.7**
BSD			*e*S	tx	06 36 46.5	
KSP	**Ksiaz**	**43.18 304**	*e*P	**P**	**06 36 16.0**	**+0.2**
DPC	**Dobruska-Polom**	**43.28 304**	*e*P	**P**	**06 36 17.4**	**+0.8**
UPC	**Upice**	**43.43 304**	*e*P	**P**	**06 36 18.2**	**+0.4**
NB2	**NORSAR Subarra**	**44.26 320**	P	**P**	**06 36 23.9**	**-0.4**
	comp=Z,36nm,0.7s,mb5.2,baz=84,slow=7.9					
NB2	**NORSAR Subarra**	**44.26 320**	P	**P**	**06 36 23.9**	**-0.4**
	baz=84,slow=7.9					
NOA	**NORSAR Array B**	**44.26 320**	P	**P**	**06 36 23.9**	**-0.4**
NOA			pmax	pmax		
	comp=Z,38nm,0.8s					
NOA	**NORSAR Array B**	**44.26 320**	P	**P**	**06 36 23.9**	**-0.4**
	comp=Z,38nm,0.8s,mb5.2,baz=84,slow=8.0,SNR=92					
PVCC	**Panska Ves**	**44.32 304**	*e*P	**P**	**06 36 25.7**	**+0.7**
COP	**Copenhagen**	**44.43 312**	*i* P	**P**	**06 36 26.5**	**+0.7**
COP			pmax	pmax		
	comp=Z,47nm,0.5s,mb5.5					
COP			MLR	MLR		
	comp=Z,56μm,17.0s,MS6.5					
COP	**Copenhagen**	**44.43 312**	*i* P	**P**	**06 36 26.5**	**+0.7**
	comp=Z,47nm,0.5s,mb5.5					
	comp=Z,56μm,17.0s					
PRU	**Pruhonice**	**44.48 304**	*e*P	**P**	**06 36 26.3**	**+0.1**
BRG	**Berggiesshubel**	**44.62 305**	*i* P	**P**	**06 36 27.9**	**+0.6**
BRG			*i*	pP	06 36 41.8	+3.1
BRG			pmax	pmax		
	comp=Z,17nm,0.8s,mb4.9					
BRG	**Berggiesshubel**	**44.62 305**	*i* P	**P**	**06 36 27.9**	**+0.6**
	comp=Z,17nm,0.8s,mb4.9					
BRG			*i*	pP	06 36 41.8	+3.1
CLL	**Collm**	**45.08 306**	⇑*i*P	**P**	**06 36 30.9**	**-0.1**
CLL			*e*	pP	06 36 40.0	-2.4
CLL			pmax	pmax		
	comp=Z,36nm,0.7s,mb5.3					
CLL	**Collm**	**45.08 306**	⇑*i*P	**P**	**06 36 30.9**	**-0.1**
	comp=Z,36nm,0.7s,mb5.3					
CLL			*e*	pP	06 36 40.0	-2.4
CLL	**Collm**	**45.08 306**	⇑P	**P**	**06 36 30.9**	**-0.1**
	comp=Z,logA/T=1.7,mb5.3					
CLL			*e**PP	pP	06 36 40.0	-2.4
CLL			*e*PP	PP	06 38 16.0	-1.4
DOMB	**Dombas**	**45.16 321**	⇑*i*P	**P**	**06 36 31.3**	**-0.3**
KHC	**Kasperske Hory**	**45.32 303**	*e*P	**P**	**06 36 33.4**	**+0.4**
KHC			*e*		06 38 16.5	
KHC	**Kasperske Hory**	**45.32 303**	*e*P	**P**	**06 36 33.3**	**+0.3**
KHC			*ex*	x	06 36 37.1	
KHC			*e*PP	PP	06 38 17.4	-2.3
GEC2	**GERESS Array S**	**45.32 302**	*e*P	**P**	**06 36 33.3**	**+0.3**
GEC2			pmax	pmax		
	comp=Z,14nm,0.7s,mb4.9					
GEC2	**GERESS Array S**	**45.32 302**	*e*P	**P**	**06 36 33.3**	**+0.3**
	comp=Z,14nm,0.7s,mb4.9					
GERES	**GERESS Array B**	**45.32 302**	P	**P**	**06 36 33.5**	**+0.5**
GERES					06 38 13.2	
GERES			pmax	pmax		
	comp=Z,7.0nm,0.5s					
GERES			pmax	pmax		
	comp=Z,3.0nm,0.9s					
GERES	**GERESS Array B**	**45.32 302**	P	**P**	**06 36 33.5**	**+0.5**
	comp=Z,7.0nm,0.5s,mb4.8,baz=62,slow=7.7,SNR=50					
GERES			PcP	PcP	06 38 13.2	+0.6
	comp=Z,3.3nm,0.9s,baz=90,slow=3.9,SNR=3.5					
OBKA	**Obir**	**45.48 299**	⇑*i*P	**P**	**06 36 34.6**	**+0.3**
	comp=Z,23nm,1.1s,mb4.9					
NKC	**Novy Kostel**	**45.71 304**	*e*P	**P**	**06 36 36.6**	**+0.5**
WET	**Wettzell**	**45.75 303**	*e*P	**P**	**06 36 37.1**	**+0.7**
WET			pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9					
WET	**Wettzell**	**45.75 303**	*e*P	**P**	**06 36 37.1**	**+0.7**
	comp=Z,13nm,0.8s,mb4.9					
BSEG	**Bad Segeberg**	**46.01 310**	*e*P	**P**	**06 36 39.2**	**+0.8**
BSEG			pmax	pmax		
	comp=Z,32nm,0.9s,mb5.2					
MUD	**Monsted U'grnd**	**46.07 314**	⇑*i*P	**P**	**06 36 39.3**	**+0.5**
	comp=Z,36nm,0.6s,mb5.5					
	comp=Z,91μm,17.0s					
KBA	**Koelnbreinsper**	**46.09 300**	⇓*i*P	**P**	**06 36 39.5**	**+0.4**
	comp=Z,18nm,1.1s,mb4.9					
KBA	**Koelnbreinsper**	**46.09 300**	⇓*i*P	**P**	**06 36 39.5**	**+0.4**
KBA			pmax	pmax		
	comp=Z,18nm,

comp=Z,140nm,1.9s,mb5.6
STAV Stavanger 47.34 317 *e*P **P 06 36 49.0 +0.2**
STAV AMb AMB 06 37 02.6
comp=Z,140nm,1.9s,mb5.6
SQTA Sankt Quirin 47.42 301⇑*i*P **P 06 36 48.9 -0.7**
AQU L'Aquila 47.72 294 P **P 06 36 54.1 +2.1**
DAVA Damuels 48.25 301⇓*i*P **P 06 36 52.8 -3.2**
comp=Z,25nm,1.1s,mb5.2
BFO Black Forest 48.87 303 *e*P **P 06 37 01.1 +0.3**
BFO pmax pmax
comp=Z,30nm,1.3s,mb5.2
BFO Black Forest 48.87 303 *e*P **P 06 37 01.1 +0.3**
comp=Z,30nm,1.3s,mb5.2
CDF Champ du Feu 49.49 304 *e*P **P 06 37 05.3 -0.3**
HAU Haudompre 50.22 303 *e*P **P 06 37 10.7 -0.5**
GIVF Givet 50.40 306 *e*P **P 06 37 12.7 +0.2**
comp=Z,60nm,1.0s,mb5.3
GIVF Givet 50.40 306 *e*P **P 06 37 12.7 +0.2**
GIVF pmax pmax
comp=Z,30nm,1.0s,mb5.3
BAIF Baives 50.78 307 *e*P **P 06 37 15.3 -0.2**
comp=Z,26nm,0.7s,mb5.0
BAIF Baives 50.78 307 *e*P **P 06 37 15.3 -0.2**
BAIF pmax pmax
comp=Z,13nm,0.7s,mb5.0
MEZF Maizieres J'vi 50.84 304 *e*P **P 06 37 15.3 -0.6**
CABF La Chapelle 50.91 302 *e*P **P 06 37 16.1 -0.4**
LPG La Plagne 50.92 300 *e*P **P 06 37 16.5 -0.1**
comp=Z,23nm,0.6s,mb5.0
LPG La Plagne 50.92 300 *e*P **P 06 37 16.5 -0.1**
LPG pmax pmax
comp=Z,12nm,0.6s,mb5.0
LPL La Plagne 50.92 300 *e*P **P 06 37 16.5 -0.1**
comp=Z,94nm,1.1s,mb5.3
LPL La Plagne 50.92 300 *e*P **P 06 37 16.5 -0.1**
LPL pmax pmax
comp=Z,47nm,1.1s,mb5.3
BILL Bilibino 51.01 29 *e*P **P 06 37 16.9 0.0**
BILL pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BNI Bardonecchia 51.14 300 *e*P **P 06 37 18.0 -0.3**
BNI pmax pmax
comp=Z,18nm,0.9s,mb5.0
BNI Bardonecchia 51.14 300 *e*P **P 06 37 18.0 -0.3**
comp=Z,18nm,0.9s,mb5.0
MBDF Montbardon 51.22 299 *e*P **P 06 37 17.9 -0.9**
comp=Z,50nm,1.0s,mb5.1
MBDF Montbardon 51.22 299 *e*P **P 06 37 17.9 -0.9**
MBDF pmax pmax
comp=Z,25nm,1.0s,mb5.1
DAG Danmarks Havn 51.52 343⇓*i*P **P 06 37 20.1 -0.6**
DAG pmax pmax
comp=Z,40nm,0.8s,mb5.4
DAG Danmarks Havn 51.52 343⇓*i*P **P 06 37 20.1 -0.6**
comp=Z,40nm,0.8s,mb5.4
ORIF Oris-en-Rattie 51.72 300 *e*P **P 06 37 21.2 -1.4**
comp=Z,41nm,0.9s,mb5.0
ORIF Oris-en-Rattie 51.72 300 *e*P **P 06 37 21.2 -1.4**
ORIF pmax pmax
comp=Z,20nm,0.9s,mb5.0
PET Petropavlovsk 52.30 49 *e*P **P 06 37 26.2 -0.6**
PET *e* 06 44 44.7
PET pmax pmax
comp=Z,11nm,1.1s,mb4.7
PET MLR MLR
comp=Z,28μm,14.0s,MS6.5
SMF Signal de Mont 52.32 303 *e*P **P 06 37 25.9 -1.1**
comp=Z,28nm,0.8s,mb5.0
SMF Signal de Mont 52.32 303 *e*P **P 06 37 25.9 -1.1**
SMF pmax pmax
comp=Z,14nm,0.8s,mb4.9
SSF Saint Saulge 52.36 303 *e*P **P 06 37 26.2 -1.1**
VIVF Saint-Julien-I 52.52 300 *e*P **P 06 37 27.0 -1.6**
comp=Z,31nm,0.8s,mb5.0
VIVF Saint-Julien-I 52.52 300 *e*P **P 06 37 27.0 -1.6**
VIVF pmax pmax
comp=Z,15nm,0.8s,mb5.0
AVF Avril sur Loir 52.57 303 *e*P **P 06 37 27.8 -1.1**
comp=Z,65nm,0.9s,mb5.3
AVF Avril sur Loir 52.57 303 *e*P **P 06 37 27.8 -1.1**
AVF pmax pmax
comp=Z,33nm,0.9s,mb5.3
BGF Bois d'Agland 52.98 303 *e*P **P 06 37 30.8 -1.2**
comp=Z,26nm,0.9s,mb4.9
BGF Bois d'Agland 52.98 303 *e*P **P 06 37 30.8 -1.2**
BGF pmax pmax
comp=Z,14nm,0.9s,mb4.9
TCF Toulx Ste Croi 53.49 303 *e*P **P 06 37 34.8 -1.0**
comp=Z,81nm,1.3s,mb5.2
TCF Toulx Ste Croi 53.49 303 *e*P **P 06 37 34.8 -1.0**
TCF pmax pmax
comp=Z,41nm,1.3s,mb5.2
LDF La Druitiere 53.96 306 *e*P **P 06 37 38.0 -1.2**
comp=Z,31nm,0.9s,mb4.9
LDF La Druitiere 53.96 306 *e*P **P 06 37 38.0 -1.2**
LDF pmax pmax
comp=Z,15nm,0.9s,mb4.9
FLN La Foliniere 54.11 307 *e*P **P 06 37 38.8 -1.5**
comp=Z,16nm,0.6s,mb4.8
FLN La Foliniere 54.11 307 *e*P **P 06 37 38.8 -1.5**
FLN pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
RJF Les Rejaudoux 54.35 302 *e*P **P 06 37 40.8 -1.3**
comp=Z,32nm,0.8s,mb5.0
RJF Les Rejaudoux 54.35 302 *e*P **P 06 37 40.8 -1.3**
RJF pmax pmax
comp=Z,16nm,0.8s,mb5.0
GRR Gorron 54.49 306 *e*P **P 06 37 41.3 -1.8**
comp=Z,50nm,0.9s,mb5.1
GRR Gorron 54.49 306 *e*P **P 06 37 41.3 -1.8**
GRR pmax pmax
comp=Z,25nm,0.9s,mb5.1
SCO Scoresbysund 54.80 336 *i*P **P 06 37 45.4 +0.3**
LFF La Frestale 55.01 302 *e*P **P 06 37 46.3 -0.6**
SGMF Saint Gilles 55.58 307 *e*P **P 06 37 49.3 -1.7**
DMUB Kingscourt 55.60 314⇓*i*P **P 06 37 50.8 -0.3**
ROSF Rostrenen 55.97 307 *e*P **P 06 37 51.9 -1.9**
comp=Z,22nm,0.6s,mb5.0
ROSF Rostrenen 55.97 307 *e*P **P 06 37 51.9 -1.9**
ROSF pmax pmax
comp=Z,11nm,0.6s,mb5.1
DCN Croghan 56.04 314⇓*i*P **P 06 37 53.9 -0.3**
QUIF Quistinic 56.09 307 *e*P **P 06 37 52.5 -2.2**
comp=Z,49nm,0.9s,mb5.2
QUIF Quistinic 56.09 307 *e*P **P 06 37 52.5 -2.2**
QUIF pmax pmax
comp=Z,25nm,0.9s,mb5.2
EPF Esparros 56.14 300 *e*P **P 06 37 52.3 -2.8**
comp=Z,18nm,0.9s,mb4.8
EPF Esparros 56.14 300 *e*P **P 06 37 52.3 -2.8**
EPF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ETSF Etsaut 56.78 300 *e*P **P 06 37 57.1 -2.6**
comp=Z,27nm,0.7s,mb5.1
ETSF Etsaut 56.78 300 *e*P **P 06 37 57.1 -2.6**
ETSF pmax pmax
comp=Z,14nm,0.7s,mb5.1
KMBO Kilima Mbogo 57.09 233 *i*P **P 06 38 03.1 +0.8**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO Kilima Mbogo 57.09 233 P **P 06 38 02.0 -0.3**
comp=Z,1.6nm,0.7s,mb4.2,baz=33,slow=11,SNR=8.3
SUMG Summit 58.12 342 *e*P **P 06 38 08.7 0.0**
comp=Z,81nm,1.4s,mb5.6
FX1 Attu Island--F 60.23 44 P **P 06 38 22.8 -0.8**
FX1 pmax pmax
comp=Z,47nm,0.8s
FX1 Attu Island--F 60.23 44 P **P 06 38 22.8 -0.8**
comp=Z,47nm,0.8s,mb5.6,baz=57,slow=5.7,SNR=12
ESDC Sonseca Array 60.61 298 P **P 06 38 25.4 -1.0**
comp=Z,11nm,1.0s,mb5.0,baz=55,slow=6.9,SNR=17
MBAR Mbarara 60.72 239 *e*P **P 06 38 25.7 -1.7**
MBAR pmax pmax
comp=Z,15nm,1.0s,mb5.1
MBAR Mbarara 60.72 239 *e*P **P 06 38 25.7 -1.7**
comp=Z,15nm,1.0s,mb5.1
RES Resolute Bay 63.77 358 *e*P **P 06 38 46.2 -0.6**
RES pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
RES Resolute Bay 63.77 358 *e*P **P 06 38 46.2 -0.7**
comp=Z,2.6nm,0.7s,mb4.4
IMA Indian Mountai 65.06 21 *e*P **P 06 38 55.0 -0.3**
COLA College 67.52 20 *e*P **P 06 39 11.1 +0.2**
COLA pmax pmax
comp=Z,28nm,0.9s,mb5.3
COLA College 67.52 20 *e*P **P 06 39 11.1 +0.2**
comp=Z,28nm,0.9s,mb5.3
INK Inuvik 67.54 13 *e*P **P 06 39 11.1 +0.1**
INK pmax pmax
comp=Z,14nm,0.7s
INK Inuvik 67.54 13 P **P 06 39 11.3 +0.3**
comp=Z,14nm,0.6s,mb5.2,baz=356,slow=6.9,SNR=64
INK Inuvik 67.54 13 *e*P **P 06 39 11.1 +0.1**
comp=Z,14nm,0.7s,mb5.1
ILAR Eielson Array 67.84 19 P **P 06 39 12.5 -0.4**
ILAR pmax pmax
comp=Z,14nm,0.8s
ILAR Eielson Array 67.84 19 P **P 06 39 12.4 -0.5**
comp=Z,14nm,0.8s,mb5.0,baz=316,slow=5.3,SNR=126
DAWY Dawson 70.19 17 *e*P **P 06 39 27.0 -0.4**
KDAK Kodiak Island 71.80 26 *e*P **P 06 39 38.0 +0.9**
comp=Z,57nm,0.8s,mb5.5
MBWA Marble Bar 72.99 141 *e*P **P 06 39 45.8 +0.9**
comp=Z,14nm,1.0s,mb4.9
KAKA Kakadu 73.04 125 *e*P **P 06 39 46.6 +1.3**
comp=Z,10nm,0.6s,mb4.9
FITZ Fitzroy Crossi 73.42 134 *e*P **P 06 39 49.1 +1.7**
comp=Z,11nm,0.8s,mb4.8
LSZ Lusaka 73.71 231 *e*P **P 06 39 49.7 +0.5**
LSZ pmax pmax
comp=Z,12nm,0.8s,mb4.9
LSZ Lusaka 73.71 231 *e*P **P 06 39 49.7 +0.5**
comp=Z,12nm,0.8s,mb4.9
YKW3 Yellowknife Ar 75.43 7 *e*P **P 06 39 58.1 0.0**
YKA Yellowknife Ar 75.50 7 P **P 06 39 58.7 +0.1**
YKA pmax pmax
comp=Z,12nm,0.6s
YKA Yellowknife Ar 75.50 7 P **P 06 39 58.7 +0.1**
comp=Z,12nm,0.6s,mb5.0,baz=346,slow=5.7,SNR=242
YKA Yellowknife Ar 75.50 7 P **P 06 39 58.7 +0.1**
DLBC Dease Lake 77.23 15 P **P 06 40 09.2 +0.7**
comp=Z,4.0nm,0.9s,mb4.4,baz=251,slow=6.4,SNR=4.2
SCHQ Schefferville 79.50 341 P **P 06 40 20.6 -0.4**
comp=Z,6.2nm,1.0s,mb4.5,baz=31,slow=4.6,SNR=7.5
WRAB Tennant Creek 79.79 128 *e*P **P 06 40 24.6 +1.4**
WRAB pmax pmax
comp=Z,20nm,0.9s,mb5.0
WRAB Tennant Creek 79.79 128 *e*P **P 06 40 24.6 +1.3**
comp=Z,20nm,0.9s,mb5.0
WRA Warramunga Arr 79.79 128 P **P 06 40 24.7 +1.5**
WRA pmax pmax
comp=Z,9.0nm,0.8s
WRA Warramunga Arr 79.79 128 P **P 06 40 24.7 +1.5**
comp=Z,9.4nm,0.8s,mb4.8,baz=328,slow=5.4,SNR=57
WB2 Warramunga Arr 79.80 128 *e*P **P 06 40 24.8 +1.5**
PMG Port Moresby 80.26 112 P **P 06 40 26.3 +0.5**
PMG Port Moresby 80.26 112 P **P 06 40 26.9 +1.0**
comp=Z,9.8nm,0.7s,mb4.9,baz=104,slow=14,SNR=3.5
DBIC Dimbokro 81.17 271 P **P 06 40 30.2 -0.5**
DBIC pmax pmax
comp=Z,13nm,0.8s
DBIC Dimbokro 81.17 271 P **P 06 40 30.2 -0.5**
comp=Z,13nm,0.8s,mb4.9,baz=34,slow=6.1,SNR=18
DBIC Dimbokro 81.17 271 P **P 06 40 30.2 -0.5**
NWAO Narrogin (SRO) 82.15 148 P **P 06 40 36.1 +0.7**
NWAO pmax pmax
comp=Z,11nm,0.8s
NWAO Narrogin (SRO) 82.15 148 P **P 06 40 36.1 +0.7**
comp=Z,11nm,0.8s,mb4.8,baz=264,slow=8.2,SNR=4.0
ASPA Alice Springs 82.45 131 *e*P **P 06 40 38.2 +1.1**
ASAR Alice Springs 82.45 131 P **P 06 40 38.8 +1.6**
comp=Z,6.3nm,0.7s,mb4.7,baz=322,slow=5.1,SNR=43
EDM Edmonton 84.77 8 *e*P **P 06 40 48.9 +0.7**
BOSA Boshof 85.93 225 *e*P **P 06 40 54.9 +0.4**
BOSA pmax pmax
comp=Z,27nm,1.4s,mb5.3
BOSA Boshof 85.93 225 *e*P **P 06 40 54.9 +0.5**
comp=Z,27nm,1.4s,mb5.3
CTA Charters Tower 87.28 120 *e*P **P 06 41 03.3 +2.1**
comp=Z,5.2nm,0.9s,mb4.8
CTA Charters Tower 87.28 120 *e*P **P 06 41 03.3 +2.1**
CTA pmax pmax
comp=Z,5.0nm,0.9s
CTA Charters Tower 87.28 120 P **P 06 41 02.9 +1.7**
comp=Z,6.6nm,0.8s,mb4.9,baz=327,slow=10,SNR=4.7
CTAO Charters Tower 87.28 120 *e*P **P 06 41 02.1 +0.9**
CTAO pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
CTAO Charters Tower 87.28 120 *e*P **P 06 41 02.1 +0.9**
comp=Z,10nm,0.9s,mb5.1
PDAR Pinedale Array 95.48 6 P **P 06 41 39.9 +1.0**
comp=Z,1.0nm,0.6s,mb4.5,baz=50,slow=3.5,SNR=10
SYO Syowa Base 114.29 195 ⇑Pdiff Pdif 06 43 04.1 +2.3
SYO Syowa Base 114.29 195 ⇓PKPdf PKPdf 06 46 54.3 +2.4
ARE Arequipa 144.37 306 *e*PKIKP PKPdf 06 47 51.0 +1.5
LVC Limon Verde 147.21 296 *e*PKPbc PKPdf 06 47 59.5 +5.2
TRQA Tornquist 150.16 264 *e*PKPbc PKPdf 06 48 05.3 +6.8

*NEIC **19** 06:30:58.9, 31.67S×71.90W, h26km, ML3.6(GUC), After GUC.*

GUC 19 06:30:58.9±0.7, 31.67S×71.90W, h26km±3km, MD4.1, ML3.6, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.62**	**87**	⇑*i*P	Pb	06 31 11.0	-0.1
ILCH				*i* S	Sb	06 31 19.7	+0.2
ILCH				AMP		06 31 24.5	
comp=N,3μm,0.3s							
CMCH	**Combarbala**	**0.91**	**57**	⇑*i*P	Pb	06 31 15.7	-0.3
CMCH				*i* S	Sb	06 31 28.4	+0.5
CMCH				AMP		06 31 30.7	
comp=N,7μm,0.9s							
PACH	**Papudo**	**0.95**	**156**	⇓*i*P	Pn	06 31 15.7	-0.9
PTCH	**Petorca**	**1.01**	**126**	⇑*i*P	Pn	06 31 17.1	-0.4
PTCH				*i* S	Sb	06 31 30.7	0.0
PTCH				AMP		06 31 33.7	
comp=N,5μm,0.3s							
JACH	**Jahuel**	**1.50**	**133**	*e*P	Pn	06 31 25.0	+0.6
JACH				*i* S	Sn	06 31 44.5	+1.2
ROCH	**El Roble**	**1.50**	**150**	*e*P	Pn	06 31 24.9	+0.4
TLL	**Tololo Astrono**	**1.77**	**32**	*e*P	Pn	06 31 29.3	+0.9
TLL				AMP		06 31 56.3	
comp=E,2μm,0.5s							
LSCH	**La Serena**	**1.84**	**18**	*e*P	Pn	06 31 29.9	+0.5
LSCH				*i* S	Sn	06 31 53.5	+1.4
LSCH				AMP		06 32 00.2	
comp=N,558nm,0.4s							
RCDM	**Rinconada Maip**	**2.03**	**153**	*e*P	Pn	06 31 32.8	+0.6
RCDM				*i* S	Sn	06 31 58.2	+1.3
RCDM				AMP		06 32 09.6	
comp=E,375nm,0.7s							
STL	**Santa Lucia**	**2.06**	**149**	*e*P	Pn	06 31 33.4	+1.0
STL				*i* S	Sn	06 31 58.8	+1.4
DSCH	**Colegio Aleman**	**2.06**	**147**	*e*P	Pn	06 31 33.0	+0.6
DSCH				*i* S	Sn	06 31 59.2	+1.7
DSCH				AMP		06 32 12.0	
comp=N,1μm,0.4s							
CLCH	**Cerro Calan**	**2.07**	**147**	⇑*i*P	Pn	06 31 33.6	+1.0
CLCH				*i* S	Sn	06 31 59.6	+1.8
CLCH				AMP		06 32 03.7	
comp=N,1μm,0.3s							
TACH	**Talagante**	**2.14**	**158**	⇓*i*P	Pn	06 31 34.5	+0.9
FCH	**Farellones**	**2.14**	**141**	*e*P	Pn	06 31 34.9	+1.2
FCH				*i* S	Sn	06 32 02.5	+2.9
FCH				AMP		06 32 05.7	
comp=E,434nm,0.7s							
ANTU	**Antumapu**	**2.17**	**151**	*e*P	Pn	06 31 34.8	+0.7
ANTU				*i* S	Sn	06 32 01.8	+1.4
ANTU				AMP		06 32 15.1	
comp=E,483nm,0.6s							
PCH	**Pirque**	**2.27**	**149**	*e*P	Pn	06 31 35.9	+0.4
CHCH	**Chadas Angostu**	**2.49**	**155**	*e*P	Pn	06 31 39.0	+0.4
LMEL	**Las Melosas**	**2.60**	**147**	*e*P	Pn	06 31 41.1	+0.9
LMEL				*i* S	Sn	06 32 12.8	+1.5
LMEL				AMP		06 32 22.6	
comp=N,336nm,0.5s							

JMA 19 06:32:04.8±0.3, 34.13N×141.85E, h54km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.77**	**333**	P	P	06 32 33.7	+0.1
JOD2	**Odawara 2**	**2.54**	**297**	P	P	06 32 44.7	+0.1
JAG	**Ashikaga**	**3.01**	**320**	P	P	06 32 51.3	0.0
JYN	**Shimob**	**3.04**	**298**	P	P	06 32 53.0	+1.3
JRY	**Ryogami san**	**3.06**	**309**	P	P	06 32 52.2	+0.2
JRY				S	S	06 33 28.9	+1.3
JFK	**Kawauchi**	**3.33**	**346**	P	P	06 32 54.4	-1.3
MAT	**Matsushiro**	**3.83**	**310**	P	P	06 33 03.8	+1.0
MAT				S	S	06 33 47.3	+0.4

*NEIC **19** 06:35:31.9, 32.10S×71.58W, h53km, MD3.9(GUC), After GUC.*

GUC 19 06:35:31.9±0.8, 32.10S×71.58W, h53km±5km, MD3.9, ML3.1, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.45**	**165**	*i* P	P	06 35 43.1	+0.2
PACH				*i* S	S	06 35 51.3	+0.5
PTCH	**Petorca**	**0.57**	**107**	⇓*i*P	P	06 35 45.0	+0.7
PTCH				*i* S	S	06 35 54.2	+1.0
PTCH				AMP		06 35 54.6	
comp=E,2μm,0.1s							
ILCH	**Illapel**	**0.58**	**37**	⇓*i*P	P	06 35 44.8	+0.5
ILCH				*i* S	S	06 35 54.2	+0.9
ILCH				AMP		06 35 54.6	
comp=N,1μm,0.1s							
JACH	**Jahuel**	**1.01**	**125**	*e*P	P	06 35 50.5	+0.4
JACH				*i* S	S	06 36 04.7	+1.1
CMCH	**Combarbala**	**1.05**	**28**	⇑*i*P	P	06 35 51.1	+0.5
CMCH				*i* S	S	06 36 05.3	+0.9
CMCH				AMP		06 36 07.5	
comp=N,1μm,0.7s							
RCDM	**Rinconada Maip**	**1.53**	**155**	*e*P	P	06 35 57.3	-0.1
RCDM				*i* S	S	06 36 16.2	0.0
RCDM				AMP		06 36 17.9	
comp=N,405nm,0.1s							
DSCH	**Colegio Aleman**	**1.55**	**147**	⇓*i*P	P	06 35 58.0	+0.4
DSCH				*i* S	S	06 36 17.2	+0.4
DSCH				AMP		06 36 18.8	
comp=E,517nm,0.3s							
STL	**Santa Lucia**	**1.55**	**150**	⇑*i*P	P	06 35 57.9	+0.3
STL				AMP		06 36 17.1	
comp=N,57nm,0.5s							
STL				*i* S	S	06 36 17.4	+0.7
CLCH	**Cerro Calan**	**1.56**	**146**	*e*P	P	06 35 58.1	+0.3
CLCH				*i* S	S	06 36 17.5	+0.5
CLCH				AMP		06 36 18.1	
comp=N,299nm,0.3s							
FCH	**Farellones**	**1.64**	**139**	*i* P	P	06 35 59.3	+0.4
FCH				*i* S	S	06 36 19.6	+0.8
FCH				AMP		06 36 23.5	
comp=N,4μm,0.2s							
TACH	**Talagante**	**1.64**	**161**	*e*P	P	06 35 58.7	-0.2
ANTU	**Antumapu**	**1.67**	**152**	*i* P	P	06 35 59.4	+0.2
ANTU				*i* S	S	06 36 19.9	+0.3
ANTU				AMP		06 36 21.2	
comp=E,345nm,0.4s							
PCH	**Pirque**	**1.76**	**150**	*i* S	S	06 36 22.5	+0.6
CHCH	**Chadas Angostu**	**1.99**	**157**	*e*P	P	06 36 03.9	+0.1
TLL	**Tololo Astrono**	**2.04**	**19**	*e*P	P	06 36 04.8	+0.3
TLL				*i* S	S	06 36 29.5	+0.8
TLL				AMP		06 36 34.6	
comp=E,120nm,0.3s							
LMEL	**Las Melosas**	**2.09**	**147**	*e*P	P	06 36 05.9	+0.6
LMEL				*i* S	S	06 36 30.7	+0.7
LMEL				AMP		06 36 32.7	
comp=N,321nm,0.1s							

*IDC **19** 06:36:24.8±0.6, 33.96N×141.65E, mb4.2/16, mb1 4.4/18, mb1mx4.4/23, mbtmp4.2/18, ML4.2/2, Error ellipse: s-maj=19.7km s-min=14.2km az=117.0*
*BJI **19** 06:36:27.2, 33.90N×141.60E, h28km, mB4.2, mb4.1, Ms4.4, Msz4.3*
*MOS **19** 06:36:27.6±1.0, 33.86N×141.65E, h33km, mb4.6/13, Error ellipse: s-maj=21.2km s-min=10.6km az=109.7*
*JMA **19** 06:36:28.4±0.4, 33.98N×141.66E, h58km, M4.1*
*NEIC **19** 06:36:29.3±4.3, 33.91N×141.61E, h28km±30km, mb4.5/8, Error ellipse: s-maj=13.2km s-min=8.1km az=102.0*

ISC 19 06:36:26.5±1.7, 33.91N±0.04×141.70E±0.05, h21km±12km, n71, σ1°03/79, mb4.2/24, MS4.4/1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**1.32**	**312**	P	**Pn**	**06 36 50.4**	**+0.4**
BSO4	**Boso 4**	**1.56**	**314**	P	**Pn**	**06 36 53.7**	**+0.4**
KTR	**Katsuura**	**1.68**	**318**	P	**Pn**	**06 36 54.7**	**-0.4**
KTR				S	**Sn**	**06 37 16.5**	**+0.3**
JHJ	**Hachijo jima 2**	**1.78**	**244**	Pn	**Pn**	**06 36 57.7**	**+1.1**
254nm,0.3s,baz=64,slow=21,SNR=6.2							
JHJ				Sn	**Sn**	**06 37 20.0**	**+1.2**
283nm,0.3s,baz=70,slow=23,SNR=5.5							
CHOJ	**Chosi**	**1.92**	**339**	P	**Pn**	**06 36 58.3**	**-0.2**
CHOJ				*e*S	**Sn**	**06 37 19.3**	**-2.9**
JIM2	**Oshima 3**	**2.04**	**294**	S	**Sn**	**06 37 24.9**	**-0.4**
JIZS	**Izushimoda**	**2.47**	**290**	P	**Pn**	**06 37 05.5**	**-0.9**
JIZS				S	**Sn**	**06 37 35.4**	**-0.8**
JOD2	**Odawara 2**	**2.54**	**303**	P	**Pn**	**06 37 06.7**	**-0.7**
JOD2				*e*S	**Sn**	**06 37 38.0**	**0.0**
JYN	**Shimob**	**3.04**	**302**	P	**Pn**	**06 37 14.5**	**0.0**
JYN				*e*S	**Sn**	**06 37 51.8**	**+1.1**
SHZ3	**Shizuoka 3**	**3.10**	**293**	P	**Pn**	**06 37 17.1**	**+1.7**
JAG	**Ashikaga**	**3.11**	**324**	P	**Pn**	**06 37 14.8**	**-0.7**
JRY	**Ryogami san**	**3.11**	**313**	P	**Pn**	**06 37 15.7**	**+0.2**
TK04	**Tokai 4**	**3.21**	**280**	P	**Pn**	**06 37 18.3**	**+1.5**
MAJO	**Matsushiro**	**3.88**	**314**	*e*P	**Pn**	**06 37 25.7**	**-0.7**
MAT	**Matsushiro**	**3.88**	**314**	*e*P	**Pn**	**06 37 27.0**	**+0.6**
MAT				*e*S	**Sn**	**06 38 08.0**	**-3.9**
MAT	**Matsushiro**	**3.88**	**314**	P	**Pn**	**06 37 26.5**	**+0.1**
MAT				S	**Sn**	**06 38 08.4**	**-3.5**
CBIJ	**Chichi jima**	**6.80**	**176**	Pn	**Pn**	**06 38 06.4**	**-1.4**
21nm,0.3s,baz=280,slow=22,SNR=7.4							
CBIJ				Sn	**Sn**	**06 39 18.5**	**-6.9**
14nm,0.3s,baz=126,slow=22,SNR=3.0							
ASAJ	**Asahikawa**	**10.22**	**4**	Pn	**P**	**06 38 50.5**	**-4.6**
1.3nm,0.3s,baz=170,slow=4.9,SNR=4.5							
ASAJ				Sn	**S**	**06 40 35.0**	**-15**
0.5nm,0.3s,baz=201,slow=32,SNR=2.4							
YSS	**Yuzh-Sakhalins**	**13.05**	**3**	*e*P	**P**	**06 39 28.1**	**-5.3**
36nm,1.1s							
MDJ	**Mudanjiang**	**14.20**	**322**	P	**P**	**06 39 49.3**	**+0.8**
HIA	**Hailar**	**22.36**	**320**	P	**P**	**06 41 24.0**	**-0.4**
SONM	**Songino Array**	**29.82**	**308**	P	**P**	**06 42 34.4**	**+0.3**
0.9nm,0.6s,mb3.7,baz=103,slow=7.0,SNR=4.3							
BILL	**Bilibino**	**36.96**	**15**	*e*P	**P**	**06 43 34.9**	**-0.8**
BILL				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.7							
BILL	**Bilibino**	**36.96**	**15**	*e*P	**P**	**06 43 35.0**	**-0.7**
comp=Z,9.6nm,1.0s,mb4.6							
WMQ	**Urumqi**	**42.53**	**300**	*e*P	**P**	**06 44 22.9**	**+0.9**
WMQ				AP	pP	06 44 30.3	+1.9
WMQ				XP	sP	06 44 33.7	+2.6
WMQ				PP	PP	06 46 04.5	+1.1
WMQ				AMB	AMB		
comp=Z,3.0nm,1.6s,mb3.8							
WMQ				AMB	AMB		
comp=Z,19nm,5.2s							
WMQ				LR	LR		
comp=N,388nm,20.3s,MS4.3							
WMQ				LR	LR		
comp=E,255nm,21.3s,MS4.3							
WMQ				LR	LR		
comp=Z,498nm,21.6s,MS4.4							
KURK	**Kurchatov**	**48.09**	**310**	P	**P**	**06 45 08.0**	**+1.7**
KURK				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.5							
KURK	**Kurchatov**	**48.09**	**310**	P	**P**	**06 45 08.0**	**+1.7**
comp=Z,3.4nm,0.6s,mb4.5							
SPU	**Mount Spurr**	**49.60**	**36**	P	**P**	**06 45 18.3**	**+0.4**
ILAR	**Eielson Array**	**52.02**	**31**	P	**P**	**06 45 35.6**	**-0.6**
ILAR				pmax	pmax		
comp=Z,5.0nm,0.8s							
ILAR	**Eielson Array**	**52.02**	**31**	P	**P**	**06 45 35.5**	**-0.7**
comp=Z,4.6nm,0.8s,mb4.5,baz=268,slow=6.3,SNR=28							
BVAR	**Borovoye Array**	**52.88**	**314**	P	**P**	**06 45 41.9**	**-0.9**
comp=Z,1.4nm,0.7s,mb4.0,baz=90,slow=7.4,SNR=4.0							
FITZ	**Fitzroy Crossi**	**53.94**	**199**	*e*P	**P**	**06 45 50.9**	**-0.1**
comp=Z,4.8nm,0.5s,mb4.7							
WRAB	**Tennant Creek**	**54.00**	**189**	*e*P	**P**	**06 45 49.7**	**-1.7**
WRAB				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.5							
WRAB	**Tennant Creek**	**54.00**	**189**	*e*P	**P**	**06 45 49.7**	**-1.7**
comp=Z,2.9nm,0.5s,mb4.5							
WB2	**Warramunga Arr**	**54.01**	**189**	*e*P	**P**	**06 45 50.4**	**-1.1**
WRA	**Warramunga Arr**	**54.01**	**189**	P	**P**	**06 45 50.4**	**-1.1**
WRA				pmax	pmax		

comp=Z,2.0nm,0.4s
WRA Warramunga Arr 54.01 189 P **P 06 45 50.4 -1.1**
comp=Z,1.8nm,0.4s,mb4.3,baz=2.9,slow=7.7,SNR=19
INK Inuvik 57.07 26 *eP* **P 06 46 12.5 -0.6**
INK pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 57.07 26 P **P 06 46 11.9 -1.1**
comp=Z,2.3nm,0.6s,mb4.4,baz=302,slow=5.9,SNR=8.7
INK Inuvik 57.07 26 *eP* **P 06 46 12.5 -0.6**
comp=Z,2.8nm,0.7s,mb4.4
ASAR Alice Springs 57.73 188 P **P 06 46 17.7 -0.6**
comp=Z,0.7nm,0.4s,mb4.0,baz=2.7,slow=6.7,SNR=11
MBWA Marble Bar 58.62 204 *eP* **P 06 46 23.9 -0.7**
comp=Z,3.0nm,0.7s,mb4.4
RES Resolute Bay 65.56 14 *eP* **P 06 47 08.9 -1.3**
YKA Yellowknife Ar 66.40 29 P **P 06 47 14.6 -1.0**
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 66.40 29 P **P 06 47 14.6 -1.0**
comp=Z,1.2nm,0.9s,mb3.9,baz=295,slow=6.4,SNR=9.6
ARCES ARCESS Array B 67.00 340 P **P 06 47 18.4 -1.0**
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 67.00 340 P **P 06 47 18.4 -1.0**
comp=Z,4.6nm,0.9s,mb4.5,baz=54,slow=10,SNR=4.0
FINES FINESS Array B 71.69 333 P **P 06 47 47.5 -0.8**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 71.69 333 P **P 06 47 47.5 -0.8**
comp=Z,2.2nm,0.6s,mb4.2,baz=34,slow=6.9,SNR=5.6
WDC Whiskeytown Da 72.77 53 P **P 06 47 56.1 +1.0**
KIV Kislovodsk 73.14 312 P **P 06 47 55.6 -1.6**
KIV Kislovodsk 73.14 312 P **P 06 47 55.6 -1.6**
BMO Blue Mountains 73.89 47 *eP* **P 06 48 02.4 +0.9**
comp=Z,6.9nm,1.2s,mb4.5
NVAR Mina Array Bea 76.68 53 P **P 06 48 19.3 +1.7**
comp=Z,0.8nm,0.5s,mb3.9,baz=275,slow=7.3,SNR=8.1
AKASG Malin Array Be 76.92 323 P **P 06 48 17.7 -0.9**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 76.92 323 P **P 06 48 17.7 -0.9**
comp=Z,2.8nm,0.7s,mb4.3,baz=48,slow=5.7,SNR=8.4
NB2 NORSAR Subarra 77.16 338 P **P 06 48 19.3 -0.4**
comp=Z,1.1nm,0.6s,mb4.0,baz=39,slow=5.6
NOA NORSAR Array B 77.16 338 P **P 06 48 19.6 -0.1**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 77.16 338 P **P 06 48 19.6 -0.1**
comp=Z,2.1nm,0.7s,mb4.2,baz=39,slow=5.7,SNR=6.3
HVU Hansel Valley 78.34 47 *eP* **P 06 48 28.7 +2.0**
PDAR Pinedale Array 79.69 45 P **P 06 48 34.9 +0.9**
comp=Z,1.7nm,0.6s,mb4.1,baz=276,slow=3.0,SNR=15
BRTR Keskin Array B 81.10 312 P **P 06 48 42.2 +0.6**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 81.10 312 P **P 06 48 42.2 +0.6**
comp=Z,1.8nm,0.9s,mb4.0,baz=108,slow=3.9,SNR=7.4
PV10 Paradox Valley 82.67 48 *eP* **P 06 48 51.6 +1.9**
PPT Papeete 83.03 116 *eLR* LR 06 48 47.4
comp=Z,34μm,23.2s,baz=317
TAOE Nuku Hiva Isla 85.19 104 *eLR* LR 06 49 54.1
baz=312
TUC Tucson 85.22 54 *eP* **P 06 49 04.5 +1.7**
comp=Z,1.2nm,0.8s,mb4.1
KHC Kasperske Hory 85.33 329 *eP* **P 06 49 02.5 -0.4**
GERES GERESS Array B 85.49 329 P **P 06 49 04.0 +0.3**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 85.49 329 P **P 06 49 04.0 +0.3**
comp=Z,1.1nm,0.6s,mb4.2,baz=18,slow=4.2,SNR=6.5
TXAR Lajitas Array 91.84 53 P **P 06 49 36.0 +1.7**
comp=Z,1.0nm,0.9s,mb4.1,baz=288,slow=1.9,SNR=5.5

*IDC **19** 06:42:13.8±0.6, 4.26N×96.76E, mb4.4/13, mb1 4.5/14, mb1mx4.4/18, mbtmp4.4/14, ML4.6/1, Error ellipse: s-maj=28.4km s-min=16.3km az=56.0*
*BJI **19** 06:42:18.5, 4.20N×96.80E, h30km, mB4.4, mb4.6, Ms4.6, Msz4.4*
*NEIC **19** 06:42:18.6±0.4, 4.24N×96.78E, h30km, mb4.6/16, Error ellipse: s-maj=13.0km s-min=8.3km az=54.0*
ISC 19 06:42:18.2±3.2,**4.26N**±0.07×**96.80E**±0.08,**h43**km±29km,
n45,σ1$12/41,**mb4.5**/29,**MS4.4**/1,**2D**,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.27**	**8**	Pn	**P**	**06 45 45.5**	**+6.0**
	0.9nm,0.3s,baz=196,slow=13,SNR=26						
CMAR				Lg		06 49 47.4	
	baz=201,slow=33,SNR=3.9						
PALK	**Pallekele**	**16.29**	**281**	*eP*	**P**	**06 46 05.6**	**0.0**
	36nm,0.9s						
VIS	**Vishakhapatnam**	**18.79**	**316**	*eP*	**P**	**06 46 36.2**	**-0.5**
	comp=Z,88nm,0.8s						
VIS				*eS*	**S**	**06 49 55.7**	**-5.5**
VIS				*e*		06 49 57.2	
	comp=N,60nm,0.8s						
VIS				*e*		06 49 57.3	
	comp=E,174nm,1.0s						
SHL	**Shillong**	**21.70**	**348**	*eP*	**P**	**06 47 08.5**	**+1.0**
HYB	**Hyderabad**	**22.15**	**308**	⇓*eP*	**P**	**06 47 13.0**	**+1.0**
	comp=E,80nm,1.0s,mb5.1						
HYB	**Hyderabad**	**22.15**	**308**	⇓*iP*	**P**	**06 47 13.0**	**+1.0**
LSA	**Lhasa**	**25.86**	**349**	P	**P**	**06 47 48.0**	**+0.1**
LSA	**Lhasa**	**25.86**	**349**	*eP*	**P**	**06 47 48.0**	**+0.2**
	comp=E,8.8nm,0.5s,mb4.5						
ENH	**Enshi**	**28.52**	**23**	P	**P**	**06 48 12.4**	**+0.4**
	comp=E,7.2nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**36.09**	**129**	*eP*	**P**	**06 49 18.7**	**+0.5**
	comp=E,7.1nm,0.6s,mb4.8						
BJT	**Baijiatuau**	**39.67**	**24**	P	**P**	**06 49 49.5**	**+1.7**
	comp=E,10nm,0.8s,mb4.6						
WMQ	**Urumqi**	**40.21**	**350**	*eP*	**P**	**06 49 53.6**	**+1.3**
WMQ				AP	pP	06 50 05.8	+1.8
WMQ				XP	sP	06 50 11.3	+2.0
WMQ				PP	PP	06 51 30.8	+2.1
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,23nm,5.0s						
WMQ				LR	LR		
	comp=N,412nm,19.7s,MS4.4						
WMQ				LR	LR		
	comp=E,352nm,20.4s,MS4.4						
WMQ				LR	LR		
	comp=Z,521nm,20.5s,MS4.4						
NWAO	**Narrogin (SRO)**	**41.75**	**154**	P	**P**	**06 50 05.8**	**+0.6**
	comp=Z,9.9nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**44.04**	**124**	P	**P**	**06 50 23.3**	**-0.7**
	comp=Z,19nm,0.5s,mb5.1,baz=302,slow=9.3,SNR=48						
WRAB	**Tennant Creek**	**44.04**	**124**	*eP*	**P**	**06 50 23.2**	**-0.8**
	comp=Z,38nm,0.6s,mb5.3						
WRAB				*ep*P	pP	06 50 36.2	+0.3
WB2	**Warramunga Arr**	**44.05**	**124**	*eP*	**P**	**06 50 23.2**	**-0.8**
SONM	**Songino Array**	**44.19**	**9**	P	**P**	**06 50 26.2**	**+1.4**
	comp=Z,2.4nm,0.6s,mb4.1,baz=189,slow=8.7,SNR=19						
SONM				PcP	PcP	06 52 09.5	-0.1
	comp=Z,0.8nm,0.5s,baz=180,slow=2.5,SNR=4.3						
ULN	**Ulaanbaatar**	**44.33**	**10**	*eP*	**P**	**06 50 26.2**	**+0.3**
	comp=Z,1.5nm,0.6s,mb3.9						
ASAR	**Alice Springs**	**45.59**	**129**	P	**P**	**06 50 35.5**	**-0.9**
	comp=Z,2.1nm,0.6s,mb4.3,baz=300,slow=8.0,SNR=15						
TLY	**Talaya**	**47.61**	**6**	P	**P**	**06 50 53.7**	**+1.9**
	comp=Z,3.3nm,0.8s,mb4.4						
KURK	**Kurchatov**	**48.75**	**345**	P	**P**	**06 50 59.9**	**-0.8**
	comp=Z,2.2nm,0.4s,mb4.5						
MDJ	**Mudanjiang**	**49.43**	**31**	P	**P**	**06 51 04.0**	**-2.1**
ZAL	**Zalesovo**	**50.48**	**351**	P	**P**	**06 51 12.7**	**-1.4**
	comp=Z,1.0nm,0.6s,mb4.0,baz=309,slow=10,SNR=2.8						
BVAR	**Borovoye Array**	**53.25**	**340**	P	**P**	**06 51 33.0**	**-1.7**
	comp=Z,2.9nm,0.7s,mb4.3,baz=135,slow=8.4,SNR=10						
BRVK	**Borovoye**	**53.31**	**340**	*eP*	**P**	**06 51 33.8**	**-1.4**
	comp=Z,3.0nm,0.6s,mb4.4						
KMBO	**Kilima Mbogo**	**59.74**	**266**	P	**P**	**06 52 21.9**	**+0.3**
	comp=Z,2.6nm,0.8s,mb4.3,baz=61,slow=7.8,SNR=6.6						
KIV	**Kislovodsk**	**61.75**	**318**	*eP*	**P**	**06 52 32.6**	**-2.3**
	comp=Z,10.0nm,0.8s,mb5.0						
BRTR	**Keskin Array B**	**66.78**	**312**	P	**P**	**06 53 06.4**	**-1.2**
	comp=Z,6.2nm,0.7s,mb4.8,baz=127,slow=7.2,SNR=41						
AKASG	**Malin Array Be**	**72.61**	**322**	P	**P**	**06 53 41.6**	**-1.4**
	comp=Z,3.1nm,0.6s,mb4.4,baz=93,slow=4.1,SNR=12						
MAW	**Mawson**	**75.58**	**193**	P	**P**	**06 54 01.0**	**+1.0**
	comp=Z,6.6nm,0.7s,mb4.7,baz=359,slow=7.4,SNR=8.5						
BOSA	**Boshof**	**75.97**	**239**	P	**P**	**06 54 03.9**	**+0.9**
	comp=Z,2.9nm,0.8s,mb4.3						
FINES	**FINESS Array B**	**77.12**	**332**	P	**P**	**06 54 10.3**	**+1.5**
	comp=Z,2.9nm,0.9s,mb4.2,baz=90,slow=5.7,SNR=9.0						
FINES	**FINESS Array B**	**77.12**	**332**	P	**P**	**06 54 10.3**	**+1.5**
PSZ	**Piszkesteto**	**78.08**	**318**	*eP*	**P**	**06 54 13.1**	**-1.3**
	comp=Z,4.5nm,0.6s,mb4.6						
ARCES	**ARCESS Array B**	**79.54**	**340**	P	**P**	**06 54 22.7**	**+0.8**
	comp=Z,1.6nm,0.4s,mb4.3,baz=94,slow=5.5,SNR=31						
GERES	**GERESS Array B**	**82.27**	**319**	P	**P**	**06 54 37.2**	**+0.5**
	comp=Z,3.2nm,0.8s,mb4.3,baz=90,slow=6.7,SNR=11						
CLL	**Collm**	**82.81**	**321**	P	**P**	**06 54 44.0**	**+4.6**
NB2	**NORSAR Subarra**	**84.16**	**331**	P	**P**	**06 54 46.3**	**+0.3**
	comp=Z,0.9nm,0.7s,mb4.0,baz=95,slow=4.6						
NOA	**NORSAR Array B**	**84.16**	**331**	P	**P**	**06 54 46.0**	**0.0**
	comp=Z,1.8nm,0.8s,mb4.2,baz=94,slow=5.0,SNR=4.3						
SBA	**Scott Base**	**89.98**	**169**	*eP**	**P**	**06 55 15.0**	**+1.1**
	comp=Z,6.4nm,0.8s,mb5.0						
NVAR	**Mina Array Bea**	**126.52**	**34**	PKP	PKPdf	07 01 20.3	+2.9
	comp=Z,0.8nm,0.7s,baz=286,slow=1.2,SNR=5.9						
MNV	**Mina**	**126.61**	**34**	PKPdf	PKPdf	07 01 20.8	+3.2
PDAR	**Pinedale Array**	**127.46**	**24**	PKP	PKPdf	07 01 20.9	+1.9
	comp=Z,0.5nm,0.6s,baz=315,slow=1.3,SNR=3.7						
TXAR	**Lajitas Array**	**141.25**	**29**	PKP	PKPdf	07 01 45.3	+0.2
	comp=Z,0.3nm,0.5s,baz=51,slow=1.5,SNR=6.8						
PLCA	**Paso Flores**	**141.94**	**196**	PKP	PKPdf	07 01 45.5	-0.5
	comp=Z,1.6nm,0.8s,baz=163,slow=10,SNR=3.5						

*JMA **19** 06:44:53.8±0.4, 33.93N×141.90E, h22km, M4.2*
*BJI **19** 06:44:53.2, 34.24N×142.15E, h18km, mB4.1, mb4.2, Ms4.4, Msz4.3*
*NEIC **19** 06:44:55.7±0.4, 33.95N×141.74E, h10km, mb4.4/2, Error ellipse: s-maj=13.1km s-min=8.8km az=81.0*
*IDC **19** 06:44:59.2±4.1, 33.94N×141.62E, h36km±35km, mb3.8/14, mb1 4.1/16, mb1mx4.0/23, mbtmp4.1/16, ML4.1/2, Error ellipse: s-maj=20.3km s-min=17.6km az=95.0*
ISC 19 06:44:55.8±1.2,**33.94N**±0.04×**141.74E**±0.06,**h25**km±8km,
n45,σ0$92/55,**mb4.0**/17,**MS4.2**/1,**1C**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.95**	**319**	P	**Pb**	**06 45 12.8**	**-0.8**
BSO1				S	**Sb**	**06 45 27.2**	**+1.4**
BSO3	**Boso 3**	**1.33**	**311**	P	**Pn**	**06 45 19.3**	**+0.2**
BSO4	**Boso 4**	**1.56**	**313**	P	**Pn**	**06 45 22.7**	**+0.3**
JHJ2	**Mitsune**	**1.80**	**243**	P	**Pn**	**06 45 26.8**	**+0.9**
JHJ	**Hachijo jima 2**	**1.82**	**244**	Pn	**Pn**	**06 45 26.8**	**+0.6**
	105nm,0.3s,baz=273,slow=21,SNR=9.4						
JHJ				Sn	**Sn**	**06 45 48.9**	**+0.2**
	230nm,0.3s,baz=62,slow=21,SNR=6.8						
JIM2	**Oshima 3**	**2.06**	**293**	P	**Pn**	**06 45 29.0**	**-0.6**
JIZS	**Izushimoda**	**2.49**	**289**	P	**Pn**	**06 45 35.3**	**-0.4**
JOD2	**Odawara 2**	**2.55**	**302**	P	**Pn**	**06 45 36.1**	**-0.5**
JOD2				*eS*	**Sn**	**06 46 08.6**	**+1.4**
JYN	**Shimob**	**3.06**	**302**	P	**Pn**	**06 45 43.3**	**-0.5**
JAG	**Ashikaga**	**3.11**	**324**	⇑P	**Pn**	**06 45 44.0**	**-0.5**
JAG				*eS*	**Sn**	**06 46 19.8**	**-1.5**
JRY	**Ryogami san**	**3.12**	**313**	P	**Pn**	**06 45 44.7**	**0.0**
JRY				*eS*	**Sn**	**06 46 21.2**	**-0.3**
SHZ3	**Shizuoka 3**	**3.12**	**292**	P	**Pn**	**06 45 45.8**	**+1.1**
TK04	**Tokai 4**	**3.23**	**279**	P	**Pn**	**06 45 46.9**	**+0.6**
MAJO	**Matsushiro**	**3.89**	**313**	*eP*	**Pn**	**06 45 55.6**	**0.0**
MAT	**Matsushiro**	**3.89**	**313**	*eP*	**Pn**	**06 45 56.0**	**+0.4**
MAT				*eS*	**Sn**	**06 46 40.0**	**-1.0**
MAT	**Matsushiro**	**3.89**	**313**	P	**Pn**	**06 45 55.6**	**0.0**
MAT				S	**Sn**	**06 46 39.9**	**-1.1**
CBIJ	**Chichi jima**	**6.83**	**177**	Pn	**Pn**	**06 46 35.4**	**-1.8**
	14nm,0.3s,baz=278,slow=22,SNR=7.8						
CBIJ				Sn	**Sn**	**06 47 49.6**	**-5.3**
	5.9nm,0.3s,baz=300,slow=23,SNR=2.9						
ASAJ	**Asahikawa**	**10.19**	**4**	Pn	**P**	**06 47 18.1**	**-5.6**
	1.8nm,0.3s,baz=197,slow=9.8,SNR=6.9						
ASAJ				Sn	**S**	**06 49 08.3**	**-10**
	0.6nm,0.3s,baz=215,slow=31,SNR=2.9						
YSS	**Yuzh-Sakhalins**	**13.03**	**3**	P	**P**	**06 47 56.4**	**-5.7**
MDJ	**Mudanjiang**	**14.20**	**322**	P	**P**	**06 48 13.8**	**-3.7**
SONM	**Songino Array**	**29.82**	**308**	P	**P**	**06 51 02.9**	**-0.2**
	0.9nm,0.6s,mb3.7,baz=112,slow=9.0,SNR=3.2						
WMQ	**Urumqi**	**42.54**	**300**	*eP*	**P**	**06 52 51.4**	**+0.4**
WMQ				AP	pP	06 52 55.9	-2.6
WMQ				XP	sP	06 52 58.4	-3.2
WMQ				PP	PP	06 54 32.9	+0.5
WMQ				S	**S**	**06 59 12.8**	**+1.2**
WMQ				AMB	AMB		
	comp=Z,3.0nm,1.5s,mb3.8						
WMQ				AMB	AMB		
	comp=Z,15nm,5.2s						
WMQ				LR	LR		
	comp=N,216nm,20.4s,MS4.2						
WMQ				LR	LR		
	comp=E,287nm,21.5s,MS4.2						
WMQ				LR	LR		
	comp=Z,397nm,21.7s,MS4.3						
COLA	**College**	**51.58**	**31**	*eP*	**P**	**06 54 02.1**	**+0.4**
ILAR	**Eielson Array**	**51.99**	**31**	P	**P**	**06 54 04.5**	**-0.3**
	comp=Z,2.2nm,0.7s,mb4.2,baz=261,slow=5.8,SNR=33						
BVAR	**Borovoye Array**	**52.88**	**314**	P	**P**	**06 54 11.3**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=126,slow=12,SNR=3.4						
FITZ	**Fitzroy Crossi**	**53.97**	**199**	*eP*	**P**	**06 54 20.0**	**-0.1**
	comp=Z,2.5nm,0.4s,mb4.5						
WRAB	**Tennant Creek**	**54.03**	**189**	*eP*	**P**	**06 54 20.6**	**+0.1**
	comp=Z,5.5nm,1.0s,mb4.4						
WB2	**Warramunga Arr**	**54.04**	**189**	*eP*	**P**	**06 54 20.3**	**-0.3**
WRA	**Warramunga Arr**	**54.04**	**189**	P	**P**	**06 54 19.7**	**-0.9**
	comp=Z,1.1nm,0.4s,mb4.2,baz=4.4,slow=7.5,SNR=20						
INK	**Inuvik**	**57.03**	**26**	P	**P**	**06 54 41.0**	**-0.7**
	comp=Z,1.3nm,0.5s,mb4.2,baz=288,slow=1.9,SNR=9.0						
INK	**Inuvik**	**57.03**	**26**	*eP*	**P**	**06 54 41.0**	**-0.7**
	comp=Z,1.5nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**57.76**	**188**	P	**P**	**06 54 46.6**	**-0.8**
	comp=Z,0.4nm,0.5s,mb3.7,baz=1.8,slow=6.4,SNR=8.4						
ASPA	**Alice Springs**	**57.77**	**188**	*eP*	**P**	**06 54 49.0**	**+1.6**
MBWA	**Marble Bar**	**58.66**	**204**	P	**P**	**06 54 52.6**	**-1.1**
RES	**Resolute Bay**	**65.53**	**14**	*eP*	**P**	**06 55 38.0**	**-0.8**
YKA	**Yellowknife Ar**	**66.36**	**30**	P	**P**	**06 55 43.8**	**-0.4**
	comp=Z,0.3nm,0.6s,mb3.5,baz=298,slow=6.3,SNR=11						
FINES	**FINESS Array B**	**71.68**	**333**	P	**P**	**06 56 15.6**	**-1.6**
	comp=Z,6.8nm,1.2s,mb4.5,baz=37,slow=6.9,SNR=3.5						
NVAR	**Mina Array Bea**	**76.64**	**53**	P	**P**	**06 56 48.1**	**+1.9**
	comp=Z,0.9nm,0.7s,mb3.8,baz=290,slow=5.0,SNR=9.4						
NB2	**NORSAR Subarra**	**77.14**	**338**	P	**P**	**06 56 48.1**	**-0.4**
	comp=Z,0.2nm,0.6s,mb3.2,baz=46,slow=5.8						
NOA	**NORSAR Array B**	**77.14**	**338**	P	**P**	**06 56 48.5**	**-0.1**
	comp=Z,1.6nm,0.7s,mb4.0,baz=40,slow=5.7,SNR=5.0						
PDAR	**Pinedale Array**	**79.66**	**45**	P	**P**	**06 57 04.2**	**+1.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=258,slow=2.6,SNR=12						
BRTR	**Keskin Array B**	**81.11**	**312**	P	**P**	**06 57 10.3**	**-0.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=127,slow=6.2,SNR=4.0						
PV10	**Paradox Valley**	**82.62**	**48**	*eP*	**P**	**06 57 20.9**	**+2.6**
GERES	**GERESS Array B**	**85.48**	**329**	P	**P**	**06 57 32.5**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.8,baz=45,slow=5.6,SNR=3.2						
TXAR	**Lajitas Array**	**91.80**	**53**	P	**P**	**06 58 04.6**	**+1.6**
	comp=Z,0.4nm,0.7s,mb3.9,baz=306,slow=2.2,SNR=5.5						

*IDC **19** 06:46:55.4±0.7, 33.95N×141.78E, mb3.8/12, mb1 4.1/13, mb1mx4.0/21, mbtmp3.8/13, ML4.0/1, Error ellipse: s-maj=22.1km s-min=16.6km az=118.0*
*JMA **19** 06:46:56.0±0.4, 34.08N×141.81E, h22km, M4.2*
ISC 19 06:46:56.7±0.6,**34.03N**±0.05×**141.79E**±0.06,**h22**km,**n23**,
σ1$27/29,**mb3.6**/12,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.89**	**242**	P	**Pn**	**06 47 28.4**	**+0.2**
JHJ2				S	**Sn**	**06 47 52.6**	**+1.1**
JHJ	**Hachijo jima 2**	**1.91**	**242**	Pn	**Pn**	**06 47 28.1**	**-0.4**
	138nm,0.3s,baz=79,slow=20,SNR=5.6						
JHJ				Sn	**Sn**	**06 47 52.1**	**0.0**
	226nm,0.3s,baz=70,slow=22,SNR=7.5						
JYN	**Shimob**	**3.05**	**300**	P	**Pn**	**06 47 45.9**	**+1.1**
JAG	**Ashikaga**	**3.06**	**322**	P	**Pn**	**06 47 43.8**	**-1.2**
JRY	**Ryogami san**	**3.09**	**311**	P	**Pn**	**06 47 45.2**	**-0.2**
MAT	**Matsushiro**	**3.86**	**312**	P	**Pn**	**06 47 56.3**	**0.0**
MAT				S	**Sn**	**06 48 39.7**	**-1.9**
MAT	**Matsushiro**	**3.86**	**312**	P	**Pn**	**06 47 56.7**	**+0.4**
MAT				*eS*	**Sn**	**06 48 41.1**	**-0.5**
JMM	**Marumori**	**3.92**	**348**	P	**Pn**	**06 47 54.9**	**-2.2**
JMM				S	**Sn**	**06 48 36.1**	**-6.8**
JIE	**Ise**	**4.23**	**276**	P	**Pn**	**06 48 01.6**	**0.0**
CBIJ	**Chichi jima**	**6.92**	**177**	Pn	**Pn**	**06 48 37.8**	**-1.8**
	8.9nm,0.3s,baz=262,slow=20,SNR=2.2						
CBIJ				Sn	**Sn**	**06 49 48.9**	**-10**
	10nm,0.3s,baz=296,slow=23,SNR=4.1						
ASAJ	**Asahikawa**	**10.09**	**3**	Sn	**S**	**06 51 03.8**	**-13**
	0.7nm,0.3s,baz=319,slow=26,SNR=2.2						
SONM	**Songino Array**	**29.80**	**308**	P	**P**	**06 53 05.8**	**+1.7**
	0.8nm,0.8s,mb3.5,baz=103,slow=8.8,SNR=2.6						
ZAL	**Zalesovo**	**44.22**	**315**	P	**P**	**06 55 07.3**	**+1.5**
	0.7nm,0.8s,mb3.4,baz=259,slow=0.8,SNR=3.8						
ILAR	**Eielson Array**	**51.88**	**31**	P	**P**	**06 56 03.6**	**-1.7**
	0.7nm,1.2s,mb3.5,baz=268,slow=5.6,SNR=4.1						
BVAR	**Borovoye Array**	**52.85**	**314**	P	**P**	**06 56 11.3**	**-1.5**
	0.8nm,0.8s,mb3.7,baz=117,slow=3.2,SNR=2.4						
WRA	**Warramunga Arr**	**54.14**	**189**	P	**P**	**06 56 21.2**	**-1.4**
	1.0nm,0.3s,mb4.2,baz=2.9,slow=7.7,SNR=17						
ASAR	**Alice Springs**	**57.86**	**189**	P	**P**	**06 56 48.4**	**-0.9**
	0.7nm,0.6s,mb3.9,baz=5.1,slow=6.8,SNR=4.2						
YKA	**Yellowknife Ar**	**66.26**	**30**	P	**P**	**06 57 45.1**	**+0.2**
	0.2nm,0.8s,mb3.2,baz=294,slow=6.2,SNR=4.1						
FINES	**FINESS Array B**	**71.62**	**333**	P	**P**	**06 58 18.9**	**+0.9**
	4.0nm,1.1s,mb4.3,baz=135,slow=2.7,SNR=3.5						
NVAR	**Mina Array Bea**	**76.55**	**53**	P	**P**	**06 58 49.4**	**+2.4**
	0.5nm,0.8s,mb3.5,baz=301,slow=5.3,SNR=3.6						
NOA	**NORSAR Array B**	**77.08**	**338**	P	**P**	**06 58 50.0**	**+0.6**
	0.8nm,0.6s,mb3.8,baz=40,slow=5.6,SNR=3.0						
PDAR	**Pinedale Array**	**79.56**	**45**	P	**P**	**06 59 05.5**	**+2.1**
	0.4nm,0.7s,mb3.5,baz=270,slow=1.5,SNR=4.1						
TXAR	**Lajitas Array**	**91.70**	**53**	P	**P**	**07 00 05.8**	**+1.9**
	0.2nm,0.9s,mb3.5,baz=297,slow=2.8,SNR=3.4						

*IDC **19** 06:52:05.4±1.0, 33.95N×141.74E, mb3.5/5, mb1 3.8/6, mb1mx3.7/20, mbtmp3.6/6, ML3.8/1, Error ellipse: s-maj=39.2km s-min=21.9km az=97.0*
ISC 19 06:52:06.5±5.1,**33.9N**±0.1×**141.6E**±0.2,**h21**km±39km,**n7**,
σ1$60/8,**mb3.5**/5,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**3.85**	**314**	P	**Pn**	**06 53 07.1**	**+1.1**
MAT				S	**Sn**	**06 53 50.0**	**-1.1**
CBIJ	**Chichi jima**	**6.79**	**176**	Pn	**Pn**	**06 53 46.8**	**-0.9**
	5.9nm,0.3s,baz=275,slow=22,SNR=3.3						
SONM	**Songino Array**	**29.77**	**309**	P	**P**	**06 58 14.6**	**+0.8**
	0.2nm,0.5s,mb3.1,baz=102,slow=8.6,SNR=2.8						
ILAR	**Eielson Array**	**52.07**	**31**	P	**P**	**07 01 15.4**	**-1.3**
	0.9nm,0.7s,mb3.8,baz=260,slow=6.1,SNR=9.4						
WRA	**Warramunga Arr**	**53.98**	**188**	P	**P**	**07 01 30.3**	**-1.1**
	0.3nm,0.3s,mb3.6,baz=2.5,slow=7.7,SNR=7.5						
ASAR	**Alice Springs**	**57.71**	**188**	P	**P**	**07 02 00.0**	**+1.8**
	0.3nm,0.8s,mb3.4,baz=0.5,slow=5.9,SNR=4.4						
PDAR	**Pinedale Array**	**79.75**	**45**	P	**P**	**07 04 15.2**	**+0.8**
	0.3nm,0.5s,mb3.4,baz=333,slow=2.0,SNR=3.7						

*IDC **19** 06:53:45.7±2.2, 33.97N×141.64E, mb3.6/7, mb1 3.9/7, mb1mx3.7/20, mbtmp3.6/7, Error ellipse: s-maj=175.9km s-min=21.2km az=110.0*
ISC 19 06:53:48.7±0.8,**34.0N**±0.1×**141.6E**±0.1,**h33**km,**n8**,
σ0$92/9,**mb3.6**/7,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**3.77**	**314**	P	**P**	**06 54 47.2**	**+1.3**
MAT				S	**S**	**06 55 29.1**	**-0.6**
ILAR	**Eielson Array**	**52.03**	**31**	P	**P**	**07 02 56.1**	**-0.6**
	0.7nm,0.7s,mb3.7,baz=260,slow=5.7,SNR=9.6						
WRA	**Warramunga Arr**	**54.05**	**188**	P	**P**	**07 03 10.8**	**-1.6**
	0.5nm,0.4s,mb3.8,baz=1.8,slow=7.6,SNR=3.6						
INK	**Inuvik**	**57.07**	**26**	P	**P**	**07 03 33.0**	**-0.6**
	0.8nm,0.8s,mb3.8,baz=202,slow=16,SNR=2.6						
ASAR	**Alice Springs**	**57.77**	**188**	P	**P**	**07 03 40.1**	**+1.0**
	0.2nm,0.4s,mb3.5,baz=278,slow=17,SNR=3.8						
YKA

1.8nm,1.0s,baz=295,slow=6.2,SNR=9.1
FINES FINESS Array B 72.13 333 P P 07 05 46.6 -2.2
3.0nm,0.8s,baz=27,slow=9.3,SNR=4.0
NVAR Mina Array Bea 76.87 53 P P 07 06 15.2 -1.2
1.4nm,0.9s,baz=286,slow=3.8,SNR=5.6
AKASG Malin Array Be 77.33 323 P P 07 06 17.0 -1.8
0.9nm,0.5s,baz=45,slow=5.9,SNR=5.9
PDAR Pinedale Array 79.93 45 P P 07 06 32.6 -0.5
0.8nm,0.7s,baz=315,slow=2.1,SNR=7.6
GERES GERESS Array B 85.92 329 P P 07 07 02.1 -1.6
1.2nm,0.8s,baz=45,slow=5.7,SNR=4.8

IDC 19 06:58:50.5±11.0, 7.36N×93.50E, mb3.6/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.5/18, Error ellipse: s-maj=385.2km s-min=32.8km az=71.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.80**	**13**	P	P	07 06 41.9	-1.6
	1.0nm,0.7s,baz=191,slow=8.2,SNR=5.4						
NWAO	**Narrogin (SRO)**	**45.98**	**152**	LR	LR	07 26 22.8	
	comp=Z,15nm,20.2s,baz=215,slow=36						
WRA	**Warramunga Arr**	**48.48**	**125**	P	P	07 07 35.3	-2.0
	0.5nm,0.4s,baz=304,slow=8.6,SNR=10.0						
ASAR	**Alice Springs**	**50.07**	**129**	P	P	07 07 47.5	-1.9
	0.4nm,0.8s,baz=303,slow=8.2,SNR=4.0						

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*JMA **19** 06:59:15.2±0.5, 33.92N×141.56E, h38km, M3.4*
*IDC **19** 06:59:19.0±3.3, 33.87N×141.50E, h56km±31km, mb3.3/6, mb1 3.6/7, mb1mx3.4/21, mbtmp3.7/7, ML3.9/1, Error ellipse: s-maj=25.6km s-min=20.7km az=86.0*
ISC 19 06:59:15.2±1.2, 33.92N±0.05×141.6E±0.1, h41km±12km, n17, σ0°75/21, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.90**	**325**	P	**P**	**06 59 31.3**	**-0.1**
BSO1				*eS*	**S**	**06 59 42.7**	**-0.7**
BSO3	**Boso 3**	**1.26**	**314**	P	**P**	**06 59 36.9**	**+0.3**
BSO4	**Boso 4**	**1.49**	**316**	P	**P**	**06 59 40.9**	**+0.9**
JHJ	**Hachijo jima 2**	**1.72**	**243**	P	**P**	**06 59 45.0**	**+1.8**
	136nm,0.3s,baz=83,slow=23,SNR=3.3						
JHJ				S	**S**	**07 00 04.3**	**+0.2**
	67nm,0.3s,baz=52,slow=19,SNR=4.6						
JIM2	**Oshima 3**	**1.97**	**294**	P	**P**	**06 59 46.1**	**-0.6**
JOD2	**Odawara 2**	**2.47**	**303**	P	**P**	**06 59 53.3**	**-0.6**
JYN	**Shimob**	**2.97**	**303**	P	**P**	**07 00 00.8**	**-0.3**
JRY	**Ryogami san**	**3.05**	**314**	P	**P**	**07 00 02.2**	**0.0**
JAG	**Ashikaga**	**3.06**	**325**	P	**P**	**07 00 01.5**	**-0.8**
MAT	**Matsushiro**	**3.82**	**314**	P	**P**	**07 00 13.6**	**+0.6**
MAT				S	**S**	**07 00 57.5**	**+0.2**
CBIJ	**Chichi jima**	**6.82**	**176**	P	**P**	**07 00 54.8**	**-0.6**
	7.3nm,0.3s,baz=288,slow=14,SNR=3.0						
CBIJ				S	**S**	**07 02 06.3**	**-6.2**
	6.7nm,0.3s,baz=96,slow=24,SNR=3.2						
ZAL	**Zalesovo**	**44.18**	**315**	P	**P**	**07 07 21.5**	**0.0**
	1.0nm,0.3s,mb4.0,baz=309,slow=5.9,SNR=4.3						
ILAR	**Eielson Array**	**52.05**	**31**	P	**P**	**07 08 22.8**	**+0.2**
	0.3nm,0.7s,mb3.3,baz=269,slow=5.5,SNR=5.4						
BVAR	**Borovoye Array**	**52.81**	**314**	P	**P**	**07 08 28.2**	**-0.2**
	0.9nm,0.8s,mb3.7,baz=63,slow=9.7,SNR=3.1						
WRA	**Warramunga Arr**	**54.01**	**188**	P	**P**	**07 08 36.9**	**-0.8**
	0.3nm,0.3s,mb3.6,baz=2.8,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**57.73**	**188**	P	**P**	**07 09 03.6**	**-0.9**
	0.3nm,0.5s,mb3.6,baz=3.7,slow=7.3,SNR=6.4						
PDAR	**Pinedale Array**	**79.74**	**45**	P	**P**	**07 11 22.3**	**+2.0**
	0.3nm,0.8s,mb3.3,baz=292,slow=4.9,SNR=2.1						

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*IDC **19** 07:08:10.8±1.8, 4.41N×95.23E, mb4.0/7, mb1 4.2/8, mb1mx4.0/19, mbtmp4.0/8, ML4.1/1, Error ellipse: s-maj=88.4km s-min=19.5km az=55.0*
*NEIC **19** 07:08:14.0±0.9, 4.09N×94.87E, h30km, mb4.4/2, Error ellipse: s-maj=32.3km s-min=12.7km az=62.0*
ISC 19 07:08:12.5±0.9, 4.1N±0.1×95.0E±0.2, h30km, n16, σ0°97/16, mb4.2/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.80**	**15**	Pn	**P**	**07 11 42.9**	**+1.0**
JIRN	**Jiri**	**24.88**	**341**	*eP*	**P**	**07 13 35.8**	**+1.5**
	23nm,0.7s,mb4.8						
KKN	**Kakani**	**25.30**	**340**	*eP*	**P**	**07 13 38.5**	**+0.2**
GKN	**Gorkha**	**25.72**	**339**	*eP*	**P**	**07 13 42.3**	**0.0**
KOLN	**Koldanda**	**25.91**	**336**	*eP*	**P**	**07 13 44.9**	**+0.9**
	7.9nm,0.6s,mb4.4						
SONM	**Songino Array**	**44.68**	**11**	P	**P**	**07 16 22.7**	**-1.8**
	0.2nm,0.4s,mb3.3,baz=193,slow=8.1,SNR=4.3						
WRA	**Warramunga Arr**	**45.48**	**123**	P	**P**	**07 16 31.6**	**+0.3**
	2.5nm,0.7s,mb4.1,baz=302,slow=9.3,SNR=24						
WRAB	**Tennant Creek**	**45.49**	**123**	*eP*	**P**	**07 16 31.1**	**-0.2**
	4.5nm,0.7s,mb4.4						
ASAR	**Alice Springs**	**46.93**	**128**	P	**P**	**07 16 43.2**	**+0.5**
	1.1nm,0.4s,mb4.1,baz=297,slow=8.0,SNR=17						
ZAL	**Zalesovo**	**50.38**	**352**	P	**P**	**07 17 06.5**	**-2.5**
	0.8nm,0.3s,mb4.2,baz=333,slow=0.6,SNR=5.6						
BVAR	**Borovoye Array**	**52.80**	**342**	P	**P**	**07 17 26.8**	**-0.5**
	2.5nm,0.6s,mb4.4,baz=144,slow=9.2,SNR=22						
BRVK	**Borovoye**	**52.86**	**342**	*eP*	**P**	**07 17 27.0**	**-0.8**
	2.6nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**76.41**	**333**	P	**P**	**07 20 00.8**	**+0.1**
	2.3nm,0.9s,mb4.1,baz=90,slow=3.8,SNR=5.4						
FINES	**FINESS Array B**	**76.41**	**333**	P	**P**	**07 20 00.8**	**+0.1**
ARCES	**ARCESS Array B**	**79.07**	**340**	P	**P**	**07 20 15.8**	**+0.5**
	1.5nm,0.8s,mb4.0,baz=72,slow=7.7,SNR=5.4						
ARCES	**ARCESS Array B**	**79.07**	**340**	P	**P**	**07 20 15.8**	**+0.5**

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*CSEM **19** 07:09:02.5, 14.76N×44.05E, h8km, ML3.6, After DHMR*
DHMR 19 07:09:02.5±1.4, 14.76N×44.05E, h8km±10km, ML3.6, 5D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANA	**San'a**	**0.64**	**14**	⦚*eP*	Pg	07 09 14.6	-0.7
SANA				*i* S	Sg	07 09 23.8	-0.1
SANA				AML	AML	07 09 24.8	
	comp=N,3μm,0.2s						
UDYN	**Al 'Udayn**	**0.79**	**186**	⦚*iP*	Pb	07 09 17.8	-0.3
UDYN				*i* S	Sb	07 09 28.3	-0.4
UDYN				AML	AML	07 09 30.3	
	comp=N,2μm,0.5s						
LBOS		**1.46**	**127**	⦚*iP*	Pn	07 09 30.1	+0.8
LBOS				*i* S	Sb	07 09 50.6	+2.4
TRBA	**At Turbah**	**1.52**	**178**	⦚*eP*	Pn	07 09 30.4	+0.2
TRBA				*i* S	Sb	07 09 52.0	+2.1
TRBA				AML	AML	07 09 56.8	
	comp=N,698nm,0.6s						
BDHA	**Al Bayda'**	**1.67**	**118**	⦚*iP*	Pn	07 09 33.7	+1.5
BDHA				*i* S	Sn	07 09 55.8	+1.8
BDHA				AML	AML	07 09 58.4	
	comp=N,1μm,0.3s						

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*NIED **19** 07:11:00, 34.00N×141.70E, h5km, Mw4.8 Best double couple: M0:1.75×10^16 NP1:φs349°, δ53°, λ76°. NP2:φs191°, δ40°, λ107°.*
*CSEM **19** 07:11:05.6, 34.03N×141.67E, h2km, mb6.0*
*JMA **19** 07:11:08.4±0.4, 33.95N×141.70E, h12km±3km, M4.3*
*BJI **19** 07:11:11.4, 33.98N×141.44E, h47km, mB5.0, mb4.7, Ms4.5, Msz4.5*
*MOS **19** 07:11:11.4±1.2, 33.99N×141.46E, h33km, mb4.8/23, Error ellipse: s-maj=14.6km s-min=7.5km az=110.1*
*IDC **19** 07:11:13.0±4.2, 33.93N×141.48E, h35km±34km, mb4.1/19, mb1 4.3/21, mb1mx4.3/25, mbtmp4.4/21, ML4.5/2, Error ellipse: s-maj=17.1km s-min=14.8km az=93.0*
*NEIC **19** 07:11:14.7±1.8, 33.98N×141.33E, h48km±16km, mb4.6/11, MW4.8(NIED), Error ellipse: s-maj=12.9km s-min=9.7km az=101.0*
ISC 19 07:11:09.6±1.2, 33.92N±0.04×141.64E±0.04, h26km±8km, n109, σ1°26/123, mb4.6/42, MS4.4/1, 6C-8D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.91**	**323**	P	**Pb**	**07 11 25.7**	**-1.0**
BSO3	**Boso 3**	**1.28**	**314**	P	**Pn**	**07 11 32.7**	**+0.7**
BSO3				*eS*	**Sn**	**07 11 55.2**	**+6.7**
BSO4	**Boso 4**	**1.51**	**315**	P	**Pn**	**07 11 36.7**	**+1.3**
KTR	**Katsuura**	**1.64**	**319**	P	**Pn**	**07 11 38.2**	**+1.0**
KTR				S	**Sn**	**07 11 59.8**	**+2.2**
JHJ2	**Mitsune**	**1.72**	**243**	P	**Pn**	**07 11 40.6**	**+2.2**
JHJ	**Hachijo jima 2**	**1.75**	**243**	Pn	**Pn**	**07 11 39.8**	**+1.1**
	248nm,0.3s,baz=247,slow=24,SNR=15						
JHJ				Sn	**Sn**	**07 12 02.6**	**+2.3**
	322nm,0.3s,baz=18,slow=23,SNR=8.4						
JIM2	**Oshima 3**	**1.99**	**294**	P	**Pn**	**07 11 42.5**	**+0.3**
JKO	**Kozu shima**	**2.09**	**278**	P	**Pn**	**07 11 44.4**	**+0.7**
JKO				S	**Sn**	**07 12 10.6**	**+1.5**
KTJJ	**Kamata 2**	**2.35**	**296**	P	**Pn**	**07 11 47.0**	**-0.4**
KTJJ				S	**Sn**	**07 12 14.1**	**-1.6**
JIZS	**Izushimoda**	**2.42**	**290**	⦚P	**Pn**	**07 11 48.8**	**+0.5**
JIZS				S	**Sn**	**07 12 18.6**	**+1.2**
JOD2	**Odawara 2**	**2.49**	**303**	P	**Pn**	**07 11 48.9**	**-0.5**
MAJO	**Matsushiro**	**3.84**	**314**	*eP*	**Pn**	**07 12 08.7**	**+0.2**
MAT	**Matsushiro**	**3.84**	**314**	*eP*	**Pn**	**07 12 09.0**	**+0.5**
MAT				*eS*	**Sn**	**07 12 54.0**	**+0.7**
MAT	**Matsushiro**	**3.84**	**314**	P	**Pn**	**07 12 09.2**	**+0.7**
MAT				S	**Sn**	**07 12 54.3**	**+1.0**
CBIJ	**Chichi jima**	**6.82**	**176**	Pn	**Pn**	**07 12 49.5**	**-1.1**
	36nm,0.3s,baz=276,slow=22,SNR=16						
CBIJ				Sn	**Sn**	**07 14 01.2**	**-7.0**
	30nm,0.3s,baz=284,slow=22,SNR=4.7						
ASAJ	**Asahikawa**	**10.21**	**4**	P	**P**	**07 13 31.9**	**-5.7**
ASAJ						07 15 23.1	
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.21**	**4**	Pn	**P**	**07 13 31.9**	**-5.7**
	comp=N,3.7nm,0.3s,baz=230,slow=11,SNR=12						
ASAJ				Sn	**S**	**07 15 23.1**	**-9.1**
	comp=N,1.0nm,0.3s,baz=129,slow=33,SNR=7.1						
YSS	**Yuzh-Sakhalins**	**13.04**	**3**	*eP*	**P**	**07 14 12.0**	**-3.9**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**13.04**	**3**	*eP*	**P**	**07 14 12.6**	**-3.3**
	comp=Z,31nm,1.0s						
MDJ	**Mudanjiang**	**14.16**	**322**	P	**P**	**07 14 29.4**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,14nm,1.3s						
SSE	**Sheshan**	**17.48**	**266**	P	**P**	**07 15 11.6**	**-1.6**
SSE				S	**S**	**07 18 27.1**	**+2.1**
SSE				AMB	AMB		
	comp=Z,25nm,0.7s						
SSE				AMB	AMB		
	comp=Z,4μm,12.0s						
SSE				LR	LR		
	comp=N,2μm,17.5s						
SSE				LR	LR		
	comp=E,2μm,17.2s						
SSE				LR	LR		
	comp=Z,2μm,16.0s						
NJ2	**Nanjing**	**19.20**	**271**	*eP*	**P**	**07 15 30.1**	**-4.1**
NJ2				PP	PP	07 15 47.3	-3.9
NJ2				S	**S**	**07 19 02.0**	**-2.0**
NJ2				AMB	AMB		
	comp=Z,520nm,6.5s						
NJ2				LR	LR		
	comp=N,500nm,12.4s						
NJ2				LR	LR		
	comp=E,320nm,14.0s						
NJ2				LR	LR		
	comp=Z,480nm,18.1s						
BJT	**Baijiatuau**	**21.20**	**294**	P	**P**	**07 15 50.6**	**-4.9**
HIA	**Hailar**	**22.31**	**320**	*eP*	**P**	**07 16 03.9**	**-2.6**
HIA				pmax	pmax		
	comp=Z,12nm,1.0s						
HIA	**Hailar**	**22.31**	**320**	*eP*	**P**	**07 16 03.9**	**-2.6**
	comp=Z,12nm,1.0s,mb4.3						
CLNS	**Chul'man**	**25.62**	**339**	*eP*	**P**	**07 16 37.2**	**-1.1**
CLNS				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.7						
CLNS				pmax	pmax		
	comp=N,14nm,1.3s						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.1s						
MA2	**Magadan**	**26.36**	**10**	*eP*	**P**	**07 16 44.9**	**-0.3**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.2						
XAN	**Xi'an**	**27.07**	**280**	P	**P**	**07 16 46.5**	**-5.4**
ENH	**Enshi**	**27.42**	**271**	*eP*	**P**	**07 16 51.9**	**-3.2**
	comp=Z,11nm,0.9s,mb4.4						
YAK	**Yakutsk**	**29.14**	**348**	⦚*eP*	**P**	**07 17 08.2**	**-2.2**
YAK				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.8						
ULN	**Ulaanbaatar**	**29.35**	**309**	*eP*	**P**	**07 17 12.8**	**+0.4**
ULN				*e*		07 17 26.9	
ULN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**29.35**	**309**	*eP*	**P**	**07 17 12.8**	**+0.5**
	comp=Z,9.1nm,0.9s,mb4.5						
ULN				*e*		07 17 26.9	
ULN				*e*		07 17 37.1	
SONM	**Songino Array**	**29.77**	**308**	P	**P**	**07 17 16.6**	**+0.4**
	comp=Z,5.3nm,1.0s,mb4.2,baz=113,slow=9.4,SNR=27						
BOD	**Bodaibo**	**30.29**	**331**	*eP*	**P**	**07 17 24.3**	**+3.7**
ZAK	**Zakamensk**	**32.42**	**312**	⦚*iP*	**P**	**07 17 39.1**	**-0.3**
TLY	**Talaya**	**32.58**	**315**	*eP*	**P**	**07 17 40.0**	**-0.7**
BILL	**Bilibino**	**36.97**	**15**	⦚*eP*	**P**	**07 18 17.5**	**-0.6**
BILL				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.4						
TIXI	**Tiksi**	**38.40**	**354**	⦚*eP*	**P**	**07 18 29.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**40.98**	**259**	*i P*	**P**	**07 18 51.4**	**-0.7**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**40.98**	**259**	P	**P**	**07 18 50.5**	**-1.6**
	comp=Z,2.3nm,0.8s,mb3.9,baz=46,slow=7.5,SNR=12						
WMQ	**Urumqi**	**42.48**	**300**	*eP*	**P**	**07 19 04.7**	**+0.6**
WMQ				AP	pP	07 19 17.0	+5.0
WMQ				XP	sP	07 19 22.4	+7.2
WMQ				PP	PP	07 20 46.1	+0.8
WMQ				S	**S**	**07 25 21.4**	**-2.7**
WMQ				XS		07 25 42.1	
WMQ				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.7						
WMQ				AMB	AMB		
	comp=Z,18nm,5.1s						
WMQ				LR	LR		
	comp=N,325nm,20.1s,MS4.4						
WMQ				LR	LR		
	comp=E,344nm,21.3s,MS4.4						
WMQ				LR	LR		
	comp=Z,483nm,20.4s,MS4.4						
ZAL	**Zalesovo**	**44.20**	**315**	*i P*	**P**	**07 19 17.4**	**-0.5**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAL	**Zalesovo**	**44.20**	**315**	P	**P**	**07 19 16.8**	**-1.2**
	comp=Z,2.5nm,0.6s,mb4.1,baz=11,slow=9.7,SNR=12						
JIRN	**Jiri**	**47.56**	**278**	*eP*	**P**	**07 19 44.4**	**-0.6**
	comp=Z,53nm,1.0s,mb5.5						
GUN	**Gumba**	**47.72**	**279**	*eP*	**P**	**07 19 45.7**	**-0.5**
KURK	**Kurchatov**	**48.04**	**310**	*eP*	**P**	**07 19 47.5**	**-0.9**
KURK				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
KURK	**Kurchatov**	**48.04**	**310**	*eP*	**P**	**07 19 47.5**	**-0.9**
	comp=Z,13nm,0.8s,mb5.0						
PKI	**Pulchoki**	**48.24**	**278**	*eP*	**P**	**07 19 49.0**	**-1.2**
	comp=Z,28nm,1.0s,mb5.2						
KKN	**Kakani**	**48.26**	**279**	*eP*	**P**	**07 19 49.4**	**-1.0**
	comp=Z,28nm,0.8s,mb5.3						
DMN	**Daman**	**48.47**	**279**	*eP*	**P**	**07 19 50.7**	**-1.3**
	comp=Z,4.9nm,0.2s,mb5.2						
GKN	**Gorkha**	**48.71**	**279**	*eP*	**P**	**07 19 52.5**	**-1.4**
	comp=Z,62nm,1.1s,mb5.5						
KOLN	**Koldanda**	**49.65**	**279**	*eP*	**P**	**07 19 59.7**	**-1.4**
	comp=Z,59nm,1.4s,mb5.4						
COLA	**College**	**51.63**	**31**	⦚*eP*	**P**	**07 20 18.2**	**+2.6**
ILAR	**Eielson Array**	**52.04**	**31**	P	**P**	**07 20 18.2**	**-0.6**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ILAR	**Eielson Array**	**52.04**	**31**	P	**P**	**07 20 18.1**	**-0.6**
	comp=Z,3.5nm,0.8s,mb4.3,baz=266,slow=6.0,SNR=18						
AAK	**Ala-Archa**	**52.18**	**301**	⦚*eP*	**P**	**07 20 17.7**	**-2.4**
BVAR	**Borovoye Array**	**52.83**	**314**	P	**P**	**07 20 24.4**	**-0.5**
	comp=Z,3.7nm,0.8s,mb4.4,baz=90,slow=7.4,SNR=22						
BRVK	**Borovoye**	**52.89**	**314**	*eP*	**P**	**07 20 24.5**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
BRVK	**Borovoye**	**52.89**	**314**	*eP*	**P**	**07 20 24.5**	**-0.8**
	comp=Z,9.3nm,1.1s,mb4.6						
FITZ	**Fitzroy Crossi**	**53.94**	**199**	*eP*	**P**	**07 20 33.4**	**0.0**
	comp=Z,8.5nm,0.5s,mb4.9						
WRAB	**Tennant Creek**	**54.00**	**188**	⦚*eP*	**P**	**07 20 34.2**	**+0.3**
WB2	**Warramunga Arr**	**54.01**	**188**	*eP*	**P**	**07 20 33.2**	**-0.7**
WRA	**Warramunga Arr**	**54.01**	**188**	P	**P**	**07 20 33.1**	**-0.8**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WRA	**Warramunga Arr**	**54.01**	**188**	P	**P**	**07 20 33.1**	**-0.9**
	comp=Z,2.9nm,0.5s,mb4.5,baz=2.5,slow=7.6,SNR=24						
NDI	**New Delhi**	**54.50**	**283**	*e*	**P**	**07 20 34.0**	**-3.5**
INK	**Inuvik**	**57.08**	**26**	*eP*	**P**	**07 20 55.2**	**-0.3**
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
INK	**Inuvik**	**57.08**	**26**	P	**P**	**07 20 56.0**	**+0.5**
	comp=Z,2.3nm,0.8s,mb4.3,baz=268,slow=11,SNR=7.3						
INK	**Inuvik**	**57.08**	**26**	*eP*	**P**	**07 20 55.2**	**-0.3**
	comp=Z,2.8nm,0.9s,mb4.3						
ASAR	**Alice Springs**	**57.74**	**188**	P	**P**	**07 21 00.5**	**-0.3**
	comp=Z,1.6nm,0.5s,mb4.3,baz=4.1,slow=7.5,SNR=28						
ASPA	**Alice Springs**	**57.74**	**188**	*eP*	**P**	**07 21 03.4**	**+2.6**
HYB	**Hyderabad**	**58.36**	**270**	*i P*	**P**	**07 21 04.0**	**-1.1**
MBWA	**Marble Bar**	**58.62**	**204**	*eP*	**P**	**07 21 06.3**	**-0.6**
ARU	**Arti**	**58.83**	**320**	⦚*iP*	**P**	**07 21 02.2**	**-5.7**
ARU				*e*		07 21 51.6	
ARU				*eS*	**S**	**07 29 04.8**	**-5.2**
ARU				*e*		07 30 50.7	
ARU				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
RES	**Resolute Bay**	**65.56**	**14**	*eP*	**P**	**07 21 52.0**	**-0.6**
RES				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
RES	**Resolute Bay**	**65.56**	**14**	*eP*	**P**	**07 21 52.0**	**-0.5**
	comp=Z,5.6nm,1.0s,mb4.5						
YKA	**Yellowknife Ar**	**66.41**	**29**	*i P*	**P**	**07 21 59.9**	**+1.8**
YKA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
YKA	**Yellowknife Ar**	**66.41**	**29**	P	**P**	**07 21 58.2**	**+0.1**
	comp=Z,1.6nm,1.1s,mb4.0,baz=297,slow=6.4,SNR=14						
YKA	**Yellowknife Ar**	**66.41**	**29**	P	**P**	**07 21 58.2**	**+0.1**
NWAO	**Narrogin (SRO)**	**70.35**	**202**	P	**P**	**07 22 23.9**	**+0.8**
NWAO				pmax	pmax		
	comp=Z,13nm,0.9s						
NWAO	**Narrogin (SRO)**	**70.35**	**202**	P	**P**	**07 22 23.9**	**+0.8**
	comp=Z,13nm,0.9s,mb4.9,baz=44,slow=5.1,SNR=6.0						
OBN	**Obninsk**	**70.70**	**324**	⦚*eP*	**P**	**07 22 21.5**	**-3.4**
OBN				pmax	pmax		
	comp=Z,10.0nm,0.3s,mb5.2						
FINES	**FINESS Array B**	**71.65**	**333**	P	**P**	**07 22 30.2**	**-0.3**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES	**FINESS Array B**	**71.65**	**333**	P	**P**	**07 22 30.2**	**-0.3**
	comp=Z,5.3nm,0.8s,mb4.5,baz=67,slow=11,SNR=9.1						
EDM	**Edmonton**	**71.68**	**38**	*eP*	**P**	**07 22 32.4**	**+1.6**
KIV	**Kislovodsk**	**73.10**	**312**	⦚*eP*	**P**	**07 22 39.9**	**+0.6**
KIV				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
KIV	**Kislovodsk**	**73.10**	**312**	*eP*	**P**	**07 22 39.2**	**-0.1**
	comp=Z,22nm,1.0s,mb5.0						
GNI	**Garni**	**73.73**	**308**	⦚*eP*	**P**	**07 22 43.6**	**+0.6**
GNI				pmax	pmax		
	comp=Z,13nm,1.5s						
GNI	**Garni**	**73.73**	**308**	P	**P**	**07 22 43.0**	**0.0**
	comp=Z,3.0nm,0.6s,mb4.4,baz=127,slow=19,SNR=3.5						
BMO	**Blue Mountains**	**73.92**	**47**	*eP*	**P**	**07 22 45.3**	**+1.3**
	comp=Z,3.4nm,1.0s,mb4.2						
BMO				*e*		07 23 03.4	
NVAR	**Mina Array Bea**	**76.72**	**53**	P	**P**	**07 23 02.6**	**+2.5**
	comp=Z,1.4nm,0.8s,mb4.0,baz=275,slow=7.5,SNR=11						
AKASG	**Malin Array Be**	**76.88**	**323**	P	**P**	**07 23 00.3**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,12nm,1.1s						
AKASG	**Malin Array Be**	**76.88**	**323**	P	**P**	**07 23 00.3**	**-0.4**
	comp=Z,12nm,1.1s,mb4.7,baz=46,slow=5.9,SNR=14						
NB2	**NORSAR Subarra**	**77.12**	**338**	P	**P**	**07 23 01.8**	**-0.1**
	comp=Z,8.9nm,1.2s,mb4.6,baz=40,slow=5.6						
NB2	**NORSAR Subarra**	**77.12**	**338**	P	**P**	**07 23 01.8**	**-0.1**
NB2				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
NOA	**NORSAR Array B**	**77.12**	**338**	P	**P**	**07 23 02.4**	**+0.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**77.12**	**338**	P	**P**	**07 23 02.4**	**+0.4**
	comp=Z,2.2nm,0.7s,mb4.2,baz=40,slow=5.7,SNR=5.4						
PDAR	**Pinedale Array**	**79.72**	**45**	P	**P**	**07 23 17.9**	**+1.3**
	comp=Z,1.2nm,0.7s,mb3.9,baz=302,slow=5.1,SNR=10						
DAU	**Daniels Canyon**	**80.10**	**48**	*eP*	**P**	**07 23 21.0**	**+2.4**
BRTR	**Keskin Array B**	**81.06**	**312**	P	**P**	**07 23 24.8**	**+1.1**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRTR	**Keskin Array B**	**81.06**	**312**	P	**P**	**07 23 24.8**	**+1.1**
	comp=Z,4.6nm,0.9s,mb4.4,baz=108,slow=3.9,SNR=23						
PSZ	**Piszkesteto**	**83.30**	**325**	*eP*	**P**	**07 23 36.2**	**+1.1**
CLL	**Collm**	**83.89**	**330**	⦚*iP*	**P**	**07 23 38.1**	**+0.1**
CLL	**Collm**	**83.89**	**330**	⦚P	**P**	**07 23 38.1**	**+0.1**
TUC	**Tucson**	**85.25**	**54**	P	**P**	**07 23 48.6**	**+3.3**
GERES	**GERESS Array B**	**85.45**	**328**	P	**P**	**07 23 46.3**	**+0.4**
GERES				pmax	pmax		
	comp=Z,3.0nm,1.1s	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.00**	**326**	P	**Pb**	**07 27 36.3**	**-0.6**
BSO3	**Boso 3**	**1.36**	**316**	P	**Pn**	**07 27 42.4**	**-0.1**
BSO4	**Boso 4**	**1.60**	**317**	P	**Pn**	**07 27 46.1**	**+0.3**
JHJ	**Hachijo jima 2**	**1.71**	**246**	Pn	**Pn**	**07 27 55.6**	**+8.1**
	90nm,0.3s,baz=86,slow=23,SNR=12						
JIM2	**Oshima 3**	**2.05**	**297**	P	**Pn**	**07 27 52.8**	**+0.5**
JIM2				*eS*	**Sn**	**07 28 17.4**	**-0.1**
JIZS	**Izushimoda**	**2.47**	**292**	P	**Pn**	**07 27 59.0**	**+0.7**
JOD2	**Odawara 2**	**2.56**	**305**	P	**Pn**	**07 27 58.8**	**-0.9**
JOD2				*eS*	**Sn**	**07 28 30.3**	**-0.3**
JYN	**Shimob**	**3.06**	**304**	P	**Pn**	**07 28 08.1**	**+1.3**
JRY	**Ryogami san**	**3.15**	**315**	P	**Pn**	**07 28 08.2**	**+0.2**
JAG	**Ashikaga**	**3.17**	**326**	P	**Pn**	**07 28 07.3**	**-0.9**
MAT	**Matsushiro**	**3.92**	**315**	P	**Pn**	**07 28 19.9**	**+1.0**
MAT				S	**Sn**	**07 29 04.2**	**-0.7**
CBIJ	**Chichi jima**	**6.72**	**176**	Pn	**Pn**	**07 29 05.3**	**+6.9**
	6.0nm,0.3s,baz=312,slow=23,SNR=4.7						
CBIJ				Sn	**Sn**	**07 30 14.3**	**-0.8**
	7.5nm,0.3s,baz=290,slow=16,SNR=2.8						
SONM	**Songino Array**	**29.84**	**309**	P	**P**	**07 33 26.1**	**-0.3**
	0.6nm,1.0s,mb3.3,baz=114,slow=8.7,SNR=3.0						
ZAL	**Zalesovo**	**44.28**	**315**	P	**P**	**07 35 33.1**	**+5.0**
	1.0nm,1.0s,mb3.5,baz=158,slow=23,SNR=3.5						
WRA	**Warramunga Arr**	**53.91**	**189**	P	**P**	**07 36 43.0**	**+0.2**
	0.4nm,0.5s,mb3.6,baz=1.9,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**57.64**	**188**	P	**P**	**07 37 10.3**	**+0.7**
	0.2nm,0.5s,mb3.4,baz=359,slow=6.9,SNR=5.6						

*IDC **19** 07:42:55.8±1.1, 0.01N×127.72E, mb4.1/6, mb1 4.3/6, mb1mx4.0/16, mbtmp4.2/6, Error ellipse: s-maj=114.6km s-min=17.6km az=69.0*
*BJI **19** 07:42:57.3, 0.10S×127.40E, h10km, mb4.8*
*NEIC **19** 07:42:57.4±0.5, 0.10S×127.42E, h10km, mb4.3/5, Error ellipse: s-maj=31.5km s-min=7.9km az=73.0*

ISC 19 07:42:58.9±0.7, 0.11S±0.10×127.6E±0.2, h33km, n20, σ1§13/20, mb4.4/11, 2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.98**	**186**	*eP*	**P**	**07 47 07.9**	**-0.2**
	7.2nm,0.8s						
WRAB	**Tennant Creek**	**20.77**	**162**	*eP*	**P**	**07 47 39.0**	**-0.7**
	11nm,0.8s						
WRA	**Warramunga Arr**	**20.78**	**162**	P	**P**	**07 47 38.8**	**-0.9**
	4.9nm,0.7s,baz=343,slow=11,SNR=25						
WB2	**Warramunga Arr**	**20.78**	**162**	⇓*iP*	**P**	**07 47 39.4**	**-0.4**
MBWA	**Marble Bar**	**22.29**	**200**	*eP*	**P**	**07 47 54.3**	**-0.6**
	7.7nm,0.9s,mb4.1						
ASAR	**Alice Springs**	**24.19**	**166**	P	**P**	**07 48 15.9**	**+2.2**
	3.4nm,0.6s,mb3.9,baz=344,slow=9.6,SNR=26						
ASPA	**Alice Springs**	**24.19**	**166**	*eP*	**P**	**07 48 15.9**	**+2.2**
STKA	**Stephens Creek**	**34.25**	**159**	P	**P**	**07 49 43.8**	**-0.2**
	7.9nm,0.8s,mb4.7,baz=341,slow=8.8,SNR=11						
XAN	**Xi'an**	**38.23**	**335**	P	**P**	**07 50 19.0**	**+1.3**
LZH	**Lanzhou**	**42.26**	**331**	⇓P	**P**	**07 50 53.8**	**+2.8**
LZH				AMB	AMB		
	comp=Z,35nm,1.3s,mb4.8						
JIRN	**Jiri**	**48.38**	**308**	*eP*	**P**	**07 51 40.8**	**+0.8**
	comp=Z,7.3nm,0.6s,mb4.9						
KKN	**Kakani**	**49.16**	**308**	*eP*	**P**	**07 51 46.8**	**+0.9**
DMN	**Daman**	**49.21**	**308**	*eP*	**P**	**07 51 46.9**	**+0.5**
GKN	**Gorkha**	**49.76**	**308**	*eP*	**P**	**07 51 50.1**	**-0.5**
KOLN	**Koldanda**	**50.48**	**307**	*eP*	**P**	**07 51 55.5**	**-0.6**
	comp=Z,16nm,0.9s,mb5.0						
SONM	**Songino Array**	**51.20**	**342**	P	**P**	**07 52 01.5**	**+0.2**
	comp=Z,1.4nm,0.9s,mb3.9,baz=162,slow=7.9,SNR=9.2						
ZAL	**Zalesovo**	**64.40**	**334**	P	**P**	**07 53 32.8**	**-1.2**
	comp=Z,0.9nm,0.5s,mb4.1,baz=40,slow=5.9,SNR=5.6						
KURK	**Kurchatov**	**65.44**	**328**	*eP*	**P**	**07 53 38.9**	**-1.8**
	comp=Z,3.1nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**71.01**	**328**	P	**P**	**07 54 14.4**	**-0.9**
	comp=Z,1.8nm,0.9s,mb4.0,baz=104,slow=6.1,SNR=6.6						
BRVK	**Borovoye**	**71.08**	**328**	*eP*	**P**	**07 54 14.8**	**-1.0**
	comp=Z,2.1nm,0.8s,mb4.1						

*MOS **19** 07:53:07.1±1.0, 25.36N×126.80E, h33km, mb4.8/11, Error ellipse: s-maj=21.8km s-min=12.3km az=108.1*
*JMA **19** 07:53:09.8±0.2, 25.62N×126.70E, h72km±5km, M4.5*
JMA Felt I J1.
*BJI **19** 07:53:10.8, 25.45N×126.71E, h51km, mB4.5, mb4.5*
*IDC **19** 07:53:10.3±3.0, 25.53N×126.73E, h42km±28km, mb4.0/16, mb1 4.2/16, mb1mx4.1/21, mbtmp4.2/16, Error ellipse: s-maj=21.6km s-min=13.8km az=73.0*
*NEIC **19** 07:53:11.6±1.0, 25.50N×126.80E, h56km±9km, mb4.5/8, Error ellipse: s-maj=9.2km s-min=6.5km az=83.0*
NEIC Recorded [1 JMA] on Kume-jima.

ISC 19 07:53:09.5±0.4, 25.49N±0.04×126.78E±0.04, h53km±4km, n66, σ1§00/80, mb4.4/28, 3C-4D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.83**	**1**	P	**P**	**07 53 25.0**	**-0.2**
JKE				S	**S**	**07 53 36.2**	**-0.7**
NAH1	**Naha**	**1.09**	**49**	P	**P**	**07 53 29.2**	**+0.4**
NAH1				*eS*	**S**	**07 53 43.6**	**+0.6**
JJT2	**Tamagusuku 2**	**1.09**	**53**	P	**P**	**07 53 29.6**	**+0.8**
JJT2				*eS*	**S**	**07 53 45.1**	**+2.0**
JAGN	**Aguni-jima**	**1.17**	**21**	P	**P**	**07 53 29.8**	**-0.1**
JAGN				*eS*	**S**	**07 53 45.7**	**+0.6**
JOGS	**Gusukube**	**1.44**	**240**	P	**P**	**07 53 34.9**	**+1.1**
JOGS				*eS*	**S**	**07 53 51.8**	**+0.1**
JIH	**Iheya**	**1.87**	**35**	P	**P**	**07 53 39.3**	**-0.5**
JIH				*eS*	**S**	**07 54 02.9**	**+0.6**
JOW	**Kunigami**	**1.90**	**45**	P	**P**	**07 53 40.2**	**+0.1**
	47nm,0.3s,baz=213,slow=13,SNR=55						
JOW	**Kunigami**	**1.90**	**45**	P	**P**	**07 53 40.1**	**-0.1**
JOW				*eS*	**S**	**07 54 02.6**	**-0.3**
JTJ	**Tarama**	**2.06**	**246**	P	**P**	**07 53 42.0**	**-0.5**
JTJ				*eS*	**S**	**07 54 06.9**	**-0.1**
JIJ	**Ishigaki jima**	**2.64**	**245**	P	**P**	**07 53 50.1**	**-0.6**
JIJ				*eS*	**S**	**07 54 22.6**	**+0.9**
JKRS	**Kuro-shima**	**2.81**	**244**	P	**P**	**07 53 50.5**	**-2.6**
IRIF	**Iriomote-Funau**	**3.00**	**248**	P	**P**	**07 53 56.6**	**+0.8**
JTK	**Tokunoshima**	**3.00**	**40**	P	**P**	**07 53 54.7**	**-1.2**
JTK				*eS*	**S**	**07 54 27.2**	**-3.6**
JAM	**Amami Oshima**	**3.85**	**40**	P	**P**	**07 54 06.1**	**-1.7**
JAM				*eS*	**S**	**07 54 47.9**	**-4.4**
JMZ	**Minamidaito 2**	**4.02**	**84**	P	**P**	**07 54 06.2**	**-4.0**
JMZ				*eS*	**S**	**07 54 49.3**	**-7.3**
TATO	**Taipei**	**4.82**	**265**	*eP*	**P**	**07 54 22.6**	**+1.2**
JNN	**Nakanoshima**	**5.13**	**32**	P	**P**	**07 54 23.9**	**-1.9**
SSE	**Sheshan**	**7.45**	**320**	*eP*	**P**	**07 54 55.6**	**-2.5**
SSE				AMB	AMB		
	comp=Z,22nm,0.8s						
NJ2	**Nanjing**	**9.54**	**315**	*eP*	**P**	**07 55 27.3**	**+0.4**
NJ2				S	**S**	**07 57 14.0**	**+0.2**
BJT	**Baijiatuan**	**17.00**	**331**	*eP*	**P**	**07 57 07.0**	**+2.0**
BJT				pmax	pmax		
	comp=Z,25nm,1.2s						
BJT	**Baijiatuan**	**17.00**	**331**	*eP*	**P**	**07 57 07.0**	**+2.1**
	comp=Z,25nm,1.2s						
GUMO	**Guam**	**20.73**	**121**	P	**P**	**07 57 41.8**	**-6.3**
LZH	**Lanzhou**	**22.30**	**304**	*eP*	**P**	**07 58 04.6**	**+0.9**
LZH				AP		07 58 17.0	
LZH				XP		07 58 22.6	
LZH				AMB	AMB		
	comp=Z,28nm,1.3s,mb4.5						
LZH				AMB	AMB		
	comp=Z,108nm,4.5s						
YSS	**Yuzh-Sakhalins**	**24.91**	**27**	⇑*eP*	**P**	**07 58 29.5**	**+0.6**
YSS				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.5						
YSS	**Yuzh-Sakhalins**	**24.91**	**27**	*eP*	**P**	**07 58 29.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**26.71**	**260**	P	**P**	**07 58 46.6**	**+0.6**
	comp=Z,1.2nm,0.7s,mb3.5,baz=72,slow=8.3,SNR=6.3						
ULN	**Ulaanbaatar**	**27.22**	**330**	*eP*	**P**	**07 58 48.9**	**-1.4**
ULN	**Ulaanbaatar**	**27.22**	**330**	P	**P**	**07 58 49.7**	**-0.7**
SONM	**Songino Array**	**27.49**	**329**	P	**P**	**07 58 52.5**	**-0.4**
	comp=Z,2.1nm,0.7s,mb3.8,baz=142,slow=9.4,SNR=14						
SONM				PcP	PcP	08 02 10.8	+0.5
	comp=Z,0.4nm,0.5s,baz=146,slow=4.5,SNR=4.4						
PET	**Petropavlovsk**	**36.42**	**32**	*eP*	**P**	**08 00 11.0**	**+0.3**
PET				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
ZAL	**Zalesovo**	**42.06**	**324**	P	**P**	**08 00 57.4**	**-0.1**
	comp=Z,1.8nm,0.6s,mb3.9,baz=26,slow=8.4,SNR=6.6						
FITZ	**Fitzroy Crossi**	**43.34**	**182**	⇓*iP*	**P**	**08 01 08.0**	**-0.4**
	comp=Z,20nm,0.8s,mb4.9						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**44.47**	**317**	*eP*	**P**	**08 01 15.4**	**-1.7**
KURK				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.9						
KURK	**Kurchatov**	**44.47**	**317**	*eP*	**P**	**08 01 15.4**	**-1.7**
	comp=Z,2.6nm,0.3s,mb4.4						
WRAB	**Tennant Creek**	**45.74**	**170**	⇓*eP*	**P**	**08 01 26.7**	**-1.0**
WRAB	**Tennant Creek**	**45.74**	**170**	*eP*	**P**	**08 01 27.4**	**-0.3**
	comp=Z,29nm,1.0s,mb5.2						
WRA	**Warramunga Arr**	**45.75**	**170**	P	**P**	**08 01 27.5**	**-0.2**
	comp=Z,10nm,0.7s,mb4.4,baz=352,slow=8.4,SNR=87						
WB2	**Warramunga Arr**	**45.75**	**170**	*eP*	**P**	**08 01 27.5**	**-0.3**
TIXI	**Tiksi**	**46.21**	**1**	⇓*eP*	**P**	**08 01 33.1**	**+2.4**
MBWA	**Marble Bar**	**46.87**	**189**	*eP*	**P**	**08 01 35.8**	**-0.7**
	comp=Z,8.6nm,0.9s,mb4.7						
BILL	**Bilibino**	**48.78**	**19**	*iP*	**P**	**08 01 50.7**	**-0.1**
BILL				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.7						
ASAR	**Alice Springs**	**49.35**	**171**	P	**P**	**08 01 55.9**	**+0.1**
	comp=Z,3.7nm,0.6s,mb4.6,baz=357,slow=14,SNR=63						
ASAR				PcP	PcP	08 03 17.6	-0.4
	comp=Z,1.5nm,0.7s,baz=351,slow=2.9,SNR=6.4						
ASPA	**Alice Springs**	**49.35**	**171**	*eP*	**P**	**08 01 55.8**	**0.0**
BVAR	**Borovoye Array**	**49.96**	**319**	P	**P**	**08 01 58.9**	**-1.2**
	comp=Z,1.5nm,0.3s,mb4.5,baz=108,slow=8.4,SNR=22						
BRVK	**Borovoye**	**50.03**	**319**	*eP*	**P**	**08 02 00.4**	**-0.2**
ARU	**Arti**	**57.17**	**322**	⇑*iP*	**P**	**08 02 48.5**	**-4.7**
ARU				*eS*	**S**	**08 10 40.8**	**-1.9**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
ARU	**Arti**	**57.17**	**322**	*eP*	**P**	**08 02 48.3**	**-4.8**
STKA	**Stephens Creek**	**58.77**	**165**	P	**P**	**08 03 04.2**	**-0.5**
	comp=Z,4.0nm,0.9s,mb4.4,baz=342,slow=9.6,SNR=4.8						
ILAR	**Eielson Array**	**65.71**	**28**	P	**P**	**08 03 50.2**	**-0.1**
	comp=Z,0.5nm,0.7s,mb3.7,baz=258,slow=5.4,SNR=8.2						
GNI	**Garni**	**68.23**	**305**	⇑*eP*	**P**	**08 04 06.6**	**-0.1**
GNI				pmax	pmax		
	comp=Z,16nm,1.6s						
KIV	**Kislovodsk**	**68.70**	**310**	*iP*	**P**	**08 04 10.3**	**+0.7**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
INK	**Inuvik**	**70.08**	**23**	*eP*	**P**	**08 04 17.8**	**+0.2**
	comp=Z,5.6nm,1.1s,mb4.4						
ARCES	**ARCESS Array B**	**70.22**	**338**	P	**P**	**08 04 17.6**	**-0.8**
	comp=Z,0.9nm,0.5s,mb4.0,baz=66,slow=9.1,SNR=9.7						
FINES	**FINESS Array B**	**72.86**	**330**	*iP*	**P**	**08 04 34.9**	**+0.7**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
FINES	**FINESS Array B**	**72.86**	**330**	P	**P**	**08 04 33.7**	**-0.5**
	comp=Z,5.3nm,1.1s,mb4.4,baz=90,slow=5.7,SNR=9.3						
AKASG	**Malin Array Be**	**75.24**	**319**	P	**P**	**08 04 48.0**	**-0.2**
	comp=Z,1.2nm,0.6s,mb4.0,baz=53,slow=5.6,SNR=5.5						
BRTR	**Keskin Array B**	**76.45**	**308**	P	**P**	**08 04 55.7**	**+0.3**
	comp=Z,2.8nm,0.8s,mb4.2,baz=90,slow=4.9,SNR=13						
RES	**Resolute Bay**	**76.52**	**10**	*eP*	**P**	**08 04 55.3**	**+0.2**
	comp=Z,11nm,1.5s,mb4.6						
MLR	**Muntele Rosu**	**79.36**	**315**	P	**P**	**08 05 12.5**	**+1.2**
	comp=Z,2.9nm,0.9s,mb4.2,baz=235,slow=2.4,SNR=4.4						
NB2	**NORSAR Subarra**	**79.39**	**333**	P	**P**	**08 05 10.2**	**-1.0**
	comp=Z,1.4nm,0.7s,mb4.0,baz=56,slow=5.3						
NOA	**NORSAR Array B**	**79.39**	**333**	P	**P**	**08 05 10.6**	**-0.6**
	comp=Z,0.6nm,0.7s,mb3.6,baz=72,slow=7.0,SNR=3.7						
YKA	**Yelloknife Ar**	**79.74**	**24**	*iP*	**P**	**08 05 13.7**	**+0.7**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yelloknife Ar**	**79.74**	**24**	P	**P**	**08 05 13.7**	**+0.7**
	comp=Z,1.5nm,0.6s,mb4.1,baz=300,slow=5.4,SNR=46						
YKA	**Yelloknife Ar**	**79.74**	**24**	P	**P**	**08 05 13.7**	**+0.7**
SUMG	**Summit**	**81.67**	**356**	*eP*	**P**	**08 05 25.5**	**+2.5**
NVAR	**Mina Array Bea**	**91.96**	**45**	P	**P**	**08 06 16.1**	**+2.3**
	comp=Z,0.4nm,0.8s,mb3.8,baz=271,slow=4.8,SNR=4.7						

*IDC **19** 07:54:45.5±0.9, 33.80N×141.87E, mb3.8/6, mb1 4.1/8, mb1mx3.9/21, mbtmp4.0/8, ML4.0/2, MS4.5/1, Ms1 4.7/1, ms1mx3.9/26, Error ellipse: s-maj=29.1km s-min=19.3km az=118.0*
*NEIC **19** 07:54:46.9±0.6, 33.82N×141.75E, h10km, mb4.5/2, Error ellipse: s-maj=16.3km s-min=12.6km az=65.0*
*JMA **19** 07:54:47.8±0.2, 33.96N×141.71E, h48km±3km, M3.6*

ISC 19 07:54:48.2±0.5, 33.93N±0.03×141.66E±0.05, h33km, n30, σ0§95/44, mb3.9/8, MS4.5/1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.91**	**322**	P	**P**	**07 55 04.5**	**-0.1**
BSO1				*eS*	**S**	**07 55 17.5**	**+0.7**
BSO2	**Boso 2**	**1.11**	**318**	*eS*	**S**	**07 55 22.7**	**+1.0**
BSO3	**Boso 3**	**1.28**	**313**	P	**P**	**07 55 10.2**	**+0.3**
BSO3				S	**S**	**07 55 25.6**	**-0.6**
BSO4	**Boso 4**	**1.52**	**314**	P	**P**	**07 55 13.9**	**+0.6**
BSO4				*eS*	**S**	**07 55 31.9**	**-0.2**
JHJ2	**Mitsune**	**1.74**	**242**	P	**P**	**07 55 17.7**	**+1.2**
JHJ2				*eS*	**S**	**07 55 39.5**	**+1.7**
JHJ	**Hachijo jima 2**	**1.76**	**243**	Pn	**Pn**	**07 55 17.2**	**+0.2**
	59nm,0.3s,baz=236,slow=23,SNR=4.6						
JHJ				Sn	**Sn**	**07 55 38.7**	**+0.2**
	150nm,0.3s,baz=213,slow=21,SNR=6.2						
CHOJ	**Chosi**	**1.88**	**340**	P	**P**	**07 55 18.2**	**-0.4**
CHOJ				*eS*	**S**	**07 55 41.0**	**-0.4**
JIM2	**Oshima 3**	**2.00**	**294**	P	**P**	**07 55 20.6**	**+0.3**
JIM2				*eS*	**S**	**07 55 44.8**	**+0.4**
JIZS	**Izushimoda**	**2.43**	**290**	P	**P**	**07 55 26.4**	**0.0**
JIZS				S	**S**	**07 55 54.7**	**-0.5**
JOD2	**Odawara 2**	**2.50**	**303**	P	**P**	**07 55 26.4**	**-1.0**
JOD2				*eS*	**S**	**07 55 55.7**	**-1.3**
JAG	**Ashikaga**	**3.07**	**325**	P	**P**	**07 55 35.1**	**-0.5**
JAG				*eS*	**S**	**07 56 10.6**	**-1.0**
JRY	**Ryogami san**	**3.07**	**313**	P	**P**	**07 55 35.9**	**+0.3**
JRY				*eS*	**S**	**07 56 11.4**	**-0.2**
MAJO	**Matsushiro**	**3.84**	**314**	*eP*	**P**	**07 55 47.3**	**+0.8**
MAT	**Matsushiro**	**3.84**	**314**	*eP*	**P**	**07 55 47.0**	**+0.5**
MAT				*eS*	**S**	**07 56 30.0**	**-1.1**
MAT	**Matsushiro**	**3.84**	**314**	P	**P**	**07 55 46.8**	**+0.3**
MAT				S	**S**	**07 56 29.9**	**-1.2**
CBIJ	**Chichi jima**	**6.83**	**176**	Pn	**Pn**	**07 56 26.6**	**-2.2**
	9.3nm,0.3s,baz=67,slow=21,SNR=5.2						
CBIJ				Sn	**Sn**	**07 57 40.9**	**-5.4**
	8.5nm,0.3s,baz=271,slow=23,SNR=2.7						
ASAJ	**Asahikawa**	**10.20**	**4**	Pn	**P**	**07 57 10.3**	**-5.0**
	1.7nm,0.3s,baz=283,slow=11,SNR=7.0						
ASAJ				Sn	**S**	**07 59 00.3**	**-9.2**
	0.9nm,0.3s,baz=112,slow=32,SNR=2.8						
SONM	**Songino Array**	**29.77**	**308**	P	**P**	**08 00 56.9**	**+3.1**
	1.2nm,0.9s,mb3.6,baz=92,slow=6.5,SNR=3.9						
CMAR	**Chiang Mai Arr**	**41.00**	**259**	LR	LR	08 22 13.1	
	comp=Z,618nm,18.8s,MS4.5,baz=270,slow=40						
IMA	**Indian Mountai**	**49.27**	**29**	*eP*	**P**	**08 03 35.6**	**+0.3**
IMA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
IMA	**Indian Mountai**	**49.27**	**29**	*eP*	**P**	**08 03 35.5**	**+0.2**
	comp=Z,7.1nm,0.9s,mb4.7						
COLA	**College**	**51.61**	**31**	P	**P**	**08 03 54.6**	**+1.5**
ILAR	**Eielson Array**	**52.02**	**31**	P	**P**	**08 03 55.7**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**52.02**	**31**	P	**P**	**08 03 55.6**	**-0.6**
	comp=Z,1.3nm,0.6s,mb4.0,baz=262,slow=5.5,SNR=21						
ILAR	**Eielson Array**	**52.02**	**31**	P	**P**	**08 03 55.6**	**-0.6**
WRAB	**Tennant Creek**	**54.02**	**189**	P	**P**	**08 04 10.0**	**-1.6**
	comp=Z,2.8nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**54.02**	**189**	P	**P**	**08 04 10.6**	**-1.1**
	comp=Z,0.7nm,0.5s,mb3.9,baz=3.1,slow=7.7,SNR=8.2						
ASAR	**Alice Springs**	**57.75**	**188**	P	**P**	**08 04 37.5**	**-1.0**
	comp=Z,0.3nm,0.5s,mb3.6,slow=5.7,SNR=3.9						
NVAR	**Mina Array Bea**	**76.70**	**53**	P	**P**	**08 06 39.1**	**+1.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=268,slow=7.0,SNR=6.0						
PDAR	**Pinedale Array**	**79.70**	**45**	P	**P**	**08 06 55.3**	**+1.2**
	comp=Z,0.6nm,0.9s,mb3.5,baz=253,slow=2.2,SNR=5.2						

JMA 19 07:56:27.8±0.3, 34.06N×141.50E, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.69**	**237**	P	Pn	07 56 59.2	+0.4
JHJ2				*eS*	Sb	07 57 21.5	+0.1
CHOJ	**Chosi**	**1.72**	**342**	P	Pn	07 57 00.2	+1.0
CHOJ				*eS*	Sb	07 57 22.9	+0.7
JIZS	**Izushimoda**	**2.27**	**288**	P	Pn	07 57 07.5	+0.5
JOD2	**Odawara 2**	**2.32**	**302**	P	Pn	07 57 08.1	+0.3
JYN	**Shimob**	**2.82**	**301**	P	Pn	07 57 17.3	+2.3
JRY	**Ryogami san**	**2.89**	**313**	P	Pn	07 57 17.6	+1.7
JAG	**Ashikaga**	**2.89**	**325**	P	Pn	07 57 16.3	+0.3

IDC 19 08:01:25.6±16.0, 0.82S×127.81E, mb3.6/3, mb1 3.9/3, mb1mx3.6/15, mbtmp3.7/3, Error ellipse: s-maj=250.3km s-min=150.6km az=153.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.05**	**162**	P	P	08 06 01.0	-2.4
	2.0nm,1.0s,baz=340,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**23.47**	**166**	P	P	08 06 37.4	-0.5
	0.6nm,0.5s,baz=345,slow=12,SNR=6.1						
STKA	**Stephens Creek**	**33.53**	**158**	P	P	08 08 06.5	-2.8
	1.5nm,0.7s,baz=336,slow=11,SNR=2.9						

*IDC **19** 08:03:41.6±0.8, 8.22N×94.18E, h15km±3km, mb4.0/12, mb1 4.2/13, mb1mx4.1/21, mbtmp4.0/13, ML4.3/1, Error ellipse: s-maj=34.4km s-min=16.1km az=47.0*
*NEIC **19** 08:03:43.4±0.5, 8.13N×94.19E, h30km, mb4.3/5, Error ellipse: s-maj=16.6km s-min=11.1km az=65.0*

ISC 19 08:03:42.3±0.6, 8.19N±0.09×94.3E±0.1, h33km, (h10km±4.1km: pP-P), n31, σ0§81/27, mb4.3/21, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.16**	**23**	Pn	**P**	**08 06 24.1**	**+1.4**
	0.6nm,0.3s,baz=198,slow=14,SNR=4.1						
HYB	**Hyderabad**	**17.87**	**302**	*iP*	**P**	**08 07 52.0**	**+1.9**
JIRN	**Jiri**	**20.83**	**339**	*eP*	**P**	**08 08 23.5**	**-0.1**
	89nm,1.2s						
PKI	**Pulchoki**	**21.03**	**338**	*eP*	**P**	**08 08 25.5**	**-0.2**
	32nm,0.7s,mb4.8						
DMN	**Daman**	**21.18**	**337**	*eP*	**P**	**08 08 27.5**	**+0.3**
	52nm,0.9s,mb4.8						
KKN	**Kakani**	**21.28**	**338**	*eP*	**P**	**08 08 27.8**	**-0.4**
LSA	**Lhasa**	**21.60**	**353**	*eP*	**P**	**08 08 31.4**	**0.0**
	9.7nm,0.8s,mb4.3						
GKN	**Gorkha**	**21.72**	**336**	*eP*	**P**	**08 08 32.5**	**-0.1**
	31nm,0.6s,mb4.9						
KOLN	**Koldanda**	**21.95**	**334**	*eP*	**P**	**08 08 34.7**	**-0.1**
	30nm,0.7s,mb4.8						
AAK	**Ala-Archa**	**38.48**	**336**	*eP*	**P**	**08 11 03.1**	**+0.1**
	5.4nm,1.3s,mb4.1						
ULN	**Ulaanbaatar**	**41.00**	**13**	*eP*	**P**	**08 11 19.0**	**-4.8**
	7.3nm,1.1s,mb4.2						
TLY	**Talaya**	**44.04**	**8**	P	**P**	**08 11 48.1**	**-0.5**
KURK	**Kurchatov**	**44.35**	**346**	*eP*	**P**	**08 11 51.0**	**0.0**
	6.6nm,1.1s,mb4.3						
ZAL	**Zalesovo**	**46.26**	**352**	P	**P**	**08 12 06.1**	**-0.2**
	1.7nm,0.7s,mb4.1,baz=303,slow=7.8,SNR=9.2						
ZAL				pP	pP	08 12 11.5	-4.6
	3.6nm,0.5s,baz=296,slow=6.7,SNR=7.1						
WRA	**Warramunga Arr**	**48.32**	**126**	P	**P**	**08 12 23.0**	**+0.2**
	1.4nm,0.8s,mb4.0,baz=306,slow=8.5,SNR=13						
WRA				PcP	PcP	08 13 51.1	+1.4
	0.7nm,1.0s,baz=318,slow=3.1,SNR=6.1						
WRAB	**Tennant Creek**	**48.32**	**126**	*eP*	**P**	**08 12 23.0**	**+0.1**
	3.1nm,0.8s,mb4.4						
BVAR	**Borovoye Array**	**48.74**	**341**	P	**P**	**08 12 24.8**	**-0.9**
	1.2nm,0.8s,mb4.0,baz=129,slow=9.5,SNR=5.1						
BVAR				PcP	PcP	08 13 51.1	+0.3
	1.1nm,0.9s,baz=153,slow=3.2,SNR=3.4						
ASAR	**Alice Springs**	**50.00**	**130**	P	**

	comp=Z,14nm,1.9s						
MDJ				LR	LR		
	comp=N,665nm,18.9s						
MDJ				LR	LR		
	comp=E,736nm,19.3s						
MDJ				LR	LR		
	comp=Z,1μm,14.1s						
SSE	**Sheshan**	**17.34**	**266**	P	**P**	**08 09 18.6**	**-0.1**
SSE				S	**S**	**08 12 25.8**	**-2.2**
SSE				XS		08 12 49.4	
SSE				AMB	AMB		
	comp=Z,22nm,0.8s						
SSE				AMB	AMB		
	comp=Z,833nm,9.2s						
SSE				LR	LR		
	comp=N,1μm,12.2s						
SSE				LR	LR		
	comp=E,1μm,12.2s						
SSE				LR	LR		
	comp=Z,2μm,13.4s						
NJ2	**Nanjing**	**19.06**	**271**	*e*P	**P**	**08 09 40.0**	**+0.4**
NJ2				AP		08 09 47.3	
NJ2				PP	PP	08 09 57.3	+0.5
NJ2				S	**S**	**08 13 03.0**	**-3.7**
NJ2				AMB	AMB		
	comp=Z,450nm,5.0s						
NJ2				LR	LR		
	comp=N,970nm,19.2s						
NJ2				LR	LR		
	comp=E,690nm,15.6s						
NJ2				LR	LR		
	comp=Z,540nm,13.0s						
HIA	**Hailar**	**22.24**	**320**	*e*P	**P**	**08 10 12.8**	**+0.4**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HIA	**Hailar**	**22.24**	**320**	*e*P	**P**	**08 10 12.8**	**+0.4**
	comp=Z,7.7nm,0.9s,mb4.1						
CLNS	**Chul'man**	**25.59**	**339**	*e*P	**P**	**08 10 49.0**	**+4.4**
CLNS				pmax	pmax		
	comp=N,11nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.4						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.9s						
MA2	**Magadan**	**26.41**	**11**	*e*P	**P**	**08 10 51.0**	**-1.2**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.1						
XAN	**Xi'an**	**26.93**	**280**	P	**P**	**08 10 54.0**	**-3.3**
ENH	**Enshi**	**27.28**	**271**	*e*P	**P**	**08 10 58.9**	**-1.6**
	comp=Z,8.1nm,0.8s,mb4.3						
YAK	**Yakutsk**	**29.14**	**349**⇑	*e*P	**P**	**08 11 15.6**	**-1.3**
YAK				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.9						
ULN	**Ulaanbaatar**	**29.25**	**309**⇓	*e*P	**P**	**08 11 17.4**	**-0.6**
SONM	**Songino Array**	**29.67**	**309**	P	**P**	**08 11 22.8**	**+1.1**
	comp=Z,1.6nm,0.8s,mb3.8,baz=113,slow=9.4,SNR=12						
BOD	**Bodaibo**	**30.24**	**331**	*e*P	**P**	**08 11 26.2**	**-0.5**
LZH	**Lanzhou**	**30.78**	**285**	*e*P	**P**	**08 11 31.3**	**-0.4**
LZH				AP	pP	08 11 41.5	-3.1
LZH				AMB	AMB		
	comp=Z,26nm,1.3s,mb4.9						
ZAK	**Zakamensk**	**32.33**	**312**	*e*P	**P**	**08 11 44.6**	**-0.5**
BILL	**Bilibino**	**37.02**	**15**	*i* P	**P**	**08 12 26.0**	**+0.9**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.1						
TIXI	**Tiksi**	**38.40**	**354**⇑	*e*P	**P**	**08 12 34.7**	**-1.8**
TIXI				MLR	MLR		
	comp=Z,2μm,18.0s,MS4.9						
WMQ	**Urumqi**	**42.37**	**300**	*e*P	**P**	**08 13 12.4**	**+2.8**
WMQ				AP	pP	08 13 22.2	-0.6
WMQ				XP	sP	08 13 26.2	-2.6
WMQ				PP	PP	08 14 53.9	+2.9
WMQ				S	**S**	**08 19 31.4**	**+4.4**
WMQ				XS		08 19 47.7	
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,30nm,5.2s						
WMQ				LR	LR		
	comp=N,421nm,20.1s,MS4.6						
WMQ				LR	LR		
	comp=E,628nm,21.3s,MS4.6						
WMQ				LR	LR		
	comp=Z,625nm,21.4s,MS4.5						
ZAL	**Zalesovo**	**44.12**	**315**	P	**P**	**08 13 23.2**	**-0.4**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL	**Zalesovo**	**44.12**	**315**	P	**P**	**08 13 23.2**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.0,baz=357,slow=9.2,SNR=5.5						
KURK	**Kurchatov**	**47.95**	**310**	*e*P	**P**	**08 13 53.8**	**-0.2**
KURK				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
KURK	**Kurchatov**	**47.95**	**310**	*e*P	**P**	**08 13 53.8**	**-0.2**
	comp=Z,14nm,0.9s,mb5.0						
COLA	**College**	**51.72**	**31**⇓	*e*P	**P**	**08 14 31.4**	**+8.7**
AAK	**Ala-Archa**	**52.07**	**301**	*e*P	**P**	**08 14 24.6**	**-1.0**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**52.07**	**301**	*e*P	**P**	**08 14 24.6**	**-1.0**
	comp=Z,2.4nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**52.13**	**31**	P	**P**	**08 14 25.0**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**52.13**	**31**	P	**P**	**08 14 24.9**	**-0.8**
	comp=Z,2.1nm,0.8s,mb4.1,baz=264,slow=6.1,SNR=14						
BVAR	**Borovoye Array**	**52.75**	**314**	P	**P**	**08 14 30.4**	**-0.1**
	comp=Z,4.1nm,0.9s,mb4.4,baz=90,slow=7.4,SNR=16						
BRVK	**Borovoye**	**52.81**	**314**	*e*P	**P**	**08 14 30.9**	**0.0**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
BRVK	**Borovoye**	**52.81**	**314**	*e*P	**P**	**08 14 30.9**	**0.0**
	comp=Z,7.9nm,1.0s,mb4.6						
FITZ	**Fitzroy Crossi**	**53.87**	**199**	*e*P	**P**	**08 14 38.9**	**-0.4**
	comp=Z,9.0nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**53.96**	**188**	*e*P	**P**	**08 14 36.6**	**-3.3**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**53.96**	**188**	*e*P	**P**	**08 14 36.5**	**-3.4**
	comp=Z,3.6nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**53.97**	**188**	*e*P	**P**	**08 14 38.0**	**-2.0**
WRA	**Warramunga Arr**	**53.97**	**188**	P	**P**	**08 14 38.6**	**-1.4**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WRA	**Warramunga Arr**	**53.97**	**188**	P	**P**	**08 14 38.6**	**-1.4**
	comp=Z,1.7nm,0.3s,mb4.4,baz=2.8,slow=7.6,SNR=23						
NDI	**New Delhi**	**54.37**	**283**	*e*	**P**	**08 14 40.0**	**-2.8**
INK	**Inuvik**	**57.16**	**26**	P	**P**	**08 15 00.2**	**-2.2**
ASAR	**Alice Springs**	**57.70**	**188**	P	**P**	**08 15 07.2**	**+0.4**
	comp=Z,0.8nm,0.5s,mb4.0,baz=4.6,slow=7.2,SNR=18						
ASPA	**Alice Springs**	**57.70**	**188**	*e*P	**P**	**08 15 08.7**	**+2.0**
HYB	**Hyderabad**	**58.22**	**270**	*i* P	**P**	**08 15 10.0**	**-0.4**
MBWA	**Marble Bar**	**58.54**	**204**	*e*P	**P**	**08 15 10.3**	**-2.3**
	comp=Z,9.4nm,0.9s,mb4.8						
ARU	**Arti**	**58.76**	**320**⇓	*i*P	**P**	**08 15 08.6**	**-5.1**
ARU				*e*		08 16 09.0	
ARU				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
POO	**Poona**	**61.59**	**274**⇓	*i*P	**P**	**08 15 33.0**	**-0.5**
RES	**Resolute Bay**	**65.62**	**14**	*e*P	**P**	**08 15 58.9**	**-0.2**
RES				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
RES	**Resolute Bay**	**65.62**	**14**	*e*P	**P**	**08 15 58.9**	**-0.3**
	comp=Z,1.9nm,0.7s,mb4.2						
YKA	**Yellowknife Ar**	**66.50**	**29**	P	**P**	**08 16 03.6**	**-1.3**
	comp=Z,0.3nm,0.7s,mb3.5,baz=295,slow=6.2,SNR=7.2						
NWAO	**Narrogin (SRO)**	**70.27**	**202**	*e*P	**P**	**08 16 29.7**	**+1.0**
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**70.27**	**202**	*e*P	**P**	**08 16 29.7**	**+0.9**
	comp=Z,7.1nm,0.8s,mb4.7						
FINES	**FINESS Array B**	**71.61**	**333**	P	**P**	**08 16 36.5**	**+0.2**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
FINES	**FINESS Array B**	**71.61**	**333**	P	**P**	**08 16 36.5**	**+0.2**
	comp=Z,6.2nm,0.9s,mb4.5,baz=135,slow=5.4,SNR=7.0						
KIV	**Kislovodsk**	**73.01**	**312**	*e*P	**P**	**08 16 46.4**	**+1.6**
KIV				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
KIV	**Kislovodsk**	**73.01**	**312**	*e*P	**P**	**08 16 46.9**	**+2.1**
	comp=Z,22nm,1.1s,mb5.0						
GNI	**Garni**	**73.63**	**307**⇓	*e*P	**P**	**08 16 50.8**	**+2.2**
GNI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
SOC	**Sochi**	**75.03**	**313**	*e*P	**P**	**08 16 57.2**	**+0.6**
SOC				*e*	pP	08 17 15.7	+4.8
SOC				*e*		08 19 51.4	
SOC				*e*S	S	08 26 27.4	-2.0
SOC				*e*		08 27 06.3	
SOC				*e*SSS	SSS	08 34 35.4	0.0
SOC				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.2						
SOC				pmax	pmax		
	comp=N,10.0nm,0.8s						
SOC				pmax	pmax		
	comp=E,22nm,0.8s						
AKASG	**Malin Array Be**	**76.81**	**323**	P	**P**	**08 17 06.7**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	**Malin Array Be**	**76.81**	**323**	P	**P**	**08 17 06.7**	**+0.1**
	comp=Z,2.8nm,0.6s,mb4.4,baz=45,slow=6.0,SNR=18						
NVAR	**Mina Array Bea**	**76.84**	**53**	P	**P**	**08 17 07.6**	**+0.6**
	comp=Z,0.5nm,0.9s,mb3.5,baz=289,slow=5.1,SNR=3.6						
NVAR	**Mina Array Bea**	**76.84**	**53**	P	**P**	**08 17 07.6**	**+0.5**
NB2	**NORSAR Subarra**	**77.09**	**338**	P	**P**	**08 17 08.2**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=47,slow=5.6						
NOA	**NORSAR Array B**	**77.09**	**338**	P	**P**	**08 17 07.9**	**0.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**77.09**	**338**	P	**P**	**08 17 07.9**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=40,slow=5.7,SNR=4.0						
PDAR	**Pinedale Array**	**79.84**	**45**	P	**P**	**08 17 24.2**	**+0.9**
	comp=Z,0.6nm,0.8s,mb3.6,baz=311,slow=3.2,SNR=4.4						
BRTR	**Keskin Array B**	**80.97**	**312**	P	**P**	**08 17 31.0**	**+1.6**
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRTR	**Keskin Array B**	**80.97**	**312**	P	**P**	**08 17 31.0**	**+1.6**
	comp=Z,2.9nm,1.0s,mb4.2,baz=108,slow=3.9,SNR=10						
PV10	**Paradox Valley**	**82.82**	**48**	*e*P	**P**	**08 17 42.3**	**+3.3**
PSZ	**Piszkesteto**	**83.23**	**325**	*e*P	**P**	**08 17 42.4**	**+1.5**
PV01	**Paradox Valley**	**83.26**	**48**	P	**P**	**08 17 44.0**	**+2.8**
ASF	**Jabal al Asfar**	**83.30**	**304**	P	**P**	**08 17 43.6**	**+2.1**
	comp=Z,6.7nm,0.9s,mb4.7,baz=352,slow=4.2,SNR=3.6						
KHC	**Kasperske Hory**	**85.24**	**329**	*e*P	**P**	**08 17 52.0**	**+1.1**
GERES	**GERESS Array B**	**85.40**	**328**	P	**P**	**08 17 52.7**	**+1.0**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GERES	**GERESS Array B**	**85.40**	**328**	P	**P**	**08 17 52.7**	**+1.0**
	comp=Z,0.7nm,0.4s,mb4.1,baz=34,slow=4.8,SNR=4.6						
TXAR	**Lajitas Array**	**92.00**	**52**	P	**P**	**08 18 25.3**	**+1.8**
	comp=Z,0.4nm,0.8s,mb3.8,baz=315,slow=2.6,SNR=3.1						
LPAZ	**La Paz**	**148.13**	**64**	PKPbc	PKPdf	08 25 03.0	+6.9

*NEIC **19** 08:09:38.5±0.7,34.08N×141.74E,h10km,mb4.2/3, Error ellipse: s-maj=20.5km s-min=13.3km az=66.0*
*JMA **19** 08:09:39.5±0.7,34.16N×141.85E,h75km,M3.5*
*MOS **19** 08:09:39.2±0.7,34.06N×141.70E,h33km,mb4.3/6, Error ellipse: s-maj=27.6km s-min=14.2km az=114.1*
*IDC **19** 08:09:42.5±6.0,34.11N×141.70E,h35km±50km,mb3.6/10, mb1 3.9/11,mb1mx3.8/21,mbtmp3.8/11,ML3.6/1,Error ellipse: s-maj=30.7km s-min=18.8km az=105.0*

ISC 19 08:09:40.5±1.2,**34.13N**±0.05×**141.72E**±0.09,**h37**km±11km, **n37**,σ0=**91**/42,**mb3.8**/12,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO4	**Boso 4**	**1.42**	**307**	P	**P**	**08 10 04.9**	**+0.6**
CHOJ	**Chosi**	**1.72**	**336**	P	**P**	**08 10 08.0**	**-0.5**
JHJ2	**Mitsune**	**1.88**	**238**	P	**P**	**08 10 11.8**	**+0.9**
JHJ	**Hachijo jima 2**	**1.90**	**238**	Pn	**P**	**08 10 11.8**	**+0.7**
	39nm,0.3s,baz=201,slow=24,SNR=10						
JHJ				Sn	**S**	**08 10 33.6**	**-0.4**
	70nm,0.3s,baz=253,slow=23,SNR=5.6						
JOD2	**Odawara 2**	**2.44**	**298**	P	**P**	**08 10 18.4**	**-0.4**
JAG	**Ashikaga**	**2.94**	**322**	P	**P**	**08 10 25.2**	**-0.8**
JAG				*e*S	**S**	**08 10 59.4**	**-1.0**
JYN	**Shimob**	**2.94**	**298**	P	**P**	**08 10 25.9**	**-0.1**
JYN				*e*S	**S**	**08 11 01.6**	**+1.1**
JRY	**Ryogami san**	**2.98**	**310**	P	**P**	**08 10 26.8**	**+0.3**
JRY				*e*S	**S**	**08 11 02.5**	**+1.2**
MAJO	**Matsushiro**	**3.74**	**311**	*e*P	**P**	**08 10 37.0**	**-0.3**
MAT	**Matsushiro**	**3.74**	**311**	*e*P	**P**	**08 10 37.0**	**-0.3**
MAT				*e*S	**S**	**08 11 20.0**	**-0.8**
MAT	**Matsushiro**	**3.74**	**311**	P	**P**	**08 10 36.7**	**-0.6**
MAT				S	**S**	**08 11 20.1**	**-0.7**
ASAJ	**Asahikawa**	**9.99**	**4**	P	**P**	**08 11 59.9**	**-4.7**
ASAJ						08 13 48.6	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.99**	**4**	Pn	**P**	**08 11 59.9**	**-4.7**
	comp=N,0.7nm,0.3s,baz=322,slow=26,SNR=4.1						
ASAJ				Sn	**S**	**08 13 48.5**	**-8.1**
	comp=N,0.8nm,0.3s,baz=20,slow=23,SNR=5.9						
YSS	**Yuzh-Sakhalins**	**12.83**	**3**	*e*P	**P**	**08 12 36.2**	**-6.8**
SONM	**Songino Array**	**29.69**	**308**	P	**P**	**08 15 46.4**	**+1.5**
	comp=N,1.2nm,0.7s,mb3.8,baz=96,slow=6.9,SNR=4.7						
ZAK	**Zakamensk**	**32.32**	**312**	*e*P	**P**	**08 16 07.9**	**-0.2**
ILAR	**Eielson Array**	**51.83**	**31**	P	**P**	**08 18 46.5**	**-0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**51.83**	**31**	P	**P**	**08 18 46.5**	**-0.1**
	comp=Z,1.4nm,0.8s,mb4.0,baz=270,slow=6.3,SNR=10.0						
BRVK	**Borovoye**	**52.79**	**314**	P	**P**	**08 18 51.6**	**-2.3**
WRAB	**Tennant Creek**	**54.22**	**189**	*e*P	**P**	**08 19 03.5**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
WRAB	**Tennant Creek**	**54.22**	**189**	*e*P	**P**	**08 19 03.5**	**-1.4**
	comp=Z,1.9nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**54.23**	**189**	P	**P**	**08 19 04.1**	**-0.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**54.23**	**189**	P	**P**	**08 19 04.1**	**-0.9**
	comp=Z,0.8nm,0.5s,mb3.9,baz=5.7,slow=7.5,SNR=9.1						
INK	**Inuvik**	**56.86**	**26**	*e*P	**P**	**08 19 23.6**	**+0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**56.86**	**26**	P	**P**	**08 19 23.7**	**+0.3**
	comp=Z,1.0nm,0.9s,mb3.9,baz=289,slow=5.1,SNR=4.4						
INK	**Inuvik**	**56.86**	**26**	*e*P	**P**	**08 19 23.6**	**+0.2**
	comp=Z,2.1nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**57.96**	**188**	P	**P**	**08 19 31.6**	**-0.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=17,slow=10,SNR=7.5						
RES	**Resolute Bay**	**65.35**	**14**	*e*P	**P**	**08 20 20.5**	**0.0**
RES				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
RES	**Resolute Bay**	**65.35**	**14**	*e*P	**P**	**08 20 20.5**	**0.0**
	comp=Z,1.8nm,0.9s,mb4.1						
YKA	**Yellowknife Ar**	**66.20**	**30**	P	**P**	**08 20 25.2**	**-0.9**
	comp=Z,0.2nm,0.7s,mb3.3,baz=297,slow=5.9,SNR=6.0						
NVAR	**Mina Array Bea**	**76.54**	**53**	P	**P**	**08 21 30.3**	**+1.8**
	comp=Z,0.4nm,0.7s,mb3.5,baz=305,slow=8.3,SNR=4.2						
AKASG	**Malin Array Be**	**76.75**	**323**	P	**P**	**08 21 29.3**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.6,baz=46,slow=6.3,SNR=4.5						
NOA	**NORSAR Array B**	**76.95**	**338**	P	**P**	**08 21 31.1**	**+0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**76.95**	**338**	P	**P**	**08 21 31.1**	**+0.7**
	comp=Z,0.9nm,0.7s,mb3.8,baz=42,slow=5.4,SNR=3.8						
PDAR	**Pinedale Array**	**79.53**	**45**	P	**P**	**08 21 46.5**	**+1.6**
	comp=Z,0.7nm,0.6s,mb3.7,baz=270,slow=2.2,SNR=5.5						
LPAZ	**La Paz**	**147.85**	**64**	PKP2	PKPdf	08 29 25.3	+6.3
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LPAZ	**La Paz**	**147.85**	**64**	PKPbc	PKPdf	08 29 25.3	+6.3
	comp=Z,0.8nm,0.7s,baz=347,slow=6.0,SNR=3.6						

*IDC **19** 08:13:35.5±1.0,33.89N×141.81E,mb3.5/5,mb1 3.8/6, mb1mx3.6/20,mbtmp3.6/6,ML3.8/1,Error ellipse: s-maj=32.8km s-min=20.3km az=111.0*
*JMA **19** 08:13:40.8±0.4,33.99N×141.46E,h51km,M3.5*

ISC 19 08:13:38.7±1.2,**33.93N**±0.05×**141.64E**±0.10,**h38**km±13km, **n17**,σ0=**86**/21,**mb3.5**/5,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.91**	**323**	P	**P**	**08 13 55.7**	**+0.7**
BSO3	**Boso 3**	**1.28**	**313**	P	**P**	**08 14 00.5**	**+0.2**
BSO4	**Boso 4**	**1.51**	**315**	P	**P**	**08 14 04.2**	**+0.5**
JHJ2	**Mitsune**	**1.73**	**242**	P	**P**	**08 14 07.5**	**+0.7**
JHJ	**Hachijo jima 2**	**1.75**	**243**	Pn	**P**	**08 14 07.8**	**+0.7**
	52nm,0.3s,baz=80,slow=23,SNR=8.3						
JHJ				Sn	**S**	**08 14 28.6**	**+0.3**
	81nm,0.3s,baz=65,slow=22,SNR=7.4						
JIM2	**Oshima 3**	**1.99**	**294**	P	**P**	**08 14 10.1**	**-0.4**
JIM2				*e*S	**S**	**08 14 33.9**	**-0.5**
JOD2	**Odawara 2**	**2.49**	**303**	P	**P**	**08 14 17.0**	**-0.7**
JYN	**Shimob**	**2.99**	**302**	P	**P**	**08 14 25.9**	**+1.1**
JRY	**Ryogami san**	**3.07**	**314**	P	**P**	**08 14 26.0**	**+0.1**
JRY				*e*S	**S**	**08 15 01.6**	**-0.1**
JAG	**Ashikaga**	**3.07**	**325**	P	**P**	**08 14 25.5**	**-0.4**
MAT	**Matsushiro**	**3.83**	**314**	P	**P**	**08 14 37.2**	**+0.4**
MAT				S	**S**	**08 15 19.0**	**-2.2**
CBIJ	**Chichi jima**	**6.83**	**176**	Pn	**P**	**08 15 16.8**	**-2.2**
	5.1nm,0.3s,baz=255,slow=19,SNR=4.1						
SONM	**Songino Array**	**29.77**	**308**	P	**P**	**08 19 45.2**	**+1.6**
	0.6nm,1.0s,mb3.3,baz=105,slow=9.6,SNR=3.3						
ILAR	**Eielson Array**	**52.03**	**31**	P	**P**	**08 22 46.0**	**-0.2**
	0.7nm,0.7s,mb3.7,baz=264,slow=6.5,SNR=7.1						
WRA	**Warramunga Arr**	**54.02**	**188**	P	**P**	**08 23 00.6**	**-0.9**
	0.4nm,0.4s,mb3.7,baz=6.4,slow=7.6,SNR=7.2						
ASAR	**Alice Springs**	**57.75**	**188**	P	**P**	**08 23 28.8**	**+0.5**
	0.3nm,0.6s,mb3.5,baz=0.6,slow=6.1,SNR=4.8						
YKA	**Yellowknife Ar**	**66.40**	**29**	P	**P**	**08 24 25.7**	**+0.3**
	0.2nm,0.9s,mb3.1,baz=290,slow=6.7,SNR=3.7						

*ATH **19** 08:25:02.8,39.19N×27.91E,h10km±5km,MD3.5/3*
*CSEM **19** 08:25:03.6±0.1,39.18N×27.81E,h16km,MD3.2/1,Error ellipse: s-maj=1.5km s-min=0.9km az=111.0*
*ISK **19** 08:25:03.8,39.18N×27.78E,h14km,MD3.4*
*NEIC **19** 08:25:03.9,39.19N×27.76E,h15km,MD3.5(ATH), ML3.3(ISK),After ISK.*

ISC 19 08:25:03.8±0.5,**39.19N**±0.02×**27.80E**±0.03,**h4**km±4km, **n45**,σ0=**89**/59,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.31**	**178**	*i* PG	**Pg**	**08 25 10.5**	**+0.4**
AKS				*i* SG	**Sg**	**08 25 15.0**	**+0.7**
AKS	**Akhisar**	**0.31**	**178**	Pg	**Pg**	**08 25 10.6**	**+0.5**
BALB	**Balikesir**	**0.45**	**8**	*i* PG	**Pg**	**08 25 13.4**	**+0.6**
BALB				*i* SG	**Sg**	**08 25 20.9**	**+2.1**
BALB	**Balikesir**	**0.45**	**8**	Pg	**Pg**	**08 25 13.5**	**+0.6**
BALB				Sg	**Sg**	**08 25 20.5**	**+1.6**
BALB	**Balikesir**	**0.45**	**8**	Pg	**Pg**	**08 25 13.5**	**+0.7**
BALB				Sg	**Sg**	**08 25 20.5**	**+1.7**
BTOK	**Tokmak**	**0.59**	**17**	*i* P	**Pg**	**08 25 15.7**	**0.0**
BTOK				*i* S	**Sg**	**08 25 24.2**	**+0.5**
DST	**Dursunbey**	**0.76**	**57**	*i* PG	**Pg**	**08 25 19.0**	**0.0**
AYVA	**Ayvalik**	**0.87**	**278**	*i* P	**Pb**	**08 25 20.6**	**-0.6**
AYVA				*i* S	**Sg**	**08 25 33.0**	**+0.2**
KDAG	**Bornova**	**0.89**	**208**	*i* P	**Pb**	**08 25 20.8**	**-0.8**
KDAG				*i* S	**Sb**	**08 25 33.8**	**+0.2**
IZM	**Izmir**	**0.90**	**208**	PG	**Pg**	**08 25 21.4**	**-0.4**
IZM	**Izmir**	**0.90**	**208**	Pg	**Pg**	**08 25 21.4**	**-0.3**
MANT	**Manisa**	**0.92**	**140**	*i* P	**Pb**	**08 25 21.5**	**-0.4**
MANT				*i* S	**Sb**	**08 25 34.6**	**+0.4**
CANB	**Canakkale**	**1.00**	**325**	PG	**Pg**	**08 25 24.0**	**+0.2**
BLCB	**Balcova**	**1.00**	**217**	*i* PG	**Pg**	**08 25 22.8**	**-1.0**
BLCB	**Balcova**	**1.00**	**217**	Pg	**Pg**	**08 25 22.9**	**-0.9**
BLCB	**Balcova**	**1.00**	**217**	Pg	**Pg**	**08 25 22.9**	**-0.9**
EDC	**Edincik**	**1.15**	**2**	*i* PN	**Pn**	**08 25 26.0**	**-0.7**
KCT	**Karacabey**	**1.15**	**22**	*i* PN	**Pn**	**08 25 26.1**	**-0.6**
KCT	**Karacabey**	**1.15**	**22**	Pn	**Pn**	**08 25 26.2**	**-0.5**
BNT	**Bandirma**	**1.17**	**4**	*i* PN	**Pn**	**08 25 26.3**	**-0.5**
PRK	**Paraskevi**	**1.19**	**273**	*e*PG	**Pg**	**08 25 26.6**	**-1.0**
PRK				*e*SB	**Sb**	**08 25 44.4**	**+2.2**
EZN	**Ezine**	**1.30**	**299**	PN	**Pn**	**08 25 28.2**	**-0.7**
EZN	**Ezine**	**1.30**	**299**	Pn	**Pn**	**08 25 28.3**	**-0.6**
ULDT	**Uludag**	**1.40**	**47**	*i* P	**Pb**	**08 25 30.5**	**+0.3**
ULDT				*i* S	**Sb**	**08 25 49.3**	**+1.0**
BOZC	**Bozcaada**	**1.50**	**296**	*i* P	**Pn**	**08 25 31.0**	**-0.6**
BOZC				*i* S	**Sb**	**08 25 52.3**	**+1.1**
KHL	**Karahalli**	**1.60**	**122**	PN	**Pn**	**08 25 33.0**	**-0.1**
MFT	**Murefte**	**1.64**	**346**	PN	**Pn**	**08 25 32.9**	**-0.8**
SMG	**Samos**	**1.66**	**207**	*e*PN	**Pn**	**08 25 35.0**	**+1.0**
SMG				*e*SN	**Sn**	**08 25 57.5**	**+1.4**
ALT	**Altintas**	**1.80**	**94**	PN	**Pn**	**08 25 36.2**	**+0.3**
ALT	**Altintas**	**1.80**	**94**	Pn	**Pn**	**08 25 36.2**	**+0.3**
YLV	**Yalova**	**1.83**	**41**	PN	**Pn**	**08 25 35.3**	**-1.0**
YER	**Yerkesik**	**2.09**	**169**	*e*PN	**Pn**	**08 25 39.0**	**-1.1**
ISK	**Istanbul-Kandi**	**2.10**	**27**	PN	**Pn**	**08 25 39.2**	**-1.1**
HRT	**Hereke**	**2.17**	**41**	PN	**Pn**

0.4nm,0.3s,baz=190,slow=12,SNR=2.2
SONM Songino Array 29.78 308 P **P 08 34 05.1 +0.2**
1.0nm,0.8s,mb3.6,baz=107,slow=8.9,SNR=6.3
ZAL Zalesovo 44.21 315 P **P 08 36 07.5 +0.8**
1.3nm,0.3s,mb4.2,baz=6.6,slow=12,SNR=4.1
KURK Kurchatov 48.05 310 *eP* **P 08 36 36.7 -0.5**
2.5nm,0.5s,mb4.5
ILAR Eielson Array 52.04 31 P **P 08 37 08.0 +0.6**
0.5nm,0.7s,mb3.6,baz=267,slow=6.3,SNR=6.8
CHKZ Chkalovo 52.61 315 *eP* **P 08 37 10.8 -1.1**
1.0nm,0.5s,mb4.0
BVAR Borovoye Array 52.84 314 P **P 08 37 13.4 -0.2**
0.6nm,0.5s,mb3.8,baz=80,slow=9.0,SNR=5.1
FITZ Fitzroy Crossi 53.94 199 *eP* **P 08 37 22.9 +0.8**
5.5nm,1.4s,mb4.3
WRAB Tennant Creek 54.00 188 *eP* **P 08 37 21.7 -0.9**
1.7nm,0.5s,mb4.2
WB2 Warramunga Arr 54.01 188 *eP* **P 08 37 23.0 +0.3**
WRA Warramunga Arr 54.01 189 P **P 08 37 22.4 -0.3**
1.0nm,0.4s,mb4.1,baz=4.8,slow=7.5,SNR=29
ASAR Alice Springs 57.74 188 P **P 08 37 50.6 +1.2**
0.5nm,0.5s,mb3.8,baz=1.8,slow=6.6,SNR=15
YKA Yellowknife Ar 66.41 29 P **P 08 38 45.9 -0.8**
0.0nm,0.4s,baz=299,slow=7.7,SNR=3.3
FINES FINESS Array B 71.66 333 P **P 08 39 19.6 +0.6**
1.2nm,0.5s,mb4.0,baz=53,slow=9.5,SNR=9.2
AKASG Malin Array Be 76.88 323 P **P 08 39 50.0 +0.5**
1.6nm,0.5s,mb4.2,baz=44,slow=6.0,SNR=7.6
NOA NORSAR Array B 77.13 338 P **P 08 39 50.2 -0.4**
1.4nm,0.7s,mb4.0,baz=39,slow=5.6,SNR=4.1

WEL 19 08:28:17.5±0.4, 41.46S×175.74E, h16km±2km, ML3.6/12, 8C-3D, Error ellipse: s-maj=2.7km s-min=1.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAWZ	**Paruwai Farm**	**0.25**	**288**	⇓P*	Pb	08 28 22.8	-0.3
PAWZ				S*	Sb	08 28 26.9	-0.1
MTW	**Mount Morrison**	**0.35**	**329**	⇓P*	Pb	08 28 24.5	-0.3
MTW				S*	Sb	08 28 29.8	-0.1
MSWZ	**Moikau Station**	**0.37**	**277**	⇑P*	Pb	08 28 25.2	-0.1
MSWZ				S*	Sb	08 28 30.6	+0.1
CAW	**Cannon Point**	**0.62**	**305**	⇓P*	Pb	08 28 29.6	+0.2
CAW				S*	Sb	08 28 37.7	+0.1
BHW	**Baring Head**	**0.66**	**274**	⇑P*	Pb	08 28 30.5	+0.4
BHW				S*	Sb	08 28 39.6	+0.9
WEL	**Wellington**	**0.75**	**283**	⇑P*	Pb	08 28 32.2	+0.5
WEL				S*	Sb	08 28 42.7	+1.2
MRZ	**Mangatainoka R**	**0.81**	**351**	⇑P*	Pb	08 28 33.0	+0.3
MRZ				S*	Sb	08 28 44.3	+1.2
MRW	**Makara Radio**	**0.82**	**286**	⇑P*	Pb	08 28 33.1	+0.3
MRW				S*	Sb	08 28 44.3	+1.0
KIW	**Kapiti Island**	**0.87**	**313**	⇑P*	Pb	08 28 34.0	+0.3
KIW				S*	Sb	08 28 46.1	+1.3
BFZ	**Birch Farm**	**0.87**	**26**	P*	Pb	08 28 33.9	+0.2
CMWZ	**Cape Campbell**	**1.18**	**255**	⇑P*	Pb	08 28 38.7	-0.4
TUWZ	**Tuamarina**	**1.35**	**271**	P*	Pb	08 28 40.4	-1.5
TSZ	**Takapari Road**	**1.41**	**7**	P*	Pb	08 28 42.3	-0.7
BSWZ	**Blackbirch Sta**	**1.42**	**259**	P*	Pb	08 28 41.6	-1.5
NNZ	**Nelson**	**1.79**	**277**	PN	Pn	08 28 47.7	-0.5
WAZ	**Wanganui**	**1.80**	**341**	PN	Pn	08 28 49.2	+0.9
KHZ	**Kahutara**	**1.90**	**239**	⇑PN	Pn	08 28 47.6	-2.1
MOVZ	**Moawhango**	**2.05**	**0**	PN	Pn	08 28 51.7	-0.2
THZ	**Tophouse**	**2.15**	**261**	PN	Pn	08 28 51.2	-2.1
NGZ	**Ngauruhoe**	**2.28**	**357**	*e*PN	Pn	08 28 55.3	+0.1
OTVZ	**Oturere**	**2.29**	**359**	*e*PN	Pn	08 28 55.6	+0.3
BKZ	**Black Stump Fm**	**2.36**	**14**	*e*PN	Pn	08 28 54.3	-2.0
QRZ	**Quartz Range**	**2.51**	**284**	PN	Pn	08 28 57.6	-0.8
LTZ	**Lake Taylor**	**2.90**	**242**	*e*PN	Pn	08 29 01.1	-3.0
DSZ	**Denniston Nort**	**2.97**	**263**	*e*PN	Pn	08 29 02.4	-2.5
MQZ	**McQueen's Vall**	**3.20**	**224**	SN	Sn	08 29 39.7	-6.7

*NIED **19** 08:31:00, 34.00N×141.70E, h5km, Mw4.7 Best double couple: M0 1.37×10^16 NP1:φ0 255°, δ89°, λ93°. NP2:φ0 354°, δ3°, λ9°.*
*IDC **19** 08:31:05.0±0.6, 33.97N×141.67E, mb4.1/17, mb1 4.3/19, mb1mx4.3/24, mbtmp4.1/19, ML4.0/2, Error ellipse: s-maj=18.3km s-min=13.9km az=116.0*
*JMA **19** 08:31:07.8±0.8, 33.98N×141.67E, h33km, M3.9*
*MOS **19** 08:31:07.6±1.0, 33.89N×141.71E, h36km, mb4.4/18, Error ellipse: s-maj=20.4km s-min=9.6km az=113.1*
*BJI **19** 08:31:08.7, 34.02N×141.55E, h23km, mB4.9, mb4.3, Ms4.5, Msz4.3*
*NEIC **19** 08:31:10.3±1.6, 33.90N×141.58E, h39km±14km, mb4.4/9, Error ellipse: s-maj=12.6km s-min=8.5km az=101.0*
ISC 19 08:31:07.9±0.3, 33.93N±0.04×141.65E±0.05, h33km, n77, σ1§11/80, mb4.1/27, MS4.3/1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.91**	**323**	P	**P**	**08 31 24.0**	**-0.3**
BSO4	**Boso 4**	**1.52**	**315**	P	**P**	**08 31 33.7**	**+0.8**
JHJ2	**Mitsune**	**1.73**	**242**	P	**P**	**08 31 37.7**	**+1.6**
JHJ	**Hachijo jima 2**	**1.75**	**243**	Pn	**Pn**	**08 31 37.5**	**+1.0**
	41nm,0.3s,baz=256,slow=23,SNR=4.0						
JHJ				Sn	**Sn**	**08 31 59.9**	**+2.0**
	87nm,0.3s,baz=66,slow=22,SNR=5.8						
JIM2	**Oshima 3**	**2.00**	**294**	P	**P**	**08 31 40.2**	**+0.4**
KTJJ	**Kamata 2**	**2.36**	**296**	P	**P**	**08 31 44.2**	**-0.8**
JIZS	**Izushimoda**	**2.42**	**290**	P	**P**	**08 31 45.9**	**-0.1**
JOD2	**Odawara 2**	**2.50**	**303**	P	**P**	**08 31 47.0**	**0.0**
MAJO	**Matsushiro**	**3.84**	**314**	*e*P	**P**	**08 32 06.4**	**+0.3**
MAT	**Matsushiro**	**3.84**	**314**	*e*P	**P**	**08 32 07.0**	**+0.9**
MAT				*e*S	**S**	**08 32 50.0**	**-0.7**
MAT	**Matsushiro**	**3.84**	**314**	P	**P**	**08 32 06.5**	**+0.4**
MAT				S	**S**	**08 32 49.6**	**-1.1**
CBIJ	**Chichi jima**	**6.83**	**176**	Pn	**Pn**	**08 32 47.2**	**-1.2**
	7.3nm,0.3s,baz=287,slow=22,SNR=4.3						
CBIJ				Sn	**Sn**	**08 34 00.5**	**-5.3**
	7.2nm,0.3s,baz=266,slow=17,SNR=2.7						
ASAJ	**Asahikawa**	**10.20**	**4**	Pn	**P**	**08 33 30.3**	**-4.7**
	1.5nm,0.3s,baz=220,slow=9.1,SNR=7.0						
ASAJ				Sn	**S**	**08 35 19.6**	**-10**
	1.0nm,0.3s,baz=25,slow=18,SNR=4.9						
YSS	**Yuzh-Sakhalins**	**13.04**	**3**	*e*P	**P**	**08 34 07.0**	**-6.4**
YSS	**Yuzh-Sakhalins**	**13.04**	**3**	*e*P	**P**	**08 34 07.3**	**-6.1**
	18nm,0.8s						
MDJ	**Mudanjiang**	**14.16**	**322**	P	**P**	**08 34 25.8**	**-2.3**
MDJ				AMB	AMB		
	comp=Z,24nm,2.1s						
ENH	**Enshi**	**27.43**	**271**	P	**P**	**08 36 51.1**	**-1.6**
ULN	**Ulaanbaatar**	**29.35**	**309**	*e*P	**P**	**08 37 07.4**	**-2.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.2						
ULN	**Ulaanbaatar**	**29.35**	**309**	*e*P	**P**	**08 37 07.4**	**-2.3**
	comp=Z,6.0nm,1.3s,mb4.2						
SONM	**Songino Array**	**29.77**	**308**	P	**P**	**08 37 13.3**	**-0.1**
	comp=Z,0.5nm,0.7s,mb3.4,baz=110,slow=8.2,SNR=4.5						
BOD	**Bodaibo**	**30.29**	**331**	*e*P	**P**	**08 37 19.5**	**+1.6**
ZAK	**Zakamensk**	**32.42**	**312**	*e*P	**P**	**08 37 36.9**	**+0.1**
BILL	**Bilibino**	**36.96**	**15**	*e*P	**P**	**08 38 14.4**	**-1.0**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
BILL	**Bilibino**	**36.96**	**15**	*e*P	**P**	**08 38 14.9**	**-0.5**
	comp=Z,10nm,1.3s,mb4.5						
TIXI	**Tiksi**	**38.39**	**354**	*e*P	**P**	**08 38 25.8**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
WMQ	**Urumqi**	**42.48**	**300**	*e*P	**P**	**08 39 01.7**	**+0.3**
WMQ				AP	pP	08 39 14.0	+2.7
WMQ				XP	sP	08 39 19.4	+4.0
WMQ				PP	PP	08 40 43.4	+0.8
WMQ				S	**S**	**08 45 19.7**	**-1.2**
WMQ				XS		08 45 40.4	
WMQ				AMB	AMB		
	comp=Z,3.0nm,1.6s,mb3.7						
WMQ				AMB	AMB		
	comp=Z,15nm,5.2s						
WMQ				LR	LR		
	comp=N,254nm,20.1s,MS4.2						
WMQ				LR	LR		
	comp=E,255nm,21.3s,MS4.2						
WMQ				LR	LR		
	comp=Z,395nm,21.4s,MS4.3						
ZAL	**Zalesovo**	**44.20**	**315**	P	**P**	**08 39 16.8**	**+1.6**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**44.20**	**315**	P	**P**	**08 39 16.8**	**+1.5**
	comp=Z,0.9nm,0.3s,mb3.9,baz=355,slow=9.5,SNR=4.2						
ZAL	**Zalesovo**	**44.20**	**315**	P	**P**	**08 39 16.8**	**+1.5**

KURK	**Kurchatov**	**48.04**	**310**	*e*P	**P**	**08 39 45.2**	**-0.5**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
KURK	**Kurchatov**	**48.04**	**310**	*e*P	**P**	**08 39 45.2**	**-0.5**
	comp=Z,2.9nm,0.7s,mb4.4						
ILAR	**Eielson Array**	**52.03**	**31**	P	**P**	**08 40 15.5**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ILAR	**Eielson Array**	**52.03**	**31**	P	**P**	**08 40 15.5**	**-0.4**
	comp=Z,4.2nm,0.7s,mb4.5,baz=268,slow=6.3,SNR=44						
CHKZ	**Chkalovo**	**52.60**	**315**	*e*P	**P**	**08 40 19.3**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
CHKZ	**Chkalovo**	**52.60**	**315**	*e*P	**P**	**08 40 19.3**	**-1.0**
	comp=Z,3.5nm,1.2s,mb4.2						
BVAR	**Borovoye Array**	**52.84**	**314**	P	**P**	**08 40 23.2**	**+1.1**
	comp=Z,1.7nm,0.9s,mb4.0,baz=79,slow=7.6,SNR=4.8						
BRVK	**Borovoye**	**52.89**	**314**	*e*P	**P**	**08 40 22.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**53.94**	**199**	*e*P	**P**	**08 40 30.9**	**+0.1**
	comp=Z,4.2nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**54.01**	**188**	*e*P	**P**	**08 40 30.1**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**54.01**	**188**	*e*P	**P**	**08 40 30.1**	**-1.1**
	comp=Z,4.1nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**54.02**	**188**	*e*P	**P**	**08 40 30.2**	**-1.1**
WRA	**Warramunga Arr**	**54.02**	**189**	P	**P**	**08 40 30.5**	**-0.8**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA	**Warramunga Arr**	**54.02**	**189**	P	**P**	**08 40 30.5**	**-0.8**
	comp=Z,1.8nm,0.5s,mb4.3,baz=6.4,slow=7.7,SNR=13						
INK	**Inuvik**	**57.07**	**26**	*e*P	**P**	**08 40 52.3**	**-0.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**57.07**	**26**	P	**P**	**08 40 52.4**	**-0.4**
	comp=Z,2.1nm,0.6s,mb4.3,baz=304,slow=5.6,SNR=9.4						
INK	**Inuvik**	**57.07**	**26**	*e*P	**P**	**08 40 52.3**	**-0.5**
	comp=Z,1.9nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**57.75**	**188**	P	**P**	**08 40 57.2**	**-0.8**
	comp=Z,1.0nm,0.8s,mb3.9,baz=10,slow=5.7,SNR=7.0						
ASAR				PcP	PcP	08 41 51.2	+0.7
	comp=Z,1.1nm,0.7s,baz=2.2,slow=5.0,SNR=3.9						
MBWA	**Marble Bar**	**58.62**	**204**	P	**P**	**08 41 02.0**	**-2.3**
ARU	**Arti**	**58.83**	**320**	*e*P	**P**	**08 40 59.3**	**-5.9**
RES	**Resolute Bay**	**65.56**	**14**	*e*P	**P**	**08 41 49.3**	**-0.4**
RES				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
RES	**Resolute Bay**	**65.56**	**14**	*e*P	**P**	**08 41 49.3**	**-0.4**
	comp=Z,4.0nm,1.0s,mb4.4						
YKA	**Yellowknife Ar**	**66.40**	**29**	P	**P**	**08 41 54.7**	**-0.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**66.40**	**29**	P	**P**	**08 41 54.7**	**-0.5**
	comp=Z,1.2nm,0.9s,mb3.9,baz=296,slow=6.5,SNR=19						
YKA	**Yellowknife Ar**	**66.40**	**29**	P	**P**	**08 41 54.7**	**-0.5**
FINES	**FINESS Array B**	**71.65**	**333**	P	**P**	**08 42 27.3**	**-0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**71.65**	**333**	P	**P**	**08 42 27.2**	**-0.4**
	comp=Z,2.8nm,0.8s,mb4.2,baz=68,slow=10,SNR=4.8						
EDM	**Edmonton**	**71.67**	**38**	*e*P	**P**	**08 42 27.7**	**-0.2**
BMO	**Blue Mountains**	**73.91**	**47**	*e*P	**P**	**08 42 42.3**	**+1.1**
	comp=Z,4.3nm,1.0s,mb4.3						
NVAR	**Mina Array Bea**	**76.71**	**53**	P	**P**	**08 42 59.1**	**+1.7**
	comp=Z,3.8nm,1.1s,mb4.3,baz=280,slow=7.1,SNR=15						
AKASG	**Malin Array Be**	**76.88**	**323**	P	**P**	**08 42 57.2**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**76.88**	**323**	P	**P**	**08 42 57.2**	**-0.8**
	comp=Z,1.1nm,0.5s,mb4.0,baz=45,slow=6.1,SNR=6.2						
NB2	**NORSAR Subarra**	**77.12**	**338**	P	**P**	**08 42 58.9**	**-0.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=39,slow=5.6						
NOA	**NORSAR Array B**	**77.12**	**338**	P	**P**	**08 42 59.2**	**0.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**77.12**	**338**	P	**P**	**08 42 59.2**	**-0.1**
	comp=Z,1.6nm,0.7s,mb4.1,baz=39,slow=5.7,SNR=5.2						
PDAR	**Pinedale Array**	**79.71**	**45**	P	**P**	**08 43 15.0**	**+1.2**
	comp=Z,1.6nm,0.6s,mb4.1,baz=260,slow=1.9,SNR=18						
FRB	**Frobisher Bay**	**79.75**	**13**	P	**P**	**08 43 13.8**	**+0.2**
FRB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FRB	**Frobisher Bay**	**79.75**	**13**	P	**P**	**08 43 13.8**	**+0.2**
	comp=Z,3.7nm,0.8s,mb4.4,baz=298,slow=6.1,SNR=8.9						
BRTR	**Keskin Array B**	**81.06**	**312**	P	**P**	**08 43 23.2**	**+2.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**81.06**	**312**	P	**P**	**08 43 23.2**	**+2.2**
	comp=Z,1.1nm,0.9s,mb3.8,baz=90,slow=2.5,SNR=6.2						
PV10	**Paradox Valley**	**82.69**	**48**	*e*P	**P**	**08 43 31.7**	**+2.3**
PV10				*e*		08 43 49.5	
PV01	**Paradox Valley**	**83.12**	**48**	*e*P	**P**	**08 43 33.6**	**+1.9**
GERES	**GERESS Array B**	**85.45**	**328**	P	**P**	**08 43 44.0**	**+0.9**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**85.45**	**328**	P	**P**	**08 43 44.0**	**+0.9**
	comp=Z,0.9nm,0.8s,mb4.0,baz=27,slow=3.0,SNR=4.4						
TXAR	**Lajitas Array**	**91.86**	**53**	P	**P**	**08 44 15.2**	**+1.1**
	comp=Z,0.4nm,0.7s,mb3.9,baz=294,slow=3.0,SNR=5.5						
LPAZ	**La Paz**	**147.99**	**64**	PKP2	PKPab	08 50 53.6	-1.5
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LPAZ	**La Paz**	**147.99**	**64**	PKPbc	PKPdf	08 50 53.6	+6.4
	comp=Z,3.7nm,0.8s,baz=4.2,slow=8.1,SNR=16						
USHA	**Ushuaia**	**150.39**	**144**	PKPbc	PKPdf	08 50 58.5	+8.6
	comp=Z,5.7nm,0.9s,baz=255,slow=2.6,SNR=3.8						

*BJI **19** 08:44:56.8, 7.08N×93.19E, h30km, mB5.5, mb5.1, Ms4.4, Msz4.3*
*MOS **19** 08:45:02.5±0.9, 7.80N×93.44E, h33km, mb5.2/14, Error ellipse: s-maj=22.8km s-min=10.8km az=99.6*
*NEIC **19** 08:45:05.2±0.3, 7.87N×93.55E, h30km, mb4.9/20, Error ellipse: s-maj=10.0km s-min=6.3km az=46.0*
*IDC **19** 08:45:07.7±2.5, 7.91N×93.49E, h50km±22km, mb4.4/22, mb1 4.5/22, mb1mx4.4/25, mbtmp4.6/22, ML5.3/1, MS3.6/1, Ms1 3.8/1, ms1mx3.3/30, Error ellipse: s-maj=20.5km s-min=10.9km az=48.0*
ISC 19 08:45:03.6±0.3, 7.82N±0.05×93.49E±0.05, h33km, n122, σ1§08/125, mb4.9/57, MS4.5/3, 10C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.09**	**95**	P	**P**	**08 46 52.0**	**+4.3**
	430nm,0.9s						
NNT	**Nongplab**	**7.76**	**52**	P	**P**	**08 47 01.0**	**+4.1**
NST	**Nakhon Sawan**	**10.16**	**39**	P	**P**	**08 47 34.0**	**+3.7**
CMAR	**Chiang Mai Arr**	**11.83**	**26**	P	**P**	**08 47 55.8**	**+2.8**
	5.4nm,0.3s,baz=210,slow=14,SNR=83						
CMAR				LR	LR	08 52 05.9	
	comp=Z,306nm,21.9s,baz=200,slow=36						
CMAR				ScP		08 57 09.3	
	0.6nm,0.3s,baz=222,slow=3.0,SNR=4.2						
CHG	**Chiang Mai**	**12.14**	**25**	⇑P	**P**	**08 48 01.7**	**+4.4**
	62nm,0.8s						
KKTK	**Khon Kaen**	**12.44**	**46**	P	**P**	**08 48 06.5**	**+5.2**
PALK	**Pallekele**	**12.69**	**268**	*e*P	**P**	**08 48 05.4**	**+0.8**
	11nm,0.5s						
NANT	**Nan**	**12.97**	**32**	P	**P**	**08 48 13.0**	**+4.7**
CHRT	**Chiangrai**	**13.44**	**26**	⇑P	**P**	**08 48 21.0**	**+6.5**
	342nm,0.8s						
VIS	**Vishakhapatnam**	**13.96**	**316**	*e*P	**P**	**08 48 23.3**	**+1.9**
VIS				*e*		08 48 23.7	
	comp=Z,34nm,0.3s						
VIS				*e*S	**S**	**08 50 39.2**	**-17**
BWNR	**Bhubaneshwar**	**14.46**	**330**	*e*P	**P**	**08 48 25.8**	**-2.3**
BWNR				*e*		08 48 27.8	
	comp=Z,70nm,0.2s						
BWNR				*e*S	**S**	**08 50 55.4**	**-13**
BWNR				*e*		08 50 58.8	
	comp=N,206nm,0.2s						
BWNR				*e*		08 50 58.9	
	comp=E,167nm,0.2s						
IMP	**Imphal**	**16.88**	**1**	*e*P	**P**	**08 48 58.2**	**-0.7**
HYB	**Hyderabad**	**17.41**	**305**	*e*P	**P**	**08 49 09.0**	**+3.3**
HYB				*e*S	Px	08 51 20.0	
HYB	**Hyderabad**	**17.41**	**305**	*i* P	**P**	**08 49 09.0**	**+3.3**
HYB				*e*S	**S**	**08 52 20.0**	**+3.5**
SHL	**Shillong**	**17.72**	**355**	*e*P	**P**	**08 49 07.0**	**-2.5**
SHL				*e*S	**S**	**08 52 11.5**	**-12**
QIZ	**Qiongzhong**	**19.40**	**53**	P	**P**	**08 49 31.8**	**+2.0**
JIRN	**Jiri**	**20.91**	**342**	*e*P	**P**	**08 49 46.5**	**+0.7**
	comp=E,137nm,0.5s						

KAD	**Karad**	**21.05**	**298**	*e*P	**P**	**08 49 54.0**	**+6.7**
KAD				*i* S	**S**	**08 53 35.0**	**+0.1**
PKI	**Pulchoki**	**21.09**	**340**	*e*P	**P**	**08 49 48.1**	**+0.6**
	comp=E,111nm,0.5s,mb5.4						
DMN	**Daman**	**21.23**	**339**	*e*P	**P**	**08 49 49.4**	**+0.5**
	comp=E,58nm,0.5s,mb5.1						
KKN	**Kakani**	**21.33**	**340**	*e*P	**P**	**08 49 50.3**	**+0.3**
	comp=E,185nm,0.7s,mb5.5						
BHPL	**Bhopal**	**21.75**	**317**	*e*	**P**	**08 50 03.0**	**+8.8**
GKN	**Gorkha**	**21.75**	**338**	*e*P	**P**	**08 49 54.9**	**+0.7**
	comp=E,169nm,0.7s,mb5.6						
POO	**Poona**	**21.86**	**301**	*e*	**P**	**08 49 48.0**	**-7.4**
LSA	**Lhasa**	**21.88**	**355**	P	**P**	**08 49 55.6**	**+0.1**
LSA				S	**S**	**08 53 47.8**	**-2.4**
LSA	**Lhasa**	**21.88**	**355**	*e*P	**P**	**08 49 55.8**	**+0.3**
	comp=E,30nm,0.5s,mb5.0						
KOLN	**Koldanda**	**21.94**	**336**	*e*P	**P**	**08 49 57.3**	**+1.2**
	comp=E,88nm,0.8s,mb5.3						
NDI	**New Delhi**	**25.81**	**326**	*e*	**P**	**08 50 23.0**	**-11**
DDI	**Dehra Dun**	**26.66**	**329**	*e*	**P**	**08 50 41.1**	**-0.4**
ENH	**Enshi**	**26.90**	**32**	*e*P	**P**	**08 50 43.8**	**0.0**
	comp=E,26nm,0.6s,mb4.9						
LZH	**Lanzhou**	**29.68**	**17**	⇑P	**P**	**08 51 08.6**	**-0.1**
LZH				AMB	AMB		
	comp=Z,39nm,1.3s,mb5.0						
XAN	**Xi'an**	**29.72**	**26**	P	**P**	**08 51 08.3**	**-0.8**
XAN				AMB	AMB		
	comp=Z,57nm,0.8s,mb5.3						
NJ2	**Nanjing**	**33.73**	**41**	*e*P	**P**	**08 51 45.0**	**+0.8**
NJ2				AP	pP	08 51 54.5	+0.6
NJ2				XP	sP	08 51 59.5	+1.3
NJ2				PP	PP	08 52 59.3	+1.7
NJ2				S	**S**	**08 57 06.0**	**+1.7**
NJ2				XS		08 57 24.0	
NJ2				AMB	AMB		
	comp=Z,430nm,6.0s						
NJ2				LR	LR		
	comp=N,400nm,12.0s						
NJ2				LR	LR		
	comp=E,270nm,17.6s						
NJ2				LR	LR		
	comp=Z,370nm,11.7s,MS4.3						
SSE	**Sheshan**	**34.71**	**44**	P	**P**	**08 51 50.6**	**-2.0**
SSE				S	**S**	**08 57 19.6**	**+0.1**
SSE				XS		08 57 40.5	
SSE				AMB	AMB		
	comp=Z,13nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,656nm,11.2s						
SSE				LR	LR		
	comp=N,232nm,21.7s,MS4.2						
SSE				LR	LR		
	comp=E,437nm,21.5s,MS4.2						
SSE				LR	LR		
	comp=Z,397nm,19.1s,MS4.2						
WMQ	**Urumqi**	**36.22**	**353**	P	**P**	**08 52 05.7**	**+0.4**
ULHL	**Ulahol**	**37.52**	**339**	P	**P**	**08 52 17.2**	**+0.9**
	SNR=5.3						
KZA	**Kyzart**	**37.74**	**338**	P	**P**	**08 52 19.2**	**+1.1**
	SNR=5.8						
BJT	**Baijiatuau**	**37.94**	**29**	*e*P	**P**	**08 52 21.8**	**+1.9**
	comp=Z,48nm,0.7s,mb5.3						
UCH	**Uchtor**	**38.15**	**337**	P	**P**	**08 52 22.7**	**+1.2**
	SNR=18						
TKM2	**Tokmak 2**	**38.34**	**339**	P	**P**	**08 52 23.9**	**+0.8**
	SNR=13						
AML	**Almayashu**	**38.39**	**336**	P	**P**	**08 52 25.1**	**+1.5**
	SNR=6.7						
AAK	**Ala-Archa**	**38.50**	**337**	P	**P**	**08 52 25.8**	**+1.3**
	SNR=17						
AAK	**Ala-Archa**	**38.50**	**337**	⇑*e*P	**P**	**08 52 24.8**	**+0.3**
AAK				pmax	pmax		
	comp=Z,43nm,1.9s,mb4.8						
AAK	**Ala-Archa**	**38.50**	**337**	*e*P	**P**	**08 52 24.6**	**+0.2**
	comp=Z,14nm,0.8s,mb4.8						
MBWA	**Marble Bar**	**38.64**	**139**	*e*P	**P**	**08 52 26.4**	**+0.5**
	comp=Z,2.1nm,0.6s,mb4.0						
CHMS	**Chumysh**	**38.72**	**338**	P	**P**	**08 52 26.9**	**+0.6**
	SNR=5.0						
EKS2	**Erkin-Say**	**38.81**	**337**	P	**P**	**08 52 28.5**	**+1.5**
	SNR=9.8						
USP	**Ospenovka**	**39.04**	**338**	P	**P**	**08 52 29.6**	**+0.7**
	SNR=16						
MKAR	**Makanchi Array**	**40.01**	**348**	*e*P	**P**	**08 52 36.6**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**40.87**	**129**	*e*P	**P**	**08 52 43.8**	**-0.6**
	comp=Z,6.9nm,0.8s,mb4.3						
SONM	**Songino Array**	**41.36**	**13**	P	**P**	**08 52 48.0**	**-0.1**
	comp=

YSS				*e*			08 55 05.0
YSS				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.4						
YSS	**Yuzh-Sakhalins**	**57.22**	**38**	*e*P	**P**	**08 54 50.6**	**+0.6**
	comp=Z,32nm,0.8s,mb5.4						
SOC	**Sochi**	**58.78**	**317**	*e*P	**P**	**08 54 57.3**	**-3.7**
SOC				*e*		08 55 46.1	
SOC				*e*PPP	PPP	08 58 28.5	-8.4
SOC				*e*S	**S**	**09 03 00.3**	**-1.9**
SOC				*e*		09 04 43.1	
SOC				*e*SS	SS	09 07 00.1	+2.9
SOC				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.2						
SOC				pmax	pmax		
	comp=N,7.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,19nm,0.7s						
YAK	**Yakutsk**	**60.25**	**19⇓**	*e*P	**P**	**08 55 09.8**	**-1.1**
YAK				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
STKA	**Stephens Creek**	**60.53**	**133**	*e*P	**P**	**08 55 13.0**	**-0.2**
	comp=Z,3.6nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**60.53**	**133**	P	**P**	**08 55 13.4**	**+0.1**
	comp=Z,6.1nm,0.7s,mb4.8,baz=319,slow=9.5,SNR=17						
ANN	**Anapa**	**60.74**	**317**	*e*P	**P**	**08 55 25.1**	**+11**
ANN				*e*		08 55 55.2	
ANN				*e*S	S	09 03 54.9	+27
ANN				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.3						
BRTR	**Keskin Array B**	**61.98**	**311**	P	**P**	**08 55 21.4**	**-1.5**
	comp=Z,1.2nm,0.6s,mb4.2,baz=121,slow=7.2,SNR=5.2						
MA2	**Magadan**	**67.11**	**28**	*e*P	**P**	**08 55 55.0**	**-0.8**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MA2	**Magadan**	**67.11**	**28**	*e*P	**P**	**08 55 55.2**	**-0.6**
	comp=Z,26nm,1.0s,mb5.2						
TIXI	**Tiksi**	**67.41**	**11⇑**	*e*P	**P**	**08 55 56.4**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,23nm,0.4s,mb5.6						
AKASG	**Malin Array Be**	**67.80**	**322**	P	**P**	**08 55 58.4**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=90,slow=5.4,SNR=4.5						
MLR	**Muntele Rosu**	**68.76**	**316**	P	**P**	**08 56 06.1**	**-0.3**
	comp=Z,4.0nm,0.9s,mb4.3,baz=85,slow=4.2,SNR=4.7						
PET	**Petropavlovsk**	**68.95**	**36**	*e*P	**P**	**08 56 05.5**	**-1.9**
PET				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
JOF	**Joensuu**	**70.62**	**335**	*e*p	**P**	**08 56 15.7**	**-1.7**
	comp=Z,8.4nm,1.0s,mb4.6						
JOF	**Joensuu**	**70.62**	**335**	*e*P	**P**	**08 56 15.7**	**-1.7**
JOF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
APA	**Apatity**	**71.67**	**339⇑**	*i*P	**P**	**08 56 23.7**	**0.0**
APA				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.1						
FINES	**FINESS Array B**	**72.46**	**332**	*i*P	**P**	**08 56 28.3**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**72.46**	**332**	P	**P**	**08 56 28.3**	**-0.1**
	comp=Z,1.6nm,0.4s,mb4.3,baz=106,slow=6.7,SNR=25						
KAF	**Kangasniemi**	**72.55**	**333**	*e*p	**P**	**08 56 28.2**	**-0.7**
	baz=119,slow=5.8						
KEV	**Kevo**	**74.67**	**341**	*e*p	**P**	**08 56 41.0**	**-0.2**
	comp=Z,25nm,1.1s,mb5.0						
KEV	**Kevo**	**74.67**	**341**	*e*P	**P**	**08 56 41.0**	**-0.2**
KEV				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
ARCES	**ARCESS Array B**	**75.10**	**340**	P	**P**	**08 56 44.0**	**+0.4**
	comp=Z,12nm,0.9s,mb4.8,baz=107,slow=6.0,SNR=37						
BILL	**Bilibino**	**76.38**	**22***c*	*i*P	**P**	**08 56 50.9**	**-0.1**
BILL				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
BILL				MLR	MLR		
	comp=Z,700nm,25.0s,MS4.9						
BILL	**Bilibino**	**76.38**	**22**	*e*P	**P**	**08 56 50.2**	**-0.8**
	comp=Z,7.2nm,0.6s,mb4.8						
GERES	**GERESS Array B**	**77.44**	**318**	P	**P**	**08 56 57.8**	**+0.5**
	comp=Z,1.4nm,0.5s,mb4.2,baz=90,slow=4.0,SNR=8.2						
HFS	**Hagfors**	**78.18**	**330**	P	**P**	**08 57 01.4**	**+0.2**
	comp=Z,3.3nm,0.4s,mb4.6,baz=108,slow=4.7,SNR=28						
NB2	**NORSAR Subarra**	**79.46**	**331**	P	**P**	**08 57 07.6**	**-0.6**
	comp=Z,2.3nm,0.6s,mb4.3,baz=98,slow=5.0						
NOA	**NORSAR Array B**	**79.46**	**331**	P	**P**	**08 57 07.3**	**-0.9**
	comp=Z,4.8nm,0.9s,mb4.4,baz=94,slow=5.4,SNR=9.0						
DAVOX	**Davos**	**79.98**	**316**	P	**P**	**08 57 10.9**	**-0.3**
	comp=Z,5.9nm,0.8s,mb4.5,baz=88,slow=5.2,SNR=4.2						
LPG	**La Plagne**	**82.20**	**315**	*e*P	**P**	**08 57 23.4**	**+0.5**
	comp=Z,12nm,0.7s,mb4.6						
EKA	**Eskdalemuir Ar**	**87.40**	**325**	P	**P**	**08 57 49.5**	**+0.8**
	comp=Z,4.2nm,0.7s,mb4.8,baz=104,slow=5.3,SNR=9.9						
ESDC	**Sonseca Array**	**90.76**	**310**	P	**P**	**08 58 06.0**	**+1.0**
	comp=Z,3.4nm,0.7s,mb4.8,baz=46,slow=4.5,SNR=5.0						
IMA	**Indian Mountai**	**91.92**	**22**	*e*P	**P**	**08 58 11.5**	**+1.9**
ILAR	**Eielson Array**	**95.04**	**22**	P	**P**	**08 58 23.9**	**-0.1**
	comp=Z,1.1nm,0.7s,mb4.4,baz=293,slow=3.9,SNR=16						
ILAR				PP	PP	09 02 15.6	-0.1
	comp=Z,0.6nm,0.8s,baz=286,slow=6.2,SNR=5.1						
INK	**Inuvik**	**97.22**	**16**	P	**P**	**08 58 33.5**	**-0.3**
	comp=Z,3.3nm,0.9s,mb4.7,baz=330,slow=3.1,SNR=5.7						
INK	**Inuvik**	**97.22**	**16**	P	**P**	**08 58 33.5**	**-0.3**
YKA	**Yellowknife Ar**	**106.63**	**13**	PKiKP		09 03 28.7	
	comp=Z,0.3nm,0.9s,baz=319,slow=1.8,SNR=4.9						
YKA				PP	PP	09 03 38.0	-6.4
	comp=Z,0.6nm,0.7s,baz=333,slow=7.9,SNR=9.5						
NVAR	**Mina Array Bea**	**125.29**	**30**	PKP	PKPdf	09 04 05.0	+3.4
	comp=Z,0.7nm,0.5s,baz=278,slow=1.9,SNR=7.4						
NVAR	**Mina Array Bea**	**125.29**	**30**	PKP	PKPdf	09 04 05.0	+3.4
PDAR	**Pinedale Array**	**125.45**	**21**	PKP	PKPdf	09 04 04.0	+2.2
	comp=Z,1.7nm,0.7s,baz=47,slow=1.0,SNR=17						
SADO	**Sadowa**	**127.24**	**353**	PKP	PKPdf	09 04 06.5	+1.3
	comp=Z,10nm,0.8s,baz=252,slow=2.8,SNR=4.0						
MVU	**Marysvale**	**128.07**	**26**	*e*P	PKPdf	09 04 11.2	+4.2
TXAR	**Lajitas Array**	**139.53**	**23**	PKhKP		09 04 22.3	
	comp=Z,0.3nm,0.6s,baz=207,slow=1.2,SNR=6.1						
TXAR				PKP	PKPdf	09 04 28.9	+0.3
	comp=Z,0.6nm,0.4s,baz=186,slow=1.0,SNR=7.7						
TXAR				PKiKP		09 04 33.4	
	comp=Z,0.3nm,0.5s,baz=329,slow=1.0,SNR=4.6						
TXAR				PP	PP	09 07 25.6	-1.9
	comp=Z,0.3nm,0.7s,slow=3.8,SNR=3.7						

BJI ***19*** *09:00:42.1, 6.50N×92.98E, h32km, mB4.8, mb4.8, Ms4.9, Msz4.7*

IDC ***19*** *09:00:45.0±4.7, 6.96N×93.06E, h21km±29km, mb4.6/25, mb1 4.7/26, mb1mx4.6/28, mbtmp4.7/26, ML4.8/1, MS4.4/3, Ms1 4.5/3, ms1mx3.8/30, Error ellipse: s-maj=20.1km s-min=11.8km az=47.0*

MOS ***19*** *09:00:44.7±0.9, 6.86N×92.95E, h33km, mb5.1/30, Error ellipse: s-maj=11.0km s-min=6.2km az=115.5*

NEIC ***19*** *09:00:44.4±3.0, 6.82N×92.94E, h19km±18km, mb4.9/27, Error ellipse: s-maj=7.0km s-min=5.5km az=205.0*

ISC 19 09:00:45.2±1.1, 6.79N±0.05×92.97E±0.04, h39km±9km, h35km±3.1km: pP-P, n195, σ1°07/192, mb4.9/71, MS4.5/5, 11C-7D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**8.81**	**49**	P	**P**	**09 02 53.4**	**+0.5**
PALK	**Pallekele**	**12.18**	**273**	*e*P	**P**	**09 03 36.2**	**-2.9**
	23nm,0.4s						
CMAR	**Chiang Mai Arr**	**12.97**	**26**	Pn	**P**	**09 03 49.7**	**+0.1**
	1.8nm,0.3s,baz=217,slow=14,SNR=37						
CMAR				LR	LR	09 09 30.0	
	comp=Z,923nm,18.6s,baz=195,slow=41						
CHG	**Chiang Mai**	**13.29**	**25**	⇓P	**P**	**09 03 57.4**	**+3.6**
	44nm,0.7s						
KKTK	**Khon Kaen**	**13.53**	**45**	P	**P**	**09 04 05.0**	**+8.0**
MDRS	**Chennai**	**13.99**	**297**	*e*	**P**	**09 03 55.0**	**-8.1**
MDRS				*e*P		09 04 00.9	
MDRS				*e*		09 06 22.0	
NANT	**Nan**	**14.11**	**32**	P	**P**	**09 04 11.0**	**+6.4**
VIS	**Vishakhapatnam**	**14.37**	**320**	*e*P	**P**	**09 04 06.3**	**-1.7**
VIS				*e*		09 04 08.8	
	comp=Z,166nm,0.2s						
VIS				*e*S	**S**	**09 06 34.8**	**-12**
CHRT	**Chiangrai**	**14.59**	**26**	⇓P	**P**	**09 04 12.5**	**+1.6**
	comp=Z,110nm,0.8s						
BWNR	**Bhubaneshwar**	**15.11**	**333**	*e*P	**P**	**09 04 13.3**	**-4.4**
BWNR				*e*		09 04 14.1	
	comp=Z,20nm,0.2s						
BWNR				*e*		09 06 47.8	
KOD	**Kodaikanal**	**15.71**	**284**	*e*P	**P**	**09 04 27.0**	**+1.6**
HYB	**Hyderabad**	**17.59**	**308**	*e*P	**P**	**09 04 46.5**	**-2.7**
HYB				*e*S	**S**	**09 07 53.0**	**-8.6**
HYB	**Hyderabad**	**17.59**	**308**	*i*P	**P**	**09 04 46.5**	**-2.7**
HYB				*e*		09 04 50.0	
HYB				*e*S	**S**	**09 07 53.0**	**-8.6**
IMP	**Imphal**	**17.91**	**3**	*e*P	**P**	**09 04 56.4**	**+3.3**
BLSP	**Bilaspur**	**18.49**	**327**	*e*P	**P**	**09 04 59.4**	**-0.9**
BLSP				*e*		09 05 03.2	
	comp=Z,93nm,1.5s						
SHL	**Shillong**	**18.70**	**357**	*e*P	**P**	**09 05 00.0**	**-2.8**
SHL				*e*		09 08 14.5	
MNGI	**Mangalore**	**18.89**	**290**	*i*P	**P**	**09 05 05.2**	**+0.1**
MNGI				*i*		09 08 18.1	
LATR	**Latur**	**19.72**	**307**	*e*P	**P**	**09 05 13.4**	**-1.0**
LATR				*e*		09 09 13.8	
QIZ	**Qiongzhong**	**20.43**	**52**	P	**P**	**09 05 22.4**	**+0.5**
QIZ	**Qiongzhong**	**20.43**	**52**	*e*P	**P**	**09 05 22.3**	**+0.5**
	comp=Z,202nm,1.4s						
GOA	**Goa**	**20.66**	**296**	*e*	**S**	**09 09 12.0**	**+4.1**
KAD	**Karad**	**21.11**	**301⇑**	*i*P	**P**	**09 05 29.3**	**+0.4**
KAD				*i*S	**S**	**09 09 11.4**	**-5.1**
JIRN	**Jiri**	**21.73**	**344**	*e*P	**P**	**09 05 35.3**	**+0.3**
	comp=Z,155nm,0.7s,mb5.5						
PKI	**Pulchoki**	**21.88**	**342**	*e*P	**P**	**09 05 36.6**	**+0.2**
	comp=Z,134nm,0.7s,mb5.5						
POO	**Poona**	**21.97**	**304**	*i*S	**S**	**09 09 32.0**	**-0.5**
DMN	**Daman**	**22.01**	**341**	*e*P	**P**	**09 05 38.8**	**+1.1**
	comp=Z,230nm,0.9s,mb5.6						
KKN	**Kakani**	**22.12**	**342**	*e*P	**P**	**09 05 39.7**	**+0.8**
	comp=Z,96nm,0.8s,mb5.3						
BHPL	**Bhopal**	**22.16**	**319**	*e*P	**P**	**09 05 41.2**	**+1.9**
BHPL				*e*		09 05 43.9	
	comp=Z,48nm,1.2s						
GKN	**Gorkha**	**22.52**	**340**	*e*P	**P**	**09 05 43.4**	**+0.4**
	comp=Z,133nm,0.6s,mb5.6						
KOLN	**Koldanda**	**22.68**	**338**	*e*P	**P**	**09 05 45.3**	**+0.8**
	comp=Z,84nm,0.5s,mb5.4						
LSA	**Lhasa**	**22.85**	**356**	P	**P**	**09 05 48.4**	**+2.3**
LSA	**Lhasa**	**22.85**	**356**	*e*P	**P**	**09 05 48.2**	**+2.1**
LSA				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.6						
LSA	**Lhasa**	**22.85**	**356**	*e*P	**P**	**09 05 48.2**	**+2.0**
	comp=Z,14nm,0.6s,mb4.6						
BOM	**Bombay**	**23.01**	**303**	*e*P	**P**	**09 06 02.2**	**+14**
BOM				*e*S	**S**	**09 10 01.2**	**+10**
NDI	**New Delhi**	**26.38**	**328**	*e*P	**P**	**09 06 19.0**	**-0.9**
JOSI	**Joshimath**	**26.78**	**334**	*e*P	**P**	**09 06 21.2**	**-2.4**
DDI	**Dehra Dun**	**27.28**	**331**	*e*	**P**	**09 06 29.2**	**+1.0**
ENH	**Enshi**	**28.04**	**32**	*e*P	**P**	**09 06 33.3**	**-1.7**
	comp=Z,11nm,0.6s,mb4.7						
KLP	**Kalpa**	**28.20**	**333**	*e*P	**P**	**09 06 37.0**	**+0.5**
KLP				*e*		09 06 38.2	
	comp=Z,13nm,0.7s						
LZH	**Lanzhou**	**30.81**	**17**	*e*P	**P**	**09 06 58.5**	**-1.2**
LZH				AP	pP	09 07 06.9	-3.7
LZH				XP	sP	09 07 10.3	-5.3
LZH				PP	PP	09 08 00.3	-1.3
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb4.8						
LZH				LR	LR		
	comp=N,315nm,13.2s						
LZH				LR	LR		
	comp=Z,435nm,17.0s,MS4.2						
XAN	**Xi'an**	**30.87**	**26**	P	**P**	**09 06 57.8**	**-2.4**
XAN				AP	pP	09 07 07.0	-4.1
XAN				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.9						
SSE	**Sheshan**	**35.80**	**44**	P	**P**	**09 07 39.3**	**-3.6**
SSE				S	**S**	**09 13 17.1**	**+0.3**
SSE				XS		09 13 30.5	
SSE				AMB	AMB		
	comp=Z,22nm,0.6s,mb5.3						
SSE				AMB	AMB		
	comp=Z,385nm,12.0s						
SSE				LR	LR		
	comp=N,213nm,21.2s,MS4.0						
SSE				LR	LR		
	comp=E,221nm,21.0s,MS4.0						
SSE				LR	LR		
	comp=Z,404nm,21.5s,MS4.2						
WMQ	**Urumqi**	**37.17**	**354**	*e*P	**P**	**09 07 54.8**	**+0.6**
WMQ				AP	pP	09 07 59.2	-6.1
WMQ				PP	PP	09 09 21.5	-0.3
WMQ				S	**S**	**09 13 40.0**	**+2.3**
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,56nm,4.9s						
WMQ				LR	LR		
	comp=N,1μm,19.5s,MS4.8						
WMQ				LR	LR		
	comp=E,1μm,20.2s,MS4.8						
WMQ				LR	LR		
	comp=Z,2μm,20.3s,MS4.9						
UCH	**Uchtor**	**38.89**	**338**	P	**P**	**09 08 09.9**	**+1.3**
	SNR=32						
BJT	**Baijiatuau**	**39.08**	**29**	*e*P	**P**	**09 08 11.3**	**+1.1**
BJT				*e*	pP	09 08 22.8	+1.4
BJT				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BJT	**Baijiatuau**	**39.08**	**29**	*e*P	**P**	**09 08 11.3**	**+1.1**
	comp=Z,8.0nm,0.7s,mb4.6						
BJT				*e*	pP	09 08 22.8	+1.4
KBK	**Karagaybulak**	**39.11**	**339**	P	**P**	**09 08 11.9**	**+1.5**
	SNR=9.8						
TKM2	**Tokmak 2**	**39.11**	**340**	P	**P**	**09 08 11.4**	**+1.0**
	SNR=14						
AML	**Almayashu**	**39.12**	**337**	P	**P**	**09 08 12.0**	**+1.5**
	SNR=21						
AAK	**Ala-Archa**	**39.25**	**338**	P	**P**	**09 08 13.2**	**+1.6**
	SNR=24						
AAK	**Ala-Archa**	**39.25**	**338**	*e*P	**P**	**09 08 12.2**	**+0.6**
AAK				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.0						
AAK	**Ala-Archa**	**39.25**	**338**	*e*P	**P**	**09 08 12.2**	**+0.6**
	comp=Z,29nm,0.9s,mb5.0						
FRU	**Bishkek**	**39.38**	**339**	*e*P	**P**	**09 08 13.0**	**+0.3**
FRU				*e*	pP	09 08 27.0	+3.2
FRU				pmax	pmax		
	comp=Z,60nm,1.8s,mb5.0						
CHMS	**Chumysh**	**39.48**	**339**	P	**P**	**09 08 14.1**	**+0.6**
	SNR=9.2						
EKS2	**Erkin-Say**	**39.54**	**338**	P	**P**	**09 08 15.4**	**+1.4**
	SNR=26						
USP	**Ospenovka**	**39.80**	**339**	P	**P**	**09 08 16.8**	**+0.7**
	SNR=30						
FITZ	**Fitzroy Crossi**	**40.64**	**128**	*e*P	**P**	**09 08 14.5**	**-8.9**
	comp=Z,7.6nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**40.90**	**349**	*i*P	**P**	**09 08 24.6**	**-0.6**
SONM	**Songino Array**	**42.47**	**13**	P	**P**	**09 08 37.6**	**-0.5**
	comp=Z,2.0nm,0.5s,mb4.0,baz=198,slow=8.2,SNR=18						
SONM				PcP	PcP	09 10 31.0	-0.1
	comp=Z,3.7nm,0.6s,baz=202,slow=3.5,SNR=8.5						
SONM				ScP		09 14 19.9	
	baz=207,slow=2.8,SNR=3.5						
ULN	**Ulaanbaatar**	**42.65**	**14**	*e*P	**P**	**09 08 39.6**	**0.0**
ZAK	**Zakamensk**	**44.29**	**9**	*e*P	**P**	**09 08 59.9**	**+7.0**
MOY	**Mondy**	**45.22**	**7**	*e*P	**P**	**09 09 08.2**	**+7.9**
KURK	**Kurchatov**	**45.39**	**347**	*e*P	**P**	**09 09 00.7**	**-0.9**
KURK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
KURK	**Kurchatov**	**45.39**	**347**	*e*P	**P**	**09 09 00.7**	**-0.9**
	comp=Z,13nm,1.0s,mb4.7						
ZAL	**Zalesovo**	**47.47**	**353**	P	**P**	**09 09 17.5**	**-0.5**
	comp=Z,7.9nm,0.4s,mb5.0,baz=300,slow=6.0,SNR=26						
HIA	**Hailar**	**47.97**	**23**	*e*P	**P**	**09 09 21.8**	**-0.2**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HIA	**Hailar**	**47.97**	**23**	*e*P	**P**	**09 09 21.8**	**-0.2**
	comp=Z,7.2nm,0.9s,mb4.7						
RAYN	**Ar Rayn**	**48.48**	**295**	P	**P**	**09 09 27.6**	**+1.3**
	comp=Z,199nm,0.5s,SNR=16						
NVS	**Novosibirsk**	**48.55**	**353**	*i*P	**P**	**09 09 25.5**	**-0.9**
NVS				*e*	pP	09 09 34.6	-3.0
NVS				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
NVS				pmax	pmax		
	comp=N,12nm,1.2s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.2s						
WRA	**Warramunga Arr**	**48.60**	**124**	P	**P**	**09 09 27.2**	**-0.1**
	comp=E,5.1nm,0.8s,mb4.6,baz=299,slow=9.8,SNR=24						
WRAB	**Tennant Creek**	**48.61**	**124⇓**	*e*P	**P**	**09 09 27.2**	**-0.1**
WRAB	**Tennant Creek**	**48.61**	**124**	*e*P	**P**	**09 09 26.4**	**-1.0**
	comp=E,28nm,0.7s,mb5.4						
WB2	**Warramunga Arr**	**48.61**	**124**	*e*P	**P**	**09 09 27.1**	**-0.3**
WB2				*e*S	**S**	**09 16 22.3**	**-3.1**
MDJ	**Mudanjiang**	**49.35**	**34**	P	**P**	**09 09 32.3**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,13nm,2.0s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,562nm,8.6s						
BVA0	**Borovoye Array**	**49.65**	**342**	*i*P	**P**	**09 09 34.2**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
BVAR	**Borovoye Array**	**49.65**	**342**	P	**P**	**09 09 33.6**	**-1.2**
	comp=Z,8.3nm,0.8s,mb4.8,baz=143,slow=7.4,SNR=37						
BVAR				PcP	PcP	09 10 56.0	-0.1
	comp=Z,2.7nm,0.6s,baz=153,slow=3.3,SNR=3.5						
BRVK	**Borovoye**	**49.70**	**342**	*e*P	**P**	**09 09 34.0**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
BRVK	**Borovoye**	**49.70**	**342**	*e*P	**P**	**09 09 34.0**	**-1.3**
	comp=Z,9.8nm,0.9s,mb4.8						
ASPA	**Alice Springs**	**50.13**	**128**	*e*P	**P**	**09 09 38.6**	**-0.4**
ASAR	**Alice Springs**	**50.14**	**128**	P	**P**	**09 09 38.2**	**-0.8**
	comp=Z,2.9nm,0.9s,mb4.3,baz=302,slow=7.6,SNR=23						
ASAR				PcP	PcP	09 10 58.0	-0.2
	comp=Z,4.6nm,0.8s,baz=309,slow=4.1,SNR=5.9						
ASAR				LR	LR	09 31 18.2	
	comp=Z,612nm,18.9s,MS4.6,baz=323,slow=36						
CHKZ	**Chkalovo**	**50.14**	**343**	*e*P	**P**	**09 09 38.0**	**-0.7**
CHKZ				*e*	pP	09 09 50.5	+0.5
CHKZ				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.3						
CHKZ	**Chkalovo**	**50.14**	**343**	*e*P	**P**	**09 09 38.0**	**-0.7**
	comp=Z,22nm,0.7s,mb5.3						
CHKZ				*e*	pP	09 09 50.5	+0.5
KLR	**Kul'dur**	**53.40**	**31**	*e*P	**P**	**09 10 04.8**	**+1.6**
GNI	**Garni**	**54.37**	**315**	P	**P**	**09 10 10.8**	**+0.3**
	comp=Z,16nm,0.9s,mb5.0,baz=159,slow=3.2,SNR=11						
TI2	**Plekhanov**	**55.03**	**317**	*i*P	**P**	**09 10 15.2**	**-0.1**
CLNS	**Chul'man**	**55.85**	**21**	*e*P	**P**	**09 10 20.2**	**-0.7**
CLNS				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.1s						
KMBO	**Kilima Mbogo**	**56.15**	**264**	*e*P	**P**	**09 10 25.2**	**+1.5**
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KMBO	**Kilima Mbogo**	**56.15**	**264**	P	**P**	**09 10 25.3**	**+1.6**
	comp=Z,3.6nm,0.6s,mb4.6,baz=61,slow=9.6,SNR=15						
KMBO				LR	LR	09 33 38.6	
	comp=Z,417nm,18.7s,MS4.5,baz=95,slow=35						
KMBO	**Kilima Mbogo**	**56.15**	**264**	*e*P	**P**	**09 10 25.2**	**+1.4**
	comp=Z,4.6nm,0.7s,mb4.6						
PMG	**Port Moresby**	**56.34**	**106**	*e*P	**P**	**09 10 24.7**	**-0.4**
PMG				pmax	pmax		
	comp=Z,27nm,1.0s						
PMG	**Port Moresby**	**56.34**	**106**	P	**P**	**09 10 25.9**	**+0.9**
	comp=Z,7.2nm,0.4s,mb5.0,baz=45,slow=1.4,SNR=4.8						
PMG	**Port Moresby**	**56.34**	**106**	*e*P	**P**	**09 10 24.7**	**-0.3**
	comp=Z,27nm,1.0s,mb5.2						
ARU	**Arti**	**56.44**	**338⇑**	*i*P	**P**	**09 10 19.5**	**-5.7**
ARU				*e*S	**S**	**09 18 06.4**	**-5.1**
ARU				*e*SS	SS	09 22 04.2	+4.8
ARU				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
KIV	**Kislovodsk**	**57.34**	**319⇑**	*e*P	**P**	**09 10 31.2**	**-0.6**
KIV				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.3						
KIV	**Kislovodsk**	**57.34**	**319**	*e*P	**P**	**09 10 31.3**	**-0.6**
	comp=Z,39nm,1.2s,mb5.3						
ASF	**Jabal al Asfar**	**57.84**	**304**	P	**P**	**09 10 36.7**	**+1.2**
	comp=Z,12nm,0.9s,mb4.9,baz=346,slow=6.0,SNR=7.9						
ELZG	**Elazig**	**57.92**	**311**	*i*P	**P**	**09 10 35.8**	**-0.2**
MALT	**Malatya**	**58.28**	**311**	*e*P	**P**	**09 10 37.5**	**-1.0**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
MALT	**Malatya**	**58.28**	**311**	*e*P	**P**	**09 10 37.5**	**-0.9**
	comp=Z,4.0nm,0.8s,mb4.5						
YSS	**Yuzh-Sakhalins**	**58.34**	**38**	P	**P**	**09 10 38.0**	**-0.8**
YSS				*e*		09 10 46.0	
YSS	**Yuzh-Sakhalins**	**58.34**	**38⇑**	*e*P	**P**	**09 10 38.9**	**+0.1**
GZT	**Gaziantep**	**58.65**	**310**	*i*P	**P**	**09 10 40.9**	**-0.1**
EIL	**Elat**	**58.96**	**301**	P	**P**	**09 10 44.5**	**+1.1**
	comp=Z,13nm,0.7s,mb5.1,baz=103,slow=0.9,SNR=8.3						
SOC	**Sochi**	**59.17**	**317**	*e*P	**P**	**09 10 40.7**	**-3.9**
SOC				*e*		09 11 31.4	
SOC				*e*S	**S**	**09 18 45.5**	**-2.0**
SOC				*e*		09 20 32.4	
SOC				*e*SS	SS	09 22 40.5	-3.3
SOC				*e*SSS	SSS	09 25 06.0	-4.7
SOC				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.3						
SOC				pmax

KEV	Kevo	75.47	341	ep	P	09 12 25.6	-1.0
	comp=Z,22nm,1.4s,mb4.9						
KEV	Kevo	75.47	341	eP	P	09 12 25.6	-1.0
KEV				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9						
ZST	Bratislava	75.55	318	eP	P	09 12 28.0	+0.5
ARCES	ARCESS Array B	75.89	340	P	P	09 12 28.7	-0.3
	comp=Z,5.0nm,0.6s,mb4.6,baz=93,slow=4.8,SNR=26						
DPC	Dobruska-Polom	76.28	320	eP	P	09 12 32.4	+0.8
KSP	Ksiaz	76.35	321	eP	P	09 12 32.2	+0.2
KSP				e*PP	pP	09 12 41.4	-2.5
UPC	Upice	76.50	320	eP	P	09 12 33.6	+0.8
MAW	Mawson	77.25	191	P	P	09 12 38.2	+1.5
	comp=Z,4.6nm,0.7s,mb4.5,baz=5.2,slow=6.0,SNR=6.1						
PRU	Pruhonice	77.39	320	eP	P	09 12 38.7	+0.9
BILL	Bilibino	77.52	22⇑	eP	P	09 12 38.2	0.0
BILL				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
BILL	Bilibino	77.52	22⇑	eP	P	09 12 38.3	+0.1
BRG	Berggiesshubel	77.84	320	eP	P	09 12 40.7	+0.4
BRG				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
BRG	Berggiesshubel	77.84	320	eP	P	09 12 40.7	+0.4
	comp=Z,7.4nm,0.9s,mb4.6						
GERES	GERESS Array B	77.86	318	P	P	09 12 40.7	+0.2
	comp=Z,7.3nm,0.7s,mb4.7,baz=92,slow=5.2,SNR=44						
KHC	Kasperske Hory	77.95	319	eP	P	09 12 40.5	-0.5
KHC	Kasperske Hory	77.95	319	eP	P	09 12 41.2	+0.2
CLL	Collm	78.46	321	eP	P	09 12 44.0	+0.3
CLL	Collm	78.46	321	P	P	09 12 44.0	+0.3
SUR	Sutherland	78.76	235	eP	P	09 12 47.5	+1.8
	comp=Z,22nm,1.0s,mb5.0						
HFS	Hagfors	78.80	330	P	P	09 12 44.7	-0.7
	comp=Z,4.7nm,0.6s,mb4.6,baz=135,slow=6.3,SNR=11						
GRA1	Grafenberg Arr	79.52	319	eP	P	09 12 50.5	+1.0
	comp=Z,12nm,1.0s,mb4.8						
GRF	Grafenberg Arr	79.52	319	eP	P	09 12 50.5	+1.0
GRF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
GRF	Grafenberg Arr	79.52	319	eP	P	09 12 50.5	+1.0
GRF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
GRF	Grafenberg Arr	79.52	319	eP	P	09 12 50.5	+1.0
	comp=Z,12nm,1.0s,mb4.8						
NB2	NORSAR Subarra	80.10	331	P	P	09 12 51.4	-1.0
	comp=Z,1.8nm,0.6s,mb4.2,baz=98,slow=5.0						
NB2	NORSAR Subarra	80.10	331	P	P	09 12 51.4	-1.0
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
NOA	NORSAR Array B	80.10	331	P	P	09 12 52.1	-0.3
	comp=Z,3.4nm,0.7s,mb4.4,baz=95,slow=5.4,SNR=7.6						
DAVOX	Davos	80.36	316	P	P	09 12 55.0	+1.0
	comp=Z,13nm,0.6s,mb5.0,baz=145,slow=4.5,SNR=22						
LPG	La Plagne	82.55	315	eP	P	09 13 06.3	+0.8
	comp=Z,19nm,0.8s,mb4.8						
LPG	La Plagne	82.55	315	eP	P	09 13 06.3	+0.8
LPG				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
EKA	Eskdalemuir Ar	87.94	325	P	P	09 13 32.5	+0.5
	comp=Z,6.0nm,0.7s,mb4.9,baz=98,slow=5.2,SNR=15						
ESDC	Sonseca Array	91.02	310	P	P	09 13 47.5	+0.5
	comp=Z,1.1nm,0.5s,mb4.5,baz=62,slow=3.9,SNR=6.5						
IMA	Indian Mountai	93.06	22	eP	P	09 13 57.2	+1.5
IMA				e	pP	09 14 08.5	+0.6
IMA				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.6						
IMA	Indian Mountai	93.06	22	eP	P	09 13 57.1	+1.5
	comp=Z,32nm,1.2s,mb5.6						
IMA				e	pP	09 14 08.5	+0.6
ILAR	Eielson Array	96.18	22	P	P	09 14 10.9	+1.1
	comp=Z,0.7nm,0.7s,mb4.2,baz=319,slow=5.7,SNR=6.5						
ILAR				PP	PP	09 18 02.6	-3.0
	comp=Z,0.9nm,0.9s,baz=307,slow=7.1,SNR=4.4						
INK	Inuvik	98.34	16	eP	P	09 14 20.6	+1.0
INK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
INK	Inuvik	98.34	16	eP	P	09 14 20.6	+0.9
	comp=Z,9.6nm,1.2s,mb5.2						
RES	Resolute Bay	98.52	2	eP	P	09 14 20.8	+0.5
YKA	Yellowknife Ar	107.74	13	PP	PP	09 19 28.0	-5.4
	comp=Z,0.4nm,0.8s,baz=335,slow=7.6,SNR=5.4						
YKA				PKKPbc		09 30 24.0	
	comp=Z,0.1nm,0.7s,baz=156,slow=2.8,SNR=5.7						
YKA				PKKP	PKKP	09 30 37.2	+8.6
	comp=Z,0.7nm,0.8s,baz=145,slow=4.3,SNR=13						
SNOW	Snow King Moun	125.55	21	ePKPdf	PKPdf	09 19 45.2	+2.5
NVAR	Mina Array Bea	126.44	30	PKP	PKPdf	09 19 47.4	+2.8
	comp=Z,2.3nm,0.7s,baz=338,slow=1.5,SNR=21						
NVAR	Mina Array Bea	126.44	30	PKP	PKPdf	09 19 47.4	+2.8
MNV	Mina	126.51	30	ePKPdf	PKPdf	09 19 48.0	+3.2
PDAR	Pinedale Array	126.58	21	PKP	PKPdf	09 19 47.0	+2.3
	comp=Z,2.7nm,0.7s,baz=55,slow=0.9,SNR=23						
MSU	Marysvale	129.23	25	ePKPdf	PKPdf	09 19 53.4	+3.4
TUC	Tucson	135.01	29	ePKPdf	PKPdf	09 20 04.3	+3.3
MIAR	Mount Ida	138.42	8	ePKPdf	PKPdf	09 20 09.3	+2.1
TXAR	Lajitas Array	140.68	23	PKP	PKPdf	09 20 14.2	+2.7
	comp=Z,1.5nm,0.5s,baz=287,slow=0.5,SNR=18						
JCT	Junction City	140.97	18	ePKPdf	PKPdf	09 20 14.5	+2.6
LVC	Limon Verde	156.50	226	PKPab	PKPab	09 21 09.1	+1.4
	comp=Z,4.9nm,0.7s,baz=66,slow=1.9,SNR=8.9						
LPAZ	La Paz	159.24	241	PKP	PKPdf	09 20 43.6	+3.6
	comp=Z,1.3nm,0.7s,baz=193,slow=1.4,SNR=7.4						
LPAZ				PKPab	PKPab	09 21 20.2	+0.6
	comp=Z,1.8nm,0.8s,baz=126,slow=6.5,SNR=4.9						

*JMA **19** 09:32:29.7±0.3, 33.90N×141.75E, h55km, M3.7*
ISC 19 09:32:30.0±1.7, 33.89N±0.06×141.7E±0.1, h56km±24km, n13, σ0°58/20, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.98	321	P	P	09 32 47.4	-0.4
BSO1				S	S	09 33 02.1	+1.0
BSO2	Boso 2	1.18	317	S	S	09 33 05.1	-0.7
BSO3	Boso 3	1.36	312	P	P	09 32 52.7	-0.5
BSO3				S	S	09 33 06.5	-3.8
BSO4	Boso 4	1.59	314	P	P	09 32 56.4	+0.1
BSO4				S	S	09 33 16.2	+0.4
JHJ2	Mitsune	1.78	245	P	P	09 32 59.9	+0.9
JHJ2				S	S	09 33 20.0	-0.5
JMY	Miyakejima3	1.85	276	S	S	09 33 22.4	+0.2
JIM2	Oshima 3	2.07	294	P	P	09 33 02.7	-0.4
JIM2				S	S	09 33 27.9	+0.2
JIZS	Izushimoda	2.50	290	P	P	09 33 09.0	-0.2
JOD2	Odawara 2	2.57	303	P	P	09 33 09.2	-1.0
JYN	Shimob	3.07	302	P	P	09 33 17.4	+0.1
JAG	Ashikaga	3.14	324	P	P	09 33 18.3	+0.1
JAG				S	S	09 33 54.4	-0.3
JRY	Ryogami san	3.14	313	P	P	09 33 18.7	+0.4
MAT	Matsushiro	3.91	313	P	P	09 33 29.9	+0.8
MAT				S	S	09 34 14.4	+0.2

IDC 19 09:39:47.5±2.8, 30.75S×178.34W, mb4.1/3, mb1 4.2/4, mb1mx3.9/15, mbtmp4.1/4, ML3.2/1, Error ellipse: s-maj=65.4km s-min=42.4km az=122.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	7.83	200	eP	Pn	09 41 41.8	-3.6
URZ	Urewera	8.38	205	Pn	P	09 41 48.8	-4.3
URZ				Sn	Sn	09 43 17.5	-12
	1.0nm,0.3s,baz=147,slow=22,SNR=9.5						
URZ	Urewera	8.38	205	eP	P	09 41 51.5	-1.6
MRZ	Mangatainoka R	11.05	205	eS	S	09 44 14.1	-21
STKA	Stephens Creek	34.12	258	P	P	09 46 35.7	-0.4
	2.5nm,0.9s,baz=108,slow=13,SNR=3.7						
ASAR	Alice Springs	42.80	267	P	P	09 47 46.7	-2.1
	1.0nm,0.6s,baz=106,slow=7.2,SNR=12						
WRA	Warramunga Arr	43.82	273	P	P	09 47 55.0	-2.1
	2.0nm,0.5s,baz=112,slow=8.0,SNR=49						
FINES	FINESS Array B	145.37	340	PKPbc	PKPbc	09 59 25.8	-1.3
	0.7nm,0.3s,baz=72,slow=6.8,SNR=11						

IDC 19 09:53:07.0±8.5, 9.23S×107.92W, mb3.5/4, mb1 3.9/4, mb1mx3.5/12, mbtmp3.5/4, Error ellipse: s-maj=290.0km s-min=166.1km az=106.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	Mina Array Bea	48.39	349	P	P	10 01 51.0	-1.8
	0.4nm,0.7s,baz=175,slow=10.0,SNR=3.7						
PDAR	Pinedale Array	51.77	358	P	P	10 02 16.5	-2.1
	0.4nm,0.7s,baz=172,slow=6.4,SNR=3.7						
YKA	Yellowknife Ar	71.69	357	P	P	10 04 30.5	-2.0
	1.1nm,1.1s,baz=168,slow=5.7,SNR=7.5						
ILAR	Eielson Array	79.34	344	P	P	10 05 14.4	-1.5
	0.3nm,0.7s,baz=166,slow=5.3,SNR=3.8						

*IDC **19** 09:54:14.8±1.0, 33.93N×141.75E, mb3.5/5, mb1 3.8/6, mb1mx3.7/20, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=32.2km s-min=18.3km az=134.0*
*JMA **19** 09:54:16.5±0.3, 33.94N×141.83E, h43km±5km, M3.5*
*NEIC **19** 09:54:16.4±0.6, 33.92N×141.75E, h10km, mb4.4/1, Error ellipse: s-maj=16.2km s-min=11.2km az=54.0*
ISC 19 09:54:16.6±1.3, 33.96N±0.05×141.80E±0.06, h26km±9km, n24, σ0°75/34, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.97	316	P	Pb	09 54 34.3	-0.3
BSO1				S	Sb	09 54 48.1	+1.1
BSO3	Boso 3	1.35	309	P	Pn	09 54 40.4	+0.3
BSO3				S	Sn	09 54 56.4	-0.9
BSO4	Boso 4	1.58	311	P	Pn	09 54 43.9	+0.5
JHJ2	Mitsune	1.86	243	P	Pn	09 54 47.8	+0.5
JHJ2				S	Sn	09 55 09.5	-0.6
JHJ	Hachijo jima 2	1.88	244	Pn	Pn	09 54 47.5	-0.1
	39nm,0.3s,baz=52,slow=24,SNR=7.3						
JHJ				Sn	Sn	09 55 11.8	+1.2
	40nm,0.3s,baz=62,slow=23,SNR=6.8						
JMY	Miyakejima3	1.90	274	P	Pn	09 54 47.6	-0.3
JIM2	Oshima 3	2.10	292	P	Pn	09 54 49.6	-1.1
JIM2				S	Sn	09 55 15.5	-0.7
JIZS	Izushimoda	2.53	288	P	Pn	09 54 56.4	-0.5
JOD2	Odawara 2	2.58	301	P	Pn	09 54 57.3	-0.4
JOD2				S	Sn	09 55 28.4	-0.2
JYN	Shimob	3.08	301	P	Pn	09 55 05.5	+0.7
JYN				S	Sn	09 55 41.5	+0.2
JAG	Ashikaga	3.12	323	P	Pn	09 55 04.9	-0.4
JRY	Ryogami san	3.14	312	P	Pn	09 55 05.4	-0.2
JRY				S	Sn	09 55 42.8	+0.2
SHZ3	Shizuoka 3	3.16	291	P	Pn	09 55 06.3	+0.4
MAJO	Matsushiro	3.91	312	eP	Pn	09 55 15.8	-0.7
MAT	Matsushiro	3.91	312	eP	Pn	09 55 17.0	+0.5
MAT				eS	Sn	09 56 03.0	+1.0
MAT	Matsushiro	3.91	312	P	Pn	09 55 16.5	0.0
MAT				S	Sn	09 56 03.2	+1.2
ASAJ	Asahikawa	10.16	3	Pn	P	09 56 41.5	-2.5
	0.5nm,0.3s,baz=198,slow=13,SNR=3.3						
SONM	Songino Array	29.85	308	P	P	10 00 23.9	+0.1
	0.1nm,0.4s,mb2.9,baz=120,slow=12,SNR=2.5						
ILAR	Eielson Array	51.94	31	P	P	10 03 25.6	+0.5
	0.9nm,0.7s,mb3.8,baz=262,slow=5.7,SNR=16						
WRAB	Tennant Creek	54.06	189	P	P	10 03 41.0	-0.3
	2.7nm,0.7s,mb4.3						
WRA	Warramunga Arr	54.07	189	P	P	10 03 40.7	-0.6
	0.3nm,0.6s,mb3.4,baz=3.9,slow=7.6,SNR=8.3						
YKA	Yellowknife Ar	66.31	30	P	P	10 05 04.8	+0.3
	0.6nm,1.1s,mb3.5,baz=298,slow=6.5,SNR=4.9						
YKA	Yellowknife Ar	66.31	30	P	P	10 05 04.8	+0.3
PDAR	Pinedale Array	79.60	45	P	P	10 06 24.6	+1.7
	0.4nm,0.6s,mb3.5,baz=287,slow=3.4,SNR=4.8						

IDC 19 09:58:19.3±1.2, 31.57N×138.56E, mb3.4/3, mb1 3.7/4, mb1mx3.4/21, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=38.7km s-min=20.5km az=105.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.46	144	Pn	Pn	09 59 34.5	-9.5
	7.5nm,0.3s,baz=291,slow=20,SNR=9.2						
CBIJ				Sn	Sn	10 00 41.5	-7.0
	11nm,0.3s,baz=273,slow=22,SNR=3.2						
WRA	Warramunga Arr	51.37	185	P	P	10 07 25.0	-3.0
	0.6nm,0.5s,baz=7.2,slow=7.6,SNR=12						
ASAR	Alice Springs	55.10	185	P	P	10 07 54.1	-1.5
	0.2nm,0.5s,baz=11,slow=14,SNR=2.8						

*JMA **19** 09:58:24.2±0.3, 33.87N×141.89E, h61km±5km, M3.5*
ISC 19 09:58:23.3±1.4, 33.87N±0.05×141.9E±0.1, h91km±11km, n14, σ0°92/25, mb3.0/1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.09	316	P	P	09 58 43.4	-0.9
BSO1				S	S	09 58 59.1	-1.0
BSO3	Boso 3	1.47	310	P	P	09 58 48.6	-0.6
BSO3				S	S	09 59 08.8	+0.5
BSO4	Boso 4	1.70	311	P	P	09 58 52.8	+0.7
BSO4				S	S	09 59 13.7	+0.3
JHJ2	Mitsune	1.89	247	P	P	09 58 55.7	+1.1
JHJ2				S	S	09 59 17.7	+0.1
JHJ	Hachijo jima 2	1.91	248	Pn	P	09 58 53.2	-1.7
	18nm,0.3s,baz=74,slow=21,SNR=4.4						
JHJ				Sn	S	09 59 17.9	-0.2
	63nm,0.3s,baz=69,slow=23,SNR=6.9						
JMY	Miyakejima3	1.99	276	S	S	09 59 20.9	+1.1
JIM2	Oshima 3	2.21	293	P	P	09 58 58.5	-0.4
JIZS	Izushimoda	2.63	290	P	P	09 59 05.1	+0.3
JIZS				S	S	09 59 34.7	-1.2
JOD2	Odawara 2	2.70	302	P	P	09 59 05.5	-0.2
JOD2				S	S	09 59 37.1	-0.4
JYN	Shimob	3.20	301	P	P	09 59 12.5	-0.1
JYN				S	S	09 59 50.2	+0.3
JAG	Ashikaga	3.24	323	P	P	09 59 14.1	+0.9
JAG				S	S	09 59 49.3	-1.5
JRY	Ryogami san	3.26	312	P	P	09 59 14.9	+1.5
JRY				S	S	09 59 51.4	+0.1
MAT	Matsushiro	4.03	313	P	P	09 59 26.1	+2.1
MAT				S	S	10 00 11.0	+0.7
SONM	Songino Array	29.97	308	P	P	10 04 23.6	-1.4
	0.2nm,0.5s,mb3.0,baz=112,slow=7.8,SNR=2.7						

IDC 19 10:01:29.5±2.0, 8.10N×94.98E, mb3.5/4, mb1 3.8/5, mb1mx3.6/18, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=70.4km s-min=27.8km az=66.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.99	20	Pn	P	10 04 08.6	-2.7
	0.1nm,0.3s,baz=190,slow=16,SNR=3.2						
JIRN	Jiri	21.16	338	eP	P	10 06 08.9	-10
	34nm,1.2s						
PKI	Pulchoki	21.38	336	eP	P	10 06 10.9	-10
	16nm,0.8s						
DMN	Daman	21.54	336	eP	P	10 06 13.1	-9.5
	15nm,0.7s						
GKN	Gorkha	22.08	335	eP	P	10 06 18.8	-9.2
	16nm,0.8s						
KOLN	Koldanda	22.33	333	eP	P	10 06 20.3	-10
	16nm,0.9s						
SONM	Songino Array	40.77	12	P	P	10 09 12.2	-1.8
	0.4nm,1.0s,baz=211,slow=8.4,SNR=2.2						
WRA	Warramunga Arr	47.72	126	P	P	10 10 09.3	-1.1
	0.4nm,0.6s,baz=307,slow=8.3,SNR=4.4						
ASAR	Alice Springs	49.42	131	P	P	10 10 20.6	-2.9
	0.4nm,0.8s,slow=6.3,SNR=2.4						
NOA	NORSAR Array B	79.95	331	P	P	10 13 40.8	-1.0
	1.6nm,0.9s,baz=97,slow=5.6,SNR=3.0						
TXAR	Lajitas Array	138.68	25	PKP	PKPdf	10 20 56.7	-3.4
	0.4nm,1.1s,baz=336,slow=1.8,SNR=3.1						

*IDC **19** 10:08:21.9±1.0, 33.84N×141.85E, mb3.5/5, mb1 3.8/6, mb1mx3.7/20, mbtmp3.7/6, ML3.9/1, Error ellipse: s-maj=30.5km s-min=19.5km az=109.0*
*JMA **19** 10:08:23.1±0.3, 33.88N×141.86E, h37km, M3.3*
ISC 19 10:08:22.0±1.2, 33.84N±0.04×141.82E±0.06, h17km±9km, n20, σ0°88/29, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.07	320	P	Pb	10 08 42.0	+0.4
BSO1				S	Sb	10 08 57.0	+1.8
BSO2	Boso 2	1.26	316	S	Sb	10 08 59.2	-1.7
BSO3	Boso 3	1.45	312	P	Pn	10 08 47.6	-0.1
BSO3				S	Sn	10 09 07.4	+1.1
BSO4	Boso 4	1.68	314	P	Pn	10 08 51.6	+0.6
BSO4				S	Sn	10 09 12.4	+0.2
JHJ2	Mitsune	1.82	247	P	Pn	10 08 53.9	+0.9
JHJ2				S	Sn	10 09 16.9	+1.0
JHJ	Hachijo jima 2	1.84	248	Pn	Pn	10 08 54.0	+0.7
	38nm,0.3s,baz=74,slow=17,SNR=7.1						
JHJ				Sn	Sn	10 09 15.9	-0.6
	97nm,0.3s,baz=64,slow=21,SNR=5.8						
JIM2	Oshima 3	2.16	295	P	Pn	10 08 57.1	-0.8
JIM2				S	Sn	10 09 24.0	-0.5
JIZS	Izushimoda	2.58	291	P	Pn	10 09 03.7	-0.3
JOD2	Odawara 2	2.66	303	P	Pn	10 09 04.0	-1.1
JOD2				S	Sn	10 09 35.8	-1.4
JYN	Shimob	3.16	302	P	Pn	10 09 11.8	-0.4
JYN				S	Sn	10 09 49.7	-0.2
SHZ3	Shizuoka 3	3.22	293	P	Pn	10 09 12.6	-0.4
JAG	Ashikaga	3.23	324	P	Pn	10 09 12.7	-0.4
JRY	Ryogami san	3.23	313	P	Pn	10 09 12.8	-0.4
JRY				S	Sn	10 09 51.7	0.0
MAT	Matsushiro	4.00	313	P	Pn	10 09 24.7	+0.6
CBIJ	Chichi jima	6.73	177	Pn	Pn	10 10 01.4	-1.3
	7.3nm,0.3s,baz=99,slow=23,SNR=6.7						
SONM	Songino Array	29.94	309	P	P	10 14 32.8	+1.5
	0.3nm,0.5s,mb3.3,baz=90,slow=7.2,SNR=1.6						
ILAR	Eielson Array	52.04	31	P	P	10 17 32.5	-0.1
	1.0nm,0.9s,mb3.8,baz=276,slow=6.2,SNR=8.9						
WRA	Warramunga Arr	53.95	189	P	P	10 17 46.4	-0.9
	0.5nm,0.5s,mb3.7,baz=2.8,slow=7.7,SNR=14						
ASAR	Alice Springs	57.68	189	P	P	10 18 15.8	+1.6
	0.4nm,0.6s,mb3.6,baz=6.2,slow=7.0,SNR=5.7						
YKA	Yellowknife Ar	66.41	30	P	P	10 19 11.8	-0.2
	0.2nm,0.6s,mb3.3,baz=300,slow=6.6,SNR=5.5						

*THE **19** 10:11:19.0, 39.15N×23.59E, h11km, ML2.6*
*ATH **19** 10:11:19.2, 39.21N×23.52E, h14km, MD2.9/7*
*CSEM **19** 10:11:19.5±0.1, 39.22N×23.59E, h5km, ML2.6, Error ellipse: s-maj=2.0km s-min=1.7km az=71.0*
*NEIC **19** 10:11:19.2, 39.21N×23.52E, h14km, MD2.9(ATH), After ATH.*
ISC 19 10:11:19.0±0.6, 39.20N±0.03×23.58E±0.04, h7km±5km, n15, σ0°78/22, 1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	Alonnisos	0.24	96	ePg	Pg	10 11 23.7	-0.2
AOS				eSg	Sg	10 11 27.2	0.0
NEO	Neokhori	0.30	292	‖iPG	Pg	10 11 24.3	-0.8
XOR	Xorichti	0.34	300	ePg	Pg	10 11 26.0	0.0
PAIG	Paliouri	0.73	6	ePg	Pg	10 11 34.0	+0.3
PAIG				eSg	Sg	10 11 45.4	+1.9
AGG	Agios Georgios	0.99	260	ePg	Pg	10 11 37.8	-1.0
AGG				eSg	Sg	10 11 52.2	+0.3
MPAR	Parnis Oros	1.05	173	ePN	Pn	10 11 39.9	-0.2
PTL	Penteli	1.17	169	ePB	Pb	10 11 40.5	-0.6
OUR	Ouranopolis	1.18	15	ePb	Pb	10 11 40.8	-0.5
PLG	Polygyros	1.18	355	ePN	Pn	10 11 41.0	-0.9
PLG				eSB	Sb	10 11 56.5	-0.2
MGER	Gerania Oros	1.23	192	ePB	Pb	10 11 43.0	+0.7
LIT	Litokhoron	1.23	317	ePb	Pb	10 11 41.9	-0.3
LIT				eSb	Sb	10 11 59.3	+1.1
NSAL	Nisos Salamina	1.29	184	ePB	Pb	10 11 44.0	+0.8
LOS	Limnos	1.38	57	ePb	Pb	10 11 43.2	-1.5
LOS				eSb	Sb	10 12 03.1	+0.8
NAIG	Nisos Aigina	1.44	183	ePB	Pb	10 11 47.0	+1.3
KNT	Kendrikon	2.03	345	ePn	Pn	10 11 53.7	-0.4
KNT				eSn	Sn	10 12 19.8	-0.3

IDC 19 10:30:28.8±6.0, 5.28N×93.07E, mb3.6/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.6/4, ML4.3/1, Error ellipse: s-maj=173.5km s-min=30.4km az=75.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.30	23	Pn	P	10 33 52.6	-2.3
	0.5nm,0.3s,baz=229,slow=8.3,SNR=5.1						
SONM	Songino Array	43.92	13	P	P	10 38 37.3	-1.7
	0.3nm,0.8s,baz=187,slow=10.0,SNR=3.9						
WRA	Warramunga Arr	47.69	123	P	P	10 39 07.8	-1.6
	2.0nm,0.8s,baz=300,slow=9.1,SNR=13						
ASAR	Alice Springs	49.13	128	P	P	10 39 18.1	-2.4
	0.3nm,0.6s,baz=297,slow=7.9,SNR=5.9						

*IDC **19** 10:42:45.5±0.9, 12.70N×93.05E, mb3.7/7, mb1 4.0/8, mb1mx3.9/18, mbtmp3.7/8, ML4.6/1, MS2.8/1, Ms1 3.0/1, ms1mx2.5/26, Error ellipse: s-maj=32.1km s-min=20.1km az=59.0*
*NEIC **19** 10:42:50.3±0.7, 12.74N×93.12E, h30km, mb4.2/3, Error ellipse: s-maj=17.9km s-min=13.6km az=63.0*
ISC 19 10:42:47.8±6.6, 12.71N±0.10×93.1E±0.1, h28km±47km, n13, σ0°61/12, mb3.9/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.01	44	Pn	P	10 44 45.5	+0.1
	2.0nm,0.3s,baz=234,slow=15,SNR=50						
CMAR				Sn	Sn	10 46 16.1	+0.1
	0.4nm,0.3s,baz=236,slow=28,SNR=10.0						
ENH	Enshi	23.13	38	eP	P	10 47 52.3	-0.6
	33nm,0.8s,mb4.8						
SONM	Songino Array	36.74	15	P	P	10 49 54.5	-0.2
	1.0nm,1.1s,mb3.6,baz=198,slow=7.8,SNR=3.5						
ZAL	Zalesovo	41.66	353	P	P	10 50 36.0	+0.6
	0.5nm,0.5s,mb3.5,baz=315,slow=13,SNR=2.8						
CHKZ	Ch

comp=Z,408nm,18.7s,MS4.4,baz=139,slow=34
VNDA Vanda 49.15 176 P **P 10 52 05.3 -1.4**
4.3nm,0.8s,mb4.5,baz=214,slow=8.5,SNR=12
VNDA LR LR 11 12 14.9
comp=Z,420nm,18.1s,MS4.5,baz=176,slow=35
BDFB Brasilia 51.11 300 LR LR 11 09 53.8
comp=Z,644nm,19.8s,MS4.7,baz=337,slow=31
LVC Limon Verde 57.46 275 P **P 10 53 08.6 -0.4**
6.2nm,0.8s,mb4.7,baz=119,slow=10,SNR=7.6
DBIC Dimbokro 59.73 359 P **P 10 53 25.9 +0.9**
9.1nm,0.8s,mb4.9,baz=161,slow=7.4,SNR=13
DBIC LR LR 11 11 32.1
comp=Z,288nm,21.5s,MS4.4,baz=192,slow=28
LPAZ La Paz 61.88 281 P **P 10 53 39.7 +0.2**
0.9nm,0.4s,mb4.2,baz=105,slow=4.2,SNR=9.1
LPAZ LR LR 11 18 59.7
comp=Z,184nm,20.9s,MS4.2,baz=96,slow=35
LPAZ La Paz 61.88 281 P **P 10 53 39.7 +0.2**
LPAZ LR LR 11 18 59.7
KMBO Kilima Mbogo 62.01 48 LR LR 11 18 45.7
comp=Z,1μm,18.3s,MS5.1,baz=273,slow=34
ASF Jabal al Asfar 92.11 33 LR LR 11 35 06.1
comp=Z,357nm,20.6s,MS4.8,baz=266,slow=34
TBI Tubuai 98.13 211 *e*LR LR 11 28 36.0
265nm,22.8s
PPT Papeete 103.57 213 *e*LR LR 11 31 06.9
321nm,25.0s
TAOE Nuku Hiva Isla 107.95 226 *e*LR LR 11 33 07.2
MVU Marysvale 130.22 283 *e*PKPdf PKPdf 11 02 29.5 -1.3
YKA Yellowknife Ar 143.90 313 PKhKP 11 02 50.1
1.0nm,0.6s,baz=101,slow=3.8,SNR=28
HIA Hailar 145.15 73 *e*PKPdf PKPdf 11 02 56.3 -1.0
INK Inuvik 152.31 322 *e*PKPbc PKPdf 11 03 12.3 +4.1
ILAR Eielson Array 158.23 316 PKPab PKPab 11 03 49.6 0.0
1.7nm,0.8s,baz=104,slow=2.4,SNR=14

*NEIC **19** 10:49:58.5±2.6, 4.73S×153.27E, h102km±20km, mb4.5/3, Error ellipse: s-maj=34.1km s-min=19.0km az=130.0*
*IDC **19** 10:49:59.5±6.1, 4.74S×153.22E, h113km±53km, mb3.5/4, mb1 3.7/5, mb1mx3.5/14, mbtmp3.9/5, MS3.0/1, Ms1 3.0/1, ms1mx2.4/18, Error ellipse: s-maj=68.4km s-min=27.9km az=118.0*
ISC 19 10:49:56.4±4.6, 4.8S±0.3×153.4E±0.3, h98km±37km, n10, σ0§47/11, mb3.9/7, 1C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.69**	**233**	**P**	**P**	**10 51 47.2**	**-0.1**
	2.4nm,0.3s,baz=19,slow=6.3,SNR=9.6						
PMG				S	**S**	**10 53 13.4**	**0.0**
	5.9nm,0.3s,baz=146,slow=22,SNR=13						
PMG				LR	LR	10 54 01.2	
	comp=Z,108nm,18.2s,baz=71,slow=32						
KAKA	**Kakadu**	**22.12**	**248**	⇑*i*P	**P**	**10 54 45.0**	**+0.1**
	21nm,0.5s,mb4.7						
WRAB	**Tennant Creek**	**23.87**	**229**	*e*P	**P**	**10 55 02.5**	**+0.6**
	7.5nm,0.4s,mb4.4						
WB2	**Warramunga Arr**	**23.87**	**229**	*e*P	**P**	**10 55 02.6**	**+0.7**
WRA	**Warramunga Arr**	**23.88**	**229**	P	**P**	**10 55 02.1**	**+0.1**
	1.8nm,0.6s,mb3.6,baz=53,slow=9.8,SNR=40						
ASAR	**Alice Springs**	**26.55**	**223**	P	**P**	**10 55 26.5**	**-0.7**
	0.9nm,0.4s,mb3.6,baz=56,slow=9.1,SNR=29						
ASPA	**Alice Springs**	**26.55**	**223**	*e*P	**P**	**10 55 27.7**	**+0.5**
FITZ	**Fitzroy Crossi**	**30.17**	**242**	*e*P	**P**	**10 55 58.8**	**-0.9**
	4.3nm,0.5s,mb4.3						
VNDA	**Vanda**	**72.83**	**178**	P	**P**	**11 01 15.6**	**-0.3**
	0.7nm,0.8s,mb3.6,baz=326,slow=8.5,SNR=4.3						
ILAR	**Eielson Array**	**81.93**	**22**	P	**P**	**11 02 06.5**	**+0.1**
	0.3nm,0.6s,mb3.3,baz=258,slow=4.7,SNR=9.0						

IDC 19 10:54:23.1±6.0, 5.38N×93.17E, mb3.6/3, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, ML4.1/1, Error ellipse: s-maj=174.3km s-min=30.6km az=75.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.17**	**23**	Pn	P	10 57 45.7	-1.7
	0.3nm,0.3s,baz=309,slow=41,SNR=3.1						
SONM	**Songino Array**	**43.79**	**13**	P	P	11 02 30.4	-1.9
	0.1nm,0.4s,baz=211,slow=7.2,SNR=3.7						
WRA	**Warramunga Arr**	**47.66**	**123**	P	P	11 03 01.6	-1.8
	1.7nm,0.8s,baz=301,slow=9.2,SNR=11						
ASAR	**Alice Springs**	**49.11**	**128**	P	P	11 03 12.6	-2.0
	0.4nm,0.5s,baz=298,slow=8.0,SNR=5.3						

*NEIC **19** 10:59:34.6, 32.39S×71.51W, h54km, MD3.6(GUC), After GUC.*
GUC 19 10:59:34.6±0.8, 32.39S×71.51W, h54km±4km, MD3.6, ML3.2, 11C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.16**	**159**	⇓*i*P	P	10 59 43.5	+0.5
PACH				*i*S	S	10 59 50.2	+0.9
ROCH	**El Roble**	**0.72**	**145**	*e*P	P	10 59 49.6	+0.9
ROCH				*i*S	S	11 00 00.3	+1.1
JACH	**Jahuel**	**0.82**	**111**	⇓*i*P	P	10 59 50.9	+0.7
JACH				*i*S	S	11 00 03.2	+1.4
PEL	**Peldehue**	**1.02**	**138**	⇑*i*P	P	10 59 53.4	+0.5
PEL				*i*S	S	11 00 07.4	+0.9
LCCH	**Las Cruces**	**1.09**	**183**	⇑*i*P	P	10 59 53.3	-0.5
RCDM	**Rinconada Maip**	**1.25**	**152**	*i*P	P	10 59 56.2	+0.1
RCDM				*i*S	S	11 00 12.6	+0.5
RCDM				AMP		11 00 15.3	
	comp=E,1μm,0.1s						
DSCH	**Colegio Aleman**	**1.28**	**142**	⇑*i*P	P	10 59 56.6	0.0
DSCH				*i*S	S	11 00 13.4	+0.5
DSCH				AMP		11 00 15.4	
	comp=E,920nm,0.3s						
CLCH	**Cerro Calan**	**1.29**	**141**	⇑*i*P	P	10 59 57.2	+0.4
CLCH				*i*S	S	11 00 13.8	+0.5
CLCH				AMP		11 00 19.3	
	comp=E,694nm,0.4s						
TACH	**Talagante**	**1.35**	**159**	⇑*i*P	P	10 59 58.2	+0.5
TACH				*i*S	S	11 00 14.9	+0.2
FCH	**Farellones**	**1.39**	**133**	⇑*i*P	P	10 59 58.6	+0.5
FCH				*i*S	S	11 00 17.0	+1.4
FCH				AMP		11 00 17.8	
	comp=E,684nm,0.2s						
ANTU	**Antumapu**	**1.39**	**148**	⇑*i*P	P	10 59 58.7	+0.5
ANTU				*i*S	S	11 00 16.0	+0.4
ANTU				AMP		11 00 17.4	
	comp=E,496nm,0.3s						
PCH	**Pirque**	**1.49**	**146**	⇑*i*P	P	10 59 59.8	+0.2
PCH				*i*S	S	11 00 18.9	+0.9
CHCH	**Chadas Angostu**	**1.70**	**155**	⇑*i*P	P	11 00 03.0	+0.5
CHCH				*i*S	S	11 00 23.7	+0.6
LMEL	**Las Melosas**	**1.82**	**144**	⇓*i*P	P	11 00 05.0	+0.8
LMEL				*i*S	S	11 00 27.9	+1.8
CACH	**El Canelo**	**1.89**	**157**	⇑*i*P	P	11 00 06.3	+1.3
SFDO	**San Fernando**	**2.26**	**170**	⇓*i*P	P	11 00 09.9	-0.5
TLL	**Tololo Astrono**	**2.29**	**15**	⇑*i*P	P	11 00 10.8	0.0
TLL				*i*S	S	11 00 38.7	+0.8
TLL				AMP		11 00 56.7	
	comp=N,122nm,0.7s						

*IDC **19** 11:01:38.4±2.3, 12.58N×92.40E, mb3.8/4, mb1 3.9/5, mb1mx3.7/18, mbtmp3.7/5, Error ellipse: s-maj=69.5km s-min=24.4km az=73.0*
ISC 19 11:01:40.5±1.0, 12.4N±0.2×92.2E±0.2, h33km, n11, σ0§96/14, mb3.8/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.86**	**47**	Pn	**P**	**11 03 43.4**	**-5.8**
	baz=241,slow=15,SNR=8.3						
BWNR	**Bhubaneshwar**	**9.91**	**323**	*e*P	**P**	**11 04 01.2**	**-2.7**
BWNR				*e*		11 04 01.8	
BWNR				*e*S	**S**	**11 05 42.1**	**-13**
VIS	**Vishakhapatnam**	**10.02**	**303**	*e*P	**P**	**11 04 06.0**	**+0.6**
VIS				*e*		11 04 06.7	
VIS				*e*S	**S**	**11 05 49.8**	**-8.0**
VIS				*e*S	**S**	**11 05 51.4**	**-6.4**
JIRN	**Jiri**	**16.14**	**341**	*e*P	**P**	**11 05 27.6**	**+0.9**
	8.4nm,0.4s						
DMN	**Daman**	**16.48**	**337**	*e*P	**P**	**11 05 35.3**	**+4.4**
GKN	**Gorkha**	**17.01**	**337**	*e*P	**P**	**11 05 38.3**	**+0.7**
KOLN	**Koldanda**	**17.23**	**334**	*e*P	**P**	**11 05 46.1**	**+5.8**
	18nm,0.6s						
SONM	**Songino Array**	**37.24**	**16**	P	**P**	**11 08 50.6**	**-0.3**
	1.1nm,0.9s,mb3.7,baz=211,slow=7.2,SNR=5.7						
ZAL	**Zalesovo**	**41.81**	**353**	P	**P**	**11 09 28.4**	**-0.3**
	0.7nm,0.3s,mb3.8,baz=148,slow=6.7,SNR=3.8						
WRA	**Warramunga Arr**	**52.52**	**127**	P	**P**	**11 10 52.9**	**-0.1**
	1.2nm,0.7s,mb3.9,baz=306,slow=8.2,SNR=6.9						
ASAR	**Alice Springs**	**54.34**	**131**	P	**P**	**11 11 06.8**	**+0.2**
	0.5nm,0.5s,mb3.7,baz=308,slow=6.5,SNR=11						

IDC 19 11:02:36.4±1.9, 5.04N×94.28E, mb3.9/5, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, Error ellipse: s-maj=72.2km s-min=22.9km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.09**	**18**	Pn	P	11 05 58.6	-1.2
	baz=199,slow=14,SNR=3.8						
SONM	**Songino Array**	**43.88**	**12**	P	P	11 10 44.0	-2.4
	0.6nm,0.8s,baz=201,slow=7.4,SNR=4.1						
WRA	**Warramunga Arr**	**46.55**	**123**	P	P	11 11 06.5	-1.6
	1.6nm,0.6s,baz=303,slow=9.0,SNR=9.9						
ASAR	**Alice Springs**	**48.04**	**128**	P	P	11 11 17.6	-2.2
	0.7nm,0.6s,baz=301,slow=7.0,SNR=6.2						
ZAL	**Zalesovo**	**49.35**	**353**	P	P	11 11 27.8	-1.7
	1.2nm,0.3s,baz=264,slow=6.1,SNR=4.2						
FINES	**FINESS Array B**	**75.27**	**333**	P	P	11 14 21.1	-1.7
	0.7nm,0.4s,baz=104,slow=7.9,SNR=5.2						

*NIED **19** 11:09:00, 34.00N×141.60E, h5km, Mw4.8 Best double couple: Ms1.84×10^16 NP1:φs296°, δ77°, λ64°. NP2:φs181°, δ29°, λ151°.*
*IDC **19** 11:09:22.5±0.6, 34.08N×141.59E, mb4.1/20, mb1 4.3/22, mb1mx4.3/27, mbtmp4.1/22, ML4.2/2, MS4.4/7, Ms1 4.5/7, ms1mx3.9/34, Error ellipse: s-maj=17.5km s-min=13.2km az=131.0*
*JMA **19** 11:09:24.0±0.4, 34.03N×141.58E, h17km±3km, M5.0*
*BJI **19** 11:09:27.8, 34.10N×141.50E, h34km, mB4.9, mb4.5, Ms4.8, Msz4.6*
*NEIC **19** 11:09:27.9±3.3, 34.07N×141.54E, h34km±22km, mb4.8/21, MW4.8(NIED), Error ellipse: s-maj=8.6km s-min=6.4km az=122.0*
*MOS **19** 11:09:30.4±1.6, 34.79N×141.72E, h33km, mb4.7/26, MS4.6/8, Error ellipse: s-maj=12.9km s-min=6.8km az=109.2*
ISC 19 11:09:25.5±1.1, 34.06N±0.04×141.56E±0.04, h30km±7km, h39km±1.9km: pP-P, n130, σ1§08/137, mb4.4/49, MS4.7/17, 2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.76**	**321**	P	**Pb**	**11 09 39.1**	**-1.1**
BSO3	**Boso 3**	**1.14**	**311**	P	**Pn**	**11 09 45.5**	**-0.2**
BSO4	**Boso 4**	**1.37**	**313**	P	**Pn**	**11 09 49.4**	**+0.4**
KTR	**Katsuura**	**1.49**	**317**	P	**Pn**	**11 09 52.0**	**+1.3**
KTR				*e*S	**Sn**	**11 10 11.7**	**+2.3**
JMY	**Miyakejima3**	**1.70**	**271**	*e*S	**Sn**	**11 10 13.4**	**-1.3**
JHJ2	**Mitsune**	**1.74**	**237**	P	**Pn**	**11 09 54.5**	**+0.3**
JHJ	**Hachijo jima 2**	**1.76**	**238**	Pn	**Pn**	**11 09 54.1**	**-0.4**
	255nm,0.3s,baz=94,slow=7.7,SNR=25						
JHJ				Sn	**Sn**	**11 10 17.4**	**+1.3**
	512nm,0.3s,baz=72,slow=22,SNR=11						
JIM2	**Oshima 3**	**1.88**	**291**	P	**Pn**	**11 09 55.8**	**-0.4**
JKO	**Kozu shima**	**2.02**	**274**	P	**Pn**	**11 09 58.7**	**+0.5**
KTJJ	**Kamata 2**	**2.24**	**293**	⇓P	**Pn**	**11 10 00.1**	**-1.3**
JIZS	**Izushimoda**	**2.31**	**287**	P	**Pn**	**11 10 02.7**	**+0.2**
JOD2	**Odawara 2**	**2.37**	**301**	P	**Pn**	**11 10 04.0**	**+0.8**
MAJO	**Matsushiro**	**3.69**	**313**	*e*P	**Pn**	**11 10 23.1**	**+1.0**
MAT	**Matsushiro**	**3.69**	**313**	*e*P	**Pn**	**11 10 22.0**	**-0.1**
MAT				*e*S	**Sn**	**11 11 06.0**	**+0.8**
MAT	**Matsushiro**	**3.69**	**313**	P	**Pn**	**11 10 22.1**	**0.0**
MAT				S	**Sn**	**11 11 06.1**	**+0.9**
CBIJ	**Chichi jima**	**6.97**	**175**	Pn	**Pn**	**11 11 05.8**	**-2.4**
	18nm,0.3s,baz=291,slow=23,SNR=9.8						
CBIJ				Sn	**Sn**	**11 12 19.6**	**-7.8**
	15nm,0.3s,baz=290,slow=23,SNR=4.3						
ASAJ	**Asahikawa**	**10.07**	**4**	P	**P**	**11 11 45.6**	**-5.7**
ASAJ						11 13 37.9	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.07**	**4**	Pn	**P**	**11 11 45.6**	**-5.7**
	comp=N,2.1nm,0.3s,baz=209,slow=11,SNR=11						
ASAJ				Sn	**S**	**11 13 37.9**	**-6.4**
	comp=N,0.8nm,0.3s,baz=312,slow=31,SNR=4.6						
YSS	**Yuzh-Sakhalins**	**12.91**	**4**	*e*P	**P**	**11 12 23.3**	**-6.4**
YSS				*e*S	**S**	**11 14 40.0**	**-13**
YSS				pmax	pmax		
	comp=N,30nm,0.9s						
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS				smax			
	comp=E,120nm,1.7s						
YSS				MLR	MLR		
	comp=Z,3μm,14.0s						
YSS				MLR	MLR		
	comp=N,3μm,15.0s						
YSS	**Yuzh-Sakhalins**	**12.91**	**4**	*e*P	**P**	**11 12 24.5**	**-5.2**
	comp=N,49nm,1.0s						
JOW	**Kunigami**	**13.53**	**241**	LR	LR	11 17 43.1	
	comp=N,2μm,18.2s,baz=92,slow=37						
MDJ	**Mudanjiang**	**14.01**	**322**	P	**P**	**11 12 44.0**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,16nm,2.0s						
MDJ				AMB	AMB		
	comp=Z,338nm,5.8s						
SNY	**Shenyang**	**16.15**	**304**	PR		11 13 14.1	
SNY				AMB	AMB		
	comp=Z,410nm,9.8s						
SNY				LR	LR		
	comp=N,2μm,14.7s						
SNY				LR	LR		
	comp=Z,2μm,12.2s						
KLR	**Kul'dur**	**16.81**	**337**	*e*P	**P**	**11 13 29.5**	**+9.2**
KLR				MLR	MLR		
	comp=Z,3.0nm,14.0s						
SSE	**Sheshan**	**17.43**	**266**	P	**P**	**11 13 33.4**	**+5.3**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s						
SSE				AMB	AMB		
	comp=Z,291nm,8.0s						
SSE				LR	LR		
	comp=N,1μm,15.2s						
SSE				LR	LR		
	comp=E,429nm,15.1s						
SSE				LR	LR		
	comp=Z,1μm,14.9s						
BJT	**Baijiatuau**	**21.09**	**294**	*e*P	**P**	**11 14 16.6**	**+6.8**
BJT				pmax	pmax		
	comp=Z,16nm,1.0s						
BJT	**Baijiatuau**	**21.09**	**294**	*e*P	**P**	**11 14 16.6**	**+6.8**
	comp=Z,16nm,1.0s,mb4.3						
HIA	**Hailar**	**22.17**	**320**	*e*P	**P**	**11 14 19.3**	**-1.2**
HIA				pmax	pmax		
	comp=Z,16nm,1.0s						
HIA	**Hailar**	**22.17**	**320**	*e*P	**P**	**11 14 19.3**	**-1.2**
	comp=Z,16nm,1.0s,mb4.4						
PET	**Petropavlovsk**	**22.54**	**28**	*e*P	**P**	**11 14 26.8**	**+2.7**
PET				*e*		11 14 51.3	
PET				*e*S	**S**	**11 18 20.9**	**-3.7**
PET				pmax	pmax		
	comp=Z,500nm,7.7s						
PET				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
PET				pmax	pmax		
	comp=Z,200nm,11.0s						
PET				smax			
	comp=E,500nm,14.0s						
CLNS	**Chul'man**	**25.46**	**338**	*e*P	**P**	**11 14 50.1**	**-2.2**
CLNS				*e*S	**S**	**11 19 11.6**	**-3.3**
CLNS				pmax	pmax		
	comp=N,9.0nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.5						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.6						
CLNS				pmax	pmax		
	comp=N,15nm,1.1s						
CLNS				pmax	pmax		
	comp=E,12nm,1.0s						
CLNS				smax			
	comp=N,487nm,14.2s						
CLNS				smax			
	comp=Z,314nm,13.5s						
CLNS				smax			
	comp=E,100nm,13.3s						
MA2	**Magadan**	**26.24**	**11**	*e*P	**P**	**11 14 59.3**	**-0.2**
MA2				*e*S	**S**	**11 19 26.6**	**-1.1**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.2						
MA2				MLR	MLR		
	comp=Z,1μm,21.0s,MS4.5						
MA2	**Magadan**	**26.24**	**11**	*e*P	**P**	**11 14 59.0**	**-0.5**
	comp=Z,37nm,1.4s,mb4.7						
XAN	**Xi'an**	**26.98**	**279**	P	**P**	**11 15 10.8**	**+4.2**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.2						
ENH	**Enshi**	**27.35**	**271**	*e*P	**P**	**11 15 09.2**	**-0.8**
YAK	**Yakutsk**	**28.99**	**348**	*e*P	**P**	**11 15 21.2**	**-3.3**
YAK				*e*S	**S**	**11 20 11.4**	**-0.9**
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
YAK				smax			
	comp=N,100nm,17.3s						
YAK				smax			
	comp=E,100nm,13.1s						
YAK				MLR	MLR		
	comp=N,504nm,17.0s,MS4.3						
YAK				MLR	MLR		
	comp=Z,580nm,17.0s,MS4.3						
YAK				MLR	MLR		
	comp=E,300nm,14.0s,MS4.3						
SONM	**Songino Array**	**29.63**	**308**	P	**P**	**11 15 30.1**	**-0.3**
	comp=E,3.9nm,0.8s,mb4.2,baz=112,slow=8.7,SNR=16						
BOD	**Bodaibo**	**30.14**	**330**	*e*P	**P**	**11 15 33.7**	**-1.1**
LZH	**Lanzhou**	**30.81**	**285**	*e*P	**P**	**11 15 39.8**	**-1.1**
LZH				AP	pP	11 15 50.1	+0.5
LZH				XP	sP	11 15 56.0	+2.5
LZH				PP	PP	11 16 41.8	-0.7
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,105nm,6.1s						
LZH				LR	LR		
	comp=N,897nm,13.0s						
LZH				LR	LR		
	comp=Z,1μm,17.4s,MS4.6						
QIZ	**Qiongzhong**	**31.93**	**250**	*e*P	**P**	**11 15 51.6**	**+0.7**
QIZ				S	**S**	**11 20 57.8**	**-1.1**
QIZ				LR	LR		
	comp=N,796nm,14.0s,MS4.6						
QIZ				LR	LR		
	comp=E,537nm,14.5s,MS4.6						
QIZ				LR	LR		
	comp=Z,670nm,15.5s,MS4.4						
ZAK	**Zakamensk**	**32.28**	**312**	*e*P	**P**	**11 15 53.9**	**+0.3**
TLY	**Talaya**	**32.43**	**314**	*e*P	**P**	**11 15 55.6**	**+0.6**
TLY				*e*		11 23 25.4	
TLY				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.8						
TLY				MLR	MLR		
	comp=Z,871nm,15.0s,MS4.6						
TLY	**Talaya**	**32.43**	**314**	*e*P	**P**	**11 15 56.1**	**+1.1**
	comp=Z,15nm,1.1s,mb4.7						
MOY	**Mondy**	**34.01**	**314**	*e*P	**P**	**11 16 12.8**	**+4.1**
BILL	**Bilibino**	**36.85**	**15**	*e*P	**P**	**11 16 31.2**	**-1.4**
BILL				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.6						
BILL	**Bilibino**	**36.85**	**15**	*e*P	**P**	**11 16 31.2**	**-1.4**
	comp=Z,11nm,1.1s,mb4.6						
TIXI	**Tiksi**	**38.25**	**354**	*e*P	**P**	**11 16 43.6**	**-0.8**
TIXI				*e*S	**S**	**11 22 31.4**	**-4.5**
TIXI				*e*SS	SS	11 25 08.5	-6.7
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.8						
CMAR	**Chiang Mai Arr**	**40.95**	**259**	*i*P	**P**	**11 17 13.0**	**+5.8**
CMAR	**Chiang Mai Arr**	**40.95**	**259**	P	**P**	**11 17 07.2**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.4,baz=7.6,slow=14,SNR=4.0						
CMAR				LR	LR	11 37 00.6	
	comp=Z,451nm,18.9s,MS4.3,baz=45,slow=40						
CMAR	**Chiang Mai Arr**	**40.95**	**259**	P	**P**	**11 17 07.2**	**0.0**
CMAR				LR	LR	11 37 00.6	
WMQ	**Urumqi**	**42.35**	**300**	P	**P**	**11 17 18.9**	**+0.4**
WMQ				AP	pP	11 17 31.2	+3.8
WMQ				XP	sP	11 17 36.6	+5.5
WMQ				PP	PP	11 19 00.4	+0.9
WMQ				S	**S**	**11 23 36.2**	**-1.3**
WMQ				XS		11 23 56.9	
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,38nm,5.2s						
WMQ				LR	LR		
	comp=N,658nm,20.1s,MS4.6						
WMQ				LR	LR		
	comp=E,544nm,21.3s,MS4.6						
WMQ				LR	LR		
	comp=Z,790nm,21.4s,MS4.6						
ZAL	**Zalesovo**	**44.06**	**315**	P	**P**	**11 17 32.1**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**44.06**	**315**	P	**P**	**11 17 32.1**	**-0.1**
	comp=Z,1.3nm,0.4s,mb4.0,baz=12,slow=8.5,SNR=5.6						
NVS	**Novosibirsk**	**45.02**	**316**	*e*P	**P**	**11 17 41.4**	**+1.5**
NVS				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.7						
NVS				pmax	pmax		
	comp=E,16nm,1.3s						
KAKA	**Kakadu**	**47.32**	**192**	*e*P	**P**	**11 18 01.7**	**+3.0**
	comp=E,5.8nm,0.6s,mb4.7						
KURK	**Kurchatov**	**47.90**	**310**	*e*P	**P**	**11 18 02.2**	**-0.6**
KURK				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.3						
KURK	**Kurchatov**	**47.90**	**310**	*e*P	**P**	**11 18 02.2**	**-0.6**
	comp=Z,36nm,1.1s,mb5.3						
IMA	**Indian Mountai**	**49.20**	**29**	*e*P	**P**	**11 18 13.4**	**+0.8**
COLA	**College**	**51.54**	**31**	*e*P	**P**	**11 18 30.4**	**0.0**
ILAR	**Eielson Array**	**51.95**	**31**	P	**P**	**11 18 32.2**	**-1.4**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,195nm,19.1s						
ILAR	**Eielson Array**	**51.95**	**31**	P	**P**	**11 18 32.1**	**-1.4**
	comp=Z,3.4nm,0.8s,mb4.3,baz=271,slow=6.5,SNR=29						
ILAR				LR	LR	11 41 43.9	
	comp=Z,195nm,19.1s,MS4.2,baz=70,slow=37						
AAK	**Ala-Archa**	**52.05**	**300**	*e*P	**P**	**11 18 33.3**	**-1.3**
AAK				*e*		11 18 46.0	
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**52.05**	**300**	*e*P	**P**	**11 18 33.3**	**-1.3**
	comp=Z,3.3nm,0.9s,mb4.3						
AAK				*e*		11 18 46.0	
CHKZ	**Chkalovo**	**52.46**	**315**	*e*P	**P**	**11 18 36.6**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
CHKZ	**Chkalovo**	**52.46**	**315**	*e*P	**P**	**11 18 36.6**	**-0.9**
	comp=Z,17nm,1.2s,mb4.9						
BVAR	**Borovoye Array**	**52.69**	**314**	P	**P**	**11 18 39.0**	**-0.2**
	comp=Z,1.3nm,0.4s,mb4.2,baz=79,slow=7.6,SNR=8.6						
BRVK	**Borovoye**	**52.75**	**314**	*e*P	**P**	**11 18 39.2**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,23nm,1.5s,mb4.9						
BRVK	**Borovoye**	**52

comp=Z,3.3nm,0.8s,mb4.4
SVE Sverdlovsk 57.47 320 *e*P **P 11 19 17.0 +3.1**
SVE MLR MLR
comp=Z,2μm,16.0s,MS5.3
ASAR Alice Springs 57.87 188 P **P 11 19 16.2 -0.9**
comp=Z,0.9nm,0.4s,mb4.1,baz=360,slow=5.9,SNR=23
ASAR LR LR 11 45 20.1
comp=Z,166nm,18.1s,MS4.2,baz=355,slow=37
HYB Hyderabad 58.29 270 *i* P **P 11 19 21.5 +1.4**
ARU Arti 58.68 320 *e*P **P 11 19 17.2 -5.1**
ARU *e* 11 20 07.8
ARU *e*S **S 11 27 19.1 -4.1**
ARU *e*SS SS 11 31 08.7 -9.3
ARU MLR MLR
comp=Z,1μm,16.0s,MS5.1
ARU MLR MLR
comp=N,400nm,19.0s,MS4.9
ARU MLR MLR
comp=E,700nm,17.0s,MS4.9
MBWA Marble Bar 58.72 204 *e*P **P 11 19 23.4 +0.3**
comp=E,8.7nm,1.0s,mb4.7
DLBC Dease Lake 60.90 37 P **P 11 19 37.5 -0.1**
comp=E,11nm,1.3s,mb4.8,baz=277,slow=11,SNR=3.5
RES Resolute Bay 65.44 14 *e*P **P 11 20 06.7 -0.5**
RES *e* 11 20 20.2
RES pmax pmax
comp=Z,14nm,1.2s,mb4.9
RES Resolute Bay 65.44 14 *e*P **P 11 20 06.7 -0.6**
comp=Z,14nm,1.2s,mb4.9
RES *e* 11 20 20.2
YKA Yellowknife Ar 66.32 29 *i* P **P 11 20 12.1 -0.9**
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 66.32 29 P **P 11 20 11.6 -1.4**
comp=Z,0.9nm,0.9s,mb3.8,baz=295,slow=6.4,SNR=15
ARCES ARCESS Array B 66.82 340 LR LR 11 54 44.6
comp=Z,592nm,18.3s,MS4.8,baz=207,slow=41
OBN Obninsk 70.55 324 *e*P **P 11 20 43.0 +3.6**
OBN *e* 11 21 05.7
OBN pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
OBN MLR MLR
comp=Z,1μm,11.0s,MS5.4
FINES FINESS Array B 71.50 333 P **P 11 20 45.1 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 71.50 333 P **P 11 20 45.0 0.0**
comp=Z,2.2nm,0.9s,mb4.1,baz=18,slow=6.0,SNR=4.5
YBH Yreka Blue Hor 72.08 52 P **P 11 20 49.6 +0.8**
YBH pmax pmax
comp=Z,2.0nm,0.9s
YBH Yreka Blue Hor 72.08 52 P **P 11 20 49.6 +0.8**
comp=Z,2.0nm,0.9s,mb4.0,baz=230,slow=8.9,SNR=3.7
GOF Gofitskoye 72.18 313 ||*i* P **P 11 20 54.0 +4.6**
GOF pmax pmax
comp=Z,17nm,1.4s,mb4.8
KIV Kislovodsk 72.96 312 *e*P **P 11 20 58.9 +5.0**
KIV *e* 11 23 41.1
KIV *e*PPP PPP 11 25 26.8 +5.4
KIV pmax pmax
comp=E,11nm,1.2s
KIV pmax pmax
comp=Z,21nm,1.2s,mb4.9
KIV Kislovodsk 72.96 312 *e*P **P 11 20 58.9 +5.0**
comp=Z,17nm,1.0s,mb4.9
SUMG Summit 73.65 0 *e*P **P 11 20 57.6 +0.2**
comp=Z,18nm,1.1s,mb4.9
BMO Blue Mountains 73.87 47 *e*P **P 11 20 60.0 +0.8**
comp=Z,7.1nm,1.3s,mb4.4
SOC Sochi 74.98 313 *e*P **P 11 21 06.8 +1.1**
SOC *e* 11 23 51.7
SOC *e*PPP PPP 11 25 39.5 -1.2
SOC *e*S S 11 30 40.4 +0.5
SOC *e* 11 31 20.4
SOC *e*SS SS 11 35 33.0 +2.1
SOC pmax pmax
comp=N,19nm,0.8s
SOC pmax pmax
comp=E,23nm,0.8s
SOC pmax pmax
comp=Z,20nm,0.8s,mb5.1
SOC MLR MLR
comp=Z,475nm,17.0s,MS4.9
SOC MLR MLR
comp=N,608nm,18.0s,MS5.0
SOC MLR MLR
comp=E,272nm,16.0s,MS5.0
ANN Anapa 75.69 315 *e*P **P 11 20 57.8 -12**
NVAR Mina Array Bea 76.68 53 P **P 11 21 15.7 +0.3**
comp=E,1.3nm,0.8s,mb3.9,baz=273,slow=3.5,SNR=6.8
AKASG Malin Array Be 76.73 323 P **P 11 21 14.9 -0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 76.73 323 P **P 11 21 14.9 -0.5**
comp=Z,1.2nm,0.6s,mb4.0,baz=45,slow=5.7,SNR=8.3
NB2 NORSAR Subarra 76.97 338 P **P 11 21 16.5 0.0**
comp=Z,7.5nm,0.9s,mb4.6,baz=41,slow=5.6
NB2 NORSAR Subarra 76.97 338 P **P 11 21 16.5 0.0**
NB2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
NOA NORSAR Array B 76.97 338 P **P 11 21 16.6 +0.1**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,334nm,21.4s
NOA NORSAR Array B 76.97 338 P **P 11 21 16.6 +0.1**
comp=Z,1.9nm,0.8s,mb4.1,baz=38,slow=5.8,SNR=5.4
NOA LR LR 11 58 45.8
comp=Z,334nm,21.4s,MS4.6,baz=35,slow=38
PDAR Pinedale Array 79.67 45 P **P 11 21 31.9 +0.3**
comp=Z,0.8nm,0.7s,mb3.8,baz=290,slow=1.4,SNR=8.4
DAU Daniels Canyon 80.05 48 *e*P **P 11 21 35.4 +1.6**
MSU Marysvale 80.60 50 *e*P **P 11 21 37.0 +0.3**
BRTR Keskin Array B 80.92 312 P **P 11 21 39.2 +0.8**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR Keskin Array B 80.92 312 P **P 11 21 39.2 +0.8**
comp=Z,1.6nm,1.0s,mb3.9,baz=90,slow=1.2,SNR=5.1
PV10 Paradox Valley 82.65 48 *e*P **P 11 21 49.3 +1.9**
PV01 Paradox Valley 83.09 48 *e*P **P 11 21 50.4 +0.7**
CLL Collm 83.73 330 *e*P **P 11 22 00.0 +7.4**
CLL Collm 83.73 330 *e**PP pP 11 22 00.0 -2.1
PRU Pruhonice 84.08 329 *e*P pP 11 22 08.0 +4.1
PRU Pruhonice 84.08 329 *e*pP pP 11 22 08.0 +4.1
KHC Kasperske Hory 85.14 329 *e*P **P 11 22 00.0 +0.3**
KHC *e* 11 22 13.0
KHC Kasperske Hory 85.14 329 *e*P **P 11 22 00.0 +0.3**
KHC pP pP 11 22 13.0 +3.8
GERES GERESS Array B 85.30 328 P **P 11 22 00.3 -0.2**
comp=Z,0.3nm,0.3s,mb3.8,baz=27,slow=3.0,SNR=5.3
GRA1 Grafenberg Arr 85.70 330 *e*P **P 11 22 06.5 +4.0**
comp=Z,11nm,1.2s,mb5.0
GRF Grafenberg Arr 85.70 330 *e*P **P 11 22 06.5 +4.0**
GRF pmax pmax
comp=Z,11nm,1.2s,mb5.0
GRF Grafenberg Arr 85.70 330 *e*P **P 11 22 06.5 +4.0**
GRF pmax pmax
comp=Z,11nm,1.2s,mb5.0
GRF Grafenberg Arr 85.70 330 *e*P **P 11 22 06.5 +4.0**
comp=Z,11nm,1.2s,mb5.0
ANMO Albuquerque 86.40 50 P **P 11 22 07.3 +0.9**
ANMO pmax pmax
comp=Z,1.0nm,0.9s
ANMO Albuquerque 86.40 50 P **P 11 22 07.3 +0.9**
comp=Z,0.7nm,0.8s,mb3.9,baz=279,slow=1.7,SNR=4.4
TXAR Lajitas Array 91.83 52 P **P 11 22 33.0 +0.9**
comp=Z,0.8nm,1.0s,mb4.0,baz=250,slow=1.8,SNR=4.5
TXAR LR LR 12 00 56.3
comp=Z,293nm,19.0s,MS4.8,baz=140,slow=34
LPAZ La Paz 147.99 64 PKIKP PKPdf 11 29 10.7 +0.3
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 147.99 64 PKPbc PKPdf 11 29 10.7 +0.3
comp=Z,2.9nm,0.8s,baz=358,slow=5.1,SNR=10

*IDC **19** 11:15:08.7±1.0, 33.96N×141.73E, mb3.5/5, mb1 3.9/7, mb1mx3.7/21, mbtmp3.7/7, ML3.7/2, Error ellipse: s-maj=42.8km s-min=17.8km az=115.0*
*JMA **19** 11:15:12.5±0.3, 33.99N×141.62E, h35km±3km, M3.3*
ISC 19 11:15:11.4±2.6, 33.91N±0.06×141.70E±0.09, h32km±21km, n17, σ0°83/19, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.95**	**321**	P	**Pn**	**11 15 28.2**	**-0.5**
BSO4	**Boso 4**	**1.56**	**314**	P	**Pn**	**11 15 37.8**	**+0.4**
JHJ2	**Mitsune**	**1.76**	**244**	P	**Pn**	**11 15 41.3**	**+1.0**
JHJ	**Hachijo jima 2**	**1.79**	**244**	Pn	**Pn**	**11 15 41.4**	**+0.8**
	21nm,0.3s,baz=54,slow=17,SNR=6.8						
JIZS	**Izushimoda**	**2.47**	**290**	P	**Pn**	**11 15 50.0**	**-0.4**
JIZS				*e*S	**Sn**	**11 16 19.0**	**-0.8**
JOD2	**Odawara 2**	**2.54**	**303**	P	**Pn**	**11 15 51.5**	**+0.1**
JYN	**Shimob**	**3.04**	**302**	P	**Pn**	**11 15 59.2**	**+0.6**
JAG	**Ashikaga**	**3.11**	**324**	P	**Pn**	**11 15 59.1**	**-0.4**
JRY	**Ryogami san**	**3.11**	**313**	P	**Pn**	**11 15 59.5**	**-0.1**
MAT	**Matsushiro**	**3.88**	**314**	P	**Pn**	**11 16 11.0**	**+0.5**
MAT				S	**Sn**	**11 16 55.2**	**-0.3**
CBIJ	**Chichi jima**	**6.80**	**176**	Pn	**Pn**	**11 16 50.0**	**-1.7**
	7.2nm,0.3s,baz=302,slow=18,SNR=5.3						
ASAJ	**Asahikawa**	**10.22**	**4**	Pn	**P**	**11 17 34.1**	**-4.8**
	0.5nm,0.3s,baz=153,slow=12,SNR=3.4						
ILAR	**Eielson Array**	**52.02**	**31**	P	**P**	**11 24 19.2**	**-0.4**
	0.8nm,0.7s,mb3.7,baz=268,slow=5.7,SNR=9.8						
WRA	**Warramunga Arr**	**54.01**	**189**	P	**P**	**11 24 33.9**	**-1.1**
	0.2nm,0.4s,mb3.4,baz=6.3,slow=7.7,SNR=7.7						
ASAR	**Alice Springs**	**57.73**	**188**	P	**P**	**11 25 03.0**	**+1.2**
	0.2nm,0.5s,mb3.4,baz=3.1,slow=7.3,SNR=4.7						
YKA	**Yellowknife Ar**	**66.40**	**29**	P	**P**	**11 25 58.6**	**-0.4**
	0.2nm,0.7s,mb3.2,baz=294,slow=6.3,SNR=4.4						
PDAR	**Pinedale Array**	**79.69**	**45**	P	**P**	**11 27 18.9**	**+1.6**
	0.5nm,0.7s,mb3.5,baz=270,slow=3.0,SNR=4.5						

*IDC **19** 11:20:25.4±1.2, 34.08N×141.70E, mb3.5/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=35.4km s-min=24.5km az=108.0*
*JMA **19** 11:20:26.0±0.5, 33.98N×141.71E, h22km±5km, M3.5*
ISC 19 11:20:27.1±1.6, 34.05N±0.07×141.8E±0.1, h27km±10km, n13, σ0°66/16, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.88**	**314**	P	**Pb**	**11 20 42.7**	**-0.9**
BSO1				*e*S	**Sb**	**11 20 55.7**	**+0.8**
BSO3	**Boso 3**	**1.27**	**307**	P	**Pn**	**11 20 49.0**	**-0.3**
BSO4	**Boso 4**	**1.49**	**309**	P	**Pn**	**11 20 53.1**	**+0.6**
BSO4				*e*S	**Sn**	**11 21 11.7**	**+0.4**
JHJ2	**Mitsune**	**1.86**	**240**	P	**Pn**	**11 20 57.7**	**-0.1**
JHJ	**Hachijo jima 2**	**1.89**	**241**	Pn	**Pn**	**11 20 58.0**	**-0.1**
	24nm,0.3s,baz=257,slow=23,SNR=5.2						
JIZS	**Izushimoda**	**2.46**	**286**	P	**Pn**	**11 21 05.9**	**-0.5**
JIZS				S	**Sn**	**11 21 36.3**	**+0.4**
JOD2	**Odawara 2**	**2.50**	**300**	P	**Pn**	**11 21 06.8**	**-0.2**
MAT	**Matsushiro**	**3.82**	**312**	P	**Pn**	**11 21 26.3**	**+0.7**
MAT				S	**Sn**	**11 22 08.9**	**-1.2**
SONM	**Songino Array**	**29.76**	**308**	P	**P**	**11 26 33.4**	**-0.1**
	0.5nm,0.9s,mb3.2,baz=106,slow=10,SNR=3.2						
ILAR	**Eielson Array**	**51.88**	**31**	P	**P**	**11 29 35.0**	**0.0**
	0.5nm,0.7s,mb3.5,baz=260,slow=6.1,SNR=6.8						
WRA	**Warramunga Arr**	**54.15**	**189**	P	**P**	**11 29 51.5**	**-0.9**
	0.3nm,0.5s,mb3.5,baz=5.9,slow=7.6,SNR=7.2						
ASAR	**Alice Springs**	**57.88**	**188**	P	**P**	**11 30 20.4**	**+1.3**
	0.4nm,0.6s,mb3.6,baz=6.9,slow=8.5,SNR=4.3						
TAOE	**Nuku Hiva Isla**	**85.19**	**104**	*e*LR	LR	11 34 10.3	

*IDC **19** 11:21:36.7±1.5, 13.47S×112.96W, mb4.1/9, mb1 4.3/9, mb1mx4.1/15, mbtmp4.1/9, MS4.5/9, Ms1 4.4/9, ms1mx3.9/25, Error ellipse: s-maj=51.5km s-min=27.0km az=58.0*
*NEIC **19** 11:21:38.4±0.7, 13.59S×112.89W, h10km, mb4.8/6, Error ellipse: s-maj=31.0km s-min=12.8km az=79.0*
ISC 19 11:21:38.2±0.7, 13.35S±0.09×112.9W±0.2, h10km, n45, σ1°20/34, mb4.5/15, MS4.5/9, 3C-1D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**43.33**	**100**	P	**P**	**11 29 41.3**	**-1.2**
	15nm,1.0s,mb4.7,baz=269,slow=5.4,SNR=6.4						
LPAZ				LR	LR	11 42 35.8	
	comp=Z,225nm,20.6s,MS4.1,baz=260,slow=29						
TXAR	**Lajitas Array**	**43.36**	**12**	P	**P**	**11 29 42.0**	**-0.6**
	1.8nm,1.1s,mb3.7,baz=186,slow=11,SNR=10						
TXAR				LR	LR	11 44 32.0	
	comp=Z,372nm,20.1s,MS4.3,baz=215,slow=32						
JCT	**Junction City**	**45.37**	**16**	*e*P	**P**	**11 29 58.2**	**-0.6**
	13nm,1.0s,mb4.7						
TUC	**Tucson**	**45.45**	**3**	*e*P	**P**	**11 30 00.3**	**+0.9**
PLCA	**Paso Flores**	**45.92**	**135**	P	**P**	**11 29 56.6**	**-6.4**
	9.1nm,1.0s,mb4.7,baz=299,slow=8.0,SNR=6.3						
PLCA				LR	LR	11 43 55.2	
	comp=Z,870nm,21.5s,MS4.7,baz=276,slow=29						
PLCA	**Paso Flores**	**45.92**	**135**	P	**P**	**11 29 56.6**	**-6.4**
PLCA				LR	LR	11 43 55.2	
HKT	**Hockley**	**46.09**	**21**	*e*P	**P**	**11 30 07.1**	**+2.6**
CPRX	**Cap Rock**	**46.92**	**10**	*e*P	**P**	**11 30 11.4**	**+0.4**
LENM	**Lemitar**	**47.59**	**7**	*e*P	**P**	**11 30 16.4**	**+0.1**
LAZ	**Ladron**	**47.80**	**6**	*e*P	**P**	**11 30 18.4**	**+0.5**
ANMO	**Albuquerque**	**48.42**	**7**	P	**P**	**11 30 22.9**	**+0.1**
	1.8nm,1.1s,mb4.0,baz=174,slow=8.0,SNR=3.7						
NEN	**Nelson**	**48.76**	**358**	*e*P	**P**	**11 30 25.2**	**-0.2**
WMOK	**Wichita Mounta**	**49.67**	**15**	*e*P	**P**	**11 30 34.0**	**+1.6**
	8.8nm,1.2s,mb4.7						
MIAR	**Mount Ida**	**51.05**	**21**	*e*P	**P**	**11 30 43.0**	**0.0**
SDCO	**Great Sand Dun**	**51.30**	**8**	*e*P	**P**	**11 30 43.6**	**-1.2**
	32nm,1.6s,mb5.0						
PV01	**Paradox Valley**	**51.37**	**4**	*e*P	**P**	**11 30 45.3**	**0.0**
PV10	**Paradox Valley**	**51.58**	**4**	*e*P	**P**	**11 30 48.0**	**+1.2**
MSU	**Marysvale**	**51.59**	**1**	P	**P**	**11 30 49.2**	**+2.3**
MNV	**Mina**	**51.74**	**355**	*e*P	**P**	**11 30 48.9**	**+0.8**
	16nm,1.4s,mb4.7						
NVAR	**Mina Array Bea**	**51.75**	**355**	P	**P**	**11 30 48.1**	**-0.1**
	37nm,1.4s,mb5.1,baz=181,slow=10.0,SNR=23						
NVAR				LR	LR	11 48 33.4	
	comp=Z,435nm,18.3s,MS4.5,baz=165,slow=31						
DAU	**Daniels Canyon**	**53.51**	**2**	*e*P	**P**	**11 31 01.1**	**-0.1**
JLU	**Jordanelle**	**53.69**	**1**	*e*P	**P**	**11 31 04.4**	**+1.9**
YBH	**Yreka Blue Hor**	**55.54**	**351**	P	**P**	**11 31 14.8**	**-1.3**
	1.3nm,0.8s,mb4.0,baz=180,slow=4.0,SNR=2.9						
PDAR	**Pinedale Array**	**55.92**	**3**	P	**P**	**11 31 16.5**	**-2.3**
	1.2nm,0.5s,mb4.2,baz=174,slow=8.3,SNR=9.6						
IMW	**Indian Meadow**	**57.00**	**2**	*e*P	**P**	**11 31 24.8**	**-1.7**
BMO	**Blue Mountains**	**58.06**	**356**	*e*P	**P**	**11 31 33.7**	**-0.3**
	15nm,1.4s,mb4.8						
YKA	**Yellowknife Ar**	**75.61**	**359**	P	**P**	**11 33 23.0**	**-1.9**
	1.8nm,1.1s,mb3.9,baz=175,slow=5.5,SNR=14						
YKA				LR	LR	12 03 08.8	
	comp=Z,391nm,18.3s,MS4.8,baz=165,slow=33						
VNDA	**Vanda**	**76.02**	**193**	LR	LR	11 59 58.1	
	comp=Z,199nm,19.1s,MS4.4,baz=90,slow=30						
QSPA	**South Pole Qui**	**76.75**	**180**	*e*P	**P**	**11 33 29.6**	**-1.4**
	15nm,1.3s,mb4.8						
SCHQ	**Schefferville**	**78.26**	**25**	P	**P**	**11 33 38.4**	**-1.3**
	5.1nm,1.0s,mb4.4,baz=41,slow=7.2,SNR=3.7						
VNA3	**Neumayer Olymp**	**81.67**	**161**	||*i*	**P**	**11 33 58.6**	**+0.9**
ILAR	**Eielson Array**	**82.03**	**346**	P	**P**	**11 33 59.2**	**-0.4**
	0.4nm,0.9s,baz=206,slow=12,SNR=3.9						
VNA1	**Neumayer--Stat**	**82.29**	**161**	||*i*	**P**	**11 34 03.8**	**+2.9**
VNA2	**Neumayer--Watz**	**82.47**	**161**	||*i*	**P**	**11 34 05.2**	**+3.3**
INK	**Inuvik**	**82.78**	**352**	LR	LR	12 04 16.1	
	comp=Z,278nm,21.8s,MS4.6,baz=58,slow=31						
SNAA	**Sanae**	**83.57**	**163**	||*i*	**P**	**11 34 07.8**	**+0.3**
STKA	**Stephens Creek**	**95.77**	**235**	LR	LR	12 11 36.4	
	comp=Z,199nm,18.2s,MS4.6,baz=144,slow=31						
MAW	**Mawson**	**99.21**	**178**	LR	LR	12 15 24.6	
	comp=Z,204nm,19.9s,MS4.6,baz=61,slow=33						
BVAR	**Borovoye Array**	**140.34**	**357**	PKP	PKPdf	11 41 07.4	-3.2
	0.4nm,0.6s,baz=210,slow=43,SNR=2.6						
BRTR	**Keskin Array B**	**140.57**	**42**	PKP	PKPdf	11 41 08.9	-2.5
	1.9nm,1.0s,baz=225,slow=1.7,SNR=7.6						
ASF	**Jabal al Asfar**	**146.62**	**51**	PKPbc	PKPbc	11 41 21.2	+0.7
	8.0nm,1.2s,baz=293,slow=7.7,SNR=2.2						
GNI	**Garni**	**146.87**	**32**	PKPbc	PKPbc	11 41 22.3	+1.5
	5.0nm,0.5s,baz=111,slow=5.7,SNR=3.3						
KMBO	**Kilima Mbogo**	**147.11**	**114**	PKPbc	PKPdf	11 41 22.9	-0.6
	3.1nm,1.1s,baz=230,slow=22,SNR=3.9						
KMBO	**Kilima Mbogo**	**147.11**	**114**	*e*PKPdf	PKPdf	11 41 23.1	-0.5
CMAR	**Chiang Mai Arr**	**148.97**	**284**	PKPbc	PKPdf	11 41 26.2	0.0
	0.2nm,0.4s,baz=297,slow=5.3,SNR=2.4						

IDC 19 11:35:50.9±6.7, 3.03N×94.63E, mb3.5/3, mb1 3.7/4, mb1mx3.6/18, mbtmp3.5/4, ML3.8/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/16, Error ellipse: s-maj=206.7km s-min=28.9km az=71.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.90**	**15**	Pn	P	11 39 36.1	-1.7
	0.1nm,0.3s,baz=207,slow=11,SNR=7.5						
WRA	**Warramunga Arr**	**45.18**	**122**	P	P	11 44 09.7	-2.0
	1.1nm,0.8s,baz=301,slow=9.0,SNR=6.6						
SONM	**Songino Array**	**45.77**	**11**	P	P	11 44 14.2	-1.7
	0.2nm,0.4s,baz=180,slow=5.8,SNR=3.4						
ASAR	**Alice Springs**	**46.54**	**127**	P	P	11 44 20.6	-1.8
	0.6nm,0.8s,baz=296,slow=8.0,SNR=4.2						
CTA	**Charters Tower**	**55.62**	**117**	LR	LR	12 14 17.1	
	comp=Z,82nm,19.2s,baz=47,slow=42						

WEL 19 11:44:17.4±0.7, 46.53S×165.08E, h33km, ML3.5/7, Error ellipse: s-maj=8.0km s-min=6.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**2.09**	**73**	PN	Pn	11 44 49.1	-1.7
WHZ				*e*SN	Sn	11 45 14.3	-1.5
MLZ	**Mavora Lakes**	**2.46**	**62**	PN	Pn	11 44 54.3	-1.8
MLZ				*e*SN	Sn	11 45 21.6	-3.7
TUZ	**Tuapeka**	**3.21**	**81**	PN	Pn	11 45 04.4	-2.4
TUZ				SN	Sn	11 45 40.5	-3.8
EAZ	**Earnscleugh**	**3.22**	**68**	PN	Pn	11 45 05.1	-1.9
EAZ				SN	Sn	11 45 41.1	-3.5
WKZ	**Wanaka**	**3.24**	**60**	PN	Pn	11 45 06.8	-0.4
WKZ				*e*SN	Sn	11 45 42.0	-3.1
JCZ	**Jackson Bay**	**3.57**	**48**	*e*PN	Pn	11 45 09.4	-2.4
JCZ				SN	Sn	11 45 48.2	-5.3
ODZ	**Otahua Downs**	**4.16**	**71**	PN	Pn	11 45 16.2	-4.1
FOZ	**Fox Glacier**	**4.41**	**49**	*e*SN	Sn	11 46 09.7	-5.0
WVZ	**Waitaha Valley**	**5.30**	**51**	*e*PN	Pn	11 45 32.8	-3.6
LTZ	**Lake Taylor**	**6.34**	**56**	*e*PN	Pn	11 45 47.8	-3.4
DSZ	**Denniston Nort**	**6.80**	**48**	*e*PN	Pn	11 45 52.7	-4.8
QRZ	**Quartz Range**	**7.84**	**46**	*e*PN	Pn	11 46 06.5	-5.7

*ATH **19** 11:53:50.7, 36.88N×27.67E, h3km, MD3.5/6*
*NEIC **19** 11:53:50.7, 36.88N×27.67E, h3km, MD3.5(ATH), After ATH.*
*CSEM **19** 11:53:51.2±0.2, 36.98N×27.79E, h15km, MD3.4, Error ellipse: s-maj=3.8km s-min=2.9km az=88.0*
*ISK **19** 11:53:51.3, 37.01N×27.77E, h13km, MD3.4*
ISC 19 11:53:50.9±0.5, 36.95N±0.03×27.73E±0.04, h15km, n22, σ1°03/29, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.26**	**297**	*i* P	**Pb**	**11 53 56.8**	**+0.1**
BDRM				*i* S	**Sb**	**11 54 01.5**	**+0.8**
YER	**Yerkesik**	**0.48**	**67**	*i* PG	**Pg**	**11 53 59.8**	**-1.0**
YER				*i* SG	**Sg**	**11 54 06.9**	**-0.6**
AYDN	**Tasoluk**	**0.72**	**9**	*i* P	**Pb**	**11 54 04.9**	**+0.2**
AYDN				*i* S	**Sb**	**11 54 14.7**	**+0.6**
ARG	**Arkhangelos**	**0.80**	**157**	*e*PB	**Pb**	**11 54 05.5**	**-0.4**
SMG	**Samos**	**1.04**	**317**	*e*PG	**Pg**	**11 54 11.0**	**-0.9**
FETY	**Fethiye**	**1.13**	**106**	PN	**Pn**	**11 54 13.2**	**+1.0**
DNZL	**Cakiroluk**	**1.28**	**54**	*i* P	**Pb**	**11 54 14.3**	**+0.1**
DNZL				*i* S	**Sb**	**11 54 33.3**	**+3.0**
DENT	**Denizli**	**1.31**	**52**	PN	**Pn**	**11 54 15.3**	**+0.5**
KARP	**Karpathos**	**1.47**	**199**	*e*PG	**Pg**	**11 54 16.6**	**-3.9**
KARP				*e*SB	**Sb**	**11 54 36.5**	**+0.6**
IZM	**Izmir**	**1.50**	**346**	*e*PN	**Pn**	**11 54 17.4**	**0.0**
KDAG	**Bornova**	**1.50**	**346**	*i* P	**Pn**	**11 54 17.0**	**-0.5**
KDAG				*i* S	**Sb**	**11 54 41.0**	**+4.4**
BLCB	**Balcova**	**1.54**	**339**	PN	**Pn**	**11 54 18.8**	**+0.8**
MANT	**Manisa**	**1.67**	**23**	*i* P	**Pn**	**11 54 20.4**	**+0.4**
MANT				*i* S	**Sn**	**11 54 45.4**	**+4.1**
KSL	**Kastellorizon**	**1.69**	**118**	*e*PG	**Pg**	**11 54 22.5**	**-2.3**
ELL	**Elmali**	**1.76**	**96**	*e*PN	**Pn**	**11 54 22.7**	**+1.5**
APE	**Apeiranthos**	**1.77**	**275**	*e*PB	**Pb**	**11 54 23.0**	**+0.4**
KHL	**Karahalli**	**1.98**	**45**	*e*PN	**Pn**	**11 54 24.5**	**+0.2**
BCK	**Bucak**	**2.34**	**76**	*e*PN	**Pn**	**11 54 29.9**	**+0.4**
PRK	**Paraskevi**	**2.57**	**334**	*e*PG	**Pg**	**11 54 40.5**	**-1.8**
KCT	**Karacabey**	**3.35**	**8**	*e*PN	**Pn**	**11 54 43.8**	**-0.1**
ULDT	**Uludag**	**3.37**	**19**	*i* P	**Pg**	**11 54 56.4**	**-1.9**
ESKT	**Eskisehir**	**3.55**	**43**	*i* P	**Pg**	**11 54 57.6**	**-4.3**

IDC 19 12:06:44.6±2.4, 6.96S×151.74E, mb3.3/3, mb1 3.7/3, mb1mx3.5/12, mbtmp3.4/3, Error ellipse: s-maj=174.3km s-min=30.2km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.25**	**231**	P	P	12 11 33.5	-1.3
	0.7nm,1.0s,baz=54,slow=10.0,SNR=4.8						
ASAR	**Alice Springs**	**23.86**	**224**	P	P	12 11 58.8	-2.0
	0.4nm,1.0s,baz=61,slow=9.2,SNR=2.8						
ILAR	**Eielson Array**	**84.55**	**22**	P	P	12 19 19.6	-1.0
	2.2nm,1.3s,baz=243,slow=4.8,SNR=7.9						

*NIED **19** 12:31:00, 34.00N×141.70E, h11km, Mw3.8 Best double couple: M0=4.98×10^14 NP1:φ=333°, δ=76°, λ=42°. NP2:φ=231°, δ=50°, λ=162°.*
*JMA **19** 12:31:48.7±0.8, 34.00N×141.67E, h5km, M3.6*
*IDC **19** 12:31:48.0±1.2, 33.93N×141.74E, mb3.5/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=30.7km s-min=21.9km az=126.0*
ISC 19 12:31:50.8±1.8, 34.00N±0.07×141.8E±0.1, h35km±17km, n15, σ0°75/17, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.92**	**316**	P	**P**	**12 32 05.2**	**-2.1**
BSO3	**Boso 3**	**1.30**	**308**	P	**P**	**12 32 13.2**	**+0.3**
BSO4	**Boso 4**	**1.53**	**311**	P	**P**	**12 32 16.4**	**+0.3**
JHJ2	**Mitsune**	**1.85**	**242**	P	**P**	**12 32 21.0**	**+0.4**
JHJ	**Hachijo jima 2**	**1.87**	**242**	Pn	**P**	**12 32 20.9**	**0.0**
	32nm,0.3s,baz=65,slow=19,SNR=11						
JHJ				Sn	**S**	**12 32 43.2**	**-0.3**
	86nm,0.3s,baz=235,slow=23,SNR=7.4						
JIZS	**Izushimoda**	**2.49**	**288**	P	**P**	**12 32 31.0**	**+1.2**
JOD2	**Odawara 2**	**2.54**	**301**	P	**P**	**12 32 30.1**	**-0.4**
JYN	**Shimob**	**3.04**	**300**	P	**P**	**12 32 37.9**	**+0.3**
**JA

KOLN Koldanda 13.28 131 *eP* **P 12 35 50.1 -0.5**
3.4nm,0.3s
KOLN *eS* **S 12 38 13.1 -1.9**
GKN Gorkha 13.75 128 *eP* **P 12 35 57.1 +0.5**
7.0nm,0.3s
PKI Pulchoki 14.54 127 *eP* **P 12 36 07.2 +0.5**
JIRN Jiri 14.99 125 *eP* **P 12 36 12.5 +0.2**
8.9nm,0.4s
BVAR Borovoye Array 16.01 356 Pn **P 12 36 22.1 -2.7**
0.5nm,0.3s,baz=162,slow=14,SNR=7.7
YKA Yellowknife Ar 80.62 3 P **P 12 44 44.1 +0.4**
0.1nm,0.5s,mb2.7,baz=352,slow=5.3,SNR=5.7
WRA Warramunga Arr 81.39 123 P **P 12 44 48.8 +0.2**
0.3nm,0.6s,mb3.1,baz=324,slow=4.9,SNR=11
ASAR Alice Springs 83.71 126 P **P 12 45 00.9 +0.6**
0.4nm,0.9s,mb3.1,baz=313,slow=5.1,SNR=5.0

*MOS **19** 12:45:50.2±0.9, 6.84N×93.02E, h33km, mb4.8/14, Error ellipse: s-maj=12.7km s-min=7.9km az=105.7*
*BJI **19** 12:45:51.5, 6.80N×93.00E, h29km, mB4.8, mb4.6, Ms4.1, Msz3.8*
*IDC **19** 12:45:51.6±0.5, 6.87N×92.98E, h27km±3km, mb4.2/24, mb1 4.3/25, mb1mx4.2/28, mbtmp4.3/25, ML3.9/1, MS3.7/2, Ms1 3.8/2, ms1mx3.1/23, Error ellipse: s-maj=20.3km s-min=11.3km az=42.0*
*NEIC **19** 12:45:51.6±0.3, 6.77N×92.97E, mb4.6/13, Error ellipse: s-maj=7.8km s-min=6.5km az=204.0*
ISC 19 12:45:49.6±0.4, 6.75N±0.05×93.03E±0.04, h29km, h29km±, 9km: pP-P, n110, σ1°07/113, mb4.5/54, MS4.0/5, 4C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**4.88**	**357**	*e*P	**Pn**	**12 46 58.2**	**-4.8**
PBA				*e*		12 47 59.0	
PALK	**Pallekele**	**12.24**	**273**	*e*P	**P**	**12 48 41.7**	**-3.4**
11nm,0.6s							
CMAR	**Chiang Mai Arr**	**12.98**	**26**	Pn	**P**	**12 48 55.9**	**+0.9**
0.2nm,0.3s,baz=216,slow=15,SNR=6.0							
CMAR				LR	LR	12 54 06.2	
comp=Z,200nm,19.2s,baz=210,slow=38							
CHG	**Chiang Mai**	**13.30**	**25**	⇑P	**P**	**12 49 12.0**	**+13**
29nm,1.0s							
NANT	**Nan**	**14.11**	**31**	P	**P**	**12 49 25.0**	**+15**
VIS	**Vishakhapatnam**	**14.43**	**320**	*e*P	**P**	**12 49 11.6**	**-2.6**
VIS				*e*		12 49 13.3	
comp=Z,22nm,0.5s							
VIS				*e*		12 51 39.5	
CHRT	**Chiangrai**	**14.60**	**26**	P	**P**	**12 49 19.0**	**+2.7**
BWNR	**Bhubaneshwar**	**15.17**	**333**	*e*	**P**	**12 49 16.9**	**-7.0**
comp=Z,3.6nm,0.2s							
BWNR				*e*P		12 49 20.6	
BWNR				*e*		12 51 53.8	
HYB	**Hyderabad**	**17.66**	**308**	*e*P	**P**	**12 49 55.5**	**+0.1**
HYB	**Hyderabad**	**17.66**	**308**	*i* P	**P**	**12 49 55.5**	**+0.1**
HYB				*e*S	**S**	**12 53 11.0**	**+2.1**
IMP	**Imphal**	**17.95**	**3**	*e*P	**P**	**12 49 57.6**	**-1.3**
BLSP	**Bilaspur**	**18.55**	**327**	⇓*e*	**P**	**12 50 06.1**	**-0.3**
BLSP				*e*		12 50 08.9	
comp=Z,27nm,1.1s							
BLSP				*e*		12 53 20.4	
SHL	**Shillong**	**18.74**	**357**	*e*P	**P**	**12 50 05.0**	**-3.6**
SHL				*e*		12 53 23.5	
QIZ	**Qiongzhong**	**20.41**	**52**	P	**P**	**12 50 29.3**	**+2.1**
QIZ				*e*S	**S**	**12 54 14.0**	**+4.8**
QIZ				LR	LR		
comp=N,314nm,15.9s							
QIZ				LR	LR		
comp=Z,255nm,18.1s,MS3.6							
QIZ	**Qiongzhong**	**20.41**	**52**	*e*P	**P**	**12 50 27.7**	**+0.4**
KAD	**Karad**	**21.18**	**301**	⇑*i*	**P**	**12 50 35.2**	**+0.1**
KAD				*i*		12 54 17.2	
JIRN	**Jiri**	**21.78**	**343**	*e*P	**P**	**12 50 42.1**	**+1.0**
comp=Z,38nm,0.8s,mb4.8							
PKI	**Pulchoki**	**21.93**	**342**	*e*P	**P**	**12 50 43.3**	**+0.7**
comp=Z,30nm,0.5s,mb5.0							
POO	**Poona**	**22.04**	**304**	*e*P	**P**	**12 50 38.0**	**-5.8**
POO				*i* S	**S**	**12 54 39.0**	**-1.2**
DMN	**Daman**	**22.06**	**341**	*e*P	**P**	**12 50 44.8**	**+0.9**
comp=Z,56nm,0.6s,mb5.2							
KKN	**Kakani**	**22.17**	**342**	*e*P	**P**	**12 50 45.8**	**+0.7**
comp=Z,33nm,0.7s,mb4.9							
GKN	**Gorkha**	**22.58**	**340**	*e*P	**P**	**12 50 49.7**	**+0.5**
comp=Z,24nm,0.3s,mb5.1							
KOLN	**Koldanda**	**22.73**	**338**	*e*P	**P**	**12 50 51.1**	**+0.4**
comp=Z,41nm,0.6s,mb5.0							
LSA	**Lhasa**	**22.89**	**356**	P	**P**	**12 50 53.3**	**+1.1**
LSA	**Lhasa**	**22.89**	**356**	*e*P	**P**	**12 50 54.5**	**+2.3**
LSA				pmax	pmax		
comp=Z,8.0nm,0.7s,mb4.3							
LSA	**Lhasa**	**22.89**	**356**	*e*P	**P**	**12 50 54.5**	**+2.3**
comp=Z,8.4nm,0.7s,mb4.3							
BOM	**Bombay**	**23.07**	**303**	*e*S	**S**	**12 54 59.0**	**+0.1**
ENH	**Enshi**	**28.05**	**31**	*e*P	**P**	**12 51 40.8**	**+0.2**
comp=Z,5.0nm,0.6s,mb4.3							
TGY	**Tagaytay City**	**28.38**	**73**	P	**P**	**12 51 43.9**	**+0.1**
comp=Z,66nm,0.3s,baz=60,slow=17,SNR=3.3							
XAN	**Xi'an**	**30.88**	**26**	P	**P**	**12 52 04.8**	**-1.1**
XAN				AP	pP	12 52 11.3	-3.2
XAN				AMB	AMB		
comp=Z,9.0nm,0.9s,mb4.6							
SSE	**Sheshan**	**35.79**	**44**	P	**P**	**12 52 47.9**	**-0.6**
SSE				S	**S**	**12 58 21.8**	**-1.4**
SSE				AMB	AMB		
comp=Z,23nm,0.8s,mb5.2							
SSE				AMB	AMB		
comp=Z,97nm,5.0s							
SSE				LR	LR		
comp=N,79nm,21.1s,MS3.7							
SSE				LR	LR		
comp=E,103nm,21.1s,MS3.7							
SSE				LR	LR		
comp=Z,81nm,18.9s,MS3.5							
WMQ	**Urumqi**	**37.21**	**354**	*e*P	**P**	**12 53 00.9**	**+0.6**
WMQ				AP	pP	12 53 10.6	+1.5
WMQ				XP	sP	12 53 14.6	+1.9
WMQ				PP	PP	12 54 28.4	+0.7
WMQ				S	**S**	**12 58 45.1**	**+0.3**
WMQ				XS		12 59 01.1	
WMQ				AMB	AMB		
comp=Z,8.0nm,1.1s,mb4.5							
WMQ				AMB	AMB		
comp=Z,56nm,4.9s							
WMQ				LR	LR		
comp=N,425nm,19.5s,MS4.5							
WMQ				LR	LR		
comp=E,658nm,20.2s,MS4.5							
WMQ				LR	LR		
comp=Z,729nm,20.3s,MS4.5							
KZA	**Kyzart**	**38.55**	**339**	P	**P**	**12 53 12.3**	**+0.8**
SNR=5.9							
UCH	**Uchtor**	**38.95**	**338**	P	**P**	**12 53 15.9**	**+1.0**
SNR=24							
BJT	**Baijiatuau**	**39.09**	**29**	P	**P**	**12 53 16.7**	**+0.6**
BJT				*e**PP	pP	12 53 25.9	+1.0
BJT				pmax	pmax		
comp=Z,17nm,0.7s							
BJT	**Baijiatuau**	**39.09**	**29**	P	**P**	**12 53 16.6**	**+0.6**
comp=Z,17nm,0.7s,mb4.9							
BJT				*e*pP	pP	12 53 25.9	+1.0
KBK	**Karagaybulak**	**39.16**	**339**	P	**P**	**12 53 18.1**	**+1.5**
SNR=26							
TKM2	**Tokmak 2**	**39.16**	**340**	P	**P**	**12 53 17.2**	**+0.6**
SNR=5.6							
AML	**Almayashu**	**39.18**	**337**	P	**P**	**12 53 18.2**	**+1.5**
SNR=67							
AAK	**Ala-Archa**	**39.31**	**338**	P	**P**	**12 53 18.8**	**+0.9**
SNR=14							
AAK	**Ala-Archa**	**39.31**	**338**	*e*P	**P**	**12 53 17.7**	**-0.2**
AAK				pmax	pmax		
comp=Z,12nm,0.9s,mb4.6							
AAK	**Ala-Archa**	**39.31**	**338**	*e*P	**P**	**12 53 17.7**	**-0.1**
comp=Z,12nm,0.9s,mb4.6							
CHMS	**Chumysh**	**39.53**	**339**	P	**P**	**12 53 20.3**	**+0.6**
SNR=5.3							
EKS2	**Erkin-Say**	**39.60**	**338**	P	**P**	**12 53 21.5**	**+1.3**
SNR=17							
USP	**Ospenovka**	**39.85**	**339**	P	**P**	**12 53 22.9**	**+0.5**
SNR=16							
FITZ	**Fitzroy Crossi**	**40.57**	**128**	*e*P	**P**	**12 53 28.7**	**+0.2**
comp=Z,7.5nm,0.7s,mb4.4							
MKAR	**Makanchi Array**	**40.95**	**349**	*i* P	**P**	**12 53 30.8**	**-0.5**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
SONM	**Songino Array**	**42.49**	**13**	P	**P**	**12 53 44.2**	**+0.2**
comp=Z,1.0nm,0.8s,mb3.5,baz=197,slow=9.4,SNR=9.2							
SONM				pP	pP	12 53 52.7	-0.1
comp=Z,3.1nm,0.8s,baz=196,slow=8.4,SNR=16							
SONM				PcP	PcP	12 55 37.3	+0.3
comp=Z,1.9nm,0.8s,baz=204,slow=4.0,SNR=5.5							
SONM				pPcP		12 55 48.9	
comp=Z,1.1nm,0.8s,baz=194,slow=3.0,SNR=4.7							
SONM				ScP		12 59 26.5	
comp=Z,0.7nm,1.0s,baz=153,slow=3.2,SNR=3.3							
ULN	**Ulaanbaatar**	**42.68**	**14**	P	**P**	**12 53 45.5**	**0.0**
ULN				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.0							
ULN	**Ulaanbaatar**	**42.68**	**14**	P	**P**	**12 53 45.5**	**-0.1**
comp=Z,2.0nm,0.7s,mb4.0							
KURK	**Kurchatov**	**45.44**	**347**	*e*P	**P**	**12 54 07.5**	**-0.2**
KURK				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.2							
KURK	**Kurchatov**	**45.44**	**347**	*e*P	**P**	**12 54 07.5**	**-0.2**
comp=Z,4.2nm,1.1s,mb4.2							
ZAL	**Zalesovo**	**47.52**	**353**	P	**P**	**12 54 23.7**	**-0.4**
comp=Z,3.1nm,0.4s,mb4.7,baz=292,slow=8.2,SNR=21							
HIA	**Hailar**	**47.98**	**23**	P	**P**	**12 54 26.2**	**-1.6**
HIA				*e**PP	pP	12 54 34.8	-1.9
HIA				pmax	pmax		
comp=Z,9.0nm,0.8s							
HIA	**Hailar**	**47.98**	**23**	P	**P**	**12 54 26.1**	**-1.7**
comp=Z,8.9nm,0.8s,mb4.8							
HIA				*e*pP	pP	12 54 34.8	-1.9
WRA	**Warramunga Arr**	**48.53**	**124**	P	**P**	**12 54 32.2**	**-0.3**
comp=Z,1.7nm,0.5s,mb4.4,baz=304,slow=8.8,SNR=22							
WRA				pP	pP	12 54 42.7	+1.3
comp=Z,7.0nm,0.6s,baz=304,slow=8.8,SNR=18							
WRA				S	**S**	**13 01 29.1**	**-1.7**
comp=Z,0.9nm,0.9s,baz=280,slow=14,SNR=4.1							
WRAB	**Tennant Creek**	**48.54**	**124**	*e*P	**P**	**12 54 32.2**	**-0.3**
WRAB				*e**PP	pP	12 54 41.4	0.0
WRAB				pmax	pmax		
comp=Z,16nm,0.8s,mb5.1							
WRAB	**Tennant Creek**	**48.54**	**124**	*e*P	**P**	**12 54 32.2**	**-0.3**
comp=Z,16nm,0.8s,mb5.1							
WRAB				*e*pP	pP	12 54 41.4	-0.1
WB2	**Warramunga Arr**	**48.55**	**124**	*e*P	**P**	**12 54 33.9**	**+1.4**
RAYN	**Ar Rayn**	**48.55**	**295**	P	**P**	**12 54 33.5**	**+1.0**
comp=Z,87nm,0.5s,SNR=8.5							
NVS	**Novosibirsk**	**48.59**	**352**	*e*P	**P**	**12 54 31.3**	**-1.1**
MDJ	**Mudanjiang**	**49.35**	**34**	P	**P**	**12 54 39.9**	**+1.5**
MDJ				AMB	AMB		
comp=Z,15nm,2.8s,mb4.5							
MDJ				AMB	AMB		
comp=Z,384nm,3.2s							
BVA0	**Borovoye Array**	**49.70**	**342**	*i* P	**P**	**12 54 39.8**	**-1.2**
BVA0				pmax	pmax		
comp=Z,1.0nm,0.9s,mb3.9							
BVAR	**Borovoye Array**	**49.70**	**342**	P	**P**	**12 54 39.7**	**-1.3**
comp=Z,3.4nm,0.7s,mb4.5,baz=143,slow=7.4,SNR=22							
BVAR				PcP	PcP	12 56 02.5	+0.4
comp=Z,1.3nm,0.7s,baz=135,slow=4.1,SNR=3.0							
BRVK	**Borovoye**	**49.76**	**342**	*e*P	**P**	**12 54 40.7**	**-0.8**
BRVK				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.5							
BRVK	**Borovoye**	**49.76**	**342**	*e*P	**P**	**12 54 40.6**	**-0.8**
comp=Z,4.7nm,0.9s,mb4.5							
ASPA	**Alice Springs**	**50.07**	**129**	*e*P	**P**	**12 54 49.3**	**+5.1**
ASAR	**Alice Springs**	**50.07**	**129**	P	**P**	**12 54 44.1**	**-0.1**
comp=Z,1.4nm,0.6s,mb4.2,baz=302,slow=7.3,SNR=21							
ASAR				pP	pP	12 54 53.6	+0.4
comp=Z,4.0nm,0.7s,baz=301,slow=7.2,SNR=13							
ASAR				PcP	PcP	12 56 04.3	+0.4
comp=Z,1.6nm,0.7s,baz=301,slow=3.3,SNR=4.9							
CHKZ	**Chkalovo**	**50.20**	**343**	*e*P	**P**	**12 54 43.8**	**-1.0**
CHKZ				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.9							
CHKZ	**Chkalovo**	**50.20**	**343**	*e*P	**P**	**12 54 43.8**	**-0.9**
comp=Z,10nm,0.8s,mb4.9							
BOD	**Bodaibo**	**53.49**	**14**	*e*P	**P**	**12 55 08.6**	**-0.9**
GNI	**Garni**	**54.44**	**315**	P	**P**	**12 55 16.5**	**-0.2**
comp=Z,2.2nm,0.5s,mb4.4,baz=164,slow=7.4,SNR=4.1							
SVE	**Sverdlovsk**	**56.04**	**339**	*e*P	**P**	**12 55 21.4**	**-6.7**
ZEI	**Tsey**	**56.11**	**318**	*e*P	**P**	**12 55 28.5**	**-0.3**
ZEI				*i* *PP	pP	12 55 38.5	+0.7
ZEI				*i*		12 57 33.5	
ZEI				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.5							
KMBO	**Kilima Mbogo**	**56.20**	**264**	*i* P	**P**	**12 55 31.2**	**+1.3**
KMBO				pmax	pmax		
comp=Z,2.0nm,0.6s							
KMBO	**Kilima Mbogo**	**56.20**	**264**	P	**P**	**12 55 30.3**	**+0.4**
comp=Z,1.8nm,0.6s,mb4.3,baz=39,slow=12,SNR=7.6							
KMBO				LR	LR	13 19 44.0	
comp=Z,88nm,18.2s,MS3.9,baz=86,slow=36							
KMBO	**Kilima Mbogo**	**56.20**	**264**	P	**P**	**12 55 30.3**	**+0.4**
KMBO				LR	LR	13 19 44.0	
ARU	**Arti**	**56.49**	**338**	⇑*i* P	**P**	**12 55 23.6**	**-7.7**
ARU				*e*		12 56 21.7	
ARU				*e*SS	SS	13 07 07.0	+0.2
ARU				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.8							
KIV	**Kislovodsk**	**57.41**	**319**	*e*P	**P**	**12 55 37.2**	**-0.9**
KIV				*e*S	**S**	**13 03 28.8**	**-2.3**
KIV				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.8							
ASF	**Jabal al Asfar**	**57.91**	**304**	P	**P**	**12 55 42.1**	**+0.5**
comp=Z,4.8nm,0.9s,mb4.5,baz=153,slow=2.3,SNR=3.8							
EIL	**Elat**	**59.03**	**301**	P	**P**	**12 55 50.1**	**+0.5**
comp=Z,8.2nm,0.8s,mb4.8,baz=101,slow=5.2,SNR=4.0							
SOC	**Sochi**	**59.24**	**317**	*e*P	**P**	**12 55 48.4**	**-2.4**
SOC				*e*		12 56 39.7	
SOC				*e*		12 57 58.2	
SOC				*e*S	**S**	**13 03 51.0**	**-4.0**
SOC				*e*		13 05 35.0	
SOC				*e*SS	SS	13 07 42.8	-8.4
SOC				*e*SSS	SSS	13 10 17.3	-0.8
SOC				pmax	pmax		
comp=Z,14nm,0.5s,mb5.2							
SOC				pmax	pmax		
comp=N,5.0nm,0.4s							
SOC				pmax	pmax		
comp=E,6.0nm,0.6s							
YAK	**Yakutsk**	**61.40**	**19**	P	**P**	**12 56 03.2**	**-2.1**
YAK				pmax	pmax		
comp=Z,10.0nm,0.6s,mb5.1							
YAK	**Yakutsk**	**61.40**	**19**	P	**P**	**12 56 03.2**	**-2.1**
comp=Z,9.6nm,0.6s,mb5.1							
BRTR	**Keskin Array B**	**62.33**	**311**	P	**P**	**12 56 10.2**	**-1.7**
comp=Z,3.5nm,0.8s,mb4.5,baz=126,slow=7.3,SNR=24							
BRTR				pP	pP	12 56 18.6	-2.5
comp=Z,1.8nm,0.8s,baz=132,slow=6.4,SNR=5.7							
MA2	**Magadan**	**68.26**	**28**	*e*P	**P**	**12 56 48.6**	**-1.2**
MA2				*e*S	S	13 05 40.3	-6.6
MA2				pmax	pmax		
comp=Z,10.0nm,1.7s,mb4.6							
IDI	**Anoyia**	**68.30**	**305**	P	**P**	**12 56 50.2**	**-0.2**
comp=Z,8.1nm,0.7s,mb4.9,baz=71,slow=8.2,SNR=6.4							
AKASG	**Malin Array Be**	**68.35**	**322**	P	**P**	**12 56 48.2**	**-2.2**
comp=Z,3.6nm,0.8s,mb4.4,baz=92,slow=4.5,SNR=6.0							
TIXI	**Tiksi**	**68.54**	**11**	*e*P	**P**	**12 56 50.1**	**-1.2**
TIXI				*e*		12 57 01.7	
TIXI				pmax	pmax		
comp=Z,18nm,0.9s,mb5.0							
TIXI				MLR	MLR		
comp=Z,124nm,18.0s,MS4.2							
MLR	**Muntele Rosu**	**69.20**	**316**	P	**P**	**12 56 55.7**	**-0.1**
comp=Z,5.5nm,0.7s,mb4.6,baz=139,slow=4.4,SNR=13							
MLR				pP	pP	12 57 04.2	-0.8
comp=Z,4.9nm,0.9s,baz=156,slow=10.0,SNR=5.4							
FINES	**FINESS Array B**	**73.18**	**332**	P	**P**	**12 57 18.4**	**-1.0**
comp=Z,4.1nm,0.7s,mb4.5,baz=117,slow=8.5,SNR=12							
BOSA	**Boshof**	**74.06**	**238**	*e*P	**P**	**12 57 25.7**	**+0.5**
ARCES	**ARCESS Array B**	**75.94**	**340**	P	**P**	**12 57 34.7**	**-0.4**
comp=Z,3.5nm,0.8s,mb4.3,baz=101,slow=6.2,SNR=6.5							
MAW	**Mawson**	**77.22**	**191**	P	**P**	**12 57 44.0**	**+1.7**
comp=Z,2.6nm,0.7s,mb4.2,baz=25,slow=9.9,SNR=3.8							
BILL	**Bilibino**	**77.53**	**22**	⇓*e*P	**P**	**12 57 44.5**	**+0.5**
BILL				pmax	pmax		
comp=Z,3.0nm,1.1s,mb4.1							
GERES	**GERESS Array B**	**77.92**	**318**	P	**P**	**12 57 46.9**	**+0.3**
comp=Z,2.2nm,0.6s,mb4.3,baz=95,slow=5.2,SNR=22							
GERES				pP	pP	12 57 55.3	-0.5
comp=Z,3.1nm,0.9s,baz=101,slow=6.8,SNR=5.9							
HFS	**Hagfors**	**78.86**	**330**	P	**P**	**12 57 50.8**	**-0.7**
comp=Z,1.6nm,0.6s,mb4.2,baz=106,slow=11,SNR=6.1							
HFS				pP	pP	12 58 00.4	-0.4
comp=Z,3.7nm,0.8s,baz=90,slow=4.4,SNR=3.2							
NB2	**NORSAR Subarra**	**80.16**	**331**	P	**P**	**12 57 57.5**	**-0.9**
comp=Z,0.9nm,0.6s,mb3.9,baz=97,slow=5.0							
NB2	**NORSAR Subarra**	**80.16**	**331**	P	**P**	**12 57 57.5**	**-0.9**
NB2				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.9							
NOA	**NORSAR Array B**	**80.16**	**331**	P	**P**	**12 57 58.0**	**-0.4**
comp=Z,1.6nm,0.8s,mb4.0,baz=94,slow=5.5,SNR=3.5							
DAVOX	**Davos**	**80.43**	**316**	P	**P**	**12 58 00.3**	**+0.2**
comp=Z,3.0nm,0.6s,mb4.4,baz=101,slow=5.2,SNR=7.6							
EKA	**Eskdalemuir Ar**	**88.01**	**325**	P	**P**	**12 58 38.6**	**+0.4**
comp=Z,2.9nm,0.7s,mb4.6,baz=96,slow=4.8,SNR=6.7							
ESDC	**Sonseca Array**	**91.09**	**310**	P	**P**	**12 58 54.8**	**+1.8**
comp=Z,0.3nm,0.3s,mb4.1,baz=56,slow=4.6,SNR=2.9							
ILAR	**Eielson Array**	**96.19**	**22**	P	**P**	**12 59 15.8**	**-0.1**
comp=Z,0.4nm,0.7s,mb4.0,baz=298,slow=4.4,SNR=5.5							
INK	**Inuvik**	**98.37**	**16**	P	**P**	**12 59 26.9**	**+1.3**
comp=Z,0.8nm,0.7s,mb4.4,baz=305,slow=6.6,SNR=2.6							
YKA	**Yellowknife Ar**	**107.76**	**13**	PP	PP	13 04 34.0	-5.3
comp=Z,0.3nm,0.8s,baz=340,slow=7.7,SNR=5.4							
YKA				PKKP	PKKP	13 15 43.0	+7.5
comp=Z,0.2nm,0.6s,baz=135,slow=0.9,SNR=7.6							
NVAR	**Mina Array Bea**	**126.44**	**31**	PKP	PKPdf	13 04 54.0	-1.4
comp=Z,1.2nm,0.8s,baz=286,slow=3.1,SNR=8.2							
PDAR	**Pinedale Array**	**126.60**	**21**	PKP	PKPdf	13 04 52.5	-3.1
comp=Z,1.6nm,0.9s,baz=1.2,slow=1.1,SNR=12							
PDAR				pPKP		13 05 01.9	
comp=Z,1.1nm,0.8s,baz=76,slow=6.1,SNR=7.5							
MSU	**Marysvale**	**129.24**	**26**	*e*PKPdf	PKPdf	13 04 57.4	-3.5
TXAR	**Lajitas Array**	**140.69**	**23**	PKP	PKPdf	13 05 20.1	-2.3
comp=Z,0.3nm,0.4s,baz=142,slow=0.6,SNR=4.5							
TXAR				PKiKP		13 05 22.5	
comp=Z,0.5nm,0.4s,baz=188,slow=0.6,SNR=4.6							

*JMA **19** 12:49:11.5±0.2, 30.03N×139.71E, h416km±4km, M3.9*
*IDC **19** 12:49:12.8±0.7, 30.01N×139.60E, h382km±14km, mb3.2/4, mb1 3.3/7, mb1mx3.0/23, mbtmp4.1/7, Error ellipse: s-maj=42.7km s-min=10.0km az=69.0*
*NEIC **19** 12:49:12.8±1.1, 29.99N×139.55E, h380km±13km, mb4.1/2, Error ellipse: s-maj=22.8km s-min=13.3km az=92.0*
ISC 19 12:49:12.0±0.5, 30.02N±0.05×139.6E±0.1, h400km±7km, n23, σ0°76/32, mb3.5/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.08**	**3**	P	**P**	**12 50 17.3**	**+1.1**
JHJ2				*e*S	**S**	**12 51 08.5**	**+1.7**
JHJ	**Hachijo jima 2**	**3.09**	**2**	P	**P**	**12 50 14.2**	**-2.1**
50nm,0.3s,baz=62,slow=23,SNR=10							
JHJ				S	**S**	**12 51 06.8**	**0.0**
25nm,0.3s,baz=71,slow=22,SNR=3.5							
CBIJ	**Chichi jima**	**3.68**	**142**	P	**P**	**12 50 22.1**	**+0.6**
7.4nm,0.3s,baz=276,slow=23,SNR=10.0							
CBIJ				S	**S**	**12 51 15.6**	**-0.6**
82nm,0.3s,baz=265,slow=22,SNR=23							
CBIJ	**Chichi jima**	**3.68**	**142**	P	**P**	**12 50 21.9**	**+0.4**
CBIJ				S	**S**	**12 51 16.8**	**+0.6**
JHHJ	**Haha-jima-NKT**	**4.06**	**146**	P	**P**	**12 50 24.6**	**-0.5**
JHHJ				S	**S**	**12 51 22.2**	**-0.3**
BSO1	**Boso 1**	**4.76**	**14**	S	**S**	**12 51 34.9**	**0.0**
JWZ	**Kozaga**	**4.83**	**317**	P	**P**	**12 50 32.6**	**-0.2**
JIE	**Ise**	**5.01**	**331**	P	**P**	**12 50 35.7**	**+1.0**
JHMK	**Hamakita**	**5.04**	**342**	P	**P**	**12 50 35.5**	**+0.6**
HMMJ	**Hamamatsu 2**	**5.08**	**342**	P	**P**	**12 50 36.2**	**+0.8**
JOD2	**Odawara 2**	**5.25**	**355**	P	**P**	**12 50 37.3**	**+0.2**
JHU	**Hanno**	**5.82**	**357**	P	**P**	**12 50 42.8**	**-0.4**
JHU				S	**S**	**12 51 54.5**	**-0.4**
JAG	**Ashikaga**	**6.39**	**359**	P	**P**	**12 50 48.4**	**-1.1**
MAJO	**Matsushiro**	**6.61**	**350**	*e*P	**P**	**12 50 51.2**	**-0.8**
13nm,0.5s							
MAT	**Matsushiro**	**6.61**	**350**	*e*P	**P**	**12 50 52.0**	**0.0**
MAT				*e*S	**S**	**12 52 11.0**	**+0.2**
MAT	**Matsushiro**	**6.61**	**350**	P	**P**	**12 50 51.5**	**-0.5**
MAT				S	**S**	**12 52 10.8**	**0.0**
JFK	**Kawauchi**	**7.40**	**8**	P	**P**	**12 51 01.7**	**+0.7**
JFK				S	**S**	**12 52 25.9**	**-1.0**
JOW	**Kunigami**	**10.48**	**255**	P	**P**	**12 51 35.6**	**-1.1**
1.5nm,0.3s,baz=103,slow=9.6,SNR=6.1							
SONM	**Songino Array**	**31.06**	**314**	P	**P**	**12 54 56.5**	**+0.2**
0.4nm,0.4s,mb3.1,baz=122,slow=8.1,SNR=3.3							
WRAB	**Tennant Creek**	**49.92**	**186**	*e*P	**P**	**12 57 29.3**	**+0.3**
7.1nm,0.8s,mb4.0							
WRA	**Warramunga Arr**	**49.93**	**187**	P	**P**	**12 57 29.3**	**+0.2**
2.2nm,0.6s,mb3.7,baz=8.3,slow=8.1,SNR=24							
ASAR	**Alice Springs**	**53.66**	**187**	P	**P**	**12 57 56.7**	**+0.3**
1.5nm,0.4s,mb3.5,baz=3.5,slow=7.3,SNR=20							
BVAR	**Borovoye Array**	**54.38**	**316**	P	**P**	**12 58 01.5**	**+0.4**
0.4nm,0.5s,mb3.0,baz=76,slow=5.9,SNR=4.6	

BUKP Musuan 2.14 333 *e*P **P 12 58 25.0 0.0**
BUKP *e*S **S 12 58 51.0 +0.5**
BIPH Bislig 2.24 8⇑ *e*P **P 12 58 25.9 -0.5**
BIPH *i* S **S 12 58 54.3 +1.3**
CGP Cagayan de Oro 2.82 332⇑ *e*P **P 12 58 33.7 -0.8**
BUTP Butuan 3.02 352 *e*P **P 12 58 37.4 0.0**
PAGZ Pagadian 3.23 306 *e*P **P 12 58 40.6 +0.3**
SCPH Surigao 3.84 352⇑ *e*P **P 12 58 48.7 0.0**
IPIL Ipil 3.89 298 *e*P **P 12 58 50.0 +0.6**
TBP Tagbilaran 4.29 330 *e*P **P 12 58 54.4 -0.6**
MSLP Maasin 4.31 344 *e*P **P 12 58 56.1 +0.9**
KAKA Kakadu 19.61 161 *e*P **P 13 02 16.7 +1.4**
14nm,0.6s
QIZ Qiongzhong 20.43 311 P **P 13 02 23.9 0.0**
FITZ Fitzroy Crossi 23.91 181 *e*P **P 13 03 00.6 +2.4**
6.4nm,0.4s,mb4.3
WRAB Tennant Creek 26.99 163 *e*P **P 13 03 26.7 -0.6**
7.4nm,0.4s,mb4.6
WRA Warramunga Arr 27.00 163 P **P 13 03 26.6 -0.7**
2.5nm,0.3s,mb4.2,baz=344,slow=10,SNR=19
WB2 Warramunga Arr 27.00 163 *e*P **P 13 03 26.7 -0.7**
MBWA Marble Bar 27.64 193 *e*P **P 13 03 32.5 -0.7**
ENH Enshi 28.77 329 *e*P **P 13 03 42.6 -0.6**
ASAR Alice Springs 30.43 166 P **P 13 03 57.5 -0.4**
1.3nm,0.5s,mb3.8,baz=350,slow=7.2,SNR=22
ASPA Alice Springs 30.43 166 *e*P **P 13 03 57.7 -0.3**
CTA Charters Tower 32.64 143 P **P 13 04 17.0 -0.3**
3.7nm,1.1s,mb4.1,baz=339,slow=10,SNR=3.0
CTA Charters Tower 32.64 143 P **P 13 04 17.0 -0.3**
CTAO Charters Tower 32.64 143 *e*P **P 13 04 19.8 +2.4**
11nm,1.0s,mb4.6
BJT Baijiatuau 35.06 347 *e*P **P 13 04 39.6 +1.7**
15nm,0.8s,mb4.9
LZH Lanzhou 36.25 329 *e*P **P 13 04 49.8 +1.7**
LZH AMB AMB
comp=Z,19nm,1.3s,mb4.9
MDJ Mudanjiang 38.63 4 P **P 13 05 12.4 +4.6**
MDJ AMB AMB
comp=Z,19nm,2.2s,mb4.5
MDJ AMB AMB
comp=Z,341nm,4.8s
NWAO Narrogin (SRO) 39.56 192 P **P 13 05 16.2 +0.5**
comp=Z,9.6nm,1.1s,mb4.5,baz=2.2,slow=5.4,SNR=9.6
NWAO Narrogin (SRO) 39.56 192 P **P 13 05 16.1 +0.4**
STKA Stephens Creek 40.44 159 P **P 13 05 23.8 +0.8**
comp=Z,2.3nm,0.3s,mb4.4,baz=335,slow=6.5,SNR=4.0
STKA LR LR 13 20 51.6
comp=Z,158nm,20.9s,baz=203,slow=34
ULN Ulaanbaatar 44.80 342 *e*P **P 13 05 57.8 -0.5**
comp=Z,4.7nm,1.2s,mb4.1
SONM Songino Array 44.98 341 P **P 13 05 59.5 -0.3**
comp=Z,0.5nm,0.5s,mb3.5,baz=146,slow=8.1,SNR=4.8
SONM PcP PcP 13 07 39.0 -1.2
comp=Z,0.6nm,0.8s,baz=161,slow=3.3,SNR=3.7
TLY Talaya 49.21 342 P **P 13 06 33.2 +0.4**
WMQ Urumqi 50.52 324 *e*P **P 13 06 42.4 -0.6**
ZAL Zalesovo 58.31 333 P **P 13 07 38.4 -1.1**
comp=Z,0.8nm,0.4s,mb4.2,baz=335,slow=6.2,SNR=4.8
ZAL Zalesovo 58.31 333 P **P 13 07 38.4 -1.1**
KURK Kurchatov 59.51 327 *e*P **P 13 07 47.3 -0.6**
BVAR Borovoye Array 65.09 327 P **P 13 08 23.9 -1.2**
comp=Z,0.5nm,0.6s,mb3.5,baz=104,slow=5.9,SNR=4.5
BRVK Borovoye 65.16 327 P **P 13 08 21.8 -3.7**
ILAR Eielson Array 83.41 26 P **P 13 10 09.9 -0.4**
comp=Z,1.0nm,0.8s,mb3.7,baz=244,slow=5.1,SNR=13
ARCES ARCESS Array B 88.14 340 P **P 13 10 33.3 -0.1**
comp=Z,2.9nm,0.9s,mb4.3,baz=14,slow=5.0,SNR=7.0
INK Inuvik 88.36 21 P **P 13 10 35.3 +0.8**
comp=Z,1.3nm,0.8s,mb4.0,baz=226,slow=5.2,SNR=4.2
INK Inuvik 88.36 21 *e*P **P 13 10 35.2 +0.7**
comp=Z,1.3nm,0.9s,mb4.0
FINES FINESS Array B 89.56 332 P **P 13 10 39.1 -1.1**
comp=Z,1.7nm,0.7s,mb4.3,baz=117,slow=8.5,SNR=4.2
YKA Yellowknife Ar 97.77 24 P **P 13 11 18.8 +1.0**
comp=Z,0.3nm,0.8s,mb3.9,baz=302,slow=4.8,SNR=8.4

IDC 19 13:22:51.4±3.3, 2.21N×94.82E, h29km±6km, mb3.6/5, mb1 3.8/6, mb1mx3.6/18, mbtmp3.8/6, ML3.5/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/20, Error ellipse: s-maj=115.8km s-min=18.1km az=67.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.64**	**14**	Pn	P	13 26 43.3	-1.2
0.1nm,0.3s,baz=206,slow=11,SNR=13							
WRA	**Warramunga Arr**	**44.59**	**121**	P	P	13 31 01.1	-2.2
1.1nm,0.9s,baz=300,slow=8.9,SNR=6.9							
WRA				pP	pP	13 31 10.0	-1.9
1.0nm,0.6s,baz=302,slow=8.9,SNR=7.0							
ASAR	**Alice Springs**	**45.90**	**126**	P	P	13 31 11.5	-2.1
0.3nm,0.5s,baz=295,slow=8.0,SNR=6.8							
ASAR				pP	pP	13 31 20.1	-2.2
0.7nm,0.6s,baz=297,slow=7.9,SNR=4.0							
SONM	**Songino Array**	**46.54**	**11**	P	P	13 31 16.5	-1.8
0.6nm,0.5s,baz=188,slow=9.5,SNR=6.2							
SONM				pP	pP	13 31 24.9	-2.0
0.6nm,0.6s,baz=189,slow=8.8,SNR=5.3							
ZAL	**Zalesovo**	**52.21**	**353**	P	P	13 31 59.3	-2.6
1.3nm,0.4s,baz=318,slow=4.8,SNR=4.2							
STKA	**Stephens Creek**	**55.80**	**131**	P	P	13 32 26.3	-2.3
1.4nm,0.7s,baz=349,slow=5.2,SNR=4.3							
STKA				pP	pP	13 32 35.5	-1.8
2.3nm,0.6s,baz=315,slow=8.6,SNR=2.3							
KMBO	**Kilima Mbogo**	**57.65**	**267**	LR	LR	13 54 48.2	
comp=Z,48nm,19.6s,baz=86,slow=33							

IDC 19 13:27:02.1±1.5, 6.47N×92.67E, mb3.9/5, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=63.1km s-min=23.8km az=54.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.39**	**27**	Pn	P	13 30 14.4	-1.7
0.1nm,0.3s,baz=229,slow=14,SNR=25							
ZAL	**Zalesovo**	**47.76**	**354**	P	P	13 35 40.4	-2.4
0.7nm,0.3s,baz=322,slow=6.7,SNR=4.6							
WRA	**Warramunga Arr**	**48.67**	**124**	P	P	13 35 48.3	-2.0
0.5nm,0.6s,baz=306,slow=8.2,SNR=8.5							
ASAR	**Alice Springs**	**50.16**	**128**	P	P	13 35 59.8	-2.0
0.4nm,0.6s,baz=308,slow=8.3,SNR=5.7							
ARCES	**ARCESS Array B**	**76.09**	**340**	P	P	13 38 51.0	-2.0
9.6nm,1.2s,baz=96,slow=8.2,SNR=3.1							
GERES	**GERESS Array B**	**77.90**	**318**	P	P	13 39 02.6	-0.8
0.5nm,0.2s,baz=100,slow=8.1,SNR=3.6							

*IDC **19** 13:27:00.6±1.1, 33.91N×141.63E, mb3.5/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=29.4km s-min=19.5km az=118.0*
*NEIC **19** 13:27:02.2±1.1, 33.87N×141.73E, h10km, Error ellipse: s-maj=30.6km s-min=15.3km az=61.0*
*JMA **19** 13:27:04.5±0.6, 33.93N×141.58E, h41km, M3.4*
ISC 19 13:27:02.8±2.9, 33.87N±0.06×141.70E±0.09, h30km±22km, n18, σ0§60/22, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.98**	**323**	P	**Pn**	**13 27 20.6**	**-0.2**
BSO3	**Boso 3**	**1.35**	**314**	P	**Pn**	**13 27 26.1**	**+0.1**
BSO4	**Boso 4**	**1.58**	**315**	P	**Pn**	**13 27 30.0**	**+0.6**
JHJ2	**Mitsune**	**1.75**	**245**	P	**Pn**	**13 27 31.9**	**+0.2**
JHJ2				*e*S	**Sn**	**13 27 53.4**	**+0.3**
JHJ	**Hachijo jima 2**	**1.77**	**245**	Pn	**Pn**	**13 27 31.9**	**0.0**
46nm,0.3s,baz=236,slow=24,SNR=9.9							
JHJ				Sn	**Sn**	**13 27 53.4**	**-0.3**
52nm,0.3s,baz=255,slow=23,SNR=7.6							
JIZS	**Izushimoda**	**2.48**	**291**	P	**Pn**	**13 27 41.8**	**-0.4**
JOD2	**Odawara 2**	**2.56**	**304**	P	**Pn**	**13 27 42.8**	**-0.6**
JYN	**Shimob**	**3.06**	**303**	P	**Pn**	**13 27 50.2**	**-0.3**
JRY	**Ryogami san**	**3.14**	**314**	P	**Pn**	**13 27 52.3**	**+0.7**
JAG	**Ashikaga**	**3.14**	**325**	P	**Pn**	**13 27 51.2**	**-0.4**
MAJO	**Matsushiro**	**3.91**	**314**	*e*P	**Pn**	**13 28 02.2**	**-0.2**
MAT	**Matsushiro**	**3.91**	**314**	*e*P	**Pn**	**13 28 03.0**	**+0.5**
MAT				*e*S	**Sn**	**13 28 48.0**	**+0.1**
MAT	**Matsushiro**	**3.91**	**314**	P	**Pn**	**13 28 02.8**	**+0.3**
MAT				S	**Sn**	**13 28 47.9**	**0.0**
ASAJ	**Asahikawa**	**10.26**	**4**	Pn	**P**	**13 29 26.6**	**-4.6**
0.5nm,0.3s,baz=258,slow=9.3,SNR=3.6							
SONM	**Songino Array**	**29.84**	**309**	P	**P**	**13 33 09.5**	**-0.1**
0.6nm,0.8s,mb3.4,baz=100,slow=8.8,SNR=3.2							
ILAR	**Eielson Array**	**52.06**	**31**	P	**P**	**13 36 11.7**	**0.0**
1.8nm,1.1s,mb3.9,baz=266,slow=6.0,SNR=8.2							
WRA	**Warramunga Arr**	**53.97**	**189**	P	**P**	**13 36 24.8**	**-1.6**
0.6nm,0.6s,mb3.7,baz=5.0,slow=7.6,SNR=10							
ASAR	**Alice Springs**	**57.70**	**188**	P	**P**	**13 36 54.8**	**+1.5**
0.3nm,0.6s,mb3.5,baz=5.7,slow=7.2,SNR=7.9							

*ISK **19** 13:29:32.9, 37.15N×27.84E, h6km, MD3.4*
*CSEM **19** 13:29:33.1±0.2, 37.04N×27.91E, h10km, MD3.4, Error ellipse: s-maj=10.0km s-min=2.1km az=169.0*
*ATH **19** 13:29:34.2, 36.85N×27.64E, h16km±2km, MD3.4/5*
*NEIC **19** 13:29:34.2, 36.85N×27.64E, h16km, MD3.4(ATH), After ATH.*
ISC 19 13:29:33.2±0.6, 36.98N±0.04×27.85E±0.04, h10km, n19, σ1§16/25, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.34**	**285**	*i* P	**Pg**	**13 29 40.2**	**+0.1**
BDRM				*i* S	**Sg**	**13 29 46.0**	**+1.2**
YER	**Yerkesik**	**0.38**	**66**	*i* PG	**Pg**	**13 29 40.1**	**-0.8**
YER				*i* SG	**Sg**	**13 29 45.6**	**-0.5**
AYDN	**Tasoluk**	**0.68**	**2**	*i* P	**Pb**	**13 29 46.0**	**-0.7**
AYDN				*i* S	**Sb**	**13 29 55.4**	**-0.4**
ARG	**Arkhangelos**	**0.79**	**164**	*e*PN	**Pn**	**13 29 48.5**	**-1.7**
FETY	**Fethiye**	**1.05**	**109**	PN	**Pn**	**13 29 55.1**	**+1.3**
SMG	**Samos**	**1.09**	**312**	*e*PN	**Pn**	**13 29 54.5**	**+0.1**
DNZL	**Cakiroluk**	**1.19**	**53**	*i* P	**Pb**	**13 29 55.2**	**-0.1**
DNZL				*i* S	**Sb**	**13 30 14.2**	**+3.6**
DENT	**Denizli**	**1.22**	**50**	PN	**Pn**	**13 29 55.5**	**-0.8**
IZM	**Izmir**	**1.49**	**342**	PN	**Pn**	**13 29 58.7**	**-1.5**
KDAG	**Bornova**	**1.49**	**342**	*i* P	**Pn**	**13 30 01.0**	**+0.8**
KDAG				*i* S	**Sb**	**13 30 27.1**	**+7.6**
KARP	**Karpathos**	**1.54**	**202**	*e*PN	**Pn**	**13 30 00.5**	**-0.3**
BLCB	**Balcova**	**1.54**	**336**	PN	**Pn**	**13 29 59.1**	**-1.8**
MANT	**Manisa**	**1.61**	**20**	*i* P	**Pn**	**13 30 02.8**	**+0.9**
MANT				*i* S	**Sn**	**13 30 25.9**	**+3.1**
KSL	**Kastellorizon**	**1.62**	**120**	*e*PN	**Pn**	**13 30 05.5**	**+3.4**
ELL	**Elmali**	**1.67**	**97**	PN	**Pn**	**13 30 04.3**	**+1.6**
APE	**Apeiranthos**	**1.86**	**273**	*e*PN	**Pn**	**13 30 05.9**	**+0.4**
APE	**Apeiranthos**	**1.86**	**273**	*e*PN	**Pn**	**13 30 05.5**	**0.0**
KHL	**Karahalli**	**1.89**	**44**	PN	**Pn**	**13 30 05.4**	**-0.4**
ULDT	**Uludag**	**3.31**	**17**	*i* P	**Pn**	**13 30 34.5**	**+8.3**

*IDC **19** 13:47:57.0±7.5, 7.47N×94.38E, mb3.8/4, mb1 3.9/5, mb1mx3.7/18, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=176.1km s-min=42.9km az=143.0*
*BJI **19** 13:48:08.5, 8.40N×93.70E, h30km, mb4.2*
*NEIC **19** 13:48:08.5±4.3, 8.39N×93.71E, h30km, mb4.3/3, Error ellipse: s-maj=91.8km s-min=26.5km az=143.0*
ISC 19 13:48:03.3±2.9, 7.9N±0.3×94.2E±0.2, h33km, n15, σ0§88/15, mb4.1/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.45**	**24**	Pn	**P**	**13 50 48.0**	**+0.4**
0.2nm,0.3s,baz=213,slow=14,SNR=9.7							
JIRN	**Jiri**	**21.02**	**340**	*e*P	**P**	**13 52 46.7**	**+0.2**
37nm,1.3s,mb4.6							
PKI	**Pulchoki**	**21.21**	**338**	*e*P	**P**	**13 52 49.0**	**+0.5**
KKN	**Kakani**	**21.46**	**338**	*e*P	**P**	**13 52 50.9**	**-0.1**
17nm,0.8s,mb4.4							
LSA	**Lhasa**	**21.83**	**353**	P	**P**	**13 52 58.3**	**+3.6**
LSA	**Lhasa**	**21.83**	**353**	P	**P**	**13 52 52.7**	**-2.0**
2.5nm,0.3s,mb4.1							
GKN	**Gorkha**	**21.89**	**337**	*e*P	**P**	**13 52 54.4**	**-0.9**
KOLN	**Koldanda**	**22.11**	**334**	*e*P	**P**	**13 52 58.1**	**+0.6**
SONM	**Songino Array**	**41.10**	**13**	P	**P**	**13 55 44.5**	**-1.2**
0.8nm,0.9s,mb3.3,baz=194,slow=5.9,SNR=4.1							
KURK	**Kurchatov**	**44.55**	**346**	*e*P	**P**	**13 56 13.7**	**-0.1**
5.6nm,1.1s,mb4.3							
ZAL	**Zalesovo**	**46.49**	**352**	P	**P**	**13 56 30.3**	**+1.2**
1.7nm,0.8s,mb4.0,baz=249,slow=6.5,SNR=3.4							
ZAL	**Zalesovo**	**46.49**	**352**	P	**P**	**13 56 30.3**	**+1.2**
CHKZ	**Chkalovo**	**49.42**	**342**	*e*P	**P**	**13 56 51.5**	**-0.4**
3.5nm,0.9s,mb4.4							
BRTR	**Keskin Array B**	**62.40**	**311**	P	**P**	**13 58 24.4**	**-1.0**
1.2nm,1.1s,mb3.9,baz=129,slow=8.3,SNR=3.3							
GERES	**GERESS Array B**	**77.79**	**318**	P	**P**	**14 00 00.2**	**+1.2**
1.0nm,0.8s,mb3.8,baz=112,slow=5.3,SNR=2.9							

*NIED **19** 13:51:00, 33.90N×141.70E, h5km, Mw4.9 Best double couple: M0=2.35×10^16 NP1:φs158°, δ65°, λ77°. NP2:φs7°, δ28°, λ116°.*
*CSEM **19** 13:51:50.6, 34.15N×141.46E, mb5.6*
*BJI **19** 13:51:51.0, 33.88N×141.63E, h22km, mB5.0, mb4.8, Ms5.1, Msz4.9*
*MOS **19** 13:51:52.0±1.1, 33.78N×141.52E, h19km, mb5.3/64, MS4.8/21, Error ellipse: s-maj=9.9km s-min=4.9km az=112.1*
*JMA **19** 13:51:53.6±0.5, 33.88N×141.74E, h50km, M5.1*
*NEIC **19** 13:51:53.3±3.2, 33.83N×141.53E, h16km±19km, mb5.1/51, MS4.8/4, MW4.9(NIED), Error ellipse: s-maj=6.4km s-min=5.3km az=113.0*
*HRVD **19** 13:51:53.3±0.4, 33.80N×141.77E, h17km±1km, MW5.0/51, Centroid moment Tensor Solution. LP body waves: s20,c25;Mantle waves: s51,c86; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.84±.21; Mθθ0.03±.13; Mφφ-2.86±.15; Mrθ0.67±.39; Mrφ0.22±.09; Mθφ1.69±.34; Best double couple: M0=3.386×10^16 NP1:φs163°, δ31°, λ68°. NP2:φs9°, δ61°, λ103°. Principal axes: T 3.448, Plg71°, Azm308°; N -.118, Plg11°, Azm183°; P -3.324, Plg15°, Azm89°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **19** 13:51:55.8±4.8, 33.84N×141.57E, h34km±38km, mb4.4/19, mb1 4.6/21, mb1mx4.6/22, mbtmp4.7/21, ML4.2/2, MS4.6/13, Ms1 4.7/13, ms1mx4.3/28 Error ellipse: s-maj=17.4km s-min=15.1km az=87.0*
ISC 19 13:51:54.6±0.6, 33.80N±0.03×141.56E±0.04, h37km±4km, h41km±2.8km: pP-P, n278, σ1§08/289, mb5.0/94, MS4.9/33, 17C-11D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.98**	**331**	P	**P**	**13 52 11.5**	**-0.5**
BSO3	**Boso 3**	**1.32**	**319**	P	**P**	**13 52 17.0**	**0.0**
BSO4	**Boso 4**	**1.56**	**320**	⇑P	**P**	**13 52 20.9**	**+0.6**
JHJ2	**Mitsune**	**1.61**	**245**	⇑P	**P**	**13 52 23.1**	**+2.1**
JHJ	**Hachijo jima 2**	**1.63**	**246**	Pn	**P**	**13 52 23.1**	**+1.8**
262nm,0.3s,baz=159,slow=6.9,SNR=33							
JHJ				Sn	**S**	**13 52 45.9**	**+4.6**
198nm,0.3s,baz=60,slow=22,SNR=8.7							
KTR	**Katsuura**	**1.69**	**323**	P	**P**	**13 52 22.6**	**+0.4**
KTR				S	**S**	**13 52 44.9**	**+2.1**
JMY	**Miyakejima3**	**1.72**	**280**	P	**P**	**13 52 23.6**	**+1.0**
JIM2	**Oshima 3**	**1.98**	**298**	P	**P**	**13 52 26.6**	**+0.2**
JIZS	**Izushimoda**	**2.40**	**293**	P	**P**	**13 52 33.1**	**+0.8**
JOD2	**Odawara 2**	**2.51**	**306**	⇑P	**P**	**13 52 33.4**	**-0.4**
JSG	**Sagara**	**2.92**	**288**	P	**P**	**13 52 41.8**	**+2.0**
JYN	**Shimob**	**3.00**	**305**	P	**P**	**13 52 40.8**	**-0.2**
SHZ3	**Shizuoka 3**	**3.04**	**296**	P	**P**	**13 52 42.3**	**+0.8**
JRY	**Ryogami san**	**3.11**	**316**	⇑P	**P**	**13 52 41.6**	**-0.8**
TK04	**Tokai 4**	**3.11**	**282**	P	**P**	**13 52 43.9**	**+1.5**
JAG	**Ashikaga**	**3.14**	**327**	⇑P	**P**	**13 52 41.8**	**-1.0**
JAG				S	**S**	**13 53 18.9**	**-0.6**
JFK	**Kawauchi**	**3.60**	**351**	P	**P**	**13 52 46.1**	**-3.3**
JFK				S	**S**	**13 53 24.3**	**-7.0**
JGK	**Kuni**	**3.65**	**320**	⇓P	**P**	**13 52 50.3**	**+0.2**
JNG	**Nsakai**	**3.85**	**314**	P	**P**	**13 52 53.0**	**+0.1**
MAJO	**Matsushiro**	**3.88**	**316**	*e*P	**P**	**13 52 52.9**	**-0.4**
MAT	**Matsushiro**	**3.88**	**316**	*e*P	**P**	**13 52 53.0**	**-0.3**
MAT				*e*S	**S**	**13 53 39.0**	**+0.8**
MAT	**Matsushiro**	**3.88**	**316**	P	**P**	**13 52 52.8**	**-0.5**
MAT				S	**S**	**13 53 39.4**	**+1.2**
MAT	**Matsushiro**	**3.88**	**316**	P	**P**	**13 52 53.7**	**+0.4**
CBIJ	**Chichi jima**	**6.70**	**175**	Pn	**P**	**13 53 30.9**	**-2.2**
21nm,0.3s,baz=288,slow=12,SNR=11							
ASAJ	**Asahikawa**	**10.34**	**4**	Pn	**P**	**13 54 16.0**	**-7.4**
1.8nm,0.3s,baz=256,slow=11,SNR=12							
ASAJ				Sn	**S**	**13 56 08.9**	**-10**
4.0nm,0.3s,baz=21,slow=21,SNR=9.9							
YSS	**Yuzh-Sakhalins**	**13.17**	**4**	*e*P	**P**	**13 54 55.0**	**-6.6**
YSS				pmax	pmax		
comp=Z,80nm,0.9s							
YSS				pmax	pmax		
comp=N,90nm,1.0s							
YSS				pmax	pmax		
comp=Z,100nm,1.0s							
YSS				MLR	MLR		
comp=Z,5μm,17.0s							
YSS				MLR	MLR		
comp=N,4μm,16.0s							
YSS				MLR	MLR		
comp=E,5μm,15.0s							
YSS	**Yuzh-Sakhalins**	**13.17**	**4**	*e*P	**P**	**13 54 55.3**	**-6.3**
comp=E,109nm,0.9s							
JOW	**Kunigami**	**13.40**	**242**	LR	LR	14 00 11.2	
comp=E,3μm,19.1s,baz=105,slow=37							
MDJ	**Mudanjiang**	**14.22**	**323**	P	**P**	**13 55 14.9**	**-0.4**
MDJ				PP	PP	13 55 24.5	-2.0
MDJ				S	**S**	**13 57 50.3**	**-2.4**
MDJ				SS	SS	13 58 10.0	+0.5
MDJ				PCP	PcP	14 00 31.0	-1.5
MDJ				SCP		14 03 59.8	
MDJ				PCS		14 04 06.4	
MDJ				SCS	ScS	14 07 39.6	+1.6
MDJ				AMB	AMB		
comp=Z,11nm,1.8s							
MDJ				LR	LR		
comp=N,4μm,15.5s							
MDJ				LR	LR		
comp=E,2μm,15.5s							
MDJ				LR	LR		
comp=Z,5μm,17.2s							
MDJ	**Mudanjiang**	**14.22**	**323**	*e*P	**P**	**13 55 12.0**	**-3.4**
comp=Z,38nm,1.1s							
UGL	**Uglegorsk**	**15.27**	**1**	*e*P	**P**	**13 55 30.0**	**+1.0**
UGL				pmax	pmax		
comp=Z,500nm,2.0s							
UGL				pmax	pmax		
comp=Z,110nm,1.0s							
UGL				MLR	MLR		
comp=Z,6μm,17.0s							
UGL				MLR	MLR		
comp=N,6μm,20.0s							
UGL				MLR	MLR		
comp=E,4μm,14.0s							
KLR	**Kul'dur**	**17.05**	**338**	*e*P	**P**	**13 55 44.0**	**-7.6**
KLR				MLR	MLR		
comp=E,4μm,14.0s							
KLR				MLR	MLR		
comp=Z,4μm,14.0s							
SSE	**Sheshan**	**17.40**	**267**	P	**P**	**13 55 54.3**	**-1.9**
SSE				AP		13 56 03.6	
SSE				S	**S**	**13 59 05.8**	**-0.9**
SSE				AMB	AMB		
comp=Z,28nm,0.7s							
SSE				AMB	AMB		
comp=Z,674nm,12.0s							
SSE				LR	LR		
comp=N,3μm,12.3s							
SSE				LR	LR		
comp=E,3μm,12.3s							
SSE				LR	LR		
comp=Z,3μm,15.4s							
NJ2	**Nanjing**	**19.13**	**271**	*e*P	**P**	**13 56 16.3**	**-1.0**
NJ2				AP		13 56 25.3	
NJ2				PP	PP	13 56 34.9	+0.6
NJ2				S	**S**	**13 59 40.6**	**-5.2**
NJ2				AMB	AMB		
comp=Z,640nm,7.4s							
NJ2				LR	LR		
comp=N,440nm,17.4s							
NJ2				LR	LR		
comp=E,500nm,16.2s							
NJ2				LR	LR		
comp=Z,400nm,10.0s							
SKR	**Severo-Kuril's**	**19.96**	**28**	*e*P	**P**	**13 56 26.5**	**+0.3**
SKR				pmax	pmax		
comp=Z,220nm,1.0s							
SKR				MLR	MLR		
comp=E,6μm,12.0s							
SKR				MLR	MLR		
comp=Z,3μm,12.0s							
BJT	**Baijiatuau**	**21.19**	**294**	*e*P	**P**	**13 56 38.4**	**-0.7**
BJT				pmax	pmax		
comp=Z,36nm,1.6s							
BJT				MLR	MLR		
comp=Z,2μm,19.0s							
BJT	**Baijiatuau**	**21.19**	**294**	*e*P	**P**	**13 56 38.4**	**-0.7**
comp=Z,36nm,1.6s,mb4.5							
BJT				LR	LR		
comp=Z,2μm,19.0s,MS4.5							
QZH	**Quanzhou**	**21.84**	**252**	P	**P**	**13 56 47.0**	**+1.4**
QZH				S	**S**	**14 00 47.0**	**+7.3**
QZH				LR	LR		
comp=N,3μm,17.0s,MS5.0							
QZH				LR	LR		
comp=E,3μm,14.4s,MS5.0							
QZH				LR	LR		
comp=Z,3μm,14.4s,MS4.8							
HIA	**Hailar**	**22.36**	**320**	*e*P	**P**	**13 56 48.2**	**-2.5**
HIA				pmax	pmax		
comp=Z,67nm,1.3s							
HIA				MLR	MLR		
comp=Z,4μm,20.0s							
HIA	**Hailar**	**22.36**	**320**	*e*P	**P**	**13 56 48.1**	**-2.5**
comp=Z,67nm,1.3s,mb4.9							
HIA				LR	LR		
comp=Z,4μm,20.0s,MS4.8							
PET	**Petropavlovsk**	**22.77**	**27**	*e*P	**P**	**13 56 54.9**	**+0.3**
PET				*e*		13 57 23.2	
PET				*e*S	**S**	**14 00 55.4**	**-1.1**
PET				*e*SSS	SSS	14 01 54.5	-1.9
PET				pmax	pmax		
comp=Z,7.0nm,1.2s,mb4.0							
PET				pmax	pmax		
comp=Z,200nm,16.0s							
PET				smax			
comp=N,800nm,13.3s							
PET				smax			
comp=E,700nm,18.3s							
PET				MLR	MLR		
comp=Z,2μm,15.0s,MS4.7							
PET				MLR	MLR		
comp=N,2μm,15.0s							
WHN	**Wuhan**	**23.23**	**269**	*e*P	**P**	**13 56 59.5**	**+0.2**
WHN				S	**S**	**14 01 11.0**	**+6.1**
WHN				LR	LR		
comp=N,1μm,11.2s,MS5.1							
WHN				LR	LR		
comp=E,4μm,12.0s,MS5.1							
WHN				LR	LR		
comp=Z,7μm,15.0s,MS5.2							
CLNS	**Chul'man**	**25.71**	**339**	*e*P	**P**	**13 57 22.8**	**-0.1**
CLNS				*e*PP	pP	13 57 32.3	-0.7
CLNS				*e*S	**S**	**14 01 44.4**	**-2.3**
CLNS				*e*SS	SS	14 03 16.1	+24
CLNS				pmax	pmax		
comp=Z,43nm,1.0s,mb4.9							
CLNS				pmax	pmax		
comp=N,30nm,1.1s							
CLNS				pmax	pmax		
comp=E,18nm,1.1s							
CLNS				pmax	pmax		
comp=N,45nm,1.0s							
CLNS				pmax

comp=Z,219nm,1.4s,mb6.0
BWNR Bhubaneshwar 50.89 270 *e*P **P 14 00 51.9 -2.3**
BWNR *e* 14 05 20.0
comp=Z,33nm,0.3s
ULHL Ulahol 51.02 300 P **P 14 00 55.4 +0.4**
SNR=5.8
TKM2 Tokmak 2 51.33 301 P **P 14 00 57.9 +0.7**
SNR=37
COLA College 51.77 31⇑*e*P **P 14 01 00.0 -0.3**
COLA College 51.77 31 *e*P **P 14 00 59.9 -0.4**
comp=Z,14nm,1.0s,mb4.8
KZA Kyzart 51.77 300 P **P 14 01 02.1 +1.5**
SNR=14
KBK Karagaybulak 51.85 301 P **P 14 01 01.5 +0.3**
SNR=18
CHMS Chumysh 51.91 301 P **P 14 01 01.7 +0.1**
SNR=9.7
USP Ospenovka 52.03 301 P **P 14 01 02.2 -0.3**
SNR=23
AAK Ala-Archa 52.18 301 P **P 14 01 03.8 +0.1**
SNR=17
AAK Ala-Archa 52.18 301*c i*P **P 14 01 02.6 -1.1**
AAK pmax pmax
comp=Z,14nm,1.0s,mb4.8
AAK Ala-Archa 52.18 301 *e*P **P 14 01 02.6 -1.1**
comp=Z,24nm,1.3s,mb5.0
ILAR Eielson Array 52.18 31 P **P 14 01 01.8 -1.6**
ILAR pmax pmax
comp=Z,20nm,0.9s
ILAR Eielson Array 52.18 31 P **P 14 01 01.8 -1.6**
comp=Z,20nm,0.9s,mb5.0,baz=268,slow=5.9,SNR=140
UCH Uchtor 52.27 300 P **P 14 01 05.4 +1.1**
SNR=19
CHKZ Chkalovo 52.64 315 P **P 14 01 05.9 -1.1**
CHKZ pmax pmax
comp=Z,72nm,1.3s,mb5.4
CHKZ Chkalovo 52.64 315 *e*P **P 14 01 05.9 -1.1**
comp=Z,68nm,1.2s,mb5.5
CHKZ *e* 14 01 21.1
EKS2 Erkin-Say 52.69 301 P **P 14 01 07.4 -0.1**
SNR=9.4
BVA0 Borovoye Array 52.87 314 P **P 14 01 07.8 -0.9**
BVA0 pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
AML Almayashu 52.88 300 P **P 14 01 10.0 +1.1**
SNR=50
BRVK Borovoye 52.93 314 *e*P **P 14 01 08.6 -0.5**
BRVK pmax pmax
comp=Z,46nm,1.1s,mb5.3
BRVK Borovoye 52.93 314 *e*P **P 14 01 08.6 -0.6**
comp=Z,46nm,1.1s,mb5.3
BLSP Bilaspur 53.12 274 *e*P **P 14 01 10.1 -0.9**
BLSP *e* 14 01 11.6
comp=Z,90nm,1.2s
DDI Dehra Dun 53.17 285 *e*P **P 14 01 10.6 -0.7**
DDI *e* 14 07 50.3
CTA Charters Tower 53.77 175 LR LR 14 23 09.5
comp=Z,230nm,18.6s,MS4.3,baz=142,slow=35
FITZ Fitzroy Crossi 53.80 199 *e*P **P 14 01 16.2 +0.2**
comp=Z,26nm,1.2s,mb5.0
WRAB Tennant Creek 53.87 188 *e*P **P 14 01 14.8 -1.7**
WRAB pmax pmax
comp=Z,26nm,1.3s,mb5.0
WRAB Tennant Creek 53.87 188 *e*P **P 14 01 14.8 -1.8**
comp=Z,26nm,1.3s,mb5.0
WB2 Warramunga Arr 53.88 188 *e*P **P 14 01 15.4 -1.2**
WRA Warramunga Arr 53.88 188 P **P 14 01 15.0 -1.6**
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 53.88 188 P **P 14 01 15.0 -1.6**
comp=Z,3.4nm,0.7s,mb4.4,baz=6.4,slow=7.6,SNR=6.4
VIS Vishakhapatnam 54.17 268 *e*P **P 14 01 18.8 +0.1**
VIS *e* 14 01 21.1
comp=Z,72nm,1.5s
NDI New Delhi 54.46 283 *e*P **P 14 01 19.0 -1.8**
NDI *e* 14 07 45.0
DAWY Dawson 55.47 32 *e*P **P 14 01 27.0 -0.7**
BHPL Bhopal 56.53 277 *e*P **P 14 01 34.3 -1.5**
BHPL *e* 14 01 37.0
comp=Z,50nm,1.6s
INK Inuvik 57.22 26 *e*P **P 14 01 38.6 -1.5**
INK pmax pmax
comp=Z,14nm,1.1s
INK Inuvik 57.22 26 P **P 14 01 39.0 -1.2**
comp=Z,9.1nm,1.0s,mb4.8,baz=283,slow=7.9,SNR=19
INK Inuvik 57.22 26 *e*P **P 14 01 38.6 -1.5**
comp=Z,14nm,1.1s,mb4.9
ASAR Alice Springs 57.61 188 P **P 14 01 42.4 -1.0**
comp=Z,4.2nm,1.1s,mb4.4,baz=4.6,slow=7.2,SNR=17
ASAR LR LR 14 25 52.9
comp=Z,296nm,19.8s,MS4.4,baz=3.1,slow=35
ASPA Alice Springs 57.61 188 *e*P **P 14 01 43.1 -0.3**
SVE Sverdlovsk 57.67 320⇑*i*P **P 14 01 42.8 -0.6**
SVE pmax pmax
comp=Z,80nm,1.2s,mb5.6
SVE MLR MLR
comp=Z,2μm,13.5s,MS5.5
HYB Hyderabad 58.29 271 *e*P **P 14 01 48.0 -0.2**
HYB pmax pmax
comp=Z,80nm,1.0s,mb5.7
HYB Hyderabad 58.29 271 *e*P **P 14 01 48.0 -0.2**
comp=Z,80nm,1.0s,mb5.7
HYB Hyderabad 58.29 271 *i* P **P 14 01 48.0 -0.2**
comp=Z,80nm,1.0s,mb5.7
HYB *e*S **S 14 09 48.0 +1.9**
MBWA Marble Bar 58.48 204 *e*P **P 14 01 48.7 -0.8**
comp=Z,32nm,1.3s,mb5.2
ARU Arti 58.88 320⇓*i*P **P 14 01 46.6 -5.3**
ARU *e* 14 02 33.7
ARU *e*S **S 14 09 46.9 -6.4**
ARU *e* 14 11 35.4
ARU pmax pmax
comp=Z,73nm,1.0s,mb5.7
ARU MLR MLR
comp=Z,2μm,18.0s,MS5.2
ARU MLR MLR
comp=N,500nm,17.0s,MS5.1
ARU MLR MLR
comp=E,1μm,18.0s,MS5.1
SOKR Solikamsk 58.98 324⇓*i*P **P 14 01 44.8 -7.7**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.1
SOKR MLR MLR
comp=Z,1μm,19.0s,MS5.1
DLBC Dease Lake 61.12 37 *e*P **P 14 02 07.4 +0.3**
PALK Pallekele 61.84 259 *e*P **P 14 02 12.5 -0.1**
comp=Z,68nm,1.4s,mb5.6
STKA Stephens Creek 65.32 180 P **P 14 02 35.9 +0.7**
comp=Z,5.1nm,1.1s,mb4.5,baz=324,slow=13,SNR=3.5
STKA Stephens Creek 65.32 180 P **P 14 02 35.9 +0.7**
RES Resolute Bay 65.70 14 *e*P **P 14 02 35.8 -1.2**
RES pmax pmax
comp=Z,13nm,0.9s,mb5.0
RES Resolute Bay 65.70 14 *e*P **P 14 02 35.8 -1.2**
comp=Z,13nm,0.9s,mb5.0
YKW3 Yellowknife Ar 66.52 29 *e*P **P 14 02 40.6 -1.7**
YKA Yellowknife Ar 66.55 29 P **P 14 02 41.2 -1.3**
YKA Yellowknife Ar 66.55 29 P **P 14 02 41.1 -1.4**
comp=Z,3.4nm,0.8s,mb4.4,baz=296,slow=6.3,SNR=66
ARCES ARCESS Array B 67.06 340 P **P 14 02 44.3 -1.3**
comp=Z,11nm,1.0s,mb4.8,baz=27,slow=8.1,SNR=3.5
ARCES LR LR 14 37 52.7
comp=Z,463nm,19.1s,MS4.7,baz=11,slow=41
JOF Joensuu 68.87 333 *e*p **P 14 02 54.6 -2.4**
comp=Z,13nm,1.0s,mb4.8
JOF Joensuu 68.87 333 *e*P **P 14 02 54.6 -2.4**
JOF pmax pmax
comp=Z,13nm,1.0s,mb4.8
DAG Danmarks Havn 69.00 355⇑*e*P **P 14 02 57.0 -0.7**
DAG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
DAG Danmarks Havn 69.00 355⇑*e*P **P 14 02 57.0 -0.7**
comp=Z,4.2nm,0.9s,mb4.4
DAG Danmarks Havn 69.00 355⇑*i i*P **P 14 02 57.0 -0.7**
comp=Z,4.2nm,0.9s,mb4.4
MOS Moscow 69.92 324 *e*P **P 14 03 02.8 -0.8**
MOS *e* 14 05 43.1
MOS pmax pmax
comp=Z,62nm,1.2s,mb5.4
NWAO Narrogin (SRO) 70.20 202 *e*P **P 14 03 05.3 -0.4**
NWAO pmax pmax
comp=Z,7.0nm,0.8s
NWAO Narrogin (SRO) 70.20 202 *e*P **P 14 03 05.3 -0.4**
comp=Z,7.5nm,0.8s,mb4.7
OBN Obninsk 70.76 324 *e*P **P 14 03 06.4 -2.3**
OBN *e* 14 03 29.8
OBN pmax pmax
comp=Z,68nm,1.9s,mb5.2
OBN MLR MLR
comp=Z,1μm,12.0s,MS5.4
KAF Kangasniemi 71.24 333 *e*p **P 14 03 08.0 -3.4**
comp=Z,16nm,1.0s,mb4.9
KAF Kangasniemi 71.24 333 *e*P **P 14 03 08.0 -3.4**
KAF pmax pmax
comp=Z,16nm,1.0s,mb4.9
VRSR Storozhevoye 71.44 320 *e*P **P 14 03 12.1 -0.7**
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.2
VRSR pmax pmax
comp=N,20nm,1.1s
VRSR pmax pmax
comp=E,10.0nm,1.3s
VRSR pmax pmax
comp=Z,440nm,17.0s
VRSR pmax pmax
comp=N,420nm,15.2s
VRSR pmax pmax
comp=E,400nm,11.8s
FINES FINESS Array B 71.73 333 P **P 14 03 13.8 -0.6**
FINES pmax pmax
comp=Z,15nm,0.9s
FINES MLR MLR
comp=Z,481nm,18.8s
FINES FINESS Array B 71.73 333 P **P 14 03 13.8 -0.6**
comp=Z,15nm,0.9s,mb4.9,baz=53,slow=9.5,SNR=22
FINES LR LR 14 39 10.8
comp=Z,481nm,18.8s,MS4.8,baz=167,slow=40
FINES FINESS Array B 71.73 333 P **P 14 03 13.8 -0.6**
FINES LR LR 14 39 10.8
EDM Edmonton 71.82 38 *e*P **P 14 03 14.6 -0.4**
WBK Wadi Bani Khal 71.88 285 P **P 14 03 17.2 +1.2**
SNR=9.4
BIDO Bidbid 72.11 287 P **P 14 03 18.8 +1.5**
SNR=7.1
GOF Gofitskoye 72.35 313⇓*i*P **P 14 03 19.0 +0.7**
GOF pmax pmax
comp=Z,68nm,1.2s,mb5.5
SMDO Samad 72.40 286 P **P 14 03 19.7 +0.7**
SNR=7.2
JMDO Jabal Madar 72.70 286 P **P 14 03 21.4 +0.6**
SNR=10
HOQ Hoqain 72.73 287 P **P 14 03 21.7 +0.7**
SNR=10
TI2 Plekhanov 72.94 309 *i* P **P 14 03 23.4 +1.5**
ZEI Tsey 72.97 310 *e*P **P 14 03 21.7 -0.3**
ZEI pmax pmax
comp=Z,17nm,1.1s,mb4.9
KIV Kislovodsk 73.13 312 P **P 14 03 24.6 +1.6**
comp=Z,296nm,1.1s,mb6.1,SNR=12
KIV Kislovodsk 73.13 312 *e*P **P 14 03 23.9 +0.9**
KIV *e* 14 03 40.5
KIV *e*PPP PPP 14 07 50.6 -0.8
KIV *e*S S 14 12 47.2 +0.5
KIV pmax pmax
comp=N,47nm,0.9s
KIV pmax pmax
comp=E,25nm,0.9s
KIV pmax pmax
comp=Z,53nm,0.9s,mb5.5
KIV Kislovodsk 73.13 312 *e*P **P 14 03 23.9 +0.9**
comp=Z,70nm,1.1s,mb5.5
BSY Bisya 73.23 286 P **P 14 03 24.9 +0.9**
SNR=16
ARQ Araqi 73.48 287 P **P 14 03 26.1 +0.7**
SNR=22
GNI Garni 73.75 308*c i*P **P 14 03 28.1 +1.5**
GNI pmax pmax
comp=Z,49nm,1.6s
GNI MLR MLR
comp=Z,300nm,10.0s
GNI Garni 73.75 308 LR LR 14 39 49.2
comp=Z,503nm,18.0s,MS4.8,baz=38,slow=39
SUMG Summit 73.91 0 *e*P **P 14 03 27.9 +1.0**
comp=Z,24nm,1.0s,mb5.1
BMO Blue Mountains 74.05 47 *e*P **P 14 03 28.8 +0.5**
comp=Z,15nm,1.4s,mb4.7
OHCM Honcut 74.26 53 *e*P **P 14 03 29.8 +0.2**
SOC Sochi 75.15 313 *e*P **P 14 03 32.9 -1.8**
SOC *e* pP 14 03 44.5 -1.4
SOC *e*PPP PPP 14 08 11.0 +0.4
SOC *e*S S 14 13 05.1 -4.3
SOC *e* 14 13 36.0
SOC *e*SSS SSS 14 21 20.9 +5.5
SOC pmax pmax
comp=Z,11nm,0.6s,mb5.0
SOC pmax pmax
comp=N,10.0nm,0.5s
SOC pmax pmax
comp=E,19nm,0.6s
SOC MLR MLR
comp=Z,415nm,17.0s,MS4.8
SOC MLR MLR
comp=N,600nm,16.0s,MS5.0
SOC MLR MLR
comp=E,196nm,15.0s,MS5.0
ANN Anapa 75.87 315 *e*P **P 14 03 36.7 -2.0**
ANN *e* 14 03 57.5
ANN *e*S S 14 13 16.3 -0.9
ANN pmax pmax
comp=Z,47nm,1.4s,mb5.2
HLID Hailey 76.50 46 *e*P **P 14 03 43.4 +1.0**
comp=Z,11nm,1.4s,mb4.6
NVAR Mina Array Bea 76.85 53 P **P 14 03 45.4 +0.9**
comp=Z,4.3nm,1.1s,mb4.3,baz=280,slow=6.3,SNR=13
MSL Mosul 76.86 305 *e*P **P 14 03 44.0 -0.6**
AKASG Malin Array Be 76.93 323 P **P 14 03 43.9 -0.8**
AKASG pmax pmax
comp=Z,26nm,1.1s
AKASG Malin Array Be 76.93 323 P **P 14 03 43.9 -0.8**
comp=Z,26nm,1.1s,mb5.1,baz=44,slow=5.8,SNR=41
MNV Mina 76.94 52 *e*P **P 14 03 45.3 +0.3**
MNV pmax pmax
comp=Z,18nm,1.6s,mb4.8
MNV MLR MLR
comp=Z,733nm,19.0s,MS5.0
MNV Mina 76.94 52 *e*P **P 14 03 45.3 +0.3**
comp=Z,18nm,1.6s,mb4.8
MNV LR LR
comp=Z,733nm,19.0s,MS5.0
NB2 NORSAR Subarra 77.21 338 P **P 14 03 45.3 -0.7**
comp=Z,4.8nm,0.8s,mb4.5,baz=40,slow=5.6
NB2 NORSAR Subarra 77.21 338 P **P 14 03 45.3 -0.7**
NB2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
NOA NORSAR Array B 77.21 338 P **P 14 03 45.8 -0.2**
comp=Z,12nm,0.9s,mb4.8,baz=39,slow=5.6,SNR=13
NOA LR LR 14 43 59.3
comp=Z,601nm,18.3s,MS5.0,baz=20,slow=40
SUW Suwalki 77.68 328 *e*P **P 14 03 48.6 -0.1**
RAR Rarotonga 78.18 125 LR LR 14 36 46.3
comp=Z,484nm,18.4s,MS4.9,baz=268,slow=34
LKWY Lake 78.30 44 *e*P **P 14 03 55.1 +2.8**
LKWY pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LKWY Lake 78.30 44 *e*P **P 14 03 55.1 +2.8**
comp=Z,9.9nm,1.0s,mb4.7
RBK Rabkut 78.33 283 P **P 14 03 53.0 -0.1**
SNR=12
IMW Indian Meadow 78.38 45 *e*P **P 14 03 54.4 +1.6**
MALT Malatya 78.87 309 *e*P **P 14 03 56.8 +1.2**
MALT pmax pmax
comp=Z,23nm,1.3s,mb5.0
MALT Malatya 78.87 309 *e*P **P 14 03 56.8 +1.2**
comp=Z,23nm,1.3s,mb4.9
ABTO Aybut 79.15 284 P **P 14 03 57.8 +0.3**
SNR=13
PDAR Pinedale Array 79.86 45 P **P 14 04 01.2 +0.3**
comp=Z,2.9nm,0.8s,mb4.3,baz=281,slow=2.8,SNR=30
PDAR LR LR 14 41 10.6
comp=Z,209nm,18.2s,MS4.5,baz=356,slow=37
DAU Daniels Canyon 80.23 48 *e*P **P 14 04 04.5 +1.6**
NEN Nelson 80.69 53 *e*P **P 14 04 06.2 +0.7**
PFO Pinyon Flat Ob 80.75 56 *e*P **P 14 04 06.2 +0.4**
PFO pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
PFO Pinyon Flat Ob 80.75 56 *e*P **P 14 04 06.2 +0.3**
comp=Z,8.6nm,1.1s,mb4.6
MSU Marysvale 80.77 50 *e*P **P 14 04 07.4 +1.6**
KWP Kalwaria 80.83 325 *e*P **P 14 04 06.6 +0.7**
BRTR Keskin Array B 81.09 312 P **P 14 04 08.0 +0.5**
BRTR pmax pmax
comp=Z,11nm,0.9s

BRTR	**Keskin Array B**	**81.09 312**	P	**P**	**14 04 08.0 +0.5**	
	comp=Z,11nm,0.9s,mb4.8,baz=117,slow=2.8,SNR=54					
SRU	**San Rafael**	**81.46 48**	*e*P	**P**	**14 04 10.2 +0.8**	
KOLS	**Kolonicke sedl**	**81.51 324**	*e*P	**P**	**14 04 09.6 +0.1**	
OJC	**Ojcow**	**81.79 327**	*e*P	**P**	**14 04 11.3 +0.4**	
RAYN	**Ar Rayn**	**82.00 293**	P	**P**	**14 04 13.4 +0.9**	
	comp=Z,188nm,1.1s,mb5.9,SNR=31					
NIE	**Niedzica**	**82.11 326**	*e*P	**P**	**14 04 14.0 +1.5**	
OKC	**Ostrava-Krasne**	**82.81 327**	*e*P	**P**	**14 04 16.9 +0.8**	
OKC			AMS	AMS	14 44 30.0	
PV10	**Paradox Valley**	**82.83 48**	*e*P	**P**	**14 04 17.8 +1.3**	
KSP	**Ksiaz**	**82.91 329**	*e*P	**P**	**14 04 16.7 +0.1**	
KSP			*e*pP	pP	14 04 31.3 +3.3	
BSEG	**Bad Segeberg**	**83.00 333**	*e*P	**P**	**14 04 17.8 +0.8**	
BSEG			pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1					
MORC	**Moravsky Berou**	**83.13 327**	*e*P	**P**	**14 04 17.9 +0.2**	
MORC			pmax	pmax		
	comp=Z,21nm,1.5s,mb5.0					
MORC	**Moravsky Berou**	**83.13 327**	*e*P	**P**	**14 04 17.9 +0.2**	
	comp=Z,21nm,1.5s,mb5.0					
DPC	**Dobruska-Polom**	**83.26 328**	*e*P	**P**	**14 04 19.6 +1.2**	
DPC			AMS	AMS	14 45 10.0	
	comp=Z,1μm,20.2s					
PV01	**Paradox Valley**	**83.27 48**	*e*P	**P**	**14 04 19.9 +1.2**	
UPC	**Upice**	**83.28 328**	*e*P	**P**	**14 04 19.5 +1.0**	
PSZ	**Piszkesteto**	**83.36 325⇑**	*e*P	**P**	**14 04 20.1 +1.2**	
VYHS	**Vyhne**	**83.45 326**	*i* P	**P**	**14 04 20.4 +1.0**	
PVCC	**Panska Ves**	**83.89 329**	*e*P	**P**	**14 04 22.4 +0.9**	
PVCC			AMS	AMS	14 46 00.0	
BRG	**Berggiesshubel**	**83.89 330**	*e*P	**P**	**14 04 21.6 +0.1**	
BRG			pmax	pmax		
	comp=Z,16nm,1.3s,mb5.0					
BRG	**Berggiesshubel**	**83.89 330**	*e*P	**P**	**14 04 21.6 +0.1**	
	comp=Z,16nm,1.3s,mb5.0					
CLL	**Collm**	**83.96 330⇓**	*i*P	**P**	**14 04 22.4 +0.5**	
CLL			*i*		14 04 25.6	
CLL			pmax	pmax		
	comp=Z,26nm,1.1s,mb5.3					
CLL	**Collm**	**83.96 330⇓**	*i*P	**P**	**14 04 22.4 +0.5**	
	comp=Z,26nm,1.1s,mb5.3					
CLL			*i*		14 04 25.6	
CLL			*i*		14 04 37.6	
CLL	**Collm**	**83.96 330** ⇓P		**P**	**14 04 22.4 +0.5**	
	comp=Z,logA/T=1.4,mb5.3					
CLL			*i* *PP	pP	14 04 25.6 -7.7	
CLL			*i*		14 04 37.6	
SMOL	**Smolenice**	**84.09 326**	*e*P	**P**	**14 04 24.1 +1.5**	
PRU	**Pruhonice**	**84.30 329**	*e*P	**P**	**14 04 24.1 +0.5**	
PRU			MLR	MLR		
	comp=Z,2μm,9.7s					
ZST	**Bratislava**	**84.47 326**	*e*P	**P**	**14 04 26.8 +2.3**	
CLZ	**Clausthal**	**84.60 332**	*e*P	**P**	**14 04 26.3 +1.2**	
	comp=Z,36nm,1.2s,mb5.4					
NKC	**Novy Kostel**	**85.00 330**	*e*P	**P**	**14 04 28.1 +1.0**	
NKC			AMS	AMS	14 47 40.0	
	comp=Z,2μm,13.1s					
MOX	**Moxa**	**85.03 331**	*e*P	**P**	**14 04 27.5 +0.2**	
MOX			pmax	pmax		
	comp=Z,21nm,1.4s,mb5.1					
MOX	**Moxa**	**85.03 331**	*e*P	**P**	**14 04 27.5 +0.2**	
	comp=Z,21nm,1.4s,mb5.1					
MOX	**Moxa**	**85.03 331**	*i* P	**P**	**14 04 27.5 +0.2**	
	comp=Z,logA/T=1.2,mb5.1					
KHC	**Kasperske Hory**	**85.36 329**	*e*P	**P**	**14 04 29.5 +0.6**	
KHC	**Kasperske Hory**	**85.36 329**	*e*P	**P**	**14 04 29.8 +0.9**	
KHC			*ex*	x	14 04 43.6	
TUC	**Tucson**	**85.38 54**	*e*P	**P**	**14 04 29.1 -0.3**	
TUC			pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.6					
TUC	**Tucson**	**85.38 54**	*e*P	**P**	**14 04 29.1 -0.3**	
	comp=Z,6.0nm,1.3s,mb4.6					
GEC2	**GERESS Array S**	**85.52 328**	*e*P	**P**	**14 04 30.4 +0.7**	
GEC2			pmax	pmax		
	comp=Z,11nm,1.0s,mb5.0					
GEC2	**GERESS Array S**	**85.52 328**	*e*P	**P**	**14 04 30.4 +0.7**	
	comp=Z,11nm,1.0s,mb5.0					
GERES	**GERESS Array B**	**85.52 328**	P	**P**	**14 04 30.3 +0.6**	
GERES			pmax	pmax		
	comp=Z,6.0nm,0.9s					
GERES	**GERESS Array B**	**85.52 328**	P	**P**	**14 04 30.3 +0.6**	
	comp=Z,5.6nm,0.9s,mb4.8,baz=72,slow=4.2,SNR=14					
GRA1	**Grafenberg Arr**	**85.93 330**	*e*P	**P**	**14 04 32.7 +1.0**	
	comp=Z,26nm,1.0s,mb5.4					
GRF	**Grafenberg Arr**	**85.93 330**	*e*P	**P**	**14 04 32.7 +1.0**	
GRF			pmax	pmax		
	comp=Z,26nm,1.0s,mb5.4					
GRF	**Grafenberg Arr**	**85.93 330**	*e*P	**P**	**14 04 32.7 +1.0**	
GRF			pmax	pmax		
	comp=Z,26nm,1.0s,mb5.4					
GRF	**Grafenberg Arr**	**85.93 330**	*e*P	**P**	**14 04 32.7 +1.0**	
	comp=Z,26nm,1.0s,mb5.4					
ANMO	**Albuquerque**	**86.58 50**	*i* P	**P**	**14 04 38.1 +2.9**	
SCHQ	**Schefferville**	**88.41 16**	P	**P**	**14 04 44.2 +0.6**	
	comp=Z,3.7nm,0.9s,mb4.6,baz=297,slow=7.7,SNR=4.2					
SCHQ			LR	LR	14 49 40.6	
	comp=Z,436nm,18.2s,MS4.9,baz=342,slow=39					
SCHQ	**Schefferville**	**88.41 16**	P	**P**	**14 04 44.2 +0.6**	
SCHQ			LR	LR	14 49 40.6	
CDF	**Champ du Feu**	**88.54 331**	*e*P	**P**	**14 04 44.3 0.0**	
	comp=Z,18nm,1.0s,mb5.1					
CDF	**Champ du Feu**	**88.54 331**	*e*P	**P**	**14 04 44.3 0.0**	
CDF			pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0					
LPL	**La Plagne**	**91.09 330**	*e*P	**P**	**14 04 56.9 +0.5**	
	comp=Z,18nm,1.0s,mb5.0					
LPL	**La Plagne**	**91.09 330**	*e*P	**P**	**14 04 56.9 +0.5**	
LPL			pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0					
LPG	**La Plagne**	**91.10 330**	*e*P	**P**	**14 04 56.9 +0.4**	
	comp=Z,68nm,1.4s,mb5.5					
LPG	**La Plagne**	**91.10 330**	*e*P	**P**	**14 04 56.9 +0.4**	
LPG			pmax	pmax		
	comp=Z,34nm,1.4s,mb5.5					
AVF	**Avril sur Loir**	**91.39 333**	*e*P	**P**	**14 04 57.5 -0.3**	
	comp=Z,62nm,1.3s,mb5.5					
AVF	**Avril sur Loir**	**91.39 333**	*e*P	**P**	**14 04 57.5 -0.3**	
AVF			pmax	pmax		
	comp=Z,31nm,1.3s,mb5.5					
MBDF	**Montbardon**	**91.71 330**	*e*P	**P**	**14 04 59.7 +0.4**	
	comp=Z,78nm,1.5s,mb5.5					
MBDF	**Montbardon**	**91.71 330**	*e*P	**P**	**14 04 59.7 +0.4**	
MBDF			pmax	pmax		
	comp=Z,39nm,1.5s,mb5.5					
BGF	**Bois d'Agland**	**91.78 333**	*e*P	**P**	**14 04 58.7 -0.9**	
	comp=Z,42nm,1.0s,mb5.4					
BGF	**Bois d'Agland**	**91.78 333**	*e*P	**P**	**14 04 58.7 -0.9**	
BGF			pmax	pmax		
	comp=Z,21nm,1.0s,mb5.4					
ORIF	**Oris-en-Rattie**	**91.93 330**	*e*P	**P**	**14 05 00.3 0.0**	
	comp=Z,26nm,1.0s,mb5.2					
ORIF	**Oris-en-Rattie**	**91.93 330**	*e*P	**P**	**14 05 00.3 0.0**	
ORIF			pmax	pmax		
	comp=Z,13nm,1.0s,mb5.2					
TXAR	**Lajitas Array**	**92.00 52**	P	**P**	**14 05 01.9 +0.9**	
	comp=Z,0.6nm,0.7s,mb4.1,baz=288,slow=4.0,SNR=5.5					
TXAR			LR	LR	14 44 10.3	
	comp=Z,420nm,19.1s,MS4.9,baz=300,slow=34					
TXAR	**Lajitas Array**	**92.00 52**	P	**P**	**14 05 01.9 +0.9**	
TXAR			LR	LR	14 44 10.3	
VIVF	**Saint-Julien-l**	**92.47 331**	*e*P	**P**	**14 05 02.7 -0.1**	
	comp=Z,12nm,0.7s,mb5.0					
VIVF	**Saint-Julien-l**	**92.47 331**	*e*P	**P**	**14 05 02.7 -0.1**	
VIVF			pmax	pmax		
	comp=Z,6.0nm,0.7s,mb5.0					
QSPA	**South Pole Qui**	**123.55 180**	*e*PKPdf	PKPdf	14 10 47.3 -0.1	
SYO	**Syowa Base**	**125.36 206**	⇑PKPdf	PKPdf	14 10 50.3 -0.6	
SNAA	**Sanae**	**137.68 196**	P	PKPdf	14 11 17.4 +3.3	
VNA2	**Neumayer--Watz**	**139.24 195**	⇑*i*P	PKPdf	14 11 21.2 +4.3	
LPAZ	**La Paz**	**148.11 64**	PKPbc	PKPdf	14 11 39.9 +6.2	
	comp=Z,6.0nm,0.8s,baz=354,slow=2.6,SNR=8.9					
LPAZ	**La Paz**	**148.11 64**	*e*PKPbc	PKPdf	14 11 40.0 +6.4	
LVC	**Limon Verde**	**151.03 75**	*e*PKPbc	PKPdf	14 11 46.0 +7.9	

*IDC **19** 14:02:52.5±7.3, 13.52N×94.25E, h37km±61km, mb4.1/12, mb1 4.2/13, mb1mx4.1/19, mbtmp4.2/13, ML4.0/1, MS2.7/1, Ms1 3.0/1, ms1mx2.5/26, Error ellipse: s-maj=38.0km s-min=13.6km az=59.0*
*BJI **19** 14:02:53.3, 13.53N×94.27E, h55km, mB4.5, mb4.3, Ms4.4, Msz4.4*
*NEIC **19** 14:02:53.3±2.7, 13.58N×94.37E, h43km±23km, mb4.3/8, Error ellipse: s-maj=25.1km s-min=9.6km az=59.0*

ISC 19 14:02:48.4±2.3, 13.48N±0.06×94.28E±0.06, h23km±16km, n41, σ1s09/48, mb4.2/20, MS4.2/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.68**	**42**	Pn	**Pn**	**14 04 27.3**	**-0.5**
	0.7nm,0.3s,baz=235,slow=15,SNR=21						
CMAR				Sn	**Sn**	**14 05 44.6**	**+0.7**
	0.7nm,0.3s,baz=239,slow=19,SNR=4.6						
CMAR				LR	LR	14 07 10.3	
	comp=Z,65nm,18.7s,baz=195,slow=39						
BWNR	**Bhubaneshwar**	**10.57**	**311**	*e*P	**P**	**14 05 19.3**	**-2.5**
BWNR				*e*S	**S**	**14 07 05.5**	**-15**
VIS	**Vishakhapatnam**	**11.36**	**293**	*e*P	**P**	**14 05 30.9**	**-1.8**
VIS				*e*S	**S**	**14 07 28.4**	**-12**
VIS				*e*		14 07 34.6	
	comp=E,93nm,0.3s						
VIS				*e*		14 07 34.7	
	comp=N,131nm,0.5s						
SHL	**Shillong**	**12.23**	**350**	*e*	**P**	**14 05 42.0**	**-2.4**
SHL				*e*S	**S**	**14 07 52.5**	**-8.6**
BLSP	**Bilaspur**	**14.41**	**308**	*e*P	**P**	**14 06 13.6**	**+0.4**
HYB	**Hyderabad**	**15.66**	**286**	*e*P	**P**	**14 06 36.5**	**+6.9**
HYB				*e*S	**S**	**14 09 28.0**	**+5.3**
HYB	**Hyderabad**	**15.66**	**286**	*i* P	**P**	**14 06 36.5**	**+6.9**
HYB				*e*S	**S**	**14 09 28.0**	**+5.3**
JIRN	**Jiri**	**16.00**	**333**	*e*P	**P**	**14 06 35.3**	**+1.3**
	comp=N,36nm,0.4s						
PKI	**Pulchoki**	**16.29**	**331**	*e*P	**P**	**14 06 38.9**	**+1.4**
	comp=N,63nm,0.6s						
LSA	**Lhasa**	**16.40**	**350**	P	**P**	**14 06 40.0**	**+1.0**
LSA				S	**S**	**14 09 28.9**	**-11**
LSA				LR	LR		
	comp=N,620nm,14.3s						
LSA				LR	LR		
	comp=E,2μm,15.8s						
LSA				LR	LR		
	comp=Z,2μm,15.8s						
LSA	**Lhasa**	**16.40**	**350**	*e*P	**P**	**14 06 39.5**	**+0.5**
	comp=Z,3.6nm,0.4s						
DMN	**Daman**	**16.46**	**330**	*e*P	**P**	**14 06 41.0**	**+1.2**
	comp=Z,45nm,0.5s						
KKN	**Kakani**	**16.53**	**331**	*e*P	**P**	**14 06 41.8**	**+1.1**
GKN	**Gorkha**	**17.02**	**330**	*e*P	**P**	**14 06 46.7**	**-0.1**
KOLN	**Koldanda**	**17.36**	**327**	*e*P	**P**	**14 06 48.8**	**-2.3**
	comp=Z,46nm,0.6s						
BHPL	**Bhopal**	**18.70**	**304**	*e*P	**P**	**14 07 10.0**	**+2.4**
BHPL				*e*		14 07 10.5	
	comp=Z,9.2nm,0.5s						
ENH	**Enshi**	**21.83**	**38**	*e*P	**P**	**14 07 39.4**	**-1.8**
	comp=Z,12nm,0.8s,mb4.4						
WMQ	**Urumqi**	**30.76**	**351**	*e*P	**P**	**14 09 05.8**	**+1.4**
WMQ				AP	pP	14 09 17.7	+6.6
WMQ				XP	sP	14 09 23.1	+9.0
WMQ				PP	PP	14 10 07.6	+1.9
WMQ				S	**S**	**14 14 04.1**	**-1.0**
WMQ				XS		14 14 24.3	
WMQ				AMB	AMB		
	comp=Z,1.0nm,0.7s,mb3.8						
WMQ				AMB	AMB		
	comp=Z,10.0nm,4.2s						
WMQ				LR	LR		
	comp=N,458nm,18.4s,MS4.2						
WMQ				LR	LR		
	comp=E,255nm,18.9s,MS4.2						
WMQ				LR	LR		
	comp=Z,459nm,19.0s,MS4.2						
SONM	**Songino Array**	**35.71**	**14**	P	**P**	**14 09 48.1**	**+0.8**
	comp=Z,1.9nm,0.9s,mb4.0,baz=194,slow=8.7,SNR=12						
KURK	**Kurchatov**	**39.26**	**344**	*e*P	**P**	**14 10 17.8**	**+0.7**
	comp=Z,2.3nm,0.5s,mb4.2						
ZAL	**Zalesovo**	**41.05**	**351**	P	**P**	**14 10 31.8**	**0.0**
	comp=Z,3.3nm,0.5s,mb4.3,baz=314,slow=7.3,SNR=14						
ZAL	**Zalesovo**	**41.05**	**351**	P	**P**	**14 10 31.8**	**0.0**
MDJ	**Mudanjiang**	**43.19**	**37**	P	**P**	**14 10 48.0**	**-1.4**
MDJ				AMB	AMB		
	comp=Z,14nm,2.1s,mb4.3						
CHKZ	**Chkalovo**	**44.25**	**340**	*e*P	**P**	**14 10 58.0**	**0.0**
	comp=Z,2.2nm,0.5s,mb4.1						
NWAO	**Narrogin (SRO)**	**51.09**	**155**	P	**P**	**14 11 52.3**	**+0.7**
	comp=Z,18nm,0.8s,mb5.1,baz=330,slow=7.0,SNR=16						
NWAO	**Narrogin (SRO)**	**51.09**	**155**	*e*P	**P**	**14 11 52.3**	**+0.7**
	comp=Z,15nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**51.54**	**129**	P	**P**	**14 11 55.2**	**+0.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=309,slow=8.0,SNR=21						
WRAB	**Tennant Creek**	**51.54**	**129**	*e*P	**P**	**14 11 55.5**	**+0.4**
	comp=Z,4.7nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**53.52**	**133**	P	**P**	**14 12 09.7**	**-0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=309,slow=6.7,SNR=21						
BRTR	**Keskin Array B**	**58.99**	**308**	P	**P**	**14 12 48.0**	**-0.8**
	comp=Z,2.2nm,0.6s,mb4.4,baz=117,slow=7.8,SNR=15						
STKA	**Stephens Creek**	**63.93**	**136**	P	**P**	**14 13 22.7**	**+0.3**
	comp=Z,4.3nm,1.1s,mb4.4,baz=350,slow=11,SNR=2.9						
STKA	**Stephens Creek**	**63.93**	**136**	P	**P**	**14 13 22.7**	**+0.3**
FINES	**FINESS Array B**	**67.87**	**331**	P	**P**	**14 13 46.5**	**-0.5**
	comp=Z,1.6nm,0.5s,mb4.3,baz=92,slow=7.3,SNR=8.6						
ARCES	**ARCESS Array B**	**70.08**	**340**	P	**P**	**14 14 00.8**	**+0.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=63,slow=2.7,SNR=4.9						
GERES	**GERESS Array B**	**73.80**	**317**	P	**P**	**14 14 23.2**	**+0.2**
	comp=Z,2.8nm,0.6s,mb4.4,baz=86,slow=6.0,SNR=21						
NB2	**NORSAR Subarra**	**74.96**	**330**	P	**P**	**14 14 28.7**	**-0.7**
	comp=Z,1.2nm,0.5s,mb4.1,baz=90,slow=5.8						
NOA	**NORSAR Array B**	**74.96**	**330**	P	**P**	**14 14 29.1**	**-0.4**
	comp=Z,1.6nm,0.7s,mb4.1,baz=90,slow=5.8,SNR=6.1						
ILAR	**Eielson Array**	**89.53**	**22**	P	**P**	**14 15 44.5**	**-0.4**
	comp=Z,0.6nm,0.8s,mb4.0,baz=299,slow=3.6,SNR=6.6						
INK	**Inuvik**	**91.60**	**16**	P	**P**	**14 15 53.5**	**-1.0**
	comp=Z,1.9nm,1.0s,mb4.4						
RES	**Resolute Bay**	**91.83**	**2**	P	**P**	**14 15 56.2**	**+0.8**
	comp=Z,0.6nm,0.6s,mb4.1						
PLCA	**Paso Flores**	**149.78**	**203**	PKPbc	PKPdf	14 22 39.0	+2.5
	comp=Z,3.1nm,0.8s,baz=135,slow=1.4,SNR=4.0						

IDC 19 14:14:20.4±14.0, 4.45N×94.24E, mb3.5/2, mb1 3.7/3, mb1mx3.4/18, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=347.2km s-min=50.4km az=83.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.66**	**18**	Pn	P	14 17 49.0	-2.2
	0.1nm,0.3s,baz=212,slow=12,SNR=4.8						
WRA	**Warramunga Arr**	**46.26**	**123**	P	P	14 22 48.1	-1.7
	0.8nm,0.6s,baz=301,slow=9.2,SNR=11						
ASAR	**Alice Springs**	**47.70**	**128**	P	P	14 22 59.0	-2.2
	0.4nm,0.9s,baz=300,slow=8.3,SNR=4.0						

*IDC **19** 14:16:27.4±1.0, 8.18N×93.81E, mb3.9/10, mb1 4.0/11, mb1mx3.9/19, mbtmp3.9/11, ML3.5/1, Error ellipse: s-maj=40.6km s-min=20.6km az=51.0*
*NEIC **19** 14:16:32.1±0.6, 8.21N×93.86E, h30km, mb4.1/1, Error ellipse: s-maj=16.6km s-min=10.7km az=63.0*

ISC 19 14:16:31.8±5.6, 8.3N±0.2×94.0E±0.2, h41km±47km, n22, σ0s62/22, mb4.0/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.21**	**25**	Pn	**P**	**14 19 12.2**	**-0.4**
	0.1nm,0.3s,baz=209,slow=14,SNR=12						
JIRN	**Jiri**	**20.66**	**340**	*e*P	**P**	**14 21 11.5**	**+0.8**
PKI	**Pulchoki**	**20.85**	**338**	*e*P	**P**	**14 21 12.5**	**-0.2**
	8.0nm,0.5s						
DMN	**Daman**	**21.00**	**337**	*e*P	**P**	**14 21 13.6**	**-0.6**
KKN	**Kakani**	**21.10**	**338**	*e*P	**P**	**14 21 15.3**	**+0.1**
LSA	**Lhasa**	**21.49**	**353**	*e*P	**P**	**14 21 19.4**	**+0.3**
	6.6nm,0.8s,mb4.0						
GKN	**Gorkha**	**21.54**	**337**	*e*P	**P**	**14 21 19.9**	**+0.4**
	21nm,0.7s,mb4.7						
KOLN	**Koldanda**	**21.75**	**334**	*e*P	**P**	**14 21 22.6**	**+0.9**
	22nm,0.9s,mb4.6						
SONM	**Songino Array**	**40.81**	**13**	P	**P**	**14 24 11.5**	**+0.6**
	0.8nm,1.0s,mb3.3,baz=212,slow=7.6,SNR=4.4						
SONM				PcP	PcP	14 26 12.4	+0.3
	0.2nm,0.5s,baz=185,slow=4.2,SNR=2.7						
KURK	**Kurchatov**	**44.20**	**346**	*e*P	**P**	**14 24 37.5**	**-1.1**
ZAL	**Zalesovo**	**46.15**	**352**	P	**P**	**14 24 53.4**	**-0.7**
	1.7nm,0.7s,mb4.1,baz=295,slow=7.3,SNR=10						
WRA	**Warramunga Arr**	**48.60**	**126**	P	**P**	**14 25 13.2**	**-0.5**
	0.4nm,0.8s,mb3.5,baz=298,slow=11,SNR=3.0						
CHKZ	**Chkalovo**	**49.06**	**342**	*e*P	**P**	**14 25 16.7**	**-0.1**
ASAR	**Alice Springs**	**50.27**	**130**	P	**P**	**14 25 27.1**	**+0.6**
	0.6nm,0.8s,mb3.7,baz=292,slow=7.4,SNR=4.3						
BRTR	**Keskin Array B**	**62.07**	**311**	P	**P**	**14 26 49.4**	**-1.4**
	0.6nm,0.7s,mb3.8,baz=135,slow=8.2,SNR=3.6						
FINES	**FINESS Array B**	**72.30**	**332**	P	**P**	**14 27 54.6**	**-0.2**
	4.8nm,1.1s,mb4.3,baz=101,slow=9.7,SNR=4.3						
ARCES	**ARCESS Array B**	**74.85**	**340**	P	**P**	**14 28 09.8**	**+0.3**
	3.0nm,0.9s,mb4.2,baz=68,slow=6.5,SNR=4.3						
GERES	**GERESS Array B**	**77.45**	**318**	P	**P**	**14 28 25.4**	**+0.8**
	0.6nm,0.6s,mb3.7,baz=100,slow=6.0,SNR=4.6						
HFS	**Hagfors**	**78.05**	**330**	P	**P**	**14 28 27.8**	**+0.2**
	2.2nm,0.6s,mb4.3,baz=90,slow=8.9,SNR=4.3						
HFS	**Hagfors**	**78.05**	**330**	P	**P**	**14 28 27.8**	**+0.1**
NOA	**NORSAR Array B**	**79.33**	**331**	P	**P**	**14 28 34.7**	**0.0**
	0.8nm,0.8s,mb3.7,baz=114,slow=4.7,SNR=3.3						
NOA	**NORSAR Array B**	**79.33**	**331**	P	**P**	**14 28 34.7**	**0.0**

*BJI **19** 14:26:59.5, 6.20S×130.00E, h137km, mB4.2, mb4.5*
*NEIC **19** 14:26:59.5±2.4, 6.20S×130.02E, h138km±23km, mb4.2/8, Error ellipse: s-maj=16.9km s-min=10.8km az=74.0*
*IDC **19** 14:27:04.2±2.3, 6.19S×130.12E, h182km±20km, mb3.7/10, mb1 3.9/13, mb1mx3.9/16, mbtmp4.3/13, MS2.4/1, Ms1 2.4/1, ms1mx2.1/19, Error ellipse: s-maj=25.8km s-min=12.2km az=63.0*

ISC 19 14:26:54.0±0.4, 6.10S±0.06×130.0E±0.1, h100km, n35, σ0s97/31, mb4.2/21, 2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**14.38**	**163**	*e*P	**P**	**14 30 14.3**	**+0.2**
	28nm,1.0s						
WRA	**Warramunga Arr**	**14.39**	**163**	P	**P**	**14 30 14.1**	**0.0**
	2.1nm,0.3s,baz=341,slow=13,SNR=50						
WRA				S	**S**	**14 32 44.4**	**-7.1**
	2.3nm,0.3s,baz=343,slow=22,SNR=11						
WRA				PKiKP		14 43 16.1	
	0.0nm,0.3s,baz=311,slow=1.1,SNR=4.6						
PMG	**Port Moresby**	**17.32**	**102**	P	**P**	**14 30 52.0**	**+1.0**
	1.1nm,0.3s,baz=324,slow=5.7,SNR=5.4						
ASAR	**Alice Springs**	**17.86**	**168**	P	**P**	**14 30 58.5**	**+0.9**
	1.8nm,0.3s,baz=352,slow=9.8,SNR=193						
ASAR				S	**S**	**14 34 11.0**	**+0.7**
	0.6nm,0.3s,baz=345,slow=14,SNR=8.4						
ASAR				ScP		14 38 44.5	
	baz=326,slow=1.5,SNR=5.0						
ASAR				PKiKP		14 43 17.5	
	0.0nm,0.3s,baz=1.0,slow=1.1,SNR=4.5						
CTA	**Charters Tower**	**21.04**	**133**	P	**P**	**14 31 33.0**	**+1.5**
	3.8nm,0.8s,mb3.8,baz=292,slow=15,SNR=4.2						
CTAO	**Charters Tower**	**21.04**	**133**	*e*P	**P**	**14 31 33.1**	**+1.5**
	18nm,1.2s,mb4.3						
KLBR	**Kellerberrin**	**27.83**	**203**	*e*P	**P**	**14 32 36.2**	**+0.1**
	125nm,0.5s						
STKA	**Stephens Creek**	**27.84**	**159**	P	**P**	**14 32 34.5**	**-1.7**
	3.6nm,0.7s,mb4.0,baz=343,slow=12,SNR=8.7						
NWAO	**Narrogin (SRO)**	**29.21**	**202**	P	**P**	**14 32 48.7**	**+0.2**
	8.6nm,0.5s,mb4.6,baz=359,slow=4.5,SNR=12						
JNU	**Nakatsue**	**39.02**	**1**	LR	LR	14 50 31.1	
	comp=Z,4.8nm,18.7s,baz=126,slow=36						
CMAR	**Chiang Mai Arr**	**39.16**	**309**	P	**P**	**14 34 16.1**	**+2.4**
	2.0nm,0.6s,mb4.1,baz=141,slow=7.6,SNR=22						
CMAR				PcP	PcP	14 36 21.3	-0.6
	1.1nm,0.8s,baz=150,slow=2.8,SNR=7.2						
CMAR				ScP		14 39 51.9	
	0.2nm,0.5s,baz=131,slow=2.6,SNR=5.1						
LZH	**Lanzhou**	**48.62**	**332**	*e*P	**P**	**14 35 30.8**	**+1.2**
LZH				AP	pP	14 36 02.3	+8.7
LZH				XP	sP	14 36 18.1	+13
LZH				PP	PP	14 37 25.8	+2.4
LZH				AMB	AMB		
	comp=Z,24nm,1.3s,mb5.0						
MDJ	**Mudanjiang**	**50.49**	**360**	P	**P**	**14 35 43.1**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,14nm,2.1s,mb4.5						
JIRN	**Jiri**	**54.00**	**311**	*e*P	**P**	**14 36 11.2**	**+0.9**
	comp=Z,2.1nm,0.2s,mb4.7						
KKN	**Kakani**	**54.76**	**310**	*e*P	**P**	**14 36 16.6**	**+0.8**
GKN	**Gorkha**	**55.35**	**310**	*e*P	**P**	**14 36 20.3**	**+0.2**
	comp=Z,4.8nm,0.3s,mb5.0						
KOLN	**Koldanda**	**56.03**	**309**	*e*P	**P**	**14 36 25.0**	**0.0**
	comp=Z,3.3nm,0.4s,mb4.8						
ULN	**Ulaanbaatar**	**57.41**	**342**	*e*P	**P**	**14 36 34.9**	**+0.4**
	comp=Z,1.4nm,0.6s,mb4.2						
SONM	**Songino Array**	**57.59**	**341**	P	**P**	**14 36 36.5**	**+0.7**
	comp=Z,0.7nm,0.7s,mb3.8,baz=159,slow=5.7,SNR=4.8						
YAK	**Yakutsk**	**67.93**	**360**	*e*P	**P**	**14 37 42.8**	**-1.0**
	comp=Z,11nm,0.7s,mb4.8						
ZAL	**Zalesovo**	**70.78**	**334**	P	**P**	**14 38 00.1**	**-1.4**
	comp=Z,0.9nm,0.3s,mb4.0,baz=7.7,slow=5.7,SNR=4.2						
KURK	**Kurchatov**	**71.75**	**328**	*e*P	**P**	**14 38 07.3**	**0.0**
	comp=Z,2.9nm,0.9s,mb4.1						
VNDA	**Vanda**	**73.33**	**173**	P	**P**	**14 38 14.7**	**-1.

JKO	**Kozu shima**	**1.06**	**43**	P	**P**	**14 45 42.8**	**+0.2**
JSG	**Sagara**	**1.27**	**357**	P	**P**	**14 45 43.3**	**-0.4**
NJJJ	**Nii jima 2**	**1.30**	**40**	S	**S**	**14 46 17.5**	**+0.1**
JHJ	**Hachijo jima 2**	**1.30**	**102**	P	**P**	**14 45 43.8**	**-0.2**
	26nm,0.3s,baz=75,slow=20,SNR=8.7						
JHJ				S	**S**	**14 46 17.9**	**+0.5**
	47nm,0.3s,baz=92,slow=23,SNR=6.9						
JHJ2	**Mitsune**	**1.33**	**102**	P	**P**	**14 45 44.3**	**+0.2**
JHJ2				S	**S**	**14 46 18.7**	**+1.0**
JIE	**Ise**	**1.62**	**308**	P	**P**	**14 45 46.0**	**0.0**
JIE				S	**S**	**14 46 20.7**	**-0.2**
JIM2	**Oshima 3**	**1.63**	**36**	S	**S**	**14 46 22.4**	**+1.5**
JOD2	**Odawara 2**	**1.97**	**20**	P	**P**	**14 45 47.6**	**-0.8**
JOD2				S	**S**	**14 46 26.5**	**+1.2**
JYN	**Shimob**	**2.10**	**6**	P	**P**	**14 45 49.4**	**-0.1**
JWZ	**Kozaga**	**2.13**	**274**	P	**P**	**14 45 49.6**	**-0.2**
BSO1	**Boso 1**	**2.57**	**60**	P	**P**	**14 45 50.7**	**-2.9**
BSO1				S	**S**	**14 46 30.7**	**-3.9**
JGM	**Miyama**	**2.62**	**331**	P	**P**	**14 45 54.2**	**+0.2**
JGM				S	**S**	**14 46 35.2**	**-0.1**
JRY	**Ryogami san**	**2.66**	**11**	P	**P**	**14 45 53.9**	**-0.5**
JRY				S	**S**	**14 46 34.6**	**-1.3**
JWT	**Wachi**	**3.02**	**309**	P	**P**	**14 45 58.0**	**+0.2**
MAT	**Matsushiro**	**3.13**	**359**	P	**P**	**14 45 58.2**	**-0.7**
MAT				S	**S**	**14 46 42.4**	**-1.6**
JAG	**Ashikaga**	**3.16**	**18**	P	**P**	**14 45 57.3**	**-2.0**
JAG				S	**S**	**14 46 39.9**	**-4.8**
JMN	**Monobe**	**3.67**	**276**	P	**P**	**14 46 05.2**	**+0.6**
CBIJ	**Chichi jima**	**7.15**	**151**	P	**P**	**14 46 43.0**	**-2.1**
	16nm,0.3s,baz=297,slow=11,SNR=15						
CBIJ				S	**S**	**14 47 59.0**	**-7.7**
	21nm,0.3s,baz=286,slow=23,SNR=11						
ASAJ	**Asahikawa**	**11.21**	**16**	P	**P**	**14 47 37.1**	**+2.1**
	0.7nm,0.3s,baz=220,slow=7.9,SNR=5.1						
SONM	**Songino Array**	**27.92**	**311**	P	**P**	**14 50 26.2**	**+0.6**
	1.2nm,0.6s,mb3.5,baz=117,slow=9.7,SNR=10						
WRA	**Warramunga Arr**	**53.18**	**185**	P	**P**	**14 53 49.7**	**-0.7**
	0.8nm,0.3s,mb3.5,baz=0.1,slow=7.6,SNR=12						
ILAR	**Eielson Array**	**53.93**	**31**	P	**P**	**14 53 55.3**	**+0.1**
	0.2nm,0.8s,mb2.5,baz=271,slow=6.7,SNR=4.6						
ASAR	**Alice Springs**	**56.91**	**185**	P	**P**	**14 54 16.3**	**-0.6**
	0.3nm,0.7s,mb2.8,baz=19,slow=10,SNR=4.1						
INK	**Inuvik**	**58.77**	**26**	P	**P**	**14 54 28.9**	**-0.3**
	0.5nm,0.3s,mb3.4,baz=284,slow=8.3,SNR=3.9						
YKA	**Yellowknife Ar**	**68.22**	**29**	P	**P**	**14 55 30.5**	**+0.3**
	0.3nm,0.4s,mb3.3,baz=302,slow=6.5,SNR=7.6						
FINES	**FINESS Array B**	**70.80**	**332**	P	**P**	**14 55 45.3**	**-0.6**
	2.7nm,1.1s,mb3.8,baz=342,slow=6.0,SNR=5.5						
NVAR	**Mina Array Bea**	**79.25**	**51**	P	**P**	**14 56 35.5**	**+1.4**
	0.3nm,0.4s,mb3.4,baz=300,slow=5.5,SNR=5.4						
TXAR	**Lajitas Array**	**94.39**	**51**	P	**P**	**14 57 49.6**	**+1.9**
	0.3nm,0.4s,mb3.6,baz=252,slow=2.9,SNR=2.7						

*LDG **19** 14:46:51.9±0.0, 47.35N×7.16E, h5km, Md3.1/3, Ml3.1/23, Error ellipse: s-maj=1.0km s-min=0.8km az=109.0*
*BGR **19** 14:46:51.8±0.7, 47.39N×7.14E, h10km, ML2.7/4, Error ellipse: s-maj=5.6km s-min=3.3km az=34.0*
*ZUR **19** 14:46:51.4, 47.37N×7.17E, h3km±1km, ML2.6/10*
*NEIC **19** 14:46:51.5, 47.32N×7.13E, h5km, ML3.1(LDG), ML2.7(STR), ML2.7(VIE), After STR.*
*CSEM **19** 14:46:52.0±0.1, 47.35N×7.17E, h10km, ML3.0/24, Error ellipse: s-maj=1.2km s-min=1.0km az=129.0*

ISC 19 14:46:49.6±0.2,**47.33N**±0.01×**7.05E**±0.02,**h3**km,**n80**, σ1§**34**/174,**9C-1D**,**Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOURR	**Bourrignon**	**0.14**	**62**	*e*Pg	**Pg**	**14 46 52.8**	**+0.4**
	SNR=365						
BOURR				*e*Sg	**Sg**	**14 46 54.3**	**+0.1**
	SNR=6.3						
BOURR	**Bourrignon**	**0.14**	**62**	⇑*i*Pg	**Pg**	**14 46 52.7**	**+0.3**
BOURR				*e*Sg	**Sg**	**14 46 54.0**	**-0.2**
BOURR	**Bourrignon**	**0.14**	**62**	⇑*i*Pg	**Pg**	**14 46 52.7**	**+0.3**
BOURR				*e*Sg	**Sg**	**14 46 54.1**	**-0.1**
LOMF	**Lomont**	**0.16**	**278**	Pg	**Pg**	**14 46 56.5**	**+3.7**
LOMF				Sg	**Sg**	**14 46 59.7**	**+4.8**
BBS	**Basel-Blauen**	**0.34**	**66**	Pg	**Pg**	**14 46 57.3**	**+1.0**
BBS				Sg	**Sg**	**14 47 02.2**	**+1.3**
BALST	**Balsthal**	**0.44**	**89**	⇑*i*Pg	**Pg**	**14 46 58.8**	**+0.5**
BALST				*e*Sg	**Sg**	**14 47 04.1**	**0.0**
HINF	**Hinteralfeld**	**0.51**	**344**	*e*Pg	**Pg**	**14 47 01.4**	**+1.7**
HINF				*e*Pn	**Pn**	**14 47 03.5**	**+0.2**
HINF				*e*Sg	**Sg**	**14 47 07.8**	**+1.3**
HINF				*e*Sn	**Sn**	**14 47 11.6**	**-1.0**
	66nm,0.2s						
MOF	**Molkenrain**	**0.52**	**6**	Pg	**Pg**	**14 47 01.5**	**+1.4**
MOF				Sg	**Sg**	**14 47 08.6**	**+1.5**
BRANT	**Les Verrieres**	**0.56**	**226**	⇑*i*Pg	**Pg**	**14 47 04.1**	**+3.3**
TORNY	**Torny**	**0.56**	**187**	⇑*i*Pg	**Pg**	**14 47 03.7**	**+2.9**
TORNY				*e*Sg	**Sg**	**14 47 12.6**	**+4.3**
SULZ	**Sulz-Cheisache**	**0.75**	**74**	*e*Pg	**Pg**	**14 47 04.9**	**+0.3**
	SNR=6.9						
SULZ				*e*Sg	**Sg**	**14 47 13.8**	**-0.6**
	SNR=4.1						
SULZ	**Sulz-Cheisache**	**0.75**	**74**	*e*Pg	**Pg**	**14 47 04.5**	**0.0**
HAU	**Haudompre**	**0.83**	**325**	*e*Pg	**Pg**	**14 47 07.8**	**+1.7**
HAU				*e*Pn	**Pn**	**14 47 08.7**	**+0.8**
HAU				*e*Sg	**Sg**	**14 47 19.2**	**+2.0**
HAU				*e*Sn	**Sn**	**14 47 21.3**	**+0.6**
	132nm,0.3s						
FELD	**Feldberg**	**0.84**	**49**	Pg	**Pg**	**14 47 07.6**	**+1.2**
FELD				Sg	**Sg**	**14 47 19.0**	**+1.3**
ECH	**Echery**	**0.89**	**4**	Pg	**Pg**	**14 47 08.5**	**+1.1**
ECH				Sg	**Sg**	**14 47 19.6**	**+0.4**
LIBD	**Limburg**	**0.90**	**24**	Pg	**Pg**	**14 47 08.5**	**+0.9**
GIMEL	**Gimel**	**0.96**	**214**	⇑*i*Pg	**Pg**	**14 47 11.6**	**+2.8**
CABF	**La Chapelle**	**0.98**	**223**	*e*Pg	**Pg**	**14 47 11.9**	**+2.8**
CABF				*e*Pn	**Pn**	**14 47 12.1**	**+2.1**
CABF				*e*Sg	**Sg**	**14 47 25.1**	**+2.9**
CABF				*e*Sn	**Sn**	**14 47 26.3**	**+1.7**
	53nm,0.2s						
AIGLE	**Aigle**	**0.99**	**184**	*e*Pg	**Pg**	**14 47 11.3**	**+1.9**
OG01	**Vacheresse**	**1.03**	**194**	Pg	**Pg**	**14 47 10.1**	**-0.1**
OG01	**Vacheresse**	**1.03**	**194**	Sg	**Sg**	**14 47 24.6**	**+0.6**
ZUR	**Zurich**	**1.04**	**87**	*e*Pg	**Pg**	**14 47 09.8**	**-0.5**
	SNR=1.8						
ZUR				*e*Sg	**Sg**	**14 47 23.6**	**-0.6**
	SNR=1.9						
BNALP	**Bannalp**	**1.04**	**116**	*e*Pg	**Pg**	**14 47 10.9**	**+0.5**
SLE	**Schleitheim**	**1.07**	**65**	*e*Pg	**Pg**	**14 47 10.3**	**-0.7**
	SNR=100						
SLE				*e*Sg	**Sg**	**14 47 23.4**	**-1.8**
	SNR=24						
SLE	**Schleitheim**	**1.07**	**65**	⇑*i*Pg	**Pg**	**14 47 10.5**	**-0.4**
CDF	**Champ du Feu**	**1.09**	**8**	*e*Pg	**Pg**	**14 47 11.6**	**+0.2**
CDF				*e*Pn	**Pn**	**14 47 12.1**	**+0.4**
CDF				*e*Sg	**Sg**	**14 47 25.7**	**-0.3**
CDF				*e*Sn	**Sn**	**14 47 26.5**	**-1.0**
	110nm,0.4s						
WLS	**Welschbruch**	**1.10**	**10**	Pg	**Pg**	**14 47 11.6**	**0.0**
MUO	**Muotathal**	**1.14**	**108**	*e*Pg	**Pg**	**14 47 13.0**	**+0.6**
THEF	**They Montfort**	**1.15**	**322**	Pg	**Pg**	**14 47 14.1**	**+1.5**
WILA	**Wila**	**1.26**	**85**	*e*Pg	**Pg**	**14 47 14.3**	**-0.5**
	SNR=8.6						
WILA				*e*Sg	**Sg**	**14 47 29.9**	**-1.7**
	SNR=5.8						
EMV	**Vieux Emosson**	**1.27**	**185**	*e*Pg	**Pg**	**14 47 16.4**	**+1.4**
BFO	**Black Forest**	**1.32**	**40**	*e*Pg	**Pg**	**14 47 13.8**	**-2.2**
	SNR=14						
BFO				*e*Sg	**Sg**	**14 47 30.5**	**-3.1**
	SNR=6.1						
SFTF	**Sexfontaines**	**1.62**	**304**	*e*Pn	**Pn**	**14 47 19.8**	**+0.6**
SFTF				*e*Pg	**Pg**	**14 47 23.1**	**+1.2**
	baz=128						
SFTF				*e*Sn	**Sn**	**14 47 40.4**	**-0.4**
	baz=129						
SFTF				*e*Sg	**Sg**	**14 47 45.1**	**+1.6**
	22nm,0.2s,baz=124						
RFYF	**Reffroy**	**1.68**	**321**	*e*Pn	**Pn**	**14 47 20.1**	**0.0**
	baz=141						
RFYF				*e*Pg	**Pg**	**14 47 23.8**	**+0.7**
	baz=135						
RFYF				*e*Sn	**Sn**	**14 47 41.5**	**-0.8**
	baz=143						
RFYF				*e*Sg	**Sg**	**14 47 45.5**	**0.0**
	39nm,0.2s,baz=136						
OG05	**Jujurieux**	**1.69**	**221**	Pn	**Pn**	**14 47 21.7**	**+1.4**
OG05				Pg	**Pg**	**14 47 25.2**	**+1.8**
OG05	**Jujurieux**	**1.69**	**221**	Pg	**Pg**	**14 47 25.2**	**+1.8**
MEZF	**Maizieres J'vi**	**1.79**	**312**	*e*Pn	**Pn**	**14 47 22.1**	**+0.5**
MEZF				*e*Pg	**Pg**	**14 47 25.9**	**+0.6**
	baz=134						
MEZF				*e*Sn	**Sn**	**14 47 43.4**	**-1.7**
MEZF				*e*Sg	**Sg**	**14 47 49.1**	**0.0**
	68nm,0.4s,baz=130						
ORX	**Oropa**	**1.81**	**159**	P	**Pn**	**14 47 28.7**	**+6.7**
ORX				S	**Sn**	**14 47 49.0**	**+3.2**
ORX	**Oropa**	**1.81**	**159**	S	**Sn**	**14 47 49.0**	**+3.2**
LPL	**La Plagne**	**1.83**	**187**	*e*Pn	**Pn**	**14 47 23.2**	**+1.0**
LPL				*e*Pg	**Pg**	**14 47 27.2**	**+1.1**
LPL				*e*Sn	**Sn**	**14 47 45.8**	**-0.4**
LPL				*e*Sg	**Sg**	**14 47 51.0**	**+0.5**
	25nm,0.3s						
LPG	**La Plagne**	**1.84**	**187**	*e*Pn	**Pn**	**14 47 23.3**	**+0.8**
LPG				*e*Pg	**Pg**	**14 47 27.4**	**+1.0**
LPG				*e*Sn	**Sn**	**14 47 46.0**	**-0.6**
LPG				*e*Sg	**Sg**	**14 47 52.0**	**+1.0**
	21nm,0.3s						
LSD	**Ceresole Reale**	**1.88**	**178**	P	**Pn**	**14 47 28.6**	**+5.8**
LSD				S	**Sn**	**14 47 50.5**	**+3.2**
TRAV		**1.88**	**165**	P	**Pn**	**14 47 27.7**	**+4.7**
TRAV				S	**Sn**	**14 47 50.5**	**+3.1**
DAVA	**Damuels**	**1.92**	**90**	⇓*i*PN	**Pn**	**14 47 25.3**	**+1.7**
DAVA				*i* PG	**Pg**	**14 47 27.2**	**-0.8**
DAVA				*i* SG	**Sg**	**14 47 50.9**	**-2.7**
	15nm,0.3s						
STU	**Stuttgart**	**2.04**	**44**	*e*Sg	**Sg**	**14 47 54.4**	**-3.0**
	SNR=1.9						
RSP	**Reno Superiore**	**2.18**	**176**	P	**Pn**	**14 47 30.9**	**+3.6**
RSP	**Reno Superiore**	**2.18**	**176**	P	**Pn**	**14 47 30.9**	**+3.6**
FENE	**Fenestrelle**	**2.30**	**180**	P	**Pn**	**14 47 34.3**	**+5.4**
SMF	**Signal de Mont**	**2.30**	**254**	*e*Pn	**Pn**	**14 47 29.8**	**+0.8**
SMF				*e*Pg	**Pg**	**14 47 36.5**	**+0.9**
SMF				*e*Sn	**Sn**	**14 47 57.2**	**-1.1**
SMF				*e*Sg	**Sg**	**14 48 06.1**	**-0.2**
	24nm,0.2s						
WLF	**Walferdange**	**2.41**	**346**	*e*Pg	**Pg**	**14 47 36.9**	**-0.8**
	SNR=1.7						
WLF				*e*Sg	**Sg**	**14 48 07.4**	**-2.5**
	SNR=2.4						
SSF	**Saint Saulge**	**2.44**	**265**	*e*Pn	**Pn**	**14 47 32.1**	**+1.2**
SSF				*e*Pg	**Pg**	**14 47 38.6**	**+0.4**
SSF				*e*Sn	**Sn**	**14 48 00.0**	**-1.6**
SSF				*e*Sg	**Sg**	**14 48 09.6**	**-1.1**
	22nm,0.4s						
SSF	**Saint Saulge**	**2.44**	**265**	*e*Pg	**Pg**	**14 47 38.6**	**+0.4**
SSF				*e*Sn	**Sn**	**14 48 00.0**	**-1.6**
SSF				*e*Sg	**Sg**	**14 48 09.6**	**-1.1**
	11nm,0.4s						
BHB	**Bricherasio**	**2.49**	**177**	P	**Pn**	**14 47 36.6**	**+4.8**
ORIF	**Oris-en-Rattie**	**2.55**	**199**	*e*Pn	**Pn**	**14 47 33.5**	**+1.0**
ORIF				*e*Pg	**Pg**	**14 47 40.4**	**-0.1**
ORIF				*e*Sn	**Sn**	**14 48 02.7**	**-1.7**
ORIF				*e*Sg	**Sg**	**14 48 13.5**	**-0.9**
	22nm,0.3s						
AVF	**Avril sur Loir**	**2.59**	**259**	*e*Pn	**Pn**	**14 47 34.0**	**+0.9**
AVF				*e*Pg	**Pg**	**14 47 41.4**	**+0.1**
AVF				*e*Sn	**Sn**	**14 48 03.5**	**-2.0**
AVF				*e*Sg	**Sg**	**14 48 15.6**	**-0.2**
	6.0nm,0.2s						
MBDF	**Montbardon**	**2.61**	**184**	*e*Pn	**Pn**	**14 47 33.4**	**0.0**
MBDF				*e*P		14 47 36.5	
MBDF				*e*Pg	**Pg**	**14 47 41.3**	**-0.4**
MBDF				*e*Sn	**Sn**	**14 48 04.2**	**-1.9**
MBDF				*e*Sg	**Sg**	**14 48 15.4**	**-1.1**
	14nm,0.5s						
PZZ	**Prazzo**	**2.83**	**179**	P	**Pn**	**14 47 40.6**	**+4.1**
PZZ	**Prazzo**	**2.83**	**179**	P	**Pn**	**14 47 40.6**	**+4.1**
SQTA	**Sankt Quirin**	**2.83**	**91**	⇑*i*PN	**Pn**	**14 47 37.2**	**+0.7**
SQTA				*i* SG	**Sg**	**14 48 20.4**	**-3.4**
	3.7nm,0.2s						
FUR	**Furstenfeldbru**	**2.97**	**72**	*e*Sg	**Sg**	**14 48 23.2**	**-5.3**
	SNR=2.5						
VIVF	**Saint-Julien-l**	**2.98**	**215**	*e*Pn	**Pn**	**14 47 38.6**	**-0.1**
VIVF				*e*Pg	**Pg**	**14 47 47.7**	**-1.4**
VIVF				*e*Sn	**Sn**	**14 48 13.4**	**-2.0**
VIVF				*e*Sg	**Sg**	**14 48 25.9**	**-2.9**
	17nm,0.2s						
BGF	**Bois d'Agland**	**2.98**	**257**	*e*Pn	**Pn**	**14 47 38.8**	**+0.1**
BGF				*e*Pg	**Pg**	**14 47 48.5**	**-0.7**
BGF				*e*Sn	**Sn**	**14 48 13.8**	**-1.7**
BGF				*e*Sg	**Sg**	**14 48 27.7**	**-1.3**
	26nm,0.4s						
HYF	**Humbligny**	**3.00**	**270**	*e*Pn	**Pn**	**14 47 39.3**	**+0.3**
HYF				*e*Pg	**Pg**	**14 47 48.6**	**-1.0**
HYF				*e*Sg	**Sg**	**14 48 29.3**	**-0.4**
HYF	**Humbligny**	**3.00**	**270**	*e*Pg	**Pg**	**14 47 48.6**	**-1.0**
HYF				*e*Sg	**Sg**	**14 48 29.3**	**-0.4**
WTTA	**Wattenberg**	**3.12**	**90**	⇑*i*PN	**Pn**	**14 47 40.9**	**+0.2**
WTTA				*i* SG	**Sg**	**14 48 30.2**	**-3.2**
	6.0nm,0.5s						
GIVF	**Givet**	**3.14**	**333**	*e*Pn	**Pn**	**14 47 40.9**	**-0.1**
GIVF				*e*Sn	**Sn**	**14 48 16.0**	**-3.5**
GIVF				*e*Sg	**Sg**	**14 48 31.7**	**-2.5**
	8.4nm,0.4s						
BAIF	**Baives**	**3.32**	**326**	*e*Pn	**Pn**	**14 47 43.2**	**-0.3**
BAIF				*e*Sg	**Sg**	**14 48 36.0**	**-4.1**
	2.6nm,0.2s						
TCF	**Toulx Ste Croi**	**3.49**	**254**	*e*Pn	**Pn**	**14 47 46.0**	**+0.1**
TCF				*e*Sn	**Sn**	**14 48 25.9**	**-2.3**
TCF				*e*Sg	**Sg**	**14 48 43.8**	**-1.9**
	8.7nm,0.3s						
SMRF	**Simiane la Rot**	**3.51**	**198**	*e*Pn	**Pn**	**14 47 45.9**	**-0.3**
SMRF				*e*Sn	**Sn**	**14 48 26.1**	**-2.8**
SMRF				*e*Sg	**Sg**	**14 48 43.7**	**-2.8**
	1.8nm,0.2s						
FRF	**La Foret Royal**	**3.78**	**184**	*e*Pn	**Pn**	**14 47 49.5**	**-0.5**
FRF				*e*Sn	**Sn**	**14 48 31.9**	**-3.8**
LASF	**Ste Croix**	**3.95**	**216**	*e*Pn	**Pn**	**14 47 51.2**	**-1.3**
LASF				*e*Pg	**Pg**	**14 48 06.3**	**-2.2**
LASF				*e*Sn	**Sn**	**14 48 36.8**	**-3.2**
LASF				*e*Sg	**Sg**	**14 48 57.9**	**-3.2**
	9.2nm,0.4s						
BUG	**Bochum–Univer**	**4.12**	**2**	*e*Sn	**Sn**	**14 48 37.0**	**-7.2**
	SNR=1.5						
CAF	**Calviac**	**4.22**	**237**	*e*Pn	**Pn**	**14 47 55.9**	**-0.4**
CAF				*e*Pg	**Pg**	**14 48 12.5**	**-1.4**
CAF				*e*Sn	**Sn**	**14 48 43.3**	**-3.5**
CAF				*e*Sg	**Sg**	**14 49 06.0**	**-4.1**
	1.9nm,0.3s						
WET	**Wettzell**	**4.29**	**63**	*e*Pg	**Pg**	**14 48 10.8**	**-4.5**
	SNR=1.2						
WET				*e*Sg	**Sg**	**14 49 04.7**	**-7.8**
	SNR=2.2						
MOX	**Moxa**	**4.47**	**40**	*e*Sn	**Sn**	**14 48 46.2**	**-7.0**
	SNR=1.3						
MOX				*e*Sg	**Sg**	**14 49 11.4**	**-7.1**
	SNR=1.5						
GUNZ	**Gunzen**	**4.62**	**47**	*e*Sg	**Sg**	**14 49 15.3**	**-8.2**
	SNR=2.1						
WERD	**Werda**	**4.66**	**46**	*e*Sn	**Sn**	**14 48 51.0**	**-7.0**
	SNR=2.1						
WERD				*e*Sg	**Sg**	**14 49 17.0**	**-7.8**
	SNR=2.8						
TANN	**Tannenbergstha**	**4.72**	**47**	*e*Sn	**Sn**	**14 48 52.3**	**-7.1**
	SNR=1.5						
MFF	**Saint Martin d**	**4.98**	**264**	*e*Pn	**Pn**	**14 48 05.8**	**-1.3**
MTLF	**Montolieu**	**5.25**	**222**	*e*Pn	**Pn**	**14 48 09.9**	**-0.9**

*IDC **19** 14:59:03.0±7.3, 30.97S×179.28W, h283km±74km, mb3.1/3, mb1 3.3/5, mb1mx3.2/16, mbtmp3.9/5, Error ellipse: s-maj=66.2km s-min=35.7km az=15.0*
*NEIC **19** 14:59:02.9±3.3, 31.17S×178.99W, h302km±29km, Error ellipse: s-maj=45.4km s-min=33.9km az=84.0*

ISC 19 14:58:59.5±1.0,**31.4S**±0.1×**178.0W**±0.2,**h374**km±12km, **n52**, σ1§**16**/70,**mb3.1**/3,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.90**	**205**	P	**P**	**15 00 42.3**	**+0.2**
MXZ				S	**S**	**15 02 03.3**	**+0.4**
PUZ	**Puketiti**	**7.38**	**204**	*e*P	**P**	**15 00 48.2**	**+0.6**
PUZ				S	**S**	**15 02 14.0**	**+1.3**
PUZ	**Puketiti**	**7.38**	**204**	P	**P**	**15 00 48.2**	**+0.6**
PUZ				S	**S**	**15 02 14.0**	**+1.3**
MWZ	**Matawai**	**7.88**	**207**	*e*P	**P**	**15 00 53.4**	**0.0**
MWZ	**Matawai**	**7.88**	**207**	P	**P**	**15 00 53.4**	**0.0**
MWZ				S	**S**	**15 02 23.7**	**+0.6**
URZ	**Urewera**	**7.98**	**209**	P	**P**	**15 00 53.6**	**-0.9**
	1.3nm,0.3s,baz=24,slow=2.6,SNR=19						
URZ				S	**S**	**15 02 26.2**	**+0.9**
	12nm,0.3s,baz=142,slow=21,SNR=16						
URZ	**Urewera**	**7.98**	**209**	*e*P	**P**	**15 00 53.6**	**-1.0**
KNZ	**Kokohu**	**8.43**	**204**	*e*P	**P**	**15 01 03.2**	**+3.3**
KNZ				S	**S**	**15 02 37.1**	**+2.3**
BKZ	**Black Stump Fm**	**9.00**	**208**	*e*P	**P**	**15 01 05.5**	**-1.1**
BKZ	**Black Stump Fm**	**9.00**	**208**	P	**P**	**15 01 05.5**	**-1.1**
BKZ				S	**S**	**15 02 48.2**	**+1.2**
WNVZ	**Wahianoa**	**9.52**	**212**	P	**P**	**15 01 10.7**	**-2.0**
PWZ	**Pawanui**	**9.61**	**204**	*e*P	**P**	**15 01 13.1**	**-0.7**
PWZ	**Pawanui**	**9.61**	**204**	P	**P**	**15 01 13.1**	**-0.7**
PWZ				S	**S**	**15 03 00.5**	**+0.5**
VRZ	**Vera Road**	**9.75**	**215**	P	**P**	**15 01 18.0**	**+2.5**
VRZ	**Vera Road**	**9.75**	**215**	*e*P	**P**	**15 01 15.9**	**+0.4**
TSZ	**Takapari Road**	**9.97**	**208**	*e*P	**P**	**15 01 16.7**	**-1.4**
TSZ	**Takapari Road**	**9.97**	**208**	P	**P**	**15 01 16.7**	**-1.4**
TSZ				*e*S	**S**	**15 03 07.9**	**+0.1**
WAZ	**Wanganui**	**10.14**	**212**	*e*P	**P**	**15 01 20.0**	**-0.1**
WAZ	**Wanganui**	**10.14**	**212**	P	**P**	**15 01 19.7**	**-0.4**
WAZ				*e*S	**S**	**15 03 13.0**	**+1.6**
BFZ	**Birch Farm**	**10.41**	**205**	*e*P	**P**	**15 01 23.3**	**0.0**
BFZ	**Birch Farm**	**10.41**	**205**	P	**P**	**15 01 23.3**	**0.0**
BFZ				*e*S	**S**	**15 03 17.7**	**+0.7**
MRZ	**Mangatainoka R**	**10.64**	**207**	*e*P	**P**	**15 01 24.4**	**-1.7**
MRZ	**Mangatainoka R**	**10.64**	**207**	P	**P**	**15 01 24.1**	**-2.0**
MRZ				S	**S**	**15 03 20.1**	**-1.9**
KIW	**Kapiti Island**	**11.08**	**209**	P	**P**	**15 01 31.8**	**+0.5**
KIW	**Kapiti Island**	**11.08**	**209**	*e*P	**P**	**15 01 31.3**	**0.0**
KIW				S	**S**	**15 03 30.7**	**-0.8**
MTW	**Mount Morrison**	**11.10**	**206**	P	**P**	**15 01 32.1**	**+0.6**
CAW	**Cannon Point**	**11.22**	**208**	P	**P**	**15 01 31.3**	**-1.7**
CAW	**Cannon Point**	**11.22**	**208**	P	**P**	**15 01 31.1**	**-1.9**
CAW				*e*S	**S**	**15 03 34.3**	**-0.3**
MSWZ	**Moikau Station**	**11.41**	**207**	P	**P**	**15 01 36.0**	**+0.8**
MRW	**Makara Radio**	**11.47**	**209**	P	**P**	**15 01 35.2**	**-0.7**
WEL	**Wellington**	**11.49**	**208**	P	**P**	**15 01 36.5**	**+0.4**
WEL	**Wellington**	**11.49**	**208**	*e*P	**P**	**15 01 36.2**	**+0.1**
NNZ	**Nelson**	**12.04**	**213**	*e*P	**P**	**15 01 42.1**	**-0.4**
NNZ	**Nelson**	**12.04**	**213**	*e*P	**P**	**15 01 40.1**	**-2.4**
NNZ				S	**S**	**15 03 50.5**	**-1.6**
QRZ	**Quartz Range**	**12.16**	**216**	*e*P	**P**	**15 01 43.8**	**-0.1**
QRZ	**Quartz Range**	**12.16**	**216**	*e*P	**P**	**15 01 42.2**	**-1.7**
QRZ				S	**S**	**15 03 53.5**	**-1.0**
THZ	**Tophouse**	**12.69**	**213**	*e*P	**P**	**15 01 49.0**	**-1.1**
THZ	**Tophouse**	**12.69**	**213**	*e*P	**P**	**15 01 48.5**	**-1.6**
THZ				S	**S**	**15 04 05.1**	**-0.6**
KHZ	**Kahutara**	**12.94**	**209**	*e*P	**P**	**15 01 54.0**	**+1.1**
DSZ	**Denniston Nort**	**13.21**	**215**	*e*P	**P**	**15 01 57.0**	**+1.1**
DSZ	**Denniston Nort**	**13.21**	**215**	*e*P	**P**	**15 01 56.3**	**+0.3**
DSZ				S	**S**	**15 04 14.0**	**-2.5**
LTZ	**Lake Taylor**	**13.79**	**211**	*e*P	**P**	**15 02 02.3**	**-0.1**
LTZ	**Lake Taylor**	**13.79**	**211**	P	**P**	**15 02 02.3**	**-0.1**
MQZ	**McQueen's Vall**	**14.38**	**208**	S	**S**	**15 04 41.1**	**+0.7**
WVZ	**Waitaha Valley**	**14.73**	**214**	*e*P	**P**	**15 02 15.2**	**+2.7**
WVZ	**Waitaha Valley**	**14.73**	**214**	P	**P**	**15 02 15.2**	**+2.7**
RPZ	**Rata Peaks**	**15.07**	**212**	P	**P**	**15 02 20.1**	**+4.1**
	1.2nm,0.3s,baz=51,slow=16,SNR=9.4						
RPZ				S	**S**	**15 04 54.4**	**+0.4**
	2.5nm,0.3s,baz=298,slow=23,SNR=9.8						
ODZ	**Otahua Downs**	**16.30**	**210**	*e*P	**P**	**15 02 34.9**	**+6.1**
CTA	**Charters Tower**	**33.96**	**281**	P	**P**	**15 05 12.0**	**+1.2**
	1.5nm,0.3s,mb3.6,baz=104,slow=8.3,SNR=2.0						
ASAR	**Alice Springs**	**43.06**	**268**	P	**P**	**15 06 26.6**	**+1.0**
	0.2nm,0.5s,mb2.5,baz=106,slow

n41,σ0∓74/46, mb3.9/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.92**	**321**	P	**P**	**15 47 46.7**	**+6.7**
BSO1				S	**S**	**15 47 53.1**	**+0.9**
BSO3	**Boso 3**	**1.30**	**312**	P	**P**	**15 47 45.9**	**+0.6**
BSO3				S	**S**	**15 47 52.7**	**-9.0**
BSO4	**Boso 4**	**1.53**	**314**	P	**P**	**15 47 48.9**	**+0.2**
KTR	**Katsuura**	**1.65**	**317**	P	**P**	**15 47 50.7**	**+0.3**
JHJ2	**Mitsune**	**1.76**	**243**	P	**P**	**15 47 53.1**	**+1.1**
JHJ	**Hachijo jima 2**	**1.78**	**243**	Pn	**P**	**15 47 53.2**	**+0.9**
	177nm,0.3s,baz=126,slow=2.4,SNR=21						
JHJ				Sn	**S**	**15 48 14.3**	**+0.4**
	191nm,0.3s,baz=55,slow=21,SNR=7.4						
TATJ	**Tateyama 2**	**1.84**	**307**	P	**P**	**15 47 52.7**	**-0.4**
JOD2	**Odawara 2**	**2.51**	**302**	P	**P**	**15 48 01.6**	**-1.1**
JYN	**Shimob**	**3.02**	**302**	P	**P**	**15 48 09.3**	**-0.6**
JAG	**Ashikaga**	**3.08**	**324**	P	**P**	**15 48 10.1**	**-0.7**
JRY	**Ryogami san**	**3.08**	**313**	P	**P**	**15 48 10.8**	**0.0**
MAJO	**Matsushiro**	**3.85**	**313**	*e*P	**P**	**15 48 21.1**	**-0.6**
MAT	**Matsushiro**	**3.85**	**313**	*e*P	**P**	**15 48 22.0**	**+0.3**
MAT				*e*S	**S**	**15 49 06.0**	**-0.4**
MAT	**Matsushiro**	**3.85**	**313**	P	**P**	**15 48 21.7**	**0.0**
CBIJ	**Chichi jima**	**6.83**	**176**	Pn	**P**	**15 49 02.5**	**-1.2**
	10nm,0.3s,baz=286,slow=20,SNR=6.6						
ASAJ	**Asahikawa**	**10.19**	**4**	P	**P**	**15 49 45.3**	**-4.8**
ASAJ						15 51 33.7	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.19**	**4**	Pn	**P**	**15 49 45.3**	**-4.8**
	comp=Z,0.8nm,0.3s,baz=280,slow=8.1,SNR=6.3						
ASAJ				Sn	**S**	**15 51 33.7**	**-10**
	comp=Z,0.3nm,0.3s,baz=82,slow=19,SNR=4.4						
SONM	**Songino Array**	**29.79**	**308**	P	**P**	**15 53 29.1**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.5,baz=90,slow=4.9,SNR=6.5						
ZAK	**Zakamensk**	**32.43**	**312**	*e*P	**P**	**15 53 51.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**41.02**	**259**	P	**P**	**15 55 04.1**	**-0.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**41.02**	**259**	P	**P**	**15 55 04.0**	**-0.6**
	comp=Z,0.8nm,0.7s,mb3.5,baz=49,slow=7.8,SNR=8.5						
KURK	**Kurchatov**	**48.06**	**310**	*e*P	**P**	**15 55 56.8**	**-3.9**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
KURK	**Kurchatov**	**48.06**	**310**	*e*P	**P**	**15 55 56.8**	**-3.9**
	comp=Z,1.8nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**52.01**	**31**	P	**P**	**15 56 31.0**	**+0.4**
	comp=Z,0.4nm,0.6s,mb3.5,baz=267,slow=6.2,SNR=11						
CHKZ	**Chkalovo**	**52.62**	**315**	*e*P	**P**	**15 56 34.5**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
CHKZ	**Chkalovo**	**52.62**	**315**	*e*P	**P**	**15 56 34.5**	**-0.9**
	comp=Z,0.9nm,0.7s,mb3.8						
BVAR	**Borovoye Array**	**52.85**	**314**	P	**P**	**15 56 37.1**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=53,slow=7.2,SNR=4.0						
WRAB	**Tennant Creek**	**54.02**	**189**	*e*P	**P**	**15 56 46.2**	**0.0**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
WRAB	**Tennant Creek**	**54.02**	**189**	*e*P	**P**	**15 56 46.2**	**0.0**
	comp=Z,6.7nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**54.03**	**189**	P	**P**	**15 56 46.4**	**+0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**54.03**	**189**	P	**P**	**15 56 46.4**	**+0.1**
	comp=Z,0.9nm,0.4s,mb4.1,baz=1.8,slow=7.7,SNR=36						
ASAR	**Alice Springs**	**57.76**	**188**	P	**P**	**15 57 12.7**	**-0.4**
	comp=Z,0.6nm,0.4s,mb3.9,baz=1.1,slow=6.1,SNR=21						
ARU	**Arti**	**58.84**	**320**	*e*P	**P**	**15 57 15.4**	**-4.7**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ARU	**Arti**	**58.84**	**320**	*e*P	**P**	**15 57 15.3**	**-4.8**
	comp=Z,2.2nm,0.6s,mb4.4						
FINES	**FINESS Array B**	**71.66**	**333**	P	**P**	**15 58 42.4**	**-0.1**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.2s						
FINES	**FINESS Array B**	**71.66**	**333**	P	**P**	**15 58 42.4**	**-0.1**
	comp=Z,3.8nm,1.1s,mb4.2,baz=39,slow=12,SNR=3.9						
AKASG	**Malin Array Be**	**76.88**	**323**	P	**P**	**15 59 13.0**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**76.88**	**323**	P	**P**	**15 59 12.9**	**0.0**
	comp=Z,0.6nm,0.4s,mb3.9,baz=50,slow=5.7,SNR=7.8						
NOA	**NORSAR Array B**	**77.12**	**338**	P	**P**	**15 59 14.8**	**+0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NOA	**NORSAR Array B**	**77.12**	**338**	P	**P**	**15 59 14.8**	**+0.8**
	comp=Z,1.0nm,0.9s,mb3.7,baz=49,slow=6.7,SNR=2.8						
PDAR	**Pinedale Array**	**79.68**	**45**	P	**P**	**15 59 30.8**	**+2.3**
	comp=Z,0.5nm,0.8s,mb3.5,baz=284,slow=6.1,SNR=3.9						

NEIC ***19*** *15:53:33.2, 53.33N×165.72W, h13km, ML3.5(AEIC), After AEIC.*

IDC 19 15:54:07.3±25.0, 54.32N×162.28W, h207km±161km, mb2.9/3, mb1 3.2/5, mb1mx2.9/21, mbtmp3.4/5, Error ellipse: s-maj=274.0km s-min=67.8km az=69.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**13.01**	**30**	P	P	15 57 03.8	-1.6
	0.1nm,0.3s,baz=217,slow=14,SNR=4.0						
INK	**Inuvik**	**19.39**	**33**	P	P	15 58 17.0	-1.8
	0.1nm,0.3s,baz=240,slow=8.1,SNR=4.3						
NVAR	**Mina Array Bea**	**33.62**	**100**	P	P	16 00 28.5	-1.1
	0.3nm,0.4s,baz=300,slow=7.3,SNR=3.5						
PDAR	**Pinedale Array**	**35.94**	**87**	P	P	16 00 49.7	+0.4
	0.3nm,0.9s,baz=287,slow=12,SNR=2.7						
TXAR	**Lajitas Array**	**48.59**	**96**	P	P	16 02 28.4	-3.0
	0.6nm,0.4s,baz=284,slow=5.2,SNR=5.5						

BJI ***19*** *16:09:16.1, 3.18N×92.57E, h48km, mB5.1, mb4.8, Ms4.8, Msz4.4*

IDC ***19*** *16:09:17.5±0.8, 3.55N×92.66E, h27km±5km, mb4.4/18, mb1 4.4/19, mb1mx4.4/24, mbtmp4.5/19, ML4.2/1, MS4.3/8, Ms1 4.4/8, ms1mx3.9/18, Error ellipse: s-maj=26.2km s-min=13.1km az=45.0*

HRVD ***19*** *16:09:17.8±0.5, 3.68N×92.55E, h12km, MW5.0/51, Centroid moment Tensor Solution. LP body waves: s17,c20;Mantle waves: s51,c79; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.91±.12; Mθθ-0.85±.09; Mφφ1.75±.13; Mrθ-1.48±.31; Mθφ-2.09±.09; Mφr-1.68±.33; Best double couple: M0 3.381×10^16 NP1:φs113°, δ53°, λ-160°. NP2:φs11°, δ74°, λ-39°. Principal axes: T 3.092, Plg13°, Azm67°; N .575, Plg49°, Azm172°; P -3.671, Plg38°, Azm326°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***19*** *16:09:17.8±0.3, 3.55N×92.70E, h30km, mb4.9/23 Error ellipse: s-maj=10.0km s-min=6.4km az=46.0*

MOS ***19*** *16:09:19.9±0.8, 4.06N×92.45E, h33km, mb5.2/12, Error ellipse: s-maj=16.7km s-min=7.9km az=111.1*

ISC 19 16:09:15.9±0.3, 3.55N±0.04×92.69E±0.04, h29km, h29km±1.0km: pP-P, n153, σ1∓11/161, mb4.8/58, MS4.5/15, 14C-12D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**8.05**	**0**	*e*	**P**	**16 11 24.6**	**+11**
SNG	**Songkhla**	**8.67**	**65**	P	**P**	**16 11 21.0**	**-1.5**
	240nm,1.0s						
PALK	**Pallekele**	**12.50**	**288**	*e*P	**P**	**16 12 09.7**	**-5.1**
	21nm,0.6s						
CMAR	**Chiang Mai Arr**	**16.03**	**22**	*i* P	**P**	**16 13 00.3**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**16.03**	**22**	Pn	**P**	**16 13 00.2**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=216,slow=13,SNR=41						
CMAR				LR	LR	16 19 16.1	
	comp=Z,298nm,20.1s,baz=210,slow=37						
KKTK	**Khon Kaen**	**16.14**	**37**	PN	**P**	**16 13 00.0**	**-2.6**
KKTK				SG	rx	16 13 13.5	
KKTK				PG	rx	16 13 17.0	
CHG	**Chiang Mai**	**16.35**	**21**	⇑P	**P**	**16 13 04.6**	**-0.6**
	comp=Z,32nm,1.1s						
TRD	**Trivandrum**	**16.40**	**288**	*e*	**S**	**16 16 05.3**	**-1.0**
KOD	**Kodaikanal**	**16.50**	**294**	*e*P	**P**	**16 13 05.5**	**-1.7**
KOD				*e*		16 13 12.9	
	comp=Z,74nm,1.4s						
VIS	**Vishakhapatnam**	**16.81**	**328**	⇓*e*P	**P**	**16 13 08.3**	**-2.7**
VIS				*e*P		16 13 08.6	
VIS				*e*		16 13 15.2	
	comp=Z,89nm,1.3s						
VIS				*e*		16 16 02.0	
CHRT	**Chiangrai**	**17.63**	**23**	⇓P	**P**	**16 13 21.5**	**+0.2**
BWNR	**Bhubaneshwar**	**17.95**	**339**	⇓*e*P	**P**	**16 13 24.1**	**-1.1**
BWNR				*e*		16 13 32.5	
	comp=Z,122nm,0.6s						
BWNR				*e*		16 16 24.8	
CAL	**Calcutta**	**19.34**	**348**	*e*P	**P**	**16 13 39.0**	**-3.0**
CAL				*e*		16 17 25.0	
HYB	**Hyderabad**	**19.55**	**316**	⇓*e*P	**P**	**16 13 42.0**	**-2.4**
	comp=Z,70nm,1.0s						
HYB				*e*S	**S**	**16 17 05.0**	**-13**
HYB	**Hyderabad**	**19.55**	**316**	⇓*i*P	**P**	**16 13 42.0**	**-2.4**
	comp=Z,70nm,1.0s						
HYB				*e*		16 17 05.0	
HYB				*e*S	**S**	**16 17 18.5**	**+0.8**
MNGI	**Mangalore**	**19.98**	**299**	*i* P	**P**	**16 13 46.0**	**-3.1**
MNGI				*i*		16 17 17.4	
AGT	**Agartala**	**20.26**	**356**	⇑*i*	**P**	**16 13 41.0**	**-11**
AGT				*i*		16 15 41.0	
BLSP	**Bilaspur**	**21.12**	**332**	⇓*e*P	**P**	**16 14 00.6**	**-0.2**
BLSP				*e*		16 14 05.2	
	comp=Z,311nm,1.2s						
BLSP				*e*		16 17 40.9	
IMP	**Imphal**	**21.14**	**3**	⇑*i*P	**P**	**16 14 00.5**	**-0.5**
LATR	**Latur**	**21.62**	**314**	*e*P	**P**	**16 14 05.4**	**-0.5**
LATR				*e*		16 17 52.0	
SHL	**Shillong**	**21.90**	**358**	*e*P	**P**	**16 14 07.0**	**-1.6**
SHL				*e*P		16 14 07.6	
SHL				*e*		16 14 13.3	
	comp=Z,158nm,1.2s						
SHL				*e*S	**S**	**16 18 05.0**	**+1.1**
NGP	**Nagpur**	**21.96**	**324**	*e*P	**P**	**16 14 07.1**	**-2.1**
NGP				*e*		16 14 12.2	
	comp=Z,168nm,1.4s						
GOA	**Goa**	**22.04**	**304**	*e*	**S**	**16 18 15.0**	**+8.5**
KAD	**Karad**	**22.73**	**308**	⇓*e*P	**P**	**16 14 17.1**	**+0.1**
KAD				*e*		16 14 19.2	
	comp=Z,111nm,0.8s						
KAD				*e*S	**S**	**16 18 22.9**	**+3.8**
QIZ	**Qiongzhong**	**22.75**	**46**	P	**P**	**16 14 18.1**	**+0.9**
QIZ				S	**S**	**16 18 21.8**	**+2.3**
QIZ				AMB	AMB		
	comp=Z,114nm,4.7s						
QIZ				LR	LR		
	comp=N,2μm,17.3s,MS4.6						
QIZ				LR	LR		
	comp=E,691nm,16.5s,MS4.6						
QIZ				LR	LR		
	comp=Z,669nm,16.2s,MS4.2						
POO	**Poona**	**23.70**	**310**	*i*	**S**	**16 18 46.0**	**+10**
BHPL	**Bhopal**	**24.52**	**324**	*e*P	**P**	**16 14 36.0**	**+1.6**
BHPL				*e*		16 14 37.8	
	comp=Z,24nm,0.9s						
BHPL				*e*S	**S**	**16 18 49.1**	**-1.0**
JIRN	**Jiri**	**24.77**	**346**	*e*P	**P**	**16 14 37.7**	**+1.0**
	comp=Z,56nm,0.8s,mb5.1						
PKI	**Pulchoki**	**24.88**	**344**	*e*P	**P**	**16 14 38.2**	**+0.5**
	comp=Z,168nm,1.3s,mb5.4						
DMN	**Daman**	**25.00**	**344**	*e*P	**P**	**16 14 39.9**	**+1.0**
	comp=Z,53nm,0.8s,mb5.1						
KKN	**Kakani**	**25.12**	**344**	*e*P	**P**	**16 14 40.3**	**+0.3**
	comp=Z,141nm,1.2s,mb5.4						
GKN	**Gorkha**	**25.50**	**343**	*e*P	**P**	**16 14 44.2**	**+0.6**
	comp=Z,235nm,1.3s,mb5.6						
KOLN	**Koldanda**	**25.60**	**341**	*e*P	**P**	**16 14 45.3**	**+0.8**
	comp=Z,191nm,1.2s,mb5.5						
LSA	**Lhasa**	**26.05**	**357**	P	**P**	**16 14 50.4**	**+1.7**
LSA				AP	pP	16 15 01.3	+4.1
LSA				XP	sP	16 15 05.5	+4.5
LSA				PCP	PcP	16 18 15.5	-1.2
LSA				S	**S**	**16 19 15.0**	**-0.6**
LSA				XS		16 19 39.4	
LSA				SCP		16 21 52.1	
LSA				PCS		16 21 56.4	
LSA				LR	LR		
	comp=E,660nm,25.7s						
LSA				LR	LR		
	comp=Z,460nm,25.7s,MS3.9						
LSA	**Lhasa**	**26.05**	**357**	*e*P	**P**	**16 14 50.2**	**+1.6**
	comp=Z,41nm,0.8s,mb5.0						
PTH	**Pithoragarh**	**28.44**	**337**	*e*	**P**	**16 15 00.9**	**-10**
PTH				*e*		16 21 04.0	
NDI	**New Delhi**	**29.01**	**331**	*e*P	**P**	**16 15 15.0**	**-0.6**
NDI				*e*		16 18 24.5	
DDI	**Dehra Dun**	**30.01**	**334**	*e*	**P**	**16 15 25.2**	**+0.6**
ENH	**Enshi**	**30.96**	**29**	*e*P	**P**	**16 15 31.9**	**-1.0**
	comp=Z,8.9nm,0.6s,mb4.8						
SMLA	**Simla**	**31.09**	**334**	*e*P	**P**	**16 15 31.5**	**-2.6**
SMLA				*e*		16 15 50.4	
	comp=Z,53nm,0.9s						
WHN	**Wuhan**	**33.75**	**35**	*e*P	**P**	**16 15 58.5**	**+1.2**
XAN	**Xi'an**	**33.89**	**25**	P	**P**	**16 15 57.9**	**-0.6**
XAN				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.9						
LZH	**Lanzhou**	**33.97**	**16**	*e*P	**P**	**16 16 00.5**	**+1.3**
LZH				PP	PP	16 17 15.6	+2.4
LZH				*e*S	**S**	**16 21 25.4**	**+4.2**
LZH				SS	SS	16 23 33.6	+4.4
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,149nm,5.7s						
LZH				LR	LR		
	comp=E,2μm,12.8s						
LZH				LR	LR		
	comp=Z,2μm,16.9s,MS4.9						
NJ2	**Nanjing**	**37.51**	**38**	*e*P	**P**	**16 16 28.9**	**-0.3**
NJ2				S	**S**	**16 22 13.0**	**-2.8**
NJ2				AMB	AMB		
	comp=Z,510nm,5.2s						
NJ2				LR	LR		
	comp=N,1μm,11.8s,MS5.1						
NJ2				LR	LR		
	comp=E,1μm,12.2s,MS5.1						
NJ2				LR	LR		
	comp=Z,2μm,12.6s,MS5.0						
SSE	**Sheshan**	**38.36**	**41**	P	**P**	**16 16 39.3**	**+3.0**
SSE				S	**S**	**16 22 28.8**	**+0.1**
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,125nm,5.0s						
SSE				LR	LR		
	comp=N,497nm,19.4s,MS4.3						
SSE				LR	LR		
	comp=E,131nm,19.4s,MS4.3						
SSE				LR	LR		
	comp=Z,312nm,19.1s,MS4.1						
FITZ	**Fitzroy Crossi**	**38.95**	**125**	*e*P	**P**	**16 16 40.8**	**-0.6**
	comp=Z,16nm,0.9s,mb4.8						
WMQ	**Urumqi**	**40.34**	**354**	P	**P**	**16 16 53.6**	**+0.9**
WMQ				PP	PP	16 18 30.6	+1.6
WMQ				S	**S**	**16 23 01.2**	**+2.8**
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,46nm,5.0s						
WMQ				LR	LR		
	comp=N,855nm,19.7s,MS4.7						
WMQ				LR	LR		
	comp=E,841nm,20.4s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,20.5s,MS4.7						
KZA	**Kyzart**	**41.41**	**340**	P	**P**	**16 17 03.0**	**+1.6**
	SNR=6.7						
UCH	**Uchtor**	**41.80**	**340**	P	**P**	**16 17 06.0**	**+1.3**
	SNR=20						
AML	**Almayashu**	**42.00**	**339**	P	**P**	**16 17 07.3**	**+0.9**
	SNR=26						
KBK	**Karagaybulak**	**42.03**	**340**	P	**P**	**16 17 08.0**	**+1.4**
	SNR=17						
TKM2	**Tokmak 2**	**42.05**	**341**	P	**P**	**16 17 07.6**	**+0.9**
	SNR=6.3						
BJT	**Baijiatuau**	**42.06**	**27**	*e*P	**P**	**16 17 08.5**	**+1.7**
	comp=Z,14nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**42.16**	**340**	P	**P**	**16 17 09.0**	**+1.3**
	SNR=8.1						
AAK	**Ala-Archa**	**42.16**	**340**	⇓*e*P	**P**	**16 17 06.8**	**-0.8**
AAK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.4						
AAK	**Ala-Archa**	**42.16**	**340**	*e*P	**P**	**16 17 07.8**	**+0.1**
	comp=Z,5.4nm,0.8s,mb4.2						
FRU	**Bishkek**	**42.30**	**340**	*e*P	**P**	**16 17 09.0**	**+0.3**
FRU				*e*		16 17 23.0	
EKS2	**Erkin-Say**	**42.44**	**339**	P	**P**	**16 17 10.9**	**+1.0**
	SNR=19						
USP	**Ospenovka**	**42.72**	**340**	P	**P**	**16 17 12.7**	**+0.5**
	SNR=27						
NWAO	**Narrogin (SRO)**	**43.09**	**149**	P	**P**	**16 17 15.2**	**-0.1**
	comp=Z,5.3nm,1.1s,mb4.2,baz=345,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**44.01**	**350**	*i* P	**P**	**16 17 22.7**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,15nm,0.7s						
SONM	**Songino Array**	**45.67**	**13**	P	**P**	**16 17 36.8**	**+1.0**
	comp=Z,3.8nm,0.7s,mb4.4,baz=195,slow=8.6,SNR=35						
WRA	**Warramunga Arr**	**47.09**	**121**	P	**P**	**16 17 47.3**	**-0.2**
	comp=Z,3.9nm,0.6s,mb4.5,baz=297,slow=9.0,SNR=19						
WRA				pP	pP	16 17 55.8	-0.5
	comp=Z,9.7nm,0.8s,baz=298,slow=8.9,SNR=18						
WRAB	**Tennant Creek**	**47.10**	**121**	⇑*e*P	pP	16 17 55.7	-0.7
WRAB	**Tennant Creek**	**47.10**	**121**	*e*P	**P**	**16 17 46.7**	**-0.8**
	comp=Z,6.9nm,0.7s,mb4.7						
WRAB				*e*	pP	16 17 56.1	-0.2
WB2	**Warramunga Arr**	**47.10**	**121**	*e*P	**P**	**16 17 47.3**	**-0.3**
ZAK	**Zakamensk**	**47.52**	**9**	⇑*i*P	**P**	**16 17 49.9**	**-0.5**
ASAR	**Alice Springs**	**48.40**	**126**	P	**P**	**16 17 57.4**	**-0.3**
	comp=Z,1.1nm,0.6s,mb4.1,baz=297,slow=7.9,SNR=8.2						
ASAR				pP	pP	16 18 06.0	-0.6
	comp=Z,2.8nm,0.8s,baz=303,slow=6.8,SNR=10						
MOY	**Mondy**	**48.45**	**7**	*e*P	**P**	**16 17 58.6**	**+0.9**
KURK	**Kurchatov**	**48.47**	**348**	*e*P	**P**	**16 17 57.1**	**-0.8**
	comp=Z,34nm,1.1s,mb5.3						
TLY	**Talaya**	**48.83**	**9**	*e*P	**P**	**16 18 02.0**	**+1.4**
	comp=Z,4.1nm,0.8s,mb4.5						
RAYN	**Ar Rayn**	**49.69**	**298**	P	**P**	**16 18 08.3**	**+0.7**
	comp=Z,105nm,0.9s,mb5.9,SNR=12						
ZAL	**Zalesovo**	**50.64**	**354**	*i* P	**P**	**16 18 13.9**	**-0.5**
ZAL				pmax	pmax		
	comp=Z,12nm,0.5s						
ZAL	**Zalesovo**	**50.64**	**354**	P	**P**	**16 18 13.9**	**-0.5**
	comp=Z,12nm,0.5s,mb5.1,baz=300,slow=6.2,SNR=64						
ZAL				LR	LR	16 42 24.6	
	comp=Z,314nm,18.8s,MS4.3,baz=305,slow=39						
HIA	**Hailar**	**51.04**	**23**	*e*P	**P**	**16 18 17.4**	**-0.1**
	comp=Z,4.2nm,0.7s,mb4.5						
HIA				*e*		16 18 28.7	
NVS	**Novosibirsk**	**51.71**	**353**	*i* P	**P**	**16 18 21.0**	**-1.5**
NVS				*i* S	**S**	**16 25 41.1**	**+0.5**
NVS				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.1						
NVS				pmax	pmax		
	comp=E,6.0nm,0.8s						
NVS				pmax	pmax		
	comp=N,17nm,0.9s						
NVS				smax			
	comp=E,24nm,1.8s						
NVS				smax			
	comp=N,19nm,2.0s						
MDJ	**Mudanjiang**	**52.18**	**33**	P	**P**	**16 18 24.8**	**-1.5**
MDJ				PCP	PcP	16 19 36.0	-1.7
MDJ				PP	PP	16 20 22.6	-2.8
MDJ				SCP		16 23 32.5	
MDJ				PCS		16 23 34.5	
MDJ				S	**S**	**16 25 48.8**	**+1.5**
MDJ				AMB	AMB		
	comp=Z,17nm,2.5s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,289nm,4.0s						
MDJ				LR	LR		
	comp=N,83nm,19.0s,MS4.1						
MDJ				LR	LR		
	comp=E,167nm,21.4s,MS4.1						
MDJ				LR	LR		
	comp=Z,133nm,19.0s,MS4.0						
BVA0	**Borovoye Array**	**52.64**	**343**	P	**P**	**16 18 28.4**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BVAR	**Borovoye Array**	**52.64**	**343**	P	**P**	**16 18 28.6**	**-1.0**
	comp=Z,15nm,0.8s,mb5.0,baz=143,slow=7.4,SNR=101						
BRVK	**Borovoye**	**52.70**	**343**	*e*P	**P**	**16 18 28.2**	**-1.8**
	comp=Z,14nm,0.8s,mb5.0						
CHKZ	**Chkalovo**	**53.15**	**344**	P	**P**	**16 18 32.3**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
CHKZ	**Chkalovo**	**53.15**	**344**	*e*P	**P**	**16 18 32.0**	**-1.3**
	comp=Z,26nm,0.8s,mb5.2						
KMBO	**Kilima Mbogo**	**55.61**	**266**	*i* P	**P**	**16 18 52.1**	**+0.2**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KMBO	**Kilima Mbogo**	**55.61**	**266**	P	**P**	**16 18 51.1**	**-0.8**
	comp=Z,1.5nm,0.7s,mb4.1,baz=37,slow=23,SNR=5.2						
PMG	**Port Moresby**	**55.78**	**104**	P	**P**	**16 18 52.3**	**-0.7**
	comp=Z,7.5nm,0.7s,mb4.8,baz=67,slow=7.7,SNR=2.8						
KLR	**Kul'dur**	**56.32**	**30**	*e*P	**P**	**16 18 54.2**	**-2.3**
GNI	**Garni**	**56.50**	**317**	⇓*e*P	**P**	**16 18 57.9**	**0.0**
GNI				pmax	pmax		
	comp=Z,35nm,2.1s						
GNI	**Garni**	**56.50**	**317**	P	**P**	**16 18 58.5**	**+0.6**
	comp=Z,18nm,1.0s,mb5.1,baz=178,slow=11,SNR=6.9						
GNI	**Garni**	**56.50**	**317**	*e*P	**P**	**16 18 58.2**	**+0.3**
	comp=Z,18nm,1.1s,mb5.0						
BOD	**Bodaibo**	**56.66**	**13**	*e*P	**P**	**16 18 58.1**	**-0.7**
STKA	**Stephens Creek**	**58.27**	**131**	P	**P**	**16 19 10.9**	**+0.4**
	comp=Z,5.0nm,0.6s,mb4.8,baz=293,slow=12,SNR=3.6						
STKA				pP	pP	16 19 18.9	-0.6
	comp=Z,7.5nm,0.8s,baz=294,slow=6.6,SNR=4.6						
ZEI	**Tsey**	**58.28**	**319**	*e*P	**P**	**16 19 10.4**	**0.0**
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
SVE	**Sverdlovsk**	**58.91**	**340**	⇑*e*P	**P**	**16 19 13.9**	**-0.7**
ARU	**Arti**	**59.33**	**339**	⇓*i*P	**P**	**16 19 11.0**	**-6.5**
ARU				*e*S	**S**	**16 27 11.6**	**-11**
ARU				*e*SS	SS	16 31 08.1	-11
ARU				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
ASF	**Jabal al Asfar**	**59.44**

IDI	Anoyia	69.89	306	P	P	16 20 27.1	+0.6
	comp=Z,9.1nm,0.6s,mb4.9,baz=93,slow=9.7,SNR=12						
AKASG	Malin Array Be	70.67	323	P	P	16 20 29.7	-1.2
	comp=Z,10nm,0.8s,mb4.8,baz=92,slow=4.4,SNR=23						
TIXI	Tiksi	71.72	11⇓	*i*P	P	16 20 36.7	-0.3
TIXI				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.1						
TIXI	Tiksi	71.72	11⇑	*e*P	P	16 20 36.4	-0.6
BOSA	Boshof	72.10	239	*e*P	P	16 20 40.5	+0.6
	comp=Z,2.0nm,0.8s,mb4.1						
BURAR	Bucovina Array	72.30	319	⇓P	P	16 20 43.1	+2.3
PET	Petropavlovsk	72.86	35	*e*P	pP	16 20 51.9	-1.2
PET				pmax	pmax		
	comp=Z,100nm,10.2s						
PET				MLR	MLR		
	comp=E,200nm,12.0s,MS5.0						
PET				MLR	MLR		
	comp=N,500nm,14.0s,MS5.0						
PET				MLR	MLR		
	comp=Z,400nm,15.0s,MS4.8						
MAW	Mawson	74.04	191	LR	LR	16 45 20.1	
	comp=Z,145nm,19.7s,MS4.3,baz=237,slow=29						
KWP	Kalwaria	74.40	321	*e*P	P	16 20 52.9	-0.1
KOLS	Kolonicke sedl	74.53	320	*i*P	P	16 20 54.8	+1.1
KOLS				*e*		16 21 01.6	
SUW	Suwalki	75.18	325	*e*P	P	16 20 56.8	-0.6
FINES	FINESS Array B	75.86	333	*i*P	P	16 21 00.1	-1.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	FINESS Array B	75.86	333	P	P	16 21 00.5	-0.7
	comp=Z,2.4nm,0.7s,mb4.3,baz=117,slow=8.5,SNR=6.7						
FINES				LR	LR	16 57 09.7	
	comp=Z,238nm,18.9s,MS4.5,baz=292,slow=38						
OJC	Ojcow	76.36	321	*e*P	P	16 21 04.5	+0.3
PKSM	Moragy	76.42	317	⇑P	P	16 21 04.5	-0.1
VYHS	Vyhne	76.67	319	*e*P	P	16 21 06.1	+0.2
OKC	Ostrava-Krasne	77.34	320	*e*P	P	16 21 10.6	+1.0
OKC				*e*pP	pP	16 21 20.1	+1.2
MORC	Moravsky Berou	77.72	320	*e*P	P	16 21 11.3	-0.4
	comp=Z,4.9nm,0.8s,mb4.5						
ZST	Bratislava	77.77	318	*e*P	P	16 21 13.0	+1.0
DPC	Dobruska-Polom	78.58	321	*e*P	P	16 21 17.7	+1.3
DPC				*e*pP	pP	16 21 26.2	+0.5
KSP	Ksiaz	78.67	321	*e*P	P	16 21 18.0	+1.1
KSP	Ksiaz	78.67	321	*e*P	P	16 21 18.2	+1.3
UPC	Upice	78.80	321	*e*P	P	16 21 18.9	+1.3
UPC				*e*pP	pP	16 21 27.3	+0.4
ARCES	ARCESS Array B	78.83	341	P	P	16 21 17.6	+0.1
	comp=Z,2.7nm,0.8s,mb4.2,baz=101,slow=4.6,SNR=4.0						
PRU	Pruhonice	79.67	320	*e*P	P	16 21 23.2	+0.8
PRU				*e*pP	pP	16 21 31.6	0.0
PVCC	Panska Ves	79.72	321	*e*P	P	16 21 23.9	+1.3
GERES	GERESS Array B	80.09	319	P	P	16 21 25.5	+0.9
	comp=Z,10nm,0.8s,mb4.8,baz=104,slow=5.5,SNR=59						
BRG	Berggiesshubel	80.16	321	*e*P	P	16 21 26.1	+1.2
BRG				*e*	pP	16 21 35.2	+1.0
BRG				pmax	pmax		
	comp=Z,68nm,1.9s,mb5.2						
BRG	Berggiesshubel	80.16	321	*e*P	P	16 21 26.1	+1.2
	comp=Z,68nm,1.9s,mb5.2						
BRG				*e*	pP	16 21 35.2	+1.0
KHC	Kasperske Hory	80.20	319	*e*P	P	16 21 25.7	+0.5
KHC				*e*pP	pP	16 21 36.3	+1.8
BILL	Bilibino	80.61	21⇑	*e*P	P	16 21 27.4	+0.4
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
BILL	Bilibino	80.61	21⇑	*e*P	P	16 21 28.2	+1.2
CLL	Collm	80.79	321	*i*P	P	16 21 28.2	-0.1
CLL	Collm	80.79	321	P	P	16 21 28.2	-0.1
SYO	Syowa Base	80.88	197	⇑P	P	16 21 28.1	-0.3
GRA1	Grafenberg Arr	81.78	320	*e*P	P	16 21 34.9	+1.4
	comp=Z,27nm,1.6s,mb4.9						
GRF	Grafenberg Arr	81.78	320	*e*P	P	16 21 34.9	+1.4
GRF				pmax	pmax		
	comp=Z,27nm,1.6s,mb4.9						
GRF	Grafenberg Arr	81.78	320	*e*P	P	16 21 34.9	+1.4
	comp=Z,27nm,1.6s,mb4.9						
NB2	NORSAR Subarra	82.78	331	P	P	16 21 38.0	-0.4
	comp=Z,3.5nm,0.9s,mb4.4,baz=96,slow=5.6						
NOA	NORSAR Array B	82.78	331	P	P	16 21 38.5	+0.1
	comp=Z,1.0nm,0.7s,mb3.9,baz=107,slow=7.8,SNR=3.7						
NOA				LR	LR	17 01 23.3	
	comp=Z,184nm,19.7s,MS4.5,baz=310,slow=38						
NOA	NORSAR Array B	82.78	331	P	P	16 21 38.5	+0.1
NOA				LR	LR	17 01 23.2	
VNDA	Vanda	89.02	168	LR	LR	16 56 13.9	
	comp=Z,182nm,18.3s,MS4.5,baz=254,slow=32						
DBIC	Dimbokro	97.08	277	LR	LR	17 05 57.5	
	comp=Z,157nm,21.3s,MS4.5,baz=161,slow=35						
PDAR	Pinedale Array	129.69	21	PKP	PKPdf	16 28 25.6	-2.3
	comp=Z,0.6nm,0.9s,SNR=4.7						
TXAR	Lajitas Array	143.73	25	PKP	PKPdf	16 28 49.0	-4.8
	comp=Z,1.4nm,1.1s,baz=180,slow=0.9,SNR=3.3						

NIED ***19*** *16:11:00, 37.40N×139.00E, h17km, Mw3.4 Best double couple: M₀1.5×10¹⁴ NP1:φs74°, δ80°, λ-153°. NP2:φs339°, δ63°, λ-11°.*
JMA ***19*** *16:11:30.5, 37.38N×138.96E, h13km±1km, M3.6 Broadband fault plane solution: P waves. NP1:φs58°, δ24°, λ133°. NP2:φs193°, δ73°, λ73°. Principal axes: T Plg59°, Azm79°; N Plg16°, Azm198°; P Plg26°, Azm296°;*
JMA Felt II J1.

ISC 19 16:11:30.2±0.5, 37.39N±0.03×138.94E±0.04, h13km, n11, σ0§61/21, 3C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	Hiroka	0.15	155	⇓P	Pg	16 11 33.9	-0.1
JHK				S	Sg	16 11 36.3	-0.2
JIZZ	Izumozaki	0.23	309	⇓P	Pg	16 11 36.1	+0.7
JIZZ				S	Sg	16 11 40.6	+1.8
JNS	Sasagawa	0.53	35	⇑P	Pb	16 11 40.4	-0.3
JNS				S	Sb	16 11 47.7	-0.3
JFY	Yanaizu	0.61	88	⇑P	Pb	16 11 42.0	-0.2
JFY				S	Sb	16 11 50.1	-0.3
JKT	Katashina	0.67	158	⇓P	Pb	16 11 42.9	-0.2
JKT				S	Sb	16 11 51.8	-0.2
JSD	Sado	0.84	321	⇓P	Pb	16 11 45.3	-0.9
JSD				S	Sb	16 11 56.3	-0.8
MAT	Matsushiro	1.02	215	P	Pb	16 11 48.8	-0.5
MAT				S	Sb	16 12 02.2	-0.2
MAT	Matsushiro	1.02	215	P	Pb	16 11 48.8	-0.5
MAT				S	Sb	16 12 02.1	-0.3
JAG	Ashikaga	1.04	157	P	Pb	16 11 49.9	+0.3
JAG				S	Sb	16 12 03.6	+0.6
JAW	Awa shima	1.10	13	P	Pb	16 11 50.3	-0.2
JFT	Otama	1.12	83	⇑P	Pb	16 11 51.0	+0.1
JFT				S	Sb	16 12 06.2	+1.0

BJI ***19*** *16:24:24.3, 16.10S×176.10W, h346km, mB4.8, mb4.4*
NEIC ***19*** *16:24:24.3±0.9, 16.09S×176.11W, h346km±9km, mb4.6/20, Error ellipse: s-maj=11.4km s-min=5.4km az=143.0*
IDC ***19*** *16:24:28.9±2.2, 16.17S×176.14W, h391km±22km, mb4.1/20, mb1 4.2/20, mb1mx4.2/22, mbtmp4.8/20, Error ellipse: s-maj=17.3km s-min=9.2km az=143.0*

ISC 19 16:24:23.8±1.0, 16.12S±0.08×176.17W±0.07, h353km±10km, n129, σ0§90/71, mb4.6/39, 3C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.78	63	*e*P	P	16 25 40.9	-0.8
DZM	Mont Dzumac	17.46	247	*e*P	P	16 28 05.8	-0.8
DZM	Mont Dzumac	17.46	247	*e*P	P	16 28 05.8	-0.8
NOUC	Port Laguerre	17.60	248	*e*P	P	16 28 08.4	+0.5
NOUC	Port Laguerre	17.60	248	*e*P	P	16 28 08.4	+0.5
URZ	Urewera	22.84	194	P	P	16 28 56.1	-2.7
	36nm,0.8s,mb4.7,baz=37,slow=2.8,SNR=20						
RPZ	Rata Peaks	29.58	199	P	P	16 29 57.6	-1.6
	8.7nm,0.6s,mb4.2,baz=351,slow=6.5,SNR=7.3						
CTA	Charters Tower	35.89	258	P	P	16 30 53.3	+0.1
	6.8nm,0.5s,mb4.1,baz=100,slow=10,SNR=16						
CTAO	Charters Tower	35.89	258	*e*P	P	16 30 53.4	+0.2
	8.1nm,0.6s,mb4.1						
CNB	Canberra Magne	36.21	232	⇓*i*P	P	16 30 56.5	+0.7
	255nm,0.8s,mb5.5						
PMG	Port Moresby	36.34	276	P	P	16 30 58.8	+1.8
	33nm,0.8s,mb4.6,baz=58,slow=4.5,SNR=5.8						
PMG	Port Moresby	36.34	276	*e*P	P	16 30 58.9	+1.9
TOO	Toolangi	39.96	230	*e*P	P	16 31 27.4	+0.8
	28nm,0.7s,mb4.6						
STKA	Stephens Creek	41.38	240	⇓*i*P	P	16 31 38.8	+0.6
	5.6nm,0.5s,mb4.0						
STKA	Stephens Creek	41.38	240	P	P	16 31 38.9	+0.7
	8.6nm,0.6s,mb4.2,baz=90,slow=10.0,SNR=26						
WB2	Warramunga Arr	47.08	258	⇓*i*P	P	16 32 23.1	-0.3
WRAB	Tennant Creek	47.08	258	*e*P	P	16 32 23.1	-0.3
	30nm,0.6s,mb4.7						
WRA	Warramunga Arr	47.09	258	P	P	16 32 23.7	+0.2
	27nm,0.8s,mb4.5,baz=91,slow=7.1,SNR=354						
WRA				S	S	16 38 45.5	-2.5
	0.9nm,0.9s,baz=92,slow=14,SNR=4.9						
ASAR	Alice Springs	47.36	253	P	P	16 32 25.7	+0.2
	42nm,0.4s,mb5.0,baz=88,slow=7.8,SNR=1321						
ASAR				S	S	16 38 49.8	-1.9
	1.7nm,1.0s,baz=87,slow=16,SNR=4.8						
ASPA	Alice Springs	47.36	253	⇓*i*P	P	16 32 25.7	+0.1
ASPA				eS	S	16 38 51.1	-0.6
KAKA	Kakadu	49.79	267	⇑*i*P	P	16 32 44.5	+0.4
	69nm,0.4s,mb5.2						
FORT	Forrest	52.72	243	⇓*i*P	P	16 33 04.7	-0.8
	145nm,0.6s,mb5.5						
FITZ	Fitzroy Crossi	55.46	259	*e*P	P	16 33 26.1	+0.8
	32nm,0.6s,mb4.8						
MBWA	Marble Bar	60.60	255	*e*P	P	16 33 59.9	-0.6
	13nm,0.8s,mb4.4						
KLBR	Kellerberrin	61.55	243	⇓*i*P	P	16 34 06.1	-0.5
	357nm,0.7s						
NWAO	Narrogin (SRO)	61.95	241	P	P	16 34 09.1	-0.1
	11nm,0.8s,mb4.4,baz=112,slow=6.2,SNR=7.3						
NWAO	Narrogin (SRO)	61.95	241	*e*P	P	16 34 09.1	-0.1
SBA	Scott Base	62.34	184	*e*P	P	16 34 13.0	+1.8
	12nm,0.8s,mb4.5						
VNDA	Vanda	62.41	185	P	P	16 34 12.2	+0.5
	5.1nm,1.1s,mb4.0,baz=35,slow=5.1,SNR=9.8						
MAJO	Matsushiro	67.80	322	*e*P	P	16 34 45.9	-0.4
FX1	Attu Island--F	69.33	353	P	P	16 34 54.2	-1.1
	28nm,0.7s,mb5.1,baz=209,slow=10,SNR=5.7						
ASAJ	Asahikawa	70.78	330	P	P	16 35 04.9	+0.6
	16nm,0.8s,mb4.8,baz=204,slow=3.0,SNR=10						
YSS	Yuzh-Sakhalins	72.82	332	*e*P	P	16 35 16.5	+0.2
	31nm,1.0s,mb5.0						
QSPA	South Pole Qui	73.93	180	⇓*i*P	P	16 35 23.2	+1.1
	6.4nm,0.7s,mb4.5						
NVAR	Mina Array Bea	76.65	43	P	P	16 35 38.1	-0.1
	5.4nm,0.9s,mb4.3,baz=218,slow=7.5,SNR=26						
MDJ	Mudanjiang	77.99	324	P	P	16 35 47.8	+2.5
MDJ				AMB	AMB		
	comp=Z,258nm,3.9s						
TUC	Tucson	78.91	52	*e*P	P	16 35 50.6	+0.1
	comp=Z,5.7nm,1.1s,mb4.2						
BMO	Blue Mountains	80.81	38	*e*P	P	16 35 59.4	-0.8
	comp=Z,8.6nm,1.0s,mb4.4						
MSU	Marysvale	80.81	46	*e*P	P	16 35 59.8	-0.6
TMUT	Trail Mountain	81.85	45	*e*P	P	16 36 06.6	+0.8
HLID	Hailey	81.88	40	*e*P	P	16 36 06.2	+0.5
	comp=Z,13nm,1.1s,mb4.7						
SRU	San Rafael	82.23	46	*e*P	P	16 36 07.6	-0.1
TCUT	Toone Canyon	82.59	44	*e*P	P	16 36 10.0	+0.5
MNTX	Cornudas Mount	82.80	54	*e*P	P	16 36 11.1	+0.4
	comp=Z,2.5nm,0.5s,mb4.3						
PV01	Paradox Valley	83.15	47	*e*P	P	16 36 12.4	+0.1
TXAR	Lajitas Array	83.23	57	P	P	16 36 14.1	+1.2
	comp=Z,2.4nm,0.8s,mb4.1,baz=225,slow=5.3,SNR=14						
TXAR	Lajitas Array	83.23	57	P	P	16 36 14.1	+1.2
MCMT	McKenzie Canyo	83.49	40	*e*P	P	16 36 14.4	+0.5
COLA	College	83.58	12	*e*P	P	16 36 12.4	-1.5
	comp=Z,34nm,0.7s,mb5.3						
IMA	Indian Mountai	83.66	9	*e*P	P	16 36 14.4	+0.1
ILAR	Eielson Array	83.68	12	P	P	16 36 13.4	-0.9
	comp=Z,10nm,0.7s,mb4.8,baz=225,slow=5.4,SNR=187						
GDL2	Guadalupe Moun	83.79	54	*e*P	P	16 36 16.3	+0.6
QLMT	Earthquake Lak	84.37	40	*e*P	P	16 36 19.2	+0.9
PDAR	Pinedale Array	84.58	43	P	P	16 36 19.1	-0.3
	comp=Z,3.2nm,0.7s,mb4.2,baz=216,slow=3.4,SNR=29						
DAWY	Dawson	84.79	15	*e*P	P	16 36 19.5	-0.4
BILL	Bilibino	84.89	353	*e*P	P	16 36 19.8	-0.5
	comp=Z,23nm,0.8s,mb5.1						
MAW	Mawson	86.26	199	P	P	16 36 25.6	-1.3
	comp=Z,3.6nm,0.8s,mb4.2,baz=18,slow=6.6,SNR=3.4						
EDM	Edmonton	87.50	32	*e*P	P	16 36 32.5	-0.7
YAK	Yakutsk	88.73	338	*e*P	P	16 36 37.1	-1.7
	comp=Z,18nm,0.8s,mb4.9						
INK	Inuvik	89.61	15	P	P	16 36 41.8	-0.9
	comp=Z,1.7nm,0.6s,mb4.1,baz=197,slow=5.7,SNR=7.0						
INK	Inuvik	89.61	15	*e*P	P	16 36 41.6	-1.1
	comp=Z,1.7nm,0.6s,mb4.2						
CMAR	Chiang Mai Arr	90.32	289	P	P	16 36 49.3	+2.1
	comp=Z,2.4nm,0.9s,mb4.1,baz=99,slow=2.4,SNR=16						
SYO	Syowa Base	91.36	192	⇓P	P	16 36 51.1	+0.3
LZH	Lanzhou	91.52	307	⇓⇑P	P	16 36 52.9	+0.6
LZH				AP	pP	16 38 15.0	-0.5
LZH				XP	sP	16 38 50.9	-0.3
LZH				PP	PP	16 40 39.4	+1.5
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,97nm,5.8s						
YKA	Yellowknife Ar	91.82	24	P	P	16 36 52.7	-0.4
	comp=Z,1.1nm,0.8s,mb3.8,baz=244,slow=4.5,SNR=14						
YKA	Yellowknife Ar	91.82	24	P	P	16 36 52.7	-0.4
ULN	Ulaanbaatar	93.21	319	*e*P	P	16 37 00.2	+0.4
	comp=Z,3.1nm,0.9s,mb4.3						
SONM	Songino Array	93.61	319	P	P	16 37 02.0	+0.3
	comp=Z,1.2nm,0.6s,mb4.1,baz=138,slow=5.5,SNR=8.9						
SONM				PP	PP	16 40 57.9	+3.7
	comp=Z,0.7nm,1.0s,baz=108,slow=7.8,SNR=3.7						
ZAL	Zalesovo	108.16	322	PP	PP	16 42 46.1	+3.1
	comp=Z,0.5nm,0.3s,baz=127,slow=15,SNR=3.6						
KURK	Kurchatov	111.92	319	*e*PKPdf	PKPdf	16 42 17.3	+0.2
BVAR	Borovoye Array	116.80	322	PKP	PKPdf	16 42 27.0	+0.4
	comp=Z,4.9nm,1.0s,SNR=14						
ARCES	ARCESS Array B	124.92	351	PKP	PKPdf	16 42 42.4	+0.5
	comp=Z,1.8nm,0.5s,baz=11,slow=1.4,SNR=25						
FINES	FINESS Array B	132.02	346	PKhKP		16 42 47.2	
	comp=Z,5.7nm,1.2s,baz=90,slow=3.8,SNR=4.2						
FINES				PKP	PKPdf	16 42 57.0	+1.5
	comp=Z,2.6nm,0.7s,baz=38,slow=3.4,SNR=13						
AKASG	Malin Array Be	139.92	335	PKhKP		16 43 06.5	
	comp=Z,1.2nm,0.6s,baz=41,slow=4.4,SNR=6.1						
AKASG				PKP	PKPdf	16 43 11.5	+1.2
	comp=Z,0.7nm,0.5s,baz=24,slow=2.7,SNR=6.2						
KMBO	Kilima Mbogo	142.82	246	PKP	PKPdf	16 43 16.1	-0.5
	comp=Z,1.5nm,0.8s,baz=45,slow=23,SNR=5.8						
KWP	Kalwaria	143.22	339	*e*PKPdf	PKPdf	16 43 14.7	-1.5
OJC	Ojcow	143.62	343	*e*PKP	PKPdf	16 43 16.0	-0.8
KOLS	Kolonicke sedl	143.97	339	*e*PKP	PKPdf	16 43 17.4	0.0
KOLS				*e*		16 43 34.8	
CLL	Collm	144.13	350	⇑*i*PKIKP	PKPdf	16 43 17.3	-0.4
	comp=Z,logA/T=1.4						
NIE	Niedzica	144.18	342	*e*PKP	PKPdf	16 43 18.4	+0.6
CRVS	Cervenica-Dubn	144.27	340	*e*PKP	PKPdf	16 43 19.0	+1.0
UPC	Upice	144.32	347	*e*PKP	PKPdf	16 43 18.7	+0.7
DPC	Dobruska-Polom	144.39	346	*e*PKP	PKPdf	16 43 19.3	+1.1
OKC	Ostrava-Krasne	144.42	344	*e*PKP	PKPdf	16 43 18.7	+0.5
PVCC	Panska Ves	144.60	348	*e*PKP	PKPdf	16 43 19.5	+1.0
MORC	Moravsky Berou	144.63	345	*e*PKPdf	PKPdf	16 43 19.3	+0.7
KECS	Kecovo	144.95	341	*i*PKP	PKPdf	16 43 20.6	+1.4
BRTR	Keskin Array B	144.97	318	PKPbc	PKPbc	16 43 21.2	+1.2
	comp=Z,17nm,0.9s,baz=111,slow=2.7,SNR=97						
MOX	Moxa	144.99	351	*i*P	PKPdf	16 43 20.3	+1.1
	comp=Z,logA/T=1.5						
PRU	Pruhonice	145.12	348	*e*PKP	PKPdf	16 43 21.4	+2.0
NKC	Novy Kostel	145.26	350	*e*PKP	PKPdf	16 43 21.5	+1.8
VYHS	Vyhne	145.44	342	*i*PKP	PKPdf	16 43 22.3	+2.2
PSZ	Piszkesteto	145.63	341	*e*PKPdf	PKPdf	16 43 22.3	+1.9
SMOL	Smolenice	145.82	344	*e*PKP	PKPdf	16 43 24.0	+3.3
ASF	Jabal Asfar	146.03	304	PKPbc	PKPbc	16 43 24.7	+1.8
	comp=Z,3.5nm,0.8s,baz=186,slow=2.7,SNR=3.8						
GIVF	Givet	146.09	359	*e*PKP1	PKPbc	16 43 23.9	+1.4
KHC	Kasperske Hory	146.13	348	*e*PKP	PKPdf	16 43 23.0	+1.8
BAIF	Baives	146.14	360	*e*PKP1	PKPbc	16 43 24.2	+1.6
	comp=Z,22nm,0.7s						
ZST	Bratislava	146.20	344	*e*PKP	PKPdf	16 43 24.9	+3.6
GERES	GERESS Array B	146.38	348	PKPbc	PKPbc	16 43 24.7	+1.5
	comp=Z,3.1nm,0.6s,baz=18,slow=3.1,SNR=21						
FLN	La Foliniere	147.25	5	*e*PKP1	PKPdf	16 43 26.7	+3.7
	comp=Z,30nm,0.7s						
ROSF	Rostrenen	147.34	9	*e*PKP1	PKPdf	16 43 26.8	+3.6
LDF	La Druitiere	147.45	5	*e*PKP1	PKPdf	16 43 27.3	+4.0
	comp=Z,17nm,0.7s						
SGMF	Saint Gilles	147.52	8	*e*PKP1	PKPdf	16 43 27.4	+4.0
	comp=Z,48nm,0.8s						
GRR	Gorron	147.59	6	*e*PKP1	PKPdf	16 43 27.9	+4.4
	comp=Z,31nm,0.6s						
CDF	Champ du Feu	147.67	356	*e*PKP1	PKPdf	16 43 28.4	+4.7
	comp=Z,21nm,0.8s						
MEZF	Maizieres J'vi	147.69	358	*e*PKP1	PKPdf	16 43 28.4	+4.7
QUIF	Quistinic	147.77	9	*e*PKP1	PKPdf	16 43 27.0	+3.2
	comp=Z,167nm,1.5s						
HAU	Haudompre	148.13	357	*e*PKP1	PKPdf	16 43 29.5	+5.1
HINF	Hinteralfeld	148.29	356	*e*PKP1	PKPdf	16 43 29.7	+5.0
	comp=Z,8.1nm,0.7s						
LEGS	Legarje	148.74	344	*i*P	PKPdf	16 43 30.9	+5.4
JAVS	Javornik	149.10	346	*i*P	PKPdf	16 43 31.6	+5.6
SSF	Saint Saulge	149.14	0	*e*PKP1	PKPdf	16 43 32.2	+6.1
	comp=Z,74nm,1.3s						
AVF	Avril sur Loir	149.41	1	*e*PKP1	PKPdf	16 43 32.4	+5.9
	comp=Z,14nm,0.8s						
MFF	Saint Martin d	149.42	5	*e*PKP1	PKPdf	16 43 33.0	+6.4
CABF	La Chapelle	149.54	357	*e*PKP1	PKPdf	16 43 33.7	+7.0
	comp=Z,46nm,0.9s						
SMF	Signal de Mont	149.56	360	*e*PKP1	PKPdf	16 43 33.0	+6.2
BGF	Bois d'Agland	149.64	1	*e*PKP1	PKPdf	16 43 33.3	+6.4
	comp=Z,12nm,0.5s						
TCF	Toulx Ste Croi	149.89	2	*e*PKP1	PKPdf	16 43 33.7	+6.4
LPL	La Plagne	150.59	356	*e*PKP1	PKPdf	16 43 36.7	+8.3
	comp=Z,22nm,0.8s						
LPG	La Plagne	150.61	356	*e*PKP1	PKPdf	16 43 36.8	+8.4
	comp=Z,21nm,0.8s						
ORIF	Oris-en-Rattie	151.24	357	*e*PKP1	PKPdf	16 43 38.2	+8.8
CAF	Calviac	151.24	3	*e*PKP1	PKPdf	16 43 37.3	+7.9
	comp=Z,18nm,0.8s						
VIVF	Saint-Julien-l	151.34	359	*e*PKP1	PKPdf	16 43 37.7	+8.2
	comp=Z,14nm,0.8s						
MBDF	Montbardon	151.37	356	*e*PKP1	PKPdf	16 43 37.9	+8.3
	comp=Z,25nm,0.8s						
EPF	Esparros	153.01	6	*e*PKP1	PKPdf	16 43 43.7	+12
ETSF	Etsaut	153.04	7	*e*PKP1	PKPdf	16 43 43.0	+11
ESDC	Sonseca Array	155.56	15	PKPab	PKPab	16 44 04.9	-1.0
	comp=Z,0.3nm,0.3s,slow=4.4,SNR=4.7						
DBIC	Dimbokro	167.33	137	PKP	PKPdf	16 43 49.4	+0.9
	comp=Z,1.0nm,0.5s,baz=260,slow=4.6,SNR=2.4						

NIED ***19*** *16:25:00, 34.00N×141.50E, h11km, Mw4.2 Best double couple: M₀2.24×10¹⁵ NP1:φs233°, δ71°, λ-93°. NP2:φs61°, δ19°, λ-82°.*
IDC ***19*** *16:25:32.2±0.6, 33.98N×141.57E, mb4.1/17, mb1 4.3/19, mb1mx4.3/23, mbtmp4.1/19, ML4.1/2, Error ellipse: s-maj=18.6km s-min=13.7km az=132.0*
MOS ***19*** *16:25:35.4±1.5, 34.10N×141.65E, h33km, mb4.3/14, Error ellipse: s-maj=16.6km s-min=8.4km az=112.0*
JMA ***19*** *16:25:36.5±0.4, 34.03N×141.48E, h24km±3km, M4.1*
NEIC ***19*** *16:25:38.8±1.6, 33.94N×141.44E, h48km±13km, mb4.3/6, Error ellipse: s-maj=12.2km s-min=9.7km az=147.0*
BJI ***19*** *16:25:41.0, 34.19N×140.96E, h47km, mB4.9, mb4.3, Ms4.3, Msz4.2*

ISC 19 16:25:37.9±0.8, 33.99N±0.05×141.42E±0.06, h53km±6km, n83, σ0§99/91, mb4.2/29, MS4.1/2, 4C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.76	331	⇑P	P	16 25 50.7	-1.9
BSO1				S	S	16 25 59.8	-3.7
BSO3	Boso 3	1.11	317	P	P	16 25 57.0	-0.4
BSO4	Boso 4	1.34	318	P	P	16 26 01.0	+0.2
BSO4				S	S	16 26 18.1	+0.3
KTR	Katsuura	1.47	322	P	P	16 26 02.6	-0.1
KTR				S	S	16 26 22.1	+1.1
JHJ2	Mitsune	1.60	237	P	P	16 26 04.5	+0.1
JHJ	Hachijo jima 2	1.62	238	Pn	P	16 26 04.7	0.0
	178nm,0.3s,baz=208,slow=1.8,SNR=26						
JHJ				Sn	S	16 26 26.4	+1.8

ZAL Zalesovo 44.02 315 P P 16 33 42.0 +0.2
ZAL pmax pmax
comp=Z,1.0nm,0.5s
ZAL Zalesovo 44.02 315 P P 16 33 42.0 +0.2
comp=Z,0.8nm,0.5s,mb3.7,baz=28,slow=6.8,SNR=5.0
NVS Novosibirsk 44.99 316 *eP* **P 16 33 49.7 +0.2**
JIRN Jiri 47.37 278 *eP* **P 16 34 08.9 +0.2**
comp=Z,20nm,0.8s,mb5.1
KURK Kurchatov 47.86 310 *eP* **P 16 34 12.2 0.0**
KURK pmax pmax
comp=Z,11nm,0.9s,mb4.9
KURK Kurchatov 47.86 310 *eP* **P 16 34 12.2 0.0**
comp=Z,11nm,0.9s,mb4.9
PKI Pulchoki 48.05 278 *eP* **P 16 34 14.0 0.0**
KKN Kakani 48.07 279 *eP* **P 16 34 13.8 -0.4**
comp=Z,15nm,0.9s,mb5.0
DMN Daman 48.28 278 *eP* **P 16 34 15.8 0.0**
comp=Z,10.0nm,0.9s,mb4.9
GKN Gorkha 48.52 279 *eP* **P 16 34 17.1 -0.5**
comp=Z,26nm,1.0s,mb5.2
KOLN Koldanda 49.46 279 *eP* **P 16 34 24.6 -0.3**
comp=Z,11nm,0.9s,mb4.9
ILAR Eielson Array 52.08 31 P **P 16 34 42.8 -1.4**
ILAR pmax pmax
comp=Z,4.0nm,0.8s
ILAR Eielson Array 52.08 31 P **P 16 34 42.8 -1.4**
comp=Z,3.7nm,0.8s,mb4.4,baz=274,slow=6.8,SNR=33
BVAR Borovoye Array 52.66 314 P **P 16 34 49.0 +0.3**
comp=Z,0.6nm,0.4s,mb3.8,baz=100,slow=9.0,SNR=4.5
BRVK Borovoye 52.72 314 *eP* **P 16 34 48.5 -0.7**
WRA Warramunga Arr 54.05 188 P **P 16 34 57.8 -1.7**
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 54.05 188 P **P 16 34 57.8 -1.7**
comp=Z,2.5nm,0.8s,mb4.2,baz=5.5,slow=7.7,SNR=7.4
INK Inuvik 57.10 26 *eP* **P 16 35 19.1 -1.7**
INK pmax pmax
comp=Z,3.0nm,1.0s
INK Inuvik 57.10 26 P **P 16 35 19.6 -1.2**
comp=Z,2.4nm,0.9s,mb4.2,baz=287,slow=8.3,SNR=5.8
INK Inuvik 57.10 26 *eP* **P 16 35 19.1 -1.8**
comp=Z,2.9nm,1.0s,mb4.3
ASAR Alice Springs 57.78 188 P **P 16 35 25.9 -0.4**
comp=Z,1.9nm,1.1s,mb4.0,baz=2.6,slow=6.4,SNR=4.0
ARU Arti 58.66 320 *eP* **P 16 35 27.5 -4.4**
YKA Yellowknife Ar 66.44 29 P **P 16 36 22.2 -1.2**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 66.44 29 P **P 16 36 22.2 -1.2**
comp=Z,0.7nm,0.8s,mb3.8,baz=296,slow=6.3,SNR=14
FINES FINESS Array B 71.51 333 P **P 16 36 54.8 +0.2**
FINES pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 71.51 333 P **P 16 36 54.8 +0.3**
comp=Z,3.9nm,1.0s,mb4.3,baz=14,slow=7.9,SNR=4.8
BMO Blue Mountains 74.00 47 *eP* **P 16 37 09.9 +0.4**
HLID Hailey 76.45 46 *eP* **P 16 37 24.4 +0.8**
AKASG Malin Array Be 76.71 323 P **P 16 37 25.1 +0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 76.71 323 P **P 16 37 25.1 +0.2**
comp=Z,1.1nm,0.6s,mb4.0,baz=47,slow=5.8,SNR=7.5
NVAR Mina Array Bea 76.82 53 P **P 16 37 26.5 +0.8**
comp=Z,1.4nm,0.7s,mb4.0,baz=281,slow=7.6,SNR=7.2
NB2 NORSAR Subarra 77.00 338 P **P 16 37 26.6 +0.4**
comp=Z,0.8nm,0.6s,mb3.8,baz=41,slow=5.8
NOA NORSAR Array B 77.00 338 P **P 16 37 26.6 +0.4**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 77.00 338 P **P 16 37 26.6 +0.4**
comp=Z,1.6nm,0.8s,mb4.0,baz=40,slow=5.7,SNR=4.3
PDAR Pinedale Array 79.80 45 P **P 16 37 42.4 +0.3**
comp=Z,1.6nm,0.8s,mb4.0,baz=287,slow=1.7,SNR=9.1
BRTR Keskin Array B 80.88 312 P **P 16 37 50.0 +2.2**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 80.88 312 P **P 16 37 50.0 +2.2**
comp=Z,0.8nm,0.9s,mb3.6,baz=67,slow=2.1,SNR=6.0
SRU San Rafael 81.42 48 *eP* **P 16 37 50.8 +0.2**
PV10 Paradox Valley 82.78 48 *eP* **P 16 37 59.0 +1.4**
PV01 Paradox Valley 83.22 48 *eP* **P 16 38 00.9 +1.0**
RW3 Ridgway 83.70 48 *eP* **P 16 38 04.0 +1.7**
GERES GERESS Array B 85.30 328 P **P 16 38 10.9 +0.9**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 85.30 328 P **P 16 38 10.9 +0.8**
comp=Z,0.7nm,0.7s,mb3.9,baz=45,slow=1.9,SNR=5.0
SDCO Great Sand Dun 85.35 47 P **P 16 38 11.2 +0.6**
TXAR Lajitas Array 91.97 52 P **P 16 38 43.3 +1.0**
comp=Z,0.5nm,0.3s,mb4.3,baz=304,slow=3.3,SNR=4.2
QSPA South Pole Qui 123.74 180 *e*PKPdf PKPdf 16 44 29.9 +0.8
LPAZ La Paz 148.13 64 *e*PKPbc PKPdf 16 45 20.9 +5.9
comp=Z,3.7nm,0.9s,baz=311,slow=3.7,SNR=14
LPAZ La Paz 148.13 64 *e*PKPbc PKPdf 16 45 20.9 +6.0

NIED ***19*** *16:38:00,33.90N×141.80E,h5km,Mw4.8 Best double couple: M0:1.6×10^16 NP1:φs=272°,δ89°,λ-91°. NP2:φs=137°,δ1°,λ-45°.*
IDC ***19*** *16:38:05.8±0.5,33.88N×141.70E,mb4.5/21,mb1 4.6/23, mb1mx4.6/24,mbtmp4.5/23,ML4.2/2,MS3.9/4,Ms1 4.0/4, ms1mx3.4/20,Error ellipse: s-maj=16.0km s-min=11.6km az=108.0*
JMA ***19*** *16:38:07.7±0.3,33.91N×141.85E,h39km,M4.9*
BJI ***19*** *16:38:07.1,33.96N×141.37E,h9km,mB5.0,mb4.5,Ms4.7, Msz4.4*
MOS ***19*** *16:38:09.7±1.2,33.95N×141.59E,h33km,mb4.9/38,Error ellipse: s-maj=12.7km s-min=6.1km az=112.7*
CSEM ***19*** *16:38:10.2,34.71N×141.25E,h2km,mb5.5*
NEIC ***19*** *16:38:10.0±3.1,33.86N×141.57E,h26km±21km,mb4.8/23, MW4.8(NIED),Error ellipse: s-maj=8.0km s-min=6.3km az=114.0*
ISC 19 16:38:10.2±0.7,33.84N±0.04×141.56E±0.04,h42km±5km, h33km±10.0km;pP-P,n166,σ1°11/182,mb4.6/59,MS4.3/10, 6C-9D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.95**	**329**	P	⇑P		**P**	**16 38 26.2**	**-1.0**
BSO1				S			**S**	**16 38 39.2**	**-0.5**
BSO3	**Boso 3**	**1.30**	**318**	P			**P**	**16 38 32.2**	**0.0**
BSO3				S			**S**	**16 38 51.4**	**+2.8**
BSO4	**Boso 4**	**1.53**	**319**	P			**P**	**16 38 35.9**	**+0.3**
BSO4				S			**S**	**16 38 57.4**	**+2.9**
JHJ2	**Mitsune**	**1.63**	**244**	P			**P**	**16 38 38.9**	**+1.9**
JHJ2				S			**S**	**16 39 02.0**	**+5.1**
JHJ	**Hachijo jima 2**	**1.65**	**245**	Pn			**P**	**16 38 38.9**	**+1.6**
	243nm,0.3s,baz=118,slow=6.1,SNR=40								
JHJ				LR			LR	16 38 57.9	
	comp=Z,7μm,19.1s,baz=285,slow=30								
JHJ				Sn			**S**	**16 39 01.8**	**+4.3**
	388nm,0.3s,baz=62,slow=23,SNR=15								
KTR	**Katsuura**	**1.66**	**322**	P			**P**	**16 38 37.3**	**-0.1**
KTR				S			**S**	**16 38 58.8**	**+1.1**
JIM2	**Oshima 3**	**1.97**	**297**	P			**P**	**16 38 41.6**	**-0.2**
JIZS	**Izushimoda**	**2.39**	**292**	P			**P**	**16 38 48.3**	**+0.5**
JIZS				S			**S**	**16 39 17.0**	**+1.0**
JOD2	**Odawara 2**	**2.49**	**306**	P			**P**	**16 38 48.4**	**-0.8**
JYN	**Shimob**	**2.99**	**304**	P			**P**	**16 38 56.0**	**-0.3**
SHZ3	**Shizuoka 3**	**3.03**	**295**	P			**P**	**16 38 58.5**	**+1.6**
JRY	**Ryogami san**	**3.08**	**316**	⇑P			**P**	**16 38 56.6**	**-1.1**
JRY				S			**S**	**16 39 34.5**	**+0.9**
JAG	**Ashikaga**	**3.10**	**327**	⇓P			**P**	**16 38 56.7**	**-1.3**
JAG				S			**S**	**16 39 32.6**	**-1.6**
MAJO	**Matsushiro**	**3.85**	**315**	*e*P			**P**	**16 39 07.9**	**-0.6**
MAT	**Matsushiro**	**3.85**	**315**	*e*P			**P**	**16 39 08.0**	**-0.5**
MAT				*e*S			**S**	**16 39 54.0**	**+0.9**
MAT	**Matsushiro**	**3.85**	**315**	P			**P**	**16 39 08.4**	**-0.1**
MAT				S			**S**	**16 39 53.6**	**+0.5**
CBIJ	**Chichi jima**	**6.74**	**175**	Pn			**P**	**16 39 46.8**	**-2.4**
	12nm,0.3s,baz=322,slow=20,SNR=11								
CBIJ				Sn			**S**	**16 40 58.1**	**-7.5**
	12nm,0.3s,baz=20,slow=21,SNR=2.9								
CBIJ				LR			LR	16 42 10.3	
	comp=Z,528nm,20.1s,baz=334,slow=36								
ASAJ	**Asahikawa**	**10.29**	**4**	Pn			**P**	**16 40 31.1**	**-7.2**
	3.3nm,0.3s,baz=226,slow=9.6,SNR=24								
ASAJ				Sn			**S**	**16 42 20.2**	**-13**
	1.3nm,0.3s,baz=62,slow=17,SNR=2.3								
KUR	**Kuril'sk**	**12.37**	**21**	P			**P**	**16 40 55.0**	**-11**
YSS	**Yuzh-Sakhalins**	**13.13**	**4**	⇑*i*P			**P**	**16 41 09.0**	**-7.5**
YSS				pmax			pmax		
	comp=Z,70nm,1.1s								
YSS				MLR			MLR		
	comp=Z,1μm,16.0s								
YSS				MLR			MLR		
	comp=N,600nm,18.0s								
YSS	**Yuzh-Sakhalins**	**13.13**	**4**	*e*P			**P**	**16 41 09.7**	**-6.8**
	comp=N,52nm,0.8s								
JOW	**Kunigami**	**13.43**	**242**	LR			LR	16 46 47.1	
	comp=N,886nm,18.0s,baz=100,slow=38								
MDJ	**Mudanjiang**	**14.19**	**323**	P			**P**	**16 41 25.8**	**-4.5**
MDJ				S			**S**	**16 44 01.3**	**-6.0**
MDJ				PCP			PcP	16 46 46.5	-0.9
MDJ				SCP				16 50 16.8	
MDJ				PCS				16 50 20.4	
MDJ				SCS			ScS	16 53 54.5	+2.1
MDJ				AMB			AMB		
	comp=Z,24nm,2.0s								
MDJ				AMB			AMB		
	comp=Z,236nm,4.1s								
MDJ				LR			LR		
	comp=N,606nm,16.1s								
MDJ				LR			LR		
	comp=E,331nm,18.5s								
MDJ				LR			LR		
	comp=Z,837nm,18.1s								
KLR	**Kul'dur**	**17.02**	**338**	*e*P			**P**	**16 42 07.2**	**+0.7**
SSE	**Sheshan**	**17.41**	**267**	P			**P**	**16 42 11.1**	**-0.5**
SSE				S			**S**	**16 45 21.8**	**-0.2**
SSE				AMB			AMB		
	comp=Z,45nm,0.7s								
SSE				AMB			AMB		
	comp=Z,111nm,5.9s								
SSE				LR			LR		
	comp=N,171nm,15.8s								
SSE				LR			LR		
	comp=E,346nm,16.0s								
SSE				LR			LR		
	comp=Z,484nm,15.3s								
NJ2	**Nanjing**	**19.14**	**271**	*e*P			**P**	**16 42 31.1**	**-1.5**
NJ2				AP				16 42 39.5	
NJ2				XP				16 42 44.0	
NJ2				PP			PP	16 42 49.5	-0.3
NJ2				S			**S**	**16 46 00.0**	**-0.9**
NJ2				XS				16 46 13.0	
NJ2				AMB			AMB		
	comp=Z,420nm,5.0s								
NJ2				LR			LR		
	comp=N,790nm,10.6s								
NJ2				LR			LR		
	comp=E,2μm,15.7s								
NJ2				LR			LR		
	comp=Z,2μm,14.4s								
CLNS	**Chul'man**	**25.67**	**339**	*e*P			**P**	**16 43 37.3**	**-0.4**
CLNS				*e**PP			pP	16 43 41.8	-6.9
CLNS				*e*PPP			PPP	16 44 20.8	-9.3
CLNS				*e*				16 47 13.4	
CLNS				*e*S			**S**	**16 47 56.2**	**-4.6**
CLNS				*e*SS			SS	16 48 58.1	-8.5
CLNS				pmax			pmax		
	comp=N,9.0nm,0.9s								
CLNS				pmax			pmax		
	comp=E,5.0nm,0.9s								
CLNS				pmax			pmax		
	comp=Z,15nm,0.9s,mb4.5								
CLNS				pmax			pmax		
	comp=N,16nm,0.8s								
CLNS				pmax			pmax		
	comp=Z,10.0nm,0.8s,mb4.4								
CLNS				pmax			pmax		
	comp=E,6.0nm,0.9s								
CLNS				smax					
	comp=N,306nm,13.5s								
CLNS				smax					
	comp=Z,320nm,12.0s								
CLNS				smax					
	comp=E,71nm,13.6s								
CLNS				MLR			MLR		
	comp=N,1μm,15.0s,MS4.5								
CLNS				MLR			MLR		
	comp=Z,1μm,15.0s,MS4.5								
CLNS				MLR			MLR		
	comp=E,100nm,13.0s,MS4.5								
MA2	**Magadan**	**26.46**	**11**	⇓*e*P			**P**	**16 43 43.9**	**-1.0**
MA2				pmax			pmax		
	comp=Z,31nm,1.1s,mb4.8								
MA2	**Magadan**	**26.46**	**11**	*e*P			**P**	**16 43 43.8**	**-1.1**
	comp=Z,20nm,0.9s,mb4.7								
XAN	**Xi'an**	**27.02**	**280**	P			**P**	**16 43 48.5**	**-1.9**
XAN				AMB			AMB		
	comp=Z,3.0nm,0.8s,mb3.9								
ENH	**Enshi**	**27.36**	**271**	*e*P			**P**	**16 43 51.5**	**-2.0**
	comp=Z,16nm,0.7s,mb4.7								
YAK	**Yakutsk**	**29.21**	**349**	*e*P			**P**	**16 44 07.3**	**-2.5**
YAK				pmax			pmax		
	comp=Z,8.0nm,0.9s,mb4.5								
YAK				pmax			pmax		
	comp=N,4.0nm,1.1s								
YAK				MLR			MLR		
	comp=Z,278nm,16.0s,MS4.0								
YAK				MLR			MLR		
	comp=N,271nm,17.0s,MS4.0								
YAK				MLR			MLR		
	comp=E,124nm,15.0s,MS4.0								
YAK	**Yakutsk**	**29.21**	**349**	*e*P			**P**	**16 44 08.3**	**-1.5**
	comp=E,14nm,0.8s,mb4.7								
ULN	**Ulaanbaatar**	**29.35**	**309**	*e*P			**P**	**16 44 11.4**	**+0.2**
ULN				pmax			pmax		
	comp=Z,15nm,1.2s,mb4.6								
ULN	**Ulaanbaatar**	**29.35**	**309**	*e*P			**P**	**16 44 11.3**	**+0.2**
	comp=Z,15nm,1.2s,mb4.6								
SONM	**Songino Array**	**29.77**	**309**	P			**P**	**16 44 15.8**	**+0.9**
	comp=Z,2.1nm,0.7s,mb4.0,baz=106,slow=8.4,SNR=14								
SEY	**Seymchan**	**29.90**	**10**	*e*P			**P**	**16 44 15.3**	**-0.6**
SEY				pmax			pmax		
	comp=N,10.0nm,0.8s								
SEY				pmax			pmax		
	comp=E,10.0nm,0.8s								
SEY				pmax			pmax		
	comp=Z,20nm,0.8s,mb4.9								
BOD	**Bodaibo**	**30.33**	**331**	*e*P			**P**	**16 44 18.5**	**-1.3**
LZH	**Lanzhou**	**30.87**	**285**	*e*P			**P**	**16 44 24.5**	**-0.3**
LZH				AP			pP	16 44 33.4	-2.8
LZH				XP			sP	16 44 37.5	-4.0
LZH				*e*S			**S**	**16 49 23.5**	**-1.0**
LZH				XS				16 49 39.6	
LZH				SS			SS	16 51 07.4	-2.0
LZH				AMB			AMB		
	comp=Z,21nm,1.5s,mb4.8								
LZH				AMB			AMB		
	comp=Z,172nm,9.4s								
LZH				LR			LR		
	comp=E,1μm,14.5s								
LZH				LR			LR		
	comp=Z,1μm,16.7s,MS4.7								
ZAK	**Zakamensk**	**32.43**	**312**	⇓*i*P			**P**	**16 44 38.4**	**+0.1**
TLY	**Talaya**	**32.59**	**315**	*e*P			**P**	**16 44 40.2**	**+0.5**
TLY				*e*				16 46 05.6	
TLY				pmax			pmax		
	comp=Z,15nm,1.1s,mb4.8								
TLY				MLR			MLR		
	comp=Z,451nm,17.0s,MS4.2								
BILL	**Bilibino**	**37.06**	**15**	⇓*e*P			**P**	**16 45 16.0**	**-1.7**
BILL				pmax			pmax		
	comp=Z,19nm,1.6s,mb4.7								
BILL				MLR			MLR		
	comp=Z,200nm,14.0s,MS4.1								
BILL	**Bilibino**	**37.06**	**15**	*e*P			**P**	**16 45 16.3**	**-1.4**
	comp=Z,12nm,1.0s,mb4.7								
TIXI	**Tiksi**	**38.47**	**354**	*e*P			**P**	**16 45 27.6**	**-1.8**
TIXI				pmax			pmax		
	comp=Z,7.0nm,0.9s,mb4.4								
TIXI				MLR			MLR		
	comp=Z,374nm,15.0s,MS4.3								
CMAR	**Chiang Mai Arr**	**40.91**	**259**	P			**P**	**16 45 50.3**	**+0.1**
CMAR				pmax			pmax		
	comp=Z,6.0nm,0.8s								
CMAR				MLR			MLR		
	comp=Z,76nm,19.4s								
CMAR	**Chiang Mai Arr**	**40.91**	**259**	P			**P**	**16 45 50.2**	**+0.1**
	comp=Z,6.1nm,0.8s,mb4.3,baz=48,slow=7.6,SNR=25								
CMAR				LR			LR	17 03 44.8	
	comp=Z,76nm,19.4s,MS3.6,baz=65,slow=38								
WMQ	**Urumqi**	**42.47**	**300**	*e*P			**P**	**16 46 04.0**	**+1.3**
WMQ				AP			pP	16 46 13.8	-0.6
WMQ				PP			PP	16 47 45.5	+1.4
WMQ				S			**S**	**16 52 23.0**	**+1.7**
WMQ				AMB			AMB		
	comp=Z,6.0nm,1.6s,mb4.0								
WMQ				AMB			AMB		
	comp=Z,30nm,5.2s								
WMQ				LR			LR		
	comp=N,421nm,20.1s,MS4.6								
WMQ				LR			LR		
	comp=E,628nm,21.3s,MS4.6								
WMQ				LR			LR		
	comp=Z,625nm,21.4s,MS4.5								
LSA	**Lhasa**	**42.72**	**279**	*e*P			**P**	**16 46 05.6**	**+0.6**
LSA				pmax			pmax		
	comp=Z,3.0nm,0.8s,mb4.1								
LSA	**Lhasa**	**42.72**	**279**	*e*P			**P**	**16 46 05.6**	**+0.7**
	comp=Z,3.0nm,0.8s,mb4.1								
ZAL	**Zalesovo**	**44.21**	**315**	P			**P**	**16 46 16.2**	**-0.5**
ZAL				pmax			pmax		
	comp=Z,2.0nm,0.9s								
ZAL	**Zalesovo**	**44.21**	**315**	P			**P**	**16 46 16.2**	**-0.5**
	comp=Z,2.1nm,0.9s,mb3.9,baz=14,slow=7.7,SNR=9.8								
NVS	**Novosibirsk**	**45.18**	**316**	*i*P			**P**	**16 46 23.6**	**-0.8**
NVS				pmax			pmax		
	comp=Z,9.0nm,1.2s,mb4.5								
NVS				pmax			pmax		
	comp=E,8.0nm,1.4s								
MKAR	**Makanchi Array**	**45.98**	**305**	*i*P			**P**	**16 46 30.6**	**-0.3**
MKAR				pmax			pmax		
	comp=Z,8.0nm,0.8s								
JIRN	**Jiri**	**47.51**	**278**	*e*P			**P**	**16 46 43.7**	**+0.5**
	comp=Z,49nm,0.8s,mb5.6								
PKI	**Pulchoki**	**48.19**	**278**	*e*P			**P**	**16 46 48.2**	**-0.3**
	comp=Z,16nm,0.8s,mb5.1								
KKN	**Kakani**	**48.21**	**279**	*e*P			**P**	**16 46 48.5**	**-0.2**
	comp=Z,30nm,0.8s,mb5.4								
DMN	**Daman**	**48.42**	**279**	*e*P			**P**	**16 46 50.0**	**-0.3**
	comp=Z,16nm,0.8s,mb5.1								
GKN	**Gorkha**	**48.66**	**279**	*e*P			**P**	**16 46 52.0**	**-0.2**
	comp=Z,39nm,1.0s,mb5.4								
KOLN	**Koldanda**	**49.60**	**279**	*e*P			**P**	**16 46 59.3**	**-0.1**
	comp=Z,22nm,0.9s,mb5.2								
COLA	**College**	**51.73**	**31**	⇑*e*P			**P**	**16 47 15.0**	**-0.1**
COLA	**College**	**51.73**	**31**	*e*P			**P**	**16 47 14.8**	**-0.2**
	comp=Z,4.0nm,0.8s,mb4.4								
ILAR	**Eielson Array**	**52.14**	**31**	P			**P**	**16 47 16.7**	**-1.5**
ILAR				pmax			pmax		
	comp=Z,8.0nm,0.8s								
ILAR	**Eielson Array**	**52.14**	**31**	P			**P**	**16 47 16.6**	**-1.5**
	comp=Z,7.9nm,0.8s,mb4.7,baz=270,slow=6.4,SNR=62								
AAK	**Ala-Archa**	**52.17**	**301**	⇓*e*P			**P**	**16 47 18.3**	**-0.3**
AAK				pmax			pmax		
	comp=Z,5.0nm,1.2s,mb4.3								
AAK	**Ala-Archa**	**52.17**	**301**	*e*P			**P**	**16 47 18.1**	**-0.6**
	comp=Z,5.2nm,1.1s,mb4.4								
KLP	**Kalpa**	**52.58**	**286**	*e*P			**P**	**16 47 21.2**	**-0.6**
KLP				*e*				16 47 28.1	
	comp=Z,9.9nm,0.9s								
BRVK	**Borovoye**	**52.90**	**314**	*e*P			**P**	**16 47 23.8**	**-0.2**
BRVK				pmax			pmax		
	comp=Z,8.0nm,1.1s,mb4.6								
BRVK	**Borovoye**	**52.90**	**314**	*e*P			**P**	**16 47 23.8**	**-0.3**
	comp=Z,7.6nm,1.1s,mb4.5								
CTA	**Charters Tower**	**53.81**	**175**	P			**P**	**16 47 28.8**	**-2.4**
CTA				pmax			pmax		
	comp=Z,2.0nm,0.7s								
CTA	**Charters Tower**	**53.81**	**175**	P			**P**	**16 47 28.8**	**-2.4**
	comp=Z,2.4nm,0.7s,mb4.2,baz=292,slow=5.4,SNR=2.1								
FITZ	**Fitzroy Crossi**	**53.84**	**199**	*e*P			**P**	**16 47 31.7**	**+0.3**
	comp=Z,18nm,1.5s,mb4.8								
WB2	**Warramunga Arr**	**53.92**	**188**	*e*P			**P**	**16 47 31.4**	**-0.6**
WRA	**Warramunga Arr**	**53.92**	**188**	P			**P**	**16 47 31.1**	**-0.9**
WRA				pmax			pmax		
	comp=Z,3.0nm,0.6s								
WRA	**Warramunga Arr**	**53.92**	**188**	P			**P**	**16 47 31.1**	**-0.9**
	comp=Z,3.2nm,0.6s,mb4.4,baz=5.3,slow=7.4,SNR=52								
NDI	**New Delhi**	**54.46**	**283**	*e*			**P**	**16 47 35.0**	**-0.8**
AYAN	**Aya Nagar**	**54.61**	**283**	*e*P			**P**	**16 47 36.2**	**-0.8**
AYAN				*e*				16 47 37.7	
	comp=Z,13nm,1.0s								
SONA	**Sohna**	**54.74**	**283**	*e*P			**P**	**16 47 37.0**	**-0.8**
SONA				*e*				16 47 41.1	
	comp=Z,8.7nm,0.8s								
RTK	**Rohtak**	**54.97**	**284**	*e*P			**P**	**16 47 38.7**	**-0.9**
DAWY	**Dawson**	**55.43**	**32**	P			**P**	**16 47 41.5**	**-0.9**
KHET	**Khetri**	**55.84**	**283**	*e*P			**P**	**16 47 45.2**	**-0.6**
KHET				*e*				16 47 47.4	
	comp=Z,16nm,1.1s								
INK	**Inuvik**	**57.18**	**26**	*e*P			**P**	**16 47 53.9**	**-1.0**
INK				pmax			pmax		
	comp=Z,6.0nm,0.9s								
INK	**Inuvik**	**57.18**	**26**	P			**P**	**16 47 53.5**	**-1.4**
	comp=Z,4.5nm,0.8s,mb4.5,baz=271,slow=4.5,SNR=14								
INK	**Inuvik**	**57.18**	**26**	*e*P			**P**	**16 47 53.9**	**-1.0**
	comp=Z,6.3nm,0.9s,mb4.7								
SVE	**Sverdlovsk**	**57.65**	**320**	*e*P			**P**	**16 47 58.0**	**-0.3**
ASAR	**Alice Springs**	**57.65**	**188**	P			**P**	**16 47 58.2**	**-0.6**
	comp=Z,1.4nm,0.6s,mb4.2,baz=15,slow=14,SNR=28								
ASPA	**Alice Springs**	**57.65**	**188**	*e*P			**P**	**16 48 01.8**	**+3.0**
HYB	**Hyderabad**	**58.30**	**271**	*e*P			**P**	**16 48 03.0**	**-0.3**
HYB	**Hyderabad**	**58.30**	**271**	*i*P			**P**	**16 48 03.0**	**-0.3**
MBWA	**Marble Bar**	**58.51**	**204**	P			**P**	**16 48 04.6**	**-0.2**
ARU	**Arti**	**58.85**	**320**	⇓*i*P			**P**	**16 48 01.3**	**-5.4**
ARU				*e*S			**S**	**16 55 58.9**	**-8.6**
ARU				pmax			pmax		
	comp=Z,19nm,0.8s,mb5.2								
JASL	**Jaisalmer**	**60.28**	**284**	*e*P			**P**	**16 48 16.1**	**-0.9**
JASL				*e*				16 48 16.9	
DLBC	**Dease Lake**	**61.08**	**37**	*e*P			**P**	**16 48 21.7**	**-0.3**
STKA	**Stephens Creek**	**65.36**	**180**	P			**P**	**16 48 50.7**	**+0.1**
	comp=Z,5.2nm,1.1s,mb4.5,baz=323,slow=5.1,SNR=2.6								
RES	**Resolute Bay**	**65.66**	**14**	*e*P			**P**	**16 48 50.8**	**-1.0**
RES				pmax			pmax		
	comp=Z,11nm,1.2s,mb4.8								
RES	**Resolute Bay**	**65.66**	**14**	*e*P			**P**	**16 48 50.8**	**-0.9**
	comp=Z,11nm,1.2s,mb4.8								
YKA	**Yellowknife Ar**	**66.52**	**29**	P			**P**	**16 48 56.3**	**-1.0**
YKA				pmax			pmax		
	comp=Z,2.0nm,0.8s								
YKA	**Yellowknife Ar**	**66.52**	**29**	P			**P**	**16 48 56.3**	**-1.0**
	comp=Z,2.4nm,0.8s,mb4.3,baz=296,slow=6.4,SNR=40								
YKA	**Yellowknife Ar**	**66.52**	**29**	P			**P**	**16 48 56.3**	**-1.0**
ARCES	**ARCESS Array B**	**67.03**	**340**	P			**P**	**16 48 59.8**	**-0.7**
ARCES				pmax			pmax		
	comp=Z,5.0nm,0.8s								
ARCES	**ARCESS Array B**	**67.03**

comp=Z,2.8nm,0.8s,mb4.2
SOC Sochi 75.13 313 *e*P P **16 49 48.0 -1.6**
SOC *e* 16 50 08.4
SOC *e*S S 16 59 19.1 -4.6
SOC *e* 16 59 56.0
SOC *e*SSS SSS 17 07 25.8 -4.0
SOC pmax pmax
comp=Z,13nm,0.7s,mb5.0
SOC pmax pmax
comp=N,5.0nm,0.5s
SOC pmax pmax
comp=E,13nm,0.7s
NVAR Mina Array Bea 76.82 53 P P **16 49 59.1 -0.2**
comp=E,2.0nm,0.7s,mb4.2,baz=296,slow=5.6,SNR=17
AKASG Malin Array Be 76.90 323 P P **16 49 59.5 0.0**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 76.90 323 P P **16 49 59.5 0.0**
comp=Z,4.9nm,0.6s,mb4.7,baz=46,slow=6.0,SNR=32
NB2 NORSAR Subarra 77.18 338 P P **16 50 00.7 -0.1**
comp=Z,7.7nm,0.8s,mb4.7,baz=40,slow=5.6
NB2 NORSAR Subarra 77.18 338 P P **16 50 00.7 -0.1**
NB2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
NOA NORSAR Array B 77.18 338 P P **16 50 01.1 +0.3**
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA NORSAR Array B 77.18 338 P P **16 50 01.1 +0.2**
comp=Z,4.4nm,0.7s,mb4.5,baz=40,slow=5.6,SNR=14
QLMT Earthquake Lak 77.51 44 *e*P P **16 50 04.2 +1.2**
LKWY Lake 78.27 44 *e*P P **16 50 09.2 +2.0**
LKWY pmax pmax
comp=Z,12nm,1.1s,mb4.7
LKWY Lake 78.27 44 *e*P P **16 50 09.2 +2.0**
comp=Z,12nm,1.1s,mb4.7
IMW Indian Meadow 78.34 45 *e*P P **16 50 09.7 +2.1**
MALT Malatya 78.85 309 *e*P P **16 50 12.5 +2.0**
MALT pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
MALT Malatya 78.85 309 *e*P P **16 50 12.5 +2.0**
comp=Z,7.2nm,1.3s,mb4.4
PDAR Pinedale Array 79.83 45 P P **16 50 16.2 +0.5**
comp=Z,3.0nm,0.6s,mb4.4,baz=275,slow=2.3,SNR=33
MSU Marysvale 80.74 50 *e*P P **16 50 21.7 +1.0**
BRTR Keskin Array B 81.07 312 P P **16 50 23.6 +1.2**
BRTR pmax pmax
comp=Z,6.0nm,1.1s
BRTR Keskin Array B 81.07 312 P P **16 50 23.6 +1.2**
comp=Z,6.0nm,1.1s,mb4.4,baz=108,slow=3.9,SNR=21
OJC Ojcow 81.76 327 *e*P P **16 50 26.7 +1.0**
OKC Ostrava-Krasne 82.78 327 *e*P P **16 50 32.0 +1.0**
PV10 Paradox Valley 82.80 48 *e*P P **16 50 33.0 +1.6**
DPC Dobruska-Polom 83.23 328 *e*P P **16 50 34.5 +1.3**
PV01 Paradox Valley 83.24 48 *e*P P **16 50 34.7 +1.2**
UPC Upice 83.25 328 *e*P P **16 50 35.9 +2.6**
VYHS Vyhne 83.42 326 *i*P P **16 50 35.7 +1.4**
RW3 Ridgway 83.71 48 *e*P P **16 50 37.9 +1.9**
PVCC Panska Ves 83.86 329 *e*P P **16 50 37.6 +1.2**
BRG Berggiesshubel 83.86 330 *e*P P **16 50 37.3 +0.9**
BRG pmax pmax
comp=Z,38nm,1.1s,mb5.4
BRG Berggiesshubel 83.86 330 *e*P P **16 50 37.3 +0.9**
comp=Z,38nm,1.1s,mb5.4
CLL Collm 83.93 330⇓*i*P P **16 50 36.7 0.0**
CLL *e* pP 16 50 52.0 +2.7
CLL pmax pmax
comp=Z,12nm,1.0s,mb5.0
CLL Collm 83.93 330⇓*i*P P **16 50 36.7 0.0**
comp=Z,12nm,1.0s,mb5.0
CLL *e* pP 16 50 52.0 +2.7
CLL *i* 16 51 00.3
CLL Collm 83.93 330⇓P P **16 50 36.7 0.0**
comp=Z,logA/T=1.1,mb5.0
CLL *e**SP sP 16 50 52.0 -1.9
CLL *i* 16 51 00.3
SMOL Smolenice 84.06 326 *e*P P **16 50 39.7 +2.2**
PRU Pruhonice 84.27 329 *e*P P **16 50 39.4 +0.9**
ZST Bratislava 84.44 326 *e*P P **16 50 40.7 +1.3**
MOX Moxa 85.00 331 *e*P P **16 50 40.0 -2.1**
KHC Kasperske Hory 85.33 329 *e*P P **16 50 44.5 +0.7**
KHC Kasperske Hory 85.33 329 *e*P P **16 50 44.7 +0.9**
TUC Tucson 85.35 54 P P **16 50 45.3 +1.0**
GERES GERESS Array B 85.49 328 P P **16 50 45.4 +0.8**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES GERESS Array B 85.49 328 P P **16 50 45.4 +0.9**
comp=Z,2.2nm,0.6s,mb4.5,baz=34,slow=4.8,SNR=18
GRA1 Grafenberg Arr 85.90 330 *e*P P **16 50 47.9 +1.4**
comp=Z,12nm,1.1s,mb5.0
GRF Grafenberg Arr 85.90 330 *e*P P **16 50 47.9 +1.4**
GRF pmax pmax
comp=Z,12nm,1.1s,mb5.0
GRF Grafenberg Arr 85.90 330 *e*P P **16 50 47.9 +1.4**
GRF pmax pmax
comp=Z,12nm,1.1s,mb5.0
GRF Grafenberg Arr 85.90 330 *e*P P **16 50 47.9 +1.4**
comp=Z,12nm,1.1s,mb5.0
SCHQ Schefferville 88.37 16 P P **16 50 58.3 -0.1**
comp=Z,6.0nm,0.8s,mb4.5,baz=256,slow=3.7,SNR=3.8
TXAR Lajitas Array 91.97 52 P P **16 51 16.9 +1.0**
comp=Z,0.8nm,0.7s,mb4.2,baz=279,slow=3.2,SNR=5.6
TXAR LR LR 17 29 06.2
comp=Z,115nm,20.8s,MS4.3,baz=335,slow=33
QSPA South Pole Qui 123.59 180 *e*PKPdf PKPdf 16 57 03.9 +1.5
LPAZ La Paz 148.09 64 *e*PKP2 PKPab 16 57 54.8 -2.0
LPAZ La Paz 148.09 64 PKPbc PKPdf 16 57 55.2 +6.7
comp=Z,5.4nm,0.6s,baz=358,slow=7.8,SNR=16

ISC 19 16:55:14.3±3.9, 37.4N±0.1×72.7E±0.7, h174km±30km, n14, σ0§63/15, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.80**	**9**	P		**P**	**16 56 25.2**	**-1.1**
	SNR=129							
UCH	**Uchtor**	**5.04**	**16**	P		**P**	**16 56 29.5**	**+0.2**
	SNR=59							
KZA	**Kyzart**	**5.09**	**22**	P		**P**	**16 56 30.2**	**+0.2**
	SNR=6.5							
EKS2	**Erkin-Say**	**5.33**	**9**	P		**P**	**16 56 33.1**	**-0.1**
	SNR=9.5							
AAK	**Ala-Archa**	**5.42**	**14**	P		**P**	**16 56 34.4**	**+0.1**
	SNR=36							
KBK	**Karagaybulak**	**5.54**	**18**	P		**P**	**16 56 37.1**	**+1.1**
	SNR=10							
DLH	**Dalhousie**	**5.55**	**150**	*e*P		**P**	**16 56 37.0**	**+1.0**
DLH				*e*S		**S**	**16 57 39.0**	**-0.5**
CHMS	**Chumysh**	**5.82**	**15**	P		**P**	**16 56 39.2**	**-0.5**
	SNR=8.6							
KOLN	**Koldanda**	**13.30**	**133**	*e*P		**P**	**16 58 16.2**	**-0.9**
	4.0nm,0.3s							
GKN	**Gorkha**	**13.75**	**129**	*e*P		**P**	**16 58 22.6**	**-0.2**
	15nm,0.6s							
KKN	**Kakani**	**14.30**	**128**	*e*P		**P**	**16 58 29.2**	**-0.6**
	10nm,0.6s							
DMN	**Daman**	**14.32**	**129**	*e*P		**P**	**16 58 30.4**	**+0.4**
	6.5nm,0.5s							
PKI	**Pulchoki**	**14.53**	**129**	*e*P		**P**	**16 58 33.3**	**+0.6**
JIRN	**Jiri**	**14.96**	**127**	*e*P		**P**	**16 58 38.6**	**+0.5**
	13nm,0.4s							

*BJI **19** 16:56:19.1, 5.50N×92.70E, h24km, mb4.5*
*IDC **19** 16:56:19.2±1.5, 5.52N×92.67E, h22km±5km, mb3.7/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.8/6, ML3.2/1, Error ellipse: s-maj=51.3km s-min=18.2km az=63.0*
*NEIC **19** 16:56:19.2±0.8, 5.53N×92.71E, mb4.3/2, Error ellipse: s-maj=23.4km s-min=10.5km az=66.0*

ISC 19 16:56:17.2±1.1, 5.5N±0.1×92.7E±0.2, h24km, h24km±.5km:pP-P, n10, σ0§84/10, mb3.9/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.22**	**25**	Pn		**P**	**16 59 38.3**	**-1.1**
	0.0nm,0.3s,baz=218,slow=14,SNR=15							
LSA	**Lhasa**	**24.09**	**357**	P		**P**	**17 01 34.4**	**+2.2**
LSA	**Lhasa**	**24.09**	**357**	*e*P		**P**	**17 01 34.0**	**+1.9**
	1.9nm,0.6s,mb3.7							
SONM	**Songino Array**	**43.75**	**13**	P		**P**	**17 04 22.9**	**+0.3**
	0.7nm,0.8s,mb3.4,baz=202,slow=8.7,SNR=4.9							
SONM				pP		pP	17 04 30.3	+0.5
	0.8nm,0.8s,baz=188,slow=8.7,SNR=5.1							
SONM				PcP		PcP	17 06 10.9	+1.2
	1.0nm,0.7s,baz=198,slow=4.3,SNR=4.7							
WRA	**Warramunga Arr**	**48.11**	**123**	P		**P**	**17 04 57.8**	**+0.3**
	2.0nm,0.6s,mb4.3,baz=301,slow=9.0,SNR=23							
WRA				pP		pP	17 05 04.7	-0.2
	3.5nm,0.6s,baz=301,slow=9.0,SNR=15							
WRAB	**Tennant Creek**	**48.11**	**123**	*e*P		**P**	**17 04 57.5**	**-0.1**
	5.6nm,0.7s,mb4.7							
WRAB				*e*pP		pP	17 05 05.0	+0.1
WB2	**Warramunga Arr**	**48.12**	**123**	*e*P		**P**	**17 04 57.6**	**0.0**
ZAL	**Zalesovo**	**48.70**	**354**	P		**P**	**17 05 01.6**	**0.0**
	0.7nm,0.5s,mb4.0,baz=276,slow=4.2,SNR=4.6							
ASAR	**Alice Springs**	**49.55**	**128**	P		**P**	**17 05 08.6**	**0.0**
	1.1nm,0.9s,mb3.9,baz=300,slow=7.3,SNR=6.3							
ASAR				pP		pP	17 05 16.1	+0.1
	1.0nm,0.6s,baz=297,slow=7.8,SNR=5.6							
ASAR				PcP		PcP	17 06 31.4	+1.0
	0.5nm,0.6s,baz=301,slow=3.4,SNR=3.9							
BRTR	**Keskin Array B**	**62.92**	**312**	P		**P**	**17 06 43.0**	**-1.1**
	0.2nm,0.5s,mb3.5,baz=121,slow=8.4,SNR=2.8							

OTT 19 17:03:28.5±0.4, 47.49N×92.89W, MN2.9/9, Blast, Minnesota, U.S. Mining explosion., Minnesota

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATKO	**Atikokan Iron**	**1.59**	**32**	PG		Pg	17 03 57.3	-3.0
ATKO				SG		Sg	17 04 18.0	-3.4
ATKO				Trac			17 04 23.8	
	comp=Z,10nm,0.1s							
EPLO	**Experimental L**	**2.26**	**346**	PN		Pn	17 04 07.1	-0.5
EPLO				SN		Sn	17 04 36.1	-0.5
EPLO				Trac			17 04 40.5	
	comp=Z,4.5nm,0.1s							
SOLO	**Sioux Lookout**	**2.59**	**12**	PN		Pn	17 04 10.8	-1.6
SOLO				SN		Sn	17 04 44.9	-0.2
SOLO				Trac			17 04 54.6	
	comp=Z,8.2nm,0.1s							
TBO	**Thunder Bay**	**2.60**	**62**	PN		Pn	17 04 10.7	-1.9
TBO				SN		Sn	17 04 44.4	-0.9
TBO				Trac			17 04 56.8	
	comp=Z,13nm,0.1s							
LDIO	**Lac des Isle M**	**2.77**	**51**	SN		Sn	17 04 45.8	-3.8
RLKO	**Red Lake**	**3.63**	**351**	PN		Pn	17 04 25.6	-1.6
RLKO				SN		Sn	17 05 09.3	-2.0
RLKO				Trac			17 05 11.5	
	comp=Z,4.7nm,0.1s							
PKLO	**Pickle Lake**	**4.34**	**21**	PN		Pn	17 04 34.0	-3.3
PKLO				SN		Sn	17 05 24.0	-5.4
PKLO				Trac			17 05 26.4	
	comp=Z,4.1nm,0.1s							
GTO	**Geraldton**	**4.53**	**58**	PN		Pn	17 04 37.5	-2.4
GTO				SN		Sn	17 05 27.9	-6.3
GTO				SG		Sg	17 05 50.8	-8.6
GTO				Trac			17 05 56.3	
	comp=Z,4.9nm,0.1s							
PNPO	**Pukaskwa Natio**	**4.56**	**74**	PN		Pn	17 04 38.8	-1.7
PNPO				SN		Sn	17 05 29.8	-5.2
PNPO				Trac			17 05 55.1	
	comp=Z,4.9nm,0.1s							
VIMO	**Victor Mine**	**7.93**	**44**	PN		Pn	17 05 20.7	-7.1
VIMO				SN		Sn	17 06 48.9	-10
VIMO				SG		Sg	17 07 30.0	-22
SILO	**Sutton Inlier**	**8.62**	**33**	PN		P	17 05 31.0	-6.4
SILO				SN		Sn	17 07 05.4	-11
FCC	**Fort Churchill**	**11.32**	**357**	PN		P	17 06 08.1	-6.3
FCC				SN		S	17 08 04.7	-18

*IDC **19** 17:17:14.5±0.8, 51.38N×173.67E, mb4.2/17, mb1 4.4/17, mb1mx4.3/22, mbtmp4.2/17, MS3.7/1, Ms1 3.7/1, ms1mx3.2/19, Error ellipse: s-maj=15.9km s-min=13.6km az=69.0*
*MOS **19** 17:17:18.1±1.0, 51.48N×173.47E, h33km, mb4.7/23, Error ellipse: s-maj=12.8km s-min=6.9km az=87.6*
*NEIC **19** 17:17:20.0±0.4, 51.44N×173.38E, mb4.7/25, Error ellipse: s-maj=11.1km s-min=4.5km az=192.0*
*BJI **19** 17:17:21.9, 52.03N×172.57E, h41km, mB4.5, mb4.6, Ms4.7, Msz4.5*

ISC 19 17:17:19.2±1.3, 51.47N±0.08×173.46E±0.06, h46km±10km, h41km±1.4km:pP-P, n119, σ0§87/124, mb4.5/47, MS4.2/5, 4C, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.32**	**17**	*e*P		**P**	**17 17 41.5**	**-0.1**
SMY				*e*S		**S**	**17 17 54.3**	**-4.0**
FX1	**Attu Island--F**	**1.43**	**353**	P		**P**	**17 17 42.6**	**-0.5**
FX1							17 18 01.3	
FX1				pmax		pmax		
	comp=Z,95nm,0.3s							
FX1	**Attu Island--F**	**1.43**	**353**	Pn		**P**	**17 17 42.6**	**-0.5**
	comp=Z,94nm,0.3s,baz=32,slow=19,SNR=365							
FX1				Sn		**S**	**17 18 01.3**	**+0.5**
	comp=Z,1μm,0.3s,baz=249,slow=18,SNR=84							
PET	**Petropavlovsk**	**9.22**	**285**	*e*P		**P**	**17 19 24.8**	**-7.5**
PET				pmax		pmax		
	comp=Z,16nm,0.7s							
PET				MLR		MLR		
	comp=Z,200nm,12.0s							
PET	**Petropavlovsk**	**9.22**	**285**	*e*P		**P**	**17 19 27.2**	**-5.1**
	comp=Z,16nm,0.5s							
SKR	**Severo-Kuril's**	**10.94**	**273**	*e*P		**P**	**17 19 50.6**	**-5.2**
SKR				pmax		pmax		
	comp=E,60nm,0.5s							
SKR				pmax		pmax		
	comp=Z,110nm,0.5s							
MA2	**Magadan**	**15.13**	**311**	*e*P		**P**	**17 20 49.9**	**-1.2**
BILL	**Bilibino**	**16.99**	**351**	*e*P		**P**	**17 21 15.8**	**+1.3**
BILL				pmax		pmax		
	comp=Z,12nm,1.5s							
BILL	**Bilibino**	**16.99**	**351**	*e*P		**P**	**17 21 15.8**	**+1.2**
	comp=Z,12nm,1.5s							
RSO	**Redoubt South**	**20.72**	**51**	*e*P		**P**	**17 21 57.2**	**-0.6**
SPU	**Mount Spurr**	**21.20**	**49**	*e*P		**P**	**17 22 02.5**	**-0.1**
ASAJ	**Asahikawa**	**21.88**	**263**	P		**P**	**17 22 10.6**	**+1.1**
ASAJ				pmax		pmax		
	comp=Z,7.0nm,0.7s							
ASAJ	**Asahikawa**	**21.88**	**263**	P		**P**	**17 22 10.6**	**+1.1**
	comp=Z,6.9nm,0.7s,mb4.2,baz=82,slow=15,SNR=4.3							
SLKM	**Skilak Lake**	**21.97**	**52**	*e*P		**P**	**17 22 11.1**	**+0.8**
IMA	**Indian Mountai**	**22.08**	**36**	*e*P		**P**	**17 22 11.4**	**+0.1**
IMA				pmax		pmax		
	comp=Z,70nm,0.8s,mb5.1							
IMA	**Indian Mountai**	**22.08**	**36**	*e*P		**P**	**17 22 11.4**	**+0.1**
	comp=Z,70nm,0.8s,mb5.1							
COLA	**College**	**23.94**	**41**⇑	*e*P		**P**	**17 22 30.4**	**+1.1**
COLA	**College**	**23.94**	**41**	*e*P		**P**	**17 22 30.1**	**+0.8**
	comp=Z,31nm,0.8s,mb4.8							
ILAR	**Eielson Array**	**24.31**	**42**	P		**P**	**17 22 32.1**	**-0.9**
ILAR				pmax		pmax		
	comp=Z,10.0nm,0.6s							
ILAR	**Eielson Array**	**24.31**	**42**	P		**P**	**17 22 32.0**	**-0.9**
	comp=Z,9.5nm,0.6s,mb4.4,baz=248,slow=7.9,SNR=90							
YAK	**Yakutsk**	**25.71**	**311**⇑	*e*P		**P**	**17 22 45.4**	**-0.9**
YAK				pmax		pmax		
	comp=Z,18nm,1.5s,mb4.4							
YAK				MLR		MLR		
	comp=Z,100nm,18.0s,MS3.4							
YAK	**Yakutsk**	**25.71**	**311**	*e*P		**P**	**17 22 45.2**	**-1.1**
	comp=Z,13nm,0.9s,mb4.5							
DAWY	**Dawson**	**27.40**	**44**	*e*P		**P**	**17 23 02.1**	**+0.2**
DAWY				*e*pP		pP	17 23 13.9	0.0
TIXI	**Tiksi**	**28.22**	**332**⇑	*e*P		**P**	**17 23 09.3**	**+0.1**
TIXI				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb3.8							
INK	**Inuvik**	**30.21**	**36**	P		**P**	**17 23 26.6**	**-0.3**
INK				pmax		pmax		
	comp=Z,5.0nm,0.8s							
INK	**Inuvik**	**30.21**	**36**	P		**P**	**17 23 26.6**	**-0.4**
	comp=Z,4.7nm,0.8s,mb4.3,baz=256,slow=6.1,SNR=14							
INK	**Inuvik**	**30.21**	**36**	*e*P		**P**	**17 23 26.6**	**-0.3**
	comp=Z,7.3nm,1.0s,mb4.4							
YKW3	**Yellowknife Ar**	**38.62**	**45**	*e*P		**P**	**17 24 39.2**	**+0.2**
YKW3				*e*pP		pP	17 24 51.0	-0.4
YKA	**Yellowknife Ar**	**38.64**	**45**	P		**P**	**17 24 39.8**	**+0.6**
YKA				pmax		pmax		
	comp=Z,5.0nm,0.6s							
YKA				MLR		MLR		
	comp=Z,101nm,18.5s							
YKA	**Yellowknife Ar**	**38.64**	**45**	P		**P**	**17 24 39.8**	**+0.6**
	comp=Z,5.0nm,0.6s,mb4.5,baz=286,slow=7.7,SNR=69							
YKA				LR		LR	17 41 17.8	
	comp=Z,101nm,18.5s,MS3.7,baz=270,slow=37							
ZAK	**Zakamensk**	**42.68**	**297**	*e*P		**P**	**17 25 13.4**	**+0.8**
EDM	**Edmonton**	**42.93**	**58**	*e*P		**P**	**17 25 14.6**	**0.0**
EDM				*e**PP		pP	17 25 27.7	+0.5
NEW	**Newport**	**43.33**	**66**	*e*P		**P**	**17 25 17.4**	**-0.6**
YBH	**Yreka Blue Hor**	**43.63**	**77**	*e*P		**P**	**17 25 21.1**	**+0.7**
YBH				*e**PP		pP	17 25 32.8	-0.2
YBH				pmax		pmax		
	comp=Z,17nm,1.0s							
YBH	**Yreka Blue Hor**	**43.63**	**77**	*e*P		**P**	**17 25 21.1**	**+0.6**
	comp=Z,17nm,1.0s,mb4.7							
YBH				*e*pP		pP	17 25 32.8	-0.2
NJ2	**Nanjing**	**43.97**	**266**	*e*P		**P**	**17 25 23.0**	**-0.3**
NJ2				PP		PP	17 27 06.3	-1.3
NJ2				S		**S**	**17 31 49.0**	**-2.3**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.2s,mb5.2							
NJ2				LR		LR		
	comp=N,500nm,15.3s,MS4.6							
NJ2				LR		LR		
	comp=E,310nm,15.7s,MS4.6							
NJ2				LR		LR		
	comp=Z,320nm,24.0s							
MOD	**Modoc**	**44.99**	**75**	*e*P		**P**	**17 25 31.1**	**-0.3**
	comp=Z,23nm,1.1s,mb4.9							
BMO	**Blue Mountains**	**45.08**	**70**	*e*P		**P**	**17 25 31.6**	**-0.4**
	comp=Z,3.6nm,1.1s,mb4.1							
OHCM	**Honcut**	**45.80**	**79**	*e*P		**P**	**17 25 37.5**	**-0.4**
HLID	**Hailey**	**47.52**	**70**	*e*P		**P**	**17 25 50.9**	**-0.5**
	comp=Z,12nm,1.6s,mb4.7							
BMN	**Battle Mountai**	**47.73**	**75**	*e*P		**P**	**17 25 53.4**	**+0.4**
BMN				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.9							
BMN	**Battle Mountai**	**47.73**	**75**	*e*P		**P**	**17 25 53.4**	**+0.3**
	comp=Z,8.1nm,0.7s,mb4.9							
FCC	**Fort Churchill**	**49.31**	**43**	*e*P		**P**	**17 26 04.9**	**-0.1**
FCC				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.8							
FCC	**Fort Churchill**	**49.31**	**43**	*e*P		**P**	**17 26 04.8**	**-0.2**
	comp=Z,9.0nm,0.9s,mb4.8							
SPUT	**South Promonto**	**50.04**	**71**	*e*P		**P**	**17 26 10.6**	**-0.3**
ZAL	**Zalesovo**	**50.36**	**310**	P		**P**	**17 26 14.7**	**+1.6**
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ZAL	**Zalesovo**	**50.36**	**310**	P		**P**	**17 26 14.7**	**+1.5**
	comp=Z,0.5nm,0.3s,mb4.0,baz=330,slow=3.8,SNR=3.0							
LZH	**Lanzhou**	**50.65**	**281**	*e*P		**P**	**17 26 12.3**	**-3.3**
LZH				PP		PP	17 28 09.8	-2.7
LZH				AMB		AMB		
	comp=Z,25nm,1.5s,mb4.9							
LZH				AMB		AMB		
	comp=Z,87nm,5.6s							
LZH				LR		LR		
	comp=N,446nm,13.7s							
LZH				LR		LR		
	comp=Z,512nm,17.4s,MS4.6							
TCUT	**Toone Canyon**	**50.78**	**71**	*e*P		**P**	**17 26 16.3**	**-0.2**
BW06	**Boulder Array**	**50.83**	**68**	*e*P		**P**	**17 26 15.9**	**-1.0**
	comp=Z,8.2nm,1.1s,mb4.6							
PDAR	**Pinedale Array**	**50.83**	**68**	P		**P**	**17 26 16.7**	**-0.2**
	comp=Z,3.8nm,0.9s,mb4.3,baz=306,slow=4.2,SNR=26							
NLU	**North Lily Min**	**51.11**	**72**	*e*P		**P**	**17 26 19.0**	**0.0**
DAU	**Daniels Canyon**	**51.31**	**71**	*e*P		**P**	**17 26 21.0**	**+0.5**
MVU	**Marysvale**	**51.95**	**74**	*e*P		**P**	**17 26 25.5**	**+0.2**
	comp=Z,9.5nm,1.0s,mb4.7							
MSU	**Marysvale**	**51.97**	**74**	*e*P		**P**	**17 26 25.7**	**+0.2**
TMUT	**Trail Mountain**	**52.05**	**72**	*e*P		**P**	**17 26 26.4**	**+0.3**
SRU	**San Rafael**	**52.57**	**72**	*e*P		**P**	**17 26 29.8**	**-0.2**
PV10	**Paradox Valley**	**53.93**	**72**	*e*P		**P**	**17 26 40.2**	**+0.2**
PV01	**Paradox Valley**	**54.37**	**72**	*e*P		**P**	**17 26 42.8**	**-0.5**
RW3	**Ridgway**	**54.82**	**71**	*e*P		**P**	**17 26 46.6**	**+0.1**
ISCO	**Idaho Springs**	**55.01**	**68**	*e*P		**P**	**17 26 48.5**	**+0.6**
ISCO				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.8							
ISCO	**Idaho Springs**	**55.01**	**68**	*e*P		**P**	**17 26 48.5**	**+0.5**
	comp=Z,8.9nm,0.9s,mb4.8							
WMQ	**Urumqi**	**55.12**	**298**	*e*P		**P**	**17 26 48.8**	**+0.1**
WMQ				AP		pP	17 27 01.5	-0.1
WMQ				XP		sP	17 27 06.8	-0.1
WMQ				PP		PP	17 28 53.8	+0.1
WMQ				S		**S**	**17 34 26.5**	**+0.1**
WMQ				AMB		AMB		
	comp=Z,6.0nm,1.6s,mb4.4							
WMQ				AMB		AMB		
	comp=Z,32nm,5.5s							
WMQ				LR		LR		
	comp=N,342nm,20.5s,MS4.5							
WMQ				LR		LR		
	comp=E,244nm,21.6s,MS4.5							
WMQ				LR		LR		
	comp=Z,421nm,21.6s,MS4.5							
KURK	**Kurchatov**	**55.34**	**310**	*e*P		**P**	**17 26 48.5**	**-1.6**
KURK				*e**PP		pP	17 27 00.0	-3.1
KURK				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.6							
KURK	**Kurchatov**	**55.34**	**310**	*e*P		**P**	**17 26 48.5**	**-1.7**
	comp=Z,5.6nm,0.9s,mb4.6							
KURK				*e*pP		pP	17 27 00.0	-3.0
SDCO	**Great Sand Dun**	**56.44**	**70**	*e*P		**P**	**17 26 58.2**	**0.0**
	comp=Z,17nm,1.1s,mb5.0							
SDCO				pP		pP	17 27 09.4	-1.8
CHKZ	**Chkalovo**	**57.01**	**316**	*e*P		**P**	**17 27 00.8**	**-1.3**
CHKZ				*e**PP		pP	17 27 12.7	-2.4
CHKZ				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.2							
CHKZ	**Chkalovo**	**57.01**	**316**	*e*P		**P**	**17 27 00.8**	**-1.4**
	comp=Z,1.7nm,0.8s,mb4.1							
CHKZ				*e*pP		pP	17 27 12.7	-2.4
ARCES	**ARCESS Array B**	**57.05**	**347**	P		**P**	**17 27 01.0**	**-1.2**
ARCES				pmax		pmax		
	comp=Z,3.0nm,0.8s							
ARCES	**ARCESS Array B**	**57.05**	**347**	P		**P**	**17 27 01.0**	**-1.2**
	comp=Z,2.7nm,0.8s,mb4.3,baz=27,slow=8.1,SNR=4.9							
BVAR	**Borovoye Array**	**57.56**	**316**	P		**P**	**17 27 05.4**	**-0.6**
	comp=Z,2.1nm,0.5s,mb4.4,baz=53,slow=7.4,SNR=26							
BRVK	**Borovoye**	**57.59**	**316**	*e*P		**P**	**17 27 05.5**	**-0.7**
BRVK				*e**PP		pP	17 27 16.3	-2.8
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.3							
BRVK	**Borovoye**	**57.59**	**316**	*e*P		**P**	**17 27 05.5**	**-0.7**
	comp=Z,2.2nm,0.6s,mb4.4							
BRVK				*e*pP		pP	17 27 16.3	-2.9
ANMO	**Albuquerque**	**57.76**	**73**⇑	*e*P		**P**	**17 27 07.9**	**+0.2**
ARU	**Arti**	**59.84**	**324**	*e*P		**P**	**17 27 17.1**	**-4.6**
ARU				*e*S		**S**	**17 35 26.8**	**-1.3**
ARU				*e*			17 37 02.9	
ARU				*e*SS		SS	17 39 22.0	-3.9
AMTX	**Amarillo**	**60.64**	**70**	*e*P		**P**	**17 27 27.2**	**

comp=Z,1.9nm,0.9s,mb4.1,baz=11,slow=6.3,SNR=3.4
NOA NORSAR Array B 66.94 351 P P 17 28 08.5 +0.3
JIRN Jiri 67.25 286 *eP* **P 17 28 10.5 -0.2**
comp=Z,7.4nm,0.5s,mb4.9
KKN Kakani 67.70 287 *eP* **P 17 28 13.0 -0.5**
comp=Z,10nm,0.5s,mb5.1
PKI Pulchoki 67.78 287 *eP* **P 17 28 13.4 -0.6**
GKN Gorkha 67.92 287 *eP* **P 17 28 14.0 -0.9**
comp=Z,5.8nm,0.6s,mb4.8
DMN Daman 67.94 287 *eP* **P 17 28 14.8 -0.2**
comp=Z,5.8nm,0.5s,mb4.9
MYNC Murphy 70.37 58 *eP* **P 17 28 29.2 -0.6**
MYNC pmax pmax
comp=Z,11nm,0.9s,mb4.8
MYNC Murphy 70.37 58 *eP* **P 17 28 29.2 -0.6**
comp=Z,11nm,0.9s,mb4.8
AKASG Malin Array Be 73.77 337 P **P 17 28 50.2 +0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 73.77 337 P **P 17 28 50.2 +0.6**
comp=Z,2.3nm,0.6s,mb4.3,baz=26,slow=6.0,SNR=8.0
KSP Ksiaz 76.24 345 *eP* **P 17 29 04.6 +0.8**
OJC Ojcow 76.24 343 *eP* **P 17 29 04.7 +0.9**
UPC Upice 76.61 345 *eP* **P 17 29 07.3 +1.4**
DPC Dobruska-Polom 76.71 345 *eP* **P 17 29 08.0 +1.5**
PVCC Panska Ves 76.81 346 *eP* **P 17 29 08.1 +1.1**
OKC Ostrava-Krasne 76.90 344 *eP* **P 17 29 09.2 +1.6**
MORC Moravsky Berou 77.06 344 *eP* **P 17 29 10.0 +1.5**
MORC pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
MORC Moravsky Berou 77.06 344 *eP* **P 17 29 10.0 +1.5**
comp=Z,8.7nm,1.3s,mb4.5
PRU Pruhonice 77.34 346 *eP* **P 17 29 11.2 +1.2**
KHC Kasperske Hory 78.31 347 *eP* **P 17 29 16.0 +0.6**
KHC Kasperske Hory 78.31 347 *eP* **P 17 29 16.5 +1.1**
GERES GERESS Array B 78.58 347 P **P 17 29 18.0 +1.2**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES GERESS Array B 78.58 347 P **P 17 29 18.0 +1.2**
comp=Z,1.6nm,0.6s,mb4.1,baz=28,slow=5.3,SNR=12
WRA Warramunga Arr 78.93 217 P **P 17 29 20.9 +1.5**
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 78.93 217 P **P 17 29 20.9 +1.5**
comp=Z,0.7nm,1.0s,mb3.5,baz=29,slow=6.3,SNR=2.7
BRTR Keskin Array B 82.64 330 P **P 17 29 39.7 +1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 82.64 330 P **P 17 29 39.7 +1.1**
comp=Z,0.9nm,0.7s,mb3.9,baz=50,slow=3.6,SNR=8.3

*IDC **19** 17:32:25.7±0.8, 4.64N×94.99E, mb4.6/13, mb1 4.7/14, mb1mx4.5/21, mbtmp4.7/14, ML5.0/1, MS3.6/3, Ms1 3.7/3, ms1mx3.0/25, Error ellipse: s-maj=32.3km s-min=15.2km az=47.0*
*BJI **19** 17:32:28.5, 4.28N×95.20E, h52km, mB5.0, mb5.1, Ms4.0, Msz3.9*
*MOS **19** 17:32:29.4±1.1, 4.94N×95.39E, h33km, mb5.2/13, Error ellipse: s-maj=19.4km s-min=8.5km az=111.2*
*NEIC **19** 17:32:30.7±0.3, 4.71N×95.16E, h30km, mb5.0/17, Error ellipse: s-maj=12.7km s-min=6.5km az=47.0*
ISC 19 17:32:28.9±0.4, 4.74N±0.06×95.26E±0.06, h30km, n107, σ1§17/105, mb4.8/44, MS4.2/11, 6C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SNG	**Songkhla**	**5.85**	**65**	P		**Pn**	**17 34 02.0**	**+6.0**
	240nm,1.0s							
NNT	**Nongplab**	**8.96**	**29**	P		**P**	**17 34 45.0**	**+5.5**
KKTK	**Khon Kaen**	**13.71**	**32**	P		**P**	**17 35 51.0**	**+7.1**
CMAR	**Chiang Mai Arr**	**14.10**	**15**	Pn		**P**	**17 35 54.5**	**+5.5**
	2.2nm,0.3s,baz=207,slow=11,SNR=118							
CMAR				LR		LR	17 41 08.3	
	comp=Z,182nm,21.5s,baz=205,slow=37							
CHG	**Chiang Mai**	**14.44**	**14**	P		**P**	**17 36 01.6**	**+8.1**
	32nm,0.7s							
KOD	**Kodaikanal**	**18.46**	**288**	*eP*		**P**	**17 36 43.8**	**-0.8**
KOD				*e*			17 36 47.7	
	comp=Z,14nm,0.6s							
HYB	**Hyderabad**	**20.64**	**309**	*eP*		**P**	**17 37 10.0**	**+1.1**
HYB				*eS*		**S**	**17 40 53.0**	**-0.1**
HYB	**Hyderabad**	**20.64**	**309**	*iP*		**P**	**17 37 10.0**	**+1.1**
HYB				*eS*		**S**	**17 40 53.0**	**-0.1**
GOA	**Goa**	**23.62**	**298**	*eP*		**P**	**17 37 39.5**	**+0.9**
GOA				*e*			17 37 39.5	
	comp=Z,8.7nm,0.3s							
JIRN	**Jiri**	**24.37**	**340**	*eP*		**P**	**17 37 46.3**	**+0.5**
	comp=Z,26nm,0.5s,mb4.9							
PKI	**Pulchoki**	**24.57**	**339**	*eP*		**P**	**17 37 48.1**	**+0.4**
	comp=Z,13nm,0.6s,mb4.6							
DMN	**Daman**	**24.71**	**338**	*eP*		**P**	**17 37 49.7**	**+0.6**
KKN	**Kakani**	**24.81**	**339**	*eP*		**P**	**17 37 49.7**	**-0.4**
	comp=Z,15nm,0.7s,mb4.6							
LSA	**Lhasa**	**25.12**	**352**	P		**P**	**17 37 53.3**	**+0.3**
LSA	**Lhasa**	**25.12**	**352**	*eP*		**P**	**17 37 53.7**	**+0.7**
LSA				pmax		pmax		
	comp=Z,16nm,0.6s,mb4.7							
LSA	**Lhasa**	**25.12**	**352**	*eP*		**P**	**17 37 53.7**	**+0.7**
	comp=Z,16nm,0.6s,mb4.7							
GKN	**Gorkha**	**25.24**	**338**	*eP*		**P**	**17 37 53.3**	**-0.8**
	comp=Z,15nm,0.3s,mb5.0							
KOLN	**Koldanda**	**25.45**	**335**	*eP*		**P**	**17 37 56.2**	**+0.1**
	comp=Z,51nm,0.6s,mb5.2							
ENH	**Enshi**	**28.72**	**26**	*eP*		**P**	**17 38 25.3**	**-0.7**
	comp=Z,12nm,0.9s,mb4.6							
NDI	**New Delhi**	**29.33**	**326**	*eP*		**P**	**17 38 32.3**	**+0.8**
NDI				*e*			17 38 33.0	
	comp=Z,7.4nm,0.4s							
SMLA	**Simla**	**31.28**	**329**	*eP*		**P**	**17 38 49.5**	**+0.8**
SMLA				*e*			17 38 54.0	
	comp=Z,8.0nm,0.9s							
XAN	**Xi'an**	**31.80**	**22**	P		**P**	**17 38 52.5**	**-0.7**
XAN				AMB		AMB		
	comp=Z,20nm,0.6s,mb5.1							
NJ2	**Nanjing**	**35.02**	**36**	*eP*		**P**	**17 39 20.0**	**-1.2**
NJ2				AP		pP	17 39 29.8	-0.3
NJ2				XP		sP	17 39 37.0	+3.1
NJ2				PP		PP	17 40 38.1	-1.7
NJ2				S		**S**	**17 44 48.0**	**-2.4**
NJ2				AMB		AMB		
	comp=Z,150nm,6.0s							
NJ2				LR		LR		
	comp=N,210nm,16.6s,MS4.2							
NJ2				LR		LR		
	comp=E,230nm,15.8s,MS4.2							
NJ2				LR		LR		
	comp=Z,500nm,14.1s,MS4.4							
SSE	**Sheshan**	**35.80**	**40**	P		**P**	**17 39 24.3**	**-3.4**
SSE				SS		SS	17 47 23.8	-0.2
SSE				AMB		AMB		
	comp=Z,30nm,0.7s,mb5.3							
SSE				AMB		AMB		
	comp=Z,67nm,3.8s							
SSE				LR		LR		
	comp=N,35nm,19.2s,MS3.5							
SSE				LR		LR		
	comp=E,67nm,19.1s,MS3.5							
SSE				LR		LR		
	comp=Z,91nm,19.4s,MS3.5							
FITZ	**Fitzroy Crossi**	**37.59**	**128**	*eP*		**P**	**17 39 42.5**	**-0.4**
	comp=Z,5.8nm,0.6s,mb4.5							
JOW	**Kunigami**	**38.41**	**52**	P		**P**	**17 39 51.9**	**+2.2**
	comp=Z,13nm,0.5s,mb4.9,baz=42,slow=21,SNR=4.7							
WMQ	**Urumqi**	**39.48**	**351**	*eP*		**P**	**17 39 59.0**	**+0.5**
WMQ				AP		pP	17 40 08.8	+1.3
WMQ				PP		PP	17 41 34.4	+1.3
WMQ				S		**S**	**17 45 58.8**	**+0.4**
WMQ				AMB		AMB		
	comp=Z,11nm,1.3s,mb4.4							
WMQ				AMB		AMB		
	comp=Z,72nm,5.0s							
BJT	**Baijiatuau**	**39.86**	**25**	*eP*		**P**	**17 40 03.8**	**+2.0**
	comp=Z,46nm,0.9s,mb5.2							
ULHL	**Ulahol**	**41.01**	**338**	P		**P**	**17 40 12.3**	**+1.2**
	SNR=5.2							
KZA	**Kyzart**	**41.23**	**337**	P		**P**	**17 40 14.7**	**+1.7**
	SNR=14							
UCH	**Uchtor**	**41.65**	**337**	P		**P**	**17 40 18.0**	**+1.6**
	SNR=36							
TKM2	**Tokmak 2**	**41.83**	**338**	P		**P**	**17 40 19.1**	**+1.3**
	SNR=22							
KBK	**Karagaybulak**	**41.84**	**337**	P		**P**	**17 40 19.9**	**+1.9**
	SNR=73							
AML	**Almayashu**	**41.90**	**336**	P		**P**	**17 40 20.2**	**+1.8**
	SNR=6.0							
AAK	**Ala-Archa**	**42.00**	**337**	P		**P**	**17 40 21.2**	**+1.9**
	SNR=26							
AAK	**Ala-Archa**	**42.00**	**337⇓**	*eP*		**P**	**17 40 20.1**	**+0.9**
AAK				pmax		pmax		
	comp=Z,17nm,0.6s,mb4.8							
AAK				MLR		MLR		
	comp=Z,100nm,19.0s,MS3.7							
AAK	**Ala-Archa**	**42.00**	**337**	*eP*		**P**	**17 40 19.5**	**+0.2**
	comp=Z,16nm,0.7s,mb4.8							
CHMS	**Chumysh**	**42.21**	**338**	P		**P**	**17 40 22.1**	**+1.1**
	SNR=10							
EKS2	**Erkin-Say**	**42.31**	**336**	P		**P**	**17 40 23.5**	**+1.8**
	SNR=6.4							
USP	**Ospenovka**	**42.54**	**337**	P		**P**	**17 40 24.6**	**+1.0**
	SNR=46							
MKAR	**Makanchi Array**	**43.37**	**347**	*iP*		**P**	**17 40 30.0**	**-0.3**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
SONM	**Songino Array**	**43.98**	**11**	P		**P**	**17 40 35.3**	**0.0**
	comp=Z,1.8nm,0.8s,mb3.9,baz=188,slow=9.4,SNR=12							
SONM				PcP		PcP	17 42 21.2	-0.1
	comp=Z,3.6nm,0.7s,baz=195,slow=4.1,SNR=12							
SNY	**Shenyang**	**44.74**	**30**	⇓P		**P**	**17 40 42.5**	**+0.9**
SNY				AMB		AMB		
	comp=Z,20nm,0.7s,mb5.1							
WRA	**Warramunga Arr**	**45.58**	**124**	*iP*		**P**	**17 40 49.1**	**+0.6**
WRA				pmax		pmax		
	comp=Z,25nm,0.7s							
WRA	**Warramunga Arr**	**45.58**	**124**	P		**P**	**17 40 49.1**	**+0.6**
	comp=Z,25nm,0.7s,mb5.2,baz=302,slow=9.2,SNR=139							
WRAB	**Tennant Creek**	**45.58**	**124**	*ciP*		**P**	**17 40 49.3**	**+0.8**
WRAB	**Tennant Creek**	**45.58**	**124**	*eP*		**P**	**17 40 49.1**	**+0.6**
	comp=Z,36nm,0.8s,mb5.3							
WB2	**Warramunga Arr**	**45.59**	**124⇑**	*iP*		**P**	**17 40 49.0**	**+0.5**
ZAK	**Zakamensk**	**45.98**	**7**	*eP*		**P**	**17 40 50.4**	**-0.8**
ZAK				*e*			17 42 26.5	
ASPA	**Alice Springs**	**47.08**	**129**	*eP*		**P**	**17 41 01.0**	**+0.7**
ASAR	**Alice Springs**	**47.09**	**129**	P		**P**	**17 41 00.7**	**+0.3**
	comp=Z,5.4nm,0.8s,mb4.5,baz=298,slow=7.8,SNR=53							
ASAR				PcP		PcP	17 42 32.3	-0.1
	comp=Z,1.8nm,0.7s,baz=318,slow=3.9,SNR=5.3							
KURK	**Kurchatov**	**47.90**	**346**	*eP*		**P**	**17 41 06.3**	**-0.1**
KURK				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb4.9							
KURK	**Kurchatov**	**47.90**	**346**	*eP*		**P**	**17 41 06.3**	**-0.1**
	comp=Z,7.3nm,0.6s,mb4.9							
HIA	**Hailar**	**48.99**	**21**	*eP*		**P**	**17 41 14.3**	**-0.4**
	comp=Z,5.3nm,0.6s,mb4.8							
HIA				LR		LR		
	comp=Z,471nm,22.0s,MS4.4							
ZAL	**Zalesovo**	**49.78**	**352**	P		**P**	**17 41 19.7**	**-1.1**
	comp=Z,5.5nm,0.5s,mb4.8,baz=311,slow=6.5,SNR=30							
MDJ	**Mudanjiang**	**49.81**	**32**	*eP*		**P**	**17 41 22.2**	**+1.0**
	comp=Z,10nm,0.6s,mb5.0							
NVS	**Novosibirsk**	**50.89**	**351**	*eP*		**P**	**17 41 26.2**	**-3.0**
BVA0	**Borovoye Array**	**52.29**	**341**	P		**P**	**17 41 39.0**	**-0.9**
BVA0				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
BVAR	**Borovoye Array**	**52.29**	**341**	P		**P**	**17 41 39.5**	**-0.4**
	comp=Z,18nm,0.6s,mb5.2,baz=141,slow=9.5,SNR=172							
BRVK	**Borovoye**	**52.35**	**341**	*eP*		**P**	**17 41 39.5**	**-0.9**
BRVK				pmax		pmax		
	comp=Z,20nm,0.6s,mb5.2							
BRVK	**Borovoye**	**52.35**	**341**	*eP*		**P**	**17 41 39.5**	**-0.9**
	comp=Z,20nm,0.6s,mb5.2							
KLR	**Kul'dur**	**54.04**	**29**	*eP*		**P**	**17 41 50.0**	**-2.8**
KLR				MLR		MLR		
	comp=E,600nm,13.0s							
KLR				MLR		MLR		
	comp=Z,1μm,13.0s,MS5.1							
BOD	**Bodaibo**	**54.94**	**12**	*eP*		**P**	**17 41 56.6**	**-2.8**
CTA	**Charters Tower**	**55.84**	**118**	LR		LR	18 07 05.7	
	comp=Z,86nm,18.4s,MS3.9,baz=130,slow=37							
ASAJ	**Asahikawa**	**57.08**	**39**	P		**P**	**17 42 15.8**	**+0.8**
	comp=Z,3.4nm,0.6s,mb4.5,baz=270,slow=13,SNR=3.5							
STKA	**Stephens Creek**	**57.16**	**133**	P		**P**	**17 42 14.7**	**-1.1**
	comp=Z,2.7nm,0.7s,mb4.4,baz=350,slow=18,SNR=3.4							
GNI	**Garni**	**57.42**	**315**	*iP*		**P**	**17 42 20.2**	**+2.8**
GNI				pmax		pmax		
	comp=Z,9.0nm,1.2s							
GNI				MLR		MLR		
	comp=Z,100nm,15.0s							
KMBO	**Kilima Mbogo**	**58.24**	**266**	LR		LR	18 04 23.2	
	comp=Z,54nm,19.1s,MS3.7,baz=95,slow=33							
YSS	**Yuzh-Sakhalins**	**58.59**	**36**	*eP*		**P**	**17 42 25.0**	**-0.5**
YSS				*e*			17 42 39.0	
YSS				pmax		pmax		
	comp=Z,30nm,1.0s,mb5.3							
YSS	**Yuzh-Sakhalins**	**58.59**	**36**	*eP*		**P**	**17 42 25.3**	**-0.1**
	comp=Z,24nm,1.0s,mb5.2							
YSS				LR		LR		
	comp=Z,524nm,21.0s,MS4.6							
SVE	**Sverdlovsk**	**58.70**	**339**	*eP*		**P**	**17 42 25.7**	**-0.4**
ARU	**Arti**	**59.19**	**337⇑**	*iP*		**P**	**17 42 24.1**	**-5.4**
ARU				*e*			17 43 11.3	
ARU				*eS*		**S**	**17 50 26.3**	**-7.0**
ARU				*eSS*		SS	17 54 25.5	-3.9
ARU				pmax		pmax		
	comp=Z,10.0nm,1.2s,mb4.7							
KIV	**Kislovodsk**	**60.38**	**319**	*eP*		**P**	**17 42 36.8**	**-1.0**
KIV				*eS*		**S**	**17 50 47.5**	**-1.3**
KIV				*eSS*		SS	17 54 49.2	+1.3
KIV				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.8							
KIV				MLR		MLR		
	comp=N,86nm,16.0s,MS4.1							
KIV				MLR		MLR		
	comp=E,81nm,16.0s,MS4.1							
KIV				MLR		MLR		
	comp=Z,103nm,16.0s,MS4.1							
KIV	**Kislovodsk**	**60.38**	**319**	*eP*		**P**	**17 42 36.4**	**-1.4**
	comp=Z,11nm,0.9s,mb4.9							
SOC	**Sochi**	**62.21**	**317**	*eP*		**P**	**17 42 48.3**	**-2.0**
SOC				*e*			17 43 27.2	
SOC				*e*			17 45 08.1	
SOC				*ePPP*		PPP	17 46 35.0	-3.7
SOC				*eS*		**S**	**17 51 09.7**	**-2.4**
SOC				*e*			17 52 39.4	
SOC				pmax		pmax		
	comp=Z,12nm,0.8s,mb5.1							
SOC				pmax		pmax		
	comp=N,13nm,0.7s							
SOC				pmax		pmax		
	comp=E,9.0nm,0.6s							
YAK	**Yakutsk**	**62.61**	**17**	*ciP*		**P**	**17 42 51.0**	**-1.6**
YAK				pmax		pmax		
	comp=Z,17nm,0.9s,mb5.2							
YAK				MLR		MLR		
	comp=Z,300nm,11.0s,MS4.7							
YAK	**Yakutsk**	**62.61**	**17**	*eP*		**P**	**17 42 51.1**	**-1.6**
	comp=Z,16nm,0.8s,mb5.2							
YAK				LR		LR		
	comp=Z,174nm,19.0s,MS4.2							
BRTR	**Keskin Array B**	**65.31**	**312**	P		**P**	**17 43 09.2**	**-1.5**
	comp=Z,3.7nm,0.6s,mb4.6,baz=133,slow=7.4,SNR=40							
VRSR	**Storozhevoye**	**65.56**	**325**	*eP*		**P**	**17 43 10.0**	**-2.0**
VRSR				pmax		pmax		
	comp=Z,9.0nm,0.7s,mb4.9							
VRSR				pmax		pmax		
	comp=N,7.0nm,0.8s							
VRSR				pmax		pmax		
	comp=E,10.0nm,0.7s							
TIXI	**Tiksi**	**70.07**	**11⇑**	*iP*		**P**	**17 43 37.0**	**-2.9**
TIXI				pmax		pmax		
	comp=Z,12nm,0.7s,mb4.9							
TIXI				MLR		MLR		
	comp=Z,247nm,17.0s,MS4.5							
AKASG	**Malin Array Be**	**71.29**	**322**	P		**P**	**17 43 45.7**	**-1.9**
	comp=Z,7.3nm,0.6s,mb4.8,baz=87,slow=5.2,SNR=41							
JOF	**Joensuu**	**74.13**	**335**	*ep*		**P**	**17 44 00.8**	**-3.3**
	comp=Z,10nm,0.8s,mb4.8							
JOF	**Joensuu**	**74.13**	**335**	*eP*		**P**	**17 44 00.8**	**-3.3**
JOF				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.8							
KWP	**Kalwaria**	**75.12**	**320**	*eP*		**P**	**17 44 10.0**	**-0.1**
	comp=Z,16nm,0.8s,mb5.0							
KOLS	**Kolonicke sedl**	**75.28**	**319**	*eP*		**P**	**17 44 11.3**	**+0.3**
KOLS				*e*			17 44 15.5	
CRVS	**Cervenica-Dubn**	**75.80**	**319**	*eP*		**P**	**17 44 13.9**	**-0.1**
FINES	**FINESS Array B**	**75.98**	**332**	P		**P**	**17 44 14.1**	**-0.7**
	comp=Z,3.5nm,0.4s,mb4.6,baz=102,slow=6.2,SNR=52							
FINES	**FINESS Array B**	**75.98**	**332**	P		**P**	**17 44 14.1**	**-0.7**
KAF	**Kangasniemi**	**76.07**	**333**	*ep*		**P**	**17 44 14.1**	**-1.1**
OJC	**Ojcow**	**77.07**	**320**	*eP*		**P**	**17 44 20.9**	**-0.2**
VYHS	**Vyhne**	**77.47**	**319**	*eP*		**P**	**17 44 23.0**	**-0.3**
OKC	**Ostrava-Krasne**	**78.08**	**320**	*eP*		**P**	**17 44 27.0**	**+0.4**
KEV	**Kevo**	**78.14**	**341**	*ep*		**P**	**17 44 25.4**	**-1.1**
	comp=Z,18nm,1.2s,mb4.9							
KEV	**Kevo**	**78.14**	**341**	*eP*		**P**	**17 44 25.4**	**-1.1**
KEV				pmax		pmax		
	comp=Z,19nm,1.2s,mb4.9							
ARCES	**ARCESS Array B**	**78.57**	**340**	P		**P**	**17 44 29.0**	**+0.1**
	comp=Z,4.8nm,0.5s,mb4.7,baz=94,slow=5.6,SNR=48							
BILL	**Bilibino**	**78.58**	**21⇓**	*eP*		**P**	**17 44 27.6**	**-1.4**
DPC	**Dobruska-Polom**	**79.30**	**320**	*eP*		**P**	**17 44 34.1**	**+0.8**
DPC				*ex*		x	17 44 49.4	
GERES	**GERESS Array B**	**80.89**	**319**	P		**P**	**17 44 42.4**	**+0.6**
	comp=Z,2.6nm,0.5s,mb4.4,baz=123,slow=5.9,SNR=19							
KHC	**Kasperske Hory**	**80.99**	**319**	*eS*P		sP	17 45 01.5	+6.5
SYO	**Syowa Base**	**82.77**	**197**	⇑X			17 44 49.1	
LPG	**La Plagne**	**85.60**	**315**	*eP*		**P**	**17 45 06.0**	**0.0**
	comp=Z,11nm,0.8s,mb4.9							
IMA	**Indian Mountai**	**94.08**	**22**	*eP*		**P**	**17 45 47.2**	**+1.8**
RES	**Resolute Bay**	**100.46**	**3**	P		P	17 46 13.7	-0.6
	comp=Z,1.6nm,0.9s							
NVAR	**Mina Array Bea**	**126.97**	**33**	PKP		PKPdf	17 51 33.3	-2.4
	comp=Z,0.4nm,0.4s,baz=325,slow=3.3,SNR=4.3							
PDAR	**Pinedale Array**	**127.63**	**23**	PKP		PKPdf	17 51 33.2	-3.7
	comp=Z,0.7nm,0.7s,baz=112,slow=1.9,SNR=5.9							
TXAR	**Lajitas Array**	**141.55**	**27**	PKP		PKPdf	17 52 01.8	-1.4
	comp=Z,0.6nm,0.3s,baz=338,slow=2.1,SNR=3.9							
TXAR	**Lajitas Array**	**141.55**	**27**	PKP		PKPdf	17 52 01.8	-1.4

*BJI **19** 17:45:25.1, 5.38N×93.49E, h28km, mB5.0, mb4.6, Ms4.4, Msz4.2*
*IDC **19** 17:45:26.6±1.0, 5.37N×93.25E, h27km±5km, mb4.0/9, mb1 4.1/10, mb1mx3.9/18, mbtmp4.1/10, ML3.5/1, Error ellipse: s-maj=45.6km s-min=16.6km az=58.0*
*NEIC **19** 17:45:26.9±0.7, 5.43N×93.40E, mb4.3/4, Error ellipse: s-maj=19.2km s-min=9.9km az=61.0*
ISC 19 17:45:25.7±0.7, 5.46N±0.09×93.6E±0.1, h29km, h29km±1.6km:pP-P,n29,σ1§10/29, mb4.2/19, MS4.2/1, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.94**	**22**	Pn		**P**	**17 48 46.0**	**+2.1**
	0.1nm,0.3s,baz=220,slow=14,SNR=23							
SHL	**Shillong**	**20.06**	**356**	*eP*		**P**	**17 49 57.0**	**-2.8**
QIZ	**Qiongzhong**	**20.82**	**48**	*eP*		**P**	**17 50 06.3**	**-1.5**
JIRN	**Jiri**	**23.17**	**343**	*eP*		**P**	**17 50 31.9**	**+0.8**
	5.0nm,0.4s,mb4.3							
PKI	**Pulchoki**	**23.32**	**341**	*eP*		**P**	**17 50 33.9**	**+1.3**
DMN	**Daman**	**23.45**	**341**	*eP*		**P**	**17 50 35.3**	**+1.4**
	19nm,0.9s,mb4.5							
KKN	**Kakani**	**23.57**	**341**	*eP*		**P**	**17 50 36.1**	**+1.1**
	11nm,0.7s,mb4.4							
GKN	**Gorkha**	**23.97**	**340**	*eP*		**P**	**17 50 39.8**	**+0.9**
	8.1nm,0.5s,mb4.5							
KOLN	**Koldanda**	**24.13**	**338**	*eP*		**P**	**17 50 40.6**	**+0.1**
	29nm,1.0s,mb4.6							
LSA	**Lhasa**	**24.22**	**355**	P		**P**	**17 50 43.0**	**+1.7**
LSA	**Lhasa**	**24.22**	**355**	*eP*		**P**	**17 50 43.2**	**+1.9**
	8.8nm,1.3s,mb4.0							
ENH	**Enshi**	**28.88**	**29**	*eP*		**P**	**17 51 23.8**	**-0.6**
WMQ	**Urumqi**	**38.55**	**353**	*eP*		**P**	**17 52 47.7**	**-0.1**
WMQ				AP		pP	17 52 57.5	+1.2
WMQ				XP		sP	17 53 01.4	+1.5
WMQ				PP		PP	17 54 19.9	+0.1
WMQ				S		**S**	**17 58 40.8**	**-0.7**
WMQ				XS			17 58 56.9	
WMQ				AMB		AMB		
	comp=Z,2.0nm,1.2s,mb3.7							
WMQ				LR		LR		
	comp=N,245nm,19.6s,MS4.1							
WMQ				LR		LR		
	comp=E,211nm,20.3s,MS4.1							
WMQ				LR		LR		
	comp=Z,349nm,20.4s,MS4.2							
AAK	**Ala-Archa**	**40.70**	**338**	*eP*		**P**	**17 53 05.5**	**0.0**
	comp=Z,4.1nm,1.0s,mb4.0							
SONM	**Songino Array**	**43.63**	**13**	P		**P**	**17 53 29.8**	**+0.4**
	comp=Z,2.9nm,1.1s,mb3.9,baz=194,slow=5.5,SNR=13							
ULN	**Ulaanbaatar**	**43.80**	**13**	P		**P**	**17 53 29.4**	**-1.5**
KURK	**Kurchatov**	**46.81**	**347**	*eP*		**P**	**17 53 54.4**	**-0.5**
	comp=Z,3.4nm,0.8s,mb4.3							
WRA	**Warramunga Arr**	**47.37**	**123**	P		**P**	**17 54 00.2**	**+0.6**
	comp=Z,8.1nm,0.8s,mb4.7,baz=301,slow=9.0,SNR=44							
WRAB	**Tennant Creek**	**47.37**	**123**	*eP*		**P**	**17 54 00.1**	**+0.4**
	comp=Z,16nm,0.9s,mb5.0							
WB2	**Warramunga Arr**	**47.38**	**123⇓**	*iP*		**P**	**17 54 00.3**	**+0.6**
ASAR	**Alice Springs**	**48.84**	**128**	P		**P**	**17 54 11.6**	**+0.5**
	comp=Z,3.0nm,1.0s,mb4.3,baz=297,slow=7.9,SNR=28							
ZAL	**Zalesovo**	**48.86**	**353**	P		**P**	**17 54 10.5**	**-0.2**
	comp=Z,1.2nm,0.8s,mb4.0,baz=279,slow=7.7,SNR=7.2							
ZAL				pP		pP	17 54 18.6	-0.9
	comp=Z,2.1nm,0.5s,baz=289,slow=7.0,SNR=7.8							
BVAR	**Borovoye Array**	**51.09**	**342**	P		**P**	**17 54 24.7**	**-3.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=146,slow=11,SNR=4.2							
BVAR				pP		pP	17 54 34.6	-2.0
	comp=Z,1.4nm,0.7s,baz=141,slow=9.5,SNR=9.4							
BRVK	**Borovoye**	**51.15**	**342**	P

comp=Z,17nm,1.0s
HIA Hailar 22.17 320 *eP* **P 17 57 55.2 -2.4**
HIA pmax pmax
comp=Z,13nm,1.0s
HIA Hailar 22.17 320 *eP* **P 17 57 55.2 -2.4**
comp=Z,13nm,1.0s,mb4.3
CLNS Chul'man 25.44 338 *eP* **P 17 58 28.2 -1.0**
CLNS pmax pmax
comp=Z,11nm,1.0s,mb4.3
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,0.7s
ENH Enshi 27.42 271 *eP* **P 17 58 45.3 -2.4**
LUBP Lubang 28.07 229 *eP* **P 17 58 56.8 +3.1**
YAK Yakutsk 28.95 348 *eP* **P 17 59 00.4 -0.8**
YAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
YAK Yakutsk 28.95 348 *eP* **P 17 59 00.4 -0.8**
comp=Z,4.9nm,0.7s,mb4.3
ULN Ulaanbaatar 29.23 308 *eP* **P 17 59 04.5 +0.7**
ULN pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
ULN Ulaanbaatar 29.23 308 *eP* **P 17 59 04.5 +0.7**
comp=Z,6.7nm,0.9s,mb4.4
SONM Songino Array 29.65 308 P **P 17 59 07.9 +0.4**
comp=Z,3.9nm,0.8s,mb4.2,baz=106,slow=8.5,SNR=30
BOD Bodaibo 30.12 330 *eP* **P 17 59 10.2 -1.4**
ZAK Zakamensk 32.29 312 *i P* **P 17 59 31.4 +0.6**
TLY Talaya 32.44 314 *eP* **P 17 59 33.1 +1.0**
TLY pmax pmax
comp=Z,10.0nm,1.5s,mb4.4
TLY MLR MLR
comp=Z,337nm,14.0s,MS4.2
TLY Talaya 32.44 314 *eP* **P 17 59 33.0 +0.9**
comp=Z,1.5nm,0.5s,mb4.1
CMAR Chiang Mai Arr 41.02 259 P **P 18 00 44.0 -0.8**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 41.02 259 P **P 18 00 44.0 -0.8**
comp=Z,1.4nm,0.8s,mb3.6,baz=50,slow=7.5,SNR=12
WMQ Urumqi 42.38 300 *eP* **P 18 00 55.7 0.0**
WMQ S **S 18 07 12.4 -1.6**
WMQ AMB AMB
comp=Z,2.0nm,1.4s,mb3.5
WMQ LR LR
comp=N,121nm,20.1s,MS4.1
WMQ LR LR
comp=E,256nm,21.3s,MS4.1
WMQ LR LR
comp=Z,242nm,20.4s,MS4.1
LSA Lhasa 42.74 278 *eP* **P 18 00 59.4 +0.5**
LSA pmax pmax
comp=Z,5.0nm,1.2s,mb4.1
LSA Lhasa 42.74 278 *eP* **P 18 00 59.4 +0.5**
comp=Z,4.9nm,1.2s,mb4.1
ZAL Zalesovo 44.06 315 P **P 18 01 09.3 0.0**
ZAL pmax pmax
comp=Z,2.0nm,0.8s
ZAL Zalesovo 44.06 315 P **P 18 01 09.3 0.0**
comp=Z,1.6nm,0.8s,mb3.8,baz=18,slow=6.9,SNR=11
JIRN Jiri 47.53 278 *eP* **P 18 01 37.4 +0.2**
comp=Z,47nm,1.1s,mb5.4
KURK Kurchatov 47.91 310 *eP* **P 18 01 39.1 -0.7**
KURK pmax pmax
comp=Z,14nm,1.0s,mb5.0
KURK Kurchatov 47.91 310 *eP* **P 18 01 39.1 -0.7**
comp=Z,14nm,1.0s,mb5.0
PKI Pulchoki 48.21 278 *eP* **P 18 01 41.7 -0.7**
comp=Z,25nm,1.1s,mb5.2
KKN Kakani 48.23 279 *eP* **P 18 01 42.1 -0.5**
comp=Z,34nm,1.1s,mb5.3
DMN Daman 48.44 278 *eP* **P 18 01 43.7 -0.5**
comp=Z,17nm,1.0s,mb5.1
GKN Gorkha 48.68 279 *eP* **P 18 01 45.6 -0.4**
comp=Z,59nm,1.0s
KOLN Koldanda 49.62 279 *eP* **P 18 01 53.0 -0.3**
comp=Z,43nm,1.3s,mb5.3
ILAR Eielson Array 51.87 31 P **P 18 02 09.9 0.0**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 51.87 31 P **P 18 02 09.8 0.0**
comp=Z,1.4nm,0.9s,mb3.9,baz=272,slow=5.5,SNR=12
BVAR Borovoye Array 52.70 314 P **P 18 02 16.3 +0.1**
comp=Z,4.1nm,1.1s,mb4.3,baz=90,slow=7.4,SNR=12
BRVK Borovoye 52.76 314 *eP* **P 18 02 16.7 +0.1**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRVK Borovoye 52.76 314 *eP* **P 18 02 16.6 0.0**
comp=Z,2.9nm,0.8s,mb4.3
WRAB Tennant Creek 54.20 188 *eP* **P 18 02 26.5 -1.2**
WRAB pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
WRAB Tennant Creek 54.20 188 *eP* **P 18 02 26.5 -1.3**
comp=Z,10nm,1.1s,mb4.7
WRA Warramunga Arr 54.21 188 P **P 18 02 27.3 -0.5**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 54.21 188 P **P 18 02 27.3 -0.5**
comp=Z,1.5nm,0.6s,mb4.1,baz=5.5,slow=7.5,SNR=23
INK Inuvik 56.91 26 P **P 18 02 44.4 -2.3**
INK pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 56.91 26 P **P 18 02 44.4 -2.3**
comp=Z,1.8nm,0.9s,mb4.1,baz=266,slow=10,SNR=4.4
ASAR Alice Springs 57.93 188 P **P 18 02 54.4 -0.1**
comp=Z,0.9nm,0.6s,mb4.0,baz=5.2,slow=7.2,SNR=8.9
ARU Arti 58.68 320 *eP* **P 18 02 53.0 -6.3**
RES Resolute Bay 65.38 14 *eP* **P 18 03 44.6 +0.9**
RES pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
RES Resolute Bay 65.38 14 *eP* **P 18 03 44.6 +0.9**
comp=Z,1.8nm,0.8s,mb4.2
YKA Yellowknife Ar 66.24 30 P **P 18 03 49.9 +0.6**
YKA pmax pmax
comp=Z,1.0nm,1.1s
YKA Yellowknife Ar 66.24 30 P **P 18 03 49.9 +0.6**
comp=Z,1.1nm,1.1s,mb3.8,baz=294,slow=6.0,SNR=6.9
NVAR Mina Array Bea 76.60 53 P **P 18 04 54.3 +2.5**
comp=Z,0.4nm,0.6s,mb3.6,baz=284,slow=7.4,SNR=3.3
AKASG Malin Array Be 76.72 323 P **P 18 04 51.9 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 76.72 323 P **P 18 04 51.9 -0.3**
comp=Z,2.9nm,0.9s,mb4.2,baz=45,slow=5.9,SNR=8.8
PDAR Pinedale Array 79.58 45 P **P 18 05 10.2 +2.1**
comp=Z,0.9nm,0.8s,mb3.8,baz=315,slow=2.1,SNR=6.7
BRTR Keskin Array B 80.93 312 P **P 18 05 15.7 +0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 80.93 312 P **P 18 05 15.7 +0.3**
comp=Z,1.1nm,0.8s,mb3.9,baz=108,slow=3.9,SNR=8.1
SRU San Rafael 81.20 49 *eP* **P 18 05 19.1 +2.3**
PV10 Paradox Valley 82.56 48 *eP* **P 18 05 26.7 +2.8**
RW3 Ridgway 83.48 48 *eP* **P 18 05 31.4 +2.9**
GERES GERESS Array B 85.29 328 P **P 18 05 38.5 +1.2**
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES GERESS Array B 85.29 328 P **P 18 05 38.5 +1.2**
comp=Z,1.0nm,0.9s,mb4.0,baz=45,slow=3.8,SNR=4.6

IDC 19 18:19:38.1±3.8, 14.07N×93.08E, mb3.8/2, mb1 3.9/3, mb1mx3.5/18, mbtmp3.6/3, ML3.1/1, MS2.9/1, Ms1 3.1/1, ms1mx2.4/25, Error ellipse: s-maj=83.5km s-min=36.4km az=116.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.12**	**51**	Pn		Pn	Pn	18 21 24.9	-1.3
	0.1nm,0.3s,baz=241,slow=14,SNR=5.8								
CMAR				Sn		Sn		18 22 44.1	-4.6
	0.1nm,0.3s,baz=236,slow=23,SNR=3.5								
CMAR				LR		LR	LR	18 24 48.8	
	comp=Z,90nm,19.2s,baz=68,slow=44								
WRA	**Warramunga Arr**	**52.82**	**129**	P		P	P	18 28 55.3	-2.6
	0.5nm,0.5s,baz=308,slow=7.8,SNR=11								
WRA				PcP		PcP	PcP	18 30 05.3	-2.0
	0.2nm,0.5s,baz=314,slow=3.0,SNR=7.0								
ASAR	**Alice Springs**	**54.77**	**133**	P		P	P	18 29 09.9	-2.3
	1.0nm,0.4s,baz=308,slow=6.7,SNR=19								

*NEIC **19** 18:21:11.9±1.2, 23.85S×66.98W, h202km±14km, mb4.2/2, Error ellipse: s-maj=22.4km s-min=14.0km az=152.0*
*GUC **19** 18:21:12.1±0.5, 23.95S×67.45W, h223km±19km, ML4.4*

*IDC **19** 18:21:13.3±1.4, 23.65S×66.99W, h204km±20km, mb1 3.8/4, mb1mx3.4/14, mbtmp4.3/4, Error ellipse: s-maj=28.2km s-min=17.6km az=129.0*
ISC 19 18:21:09.9±0.7, 24.05S±0.04×67.2W±0.1, h230km±18km, n15, σ0§88/20, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.12**	**312**	P		P	**P**	**18 21 53.2**	**+0.9**
	52nm,0.3s,baz=130,slow=6.7,SNR=517								
LVC				S		S	**S**	**18 22 23.7**	**-1.3**
	47nm,0.3s,baz=246,slow=23,SNR=57								
LVC	**Limon Verde**	**2.12**	**312**	∩ *i* P		P	**P**	**18 21 53.2**	**+0.9**
LVC				*i* S		S	**S**	**18 22 24.4**	**-0.6**
LVC				AMP				18 22 26.1	
	comp=E,570nm,0.5s								
ANCH	**Antofagasta**	**2.96**	**276**	*eP*		P	**P**	**18 22 02.8**	**+1.7**
ANCH				*i* S		S	**S**	**18 22 40.5**	**-0.4**
ANCH				AMP				18 22 44.1	
	comp=N,1μm,0.5s								
CPN1	**Cerro Paranal**	**2.98**	**258**	*i* P		P	**P**	**18 22 03.1**	**+1.8**
CPN1				*i* S		S	**S**	**18 22 41.5**	**+0.2**
CPN1				AMP				18 22 45.1	
	comp=E,574nm,0.3s								
CPCH	**Copiapo**	**4.35**	**220**	*i* P		P	**P**	**18 22 17.3**	**-0.4**
CPCH				*i* S		S	**S**	**18 23 09.8**	**-0.5**
VACH	**Vallenar**	**5.52**	**215**	*i* S		S	**S**	**18 23 35.2**	**-1.2**
LPAZ	**La Paz**	**7.77**	**353**	P		P	**P**	**18 23 01.4**	**+0.5**
	comp=E,4.1nm,0.3s,baz=160,slow=9.8,SNR=38								
LPAZ				S		S	**S**	**18 24 26.2**	**-1.6**
	comp=E,0.2nm,0.3s,baz=48,slow=21,SNR=3.6								
LPAZ	**La Paz**	**7.77**	**353**	*eP*		P	**P**	**18 23 01.2**	**+0.3**
	comp=E,15nm,0.6s								
ARE	**Arequipa**	**8.55**	**331**	*eP*		P	**P**	**18 23 11.0**	**0.0**
ARE				*eS*		S	**S**	**18 24 46.0**	**+0.2**
TRQA	**Tornquist**	**14.66**	**164**	*eP*		P	**P**	**18 24 27.9**	**+0.1**
	comp=E,3.2nm,0.5s								
PLCA	**Paso Flores**	**16.87**	**189**	P		P	**P**	**18 25 03.0**	**+9.0**
	comp=E,0.1nm,0.3s,baz=356,slow=7.0,SNR=4.4								
BDFB	**Brasilia**	**19.88**	**69**	P		P	**P**	**18 25 25.3**	**+0.1**
	comp=E,1.6nm,0.3s,baz=250,slow=10.0,SNR=13								
BAO	**Brasilia Array**	**19.90**	**69**	∩ *i* P		P	**P**	**18 25 25.2**	**-0.2**
ASAR	**Alice Springs**	**128.34**	**205**	PKP		PKPdf		18 39 56.0	+6.3
	comp=E,0.9nm,0.9s,baz=169,slow=2.3,SNR=6.0								
WRA	**Warramunga Arr**	**131.50**	**207**	PKP		PKPdf		18 40 01.8	+6.0
	comp=E,0.4nm,0.5s,baz=153,slow=2.0,SNR=11								

IDC 19 18:26:12.2±3.5, 7.00N×91.27E, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=134.7km s-min=27.4km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**42.69**	**15**	P		P	P	18 34 11.2	-1.2
	0.2nm,0.5s,baz=190,slow=8.8,SNR=3.2								
BVAR	**Borovoye Array**	**48.95**	**343**	P		P	P	18 34 59.7	-2.4
	0.5nm,0.8s,baz=135,slow=10,SNR=2.8								
WRA	**Warramunga Arr**	**50.12**	**123**	P		P	P	18 35 09.0	-2.6
	0.7nm,0.7s,baz=305,slow=8.7,SNR=7.6								
ASAR	**Alice Springs**	**51.59**	**128**	P		P	P	18 35 21.2	-1.5
	0.5nm,0.7s,baz=303,slow=8.1,SNR=6.2								

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*IDC **19** 18:29:26.4±1.7, 22.09N×142.87E, h231km±16km, mb3.6/11, mb1 3.7/12, mb1mx3.6/21, mbtmp4.2/12, Error ellipse: s-maj=27.8km s-min=10.8km az=86.0*
*NEIC **19** 18:29:29.6±2.8, 22.09N×142.77E, h265km±28km, mb3.8/6, Error ellipse: s-maj=21.3km s-min=7.2km az=84.0*
ISC 19 18:29:26.1±1.2, 22.09N±0.07×142.8E±0.2, h245km±12km, n27, σ0§63/28, mb3.9/21, 2C, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.01**	**354**	P		P	**P**	**18 30 42.7**	**+0.2**
	7.2nm,0.3s,baz=107,slow=19,SNR=6.0								
CBIJ				S		S	**S**	**18 31 41.6**	**-0.4**
	14nm,0.3s,baz=308,slow=23,SNR=8.4								
MAJO	**Matsushiro**	**14.94**	**346**	*eP*		P	**P**	**18 32 47.6**	**+0.5**
	2.6nm,0.4s								
HIA	**Hailar**	**32.70**	**332**	P		P	**P**	**18 35 36.8**	**-0.6**
	3.9nm,0.6s,mb4.1								
SONM	**Songino Array**	**38.81**	**320**	P		P	**P**	**18 36 29.7**	**+1.0**
	1.4nm,0.5s,mb3.7,baz=133,slow=7.3,SNR=17								
CTA	**Charters Tower**	**42.06**	**175**	P		P	**P**	**18 36 55.9**	**+0.2**
	6.5nm,1.1s,mb4.0,baz=20,slow=6.6,SNR=2.7								
WB2	**Warramunga Arr**	**42.59**	**192**	∩ *i* P		P	**P**	**18 37 00.1**	**+0.1**
WRA	**Warramunga Arr**	**42.59**	**192**	P		P	**P**	**18 37 00.0**	**0.0**
	2.3nm,0.6s,mb3.8,baz=8.4,slow=8.5,SNR=62								
FITZ	**Fitzroy Crossi**	**43.33**	**204**	∩ *i* P		P	**P**	**18 37 06.0**	**0.0**
	5.0nm,1.2s,mb3.8								
ASAR	**Alice Springs**	**46.30**	**191**	P		P	**P**	**18 37 29.2**	**-0.1**
	0.4nm,0.4s,mb3.1,baz=13,slow=5.8,SNR=12								
JIRN	**Jiri**	**51.28**	**288**	*eP*		P	**P**	**18 38 07.0**	**-0.2**
	10nm,0.6s,mb4.4								
PKI	**Pulchoki**	**51.98**	**288**	*eP*		P	**P**	**18 38 11.9**	**-0.5**
KKN	**Kakani**	**52.07**	**289**	*eP*		P	**P**	**18 38 13.4**	**+0.4**
	2.2nm,0.3s,mb4.0								
DMN	**Daman**	**52.25**	**288**	*eP*		P	**P**	**18 38 14.3**	**0.0**
GKN	**Gorkha**	**52.61**	**289**	*eP*		P	**P**	**18 38 17.2**	**+0.3**
	4.3nm,0.4s,mb4.2								
KOLN	**Koldanda**	**53.55**	**289**	*eP*		P	**P**	**18 38 24.2**	**+0.4**
	2.7nm,0.3s,mb4.3								
STKA	**Stephens Creek**	**53.67**	**181**	P		P	**P**	**18 38 24.0**	**-0.7**
	3.6nm,1.1s,mb3.8,baz=9.4,slow=5.4,SNR=3.2								
KURK	**Kurchatov**	**56.94**	**317**	*eP*		P	**P**	**18 38 46.9**	**-0.8**
	1.4nm,0.7s,mb3.7								
ILAR	**Eielson Array**	**61.85**	**27**	P		P	**P**	**18 39 20.6**	**-0.5**
	0.7nm,0.8s,mb3.3,baz=268,slow=5.5,SNR=9.0								
CHKZ	**Chkalovo**	**62.00**	**320**	*eP*		P	**P**	**18 39 22.1**	**-0.1**
	1.0nm,0.6s,mb3.6								
BVAR	**Borovoye Array**	**62.14**	**319**	P		P	**P**	**18 39 23.2**	**+0.1**
	3.4nm,0.4s,mb4.4,baz=94,slow=7.1,SNR=35								
BRVK	**Borovoye**	**62.20**	**319**	*eP*		P	**P**	**18 39 22.5**	**-1.1**
	2.0nm,0.8s,mb3.8								
YKA	**Yellowknife Ar**	**76.28**	**28**	P		P	**P**	**18 40 49.7**	**+0.7**
	0.2nm,0.4s,mb3.1,baz=290,slow=5.8,SNR=4.4								
YKA	**Yellowknife Ar**	**76.28**	**28**	P		P	**P**	**18 40 49.7**	**+0.7**
ARCES	**ARCESS Array B**	**78.44**	**341**	P		P	**P**	**18 41 01.6**	**+0.9**
	12nm,1.2s,mb4.4,baz=78,slow=7.7,SNR=6.4								
JOF	**Joensuu**	**79.81**	**334**	*ep*		P	**P**	**18 41 06.8**	**-1.3**
	1.6nm,0.3s,mb4.1								
FINES	**FINESS Array B**	**82.67**	**334**	P		P	**P**	**18 41 23.0**	**0.0**
	1.4nm,0.3s,mb4.1,baz=65,slow=5.9,SNR=26								
AKASG	**Malin Array Be**	**86.98**	**324**	P		P	**P**	**18 41 46.2**	**+1.7**
	0.1nm,0.2s,mb3.1,baz=55,slow=5.1,SNR=4.5								

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*IDC **19** 18:34:15.9±2.7, 34.77N×24.97E, mb4.1/1, mb1 3.8/5, mb1mx3.5/20, mbtmp3.7/5, ML4.0/3, Error ellipse: s-maj=50.9km s-min=13.9km az=70.0*
*ATH **19** 18:34:16.9, 34.84N×24.87E, h12km±3km, MD3.7/14*
*NEIC **19** 18:34:16.9, 34.84N×24.87E, h12km, MD3.7(ATH), After ATH.*
*CSEM **19** 18:34:17.5±0.1, 34.62N×25.20E, h60km, MD3.7, Error ellipse: s-maj=3.3km s-min=1.5km az=76.0*
*HLW **19** 18:34:18.4, 34.70N×25.01E, h30km, Mb3.6*
ISC 19 18:34:17.5±0.4, 34.57N±0.03×25.09E±0.06, h53km±12km, n46, σ1§07/49, mb4.2/1, 2C, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.58**	**58**	*ePB*		**P**	**P**	**18 34 30.0**	**+0.1**
IDI	**Anoyia**	**0.74**	**347**	Pg		**P**	**P**	**18 34 26.0**	**-5.9**
	161nm,0.3s,baz=194,slow=14,SNR=442								
IDI				Lg				18 34 33.1	
	2μm,0.3s,baz=276,slow=23,SNR=204								
NPS	**Neapolis**	**0.81**	**32**	∩ *i* PG		**P**	**P**	**18 34 31.1**	**-1.8**
GVD	**Gavdhos**	**0.87**	**288**	*ePB*		**P**	**P**	**18 34 28.7**	**-5.0**
VAM	**Vamos**	**1.11**	**319**	∩ *i* PG		**P**	**P**	**18 34 31.6**	**-5.4**
KARP	**Karpathos**	**1.96**	**60**	*ePN*		**P**	**P**	**18 34 53.4**	**+4.5**
KYTH	**Kithira**	**2.40**	**316**	*ePN*		**P**	**P**	**18 34 53.6**	**-1.6**
APE	**Apeiranthos**	**2.52**	**8**	*ePB*		**P**	**P**	**18 34 56.0**	**-0.9**
VLI	**Veliai**	**2.77**	**321**	*ePN*		**P**	**P**	**18 34 59.1**	**-1.4**
ARG	**Arkhangelos**	**2.97**	**56**	*ePN*		**P**	**P**	**18 35 06.0**	**+2.6**
SLUM		**3.07**	**178**	P		**P**	**P**	**18 35 06.0**	**+1.2**
SLUM				S		**S**	**S**	**18 35 42.0**	**+1.5**
BDRM	**Kayabasi**	**3.14**	**37**	*i P*		**P**	**P**	**18 35 07.5**	**+1.8**
SMG	**Samos**	**3.44**	**24**	*ePN*		**P**	**P**	**18 35 10.0**	**+0.1**
NSAL	**Nisos Salamina**	**3.58**	**339**	*ePB*		**P**	**P**	**18 35 12.0**	**+0.1**
PTL	**Penteli**	**3.61**	**344**	*ePN*		**P**	**P**	**18 35 11.5**	**-0.9**
ITM	**Ithomi**	**3.66**	**316**	*ePB*		**P**	**P**	**18 35 14.5**	**+1.5**
MPAR	**Parnis Oros**	**3.74**	**343**	*ePN*		**P**	**P**	**18 35 13.3**	**-0.9**
HMAT	**Matruh**	**3.85**	**153**	P		**P**	**P**	**18 35 17.2**	**+1.4**
DNZL	**Cakiroluk**	**4.46**	**45**	*i* P		**P**	**P**	**18 35 25.7**	**+1.3**
MANT	**Manisa**	**4.81**	**34**	*i* P		**P**	**P**	**18 35 30.5**	**+1.4**
SWA1		**5.32**	**174**	P		**P**	**P**	**18 35 37.0**	**+0.7**
SWA2		**5.32**	**177**	P		**P**	**P**	**18 35 36.6**	**+0.3**
HBRG	**Burj al 'Arab**	**5.65**	**134**	P		**P**	**P**	**18 35 42.4**	**+1.5**
HMYD	**Mayadein**	**6.79**	**133**	P		**P**	**P**	**18 35 56.6**	**-0.3**
HNAT	**Natroun**	**6.80**	**135**	P		**P**	**P**	**18 35 57.7**	**+0.8**
AWBH		**7.03**	**151**	P		**P**	**P**	**18 35 59.4**	**-0.8**
HSAF	**As Saff**	**7.38**	**130**	P		**P**	**P**	**18 36 04.6**	**-0.4**
GLL	**Jalalah**	**7.50**	**130**	P		**P**	**P**	**18 36 06.5**	**-0.3**
HHAG	**Hagoal**	**7.51**	**126**	P		**P**	**P**	**18 36 07.0**	**+0.2**
HFRF	**Wahat Farafira**	**7.90**	**159**	P		**P**	**P**	**18 36 12.2**	**0.0**
SUZ		**8.08**	**124**	P		**P**	**P**	**18 36 13.9**	**-0.7**
SUZ		**8.08**	**124**	P		**P**	**P**	**18 36 13.9**	**-0.8**
BRTR	**Keskin Array B**	**8.54**	**50**	Pn		**P**	**P**	**18 36 21.1**	**-0.1**
	0.1nm,0.3s,baz=221,slow=14,SNR=4.8								
BRTR	**Keskin Array B**	**8.54**	**50**	Pn		**P**	**P**	**18 36 21.0**	**-0.1**
ASUT		**9.05**	**140**	P		**P**	**P**	**18 36 27.6**	**-0.5**
TR2		**9.60**	**128**	P		**P**	**P**	**18 36 34.3**	**-1.5**
EIL	**Elat**	**9.68**	**118**	Pn		**P**	**P**	**18 36 37.1**	**+0.4**
	0.8nm,0.3s,baz=214,slow=3.6,SNR=7.3								
EIL				Sn		**S**	**S**	**18 38 22.3**	**-2.8**
	0.7nm,0.3s,baz=165,slow=16,SNR=3.0								
EIL	**Elat**	**9.68**	**118**	Pn		**P**	**P**	**18 36 37.1**	**+0.4**
EIL				Sn		**S**	**S**	**18 38 22.3**	**-2.8**
HKAT	**Jabal Katrina**	**9.69**	**126**	P		**P**	**P**	**18 36 36.0**	**-0.9**
HDK1	**Dakhla**	**9.74**	**156**	P		**P**	**P**	**18 36 37.3**	**-0.2**
AKRG	**Al Kharijah**	**10.18**	**151**	P		**P**	**P**	**18 36 42.9**	**-0.7**
HHRG	**Al Ghardaqah**	**10.32**	**133**	P		**P**	**P**	**18 36 44.6**	**-1.0**
HDK2	**Wahat Dakhilah**	**10.75**	**161**	P		**P**	**P**	**18 36 50.2**	**-1.2**
AKASG	**Malin Array Be**	**16.40**	**9**	Pn		**P**	**P**	**18 38 05.7**	**+0.4**
	0.8nm,0.3s,baz=200,slow=11,SNR=7.2								
GERES	**GERESS Array B**	**16.58**	**333**	Pn		**P**	**P**	**18 38 07.5**	**0.0**
	0.2nm,0.3s,baz=151,slow=14,SNR=5.1								
FINES	**FINESS Array B**	**26.90**	**1**	P		**P**	**P**	**18 39 56.7**	**+1.6**
	8.9nm,1.2s,mb4.2,baz=180,slow=11,SNR=3.3								

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*IDC **19** 18:38:01.8±1.5, 3.50N×92.64E, mb3.8/6, mb1 4.1/7, mb1mx3.8/20, mbtmp3.8/7, ML3.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/22, Error ellipse: s-maj=51.6km s-min=27.8km az=51.0*
*NEIC **19** 18:38:06.6±1.0, 3.53N×92.72E, h30km, mb4.1/2, Error ellipse: s-maj=24.8km s-min=18.3km az=64.0*
ISC 19 18:38:04.7±1.2, 3.5N±0.2×92.7E±0.2, h30km, n12, σ0§89/11, mb3.9/8, MS3.2/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.05**	**22**	Pn		**P**	**P**	**18 41 49.6**	**-0.5**
	0.1nm,0.3s,baz=216,slow=12,SNR=12								
SHL	**Shillong**	**21.93**	**358**	*eP*		**P**	**P**	**18 42 58.0**	**+0.4**
LSA	**Lhasa**	**26.08**	**357**	*eP*		**P**	**P**	**18 43 39.4**	**+1.7**
	4.8nm,0.9s,mb4.0								
SONM	**Songino Array**	**45.69**	**13**	P		**P**	**P**	**18 46 25.6**	**+0.8**
	0.8nm,1.2s,mb3.5,baz=225,slow=4.1,SNR=2.8								
WRA	**Warramunga Arr**	**47.06**	**121**	P		**P**	**P**	**18 46 35.9**	**-0.1**
	0.5nm,0.5s,mb3.7,baz=296,slow=9.3,SNR=7.0								
KURK	**Kurchatov**	**48.50**	**348**	P		**P**	**P**	**18 46 46.9**	**+0.1**
ZAL	**Zalesovo**	**50.67**	**354**	P		**P**	**P**	**18 47 02.7**	**-0.7**
	1.4nm,0.4s,mb4.2,baz=293,slow=2.6,SNR=7.7								
BVAR	**Borovoye Array**	**52.67**	**343**	P		**P**	**P**	**18 47 16.8**	**-1.7**
	1.3nm,0.8s,mb3.9,baz=135,slow=6.3,SNR=8.8								
CHKZ	**Chkalovo**	**53.18**	**344**	*eP*		**P**	**P**	**18 47 21.1**	**-1.1**
	1.2nm,0.5s,mb4.1								
KMBO	**Kilima Mbogo**	**55.62**	**266**	LR		LR	LR	19 07 34.8	
	comp=Z,20nm,18.5s,MS3.2,baz=91,slow=32								
MLR	**Muntele Rosu**	**71.31**	**317**	P		**P**	**P**	**18 49 24.1**	**+0.4**
	1.1nm,0.6s,mb4.0,baz=225,slow=7.1,SNR=4.0								
GERES	**GERESS Array B**	**80.12**	**319**	P		**P**	**P**	**18 50 14.0**	**+0.5**
	0.7nm,0.6s,mb3.8,baz=111,slow=8.4,SNR=3.6								

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*IDC **19** 18:55:21.8±1.4, 3.49N×92.62E, mb3.8/7, mb1 4.1/8, mb1mx3.9/19, mbtmp3.8/8, ML3.5/1, Error ellipse: s-maj=44.6km s-min=28.9km az=42.0*
*NEIC **19** 18:55:26.7±0.9, 3.57N×92.73E, h30km, mb4.2/4, Error ellipse: s-maj=21.6km s-min=17.7km az=62.0*
ISC 19 18:55:24.3±1.1, 3.4N±0.1×92.7E±0.2, h30km, n19, σ1§15/19, mb4.0/16, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.14**	**22**	Pn		**P**	**P**	**18 59 09.1**	**-1.8**
	0.1nm,0.3s,baz=222,slow=14,SNR=5.1								
SHL	**Shillong**	**22.03**	**358**	*eP*		**P**	**P**	**19 00 20.0**	**+1.8**
JIRN	**Jiri**	**24.89**	**346**	*eP*		**P**	**P**	**19 00 47.0**	**+0.8**
	4.3nm,0.6s,mb4.2								
PKI	**Pulchoki**	**25.00**	**345**	*eP*		**P**	**P**	**19 00 48.4**	**+1.1**
	15nm,1.3s,mb4.3								
DMN	**Daman**	**25.12**	**344**	*eP*		**P**	**P**	**19 00 50.1**	**+1.7**
KKN	**Kakani**	**25.25**	**344**	*eP*		**P**	**P**	**19 00 49.8**	**+0.2**
	5.6nm,0.8s,mb4.2								
GKN	**Gorkha**	**25.62**	**343**	*eP*		**P**	**P**	**19 00 53.4**	**+0.3**
	5.9nm,0.7s,mb4.2								
KOLN	**Koldanda**	**25.72**	**341**	*eP*		**P**	**P**	**19 00 54.6**	**+0.5**
	6.7nm,0.8s,mb4.

0.3nm,0.4s,mb3.5,baz=194,slow=5.9,SNR=5.3
ZAL Zalesovo 42.29 353 P P 19 11 06.7 -0.7
0.6nm,0.6s,mb3.4,baz=316,slow=14,SNR=4.1
BVAR Borovoye Array 44.70 341 P P 19 11 26.5 -0.5
0.8nm,0.5s,mb3.8,baz=141,slow=9.5,SNR=8.6
CHKZ Chkalovo 45.18 341 *e*P **P 19 11 30.8 0.0**
4.7nm,0.5s,mb4.6
WRA Warramunga Arr 51.64 128 P P 19 12 21.0 -0.3
0.5nm,0.7s,mb3.5,baz=300,slow=9.5,SNR=5.2
WRA PcP PcP 19 13 34.3 -0.6
0.6nm,1.1s,baz=314,slow=3.2,SNR=7.1
ASAR Alice Springs 53.48 132 P P 19 12 35.1 +0.1
0.4nm,0.9s,mb3.3,baz=310,slow=7.1,SNR=5.0
BRTR Keskin Array B 58.89 309 P P 19 13 14.4 +0.8
1.1nm,1.1s,mb3.8,baz=124,slow=8.9,SNR=4.2
FINES FINESS Array B 68.52 332 P P 19 14 16.0 -0.5
7.0nm,1.2s,mb4.5,baz=45,slow=7.9,SNR=3.5
GERES GERESS Array B 73.99 318 P P 19 14 50.4 +1.0
0.7nm,0.5s,mb3.9,baz=104,slow=5.5,SNR=4.9

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*KRSC **19** 19:05:42.9±0.7, 52.26N×152.60E, h472km±8km, ML5.2*
*MOS **19** 19:05:44.6±0.8, 52.47N×152.95E, h457km, mb4.4/47,*
Error ellipse: s-maj=9.7km s-min=5.6km az=100.3
*BJI **19** 19:05:46.0, 52.47N×152.93E, h481km, mB4.9, mb4.8*
*IDC **19** 19:05:47.2±1.1, 52.53N×152.75E, h469km±12km,*
mb3.8/28, mb1 4.0/30, mb1mx4.0/31, mbtmp4.7/30, Error
ellipse: s-maj=9.8km s-min=7.5km az=151.0
*NEIC **19** 19:05:47.2±0.1, 52.51N×152.81E, mb4.5/42, Error*
ellipse: s-maj=4.4km s-min=3.4km az=152.0
ISC 19 19:05:44.9±0.2, 52.45N±0.03×152.94E±0.04, h456km±2km,
h455km±8.6km:pP-P,n259,∘0∘94/295, mb4.4/80, 7C-14D,
Northwest of Kuril Islands

Code	Station Name	Δ° AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ALID	**Alaid**	**2.27 133**	*i* P		**P**		**19 06 49.2**	**+1.2**
ALID			*e*S		**S**		**19 07 36.6**	**-1.3**
PAU	**Pauzhetka**	**2.59 111**	*i* P		**P**		**19 06 50.6**	**+0.6**
PAU			*e*S		**S**		**19 07 40.4**	**-1.1**
PAU			Smax					
760nm,1.0s								
APC	**Apacha**	**2.61 78**	*e*P		**P**		**19 06 50.8**	**+0.6**
APC			*e*S		**S**		**19 07 40.6**	**-1.2**
APC			Smax					
300nm,1.0s								
SKR	**Severo-Kuril's**	**2.66 130**	*i*PN		**P**		**19 06 47.0**	**-3.5**
SKR			*i* S		**S**		**19 07 38.5**	**-3.9**
SKR			pmax		pmax			
comp=Z,600nm,0.7s								
SKR			pmax		pmax			
comp=N,270nm,1.0s								
SKR			pmax		pmax			
comp=E,170nm,0.7s								
SKR			smax					
comp=N,690nm,0.7s								
SKR			smax					
comp=E,430nm,0.7s								
SKR			smax					
comp=N,2μm,4.0s								
SKR			smax					
comp=E,4μm,4.0s								
GRL	**Gorelyy**	**3.14 86**	*i* P		**P**		**19 06 55.7**	**+1.7**
GRL			*e*S		**S**		**19 07 48.9**	**+0.3**
KRMR	**Karymshinskiy**	**3.19 81**	*i* P		**P**		**19 06 55.5**	**+1.2**
KRMR			*e*S		**S**		**19 07 48.8**	**-0.4**
GNL	**Ganaly**	**3.27 66**	*i* P		**P**		**19 06 55.7**	**+0.7**
GNL			*e*S		**S**		**19 07 49.0**	**-1.3**
RUS	**Russkaya**	**3.41 88**	P		**P**		**19 06 56.2**	**+0.1**
RUS			S		**S**		**19 07 50.2**	**-2.2**
RUS	**Russkaya**	**3.41 88**	*i* P		**P**		**19 06 56.2**	**+0.1**
RUS			*e*S		**S**		**19 07 50.0**	**-2.4**
PET	**Petropavlovsk**	**3.52 78**	*e*PN		**P**		**19 06 57.3**	**+0.3**
PET			*e*S		**S**		**19 07 55.3**	**+1.3**
KOK	**Koryaka**	**3.56 74**	*i* P		**P**		**19 06 58.6**	**+1.3**
KOK			*e*S		**S**		**19 07 53.8**	**-0.7**
AVH	**Avacha**	**3.61 75**	*i* P		**P**		**19 06 59.0**	**+1.3**
AVH			*e*S		**S**		**19 07 54.2**	**-1.1**
SMAR	**Somma**	**3.65 75**	*i* P		**P**		**19 06 59.3**	**+1.3**
SMAR			*e*S		**S**		**19 07 55.3**	**-0.5**
UGLR	**Uglovaya**	**3.65 76**	*i* P		**P**		**19 06 59.6**	**+1.5**
UGLR			*e*S		**S**		**19 07 55.2**	**-0.7**
SDLR	**Sedlovina**	**3.70 75**	*i* P		**P**		**19 06 59.3**	**+0.8**
SDLR			*e*S		**S**		**19 07 54.9**	**-1.7**
NLC	**Nalytchevo**	**3.96 77**	P		**P**		**19 07 00.9**	**+0.3**
NLC			S		**S**		**19 07 57.8**	**-2.7**
NLC	**Nalytchevo**	**3.96 77**	*i* P		**P**		**19 07 00.3**	**-0.3**
NLC			*e*S		**S**		**19 07 56.6**	**-3.9**
SPN	**Mys Shipunski**	**4.35 79**	P		**P**		**19 07 03.1**	**-1.1**
SPN			S		**S**		**19 08 01.6**	**-5.2**
SPN	**Mys Shipunski**	**4.35 79**	*i* P		**P**		**19 07 03.2**	**-1.0**
SPN			*i* S		**S**		**19 08 02.3**	**-4.5**
TUMR	**Tumrok**	**5.12 54**	*i* P		**P**		**19 07 12.9**	**+1.4**
TUMR			*e*S		**S**		**19 08 18.3**	**-1.6**
KMNR	**Kamenistaya**	**5.42 49**	*e*P		**P**		**19 07 16.1**	**+1.6**
KMNR			*e*S		**S**		**19 08 24.0**	**-1.2**
SRDR	**Sredinnyy**	**5.54 43**	*i* P		**P**		**19 07 17.9**	**+2.2**
SRDR			*e*S		**S**		**19 08 26.5**	**-0.8**
KLY	**Klyuchi**	**5.94 46**	*i* P		**P**		**19 07 22.8**	**+3.1**
KLY			*e*S		**S**		**19 08 35.8**	**+1.3**
SVLR	**Shiveluch**	**6.35 46**	*i* P		**P**		**19 07 26.4**	**+2.4**
SVLR			*e*S		**S**		**19 08 40.8**	**-1.5**
TYV	**Tymovskoe**	**6.59 260**	*i*PN		**P**		**19 07 26.4**	**-0.1**
TYV			*e*S		**S**		**19 08 49.0**	**+2.2**
TYV			pmax		pmax			
comp=Z,170nm,0.8s								
TYV			pmax		pmax			
comp=Z,800nm,2.0s								
TYV			smax					
comp=N,100nm,1.0s								
TYV			smax					
comp=E,260nm,1.6s								
TYV			smax					
comp=N,1μm,2.0s								
TYV			smax					
comp=E,1μm,3.0s								
KBG	**Krutoberegovo**	**6.86 52**	*e*P		**P**		**19 07 28.0**	**-1.3**
KBG			Smax					
comp=E,1μm,1.0s								
KBTR	**Krutoberegovo**	**6.90 53**	P		**P**		**19 07 27.5**	**-2.2**
KBTR			S		**S**		**19 08 44.6**	**-8.0**
KBTR	**Krutoberegovo**	**6.90 53**	P		**P**		**19 07 29.5**	**-0.2**
KBTR			*e*S		**S**		**19 08 49.5**	**-3.1**
MA2	**Magadan**	**7.25 351**	*e*PN		**P**		**19 07 34.2**	**+0.8**
MA2			*e*S		**S**		**19 09 02.7**	**+3.3**
MA2			pmax		pmax			
comp=Z,15nm,0.6s								
MA2	**Magadan**	**7.25 351**	*e*P		**P**		**19 07 34.2**	**+0.8**
comp=Z,15nm,0.6s								
MA2			*e*S		**S**		**19 09 02.7**	**+3.3**
UGL	**Uglegorsk**	**7.67 248**	*i*PN		**P**		**19 07 37.7**	**-0.4**
UGL			pmax		pmax			
comp=Z,750nm,1.0s								
UGL			pmax		pmax			
comp=N,190nm,0.7s								
UGL			pmax		pmax			
comp=Z,330nm,0.7s								
UGL			pmax		pmax			
comp=E,100nm,0.6s								
KUR	**Kuril'sk**	**7.96 207**	*i*PN		**P**		**19 07 37.6**	**-3.5**
KUR			*e*S		**S**		**19 09 12.3**	**-0.9**
KUR			pmax		pmax			
comp=Z,190nm,0.8s								
KUR			smax					
comp=N,380nm,1.0s								
BKI	**Bering**	**8.19 65**	*i* P		**P**		**19 07 44.2**	**+0.5**
YSS	**Yuzh-Sakhalins**	**8.59 234**	*i*PN		**P**		**19 07 49.0**	**+0.9**
YSS			*e*S		**S**		**19 09 30.0**	**+4.3**
YSS			pmax		pmax			
comp=N,70nm,0.8s								
YSS			pmax		pmax			
comp=E,70nm,0.8s								
YSS			pmax		pmax			
comp=Z,100nm,0.8s								
YSS			smax					
comp=N,90nm,1.2s								
YSS			smax					
comp=E,80nm,1.2s								
YSS	**Yuzh-Sakhalins**	**8.59 234**	*e*P		**P**		**19 07 49.6**	**+1.5**
comp=E,95nm,0.7s								
YUK	**Yuzh-Kuril'sk**	**9.65 212**	*e*PN		**P**		**19 07 56.0**	**-3.6**
YUK			*e*S		**S**		**19 09 41.1**	**-5.6**
YUK			smax					
comp=E,2μm,0.8s								
YUK			smax					
comp=N,580nm,0.5s								
YUK			smax					
comp=E,390nm,0.5s								
SEY	**Seymchan**	**10.52 359**	*e*PN		**P**		**19 08 10.0**	**+0.9**
SEY			*e*S		**S**		**19 10 06.1**	**+2.0**
SEY			pmax		pmax			
comp=Z,20nm,0.7s								
SEY			pmax		pmax			
comp=E,9.0nm,0.6s								
ASAJ	**Asahikawa**	**10.81 224**	PN		**P**		**19 08 12.5**	**+0.2**
ASAJ			S		**S**		**19 10 12.4**	**+2.5**
ASAJ			pmax		pmax			
comp=Z,2.0nm,0.3s								
ASAJ			smax					
comp=N,1.0nm,0.3s								
ASAJ	**Asahikawa**	**10.81 224**	P		**P**		**19 08 12.5**	**+0.2**
comp=N,1.8nm,0.3s,baz=37,slow=6.2,SNR=33								
ASAJ			S		**S**		**19 10 12.4**	**+2.5**
comp=N,0.7nm,0.3s,baz=163,slow=20,SNR=3.0								
KAMR	**Kamenskoye**	**12.29 30**	*i* P		**P**		**19 08 28.5**	**+0.3**
FX1	**Attu Island--F**	**12.29 80**	P		**P**		**19 08 28.1**	**-0.1**
comp=N,31nm,0.3s,baz=304,slow=2.0,SNR=64								
FX1			S		**S**		**19 10 57.5**	**+18**
comp=N,3.3nm,0.3s,baz=239,slow=22,SNR=8.4								
KLR	**Kul'dur**	**13.76 265**	*e*P		**P**		**19 08 41.9**	**-1.9**
KLR			*e*S		**S**		**19 11 11.3**	**+3.4**
KLR			smax					
comp=E,70nm,1.8s								
YAK	**Yakutsk**	**15.73 317**	*d i*P		**P**		**19 09 04.0**	**+0.1**
YAK			*e*S		**S**		**19 11 46.9**	**+1.7**
YAK			pmax		pmax			
comp=Z,22nm,1.3s								
YAK			pmax		pmax			
comp=N,4.0nm,1.1s								
YAK			pmax		pmax			
comp=E,16nm,1.3s								
YAK			smax					
comp=N,13nm,1.1s								
YAK			smax					
comp=E,12nm,1.1s								
YAK			smax					
comp=Z,8.0nm,1.1s								
YAK	**Yakutsk**	**15.73 317**	*e*P		**P**		**19 09 03.8**	**-0.1**
comp=Z,41nm,0.7s								
CLNS	**Chul'man**	**16.75 296**	*e*P		**P**		**19 09 15.1**	**+0.9**
CLNS			pmax		pmax			
comp=Z,100nm,0.9s								
CLNS			pmax		pmax			
comp=N,48nm,1.0s								
CLNS			pmax		pmax			
comp=E,63nm,0.9s								
BILL	**Bilibino**	**16.91 17**	*e*P		**P**		**19 09 15.7**	**0.0**
BILL			pmax		pmax			
comp=Z,11nm,0.6s								
BILL	**Bilibino**	**16.91 17**	*e*P		**P**		**19 09 15.7**	**0.0**
comp=Z,11nm,0.6s								
MDJ	**Mudanjiang**	**17.28 252**	P		**P**		**19 09 21.9**	**+2.3**
MDJ			S		**S**		**19 12 17.1**	**+3.7**
MDJ			SCP				19 16 27.8	
MDJ			PCS				19 17 13.8	
MDJ			SCS		ScS		19 20 09.3	+1.6
MDJ			AMB		AMB			
comp=Z,40nm,1.3s								
MDJ			AMB		AMB			
comp=Z,403nm,4.4s								
MDJ	**Mudanjiang**	**17.28 252**	*e*P		**P**		**19 09 25.9**	**+6.3**
MAJO	**Matsushiro**	**19.00 219**	*e*P		**P**		**19 09 37.9**	**+1.4**
MAJO			pmax		pmax			
comp=Z,20nm,0.7s								
MAJO	**Matsushiro**	**19.00 219**	*e*P		**P**		**19 09 37.9**	**+1.4**
comp=Z,20nm,0.7s								
MAT	**Matsushiro**	**19.00 219**	*e*P		**P**		**19 09 38.0**	**+1.5**
MAT			pmax		pmax			
comp=Z,21nm,0.7s								
MAT	**Matsushiro**	**19.00 219**	*e*P		**P**		**19 09 38.0**	**+1.5**
comp=Z,20nm,0.7s								
MAT	**Matsushiro**	**19.00 219**	P		**P**		**19 09 37.7**	**+1.2**
HIA	**Hailar**	**21.09 275**	*e*P		**P**		**19 09 55.8**	**-0.5**
HIA			pmax		pmax			
comp=Z,56nm,0.8s								
HIA	**Hailar**	**21.09 275**	*e*P		**P**		**19 09 55.8**	**-0.5**
comp=Z,56nm,0.8s,mb5.2								
TIXI	**Tiksi**	**22.01 340**	*i*P		**P**		**19 10 04.8**	**0.0**
TIXI			pmax		pmax			
comp=Z,19nm,1.0s,mb4.6								
BOD	**Bodaibo**	**22.66 299**	*e*P		**P**		**19 10 10.1**	**-0.5**
IMA	**Indian Mountai**	**29.43 42**	*e*P		**P**		**19 11 10.8**	**0.0**
SONM	**Songino Array**	**29.77 280**	P		**P**		**19 11 12.6**	**-1.3**
comp=Z,0.9nm,0.7s,mb3.3,baz=21,slow=5.2,SNR=3.6								
SONM			PcP		PcP		19 14 02.7	-1.6
comp=Z,2.6nm,0.7s,baz=77,slow=1.9,SNR=13								
SONM			ScP				19 17 00.1	
comp=Z,2.0nm,0.7s,baz=74,slow=1.8,SNR=14								
TLY	**Talaya**	**29.84 288**	P		**P**		**19 11 15.6**	**+1.1**
comp=Z,99nm,0.9s,mb5.2,SNR=12								
TLY	**Talaya**	**29.84 288**	*e*P		**P**		**19 11 14.6**	**+0.1**
TLY			pmax		pmax			
comp=Z,17nm,0.9s,mb4.5								
SPU	**Mount Spurr**	**30.48 52**	*e*P		**P**		**19 11 20.4**	**+0.6**
ZAK	**Zakamensk**	**30.55 286**	*i*P		**P**		**19 11 20.6**	**0.0**
ZAK			*e*				19 14 04.8	
MOY	**Mondy**	**31.38 290**	*e*P		**P**		**19 11 28.6**	**+0.9**
SLKM	**Skilak Lake**	**31.48 53**	*e*P		**P**		**19 11 28.5**	**+0.1**
COLA	**College**	**31.91 44**	*e*P		**P**		**19 11 32.1**	**+0.1**
COLA			pmax		pmax			
comp=Z,25nm,0.8s,mb4.7								
COLA	**College**	**31.91 44**	*e*P		**P**		**19 11 32.1**	**+0.1**
comp=Z,25nm,0.8s,mb4.7								
NJ2	**Nanjing**	**31.99 244**	*e*P		**P**		**19 11 33.1**	**0.0**
NJ2			AMB		AMB			
comp=Z,40nm,0.6s,mb5.0								
ILAR	**Eielson Array**	**32.33 44**	P		**P**		**19 11 35.6**	**0.0**
ILAR			*PP		pP		19 13 00.8	+2.9
ILAR			pmax		pmax			
comp=Z,13nm,0.8s								
ILAR			pmax		pmax			
comp=Z,1.0nm,0.9s								
ILAR			pmax		pmax			
comp=N,1.0nm,0.8s								
ILAR	**Eielson Array**	**32.33 44**	P		**P**		**19 11 35.6**	**0.0**
comp=N,12nm,0.8s,mb4.4,baz=276,slow=9.7,SNR=127								
ILAR			pP		pP		19 13 00.8	+2.8
comp=N,1.0nm,0.9s,baz=284,slow=7.4,SNR=2.5								
ILAR			ScP				19 17 07.5	
comp=N,1.0nm,0.8s,baz=287,slow=3.4,SNR=7.5								
INK	**Inuvik**	**37.00 36**	P		**P**		**19 12 15.0**	**+0.3**
INK							19 17 24.9	
INK			pmax		pmax			
comp=Z,4.0nm,0.3s								
INK			pmax		pmax			
comp=N,11nm,1.4s								
INK	**Inuvik**	**37.00 36**	P		**P**		**19 12 15.0**	**+0.3**
comp=N,4.2nm,0.3s,mb4.4,baz=302,slow=8.6,SNR=98								
INK			ScP				19 17 24.9	
comp=N,11nm,1.4s,baz=8.4,slow=1.4,SNR=4.6								
LZH	**Lanzhou**	**37.96 264**	‖P		**P**		**19 12 23.8**	**+0.9**
LZH			AP		pP		19 13 49.3	+1.4
LZH			PP		PP		19 14 05.3	+4.1
LZH			XP		sP		19 14 40.8	+1.8
LZH			AMB		AMB			
comp=Z,36nm,1.5s,mb4.6								
LZH			AMB		AMB			
comp=Z,157nm,5.4s								
ENH	**Enshi**	**38.64 252**	*e*P		**P**		**19 12 28.0**	**-0.5**
comp=Z,26nm,0.8s,mb4.7								
ZAL	**Zalesovo**	**39.42 300**	P		**P**		**19 12 33.7**	**-0.9**
ZAL							19 14 30.2	
ZAL			pmax		pmax			
comp=Z,3.0nm,0.8s								
ZAL			pmax		pmax			
comp=Z,3.0nm,0.7s								
ZAL	**Zalesovo**	**39.42 300**	P		**P**		**19 12 33.7**	**-0.9**
comp=Z,3.2nm,0.8s,mb3.8,baz=46,slow=7.8,SNR=23								
ZAL			PcP		PcP		19 14 30.2	-2.3
comp=Z,2.9nm,0.7s,baz=51,slow=2.0,SNR=7.6								
ZAL	**Zalesovo**	**39.42 300**	P		**P**		**19 12 33.7**	**-0.9**
ZAL			PcP		PcP		19 14 30.2	-2.3
NVS	**Novosibirsk**	**39.83 302**	*i* P		**P**		**19 12 37.3**	**-0.7**
NVS			*i*				19 14 23.0	
NVS			pmax		pmax			
comp=Z,35nm,0.9s,mb4.8								
NVS			pmax		pmax			
comp=E,24nm,0.8s								
NVS			pmax		pmax			
comp=N,13nm,0.9s								
DLBC	**Dease Lake**	**41.86 50**	P		**P**		**19 12 56.2**	**+2.1**
comp=N,8.7nm,0.7s,mb4.3,baz=274,slow=7.9,SNR=12								
DLBC	**Dease Lake**	**41.86 50**	P		**P**		**19 12 56.2**	**+2.1**
WMQ	**Urumqi**	**43.02 286**	*e*P		**P**		**19 13 04.1**	**+0.6**
WMQ			AP		pP		19 14 29.2	-1.2
WMQ			PP		PP		19 14 54.1	+2.4
WMQ			S		**S**		**19 18 56.0**	**+0.6**
WMQ			AMB		AMB			
comp=Z,73nm,1.3s,mb5.0								
WMQ			AMB		AMB			
comp=Z,45nm,5.2s								
KURK	**Kurchatov**	**44.30 299**	*e*P		**P**		**19 13 13.4**	**-0.2**
MKAR	**Makanchi Array**	**44.44 292**	*i* P		**P**		**19 13 14.6**	**-0.1**
RES	**Resolute Bay**	**45.49 20**	*e*P		**P**		**19 13 21.5**	**-1.0**
RES			pmax		pmax			
comp=Z,7.0nm,0.9s,mb4.1								
RES	**Resolute Bay**	**45.49 20**	*e*P		**P**		**19 13 21.5**	**-1.0**
comp=Z,7.3nm,0.9s,mb4.1								
BBB	**Bella Bella**	**45.94 57**	P		**P**		**19 13 27.2**	**+1.0**
comp=Z,24nm,1.0s,mb4.6,baz=345,slow=7.5,SNR=3.1								
YKA	**Yellowknife Ar**	**46.51 40**	P		**P**		**19 13 30.2**	**-0.3**
YKA			pP		pP		19 14 54.2	-4.7
YKA			pmax		pmax			
comp=Z,6.0nm,0.6s								
YKA			pmax		pmax			
comp=N,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**46.51 40**	P		**P**		**19 13 30.2**	**-0.3**
comp=N,5.8nm,0.6s,mb4.2,baz=302,slow=7.4,SNR=146								
YKA			PcP		PcP		19 14 54.2	-2.2
comp=N,0.2nm,0.4s,baz=314,slow=3.6,SNR=4.0								
YKA			ScP				19 18 03.6	
comp=N,1.2nm,0.7s,baz=302,slow=4.1,SNR=18								
YKA	**Yellowknife Ar**	**46.51 40**	P		**P**		**19 13 30.2**	**-0.3**
YKA			PcP		PcP		19 14 54.2	-2.2
YKA			ScP				19 18 03.6	
CHKZ	**Chkalovo**	**46.82 306**	‖*i*P		**P**		**19 13 32.2**	**-0.8**
CHKZ			pmax		pmax			
comp=Z,36nm,0.7s,mb4.9								
CHKZ	**Chkalovo**	**46.82 306**	‖*i*P		**P**		**19 13 32.2**	**-0.8**
comp=Z,36nm,0.7s,mb4.9								
BVA0	**Borovoye Array**	**47.30 305**	P		**P**		**19 13 36.1**	**-0.6**
BVA0			pmax		pmax			
comp=Z,2.0nm,0.8s,mb3.6								
BVAR	**Borovoye Array**	**47.30 305**	P		**P**		**19 13 36.3**	**-0.4**
comp=Z,19nm,0.7s,mb4.6,baz=59,slow=8.6,SNR=118								
BVAR			PcP		PcP		19 14 57.1	-2.3
comp=Z,7.1nm,0.8s,baz=83,slow=4.3,SNR=14								
BVAR			PP		PP		19 15 28.0	-4.4
comp=Z,2.6nm,0.7s,baz=56,slow=11,SNR=4.3								
BRVK	**Borovoye**	**47.33 305**	*e*P		**P**		**19 13 35.8**	**-1.1**
BRVK			*e*				19 14 57.2	
BRVK			pmax		pmax			
comp=Z,22nm,0.7s,mb4.7								
BRVK	**Borovoye**	**47.33 305**	*e*P		**P**		**19 13 35.8**	**-1.1**
comp=Z,22nm,0.7s,mb4.7								
BRVK			*e*PcP		PcP		19 14 57.2	-2.3
LSA	**Lhasa**	**50.09 268**	*e*P		**P**		**19 13 59.2**	**+1.1**
LSA			pmax		pmax			
comp=Z,14nm,1.0s,mb4.2								
LSA	**Lhasa**	**50.09 268**	*e*P		**P**		**19 13 59.2**	**+1.2**
comp=Z,14nm,1.0s,mb4.2								
TKM2	**Tokmak 2**	**50.57 292**	P		**P**		**19 14 01.6**	**+0.1**
SNR=9.1								
ARU	**Arti**	**50.83 314**	‖*i*P		**P**		**19 13 57.8**	**-5.4**
ARU			*e*S		**S**		**19 20 35.5**	**-8.1**
ARU			pmax		pmax			
comp=Z,35nm,0.9s,mb4.7								
ARU	**Arti**	**50.83 314**	*e*P		**P**		**19 13 57.6**	**-5.6**
USP	**Ospenovka**	**50.97 293**	P		**P**		**19 14 04.5**	**+0.1**
SNR=14								
CHMS	**Chumysh**	**51.00 292**	P		**P**		**19 14 04.5**	**-0.1**
SNR=7.4								
KBK	**Karagaybulak**	**51.11 292**	P		**P**		**19 14 05.5**	**+0.1**
SNR=9.2								
AAK	**Ala-Archa**	**51.38 292**	P		**P**		**19 14 07.5**	**+0.1**
SNR=13								
AAK	**Ala-Archa**	**51.38 292**	P		**P**		**19 14 07.3**	**-0.1**
AAK			pmax		pmax			
comp=Z,7.0nm,0.7s,mb4.1								
AAK	**Ala-Archa**	**51.38 292**	*e*P		**P**		**19 14 06.3**	**-1.1**
comp=Z,11nm,0.9s,mb4.2								
EKS2	**Erkin-Say**	**51.77 293**	P		**P**		**19 14 10.5**	**+0.3**
SNR=12								
AML	**Almayashu**	**52.16 292**	P		**P**		**19 14 13.6**	**+0.5**
SNR=7.3								
ARCES	**ARCESS Array B**	**52.45 339**	P		**P**		**19 14 13.4**	**-1.4**
ARCES			pmax		pmax			
comp=Z,4.0nm,0.7s								
ARCES	**ARCESS Array B**	**52.45 339**	P		**P**		**19 14 13.4**	**-1.4**
comp=Z,4.2nm,0.7s,mb3.9,baz=40,slow=7.7,SNR=18								
EDM	**Edmonton**	**52.55 49**	*e*P		**P**		**19 14 15.6**	**-0.2**
SHL	**Shillong**	**52.63 264**	‖*i*P		**P**		**19 14 16.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**53.82 252**	P		**P**		**19 14 25.2**	**-0.1**
CMAR							19 15 23.5	
CMAR			pmax		pmax			
comp=Z,10.0nm,0.8s								
CMAR			pmax		pmax			
comp=Z,4.0nm,0.8s								
CMAR			pmax		pmax			
comp=N,1.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**53.82 252**	P		**P**		**19 14 25.2**	**-0.1**
comp=N,9.7nm,0.8s,mb4.2,baz=25,slow=6.9,SNR=70								
CMAR			PcP		PcP		19 15 23.4	-0.6
comp=N,3.7nm,0.8s,baz=15,slow=3.5,SNR=12								
CMAR			ScP				19 18 34.5	
comp=N,0.5nm,0.8s,baz=9.6,slow=4.2,SNR=4.7								
JIRN	**Jiri**	**54.58 270**	*e*P		**P**		**19 14 30.3**	**-0.3**
comp=N,47nm,0.8s,mb4.9								
KKN	**Kakani**	**55.05 271**	*e*P		**P**		**19 14 33.7**	**-0.2**
comp=N,62nm,0.6s,mb5.1								
PKI	**Pulchoki**	**55.13 271**	*e*P		**P**		**19 14 34.1**	**-0.4**
comp=N,74nm,0.9s,mb5.0								
DMN	**Daman**	**55.28 271**	*e*P		**P**		**19 14 35.6**	**0.0**
comp=N,90nm,0.8s,mb5.2								
YBH	**Yreka Blue Hor**	**55.28 65**	P		**P**		**19 14 36.0**	**+0.6**
comp=N,4.7nm,0.7s,mb4.0,baz=311,slow=2.8,SNR=12								
GKN	**Gorkha**	**55.29 272**	*e*P		**P**		**19 14 35.3**	**-0.3**
comp=N,107nm,0.9s,mb5.2								
KOLN	**Koldanda**	**56.09 273**	*e*P		**P**		**19 14 40.8**	**-0.4**
comp=N,83nm,0.9s,mb5.1								
BMO	**Blue Mountains**	**56.10 59**	*e*P		**P**		**19 14 41.2**	**+0.1**
BMO			pmax		pmax			
comp=Z,7.0nm,1.0s,mb4.0								
BMO	**Blue Mountains**	**56.10 59**	*e*P		**P**

comp=Z,5.0nm,0.7s,mb4.2
NOA NORSAR Array B 62.81 340 P **P 19 15 24.6 -1.0**
NOA pmax pmax
comp=Z,7.0nm,0.7s
NOA NORSAR Array B 62.81 340 P **P 19 15 24.6 -1.0**
comp=Z,6.9nm,0.7s,mb4.3,baz=25,slow=6.5,SNR=22
BHPL Bhopal 63.18 274 *eP* **P 19 15 27.4 -1.2**
BHPL *e* 19 15 29.2
comp=Z,26nm,0.8s
MSU Marysvale 63.29 61 *eP* **P 19 15 30.0 +0.9**
VIS Vishakhapatnam 63.74 265 *eP* **P 19 15 31.5 -0.7**
VIS *e* 19 15 32.2
comp=Z,7.9nm,0.5s
RW3 Ridgway 65.86 58 *eP* **P 19 15 46.0 +0.8**
AKASG Malin Array Be 66.78 325 P **P 19 15 49.0 -1.7**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 66.78 325 P **P 19 15 49.0 -1.7**
comp=Z,1.0nm,0.3s,mb4.0,baz=31,slow=6.2,SNR=17
KIV Kislovodsk 66.80 313 *eP* **P 19 15 50.3 -0.6**
KIV *e**SP *sP* 19 18 22.4 +6.3
KIV *eS* S 19 24 07.7 +1.4
KIV *e*SS SS 19 28 34.2 -2.8
KIV pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
HYB Hyderabad 66.89 269 *i* P **P 19 15 51.0 -0.9**
KAKA Kakadu 67.26 202 *eP* **P 19 15 54.1 -0.1**
comp=Z,9.9nm,0.7s,mb4.5
SCHQ Schefferville 68.11 24 P **P 19 15 57.5 -1.3**
comp=Z,1.2nm,0.4s,mb3.9,baz=339,slow=5.4,SNR=11
TUC Tucson 68.66 65 P **P 19 16 03.2 +0.7**
GNI Garni 68.81 309 *i* P **P 19 16 01.6 -1.6**
GNI pmax pmax
comp=Z,11nm,1.4s
POO Poona 68.92 273 *eP* **P 19 16 03.7 -0.5**
POO *e* 19 16 04.1
comp=Z,16nm,0.9s
ANMO Albuquerque 68.99 60 P **P 19 16 05.2 +0.8**
comp=Z,0.6nm,0.4s,mb3.5,baz=316,slow=5.4,SNR=3.9
ANMO Albuquerque 68.99 60 P **P 19 16 05.2 +0.8**
LAZ Ladron 69.05 61 *eP* **P 19 16 06.0 +1.2**
BSEG Bad Segeberg 69.50 337 *eP* **P 19 16 07.2 +0.1**
BSEG pmax pmax
comp=Z,80nm,2.2s,mb4.9
KAD Karad 69.64 272 *eP* **P 19 16 07.7 -0.9**
KAD *e* 19 16 08.9
comp=Z,30nm,0.4s
OJC Ojcow 70.29 330 *eP* **P 19 16 10.7 -1.2**
NIE Niedzica 70.84 329 *eP* **P 19 16 15.5 +0.3**
OKC Ostrava-Krasne 71.13 331 *eP* **P 19 16 16.5 -0.3**
UPC Upice 71.15 333 *eP* **P 19 16 15.8 -1.1**
DPC Dobruska-Polom 71.20 332 *eP* **P 19 16 17.5 +0.2**
CLL Collm 71.24 335 ||*iP* **P 19 16 16.5 -1.0**
CLL pmax pmax
comp=Z,17nm,1.2s,mb4.5
CLL Collm 71.24 335 ||*iP* **P 19 16 16.5 -1.0**
comp=Z,17nm,1.2s,mb4.5
CLL Collm 71.24 335 ||P **P 19 16 16.5 -1.0**
comp=Z,logA/T=1.2,mb4.5
BRG Berggiesshubel 71.39 334 *eP* **P 19 16 17.6 -0.7**
BRG pmax pmax
comp=Z,8.0nm,1.3s,mb4.1
BRG Berggiesshubel 71.39 334 *eP* **P 19 16 17.6 -0.7**
comp=Z,7.8nm,1.3s,mb4.1
CLZ Clausthal 71.42 337 *eP* **P 19 16 18.9 +0.4**
comp=Z,15nm,1.1s,mb4.4
KECS Kecovo 71.61 329 *eP* **P 19 16 19.2 -0.5**
CPRX Cap Rock 71.84 59 *eP* **P 19 16 21.7 +0.3**
PRU Pruhonice 72.03 333 *eP* **P 19 16 22.1 0.0**
MNTX Cornudas Mount 72.07 61 *eP* **P 19 16 22.5 -0.1**
comp=Z,4.1nm,0.7s,mb4.1
VYHS Vyhne 72.11 330 *eP* **P 19 16 22.5 -0.1**
MOX Moxa 72.20 335 *eP* **P 19 16 22.9 -0.2**
MOX Moxa 72.20 335 *i* P **P 19 16 22.9 -0.2**
MLR Muntele Rosu 72.36 324 P **P 19 16 24.8 +0.7**
MLR pmax pmax
comp=Z,7.0nm,0.8s
MLR Muntele Rosu 72.36 324 P **P 19 16 24.8 +0.7**
comp=Z,6.5nm,0.8s,mb4.2,baz=124,slow=3.6,SNR=16
NKC Novy Kostel 72.37 335 *eP* **P 19 16 23.5 -0.5**
CTA Charters Tower 72.46 187 P **P 19 16 25.0 -0.1**
comp=Z,2.4nm,0.7s,mb3.8,baz=5.4,slow=8.3,SNR=5.3
CTAO Charters Tower 72.46 187 *eP* **P 19 16 24.9 -0.2**
SMOL Smolenice 72.52 331 *eP* **P 19 16 25.7 +0.8**
ZST Bratislava 72.90 331 *eP* **P 19 16 27.3 +0.2**
KHC Kasperske Hory 73.07 333 *eP* **P 19 16 28.0 0.0**
KHC Kasperske Hory 73.07 333 *eP* **P 19 16 27.9 -0.1**
KHC *ex* x 19 16 33.4
GRA1 Grafenberg Arr 73.18 335 *eP* **P 19 16 29.2 +0.5**
comp=Z,24nm,1.0s,mb4.7
GRF Grafenberg Arr 73.18 335 *eP* **P 19 16 29.2 +0.5**
GRF pmax pmax
comp=Z,24nm,1.0s,mb4.7
GRF Grafenberg Arr 73.18 335 *eP* **P 19 16 29.2 +0.5**
GRF pmax pmax
comp=Z,24nm,1.0s,mb4.7
GRF Grafenberg Arr 73.18 335 *eP* **P 19 16 29.2 +0.5**
comp=Z,24nm,1.0s,mb4.7
WET Wettzell 73.25 334 *eP* **P 19 16 29.4 +0.4**
WET pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
WET Wettzell 73.25 334 *eP* **P 19 16 29.4 +0.4**
comp=Z,8.0nm,1.0s,mb4.2
GEC2 GERESS Array S 73.29 333 *eP* **P 19 16 29.4 +0.1**
GEC2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.0
GEC2 GERESS Array S 73.29 333 *eP* **P 19 16 29.4 +0.1**
comp=Z,4.0nm,0.8s,mb4.0
GERES GERESS Array B 73.29 333 P **P 19 16 29.3 0.0**
GERES pmax pmax
comp=Z,2.0nm,0.5s
GERES GERESS Array B 73.29 333 P **P 19 16 29.3 -0.1**
comp=Z,2.0nm,0.5s,mb3.9,baz=30,slow=4.9,SNR=13
WRAB Tennant Creek 73.87 198 *eP* **P 19 16 33.1 -0.1**
comp=Z,14nm,0.9s,mb4.5
WB2 Warramunga Arr 73.88 198 ||*iP* **P 19 16 32.9 -0.3**
WRA Warramunga Arr 73.88 198 P **P 19 16 33.1 -0.2**
comp=Z,8.1nm,0.6s,mb4.4,baz=15,slow=6.0,SNR=76
BRTR Keskin Array B 74.19 316 P **P 19 16 34.7 +0.1**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 74.19 316 P **P 19 16 34.7 +0.1**
comp=Z,3.7nm,0.8s,mb3.9,baz=52,slow=3.3,SNR=25
TXAR Lajitas Array 74.83 62 P **P 19 16 39.5 +1.1**
comp=Z,3.9nm,0.6s,mb4.1,baz=297,slow=4.3,SNR=25
TXAR pP pP 19 18 20.5 +2.0
comp=Z,0.6nm,0.7s,baz=297,slow=2.8,SNR=3.9
BFO Black Forest 75.17 336 *eP* **P 19 16 39.6 -0.3**
BFO pmax pmax
comp=Z,22nm,1.7s,mb4.4
BFO Black Forest 75.17 336 *eP* **P 19 16 39.6 -0.3**
comp=Z,22nm,1.7s,mb4.4
CDF Champ du Feu 75.34 337 *eP* **P 19 16 40.6 -0.3**
comp=Z,22nm,0.8s,mb4.4
CDF Champ du Feu 75.34 337 *eP* **P 19 16 40.6 -0.3**
CDF pmax pmax
comp=Z,11nm,0.8s,mb4.4
LEGS Legarje 75.46 331 *eP* **P 19 16 40.4 -1.2**
VISS Visnje 75.73 331 *eP* **P 19 16 42.5 -0.5**
MEZF Maizieres J'vi 75.77 339 *eP* **P 19 16 43.2 0.0**
HAU Haudompre 75.94 338 *eP* **P 19 16 43.7 -0.5**
HINF Hinteralfeld 76.00 337 *eP* **P 19 16 43.8 -0.7**
FLN La Foliniere 76.66 342 *eP* **P 19 16 47.6 -0.5**
comp=Z,54nm,1.0s,mb4.7
FLN La Foliniere 76.66 342 *eP* **P 19 16 47.6 -0.5**
FLN pmax pmax
comp=Z,27nm,1.0s,mb4.7
LDF La Druitiere 76.75 342 *eP* **P 19 16 48.0 -0.6**
comp=Z,11nm,0.8s,mb4.2
LDF La Druitiere 76.75 342 *eP* **P 19 16 48.0 -0.6**
LDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
GRR Gorron 77.09 342 *eP* **P 19 16 50.3 -0.2**
comp=Z,32nm,0.8s,mb4.6
GRR Gorron 77.09 342 *eP* **P 19 16 50.3 -0.2**
GRR pmax pmax
comp=Z,16nm,0.8s,mb4.6
SSF Saint Saulge 77.48 339 *eP* **P 19 16 52.2 -0.4**
SSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
SSF Saint Saulge 77.48 339 *eP* **P 19 16 52.2 -0.4**
comp=Z,6.0nm,0.8s,mb4.2
SGMF Saint Gilles 77.52 344 *eP* **P 19 16 52.1 -0.7**
ROSF Rostrenen 77.56 344 *eP* **P 19 16 52.2 -0.9**
ASAR Alice Springs 77.59 198 P **P 19 16 54.2 +0.5**
comp=Z,10nm,0.6s,mb4.5,baz=12,slow=5.0,SNR=208
ASPA Alice Springs 77.59 198 ||*iP* **P 19 16 54.0 +0.3**
AVF Avril sur Loir 77.77 339 *eP* **P 19 16 54.0 -0.2**
comp=Z,22nm,0.9s,mb4.3
AVF Avril sur Loir 77.77 339 *eP* **P 19 16 54.0 -0.2**
AVF pmax pmax
comp=Z,11nm,0.9s,mb4.3
SMF Signal de Mont 77.80 339 *eP* **P 19 16 54.0 -0.3**
comp=Z,26nm,1.0s,mb4.3
SMF Signal de Mont 77.80 339 *eP* **P 19 16 54.0 -0.3**
SMF pmax pmax
comp=Z,13nm,1.0s,mb4.3
BGF Bois d'Agland 78.10 339 *eP* **P 19 16 56.2 +0.2**
LPL La Plagne 78.19 336 *eP* **P 19 16 57.2 +0.7**
comp=Z,19nm,0.7s,mb4.3
LPL La Plagne 78.19 336 *eP* **P 19 16 57.2 +0.7**
LPL pmax pmax
comp=Z,10.0nm,0.7s,mb4.3
LPG La Plagne 78.20 336 *eP* **P 19 16 57.4 +0.9**
comp=Z,25nm,0.7s,mb4.5
LPG La Plagne 78.20 336 *eP* **P 19 16 57.4 +0.9**
LPG pmax pmax
comp=Z,13nm,0.7s,mb4.5
TCF Toulx Ste Croi 78.49 340 *eP* **P 19 16 58.1 +0.1**
comp=Z,15nm,0.8s,mb4.2
TCF Toulx Ste Croi 78.49 340 *eP* **P 19 16 58.1 +0.1**
TCF pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
MFF Saint Martin d 78.67 341 *eP* **P 19 16 59.1 +0.1**
MBWA Marble Bar 78.80 211 *eP* **P 19 16 59.4 -0.8**
MBDF Montbardon 78.92 336 *eP* **P 19 17 01.0 +0.7**
ORIF Oris-en-Rattie 78.96 337 *eP* **P 19 17 01.1 +0.6**
comp=Z,22nm,0.8s,mb4.4
ORIF Oris-en-Rattie 78.96 337 *eP* **P 19 17 01.1 +0.6**
ORIF pmax pmax
comp=Z,11nm,0.8s,mb4.4
ASF Jabal al Asfar 78.98 309 P **P 19 17 01.0 +0.1**
comp=Z,8.4nm,1.0s,mb4.2,baz=261,slow=4.1,SNR=6.5
VIVF Saint-Julien-l 79.30 338 *eP* **P 19 17 02.7 +0.4**
comp=Z,41nm,1.1s,mb4.6
VIVF Saint-Julien-l 79.30 338 *eP* **P 19 17 02.7 +0.4**
VIVF pmax pmax
comp=Z,21nm,1.1s,mb4.6
SBF Sospel 79.56 335 *eP* **P 19 17 04.4 +0.7**
RJF Les Rejaudoux 79.57 340 *eP* **P 19 17 03.9 +0.1**
comp=Z,11nm,0.7s,mb4.2
RJF Les Rejaudoux 79.57 340 *eP* **P 19 17 03.9 +0.1**
RJF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
CAF Calviac 79.82 339 *eP* **P 19 17 05.7 +0.7**
FRF La Foret Royal 80.04 336 *eP* **P 19 17 06.3 +0.1**
PGF Pioggiola 80.38 334 *eP* **P 19 17 07.7 -0.3**
RAYN Ar Rayn 81.63 298 P **P 19 17 14.2 -0.7**
comp=Z,80nm,0.9s,mb5.2,SNR=8.7
STKA Stephens Creek 84.55 190 *eP* **P 19 17 29.6 +0.3**
comp=Z,3.6nm,0.9s,mb4.0
STKA Stephens Creek 84.55 190 P **P 19 17 29.7 +0.4**
comp=Z,3.4nm,0.7s,mb4.1,baz=20,slow=4.1,SNR=5.8
ESDC Sonseca Array 86.08 342 P **P 19 17 35.5 -0.9**
comp=Z,0.1nm,0.3s,slow=5.9,SNR=4.1
QSPA South Pole Qui 142.19 180 ||*iP* PKPdf 19 24 18.8 -3.3
SYO Syowa Base 145.60 216 ||PKPdf PKPdf 19 24 29.9 +1.7
SYO Syowa Base 145.60 216 ||PKiKP 19 24 39.6
PLCA Paso Flores 148.37 86 PKP2 PKPab 19 24 39.6 -5.3
PLCA pmax pmax
comp=Z,3.0nm,1.1s
PLCA Paso Flores 148.37 86 PKPbc PKPdf 19 24 39.5 +6.0
comp=Z,3.0nm,1.1s,baz=270,slow=4.0,SNR=3.6

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*JMA **19** 19:15:49.5±0.5,34.02N×141.61E,h22km±3km,M3.4*
*NEIC **19** 19:15:49.2±0.8,33.82N×141.47E,h10km,mb3.9/1,Error ellipse: s-maj=20.3km s-min=11.1km az=66.0*
*IDC **19** 19:15:55.1±3.8,33.86N×141.39E,h55km±33km,mb3.2/6, mb1 3.4/6,mb1mx3.2/20,mbtmp3.5/6,Error ellipse: s-maj=35.5km s-min=22.2km az=87.0*
ISC 19 19:15:51.0±1.5,33.96N±0.07×141.5E±0.1,h37km±12km, n17,σ0°94/20,mb3.5/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.83	327	P	P	19 16 04.9	-1.4
BSO3	Boso 3	1.19	315	P	P	19 16 11.2	-0.2
BSO4	Boso 4	1.42	317	P	P	19 16 15.0	+0.2
JHJ2	Mitsune	1.66	240	P	P	19 16 19.7	+1.5
JHJ	Hachijo jima 2	1.68	241	P	P	19 16 19.4	+0.9
	88nm,0.3s,baz=124,slow=8.2,SNR=18						
KTJJ	Kamata 2	2.25	296	P	P	19 16 25.7	-1.0
KTJJ				S	S	19 16 52.8	-0.7
JOD2	Odawara 2	2.40	304	P	P	19 16 28.5	-0.2
MAJO	Matsushiro	3.75	314	*eP*	P	19 16 48.1	+0.2
MAT	Matsushiro	3.75	314	*eP*	P	19 16 48.0	+0.1
MAT				*eS*	S	19 17 32.0	+0.6
MAT	Matsushiro	3.75	314	P	P	19 16 48.1	+0.2
MAT				S	S	19 17 31.8	+0.4
SONM	Songino Array	29.68	308	P	P	19 21 55.5	+0.2
	0.4nm,0.5s,mb3.4,baz=106,slow=7.8,SNR=4.6						
CMAR	Chiang Mai Arr	40.90	259	P	P	19 23 30.6	-0.9
	0.2nm,0.4s,mb3.1,baz=56,slow=6.8,SNR=4.4						
ILAR	Eielson Array	52.05	31	P	P	19 24 59.6	+0.9
	0.2nm,0.6s,mb3.2,baz=250,slow=5.5,SNR=5.2						
CHKZ	Chkalovo	52.51	315	P	P	19 25 04.9	+2.5
	1.2nm,0.7s,mb3.9						
BVAR	Borovoye Array	52.74	314	P	P	19 25 04.5	+0.3
	0.8nm,1.0s,mb3.6,baz=22,slow=7.8,SNR=3.0						
WRA	Warramunga Arr	54.04	188	P	P	19 25 13.5	-0.7
	0.5nm,0.5s,mb3.7,baz=4.8,slow=7.6,SNR=11						
ASAR	Alice Springs	57.77	188	P	P	19 25 39.3	-1.6
	0.2nm,0.5s,mb3.4,baz=7.5,slow=7.3,SNR=6.0						

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*CSEM **19** 19:29:40.0±0.1,34.25N×23.81E,h40km,MD3.5,Error ellipse: s-maj=6.1km s-min=2.2km az=73.0*
*HLW **19** 19:29:41.5,34.36N×23.79E,h33km,Mb3.5*
*ATH **19** 19:29:44.7,34.78N×24.09E,h33km±6km,MD3.5/8*
*NEIC **19** 19:29:44.6,34.80N×24.09E,h35km,MD3.5(ATH),After ATH.*
ISC 19 19:29:39.3±0.7,34.31N±0.05×23.8E±0.1,h59km±18km, n26,σ1°17/28,1D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.57	22	*e*Pb	P	19 29 49.6	-2.4
GVD	Gavdhos	0.57	22	*e*PB	P	19 29 49.8	-2.2
VAM	Vamos	1.14	16	||*i*PN	P	19 29 58.5	-0.9
XRY	Khrisi	1.64	69	*e*PN	P	19 30 08.5	+2.1
NPS	Neapolis	1.75	57	*e*PN	P	19 30 09.5	+1.6
KYTH	Kithira	2.07	342	*e*PB	P	19 30 15.0	+2.6
VLI	Veliai	2.51	343	*e*PN	P	19 30 19.1	+0.4
KARP	Karpathos	3.00	65	*e*PN	P	19 30 27.1	+1.5
SLUM		3.04	157	P	P	19 30 27.5	+1.3
SLUM				S	S	19 31 01.6	+0.1
SLUM		3.04	157	P	P	19 30 27.5	+1.3
SLUM				S	S	19 31 01.6	+0.1
APE	Apeiranthos	3.08	26	*e*PN	P	19 30 24.5	-2.2
PTL	Penteli	3.73	0	*e*Pn	P	19 30 33.0	-2.9
ARG	Arkhangelos	4.00	60	*e*Pn	P	19 30 39.5	-0.1
HMAT	Matruh	4.23	138	P	P	19 30 43.6	+0.7
SWA2		5.24	164	P	P	19 30 57.3	+0.4
SWA1		5.28	162	P	P	19 30 57.8	+0.4
HBRG	Burj al 'Arab	6.30	125	P	P	19 31 11.5	-0.2
AWBH		7.38	143	P	P	19 31 26.3	-0.5
HNAT	Natroun	7.42	127	P	P	19 31 27.1	-0.1
HMYD	Mayadein	7.43	125	P	P	19 31 27.0	-0.5
HFRF	Wahat Farafira	8.11	150	P	P	19 31 37.1	+0.2
GLL	Jalalah	8.19	123	P	P	19 31 37.3	-0.6
HHAG	Hagoal	8.25	120	P	P	19 31 38.1	-0.6
HDK1	Dakhla	9.98	150	P	P	19 32 01.5	-1.0
HDK2	Wahat Dakhilah	10.91	154	P	P	19 32 13.9	-1.2
KHC	Kasperske Hory	16.64	336	*eP*	P	19 33 30.5	+0.7

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*IDC **19** 19:31:41.3±2.5,43.37N×105.22W,mb4.6/1,mb1 3.9/3, mb1mx3.4/19,mbtmp3.6/3,ML4.0/2,Error ellipse: s-maj=51.7km s-min=13.6km az=156.0*
*NEIC **19** 19:31:44.5±0.7,43.65N×105.18W,ML3.1,Error ellipse: s-maj=9.5km s-min=7.2km az=97.0,Suspected Mining explosion.*
NEIC 75 km [45 miles] SSE of Gillette.
ISC 19 19:31:42.3±0.8,43.69N±0.05×105.1W±0.1,n23,σ1°18/24, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	Pilot Hill	2.40	186	*e*Pn	Pn	19 32 25.6	+2.1
LAO	LASA Array	3.09	346	*e*Pn	Pn	19 32 31.1	-2.3
PDAR	Pinedale Array	3.36	256	Pn	Pn	19 32 36.9	-0.2
	3.1nm,0.3s,baz=73,slow=15,SNR=48						
PDAR				Lg		19 33 22.0	
	13nm,0.3s,baz=79,slow=34,SNR=10						
LKWY	Lake	3.89	285	*e*Pn	Pn	19 32 44.9	+0.3
ISCO	Idaho Springs	3.91	185	*e*Pn	Pn	19 32 46.0	+1.2
ISCO				*e*Sn	Sn	19 33 44.4	+12
LOHW	Long Hollow	3.97	271	*e*Pn	Pn	19 32 45.3	-0.4
MOOW	Moose Ponds	4.06	273	*e*Pn	Pn	19 32 47.2	+0.1
WUWY	Wally Ulrich	4.07	270	*e*Pn	Pn	19 32 47.2	0.0
SNOW	Snow King Moun	4.09	269	*e*Pn	Pn	19 32 50.2	+2.7
YNR	Norris Junctio	4.11	286	*e*Pn	Pn	19 32 48.6	+0.8
YFT	Old Faithful	4.17	282	*e*Pn	Pn	19 32 51.1	+2.4
IMW	Indian Meadow	4.20	275	*e*Pn	Pn	19 32 50.5	+1.3
QLMT	Earthquake Lak	4.66	286	*e*Pn	Pn	19 32 56.1	+0.5
DGMT	Dagmar	4.83	7	*e*Pn	Pn	19 32 59.0	+1.0
TCUT	Toone Canyon	5.31	243	*e*Pn	Pn	19 33 03.4	-1.3
DAU	Daniels Canyon	5.61	236	*e*Pn	Pn	19 33 08.2	-0.8
SPUT	South Promonto	5.90	249	*e*Pn	Pn	19 33 12.0	-1.2
HVU	Hansel Valley	5.94	254	Pn	Pn	19 33 12.4	-1.2
PV01	Paradox Valley	6.13	206	Pn	Pn	19 33 15.5	-0.9
TMUT	Trail Mountain	6.33	228	*e*Pn	Pn	19 33 18.4	-0.8
BGU	Big Grassy Mou	6.47	247	*e*Pn	Pn	19 33 20.6	-0.6
YKA	Yellowknife Ar	19.63	347	P	P	19 36 15.0	0.0
	0.1nm,0.3s,baz=153,slow=9.5,SNR=4.1						
ARCES	ARCESS Array B	61.43	18	P	P	19 42 00.8	-1.4
	6.0nm,1.1s,baz=320,slow=7.0,SNR=3.9						

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*IDC **19** 19:40:01.0±0.8,5.66N×93.02E,h26km±4km,mb3.8/9, mb1 4.0/10,mb1mx3.8/19,mbtmp3.9/10,ML3.6/1,Error ellipse: s-maj=37.0km s-min=13.5km az=49.0*
*BJI **19** 19:40:01.6,5.26N×92.66E,h57km,mb4.6*
*NEIC **19** 19:40:01.5±0.5,5.73N×93.10E,mb4.4/3,Error ellipse: s-maj=14.6km s-min=8.4km az=52.0*
ISC 19 19:39:58.9±0.6,5.57N±0.09×92.86E±0.09,h26km, h26km±1.2km:pP-P,n28,σ1°03/31,mb4.3/17,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	12.20	279	*eP*	P	19 42 52.7	-1.6
CMAR	Chiang Mai Arr	14.12	24	Pn	P	19 43 16.5	-3.1
	0.1nm,0.3s,baz=217,slow=14,SNR=17						
VIS	Vishakhapatnam	15.25	323	*eP*	P	19 43 34.8	+0.2
VIS				*e*		19 43 36.2	
VIS				*eS*	S	19 46 10.7	-13
HYB	Hyderabad	18.29	311	*eP*	P	19 44 16.0	+3.1
HYB				*eS*	S	19 47 31.0	-2.0
HYB	Hyderabad	18.29	311	*i* P	P	19 44 16.0	+3.1
HYB				*eS*	S	19 47 31.0	-2.0
JIRN	Jiri	22.87	345	*eP*	P	19 45 01.9	+0.2
	11nm,0.5s,mb4.6						
PKI	Pulchoki	23.00	343	*eP*	P	19 45 04.4	+1.4
DMN	Daman	23.13	342	*eP*	P	19 45 05.1	+0.9
	36nm,0.9s,mb4.8						
KKN	Kakani	23.24	343	*eP*	P	19 45 05.6	+0.2
	16nm,0.6s,mb4.6						
GKN	Gorkha	23.64	342	*eP*	P	19 45 09.9	+0.7
	41nm,0.7s,mb5.0						
KOLN	Koldanda	23.77	339	*eP*	P	19 45 11.7	+1.2
	28nm,0.6s,mb4.9						
LSA	Lhasa	24.05	356	P	P	19 45 13.4	+0.2
LSA	Lhasa	24.05	356	*eP*	P	19 45 13.8	+0.5
	7.6nm,0.7s,mb4.2						
ENH	Enshi	29.14	31	P	P	19 45 59.4	-0.8
	1.8nm,0.5s,mb4.1						
SONM	Songino Array	43.67	13	P	P	19 48 02.6	-0.8
	0.5nm,0.7s,mb3.4,baz=198,slow=3.9,SNR=5.1						
WRA	Warramunga Arr	48.02	123	P	P	19 48 38.2	-0.1
	2.4nm,0.7s,mb4.3,baz=302,slow=9.1,SNR=20						
WRA				pP	pP	19 48 44.9	-1.3
	4.8nm,0.7s,baz=303,slow=9.0,SNR=15						
WRAB	Tennant Creek	48.02	123	*eP*	P	19 48 38.1	-0.2
	8.5nm,0.7s,mb4.9						
WB2	Warramunga Arr	48.03	123	*eP*	P	19 48 38.2	-0.2
ZAL	Zalesovo	48.66	354	P	P	19 48 42.2	-0.6
	2.1nm,0.5s,mb4.5,baz=305,slow=4.3,SNR=10						
ZAL				pP	pP	19 48 50.8	+0.2
	2.0nm,0.5s,baz=308,slow=5.4,SNR=6.6						
ZAL	Zalesovo	48.66	354	P	P	19 48 42.2	-0.6
ZAL				pP	pP	19 48 50.8	+0.2
ASAR	Alice Springs	49.47	128	P	P	19 48 49.2	-0.2
	0.8nm,0.7s,mb3.9,baz=300,slow=7.5,SNR=11						
ASAR				pP	pP	19 48 56.5	-0.8
	2.4nm,0.6s,baz=300,slow=7.0,SNR=13						
BVAR	Borovoye Array	50.77	343	P	P	19 48 58.3	-0.6
	1.4nm,0.7s,mb4.0,baz=143,slow=7.4,SNR=12						
BVAR				pP	pP	19 49 06.8	-0.1
	0.7nm,0.6s,baz=146,slow=11,SNR=5.6						
BRTR	Keskin Array B	62.99	312	P	P	19 50 26.2	+0.3
	1.4nm,0.8s,mb4.2,baz=129,slow=8.4,SNR=16						
AKASG	Malin Array Be	69.18	322	P	P	19 51 04.6	-0.8
	0.3nm,0.3s,mb3.7,baz=89,slow=4.9,SNR=8.3						
AKASG				pP	pP	19 51 13.8	+0.3
	2.2nm,0.8s,baz=92,slow=4.7,SNR=2.9						
FINES	FINESS Array B	74.15	333	P	P	19 51 34.5	-0.4
	1.0nm,0.7s,mb3.9,baz=135,slow=2.7,SNR=4.3						
FINES	FINESS Array B	74.15	333	P	P	19 51 34.5	-0.4
OJC	Ojcow	74.92	320	*eP*	P	19 51 40.7	+1.2
GERES	GERESS Array B	78.69	319	P	P	19 52 02.2	+1.6
	2.0nm,0.8s,mb4.1,baz=90,slow=2.7,SNR=8.7						
GERES				pP	pP	19 52 09.8	+1.0
	2.2nm,0.8s,baz=90,slow=5.3,SNR=5.6						

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*NEIC **19** 19:52:29.4±0.6,52.83N×167.93W,h10km,mb4.3/3,Error ellipse: s-maj=14.6km s-min=9.8km az=189.0*
*IDC **19** 19:52:32.5±6.0,52.93N×168.08W,h25km±40km,mb3.8/13, mb1 4.0/15,mb1mx3.9/24,mbtmp4.0/15,ML3.3/2,Error ellipse: s-maj=31.5km s-min=14.5km az=173.0*
ISC 19 19:52:29.9±4.3,52.9N±0.1×167.9W±0.1,h25km±29km,n25, σ1°04/25,mb4.1/16,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	Attu Island--F	11.42	277	Pn	P	19 55 14.5	0.0
	0.4nm,0.3s,baz=239,slow=19,SNR=3.7						
IMA	Indian Mountai	15.00	23	*eP*	P	19 56 02.0	+0.2
	19nm,1.1s						
ILAR	Eielson Array	16.02	34	Pn	P	19 56 15.1	+0.1
	0.1nm,0.3s,baz=238,slow=10.0,SNR=13						
INK	Inuvik	22.43	33	P	P	19 57 27.7	-0.2
	2.4nm,0.4s,mb3.9,baz=218,slow=9.4,SNR=10						
YKA	Yellowknife Ar	29.24	50	P	P	19 58 32.3	+0.8
	0.1nm,0.4s,baz=278,slow=7.8,SNR=5.5						
YKA				pPcP		20 01 50.4	
	0.2nm,0.6s,baz=287,slow=2.3,SNR=4.8						
YKA	Yellowknife Ar	29.24	50	P	P	19 58 32.4	+0.8
YKA				pPcP		20 01 50.4	
NVAR	Mina Array Bea	36.81	93	P	P	19 59 38.4	+0.9
	0.4nm,0.6s,mb3.4,baz=304,slow=9.8,SNR=3.1						
PV10	Paradox Valley	42.45	86	P	P	20 00 23.3	-0.9
SDCO	Great Sand Dun	44.99	84	P	P	20 00 44.7	-0.2
ANMO	Albuquerque	46.27	87	P	P	20 00 56.9	+2.0
	0.9nm,0.7s,mb3.8,baz=145,slow=21,SNR=8.9						
ANMO	Albuquerque	46.27	87	P	P	20 00 56.9	+2.0
MNTX	Cornudas Mount	49.16	90	P	P	20 01 16.0	-1.6
	1.0nm,0.9s,mb3.9						
WMOK	Wichita Mounta	51.04	82	P	P	20 01 31.

GERES GERESS Array B 78.62 359 P **P 20 04 31.7 +1.1**
0.3nm,0.5s,mb3.5,baz=352,slow=6.9,SNR=2.3
BRTR Keskin Array B 85.87 343 P **P 20 05 10.8 +2.4**
0.9nm,0.7s,mb4.1,baz=36,slow=3.4,SNR=7.7

IDC 19 20:13:07.3±1.2, 15.64S×176.30W, mb4.1/3, mb1 4.3/3, mb1mx3.9/15, mbtmp4.1/3, Error ellipse: s-maj=51.0km s-min=34.5km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.06**	**257**	P	P	20 21 40.9	-2.1
	0.4nm,0.4s,baz=89,slow=6.5,SNR=20						
ASAR	**Alice Springs**	**47.38**	**252**	P	P	20 21 43.9	-1.6
	6.7nm,0.9s,baz=84,slow=7.7,SNR=93						
VNDA	**Vanda**	**62.87**	**185**	P	P	20 23 34.9	-2.2
	1.0nm,1.0s,baz=36,slow=3.9,SNR=3.6						
ARCES	**ARCESS Array B**	**124.43**	**351**	PKP	PKPdf	20 32 07.1	-2.9
	8.0nm,1.1s,baz=27,slow=2.0,SNR=3.5						
BRTR	**Keskin Array B**	**144.53**	**318**	PKP	PKPdf	20 32 43.7	-4.2
	1.4nm,0.8s,baz=102,slow=2.5,SNR=10						
MLR	**Muntele Rosu**	**144.85**	**332**	PKP	PKPdf	20 32 45.6	-2.6
	1.1nm,0.5s,baz=40,slow=8.4,SNR=4.8						
GERES	**GERESS Array B**	**145.88**	**348**	PKPbc	PKPbc	20 32 48.8	-0.1
	0.4nm,0.6s,baz=31,slow=5.7,SNR=3.3						
DAVOX	**Davos**	**148.53**	**352**	PKPbc	PKPdf	20 32 56.6	+2.3
	1.7nm,0.5s,baz=39,slow=6.5,SNR=4.1						

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*NEIC **19** 20:18:59.9, 10.67N×62.57W, h96km, MD3.5(TRN), After TRN.*
*TRN **19** 20:19:00.2, 10.66N×62.57W, h92km, MD3.5*
FUNV 19 20:18:59.4, 10.65N×62.56W, h87km, MW2.9, 2C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.33**	**91**	*eP*	P	20 19 13.2	+0.5
GUIV				*eS*	S	20 19 22.3	-0.5
CRUV	**Carupano**	**0.67**	**272**	*eP*	P	20 19 15.2	-0.4
CRUV				*eS*	S	20 19 25.8	-1.8
ITEV	**Isla Los Testi**	**0.90**	**321**	*eP*	P	20 19 16.9	-1.0
ITEV				*eS*	S	20 19 30.4	-1.4
TRN	**Trinidad (W)**	**1.14**	**90**	⇓*iP*	P	20 19 21.8	+1.0
TRN				*eS*	S	20 19 36.8	-0.1
TPP	**Pointe-a-Pierr**	**1.14**	**107**	*eP*	P	20 19 22.8	+1.9
TPP				*eS*	S	20 19 38.4	+1.4
TBH	**Brigand Hill**	**1.48**	**96**	*eP*	P	20 19 26.5	+1.3
TBH				*eS*	S	20 19 45.1	+0.8
GRW	**Mount Saint Ca**	**1.74**	**30**	⇑*iP*	P	20 19 28.4	-0.1
GRW				*eS*	S	20 19 51.0	+1.0
ORIV	**Oritupano**	**1.78**	**208**	*eP*	P	20 19 28.3	-0.9
ORIV				*eS*	S	20 19 49.3	-1.8
TPR	**Prospect**	**1.83**	**73**	⇑*eP*	P	20 19 30.0	+0.3
TPR				*eS*	S	20 19 53.3	+1.1
BOT	**Bacolet**	**1.88**	**74**	*eP*	P	20 19 30.4	0.0
BOT				*eS*	S	20 19 53.8	+0.5
GRSS	**Sisters**	**1.88**	**29**	*eP*	P	20 19 29.9	-0.5
GRSS				*eS*	S	20 19 54.2	+0.9
RIOV	**Rio Grande**	**2.67**	**164**	*eP*	P	20 19 39.2	-2.2
RIOV				*eS*	S	20 20 09.5	-3.3
SVB	**Belmont**	**2.90**	**26**	*eP*	P	20 19 45.8	+1.2
GURV	**El Guri**	**2.92**	**190**	*eP*	P	20 19 42.9	-1.9
GURV				*eS*	S	20 20 14.9	-4.1
SVV	**Soufriere Volc**	**2.96**	**26**	*eP*	P	20 19 45.9	+0.5
MERV	**Las Mercedes**	**3.94**	**250**	*eP*	P	20 19 56.6	-2.3
MERV				*eS*	S	20 20 38.5	-5.7
CAOV	**Caicara del Or**	**4.97**	**229**	*eP*	P	20 20 10.8	-2.4
CAOV				*eS*	S	20 21 03.3	-6.7

IDC 19 20:25:47.3±1.0, 10.13N×140.86E, mb3.9/6, mb1 4.1/6, mb1mx3.8/19, mbtmp3.8/6, Error ellipse: s-maj=60.4km s-min=23.1km az=98.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.57**	**192**	P	P	20 32 02.4	-2.8
	1.8nm,1.1s,baz=12,slow=9.7,SNR=5.6						
ASAR	**Alice Springs**	**34.27**	**191**	P	P	20 32 35.7	-1.8
	0.7nm,0.8s,baz=18,slow=12,SNR=7.1						
BVAR	**Borovoye Array**	**70.24**	**323**	P	P	20 37 03.0	-1.2
	0.9nm,0.7s,baz=100,slow=9.0,SNR=5.3						
ILAR	**Eielson Array**	**73.35**	**25**	P	P	20 37 19.6	-2.9
	0.4nm,0.7s,baz=247,slow=6.2,SNR=5.6						
YKA	**Yellowknife Ar**	**87.71**	**27**	P	P	20 38 39.2	+0.4
	0.3nm,0.6s,baz=288,slow=5.1,SNR=5.8						
FINES	**FINESS Array B**	**92.58**	**334**	P	P	20 38 59.5	-2.2
	2.8nm,0.9s,baz=56,slow=5.0,SNR=4.3						

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*IDC **19** 20:26:26.6±1.3, 8.62N×94.39E, mb3.6/6, mb1 3.7/7, mb1mx3.6/19, mbtmp3.6/7, ML3.3/1, Error ellipse: s-maj=63.1km s-min=21.4km az=56.0*
ISC 19 20:26:28.4±1.0, 8.5N±0.1×94.1E±0.2, h33km, n13, σ0=92/13, mb3.8/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.95**	**25**	Pn	P	20 29 06.7	+0.7
	0.1nm,0.3s,baz=213,slow=14,SNR=14						
JIRN	**Jiri**	**20.45**	**340**	*eP*	P	20 31 05.9	+0.1
	16nm,0.9s						
PKI	**Pulchoki**	**20.64**	**338**	*eP*	P	20 31 07.5	-0.4
	9.6nm,0.7s						
DMN	**Daman**	**20.80**	**337**	*eP*	P	20 31 09.7	+0.3
	16nm,0.7s						
KKN	**Kakani**	**20.89**	**338**	*eP*	P	20 31 09.7	-0.7
	9.1nm,0.7s						
GKN	**Gorkha**	**21.33**	**336**	*eP*	P	20 31 13.7	-1.1
	13nm,0.7s,mb4.4						
KOLN	**Koldanda**	**21.55**	**334**	*eP*	P	20 31 16.4	-0.7
	10nm,0.7s,mb4.4						
SONM	**Songino Array**	**40.55**	**13**	P	P	20 34 06.1	-0.2
	0.3nm,0.8s,mb3.0,baz=194,slow=5.9,SNR=3.0						
ZAL	**Zalesovo**	**45.90**	**352**	P	P	20 34 49.2	-0.4
	0.8nm,0.4s,mb4.0,baz=310,slow=11,SNR=3.5						
BVAR	**Borovoye Array**	**48.36**	**341**	P	P	20 35 11.8	+2.9
	0.5nm,0.8s,mb3.6,baz=124,slow=5.2,SNR=2.7						
WRA	**Warramunga Arr**	**48.69**	**126**	P	P	20 35 11.8	0.0
	0.6nm,0.6s,mb3.8,baz=306,slow=8.6,SNR=8.5						
ASAR	**Alice Springs**	**50.38**	**130**	P	P	20 35 24.4	-0.5
	0.6nm,0.8s,mb3.7,baz=308,slow=7.3,SNR=4.9						
ASAR				PcP	PcP	20 36 43.3	0.0
	0.7nm,0.8s,baz=315,slow=2.6,SNR=5.5						
BRTR	**Keskin Array B**	**61.96**	**311**	P	P	20 36 49.5	+1.8
	0.5nm,0.8s,mb3.7,baz=107,slow=8.1,SNR=4.1						

IDC 19 20:32:21.4±3.0, 2.37N×127.38E, mb4.0/4, mb1 4.3/4, mb1mx3.8/15, mbtmp4.1/4, Error ellipse: s-maj=129.5km s-min=54.8km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.21**	**163**	P	P	20 37 30.1	-1.2
	3.5nm,0.4s,baz=344,slow=11,SNR=55						
WB2	**Warramunga Arr**	**23.21**	**163**	*eP*	P	20 37 30.0	-1.2
ASPA	**Alice Springs**	**26.65**	**167**	*eP*	P	20 38 02.0	-2.0
ASAR	**Alice Springs**	**26.65**	**167**	P	P	20 38 01.7	-2.3
	1.3nm,0.5s,baz=345,slow=7.1,SNR=26						
ASAR				PcP	PcP	20 41 26.8	-1.7
	0.3nm,0.6s,baz=2.9,slow=2.8,SNR=4.1						
STKA	**Stephens Creek**	**36.64**	**160**	P	P	20 39 30.3	-1.4
	2.8nm,0.8s,baz=343,slow=9.5,SNR=3.3						
VNDA	**Vanda**	**82.01**	**173**	P	P	20 44 42.7	-1.6
	0.2nm,0.5s,baz=330,slow=4.9,SNR=5.2						

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*CSEM **19** 20:33:17.0, 35.07N×3.61W, h13km, MD3.3, After CNRM*
*CNRM **19** 20:33:17.0, 35.07N×3.61W, h13km, MD3.3*
MDD 19 20:33:17.9±1.1, 35.06N×3.67W, h7km±9km, mbLg1.9/1, Error ellipse: s-maj=12.1km s-min=4.3km az=79.0, PRXIMO SIN SOLUCIN, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.12**	**214**	*iP*	Pg	20 33 20.5	-0.2
TOU				*iS*	Sg	20 33 22.5	0.0
MPAL	**Palemas**	**0.27**	**306**	*iP*	Pg	20 33 23.0	-0.5
MPAL				*iS*	Sg	20 33 27.0	-0.3
EALB	**Alboran**	**1.02**	**31**	S	Sb	20 33 50.4	-0.3
	6.4nm,0.1s,SNR=4.0						
TZK	**Tazeka**	**1.06**	**204**	*iP*	Pb	20 33 37.0	-1.1
TZK				*iS*	Sb	20 33 52.0	0.0

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*NIED **19** 20:49:00, 34.00N×141.80E, h5km, Mw3.9 Best double couple: M0:6.92×10^14 NP1:φs=324°, δ46°, λ85°. NP2:φs=150°, δ44°, λ95°.*
*JMA **19** 20:49:05.4±0.3, 33.96N×141.80E, h48km, M3.5*
*IDC **19** 20:49:09.6±5.5, 33.98N×141.61E, h39km±51km, mb3.3/4, mb1 3.6/4, mb1mx3.3/19, mbtmp3.5/4, Error ellipse: s-maj=46.8km s-min=23.5km az=103.0*
ISC 19 20:49:06.5±0.9, 33.97N±0.05×141.75E±0.08, h33km, n15, σ0=55/18, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.94**	**317**	S	**S**	**20 49 35.9**	**+0.3**
BSO2	**Boso 2**	**1.13**	**314**	S	**S**	**20 49 41.9**	**+1.2**
BSO3	**Boso 3**	**1.32**	**309**	P	**P**	**20 49 28.2**	**-0.6**
BSO4	**Boso 4**	**1.55**	**312**	P	**P**	**20 49 32.2**	**+0.1**
JHJ2	**Mitsune**	**1.82**	**243**	P	**P**	**20 49 36.2**	**+0.2**
JHJ	**Hachijo jima 2**	**1.85**	**243**	Pn	**Pn**	**20 49 36.4**	**-0.1**
	33nm,0.3s,baz=216,slow=19,SNR=7.9						
JHJ				Sn	**Sn**	**20 49 59.0**	**+0.1**
	36nm,0.3s,baz=53,slow=23,SNR=6.4						
JOD2	**Odawara 2**	**2.55**	**301**	S	**S**	**20 50 16.6**	**+0.1**
JYN	**Shimob**	**3.05**	**301**	S	**S**	**20 50 29.1**	**-0.1**
JAG	**Ashikaga**	**3.09**	**323**	P	**P**	**20 49 53.5**	**-0.6**
JRY	**Ryogami san**	**3.10**	**312**	P	**P**	**20 49 54.2**	**-0.1**
JRY				S	**S**	**20 50 30.6**	**-0.1**
MAT	**Matsushiro**	**3.87**	**313**	P	**P**	**20 50 05.4**	**+0.2**
MAT				S	**S**	**20 50 49.2**	**-1.0**
SONM	**Songino Array**	**29.81**	**308**	P	**P**	**20 55 12.6**	**+0.1**
	0.4nm,0.7s,mb3.3,baz=117,slow=9.7,SNR=2.8						
ILAR	**Eielson Array**	**51.95**	**31**	P	**P**	**20 58 14.2**	**+0.3**
	0.7nm,0.7s,mb3.7,baz=259,slow=6.0,SNR=9.9						
WRA	**Warramunga Arr**	**54.07**	**189**	P	**P**	**20 58 29.3**	**-1.0**
	0.7nm,0.9s,mb3.6,baz=4.3,slow=7.8,SNR=8.8						
ASAR	**Alice Springs**	**57.80**	**189**	P	**P**	**20 58 58.1**	**+1.1**
	0.2nm,0.5s,mb3.4,baz=1.3,slow=6.6,SNR=4.6						

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*IDC **19** 20:52:19.7±0.5, 6.46N×92.64E, h29km±2km, mb4.0/14, mb1 4.2/15, mb1mx4.1/19, mbtmp4.2/15, ML3.5/1, MS3.6/2, Ms1 3.7/2, ms1mx3.2/22, Error ellipse: s-maj=24.8km s-min=11.2km az=49.0*
*NEIC **19** 20:52:19.8±0.4, 6.55N×92.90E, mb4.5/12, Error ellipse: s-maj=9.0km s-min=7.1km az=217.0*
*BJI **19** 20:52:20.2, 6.50N×92.90E, h29km, mB4.8, mb4.3, Ms4.0, Msz3.9*
*MOS **19** 20:52:22.2±1.6, 6.90N×92.15E, h33km, mb5.0/14, Error ellipse: s-maj=23.6km s-min=10.9km az=98.9*
ISC 19 20:52:17.7±0.4, 6.48N±0.06×92.88E±0.05, h29km, h29km±1.0km: pP-P, n99, σ1=21/105, mb4.6/42, MS3.9/4, 6C-5D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.72**	**84**	P	Px	20 54 25.0	
NNT	**Nongplab**	**9.09**	**48**	P	**P**	**20 54 29.1**	**-1.0**
PALK	**Pallekele**	**12.11**	**274**	*eP*	**P**	**20 55 09.8**	**-1.7**
	20nm,0.3s						
CMAR	**Chiang Mai Arr**	**13.29**	**26**	*iP*	**P**	**20 55 31.3**	**+4.1**
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**13.29**	**26**	Pn	**P**	**20 55 27.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=212,slow=14,SNR=14						
CMAR				LR	LR	21 01 15.5	
	comp=Z,180nm,18.2s,baz=210,slow=40						
CHG	**Chiang Mai**	**13.61**	**25**	⇑P	**P**	**20 55 35.5**	**+4.0**
	comp=Z,12nm,0.7s						
KKTK	**Khon Kaen**	**13.81**	**44**	PG	**P**	**20 55 42.0**	**+7.9**
KKTK				SG	Px	20 55 49.0	
VIS	**Vishakhapatnam**	**14.55**	**321**	*iP*	**P**	**20 55 41.2**	**-2.6**
VIS				*i*	**S**	**20 58 11.8**	**-13**
HYB	**Hyderabad**	**17.72**	**309**	*eP*	**P**	**20 56 25.0**	**+0.8**
HYB				*eS*	**S**	**20 59 28.0**	**-10**
HYB				pmax	pmax		
	comp=Z,30nm,1.0s						
HYB	**Hyderabad**	**17.72**	**309**	*eP*	**P**	**20 56 25.0**	**+0.8**
	comp=Z,30nm,1.0s						
HYB				*eS*	**S**	**20 59 28.0**	**-10**
HYB	**Hyderabad**	**17.72**	**309**	*iP*	**P**	**20 56 25.0**	**+0.8**
	comp=Z,30nm,1.0s						
HYB				*eS*	**S**	**20 59 28.0**	**-10**
IMP	**Imphal**	**18.23**	**3**	*eP*	**P**	**20 56 32.4**	**+1.8**
SHL	**Shillong**	**19.01**	**357**	*eP*	**P**	**20 56 39.0**	**-0.9**
SHL				*eS*	**S**	**21 00 00.0**	**-7.4**
LATR	**Latur**	**19.84**	**308**	*eP*	**P**	**20 56 53.0**	**+3.6**
LATR				*e*	**S**	**21 00 16.6**	**-9.1**
QIZ	**Qiongzhong**	**20.70**	**51**	P	**P**	**20 56 57.6**	**-0.7**
QIZ				LR	LR		
	comp=N,326nm,17.7s						
QIZ				LR	LR		
	comp=Z,301nm,11.5s						
QIZ	**Qiongzhong**	**20.70**	**51**	*eP*	**P**	**20 56 55.7**	**-2.6**
KAD	**Karad**	**21.20**	**302**	⇑*iP*	**P**	**20 57 05.5**	**+2.1**
KAD				*i*	**S**	**21 00 48.4**	**-4.2**
JIRN	**Jiri**	**22.00**	**344**	*eP*	**P**	**20 57 11.7**	**+0.3**
	comp=Z,54nm,0.9s,mb5.0						
POO	**Poona**	**22.07**	**305**	*eP*	**P**	**20 57 19.0**	**+6.8**
POO				*iS*	**S**	**21 01 09.0**	**+0.2**
PKI	**Pulchoki**	**22.14**	**342**	*eP*	**P**	**20 57 13.4**	**+0.6**
	comp=Z,59nm,0.7s,mb5.1						
DMN	**Daman**	**22.27**	**342**	*eP*	**P**	**20 57 15.5**	**+1.4**
	comp=Z,91nm,0.8s,mb5.2						
BHPL	**Bhopal**	**22.34**	**320**	*eP*	**P**	**20 57 15.7**	**+0.9**
KKN	**Kakani**	**22.39**	**342**	*eP*	**P**	**20 57 15.3**	**0.0**
	comp=Z,41nm,0.8s,mb4.9						
GKN	**Gorkha**	**22.79**	**341**	*eP*	**P**	**20 57 19.5**	**+0.2**
	comp=Z,187nm,1.2s,mb5.4						
KOLN	**Koldanda**	**22.93**	**338**	*eP*	**P**	**20 57 21.4**	**+0.7**
	comp=Z,50nm,0.8s,mb5.0						
LSA	**Lhasa**	**23.16**	**356**	P	**P**	**20 57 24.6**	**+1.8**
LSA	**Lhasa**	**23.16**	**356**	*eP*	**P**	**20 57 23.9**	**+1.1**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
LSA	**Lhasa**	**23.16**	**356**	*eP*	**P**	**20 57 23.9**	**+1.1**
	comp=Z,6.0nm,0.6s,mb4.2						
SONA	**Sohna**	**26.32**	**327**	*e*	**P**	**20 57 53.5**	**+0.4**
SONA				*e*		20 57 55.4	
	comp=Z,8.1nm,0.5s						
AYAN	**Aya Nagar**	**26.48**	**328**	*e*	**P**	**20 57 54.2**	**-0.3**
AYAN				*e*		20 57 56.1	
	comp=Z,6.8nm,0.7s						
DDI	**Dehra Dun**	**27.51**	**331**	*e*	sP	20 58 21.6	+5.3
ENH	**Enshi**	**28.36**	**31**	*eP*	**P**	**20 58 10.2**	**-1.4**
	comp=Z,3.9nm,0.6s,mb4.2						
KLP	**Kalpa**	**28.44**	**333**	*e*	**P**	**20 58 11.4**	**-0.8**
KLP				*e*		20 58 17.8	
	comp=Z,8.1nm,1.1s						
LZH	**Lanzhou**	**31.14**	**17**	⇓P	**P**	**20 58 43.9**	**+7.7**
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,104nm,5.3s						
LZH				LR	LR		
	comp=N,197nm,13.2s						
LZH				LR	LR		
	comp=Z,294nm,17.0s,MS4.0						
XAN	**Xi'an**	**31.19**	**26**	P	**P**	**20 58 34.3**	**-2.4**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.5						
NJ2	**Nanjing**	**35.14**	**40**	*eP*	**P**	**20 59 17.0**	**+6.0**
NJ2				AP	pP	20 59 27.0	+7.3
NJ2				PP	PP	21 00 36.3	+6.2
NJ2				S	**S**	**21 04 47.0**	**+5.8**
NJ2				XS		21 05 03.3	
NJ2				AMB	AMB		
	comp=Z,520nm,6.9s						
NJ2				LR	LR		
	comp=N,350nm,12.2s,MS4.5						
NJ2				LR	LR		
	comp=E,450nm,13.8s,MS4.5						
NJ2				LR	LR		
	comp=Z,320nm,18.0s,MS4.1						
SSE	**Sheshan**	**36.09**	**44**	P	**P**	**20 59 22.8**	**+3.7**
SSE				S	**S**	**21 05 00.1**	**+4.2**
SSE				XS		21 05 14.9	
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,78nm,4.9s						
SSE				LR	LR		
	comp=N,81nm,19.5s,MS3.5						
SSE				LR	LR		
	comp=E,39nm,19.3s,MS3.5						
SSE				LR	LR		
	comp=Z,103nm,14.6s,MS3.7						
KZA	**Kyzart**	**38.75**	**339**	P	**P**	**20 59 42.7**	**+1.4**
	SNR=5.0						
UCH	**Uchtor**	**39.15**	**338**	P	**P**	**20 59 45.9**	**+1.3**
	SNR=17						
KBK	**Karagaybulak**	**39.37**	**339**	P	**P**	**20 59 47.8**	**+1.4**
	SNR=32						
TKM2	**Tokmak 2**	**39.37**	**340**	P	**P**	**20 59 46.8**	**+0.3**
	SNR=6.2						
AML	**Almayashu**	**39.37**	**337**	P	**P**	**20 59 48.1**	**+1.6**
	SNR=8.5						
BJT	**Baijiatuau**	**39.40**	**29**	*eP*	**P**	**20 59 47.4**	**+0.7**
AAK	**Ala-Archa**	**39.51**	**339**	P	**P**	**20 59 49.8**	**+2.2**
	SNR=13						
AAK	**Ala-Archa**	**39.51**	**339**	⇓*eP*	**P**	**20 59 47.5**	**-0.1**
AAK				pmax	pmax		
	comp=Z,21nm,1.6s,mb4.6						
AAK	**Ala-Archa**	**39.51**	**339**	*eP*	**P**	**20 59 47.5**	**-0.1**
	comp=Z,11nm,0.8s,mb4.6						
EKS2	**Erkin-Say**	**39.80**	**338**	P	**P**	**20 59 51.3**	**+1.3**
	SNR=14						
USP	**Ospenovka**	**40.06**	**339**	P	**P**	**20 59 52.8**	**+0.6**
	SNR=19						
SONM	**Songino Array**	**42.80**	**13**	P	**P**	**21 00 15.3**	**+0.8**
	comp=Z,0.6nm,0.6s,mb3.5,baz=195,slow=9.5,SNR=5.4						
SONM				pP	pP	21 00 24.8	+1.5
	comp=Z,1.8nm,0.6s,baz=196,slow=9.0,SNR=10						
SONM				PcP	PcP	21 02 06.7	+0.6
	comp=Z,1.2nm,0.7s,baz=197,slow=4.2,SNR=5.6						
SONM				pPcP		21 02 17.4	
	comp=Z,1.5nm,0.7s,baz=198,slow=3.4,SNR=5.0						
SONM				ScP		21 05 55.9	
	comp=Z,0.6nm,0.9s,baz=191,slow=6.3,SNR=3.8						
KURK	**Kurchatov**	**45.67**	**347**	*eP*	**P**	**21 00 37.0**	**-0.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
KURK	**Kurchatov**	**45.67**	**347**	*eP*	**P**	**21 00 37.0**	**-0.6**
	comp=Z,2.6nm,0.7s,mb4.3						
ZAL	**Zalesovo**	**47.77**	**354**	P	**P**	**21 00 53.2**	**-1.0**
	comp=Z,2.7nm,0.6s,mb4.5,baz=298,slow=9.0,SNR=18						
ZAL				pP	pP	21 01 02.9	-0.2
	comp=Z,1.8nm,0.6s,baz=272,slow=11,SNR=4.9						
ZAL	**Zalesovo**	**47.77**	**354**	P	**P**	**21 00 53.2**	**-1.0**
ZAL				pP	pP	21 01 02.9	-0.2
HIA	**Hailar**	**48.29**	**23**	P	**P**	**21 00 57.4**	**-0.9**
	comp=Z,6.4nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**48.51**	**124**	P	**P**	**21 01 00.5**	**+0.2**
	comp=Z,1.4nm,0.5s,mb4.2,baz=305,slow=8.1,SNR=20						
WRA				pP	pP	21 01 09.6	+0.4
	comp=Z,4.4nm,0.6s,baz=305,slow=8.9,SNR=17						
WRAB	**Tennant Creek**	**48.51**	**124**	*iP*	pP	21 01 11.1	+1.9
WRAB	**Tennant Creek**	**48.51**	**124**	*eP*	**P**	**21 01 00.0**	**-0.3**
	comp=Z,9.3nm,1.0s,mb4.8						
WB2	**Warramunga Arr**	**48.52**	**124**	*eP*	**P**	**21 01 00.4**	**0.0**
NVS	**Novosibirsk**	**48.84**	**353**	*iP*	**P**	**21 01 01.4**	**-1.1**
NVS				*eS*	**S**	**21 07 56.0**	**-6.8**
NVS				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
NVS				pmax	pmax		
	comp=N,3.0nm,0.8s						
NVS				smax			
	comp=N,10.0nm,1.7s						
BVAR	**Borovoye Array**	**49.91**	**342**	P	**P**	**21 01 10.1**	**-0.7**
	comp=N,2.6nm,0.7s,mb4.4,baz=141,slow=9.5,SNR=16						
BVAR				pP	pP	21 01 18.2	-1.4
	comp=N,4.0nm,0.8s,baz=135,slow=8.4,SNR=9.6						
BVAR				PcP	PcP	21 02 31.2	+0.2
	comp=N,1.0nm,0.7s,baz=108,slow=4.6,SNR=2.0						
BVAR				pPcP		21 02 42.0	
	comp=N,1.7nm,0.8s,baz=90,slow=3.0,SNR=3.6						
BRVK	**Borovoye**	**49.98**	**342**	*eP*	**P**	**21 01 10.4**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
BRVK	**Borovoye**	**49.98**	**342**	*eP*	**P**	**21 01 10.4**	**-0.8**
	comp=Z,1.8nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**50.01**	**128**	P	**P**	**21 01 12.3**	**+0.5**
	comp=Z,1.8nm,0.6s,mb4.2,baz=300,slow=7.7,SNR=16						
ASAR				pP	pP	21 01 22.2	+1.4
	comp=Z,2.7nm,0.7s,baz=305,slow=7.4,SNR=8.1						
ASAR				pPcP		21 02 43.1	
	comp=Z,2.3nm,0.5s,baz=314,slow=3.6,SNR=7.7						
CHKZ	**Chkalovo**	**50.42**	**343**	*eP*	**P**	**21 01 13.8**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**50.42**	**343**	*eP*	**P**	**21 01 13.8**	**-0.7**
	comp=Z,9.9nm,0.8s,mb4.9						
BOD	**Bodaibo**	**53.79**	**14**	*eP*	**P**	**21 01 39.1**	**-0.7**
GNI	**Garni**	**54.53**	**316**	⇑*eP*	**P**	**21 01 45.9**	**+0.5**
GNI				pmax	pmax		
	comp=Z,26nm,1.6s						
GNI	**Garni**	**54.53**	**316**	*eP*	**P**	**21 01 45.6**	**+0.1**
	comp=Z,16nm,1.3s,mb4.9						
KMBO	**Kilima Mbogo**	**56.03**	**264**	*iP*	**P**	**21 01 59.8**	**+3.1**
KMBO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KMBO	**Kilima Mbogo**	**56.03**	**264**	P	**P**	**21 01 53.0**	**-3.7**
	comp=Z,1.2nm,0.6s,mb4.1,baz=52,slow=12,SNR=2.0						
KMBO				LR	LR	21 24 28.1	
	comp=Z,62nm,19.5s,MS3.7,baz=90,slow=35						
KMBO	**Kilima Mbogo**	**56.03**	**264**	P	**P**	**21 01 53.0**	**-3.7**
KMBO				*eP*		21 01 59.3	
KMBO				LR	LR	21 24 28.1	
SVE	**Sverdlovsk**	**56.24**	**339**	*eP*	**P**	**21 01 57.0**	**-0.6**
**ARU

ARCES pP pP 21 04 11.9 -1.7
comp=Z,5.6nm,0.8s,baz=76,slow=5.0,SNR=2.5
BILL Bilibino 77.84 22 *i* P pP 21 04 19.3 -3.8
GERES GERESS Array B 78.03 318 P **P 21 04 16.0 +0.8**
comp=Z,1.9nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=16
GERES pP pP 21 04 24.1 -0.4
comp=Z,3.3nm,0.8s,baz=90,slow=4.0,SNR=11
CLL Collm 78.64 321 P **P 21 04 19.0 +0.5**
NB2 NORSAR Subarra 80.33 331 P **P 21 04 26.8 -0.6**
comp=Z,0.7nm,0.7s,mb3.7,baz=99,slow=4.8
NOA NORSAR Array B 80.33 331 P **P 21 04 26.7 -0.7**
comp=Z,0.8nm,0.8s,mb3.7,baz=42,slow=1.5,SNR=3.4
NOA pP pP 21 04 37.1 +0.4
comp=Z,1.0nm,0.8s,baz=95,slow=5.5,SNR=1.8
SYO Syowa Base 83.71 197 ⇓P **P 21 04 44.6 -0.2**
ESDC Sonseca Array 91.15 310 P **P 21 05 22.7 +1.2**
comp=Z,0.8nm,0.5s,mb4.3,baz=57,slow=3.9,SNR=5.0
ESDC pP pP 21 05 31.7 +0.9
comp=Z,1.7nm,0.7s,baz=54,slow=4.5,SNR=6.4
RES Resolute Bay 98.84 2 *e*P **P 21 05 54.9 -0.8**
NVAR Mina Array Bea 126.75 30 PKP PKPdf 21 11 22.8 -1.3
comp=Z,0.3nm,0.5s,baz=11,slow=0.1,SNR=3.6
NVAR pPKP 21 11 32.6
comp=Z,1.3nm,0.8s,baz=294,slow=0.7,SNR=4.7
PDAR Pinedale Array 126.91 21 PKP PKPdf 21 11 21.6 -2.6
comp=Z,0.7nm,0.6s,slow=0.9,SNR=3.8
PDAR pPKP 21 11 32.6
comp=Z,1.6nm,0.8s,baz=297,slow=2.0,SNR=5.7
TXAR Lajitas Array 141.00 23 PKP PKPdf 21 11 49.5 -1.5
comp=Z,0.4nm,0.4s,baz=177,slow=1.9,SNR=3.7

*JMA **19** 20:57:17.3±0.4, 33.99N×141.82E, h24km±5km, M3.6*
*IDC **19** 20:57:18.1±1.5, 34.26N×141.41E, mb3.4/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.4/3, Error ellipse: s-maj=45.3km s-min=23.3km az=128.0*
ISC 19 20:57:19.3±1.4, 34.04N±0.05×141.76E±0.08, h25km±9km, n14, σ0§83/21, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.89**	**314**	P	**Pb**	**20 57 34.9**	**-1.1**
BSO1				S	**Sb**	**20 57 48.1**	**+0.7**
BSO2	**Boso 2**	**1.09**	**311**	S	**Sb**	**20 57 54.0**	**+0.8**
BSO3	**Boso 3**	**1.28**	**307**	P	**Pn**	**20 57 41.3**	**-0.5**
BSO3				S	**Sn**	**20 57 59.6**	**+1.3**
BSO4	**Boso 4**	**1.51**	**309**	P	**Pn**	**20 57 45.0**	**-0.1**
BSO4				S	**Sn**	**20 58 04.8**	**+0.7**
JHJ2	**Mitsune**	**1.87**	**241**	P	**Pn**	**20 57 49.9**	**-0.3**
JHJ	**Hachijo jima 2**	**1.89**	**241**	Pn	**Pn**	**20 57 50.0**	**-0.5**
	42nm,0.3s,baz=48,slow=22,SNR=8.7						
JHJ				Sn	**Sn**	**20 58 13.6**	**-0.1**
	103nm,0.3s,baz=237,slow=20,SNR=8.9						
JOD2	**Odawara 2**	**2.52**	**300**	P	**Pn**	**20 57 59.7**	**+0.2**
JYN	**Shimob**	**3.02**	**300**	P	**Pn**	**20 58 07.2**	**+0.5**
JYN				S	**Sn**	**20 58 42.6**	**+0.2**
JAG	**Ashikaga**	**3.04**	**322**	P	**Pn**	**20 58 06.3**	**-0.6**
JRY	**Ryogami san**	**3.06**	**311**	P	**Pn**	**20 58 06.8**	**-0.5**
JRY				S	**Sn**	**20 58 42.8**	**-0.7**
MAT	**Matsushiro**	**3.83**	**312**	P	**Pn**	**20 58 18.6**	**+0.4**
MAT				S	**Sn**	**20 59 00.9**	**-2.0**
ILAR	**Eielson Array**	**51.89**	**31**	P	**P**	**21 06 27.6**	**+0.2**
	0.3nm,0.9s,mb3.2,baz=277,slow=7.3,SNR=3.7						
WRA	**Warramunga Arr**	**54.14**	**189**	P	**P**	**21 06 44.6**	**-0.1**
	0.3nm,0.4s,mb3.5,baz=6.0,slow=7.7,SNR=5.8						
ASAR	**Alice Springs**	**57.87**	**189**	P	**P**	**21 07 14.5**	**+3.0**
	0.3nm,0.7s,mb3.4,slow=7.2,SNR=3.6						

IDC 19 20:57:34.0±1.9, 3.61S×129.72E, mb3.6/4, mb1 3.9/4, mb1mx3.7/15, mbtmp3.7/4, Error ellipse: s-maj=101.6km s-min=28.9km az=70.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**20.34**	**169**	P	P	21 02 12.4	-2.4
	3.5nm,0.6s,baz=350,slow=11,SNR=15						
CMAR	**Chiang Mai Arr**	**37.42**	**307**	P	P	21 04 49.6	-1.3
	0.4nm,0.7s,baz=137,slow=8.8,SNR=4.2						
SONM	**Songino Array**	**55.16**	**341**	P	P	21 07 09.4	-1.3
	0.4nm,0.7s,baz=146,slow=5.2,SNR=2.5						
BVAR	**Borovoye Array**	**75.07**	**327**	P	P	21 09 16.2	-3.3
	1.5nm,1.1s,baz=127,slow=7.2,SNR=4.6						

MAN 19 21:03:12.3, 17.12N×120.18E, h18km, mb4.5, ML3.3, MS3.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.73**	**44**	*e*P	Pb	21 03 19.8	-6.4
BOLP	**Bolinao**	**0.78**	**199**	*e*P	Pb	21 03 27.3	+0.3
BOLP				*e*S	Sb	21 03 40.3	+3.1
APYP	**Conner**	**1.25**	**54**	*i* P	Pb	21 03 26.7	-8.3
SCZP	**Santa Cruz**	**1.36**	**191**	*e*P	Pn	21 03 35.7	-1.0
CAUP	**Cauayan**	**1.58**	**96**	*e*P	Pn	21 03 37.9	-1.9
CVP	**Callao Caves**	**1.67**	**70**	*e*P	Pn	21 03 39.0	-2.0
CVP				*i* S	Sn	21 04 03.0	+0.9
BALP	**Baler**	**1.92**	**136**	*e*P	Pn	21 03 45.3	+0.7

IDC 19 21:14:03.8±5.7, 4.90N×93.27E, mb3.3/2, mb1 3.7/3, mb1mx3.4/18, mbtmp3.4/3, ML4.2/1, Error ellipse: s-maj=163.9km s-min=35.5km az=72.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.57**	**22**	Pn	P	21 17 32.3	-1.1
	0.3nm,0.3s,baz=213,slow=13,SNR=5.8						
SONM	**Songino Array**	**44.23**	**13**	P	P	21 22 14.8	-1.9
	0.6nm,1.1s,baz=207,slow=6.4,SNR=2.4						
WRA	**Warramunga Arr**	**47.32**	**123**	P	P	21 22 39.6	-1.9
	0.4nm,0.7s,baz=303,slow=9.0,SNR=4.7						

*IDC **19** 21:24:21.3±0.9, 4.95N×94.95E, mb4.4/10, mb1 4.6/11, mb1mx4.4/18, mbtmp4.4/11, ML4.9/1, Error ellipse: s-maj=47.0km s-min=17.8km az=47.0*
*BJI **19** 21:24:24.8, 4.60N×94.92E, h54km, mB4.8, mb4.8, Ms4.4, Msz4.1*
*NEIC **19** 21:24:26.0±0.3, 4.95N×94.99E, h30km, mb4.7/12, Error ellipse: s-maj=10.6km s-min=5.6km az=46.0*
ISC 19 21:24:27.5±1.7, 4.86N±0.08×94.99E±0.08, h58km±15km, n57, σ1§01/55, mb4.6/30, MS4.6/1, 2C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.05**	**67**	P	**P**	**21 25 57.0**	**+0.6**
	210nm,0.9s						
CMAR	**Chiang Mai Arr**	**14.05**	**16**	Pn	**P**	**21 27 47.0**	**+1.7**
	1.7nm,0.3s,baz=210,slow=12,SNR=66						
CHG	**Chiang Mai**	**14.39**	**15**	⇑P	**P**	**21 27 55.0**	**+5.3**
	19nm,0.7s						
PALK	**Pallekele**	**14.41**	**280**	P	**P**	**21 27 47.5**	**-2.4**
HYB	**Hyderabad**	**20.36**	**309**	*i* P	**P**	**21 29 03.0**	**+1.1**
JIRN	**Jiri**	**24.17**	**341**	*e*P	**P**	**21 29 39.7**	**+0.2**
	21nm,0.5s,mb4.8						
PKI	**Pulchoki**	**24.36**	**339**	*e*P	**P**	**21 29 40.9**	**-0.5**
	5.9nm,0.3s,mb4.5						
DMN	**Daman**	**24.50**	**338**	*e*P	**P**	**21 29 42.4**	**-0.4**
	7.3nm,0.3s,mb4.6						
KKN	**Kakani**	**24.60**	**339**	*e*P	**P**	**21 29 43.4**	**-0.4**
	9.9nm,0.5s,mb4.6						
LSA	**Lhasa**	**24.97**	**352**	P	**P**	**21 29 47.0**	**-0.3**
LSA	**Lhasa**	**24.97**	**352**	*e*P	**P**	**21 29 46.7**	**-0.6**
	7.0nm,0.5s,mb4.5						
GKN	**Gorkha**	**25.03**	**338**	*e*P	**P**	**21 29 47.8**	**-0.1**
	18nm,0.3s,mb5.1						
KOLN	**Koldanda**	**25.23**	**336**	*e*P	**P**	**21 29 49.6**	**-0.1**
	30nm,0.6s,mb5.0						
ENH	**Enshi**	**28.74**	**27**	*e*P	**P**	**21 30 19.6**	**-2.2**
	2.3nm,0.5s,mb4.2						
XAN	**Xi'an**	**31.79**	**22**	P	**P**	**21 30 46.5**	**-2.2**
XAN				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.2						
FITZ	**Fitzroy Crossi**	**37.88**	**128**	*e*P	**P**	**21 31 40.3**	**-0.5**
	comp=Z,3.5nm,0.6s,mb4.3						
WMQ	**Urumqi**	**39.33**	**352**	*e*P	**P**	**21 31 52.7**	**+0.1**
WMQ				AP	pP	21 32 02.5	-5.1
WMQ				PP	PP	21 33 27.0	-0.5
WMQ				S	**S**	**21 37 49.8**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,35nm,4.9s						
WMQ				LR	LR		
	comp=N,654nm,19.6s,MS4.6						
WMQ				LR	LR		
	comp=E,663nm,20.3s,MS4.6						
WMQ				LR	LR		
	comp=Z,856nm,20.4s,MS4.6						
BJT	**Baijiatuau**	**39.87**	**26**	*e*P	**P**	**21 31 57.0**	**-0.2**
	comp=Z,20nm,0.7s,mb5.0						
KZA	**Kyzart**	**41.02**	**337**	P	**P**	**21 32 07.8**	**+1.1**
	SNR=6.0						
UCH	**Uchtor**	**41.44**	**337**	P	**P**	**21 32 11.5**	**+1.5**
	SNR=16						
TKM2	**Tokmak 2**	**41.62**	**338**	P	**P**	**21 32 12.5**	**+0.9**
	SNR=11						
KBK	**Karagaybulak**	**41.63**	**338**	P	**P**	**21 32 13.2**	**+1.5**
	SNR=27						
AML	**Almayashu**	**41.68**	**336**	P	**P**	**21 32 13.6**	**+1.5**
	SNR=20						
AAK	**Ala-Archa**	**41.79**	**337**	P	**P**	**21 32 15.3**	**+2.3**
	SNR=13						
AAK	**Ala-Archa**	**41.79**	**337**	*e*P	**P**	**21 32 13.4**	**+0.4**
	comp=Z,6.8nm,0.6s,mb4.5						
CHMS	**Chumysh**	**42.00**	**338**	P	**P**	**21 32 15.3**	**+0.6**
	SNR=5.2						
EKS2	**Erkin-Say**	**42.09**	**337**	P	**P**	**21 32 16.9**	**+1.4**
	SNR=11						
USP	**Ospenovka**	**42.33**	**338**	P	**P**	**21 32 18.0**	**+0.6**
	SNR=19						
SONM	**Songino Array**	**43.92**	**11**	P	**P**	**21 32 29.3**	**-1.0**
	comp=Z,1.8nm,0.5s,mb4.0,baz=192,slow=8.7,SNR=19						
SONM				PcP	PcP	21 34 15.8	-0.2
	comp=Z,0.6nm,0.4s,baz=197,slow=3.7,SNR=6.0						
SONM				pPcP		21 34 30.1	
	comp=Z,0.8nm,0.7s,baz=207,slow=3.1,SNR=3.6						
ULN	**Ulaanbaatar**	**44.08**	**12**	*e*P	**P**	**21 32 29.6**	**-2.0**
	comp=Z,1.3nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**45.87**	**124**	P	**P**	**21 32 46.2**	**0.0**
	comp=Z,12nm,0.6s,mb5.0,baz=302,slow=9.4,SNR=104						
WRAB	**Tennant Creek**	**45.87**	**124**	*e*P	**P**	**21 32 46.4**	**+0.1**
	comp=Z,20nm,0.6s,mb5.2						
WB2	**Warramunga Arr**	**45.88**	**124**	⇑*i*P	**P**	**21 32 46.5**	**+0.2**
ASPA	**Alice Springs**	**47.37**	**128**	*e*P	**P**	**21 32 58.9**	**+0.9**
ASAR	**Alice Springs**	**47.37**	**128**	P	**P**	**21 32 58.2**	**+0.2**
	comp=Z,2.1nm,0.4s,mb4.4,baz=301,slow=7.9,SNR=24						
KURK	**Kurchatov**	**47.72**	**346**	*e*P	**P**	**21 32 59.8**	**-0.6**
	comp=Z,4.7nm,0.5s,mb4.8						
ZAL	**Zalesovo**	**49.63**	**352**	P	**P**	**21 33 13.4**	**-1.6**
	comp=Z,9.7nm,1.0s,mb4.8,baz=308,slow=5.9,SNR=32						
BRVK	**Borovoye**	**52.16**	**341**	*e*P	**P**	**21 33 33.2**	**-1.0**
	comp=Z,15nm,0.6s,mb5.1						
CHKZ	**Chkalovo**	**52.58**	**342**	*e*P	**P**	**21 33 36.6**	**-0.8**
	comp=Z,31nm,0.7s,mb5.3						
BRTR	**Keskin Array B**	**65.03**	**312**	P	**P**	**21 35 03.3**	**-0.8**
	comp=Z,2.6nm,0.5s,mb4.5,baz=134,slow=6.9,SNR=30						
AKASG	**Malin Array Be**	**71.03**	**322**	P	**P**	**21 35 39.8**	**-1.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=86,slow=5.0,SNR=6.9						
JOF	**Joensuu**	**73.91**	**335**	*ep*	**P**	**21 35 50.1**	**-7.9**
FINES	**FINESS Array B**	**75.75**	**332**	P	**P**	**21 36 08.1**	**-0.4**
	comp=Z,3.3nm,0.4s,mb4.7,baz=102,slow=6.5,SNR=56						
KAF	**Kangasniemi**	**75.84**	**333**	*ep*	**P**	**21 36 08.5**	**-0.5**
	comp=Z,3.3nm,0.5s,mb4.5						
OJC	**Ojcow**	**76.81**	**320**	*e*P	**P**	**21 36 15.1**	**+0.3**
KEV	**Kevo**	**77.94**	**341**	*ep*	**P**	**21 36 19.4**	**-1.2**
	comp=Z,48nm,2.7s,mb5.0						
ARCES	**ARCESS Array B**	**78.37**	**340**	P	**P**	**21 36 23.4**	**+0.4**
	comp=Z,4.3nm,0.6s,mb4.6,baz=91,slow=5.9,SNR=37						
BOJS	**Bojanci**	**79.36**	**315**	*i* P	**P**	**21 36 29.9**	**+1.0**
VISS	**Visnje**	**79.66**	**316**	*i* P	**P**	**21 36 31.1**	**+0.5**
GERES	**GERESS Array B**	**80.62**	**319**	P	**P**	**21 36 36.4**	**+0.8**
	comp=Z,3.8nm,0.8s,mb4.4,baz=111,slow=5.3,SNR=20						
NB2	**NORSAR Subarra**	**82.75**	**331**	P	**P**	**21 36 45.8**	**-0.6**
	comp=Z,0.2nm,0.8s,baz=91,slow=6.2						
NOA	**NORSAR Array B**	**82.75**	**331**	P	**P**	**21 36 46.0**	**-0.4**
	comp=Z,1.2nm,0.8s,mb4.0,baz=187,slow=3.1,SNR=4.3						
NOA	**NORSAR Array B**	**82.75**	**331**	P	**P**	**21 36 46.0**	**-0.4**
IMA	**Indian Mountai**	**94.07**	**22**	*e*P	**P**	**21 37 41.4**	**+1.1**
NVAR	**Mina Array Bea**	**127.02**	**33**	PKP	PKPdf	21 43 27.6	+1.9
	comp=Z,0.4nm,0.5s,baz=268,slow=4.7,SNR=3.7						
PDAR	**Pinedale Array**	**127.63**	**23**	PKP	PKPdf	21 43 28.8	+2.1
	comp=Z,0.6nm,0.5s,baz=94,slow=3.0,SNR=10						
TXAR	**Lajitas Array**	**141.57**	**27**	PKP	PKPdf	21 43 55.4	+2.4
	comp=Z,0.6nm,0.6s,baz=117,slow=2.8,SNR=5.3						

*IDC **19** 21:34:03.3±0.9, 12.95N×93.87E, mb4.1/11, mb1 4.2/12, mb1mx4.1/20, mbtmp4.1/12, ML4.4/1, MS4.0/3, Ms1 4.0/3, ms1mx3.2/26, Error ellipse: s-maj=28.7km s-min=17.7km az=50.0*
*BJI **19** 21:34:07.8, 12.83N×93.84E, h45km, mB5.4, mb4.4, Ms4.3, Msz4.1*
*NEIC **19** 21:34:08.3±0.4, 13.02N×94.01E, h30km, mb4.2/7, Error ellipse: s-maj=9.7km s-min=8.3km az=108.0*
ISC 19 21:34:02.8±2.3, 12.96N±0.06×93.90E±0.04, h6km±15km, n44, σ1§00/49, mb4.1/18, MS4.3/3, 1C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**5.70**	**93**	P	**Pn**	**21 35 30.0**	**0.0**
NST	**Nakhon Sawan**	**6.62**	**65**	P	**Pn**	**21 35 43.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**7.31**	**41**	Pn	**Pn**	**21 35 51.9**	**-0.9**
	1.5nm,0.3s,baz=234,slow=15,SNR=38						
CMAR				Sn	**Sn**	**21 37 17.7**	**+0.8**
	baz=252,slow=28,SNR=2.6						
CMAR				LR	LR	21 39 07.5	
	comp=Z,228nm,18.5s,baz=225,slow=42						
CHG	**Chiang Mai**	**7.58**	**39**	⇓P	**Pn**	**21 35 57.8**	**+1.4**
	27nm,0.7s						
CHRT	**Chiangrai**	**8.89**	**39**	⇓P	**P**	**21 36 16.0**	**+1.3**
BWNR	**Bhubaneshwar**	**10.65**	**314**	*e*P	**P**	**21 36 35.8**	**-3.2**
BWNR				*e*S	**S**	**21 38 26.9**	**-13**
BWNR				*e*		21 38 33.2	
	comp=N,214nm,0.3s						
BWNR				*e*		21 38 33.3	
	comp=E,283nm,0.4s						
VIS	**Vishakhapatnam**	**11.24**	**296**	*e*P	**P**	**21 36 45.7**	**-1.5**
VIS				*e*S	**S**	**21 38 43.0**	**-11**
VIS				*e*		21 38 49.8	
	comp=N,91nm,0.2s						
VIS				*e*		21 38 50.3	
	comp=E,64nm,0.4s						
IMP	**Imphal**	**11.77**	**0**	*e*P	**P**	**21 36 53.6**	**-0.6**
SHL	**Shillong**	**12.69**	**352**	*e*P	**P**	**21 37 03.0**	**-3.6**
SHL				*e*P		21 37 03.0	
SHL				*i* S	**S**	**21 39 15.0**	**-14**
SHL				*e*		21 39 23.0	
PALK	**Pallekele**	**14.16**	**248**	*e*P	**P**	**21 37 28.9**	**+2.6**
BLSP	**Bilaspur**	**14.46**	**311**	*e*P	**P**	**21 37 30.1**	**0.0**
BLSP				*e*		21 39 58.1	
HYB	**Hyderabad**	**15.46**	**289**	*e*P	**P**	**21 37 50.0**	**+6.8**
HYB				*e*S	**S**	**21 40 25.0**	**-10**
HYB	**Hyderabad**	**15.46**	**289**	*i* P	**P**	**21 37 50.0**	**+6.8**
HYB				*e*		21 40 25.0	
HYB				*e*S	**S**	**21 40 36.0**	**+0.6**
JIRN	**Jiri**	**16.31**	**335**	*e*P	**P**	**21 37 54.6**	**+0.5**
	comp=E,70nm,0.6s						
PKI	**Pulchoki**	**16.57**	**333**	*e*P	**P**	**21 37 56.7**	**-0.7**
	comp=E,85nm,0.8s						
DMN	**Daman**	**16.74**	**332**	*e*P	**P**	**21 37 58.6**	**-0.9**
	comp=E,54nm,0.6s						
KKN	**Kakani**	**16.82**	**333**	*e*P	**P**	**21 38 01.1**	**+0.6**
	comp=E,40nm,0.7s						
LSA	**Lhasa**	**16.86**	**352**	P	**P**	**21 38 01.8**	**+0.8**
LSA	**Lhasa**	**16.86**	**352**	*e*P	**P**	**21 38 01.4**	**+0.4**
	comp=E,11nm,0.8s						
GKN	**Gorkha**	**17.29**	**331**	*e*P	**P**	**21 38 06.7**	**+0.2**
	comp=E,50nm,0.4s						
KOLN	**Koldanda**	**17.61**	**328**	*e*P	**P**	**21 38 08.9**	**-1.5**
	comp=E,60nm,0.7s						
BHPL	**Bhopal**	**18.69**	**305**	*e*P	**P**	**21 38 25.9**	**+2.0**
BHPL				*e*		21 38 27.1	
	comp=Z,19nm,1.5s						
PTH	**Pithoragarh**	**20.83**	**325**	*e*P	**P**	**21 38 49.0**	**+1.3**
ENH	**Enshi**	**22.47**	**37**	*e*P	**P**	**21 39 03.4**	**-0.8**
	comp=Z,8.0nm,0.8s,mb4.2						
LZH	**Lanzhou**	**24.71**	**20**	⇑P	**P**	**21 39 27.5**	**+1.5**
LZH				AP		21 39 35.3	
LZH				XP		21 39 38.8	
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.6						
LZH				LR	LR		
	comp=N,317nm,13.0s						
LZH				LR	LR		
	comp=Z,492nm,17.4s,MS4.1						
XAN	**Xi'an**	**25.04**	**31**	P	**P**	**21 39 27.8**	**-1.4**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.0						
SONM	**Songino Array**	**36.30**	**14**	P	**P**	**21 41 08.7**	**-0.2**
	comp=Z,2.3nm,0.9s,mb4.1,baz=200,slow=11,SNR=13						
ULN	**Ulaanbaatar**	**36.49**	**15**	*e*P	**P**	**21 41 10.0**	**-0.6**
	comp=Z,1.5nm,0.6s,mb4.1						
KURK	**Kurchatov**	**39.66**	**345**	*e*P	**P**	**21 41 37.5**	**+0.4**
	comp=Z,3.8nm,1.0s,mb4.1						
ZAL	**Zalesovo**	**41.51**	**352**	P	**P**	**21 41 52.3**	**0.0**
	comp=Z,3.7nm,0.5s,mb4.3,baz=312,slow=7.0,SNR=16						
BVAR	**Borovoye Array**	**44.15**	**340**	P	**P**	**21 42 13.2**	**-0.6**
	comp=Z,0.2nm,0.4s,mb3.2,baz=145,slow=9.1,SNR=4.3						
CHKZ	**Chkalovo**	**44.62**	**340**	*e*P	**P**	**21 42 18.2**	**+0.6**
	comp=Z,1.7nm,0.4s,mb4.2						
GNI	**Garni**	**50.82**	**312**	P	**P**	**21 43 07.5**	**+1.3**
	comp=Z,2.6nm,0.5s,mb4.4,baz=65,slow=7.2,SNR=3.8						
GNI				LR	LR	22 05 25.6	
	comp=Z,115nm,18.6s,MS3.9,baz=139,slow=37						
GNI	**Garni**	**50.82**	**312**	*e*P	**P**	**21 43 07.8**	**+1.6**
	comp=Z,19nm,1.1s,mb4.9						
WRA	**Warramunga Arr**	**51.50**	**129**	P	**P**	**21 43 11.2**	**-0.4**
	comp=Z,1.4nm,0.6s,mb4.0,baz=313,slow=8.1,SNR=21						
WRAB	**Tennant Creek**	**51.50**	**129**	*e*P	**P**	**21 43 11.8**	**+0.2**
	comp=Z,5.5nm,0.7s,mb4.6						
ASAR	**Alice Springs**	**53.43**	**133**	P	**P**	**21 43 25.4**	**-0.6**
	comp=Z,1.3nm,0.7s,mb4.0,baz=308,slow=6.5,SNR=9.3						
BRTR	**Keskin Array B**	**59.02**	**309**	P	**P**	**21 44 05.0**	**-0.9**
	comp=Z,2.7nm,0.7s,mb4.4,baz=124,slow=7.0,SNR=18						
FINES	**FINESS Array B**	**68.15**	**331**	P	**P**	**21 45 03.9**	**-1.7**
	comp=Z,1.5nm,0.8s,mb4.1,baz=98,slow=6.2,SNR=9.9						
ARCES	**ARCESS Array B**	**70.44**	**340**	P	**P**	**21 45 19.4**	**-0.2**
	comp=Z,2.2nm,0.6s,mb4.2,baz=92,slow=6.6,SNR=11						
GERES	**GERESS Array B**	**73.93**	**317**	P	**P**	**21 45 40.3**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=7.8						
NOA	**NORSAR Array B**	**75.23**	**330**	P	**P**	**21 45 48.0**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=95,slow=5.7,SNR=3.4						
BOSA	**Boshof**	**78.11**	**237**	*e*P	**P**	**21 46 04.4**	**-0.2**
BORG	**Borgarnes**	**88.68**	**337**	LR	LR	22 27 44.7	
	comp=Z,483nm,22.0s,MS4.9,baz=45,slow=36						

*MOS **19** 21:37:23.6±1.0, 51.44N×158.85E, h38km, mb4.8/40, Error ellipse: s-maj=10.3km s-min=5.3km az=84.8*
MOS Felt (II) at Severo-Kuril'sk.
*BJI **19** 21:37:25.1, 51.71N×158.93E, h68km, mB4.9, mb4.5, Ms4.4, Msz4.2*
*KRSC **19** 21:37:26.8±1.2, 51.61N×158.74E, h40km±6km, ML5.4*
*IDC **19** 21:37:26.9±0.8, 51.64N×158.57E, h46km±6km, mb4.0/20, mb1 4.2/21, mb1mx4.2/26, mbtmp4.2/21, ML4.8/2, MS3.9/9, Ms1 4.0/9, ms1mx3.5/28, Error ellipse: s-maj=19.1km s-min=12.1km az=160.0*
*NEIC **19** 21:37:27.9±1.3, 51.59N×158.72E, h57km±12km, mb4.7/40, Error ellipse: s-maj=9.4km s-min=5.5km az=159.0*
NEIC Felt [II] at Severo-Kuril'sk, Paramushir.
ISC 19 21:37:25.3±0.5, 51.53N±0.03×158.80E±0.05, h50km±4km, h42km±2.5km: pP-P, n198, σ1§07/230, mb4.5/63, MS4.0/13, 17C-3D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.92**	**349**	P	**P**	**21 37 42.1**	**+0.1**
RUS				S	**S**	**21 37 53.2**	**-1.3**
RUS	**Russkaya**	**0.92**	**349**	*i* P	**P**	**21 37 42.2**	**+0.2**
RUS				*e*S	**S**	**21 37 53.2**	**-1.3**
GRL	**Gorelyy**	**1.12**	**337**	*i* P	**P**	**21 37 45.7**	**+0.9**
GRL				*e*S	**S**	**21 37 58.9**	**-0.4**
PAU	**Pauzhetka**	**1.24**	**268**	*i* P	**P**	**21 37 46.4**	**-0.2**
PAU				*e*S	**S**	**21 38 01.4**	**-1.1**
PAU				Smax			
	800nm,0.4s						
KRMR	**Karymshinskiy**	**1.36**	**343**	*i* P	**P**	**21 37 49.4**	**+1.0**
KRMR				*e*S	**S**	**21 38 05.7**	**+0.1**
MIPR	**Malaya Ipel'ka**	**1.47**	**301**	*i* P	**P**	**21 37 50.9**	**+1.1**
MIPR				*e*S	**S**	**21 38 08.6**	**+0.5**
PET	**Petropavlovsk**	**1.50**	**357**	*c i* PN	**P**	**21 37 50.6**	**+0.3**
NLC	**Nalytchevo**	**1.68**	**11**	P	**P**	**21 37 51.9**	**-0.9**
NLC				S	**S**	**21 38 10.6**	**-2.6**
NLC	**Nalytchevo**	**1.68**	**11**	*i* P	**P**	**21 37 51.9**	**-0.9**
NLC				*e*S	**S**	**21 38 11.5**	**-1.7**
UGLR	**Uglovaya**	**1.68**	**1**	*i* P	**P**	**21 37 53.4**	**+0.6**
UGLR				*e*S	**S**	**21 38 13.0**	**-0.3**
APC	**Apacha**	**1.72**	**325**	*i* P	**P**	**21 37 55.0**	**+1.6**
APC				*e*S	**S**	**21 38 15.2**	**+0.9**
APC				Smax			
	2μm,0.9s						
SMAR	**Somma**	**1.73**	**0**	*i* P	**P**	**21 37 53.9**	**+0.3**
SMAR				*e*S	**S**	**21 38 14.3**	**-0.3**
AVH	**Avacha**	**1.74**	**359**	*i* P	**P**	**21 37 54.5**	**+0.9**
AVH				*e*S	**S**	**21 38 14.6**	**0.0**
SPN	**Mys Shipunski**	**1.74**	**25**	P	**P**	**21 37 54.

SEY e 21 42 43.7
SEY pmax pmax
comp=N,60nm,1.2s
SEY pmax pmax
comp=E,30nm,1.2s
SEY pmax pmax
comp=Z,50nm,1.2s
ASAJ Asahikawa 13.15 242 PN **P 21 40 30.4 -1.0**
ASAJ pmax pmax
comp=Z,5.0nm,0.3s
ASAJ MLR MLR
comp=Z,326nm,21.1s
ASAJ Asahikawa 13.15 242 P **P 21 40 30.4 -1.0**
comp=Z,4.5nm,0.3s,baz=74,slow=14,SNR=19
ASAJ LR LR 21 44 58.7
comp=Z,326nm,21.1s,baz=337,slow=34
BILL Bilibino 16.96 10 *e*P **P 21 41 19.2 -0.9**
BILL pmax pmax
comp=Z,20nm,1.1s
BILL Bilibino 16.96 10 *e*P **P 21 41 19.2 -0.8**
comp=Z,20nm,1.1s
KLR Kul'dur 17.37 273 *e*P **P 21 41 25.8 +0.4**
YAK Yakutsk 18.93 315*c i*P **P 21 41 44.5 +0.2**
YAK *e*S **S 21 45 15.5 +5.5**
YAK pmax pmax
comp=Z,34nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,16nm,1.1s
YAK smax
comp=E,7.0nm,1.3s
YAK smax
comp=N,3.0nm,1.0s
YAK Yakutsk 18.93 315 *e*P **P 21 41 43.9 -0.4**
comp=N,71nm,0.8s
CLNS Chul'man 20.39 298 *e*P **P 21 42 01.1 +0.9**
CLNS *e* 21 42 14.6
CLNS *e*PPP PPP 21 42 18.7 -13
CLNS *e*S **S 21 45 41.8 +0.9**
CLNS *e* 21 46 09.9
CLNS *e*SS SS 21 46 16.2 +3.6
CLNS pmax pmax
comp=Z,27nm,0.9s
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=E,19nm,0.8s
CLNS pmax pmax
comp=Z,15nm,0.9s
CLNS pmax pmax
comp=N,12nm,0.8s
CLNS pmax pmax
comp=E,11nm,0.9s
CLNS smax
comp=N,8.0nm,0.9s
CLNS smax
comp=Z,4.0nm,1.0s
CLNS smax
comp=E,5.0nm,0.9s
CLNS MLR MLR
comp=Z,300nm,17.0s,MS3.7
CLNS MLR MLR
comp=N,100nm,14.0s,MS3.5
CLNS MLR MLR
comp=E,100nm,15.0s,MS3.5
MAJO Matsushiro 20.96 232 *e*P **P 21 42 05.1 -1.0**
MAJO pmax pmax
comp=Z,29nm,0.5s
MAJO Matsushiro 20.96 232 *e*P **P 21 42 05.1 -1.0**
comp=Z,29nm,0.5s
MAT Matsushiro 20.96 232 *e*P **P 21 42 06.0 -0.1**
MAT pmax pmax
comp=Z,19nm,0.8s
MAT Matsushiro 20.96 232 P **P 21 42 05.5 -0.6**
MAT *e*S **S 21 45 53.8 +2.0**
TNA Tin City 21.97 38 *e*P **P 21 42 16.1 +0.1**
comp=Z,14nm,1.2s,mb4.3
TIXI Tiksi 24.20 337 *e*P **P 21 42 37.4 -0.1**
TIXI pmax pmax
comp=Z,12nm,0.6s,mb4.5
TIXI MLR MLR
comp=Z,434nm,16.0s,MS4.0
HIA Hailar 24.80 280 *e*P **P 21 42 41.7 -1.9**
HIA pmax pmax
comp=Z,20nm,0.8s
HIA Hailar 24.80 280 *e*P **P 21 42 41.6 -2.0**
comp=Z,20nm,0.8s,mb4.7
BOD Bodaibo 26.25 302 *e*P **P 21 42 52.6 -4.5**
IMA Indian Mountai 27.74 40 *e*P **P 21 43 08.9 -1.8**
MCK McKinley 29.61 45 *e*P **P 21 43 26.4 -1.0**
MCK *e**PP pP 21 43 38.6 -1.6
MCK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
MCK McKinley 29.61 45 *e*P **P 21 43 26.4 -0.9**
comp=Z,4.0nm,0.9s,mb4.2
MCK *e*pP pP 21 43 38.6 -1.6
COLA College 30.08 43‖*e*P **P 21 43 31.6 +0.1**
COLA College 30.08 43 *e*P **P 21 43 31.3 -0.3**
ILAR Eielson Array 30.49 43 P **P 21 43 34.3 -0.9**
ILAR *PP pP 21 43 46.5 -1.6
ILAR pmax pmax
comp=Z,3.0nm,0.9s
ILAR pmax pmax
comp=Z,23nm,1.1s
ILAR Eielson Array 30.49 43 P **P 21 43 34.3 -0.9**
comp=Z,3.0nm,0.9s,mb4.0,baz=265,slow=8.5,SNR=25
ILAR pP pP 21 43 46.5 -1.6
comp=Z,23nm,1.1s,baz=267,slow=7.1,SNR=24
SONM Songino Array 33.51 285 P **P 21 44 01.4 -0.3**
comp=Z,0.3nm,0.4s,mb3.5,baz=78,slow=8.0,SNR=2.5
SONM PcP PcP 21 46 41.8 0.0
comp=Z,0.4nm,0.6s,baz=38,slow=1.6,SNR=3.6
DAWY Dawson 33.79 44 *e*P **P 21 44 02.2 -1.8**
ZAK Zakamensk 34.28 290 *e*P **P 21 44 05.9 -2.4**
SSE Sheshan 34.33 248 P **P 21 44 08.6 -0.4**
SSE S **S 21 49 31.8 -0.2**
SSE AMB AMB
comp=Z,14nm,0.8s,mb4.9
SSE AMB AMB
comp=Z,82nm,5.0s
SSE LR LR
comp=N,51nm,19.8s,MS3.6
SSE LR LR
comp=E,105nm,19.8s,MS3.6
SSE LR LR
comp=Z,76nm,17.7s,MS3.5
NJ2 Nanjing 35.01 252 *e*P **P 21 44 16.8 +2.0**
NJ2 AP pP 21 44 29.6 +1.8
NJ2 PP PP 21 45 32.6 -1.6
NJ2 S **S 21 49 46.0 +3.6**
NJ2 XS 21 50 07.0
NJ2 AMB AMB
comp=Z,320nm,5.9s
NJ2 LR LR
comp=N,350nm,12.2s,MS4.5
NJ2 LR LR
comp=E,450nm,13.8s,MS4.5
NJ2 LR LR
comp=Z,320nm,18.0s,MS4.1
INK Inuvik 35.60 36 P **P 21 44 19.6 +0.2**
INK *PP pP 21 44 32.1 -0.4
INK pmax pmax
comp=Z,2.0nm,0.7s
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 35.60 36 P **P 21 44 19.6 +0.2**
comp=Z,2.2nm,0.7s,mb4.2,baz=277,slow=8.6,SNR=8.2
INK pP pP 21 44 32.0 -0.5
comp=Z,6.6nm,0.9s,baz=268,slow=6.8,SNR=9.8
INK Inuvik 35.60 36 *e*P **P 21 44 19.3 -0.1**
comp=Z,14nm,1.1s,mb4.8
DLBC Dease Lake 39.63 51 P **P 21 44 55.0 +1.8**
comp=Z,1.8nm,0.3s,mb4.3,baz=222,slow=25,SNR=4.0
ENH Enshi 41.93 259 *e*P **P 21 45 11.1 -1.3**
comp=Z,6.4nm,0.9s,mb4.2
ZAL Zalesovo 42.98 304 LR LR 22 05 04.2
comp=Z,310nm,20.4s,MS4.2,baz=305,slow=39
BBB Bella Bella 43.35 59 LR LR 22 00 44.0
comp=Z,315nm,20.2s,MS4.2,baz=358,slow=32
YKW3 Yellowknife Ar 44.82 41 *e*P **P 21 45 35.9 +0.5**
YKA Yellowknife Ar 44.86 41 P **P 21 45 35.4 -0.4**
YKA *PP pP 21 45 48.2 -0.9
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 44.86 41 P **P 21 45 35.4 -0.4**
comp=Z,1.1nm,0.7s,mb3.8,baz=298,slow=7.7,SNR=14
YKA pP pP 21 45 48.2 -0.8
comp=Z,4.0nm,0.8s,baz=297,slow=7.8,SNR=19
YKA Yellowknife Ar 44.86 41 P **P 21 45 35.4 -0.4**
YKA pP pP 21 45 48.2 -0.8
RES Resolute Bay 45.07 21 *e*P **P 21 45 37.0 -0.3**
RES pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
RES Resolute Bay 45.07 21 *e*P **P 21 45 37.0 -0.3**
comp=Z,2.2nm,0.7s,mb4.1
WMQ Urumqi 46.75 290 *e*P **P 21 45 52.2 +1.2**
WMQ AP pP 21 46 04.6 +0.3
WMQ PP PP 21 47 42.0 +1.0
WMQ S **S 21 52 37.7 +1.3**
WMQ AMB AMB
comp=Z,4.0nm,1.6s,mb4.1
WMQ AMB AMB
comp=Z,25nm,5.5s
WMQ LR LR
comp=N,366nm,20.5s,MS4.4
WMQ LR LR
comp=E,324nm,21.6s,MS4.4
WMQ LR LR
comp=Z,433nm,21.6s,MS4.4
KURK Kurchatov 47.89 302 *e*P **P 21 45 57.1 -2.8**
KURK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
KURK Kurchatov 47.89 302 *e*P **P 21 45 57.1 -2.7**
comp=Z,3.5nm,1.0s,mb4.3
CHKZ Chkalovo 50.25 309 *e*P **P 21 46 13.5 -4.5**
CHKZ pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
CHKZ Chkalovo 50.25 309 *e*P **P 21 46 13.5 -4.5**
comp=Z,2.4nm,0.5s,mb4.5
BVAR Borovoye Array 50.74 309 P **P 21 46 19.3 -2.5**
comp=Z,1.2nm,0.4s,mb4.2,baz=56,slow=7.6,SNR=21
BRVK Borovoye 50.77 309 *e*P **P 21 46 18.7 -3.3**
BRVK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BRVK Borovoye 50.77 309 *e*P **P 21 46 18.7 -3.3**
comp=Z,2.8nm,0.9s,mb4.2
DAG Danmarks Havn 51.96 359⇑*e*P **P 21 46 30.7 +0.1**
DAG pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
DAG Danmarks Havn 51.96 359⇑*e*P **P 21 46 30.7 +0.1**
comp=Z,5.0nm,1.0s,mb4.4
DAG Danmarks Havn 51.96 359⇑*i*P **P 21 46 30.7 +0.1**
comp=Z,5.0nm,1.0s,mb4.4
YBH Yreka Blue Hor 52.33 68 P **P 21 46 35.1 +1.3**
YBH pmax pmax
comp=Z,3.0nm,0.7s
YBH Yreka Blue Hor 52.33 68 P **P 21 46 35.1 +1.3**
comp=Z,2.6nm,0.7s,mb4.3,baz=315,slow=2.2,SNR=7.9
FCC Fort Churchill 55.20 37 *e*P **P 21 46 53.6 -1.2**
FCC *e**PP pP 21 47 05.6 -2.9
FCC pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
FCC Fort Churchill 55.20 37 *e*P **P 21 46 53.6 -1.1**
comp=Z,3.0nm,0.8s,mb4.4
FCC *e*pP pP 21 47 05.6 -2.9
KKTK Khon Kaen 56.37 253 P **P 21 47 04.0 +0.3**
CHG Chiang Mai 56.81 258⇑P **P 21 47 05.9 -0.9**
comp=Z,16nm,0.6s,mb5.2
NVAR Mina Array Bea 57.04 68 P **P 21 47 08.9 +0.6**
comp=Z,5.9nm,0.9s,mb4.6,baz=301,slow=5.6,SNR=21
NVAR LR LR 22 08 07.4
comp=Z,108nm,19.2s,MS4.0,baz=320,slow=32
CMAR Chiang Mai Arr 57.08 258 P **P 21 47 08.5 -0.3**
CMAR pmax pmax
comp=Z,5.0nm,0.7s
CMAR MLR MLR
comp=Z,68nm,19.4s
CMAR Chiang Mai Arr 57.08 258 P **P 21 47 08.5 -0.3**
comp=Z,4.7nm,0.7s,mb4.7,baz=24,slow=7.4,SNR=33
CMAR LR LR 22 15 23.6
comp=Z,68nm,19.4s,MS3.8,baz=10.0,slow=40
MNV Mina 57.13 68 *e*P **P 21 47 09.4 +0.5**
MNV pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
MNV Mina 57.13 68 *e*P **P 21 47 09.3 +0.5**
comp=Z,6.9nm,1.0s,mb4.6
JIRN Jiri 58.25 275 *e*P **P 21 47 16.7 -0.1**
comp=Z,5.8nm,0.6s,mb4.8
KKN Kakani 58.72 276 *e*P **P 21 47 18.7 -1.4**
comp=Z,3.4nm,0.3s,mb4.9
PKI Pulchoki 58.80 276 *e*P **P 21 47 19.4 -1.3**
comp=Z,6.7nm,0.5s,mb4.9
DMN Daman 59.96 276 *e*P **P 21 47 20.2 -1.6**
comp=Z,8.9nm,0.5s,mb5.0
GKN Gorkha 58.97 277 *e*P **P 21 47 20.1 -1.8**
comp=Z,6.6nm,0.5s,mb4.9
PDAR Pinedale Array 58.99 59 P **P 21 47 22.9 +1.0**
comp=Z,5.2nm,1.1s,mb4.5,baz=297,slow=3.3,SNR=18
PDAR pP pP 21 47 35.9 +0.2
comp=Z,4.6nm,0.9s,baz=309,slow=2.2,SNR=8.8
KOLN Koldanda 59.78 277 *e*P **P 21 47 25.8 -1.6**
comp=Z,4.3nm,0.3s,mb4.9
FINES FINESS Array B 61.24 336 P **P 21 47 35.1 -1.8**
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 61.24 336 P **P 21 47 35.1 -1.8**
comp=Z,2.5nm,0.8s,mb4.4,baz=62,slow=4.7,SNR=7.3
RW3 Ridgway 63.17 62 *e*P **P 21 47 48.6 -1.6**
NB2 NORSAR Subarra 64.82 343 P **P 21 47 59.0 -1.4**
comp=Z,1.4nm,0.5s,mb4.2,baz=22,slow=6.5
NB2 NORSAR Subarra 64.82 343 P **P 21 47 59.0 -1.4**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
NOA NORSAR Array B 64.82 343 P **P 21 47 59.0 -1.4**
NOA pmax pmax
comp=Z,4.0nm,0.9s
NOA MLR MLR
comp=Z,84nm,21.8s
NOA NORSAR Array B 64.82 343 P **P 21 47 59.0 -1.3**
comp=Z,4.3nm,0.8s,mb4.5,baz=22,slow=6.5,SNR=7.1
NOA LR LR 22 18 06.6
comp=Z,84nm,21.8s,MS3.9,baz=220,slow=38
TUC Tucson 65.70 68 *e*P **P 21 48 06.1 -0.5**
TUC pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
TUC Tucson 65.70 68 *e*P **P 21 48 06.1 -0.4**
comp=Z,6.9nm,1.4s,mb4.5
ANMO Albuquerque 66.24 63‖*e*P **P 21 48 11.4 +1.5**
ANMO Albuquerque 66.24 63 P **P 21 48 10.6 +0.7**
comp=Z,5.4nm,1.2s,mb4.5,baz=315,slow=10,SNR=5.1
ANMO LR LR 22 17 27.2
comp=Z,93nm,21.8s,MS4.0,slow=36
LAZ Ladron 66.26 64 *e*P **P 21 48 11.4 +1.3**
SUW Suwalki 68.48 334 *e*P **P 21 48 23.1 -0.5**
SUW Suwalki 68.48 334 *e*P **P 21 48 23.1 -0.5**
CPRX Cap Rock 69.11 63 *e*P **P 21 48 28.2 +0.3**
GDL2 Guadalupe Moun 69.45 64 *e*P **P 21 48 30.3 +0.3**
AKASG Malin Array Be 69.54 328 P **P 21 48 28.5 -1.7**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 69.54 328 P **P 21 48 28.5 -1.7**
comp=Z,0.8nm,0.3s,mb4.1,baz=29,slow=6.2,SNR=8.8
HYB Hyderabad 70.53 274 *e*P **P 21 48 35.5 -1.3**
HYB Hyderabad 70.53 274 *i* P **P 21 48 35.5 -1.3**
WMOK Wichita Mounta 70.59 59 *e*P **P 21 48 35.9 -1.0**
WMOK pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
WMOK Wichita Mounta 70.59 59 *e*P **P 21 48 35.9 -1.0**
comp=Z,8.2nm,1.4s,mb4.5
TXAR Lajitas Array 72.00 66 P **P 21 48 46.3 +0.9**
comp=Z,2.3nm,0.4s,mb4.4,baz=304,slow=4.5,SNR=29
KWP Kalwaria 72.50 332 *e*P **P 21 48 46.8 -1.1**
OJC Ojcow 72.81 334 *e*P **P 21 48 48.5 -1.2**
KOLS Kolonicke sedl 73.26 332 *e*P **P 21 48 53.1 +0.7**
KOLS *e* pP 21 49 05.3 -1.3
CLL Collm 73.53 338 *i* P **P 21 48 53.8 -0.1**
CLL pmax pmax
comp=Z,17nm,1.2s,mb4.8
CLL Collm 73.53 338 *i* P **P 21 48 53.8 -0.1**
comp=Z,17nm,1.2s,mb4.8
CLL Collm 73.53 338 P **P 21 48 53.8 -0.1**
comp=Z,logA/T=1.2,mb4.9
UPC Upice 73.54 336 *e*P **P 21 48 54.4 +0.4**
OKC Ostrava-Krasne 73.60 335 *e*P **P 21 48 56.2 +1.8**
DPC Dobruska-Polom 73.61 336 *e*P **P 21 48 55.2 +0.8**
DPC *e*pP pP 21 49 04.1 -4.5
BRG Berggiesshubel 73.71 338 *i* P **P 21 48 55.7 +0.7**
BRG pmax pmax
comp=Z,15nm,1.4s,mb4.7
BRG Berggiesshubel 73.71 338 *i* P **P 21 48 55.7 +0.7**
comp=Z,15nm,1.4s,mb4.7
WRA Warramunga Arr 74.33 204 P **P 21 48 58.4 -0.8**
WRA pmax pmax
comp=Z,4.0nm,1.2s
WRA Warramunga Arr 74.33 204 P **P 21 48 58.4 -0.8**
comp=Z,4.4nm,1.1s,mb4.3,baz=19,slow=6.1,SNR=7.9
PRU Pruhonice 74.39 337 *e*P **P 21 48 59.4 +0.5**
PRU *e*pP pP 21 49 08.4 -4.7
VYHS Vyhne 74.64 334 *e*P **P 21 49 00.7 +0.3**
NKC Novy Kostel 74.66 338 *e*P **P 21 49 02.3 +1.8**
PSZ Piszkesteto 74.86 333 *e*P **P 21 49 02.6 +0.9**
PSZ pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
PSZ Piszkesteto 74.86 333 *e*P **P 21 49 02.6 +0.9**
comp=Z,10nm,1.1s,mb4.7
ZST Bratislava 75.38 335 *e*P **P 21 49 06.0 +1.3**
KHC Kasperske Hory 75.42 337 *e*P **P 21 49 05.0 +0.2**
KHC Kasperske Hory 75.42 337 *e*P **P 21 49 05.3 +0.5**
GRA1 Grafenberg Arr 75.44 339 *e*P **P 21 49 05.8 +0.8**
comp=Z,16nm,1.2s,mb4.8
GRF Grafenberg Arr 75.44 339 *e*P **P 21 49 05.8 +0.8**
GRF pmax pmax
comp=Z,16nm,1.2s,mb4.8
GRF Grafenberg Arr 75.44 339 *e*P **P 21 49 05.8 +0.8**
GRF pmax pmax
comp=Z,16nm,1.2s,mb4.8
GRF Grafenberg Arr 75.44 339 *e*P **P 21 49 05.8 +0.8**
comp=Z,16nm,1.2s,mb4.8
GERES GERESS Array B 75.65 337 P **P 21 49 06.3 +0.1**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 75.65 337 P **P 21 49 06.3 +0.1**
comp=Z,1.3nm,0.5s,mb4.2,baz=32,slow=5.4,SNR=18
BAIF Baives 76.50 343 *e*P **P 21 49 12.5 +1.5**
ARSA Arzberg 76.67 335⇑*i*P **P 21 49 12.8 +0.8**
comp=Z,10nm,1.3s,mb4.6
BRTR Keskin Array B 77.31 320 P **P 21 49 16.5 +0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 77.31 320 P **P 21 49 16.5 +0.7**
comp=Z,1.2nm,0.9s,mb3.8,baz=41,slow=3.5,SNR=7.5
KBA Koelnbreinsper 77.39 337⇑*i*P **P 21 49 17.4 +1.4**
comp=Z,51nm,1.1s,mb5.4
KBA Koelnbreinsper 77.39 337⇑*i*P **P 21 49 17.4 +1.4**
KBA pmax pmax
comp=Z,51nm,1.1s,mb5.4
CDF Champ du Feu 77.50 341 *e*P **P 21 49 16.8 +0.2**
comp=Z,39nm,1.4s,mb4.9
CDF Champ du Feu 77.50 341 *e*P **P 21 49 16.8 +0.2**
CDF pmax pmax
comp=Z,20nm,1.4s,mb4.8
WATA Walderalm 77.57 338⇑*i*P **P 21 49 17.9 +0.9**
comp=Z,9.8nm,1.1s,mb4.7
WATA Walderalm 77.57 338⇑*i*P **P 21 49 17.9 +0.9**
WATA pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
WTTA Wattenberg 77.63 338⇑*i*P **P 21 49 18.6 +1.3**
comp=Z,16nm,1.2s,mb4.8
WTTA Wattenberg 77.63 338⇑*i*P **P 21 49 18.6 +1.3**
WTTA pmax pmax
comp=Z,16nm,1.2s,mb4.8
MOTA Moosalm 77.67 338⇑*i*P **P 21 49 18.4 +0.8**
comp=Z,16nm,1.2s,mb4.8
MOTA Moosalm 77.67 338⇑*i*P **P 21 49 18.4 +0.8**
MOTA pmax pmax
comp=Z,16nm,1.2s,mb4.8
SQTA Sankt Quirin 77.77 338⇑*i*P **P 21 49 19.1 +1.0**
comp=Z,19nm,1.2s,mb4.9
SQTA Sankt Quirin 77.77 338⇑*i*P **P 21 49 19.1 +1.0**
SQTA pmax pmax
comp=Z,19nm,1.2s,mb4.9
MEZF Maizieres J'vi 77.85 342 *e*P **P 21 49 19.0 +0.5**
ASAR Alice Springs 78.00 203 P **P 21 49 20.1 +0.2**
comp=Z,1.0nm,0.8s,mb3.8,baz=14,slow=5.1,SNR=7.3
ASAR LR LR 22 28 15.1
comp=Z,47nm,18.1s,MS3.9,baz=350,slow=39
HAU Haudompre 78.07 341 *e*P **P 21 49 20.3 +0.5**
comp=Z,36nm,1.4s,mb4.8
HAU Haudompre 78.07 341 *e*P **P 21 49 20.3 +0.5**
HAU pmax pmax
comp=Z,18nm,1.4s,mb4.8
HINF Hinteralfeld 78.15 341 *e*P **P 21 49 20.4 +0.2**
comp=Z,6.1nm,0.7s,mb4.3
HINF Hinteralfeld 78.15 341 *e*P **P 21 49 20.4 +0.2**
HINF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
FLN La Foliniere 78.53 346 *e*P **P 21 49 23.5 +1.2**
LDF La Druitiere 78.64 346 *e*P **P 21 49 23.9 +1.0**
comp=Z,200nm,1.8s,mb5.4
LDF La Druitiere 78.64 346 *e*P **P 21 49 23.9 +1.0**
LDF pmax pmax
comp=Z,100nm,1.8s,mb5.4
SSF Saint Saulge 79.52 343 *e*P **P 21 49 28.0 +0.3**
SSF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SSF Saint Saulge 79.52 343 *e*P **P 21 49 28.0 +0.3**
comp=Z,7.3nm,1.0s,mb4.6
AVF Avril sur Loir 79.81 343 *e*P **P 21 49 29.4 +0.1**
comp=Z,58nm,1.4s,mb5.0
AVF Avril sur Loir 79.81 343 *e*P **P 21 49 29.4 +0.1**
AVF pmax pmax
comp=Z,29nm,1.4s,mb5.0
SMF Signal de Mont 79.86 343 *e*P **P 21 49 29.5 0.0**
LPL La Plagne 80.37 340 *e*P **P 21 49 32.0 -0.3**
comp=Z,28nm,1.3s,mb4.7
LPL La Plagne 80.37 340 *e*P **P 21 49 32.0 -0.3**
LPL pmax pmax
comp=Z,14nm,1.3s,mb4.7
LPG La Plagne 80.39 340 *e*P **P 21 49 32.2 -0.2**
comp=Z,5.4nm,0.7s,mb4.3
LPG La Plagne 80.39 340 *e*P **P 21 49 32.2 -0.2**
LPG pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
VIVF Saint-Julien-l 81.42 342 *e*P **P 21 49 37.4 -0.4**
comp=Z,50nm,1.5s,mb4.9
VIVF Saint-Julien-l 81.42 342 *e*P **P 21 49 37.4 -0.4**
VIVF pmax pmax
comp=Z,25nm,1.5s,mb4.9
SBF Sospel 81.80 339 *e*P **P 21 49 38.9 -0.9**
MTLF Montolieu 83.35 343 *e*P **P 21 49 47.3 -0.4**
comp=Z,33nm,1.2s,mb4.9
MTLF Montolieu 83.35 343 *e*P **P 21 49 47.3 -0.4**
MTLF pmax pmax
comp=Z,16nm,1.2s,mb4.9
ESDC Sonseca Array 87.93 347 P **P 21 50 11.0 +0.7**
comp=Z,1.3nm,0.8s,mb4.2,baz=11,slow=3.8,SNR=4.2
URZ Urewera 90.84 166 LR LR 22 27 08.8
comp=Z,102nm,18.3s,MS4.3,baz=294,slow=33

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*IDC **19** 21:45:43.1± 1.4, 7.92N× 94.00E, mb3.8/7, mb1 4.0/8, mb1mx3.8/19, mbtmp3.8/8, MS2.9/1, Ms1 3.1/1, ms1mx3.0/20, Error ellipse: s-maj=43.9km s-min=26.4km az=52.0*

*NEIC **19** 21:45:44.3± 11.0, 7.93N× 93.98E, h8km± 66km, mb4.0/4, Error ellipse: s-maj=32.0km s-min=14.3km az=49.0*

ISC 19 21:45:43.0± 1.1, **8.0**N± 0.1× **94.1E**± 0.1, **h10**km, **n19, g46**/19, **mb4.1**/16, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.45**	**24**	Pn	**P**	**21 48 29.6**	**-0.1**
	baz=211,slow=15,SNR=6.3						
CMAR				LR	LR	21 53 14.8	
	comp=Z,64nm,20.9s,baz=200,slow=39						
SHL	**Shillong**	**17.61**	**354**	*e*P	**P**	**21 49 49.0**	**-1.3**
JIRN	**Jiri**	**20.94**	**340**	*e*P	**P**	**21 50 28.7**	**+0.1**
	9.8nm,0.6s						
PKI	**Pulchoki**	**21.13**	**338**	*e*P	**P**	**21 50 30.8**	**+0.3**
	18nm,0.8s,mb4.5						
DMN	**Daman**	**21.28**	**338**	*e*P	**P**	**21 50 32.3**	**+0.3**
	23nm,0.8s,mb4.6						
KKN	**Kakani**	**21.38**	**338**	*e*P	**P**	**21 50 33.0**	**0.0**
	14nm,0.8s,mb4.4						
LSA	**Lhasa**	**21.78**	**353**	*e*P	**P**	**21 50 37.0**	**0.0**
	5.7nm,0.6s,mb4.2						
GKN	**Gorkha**	**21.81**	**337**	*e*P	**P**	**21 50 37.7**	**+0.3**
	20nm,0.6s,mb4.7						
KOLN	**Koldanda**	**22.03**	**335**	*e*P	**P**	**21 50 40.1**	**+0.6**
	12nm,0.7s,mb4.5						
ENH	**Enshi**	**26.47**	**31**	*e*P	**P**	**21 51 22.9**	**+0.5**
	2.7nm,0.9s,mb3.8						
SONM	**Songino Array**	**41.08**	**13**	P	**P**	**21 53 28.9**	**+0.4**
	0.4nm,0.8s,mb3.1,baz=191,slow=7.3,SNR=2.6						
KURK	**Kurchatov**	**44.49**	**346**	*e*P	**P**	**21 53 56.3**	**0.0**

3.4nm,1.0s,mb4.0
ZAL Zalesovo 46.43 352 P **P 21 54 12.1 +0.4**
1.0nm,0.4s,mb4.1,baz=327,slow=3.6,SNR=5.4
WRA Warramunga Arr 48.39 126 P **P 21 54 27.3 -0.2**
0.4nm,0.5s,mb3.7,baz=303,slow=8.9,SNR=4.8
BVAR Borovoye Array 48.86 341 P **P 21 54 30.4 -0.3**
0.7nm,0.9s,mb3.7,baz=135,slow=6.1,SNR=3.3
CHKZ Chkalovo 49.35 342 *eP* **P 21 54 33.5 -0.9**
0.9nm,0.8s,mb3.9
BRTR Keskin Array B 62.30 311 P **P 21 56 07.8 -0.1**
0.2nm,0.6s,mb3.5,baz=125,slow=5.5,SNR=3.2
FINES FINESS Array B 72.58 332 P **P 21 57 11.9 -0.3**
3.4nm,1.0s,mb4.2,baz=135,slow=5.4,SNR=5.2
ARCES ARCESS Array B 75.14 340 P **P 21 57 27.3 +0.4**
4.9nm,1.0s,mb4.4,baz=90,slow=1.2,SNR=3.9

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*IDC **19** 22:01:29.1±1.3,3.14N×95.17E,mb3.8/6,mb1 4.0/7, mb1mx3.8/19,mbtmp3.8/7,ML3.7/1,Error ellipse: s-maj=55.6km s-min=20.4km az=55.0*
*NEIC **19** 22:01:32.2±0.9,3.00N×94.89E,h30km,mb4.3/2,Error ellipse: s-maj=21.8km s-min=15.4km az=222.0*
ISC 19 22:01:30.2±0.9,3.0N±0.1×94.9E±0.1,h30km,n12, σ1§05/12,mb4.0/8,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.74**	**287**	*eP*	**P**	**22 04 57.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**15.87**	**14**	Pn	**P**	**22 05 13.5**	**+0.1**
0.1nm,0.3s,baz=209,slow=11,SNR=12							
HYB	**Hyderabad**	**21.49**	**313**	*i* P	**P**	**22 06 25.0**	**+6.2**
LSA	**Lhasa**	**26.79**	**353**	*eP*	**P**	**22 07 10.4**	**+0.6**
1.4nm,0.3s,mb4.0							
WRA	**Warramunga Arr**	**44.95**	**122**	P	**P**	**22 09 44.5**	**-0.3**
2.1nm,0.9s,mb4.0,baz=300,slow=8.9,SNR=11							
SONM	**Songino Array**	**45.76**	**11**	P	**P**	**22 09 50.2**	**-0.7**
0.5nm,0.7s,mb3.6,baz=188,slow=8.7,SNR=4.7							
ASAR	**Alice Springs**	**46.32**	**127**	P	**P**	**22 09 55.8**	**+0.2**
0.7nm,1.0s,mb3.5,baz=321,slow=7.9,SNR=4.6							
ASAR				PcP	PcP	22 11 33.0	+2.0
0.2nm,0.4s,baz=331,slow=4.4,SNR=4.1							
KURK	**Kurchatov**	**49.49**	**346**	*eP*	**P**	**22 10 17.7**	**-2.3**
ZAL	**Zalesovo**	**51.45**	**352**	P	**P**	**22 10 34.7**	**-0.1**
1.1nm,0.3s,mb4.2,baz=15,slow=4.9,SNR=4.5							
BVAR	**Borovoye Array**	**53.82**	**342**	P	**P**	**22 10 53.6**	**+1.1**
1.7nm,0.7s,mb4.1,baz=153,slow=13,SNR=8.6							
CHKZ	**Chkalovo**	**54.31**	**342**	*eP*	**P**	**22 10 51.0**	**-5.1**
8.3nm,1.1s,mb4.6							
BRTR	**Keskin Array B**	**66.19**	**312**	P	**P**	**22 12 19.6**	**+2.1**
0.6nm,0.7s,mb3.7,baz=135,slow=10,SNR=5.1							

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*IDC **19** 22:13:18.2±4.4,8.30S×119.99E,h190km±73km,mb3.7/3, mb1 3.8/4,mb1mx3.4/16,mbtmp4.3/4,Error ellipse: s-maj=70.6km s-min=45.5km az=54.0*
ISC 19 22:13:10.4±2.2,8.1S±0.2×119.6E±0.2,h164km±22km,n14, σ0§87/17,mb4.4/7,1D,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.53**	**150**	*eP*	**P**	**22 15 55.0**	**+4.0**
5.0nm,0.4s							
FITZ				*eS*	**S**	**22 17 56.3**	**-0.7**
KAKA	**Kakadu**	**13.43**	**111**	*eP*	**P**	**22 16 16.3**	**+0.9**
7.7nm,0.5s							
WRA	**Warramunga Arr**	**18.49**	**131**	P	**P**	**22 17 15.3**	**-1.3**
1.5nm,0.3s,baz=306,slow=13,SNR=78							
WRA				S	**S**	**22 20 33.9**	**0.0**
0.9nm,0.3s,baz=302,slow=25,SNR=9.1							
WB2	**Warramunga Arr**	**18.50**	**131**	⇓*i* P	**P**	**22 17 15.4**	**-1.3**
ASPA	**Alice Springs**	**20.66**	**140**	*eP*	**P**	**22 17 39.7**	**+0.9**
ASAR	**Alice Springs**	**20.66**	**140**	P	**P**	**22 17 39.6**	**+0.8**
3.2nm,0.5s,baz=313,slow=8.8,SNR=36							
ASAR				S	**S**	**22 21 17.1**	**+2.0**
1.5nm,0.9s,baz=328,slow=23,SNR=5.5							
CTA	**Charters Tower**	**28.40**	**118**	P	**P**	**22 18 51.1**	**-0.8**
5.9nm,1.0s,mb4.3,baz=298,slow=13,SNR=3.8							
STKA	**Stephens Creek**	**31.26**	**142**	P	**P**	**22 19 17.1**	**0.0**
2.7nm,0.5s,mb4.3,baz=310,slow=10,SNR=12							
JIRN	**Jiri**	**48.07**	**319**	*eP*	**P**	**22 21 36.1**	**+0.7**
9.4nm,0.6s,mb4.6							
PKI	**Pulchoki**	**48.52**	**318**	*eP*	**P**	**22 21 38.9**	**0.0**
6.2nm,0.5s,mb4.5							
DMN	**Daman**	**48.74**	**318**	*eP*	**P**	**22 21 40.8**	**+0.2**
3.9nm,0.5s,mb4.3							
KKN	**Kakani**	**48.75**	**318**	*eP*	**P**	**22 21 40.2**	**-0.5**
GKN	**Gorkha**	**49.31**	**318**	*eP*	**P**	**22 21 44.9**	**-0.1**
6.6nm,0.4s,mb4.6							
KOLN	**Koldanda**	**49.85**	**317**	*eP*	**P**	**22 21 48.8**	**-0.3**
6.5nm,0.8s,mb4.3							

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*CSEM **19** 22:41:08.4,53.57N×1.21W,h15km,ML2.8,After BGS*
BGS 19 22:41:08.6±0.4,53.58N×1.22W,h14km±10km,ML2.8, 1C-3D,United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDU	**Leeds Universi**	**0.30**	**318**	⇓*i* P	Pg	22 41 15.0	-0.2
KBI1	**Birley Grange**	**0.37**	**210**	*eP*	Pb	22 41 16.0	-0.4
LHO	**Holmfirth**	**0.38**	**265**	⇑*i* P	Pb	22 41 16.2	-0.4
HPK	**Haverah Park**	**0.45**	**328**	⇓*i* P	Pb	22 41 17.4	-0.4
HPK				*eS*	Sb	22 41 23.2	-0.8
LMK	**Market Rasen**	**0.55**	**102**	*eP*	Pb	22 41 18.7	-0.7
KWE	**Weaver Farm**	**0.68**	**214**	*eP*	Pb	22 41 21.0	-0.6
LWH	**Whinny Nab**	**0.82**	**23**	*eP*	Pb	22 41 23.6	-0.6
LCP	**Cassop**	**1.17**	**353**	*eP*	Pb	22 41 29.2	-0.9
SBD1	**Bryn Du**	**1.40**	**242**	⇓*i* P	Pn	22 41 31.5	-2.3
HLM1	**Long Mynd**	**1.46**	**224**	*eP*	Pn	22 41 33.0	-1.7
SSP1	**Stoney Pound**	**1.63**	**225**	*eP*	Pn	22 41 35.9	-1.3
SSP1				*eS*	Sn	22 41 57.5	-0.5
SSP1				AML	AML	22 41 59.3	
comp=N,71nm,0.2s							
SSP1				AML	AML	22 41 59.6	
comp=E,83nm,0.2s							
MCH1	**Michaelchurch**	**1.92**	**215**	*eS*	Sn	22 42 02.6	-2.6
MCH1				AML	AML	22 42 06.8	
comp=E,92nm,0.1s							
MCH1				AML	AML	22 42 07.4	
comp=N,89nm,0.2s							
DLF	**Lyons Farm**	**3.19**	**267**	*eP*	Pn	22 41 56.2	-3.2

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*IDC **19** 22:42:19.1±1.7,11.36N×92.60E,mb3.6/4,mb1 3.8/5, mb1mx3.5/18,mbtmp3.6/5,ML3.7/1,Error ellipse: s-maj=52.4km s-min=24.8km az=66.0*
ISC 19 22:42:22.2±1.1,11.5N±0.1×92.7E±0.2,h33km,n11, σ0§90/11,mb3.4/3,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.20**	**40**	Pn	**P**	**22 44 35.4**	**-0.3**
0.2nm,0.3s,baz=232,slow=14,SNR=11							
JIRN	**Jiri**	**17.23**	**340**	*eP*	**P**	**22 46 23.1**	**+1.1**
3.7nm,0.4s							
PKI	**Pulchoki**	**17.42**	**338**	*eP*	**P**	**22 46 23.5**	**-0.9**
6.6nm,0.6s							
DMN	**Daman**	**17.57**	**337**	*eP*	**P**	**22 46 25.8**	**-0.5**
6.3nm,0.6s							
KKN	**Kakani**	**17.67**	**338**	*eP*	**P**	**22 46 27.1**	**-0.4**
GKN	**Gorkha**	**18.11**	**336**	*eP*	**P**	**22 46 31.9**	**-1.1**
7.8nm,0.4s							
KOLN	**Koldanda**	**18.33**	**334**	*eP*	**P**	**22 46 37.3**	**+1.5**
4.4nm,0.5s							
SONM	**Songino Array**	**38.03**	**15**	P	**P**	**22 49 40.2**	**+1.0**
0.2nm,0.4s,mb3.2,baz=188,slow=10,SNR=3.7							
WRA	**Warramunga Arr**	**51.52**	**127**	P	**P**	**22 51 26.1**	**-1.1**
0.4nm,0.7s,mb3.5,baz=306,slow=8.4,SNR=3.8							
ASAR	**Alice Springs**	**53.31**	**131**	P	**P**	**22 51 41.5**	**+0.9**
0.4nm,0.6s,mb3.6,baz=306,slow=7.1,SNR=5.6							
FINES	**FINESS Array B**	**68.89**	**332**	P	**P**	**22 53 25.5**	**0.0**
11nm,1.3s,baz=104,slow=5.7,SNR=4.3							

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*IDC **19** 22:46:54.3±0.5,13.23N×92.14E,mb4.5/17,mb1 4.6/18, mb1mx4.5/21,mbtmp4.5/18,ML4.2/1,MS3.8/6,Ms1 3.9/6, ms1mx3.6/18,Error ellipse: s-maj=25.2km s-min=12.9km az=53.0*
*BJI **19** 22:46:57.2,13.05N×92.11E,h40km,mB4.8,mb4.5,Ms4.2, Msz4.1*
*MOS **19** 22:46:57.6±0.9,13.24N×92.19E,h33km,mb5.2/21,Error ellipse: s-maj=13.5km s-min=6.7km az=119.4*
*HRVD **19** 22:46:58.9±1.1,13.08N×92.27E,h31km±1km,MW4.8/27, Centroid moment Tensor Solution. LP body waves: s13,c15;Mantle waves: s27,c38; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.90±.27; $M_{\theta\theta}$0.78±.15; $M_{\phi\phi}$1.12±.16; $M_{r\theta}$-0.25±.18; $M_{\theta\phi}$0.47±.10; $M_{\phi r}$-0.49±.17; Best double couple: $M_0$1.763×10^{16} NP1:ϕ₀216°,δ36°, λ-87°. NP2:ϕ₀33°,δ54°,λ-92°. Principal axes: T 1.539, Plg9°, Azm124°; N .445, Plg2°, Azm34°; P -1.988, Plg81°, Azm294°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **19** 22:46:58.9±0.2,13.21N×92.19E,h30km,mb4.9/27 Error ellipse: s-maj=6.1km s-min=4.4km az=224.0*
ISC 19 22:46:57.5±0.3,13.21N±0.04×92.11E±0.03,h33km, (h43km±6.8km:pP-P),n166,σ1§21/178,mb4.8/57,MS4.0/10, 9C-9D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.46**	**94**	P	**P**	**22 48 47.0**	**+0.3**
NST	**Nakhon Sawan**	**8.15**	**72**	P	**P**	**22 48 56.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**8.39**	**51**	*i* P	**P**	**22 48 58.2**	**-1.5**
CMAR				pmax	pmax		
comp=Z,9.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**8.39**	**51**	Pn	**P**	**22 48 56.6**	**-3.1**
comp=Z,0.8nm,0.3s,baz=242,slow=15,SNR=30							
CMAR				Sn	**Sn**	**22 50 29.9**	**-4.6**
comp=Z,1.3nm,0.3s,baz=239,slow=29,SNR=8.8							
CMAR				LR	LR	22 52 11.4	
comp=Z,202nm,19.6s,baz=225,slow=38							
VIS	**Vishakhapatnam**	**9.58**	**299**	*eP*	**P**	**22 49 13.8**	**-2.5**
VIS				AMb	AMB	22 49 15.4	
comp=Z,62nm,0.6s							
VIS				*e*		22 50 49.5	
CHRT	**Chiangrai**	**9.90**	**47**	⇑P	**P**	**22 49 20.5**	**-0.1**
comp=Z,160nm,1.0s							
AGT	**Agartala**	**10.65**	**356**	*eP*	**P**	**22 49 33.0**	**+2.1**
KKTK	**Khon Kaen**	**10.82**	**72**	P	**P**	**22 49 34.0**	**+0.8**
IMP	**Imphal**	**11.64**	**8**	*e*	**P**	**22 49 40.4**	**-4.0**
SHL	**Shillong**	**12.29**	**359**	*e*	**P**	**22 49 47.0**	**-6.2**
SHL				*eS*	**S**	**22 51 58.0**	**-12**
PALK	**Pallekele**	**12.68**	**243**	*eP*	**P**	**22 49 54.5**	**-3.9**
BLSP	**Bilaspur**	**13.00**	**314**	*eP*	**P**	**22 49 59.6**	**-3.0**
BLSP				AMb	AMB	22 50 02.1	
comp=Z,35nm,0.4s							
BLSP				*e*	**S**	**22 52 11.8**	**-15**
HYB	**Hyderabad**	**13.73**	**289**	*i* P	**P**	**22 50 11.0**	**-1.3**
HYB				*e*		22 52 30.0	
HYB				*eS*	**S**	**22 52 42.0**	**-2.6**
NGP	**Nagpur**	**14.76**	**304**	*eP*	**P**	**22 50 24.6**	**-1.2**
NGP				*e*		22 50 26.6	
NGP				*eS*	**S**	**22 52 56.0**	**-13**
JBP	**Jabalpur**	**15.18**	**312**	*eP*	P	22 50 59.5	+28
JBP				*eS*	**S**	**22 53 35.4**	**+17**
JIRN	**Jiri**	**15.40**	**340**	*eP*	**P**	**22 50 32.0**	**-2.1**
comp=Z,78nm,0.7s							
ALBI	**Allahabad**	**15.46**	**323**	*e*	**S**	**22 53 28.0**	**+2.6**
TRD	**Trivandrum**	**15.59**	**254**	*eP*	**P**	**22 50 42.3**	**+5.6**
TRD				*i*		22 54 19.4	
PKI	**Pulchoki**	**15.60**	**337**	*eP*	**P**	**22 50 34.8**	**-1.9**
comp=Z,189nm,1.1s							
DMN	**Daman**	**15.75**	**337**	*eP*	**P**	**22 50 36.7**	**-1.9**
comp=Z,58nm,0.5s							
LATR	**Latur**	**15.83**	**291**	*eP*	**P**	**22 50 39.5**	**-0.2**
LATR				*e*	**S**	**22 53 20.1**	**-14**
KKN	**Kakani**	**15.85**	**337**	*eP*	**P**	**22 50 38.2**	**-1.6**
comp=Z,72nm,0.9s							
GKN	**Gorkha**	**16.29**	**336**	*eP*	**P**	**22 50 43.5**	**-1.9**
comp=Z,96nm,0.6s							
LSA	**Lhasa**	**16.43**	**357**	P	**P**	**22 50 46.4**	**-0.9**
LSA				S	**S**	**22 53 46.4**	**-1.5**
LSA				PCP	PcP	22 55 38.8	-0.5
LSA				SCP		22 59 11.6	
LSA				PCS		22 59 14.8	
LSA				AMB	AMB		
comp=Z,90nm,1.3s							
LSA				LR	LR		
comp=N,240nm,14.5s							
LSA				LR	LR		
comp=E,460nm,13.4s							
LSA				LR	LR		
comp=Z,650nm,13.9s							
LSA	**Lhasa**	**16.43**	**357**	*eP*	**P**	**22 50 47.2**	**-0.1**
LSA				pmax	pmax		
comp=Z,164nm,1.3s							
LSA	**Lhasa**	**16.43**	**357**	*eP*	**P**	**22 50 47.2**	**-0.1**
comp=Z,164nm,1.3s							
KOLN	**Koldanda**	**16.52**	**333**	*eP*	**P**	**22 50 46.3**	**-2.1**
comp=Z,192nm,1.0s							
BHPL	**Bhopal**	**17.14**	**308**	*eP*	**P**	**22 50 54.5**	**-1.6**
BHPL				*i* P		22 50 59.8	
BHPL				*e*		22 51 06.3	
comp=Z,33nm,1.0s							
BHPL				*eS*	**S**	**22 53 54.3**	**-10**
BHPL				*eS*	**S**	**22 53 54.8**	**-9.2**
BHPL				*i* S	**S**	**22 53 55.0**	**-9.1**
KAD	**Karad**	**17.77**	**286**	*eP*	**P**	**22 51 05.7**	**+1.7**
KAD				*i*	**S**	**22 54 04.7**	**-14**
QIZ	**Qiongzhong**	**17.99**	**69**	P	**P**	**22 51 05.1**	**-1.7**
QIZ				*eS*	**S**	**22 54 26.0**	**+2.6**
QIZ				LR	LR		
comp=N,381nm,15.4s							
QIZ				LR	LR		
comp=E,425nm,17.8s							
QIZ				LR	LR		
comp=Z,687nm,15.2s							
QIZ	**Qiongzhong**	**17.99**	**69**	*eP*	**P**	**22 51 06.3**	**-0.5**
comp=Z,20nm,0.9s							
POO	**Poona**	**18.34**	**289**	*eP*	**P**	**22 51 09.0**	**-2.2**
POO				*i*	**S**	**22 54 17.0**	**-14**
BOM	**Bombay**	**19.38**	**289**	*eS*	**S**	**22 54 49.8**	**-5.2**
NDI	**New Delhi**	**20.71**	**320**	*eP*	**P**	**22 51 36.0**	**-1.6**
NDI				*eS*	**S**	**22 55 13.0**	**-9.2**
DDI	**Dehra Dun**	**21.42**	**325**	*eP*	**P**	**22 51 45.0**	**+0.2**
DDI				*eS*	**S**	**22 55 25.0**	**-11**
ENH	**Enshi**	**23.37**	**41**	*eP*	**P**	**22 52 04.3**	**+0.1**
comp=Z,12nm,0.8s,mb4.4							
LZH	**Lanzhou**	**25.11**	**23**	⇑P	**P**	**22 52 22.6**	**+1.7**
LZH				AP	pP	22 52 35.3	+5.1
LZH				XP	sP	22 52 40.3	+6.4
LZH				AMB	AMB		
comp=Z,42nm,1.5s,mb4.8							
LZH				AMB	AMB		
comp=Z,148nm,6.3s							
LZH				LR	LR		
comp=N,574nm,13.5s							
LZH				LR	LR		
comp=Z,746nm,17.3s,MS4.3							
XAN	**Xi'an**	**25.76**	**34**	P	**P**	**22 52 26.1**	**-0.9**
XAN				AP	pP	22 52 33.5	-2.9
XAN				AMB	AMB		
comp=Z,11nm,1.0s,mb4.3							
WMQ	**Urumqi**	**30.74**	**354**	P	**P**	**22 53 13.5**	**+1.6**
WMQ				PP	PP	22 54 14.7	+1.5
WMQ				S	**S**	**22 58 15.3**	**+3.9**
WMQ				AMB	AMB		
comp=Z,5.0nm,0.7s,mb4.5							
WMQ				AMB	AMB		
comp=Z,48nm,4.2s							
WMQ				LR	LR		
comp=N,1μm,18.4s,MS4.7							
WMQ				LR	LR		
comp=E,1μm,18.9s,MS4.7							
WMQ				LR	LR		
comp=Z,1μm,19.0s,MS4.7							
NJ2	**Nanjing**	**30.86**	**48**	*eP*	**P**	**22 53 10.1**	**-3.0**
NJ2				AP	pP	22 53 23.5	+0.8
NJ2				XP	sP	22 53 27.4	+0.3
NJ2				PP	PP	22 54 12.4	-2.5
NJ2				S	**S**	**22 58 08.0**	**-5.4**
NJ2				XS		22 58 27.0	
NJ2				AMB	AMB		
comp=Z,510nm,6.6s							
NJ2				LR	LR		
comp=N,230nm,15.4s,MS4.2							
NJ2				LR	LR		
comp=E,280nm,10.7s,MS4.2							
NJ2				LR	LR		
comp=Z,190nm,14.6s,MS3.9							
SSE	**Sheshan**	**32.13**	**52**	P	**P**	**22 53 21.5**	**-2.8**
SSE				S	**S**	**22 58 30.3**	**-3.1**
SSE				AMB	AMB		
comp=Z,28nm,0.7s,mb5.2							
SSE				AMB	AMB		
comp=Z,81nm,4.6s							
SSE				LR	LR		
comp=N,210nm,19.2s,MS3.9							
SSE				LR	LR		
comp=E,94nm,19.0s,MS3.9							
SSE				LR	LR		
comp=Z,70nm,18.5s,MS3.4							
KZA	**Kyzart**	**32.28**	**336**	P	**P**	**22 53 26.3**	**+0.9**
SNR=11							
UCH	**Uchtor**	**32.70**	**335**	P	**P**	**22 53 30.8**	**+1.7**
SNR=7.7							
TKM2	**Tokmak 2**	**32.87**	**337**	P	**P**	**22 53 32.7**	**+2.2**
SNR=5.2							
KBK	**Karagaybulak**	**32.89**	**336**	P	**P**	**22 53 32.1**	**+1.3**
SNR=6.8							
AML	**Almayashu**	**32.96**	**334**	P	**P**	**22 53 32.8**	**+1.5**
SNR=8.7							
AAK	**Ala-Archa**	**33.05**	**336**	P	**P**	**22 53 33.6**	**+1.5**
SNR=11							
AAK	**Ala-Archa**	**33.05**	**336**	P	**P**	**22 53 32.8**	**+0.7**
AAK				pmax	pmax		
comp=Z,22nm,1.2s,mb5.0							
AAK	**Ala-Archa**	**33.05**	**336**	*i* Pr		22 53 32.4	
FRU	**Bishkek**	**33.17**	**336**	*eP*	**P**	**22 53 34.0**	**+0.9**
FRU				pmax	pmax		
comp=Z,50nm,2.0s,mb5.1							
CHMS	**Chumysh**	**33.25**	**336**	P	**P**	**22 53 34.6**	**+0.7**
SNR=7.5							
EKS2	**Erkin-Say**	**33.36**	**335**	P	**P**	**22 53 36.5**	**+1.6**
SNR=7.7							
USP	**Ospenovka**	**33.58**	**336**	P	**P**	**22 53 37.6**	**+0.9**
SNR=13							
BJT	**Baijiatuau**	**34.07**	**34**	P	**P**	**22 53 40.6**	**-0.3**
MKAR	**Makanchi Array**	**34.48**	**348**	*i* P	**P**	**22 53 44.8**	**+0.4**
MKAR				pmax	pmax		
comp=Z,55nm,1.2s							
SONM	**Songino Array**	**36.52**	**16**	P	**P**	**22 54 02.3**	**+0.6**
comp=Z,2.1nm,0.6s,mb4.2,baz=203,slow=8.2,SNR=18							
ULN	**Ulaanbaatar**	**36.73**	**17**	*eP*	**P**	**22 54 04.1**	**+0.6**
comp=Z,1.1nm,1.6s,mb4.4							
ZAK	**Zakamensk**	**38.18**	**12**	*eP*	**P**	**22 54 16.3**	**+0.7**
ZAK				*e*		22 56 30.3	
KURK	**Kurchatov**	**38.98**	**346**	P	**P**	**22 54 22.7**	**+0.4**
KURK				pmax	pmax		
comp=Z,30nm,1.3s,mb4.9							
KURK	**Kurchatov**	**38.98**	**346**	*eP*	**P**	**22 54 22.6**	**+0.4**
comp=Z,61nm,1.4s,mb5.1							
TLY	**Talaya**	**39.48**	**11**	*eP*	**P**	**22 54 27.7**	**+1.3**
comp=Z,14nm,1.8s,mb4.4							
ZAL	**Zalesovo**	**41.04**	**353**	P	**P**	**22 54 38.1**	**-1.2**
comp=Z,3.1nm,0.8s,mb4.0,baz=312,slow=9.4,SNR=20							
ZAL				LR	LR	23 15 57.8	
comp=Z,164nm,18.5s,MS3.9,baz=284,slow=42							
NVS	**Novosibirsk**	**42.11**	**352**	*eP*	**P**	**22 54 46.9**	**-1.2**
BVAR	**Borovoye Array**	**43.33**	**341**	P	**P**	**22 54 58.3**	**+0.2**
comp=Z,2.7nm,0.6s,mb4.2,baz=146,slow=5.3,SNR=26							
BRVK	**Borovoye**	**43.39**	**341**	P	**P**	**22 54 58.2**	**-0.3**
BRVK				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.2							
BRVK	**Borovoye**	**43.39**	**341**	*i* P	**P**	**22 54 58.2**	**-0.3**
MBWA	**Marble Bar**	**43.62**	**141**	*eP*	**P**	**22 54 59.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**45.41**	**132**	⇑*i* P	**P**	**22 55 13.9**	**-1.4**
comp=Z,15nm,1.0s,mb4.8							
BOD	**Bodaibo**	**47.51**	**16**	*eP*	**P**	**22 55 30.1**	**-1.2**
GNI	**Garni**	**49.35**	**312**	*d i* P	**P**	**22 55 47.6**	**+1.8**
GNI				pmax	pmax		
comp=Z,79nm,1.8s							
GNI				MLR	MLR		
comp=Z,100nm,16.0s							
GNI	**Garni**	**49.35**	**312**	P	**P**	**22 55 47.7**	**+1.9**
comp=Z,30nm,1.1s,mb5.3,baz=154,slow=6.5,SNR=6.2							
SVE	**Sverdlovsk**	**49.74**	**338**	*eP*	**P**	**22 55 49.0**	**+0.5**
SVE				pmax	pmax		
comp=Z,80nm,1.2s,mb5.6							
ARU	**Arti**	**50.23**	**336**	⇓*i* P	**P**	**22 55 47.7**	**-4.6**
ARU				*e*		22 57 43.2	
ARU				*e*PPP	PPP	22 58 39.8	-5.6
ARU				*e*S	**S**	**23 02 56.6**	**-4.3**
ARU				pmax	pmax		
comp=Z,14nm,1.1s,mb4.9							
ZEI	**Tsey**	**50.84**	**315**	*eP*	**P**	**22 55 57.4**	**+0.3**
ZEI				pmax	pmax		
comp=Z,12nm,1.1s,mb4.7							
KLBR	**Kellerberrin**	**50.89**	**152**	*eP*	**P**	**22 55 57.0**	**-0.6**
comp=Z,277nm,1.3s							
NWAO	**Narrogin (SRO)**	**51.78**	**153**	P	**P**	**22 56 03.6**	**-0.7**
comp=Z,12nm,0.8s,mb4.8,baz=325,slow=12,SNR=5.8							
NWAO	**Narrogin (SRO)**	**51.78**	**153**	*eP*	**P**	**22 56 03.4**	**-0.9**
comp=Z,41nm,1.2s,mb5.2							
KIV	**Kislovodsk**	**52.08**	**316**	P	**P**	**22 56 07.7**	**+1.3**
comp=Z,206nm,1.1s,SNR=10							
KIV	**Kislovodsk**	**52.08**	**316**	*d i* P	**P**	**22 56 07.2**	**+0.8**
KIV				*i* *PP	pP	22 56 23.1	+6.7
KIV				*i*		22 58 11.7	
KIV				pmax	pmax		
comp=Z,71nm,1.5s,mb5.4							
KIV	**Kislovodsk**	**52.08**	**316**	*i* Pr		22 56 07.3	
WRA	**Warramunga Arr**	**53.03**	**128**	P	**P**	**22 56 13.0**	**-0.9**
comp=Z,3.7nm,0.5s,mb4.5,baz=300,slow=9.8,SNR=86							
WRA				PcP	PcP	22 57 22.5	+0.4
comp=Z,0.6nm,0.6s,baz=312,slow=3.4,SNR=5.6							
WRAB	**Tennant Creek**	**53.03**	**128**	⇑*eP*	**P**	**22 56 12.9**	**-1.0**
WRAB	**Tennant Creek**	**53.03**	**128**	*eP*	**P**	**22 56 12.8**	**-1.0**
comp=Z,9.6nm,0.5s,mb5.0							
WB2	**Warramunga Arr**	**53.04**	**128**	⇑*i* P	**P**	**22 56 12.7**	**-1.2**
MALT	**Malatya**	**53.56**	**308**	*eP*	**P**	**22 56 17.6**	**+0.1**
comp=Z,21nm,1.4s,mb4.9							
SOC	**Sochi**	**53.99**	**315**	*eP*	**P**	**22 56 17.0**	**-3.7**
SOC				*e*		22 57 21.0	
SOC				*e*		22 58 19.1	
SOC				*e*PPP	PPP	22 59 29.1	-4.5
SOC				*e*S	**S**	**23 03 51.4**	**-1.3**
SOC				*e*		23 06 06.5	
SOC				*e*SS	SS	23 07 34.6	+1.0
SOC				pmax	pmax		
comp=Z,24nm,1.2s,mb5.0							
SOC				pmax	pmax		
comp=N,12nm,0.9s							
ASPA	**Alice Springs**	**54.89**	**132**	*eP*	**P**	**22 56 26.4**	**-1.1**

comp=Z,6.6nm,1.1s,mb4.6
STKA Stephens Creek 65.23 135 P **P 22 57 38.3 0.0**
comp=Z,9.5nm,1.1s,mb4.8,baz=340,slow=5.9,SNR=5.4
STKA LR LR 23 27 52.3
comp=Z,140nm,18.9s,MS4.2,baz=24,slow=38
LVV L'vov 65.89 319 *i* P **P 22 57 41.1 -1.0**
KWP Kalwaria 66.72 318 *e*P **P 22 57 47.3 -0.1**
KOLS Kolonicke sedl 66.92 318 *e*P **P 22 57 49.4 +0.8**
KOLS *e* 22 57 55.9
SUW Suwalki 67.05 323 *e*P **P 22 57 48.9 -0.5**
FINES FINESS Array B 67.09 332 *i* P **P 22 57 49.3 -0.2**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 67.09 332 P **P 22 57 49.3 -0.2**
comp=Z,2.6nm,0.7s,mb4.4,baz=96,slow=6.4,SNR=21
CRVS Cervenica-Dubn 67.45 318 *e*P **P 22 57 54.2 +2.2**
CRVS *e* 22 58 10.7
NIE Niedzica 68.25 318 *e*P **P 22 57 58.1 +1.1**
PSZ Piszkesteto 68.40 316 *e*P **P 22 57 57.6 -0.4**
comp=Z,10nm,1.0s,mb4.8
OJC Ojcow 68.65 319 *e*P **P 22 57 59.5 0.0**
VYHS Vyhne 69.15 317 *e*P **P 22 58 02.6 0.0**
LSZ Lusaka 69.28 248 *e*P **P 22 58 04.5 +0.6**
comp=Z,9.8nm,1.1s,mb4.7
ARCES ARCESS Array B 69.60 340 P **P 22 58 04.9 -0.1**
comp=Z,11nm,1.0s,mb4.7,baz=90,slow=6.1,SNR=7.8
OKC Ostrava-Krasne 69.68 318 *e*P **P 22 58 06.6 +0.8**
MORC Moravsky Berou 70.07 318 *e*P **P 22 58 08.8 +0.6**
comp=Z,18nm,1.1s,mb4.9
ZST Bratislava 70.29 317 *e*P **P 22 58 10.6 +1.1**
DPC Dobruska-Polom 70.88 319 *e*P **P 22 58 14.3 +1.2**
KSP Ksiaz 70.92 319 *e*P **P 22 58 14.2 +0.9**
KSP epP pP 22 58 22.8 -0.8
KSP Ksiaz 70.92 319 *e*P **P 22 58 14.4 +1.0**
UPC Upice 71.09 319 *e*P **P 22 58 15.4 +1.1**
PDKS Podkum 71.69 314 *i* P **P 22 58 19.1 +1.1**
BILL Bilibino 71.92 22⇑ *e*P **P 22 58 19.4 +0.4**
BILL Bilibino 71.92 22⇑ *e*P **P 22 58 19.5 +0.5**
PVCC Panska Ves 72.01 319 *e*P **P 22 58 21.0 +1.2**
PRU Pruhonice 72.02 318 *e*P **P 22 58 20.9 +1.1**
BRG Berggiesshubel 72.41 319 *i* P **P 22 58 23.2 +1.0**
BRG pmax pmax
comp=Z,25nm,1.5s,mb4.9
GERES GERESS Array B 72.56 317 P **P 22 58 23.7 +0.6**
comp=Z,6.3nm,0.8s,mb4.6,baz=90,slow=5.3,SNR=31
KHC Kasperske Hory 72.64 318 *e*P **P 22 58 23.5 -0.1**
KHC Kasperske Hory 72.64 318 *e*P **P 22 58 24.2 +0.6**
CLL Collm 73.01 320⇓ *i*P **P 22 58 25.6 -0.2**
CLL pmax pmax
comp=Z,42nm,1.7s,mb5.1
CLL Collm 73.01 320⇓ *i*P **P 22 58 25.6 -0.2**
comp=Z,42nm,1.7s,mb5.1
CLL Collm 73.01 320 ⇓P **P 22 58 25.6 -0.2**
comp=Z,logA/T=1.4,mb5.1
CLL *e*PP PP 23 01 18.0 +7.4
WET Wettzell 73.10 318 *e*P **P 22 58 27.4 +1.1**
WET pmax pmax
comp=Z,16nm,1.2s,mb4.8
WET Wettzell 73.10 318 *e*P **P 22 58 27.4 +1.1**
comp=Z,16nm,1.2s,mb4.8
NKC Novy Kostel 73.36 319 *e*P **P 22 58 28.5 +0.6**
MOX Moxa 73.89 319 *e*P **P 22 58 31.1 +0.2**
MOX pmax pmax
comp=Z,23nm,1.5s,mb4.9
MOX Moxa 73.89 319 *e*P **P 22 58 31.1 +0.2**
comp=Z,23nm,1.5s,mb4.9
MOX Moxa 73.89 319 *i* P **P 22 58 31.1 +0.2**
comp=Z,logA/T=1.2,mb4.9
NB2 NORSAR Subarra 74.14 330 P **P 22 58 31.6 -0.5**
comp=Z,8.9nm,0.9s,mb4.7,baz=92,slow=5.6
NOA NORSAR Array B 74.14 330 P **P 22 58 31.8 -0.3**
comp=Z,7.9nm,1.1s,mb4.6,baz=90,slow=5.8,SNR=8.4
NOA LR LR 23 35 36.4
comp=Z,125nm,20.8s,MS4.2,baz=100,slow=39
GRA1 Grafenberg Arr 74.17 318 *e*P **P 22 58 33.9 +1.4**
comp=Z,19nm,1.1s,mb4.9
GRF Grafenberg Arr 74.17 318 *e*P **P 22 58 33.9 +1.4**
GRF pmax pmax
comp=Z,19nm,1.1s,mb4.9
GRF Grafenberg Arr 74.17 318 *e*P **P 22 58 33.9 +1.4**
comp=Z,19nm,1.1s,mb4.9
BSEG Bad Segeberg 74.61 323 *e*P **P 22 58 36.1 +1.1**
BSEG pmax pmax
comp=Z,23nm,1.1s,mb5.0
CLZ Clausthal 74.64 320 *e*P **P 22 58 36.3 +1.1**
comp=Z,20nm,1.0s,mb5.0
BFO Black Forest 76.14 317 *e*P **P 22 58 44.3 +0.4**
BFO pmax pmax
comp=Z,22nm,1.6s,mb4.8
BFO Black Forest 76.14 317 *e*P **P 22 58 44.3 +0.4**
comp=Z,22nm,1.6s,mb4.8
BOSA Boshof 76.80 236 *e*P **P 22 58 48.6 +0.6**
comp=Z,5.6nm,0.9s,mb4.5
LPG La Plagne 77.48 314 *e*P **P 22 58 51.9 +0.4**
comp=Z,39nm,1.1s,mb5.0
ESDC Sonseca Array 86.28 310 P **P 22 59 38.5 +1.1**
comp=Z,1.2nm,0.6s,mb4.3,baz=53,slow=4.8,SNR=6.6
MCK McKinley 90.37 23 P **P 22 59 57.4 +1.1**
ILAR Eielson Array 90.56 22 P **P 22 59 57.7 +0.4**
comp=Z,0.5nm,0.5s,mb4.1,baz=286,slow=5.5,SNR=5.3
RES Resolute Bay 92.18 2 *e*P **P 23 00 05.4 +0.8**
INK Inuvik 92.43 15 *e*P **P 23 00 03.7 -2.1**
DBIC Dimbokro 95.23 278 P **P 23 00 21.3 +1.5**
comp=Z,1.9nm,0.9s,mb4.5,baz=117,slow=6.8,SNR=2.2
NVAR Mina Array Bea 121.27 28 PKP PKPdf 23 05 50.6 +3.0
comp=Z,1.2nm,1.0s,baz=311,slow=1.1,SNR=4.7
MSU Marysvale 123.75 23 *e*PKPdf PKPdf 23 05 55.8 +3.3
TXAR Lajitas Array 135.05 20 PKP PKPdf 23 06 16.0 +1.8
comp=Z,0.1nm,0.4s,baz=243,slow=2.8,SNR=4.1
TEIG Tepich 146.77 1 PKPdf PKPdf 23 06 36.5 +1.2
PLCA Paso Flores 148.65 206 PKPbc PKPdf 23 06 44.5 +6.7
comp=Z,4.1nm,1.1s,baz=187,slow=4.0,SNR=4.0
LPAZ La Paz 160.65 258 PKPab PKPab 23 07 39.0 +0.3
comp=Z,3.8nm,1.2s,baz=73,slow=4.4,SNR=4.4

*TAP **19** 22:55:49.9, 22.00N×122.64E, h13km±1km, ML3.3*
JMA 19 22:55:50.8±0.3, 21.96N×123.09E, h45km, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**2.19**	**17**	P	P	22 56 25.8	+0.3
HATJ				*e*S	S	22 56 52.0	+0.5
JKRS	**Kuro-shima**	**2.42**	**20**	P	P	22 56 29.4	+0.6
JKRS				*e*S	S	22 56 58.3	+0.9
IRIF	**Iriomote-Funau**	**2.44**	**14**	P	P	22 56 29.3	+0.3
IRIF				*e*S	S	22 56 57.8	0.0
YOJ	**Yonaguni jima**	**2.49**	**358**	P	P	22 56 30.2	+0.4
JIJ	**Ishigaki jima**	**2.58**	**22**	P	P	22 56 31.1	0.0
JIJ				*e*S	S	22 57 01.1	-0.4
JTJ	**Tarama**	**3.05**	**29**	P	P	22 56 38.3	+0.5
JTJ				*e*S	S	22 57 13.7	+0.3

*IDC **19** 23:15:48.0±1.0, 13.50N×93.52E, mb3.9/6, mb1 4.1/7, mb1mx3.9/19, mbtmp3.9/7, ML4.2/1, MS2.7/1, Ms1 2.9/1, ms1mx2.6/20, Error ellipse: s-maj=32.2km s-min=19.1km az=68.0*
ISC 19 23:15:47.5±0.8, 13.83N±0.08×93.15E±0.08, h33km, n13, σ0=28/14, mb4.0/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.22**	**50**	Pn	Pn	23 17 34.0	+0.3
	1.1nm,0.3s,baz=240,slow=15,SNR=30						
CMAR				Sn	Sn	23 18 55.2	-0.1
	0.4nm,0.3s,baz=237,slow=29,SNR=4.8						
CMAR				LR	LR	23 20 11.4	
	comp=Z,62nm,19.6s,baz=210,slow=37						
JIRN	**Jiri**	**15.22**	**336**	*e*P	P	23 19 21.8	+0.1
	3.9nm,0.3s						
PKI	**Pulchoki**	**15.46**	**333**	*e*P	P	23 19 24.3	-0.6
	3.3nm,0.3s						
DMN	**Daman**	**15.63**	**333**	*e*P	P	23 19 27.3	+0.2
	8.7nm,0.6s						
KKN	**Kakani**	**15.71**	**333**	*e*P	P	23 19 28.0	-0.1
	3.2nm,0.4s						
GKN	**Gorkha**	**16.18**	**332**	*e*P	P	23 19 34.0	-0.1
	4.8nm,0.3s						
KOLN	**Koldanda**	**16.48**	**329**	*e*P	P	23 19 38.2	+0.3
	6.1nm,0.5s						
SONM	**Songino Array**	**35.65**	**15**	P	P	23 22 50.5	+6.0
	0.4nm,0.4s,mb3.7,baz=202,slow=6.7,SNR=4.5						
ZAL	**Zalesovo**	**40.55**	**352**	P	P	23 23 32.3	+7.0
	0.5nm,0.5s,mb3.4,baz=293,slow=4.9,SNR=3.3						
NWAO	**Narrogin (SRO)**	**51.88**	**154**	P	P	23 24 55.4	+0.3
	7.4nm,0.8s,mb4.6,baz=350,slow=6.1,SNR=4.1						
WRA	**Warramunga Arr**	**52.61**	**129**	P	P	23 25 00.4	-0.4
	0.4nm,0.3s,mb3.8,baz=312,slow=7.8,SNR=14						
WRA				PcP	PcP	23 26 11.1	+0.5
	0.4nm,0.5s,baz=321,slow=3.2,SNR=11						
ASAR	**Alice Springs**	**54.56**	**133**	P	P	23 25 15.1	0.0
	1.6nm,0.4s,mb4.4,baz=310,slow=6.8,SNR=26						
BRTR	**Keskin Array B**	**57.91**	**308**	P	P	23 25 45.2	+6.4
	1.7nm,1.1s,mb4.0,baz=124,slow=8.9,SNR=7.3						

*LDG **19** 23:23:24.9±0.1, 43.17N×1.05W, h11km, Md3.0/2, Ml2.9/13, Error ellipse: s-maj=1.3km s-min=1.1km az=78.0*
*NEIC **19** 23:23:24.3, 43.19N×1.05W, h10km, ML2.9(LDG), ML2.5(STR), MN2.6(MDD), After STR.*
*MDD **19** 23:23:25.1±0.2, 43.17N×1.07W, h11km, mbLg2.4/21, Error ellipse: s-maj=2.8km s-min=1.1km az=18.0, PRXIMO*
*CSEM **19** 23:23:25.1±0.0, 43.17N×1.04W, h12km, ML2.9/22, Error ellipse: s-maj=1.0km s-min=0.8km az=151.0*
ISC 19 23:23:23.5±0.3, 43.20N±0.03×1.09W±0.03, h24km±2km, n99, σ1=06/169, 2D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.13**	**228**	*e*Pg	Pb	23 23 28.3	0.0
SJPF				*e*Sg	Sb	23 23 30.1	-1.5
	429nm,0.2s						
OSSF	**Osses**	**0.14**	**293**	Pg	Pb	23 23 29.1	+0.7
OSSF				Lg		23 23 31.9	
OSSF	**Osses**	**0.14**	**293**	Pg	Pb	23 23 29.1	+0.7
OSSF				Sg	Sb	23 23 31.6	-0.1
LARF	**Larrau**	**0.18**	**156**	Pg	Pb	23 23 28.6	-0.2
LARF				Lg		23 23 31.3	
LARF	**Larrau**	**0.18**	**156**	Pg	Pb	23 23 28.6	-0.2
LARF				Sg	Sb	23 23 31.8	-0.7
EALK	**Alkurruntz**	**0.31**	**273**	⇓Pg	Pb	23 23 31.4	+0.8
EALK				Lg		23 23 35.9	
EALK	**Alkurruntz**	**0.31**	**273**	⇓Pg	Pb	23 23 31.4	+0.8
	27nm,0.1s,SNR=18						
EALK				Lg		23 23 36.0	
	359nm,0.2s,SNR=18						
EALK	**Alkurruntz**	**0.31**	**273**	Pg	Pb	23 23 31.4	+0.8
	24nm,0.1s,SNR=18						
EALK				Lg		23 23 35.9	
	226nm,0.2s,SNR=18						
ATE	**Arette**	**0.31**	**112**	Pg	Pb	23 23 30.8	+0.2
ATE				Lg		23 23 35.4	
ETSF	**Etsaut**	**0.49**	**128**	*e*Pg	Pb	23 23 33.6	+0.1
ETSF				*e*Sg	Sb	23 23 39.4	-1.0
	112nm,0.2s						
REYF	**Montagne du Re**	**0.53**	**104**	Pg	Pb	23 23 34.3	+0.2
REYF				Lg		23 23 41.5	
REYF	**Montagne du Re**	**0.53**	**104**	Pg	Pb	23 23 34.3	+0.2
FDAF	**Les Forges d'A**	**0.54**	**135**	Pg	Pb	23 23 34.3	0.0
FDAF				Sg	Sb	23 23 41.6	-0.1
FDAF	**Les Forges d'A**	**0.54**	**135**	Pg	Pb	23 23 34.4	0.0
FDAF				Lg		23 23 41.4	
FDAF	**Les Forges d'A**	**0.54**	**135**	Sg	Sb	23 23 41.6	-0.1
LABF	**Labassere**	**0.86**	**100**	Lg		23 23 52.4	
VIEF	**Viey**	**0.88**	**111**	Pg	Pb	23 23 40.6	+0.6
VIEF				Lg		23 23 52.3	
VIEF	**Viey**	**0.88**	**111**	Pg	Pb	23 23 40.5	+0.6
VIEF				Sg	Sb	23 23 52.1	+0.9
EBIE	**Bielsa**	**1.04**	**119**	Pg	Pn	23 23 43.1	+0.4
EBIE				Lg		23 23 56.4	
EBIE	**Bielsa**	**1.04**	**119**	Pg	Pn	23 23 43.1	+0.4
	10nm,0.1s,SNR=7.9						
EBIE				Lg		23 23 56.6	
	74nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**1.04**	**119**	Pg	Pn	23 23 43.1	+0.4
	2.2nm,0.2s,SNR=7.9						
EPF	**Esparros**	**1.06**	**99**	*e*Pg	Pn	23 23 44.3	+1.3
EPF				*e*Sg	Sb	23 23 57.6	+1.0
	50nm,0.2s						
RESF	**Ens**	**1.12**	**110**	Pg	Pn	23 23 45.0	+1.2
RESF				Lg		23 23 59.0	
RESF	**Ens**	**1.12**	**110**	Pg	Pn	23 23 45.1	+1.2
MELF	**Melles**	**1.39**	**103**	Lg		23 24 08.6	
ESAC	**San Caprasio**	**1.55**	**163**	Pn	Pn	23 23 51.4	+1.4
ESAC				Pg	Pn	23 23 53.3	+3.3
ESAC				Lg		23 24 11.8	
ESAC	**San Caprasio**	**1.55**	**163**	Pn	Pn	23 23 51.0	+1.0
	6.9nm,0.1s,SNR=4.0						
ESAC				Pg	Pn	23 23 53.3	+3.3
	32nm,0.2s,SNR=7.6						
ESAC				Lg		23 24 11.9	
	124nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.55**	**163**	Pn	Pn	23 23 51.4	+1.4
	SNR=4.0						
ESAC	**San Caprasio**	**1.55**	**163**	Pg	Pn	23 23 53.3	+3.3
	21nm,0.2s,SNR=7.6						
ELAN	**Lanestosa**	**1.71**	**272**	Pn	Pn	23 23 54.5	+2.2
ELAN				Sn	Sn	23 24 16.0	+2.3
ELAN				Lg		23 24 17.8	
ELAN	**Lanestosa**	**1.71**	**272**	Pg	Pn	23 23 55.8	+3.5
	1.3nm,0.1s,SNR=4.0						
ELAN				Sn	Sn	23 24 15.3	+1.6
	4.5nm,0.3s,SNR=4.0						
ELAN				Lg		23 24 17.7	
	8.3nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**1.71**	**272**	Pn	Pn	23 23 54.5	+2.1
	1.3nm,0.2s,SNR=4.0						
ELAN				Sn	Sn	23 24 16.0	+2.3
	3.6nm,0.2s,SNR=4.0						
SALF	**Salau**	**1.73**	**104**	Lg		23 24 18.8	
LFF	**La Frestale**	**2.18**	**37**	*e*Pn	Pn	23 23 59.8	+0.8
LFF				*e*Pg	Pn	23 24 05.1	+6.1
LFF				*e*Sg	Sn	23 24 34.2	+8.7
	24nm,0.3s						
EMIR	**Miracle**	**2.32**	**123**	Pn	Pn	23 24 03.1	+2.0
EMIR				Pg	Pn	23 24 07.3	+6.2
EMIR				Lg		23 24 37.0	
EMIR	**Miracle**	**2.32**	**123**	Pn	Pn	23 24 02.9	+1.8
	1.0nm,0.2s,SNR=13						
EMIR				Pg	Pn	23 24 07.3	+6.2
	4.2nm,0.1s,SNR=7.9						
EMIR				Sn	Sn	23 24 29.5	+0.4
	1.0nm,0.1s,SNR=7.9						
EMIR				Lg		23 24 36.6	
	30nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**2.32**	**123**	Pn	Pn	23 24 03.1	+2.0
	2.0nm,0.1s,SNR=13						
EMIR	**Miracle**	**2.32**	**123**	Pg	Pn	23 24 07.3	+6.2
	2.6nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**2.42**	**86**	*e*Pn	Pn	23 24 02.7	+0.2
MTLF				*e*Sn	Sn	23 24 29.7	-1.9
MTLF				*e*Sg	Sn	23 24 40.3	+8.7
	4.2nm,0.2s						
EPOB	**Poblet**	**2.45**	**138**	Pn	Pn	23 24 03.6	+0.7
EPOB				Pg	Pn	23 24 09.0	+6.1
EPOB				Sn	Sn	23 24 32.8	+0.4
EPOB				Lg		23 24 39.8	
EPOB	**Poblet**	**2.45**	**138**	Pn	Pn	23 24 03.6	+0.7
	0.7nm,0.1s,SNR=13						
EPOB				Pg	Pn	23 24 09.0	+6.1
	3.4nm,0.2s,SNR=7.9						
EPOB				Sn	Sn	23 24 32.8	+0.4
	1.2nm,0.1s,SNR=7.9						
EPOB				Lg		23 24 39.9	
	5.7nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.45**	**138**	Pn	Pn	23 24 03.6	+0.7
	0.7nm,0.1s,SNR=13						
EPOB	**Poblet**	**2.45**	**138**	Pg	Pn	23 24 09.0	+6.1
	3.0nm,0.2s,SNR=7.9						
EPOB				Sn	Sn	23 24 32.8	+0.4
	1.2nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.48**	**154**	Pn	Pn	23 24 03.9	+0.5
ERTA				Pg	Pn	23 24 10.0	+6.7
ERTA				Sn	Sn	23 24 32.2	-1.0
ERTA				Lg		23 24 40.6	
ERTA	**Horta de San J**	**2.48**	**154**	Pn	Pn	23 24 03.8	+0.5
	0.9nm,0.2s,SNR=8.5						
ERTA				Pg	Pn	23 24 09.9	+6.5
	1.7nm,0.1s,SNR=7.9						
ERTA				Sn	Sn	23 24 32.2	-1.0
	4.6nm,0.1s,SNR=7.9						
ERTA				Lg		23 24 40.8	
	16nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.48**	**154**	Pn	Pn	23 24 03.9	+0.6
	0.8nm,0.2s,SNR=8.5						
ERTA	**Horta de San J**	**2.48**	**154**	Pg	Pn	23 24 10.0	+6.7
	1.9nm,0.2s,SNR=7.9						
ERTA				Sn	Sn	23 24 32.2	-1.0
	4.6nm,0.1s,SNR=7.9						
EBR	**Ebro Roquetas**	**2.66**	**153**	*e*SG	Sn	23 24 48.2	+11
CAF	**Calviac**	**2.85**	**52**	*e*Pn	Pn	23 24 08.2	-0.4
CAF				*e*Pg	Pn	23 24 18.0	+9.4
CAF				*e*Sn	Sn	23 24 40.6	-2.0
CAF				*e*Sg	Sn	23 24 54.3	+12
	6.8nm,0.2s						
EMOS	**Mosqueruela**	**2.87**	**171**	Pn	Pn	23 24 10.2	+1.3
EMOS				Pg	Pn	23 24 18.5	+10
EMOS				Sn	Sn	23 24 42.5	-0.6
EMOS				Lg		23 24 51.9	
EMOS	**Mosqueruela**	**2.87**	**171**	Pn	Pn	23 24 10.4	+1.5
	0.7nm,0.1s,SNR=7.9						
EMOS				Pg	Pn	23 24 17.6	+8.7
	0.8nm,0.1s,SNR=7.9						
EMOS				Sn	Sn	23 24 42.3	-0.8
	2.2nm,0.3s,SNR=4.0						
EMOS				Lg		23 24 51.9	
	6.9nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**2.87**	**171**	Pg	Pn	23 24 18.5	+10
	0.7nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.87**	**171**	Pn	Pn	23 24 10.2	+1.3
	0.9nm,0.1s,SNR=7.9						
EMOS				Sn	Sn	23 24 42.5	-0.6
	1.6nm,0.2s,SNR=4.0						
EARI	**Arriondas**	**3.01**	**273**	Pn	Pn	23 24 11.0	+0.1
EARI				Pg	Pn	23 24 20.0	+9.1
EARI				Sn	Sn	23 24 47.5	+0.8
EARI	**Arriondas**	**3.01**	**273**	Pn	Pn	23 24 13.0	+2.1
	0.4nm,0.1s,SNR=4.0						
EARI				Pg	Pn	23 24 20.0	+9.1
	1.1nm,0.2s,SNR=4.0						
EARI				Sn	Sn	23 24 47.5	+0.8
	1.6nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**3.01**	**273**	Pn	Pn	23 24 11.0	+0.1
	0.3nm,0.1s,SNR=4.0						
EARI	**Arriondas**	**3.01**	**273**	Pg	Pn	23 24 20.0	+9.1
	0.5nm,0.1s,SNR=4.0						
EARI				Sn	Sn	23 24 47.5	+0.9
	1.9nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**3.02**	**103**	Pg	Pn	23 24 20.6	+10
	0.9nm,0.2s,SNR=4.0						
EJON				Lg		23 24 59.3	
	6.8nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**3.02**	**103**	Pg	Pn	23 24 20.8	+10
	SNR=4.0						
MFF	**Saint Martin d**	**3.46**	**11**	*e*Pn	Pn	23 24 15.8	-1.5
MFF				*e*Pg	Pn	23 24 29.7	+12
MFF				*e*Sg	Sn	23 25 14.8	+17
	4.8nm,0.2s						
LASF	**Ste Croix**	**3.69**	**75**	*e*Pn	Pn	23 24 19.8	-0.8
TCF	**Toulx Ste Croi**	**3.88**	**36**	*e*Pn	Pn	23 24 21.7	-1.5
TCF				*e*Pg	Pn	23 24 36.7	+14
TCF				*e*Sn	Sn	23 25 05.4	-3.1
TCF				*e*Sg	Sn	23 25 26.4	+18
	4.2nm,0.2s						
ESDC	**Sonseca Array**	**4.13**	**212**	Pn	Pn	23 24 26.1	-0.8
	0.4nm,0.1s,baz=37,slow=14,SNR=9.8						
ESDC				Pg	Pn	23 24 37.0	+10
	0.3nm,0.1s,baz=29,slow=14,SNR=7.9						
ESDC				Sn	Sn	23 25 11.0	-4.0
	0.9nm,0.1s,baz=36,slow=24,SNR=7.9						
ESDC				Lg		23 25 32.3	
	0.5nm,0.2s,baz=36,slow=30,SNR=7.9						
ESDC	**Sonseca Array**	**4.13**	**212**	Pn	Pn	23 24 26.1	-0.7
	0.4nm,0.1s,slow=14,SNR=9.8						
ESDC	**Sonseca Array**	**4.13**	**212**	Pg	Pn	23 24 37.0	+10
	0.3nm,0.1s,SNR=7.9						
ESDC				Sn	Sn	23 25 11.0	-4.0
	0.9nm,0.1s,slow=24,SNR=7.9						
ECAL	**Calabor**	**4.36**	**255**	Pn	Pn	23 24 30.5	+0.4
ECAL				Sn	Sn	23 25 18.1	-2.6
ECAL				Lg		23 25 41.5	
ECAL	**Calabor**	**4.36**	**255**	Pn	Pn	23 24 30.5	+0.4
	0.6nm,0.1s,SNR=6.6						
ECAL				Sn	Sn	23 25 17.7	-3.0
	2.6nm,0.2s,SNR=7.9						
ECAL				Lg		23 25 41.5	
	6.3nm,0.5s,SNR=7.9						
ECAL	**Calabor**	**4.36**	**255**	Pn	Pn	23 24 30.5	+0.5
	1.6nm,0.2s,SNR=6.6						
ECAL				Sn	Sn	23 25 18.0	-2.7
	1.9nm,0.1s,SNR=7.9						
BGF	**Bois d'Agland**	**4.37**	**38**	*e*Pn	Pn	23 24 29.7	-0.5
BGF				*e*Sn	Sn	23 25 17.1	-3.8
BGF				*e*Sg	Sn	23 25 42.0	+21
	18nm,0.4s						
EPON	**Pontenova**	**4.43**	**274**	Pn	Pn	23 24 32.2	+1.2
EPON				Sn	Sn	23 25 22.1	-0.4
EPON	**Pontenova**	**4.43**	**274**	Pn	Pn	23 24 32.2	+1.2
	0.8nm,0.1s,SNR=4.0						
EPON				Sn	Sn	23 25 22.0	-0.5
	2.9nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**4.43**	**274**	Pn	Pn	23 24 32.2	+1.2
	0.6nm,0.1s,SNR=4.0						
EPON				Sn	Sn	23 25 22.1	-0.4
	1.8nm,0.2s,SNR=7.9						
VIVF	**Saint-Julien-l**	**4.47**	**66**	*e*Pn	Pn	23 24 30.5	-1.1
ERUA	**La Rua**	**4.53**	**262**	Pn	Pn	23 24 33.9	+1.5
	0.9nm,0.3s,SNR=7.9						
ERUA				Sn	Sn	23 25 21.7	-3.2
	0.9nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**4.54**	**171**	Pn	Pn	23 24 32.1	-0.5
EBEN	**Beniarda**	**4.54**	**171**	Pn	Pn	23 24 32.3	-0.3
	0.3nm,0.1s,SNR=4.0						
EBEN	**Beniarda**	**4.54**	**171**	Pn	Pn	23 24 32.1	-0.5
	0.3nm,0.1s,SNR=4.0						
EINC	**Incio**	**4.63**	**265**	Pn	Pn	23 24 35.2	+1.3
EINC				Sn	Sn	23 25 27.0	-0.5
EINC	**Incio**	**4.63**	**265**	Pn	Pn	23 24 35.3	+1.5
	1.3nm,0.1s,SNR=6.5						
EINC				Sn	Sn	23 25 26.1	-1.5
	1.6nm,0.3s,SNR=4.0						
EINC	**Incio**	**4.63**	**265**	Pn	Pn	23 24 35.2	+1.3
	1.1nm,0.1s,SNR=6.5						
EINC				Sn	Sn	23 25 27.0	-0.6
	0.5nm,0.1s,SNR=4.0						
EVIA	**Vianos**	**4.68**	**194**	Pn	Pn	23 24 35.1	+0.5
	1.9nm,0.2s,SNR=7.9						
EVIA				Lg		23 25 50.5	
	3.3nm,0.4s,SNR=7.9						
AVF	**Avril sur Loir**	**4.77**	**40**	*e*Pn	Pn	23 24 35.2	-0.7
AVF				*e*Sn	Sn	23 25 26.9	-4.3
	3.8nm,0.7s						
AVF				*e*Sg	Sn	23 25 54.8	+24
	3.7nm,0.4s						

0.5nm,0.1s,SNR=7.9
EBAD Sn **Sn** **23 26 03.7 -6.0**
0.4nm,0.3s,SNR=4.0
EBAD Badajoz 6.31 227 Pn **Pn** **23 24 55.7 -1.9**
1.2nm,0.3s,SNR=7.9
EBER Berja 6.45 193 Pn **Pn** **23 24 59.3 -0.2**
EBER Berja 6.45 193 Pn **Pn** **23 25 00.4 +0.9**
1.7nm,0.4s,SNR=4.9
EBER Sn **Sn** **23 26 08.3 -4.8**
1.6nm,0.4s,SNR=7.9
EBER Lg 23 26 46.9
2.8nm,0.5s,SNR=7.9
EBER Berja 6.45 193 Pn **Pn** **23 24 59.3 -0.2**
EMIN Mina Concepcio 6.90 220 Sn **Sn** **23 26 16.9 -7.4**
0.2nm,0.2s,SNR=7.9

IDC 19 23:40:49.6±6.4, 3.68N×94.25E, mb3.8/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, ML4.5/1, Error ellipse: s-maj=194.4km s-min=28.3km az=71.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.39**	**17**	Pn	P	23 44 27.1	-2.9
	0.7nm,0.3s,baz=212,slow=14,SNR=5.7						
SONM	**Songino Array**	**45.22**	**12**	P	P	23 49 08.7	-1.6
	1.1nm,0.6s,baz=195,slow=7.1,SNR=8.2						
WRA	**Warramunga Arr**	**45.84**	**122**	P	P	23 49 14.2	-1.4
	1.9nm,0.6s,baz=298,slow=8.9,SNR=18						
ASAR	**Alice Springs**	**47.23**	**127**	P	P	23 49 24.0	-2.6
	0.6nm,0.7s,baz=297,slow=7.6,SNR=5.3						

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*IDC **19** 23:57:42.2±0.8, 4.61N×95.35E, mb4.1/11, mb1 4.4/12, mb1mx4.2/20, mbtmp4.1/12, ML4.6/1, MS3.4/2, Ms1 3.5/2, ms1mx3.2/18, Error ellipse: s-maj=34.1km s-min=18.0km az=47.0*
*BJI **19** 23:57:46.7, 4.50N×95.30E, h30km, mb4.8*
*NEIC **19** 23:57:46.7±0.4, 4.53N×95.28E, h30km, mb4.4/7, Error ellipse: s-maj=16.1km s-min=6.8km az=51.0*
ISC 19 23:57:45.1±0.5, 4.5N±0.1×95.3E±0.1, h30km, n37, σ0§95/37, mb4.2/25, MS3.7/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.35**	**14**	Pn	**P**	**00 01 15.9**	**+7.4**
	0.9nm,0.3s,baz=208,slow=12,SNR=25						
CMAR				LR	LR	00 06 32.6	
	comp=Z,82nm,20.3s,baz=205,slow=37						
PALK	**Pallekele**	**14.79**	**282**	P	**P**	**00 01 18.5**	**+4.2**
JIRN	**Jiri**	**24.65**	**340**	*eP*	**P**	**00 03 05.4**	**+0.7**
	12nm,0.6s,mb4.6						
PKI	**Pulchoki**	**24.84**	**339**	*eP*	**P**	**00 03 07.0**	**+0.5**
	3.5nm,0.5s,mb4.2						
DMN	**Daman**	**24.98**	**338**	*eP*	**P**	**00 03 07.7**	**-0.2**
	7.1nm,0.7s,mb4.3						
KKN	**Kakani**	**25.08**	**339**	*eP*	**P**	**00 03 08.3**	**-0.5**
	13nm,0.9s,mb4.5						
LSA	**Lhasa**	**25.40**	**352**	P	**P**	**00 03 13.0**	**+1.2**
LSA	**Lhasa**	**25.40**	**352**	*eP*	**P**	**00 03 12.1**	**+0.3**
	5.4nm,0.4s,mb4.4						
GKN	**Gorkha**	**25.51**	**338**	*eP*	**P**	**00 03 12.8**	**-0.1**
	7.8nm,0.4s,mb4.6						
KOLN	**Koldanda**	**25.72**	**336**	*eP*	**P**	**00 03 14.4**	**-0.4**
	5.9nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**37.39**	**128**	*eP*	**P**	**00 04 57.8**	**+0.4**
	4.9nm,1.1s,mb4.2						
BJT	**Baijiatuan**	**40.09**	**25**	*eP*	**P**	**00 05 20.6**	**+0.9**
	15nm,0.9s,mb4.7						
UCH	**Uchtor**	**41.92**	**337**	P	**P**	**00 05 36.0**	**+1.3**
	SNR=9.0						
TKM2	**Tokmak 2**	**42.10**	**338**	P	**P**	**00 05 37.3**	**+1.1**
	SNR=7.8						
KBK	**Karagaybulak**	**42.12**	**338**	P	**P**	**00 05 37.9**	**+1.5**
	SNR=12						
AML	**Almayashu**	**42.17**	**336**	P	**P**	**00 05 38.4**	**+1.6**
	SNR=11						
AAK	**Ala-Archa**	**42.27**	**337**	P	**P**	**00 05 39.3**	**+1.7**
	SNR=5.4						
USP	**Ospenovka**	**42.81**	**338**	P	**P**	**00 05 42.6**	**+0.6**
	SNR=11						
SONM	**Songino Array**	**44.25**	**11**	P	**P**	**00 05 52.2**	**-1.5**
	0.6nm,0.5s,mb3.6,baz=187,slow=10.0,SNR=5.1						
SONM				PcP	PcP	00 07 37.5	-0.8
	0.4nm,0.5s,baz=190,slow=2.8,SNR=3.9						
SONM				pPcP		00 07 51.6	
	1.5nm,1.0s,baz=191,slow=4.0,SNR=4.7						
WRA	**Warramunga Arr**	**45.39**	**124**	P	**P**	**00 06 03.3**	**+0.1**
	3.2nm,0.6s,mb4.3,baz=302,slow=9.2,SNR=30						
WRAB	**Tennant Creek**	**45.39**	**124**	*eP*	**P**	**00 06 03.3**	**+0.2**
	8.1nm,0.8s,mb4.6						
WB2	**Warramunga Arr**	**45.40**	**124**	*eP*	**P**	**00 06 03.5**	**+0.3**
ASPA	**Alice Springs**	**46.88**	**128**	*eP*	**P**	**00 06 14.8**	**-0.1**
ASAR	**Alice Springs**	**46.88**	**128**	P	**P**	**00 06 14.8**	**-0.1**
	2.4nm,0.6s,mb4.3,baz=298,slow=7.9,SNR=22						
ASAR				LR	LR	00 27 31.7	
	comp=Z,86nm,19.2s,MS3.7,baz=121,slow=38						
KURK	**Kurchatov**	**48.17**	**346**	*eP*	**P**	**00 06 24.2**	**-0.4**
	1.4nm,0.6s,mb4.2						
ZAL	**Zalesovo**	**50.06**	**352**	P	**P**	**00 06 37.3**	**-1.8**
	2.2nm,0.4s,mb4.5,baz=286,slow=3.7,SNR=12						
BVAR	**Borovoye Array**	**52.57**	**341**	P	**P**	**00 06 56.9**	**-1.2**
	1.1nm,0.4s,mb4.1,baz=180,slow=10,SNR=14						
BRVK	**Borovoye**	**52.63**	**341**	*eP*	**P**	**00 06 57.4**	**-1.2**
	2.4nm,0.5s,mb4.4						
KMBO	**Kilima Mbogo**	**58.27**	**266**	P	**P**	**00 07 40.1**	**+0.3**
	1.3nm,0.7s,mb4.0,baz=58,slow=11,SNR=6.6						
BRTR	**Keskin Array B**	**65.53**	**312**	P	**P**	**00 08 26.8**	**-1.5**
	0.8nm,0.8s,mb3.8,baz=132,slow=7.8,SNR=8.2						
BRTR				pP	pP	00 08 40.1	+2.6
	0.9nm,0.7s,baz=126,slow=7.2,SNR=6.3						
BRTR				sP	sP	00 08 46.1	+5.2
	1.0nm,0.6s,baz=128,slow=6.5,SNR=5.3						
MLR	**Muntele Rosu**	**72.41**	**316**	P	**P**	**00 09 10.5**	**-0.1**
	1.5nm,0.8s,mb4.0,baz=121,slow=10,SNR=3.1						
JOF	**Joensuu**	**74.40**	**335**	*ep*	**P**	**00 09 20.0**	**-1.8**
	0.3nm,0.3s,mb3.7						
FINES	**FINESS Array B**	**76.25**	**332**	P	**P**	**00 09 31.7**	**-0.7**
	5.7nm,1.1s,mb4.4,baz=106,slow=7.0,SNR=16						
FINES	**FINESS Array B**	**76.25**	**332**	P	**P**	**00 09 31.7**	**-0.7**
KAF	**Kangasniemi**	**76.33**	**333**	*ep*	**P**	**00 09 31.8**	**-1.1**
	0.3nm,0.4s,mb3.6						
ARCES	**ARCESS Array B**	**78.84**	**340**	P	**P**	**00 09 46.3**	**-0.3**
	9.0nm,1.2s,mb4.6,baz=87,slow=6.4,SNR=13						
GERES	**GERESS Array B**	**81.13**	**319**	P	**P**	**00 10 00.1**	**+0.9**
	0.9nm,0.8s,mb3.8,baz=80,slow=8.1,SNR=5.2						

JMA 20 00:01:57.4±0.1, 31.76N×129.12E, h6km±2km, M3.5, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.51**	**99**	P	Pg	00 02 07.3	-0.4
JSJ				S	Sg	00 02 14.1	-0.5
JFU	**Fukue jima 2**	**0.95**	**341**	P	Pb	00 02 15.6	-0.2
JFU				S	Sb	00 02 28.6	+0.2
NGSJ	**Nagasakinomoza**	**1.04**	**33**	P	Pb	00 02 17.1	-0.4
NGSJ				S	Sb	00 02 31.2	0.0
JHD	**Hondo**	**1.11**	**51**	P	Pb	00 02 18.8	+0.1
JHD				S	Sb	00 02 33.2	0.0
JSU	**Suzuyama**	**1.17**	**102**	P	Pb	00 02 18.7	-0.9
JSU				*e*S	Sb	00 02 34.6	-0.2
JZO	**Okuchi**	**1.31**	**73**	P	Pb	00 02 22.3	+0.2
JZO				*e*S	Sb	00 02 39.7	+0.7

IDC 20 00:08:53.4±5.6, 21.51S×178.82W, h614km±60km, mb3.0/6, mb1 3.4/6, mb1mx3.2/15, mbtmp4.0/6, Error ellipse: s-maj=135.1km s-min=27.4km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.64**	**266**	P	P	00 14 37.2	-1.1
	2.2nm,0.5s,baz=75,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**43.55**	**258**	P	P	00 16 05.3	-1.2
	2.4nm,0.5s,baz=97,slow=7.7,SNR=31						
ASAR				PcP	PcP	00 17 38.4	-2.0
	0.2nm,0.4s,baz=120,slow=4.0,SNR=3.9						
WRA	**Warramunga Arr**	**43.71**	**263**	P	P	00 16 05.7	-2.1
	0.8nm,0.4s,baz=96,slow=7.4,SNR=22						
NVAR	**Mina Array Bea**	**82.28**	**44**	P	P	00 20 12.1	-1.1
	0.4nm,0.5s,baz=220,slow=7.0,SNR=3.6						
TXAR	**Lajitas Array**	**88.24**	**58**	P	P	00 20 41.4	-0.7
	0.1nm,0.4s,baz=214,slow=4.5,SNR=4.4						
PDAR	**Pinedale Array**	**90.22**	**44**	P	P	00 20 50.1	-0.8
	0.3nm,0.6s,baz=243,slow=2.0,SNR=4.8						
AKASG	**Malin Array Be**	**143.51**	**330**	PKP	PKPdf	00 27 17.1	-1.8
	1.7nm,0.4s,baz=39,slow=4.2,SNR=16						
BRTR	**Keskin Array B**	**146.93**	**311**	PKPbc	PKPbc	00 27 28.8	+1.4
	0.7nm,0.7s,baz=140,slow=4.9,SNR=6.5						
GERES	**GERESS Array B**	**150.95**	**343**	PKPbc	PKPdf	00 27 37.9	+6.9
	1.0nm,0.8s,baz=27,slow=3.0,SNR=4.1						

WEL 20 00:20:23.4±0.2, 39.33S×175.40E, h105km±1km, ML3.8/10, 10C-5D, Error ellipse: s-maj=1.6km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRZ	**Dome Shelter**	**0.14**	**66**	SN	S	00 20 49.1	0.0
FWVZ	**Far West T-bar**	**0.14**	**57**	⇑PN	P	00 20 38.2	+0.1
FWVZ				SN	S	00 20 48.9	-0.2
WNVZ	**Wahianoa**	**0.15**	**89**	PN	P	00 20 37.0	-1.1
WNVZ				SN	S	00 20 47.9	-1.2
WPVZ	**Whakapapa**	**0.17**	**41**	PN	P	00 20 38.1	0.0
WPVZ				SN	S	00 20 48.8	-0.4
CNZ	**Chateau**	**0.17**	**40**	⇑PN	P	00 20 38.1	-0.1
TUVZ	**Tukino**	**0.20**	**72**	⇓PN	P	00 20 38.4	+0.2
NGZ	**Ngauruhoe**	**0.22**	**45**	⇓PN	P	00 20 38.2	-0.1
NGZ				SN	S	00 20 48.8	-0.7
WTVZ	**West Tongariro**	**0.26**	**34**	PN	P	00 20 38.1	-0.3
WTVZ				SN	S	00 20 49.3	-0.4
TWVZ	**Taurewa**	**0.26**	**6**	PN	P	00 20 38.1	-0.4
TWVZ				SN	S	00 20 48.8	-0.9
OTVZ	**Oturere**	**0.26**	**51**	PN	P	00 20 38.6	+0.2
MOVZ	**Moawhango**	**0.28**	**106**	⇓PN	P	00 20 38.3	-0.2
MOVZ				SN	S	00 20 48.7	-1.2
MGZ	**Maungaku**	**0.35**	**18**	PN	P	00 20 38.6	-0.3
KATZ	**Kakaramea**	**0.42**	**33**	PN	P	00 20 38.8	-0.4
KATZ				SN	S	00 20 51.2	0.0
WAZ	**Wanganui**	**0.53**	**217**	⇑PN	P	00 20 40.2	+0.2
WAZ				SN	S	00 20 52.8	+0.2
VRZ	**Vera Road**	**0.54**	**292**	⇑PN	P	00 20 39.6	-0.4
VRZ				SN	S	00 20 52.0	-0.6
RATZ	**Rangitukua**	**0.54**	**32**	PN	P	00 20 39.5	-0.6
WATZ	**Wairara**	**0.67**	**23**	⇓PN	P	00 20 40.9	-0.2
WATZ				SN	S	00 20 53.6	-0.8
TSZ	**Takapari Road**	**0.84**	**150**	PN	P	00 20 43.1	+0.3
TSZ				SN	S	00 20 57.1	-0.2
BKZ	**Black Stump Fm**	**0.86**	**79**	⇓PN	P	00 20 42.7	-0.3
PKE	**Pukeiti**	**1.11**	**277**	PN	P	00 20 45.0	-0.6
PKE				SN	S	00 21 01.8	-0.5
MRZ	**Mangatainoka R**	**1.34**	**174**	⇑PN	P	00 20 48.0	-0.3
MRZ				SN	S	00 21 04.9	-2.2
BFZ	**Birch Farm**	**1.50**	**155**	*e*PN	P	00 20 49.9	-0.4
BFZ				SN	S	00 21 08.5	-1.9
KIW	**Kapiti Island**	**1.57**	**194**	PN	P	00 20 50.4	-0.9
KIW				SN	S	00 21 09.6	-2.5
URZ	**Urewera**	**1.71**	**52**	PN	P	00 20 51.5	-1.3
URZ				SN	S	00 21 12.4	-2.5
KNZ	**Kokohu**	**1.79**	**81**	PN	P	00 20 52.9	-1.0
KNZ				SN	S	00 21 14.1	-2.5
CAW	**Cannon Point**	**1.79**	**188**	PN	P	00 20 52.9	-1.0
MTW	**Mount Morrison**	**1.83**	**178**	⇑PN	P	00 20 53.3	-1.0
MWZ	**Matawai**	**1.93**	**60**	PN	P	00 20 54.4	-1.3
MWZ				SN	S	00 21 17.9	-1.9
MRW	**Makara Radio**	**1.97**	**196**	⇑PN	P	00 20 54.9	-1.3
MRW				SN	S	00 21 18.7	-1.9
PAWZ	**Paruwai Farm**	**2.05**	**180**	⇑PN	P	00 20 55.9	-1.3
MSWZ	**Moikau Station**	**2.08**	**183**	⇑PN	P	00 20 56.4	-1.4
BHW	**Baring Head**	**2.12**	**191**	PN	P	00 20 56.5	-1.6
TUWZ	**Tuamarina**	**2.38**	**208**	PN	P	00 20 59.6	-2.1
NNZ	**Nelson**	**2.44**	**219**	PN	P	00 21 00.5	-2.1
PUZ	**Puketiti**	**2.56**	**62**	PN	P	00 21 02.1	-2.1
QRZ	**Quartz Range**	**2.66**	**235**	PN	P	00 21 03.3	-2.3
QRZ				SN	S	00 21 33.7	-3.7
MXZ	**Matakaoa Point**	**2.88**	**53**	PN	P	00 21 06.6	-2.0
THZ	**Tophouse**	**3.09**	**217**	PN	P	00 21 08.6	-2.8
KHZ	**Kahutara**	**3.39**	**204**	⇑PN	P	00 21 12.4	-3.1
KHZ				SN	S	00 21 50.6	-4.5
DSZ	**Denniston Nort**	**3.65**	**228**	PN	P	00 21 15.5	-3.6
DSZ				SN	S	00 21 56.2	-5.3
LTZ	**Lake Taylor**	**4.18**	**213**	PN	P	00 21 21.9	-4.4
LTZ				SN	S	00 22 06.7	-7.7
MQZ	**McQueen's Vall**	**4.84**	**204**	PN	P	00 21 29.4	-5.8
WVZ	**Waitaha Valley**	**5.14**	**222**	SN	S	00 22 29.2	-8.6
ODZ	**Otahua Downs**	**6.71**	**210**	PN	P	00 21 55.3	-5.6

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*NIED **20** 00:45:00, 33.40N×142.30E, h11km, Mw3.7 Best double couple: Mo3.69×10^14 NP1:φ=202°, δ58°, λ-60°. NP2: φ=334°, δ43°, λ-129°.*
*MOS **20** 00:45:22.0±1.6, 33.43N×142.47E, h33km, mb4.3/10, Error ellipse: s-maj=19.5km s-min=10.1km az=105.7*
*JMA **20** 00:45:23.3±0.4, 33.44N×142.34E, h66km, M3.5*
*IDC **20** 00:45:25.1±0.9, 33.37N×142.23E, h37km±5km, mb3.7/9, mb1 4.0/11, mb1mx3.8/21, mbtmp4.0/11, ML3.8/2, Error ellipse: s-maj=24.8km s-min=16.3km az=154.0*
*NEIC **20** 00:45:27.1±2.2, 33.36N×142.09E, h55km±19km, mb4.4/8, Error ellipse: s-maj=14.8km s-min=12.4km az=137.0*
ISC 20 00:45:23.2±0.5, 33.46N±0.05×142.33E±0.05, h37km, h37km±2.8km: pP-P, n54, σ1§22/56, mb4.1/17, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.64**	**317**	P	**P**	**00 45 50.8**	**+0.8**
BSO3	**Boso 3**	**2.02**	**312**	P	**P**	**00 45 56.3**	**+0.9**
JHJ2	**Mitsune**	**2.13**	**261**	P	**P**	**00 45 57.6**	**+0.5**
JHJ2				*e*S	**S**	**00 46 23.2**	**+0.6**
JHJ	**Hachijo jima 2**	**2.16**	**262**	Pn	**P**	**00 45 57.5**	**0.0**
	56nm,0.3s,baz=254,slow=20,SNR=15						
JHJ				Sn	**S**	**00 46 23.0**	**-0.3**
	48nm,0.3s,baz=61,slow=23,SNR=7.5						
BSO4	**Boso 4**	**2.25**	**313**	P	**P**	**00 46 00.0**	**+1.3**
JOD2	**Odawara 2**	**3.23**	**305**	P	**P**	**00 46 13.0**	**+0.3**
JHO	**Hitachi**	**3.46**	**336**	P	**P**	**00 46 15.6**	**-0.4**
JHO				*e*S	**S**	**00 46 55.1**	**-1.2**
JYN	**Shimob**	**3.73**	**304**	P	**P**	**00 46 20.9**	**+1.1**
JAG	**Ashikaga**	**3.79**	**322**	P	**P**	**00 46 20.9**	**+0.3**
MAJO	**Matsushiro**	**4.58**	**313**	P	**P**	**00 46 36.2**	**+4.4**
MAT	**Matsushiro**	**4.58**	**313**	*e*P	**P**	**00 46 33.0**	**+1.2**
MAT				*e*S	**S**	**00 47 24.0**	**-0.5**
MAT	**Matsushiro**	**4.58**	**313**	P	**P**	**00 46 33.3**	**+1.5**
MAT				S	**S**	**00 47 24.3**	**-0.2**
ASAJ	**Asahikawa**	**10.64**	**1**	P	**P**	**00 47 54.4**	**-1.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.64**	**1**	Pn	**P**	**00 47 54.4**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=236,slow=10,SNR=4.9						
YSS	**Yuzh-Sakhalins**	**13.48**	**1**	*e*P	**P**	**00 48 30.6**	**-3.7**
YSS				pmax	pmax		
	comp=Z,53nm,1.7s						
YSS	**Yuzh-Sakhalins**	**13.48**	**1**	*e*P	**P**	**00 48 30.6**	**-3.7**
	comp=Z,53nm,1.7s						
HIA	**Hailar**	**23.04**	**320**	*e*P		00 50 39.0	
ENH	**Enshi**	**28.01**	**272**	*e*P	**P**	**00 51 10.2**	**-2.6**
	comp=Z,8.8nm,0.9s,mb4.4						
ENH				*e*	pP	00 51 21.7	-1.4
ULN	**Ulaanbaatar**	**30.09**	**309**	P	**P**	**00 51 30.3**	**-0.9**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**30.09**	**309**	P	**P**	**00 51 30.3**	**-0.9**
	comp=Z,3.4nm,0.8s,mb4.1						
SONM	**Songino Array**	**30.51**	**309**	P	**P**	**00 51 34.5**	**-0.4**
	comp=Z,0.2nm,0.3s,mb3.4,baz=80,slow=8.8,SNR=3.5						
BOD	**Bodaibo**	**30.98**	**330**	*e*P	**P**	**00 51 36.8**	**-2.2**
ZAK	**Zakamensk**	**33.16**	**312**	*e*P	pP	00 52 10.1	+1.6
CMAR	**Chiang Mai Arr**	**41.47**	**260**	P	**P**	**00 53 07.7**	**-0.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**41.47**	**260**	P	**P**	**00 53 07.7**	**-0.6**
	comp=Z,0.9nm,0.4s,mb3.8,baz=44,slow=8.7,SNR=4.1						
KURK	**Kurchatov**	**48.78**	**311**	*e*P	**P**	**00 54 06.3**	**0.0**
KURK				*e*	pP	00 54 17.5	+0.6
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KURK	**Kurchatov**	**48.78**	**311**	*e*P	**P**	**00 54 06.3**	**0.0**
	comp=Z,9.1nm,0.8s,mb4.9						
KURK				*e*	pP	00 54 17.5	+0.6
ILAR	**Eielson Array**	**52.14**	**31**	P	**P**	**00 54 31.1**	**-0.5**
ILAR				*PP	pP	00 54 43.8	+1.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**52.14**	**31**	P	**P**	**00 54 31.1**	**-0.6**
	comp=Z,0.7nm,0.6s,mb3.8,baz=265,slow=6.7,SNR=8.6						
ILAR				pP	pP	00 54 43.8	+1.4
	comp=Z,1.1nm,0.8s,baz=266,slow=6.0,SNR=5.7						
AAK	**Ala-Archa**	**52.91**	**301**	P	**P**	**00 54 37.3**	**-0.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**52.91**	**301**	P	**P**	**00 54 37.3**	**-0.4**
	comp=Z,3.1nm,0.9s,mb4.2						
CTAO	**Charters Tower**	**53.38**	**175**	P	**P**	**00 54 41.0**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9						
CTAO	**Charters Tower**	**53.38**	**175**	P	**P**	**00 54 41.0**	**-0.5**
	comp=Z,18nm,1.2s,mb4.9						
WRA	**Warramunga Arr**	**53.65**	**189**	P	**P**	**00 54 41.3**	**-2.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**53.65**	**189**	P	**P**	**00 54 41.3**	**-2.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=6.7,slow=7.4,SNR=7.5						
INK	**Inuvik**	**57.24**	**26**	*e*P	**P**	**00 55 09.3**	**+0.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**57.24**	**26**	*e*P	**P**	**00 55 09.3**	**+0.4**
	comp=Z,2.0nm,0.7s,mb4.3						
RES	**Resolute Bay**	**65.87**	**14**	*e*P	**P**	**00 56 07.2**	**+0.6**
RES				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
RES	**Resolute Bay**	**65.87**	**14**	*e*P	**P**	**00 56 07.2**	**+0.6**
	comp=Z,1.7nm,0.8s,mb4.1						
YKA	**Yellowknife Ar**	**66.53**	**30**	P	**P**	**00 56 11.9**	**+0.9**
YKA				*PP	pP	00 56 22.0	-0.1
YKA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**66.53**	**30**	P	**P**	**00 56 11.9**	**+0.9**
	comp=Z,1.4nm,1.1s,mb3.9,baz=296,slow=6.4,SNR=12						
YKA				pP	pP	00 56 22.0	-0.1
	comp=Z,0.7nm,0.9s,baz=294,slow=6.3,SNR=5.1						
NEW	**Newport**	**72.18**	**44**	P	**P**	**00 56 43.8**	**-2.0**
NEW				pmax	pmax		
	comp=Z,12nm,1.4s						
NEW	**Newport**	**72.18**	**44**	P	**P**	**00 56 43.8**	**-2.0**
	comp=Z,12nm,1.4s,mb4.6						
FINES	**FINESS Array B**	**72.33**	**333**	P	**P**	**00 56 47.6**	**+1.1**
FINES				*PP	pP	00 56 58.1	+0.5
FINES				pmax	pmax		
	comp=Z,4.0nm,1.2s						
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**72.33**	**333**	P	**P**	**00 56 47.6**	**+1.1**
	comp=Z,4.4nm,1.2s,mb4.3,baz=108,slow=8.8,SNR=3.2						
FINES				pP	pP	00 56 58.0	+0.4
	comp=Z,3.3nm,0.9s,baz=45,slow=5.4,SNR=2.5						
NVAR	**Mina Array Bea**	**76.54**	**53**	P	**P**	**00 57 13.3**	**+2.1**
	comp=Z,0.6nm,0.7s,mb3.8,baz=268,slow=4.9,SNR=4.1						
NVAR	**Mina Array Bea**	**76.54**	**53**	P	**P**	**00 57 13.3**	**+2.1**
NOA	**NORSAR Array B**	**77.77**	**338**	P	**P**	**00 57 16.8**	**-0.9**
NOA				*PP	pP	00 57 30.0	+1.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**77.77**	**338**	P	**P**	**00 57 16.8**	**-0.9**
	comp=Z,1.0nm,0.8s,mb3.8,baz=45,slow=4.7,SNR=3.3						
NOA				pP	pP	00 57 30.0	+1.1
	comp=Z,1.8nm,0.7s,baz=38,slow=5.7,SNR=3.7						
NOA	**NORSAR Array B**	**77.77**	**338**	P	**P**	**00 57 16.8**	**-0.9**
NOA				pP	pP	00 57 30.0	+1.1
SRU	**San Rafael**	**81.20**	**49**	*e*P	**P**	**00 57 39.7**	**+3.1**
SRU				*e*	pP	00 57 49.2	+1.3
PV10	**Paradox Valley**	**82.57**	**49**	*e*P	**P**	**00 57 47.2**	**+3.5**
PV10				*e*	pP	00 57 57.5	+2.5
TXAR	**Lajitas Array**	**91.69**	**53**	P	**P**	**00 58 30.6**	**+2.4**
	comp=Z,0.6nm,0.6s,mb4.1,baz=311,slow=3.3,SNR=12						
TXAR				pP	pP	00 58 41.3	+1.6
	comp=Z,0.6nm,0.7s,baz=304,slow=4.5,SNR=6.0						
SAML	**Samuel**	**146.12**	**50**	*e*PKPbc	PKPbc	01 05 01.8	+1.7

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*IDC **20** 00:52:18.8±1.4, 7.71N×91.97E, h32km±7km, mb3.6/5, mb1 3.8/6, mb1mx3.6/19, mbtmp3.7/6, ML4.1/1, MS2.7/1, Ms1 2.9/1, ms1mx2.4/20, Error ellipse: s-maj=45.2km s-min=18.6km az=63.0*
ISC 20 00:52:17.0±1.2, 7.8N±0.1×92.1E±0.2, h31km, h31km±.2km: pP-P, n7, σ0§41/7, mb3.8/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.56**	**31**	Pn	**P**	**00 55 16.1**	**-0.4**
	0.3nm,0.3s,baz=222,slow=13,SNR=6.9						
CMAR				LR	LR	01

JTS JuntasAbangare 6.31 120 *e*Pn **P 00 59 54.0 -1.3**
comp=Z,42nm,1.0s
JTS *e*Sn **S 01 01 14.8 +8.2**
OXX Oaxaca 6.97 301 *e*P **P 01 00 10.5 +6.0**
TEIG Tepich 6.99 17 *e*Pn **P 01 00 05.1 +0.4**
PPM Popocatepetl 9.55 306 *i* P **P 01 00 43.2 +3.3**
PPM *i* S Px 01 01 37.6
LRAL Lakeview Retre 19.68 9 P **P 01 02 49.4 +0.6**
comp=Z,6.1nm,0.7s
TXAR Lajitas Array 19.91 324 P **P 01 02 53.6 +2.4**
comp=Z,0.2nm,0.3s,baz=147,slow=11,SNR=12
TXAR PcP PcP 01 07 06.1 +0.6
comp=Z,0.1nm,0.3s,baz=153,slow=4.0,SNR=3.9
SDV Santo Domingo 20.02 101 P **P 01 02 49.8 -2.7**
comp=Z,0.4nm,0.3s,baz=292,slow=9.3,SNR=2.6
SDV LR LR 01 09 12.9
comp=Z,31nm,21.1s,baz=306,slow=33
MIAR Mount Ida 21.11 353 *e*P **P 01 03 01.5 -2.0**
comp=Z,3.1nm,0.6s,mb3.8
WMOK Wichita Mounta 22.41 342 P **P 01 03 13.9 -2.5**
comp=Z,1.3nm,0.6s,mb3.4
WVT Waverly 22.63 6 *e*P **P 01 03 20.0 +1.4**
comp=Z,2.8nm,0.6s,mb3.8
SJG San Juan 23.85 76 LR LR 01 11 40.1
comp=Z,102nm,19.1s,baz=146,slow=34
WCI Wyandotte Cave 24.88 8 *e*P **P 01 03 40.9 +0.5**
comp=Z,20nm,0.9s,mb4.5
NVAR Mina Array Bea 34.96 320 P **P 01 05 13.3 +3.3**
comp=Z,5.5nm,1.0s,mb4.4,baz=129,slow=8.4,SNR=18
NVAR PcP PcP 01 07 44.2 +2.9
comp=Z,0.8nm,0.6s,baz=155,slow=4.7,SNR=6.1
SAML Samuel 35.13 128 *e*P **P 01 05 10.6 -1.0**
comp=Z,6.1nm,1.0s,mb4.4
YBH Yreka Blue Hor 39.64 321 P **P 01 05 50.5 +1.4**
comp=Z,1.7nm,0.8s,mb4.0
SCHQ Schefferville 45.17 19 P **P 01 06 31.7 -2.4**
comp=Z,1.2nm,0.6s,mb3.8,baz=214,slow=10.0,SNR=6.8
SCHQ Schefferville 45.17 19 P **P 01 06 31.7 -2.4**
YKA Yellowknife Ar 51.82 346 P **P 01 07 24.3 -1.1**
comp=Z,1.6nm,1.1s,mb4.0,baz=150,slow=7.6,SNR=8.6
YKA Yellowknife Ar 51.82 346 P **P 01 07 24.3 -1.1**
INK Inuvik 61.30 343 LR LR 01 36 55.7
comp=Z,92nm,18.7s,baz=64,slow=38
INK Inuvik 61.30 343 P **P 01 08 32.1 -0.7**
comp=Z,1.5nm,0.9s,mb4.0
ILAR Eielson Array 63.85 337 P **P 01 08 49.4 -0.4**
comp=Z,0.5nm,0.9s,mb3.3,baz=170,slow=5.4,SNR=6.9
CMAR Chiang Mai Arr 146.88 343 PKPbc PKPbc 01 18 00.6 +3.0
comp=Z,2.1nm,0.5s,baz=346,slow=3.0,SNR=9.8

IDC 20 00:59:20.4±12.0, 16.23S×177.46W, h288km±123km, mb3.8/6, mb1 4.1/6, mb1mx3.8/14, mbtmp4.4/6, Error ellipse: s-maj=81.1km s-min=26.9km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.24**	**240**	P	P	01 06 29.6	-1.6
	4.9nm,0.8s,baz=90,slow=11,SNR=11						
WRA	**Warramunga Arr**	**45.85**	**258**	P	P	01 07 14.6	-1.6
	0.8nm,0.7s,baz=91,slow=8.3,SNR=11						
ASAR	**Alice Springs**	**46.13**	**253**	P	P	01 07 17.0	-1.4
	9.7nm,0.5s,baz=88,slow=8.0,SNR=82						
ASPA	**Alice Springs**	**46.14**	**253**	*e*P	P	01 07 17.3	-1.1
NVAR	**Mina Array Bea**	**77.59**	**44**	P	P	01 10 45.4	-1.2
	2.2nm,1.0s,baz=226,slow=8.5,SNR=8.4						
ILAR	**Eielson Array**	**84.06**	**13**	P	P	01 11 18.3	-1.3
	1.4nm,0.5s,baz=225,slow=5.2,SNR=32						
TXAR	**Lajitas Array**	**84.34**	**57**	P	P	01 11 21.1	-0.8
	1.7nm,0.9s,baz=218,slow=6.3,SNR=15						
BRTR	**Keskin Array B**	**144.21**	**317**	PKP	PKPdf	01 18 21.4	-0.8
	0.4nm,0.4s,baz=90,slow=1.4,SNR=8.7						
GERES	**GERESS Array B**	**146.22**	**347**	PKPbc	PKPbc	01 18 26.7	0.0
	0.4nm,0.4s,baz=27,slow=2.2,SNR=2.4						

*NIED **20** 01:04:00, 34.10N×141.60E, h17km, Mw3.9 Best double couple: M0 7.39×10^14 NP1:φs25°, δ76°, λ159°. NP2:φs120°, δ69°, λ15°.*
*JMA **20** 01:04:41.2±0.7, 34.06N×141.60E, h39km, M3.6*
*IDC **20** 01:04:48.2±1.0, 32.80N×138.57E, mb3.8/5, mb1 3.9/5, mb1mx3.7/21, mbtmp3.8/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/27, Error ellipse: s-maj=22.9km s-min=18.6km az=179.0*
ISC 20 01:04:40.0±1.9, 34.02N±0.05×141.7E±0.1, h25km±13km, n18, σ0s98/21, mb3.7/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.85**	**318**	P	**Pb**	01 04 55.9	**-0.2**
BSO3	**Boso 3**	**1.24**	**309**	P	**Pn**	01 05 01.4	**-0.5**
BSO4	**Boso 4**	**1.47**	**312**	P	**Pn**	01 05 05.4	**+0.2**
JHJ2	**Mitsune**	**1.79**	**240**	P	**Pn**	01 05 10.0	**+0.1**
JHJ2				*e*S	**Sn**	01 05 32.7	**+0.6**
CHOJ	**Chosi**	**1.81**	**338**	P	**Pn**	01 05 09.8	**-0.3**
CHOJ				*e*S	**Sn**	01 05 31.6	**-0.8**
JHJ	**Hachijo jima 2**	**1.82**	**241**	Pn	**Pn**	01 05 10.2	**0.0**
	70nm,0.3s,baz=236,slow=22,SNR=9.5						
JHJ				Sn	**Sn**	01 05 29.5	**-3.1**
	115nm,0.3s,baz=87,slow=19,SNR=5.2						
JIZS	**Izushimoda**	**2.41**	**288**	P	**Pn**	01 05 18.2	**-0.5**
JAG	**Ashikaga**	**3.01**	**323**	P	**Pn**	01 05 26.7	**-0.5**
JRY	**Ryogami san**	**3.02**	**312**	P	**Pn**	01 05 27.8	**+0.4**
TK01	**Tokai 1**	**3.41**	**267**	P	**Pn**	01 05 34.1	**+1.3**
MAT	**Matsushiro**	**3.79**	**313**	P	**Pn**	01 05 38.7	**+0.4**
MAT				S	**Sn**	01 06 22.1	**-0.5**
MAT	**Matsushiro**	**3.79**	**313**	P	**Pn**	01 05 39.2	**+0.9**
CBIJ	**Chichi jima**	**6.92**	**176**	LR	LR	01 08 39.7	
	comp=Z,228nm,19.7s,baz=230,slow=36						
SONM	**Songino Array**	**29.73**	**308**	P	**P**	**01 10 46.0**	**-0.3**
	1.0nm,0.9s,mb3.5,baz=98,slow=8.7,SNR=5.6						
ZAL	**Zalesovo**	**44.15**	**315**	P	**P**	**01 12 49.8**	**+1.8**
	0.6nm,0.4s,mb3.7,baz=19,slow=11,SNR=4.0						
BVAR	**Borovoye Array**	**52.79**	**314**	P	**P**	**01 13 57.6**	**+2.5**
	0.7nm,0.6s,mb3.8,baz=79,slow=7.3,SNR=5.5						
WRA	**Warramunga Arr**	**54.11**	**189**	P	**P**	**01 14 03.4**	**-1.9**
	0.7nm,0.5s,mb3.9,baz=5.2,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**57.84**	**188**	P	**P**	**01 14 31.7**	**-0.3**
	0.5nm,0.7s,mb3.6,baz=359,slow=6.3,SNR=4.7						

*NIED **20** 01:08:00, 33.40N×142.20E, h5km, Mw4.2 Best double couple: M0 1.98×10^15 NP1:φs148°, δ73°, λ-93°. NP2: φs338°, δ17°, λ-81°.*
*MOS **20** 01:08:35.8±1.6, 33.46N×142.26E, h33km, mb4.6/16, Error ellipse: s-maj=16.6km s-min=9.2km az=111.2*
*JMA **20** 01:08:36.0±0.5, 33.44N×142.20E, h13km, M4.1*
*BJI **20** 01:08:38.6, 33.40N×142.20E, h40km, mB4.7, mb4.3, Ms4.4, Msz4.0*
*NEIC **20** 01:08:38.6±0.3, 33.35N×142.20E, h40km, mb4.4/14, Error ellipse: s-maj=9.3km s-min=8.4km az=68.0*
*IDC **20** 01:08:38.4±0.6, 33.39N×142.29E, h37km±4km, mb3.8/13, mb1 4.1/16, mb1mx4.0/22, mbtmp4.1/16, ML4.1/3, MS3.7/3, Ms1 3.7/3, ms1mx3.2/28, Error ellipse: s-maj=18.0km s-min=13.9km az=145.0*
ISC 20 01:08:36.3±0.4, 33.34N±0.04×142.31E±0.05, h38km, h38km±1.1km: pP-P, n80, σ1s15/83, mb4.2/27, MS4.3/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.71**	**320**	P	**P**	**01 09 04.4**	**+0.2**
BSO1				*e*S	**S**	**01 09 24.3**	**-0.8**
JHJ2	**Mitsune**	**2.10**	**264**	P	**P**	**01 09 10.6**	**+0.9**
JHJ2				*e*S	**S**	**01 09 36.7**	**+1.9**
JHJ	**Hachijo jima 2**	**2.13**	**265**	Pn	**P**	**01 09 09.5**	**-0.6**
	101nm,0.3s,baz=252,slow=20,SNR=21						
JHJ				Sn	**S**	**01 09 36.6**	**+1.1**
	134nm,0.3s,baz=56,slow=22,SNR=7.3						
JHJ				LR	LR	01 09 45.5	
	comp=Z,639nm,21.6s,baz=106,slow=32						
BSO4	**Boso 4**	**2.32**	**316**	P	**P**	**01 09 13.3**	**+0.4**
BSO4				*e*S	**S**	**01 09 41.4**	**+1.0**
CHOJ	**Chosi**	**2.64**	**333**	P	**P**	**01 09 17.8**	**+0.3**
CHOJ				S	**S**	**01 09 47.8**	**-0.8**
JAG	**Ashikaga**	**3.87**	**323**	P	**P**	**01 09 33.9**	**-1.0**
MAJO	**Matsushiro**	**4.64**	**315**	*e*P	**P**	**01 09 43.1**	**-2.8**
MAT	**Matsushiro**	**4.64**	**315**	*e*P	**P**	**01 09 46.0**	**+0.1**
MAT				*e*S	**S**	**01 10 35.0**	**-4.2**
MAT	**Matsushiro**	**4.64**	**315**	P	**P**	**01 09 45.8**	**-0.1**
MAT				S	**S**	**01 10 35.3**	**-3.9**
MAT	**Matsushiro**	**4.64**	**315**	P	**P**	**01 09 47.6**	**+1.7**
CBIJ	**Chichi jima**	**6.23**	**181**	Pn	**P**	**01 10 04.7**	**-3.4**
	25nm,0.3s,baz=304,slow=16,SNR=7.4						
CBIJ				Sn	**S**	**01 11 12.7**	**-6.4**
	15nm,0.3s,baz=285,slow=20,SNR=3.5						
ASAJ	**Asahikawa**	**10.76**	**1**	P	**P**	**01 11 05.7**	**-5.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.76**	**1**	Pn	**P**	**01 11 05.7**	**-5.3**
	comp=Z,1.1nm,0.3s,baz=214,slow=21,SNR=6.6						
YSS	**Yuzh-Sakhalins**	**13.60**	**1**	*e*P	**P**	**01 11 42.3**	**-6.6**
JOW	**Kunigami**	**13.77**	**246**	LR	LR	01 16 06.4	
	comp=Z,116nm,19.0s,baz=290,slow=32						
NJ2	**Nanjing**	**19.77**	**273**	*e*P	**P**	**01 13 05.6**	**-0.5**
NJ2				AP		01 13 16.4	
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
HIA	**Hailar**	**23.12**	**320**	P	**P**	**01 13 36.2**	**-3.5**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HIA	**Hailar**	**23.12**	**320**	P	**P**	**01 13 36.1**	**-3.5**
	comp=Z,5.2nm,0.6s,mb4.1						
ENH	**Enshi**	**28.00**	**273**	*e*P	**P**	**01 14 24.0**	**-1.8**
	comp=Z,10nm,0.9s,mb4.5						
ENH				*e*	pP	01 14 35.5	-0.7
FX1	**Attu Island--F**	**29.47**	**39**	LR	LR	01 23 33.3	
	comp=Z,1μm,20.9s,MS4.5,baz=91,slow=30						
ULN	**Ulaanbaatar**	**30.15**	**309**	*e*P	**P**	**01 14 45.0**	**+0.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
ULN	**Ulaanbaatar**	**30.15**	**309**	*e*P	**P**	**01 14 45.0**	**+0.3**
	comp=Z,4.7nm,0.6s,mb4.4						
SONM	**Songino Array**	**30.57**	**309**	P	**P**	**01 14 48.4**	**-0.1**
	comp=Z,1.6nm,0.7s,mb3.9,baz=112,slow=8.5,SNR=7.0						
BOD	**Bodaibo**	**31.07**	**331**	*e*P	**P**	**01 14 49.3**	**-3.5**
ZAK	**Zakamensk**	**33.22**	**313**	*e*P	**P**	**01 15 17.1**	**+5.4**
CMAR	**Chiang Mai Arr**	**41.43**	**260**	P	**P**	**01 16 21.4**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**41.43**	**260**	P	**P**	**01 16 21.4**	**+0.4**
	comp=Z,1.3nm,0.4s,mb4.0,baz=52,slow=8.7,SNR=5.7						
WMQ	**Urumqi**	**43.25**	**301**	*e*P	**P**	**01 16 36.0**	**+0.3**
WMQ				AP	pP	01 16 48.3	+1.8
WMQ				XP	sP	01 16 53.7	+2.6
WMQ				PP	PP	01 18 18.9	+0.5
WMQ				S	**S**	**01 22 58.4**	**-1.4**
WMQ				XS		01 23 19.2	
WMQ				AMB	AMB		
	comp=Z,2.0nm,1.4s,mb3.6						
WMQ				AMB	AMB		
	comp=Z,15nm,5.3s						
WMQ				LR	LR		
	comp=N,214nm,20.5s,MS4.2						
WMQ				LR	LR		
	comp=E,281nm,21.6s,MS4.2						
WMQ				LR	LR		
	comp=Z,388nm,21.6s,MS4.3						
ZAL	**Zalesovo**	**45.00**	**315**	pP	pP	01 17 00.1	-0.4
	comp=Z,1.1nm,0.8s,baz=355,slow=9.1,SNR=6.5						
NVS	**Novosibirsk**	**45.96**	**316**	*e*P	pP	01 17 05.9	-2.2
MKAR	**Makanchi Array**	**46.77**	**305**	*i* P	**P**	**01 17 04.2**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURK	**Kurchatov**	**48.84**	**311**	*e*P	**P**	**01 17 19.8**	**0.0**
KURK				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
KURK	**Kurchatov**	**48.84**	**311**	*e*P	**P**	**01 17 19.8**	**0.0**
	comp=Z,14nm,0.8s,mb5.0						
ILAR	**Eielson Array**	**52.25**	**31**	P	**P**	**01 17 44.8**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**52.25**	**31**	P	**P**	**01 17 44.8**	**-0.8**
	comp=Z,2.1nm,0.9s,mb4.1,baz=267,slow=5.8,SNR=14						
AAK	**Ala-Archa**	**52.95**	**301**	*e*P	**P**	**01 17 50.0**	**-1.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**52.95**	**301**	*e*P	**P**	**01 17 50.0**	**-1.2**
	comp=Z,2.7nm,0.8s,mb4.2						
WRAB	**Tennant Creek**	**53.52**	**189**	*e*P	**P**	**01 17 54.4**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
WRAB	**Tennant Creek**	**53.52**	**189**	*e*P	**P**	**01 17 54.4**	**-1.2**
	comp=Z,8.4nm,0.9s,mb4.7						
WB2	**Warramunga Arr**	**53.53**	**189**	*e*P	**P**	**01 17 55.1**	**-0.6**
WRA	**Warramunga Arr**	**53.53**	**189**	P	**P**	**01 17 54.9**	**-0.8**
WRA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WRA	**Warramunga Arr**	**53.53**	**189**	P	**P**	**01 17 54.9**	**-0.8**
	comp=Z,5.8nm,1.0s,mb4.5,baz=8.6,slow=7.6,SNR=41						
BVAR	**Borovoye Array**	**53.64**	**315**	P	**P**	**01 17 56.4**	**+0.4**
	comp=Z,0.9nm,0.8s,mb3.8,slow=5.9,SNR=4.5						
BVAR				pP	pP	01 18 06.8	-0.2
	comp=Z,2.1nm,0.8s,baz=90,slow=5.9,SNR=9.6						
BRVK	**Borovoye**	**53.69**	**315**	P	**P**	**01 17 54.3**	**-2.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BRVK	**Borovoye**	**53.69**	**315**	P	**P**	**01 17 54.3**	**-2.2**
	comp=Z,2.7nm,0.7s,mb4.3						
ASAR	**Alice Springs**	**57.25**	**189**	P	**P**	**01 18 22.6**	**+0.1**
	comp=Z,1.1nm,0.7s,mb4.0,baz=16,slow=13,SNR=9.3						
ASAR				PcP	PcP	01 19 17.9	+1.4
	comp=Z,0.4nm,0.4s,baz=13,slow=4.3,SNR=3.8						
INK	**Inuvik**	**57.35**	**26**	P	**P**	**01 18 22.3**	**-0.4**
INK				*PP	pP	01 18 33.7	-0.1
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**57.35**	**26**	P	**P**	**01 18 22.3**	**-0.4**
	comp=Z,2.1nm,0.6s,mb4.3,baz=266,slow=8.5,SNR=7.5						
INK				pP	pP	01 18 33.7	-0.1
	comp=Z,1.4nm,0.7s,baz=274,slow=6.6,SNR=5.6						
INK	**Inuvik**	**57.35**	**26**	*e*P	**P**	**01 18 22.4**	**-0.3**
	comp=Z,4.2nm,0.9s,mb4.5						
MBWA	**Marble Bar**	**58.32**	**205**	P	**P**	**01 18 28.9**	**-1.2**
DLBC	**Dease Lake**	**61.11**	**37**	P	**P**	**01 18 52.6**	**+3.9**
RES	**Resolute Bay**	**65.99**	**14**	*e*P	**P**	**01 19 20.2**	**-0.3**
RES				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
RES	**Resolute Bay**	**65.99**	**14**	*e*P	**P**	**01 19 20.2**	**-0.2**
	comp=Z,2.1nm,0.7s,mb4.3						
YKA	**Yellowknife Ar**	**66.64**	**30**	P	**P**	**01 19 24.3**	**-0.4**
YKA				*PP	pP	01 19 35.3	-0.8
YKA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
YKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
YKA	**Yellowknife Ar**	**66.64**	**30**	P	**P**	**01 19 24.3**	**-0.4**
	comp=Z,3.0nm,1.1s,mb4.2,baz=294,slow=6.3,SNR=18						
YKA				pP	pP	01 19 35.3	-0.8
	comp=Z,1.5nm,1.0s,baz=295,slow=6.3,SNR=8.0						
YKA	**Yellowknife Ar**	**66.64**	**30**	P	**P**	**01 19 24.3**	**-0.4**
YKA				pP	pP	01 19 35.3	-0.8
NWAO	**Narrogin (SRO)**	**70.02**	**202**	*e*P	**P**	**01 19 46.5**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,30nm,1.4s						
NWAO	**Narrogin (SRO)**	**70.02**	**202**	*e*P	**P**	**01 19 46.5**	**+0.3**
	comp=Z,30nm,1.4s,mb5.0						
NEW	**Newport**	**72.28**	**44**	*e*P	**P**	**01 19 59.0**	**-0.5**
NEW				pmax	pmax		
	comp=Z,8.0nm,1.3s						
NEW	**Newport**	**72.28**	**44**	*e*P	**P**	**01 19 59.0**	**-0.4**
	comp=Z,8.1nm,1.3s,mb4.5						
FINES	**FINESS Array B**	**72.42**	**333**	P	**P**	**01 19 59.5**	**-0.6**
FINES				*PP	pP	01 20 11.1	-0.4
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**72.42**	**333**	P	**P**	**01 19 59.5**	**-0.6**
	comp=Z,3.9nm,1.0s,mb4.3,baz=108,slow=8.8,SNR=3.3						
FINES				pP	pP	01 20 11.1	-0.4
	comp=Z,3.7nm,0.9s,baz=76,slow=7.9,SNR=6.5						
FINES	**FINESS Array B**	**72.42**	**333**	P	**P**	**01 19 59.5**	**-0.6**
FINES				pP	pP	01 20 11.1	-0.4
CMB	**Columbia Colle**	**75.43**	**54**	*e*P	**P**	**01 20 18.7**	**+0.7**
CMB				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
CMB	**Columbia Colle**	**75.43**	**54**	*e*P	**P**	**01 20 18.7**	**+0.7**
	comp=Z,2.7nm,0.9s,mb4.2						
NVAR	**Mina Array Bea**	**76.62**	**53**	P	**P**	**01 20 25.8**	**+0.9**
	comp=Z,0.5nm,0.6s,mb3.7,baz=278,slow=5.2,SNR=7.2						
NVAR				pP	pP	01 20 37.7	+1.5
	comp=Z,0.8nm,0.7s,baz=301,slow=5.5,SNR=4.1						
NVAR	**Mina Array Bea**	**76.62**	**53**	P	**P**	**01 20 25.8**	**+0.9**
NVAR				pP	pP	01 20 37.7	+1.5
AKASG	**Malin Array Be**	**77.67**	**323**	pP	pP	01 20 42.2	+0.3
	comp=Z,0.5nm,0.4s,baz=45,slow=6.1,SNR=7.5						
NB2	**NORSAR Subarra**	**77.87**	**338**	P	pP	01 20 42.2	-0.5
	comp=Z,1.7nm,0.7s,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**77.87**	**338**	P	**P**	**01 20 31.8**	**+0.5**
NOA				*PP	pP	01 20 42.6	-0.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NOA	**NORSAR Array B**	**77.87**	**338**	P	**P**	**01 20 31.8**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=45,slow=5.5,SNR=3.1						
NOA				pP	pP	01 20 42.5	-0.2
	comp=Z,3.9nm,1.0s,baz=39,slow=5.6,SNR=6.0						
BRTR	**Keskin Array B**	**81.86**	**312**	P	**P**	**01 20 55.0**	**+1.9**
BRTR				*PP	pP	01 21 05.8	+1.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**81.86**	**312**	P	**P**	**01 20 55.0**	**+1.8**
	comp=Z,0.4nm,0.7s,mb3.5,baz=117,slow=5.5,SNR=3.6						
BRTR				pP	pP	01 21 05.8	+1.1
	comp=Z,0.9nm,0.8s,baz=93,slow=3.4,SNR=6.4						
PV10	**Paradox Valley**	**82.66**	**49**	*e*P	**P**	**01 20 59.5**	**+2.2**
PV10				*e*	pP	01 21 10.5	+1.7
ISCO	**Idaho Springs**	**83.89**	**46**	*e*P	**P**	**01 21 06.0**	**+2.5**
ISCO				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.3						
ISCO	**Idaho Springs**	**83.89**	**46**	*e*P	**P**	**01 21 06.0**	**+2.6**
	comp=Z,3.4nm,1.1s,mb4.4						
CLL	**Collm**	**84.66**	**331**	*e*P	**P**	**01 21 09.0**	**+2.0**
CLL	**Collm**	**84.66**	**331**	P	**P**	**01 21 09.0**	**+2.0**
SDCO	**Great Sand Dun**	**85.25**	**47**	*e*P	**P**	**01 21 13.3**	**+3.0**
	comp=Z,2.5nm,0.9s,mb4.3						
SDCO				*e*	pP	01 21 24.0	+2.1
TXAR	**Lajitas Array**	**91.78**	**53**	P	**P**	**01 21 42.3**	**+0.7**
	comp=Z,0.4nm,0.6s,mb4.0,baz=285,slow=3.5,SNR=5.9						
TXAR				pP	pP	01 21 54.6	+1.2
	comp=Z,0.6nm,0.7s,baz=312,slow=3.4,SNR=5.6						

*IDC **20** 01:19:53.1±0.7, 31.28N×141.98E, mb3.9/13, mb1 4.1/14, mb1mx4.1/21, mbtmp3.9/14, ML3.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.3/30, Error ellipse: s-maj=24.9km s-min=16.2km az=87.0*
*MOS **20** 01:19:56.1±0.8, 31.25N×141.98E, h33km, mb4.3/11, Error ellipse: s-maj=30.2km s-min=12.2km az=112.5*
*NEIC **20** 01:19:57.0±3.6, 31.21N×141.94E, h26km±25km, mb4.4/7, Error ellipse: s-maj=10.9km s-min=9.4km az=89.0*
ISC 20 01:19:53.4±4.1, 31.25N±0.05×141.9E±0.1, h12km±25km, n40, σ0s81/40, mb4.0/19, MS3.3/1, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.14**	**177**	Pn	**Pn**	**01 20 58.5**	**+0.5**
	8.0nm,0.3s,baz=285,slow=20,SNR=4.2						
CBIJ				Sn	**Sn**	**01 21 47.9**	**+1.0**
	16nm,0.3s,baz=294,slow=19,SNR=4.4						
MAJO	**Matsushiro**	**6.12**	**331**	P	**Pn**	**01 21 25.6**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,15nm,0.7s						
MAJO	**Matsushiro**	**6.12**	**331**	P	**Pn**	**01 21 25.6**	**-0.4**
	comp=Z,16nm,0.7s						
MAT	**Matsushiro**	**6.12**	**331**	*e*P	**Pn**	**01 21 27.0**	**+1.1**
MAT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MAT	**Matsushiro**	**6.12**	**331**	*e*P	**Pn**	**01 21 27.0**	**+1.1**
	comp=Z,10.0nm,0.6s						
MAT	**Matsushiro**	**6.12**	**331**	P	**Pn**	**01 21 26.9**	**+1.0**
HIA	**Hailar**	**24.57**	**323**	P	**P**	**01 25 14.8**	**+0.7**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HIA	**Hailar**	**24.57**	**323**	P	**P**	**01 25 14.8**	**+0.7**
	comp=Z,7.6nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**31.27**	**312**	*e*P	**P**	**01 26 16.1**	**+0.9**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
ULN	**Ulaanbaatar**	**31.27**	**312**	*e*P	**P**	**01 26 16.1**	**+0.9**
	comp=Z,3.0nm,1.0s,mb4.1						
FX1	**Attu Island--F**	**31.30**	**37**	LR	LR	01 36 04.5	
	comp=Z,62nm,20.1s,MS3.3,baz=274,slow=31						
QIZ	**Qiongzhong**	**31.38**	**255**	*e*P	**P**	**01 26 13.9**	**-2.5**
	comp=Z,72nm,1.6s						
SONM	**Songino Array**	**31.68**	**312**	P	**P**	**01 26 19.2**	**+0.5**
	comp=Z,1.3nm,0.8s,mb3.8,baz=117,slow=8.3,SNR=6.6						
TLY	**Talaya**	**34.67**	**317**	P	**P**	**01 26 44.5**	**-0.2**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TLY	**Talaya**	**34.67**	**317**	P	**P**	**01 26 44.5**	**-0.2**
	comp=Z,4.0nm,0.8s,mb4.4						
ZAL	**Zalesovo**	**46.28**	**317**	P	**P**	**01 28 20.6**	**+0.3**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAL	**Zalesovo**	**46.28**	**317**	P	**P**	**01 28 20.6**	**+0.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=334,slow=6.3,SNR=5.9						
KURK	**Kurchatov**	**49.99**	**312**	P	**P**	**01 28 48.8**	**-0.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**49.99**	**312**	P

2.8nm,0.9s,mb3.7,baz=329,slow=11,SNR=14
ASAR Alice Springs 25.72 156 P **P 01 35 33.6 -0.2**
0.9nm,0.9s,mb3.3,baz=338,slow=7.7,SNR=4.1
CMAR Chiang Mai Arr 29.78 310 P **P 01 36 12.2 +1.6**
0.6nm,0.4s,mb3.7,baz=124,slow=16,SNR=2.4
ULN Ulaanbaatar 49.80 346 *eP* **P 01 38 56.7 +0.5**
4.8nm,1.0s,mb4.5
SONM Songino Array 49.93 346 P **P 01 38 57.9 +0.7**
1.2nm,0.9s,mb3.9,baz=153,slow=6.4,SNR=3.6
AAK Ala-Archa 60.68 321 *eP* **P 01 40 12.9 -2.1**
4.6nm,0.8s,mb4.7
ZAL Zalesovo 62.38 336 P **P 01 40 25.8 -0.5**
1.3nm,0.7s,mb4.2,baz=349,slow=7.5,SNR=11
KURK Kurchatov 63.00 330 *eP* **P 01 40 30.1 -0.3**
6.0nm,0.7s,mb4.8
BVAR Borovoye Array 68.50 329 P **P 01 41 05.6 +0.1**
1.9nm,0.8s,mb4.1,baz=124,slow=5.2,SNR=8.4
BRVK Borovoye 68.57 329 *eP* **P 01 41 05.7 -0.3**
3.1nm,0.9s,mb4.2

CASC 20 01:39:09.5±1.9, 6.53N×82.48W, h72km±97km, MD4.2, 1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTP1	**Petroterminal**	**1.67**	**2**	*eP*	P	01 39 38.1	+0.8
DVD	**David**	**1.90**	**1**	*eP*	P	01 39 41.6	+1.2
ACR	**Cerro Adams**	**2.22**	**342**	*eP*	P	01 39 43.1	-1.8
ACR				*eS*	S	01 40 11.7	+0.5
AZU	**Azuero**	**2.52**	**60**	‖*eP*	P	01 39 47.6	-1.5
CNI	**Changuinola**	**2.87**	**359**	*eP*	P	01 39 54.9	+0.8
BUS	**Buena Vista**	**3.27**	**337**	*eP*	P	01 39 59.2	-0.4
BUS				*eS*	S	01 40 37.7	+0.2
LCR2	**La Lucha 2**	**3.53**	**335**	*eP*	P	01 40 03.1	-0.2
LCR2				*eS*	S	01 40 44.6	+0.5
ICR	**Volcan Irazu**	**3.68**	**339**	*eP*	P	01 40 05.4	0.0
ICR				*eS*	S	01 40 49.2	+1.3
LAJ	**Bijagual**	**3.69**	**334**	*eP*	P	01 40 05.9	+0.3
PRS1	**Puriscal**	**3.88**	**332**	*eP*	P	01 40 06.9	-1.3
JCR	**Jicaral**	**4.21**	**322**	*eP*	P	01 40 12.1	-0.6

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*PGC **20** 01:48:19.4, 64.70N×110.30W, MN2.7/4, Northeast of Yellowknife, Northwest Territories Mining explosion.*
OTT 20 01:48:21.9±0.1, 64.65N×110.70W, h1km, MN2.9/9, Blast, Ekati Mine, Nt Mining explosion., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKTN	**Ekati Mine**	**0.06**	**38**	PG	Pg	01 48 22.8	-0.4
LDGN	**Lac de Gras No**	**0.08**	**70**	PG	Pg	01 48 23.9	+0.3
DVKN	**Diavik Mine**	**0.22**	**130**	PG	Pg	01 48 26.1	-0.3
DVKN				SG	Sg	01 48 28.8	-0.5
DVKN				Trac		01 48 29.9	
	comp=Z,208nm,0.2s						
ACKN	**Achilles Lake**	**0.35**	**348**	PG	Pg	01 48 28.4	-0.5
ACKN				SG	Sg	01 48 32.9	-0.7
ACKN				Trac		01 48 33.2	
	comp=Z,96nm,0.1s						
YNEN	**Yamba Lake Nor**	**0.46**	**341**	PG	Pg	01 48 30.5	-0.7
YNEN				SG	Sg	01 48 36.6	-0.8
YNEN				Trac		01 48 37.6	
	comp=Z,93nm,0.1s						
GLWN	**Glow Worm Lake**	**0.59**	**82**	PG	Pg	01 48 32.8	-0.9
GLWN				SG	Sg	01 48 40.2	-1.4
GLWN				Trac		01 48 41.0	
	comp=Z,56nm,0.1s						
MLON	**Marlo Lake**	**0.77**	**153**	PG	Pg	01 48 36.1	-1.2
MLON				SG	Sg	01 48 46.4	-1.1
MLON				Trac		01 48 47.7	
	comp=Z,62nm,0.2s						
GBLN	**Grizzly Bear L**	**1.09**	**247**	PG	Pg	01 48 42.2	-1.6
GBLN				SG	Sg	01 48 56.4	-2.0
GBLN				Trac		01 48 56.4	
	comp=Z,92nm,0.1s						
LUPN	**Lupin Mine**	**1.12**	**348**	PG	Pg	01 48 42.2	-2.0
LUPN				SG	Sg	01 48 56.6	-2.5
LUPN				Trac		01 49 01.1	
	comp=Z,64nm,0.1s						
IHLN	**Indian Hill La**	**1.35**	**184**	PG	Pg	01 48 46.5	-2.4
IHLN				SG	Sg	01 49 04.0	-3.0
IHLN				Trac		01 49 04.7	
	comp=Z,62nm,0.1s						
KNDN	**Kennady Lake**	**1.40**	**151**	PG	Pg	01 48 47.3	-2.6
KNDN				SG	Sg	01 49 05.3	-3.2
KNDN				Trac		01 49 08.0	
	comp=Z,98nm,0.2s						
CTLN	**Castor Lake**	**2.31**	**267**	PG	Pg	01 49 00.6	-7.5
CTLN				SG	Sg	01 49 32.6	-6.2
CTLN				Trac		01 49 36.2	
	comp=Z,33nm,0.2s						
YKW3	**Yellowknife Ar**	**2.73**	**222**	PN	Pn	01 49 05.2	-2.5
YKW3				SN	Sn	01 49 37.7	-4.1
YKW3				SG	Sg	01 49 45.8	-7.2
YKW3				Trac		01 49 53.7	
	comp=Z,27nm,0.2s						
YKW3	**Yellowknife Ar**	**2.73**	**222**	Pn	Pn	01 49 05.3	-2.4
YKW3				Pn	Pn	01 49 05.3	-2.3
YKW3				Sn	Sn	01 49 43.8	+2.0
YKW3				Sn	Sn	01 49 43.9	+2.1
YKW3				Trac		01 49 53.5	
	comp=Z,27nm,0.2s						
YKW3				Trac		01 49 53.5	
	comp=Z,27nm,0.2s						
FNBB	**Fort Nelson**	**8.20**	**231**	Sn	Sn	01 51 47.3	-12
FNBB				Sg	Sg	01 52 39.9	-15
FNBB				Trac		01 53 08.9	
	comp=Z,3.0nm,0.4s						
FNBB				Trac		01 53 08.9	
	comp=Z,3.0nm,0.4s						
INK	**Inuvik**	**9.80**	**302**	PN	P	01 50 41.0	-5.8
INK				SN	Sn	01 52 25.1	-14
INK	**Inuvik**	**9.80**	**302**	P	P	01 50 41.6	-5.2
INK				Sn	Sn	01 52 25.2	-14
INK				Sg	Sg	01 53 26.6	-21
INK				Trac		01 53 31.6	
	comp=Z,1.0nm,0.6s						
INK				Trac		01 53 31.6	
	comp=Z,1.0nm,0.6s						
FCC	**Fort Churchill**	**9.83**	**119**	PN	P	01 50 41.3	-5.9
FCC				SN	Sn	01 52 24.7	-15
RES	**Resolute Bay**	**11.41**	**21**	PN	P	01 51 03.1	-5.8
RES				SN	S	01 53 03.4	-15
RES	**Resolute Bay**	**11.41**	**21**	P	P	01 51 03.3	-5.6
RES				Sn	S	01 52 58.3	-20
RES				Sg	S	01 54 11.2	+53
RES				Trac		01 54 30.7	
	comp=Z,3.0nm,0.8s						
RES				Trac		01 54 30.7	
	comp=Z,3.0nm,0.8s						
DAWY	**Dawson**	**12.39**	**280**	P	P	01 51 16.6	-5.6

IDC 20 01:49:03.0±4.0, 13.73N×91.09W, mb3.6/3, mb1 4.0/4, mb1mx3.5/18, mbtmp3.5/4, ML3.9/1, Error ellipse: s-maj=135.2km s-min=68.8km az=42.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**19.41**	**325**	P	P	01 53 31.6	-1.9
	0.1nm,0.3s,baz=157,slow=13,SNR=15						
NVAR	**Mina Array Bea**	**34.44**	**321**	P	P	01 55 53.3	-1.1
	0.6nm,0.7s,baz=144,slow=7.8,SNR=4.6						
YKA	**Yellowknife Ar**	**51.49**	**346**	P	P	01 58 09.7	-2.5
	0.5nm,0.7s,baz=149,slow=7.6,SNR=9.7						
ILAR	**Eielson Array**	**63.43**	**337**	P	P	01 59 33.6	-2.9
	0.6nm,0.8s,baz=125,slow=3.6,SNR=8.0						
CMAR	**Chiang Mai Arr**	**146.52**	**343**	PKPbc	PKPbc	02 08 46.8	-0.2
	0.6nm,0.4s,slow=3.6,SNR=4.3						

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*IDC **20** 01:51:21.4±0.7, 8.41N×93.54E, h27km±3km, mb3.8/11, mb1 4.0/12, mb1mx3.9/17, mbtmp4.0/12, ML4.8/1, Error ellipse: s-maj=32.4km s-min=14.3km az=49.0*
*NEIC **20** 01:51:22.7±0.6, 8.53N×93.69E, h30km, mb4.5/8, Error ellipse: s-maj=17.2km s-min=11.6km az=62.0*
ISC 20 01:51:20.1±0.6, 8.47N±0.10×93.6E±0.1, h28km, h28km±.5km: pP-P, n29, σ0§80/28, mb4.3/20, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.19**	**27**	Pn	P	**01 54 01.8**	**+0.3**
	1.8nm,0.3s,baz=212,slow=15,SNR=34						
VIS	**Vishakhapatnam**	**13.60**	**314**	*eP*	P	**01 54 32.0**	**-1.9**
VIS				*eS*	Sx	01 56 32.5	
JIRN	**Jiri**	**20.34**	**341**	*eP*	P	**01 55 57.7**	**+0.5**
	25nm,0.5s						
PKI	**Pulchoki**	**20.53**	**339**	*eP*	P	**01 55 59.2**	**+0.1**
	20nm,0.7s						
DMN	**Daman**	**20.67**	**338**	*eP*	P	**01 56 00.8**	**+0.2**
	16nm,0.6s						
KKN	**Kakani**	**20.77**	**339**	*eP*	P	**01 56 01.5**	**-0.1**
GKN	**Gorkha**	**21.20**	**338**	*eP*	P	**01 56 06.7**	**+0.7**
	41nm,0.6s,mb5.0						
LSA	**Lhasa**	**21.25**	**354**	*eP*	P	**01 56 05.6**	**-0.9**
	11nm,0.8s,mb4.2						
KOLN	**Koldanda**	**21.41**	**335**	*eP*	P	**01 56 09.1**	**+1.0**
	64nm,1.2s,mb4.8						
AAK	**Ala-Archa**	**37.96**	**337**	*eP*	P	**01 58 37.4**	**+0.1**
	5.8nm,1.0s,mb4.3						
SONM	**Songino Array**	**40.70**	**13**	P	P	**01 59 00.1**	**+0.2**
	0.8nm,0.8s,mb3.4,baz=191,slow=7.3,SNR=3.3						
KURK	**Kurchatov**	**43.91**	**346**	*eP*	P	**01 59 26.2**	**0.0**
	6.8nm,1.2s,mb4.2						
ZAL	**Zalesovo**	**45.90**	**353**	P	P	**01 59 41.4**	**-0.6**
	3.1nm,1.0s,mb4.2,baz=289,slow=8.9,SNR=15						
ZAL				pP	pP	01 59 50.3	0.0
	2.2nm,0.7s,baz=294,slow=4.4,SNR=5.8						
BVAR	**Borovoye Array**	**48.27**	**341**	P	P	**01 59 59.9**	**-0.7**
	0.9nm,0.6s,mb4.0,baz=143,slow=7.4,SNR=8.6						
BVAR				pP	pP	02 00 09.0	0.0
	0.7nm,0.5s,baz=141,slow=9.5,SNR=5.8						
WRA	**Warramunga Arr**	**49.02**	**126**	P	P	**02 00 06.7**	**-0.1**
	0.5nm,0.6s,mb3.7,baz=306,slow=8.4,SNR=8.0						
WRA				pP	pP	02 00 15.0	-0.3
	0.7nm,0.6s,baz=306,slow=8.4,SNR=4.7						
WRAB	**Tennant Creek**	**49.02**	**126**	P	P	**02 00 07.3**	**+0.4**
ASAR	**Alice Springs**	**50.68**	**130**	P	P	**02 00 18.6**	**-1.0**
	0.8nm,0.8s,mb3.7,baz=300,slow=7.5,SNR=5.1						
ASAR				pP	pP	02 00 27.4	-0.7
	1.1nm,1.1s,baz=304,slow=7.1,SNR=2.9						
ARU	**Arti**	**55.15**	**337**	P	P	**02 00 56.4**	**+4.0**
	10nm,0.9s,mb4.8						
KIV	**Kislovodsk**	**56.54**	**318**	*eP*	P	**02 01 03.3**	**+0.8**
	8.8nm,0.9s,mb4.8						
MALT	**Malatya**	**57.70**	**310**	*eP*	P	**02 01 11.9**	**+1.1**
	4.4nm,1.1s,mb4.4						
BRTR	**Keskin Array B**	**61.66**	**311**	P	P	**02 01 37.9**	**-0.2**
	2.2nm,0.8s,mb4.3,baz=124,slow=7.9,SNR=23						
BRTR				pP	pP	02 01 45.9	-0.8
	2.8nm,0.8s,baz=135,slow=7.6,SNR=16						
AKASG	**Malin Array Be**	**67.38**	**322**	P	P	**02 02 13.8**	**-1.3**
	3.1nm,1.0s,mb4.3,baz=84,slow=5.0,SNR=5.9						
AKASG				pP	pP	02 02 22.6	-1.1
	1.2nm,0.6s,baz=92,slow=4.4,SNR=2.6						
FINES	**FINESS Array B**	**71.95**	**332**	P	P	**02 02 42.6**	**-0.2**
	2.2nm,0.8s,mb4.2,baz=90,slow=5.7,SNR=7.0						
ARCES	**ARCESS Array B**	**74.54**	**340**	P	P	**02 02 58.4**	**+0.5**
	4.5nm,0.9s,mb4.4,baz=69,slow=10,SNR=3.7						
ARCES				pP	pP	02 03 06.6	+0.1
	5.1nm,0.8s,baz=59,slow=7.1,SNR=2.5						
BOSA	**Boshof**	**75.47**	**238**	*eP*	P	**02 03 07.5**	**+3.4**
	10.0nm,1.1s,mb4.7						
GERES	**GERESS Array B**	**77.05**	**318**	P	P	**02 03 12.3**	**-0.2**
	1.7nm,0.8s,mb4.0,baz=315,slow=1.9,SNR=5.0						
GERES				pP	pP	02 03 20.8	-0.4
	1.5nm,0.7s,baz=90,slow=5.3,SNR=4.9						
NB2	**NORSAR Subarra**	**78.97**	**331**	P	P	**02 03 23.4**	**+0.7**
	1.2nm,0.7s,mb3.9,baz=98,slow=4.8						
NOA	**NORSAR Array B**	**78.97**	**331**	P	P	**02 03 21.9**	**-0.9**
	3.3nm,0.9s,mb4.3,baz=90,slow=5.8,SNR=5.1						
NOA				pP	pP	02 03 30.2	-1.3
	2.5nm,0.8s,baz=93,slow=5.5,SNR=4.0						
ILAR	**Eielson Array**	**94.38**	**22**	pP	pP	02 04 47.9	+0.7
	0.3nm,0.6s,baz=305,slow=4.8,SNR=3.4						

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*IDC **20** 01:52:33.3±1.2, 3.61N×92.63E, mb3.9/8, mb1 4.1/9, mb1mx4.0/18, mbtmp3.9/9, ML4.8/1, MS3.9/6, Ms1 4.0/6, ms1mx3.6/26, Error ellipse: s-maj=46.3km s-min=20.8km az=50.0*
*NEIC **20** 01:52:37.7±0.8, 3.60N×92.69E, h30km, mb4.6/6, Error ellipse: s-maj=20.5km s-min=13.7km az=215.0*
*BJI **20** 01:52:39.1, 3.49N×91.72E, h44km, mb4.7*
ISC 20 01:52:32.8±4.6, 3.6N±0.1×92.65E±0.10, h11km±29km, n24, σ1§25/22, mb4.2/14, MS4.1/5, 2C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.43**	**287**	*eP*	P	**01 55 30.9**	**-1.9**
CMAR	**Chiang Mai Arr**	**15.97**	**22**	Pn	P	**01 56 19.6**	**+0.3**
	1.3nm,0.3s,baz=217,slow=12,SNR=5.9						
CMAR				LR	LR	02 03 33.0	
	comp=Z,140nm,18.0s,baz=210,slow=41						
HYB	**Hyderabad**	**19.46**	**316**	‖*eP*	P	**01 57 04.0**	**+1.4**
HYB				*eS*	S	02 00 29.0	-7.1
HYB	**Hyderabad**	**19.46**	**316**	‖*iP*	P	**01 57 04.0**	**+1.4**
HYB				*eS*	S	02 00 35.0	-1.1
QIZ	**Qiongzhong**	**22.73**	**46**	P	P	**01 57 31.1**	**-5.3**
	23nm,1.1s,mb4.5						
LSA	**Lhasa**	**25.97**	**357**	P	P	**01 58 10.8**	**+3.4**
LSA	**Lhasa**	**25.97**	**357**	*eP*	P	**01 58 10.8**	**+3.4**
	20nm,0.9s,mb4.6						
ENH	**Enshi**	**30.91**	**29**	*eP*	P	**01 58 49.8**	**-2.3**
JOW	**Kunigami**	**41.14**	**52**	LR	LR	02 17 26.7	
	comp=Z,153nm,20.1s,MS3.9,baz=184,slow=36						
SONM	**Songino Array**	**45.60**	**13**	P	P	**02 00 55.7**	**+0.8**
	1.1nm,0.8s,mb3.9,baz=198,slow=7.8,SNR=4.7						
WRA	**Warramunga Arr**	**47.17**	**121**	P	P	**02 01 06.6**	**-1.1**
	0.6nm,0.5s,mb3.8,baz=304,slow=8.4,SNR=4.6						
WRAB	**Tennant Creek**	**47.18**	**121**	*eP*	P	**02 01 07.3**	**-0.5**
	38nm,1.5s,mb5.1						
KURK	**Kurchatov**	**48.39**	**348**	*eP*	P	**02 01 13.4**	**-3.4**
	6.8nm,1.0s,mb4.6						
ASAR	**Alice Springs**	**48.49**	**126**	P	P	**02 01 19.2**	**+1.2**
	0.2nm,0.5s,mb3.4,baz=293,slow=8.9,SNR=2.3						
ZAL	**Zalesovo**	**50.56**	**354**	P	P	**02 01 33.9**	**+0.4**
	2.1nm,0.6s,mb4.2,baz=294,slow=6.9,SNR=8.6						
ZAL				LR	LR	02 24 25.6	
	comp=Z,148nm,19.3s,MS4.0,baz=287,slow=38						
BVAR	**Borovoye Array**	**52.55**	**343**	P	P	**02 01 48.3**	**-0.2**
	3.0nm,0.8s,mb4.3,baz=143,slow=7.4,SNR=13						
BRVK	**Borovoye**	**52.61**	**343**	*eP*	P	**02 01 48.1**	**-0.8**
	4.8nm,0.9s,mb4.4						
KMBO	**Kilima Mbogo**	**55.57**	**266**	LR	LR	02 21 32.7	
	comp=Z,94nm,18.2s,MS3.9,baz=101,slow=31						
MALT	**Malatya**	**60.14**	**313**	*eP*	P	**02 02 44.6**	**+1.6**
	3.5nm,1.1s,mb4.3						
BRTR	**Keskin Array B**	**64.13**	**313**	P	P	**02 03 10.2**	**+0.5**
	0.7nm,0.7s,mb3.8,baz=132,slow=6.5,SNR=3.8						
AKASG	**Malin Array Be**	**70.58**	**323**	P	P	**02 03 49.4**	**-0.8**
	0.5nm,0.5s,mb3.7,baz=92,slow=4.8,SNR=4.8						
GERES	**GERESS Array B**	**80.00**	**319**	P	P	**02 04 45.3**	**+1.4**
	1.8nm,0.7s,mb4.1,baz=104,slow=5.5,SNR=6.5						
NOA	**NORSAR Array B**	**82.69**	**331**	LR	LR	02 47 30.2	
	comp=Z,108nm,19.7s,MS4.2,baz=265,slow=40						
VNDA	**Vanda**	**89.10**	**168**	LR	LR	02 38 43.2	
	comp=Z,107nm,19.1s,MS4.3,baz=341,slow=31						

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*IDC **20** 02:02:31.8±0.9, 51.30N×178.60E, mb4.0/16, mb1 4.2/17, mb1mx4.1/25, mbtmp4.0/17, ML4.1/1, MS3.6/1, Ms1 3.6/1, ms1mx2.5/29, Error ellipse: s-maj=27.9km s-min=15.8km az=171.0*
*NEIC **20** 02:02:36.0, 51.15N×178.65E, h19km, ML4.0(AEIC), After AEIC.*
ISC 20 02:02:37.1±1.0, 51.3N±0.2×178.64E±0.08, h52km±8km, n30, σ0§80/31, mb4.0/16, MS3.5/1, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**2.61**	**79**	P	P	**02 03 18.1**	**+0.2**
KIKV	**Kanaga Island**	**2.67**	**77**	P	P	**02 03 19.2**	**+0.5**
KIWB	**Kanaga Island**	**2.68**	**77**	P	P	**02 03 19.3**	**+0.4**
ADAG	**Mount Adagdak**	**3.04**	**76**	P	P	**02 03 23.9**	**0.0**
SMY	**Shemya**	**3.13**	**298**	P	P	**02 03 25.4**	**+0.2**
GSTD	**Great Sitkin T**	**3.33**	**75**	P	P	**02 03 28.1**	**+0.1**
GSMY	**Great Sitkin M**	**3.38**	**76**	P	P	**02 03 28.3**	**-0.4**
GSIG	**Igitkin Island**	**3.45**	**77**	P	P	**02 03 29.3**	**-0.4**
FX1	**Attu Island--F**	**3.71**	**297**	Pn	P	**02 03 33.5**	**+0.1**
	49nm,0.3s,baz=112,slow=4.6,SNR=72						
FX1				Sn	S	**02 04 22.2**	**+5.9**
	24nm,0.3s,baz=91,slow=23,SNR=12						
FX1	**Attu Island--F**	**3.71**	**297**	P	P	**02 03 34.2**	**+0.8**
ATKA	**Atka Island**	**4.54**	**76**	P	P	**02 03 44.2**	**-0.8**
UNV	**Unalaska Valle**	**9.39**	**69**	*eP*	P	**02 04 52.3**	**-0.1**
ILAR	**Eielson Array**	**22.30**	**40**	P	P	**02 07 29.6**	**-1.3**
	0.8nm,0.5s,mb3.4,baz=242,slow=8.0,SNR=13						
ASAJ	**Asahikawa**	**25.10**	**268**	P	P	**02 07 57.1**	**-1.0**
	7.3nm,0.7s,mb4.3,baz=96,slow=28,SNR=3.2						
DAWY	**Dawson**	**25.24**	**44**	*eP*	P	**02 08 01.1**	**+1.8**
INK	**Inuvik**	**28.42**	**35**	P	P	**02 08 27.9**	**-0.5**
	2.2nm,0.7s,mb3.9,baz=258,slow=9.9,SNR=6.2						
INK				LR	LR	02 22 04.7	
	comp=Z,122nm,19.6s,MS3.5,baz=124,slow=41						
YKA	**Yellowknife Ar**	**36.42**	**46**	P	P	**02 09 37.4**	**-0.7**
	1.9nm,0.7s,mb4.1,baz=283,slow=8.3,SNR=9.1						
YKA				PcP	PcP	02 12 01.4	-0.3
	0.2nm,0.6s,baz=285,slow=3.1,SNR=5.6						
YKA	**Yellowknife Ar**	**36.42**	**46**	P	P	**02 09 37.4**	**-0.7**
YKA				PcP	PcP	02 12 01.4	-0.3
NVAR	**Mina Array Bea**	**45.15**	**81**	P	P	**02 10 51.6**	**+1.6**
	1.3nm,0.8s,mb3.8,baz=299,slow=6.8,SNR=6.1						
SONM	**Songino Array**	**45.22**	**295**	P	P	**02 10 50.9**	**+0.4**
	0.9nm,0.5s,mb3.8,baz=63,slow=8.3,SNR=5.8						
PDAR	**Pinedale Array**	**47.85**	**71**	P	P	**02 11 11.2**	**0.0**
	1.1nm,0.6s,mb4.1,baz=314,slow=2.8,SNR=3.8						
ZAL	**Zalesovo**	**52.90**	**312**	P	P	**02 11 48.7**	**-0.9**
	0.7nm,0.3s,mb4.0,baz=52,slow=7.4,SNR=3.4						
FRB	**Frobisher Bay**	**53.89**	**30**	P	P	**02 11 55.9**	**-0.9**
	1.0nm,0.5s,mb4.0,baz=258,slow=14,SNR=3.7						
ARCES	**ARCESS Array B**	**57.85**	**349**	P	P	**02 12 24.3**	**-0.8**
	4.2nm,0.9s,mb4.5,baz=22,slow=6.5,SNR=5.5						
BVAR	**Borovoye Array**	**59.87**	**318**	P	P	**02 12 39.7**	**+0.4**
	3.3nm,0.5s,mb4.6,baz=50,slow=7.4,SNR=24						
TXAR	**Lajitas Array**	**60.25**	**79**	P	P	**02 12 42.4**	**+0.1**
	0.3nm,0.5s,mb3.6,baz=306,slow=5.5,SNR=5.7						
FINES	**FINESS Array B**	**65.46**	**346**	P	P	**02 13 16.0**	**-0.1**
	2.4nm,0.8s,mb4.3,baz=9.5,slow=8.5,SNR=5.9						
AKASG	**Malin Array Be**	**75.08**	**340**	P	P	**02 14 15.0**	**+0.6**
	0.9nm,0.4s,mb4.0,baz=19,slow=6.1,SNR=4.4						
WRA	**Warramunga Arr**	**80.89**	**222**	P	P	**02 14 46.5**	**-0.6**
	0.2nm,0.4s,mb3.4,baz=31,slow=5.8,SNR=5.4						
BRTR	**Keskin Array B**	**84.30**	**334**	P	P	**02 15 06.5**	**+2.4**
	0.4nm,0.7s,mb3.7,baz=49,slow=2.8,SNR=4.9						

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*IDC **20** 02:06:36.9±4.0, 13.69N×90.71W, mb3.9/9, mb1 4.2/10, mb1mx3.9/22, mbtmp3.9/10, ML4.2/1, MS3.7/1, Ms1 3.6/1, ms1mx1.9/23, Error ellipse: s-maj=87.4km s-min=41.9km az=7.0*
*GCG **20** 02:06:40.0, 13.36N×91.43W, h75km, MD4.3*
*CASC **20** 02:06:42.8±1.6, 13.46N×91.33W, h19km±19km, MD4.1, mb4.0(NEIC)*
*SSS **20** 02:06:44.7, 13.59N×91.23W, h79km, MD4.3*
*NEIC **20** 02:06:47.0±3.0, 13.56N×91.07W, h90km±24km, mb4.0/14, Error ellipse: s-maj=31.1km s-min=12.7km az=217.0*
ISC 20 02:06:45.3±1.6, 13.5N±0.1×91.2W±0.1, h91km±10km, n41, σ1§18/43, mb3.9/20, 2C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.90**	**330**	‖*eP*	P	**02 06 58.5**	**-5.5**
IXG	**Ixpaco**	**0.94**	**48**	‖*eP*	P	**02 07 02.8**	**-1.8**
TP2	**Tecpan 2**	**1.24**	**7**	‖*eP*	P	**02 07 06.3**	**-2.0**
TP2				*eS*	S	**02 07 26.8**	**+1.3**
NBG	**Las Nubes**	**1.31**	**37**	*eP*	P	**02 07 09.2**	**0.0**
RTR	**El Retiro**	**1.52**	**76**	‖*eP*	P	**02 07 11.7**	**-0.1**
SBLS	**San Blas**	**1.53**	**79**	*eP*	P	**02 07 12.0**	**0.0**
SBLS				*eS*	S	**02 07 33.3**	**+1.7**
BOQS	**Boqueron**	**1.85**	**84**	‖*eP*	P	**02 07 16.2**	**+0.2**
LBRS	**Las Brisas**	**2.08**	**84**	*eP*	P	**02 07 18.8**	**-0.3**
LCBS	**La Ceiba**	**2.13**	**87**	‖*eP*	P	**02 07 20.7**	**+0.8**
TEIG	**Tepich**	**7.20**	**22**	*ePn*	P	**02 08 29.8**	**+0.1**
TXAR	**Lajitas Array**	**19.52**	**326**	P	P	**02 11 08.1**	**0.0**
	0.2nm,0.3s,baz=157,slow=13,SNR=25						
TXAR	**Lajitas Array**	**19.52**	**326**	P	P	**02 11 08.1**	**0.0**
SDV	**Santo Domingo**	**20.66**	**101**	P	P	**02 11 17.4**	**-2.5**
	4.0nm,0.9s						
MIAR	**Mount Ida**	**21.02**	**354**	P	P	**02 11 24.6**	**+1.1**
	2.7nm,0.8s,mb3.6						
GDL2	**Guadalupe Moun**	**22.16**	**329**	*eP*	P	**02 11 35.0**	**+0.4**
WMOK	**Wichita Mounta**	**22.20**	**343**	P	P	**02 11 32.4**	**-2.6**
	3.0nm,1.0s,mb3.6						
MNTX	**Cornudas Mount**	**22.29**	**327**	*eP*	P	**02 11 35.7**	**-0.2**
	9.1nm,0.9s,mb4.1						
CPRX	**Cap Rock**	**22.59**	**331**	*eP*	P	**02 11 39.1**	**+0.1**
AMTX	**Amarillo**	**23.28**	**338**	*eP*	P	**02 11 45.3**	**-0.3**
	11nm,0.8s,mb4.2						
ANMO	**Albuquerque**	**25.40**	**330**	P	P	**02 12 07.2**	**+1.3**
	1.6nm,0.9s,mb3.4,baz=161,slow=12,SNR=5.9						
ANMO	**Albuquerque**	**25.40**	**330**	P	P	**02 12 07.2**	**+1.3**
ANMO	**Albuquerque**	**25.40**	**330**	*eP*	P	**02 12 06.9**	**+0.9**
	2.0nm,0.9s,mb3.5						
KSU1	**Kansas State U**	**25.91**	**350**	*eP*	P	**02 12 09.2**	**-1.4**
SDCO	**Great Sand Dun**	**27.28**	**335**	*eP*	P	**02 12 25.5**	**+2.3**
	1.4nm,1.0s,mb3.5						
ACSO	**Alum Creek Sta

BRTR Keskin Array B 152.91 303 PKPbc PKPdf 02 26 49.5 +6.1
1.0nm,1.1s,baz=162,slow=3.9,SNR=3.6

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*JMA **20** 02:09:11.4±0.5,33.99N×141.61E,h34km±4km,M3.3*
*IDC **20** 02:09:13.5±4.3,33.89N×141.57E,h42km±43km,mb3.4/6, mb1 3.8/6,mb1mx3.5/19,mbtmp3.7/6,Error ellipse: s-maj=33.7km s-min=23.9km az=120.0*
ISC 20 02:09:12.0±1.4,33.95N±0.06×141.6E±0.1,h45km±13km, n14,σ0°70/16,mb3.6/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.85**	**326**	P	**P**	**02 09 26.9**	**-0.8**
BSO3	**Boso 3**	**1.21**	**315**	P	**P**	**02 09 32.7**	**-0.1**
BSO4	**Boso 4**	**1.45**	**316**	P	**P**	**02 09 36.4**	**+0.2**
JHJ2	**Mitsune**	**1.67**	**241**	P	**P**	**02 09 40.3**	**+0.9**
JHJ	**Hachijo jima 2**	**1.69**	**241**	P	**P**	**02 09 40.2**	**+0.5**
	28nm,0.3s,baz=78,slow=20,SNR=4.3						
JHJ				S	**S**	**02 10 00.0**	**-0.3**
	44nm,0.3s,baz=72,slow=19,SNR=5.3						
KTJJ	**Kamata 2**	**2.28**	**296**	P	**P**	**02 09 47.5**	**-0.5**
KTJJ				*e*S	**S**	**02 10 14.2**	**-0.8**
MAT	**Matsushiro**	**3.77**	**314**	P	**P**	**02 10 09.8**	**+0.6**
MAT				S	**S**	**02 10 53.2**	**+0.4**
SONM	**Songino Array**	**29.70**	**308**	P	**P**	**02 15 16.5**	**+0.7**
	0.4nm,0.5s,mb3.4,baz=108,slow=9.1,SNR=2.8						
ILAR	**Eielson Array**	**52.06**	**31**	P	**P**	**02 18 18.6**	**-0.4**
	1.3nm,0.8s,mb3.9,baz=270,slow=6.2,SNR=13						
WRA	**Warramunga Arr**	**54.03**	**188**	P	**P**	**02 18 32.9**	**-1.4**
	0.6nm,0.7s,mb3.6,baz=1.4,slow=7.7,SNR=6.1						
YKA	**Yellowknife Ar**	**66.42**	**29**	P	**P**	**02 19 57.5**	**-0.8**
	0.2nm,0.7s,mb3.3,baz=300,slow=6.5,SNR=6.4						
PDAR	**Pinedale Array**	**79.75**	**45**	P	**P**	**02 21 17.9**	**+1.1**
	0.4nm,0.7s,mb3.5,baz=270,slow=3.0,SNR=4.1						
GERES	**GERESS Array B**	**85.39**	**328**	P	**P**	**02 21 46.1**	**+0.6**
	1.1nm,0.8s,mb4.0,baz=56,slow=4.8,SNR=4.5						
LPAZ	**La Paz**	**148.05**	**64**	PKPbc	PKPdf	02 28 56.0	+6.0
	1.2nm,0.9s,baz=29,slow=4.4,SNR=3.8						

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*IDC **20** 02:23:18.2±7.9,8.66N×93.31E,h65km±68km,mb3.6/6, mb1 3.7/7,mb1mx3.5/17,mbtmp3.8/7,ML4.0/1,Error ellipse: s-maj=60.8km s-min=24.6km az=51.0*
ISC 20 02:23:12.6±1.2,8.6N±0.1×93.2E±0.2,h33km,n13, σ0°73/13,mb3.9/7,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.29**	**29**	P	**P**	**02 25 55.0**	**+0.3**
	0.3nm,0.3s,baz=216,slow=14,SNR=5.8						
JIRN	**Jiri**	**20.06**	**342**	*e*P	**P**	**02 27 46.2**	**+0.3**
	19nm,0.7s						
PKI	**Pulchoki**	**20.23**	**340**	*e*P	**P**	**02 27 46.5**	**-1.2**
DMN	**Daman**	**20.37**	**339**	*e*P	**P**	**02 27 48.5**	**-0.7**
KKN	**Kakani**	**20.48**	**340**	*e*P	**P**	**02 27 49.0**	**-1.3**
GKN	**Gorkha**	**20.90**	**338**	*e*P	**P**	**02 27 55.0**	**+0.4**
KOLN	**Koldanda**	**21.09**	**336**	*e*P	**P**	**02 27 57.7**	**+1.1**
	20nm,0.9s,mb4.5						
SONM	**Songino Array**	**40.67**	**14**	P	**P**	**02 30 52.0**	**+0.6**
	0.2nm,0.3s,mb3.2,baz=194,slow=8.8,SNR=2.7						
BVAR	**Borovoye Array**	**47.99**	**342**	P	**P**	**02 31 49.8**	**-0.4**
	0.6nm,0.5s,mb3.9,baz=136,slow=8.0,SNR=5.5						
WRA	**Warramunga Arr**	**49.48**	**125**	P	**P**	**02 32 01.6**	**-0.5**
	0.6nm,0.9s,mb3.6,baz=306,slow=8.5,SNR=5.7						
BRTR	**Keskin Array B**	**61.21**	**311**	P	**P**	**02 33 27.6**	**+0.9**
	0.6nm,0.5s,mb4.0,baz=138,slow=6.3,SNR=7.3						
FINES	**FINESS Array B**	**71.61**	**332**	P	**P**	**02 34 32.9**	**+0.6**
	1.7nm,0.8s,mb4.0,baz=135,slow=8.1,SNR=5.3						
ARCES	**ARCESS Array B**	**74.25**	**340**	P	**P**	**02 34 47.5**	**-0.2**
	2.3nm,0.8s,mb4.2,baz=104,slow=7.4,SNR=6.8						

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*IDC **20** 02:28:59.9±1.0,2.73N×95.37E,h23km±4km,mb3.9/5, mb1 4.2/6,mb1mx3.9/17,mbtmp4.2/6,ML4.5/1,MS3.6/1, Ms1 3.8/1,ms1mx2.7/27,Error ellipse: s-maj=46.8km s-min=14.9km az=52.0*
*BJI **20** 02:29:01.4,2.53N×95.55E,h73km,mB5.1,mb4.8,Ms4.5, Msz4.2*
*NEIC **20** 02:29:03.0±2.3,2.75N×95.42E,h54km±23km,mb4.6/15, Error ellipse: s-maj=13.8km s-min=9.6km az=57.0*
ISC 20 02:28:58.0±0.5,2.73N±0.07×95.47E±0.09,h24km, h24km±8km:pP-P,n35,σ0°98/32,mb4.6/22,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.38**	**288**	P	**P**	**02 32 35.5**	**+0.1**
	22nm,1.2s						
CMAR	**Chiang Mai Arr**	**16.00**	**12**	Pn	**P**	**02 32 45.1**	**+1.8**
	0.6nm,0.3s,baz=201,slow=11,SNR=42						
CMAR				LR	LR	02 39 49.0	
	comp=Z,213nm,19.3s,baz=200,slow=40						
QIZ	**Qiongzhong**	**21.46**	**40**	*e*P	**P**	**02 33 46.9**	**-0.1**
	62nm,1.5s,mb4.7						
SHL	**Shillong**	**22.97**	**352**	*e*P	**P**	**02 34 00.0**	**-2.0**
JIRN	**Jiri**	**26.33**	**341**	*e*P	**P**	**02 34 34.9**	**+0.8**
	38nm,0.9s,mb4.9						
PKI	**Pulchoki**	**26.51**	**340**	*e*P	**P**	**02 34 36.8**	**+1.1**
DMN	**Daman**	**26.65**	**339**	*e*P	**P**	**02 34 37.9**	**+0.9**
KKN	**Kakani**	**26.76**	**340**	*e*P	**P**	**02 34 39.0**	**+1.0**
	24nm,0.9s,mb4.7						
LSA	**Lhasa**	**27.14**	**352**	P	**P**	**02 34 41.6**	**+0.2**
LSA	**Lhasa**	**27.14**	**352**	*e*P	**P**	**02 34 42.1**	**+0.7**
	18nm,1.0s,mb4.6						
GKN	**Gorkha**	**27.18**	**339**	*e*P	**P**	**02 34 42.2**	**+0.4**
	63nm,1.1s,mb5.0						
KOLN	**Koldanda**	**27.36**	**337**	*e*P	**P**	**02 34 43.0**	**-0.5**
	24nm,0.9s,mb4.7						
ENH	**Enshi**	**30.45**	**24**	*e*P	**P**	**02 35 09.3**	**-1.9**
	7.9nm,0.7s,mb4.5						
MBWA	**Marble Bar**	**33.59**	**136**	*e*P	**P**	**02 35 37.7**	**-1.1**
	18nm,1.3s,mb4.8						
XAN	**Xi'an**	**33.59**	**20**	P	**P**	**02 35 37.4**	**-1.2**
XAN				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**36.22**	**126**	⇑*i*P	**P**	**02 36 01.1**	**-0.1**
	comp=Z,5.0nm,0.7s,mb4.5						
WMQ	**Urumqi**	**41.50**	**352**	*e*P	**P**	**02 36 45.5**	**+0.6**
BJT	**Baijiatuau**	**41.60**	**24**	*e*P	**P**	**02 36 46.4**	**+0.6**
	comp=Z,22nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**44.31**	**122**	P	**P**	**02 37 08.8**	**+0.6**
	comp=Z,2.8nm,0.7s,mb4.1,baz=299,slow=9.3,SNR=19						
WRA				pP	pP	02 37 15.9	+0.4
	comp=Z,4.4nm,0.8s,baz=301,slow=9.0,SNR=16						
WRAB	**Tennant Creek**	**44.31**	**122**	*e*P	**P**	**02 37 08.5**	**+0.2**
	comp=Z,12nm,0.9s,mb4.6						
WB2	**Warramunga Arr**	**44.32**	**122**	*e*P	**P**	**02 37 08.8**	**+0.5**
ASAR	**Alice Springs**	**45.69**	**127**	P	**P**	**02 37 20.1**	**+1.0**
	comp=Z,1.2nm,0.6s,mb4.0,baz=301,slow=7.9,SNR=11						
ASAR				pP	pP	02 37 26.9	+0.3
	comp=Z,1.6nm,0.7s,baz=303,slow=7.9,SNR=9.0						
ASAR				PcP	PcP	02 38 57.7	+0.3
	comp=Z,0.9nm,0.8s,baz=315,slow=3.8,SNR=3.4						
ASAR				pPcP		02 39 05.7	
	comp=Z,0.8nm,0.8s,baz=312,slow=2.9,SNR=4.7						
SONM	**Songino Array**	**45.92**	**10**	P	**P**	**02 37 20.6**	**0.0**
	comp=Z,5.2nm,0.8s,mb4.5,baz=190,slow=8.7,SNR=28						
SONM				PcP	PcP	02 38 58.4	+0.5
	comp=Z,0.7nm,0.5s,baz=219,slow=2.5,SNR=3.5						
ULN	**Ulaanbaatar**	**46.06**	**11**	*e*P	**P**	**02 37 20.9**	**-0.9**
	comp=Z,2.9nm,0.8s,mb4.3						
TLY	**Talaya**	**49.26**	**7**	*e*P	**P**	**02 37 47.5**	**+0.8**
	comp=Z,6.5nm,0.9s,mb4.7						
KURK	**Kurchatov**	**49.89**	**346**	*e*P	**P**	**02 37 51.7**	**+0.1**
	comp=Z,6.3nm,1.0s,mb4.6						
BVAR	**Borovoye Array**	**54.26**	**342**	P	**P**	**02 38 23.2**	**-1.0**
	comp=Z,3.4nm,0.8s,mb4.4,baz=135,slow=8.4,SNR=20						
BVAR				pP	pP	02 38 31.3	-0.3
	comp=Z,1.9nm,0.7s,baz=124,slow=11,SNR=6.6						
BRVK	**Borovoye**	**54.32**	**342**	*e*P	**P**	**02 38 21.6**	**-3.0**
	comp=Z,4.9nm,0.9s,mb4.4						
CTA	**Charters Tower**	**54.73**	**117**	pP	pP	02 38 35.9	+0.2
	comp=Z,4.2nm,0.7s,baz=299,slow=10,SNR=3.8						
CTAO	**Charters Tower**	**54.73**	**117**	P	pP	02 38 35.7	0.0
	comp=Z,5.7nm,0.8s						
YAK	**Yakutsk**	**64.46**	**17**	*e*P	**P**	**02 39 30.9**	**-3.7**
	comp=Z,18nm,0.6s,mb5.3						
BRTR	**Keskin Array B**	**66.81**	**312**	P	**P**	**02 39 49.4**	**-0.7**
	comp=Z,0.4nm,1.0s,baz=117,slow=5.5,SNR=3.9						
BRTR				pP	pP	02 39 57.1	-0.5
	comp=Z,0.7nm,1.1s,baz=127,slow=6.2,SNR=3.3						
LSZ	**Lusaka**	**68.90**	**253**	P	**P**	**02 40 03.5**	**0.0**
	comp=Z,11nm,1.5s,mb4.6						
SANT	**Santorini**	**72.33**	**307**	P	**P**	**02 40 19.6**	**-4.4**
	comp=Z,119nm,0.9s						
AKASG	**Malin Array Be**	**73.00**	**323**	pP	pP	02 40 35.1	-0.2
	comp=Z,0.1nm,0.3s,baz=100,slow=5.8,SNR=1.9						

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*NIED **20** 02:37:00,33.40N×142.30E,h5km,Mw4.5 Best double couple: M0 6×10^15 NP1:φs140°,δ71°,λ-99°. NP2:φs346°, δ21°,λ-65°.*
*BJI **20** 02:37:11.4,33.36N×141.78E,h8km,mB5.1,mb4.7,Ms4.3, Msz4.1*
*JMA **20** 02:37:12.3±0.5,33.44N×142.33E,h60km,M4.4*
*MOS **20** 02:37:12.6±1.1,33.36N×142.21E,h33km,mb4.8/38,Error ellipse: s-maj=11.7km s-min=6.7km az=109.3*
*NEIC **20** 02:37:12.5±2.2,33.38N×142.22E,h21km±15km,mb4.8/45, MW4.5(NIED),Error ellipse: s-maj=6.1km s-min=4.2km az=102.0*
*IDC **20** 02:37:14.6±0.5,33.38N×142.25E,h37km±3km,mb4.3/20, mb1 4.5/24,mb1mx4.5/26,mbtmp4.6/24,ML4.4/4,MS3.3/3, Ms1 3.3/3,ms1mx2.9/29,Error ellipse: s-maj=13.6km s-min=11.1km az=113.0*
ISC 20 02:37:13.2±0.2,33.37N±0.03×142.19E±0.03,h38km, h38km±9km:pP-P,n183,σ1°04/191,mb4.7/71,MS4.1/1, 6C-5D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.63**	**322**	P	**P**	**02 37 39.5**	**-0.4**
BSO3	**Boso 3**	**2.00**	**316**	P	**P**	**02 37 45.3**	**+0.2**
JHJ2	**Mitsune**	**2.01**	**263**	P	**P**	**02 37 46.4**	**+1.1**
JHJ2				*e*S	**S**	**02 38 12.3**	**+3.0**
JHJ	**Hachijo jima 2**	**2.03**	**264**	Pn	**P**	**02 37 46.5**	**+0.8**
	224nm,0.3s,baz=168,slow=7.2,SNR=21						
JHJ				Sn	**S**	**02 38 11.9**	**+1.9**
	187nm,0.3s,baz=60,slow=23,SNR=7.3						
BSO4	**Boso 4**	**2.23**	**317**	P	**P**	**02 37 49.2**	**+0.7**
JIM2	**Oshima 3**	**2.66**	**301**	P	**P**	**02 37 53.6**	**-1.0**
JIM2				*e*S	**S**	**02 38 25.6**	**-0.3**
JOD2	**Odawara 2**	**3.19**	**307**	P	**P**	**02 38 01.3**	**-0.8**
JYN	**Shimob**	**3.69**	**306**	P	**P**	**02 38 08.9**	**-0.3**
JRY	**Ryogami san**	**3.79**	**315**	P	**P**	**02 38 10.3**	**-0.3**
JRY				*e*S	**S**	**02 38 54.9**	**+0.4**
JAG	**Ashikaga**	**3.79**	**324**	P	**P**	**02 38 09.7**	**-1.0**
MAJO	**Matsushiro**	**4.55**	**315**	*e*Pn	**P**	**02 38 21.4**	**-0.1**
MAJO				*e*Sn	**S**	**02 39 10.0**	**-3.9**
MAT	**Matsushiro**	**4.55**	**315**	*e*P	**P**	**02 38 21.0**	**-0.5**
MAT				*e*S	**S**	**02 39 12.0**	**-1.9**
MAT	**Matsushiro**	**4.55**	**315**	P	**P**	**02 38 21.1**	**-0.4**
MAT				S	**S**	**02 39 12.1**	**-1.8**
MAT	**Matsushiro**	**4.55**	**315**	P	**P**	**02 38 21.6**	**+0.1**
MAT				*e*S	**S**	**02 39 13.0**	**-0.9**
JMM	**Marumori**	**4.63**	**346**	P	**P**	**02 38 19.1**	**-3.5**
CBIJ	**Chichi jima**	**6.25**	**180**	Pn	**P**	**02 38 41.1**	**-4.2**
	44nm,0.3s,baz=338,slow=8.9,SNR=16						
CBIJ				Sn	**S**	**02 39 47.8**	**-8.7**
	54nm,0.3s,baz=276,slow=22,SNR=7.5						
CBIJ				LR	LR	02 40 35.8	
	comp=Z,49nm,20.3s,baz=321,slow=32						
ASAJ	**Asahikawa**	**10.74**	**2**	Pn	**P**	**02 39 41.5**	**-6.0**
	6.5nm,0.3s,baz=258,slow=7.0,SNR=17						
ASAJ				Sn	**S**	**02 41 34.2**	**-13**
	2.0nm,0.3s,baz=103,slow=19,SNR=4.8						
ASAJ				LR	LR	02 44 09.2	
	comp=Z,275nm,21.7s,baz=152,slow=39						
YSS	**Yuzh-Sakhalins**	**13.58**	**2**	⇓*e*P	**P**	**02 40 19.2**	**-6.2**
YSS				pmax	pmax		
	comp=N,30nm,0.9s						
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**13.58**	**2**	*e*P	**P**	**02 40 19.9**	**-5.6**
	comp=Z,34nm,0.8s						
JOW	**Kunigami**	**13.69**	**245**	Pn	**P**	**02 40 26.1**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=209,slow=30,SNR=3.5						
JOW				LR	LR	02 45 10.7	
	comp=Z,356nm,21.9s,baz=343,slow=35						
MDJ	**Mudanjiang**	**14.88**	**323**	P	**P**	**02 40 41.7**	**-0.9**
	comp=Z,24nm,1.2s						
NJ2	**Nanjing**	**19.68**	**273**	*e*P	**P**	**02 41 40.4**	**-1.4**
NJ2				XP		02 41 50.3	
NJ2				PP	PP	02 42 00.6	+0.1
NJ2				S	**S**	**02 45 15.0**	**-1.4**
NJ2				AMB	AMB		
	comp=Z,60nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,620nm,4.2s						
NJ2				LR	LR		
	comp=N,400nm,15.6s						
NJ2				LR	LR		
	comp=E,300nm,11.4s						
NJ2				LR	LR		
	comp=Z,460nm,16.1s						
BJT	**Baijiatuau**	**21.85**	**295**	P	**P**	**02 42 01.8**	**-2.4**
BJT				pmax	pmax		
	comp=Z,11nm,0.8s						
BJT	**Baijiatuau**	**21.85**	**295**	P	**P**	**02 42 01.8**	**-2.4**
	comp=Z,11nm,0.8s,mb4.3						
HIA	**Hailar**	**23.04**	**320**	*e*P	**P**	**02 42 16.2**	**+0.5**
HIA				pmax	pmax		
	comp=Z,14nm,0.7s						
HIA	**Hailar**	**23.04**	**320**	*e*P	**P**	**02 42 16.1**	**+0.4**
	comp=Z,14nm,0.7s,mb4.5						
WHN	**Wuhan**	**23.76**	**271**	*e*P	**P**	**02 42 23.0**	**0.0**
CLNS	**Chul'man**	**26.30**	**338**	*e*P	pP	02 42 57.8	+0.6
CLNS				pmax	pmax		
	comp=N,11nm,1.0s						
CLNS				pmax	pmax		
	comp=E,4.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.5						
MA2	**Magadan**	**26.83**	**10**	P	**P**	**02 42 50.8**	**-0.9**
MA2				pmax	pmax		
	comp=Z,28nm,1.5s,mb4.6						
MA2	**Magadan**	**26.83**	**10**	P	**P**	**02 42 50.8**	**-0.9**
	comp=Z,28nm,1.5s,mb4.6						
XAN	**Xi'an**	**27.62**	**281**	P	**P**	**02 42 57.6**	**-1.6**
XAN				AP	pP	02 43 08.6	-1.0
XAN				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.6						
ENH	**Enshi**	**27.90**	**273**	*e*P	**P**	**02 43 00.3**	**-1.5**
	comp=Z,62nm,0.9s,mb5.2						
YAK	**Yakutsk**	**29.78**	**348**	P	**P**	**02 43 18.2**	**0.0**
YAK				*e*	pP	02 43 29.9	+1.2
YAK				pmax	pmax		
	comp=Z,66nm,0.6s,mb5.5						
YAK	**Yakutsk**	**29.78**	**348**	P	**P**	**02 43 18.1**	**0.0**
	comp=Z,66nm,0.6s,mb5.5						
YAK				*e*	pP	02 43 29.9	+1.2
ULN	**Ulaanbaatar**	**30.06**	**309**	*e*P	**P**	**02 43 21.8**	**+1.0**
ULN				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.8						
ULN	**Ulaanbaatar**	**30.06**	**309**	*e*P	**P**	**02 43 21.8**	**+0.9**
	comp=Z,17nm,0.9s,mb4.8						
SONM	**Songino Array**	**30.48**	**309**	P	**P**	**02 43 25.0**	**+0.4**
	comp=Z,7.8nm,0.6s,mb4.6,baz=103,slow=8.8,SNR=26						
SONM				PcP	PcP	02 46 22.9	-0.4
	comp=Z,1.0nm,0.5s,baz=132,slow=2.7,SNR=4.9						
BOD	**Bodaibo**	**31.00**	**331**	*e*P	**P**	**02 43 28.4**	**-0.7**
LZH	**Lanzhou**	**31.50**	**286**	*e*P	**P**	**02 43 32.5**	**-1.2**
LZH				AP	pP	02 43 39.1	-5.2
LZH				XP	sP	02 43 42.6	-6.5
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb4.9						
LZH				LR	LR		
	comp=N,217nm,13.2s						
LZH				LR	LR		
	comp=Z,345nm,17.0s,MS4.1						
QIZ	**Qiongzhong**	**32.20**	**252**	*e*P	**P**	**02 43 39.7**	**-0.3**
	comp=Z,14nm,1.1s,mb4.7						
ZAK	**Zakamensk**	**33.13**	**313**	⇓*i*P	**P**	**02 43 48.5**	**+0.7**
TLY	**Talaya**	**33.29**	**315**	*e*P	**P**	**02 43 48.9**	**-0.3**
TLY				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
TLY	**Talaya**	**33.29**	**315**	*e*P	**P**	**02 43 48.9**	**-0.3**
	comp=Z,9.8nm,0.8s,mb4.8						
BILL	**Bilibino**	**37.38**	**15**	*e*P	**P**	**02 44 22.7**	**-1.1**
BILL				*e*	pP	02 44 33.8	-0.7
BILL				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6						
BILL	**Bilibino**	**37.38**	**15**	*e*P	**P**	**02 44 22.7**	**-1.1**
	comp=Z,11nm,1.0s,mb4.7						
BILL				*e*	pP	02 44 33.8	-0.7
CHG	**Chiang Mai**	**41.16**	**260**	⇑P	**P**	**02 44 55.5**	**-0.2**
	comp=Z,13nm,0.8s,mb4.6						
CMAR	**Chiang Mai Arr**	**41.34**	**260**	P	**P**	**02 44 56.8**	**-0.3**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.34**	**260**	P	**P**	**02 44 56.8**	**-0.3**
	comp=Z,3.7nm,0.6s,mb4.2,baz=50,slow=7.5,SNR=16						
WMQ	**Urumqi**	**43.16**	**301**	*e*P	**P**	**02 45 13.4**	**+1.6**
LSA	**Lhasa**	**43.31**	**279**	*e*P	**P**	**02 45 14.1**	**+0.9**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
LSA	**Lhasa**	**43.31**	**279**	*e*P	**P**	**02 45 14.1**	**+0.9**
	comp=Z,6.5nm,0.8s,mb4.4						
NVS	**Novosibirsk**	**45.88**	**316**	*i*P	**P**	**02 45 33.1**	**-0.4**
NVS				pmax	pmax		
	comp=E,11nm,1.1s						
NVS				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
KAKA	**Kakadu**	**46.76**	**193**	⇑*i*P	**P**	**02 45 40.3**	**-0.5**
	comp=Z,19nm,0.9s,mb5.0						
JIRN	**Jiri**	**48.10**	**279**	*e*P	**P**	**02 45 51.8**	**+0.5**
	comp=Z,30nm,0.6s,mb5.5						
KURK	**Kurchatov**	**48.75**	**311**	*e*P	**P**	**02 45 55.5**	**-0.5**
KURK				*e*	pP	02 46 03.9	-2.9
KURK				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.3						
KURK	**Kurchatov**	**48.75**	**311**	*e*P	**P**	**02 45 55.5**	**-0.5**
	comp=Z,31nm,0.9s,mb5.3						
KURK				*e*	pP	02 46 03.9	-2.9
PKI	**Pulchoki**	**48.78**	**279**	*e*P	**P**	**02 45 56.1**	**-0.4**
	comp=Z,14nm,0.7s,mb5.1						
KKN	**Kakani**	**48.80**	**279**	*e*P	**P**	**02 45 57.0**	**+0.3**
	comp=Z,33nm,0.9s,mb5.3						
DMN	**Daman**	**49.01**	**279**	*e*P	**P**	**02 45 58.3**	**0.0**
	comp=Z,19nm,0.9s,mb5.1						
GKN	**Gorkha**	**49.26**	**280**	*e*P	**P**	**02 46 00.4**	**+0.2**
	comp=Z,20nm,0.6s,mb5.3						
KOLN	**Koldanda**	**50.20**	**280**	*e*P	**P**	**02 46 07.4**	**0.0**
	comp=Z,23nm,0.9s,mb5.2						
MCK	**McKinley**	**51.36**	**32**	*e*P	**P**	**02 46 14.2**	**-1.5**
MCK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
MCK	**McKinley**	**51.36**	**32**	*e*P	**P**	**02 46 14.2**	**-1.5**
	comp=Z,3.4nm,1.0s,mb4.2						
TKM2	**Tokmak 2**	**52.00**	**301**	P	**P**	**02 46 22.2**	**+1.4**
	SNR=26						
ILAR	**Eielson Array**	**52.28**	**31**	P	**P**	**02 46 21.2**	**-1.4**
ILAR				*PP	pP	02 46 32.4	-1.1
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ILAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ILAR	**Eielson Array**	**52.28**	**31**	P	**P**	**02 46 21.2**	**-1.4**
	comp=Z,2.3nm,0.8s,mb4.2,baz=260,slow=6.3,SNR=22						
ILAR				pP	pP	02 46 32.4	-1.2
	comp=Z,4.6nm,0.9s,baz=258,slow=5.4,SNR=11						
KZA	**Kyzart**	**52.45**	**300**	P	**P**	**02 46 26.3**	**+2.1**
	SNR=8.7						
KBK	**Karagaybulak**	**52.53**	**301**	P	**P**	**02 46 25.7**	**+0.9**
	SNR=20						
CHMS	**Chumysh**	**52.59**	**301**	P	**P**	**02 46 25.7**	**+0.5**
	SNR=5.6						
USP	**Ospenovka**	**52.71**	**302**	P	**P**	**02 46 26.8**	**+0.7**
	SNR=7.7						
AAK	**Ala-Archa**	**52.86**	**301**	P	**P**	**02 46 28.0**	**+0.7**
	SNR=7.7						
AAK	**Ala-Archa**	**52.86**	**301**	*e*P	**P**	**02 46 26.1**	**-1.1**
AAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
AAK	**Ala-Archa**	**52.86**	**301**	*e*P	**P**	**02 46 26.1**	**-1.2**
	comp=Z,11nm,0.9s,mb4.8						
UCH	**Uchtor**	**52.94**	**301**	P	**P**	**02 46 29.5**	**+1.6**
	SNR=9.8						
CTA	**Charters Tower**	**53.30**	**175**	⇑*i*P	**P**	**02 46 30.5**	**-0.3**
	comp=Z,3.5nm,0.8s,mb4.3						
CTA	**Charters Tower**	**53.30**	**175**	⇑*i*P	**P**	**02 46 30.5**	**-0.3**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CTA	**Charters Tower**	**53.30**	**175**	P	**P**	**02 46 29.8**	**-1.0**
	comp=Z,4.0nm,0.5s,mb4.6,baz=1.5,slow=9.0,SNR=11						
CTAO	**Charters Tower**	**53.30**	**175**	*e*P	**P**	**02 46 29.5**	**-1.3**
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
CTAO	**Charters Tower**	**53.30**	**175**	*e*P	**P**	**02 46 29.5**	**-1.3**
	comp=Z,3.8nm,0.5s,mb4.6						
EKS2	**Erkin-Say**	**53.37**	**301**	P	**P**	**02 46 31.7**	**+0.7**
	SNR=5.3						
WRAB	**Tennant Creek**	**53.53**	**189**	*e*P	**P**	**02 46 31.1**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.2						
WRAB	**Tennant Creek**	**53.53**	**189**	*e*P	**P**	**02 46 31.1**	**-1.4**
	comp=Z,22nm,0.7s,mb5.2						
WB2	**Warramunga Arr**	**53.54**	**189**	⇓*i*P	**P**	**02 46 31.3**	**-1.3**
WRA	**Warramunga Arr**	**53.54**	**189**	P	**P**	**02 46 31.4**	**-1.2**
WRA						02 47 38.8	
WRA				pmax	pmax		
	comp=Z,14nm,0.6s

ARCES	**ARCESS Array B**	**67.65**	**340**	P	**P**	**02 48 07.3**	**-0.5**
	comp=Z,4.2nm,0.8s,mb4.5,baz=45,slow=1.7,SNR=5.4						
KLBR	**Kellerberrin**	**68.60**	**202**	*e*P	**P**	**02 48 14.2**	**-0.2**
	comp=Z,151nm,0.9s						
JOF	**Joensuu**	**69.50**	**333**	*e*p	**P**	**02 48 18.7**	**-0.7**
	comp=Z,5.3nm,0.5s,mb4.7						
JOF	**Joensuu**	**69.50**	**333**	*e*P	**P**	**02 48 18.7**	**-0.7**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
NWAO	**Narrogin (SRO)**	**70.00**	**202**	*e*P	**P**	**02 48 22.8**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,17nm,0.7s						
NWAO	**Narrogin (SRO)**	**70.00**	**202**	P	**P**	**02 48 22.2**	**-0.8**
	comp=Z,22nm,0.6s,mb5.2,baz=26,slow=6.8,SNR=23						
NWAO	**Narrogin (SRO)**	**70.00**	**202**	*e*P	**P**	**02 48 22.8**	**-0.2**
	comp=Z,17nm,0.7s,mb5.1						
OBN	**Obninsk**	**71.42**	**324**	*e*P	**P**	**02 48 29.0**	**-2.1**
	comp=Z,22nm,1.3s,mb4.9						
KAF	**Kangasniemi**	**71.86**	**334**	*e*p	**P**	**02 48 33.1**	**-0.5**
	comp=Z,3.6nm,0.5s,mb4.6,baz=50,slow=5.7						
KAF	**Kangasniemi**	**71.86**	**334**	*e*P	**P**	**02 48 33.1**	**-0.5**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
NEW	**Newport**	**72.33**	**44**	*e*P	**P**	**02 48 35.8**	**-0.8**
NEW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NEW	**Newport**	**72.33**	**44**	*e*P	**P**	**02 48 35.8**	**-0.8**
	comp=Z,3.6nm,0.8s,mb4.3						
FINES	**FINESS Array B**	**72.36**	**333**	P	**P**	**02 48 36.0**	**-0.6**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FINES	**FINESS Array B**	**72.36**	**333**	P	**P**	**02 48 36.0**	**-0.6**
	comp=Z,4.6nm,0.7s,mb4.5,baz=90,slow=7.6,SNR=9.7						
FINES	**FINESS Array B**	**72.36**	**333**	P	**P**	**02 48 36.0**	**-0.6**
WALA	**Waterton Lakes**	**73.73**	**42**	*e*P	**P**	**02 48 45.2**	**+0.3**
	comp=Z,10nm,1.0s,mb4.7						
KIV	**Kislovodsk**	**73.81**	**312**	*e*P	**P**	**02 48 46.0**	**+0.6**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
KIV	**Kislovodsk**	**73.81**	**312**	*e*P	**P**	**02 48 46.0**	**+0.6**
	comp=Z,8.1nm,0.8s,mb4.7						
SAO	**San Andreas Ge**	**75.42**	**56**	P	**P**	**02 48 52.8**	**-2.0**
SAO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
SAO	**San Andreas Ge**	**75.42**	**56**	P	**P**	**02 48 52.8**	**-2.0**
	comp=Z,6.3nm,0.9s,mb4.5						
CMB	**Columbia Colle**	**75.49**	**54**	*e*P	**P**	**02 48 54.6**	**-0.6**
CMB				*e*	pP	02 49 06.8	+0.2
CMB				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
CMB	**Columbia Colle**	**75.49**	**54**	*e*P	**P**	**02 48 54.6**	**-0.6**
	comp=Z,7.4nm,1.1s,mb4.5						
CMB				*e*	pP	02 49 06.8	+0.2
TAU	**Tasmania Unive**	**76.05**	**176**	*e*P	**P**	**02 48 58.9**	**+0.6**
TAU				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
TAU	**Tasmania Unive**	**76.05**	**176**	*e*P	**P**	**02 48 58.9**	**+0.6**
	comp=Z,18nm,1.0s,mb5.0						
HLID	**Hailey**	**76.41**	**47**	*e*P	**P**	**02 49 00.4**	**0.0**
	comp=Z,1.6nm,0.9s,mb4.0						
NVAR	**Mina Array Bea**	**76.69**	**53**	P	**P**	**02 49 02.0**	**0.0**
	comp=Z,1.8nm,0.9s,mb4.0,baz=289,slow=4.5,SNR=8.8						
NVAR				pP	pP	02 49 13.8	+0.4
	comp=Z,8.2nm,1.2s,baz=272,slow=4.3,SNR=8.1						
NVAR	**Mina Array Bea**	**76.69**	**53**	P	**P**	**02 49 02.0**	**0.0**
NVAR				pP	pP	02 49 13.8	+0.4
FCC	**Fort Churchill**	**76.99**	**26**	*e*P	**P**	**02 49 01.7**	**-1.6**
FCC				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
FCC	**Fort Churchill**	**76.99**	**26**	*e*P	**P**	**02 49 01.7**	**-1.6**
	comp=Z,8.1nm,1.1s,mb4.6						
AKASG	**Malin Array Be**	**77.59**	**323**	P	**P**	**02 49 06.1**	**-0.7**
AKASG				*PP	pP	02 49 17.4	-0.9
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**77.59**	**323**	P	**P**	**02 49 06.1**	**-0.7**
	comp=Z,2.6nm,0.7s,mb4.3,baz=48,slow=5.6,SNR=14						
AKASG				pP	pP	02 49 17.4	-0.8
	comp=Z,1.9nm,0.8s,baz=48,slow=5.6,SNR=4.6						
NB2	**NORSAR Subarra**	**77.81**	**338**	P	**P**	**02 49 08.0**	**+0.2**
	comp=Z,3.6nm,0.6s,mb4.5,baz=40,slow=5.6						
NB2	**NORSAR Subarra**	**77.81**	**338**	P	**P**	**02 49 08.0**	**+0.2**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
NOA	**NORSAR Array B**	**77.81**	**338**	P	**P**	**02 49 07.5**	**-0.3**
NOA				*PP	pP	02 49 19.4	+0.2
NOA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NOA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
NOA	**NORSAR Array B**	**77.81**	**338**	P	**P**	**02 49 07.5**	**-0.3**
	comp=Z,4.3nm,0.6s,mb4.5,baz=39,slow=5.7,SNR=17						
NOA				pP	pP	02 49 19.4	+0.2
	comp=Z,9.7nm,1.1s,baz=39,slow=5.7,SNR=7.7						
NOA	**NORSAR Array B**	**77.81**	**338**	P	**P**	**02 49 07.5**	**-0.3**
NOA				pP	pP	02 49 19.4	+0.2
MALT	**Malatya**	**79.55**	**309**	*e*P	**P**	**02 49 18.5**	**+0.7**
MALT				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
MALT	**Malatya**	**79.55**	**309**	*e*P	**P**	**02 49 18.5**	**+0.7**
	comp=Z,3.5nm,1.1s,mb4.2						
BW06	**Boulder Array**	**79.78**	**45**	P	**P**	**02 49 19.9**	**+0.9**
	comp=Z,4.2nm,1.3s,mb4.2						
PDAR	**Pinedale Array**	**79.78**	**45**	P	**P**	**02 49 19.3**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=274,slow=2.3,SNR=6.9						
PDAR				pP	pP	02 49 30.2	-0.2
	comp=Z,0.9nm,0.7s,baz=275,slow=4.0,SNR=6.2						
DAU	**Daniels Canyon**	**80.13**	**48**	*e*P	**P**	**02 49 22.5**	**+1.7**
ARUT	**Antelope Range**	**80.24**	**51**	*e*P	**P**	**02 49 23.4**	**+1.9**
ARUT				*e*	pP	02 49 33.8	+0.8
NEN	**Nelson**	**80.52**	**54**	*e*P	**P**	**02 49 23.4**	**+0.3**
NEN				*e*	pP	02 49 34.5	0.0
NEN				*e*		02 49 44.5	
SRU	**San Rafael**	**81.34**	**49**	*e*P	**P**	**02 49 28.0**	**+0.7**
SRU				*e*	pP	02 49 39.6	+0.8
KWP	**Kalwaria**	**81.48**	**325**	*e*P	**P**	**02 49 28.4**	**+0.6**
KWP				*e*	pP	02 49 41.1	+1.8
KWP				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
KWP	**Kalwaria**	**81.48**	**325**	*e*P	**P**	**02 49 28.4**	**+0.6**
	comp=Z,18nm,1.0s,mb5.0						
KWP				*e*	pP	02 49 41.1	+1.8
BRTR	**Keskin Array B**	**81.77**	**312**	P	**P**	**02 49 30.7**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRTR	**Keskin Array B**	**81.77**	**312**	P	**P**	**02 49 30.7**	**+1.2**
	comp=Z,2.5nm,0.8s,mb4.2,baz=114,slow=4.2,SNR=19						
PV10	**Paradox Valley**	**82.72**	**49**	*e*P	**P**	**02 49 36.1**	**+1.8**
PV10				*e*	pP	02 49 47.5	+1.6
PV10				*e*		02 49 57.8	
PV01	**Paradox Valley**	**83.16**	**49**	*e*	**P**	**02 49 38.1**	**+1.5**
RW3	**Ridgway**	**83.64**	**48**	*e*P	**P**	**02 49 40.6**	**+1.5**
RW3				*e*	pP	02 49 52.5	+1.9
MORC	**Moravsky Berou**	**83.78**	**328**	*e*P	**P**	**02 49 40.5**	**+1.0**
MORC				*e*	pP	02 49 52.3	+1.2
MORC				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
MORC	**Moravsky Berou**	**83.78**	**328**	*e*P	**P**	**02 49 40.5**	**+1.0**
	comp=Z,5.4nm,1.0s,mb4.6						
MORC				*e*	pP	02 49 52.2	+1.2
DPC	**Dobruska-Polom**	**83.90**	**329**	*e*P	**P**	**02 49 41.7**	**+1.6**
DPC				*e*pP	pP	02 49 52.9	+1.2
ISCO	**Idaho Springs**	**83.95**	**46**	P	**P**	**02 49 41.6**	**+1.0**
ISCO				*e*	pP	02 49 53.1	+0.9
ISCO				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
ISCO	**Idaho Springs**	**83.95**	**46**	P	**P**	**02 49 41.6**	**+1.0**
	comp=Z,3.6nm,1.0s,mb4.5						
ISCO				*e*	pP	02 49 53.1	+0.9
PSZ	**Piszkesteto**	**84.02**	**325**	⇑*i*P	**P**	**02 49 42.5**	**+1.8**
ASF	**Jabal al Asfar**	**84.10**	**305**	P	**P**	**02 49 41.7**	**+0.2**
	comp=Z,6.4nm,0.8s,mb4.8,baz=239,slow=3.6,SNR=9.4						
ASF				pP	pP	02 49 54.7	+1.6
	comp=Z,3.8nm,0.8s,baz=247,slow=3.2,SNR=3.8						
VYHS	**Vyhne**	**84.11**	**326**	*e*P	**P**	**02 49 42.3**	**+1.1**
VYHS				*es*P	sP	02 49 53.9	-2.9
PVCC	**Panska Ves**	**84.53**	**329**	*e*P	**P**	**02 49 44.3**	**+1.1**
BRG	**Berggiesshubel**	**84.53**	**330**	*e*P	**P**	**02 49 44.3**	**+1.1**
BRG				*e*	pP	02 49 56.2	+1.4
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.6						
BRG	**Berggiesshubel**	**84.53**	**330**	*e*P	**P**	**02 49 44.3**	**+1.1**
	comp=Z,5.4nm,1.1s,mb4.6						
BRG				*e*	pP	02 49 56.2	+1.4
CLL	**Collm**	**84.59**	**331**	*e*P	**P**	**02 49 44.0**	**+0.5**
CLL				*i*	pP	02 49 56.3	+1.2
CLL	**Collm**	**84.59**	**331**	P	**P**	**02 49 44.0**	**+0.5**
CLL				*i* *SP	sP	02 49 56.3	-2.8
PRU	**Pruhonice**	**84.94**	**329**	*e*P	**P**	**02 49 46.3**	**+1.0**
PRU				*e*pP	pP	02 49 58.1	+1.2
SDCO	**Great Sand Dun**	**85.30**	**47**	*e*P	**P**	**02 49 48.6**	**+1.2**
	comp=Z,13nm,1.1s,mb5.0						
SDCO				*e*	pP	02 50 00.1	+1.1
ANMO	**Albuquerque**	**86.45**	**50**	*e*P	**P**	**02 49 54.3**	**+1.2**
ANMO				*e*	pP	02 50 06.0	+1.3
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ANMO	**Albuquerque**	**86.45**	**50**	*e*P	**P**	**02 49 54.3**	**+1.2**
	comp=Z,8.5nm,1.1s,mb4.9						
ANMO				*e*	pP	02 50 06.0	+1.2
SCHQ	**Schefferville**	**88.67**	**16**	pP	pP	02 50 14.6	-0.4
	comp=Z,3.6nm,0.8s,baz=38,slow=8.6,SNR=4.4						
WMOK	**Wichita Mounta**	**91.37**	**46**	P	**P**	**02 50 18.7**	**+2.2**
WMOK				*e*	pP	02 50 28.7	+0.5
WMOK				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.9						
WMOK	**Wichita Mounta**	**91.37**	**46**	P	**P**	**02 50 18.7**	**+2.2**
	comp=Z,8.4nm,1.4s,mb4.9						
WMOK				*e*	pP	02 50 28.6	+0.4
TXAR	**Lajitas Array**	**91.84**	**53**	P	**P**	**02 50 19.1**	**+0.4**
	comp=Z,1.8nm,0.8s,mb4.5,baz=305,slow=3.3,SNR=18						
TXAR				pP	pP	02 50 30.9	+0.4
	comp=Z,1.7nm,0.7s,baz=300,slow=3.1,SNR=9.5						
LPAZ	**La Paz**	**147.81**	**66**	*e*PKP2	PKPdf	02 56 54.8	+3.2

BER ***20*** *02:52:46.5±3.7, 77.99N×8.99E, ML2.9(NAO)*
NAO 20 02:52:44.1±4.9, 78.14N×8.86E, ML2.9, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**1.55**	**85**	Pn	Pn	02 53 12.3	-0.7
	baz=255,slow=12						
SPA0				Lg		02 53 34.5	
	baz=261,slow=37						
SPA0	**Spitsbergen Ar**	**1.55**	**85**	Pn	Pn	02 53 12.3	-0.8
	baz=255,slow=12						
SPA0				Lg		02 53 34.5	
	baz=261,slow=28,SNR=5.4						
HSP	**Hornsund**	**1.84**	**125**	*e*P	Pn	02 53 15.7	-1.6
HSP				*e*S	Sn	02 53 39.0	-2.5
DAG	**Danmarks Havn**	**6.11**	**271**	⇑*i*P	Pn	02 55 06.1	+48
	6.5nm,0.3s						
ARA0	**ARCESS Array S**	**9.75**	**143**	Pn	P	02 55 03.9	-4.5
	baz=346,slow=12						
ARA0				Sn	Sn	02 56 47.9	-12
	baz=329,slow=22						
ARA0	**ARCESS Array S**	**9.75**	**143**	Pn	P	02 55 03.8	-4.6
	baz=346,slow=12,SNR=8.5						
ARA0				Sn	Sn	02 56 47.8	-12
	baz=329,slow=21						

IDC ***20*** *02:58:51.0±2.0, 33.11N×142.15E, mb4.0/3, mb1 4.2/4, mb1mx4.0/19, mbtmp4.1/4, ML4.4/1, Error ellipse: s-maj=44.2km s-min=21.9km az=50.0*
JMA ***20*** *02:58:52.3±0.7, 33.43N×142.31E, h69km, M3.6*
ISC 20 02:58:51.9±0.8, 33.40N±0.06×142.32E±0.08, h33km, n17, σ0§89/21, mb4.1/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.67**	**319**	P	**P**	**02 59 19.6**	**+0.4**
BSO3	**Boso 3**	**2.05**	**313**	P	**P**	**02 59 25.1**	**+0.5**
JHJ2	**Mitsune**	**2.12**	**263**	P	**P**	**02 59 26.5**	**+0.9**
JHJ2				*e*S	**S**	**02 59 51.8**	**+0.8**
JHJ	**Hachijo jima 2**	**2.14**	**263**	Pn	**Pn**	**02 59 25.6**	**-0.6**
	41nm,0.3s,baz=77,slow=17,SNR=10						
JHJ				Sn	**Sn**	**02 59 51.7**	**-0.2**
	108nm,0.3s,baz=79,slow=16,SNR=8.4						
BSO4	**Boso 4**	**2.28**	**314**	P	**P**	**02 59 28.8**	**+0.9**
JIM2	**Oshima 3**	**2.73**	**299**	*e*S	**S**	**03 00 05.3**	**-1.3**
JOD2	**Odawara 2**	**3.25**	**306**	P	**P**	**02 59 41.4**	**-0.4**
JYN	**Shimob**	**3.75**	**305**	P	**P**	**02 59 49.7**	**+0.8**
JAG	**Ashikaga**	**3.83**	**323**	P	**P**	**02 59 49.1**	**-0.8**
JRY	**Ryogami san**	**3.84**	**314**	P	**P**	**02 59 50.0**	**-0.1**
MAT	**Matsushiro**	**4.61**	**314**	P	**P**	**03 00 01.1**	**+0.1**
MAT				S	**S**	**03 00 53.1**	**-1.0**
CBIJ	**Chichi jima**	**6.29**	**181**	Pn	**Pn**	**03 00 20.4**	**-4.5**
	24nm,0.3s,baz=287,slow=21,SNR=11						
CBIJ				Sn	**Sn**	**03 01 28.9**	**-7.5**
	9.1nm,0.3s,baz=270,slow=20,SNR=3.3						
SONM	**Songino Array**	**30.54**	**309**	P	**P**	**03 05 06.5**	**+2.2**
	0.8nm,0.5s,mb3.8,baz=104,slow=10,SNR=5.5						
WB2	**Warramunga Arr**	**53.59**	**189**	*e*P	**P**	**03 08 10.9**	**-1.3**
WRA	**Warramunga Arr**	**53.59**	**189**	P	**P**	**03 08 11.1**	**-1.1**
	2.1nm,0.6s,mb4.3,baz=7.0,slow=7.7,SNR=44						
FITZ	**Fitzroy Crossi**	**53.63**	**200**	*e*P	**P**	**03 08 12.6**	**0.0**
	3.0nm,0.5s,mb4.5						
ASAR	**Alice Springs**	**57.31**	**189**	P	**P**	**03 08 39.8**	**+0.7**
	0.7nm,0.8s,mb3.8,baz=16,slow=13,SNR=7.8						
ASAR				PcP	PcP	03 09 32.7	-0.1
	0.4nm,0.5s,baz=10,slow=3.8,SNR=4.2						

MOS ***20*** *02:59:06.6±1.1, 49.78N×156.20E, h24km, mb5.6/88, MS4.8/28, Error ellipse: s-maj=7.1km s-min=3.7km az=93.9*
SKHL ***20*** *02:59:07.7±2.0, 49.68N×156.71E, h55km±23km, mb6.1/4, mbh6.3/2, Ms4.6/3, msh5.3/2*
SKHL Felt (IV-V) at Severo-Kurilsk.
BJI ***20*** *02:59:08.1, 49.93N×156.37E, h48km, mB5.3, mb4.9, Ms5.1, Msz4.9*
KRSC ***20*** *02:59:09.6±1.2, 49.67N×156.31E, h39km±7km, ML5.8*
HRVD ***20*** *02:59:10.5±0.2, 49.70N×156.70E, h43km, MW5.4/65, Centroid moment Tensor Solution. LP body waves: s64,c132;Mantle waves: s65,c131; Half duration: 1§2 Moment tensor: Scale 10^17Nm; Mrr1.39±.04; Mθθ-0.42±.03; Mφφ-0.97±.03; Mrθ0.34±.03; Mθφ-0.76±.02; Mφr0.51±.02; Best double couple: M0 1.572×10^17 NP1: φs215°, δ34°, λ91°. NP2: φs34°, δ56°, λ89°. Principal axes: T 1.514, Plg79°, Azm302°; N .113, Plg0°, Azm35°; P -1.63, Plg11°, Azm125°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***20*** *02:59:10.5±0.8, 49.83N×156.18E, h38km±6km, mb5.5/128, MS4.9/20 Error ellipse: s-maj=4.0km s-min=3.0km az=164.0*
CSEM ***20*** *02:59:11.3, 50.40N×155.93E, h33km, mb5.8*
NIC ***20*** *02:59:11.3±0.5, 50.40N×155.93E, h33km, Earthquake Kuril Islands , Russia 5 km NW Pribrezhnyy.*
IDC ***20*** *02:59:14.2±2.4, 49.93N×156.03E, h72km±22km, mb4.8/34, mb1 5.0/36, mb1mx5.0/38, mbtmp5.2/36, MS4.6/21, Ms1 4.6/21, ms1mx4.5/30, Error ellipse: s-maj=10.8km s-min=8.9km az=128.0*
ISC 20 02:59:09.8±0.1, 49.74N±0.02×156.24E±0.03, h49km, h49km±1.7km: pP-P, n716, σ1§01/743, mb5.4/189, MS4.8/56, 59C-67D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.95**	**355κ**	*i*PN	**P**	**02 59 25.0**	**-2.0**
SKR				*i* S	**S**	**02 59 38.0**	**-1.7**
SKR				pmax	pmax		
	comp=Z,59nm,2.0s						
SKR				pmax	pmax		
	comp=N,42μm,2.0s						
SKR				pmax	pmax		
	comp=E,33μm,2.0s						
SKR				smax			
	comp=N,259μm,2.0s						
SKR				smax			
	comp=E,435μm,2.0s						
SKR	**Severo-Kuril's**	**0.95**	**355**	*i* P	**P**	**02 59 25.2**	**-1.8**
SKR	**Severo-Kuril's**	**0.95**	**355**	⇓*i*P	**P**	**02 59 25.0**	**-2.0**
SKR				⇓*i*P		02 59 25.0	
SKR				*i* P		02 59 25.0	
SKR				AMB	AMB	02 59 26.0	
	comp=E,42μm,2.0s						
SKR				AMB	AMB	02 59 26.0	
	comp=E,32μm,2.0s						
SKR				AMB	AMB	02 59 26.0	
	comp=E,60μm,2.0s						
SKR				AMB	AMB	02 59 26.0	
	comp=E,42μm,2.0s						
SKR				AMB	AMB	02 59 26.0	
	comp=E,33μm,2.0s						
SKR				AMB	AMB	02 59 26.0	
	comp=E,59μm,2.0s						
SKR				*i* S	**S**	**02 59 38.0**	**-1.7**
SKR				A		02 59 39.0	
	comp=E,260μm,2.0s						
SKR				A		02 59 39.0	
	comp=E,435μm,2.0s						
SKR				A		02 59 40.8	
	comp=E,328μm,1.5s						
SKR				A		02 59 40.8	
	comp=E,580μm,1.5s						
SKR				A		02 59 40.8	
	comp=E,126μm,1.5s						
SKR	**Severo-Kuril's**	**0.95**	**355**	*i* P	**P**	**02 59 25.0**	**-2.0**
SKR				*i* S	**S**	**02 59 38.0**	**-1.7**
ALID	**Alaid**	**1.22**	**339**	*i* P	**P**	**02 59 33.8**	**+3.1**
PAU	**Pauzhetka**	**1.77**	**12**	*i* P	**P**	**02 59 39.9**	**+1.3**
PAU				*i* S	**S**	**02 59 59.5**	**-0.4**
PAU	**Pauzhetka**	**1.77**	**12**	*i* P	**P**	**02 59 39.5**	**+0.9**
PAU				*e*S	**S**	**03 00 00.5**	**+0.6**
PAU				Smax			
	comp=E,44μm,0.5s						
MIPR	**Malaya Ipel'ka**	**2.56**	**7**	*i* P	**P**	**02 59 51.6**	**+1.7**
MIPR				*i* S	**S**	**03 00 22.1**	**+2.2**
GRL	**Gorelyy**	**3.04**	**22**	*i* P	**P**	**02 59 57.8**	**+1.1**
GRL				*e*S	**S**	**03 00 32.5**	**+0.3**
RUS	**Russkaya**	**3.05**	**27**	P	**P**	**02 59 56.4**	**-0.5**
RUS				S	**S**	**03 00 29.8**	**-2.6**
RUS	**Russkaya**	**3.05**	**27**	*i* P	**P**	**02 59 56.3**	**-0.6**
RUS				*e*S	**S**	**03 00 30.1**	**-2.3**
APC	**Apacha**	**3.24**	**10**	*e*P	**P**	**03 00 01.0**	**+1.5**
APC				*e*S	**S**	**03 00 38.0**	**+0.8**
APC				Smax			
	comp=E,3μm,0.6s						
KRMR	**Karymshinskiy**	**3.31**	**20**	*i* P	**P**	**03 00 01.7**	**+1.2**
KRMR				*e*S	**S**	**03 00 39.1**	**+0.1**
PET	**Petropavlovsk**	**3.62**	**24**	P	**P**	**03 00 05.8**	**+1.0**
PET				S	**S**	**03 00 45.3**	**-1.4**
PET	**Petropavlovsk**	**3.62**	**24**	⇓*i*PN	**P**	**03 00 05.2**	**+0.4**
PET				*i* S	**S**	**03 00 45.5**	**-1.2**
PET				pmax	pmax		
	comp=N,900nm,1.1s						
PET				pmax	pmax		
	comp=Z,1μm,1.0s						
PET				pmax	pmax		
	comp=Z,1μm,0.9s						
PET				pmax	pmax		
	comp=N,971nm,0.7s						
PET				pmax	pmax		
	comp=E,451nm,0.7s						
PET				smax			
	comp=E,34μm,1.6s						
PET				smax			
	comp=E,14μm,0.7s						
PET				smax			
	comp=N,13μm,0.7s						
PET				MLR	MLR		
	comp=N,6μm,20.0s						
PET				MLR	MLR		
	comp=Z,8μm,21.0s						
PET	**Petropavlovsk**	**3.62**	**24**	*e*Pn	**P**	**03 00 05.1**	**+0.2**
PET				*e*Sn	**S**	**03 00 46.6**	**-0.2**
PET	**Petropavlovsk**	**3.62**	**24**	⇓*i*P	**P**	**03 00 05.2**	**+0.4**
PET				AMB	AMB	03 00 05.7	
	comp=Z,900nm,1.0s						
PET				AMB	AMB	03 00 06.1	
	comp=Z,1μm,1.0s						
PET				AMB	AMB	03 00 07.0	
	comp=Z,900nm,0.8s						
PET				AMB	AMB	03 00 07.0	
	comp=Z,500nm,0.8s						
PET				AMB	AMB	03 00 07.0	
	comp=Z,1μm,0.8s						
PET				*i* S	**S**	**03 00 45.5**	**-1.2**
PET				A		03 00 49.3	
	comp=Z,34μm,2.0s						
PET				A		03 00 49.5	
	comp=Z,14μm,0.7s						
PET				A		03 00 54.7	
	comp=Z,13μm,0.7s						
PET				A		03 00 58.8	
	comp=Z,6μm,27.0s						
PET				AMS	AMS	03 01 24.8	
	comp=Z,10μm,26.0s						
PET				AMS	AMS	03 01 30.5	
	comp=Z,6μm,20.0s						
PET				AMS	AMS	03 01 34.2	
	comp=Z,8μm,21.0s						
PET	**Petropavlovsk**	**3.62**	**24**	*i* P	**P**	**03 00 05.5**	**+0.7**
PET				*e*S	**S**	**03 00 46.4**	**-0.3**
UGLR	**Uglovaya**	**3.83**	**24**	*i* P	**P**	**03 00 08.9**	**+1.1**
UGLR				*e*S	**S**	**03 00 52.7**	**+0.6**
AVH	**Avacha**	**3.86**	**23**	*i* P	**P**	**03 00 10.0**	**+1.8**
AVH				*e*S	**S**	**03 00 53.8**	**+1.0**
KOK	**Koryaka**	**3.86**	**22**	*i* P	**P**	**03 00 10.4**	**+2.2**
KOK				*e*S	**S**	**03 00 54.3**	**+1.5**
SMAR	**Somma**	**3.87**	**23**	*i* P	**P**	**03 00 09.6**	**+1.2**
SMAR				*e*S	**S**	**03 00 54.2**	**+1.0**
SDLR	**Sedlovina**	**3.91**	**24**	*i* P	**P**	**03 00 09.4**	**+0.5**
SDLR				*e*S	**S**	**03 00 52.3**	**-1.7**
NLC	**Nalytchevo**	**3.94**	**28**	*e*P	**P**	**03 00 08.1**	**-1.3**
NLC				*e*S	**S**	**03 00 51.5**	**-3.5**
GNL	**Ganaly**	**4.10**	**14**	*i* P	**P**	**03 00 13.0**	**+1.4**
GNL				*i* S	**S**	**03 00 58.6**	**-0.3**
SPN	**Mys Shipunski**	**4.11**	**34**	*e*P	**P**	**03 00 11.2**	**-0.6**
SPN				*e*S	**S**	**03 00 56.0**	**-3.2**
KII	**Karymskiy**	**4.74**	**24**	P	**P**	**03 00 22.3**	**+1.7**
KII				S	**S**	**03 01 14.8**	**-0.1**
KII	**Karymskiy**	**4.74**	**24**	*i* P	**P**	**03 00 22.4**	**+1.8**
KII				*e*S	**S**	**03 01 15.0**	**+0.1**
TUMR	**Tumrok**	**6.04**	**22**	*e*P	**P**	**03 00 40.2**	**+1.4**
TUMR				*e*S	**S**	**03 01 46.2**	**-1.3**
ESO	**Esso**	**6.37**	**13**	*i* P	**P**	**03 00 44.5**	**+1.0**
ESO				*e*S

TYV	**Tymovskoe**	**8.77 283**	*e*PN	**P**	**03 01 15.0**	**-1.8**
TYV			*e*S	**S**	**03 03 00.0**	**+4.6**
TYV			pmax	pmax		
	comp=Z,320nm,1.0s					
TYV			pmax	pmax		
	comp=Z,2μm,2.0s					
TYV			smax			
	comp=N,1μm,6.0s					
TYV			smax			
	comp=E,2μm,5.0s					
TYV			MLR	MLR		
	comp=Z,11μm,20.0s					
TYV			MLR	MLR		
	comp=E,7μm,19.0s					
TYV	**Tymovskoe**	**8.77 283**	*e*P	**P**	**03 01 15.0**	**-1.8**
TYV			*e*P		03 01 16.0	
TYV			AMB	AMB	03 01 20.0	
	comp=E,900nm,2.0s					
TYV			AMB	AMB	03 01 20.0	
	comp=E,2μm,2.0s					
TYV			AMB	AMB	03 01 20.0	
	comp=E,2μm,2.0s					
TYV			AMB	AMB	03 01 20.0	
	comp=E,320nm,1.0s					
YUK	**Yuzh-Kuril'sk**	**9.11 235**⇑	*i*PN	**P**	**03 01 20.9**	**-0.5**
YUK			*e*S	**S**	**03 03 16.0**	**+12**
YUK			pmax	pmax		
	comp=E,370nm,0.5s					
YUK			pmax	pmax		
	comp=Z,920nm,0.5s					
YUK			pmax	pmax		
	comp=N,230nm,0.3s					
YUK			pmax	pmax		
	comp=Z,3μm,1.5s					
YUK			smax			
	comp=N,5μm,3.0s					
YUK			smax			
	comp=E,5μm,3.0s					
YUK			smax			
	comp=N,2μm,0.8s					
YUK			smax			
	comp=E,1μm,0.8s					
YUK			MLR	MLR		
	comp=N,8μm,16.0s					
YUK			MLR	MLR		
	comp=E,11μm,16.0s					
YUK			MLR	MLR		
	comp=Z,11μm,16.0s					
YUK	**Yuzh-Kuril'sk**	**9.11 235**	*i*P	**P**	**03 01 20.9**	**-0.5**
YUK			AMB	AMB	03 01 25.8	
	comp=Z,230nm,0.4s					
YUK			AMB	AMB	03 01 25.8	
	comp=Z,370nm,0.4s					
YUK			AMB	AMB	03 01 25.8	
	comp=Z,920nm,0.4s					
YUK			AMB	AMB	03 01 25.8	
	comp=Z,3μm,1.5s					
UGL	**Uglegorsk**	**9.27 271**⇑	*i*PN	**P**	**03 01 24.0**	**+0.4**
UGL			*e*S	**S**	**03 03 14.0**	**+6.4**
UGL			pmax	pmax		
	comp=Z,1μm,0.7s					
UGL			pmax	pmax		
	comp=N,480nm,0.6s					
UGL			pmax	pmax		
	comp=E,240nm,0.6s					
UGL			pmax	pmax		
	comp=Z,2μm,1.2s					
UGL			pmax	pmax		
	comp=N,900nm,1.0s					
UGL			pmax	pmax		
	comp=E,1μm,1.6s					
UGL			smax			
	comp=N,3μm,8.0s					
UGL			smax			
	comp=E,5μm,8.0s					
UGL			smax			
	comp=Z,4μm,7.0s					
UGL	**Uglegorsk**	**9.27 271**⇓	*i*P	**P**	**03 01 24.0**	**+0.4**
UGL			*i*P		03 01 24.9	
UGL			AMB	AMB	03 01 26.0	
	comp=Z,1μm,0.7s					
UGL			AMB	AMB	03 01 26.0	
	comp=Z,480nm,0.6s					
UGL			AMB	AMB	03 01 26.0	
	comp=Z,240nm,0.6s					
UGL			AMB	AMB	03 01 26.5	
	comp=Z,900nm,1.0s					
UGL			AMB	AMB	03 01 26.5	
	comp=Z,2μm,1.2s					
UGL			AMB	AMB	03 01 26.5	
	comp=Z,1μm,1.6s					
YSS	**Yuzh-Sakhalins**	**9.41 258***b*	*i*PN	**P**	**03 01 27.9**	**+2.4**
YSS			*e*S	**S**	**03 03 13.1**	**+2.2**
YSS			pmax	pmax		
	comp=N,190nm,1.0s					
YSS			pmax	pmax		
	comp=E,410nm,1.0s					
YSS			pmax	pmax		
	comp=Z,190nm,1.0s					
YSS			smax			
	comp=N,290nm,0.8s					
YSS			smax			
	comp=E,100nm,0.8s					
YSS			MLR	MLR		
	comp=N,2μm,19.0s					
YSS			MLR	MLR		
	comp=E,4μm,19.0s					
YSS			MLR	MLR		
	comp=Z,6μm,19.0s					
YSS	**Yuzh-Sakhalins**	**9.41 258**	*e*Pn	**P**	**03 01 28.3**	**+2.9**
YSS			*e*Sn	**S**	**03 03 11.4**	**+0.5**
YSS	**Yuzh-Sakhalins**	**9.41 258**⇓	*e*P	**P**	**03 01 27.9**	**+2.4**
YSS			*i*P		03 01 27.9	
NKL	**Nikolayevsk**	**10.30 295**⇓	*i*P	**P**	**03 01 36.0**	**-1.6**
NKL			AMB	AMB	03 01 38.0	
	comp=Z,1μm,4.0s					
NKL			AMB	AMB	03 01 38.0	
	comp=Z,110nm,1.0s					
NKL			AMB	AMB	03 01 38.0	
	comp=Z,270nm,1.0s					
NKL			AMB	AMB	03 01 38.0	
	comp=Z,460nm,1.0s					
NKL			A		03 03 48.0	
	comp=Z,1μm,8.0s					
NKL			AMS	AMS	03 06 04.0	
	comp=Z,2μm,17.0s					
NKL			AMS	AMS	03 06 04.0	
	comp=Z,4μm,17.0s					
NKL			AMS	AMS	03 06 04.0	
	comp=Z,6μm,17.0s					
MA2	**Magadan**	**10.35 344**	*e*PN	**P**	**03 01 37.9**	**-0.4**
MA2			pmax	pmax		
	comp=Z,210nm,0.7s					
MA2	**Magadan**	**10.35 344**	*e*P	**P**	**03 01 37.9**	**-0.3**
	comp=Z,207nm,0.6s					
ASAJ	**Asahikawa**	**10.89 244**	PN	**P**	**03 01 47.8**	**+2.1**
ASAJ			pmax	pmax		
	comp=Z,17nm,0.3s					
ASAJ			MLR	MLR		
	comp=Z,5μm,18.6s					
ASAJ	**Asahikawa**	**10.89 244**	P	**P**	**03 01 47.8**	**+2.1**
	comp=Z,17nm,0.3s,baz=79,slow=12,SNR=82					
ASAJ			LR	LR	03 05 34.4	
	comp=Z,5μm,18.6s,baz=57,slow=35					
FX1	**Attu Island--F**	**11.05 67**	P	**P**	**03 01 43.4**	**-4.3**
	comp=Z,20nm,0.3s,baz=356,slow=3.6,SNR=73					
FX1			S	**S**	**03 03 35.1**	**-16**
	comp=Z,47nm,0.3s,baz=88,slow=24,SNR=10					
FX1			LR	LR	03 05 37.8	
	comp=Z,167nm,21.9s,baz=245,slow=34					
SMY	**Shemya**	**11.58 68**	*e*PN	**P**	**03 01 50.7**	**-4.3**
SMY			pmax	pmax		
	comp=Z,510nm,0.7s					
GRNR	**Gornyy**	**12.73 282**	*e*P	**P**	**03 02 15.0**	**+4.7**
GRNR			AMB	AMB	03 02 16.4	
	comp=Z,100nm,1.2s					
GRNR			AMB	AMB	03 02 16.4	
	comp=Z,240nm,1.2s					
GRNR			AMB	AMB	03 02 16.4	
	comp=Z,990nm,1.2s					
KAMR	**Kamenskoye**	**13.88 20**	*i*P	**P**	**03 02 25.6**	**+0.4**
KAMR			*e*S	**S**	**03 04 49.7**	**-9.0**
KAMR			Smax			
	comp=Z,40nm,1.7s					
TEY	**Ternei**	**14.10 258**	*e*P	**P**	**03 02 28.0**	**-0.3**
TEY			AMB	AMB	03 02 29.0	
	comp=Z,280nm,1.4s					
EKMR	**Ekimchan**	**14.90 292**	*e*P	**P**	**03 02 39.2**	**+0.6**
EKMR			AMB	AMB	03 02 46.5	
	comp=Z,40nm,0.6s					
EKMR			AMB	AMB	03 02 46.5	
	comp=Z,80nm,0.6s					
EKMR			AMB	AMB	03 02 46.5	
	comp=Z,160nm,0.6s					
KLR	**Kul'dur**	**15.91 278**	*e*P	**P**	**03 02 51.5**	**-0.2**
KLR			*e*P		03 02 51.8	
KLR			AMB	AMB	03 02 54.2	
	comp=Z,50nm,2.2s					
KLR			AMB	AMB	03 02 54.2	
	comp=Z,100nm,2.2s					
KLR			AMS	AMS	03 10 00.0	
	comp=Z,4μm,15.0s					
KLR			AMS	AMS	03 10 00.0	
	comp=Z,6μm,15.0s					
BMKR	**Bomnak**	**17.45 297**	*i*P	**P**	**03 03 10.3**	**-0.7**
BMKR			AMB	AMB	03 03 14.3	
	comp=Z,50nm,0.7s					
BMKR			AMB	AMB	03 03 14.3	
	comp=Z,110nm,0.7s					
BMKR			AMB	AMB	03 03 14.3	
	comp=Z,150nm,0.7s					
YASR	**Yasnyy**	**17.89 292**	*e*P	**P**	**03 03 13.6**	**-2.9**
YASR			AMB	AMB	03 03 18.1	
	comp=Z,5.0nm,0.7s					
YASR			AMB	AMB	03 03 18.1	
	comp=Z,11nm,0.7s					
YASR			AMB	AMB	03 03 18.1	
	comp=Z,34nm,0.7s					
ZEA	**Zeya**	**18.33 294**	*e*P	**P**	**03 03 19.1**	**-2.8**
ZEA			AMB	AMB	03 03 22.2	
	comp=Z,42nm,1.0s					
ZEA			AMB	AMB	03 03 22.2	
	comp=Z,86nm,1.0s					
ZEA			AMB	AMB	03 03 22.2	
	comp=Z,92nm,1.0s					
ZEA			AMB	AMB	03 03 26.0	
	comp=Z,800nm,8.0s					
KROS	**Kirovskiy**	**18.52 296**	*e*P	**P**	**03 03 21.9**	**-2.2**
KROS			AMB	AMB	03 03 26.7	
	comp=Z,40nm,0.7s					
KROS			AMB	AMB	03 03 26.7	
	comp=Z,58nm,0.7s					
MAJO	**Matsushiro**	**18.57 232**	*e*P	**P**	**03 03 24.5**	**-0.4**
MAJO			pmax	pmax		
	comp=Z,140nm,0.8s					
MAJO	**Matsushiro**	**18.57 232**	*e*P	**P**	**03 03 24.5**	**-0.4**
	comp=Z,136nm,0.8s					
MAT	**Matsushiro**	**18.57 232**	*e*P	**P**	**03 03 24.0**	**-0.9**
MAT			*e*S	**S**	**03 06 53.0**	**+6.1**
MAT			pmax	pmax		
	comp=Z,55nm,1.0s					
MAT	**Matsushiro**	**18.57 232**	*e*P	**P**	**03 03 24.0**	**-0.9**
	comp=Z,55nm,1.0s					
MAT			*e*S	**S**	**03 06 53.0**	**+6.1**
MAT	**Matsushiro**	**18.57 232**	P	**P**	**03 03 23.9**	**-1.0**
MAT			S	**S**	**03 06 53.0**	**+6.1**
MAT	**Matsushiro**	**18.57 232**	P	**P**	**03 03 30.9**	**+6.0**
MDJ	**Mudanjiang**	**18.78 264**	P	**P**	**03 03 26.4**	**-0.9**
MDJ			AP		03 03 37.9	
MDJ			XP		03 03 46.4	
MDJ			S	**S**	**03 06 53.3**	**+1.8**
MDJ			PCP	PcP	03 07 50.3	-2.8
MDJ			AMB	AMB		
	comp=Z,66nm,1.2s					
MDJ			AMB	AMB		
	comp=Z,454nm,4.4s					
MDJ			LR	LR		
	comp=N,3μm,20.8s					
MDJ			LR	LR		
	comp=E,4μm,19.4s					
MDJ			LR	LR		
	comp=Z,4μm,20.5s					
MDJ	**Mudanjiang**	**18.78 264**	*e*P	**P**	**03 03 26.2**	**-1.1**
	comp=Z,141nm,1.0s					
BILL	**Biiibino**	**19.02 12**	*e*P	**P**	**03 03 27.1**	**-2.9**
BILL			pmax	pmax		
	comp=Z,170nm,1.0s					
BILL	**Biiibino**	**19.02 12**	*e*P	**P**	**03 03 27.1**	**-2.8**
	comp=Z,174nm,1.0s					
YAK	**Yakutsk**	**19.15 320***c*	*i*P	**P**	**03 03 29.0**	**-2.4**
YAK			*e*S	**S**	**03 07 03.5**	**+3.9**
YAK			pmax	pmax		
	comp=Z,150nm,1.0s					
YAK			pmax	pmax		
	comp=N,33nm,1.2s					
YAK			pmax	pmax		
	comp=E,90nm,1.1s					
YAK			pmax	pmax		
	comp=E,71nm,1.1s					
YAK			pmax	pmax		
	comp=Z,110nm,1.1s					
YAK			pmax	pmax		
	comp=N,11nm,0.9s					
YAK			smax			
	comp=N,36nm,1.0s					
YAK			smax			
	comp=Z,12nm,0.9s					
YAK			smax			
	comp=E,24nm,1.1s					
YAK			MLR	MLR		
	comp=Z,3μm,22.0s					
YAK			MLR	MLR		
	comp=N,1μm,16.0s					
YAK			MLR	MLR		
	comp=E,2μm,23.0s					
YAK	**Yakutsk**	**19.15 320**	*e*P	**P**	**03 03 29.7**	**-1.7**
	comp=E,531nm,1.1s					
CLNS	**Chul'man**	**19.91 303**	*e*P	**P**	**03 03 40.1**	**+0.4**
CLNS			*e*S	**S**	**03 07 17.5**	**+1.5**
CLNS			pmax	pmax		
	comp=E,111nm,1.0s					
CLNS			pmax	pmax		
	comp=Z,180nm,1.0s					
CLNS			pmax	pmax		
	comp=N,70nm,0.9s					
CLNS			pmax	pmax		
	comp=Z,405nm,1.5s					
CLNS			pmax	pmax		
	comp=N,234nm,1.1s					
CLNS			pmax	pmax		
	comp=E,90nm,0.8s					
CLNS			smax			
	comp=N,160nm,1.4s					
CLNS			smax			
	comp=E,80nm,1.2s					
CLNS			smax			
	comp=Z,20nm,1.2s					
CLNS			MLR	MLR		
	comp=Z,8μm,21.0s					
CLNS			MLR	MLR		
	comp=N,6μm,29.0s					
CLNS			MLR	MLR		
	comp=E,900nm,20.0s					
HIA	**Hailar**	**23.57 283**	*e*P	**P**	**03 04 16.0**	**-0.3**
HIA			*e*		03 04 30.0	
HIA			pmax	pmax		
	comp=Z,150nm,1.1s					
HIA	**Hailar**	**23.57 283**	*e*P	**P**	**03 04 16.0**	**-0.2**
	comp=Z,146nm,1.2s,mb5.3					
HIA			*e*		03 04 30.0	
SNY	**Shenyang**	**23.97 263**	⇓P	**P**	**03 04 22.4**	**+2.2**
SNY			S	**S**	**03 08 24.4**	**-6.2**
SNY			AMB	AMB		
	comp=Z,10.0nm,1.6s					
SNY			LR	LR		
	comp=N,3μm,19.0s					
SNY			LR	LR		
	comp=Z,3μm,20.2s					
TNA	**Tin City**	**24.38 36**	*e*P	**P**	**03 04 24.6**	**+0.5**
	comp=Z,228nm,1.3s,mb5.4					
TNA			*e*		03 04 36.4	
TNA			*e*		03 05 31.5	
INCN	**Inchon**	**24.52 251**	P	**P**	**03 04 27.0**	**+1.3**
	comp=Z,154nm,0.9s,mb5.5					
INCN			*e*		03 04 51.8	
CBIJ	**Chichi jima**	**25.07 211**	LR	LR	03 13 24.1	
	comp=Z,549nm,19.9s,MS4.1,baz=149,slow=34					
TIXI	**Tiksi**	**25.27 340**⇑	*i*P	**P**	**03 04 30.4**	**-2.2**
TIXI			*e*S	**S**	**03 08 45.2**	**-7.1**
TIXI			pmax	pmax		
	comp=Z,182nm,1.1s,mb5.5					
TIXI			MLR	MLR		
	comp=Z,2μm,17.0s,MS4.6					
TIXI	**Tiksi**	**25.27 340**⇑	*i*P	**P**	**03 04 30.9**	**-1.7**
BOD	**Bodaibo**	**25.86 304**	*e*P	**P**	**03 04 36.9**	**-1.2**
BOD			*e*	pP	03 04 50.4	-0.2
BJT	**Baijiatuau**	**29.70 266**	P	**P**	**03 05 11.6**	**-1.5**
BJT			pmax	pmax		
	comp=Z,22nm,1.1s					
BJT	**Baijiatuau**	**29.70 266**	P	**P**	**03 05 11.6**	**-1.4**
	comp=Z,22nm,1.2s,mb4.8					
IMA	**Indian Mountai**	**30.16 39**	*e*P	**P**	**03 05 16.1**	**-0.8**
IMA			*e*		03 08 16.4	
IMA			pmax	pmax		
	comp=Z,170nm,0.8s,mb5.8					
IMA	**Indian Mountai**	**30.16 39**	*e*P	**P**	**03 05 16.1**	**-0.8**
	comp=Z,170nm,0.8s,mb5.8					
IMA			*e*PcP	PcP	03 08 16.4	-0.9
RSO	**Redoubt South**	**30.31 50**	*e*P	**P**	**03 05 18.9**	**+0.6**
RSO			*e*	pP	03 05 34.9	+3.8
SPU	**Mount Spurr**	**30.63 48**	*e*P	**P**	**03 05 20.4**	**-0.7**
SPU			*e*	pP	03 05 34.7	+0.8
JOW	**Kunigami**	**31.39 234**	P	**P**	**03 05 27.6**	**-0.6**
	comp=Z,43nm,0.6s,mb5.5,baz=54,slow=8.2,SNR=6.4					
JOW			LR	LR	03 19 29.1	
	comp=Z,600nm,20.2s,MS4.3,baz=63,slow=39					
ULN	**Ulaanbaatar**	**31.99 286**	*e*P	**P**	**03 05 31.5**	**-1.8**
	comp=Z,3.4nm,0.6s,mb4.3					
ULN			LR	LR		
	comp=Z,4μm,19.0s,MS5.1					
MCK	**McKinley**	**32.03 43**	*e*P	**P**	**03 05 32.2**	**-1.2**
	comp=Z,18nm,0.8s,mb4.9					
MCK			LR	LR		
	comp=Z,642nm,20.0s,MS4.3					
SSE	**Sheshan**	**32.15 248**	P	**P**	**03 05 32.8**	**-2.0**
SSE			S	**S**	**03 10 46.8**	**+4.0**
SSE			AMB	AMB		
	comp=Z,42nm,0.7s,mb5.4					
SSE			AMB	AMB		
	comp=Z,246nm,7.9s					
SSE			LR	LR		
	comp=N,435nm,21.6s,MS4.3					
SSE			LR	LR		
	comp=E,548nm,21.7s,MS4.3					
SSE			LR	LR		
	comp=Z,861nm,20.0s,MS4.4					
SML	**Sawmill**	**32.38 47**	*e*P	**P**	**03 05 35.9**	**-0.6**
SONM	**Songino Array**	**32.42 286**	P	**P**	**03 05 35.4**	**-1.5**
	comp=Z,1.2nm,0.4s,baz=77,slow=7.8,SNR=8.9					
SONM			PcP	PcP	03 08 22.0	-1.5
	comp=Z,5.3nm,0.8s,baz=75,slow=3.4,SNR=7.2					
COLA	**College**	**32.50 41**	*e*P	**P**	**03 05 36.8**	**-0.7**
COLA			pmax	pmax		
	comp=Z,73nm,1.0s,mb5.5					
COLA	**College**	**32.50 41**	*e*P	**P**	**03 05 36.8**	**-0.7**
	comp=Z,73nm,1.1s,mb5.4					
TLY	**Talaya**	**32.77 294**	P	**P**	**03 05 39.5**	**-0.5**
	comp=Z,92nm,1.2s,mb5.6,SNR=10					
TLY	**Talaya**	**32.77 294**	*e*P	**P**	**03 05 39.2**	**-0.8**
TLY			*e*		03 07 06.8	
TLY			pmax	pmax		
	comp=Z,41nm,1.1s,mb5.3					
TLY			MLR	MLR		
	comp=Z,2μm,18.0s,MS4.9					
TLY	**Talaya**	**32.77 294**	*e*P	**P**	**03 05 39.3**	**-0.7**
	comp=Z,3.4nm,1.0s					
TLY			*e*	pP	03 05 54.1	+1.2
NJ2	**Nanjing**	**32.90 252**	*e*P	**P**	**03 05 42.9**	**+1.6**
NJ2			AP	pP	03 05 53.0	-1.2
NJ2			XP	sP	03 05 56.8	-3.6
NJ2			PP	PP	03 06 53.6	+1.2
NJ2			S	**S**	**03 10 56.0**	**+1.5**
NJ2			XS		03 11 15.0	
NJ2			AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3					
NJ2			LR	LR		
	comp=N,2μm,19.4s,MS5.2					
NJ2			LR	LR		
	comp=E,4μm,17.6s,MS5.2					
NJ2			LR	LR		
	comp=Z,3μm,19.5s,MS5.1					
ILAR	**Eielson Array**	**32.91 41**	P	**P**	**03 05 39.0**	**-2.1**
ILAR			pmax	pmax		
	comp=Z,15nm,0.7s					
ILAR			MLR	MLR		
	comp=Z,917nm,20.1s					
ILAR	**Eielson Array**	**32.91 41**	P	**P**	**03 05 39.0**	**-2.1**
	comp=Z,15nm,0.7s,mb5.0,baz=255,slow=6.3,SNR=101					
ILAR			LR	LR	03 20 22.2	
	comp=Z,917nm,20.1s,MS4.5,baz=282,slow=39					
ZAK	**Zakamensk**	**33.41 292**⇑	*i*P	**P**	**03 05 45.1**	**-0.4**
ZAK			*e*	pP	03 06 00.1	+1.7
ZAK			*e*		03 08 26.0	
THY	**Trims Highway**	**33.46 44**	*e*P	**P**	**03 05 45.6**	**-0.3**
DIV	**Divide**	**33.67 48**	*e*P	**P**	**03 05 46.9**	**-0.7**
	comp=Z,131nm,0.8s,mb5.9					
MOY	**Mondy**	**34.34 295**	*e*P	**P**	**03 05 53.4**	**-0.1**
DAWY	**Dawson**	**36.21 42**	*e*P	**P**	**03 06 08.6**	**-0.7**
DAWY			*e*PcP	PcP	03 08 33.0	-1.1
WHN	**Wuhan**	**36.73 254**	*e*P	**P**	**03 06 13.5**	**-0.5**
WHN			S	**S**	**03 12 01.0**	**+7.3**
WHN			LR	LR		
	comp=Z,2μm,16.4s,MS4.9					
GUMO	**Guam**	**37.24 198**	P	**P**	**03 06 16.1**	**-2.3**
GUMO			pmax	pmax		
	comp=Z,403nm,1.3s,mb6.1					
GUMO	**Guam**	**37.24 198**	P	**P**	**03 06 16.1**	**-2.3**
	comp=Z,403nm,1.3s,mb6.1					
XAN	**Xi'an**	**37.89 264**	P	**P**	**03 06 22.9**	**-0.8**
XAN			AP	pP	03 06 31.8	-5.0
XAN			PP	PP	03 07 48.3	-5.6
XAN			S	**S**	**03 12 04.8**	**-6.5**
XAN			AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.3					
XAN			LR	LR		
	comp=N,905nm,20.6s,MS4.8					
XAN			LR	LR		
	comp=E,1μm,19.7s,MS4.8					
XAN			LR	LR		
	comp=Z,2μm,22.4s,MS4.9					
INK	**Inuvik**	**38.00 35**	P	**P**	**03 06 24.1**	**-0.2**
INK			pmax	pmax		
	comp=Z,54nm,0.7s					
INK			MLR	MLR		
	comp=Z,1μm,21.7s					
INK	**Inuvik**	**38.00 35**	P	**P**	**03 06 24.1**	**-0.2**
	comp=Z,54nm,0.7s,mb5.4,baz=285,slow=7.5,SNR=212					
INK			LR	LR	03 22 48.8	
	comp=Z,1μm,21.6s,MS4.6,baz=273,slow=37					
INK	**Inuvik**	**38.00 35**	*e*P	**P**	**03 06 24.5**	**+0.2**
	comp=Z,68nm,0.7s,mb5.5					
LZH	**Lanzhou**	**39.92 270**	⇑P	**P**	**03 06 40.3**	**-0.3**
LZH			AP	pP	03 06 53.5	-0.2
LZH			XP	sP	03 07 03.3	+3.7
LZH			PP	PP	03 08 16.5	-0.1
LZH			*e*S	**S**	**03 12 40.8**	**-1.2**
LZH			XS		03 13 06.4	
LZH			SS	SS	03 15 31.6	-2.4
LZH			AMB	AMB		
	comp=Z,73nm,1.3s,mb5.2					
LZH			AMB	AMB		
	comp=Z,496nm,6.2s					
LZH			LR	LR		
	comp=N,2μm,13.4s					
LZH			LR	LR		
	comp=Z,4μm,17.3s,MS5.3					
ENH	**Enshi**	**39.99 259**	*e*P	**P**	**03 06 37.5**	**-3.6**
	comp=Z,17nm,1.0s,mb4.7					
ENH			*e*PcP	PcP	03 08 45.9	-0.4
ENH			LR	LR		
	comp=Z,499nm,22.0s,MS4.3					
DLBC	**Dease Lake**	**42.03 49**	P	**P**	**03 06 59.0**	**+1.4**
	comp=Z,19nm,0.9s,mb4.8,baz=294,slow=8.0,SNR=32					
DLBC			LR	LR	03 24 22.4	
	comp=Z,442nm,19.9s,MS4.3,baz=300,slow=36					
DLBC	**Dease Lake**	**42.03 49**	*e*P	**P**	**03 06 59.3**	**+1.8**
DLBC			*e*	pP	03 07 11.1	+0.4
NVS	**Novosibirsk**	**43.08 306**	*i*P	**P**	**03 07 04.5**	**-1.7**
NVS			*i*		03 08 54.6	
NVS			*i*S	**S**	**03 13 30.2**	**+2.0**
NVS			*e*SS	SS	03 16 42.7	+7.7
NVS			pmax	pmax		
	comp=N,42nm,1.6s					
NVS			pmax	pmax		
	comp=Z,104nm,1.6s,mb5.3					
NVS			pmax	pmax		
	comp=E,75nm,1.5s					
NVS			smax			

comp=N,17nm,1.4s
NVS smax
comp=E,23nm,1.4s
TGY Tagaytay City 45.74 232 P **P 03 07 29.2 +1.1**
TGY pmax pmax
comp=Z,113nm,0.3s
TGY Tagaytay City 45.74 232 P **P 03 07 29.2 +1.2**
comp=Z,113nm,0.3s,mb6.2,baz=322,slow=13,SNR=6.4
WMQ Urumqi 45.83 290 P **P 03 07 28.3 -0.1**
WMQ AP pP 03 07 43.8 +2.1
WMQ XP sP 03 07 50.9 +3.4
WMQ S **S 03 14 06.9 -1.2**
WMQ XS 03 14 33.4
WMQ AMB AMB
comp=Z,28nm,1.6s,mb4.9
WMQ AMB AMB
comp=Z,158nm,5.5s
WMQ LR LR
comp=N,3μm,20.5s,MS5.3
WMQ LR LR
comp=E,2μm,21.6s,MS5.3
WMQ LR LR
comp=Z,3μm,21.6s,MS5.2
YKW3 Yellowknife Ar 47.24 39 *e*P **P 03 07 39.2 -0.1**
YKA Yellowknife Ar 47.28 39 P **P 03 07 39.8 +0.2**
YKA 03 09 08.2
YKA pmax pmax
comp=Z,47nm,0.7s
YKA MLR MLR
comp=Z,506nm,18.1s
YKA Yellowknife Ar 47.28 39 P **P 03 07 39.8 +0.2**
comp=Z,47nm,0.7s,mb5.5,baz=298,slow=7.7,SNR=482
YKA PcP PcP 03 09 08.2 -2.2
comp=Z,3.1nm,0.8s,baz=311,slow=3.0,SNR=5.9
YKA LR LR 03 31 00.4
comp=Z,506nm,18.1s,MS4.5,baz=280,slow=40
YKA Yellowknife Ar 47.28 39 P **P 03 07 39.8 +0.2**
YKA PcP PcP 03 09 08.2 -2.2
YKA LR LR 03 31 00.4
RES Resolute Bay 47.32 20 *e*P **P 03 07 39.0 -0.8**
RES pmax pmax
comp=Z,41nm,0.9s,mb5.4
RES Resolute Bay 47.32 20 *e*P **P 03 07 39.0 -0.8**
comp=Z,41nm,0.9s,mb5.3
MKAR Makanchi Array 47.46 296 *i* P **P 03 07 40.2 -1.0**
MKAR pmax pmax
comp=Z,134nm,1.4s
KURK Kurchatov 47.48 303 *e*P **P 03 07 39.9 -1.5**
comp=Z,89nm,0.7s,mb5.8
KURK *e*PcP PcP 03 09 10.8 -0.5
KURK LR LR
comp=Z,266nm,20.0s,MS4.2
QIZ Qiongzhong 47.94 247 P **P 03 07 46.4 +1.0**
QIZ AP pP 03 08 00.8 +2.2
QIZ PP PP 03 09 38.6 +1.7
QIZ S **S 03 14 40.5 +2.2**
QIZ SS SS 03 18 03.4 +1.3
QIZ AMB AMB
comp=Z,37nm,1.4s,mb5.2
QIZ AMB AMB
comp=Z,271nm,5.9s
QIZ LR LR
comp=N,698nm,21.3s,MS4.7
QIZ LR LR
comp=E,455nm,20.3s,MS4.7
QIZ LR LR
comp=Z,910nm,19.0s,MS4.8
QIZ Qiongzhong 47.94 247 *e*P **P 03 07 46.5 +1.1**
comp=Z,62nm,1.2s,mb5.5
CHKZ Chkalovo 50.13 309 *e*P **P 03 07 59.2 -2.5**
CHKZ *e* 03 09 19.5
CHKZ pmax pmax
comp=Z,59nm,0.6s,mb5.8
CHKZ Chkalovo 50.13 309 *e*P **P 03 07 59.2 -2.5**
comp=Z,59nm,0.6s,mb5.8
CHKZ *e*PcP PcP 03 09 19.5 -1.4
BVA0 Borovoye Array 50.60 309 P **P 03 08 03.5 -1.8**
BVAR Borovoye Array 50.60 309 P **P 03 08 02.8 -2.5**
comp=Z,20nm,0.7s,mb5.2,baz=59,slow=8.6,SNR=90
BVAR PcP PcP 03 09 21.4 -1.2
comp=Z,18nm,0.7s,baz=63,slow=3.3,SNR=11
BVAR S **S 03 15 11.9 -3.0**
comp=Z,0.8nm,0.7s,baz=63,slow=16,SNR=3.5
BRVK Borovoye 50.63 309 *e*P **P 03 08 03.9 -1.7**
BRVK pmax pmax
comp=Z,48nm,0.9s,mb5.4
BRVK Borovoye 50.63 309 *e*P **P 03 08 03.9 -1.6**
comp=Z,48nm,0.9s,mb5.4
LSA Lhasa 52.20 273 *e*P **P 03 08 17.7 0.0**
LSA pmax pmax
comp=Z,21nm,1.2s,mb4.9
LSA Lhasa 52.20 273 *e*P **P 03 08 17.7 0.0**
comp=Z,21nm,1.2s,mb5.0
EDM Edmonton 52.75 49 *e*P **P 03 08 20.9 -0.6**
EDM *e* pP 03 08 34.2 -0.8
SVE Sverdlovsk 53.07 317 *e*P **P 03 08 21.4 -2.5**
SVE *e* 03 09 31.0
SVE pmax pmax
comp=Z,100nm,2.0s,mb5.4
SVE MLR MLR
comp=Z,2μm,15.5s,MS5.3
CHRT Chiangrai 53.52 257 ⇑P **P 03 08 28.0 +0.3**
comp=Z,205nm,1.2s,mb5.9
TKM2 Tokmak 2 53.57 296 P **P 03 08 27.1 -0.7**
SNR=11
ULHL Ulahol 53.60 295 P **P 03 08 27.9 -0.1**
SNR=7.6
DAG Danmarks Havn 53.72 359⇓*e*P **P 03 08 24.5 -3.9**
DAG pmax pmax
comp=Z,65nm,1.3s,mb5.4
DAG Danmarks Havn 53.72 359⇓*e*P **P 03 08 24.5 -3.9**
comp=Z,65nm,1.3s,mb5.4
DAG Danmarks Havn 53.72 359⇓*i*P **P 03 08 24.5 -3.9**
comp=Z,65nm,1.3s,mb5.4
NEW Newport 53.73 56 *e*P **P 03 08 27.7 -1.1**
NEW *e* 03 09 33.8
NEW pmax pmax
comp=Z,31nm,1.2s
NEW Newport 53.73 56 *e*P **P 03 08 27.7 -1.1**
comp=Z,30nm,1.3s,mb5.1
NEW *e*PcP PcP 03 09 33.8 -0.5
HUMO Hull Mountain 53.85 64 *e*P **P 03 08 30.4 +0.5**
comp=Z,14nm,1.1s,mb4.8
HUMO *e*PcP PcP 03 09 35.0 +0.1
USP Ospenovka 54.00 297 P **P 03 08 30.7 -0.2**
SNR=23
CHMS Chumysh 54.02 296 P **P 03 08 30.6 -0.4**
SNR=13
KBK Karagaybulak 54.11 296 P **P 03 08 31.6 -0.1**
SNR=9.7
FRU Bishkek 54.20 296 *e*P **P 03 08 30.0 -2.3**
FRU pmax pmax
comp=Z,60nm,1.6s,mb5.3
ARU Arti 54.23 317⇓*i*P **P 03 08 25.3 -7.1**
ARU *i* 03 09 30.9
ARU *e*S **S 03 15 55.7 -8.7**
ARU pmax pmax
comp=Z,41nm,0.9s,mb5.4
ARU MLR MLR
comp=N,1μm,19.0s,MS5.0
ARU MLR MLR
comp=E,700nm,20.0s,MS5.0
ARU MLR MLR
comp=Z,2μm,20.0s,MS5.0
ARU Arti 54.23 317 *e*P **P 03 08 25.6 -6.8**
comp=Z,40nm,0.8s,mb5.4
KKTK Khon Kaen 54.27 252 P **P 03 08 34.0 +0.8**
comp=Z,988nm,0.5s
KZA Kyzart 54.29 295 P **P 03 08 33.5 +0.5**
SNR=8.4
AAK Ala-Archa 54.39 296 P **P 03 08 32.8 -0.9**
SNR=18
AAK Ala-Archa 54.39 296*c i*P **P 03 08 31.8 -2.0**
AAK pmax pmax
comp=Z,24nm,0.9s,mb5.1
AAK MLR MLR
comp=Z,3μm,15.0s,MS5.4
AAK Ala-Archa 54.39 296 *e*P **P 03 08 31.5 -2.2**
comp=Z,15nm,0.6s,mb5.1
AAK *e*PcP PcP 03 09 35.9 -1.1
YBH Yreka Blue Hor 54.53 65 P **P 03 08 36.0 +1.2**
YBH pmax pmax
comp=Z,10.0nm,0.9s
YBH Yreka Blue Hor 54.53 65 P **P 03 08 36.0 +1.2**
comp=Z,9.9nm,0.9s,mb4.9,baz=320,slow=1.7,SNR=24
SHL Shillong 54.54 269 *e*P **P 03 08 33.7 -1.4**
EKS2 Erkin-Say 54.79 296 P **P 03 08 35.8 -0.9**
SNR=19
CHG Chiang Mai 54.84 257 ⇑P **P 03 08 38.2 +0.9**
comp=Z,118nm,1.2s,mb5.8
CMAR Chiang Mai Arr 55.10 257 P **P 03 08 39.7 +0.5**
CMAR pmax pmax
comp=Z,81nm,1.1s
CMAR MLR MLR
comp=Z,876nm,18.1s
CMAR Chiang Mai Arr 55.10 257 P **P 03 08 39.7 +0.5**
comp=Z,81nm,1.1s,mb5.7,baz=28,slow=7.5,SNR=167
CMAR LR LR 03 35 18.2
comp=Z,876nm,18.1s,MS4.9,baz=55,slow=39
AML Almayashu 55.17 296 P **P 03 08 39.8 +0.4**
SNR=5.4
KEV Kevo 55.21 341 *e*p **P 03 08 35.6 -3.8**
comp=Z,1.0nm,0.3s,mb4.3
KEV Kevo 55.21 341 *e*P **P 03 08 35.6 -3.8**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
WDC Whiskeytown Da 55.35 66 *e*P **P 03 08 40.5 -0.3**
WDC pmax pmax
comp=Z,11nm,0.9s,mb4.9
WDC Whiskeytown Da 55.35 66 *e*P **P 03 08 40.5 -0.2**
comp=Z,11nm,0.9s,mb4.9
APA Apatity 55.41 337⇑*e*P **P 03 08 36.2 -4.6**
APA MLR MLR
comp=Z,2μm,19.0s,MS5.2
BMO Blue Mountains 55.70 59 *e*P **P 03 08 42.4 -0.8**
comp=Z,13nm,1.2s,mb4.8
ARCES ARCESS Array B 55.71 341 P **P 03 08 39.9 -3.0**
comp=Z,7.3nm,0.5s,mb4.9,baz=40,slow=7.6,SNR=36
ARCES PcP PcP 03 09 40.2 -1.4
comp=Z,7.4nm,0.7s,baz=27,slow=2.7,SNR=6.6
ARCES LR LR 03 38 36.5
comp=Z,1μm,18.4s,MS5.0,baz=30,slow=43
MOD Modoc 55.84 64 *e*P **P 03 08 44.4 +0.2**
comp=Z,19nm,0.7s,mb5.2
MOD *e* 03 08 52.9
MOD *e* pP 03 08 58.6 +0.7
MOD *e* 03 09 15.2
MSO Missoula 56.31 56 *e*P **P 03 08 46.9 -0.7**
comp=Z,32nm,1.3s,mb5.2
KTK1 Kautokeino 56.60 342⇓*i*P **P 03 08 47.5 -1.9**
comp=Z,38nm,1.0s,mb5.4
KTK1 Kautokeino 56.60 342⇓*i*P **P 03 08 47.5 -1.9**
KTK1 AMb AMB 03 08 49.4
comp=Z,38nm,1.0s,mb5.4
OHCM Honcut 56.77 67 *e*P **P 03 08 49.5 -1.4**
OHCM *e* pP 03 09 03.7 -0.9
JIRN Jiri 56.79 275 *e*P **P 03 08 50.9 -0.4**
comp=Z,46nm,0.8s,mb5.6
TRO Tromso 56.92 344 *e*P **P 03 08 47.6 -4.0**
TRO AMb AMB 03 08 49.6
comp=Z,58nm,1.3s,mb5.4
FFC Flin Flon 57.11 43 P **P 03 08 52.1 -1.1**
comp=Z,328nm,0.9s,mb6.4,SNR=53
FFC Flin Flon 57.11 43 *e*P **P 03 08 52.5 -0.7**
FFC pmax pmax
comp=Z,54nm,0.9s,mb5.6
FFC Flin Flon 57.11 43 *e*P **P 03 08 52.5 -0.7**
comp=Z,54nm,0.9s,mb5.6
KKN Kakani 57.29 276 *e*P **P 03 08 54.9 +0.1**
comp=Z,59nm,0.4s,mb5.9
PKI Pulchoki 57.36 275 *e*P **P 03 08 55.0 -0.3**
comp=Z,50nm,0.9s,mb5.6
DMN Daman 57.53 275 *e*P **P 03 08 56.2 -0.3**
comp=Z,86nm,0.9s,mb5.8
SUMG Summit 57.55 5 *e*P **P 03 08 55.0 -1.1**
comp=Z,180nm,1.1s,mb6.0
GKN Gorkha 57.56 276 *e*P **P 03 08 56.2 -0.5**
comp=Z,77nm,0.5s,mb6.0
FCC Fort Churchill 57.61 36 *e*P **P 03 08 55.5 -1.2**
comp=Z,69nm,0.8s,mb5.7
FCC *e* pP 03 09 08.4 -1.9
HLID Hailey 58.13 59 *e*P **P 03 09 00.6 +0.1**
comp=Z,26nm,1.3s,mb5.1
HLID *e*PcP PcP 03 09 52.0 +0.5
CMB Columbia Colle 58.26 67 *e*P **P 03 09 00.7 -0.8**
CMB *e* pP 03 09 14.2 -0.9
CMB pmax pmax
comp=Z,20nm,1.2s,mb5.0
CMB Columbia Colle 58.26 67 *e*P **P 03 09 00.7 -0.8**
comp=Z,20nm,1.2s,mb5.0
CMB *e* pP 03 09 14.2 -0.9
BOZ Bozeman (W) 58.30 55 *e*P **P 03 08 59.4 -2.2**
BOZ pmax pmax
comp=Z,47nm,1.2s,mb5.4
BOZ Bozeman (W) 58.30 55 *e*P **P 03 08 59.4 -2.3**
comp=Z,47nm,1.2s,mb5.4
KOLN Koldanda 58.39 277 *e*P **P 03 09 02.0 -0.5**
comp=Z,198nm,1.2s,mb6.0
BMN Battle Mountai 58.56 63 *e*P **P 03 09 03.9 +0.4**
BMN pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
BMN Battle Mountai 58.56 63 *e*P **P 03 09 03.9 +0.4**
comp=Z,9.4nm,0.7s,mb4.9
QLMT Earthquake Lak 58.94 56 *e*P **P 03 09 06.1 0.0**
QLMT *e* 03 09 12.4
LOF Lofoten 59.19 345 *e*P **P 03 09 07.4 -0.1**
comp=Z,148nm,1.6s,mb5.8
LOF Lofoten 59.19 345 *e*P **P 03 09 07.4 -0.1**
LOF AMb AMB 03 09 09.5
comp=Z,148nm,1.6s,mb5.8
NVAR Mina Array Bea 59.24 66 P **P 03 09 08.2 0.0**
comp=Z,6.1nm,0.8s,mb4.7,baz=302,slow=5.6,SNR=39
NVAR LR LR 03 30 36.8
comp=Z,379nm,18.5s,MS4.5,baz=285,slow=32
YMR Madison River 59.30 56 *e*P **P 03 09 08.8 +0.3**
YMR *e* pP 03 09 24.2 +2.0
MNV Mina 59.33 66 *e*P **P 03 09 08.3 -0.6**
MNV *e* pP 03 09 22.6 +0.1
MNV pmax pmax
comp=Z,13nm,1.0s,mb4.9
MNV Mina 59.33 66 *e*P **P 03 09 08.3 -0.5**
comp=Z,13nm,1.0s,mb4.9
MNV *e* pP 03 09 22.6 +0.1
PMG Port Moresby 59.43 190 P **P 03 09 10.1 +0.2**
comp=Z,18nm,0.9s,mb5.1,baz=226,slow=23,SNR=3.7
PMG LR LR 03 32 46.0
comp=Z,336nm,18.2s,MS4.5,baz=6.3,slow=34
PMG Port Moresby 59.43 190 *e*P **P 03 09 09.7 -0.2**
comp=Z,31nm,1.0s,mb5.3
PMG LR LR
comp=Z,548nm,19.0s,MS4.7
JOF Joensuu 59.57 334 *e*p **P 03 09 07.2 -2.9**
comp=Z,1.1nm,0.3s,mb4.4
JOF Joensuu 59.57 334 *e*P **P 03 09 07.2 -2.9**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
LKWY Lake 59.67 56 *e*P **P 03 09 12.7 +1.6**
LKWY *e* pP 03 09 27.0 +2.2
LKWY pmax pmax
comp=Z,74nm,1.3s,mb5.6
LKWY Lake 59.67 56 *e*P **P 03 09 12.7 +1.6**
comp=Z,74nm,1.3s,mb5.6
LKWY *e* pP 03 09 27.0 +2.2
SCO Scoresbysund 60.08 359 *i* P **P 03 09 13.1 -0.5**
comp=Z,21nm,1.0s,mb5.1
TPH Tonopah 60.11 65 *e*P **P 03 09 14.2 -0.1**
TPH *e* pP 03 09 28.3 +0.3
TPH pmax pmax
comp=Z,14nm,0.9s,mb5.0
TPH Tonopah 60.11 65 *e*P **P 03 09 14.2 -0.1**
comp=Z,14nm,0.9s,mb5.0
TPH *e* pP 03 09 28.3 +0.3
DGMT Dagmar 60.25 49 *e*P **P 03 09 14.5 -0.6**
comp=Z,73nm,1.0s,mb5.7
DGMT *e* pP 03 09 29.9 +1.2
LAO LASA Array 60.44 52 *e*P **P 03 09 16.4 0.0**
comp=Z,62nm,0.8s,mb5.7
AHID Auburn Hatcher 60.48 58 *e*P **P 03 09 16.4 -0.4**
comp=Z,23nm,1.0s,mb5.2
SPUT South Promonto 60.71 60 *e*P **P 03 09 18.2 0.0**
SPUT *e* pP 03 09 29.4 -2.6
MOR8 Moi Rana 60.78 343 *e*P **P 03 09 14.9 -3.5**
MOR8 AMb AMB 03 09 24.2
comp=Z,30nm,1.9s,mb5.1
BW06 Boulder Array 61.32 57 *e*P **P 03 09 22.1 -0.3**
comp=Z,42nm,1.3s,mb5.4
PDAR Pinedale Array 61.32 57 P **P 03 09 22.4 0.0**
comp=Z,12nm,0.9s,mb5.0,baz=306,slow=2.4,SNR=70
PDAR LR LR 03 35 16.8
comp=Z,337nm,21.0s,MS4.5,baz=344,slow=35
FRB Frobisher Bay 61.52 21 P **P 03 09 21.7 -1.8**
FRB pmax pmax
comp=Z,44nm,0.7s
FRB Frobisher Bay 61.52 21 P **P 03 09 21.7 -1.8**
comp=Z,44nm,0.7s,mb5.7,baz=332,slow=7.2,SNR=126
KAF Kangasniemi 61.59 336 *e*p **P 03 09 21.9 -2.0**
comp=Z,0.8nm,0.4s,baz=34,slow=6.4
KAF Kangasniemi 61.59 336 *e*P **P 03 09 21.9 -2.0**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
JLU Jordanelle 61.74 60 *e*P **P 03 09 25.4 +0.1**
NLU North Lily Min 61.83 61 *e*P **P 03 09 25.9 0.0**
NDI New Delhi 61.85 282 *e*P **P 03 09 23.0 -3.1**
NDI *e*P 03 09 24.5
DAU Daniels Canyon 61.98 60 *e*P **P 03 09 26.5 -0.3**
FINES FINESS Array B 62.21 335 P **P 03 09 25.4 -2.7**
FINES 03 10 04.5
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES MLR MLR
comp=Z,1μm,19.7s
FINES FINESS Array B 62.21 335 P **P 03 09 25.4 -2.7**
comp=Z,2.7nm,0.4s,mb4.7,baz=38,slow=8.0,SNR=42
FINES PcP PcP 03 10 04.5 -3.0
comp=Z,5.9nm,0.8s,baz=90,slow=5.7,SNR=4.9
FINES LR LR 03 38 56.8
comp=Z,1μm,19.6s,MS5.1,baz=145,slow=38
FINES FINESS Array B 62.21 335 P **P 03 09 25.4 -2.7**
FINES PcP PcP 03 10 04.5 -3.0
FINES LR LR 03 38 56.8
ARUT Antelope Range 62.52 63 *e*P **P 03 09 30.3 -0.2**
ARUT *e* pP 03 09 41.7 -2.6
MSU Marysvale 62.75 62 *e*P **P 03 09 32.0 0.0**
MOS Moscow 63.14 326 *e*P **P 03 09 30.3 -4.1**
MOS MLR MLR
comp=Z,2μm,20.1s,MS5.2
SRU San Rafael 63.28 60 *e*P **P 03 09 35.2 -0.3**
RSSD Black Hills 63.32 53 PFAKE 03 09 50.0 +14
RSSD LR LR
comp=Z,3.0nm,21.0s
OBN Obninsk 64.01 326*de*P **P 03 09 35.6 -4.3**
OBN *e* 03 11 56.2
OBN pmax pmax
comp=Z,35nm,1.8s,mb5.1
OBN MLR MLR
comp=Z,900nm,19.0s,MS5.0
OBN Obninsk 64.01 326 *e*P **P 03 09 35.0 -4.8**
comp=Z,31nm,1.1s,mb5.2
PV10 Paradox Valley 64.62 60 *e*P **P 03 09 44.4 +0.2**
PV01 Paradox Valley 65.06 60 *e*P **P 03 09 47.7 +0.7**
PV01 *e* pP 03 10 02.4 +1.5
ISCO Idaho Springs 65.52 57 *e*P **P 03 09 50.2 +0.2**
ISCO *e* pP 03 10 02.0 -1.9
ISCO pmax pmax
comp=Z,25nm,1.1s,mb5.2
ISCO Idaho Springs 65.52 57 *e*P **P 03 09 50.2 +0.3**
comp=Z,25nm,1.2s,mb5.1
ISCO *e* pP 03 10 02.0 -1.9
BHPL Bhopal 65.53 278 *e*P **P 03 09 49.8 -0.5**
BHPL *e* 03 09 51.3
comp=Z,32nm,1.0s
KAKA Kakadu 65.61 206 *e*P **P 03 09 50.5 -0.4**
comp=Z,24nm,0.8s,mb5.3
VIS Vishakhapatnam 65.68 269 *e* **P 03 09 50.5 -0.8**
VIS *e*P 03 09 52.2
VIS *e* 03 09 54.6
comp=Z,99nm,1.1s
BORG Borgarnes 65.84 359 P **P 03 09 50.2 -1.4**
comp=Z,103nm,0.9s,mb5.8,baz=12,slow=2.6,SNR=12
BORG Borgarnes 65.84 359 *e*P **P 03 09 52.1 +0.5**
comp=Z,159nm,1.0s,mb6.0
NB2 NORSAR Subarra 66.05 342 P **P 03 09 50.8 -2.1**
comp=Z,21nm,0.8s,mb5.2,baz=24,slow=6.5
NB2 NORSAR Subarra 66.05 342 P **P 03 09 50.8 -2.1**
baz=24,slow=6.5
NOA NORSAR Array B 66.05 342 P **P 03 09 49.8 -3.1**
NOA pmax pmax
comp=Z,14nm,0.7s
NOA MLR MLR
comp=Z,832nm,18.3s
NOA NORSAR Array B 66.05 342 P **P 03 09 49.8 -3.1**
comp=Z,14nm,0.7s,mb5.1,baz=24,slow=6.5,SNR=33
NOA LR LR 03 43 59.3
comp=Z,832nm,18.3s,MS5.0,baz=5.0,slow=41
VRSR Storozhevoye 66.05 322 *e*P **P 03 09 51.4 -1.7**
VRSR *i* 03 10 22.7
VRSR pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
VRSR pmax pmax
comp=N,40nm,0.9s
VRSR pmax pmax
comp=E,20nm,0.9s
VRSR MLR MLR
comp=Z,760nm,18.1s,MS4.9
VRSR MLR MLR
comp=N,810nm,20.2s,MS5.0
VRSR MLR MLR
comp=E,300nm,18.0s,MS5.0
HFS Hagfors 66.36 341 P **P 03 09 52.7 -2.2**
HFS pmax pmax
comp=Z,7.0nm,0.6s
HFS Hagfors 66.36 341 P **P 03 09 52.7 -2.2**
comp=Z,7.2nm,0.6s,mb4.9,slow=3.0,SNR=21
SDCO Great Sand Dun 67.04 58 *e*P **P 03 09 59.8 +0.2**
comp=Z,27nm,1.4s,mb5.1
SDCO *e* pP 03 10 10.3 -3.3
SDCO LR LR
comp=Z,875nm,21.0s,MS5.0
ANMO Albuquerque 68.51 61 *e*P **P 03 10 08.9 0.0**
comp=Z,9.1nm,0.9s,mb4.7
ANMO *e* pP 03 10 20.2 -2.7
ANMO LR LR
comp=Z,850nm,21.0s,MS5.0
HYB Hyderabad 69.00 272 *e*P **P 03 10 12.0 -0.1**
HYB pmax pmax
comp=Z,80nm,1.0s,mb5.6
HYB Hyderabad 69.00 272 *e*P **P 03 10 12.0 -0.1**
comp=Z,80nm,1.0s,mb5.6
HYB Hyderabad 69.00 272 *i* P **P 03 10 12.0 -0.1**
comp=Z,80nm,1.0s,mb5.6
GOF Gofitskoye 69.17 316⇓*i*P **P 03 10 12.0 -0.7**
GOF pmax pmax
comp=Z,40nm,1.0s,mb5.3
SUW Suwalki 69.34 333 *e*P **P 03 10 11.0 -2.6**
SUW pmax pmax
comp=Z,59nm,0.9s,mb5.5
SUW Suwalki 69.34 333 *e*P **P 03 10 11.0 -2.6**
comp=Z,59nm,0.9s,mb5.5
SUW Suwalki 69.34 333 *e*P **P 03 10 12.5 -1.1**
SCHQ Schefferville 69.73 25 P **P 03 10 15.7 -0.3**
comp=Z,35nm,1.0s,mb5.3,baz=350,slow=5.9,SNR=47
SCHQ LR LR 03 43 32.3
comp=Z,684nm,20.3s,MS4.9,baz=134,slow=38
CTA Charters Tower 70.08 190⇓*i*P **P 03 10 18.7 0.0**
comp=Z,16nm,0.9s,mb4.9
CTA Charters Tower 70.08 190 P **P 03 10 18.1 -0.5**
comp=Z,17nm,0.8s,mb5.0,baz=8.6,slow=7.9,SNR=13
CTA LR LR 03 35 58.1
comp=Z,301nm,20.6s,MS4.5,baz=24,slow=31
CTAO Charters Tower 70.08 190 *e*P **P 03 10 18.3 -0.4**
comp=Z,27nm,0.9s,mb5.2
CTAO *e* pP 03 10 27.9 -4.9
CTAO *e* pP 03 10 37.1 +4.4
CTAO LR LR
comp=Z,327nm,21.0s,MS4.6
KIV Kislovodsk 70.18 315*c i*P **P 03 10 18.2 -0.7**
KIV *e*PPP PPP 03 14 36.5 -0.2
KIV *e*S S 03 19 21.7 -3.6
KIV *e*SS SS 03 23 58.2 +0.7
KIV pmax pmax
comp=Z,13nm,0.7s,mb5.0
KIV pmax pmax
comp=N,13nm,0.9s
KIV MLR MLR
comp=N,601nm,24.0s,MS4.8
KIV MLR MLR
comp=E,313nm,24.0s,MS4.8
KIV MLR MLR
comp=Z,713nm,24.0s,MS4.8
KIV Kislovodsk 70.18 315 *e*P **P 03 10 18.9 0.0**
comp=Z,17nm,0.8s,mb5.0
AKASG Malin Array Be 70.19 327 P **P 03 10 16.7 -2.2**
AKASG pmax pmax
comp=Z,6.0nm,0.4s
AKASG Malin Array Be 70.19 327 P **P 03 10 16.7 -2.2**
comp=Z,6.4nm,0.4s,mb5.0,baz=33,slow=6.7,SNR=71
ZEI Tsey 70.54 314 *e*P **P 03 10 19.2 -1.9**
ZEI pmax pmax

comp=Z,9.0nm,1.0s,mb4.7
DUS Dusheti 70.68 313 P **P** 03 10 21.5 -0.5
ONI Oni 70.89 314 P **P** 03 10 23.6 +0.4
MTA Mtatsminda 70.94 312 P **P** 03 10 23.1 -0.5
POO Poona 71.23 277 ⇓*i*P **P** 03 10 26.5 +0.9
AMTX Amarillo 71.24 58 *e*P **P** 03 10 24.9 -0.6
comp=Z,21nm,1.0s,mb5.0
MNTX Cornudas Mount 71.50 63 *e*P **P** 03 10 26.6 -0.4
comp=Z,14nm,1.1s,mb4.8
MNTX *e* pP 03 10 38.0 -3.1
AKH Akhalkalaki 71.78 313 P **P** 03 10 29.2 +0.6
SOC Sochi 71.81 317 *e*P **P** 03 10 27.5 -1.2
SOC *e* pP 03 10 42.6 -0.2
SOC *e* 03 13 11.3
SOC *e*PPP PPP 03 14 52.6 +0.4
SOC *e*S S 03 19 40.7 -3.5
SOC *e* 03 20 26.4
SOC *e*SS SS 03 24 19.5 -3.2
SOC MLR MLR
comp=N,515nm,19.0s,MS5.0
SOC MLR MLR
comp=E,703nm,22.0s,MS5.0
SOC MLR MLR
comp=Z,1µm,22.0s,MS5.1
ANN Anapa 71.83 319 *e*P pP 03 10 39.9 -3.0
ANN pmax pmax
comp=Z,14nm,0.8s,mb4.9
KAD Karad 71.90 276 ⇓*i*P **P** 03 10 30.7 +1.0
WRAB Tennant Creek 72.03 202 P **P** 03 10 30.5 +0.1
WRAB pmax pmax
comp=Z,120nm,1.2s,mb5.7
WRAB Tennant Creek 72.03 202 *e*P **P** 03 10 30.2 -0.2
comp=Z,120nm,1.2s,mb5.7
WRAB *e* pP 03 10 45.7 +1.2
WRAB LR LR
comp=Z,164nm,19.0s,MS4.3
WB2 Warramunga Arr 72.04 202 ⇑*i*P **P** 03 10 30.2 -0.3
WRA Warramunga Arr 72.04 202 P **P** 03 10 29.8 -0.7
WRA pmax pmax
comp=Z,31nm,1.0s
WRA Warramunga Arr 72.04 202 P **P** 03 10 29.8 -0.6
comp=Z,30nm,1.0s,mb5.2,baz=20,slow=6.5,SNR=58
GNI Garni 72.16 311 *e*P **P** 03 10 30.8 0.0
GNI Garni 72.16 311*c i*P **P** 03 10 31.5 +0.7
GNI *i* *PP pP 03 10 45.9 +1.0
GNI *i* *SP sP 03 10 52.4 +2.2
GNI pmax pmax
comp=Z,40nm,1.5s
GNI MLR MLR
comp=Z,700nm,15.0s
GNI Garni 72.16 311 P **P** 03 10 30.7 -0.1
comp=Z,6.2nm,0.6s,mb4.7,baz=318,slow=2.7,SNR=13
GNI LR LR 03 45 14.4
comp=Z,1µm,21.8s,MS5.1,baz=4.1,slow=38
GNI Garni 72.16 311 *e*P **P** 03 10 31.0 +0.2
comp=Z,21nm,0.8s,mb5.1
LVV L'vov 72.70 330 *e*P **P** 03 10 33.5 -0.2
LVV *e* 03 19 57.9
LVV MLR MLR
comp=N,370nm,18.0s,MS4.8
LVV MLR MLR
comp=E,180nm,18.0s,MS4.8
LVV MLR MLR
comp=Z,470nm,18.0s,MS4.8
FITZ Fitzroy Crossi 72.78 210 ⇑*i*P **P** 03 10 35.3 +0.5
comp=Z,40nm,0.9s,mb5.3
WMOK Wichita Mounta 72.93 56 *e*P **P** 03 10 34.9 -0.5
comp=Z,21nm,1.0s,mb5.0
WMOK LR LR
comp=Z,612nm,22.0s,MS4.8
SIM Simferopol' 73.10 321 *e*P **P** 03 10 35.0 -1.2
SIM pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
SIM MLR MLR
comp=Z,1µm,19.7s,MS5.1
KWP Kalwaria 73.29 331 *e*P **P** 03 10 37.0 -0.2
KWP pmax pmax
comp=Z,160nm,1.3s,mb5.8
KWP Kalwaria 73.29 331 *e*P **P** 03 10 37.9 +0.7
KWP Kalwaria 73.29 331 *e*P **P** 03 10 37.9 +0.7
EKA Eskdalemuir Ar 73.89 348 P **P** 03 10 40.6 0.0
EKA pmax pmax
comp=Z,17nm,0.7s
EKA Eskdalemuir Ar 73.89 348 P **P** 03 10 40.6 0.0
comp=Z,17nm,0.7s,mb5.1,baz=19,slow=5.1,SNR=45
ERZM Erzurum 73.96 313 *i*P **P** 03 10 42.4 +1.0
EZM Erzurum 73.96 313 *e*P **P** 03 10 42.1 +0.7
TXAR Lajitas Array 74.24 63 P **P** 03 10 43.3 +0.1
comp=Z,7.5nm,0.7s,mb4.8,baz=298,slow=4.3,SNR=141
CCM Cathedral Cave 74.28 49 *e*P **P** 03 10 42.1 -1.1
CCM pmax pmax
comp=Z,39nm,1.1s,mb5.2
CCM Cathedral Cave 74.28 49 *e*P **P** 03 10 42.1 -1.1
comp=Z,39nm,1.1s,mb5.2
SLM Saint Louis 74.31 48 *e*P **P** 03 10 42.1 -1.3
SLM pmax pmax
comp=Z,71nm,1.1s,mb5.5
SLM Saint Louis 74.31 48 *e*P **P** 03 10 42.1 -1.3
comp=Z,72nm,1.1s,mb5.5
CRVS Cervenica-Dubn 74.32 331 *e*P **P** 03 10 44.3 +1.0
GUMT Gumushane 74.40 315 *e*P **P** 03 10 43.4 -0.5
AAM Ann Arbor 74.40 42 *e*P **P** 03 10 43.6 -0.3
AAM *e* pP 03 10 58.6 +0.6
AAM pmax pmax
comp=Z,67nm,0.8s,mb5.6
AAM Ann Arbor 74.40 42 *e*P **P** 03 10 43.6 -0.2
comp=Z,67nm,0.8s,mb5.6
AAM *e* pP 03 10 58.6 +0.6
VRT Varto 74.50 313 *e*P **P** 03 10 44.8 +0.4
OKC Ostrava-Krasne 74.50 333 AMS AMS 03 46 20.0
comp=Z,2µm,22.1s
DPC Dobruska-Polom 74.56 335 AMS AMS 03 46 50.0
comp=Z,2µm,21.2s
PVCC Panska Ves 74.87 336 AMS AMS 03 47 10.0
comp=Z,1µm,15.2s
KECS Kecovo 75.00 331 *e*PN **P** 03 10 47.6 +0.4
PALK Pallekele 75.14 264 *e*P **P** 03 10 49.5 +0.9
comp=Z,137nm,1.3s,mb5.7
PALK LR LR
comp=Z,93nm,21.0s,MS4.1
PRU Pruhonice 75.37 336 AMS AMS 03 47 50.0
comp=Z,2µm,20.5s
WTSB Winterswijk 75.39 341 *e*P **P** 03 10 49.7 +0.3
comp=Z,71nm,1.6s,mb5.4
VYHS Vyhne 75.50 332 *e*P **P** 03 10 50.4 +0.4
VYHS *e* pP 03 11 03.8 -0.3
VYHS Vyhne 75.50 332 *e*PG pP 03 11 03.8 -0.3
JCT Junction City 75.58 60 *e*P **P** 03 10 50.4 -0.5
comp=Z,43nm,1.3s,mb5.2
BEST Besiri 75.60 312 *i*P **P** 03 10 51.7 +0.9
BOYT Boyabat 75.66 318 *i*P **P** 03 10 51.5 +0.5
PSZ Piszkesteto 75.68 331 *e*P **P** 03 10 51.1 0.0
PSZ pmax pmax
comp=Z,61nm,1.4s,mb5.3
PSZ Piszkesteto 75.68 331⇓*e*P **P** 03 10 51.6 +0.5
PSZ Piszkesteto 75.68 331⇓*e*P **P** 03 10 51.5 +0.4
PTK Pertek 75.69 314 *e*P **P** 03 10 52.8 +1.4
ASAR Alice Springs 75.73 201 P **P** 03 10 52.6 +0.8
comp=Z,12nm,0.7s,mb4.9,baz=15,slow=5.2,SNR=82
ASAR LR LR 03 40 44.2
comp=Z,314nm,20.8s,MS4.6,baz=12,slow=33
ASPA Alice Springs 75.73 201 ⇑*i*P **P** 03 10 52.6 +0.7
DMUB Kingscourt 75.76 350 ⇑*i*P **P** 03 10 51.3 -0.1
MLR Muntele Rosu 75.78 326 P **P** 03 10 51.1 -0.6
MLR pmax pmax
comp=Z,6.0nm,0.4s
MLR Muntele Rosu 75.78 326 P **P** 03 10 51.1 -0.6
comp=Z,5.8nm,0.4s,mb4.9,baz=339,slow=8.3
MIAR Mount Ida 75.83 53 *e*P **P** 03 10 51.9 -0.3
comp=Z,28nm,0.8s,mb5.2
TOKT Tokat 75.84 317 *e*P **P** 03 10 52.4 +0.3
MSL Mosul 75.98 310 *e*P **P** 03 10 50.5 -2.5
ELZG Elazig 76.20 314 *i*P **P** 03 10 55.0 +0.8
BALT Daday 76.21 320 *i*P **P** 03 10 55.2 +1.0
SRO Srobarova 76.26 332 *i*P **P** 03 10 55.5 +1.1
SRO Srobarova 76.26 332 *e*Pn **P** 03 10 55.5 +1.1
ZST Bratislava 76.28 333 *e*P **P** 03 10 55.7 +1.2
SRO2 Moca 76.28 332 *e*P **P** 03 10 55.6 +1.1
DLF Lyons Farm 76.31 349 ⇑*i*P **P** 03 10 54.4 -0.1
DSB Dublin 76.34 349 *e*P **P** 03 10 54.5 -0.3
comp=Z,112nm,0.9s,mb5.8
TOS Tosya 76.35 319 *e*P **P** 03 10 55.7 +0.6
DCN Croghan 76.35 350 ⇑*i*P **P** 03 10 54.8 0.0
CTKT Corum 76.36 318 *i*P **P** 03 10 55.5 +0.4
KHC Kasperske Hory 76.41 336 AMS AMS 03 48 20.0
comp=Z,1µm,18.5s
GRA1 Grafenberg Arr 76.50 337 *e*P **P** 03 10 51.4 -4.3
GRA1 LR LR
comp=Z,1µm,21.7s,MS5.2
GRF Grafenberg Arr 76.50 337 *e*P **P** 03 10 51.4 -4.3
GRF MLR MLR
comp=Z,1µm,21.7s,MS5.2
GRF Grafenberg Arr 76.50 337 *e*P **P** 03 10 51.4 -4.3
GRF MLR MLR
comp=Z,1µm,21.7s,MS5.2
WCI Wyandotte Cave 76.51 46 *e*P **P** 03 10 55.6 -0.4
WCI pmax pmax
comp=Z,180nm,1.4s,mb5.8
WCI Wyandotte Cave 76.51 46 *e*P **P** 03 10 55.6 -0.4
comp=Z,180nm,1.4s,mb5.8
MYA Malataya 76.60 314 *e*P **P** 03 10 57.1 +0.7
PKSN Nyarlorinc 76.60 331⇓*e*P **P** 03 10 57.0 +0.7
MALT Malatya 76.61 314 *e*P **P** 03 10 56.1 -0.4
MALT Malatya 76.61 314 *e*P **P** 03 10 57.0 +0.5
MALT pmax pmax
comp=Z,31nm,0.9s,mb5.2
MALT Malatya 76.61 314 *e*P **P** 03 10 57.0 +0.5
comp=Z,31nm,0.9s,mb5.2
PKSG 76.61 332⇓*i*P **P** 03 10 57.2 +0.8
TRD Trivandrum 76.64 267 *e*P **P** 03 10 56.5 -0.6
TRD *e* 03 11 00.0
comp=Z,118nm,1.1s
HGN Heimansgroeve 76.71 341⇑*e*P **P** 03 10 56.2 -0.6
comp=Z,88nm,1.4s,mb5.5
HGN *e*PcP PcP 03 11 06.8 -1.6
SAFT Safranbolu 76.75 320 *e*P **P** 03 10 57.1 -0.2
CORM Corum 76.79 318 *e*P **P** 03 10 57.3 -0.2
MIV Mineville/With 76.97 34 *e*P **P** 03 10 57.7 -0.8
ELDT Eldivan 77.06 319 *i*P **P** 03 11 00.3 +1.3
URFA Urfa 77.12 314 *e*P **P** 03 10 59.0 -0.5
TOD Tromm 77.16 339 *e*P **P** 03 10 59.4 0.0
TOD Tromm 77.16 339⇓*e*P **P** 03 11 00.0 +0.6
ABH Alteburg 77.19 340 *e*P **P** 03 10 59.4 -0.2
ABH Alteburg 77.19 340⇓*e*P **P** 03 11 00.0 +0.4
PRD Provadia 77.20 324 *e*P **P** 03 11 00.0 +0.2
SIND Sindeldorf 77.21 338 P **P** 03 10 59.9 +0.2
SIND Sindeldorf 77.21 338⇓*e*P **P** 03 11 00.1 +0.4
SWS Schriesheim 77.30 339⇓*e*P **P** 03 11 00.5 +0.3
BIDO Bidbid 77.42 291 P **P** 03 11 02.7 +1.3
SNR=12
NATX Nacogdoches 77.42 56 *e*P **P** 03 11 01.6 +0.4
comp=Z,55nm,0.9s,mb5.5
WVT Waverly 77.46 48 *e*P **P** 03 11 01.1 -0.3
WVT pmax pmax
comp=Z,17nm,1.0s,mb4.9
WVT Waverly 77.46 48 *e*P **P** 03 11 01.1 -0.3
comp=Z,17nm,1.0s,mb4.9
RUP Ruppelstein 77.47 340 *e*P **P** 03 11 00.9 -0.2
RUP Ruppelstein 77.47 340⇓*e*P **P** 03 11 01.6 +0.5
ACCN Adirondack Com 77.51 35 *e*P **P** 03 11 01.1 -0.4
SGKT Sivrigoynuk 77.57 320 *i*P **P** 03 11 02.5 +0.7
GIVF Givet 77.57 342 *e*P **P** 03 11 01.4 -0.2
comp=Z,182nm,1.4s,mb5.5
GIVF Givet 77.57 342 *e*P **P** 03 11 01.4 -0.2
GIVF pmax pmax
comp=Z,91nm,1.4s,mb5.5
WBK Wadi Bani Khal 77.59 290 P **P** 03 11 03.7 +1.3
SNR=12
BRTR Keskin Array B 77.60 318 P **P** 03 11 01.1 -0.9
BRTR pmax pmax
comp=Z,61nm,1.2s
BRTR Keskin Array B 77.60 318 P **P** 03 11 01.1 -0.9
comp=Z,61nm,1.2s,mb5.4,baz=63,slow=2.8,SNR=90
KTD Kalmit 77.60 339 P **P** 03 11 04.4 +2.6
MENF Mencas 77.65 343 *e*P **P** 03 11 02.2 +0.1
MBWA Marble Bar 77.66 215 *e*P **P** 03 11 03.0 +0.2
comp=Z,49nm,1.2s,mb5.3
BAIF Baives 77.73 342 *e*P **P** 03 11 02.5 -0.1
comp=Z,62nm,0.9s,mb5.2
BAIF Baives 77.73 342 *e*P **P** 03 11 02.5 -0.1
BAIF pmax pmax
comp=Z,31nm,0.9s,mb5.2
HDH Heidenheim 77.78 338 P **P** 03 11 03.7 +0.9
HDH Heidenheim 77.78 338⇓*e*P **P** 03 11 03.3 +0.5
GZT Gaziantep 77.78 314 *i*P **P** 03 11 03.7 +0.6
SMDO Samad 77.81 291 P **P** 03 11 04.0 +0.4
SNR=9.7
AVNT Avonos 77.85 317 *i*P **P** 03 11 04.3 +0.9
STU Stuttgart 77.85 338 *e*P **P** 03 11 03.2 0.0
STU pmax pmax
comp=Z,80nm,1.2s,mb5.5
STU Stuttgart 77.85 338 *e*P **P** 03 11 03.2 0.0
comp=Z,80nm,1.3s,mb5.5
HOQ Hoqain 77.86 292 P **P** 03 11 04.3 +0.5
SNR=18
KAMT Kaman 77.86 318 *e*P **P** 03 11 03.4 -0.1
RHK1 Bakonya 77.87 332⇓*e*P **P** 03 11 03.3 -0.1
OXF Oxford 77.98 50 *e*P **P** 03 11 02.7 -1.5
OXF pmax pmax
comp=Z,86nm,1.2s,mb5.6
OXF Oxford 77.98 50 *e*P **P** 03 11 02.7 -1.6
comp=Z,86nm,1.2s,mb5.6
LANF Langenberg 77.98 339 *e*P **P** 03 11 03.7 -0.2
MDU Mudurnu 78.01 320 *e*P **P** 03 11 04.0 -0.2
LBG Lerchenberg 78.05 339 P **P** 03 11 04.8 +0.5
LBG Lerchenberg 78.05 339⇓*e*P **P** 03 11 04.7 +0.4
VAL Valentia 78.05 351⇓*i*P **P** 03 11 04.3 +0.1
GAZ Gaziantep 78.09 314 *e*P **P** 03 11 04.8 0.0
BUCH Bad Urach 78.11 338 P **P** 03 11 05.8 +1.1
BUCH Bad Urach 78.11 338⇓*e*P **P** 03 11 05.5 +0.8
MCWV Mont Chateau 78.21 41 *e*P **P** 03 11 05.3 -0.1
comp=Z,177nm,1.7s,mb5.7
PERS Pernice 78.26 334 *e*Pn **P** 03 11 05.8 +0.3
JMDO Jabal Madar 78.29 291 P **P** 03 11 07.0 +0.8
SNR=32
GROS Grobnik 78.31 333 *e* **P** 03 11 06.4 +0.6
HRT Hereke 78.34 322 *e*P **P** 03 11 04.6 -1.5
KBA Koelnbreinsper 78.36 335⇑*i*P **P** 03 11 06.8 +0.8
KBA pmax pmax
comp=Z,285nm,1.5s,mb6.0
NIG Nigde 78.51 317 *e*P **P** 03 11 07.5 +0.4
ARQ Araqi 78.52 292 P **P** 03 11 07.9 +0.5
SNR=32
GUT Gutenstein 78.52 338 P **P** 03 11 07.9 +1.0
GUT Gutenstein 78.52 338⇓*e*P **P** 03 11 07.7 +0.8
OBKA Obir 78.54 334⇑*i*P **P** 03 11 07.4 +0.3
comp=Z,333nm,2.3s,mb5.9
BSY Bisya 78.56 292 P **P** 03 11 08.5 +0.8
SNR=41
SPAK Spaichingen 78.57 338 P **P** 03 11 08.1 +0.9
SPAK Spaichingen 78.57 338⇓*e*P **P** 03 11 08.0 +0.8
WATA Walderalm 78.59 336⇑*i*P **P** 03 11 08.1 +0.8
comp=Z,109nm,1.3s,mb5.6
WATA Walderalm 78.59 336⇑*i*P **P** 03 11 08.1 +0.8
WATA pmax pmax
comp=Z,109nm,1.3s,mb5.6
WLS Welschbruch 78.62 339 *e*P **P** 03 11 07.6 +0.2
BOLS Boljevac 78.62 328⇑*i*P **P** 03 11 07.1 -0.5
CDF Champ du Feu 78.64 339 *e*P **P** 03 11 07.5 0.0
comp=Z,153nm,1.1s,mb5.5
CDF Champ du Feu 78.64 339 *e*P **P** 03 11 07.5 0.0
CDF pmax pmax
comp=Z,77nm,1.1s,mb5.5
WTTA Wattenberg 78.64 336⇑*i*P **P** 03 11 08.1 +0.5
comp=Z,242nm,1.4s,mb5.9
WTTA Wattenberg 78.64 336⇑*i*P **P** 03 11 08.1 +0.5
WTTA pmax pmax
comp=Z,242nm,1.4s,mb5.9
UBR Uberruh 78.64 337 P **P** 03 11 08.4 +0.8
UBR Uberruh 78.64 337⇓*e*P **P** 03 11 08.2 +0.6
YLV Yalova 78.67 322 *e*P **P** 03 11 05.4 -2.5
MOTA Moosalm 78.70 337⇑*i*P **P** 03 11 08.3 +0.4
comp=Z,70nm,1.2s,mb5.5
MOTA Moosalm 78.70 337⇑*i*P **P** 03 11 08.3 +0.4
MOTA pmax pmax
comp=Z,70nm,1.2s,mb5.5
SQTA Sankt Quirin 78.79 337⇑*i*P **P** 03 11 09.3 +0.9
comp=Z,121nm,1.3s,mb5.7
SQTA Sankt Quirin 78.79 337⇑*i*P **P** 03 11 09.3 +0.9
SQTA pmax pmax
comp=Z,121nm,1.3s,mb5.7
LIBD Limburg 78.81 339 *e*P **P** 03 11 08.7 +0.2
LIBD Limburg 78.81 339⇓*e*P **P** 03 11 09.3 +0.8
ECH Echery 78.85 339 *e*P **P** 03 11 08.3 -0.4
CRES Cresnjev 78.90 333 *e* **P** 03 11 04.9 -4.2
KIZ Kirchzarten 78.92 339⇓*e*P **P** 03 11 09.3 +0.2
SISB Singen-Sch Ber 78.92 338 P **P** 03 11 09.9 +0.8
ESKT Eskisehir 78.95 320 *e*P **P** 03 11 08.3 -1.2
ESKT Eskisehir 78.95 320 *i*P **P** 03 11 09.2 -0.3
FVI Forni Avoltri 78.95 335 P **P** 03 11 09.3 0.0
SLE Schleitheim 78.96 338⇓P **P** 03 11 09.6 +0.3
SEST Monte Rota 78.96 336 P **P** 03 11 10.1 +0.7
PGB Panagyurishte 78.96 326 *e*P **P** 03 11 09.0 -0.5
FELD Feldberg 78.97 339⇓*e*P **P** 03 11 09.9 +0.5
PTCC Patocco-Chiusa 78.97 335 P **P** 03 11 09.1 -0.3
GRUS Gruza 78.99 329⇓*i*P **P** 03 11 09.0 -0.6
CADS Cadrg 79.03 335 *e* **P** 03 11 09.2 -0.6
MEZF Maizieres J'vi 79.04 341 *e*P **P** 03 11 10.0 +0.2
comp=Z,297nm,1.3s,mb5.8
DIVS Divcibare 79.05 330⇓*i*P **P** 03 11 09.5 -0.4
KIZT Kizilcal 79.06 319 *e*P **P** 03 11 08.8 -1.2
COBT Iskenderun 79.07 315 *i*P **P** 03 11 10.9 +0.8
DAVA Damuels 79.07 337⇑*i*P **P** 03 11 10.4 +0.5
comp=Z,56nm,1.1s,mb5.4
ROBS Robic 79.08 335 *i*Pn **P** 03 11 09.8 -0.2
THEF They Montfort 79.10 340 *e*P **P** 03 11 10.0 -0.1
GMNA Gemona 79.12 335 P **P** 03 11 10.1 -0.2
ULDT Uludag 79.13 322 *i*P **P** 03 11 11.5 +1.1
BRES Bressanone 79.14 336 P **P** 03 11 11.0 +0.7
WILA Wila 79.19 338⇑P **P** 03 11 11.0 +0.4
MOF Molkenrain 79.19 339 *e*P **P** 03 11 10.5 -0.1
HAU Haudompre 79.23 340 *e*P **P** 03 11 10.5 -0.3
comp=Z,110nm,1.1s,mb5.4
HAU *e*R
comp=Z,647nm,21.8s
HAU Haudompre 79.23 340 *e*P **P** 03 11 10.5 -0.3
HAU pmax pmax
comp=Z,55nm,1.1s,mb5.4
HAU MLR MLR
comp=Z,650nm,21.8s,MS4.9
BOJS Bojanci 79.25 333 *e*Pn **P** 03 11 11.1 +0.1
SULZ Sulz-Cheisache 79.27 339⇓P **P** 03 11 11.5 +0.5
CEY Cerknica 79.28 334 *i*Pn **P** 03 11 11.0 -0.1
HINF Hinteralfeld 79.29 340 *e*P **P** 03 11 10.8 -0.3
comp=Z,54nm,1.0s,mb5.1
HINF Hinteralfeld 79.29 340 *e*P **P** 03 11 10.8 -0.3
HINF pmax pmax
comp=Z,27nm,1.0s,mb5.1
ZUR Zurich 79.31 338⇑P **P** 03 11 11.7 +0.4
HTY Hatay 79.45 315 *e*P **P** 03 11 11.9 -0.4
BBS Basel-Blauen 79.47 339 *e*P **P** 03 11 12.2 +0.1
BBS Basel-Blauen 79.47 339⇓*e*P **P** 03 11 12.8 +0.7
APPI Appiano 79.47 336 P **P** 03 11 12.0 -0.2
RZN Rozhen 79.51 325 *e*P **P** 03 11 13.0 +0.5
DAVOX Davos 79.54 337 P **P** 03 11 13.5 +1.0
comp=Z,37nm,0.9s,mb5.3,baz=16,slow=3.9,SNR=34
KONT Konya--Tatoy 79.63 318 *e*P **P** 03 11 11.2 -2.0
MUO Muotathal 79.67 338⇑P **P** 03 11 14.0 +0.8
LLS Linth-Limmern 79.69 338⇑P **P** 03 11 13.7 +0.4
ALN Alexandroupoli 79.70 324 *e*P **P** 03 11 12.9 -0.6
BRMO Bormio 79.70 337 P **P** 03 11 14.1 +0.7
LOMF Lomont 79.74 339 *e*P **P** 03 11 13.5 -0.1
CTI Castel Tesino 79.76 336 P **P** 03 11 13.4 -0.3
DST Dursunbey 79.79 322 *e*P **P** 03 11 12.6 -1.5
FLN La Foliniere 79.85 345 *e*P **P** 03 11 14.2 +0.1
comp=Z,314nm,1.0s,mb5.9
FLN *e*R
comp=Z,763nm,19.8s
FLN La Foliniere 79.85 345 *e*P **P** 03 11 14.2 +0.1
FLN pmax pmax
comp=Z,157nm,1.0s,mb5.9
FLN MLR MLR
comp=Z,760nm,19.8s,MS5.0
VDL Val di Lei 79.92 337⇑P **P** 03 11 15.2 +0.7
PLE Pljevlja 79.93 330⇓*i*P **P** 03 11 14.6 0.0
KKB Krupnik 79.95 326 *e*P **P** 03 11 15.0 +0.2
LDF La Druitiere 79.95 344 *e*P **P** 03 11 14.6 -0.1
MMB Musomiste 79.96 326 *e*P **P** 03 11 15.0 +0.1
MEST Erdemli 79.97 316 *i*P **P** 03 11 14.7 -0.3
MYNC Murphy 80.08 46 *e*P **P** 03 11 15.3 -0.4
MYNC pmax pmax
comp=Z,25nm,1.0s,mb5.1
MYNC Murphy 80.08 46 *e*P **P** 03 11 15.3 -0.4
comp=Z,26nm,1.0s,mb5.1
IVA Berane 80.17 329⇓*i*P **P** 03 11 16.3 +0.3
UPM Unac-Piva 80.20 330⇓*i*P **P** 03 11 14.9 -1.2
GRR Gorron 80.28 345 *e*P **P** 03 11 16.7 +0.3
comp=Z,542nm,1.0s,mb6.1
GRR Gorron 80.28 345 *e*P **P** 03 11 16.7 +0.3
GRR pmax pmax
comp=Z,271nm,1.0s,mb6.1
LRAL Lakeview Retre 80.36 50 *e*P **P** 03 11 16.2 -0.9
comp=Z,12nm,0.9s,mb4.8
PVY Plav 80.39 329⇓*i*P **P** 03 11 16.2 -0.9
HDMB Hadim 80.40 318 *e*P **P** 03 11 15.2 -2.1
SRS Serrai 80.42 326 *e*P **P** 03 11 16.6 -0.8
SKO Skopje 80.44 328⇓*i*P **P** 03 11 17.8 +0.4
SKO pmax pmax
comp=Z,26nm,0.7s,mb5.3
SKO Skopje 80.44 328⇓*i*P **P** 03 11 17.8 +0.4
comp=Z,0.0nm,0.7s
LKBD Leukerbad 80.46 339⇓P **P** 03 11 18.3 +0.9
KHL Karahalli 80.52 320 *e*P **P** 03 11 16.6 -1.3
NKY Niksic 80.52 330⇓*i*P **P** 03 11 16.0 -1.8
BRY Bratogost 80.59 330⇓*i*P **P** 03 11 17.3 -0.9
CABF La Chapelle 80.60 340 *e*P **P** 03 11 18.5 +0.3
comp=Z,129nm,1.1s,mb5.5
CABF La Chapelle 80.60 340 *e*P **P** 03 11 18.5 +0.3
CABF pmax pmax
comp=Z,64nm,1.1s,mb5.5
KNT Kendrikon 80.64 326 *e*P **P** 03 11 18.5 0.0
VAI Varese 80.67 338 P **P** 03 11 18.6 0.0
SGMF Saint Gilles 80.69 346 *e*P **P** 03 11 19.0 +0.4
comp=Z,407nm,1.0s,mb6.0
SGMF Saint Gilles 80.69 346 *e*P **P** 03 11 19.0 +0.4
SGMF pmax pmax
comp=Z,204nm,1.0s,mb6.0
MMK Mattmark 80.69 338⇑P **P** 03 11 19.7 +1.0
HYF Humbligny 80.71 342 *e*P **P** 03 11 19.3 +0.6
ROSF Rostrenen 80.72 346 *e*P **P** 03 11 19.2 +0.4
comp=Z,456nm,1.1s,mb6.0
ROSF Rostrenen 80.72 346 *e*P **P** 03 11 19.2 +0.4
ROSF pmax pmax
comp=Z,228nm,1.1s,mb6.0
OG01 Vacheresse 80.73 339⇑*e*P **P** 03 11 16.7 -2.2
SSF Saint Saulge 80.73 342 *e*P **P** 03 11 18.7 -0.2
SSF pmax pmax
comp=Z,48nm,0.9s,mb5.4
SSF Saint Saulge 80.73 342 *e*P **P** 03 11 18.7 -0.2
comp=Z,48nm,0.9s,mb5.4
MCGN Macugnaga 80.78 338 P **P** 03 11 19.9 +0.8
TTG Podgorica 80.78 329⇓*i*P **P** 03 11 16.7 -2.5
DIX Grande Dixence 80.80 339⇑P **P** 03 11 20.5 +1.3
LOS Limnos 80.90 324 *e*P **P** 03 11 19.9 -0.1
EMV Vieux Emosson 80.93 339⇑P **P** 03 11 20.9 +0.9
GRG Griva 81.00 326 *e*P **P** 03 11 20.0 -0.4
BUM Brajici-Budva 81.01 329⇓*i*P **P** 03 11 18.8 -1.6
HCY Herceg Novi 81.01 330⇓*i*P **P** 03 11 19.7 -0.8
AVF Avril sur Loir 81.02 342 *e*P **P** 03 11 20.6 +0.2
comp=Z,253nm,1.1s,mb5.8
AVF Avril sur Loir 81.02 342 *e*P **P** 03 11 20.6 +0.2
AVF pmax pmax
comp=Z,127nm,1.1s,mb5.8
SMF Signal de Mont 81.06 341 *e*P **P** 03 11 20.9 +0.3
comp=Z,367nm,1.2s,mb5.9
SMF Signal de Mont 81.06 341 *e*P **P** 03 11 20.9 +0.3
SMF pmax pmax
comp=Z,183nm,1.2s,mb5.9
ORX Oropa 81.08 338 P **P** 03 11 21.4 +0.7
ORO Oropa 81.09 338 P **P** 03 11 21.3 +0.5
QUIF Quistinic 81.11 346 *e*P **P** 03 11 21.1 +0.2
comp=Z,129nm,0.9s,mb5.6
QUIF Quistinic 81.11 346 *e*P **P** 03 11 21.1 +0.2
QUIF pmax pmax
comp=Z,64nm,0.9s,mb5.5
ULC Ulcinj 81.19 329⇓*i*P **P** 03 11 20.0 -1.4
DENT Denizli 81.20 320 *e*P **P** 03 11 21.1 -0.4
DNZL Cakiroluk 81.25 320 *i*P **P** 03 11 22.4 +0.6
TRAV 81.25 338 P **P** 03 11 21.1 -0.5
PHNC Paralimni 81.34 315 P **P** 03 11 21.8 -0.5
BGF Bois d'Agland 81.35 342 *e*P **P** 03 11 22.3 +0.2
comp=Z,49nm,0.6s,mb5.3
BGF Bois d'Agland 81.35 342 *e*P **P** 03 11 22.3 +0.2
BGF pmax pmax
comp=Z,24nm,0.6s,mb5.3
RSL Roselend 81.35 339⇑*e*P **P** 03 11 22.9 +0.8
KDAG Bornova 81.37 322 *i*P **P** 03 11 21.7 -0.7
IZM Izmir 81.37 322 *e*P **P** 03 11 20.0 -2.4
PAIG Paliouri 81.43 325 *e*P **P** 03 11 21.9 -0.8
LSD Ceresole Reale 81.44 339 P **P** 03 11 23.6 +1.0
LPL La Plagne 81.49 339 *e*P **P** 03 11 23.9 +1.0
comp=Z,216nm,0.9s,mb5.8

LPL	La Plagne	81.49	339	eP	P	03 11 23.9 +1.0
LPL				pmax	pmax	
	comp=Z,108nm,0.9s,mb5.8					
LPG	La Plagne	81.50	339	eP	P	03 11 24.2 +1.3
	comp=Z,172nm,0.8s,mb5.8					
FNA	Florina	81.51	327	eP	P	03 11 22.5 -0.6
ZCCA	Zocca	81.51	336	P	P	03 11 25.0 +2.0
BOB	Bobbio (Coli)	81.53	337	P	P	03 11 24.2 +1.1
MAMC	Mammari	81.57	316	P	P	03 11 23.0 -0.5
ERBM	Eremo	81.60	336	P	P	03 11 25.3 +1.8
GSCL	Gusciola	81.62	336	P	P	03 11 24.9 +1.3
GRAM		81.62	336	P	P	03 11 24.3 +0.7
FSSB	Fossombrone	81.62	334	P	P	03 11 24.7 +1.1
ELL	Elmali	81.69	319	eP	P	03 11 23.4 -0.7
SFI	Santa Sofia	81.69	335	P	P	03 11 25.7 +1.8
CSS	Prodhromos	81.69	316	eP	P	03 11 23.8 -0.3
	comp=Z,71nm,0.7s,mb5.7					
RSP	Reno Superiore	81.71	338	P	P	03 11 23.7 -0.3
VALM		81.71	336	P	P	03 11 24.1 +0.1
VMG	Vicchio	81.72	335	P	P	03 11 26.1 +2.0
TCF	Toulx Ste Croi	81.73	342	eP	P	03 11 24.6 +0.5
	comp=Z,137nm,0.9s,mb5.6					
TCF	Toulx Ste Croi	81.73	342	eP	P	03 11 24.6 +0.5
TCF				pmax	pmax	
	comp=Z,69nm,0.9s,mb5.6					
PGD	Poggio Sodo	81.75	335	P	P	03 11 25.8 +1.5
LEF	Lefka	81.76	316	eP	P	03 11 24.0 -0.5
CODM		81.77	336	P	P	03 11 25.1 +0.7
VLC	Villacollemand	81.85	336	eP	P	03 11 25.1 +0.4
	comp=Z,124nm,0.9s,mb5.8					
ALFC	Alevga	81.86	316	⇑P	P	03 11 24.2 -0.8
	comp=Z,1.8nm,0.6s					
ALFC	Alevga	81.86	316	⇑eP	P	03 11 24.2 -0.8
FENE	Fenestrelle	81.87	338	P	P	03 11 25.3 +0.4
MFF	Saint Martin d	81.88	344	eP	P	03 11 25.5 +0.6
	comp=Z,220nm,1.0s,mb5.7					
MFF	Saint Martin d	81.88	344	eP	P	03 11 25.5 +0.6
MFF				pmax	pmax	
	comp=Z,110nm,1.0s,mb5.7					
BDI	Bagni Di Lucca	81.88	336	P	P	03 11 25.3 +0.4
LCHF	La Chataignera	81.92	344	⇑eP	P	03 11 26.5 +1.4
CRE	Caprese Michel	81.92	335	P	P	03 11 26.4 +1.2
GDM	Grand'Maison	81.93	339	⇑eP	P	03 11 26.4 +1.3
VINC	Vinca	81.93	336	P	P	03 11 24.8 -0.4
BNI	Bardonecchia	81.94	339	P	P	03 11 25.7 +0.5
BNI				pmax	pmax	
	comp=Z,62nm,1.1s,mb5.5					
BNI	Bardonecchia	81.94	339	eP	P	03 11 26.0 +0.8
	comp=Z,70nm,0.9s,mb5.6					
SALA	Sala	81.96	312	⇓P	P	03 11 20.5 -5.1
PCP	Pian Castagno	81.97	337	P	P	03 11 25.1 -0.3
GRN	Grenoble	81.97	339	⇑eP	P	03 11 26.5 +1.1
SNTG	Esanatoglia	81.98	334	P	P	03 11 26.5 +1.0
BHB	Bricherasio	82.00	338	P	P	03 11 24.5 -1.0
RRL	Cesana Torines	82.04	339	P	P	03 11 26.6 +0.9
YER	Yerkesik	82.04	320	eP	P	03 11 25.6 -0.3
SZAC	Souni-Zanaja	82.06	316	P	P	03 11 25.6 -0.5
AKMC	Akamas	82.08	317	⇑P	P	03 11 25.4 -0.8
AKMC	Akamas	82.08	317	⇑eP	P	03 11 25.4 -0.8
OG22	Abries	82.09	338	⇑eP	P	03 11 28.3 +2.3
XOR	Xorichti	82.10	325	eP	P	03 11 25.2 -0.9
LRYF	La Roche-sur-Y	82.15	345	⇑eP	P	03 11 27.2 +0.9
PPCY	Paphos	82.20	316	⇑P	P	03 11 26.1 -0.7
PPCY	Paphos	82.20	316	⇑eP	P	03 11 26.1 -0.7
PII	Pisa	82.22	336	P	P	03 11 26.5 -0.2
MBDF	Montbardon	82.22	339	eP	P	03 11 27.2 +0.5
	comp=Z,92nm,1.0s,mb5.4					
MBDF	Montbardon	82.22	339	eP	P	03 11 27.2 +0.5
MBDF				pmax	pmax	
	comp=Z,46nm,1.0s,mb5.4					
CSNT	Castellina Chi	82.24	335	P	P	03 11 27.0 +0.2
ORIF	Oris-en-Rattie	82.25	339	eP	P	03 11 27.8 +1.0
	comp=Z,82nm,0.8s,mb5.4					
ORIF				eR		
	comp=Z,926nm,22.2s					
STKA	Stephens Creek	82.29	193	⇓iP	P	03 11 28.3 +1.0
	comp=Z,5.2nm,1.6s					
STKA	Stephens Creek	82.29	193	P	P	03 11 27.9 +0.6
	comp=Z,5.0nm,0.8s,mb4.5,baz=358,slow=9.4,SNR=5.4					
STKA				LR	LR	03 46 30.0
	comp=Z,374nm,19.1s,MS4.8,baz=279,slow=34					
NRCA	Norcia	82.32	334	P	P	03 11 28.3 +1.1
DOI	San Damiano	82.32	338	P	P	03 11 26.4 -0.8
ASF	Jabal al Asfar	82.32	312	P	P	03 11 27.6 +0.1
	comp=Z,60nm,0.9s,mb5.5,baz=269,slow=3.7,SNR=56					
ASF				LR	LR	03 51 57.6
	comp=Z,622nm,21.1s,MS5.0,baz=87,slow=38					
PZZ	Prazzo	82.35	338	P	P	03 11 26.7 -0.7
FIN	Finale Ligure	82.36	337	P	P	03 11 26.6 -0.8
ROB	Roburent	82.36	338	P	P	03 11 26.8 -0.6
SURF	Saint Ours	82.45	338	⇑eP	P	03 11 28.8 +1.0
ENR	Entracque	82.54	338	P	P	03 11 26.7 -1.6
STV	Sta Anna Valdi	82.55	338	P	P	03 11 26.7 -1.6
VIVF	Saint-Julien-I	82.58	340	eP	P	03 11 29.3 +0.8
	comp=Z,178nm,1.1s,mb5.7					
VIVF	Saint-Julien-I	82.58	340	eP	P	03 11 29.3 +0.8
VIVF				pmax	pmax	
	comp=Z,89nm,1.1s,mb5.7					
MONE	Monesi	82.59	338	P	P	03 11 28.5 -0.1
AQU	L'Aquila	82.67	333	eP	P	03 11 30.2 +1.2
AQU				pmax	pmax	
	comp=Z,72nm,0.8s,mb5.8					
AQU	L'Aquila	82.67	333	eP	P	03 11 30.2 +1.2
	comp=Z,72nm,0.8s,mb5.8					
IMI	Imperia	82.72	338	P	P	03 11 29.3 0.0
AGG	Agios Georgios	82.72	326	eP	P	03 11 27.9 -1.4
OG25	Le Caire	82.72	339	⇑eP	P	03 11 30.2 +1.0
SAOF	Saorge	82.73	338	eP	P	03 11 29.5 +0.2
TOUF	Mont Tournerai	82.78	338	eP	P	03 11 30.0 +0.5
RJF	Les Rejaudoux	82.81	342	eP	P	03 11 30.2 +0.5
	comp=Z,304nm,1.2s,mb5.9					
RJF				eR		
	comp=Z,1μm,22.0s					
RJF	Les Rejaudoux	82.81	342	eP	P	03 11 30.2 +0.5
RJF				pmax	pmax	
	comp=Z,152nm,1.2s,mb5.9					
RJF				MLR	MLR	
	comp=Z,1μm,22.0s,MS5.2					
MNS	Montasola	82.86	334	P	P	03 11 30.3 +0.3
SBF	Sospel	82.88	338	eP	P	03 11 30.2 +0.2
PTQR	Pietraquaria	82.98	333	P	P	03 11 31.2 +0.6
IGT	Igoumenitsa	82.99	327	eP	P	03 11 30.3 -0.4
REVF	Revere	83.01	338	eP	P	03 11 31.1 +0.4
CAF	Calviac	83.07	342	eP	P	03 11 32.1 +1.1
	comp=Z,192nm,1.0s,mb5.8					
CAF	Calviac	83.07	342	eP	P	03 11 32.1 +1.1
CAF				pmax	pmax	
	comp=Z,96nm,1.0s,mb5.8					
SMRF	Simiane la Rot	83.21	339	eP	P	03 11 33.0 +1.3
	comp=Z,180nm,1.2s,mb5.7					
VILF	Villemus	83.30	339	eP	P	03 11 33.6 +1.4
LFF	La Frestale	83.32	343	eP	P	03 11 33.1 +0.9
	comp=Z,536nm,1.3s,mb6.1					
LFF	La Frestale	83.32	343	eP	P	03 11 33.1 +0.9
LFF				pmax	pmax	
	comp=Z,268nm,1.3s,mb6.1					
FRF	La Foret Royal	83.35	338	eP	P	03 11 32.6 +0.1
TAVF	Tavernes	83.44	339	eP	P	03 11 34.0 +1.1
PRAF	Pradon	83.47	339	eP	P	03 11 34.3 +1.3
LASF	Ste Croix	83.50	340	eP	P	03 11 34.1 +1.0
	comp=Z,198nm,1.3s,mb5.8					
CSSN	Cassano Irpino	83.55	331	P	P	03 11 33.7 +0.3
TREF	Trevaresse	83.59	339	eP	P	03 11 35.3 +1.7
LMR	La Mourre	83.60	338	eP	P	03 11 34.1 +0.5
	comp=Z,462nm,1.3s,mb6.2					
LMR	La Mourre	83.60	338	eP	P	03 11 34.1 +0.5
LMR				pmax	pmax	
	comp=Z,231nm,1.3s,mb6.2					
PUYF	Puyloubier	83.60	339	eP	P	03 11 34.9 +1.3
BERF	Bertagne	83.81	339	eP	P	03 11 36.0 +1.3
FORT	Forrest	83.99	204	⇓iP	P	03 11 37.2 +1.3
	comp=Z,206nm,0.7s,mb6.4					
RBK	Rabkut	84.36	290	P	P	03 11 38.1 +0.1
	SNR=18					
TIP	Timpagrande	84.53	330	eP	P	03 11 38.5 +0.1
MTLF	Montolieu	84.56	341	eP	P	03 11 39.6 +1.2
	comp=Z,108nm,1.0s,mb5.6					
MTLF	Montolieu	84.56	341	eP	P	03 11 39.6 +1.2
MTLF				pmax	pmax	
	comp=Z,54nm,1.0s,mb5.6					
RAYN	Ar Rayn	84.77	300	P	P	03 11 40.4 +0.4
	comp=Z,567nm,1.2s,SNR=48					
GRI	Girifalco	84.96	330	P	P	03 11 41.3 +0.7
IDI	Anoyia	85.01	322	P	P	03 11 39.0 -1.9
	comp=Z,26nm,0.6s,mb5.5,baz=29,slow=8.6,SNR=21					
ABTO	Aybut	85.02	291	P	P	03 11 41.8 +0.5
	SNR=13					
EPF	Esparros	85.23	343	eP	P	03 11 42.4 +0.6
	comp=Z,143nm,1.2s,mb5.7					
EPF	Esparros	85.23	343	eP	P	03 11 42.4 +0.6
EPF				pmax	pmax	
	comp=Z,72nm,1.2s,mb5.7					
EIL	Elat	85.33	312	P	P	03 11 42.6 0.0
	comp=Z,49nm,0.8s,mb5.7,baz=11,slow=6.4,SNR=45					
EIL	Elat	85.33	312	eP	P	03 11 42.8 +0.2
	comp=Z,216nm,1.4s,mb6.1					
SJPF	Ste Jean	85.45	344	eP	P	03 11 44.2 +1.3
ETSF	Etsaut	85.53	343	eP	P	03 11 44.7 +1.4
	comp=Z,24nm,0.7s,mb5.3					
ETSF	Etsaut	85.53	343	eP	P	03 11 44.7 +1.4
ETSF				pmax	pmax	
	comp=Z,12nm,0.6s,mb5.3					
SOI	Samo	85.76	330	P	P	03 11 44.5 0.0
VSL	Villasalto	86.47	335	eP	P	03 11 48.5 +0.6
	comp=Z,121nm,1.0s,mb6.1					
KLBR	Kellerberrin	87.90	212	eP	P	03 11 55.5 +0.4
	comp=Z,422nm,1.2s					
PVRL	Vila Real	88.28	348	eP	P	03 11 56.9 +0.3
	comp=Z,69nm,1.8s,mb5.6					
PVIS	Viseu	88.85	348	eP	P	03 11 59.5 +0.1
	comp=Z,84nm,1.9s,mb5.7					
MTE	Manteigas	89.11	348	eP	P	03 12 00.8 +0.2
	comp=Z,59nm,1.2s,mb5.8					
MTE				eSS	SS	03 28 47.3 +6.3
MTE				eLQ		03 36 40.9
MTE				eLR	LR	03 41 35.0
	comp=Z,405nm,20.0s					
ESDC	Sonseca Array	89.27	345	P	P	03 12 01.5 +0.1
	comp=Z,8.4nm,0.8s,mb5.1,baz=2.4,slow=3.6,SNR=28					
URZ	Urewera	89.54	164	P	P	03 12 05.7 +3.0
	comp=Z,4.9nm,0.7s,mb4.9,baz=265,slow=11,SNR=3.2					
KMBO	Kilima Mbogo	109.22	292	PFAKE		03 17 50.0
KMBO				LR	LR	
	comp=Z,357nm,20.0s,MS4.9					
DBIC	Dimbokro	121.46	338	PKIKP	PKPdf	03 17 58.3 +0.2
DBIC				pmax	pmax	
	comp=Z,4.0nm,0.8s					
DBIC	Dimbokro	121.46	338	PKP	PKPdf	03 17 58.3 +0.2
	comp=Z,3.6nm,0.8s,baz=180,slow=0.8,SNR=8.2					
DBIC	Dimbokro	121.46	338	ePKPdf	PKPdf	03 17 58.7 +0.6
LSZ	Lusaka	125.82	290	ePKIKP	PKPdf	03 18 08.1 +1.7
VNDA	Vanda	127.03	178	PKIKP	PKPdf	03 18 08.6 +1.4
VNDA				pmax	pmax	
	comp=Z,2.0nm,0.8s					
VNDA	Vanda	127.03	178	PKP	PKPdf	03 18 08.6 +1.4
	comp=Z,1.9nm,0.8s,baz=318,slow=3.5,SNR=10					
SBA	Scott Base	127.49	177	ePKIKP	PKPdf	03 18 10.0 +1.9
LPAZ	La Paz	131.11	63	PKIKP	PKPdf	03 18 18.8 +2.3
LPAZ				pmax	pmax	
	comp=Z,5.0nm,0.8s					
LPAZ	La Paz	131.11	63	PKP	PKPdf	03 18 18.8 +2.3
	comp=Z,4.7nm,0.8s,baz=4.3,slow=4.8,SNR=16					
LPAZ	La Paz	131.11	63	ePKPdf	PKPdf	03 18 18.3 +1.8
LPAZ				LR	LR	
	comp=Z,258nm,20.0s,MS4.9					
LVC	Limon Verde	135.53	69	ePKPdf	PKPdf	03 18 27.2 +2.5
LVC				LR	LR	
	comp=Z,1μm,22.0s,MS5.5					
QSPA	South Pole Qui	139.48	180	⇓iP	PKPdf	03 18 33.6 +3.2
QSPA				LR	LR	
	comp=Z,427nm,21.0s,MS5.2					
BDFB	Brasilia	140.69	39	PKHKP		03 18 29.1
BDFB				pmax	pmax	
	comp=Z,8.0nm,1.1s					
BDFB	Brasilia	140.69	39	PKhKP		03 18 29.1
	comp=Z,8.1nm,1.1s,baz=71,slow=3.5,SNR=3.8					
SYO	Syowa Base	144.56	214	⇓PKPbc	PKPbc	03 18 39.2 +0.1
PLCA	Paso Flores	146.32	93	PKP2	PKPab	03 18 46.1 -1.3
PLCA				pmax	pmax	
	comp=Z,8.0nm,0.7s					
PLCA	Paso Flores	146.32	93	PKPbc	PKPbc	03 18 46.1 +1.7
	comp=Z,7.9nm,0.7s,baz=293,slow=3.2,SNR=20					
PLCA	Paso Flores	146.32	93	ePKPdf	PKPdf	03 18 45.2 +2.0
TRQA	Tornquist	150.40	81	ePKPbc	PKPdf	03 18 55.8 +6.0
SNAA	Sanae	156.01	196	⇑iP	PKPab	03 19 25.8 -0.8
SNAA	Sanae	156.01	196	PKP2	PKPab	03 19 25.6 -1.0
SNAA				pmax	pmax	
	comp=Z,6.0nm,0.9s					
SNAA	Sanae	156.01	196	PKPab	PKPab	03 19 25.6 -1.0
	comp=Z,6.0nm,0.9s,baz=142,slow=5.4,SNR=12					
VNA2	Neumayer--Watz	157.42	194	⇑iPKPdf	PKPdf	03 18 59.4 +0.8
VNA2				e		03 19 32.0
VNA2				e		03 19 54.1
VNA3	Neumayer Olymp	157.46	192	⇑iPKPdf	PKPdf	03 18 58.0 -0.6
VNA3				e		03 19 31.7

JMA 20 03:01:35.5±0.1, 43.01N×144.86E, h61km±1km, M4.2, 3C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	Akkeshi	0.12	263	⇑P	P	03 01 44.7	0.0
JAK				S	S	03 01 51.4	-0.1
JNK	Nakash	0.58	350	P	P	03 01 47.9	-0.7
JNK				S	S	03 01 56.9	-1.2
NEM2	Nemuro 2	0.74	61	⇑P	P	03 01 49.7	-0.6
NEM2				S	S	03 01 59.9	-1.5
JOB	Onbets	0.76	262	P	P	03 01 50.5	-0.1
JOB				S	S	03 02 01.4	-0.5
JAR	Ashorobuto	0.85	290	P	P	03 01 51.6	-0.2
JAR				S	S	03 02 03.4	-0.5
JRA	Rausu	0.95	12	⇑P	P	03 01 52.9	-0.2
JRA				S	S	03 02 05.6	-0.6
JCH	Churui	1.17	251	P	P	03 01 55.6	-0.5
JCH				eS	S	03 02 09.9	-1.6
JTKR	Abashiri--Toko	1.18	325	⇓P	P	03 01 56.4	+0.1
JTKR				eS	S	03 02 12.1	+0.3
JMP	Maruseppu	1.48	313	⇓P	P	03 02 00.2	-0.3

*MOS **20** 03:09:53.3±1.2, 51.66N×16.09E, h10km, mb4.2/4, Error ellipse: s-maj=9.4km s-min=4.5km az=82.7*
*LDG **20** 03:09:54.0±0.3, 51.57N×16.18E, h1km, Ml4.1/11, Error ellipse: s-maj=8.0km s-min=2.3km az=6.0, Suspected Mining induced.*
*CSEM **20** 03:09:54.4±0.1, 51.55N×16.16E, h2km, mb3.5/4, ML4.1/15, Error ellipse: s-maj=1.4km s-min=1.2km az=145.0*
*NEIC **20** 03:09:54.2±0.3, 51.63N×16.03E, h5km, mb3.8/3, ML3.9(VIE), ML3.4(CLL), ML3.4(BRG), Error ellipse: s-maj=5.5km s-min=4.5km az=108.0*
*PRU **20** 03:09:55.7, 51.51N×16.11E*
*IDC **20** 03:09:55.4±0.6, 51.54N×15.97E, mb3.6/4, mb1 3.9/13, mb1mx3.8/21, mbtmp3.7/13, ML3.6/9, Error ellipse: s-maj=10.6km s-min=6.6km az=97.0*
*IPEC **20** 03:09:56.0±0.3, 51.51N×16.54E, ML3.2/4, Error ellipse: s-maj=3.8km s-min=2.1km az=90.0*
*WAR **20** 03:09:56.3, 51.56N×16.10E, h1km, ML3.7, Mining Induced*

ISC 20 03:09:53.2±0.3, 51.52N±0.02×16.11E±0.03, n110, σ1§31/185, mb3.7/7, 5C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.69	170	⇓iP	Pg	03 10 09.5	+2.5
KSP				e		03 10 25.0	
KSP	Ksiaz	0.69	170	⇓iPg	Pg	03 10 09.5	+2.5
KSP				i Sg	Sg	03 10 19.1	+3.0
KSP				e		03 10 25.0	
KSP	Ksiaz	0.69	170	ePg	Pg	03 10 09.6	+2.6
KSP				eSg	Sg	03 10 19.2	+3.1
KSP	Ksiaz	0.69	170	i P	Pg	03 10 09.5	+2.5
KSP				i Sg	Sg	03 10 19.1	+3.0
KSP				eS	Sg	03 10 25.0	+8.9
UPC	Upice	1.02	184	ePG	Pg	03 10 15.4	+1.9
DPC	Dobruska-Polom	1.18	173	eP	Pg	03 10 18.2	+1.4
DPC				e		03 10 34.0	
DPC				smax			
	comp=N,425nm,0.6s						
DPC	Dobruska-Polom	1.18	173	ePG	Pg	03 10 18.2	+1.4
DPC				eSG	Sg	03 10 34.0	+1.5
	comp=N,425nm,0.6s						
PVCC	Panska Ves	1.39	225	ePG	Pg	03 10 21.6	+0.6
BRG	Berggiesshubel	1.51	245	eP	Pn	03 10 22.6	+1.0
BRG				i		03 10 44.5	
BRG	Berggiesshubel	1.51	245	ePn	Pn	03 10 22.6	+1.0
BRG				i Pg	Pg	03 10 24.1	+0.7
BRG				i Sg	Sg	03 10 44.5	+0.9
BRG	Berggiesshubel	1.51	245	i Pg	Pg	03 10 24.1	+0.7
BRG				i S	Sg	03 10 44.5	+0.9
RUE	Ruedersdorf	1.73	305	ePn	Pn	03 10 24.9	+0.1
RUE				eSn	Sn	03 10 48.5	+0.5
RUE	Ruedersdorf	1.73	305	ePn	Pn	03 10 24.9	+0.1
PRU	Pruhonice	1.83	214	eP	Pn	03 10 27.5	+1.3
PRU				e		03 10 54.2	
PRU				smax			
	comp=N,307nm,0.5s						
PRU	Pruhonice	1.83	214	ePN	Pn	03 10 27.5	+1.3
PRU				ePG	Pg	03 10 29.5	-0.3
PRU				eSG	Sg	03 10 54.2	0.0
	comp=N,306nm,0.5s						
GKP	Gorka Klasztor	1.88	21	eP	Pn	03 10 27.7	+0.8
GKP				e		03 10 34.9	
GKP				e		03 10 36.2	
GKP	Gorka Klasztor	1.88	21	ePn	Pn	03 10 27.7	+0.8
GKP				ePg	Pg	03 10 29.5	-1.3
GKP				e		03 10 34.9	
GKP				e		03 10 36.2	
GKP				eSg	Sg	03 10 57.3	+1.4
GKP	Gorka Klasztor	1.88	21	ePn	Pn	03 10 27.7	+0.7
GKP				ePg	Pg	03 10 29.5	-1.3
GKP				e		03 10 34.9	
GKP				e		03 10 36.2	
GKP				eSg	Sg	03 10 57.3	+1.4
RAC	Raciborz	1.95	137	ePN	Pn	03 10 29.0	+1.0
RAC				ePG	Pg	03 10 33.0	+0.8
RAC				eSN	Sn	03 10 58.0	+4.5
RAC	Raciborz	1.95	137	eP	Pn	03 10 28.9	+0.9
RAC				e		03 10 58.2	
RAC	Raciborz	1.95	137	ePg	Pg	03 10 32.9	+0.7
RAC				eSg	Sg	03 10 58.2	-0.1
CLL	Collm	1.96	265	i P	Pn	03 10 28.5	+0.5
CLL				i		03 10 57.7	
CLL	Collm	1.96	265	i Pn	Pn	03 10 28.5	+0.5
CLL				i Pg	Pg	03 10 31.7	-0.6
CLL				i Sg	Sg	03 10 57.7	-0.8
CLL	Collm	1.96	265	i PN	Pn	03 10 28.5	+0.5
	comp=N,logA/T=2.2						
CLL				i PG	Pg	03 10 31.7	-0.6
CLL				i		03 10 35.6	
CLL				i SG	Sg	03 10 57.7	-0.8
CLL	Collm	1.96	265	i Pg	Pg	03 10 31.7	-0.6
CLL				i S	Sg	03 10 57.7	-0.8
MORC	Moravsky Berou	1.97	152	ePn	Pn	03 10 29.4	+1.2
MORC				eSn	Sn	03 10 52.6	-1.3
MORC	Moravsky Berou	1.97	152	eP	Pn	03 10 29.4	+1.2
MORC				eSn	Sn	03 10 52.7	-1.2
MORC				eS	Sn	03 10 52.7	-1.2
MORC				eSg	Sg	03 10 53.6	-5.2
	comp=N,182nm,0.5s						
OKC	Ostrava-Krasne	2.12	142	eP	Pn	03 10 30.9	+0.5
OKC				e		03 11 03.0	
OKC	Ostrava-Krasne	2.12	142	ePN	Pn	03 10 30.9	+0.5
OKC				ePG	Pg	03 10 35.7	+0.1
OKC				eSG	Sg	03 11 03.0	-1.0
OKC	Ostrava-Krasne	2.12	142	ePg	Pg	03 10 35.7	+0.1
OKC				eSg	Sg	03 11 03.0	-1.0
VRAC	Vranov	2.24	172	P	Pn	03 10 33.9	+1.9
VRAC						03 11 06.8	
VRAC				pmax	pmax		
	comp=Z,12nm,0.3s						
VRAC	Vranov	2.24	172	Pn	Pn	03 10 33.9	+1.9
	comp=Z,12nm,0.3s,baz=337,slow=14,SNR=85						
VRAC				Lg		03 11 06.8	
	comp=Z,28nm,0.3s,baz=263,slow=16,SNR=10						
VRAC	Vranov	2.24	172	P	Pn	03 10 33.9	+1.9
	comp=Z,6.0nm,0.3s						
VRAC				eSg	Sg	03 11 06.0	-1.7
	comp=Z,143nm,0.5s						
VRAC				S	Sn	03 11 06.8	+6.1
KRUC	Moravsky	2.47	176	ePn	Pn	03 10 37.1	+1.8
KRUC				eSg	Sg	03 11 12.2	-3.2
	comp=Z,59nm,0.3s						
NKC	Novy Kostel	2.66	242	eP	Pn	03 10 39.1	+1.1
NKC				e		03 11 20.8	
NKC				smax			
	comp=N,312nm,0.4s						
NKC	Novy Kostel	2.66	242	ePN	Pn	03 10 39.1	+1.1
NKC				ePG	Pg	03 10 45.9	-0.3
NKC				eSG	Sg	03 11 20.8	-0.8
	comp=N,312nm,0.4s						
OJC	Ojcow	2.67	118	ePN	Pn	03 10 37.0	-1.3
OJC				i PG	Pg	03 10 46.9	+0.3
OJC				eSN	Sn	03 11 12.9	+1.1
OJC				i SG	Sg	03 11 21.8	-0.4
OJC	Ojcow	2.67	118	eP	Pn	03 10 37.5	-0.8
OJC				e		03 11 11.6	
OJC	Ojcow	2.67	118	ePn	Pn	03 10 37.5	-0.8
OJC				i Pg	Pg	03 10 46.9	+0.3
OJC				eSn	Sn	03 11 11.6	-0.2
OJC				i Sg	Sg	03 11 21.8	-0.4
OJC	Ojcow	2.67	118	i Pg	Pg	03 10 46.9	+0.3
OJC				eS	Sn	03 11 11.6	-0.2
OJC				i Sg	Sg	03 11 21.8	-0.4
KHC	Kasperske Hory	2.89	215	eP	Pn	03 10 42.2	+0.8
KHC				e		03 11 17.5	
KHC				smax			
	comp=N,102nm,0.5s						
KHC	Kasperske Hory	2.89	215	ePN	Pn	03 10 42.2	+0.8
KHC				ePG	Pg	03 10 48.6	-2.4
KHC				eSN	Sn	03 11 17.5	+0.1
KHC				eSG	Sg	03 11 27.8	-1.7
	comp=N,102nm,0.5s						
KHC	Kasperske Hory	2.89	215	ePg	Pg	03 10 48.6	-2.4
KHC				eS	Sn	03 11 17.5	+0.1
	comp=N,51nm,0.5s						
KHC				eSn	Sn	03 11 17.5	+0.1
KHC				Sg	Sg	03 11 27.8	-1.7
	comp=N,102nm,0.5s						
MOX	Moxa	2.97	255	ePn	Pn	03 10 42.8	+0.3
MOX				ePg	Pg	03 10 51.2	-1.3
MOX				eSg	Sg	03 11 31.1	-1.0
MOX	Moxa	2.97	255	i P	Pn	03 10 42.8	+0.3
MOX				Pg	Pg	03 10 51.0	-1.5
MOX				Sg	Sg	03 11 31.0	-1.1
GEC2	GERESS Array S	3.10	211	eP	Pn	03 10 45.

CRVS	Cervenica-Dubn	4.32	125	eSg		Sg	03 12 10.5	-6.6
CRVS	Cervenica-Dubn	4.32	125	e		Pg	03 11 19.7	+0.2
PSZ	Piszkesteto	4.36	144	eP		Pn	03 11 03.6	+1.3
KWP	Kalwaria	4.61	112	eP		Pn	03 11 06.0	+0.2
KBA	Koelnbreinsper	4.80	203	⇑iPN		Pn	03 11 09.8	+1.3
KBA				i SG		Sg	03 12 28.8	-4.3
	comp=Z,52nm,0.7s							
KBA	Koelnbreinsper	4.80	203	⇑iPn		Pn	03 11 09.8	+1.3
KBA				i Sg		Sg	03 12 28.8	-4.3
	comp=Z,52nm,0.7s							
KBA	Koelnbreinsper	4.80	203	i		Pn	03 11 09.8	+1.3
SUW	Suwalki	4.96	57	ePn		Pn	03 11 08.2	-2.6
STU	Stuttgart	5.23	241	P		Pn	03 11 16.9	+2.3
DAVOX	Davos	6.26	223	Pn		Pn	03 11 29.7	+0.6
	comp=Z,1.2nm,0.3s,baz=51,slow=14,SNR=3.9							
DAVOX				Lg			03 13 14.8	
	comp=Z,2.4nm,0.3s,baz=199,slow=17,SNR=3.9							
CDF	Champ du Feu	6.49	245	ePn		Pn	03 11 30.5	-1.9
CDF				eSg		Sg	03 13 19.6	-10
	comp=Z,100nm,0.9s							
HINF	Hinteralfeld	7.06	242	ePn		Pn	03 11 36.6	-3.8
HINF				eSg		Sg	03 13 37.5	-11
	comp=Z,78nm,1.1s							
HAU	Haudompre	7.24	245	ePn		Pn	03 11 39.0	-3.8
HAU				eSg		Sg	03 13 39.5	-15
	comp=Z,66nm,0.9s							
GIVF	Givet	7.29	263	eSg		Sg	03 13 43.6	-12
	comp=Z,43nm,0.9s							
RFYF	Reffroy	7.43	251	eSg		Sg	03 13 48.3	-12
	comp=Z,39nm,0.9s							
BAIF	Baives	7.69	264	eSg		Sg	03 13 55.2	-14
	comp=Z,25nm,0.8s							
MEZF	Maizieres J'vi	7.74	251	eSg		Sg	03 13 58.3	-13
	comp=Z,40nm,1.0s							
CABF	La Chapelle	8.21	237	ePn		P	03 11 52.4	-4.1
CABF				eSg		Sg	03 14 13.5	-13
	comp=Z,83nm,1.0s							
AKASG	Malin Array Be	8.29	91	Pn		P	03 11 54.5	-3.1
	comp=Z,2.3nm,0.3s,baz=279,slow=12,SNR=10							
AKASG				Sn		Sn	03 13 26.4	-6.7
	comp=Z,1.2nm,0.3s,baz=267,slow=25,SNR=4.3							
HFS	Hagfors	8.74	352	Pn		P	03 12 00.1	-3.7
	comp=Z,0.0nm,0.3s,baz=141,slow=9.2,SNR=3.3							
HFS				Sn		Sn	03 13 36.9	-7.4
	comp=Z,0.1nm,0.3s,baz=153,slow=23,SNR=3.5							
SSF	Saint Saulge	9.37	246	eSg		Sg	03 14 49.1	-16
	comp=Z,13nm,1.0s							
SBF	Sospel	9.63	221	ePn		P	03 12 11.9	-4.2
NOA	NORSAR Array B	9.92	346	Pn		P	03 12 15.3	-4.7
	comp=Z,0.2nm,0.3s,baz=176,slow=17,SNR=2.5							
FRF	La Foret Royal	10.21	222	ePn		P	03 12 19.3	-4.7
FINES	FINESS Array B	11.35	25	Pn		P	03 12 35.5	-4.1
	comp=Z,0.3nm,0.3s,baz=208,slow=11,SNR=10							
FINES				Sn		S	03 14 33.8	-15
	comp=Z,0.4nm,0.3s,baz=204,slow=24,SNR=4.5							
KAF	Kangasniemi	11.98	24	ep		P	03 12 43.0	-5.0
	comp=Z,0.6nm,0.3s							
KAF	Kangasniemi	11.98	24	eP		P	03 12 43.0	-5.0
KAF				pmax	pmax			
	comp=Z,1.0nm,0.3s							
EKA	Eskdalemuir Ar	12.10	296	Pn		P	03 12 44.0	-5.8
	comp=Z,0.3nm,0.3s,baz=96,slow=14,SNR=4.1							
OBN	Obninsk	12.74	66	⇑eP		P	03 13 10.5	+12
OBN				pmax	pmax			
	comp=Z,20nm,1.7s							
OBN				MLR	MLR			
	comp=Z,100nm,12.0s							
JOF	Joensuu	14.03	30	ep		P	03 13 09.1	-6.1
	comp=Z,0.4nm,0.3s							
ARCES	ARCESS Array B	18.61	10	Pn		P	03 14 08.6	-5.1
	comp=Z,0.2nm,0.3s,baz=190,slow=15,SNR=6.8							
KEV	Kevo	19.00	12	ep		P	03 14 16.1	-2.2
	comp=Z,0.4nm,0.3s							
BRVK	Borovoye	32.51	66	P		P	03 16 27.3	-0.1
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.2							
BRVK	Borovoye	32.51	66	P		P	03 16 27.3	-0.1
	comp=Z,1.5nm,1.0s,mb3.9							
KURK	Kurchatov	38.18	66	P		P	03 17 14.4	-1.4
KURK				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.6							
KURK	Kurchatov	38.18	66	P		P	03 17 14.4	-1.4
	comp=Z,1.3nm,0.8s,mb3.7							
KURK	Kurchatov	38.18	66	P		P	03 17 14.4	-1.4
	comp=Z,0.5nm,0.8s,mb3.3							
AAK	Ala-Archa	39.77	79	eP		P	03 17 29.3	+0.2
AAK				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.5							
AAK	Ala-Archa	39.77	79	eP		P	03 17 29.2	+0.1
	comp=Z,1.3nm,0.8s,mb3.6							
AAK	Ala-Archa	39.77	79	eP		P	03 17 29.3	+0.2
	comp=Z,0.5nm,0.8s,mb3.2							
SONM	Songino Array	54.91	55	P		P	03 19 27.6	+0.1
	comp=Z,0.4nm,0.7s,mb3.5,baz=315,slow=10,SNR=3.3							
YKA	Yellowknife Ar	59.85	336	P		P	03 20 01.5	-0.8
YKA				pmax	pmax			
	comp=Z,2.0nm,1.1s							
YKA	Yellowknife Ar	59.85	336	P		P	03 20 01.5	-0.8
	comp=Z,2.4nm,1.1s,mb4.2,baz=29,slow=6.7,SNR=14							
PDAR	Pinedale Array	74.93	322	P		P	03 21 37.4	+0.1
	comp=Z,0.4nm,0.5s,mb3.7,baz=272,slow=6.7,SNR=5.3							
TXAR	Lajitas Array	83.71	310	P		P	03 22 25.9	+0.9
	comp=Z,0.5nm,1.1s,mb3.7,baz=45,slow=3.8,SNR=3.4							

IDC 20 03:23:07.4±11.0, 1.53N×126.34E, mb3.8/3, mb1 4.1/3, mb1mx3.7/14, mbtmp3.9/3, Error ellipse: s-maj=174.9km s-min=164.3km az=153.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.52	182	eP	P	03 27 42.0	+2.7
	3.0nm,0.3s						
WRA	Warramunga Arr	22.73	160	P	P	03 28 11.4	-1.2
	1.2nm,0.3s,baz=339,slow=11,SNR=33						
WB2	Warramunga Arr	22.74	160	eP	P	03 28 12.6	0.0
ASAR	Alice Springs	26.10	164	P	P	03 28 43.4	-1.5
	1.0nm,0.9s,baz=339,slow=7.4,SNR=5.8						
ASPA	Alice Springs	26.10	164	eP	P	03 28 45.9	+1.0
STKA	Stephens Creek	36.24	158	P	P	03 30 12.0	-2.3
	2.5nm,0.7s,baz=329,slow=9.0,SNR=4.6						

*JMA **20** 03:43:21.7±0.4, 34.00N×141.83E, h34km±5km, M3.7*
*IDC **20** 03:43:30.0±2.1, 34.00N×141.14E, h71km±20km, mb3.3/7, mb1 3.6/8, mb1mx3.5/21, mbtmp3.7/8, MS3.3/2, Ms1 3.3/2, ms1mx2.7/11, Error ellipse: s-maj=28.6km s-min=15.6km az=105.0*

ISC 20 03:43:25.8±1.3, 34.01N±0.05×141.4E±0.1, h55km±11km, n20, σ1°18/22, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.74	330	P	P	03 43 39.1	-1.3
BSO2	Boso 2	0.93	323	S	S	03 43 58.1	+2.6
BSO3	Boso 3	1.10	317	P	P	03 43 44.9	-0.3
JHJ2	Mitsune	1.61	237	P	P	03 43 53.5	+1.0
JHJ	Hachijo jima 2	1.63	238	P	P	03 43 53.6	+0.9
	68nm,0.3s,baz=83,slow=7.9,SNR=16						
JHJ				S	S	03 44 11.7	-1.1
	91nm,0.3s,baz=225,slow=23,SNR=7.2						
CHOJ	Chosi	1.75	345	P	P	03 43 52.9	-1.5
CHOJ				eS	S	03 44 14.2	-1.4
JOD2	Odawara 2	2.30	304	P	P	03 44 01.8	-0.3
JOD2				eS	S	03 44 34.7	+5.5
JRY	Ryogami san	2.88	315	P	P	03 44 10.6	+0.2
JAG	Ashikaga	2.90	327	P	P	03 44 10.2	-0.5
MAT	Matsushiro	3.65	315	P	P	03 44 21.9	+0.7
MAT				S	S	03 45 04.3	+0.9
CBIJ	Chichi jima	6.92	174	LR	LR	03 47 31.9	
	comp=Z,182nm,19.7s,baz=341,slow=35						
ASAJ	Asahikawa	10.13	5	P	P	03 45 54.0	+2.9
	1.2nm,0.3s,baz=162,slow=20,SNR=4.3						
JOW	Kunigami	13.41	241	LR	LR	03 51 30.5	
	comp=Z,154nm,18.7s,baz=287,slow=36						
SONM	Songino Array	29.58	308	P	P	03 49 26.1	-1.3
	0.5nm,0.6s,mb3.4,baz=90,slow=8.6,SNR=3.0						
ILAR	Eielson Array	52.06	31	P	P	03 52 31.1	-0.5
	0.5nm,0.7s,mb3.5,baz=263,slow=5.1,SNR=5.4						
BVAR	Borovoye Array	52.65	314	P	P	03 52 35.8	-0.4
	0.5nm,0.8s,mb3.5,baz=82,slow=10,SNR=2.5						
WRA	Warramunga Arr	54.07	188	P	P	03 52 46.1	-1.1
	1.1nm,0.7s,mb3.9,baz=3.4,slow=7.7,SNR=14						
ASAR	Alice Springs	57.80	188	P	P	03 53 14.4	+0.6
	0.3nm,0.4s,mb3.6,baz=1.7,slow=5.8,SNR=3.5						
YKA	Yellowknife Ar	66.42	29	P	P	03 54 12.5	+1.7
	0.2nm,0.8s,mb3.2,baz=295,slow=6.8,SNR=4.3						
TXAR	Lajitas Array	91.96	52	P	P	03 56 33.3	+3.6
	0.4nm,0.6s,mb3.9,baz=307,slow=4.4,SNR=6.6						

IDC 20 03:45:52.2±1.2, 0.21S×122.52E, mb3.9/4, mb1 4.0/4, mb1mx3.8/15, mbtmp3.9/4, MS4.1/2, Ms1 4.1/2, ms1mx3.5/14, Error ellipse: s-maj=133.9km s-min=20.7km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.77	150	P	P	03 50 55.9	-1.8
	2.1nm,0.7s,baz=330,slow=10,SNR=30						
ASAR	Alice Springs	25.81	155	P	P	03 51 25.6	-1.2
	0.6nm,0.7s,baz=333,slow=7.3,SNR=6.1						
CBIJ	Chichi jima	33.08	33	LR	LR	04 03 19.6	
	comp=Z,169nm,21.9s,baz=233,slow=32						
SONM	Songino Array	49.86	346	P	P	03 54 48.4	-0.8
	1.9nm,0.7s,baz=163,slow=6.7,SNR=12						
BVAR	Borovoye Array	68.41	329	P	P	03 56 54.9	-3.0
	1.8nm,0.8s,baz=129,slow=9.5,SNR=8.6						
DLBC	Dease Lake	99.25	31	LR	LR	04 37 31.1	
	comp=Z,141nm,21.0s,baz=77,slow=31						

*NEIC **20** 04:25:32.5, 34.69S×71.84W, h36km, ML2.9(GUC), After GUC.*

GUC 20 04:25:32.5±0.7, 34.69S×71.84W, h36km±2km, MD3.5, ML2.9, 9C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.59	122	⇓iP	P	04 25 44.4	+0.1
NICH				i S	S	04 25 53.2	+0.4
SFDO	San Fernando	0.68	84	⇑iP	P	04 25 45.8	+0.2
SFDO				i S	S	04 25 55.8	+0.6
TALC	Talca	0.73	167	⇑iP	P	04 25 46.8	+0.5
TALC				i S	S	04 25 56.3	0.0
LNV	Longovilo	0.81	26	⇑iP	P	04 25 47.8	+0.3
LNV				i S	S	04 25 58.8	+0.3
CACH	El Canelo	1.17	61	⇑iP	P	04 25 53.6	+1.0
CACH				i S	S	04 26 09.7	+2.1
LCCH	Las Cruces	1.23	10	iP	P	04 25 54.0	+0.6
CHCH	Chadas Angostu	1.24	53	⇑iP	P	04 25 54.4	+0.9
CHCH				i S	S	04 26 11.1	+1.8
TACH	Talagante	1.27	36	eP	P	04 25 54.6	+0.5
RCDM	Rinconada Maip	1.47	36	eP	P	04 25 57.2	+0.3
RCDM				i S	S	04 26 16.8	+1.6
RCDM				AMP		04 26 20.1	
	comp=E,356nm,0.2s						
ANTU	Antumapu	1.50	42	⇑iP	P	04 25 58.2	+0.9
ANTU				i S	S	04 26 18.1	+2.2
ANTU				AMP		04 26 22.6	
	comp=E,342nm,0.2s						
PCH	Pirque	1.53	46	⇑iP	P	04 25 58.6	+0.9
PCH				i S	S	04 26 19.1	+2.4
LMEL	Las Melosas	1.59	59	eP	P	04 25 59.8	+1.2
LMEL				i S	S	04 26 20.8	+2.5
LMEL				AMP		04 26 23.6	
	comp=E,370nm,0.1s						
SJCH	San Jose de Ma	1.61	50	⇑iP	P	04 25 59.8	+0.8
SJCH				i S	S	04 26 20.7	+1.9
SJCH				AMP		04 26 25.2	
	comp=N,125nm,0.3s						
DSCH	Colegio Aleman	1.66	40	iP	P	04 26 01.0	+1.3
DSCH				i S	S	04 26 22.2	+2.1
CLCH	Cerro Calan	1.68	40	eP	P	04 26 00.9	+1.0
CLCH				i S	S	04 26 22.9	+2.4
CLCH				AMP		04 26 28.3	
	comp=N,248nm,0.5s						
CLCH				AMP		04 26 28.9	
	comp=N,324nm,0.5s						
FCH	Farellones	1.87	44	⇑iP	P	04 26 03.5	+0.8
FCH				i S	S	04 26 27.2	+2.0
FCH				AMP		04 26 32.6	
	comp=N,168nm,0.1s						

*IDC **20** 04:25:59.8±1.0, 33.29N×142.47E, mb3.6/6, mb1 3.8/8, mb1mx3.6/22, mbtmp3.7/8, ML3.8/2, MS3.1/1, Ms1 3.1/1, ms1mx2.2/24, Error ellipse: s-maj=27.2km s-min=20.8km az=111.0*
*JMA **20** 04:26:03.0±0.7, 33.53N×142.06E, M3.2*

ISC 20 04:26:00.7±2.5, 33.33N±0.06×142.40E±0.08, h21km±20km, n17, σ0°90/21, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.77	319	P	Pn	04 26 30.2	-0.4
BSO3	Boso 3	2.15	314	P	Pn	04 26 36.0	0.0
JHJ2	Mitsune	2.17	265	P	Pn	04 26 37.6	+1.2
JHJ	Hachijo jima 2	2.20	265	Pn	Pn	04 26 37.1	+0.4
	29nm,0.3s,baz=223,slow=21,SNR=3.7						
JHJ				Sn	Sn	04 27 02.8	-0.8
	45nm,0.3s,baz=49,slow=23,SNR=4.7						
JHJ				LR	LR	04 27 21.1	
	comp=Z,403nm,18.6s,baz=351,slow=36						
BSO4	Boso 4	2.38	315	P	Pn	04 26 39.9	+0.6
JYN	Shimob	3.85	305	P	Pn	04 27 01.4	+1.2
JAG	Ashikaga	3.92	323	P	Pn	04 27 01.2	-0.1
JRY	Ryogami san	3.93	314	P	Pn	04 27 01.2	-0.2
JRY				S	Sn	04 27 46.1	-1.4
MAT	Matsushiro	4.70	314	P	Pn	04 27 12.7	+0.4
JMM	Marumori	4.71	344	P	Pn	04 27 09.7	-2.8
JMM				eS	Sn	04 28 01.4	-5.8
CBIJ	Chichi jima	6.22	182	Pn	Pn	04 27 32.4	-1.4
	9.0nm,0.3s,baz=276,slow=19,SNR=4.5						
CBIJ				Sn	Sn	04 28 39.3	-5.6
	5.9nm,0.3s,baz=266,slow=23,SNR=3.1						
SONM	Songino Array	30.63	309	P	P	04 32 17.2	+1.6
	0.7nm,0.5s,mb3.8,baz=117,slow=8.3,SNR=5.1						
ILAR	Eielson Array	52.22	31	P	P	04 35 11.7	-0.3
	0.3nm,0.8s,mb3.2,baz=264,slow=5.8,SNR=4.8						
WRA	Warramunga Arr	53.53	189	P	P	04 35 22.1	-0.2
	1.0nm,0.6s,mb3.9,baz=6.8,slow=7.6,SNR=17						
BVAR	Borovoye Array	53.70	315	P	P	04 35 23.4	+0.4
	0.2nm,0.4s,mb3.4,baz=90,slow=7.2,SNR=2.9						
INK	Inuvik	57.33	26	P	P	04 35 49.6	+0.4
	0.6nm,0.6s,mb3.8,baz=258,slow=5.6,SNR=4.3						
YKA	Yellowknife Ar	66.61	30	P	P	04 36 51.4	+0.1
	0.2nm,0.7s,mb3.2,baz=293,slow=6.2,SNR=6.0						

*PRU **20** 04:35:09.3, 50.32N×18.72E*

WAR 20 04:35:08.2, 50.26N×18.86E, h0km, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.46	248	ePG	Pg	04 35 18.0	+0.5
RAC				eSG	Sg	04 35 24.0	+0.4
OJC	Ojcow	0.60	94	ePG	Pg	04 35 20.0	-0.3
OJC				eSG	Sg	04 35 29.0	+0.7
OKC	Ostrava-Krasne	0.62	228	ePG	Pg	04 35 20.8	+0.1
OKC				eSG	Sg	04 35 31.0	+2.0
NIE	Niedzica	1.26	131	ePG	Pg	04 35 33.0	-0.4
NIE				eSG	Sg	04 35 50.0	-0.3
DPC	Dobruska-Polom	1.63	274	ePG	Pg	04 35 37.7	-3.0
DPC				eSG	Sg	04 35 58.8	-3.7
KSP	Ksiaz	1.74	291	ePG	Pg	04 35 41.0	-1.9
KSP				eSG	Sg	04 36 04.0	-2.1
VYHS	Vyhne	1.77	181	ePN	Pn	04 35 39.6	-0.6
VYHS				eSN	Sn	04 36 02.6	-1.1
UPC	Upice	1.84	279	eSG	Sg	04 36 05.5	-3.9
CRVS	Cervenica-Dubn	2.17	128	ePN	Pn	04 35 49.9	+3.9
CRVS				eSN	Sn	04 36 19.4	+5.4
PRU	Pruhonice	2.79	266	eSG	Sg	04 36 34.7	-6.5
KHC	Kasperske Hory	3.61	254	ePN	Pn	04 36 05.0	-1.5
KHC				ex	x	04 36 17.5	
KHC				eSG	Sg	04 37 02.9	-5.5

*JMA **20** 04:46:05.6±0.3, 34.15N×141.89E, h26km±3km, M3.9*
*IDC **20** 04:46:05.3±0.6, 34.19N×141.65E, mb3.9/14, mb1 4.2/16, mb1mx4.1/23, mbtmp4.0/16, ML4.0/2, MS3.8/1, Ms1 4.0/1, ms1mx2.7/22, Error ellipse: s-maj=20.5km s-min=14.2km az=116.0*
*MOS **20** 04:46:08.2±1.0, 34.17N×141.58E, h33km, mb4.4/20, Error ellipse: s-maj=17.1km s-min=9.5km az=111.3*
*BJI **20** 04:46:10.5, 34.31N×141.83E, h64km, mB4.8, mb4.4, Ms4.3, Msz4.1*
*NEIC **20** 04:46:10.6±1.6, 34.16N×141.48E, h37km±14km, mb4.2/20, Error ellipse: s-maj=11.3km s-min=8.8km az=136.0*

ISC 20 04:46:10.5±0.8, 34.16N±0.05×141.47E±0.07, h52km±6km, n89, σ1°15/92, mb4.1/36, MS3.9/2, 2C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.64	321	P	P	04 46 22.1	-1.4
BSO1				S	S	04 46 34.3	+1.1
BSO3	Boso 3	1.01	309	P	P	04 46 28.5	-0.2
BSO3				S	S	04 46 47.1	+4.9
BSO4	Boso 4	1.24	312	P	P	04 46 32.3	+0.4
BSO4				S	S	04 46 51.2	+3.3
JHJ2	Mitsune	1.73	233	P	P	04 46 39.8	+1.0
JHJ	Hachijo jima 2	1.75	234	Pn	P	04 46 39.8	+0.8
	58nm,0.3s,baz=172,slow=9.9,SNR=12						
JHJ				Sn	S	04 47 04.3	+4.2
	120nm,0.3s,baz=84,slow=21,SNR=6.8						
JHJ				LR	LR	04 47 16.6	
	comp=Z,753nm,19.0s,baz=274,slow=38						
JOD2	Odawara 2	2.25	300	P	P	04 46 46.1	0.0
JOD2				S	S	04 47 17.9	+5.3
MAJO	Matsushiro	3.57	313	ePn	P	04 47 04.4	-0.4
MAJO				eSn	S	04 47 44.1	-2.0
MAT	Matsushiro	3.57	313	eP	P	04 47 04.0	-0.8
MAT				eS	S	04 47 47.0	+0.9
MAT	Matsushiro	3.57	313	P	P	04 47 04.4	-0.4
MAT				S	S	04 47 46.5	+0.4
CBIJ	Chichi jima	7.07	175	Pn	P	04 47 50.0	-3.9
	11nm,0.3s,baz=324,slow=19,SNR=4.1						
ASAJ	Asahikawa	9.98	5	P	P	04 48 27.3	-6.6
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	9.98	5	Pn	P	04 48 27.2	-6.6
	comp=Z,1.4nm,0.3s,baz=199,slow=13,SNR=4.5						
YSS	Yuzh-Sakhalins	12.81	4	eP	P	04 49 05.4	-6.7
BJT	Baijiatuau	20.98	294	P	P	04 50 47.9	-3.6
BJT				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BJT	Baijiatuau	20.98	294	P	P	04 50 47.9	-3.6
	comp=Z,5.1nm,0.6s						
MA2	Magadan	26.15	11	P	P	04 51 39.8	-1.7
MA2				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.3						
MA2	Magadan	26.15	11	P	P	04 51 39.8	-1.6
	comp=Z,8.6nm,0.8s,mb4.3						
ENH	Enshi	27.27	271	P	P	04 51 50.8	-1.2
	comp=Z,3.2nm,0.6s,mb4.0						
ULN	Ulaanbaatar	29.09	308	eP	P	04 52 08.1	-0.1
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
ULN	Ulaanbaatar	29.09	308	eP	P	04 52 08.1	0.0
	comp=Z,2.7nm,0.9s,mb4.0						
SONM	Songino Array	29.51	308	P	P	04 52 12.9	+1.0
	comp=Z,2.0nm,0.7s,mb4.0,baz=105,slow=8.4,SNR=10						
BOD	Bodaibo	30.01	330	eP	P	04 52 14.7	-1.6
ZAK	Zakamensk	32.15	312	eP	P	04 52 35.2	0.0
BILL	Bilibino	36.77	15	P	P	04 53 12.6	-2.0
BILL	Bilibino	36.77	15	P	P	04 53 12.6	-1.9
CMAR	Chiang Mai Arr	40.89	259	LR	LR	05 10 32.7	
	comp=Z,108nm,18.1s,MS3.8,baz=44,slow=36						
WMQ	Urumqi	42.24	300	eP	P	04 54 01.1	+1.0
WMQ				AP	pP	04 54 13.4	-0.4
WMQ				XP	sP	04 54 18.8	-1.2
WMQ				PP	PP	04 55 42.5	+1.2
WMQ				S	S	05 00 17.8	+1.4
WMQ				AMB	AMB		
	comp=Z,2.0nm,1.4s,mb3.5						
WMQ				LR	LR		
	comp=N,121nm,20.1s,MS4.1						
WMQ				LR	LR		
	comp=E,256nm,21.3s,MS4.1						
WMQ				LR	LR		
	comp=Z,242nm,20.4s,MS4.1						
JIRN	Jiri	47.38	278	eP	P	04 54 42.3	+0.8
	comp=Z,14nm,0.8s,mb4.9						
KURK	Kurchatov	47.77	310	eP	P	04 54 44.4	+0.1
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
KURK	Kurchatov	47.77	310	eP	P	04 54 44.4	+0.1
	comp=Z,6.2nm,0.8s,mb4.7						
PKI	Pulchoki	48.06	278	eP	P	04 54 44.1	-2.7
KKN	Kakani	48.08	278	eP	P	04 54 47.3	+0.3
DMN	Daman	48.30	278	eP	P	04 54 45.1	-3.5
GKN	Gorkha	48.53	279	eP	P	04 54 51.1	+0.7
	comp=Z,26nm,0.9s						
KOLN	Koldanda	49.47	279	eP	P	04 54 56.5	-1.2
	comp=Z,6.7nm,0.7s,mb4.8						
ILAR	Eielson Array	51.91	31	P	P	04 55 14.7	-0.9
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ILAR	Eielson Array	51.91	31	P	P	04 55 14.7	-0.9
	comp=Z,1.9nm,0.8s,mb4.1,baz=266,slow=6.4,SNR=23						
CHKZ	Chkalovo	52.33	315	eP	P	04 55 18.2	-0.8
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
CHKZ	Chkalovo	52.33	315	eP	P	04 55 18.2	-0.8
	comp=Z,2.3nm,0.9s,mb4.1						
BVAR	Borovoye Array	52.56	314	P	P	04 55 20.9	+0.2
	comp=Z,0.4nm,0.5s,mb3.6,baz=100,slow=9.0,SNR=5.9						
BRVK	Borovoye	52.62	314	eP	P	04 55 21.3	+0.2
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BRVK	Borovoye	52.62	314	eP	P	04 55 21.3	+0.1
	comp=Z,2.8nm,0.9s,mb4.2						
WRAB	Tennant Creek	54.22	188	P	P	04 55 32.0	-1.4
WRAB				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
WRAB	Tennant Creek	54.22	188	P	P	04 55 32.0	-1.4
	comp=Z,13nm,1.2s,mb4.7						
WRA	Warramunga Arr	54.23	188	P	P	04 55 32.6	-0.9
WRA				pmax	p

AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 76.60 323 P P 04 57 57.1 +0.2
comp=Z,1.1nm,0.5s,mb4.0,baz=47,slow=5.9,SNR=9.9
NVAR Mina Array Bea 76.69 53 P P 04 57 58.7 +1.0
comp=Z,0.7nm,0.8s,mb3.6,baz=313,slow=4.2,SNR=3.7
NVAR Mina Array Bea 76.69 53 P P 04 57 58.7 +1.0
NOA NORSAR Array B 76.85 338 P P 04 57 58.8 +0.7
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 76.85 338 P P 04 57 58.8 +0.6
comp=Z,1.7nm,0.8s,mb4.0,baz=40,slow=5.6,SNR=3.8
MALT Malatya 78.58 309 *eP* **P 04 58 10.2 +2.0**
MALT pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
MALT Malatya 78.58 309 *eP* **P 04 58 10.2 +2.0**
comp=Z,4.4nm,1.3s,mb4.2
BW06 Boulder Array 79.65 45 P **P 04 58 14.4 +0.5**
comp=Z,2.0nm,1.0s,mb4.0
PDAR Pinedale Array 79.65 45 P **P 04 58 14.7 +0.8**
comp=Z,0.6nm,0.7s,mb3.6,baz=270,slow=1.5,SNR=7.5
BRTR Keskin Array B 80.79 312 P **P 04 58 21.9 +1.8**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 80.79 312 P **P 04 58 21.9 +1.8**
comp=Z,0.6nm,0.7s,mb3.6,baz=100,slow=2.2,SNR=5.6
PV10 Paradox Valley 82.64 48 *eP* **P 04 58 31.5 +1.8**
PV01 Paradox Valley 83.08 48 *eP* **P 04 58 33.3 +1.4**
GERES GERESS Array B 85.17 328 P **P 04 58 43.3 +1.2**
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 85.17 328 P **P 04 58 43.3 +1.2**
comp=Z,1.0nm,0.8s,mb4.0,baz=27,slow=4.4,SNR=3.0
SDCO Great Sand Dun 85.21 47 P **P 04 58 44.0 +1.5**
comp=Z,1.9nm,1.1s,mb4.1
TXAR Lajitas Array 91.84 52 P **P 04 59 14.7 +0.3**
comp=Z,0.3nm,0.8s,mb3.7,baz=304,slow=4.5,SNR=4.3
MIR Mirnyy 106.99 198‖ *eP* Pdif 05 00 30.0 +8.5
MIR pmax pmax
comp=Z,40nm,1.0s
DBIC Dimbokro 128.38 315 PKIKP PKPdf 05 05 13.8 +1.6
DBIC pmax pmax
comp=Z,3.0nm,1.1s
DBIC Dimbokro 128.38 315 PKP PKPdf 05 05 13.8 +1.6
comp=Z,2.9nm,1.1s,baz=58,slow=3.8,SNR=3.5
LPAZ La Paz 148.02 64 *e*PKIKP PKPdf 05 05 49.6 +2.1
LPAZ *e* 05 05 53.5
LPAZ La Paz 148.02 64 PKPbc PKPdf 05 05 53.5 +6.1
comp=Z,1.3nm,0.8s,baz=5.7,slow=12,SNR=6.6

IDC 20 04:53:58.2±1.3, 3.96N×96.13E, mb3.8/5, mb1 4.0/6, mb1mx3.8/16, mbtmp3.8/6, ML4.3/1, Error ellipse: s-maj=72.8km s-min=21.5km az=49.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.67**	**11**	Pn	P	04 57 25.8	-3.4
	0.4nm,0.3s,baz=208,slow=13,SNR=4.3						
WRA	**Warramunga Arr**	**44.42**	**124**	P	P	05 02 11.4	-1.6
	0.9nm,0.6s,baz=301,slow=9.3,SNR=11						
ASAR	**Alice Springs**	**45.92**	**129**	P	P	05 02 22.7	-2.1
	1.7nm,1.1s,baz=297,slow=8.0,SNR=6.2						
BVAR	**Borovoye Array**	**53.31**	**341**	P	P	05 03 18.6	-2.6
	0.7nm,0.7s,baz=129,slow=9.2,SNR=3.2						
BRTR	**Keskin Array B**	**66.48**	**312**	P	P	05 04 49.8	-2.2
	0.4nm,0.7s,baz=122,slow=6.0,SNR=3.8						
FINES	**FINESS Array B**	**77.07**	**332**	P	P	05 05 54.1	-0.8
	7.7nm,1.1s,baz=108,slow=8.8,SNR=3.9						

*IDC **20** 05:02:20.5±14.0, 9.17N×92.00E, mb3.8/3, mb1 3.9/4, mb1mx3.7/16, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=333.8km s-min=42.5km az=154.0*
ISC 20 05:02:27.9±3.1, 9.8N±0.3×91.6E±0.2, h33km, n6, σ1§78/6, mb3.7/3, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.15**	**39**	Pn	P	**05 05 07.2**	**-0.9**
	0.2nm,0.3s,baz=224,slow=14,SNR=4.5						
VIS	**Vishakhapatnam**	**11.23**	**315**	*eP*	P	**05 05 07.5**	**-1.7**
SHL	**Shillong**	**15.66**	**1**	*e*PN	P	**05 06 10.0**	**+2.1**
SONM	**Songino Array**	**39.90**	**16**	P	P	**05 09 59.8**	**-0.5**
	0.3nm,0.3s,mb3.4,baz=204,slow=6.7,SNR=5.6						
BRTR	**Keskin Array B**	**59.27**	**310**	P	P	**05 12 29.9**	**+1.2**
	0.4nm,0.9s,mb3.5,baz=121,slow=8.4,SNR=3.1						
FINES	**FINESS Array B**	**69.83**	**332**	P	P	**05 13 36.9**	**0.0**
	2.9nm,0.9s,mb4.2,baz=127,slow=9.5,SNR=4.6						

*IDC **20** 05:02:37.5±1.3, 5.46N×93.02E, mb3.8/6, mb1 4.0/7, mb1mx3.8/17, mbtmp3.8/7, ML4.1/1, Error ellipse: s-maj=51.2km s-min=21.6km az=54.0*
ISC 20 05:02:40.6±1.1, 5.6N±0.1×93.1E±0.2, h33km, n9, σ1§24/9, mb4.0/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.96**	**23**	Pn	P	**05 05 58.1**	**-0.2**
	0.3nm,0.3s,baz=228,slow=13,SNR=12						
VIS	**Vishakhapatnam**	**15.38**	**322**	*eS*	P	**05 06 11.5**	**-5.4**
SHL	**Shillong**	**19.87**	**357**	*e*SN	P	**05 07 10.0**	**-1.8**
SONM	**Songino Array**	**43.56**	**13**	P	P	**05 10 44.2**	**+1.1**
	0.5nm,0.5s,mb3.5,baz=198,slow=4.6,SNR=3.1						
WRA	**Warramunga Arr**	**47.82**	**123**	P	P	**05 11 17.0**	**-0.3**
	3.8nm,0.7s,mb4.5,baz=303,slow=8.7,SNR=4.6						
ASAR	**Alice Springs**	**49.29**	**128**	P	P	**05 11 28.5**	**-0.1**
	2.1nm,0.9s,mb4.2,baz=303,slow=7.3,SNR=10						
BVAR	**Borovoye Array**	**50.80**	**342**	P	P	**05 11 41.0**	**+1.2**
	0.7nm,0.8s,mb3.6,baz=127,slow=7.2,SNR=2.8						
BRTR	**Keskin Array B**	**63.15**	**312**	P	P	**05 13 06.3**	**-1.3**
	0.3nm,0.6s,mb3.6,baz=121,slow=7.2,SNR=4.1						
ARCES	**ARCESS Array B**	**77.03**	**341**	P	P	**05 14 34.1**	**+2.4**
	3.6nm,0.9s,mb4.3,baz=90,slow=8.1,SNR=2.9						

*NIED **20** 05:04:00, 33.40N×142.30E, h5km, Mw4.0 Best double couple: M1.24×10^15 NP1:φs197°, δ66°, λ-62°. NP2: φs325°, δ36°, λ-136°.*
*BJI **20** 05:04:38.8, 33.30N×142.30E, h13km, mB4.8, mb4.4, Ms4.0, Msz4.1*
*NEIC **20** 05:04:39.8±4.6, 33.34N×142.27E, h14km±28km, mb4.5/21, MW4.0(NIED), Error ellipse: s-maj=9.1km s-min=6.4km az=103.0*
*JMA **20** 05:04:40.9±0.3, 33.42N×142.28E, h98km, M4.0*
*MOS **20** 05:04:40.5±0.9, 33.33N×142.24E, h33km, mb4.6/22, Error ellipse: s-maj=16.7km s-min=8.9km az=117.7*
*IDC **20** 05:04:43.2±0.7, 33.35N×142.32E, h35km±4km, mb4.0/18, mb1 4.2/21, mb1mx4.2/25, mbtmp4.2/21, ML4.2/3, MS3.6/3, Ms1 3.6/3, ms1mx3.1/22, Error ellipse: s-maj=16.1km s-min=12.7km az=122.0*
ISC 20 05:04:41.1±0.3, 33.36N±0.04×142.28E±0.04, h36km, h36km±1.7km: pP-P, n102, σ1§10/107, mb4.3/38, MS4.4/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.68**	**320**	P	P	**05 05 09.4**	**+0.9**
BSO1				S	S	**05 05 29.9**	**+0.8**
BSO3	**Boso 3**	**2.05**	**315**	P	P	**05 05 14.1**	**+0.2**
JHJ2	**Mitsune**	**2.08**	**264**	P	P	**05 05 15.3**	**+1.1**
JHJ2				S	S	**05 05 41.5**	**+2.5**
JHJ	**Hachijo jima 2**	**2.10**	**264**	Pn	P	**05 05 15.3**	**+0.8**
	99nm,0.3s,baz=274,slow=23,SNR=22						
JHJ				Sn	S	**05 05 41.1**	**+1.4**
	184nm,0.3s,baz=64,slow=23,SNR=7.6						
BSO4	**Boso 4**	**2.29**	**316**	P	P	**05 05 17.9**	**+0.7**
BSO4				S	S	**05 05 45.4**	**+1.0**
JIM2	**Oshima 3**	**2.72**	**301**	S	S	**05 05 55.7**	**+0.2**
JIZS	**Izushimoda**	**3.13**	**297**	P	P	**05 05 29.3**	**+0.1**
JIZS				S	S	**05 06 04.8**	**-1.0**
JOD2	**Odawara 2**	**3.25**	**307**	P	P	**05 05 29.3**	**-1.6**
JYN	**Shimob**	**3.75**	**306**	P	P	**05 05 37.4**	**-0.6**
JAG	**Ashikaga**	**3.84**	**324**	P	P	**05 05 38.5**	**-0.8**
JRY	**Ryogami san**	**3.84**	**315**	P	P	**05 05 38.8**	**-0.5**
MAJO	**Matsushiro**	**4.61**	**315**	*eP*	P	**05 05 50.1**	**-0.1**
MAT	**Matsushiro**	**4.61**	**315**	*eP*	P	**05 05 50.0**	**-0.2**
MAT				*eS*	S	**05 06 41.0**	**-2.3**
MAT	**Matsushiro**	**4.61**	**315**	P	P	**05 05 49.9**	**-0.3**
MAT				S	S	**05 06 41.3**	**-2.0**
MAT	**Matsushiro**	**4.61**	**315**	P	P	**05 05 50.0**	**-0.2**
MAT				S	S	**05 06 42.6**	**-0.7**
JMM	**Marumori**	**4.66**	**345**	P	P	**05 05 47.9**	**-3.0**
CBIJ	**Chichi jima**	**6.24**	**181**	Pn	P	**05 06 09.2**	**-3.9**
	25nm,0.3s,baz=97,slow=23,SNR=17						
CBIJ				Sn	S	**05 07 17.2**	**-7.0**
	44nm,0.3s,baz=267,slow=22,SNR=8.4						
ASAJ	**Asahikawa**	**10.74**	**1**	P	P	**05 07 10.0**	**-5.6**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,95nm,18.9s						
ASAJ	**Asahikawa**	**10.74**	**1**	Pn	P	**05 07 10.0**	**-5.6**
	comp=Z,1.5nm,0.3s,baz=238,slow=17,SNR=6.9						
ASAJ				LR	LR	05 11 50.0	
	comp=Z,95nm,18.9s,baz=135,slow=40						
YSS	**Yuzh-Sakhalins**	**13.58**	**1**	*eP*	P	**05 07 47.0**	**-6.5**
JOW	**Kunigami**	**13.75**	**245**	LR	LR	05 12 23.5	
	comp=Z,130nm,18.9s,baz=24,slow=33						
HIA	**Hailar**	**23.09**	**320**	*eP*	P	**05 09 44.7**	**+0.4**
HIA				*e*		05 09 55.1	
HIA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HIA	**Hailar**	**23.09**	**320**	*eP*	P	**05 09 44.7**	**+0.4**
	comp=Z,8.8nm,0.9s,mb4.2						
HIA				*e*		05 09 55.1	
XAN	**Xi'an**	**27.69**	**281**	P	P	**05 10 26.1**	**-1.9**
XAN				AP	pP	05 10 36.3	-1.7
XAN				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.2						
ENH	**Enshi**	**27.97**	**273**	*eP*	P	**05 10 29.0**	**-1.5**
	comp=Z,31nm,1.0s,mb4.9						
ULN	**Ulaanbaatar**	**30.12**	**309**	*eP*	P	**05 10 48.3**	**-1.1**
ULN				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
ULN	**Ulaanbaatar**	**30.12**	**309**	*eP*	P	**05 10 48.3**	**-1.1**
	comp=Z,12nm,1.0s,mb4.6						
SONM	**Songino Array**	**30.54**	**309**	P	P	**05 10 54.5**	**+1.3**
	comp=Z,3.6nm,0.8s,mb4.3,baz=112,slow=8.3,SNR=12						
BOD	**Bodaibo**	**31.04**	**331**	*eP*	P	**05 10 57.5**	**0.0**
ZAK	**Zakamensk**	**33.19**	**313**	*eP*	P	**05 11 14.6**	**-1.8**
TLY	**Talaya**	**33.35**	**315**	*eP*	P	**05 11 16.1**	**-1.6**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
TLY	**Talaya**	**33.35**	**315**	*eP*	P	**05 11 16.1**	**-1.6**
	comp=Z,5.1nm,0.9s,mb4.5						
BILL	**Bilibino**	**37.37**	**15**	*eP*	P	**05 11 50.8**	**-1.0**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.3						
BILL	**Bilibino**	**37.37**	**15**	*eP*	P	**05 11 50.8**	**-1.0**
	comp=Z,5.5nm,1.2s,mb4.3						
CMAR	**Chiang Mai Arr**	**41.40**	**260**	P	P	**05 12 25.6**	**-0.2**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.40**	**260**	P	P	**05 12 25.6**	**-0.2**
	comp=Z,3.2nm,0.9s,mb4.0,baz=47,slow=7.1,SNR=9.7						
WMQ	**Urumqi**	**43.22**	**301**	*eP*	P	**05 12 41.2**	**+0.8**
WMQ				AP	pP	05 12 53.5	+2.6
WMQ				PP	PP	05 14 24.1	+1.1
WMQ				S	S	**05 19 03.6**	**-0.8**
WMQ				XS		05 19 24.2	
WMQ				AMB	AMB		
	comp=Z,2.0nm,1.4s,mb3.6						
WMQ				AMB	AMB		
	comp=Z,15nm,5.3s						
WMQ				LR	LR		
	comp=N,214nm,20.5s,MS4.2						
WMQ				LR	LR		
	comp=E,281nm,21.6s,MS4.2						
WMQ				LR	LR		
	comp=Z,388nm,21.6s,MS4.3						
KURK	**Kurchatov**	**48.81**	**311**	*eP*	P	**05 13 24.2**	**-0.3**
KURK				*e*	pP	05 13 32.6	-2.4
KURK				*e*	pP	05 13 35.9	+0.9
KURK				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
KURK	**Kurchatov**	**48.81**	**311**	*eP*	P	**05 13 24.2**	**-0.3**
	comp=Z,14nm,0.8s,mb5.1						
KURK				*e*	pP	05 13 32.6	-2.4
KURK				*e*	pP	05 13 35.9	+0.9
MCK	**McKinley**	**51.33**	**32**	P	P	**05 13 52.8**	**+9.2**
MCK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
MCK	**McKinley**	**51.33**	**32**	P	P	**05 13 52.8**	**+9.2**
	comp=Z,5.4nm,1.3s,mb4.3						
ILAR	**Eielson Array**	**52.25**	**31**	P	P	**05 13 49.8**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ILAR	**Eielson Array**	**52.25**	**31**	P	P	**05 13 49.8**	**-0.7**
	comp=Z,3.0nm,1.0s,mb4.2,baz=261,slow=6.1,SNR=18						
AAK	**Ala-Archa**	**52.92**	**301**	*eP*	P	**05 13 55.4**	**-0.4**
AAK				*e*	pP	05 14 05.1	-1.4
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**52.92**	**301**	*eP*	P	**05 13 55.4**	**-0.4**
	comp=Z,4.4nm,0.9s,mb4.4						
AAK				*e*	pP	05 14 05.1	-1.3
CHKZ	**Chkalovo**	**53.38**	**315**	*eP*	P	**05 13 58.5**	**-0.5**
CHKZ				*e*	pP	05 14 08.5	-1.2
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
CHKZ	**Chkalovo**	**53.38**	**315**	*eP*	P	**05 13 58.5**	**-0.6**
	comp=Z,5.4nm,1.0s,mb4.4						
CHKZ				*e*	pP	05 14 08.5	-1.2
WRAB	**Tennant Creek**	**53.53**	**189**	*eP*	P	**05 13 58.5**	**-2.1**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
WRAB	**Tennant Creek**	**53.53**	**189**	*eP*	P	**05 13 58.5**	**-2.2**
	comp=Z,7.9nm,0.7s,mb4.8						
WB2	**Warramunga Arr**	**53.54**	**189**	*eP*	P	**05 13 59.8**	**-0.9**
WRA	**Warramunga Arr**	**53.54**	**189**	P	P	**05 13 59.9**	**-0.8**
WRA				PcP	PcP	05 15 08.1	
WRA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**53.54**	**189**	P	P	**05 13 59.9**	**-0.8**
	comp=Z,5.3nm,0.6s,mb4.7,baz=7.9,slow=7.6,SNR=48						
WRA				PcP	PcP	05 15 08.1	+1.0
	comp=Z,1.4nm,0.6s,baz=1.4,slow=3.9,SNR=5.2						
FITZ	**Fitzroy Crossi**	**53.58**	**200**	*eP*	P	**05 14 01.2**	**+0.2**
	comp=Z,11nm,0.8s,mb4.8						
BVAR	**Borovoye Array**	**53.60**	**315**	P	P	**05 14 00.9**	**+0.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=101,slow=7.6,SNR=5.4						
BVAR				pP	pP	05 14 11.9	+0.5
	comp=Z,2.6nm,0.8s,baz=90,slow=5.9,SNR=7.2						
BRVK	**Borovoye**	**53.66**	**315**	*eP*	P	**05 14 00.3**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BRVK	**Borovoye**	**53.66**	**315**	*eP*	P	**05 14 00.3**	**-0.8**
	comp=Z,3.9nm,0.9s,mb4.3						
ASAR	**Alice Springs**	**57.27**	**189**	P	P	**05 14 27.0**	**-0.6**
	comp=Z,2.2nm,0.8s,mb4.2,baz=13,slow=7.3,SNR=13						
ASAR				PcP	PcP	05 15 22.8	+1.3
	comp=Z,1.2nm,0.7s,baz=19,slow=4.0,SNR=6.1						
INK	**Inuvik**	**57.35**	**26**	*eP*	P	**05 14 27.0**	**-0.6**
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
INK	**Inuvik**	**57.35**	**26**	P	P	**05 14 27.1**	**-0.6**
	comp=Z,1.7nm,0.7s,mb4.2,baz=303,slow=9.0,SNR=7.0						
INK	**Inuvik**	**57.35**	**26**	*eP*	P	**05 14 27.0**	**-0.7**
	comp=Z,3.4nm,0.9s,mb4.4						
MBWA	**Marble Bar**	**58.33**	**205**	*eP*	P	**05 14 34.4**	**-0.6**
	comp=Z,13nm,1.1s,mb4.9						
HYB	**Hyderabad**	**58.90**	**271**	*eP*	P	**05 14 39.0**	**-0.1**
HYB	**Hyderabad**	**58.90**	**271**	*i P*	P	**05 14 39.0**	**-0.1**
STKA	**Stephens Creek**	**64.89**	**181**	P	P	**05 15 18.4**	**-0.6**
	comp=Z,3.4nm,0.8s,mb4.4,baz=10,slow=8.8,SNR=4.6						
RES	**Resolute Bay**	**65.98**	**14**	*eP*	P	**05 15 25.2**	**-0.1**
RES				*e*	pP	05 15 36.2	-0.1
RES				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
RES	**Resolute Bay**	**65.98**	**14**	*eP*	P	**05 15 25.2**	**-0.1**
	comp=Z,4.5nm,0.9s,mb4.5						
RES				*e*	pP	05 15 36.1	-0.2
RES				*e*		05 15 46.0	
YKA	**Yellowknife Ar**	**66.64**	**30**	P	P	**05 15 29.0**	**-0.6**
YKA				*PP	pP	05 15 40.2	-0.4
YKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**66.64**	**30**	P	P	**05 15 29.0**	**-0.7**
	comp=Z,2.2nm,1.0s,mb4.2,baz=294,slow=6.2,SNR=23						
YKA				pP	pP	05 15 40.2	-0.5
	comp=Z,0.9nm,0.8s,baz=297,slow=6.3,SNR=6.6						
YKA	**Yellowknife Ar**	**66.64**	**30**	P	P	**05 15 29.0**	**-0.6**
YKA				pP	pP	05 15 40.2	-0.5
NWAO	**Narrogin (SRO)**	**70.02**	**202**	P	P	**05 15 51.5**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,14nm,0.9s						
NWAO	**Narrogin (SRO)**	**70.02**	**202**	P	P	**05 15 51.5**	**+0.3**
	comp=Z,14nm,0.9s,mb4.9,baz=37,slow=7.5,SNR=12						
NWAO	**Narrogin (SRO)**	**70.02**	**202**	*eP*	P	**05 15 51.2**	**0.0**
	comp=Z,7.8nm,0.7s,mb4.8						
FINES	**FINESS Array B**	**72.40**	**333**	P	P	**05 16 05.6**	**+0.7**
FINES				*PP	pP	05 16 16.9	+1.0
FINES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FINES				pmax	pmax		
	comp=Z,15nm,1.2s						
FINES	**FINESS Array B**	**72.40**	**333**	P	P	**05 16 05.6**	**+0.7**
	comp=Z,4.9nm,1.0s,mb4.4,baz=135,slow=14,SNR=5.8						
FINES				pP	pP	05 16 16.9	+1.0
	comp=Z,15nm,1.2s,baz=37,slow=9.5,SNR=3.6						
JMIC	**Jan Mayen**	**73.88**	**350**	LR	LR	05 48 47.9	
	comp=Z,287nm,21.8s,MS4.5,baz=84,slow=36						
CMB	**Columbia Colle**	**75.44**	**54**	P	P	**05 16 24.1**	**+1.0**
CMB				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
CMB	**Columbia Colle**	**75.44**	**54**	P	P	**05 16 24.1**	**+1.0**
	comp=Z,2.5nm,1.0s,mb4.1						
NVAR	**Mina Array Bea**	**76.63**	**53**	P	P	**05 16 30.4**	**+0.6**
	comp=Z,0.4nm,0.4s,mb3.7,baz=295,slow=2.9,SNR=6.0						
AKASG	**Malin Array Be**	**77.64**	**323**	P	P	**05 16 35.8**	**+0.6**
AKASG				*PP	pP	05 16 46.7	+0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**77.64**	**323**	P	P	**05 16 35.8**	**+0.6**
	comp=Z,0.2nm,0.4s,mb3.4,baz=49,slow=5.5,SNR=4.6						
AKASG				pP	pP	05 16 46.7	+0.4
	comp=Z,1.0nm,0.6s,baz=44,slow=5.6,SNR=4.7						
NB2	**NORSAR Subarra**	**77.85**	**338**	P	P	**05 16 36.6**	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.0,baz=40,slow=5.3						
NB2	**NORSAR Subarra**	**77.85**	**338**	P	P	**05 16 36.6**	**+0.5**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**77.85**	**338**	P	P	**05 16 36.9**	**+0.8**
NOA				*PP	pP	05 16 48.0	+0.8
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA	**NORSAR Array B**	**77.85**	**338**	P	P	**05 16 36.9**	**+0.8**
	comp=Z,2.0nm,0.7s,mb4.2,baz=39,slow=5.7,SNR=5.7						
NOA				pP	pP	05 16 48.0	+0.9
	comp=Z,3.0nm,0.8s,baz=39,slow=5.6,SNR=5.1						
PDAR	**Pinedale Array**	**79.74**	**45**	P	P	**05 16 48.2**	**+1.3**
	comp=Z,0.3nm,0.8s,mb3.3,baz=236,slow=3.3,SNR=3.3						
PDAR	**Pinedale Array**	**79.74**	**45**	P	P	**05 16 48.1**	**+1.3**
BRTR	**Keskin Array B**	**81.83**	**312**	P	P	**05 16 59.6**	**+1.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**81.83**	**312**	P	P	**05 16 59.6**	**+1.7**
	comp=Z,1.3nm,0.8s,mb3.9,baz=101,slow=4.2,SNR=12						
RSSD	**Black Hills**	**82.10**	**42**	P	P	**05 16 56.2**	**-3.0**
	comp=Z,0.2nm,0.6s						
PV10	**Paradox Valley**	**82.67**	**49**	*eP*	P	**05 17 04.3**	**+2.0**
PV01	**Paradox Valley**	**83.11**	**49**	*eP*	P	**05 17 04.9**	**+0.4**
PSZ	**Piszkesteto**	**84.06**	**325**	*eP*	P	**05 17 09.8**	**+0.7**
PSZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
PSZ	**Piszkesteto**	**84.06**	**325**	*eP*	P	**05 17 09.8**	**+0.7**
	comp=Z,3.9nm,0.8s,mb4.6						
ASF	**Jabal al Asfar**	**84.16**	**305**	P	P	**05 17 11.6**	**+1.6**
	comp=Z,2.1nm,0.8s,mb4.3,baz=31,slow=4.2,SNR=4.5						
SDCO	**Great Sand Dun**	**85.26**	**47**	*eP*	P	**05 17 17.1**	**+1.8**
	comp=Z,3.4nm,1.1s,mb4.4						
ANMO	**Albuquerque**	**86.40**	**50**	*eP*	P	**05 17 23.0**	**+2.0**
ANMO				*e*	pP	05 17 33.8	+1.6
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ANMO	**Albuquerque**	**86.40**	**50**	*eP*	P	**05 17 23.0**	**+2.1**
	comp=Z,4.0nm,1.3s,mb4.5						
ANMO				*e*	pP	05 17 33.8	+1.6
TXAR	**Lajitas Array**	**91.79**	**53**	P	P	**05 17 48.2**	**+1.5**
	comp=Z,0.5nm,0.7s,mb4.0,baz=304,slow=3.2,SNR=7.2						
TXAR	**Lajitas Array**	**91.79**	**53**	P	P	**05 17 48.2**	**+1.5**
LPAZ	**La Paz**	**147.75**	**66**	PKP2	PKPab	05 24 26.9	-0.1
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPAZ	**La Paz**	**147.75**	**66**	PKPbc	PKPdf	05 24 26.9	+7.2
	comp=Z,1.2nm,0.8s,baz=357,slow=6.7,SNR=5.8						
LPAZ	**La Paz**	**147.75**	**66**	*e*PKP	PKPdf	05 24 24.1	+4.4

IDC 20 05:23:32.1±3.3, 49.46S×116.98E, mb3.8/2, mb1 4.0/3, mb1mx3.8/10, mbtmp3.9/3, ML2.4/1, MS3.5/2, Ms1 3.4/2, ms1mx2.6/8, Error ellipse: s-maj=133.0km s-min=58.2km az=103.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.52**	**1**	Pn	P	05 27 25.2	-1.5
	0.7nm,0.3s,baz=180,slow=13,SNR=5.1						
STKA	**Stephens Creek**	**25.46**	**56**	LR	LR	05 37 12.9	
	comp=Z,93nm,20.0s,baz=207,slow=32						
ASAR	**Alice Springs**	**28.98**	**33**	P	P	05 29 33.7	-1.7
	0.8nm,0.9s,baz=205,slow=8.8,SNR=4.7						
MAW	**Mawson**	**32.16**	**216**	LR	LR	05 39 43.9	
	comp=Z,90nm,18.9s,baz=74,slow=30						
WRA	**Warramunga Arr**	**32.56**	**31**	P	P	05 30 04.4	-2.7
	1.2nm,0.8s,baz=200,slow=8.5,SNR=4.6						
**YK

*GUC **20** 05:50:40.4±0.8, 33.61S×72.09W, h41km±2km, MD3.3, ML2.5*
*NEIC **20** 05:50:40.4, 33.61S×72.09W, h41km, MD3.3(GUC), After GUC.*

ISC 20 05:50:39.1±1.2, 33.60S±0.06×72.20W±0.07, h27km±6km, n17, σ0°59/30, 9C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.54**	**77**	⇑*i*P	**Pb**	**05 50 49.7**	**-0.2**
LCCH				*i* S	**Sb**	**05 50 57.0**	**-0.4**
LNV	**Longovilo**	**0.74**	**119**	⇓*i*P	**Pb**	**05 50 53.4**	**0.0**
LNV				*i* S	**Sb**	**05 51 03.2**	**+0.1**
TACH	**Talagante**	**1.05**	**93**	*i* P	**Pn**	**05 50 57.6**	**-0.6**
TACH				*i* S	**Sb**	**05 51 11.8**	**-0.1**
RCDM	**Rinconada Maip**	**1.17**	**85**	*e*P	**Pn**	**05 50 59.2**	**-0.7**
RCDM				*i* S	**Sn**	**05 51 14.1**	**-0.9**
RCDM				AMP		05 51 15.4	
	comp=N,198nm,0.1s						
PACH	**Papudo**	**1.24**	**31**	*e*P	**Pn**	**05 51 01.6**	**+0.7**
ANTU	**Antumapu**	**1.30**	**89**	⇑*i*P	**Pn**	**05 51 02.4**	**+0.5**
ANTU				*i* S	**Sn**	**05 51 18.5**	**-0.1**
ANTU				AMP		05 51 20.7	
	comp=E,162nm,0.4s						
STL	**Santa Lucia**	**1.31**	**83**	*i* P	**Pn**	**05 51 01.9**	**-0.1**
STL				*i* S	**Sn**	**05 51 18.4**	**-0.3**
STL				AMP		05 51 19.4	
	comp=N,76nm,0.2s						
CHCH	**Chadas Angostu**	**1.33**	**105**	⇑*i*P	**Pn**	**05 51 02.2**	**0.0**
CHCH				*i* S	**Sn**	**05 51 18.9**	**-0.2**
DSCH	**Colegio Aleman**	**1.37**	**82**	⇑*i*P	**Pn**	**05 51 03.4**	**+0.5**
DSCH				*i* S	**Sn**	**05 51 20.0**	**-0.4**
DSCH				AMP		05 51 22.4	
	comp=E,258nm,0.5s						
CLCH	**Cerro Calan**	**1.40**	**82**	⇓*i*P	**Pn**	**05 51 03.5**	**+0.2**
CLCH				*i* S	**Sn**	**05 51 21.1**	**+0.1**
CLCH				AMP		05 51 23.0	
	comp=E,136nm,0.7s						
PCH	**Pirque**	**1.40**	**91**	⇑*i*P	**Pn**	**05 51 03.0**	**-0.3**
SFDO	**San Fernando**	**1.41**	**136**	⇑*i*P	**Pn**	**05 51 03.7**	**+0.3**
SFDO				*i* S	**Sn**	**05 51 21.4**	**+0.2**
CACH	**El Canelo**	**1.42**	**112**	⇑*i*P	**Pn**	**05 51 04.4**	**+0.8**
CACH				*i* S	**Sn**	**05 51 23.1**	**+1.5**
FCH	**Farellones**	**1.62**	**81**	⇑*i*P	**Pn**	**05 51 06.7**	**+0.4**
FCH				*i* S	**Sn**	**05 51 26.4**	**0.0**
FCH				AMP		05 51 28.0	
	comp=E,93nm,0.2s						
JACH	**Jahuel**	**1.63**	**56**	*i* P	**Pn**	**05 51 07.1**	**+0.6**
LMEL	**Las Melosas**	**1.68**	**99**	⇑*i*P	**Pn**	**05 51 07.5**	**+0.3**
LMEL				*i* S	**Sn**	**05 51 27.8**	**-0.2**
LMEL				AMP		05 51 33.8	
	comp=N,147nm,0.2s						
PMSA	**Palmer Station**	**31.60**	**173**	*e*P	**P**	**05 56 59.5**	**-2.1**

*MOS **20** 05:51:32.3±0.5, 39.79N×6.89E, h10km, mb4.0/1, Error ellipse: s-maj=10.2km s-min=3.2km az=99.6*
*IDC **20** 05:51:33.1±2.7, 39.76N×6.94E, mb3.4/3, mb1 3.6/7, mb1mx3.4/21, mbtmp3.4/7, ML3.6/3, Error ellipse: s-maj=52.8km s-min=27.9km az=174.0*
*NEIC **20** 05:51:33.8±0.5, 39.75N×7.00E, h10km, ML4.3(STR), ML3.7(LDG), Error ellipse: s-maj=6.3km s-min=3.4km az=147.0*
*MDD **20** 05:51:34.9±2.5, 39.97N×6.91E, mb4.3/15, Error ellipse: s-maj=23.7km s-min=18.0km az=92.0*
*CSEM **20** 05:51:37.2±0.3, 39.95N×6.48E, h15km, ML3.8/7, Error ellipse: s-maj=7.0km s-min=2.5km az=139.0*
*LDG **20** 05:51:38.3±0.2, 39.87N×6.90E, h15km, Ml3.7/23, Error ellipse: s-maj=5.2km s-min=2.5km az=134.0*

ISC 20 05:51:36.6±0.5, 40.09N±0.03×6.59E±0.03, h10km, n129, σ1°25/200, mb3.5/2, 1D, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSL	**Villasalto**	**2.23**	**104**	*e*Pn	**Pn**	**05 52 03.6**	**-11**
LMR	**La Mourre**	**3.24**	**359**	*e*Pn	**Pn**	**05 52 28.9**	**+0.3**
LMR				*e*Sn	**Sn**	**05 53 06.9**	**-0.8**
	182nm,0.2s						
GELF	**Grande-Etoile**	**3.41**	**346**	P	**Pn**	**05 52 33.2**	**+2.3**
GELF				S	**Sn**	**05 53 13.1**	**+1.3**
FRF	**La Foret Royal**	**3.47**	**1**	*e*Pn	**Pn**	**05 52 32.1**	**+0.3**
FRF				*e*Sn	**Sn**	**05 53 11.4**	**-2.0**
	88nm,0.2s						
PUYF	**Puyloubier**	**3.50**	**349**	P	**Pn**	**05 52 34.0**	**+1.7**
PUYF				S	**Sn**	**05 53 15.4**	**+1.1**
TAVF	**Tavernes**	**3.55**	**354**	P	**Pn**	**05 52 34.6**	**+1.7**
TREF	**Trevaresse**	**3.65**	**346**	P	**Pn**	**05 52 37.2**	**+2.9**
EJON	**La Jonquera**	**3.65**	**311**	P	**Pn**	**05 52 35.0**	**+0.6**
EJON				S	**Sn**	**05 53 19.2**	**+1.2**
EJON	**La Jonquera**	**3.65**	**311**	⇓P	**Pn**	**05 52 35.0**	**+0.6**
	12nm,0.2s,SNR=18						
EJON				S	**Sn**	**05 53 19.2**	**+1.2**
	72nm,0.3s,SNR=6.5						
EJON	**La Jonquera**	**3.65**	**311**	P	**Pn**	**05 52 35.0**	**+0.6**
	10nm,0.1s,SNR=18						
EJON				S	**Sn**	**05 53 19.2**	**+1.2**
	14nm,0.2s,SNR=6.5						
SJAF	**Saint Jean de**	**3.68**	**312**	P	**Pn**	**05 52 35.0**	**+0.2**
VILF	**Villemus**	**3.82**	**350**	P	**Pn**	**05 52 39.3**	**+2.5**
SBF	**Sospel**	**3.83**	**9**	*e*Pn	**Pn**	**05 52 36.3**	**-0.6**
SBF				*e*Sn	**Sn**	**05 53 17.3**	**-5.1**
	54nm,0.2s						
MVIF	**Mont Vial**	**3.83**	**6**	P	**Pn**	**05 52 36.8**	**-0.1**
NEGI	**Negi**	**3.85**	**12**	P	**Pn**	**05 52 35.7**	**-1.5**
NEGI				S	**Sn**	**05 53 09.3**	**-14**
NEGI	**Negi**	**3.85**	**12**	P	**Pn**	**05 52 35.7**	**-1.5**
PRAF	**Pradon**	**3.86**	**345**	P	**Pn**	**05 52 39.8**	**+2.4**
FILF	**Fillols**	**3.91**	**310**	P	**Pn**	**05 52 40.1**	**+2.0**
IMI	**Imperia**	**3.94**	**14**	P	**Pn**	**05 52 36.6**	**-1.9**
IMI				S	**Sn**	**05 53 11.6**	**-14**
IMI	**Imperia**	**3.94**	**14**	P	**Pn**	**05 52 36.6**	**-1.9**
TOUF	**Mont Tournerai**	**3.95**	**7**	P	**Pn**	**05 52 38.5**	**-0.2**
AUTN	**L'Aution**	**3.96**	**9**	P	**Pn**	**05 52 37.9**	**-0.8**
AUTN				S	**Sn**	**05 53 21.9**	**-3.8**
SMRF	**Simiane la Rot**	**3.96**	**349**	*e*Pn	**Pn**	**05 52 41.3**	**+2.5**
SMRF				*e*Sn	**Sn**	**05 53 26.5**	**+0.7**
	29nm,0.2s						
SAOF	**Saorge**	**3.96**	**10**	P	**Pn**	**05 52 38.7**	**-0.1**
MONE	**Monesi**	**4.08**	**12**	P	**Pn**	**05 52 39.3**	**-1.2**
MONE				S	**Sn**	**05 53 16.5**	**-12**
MONE	**Monesi**	**4.08**	**12**	P	**Pn**	**05 52 39.3**	**-1.2**
ENR	**Entracque**	**4.18**	**8**	P	**Pn**	**05 52 41.8**	**-0.1**
EIBI	**Ibiza**	**4.19**	**257**	P	**Pn**	**05 52 42.1**	**+0.1**
EIBI				S	**Sn**	**05 53 27.7**	**-3.9**
EIBI	**Ibiza**	**4.19**	**257**	P	**Pn**	**05 52 42.0**	**0.0**
	11nm,0.2s,SNR=13						
EIBI				S	**Sn**	**05 53 28.0**	**-3.6**
	83nm,0.4s,SNR=7.5						
EIBI	**Ibiza**	**4.19**	**257**	P	**Pn**	**05 52 42.2**	**+0.2**
	12nm,0.2s,SNR=13						
EIBI				S	**Sn**	**05 53 27.7**	**-3.9**
	20nm,0.3s,SNR=7.5						
STV	**Sta Anna Valdi**	**4.19**	**7**	P	**Pn**	**05 52 41.9**	**-0.2**
EMIR	**Miracle**	**4.24**	**297**	P	**Pn**	**05 52 43.4**	**+0.6**
EMIR				S	**Sn**	**05 53 35.0**	**+2.1**
EMIR	**Miracle**	**4.24**	**297**	P	**Pn**	**05 52 43.2**	**+0.4**
	18nm,0.3s,SNR=26						
EMIR				S	**Sn**	**05 53 35.0**	**+2.1**
	57nm,0.2s,SNR=6.7						
EMIR	**Miracle**	**4.24**	**297**	P	**Pn**	**05 52 43.4**	**+0.6**
	8.8nm,0.1s,SNR=26						
EMIR				S	**Sn**	**05 53 35.0**	**+2.0**
	8.6nm,0.1s,SNR=6.7						
FIN	**Finale Ligure**	**4.29**	**16**	P	**Pn**	**05 52 41.5**	**-2.0**
ROB	**Roburent**	**4.31**	**12**	P	**Pn**	**05 52 42.9**	**-0.9**
EPOB	**Poblet**	**4.37**	**289**	P	**Pn**	**05 52 44.6**	**0.0**
EPOB				S	**Sn**	**05 53 36.6**	**+0.3**
EPOB	**Poblet**	**4.37**	**289**	P	**Pn**	**05 52 44.3**	**-0.4**
	6.2nm,0.3s,SNR=18						
EPOB				S	**Sn**	**05 53 35.2**	**-1.1**
	9.8nm,0.2s,SNR=5.9						
EPOB	**Poblet**	**4.37**	**289**	P	**Pn**	**05 52 44.6**	**0.0**
EPOB				S	**Sn**	**05 53 36.6**	**+0.3**
PZZ	**Prazzo**	**4.43**	**5**	P	**Pn**	**05 52 46.0**	**+0.5**
LASF	**Ste Croix**	**4.47**	**334**	*e*Pn	**Pn**	**05 52 47.0**	**+0.9**
LASF				*e*Sn	**Sn**	**05 53 38.5**	**-0.3**
	34nm,0.3s						
MTLF	**Montolieu**	**4.61**	**316**	*e*Pn	**Pn**	**05 52 48.4**	**+0.4**
MTLF				*e*Sn	**Sn**	**05 53 42.3**	**0.0**
	55nm,0.3s						
MBDF	**Montbardon**	**4.64**	**2**	*e*Pn	**Pn**	**05 52 49.8**	**+1.4**
MBDF				*e*Sn	**Sn**	**05 53 41.8**	**-1.2**
	22nm,0.4s						
PCP	**Pian Castagno**	**4.68**	**17**	P	**Pn**	**05 52 47.7**	**-1.3**
BHB	**Bricherasio**	**4.78**	**6**	P	**Pn**	**05 52 50.4**	**0.0**
BHB	**Bricherasio**	**4.78**	**6**	P	**Pn**	**05 52 50.4**	**0.0**
RRL	**Cesana Torines**	**4.83**	**2**	P	**Pn**	**05 52 52.9**	**+1.7**
RRL				S	**Sn**	**05 53 39.3**	**-8.6**
ERTA	**Horta de San J**	**4.84**	**282**	P	**Pn**	**05 52 51.3**	**-0.1**
ERTA				S	**Sn**	**05 53 48.4**	**+0.1**
ERTA	**Horta de San J**	**4.84**	**282**	P	**Pn**	**05 52 50.7**	**-0.6**
	2.5nm,0.2s,SNR=10						
ERTA				S	**Sn**	**05 53 48.0**	**-0.2**
	19nm,0.2s,SNR=9.4						
ERTA	**Horta de San J**	**4.84**	**282**	P	**Pn**	**05 52 51.3**	**0.0**
	2.5nm,0.2s,SNR=10						
ERTA				S	**Sn**	**05 53 47.8**	**-0.4**
	5.0nm,0.2s,SNR=9.4						
ORIF	**Oris-en-Rattie**	**4.86**	**354**	*e*Pn	**Pn**	**05 52 52.6**	**+1.1**
ORIF				*e*Sn	**Sn**	**05 53 47.7**	**-0.8**
	30nm,0.5s						
SALF	**Salau**	**4.86**	**305**	P	**Pn**	**05 52 53.3**	**+1.8**
FENE	**Fenestrelle**	**4.95**	**4**	P	**Pn**	**05 52 53.6**	**+0.8**
FENE	**Fenestrelle**	**4.95**	**4**	P	**Pn**	**05 52 53.6**	**+0.7**
VIVF	**Saint-Julien-l**	**4.97**	**344**	*e*Pn	**Pn**	**05 52 54.3**	**+1.2**
VIVF				*e*Sn	**Sn**	**05 53 49.5**	**-1.9**
	19nm,0.2s						
RSP	**Reno Superiore**	**5.08**	**5**	P	**Pn**	**05 52 54.4**	**-0.3**
MELF	**Melles**	**5.19**	**304**	P	**Pn**	**05 52 58.3**	**+2.1**
LSD	**Ceresole Reale**	**5.38**	**4**	P	**Pn**	**05 52 58.7**	**-0.2**
LPG	**La Plagne**	**5.41**	**1**	*e*Pn	**Pn**	**05 53 00.1**	**+0.8**
LPG				*e*Sn	**Sn**	**05 54 00.4**	**-2.0**
	12nm,0.4s						
EMOS	**Mosqueruela**	**5.41**	**275**	P	**Pn**	**05 52 59.5**	**+0.2**
EMOS				S	**Sn**	**05 54 00.9**	**-1.6**
EMOS	**Mosqueruela**	**5.41**	**275**	P	**Pn**	**05 52 59.3**	**-0.1**
	9.3nm,0.3s,SNR=31						
EMOS				S	**Sn**	**05 54 00.9**	**-1.6**
	7.5nm,0.3s						
EMOS	**Mosqueruela**	**5.41**	**275**	S	**Sn**	**05 54 00.9**	**-1.5**
	2.7nm,0.2s						
LPL	**La Plagne**	**5.43**	**1**	*e*Pn	**Pn**	**05 53 01.4**	**+1.8**
LPL				*e*Sn	**Sn**	**05 54 01.0**	**-1.8**
	10nm,0.4s						
EBEN	**Beniarda**	**5.46**	**257**	P	**Pn**	**05 52 59.0**	**-0.9**
EBEN				S	**Sn**	**05 53 59.8**	**-3.7**
EBEN	**Beniarda**	**5.46**	**257**	P	**Pn**	**05 52 59.3**	**-0.6**
	4.3nm,0.5s,SNR=6.9						
EBEN				S	**Sn**	**05 53 58.7**	**-4.8**
	6.6nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**5.46**	**257**	P	**Pn**	**05 52 59.0**	**-0.9**
EBEN				S	**Sn**	**05 53 59.8**	**-3.7**
EBIE	**Bielsa**	**5.50**	**300**	P	**Pn**	**05 53 01.7**	**+1.2**
	8.4nm,0.4s,SNR=7.9						
EBIE				S	**Sn**	**05 54 07.1**	**+2.5**
	3.8nm,0.2s,SNR=4.0						
EBIE	**Bielsa**	**5.50**	**300**	P	**Pn**	**05 53 01.7**	**+1.1**
	4.9nm,0.3s,SNR=7.9						
EBIE				S	**Sn**	**05 54 07.1**	**+2.5**
	1.9nm,0.2s,SNR=4.0						
EPF	**Esparros**	**5.53**	**304**	*e*Pn	**Pn**	**05 53 03.1**	**+2.1**
EPF				*e*Sn	**Sn**	**05 54 05.1**	**-0.4**
	15nm,0.3s						
ESAC	**San Caprasio**	**5.59**	**289**	P	**Pn**	**05 53 02.5**	**+0.6**
ESAC				S	**Sn**	**05 54 07.1**	**+0.2**
ESAC	**San Caprasio**	**5.59**	**289**	P	**Pn**	**05 53 02.5**	**+0.6**
	116nm,0.3s,SNR=10						
ESAC				S	**Sn**	**05 54 05.7**	**-1.2**
	46nm,0.4s,SNR=4.9						
LBL	**Lubilhac**	**5.70**	**336**	P	**Pn**	**05 53 05.1**	**+1.7**
COLF	**Collangettes**	**5.83**	**340**	P	**Pn**	**05 53 06.4**	**+1.2**
CAF	**Calviac**	**5.88**	**327**	*e*Pn	**Pn**	**05 53 07.1**	**+1.2**
CAF				*e*Sn	**Sn**	**05 54 12.6**	**-1.5**
	14nm,0.2s						
ETSF	**Etsaut**	**6.06**	**300**	*e*Pn	**Pn**	**05 53 09.4**	**+1.0**
ETSF				*e*Sn	**Sn**	**05 54 16.8**	**-1.8**
	11nm,0.4s						
PYM	**Petit Puy Mans**	**6.24**	**336**	P	**Pn**	**05 53 12.5**	**+1.5**
PLDF	**La Plantade**	**6.27**	**341**	P	**Pn**	**05 53 12.7**	**+1.3**
RJF	**Les Rejaudoux**	**6.41**	**326**	*e*Pn	**Pn**	**05 53 14.4**	**+0.9**
RJF				*e*Sn	**Sn**	**05 54 26.7**	**-0.8**
	13nm,0.2s						
AGO	**Saint Agoulin**	**6.48**	**338**	P	**Pn**	**05 53 15.6**	**+1.2**
LFF	**La Frestale**	**6.49**	**320**	*e*Pn	**Pn**	**05 53 15.3**	**+0.7**
LFF				*e*Sn	**Sn**	**05 54 28.3**	**-1.2**
	27nm,0.3s						
EMUR	**La Murta**	**6.50**	**252**	P	**Pn**	**05 53 13.8**	**-0.9**
	3.5nm,0.3s,SNR=4.0						
EMUR				S	**Sn**	**05 54 25.7**	**-3.9**
	7.0nm,0.4s,SNR=4.0						
CABF	**La Chapelle**	**6.53**	**357**	*e*Pn	**Pn**	**05 53 15.2**	**+0.1**
SJPF	**Ste Jean**	**6.59**	**300**	*e*Pn	**Pn**	**05 53 16.6**	**+0.6**
SJPF				*e*Sn	**Sn**	**05 54 31.0**	**-0.9**
	3.7nm,0.3s						
EALK	**Alkurruntz**	**6.82**	**300**	P	**Pn**	**05 53 18.9**	**-0.3**
EALK				S	**Sn**	**05 54 35.4**	**-2.4**
EALK	**Alkurruntz**	**6.82**	**300**	P	**Pn**	**05 53 19.8**	**+0.6**
	17nm,0.3s,SNR=9.1						
EALK				S	**Sn**	**05 54 39.8**	**+2.1**
	50nm,0.5s,SNR=4.0						
EALK	**Alkurruntz**	**6.82**	**300**	S	**Sn**	**05 54 39.0**	**+1.3**
	2.2nm,0.3s,SNR=4.0						
SMF	**Signal de Mont**	**6.85**	**344**	*e*Pn	**Pn**	**05 53 20.4**	**+0.7**
SMF				*e*Sn	**Sn**	**05 54 35.7**	**-2.8**
	6.3nm,0.2s						
TCF	**Toulx Ste Croi**	**6.97**	**334**	*e*Pn	**Pn**	**05 53 22.4**	**+1.1**
TCF				*e*Sn	**Sn**	**05 54 39.4**	**-2.1**
	4.2nm,0.3s						
BGF	**Bois d'Agland**	**7.02**	**338**	*e*Pn	**Pn**	**05 53 23.1**	**+1.1**
AVF	**Avril sur Loir**	**7.10**	**342**	*e*Pn	**Pn**	**05 53 23.9**	**+0.8**
AVF				*e*Sn	**Sn**	**05 54 41.2**	**-3.5**
	3.8nm,0.4s						
DAVOX	**Davos**	**7.11**	**19**	Pn	**Pn**	**05 53 23.6**	**+0.4**
	0.2nm,0.3s,baz=225,slow=14,SNR=2.3						
DAVOX				Sn	**Sn**	**05 54 43.0**	**-1.8**
	0.3nm,0.3s,baz=149,slow=22,SNR=2.7						
EVIA	**Vianos**	**7.19**	**261**	P	**Pn**	**05 53 23.3**	**-1.1**
EVIA				S	**Sn**	**05 54 43.7**	**-3.3**
EVIA	**Vianos**	**7.19**	**261**	P	**Pn**	**05 53 23.0**	**-1.4**
	2.6nm,0.5s,SNR=4.0						
EVIA				S	**Sn**	**05 54 42.0**	**-4.9**
	3.7nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**7.19**	**261**	S	**Sn**	**05 54 43.7**	**-3.3**
SSF	**Saint Saulge**	**7.32**	**343**	*e*Pn	**Pn**	**05 53 25.7**	**-0.5**
ENIJ	**Nijar**	**7.56**	**248**	P	**Pn**	**05 53 26.5**	**-3.1**
	3.5nm,0.3s,SNR=7.9						
HINF	**Hinteralfeld**	**7.73**	**1**	*e*Pn	**Pn**	**05 53 30.5**	**-1.4**
HINF				*e*Sn	**Sn**	**05 54 55.4**	**-5.0**
	1.4nm,0.2s						
EQES	**Quesada**	**7.87**	**256**	P	**Pn**	**05 53 33.1**	**-0.7**
EQES				S	**Sn**	**05 55 00.8**	**-3.0**
EQES	**Quesada**	**7.87**	**256**	P	**Pn**	**05 53 33.2**	**-0.7**
	1.8nm,0.4s,SNR=7.9						
EQES				S	**Sn**	**05 54 59.1**	**-4.8**
	2.2nm,0.4s,SNR=7.9						
EQES	**Quesada**	**7.87**	**256**	P	**Pn**	**05 53 33.2**	**-0.6**
EQES				S	**Sn**	**05 55 00.8**	**-3.0**
HAU	**Haudompre**	**7.92**	**359**	*e*Pn	**Pn**	**05 53 33.8**	**-0.8**
HAU				*e*Sn	**Sn**	**05 54 59.1**	**-6.0**
	9.0nm,0.4s						
EBER	**Berja**	**8.08**	**250**	P	**P**	**05 53 37.0**	**+0.1**
EBER				S	**Sn**	**05 55 04.0**	**-5.3**
EBER	**Berja**	**8.08**	**250**	P	**P**	**05 53 35.9**	**-1.0**
	1.9nm,0.4s,SNR=4.0						
ESDC	**Sonseca Array**	**8.12**	**270**	Pn	**P**	**05 53 36.3**	**-1.1**
	0.8nm,0.3s,baz=81,slow=14,SNR=4.7						
ESDC	**Sonseca Array**	**8.12**	**270**	P	**P**	**05 53 36.5**	**-1.0**
ESDC				S	**Sn**	**05 55 05.6**	**-4.7**
ESDC	**Sonseca Array**	**8.12**	**270**	P	**P**	**05 53 35.8**	**-1.6**
	1.0nm,0.3s,baz=80,slow=14,SNR=7.6						
ESDC				S	**Sn**	**05 55 06.0**	**-4.3**
	0.2nm,0.1s,baz=83,slow=24,SNR=7.9						
ESDC	**Sonseca Array**	**8.12**	**270**	P	**P**	**05 53 36.5**	**-1.0**
ESDC				S	**Sn**	**05 55 05.6**	**-4.7**
ELAN	**Lanestosa**	**8.13**	**296**	P	**P**	**05 53 36.5**	**-1.0**
ELAN				S	**Sn**	**05 55 09.1**	**-1.4**
ELAN	**Lanestosa**	**8.13**	**296**	P	**P**	**05 53 35.9**	**-1.7**
	0.9nm,0.2s,SNR=7.9						
ELAN				S	**Sn**	**05 55 09.1**	**-1.4**
	1.2nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**8.13**	**296**	P	**P**	**05 53 36.5**	**-1.1**
ELAN				S	**Sn**	**05 55 09.1**	**-1.4**
MFF	**Saint Martin d**	**8.15**	**325**	*e*Pn	**P**	**05 53 38.4**	**+0.6**
CDF	**Champ du Feu**	**8.34**	**3**	*e*Pn	**P**	**05 53 39.3**	**-1.1**
MEZF	**Maizieres J'vi**	**8.48**	**353**	*e*Pn	**P**	**05 53 41.9**	**-0.6**
EADA	**Adamuz**	**8.89**	**261**	S	**Sn**	**05 55 23.8**	**-5.4**
	0.9nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**9.39**	**294**	P	**P**	**05 53 55.3**	**+0.3**
	1.3nm,0.3s,SNR=7.9						
EARI				S	**Sn**	**05 55 36.9**	**-4.8**
	3.4nm,0.5s,SNR=7.9						
LDF	**La Druitiere**	**9.76**	**333**	*e*Pn	**P**	**05 54 00.1**	**0.0**
GRR	**Gorron**	**9.86**	**330**	*e*Pn	**P**	**05 54 01.9**	**+0.4**
FLN	**La Foliniere**	**10.03**	**332**	*e*Pn	**P**	**05 54 03.5**	**-0.3**
BAIF	**Baives**	**10.11**	**351**	*e*Pn	**P**	**05 54 03.8**	**-1.1**
ECAL	**Calabor**	**10.24**	**285**	P	**P**	**05 54 06.4**	**-0.2**
	1.7nm,0.2s,SNR=7.9						
ECAL				S	**S**	**05 55 57.8**	**-4.8**
	3.5nm,0.5s,SNR=7.9						
SGMF	**Saint Gilles**	**10.47**	**324**	*e*Pn	**P**	**05 54 09.7**	**-0.1**
QUIF	**Quistinic**	**10.51**	**321**	*e*Pn	**P**	**05 54 10.5**	**+0.2**
ROSF	**Rostrenen**	**10.86**	**323**	*e*Pn	**P**	**05 54 15.1**	**0.0**
EVO	**Evora**	**11.42**	**267**	*e*Pn	**P**	**05 54 22.2**	**-0.6**
EKA	**Eskdalemuir Ar**	**16.58**	**340**	Pn	**P**	**05 55 31.9**	**+1.4**
	0.1nm,0.3s,baz=162,slow=14,SNR=2.7						
AKASG	**Malin Array Be**	**19.04**	**49**	P	**P**	**05 55 56.9**	**-4.2**
	baz=243,slow=10,SNR=2.3						
BRTR	**Keskin Array B**	**20.73**	**82**	P	**P**	**05 56 13.2**	**-6.5**
	0.9nm,1.1s,baz=255,slow=7.4,SNR=3.3						
FINES	**FINESS Array B**	**24.49**	**23**	P	**P**	**05 56 54.1**	**-2.5**
	2.6nm,0.7s,mb3.8,baz=188,slow=9.8,SNR=4.9						
YKA	**Yellowknife Ar**	**67.44**	**335**	P	**P**	**06 02 32.7**	**-1.3**
	0.2nm,0.6s,mb3.3,baz=45,slow=6.1,SNR=6.8						

*IDC **20** 05:56:16.2±0.8, 5.34N×94.80E, mb4.3/10, mb1 4.4/11, mb1mx4.2/19, mbtmp4.2/11, ML4.2/1, MS3.2/2, Ms1 3.3/2, ms1mx3.0/16, Error ellipse: s-maj=41.1km s-min=18.3km az=50.0*
*NEIC **20** 05:56:19.9±0.7, 4.92N×94.39E, h30km, mb4.7/8, Error ellipse: s-maj=20.9km s-min=12.8km az=57.0*

ISC 20 05:56:18.7±0.7, 4.9N±0.1×94.4E±0.1, h33km, n30, σ0°99/26, mb4.4/21, MS3.8/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.16**	**18**	Pn	**P**	**05 59 40.9**	**+1.8**
	0.3nm,0.3s,baz=213,slow=11,SNR=5.7						
CMAR				LR	LR	06 04 56.5	
	comp=Z,32nm,19.3s,baz=245,slow=38						
JIRN	**Jiri**	**23.95**	**342**	*e*P	**P**	**06 01 31.6**	**+0.6**
	7.4nm,0.3s,mb4.5						
PKI	**Pulchoki**	**24.12**	**340**	*e*P	**P**	**06 01 34.2**	**+1.6**
DMN	**Daman**	**24.26**	**339**	*e*P	**P**	**06 01 34.8**	**+0.8**
KKN	**Kakani**	**24.37**	**340**	*e*P	**P**	**06 01 35.2**	**+0.2**
GKN	**Gorkha**	**24.79**	**339**	*e*P	**P**	**06 01 39.1**	**0.0**
	8.5nm,0.3s,mb4.7						
LSA	**Lhasa**	**24.85**	**353**	*e*P	**P**	**06 01 39.5**	**-0.2**
	10nm,0.6s,mb4.5						
KOLN	**Koldanda**	**24.97**	**337**	*e*P	**P**	**06 01 41.3**	**+0.5**
	14nm,0.6s,mb4.7						
ENH	**Enshi**	**28.94**	**28**	*e*P	**P**	**06 02 19.0**	**+1.8**
	159nm,0.8s						
BJT	**Baijiatuan**	**40.06**	**26**	*e*P	**P**	**06 03 51.7**	**-0.9**
	14nm,1.1s,mb4.6						
AAK	**Ala-Archa**	**41.53**	**338**	*e*P	**P**	**06 04 03.9**	**-0.8**
	3.1nm,0.9s,mb3.9						
SONM	**Songino Array**	**43.98**	**12**	P	**P**	**06 04 22.6**	**-2.0**
	1.3nm,0.5s,mb3.9,baz=196,slow=7.6,SNR=7.3						
ULN	**Ulaanbaatar**	**44.14**	**12**	*e*P	**P**	**06 04 23.3**	**-2.6**
	2.3nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**46.34**	**123**	P	**P**	**06 04 44.0**	**+0.2**
	5.4nm,0.7s,mb4.6,baz=302,slow=9.1,SNR=22						
WRAB	**Tennant Creek**	**46.35**	**123**	*e*P	**P**	**06 04 43.9**	**0.0**
	13nm,0.8s,mb4.9						
KURK	**Kurchatov**	**47.54**	**346**	*e*P	**P**	**06 04 52.0**	**-0.8**
	6.5nm,0.7s,mb4.8						
ASAR	**Alice Springs

CTA	**Charters Tower**	**31.12 171**	P	**P**	**06 42 42.0**	**+1.5**
CTA			LR	LR	06 54 39.2	
CTAO	**Charters Tower**	**31.12 171**	*eP*	**P**	**06 42 41.4**	**+0.9**
	12nm,1.1s,mb4.6					
WRAB	**Tennant Creek**	**31.28 192**	*eP*	**P**	**06 42 41.5**	**-0.3**
	30nm,1.1s,mb5.0					
WB2	**Warramunga Arr**	**31.29 192**	*eP*	**P**	**06 42 41.7**	**-0.2**
WRA	**Warramunga Arr**	**31.29 192**	P	**P**	**06 42 41.4**	**-0.5**
	7.5nm,0.8s,mb4.6,baz=10,slow=9.4,SNR=31					
ASAJ	**Asahikawa**	**33.20 2**	LR	LR	06 55 05.6	
	comp=Z,73nm,19.6s,MS3.4,baz=169,slow=34					
ASAR	**Alice Springs**	**34.99 192**	P	**P**	**06 43 14.2**	**+0.1**
	2.9nm,0.5s,mb4.4,baz=18,slow=12,SNR=38					
ASAR			pP	pP	06 43 26.4	+2.8
	1.5nm,0.5s,baz=19,slow=12,SNR=6.3					
ASAR			PcP	PcP	06 45 47.4	+1.4
	0.5nm,0.5s,baz=33,slow=2.6,SNR=5.0					
ASAR			LR	LR	06 57 20.1	
	comp=Z,82nm,20.5s,MS3.5,baz=28,slow=36					
ENH	**Enshi**	**35.20 308**	*eP*	**P**	**06 43 14.9**	**-0.8**
	13nm,0.9s,mb4.9					
ENH			*e*	pP	06 43 24.6	-0.7
CMAR	**Chiang Mai Arr**	**41.44 286**	P	**P**	**06 44 09.4**	**+1.6**
	5.0nm,0.9s,mb4.1,baz=94,slow=6.5,SNR=17					
CMAR			pP	pP	06 44 20.6	+3.1
	5.0nm,0.9s,baz=90,slow=6.9,SNR=4.2					
HIA	**Hailar**	**42.25 339**	P	**P**	**06 44 14.2**	**0.0**
	8.6nm,0.9s,mb4.4					
STKA	**Stephens Creek**	**42.45 179**	P	**P**	**06 44 16.6**	**+0.5**
	2.4nm,0.9s,mb3.8,baz=327,slow=9.5,SNR=3.4					
STKA			LR	LR	07 03 32.4	
	comp=Z,224nm,18.1s,MS4.1,baz=184,slow=38					
SONM	**Songino Array**	**47.02 328**	P	**P**	**06 44 52.9**	**+0.4**
	2.3nm,1.0s,mb4.0,baz=127,slow=6.2,SNR=7.4					
SONM			pP	pP	06 45 05.0	+2.7
	1.8nm,0.8s,baz=137,slow=6.8,SNR=5.1					
NWAO	**Narrogin (SRO)**	**49.11 207**	P	**P**	**06 45 09.4**	**+0.4**
WMQ	**Urumqi**	**56.47 316**	*eP*	**P**	**06 46 04.0**	**+0.4**
KURK	**Kurchatov**	**64.39 321**	*eP*	**P**	**06 46 56.2**	**-1.3**
	16nm,1.0s,mb5.0					
KURK			*e*	pP	06 47 07.1	-0.4
ILAR	**Eielson Array**	**72.62 25**	P	**P**	**06 47 47.1**	**-1.1**
	1.4nm,0.9s,mb3.9,baz=251,slow=6.2,SNR=20					
ILAR			LR	LR	07 17 36.5	
	comp=Z,70nm,18.9s,MS4.0,baz=346,slow=34					
DAWY	**Dawson**	**75.74 26**	*eP*	**P**	**06 48 07.2**	**+0.9**
INK	**Inuvik**	**78.30 22**	*eP*	**P**	**06 48 19.3**	**-1.2**
	5.0nm,1.1s,mb4.4					
INK			*e*		06 48 32.8	
YKW3	**Yellowknife Ar**	**86.95 27**	*eP*	**P**	**06 49 06.4**	**+1.2**
YKA	**Yellowknife Ar**	**86.97 27**	P	**P**	**06 49 06.7**	**+1.5**
	2.9nm,0.8s,mb4.6,baz=291,slow=5.3,SNR=33					
YKA			pP	pP	06 49 18.4	+2.8
	1.2nm,0.4s,baz=288,slow=5.0,SNR=10					
YKA	**Yellowknife Ar**	**86.97 27**	P	**P**	**06 49 06.7**	**+1.5**
YKA			pP	pP	06 49 18.4	+2.8
RES	**Resolute Bay**	**88.06 13**	P	**P**	**06 49 08.2**	**-2.1**
	33nm,2.3s,mb5.2					
ARCES	**ARCESS Array B**	**88.56 342**	P	**P**	**06 49 13.0**	**+0.3**
	3.8nm,0.9s,mb4.7,baz=45,slow=6.9,SNR=5.3					
ARCES			LR	LR	07 36 01.7	
	comp=Z,143nm,19.5s,MS4.4,baz=190,slow=40					
ARCES	**ARCESS Array B**	**88.56 342**	P	**P**	**06 49 13.0**	**+0.3**
ARCES			LR	LR	07 36 01.7	
NEW	**Newport**	**89.71 41**	P	**P**	**06 49 17.9**	**-0.8**
	3.9nm,1.0s,mb4.7					
NVAR	**Mina Array Bea**	**91.49 51**	P	**P**	**06 49 30.0**	**+2.9**
	1.5nm,0.9s,mb4.3,baz=257,slow=3.2,SNR=7.8					
NVAR	**Mina Array Bea**	**91.49 51**	P	**P**	**06 49 30.0**	**+2.9**
FINES	**FINESS Array B**	**92.08 334**	P	**P**	**06 49 28.5**	**-0.8**
	4.0nm,1.0s,mb4.7,baz=90,slow=7.6,SNR=6.2					
MAW	**Mawson**	**95.49 202**	LR	LR	07 33 11.8	
	comp=Z,103nm,18.1s,MS4.3,baz=248,slow=36					
LPAZ	**La Paz**	**151.06 104**	PKPbc	PKPdf	06 56 17.6	+5.2
	5.0nm,0.8s,baz=253,slow=2.0,SNR=20					

*IDC **20** 06:43:11.3±3.0, 10.81S×162.59E, mb3.7/4, mb1 3.9/4, mb1mx3.8/12, mbtmp3.7/4, Error ellipse: s-maj=107.0km s-min=31.4km az=133.0*

ISC 20 06:43:13.9±1.2, 11.1S±0.2×162.7E±0.2, h33km, n5, σ0$14/5, mb3.6/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.53**	**162**	*eP*	**P**	**06 45 59.3**	**0.0**
WRA	**Warramunga Arr**	**28.67**	**249**	P	**P**	**06 49 10.3**	**+0.1**
	0.4nm,0.7s,mb3.3,baz=79,slow=9.3,SNR=5.0						
ASAR	**Alice Springs**	**30.13**	**242**	P	**P**	**06 49 23.0**	**-0.1**
	0.6nm,0.8s,mb3.4,baz=61,slow=9.8,SNR=3.8						
SONM	**Songino Array**	**76.92**	**325**	P	**P**	**06 55 04.6**	**-0.1**
	1.6nm,1.0s,mb3.9,baz=124,slow=5.2,SNR=3.2						
ILAR	**Eielson Array**	**84.49**	**19**	P	**P**	**06 55 44.5**	**+0.1**
	0.8nm,1.0s,mb3.8,baz=243,slow=4.9,SNR=6.3						

IGQ 20 06:46:36.1, 1.94S×78.45W, h160km±14km, mb4.1, 1C-13D, Error ellipse: s-maj=11.4km s-min=5.6km az=102.2, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	**Arrayan**	**0.43**	**359**	⇓P	P	06 46 58.4	-0.3
PATA	**Patacocha**	**0.43**	**2**	P	P	06 46 59.5	+0.7
IGUA	**Igualata**	**0.48**	**337**	⇓P	P	06 46 59.6	+0.6
RETU	**Refugio**	**0.48**	**1**	⇑P	P	06 46 59.5	+0.5
ULBA	**Ulba**	**0.49**	**5**	⇓P	P	06 46 59.1	+0.1
CUSU	**Cusua**	**0.49**	**357**	P	P	06 46 59.3	+0.3
JUIV	**Juive**	**0.51**	**358**	P	P	06 46 59.3	+0.2
RUN2	**Runtun**	**0.52**	**4**	P	P	06 46 59.2	+0.2
PISA	**Pisayambo**	**0.88**	**4**	⇓P	P	06 47 01.7	+0.6
TAMB	**Tambo**	**1.24**	**4**	⇓P	P	06 47 05.1	+0.9
VC1	**Cotopaxi 1**	**1.29**	**2**	⇓P	P	06 47 05.5	+0.8
NAS1	**Nasa**	**1.30**	**359**	⇓P	P	06 47 06.0	+1.3
ANTI	**Antisana**	**1.51**	**11**	⇓P	P	06 47 07.6	+0.8
JUA2	**San Juan 2**	**1.72**	**355**	⇓P	P	06 47 09.8	+0.7
TERV	**Terraza Guagua**	**1.76**	**355**	⇓P	P	06 47 10.4	+0.9
PINO	**Pino**	**1.78**	**355**	⇓P	P	06 47 10.5	+0.9
YANA	**Yana**	**1.81**	**356**	P	P	06 47 10.6	+0.6
JOR1	**San Jorge 1**	**1.94**	**354**	P	P	06 47 09.9	-1.5
CAYR	**Refugio Cayamb**	**1.99**	**13**	P	P	06 47 13.2	+1.2
CONE	**Cono NE Rev Vo**	**2.02**	**24**	⇓P	P	06 47 12.9	+0.4
AZU1	**Azuela**	**2.04**	**25**	P	P	06 47 12.6	0.0
CAYA	**Cayambe**	**2.05**	**13**	P	P	06 47 15.4	+2.7
COTA	**Cotacachi**	**2.26**	**3**	⇓P	P	06 47 16.5	+1.2

*NIED **20** 06:48:00, 35.70N×140.20E, h59km, Mw4.1 Best double couple: M0:1.77×10^15 NP1:φs331°, δ72°, λ92°. NP2:φs144°, δ18°, λ83°.*

*IDC **20** 06:48:44.7±7.1, 35.70N×139.48E, h47km±56km, mb3.3/3, mb1 3.7/4, mb1mx3.3/20, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=127.0km s-min=26.2km az=107.0*

*JMA **20** 06:48:47.5±0.2, 35.65N×140.16E, h67km±2km, M3.5*

ISC 20 06:48:47.2±0.6, 35.56N±0.04×140.14E±0.06, h79km±5km, n16, σ0$64/24, mb3.6/3, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.15**	**159**	⇑P	**P**	**06 48 58.5**	**-0.1**
JCN				S	**S**	**06 49 07.4**	**+0.2**
TOK	**Tokyo**	**0.33**	**293**	S	**S**	**06 49 08.2**	**-0.7**
BSO3	**Boso 3**	**0.81**	**158**	⇑P	**P**	**06 49 04.2**	**-0.1**
BSO3				S	**S**	**06 49 18.5**	**+1.6**
JOD2	**Odawara 2**	**0.91**	**251**	⇓P	**P**	**06 49 05.4**	**+0.1**
JOD2				S	**S**	**06 49 18.2**	**-0.6**
JIM2	**Oshima 3**	**1.02**	**215**	P	**P**	**06 49 06.6**	**0.0**
JIM2				S	**S**	**06 49 21.3**	**+0.1**
JAG	**Ashikaga**	**1.03**	**328**	P	**P**	**06 49 05.8**	**-1.0**
JRY	**Ryogami san**	**1.10**	**295**	⇓P	**P**	**06 49 08.0**	**+0.3**
BSO1	**Boso 1**	**1.14**	**142**	P	**P**	**06 49 07.5**	**-0.6**
BSO1				S	**S**	**06 49 23.9**	**+0.1**
JYN	**Shimob**	**1.30**	**268**	⇓P	**P**	**06 49 10.7**	**+0.3**
JIZS	**Izushimoda**	**1.33**	**231**	⇓P	**P**	**06 49 10.9**	**+0.1**
JIZS				S	**S**	**06 49 28.3**	**+0.1**
JKT	**Katashina**	**1.40**	**329**	P	**P**	**06 49 11.1**	**-0.7**
MAT	**Matsushiro**	**1.85**	**303**	P	**P**	**06 49 18.0**	**+0.4**
MAT				S	**S**	**06 49 41.4**	**+1.4**
JHJ	**Hachijo jima 2**	**2.45**	**187**	P	**P**	**06 49 25.6**	**-0.4**
	23nm,0.3s,baz=275,slow=22,SNR=2.9						
JHJ				S	**S**	**06 49 54.5**	**-0.3**
	69nm,0.3s,baz=252,slow=23,SNR=7.2						
ILAR	**Eielson Array**	**51.29**	**32**	P	**P**	**06 57 44.4**	**-0.5**
	0.5nm,1.1s,mb3.5,baz=276,slow=5.3,SNR=4.3						
WRA	**Warramunga Arr**	**55.47**	**187**	P	**P**	**06 58 15.6**	**-0.7**
	0.6nm,0.4s,mb4.0,baz=0.6,slow=7.6,SNR=16						
PDAR	**Pinedale Array**	**79.44**	**45**	P	**P**	**07 00 47.5**	**+1.2**
	0.3nm,0.5s,mb3.4,baz=45,slow=2.1,SNR=3.7						

*BJI **20** 07:00:29.6, 3.82N×93.78E, h24km, mb4.6*

*IDC **20** 07:00:31.9±0.8, 3.91N×93.35E, h26km±4km, mb3.8/6, mb1 4.0/7, mb1mx3.8/17, mbtmp3.9/7, ML4.1/1, MS3.9/2, Ms1 4.0/2, ms1mx3.2/18, Error ellipse: s-maj=45.3km s-min=14.6km az=48.0*

*NEIC **20** 07:00:31.8±0.4, 3.84N×93.33E, h30km, mb4.7/8, Error ellipse: s-maj=13.1km s-min=8.9km az=67.0*

ISC 20 07:00:29.6±0.5, 3.81N±0.07×93.4E±0.1, h27km, h27km±.5km: pP-P, n28, σ0$93/26, mb4.5/21, MS4.0/2, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.54**	**20**	Pn	**P**	**07 04 07.0**	**-1.9**
	0.3nm,0.3s,baz=221,slow=13,SNR=8.2						
JIRN	**Jiri**	**24.68**	**345**	*eP*	**P**	**07 05 50.9**	**+1.0**
	7.3nm,0.5s,mb4.5						
PKI	**Pulchoki**	**24.82**	**343**	*eP*	**P**	**07 05 52.0**	**+0.9**
	14nm,0.9s,mb4.5						
DMN	**Daman**	**24.94**	**342**	*eP*	**P**	**07 05 54.1**	**+1.8**
	14nm,0.8s,mb4.5						
KKN	**Kakani**	**25.06**	**343**	*eP*	**P**	**07 05 53.4**	**0.0**
	25nm,1.0s,mb4.7						
GKN	**Gorkha**	**25.45**	**342**	*eP*	**P**	**07 05 57.4**	**+0.2**
	28nm,0.7s,mb4.9						
KOLN	**Koldanda**	**25.58**	**340**	*eP*	**P**	**07 05 59.0**	**+0.7**
	12nm,0.8s,mb4.5						
LSA	**Lhasa**	**25.83**	**356**	P	**P**	**07 06 02.0**	**+1.3**
LSA	**Lhasa**	**25.83**	**356**	*eP*	**P**	**07 06 02.4**	**+1.7**
	26nm,0.8s,mb4.8						
LSA				*e*	pP	07 06 10.8	+2.1
ENH	**Enshi**	**30.41**	**28**	*eP*	**P**	**07 06 40.9**	**-1.2**
	10nm,0.9s,mb4.5						
XAN	**Xi'an**	**33.38**	**24**	P	**P**	**07 07 06.9**	**-1.1**
XAN				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.8						
NWAO	**Narrogin (SRO)**	**42.97**	**150**	P	**P**	**07 08 27.7**	**-0.7**
	comp=Z,18nm,1.3s,mb4.6						
SONM	**Songino Array**	**45.27**	**12**	P	**P**	**07 08 47.0**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.7,baz=193,slow=8.1,SNR=4.0						
WRA	**Warramunga Arr**	**46.66**	**122**	P	**P**	**07 08 58.8**	**+0.7**
	comp=Z,4.7nm,0.9s,mb4.4,baz=301,slow=8.9,SNR=20						
WRA				pP	pP	07 09 07.0	+0.7
	comp=Z,4.0nm,0.7s,baz=299,slow=9.0,SNR=16						
WRAB	**Tennant Creek**	**46.66**	**122**	*eP*	**P**	**07 08 59.0**	**+0.9**
	comp=Z,35nm,1.4s,mb5.1						
ASAR	**Alice Springs**	**48.02**	**127**	P	**P**	**07 09 09.4**	**+0.8**
	comp=Z,2.1nm,1.0s,mb4.1,baz=302,slow=6.5,SNR=8.5						
ASAR				pP	pP	07 09 17.6	+0.6
	comp=Z,1.7nm,0.8s,baz=290,slow=7.7,SNR=7.4						
ASAR				PcP	PcP	07 10 38.2	+1.5
	comp=Z,0.7nm,0.8s,baz=293,slow=3.7,SNR=4.1						
ASAR				pPcP		07 10 45.9	
	comp=Z,1.1nm,0.8s,baz=308,slow=2.8,SNR=6.8						
KURK	**Kurchatov**	**48.36**	**347**	*eP*	**P**	**07 09 10.6**	**-0.4**
	comp=Z,11nm,1.2s,mb4.8						
HIA	**Hailar**	**50.54**	**22**	P	**P**	**07 09 27.5**	**-0.2**
	comp=Z,9.0nm,1.1s,mb4.6						
BVAR	**Borovoye Array**	**52.59**	**343**	P	**P**	**07 09 42.3**	**-0.9**
	comp=Z,1.6nm,0.8s,mb4.0,baz=143,slow=7.4,SNR=8.1						
BVAR				pP	pP	07 09 50.9	-0.6
	comp=Z,2.3nm,0.9s,baz=127,slow=7.4,SNR=7.1						
BRVK	**Borovoye**	**52.65**	**343**	*eP*	**P**	**07 09 43.0**	**-0.6**
KMBO	**Kilima Mbogo**	**56.29**	**266**	LR	LR	07 31 35.2	
	comp=Z,52nm,18.6s,MS3.6,baz=81,slow=33						
CTAO	**Charters Tower**	**57.09**	**117**	*eP*	**P**	**07 10 16.5**	**+0.1**
	comp=Z,13nm,1.3s,mb4.8						
MALT	**Malatya**	**60.55**	**312**	*eP*	**P**	**07 10 39.8**	**-0.4**
	comp=Z,5.4nm,1.1s,mb4.6						
BRTR	**Keskin Array B**	**64.53**	**312**	P	**P**	**07 11 05.9**	**-0.8**
	comp=Z,0.5nm,0.9s,mb3.5,baz=137,slow=7.7,SNR=3.7						
BRTR				pP	pP	07 11 14.6	-0.6
	comp=Z,0.9nm,0.7s,baz=130,slow=7.7,SNR=5.8						
LSZ	**Lusaka**	**67.23**	**252**	P	**P**	**07 11 22.8**	**-1.5**
BOSA	**Boshof**	**72.81**	**239**	P	**P**	**07 11 57.7**	**-0.4**
GERES	**GERESS Array B**	**80.34**	**319**	P	**P**	**07 12 41.1**	**+1.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=135,slow=7.5,SNR=4.8						
GERES				pP	pP	07 12 49.1	+0.5
	comp=Z,2.3nm,1.0s,baz=79,slow=6.8,SNR=4.2						
DBIC	**Dimbokro**	**97.71**	**277**	LR	LR	07 58 31.2	
	comp=Z,111nm,19.3s,MS4.4,baz=325,slow=36						

JMA 20 07:03:58.5±0.7, 33.33N×142.42E, h65km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.78**	**318**	P	P	07 04 27.5	-0.2
BSO1				S	S	07 04 50.7	+1.5
BSO3	**Boso 3**	**2.16**	**313**	P	P	07 04 33.2	+0.2
JHJ2	**Mitsune**	**2.19**	**265**	P	P	07 04 33.6	+0.2
BSO4	**Boso 4**	**2.39**	**314**	P	P	07 04 36.8	+0.5
JOD2	**Odawara 2**	**3.37**	**306**	P	P	07 04 49.3	-0.7
JHO	**Hitachi**	**3.61**	**336**	P	P	07 04 52.0	-1.4
JHU	**Hanno**	**3.61**	**315**	P	P	07 04 54.5	+1.1
JYN	**Shimob**	**3.87**	**305**	P	P	07 04 57.8	+0.9
JAG	**Ashikaga**	**3.93**	**323**	P	P	07 04 57.4	-0.5
JRY	**Ryogami san**	**3.95**	**314**	*eS*	S	07 05 43.5	0.0
JFK	**Kawauchi**	**4.22**	**343**	P	P	07 05 00.0	-1.9
JMM	**Marumori**	**4.72**	**344**	P	P	07 05 07.0	-1.8
JMM				*eS*	S	07 05 56.2	-6.6

*IDC **20** 07:04:14.4±1.5, 2.95N×93.48E, h23km±6km, mb3.4/5, mb1 3.6/6, mb1mx3.5/17, mbtmp3.6/6, ML3.7/1, Error ellipse: s-maj=51.3km s-min=18.6km az=59.0*

ISC 20 07:04:12.3±1.2, 2.9N±0.2×93.4E±0.2, h24km, h24km±1.0km: pP-P, n6, σ0$76/6, mb3.6/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.36**	**19**	Pn	**P**	**07 08 02.6**	**+0.3**
	0.1nm,0.3s,baz=216,slow=12,SNR=4.1						
SONM	**Songino Array**	**46.12**	**12**	P	**P**	**07 12 36.6**	**-0.1**
	0.3nm,0.4s,mb3.6,baz=190,slow=8.8,SNR=2.6						
SONM				pP	pP	07 12 43.9	+0.1
	1.1nm,0.7s,baz=198,slow=7.8,SNR=4.5						
WRA	**Warramunga Arr**	**46.14**	**121**	P	**P**	**07 12 36.4**	**-0.8**
	0.6nm,0.7s,mb3.6,baz=296,slow=8.9,SNR=2.8						
WRA				pP	pP	07 12 44.1	-0.3
	1.1nm,0.6s,baz=300,slow=8.7,SNR=6.3						
ASAR	**Alice Springs**	**47.44**	**126**	P	**P**	**07 12 48.1**	**+0.7**
	0.4nm,0.6s,mb3.5,baz=287,slow=7.5,SNR=3.9						
ASAR				pP	pP	07 12 54.7	+0.1
	0.8nm,0.7s,baz=293,slow=8.0,SNR=5.2						
BVAR	**Borovoye Array**	**53.45**	**343**	P	**P**	**07 13 32.2**	**-0.6**
	0.4nm,0.7s,mb3.5,baz=166,slow=6.1,SNR=3.8						
BRTR	**Keskin Array B**	**65.18**	**313**	P	**P**	**07 14 54.5**	**+0.4**
	0.4nm,0.6s,mb3.6,baz=129,slow=7.9,SNR=4.0						

*IDC **20** 07:24:39.0±1.0, 3.47S×135.68E, mb4.3/4, mb1 4.4/6, mb1mx4.2/11, mbtmp4.2/6, ML4.0/2, Error ellipse: s-maj=57.4km s-min=20.3km az=77.0*

*NEIC **20** 07:24:39.7±0.7, 3.51S×135.48E, h10km, mb4.6/5, Error ellipse: s-maj=23.4km s-min=12.4km az=81.0*

ISC 20 07:24:41.8±2.3, 3.80S±0.08×135.4E±0.2, h38km±21km, n18, σ1$46/19, mb4.2/6, 1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.32**	**198**	*eP*	**P**	**07 26 58.2**	**+1.6**
	21nm,0.6s						
WRAB	**Tennant Creek**	**16.07**	**183**	*eP*	**P**	**07 28 25.2**	**-1.6**
	30nm,0.6s						
WRAB				*e*		07 28 32.6	
WB2	**Warramunga Arr**	**16.08**	**183**	*eP*	**P**	**07 28 24.6**	**-2.2**
WB2				*e*		07 28 32.7	
WRA	**Warramunga Arr**	**16.08**	**183**	Pn	**P**	**07 28 25.1**	**-1.7**
	0.5nm,0.3s,baz=5.3,slow=13,SNR=16						
WRA				Sn	**S**	**07 31 15.4**	**-8.2**
	0.2nm,0.3s,baz=6.1,slow=23,SNR=3.5						
WRA				Lg		07 33 24.4	
	0.3nm,0.3s,baz=10.0,slow=30,SNR=5.3						
CTA	**Charters Tower**	**19.37**	**148**	P	**P**	**07 29 08.0**	**+0.8**
	0.4nm,0.3s,baz=346,slow=13,SNR=4.7						
CTA				S	**S**	**07 32 45.7**	**+7.3**
	0.1nm,0.3s,baz=234,slow=17,SNR=2.3						
CTA				Lg		07 34 59.4	
	0.1nm,0.3s,baz=233,slow=20,SNR=2.5						
CTA	**Charters Tower**	**19.37**	**148**	P	**P**	**07 29 08.0**	**+0.8**
CTA				S	**S**	**07 32 45.7**	**+7.3**
CTA				Lg		07 34 59.4	
CTAO	**Charters Tower**	**19.37**	**148**	P	**P**	**07 29 07.4**	**+0.2**
	13nm,1.2s						
ASAR	**Alice Springs**	**19.80**	**184**	P	**P**	**07 29 14.4**	**+2.5**
	29nm,0.5s,baz=8.0,slow=11,SNR=459						
ASAR				S	**S**	**07 32 47.5**	**-0.4**
	0.5nm,0.8s,baz=16,slow=22,SNR=2.9						
ASAR				Lg		07 35 22.7	
	1.4nm,0.8s,baz=16,slow=34,SNR=2.6						
ASPA	**Alice Springs**	**19.81**	**184**	⇓P	**P**	**07 29 14.4**	**+2.4**
MBWA	**Marble Bar**	**22.99**	**220**	*eP*	**P**	**07 29 48.5**	**+4.2**
	28nm,1.3s,mb4.5						
STKA	**Stephens Creek**	**28.54**	**169**	P	**P**	**07 30 37.1**	**+0.9**
	1.2nm,0.5s,mb3.9,baz=333,slow=12,SNR=3.1						
BVAR	**Borovoye Array**	**78.31**	**326**	P	**P**	**07 36 40.8**	**+1.2**
	2.1nm,0.8s,mb4.1,baz=127,slow=7.4,SNR=9.4						
BRVK	**Borovoye**	**78.38**	**326**	P	**P**	**07 36 39.9**	**-0.1**
	3.7nm,1.0s,mb4.3						
ILAR	**Eielson Array**	**88.21**	**25**	P	**P**	**07 37 28.9**	**-1.0**
	0.5nm,0.8s,mb3.8,baz=266,slow=4.3,SNR=8.3						
KMBO	**Kilima Mbogo**	**98.01**	**268**	P	**P**	**07 38 15.0**	**-1.2**
	1.6nm,0.9s,mb4.5						
ARCES	**ARCESS Array B**	**100.41**	**340**	P	P	07 38 26.0	+0.2
	7.7nm,0.9s,baz=68,slow=4.9,SNR=4.3						
PLCA	**Paso Flores**	**129.74**	**154**	PKhKP		07 43 43.8	
	1.7nm,0.9s,baz=225,slow=1.4,SNR=3.0						
LPAZ	**La Paz**	**149.38**	**131**	PKPbc	PKPdf	07 44 33.1	+10
	1.4nm,0.8s,baz=301,slow=2.9,SNR=5.5						

IDC 20 07:27:03.8±8.4, 7.84N×93.95E, mb4.0/4, mb1 4.1/5, mb1mx3.7/17, mbtmp3.9/5, ML4.0/1, Error ellipse: s-maj=193.8km s-min=56.1km az=145.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.62**	**24**	Pn	P	07 29 51.8	-2.2
	0.3nm,0.3s,baz=213,slow=13,SNR=4.1						
SONM	**Songino Array**	**41.24**	**13**	P	P	07 34 50.2	-1.9
	0.3nm,0.3s,baz=207,slow=9.7,SNR=3.0						
BVAR	**Borovoye Array**	**48.96**	**341**	P	P	07 35 51.4	-2.4
	0.4nm,0.6s,baz=135,slow=6.1,SNR=3.0						
FINES	**FINESS Array B**	**72.66**	**332**	P	P	07 38 33.3	-1.7
	3.0nm,0.9s,baz=117,slow=6.2,SNR=3.6						
ARCES	**ARCESS Array B**	**75.24**	**340**	P	P	07 38 48.5	-1.4
	9.9nm,1.2s,baz=101,slow=4.6,SNR=3.8						

*NIED **20** 07:47:00, 23.60N×120.80E, h86km, Mw5.0 Best double couple: M0:3.1×10^16 NP1:φs64°, δ79°, λ-132°. NP2:φs322°, δ43°, λ-16°.*

*BJI **20** 07:47:16.3, 23.74N×120.76E, h13km, mB4.8, mb4.5, ML5.4, Ms4.7, Msz4.6*

*MOS **20** 07:47:16.0±1.0, 23.54N×121.02E, h33km, mb5.0/27, Error ellipse: s-maj=13.4km s-min=7.0km az=108.5*

*IDC **20** 07:47:16.8±4.2, 23.48N×121.04E, h25km±27km, mb4.2/20, mb1 4.4/21, mb1mx4.3/24, mbtmp4.4/21, ML4.9/1, MS4.0/8, Ms1 4.1/8, ms1mx3.6/24, Error ellipse: s-maj=17.3km s-min=12.3km az=66.0*

*TAP **20** 07:47:16.1, 23.51N×120.83E, h19km, ML5.0*

TAP Felt IV J at Alishan, IV J at Tsauling, II J at Tsaushan, IV J at Gukeng, III J at Dapu, II J at Tauyuan, I J at Lidau, IV J at Chiayi, III J at Ryuetan, II J at Dungshan, IV J at Mingjian, IV J at Yuchr, II J at Nanshi, II J at Hungye, I J at Yuli, II J at Jiashian, III J at Szhu, II J at Shinhua, III J at Dacheng, I J at Shilin, I J at Chenggung, II J at Taichung, III J at Jiali, II J at Yungkang, III J at Hehuanshan, I J at Shoushan, I J at Sandimen, II J at Tachien, I J at Jiouru, II J at Liyutan, II J at Hualien, II J at Sanyi, I J at Taimali, I J at Nanshan, I J at Penghu, I J at Nanau, I J at Hsinchu, I J at Nioudou, I J at Jungli (National Central University), I J at Ilan.

*JMA **20** 07:47:17.4±0.3, 23.59N×120.78E, h93km, M4.9*

*NEIC **20** 07:47:18.3±0.8, 23.54N×120.97E, h36km±7km, mb4.8/44, Error ellipse: s-maj=6.1km s-min=5.6km az=90.0*

NEIC Felt at T'ai-chung. Recorded [4 TAP] in Chang-hua, Chia-i, Nan-t'ou and Yun-lin; [3 TAP] in T'ai-nan; [2 TAP] in Hua-lien, Kao-hsiung, Miao-li and T'ai-chung; [1 TAP] in I-lan, P'eng-hu and T'ai-tung Counties.

*MAN **20** 07:47:40.1, 21.81N×120.95E, h14km, mb4.9

NNS	**Nan Shan**	**1.04**	**30**	*e*P	**Pb**	**07 47 36.0**	**+0.7**
NNS				S	**Sb**	**07 47 49.7**	**+1.2**
KAU	**Kaohsiung**	**1.07**	**205**	*e*P	**Pb**	**07 47 36.6**	**+0.8**
WDGT	**Dungji**	**1.09**	**255**	⇑*i*P	**Pb**	**07 47 35.7**	**-0.4**
WDGT				S	**Sb**	**07 47 50.3**	**+0.4**
PNG	**Penghu**	**1.15**	**272**	⇑P	**Pb**	**07 47 37.0**	**-0.2**
PNG				S	**Sb**	**07 47 51.6**	**0.0**
EAST	**Anshuo**	**1.15**	**178**	*e*P	**Pb**	**07 47 37.5**	**+0.3**
EAST				S	**Sb**	**07 47 53.1**	**+1.2**
SCZT	**Fangliau**	**1.18**	**188**	*e*P	**Pb**	**07 47 38.2**	**+0.5**
SCZT				S	**Sb**	**07 47 53.9**	**+1.4**
TAW	**Tawu**	**1.18**	**176**	*e*P	**Pb**	**07 47 38.6**	**+0.9**
TAW				S	**Sb**	**07 47 52.9**	**+0.3**
ENA	**Nanau**	**1.23**	**44**	⇓P	**Pn**	**07 47 39.3**	**+0.8**
ENA				S	**Sb**	**07 47 55.7**	**+1.7**
NSK	**Sanguang**	**1.24**	**24**	*e*P	**Pn**	**07 47 39.2**	**+0.6**
NSK				S	**Sb**	**07 47 55.3**	**+1.0**
TWP	**Hsiaoliuchiu**	**1.26**	**199**	*e*P	**Pn**	**07 47 39.6**	**+0.7**
HSN	**Hsinchu**	**1.27**	**7**	*e*P	**Pn**	**07 47 40.0**	**+0.9**
HSN				S	**Sb**	**07 47 58.3**	**+3.3**
ENTT	**Nioudou**	**1.30**	**32**	*e*P	**Pn**	**07 47 40.6**	**+1.1**
ENTT				S	**Sb**	**07 47 57.3**	**+1.3**
TWE	**Neicheng**	**1.42**	**34**	*e*P	**Pn**	**07 47 42.9**	**+1.7**
TWE				S	**Sb**	**07 48 00.8**	**+1.4**
TWC	**Suao**	**1.43**	**42**	*e*P	**Pn**	**07 47 42.8**	**+1.4**
TWC				S	**Sn**	**07 48 01.2**	**+1.4**
NCU	**National Centr**	**1.47**	**14**	*e*P	**Pn**	**07 47 42.8**	**+0.9**
NCU				S	**Sn**	**07 48 02.4**	**+1.7**
ILA	**Ilan**	**1.49**	**35**	*e*P	**Pn**	**07 47 44.3**	**+2.0**
HEN	**Hengchun**	**1.53**	**182**	*e*P	**Pn**	**07 47 42.7**	**-0.1**
HEN				S	**Sn**	**07 48 04.4**	**+2.1**
TATO	**Taipei**	**1.56**	**23**	*e*Pn	**Pn**	**07 47 44.0**	**+0.8**
TATO				*e*Sn	**Sn**	**07 48 04.2**	**+1.2**
TWK1	**Hengchun**	**1.59**	**180**	*e*P	**Pn**	**07 47 44.2**	**+0.5**
TWA	**Mucha**	**1.60**	**26**	*e*P	**Pn**	**07 47 44.9**	**+1.1**
TWA				S	**Sn**	**07 48 05.6**	**+1.5**
TAP	**Taipei**	**1.62**	**23**	*e*P	**Pn**	**07 47 44.8**	**+0.6**
TAP				S	**Sn**	**07 48 05.9**	**+1.2**
TAP1	**Taipei**	**1.63**	**24**	*e*P	**Pn**	**07 47 44.7**	**+0.5**
TAP1				S	**Sn**	**07 48 06.3**	**+1.4**
LAY	**Lan-yu**	**1.65**	**155**	*e*P	**Pn**	**07 47 44.2**	**-0.3**
LAY				S	**Sn**	**07 48 05.5**	**+0.2**
TWS1	**Kuangyinshan**	**1.65**	**20**	*e*P	**Pn**	**07 47 45.3**	**+0.7**
TWS1				S	**Sn**	**07 48 06.8**	**+1.4**
NWF	**Wu-fen Shan**	**1.77**	**30**	*e*P	**Pn**	**07 47 46.9**	**+0.7**
NWF				S	**Sn**	**07 48 10.8**	**+2.5**
TWB1	**Santiao Chiao**	**1.82**	**36**	*e*P	**Pn**	**07 47 48.5**	**+1.6**
TWB1				S	**Sn**	**07 48 13.5**	**+3.9**
TWY	**Chenhua**	**1.87**	**23**	*e*P	**Pn**	**07 47 48.4**	**+0.7**
YOJ	**Yonaguni jima**	**2.22**	**65**	P	**Pn**	**07 47 53.0**	**+0.3**
YOJ				S	**Sn**	**07 48 20.1**	**+0.3**
KNM	**Kinmen**	**2.34**	**292**	⇑P	**Pn**	**07 47 55.0**	**+0.6**
PCYT	**Pengchaiyu**	**2.38**	**29**	*e*P	**Pn**	**07 47 55.3**	**+0.3**
QZH	**Quanzhou**	**2.45**	**305**	⇓*i*P	**Pn**	**07 47 54.4**	**-1.7**
QZH				S	**Sn**	**07 48 22.0**	**-3.8**
QZH				Smax			
	comp=N,9μm,1.2s						
QZH				Smax			
	comp=E,7μm,0.8s						
IRIF	**Iriomote-Funau**	**2.79**	**73**	P	**Pn**	**07 48 01.1**	**+0.2**
IRIF				S	**Sn**	**07 48 34.3**	**-0.1**
HATJ	**Hateruma jima**	**2.80**	**79**	P	**Pn**	**07 48 01.0**	**+0.1**
HATJ				S	**Sn**	**07 48 34.4**	**-0.1**
JKRS	**Kuro-shima**	**3.02**	**76**	P	**Pn**	**07 48 04.4**	**+0.4**
JKRS				S	**Sn**	**07 48 40.7**	**+0.7**
JIJ	**Ishigaki jima**	**3.16**	**74**	P	**Pn**	**07 48 05.5**	**-0.6**
JIJ				S	**Sn**	**07 48 41.7**	**-2.1**
BBP	**Basco**	**3.27**	**161**	*e*P	**Pn**	**07 48 08.2**	**+0.5**
BBP				*e*S	**Sn**	**07 48 47.9**	**+1.5**
JTJ	**Tarama**	**3.73**	**72**	P	**Pn**	**07 48 13.8**	**-0.4**
JTJ				*e*S	**Sn**	**07 48 57.6**	**-0.4**
JMJ	**Miyako jima 2**	**4.29**	**72**	P	**Pn**	**07 48 21.5**	**-0.7**
JMJ				S	**Sn**	**07 49 10.8**	**-1.6**
JOGS	**Gusukube**	**4.38**	**73**	P	**Pn**	**07 48 23.3**	**-0.1**
JOGS				*e*S	**Sn**	**07 49 13.5**	**-1.0**
APYP	**Conner**	**5.67**	**176**	*e*P	**Pn**	**07 48 40.5**	**-1.1**
APYP				*e*S	Sx	07 49 28.4	
ABRA	**Dolores**	**5.86**	**181**	*e*P	**Pn**	**07 48 44.2**	**-0.2**
CVP	**Callao Caves**	**5.89**	**170**	⇑*e*P	**Pn**	**07 48 46.8**	**+2.1**
JKE	**Kume jima 2**	**6.10**	**62**	P	**Pn**	**07 48 45.6**	**-2.1**
JKE				S	**Sn**	**07 49 55.2**	**-2.5**
JAGN	**Aguni-jima**	**6.58**	**61**	P	**Pn**	**07 48 53.3**	**-1.2**
JIH	**Iheya**	**7.36**	**60**	P	**Pn**	**07 49 03.1**	**-2.3**
JIH				*e*S	**Sn**	**07 50 23.7**	**-5.5**
JOW	**Kunigami**	**7.52**	**63**	Pn	**Pn**	**07 49 04.3**	**-3.4**
	comp=E,39nm,0.3s,baz=219,slow=8.5,SNR=55						
JOW				Sn	**Sn**	**07 50 28.9**	**-4.4**
	baz=143,slow=20,SNR=2.5						
JOW	**Kunigami**	**7.52**	**63**	P	**Pn**	**07 49 04.1**	**-3.6**
JOW				*e*S	**Sn**	**07 50 29.8**	**-3.4**
SSE	**Sheshan**	**7.53**	**3**	P	**Pn**	**07 49 03.6**	**-4.3**
SSE				S	**Sn**	**07 50 26.9**	**-6.7**
SSE				Smax			
	comp=N,232nm,1.0s						
SSE				Smax			
	comp=E,325nm,0.8s						
SSE				LR	LR		
	comp=N,504nm,14.6s						
SSE				LR	LR		
	comp=E,3μm,14.6s						
SSE				LR	LR		
	comp=Z,2μm,13.2s						
JTK	**Tokunoshima**	**8.48**	**58**	P	**P**	**07 49 16.7**	**-4.3**
JTK				*e*S	**Sn**	**07 50 50.6**	**-6.6**
NJ2	**Nanjing**	**8.65**	**349**	*e*P	**P**	**07 49 24.0**	**-3.3**
NJ2				AP		07 49 24.8	
NJ2				XP		07 49 28.8	
NJ2				S	**Sn**	**07 50 52.4**	**-9.1**
NJ2				Smax			
	comp=N,1μm,1.2s						
NJ2				Smax			
	comp=E,1μm,1.1s						
NJ2				LR	LR		
	comp=N,9μm,11.2s						
NJ2				LR	LR		
	comp=E,5μm,12.6s						
NJ2				LR	LR		
	comp=Z,9μm,10.4s						
WHN	**Wuhan**	**9.04**	**322**	⇓*i*P	**P**	**07 49 25.8**	**-3.0**
WHN				*i* S	**Sn**	**07 51 01.8**	**-9.3**
WHN				AMB	AMB		
	comp=Z,38nm,0.6s						
WHN				Smax			
	comp=N,674nm,1.0s						
WHN				Smax			
	comp=E,648nm,1.2s						
WHN				LR	LR		
	comp=E,6μm,11.3s						
WHN				LR	LR		
	comp=Z,6μm,9.8s						
JAM	**Amami Oshima**	**9.29**	**57**	P	**P**	**07 49 27.5**	**-4.7**
JAM				S	**Sn**	**07 51 08.8**	**-8.4**
TGY	**Tagaytay City**	**9.39**	**179**	LR	LR	07 53 29.7	
	comp=Z,1μm,19.6s,baz=84,slow=40						
QIZ	**Qiongzhong**	**11.16**	**248**	P	**P**	**07 50 01.3**	**+3.3**
QIZ				LR	LR		
	comp=N,1μm,17.9s						
QIZ				LR	LR		
	comp=Z,1μm,16.9s						
QIZ	**Qiongzhong**	**11.16**	**248**	*e*P	**P**	**07 49 57.0**	**-1.0**
ENH	**Enshi**	**12.12**	**306**	*e*P	**P**	**07 50 08.4**	**-2.5**
ENH				*e*S	Sx	07 52 09.6	
TIY	**Taiyuan**	**15.84**	**335**	*e*P	**P**	**07 51 02.0**	**+2.1**
TIY				LR	LR		
	comp=N,3μm,12.0s						
TIY				LR	LR		
	comp=Z,1μm,9.0s						
BJT	**Baijiatuau**	**16.89**	**348**	*e*P	**P**	**07 51 12.9**	**-0.3**
BJT				pmax	pmax		
	comp=Z,24nm,0.8s						
BJT	**Baijiatuau**	**16.89**	**348**	*e*P	**P**	**07 51 12.9**	**-0.3**
	comp=Z,24nm,0.8s						
SNY	**Shenyang**	**18.38**	**7**	PR		07 51 29.1	
SNY				AMB	AMB		
	comp=Z,30nm,1.4s						
SNY				AMB	AMB		
	comp=Z,340nm,5.3s						
SNY				LR	LR		
	comp=N,900nm,14.0s						
SNY				LR	LR		
	comp=Z,890nm,14.3s						
JHJ	**Hachijo jima 2**	**19.22**	**56**	LR	LR	07 58 50.1	
	comp=Z,362nm,18.8s,baz=4.5,slow=36						
LZH	**Lanzhou**	**19.27**	**314**	⇑P	**P**	**07 51 43.8**	**+1.3**
LZH				AP		07 51 49.0	
LZH				XP		07 51 52.5	
LZH				PP	PP	07 52 02.6	+2.8
LZH				AMB	AMB		
	comp=Z,49nm,1.2s						
LZH				AMB	AMB		
	comp=Z,317nm,5.2s						
LZH				LR	LR		
	comp=N,1μm,9.8s						
LZH				LR	LR		
	comp=Z,2μm,12.5s						
NANT	**Nan**	**19.33**	**260**	P	**P**	**07 51 43.0**	**-0.2**
CBIJ	**Chichi jima**	**19.65**	**75**	LR	LR	07 57 22.6	
	comp=Z,244nm,21.0s,baz=147,slow=31						
CHG	**Chiang Mai**	**20.91**	**261**	⇑P	**P**	**07 52 02.7**	**+2.5**
	comp=Z,12nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.02**	**260**	P	**P**	**07 52 00.9**	**-0.3**
	comp=Z,4.8nm,0.6s,mb4.0,baz=68,slow=7.7,SNR=21						
CMAR				PcP	PcP		
	comp=Z,2.5nm,0.6s,baz=56,slow=1.2,SNR=10						
CMAR				LR	LR	08 00 37.2	
	comp=Z,236nm,18.8s,MS3.6,baz=80,slow=38						
MDJ	**Mudanjiang**	**22.22**	**17**	*e*P	**P**	**07 52 11.4**	**-1.8**
	comp=Z,28nm,0.9s,mb4.7						
HIA	**Hailar**	**25.69**	**358**	*e*P	**P**	**07 52 44.2**	**-2.5**
HIA				pmax	pmax		
	comp=Z,55nm,1.3s						
HIA	**Hailar**	**25.69**	**358**	*e*P	**P**	**07 52 44.2**	**-2.5**
	comp=Z,55nm,1.3s,mb4.9						
SHL	**Shillong**	**26.36**	**280**	*e*P	**P**	**07 52 52.0**	**-1.1**
ULN	**Ulaanbaatar**	**26.64**	**339**	*e*P	**P**	**07 52 53.7**	**-1.7**
ULN				*e*		07 56 16.8	
ULN				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**26.64**	**339**	*e*P	**P**	**07 52 53.7**	**-1.7**
	comp=Z,12nm,0.8s,mb4.5						
ULN				*e*PcP	PcP	07 56 16.8	-2.9
SONM	**Songino Array**	**26.83**	**338**	P	**P**	**07 52 56.4**	**-0.8**
	comp=Z,5.3nm,0.7s,mb4.2,baz=153,slow=8.3,SNR=23						
KLR	**Kul'dur**	**27.05**	**16**	*e*P	**P**	**07 52 56.0**	**-3.2**
LSA	**Lhasa**	**27.16**	**289**	P	**P**	**07 53 00.8**	**+0.3**
LSA	**Lhasa**	**27.16**	**289**	*e*P	**P**	**07 53 01.0**	**+0.5**
LSA				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.8						
LSA	**Lhasa**	**27.16**	**289**	*e*P	**P**	**07 53 01.0**	**+0.5**
	comp=Z,23nm,0.8s,mb4.8						
ASAJ	**Asahikawa**	**27.22**	**36**	P	**P**	**07 52 57.9**	**-2.9**
	comp=Z,21nm,0.8s,mb4.7,baz=200,slow=12,SNR=7.5						
YSS	**Yuzh-Sakhalins**	**29.26**	**32**	*e*P	**P**	**07 53 18.6**	**-0.6**
YSS				pmax	pmax		
	comp=Z,37nm,0.8s,mb5.2						
YSS	**Yuzh-Sakhalins**	**29.26**	**32**	*e*P	**P**	**07 53 18.6**	**-0.6**
	comp=Z,37nm,0.8s,mb5.2						
ZAK	**Zakamensk**	**30.07**	**337**	*e*P	**P**	**07 53 24.3**	**-2.2**
TLY	**Talaya**	**31.05**	**339**	*e*P	**P**	**07 53 32.5**	**-2.5**
TLY				*e*S	**S**	**07 58 28.5**	**-9.4**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
TLY				MLR	MLR		
	comp=Z,760nm,15.0s,MS4.5						
TLY	**Talaya**	**31.05**	**339**	P	**P**	**07 53 31.2**	**-3.8**
	comp=Z,4.0nm,0.7s,mb4.4						
JIRN	**Jiri**	**31.42**	**285**	*e*P	**P**	**07 53 38.5**	**-0.1**
	comp=Z,20nm,0.7s,mb5.0						
PKI	**Pulchoki**	**32.12**	**285**	*e*P	**P**	**07 53 43.5**	**-1.1**
KKN	**Kakani**	**32.23**	**285**	*e*P	**P**	**07 53 45.2**	**-0.4**
DMN	**Daman**	**32.38**	**285**	*e*P	**P**	**07 53 44.2**	**-2.8**
	comp=Z,17nm,0.8s,mb4.9						
GKN	**Gorkha**	**32.79**	**286**	*e*P	**P**	**07 53 48.7**	**-1.8**
KOLN	**Koldanda**	**33.72**	**285**	*e*P	**P**	**07 53 51.3**	**-7.3**
	comp=Z,19nm,0.8s,mb5.1						
WMQ	**Urumqi**	**33.85**	**315**	*e*P	**P**	**07 54 00.0**	**+0.4**
BOD	**Bodaibo**	**34.59**	**354**	*e*P	**P**	**07 54 00.3**	**-5.5**
JOSI	**Joshimath**	**37.24**	**290**	*e*P	**P**	**07 54 24.5**	**-3.9**
JOSI				*e*	pP	07 54 29.8	-4.4
	comp=Z,38nm,0.7s						
KLP	**Kalpa**	**38.37**	**292**	*e*P	**P**	**07 54 37.7**	**-0.3**
KLP				*e*		07 54 40.8	
	comp=Z,6.0nm,0.6s						
MKAR	**Makanchi Array**	**38.56**	**317**	*e*P	**P**	**07 54 38.8**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
YAK	**Yakutsk**	**38.95**	**7**	P	**P**	**07 54 39.6**	**-2.9**
SONA	**Sohna**	**39.45**	**286**	*e*P	**P**	**07 54 44.7**	**-2.4**
PET	**Petropavlovsk**	**41.04**	**34**	*e*P	**P**	**07 54 57.3**	**-2.5**
PET				pmax	pmax		
	comp=Z,29nm,1.3s,mb4.8						
PET				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.2						
PET	**Petropavlovsk**	**41.04**	**34**	*e*P	**P**	**07 54 57.5**	**-2.3**
	comp=Z,36nm,1.2s,mb4.9						
FITZ	**Fitzroy Crossi**	**41.66**	**173**	*e*P	**P**	**07 55 07.0**	**+1.7**
	comp=Z,7.1nm,0.9s,mb4.3						
PMG	**Port Moresby**	**41.67**	**139**	LR	LR	08 11 51.5	
	comp=Z,86nm,19.6s,MS3.6,baz=63,slow=36						
MA2	**Magadan**	**41.71**	**22**	*e*P	**P**	**07 55 02.8**	**-2.4**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
MA2	**Magadan**	**41.71**	**22**	*e*P	**P**	**07 55 02.8**	**-2.5**
	comp=Z,9.9nm,0.8s,mb4.5						
PALK	**Pallekele**	**41.72**	**254**	P	**P**	**07 55 06.8**	**+0.9**
	comp=Z,15nm,1.1s,mb4.5						
NVS	**Novosibirsk**	**41.86**	**328**	*i* P	**P**	**07 55 04.3**	**-2.2**
KURK	**Kurchatov**	**42.36**	**321**	*e*P	**P**	**07 55 09.4**	**-1.3**
KURK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.5						
KURK	**Kurchatov**	**42.36**	**321**	*e*P	**P**	**07 55 09.4**	**-1.3**
	comp=Z,13nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**42.62**	**308**	*i* P	**P**	**07 55 12.3**	**-0.7**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.3						
AAK				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.0						
AAK	**Ala-Archa**	**42.62**	**308**	*e*P	**P**	**07 55 11.8**	**-1.1**
	comp=Z,4.5nm,0.9s,mb4.2						
MBWA	**Mole Bar**	**44.44**	**181**	*e*P	**P**	**07 55 27.1**	**-0.9**
	comp=Z,16nm,1.0s,mb4.7						
WRAB	**Tennant Creek**	**45.18**	**162**	*i* P	**P**	**07 55 36.2**	**+2.2**
WRAB	**Tennant Creek**	**45.18**	**162**	*e*P	**P**	**07 55 30.8**	**-3.1**
	comp=Z,23nm,1.0s,mb5.0						
WRA	**Warramunga Arr**	**45.19**	**162**	P	**P**	**07 55 29.9**	**-4.2**
	comp=Z,5.3nm,0.9s,mb4.4,baz=345,slow=8.7,SNR=12						
WRA				PcP	PcP	07 57 10.8	-3.8
	comp=Z,2.8nm,0.7s,baz=338,slow=3.7,SNR=8.0						
WB2	**Warramunga Arr**	**45.19**	**162**	*e*P	**P**	**07 55 32.2**	**-1.8**
BVAR	**Borovoye Array**	**47.95**	**321**	P	**P**	**07 55 54.5**	**-0.8**
	comp=Z,2.9nm,0.7s,mb4.5,baz=113,slow=9.5,SNR=19						
BVAR				PcP	PcP	07 57 21.7	-2.3
	comp=Z,4.8nm,0.6s,baz=117,slow=3.3,SNR=11						
BRVK	**Borovoye**	**48.02**	**321**	*e*P	**P**	**07 55 54.5**	**-1.4**
BRVK				*e*		07 57 21.4	
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
BRVK	**Borovoye**	**48.02**	**321**	*e*P	**P**	**07 55 54.5**	**-1.5**
	comp=Z,8.8nm,1.0s,mb4.7						
BRVK				*e*PcP	PcP	07 57 21.4	-2.8
TIXI	**Tiksi**	**48.35**	**3**	⇓*i*P	**P**	**07 55 55.5**	**-2.8**
TIXI				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,369nm,17.0s,MS4.4						
ASAR	**Alice Springs**	**48.62**	**164**	P	**P**	**07 55 57.4**	**-3.5**
	comp=Z,2.2nm,0.9s,mb4.2,baz=338,slow=7.3,SNR=13						
ASAR				PcP	PcP	07 57 23.1	-3.6
	comp=Z,3.1nm,0.6s,baz=341,slow=2.8,SNR=14						
ASAR				ScP		08 01 15.8	
	comp=Z,1.3nm,1.1s,baz=0.9,slow=5.1,SNR=5.0						
CTA	**Charters Tower**	**49.96**	**148**	*e*P	**P**	**07 56 10.5**	**-0.8**
	comp=Z,4.2nm,0.8s,mb4.5						
CTA	**Charters Tower**	**49.96**	**148**	P	**P**	**07 56 07.2**	**-4.2**
	comp=Z,2.8nm,0.6s,mb4.5,baz=341,slow=11,SNR=7.4						
CTAO	**Charters Tower**	**49.96**	**148**	*e*P	**P**	**07 56 10.4**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
CTAO	**Charters Tower**	**49.96**	**148**	*e*P	**P**	**07 56 10.4**	**-0.9**
	comp=Z,12nm,1.1s,mb4.8						
BILL	**Biiibino**	**52.41**	**20**	*e*P	**P**	**07 56 31.6**	**+2.4**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
BILL	**Biiibino**	**52.41**	**20**	*e*P	**P**	**07 56 31.6**	**+2.4**
	comp=Z,7.5nm,1.1s,mb4.5						
SVE	**Sverdlovsk**	**54.36**	**324**	*e*P	**P**	**07 56 42.8**	**-0.9**
ARU	**Arti**	**55.41**	**323**	⇓*i*P	**P**	**07 56 44.7**	**-6.8**
ARU				*e*		07 57 43.8	
ARU				*e*S	**S**	**08 04 24.1**	**-9.1**
ARU				*e*SS	SS	08 08 10.7	-7.3
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
ARU	**Arti**	**55.41**	**323**	*e*P	**P**	**07 56 44.9**	**-6.5**
	comp=Z,9.6nm,0.8s,mb4.9						
NWAO	**Narrogin (SRO)**	**56.25**	**184**	*e*P	**P**	**07 56 59.8**	**+2.0**
NWAO				pmax	pmax		
	comp=Z,25nm,1.4s						
NWAO	**Narrogin (SRO)**	**56.25**	**184**	*e*P	**P**	**07 56 59.8**	**+2.0**
	comp=Z,25nm,1.4s,mb5.0						
STKA	**Stephens Creek**	**58.58**	**159**	*e*P	**P**	**07 57 10.7**	**-3.6**
	comp=Z,8.7nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**58.58**	**159**	P	**P**	**07 57 10.7**	**-3.6**
	comp=Z,3.0nm,0.7s,mb4.5,baz=342,slow=9.2,SNR=10.0						
TNA	**Tin City**	**61.07**	**27**	*e*P	**P**	**07 57 28.1**	**-2.8**
	comp=Z,2.1nm,0.8s,mb4.3						
GNI	**Garni**	**64.88**	**305**	*i* P	**P**	**07 57 55.1**	**-1.4**
GNI				pmax	pmax		
	comp=Z,15nm,1.5s						
GNI				MLR	MLR		
	comp=Z,100nm,14.0s						
ZEI	**Tsey**	**65.05**	**308**	*e*P	**P**	**07 57 55.7**	**-1.9**
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
KIV	**Kislovodsk**	**65.72**	**309**	*e*P	**P**	**07 58 00.8**	**-1.0**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
KIV				MLR	MLR		
	comp=N,35nm,15.0s,MS4.0						
KIV				MLR	MLR		
	comp=E,61nm,15.0s,MS4.0						
KIV				MLR	MLR		
	comp=Z,124nm,15.0s,MS4.2						
KIV	**Kislovodsk**	**65.72**	**309**	P	**P**	**07 57 58.5**	**-3.3**
	comp=Z,16nm,0.8s,mb5.1						
IMA	**Indian Mountai**	**66.93**	**26**	*e*P	**P**	**07 58 06.1**	**-3.1**
IMA				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.1						
IMA	**Indian Mountai**	**66.93**	**26**	*e*P	**P**	**07 58 06.1**	**-3.1**
	comp=Z,26nm,1.2s,mb5.1						
OBN	**Obninsk**	**67.79**	**322**	*e*P	**P**	**07 58 11.4**	**-3.4**
OBN				*e*		08 00 44.0	
OBN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
JOF	**Joensuu**	**69.09**	**331**	*e*p	**P**	**07 58 20.2**	**-2.5**
	comp=Z,3.7nm,0.6s,mb4.5						
MCK	**McKinley**	**69.28**	**28**	*e*P	**P**	**07 58 20.6**	**-3.3**
MCK				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
MCK	**McKinley**	**69.28**	**28**	*e*P	**P**	**07 58 20.6**	**-3.3**
	comp=Z,6.8nm,1.4s,mb4.4						
KEV	**Kevo**	**69.44**	**338**	*e*p	**P**	**07 58 23.2**	**-1.6**
	comp=Z,4.2nm,0.4s,mb4.7						
KEV	**Kevo**	**69.44**	**338**	*e*P	**P**	**07 58 23.2**	**-1.6**
KEV				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
ILAR	**Eielson Array**	**69.94**	**27**	P	**P**	**07 58 24.1**	**-3.8**
	comp=Z,0.6nm,0.5s,mb3.8,baz=292,slow=5.1,SNR=16						
ARCES	**ARCESS Array B**	**70.00**	**338**	P	**P**	**07 58 26.8**	**-1.4**
	comp=Z,4.8nm,0.7s,mb4.6,baz=68,slow=9.3,SNR=16						
MALT	**Malatya**	**70.06**	**304**	*e*P	**P**	**07 58 28.8**	**-0.3**
MALT				*e*		07 58 38.6	
MALT				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MALT	**Malatya**	**70.06**	**304**	*e*P	**P**	**07 58 28.8**	**-0.3**
	comp=Z,10nm,0.9s,mb4.8						
MALT				*e*		07 58 38.6	
KAF	**Kangasniemi**	**71.54**	**330**	*e*p	**P**	**07 58 35.9**	**-1.7**
	comp=Z,5.6nm,0.8s,mb4.5						
KAF	**Kangasniemi**	**71.54**	**330**	*e*P	**P**	**07 58 35.9**	**-1.7**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
FINES	**FINESS Array B**	**71.82**	**330**	P	**P**	**07 58 37.9**	**-1.5**
	comp=Z,1.8nm,0.5s,mb4.3,baz=46,slow=6.2,SNR=15						
FINES				LR	LR	08 32 20.2	
	comp=Z,180nm,18.2s,MS4.4,baz=177,slow=38						
ASF	**Jabal al Asfar**	**72.96**	**298**	P	**P**	**07 58 46.9**	**+0.3**
	comp=Z,3.6nm,0.8s,mb4.3,baz=24,slow=6.2,SNR=4.1						
AKASG	**Malin Array Be**	**73.12**	**318**	P	**P**	**07 58 45.2**	**-1.9**
	comp=Z,2.9nm,0.8s,mb4.3,baz=60,slow=6.7,SNR=7.6						
DAWY	**Dawson**	**73.27**	**27**	*e*P	**P**	**07 58 45.2**	**-2.5**
BRTR	**Keskin Array B**	**73.27**	**306**	P	**P**	**07 58 47.5**	**-0.7**
	comp=Z,1.7nm,0.8s,mb4.0,baz=103,slow=5.9,SNR=15						
INK	**Inuvik**	**73.95**	**22**	*e*P	**P**	**07 58 48.5**	**-3.1**
INK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
INK	**Inuvik**	**73.95**	**22**	*e*P	**P**	**07 58 48.5**	**-3.1**
	comp=Z,6.5nm,1.0s,mb4.5						
SUW	**Suwalki**	**75.60**	**323**	*e*P	**P**	**07 59 00.0**	**-1.4**
SUW				pmax

CASC 20 08:12:51.7±2.0, 13.66N×91.39W, MD4.0, ML3.9, 9C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.70	340⇑	eP	Pg	08 13 06.5	+0.9
JAT				eS	Sg	08 13 17.6	+2.7
FUG	Fuego 3	0.95	34⇑	eP	Pg	08 13 08.8	-1.8
IXG	Ixpaco	1.04	61⇑	eP	Pb	08 13 12.8	+0.5
IXG				eS	Sb	08 13 28.4	+1.9
PCG	Pacaya	1.05	46⇑	eP	Pb	08 13 11.7	-0.8
NBG	Las Nubes	1.37	48⇑	eP	Pb	08 13 15.1	-2.9
NBG				eS	Sb	08 13 38.9	+3.0
RTR	El Retiro	1.71	82⇓	eP	Pn	08 13 22.9	-0.1
RBDL	Robledal	1.72	75	eP	Pn	08 13 21.5	-1.5
SBLS	San Blas	1.73	84⇑	eP	Pn	08 13 23.3	+0.1
SBLS				eS	Sb	08 13 48.0	+1.7
SNJE	San Jose	1.75	83⇑	eP	Pn	08 13 23.4	-0.1
SNJE				eS	Sn	08 13 47.9	+1.1
BOQS	Boqueron	2.05	88⇑	eP	Pn	08 13 27.9	0.0
BOQS				eS	Sn	08 13 56.0	+1.4
SNET	Serv Nac Est T	2.10	89⇓	eP	Pn	08 13 28.7	+0.2
SNET				eS	Sn	08 13 56.1	+0.3
SNET				i		08 14 02.5	
	comp=Z,1μm,0.3s						
LFRS	El Faro	2.27	91	eP	Pn	08 13 31.3	+0.4
LCBS	La Ceiba	2.35	90	eP	Pn	08 13 32.0	0.0
SNVI	San Vicente	2.48	91	eP	Pn	08 13 34.3	+0.3
CAHU	Cacacuatique	3.09	88⇑	eP	Pn	08 13 43.8	+1.0
CNCH	Conchagua	3.48	96	eP	Pn	08 13 47.7	-0.6

*IDC **20** 08:14:44.3±1.2, 36.43N×23.05E, mb3.9/8, mb1 4.0/10, mb1mx3.8/20, mbtmp3.8/10, ML3.4/3, Error ellipse: s-maj=33.1km s-min=17.0km az=48.0*
*ATH **20** 08:14:45.6, 36.38N×23.04E, h14km±3km, MD3.7/16, ML3.6*
*CSEM **20** 08:14:45.4±0.1, 36.32N×23.03E, h15km, ML3.6, Error ellipse: s-maj=3.7km s-min=1.9km az=70.0*
*NEIC **20** 08:14:45.6, 36.38N×23.04E, h14km, ML3.6(ATH), After ATH.*
*HLW **20** 08:14:50.4, 36.30N×23.26E, h16km, Mb3.6*

ISC 20 08:14:44.5±0.7, 36.41N±0.03×23.01E±0.06, h11km±5km, n41, σ1§26/42, mb3.9/8, 2C-2D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	Kithira	0.13	172⇑	iPG	Pg	08 14 49.6	+1.9
VLI	Veliai	0.32	349⇑	iPB	Pb	08 14 52.9	+1.2
ITM	Ithomi	1.17	312	iPB	Pb	08 15 06.9	+0.7
VAM	Vamos	1.39	136	ePB	Pb	08 15 11.3	+1.3
NAIG	Nisos Aigina	1.40	16	ePG	Pg	08 15 12.1	-0.5
NSAL	Nisos Salamina	1.54	13	ePG	Pg	08 15 14.0	-1.3
ATH	Athens Observa	1.66	20	ePG	Pg	08 15 18.5	+0.8
PTL	Penteli	1.77	22	ePN	Pn	08 15 17.0	+1.5
MPAR	Parnis Oros	1.83	18	ePG	Pg	08 15 21.0	-0.2
IDI	Anoyia	1.89	126	Pn	Pn	08 15 18.0	+0.9
	14nm,0.3s,baz=317,slow=18,SNR=38						
IDI				Sn	Sn	08 15 43.1	+2.0
	83nm,0.3s,baz=151,slow=5.1,SNR=13						
RLS	Riolos of Patr	2.06	324	ePG	Pg	08 15 23.5	-2.2
APE	Apeiranthos	2.13	71	ePB	Pb	08 15 22.0	-0.7
LKR	Lokris	2.24	360	ePB	Pb	08 15 24.1	-0.5
NPS	Neapolis	2.40	118	ePN	Pn	08 15 26.0	+1.6
NPS				eSN	Sn	08 15 55.2	+1.1
VLS	Valsamata	2.62	313	ePN	Pn	08 15 31.0	+3.4
EVR	Evrytania	2.68	339	i/PB	Pb	08 15 32.2	0.0
NEO	Neokhori	2.90	3	ePN	Pn	08 15 32.8	+1.2
KARP	Karpathos	3.47	103	ePN	Pn	08 15 41.3	+1.6
KEK	Kerkira	4.16	323	ePN	Pn	08 15 51.5	+2.0
SLUM		5.23	159	P	Pn	08 16 05.2	+0.6
HMAT	Matruh	6.29	146	P	Pn	08 16 19.3	-0.4
SWA2		7.43	163	P	Pn	08 16 34.6	-1.0
SWA1		7.47	162	P	Pn	08 16 35.8	-0.4
SWA1				S	Sn	08 17 53.8	-8.0
HBRG	Burj al 'Arab	8.14	134	P	P	08 16 44.2	-1.3
BRTR	Keskin Array B	9.01	65	Pn	P	08 16 57.0	-0.6
	0.1nm,0.3s,baz=253,slow=20,SNR=3.1						
HNAT	Natroun	9.29	134	P	P	08 16 59.8	-1.6
MLR	Muntele Rosu	9.34	13	Pn	P	08 17 00.9	-1.2
	0.1nm,0.3s,baz=191,slow=16,SNR=2.1						
AWBH		9.47	147	P	P	08 17 01.4	-2.6
HKAT	Jabal Katrina	12.15	127	P	P	08 17 37.8	-2.8
GTR	Jabal at Tayr	12.64	147	P	P	08 17 45.1	-2.0
GERES	GERESS Array B	14.18	334	Pn	P	08 18 07.8	+0.4
	0.1nm,0.3s,baz=163,slow=13,SNR=2.2						
CLL	Collm	16.53	337	e*PP		08 18 42.0	
HFS	Hagfors	24.49	349	P	P	08 20 04.2	-0.3
	3.5nm,0.4s,mb4.1,baz=157,slow=11,SNR=22						
FINES	FINESS Array B	25.13	3	P	P	08 20 10.0	-0.7
	1.8nm,0.8s,mb3.6,baz=180,slow=14,SNR=3.7						
NOA	NORSAR Array B	25.77	347	P	P	08 20 15.8	-0.8
	0.5nm,0.4s,mb3.4,baz=149,slow=9.5,SNR=3.3						
EKA	Eskdalemuir Ar	26.02	325	P	P	08 20 20.2	+1.2
	1.6nm,0.5s,mb3.8,baz=126,slow=9.0,SNR=8.6						
ARCES	ARCESS Array B	33.21	2	P	P	08 21 21.9	-1.3
	5.1nm,0.9s,mb4.5,baz=180,slow=9.0,SNR=4.4						
SCHQ	Scheefferville	61.10	319	P	P	08 24 59.9	-0.8
	1.9nm,0.7s,mb4.3,baz=54,slow=7.1,SNR=9.9						
YKA	Yellowknife Ar	75.72	341	P	P	08 26 31.0	-0.2
	0.2nm,0.4s,mb3.4,baz=32,slow=5.4,SNR=16						
PDAR	Pinedale Array	90.12	327	P	P	08 27 46.7	+0.9
	0.3nm,0.8s,mb3.7,baz=54,slow=7.8,SNR=2.7						
ASAR	Alice Springs	119.97	99	PKP	PKPdf	08 33 36.3	-2.3
	0.2nm,0.4s,baz=294,slow=1.4,SNR=5.2						

IDC 20 08:17:34.0±1.4, 5.55N×95.94E, mb3.9/5, mb1 4.1/6, mb1mx3.9/16, mbtmp3.9/6, ML4.2/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/18, 1C, Error ellipse: s-maj=69.0km s-min=21.4km az=52.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.16	13	Pn	P	08 20 51.0	+6.1
	0.4nm,0.3s,baz=212,slow=12,SNR=3.1						
SONM	Songino Array	43.07	10	P	P	08 25 34.7	-2.6
	0.6nm,0.4s,baz=188,slow=8.7,SNR=3.9						
WRA	Warramunga Arr	45.47	125	P	P	08 25 55.6	-1.4
	4.3nm,0.6s,baz=300,slow=9.2,SNR=47						
WB2	Warramunga Arr	45.48	125⇑	iP	P	08 25 55.9	-1.2
ASPA	Alice Springs	47.06	130	eP	P	08 26 07.4	-2.2
ASAR	Alice Springs	47.06	130	P	P	08 26 07.5	-2.1
	1.5nm,0.7s,baz=299,slow=7.8,SNR=17						
BVAR	Borovoye Array	51.76	341	P	P	08 26 43.8	-1.6
	0.6nm,0.6s,baz=153,slow=6.4,SNR=3.5						
CTA	Charters Tower	55.62	119	LR	LR	08 51 20.5	
	comp=Z,57nm,18.1s,baz=225,slow=36						
BRTR	Keskin Array B	65.30	311	P	P	08 28 18.1	-2.1
	0.3nm,0.6s,baz=117,slow=7.3,SNR=3.6						

JMA 20 08:34:39.4±0.2, 32.33N×140.00E, h134km±2km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.80	349	P	P	08 35 01.2	+0.2
JHJ2				eS	S	08 35 18.1	+0.5
TK01	Tokai 1	2.48	306	P	P	08 35 19.5	-0.7
BSO3	Boso 3	2.50	10	eS	S	08 35 51.0	-0.7
TK04	Tokai 4	2.71	320	P	P	08 35 23.4	+0.2
JOD2	Odawara 2	3.02	346	P	P	08 35 27.8	+0.5
JHMK	Hamakita	3.11	324	P	P	08 35 27.9	-0.5
HMMJ	Hamamatsu 2	3.16	324	P	P	08 35 28.7	-0.3
JIE	Ise	3.44	308	P	P	08 35 31.9	-0.9
JNY	Yasuok	3.51	330	P	P	08 35 33.8	+0.1
JHU	Hanno	3.56	351	P	P	08 35 34.0	-0.4
JHU				eS	S	08 36 14.9	-1.6
JAO	Obara	3.71	323	P	P	08 35 36.4	0.0
JRY	Ryogami san	3.79	346	P	P	08 35 37.5	+0.1
JYT	Yasato	3.89	2	P	P	08 35 37.6	-1.2
JYT				eS	S	08 36 21.7	-2.6
JAG	Ashikaga	4.11	354	P	P	08 35 40.1	-1.6
JHO	Hitachi	4.30	6	P	P	08 35 42.1	-2.1
JHO				S	S	08 36 29.0	-4.9
JGM	Miyama	4.33	322	P	P	08 35 44.8	+0.2
JWT	Wachi	4.83	309	P	P	08 35 51.5	+0.2
JFK	Kawauchi	5.08	8	P	P	08 35 51.7	-2.9

*IDC **20** 08:41:35.0±0.7, 3.13N×94.95E, mb4.3/11, mb1 4.4/12, mb1mx4.3/17, mbtmp4.3/12, ML4.7/1, MS3.5/1, Ms1 3.7/1, ms1mx2.7/21, Error ellipse: s-maj=40.6km s-min=15.0km az=46.0*
*BJI **20** 08:41:37.4, 2.58N×94.70E, h54km, mB4.9, mb4.7, Ms4.5, Msz4.0*
*MOS **20** 08:41:38.1±1.2, 3.13N×95.00E, h33km, mb4.9/19, Error ellipse: s-maj=15.3km s-min=9.3km az=97.2*
*NEIC **20** 08:41:38.8±0.5, 3.03N×94.79E, h30km, mb4.7/17, Error ellipse: s-maj=14.2km s-min=8.1km az=49.0*

ISC 20 08:41:37.2±3.0, 3.08N±0.07×95.01E±0.08, h27km±21km, n82, σ1§20/83, mb4.6/41, MS4.2/5, 2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	14.84	287	P	P	08 45 02.9	-4.4
	21nm,1.0s						
PALK				eS	S	08 47 38.0	-14
CMAR	Chiang Mai Arr	15.76	14	Pn	P	08 45 19.1	-0.1
	0.9nm,0.3s,baz=208,slow=12,SNR=22						
CMAR				LR	LR	08 51 38.4	
	comp=Z,188nm,19.3s,baz=195,slow=38						
HYB	Hyderabad	21.54	313	eP	P	08 46 20.0	-6.5
HYB	Hyderabad	21.54	313	i P	P	08 46 27.5	+1.0
SHL	Shillong	22.55	353	eP	P	08 46 35.5	-1.2
JIRN	Jiri	25.85	342	eP	P	08 47 08.9	+0.5
	35nm,0.8s,mb4.9						
PKI	Pulchoki	26.02	340	eP	P	08 47 09.5	-0.5
	14nm,0.6s,mb4.7						
DMN	Daman	26.16	340	eP	P	08 47 11.1	-0.2
KKN	Kakani	26.27	340	eP	P	08 47 12.3	0.0
	8.2nm,0.3s,mb4.8						
GKN	Gorkha	26.68	339	eP	P	08 47 16.2	+0.1
	26nm,0.8s,mb4.8						
LSA	Lhasa	26.72	353	P	P	08 47 18.0	+1.6
LSA	Lhasa	26.72	353	eP	P	08 47 17.5	+1.1
LSA				pmax	pmax		
	comp=Z,29nm,0.6s,mb5.0						
LSA	Lhasa	26.72	353	eP	P	08 47 17.5	+1.0
	comp=Z,29nm,0.6s,mb5.0						
KOLN	Koldanda	26.86	337	eP	P	08 47 17.4	-0.3
	comp=Z,12nm,0.7s,mb4.5						
WHN	Wuhan	32.87	32	eP	P	08 48 12.8	+1.7
LZH	Lanzhou	33.84	13	eP	P	08 48 23.3	+3.8
LZH				AP	pP	08 48 32.5	+4.9
LZH				PP	PP	08 49 39.3	+6.2
LZH				AMB	AMB		
	comp=Z,24nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,102nm,4.9s						
LZH				LR	LR		
	comp=N,319nm,13.3s						
LZH				LR	LR		
	comp=Z,398nm,17.4s,MS4.2						
MBWA	Marble Bar	34.16	136	P	P	08 48 18.1	-4.4
	comp=Z,19nm,1.3s,mb4.9						
NJ2	Nanjing	36.50	35	eP	P	08 48 46.4	+4.1
NJ2				PP	PP	08 50 13.8	+7.2
NJ2				S	S	08 54 32.0	+10
NJ2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,350nm,4.2s						
NJ2				LR	LR		
	comp=N,510nm,22.0s,MS4.4						
NJ2				LR	LR		
	comp=E,450nm,22.1s,MS4.4						
NJ2				LR	LR		
	comp=Z,150nm,20.9s,MS3.8						
SSE	Sheshan	37.23	39	P	P	08 48 46.3	-2.1
SSE				S	S	08 54 28.8	-4.4
SSE				SS	SS	08 57 11.3	+6.6
SSE				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,137nm,6.9s						
SSE				LR	LR		
	comp=N,49nm,20.5s,MS3.6						
SSE				LR	LR		
	comp=E,84nm,20.8s,MS3.6						
SSE				LR	LR		
	comp=Z,56nm,17.1s,MS3.4						
WMQ	Urumqi	41.08	352	eP	P	08 49 20.9	+0.7
WMQ				AP	pP	08 49 30.7	+2.2
WMQ				PP	PP	08 50 59.9	+1.9
WMQ				S	S	08 55 32.6	+1.5
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.5s,mb3.9						
WMQ				AMB	AMB		
	comp=Z,29nm,5.0s						
WMQ				LR	LR		
	comp=N,657nm,19.8s,MS4.6						
WMQ				LR	LR		
	comp=E,577nm,20.5s,MS4.6						
WMQ				LR	LR		
	comp=Z,632nm,20.6s,MS4.5						
BJT	Baijiatuau	41.46	25	eP	P	08 49 24.5	+1.1
BJT				pmax	pmax		
	comp=Z,15nm,0.9s						
BJT	Baijiatuau	41.46	25	eP	P	08 49 24.5	+1.1
	comp=Z,15nm,0.9s,mb4.6						
ULHL	Ulahol	42.45	339	P	P	08 49 32.0	+0.4
	SNR=6.5						
KZA	Kyzart	42.67	338	P	P	08 49 34.7	+1.4
	SNR=5.5						
UCH	Uchtor	43.07	338	P	P	08 49 38.1	+1.5
	SNR=18						
TKM2	Tokmak 2	43.27	339	P	P	08 49 39.2	+1.0
	SNR=7.2						
AML	Almayashu	43.31	337	P	P	08 49 39.8	+1.2
	SNR=21						
AAK	Ala-Archa	43.43	338	i P	P	08 49 40.1	+0.6
AAK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.2						
AAK	Ala-Archa	43.43	338	eP	P	08 49 38.5	-1.0
	comp=Z,10nm,1.1s,mb4.5						
EKS2	Erkin-Say	43.73	337	P	P	08 49 42.9	+1.0
	SNR=8.2						
USP	Ospenovka	43.97	338	P	P	08 49 44.7	+0.8
	SNR=21						
WRA	Warramunga Arr	44.88	122	P	P	08 49 52.1	+0.5
	comp=Z,3.5nm,0.6s,mb4.4,baz=300,slow=9.1,SNR=11						
WRAB	Tennant Creek	44.89	122	eP	P	08 49 51.4	-0.2
WRAB				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.8						
WRAB	Tennant Creek	44.89	122	eP	P	08 49 51.4	-0.2
	comp=Z,18nm,1.1s,mb4.8						
SONM	Songino Array	45.65	11	P	P	08 49 56.8	-0.4
	comp=Z,3.8nm,0.6s,mb4.5,baz=198,slow=7.8,SNR=17						
SONM				PcP	PcP	08 51 35.6	0.0
	comp=Z,1.4nm,0.5s,baz=194,slow=3.7,SNR=4.1						
ULN	Ulaanbaatar	45.80	11	eP	P	08 49 57.8	-0.7
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ULN	Ulaanbaatar	45.80	11	eP	P	08 49 57.8	-0.6
	comp=Z,6.8nm,1.0s,mb4.5						
ASAR	Alice Springs	46.27	127	P	P	08 50 02.9	+0.4
	comp=Z,2.1nm,0.6s,mb4.3,baz=296,slow=7.9,SNR=9.4						
ASAR				PcP	PcP	08 51 38.0	-0.1
	comp=Z,0.9nm,0.6s,baz=286,slow=3.1,SNR=4.2						
KURK	Kurchatov	49.44	346	eP	P	08 50 25.9	-0.9
KURK				e		08 50 44.7	
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
KURK	Kurchatov	49.44	346	eP	P	08 50 25.9	-1.0
	comp=Z,6.4nm,1.0s,mb4.6						
KURK				e		08 50 44.7	
HIA	Hailar	50.62	21	P	P	08 50 35.1	-0.8
HIA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HIA	Hailar	50.62	21	P	P	08 50 35.1	-0.8
	comp=Z,9.0nm,0.9s,mb4.7						
NVS	Novosibirsk	52.48	351	eP	P	08 50 48.0	-1.9
BRVK	Borovoye	53.84	342	eP	P	08 50 58.7	-1.2
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
BRVK	Borovoye	53.84	342	eP	P	08 50 58.7	-1.2
	comp=Z,5.0nm,0.7s,mb4.5						
CHKZ	Chkalovo	54.27	342	eP	P	08 51 02.1	-1.0
CHKZ				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
CHKZ	Chkalovo	54.27	342	eP	P	08 51 02.1	-0.9
	comp=Z,11nm,0.9s,mb4.8						
CTA	Charters Tower	55.30	117	P	P	08 51 11.3	+0.2
	comp=Z,4.8nm,0.7s,mb4.6,baz=294,slow=9.9,SNR=5.3						
CTA	Charters Tower	55.30	117	eP	P	08 51 11.3	+0.2
CTA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
CTAO	Charters Tower	55.30	117	eP	P	08 51 11.2	+0.2
	comp=Z,7.0nm,0.9s,mb4.7						
KLR	Kul'dur	55.60	28	eP	P	08 51 10.8	-2.1
STKA	Stephens Creek	56.23	132	P	P	08 51 17.8	+0.2
	comp=Z,3.1nm,0.7s,mb4.5,baz=288,slow=7.3,SNR=7.6						
BOD	Bodaibo	56.60	12	eP	P	08 51 18.0	-1.9
KMBO	Kilima Mbogo	57.89	267	eP	P	08 51 31.3	+1.7
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KMBO	Kilima Mbogo	57.89	267	eP	P	08 51 31.3	+1.7
	comp=Z,3.1nm,1.0s,mb4.3						
ARU	Arti	60.62	338	i P	P	08 51 41.4	-6.5
ARU				eS	S	08 59 52.0	-8.6
ARU				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
ASF	Jabal al Asfar	61.60	305	P	P	08 51 55.9	+1.0
	comp=Z,1.7nm,0.8s,mb4.2,baz=193,slow=7.7,SNR=3.7						
MALT	Malatya	62.25	312	eP	P	08 51 59.7	+0.5
MALT				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.6						
MALT	Malatya	62.25	312	eP	P	08 51 59.7	+0.5
	comp=Z,4.6nm,1.1s,mb4.5						
SOC	Sochi	63.27	318	eP	P	08 52 03.2	-2.6
SOC				e		08 52 46.1	
SOC				e		08 54 27.9	
SOC				eS	S	09 00 30.7	-3.5
SOC				e		09 04 41.1	
SOC				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.1						
SOC				pmax	pmax		
	comp=N,12nm,0.8s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.8s						
SOC				MLR	MLR		
	comp=Z,185nm,10.0s,MS4.6						
SOC				MLR	MLR		
	comp=N,113nm,9.0s						
SOC				MLR	MLR		
	comp=E,100nm,9.0s						
YAK	Yakutsk	64.26	17	i P	P	08 52 11.2	-0.8
YAK				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
BRTR	Keskin Array B	66.23	312	P	P	08 52 23.8	-1.4
	comp=Z,2.4nm,1.1s,mb4.2,baz=130,slow=5.1,SNR=11						
MA2	Magadan	70.61	26	P	P	08 52 52.3	+0.3
MA2				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
MA2	Magadan	70.61	26	P	P	08 52 52.3	+0.3
	comp=Z,9.4nm,0.9s,mb4.7						
TIXI	Tiksi	71.74	11	eP	P	08 52 57.6	-1.0
TIXI				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
AKASG	Malin Array Be	72.44	323	P	P	08 53 01.8	-1.3
	comp=Z,1.7nm,0.6s,mb4.2,baz=88,slow=5.5,SNR=4.7						
BOSA	Boshof	73.84	239	P	P	08 53 11.7	0.0
BOSA				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
BOSA	Boshof	73.84	239	P	P	08 53 11.7	-0.1
	comp=Z,7.5nm,1.1s,mb4.5						
FINES	FINESS Array B	77.33	333	P	P	08 53 30.8	-0.1
	comp=Z,3.3nm,0.7s,mb4.4,baz=102,slow=6.1,SNR=13						
ARCES	ARCESS Array B	80.04	340	P	P	08 53 46.2	+0.7
	comp=Z,52nm,1.3s,mb5.3,baz=96,slow=5.1,SNR=20						
BILL	Bilibino	80.20	21	eP	P	08 53 48.6	+2.2
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
BILL	Bilibino	80.20	21	eP	P	08 53 48.6	+2.2
	comp=Z,4.5nm,1.2s,mb4.3						
SYO	Syowa Base	81.12	197	⇓P	P	08 53 46.0	-5.2
GERES	GERESS Array B	81.97	319	P	P	08 53 57.2	+1.2
	comp=Z,2.9nm,0.8s,mb4.3,baz=90,slow=5.3,SNR=8.2						
SBA	Scott Base	89.20	168	eP	P	08 54 27.7	-3.6
SBA				pmax	pmax		
	comp=Z,24nm,1.6s,mb5.3						
SBA	Scott Base	89.20	168	eP	P	08 54 27.7	-3.6
	comp=Z,24nm,1.6s,mb5.3						
ILAR	Eielson Array	98.82	22	P	P	08 55 16.4	+0.8
	comp=Z,0.2nm,0.7s,mb3.8,baz=281,slow=4.6,SNR=2.7						
SCHQ	Scheefferville	120.36	348	PKP	PKPdf	09 00 27.9	-3.0
	comp=Z,1.2nm,0.9s,baz=23,slow=7.7,SNR=4.1						
NVAR	Mina Array Bea	128.49	33	PKP	PKPdf	09 00 45.1	-2.0
	comp=Z,0.9nm,0.8s,baz=119,slow=1.7,SNR=6.2						
PDAR	Pinedale Array	129.24	23	PKP	PKPdf	09 00 45.7	-2.8
	comp=Z,1.0nm,0.9s,baz=91,slow=2.5,SNR=5.6						
TXAR	Lajitas Array	143.13	28	PKhKP		09 01 07.7	
	comp=Z,0.3nm,0.5s,baz=240,slow=0.4,SNR=7.6						
JCT	Junction City	143.75	22	ePKIKP	PKPdf	09 01 10.3	-5.0

IDC 20 09:09:12.4±12.0, 14.56N×91.32W, mb3.4/2, mb1 3.8/3, mb1mx3.3/18, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=246.5km s-min=102.7km az=5.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	18.62	324	P	P	09 13 31.4	-2.1
	0.0nm,0.3s,baz=148,slow=12,SNR=5.2						
NVAR	Mina Array Bea	33.66	320	P	P	09 15 55.1	-2.0
	0.4nm,0.7s,baz=122,slow=8.5,SNR=3.0						
YKA	Yellowknife Ar	50.64	346	P	P	09 18 13.1	-2.0
	0.5nm,0.8s,baz=146,slow=7.8,SNR=11						

MAN 20 09:11:38.5, 18.13N×122.43E, h7km, mb4.8, ML3.8, MS3.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	0.38	288	eP	Pg	09 11 47.9	+1.7
SGCP				eS	Sg	09 11 53.7	+2.4
CVP	Callao Caves	0.71	234⇑	i P	Pg	09 11 52.0	-0.8
CVP				i S	Sg	09 12 03.0	+0.6
PALP	Palanan	1.06	180	eP	Pb	09 11 56.3	-2.4
PALP				eS	Sb	09 12 17.3	+4.8
APYP	Conner	1.16	257	eP	Pb	09 11 59.6	-0.8
APYP				eS	Sb	09 12 17.4	+1.9
CAUP	Cauayan	1.31	206	eP	Pb	09 12 03.2	+0.2
CAUP				eS	Sb	09 12 25.1	+5.3
ABRA	Dolores	1.70	254	eP	Pn	09 12 08.3	-0.5
BBP	Basco	2.35	349	eP	Pn	09 12 17.6	-0.4
BBP				eS	Sn	09 12 44.4	-3.0
BALP	Baler	2.51	199	eP	Pn	09 12 19.9	-0.4
BALP				eS	Sn	09 12 52.0	+0.5

**IDC 20 09:31:40.2±1.6, 3.50N×94.73E, mb3.6/3, mb1 3.8/4, mb1m

VIS	**Vishakhapatnam**	**16.91**	**327**	*e*P	**P**	**09 50 44.0**	**-0.6**
HYB	**Hyderabad**	**19.68**	**315**	*e*P	**P**	**09 51 15.0**	**-3.2**
HYB	**Hyderabad**	**19.68**	**315**	*i* P	**P**	**09 51 15.0**	**-3.2**
HYB				*e*S	**S**	**09 54 53.0**	**+0.2**
SHL	**Shillong**	**21.91**	**358**	*e*P	**P**	**09 51 42.5**	**+1.5**
SHL				*e*S	**S**	**09 55 44.0**	**+7.8**
KAD	**Karad**	**22.88**	**308**	*e*P	**P**	**09 51 56.0**	**+5.3**
POO	**Poona**	**23.84**	**310**	*e*P	**P**	**09 52 07.0**	**+6.9**
POO				*i* S	**S**	**09 56 21.0**	**+10**
JIRN	**Jiri**	**24.81**	**346**	*e*P	**P**	**09 52 09.9**	**+0.5**
PKI	**Pulchoki**	**24.93**	**344**	*e*P	**P**	**09 52 10.7**	**+0.2**
	58nm,1.2s,mb5.0						
DMN	**Daman**	**25.05**	**344**	*e*P	**P**	**09 52 12.3**	**+0.6**
KKN	**Kakani**	**25.17**	**344**	*e*P	**P**	**09 52 13.3**	**+0.5**
	79nm,1.3s,mb5.1						
GKN	**Gorkha**	**25.55**	**343**	*e*P	**P**	**09 52 15.4**	**-1.0**
KOLN	**Koldanda**	**25.66**	**341**	*e*P	**P**	**09 52 17.0**	**-0.4**
	39nm,1.1s,mb4.8						
LSA	**Lhasa**	**26.06**	**357**	*e*P	**P**	**09 52 22.1**	**+1.0**
	11nm,0.8s,mb4.4						
XAN	**Xi'an**	**33.81**	**24**	P	**P**	**09 53 29.0**	**-1.1**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.5						
SONM	**Songino Array**	**45.62**	**13**	P	**P**	**09 55 08.2**	**+0.4**
	comp=Z,0.6nm,0.4s,mb3.8,baz=194,slow=5.9,SNR=2.8						
SONM	**Songino Array**	**45.62**	**13**	P	**P**	**09 55 08.2**	**+0.4**
WRA	**Warramunga Arr**	**46.93**	**122**	P	**P**	**09 55 18.2**	**-0.3**
	comp=Z,1.3nm,0.6s,mb4.0,baz=297,slow=9.0,SNR=12						
WRAB	**Tennant Creek**	**46.94**	**121**	P	**P**	**09 55 14.1**	**-4.5**
	comp=Z,18nm,1.2s,mb4.9						
ASAR	**Alice Springs**	**48.25**	**126**	P	**P**	**09 55 28.6**	**-0.2**
	comp=Z,1.0nm,1.1s,mb3.8,baz=291,slow=7.1,SNR=5.1						
ASAR				LR	LR	10 19 06.6	
	comp=Z,57nm,18.4s,MS3.6,baz=318,slow=40						
KURK	**Kurchatov**	**48.51**	**348**	*e*P	**P**	**09 55 29.3**	**-1.2**
	comp=Z,5.2nm,1.0s,mb4.5						
HIA	**Hailar**	**50.96**	**22**	P	**P**	**09 55 50.9**	**+1.6**
	comp=Z,8.5nm,1.1s,mb4.6						
BVAR	**Borovoye Array**	**52.69**	**343**	P	**P**	**09 56 02.4**	**+0.1**
	comp=Z,4.0nm,1.1s,mb4.3,baz=146,slow=5.3,SNR=8.4						
BRVK	**Borovoye**	**52.75**	**343**	*e*P	**P**	**09 56 02.2**	**-0.5**
	comp=Z,3.4nm,0.7s,mb4.4						
CHKZ	**Chkalovo**	**53.20**	**344**	*e*P	**P**	**09 56 02.8**	**-3.2**
	comp=Z,7.6nm,0.9s,mb4.6						
KMBO	**Kilima Mbogo**	**55.80**	**266**	LR	LR	10 18 02.2	
	comp=Z,97nm,18.5s,MS3.9,baz=85,slow=34						
STKA	**Stephens Creek**	**58.13**	**131**	P	**P**	**09 56 42.0**	**+0.2**
	comp=Z,2.5nm,0.9s,mb4.3,baz=274,slow=9.6,SNR=5.2						
STKA				LR	LR	10 19 55.9	
	comp=Z,81nm,21.0s,MS3.8,baz=253,slow=34						
MALT	**Malatya**	**60.37**	**313**	P	**P**	**09 56 57.3**	**+0.1**
	comp=Z,3.4nm,0.9s,mb4.4						
BRTR	**Keskin Array B**	**64.35**	**313**	P	**P**	**09 57 23.4**	**-0.4**
	comp=Z,0.6nm,0.9s,mb3.6,baz=108,slow=4.6,SNR=3.4						
AKASG	**Malin Array Be**	**70.78**	**323**	P	**P**	**09 58 02.9**	**-1.0**
	comp=Z,0.7nm,0.4s,mb3.9,baz=91,slow=4.6,SNR=5.9						
MLR	**Muntele Rosu**	**71.41**	**317**	P	**P**	**09 58 09.0**	**+1.2**
	comp=Z,3.2nm,0.7s,mb4.4,baz=222,slow=16,SNR=4.1						
BOSA	**Boshof**	**72.26**	**239**	P	**P**	**09 58 13.3**	**+0.2**
	comp=Z,7.1nm,1.2s,mb4.5						
FINES	**FINESS Array B**	**75.94**	**333**	LR	LR	10 32 16.9	
	comp=Z,228nm,18.6s,MS4.5,baz=347,slow=36						
GERES	**GERESS Array B**	**80.21**	**319**	P	**P**	**09 58 59.2**	**+1.6**
	comp=Z,1.3nm,0.7s,mb4.0,baz=128,slow=15,SNR=4.7						

BJI ***20*** *09:58:28.4, 4.83N×94.47E, h38km, mB5.1, mb4.8, Ms4.6, Msz4.1*
NEIC ***20*** *09:58:29.6±4.3, 5.16N×94.22E, h18km±26km, mb4.7/10, Error ellipse: s-maj=11.6km s-min=7.6km az=49.0*
IDC ***20*** *09:58:34.2±0.8, 5.31N×94.40E, h49km±6km, mb4.0/13, mb1 4.2/14, mb1mx4.1/19, mbtmp4.3/14, MS2.9/1, Ms1 3.1/1, ms1mx2.7/17, Error ellipse: s-maj=30.8km s-min=13.8km az=47.0*

ISC 20 09:58:32.2±0.5, 5.22N±0.08×94.33E±0.09, h49km, h49km±1.6km: pP-P, n42, σ0=94/39, mb4.5/30, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.54**	**72**	P	**P**	**10 00 09.0**	**+0.7**
PALK	**Pallekele**	**13.70**	**279**	P	**P**	**10 01 41.1**	**-4.7**
	4.9nm,0.7s						
PALK				*e*S	**S**	**10 04 02.3**	**-15**
CMAR	**Chiang Mai Arr**	**13.91**	**19**	P	**P**	**10 01 48.8**	**+0.3**
	2.2nm,0.3s,baz=207,slow=14,SNR=38						
CMAR				LR	LR	10 06 51.4	
	comp=Z,55nm,21.9s,baz=205,slow=36						
CHG	**Chiang Mai**	**14.24**	**18**	P	**P**	**10 01 57.1**	**+4.2**
HYB	**Hyderabad**	**19.63**	**309**	*i* P	**P**	**10 03 03.0**	**+3.4**
JIRN	**Jiri**	**23.62**	**342**	*e*P	**P**	**10 03 39.7**	**0.0**
	35nm,0.7s,mb4.9						
PKI	**Pulchoki**	**23.80**	**340**	*e*P	**P**	**10 03 41.6**	**+0.2**
	12nm,0.4s,mb4.6						
DMN	**Daman**	**23.94**	**339**	*e*P	**P**	**10 03 43.0**	**+0.2**
	9.6nm,0.5s,mb4.5						
KKN	**Kakani**	**24.04**	**340**	*e*P	**P**	**10 03 43.9**	**+0.1**
	20nm,0.7s,mb4.7						
GKN	**Gorkha**	**24.46**	**339**	*e*P	**P**	**10 03 48.8**	**+0.9**
	16nm,0.3s,mb4.9						
LSA	**Lhasa**	**24.54**	**353**	*e*P	**P**	**10 03 50.0**	**+1.4**
	25nm,0.6s,mb4.9						
KOLN	**Koldanda**	**24.64**	**337**	*e*P	**P**	**10 03 50.2**	**+0.5**
	14nm,0.4s,mb4.8						
ENH	**Enshi**	**28.73**	**28**	*e*P	**P**	**10 04 25.6**	**-1.6**
	6.6nm,0.5s,mb4.6						
XAN	**Xi'an**	**31.71**	**23**	P	**P**	**10 04 51.9**	**-1.8**
XAN				AMB	AMB		
	comp=Z,17nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**38.61**	**128**	*e*P	**P**	**10 05 52.6**	**+0.1**
	comp=Z,9.5nm,1.4s,mb4.3						
BJT	**Baijiatuau**	**39.84**	**26**	*e*P	**P**	**10 06 03.7**	**+1.1**
	comp=Z,7.8nm,0.6s,mb4.6						
SONM	**Songino Array**	**43.70**	**12**	P	**P**	**10 06 32.5**	**-1.7**
	comp=Z,1.4nm,0.4s,mb4.1,baz=191,slow=8.6,SNR=10.0						
SONM				pP	pP	10 06 45.9	-1.6
	comp=Z,3.1nm,0.8s,baz=196,slow=9.0,SNR=6.2						
SONM				PcP	PcP	10 08 21.3	+0.3
	comp=Z,1.2nm,0.4s,baz=197,slow=3.9,SNR=4.9						
ULN	**Ulaanbaatar**	**43.87**	**12**	*e*P	**P**	**10 06 34.7**	**-0.8**
	comp=Z,2.6nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**46.61**	**124**	P	**P**	**10 06 58.0**	**+0.3**
	comp=Z,5.7nm,0.7s,mb4.6,baz=303,slow=9.3,SNR=32						
WRAB	**Tennant Creek**	**46.61**	**124**	*e*P	**P**	**10 06 58.1**	**+0.4**
	comp=Z,15nm,0.8s,mb5.0						
WB2	**Warramunga Arr**	**46.62**	**124**	*e*P	**P**	**10 06 58.1**	**+0.4**
TLY	**Talaya**	**46.95**	**8**	P	**P**	**10 06 59.7**	**-0.2**
	comp=Z,1.6nm,0.7s,mb4.1						
KURK	**Kurchatov**	**47.22**	**346**	*e*P	**P**	**10 07 00.4**	**-1.6**
	comp=Z,24nm,0.7s,mb5.2						
ASAR	**Alice Springs**	**48.10**	**128**	P	**P**	**10 07 09.6**	**+0.2**
	comp=Z,1.0nm,0.4s,mb4.2,baz=301,slow=7.8,SNR=14						
ASAR				PcP	PcP	10 08 37.0	+0.3
	comp=Z,0.7nm,0.4s,baz=317,slow=2.9,SNR=3.5						
BVAR	**Borovoye Array**	**51.55**	**342**	P	**P**	**10 07 34.9**	**-0.4**
	comp=Z,3.7nm,0.6s,mb4.5,baz=158,slow=8.0,SNR=16						
BRVK	**Borovoye**	**51.61**	**342**	*e*P	**P**	**10 07 35.1**	**-0.6**
	comp=Z,8.8nm,0.9s,mb4.7						
CHKZ	**Chkalovo**	**52.04**	**342**	*e*P	**P**	**10 07 39.1**	**+0.1**
	comp=Z,1.1nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**58.16**	**133**	P	**P**	**10 08 21.9**	**-1.7**
	comp=Z,1.3nm,0.6s,mb4.1,baz=113,slow=20,SNR=2.3						
STKA	**Stephens Creek**	**58.16**	**133**	P	**P**	**10 08 21.9**	**-1.7**
BRTR	**Keskin Array B**	**64.31**	**312**	P	**P**	**10 09 04.5**	**-0.6**
	comp=Z,1.7nm,0.7s,mb4.2,baz=132,slow=7.5,SNR=16						
BRTR				pP	pP	10 09 19.2	+0.2
	comp=Z,0.6nm,0.6s,baz=115,slow=6.6,SNR=3.4						
AKASG	**Malin Array Be**	**70.35**	**322**	P	**P**	**10 09 41.9**	**-0.9**
	comp=Z,1.4nm,0.4s,mb4.2,baz=87,slow=5.5,SNR=6.2						
MLR	**Muntele Rosu**	**71.20**	**316**	P	**P**	**10 09 47.8**	**-0.2**
	comp=Z,3.0nm,0.8s,mb4.3,baz=81,slow=21,SNR=4.9						
FINES	**FINESS Array B**	**75.14**	**332**	P	**P**	**10 10 10.6**	**-0.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=90,slow=5.7,SNR=5.7						
OJC	**Ojcow**	**76.12**	**320**	*e*P	**P**	**10 10 17.8**	**+1.2**
ARCES	**ARCESS Array B**	**77.81**	**340**	P	**P**	**10 10 26.0**	**+0.3**
	comp=Z,5.6nm,1.0s,mb4.5,baz=103,slow=6.6,SNR=9.1						
GERES	**GERESS Array B**	**79.92**	**319**	P	**P**	**10 10 37.7**	**+0.1**
	comp=Z,3.3nm,0.7s,mb4.4,baz=101,slow=6.8,SNR=6.4						
GERES				pP	pP	10 10 53.0	+1.1
	comp=Z,1.1nm,0.6s,baz=135,slow=3.8,SNR=2.9						
DAVOX	**Davos**	**82.43**	**316**	P	**P**	**10 10 52.0**	**+1.3**
	comp=Z,6.4nm,0.6s,mb4.7,baz=106,slow=6.2,SNR=11						
DAVOX				pP	pP	10 11 05.7	+0.6
	comp=Z,2.9nm,0.5s,baz=295,slow=2.9,SNR=3.5						
SYO	**Syowa Base**	**82.94**	**197**	⇓PcP	PcP	10 10 55.0	-3.0
ILAR	**Eielson Array**	**97.12**	**22**	P	**P**	**10 12 01.1**	**+1.2**
	comp=Z,0.2nm,0.7s,mb3.6,baz=299,slow=5.3,SNR=4.8						
ILAR				pP	pP	10 12 14.8	+0.1
	comp=Z,0.2nm,0.6s,baz=270,slow=3.7,SNR=1.7						
YKA	**Yellowknife Ar**	**108.94**	**14**	PP	PP	10 17 21.1	-7.6
	comp=Z,0.3nm,0.7s,baz=335,slow=7.5,SNR=4.4						
PDAR	**Pinedale Array**	**127.55**	**22**	PKP	PKPdf	10 17 34.8	+2.4
	comp=Z,0.3nm,0.6s,SNR=2.9						
TXAR	**Lajitas Array**	**141.54**	**26**	PKhKP		10 17 55.0	
	comp=Z,0.3nm,0.5s,baz=234,slow=0.8,SNR=7.9						

NIED ***20*** *10:20:00.34, 10.10N×141.70E, h11km, Mw4.0 Best double couple: M0:1.11×10^15 NP1:φs=272°, δ79°, λ-99°. NP2: φs=132°, δ14°, λ-51°.*
IDC ***20*** *10:20:24.8±0.7, 34.14N×141.62E, mb3.8/11, mb1 4.1/12, mb1mx4.0/22, mbtmp3.8/12, ML3.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/20, Error ellipse: s-maj=22.5km s-min=15.7km az=123.0*
JMA ***20*** *10:20:25.6±0.4, 34.12N×141.71E, h17km±3km, M3.9*

ISC 20 10:20:26.8±1.3, 34.12N±0.05×141.65E±0.06, h27km±9km, n27, σ0=87/31, mb3.8/12, 1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.77**	**314**	P	**Pb**	**10 20 40.7**	**-0.8**
BSO1				S	**Sb**	**10 20 52.1**	**+0.5**
BSO3	**Boso 3**	**1.16**	**306**	P	**Pn**	**10 20 47.6**	**+0.1**
BSO3				S	**Sn**	**10 21 03.9**	**+1.3**
BSO4	**Boso 4**	**1.39**	**309**	⇓P	**Pn**	**10 20 51.5**	**+0.7**
KTR	**Katsuura**	**1.51**	**313**	*e*S	**Sn**	**10 21 12.3**	**+0.9**
JHJ2	**Mitsune**	**1.83**	**237**	P	**Pn**	**10 20 58.3**	**+1.3**
JHJ	**Hachijo jima 2**	**1.85**	**238**	Pn	**Pn**	**10 20 58.4**	**+1.0**
	76nm,0.3s,baz=62,slow=21,SNR=13						
JHJ				Sn	**Sn**	**10 21 20.2**	**+0.2**
	310nm,0.3s,baz=89,slow=23,SNR=14						
KTJJ	**Kamata 2**	**2.28**	**291**	P	**Pn**	**10 21 02.6**	**-0.9**
KTJJ				S	**Sn**	**10 21 28.2**	**-2.9**
JIZS	**Izushimoda**	**2.37**	**285**	P	**Pn**	**10 21 04.2**	**-0.6**
JIZS				S	**Sn**	**10 21 33.2**	**-0.1**
JOD2	**Odawara 2**	**2.40**	**299**	P	**Pn**	**10 21 04.3**	**-0.9**
MAT	**Matsushiro**	**3.71**	**312**	P	**Pn**	**10 21 24.3**	**+0.4**
MAT				S	**Sn**	**10 22 06.4**	**-0.9**
CBIJ	**Chichi jima**	**7.01**	**176**	LR	LR	10 24 53.2	
	comp=Z,164nm,18.8s,baz=49,slow=38						
ASAJ	**Asahikawa**	**10.01**	**4**	Pn	**P**	**10 22 46.0**	**-6.0**
	0.5nm,0.3s,baz=347,slow=31,SNR=2.7						
ASAJ				Sn	**S**	**10 24 34.1**	**-10**
	0.3nm,0.3s,baz=266,slow=32,SNR=4.0						
SONM	**Songino Array**	**29.66**	**308**	P	**P**	**10 26 32.1**	**-0.2**
	0.7nm,0.7s,mb3.5,baz=101,slow=7.3,SNR=3.4						
ILAR	**Eielson Array**	**51.87**	**31**	P	**P**	**10 29 34.8**	**+0.2**
	1.8nm,0.7s,mb4.1,baz=267,slow=6.3,SNR=20						
BVAR	**Borovoye Array**	**52.71**	**314**	P	**P**	**10 29 41.8**	**+0.7**
	0.6nm,0.7s,mb3.6,baz=117,slow=6.4,SNR=3.4						
FITZ	**Fitzroy Crossi**	**54.12**	**199**	*e*P	**P**	**10 29 52.0**	**+0.1**
	4.6nm,0.9s,mb4.4						
WB2	**Warramunga Arr**	**54.20**	**188**	*e*P	**P**	**10 29 51.7**	**-0.8**
WRA	**Warramunga Arr**	**54.20**	**188**	P	**P**	**10 29 51.6**	**-0.9**
	2.7nm,0.8s,mb4.2,baz=6.0,slow=7.6,SNR=33						
INK	**Inuvik**	**56.90**	**26**	P	**P**	**10 30 10.7**	**-0.8**
	1.2nm,0.6s,mb4.1,baz=266,slow=4.3,SNR=6.3						
ASAR	**Alice Springs**	**57.93**	**188**	P	**P**	**10 30 18.8**	**-0.5**
	0.9nm,0.8s,mb3.8,baz=15,slow=8.8,SNR=10						
YKA	**Yellowknife Ar**	**66.24**	**30**	P	**P**	**10 31 13.3**	**-0.8**
	0.1nm,0.2s,mb3.4,baz=297,slow=6.9,SNR=4.2						
NOA	**NORSAR Array B**	**76.95**	**338**	P	**P**	**10 32 17.3**	**-0.8**
	1.9nm,0.8s,mb4.0,baz=42,slow=5.4,SNR=3.5						
PDAR	**Pinedale Array**	**79.58**	**45**	P	**P**	**10 32 33.9**	**+1.0**
	0.5nm,0.6s,mb3.6,baz=267,slow=2.1,SNR=5.5						
BRTR	**Keskin Array B**	**80.94**	**312**	P	**P**	**10 32 40.6**	**+0.4**
	0.5nm,1.0s,mb3.4,baz=53,slow=7.2,SNR=3.2						
TXAR	**Lajitas Array**	**91.74**	**53**	P	**P**	**10 33 35.2**	**+1.8**
	0.2nm,0.6s,mb3.6,baz=271,slow=2.8,SNR=3.7						
LPAZ	**La Paz**	**147.90**	**64**	PKPbc	PKPdf	10 40 13.4	+1.6
	1.5nm,0.9s,baz=349,slow=12,SNR=6.3						
PLCA	**Paso Flores**	**153.69**	**114**	PKPab	PKPab	10 40 39.6	+1.6
	1.1nm,0.9s,baz=342,slow=4.9,SNR=2.9						

BJI ***20*** *10:33:48.8, 4.40N×95.06E, h40km, mB4.9, mb4.8, Ms4.6, Msz4.2*
MOS ***20*** *10:33:48.0±1.6, 4.46N×94.96E, h33km, mb5.0/11, Error ellipse: s-maj=27.8km s-min=10.6km az=102.5*
NEIC ***20*** *10:33:50.5±0.4, 4.61N×95.03E, h30km, mb4.9/15, Error ellipse: s-maj=14.7km s-min=8.0km az=51.0*
IDC ***20*** *10:33:52.4±0.8, 4.60N×95.01E, h48km±6km, mb4.2/9, mb1 4.4/10, mb1mx4.2/17, mbtmp4.5/10, MS3.4/1, Ms1 3.6/1, ms1mx2.9/17, Error ellipse: s-maj=35.2km s-min=14.5km az=41.0*

ISC 20 10:33:50.3±0.5, 4.52N±0.07×95.01E±0.07, h44km, h44km±3.0km: pP-P, n75, σ1=104/75, mb4.8/38, MS4.4/4, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.17**	**64**	P	**P**	**10 35 21.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**14.38**	**15**	P	**P**	**10 37 15.1**	**+2.0**
	1.4nm,0.3s,baz=209,slow=11,SNR=64						
CMAR				LR	LR	10 42 29.6	
	comp=Z,153nm,18.5s,baz=195,slow=36						
CHG	**Chiang Mai**	**14.72**	**15**	⇑P	**P**	**10 37 22.7**	**+5.2**
	18nm,0.8s						
JIRN	**Jiri**	**24.50**	**341**	*e*P	**P**	**10 39 07.6**	**+0.6**
	23nm,0.5s,mb5.0						
PKI	**Pulchoki**	**24.68**	**339**	*e*P	**P**	**10 39 08.9**	**+0.1**
	10nm,0.6s,mb4.6						
DMN	**Daman**	**24.83**	**339**	*e*P	**P**	**10 39 10.4**	**+0.3**
	12nm,0.6s,mb4.6						
KKN	**Kakani**	**24.93**	**339**	*e*P	**P**	**10 39 11.0**	**-0.1**
	9.7nm,0.4s,mb4.7						
LSA	**Lhasa**	**25.31**	**352**	P	**P**	**10 39 15.0**	**+0.3**
LSA	**Lhasa**	**25.31**	**352**	*e*P	**P**	**10 39 15.1**	**+0.4**
LSA				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.6						
LSA	**Lhasa**	**25.31**	**352**	*e*P	**P**	**10 39 15.1**	**+0.4**
	comp=Z,13nm,0.7s,mb4.6						
GKN	**Gorkha**	**25.36**	**338**	*e*P	**P**	**10 39 15.2**	**0.0**
	comp=Z,36nm,0.7s,mb5.0						
KOLN	**Koldanda**	**25.55**	**336**	*e*P	**P**	**10 39 17.0**	**0.0**
	comp=Z,32nm,0.6s,mb5.0						
ENH	**Enshi**	**29.03**	**26**	*e*P	**P**	**10 39 45.5**	**-3.1**
	comp=Z,7.6nm,0.6s,mb4.6						
XAN	**Xi'an**	**32.09**	**22**	P	**P**	**10 40 13.8**	**-1.9**
XAN				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.4						
LZH	**Lanzhou**	**32.45**	**13**	*e*P	**P**	**10 40 18.5**	**-0.3**
LZH				AP	pP	10 40 27.5	-3.1
LZH				XP	sP	10 40 31.4	-4.8
LZH				PP	PP	10 41 27.3	-0.4
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,98nm,5.6s						
LZH				LR	LR		
	comp=N,638nm,13.0s						
LZH				LR	LR		
	comp=Z,937nm,17.4s,MS4.5						
MBWA	**Marble Bar**	**35.20**	**137**	P	**P**	**10 40 35.0**	**-7.6**
	comp=Z,36nm,1.5s,mb5.1						
NJ2	**Nanjing**	**35.35**	**36**	*e*P	**P**	**10 40 44.6**	**+0.8**
NJ2				AP	pP	10 40 54.0	-1.7
NJ2				XP	sP	10 40 58.1	-3.1
NJ2				PP	PP	10 42 05.1	+1.0
NJ2				XS		10 46 33.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,280nm,6.0s						
NJ2				LR	LR		
	comp=N,420nm,17.8s,MS4.4						
NJ2				LR	LR		
	comp=E,460nm,20.8s,MS4.4						
NJ2				LR	LR		
	comp=Z,350nm,20.4s,MS4.1						
FITZ	**Fitzroy Crossi**	**37.65**	**128**	*e*P	**P**	**10 41 03.2**	**0.0**
	comp=Z,4.5nm,0.6s,mb4.4						
JOW	**Kunigami**	**38.74**	**52**	P	**P**	**10 41 12.2**	**-0.1**
	comp=Z,9.2nm,0.3s,mb5.0,baz=167,slow=12,SNR=6.9						
WMQ	**Urumqi**	**39.67**	**352**	*e*P	**P**	**10 41 19.9**	**+0.1**
WMQ				AP	pP	10 41 29.7	-2.1
WMQ				XP	sP	10 41 33.7	-3.5
WMQ				PP	PP	10 42 55.6	+0.5
WMQ				S	**S**	**10 47 20.4**	**+0.5**
WMQ				XS		10 47 36.6	
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,46nm,5.0s						
WMQ				LR	LR		
	comp=N,877nm,19.6s,MS4.7						
WMQ				LR	LR		
	comp=E,755nm,20.3s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,20.4s,MS4.7						
BJT	**Baijiatuau**	**40.17**	**25**	*e*P	**P**	**10 41 24.3**	**+0.3**
	comp=Z,27nm,0.9s,mb5.0						
ULHL	**Ulahol**	**41.12**	**339**	P	**P**	**10 41 32.1**	**+0.3**
	SNR=9.4						
KZA	**Kyzart**	**41.35**	**338**	P	**P**	**10 41 34.9**	**+1.2**
	SNR=6.0						
UCH	**Uchtor**	**41.76**	**337**	P	**P**	**10 41 38.1**	**+1.0**
	SNR=28						
TKM2	**Tokmak 2**	**41.95**	**339**	P	**P**	**10 41 39.4**	**+0.8**
	SNR=16						
KBK	**Karagaybulak**	**41.96**	**338**	P	**P**	**10 41 40.5**	**+1.8**
	SNR=13						
AML	**Almayashu**	**42.00**	**336**	P	**P**	**10 41 40.4**	**+1.3**
	SNR=39						
AAK	**Ala-Archa**	**42.11**	**337**	P	**P**	**10 41 41.6**	**+1.6**
	SNR=14						
AAK	**Ala-Archa**	**42.11**	**337**	*i* P	**P**	**10 41 40.3**	**+0.3**
AAK				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**42.11**	**337**	*e*P	**P**	**10 41 40.5**	**+0.5**
	comp=Z,15nm,0.8s,mb4.7						
AAK				*e*		10 41 60.0	
EKS2	**Erkin-Say**	**42.41**	**337**	P	**P**	**10 41 43.7**	**+1.2**
	SNR=18						
USP	**Ospenovka**	**42.65**	**338**	P	**P**	**10 41 44.8**	**+0.4**
	SNR=32						
MKAR	**Makanchi Array**	**43.53**	**347**	*i* P	**P**	**10 41 50.9**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SONM	**Songino Array**	**44.25**	**11**	P	**P**	**10 41 55.9**	**-1.4**
	comp=Z,1.5nm,0.5s,mb4.0,baz=192,slow=7.6,SNR=7.8						
SONM				PcP	PcP	10 43 41.2	-0.5
	comp=Z,3.2nm,0.6s,baz=192,slow=3.4,SNR=9.6						
WRA	**Warramunga Arr**	**45.66**	**124**	*i* P	**P**	**10 42 09.5**	**+0.6**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
WRA	**Warramunga Arr**	**45.66**	**124**	P	**P**	**10 42 08.6**	**-0.3**
	comp=Z,4.1nm,0.5s,mb4.6,baz=301,slow=9.3,SNR=54						
WRAB	**Tennant Creek**	**45.66**	**124**	*e*P	**P**	**10 42 09.6**	**+0.7**
	comp=Z,12nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**45.67**	**124**	*e*P	**P**	**10 42 09.6**	**+0.6**
ASPA	**Alice Springs**	**47.14**	**128**	*e*P	**P**	**10 42 21.2**	**+0.7**
ASAR	**Alice Springs**	**47.14**	**128**	P	**P**	**10 42 20.8**	**+0.2**
	comp=Z,2.6nm,0.4s,mb4.5,baz=300,slow=7.9,SNR=70						
ASAR				pP	pP	10 42 33.7	+1.0
	comp=Z,2.5nm,0.6s,baz=303,slow=8.1,SNR=12						
KURK	**Kurchatov**	**48.05**	**346**	*i* P	**P**	**10 42 27.3**	**-0.1**
KURK	**Kurchatov**	**48.05**	**346**	*e*P	**P**	**10 42 26.7**	**-0.7**
	comp=Z,12nm,0.7s,mb5.0						
HIA	**Hailar**	**49.29**	**21**	*e*P	**P**	**10 42 35.9**	**-1.0**
	comp=Z,7.0nm,0.7s,mb4.8						
NVS	**Novosibirsk**	**51.07**	**351**	*e*P	**P**	**10 42 46.3**	**-4.1**
BRVK	**Borovoye**	**52.49**	**341**	*e*P	**P**	**10 43 00.0**	**-1.1**
BRVK				*e*	pP	10 43 14.2	+0.8
BRVK				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
BRVK	**Borovoye**	**52.49**	**341**	*e*P	**P**	**10 42 60.0**	**-1.1**
	comp=Z,14nm,0.6s,mb5.1						
BRVK				*e*	pP	10 43 14.2	+0.8
CHKZ	**Chkalovo**	**52.91**	**342**	*e*P	**

KII **Karymskiy** **1.13 198** *i* P Pb 10 46 45.0 +0.7
KII *e*S Sb 10 47 01.1 +1.9
KRSR Krestovskiy **1.15 15** *e*P Pb 10 46 45.5 +0.8
KRSR *e*S Sb 10 47 02.0 +2.3
SRDR Sredinnyy **1.22 352** *i* P Pb 10 46 45.8 -0.1
SRDR *e*S Sb 10 47 02.7 +0.8
KLY Klyuchi **1.25 16** *i* P Pb 10 46 48.0 +1.5
KLY *e*S Sb 10 47 05.9 +3.1
SVLR Shiveluch **1.61 24** *i* P Pn 10 46 53.4 +1.4
SVLR *e*S Sb 10 47 15.6 +2.4
GNL Ganaly **1.88 222** *i* P Pn 10 46 56.6 +0.9
GNL *e*S Sn 10 47 21.8 +1.7
KBG Krutoberegovo **1.90 52** *e*P Pn 10 46 56.0 -0.1
KBG *e*S Sn 10 47 20.5 -0.1
KBG Smax
380nm,1.0s
KBTR Krutoberegovo **1.92 54** *e*P Pn 10 46 55.8 -0.6
KBTR *e*S Sn 10 47 19.9 -1.3
SDLR Sedlovina **1.96 201** *i* P Pn 10 46 58.1 +1.2
SDLR *e*S Sn 10 47 24.4 +2.3
NLC Nalytchevo **1.98 192** *i* P Pn 10 46 57.9 +0.6
NLC *e*S Sn 10 47 23.6 +0.7
SMAR Somma **1.99 202** *i* P Pn 10 46 58.7 +1.3
SMAR *e*S Sn 10 47 24.7 +1.8
KOK Koryaka **2.00 205** *i* P Pn 10 46 58.7 +1.2
KOK *e*S Sn 10 47 25.1 +1.9
AVH Avacha **2.00 203** *i* P Pn 10 46 58.9 +1.3
AVH *e*S Sn 10 47 25.6 +2.3
SPN Mys Shipunski **2.02 180** *i* P Pn 10 46 57.0 -0.8
SPN *e*S Sn 10 47 21.7 -1.9
UGLR Uglovaya **2.04 201** *i* P Pn 10 46 59.1 +1.1
UGLR *e*S Sn 10 47 25.9 +1.8
PET Petropavlovsk **2.25 202** *i* P Pn 10 47 01.7 +0.7
PET *e*S Sn 10 47 29.6 +0.1
APC Apacha **2.77 219** *e*P Pn 10 47 09.0 +0.4
APC *e*S Sn 10 47 42.6 -0.2
GRL Gorelyy **2.82 205** *e*P Pn 10 47 10.7 +1.5
GRL *e*S Sn 10 47 45.6 +1.6
RUS Russkaya **2.83 199** *e*P Pn 10 47 10.3 +0.9
RUS *e*S Sn 10 47 44.7 +0.4

NEIC 20 10:46:28.8,63.02N×151.45W,h9km,ML3.5(PMR), ML3.1(AEIC),After AEIC.,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.59**	**24**	P	Pg	10 46 40.4	-0.3
KTH				S	Sg	10 46 48.3	-0.3
TRF	**Thorofare Moun**	**0.69**	**50**	P	Pb	10 46 41.8	-0.6
TRF				S	Sg	10 46 51.6	-0.1
CUT	**Chulitna**	**0.82**	**138**	P	Pb	10 46 44.5	-0.3
HUR	**Hurricane**	**0.83**	**92**	P	Pb	10 46 44.4	-0.5
RND	**Reindeer**	**1.24**	**70**	P	Pb	10 46 51.7	-0.3
MCK	**McKinley**	**1.34**	**56**	P	Pb	10 46 53.6	-0.1
MCK				S	Sb	10 47 11.6	+0.7
BWN	**Browne**	**1.46**	**37**	P	Pn	10 46 55.5	-0.1
STLK	**Strandline Lak**	**1.53**	**187**	P	Pn	10 46 55.8	-0.7
PWA	**Palmer West**	**1.55**	**151**	P	Pn	10 46 56.5	-0.3
GHO	**Glory Hole Cre**	**1.71**	**136**	P	Pn	10 46 58.8	-0.4
PMR	**Palmer**	**1.79**	**142**	P	Pn	10 46 59.9	-0.4
CKN	**Chakachatna No**	**1.83**	**191**	P	Pn	10 47 00.9	+0.1
SML	**Sawmill**	**1.89**	**128**	P	Pn	10 47 01.2	-0.5
FIB	**Fire Island**	**1.95**	**162**	P	Pn	10 47 03.2	+0.8
MLY	**Manley**	**2.05**	**8**	P	Pn	10 47 03.1	-0.8
TT01	**Tatalina**	**2.09**	**269**	P	Pn	10 47 03.2	-1.3
RC01	**Rabbit Creek A**	**2.09**	**157**	P	Pn	10 47 03.9	-0.6
SCM	**Sheep Creek Mo**	**2.25**	**120**	P	Pn	10 47 06.0	-0.9
CCB	**Clear Creek Bu**	**2.30**	**43**	P	Pn	10 47 06.1	-1.4
COLA	**College**	**2.45**	**39**	P	Pn	10 47 08.2	-1.4
THY	**Trims Highway**	**2.61**	**79**	*e*P	Pn	10 47 11.7	-0.3
IL1	**Eielson Array**	**2.68**	**47**	P	Pn	10 47 11.3	-1.6
PAX	**Paxson**	**2.73**	**88**	P	Pn	10 47 12.6	-1.1
IM3	**Indian Mountai**	**3.14**	**343**	P	Pn	10 47 18.6	-0.9
IMA	**Indian Mountai**	**3.21**	**344**	*e*P	Pn	10 47 20.2	-0.3
DIV	**Divide**	**3.27**	**123**	P	Pn	10 47 21.1	-0.3
DOT	**Dot Lake**	**3.39**	**76**	P	Pn	10 47 23.6	+0.6
CNPM	**China Poot**	**3.50**	**178**	P	Pn	10 47 24.8	+0.1
HIN	**Hinchinbrook I**	**3.53**	**136**	P	Pn	10 47 24.8	-0.2
EYAK	**Cordova Ski Ar**	**3.67**	**130**	P	Pn	10 47 27.1	+0.1
GLB	**Gilahina Butte**	**3.91**	**110**	P	Pn	10 47 30.2	-0.2
COLD	**Coldfoot**	**4.26**	**7**	P	Pn	10 47 34.4	-1.1
BCA3	**Beaver Creek A**	**4.40**	**85**	P	Pn	10 47 37.0	-0.4
KAHC	**Katmai Hardscr**	**4.71**	**203**	P	Pn	10 47 41.0	-0.8
BALM	**Baldy**	**4.72**	**111**	P	Pn	10 47 41.5	-0.6
BM3	**Burnt Mountain**	**5.27**	**30**	P	Pn	10 47 47.0	-2.8
DAWY	**Dawson**	**5.50**	**74**	P	Pn	10 47 51.0	-1.9
ANM	**Nome**	**6.36**	**290**	P	Pn	10 48 03.1	-2.0
TNA	**Tin City**	**7.60**	**297**	P	Pn	10 48 20.5	-2.0

*IDC **20** 10:48:26.8±0.7, 8.02N×93.95E, mb3.9/12, mb1 4.1/13, mb1mx4.0/19, mbtmp4.0/13, ML4.2/1, MS4.0/4, Ms1 4.1/4, ms1mx3.6/15, Error ellipse: s-maj=28.8km s-min=18.1km az=46.0*
*BJI **10** 10:48:30.3, 8.10N×94.05E, h24km, mb4.7, Ms4.4, Msz3.9*
*NEIC **20** 10:48:31.3±0.6, 7.95N×94.08E, h30km, mb4.7/17, Error ellipse: s-maj=13.8km s-min=12.0km az=46.0*
ISC 20 10:48:32.5±1.5,8.14N±0.07×94.11E±0.07,h44km±14km, n52,σ1§31/49,mb4.4/32,MS4.1/3,2C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.52**	**98**	P	**P**	**10 50 09.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**11.28**	**24**	Pn	**P**	**10 51 12.4**	**-1.6**
	0.4nm,0.3s,baz=212,slow=14,SNR=29						
CMAR				LR	LR	10 56 17.9	
	comp=Z,338nm,19.1s,baz=220,slow=41						
CHG	**Chiang Mai**	**11.60**	**23**	⇑P	**P**	**10 51 17.9**	**-0.5**
	11nm,0.8s						
PALK	**Pallekele**	**13.32**	**267**	P	**P**	**10 51 41.4**	**+0.1**
SHL	**Shillong**	**17.46**	**353**	*e*PG	**P**	**10 52 33.5**	**-1.0**
HYB	**Hyderabad**	**17.74**	**303**	*e*P	**P**	**10 52 47.0**	**+8.9**
HYB	**Hyderabad**	**17.74**	**303**	*i* P	**P**	**10 52 38.5**	**+0.4**
QIZ	**Qiongzhong**	**18.72**	**53**	P	**P**	**10 52 46.4**	**-3.7**
	39nm,1.1s						
JIRN	**Jiri**	**20.81**	**340**	*e*P	**P**	**10 53 12.8**	**+0.1**
	100nm,1.1s						
PKI	**Pulchoki**	**21.01**	**338**	*e*P	**P**	**10 53 15.5**	**+0.8**
	108nm,1.2s,mb5.1						
DMN	**Daman**	**21.16**	**337**	*e*P	**P**	**10 53 16.5**	**+0.3**
	66nm,1.1s,mb4.9						
LSA	**Lhasa**	**21.63**	**353**	P	**P**	**10 53 22.3**	**+1.4**
LSA	**Lhasa**	**21.63**	**353**	*e*P	**P**	**10 53 22.8**	**+1.9**
	17nm,0.8s,mb4.5						
GKN	**Gorkha**	**21.69**	**337**	*e*P	**P**	**10 53 21.7**	**+0.2**
	46nm,0.7s,mb5.0						
KOLN	**Koldanda**	**21.91**	**334**	*e*P	**P**	**10 53 24.5**	**+0.8**
	112nm,1.3s,mb5.1						
ENH	**Enshi**	**26.31**	**31**	*e*P	**P**	**10 54 05.8**	**-0.3**
	31nm,1.1s,mb4.8						
DDI	**Dehra Dun**	**26.70**	**328**	*e*	**P**	**10 54 11.0**	**+1.2**
XAN	**Xi'an**	**29.17**	**26**	P	**P**	**10 54 31.1**	**-0.9**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
WMQ	**Urumqi**	**35.98**	**352**	P	**P**	**10 55 30.5**	**-0.7**
JOW	**Kunigami**	**37.33**	**56**	LR	LR	11 12 35.5	
	comp=Z,255nm,18.5s,MS4.0,baz=112,slow=39						
BJT	**Baijiatuau**	**37.37**	**28**	*e*P	**P**	**10 55 44.4**	**+1.5**
	comp=Z,8.1nm,0.7s,mb4.7						
AAK	**Ala-Archa**	**38.45**	**337**	*e*P	**P**	**10 55 52.5**	**+0.7**
	comp=Z,8.2nm,1.1s,mb4.4						
MBWA	**Marble Bar**	**38.48**	**140**	P	**P**	**10 55 59.7**	**+7.4**
	comp=Z,26nm,1.3s,mb4.8						
SONM	**Songino Array**	**40.91**	**13**	P	**P**	**10 56 12.4**	**+0.2**
	comp=Z,2.7nm,1.1s,mb3.8,baz=196,slow=9.0,SNR=6.5						
ULN	**Ulaanbaatar**	**41.09**	**13**	*e*P	**P**	**10 56 16.0**	**+2.3**
	comp=Z,1.5nm,0.7s,mb3.7						
KURK	**Kurchatov**	**44.35**	**346**	*e*P	**P**	**10 56 39.3**	**-0.9**
	comp=Z,16nm,1.1s,mb4.7						
NWAO	**Narrogin (SRO)**	**46.39**	**153**	P	**P**	**10 56 59.0**	**+2.3**
	comp=Z,7.3nm,0.9s,mb4.6,baz=360,slow=16,SNR=2.7						
NWAO	**Narrogin (SRO)**	**46.39**	**153**	*e*P	**P**	**10 56 59.3**	**+2.6**
	comp=Z,37nm,1.5s,mb5.1						
WRA	**Warramunga Arr**	**48.44**	**126**	P	**P**	**10 57 11.9**	**-0.9**
	comp=Z,1.6nm,0.9s,mb4.1,baz=303,slow=9.0,SNR=7.0						
WRAB	**Tennant Creek**	**48.44**	**126**	P	**P**	**10 57 09.4**	**-3.4**
	comp=Z,7.6nm,1.0s,mb4.7						
BVAR	**Borovoye Array**	**48.73**	**341**	P	**P**	**10 57 13.2**	**-1.5**
	comp=Z,1.0nm,0.8s,mb3.9,baz=135,slow=8.2,SNR=3.8						
BRVK	**Borovoye**	**48.79**	**341**	*e*P	**P**	**10 57 17.5**	**+2.4**
	comp=Z,11nm,1.4s,mb4.7						
CHKZ	**Chkalovo**	**49.22**	**342**	*e*P	**P**	**10 57 17.6**	**-0.8**
	comp=Z,7.4nm,0.9s,mb4.7						
ASAR	**Alice Springs**	**50.11**	**130**	P	**P**	**10 57 23.9**	**-1.8**
	comp=Z,0.9nm,0.7s,mb3.9,baz=310,slow=7.7,SNR=7.4						
ASAR				PcP	PcP	10 58 43.8	-1.2
	comp=Z,0.6nm,0.8s,baz=307,slow=4.5,SNR=2.7						
ARU	**Arti**	**55.64**	**337**	*e*P	**P**	**10 58 06.4**	**+0.1**
	comp=Z,8.6nm,1.0s,mb4.7						
KMBO	**Kilima Mbogo**	**57.42**	**263**	P	**P**	**10 58 17.6**	**-2.1**
	comp=Z,0.3nm,0.3s,mb3.8,baz=72,slow=16,SNR=2.0						
KMBO				LR	LR	11 19 08.9	
	comp=Z,106nm,19.5s,MS4.0,baz=83,slow=32						
KMBO	**Kilima Mbogo**	**57.42**	**263**	P	**P**	**10 58 17.6**	**-2.1**
KMBO				*e*P		10 58 22.4	
ASF	**Jabal al Asfar**	**58.05**	**303**	P	**P**	**10 58 21.5**	**-2.3**
	comp=Z,1.3nm,0.4s,mb4.3,baz=63,slow=18,SNR=2.8						
MALT	**Malatya**	**58.27**	**310**	P	**P**	**10 58 27.6**	**+2.4**
	comp=Z,2.9nm,1.1s,mb4.2						
BRTR	**Keskin Array B**	**62.24**	**311**	P	**P**	**10 58 50.0**	**-2.3**
	comp=Z,1.2nm,0.8s,mb4.1,baz=104,slow=6.5,SNR=4.2						
MA2	**Magadan**	**66.55**	**28**	*e*P	**P**	**10 59 19.5**	**-0.5**
	comp=Z,9.9nm,1.0s,mb4.8						
FINES	**FINESS Array B**	**72.47**	**332**	P	**P**	**10 59 54.7**	**-1.4**
	comp=Z,1.8nm,0.8s,mb4.0,baz=135,slow=2.0,SNR=3.4						
ARCES	**ARCESS Array B**	**75.01**	**340**	P	**P**	**11 00 10.8**	**0.0**
	comp=Z,2.3nm,0.8s,mb4.2,baz=104,slow=7.4,SNR=3.4						
ARCES				LR	LR	11 36 05.3	
	comp=Z,193nm,19.1s,MS4.4,baz=18,slow=38						
BOSA	**Boshof**	**75.70**	**238**	*e*P	**P**	**11 00 20.1**	**+4.5**
	comp=Z,9.8nm,1.2s,mb4.6						
BILL	**Bilibino**	**75.85**	**22**	P	**P**	**11 00 16.9**	**+1.3**
GERES	**GERESS Array B**	**77.61**	**318**	P	**P**	**11 00 24.9**	**-1.0**
	comp=Z,0.4nm,0.4s,mb3.7,baz=90,slow=5.9,SNR=2.5						
GERES	**GERESS Array B**	**77.61**	**318**	P	**P**	**11 00 24.9**	**-1.0**
KHC	**Kasperske Hory**	**77.70**	**318**	*e*P	**P**	**11 00 27.5**	**+1.1**
NOA	**NORSAR Array B**	**79.49**	**331**	P	**P**	**11 00 35.2**	**-0.8**
	comp=Z,3.0nm,1.1s,mb4.1,baz=97,slow=5.6,SNR=3.1						
LPG	**La Plagne**	**82.41**	**315**	*e*P	**P**	**11 00 55.2**	**+3.6**
	comp=Z,12nm,0.8s,mb4.6						
SYO	**Syowa Base**	**85.65**	**197**	⇑pP	pP	11 01 18.3	-2.2
PDAR	**Pinedale Array**	**124.93**	**21**	PKP	PKPdf	11 07 30.2	+1.9
	comp=Z,0.1nm,0.4s,baz=315,slow=1.3,SNR=2.9						

*NEIC **20** 11:39:02.7, 40.24S×179.60E, h100km, ML3.8(WEL), After WEL.*
WEL 20 11:39:11.3±0.4,39.94S×178.81E,h33km,ML3.5/12,1C, Error ellipse: s-maj=3.2km s-min=2.1km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**1.27**	**316**	P	P	11 39 32.3	-0.4
KNZ	**Kokohu**	**1.27**	**316**	PN	Pn	11 39 32.1	-0.9
KNZ				SN	Sn	11 39 47.5	-1.5
KNZ				SN	Sn	11 39 47.5	-1.5
PWZ	**Pawanui**	**1.50**	**266**	P	P	11 39 35.3	-0.8
PWZ	**Pawanui**	**1.50**	**266**	PN	Pn	11 39 35.2	-1.1
PWZ				SN	Sn	11 39 53.1	-1.7
MWZ	**Matawai**	**1.88**	**328**	P	P	11 39 41.3	-0.4
MWZ	**Matawai**	**1.88**	**328**	⇑PN	Pn	11 39 41.2	-0.6
MWZ				SN	Sn	11 40 02.3	-2.4
PUZ	**Puketiti**	**1.91**	**347**	*e*P	P	11 39 40.5	-1.5
PUZ	**Puketiti**	**1.91**	**347**	PN	Pn	11 39 40.4	-1.8
PUZ				SN	Sn	11 40 02.0	-3.4
BKZ	**Black Stump Fm**	**1.95**	**293**	P	P	11 39 42.6	0.0
BKZ	**Black Stump Fm**	**1.95**	**293**	PN	Pn	11 39 42.6	-0.2
BKZ				SN	Sn	11 40 05.6	-0.7
URZ	**Urewera**	**2.13**	**321**	P	P	11 39 45.0	-0.2
URZ	**Urewera**	**2.13**	**321**	PN	Pn	11 39 44.7	-0.7
URZ				SN	Sn	11 40 08.8	-2.3
TSZ	**Takapari Road**	**2.19**	**266**	PN	Pn	11 39 45.1	-1.1
TSZ				SN	Sn	11 40 08.8	-3.6
MXZ	**Matakaoa Point**	**2.40**	**351**	P	P	11 39 48.2	-0.9
MXZ	**Matakaoa Point**	**2.40**	**351**	PN	Pn	11 39 47.8	-1.5
MXZ				SN	Sn	11 40 15.7	-2.2
MOVZ	**Moawhango**	**2.42**	**282**	P	P	11 39 49.5	+0.2
MOVZ	**Moawhango**	**2.42**	**282**	PN	Pn	11 39 49.4	0.0
TUVZ	**Tukino**	**2.52**	**284**	*e*PN	Pn	11 39 51.4	+0.3
OTVZ	**Oturere**	**2.55**	**287**	PN	Pn	11 39 51.2	-0.1
WNVZ	**Wahianoa**	**2.55**	**283**	P	P	11 39 50.8	-0.4
MRZ	**Mangatainoka R**	**2.57**	**253**	P	P	11 39 49.3	-2.2
MRZ	**Mangatainoka R**	**2.57**	**253**	PN	Pn	11 39 49.2	-2.4
MRZ				SN	Sn	11 40 17.4	-4.7
NGZ	**Ngauruhoe**	**2.59**	**286**	P	P	11 39 52.4	+0.6
NGZ	**Ngauruhoe**	**2.59**	**286**	PN	Pn	11 39 51.9	0.0
FWVZ	**Far West T-bar**	**2.60**	**284**	P	P	11 39 52.2	+0.2
FWVZ	**Far West T-bar**	**2.60**	**284**	PN	Pn	11 39 52.1	0.0
WTVZ	**West Tongariro**	**2.62**	**287**	P	P	11 39 52.6	+0.4
WTVZ	**West Tongariro**	**2.62**	**287**	PN	Pn	11 39 52.3	0.0
CNZ	**Chateau**	**2.62**	**285**	P	P	11 39 52.9	+0.7
CNZ	**Chateau**	**2.62**	**285**	*e*PN	Pn	11 39 52.0	-0.4
WPVZ	**Whakapapa**	**2.62**	**285**	P	P	11 39 53.1	+0.9
WPVZ	**Whakapapa**	**2.62**	**285**	*e*PN	Pn	11 39 52.6	+0.2
MGZ	**Maungaku**	**2.69**	**289**	*e*PN	Pn	11 39 52.9	-0.5
TWVZ	**Taurewa**	**2.75**	**287**	*e*PN	Pn	11 39 53.6	-0.5
WAZ	**Wanganui**	**2.95**	**272**	PN	Pn	11 39 57.6	+0.6
CAW	**Cannon Point**	**3.08**	**246**	P	P	11 39 55.7	-3.0
CAW	**Cannon Point**	**3.08**	**246**	*e*PN	Pn	11 39 55.5	-3.2
CAW				SN	Sn	11 40 29.1	-5.8
NNZ	**Nelson**	**4.33**	**251**	*e*PN	Pn	11 40 13.2	-3.4
THZ	**Tophouse**	**4.83**	**246**	*e*PN	Pn	11 40 18.9	-4.8
THZ				SN	Sn	11 41 11.0	-8.3
QRZ	**Quartz Range**	**4.87**	**257**	*e*P	P	11 40 20.8	-3.4
QRZ	**Quartz Range**	**4.87**	**257**	*e*PN	Pn	11 40 20.7	-3.7
MQZ	**McQueen's Vall**	**5.94**	**229**	SN	Sn	11 41 35.6	-11

*CASC **20** 11:53:45.1±2.0, 13.63N×91.07W, h30km±19km, MD4.3, ML3.8, mb4.0(NEIC)*
*IDC **20** 11:53:46.6±6.2, 13.82N×90.64W, h60km±50km, mb3.9/9, mb1 4.2/10, mb1mx3.9/20, mbtmp4.2/10, ML4.5/1, MS4.0/3, Ms1 4.0/3, ms1mx2.9/23, Error ellipse: s-maj=46.3km s-min=20.0km az=31.0*
*NEIC **20** 11:53:46.0±1.2, 13.63N×90.85W, h62km±10km, mb4.4/30, Error ellipse: s-maj=12.6km s-min=8.5km az=221.0*
ISC 20 11:53:45.3±0.7,13.63N±0.07×91.01W±0.05,h70km±4km, n91,σ1§08/90,mb4.3/29,12C-6D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.82**	**11**	⇓*e*P	**P**	**11 54 00.8**	**-1.0**
PCG	**Pacaya**	**0.85**	**27**	⇓*e*P	**P**	**11 54 01.6**	**-0.5**
JAT	**Jato**	**0.92**	**318**	⇓*e*P	**P**	**11 53 59.7**	**-3.2**
JAT				*e*S	**S**	**11 54 14.7**	**-1.4**
NBG	**Las Nubes**	**1.14**	**34**	⇑*e*P	**P**	**11 54 06.9**	**+1.0**
RTR	**El Retiro**	**1.35**	**79**	⇑*e*P	**P**	**11 54 08.8**	**0.0**
SBLS	**San Blas**	**1.36**	**81**	⇑*e*P	**P**	**11 54 08.6**	**-0.3**
RBDL	**Robledal**	**1.37**	**69**	⇑*e*P	**P**	**11 54 09.4**	**+0.4**
SNJE	**San Jose**	**1.38**	**80**	⇑*e*P	**P**	**11 54 09.0**	**-0.2**
BOQS	**Boqueron**	**1.68**	**86**	⇑*e*P	**P**	**11 54 13.3**	**+0.1**
MTO2	**Montecristo 2**	**1.77**	**64**	⇓*e*P	**P**	**11 54 15.6**	**+1.2**
LFU	**La Fuente**	**1.84**	**86**	⇑*e*P	**P**	**11 54 16.5**	**+1.1**
LFRS	**El Faro**	**1.89**	**90**	⇓*e*P	**P**	**11 54 16.6**	**+0.6**
LBRS	**Las Brisas**	**1.91**	**87**	⇑*e*P	**P**	**11 54 16.9**	**+0.5**
LCBS	**La Ceiba**	**1.97**	**89**	⇑*e*P	**P**	**11 54 17.8**	**+0.6**
SNVI	**San Vicente**	**2.11**	**90**	⇑*e*P	**P**	**11 54 20.1**	**+1.1**
SNVI				*e*S	**S**	**11 54 42.5**	**-1.5**
BLLM	**Bellamira**	**2.70**	**94**	⇑*e*P	**P**	**11 54 27.8**	**+0.4**
BLLM				*e*S	**S**	**11 54 57.5**	**-1.5**
CAHU	**Cacacuatique**	**2.72**	**87**	⇓*e*P	**P**	**11 54 28.1**	**+0.4**
CCIG	**Comitan**	**2.85**	**338**	*i* P	**P**	**11 54 29.2**	**-0.3**
CCIG				*i* S	**S**	**11 54 57.7**	**-5.1**
CNCH	**Conchagua**	**3.11**	**96**	⇑*e*P	**P**	**11 54 33.2**	**+0.1**
SCX	**San Cristobal**	**3.46**	**333**	*e*P	**P**	**11 54 39.0**	**+0.9**
TEL3	**Telica 3**	**4.19**	**104**	*e*P	**P**	**11 54 48.0**	**-0.2**
TELN	**Telica**	**4.19**	**104**	*e*P	**P**	**11 54 47.8**	**-0.6**
CNGN	**Cerro Negro**	**4.34**	**105**	*e*P	**P**	**11 54 50.7**	**+0.3**
CNGN				*e*S	**S**	**11 55 41.7**	**+1.5**
MOMJ	**Momotombo**	**4.52**	**105**	*e*P	**P**	**11 54 52.4**	**-0.5**
COPN	**Copaltepe**	**4.54**	**108**	*e*P	**P**	**11 54 53.4**	**+0.3**
MGAN	**Managua**	**4.87**	**107**	*i*	**S**	**11 55 58.9**	**+5.6**
	comp=N,198nm,0.6s						
EVV	**El Vigia**	**6.36**	**320**	*e*P	**P**	**11 55 25.5**	**+7.1**
OXX	**Oaxaca**	**6.49**	**303**	*e*P	**P**	**11 55 19.0**	**-1.3**
JTS	**JuntasAbangare**	**6.79**	**119**	*e*S	**S**	**11 56 41.0**	**+0.1**
TEIG	**Tepich**	**7.06**	**21**	*e*P	**P**	**11 55 28.9**	**+0.8**
TEIG				*e*		11 55 37.5	
JCT	**Junction City**	**18.63**	**336**	*e*P	**P**	**11 57 59.8**	**0.0**
	comp=N,9.2nm,0.7s						
TXAR	**Lajitas Array**	**19.54**	**325**	P	**P**	**11 58 10.4**	**+0.5**
	comp=N,0.3nm,0.3s,baz=155,slow=12,SNR=106						
TXAR				PcP	PcP	12 02 28.2	+0.6
	comp=N,0.1nm,0.3s,baz=162,slow=4.0,SNR=4.0						
LRAL	**Lakeview Retre**	**19.66**	**10**	P	**P**	**11 58 12.2**	**+1.1**
	comp=N,25nm,1.0s						
SDV	**Santo Domingo**	**20.52**	**101**	P	**P**	**11 58 16.7**	**-3.6**
	comp=N,5.6nm,0.7s,baz=283,slow=5.6,SNR=7.0						
SDV	**Santo Domingo**	**20.52**	**101**	*e*P	**P**	**11 58 17.3**	**-3.0**
	comp=N,7.9nm,0.8s						
OXF	**Oxford**	**20.84**	**4**	P	**P**	**11 58 21.6**	**-1.8**
	comp=N,22nm,0.9s						
GOGA	**Godfrey**	**20.85**	**18**	P	**P**	**11 58 25.4**	**+1.9**
	comp=N,43nm,1.7s						
GOGA				*e*		11 58 36.2	
MIAR	**Mount Ida**	**20.95**	**354**	*e*P	**P**	**11 58 23.7**	**-0.8**
	comp=N,17nm,1.2s						
UALR	**University of**	**21.08**	**357**	*e*P	**P**	**11 58 24.9**	**-1.0**
	comp=N,15nm,0.7s,mb4.4						
WMOK	**Wichita Mounta**	**22.16**	**343**	*e*P	**P**	**11 58 36.3**	**-0.3**
	comp=N,13nm,1.2s,mb4.1						
MYNC	**Murphy**	**22.23**	**15**	*e*P	**P**	**11 58 38.5**	**+1.2**
	comp=N,19nm,0.8s,mb4.5						
MYNC				*e*		11 58 56.6	
MNTX	**Cornudas Mount**	**22.30**	**326**	*e*P	**P**	**11 58 37.6**	**-0.3**
	comp=N,35nm,1.0s,mb4.6						
WVT	**Waverly**	**22.58**	**7**	P	**P**	**11 58 41.0**	**+0.3**
	comp=N,16nm,1.0s,mb4.3						
WVT				*e*		11 58 51.9	
AMTX	**Amarillo**	**23.25**	**337**	*e*P	**P**	**11 58 47.5**	**+0.3**
	comp=N,17nm,0.9s,mb4.4						
CCM	**Cathedral Cave**	**24.32**	**360**	*e*P	**P**	**11 58 57.1**	**-0.5**
	comp=N,13nm,0.8s,mb4.3						
WCI	**Wyandotte Cave**	**24.85**	**9**	*e*P	**P**	**11 59 02.2**	**-0.5**
	comp=N,10.0nm,0.6s,mb4.4						
WCI				*e*		11 59 25.4	
ANMO	**Albuquerque**	**25.41**	**329**	P	**P**	**11 59 09.1**	**+1.1**
	comp=N,2.4nm,0.7s,mb3.8,baz=150,slow=12,SNR=18						
ANMO	**Albuquerque**	**25.41**	**329**	*e*P	**P**	**11 59 08.4**	**+0.4**
	comp=N,3.1nm,0.8s,mb3.8						
KSU1	**Kansas State U**	**25.85**	**350**	*e*P	**P**	**11 59 13.9**	**+1.9**
TUC	**Tucson**	**25.94**	**319**	*e*P	**P**	**11 59 13.2**	**+0.2**
	comp=N,3.5nm,0.8s,mb3.8						
ACSO	**Alum Creek Sta**	**27.42**	**13**	P	**P**	**11 59 25.1**	**-1.3**
	comp=N,38nm,1.8s,mb4.6						
PV01	**Paradox Valley**	**29.96**	**331**	*e*P	**P**	**11 59 43.1**	**+2.8**
PV10	**Paradox Valley**	**29.38**	**330**	*e*P	**P**	**11 59 44.2**	**+0.2**
NEN	**Nelson**	**30.67**	**320**	*e*P	**P**	**11 59 56.2**	**+0.7**
MSU	**Marysvale**	**31.08**	**327**	*e*P	**P**	**12 00 00.3**	**+1.2**
MVU	**Marysvale**	**31.09**	**327**	*e*P	**P**	**12 00 00.9**	**+1.7**
	comp=N,4.8nm,1.0s,mb4.2						
ARUT	**Antelope Range**	**31.26**	**324**	*e*P	**P**	**12 00 03.1**	**+2.4**
DAU	**Daniels Canyon**	**32.04**	**330**	*e*P	**P**	**12 00 07.9**	**+0.4**
RSSD	**Black Hills**	**32.37**	**342**	P	**P**	**12 00 08.4**	**-1.8**
	comp=N,0.4nm,1.4s						
PDAR	**Pinedale Array**	**33.16**	**335**	P	**P**	**12 00 17.6**	**+0.5**
	comp=N,0.5nm,0.6s,mb3.5,baz=134,slow=8.1,SNR=5.4						
PDAR				PcP	PcP	12 02 58.7	-0.1
	comp=N,0.6nm,0.6s,baz=150,slow=5.5,SNR=5.9						
SNOW	**Snow King Moun**	**34.23**	**334**	*e*P	**P**	**12 00 27.0**	**+0.6**
NVAR	**Mina Array Bea**	**34.56**	**321**	P	**P**	**12 00 30.8**	**+1.6

MQZ	McQueen's Vall	4.35	72	*e*PN	Pn	12 06 54.3	-3.4
DSZ	Denniston Nort	4.92	48	*e*PN	Pn	12 07 01.1	-4.7
THZ	Tophouse	5.52	54	*e*PN	Pn	12 07 09.9	-4.3
QRZ	Quartz Range	5.97	45	*e*PN	Pn	12 07 15.5	-5.0
NNZ	Nelson	6.15	52	*e*PN	Pn	12 07 21.8	-1.3

IDC 20 12:07:06.7±2.1, 1.84S×148.02E, mb3.2/3, mb1 3.5/3, mb1mx3.4/10, mbtmp3.2/3, MS2.7/2, Ms1 2.7/2, ms1mx2.5/13, Error ellipse: s-maj=338.4km s-min=34.3km az=122.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	18.21	185	LR	LR	12 18 19.8	
comp=Z,89nm,18.5s,baz=45,slow=37							
WRA	Warramunga Arr	22.41	216	P	P	12 12 06.8	-1.7
0.3nm,0.5s,baz=38,slow=11,SNR=8.7							
ASAR	Alice Springs	25.64	211	P	P	12 12 38.6	-1.3
0.3nm,0.8s,baz=42,slow=8.7,SNR=4.8							
NWAO	Narrogin (SRO)	42.31	220	LR	LR	12 32 38.0	
comp=Z,24nm,19.5s,baz=225,slow=36							
YKA	Yellowknife Ar	95.04	28	P	P	12 20 31.1	-1.3
0.2nm,0.9s,baz=263,slow=3.7,SNR=3.7							

IDC 20 12:10:15.1±1.6, 43.13S×82.75W, mb4.3/5, mb1 4.5/6, mb1mx4.3/12, mbtmp4.2/6, ML3.6/1, MS3.7/7, Ms1 3.7/7, ms1mx3.4/16, Error ellipse: s-maj=51.8km s-min=30.1km az=10.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	9.40	79	Pn	P	12 12 32.5	-2.4
0.1nm,0.3s,baz=247,slow=14,SNR=6.2							
PLCA				LR	LR	12 15 38.7	
comp=Z,532nm,19.2s,baz=194,slow=34							
USHA	Ushuaia	14.97	146	LR	LR	12 18 43.1	
comp=Z,103nm,19.6s,baz=348,slow=34							
LVC	Limon Verde	23.47	34	LR	LR	12 22 25.1	
comp=Z,95nm,21.3s,baz=236,slow=31							
CPUP	Villa Florida	26.63	59	P	P	12 15 55.5	-1.7
0.0nm,0.3s,baz=231,slow=15,SNR=2.1							
LPAZ	La Paz	29.52	29	LR	LR	12 26 05.1	
comp=Z,41nm,20.2s,baz=285,slow=32							
BDFB	Brasilia	40.35	58	LR	LR	12 35 06.0	
comp=Z,197nm,18.1s,baz=241,slow=37							
SDV	Santo Domingo	52.93	15	P	P	12 19 32.9	-2.6
2.5nm,0.7s,baz=256,slow=15,SNR=3.6							
TXAR	Lajitas Array	74.63	341	P	P	12 21 56.0	-1.9
1.3nm,0.9s,baz=165,slow=8.7,SNR=13							
DBIC	Dimbokro	85.76	77	P	P	12 22 56.5	-1.1
3.2nm,1.0s,baz=137,slow=9.7,SNR=3.8							
DBIC				LR	LR	12 58 50.6	
comp=Z,56nm,19.3s,baz=292,slow=34							
NVAR	Mina Array Bea	87.36	333	P	P	12 23 04.8	-0.1
2.1nm,0.9s,baz=136,slow=6.6,SNR=12							
PDAR	Pinedale Array	88.84	341	P	P	12 23 10.3	-1.6
3.4nm,1.3s,baz=162,slow=4.7,SNR=5.8							
STKA	Stephens Creek	95.02	217	LR	LR	12 59 19.6	
comp=Z,363nm,21.6s,baz=207,slow=31							
GERES	GERESS Array B	124.45	53	PKP	PKPdf	12 29 14.9	-2.8
1.3nm,0.8s,baz=225,slow=1.9,SNR=4.3							
BRTR	Keskin Array B	133.20	71	PKP	PKPdf	12 29 31.3	-3.2
0.5nm,0.6s,baz=160,slow=3.2,SNR=5.7							
POO	Poona	148.50	134	*e*	PKPdf	12 30 03.5	+1.4
CMAR	Chiang Mai Arr	155.36	184	PKP	PKPdf	12 30 10.4	-1.6
0.4nm,0.5s,baz=221,slow=2.1,SNR=5.0							

*UPP **20** 12:19:52.0, 56.34N×23.35E, ML3.0, Mining explosion.*
*HEL **20** 12:19:53.5±0.2, 56.31N×22.95E, ML2.1, ML3.0(UPP), ML2.7(NAO), Explosion*
*BER **20** 12:19:55.1±4.4, 56.36N×22.87E, ML2.7(NAO), Suspected explosion*
*CSEM **20** 12:19:55.7±0.4, 56.63N×23.00E, h2km, ML2.1, Error ellipse: s-maj=8.0km s-min=3.4km az=154.0*
*NAO **20** 12:19:56.8±6.2, 56.56N×22.74E, ML2.7*

ISC 20 12:19:55.7±1.5, 56.64N±0.08×22.9E±0.1, n26, σ0§87/41, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOTU	Gotland	2.56	296	*e*P	Pn	12 20 40.5	+1.3
GOTU				*e*S	Sn	12 21 17.3	+5.9
GOTU	Gotland	2.56	296	P	Pn	12 20 40.4	+1.3
BYXU	Byxelkrok	3.27	284	*e*P	Pn	12 20 49.1	-0.2
NYNU	Nyneshamn	3.52	314	*e*P	Pn	12 20 53.3	+0.6
NRTU	Norrtaelje	3.78	325	*e*P	Pn	12 20 57.1	+0.6
NRTU				*e*S	Sn	12 21 43.4	+1.0
PVF	Pernaja	4.22	21	*e*P	Pn	12 21 03.6	+0.8
PVF				*e*S	Sn	12 21 54.3	+0.8
PVF				MSG		12 22 16.5	
comp=Z,3.6nm,0.2s							
PVF	Pernaja	4.22	21	P	Pn	12 21 03.5	+0.7
PVF				S	Sn	12 21 54.3	+0.8
comp=Z,3.6nm,0.2s							
ESKU	Eskilstuna	4.32	310	*e*P	Pn	12 21 04.0	-0.1
FLYU	Flymyra	4.37	325	*e*P	Pn	12 21 05.2	+0.3
BACU	Backbrunna	4.43	319	*e*P	Pn	12 21 06.0	+0.3
VJF	Virojoki	4.62	30	*e*SG	Sg	12 22 23.3	-6.2
FIA0	FINESS Array S	5.10	18	Pn	Pn	12 21 14.4	-0.7
baz=184,slow=12							
FIA0				Sn	Sn	12 22 15.6	-0.1
baz=196,slow=22							
FIA0				Lg		12 22 39.7	
baz=209,slow=37							
FIA0	FINESS Array S	5.10	18	*e*P	Pn	12 21 14.9	-0.3
FIA0				*e*S	Sn	12 22 15.3	-0.3
FIA0				MSG		12 22 41.8	
comp=Z,2.2nm,0.3s							
FIA0	FINESS Array S	5.10	18	Pn	Pn	12 21 14.4	-0.8
SNR=50							
FIA0	FINESS Array S	5.10	18	P	Pn	12 21 14.9	-0.3
FIA0				S	Sn	12 22 15.3	-0.4
comp=Z,2.2nm,0.3s							
KEF	Keuruu	5.64	10	*e*P	Pn	12 21 22.8	0.0
KEF				*e*S	Sn	12 22 28.9	-0.4
KEF				MSG		12 23 11.3	
comp=Z,1.0nm,0.2s							
KEF	Keuruu	5.64	10	P	Pn	12 21 22.8	0.0
KEF				S	Sn	12 22 28.9	-0.4
comp=Z,1.0nm,0.2s							
KAF	Kangasniemi	5.77	16	*e*P	Pn	12 21 24.0	-0.7
KAF				*e*S	Sn	12 22 31.4	-1.1
KAF				MSG		12 23 03.5	
comp=Z,1.0nm,0.2s							
KAF	Kangasniemi	5.77	16	P	Pn	12 21 23.9	-0.7
KAF				S	Sn	12 22 31.3	-1.2
comp=Z,1.0nm,0.2s							
HFS	Hagfors	5.96	310	Pn	Pn	12 21 25.5	-1.8
baz=131,slow=14							
HFS				Sn	Sn	12 22 35.2	-2.1
baz=115,slow=28							
HFS				Lg		12 23 02.3	
baz=125,slow=28							
HFS	Hagfors	5.96	310	*e*P	Pn	12 21 25.5	-1.8
HFS				*e*S	Sn	12 22 35.2	-2.1
HFS				*e*SG	Sg	12 23 02.3	-12
HFS	Hagfors	5.96	310	Pn	Pn	12 21 25.5	-1.8
SNR=50							
HFS				S	Sn	12 22 35.1	-2.1
SUF	Sumiainen	6.32	14	*e*S	Sn	12 22 46.2	-0.2
VAF	Ylistaro	6.42	359	*e*S	Sn	12 22 50.1	+1.2
VAF				MSG		12 23 24.5	
comp=Z,2.2nm,0.2s							
ARA0	ARCESS Array S	13.00	4	Pn	P	12 22 58.4	-5.8
baz=191,slow=11							
ARA0	ARCESS Array S	13.00	4	*e*P	P	12 22 58.4	-5.8

*NEIC **20** 12:53:59.0, 35.08S×70.59W, h3km, ML2.6(GUC), After GUC.*

GUC 20 12:53:59.0±0.8, 35.08S×70.59W, h3km, MD3.7, ML2.6, 4C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.53	278	*i* S	Sg	12 54 16.4	-0.4
SFDO	San Fernando	0.58	323	⇓*i*P	Pg	12 54 10.5	-0.2
SFDO				*i* S	Sg	12 54 19.6	+1.1
CICH	Cipreses	0.77	10	⇓*i*P	Pg	12 54 13.3	-1.1
CICH				*i* S	Sg	12 54 24.4	-0.4
CACH	El Canelo	0.96	359	⇑*i*P	Pb	12 54 16.6	-1.4
CACH				*i* S	Sb	12 54 31.0	+0.1
CHCH	Chadas Angostu	1.15	357	⇑*i*P	Pb	12 54 20.1	-1.0
CHCH				*i* S	Sb	12 54 36.7	+0.4
LMEL	Las Melosas	1.27	15	⇓*i*P	Pb	12 54 22.1	-1.1
LMEL				*i* S	Sb	12 54 40.0	+0.1
LMEL				AMP		12 54 40.6	
comp=N,182nm,0.2s							
LNV	Longovilo	1.31	329	⇓*i*P	Pb	12 54 22.9	-1.1
LNV				*i* S	Sb	12 54 41.4	+0.3
TACH	Talagante	1.45	348	⇑*i*P	Pn	12 54 25.4	-0.9
TACH				*i* S	Sb	12 54 43.8	-1.4
PCH	Pirque	1.46	2	⇓*i*P	Pn	12 54 25.5	-0.8
PCH				*i* S	Sb	12 54 46.2	+0.9
RCDM	Rinconada Maip	1.60	353	*e*P	Pn	12 54 27.9	-0.5
RCDM				*i* S	Sb	12 54 49.6	+0.2
RCDM				AMP		12 54 56.7	
comp=E,250nm,0.1s							
FCH	Farellones	1.77	8	⇓*i*P	Pn	12 54 31.0	+0.2
FCH				*i* S	Sn	12 54 55.5	+1.5
FCH				AMP		12 55 05.1	
comp=N,83nm,0.2s							
LCCH	Las Cruces	1.80	333	⇑*i*P	Pn	12 54 30.9	-0.3
LCCH				*i* S	Sn	12 54 54.8	0.0
ROCH	El Roble	2.13	350	*i* P	Pn	12 54 36.8	+0.8
JACH	Jahuel	2.39	360	*e*P	Pn	12 54 40.5	+0.8

*IDC **20** 13:14:23.4±3.6, 22.02N×121.29E, h33km±27km, mb4.0/12, mb1 4.2/13, mb1mx4.0/22, mbtmp4.2/13, ML3.7/1, MS3.8/4, Ms1 3.9/4, ms1mx3.3/20, Error ellipse: s-maj=25.1km s-min=13.9km az=64.0*
*TAP **20** 13:14:23.4, 22.15N×121.04E, h27km, ML4.8*
TAP Felt II J at Tawa, II J, I J at Hengchun, II J at Hengchun, I J at Fangliau, II J at Taimali, II J at Lanyu, I J at Sandimen, II J at Chenggung.
*NEIC **20** 13:14:23.1±2.7, 22.03N×121.30E, h32km±20km, mb4.4/21, ML4.9(TAP), Error ellipse: s-maj=8.5km s-min=5.2km az=67.0*
NEIC Recorded [2 TAP] in P'ing-tung and T'ai-tung Counties.
*JMA **20** 13:14:25.2±0.3, 22.20N×121.23E, h79km*
*BJI **20** 13:14:28.8, 22.68N×120.74E, h32km, mB4.6, mb4.1, ML4.1, Ms3.9, Msz3.6*
*MAN **20** 13:14:43.0, 20.41N×121.48E, h1km, mb5.1, ML4.1, MS4.2*

ISC 20 13:14:21.5±0.4, 22.08N±0.01×121.20E±0.02, h27km±2km, n130, σ1§08/176, mb4.3/30, MS3.8/4, 6C-8D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.32	97	⇑*i*P	Pb	13 14 32.9	+3.8
TWK1	Hengchun	0.39	250	⇑*i*P	Pb	13 14 30.6	+0.5
TWK1				S	Sb	13 14 35.8	-0.2
TAW	Tawu	0.40	314	⇓*i*P	Pb	13 14 29.9	-0.2
TAW				S	Sb	13 14 34.6	-1.5
HEN	Hengchun	0.44	261	⇑*i*P	Pb	13 14 31.1	+0.3
HEN				S	Sb	13 14 36.6	-0.5
EAST	Anshuo	0.45	313	⇓*i*P	Pb	13 14 30.6	-0.3
EAST				S	Sb	13 14 35.6	-1.7
ECL	Taimali	0.56	336	⇓*i*P	Pb	13 14 32.2	-0.6
ECL				S	Sb	13 14 38.4	-2.2
SCZT	Fangliau	0.61	298	⇓*i*P	Pb	13 14 33.2	-0.4
SCZT				S	Sb	13 14 39.5	-2.5
TTN	Taitung	0.67	356	*e*P	Pb	13 14 35.5	+0.9
TTN				S	Sb	13 14 43.5	-0.1
TWG	Pinlang	0.75	351	⇓*i*P	Pb	13 14 35.1	-0.8
TWP	Hsiaoliuchiu	0.82	289	⇑*i*P	Pb	13 14 38.6	+1.5
SSD	Sandimen	0.85	322	⇓*i*P	Pb	13 14 36.8	-0.7
SSD				S	Sb	13 14 48.0	-0.6
SGLT	Jiouru	0.92	314	*e*P	Pn	13 14 39.2	+0.5
SGLT				S	Sb	13 14 52.0	+1.4
KAU	Kaohsiung	0.96	301	*e*P	Pn	13 14 39.8	+0.5
CHKT	Chengkung	1.03	8	⇓*i*P	Pn	13 14 40.3	+0.1
CHKT				S	Sb	13 14 53.2	-0.4
TWM1	Shoushan	1.03	316	*e*P	Pn	13 14 41.1	+0.8
ELDTW	Lidau	1.12	351	*e*P	Pn	13 14 40.7	-0.9
SGST	Jiashian	1.15	330	⇓*i*P	Pn	13 14 43.1	+1.1
SGST				S	Sn	13 14 58.4	+1.4
STYT	Tauyuan	1.16	339	*e*P	Pn	13 14 42.3	+0.2
STYT				S	Sn	13 14 58.1	+1.0
CHN3	Shinhua	1.26	322	*e*P	Pn	13 14 44.9	+1.3
CHN1	Nanshi	1.27	331	*e*P	Pn	13 14 44.5	+0.8
CHN1				S	Sn	13 14 60.0	+0.1
TWF1	Yuli	1.27	4	*e*P	Pn	13 14 42.5	-1.3
WTP	Ta-pu	1.28	335	*e*P	Pn	13 14 44.6	+0.7
TAI1	Yung-k'ang	1.31	317	*e*P	Pn	13 14 45.3	+0.9
TWK	Hsinying	1.35	331	*e*P	Pn	13 14 45.5	+0.6
CHN4	Tsaushan	1.39	336	*e*P	Pn	13 14 46.2	+0.8
CHN4				S	Sn	13 15 04.2	+1.2
YUS	Yu-Shan	1.42	351	*e*P	Pn	13 14 46.2	+0.3
YUS				S	Sn	13 15 07.2	+3.3
EHY	Hungye	1.43	4	*e*P	Pn	13 14 44.8	-1.1
SCLT	Jiali	1.44	320	*e*P	Pn	13 14 45.5	-0.6
ALS	Alishan	1.47	346	*e*P	Pn	13 14 47.7	+1.0
CHN8	Yiju	1.56	324	*e*P	Pn	13 14 47.7	-0.1
CHY	Chiayi	1.58	333	*e*P	Pn	13 14 48.5	+0.3
CHY				S	Sn	13 15 07.5	-0.5
CHN5	Tsauling	1.59	342	*e*P	Pn	13 14 48.9	+0.7
CHN2	Minshiung	1.59	335	*e*P	Pn	13 14 48.6	+0.2
CHN2				S	Sn	13 15 08.4	+0.1
WGK	Gukeng	1.71	340	*e*P	Pn	13 14 50.8	+0.9
WGK				S	Sn	13 15 11.6	+0.5
ESL	Shilin	1.74	7	*e*P	Pn	13 14 49.2	-1.3
BBP	Basco	1.78	156	*e*P	Pn	13 14 52.0	+1.0
BBP				*e*S	Sn	13 15 28.8	+16
WSF	Szhu	1.80	330	*e*P	Pn	13 14 51.0	-0.2
WSF				S	Sn	13 15 11.4	-2.0
SMLT	Sun Moon Lake	1.82	351	*e*P	Pn	13 14 53.2	+1.7
SMLT				S	Sn	13 15 16.3	+2.4
TYC	Yuchr	1.84	350	*e*P	Pn	13 14 53.7	+1.7
TYC				S	Sn	13 15 15.7	+1.1
WDGT	Dungji	1.85	310	*e*P	Pn	13 14 50.5	-1.5
WDGT				S	Sn	13 15 10.3	-4.4
WNT	Mingjian	1.85	345	*e*P	Pn	13 14 53.0	+0.9
WNT				S	Sn	13 15 16.0	+1.2
HWA	Hwalien	1.93	11	*e*P	Pn	13 14 53.7	+0.6
WTCT	Ta-ch'eng	1.97	335	*e*P	Pn	13 14 53.7	0.0
TWD	Chiawan	2.02	10	*e*P	Pn	13 14 53.8	-0.7
TWD				S	Sn	13 15 19.2	0.0
WHF	Hehuan Shan	2.06	2	*e*P	Pn	13 14 55.2	+0.2
WHF				S	Sn	13 15 19.2	-0.8
TCU	Taichung	2.12	347	*e*P	Pn	13 14 56.7	+0.8
PNG	Penghu	2.12	315	*e*P	Pn	13 14 54.1	-1.9
PNG				S	Sn	13 15 17.9	-3.8
TWT	Tachien	2.16	359	*e*P	Pn	13 14 57.4	+0.8
TWT				S	Sn	13 15 22.4	-0.3
TWQ1	Liyutan	2.29	350	*e*P	Pn	13 14 59.6	+1.2
TWQ1				S	Sn	13 15 27.6	+1.6
NNS	Nan Shan	2.35	4	*e*P	Pn	13 14 59.6	+0.3
NSY	Sanyi	2.36	350	*e*P	Pn	13 15 00.2	+0.9
NSY				S	Sn	13 15 29.5	+1.8
ENA	Nanau	2.39	12	*e*P	Pn	13 14 59.5	-0.2
ENTT	Nioudou	2.57	7	*e*P	Pn	13 15 02.4	0.0
ENTT				S	Sn	13 15 33.0	0.0
TWC	Suao	2.59	13	*e*P	Pn	13 15 03.2	+0.7
TWC				S	Sn	13 15 32.9	-0.6
NSK	Sanguang	2.59	3	*e*P	Pn	13 15 03.4	+0.8
NSK				S	Sn	13 15 32.8	-0.8
TWE	Neicheng	2.66	9	*e*P	Pn	13 15 03.8	+0.1
TWE				S	Sn	13 15 34.2	-1.3
TATO	Taipei	2.90	5	*e*Pn	Pn	13 15 07.5	+0.5
TATO				*e*Sn	Sn	13 15 40.0	-1.3
YOJ	Yonaguni jima	2.90	35	P	Pn	13 15 08.4	+1.4
YOJ				S	Sn	13 15 41.6	+0.3
TWA	Mucha	2.91	7	*e*P	Pn	13 15 07.9	+0.8
TWA				S	Sn	13 15 40.8	-0.8
TWB1	Santiao Chiao	3.00	14	*e*P	Pn	13 15 09.7	+1.2
TWB1				S	Sn	13 15 43.7	-0.3
TWS1	Kuangyinshan	3.01	4	*e*P	Pn	13 15 09.1	+0.4
TWS1				S	Sn	13 15 43.2	-1.1
NWF	Wu-fen Shan	3.02	10	*e*P	Pn	13 15 09.3	+0.5
NWF				S	Sn	13 15 43.9	-0.7
HATJ	Hateruma jima	3.10	50	P	Pn	13 15 11.6	+1.7
HATJ				S	Sn	13 15 46.4	0.0
TWY	Chenhua	3.20	6	*e*P	Pn	13 15 11.6	+0.3
IRIF	Iriomote-Funau	3.23	45	P	Pn	13 15 13.4	+1.7
IRIF				*e*S	Sn	13 15 50.8	+1.0
JKRS	Kuro-shima	3.36	50	P	Pn	13 15 15.2	+1.7
JKRS				S	Sn	13 15 52.3	-0.7
KNM	Kinmen	3.45	313	*e*P	Pn	13 15 14.2	-0.6
JIJ	Ishigaki jima	3.53	49	P	Pn	13 15 17.4	+1.4
JIJ				S	Sn	13 15 56.5	-0.9
QZH	Quanzhou	3.73	320	P	Pn	13 15 16.3	-2.4
QZH				S	Sn	13 15 55.3	-7.0
QZH				Smax			
comp=N,390nm,0.6s							
QZH				Smax			
comp=E,580nm,0.9s							
SGCP	Mt. Cagua	3.90	168	*e*P	Pn	13 15 21.5	+0.3
JTJ	Tarama	4.10	51	P	Pn	13 15 25.6	+1.5
JTJ				S	Sn	13 16 11.9	+0.1
APYP	Conner	4.20	179	*e*P	Pn	13 15 26.3	+0.9
CVP	Callao Caves	4.39	172	*e*P	Pn	13 15 29.0	+0.8
comp=E,25μm,0.5s							
ABRA	Dolores	4.43	186	*e*P	Pn	13 15 30.2	+1.4
JMJ	Miyako jima 2	4.64	53	S	Sn	13 16 25.0	-0.4
JOGS	Gusukube	4.69	55	S	Sn	13 16 25.9	-0.8
CAUP	Cauayan	5.14	173	*e*P	Pn	13 15 42.2	+3.4
BOLP	Bolinao	5.80	192	*e*P	Pn	13 15 50.7	+2.7
BALP	Baler	6.31	177	*e*P	Pn	13 15 56.4	+1.0
SCZP	Santa Cruz	6.39	191	*e*P	Pn	13 15 58.7	+2.3
JKE	Kume jima 2	6.62	49	P	Pn	13 15 58.8	-0.9
JOW	Kunigami	7.99	52	Pn	Pn	13 16 17.4	-1.4
comp=E,2.2nm,0.3s,baz=192,slow=15,SNR=9.3							
JOW				Sn	Sn	13 17 45.5	-3.8
comp=E,2.2nm,0.3s,baz=126,slow=26,SNR=3.2							
JTK	Tokunoshima	9.04	49	P	P	13 16 31.9	-1.4
JTK				*e*S	Sn	13 18 07.2	-8.0
NJ2	Nanjing	10.15	349	*e*P	P	13 16 45.9	-2.8
NJ2				AP		13 16 51.4	
NJ2				XP		13 16 55.6	
NJ2				S	S	13 18 40.1	-2.6
NJ2				XS		13 18 48.5	
NJ2				Smax			
comp=N,254nm,1.1s							
NJ2				Smax			
comp=E,378nm,1.3s							
NJ2				LR	LR		
comp=N,720nm,11.4s							
NJ2				LR	LR		
comp=E,1μm,11.5s							
NJ2				LR	LR		
comp=Z,710nm,13.6s							
QIZ	Qiongzhong	11.07	256	P	P	13 17 03.6	+2.3
QIZ				LR	LR		
comp=N,474nm,17.0s							
QIZ				LR	LR		
comp=Z,307nm,15.1s							
QIZ	Qiongzhong	11.07	256	*e*Pn	P	13 16 55.5	-5.7
BJT	Baijiatuan	18.39	348	*e*P	P	13 18 36.1	-0.3
comp=Z,11nm,0.7s							
CM31	Chiang Mai Arr	21.19	264	*e*P	P	13 19 07.1	-0.2
comp=Z,14nm,1.1s,mb4.2							
CMAR	Chiang Mai Arr	21.19	264	P	P	13 19 07.2	-0.1
comp=Z,4.8nm,0.9s,mb3.8,baz=71,slow=9.7,SNR=25							
CMAR				ScP		13 26 45.5	
comp=Z,0.4nm,0.4s,baz=66,slow=2.1,SNR=4.9							
CMAR				LR	LR	13 28 48.2	
comp=Z,138nm,18.1s,MS3.4,baz=85,slow=41							
GUMO	Guam	24.03	107	*e*P	P	13 19 32.3	-3.2
comp=Z,767nm,1.5s							
LSA	Lhasa	28.03	292	*e*P	P	13 20 13.4	+0.8
comp=Z,4.6nm,0.7s,mb4.2							
ULN	Ulaanbaatar	28.13	340	*e*P	P	13 20 13.4	+0.1
comp=Z,2.5nm,0.8s,mb3.9							
SONM	Songino Array	28.32	339	P	P	13 20 15.1	+0.1
comp=Z,2.3nm,0.7s,mb3.9,baz=157,slow=9.4,SNR=6.0							
TLY	Talaya	32.54	340	*e*P	P	13 20 52.4	+0.1
comp=Z,2.1nm,0.7s,mb4.2							
WMQ	Urumqi	35.15	316	*e*P	P	13 21 17.0	+2.0
FITZ	Fitzroy Crossi	40.17	173	*e*P	P	13 21 55.7	-1.6
comp=Z,5.6nm,0.6s,mb4.5							
YAK	Yakutsk	40.35	6	*e*P	P	13 21 57.3	-1.1
comp=Z,11nm,0.6s,mb4.8							
MBWA	Marble Bar	43.00	182	*e*P	P	13 22 16.7	-3.8
comp=Z,18nm,1.1s,mb4.7							
WRAB	Tennant Creek	43.69	162	*e*P	P	13 22 23.9	-2.2
comp=Z,8.3nm,0.8s,mb4.5							
WRA	Warramunga Arr	43.69	162	P	P	13 22 24.4	-1.8
comp=Z,6.7nm,0.8s,mb4.4,baz=345,slow=8.7,SNR=57							
WB2	Warramunga Arr	43.70	162	⇑*i*P	P	13 22 24.4	-1.8
KURK	Kurchatov	43.73	322	*e*P	P	13 22 25.4	-0.6
comp=Z,6.1nm,0.8s,mb4.4							
AAK	Ala-Archa	43.82	309	*e*P	P	13 22 25.2	-1.7
comp=Z,2.2nm,1.1s,mb3.8							
ASAR	Alice Springs	47.12	164	P	P	13 22 52.2	-1.2
comp=Z,2.1nm,0.4s,mb4.4,baz=347,slow=7.7,SNR=69							
ASAR				PcP	PcP	13 24 23.9	-1.5
comp=Z,1.2nm,0.8s,baz=331,slow=2.3,SNR=6.8							
ASPA	Alice Springs	47.12	164	*e*P	P	13 22 52.6	-0.9
CTA	Charters Tower	48.53	148	P	P	13 23 03.1	-1.4
comp=Z,1.5nm,0.3s,mb4.5,baz=316,slow=9.4,SNR=3.8							
CTA				LR	LR	13 41 56.7	
comp=Z,101nm,19.4s,MS3.8,baz=41,slow=34							
CTA	Charters Tower	48.53	148	P	P	13 23 03.1	-1.4
CTA				LR	LR	13 41 56.6	
CTAO	Charters Tower	48.53	148	*e*P	P	13 23 03.8	-0.7
comp=Z,10nm,1.0s,mb4.8							
BVAR	Borovoye Array	49.32	322	P	P	13 23 09.9	-0.3
comp=Z,1.5nm,0.4s,mb4.4,baz=112,slow=9.1,SNR=20							
BVAR				PcP	PcP	13 24 31.6	-1.3
comp=Z,0.9nm,0.5s,baz=117,slow=3.3,SNR=4.5							
BRVK	Borovoye	49.39	322	*e*P	P	13 23 09.9	-0.8
comp=Z,2.3nm,0.7s,mb4.3							
CHKZ	Chkalovo	49.40	323	*e*P	P	13 23 09.9	-0.9
comp=Z,4.1nm,0.5s,mb4

ZLN	**Zelenaya**	**0.86 293**	*e*P	**Pb**	**13 16 46.4**	**-1.6**
ZLN			*e*S	**Sb**	**13 16 57.6**	**-1.5**
LGNR	**Loginova**	**0.95 295**	*i* P	**Pb**	**13 16 48.6**	**-0.8**
LGNR			*e*S	**Sb**	**13 17 01.2**	**-0.4**
SVLR	**Shiveluch**	**1.05 328**	*i* P	**Pn**	**13 16 50.7**	**-0.2**
SVLR			*e*S	**Sb**	**13 17 05.0**	**+0.6**
KRSR	**Krestovskiy**	**1.07 300**	*e*P	**Pn**	**13 16 49.5**	**-1.7**
KRSR			*e*S	**Sb**	**13 17 02.9**	**-2.2**
KLY	**Klyuchi**	**1.08 306**	P	**Pn**	**13 16 49.5**	**-1.9**
KLY			S	**Sb**	**13 17 02.5**	**-2.8**
KLY	**Klyuchi**	**1.08 306**	*i* P	**Pn**	**13 16 49.6**	**-1.8**
KLY			*e*S	**Sb**	**13 17 02.7**	**-2.6**
KMNR	**Kamenistaya**	**1.13 274**	*e*P	**Pn**	**13 16 52.8**	**+0.8**
KMNR			*e*S	**Sb**	**13 17 07.6**	**+0.9**
KPT	**Kopyto**	**1.16 284**	*i* P	**Pn**	**13 16 53.2**	**+0.7**
KPT			*e*S	**Sb**	**13 17 08.2**	**+0.5**
TUMR	**Tumrok**	**1.25 252**	*e*P	**Pn**	**13 16 54.7**	**+0.9**
TUMR			*e*S	**Sn**	**13 17 11.4**	**+1.4**
KOZR	**Kozyr**	**1.36 287**	PN	**Pn**	**13 16 56.4**	**+1.0**
KOZR			S	**Sn**	**13 17 14.2**	**+1.4**
KOZ	**Kozyrevsk**	**1.38 286**	P	**Pn**	**13 16 56.4**	**+0.8**
KOZ			S	**Sn**	**13 17 14.2**	**+1.1**
KOZ	**Kozyrevsk**	**1.38 286**	*i* P	**Pn**	**13 16 56.4**	**+0.8**
KOZ			*e*S	**Sn**	**13 17 14.1**	**+1.0**
SRDR	**Sredinnyy**	**1.54 295**	*i* P	**Pn**	**13 16 58.4**	**+0.4**
SRDR			*e*S	**Sn**	**13 17 17.6**	**+0.3**
ESO	**Esso**	**2.00 278**	*e*P	**Pn**	**13 17 05.0**	**+0.4**
ESO			*e*S	**Sn**	**13 17 28.5**	**-0.6**
ESO			Smax			
	150nm,1.0s					
BKI	**Bering**	**2.19 101**	*i* P	**Pn**	**13 17 06.9**	**-0.3**
BKI			*i* S	**Sn**	**13 17 34.1**	**+0.3**
SPN	**Mys Shipunski**	**2.90 207**	P	**Pn**	**13 17 16.7**	**-0.7**
SPN			S	**Sn**	**13 17 48.9**	**-2.9**
SPN	**Mys Shipunski**	**2.90 207**	*e*P	**Pn**	**13 17 16.9**	**-0.5**
SPN			*e*S	**Sn**	**13 17 49.4**	**-2.4**
NLC	**Nalytchevo**	**3.04 215**	P	**Pn**	**13 17 19.3**	**0.0**
NLC			S	**Sn**	**13 17 54.3**	**-0.9**
NLC	**Nalytchevo**	**3.04 215**	*e*P	**Pn**	**13 17 19.2**	**-0.1**
NLC			*e*S	**Sn**	**13 17 54.4**	**-0.8**
SDLR	**Sedlovina**	**3.11 220**	*e*P	**Pn**	**13 17 21.0**	**+0.7**
SDLR			*e*S	**Sn**	**13 17 57.1**	**+0.1**
SMAR	**Somma**	**3.15 221**	*e*P	**Pn**	**13 17 21.9**	**+1.0**
SMAR			*e*S	**Sn**	**13 17 57.2**	**-0.9**
AVH	**Avacha**	**3.17 221**	*e*P	**Pn**	**13 17 22.0**	**+0.8**
AVH			*e*S	**Sn**	**13 17 58.1**	**-0.5**
UGLR	**Uglovaya**	**3.18 220**	*e*P	**Pn**	**13 17 22.4**	**+1.0**
UGLR			*e*S	**Sn**	**13 17 58.5**	**-0.5**
KOK	**Koryaka**	**3.19 223**	*e*P	**Pn**	**13 17 25.2**	**+3.7**
KOK			*e*S	**Sn**	**13 18 01.7**	**+2.6**
GNL	**Ganaly**	**3.19 233**	P	**Pn**	**13 17 22.4**	**+0.9**
GNL			*e*S	**Sn**	**13 17 58.6**	**-0.6**
PET	**Petropavlovsk**	**3.39 219**	P	**Pn**	**13 17 24.9**	**+0.5**
PET			S	**Sn**	**13 18 03.8**	**-0.5**
PET	**Petropavlovsk**	**3.39 219**	*e*PN	**Pn**	**13 17 26.2**	**+1.8**
PET			pmax	pmax		
	comp=Z,46nm,0.6s					
PET	**Petropavlovsk**	**3.39 219**	*e*P	**Pn**	**13 17 25.2**	**+0.8**
PET			*e*S	**Sn**	**13 18 03.7**	**-0.6**
RUS	**Russkaya**	**3.93 215**	P	**Pn**	**13 17 33.3**	**+1.3**
RUS			S	**Sn**	**13 18 17.7**	**-0.1**
RUS	**Russkaya**	**3.93 215**	*e*P	**Pn**	**13 17 33.1**	**+1.1**
RUS			*e*S	**Sn**	**13 18 17.4**	**-0.5**
GRL	**Gorelyy**	**3.98 220**	*e*P	**Pn**	**13 17 33.9**	**+1.2**
GRL			*e*S	**Sn**	**13 18 18.4**	**-0.8**
FX1	**Attu Island--F**	**7.00 109**	Pn	**Pn**	**13 18 14.0**	**-1.3**
	comp=Z,3.4nm,0.3s,baz=323,slow=5.1,SNR=5.1					
FX1			Sn	**Sn**	**13 19 27.3**	**-7.5**
	comp=Z,1.9nm,0.3s,baz=254,slow=19,SNR=3.5					
KAMR	**Kamenskoye**	**7.09 15**	P	**Pn**	**13 18 18.0**	**+1.5**
ILAR	**Eielson Array**	**26.13 49**	P	**P**	**13 22 02.5**	**-2.4**
ILAR			pmax	pmax		
	comp=Z,1.0nm,0.8s					
ILAR	**Eielson Array**	**26.13 49**	P	**P**	**13 22 02.5**	**-2.5**
	comp=Z,0.8nm,0.8s,mb3.3,baz=271,slow=6.9,SNR=8.1					
YKA	**Yellowknife Ar**	**40.42 45**	P	**P**	**13 24 06.2**	**-2.7**
	comp=Z,0.2nm,0.6s,mb3.0,baz=298,slow=7.7,SNR=4.7					
TXAR	**Lajitas Array**	**68.51 69**	P	**P**	**13 27 32.2**	**-1.5**
	comp=Z,0.9nm,0.9s,mb3.7,baz=297,slow=3.4,SNR=6.1					

JMA 20 13:25:19.6,37.22N×138.90E,h10km±1km,M3.5,2C-3D,
Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.10**	**73**	⇓P	Pg	13 25 22.1	-0.1
JHK				*e*S	Sg	13 25 24.3	+0.3
JIZZ	**Izumozaki**	**0.35**	**334**	P	Pg	13 25 26.9	+0.2
JIZZ				*e*S	Sg	13 25 32.9	+1.4
JKT	**Katashina**	**0.53**	**148**	⇓P	Pg	13 25 29.9	-0.5
JKT				S	Sg	13 25 37.3	-0.3
JFY	**Yanaizu**	**0.67**	**74**	⇓P	Pb	13 25 32.2	-0.7
JFY				*e*S	Sb	13 25 41.6	-0.3
JNS	**Sasagawa**	**0.68**	**29**	P	Pb	13 25 32.1	-1.0
JNS				S	Sb	13 25 41.5	-0.9
JGK	**Kuni**	**0.69**	**198**	P	Pb	13 25 32.7	-0.5
JGK				S	Sb	13 25 42.4	-0.1
MAT	**Matsushiro**	**0.88**	**220**	⇑P	Pb	13 25 35.4	-1.0
MAT				S	Sb	13 25 46.5	-1.4
MAT	**Matsushiro**	**0.88**	**220**	P	Pb	13 25 35.4	-1.0
MAT				S	Sb	13 25 46.8	-1.1
JAG	**Ashikaga**	**0.91**	**151**	⇑P	Pb	13 25 37.1	+0.1
JAG				*e*S	Sb	13 25 49.1	+0.2
JSD	**Sado**	**0.96**	**328**	P	Pb	13 25 36.6	-1.3
JSD				*e*S	Sb	13 25 48.8	-1.6

IDC 20 13:29:42.9±26.0,21.47S×173.24W,mb4.3/4,mb1 4.4/4,
mb1mx4.0/15,mbtmp4.3/4,1C,Error ellipse:
s-maj=487.0km s-min=159.2km az=75.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.82**	**265**	P	P	13 37 02.0	-1.0
	4.8nm,0.3s,baz=96,slow=11,SNR=14						
STKA	**Stephens Creek**	**41.41**	**246**	P	P	13 37 30.4	-2.3
	0.9nm,0.5s,baz=109,slow=13,SNR=2.9						
ASAR	**Alice Springs**	**48.62**	**257**	P	P	13 38 28.4	-2.2
	1.4nm,0.5s,baz=97,slow=7.5,SNR=39						
ASPA	**Alice Springs**	**48.63**	**257**	*e*P	P	13 38 28.6	-2.1
WB2	**Warramunga Arr**	**48.85**	**262**	⇑*i*P	P	13 38 30.6	-1.8
WRA	**Warramunga Arr**	**48.87**	**262**	P	P	13 38 30.7	-1.8
	2.0nm,0.3s,baz=96,slow=8.4,SNR=160						

PRE 20 13:41:20.3±0.4,26.45S×27.44E,h2km,ML3.8,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRY	**Parys**	**0.48**	**176**	*e*P	Pg	13 41 28.9	-0.9
PRY				*e*S	Sg	13 41 35.2	-1.0
PRY				*e*		13 41 40.6	
	comp=Z,6μm,0.6s						
SLR	**Silverton**	**1.04**	**47**	*e*P	Pb	13 41 39.1	-1.6
SLR				*e*S	Sb	13 41 52.8	-1.8
SLR				*e*		13 41 56.5	
	comp=Z,4μm,0.4s						
SEK	**Senekal**	**1.87**	**175**	*e*P	Pn	13 41 53.0	-0.6
SEK				*e*S	Sn	13 42 17.0	-1.2
SEK				*e*		13 42 19.8	
	comp=Z,2μm,0.3s						
BFT	**Belfast (SA)**	**2.46**	**73**	*e*S	Sn	13 42 30.9	-2.3
BFT				*e*		13 42 41.1	
	comp=Z,206nm,0.4s						
NWL	**Newcastle**	**2.57**	**120**	*e*P	Pn	13 42 02.5	-1.2
NWL				*e*S	Sn	13 42 33.3	-2.7
BOSA	**Boshof**	**2.90**	**221**	*e*P	Pn	13 42 32.7	+24
BOSA				*e*S	Sn	13 42 59.0	+15

GII ***20*** *13:41:49.2±2.6,28.67N×35.49E*
CSEM ***20*** *13:41:50.5±0.1,28.57N×34.63E,h25km,ML3.2,Error ellipse: s-maj=2.1km s-min=1.5km az=145.0*
HLW ***20*** *13:41:50.6,28.53N×34.68E,h16km,Mb3.2*
SNSN ***20*** *13:41:51.2,28.59N×34.60E,h23km,Ml2.7*
ISC 20 13:41:51.3±0.3,28.58N±0.03×34.59E±0.03,h23km±4km,
n29,σ0°61/37,6C-1D,Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDHB	**Dhahab**	**0.15**	**10**	⇑P	**Pb**	**13 41 55.9**	**-0.2**
HDHB				S	**Sb**	**13 41 59.1**	**-0.3**
TAYS	**Tayyib Ism**	**0.25**	**96**	P	**Pb**	**13 41 57.6**	**+0.2**
TAYS				S	**Sb**	**13 42 01.9**	**+0.3**
NUB		**0.45**	**6**	⇑P	**Pb**	**13 42 00.4**	**-0.2**
BDAS	**Al Bad'**	**0.47**	**108**	P	**Pb**	**13 42 00.9**	**0.0**
BDAS				S	**Sb**	**13 42 07.8**	**+0.3**
HKAT	**Jabal Katrina**	**0.53**	**264**	⇑P	**Pb**	**13 42 01.9**	**+0.1**
HAQS	**Haql**	**0.56**	**32**	P	**Pb**	**13 42 02.1**	**-0.3**
HBST	**Basata**	**0.65**	**11**	⇓P	**Pb**	**13 42 03.9**	**0.0**
AYUS	**'Aynunah**	**0.71**	**123**	S	**Sb**	**13 42 14.5**	**+0.3**
AYUS				P		13 42 04.7	
AYUS	**'Aynunah**	**0.71**	**123**	P	**Pb**	**13 42 04.7**	**-0.2**
AYUS				S	**Sb**	**13 42 14.5**	**+0.2**
JMOS	**Jabal al Moall**	**0.74**	**38**	P	**Pb**	**13 42 05.0**	**-0.4**
TR2		**0.79**	**256**	⇑P	**Pb**	**13 42 06.5**	**+0.3**
SHRM		**0.79**	**211**	⇑P	**Pb**	**13 42 06.7**	**+0.4**
SHRM				S	**Sb**	**13 42 17.5**	**+0.9**
TR1		**0.80**	**225**	⇑P	**Pb**	**13 42 06.9**	**+0.5**
ALWS	**Ilw as Safayha**	**0.84**	**30**	P	**Pb**	**13 42 06.4**	**-0.7**
HRDS	**Abu Rudays**	**1.14**	**277**	P	**Pn**	**13 42 12.5**	**+0.4**
ZEIT		**1.17**	**233**	P	**Pn**	**13 42 11.6**	**-0.8**
JMQS	**Jabal Moqyreh**	**1.17**	**74**	P	**Pn**	**13 42 12.1**	**-0.4**
HNKL	**Nakhl**	**1.45**	**339**	P	**Pn**	**13 42 16.8**	**+0.3**
HNKL				S	**Sn**	**13 42 36.0**	**+1.1**
HRFI	**Mount Harif**	**1.51**	**15**	Pn	**Pn**	**13 42 16.3**	**-0.9**
HRFI				Sn	**Sn**	**13 42 37.1**	**+0.8**
GRB	**Gharib**	**1.62**	**260**	P	**Pn**	**13 42 18.4**	**-0.5**
HHRG	**Al Ghardaqah**	**1.63**	**214**	P	**Pn**	**13 42 17.9**	**-1.0**
ZNM		**1.70**	**298**	P	**Pn**	**13 42 20.2**	**+0.2**
TBKS	**Tabuk**	**1.76**	**101**	P	**Pn**	**13 42 21.0**	**+0.1**
ZAF		**1.92**	**292**	P	**Pn**	**13 42 22.8**	**-0.4**
SUZ		**1.99**	**310**	P	**Pn**	**13 42 24.2**	**0.0**
KZIT	**Kziot**	**2.33**	**356**	Pn	**Pn**	**13 42 31.2**	**+2.2**
KZIT				Sn	**Sn**	**13 43 02.5**	**+5.3**
HHAG	**Hagoal**	**2.57**	**303**	P	**Pn**	**13 42 32.3**	**-0.2**
GLL	**Jalalah**	**2.71**	**292**	P	**Pn**	**13 42 33.9**	**-0.6**
KOT	**Kottamia**	**2.76**	**300**	P	**Pn**	**13 42 34.6**	**-0.6**

IDC ***20*** *13:57:22.6±4.5,48.87N×150.00E,h400km±51km,*
mb3.1/10,mb1 3.4/11,mb1mx3.3/20,mbtmp3.9/11,Error ellipse: s-maj=31.2km s-min=13.4km az=167.0
ISC 20 13:57:18.7±4.5,48.9N±0.3×150.0E±0.2,h371km±51km,
n11,σ0°39/11,mb3.3/10,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**15.15**	**66**	P	**P**	**14 00 35.7**	**-0.3**
	2.1nm,0.3s,baz=259,slow=16,SNR=3.8						
SONM	**Songino Array**	**28.68**	**285**	P	**P**	**14 02 44.7**	**+0.3**
	0.5nm,0.5s,mb3.0,baz=72,slow=9.3,SNR=3.5						
ILAR	**Eielson Array**	**36.23**	**40**	P	**P**	**14 03 49.2**	**+0.6**
	0.7nm,0.4s,mb3.2,baz=259,slow=5.3,SNR=20						
YKA	**Yellowknife Ar**	**50.47**	**37**	P	**P**	**14 05 41.3**	**0.0**
	0.3nm,0.4s,mb2.9,baz=301,slow=7.1,SNR=7.6						
CMAR	**Chiang Mai Arr**	**50.92**	**252**	P	**P**	**14 05 45.2**	**0.0**
	0.7nm,0.5s,mb3.1,baz=39,slow=6.5,SNR=6.4						
ARCES	**ARCESS Array B**	**55.11**	**339**	P	**P**	**14 06 15.3**	**+0.4**
	3.7nm,0.9s,mb3.7,baz=41,slow=8.3,SNR=2.9						
FINES	**FINESS Array B**	**61.18**	**333**	P	**P**	**14 06 55.5**	**-0.8**
	2.1nm,0.7s,mb3.7,baz=45,slow=5.4,SNR=9.9						
NVAR	**Mina Array Bea**	**63.29**	**62**	P	**P**	**14 07 10.2**	**-0.3**
	0.6nm,0.6s,mb3.3,baz=302,slow=6.7,SNR=5.3						
PDAR	**Pinedale Array**	**65.17**	**53**	P	**P**	**14 07 22.4**	**+0.1**
	0.5nm,0.5s,mb3.4,baz=318,slow=1.9,SNR=7.2						
AKASG	**Malin Array Be**	**68.57**	**324**	P	**P**	**14 07 43.1**	**-0.2**
	1.0nm,0.7s,mb3.7,baz=33,slow=5.7,SNR=4.3						
TXAR	**Lajitas Array**	**78.24**	**59**	P	**P**	**14 08 39.5**	**+0.2**
	0.6nm,0.7s,mb3.5,baz=314,slow=3.7,SNR=4.9						

BJI ***20*** *13:58:11.7,32.63S×178.84W,h16km,mB5.6,mb5.3,*
Ms5.6,Msz5.5
HRVD ***20*** *13:58:13.1±0.3,32.73S×178.51W,h12km,MW5.4/52,*
Centroid moment Tensor Solution. LP body waves:
s32,c49;Mantle waves: s52,c90; Half duration: 1s3
Moment tensor: Scale 1017Nm; Mrr0.22±.03;
Mθθ-0.01±.03; Mφφ-0.21±.02; Mrθ0.59±.07; Mθφ-0.02±.02;
Mφr1.48±.05; Best double couple: M0=1.609×1017 NP1:
φs174°,δ4°,λ62°. NP2:φs22°,δ86°,λ92°. Principal axes:
T 1.62, Plg49°, Azm294°; N -.021, Plg2°, Azm202°; P
-1.599, Plg41°, Azm110°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC ***20*** *13:58:13.1±0.2,32.59S×178.79W,h10km,mb5.4/39,*
MS5.1/24 Error ellipse: s-maj=9.5km s-min=6.3km
az=140.0
MOS ***20*** *13:58:15.8±1.5,32.98S×178.68W,h33km,mb5.6/7,Error ellipse: s-maj=33.7km s-min=21.0km az=96.6*
IDC ***20*** *13:58:20.1±1.8,32.79S×178.68W,h59km±14km,mb4.7/14,*
mb1 4.9/16,mb1mx4.8/18,mbtmp5.0/16,MS4.7/10,
Ms1 4.7/10,ms1mx4.3/24,Error ellipse: s-maj=16.5km
s-min=10.4km az=172.0
ISC 20 13:58:14.7±0.2,33.00S±0.03×178.72W±0.05,h33km,
(h37km±1.5km:pP-P),n271,σ19°47/161,mb5.3/51,MS5.2/35,
17C-14D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.80**	**11**	*e*Pn	**Pn**	**13 59 05.4**	**-7.1**
RAO				*e*Sn	**Sn**	**13 59 43.1**	**-13**
MXZ	**Matakaoa Point**	**5.17**	**207**	P	**P**	**13 59 32.8**	**+1.1**
MXZ				S	**S**	**14 00 36.0**	**+5.0**
MXZ				*e*T		14 03 49.9	
WIZ	**White Island**	**5.63**	**215**	*e*P	**P**	**13 59 41.9**	**+3.8**
PUZ	**Puketiti**	**5.63**	**205**	P	**P**	**13 59 38.9**	**+0.7**
KUZ	**Kuaotunu**	**5.91**	**229**	P	**P**	**13 59 47.1**	**+5.0**
MWZ	**Matawai**	**6.14**	**209**	*e*P	**P**	**13 59 45.6**	**+0.2**
MWZ				*e*S	**S**	**14 00 59.4**	**+4.0**
MARZ	**Manawahe**	**6.24**	**216**	*e*P	**P**	**13 59 48.8**	**+2.0**
URZ	**Urewera**	**6.25**	**212**	P	**P**	**13 59 50.5**	**+3.5**
	17nm,0.3s,baz=239,slow=2.0,SNR=97						
URZ				S	**S**	**14 01 03.9**	**+5.7**
	145nm,0.3s,baz=155,slow=18,SNR=10						
URZ	**Urewera**	**6.25**	**212**	P	**P**	**13 59 47.4**	**+0.4**
LIRZ	**Lichensteins R**	**6.40**	**217**	*e*P	**P**	**13 59 54.4**	**+5.4**
WCZ	**Waipu Caves**	**6.44**	**241**	P	**P**	**13 59 55.2**	**+5.6**
TAZ	**Tarawera**	**6.51**	**215**	*e*P	**P**	**13 59 55.0**	**+4.4**
KNZ	**Kokohu**	**6.68**	**205**	*e*P	**P**	**13 59 52.4**	**-0.7**
OUZ	**Omahuta**	**6.75**	**249**	P	**P**	**13 59 59.2**	**+5.2**
BKZ	**Black Stump Fm**	**7.28**	**211**	*e*P	**P**	**14 00 00.8**	**-0.5**
BKZ				S	**S**	**14 01 26.8**	**+3.1**
RATZ	**Rangitukua**	**7.37**	**216**	*e*P	**P**	**14 00 04.1**	**+1.5**
MGZ	**Maungaku**	**7.59**	**216**	*e*P	**P**	**14 00 09.5**	**+3.9**
NGZ	**Ngauruhoe**	**7.69**	**215**	*e*P	**P**	**14 00 09.4**	**+2.3**
CNZ	**Chateau**	**7.74**	**215**	*e*P	**P**	**14 00 09.5**	**+1.8**
TUVZ	**Tukino**	**7.74**	**214**	*e*P	**P**	**14 00 11.0**	**+3.2**
FWVZ	**Far West T-bar**	**7.78**	**215**	*e*P	**P**	**14 00 09.6**	**+1.3**
FWVZ				S	**S**	**14 01 38.2**	**+2.1**
PWZ	**Pawanui**	**7.87**	**206**	*e*P	**P**	**14 00 07.2**	**-2.4**
PWZ				S	**S**	**14 01 38.4**	**0.0**
WAZ	**Wanganui**	**8.44**	**215**	*e*P	**P**	**14 00 17.0**	**-0.5**
WAZ				S	**S**	**14 01 56.0**	**+3.3**
MRZ	**Mangatainoka R**	**8.91**	**209**	S	**S**	**14 02 02.1**	**-2.3**
KIW	**Kapiti Island**	**9.36**	**211**	*e*P	**P**	**14 00 28.3**	**-2.0**
KIW				S	**S**	**14 02 12.7**	**-2.8**
MTW	**Mount Morrison**	**9.36**	**208**	*e*P	**P**	**14 00 26.4**	**-3.9**
CAW	**Cannon Point**	**9.49**	**210**	*e*P	**P**	**14 00 30.2**	**-1.9**
CAW				S	**S**	**14 02 15.5**	**-3.4**
MRW	**Makara Radio**	**9.75**	**211**	*e*P	**P**	**14 00 33.9**	**-1.8**
MRW				S	**S**	**14 02 20.4**	**-4.8**
NNZ	**Nelson**	**10.35**	**215**	P	**P**	**14 00 41.1**	**-2.8**
NNZ				S	**S**	**14 02 35.9**	**-3.9**
QRZ	**Quartz Range**	**10.49**	**219**	*e*P	**P**	**14 00 43.8**	**-2.0**
QRZ				S	**S**	**14 02 40.1**	**-3.2**
THZ	**Tophouse**	**10.99**	**215**	*e*P	**P**	**14 00 49.2**	**-3.5**
KHZ	**Kahutara**	**11.22**	**211**	*e*P	**P**	**14 00 52.0**	**-3.8**
KHZ				S	**S**	**14 02 53.2**	**-7.9**
LTZ	**Lake Taylor**	**12.08**	**213**	S	**S**	**14 03 14.6**	**-7.3**
WVZ	**Waitaha Valley**	**13.04**	**216**	*e*P	**P**	**14 01 19.3**	**-0.9**
WVZ				S	**S**	**14 03 36.9**	**-8.1**
RPZ	**Rata Peaks**	**13.36**	**214**	P	**P**	**14 01 22.5**	**-2.0**
	4.6nm,0.3s,baz=60,slow=5.5,SNR=14						
RPZ				S	**S**	**14 03 46.7**	**-6.2**
	8.5nm,0.3s,baz=309,slow=18,SNR=9.4						
FOZ	**Fox Glacier**	**13.92**	**217**	*e*P	**P**	**14 01 27.5**	**-4.2**
FOZ				S	**S**	**14 03 53.8**	**-12**
LBZ	**Lake Benmore**	**14.28**	**214**	*e*P	**P**	**14 01 35.1**	**-1.4**
LBZ				S	**S**	**14 04 04.8**	**-10**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODZ	**Otahua Downs**	**14.58**	**211**	*e*P	**P**	**14 01 37.0**	**-3.4**
WKZ	**Wanaka**	**15.17**	**215**	*e*P	**P**	**14 01 45.2**	**-2.8**
EAZ	**Earnscleugh**	**15.33**	**214**	S	**S**	**14 04 28.2**	**-11**
DZM	**Mont Dzumac**	**17.06**	**306**	⇑*e*P	**P**	**14 02 15.9**	**+3.7**
NOUC	**Port Laguerre**	**17.14**	**306**	*e*P	**P**	**14 02 16.6**	**+3.4**
NOUC	**Port Laguerre**	**17.14**	**306**	*e*P	**P**	**14 02 16.6**	**+3.4**
NOUC				*e*S	S	14 05 53.6	+32
AFI	**Afiamalu**	**20.03**	**20**	*e*PKPdf	**P**	**14 02 38.9**	**-8.8**
	188nm,1.1s						
CNB	**Canberra Magne**	**26.46**	**256**	*e*P	**P**	**14 03 57.0**	**+6.4**
	526nm,1.7s,mb5.8						
TBI	**Tubuai**	**27.45**	**77**	*e*LR	LR	14 10 37.1	
	6μm,27.5s,baz=239						
TAU	**Tasmania Unive**	**28.38**	**240**	*e*P	**P**	**14 04 07.9**	**-0.1**
	57nm,1.3s,mb5.0						
PAE	**Paea**	**30.31**	**67**	*e*P	**P**	**14 04 23.2**	**-2.1**
	35nm,1.0s,mb5.1						
PPT	**Papeete**	**30.37**	**67**	*e*P	**P**	**14 04 23.9**	**-2.0**
	22nm,0.7s,mb5.0						
PPT	**Papeete**	**30.37**	**67**	*e*LR	LR	14 11 50.6	
	5μm,26.2s,baz=236						
TIAR	**Tiarei**	**30.55**	**67**	*e*P	**P**	**14 04 25.5**	**-2.0**
	91nm,0.9s,mb5.6						
STKA	**Stephens Creek**	**33.38**	**261**	*e*P	**P**	**14 04 53.6**	**+1.5**
	7.1nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**33.38**	**261**	P	**P**	**14 04 55.2**	**+3.0**
	6.3nm,0.7s,mb4.7,baz=93,slow=10,SNR=7.4						
STKA				ScP		14 11 11.9	
	4.4nm,0.8s,baz=106,slow=3.7,SNR=5.3						
STKA				LR	LR	14 17 51.6	
	comp=Z,5μm,18.0s,MS5.3,baz=83,slow=35						
CTA	**Charters Tower**	**33.71**	**284**	⇓*i*P	**P**	**14 04 56.9**	**+1.8**
	38nm,0.6s,mb5.5						
CTA				*e*S	**S**	**14 10 17.5**	**+2.4**
CTA	**Charters Tower**	**33.71**	**284**	P	**P**	**14 04 57.0**	**+2.0**
	37nm,0.6s,mb5.5,baz=113,slow=10,SNR=53						
CTA				S	**S**	**14 10 15.2**	**+0.1**
	14nm,1.1s,baz=359,slow=22,SNR=16						
CTA				LR	LR	14 17 04.7	
	comp=Z,2μm,18.8s,MS4.9,baz=120,slow=33						
CTAO	**Charters Tower**	**33.71**	**284**	*e*P	**P**	**14 04 56.8**	**+1.7**
	46nm,0.6s,mb5.6						
CTAO				*e*S	**S**	**14 10 15.5**	**+0.4**
CTAO				LR	LR		
	comp=Z,2μm,22.0s,MS4.9						
PMG	**Port Moresby**	**39.25**	**299**	P	**P**	**14 05 43.0**	**+1.1**
	comp=Z,20nm,0.6s,mb5.0,baz=354,slow=1.6,SNR=9.0						
PMG				LR	LR	14 19 11.8	
	comp=Z,2μm,19.2s,MS4.9,baz=335,slow=32						
PMG	**Port Moresby**	**39.25**	**299**	*e*P	**P**	**14 05 42.4**	**+0.5**
	comp=Z,45nm,0.9s,mb5.2						
PMG				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
ASAR	**Alice Springs**	**42.43**	**270**	P	**P**	**14 06 09.0**	**+0.9**
	comp=Z,52nm,0.9s,mb5.2,baz=106,slow=7.1,SNR=286						
ASAR				S	**S**	**14 12 28.9**	**+1.6**
	comp=Z,14nm,0.9s,baz=113,slow=16,SNR=10						
ASAR				LR	LR	14 23 20.2	
	comp=Z,981nm,18.3s,MS4.7,baz=121,slow=35						
ASPA	**Alice Springs**	**42.43**	**270**	⇓*i*P	**P**	**14 06 09.1**	**+1.0**
ASPA				*e*S	**S**	**14 12 27.2**	**-0.1**
ASPA				*e*SS	ScS	14 16 01.5	-3.4
TAOE	**Nuku Hiva Isla**	**42.93**	**65**	*e*LR	LR	14 17 39.7	
	baz=241						
WB2	**Warramunga Arr**	**43.65**	**275**	⇓*i*P	**P**	**14 06 18.1**	**0.0**
WB2				*e*SCP		14 11 52.9	
WB2				*e*S	**S**	**14 12 42.1**	**-3.0**
WRAB	**Tennant Creek**	**43.65**	**275**	*c i*P	**P**	**14 06 19.0**	**+0.9**
WRAB	**Tennant Creek**	**43.65**	**275**	*e*P	**P**	**14 06 18.6**	**+0.5**
	comp=Z,98nm,0.5s,mb5.8						
WRAB				*e*S	**S**	**14 12 44.0**	**-1.2**
WRAB				LR	LR		
	comp=Z,714nm,21.0s,MS4.5						
WRA	**Warramunga Arr**	**43.66**	**275**	P	**P**	**14 06 18.5**	**+0.4**
	comp=Z,60nm,0.5s,mb5.6,baz=115,slow=7.9,SNR=

comp=Z,3μm,20.0s,MS5.7
UNV Unalaska Valle 87.13 7 *eP* **P 14 10 57.0 -1.0**
comp=Z,68nm,1.1s,mb5.8
NJ2 Nanjing 87.48 311 *eP* **P 14 10 57.0 -3.2**
NJ2 AP pP 14 11 07.4 -3.4
NJ2 XP sP 14 11 11.3 -2.9
NJ2 PP PP 14 14 24.3 -3.3
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.5
NJ2 AMB AMB
comp=Z,150nm,8.8s
SAO San Andreas Ge 87.60 43 *eP* **P 14 11 00.9 +0.2**
comp=Z,44nm,1.4s,mb5.5
PET Petropavlovsk 87.90 347 *eP* **P 14 11 01.1 -0.6**
PET pmax pmax
comp=Z,22nm,0.8s,mb5.4
PET MLR MLR
comp=Z,3μm,15.0s,MS5.8
TRQA Tornquist 88.03 135 PFAKE 14 11 20.0 +17
TRQA LR LR
comp=Z,763nm,19.0s,MS5.1
PFO Pinyon Flat Ob 88.41 48 *eP* **P 14 11 04.8 +0.2**
comp=Z,50nm,1.4s,mb5.5
PFO *e* 14 11 18.9
CMB Columbia Colle 89.09 42 *eP* **P 14 11 07.6 -0.2**
comp=Z,40nm,1.3s,mb5.6
CMB *e* pP 14 11 19.3 +0.9
OHCM Honcut 89.39 41 *eP* **P 14 11 09.0 -0.2**
WHN Wuhan 89.43 307 *eP* **P 14 11 05.0 -4.6**
DAC Darwin (Calif) 89.50 45 *eP* **P 14 11 09.4 -0.4**
comp=Z,26nm,1.4s,mb5.4
WDC Whiskeytown Da 89.71 39 *eP* **P 14 11 11.1 +0.4**
comp=Z,59nm,1.4s,mb5.7
WDC *e* 14 11 23.7
MDJ Mudanjiang 90.42 326 PFAKE 14 11 20.0 +6.1
MDJ LR LR
comp=Z,591nm,19.0s,MS5.0
NVAR Mina Array Bea 90.55 43 P **P 14 11 14.9 +0.3**
comp=Z,14nm,0.9s,mb5.3,baz=216,slow=7.5,SNR=69
MNV Mina 90.64 43 *eP* **P 14 11 15.0 -0.1**
comp=Z,27nm,1.2s,mb5.5
MNV *e* pP 14 11 26.9 +1.2
NEN Nelson 90.75 47 *eP* **P 14 11 16.4 +0.7**
TPH Tonopah 90.94 44 *eP* **P 14 11 16.1 -0.4**
comp=Z,41nm,1.2s,mb5.6
TUC Tucson 91.20 52 *eP* **P 14 11 19.2 +1.4**
comp=Z,56nm,1.5s,mb5.7
MOD Modoc 91.84 40 *eP* **P 14 11 20.3 -0.2**
comp=Z,15nm,0.9s,mb5.3
ENH Enshi 92.57 305 P **P 14 11 23.2 -1.0**
comp=Z,12nm,1.0s,mb5.3
KLR Kul'dur 92.97 330 *eP* **P 14 11 29.0 +3.4**
ARUT Antelope Range 93.00 46 *eP* **P 14 11 26.6 +0.6**
WVOR Wild Horse Val 93.10 40 *eP* **P 14 11 26.5 +0.2**
comp=Z,19nm,1.1s,mb5.5
LVC Limon Verde 93.20 119 PFAKE 14 11 40.0 +13
LVC LR LR
comp=Z,730nm,21.0s,MS5.1
CMAR Chiang Mai Arr 93.69 289 P **P 14 11 30.6 +1.1**
comp=Z,0.6nm,0.8s,baz=153,slow=4.0,SNR=3.1
CMAR PP PP 14 15 14.8 -2.8
comp=Z,3.9nm,1.2s,baz=138,slow=7.2,SNR=9.4
MSU Marysvale 94.22 46 *eP* **P 14 11 32.8 +1.3**
TXAR Lajitas Array 94.29 58 P **P 14 11 32.8 +0.8**
comp=Z,3.1nm,1.0s,mb4.7,baz=211,slow=7.3,SNR=24
TXAR PP PP 14 15 22.3 +0.4
comp=Z,2.2nm,0.9s,baz=129,slow=32,SNR=8.2
BMO Blue Mountains 95.45 39 *eP* **P 14 11 36.6 -0.3**
comp=Z,6.2nm,1.0s,mb5.0
BMO *e* pP 14 11 49.0 +1.5
ANMO Albuquerque 95.67 52⇑*iP* **P 14 11 39.0 +0.8**
ANMO Albuquerque 95.67 52 *eP* **P 14 11 38.9 +0.7**
comp=Z,6.2nm,1.2s,mb4.9
ANMO LR LR
comp=Z,2μm,20.0s,MS5.7
PV10 Paradox Valley 96.07 48 *eP* **P 14 11 40.0 +0.2**
PV01 Paradox Valley 96.21 48 *eP* **P 14 11 41.0 +0.5**
LPAZ La Paz 97.62 115 P **P 14 11 50.0 +2.6**
comp=Z,1.6nm,0.8s,mb4.6,baz=235,slow=1.2,SNR=6.1
LPAZ PP PP 14 15 47.4 -0.7
comp=Z,0.9nm,0.6s,baz=293,slow=4.7,SNR=5.0
LPAZ LR LR 14 46 13.9
comp=Z,322nm,21.1s,MS4.8,baz=182,slow=29
LPAZ La Paz 97.62 115 P **P 14 11 50.0 +2.6**
LPAZ PP PP 14 15 47.4 -0.7
LPAZ LR LR 14 46 13.9
MCMT McKenzie Canyo 97.83 41 *eP* **P 14 11 47.4 -0.4**
SDCO Great Sand Dun 97.93 50 *eP* **P 14 11 48.4 0.0**
comp=Z,3.4nm,1.3s,mb4.7
PDAR Pinedale Array 98.42 44 P **P 14 11 50.5 0.0**
comp=Z,1.6nm,1.0s,mb4.5,baz=211,slow=3.2,SNR=11
TNA Tin City 98.59 5 *eP* **P 14 11 50.0 -0.6**
comp=Z,5.9nm,1.1s,mb5.0
QLMT Earthquake Lak 98.62 42 *eP* **P 14 11 52.5 +1.2**
JTS JuntasAbangare 98.65 83 PFAKE 14 12 00.0 +7.8
JTS LR LR
comp=Z,147nm,22.0s,MS4.4
MCK McKinley 99.26 13 *eP* **P 14 11 52.1 -1.7**
comp=Z,7.6nm,1.2s,mb5.1
MCK LR LR
comp=Z,972nm,19.0s,MS5.3
LZH Lanzhou 99.78 307 *eP* **P 14 11 55.0 -1.8**
LZH AP pP 14 11 58.3 -9.1
LZH PP PP 14 16 02.5 -1.5
LZH SKS SKS 14 22 31.6 +0.1
LZH AMB AMB
comp=Z,29nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,125nm,6.6s
LZH LR LR
comp=N,887nm,15.0s
LZH LR LR
comp=Z,986nm,17.9s,MS5.4
COLA College 100.50 13 *iP* P 14 11 59.6 +0.2
COLA College 100.50 13 *e*Pdif P 14 11 56.6 -2.8
comp=Z,12nm,1.1s
COLA LR LR
comp=Z,2μm,19.0s,MS5.6
ILAR Eielson Array 100.59 13 P P 14 11 58.9 -0.9
comp=Z,1.0nm,0.9s,baz=212,slow=5.6,SNR=8.5
ILAR PP PP 14 16 04.0 -5.7
comp=Z,1.5nm,0.9s,baz=218,slow=7.8,SNR=4.8
WMOK Wichita Mounta 100.75 56 PFAKE 14 12 10.0 +8.8
WMOK LR LR
comp=Z,1μm,19.0s,MS5.5
BILL Bilibino 101.36 354 *e*Pdif P 14 12 03.9 +0.8
BILL LR LR
comp=Z,4μm,19.0s,MS6.0
RSSD Black Hills 102.48 45 PFAKE 14 12 20.0 +11
RSSD LR LR
comp=Z,2.0nm,21.0s
PALK Pallekele 102.78 270 PFAKE 14 12 20.0 +9.2
PALK LR LR
comp=Z,337nm,20.0s,MS4.9
YAK Yakutsk 103.41 338 PFAKE 14 12 20.0 +7.6
YAK LR LR
comp=Z,1μm,19.0s,MS5.5
SAML Samuel 105.91 112 PFAKE 14 16 50.0
SAML LR LR
comp=Z,597nm,19.0s,MS5.2
INK Inuvik 106.44 16 PP PP 14 16 41.4 -12
comp=Z,1.6nm,0.9s,baz=229,slow=5.6,SNR=3.8
YKA Yellowknife Ar 108.04 26 Pdiff Pdif 14 12 41.4 +8.7
comp=Z,0.3nm,0.8s,baz=242,slow=4.1,SNR=4.0
YKA PKIKP 14 16 40.0
comp=Z,0.5nm,0.7s,baz=254,slow=1.5,SNR=8.7
YKA PP PP 14 17 03.1 -2.3
comp=Z,0.5nm,0.5s,baz=254,slow=1.5,SNR=5.8
SDV Santo Domingo 109.93 92 PFAKE 14 17 00.0
SDV LR LR
comp=Z,422nm,20.0s,MS5.0
TIXI Tiksi 110.60 344 *i* PKIKP PKPdf 14 16 43.2 +0.3
SUR Sutherland 112.41 198 PFAKE 14 17 00.0 +13
SUR LR LR
comp=Z,190nm,19.0s,MS4.7
RES Resolute Bay 119.90 18 *e*PKPdf PKPdf 14 16 59.6 -1.4
NVS Novosibirsk 120.68 318 *e*PKIKP PKPdf 14 17 02.1 -0.8
NVS *e* 14 23 57.1
NVS pmax pmax
comp=Z,15nm,1.6s
NVS pmax pmax
comp=N,17nm,1.9s
ULHL Ulahol 121.67 303 P PKPdf 14 17 06.4 +1.3
SNR=7.9
TKM2 Tokmak 2 122.32 303 P PKPdf 14 17 07.3 +0.9
SNR=17

KURK Kurchatov 122.38 313 *i* PKIKP PKPdf 14 17 06.5 +0.2
KURK Kurchatov 122.38 313 *e*PKPdf PKPdf 14 17 06.2 -0.1
KURK LR LR
comp=Z,335nm,21.0s,MS5.0
KBK Karagaybulak 122.70 303 P PKPdf 14 17 08.4 +1.2
SNR=9.9
UCH Uchtor 122.89 302 P PKPdf 14 17 09.6 +2.1
SNR=17
CHMS Chumysh 122.94 303 P PKPdf 14 17 08.1 +0.4
SNR=11
AAK Ala-Archa 123.02 303 P PKPdf 14 17 09.0 +1.2
SNR=8.4
AAK Ala-Archa 123.02 303 *i* PKIKP PKPdf 14 17 07.8 0.0
AAK Ala-Archa 123.02 303 *e*PKPdf PKPdf 14 17 07.5 -0.3
USP Ospenovka 123.19 303 P PKPdf 14 17 09.0 +0.9
SNR=17
AML Almayashu 123.45 302 P PKPdf 14 17 10.4 +1.8
SNR=15
EKS2 Erkin-Say 123.53 302 P PKPdf 14 17 10.2 +1.4
SNR=11
LSZ Lusaka 125.55 212 *e*PKPdf PKPdf 14 17 14.1 +0.8
CHKZ Chkalovo 127.74 315 *e*PKPdf PKPdf 14 17 15.9 -0.7
BVAR Borovoye Array 127.81 314 PKP PKPdf 14 17 17.4 +0.7
comp=Z,13nm,0.8s,baz=82,slow=1.0,SNR=39
BRVK Borovoye 127.88 314 *e*PKPdf PKPdf 14 17 16.8 0.0
SCHQ Schefferville 128.56 43 PKP PKPdf 14 17 18.5 +0.5
comp=Z,8.1nm,1.1s,baz=346,slow=5.0,SNR=4.6
SCHQ Schefferville 128.56 43 *e*PKPdf PKPdf 14 17 18.3 +0.2
KMBO Kilima Mbogo 132.02 232 *e*PKPdf PKPdf 14 17 29.7 +3.9
KMBO *e*SKP 14 20 53.2
KMBO LR LR
comp=Z,641nm,20.0s,MS5.3
SVE Sverdlovsk 133.49 319 *e*PKIKP PKPdf 14 17 26.5 -0.9
SVE pmax pmax
comp=Z,40nm,2.0s
ARU Arti 134.67 319 *i* PKIKP PKPdf 14 17 25.9 -3.7
SOKR Solikamsk 135.14 324⇑*i*PKIKP PKPdf 14 17 30.8 +0.5
SOKR pmax pmax
comp=Z,20nm,0.9s
BJO Bjornoya 137.48 353 AMS AMS 15 01 19.1
comp=Z,3μm,18.0s,MS6.1
APA Apatity 140.68 341⇓*i*PKIKP PKPdf 14 17 42.4 +2.3
APA pmax pmax
comp=Z,13nm,1.0s
ARCES ARCESS Array B 140.98 347 PKhKP 14 17 33.0
comp=Z,5.9nm,0.7s,baz=64,slow=2.0,SNR=17
ARCES PKP PKPdf 14 17 40.9 +0.3
comp=Z,15nm,0.9s,baz=77,slow=1.5,SNR=20
KTK1 Kautokeino 141.85 347 *e*P PKPdf 14 17 39.4 -2.7
BHD Baghdad 144.10 283 *e*PKP PKPdf 14 17 47.0 0.0
JOF Joensuu 144.58 337 *e*p PKPbc 14 17 47.0 +0.3
GNI Garni 144.65 294 *e*PKPdf PKPdf 14 17 47.6 -0.2
TI2 Plekhanov 144.68 297 *e*PKIKP PKPdf 14 17 47.6 -0.2
TVAN Van 145.60 291 *i* P PKPdf 14 17 54.0 +4.5
VANB Van 145.62 291 *e*P PKPdf 14 17 54.9 +5.4
MSL Mosul 145.64 287 *e*PKP PKPdf 14 17 49.5 -0.1
GOF Gofitskoye 145.76 303⇑*i*PKIKP PKPdf 14 17 51.0 +1.4
GOF pmax pmax
comp=Z,76nm,1.4s
MOR8 Moi Rana 145.87 351 *e*P PKPdf 14 17 49.4 +0.4
MOS Moscow 146.08 323⇑*i*PKP2 PKPab 14 17 51.9 -1.4
MOS pmax pmax
comp=Z,126nm,0.7s
KIV Kislovodsk 146.11 301 *i* PKP2 PKPab 14 17 52.5 -1.3
KIV Kislovodsk 146.11 301 *e*PKPdf PKPdf 14 17 52.3 +2.1
KAF Kangasniemi 146.76 339 *ep* PKPdf 14 17 51.9 +1.2
comp=Z,31nm,0.5s,baz=40,slow=2.8
KAF Kangasniemi 146.76 339 *e*PKIKP PKPdf 14 17 51.9 +1.2
KAF pmax pmax
comp=Z,31nm,0.5s
OBN Obninsk 146.91 323 *e*PKPdf PKPdf 14 17 51.5 +0.3
VRSR Storozhevoye 146.97 315 *e*PKP2 PKPab 14 17 54.5 -2.4
VRSR pmax pmax
comp=Z,40nm,0.9s
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=E,20nm,1.1s
VRT Varto 147.10 292 *e*P PKPdf 14 17 57.1 +5.1
BEST Besiri 147.24 290 *i* P PKPdf 14 17 56.5 +4.2
ERZM Erzurum 147.24 294 *i* P PKPdf 14 17 56.3 +4.1
EZM Erzurum 147.24 294 P PKPdf 14 17 57.0 +4.8
FINES FINESS Array B 147.34 338 PKPbc PKPdf 14 17 54.7 +3.0
comp=E,66nm,0.6s,baz=54,slow=3.8,SNR=229
FINES FINESS Array B 147.34 338 PKPbc PKPdf 14 17 54.7 +3.0
NSS Namsos 147.76 351 *e*P PKPdf 14 17 54.5 +2.2
NSS *e*P 14 17 54.7
NSS AMb AMB 14 17 57.1
comp=Z,133nm,1.4s
NSS AMS AMS 15 05 35.4
comp=Z,5μm,18.6s
SOC Sochi 148.29 301 *i* PKP2 PKPab 14 17 58.2 -4.2
SOC pmax pmax
comp=Z,29nm,0.9s
SOC pmax pmax
comp=N,8.0nm,0.6s
SOC pmax pmax
comp=E,10.0nm,0.7s
GUMT Gumushane 148.68 295 P PKPdf 14 18 00.8 +6.3
PTK Pertek 148.75 292 *e*P PKPdf 14 18 01.2 +6.6
ELZG Elazig 149.06 291 *i* P PKPdf 14 18 02.1 +7.0
URFA Urfa 149.15 289 *e*P PKPdf 14 18 02.5 +7.2
MALT Malatya 149.50 291 *e*P PKPdf 14 18 01.0 +5.1
MALT Malatya 149.50 291 *e*PKPdf PKPdf 14 17 57.2 +1.4
ANN Anapa 149.74 304 *i* PKHKP 14 18 01.3
ANN pmax pmax
comp=Z,44nm,0.6s
ASF Jabal al Asfar 150.07 278 PKPbc PKPdf 14 18 04.1 +7.1
comp=Z,18nm,0.9s,baz=11,slow=1.5,SNR=18
GZT Gaziantep 150.15 289 *i* P PKPdf 14 18 04.1 +7.1
GAZ Gaziantep 150.42 288 P PKPdf 14 18 04.9 +7.5
DOMB Dombas 150.51 353 *e*P PKPdf 14 18 03.3 +6.6
SVST Sivas 150.64 294 *i* P PKPdf 14 18 05.3 +7.7
KAHT Ahir Dag 150.71 289 *i* P PKPdf 14 18 05.4 +7.6
EIL Elat 151.12 273 *e*PKPdf PKPdf 14 17 59.2 +0.6
EIL *e*PKPbc PKPdf 14 18 06.5 +7.9
COBT Iskenderun 151.15 287 *i* P PKPdf 14 18 06.7 +8.2
NB2 NORSAR Subarra151.21 350 PKP PKPdf 14 18 04.8 +7.0
comp=Z,37nm,0.7s,baz=16,slow=2.6
NB2 NORSAR Subarra151.21 350 PKPa 14 18 04.8
baz=16,slow=2.6
NOA NORSAR Array B 151.21 350 PKPbc PKPdf 14 18 04.9 +7.1
comp=Z,30nm,0.6s,baz=12,slow=4.1,SNR=70
FOO Floro 151.28 356 *e*P PKPdf 14 18 05.4 +7.5
NAO01 NORSAR Array S 151.44 350 *e*PKPbc PKPdf 14 18 05.5 +7.4
MNK Minsk 151.49 327 PKIKP PKPdf 14 18 02.0 +3.6
SNN Bunyan 151.52 292 *e*P PKPdf 14 18 06.8 +7.9
CEYT Ceyhan 151.58 288 *e*P PKPdf 14 18 07.3 +8.2
SIM Simferopol' 152.01 305 *i* PKIKP PKPdf 14 18 08.0 +8.5
SIM pmax pmax
comp=Z,33nm,0.7s
BOYT Boyabat 152.07 297 *i* P PKPdf 14 18 08.3 +8.6
CTKT Corum 152.24 296 *i* P PKPdf 14 18 08.5 +8.6
AVNT Avonos 152.30 292 *i* P PKPdf 14 18 08.2 +8.2
CORM Corum 152.40 295 *e*P PKPdf 14 18 08.6 +8.5
BER Bergen 152.47 356 AMS AMS 15 08 15.3
comp=Z,1μm,21.4s,MS5.7
NIG Nigde 152.50 290 P PKPdf 14 18 08.8 +8.4
TOS Tosya 152.78 297 *e*P PKPdf 14 18 09.8 +9.1
AKASG Malin Array Be 152.93 319 PKPbc PKPdf 14 18 08.9 +8.3
comp=Z,17nm,0.7s,baz=56,slow=2.3,SNR=10
CANT Cankiri 153.13 296 *e*P PKPdf 14 18 09.7 +8.5
KAMT Kaman 153.16 293 *i* P PKPdf 14 18 10.4 +9.1
DBIC Dimbokro 153.19 166 PKP PKPdf 14 18 04.8 +2.8
comp=Z,3.5nm,0.9s,baz=217,slow=2.3,SNR=4.3
DBIC PKPbc PKPdf 14 18 12.5 +10
comp=Z,23nm,1.2s,baz=222,slow=1.4,SNR=4.6
DBIC Dimbokro 153.19 166 *e*PKPdf PKPdf 14 18 04.7 +2.7
BRTR Keskin Array B 153.19 294 PKP PKPdf 14 18 02.8 +1.5
comp=Z,3.3nm,1.3s,baz=135,slow=3.5,SNR=6.9
BRTR PKPbc PKPdf 14 18 09.8 +8.5
comp=Z,11nm,0.8s,baz=127,slow=3.3,SNR=41
BRTR PKPab PKPab 14 18 22.9 0.0
comp=Z,8.9nm,0.5s,baz=128,slow=2.4,SNR=18
CSS Prodhromos 153.41 283 *e*PKPbc PKPdf 14 18 09.6 +7.9
SAFT Safranbolu 153.75 297 P PKPdf 14 18 11.2 +9.1
SUW Suwalki 153.87 330 *e*PKPdf PKPdf 14 18 05.4 +3.6
KIZT Kizilcal 154.61 292 *e*P PKPdf 14 18 13.2 +10
MDU Mudurnu 154.96 296 *e*P PKPdf 14 18 13.9 +10
HENT Hendek 155.15 297 *i* P PKPdf 14 18 01.2 -2.7
ESKT Eskisehir 155.36 294 *i* P PKPdf 14 18 05.3 +1.1
NIE Niedzica 158.32 325 *e*PKP PKPdf 14 18 10.4 +2.6
KSP Ksiaz 159.03 333 *e*PKP PKPab 14 18 53.0 +5.5
CLL Collm 159.79 338 *e*PKIKP PKPdf 14 18 10.0 +0.6

CLL *i* PKP2 PKPab 14 18 52.8 +2.1
BRG Berggiesshubel 159.86 336 *e*PKP2 PKPab 14 18 53.2 +2.1
BRG pmax pmax
comp=Z,24nm,1.5s
KHC Kasperske Hory 161.45 334 *eP* PKPdf 14 18 14.5 +3.3
KHC *ex* x 14 18 51.0
GERES GERESS Array B 161.64 333 PKP PKPdf 14 18 13.5 +2.2
comp=Z,0.8nm,0.8s,baz=315,slow=1.9,SNR=4.0
GERES PKPab PKPab 14 18 58.2 -0.6
comp=Z,2.3nm,0.8s,baz=63,slow=3.0,SNR=5.0
DIVS Divcibare 161.69 313⇑*i*PKP PKPdf 14 18 13.5 +1.9
SSF Saint Saulge 165.85 354 *e*PKP2 PKPab 14 19 12.7 -4.5
comp=Z,24nm,0.8s
AVF Avril sur Loir 166.13 354 *e*PKP2 PKPab 14 19 13.9 -4.6
comp=Z,14nm,0.9s
SMF Signal de Mont 166.23 353 *e*PKP2 PKPab 14 19 14.4 -4.5
comp=Z,51nm,1.0s
TCF Toulx Ste Croi 166.71 357 *e*PKP2 PKPab 14 19 16.6 -4.4
LPG La Plagne 166.82 343 *e*PKP2 PKPab 14 19 18.1 -3.4
ORIF Oris-en-Rattie 167.57 345 *e*PKP2 PKPab 14 19 21.7 -3.1
comp=Z,17nm,0.9s
ESDC Sonseca Array 172.11 31 PKP PKPdf 14 18 20.5 +0.8
comp=Z,1.0nm,0.7s,baz=333,slow=3.3,SNR=7.1
ESDC PKPab PKPab 14 19 44.3 -0.7
comp=Z,0.3nm,0.3s,baz=326,slow=5.3,SNR=5.2

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*IDC **20** 14:05:31.2±1.0, 8.82S×113.13E, mb4.1/6, mb1 4.2/6, mb1mx4.1/14, mbtmp4.1/6, Error ellipse: s-maj=54.6km s-min=18.3km az=59.0*
*NEIC **20** 14:05:40.8±1.4, 8.87S×113.23E, h82km±13km, mb4.2/10, Error ellipse: s-maj=20.4km s-min=8.6km az=68.0*
ISC 20 14:05:40.5±1.4, 8.78S±0.08×113.3E±0.1, h92km±11km, n25, σ1°09/27, mb4.1/15, 3C-2D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**0.89**	**71**	⇓*i*Pn	**P**	**14 06 01.1**	**+1.8**
SRDI				*i* Sn	**S**	**14 06 12.8**	**-0.6**
KELI	**Kelakatan**	**1.31**	**65**⇑*e*Pn		**P**	**14 06 05.5**	**+1.1**
KELI				*i* Sn	**S**	**14 06 21.8**	**-0.3**
RATI	**Rata**	**2.21**	**89**⇓*e*Pn		**P**	**14 06 16.7**	**+0.5**
RATI				*i* Sn	**S**	**14 06 39.1**	**-3.6**
KEDI	**Kedomdong**	**2.80**	**84**⇑*e*Pn		**P**	**14 06 23.1**	**-1.3**
KEDI				*i* Sn	**S**	**14 06 51.8**	**-5.5**
BUNI	**Buntu Taipa**	**8.64**	**54**⇑*e*P		**P**	**14 07 45.7**	**+1.3**
MBWA	**Marble Bar**	**13.79**	**154**	*e*P	**P**	**14 08 50.9**	**-2.2**
WRA	**Warramunga Arr**	**23.18**	**121**	P	**P**	**14 10 40.5**	**+0.7**
	2.0nm,0.4s,mb3.8,baz=295,slow=12,SNR=5.4						
WRAB	**Tennant Creek**	**23.19**	**121**	*e*P	**P**	**14 10 40.9**	**+1.0**
	7.4nm,0.8s,mb4.1						
NWAO	**Narrogin (SRO)**	**24.30**	**172**	P	**P**	**14 10 50.5**	**-0.1**
	9.6nm,1.0s,mb4.1,baz=247,slow=5.6,SNR=7.1						
NWAO	**Narrogin (SRO)**	**24.30**	**172**	*e*P	**P**	**14 10 50.3**	**-0.3**
	12nm,1.0s,mb4.2						
ASAR	**Alice Springs**	**24.66**	**129**	P	**P**	**14 10 55.5**	**+1.3**
	1.7nm,0.5s,mb3.7,baz=303,slow=8.8,SNR=8.0						
ASAR				PcP	PcP	14 14 31.6	+1.4
	0.9nm,0.5s,baz=309,slow=1.8,SNR=8.3						
CM31	**Chiang Mai Arr**	**30.54**	**332**	P	**P**	**14 11 46.3**	**-1.3**
	2.6nm,0.6s,mb4.1						
CMAR	**Chiang Mai Arr**	**30.54**	**332**	P	**P**	**14 11 46.8**	**-0.9**
	2.4nm,0.7s,mb4.0,baz=162,slow=7.8,SNR=9.3						
CTAO	**Charters Tower**	**33.77**	**113**	P	**P**	**14 12 10.6**	**-5.0**
	35nm,1.6s,mb4.9						
ENH	**Enshi**	**39.00**	**355**	P	**P**	**14 12 58.7**	**-0.8**
	5.0nm,0.9s,mb4.3						
LSA	**Lhasa**	**43.79**	**332**	P	**P**	**14 13 41.0**	**+2.0**
	8.1nm,1.4s,mb4.3						
KS15	**Wonju Array Si**	**47.97**	**16**	P	**P**	**14 14 11.7**	**-0.1**
ULN	**Ulaanbaatar**	**56.66**	**355**	*e*P	**P**	**14 15 16.0**	**-0.6**
	1.7nm,0.8s,mb4.1						
SONM	**Songino Array**	**56.69**	**354**	P	**P**	**14 15 16.9**	**+0.1**
	1.8nm,0.8s,mb4.1,baz=176,slow=8.4,SNR=5.3						
KURK	**Kurchatov**	**66.44**	**337**	P	**P**	**14 16 21.8**	**-0.3**
	1.7nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**71.55**	**334**	P	**P**	**14 16 53.9**	**+0.5**
	1.2nm,0.7s,mb3.8,baz=135,slow=8.4,SNR=9.1						
BRVK	**Borovoye**	**71.62**	**334**	P	**P**	**14 16 53.2**	**-0.5**
	2.2nm,0.9s,mb4.0						
CHKZ	**Chkalovo**	**71.91**	**335**	*e*P	**P**	**14 16 55.6**	**+0.1**
	3.7nm,0.9s,mb4.2						
YKA	**Yellowknife Ar**	**116.23**	**23**	PKP	PKPdf	14 24 14.7	+1.9
	0.2nm,0.5s,baz=310,slow=1.5,SNR=5.0						
YKA	**Yellowknife Ar**	**116.23**	**23**	PKP	PKPdf	14 24 14.7	+1.9

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*BJI **20** 14:13:03.7, 5.20N×93.30E, h30km, mb4.5*
*NEIC **20** 14:13:03.7±0.5, 5.23N×93.27E, h30km, mb4.5/6, Error ellipse: s-maj=12.2km s-min=10.2km az=211.0*
*IDC **20** 14:13:04.0±0.7, 5.49N×93.49E, h27km±3km, mb4.0/11, mb1 4.1/12, mb1mx4.0/19, mbtmp4.1/12, ML3.4/1, Error ellipse: s-maj=32.3km s-min=12.8km az=43.0*
ISC 20 14:13:01.5±0.6, 5.20N±0.08×93.27E±0.08, h28km, h28km±1.0km: pP-P, n28, σ1°03/27, mb4.3/17, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.66**	**280**	*e*P	**P**	**14 16 00.6**	**-2.2**
CM31	**Chiang Mai Arr**	**14.30**	**22**	*e*P	**P**	**14 16 24.1**	**-0.3**
	12nm,0.7s						
CMAR	**Chiang Mai Arr**	**14.30**	**22**	Pn	**P**	**14 16 24.6**	**+0.2**
	0.1nm,0.3s,baz=218,slow=14,SNR=15						
CMAR				Sn	**S**	**14 18 54.0**	**-9.0**
	0.6nm,0.3s,baz=111,slow=25,SNR=4.3						
KKTK	**Khon Kaen**	**14.51**	**40**	P	**P**	**14 16 34.0**	**+6.9**
	494nm,0.7s						
CHRT	**Chiangrai**	**15.90**	**23**	⇓P	**P**	**14 16 46.0**	**+0.7**
	266nm,1.2s						
HYB	**Hyderabad**	**18.84**	**311**	*i* P	**P**	**14 17 23.5**	**+1.6**
QIZ	**Qiongzhong**	**21.22**	**48**	*e*P	**P**	**14 17 47.9**	**+0.3**
	27nm,1.4s,mb4.4						
LSA	**Lhasa**	**24.46**	**356**	*e*P	**P**	**14 18 19.6**	**+0.1**
	12nm,0.8s,mb4.4						
SONM	**Songino Array**	**43.95**	**13**	P	**P**	**14 21 05.2**	**-2.7**
	1.3nm,0.7s,mb3.8,baz=198,slow=7.8,SNR=5.9						
SONM				pP	pP	14 21 15.1	-1.1
	2.9nm,0.7s,baz=194,slow=8.2,SNR=10						
SONM	**Songino Array**	**43.95**	**13**	P	**P**	**14 21 05.2**	**-2.7**
SONM				pP	pP	14 21 15.1	-1.1
ULN	**Ulaanbaatar**	**44.12**	**13**	*e*P	**P**	**14 21 09.0**	**-0.4**
	3.2nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**47.48**	**123**	P	**P**	**14 21 36.4**	**+0.1**
	2.9nm,0.7s,mb4.3,baz=301,slow=9.3,SNR=21						
WRA				pP	pP	14 21 45.5	+0.8
	11nm,0.7s,baz=301,slow=9.1,SNR=32						
WRAB	**Tennant Creek**	**47.48**	**123**	*e*P	**P**	**14 21 36.4**	**0.0**
	25nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**47.49**	**123**	*e*P	**P**	**14 21 36.2**	**-0.2**
ASAR	**Alice Springs**	**48.92**	**128**	P	**P**	**14 21 47.5**	**0.0**
	0.5nm,0.7s,mb3.6,baz=305,slow=7.8,SNR=9.6						
ASAR				pP	pP	14 21 56.3	+0.3
	5.8nm,1.0s,baz=298,slow=7.9,SNR=19						
BVAR	**Borovoye Array**	**51.25**	**342**	P	**P**	**14 22 02.2**	**-2.6**
	0.6nm,0.4s,mb3.9,baz=202,slow=29,SNR=5.1						
BVAR				pP	pP	14 22 11.4	-2.0
	1.1nm,0.6s,baz=192,slow=29,SNR=3.5						
BRVK	**Borovoye**	**51.31**	**342**	P	**P**	**14 22 00.6**	**-4.7**
	3.6nm,0.5s,mb4.6						
CHKZ	**Chkalovo**	**51.75**	**343**	*e*P	**P**	**14 22 08.0**	**-0.7**
	3.7nm,0.8s,mb4.4						
CHKZ				*e*	pP	14 22 15.4	-1.7
STKA	**Stephens Creek**	**58.93**	**132**	pP	pP	14 23 09.7	+0.1
	2.8nm,0.5s,baz=294,slow=6.4,SNR=4.1						
ASF	**Jabal al Asfar**	**58.98**	**305**	P	**P**	**14 23 02.5**	**+1.3**
	0.8nm,0.5s,mb4.0,baz=35,slow=2.3,SNR=3.0						
EIL	**Elat**	**60.03**	**301**	P	**P**	**14 23 08.9**	**+0.3**
	4.6nm,1.1s,mb4.4,baz=76,slow=12,SNR=2.8						
EIL				pP	pP	14 23 16.6	-0.6
	1.9nm,0.6s,baz=65,slow=20,SNR=1.9						
BRTR	**Keskin Array B**	**63.54**	**312**	P	**P**	**14 23 31.2**	**-0.7**
	2.0nm,0.8s,mb4.2,baz=130,slow=6.8,SNR=10						
BRTR				pP	pP	14 23 39.4	-1.3
	0.6nm,0.7s,baz=127,slow=7.0,SNR=2.9						
MLR	**Muntele Rosu**	**70.49**	**316**	P	**P**	**14 24 16.6**	**+0.9**
	6.4nm,0.7s,mb4.6,baz=45,slow=1.4,SNR=12						
MLR				pP	pP	14 24 25.7	+1.3
	4.8nm,0.9s,baz=140,slow=6.6,SNR=4.2						
FINES	**FINESS Array B**	**74.67**	**333**	P	**P**	**14 24 40.1**	**0.0**
	2.0nm,0.7s,mb4.1,baz=117,slow=4.3,SNR=6.3						
FINES				pP	pP	14 24 49.2	+0.4
	1.6nm,0.6s,baz=146,slow=6.9,SNR=2.5						
ARCES	**ARCESS Array B**	**77.48**	**341**	P	**P**	**14 24 56.2**	**+0.4**
	2.9nm,0.8s,mb4.3,baz=104,slow=5

ARCES pP pP 14 25 05.1 +0.4
2.6nm,0.9s,baz=101,slow=6.9,SNR=1.4
ARCES ARCESS Array B 77.48 341 P P 14 24 56.2 +0.4
ARCES pP pP 14 25 05.1 +0.4
GERES GERESS Array B 79.24 319 P P 14 25 07.5 +1.6
2.5nm,0.8s,mb4.2,baz=105,slow=11,SNR=7.6
GERES pP pP 14 25 15.0 +0.2
0.4nm,0.4s,baz=154,slow=43,SNR=2.6
JCT Junction City 142.38 19 *e*PKPdf PKPdf 14 32 34.6 -2.6

*MOS **20** 14:15:16.9±1.4, 14.50N×92.44E, h33km, mb5.1/23, Error ellipse: s-maj=14.4km s-min=7.9km az=114.3*
*IDC **20** 14:15:17.2±0.6, 14.40N×92.32E, h19km±3km, mb4.4/16, mb1 4.6/17, mb1mx4.5/21, mbtmp4.5/17, ML4.0/1, MS4.2/2, Ms1 4.2/2, ms1mx3.4/20, Error ellipse: s-maj=28.2km s-min=12.0km az=50.0*
*BJI **20** 14:15:18.6, 14.50N×92.40E, h30km, mB4.9, mb4.4, Ms5.2, Msz5.5*
*NEIC **20** 14:15:18.6±0.3, 14.46N×92.40E, h30km, mb4.9/35, Error ellipse: s-maj=12.0km s-min=7.4km az=62.0*
ISC 20 14:15:14.9±0.3, 14.57N±0.05×92.37E±0.04, h20km, h20km±1.5km:pP-P, n126, σ1§46/125, mb4.8/50, MS5.2/1, 4C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**7.39**	**58**	*e*Pn	**Pn**	**14 17 07.5**	**+3.0**
	12nm,0.8s						
CMAR	**Chiang Mai Arr**	**7.39**	**58**	Pn	**Pn**	**14 17 10.8**	**+6.3**
	0.6nm,0.3s,baz=248,slow=15,SNR=7.2						
CMAR				Sn	**Sn**	**14 18 23.3**	**-5.4**
	1.3nm,0.3s,baz=244,slow=32,SNR=4.4						
CMAR				LR	LR	14 20 51.5	
	comp=Z,127nm,18.6s,baz=240,slow=44						
NNT	**Nongplab**	**7.43**	**105**	P	**Pn**	**14 17 05.0**	**0.0**
NST	**Nakhon Sawan**	**7.58**	**81**	P	**Pn**	**14 17 06.5**	**-0.6**
BWNR	**Bhubaneshwar**	**8.46**	**313**	*e*P	**P**	**14 17 14.0**	**-5.4**
BWNR				*e*S	**Sn**	**14 18 44.0**	**-11**
VIS	**Vishakhapatnam**	**9.23**	**291**	*e*P	**P**	**14 17 25.5**	**-4.5**
VIS				AMb	AMB	14 17 29.4	
	comp=Z,107nm,1.4s						
VIS				*e*S	**Sn**	**14 19 01.4**	**-13**
AGT	**Agartala**	**9.32**	**354**	*e*	**P**	**14 17 18.0**	**-13**
IMP	**Imphal**	**10.26**	**8**	*e*	**P**	**14 17 36.1**	**-8.2**
SHL	**Shillong**	**10.95**	**358**	*e*	**P**	**14 17 42.5**	**-11**
SHL				*e*S	**S**	**14 19 42.5**	**-14**
BLSP	**Bilaspur**	**12.28**	**309**	*e*P	**P**	**14 18 08.8**	**-3.0**
BLSP				AMb	AMB	14 18 11.5	
	comp=Z,51nm,0.7s						
BLSP				*e*S	**S**	**14 20 13.6**	**-15**
HYB	**Hyderabad**	**13.58**	**284**	*e*P	**P**	**14 18 31.5**	**+2.4**
HYB				*e*S	**S**	**14 20 55.0**	**-5.4**
HYB	**Hyderabad**	**13.58**	**284**	*i* P	**P**	**14 18 31.5**	**+2.4**
HYB				*e*		14 20 36.0	
HYB				*e*S	**S**	**14 20 55.0**	**-5.4**
JIRN	**Jiri**	**14.23**	**337**	*e*P	**P**	**14 18 34.4**	**-3.2**
	comp=Z,57nm,0.7s						
NGP	**Nagpur**	**14.26**	**299**	*e*P	**P**	**14 18 36.7**	**-1.3**
NGP				*e*		14 18 46.5	
NGP				*e*S	**S**	**14 21 09.2**	**-7.4**
PKI	**Pulchoki**	**14.46**	**334**	*e*P	**P**	**14 18 37.3**	**-3.4**
	comp=Z,76nm,0.7s						
ALBI	**Allahabad**	**14.57**	**319**	*e*	**S**	**14 21 34.0**	**+10**
DMN	**Daman**	**14.63**	**334**	*e*P	**P**	**14 18 38.7**	**-4.1**
	comp=Z,101nm,0.8s						
KKN	**Kakani**	**14.71**	**335**	*e*P	**P**	**14 18 39.5**	**-4.4**
LSA	**Lhasa**	**15.10**	**356**	*e*P	**P**	**14 18 50.5**	**+1.6**
LSA				pmax	pmax		
	comp=Z,43nm,0.7s						
LSA	**Lhasa**	**15.10**	**356**	*e*P	**P**	**14 18 50.5**	**+1.5**
	comp=Z,43nm,0.7s						
GKN	**Gorkha**	**15.17**	**333**	*e*P	**P**	**14 18 46.0**	**-3.9**
	comp=Z,76nm,0.4s						
KOLN	**Koldanda**	**15.46**	**330**	*e*P	**P**	**14 18 51.1**	**-2.5**
	comp=Z,50nm,0.5s						
LATR	**Latur**	**15.63**	**286**	*e*P	**P**	**14 18 57.0**	**+1.1**
BHPL	**Bhopal**	**16.55**	**304**	*e*P	**P**	**14 19 07.0**	**-0.6**
BHPL				*e*		14 19 12.5	
	comp=Z,46nm,1.3s						
BHPL				*e*S	**S**	**14 22 06.3**	**-3.7**
KAD	**Karad**	**17.70**	**281**	*e*P	**P**	**14 19 21.7**	**-0.3**
KAD				*i*	**S**	**14 22 26.9**	**-9.4**
POO	**Poona**	**18.18**	**285**	*e*P	**P**	**14 19 29.3**	**+1.2**
POO				*e*P		14 19 29.3	
POO				*e*		14 19 32.3	
	comp=Z,15nm,0.3s						
POO				*e*		14 19 32.3	
	comp=Z,15nm,0.3s						
POO				*e*	**S**	**14 22 41.5**	**-5.8**
BOM	**Bombay**	**19.21**	**286**	*e*	**P**	**14 19 35.2**	**-5.3**
BOM				*e*	**S**	**14 23 00.9**	**-10**
NDI	**New Delhi**	**19.86**	**317**	*e*P	**P**	**14 19 46.5**	**-1.2**
NDI				*e*S	**S**	**14 23 25.5**	**+0.8**
DDI	**Dehra Dun**	**20.48**	**322**	*e*P	**P**	**14 19 52.5**	**-1.7**
DDI				*e*	**S**	**14 23 31.6**	**-5.8**
ENH	**Enshi**	**22.19**	**42**	*e*P	**P**	**14 20 11.0**	**-0.6**
	comp=Z,19nm,0.7s,mb4.6						
BHK	**Bhakra**	**22.24**	**322**	*e*	**S**	**14 24 13.8**	**+3.0**
XAN	**Xi'an**	**24.49**	**35**	P	**P**	**14 20 33.8**	**-0.3**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.2						
TGY	**Tagaytay City**	**27.68**	**87**	LR	LR	14 32 03.5	
	comp=Z,5μm,18.3s,MS5.2,baz=3.1,slow=36						
AAK	**Ala-Archa**	**31.92**	**335**	*e*P	**P**	**14 21 40.7**	**-0.7**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**31.92**	**335**	*e*P	**P**	**14 21 40.6**	**-0.7**
	comp=Z,9.0nm,1.0s,mb4.5						
SONM	**Songino Array**	**35.15**	**16**	P	**P**	**14 22 10.6**	**+1.3**
	comp=Z,6.1nm,1.0s,mb4.5,baz=203,slow=9.4,SNR=8.4						
SONM				pP	pP	14 22 17.5	+2.2
	comp=Z,16nm,1.1s,baz=207,slow=8.3,SNR=11						
ULN	**Ulaanbaatar**	**35.36**	**17**	*e*P	**P**	**14 22 09.8**	**-1.3**
ULN				pmax	pmax		
	comp=Z,70nm,1.5s,mb5.4						
ULN	**Ulaanbaatar**	**35.36**	**17**	*e*P	**P**	**14 22 09.8**	**-1.3**
	comp=Z,70nm,1.5s,mb5.4						
ZAK	**Zakamensk**	**36.80**	**12**	*e*P	**P**	**14 22 25.0**	**+1.8**
KURK	**Kurchatov**	**37.73**	**346**	*e*P	**P**	**14 22 31.6**	**+0.6**
KURK				pmax	pmax		
	comp=Z,112nm,1.1s,mb5.5						
KURK	**Kurchatov**	**37.73**	**346**	*e*P	**P**	**14 22 31.6**	**+0.6**
	comp=Z,112nm,1.1s,mb5.5						
TLY	**Talaya**	**38.11**	**11**	*e*P	**P**	**14 22 35.5**	**+1.3**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
TLY	**Talaya**	**38.11**	**11**	*e*P	**P**	**14 22 35.5**	**+1.3**
	comp=Z,7.5nm,0.9s,mb4.4						
NVS	**Novosibirsk**	**40.80**	**352**	*e*P	**P**	**14 22 55.5**	**-1.0**
BVAR	**Borovoye Array**	**42.13**	**340**	P	**P**	**14 23 09.9**	**+2.5**
	comp=Z,3.1nm,0.9s,mb3.9,baz=140,slow=11,SNR=5.5						
BVAR				pP	pP	14 23 16.1	+2.6
	comp=Z,7.1nm,0.8s,baz=127,slow=7.4,SNR=11						
BRVK	**Borovoye**	**42.19**	**340**	*e*P	**P**	**14 23 08.2**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.5						
BRVK	**Borovoye**	**42.19**	**340**	*e*P	**P**	**14 23 08.2**	**+0.3**
	comp=Z,11nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**42.61**	**341**	*e*P	**P**	**14 23 11.8**	**+0.5**
CHKZ				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.1						
CHKZ	**Chkalovo**	**42.61**	**341**	*e*P	**P**	**14 23 11.8**	**+0.5**
	comp=Z,37nm,0.9s,mb5.1						
MDJ	**Mudanjiang**	**43.48**	**39**	P	**P**	**14 23 23.2**	**+4.7**
MBWA	**Marble Bar**	**44.53**	**142**	P	**P**	**14 23 26.6**	**-0.7**
	comp=Z,6.8nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**46.15**	**134**	*e*P	**P**	**14 23 39.5**	**-0.8**
	comp=Z,36nm,1.0s,mb5.3						
SVE	**Sverdlovsk**	**48.58**	**337**	*e*P	**P**	**14 23 57.0**	**-1.8**
SVE				pmax	pmax		
	comp=Z,80nm,1.3s,mb5.6						
GNI	**Garni**	**48.64**	**311**	*e*P	**P**	**14 24 01.3**	**+1.8**
GNI				*PP	pP	14 24 09.2	+3.5
GNI				pmax	pmax		
	comp=Z,62nm,1.1s						
GNI	**Garni**	**48.64**	**311**	P	**P**	**14 24 01.5**	**+2.0**
	comp=Z,25nm,1.1s,mb5.2,baz=138,slow=5.3,SNR=5.3						
GNI				pP	pP	14 24 09.2	+3.5
	comp=Z,18nm,0.8s,baz=210,slow=3.5,SNR=8.2						
GNI	**Garni**	**48.64**	**311**	*e*P	**P**	**14 24 01.3**	**+1.8**
	comp=Z,62nm,1.1s,mb5.5						
GNI				pP	pP	14 24 09.2	+3.5
ARU	**Arti**	**49.09**	**336**	*e*P	**P**	**14 24 01.6**	**-1.1**
ARU				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
ARU	**Arti**	**49.09**	**336**	*e*P	**P**	**14 24 01.6**	**-1.1**
	comp=Z,18nm,0.9s,mb5.1						
KIV	**Kislovodsk**	**51.29**	**315**	*e*P	**P**	**14 24 20.4**	**+0.7**
KIV				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
KIV				pmax	pmax		
	comp=E,16nm,1.1s						
KIV	**Kislovodsk**	**51.29**	**315**	*e*P	**P**	**14 24 20.7**	**+1.0**
	comp=E,30nm,1.0s,mb5.2						
KLBR	**Kellerberrin**	**51.97**	**152**	*e*P	**P**	**14 24 24.6**	**-0.4**
	comp=E,916nm,1.7s						
YSS	**Yuzh-Sakhalins**	**52.77**	**42**	*e*P	pP	14 24 37.3	+0.3
YSS				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
YSS	**Yuzh-Sakhalins**	**52.77**	**42**	*e*P	pP	14 24 37.3	+0.3
	comp=Z,19nm,0.9s						
NWAO	**Narrogin (SRO)**	**52.88**	**154**	*e*P	**P**	**14 24 30.7**	**-1.1**
NWAO				pmax	pmax		
	comp=Z,38nm,1.0s						
NWAO	**Narrogin (SRO)**	**52.88**	**154**	P	**P**	**14 24 31.6**	**-0.3**
	comp=Z,23nm,0.8s,mb5.2,baz=334,slow=9.8,SNR=16						
NWAO	**Narrogin (SRO)**	**52.88**	**154**	*e*P	**P**	**14 24 30.7**	**-1.1**
	comp=Z,38nm,1.0s,mb5.3						
MALT	**Malatya**	**52.94**	**307**	*e*P	**P**	**14 24 35.0**	**+2.8**
MALT				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
MALT	**Malatya**	**52.94**	**307**	*e*P	**P**	**14 24 35.0**	**+2.8**
	comp=Z,9.7nm,1.2s,mb4.6						
ASF	**Jabal al Asfar**	**53.28**	**299**	P	**P**	**14 24 39.7**	**+4.9**
	comp=Z,5.5nm,1.0s,mb4.4,baz=16,slow=4.3,SNR=5.1						
WRA	**Warramunga Arr**	**53.67**	**129**	P	**P**	**14 24 37.2**	**-0.6**
	comp=Z,23nm,0.8s,mb5.2,baz=310,slow=8.0,SNR=69						
WRAB	**Tennant Creek**	**53.67**	**129**	*e*P	**P**	**14 24 37.2**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,62nm,0.9s,mb5.5						
WRAB	**Tennant Creek**	**53.67**	**129**	*e*P	**P**	**14 24 37.2**	**-0.6**
	comp=Z,62nm,0.9s,mb5.5						
WB2	**Warramunga Arr**	**53.68**	**129**	⇓*i*P	**P**	**14 24 37.0**	**-0.9**
YAK	**Yakutsk**	**54.30**	**21**	*e*P	**P**	**14 24 44.8**	**+3.0**
YAK				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.3						
YAK	**Yakutsk**	**54.30**	**21**	*e*P	**P**	**14 24 44.8**	**+3.0**
	comp=Z,34nm,0.8s,mb5.3						
EIL	**Elat**	**54.76**	**296**	P	**P**	**14 24 48.5**	**+2.8**
	comp=Z,5.4nm,0.9s,mb4.6						
ASAR	**Alice Springs**	**55.62**	**133**	P	**P**	**14 24 51.2**	**-0.8**
	comp=Z,8.4nm,0.6s,mb5.0,baz=308,slow=6.8,SNR=38						
ASAR				PcP	PcP	14 25 51.5	0.0
	comp=Z,13nm,1.1s,baz=314,slow=3.6,SNR=9.0						
FORT	**Forrest**	**56.67**	**143**	*e*P	**P**	**14 24 59.6**	**+0.1**
	comp=Z,76nm,0.6s,mb5.9						
BRTR	**Keskin Array B**	**56.85**	**308**	P	**P**	**14 25 00.3**	**-0.4**
	comp=Z,3.6nm,0.8s,mb4.5,baz=119,slow=7.4,SNR=11						
BRTR				pP	pP	14 25 07.4	+0.5
	comp=Z,16nm,1.1s,baz=124,slow=9.3,SNR=20						
OBN	**Obninsk**	**58.85**	**326**	P	**P**	**14 25 17.0**	**+2.6**
	comp=Z,102nm,1.8s,mb5.5						
MA2	**Magadan**	**61.74**	**29**	*e*P	**P**	**14 25 32.8**	**-1.4**
MA2				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.0						
MA2	**Magadan**	**61.74**	**29**	*e*P	**P**	**14 25 32.8**	**-1.3**
	comp=Z,11nm,0.8s,mb5.0						
AKASG	**Malin Array Be**	**61.89**	**320**	P	**P**	**14 25 34.8**	**-0.5**
	comp=Z,4.8nm,0.7s,mb4.7,baz=86,slow=5.5,SNR=4.4						
AKASG				pP	pP	14 25 41.9	+0.2
	comp=Z,0.4nm,0.3s,baz=61,slow=24,SNR=2.6						
CTA	**Charters Tower**	**63.19**	**122**	P	**P**	**14 25 44.8**	**+0.5**
	comp=Z,6.9nm,0.9s,mb4.8,baz=301,slow=8.7,SNR=5.5						
MLR	**Muntele Rosu**	**63.25**	**314**	P	**P**	**14 25 45.2**	**+0.8**
	comp=Z,4.7nm,0.8s,mb4.7,baz=140,slow=7.5,SNR=3.5						
JOF	**Joensuu**	**64.10**	**334**	*e*p	pP	14 25 55.8	-0.2
	comp=Z,9.9nm,0.8s						
STKA	**Stephens Creek**	**66.01**	**135**	P	**P**	**14 26 00.9**	**-1.6**
	comp=Z,2.1nm,0.4s,mb4.5,baz=8.3,slow=14,SNR=4.9						
FINES	**FINESS Array B**	**66.02**	**331**	P	**P**	**14 26 02.6**	**+0.5**
	comp=Z,4.5nm,0.8s,mb4.5,baz=90,slow=7.6,SNR=8.8						
FINES				pP	pP	14 26 08.8	+0.3
	comp=Z,7.2nm,0.7s,baz=108,slow=12,SNR=6.9						
KAF	**Kangasniemi**	**66.08**	**332**	*e*p	**P**	**14 26 09.1**	**+6.7**
	comp=Z,1.8nm,0.6s,mb4.3,baz=102,slow=6.0						
KAF	**Kangasniemi**	**66.08**	**332**	*e*P	**P**	**14 26 09.1**	**+6.7**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ARCES	**ARCESS Array B**	**68.42**	**340**	P	**P**	**14 26 18.5**	**+1.4**
	comp=Z,3.4nm,0.7s,mb4.5,baz=90,slow=4.9,SNR=5.9						
ARCES				pP	pP	14 26 24.5	+1.1
	comp=Z,4.6nm,0.7s,baz=90,slow=7.3,SNR=3.2						
LSZ	**Lusaka**	**70.03**	**248**	*e*P	**P**	**14 26 28.5**	**+0.7**
LSZ				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
LSZ	**Lusaka**	**70.03**	**248**	*e*P	**P**	**14 26 28.5**	**+0.6**
	comp=Z,6.4nm,0.9s,mb4.5						
KSP	**Ksiaz**	**70.06**	**319**	*e*P	pP	14 26 35.2	+1.4
BILL	**Bilibino**	**70.57**	**23**	*e*P	**P**	**14 26 33.5**	**+3.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
BILL	**Bilibino**	**70.57**	**23**	*e*P	**P**	**14 26 33.5**	**+3.2**
	comp=Z,4.6nm,0.9s,mb4.4						
TRO	**Tromso**	**70.68**	**339**	*e*P	**P**	**14 26 32.0**	**+1.1**
PRU	**Pruhonice**	**71.17**	**318**	*e*P	pP	14 26 42.1	+1.5
BRG	**Berggiesshubel**	**71.55**	**319**	*e*P	**P**	**14 26 41.2**	**+4.7**
BRG				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.6						
BRG	**Berggiesshubel**	**71.55**	**319**	*e*P	**P**	**14 26 41.2**	**+4.7**
	comp=Z,13nm,1.5s,mb4.6						
BRG				*i*		14 26 44.6	
BRG				*e*		14 28 56.5	
BRG				*i*		14 39 20.0	
GERES	**GERESS Array B**	**71.73**	**317**	P	**P**	**14 26 38.4**	**+0.7**
	comp=Z,5.4nm,0.7s,mb4.6,baz=90,slow=5.3,SNR=7.3						
GERES				pP	pP	14 26 45.6	+1.6
	comp=Z,5.2nm,0.7s,baz=79,slow=6.8,SNR=15						
KHC	**Kasperske Hory**	**71.81**	**317**	*e*P	pP	14 26 45.0	+0.5
NB2	**NORSAR Subarra**	**73.09**	**330**	P	**P**	**14 26 45.4**	**0.0**
	comp=Z,6.2nm,0.8s,mb4.6,baz=91,slow=4.8						
NOA	**NORSAR Array B**	**73.09**	**330**	P	**P**	**14 26 48.6**	**+3.3**
	comp=Z,5.3nm,0.9s,mb4.5,baz=90,slow=5.9,SNR=7.8						
NOA				pP	pP	14 26 52.9	+1.2
	comp=Z,3.7nm,0.7s,baz=90,slow=6.0,SNR=5.5						
NOA	**NORSAR Array B**	**73.09**	**330**	P	**P**	**14 26 48.6**	**+3.3**
NOA				pP	pP	14 26 52.9	+1.2
GRF	**Grafenberg Arr**	**73.33**	**318**	*e*P	**P**	**14 26 51.4**	**+4.4**
GRF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
GRF	**Grafenberg Arr**	**73.33**	**318**	*e*P	**P**	**14 26 51.4**	**+4.4**
	comp=Z,10.0nm,0.9s,mb4.8						
GRF				*e*pP	pP	14 26 55.4	+2.0
LPG	**La Plagne**	**76.72**	**314**	*e*P	**P**	**14 27 07.1**	**+0.6**
	comp=Z,28nm,0.8s,mb4.9						
LPG	**La Plagne**	**76.72**	**314**	*e*P	**P**	**14 27 07.1**	**+0.6**
LPG				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
BOSA	**Boshof**	**77.76**	**236**	*e*P	**P**	**14 27 13.4**	**+0.8**
BOSA				*e*	pP	14 27 20.8	+1.7
BOSA				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
BOSA	**Boshof**	**77.76**	**236**	*e*P	**P**	**14 27 13.3**	**+0.7**
	comp=Z,6.5nm,0.7s,mb4.7						
BOSA				*e*	pP	14 27 20.8	+1.8
DAG	**Danmarks Havn**	**80.60**	**347**	⇑*e*P	pP	14 27 33.1	-0.5
DAG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
DAG	**Danmarks Havn**	**80.60**	**347**	⇑*e*P	pP	14 27 33.1	-0.5
DAG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
DAG	**Danmarks Havn**	**80.60**	**347**	⇑*e*P	pP	14 27 33.1	-0.5
	comp=Z,4.2nm,0.9s						
DAG	**Danmarks Havn**	**80.60**	**347**	⇑*i*P	pP	14 27 33.1	-0.5
	comp=Z,4.2nm,0.9s						
CASY	**Casey**	**81.75**	**173**	*e*P	**P**	**14 27 33.5**	**+0.2**
	comp=Z,10nm,0.8s,mb4.8						
SUR	**Sutherland**	**82.77**	**234**	*e*P	**P**	**14 27 41.1**	**+1.9**
	comp=Z,7.8nm,0.9s,mb4.7						
MAW	**Mawson**	**84.72**	**191**	*e*P	**P**	**14 27 46.6**	**-1.8**
MAW				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MAW	**Mawson**	**84.72**	**191**	*e*P	**P**	**14 27 46.6**	**-1.8**
	comp=Z,8.7nm,1.0s,mb4.8						
ESDC	**Sonseca Array**	**85.61**	**310**	P	**P**	**14 27 55.9**	**+2.4**
	comp=Z,0.3nm,0.3s,mb4.0,baz=71,slow=5.5,SNR=3.2						
ESDC				pP	pP	14 28 01.4	+1.4
	comp=Z,0.5nm,0.4s,baz=56,slow=5.3,SNR=3.3						
DBIC	**Dimbokro**	**95.28**	**278**	P	**P**	**14 28 42.5**	**+3.0**
DBIC				pmax	pmax		
	comp=Z,21nm,1.5s						
DBIC	**Dimbokro**	**95.28**	**278**	P	**P**	**14 28 42.5**	**+3.0**
	comp=Z,21nm,1.5s,mb5.3						
TEIG	**Tepich**	**145.41**	**1**	*e*P	PKPdf	14 34 53.8	-2.7
PLCA	**Paso Flores**	**149.98**	**206**	PKPbc	PKPdf	14 35 06.7	+3.3
	comp=Z,2.7nm,0.8s,baz=103,slow=5.1,SNR=5.4						
SDV	**Santo Domingo**	**151.24**	**323**	PKP	PKPdf	14 35 04.8	-1.2
	comp=Z,3.7nm,0.7s,baz=210,slow=18,SNR=5.1						
SDV	**Santo Domingo**	**151.24**	**323**	PKP	PKPdf	14 35 04.8	-1.2
SDV				*e*PKPbc	PKPdf	14 35 08.7	+2.7
SDV				*e*		14 35 16.6	

IDC 20 14:15:22.7±3.4, 14.94S×174.79W, mb4.1/4, mb1 4.5/4, mb1mx4.1/13, mbtmp4.1/4, Error ellipse: s-maj=182.9km s-min=28.1km az=145.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.64**	**256**	P	P	14 24 08.7	-1.9
	0.7nm,0.3s,baz=83,slow=7.8,SNR=19						
ASAR	**Alice Springs**	**48.98**	**252**	P	P	14 24 11.3	-1.9
	11nm,0.5s,baz=88,slow=7.7,SNR=164						
ASPA	**Alice Springs**	**48.98**	**252**	*e*P	P	14 24 11.2	-2.0
ILAR	**Eielson Array**	**82.26**	**12**	P	P	14 27 45.4	-1.6
	0.5nm,0.5s,baz=217,slow=5.2,SNR=6.8						
PDAR	**Pinedale Array**	**82.83**	**42**	P	P	14 27 49.5	-0.8
	0.3nm,0.6s,baz=214,slow=3.3,SNR=3.5						

*NIED **20** 14:16:00, 33.90N×141.70E, h5km, Mw5.3 Best double couple: M0 8.98×10^16 NP1:φs196°, δ57°, λ116°. NP2: φs335°, δ41°, λ57°.*
*IDC **20** 14:16:19.9±0.6, 33.90N×141.70E, mb4.4/24, mb1 4.6/27, mb1mx4.5/30, mbtmp4.5/27, ML4.0/3, MS5.3/11, Ms1 5.3/11, ms1mx5.0/25, Error ellipse: s-maj=18.8km s-min=13.9km az=138.0*
*JMA **20** 14:16:22.3±0.4, 33.88N×141.72E, h32km, M5.7*
*BJI **20** 14:16:24.4, 34.01N×141.53E, h47km, mB5.5, mb4.8, Ms5.9, Msz5.7*
*HRVD **20** 14:16:26.8±0.2, 33.86N×141.96E, h13km, MW5.4/73, Centroid moment Tensor Solution. LP body waves: s49,c86;Mantle waves: s73,c147; Half duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr0.89±.02; Mθθ0.15±.02; Mφφ-1.04±.02; Mrθ0.03±.06; Mrφ0.01±.02; Mθφ0.92±.04; Best double couple: M0 1.334×10^17 NP1:φs177°, δ23°, λ86°. NP2:φs1°, δ67°, λ92°. Principal axes: T 1.261, Plg68°, Azm274°; N .148, Plg1°, Azm181°; P -1.406, Plg22°, Azm90°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **20** 14:16:26.6±0.3, 33.86N×141.51E, mb5.3/57, MW5.3(NIED) Error ellipse: s-maj=7.8km s-min=5.7km az=169.0*
*MOS **20** 14:16:27.1±1.5, 34.51N×141.79E, h36km, mb5.4/44, MS5.6/34, Error ellipse: s-maj=9.8km s-min=5.1km az=104.1*
ISC 20 14:16:24.6±0.2, 33.89N±0.03×141.57E±0.03, h40km, h40km±2.5km:pP-P, n298, σ1§34/303, mb5.1/86, MS5.5/48, 8C-15D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.90**	**327**	P	**P**	**14 16 40.0**	**-0.9**
BSO1				S	**S**	**14 16 53.7**	**+0.8**
BSO2	**Boso 2**	**1.09**	**322**	S	**S**	**14 16 56.9**	**-0.8**
BSO3	**Boso 3**	**1.26**	**316**	P	**P**	**14 16 46.5**	**+0.5**
BSO4	**Boso 4**	**1.49**	**318**	P	**P**	**14 16 49.6**	**+0.2**
KTR	**Katsuura**	**1.62**	**321**	P	**P**	**14 16 51.9**	**+0.6**
JHJ2	**Mitsune**	**1.66**	**242**	P	**P**	**14 16 51.8**	**+0.1**
JHJ	**Hachijo jima 2**	**1.68**	**243**	Pn	**P**	**14 16 52.5**	**+0.4**
	101nm,0.3s,baz=167,slow=9.6,SNR=16						
JHJ				Sn	**S**	**14 17 12.4**	**0.0**
	304nm,0.3s,baz=70,slow=22,SNR=7.9						
JIM2	**Oshima 3**	**1.95**	**296**	P	**P**	**14 16 55.5**	**-0.4**
JIZS	**Izushimoda**	**2.37**	**291**	⇓P	**P**	**14 17 02.0**	**+0.1**
JOD2	**Odawara 2**	**2.46**	**304**	P	**P**	**14 17 01.7**	**-1.5**
JOD2				S	**S**	**14 17 32.7**	**+0.4**
JYN	**Shimob**	**2.96**	**304**	P	**P**	**14 17 09.4**	**-0.9**
SHZ3	**Shizuoka 3**	**3.01**	**294**	P	**P**	**14 17 10.8**	**-0.2**
JRY	**Ryogami san**	**3.05**	**315**	P	**P**	**14 17 11.8**	**+0.3**
JAG	**Ashikaga**	**3.06**	**326**	⇑P	**P**	**14 17 10.5**	**-1.3**
TK04	**Tokai 4**	**3.10**	**280**	P	**P**	**14 17 12.3**	**0.0**
TK04				S	**S**	**14 17 59.8**	**+11**

UGL MLR MLR
comp=E,23μm,14.0s
SNY Shenyang 16.25 304 ⇑P **P 14 20 10.5 -0.9**
SNY PP PP 14 20 27.3 +2.5
SNY LR LR
comp=N,10μm,10.8s
SNY LR LR
comp=E,14μm,11.9s
SNY LR LR
comp=Z,17μm,11.7s
KLR Kul'dur 16.97 337 *e*P **P 14 20 18.0 -2.4**
KLR MLR MLR
comp=E,13μm,15.0s
KLR MLR MLR
comp=Z,24μm,15.0s
SSE Sheshan 17.42 266 P **P 14 20 24.3 -1.9**
SSE AP 14 20 33.8
SSE S **S 14 23 35.4 -1.3**
SSE AMB AMB
comp=Z,27nm,0.7s
SSE AMB AMB
comp=Z,3μm,12.0s
SSE LR LR
comp=N,9μm,16.4s
SSE LR LR
comp=E,4μm,16.4s
SSE LR LR
comp=Z,9μm,14.5s
NJ2 Nanjing 19.14 271 *e*P **P 14 20 45.3 -1.9**
NJ2 AP 14 20 55.3
NJ2 XP 14 20 58.1
NJ2 PP PP 14 21 02.0 -2.3
NJ2 XS 14 24 35.0
NJ2 AMB AMB
comp=Z,30nm,0.9s
NJ2 AMB AMB
comp=Z,7μm,11.5s
NJ2 LR LR
comp=N,19μm,13.3s
NJ2 LR LR
comp=E,39μm,14.6s
NJ2 LR LR
comp=Z,44μm,15.3s
TATO Taipei 19.59 248 *e*P **P 14 20 53.7 +1.5**
SKR Severo-Kuril's 19.87 28 *e*P **P 14 20 47.9 -7.2**
SKR pmax pmax
comp=N,3μm,14.0s
SKR pmax pmax
comp=E,3μm,14.0s
SKR pmax pmax
comp=Z,3μm,14.0s
SKR MLR MLR
comp=N,8μm,12.0s
SKR MLR MLR
comp=E,8μm,12.0s
SKR MLR MLR
comp=Z,10μm,12.0s
GUMO Guam 20.43 171 PFAKE 14 21 10.0 +8.8
GUMO LR LR
comp=Z,7μm,19.0s,MS5.1
BJT Baijiatuau 21.16 294 *e*P **P 14 21 04.9 -3.6**
BJT pmax pmax
comp=Z,13nm,0.9s
BJT Baijiatuau 21.16 294 *e*P **P 14 21 04.9 -3.6**
comp=Z,13nm,0.9s,mb4.3
PET Petropavlovsk 22.69 27 *e*P **P 14 21 21.2 -2.3**
PET *e*S **S 14 25 25.6 +1.1**
PET *e*SS SS 14 26 05.0 -3.5
PET pmax pmax
comp=Z,1μm,14.0s
PET pmax pmax
comp=Z,2μm,11.4s
PET smax
comp=E,2μm,13.4s
PET smax
comp=N,4μm,12.4s
PET smax
comp=N,5μm,12.0s
PET MLR MLR
comp=Z,4μm,18.0s,MS5.0
PET MLR MLR
comp=Z,7μm,17.0s
PET Petropavlovsk 22.69 27 P **P 14 21 25.6 +2.1**
comp=Z,198nm,1.7s,mb5.3
WHN Wuhan 23.24 269 *e*P **P 14 21 29.0 -0.2**
WHN S **S 14 25 37.0 +2.4**
WHN LR LR
comp=N,7μm,13.6s,MS6.0
WHN LR LR
comp=E,40μm,14.0s,MS6.0
WHN LR LR
comp=Z,41μm,13.6s,MS6.0
TIY Taiyuan 23.89 288 ⇑P **P 14 21 37.0 +1.6**
TIY LR LR
comp=N,13μm,15.0s
CLNS Chul'man 25.62 339 *e*P **P 14 21 54.0 +2.2**
CLNS *e* 14 22 29.9
CLNS pmax pmax
comp=Z,36nm,1.4s,mb4.7
CLNS pmax pmax
comp=N,21nm,1.1s
CLNS pmax pmax
comp=E,13nm,1.0s
CLNS pmax pmax
comp=Z,42nm,1.3s,mb4.8
CLNS pmax pmax
comp=N,18nm,0.7s
CLNS pmax pmax
comp=E,21nm,1.4s
CLNS MLR MLR
comp=N,10μm,14.0s,MS5.5
CLNS MLR MLR
comp=E,2μm,14.0s,MS5.5
CLNS MLR MLR
comp=Z,17μm,14.0s,MS5.7
MA2 Magadan 26.40 11 *e*P **P 14 21 55.3 -3.7**
MA2 pmax pmax
comp=Z,286nm,1.9s,mb5.5
MA2 Magadan 26.40 11 *e*P **P 14 21 55.3 -3.7**
comp=Z,286nm,1.9s,mb5.5
XAN Xi'an 27.02 280 P **P 14 22 00.4 -4.5**
XAN AP pP 14 22 12.8 -2.8
XAN LR LR
comp=N,10μm,13.7s,MS5.9
XAN LR LR
comp=E,18μm,13.9s,MS5.9
XAN LR LR
comp=Z,24μm,14.4s,MS5.9
ENH Enshi 27.36 271 *e*P **P 14 22 05.1 -3.0**
comp=Z,125nm,1.6s,mb5.2
ENH LR LR
comp=Z,10μm,19.0s,MS5.4
YAK Yakutsk 29.16 349*c i*P **P 14 22 24.2 +0.3**
YAK *e*S **S 14 27 12.0 0.0**
YAK *e*SS Sx 14 27 32.9
YAK *e* 14 32 59.9
YAK pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
YAK pmax pmax
comp=N,9.0nm,0.9s
YAK smax
comp=N,3.0nm,1.1s
YAK smax
comp=E,2.0nm,1.1s
YAK smax
comp=Z,3.0nm,1.0s
YAK MLR MLR
comp=Z,8μm,16.0s,MS5.4
YAK MLR MLR
comp=N,7μm,15.0s,MS5.5
YAK MLR MLR
comp=E,6μm,14.0s,MS5.5
YAK Yakutsk 29.16 349 *e*P **P 14 22 23.2 -0.7**
comp=E,90nm,1.3s,mb5.3
YAK LR LR
comp=Z,11μm,19.0s,MS5.5
FX1 Attu Island--F 29.44 40 LR LR 14 32 19.9
comp=Z,302nm,20.7s,baz=256,slow=33
SONM Songino Array 29.74 309 P **P 14 22 29.9 +0.7**
comp=Z,13nm,1.2s,mb4.5,baz=106,slow=9.0,SNR=14
SEY Seymchan 29.85 10 *e*P **P 14 22 26.3 -3.7**
SEY 14 23 30.2
SEY *e* 14 25 28.1
SEY *e*S **S 14 27 16.7 -6.3**
SEY pmax pmax
comp=Z,30nm,1.1s,mb4.9
BOD Bodaibo 30.29 331 *e*P **P 14 22 32.0 -2.0**
LZH Lanzhou 30.86 285 ⇓P **P 14 22 37.5 -1.8**
LZH AP pP 14 22 47.0 -3.2
LZH PP PP 14 23 39.1 -2.3
LZH *e*S **S 14 27 36.5 -2.6**
LZH SS SS 14 29 20.3 -3.5
LZH AMB AMB
comp=Z,69nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,416nm,9.0s
LZH LR LR
comp=E,3μm,13.5s
LZH LR LR
comp=Z,5μm,17.4s,MS5.3
IRK Irkutsk 32.37 316 *e*P **P 14 22 53.6 +1.2**
ZAK Zakamensk 32.39 312 *e*P **P 14 22 52.2 -0.4**
TLY Talaya 32.55 315 *e*P **P 14 22 53.8 -0.2**
TLY *e* 14 24 10.9
TLY *e*S **S 14 28 10.6 +5.1**
TLY *e*SS SS 14 30 23.4 +20
TLY pmax pmax
comp=Z,39nm,1.2s,mb5.2
TLY MLR MLR
comp=Z,12μm,16.0s,MS5.7
TLY Talaya 32.55 315 *e*P **P 14 22 54.0 0.0**
comp=Z,127nm,1.6s,mb5.6
MOY Mondy 34.13 314 *e*P **P 14 23 01.0 -6.6**
BILL Bilibino 37.01 15 *e*P **P 14 23 29.5 -2.4**
BILL pmax pmax
comp=Z,35nm,1.4s,mb5.0
BILL Bilibino 37.01 15 *e*P **P 14 23 29.5 -2.4**
comp=Z,35nm,1.4s,mb5.0
BILL LR LR
comp=Z,9μm,19.0s,MS5.6
TIXI Tiksi 38.42 354 *e*P **P 14 23 43.7 +0.1**
TIXI *e*S **S 14 29 35.2 -0.4**
TIXI pmax pmax
comp=Z,22nm,1.2s,mb4.8
TIXI MLR MLR
comp=Z,12μm,15.0s,MS5.8
TIXI Tiksi 38.42 354 *i*P **P 14 23 43.9 +0.3**
CM31 Chiang Mai Arr 40.92 259 P **P 14 24 03.2 -1.7**
comp=Z,4.8nm,0.6s,mb4.3
CMAR Chiang Mai Arr 40.92 259 P **P 14 24 03.6 -1.2**
comp=Z,2.2nm,0.7s,baz=47,slow=7.6,SNR=9.1
CMAR LR LR 14 44 16.8
comp=Z,5μm,18.4s,baz=50,slow=41
WMQ Urumqi 42.44 300 P **P 14 24 17.5 +0.4**
WMQ AP pP 14 24 27.3 -1.1
WMQ PP PP 14 25 59.0 +0.6
WMQ S **S 14 30 36.5 +0.7**
WMQ AMB AMB
comp=Z,22nm,1.6s,mb4.5
WMQ AMB AMB
comp=Z,119nm,5.2s
WMQ LR LR
comp=N,3μm,20.1s,MS5.2
WMQ LR LR
comp=E,2μm,21.3s,MS5.2
WMQ LR LR
comp=Z,2μm,21.4s,MS5.1
LSA Lhasa 42.71 279 P **P 14 24 16.3 -3.2**
LSA AP pP 14 24 27.8 -3.0
LSA PP PP 14 25 58.5 -2.8
LSA PCP PcP 14 26 06.1 -5.2
LSA SCP 14 29 57.0
LSA PCS 14 30 00.8
LSA S **S 14 30 42.4 +2.4**
LSA XS 14 30 57.5
LSA LR LR
comp=N,2μm,14.4s,MS5.7
LSA LR LR
comp=E,7μm,15.7s,MS5.7
LSA LR LR
comp=Z,10μm,16.4s,MS5.8
LSA Lhasa 42.71 279 *e*P **P 14 24 18.1 -1.4**
LSA pmax pmax
comp=Z,20nm,1.2s,mb4.7
LSA MLR MLR
comp=Z,6μm,19.0s,MS5.5
LSA Lhasa 42.71 279 *e*P **P 14 24 18.1 -1.4**
comp=Z,20nm,1.2s,mb4.7
LSA LR LR
comp=Z,6μm,19.0s,MS5.5
PMG Port Moresby 43.38 172 PFAKE 14 24 40.0 +15
PMG LR LR
comp=Z,2μm,20.0s,MS5.0
TNA Tin City 43.55 28 *e*P **P 14 24 25.6 -0.3**
comp=Z,120nm,2.0s,mb5.3
ANM Nome 44.23 30 *e*P **P 14 24 32.0 +0.6**
NVS Novosibirsk 45.14 316 *e*P **P 14 24 38.6 -0.2**
NVS *e*S **S 14 31 13.6 -1.2**
NVS pmax pmax
comp=Z,86nm,2.0s,mb5.2
NVS pmax pmax
comp=E,124nm,2.7s
NVS smax
comp=N,56nm,2.3s
NVS smax
comp=E,44nm,2.3s
KURK Kurchatov 48.01 310 *i*P **P 14 25 00.6 -0.9**
KURK Kurchatov 48.01 310 *e*P **P 14 25 00.1 -1.4**
comp=E,63nm,1.1s,mb5.6
KURK LR LR
comp=Z,2μm,21.0s,MS5.2
IMA Indian Mountai 49.35 29 *e*P **P 14 25 12.2 +0.6**
IMA pmax pmax
comp=Z,48nm,1.9s,mb5.2
IMA Indian Mountai 49.35 29 *e*P **P 14 25 12.2 +0.6**
comp=Z,48nm,1.9s,mb5.2
MCK McKinley 51.19 32 *e*P **P 14 25 23.0 -2.7**
MCK pmax pmax
comp=Z,51nm,1.6s,mb5.2
MCK MLR MLR
comp=Z,972nm,19.0s,MS4.8
MCK McKinley 51.19 32 *e*P **P 14 25 23.0 -2.6**
comp=Z,51nm,1.6s,mb5.2
MCK LR LR
comp=Z,972nm,19.0s,MS4.8
TKM2 Tokmak 2 51.29 301 P **P 14 25 27.4 +0.8**
SNR=19
COLA College 51.69 31 *e*P **P 14 25 26.3 -3.0**
COLA pmax pmax
comp=Z,151nm,2.1s,mb5.6
COLA MLR MLR
comp=Z,2μm,19.0s,MS5.1
COLA College 51.69 31 *e*P **P 14 25 26.3 -3.1**
comp=Z,151nm,2.1s,mb5.6
COLA LR LR
comp=Z,2μm,19.0s,MS5.1
KBK Karagaybulak 51.81 301 P **P 14 25 30.5 -0.1**
SNR=8.0
CHMS Chumysh 51.87 301 P **P 14 25 34.3 +3.2**
SNR=5.6
USP Ospenovka 51.99 301 P **P 14 25 31.2 -0.7**
SNR=8.3
FRU Bishkek 52.01 301 *e*P **P 14 25 35.0 +2.9**
FRU *e* 14 27 32.0
FRU *i* 14 33 00.0
ILAR Eielson Array 52.10 31 P **P 14 25 30.1 -2.3**
comp=Z,3.5nm,0.8s,mb4.3,baz=261,slow=5.6,SNR=27
AAK Ala-Archa 52.14 301 *i*P **P 14 25 32.1 -1.0**
AAK pmax pmax
comp=Z,13nm,1.2s,mb4.7
AAK MLR MLR
comp=Z,4μm,16.0s,MS5.5
AAK Ala-Archa 52.14 301 *e*P **P 14 25 28.8 -4.2**
comp=Z,30nm,1.3s,mb5.1
UCH Uchtor 52.23 300 P **P 14 25 33.5 -0.3**
SNR=6.5
CHKZ Chkalovo 52.58 315 *e*P **P 14 25 34.7 -1.5**
CHKZ pmax pmax
comp=Z,118nm,1.4s,mb5.6
CHKZ Chkalovo 52.58 315 *e*P **P 14 25 34.7 -1.5**
comp=Z,118nm,1.4s,mb5.6
DIV Divide 52.73 36 *e*P **P 14 25 36.1 -1.1**
comp=Z,198nm,1.4s,mb5.8
BVAR Borovoye Array 52.81 314 P **P 14 25 36.9 -1.1**
comp=Z,13nm,1.1s,mb4.8,baz=90,slow=5.9,SNR=16
AML Almayashu 52.84 300 P **P 14 25 38.7 +0.4**
SNR=18
BRVK Borovoye 52.87 314 *e*P **P 14 25 37.2 -1.2**
BRVK pmax pmax
comp=Z,74nm,1.4s,mb5.4
BRVK Borovoye 52.87 314 *e*P **P 14 25 37.2 -1.2**
comp=Z,74nm,1.4s,mb5.4
CTA Charters Tower 53.86 175 LR LR 14 46 45.2
comp=Z,2μm,21.2s,MS5.1,baz=354,slow=34
CTAO Charters Tower 53.86 175 *e*P **P 14 25 42.6 -3.6**
CTAO pmax pmax
comp=Z,20nm,1.2s,mb4.9
CTAO MLR MLR
comp=Z,2μm,19.0s,MS5.2
CTAO Charters Tower 53.86 175 *e*P **P 14 25 42.8 -3.4**
CTAO pmax pmax
comp=Z,19nm,1.2s,mb4.9
CTAO Charters Tower 53.86 175 *e*P **P 14 25 42.8 -3.4**
comp=Z,19nm,1.2s,mb4.9
CTAO Charters Tower 53.86 175 *e*P **P 14 25 42.6 -3.6**
comp=Z,20nm,1.2s,mb4.9
CTAO LR LR
comp=Z,2μm,19.0s,MS5.2
WRAB Tennant Creek 53.96 188 *i*P **P 14 25 52.6 +5.7**
WRAB Tennant Creek 53.96 188 *e*P **P 14 25 43.6 -3.3**
comp=Z,48nm,1.2s,mb5.3
WRAB LR LR
comp=Z,981nm,20.0s,MS4.9
WRA Warramunga Arr 53.97 188 P **P 14 25 45.3 -1.7**
comp=Z,3.2nm,0.6s,mb4.4,baz=4.7,slow=7.7,SNR=15
DAWY Dawson 55.39 32 *e*P **P 14 25 55.3 -1.4**
POHA Pohakuloa 57.09 87 PFAKE 14 26 20.0 +11
POHA LR LR
comp=Z,1.0nm,22.0s
INK Inuvik 57.13 26 P **P 14 26 06.8 -2.3**
comp=Z,1.1nm,0.6s,mb4.1,baz=332,slow=4.5,SNR=4.0
INK Inuvik 57.13 26 *e*P **P 14 26 06.9 -2.3**
comp=Z,51nm,1.7s,mb5.3
SVE Sverdlovsk 57.61 320 *e*P **P 14 26 12.8 +0.2**
SVE *e* 14 27 08.5
SVE *e*S **S 14 34 03.9 -2.2**
SVE *e* 14 36 00.0
SVE pmax pmax
comp=Z,100nm,1.6s,mb5.6
SVE MLR MLR
comp=Z,11μm,17.0s,MS6.0
ASAR Alice Springs 57.70 188 P **P 14 26 12.1 -1.7**
comp=Z,3.6nm,1.1s,mb4.3,baz=16,slow=9.3,SNR=4.1
HYB Hyderabad 58.30 270⇓*e*P **P 14 26 17.0 -1.0**
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.5
HYB Hyderabad 58.30 270⇓*e*P **P 14 26 17.0 -1.0**
comp=Z,50nm,1.0s,mb5.5
HYB Hyderabad 58.30 270⇓*i*P **P 14 26 17.0 -1.0**
comp=Z,50nm,1.0s,mb5.5
HYB *e*S **S 14 34 22.0 +6.4**
HYB *e* 14 34 54.0
HYB *e* 14 35 28.0
HYB *e*ScS ScS 14 36 08.0 +7.4
MBWA Marble Bar 58.56 204 *e*P **P 14 26 14.2 -5.6**
comp=Z,84nm,1.5s,mb5.5
ARU Arti 58.82 320 P **P 14 26 20.3 -0.8**
comp=Z,210nm,1.3s,mb6.0,SNR=8.8
ARU Arti 58.82 320⇓*i*P **P 14 26 16.2 -4.9**
ARU *e*S **S 14 34 15.0 -6.9**
ARU *e* 14 35 58.2
ARU *e*SS SS 14 38 09.8 -7.4
ARU pmax pmax
comp=Z,57nm,1.5s,mb5.4
ARU MLR MLR
comp=N,2μm,17.0s,MS5.8
ARU MLR MLR
comp=E,6μm,17.0s,MS5.8
ARU MLR MLR
comp=Z,8μm,17.0s,MS5.9
ARU Arti 58.82 320 *e*P **P 14 26 15.0 -6.1**
comp=Z,65nm,1.1s,mb5.6
DLBC Dease Lake 61.04 37 P **P 14 26 35.0 -1.3**
comp=Z,10nm,1.2s,mb4.8,baz=282,slow=7.3,SNR=6.6
DLBC Dease Lake 61.04 37 *e*P **P 14 26 34.7 -1.6**
PALK Pallekele 61.86 259 *e*P **P 14 26 41.1 -1.3**
comp=Z,73nm,1.4s,mb5.6
PALK LR LR
comp=Z,337nm,20.0s,MS4.5
COCO West Island 62.53 231 *e*P **P 14 26 45.6 -1.2**
comp=Z,195nm,1.4s,mb6.0
STKA Stephens Creek 65.42 180 LR LR 14 55 51.0
comp=Z,2μm,18.6s,MS5.3,baz=356,slow=36
STKA Stephens Creek 65.42 180 P **P 14 27 12.4 +6.9**
APA Apatity 65.61 336⇓*e*P **P 14 27 11.1 +5.0**
APA *e*S S 14 35 52.0 +4.9
APA pmax pmax
comp=Z,18nm,1.0s,mb5.1
RES Resolute Bay 65.61 14 *e*P **P 14 27 04.4 -1.7**
RES *e* 14 27 20.1
RES *e* 14 27 36.0
RES pmax pmax
comp=Z,64nm,1.5s,mb5.4
RES Resolute Bay 65.61 14 *e*P **P 14 27 04.4 -1.6**
comp=Z,64nm,1.5s,mb5.4
RES *e* 14 27 20.1
RES *e* 14 27 36.0
YKW3 Yellowknife Ar 66.43 29 *e*P **P 14 27 09.7 -1.7**
YKA Yellowknife Ar 66.47 29 P **P 14 27 09.5 -2.1**
comp=Z,0.7nm,0.6s,baz=297,slow=6.3,SNR=10
YKA LR LR 14 59 19.9
comp=Z,1μm,18.3s,baz=245,slow=39
JOF Joensuu 68.80 333 *e*p **P 14 27 24.3 -1.9**
comp=Z,15nm,1.0s,mb4.9
JOF Joensuu 68.80 333 *e*P **P 14 27 24.3 -1.9**
JOF pmax pmax
comp=Z,15nm,1.0s,mb4.9
MOS Moscow 69.86 324 *e*P **P 14 27 33.4 +0.6**
MOS *e* pP 14 27 44.6 -0.1
MOS *e* 14 27 59.6
MOS *e* 14 30 04.0
MOS *e*S S 14 36 37.7 -0.5
MOS pmax pmax
comp=Z,55nm,0.7s,mb5.6
MOS pmax pmax
comp=E,52nm,0.8s
MOS MLR MLR
comp=Z,6μm,14.6s,MS6.0
MOS MLR MLR
comp=E,5μm,15.1s
NWAO Narrogin (SRO) 70.30 202 P **P 14 27 36.0 +0.1**
NWAO pmax pmax
comp=Z,13nm,1.0s
NWAO Narrogin (SRO) 70.30 202 P **P 14 27 36.0 +0.1**
comp=Z,13nm,1.0s,mb4.8,baz=64,slow=4.5,SNR=3.7
NWAO Narrogin (SRO) 70.30 202 *e*P **P 14 27 35.2 -0.7**
comp=Z,23nm,1.0s,mb5.1
MAK Makhachkala 70.51 309 *e*P **P 14 27 40.0 +3.0**
MAK *e* 14 30 10.0
MAK *e*S S 14 36 50.0 +3.9
MAK *i*PS PS 14 37 18.0 -0.8
MAK *i* 14 37 38.0
MAK pmax pmax
comp=Z,2μm,5.0s
MAK smax
comp=E,2μm,10.0s
MAK MLR MLR
comp=N,16μm,14.0s,MS6.5
MAK MLR MLR
comp=E,9μm,14.0s,MS6.5
MAK MLR MLR
comp=Z,10μm,14.0s,MS6.2
OBN Obninsk 70.69 324⇓*i*P **P 14 27 38.1 +0.2**
OBN *e* 14 30 17.4
OBN *e*SS SS 14 41 24.4 +2.2
OBN pmax pmax
comp=Z,84nm,1.7s,mb5.4
OBN MLR MLR
comp=Z,6μm,16.0s,MS5.9
OBN Obninsk 70.69 324 *e*P **P 14 27 35.8 -2.1**
comp=Z,88nm,1.3s,mb5.5
KAF Kangasniemi 71.16 333 *e*p **P 14 27 40.7 +0.1**
comp=Z,18nm,1.0s,mb5.0
KAF Kangasniemi 71.16 333 *e*P **P 14 27 40.7 +0.1**
KAF pmax pmax
comp=Z,18nm,1.0s,mb5.0
VRSR Storozhevoye 71.38 320 *e*P **P 14 27 43.6 +1.5**
VRSR *e*S S 14 36 53.9 -2.0
VRSR *e*SS SS 14 41 23.6 -9.2
VRSR pmax pmax
comp=E,840nm,5.8s

VRSR pmax pmax
comp=Z,1μm,5.8s
VRSR pmax pmax
comp=N,520nm,4.5s
VRSR smax
comp=N,480nm,4.2s
VRSR smax
comp=Z,800nm,5.2s
VRSR smax
comp=E,510nm,4.3s
VRSR MLR MLR
comp=Z,3μm,16.0s,MS5.6
VRSR MLR MLR
comp=N,2μm,16.5s,MS5.5
VRSR MLR MLR
comp=E,1μm,17.3s,MS5.5
FINES FINESS Array B 71.65 333 P **P 14 27 42.4 -1.2**
comp=E,5.6nm,0.8s,mb4.5,baz=72,slow=6.0,SNR=7.7
FINES LR LR 15 02 28.6
comp=E,3μm,18.6s,MS5.6,baz=221,slow=39
EDM Edmonton 71.74 38 *e*P **P 14 27 43.1 -1.1**
WBK Wadi Bani Khal 71.87 285 ⇑P **P 14 27 44.9 -0.6**
SNR=6.3
BIDO Bidbid 72.09 287 ⇑P **P 14 27 48.9 +2.1**
GOF Gofitskoye 72.30 313 *e*P **P 14 27 46.0 -1.7**
GOF pmax pmax
comp=Z,64nm,1.5s,mb5.3
NEW Newport 72.31 43 *e*P **P 14 27 45.4 -2.3**
NEW pmax pmax
comp=Z,30nm,1.3s
NEW Newport 72.31 43 *e*P **P 14 27 45.4 -2.3**
comp=Z,30nm,1.3s,mb5.1
SMDO Samad 72.38 286 P **P 14 27 49.3 +0.7**
SNR=7.1
JMDO Jabal Madar 72.68 286 ⇓P **P 14 27 48.9 -1.5**
HOQ Hoqain 72.71 287 P **P 14 27 52.7 +2.2**
SNR=8.4
TI2 Plekhanov 72.89 309 *e*P **P 14 27 50.8 -0.5**
TI2 *e*S S 14 37 18.2 +4.7
TI2 *e*S S 14 37 21.8 +8.3
TI2 MLR MLR
comp=Z,8μm,15.0s,MS6.1
TI2 MLR MLR
comp=N,2μm,18.0s,MS5.7
TI2 MLR MLR
comp=E,3μm,17.0s,MS5.7
KIV Kislovodsk 73.07 312 P **P 14 27 53.8 +1.5**
comp=E,256nm,1.5s,mb5.9,SNR=16
KIV Kislovodsk 73.07 312*c i*P **P 14 27 51.8 -0.5**
KIV *e* 14 28 08.9
KIV *i*S S 14 37 18.2 +2.7
KIV pmax pmax
comp=N,45nm,1.3s
KIV pmax pmax
comp=Z,57nm,1.3s,mb5.3
KIV smax
comp=N,180nm,3.3s
KIV smax
comp=E,189nm,2.4s
KIV Kislovodsk 73.07 312 *e*P **P 14 27 51.2 -1.1**
comp=E,169nm,1.5s,mb5.8
BSY Bisya 73.22 286 P **P 14 27 53.1 -0.5**
SNR=12
ARQ Araqi 73.46 287 P **P 14 27 55.7 +0.7**
SNR=8.4
WALA Waterton Lakes 73.69 42 P **P 14 27 53.2 -2.6**
comp=E,78nm,1.8s,mb5.3
GNI Garni 73.70 308 P **P 14 27 59.3 +3.3**
GNI pmax pmax
comp=Z,20nm,1.1s
GNI MLR MLR
comp=Z,4μm,20.8s
GNI Garni 73.70 308 P **P 14 27 59.3 +3.3**
comp=Z,20nm,1.1s,mb5.0,baz=256,slow=7.9,SNR=6.1
GNI LR LR 15 03 35.3
comp=Z,4μm,20.8s,MS5.6,baz=51,slow=38
GNI Garni 73.70 308 *e*P **P 14 27 54.2 -1.8**
comp=Z,72nm,1.4s,mb5.4
GNI LR LR 15 03 35.3
SUMG Summit 73.82 0 *e*P **P 14 27 57.9 +1.8**
comp=Z,34nm,1.2s,mb5.2
BMO Blue Mountains 73.98 47 *e*P **P 14 27 56.7 -0.8**
comp=Z,32nm,1.4s,mb5.0
OHCM Honcut 74.20 53 *e*P **P 14 27 59.0 +0.1**
WVOR Wild Horse Val 74.43 49 *e*P **P 14 28 00.0 -0.2**
WVOR pmax pmax
comp=Z,54nm,1.8s,mb5.2
WVOR Wild Horse Val 74.43 49 *e*P **P 14 27 60.0 -0.3**
comp=Z,54nm,1.8s,mb5.2
SOC Sochi 75.10 313 *i*P **P 14 28 02.5 -1.5**
SOC *e* 14 30 57.5
SOC *e*PPP PPP 14 32 36.1 -3.7
SOC *e*S S 14 37 36.8 -1.3
SOC *e*SS SS 14 42 28.2 -1.6
SOC pmax pmax
comp=Z,32nm,1.3s,mb5.1
SOC pmax pmax
comp=N,7.0nm,0.8s
SOC pmax pmax
comp=E,14nm,0.9s
SOC MLR MLR
comp=Z,4μm,14.0s,MS5.8
SOC MLR MLR
comp=N,2μm,19.0s,MS5.8
SOC MLR MLR
comp=E,4μm,17.0s,MS5.8
MNK Minsk 75.19 326 P **P 14 28 03.0 -1.3**
CMB Columbia Colle 75.61 54 *e*P **P 14 28 06.6 -0.5**
CMB pmax pmax
comp=Z,35nm,1.4s,mb5.1
CMB Columbia Colle 75.61 54 *e*P **P 14 28 06.5 -0.5**
comp=Z,36nm,1.4s,mb5.1
ANN Anapa 75.81 315 *i*P **P 14 28 08.1 0.0**
ANN *e* pP 14 28 17.3 -2.7
ANN *e*S S 14 37 50.8 +4.9
ANN *i*SS SS 14 42 33.5 -7.6
ANN pmax pmax
comp=Z,44nm,1.2s,mb5.3
ERZM Erzurum 76.03 309 *i*P **P 14 28 12.7 +3.3**
FFC Flin Flon 76.28 32 *e*P **P 14 28 08.4 -2.1**
FFC pmax pmax
comp=Z,23nm,1.2s,mb5.0
FFC Flin Flon 76.28 32 *e*P **P 14 28 08.4 -2.2**
comp=Z,23nm,1.2s,mb5.0
HLID Hailey 76.43 47 *e*P **P 14 28 11.3 -0.3**
comp=Z,84nm,1.8s,mb5.4
HLID LR LR
comp=Z,2μm,20.0s,MS5.3
TAU Tasmania Unive 76.61 176 PFAKE 14 28 20.0 +7.3
TAU LR LR
comp=Z,586nm,19.0s,MS4.9
MCMT McKenzie Canyo 76.65 45 *e*P **P 14 28 12.0 -0.9**
FCC Fort Churchill 76.75 26 *e*P **P 14 28 10.4 -2.7**
FCC pmax pmax
comp=Z,49nm,1.5s,mb5.2
FCC Fort Churchill 76.75 26 *e*P **P 14 28 10.4 -2.7**
comp=Z,49nm,1.5s,mb5.2
NVAR Mina Array Bea 76.78 53 P **P 14 28 13.5 -0.3**
comp=Z,1.3nm,0.8s,baz=297,slow=4.9,SNR=10
MSL Mosul 76.82 305 *e*P **P 14 28 13.5 -0.5**
AKASG Malin Array Be 76.86 323 P **P 14 28 13.8 -0.1**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 76.86 323 P **P 14 28 13.8 -0.2**
comp=Z,4.8nm,0.7s,mb4.6,baz=45,slow=5.9,SNR=16
NB2 NORSAR Subarra 77.13 338 P **P 14 28 14.6 -0.6**
comp=Z,24nm,1.2s,mb5.0,baz=40,slow=5.6
NB2 NORSAR Subarra 77.13 338 P **P 14 28 14.6 -0.6**
baz=40,slow=5.9
NOA NORSAR Array B 77.13 338 P **P 14 28 15.8 +0.6**
NOA pmax pmax
comp=Z,4.0nm,0.9s
NOA NORSAR Array B 77.13 338 P **P 14 28 15.8 +0.6**
comp=Z,4.4nm,0.9s,mb4.4,baz=40,slow=5.7,SNR=7.6
BEST Besiri 77.18 307 *i*P **P 14 28 17.0 +1.0**
QLMT Earthquake Lak 77.47 44 *e*P **P 14 28 18.0 +0.5**
SIM Simferopol' 77.66 316 P **P 14 28 21.0 +2.5**
YMR Madison River 77.84 44 *e*P **P 14 28 20.1 +0.6**
YFT Old Faithful 78.04 44 *e*P **P 14 28 22.1 +1.5**
LKWY Lake 78.22 44 *e*P **P 14 28 21.9 +0.3**
LKWY pmax pmax
comp=Z,24nm,1.2s,mb5.0
LKWY Lake 78.22 44 *e*P **P 14 28 21.9 +0.3**
comp=Z,24nm,1.2s,mb5.0
IMW Indian Meadow 78.30 45 *e*P **P 14 28 22.4 +0.4**
HVU Hansel Valley 78.43 47 *e*P **P 14 28 22.2 -0.6**

MOOW Moose Ponds 78.50 45 *e*P **P 14 28 22.9 -0.2**
WUWY Wally Ulrich 78.63 45 *e*P **P 14 28 25.8 +2.0**
LOHW Long Hollow 78.67 45 *e*P **P 14 28 24.2 +0.2**
MALT Malatya 78.82 309 *e*P **P 14 28 24.3 -0.7**
MALT pmax pmax
comp=Z,47nm,1.4s,mb5.2
MALT Malatya 78.82 309 *e*P **P 14 28 24.3 -0.7**
comp=Z,47nm,1.4s,mb5.2
SPUT South Promonto 78.91 48 *e*P **P 14 28 26.1 +0.7**
BOYT Boyabat 79.26 313 *i*P **P 14 28 27.9 +0.6**
KIS Kishinev 79.37 320 *e*P **P 14 28 28.0 +0.2**
KIS *e* 14 33 18.0
KIS *e* 14 38 32.0
KIS MLR MLR
comp=Z,6μm,18.0s,MS6.0
KIS MLR MLR
comp=E,4μm,16.0s
KIS MLR MLR
comp=Z,6μm,16.0s
TCUT Toone Canyon 79.65 47 *e*P **P 14 28 31.2 +1.7**
BW06 Boulder Array 79.78 45 *e*P **P 14 28 29.4 -0.8**
comp=Z,10nm,1.2s,mb4.6
PDAR Pinedale Array 79.78 45 P **P 14 28 29.6 -0.5**
comp=Z,1.7nm,0.7s,mb4.1,baz=268,slow=2.6,SNR=13
CTKT Corum 79.79 312 *i*P **P 14 28 26.9 -3.3**
FRB Frobisher Bay 79.80 13 P **P 14 28 30.2 +0.4**
FRB pmax pmax
comp=Z,4.0nm,0.9s
FRB Frobisher Bay 79.80 13 P **P 14 28 30.2 +0.5**
comp=Z,4.3nm,0.8s,mb4.4,baz=321,slow=6.7,SNR=2.3
GZT Gaziantep 79.92 308 *i*P **P 14 28 32.8 +1.8**
NLU North Lily Min 79.92 49 *e*P **P 14 28 30.6 -0.4**
JLU Jordanelle 79.93 48 *e*P **P 14 28 32.2 +1.3**
BALT Daday 80.11 314 *i*P **P 14 28 32.7 +0.8**
DAU Daniels Canyon 80.16 48 *e*P **P 14 28 31.9 -0.3**
MPU Maple Canyon 80.16 48 *e*P **P 14 28 32.8 +0.6**
KAHT Ahir Dag 80.22 309 *i*P **P 14 28 36.1 +3.6**
ARUT Antelope Range 80.32 51 *e*P **P 14 28 33.2 +0.1**
NEN Nelson 80.63 53 *e*P **P 14 28 35.0 +0.3**
MVU Marysvale 80.69 50 *e*P **P 14 28 34.8 -0.2**
comp=Z,17nm,1.3s,mb4.8
PFO Pinyon Flat Ob 80.69 56 *e*P **P 14 28 33.9 -1.3**
PFO pmax pmax
comp=Z,30nm,1.3s,mb5.1
PFO Pinyon Flat Ob 80.69 56 *e*P **P 14 28 33.9 -1.3**
comp=Z,30nm,1.3s,mb5.1
MSU Marysvale 80.71 50 *e*P **P 14 28 34.5 -0.6**
ELDT Eldivan 80.71 313 *i*P **P 14 28 36.9 +1.8**
KWP Kalwaria 80.76 325 *e*P **P 14 28 36.8 +1.7**
BRTR Keskin Array B 81.03 312 P **P 14 28 36.7 -0.1**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
BRTR Keskin Array B 81.03 312 P **P 14 28 36.7 -0.2**
comp=Z,6.2nm,1.0s,mb4.5,baz=108,slow=3.9,SNR=16
SGKT Sivrigoynuk 81.49 313 *i*P **P 14 28 41.5 +2.3**
OJC Ojcow 81.72 327 *e*P **P 14 28 43.0 +2.8**
CRVS Cervenica-Dubn 81.85 325 *e*P **P 14 28 43.9 +3.0**
RAYN Ar Rayn 81.97 293 P **P 14 28 42.0 0.0**
comp=Z,141nm,1.3s,mb5.7,SNR=10
NIE Niedzica 82.04 326 *e*P **P 14 28 45.1 +3.3**
MEST Erdemli 82.59 309 *i*P **P 14 28 47.1 +2.2**
KECS Kecovo 82.61 325 *e*P **P 14 28 46.4 +1.6**
OKC Ostrava-Krasne 82.74 327 *e*P **P 14 28 49.4 +4.0**
OKC AMS AMS 15 10 50.0
comp=Z,5μm,15.6s
PV10 Paradox Valley 82.76 48 *e*P **P 14 28 46.7 +0.9**
KSP Ksiaz 82.84 329 *e*P **P 14 28 48.2 +2.3**
KSP *e**PP pP 14 28 58.8 +0.9
KSP MLR MLR
comp=Z,10μm,17.5s,MS6.2
MORC Moravsky Berou 83.06 327 *e*P **P 14 28 49.5 +2.5**
MORC *e* pP 14 29 00.3 +1.2
MORC pmax pmax
comp=Z,36nm,1.5s,mb5.2
MORC Moravsky Berou 83.06 327 *e*P **P 14 28 49.5 +2.4**
comp=Z,36nm,1.5s,mb5.2
MORC *e* pP 14 29 00.3 +1.2
PHWY Pilot Hill 83.09 44 *e*P **P 14 28 48.7 +1.4**
PPT Papeete 83.12 116 *e*LR LR 14 53 55.4
comp=Z,2μm,23.0s,baz=313
DPC Dobruska-Polom 83.19 328 *e*P **P 14 28 48.6 +0.9**
DPC AMS AMS 15 11 00.0
comp=Z,5μm,14.6s
PV01 Paradox Valley 83.20 48 *e*P **P 14 28 49.5 +1.5**
UPC Upice 83.21 328 *e*P **P 14 28 48.1 +0.3**
PSZ Piszkesteto 83.29 325 *e*P **P 14 28 49.3 +1.1**
PSZ pmax pmax
comp=Z,64nm,1.3s,mb5.5
PSZ Piszkesteto 83.29 325 *e*P **P 14 28 49.3 +1.1**
comp=Z,64nm,1.3s,mb5.5
ASF Jabal al Asfar 83.37 304 P **P 14 28 49.6 +0.6**
comp=Z,5.8nm,0.8s,mb4.6,baz=195,slow=2.9,SNR=9.2
VYHS Vyhne 83.38 326 *e*P **P 14 28 50.3 +1.6**
VYHS *e*S S 14 39 06.6 +1.2
PVCC Panska Ves 83.81 329 *e*P **P 14 28 53.1 +2.3**
PVCC AMS AMS 15 12 00.0
comp=Z,8μm,15.0s
CLL Collm 83.88 330 ⇓*i*P **P 14 28 53.4 +2.3**
CLL *i* pP 14 29 06.0 +2.8
CLL pmax pmax
comp=Z,66nm,1.8s,mb5.5
CLL Collm 83.88 330 ⇓*i*P **P 14 28 53.4 +2.3**
comp=Z,66nm,1.8s,mb5.5
CLL *i* pP 14 29 06.0 +2.8
CLL Collm 83.88 330 ⇓P **P 14 28 53.4 +2.3**
comp=Z,logA/T=1.6,mb5.5
CLL *i **PP pP 14 29 06.0 +2.8
CLL *e* 14 41 20.0
ISCO Idaho Springs 83.95 46 *e*P **P 14 28 54.1 +2.3**
ISCO pmax pmax
comp=Z,45nm,1.8s,mb5.3
ISCO Idaho Springs 83.95 46 *e*P **P 14 28 54.1 +2.3**
comp=Z,45nm,1.8s,mb5.3
SMOL Smolenice 84.02 326 *e*P **P 14 28 55.2 +3.3**
PRA Prague 84.21 329 AMS AMS 15 12 00.0
PRU Pruhonice 84.23 329 *e*P **P 14 28 52.9 0.0**
PRU *e*pP pP 14 29 08.4 +3.4
PRU AMS AMS 15 12 10.0
comp=Z,6μm,15.9s
ZST Bratislava 84.40 326 *e*P **P 14 28 58.4 +4.6**
ZST *e*S S 14 39 17.9 +2.4
NKC Novy Kostel 84.93 330 *e*P **P 14 28 56.5 +0.1**
NKC AMS AMS 15 12 30.0
comp=Z,7μm,13.7s
MOX Moxa 84.96 331 *e*P **P 14 28 59.9 +3.4**
MOX pmax pmax
comp=Z,59nm,1.9s,mb5.4
MOX MLR MLR
comp=Z,4μm,17.0s,MS5.8
MOX Moxa 84.96 331 *e*P **P 14 28 59.9 +3.4**
comp=Z,59nm,1.9s,mb5.4
MOX LR LR
comp=Z,4μm,17.0s,MS5.8
MOX Moxa 84.96 331 *i*P **P 14 28 59.9 +3.4**
comp=Z,logA/T=1.5,mb5.4
MOX L 15 13 37.0
SOP Sopron 85.03 326 ⇓*e*P **P 14 29 00.8 +3.9**
PKSM Moragy 85.10 324 *e*P **P 14 28 59.7 +2.3**
BEO Belgrade 85.18 322 ⇑*i*P **P 14 29 00.3 +2.6**
KHC Kasperske Hory 85.28 329 *i*P **P 14 29 00.2 +2.0**
KHC Kasperske Hory 85.28 329 *e*P **P 14 28 59.3 +1.1**
KHC *e*pP pP 14 29 13.5 +3.2
KHC LR LR
comp=Z,7μm,15.2s,MS6.2
KHC Kasperske Hory 85.28 329 *e*P **P 14 28 59.3 +1.1**
KHC *e*pP pP 14 29 13.5 +3.2
KHC AMS AMS 15 12 00.0
comp=Z,7μm,15.2s
SDCO Great Sand Dun 85.33 47 *e*P **P 14 28 58.9 +0.2**
comp=Z,59nm,1.9s,mb5.4
SDCO LR LR
comp=Z,1μm,19.0s,MS5.3
GERES GERESS Array B 85.45 328 P **P 14 29 00.8 +1.8**
GERES pmax pmax
comp=Z,3.0nm,0.9s
GERES GERESS Array B 85.45 328 P **P 14 29 00.8 +1.8**
comp=Z,2.5nm,0.8s,mb4.4,baz=27,slow=6.0,SNR=4.6
GRF Grafenberg Arr 85.85 330 *e*P **P 14 29 02.1 +1.2**
GRF pmax pmax
comp=Z,63nm,1.8s,mb5.5
GRF MLR MLR
comp=Z,3μm,19.0s,MS5.8
GRF Grafenberg Arr 85.85 330 *e*P **P 14 29 02.1 +1.2**
comp=Z,63nm,1.8s,mb5.5

GRF LR LR
comp=Z,3μm,19.0s,MS5.8
EIL Elat 86.20 303 P **P 14 29 04.9 +1.7**
comp=Z,1.5nm,0.4s,mb4.5,baz=303,slow=15,SNR=5.2
EIL Elat 86.20 303 *e*P **P 14 29 03.6 +0.5**
comp=Z,26nm,1.3s,mb5.3
ANMO Albuquerque 86.51 50 P **P 14 29 05.1 +0.5**
ANMO pmax pmax
comp=Z,10.0nm,1.4s
ANMO MLR MLR
comp=Z,2μm,20.0s
ANMO Albuquerque 86.51 50 P **P 14 29 04.5 0.0**
comp=Z,0.6nm,0.5s,mb4.1,baz=30,slow=4.0,SNR=3.9
ANMO LR LR 15 02 09.4
comp=Z,2μm,20.5s,MS5.6,slow=32
ANMO Albuquerque 86.51 50 P **P 14 29 05.1 +0.5**
comp=Z,9.9nm,1.4s,mb4.8
ANMO LR LR
comp=Z,2μm,20.0s,MS5.6
SKO Skopje 86.65 320 *e*P **P 14 29 06.5 +1.5**
SKO *i* pP 14 29 20.0 +2.8
TBI Tubuai 86.81 121 *e*LR LR 14 55 37.8
comp=Z,3μm,21.8s,baz=313
STU Stuttgart 87.40 331 P **P 14 29 11.6 +3.1**
SCHQ Schefferville 88.32 16 P **P 14 29 13.9 +1.2**
comp=Z,2.2nm,0.9s,mb4.4,baz=211,slow=19,SNR=3.5
SCHQ LR LR 15 13 58.7
comp=Z,2μm,19.5s,MS5.5,baz=346,slow=39
SCHQ Schefferville 88.32 16 P **P 14 29 13.3 +0.6**
comp=Z,15nm,1.4s,mb5.0
SCHQ LR LR
comp=Z,3μm,20.0s,MS5.7
WMOK Wichita Mounta 91.38 46 *e*P **P 14 29 28.3 +0.6**
WMOK pmax pmax
comp=Z,8.0nm,1.3s,mb4.9
WMOK MLR MLR
comp=Z,1μm,19.0s,MS5.4
WMOK Wichita Mounta 91.38 46 *e*P **P 14 29 28.3 +0.6**
comp=Z,7.8nm,1.3s,mb4.9
WMOK LR LR
comp=Z,1μm,19.0s,MS5.4
TXAR Lajitas Array 91.94 52 P **P 14 29 31.2 +0.8**
comp=Z,0.4nm,0.3s,mb4.2,baz=66,slow=2.0,SNR=4.3
TXAR LR LR 15 04 32.5
comp=Z,2μm,21.3s,MS5.6,baz=260,slow=32
MIAR Mount Ida 94.54 43 PFAKE 14 29 50.0 +7.9
MIAR LR LR
comp=Z,2μm,20.0s,MS5.5
ACSO Alum Creek Sta 95.55 33 PFAKE 14 30 00.0 +13
ACSO LR LR
comp=Z,2μm,20.0s,MS5.6
ESLA Sonseca Array 100.16 334 PFAKE 14 30 20.0 +12
ESLA LR LR
comp=Z,24μm,21.0s
QSPA South Pole Qui 123.64 180 *e*PKPdf PKPdf 14 35 18.2 +1.1
SYO Syowa Base 125.45 206 ⇑Pdiff Pdif 14 32 02.9 +4.7
DBIC Dimbokro 128.63 315 PFAKE 14 35 40.0 +12
DBIC LR LR
comp=Z,1μm,19.0s,MS5.6
SAML Samuel 146.32 48 *e*PKPdf PKPdf 14 36 00.9 +0.5
SAML *e*PKPbc PKPbc 14 36 04.5 +2.8
LPAZ La Paz 148.06 64 *e*PKIKP PKPdf 14 36 07.4 +4.2
LPAZ MLR MLR
comp=Z,647nm,19.0s
LPAZ La Paz 148.06 64 PKPbc PKPdf 14 36 08.2 +5.0
comp=Z,5.6nm,0.9s,baz=328,slow=5.3,SNR=7.6
LVC Limon Verde 151.00 75 *e*PKPdf PKPdf 14 36 13.9 +6.2
LVC *e*PKPbc PKPdf 14 36 17.6 +10
LVC LR LR
comp=Z,1μm,20.0s,MS5.7

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*NEIC **20** 14:23:13.8±0.7, 21.00S×69.61W, h97km±6km, mb4.4/11, Error ellipse: s-maj=10.0km s-min=5.7km az=70.0*
NEIC Felt [III] at Huara, Mamina, Pica, Pozo Almonte and Tocopilla; [II] at Camina and Iquique.
*IDC **20** 14:23:14.2±1.4, 21.00S×69.60W, h100km±15km, mb3.8/8, mb1 4.1/10, mb1mx4.0/14, mbtmp4.2/10, MS3.4/2, Ms1 3.4/2, ms1mx2.5/17, Error ellipse: s-maj=24.2km s-min=14.9km az=80.0*

ISC 20 14:23:11.4±0.8, 21.12S±0.05×69.71W±0.09, h91km±8km, n41, σ1.16/45, mb4.2/17, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.66**	**154**	P	P	**P**	**14 23 42.9**	**+3.2**
	115nm,0.3s,baz=343,slow=9.5,SNR=1753							
LVC				S	S	**S**	**14 24 06.0**	**+5.4**
	357nm,0.3s,baz=313,slow=9.4,SNR=45							
LVC	**Limon Verde**	**1.66**	**154**	*e*Pn	P	**P**	**14 23 42.4**	**+2.7**
LVC				S	S	**S**	**14 24 06.0**	**+5.4**
LVC	**Limon Verde**	**1.66**	**154**	*e*P	P	**P**	**14 23 43.0**	**+3.2**
LVC				*i*S	S	**S**	**14 24 06.0**	**+5.3**
LVC				AMP			14 24 07.8	
	comp=N,3μm,0.6s							
ANCH	**Antofagasta**	**2.63**	**194**	⇑*i*P	P	**P**	**14 23 53.2**	**+0.3**
ANCH				*i*S	S	**S**	**14 24 23.2**	**-0.8**
CPN1	**Cerro Paranal**	**3.55**	**190**	⇑*i*P	P	**P**	**14 24 05.2**	**-0.4**
CPN1				*i*S	S	**S**	**14 24 44.7**	**-1.9**
CPN1				AMP			14 25 16.0	
	comp=E,1μm,0.5s							
ARE	**Arequipa**	**4.93**	**340**	*e*P	P	**P**	**14 24 25.0**	**+0.5**
ARE				*e*			14 24 38.0	
ARE				*e*			14 24 55.0	
ARE				*e*S	S	**S**	**14 25 15.0**	**-5.7**
LPAZ	**La Paz**	**5.03**	**18**	P	P	**P**	**14 24 26.9**	**+0.9**
	comp=E,7.3nm,0.3s,baz=194,slow=6.7,SNR=89							
LPAZ				LR	LR		14 26 41.0	
	comp=E,233nm,21.9s,baz=190,slow=42							
LPAZ	**La Paz**	**5.03**	**18**	*e*Pn	P	**P**	**14 24 26.1**	**+0.2**
SAML	**Samuel**	**13.64**	**28**	*e*P	P	**P**	**14 26 16.1**	**-6.1**
	comp=E,8.6nm,0.8s							
TRQA	**Tornquist**	**18.16**	**160**	*e*P	P	**P**	**14 27 19.0**	**+0.1**
	comp=E,20nm,1.1s							
PLCA	**Paso Flores**	**19.57**	**182**	P	P	**P**	**14 27 36.3**	**+1.9**
	comp=E,0.6nm,0.3s,baz=359,slow=13,SNR=20							
PLCA	**Paso Flores**	**19.57**	**182**	*e*P	P	**P**	**14 27 36.0**	**+1.5**
	comp=E,10nm,0.7s							
PLCA				*e*			14 27 38.9	
BDFB	**Brasilia**	**21.29**	**79**	P	P	**P**	**14 27 52.0**	**-0.2**
	comp=E,13nm,0.5s,mb4.5,baz=251,slow=12,SNR=11							
BDFB				LR	LR		14 37 15.6	
	comp=E,192nm,21.2s,baz=298,slow=40							
BAO	**Brasilia Array**	**21.31**	**79**	P	P	**P**	**14 27 52.1**	**-0.4**
BAO				*i*	*i*		14 27 54.1	
BAO				*i*			14 27 56.5	
OTAV	**Otavalo**	**22.88**	**337**	P	P	**P**	**14 28 09.9**	**+2.0**
	comp=E,3.9nm,0.7s,mb3.9							
SDV	**Santo Domingo**	**29.83**	**358**	*e*P	P	**P**	**14 29 10.6**	**-1.8**
RCBR	**Riachuelo**	**36.11**	**70**	*e*P	P	**P**	**14 30 05.6**	**-1.0**
	comp=E,29nm,0.8s,mb5.3							
MIAR	**Mount Ida**	**59.82**	**337**	*e*P	P	**P**	**14 33 07.4**	**-2.2**
	comp=E,6.2nm,0.7s,mb4.8							
TXAR	**Lajitas Array**	**59.89**	**326**	P	P	**P**	**14 33 08.8**	**-1.4**
	comp=E,1.0nm,0.7s,mb4.0,baz=141,slow=8.0,SNR=4.1							
TXAR	**Lajitas Array**	**59.89**	**326**	P	P	**P**	**14 33 08.8**	**-1.4**
SNAA	**Sanae**	**62.88**	**161**	P	P	**P**	**14 33 30.2**	**+0.4**
	comp=E,1.1nm,1.1s,mb3.7,baz=340,slow=13,SNR=3.7							
SNAA	**Sanae**	**62.88**	**161**	P	P	**P**	**14 33 30.2**	**+0.4**
SNAA	**Sanae**	**62.88**	**161**	*e*P	P	**P**	**14 33 29.9**	**+0.1**
	comp=E,61nm,0.9s							
ANMO	**Albuquerque**	**65.78**	**327**	P	P	**P**	**14 33 47.5**	**-1.6**
	comp=E,1.9nm,0.9s,mb3.9							
QSPA	**South Pole Qui**	**69.07**	**180**	⇓*i*P	P	**P**	**14 34 11.1**	**+2.2**
	comp=E,6.5nm,0.5s,mb4.7							
DBIC	**Dimbokro**	**69.35**	**74**	P	P	**P**	**14 34 10.4**	**-1.3**
	comp=E,3.1nm,0.9s,mb4.1,baz=225,slow=7.0,SNR=7.9							
NEN	**Nelson**	**70.81**	**322**	*e*P	P	**P**	**14 34 19.7**	**-0.5**
MSU	**Marysvale**	**71.44**	**326**	*e*P	P	**P**	**14 34 24.7**	**+0.8**
MVU	**Marysvale**	**71.46**	**326**	*e*P	P	**P**	**14 34 25.0**	**+1.0**
	comp=E,7.8nm,0.9s,mb4.5							
MVU				*e*			14 34 34.5	
ARUT	**Antelope Range**	**71.58**	**325**	*e*P	P	**P**	**14 34 25.3**	**+0.6**
PDAR	**Pinedale Array**	**73.41**	**331**	P	P	**P**	**14 34 35.9**	**+0.5**
	comp=E,0.8nm,0.7s,mb3.7,baz=139,slow=5.7,SNR=6.5							
TPH	**Tonopah**	**73.87**	**323**	*e*P	P	**P**	**14 34 39.0**	**+0.7**
	comp=E,3.1nm,0.7s,mb4.2							
NVAR	**Mina Array Bea**	**74.73**	**322**	P	P	**P**	**14 34 44.1**	**+0.9**
	comp=E,1.6nm,0.7s,mb3.9,baz=149,slow=7.4,SNR=11							
HLID	**Hailey**	**76.32**	**328**	*e*P	P	**P**	**14 34 52.9**	**+0.8**
	comp=E,4.9nm,1.1s,mb4.2							
YBH	**Yreka Blue Hor**	**79.45**	**323**	P	P	**P**	**14 35 08.6**	**-0.8**
	comp=E,1.2nm,0.8s,mb3.8,baz=4.1,slow=2.3,SNR=3.8							
EDM	**Edmonton**	**83.10**	**335**	*e*P	P	**P**	**14 35 27.1**	**-1.1**
EDM				*e*			14 35 36.7	

MAW	**Mawson**	**84.91**	**164**	*e*P	**P**	**14 35 38.3**	**+1.4**
	comp=E,5.0nm,0.8s,mb4.5						
YKA	**Yellowknife Ar**	**90.58**	**341**	P	**P**	**14 36 03.7**	**-0.5**
	comp=E,1.7nm,0.6s,mb4.3,baz=135,slow=4.5,SNR=53						
YKA	**Yellowknife Ar**	**90.58**	**341**	P	**P**	**14 36 03.7**	**-0.5**
ASAR	**Alice Springs**	**129.90**	**209**	PKP	PKPdf	14 42 12.7	+1.6
	comp=E,0.9nm,0.6s,baz=112,slow=1.4,SNR=6.0						
WRA	**Warramunga Arr**	**132.90**	**212**	PKP	PKPdf	14 42 18.2	+1.3
	comp=E,1.8nm,1.0s,baz=157,slow=1.6,SNR=6.1						

*BJI **20** 14:32:25.0, 4.91N×92.81E, h23km, mb4.8*
*IDC **20** 14:32:31.6±0.6, 5.44N×92.69E, h22km±3km, mb4.0/8, mb1 4.3/9, mb1mx4.1/17, mbtmp4.2/9, ML3.7/1, Error ellipse: s-maj=32.0km s-min=11.7km az=49.0*
*NEIC **20** 14:32:31.6±0.3, 5.50N×92.82E, mb4.6/12, Error ellipse: s-maj=8.6km s-min=6.2km az=59.0*
ISC 20 14:32:29.6±0.4, 5.47N±0.06×92.82E±0.07, h23km, h23km±.4km:pP-P, n46, σ1$00/43, mb4.5/26, 1C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.18**	**279**	P	**P**	**14 35 22.4**	**-2.4**
CM31	**Chiang Mai Arr**	**14.22**	**24**	*e*P	**P**	**14 35 51.1**	**-0.8**
	24nm,0.9s						
CMAR	**Chiang Mai Arr**	**14.22**	**24**	Pn	**P**	**14 35 52.0**	**0.0**
	0.1nm,0.3s,baz=218,slow=14,SNR=28						
CHG	**Chiang Mai**	**14.54**	**24**	⇑P	**P**	**14 36 04.7**	**+8.5**
	11nm,0.9s						
KKTK	**Khon Kaen**	**14.58**	**41**	P	**P**	**14 36 04.0**	**+7.3**
	432nm,0.7s						
HYB	**Hyderabad**	**18.32**	**312**	*i* P	**P**	**14 36 44.0**	**-0.3**
HYB				*e*S	**S**	**14 39 57.0**	**-7.9**
IMP	**Imphal**	**19.23**	**3**	*e*	**P**	**14 36 51.5**	**-3.6**
QIZ	**Qiongzhong**	**21.37**	**49**	P	**P**	**14 37 18.6**	**+0.8**
QIZ	**Qiongzhong**	**21.37**	**49**	*e*P	**P**	**14 37 18.0**	**+0.2**
	112nm,1.5s,mb5.0						
POO	**Poona**	**22.61**	**307**	*e*P	**P**	**14 37 40.0**	**+10**
POO				*i*		14 41 43.0	
JIRN	**Jiri**	**22.95**	**345**	*e*P	**P**	**14 37 34.1**	**+0.6**
	35nm,0.8s,mb4.8						
PKI	**Pulchoki**	**23.08**	**343**	*e*P	**P**	**14 37 35.8**	**+1.0**
	53nm,1.3s,mb4.8						
DMN	**Daman**	**23.21**	**342**	*e*P	**P**	**14 37 37.5**	**+1.5**
KKN	**Kakani**	**23.32**	**343**	*e*P	**P**	**14 37 38.2**	**+1.0**
	34nm,0.9s,mb4.8						
GKN	**Gorkha**	**23.72**	**342**	*e*P	**P**	**14 37 42.9**	**+1.9**
	41nm,0.9s,mb4.8						
KOLN	**Koldanda**	**23.85**	**339**	*e*P	**P**	**14 37 43.0**	**+0.8**
	106nm,1.8s,mb5.0						
LSA	**Lhasa**	**24.15**	**356**	P	**P**	**14 37 46.3**	**+1.1**
LSA	**Lhasa**	**24.15**	**356**	*e*P	**P**	**14 37 46.5**	**+1.3**
	15nm,1.0s,mb4.4						
ENH	**Enshi**	**29.24**	**31**	P	**P**	**14 38 30.1**	**-2.1**
	8.2nm,1.1s,mb4.4						
XAN	**Xi'an**	**32.11**	**26**	P	**P**	**14 38 56.0**	**-1.5**
XAN				AP	pP	14 39 03.4	-1.0
XAN				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.9						
MBWA	**Marble Bar**	**37.38**	**136**	P	**P**	**14 39 43.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**39.96**	**127**	*e*P	**P**	**14 40 03.7**	**-0.6**
	comp=Z,4.3nm,0.6s,mb4.4						
SONM	**Songino Array**	**43.78**	**13**	P	**P**	**14 40 36.0**	**+0.8**
	comp=Z,2.4nm,0.8s,mb4.0,baz=196,slow=9.0,SNR=11						
SONM				pP	pP	14 40 43.1	+0.8
	comp=Z,4.5nm,0.9s,baz=196,slow=7.9,SNR=11						
SONM				PcP	PcP	14 42 23.3	+1.0
	comp=Z,3.1nm,0.7s,baz=199,slow=3.7,SNR=7.7						
SONM				pPcP		14 42 30.0	
	comp=Z,2.5nm,0.7s,baz=207,slow=3.3,SNR=5.4						
ULN	**Ulaanbaatar**	**43.96**	**14**	*e*P	**P**	**14 40 37.0**	**+0.2**
	comp=Z,3.0nm,0.8s,mb4.1						
KURK	**Kurchatov**	**46.63**	**348**	*e*P	**P**	**14 40 57.7**	**-0.3**
	comp=Z,7.8nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**48.00**	**123**	P	**P**	**14 41 09.2**	**0.0**
	comp=Z,8.5nm,0.7s,mb4.9,baz=301,slow=8.9,SNR=64						
WRA				pP	pP	14 41 16.6	+0.3
	comp=Z,5.9nm,0.8s,baz=300,slow=9.1,SNR=11						
WRA				PcP	PcP	14 42 38.0	+0.6
	comp=Z,1.4nm,0.7s,baz=307,slow=2.8,SNR=5.8						
WRA				pPcP		14 42 44.1	
	comp=Z,0.7nm,0.7s,baz=161,slow=1.9,SNR=3.6						
WRAB	**Tennant Creek**	**48.01**	**123**	*e*P	**P**	**14 41 09.3**	**+0.1**
	comp=Z,23nm,0.8s,mb5.3						
WB2	**Warramunga Arr**	**48.01**	**123**	⇓*i*P	**P**	**14 41 09.5**	**+0.2**
HIA	**Hailar**	**49.23**	**23**	P	**P**	**14 41 16.5**	**-1.7**
	comp=Z,8.0nm,0.9s,mb4.8						
ASPA	**Alice Springs**	**49.44**	**128**	*e*P	**P**	**14 41 20.5**	**+0.3**
ASAR	**Alice Springs**	**49.44**	**128**	P	**P**	**14 41 20.2**	**0.0**
	comp=Z,7.6nm,1.1s,mb4.6,baz=298,slow=7.5,SNR=25						
ASAR				pP	pP	14 41 27.8	+0.3
	comp=Z,3.0nm,0.8s,baz=307,slow=7.5,SNR=10						
ASAR				PcP	PcP	14 42 43.1	+0.5
	comp=Z,2.8nm,0.7s,baz=299,slow=3.2,SNR=8.9						
ASAR				pPcP		14 42 50.1	
	comp=Z,2.5nm,1.0s,baz=302,slow=2.9,SNR=4.0						
BVAR	**Borovoye Array**	**50.85**	**343**	P	**P**	**14 41 30.3**	**-0.3**
	comp=Z,2.2nm,0.8s,mb4.1,baz=143,slow=7.4,SNR=13						
BVAR				pP	pP	14 41 37.4	-0.4
	comp=Z,3.8nm,0.9s,baz=153,slow=6.6,SNR=13						
BRVK	**Borovoye**	**50.91**	**343**	*e*P	**P**	**14 41 30.4**	**-0.7**
	comp=Z,7.2nm,1.0s,mb4.6						
BRVK				*e*pP	pP	14 41 37.7	-0.5
CHKZ	**Chkalovo**	**51.35**	**343**	*e*P	**P**	**14 41 33.4**	**-1.0**
	comp=Z,5.9nm,0.8s,mb4.6						
CHKZ				*e*pP	pP	14 41 40.5	-1.1
ARU	**Arti**	**57.60**	**338**	P	**P**	**14 42 20.5**	**+0.5**
	comp=Z,5.7nm,0.8s,mb4.7						
CTAO	**Charters Tower**	**58.32**	**118**	P	**P**	**14 42 25.8**	**+0.2**
STKA	**Stephens Creek**	**59.44**	**132**	P	**P**	**14 42 34.0**	**+0.7**
	comp=Z,2.7nm,0.8s,mb4.4,baz=306,slow=7.0,SNR=7.0						
STKA				pP	pP	14 42 40.6	+0.1
	comp=Z,2.7nm,0.6s,baz=354,slow=8.3,SNR=3.9						
STKA	**Stephens Creek**	**59.44**	**132**	*e*P	**P**	**14 42 33.4**	**+0.2**
STKA				pP	pP	14 42 40.6	+0.1
BRTR	**Keskin Array B**	**63.02**	**312**	P	**P**	**14 42 57.0**	**-0.3**
	comp=Z,1.7nm,0.8s,mb4.2,baz=120,slow=8.0,SNR=16						
BRTR				pP	pP	14 43 03.5	-1.1
	comp=Z,2.5nm,0.9s,baz=126,slow=11,SNR=11						
LSZ	**Lusaka**	**67.25**	**251**	*e*P	**P**	**14 43 25.8**	**+0.8**
	comp=Z,5.8nm,1.1s,mb4.5						
LSZ				*e*pP	pP	14 43 33.0	+0.7
AKASG	**Malin Array Be**	**69.23**	**322**	P	**P**	**14 43 34.6**	**-2.1**
	comp=Z,0.2nm,0.3s,mb3.5,baz=222,slow=22,SNR=3.6						
AKASG				pP	pP	14 43 42.6	-1.4
	comp=Z,0.2nm,0.3s,baz=76,slow=3.9,SNR=1.8						
GERES	**GERESS Array B**	**78.74**	**319**	P	**P**	**14 44 33.0**	**+1.1**
	comp=Z,2.3nm,0.7s,mb4.2,baz=101,slow=6.8,SNR=9.2						
GERES				pP	pP	14 44 39.9	+0.5
	comp=Z,2.2nm,0.8s,baz=117,slow=3.0,SNR=6.8						
NVAR	**Mina Array Bea**	**127.64**	**31**	PKP	PKPdf	14 51 37.3	-0.9
	comp=Z,0.7nm,0.7s,baz=329,slow=1.5,SNR=6.2						
NVAR				pPKP		14 51 44.5	
	comp=Z,0.5nm,0.7s,baz=340,slow=3.0,SNR=3.9						
PDAR	**Pinedale Array**	**127.86**	**21**	PKP	PKPdf	14 51 36.1	-2.3
	comp=Z,0.9nm,0.9s,baz=336,slow=1.1,SNR=7.2						
PDAR				pPKP		14 51 43.9	
	comp=Z,0.5nm,0.7s,slow=1.5,SNR=4.2						
ANMO	**Albuquerque**	**135.88**	**23**	PKP	PKPdf	14 51 54.1	+0.4
	comp=Z,1.1nm,0.8s,baz=206,slow=3.5,SNR=3.1						
TXAR	**Lajitas Array**	**141.94**	**24**	PKP	PKPdf	14 52 02.2	-2.7
	comp=Z,0.7nm,0.8s,SNR=3.6						

*IDC **20** 14:46:01.8±1.2, 7.22N×93.39E, mb3.8/6, mb1 4.0/7, mb1mx3.8/16, mbtmp3.8/7, ML3.9/1, Error ellipse: s-maj=48.6km s-min=22.8km az=52.0*
ISC 20 14:46:06.6±3.8, 7.4N±0.2×93.6E±0.1, h46km±34km, n14, σ0$99/14, mb4.0/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.19**	**25**	Pn	**P**	**14 49 00.8**	**+0.5**
	0.2nm,0.3s,baz=217,slow=14,SNR=6.9						
HYB	**Hyderabad**	**17.70**	**306**	*e*P	**P**	**14 50 12.5**	**+1.0**
HYB				*e*		14 53 27.0	
JIRN	**Jiri**	**21.34**	**342**	*e*P	**P**	**14 50 51.7**	**-0.1**
	16nm,0.8s,mb4.4						
PKI	**Pulchoki**	**21.51**	**340**	*e*P	**P**	**14 50 52.0**	**-1.5**
DMN	**Daman**	**21.64**	**339**	*e*P	**P**	**14 50 53.6**	**-1.3**
KKN	**Kakani**	**21.75**	**340**	*e*P	**P**	**14 50 54.4**	**-1.6**
GKN	**Gorkha**	**22.17**	**339**	*e*P	**P**	**14 51 00.6**	**+0.4**
	11nm,0.4s,mb4.6						
KOLN	**Koldanda**	**22.36**	**336**	*e*P	**P**	**14 51 02.6**	**+0.6**
	8.7nm,0.8s,mb4.3						
SONM	**Songino Array**	**41.76**	**13**	P	**P**	**14 53 53.5**	**+0.5**
	0.3nm,0.4s,mb3.3,baz=190,slow=7.5,SNR=3.5						
WRA	**Warramunga Arr**	**48.46**	**125**	P	**P**	**14 54 46.7**	**-0.1**
	0.9nm,0.7s,mb3.9,baz=305,slow=8.6,SNR=7.8						
ASAR	**Alice Springs**	**50.06**	**129**	P	**P**	**14 54 58.7**	**-0.4**
	0.6nm,0.9s,mb3.6,baz=308,slow=7.2,SNR=4.6						
ASAR				pP	pP	14 55 06.6	-5.3
	0.4nm,0.6s,baz=298,slow=7.7,SNR=3.2						
BRTR	**Keskin Array B**	**62.30**	**311**	P	**P**	**14 56 25.6**	**-0.9**
	0.3nm,0.6s,mb3.6,baz=134,slow=8.5,SNR=4.8						
FINES	**FINESS Array B**	**72.87**	**332**	P	**P**	**14 57 33.7**	**+1.4**
	4.1nm,1.1s,mb4.3,baz=90,slow=3.8,SNR=3.8						
ARCES	**ARCESS Array B**	**75.52**	**340**	P	**P**	**14 57 49.0**	**+1.5**
	3.6nm,0.9s,mb4.3,baz=53,slow=6.1,SNR=3.9						

*BJI **20** 14:51:53.5, 0.20S×122.70E, h100km, mB5.4, mb4.8*
*NEIC **20** 14:51:53.6±0.5, 0.25S×122.73E, h100km, mb4.6/12, Error ellipse: s-maj=37.0km s-min=8.6km az=66.0*
*IDC **20** 14:52:03.9±6.5, 0.00N×123.48E, h198km±65km, mb3.6/5, mb1 3.7/5, mb1mx3.5/13, mbtmp4.1/5, Error ellipse: s-maj=61.7km s-min=14.6km az=61.0*
ISC 20 14:51:52.1±0.5, 0.2S±0.1×122.7E±0.2, h100km, n27, σ0$74/27, mb4.4/18, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**22.71**	**150**	*e*P	**P**	**14 56 45.5**	**-0.8**
	21nm,1.2s,mb4.3						
WRA	**Warramunga Arr**	**22.71**	**151**	P	**P**	**14 56 46.6**	**+0.3**
	3.9nm,0.6s,mb3.9,baz=330,slow=10,SNR=31						
WB2	**Warramunga Arr**	**22.72**	**150**	*e*P	**P**	**14 56 45.8**	**-0.5**
TATO	**Taipei**	**25.04**	**357**	*e*P	**P**	**14 57 08.4**	**-0.3**
ASAR	**Alice Springs**	**25.76**	**156**	P	**P**	**14 57 15.2**	**-0.1**
	1.3nm,0.7s,mb3.5,baz=350,slow=16,SNR=14						
ASAR				PcP	PcP	15 00 42.5	-0.8
	0.8nm,0.8s,baz=351,slow=2.0,SNR=8.1						
CMAR	**Chiang Mai Arr**	**29.79**	**310**	P	**P**	**14 57 57.9**	**+5.9**
	0.7nm,0.7s,mb3.4,baz=143,slow=7.8,SNR=6.1						
ENH	**Enshi**	**32.79**	**339**	*e*P	**P**	**14 58 18.5**	**+0.5**
	13nm,1.0s,mb4.7						
MAJO	**Matsushiro**	**39.28**	**20**	P	**P**	**14 59 21.1**	**+8.3**
	26nm,1.1s,mb5.0						
LSA	**Lhasa**	**42.27**	**317**	*e*P	**P**	**14 59 37.6**	**+0.2**
	3.9nm,0.6s,mb4.3						
ULN	**Ulaanbaatar**	**49.75**	**346**	*e*P	**P**	**15 00 38.2**	**+1.8**
	5.4nm,0.8s,mb4.5						
SONM	**Songino Array**	**49.88**	**346**	P	**P**	**15 00 38.3**	**+1.0**
	3.6nm,0.7s,mb4.4,baz=162,slow=8.0,SNR=14						
TLY	**Talaya**	**54.12**	**345**	*e*P	**P**	**15 01 09.6**	**+0.6**
	5.7nm,1.1s,mb4.5						
TKM2	**Tokmak 2**	**60.13**	**322**	P	**P**	**15 01 51.3**	**-0.2**
	SNR=9.8						
KBK	**Karagaybulak**	**60.40**	**321**	P	**P**	**15 01 53.1**	**-0.2**
	SNR=9.3						
UCH	**Uchtor**	**60.45**	**320**	P	**P**	**15 01 54.0**	**+0.3**
	SNR=7.1						
AAK	**Ala-Archa**	**60.67**	**321**	P	**P**	**15 01 55.1**	**-0.1**
	SNR=9.4						
AAK	**Ala-Archa**	**60.67**	**321**	*e*P	**P**	**15 01 53.8**	**-1.4**
	11nm,0.9s,mb4.9						
AAK				*e*		15 01 58.1	
AML	**Almayashu**	**60.93**	**320**	P	**P**	**15 01 56.9**	**0.0**
	SNR=11						
USP	**Ospenovka**	**61.00**	**322**	P	**P**	**15 01 56.8**	**-0.7**
	SNR=11						
EKS2	**Erkin-Say**	**61.14**	**321**	P	**P**	**15 01 58.2**	**-0.2**
	SNR=11						
KURK	**Kurchatov**	**62.98**	**330**	*e*P	**P**	**15 02 09.8**	**-0.7**
	36nm,1.1s,mb5.2						
BVAR	**Borovoye Array**	**68.48**	**329**	P	**P**	**15 02 44.9**	**-0.6**
	5.8nm,0.9s,mb4.4,baz=149,slow=8.6,SNR=19						
BRVK	**Borovoye**	**68.55**	**329**	*e*P	**P**	**15 02 45.1**	**-0.8**
	17nm,1.3s,mb4.7						
CHKZ	**Chkalovo**	**68.71**	**330**	*e*P	**P**	**15 02 46.1**	**-0.8**
	21nm,1.5s,mb4.8						
MAW	**Mawson**	**78.72**	**200**	P	**P**	**15 03 46.6**	**+1.9**
	6.2nm,0.9s,mb4.4						
BRTR	**Keskin Array B**	**89.38**	**310**	P	**P**	**15 04 39.2**	**+0.2**
	0.8nm,1.1s,mb3.7,baz=90,slow=7.4,SNR=3.6						
QSPA	**South Pole Qui**	**89.75**	**180**	P	**P**	**15 04 40.2**	**+0.4**
	2.5nm,0.6s,mb4.5						

*MOS **20** 15:11:23.6±2.2, 54.38N×111.32E, h11km, mb4.2/1, Error ellipse: s-maj=16.3km s-min=8.2km az=80.0*
BYKL 20 15:11:23.6±0.2, 54.40N×111.31E, h9km±14km, 2C-9D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.48**	**350**	⇓*i*PG	Pg	15 11 32.7	-0.7
YLYR				*e*		15 11 39.0	
YLYR				pmax	pmax		
	comp=Z,294nm,0.1s						
YLYR				smax			
	comp=E,4μm,0.3s						
YLYR	**Ulyunkhan**	**0.48**	**350**	⇓*i*Pg	Pg	15 11 32.7	-0.7
YLYR				*i* Sg	Sg	15 11 39.0	-1.0
YLYR				Pmax			
	comp=E,298nm,0.1s						
YLYR				Smax			
	comp=E,4μm,0.4s						
SYVR	**Suvo**	**1.07**	**227**	*e*PG	Pg	15 11 43.7	-1.4
SYVR				*e*		15 11 56.9	
SYVR				pmax	pmax		
	comp=Z,46nm,0.1s						
SYVR				smax			
	comp=N,515nm,0.2s						
SYVR	**Suvo**	**1.07**	**227**	⇓*i*Pg	Pg	15 11 43.7	-1.4
SYVR				*e*Sg	Sg	15 11 58.5	-0.9
SYVR				*e*Sb	Sb	15 12 02.3	+4.5
SYVR				Pmax			
	comp=N,57nm,0.1s						
SYVR				max			
	comp=N,1μm,0.5s						
KMO	**Kumora**	**1.49**	**358**	⇓*i*Pg	Pg	15 11 50.6	-2.8
KMO				*e*Sg	Sg	15 12 10.4	-2.9
KMO				Pmax			
	comp=N,240nm,0.3s						
KMO				Smax			
	comp=N,751nm,0.8s						
NIZ	**Nizh Angarsk**	**1.71**	**324**	*e*PN	Pn	15 11 54.6	+0.7
NIZ				*e*		15 12 17.2	
NIZ				pmax	pmax		
	comp=Z,47nm,0.3s						
NIZ				smax			
	comp=E,210nm,0.3s						
NIZ	**Nizh Angarsk**	**1.71**	**324**	⇑*i*Pg	Pg	15 11 54.5	-3.3
NIZ				*e*Sg	Sg	15 12 17.0	-3.7
NIZ				Pmax			
	comp=E,71nm,0.2s						
NIZ				Smax			
	comp=E,274nm,0.3s						
UKT	**Uakit**	**1.73**	**50**	*e*PN	Pn	15 11 54.6	+0.5
UKT				*e*		15 12 17.7	
UKT				pmax	pmax		
	comp=Z,89nm,0.2s						
UKT				smax			
	comp=E,296nm,0.2s						
UKT	**Uakit**	**1.73**	**50**	⇓*i*Pg	Pg	15 11 54.6	-3.5
	comp=E,30nm,0.4s						
UKT				⇓*i*Pg	Pg	15 11 54.6	-3.5
	comp=E,52nm,0.4s						
UKT				⇓*i*Pg	Pg	15 11 54.6	-3.5
	comp=E,51nm,0.4s						
UKT				*e*Sg	Sg	15 12 17.0	-4.1
UKT				Pmax			
	comp=E,111nm,0.5s						
UKT				Smax			
	comp=E,342nm,0.5s						
YOA	**Uoyan**	**1.75**	**8**	⇑*i*PN	Pn	15 11 56.5	+2.0
YOA				*i*		15 12 19.4	
YOA				pmax	pmax		
	comp=Z,253nm,0.4s						
YOA				smax			
	comp=N,927nm,0.5s						
YOA	**Uoyan**	**1.75**	**8**	⇓*i*Pg	Pg	15 11 55.5	-3.1
YOA				*e*Sg	Sg	15 12 19.4	-2.6
YOA				Pmax			
	comp=N,213nm,0.2s						
YOA				Smax			
	comp=N,873nm,0.8s						
SVKR	**Severomuysk**	**2.15**	**36**	*e*PN	Pn	15 12 00.9	+0.8
SVKR				*e*		15 12 02.5	
SVKR				*e*		15 12 31.7	
SVKR				pmax	pmax		
	comp=Z,112nm,0.4s						
SVKR				smax			
	comp=E,354nm,0.4s						
SVKR	**Severomuysk**	**2.15**	**36**	*e*Pn	Pn	15 12 01.4	+1.3
SVKR				*e*Pg	Pg	15 12 02.9	-3.6
SVKR				*e*Sg	Sg	15 12 32.2	-3.0
SVKR				Pmax			
	comp=E,156nm,0.4s						
SVKR				Smax			
	comp=E,471nm,0.5s						
OGRR	**Ongureny**	**2.32**	**252**	*e*Pn	Pn	15 12 02.6	0.0
OGRR				*e*Pg	Pg	15 12 05.1	-4.8
OGRR				*e*Sg	Sg	15 12 35.3	-5.6
OGRR				Pmax			
	comp=E,24nm,0.3s						
OGRR				Smax			
	comp=E,217nm,1.0s						
CIT	**Chita**	**2.74**	**150**	*e*PN	Pn	15 12 13.2	+4.7
CIT				*e*		15 12 48.2	
CIT				pmax	pmax		
	comp=Z,32nm,0.3s						
CIT				smax			
	comp=E,236nm,0.3s						
CIT	**Chita**	**2.74**	**150**	*e*Pg	Pg	15 12 12.1	-6.2
CIT				*e*Sg	Sg	15 12 47.9	-6.9
CIT				Pmax			
	comp=E,32nm,0.3s						
CIT				Smax			
	comp=E,257nm,0.8s						
ZRHB	**Zarechye**	**3.10**	**235**	*e*Pg	Pg	15 12 20.0	-5.5
ZRHB				*e*Sg	Sg	15 13 00.5	-6.2
ZRHB				Pmax			
	comp=E,38nm,0.7s						
ZRHB				Smax			
	comp=E,393nm,0.4s						
TRTB	**Turuntaevo**	**3.10**	**227**	*e*Pn	Pn	15 12 13.8	+0.1
TRTB				*e*Pg	Pg	15 12 19.6	-5.9
TRTB				*e*Sg	Sg	15 13 00.8	-6.0
TRTB				Pmax			
	comp=E,21nm,1.1s						
TRTB				Smax			
	comp=E,113nm,0.8s						
NLYR	**Nelyaty**	**3.26**	**48**	*e*PN	Pn	15 12 15.4	-0.6
NLYR				*e*		15 12 21.5	
NLYR				*e*		15 13 03.9	
NLYR				pmax	pmax		
	comp=Z,30nm,0.2s						
NLYR				smax			
	comp=N,202nm,1.0s						
NLYR	**Nelyaty**	**3.26**	**48**	⇓*i*Pn	Pn	15 12 15.5	-0.5
NLYR				*e*Pg	Pg	15 12 21.5	-7.3
NLYR				*e*Sg	Sg	15 13 03.7	-8.6
NLYR				Pmax			
	comp=N,29nm,0.5s						
NLYR				Smax			
	comp=N,128nm,1.0s						
TRG	**Tyrgan**	**3.38**	**243**	*e*Pn	Pn	15 12 17.0	-0.7
TRG				*e*Pg	Pg	15 12 23.7	-7.5
TRG				*e*Sg	Sg	15 13 07.7	-8.6
TRG				Pmax			
	comp=N,8.0nm,0.1s						
TRG				Smax			
	comp=N,117nm,0.3s						
FFNB	**Fofonovo**	**3.61**	**231**	*e*Pn	Pn	15 12 20.9	0.0
FFNB				*e*Pg	Pg	15 12 28.6	-7.1
FFNB				*e*Sg	Sg	15 13 15.1	-8.7
FFNB				Pmax			
	comp=N,42nm,0.1s						
FFNB				Smax			
	comp=N,256nm,0.4s						
BOD	**Bodaibo**	**3.74**	**23**	*e*Pn	Pn	15 12 21.5	-1.3
BOD				*e*Pg	Pg	15 12 29.8	-8.6
BOD				*e*Sg	Sg	15 13 18.1	-10
BOD				Pmax			
	comp=N,15nm,0.3s						
BOD				Smax			
	comp=N,41nm,1.3s						
HRMR	**Khuramsha**	**3.82**	**225**	*e*Pn	Pn	15 12 23.7	-0.3
HRMR				*e*Pg	Pg	15 12 33.2	-6.8
HRMR				*e*Sg	Sg	15 13 23.3	-7.6
HRMR				Pmax			
	comp=N,25nm,0.4s						
HRMR				Smax			
	comp=N,448nm,0.4s						
LSTR	**Listvyanka**	**4.65**	**240**	*e*Pn	Pn	15 12 34.2	-1.6
LSTR				*e*Pg	Pg	15 12 46.7	-10
LSTR				*e*Sg	Sg	15 13 47.5	-11
LSTR				Pmax			
	comp=N,3.0nm,0.4s						
LSTR				Smax			
	comp=N,43nm,2.1s						
CRS	**Chara**	**4.67**	**55**	*e*PN	Pn	15 12 34.8	-1.2
CRS				*e*		15 12 47.4	
CRS				*e*		15 13 48.1	
CRS				pmax	pmax		
	comp=Z,18nm,1.4s						
CRS				smax			
	comp=N,116nm,1.4s						
CRS	**Chara**	**4.67**	**55**	*e*Pn	Pn	15 12 34.7	-1.3
CRS				*e*Pg	Pg	15 12 47.3	-10
CRS				*e*Sg	Sg	15 13 47.8	-11
CRS				Pmax			
	comp=N,8.0nm,0.6s						
CRS				Smax			
	comp=N,116nm,2.0s						
KPC	**Khapcheranga**	**4.75**	**172**	*e*PN	Pn	15 12 49.0	+12
KPC				*e*		15 13 51.3	
KPC				pmax	pmax		
	comp=Z,29nm,2.5s						
KPC				smax			
	comp=E,97nm,0.8s						
KPC	**Khapcheranga**	**4.75**	**172**	*e*	Pn	15 12 41.3	+4.2
KPC				*e*Pg	Pg	15 12 48.8	-10
KPC				*e*Sg	Sg	15 13 50.2	-12
KPC				Pmax			
	comp=E,4.0nm,0.4s						
KPC				Smax			
	comp=E,98nm,1.0s						
TUP	**Tupik**	**5.05**	**86**	*e*PN	Pn	15 12 39.3	-2.1
TUP				*e*		15 12 53.6	
TUP				*e*S	Sn	15 13 36.6	-4.0
TUP				*e*		15 13 59.2	
TUP				pmax	pmax		
	comp=Z,7.0nm,0.2s						
TUP				smax			

*IDC **20** 15:11:26.1±1.7, 42.81S×74.25W, mb4.1/6, mb1 4.4/7, mb1mx4.0/13, mbtmp4.1/7, ML4.0/1, MS3.6/2, Ms1 3.6/2, ms1mx2.7/14, Error ellipse: s-maj=44.1km s-min=35.7km az=176.0*

*GUC **20** 15:11:28.0±0.9, 42.65S×74.31W, h5km, ML5.0*

*NEIC **20** 15:11:30.6±4.9, 42.67S×74.29W, h24km±34km, mb4.4/5, ML5.0(GUC), Error ellipse: s-maj=23.7km s-min=9.7km az=84.0*

NEIC Felt [III] at Castro.

ISC 20 15:11:30.5±0.6, 42.67S±0.04×74.3W±0.1, h33km, n26, σ1§26/29, mb4.1/8, 1C-2D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMCH	**Puerto Montt**	**1.59**	**43**	*e*P	**P**	**15 11 55.8**	**-0.9**
PMCH				*i* S	**S**	**15 12 16.4**	**+0.1**
OSCH	**Osorno**	**2.28**	**24**	*e*P	**P**	**15 12 10.3**	**+3.8**
OSCH				*i* S	**S**	**15 12 36.5**	**+2.8**
OSCH				AMP		15 12 50.3	
	comp=E,5μm,0.5s						
VLCH	**Valdivia**	**2.98**	**16**	*e*P	**P**	**15 12 16.2**	**-0.3**
VLCH				*i* S	**S**	**15 12 54.0**	**+2.6**
VLCH				AMP		15 13 10.5	
	comp=N,10μm,0.3s						
COYC	**Coyhaique**	**3.33**	**152**	*e*P	**P**	**15 12 21.3**	**-0.2**
COYC				*i* S	**S**	**15 13 03.0**	**+2.6**
PLCA	**Paso Flores**	**3.43**	**57**	Pn	**Pn**	**15 12 23.1**	**0.0**
	comp=N,2.9nm,0.3s,baz=233,slow=13,SNR=48						
PLCA				LR	LR	15 14 02.3	
	comp=N,785nm,18.3s,baz=213,slow=45						
TMCH	**Temuco**	**4.13**	**19**	*e*P	**P**	**15 12 36.0**	**+3.2**
TMCH				*i* S	**S**	**15 13 20.0**	**-0.6**
TRQA	**Tornquist**	**10.49**	**68**	*e*P	**P**	**15 13 59.6**	**-2.1**
USHA	**Ushuaia**	**12.78**	**164**	LR	LR	15 19 00.1	
	comp=N,320nm,18.3s,baz=200,slow=36						
LVC	**Limon Verde**	**20.50**	**14**	P	**P**	**15 16 07.7**	**-0.7**
	comp=N,14nm,1.1s,baz=202,slow=9.9,SNR=9.4						
PMSA	**Palmer Station**	**22.91**	**169**	P	**P**	**15 16 30.9**	**-1.1**
	comp=N,17nm,1.1s,mb4.4						
LPAZ	**La Paz**	**26.82**	**13**	*e*P	**P**	**15 17 08.6**	**-1.2**
	comp=N,1.8nm,0.9s,mb3.6,baz=199,slow=10,SNR=4.2						
LPAZ	**La Paz**	**26.82**	**13**	*e*P	**P**	**15 17 08.2**	**-1.6**
	comp=N,2.1nm,0.8s,mb3.7						
VNA3	**Neumayer Olymp**	**42.18**	**154**	⇓*i*	**P**	**15 19 26.5**	**+5.4**
VNA1	**Neumayer--Stat**	**42.58**	**153**		**P**	**15 19 28.2**	**+3.8**
OTAV	**Otavalo**	**42.87**	**354**	P	**P**	**15 19 18.3**	**-9.2**
	comp=N,3.8nm,1.1s,mb4.0						
VNA2	**Neumayer--Watz**	**42.89**	**154**	⇓*i*	**P**	**15 19 27.6**	**+0.7**
SNAA	**Sanae**	**44.39**	**155**	⇑*i*	**P**	**15 19 30.1**	**-8.9**
SNAA	**Sanae**	**44.39**	**155**	*e*P	**P**	**15 19 37.9**	**-1.2**
	comp=N,110nm,0.9s						
QSPA	**South Pole Qui**	**47.58**	**180**	P	**P**	**15 20 04.6**	**+0.3**
	comp=N,8.9nm,1.5s,mb4.6						
TXAR	**Lajitas Array**	**76.56**	**334**	P	**P**	**15 23 19.7**	**+0.5**
	comp=N,0.4nm,0.5s,mb3.6,baz=150,slow=10,SNR=5.1						
DBIC	**Dimbokro**	**79.69**	**71**	P	**P**	**15 23 35.4**	**-1.3**
	comp=N,11nm,1.1s,mb4.7,baz=211,slow=7.0,SNR=8.9						
DBIC	**Dimbokro**	**79.69**	**71**	*e*P	**P**	**15 23 35.8**	**-1.0**
	comp=N,15nm,1.0s,mb4.9						
NVAR	**Mina Array Bea**	**90.06**	**327**	P	**P**	**15 24 28.4**	**+0.5**
	comp=N,0.2nm,0.5s,mb3.7,baz=176,slow=4.1,SNR=3.8						
NVAR	**Mina Array Bea**	**90.06**	**327**	P	**P**	**15 24 28.4**	**+0.5**
PDAR	**Pinedale Array**	**90.75**	**335**	P	**P**	**15 24 31.6**	**+0.5**
	comp=N,0.5nm,0.7s,mb3.9,baz=149,slow=4.7,SNR=4.7						
BRTR	**Keskin Array B**	**127.26**	**67**	PKP	PKPdf	15 30 32.3	+0.7
	comp=N,0.8nm,0.8s,baz=207,slow=1.6,SNR=4.7						

*TEH **20** 15:12:08.6, 30.43N×49.54E, h5km, Mn3.8*

*IDC **20** 15:12:10.0±3.5, 30.83N×49.88E, mb3.7/9, mb1 3.9/12, mb1mx3.8/23, mbtmp3.8/12, ML3.5/3, Error ellipse: s-maj=70.9km s-min=25.2km az=168.0*

*THR **20** 15:12:10.2±1.0, 30.55N×49.83E, h18km±12km, ML3.9*

*NEIC **20** 15:12:11.1±7.1, 30.60N×49.90E, h14km±42km, mb4.1/3, Error ellipse: s-maj=27.8km s-min=14.1km az=153.0*

*MOS **20** 15:12:13.9±1.5, 30.82N×49.79E, h33km, mb4.4/6, Error ellipse: s-maj=22.5km s-min=10.3km az=118.1*

*CSEM **20** 15:12:15.5±0.1, 30.89N×49.87E, h35km, mb4.6/3, Error ellipse: s-maj=3.0km s-min=1.7km az=148.0*

*OMAN **20** 15:12:46.9, 28.31N×51.24E, h4km, Error ellipse: s-maj=573.0km s-min=83.5km az=329.0*

ISC 20 15:12:10.7±0.3, 30.71N±0.03×49.84E±0.04, h10km, n86, σ1§49/88, mb3.7/12, 2C-4D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBRJ	**Borojen**	**1.61**	**49**	Pn	**Pn**	**15 12 43.2**	**+3.8**
SHGO	**Shushtar**	**1.65**	**328**	*e*PG	**Pg**	**15 12 42.9**	**-0.9**
SHGR	**Shooshtar-Gavs**	**1.65**	**328**	*e*PG	**Pg**	**15 12 42.9**	**-0.9**
SHGR				AML	AML	15 13 10.5	
	comp=N,2μm,0.4s						
UMR	**Umm Al-Rimmam**	**2.17**	**238**	*e*P	**Pn**	**15 12 51.0**	**+3.6**
UMR				*e*S	**Sn**	**15 13 19.7**	**+5.2**
NAY	**Al-Naaiem**	**2.68**	**238**	*e*P	**Pn**	**15 12 58.9**	**+4.2**
NAY				*e*S	**Sn**	**15 13 32.4**	**+4.9**
RST	**Umm Al-Ruwaisa**	**2.74**	**245**	*e*P	**Pn**	**15 12 59.5**	**+4.0**
RST				*e*S	**Sn**	**15 13 33.3**	**+4.3**
IPAR	**Pars**	**2.91**	**106**	Pn	**Pn**	**15 12 57.5**	**-0.4**
IMOK	**Mook**	**3.00**	**123**	Pn	**Pn**	**15 13 05.2**	**+6.0**
ISRV	**Sarvestan**	**3.13**	**114**	Pn	**Pn**	**15 13 03.0**	**+1.9**
NASN	**Na'in**	**3.28**	**50**	*e*PN	**Pn**	**15 13 04.6**	**+1.4**
ISAD	**Sadrabad**	**3.51**	**69**	Pn	**Pn**	**15 13 08.4**	**+2.0**
ASAO	**Ashtian**	**3.83**	**2**	*e*PN	**Pn**	**15 13 12.9**	**+1.8**
ASAO				*e*SG	**Sg**	**15 14 14.2**	**-4.1**
ASAO				AML	AML	15 14 21.5	
	comp=N,82nm,0.6s						
IKOM	**Komasi**	**3.98**	**331**	Pn	**Pn**	**15 13 15.2**	**+2.1**
ICHK	**Chekchek**	**4.19**	**67**	Pn	**Pn**	**15 13 17.6**	**+1.4**
DHR	**Dhahran**	**4.39**	**176**	Pn	**Pn**	**15 13 24.0**	**+4.9**
IGHG	**Ghaleghazi**	**4.55**	**323**	Pn	**Pn**	**15 13 18.6**	**-2.6**
IVRN	**Varamin**	**4.56**	**20**	Lg		15 14 41.8	
IVRN	**Varamin**	**4.56**	**20**	Pn	**Pn**	**15 13 21.9**	**+0.4**
IVIS	**Veys**	**4.56**	**327**	Pn	**Pn**	**15 13 20.5**	**-1.0**
IRAZ	**Razeghan**	**4.69**	**1**	Pn	**Pn**	**15 13 25.5**	**+2.3**
IRAZ	**Razeghan**	**4.69**	**1**	Sn	**Sn**	**15 14 18.7**	**+0.4**
SNGE	**Sanandaj**	**4.85**	**335**	*e*PN	**Pn**	**15 13 25.9**	**+0.3**
SNGE				AML	AML	15 14 53.0	
	comp=N,70nm,0.6s						
IDHR	**Dehrash**	**4.93**	**325**	Pn	**Pn**	**15 13 24.0**	**-2.7**
IBAF	**Bafgh**	**4.99**	**78**	Pn	**Pn**	**15 13 27.3**	**-0.2**
IDMV	**Damavand**	**5.19**	**20**	Pn	**Pn**	**15 13 30.8**	**+0.4**
DAMV	**Damavand**	**5.23**	**19**	*e*PN	**Pn**	**15 13 31.2**	**+0.4**
BHD	**Baghdad**	**5.29**	**300**	*e*Pn	**Pn**	**15 13 49.0**	**+17**
BHD				*e*Sn	Sn	15 15 01.0	+27
BHD				*e*Sb	Sb	15 15 25.0	+38
BHD				*e*Sg	Sg	15 15 42.5	+36
BHD	**Baghdad**	**5.29**	**300**	*e*S	Sx	15 15 25.0	
IAFJ	**Afjeh**	**5.37**	**16**	Pn	**Pn**	**15 13 33.6**	**+0.7**
IFIR	**Firoozkooh**	**5.50**	**26**	Sn	**Sn**	**15 14 39.4**	**+0.8**
IFIR	**Firoozkooh**	**5.50**	**26**	Pn	**Pn**	**15 13 34.7**	**+0.1**
IGZV	**Gazvin**	**5.67**	**3**	Pn	**Pn**	**15 13 39.2**	**+2.1**
IGZV	**Gazvin**	**5.67**	**3**	Sn	**Sn**	**15 14 42.2**	**-0.9**
KRBR	**Kerman**	**6.03**	**95**	*e*PN	**Pn**	**15 13 41.4**	**-0.8**
MSL	**Mosul**	**7.92**	**316**	*e*P	Px	15 14 44.0	
MSL				*e*S	Sx	15 16 35.0	
RAYN	**Ar Rayn**	**8.13**	**209**	Pn	**P**	**15 14 10.9**	**-0.7**
	comp=N,97nm,0.3s,SNR=14						
ARQ	**Araqi**	**9.45**	**139**	⇓P	**P**	**15 14 28.6**	**-1.4**
HOQ	**Hoqain**	**9.73**	**135**	⇑P	**P**	**15 14 33.6**	**-0.2**
GNI	**Garni**	**10.29**	**338**	P	**P**	**15 14 40.6**	**-0.9**
GNI				pmax	pmax		
	comp=Z,29nm,1.3s						
GNI	**Garni**	**10.29**	**338**	P	**P**	**15 14 40.6**	**-1.0**
	comp=Z,29nm,1.3s						
GNI	**Garni**	**10.29**	**338**	*i* P	**P**	**15 14 40.6**	**-0.9**
	comp=Z,14nm,1.3s						
BSY	**Bisya**	**10.30**	**139**	⇑P	**P**	**15 14 39.9**	**-1.8**
	SNR=9.9						
SMDO	**Samad**	**10.57**	**134**	⇓P	**P**	**15 14 45.1**	**-0.2**
	SNR=24						
JMDO	**Jabal Madar**	**11.12**	**136**	⇓P	**P**	**15 14 51.9**	**-0.9**
	SNR=17						
ASF	**Jabal al Asfar**	**11.15**	**281**	Pn	**P**	**15 14 49.5**	**-3.8**
	comp=Z,0.4nm,0.3s,baz=326,slow=12,SNR=4.2						
ASF				Sn	**S**	**15 16 46.9**	**-12**
	comp=Z,0.4nm,0.3s,baz=326,slow=7.6,SNR=2.4						
ASF				Lg		15 18 22.1	
	comp=Z,0.3nm,0.3s,baz=324,slow=23,SNR=2.5						
MALT	**Malatya**	**12.08**	**312**	P	**P**	**15 15 06.0**	**+0.1**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MALT	**Malatya**	**12.08**	**312**	P	**P**	**15 15 06.0**	**+0.1**
	comp=Z,1.8nm,0.8s						
MALT	**Malatya**	**12.08**	**312**	*e*P	**P**	**15 15 06.0**	**+0.1**
	comp=Z,1.0nm,0.8s						
EIL	**Elat**	**12.92**	**269**	Pn	**P**	**15 15 16.1**	**-1.0**
	comp=Z,0.2nm,0.3s,slow=6.1,SNR=3.3						
EIL				Lg		15 19 18.7	
	comp=Z,0.5nm,0.3s,baz=307,slow=35,SNR=2.1						
EIL	**Elat**	**12.92**	**269**	P	**P**	**15 15 14.8**	**-2.4**
	comp=Z,8.4nm,0.9s						
EIL				Lg		15 19 18.7	
ZEI	**Tsey**	**12.94**	**340**	*e*P	**P**	**15 15 24.4**	**+7.0**
ABTO	**Aybut**	**13.66**	**166**	P	**P**	**15 15 26.7**	**-0.3**
	SNR=8.9						
RBK	**Rabkut**	**13.73**	**162**	⇓P	**P**	**15 15 27.7**	**-0.3**
	SNR=6.8						
KIV	**Kislovodsk**	**14.39**	**339**	P	**P**	**15 15 33.6**	**-2.8**
KIV				pmax	pmax		
	comp=Z,24nm,1.3s						
KIV	**Kislovodsk**	**14.39**	**339**	P	**P**	**15 15 33.6**	**-2.8**
	comp=Z,24nm,1.3s						
KIV				*e*		15 15 43.3	
KIV	**Kislovodsk**	**14.39**	**339**	*e*P	**P**	**15 15 33.6**	**-2.8**
	comp=Z,12nm,1.3s						
BRTR	**Keskin Array B**	**15.99**	**309**	Pn	**P**	**15 15 57.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=137,slow=12,SNR=13						
BRTR	**Keskin Array B**	**15.99**	**309**	*i* P	**P**	**15 15 57.3**	**0.0**
	comp=Z,118nm,0.3s						
IDI	**Anoyia**	**21.40**	**289**	P	**P**	**15 16 59.7**	**-1.0**
	comp=Z,14nm,0.8s,mb4.3,baz=113,slow=15,SNR=2.8						
AAK	**Ala-Archa**	**22.99**	**52**	*e*P	**P**	**15 17 16.1**	**-0.4**
MLR	**Muntele Rosu**	**23.78**	**315**	P	**P**	**15 17 25.4**	**+1.3**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MLR	**Muntele Rosu**	**23.78**	**315**	P	**P**	**15 17 25.4**	**+1.3**
	comp=Z,0.5nm,0.4s,mb3.3,baz=333,slow=11,SNR=2.4						
MLR	**Muntele Rosu**	**23.78**	**315**	*e*P	**P**	**15 17 25.4**	**+1.3**
	comp=Z,0.5nm,0.4s,mb3.3						
AKASG	**Malin Array Be**	**25.21**	**328**	P	**P**	**15 17 35.5**	**-2.3**
	comp=Z,0.2nm,0.3s,mb3.1,baz=137,slow=9.6,SNR=3.4						
AKASG	**Malin Array Be**	**25.21**	**328**	*e*P	**P**	**15 17 35.6**	**-2.2**
BVAR	**Borovoye Array**	**26.86**	**28**	P	**P**	**15 17 52.3**	**-0.9**
	comp=Z,0.6nm,0.5s,mb3.4,baz=191,slow=39,SNR=3.6						
KURK	**Kurchatov**	**29.30**	**39**	P	**P**	**15 18 17.1**	**+1.9**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.0						
KURK	**Kurchatov**	**29.30**	**39**	P	**P**	**15 18 17.1**	**+1.8**
	comp=Z,3.7nm,1.3s,mb4.0						
MORC	**Moravsky Berou**	**30.81**	**317**	P	**P**	**15 18 29.3**	**+0.6**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
MORC	**Moravsky Berou**	**30.81**	**317**	P	**P**	**15 18 29.3**	**+0.6**
	comp=Z,2.0nm,0.7s,mb4.1						
MORC	**Moravsky Berou**	**30.81**	**317**	*e*P	**P**	**15 18 29.3**	**+0.6**
	comp=Z,1.0nm,0.7s,mb3.8						
AQU	**L'Aquila**	**31.27**	**302**	P	**P**	**15 18 27.2**	**-5.7**
GERES	**GERESS Array B**	**32.76**	**314**	P	**P**	**15 18 45.1**	**-0.7**
	comp=Z,0.2nm,0.4s,mb3.4,baz=184,slow=17,SNR=3.7						
FINES	**FINESS Array B**	**34.47**	**340**	P	**P**	**15 18 57.4**	**-3.1**
FINES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
FINES	**FINESS Array B**	**34.47**	**340**	P	**P**	**15 18 57.4**	**-3.1**
	comp=Z,6.9nm,1.1s,mb4.5,baz=150,slow=15,SNR=7.0						
FINES	**FINESS Array B**	**34.47**	**340**	*e*P	**P**	**15 18 57.4**	**-3.1**
	comp=Z,3.5nm,1.1s,mb4.2						
NOA	**NORSAR Array B**	**39.52**	**331**	P	**P**	**15 19 40.3**	**-2.8**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
NOA	**NORSAR Array B**	**39.52**	**331**	P	**P**	**15 19 40.3**	**-2.7**
	comp=Z,1.6nm,1.1s,mb3.7,baz=37,slow=21,SNR=2.4						
NOA	**NORSAR Array B**	**39.52**	**331**	*e*P	**P**	**15 19 40.3**	**-2.8**
	comp=Z,1.0nm,1.1s,mb3.5						
CMAR	**Chiang Mai Arr**	**45.96**	**94**	*i* P	**P**	**15 20 27.8**	**-8.1**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
DBIC	**Dimbokro**	**56.42**	**257**	*e*P	**P**	**15 21 54.1**	**-1.0**
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DBIC	**Dimbokro**	**56.42**	**257**	*e*P	**P**	**15 21 54.1**	**-0.9**
	comp=Z,5.2nm,0.9s,mb4.6						
DBIC	**Dimbokro**	**56.42**	**257**	*e*P	**P**	**15 21 54.1**	**-1.0**
	comp=Z,2.5nm,0.9s,mb4.2						
ILAR	**Eielson Array**	**83.94**	**7**	P	**P**	**15 24 40.8**	**-0.9**
	comp=Z,0.2nm,0.7s,mb3.4,baz=346,slow=5.1,SNR=2.9						
ILAR	**Eielson Array**	**83.94**	**7**	*e*P	**P**	**15 24 40.8**	**-0.8**
YKA	**Yellowknife Ar**	**86.29**	**353**	P	**P**	**15 24 52.3**	**-1.1**
	comp=Z,0.1nm,0.5s,mb3.3,baz=14,slow=4.6,SNR=4.0						

*NEIC **20** 15:15:52.5, 16.04N×99.08W, h16km, MD4.0(MEX), After MEX.*

MEX 20 15:15:52.5±0.8, 16.04N×99.08W, h16km±55km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.98**	**69**	*i* P	Pb	15 16 07.0	-3.7
PNIG				*i* S	Sb	15 16 18.0	-5.1
ACX	**Acapulco**	**1.15**	**316**	*i* P	Pb	15 16 10.0	-3.6
ACX				*i* S	Sb	15 16 26.0	-2.1
CAIG	**El Cayaco**	**1.52**	**312**	*e*P	Pn	15 16 15.8	-3.5
CAIG				*i* S	Sn	15 16 33.2	-5.5
PLIG	**Platanillo**	**2.38**	**350**	*e*P	Pn	15 16 29.1	-2.4
PLIG				*e*S	Sn	15 16 54.3	-6.2
VHO	**Vista Hermosa**	**2.47**	**65**	*i* P	Pn	15 16 29.5	-3.4
VHO				*i* S	Sn	15 16 59.0	-4.0
OXX	**Oaxaca**	**2.49**	**65**	*i* P	Pn	15 16 30.0	-3.1
ZIIG	**Zihuatanejo**	**2.77**	**305**	*i* S	Sn	15 17 01.4	-9.0
YAIG	**Yautepec**	**2.81**	**0**	*i* P	Pn	15 16 34.7	-3.0
YAIG				*i* S	Sn	15 17 07.6	-3.9
HUIG	**Huatulco**	**2.87**	**95**	*i* S	Sn	15 17 04.5	-8.5
PPM	**Popocatepetl**	**3.05**	**8**	*e*P	Pn	15 16 38.6	-2.4
PPM				*i* S	Sn	15 17 11.9	-5.5
IISM	**Ciudad Serdan**	**3.35**	**29**	*e*P	Pn	15 16 34.0	-11
POHV	**Veracruz**	**3.47**	**29**	*e*P	Pn	15 16 45.0	-2.0
CMIG	**Matias Romero**	**4.16**	**75**	*i* P	Pn	15 16 53.8	-3.0
CMIG				*i* S	Sn	15 17 39.7	-5.9

*BJI **20** 15:17:30.2, 12.39N×92.41E, h30km, mB5.3, mb4.6, Ms4.9, Msz4.5*

*IDC **20** 15:17:33.1±0.5, 13.08N×92.75E, mb4.5/17, mb1 4.6/18, mb1mx4.6/22, mbtmp4.5/18, ML4.0/1, MS4.1/4, Ms1 4.1/4, ms1mx3.8/21, Error ellipse: s-maj=26.4km s-min=9.6km az=50.0*

*MOS **20** 15:17:36.8±0.9, 13.14N×92.64E, h33km, mb4.9/21, Error ellipse: s-maj=12.0km s-min=7.4km az=114.7*

*NEIC **20** 15:17:38.1±0.2, 13.10N×92.56E, h30km, mb4.8/28, Error ellipse: s-maj=6.9km s-min=4.8km az=48.0*

ISC 20 15:17:36.4±0.3, 13.06N±0.04×92.50E±0.03, h33km, n124, σ1§19/135, mb4.7/48, MS4.3/3, 6C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.41**	**170**	⇑*e*P	**P**	**15 18 05.8**	**+5.9**
PBA				*e*S	**S**	**15 18 27.7**	**+10**
PBA				*e*		15 18 30.0	
	comp=E,18μm,0.6s						
PBA				*e*		15 18 30.5	
	comp=N,48μm,0.7s						
CM31	**Chiang Mai Arr**	**8.21**	**48**	*e*Pn	**P**	**15 19 37.6**	**+1.7**
	comp=N,6.4nm,0.4s						
CM31				*e*Sn	**Sn**	**15 20 59.5**	**-9.2**
CMAR	**Chiang Mai Arr**	**8.21**	**48**	Pn	**P**	**15 19 32.6**	**-3.3**
	comp=N,0.6nm,0.3s,baz=241,slow=15,SNR=17						
CMAR				LR	LR	15 23 25.1	
	comp=N,596nm,18.6s,baz=240,slow=44						
CHG	**Chiang Mai**	**8.44**	**46**	P	**P**	**15 19 39.9**	**+0.7**
BWNR	**Bhubaneshwar**	**9.64**	**319**	*e*P	**P**	**15 19 51.4**	**-4.4**
BWNR				*e*S	**S**	**15 21 28.1**	**-16**
BWNR				*e*		15 21 35.3	
	comp=N,353nm,0.3s						
BWNR				*e*		15 21 35.4	
	comp=E,486nm,0.4s						
CHRT	**Chiangrai**	**9.73**	**45**	⇓P	**P**	**15 19 58.5**	**+1.3**
	comp=E,129nm,0.9s						
VIS	**Vishakhapatnam**	**9.98**	**299**	*e*P	**P**	**15 19 59.3**	**-1.3**
VIS				*e*		15 20 01.4	
	comp=Z,203nm,0.5s						
VIS				*e*	**S**	**15 21 42.1**	**-11**
VIS				*e*		15 21 46.1	
	comp=E,240nm,0.4s						
VIS				*e*		15 21 46.3	
	comp=N,405nm,0.3s						
KKTK	**Khon Kaen**	**10.51**	**71**	P	**P**	**15 20 08.0**	**+0.1**
	comp=N,494nm,0.6s						
SHL	**Shillong**	**12.46**	**357**	*e*	**P**	**15 20 25.5**	**-8.8**
SHL				*e*S	**S**	**15 22 40.9**	**-12**
PALK	**Pallekele**	**12.95**	**245**	*e*P	**P**	**15 20 39.0**	**-1.8**
PALK				*e*S	**S**	**15 22 56.2**	**-8.5**
BLSP	**Bilaspur**	**13.37**	**314**	*e*P	**P**	**15 20 44.6**	**-1.8**
BLSP				*e*		15 20 47.3	
	comp=E,61nm,0.8s						
BLSP				*e*	**S**	**15 23 00.1**	**-15**
HYB	**Hyderabad**	**14.13**	**290**	*e*P	**P**	**15 20 57.0**	**+0.5**
HYB				*e*S	**S**	**15 23 34.0**	**+0.9**
HYB				pmax	pmax		
	comp=Z,40nm,1.0s						
HYB	**Hyderabad**	**14.13**	**290**	*e*P	**P**	**15 20 57.0**	**+0.5**
	comp=Z,40nm,1.0s						
HYB				*e*		15 21 06.0	
HYB				*e*		15 23 22.0	
HYB				*e*S	**S**	**15 23 34.0**	**+0.9**
HYB	**Hyderabad**	**14.13**	**290**	*i* P	**P**	**15 20 57.0**	**+0.5**
	comp=Z,40nm,1.0s						
HYB				*e*		15 21 06.0	
HYB				*e*		15 23 22.0	
HYB				*e*S	**S**	**15 23 34.0**	**+0.9**
KOD	**Kodaikanal**	**14.98**	**261**	*e*	**P**	**15 21 20.2**	**+13**
	comp=Z,64nm,1.8s						
KOD				*e*		15 21 20.9	
	comp=E,82nm,1.5s						
NGP	**Nagpur**	**15.16**	**304**	*e*P	**P**	**15 21 10.3**	**+0.5**
NGP				*e*P		15 21 10.9	
NGP				*e*		15 21 12.3	
	comp=Z,80nm,1.2s						
JIRN	**Jiri**	**15.68**	**339**	*e*P	**P**	**15 21 13.6**	**-2.9**
	comp=Z,69nm,0.7s						
PKI	**Pulchoki**	**15.89**	**336**	*e*P	**P**	**15 21 16.7**	**-2.5**
	comp=Z,27nm,0.4s						
TRD	**Trivandrum**	**15.91**	**255**	*e*P	**P**	**15 21 18.0**	**-1.6**
TRD				*e*		15 21 29.8	
	comp=Z,87nm,1.4s						
DMN	**Daman**	**16.04**	**336**	*e*P	**P**	**15 21 19.1**	**-2.1**
	comp=Z,31nm,0.7s						
KKN	**Kakani**	**16.14**	**336**	*e*P	**P**	**15 21 20.2**	**-2.1**
LATR	**Latur**	**16.23**	**291**	*e*	**P**	**15 21 11.5**	**-12**
GKN	**Gorkha**	**16.58**	**335**	*e*P	**P**	**15 21 25.3**	**-2.7**
	comp=Z,40nm,0.3s						
LSA	**Lhasa**	**16.61**	**356**	*e*P	**P**	**15 21 29.0**	**+0.7**
LSA				pmax	pmax		
	comp=Z,28nm,0.9s						
LSA	**Lhasa**	**16.61**	**356**	*e*P	**P**	**15 21 29.0**	**+0.6**
	comp=Z,28nm,0.9s						
KOLN	**Koldanda**	**16.83**	**332**	*e*P	**P**	**15 21 29.3**	**-1.9**
	comp=Z,51nm,0.7s						
MNGI	**Mangalore**	**17.22**	**272**	*i*	**P**	**15 21 40.7**	**+4.6**
MNGI				*i*		15 24 27.6	
BHPL	**Bhopal**	**17.53**	**307**	*e*P	**P**	**15 21 41.0**	**+1.1**
BHPL				*e*		15 21 43.6	
	comp=Z,37nm,0.9s						
BHPL				*e*S	**S**	**15 24 46.3**	**-5.5**
KAD	**Karad**	**18.17**	**286**	*e*	**P**	**15 21 51.0**	**+3.0**
KAD				*i*	**S**	**15 24 56.0**	**-10**
GOA	**Goa**	**18.26**	**280**	*e*P	**P**	**15 21 47.6**	**-1.4**
GOA				*e*		15 24 43.5	
POO	**Poona**	**18.74**	**289**	*e*	**P**	**15 21 57.0**	**+1.9**
POO				*i*	**S**	**15 25 11.0**	**-8.4**
NDI	**New Delhi**	**21.07**	**320**	*e*P	**P**	**15 22 20.7**	**+0.6**
NDI				*e*	**S**	**15 26 02.0**	**-5.9**
AJM	**Ajmer**	**21.42**	**311**	⇓*i* P	**P**	**15 22 25.0**	**+1.3**
DDI	**Dehra Dun**	**21.76**	**324**	*e*P	**P**	**15 22 27.5**	**+0.5**
DDI				*e*S	**S**	**15 26 22.5**	**+1.7**
SMLA	**Simla**	**22.87**	**324**	*e*	**P**	**15 22 53.0**	**+15**
SMLA				*e*		15 22 57.9	
	comp=Z,77nm,1.4s						
ENH	**Enshi**	**23.25**	**40**	*e*P	**P**	**15 22 40.5**	**-1.2**
	comp=Z,69nm,1.0s,mb5.0						
LZH	**Lanzhou**	**25.10**	**22**	*e*P	**P**	**15 23 01.8**	**+2.1**
LZH				AP	pP	15 23 10.3	+1.3
LZH				XP	sP	15 23 14.1	+1.3
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.5						
XAN	**Xi'an**	**25.68**	**33**	P	**P**	**15 23 05.0**	**-0.2**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.4						
AAK	**Ala-Archa**	**33.34**	**335**	*i* P	**P**	**15 24 13.9**	**+0.4**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5	

ASAR S **S** **15 34 37.5 -1.3**
comp=Z,1.1nm,0.8s,baz=298,slow=13,SNR=5.6
ASAR LR LR 15 50 52.7
comp=Z,117nm,18.9s,MS4.0,baz=299,slow=37
FORT Forrest 55.39 143 *eP* **P** **15 27 10.8 +0.9**
comp=Z,48nm,1.0s,mb5.5
EIL Elat 55.55 297 *eP* **P** **15 27 11.3 +0.2**
comp=Z,6.2nm,1.0s,mb4.6
YAK Yakutsk 55.67 20 *eP* **P** **15 27 16.5 +5.0**
YAK pmax pmax
comp=Z,27nm,0.8s,mb5.3
YAK Yakutsk 55.67 20 *eP* **P** **15 27 16.5 +5.0**
comp=Z,27nm,0.8s,mb5.3
KMBO Kilima Mbogo 56.56 260 LR LR 15 47 32.8
comp=Z,412nm,19.8s,MS4.5,baz=288,slow=32
BRTR Keskin Array B 57.89 309 P **P** **15 27 27.1 -0.5**
comp=Z,4.7nm,0.8s,mb4.6,baz=120,slow=7.5,SNR=45
PMG Port Moresby 58.69 110 *eP* **P** **15 27 32.7 -0.8**
PMG pmax pmax
comp=Z,46nm,1.3s
PMG Port Moresby 58.69 110 *eP* **P** **15 27 32.7 -0.8**
comp=Z,46nm,1.3s,mb5.3
CTA Charters Tower 62.30 121 *eP* **P** **15 27 58.5 +0.5**
comp=Z,9.0nm,1.2s,mb4.8
CTA Charters Tower 62.30 121 *eP* **P** **15 27 58.5 +0.5**
CTA pmax pmax
comp=Z,9.0nm,1.2s
CTA Charters Tower 62.30 121 P **P** **15 27 57.8 -0.3**
comp=Z,9.9nm,0.9s,mb4.9,baz=325,slow=4.0,SNR=6.3
CTAO Charters Tower 62.30 121 *eP* **P** **15 27 57.6 -0.4**
CTAO pmax pmax
comp=Z,23nm,1.2s,mb5.2
CTAO Charters Tower 62.30 121 *eP* **P** **15 27 57.6 -0.4**
comp=Z,23nm,1.2s,mb5.2
TIXI Tiksi 62.52 12⇑*iP* **P** **15 27 58.0 -0.8**
TIXI pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
MBAR Mbarara 62.69 262 *eP* **P** **15 27 57.1 -3.6**
MBAR pmax pmax
comp=Z,23nm,1.5s,mb5.1
MBAR Mbarara 62.69 262 *eP* **P** **15 27 57.1 -3.6**
comp=Z,23nm,1.5s,mb5.1
MA2 Magadan 63.00 29 P **P** **15 28 02.0 -0.1**
MA2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
MA2 Magadan 63.00 29 P **P** **15 28 02.0 -0.2**
comp=Z,6.2nm,0.8s,mb4.8
AKASG Malin Array Be 63.13 320 P **P** **15 28 02.5 -0.6**
comp=Z,6.6nm,1.0s,mb4.7,baz=84,slow=5.8,SNR=7.6
MLR Muntele Rosu 64.39 314 P **P** **15 28 12.4 +1.0**
comp=Z,12nm,0.9s,mb4.9,baz=147,slow=3.7,SNR=22
STKA Stephens Creek 64.86 135 P **P** **15 28 14.5 -0.2**
comp=Z,4.0nm,0.6s,mb4.6,baz=315,slow=7.1,SNR=7.0
STKA LR LR 15 57 55.9
comp=Z,185nm,19.6s,MS4.3,baz=303,slow=38
STKA Stephens Creek 64.86 135 *eP* **P** **15 28 14.8 +0.1**
JOF Joensuu 65.51 334 *ep* **P** **15 28 17.4 -0.9**
comp=Z,5.6nm,0.6s,mb4.8
FINES FINESS Array B 67.41 332 P **P** **15 28 30.4 0.0**
comp=Z,4.0nm,0.6s,mb4.6,baz=106,slow=6.3,SNR=23
KAF Kangasniemi 67.47 332 *ep* **P** **15 28 32.3 +1.5**
comp=Z,2.5nm,0.6s,mb4.4,baz=78,slow=4.5
KAF Kangasniemi 67.47 332 *eP* **P** **15 28 32.3 +1.5**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
LSZ Lusaka 69.58 248 *eP* **P** **15 28 46.0 +1.4**
LSZ pmax pmax
comp=Z,13nm,1.4s,mb4.7
LSZ Lusaka 69.58 248 *eP* **P** **15 28 46.0 +1.4**
comp=Z,13nm,1.4s,mb4.7
ARCES ARCESS Array B 69.87 340 P **P** **15 28 45.4 -0.1**
comp=Z,2.7nm,0.6s,mb4.3,baz=80,slow=7.4,SNR=11
BILL Bilibino 71.92 22 *eP* **P** **15 28 58.8 +1.0**
BILL pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BILL Bilibino 71.92 22 *eP* **P** **15 28 58.8 +0.9**
comp=Z,4.5nm,0.8s,mb4.5
GERES GERESS Array B 72.92 317 P **P** **15 29 05.0 +0.8**
comp=Z,3.1nm,0.7s,mb4.3,baz=76,slow=5.5,SNR=18
KHC Kasperske Hory 73.00 318 *eP* **P** **15 29 05.0 +0.3**
NB2 NORSAR Subarra 74.46 330 P **P** **15 29 13.0 +0.2**
comp=Z,2.2nm,0.6s,mb4.3,baz=91,slow=5.6
NB2 NORSAR Subarra 74.46 330 P **P** **15 29 13.0 +0.2**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
NOA NORSAR Array B 74.46 330 P **P** **15 29 13.1 +0.3**
comp=Z,2.7nm,0.7s,mb4.3,baz=90,slow=5.6,SNR=6.5
BOSA Boshof 77.02 236 *eP* **P** **15 29 31.3 +3.1**
BOSA pmax pmax
comp=Z,13nm,1.3s,mb4.7
BOSA Boshof 77.02 236 *eP* **P** **15 29 31.3 +3.1**
comp=Z,12nm,1.3s,mb4.7
LPG La Plagne 77.85 314 *eP* **P** **15 29 26.6 -5.8**
comp=Z,20nm,1.0s,mb4.7
SYO Syowa Base 89.86 197 ⇑*pP* *pP* 15 30 43.1 -0.2
COLA College 90.17 22 P **P** **15 30 43.5 +9.3**
MCK McKinley 90.36 23 *eP* **P** **15 30 37.4 +2.2**
MCK *e* 15 30 44.6
MCK pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
MCK McKinley 90.36 23 *eP* **P** **15 30 37.4 +2.2**
comp=Z,6.0nm,1.0s,mb4.9
MCK *e* 15 30 44.6
ILAR Eielson Array 90.57 22 P **P** **15 30 36.1 0.0**
comp=Z,0.4nm,0.7s,mb3.9,baz=298,slow=4.2,SNR=7.5
ILAR PP PP 15 34 14.8 +1.2
comp=Z,0.1nm,0.7s,baz=285,slow=7.6,SNR=4.2
INK Inuvik 92.48 16 *eP* **P** **15 30 45.9 +1.0**
INK *e* 15 30 53.8
INK pmax pmax
comp=Z,6.0nm,1.0s
INK Inuvik 92.48 16 *eP* **P** **15 30 45.9 +1.0**
comp=Z,6.0nm,1.0s,mb4.9
INK *e* 15 30 53.8
DAWY Dawson 93.61 20 *eP* *pP* 15 30 59.4 -1.3
YKA Yellowknife Ar 101.77 12 P P 15 31 27.4 +0.2
comp=Z,0.1nm,0.4s,baz=337,slow=4.7,SNR=3.0
YKA PP PP 15 35 33.7 -6.8
comp=Z,0.1nm,0.3s,baz=356,slow=7.5,SNR=3.1
PDAR Pinedale Array 120.88 19 PKP PKPdf 15 36 28.2 +2.5
comp=Z,0.3nm,0.6s,baz=135,slow=5.1,SNR=3.1
PLCA Paso Flores 148.68 205 PKPbc PKPdf 15 37 24.6 +8.0
comp=Z,1.6nm,0.8s,baz=174,slow=18,SNR=2.5

IDC 20 15:23:02.6±1.2, 6.11N×92.64E, mb3.7/6, mb1 3.9/7, mb1mx3.8/17, mbtmp3.7/7, ML3.3/1, Error ellipse: s-maj=44.1km s-min=22.0km az=52.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.72**	**26**	Pn	P	15 26 19.5	-1.6
	0.1nm,0.3s,baz=214,slow=13,SNR=5.7						
SONM	**Songino Array**	**43.20**	**14**	P	P	15 31 05.3	-1.8
	0.4nm,0.5s,baz=180,slow=8.6,SNR=2.4						
ZAL	**Zalesovo**	**48.10**	**354**	P	P	15 31 43.7	-2.4
	0.9nm,0.4s,baz=173,slow=4.9,SNR=4.3						
WRA	**Warramunga Arr**	**48.50**	**123**	P	P	15 31 47.3	-2.2
	1.5nm,1.0s,baz=302,slow=9.1,SNR=7.3						
ASAR	**Alice Springs**	**49.98**	**128**	P	P	15 31 59.1	-1.7
	1.2nm,0.9s,baz=300,slow=7.9,SNR=6.1						
BRTR	**Keskin Array B**	**62.46**	**312**	P	P	15 33 27.9	-2.3
	0.7nm,0.6s,baz=148,slow=6.0,SNR=7.3						
GERES	**GERESS Array B**	**78.14**	**319**	P	P	15 35 04.5	-0.8
	0.2nm,0.3s,baz=90,slow=2.7,SNR=3.9						

IDC 20 15:40:48.1±8.7, 12.73N×92.70E, mb3.8/2, mb1 3.8/3, mb1mx3.5/18, mbtmp3.5/3, ML2.7/1, Error ellipse: s-maj=186.0km s-min=45.8km az=105.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.28**	**46**	Pn	P	15 42 49.2	-3.1
	0.0nm,0.3s,baz=237,slow=15,SNR=2.9						
WRA	**Warramunga Arr**	**52.28**	**128**	P	P	15 50 01.7	-2.1
	1.0nm,0.6s,baz=305,slow=9.3,SNR=24						
ASAR	**Alice Springs**	**54.15**	**132**	P	P	15 50 15.3	-2.2
	0.7nm,0.5s,baz=311,slow=6.8,SNR=15						

IDC 20 15:54:13.5±13.0, 7.50N×91.61E, mb3.3/2, mb1 3.5/3, mb1mx3.3/18, mbtmp3.2/3, ML3.5/1, MS3.1/1, Ms1 3.3/1, ms1mx2.6/13, Error ellipse: s-maj=307.1km s-min=50.7km az=94.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.02**	**33**	Pn	P	15 57 20.1	-2.6
	0.1nm,0.3s,baz=226,slow=14,SNR=4.1						
CMAR				LR	LR	16 02 46.1	
	comp=Z,68nm,18.0s,baz=275,slow=39						
WRA	**Warramunga Arr**	**50.11**	**124**	P	P	16 03 10.7	-2.1
	0.4nm,0.7s,baz=308,slow=8.5,SNR=5.4						
ASAR	**Alice Springs**	**51.63**	**128**	P	P	16 03 22.3	-2.0
	0.1nm,0.5s,baz=299,slow=7.5,SNR=4.4						

*IDC **20** 16:00:52.0±0.8, 55.50S×25.92W, mb4.5/6, mb1 4.5/7, mb1mx4.2/13, mbtmp4.4/7, ML3.7/1, MS4.0/2, Ms1 3.9/2, ms1mx2.8/17, Error ellipse: s-maj=40.9km s-min=18.4km az=66.0*
*NEIC **20** 16:01:00.5±2.9, 55.61S×26.10W, h61km±26km, mb4.8/11, Error ellipse: s-maj=19.2km s-min=11.0km az=49.0*
ISC 20 16:00:57.0±2.4, 55.56S±0.10×26.1W±0.2, h47km±22km, n30, σ1°±26/25, mb4.7/15, MS4.3/1, 4C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.11**	**278**	Pn	**P**	**16 02 25.9**	**-1.0**
	326nm,0.4s,SNR=41						
VNA1	**Neumayer–Stat**	**17.04**	**160**⇑*i*		**P**	**16 04 54.6**	**+1.5**
VNA3	**Neumayer Olymp**	**17.27**	**162**⇑*i*		**P**	**16 04 56.5**	**+0.6**
VNA2	**Neumayer–Watz**	**17.44**	**159**⇓*i*		**P**	**16 04 59.9**	**+1.9**
SNAA	**Sanae**	**18.96**	**157**⇑*i*		**P**	**16 05 14.4**	**-2.2**
SNAA	**Sanae**	**18.96**	**157**	P	**P**	**16 05 13.7**	**-2.9**
	0.2nm,0.3s,baz=328,slow=10.0,SNR=18						
SNAA				LR	LR	16 11 05.6	
	comp=Z,184nm,19.6s,baz=353,slow=32						
SNAA	**Sanae**	**18.96**	**157**⇑*iP*		**P**	**16 05 14.4**	**-2.2**
PMSA	**Palmer Station**	**20.68**	**228**	P	**P**	**16 05 32.3**	**-2.8**
	39nm,0.8s						
TRQA	**Tornquist**	**29.69**	**291**	*eP*	**P**	**16 07 01.6**	**+1.2**
	3.5nm,0.6s,mb4.3						
QSPA	**South Pole Qui**	**34.70**	**180**	*eP*	**P**	**16 07 43.2**	**-0.5**
	32nm,0.7s,mb5.4						
MAW	**Mawson**	**40.20**	**144**	P	**P**	**16 08 29.9**	**0.0**
	5.1nm,1.1s,mb4.2,baz=207,slow=9.0,SNR=3.0						
MAW	**Mawson**	**40.20**	**144**	*eP*	**P**	**16 08 29.1**	**-0.8**
	16nm,1.1s,mb4.7						
BDFB	**Brasilia**	**43.24**	**328**	P	**P**	**16 08 53.7**	**-1.6**
	3.0nm,0.7s,mb4.1,baz=169,slow=16,SNR=2.7						
BDFB				LR	LR	16 24 10.7	
	comp=Z,385nm,20.4s,MS4.3,baz=325,slow=32						
LVC	**Limon Verde**	**45.57**	**299**	*eP*	**P**	**16 09 15.5**	**+1.5**
	36nm,1.0s,mb5.2						
SBA	**Scott Base**	**46.62**	**184**	*eP*	**P**	**16 09 20.9**	**-0.7**
	8.0nm,0.9s,mb4.7						
VNDA	**Vanda**	**47.10**	**182**	P	**P**	**16 09 24.8**	**-0.6**
	7.5nm,0.7s,mb4.8,baz=188,slow=5.9,SNR=44						
VNDA	**Vanda**	**47.10**	**182**	P	**P**	**16 09 24.8**	**-0.6**
LPAZ	**La Paz**	**50.59**	**304**	P	**P**	**16 09 54.5**	**+1.4**
	14nm,0.7s,mb5.0,baz=148,slow=6.2,SNR=37						
CASY	**Casey**	**54.17**	**160**	*eP*	**P**	**16 10 19.2**	**0.0**
	29nm,1.2s,mb5.1						
SAML	**Samuel**	**54.88**	**313**	*eP*	**P**	**16 10 25.0**	**-0.1**
	6.8nm,0.8s,mb4.7						
LSZ	**Lusaka**	**57.64**	**68**	*eP*	**P**	**16 10 44.6**	**-0.1**
	3.7nm,1.0s,mb4.4						
DBIC	**Dimbokro**	**64.47**	**24**	P	**P**	**16 11 29.4**	**-1.6**
	2.1nm,0.6s,mb4.3,baz=192,slow=11,SNR=6.0						
OTAV	**Otavalo**	**69.88**	**303**	*eP*	**P**	**16 12 08.2**	**+3.2**
	8.0nm,1.2s,mb4.5						
SDV	**Santo Domingo**	**74.08**	**314**	*eP*	**P**	**16 12 30.8**	**+0.9**
	11nm,0.8s,mb4.8						
ASAR	**Alice Springs**	**99.28**	**162**	P	**P**	**16 14 35.2**	**+0.3**
	0.4nm,0.8s,mb4.0,baz=194,slow=3.5,SNR=5.3						
BVAR	**Borovoye Array**	**134.01**	**57**	PKP	PKPdf	16 20 10.2	+1.8
	0.6nm,0.8s,baz=270,slow=2.9,SNR=3.9						
YKA	**Yellowknife Ar**	**136.20**	**318**	PKP	PKPdf	16 20 13.4	+1.3
	0.5nm,0.7s,baz=126,slow=2.5,SNR=10						
ZAL	**Zalesovo**	**141.60**	**63**	PKP	PKPdf	16 20 22.1	+0.1
	3.7nm,0.6s,baz=235,slow=4.3,SNR=8.0						
ILAR	**Eielson Array**	**150.23**	**312**	PKPbc	PKPdf	16 20 43.5	+7.5
	6.1nm,0.8s,baz=119,slow=1.5,SNR=50						
MCK	**McKinley**	**150.91**	**310**	*e*PKPbc	PKPdf	16 20 45.8	+8.7

*CSEM **20** 16:02:20.3±0.3, 37.76N×25.42W, h4km±1km, ML2.6, Error ellipse: s-maj=3.8km s-min=1.9km az=1.0, After PDA*
*PDA **20** 16:02:20.3±1.0, 37.76N×25.42W, h4km±1km, MD2.3, ML2.6, Error ellipse: s-maj=1.7km s-min=1.3km az=174.0*
SVSA 20 16:02:20.3±1.0, 37.76N×25.42W, h4km±1km, MD2.3, ML2.6, Error ellipse: s-maj=1.7km s-min=1.3km az=174.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIF	**Vila Franca**	**0.02**	**221**	*i* P	Pg	16 02 21.5	+0.5
VIF				*i* S	Sg	16 02 22.8	+1.3
	3μm,0.2s						
PCNG	**Congro**	**0.02**	**70**	*i* P	Pg	16 02 21.7	+0.6
PCNG				*i* S	Sg	16 02 22.9	+1.3
	7μm,0.3s						
MESC	**Monte Escuro**	**0.04**	**333**	*i* P	Pg	16 02 21.8	+0.5
LFA	**Lagoa do Fogo**	**0.05**	**286**	*i* P	Pg	16 02 22.1	+0.6
PRCH	**Ribeira Ch**	**0.05**	**235**	*e*P	Pg	16 02 21.9	+0.3
PRCH				*i* S	Sg	16 02 23.4	+1.0
	4μm,0.2s						
FRA1	**Furnas**	**0.06**	**107**	*i* P	Pg	16 02 22.2	+0.6
FRA1				*i* S	Sg	16 02 23.8	+1.4
PMAT	**Coroa da Mata**	**0.07**	**327**	*i* P	Pg	16 02 22.2	+0.4
PMAT				*i* S	Sg	16 02 23.7	+0.9
	2μm,0.1s						
PVER	**Pico Vermelho**	**0.08**	**298**	*e*P	Pg	16 02 22.4	+0.4
CML	**Cha da Macela**	**0.10**	**277**	*i* P	Pg	16 02 22.9	+0.6
CML				*i* S	Sg	16 02 24.6	+0.9
PFAD	**Fenais da Ajud**	**0.11**	**45**	*i* P	Pg	16 02 23.3	+0.7
PFAD				*i* S	Sg	16 02 25.7	+1.5
MIRA	**Miradouro**	**0.12**	**77**	*i* P	Pg	16 02 23.3	+0.6
MIRA				*i* S	Sg	16 02 25.8	+1.4
FAC	**Faja de Cima**	**0.18**	**275**	*i* S	Sg	16 02 27.6	+1.2
BART	**Pico Bartolome**	**0.20**	**85**	*e*P	Pg	16 02 24.3	-0.1
BART				*e*S	Sg	16 02 28.9	+1.8
	278nm,0.5s						
BART	**Pico Bartolome**	**0.20**	**85**	*e*P	Pg	16 02 24.3	-0.1
BART				*e*S	Sg	16 02 28.9	+1.8
	278nm,0.5s						
PSET	**Sete Cidades**	**0.24**	**285**	*e*P	Pg	16 02 25.8	+0.6
PSET				*e*S	Sg	16 02 30.6	+2.1
	325nm,0.3s						
PSET	**Sete Cidades**	**0.24**	**285**	*e*P	Pg	16 02 25.8	+0.6
PSET				*e*S	Sg	16 02 30.6	+2.1
	325nm,0.3s						
PSAN	**Santo Antonio**	**0.26**	**291**	*e*P	Pg	16 02 26.1	+0.6
PFET	**Feteiras**	**0.29**	**282**	*i* P	Pg	16 02 26.7	+0.5
SET2	**Ginetes**	**0.32**	**286**	*e*P	Pg	16 02 27.1	+0.5
SET4	**Mosteiros**	**0.32**	**291**	*e*P	Pg	16 02 26.9	+0.2
PSMN	**Pico do Norte,**	**0.81**	**159**	*e*S	Sg	16 02 44.4	-2.8

*BJI **20** 16:09:44.7, 7.70S×112.90E, h184km, mB5.1, mb4.6*
*IDC **20** 16:09:44.6±0.6, 7.62S×112.95E, h182km±5km, mb4.3/20, mb1 4.4/20, mb1mx4.4/22, mbtmp4.8/20, Error ellipse: s-maj=16.4km s-min=7.9km az=54.0*
*MOS **20** 16:09:44.2±1.0, 7.60S×112.94E, h192km, mb4.7/21, Error ellipse: s-maj=10.6km s-min=8.2km az=123.5*
*NEIC **20** 16:09:44.8±0.6, 7.68S×112.90E, h185km±5km, mb4.7/32, Error ellipse: s-maj=8.0km s-min=5.6km az=63.0*
ISC 20 16:09:43.6±0.6, 7.69S±0.04×112.90E±0.05, h192km±6km, h183km±3.2km: pP-P, n149, σ0°±98/132, mb4.6/58, 10C-13D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.46**	**122**⇑	*e*P	**P**	**16 10 15.8**	**-0.8**
KELI	**Kelakatan**	**1.66**	**108**⇑	*e*Pn	**P**	**16 10 19.3**	**+0.8**
KELI				*i* Sn	**S**	**16 10 56.0**	**+11**
RATI	**Rata**	**2.80**	**112**⇑	*e*Pn	**P**	**16 10 30.4**	**-0.6**
RATI				*i* Sn	**S**	**16 11 13.5**	**+5.9**
KEDI	**Kedomdong**	**3.28**	**104**⇑	*e*Pn	**P**	**16 10 35.9**	**-0.9**
KEDI				*i* Sn	**S**	**16 11 22.8**	**+4.9**
NINI	**Niniconang**	**7.56**	**65**⇓	*e*P	**P**	**16 11 33.9**	**+2.0**
BUNI	**Buntu Taipa**	**8.41**	**62**⇓	*e*P	**P**	**16 11 45.3**	**+2.2**
MBWA	**Marble Bar**	**14.93**	**154**	*e*P	**P**	**16 13 04.9**	**-1.6**
	196nm,0.8s						
MBWA				*e*S	**S**	**16 15 35.0**	**-12**
FITZ	**Fitzroy Crossi**	**16.15**	**131**⇓	*i*P	**P**	**16 13 20.7**	**-0.9**
	114nm,0.8s						
FITZ				*e*S	**S**	**16 16 12.4**	**-2.0**
COCO	**West Island**	**16.43**	**253**	P	**P**	**16 13 25.1**	**0.0**
	98nm,0.7s						
KAKA	**Kakadu**	**19.87**	**106**⇓	*i*P	**P**	**16 14 01.2**	**-0.7**
	178nm,0.7s						
WRA	**Warramunga Arr**	**24.08**	**123**	P	**P**	**16 14 43.2**	**+0.2**
	59nm,0.8s,mb5.3,baz=293,slow=12,SNR=199						
WRA				ScP		16 21 39.0	
	2.1nm,0.5s,baz=316,slow=2.3,SNR=5.2						
WRAB	**Tennant Creek**	**24.09**	**123**	*e*P	**P**	**16 14 43.3**	**+0.3**
WRAB				*e*S	**S**	**16 18 52.1**	**+8.4**
WRAB				pmax	pmax		
	comp=Z,132nm,0.8s,mb5.6						
WRAB	**Tennant Creek**	**24.09**	**123**	*e*P	**P**	**16 14 43.3**	**+0.3**
	comp=Z,132nm,0.8s,mb5.6						
WRAB				*e*S	**S**	**16 18 52.0**	**+8.3**
WB2	**Warramunga Arr**	**24.09**	**123**⇓	*i*P	**P**	**16 14 43.6**	**+0.5**
WB2				*e*S	**S**	**16 18 54.7**	**+11**
NWAO	**Narrogin (SRO)**	**25.43**	**171**	P	**P**	**16 14 57.6**	**+2.2**
	comp=Z,6.1nm,0.8s,mb4.3,baz=349,slow=12,SNR=5.7						
ASPA	**Alice Springs**	**25.65**	**131**⇓	*i*P	**P**	**16 14 57.9**	**+0.3**
ASAR	**Alice Springs**	**25.66**	**131**	P	**P**	**16 14 57.9**	**+0.3**
	comp=Z,50nm,0.6s,mb5.3,baz=308,slow=8.5,SNR=509						
ASAR				pP	pP	16 15 33.6	-2.1
	comp=Z,18nm,0.8s,baz=303,slow=8.3,SNR=1.9						
ASAR				PcP	PcP	16 18 22.8	-0.7
	comp=Z,3.9nm,0.5s,baz=318,slow=1.5,SNR=6.5						
FORT	**Forrest**	**27.00**	**150**	*eP*	**P**	**16 15 10.1**	**+0.3**
	comp=Z,69nm,0.7s,mb5.4						
CMAR	**Chiang Mai Arr**	**29.41**	**332**	P	**P**	**16 15 32.5**	**+1.0**
	comp=Z,9.9nm,0.7s,mb4.5,baz=164,slow=8.7,SNR=82						
CMAR				pP	pP	16 16 08.9	-1.8
	comp=Z,2.4nm,0.8s,baz=162,slow=9.9,SNR=1.2						
CMAR				PcP	PcP	16 18 31.7	-0.8
	comp=Z,2.7nm,0.8s,baz=201,slow=2.9,SNR=7.2						
CMAR				ScP		16 21 56.5	
	comp=Z,2.8nm,0.8s,baz=188,slow=3.0,SNR=17						
PMG	**Port Moresby**	**33.92**	**95**	*eP*	**P**	**16 16 10.2**	**-0.4**
PMG				pmax	pmax		
	comp=Z,22nm,0.7s						
PMG	**Port Moresby**	**33.92**	**95**	P	**P**	**16 16 10.0**	**-0.6**
	comp=Z,24nm,0.8s,mb4.8,baz=166,slow=1.5,SNR=11						
PMG	**Port Moresby**	**33.92**	**95**	*eP*	**P**	**16 16 10.2**	**-0.4**
	comp=Z,22nm,0.7s,mb4.8						
CTA	**Charters Tower**	**34.56**	**114**	*eP*	**P**	**16 16 15.9**	**-0.2**
	comp=Z,13nm,0.8s,mb4.5						
CTA	**Charters Tower**	**34.56**	**114**	*eP*	**P**	**16 16 15.9**	**-0.2**
CTA				pmax	pmax		
	comp=Z,13nm,0.8s						
CTA	**Charters Tower**	**34.56**	**114**	P	**P**	**16 16 16.1**	**0.0**
	comp=Z,21nm,0.9s,mb4.7,baz=280,slow=11,SNR=20						
CTAO	**Charters Tower**	**34.56**	**114**	*eP*	**P**	**16 16 16.3**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,32nm,1.1s,mb4.8						
CTAO	**Charters Tower**	**34.56**	**114**	*eP*	**P**	**16 16 16.3**	**+0.2**
	comp=Z,32nm,1.1s,mb4.8						
PALK	**Pallekele**	**35.38**	**294**	*eP*	**P**	**16 16 22.7**	**-0.3**
	comp=Z,13nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**35.95**	**136**⇓	*i*P	**P**	**16 16 28.7**	**+1.1**
	comp=Z,35nm,0.5s,mb5.1						
STKA	**Stephens Creek**	**35.95**	**136**	P	**P**	**16 16 28.3**	**+0.7**
	comp=Z,62nm,0.7s,mb5.3,baz=312,slow=8.6,SNR=190						
STKA				pP	pP	16 17 07.0	-1.3
	comp=Z,8.4nm,0.8s,baz=298,slow=12,SNR=1.5						
STKA				ScP		16 22 18.9	
	comp=Z,1.8nm,0.7s,baz=328,slow=4.9,SNR=3.5						
ENH	**Enshi**	**37.89**	**355**	*eP*	**P**	**16 16 44.2**	**+0.3**
	comp=Z,9.8nm,0.7s,mb4.5						
GUMO	**Guam**	**38.14**	**56**	*eP*	**P**	**16 16 45.9**	**-0.2**
GUMO				pmax	pmax		
	comp=Z,575nm,1.2s,mb6.0						
GUMO	**Guam**	**38.14**	**56**	*eP*	**P**	**16 16 45.9**	**-0.2**
	comp=Z,575nm,1.2s,mb6.0						
NJ2	**Nanjing**	**39.93**	**8**	*eP*	**P**	**16 17 03.3**	**+2.6**
NJ2				AP	pP	16 17 47.0	+5.0
NJ2				PP	PP	16 18 43.3	+4.7
NJ2				S	**S**	**16 22 56.0**	**+5.0**
NJ2				AMB	AMB		
	comp=Z,570nm,5.5s						
NJ2				LR	LR		
	comp=N,930nm,23.3s						
NJ2				LR	LR		
	comp=E,660nm,24.8s						
NJ2				LR	LR		
	comp=Z,760nm,18.0s						
XAN	**Xi'an**	**41.67**	**355**	P	**P**	**16 17 15.5**	**+0.5**
HYB	**Hyderabad**	**42.12**	**307**	*i* P	**P**	**16 17 17.0**	**-1.9**
LSA	**Lhasa**	**42.66**	**332**	P	**P**	**16 17 25.0**	**+1.9**
LSA	**Lhasa**	**42.66**	**332**	*eP*	**P**	**16 17 24.8**	**+1.7**
LSA				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.6						
LSA	**Lhasa**	**42.66**	**332**	*eP*	**P**	**16 17 24.8**	**+1.7**
	comp=Z,21nm,0.9s,mb4.6						
JIRN	**Jiri**	**43.62**	**325**	*eP*	**P**	**16 17 31.6**	**+0.7**
	comp=Z,117nm,0.6s,mb5.4						
PKI	**Pulchoki**	**44.01**	**324**	*eP*	**P**	**16 17 34.0**	**+0.1**
	comp=Z,39nm,0.8s,mb4.8						
DMN	**Daman**	**44.21**	**324**	*eP*	**P**	**16 17 35.7**	**+0.1**
	comp=Z,91nm,0.6s,mb5.3						
KKN	**Kakani**	**44.24**	**324**	*eP*	**P**	**16 17 35.8**	**0.0**
	comp=Z,40nm,0.6s,mb4.9						
LZH	**Lanzhou**	**44.37**	**350**	⇓P	**P**	**16 17 38.3**	**+1.6**
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.4						
LZH				LR	LR		
	comp=N,512nm,13.2s						
LZH				LR	LR		
	comp=Z,835nm,17.8s						
GKN	**Gorkha**	**44.78**	**324**	*eP*	**P**	**16 17 40.1**	**0.0**
	comp=Z,73nm,0.5s,mb5.2						
KOLN	**Koldanda**	**45.23**	**322**	*eP*	**P**	**16 17 43.4**	**-0.2**
	comp=Z,78nm,0.6s,mb5.2						
POO	**Poona**	**46.50**	**305**	*i*	**P**	**16 17 52.5**	**-1.2**
BJT	**Baijiatuau**	**47.57**	**3**	*eP*	**P**	**16 18 02.1**	**+0.3**
BJT				pmax	pmax		
	comp=Z,11nm,0.5s						
BJT	**Baijiatuau**	**47.57**	**3**	*eP*	**P**	**16 18 02.1**	**+0.4**
	comp=Z,11nm,0.

comp=Z,36nm,1.0s,mb5.0
TKM2 Tokmak 2 60.73 329 P P 16 19 36.5 -0.6
SNR=13
UCH Uchtor 60.79 328 P P 16 19 37.8 +0.2
SNR=7.7
KBK Karagaybulak 60.87 329 P P 16 19 38.2 +0.1
SNR=19
AAK Ala-Archa 61.09 328 P P 16 19 39.6 +0.1
SNR=8.6
AAK Ala-Archa 61.09 328 *d iP* P 16 19 38.9 -0.7
AAK pmax pmax
comp=Z,10.0nm,1.2s,mb4.3
AML Almayashu 61.16 328 P P 16 19 40.1 +0.1
SNR=23
JMDO Jabal Madar 61.41 301 ⇑P P 16 19 40.8 -1.1
EKS2 Erkin-Say 61.48 328 P P 16 19 42.3 +0.1
SNR=15
BIDO Bidbid 61.83 302 P P 16 19 44.0 -0.8
SNR=13
BIDO P 16 19 44.0
SNR=13
RPZ Rata Peaks 61.92 136 P P 16 19 45.4 +0.3
comp=Z,33nm,0.8s,mb5.0,baz=201,slow=0.9,SNR=12
BSY Bisya 62.32 301 ⇑P P 16 19 47.1 -1.0
HOQ Hoqain 62.55 301 ⇓P P 16 19 48.4 -1.1
RBK Rabkut 63.15 294 P P 16 19 53.1 -0.4
SNR=9.1
RBK P 16 19 53.1
SNR=9.1
ABTO Aybut 63.92 293 P P 16 19 57.9 -0.9
SNR=17
ABTO P 16 19 57.9
SNR=17
URZ Urewera 65.08 129 P P 16 20 04.0 -1.9
comp=Z,7.7nm,0.6s,mb4.5,baz=239,slow=4.6,SNR=3.7
KURK Kurchatov 65.29 337 *i P* P 16 20 06.5 -0.5
KURK Kurchatov 65.29 337 *eP* P 16 20 06.0 -1.0
comp=Z,8.4nm,1.0s,mb4.3
BOD Bodaibo 65.29 1 *eP* P 16 20 06.9 0.0
ZAL Zalesovo 65.81 342 *i P* P 16 20 09.9 -0.4
ZAL pmax pmax
comp=Z,4.0nm,0.5s
ZAL Zalesovo 65.81 342 P P 16 20 09.3 -1.0
comp=Z,3.6nm,0.5s,mb4.2,baz=239,slow=5.6,SNR=18
MAW Mawson 68.48 198 P P 16 20 27.4 +0.7
comp=Z,3.4nm,0.5s,mb4.2,baz=60,slow=8.6,SNR=3.9
BVAR Borovoye Array 70.41 334 P P 16 20 38.1 -0.5
comp=Z,3.0nm,0.6s,mb4.1,baz=141,slow=9.5,SNR=24
BRVK Borovoye 70.47 334 *eP* P 16 20 37.7 -1.3
BRVK pmax pmax
comp=Z,8.0nm,1.1s,mb4.3
BRVK Borovoye 70.47 334 *eP* P 16 20 37.7 -1.4
comp=Z,8.1nm,1.1s,mb4.3
YAK Yakutsk 70.73 8 *eP* P 16 20 39.7 -0.7
YAK pmax pmax
comp=Z,24nm,0.8s,mb4.9
YAK Yakutsk 70.73 8 *eP* P 16 20 39.7 -0.7
comp=Z,24nm,0.8s,mb4.9
CHKZ Chkalovo 70.77 335 *eP* P 16 20 40.0 -0.8
CHKZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
CHKZ Chkalovo 70.77 335 *eP* P 16 20 40.0 -0.8
comp=Z,9.5nm,0.8s,mb4.5
MA2 Magadan 73.52 19 *eP* P 16 20 57.1 +0.2
MA2 pmax pmax
comp=Z,21nm,0.8s,mb4.8
MA2 Magadan 73.52 19 *eP* P 16 20 57.1 +0.1
comp=Z,22nm,0.8s,mb4.8
VNDA Vanda 74.25 170 P P 16 21 01.4 +0.5
comp=Z,3.0nm,0.4s,mb4.2,baz=317,slow=6.4,SNR=42
SBA Scott Base 75.30 170 *eP* P 16 21 08.8 +2.0
SBA pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
SBA Scott Base 75.30 170 *eP* P 16 21 08.8 +2.0
comp=Z,7.2nm,0.9s,mb4.3
KMBO Kilima Mbogo 75.62 271 P P 16 21 11.0 +1.1
KMBO Kilima Mbogo 75.62 271 P P 16 21 11.1 +1.2
comp=Z,1.6nm,0.5s,mb4.0,baz=226,slow=21,SNR=4.0
SYO Syowa Base 76.90 201 ⇑P P 16 21 16.7 +0.9
ARU Arti 77.85 333 ⇑*iP* P 16 21 16.4 -4.9
ARU *eS* S 16 30 50.8 -5.7
ARU pmax pmax
comp=Z,19nm,1.6s,mb4.5
TIXI Tiksi 79.88 5 ⇑*iP* P 16 21 31.7 -0.3
TIXI pmax pmax
comp=Z,13nm,1.1s,mb4.5
ZEI Tsey 80.12 316 *eP* P 16 21 34.8 +1.0
ZEI pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
KIV Kislovodsk 81.35 317 *eP* P 16 21 45.9 +5.6
KIV pmax pmax
comp=N,5.0nm,1.0s
KIV pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
KIV MLR MLR
comp=Z,142nm,17.0s
KIV MLR MLR
comp=N,51nm,17.0s
KIV MLR MLR
comp=E,101nm,17.0s
QSPA South Pole Qui 82.30 180 ⇓*iP* P 16 21 46.3 +1.9
comp=E,11nm,1.1s,mb4.4
ASF Jabal al Asfar 82.36 304 P P 16 21 46.2 +0.5
comp=E,2.9nm,0.7s,mb4.0,baz=15,slow=2.1,SNR=5.7
MALT Malatya 82.72 310 *eP* P 16 21 47.4 0.0
MALT pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
MALT Malatya 82.72 310 *eP* P 16 21 47.4 0.0
comp=Z,5.8nm,1.0s,mb4.3
LSZ Lusaka 82.93 256 *eP* P 16 21 49.3 +0.4
LSZ pmax pmax
comp=Z,7.0nm,0.5s,mb4.7
LSZ Lusaka 82.93 256 *eP* P 16 21 49.3 +0.4
comp=Z,7.1nm,0.5s,mb4.7
SOC Sochi 83.28 316 *eP* P 16 21 42.6 -7.6
SOC *e*PP* pP 16 22 27.6 -10
SOC *e* 16 25 04.1
SOC *e*PPP PPP 16 26 53.1 -7.5
SOC *e*S S 16 31 42.9 -10
SOC *e*SS SS 16 37 23.6 -1.9
SOC *e*SSS SSS 16 40 54.6 +1.7
EIL Elat 83.42 301 *eP* P 16 21 51.6 +0.5
comp=Z,10nm,1.1s,mb4.5
BILL Bilibino 84.31 18 *i P* P 16 21 54.7 -0.1
BRTR Keskin Array B 86.68 311 P P 16 22 07.0 -0.1
comp=Z,2.4nm,0.8s,mb4.0,baz=124,slow=5.2,SNR=22
BRTR pP pP 16 22 52.1 -2.5
comp=Z,1.6nm,0.8s,baz=127,slow=6.2,SNR=2.9
SNAA Sanae 90.57 197 ⇑*iP* P 16 22 27.1 +2.5
SNAA Sanae 90.57 197 P P 16 22 26.8 +2.2
comp=Z,2.7nm,0.6s,mb4.3,baz=128,slow=4.5,SNR=11
AKASG Malin Array Be 91.90 321 P P 16 22 31.0 -0.3
comp=Z,1.3nm,0.6s,mb4.0,baz=81,slow=4.7,SNR=7.0
VNA2 Neumayer--Watz 92.22 197 ⇑*iP* P 16 22 36.0 +3.7
FINES FINESS Array B 95.17 331 P P 16 22 45.2 -0.8
comp=Z,3.5nm,1.0s,mb4.4,baz=129,slow=8.9,SNR=2.8
MCK McKinley 100.47 27 *e*Pdif P 16 23 11.0 +1.1
comp=Z,2.2nm,0.9s
YKA Yellowknife Ar 115.38 22 PKP PKPdf 16 28 03.6 +1.4
comp=Z,1.3nm,0.6s,baz=315,slow=1.8,SNR=27
YKA SKP 16 31 21.8
comp=Z,0.5nm,0.8s,baz=318,slow=2.0,SNR=4.8
YKA Yellowknife Ar 115.38 22 PKP PKPdf 16 28 03.6 +1.4
YKA SKP 16 31 21.8
DBIC Dimbokro 118.28 273 *e*PKIKP PKPdf 16 28 10.3 +1.4
DBIC Dimbokro 118.28 273 PKP PKPdf 16 28 10.8 +1.9
comp=Z,2.1nm,0.5s,baz=213,slow=3.4,SNR=7.0
EDM Edmonton 121.23 31 *e*PKPdf PKPdf 16 28 15.8 +2.1
NVAR Mina Array Bea 124.76 48 PKP PKPdf 16 28 24.3 +3.3
comp=Z,2.0nm,0.6s,baz=292,slow=0.6,SNR=19
NEN Nelson 128.32 50 *e*PKPdf PKPdf 16 28 31.3 +3.4
PDAR Pinedale Array 128.94 40 PKP PKPdf 16 28 31.5 +2.6
comp=Z,0.7nm,0.7s,baz=45,slow=2.1,SNR=5.5
PV10 Paradox Valley 131.43 44 *e*PKPdf PKPdf 16 28 36.9 +3.2
PV10 *e*SKP 16 31 44.5
SCHQ Schefferville 132.99 360 PKP PKPdf 16 28 38.9 +2.6
comp=Z,1.1nm,0.5s,baz=225,slow=12,SNR=5.1
SCHQ SKPbc 16 31 46.9
comp=Z,2.3nm,0.7s,baz=269,slow=2.8,SNR=4.4
ANMO Albuquerque 134.86 47 SKPbc 16 31 54.9
comp=Z,3.4nm,0.9s,baz=287,slow=4.4,SNR=4.9
TXAR Lajitas Array 139.46 53 PKhKP 16 28 41.2
comp=Z,0.4nm,0.4s,baz=69,slow=26,SNR=3.1
TXAR PKP PKPdf 16 28 51.5 +2.7
comp=Z,1.6nm,0.8s,baz=244,slow=1.9,SNR=6.0
TXAR SKPbc 16 32 07.2
comp=Z,0.5nm,0.5s,baz=289,slow=11,SNR=4.1
JCT Junction City 141.92 49 *e*PKPdf PKPdf 16 28 51.8 -1.3
MIAR Mount Ida 143.85 39 *e*PKIKP PKPdf 16 28 56.4 +0.1
MIAR *e* 16 32 20.5
ACSO Alum Creek Sta 144.63 21 *e*PKPdf PKPdf 16 28 58.6 +1.1
WCI Wyandotte Cave 145.00 27 *e*PKPdf PKPdf 16 28 59.8 +1.5
HRV Harvard--Oak R 145.11 6 *e*PKPdf PKPdf 16 28 59.3 +1.1
HKT Hockley 145.12 47 *e*PKIKP PKPdf 16 29 01.9 +3.2
WVT Waverly 145.95 31 *e*PKP2 PKPab 16 29 02.9 -1.2
WVT *e* 16 32 22.5
MCWV Mont Chateau 146.18 18 *e*PKPdf PKPdf 16 29 04.0 +3.9
OXF Oxford 146.33 34 *e*PKP2 PKPab 16 29 04.2 -1.5
LVC Limon Verde 149.83 177 PKP PKPdf 16 29 09.1 +2.5
comp=Z,1.8nm,0.5s,baz=222,slow=9.4,SNR=3.4
LVC PKPbc PKPdf 16 29 15.1 +8.5
comp=Z,7.4nm,1.1s,baz=91,slow=2.4,SNR=4.5
BDFB Brasilia 150.08 219 PKPbc PKPdf 16 29 14.9 +7.8
comp=Z,14nm,0.7s,baz=157,slow=1.6,SNR=16
BDFB PKPab PKPab 16 29 22.0 +0.8
comp=Z,6.1nm,0.6s,baz=180,slow=6.3,SNR=6.4
BDFB pPKPbc 16 30 00.7
comp=Z,6.8nm,0.8s,baz=106,slow=4.4,SNR=2.6
JSC Jenkinsville 150.50 24 *e*PKIKP PKPdf 16 29 15.6 +8.3
LPAZ La Paz 156.15 178 PKPab PKPab 16 29 46.2 -0.6
comp=Z,3.4nm,0.9s,baz=168,slow=4.7,SNR=6.6

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*IDC **20** 16:22:58.2±0.7, 11.20S×161.68E, mb4.6/11, mb1 4.8/13, mb1mx4.7/17, mbtmp4.6/13, ML3.7/2, MS4.2/5, Ms1 4.2/5, ms1mx3.7/22, Error ellipse: s-maj=28.2km s-min=16.8km az=137.0*
*BJI **20** 16:23:05.2, 11.10S×161.50E, h43km, mB5.2, mb4.8, Ms5.2, Msz4.9*
*HRVD **20** 16:23:05.2±0.4, 11.28S×161.70E, h12km, MW5.0/35, Centroid moment Tensor Solution. LP body waves: s7,c11;Mantle waves: s35,c48; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr2.20±.14; Mθθ-1.23±.12; Mφφ-0.96±.12; Mrθ2.59±.47; Mθφ1.23±.10; Mφr-0.44±.50; Best double couple: M0 3.465×1016 NP1:φs330°, δ25°, λ129°. NP2:φs109°, δ70°, λ74°. Principal axes: T 3.6, Plg61°, Azm355°; N -.264, Plg15°, Azm115°; P -3.329, Plg24°, Azm212°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **20** 16:23:05.2±2.0, 11.10S×161.53E, h44km±17km, mb5.0/26 Error ellipse: s-maj=13.1km s-min=7.8km az=121.0*

ISC 20 16:23:02.4±0.3, 11.15S±0.07×161.55E±0.05, h33km, (h30km±4.4km:pP-P), n77, σ0=91/67, mb5.0/47, MS4.5/8, 2C-4D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	14.27	276	Pn	P	16 26 25.1	+0.8
	0.3nm,0.3s,baz=149,slow=13,SNR=2.2						
PMG	Port Moresby	14.27	276	*eP*	P	16 26 24.5	+0.2
	178nm,1.2s						
CTA	Charters Tower	17.19	237	⇑*iP*	P	16 27 02.6	+0.9
	27nm,1.1s						
CTA	Charters Tower	17.19	237	P	P	16 27 02.0	+0.3
	0.8nm,0.3s,baz=62,slow=15,SNR=16						
CTAO	Charters Tower	17.19	237	*eP*	P	16 27 01.8	+0.1
	48nm,1.0s						
WRAB	Tennant Creek	27.59	248	*eP*	P	16 28 48.5	-0.4
	64nm,1.3s,mb5.1						
WB2	Warramunga Arr	27.59	248	*eP*	P	16 28 49.0	+0.1
WRA	Warramunga Arr	27.60	248	P	P	16 28 48.3	-0.7
	10nm,1.0s,mb4.4,baz=78,slow=10,SNR=21						
WRA				ScP		16 35 47.1	
	1.8nm,1.1s,baz=93,slow=1.7,SNR=6.5						
STKA	Stephens Creek	27.65	219	*eP*	P	16 28 51.5	+2.1
	8.1nm,0.9s,mb4.3						
STKA	Stephens Creek	27.65	219	P	P	16 28 49.0	-0.4
	7.2nm,1.0s,mb4.2,baz=36,slow=12,SNR=5.2						
STKA				ScP		16 35 47.4	
	6.1nm,1.1s,baz=99,slow=5.7,SNR=4.0						
STKA				LR	LR	16 39 33.4	
	comp=Z,2μm,18.2s,MS4.7,baz=37,slow=36						
ASAR	Alice Springs	29.10	241	P	P	16 29 01.4	-1.0
	4.6nm,0.7s,mb4.3,baz=71,slow=9.4,SNR=38						
ASAR				PcP	PcP	16 32 08.5	-1.5
	2.3nm,0.8s,baz=90,slow=3.3,SNR=4.6						
ASAR				ScP		16 35 51.8	
	4.6nm,1.0s,baz=80,slow=3.0,SNR=15						
ASAR				LR	LR	16 39 46.2	
	comp=Z,466nm,20.4s,MS4.1,baz=66,slow=34						
ASPA	Alice Springs	29.10	241	*eP*	P	16 29 01.1	-1.3
URZ	Urewera	30.37	155	LR	LR	16 38 59.4	
	comp=Z,162nm,21.9s,MS3.6,baz=147,slow=32						
FITZ	Fitzroy Crossi	35.38	254	*eP*	P	16 29 56.9	-0.4
	20nm,0.9s,mb5.0						
FORT	Forrest	36.66	233	⇑*iP*	P	16 30 08.3	+0.4
	115nm,1.1s,mb5.6						
MBWA	Marble Bar	41.27	251	*eP*	P	16 30 46.4	0.0
	29nm,1.2s,mb4.8						
NWAO	Narrogin (SRO)	46.01	235	P	P	16 31 22.6	-2.1
	4.3nm,0.7s,mb4.5,baz=27,slow=16,SNR=2.3						
NWAO	Narrogin (SRO)	46.01	235	*eP*	P	16 31 24.0	-0.8
	29nm,1.1s,mb5.1						
PAE	Paea	47.67	104	*eP*	P	16 31 37.4	-0.6
	72nm,1.2s,mb5.6						
PPT	Papeete	47.67	104	*e*LR	LR	16 45 09.8	
	325nm,31.0s						
TIAR	Tiarei	47.89	104	*eP*	P	16 31 39.5	-0.2
	140nm,1.3s,mb5.8						
TVO	Taravao	47.98	104	*eP*	P	16 31 40.2	-0.2
	53nm,0.8s,mb5.6						
MEH	Mehetia	49.12	104	*eP*	P	16 31 48.8	-0.4
	55nm,1.2s,mb5.5						
PMOR	Pomariorio Ree	49.31	100	*eP*	P	16 31 50.6	-0.1
	59nm,1.2s,mb5.5						
MAJO	Matsushiro	52.29	336	*eP*	P	16 32 11.5	-1.5
	22nm,1.1s,mb5.0						
TAOE	Nuku Hiva Isla	57.39	93	*e*LR	LR	16 49 29.5	
NJ2	Nanjing	59.27	318	*eP*	P	16 33 06.9	+3.5
NJ2				AP	pP	16 33 12.8	-0.7
NJ2				PP	PP	16 35 21.0	+4.9
NJ2				S	S	16 41 16.0	+8.5
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,370nm,4.5s						
NJ2				LR	LR		
	comp=N,930nm,23.3s,MS5.0						
NJ2				LR	LR		
	comp=E,660nm,21.8s,MS5.0						
NJ2				LR	LR		
	comp=Z,760nm,18.0s,MS4.9						
YSS	Yuzh-Sakhalins	60.24	345	P	P	16 33 07.8	-2.0
	comp=Z,30nm,1.2s,mb5.2						
ENH	Enshi	64.81	311	*eP*	P	16 33 38.7	-1.8
	comp=Z,6.9nm,0.8s,mb4.7						
VNDA	Vanda	66.36	180	P	P	16 33 49.4	-0.3
	comp=Z,4.2nm,1.1s,mb4.4,baz=349,slow=7.4,SNR=6.3						
VNDA				LR	LR	16 56 17.7	
	comp=Z,172nm,20.3s,MS4.2,baz=324,slow=30						
XAN	Xi'an	67.20	314	P	P	16 33 54.5	-1.1
CMAR	Chiang Mai Arr	68.40	295	P	P	16 34 04.2	+0.9
	comp=Z,5.9nm,1.1s,mb4.5,baz=111,slow=4.6,SNR=27						
HIA	Hailar	70.49	332	*eP*	P	16 34 15.5	-0.2
	comp=Z,14nm,1.0s,mb4.8						
MA2	Magadan	71.02	354	*eP*	P	16 34 17.2	-1.5
	comp=Z,9.5nm,0.9s,mb4.7						
LZH	Lanzhou	71.82	314	⇓P	P	16 34 25.0	+1.1
LZH				AP	pP	16 34 36.3	+2.1
LZH				XP	sP	16 34 40.1	+2.2
LZH				PP	PP	16 37 06.9	+1.6
LZH				*e*S	S	16 43 43.1	+2.3
LZH				XS		16 44 00.3	
LZH				SS	SS	16 48 21.3	+2.3
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,135nm,6.5s						
LZH				LR	LR		
	comp=E,617nm,15.3s						
LZH				LR	LR		
	comp=Z,987nm,17.8s,MS5.1						
ULN	Ulaanbaatar	76.01	326	*eP*	P	16 34 48.5	+0.4
	comp=Z,20nm,1.1s,mb5.0						
SONM	Songino Array	76.36	325	P	P	16 34 50.5	+0.4
	comp=Z,6.2nm,0.7s,mb4.6,baz=135,slow=5.2,SNR=26						
YAK	Yakutsk	77.09	345	*eP*	P	16 34 53.1	-0.8
	comp=Z,53nm,0.8s,mb5.5						
QSPA	South Pole Qui	78.85	180	⇓*eP*	P	16 35 04.3	+1.0
	comp=Z,12nm,1.0s,mb4.8						
LSA	Lhasa	78.95	303	*eP*	P	16 35 05.8	+1.0
	comp=Z,6.1nm,1.0s,mb4.5						
BILL	Bilibino	79.06	2	*eP*	P	16 35 03.8	-0.8
	comp=Z,31nm,1.1s,mb5.2						
BILL				*e*	pP	16 35 13.5	-1.5
ANM	Nome	79.53	14	*eP*	P	16 35 08.3	+1.1
SVW2	Sparrevohn	79.55	20	*eP*	P	16 35 07.7	+0.3
TNA	Tin City	79.81	12	*eP*	P	16 35 08.1	-0.6
	comp=Z,8.6nm,1.0s,mb4.6						
JIRN	Jiri	82.46	300	*eP*	P	16 35 24.2	+0.8
	comp=Z,6.3nm,0.6s,mb4.7						
PALK	Pallekele	82.49	279	*eP*	P	16 35 25.0	+1.2
	comp=Z,22nm,0.9s,mb5.1						
MAW	Mawson	83.06	202	LR	LR	17 07 45.5	
	comp=Z,143nm,18.1s,MS4.4,baz=327,slow=32						
PKI	Pulchoki	83.10	300	*eP*	P	16 35 27.3	+0.7
	comp=Z,21nm,0.8s,mb5.2						
KKN	Kakani	83.27	300	*eP*	P	16 35 28.2	+0.7
	comp=Z,21nm,0.9s,mb5.2						
DMN	Daman	83.36	300	*eP*	P	16 35 28.9	+0.9
	comp=Z,47nm,0.9s,mb5.5						
MCK	McKinley	83.60	20	*eP*	P	16 35 28.0	-0.4
	comp=Z,23nm,1.0s,mb5.3						
IMA	Indian Mountai	83.76	17	*eP*	P	16 35 30.3	+1.1
	comp=Z,15nm,1.1s,mb5.0						
GKN	Gorkha	83.87	300	*eP*	P	16 35 30.9	+0.2
	comp=Z,37nm,0.9s,mb5.5						
KOLN	Koldanda	84.69	300	*eP*	P	16 35 34.6	-0.2
	comp=Z,28nm,0.8s,mb5.4						
COLA	College	84.71	19	*eP*	P	16 35 33.7	-0.3
	comp=Z,23nm,0.8s,mb5.3						
MENT	Mentasta	84.94	22	*eP*	P	16 35 35.8	+0.7
ILAR	Eielson Array	84.96	20	P	P	16 35 34.6	-0.6
	comp=Z,3.0nm,0.6s,mb4.6,baz=252,slow=5.5,SNR=33						
WMQ	Urumqi	86.28	316	*eP*	P	16 35 43.7	+1.5
WMQ				AP	pP	16 35 54.2	+1.5
WMQ				XP	sP	16 35 58.1	+1.9
WMQ				PP	PP	16 39 06.7	+1.6
WMQ				S	S	16 46 15.0	+1.5
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,79nm,5.5s						
WMQ				LR	LR		
	comp=N,456nm,19.1s,MS5.0						
WMQ				LR	LR		
	comp=E,411nm,18.6s,MS5.0						
WMQ				LR	LR		
	comp=Z,508nm,19.2s,MS4.9						
OHCM	Honcut	87.12	49	*eP*	P	16 35 45.7	-0.7
DAWY	Dawson	87.18	22	*eP*	P	16 35 47.6	+1.5
NVAR	Mina Array Bea	89.26	51	P	P	16 35 57.1	+0.4
	comp=Z,4.4nm,0.8s,mb4.8,baz=236,slow=6.5,SNR=29						
WVOR	Wild Horse Val	90.04	47	*eP*	P	16 36 00.7	+0.5
	comp=Z,36nm,1.3s,mb5.5						
SYO	Syowa Base	90.45	198	⇓PcP	PcP	16 36 05.6	+2.7
SYO	Syowa Base	90.45	198	⇓pP	pP	16 36 13.9	+1.7
NEN	Nelson	91.29	54	*eP*	P	16 36 06.5	+0.2
BMO	Blue Mountains	91.58	45	*eP*	P	16 36 07.2	-0.2
	comp=Z,12nm,1.2s,mb5.1						
ARUT	Antelope Range	92.84	52	*eP*	P	16 36 14.7	+1.3
KURK	Kurchatov	94.10	321	*eP*	P	16 36 18.0	-0.8
	comp=Z,5.6nm,1.3s,mb4.8						
EDM	Edmonton	95.92	37	*eP*	P	16 36 26.9	0.0
PDAR	Pinedale Array	96.66	48	P	P	16 36 32.4	+1.7
	comp=Z,0.2nm,0.5s,mb3.8,baz=216,slow=46,SNR=2.8						
YKA	Yellowknife Ar	96.97	28	P	P	16 36 30.5	-1.0
	comp=Z,4.4nm,0.9s,mb4.9,baz=258,slow=4.6,SNR=50						
YKW3	Yellowknife Ar	96.98	28	*eP*	P	16 36 30.5	-1.1
BOSA	Boshof	122.15	226	*eP*	PKPdf	16 41 55.9	+1.4
BRTR	Keskin Array B	125.97	311	PKP	PKPdf	16 42 00.4	-1.2
	comp=Z,0.8nm,1.1s,baz=45,slow=5.2,SNR=4.0						
LSZ	Lusaka	126.87	241	*eP*	PKPdf	16 42 06.2	+2.1
SDV	Santo Domingo	128.62	87	PKP	PKPdf	16 42 06.9	-0.5
	comp=Z,7.7nm,0.8s,baz=296,slow=1.9,SNR=14						
SDV	Santo Domingo	128.62	87	*eP*	PKPdf	16 42 07.9	+0.5

IDC 20 16:45:19.1±6.4, 13.91N×92.51E, mb3.6/4, mb1 3.6/5, mb1mx3.6/18, mbtmp3.4/5, ML3.1/1, Error ellipse: s-maj=142.2km s-min=35.3km az=159.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.66	53	Pn	Pn	16 47 11.4	-3.2
	0.1nm,0.3s,baz=246,slow=15,SNR=4.5						
CMAR				Sn	Sn	16 48 33.5	-10
	0.2nm,0.3s,baz=236,slow=21,SNR=5.0						
VIS	Vishakhapatnam	9.61	294	*i P*	P	16 47 32.0	-10
VIS				*i* S	Sn	16 49 11.0	-21
JIRN	Jiri	14.90	338	*eP*	P	16 48 42.6	-10
PKI	Pulchoki	15.12	335	*eP*	P	16 48 46.5	-9.4
	13nm,0.5s						
DMN	Daman	15.28	334	*eP*	P	16 48 48.5	-9.5
	18nm,0.5s						
GKN	Gorkha	15.82	334	*eP*	P	16 48 57.0	-8.0
	16nm,0.3s						
KOLN	Koldanda	16.10	330	*eP*	P	16 49 00.7	-7.9
	12nm,0.5s						
SONM	Songino Array	35.74	16	P	P	16 52 20.2	-1.4
	0.2nm,0.4s,baz=185,slow=8.9,SNR=1.8						
ZAL	Zalesovo	40.40	353	P	P	16 52 58.4	-2.1
	0.6nm,0.5s,baz=210,slow=13,SNR=3.7						
BRTR	Keskin Array B	57.37	308	P	P	16 55 09.2	-2.5
	0.7nm,0.9s,baz=117,slow=7.7,SNR=6.5						
GERES	GERESS Array B	72.31	317	P	P	16 56 47.1	-1.4
	0.7nm,0.7s,baz=140,slow=42,SNR=1.8						

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*IGQ **20** 16:45:14.2, 1.20S×81.98W, h12km±25km, mb4.7, Error ellipse: s-maj=24.5km s-min=9.1km az=172.8*
*IDC **20** 16:45:25.8±1.0, 1.04S×81.00W, mb3.8/8, mb1 4.1/10, mb1mx3.9/20, mbtmp3.9/10, ML3.9/2, MS4.0/1, Ms1 3.9/1, ms1mx2.4/21, Error ellipse: s-maj=63.4km s-min=18.8km az=63.0*
*NEIC **20** 16:45:28.9±3.1, 1.07S×80.90W, h22km±23km, mb4.5/6, MD4.7(IGQ), Error ellipse: s-maj=11.7km s-min=9.7km az=222.0*

ISC 20 16:45:28.9±0.6, 1.15S±0.07×81.18W±0.05, h33km, n42, σ1=06/46, mb4.0/11, MS3.9/1, 2C-5D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.56	98	P	P	16 46 08.9	-0.1
IGUA				S	S	16 46 47.4	+8.1
CUSU	Cusua	2.72	96	P	P	16 46 11.2	+0.1
JUIV	Juive	2.73	96	P	P	16 46 11.0	-0.3
JUA2	San Juan 2	2.74	70	P	P	16 46 10.5	-1.0
ARRY	Arrayan	2.75	97	⇑P	P	16 46 11.1	-0.5
RETU	Refugio	2.75	96	P	P	16 46 12.8	+1.2
NAS1	Nasa	2.75	79	P	P	16 46 11.9	+0.3
TERV	Terraza Guagua	2.75	69	P	P	16 46 10.3	-1.4
PINO	Pino	2.76	69	P	P	16 46 10.3	-1.4
PATA	Patacocha	2.77	97	P	P	16 46 12.4	+0.5
RUN2	Runtun	2.78	96	P	P	16 46 12.0	-0.1
ULBA	Ulba	2.79	96	P	P	16 46 12.7	+0.6
PISA	Pisayambo	2.80	88	P	P	16 46 12.1	-0.2
PISA				S	S	16 46 51.4	+6.2
YANA	Yana	2.81	69	⇓P	P	16 46 10.8	-1.5
VC1	Cotopaxi 1	2.82	80	P	P	16 46 12.3	-0.4
TAMB	Tambo	2.85	81	⇓P	P	16 46 14.1	+1.1
OTAV	Otavalo	3.06	63	*e*Pn	Pn	16 46 13.7	-2.4
OTAV				*e*Sn	Sn	16 46 54.2	+2.2
ANTI	Antisana	3.10	77	⇑P	P	16 46 16.5	-0.1
COTA	Cotacachi	3.20	63	⇓P	P	16 46 17.0	-1.0
CAYR	Refugio Cayamb	3.38	70	⇓P	P	16 46 21.8	+1.3
CAYR				S	S	16 47 09.4	+9.4
CAYA	Cayambe	3.42	69	⇓P	P	16 46 22.0	+0.9
CONE	Cono NE Rev Vo	3.70	73	P	P	16 46 27.1	+2.0
PAYG	Puerto Ayora	9.12	273	*e*Pn	P	16 47 43.2	+2.2
	88nm,1.3s						
PAYG				*e*Sn	Sn	16 49 15.

7.8nm,1.0s
LVC Limon Verde 24.44 152 P **P 16 50 47.0 +0.9**
1.1nm,0.6s,mb3.5,baz=343,slow=12,SNR=2.1
LVC Limon Verde 24.44 152 P **P 16 50 47.0 +0.9**
LVC P 16 50 48.7
BDFB Brasilia 35.74 116 LR LR 17 09 16.4
comp=Z,193nm,18.5s,MS3.9,baz=296,slow=40
OXF Oxford 36.31 348 P **P 16 52 26.8 -4.7**
25nm,1.1s,mb5.0
TXAR Lajitas Array 37.16 326 P **P 16 52 46.0 +7.2**
0.1nm,0.3s,mb3.2,baz=135,slow=5.1,SNR=2.9
PLCA Paso Flores 40.56 168 P **P 16 53 06.9 0.0**
2.7nm,1.0s,mb3.8,baz=306,slow=9.5,SNR=4.4
SDCO Great Sand Dun 44.76 332 *e*P **P 16 53 40.6 -0.6**
6.5nm,1.2s,mb4.3
PDAR Pinedale Array 50.63 333 P **P 16 54 27.9 +0.9**
0.4nm,0.9s,mb3.4,baz=158,slow=8.0,SNR=2.9
PMSA Palmer Station 64.69 172 P **P 16 56 04.6 -1.0**
14nm,0.8s,mb5.0
YKA Yellowknife Ar 68.30 344 P **P 16 56 27.8 -0.7**
1.7nm,1.0s,mb4.0,baz=136,slow=6.2,SNR=18
DBIC Dimbokro 76.56 83 P **P 16 57 17.3 -1.1**
4.8nm,1.1s,mb4.4,baz=266,slow=7.2,SNR=3.7
INK Inuvik 77.96 342 P **P 16 57 25.4 +0.3**
2.7nm,1.1s,mb4.1,baz=146,slow=4.2,SNR=5.3
INK Inuvik 77.96 342 *e*P **P 16 57 25.9 +0.8**
5.2nm,1.2s,mb4.3
ILAR Eielson Array 80.89 337 P **P 16 57 41.0 0.0**
0.7nm,1.0s,mb3.6,baz=137,slow=2.3,SNR=4.6

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*BJI **20** 16:46:59.5, 3.38N×126.84E, h26km, mB5.4, mb5.4, Ms5.0, Msz4.8*
*IDC **20** 16:47:00.4±0.4, 3.71N×126.76E, mb5.2/25, mb1 5.2/26, mb1mx5.2/27, mbtmp5.2/26, ML5.3/1, MS4.7/12, Ms1 4.7/12, ms1mx4.4/26, Error ellipse: s-maj=19.2km s-min=8.7km az=75.0*
*HRVD **20** 16:47:01.9±0.2, 3.79N×127.01E, h15km, MW5.2/58, Centroid moment Tensor Solution. LP body waves: s45,c78;Mantle waves: s58,c108; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.59±.03; $M_{\theta\theta}$0.20±.02; $M_{\phi\phi}$-0.79±.02; $M_{r\theta}$0.28±.04; $M_{\theta\phi}$-0.23±.02; $M_{\phi r}$0.30±.04; Best double couple: M_0.842×10^{17} NP1:ϕ_s169°, δ37°, λ53°. NP2:ϕ_s32°, δ62°, λ114°. Principal axes: T.761, Plg65°, Azm344°; N.162, Plg21°, Azm200°; P-.923, Plg13°, Azm105°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **20** 16:47:01.9±0.1, 3.74N×126.81E, h10km, mb5.6/65 Error ellipse: s-maj=6.8km s-min=3.8km az=75.0*
*MOS **20** 16:47:04.8±1.1, 3.95N×126.72E, h33km, mb5.9/43, MS4.7/17, Error ellipse: s-maj=11.0km s-min=5.3km az=113.9*
ISC 20 16:47:06.3±0.6,**3.68N**±0.03×**126.79E**±0.04,**h58**km±5km, **h28**km±7.8km:**pP-P,n367,**σ1§**20**/316,**mb5.6**/108,**MS4.7**/43, **21C-20D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**3.28**	**351**	*e*P	**P**	**16 47 56.5**	**-0.2**
DAV	**Davao City (W)**	**3.57**	**340**	*e*P	**P**	**16 48 02.0**	**+1.3**
KCP	**Kidapawan**	**3.71**	**333**	⇓*e*P	**P**	**16 48 03.9**	**+1.3**
BIPH	**Bislig**	**4.49**	**355**	⇓*e*P	**P**	**16 48 11.8**	**-1.8**
BIPH				*i* S	**S**	**16 49 13.7**	**+8.6**
BUKP	**Musuan**	**4.51**	**338**	*e*P	**P**	**16 48 14.2**	**+0.3**
CGP	**Cagayan de Oro**	**5.18**	**336**	⇓*e*P	**P**	**16 48 25.1**	**+1.9**
PAGZ	**Pagadian**	**5.35**	**321**	*e*P	**P**	**16 48 25.8**	**+0.3**
BUTP	**Butuan**	**5.38**	**348**	*e*P	**P**	**16 48 25.9**	**0.0**
IPIL	**Ipil**	**5.85**	**314**	*e*P	**P**	**16 48 32.4**	**-0.1**
DCPH	**Dipolog City**	**5.95**	**325**	*e*P	**P**	**16 48 38.9**	**+5.1**
SCPH	**Surigao**	**6.19**	**348**	⇓*e*P	**P**	**16 48 37.8**	**+0.5**
TBP	**Tagbilaran**	**6.64**	**334**	*i* P	**P**	**16 48 42.2**	**-1.3**
MSLP	**Maasin**	**6.69**	**343**	*e*P	**P**	**16 48 44.6**	**+0.3**
LLP	**Lapu-Lapu**	**7.16**	**337**	*e*P	**P**	**16 48 51.4**	**+0.6**
OCLP	**Ormoc**	**7.63**	**344**	*e*P	**P**	**16 48 58.9**	**+1.6**
GUIM	**Jordan**	**8.06**	**329**	*e*P	**P**	**16 49 05.5**	**+2.3**
RCP	**Roxas**	**8.79**	**333**	⇑*e*P	**P**	**16 49 14.1**	**+0.8**
CUYO	**Cuyo Island**	**9.13**	**322**	*e*P	**P**	**16 49 19.1**	**+1.2**
BATP	**Bataraza**	**10.28**	**300**	*e*P	**P**	**16 49 35.1**	**+1.5**
SJMP	**San Jose**	**10.37**	**328**	*e*P	**P**	**16 49 39.2**	**+4.3**
ENPP	**El Nido**	**10.45**	**316**	*e*P	**P**	**16 49 36.9**	**+0.9**
BOAC	**Boac**	**10.87**	**334**	*e*P	**P**	**16 49 43.4**	**+1.6**
TGY	**Tagaytay City**	**11.85**	**331**	Pn	**P**	**16 50 02.5**	**+7.5**
	20nm,0.3s,baz=148,slow=12,SNR=5.8						
TGY				LR	LR	16 55 22.4	
	comp=Z,5μm,21.3s,baz=351,slow=42						
LUBP	**Lubang**	**11.89**	**328**	*e*P	**P**	**16 49 56.8**	**+1.2**
LUBP	**Lubang**	**11.89**	**328**	*e*P	**P**	**16 49 56.9**	**+1.4**
KAKA	**Kakadu**	**17.23**	**161**	*e*P	**P**	**16 51 02.3**	**-2.4**
	116nm,0.9s						
GUMO	**Guam**	**20.39**	**60**	PFAKE			
GUMO				LR	LR	16 51 50.0	+9.0
	comp=Z,2μm,20.0s,MS4.5						
FITZ	**Fitzroy Crossi**	**21.68**	**183**	*e*P	**P**	**16 51 52.8**	**-1.2**
	comp=Z,127nm,0.9s,mb5.3						
FITZ				*e*S	**S**	**16 55 48.4**	**+3.0**
TATO	**Taipei**	**21.77**	**347**	*e*P	**P**	**16 51 52.9**	**-2.0**
	comp=Z,460nm,1.5s,mb5.7						
QIZ	**Qiongzhong**	**22.51**	**314**	P	**P**	**16 52 00.8**	**-1.6**
QIZ				S	**S**	**16 56 01.9**	**+1.2**
QIZ				AMB	AMB		
	comp=Z,451nm,10.7s						
QIZ				LR	LR		
	comp=E,1μm,17.8s						
QIZ				LR	LR		
	comp=Z,2μm,19.2s,MS4.6						
QIZ	**Qiongzhong**	**22.51**	**314**	*e*P	**P**	**16 52 01.6**	**-0.8**
	comp=Z,66nm,1.0s,mb5.0						
QZH	**Quanzhou**	**22.56**	**340**	P	**P**	**16 52 01.8**	**-1.0**
QZH				S	**S**	**16 56 07.0**	**+5.5**
QZH				LR	LR		
	comp=N,3μm,14.2s						
QZH				LR	LR		
	comp=E,6μm,23.0s						
QZH				LR	LR		
	comp=Z,6μm,16.8s,MS5.1						
JOW	**Kunigami**	**23.06**	**3**	P	**P**	**16 52 08.3**	**+0.6**
	comp=Z,54nm,0.5s,mb5.2,baz=200,slow=10.0,SNR=24						
PMG	**Port Moresby**	**24.11**	**123**	*e*P	**P**	**16 52 21.0**	**+3.1**
PMG				pmax	pmax		
	comp=Z,50nm,1.0s						
PMG				MLR	MLR		
	comp=Z,2μm,20.0s						
PMG	**Port Moresby**	**24.11**	**123**	P	**P**	**16 52 20.3**	**+2.4**
	comp=Z,10nm,1.0s,baz=193,slow=21,SNR=1.7						
PMG				LR	LR	17 02 30.8	
	comp=Z,1μm,20.4s,MS4.5,baz=318,slow=38						
PMG	**Port Moresby**	**24.11**	**123**	*e*P	**P**	**16 52 21.0**	**+3.1**
	comp=Z,50nm,1.1s,mb4.9						
PMG				LR	LR		
	comp=Z,2μm,20.0s,MS4.5						
WRAB	**Tennant Creek**	**24.62**	**163**	*e*P	**P**	**16 52 21.8**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,450nm,1.1s,mb5.9						
WRAB				MLR	MLR		
	comp=Z,450nm,19.0s,MS4.0						
WRAB	**Tennant Creek**	**24.62**	**163**	*e*P	**P**	**16 52 21.8**	**-1.0**
	comp=Z,447nm,1.1s,mb5.9						
WRAB				*e*S	**S**	**16 56 30.9**	**-6.3**
WRAB				LR	LR		
	comp=Z,447nm,19.0s,MS4.0						
WRA	**Warramunga Arr**	**24.62**	**163**	P	**P**	**16 52 22.0**	**-0.9**
	comp=Z,100nm,0.7s,mb5.4,baz=343,slow=10,SNR=214						
WRA				S	**S**	**16 56 46.1**	**+8.9**
	comp=Z,27nm,1.1s,baz=339,slow=19,SNR=5.4						
WB2	**Warramunga Arr**	**24.63**	**163**	*e*P	**P**	**16 52 22.3**	**-0.6**
WB2				*e*S	**S**	**16 56 41.0**	**+3.7**
MBWA	**Marble Bar**	**25.64**	**195**	*e*P	**P**	**16 52 32.8**	**+0.3**
	comp=Z,199nm,1.3s,mb5.5						
CBIJ	**Chichi jima**	**27.54**	**31**	P	**P**	**16 52 49.2**	**-0.8**
	comp=Z,189nm,0.8s,mb5.8,baz=291,slow=12,SNR=4.4						
SSE	**Sheshan**	**27.77**	**350**	P	**P**	**16 52 52.3**	**+0.3**
SSE				AP	pP	16 52 59.8	-6.5
SSE				S	**S**	**16 57 32.6**	**+3.7**
SSE				XS		16 57 45.0	
SSE				AMB	AMB		
	comp=Z,72nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,357nm,5.6s						
SSE				LR	LR		
	comp=N,155nm,24.0s,MS4.3						
SSE				LR	LR		
	comp=E,1μm,24.0s,MS4.3						
SSE				LR	LR		
	comp=Z,672nm,19.8s,MS4.2						
ASAR	**Alice Springs**	**28.05**	**166**	P	**P**	**16 52 53.4**	**-1.3**
	comp=Z,3.2nm,0.5s,baz=352,slow=8.8,SNR=58						
ASAR				PcP	PcP	16 56 09.0	+0.8
	comp=Z,14nm,0.7s,baz=340,slow=2.0,SNR=9.3						
ASAR				S	**S**	**16 57 40.6**	**+7.1**
	comp=Z,3.4nm,0.9s,baz=353,slow=31,SNR=2.9						
ASAR				ScP		16 59 49.4	
	comp=Z,3.8nm,0.9s,baz=19,slow=2.8,SNR=4.5						
ASPA	**Alice Springs**	**28.05**	**166**	⇓*i*P	**P**	**16 52 53.5**	**-1.1**
ASPA				*e*S	**S**	**16 57 36.0**	**+2.5**
NST	**Nakhon Sawan**	**28.80**	**296**	P	**P**	**16 53 02.2**	**+0.9**
WHN	**Wuhan**	**29.19**	**338**	⇓P	**P**	**16 53 04.0**	**-0.6**
WHN				S	**S**	**16 58 04.0**	**+13**
WHN				LR	LR		
	comp=Z,4μm,20.6s,MS5.0						
NJ2	**Nanjing**	**29.19**	**346**	*e*P	**P**	**16 53 05.1**	**+0.5**
NJ2				AP	pP	16 53 09.5	-10
NJ2				XP	sP	16 53 12.0	-14
NJ2				PP	PP	16 53 59.9	-0.9
NJ2				S	**S**	**16 57 56.0**	**+4.5**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,370nm,4.8s						
NJ2				LR	LR		
	comp=N,4μm,23.3s,MS5.2						
NJ2				LR	LR		
	comp=E,5μm,23.8s,MS5.2						
NJ2				LR	LR		
	comp=Z,3μm,27.0s,MS4.7						
CTA	**Charters Tower**	**30.39**	**142**	*e*P	**P**	**16 53 18.1**	**+2.6**
	comp=Z,13nm,1.0s,mb4.6						
CTA	**Charters Tower**	**30.39**	**142**	*e*P	**P**	**16 53 18.1**	**+2.6**
CTA				pmax	pmax		
	comp=Z,13nm,1.0s						
CTA	**Charters Tower**	**30.39**	**142**	ScP		16 59 58.0	
	comp=Z,10nm,1.0s,baz=297,slow=3.6,SNR=4.1						
CTAO	**Charters Tower**	**30.39**	**142**	*e*P	**P**	**16 53 13.5**	**-2.0**
CTAO				pmax	pmax		
	comp=Z,64nm,1.4s,mb5.2						
CTAO				MLR	MLR		
	comp=Z,730nm,21.0s,MS4.3						
CTAO	**Charters Tower**	**30.39**	**142**	*e*P	**P**	**16 53 13.5**	**-2.0**
	comp=Z,64nm,1.4s,mb5.2						
CTAO				LR	LR		
	comp=Z,728nm,21.0s,MS4.3						
CHRT	**Chiangrai**	**30.86**	**304**	⇓P	**P**	**16 53 19.0**	**-0.6**
	comp=Z,384nm,0.7s,mb6.3						
CMAR	**Chiang Mai Arr**	**30.95**	**300**	P	**P**	**16 53 19.6**	**-0.7**
	comp=Z,34nm,0.9s,mb5.2,baz=115,slow=7.5,SNR=150						
CMAR				PcP	PcP	16 56 16.6	+0.9
	comp=Z,11nm,1.1s,baz=102,slow=1.2,SNR=5.5						
CMAR				ScP		16 59 59.4	
	comp=Z,3.8nm,0.9s,baz=146,slow=2.2,SNR=18						
CMAR				LR	LR	17 08 02.9	
	comp=Z,1μm,18.4s,MS4.6,baz=115,slow=41						
CHG	**Chiang Mai**	**31.09**	**301**	⇑P	**P**	**16 53 20.1**	**-1.6**
	comp=Z,92nm,0.9s,mb5.6						
CHG				S	**S**	**16 58 40.1**	**+18**
ENH	**Enshi**	**31.10**	**330**	*e*P	**P**	**16 53 19.5**	**-2.1**
	comp=Z,144nm,1.1s,mb5.7						
ENH				*e*PcP	PcP	16 56 15.7	-0.2
ENH				*e*ScP		16 59 58.2	
TIA	**Tai'an**	**33.57**	**346**	*e*P	**P**	**16 53 42.3**	**-0.8**
TIA				AMB	AMB		
	comp=Z,62nm,1.5s,mb5.3						
FORT	**Forrest**	**34.29**	**178**	⇓*i*P	**P**	**16 53 48.9**	**-0.4**
	comp=Z,322nm,0.8s,mb6.3						
MAJO	**Matsushiro**	**34.35**	**16**	*e*P	**P**	**16 53 46.6**	**-3.1**
MAJO				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.2						
MAJO				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.9						
MAJO	**Matsushiro**	**34.35**	**16**	*e*P	**P**	**16 53 46.6**	**-3.1**
	comp=Z,29nm,1.1s,mb5.1						
MAJO				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
MAT	**Matsushiro**	**34.35**	**16**	*e*P	**P**	**16 53 47.0**	**-2.7**
MAT				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
MAT				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.0						
MAT	**Matsushiro**	**34.35**	**16**	*e*P	**P**	**16 53 47.0**	**-2.7**
	comp=Z,13nm,1.0s,mb4.8						
MAT				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
MAT	**Matsushiro**	**34.35**	**16**	P	**P**	**16 53 46.5**	**-3.2**
XAN	**Xi'an**	**34.48**	**333**	P	**P**	**16 53 48.5**	**-2.4**
KLBR	**Kellerberrin**	**36.12**	**193**	⇓*i*P	**P**	**16 54 05.1**	**+0.2**
	comp=Z,464nm,1.0s,mb6.4						
KLBR				*e*PCP	PcP	16 56 30.9	+0.9
BJT	**Baijiatuau**	**37.42**	**347**	*e*P	**P**	**16 54 15.8**	**+0.1**
BJT				*e*		16 56 34.3	
BJT				pmax	pmax		
	comp=Z,441nm,1.0s						
BJT	**Baijiatuau**	**37.42**	**347**	*e*P	**P**	**16 54 15.8**	**+0.1**
	comp=Z,441nm,1.0s,mb6.2						
BJT				*e*PcP	PcP	16 56 34.3	+0.4
NWAO	**Narrogin (SRO)**	**37.52**	**193**	*e*P	**P**	**16 54 17.3**	**+0.7**
NWAO				*e*		16 54 23.0	
NWAO				pmax	pmax		
	comp=Z,68nm,1.1s						
NWAO	**Narrogin (SRO)**	**37.52**	**193**	P	**P**	**16 54 16.9**	**+0.4**
	comp=Z,10nm,0.5s,mb4.8,baz=28,slow=9.2,SNR=18						
NWAO	**Narrogin (SRO)**	**37.52**	**193**	*e*P	**P**	**16 54 17.2**	**+0.7**
	comp=Z,68nm,1.1s,mb5.3						
NWAO				*e*		16 54 23.0	
IMP	**Imphal**	**37.94**	**307**	⇓*i*P	**P**	**16 54 18.5**	**-1.7**
STKA	**Stephens Creek**	**38.06**	**159**	*e*P	**P**	**16 54 21.2**	**+0.1**
	comp=Z,49nm,0.8s,mb5.3						
STKA	**Stephens Creek**	**38.06**	**159**	P	**P**	**16 54 21.3**	**+0.2**
	comp=Z,42nm,0.8s,mb5.2,baz=334,slow=8.4,SNR=92						
STKA				PcP	PcP	16 56 36.5	+0.5
	comp=Z,15nm,0.8s,baz=317,slow=4.0,SNR=3.0						
SNY	**Shenyang**	**38.09**	**356**	⇑P	**P**	**16 54 20.6**	**-0.6**
SNY				XP	sP	16 54 35.3	-7.8
SNY				S	**S**	**17 00 17.4**	**+8.0**
SNY				SS	SS	17 02 56.3	+6.7
SNY				AMB	AMB		
	comp=Z,60nm,1.4s,mb5.1						
SNY				AMB	AMB		
	comp=Z,410nm,9.5s						
SNY				LR	LR		
	comp=E,1μm,21.6s						
SNY				LR	LR		
	comp=Z,1μm,23.1s,MS4.6						
LZH	**Lanzhou**	**38.57**	**330**	⇑*i*P	**P**	**16 54 24.8**	**-0.5**
LZH				PP	PP	16 55 56.8	-1.1
LZH				S	**S**	**17 00 20.5**	**+3.7**
LZH				SS	SS	17 03 01.3	+1.0
LZH				AMB	AMB		
	comp=Z,195nm,1.5s,mb5.6						
LZH				AMB	AMB		
	comp=Z,452nm,5.7s						
LZH				LR	LR		
	comp=E,2μm,13.5s						
LZH				LR	LR		
	comp=Z,4μm,17.2s,MS5.3						
SHL	**Shillong**	**39.95**	**306**	*e*P	**P**	**16 54 36.5**	**-0.3**
SHL				*e*		17 00 31.5	
ADE	**Adelaide**	**40.05**	**165**	*e*P	**P**	**16 54 39.2**	**+1.7**
MDJ	**Mudanjiang**	**40.84**	**3**	P	**P**	**16 54 44.0**	**0.0**
MDJ				PP	PP	16 56 17.9	-4.0
MDJ				PCP	PcP	16 56 44.4	-0.2
MDJ				S	**S**	**17 00 56.1**	**+5.4**
MDJ				SS	SS	17 03 58.6	+9.4
MDJ				AMB	AMB		
	comp=Z,64nm,1.1s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,262nm,5.5s						
MDJ				LR	LR		
	comp=N,405nm,17.2s						
MDJ				LR	LR		
	comp=E,777nm,23.7s						
MDJ				LR	LR		
	comp=Z,1μm,22.6s						
MDJ	**Mudanjiang**	**40.84**	**3**	*e*P	**P**	**16 54 43.5**	**-0.5**
	comp=Z,79nm,1.1s,mb5.3						
MDJ				*e*PcP	PcP	16 56 45.0	+0.3
MDJ				LR	LR		
	comp=Z,1μm,22.0s,MS4.7						
LSA	**Lhasa**	**42.51**	**311**	P	**P**	**16 54 58.3**	**+0.3**
LSA				AP	pP	16 55 08.6	-4.4
LSA				XP	sP	16 55 13.8	-6.0
LSA				S	**S**	**17 01 21.4**	**+5.7**
LSA				SCS	ScS	17 04 52.3	+0.6
LSA				AMB	AMB		
	comp=Z,120nm,0.8s,mb5.7						
LSA				LR	LR		
	comp=N,290nm,24.1s,MS4.3						
LSA				LR	LR		
	comp=E,490nm,28.3s,MS4.3						
LSA				LR	LR		
	comp=Z,670nm,21.9s						
LSA	**Lhasa**	**42.51**	**311**	*e*P	**P**	**16 54 58.6**	**+0.6**
LSA				*e*		16 56 50.9	
LSA				pmax	pmax		
	comp=Z,99nm,0.6s,mb5.7						
LSA	**Lhasa**	**42.51**	**311**	*e*P	**P**	**16 54 58.6**	**+0.6**
	comp=Z,99nm,0.6s,mb5.7						
LSA				*e*PcP	PcP	16 56 50.9	+0.5
ASAJ	**Asahikawa**	**42.62**	**17**	P	**P**	**16 54 57.5**	**-1.2**
	comp=Z,38nm,1.0s,mb5.1,baz=210,slow=10,SNR=14						
YSS	**Yuzh-Sakhalins**	**45.27**	**15**	⇑*e*P	**P**	**16 55 17.8**	**-2.2**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.1						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.5						
YSS	**Yuzh-Sakhalins**	**45.27**	**15**	*e*P	**P**	**16 55 17.8**	**-2.2**
	comp=Z,40nm,1.0s,mb5.2						
YSS				*e*		16 57 04.0	
JIRN	**Jiri**	**45.45**	**306**	*e*P	**P**	**16 55 21.3**	**-0.4**
	comp=Z,409nm,1.2s,mb6.1						
KLR	**Kul'dur**	**45.58**	**5**	*e*P	**P**	**16 55 18.5**	**-3.9**
KLR				*e*S	**S**	**17 01 51.0**	**-8.7**
KLR				*e*SS	SS	17 05 13.5	-2.3
HIA	**Hailar**	**45.81**	**354**	*e*P	**P**	**16 55 24.2**	**-0.1**
HIA				*e*		16 57 02.4	
HIA				pmax	pmax		
	comp=Z,265nm,1.3s						
HIA	**Hailar**	**45.81**	**354**	*e*P	**P**	**16 55 24.2**	**-0.1**
	comp=Z,265nm,1.3s,mb6.0						
HIA				*e*PcP	PcP	16 57 02.4	+1.0
HIA				*e*ScP		17 00 51.0	
PALK	**Pallekele**	**46.00**	**277**	*e*P	**P**	**16 55 25.8**	**-0.5**
	comp=Z,50nm,1.3s,mb5.3						
PALK				LR	LR		
	comp=Z,161nm,21.0s,MS3.9						
PKI	**Pulchoki**	**46.04**	**305**	*e*P	**P**	**16 55 25.5**	**-0.9**
	comp=Z,203nm,1.3s,mb5.9						
KKN	**Kakani**	**46.23**	**306**	*e*P	**P**	**16 55 26.9**	**-1.0**
	comp=Z,272nm,1.3s,mb6.0						
DMN	**Daman**	**46.30**	**305**	*e*P	**P**	**16 55 27.5**	**-1.0**
	comp=Z,236nm,1.2s,mb6.0						
DZM	**Mont Dzumac**	**46.46**	**125**	*e*P	**P**	**16 55 26.8**	**-2.9**
DZM	**Mont Dzumac**	**46.46**	**125**	*e*P	**P**	**16 55 26.8**	**-2.9**
GKN	**Gorkha**	**46.84**	**306**	*e*P	**P**	**16 55 31.5**	**-1.2**
	comp=Z,241nm,1.2s,mb6.0						
BLSP	**Bilaspur**	**46.99**	**297**	*e*P	**P**	**16 55 32.8**	**-1.1**
BLSP				*e*		17 02 29.3	
ULN	**Ulaanbaatar**	**47.18**	**342**	*e*P	**P**	**16 55 34.7**	**-0.4**
ULN				*e*		16 57 06.7	
ULN				pmax	pmax		
	comp=Z,240nm,1.2s,mb6.0						
ULN				MLR	MLR		
	comp=Z,760nm,22.0s,MS4.6						
ULN	**Ulaanbaatar**	**47.18**	**342**	*e*P	**P**	**16 55 34.7**	**-0.3**
	comp=Z,242nm,1.3s,mb6.0						
ULN				*e*PcP	PcP	16 57 06.7	+0.5
ULN				LR	LR		
	comp=Z,765nm,22.0s,MS4.6						
SONM	**Songino Array**	**47.36**	**341**	P	**P**	**16 55 36.1**	**-0.4**
	comp=Z,25nm,0.8s,mb5.2,baz=156,slow=8.4,SNR=118						
SONM				PcP	PcP	16 57 07.6	+0.8
	comp=Z,35nm,0.7s,baz=159,slow=3.4,SNR=18						
KOLN	**Koldanda**	**47.60**	**305**	*e*P	**P**	**16 55 38.2**	**-0.4**
	comp=Z,304nm,0.8s,mb6.4						
HYB	**Hyderabad**	**49.19**	**290**	*e*P	**P**	**16 55 49.5**	**-1.5**
HYB	**Hyderabad**	**49.19**	**290**	*i* P	**P**	**16 55 49.5**	**-1.5**
	comp=Z,80nm,1.0s,mb5.7						
TAU	**Tasmania Unive**	**49.96**	**160**	*e*P	**P**	**16 56 03.7**	**+7.0**
TAU				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.2						
TAU	**Tasmania Unive**	**49.96**	**160**	*e*P	**P**	**16 56 03.7**	**+7.0**
	comp=Z,29nm,1.1s,mb5.2						
ZAK	**Zakamensk**	**50.59**	**341**	*e*P	**P**	**16 56 00.3**	**-1.0**
LATR	**Latur**	**51.23**	**291**	*e*P	**P**	**16 56 07.6**	**+1.0**
BHPL	**Bhopal**	**51.48**	**297**	*e*P	**P**	**16 56 06.8**	**-1.6**
BHPL				*e*		16 56 08.9	
	comp=Z,94nm,1.0s						
BHPL				*e*		17 02 25.7	
TLY	**Talaya**	**51.59**	**342**	P	**P**	**16 56 09.9**	**+1.0**
	comp=Z,551nm,1.1s,mb6.4,SNR=53						
TLY	**Talaya**	**51.59**	**342**	*e*P	**P**	**16 56 08.6**	**-0.3**
TLY				*e*S	**S**	**17 03 18.5**	**-5.4**
TLY				*e*SS	ScS	17 05 57.9	+7.4
TLY				pmax	pmax		
	comp=Z,108nm,1.1s,mb5.7						
TLY				MLR	MLR		
	comp=Z,596nm,21.0s,MS4.6						
TLY	**Talaya**	**51.59**	**342**	*e*P	**P**	**16 56 09.1**	**+0.2**
	comp=Z,155nm,1.2s,mb5.8						
TLY				*e*PcP	PcP	16 57 14.6	-7.6
IRK	**Irkutsk**	**51.89**	**343**	*e*P	**P**	**16 56 10.8**	**-0.3**
MOY	**Mondy**	**52.44**	**340**	*e*P	**P**	**16 56 15.7**	**+0.4**
WMQ	**Urumqi**	**52.80**	**325**	P	**P**	**16 56 18.1**	**+0.1**
WMQ				AP	pP	16 56 22.1	-11
WMQ				XP	sP	16 56 24.6	-15
WMQ				PP	PP	16 58 18.9	-0.2
WMQ				AMB	AMB		
	comp=Z,44nm,1.6s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,251nm,5.5s						
WMQ				LR	LR		
	comp=N,3μm,20.5s,MS5.4						
WMQ				LR	LR		
	comp=E,2μm,21.6s,MS5.4						
WMQ				LR	LR		
	comp=Z,4μm,21.6s,MS5.4						
CLNS	**Chul'man**	**53.02**	**359**	*e*P	**P**	**16 56 18.5**	**-1.0**
CLNS				pmax	pmax		
	comp=Z,53nm,0.7s,mb5.6						
CLNS				pmax	pmax		
	comp=N,31nm,0.8s						
CLNS				pmax	pmax		
	comp=E,16nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,900nm,17.0s,MS4.9						
CLNS				MLR	MLR		
	comp=N,400nm,18.0s,MS4.6						
CLNS				MLR	MLR		
	comp=E,100nm,15.0s,MS4.6						
DDI	**Dehra Dun**	**53.04**	**306**	*e*

KZA Kyzart 59.69 318 P **P** **16 57 09.2 +1.9**
SNR=23
TKM2 Tokmak 2 59.82 319 P **P** **16 57 07.6 -0.6**
SNR=72
KBK Karagaybulak 60.14 318 P **P** **16 57 10.0 -0.4**
SNR=41
UCH Uchtor 60.25 317 P **P** **16 57 11.3 +0.2**
SNR=147
CHMS Chumysh 60.41 318 P **P** **16 57 11.2 -1.0**
SNR=25
AAK Ala-Archa 60.43 318 P **P** **16 57 13.4 +1.1**
SNR=29
AAK Ala-Archa 60.43 318*c i*P **P** **16 57 10.9 -1.5**
AAK pmax pmax
comp=Z,54nm,1.4s,mb5.4
AAK MLR MLR
comp=Z,1μm,21.0s,MS4.9
AAK Ala-Archa 60.43 318 *e*P **P** **16 57 10.4 -2.0**
comp=Z,42nm,1.0s,mb5.4
ZAL Zalesovo 60.66 333 P **P** **16 57 12.8 -1.0**
comp=Z,10nm,0.8s,mb5.0,baz=263,slow=7.4,SNR=73
ZAL LR LR 17 25 47.1
comp=Z,1μm,19.5s,MS5.0,baz=248,slow=38
USP Ospenovka 60.69 318 P **P** **16 57 13.3 -0.9**
SNR=113
AML Almayashu 60.76 317 P **P** **16 57 14.5 -0.2**
SNR=147
EKS2 Erkin-Say 60.92 318 P **P** **16 57 15.2 -0.5**
SNR=125
RPZ Rata Peaks 61.69 145 LR LR 17 24 50.7
comp=Z,848nm,18.8s,MS4.9,baz=302,slow=37
KURK Kurchatov 61.81 327*c i*P **P** **16 57 20.3 -1.3**
KURK Kurchatov 61.81 327 *e*P **P** **16 57 20.3 -1.2**
comp=Z,135nm,0.7s,mb6.2
KURK LR LR
comp=Z,145nm,19.0s,MS4.2
NVS Novosibirsk 61.94 333 *i*P **P** **16 57 19.7 -2.7**
NVS *e* 16 58 01.0
NVS *e*S **S** **17 05 35.7 -4.6**
NVS pmax pmax
comp=Z,75nm,1.2s,mb5.7
NVS pmax pmax
comp=N,50nm,1.5s
NVS pmax pmax
comp=E,46nm,1.3s
NVS smax
comp=E,29nm,2.2s
SEY Seymchan 62.06 13 *e*P **P** **16 57 23.6 +0.5**
SEY *e* 16 58 05.2
SEY 16 59 40.9
SEY *e*S **S** **17 05 49.0 +7.2**
SEY *e*PS PS 17 06 12.0 +5.0
SEY 17 07 13.7
SEY SS SS 17 09 53.1 +6.2
SEY *e*SSS SSS 17 12 27.1 -2.4
SEY pmax pmax
comp=Z,110nm,0.9s,mb6.0
SEY pmax pmax
comp=N,40nm,0.8s
SEY pmax pmax
comp=E,20nm,0.8s
SEY MLR MLR
comp=N,960nm,20.0s,MS5.0
SEY MLR MLR
comp=Z,1μm,20.0s,MS5.1
SEY MLR MLR
comp=E,110nm,16.0s,MS5.0
URZ Urewera 62.47 137 LR LR 17 25 22.6
comp=E,876nm,18.7s,MS5.0,baz=23,slow=37
BVA0 Borovoye Array 67.39 327 P **P** **16 57 57.0 -0.7**
BVA0 pmax pmax
comp=Z,19nm,1.4s,mb4.9
BVAR Borovoye Array 67.39 327 P **P** **16 57 57.3 -0.4**
comp=Z,41nm,0.9s,mb5.5,baz=127,slow=7.4,SNR=133
BRVK Borovoye 67.46 327 *e*P **P** **16 57 57.1 -1.0**
BRVK pmax pmax
comp=Z,120nm,1.1s,mb5.8
BRVK Borovoye 67.46 327 *e*P **P** **16 57 57.1 -1.0**
comp=Z,116nm,1.1s,mb5.8
CHKZ Chkalovo 67.55 328 *e*P **P** **16 57 57.5 -1.2**
CHKZ pmax pmax
comp=Z,120nm,1.4s,mb5.7
CHKZ Chkalovo 67.55 328 *e*P **P** **16 57 57.5 -1.1**
comp=Z,120nm,1.4s,mb5.7
TIXI Tiksi 67.89 1 *e*P **P** **16 57 58.7 -1.8**
TIXI *e*S S 17 06 55.9 +2.8
TIXI *e*SS SS 17 11 19.5 +2.4
TIXI pmax pmax
comp=Z,70nm,1.1s,mb5.6
TIXI Tiksi 67.89 1⇑*i*P **P** **16 57 59.4 -1.1**
WBK Wadi Bani Khal 68.13 293 P **P** **16 58 02.0 -0.7**
SNR=9.7
JMDO Jabal Madar 68.90 292 P **P** **16 58 06.7 -0.9**
SNR=25
BIDO Bidbid 68.98 294 P **P** **16 58 07.6 -0.5**
SNR=17
SMDO Samad 69.01 293 P **P** **16 58 07.6 -0.7**
SNR=16
BILL Bilibino 69.58 15 *e*P **P** **16 58 09.7 -1.3**
BILL pmax pmax
comp=Z,28nm,0.9s,mb5.2
BILL Bilibino 69.58 15 *e*P **P** **16 58 09.7 -1.3**
comp=Z,28nm,0.9s,mb5.2
HOQ Hoqain 69.73 294 P **P** **16 58 12.3 -0.4**
SNR=11
ARQ Araqi 70.44 293 P **P** **16 58 16.4 -0.5**
SNR=7.1
CASY Casey 70.78 187 *e*P **P** **16 58 15.2 -3.1**
comp=Z,16nm,0.7s,mb5.0
RBK Rabkut 72.30 287 P **P** **16 58 27.3 -0.8**
SNR=8.0
ABTO Aybut 73.16 287 P **P** **16 58 32.4 -0.9**
SNR=17
UNV Unalaska Valle 73.43 35 *e*P **P** **16 58 33.1 -1.0**
comp=Z,84nm,0.8s,mb5.7
SVE Sverdlovsk 74.03 328⇑*i*P **P** **16 58 37.6 0.0**
SVE pmax pmax
comp=Z,200nm,1.6s,mb5.8
ARU Arti 75.01 328 P **P** **16 58 42.7 -0.5**
comp=Z,513nm,1.2s,mb6.3,SNR=70
ARU Arti 75.01 328⇓*i*P **P** **16 58 37.8 -5.4**
ARU *e* pP 16 58 50.4 -9.0
ARU *e*S S 17 08 08.6 -6.6
ARU pmax pmax
comp=Z,145nm,1.3s,mb5.8
ARU Arti 75.01 328 *e*P **P** **16 58 37.8 -5.5**
comp=Z,141nm,1.1s,mb5.8
TNA Tin City 76.61 23 *e*P **P** **16 58 50.7 -1.5**
SOKR Solikamsk 76.78 331⇓*e*P **P** **16 58 51.8 -1.5**
SOKR pmax pmax
comp=Z,70nm,1.2s,mb5.5
SOKR MLR MLR
comp=Z,520nm,20.0s,MS4.8
ANM Nome 77.28 24 *e*P **P** **16 58 57.5 +1.5**
RAYN Ar Rayn 80.55 293 P **P** **16 59 14.9 +0.3**
comp=Z,215nm,1.2s,mb6.0,SNR=53
SVW2 Sparrevohn 80.81 29 *e*P **P** **16 59 16.7 +1.5**
GNI Garni 81.56 310 *e*P **P** **16 59 20.0 +0.5**
GNI *e* 17 02 23.4
GNI pmax pmax
comp=Z,46nm,1.0s
GNI Garni 81.56 310 P **P** **16 59 20.8 +1.3**
comp=Z,10nm,1.0s,mb4.7,baz=63,slow=11,SNR=3.9
GNI LR LR 17 41 21.7
comp=Z,217nm,20.6s,MS4.5,baz=213,slow=40
GNI Garni 81.56 310 *e*P **P** **16 59 20.0 +0.5**
comp=Z,46nm,1.0s,mb5.4
GNI *e*PP PP 17 02 23.4 -4.9
TI2 Plekhanov 81.62 311 *e*P **P** **16 59 21.6 +1.8**
ZEI Tsey 82.29 312 *e*P **P** **16 59 23.5 +0.2**
ZEI pmax pmax
comp=Z,50nm,1.0s,mb5.4
IMA Indian Mountai 82.40 24 *e*P **P** **16 59 25.2 +1.8**
IMA pmax pmax
comp=Z,240nm,1.0s,mb6.1
IMA Indian Mountai 82.40 24 *e*P **P** **16 59 25.6 +2.2**
comp=Z,38nm,0.9s,mb5.3
TVAN Van 82.54 308 *i*P **P** **16 59 23.6 -1.1**
KIV Kislovodsk 83.21 314*c i*P **P** **16 59 28.4 +0.5**
KIV *e* 17 02 41.2
KIV *e*PPP PPP 17 04 37.7 +2.4
KIV *e*SS SS 17 15 09.1 -1.7
KIV pmax pmax
comp=Z,78nm,0.6s,mb5.9
KIV Kislovodsk 83.21 314 *e*P **P** **16 59 28.2 +0.3**
comp=Z,17nm,0.8s,mb5.1

VNDA Vanda 83.37 173 P **P** **16 59 29.3 +1.2**
comp=Z,7.5nm,0.9s,mb4.7,baz=311,slow=5.9,SNR=17
FIB Fire Island 83.43 29 P **P** **16 59 27.0 -1.7**
MAW Mawson 83.73 200 *e*P **P** **16 59 31.7 +1.7**
MAW pmax pmax
comp=Z,33nm,1.2s
MAW Mawson 83.73 200 P **P** **16 59 31.7 +1.7**
comp=Z,7.5nm,0.9s,mb4.8,baz=72,slow=7.5,SNR=5.6
MAW Mawson 83.73 200 *e*P **P** **16 59 31.7 +1.6**
comp=Z,33nm,1.3s,mb5.3
PMR Palmer 83.96 29 *e*P **P** **16 59 32.1 +0.8**
PMR pmax pmax
comp=Z,92nm,1.2s,mb5.8
PMR Palmer 83.96 29 *e*P **P** **16 59 32.1 +0.8**
comp=Z,92nm,1.2s,mb5.8
ERZM Erzurum 84.14 310 *i*P **P** **16 59 34.9 +2.1**
MCK McKinley 84.18 26 *e*P **P** **16 59 32.8 +0.4**
MCK pmax pmax
comp=Z,34nm,1.0s,mb5.4
MCK MLR MLR
comp=Z,170nm,19.0s,MS4.5
MCK McKinley 84.18 26 *e*P **P** **16 59 32.8 +0.5**
comp=Z,34nm,1.0s,mb5.4
MCK LR LR
comp=Z,172nm,19.0s,MS4.5
BEST Besiri 84.22 308 *i*P **P** **16 59 34.5 +1.3**
SBA Scott Base 84.28 172 *e*P **P** **16 59 34.7 +2.1**
SBA pmax pmax
comp=Z,38nm,1.4s,mb5.3
SBA Scott Base 84.28 172 *e*P **P** **16 59 34.7 +2.1**
comp=Z,38nm,1.4s,mb5.3
SML Sawmill 84.35 28 *e*P **P** **16 59 34.1 +0.8**
COLA College 84.71 25 *e*P **P** **16 59 33.3 -1.7**
COLA pmax pmax
comp=Z,40nm,1.3s,mb5.4
COLA College 84.71 25 *e*P **P** **16 59 33.3 -1.7**
comp=Z,40nm,1.4s,mb5.3
PPT Papeete 85.04 108 *e*SS SS 17 15 35.5 -2.7
PPT *e*LR LR 17 26 24.2
comp=Z,786nm,27.5s
ILAR Eielson Array 85.12 25 P **P** **16 59 37.0 0.0**
comp=Z,7.5nm,0.9s,mb4.8,baz=253,slow=4.6,SNR=42
ILAR PKKPbc 17 17 45.4
comp=Z,1.1nm,0.9s,baz=20,slow=0.7,SNR=6.9
SOC Sochi 85.36 313 *e*P **P** **16 59 36.5 -2.2**
SOC *e*S S 17 09 57.7 -5.7
SOC *e*SSS SSS 17 19 09.3 -1.8
SOC pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
SOC pmax pmax
comp=N,4.0nm,0.7s
SOC pmax pmax
comp=E,8.0nm,0.7s
DIV Divide 85.56 29 *e*P **P** **16 59 41.0 +1.7**
comp=E,258nm,0.9s,mb6.5
VOR Voronezh 85.64 321 *e*P **P** **16 59 39.9 0.0**
VOR pmax pmax
comp=Z,490nm,1.6s,mb6.5
VRSR Storozhevoye 85.65 321 *e*P **P** **16 59 40.3 +0.4**
VRSR pmax pmax
comp=Z,120nm,0.9s,mb6.1
VRSR pmax pmax
comp=N,20nm,0.8s
VRSR pmax pmax
comp=E,130nm,1.0s
TBI Tubuai 85.72 114 *e*SS SS 17 15 45.8 -2.3
TBI *e*LR LR 17 26 43.8
comp=E,810nm,29.8s
ELZG Elazig 86.01 308 *i*P **P** **16 59 44.4 +2.3**
MALT Malatya 86.45 308 *e*P **P** **16 59 45.7 +1.5**
MALT pmax pmax
comp=Z,38nm,0.9s,mb5.6
MALT Malatya 86.45 308 *e*P **P** **16 59 45.7 +1.5**
comp=Z,38nm,0.9s,mb5.6
MOS Moscow 86.51 325*α i*P **P** **16 59 45.0 +0.9**
MOS *e* 16 59 51.9
MOS *e* 17 03 00.5
MOS pmax pmax
comp=Z,430nm,1.3s,mb6.5
MENT Mentasta 86.51 27 *e*P **P** **16 59 46.4 +2.5**
ANN Anapa 86.97 315 *e*P **P** **16 59 46.2 -0.4**
ANN *e*S S 17 10 06.8 -12
ANN pmax pmax
comp=Z,217nm,1.1s,mb6.3
OBN Obninsk 87.13 325*c i*P **P** **16 59 45.9 -1.2**
OBN *e* 17 03 12.3
OBN pmax pmax
comp=Z,477nm,1.7s,mb6.5
OBN MLR MLR
comp=Z,400nm,18.0s,MS4.9
OBN Obninsk 87.13 325 *e*P **P** **16 59 45.9 -1.3**
comp=Z,161nm,0.9s,mb6.2
GZT Gaziantep 87.17 307 *i*P **P** **16 59 49.5 +1.8**
LVZ Lovozero 87.42 338 *e*P **P** **16 59 48.4 +0.2**
LVZ *i* 17 03 07.6
LVZ pmax pmax
comp=Z,72nm,1.2s,mb5.8
LVZ pmax pmax
comp=N,3.0nm,0.7s
LVZ pmax pmax
comp=E,20nm,1.2s
LVZ Lovozero 87.42 338 *i*P **P** **16 59 48.7 +0.5**
SVST Sivas 87.54 310 *i*P **P** **16 59 51.5 +2.0**
KAHT Ahir Dag 87.71 307 *i*P **P** **16 59 51.8 +1.5**
APA Apatity 87.92 337⇑*i*P **P** **16 59 50.5 -0.1**
APA *i* pP 17 00 07.5 +0.3
APA pmax pmax
comp=Z,99nm,1.3s,mb5.9
APA MLR MLR
comp=Z,2μm,17.0s,MS5.6
ASF Jabal al Asfar 87.97 302 P **P** **16 59 53.1 +1.4**
comp=Z,61nm,0.9s,mb5.8,baz=330,slow=2.7,SNR=96
ASF LR LR 17 41 23.2
comp=Z,92nm,20.1s,MS4.2,baz=98,slow=37
COBT Iskenderun 88.26 306 *i*P **P** **16 59 52.2 -0.8**
DAWY Dawson 88.39 26 *e*P **P** **16 59 54.4 +1.5**
JOF Joensuu 89.25 333 *e*p **P** **16 59 56.8 -0.2**
comp=Z,25nm,0.7s,mb5.7
JOF Joensuu 89.25 333 *e*P **P** **16 59 56.8 -0.2**
JOF pmax pmax
comp=Z,25nm,0.7s,mb5.7
SIM Simferopol' 89.32 315 *e*P **P** **16 59 59.0 +1.2**
SIM pmax pmax
comp=Z,44nm,0.8s,mb5.8
KMBO Kilima Mbogo 89.61 269 *e*P **P** **17 00 01.7 +1.8**
KMBO pmax pmax
comp=Z,110nm,1.4s
KMBO MLR MLR
comp=Z,220nm,19.0s
KMBO Kilima Mbogo 89.61 269 P **P** **17 00 01.5 +1.6**
comp=Z,40nm,1.2s,mb5.6,baz=50,slow=5.6,SNR=33
KMBO Kilima Mbogo 89.61 269 *e*P **P** **17 00 01.7 +1.8**
comp=Z,108nm,1.5s,mb6.0
KMBO LR LR
comp=Z,222nm,19.0s,MS4.6
EIL Elat 89.80 300 LR LR 17 41 51.1
comp=Z,134nm,21.5s,MS4.3,baz=325,slow=37
EIL Elat 89.80 300 *e*P **P** **17 00 01.2 +0.8**
comp=Z,67nm,1.1s,mb5.9
KEV Kevo 89.95 340 *e*p **P** **16 59 59.6 -0.6**
comp=Z,32nm,0.9s,mb5.6
KEV Kevo 89.95 340 *e*P **P** **16 59 59.6 -0.6**
KEV pmax pmax
comp=Z,32nm,0.9s,mb5.7
BRTR Keskin Array B 90.09 310 P **P** **17 00 01.6 0.0**
comp=Z,24nm,0.8s,mb5.5,baz=116,slow=4.7,SNR=145
PUL Pulkovo 90.11 330 *i*P **P** **17 00 01.4 +0.3**
INK Inuvik 90.18 21 *e*P **P** **17 00 02.0 +0.7**
INK pmax pmax
comp=Z,34nm,1.3s
INK Inuvik 90.18 21 P **P** **17 00 02.0 +0.7**
comp=Z,13nm,1.1s,mb5.2,baz=276,slow=6.4,SNR=16
INK PKKPbc 17 17 31.9
comp=Z,1.9nm,0.7s,baz=89,slow=5.3,SNR=10
INK Inuvik 90.18 21 *e*P **P** **17 00 02.0 +0.7**
comp=Z,34nm,1.3s,mb5.5
ARCES ARCESS Array B 90.51 340 P **P** **17 00 03.2 +0.4**
comp=Z,48nm,0.6s,mb6.0,baz=80,slow=6.1,SNR=160
ARCES LR LR 17 46 31.9
comp=Z,502nm,19.6s,MS5.0,baz=340,slow=40
ARCES ARCESS Array B 90.51 340 P **P** **17 00 03.2 +0.4**
ARCES LR LR 17 46 31.9
ARE0 ARCESS Array S 90.51 340 *e*P **P** **17 00 02.6 -0.2**
CSS Prodhromos 90.75 305 *e*P **P** **17 00 04.9 +0.1**
comp=Z,56nm,1.0s,mb5.8
KAF Kangasniemi 91.66 332 *e*p **P** **17 00 08.1 -0.2**

comp=Z,25nm,0.9s,mb5.5,baz=75,slow=4.3
KAF Kangasniemi 91.66 332 *e*P **P** **17 00 08.1 -0.2**
KAF pmax pmax
comp=Z,25nm,0.9s,mb5.5
FINES FINESS Array B 91.90 332 *i*P **P** **17 00 09.6 +0.2**
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES FINESS Array B 91.90 332 P **P** **17 00 09.6 +0.2**
comp=Z,6.1nm,0.6s,mb5.1,baz=68,slow=6.4,SNR=34
FINES LR LR 17 46 03.3
comp=Z,449nm,19.8s,MS4.9,baz=51,slow=39
AKASG Malin Array Be 91.97 321 P **P** **17 00 09.9 0.0**
comp=Z,36nm,0.8s,mb5.8,baz=67,slow=5.1,SNR=110
VSU Vasula 92.14 329 *i*P **P** **17 00 10.8 +0.2**
MNK Minsk 92.22 325 P **P** **17 00 09.0 -2.1**
SYO Syowa Base 92.40 201⇑P **P** **17 00 14.0 +2.4**
SYO Syowa Base 92.40 201⇓PP PP 17 03 55.1 -0.4
TLCR 93.03 315⇑P **P** **17 00 15.4 +0.4**
TIRR Tirgusor 93.41 315 P **P** **17 00 17.2 +0.4**
CFR Carcaliu 93.50 316⇓P **P** **17 00 17.7 +0.6**
IAS Iasi 93.58 318 P **P** **17 00 18.4 +0.9**
TAOE Nuku Hiva Isla 93.58 99 *e*SS SS 17 17 49.2 +7.5
TAOE *e*LR LR 17 30 19.9
QSPA South Pole Qui 93.59 180⇑*i*P **P** **17 00 19.2 +2.4**
comp=Z,26nm,1.3s,mb5.5
DLBC Dease Lake 93.75 31 P **P** **17 00 19.6 +1.6**
comp=Z,1.0nm,0.3s,mb4.7,baz=243,slow=9.0,SNR=3.5
DLBC Dease Lake 93.75 31 P **P** **17 00 18.9 +0.9**
VRI Vrincioaia 94.37 316⇓P **P** **17 00 22.2 +1.2**
SUW Suwalki 94.99 325 *e*P **P** **17 00 23.9 +0.2**
JMB Yambol 95.04 313 *i*P **P** **17 00 25.0 +0.8**
BURAR Bucovina Array 95.07 318 P **P** **17 00 25.4 +1.1**
LVV L'vov 95.40 321 *e*P **P** **17 00 26.9 +1.2**
LVV *e* 17 06 20.9
LVV MLR MLR
comp=Z,300nm,19.0s,MS4.8
LVV MLR MLR
comp=N,1μm,20.0s,MS5.6
LVV MLR MLR
comp=E,2μm,19.0s,MS5.6
MBAR Mbarara 96.08 270 PFAKE 17 00 40.0 +10
MBAR LR LR
comp=Z,62nm,19.0s,MS4.1
KWP Kalwaria 96.28 321 *e*P **P** **17 00 31.1 +1.5**
RZN Rozhen 96.55 313 *i*P **P** **17 00 31.3 +0.2**
KOLS Kolonicke sedl 96.72 320 *e*P **P** **17 00 33.4 +1.7**
PGB Panagyurishte 96.78 313 *i*P **P** **17 00 22.7 -9.4**
CRVS Cervenica-Dubn 97.25 320 *i*P **P** **17 00 35.8 +1.7**
MMB Musomiste 97.30 313 *i*P **P** **17 00 34.3 -0.2**
DAG Danmarks Havn 97.31 352⇓*i*P **P** **17 00 34.0 +0.2**
DAG pmax pmax
comp=Z,73nm,1.1s,mb6.0
DAG Danmarks Havn 97.31 352⇓*i*P **P** **17 00 34.0 +0.2**
comp=Z,73nm,1.1s,mb6.0
VTS Vitosha 97.47 314 *i*P **P** **17 00 35.7 +0.4**
KKB Krupnik 97.71 313 *i*P **P** **17 00 37.0 +0.6**
NIE Niedzica 97.84 321 *e*P **P** **17 00 38.6 +1.8**
RES Resolute Bay 97.85 10 *e*P **P** **17 00 37.3 +1.0**
RES pmax pmax
comp=Z,10.0nm,0.8s,mb5.4
RES Resolute Bay 97.85 10 *e*P **P** **17 00 37.3 +1.0**
comp=Z,10nm,0.8s,mb5.4
OJC Ojcow 97.96 322 *e*P **P** **17 00 37.9 +0.6**
KECS Kecovo 97.97 320 *i*P **P** **17 00 38.9 +1.5**
PSZ Piszkesteto 98.50 319 *e*P **P** **17 00 40.2 +0.4**
PSZ pmax pmax
comp=Z,29nm,1.1s,mb5.7
PSZ Piszkesteto 98.50 319 *e*P **P** **17 00 40.2 +0.5**
comp=Z,29nm,1.1s,mb5.7
NB2 NORSAR Subarra 98.85 334 P **P** **17 00 40.8 -0.3**
comp=Z,25nm,0.9s,mb5.8,baz=65,slow=4.5
NB2 NORSAR Subarra 98.85 334 P **P** **17 00 40.8 -0.3**
baz=65,slow=4.6
NOA NORSAR Array B 98.85 334 P **P** **17 00 40.9 -0.2**
comp=Z,16nm,0.8s,mb5.6,baz=67,slow=4.6,SNR=25
NOA LR LR 17 49 27.6
comp=Z,635nm,21.2s,MS5.1,baz=45,slow=38
SKO Skopje 98.89 313 *e*P **P** **17 00 41.9 +0.2**
VYHS Vyhne 99.03 320 *i*P **P** **17 00 43.3 +1.1**
VYHS *i*PP PP 17 04 48.7 +1.7
NAO01 NORSAR Array S 99.08 334 *e*P **P** **17 00 41.4 -0.7**
comp=Z,14nm,0.7s,mb5.6
OKC Ostrava-Krasne 99.09 322 *e*PDIF **P** **17 00 43.8 +1.4**
OKC *ex* x 17 00 50.7
LSZ Lusaka 99.25 255 *e*P **P** **17 00 44.3 +0.4**
LSZ *e* 17 04 52.5
LSZ pmax pmax
comp=Z,9.0nm,0.8s,mb5.3
LSZ Lusaka 99.25 255 *e*P **P** **17 00 44.3 +0.4**
comp=Z,9.1nm,0.8s,mb5.4
LSZ *e*PP PP 17 04 52.5 +3.0
DIVS Divcibare 99.41 316⇓*i*P **P** **17 00 44.5 +0.5**
MORC Moravsky Berou 99.48 322 *e*P **P** **17 00 45.0 +0.8**
MORC pmax pmax
comp=Z,24nm,1.1s,mb5.6
MORC Moravsky Berou 99.48 322 *e*P **P** **17 00 45.0 +0.9**
comp=Z,24nm,1.2s,mb5.6
YKA Yellowknife Ar 99.52 24 P **P** **17 00 43.3 -0.7**
comp=Z,1.3nm,0.9s,baz=297,slow=4.6,SNR=16
YKA PKKPbc 17 17 03.6
comp=Z,0.6nm,0.6s,baz=113,slow=2.5,SNR=10
YKA Yellowknife Ar 99.52 24 P **P** **17 00 43.4 -0.7**
YKA PKKPbc 17 17 03.6
SRO1 Iza 99.62 320 *e*P **P** **17 00 44.1 -0.8**
PKSM Moragy 99.78 318⇓*e*P **P** **17 00 46.6 +0.9**
KSP Ksiaz 99.92 323 *e*P **P** **17 00 47.4 +1.3**
KSP Ksiaz 99.92 323 *e*P **P** **17 00 47.7 +1.5**
DPC Dobruska-Polom 100.05 322 *e*PDIF P 17 00 48.2 +1.4
DPC *ex* x 17 00 55.9
UPC Upice 100.19 323 *e*PDIF P 17 00 48.2 +0.8
RHK1 Bakonya 100.20 318⇓*e*P P 17 00 48.6 +1.1
PVCC Panska Ves 101.05 323 *e*PDIF P 17 00 52.6 +1.3
PVCC *ex* x 17 00 59.8
PRU Pruhonice 101.25 322 *e*PDIF P 17 00 53.5 +1.3
BRG Berggiesshubel 101.31 323 *e*P P 17 00 53.5 +1.1
BRG pmax pmax
comp=Z,42nm,1.4s
BRG Berggiesshubel 101.31 323 *e*P P 17 00 53.5 +1.1
comp=Z,42nm,1.4s
CLL Collm 101.71 324⇑*i*P P 17 00 55.1 +0.9
CLL pmax pmax
comp=Z,27nm,1.3s
CLL Collm 101.71 324⇑*i*P P 17 00 55.1 +0.9
comp=Z,27nm,1.3s
CLL *e* 17 01 02.0
CLL Collm 101.71 324 ⇑P P 17 00 55.1 +0.9
comp=Z,logA/T=1.3
CLL *e*PP 17 01 02.0
CRES Cresnjev 102.02 318 *i*P Pdif 17 00 57.1 +1.4
KHC Kasperske Hory 102.14 322 *e*PDIF Pdif 17 00 57.3 +1.1
KHC *ex* x 17 01 03.8
GEC2 GERESS Array S 102.16 322 *e*P Pdif 17 00 57.3 +1.0
GERES GERESS Array B 102.16 322 P Pdif 17 00 57.2 +0.9
comp=Z,6.9nm,0.9s,baz=72,slow=4.2,SNR=25
BSEG Bad Segeberg 102.21 327 *e*P Pdif 17 00 56.5 +0.1
NKC Novy Kostel 102.43 323 *e*PDIF Pdif 17 00 58.5 +1.1
MOX Moxa 102.77 324 *e*P Pdif 17 00 58.8 -0.1
MOX pmax pmax
comp=Z,47nm,1.9s
MOX Moxa 102.77 324 *e*P Pdif 17 00 58.8 -0.1
comp=Z,47nm,1.9s
MOX Moxa 102.77 324 *i*P Pdif 17 00 58.8 -0.1
comp=Z,logA/T=1.4
VOY Vojsko 102.98 319 *e*(P) Pdif 17 01 00.5 +0.5
VOY *e* 17 01 04.2
CLZ Clausthal 103.03 325 *e*Pdif Pdif 17 01 01.7 +1.7
SUMG Summit 103.29 355 P Pdif 17 01 02.4 +1.7
comp=Z,10.0nm,1.0s
GRA1 Grafenberg Arr 103.37 323 *e*Pdif Pdif 17 01 03.3 +1.7
GRF Grafenberg Arr 103.37 323 *e*P Pdif 17 01 03.3 +1.7
NEW Newport 104.23 38 P Pdif 17 01 07.0 +1.6
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 104.23 38 P Pdif 17 01 07.0 +1.6
comp=Z,4.4nm,0.9s
MSU Marysvale 111.35 46 *e*PKIKP PKPdf 17 05 38.8 +4.7
PDAR Pinedale Array 111.35 41 PKiKP 17 05 37.5
comp=Z,0.5nm,0.5s,baz=89,slow=0.7,SNR=6.5
PDAR PKKPbc 17 16 31.1
comp=Z,1.2nm,0.8s,baz=129,slow=5.1,SNR=8.4
PV10 Paradox Valley 113.65 45 *e*PKPdf PKPdf 17 05 42.4 +3.8
PV01 Paradox Valley 114.08 45 *e*PKPdf PKPdf 17 05 42.5 +3.0
ISCO Idaho Springs 115.36 42 *e*PKIKP PKPdf 17 05 39.3 -2.7
SDCO Great Sand Dun 116.42 44 *e*PKPdf PKPdf 17 05 47.8 +3.8

ANMO	Albuquerque	117.01	48	*e*PKIKP	PKPdf	17 05 48.9	+3.7
ANMO	Albuquerque	117.01	48	PKP	PKPdf	17 05 48.7	+3.5
	comp=Z,3.2nm,0.9s,baz=232,slow=3.4,SNR=5.5						
MNTX	Cornudas Mount	119.23	50	*e*PKPdf	PKPdf	17 05 52.5	+2.9
MNTX				*e*		17 06 00.2	
SCHQ	Schefferville	120.60	9	PKP	PKPdf	17 05 53.8	+2.1
	comp=Z,7.2nm,0.7s,baz=26,slow=2.6,SNR=24						
SCHQ	Schefferville	120.60	9	*e*PKPdf	PKPdf	17 05 54.4	+2.7
TXAR	Lajitas Array	121.58	52	PKP	PKPdf	17 05 57.2	+3.0
	comp=Z,2.6nm,0.8s,baz=270,slow=1.3,SNR=16						
KSU1	Kansas State U	121.61	39	*e*PKPdf	PKPdf	17 05 56.3	+2.3
KSU1				*e*		17 06 04.2	
WMOK	Wichita Mounta	122.63	44	*e*PKIKP	PKPdf	17 05 58.4	+2.3
JCT	Junction City	124.05	49	*e*PKIKP	PKPdf	17 06 01.8	+2.8
JCT				*e*		17 06 09.3	
CCM	Cathedral Cave	125.55	37	*e*PKIKP	PKPdf	17 06 04.0	+2.3
CCM				*e*		17 06 11.5	
FVM	French Village	126.08	36	*e*PKIKP	PKPdf	17 06 04.9	+2.2
FVM				*e*		17 06 12.6	
MIAR	Mount Ida	126.28	42	*e*PKIKP	PKPdf	17 06 06.4	+3.2
MIAR				*e*		17 06 14.4	
SADO	Sadowa	126.48	23	PKP	PKPdf	17 06 05.5	+2.2
	comp=Z,5.9nm,0.8s,baz=323,slow=7.6,SNR=4.4						
WVT	Waverly	128.86	36	*e*PKIKP	PKPdf	17 06 10.9	+2.7
WVT				*e*		17 06 18.9	
MDV	Middlebury	129.25	19	*e*PKPdf	PKPdf	17 06 11.8	+3.1
DBIC	Dimbokro	130.65	282	PKPdf	PKPdf	17 06 14.6	+2.5
DBIC				SKPbc		17 09 37.1	
DBIC	Dimbokro	130.65	282	PKP	PKPdf	17 06 14.5	+2.4
	comp=Z,6.0nm,0.6s,baz=47,slow=2.2,SNR=25						
DBIC				SKPbc		17 09 37.5	
	comp=Z,14nm,0.8s,baz=40,slow=5.8,SNR=14						
DBIC	Dimbokro	130.65	282	*e*PKPdf	PKPdf	17 06 14.6	+2.5
DBIC				*e*SKP		17 09 37.5	
LRAL	Lakeview Retre	131.46	39	*e*PKPdf	PKPdf	17 06 16.3	+3.1
PLCA	Paso Flores	139.94	159	PKP	PKPdf	17 06 31.3	+2.7
	comp=Z,9.9nm,0.8s,baz=199,slow=3.9,SNR=10						
PLCA	Paso Flores	139.94	159	*e*PKPdf	PKPdf	17 06 32.1	+3.5
TRQA	Tornquist	144.86	168	*e*PKPdf	PKPdf	17 06 39.7	+2.4
TRQA				LR	LR		
	comp=Z,301nm,21.0s,MS5.0						
JTS	JuntasAbangare	145.48	66	*e*PKIKP	PKPdf	17 06 42.5	+3.5
JTS				MLR	MLR		
	comp=Z,57nm,20.0s						
OTAV	Otavalo	154.48	82	*e*PKPdf	PKPdf	17 06 54.6	+1.8
OTAV				*e*		17 07 04.0	
LVC	Limon Verde	155.80	142	*e*PKPdf	PKPdf	17 06 58.9	+4.5
SDV	Santo Domingo	158.61	54	PKPdf	PKPdf	17 07 01.6	+3.4
SDV	Santo Domingo	158.61	54	PKP	PKPdf	17 07 01.0	+2.8
	comp=Z,17nm,0.9s,baz=31,slow=1.1,SNR=24						
SDV				PKPab	PKPab	17 07 35.8	-0.2
	baz=295,slow=3.7						
SDV	Santo Domingo	158.61	54	*e*PKPdf	PKPdf	17 07 01.1	+2.9
SDV				*e*		17 07 08.3	
SDV				*e*PKPab	PKPab	17 07 36.5	+0.4
SDV				LR	LR		
	comp=Z,262nm,21.0s,MS5.0						
LPAZ	La Paz	160.72	132	*e*PKIKP	PKPdf	17 07 05.0	+4.6
LPAZ				MLR	MLR		
	comp=Z,220nm,22.0s						
LPAZ	La Paz	160.72	132	PKP	PKPdf	17 07 05.0	+4.6
	comp=Z,9.1nm,1.0s,baz=30,slow=2.3,SNR=17						
SAML	Samuel	168.80	118	*e*PKPdf	PKPdf	17 07 10.7	+3.3
SAML				*e*PKPab	PKPab	17 08 21.7	+1.4
SAML				LR	LR		
	comp=Z,292nm,21.0s						

WEL 20 16:51:55.6±1.0, 38.08S×176.26E, h249km±9km, ML3.7/1, Error ellipse: s-maj=16.2km s-min=11.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	Black Stump Fm	1.10	171	PN	P	16 52 31.2	-0.2
BKZ				SN	S	16 52 58.4	-0.8
KNZ	Kokohu	1.46	131	SN	S	16 53 01.8	-1.6
TSZ	Takapari Road	2.00	187	PN	P	16 52 38.4	+0.2
TSZ				SN	S	16 53 11.2	0.0
TUWZ	Tuamarina	3.80	207	PN	P	16 52 56.8	-0.7
THZ	Tophouse	4.50	214	*e*PN	P	16 53 04.7	-1.1
KHZ	Kahutara	4.81	205	PN	P	16 53 09.1	-0.5
MQZ	McQueen's Vall	6.25	205	SN	S	16 54 37.3	-2.1

*JMA **20** 16:56:03.3±0.3, 25.14N×122.09E, h65km*

TAP 20 16:56:03.8, 24.85N×122.00E, h87km, ML3.4, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.00	113	P	P	16 56 22.7	-0.8
YOJ				*e*S	S	16 56 37.3	-1.0
IRIF	Iriomote-Funau	1.66	108	P	P	16 56 31.1	-0.8
IRIF				S	S	16 56 51.6	-1.1
HATJ	Hateruma jima	1.82	115	P	P	16 56 34.4	+0.3
HATJ				*e*S	S	16 56 56.5	0.0
JKRS	Kuro-shima	1.93	108	P	P	16 56 35.0	-0.5
JKRS				S	S	16 56 57.9	-1.0
JIJ	Ishigaki jima	2.01	104	P	P	16 56 35.8	-0.8
JIJ				S	S	16 56 59.1	-1.7
JTJ	Tarama	2.47	94	*e*S	S	16 57 11.7	-0.4

*IDC **20** 17:05:32.4±1.6, 20.50S×169.13E, mb4.2/8, mb1 4.3/8, mb1mx4.2/14, mbtmp4.2/8, MS4.0/2, Ms1 4.0/2, ms1mx3.5/12, Error ellipse: s-maj=55.4km s-min=24.9km az=150.0*

*NEIC **20** 17:05:38.8±1.0, 20.41S×168.85E, h35km, mb4.7/5, Error ellipse: s-maj=27.4km s-min=15.7km az=139.0*

ISC 20 17:05:38.2±1.1, 20.4S±0.1×168.7E±0.2, h33km, n23, σ1§04/24, mb4.3/11, MS3.9/2, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.67	232	*e*P	P	17 06 19.2	-0.6
DZM				*e*S	S	17 06 50.8	-0.5
DZM	Mont Dzumac	2.67	232	*e*P	P	17 06 19.2	-0.6
DZM				*e*S	S	17 06 50.8	-0.5
NOUC	Port Laguerre	2.79	233	*e*P	P	17 06 22.1	+0.6
NOUC				*e*S	S	17 06 55.0	+0.6
NOUC	Port Laguerre	2.79	233	*e*P	P	17 06 22.1	+0.5
NOUC				*e*S	S	17 06 55.0	+0.6
CTA	Charters Tower	21.08	267	P	P	17 10 23.8	+1.7
	6.9nm,0.9s,mb4.0,baz=79,slow=15,SNR=5.4						
CTA				LR	LR	17 18 10.1	
	comp=Z,327nm,18.1s,MS3.8,baz=56,slow=35						
CTAO	Charters Tower	21.08	267	*e*P	P	17 10 18.9	-3.1
	23nm,1.2s,mb4.4						
PMG	Port Moresby	23.51	295	P	P	17 10 48.6	+2.4
	26nm,1.1s,mb4.6,baz=254,slow=7.8,SNR=3.1						
PMG	Port Moresby	23.51	295	*e*P	P	17 10 48.1	+1.9
	38nm,1.2s,mb4.7						
STKA	Stephens Creek	26.80	239	P	P	17 11 17.8	+0.5
	2.4nm,0.6s,mb3.9,baz=74,slow=12,SNR=10						
WRAB	Tennant Creek	32.23	265	*e*P	P	17 12 04.8	-1.1
WRA	Warramunga Arr	32.24	265	P	P	17 12 04.2	-1.7
	3.5nm,1.1s,mb4.1,baz=90,slow=8.5,SNR=16						
WRA				PcP	PcP	17 14 52.7	-1.2
	0.5nm,0.6s,baz=92,slow=3.3,SNR=5.4						
ASAR	Alice Springs	32.38	258	P	P	17 12 06.3	-0.8
	4.1nm,0.7s,mb4.4,baz=86,slow=8.7,SNR=74						
ASAR				LR	LR	17 26 08.9	
	comp=Z,305nm,18.1s,MS4.0,baz=69,slow=38						
ASPA	Alice Springs	32.38	258	*e*P	P	17 12 06.6	-0.5
FITZ	Fitzroy Crossi	40.65	266	*e*P	P	17 13 18.1	+1.1
	15nm,0.9s,mb4.6						
NWAO	Narrogin (SRO)	47.24	244	P	P	17 14 10.5	+0.5
	3.3nm,0.7s,mb4.4						
MAJO	Matsushiro	63.58	333	P	P	17 16 01.8	-6.3
	18nm,1.1s,mb5.0						
QSPA	South Pole Qui	69.62	180	*e*P	P	17 16 46.1	+0.5
CMAR	Chiang Mai Arr	78.55	295	P	P	17 17 38.9	+0.4
	0.4nm,0.4s,mb3.7,baz=149,slow=8.3,SNR=5.0						
SONM	Songino Array	87.88	323	P	P	17 18 25.3	-0.2
	2.9nm,1.2s,mb4.4,baz=117,slow=2.8,SNR=5.2						
ILAR	Eielson Array	91.52	17	P	P	17 18 38.5	-3.7
	0.3nm,0.6s,mb3.8,baz=240,slow=5.5,SNR=5.3						
ARCES	ARCESS Array B	126.09	345	PKP	PKPdf	17 24 36.1	-0.6
	4.5nm,1.0s,baz=72,slow=2.9,SNR=4.1						
GERES	GERESS Array B	145.30	331	PKPbc	PKPbc	17 25 12.0	-0.9
	0.5nm,0.5s,baz=259,slow=20,SNR=3.1						
DAVOX	Davos	148.56	332	PKPbc	PKPdf	17 25 22.8	+4.9
	3.8nm,0.6s,baz=341,slow=2.6,SNR=4.9						

IDC 20 17:13:10.2±10.0, 0.32S×122.81E, h212km±93km, mb3.1/4, mb1 3.3/4, mb1mx3.1/15, mbtmp3.7/4, Error ellipse: s-maj=182.2km s-min=18.4km az=51.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.54	151	P	P	17 17 51.9	-1.3
	1.1nm,0.5s,baz=325,slow=11,SNR=26						
ASAR	Alice Springs	25.59	156	P	P	17 18 20.8	-1.0
	0.4nm,0.5s,baz=343,slow=14,SNR=11						
ASAR				PcP	PcP	17 21 45.0	-2.4
	0.3nm,0.5s,baz=349,slow=2.3,SNR=5.6						
CMAR	Chiang Mai Arr	29.97	310	P	P	17 18 59.0	-2.2
	0.8nm,0.5s,baz=131,slow=7.4,SNR=5.9						
STKA	Stephens Creek	36.07	152	P	P	17 19 51.6	-1.7
	2.3nm,0.8s,baz=305,slow=7.9,SNR=4.2						

IGQ 20 17:15:06.0, 1.05S×81.36W, h12km±23km, mb4.3, 3C-4D, Error ellipse: s-maj=22.8km s-min=7.1km az=176.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.76	99	P	Pn	17 15 51.9	+1.1
JUA2	San Juan 2	2.88	73	P	Pn	17 15 53.7	+1.1
JUA2				S	Sn	17 16 28.6	+1.1
TERV	Terraza Guagua	2.89	73	⇓P	Pn	17 15 54.1	+1.3
PINO	Pino	2.89	72	⇑P	Pn	17 15 53.8	+1.0
CUSU	Cusua	2.91	98	P	Pn	17 15 54.9	+1.8
NAS1	Nasa	2.92	82	P	Pn	17 15 55.4	+2.2
JUIV	Juive	2.92	97	P	Pn	17 15 54.0	+0.8
YANA	Yana	2.94	72	⇑P	Pn	17 15 54.4	+0.9
ARRY	Arrayan	2.94	99	⇑P	Pn	17 15 54.5	+1.0
RETU	Refugio	2.94	98	P	Pn	17 15 55.7	+2.2
PATA	Patacocha	2.96	99	P	Pn	17 15 55.7	+1.9
PISA	Pisayambo	2.98	90	P	Pn	17 15 55.4	+1.4
ULBA	Ulba	2.98	98	P	Pn	17 15 56.0	+1.9
VC1	Cotopaxi 1	2.99	82	P	Pn	17 15 56.1	+1.9
TAMB	Tambo	3.02	83	P	Pn	17 15 57.6	+3.1
ANTI	Antisana	3.26	79	⇓P	Pn	17 15 60.0	+2.0
COTA	Cotacachi	3.32	66	P	Pn	17 16 00.1	+1.2
CAYR	Refugio Cayamb	3.52	73	⇓P	Pn	17 16 04.9	+3.2
CAYA	Cayambe	3.55	72	⇓P	Pn	17 16 05.0	+2.9

MOS 20 17:19:51.3±2.6, 41.76N×48.04E, h5km, mb3.9/1, 1C-2D, Error ellipse: s-maj=39.3km s-min=24.9km az=105.0, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMR	Kasumkent	0.17	157	⇓*i*PG	Pg	17 19 59.5	+4.7
KSMR				*e*S	Sg	17 20 04.5	+7.3
KSMR				pmax	pmax		
	comp=Z,1μm,0.2s						
DRN	Derbent	0.35	39	⇓*i*PG	Pg	17 20 01.0	+2.7
DRN				*i* S	Sg	17 20 09.5	+6.6
DRN				pmax	pmax		
	comp=Z,144nm,0.2s						
AKT	Akhty	0.36	220	⇑*i*PG	Pg	17 20 00.0	+1.4
AKT				*e*S	Sg	17 20 06.0	+2.5
AKT				pmax	pmax		
	comp=Z,252nm,0.2s						
URKR	Urkarakh	0.51	323	*e*PG	Pg	17 20 08.5	+7.1
KMKR	Kumukh	0.79	298	*e*PG	Pg	17 20 11.0	+3.8
KMKR				pmax	pmax		
	comp=Z,64nm,0.2s						
XNZR	Khunzakh	1.26	309	*i* PG	Pg	17 20 23.0	+6.5
XNZR				pmax	pmax		
	comp=Z,22nm,0.3s						

*NAO **20** 17:28:13.9±4.3, 80.13N×32.89E, ML3.7*

ISC 20 17:28:15.2±1.9, 79.7N±0.1×32.7E±0.4, h4km±11km, n10, σ1§38/18, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	3.47	253	Pn	**Pn**	17 29 10.1	-1.1
	baz=62,slow=8.6						
SPA0				Pg	**Pg**	17 29 22.2	-2.3
	baz=80,slow=22						
SPA0				Sg	**Sg**	17 30 10.0	-0.8
	baz=67,slow=37						
HSP	Hornsund	4.36	241	*e*P	**Pn**	17 29 24.5	+0.8
HSP				*e*(S1)	**Sn**	17 30 15.9	+0.2
HSP				*e*(S2)	**Sg**	17 30 42.4	+2.2
BJO	Bjornoya	5.96	217	*e*S	**Sn**	17 30 57.1	+1.0
BJO				AML	AML	17 31 51.1	
	comp=Z,51nm,0.6s						
KEV	Kevo	10.05	191	*e*p	**P**	17 30 43.0	-0.2
	comp=Z,7.5nm,0.5s						
ARA0	ARCESS Array S	10.33	194	Pn	**P**	17 30 48.0	+0.9
	baz=11,slow=11						
ARA0				Sn	**S**	17 32 42.6	-1.8
	baz=20,slow=22						
TRO	Tromso	10.65	207	*e*P	**P**	17 30 52.0	+0.6
TRO				*e*S	**S**	17 32 46.4	-5.9
KTK1	Kautokeino	10.96	198	*e*P	**P**	17 31 00.5	+4.7
KTK1				*e*S	**S**	17 32 58.8	-1.2
KTK1				AML	AML	17 33 29.2	
	comp=Z,5.6nm,0.8s						
APA0	Apatity Array	12.11	179	Pn	**P**	17 31 10.2	-1.1
	baz=346,slow=9.3						
APA0				Sn	**S**	17 33 22.5	-5.3
	baz=348,slow=22						
KAF	Kangasniemi	17.72	190	*e*p	**P**	17 32 27.5	+3.5
	comp=Z,4.8nm,0.7s						
FIA0	FINESS Array S	18.40	190	P	**P**	17 32 35.2	+2.7
	baz=10,slow=11						

*CSEM **20** 17:35:19.1±0.1, 36.64N×28.39E, h80km, MD3.5, Error ellipse: s-maj=3.2km s-min=1.2km az=83.0*

*ATH **20** 17:35:21.2, 36.68N×28.12E, h10km, MD3.4/3*

*ISK **20** 17:35:22.9, 36.78N×28.37E, h57km, MD3.5*

*HLW **20** 17:35:25.0, 36.40N×28.39E, h33km, Mb4.0*

ISC 20 17:35:20.3±0.3, 36.56N±0.03×28.39E±0.06, h79km±6km, n62, σ0§74/65, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALT	Dalyan (Mudla)	0.29	44	*i* PG	**P**	17 35 32.2	-0.3
DALT				*i* SG	**S**	17 35 39.5	-2.2
FETY	Fethiye	0.57	82	*i* PG	**P**	17 35 35.8	+1.0
FETY				*i* SG	**S**	17 35 45.8	+0.4
YER	Yerkesik	0.58	352	*i* PG	**P**	17 35 34.5	-0.4
MLSB	Milas	0.88	327	*i* PG	**P**	17 35 37.5	-0.6
KSL	Kastellorizon	1.05	113	*e*PB	**P**	17 35 45.6	+5.5
ELL	Elmali	1.24	81	*i* PN	**P**	17 35 45.1	+2.5
DENT	Denizli	1.30	23	*i* PN	**P**	17 35 43.7	+0.2
KARP	Karpathos	1.42	225	*e*PB	**P**	17 35 47.0	+2.0
SMG	Samos	1.69	313	*e*PB	**P**	17 35 48.5	-0.1
KHL	Karahalli	1.98	27	*i* PN	**P**	17 35 52.6	+0.1
BCK	Bucak	1.98	62	PN	**P**	17 35 54.5	+2.0
IZM	Izmir	2.04	334	*i* PN	**P**	17 35 53.3	0.0
BLCB	Balcova	2.11	330	PN	**P**	17 35 54.5	+0.2
APE	Apeiranthos	2.35	283	*e*PN	**P**	17 35 59.5	+1.9
AKS	Akhisar	2.36	349	PN	**P**	17 35 57.0	-0.8
ALT	Altintas	2.84	28	PN	**P**	17 36 04.3	-0.3
DST	Dursunbey	3.05	4	*e*PN	**P**	17 36 06.5	-0.9
ESKT	Eskisehir	3.54	33	*e*PN	**P**	17 36 14.2	-0.1
KIZT	Kizilcal	3.61	49	PN	**P**	17 36 16.4	+1.1
KCT	Karacabey	3.70	360	*e*PN	**P**	17 36 15.6	-0.9
BNT	Bandirma	3.81	355	PN	**P**	17 36 17.9	-0.1
YLV	Yalova	4.08	11	*e*PN	**P**	17 36 21.8	+0.1
DABA	Dabaa	5.54	181	P	**P**	17 36 42.1	+0.3
HMAT	Matruh	5.55	191	P	**P**	17 36 43.6	+1.5
SLUM		5.70	208	P	**P**	17 36 44.2	+0.2
HBRG	Burj al 'Arab	6.09	168	P	**P**	17 36 49.4	-0.1
HBRG				S	**S**	17 37 52.3	-6.2
HMYD	Mayadein	7.04	163	P	**P**	17 37 03.0	+0.3
SQR		7.06	160	P	**P**	17 37 02.7	-0.3
HNAT	Natroun	7.16	164	P	**P**	17 37 03.9	-0.5
HNAT	Natroun	7.16	164	P	**P**	17 37 03.8	-0.5
FYM	Al Fayyum	7.20	161	P	**P**	17 37 05.1	+0.2
KOT	Kottamia	7.21	155	P	**P**	17 37 05.3	+0.2
AYT	Al 'Ayyat	7.22	160	P	**P**	17 37 05.3	+0.1
HHAG	Hagoal	7.29	154	P	**P**	17 37 06.2	+0.1
HSAF	As Saff	7.41	158	P	**P**	17 37 07.6	-0.3
GLL	Jalalah	7.50	157	P	**P**	17 37 08.8	-0.3
SWA1		7.62	198	P	**P**	17 37 10.2	-0.4
SUZ		7.67	150	P	**P**	17 37 11.3	0.0
SWA2		7.70	199	P	**P**	17 37 11.2	-0.6
SWA2		7.70	199	P	**P**	17 37 11.1	-0.7
HBNS	Bani Suwayf	7.95	162	P	**P**	17 37 14.8	-0.3
ZAF		8.06	153	P	**P**	17 37 16.4	-0.3
ZNM		8.09	151	P	**P**	17 37 17.4	+0.2
HNKL	Nakhl	8.10	143	P	**P**	17 37 16.6	-0.7
AWBH		8.23	177	P	**P**	17 37 17.5	-1.5
HRDS	Abu Rudays	8.85	151	P	**P**	17 37 27.3	-0.2
HBST	Basata	9.06	142	P	**P**	17 37 30.2	0.0
GRB	Gharib	9.06	155	P	**P**	17 37 30.4	+0.1
NUB		9.17	143	P	**P**	17 37 32.0	+0.2
HKAT	Jabal Katrina	9.30	148	P	**P**	17 37 33.3	-0.3
TR2		9.31	150	P	**P**	17 37 33.3	-0.5
HFRF	Wahat Farafira	9.38	180	P	**P**	17 37 35.2	+0.5
HDHB	Dhahab	9.41	144	P	**P**	17 37 35.2	0.0
ASUT		9.52	163	P	**P**	17 37 36.2	-0.5
TR1		9.74	150	P	**P**	17 37 38.9	-0.7
HHRG	Al Ghardaqah	10.30	153	P	**P**	17 37 46.9	-0.3
HHRG	Al Ghardaqah	10.30	153	P	**P**	17 37 46.8	-0.3
HDK1	Dakhla	11.02	175	P	**P**	17 37 56.9	+0.1
HSFG		11.02	153	P	**P**	17 37 57.4	+0.6
GTR	Jabal at Tayr	11.17	170	P	**P**	17 37 58.3	-0.5
HEDF	Idfu	12.14	159	P	**P**	17 38 11.5	-0.4
HDK2	Wahat Dakhilah	12.21	178	P	**P**	17 38 13.2	+0.5

IDC 20 18:02:50.8±6.9, 4.01S×151.61E, h45km±57km, mb3.3/5, mb1 3.6/6, mb1mx3.5/14, mbtmp3.6/6, ML2.3/1, Error ellipse: s-maj=65.9km s-min=29.4km az=92.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.95	219	P	P	18 04 29.4	-3.2
	0.3nm,0.3s,baz=350,slow=6.1,SNR=1.7						
PMG				S	S	18 05 49.5	-1.6
	0.4nm,0.3s,baz=281,slow=16,SNR=1.8						
WRA	Warramunga Arr	23.11	225	P	P	18 07 52.4	-1.5
	1.0nm,0.4s,baz=50,slow=9.9,SNR=39						
ASAR	Alice Springs	25.96	220	P	P	18 08 19.0	-2.2
	0.3nm,0.5s,baz=52,slow=8.7,SNR=11						
STKA	Stephens Creek	29.27	198	P	P	18 08 49.6	-1.5
	1.5nm,0.9s,baz=23,slow=15,SNR=2.9						
CMAR	Chiang Mai Arr	56.47	295	P	P	18 12 30.6	-0.4
	0.4nm,0.8s,baz=114,slow=5.7,SNR=4.8						
SONM	Songino Array	65.03	328	P	P	18 13 25.5	-3.2
	0.6nm,0.8s,baz=157,slow=11,SNR=2.2						

IDC 20 18:17:56.4±1.5, 10.97N×141.14E, mb3.5/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.5/4, MS4.2/1, Ms1 4.2/1, ms1mx2.6/18, Error ellipse: s-maj=46.1km s-min=29.0km az=90.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	22.08	357	LR	LR	18 30 36.7	
	comp=Z,705nm,20.9s,baz=92,slow=34						
WRA	Warramunga Arr	31.44	192	P	P	18 24 19.0	-2.9
	1.0nm,1.1s,baz=14,slow=8.7,SNR=3.0						
ASAR	Alice Springs	35.15	192	P	P	18 24 52.5	-1.5
	0.3nm,0.6s,baz=19,slow=9.5,SNR=3.2						
CMAR	Chiang Mai Arr	41.41	285	P	P	18 25 44.8	-1.6
	1.0nm,1.0s,baz=94,slow=6.9,SNR=7.5						
YKA	Yellowknife Ar	86.84	27	P	P	18 30 42.7	-1.1
	0.4nm,0.6s,baz=290,slow=5.2,SNR=6.5						

KRSC 20 18:27:04.2±1.3, 52.82N×153.71E, h522km±22km, ML3.9, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	Apacha	2.09	86	P	P	18 28 13.0	+0.8
GRL	Gorelyy	2.67	94	P	P	18 28 16.3	+0.8
GNL	Ganaly	2.69	69	*e*P	P	18 28 15.4	-0.2
RUS	Russkaya	2.95	96	*e*P	P	18 28 16.8	-0.5
RUS				*e*S	S	18 29 10.5	-4.5
PET	Petropavlovsk	3.00	84	*e*P	P	18 28 17.2	-0.4
KOK	Koryaka	3.01	79	*i* P	P	18 28 18.3	+0.7
AVH	Avacha	3.07	80	*e*P	P	18 28 18.5	+0.5
UGLR	Uglovaya	3.11	81	*e*P	P	18 28 18.9	+0.6
SDLR	Sedlovína	3.16	80	*e*P	P	18 28 18.7	+0.1
SPN	Mys Shipunski	3.83	83	*e*P	P	18 28 22.2	-1.2
SPN				*e*S	S	18 29 18.5	-7.7
ESO	Esso	4.26	41	*i* P	P	18 28 26.7	-0.1

*IDC **20** 18:36:56.7±1.3, 2.95N×94.74E, mb3.9/8, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, ML4.1/1, MS3.4/1, Ms1 3.6/1, ms1mx2.9/22, Error ellipse: s-maj=55.1km s-min=20.2km az=54.0*

*BJI **20** 18:37:01.2, 2.90N×94.80E, h30km, mb4.4*

*NEIC **20** 18:37:01.3±0.6, 2.94N×94.77E, h30km, mb4.5/3, Error ellipse: s-maj=19.5km s-min=10.5km az=68.0*

ISC 20 18:36:59.9±0.9, 2.9N±0.1×94.9E±0.2, h30km, n21, σ0§84/21, mb4.2/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	15.92	14	*e*P	**P**	18 40 43.7	0.0
	7.9nm,0.9s						
CMAR	Chiang Mai Arr	15.92	14	Pn	**P**	18 40 44.2	+0.5
	0.3nm,0.3s,baz=209,slow=12,SNR=14						
CMAR				LR	LR	18 47 25.3	
	comp=Z,112nm,18.1s,baz=175,slow=39						
JIRN	Jiri	25.95	342	*e*P	**P**	18 42 33.2	+1.5
	16nm,0.9s,mb4.5						
PKI	Pulchoki

IDC 20 18:43:54.5±7.3, 13.49N×93.11E, mb3.4/2, mb1 3.5/3, mb1mx3.3/18, mbtmp3.2/3, ML2.3/1, Error ellipse: s-maj=148.6km s-min=36.0km az=113.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.47**	**48**	P*n	Pn	18 45 45.5	-2.0
	0.0nm,0.3s,baz=234,slow=16,SNR=2.7						
CMAR				Sn	Sn	18 47 10.3	-3.7
	0.1nm,0.3s,baz=240,slow=28,SNR=4.9						
WRA	**Warramunga Arr**	**52.44**	**129**	P	P	18 53 09.1	-2.3
	0.2nm,0.5s,baz=310,slow=7.8,SNR=7.1						
ASAR	**Alice Springs**	**54.36**	**133**	P	P	18 53 23.4	-2.2
	0.3nm,0.5s,baz=307,slow=6.7,SNR=17						

*BJI **20** 18:56:29.0, 41.16S×175.10E, h36km, mB5.7, mb5.1, Ms5.7, Msz5.3*

*HRVD **20** 18:56:30.7±0.3, 41.21S×175.16E, h31km, MW5.3/52, Centroid moment Tensor Solution. LP body waves: s49,c86;Mantle waves: s52,c95; Half duration: 1±1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.86±.03; $M_{\theta\theta}$0.69±.02; $M_{\phi\phi}$0.16±.02; $M_{r\theta}$-0.28±.04; $M_{\theta\phi}$0.46±.02; $M_{\phi r}$0.14±.04; Best double couple: M_0.964×10^{17} NP1: ϕ_s223°, δ42°, λ-116°. NP2:ϕ_s76°, δ53°, λ-69°. Principal axes: T .975, Plg6°, Azm151°; N -.022, Plg17°, Azm243°; P -.953, Plg72°, Azm44°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **20** 18:56:30.7±0.3, 41.22S×175.21E, h39km±2km, mb5.2/22, ML5.5(WEL) Error ellipse: s-maj=6.0km s-min=2.7km az=125.0*

NEIC Minor damage at Lower Hutt, Upper Hutt, Wellington and on Kapiti. Felt at Porirua and in much of the Wellington area.

*MOS **20** 18:56:30.4±1.4, 41.04S×174.76E, h33km, mb5.3/9, Error ellipse: s-maj=20.2km s-min=12.3km az=112.3*

*WEL **20** 18:56:31.4±0.0, 41.09S×175.05E, h31km, ML5.6/39, Error ellipse: s-maj=0.4km s-min=0.3km az=90.0, reported intensity MM 7.*

WEL Felt from Auckland to Canterbury, and from West Coast to Hawke's Bay, maximum.

*IDC **20** 18:56:31.3±0.5, 40.90S×174.89E, h32km±2km, mb4.5/11, mb1 4.6/13, mb1mx4.5/16, mbtmp4.7/13, ML4.3/2, MS4.7/11, Ms1 4.7/11, ms1mx4.3/23, Error ellipse: s-maj=15.6km s-min=11.7km az=28.0*

ISC 20 18:56:30.8±0.2, 41.12S±0.02×174.98E±0.03, h40km±2km, **h31**km±2.3km**: pP-P, n238,** σ1§**32**/164, **mb5.2**/29, **MS5.0**/10, **17C-21D, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAW	**Cannon Point**	**0.07**	**79**	⇓P*	**P**	**18 56 36.5**	**-0.6**
CAW				S	**S**	**18 56 40.7**	**-1.0**
CAW	**Cannon Point**	**0.07**	**79**	⇓P*	**P**	**18 56 36.5**	**-0.6**
CAW				S*	**S**	**18 56 40.6**	**-1.1**
WEL	**Wellington**	**0.23**	**224**	⇓P	**P**	**18 56 38.8**	**+0.5**
WEL	**Wellington**	**0.23**	**224**	P*	**P**	**18 56 38.8**	**+0.5**
MRW	**Makara Radio**	**0.23**	**243**	⇓P	**P**	**18 56 39.0**	**+0.7**
MRW				S	**S**	**18 56 44.3**	**+0.7**
MRW	**Makara Radio**	**0.23**	**243**	⇓P*	**P**	**18 56 39.0**	**+0.7**
MRW				S*	**S**	**18 56 44.1**	**+0.5**
KIW	**Kapiti Island**	**0.26**	**349**	⇑P	**P**	**18 56 38.4**	**-0.2**
KIW				S	**S**	**18 56 43.5**	**-0.6**
KIW	**Kapiti Island**	**0.26**	**349**	⇑P*	**P**	**18 56 38.4**	**-0.3**
KIW				S*	**S**	**18 56 43.5**	**-0.6**
BHW	**Baring Head**	**0.30**	**196**	⇓P	**P**	**18 56 39.5**	**+0.5**
BHW				S	**S**	**18 56 45.2**	**+0.5**
BHW	**Baring Head**	**0.30**	**196**	⇓P*	**P**	**18 56 39.5**	**+0.4**
BHW				S*	**S**	**18 56 45.2**	**+0.4**
MSWZ	**Moikau Station**	**0.36**	**145**	⇑P	**P**	**18 56 39.8**	**+0.1**
MSWZ				S	**S**	**18 56 46.4**	**+0.5**
MSWZ	**Moikau Station**	**0.36**	**145**	⇑P*	**P**	**18 56 39.8**	**+0.1**
MSWZ				S*	**S**	**18 56 46.4**	**+0.5**
MTW	**Mount Morrison**	**0.40**	**96**	⇑P	**P**	**18 56 39.4**	**-0.8**
MTW				S	**S**	**18 56 46.0**	**-0.7**
MTW	**Mount Morrison**	**0.40**	**96**	⇑P*	**P**	**18 56 39.4**	**-0.7**
MTW				S*	**S**	**18 56 45.9**	**-0.8**
PAWZ	**Paruwai Farm**	**0.43**	**128**	⇑P*	**P**	**18 56 40.3**	**-0.2**
PAWZ				S*	**S**	**18 56 47.7**	**+0.3**
MRZ	**Mangatainoka R**	**0.65**	**45**	⇑P	**P**	**18 56 42.8**	**-0.7**
MRZ	**Mangatainoka R**	**0.65**	**45**	⇑P*	**P**	**18 56 42.8**	**-0.7**
MRZ				S*	**S**	**18 56 52.5**	**-0.3**
TUWZ	**Tuamarina**	**0.84**	**248**	P*	**P**	**18 56 47.7**	**+1.6**
CMWZ	**Cape Campbell**	**0.85**	**222**	P	**P**	**18 56 48.9**	**+2.6**
CMWZ	**Cape Campbell**	**0.85**	**222**	P*	**P**	**18 56 48.7**	**+2.3**
BSWZ	**Blackbirch Sta**	**1.02**	**234**	P	**P**	**18 56 50.8**	**+2.1**
BFZ	**Birch Farm**	**1.06**	**66**	P	**P**	**18 56 48.4**	**-0.9**
BFZ	**Birch Farm**	**1.06**	**66**	P*	**P**	**18 56 48.4**	**-0.9**
NNZ	**Nelson**	**1.21**	**265**	*e*P	**P**	**18 56 53.6**	**+2.2**
NNZ	**Nelson**	**1.21**	**265**	PN	**P**	**18 56 53.0**	**+1.6**
TSZ	**Takapari Road**	**1.30**	**36**	⇓P*	**P**	**18 56 52.5**	**-0.2**
WAZ	**Wanganui**	**1.36**	**0**	P	**P**	**18 56 56.0**	**+2.2**
KHZ	**Kahutara**	**1.68**	**219**	P	**P**	**18 56 58.7**	**+0.4**
KHZ	**Kahutara**	**1.68**	**219**	⇑PN	**P**	**18 56 58.7**	**+0.4**
THZ	**Tophouse**	**1.69**	**247**	P	**P**	**18 56 59.4**	**+1.1**
THZ	**Tophouse**	**1.69**	**247**	⇓PN	**P**	**18 56 59.4**	**+1.1**
PWZ	**Pawanui**	**1.80**	**53**	P	**P**	**18 56 58.2**	**-1.8**
PWZ	**Pawanui**	**1.80**	**53**	PN	**P**	**18 56 57.8**	**-2.2**
MOVZ	**Moawhango**	**1.81**	**19**	P	**P**	**18 57 00.2**	**+0.1**
MOVZ	**Moawhango**	**1.81**	**19**	⇓PN	**P**	**18 57 00.1**	**+0.1**
QRZ	**Quartz Range**	**1.88**	**278**	P	**P**	**18 57 03.0**	**+2.0**
RAEZ	**Rainy Point**	**1.89**	**346**	P	**P**	**18 57 04.1**	**+3.0**
DRZ	**Dome Shelter**	**1.90**	**14**	P	**P**	**18 57 02.5**	**+1.2**
DFE	**Dawson Falls**	**1.91**	**339**	P	**P**	**18 57 04.5**	**+3.0**
FWVZ	**Far West T-bar**	**1.92**	**13**	P	**P**	**18 57 02.4**	**+0.9**
NRZ	**Ngariki Road**	**1.95**	**336**	*e*P	**P**	**18 57 05.1**	**+3.0**
WPVZ	**Whakapapa**	**1.96**	**13**	P	**P**	**18 57 03.2**	**+1.0**
NEZ	**North Egmont**	**1.97**	**340**	P	**P**	**18 57 05.1**	**+2.8**
NGZ	**Ngauruhoe**	**2.00**	**14**	P	**P**	**18 57 03.7**	**+0.9**
VRZ	**Vera Road**	**2.00**	**355**	*e*P	**P**	**18 57 04.4**	**+1.6**
NWEZ	**Newall Road**	**2.03**	**335**	P	**P**	**18 57 06.1**	**+2.9**
WTVZ	**West Tongariro**	**2.06**	**13**	P	**P**	**18 57 04.4**	**+0.8**
PKE	**Pukeiti**	**2.07**	**338**	P	**P**	**18 57 06.3**	**+2.6**
TWVZ	**Taurewa**	**2.08**	**10**	P	**P**	**18 57 04.7**	**+0.8**
KATZ	**Kakaramea**	**2.21**	**15**	P	**P**	**18 57 06.5**	**+0.7**
RITZ	**Rihia Road**	**2.25**	**18**	P	**P**	**18 57 06.5**	**+0.2**
RATZ	**Rangitukua**	**2.33**	**15**	*e*P	**P**	**18 57 07.8**	**+0.3**
HATZ	**Hinemaiaia**	**2.39**	**21**	P	**P**	**18 57 07.6**	**-0.7**
DSZ	**Dennistón Nort**	**2.47**	**254**	P	**P**	**18 57 10.3**	**+0.9**
WATZ	**Wairara**	**2.48**	**14**	*e*P	**P**	**18 57 09.3**	**-0.3**
HIZ	**Hauiti**	**2.61**	**358**	P	**P**	**18 57 12.5**	**+1.1**
LTZ	**Lake Taylor**	**2.61**	**230**	*e*P	**P**	**18 57 11.5**	**0.0**
PATZ	**Paeroa**	**2.91**	**20**	P	**P**	**18 57 14.9**	**-0.9**
KNZ	**Kokohu**	**2.95**	**45**	*e*P	**P**	**18 57 13.0**	**-3.3**
CRLZ	**Canterbury Las**	**3.01**	**215**	P	**P**	**18 57 16.5**	**-0.7**
MQZ	**McQueen's Vall**	**3.10**	**213**	P	**P**	**18 57 16.6**	**-1.9**
TAZ	**Tarawera**	**3.12**	**23**	P	**P**	**18 57 16.9**	**-1.8**
LIRZ	**Lichensteins R**	**3.30**	**20**	P	**P**	**18 57 19.8**	**-1.5**
URZ	**Urewera**	**3.30**	**31**	Pn	**P**	**18 57 17.9**	**-3.4**
	37nm,0.3s,baz=214,slow=8.2,SNR=71						
URZ				Sn	**S**	**18 57 56.8**	**-2.9**
	286nm,0.3s,baz=127,slow=22,SNR=7.3						
URZ				Lg		18 58 11.6	
	215nm,0.3s,baz=303,slow=20,SNR=3.6						
URZ				LR	LR	18 58 44.9	
	comp=Z,7μm,20.1s,baz=124,slow=42						
EDRZ	**Edgecumbe**	**3.30**	**25**	P	**P**	**18 57 19.1**	**-2.2**
MARZ	**Manawahe**	**3.40**	**23**	P	**P**	**18 57 21.9**	**-0.7**
MWZ	**Matawai**	**3.41**	**36**	P	**P**	**18 57 19.0**	**-3.8**
TOZ	**Tahuroa Road**	**3.41**	**7**	P	**P**	**18 57 22.5**	**-0.4**
TGRZ	**Tauranga**	**3.53**	**17**	*e*P	**P**	**18 57 23.4**	**-1.1**
WVZ	**Waitaha Valley**	**3.71**	**237**	P	**P**	**18 57 26.5**	**-0.6**
RPZ	**Rata Peaks**	**3.89**	**227**	Pn	**P**	**18 57 28.5**	**-1.2**
	18nm,0.3s,baz=94,slow=4.6,SNR=20						
RPZ				Sn	**S**	**18 58 11.1**	**-3.7**
	130nm,0.3s,baz=254,slow=2.3,SNR=20						
RPZ				LR	LR	18 59 31.5	
	comp=Z,24μm,18.2s,baz=55,slow=45						
RPZ	**Rata Peaks**	**3.89**	**227**	*e*P	**P**	**18 57 29.0**	**-0.7**
PUZ	**Puketiti**	**3.96**	**41**	*e*P	**P**	**18 57 25.9**	**-4.8**
MKAZ	**Moumakai**	**4.01**	**2**	P	**P**	**18 57 31.0**	**-0.3**
WTAZ	**Waiatarua**	**4.19**	**356**	P	**P**	**18 57 34.9**	**+0.9**
MTAZ	**Motutapu**	**4.33**	**359**	P	**P**	**18 57 35.6**	**-0.3**
MXZ	**Matakaoa Point**	**4.39**	**37**	*e*P	**P**	**18 57 32.5**	**-4.3**
KUZ	**Kuaotunu**	**4.41**	**8**	*e*P	**P**	**18 57 36.2**	**-0.8**
LBZ	**Lake Benmore**	**4.81**	**226**	*e*P	**P**	**18 57 41.0**	**-1.6**
ODZ	**Otahua Downs**	**5.04**	**218**	*e*P	**P**	**18 57 43.5**	**-2.5**
WCZ	**Waipu Caves**	**5.20**	**354**	P	**P**	**18 57 45.3**	**-2.8**
JCZ	**Jackson Bay**	**5.46**	**235**	*e*P	**P**	**18 57 50.6**	**-1.1**
WKZ	**Wanaka**	**5.73**	**228**	*e*P	**P**	**18 57 53.0**	**-2.5**
EAZ	**Earnscleugh**	**5.83**	**223**	*e*P	**P**	**18 57 55.0**	**-2.0**
OUZ	**Omahuta**	**5.99**	**349**	*e*P	**P**	**18 57 59.8**	**+0.6**
TUZ	**Tuapeka**	**6.20**	**217**	*e*P	**P**	**18 57 59.7**	**-2.4**
MLZ	**Mavora Lakes**	**6.52**	**227**	*e*P	**P**	**18 58 05.0**	**-1.7**
DZM	**Mont Dzumac**	**20.32**	**337**	*e*P	**P**	**19 01 06.1**	**+0.1**
TAU	**Tasmania Unive**	**20.59**	**256**	*e*P	**P**	**19 01 05.7**	**-3.1**
	68nm,1.5s						
STKA	**Stephens Creek**	**28.23**	**278**	⇑*i*P	**P**	**19 02 22.8**	**+0.7**
	20nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**28.23**	**278**	P	**P**	**19 02 21.1**	**-1.0**
	5.5nm,0.7s,mb4.3,baz=122,slow=10,SNR=16						
STKA				PcP	PcP	19 05 33.5	-1.5
	8.4nm,0.9s,baz=127,slow=2.0,SNR=5.9						
STKA				pPcP		19 05 43.3	
	4.8nm,0.7s,baz=75,slow=3.1,SNR=5.3						
STKA				LR	LR	19 12 30.5	
	comp=Z,2μm,20.4s,MS4.7,baz=110,slow=34						
CTA	**Charters Tower**	**32.18**	**302**	⇓*i*P	**P**	**19 02 57.4**	**+0.3**
	15nm,1.1s,mb4.7						
CTA	**Charters Tower**	**32.18**	**302**	⇓*i*P	**P**	**19 02 57.4**	**+0.3**
CTA				pmax	pmax		
	comp=Z,15nm,1.1s						
CTA	**Charters Tower**	**32.18**	**302**	P	**P**	**19 02 56.7**	**-0.4**
	comp=Z,17nm,0.9s,mb4.9,baz=141,slow=8.4,SNR=14						
CTA				pP	pP	19 03 04.1	-4.0
	comp=Z,12nm,0.7s,baz=142,slow=9.4,SNR=6.4						
CTA				LR	LR	19 16 01.2	
	comp=Z,5μm,18.6s,MS5.2,baz=128,slow=36						
CTAO	**Charters Tower**	**32.18**	**302**	*e*P	**P**	**19 02 56.8**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.0						
CTAO	**Charters Tower**	**32.18**	**302**	*e*P	**P**	**19 02 56.8**	**-0.3**
	comp=Z,28nm,1.0s,mb5.0						
TBI	**Tubuai**	**34.61**	**70**	*e*LR	LR	19 12 13.2	
	comp=Z,2μm,26.0s,baz=219						
VNDA	**Vanda**	**36.92**	**185**	P	**P**	**19 03 39.3**	**+2.2**
	comp=Z,1.7nm,0.8s,baz=3.7,slow=10,SNR=8.3						
VNDA				PcP	PcP	19 05 58.3	-0.1
	comp=Z,2.0nm,0.7s,baz=323,slow=3.2,SNR=7.8						
VNDA				LR	LR	19 16 30.0	
	comp=Z,803nm,19.2s,MS4.5,baz=26,slow=32						
SBA	**Scott Base**	**37.00**	**183**	*e*P	**P**	**19 03 40.1**	**+2.3**
SBA				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.1						
SBA	**Scott Base**	**37.00**	**183**	*e*P	**P**	**19 03 40.1**	**+2.3**
	comp=Z,40nm,1.4s,mb5.0						
PAE	**Paea**	**38.33**	**63**	*e*P	**P**	**19 03 50.9**	**+1.4**
	comp=Z,50nm,1.1s,mb5.2						
ASAR	**Alice Springs**	**38.40**	**284**	P	**P**	**19 03 49.1**	**-0.9**
	comp=Z,47nm,1.0s,mb5.2,baz=128,slow=7.3,SNR=218						
ASAR				pP	pP	19 03 58.6	-2.6
	comp=Z,73nm,1.2s,baz=131,slow=7.1,SNR=14						
ASAR				PcP	PcP	19 06 01.1	-2.4
	comp=Z,6.1nm,0.7s,baz=130,slow=3.9,SNR=3.9						
ASAR				pPcP		19 06 10.8	
	comp=Z,5.4nm,0.8s,baz=122,slow=4.1,SNR=5.4						
ASAR				S	**S**	**19 09 40.4**	**-1.4**
	comp=Z,2.2nm,0.9s,baz=129,slow=14,SNR=3.9						
ASAR				PKiKP		19 13 16.0	
	comp=Z,0.9nm,0.7s,baz=115,slow=1.0,SNR=10						
ASAR				pPKiKP		19 13 25.8	
	comp=Z,0.5nm,0.7s,baz=185,slow=0.9,SNR=3.9						
ASAR				LR	LR	19 19 41.4	
	comp=Z,1μm,18.4s,MS4.8,baz=129,slow=36						
ASPA	**Alice Springs**	**38.40**	**284**	*e*P	**P**	**19 03 49.2**	**-0.8**
PPT	**Papeete**	**38.40**	**63**	*e*LR	LR	19 13 53.7	
	comp=Z,1μm,24.5s,baz=201						
TVO	**Taravao**	**38.47**	**64**	*e*P	**P**	**19 03 52.3**	**+1.6**
	comp=Z,16nm,0.8s,mb4.8						
TIAR	**Tiarei**	**38.56**	**63**	*e*P	**P**	**19 03 53.1**	**+1.7**
	comp=Z,86nm,1.1s,mb5.4						
FORT	**Forrest**	**38.95**	**270**	*e*P	**P**	**19 03 54.2**	**-0.3**
	comp=Z,191nm,0.7s,mb5.9						
PMG	**Port Moresby**	**40.03**	**314**	*e*P	**P**	**19 04 02.6**	**-1.1**
PMG				pmax	pmax		
	comp=Z,44nm,0.9s						
PMG	**Port Moresby**	**40.03**	**314**	P	**P**	**19 04 02.3**	**-1.3**
	comp=Z,21nm,1.0s,mb4.8,baz=312,slow=18,SNR=4.6						
PMG	**Port Moresby**	**40.03**	**314**	*e*P	**P**	**19 04 02.6**	**-1.0**
	comp=Z,44nm,0.9s,mb5.2						
WB2	**Warramunga Arr**	**40.40**	**289**	⇓*i*P	**P**	**19 04 05.7**	**-0.9**
WRAB	**Tennant Creek**	**40.40**	**289**	*e*P	**P**	**19 04 05.7**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,57nm,0.8s,mb5.3						
WRAB	**Tennant Creek**	**40.40**	**289**	*e*P	**P**	**19 04 05.7**	**-1.0**
	comp=Z,57nm,0.8s,mb5.3						
WRA	**Warramunga Arr**	**40.41**	**289**	P	**P**	**19 04 05.8**	**-0.9**
	comp=Z,25nm,0.8s,mb5.0,baz=126,slow=8.3,SNR=239						
WRA				pP	pP	19 04 15.3	-2.6
	comp=Z,15nm,0.5s,baz=126,slow=8.1,SNR=14						
WRA				S	**S**	**19 10 09.7**	**-2.3**
	comp=Z,3.3nm,1.0s,baz=130,slow=14,SNR=7.2						
WRA				PKiKP		19 13 17.1	
	comp=Z,0.5nm,0.8s,baz=173,slow=0.4,SNR=5.5						
PMOR	**Pomariorio Ree**	**41.36**	**62**	*e*P	**P**	**19 04 16.0**	**+1.4**
	comp=Z,38nm,1.1s,mb4.9						
CASY	**Casey**	**43.03**	**212**	*e*P	**P**	**19 04 37.2**	**+10**
CASY	**Casey**	**43.03**	**212**	*e*PKPdf	**P**	**19 04 28.4**	**+0.7**
	comp=Z,64nm,0.9s,mb5.3						
CASY				*e*	pP	19 04 37.1	-1.8
CASY				*e*		19 04 43.5	
NWAO	**Narrogin (SRO)**	**46.09**	**261**	*e*P	**P**	**19 04 48.9**	**-3.8**
NWAO				pmax	pmax		
	comp=Z,59nm,1.8s						
NWAO	**Narrogin (SRO)**	**46.09**	**261**	P	**P**	**19 04 51.8**	**-0.9**
	comp=Z,6.6nm,0.9s,mb4.5,baz=153,slow=6.8,SNR=3.7						
NWAO				LR	LR	19 21 02.2	
	comp=Z,6.0nm,18.2s,baz=312,slow=32						
NWAO	**Narrogin (SRO)**	**46.09**	**261**	*e*P	**P**	**19 04 48.9**	**-3.8**
	comp=Z,59nm,1.8s,mb5.2						
KAKA	**Kakadu**	**46.65**	**295**	*e*P	**P**	**19 04 56.1**	**-1.2**
	comp=Z,21nm,0.9s,mb5.1						
FITZ	**Fitzroy Crossi**	**47.89**	**283**	*e*P	**P**	**19 05 05.8**	**-1.2**
	comp=Z,48nm,0.6s,mb5.7						
QSPA	**South Pole Qui**	**49.01**	**180**	*e*P	**P**	**19 05 17.1**	**+2.3**
	comp=Z,40nm,1.0s,mb5.4						
QSPA				*e*	pP	19 05 26.3	+0.1
MBWA	**Marble Bar**	**50.42**	**276**	*e*P	**P**	**19 05 24.1**	**-2.4**
	comp=Z,28nm,1.1s,mb5.2						
MAW	**Mawson**	**60.25**	**204**	*e*P	**P**	**19 06 35.4**	**-1.5**
MAW				pmax	pmax		
	comp=Z,15nm,1.0s						
MAW	**Mawson**	**60.25**	**204**	P	**P**	**19 06 37.1**	**+0.1**
	comp=Z,6.5nm,1.0s,mb4.6,baz=100,slow=6.1,SNR=4.3						
MAW				pP	pP	19 06 46.4	-2.1
	comp=Z,12nm,1.0s,baz=96,slow=7.7,SNR=5.0						
MAW				LR	LR	19 32 21.7	
	comp=Z,2μm,18.4s,MS5.2,baz=109,slow=36						
MAW	**Mawson**	**60.25**	**204**	*e*P	**P**	**19 06 35.4**	**-1.5**
	comp=Z,15nm,1.0s,mb5.0						
PMSA	**Palmer Station**	**64.83**	**156**	*e*P	**P**	**19 07 08.0**	**+0.8**
	comp=Z,103nm,1.5s,mb5.6						
SYO	**Syowa Base**	**65.33**	**196**	⇓P	**P**	**19 07 10.1**	**-0.3**
SYO	**Syowa Base**	**65.33**	**196**	⇓pP	pP	19 07 18.5	-3.7
SNAA	**Sanae**	**67.50**	**181**	P	**P**	**19 07 25.0**	**+0.9**
VNA3	**Neumayer Olymp**	**67.89**	**178**	⇓*i*P	**P**	**19 07 28.1**	**+1.6**
VNA3	**Neumayer Olymp**	**67.89**	**178**	⇑*i*	pP	19 07 37.9	-0.5
VNA3	**Neumayer Olymp**	**67.89**	**178**	⇑*i*	sP	19 07 43.8	+1.0
VNA2	**Neumayer--Watz**	**68.25**	**179**	⇓*i*P	**P**	**19 07 30.6**	**+1.8**
VNA2	**Neumayer--Watz**	**68.25**	**179**	⇑	pP	19 07 40.3	-0.3
VNA1	**Neumayer--Stat**	**68.52**	**179**	⇑*i*P	**P**	**19 07 33.1**	**+2.7**
VNA1	**Neumayer--Stat**	**68.52**	**179**	⇑*i*	pP	19 07 41.5	-0.8
COCO	**West Island**	**73.19**	**268**	P	**P**	**19 07 55.5**	**-4.0**
	comp=Z,129nm,1.1s,mb5.8						
PLCA	**Paso Flores**	**79.16**	**135**	*e*P	**P**	**19 08 34.5**	**+1.7**
PLCA				*e*	pP	19 08 43.9	-0.9
PLCA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PLCA	**Paso Flores**	**79.16**	**135**	P	**P**	**19 08 34.2**	**+1.3**
	comp=Z,5.8nm,0.9s,mb4.5,baz=248,slow=6.6,SNR=11						
PLCA				LR	LR	19 36 27.5	
	comp=Z,732nm,18.4s,MS5.0,baz=201,slow=30						
PLCA	**Paso Flores**	**79.16**	**135**	*e*P	**P**	**19 08 34.5**	**+1.6**
	comp=Z,9.4nm,0.9s,mb4.7						
PLCA				*e*	pP	19 08 43.9	-0.9
TRQA	**Tornquist**	**85.59**	**138**	*e*P	**P**	**19 09 06.4**	**+0.5**
	comp=Z,7.6nm,0.9s,mb4.9						
KS15	**Wonju Array Si**	**89.27**	**324**	P	**P**	**19 09 22.0**	**-1.7**
NJ2	**Nanjing**	**89.33**	**315**	*e*P	**P**	**19 09 23.0**	**-1.2**
NJ2				AP	pP	19 09 36.5	+0.1
NJ2				PP	PP	19 12 56.8	-0.8
NJ2				SKS	SKS	19 19 48.0	-0.9
NJ2				S	S	19 20 09.0	+0.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,150nm,8.8s						
ASAJ	**Asahikawa**	**89.71**	**337**	LR	LR	19 43 52.6	
	comp=Z,808nm,21.9s,MS5.1,baz=302,slow=32						
WHN	**Wuhan**	**90.66**	**311**	*e*P	**P**	**19 09 30.5**	**+0.1**
CM31	**Chiang Mai Arr**	**91.90**	**293**	*e*P	**P**	**19 09 36.5**	**+0.1**
	comp=Z,12nm,0.8s,mb5.3						
CMAR	**Chiang Mai Arr**	**91.90**	**293**	P	**P**	**19 09 37.0**	**+0.6**
	comp=Z,3.7nm,1.0s,mb4.7,baz=153,slow=3.5,SNR=26						
YSS	**Yuzh-Sakhalins**	**92.26**	**339**	⇑*e*P	**P**	**19 09 37.6**	**+0.2**
YSS				*e*		19 09 46.3	
YSS				*e*		19 30 21.0	
YSS	**Yuzh-Sakhalins**	**92.26**	**339**	*e*P	**P**	**19 09 37.9**	**+0.5**
	comp=Z,25nm,0.9s,mb5.5						
ENH	**Enshi**	**93.29**	**308**	*e*P	**P**	**19 09 41.9**	**-0.7**
	comp=Z,19nm,1.2s,mb5.4						
MDJ	**Mudanjiang**	**94.57**	**329**	P	**P**	**19 09 48.1**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,21nm,2.3s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,248nm,4.4s						
NVAR	**Mina Array Bea**	**99.85**	**47**	P	**P**	**19 10 12.7**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=262,slow=4.0,SNR=2.7						
NVAR				LR	LR	19 49 06.5	
	comp=Z,248nm,19.6s,MS4.7,baz=90,slow=32						
LZH	**Lanzhou**	**100.74**	**309**	*e*P	**P**	**19 10 16.5**	**+0.3**
LZH				AMB	AMB		
	comp=Z,25nm,1.5s						
LZH				AMB	AMB		
	comp=Z,98nm,7.6s						
LZH				LR	LR		
	comp=N,439nm,15.3s						
LZH				LR	LR		
	comp=Z,737nm,17.9s,MS5.2						
TXAR	**Lajitas Array**	**102.72**	**62**	PKKPbc		19 26 23.9	
	comp=Z,0.8nm,0.6s,baz=78,slow=4.4,SNR=5.5						
TXAR				PKKP	PKKP	19 26 34.7	+11
	comp=Z,0.8nm,0.7s,baz=72,slow=4.0,SNR=5.7						
PDAR	**Pinedale Array**	**107.67**	**48**	PKKPab		19 26 18.8	
	comp=Z,0.7nm,0.9s,baz=90,slow=5.9,SNR=5.5						
IMA	**Indian Mountai**	**109.57**	**13**	*e*PKPdf		19 14 57.6	
ILAR	**Eielson Array**	**109.71**	**16**	PKiKP		19 14 57.4	
	comp=Z,1.8nm,0.6s,baz=263,slow=2.0,SNR=19						
ILAR				pPKiKP		19 15 06.8	
	comp=Z,1.7nm,0.8s,baz=262,slow=2.5,SNR=6.9						
ZAK	**Zakamensk**	**110.57**	**320**	*e*PKiKP	PKPdf	19 15 08.5	+10
DAWY	**Dawson**	**110.86**	**20**	*e*PKPdf	PKPdf	19 14 59.1	+0.6
INK	**Inuvik**	**115.68**	**19**	*e*PKIKP	PKPdf	19 15 07.9	-0.1
WVT	**Waverly**	**117.46**	**65**	*e*PKIKP	PKPdf	19 15 10.9	-1.2
YKA	**Yellowknife Ar**	**117.56**	**30**	PKP	PKPdf	19 15 12.1	+0.5
	comp=Z,7.6nm,0.6s,baz=257,slow=1.9,SNR=190						
YKA				pPKP		19 15 21.7	
	comp=Z,4.4nm,0.7s,baz=257,slow=1.5,SNR=12						
YKA				PKKPbc		19 25 35.6	
	comp=Z,0.8nm,0.7s,baz=47,slow=4.5,SNR=24						
YKW3	**Yellowknife Ar**	**117.60**	**30**	*e*PKPdf	PKPdf	19 15 11.1	-0.6
YKW3				*e*		19 15 20.9	
ZAL	**

comp=Z,54nm,1.0s,baz=137,slow=3.0,SNR=26
ELDT Eldivan 151.04 282 *i* P PKPdf 19 16 19.3 +6.1
BALT Daday 151.31 284 *i* P PKPdf 19 16 18.1 +4.6
SIM Simferopol' 151.33 291 *e*PKIKP PKPdf 19 16 21.0 +7.6
SIM *e* 19 16 31.0
SIM pmax pmax
comp=Z,23nm,0.6s
KAF Kangasniemi 151.84 329 *e*pkp PKPdf 19 16 19.7 +6.1
baz=52,slow=2.2
SGKT Siwrigoynuk 152.08 281 *i* P PKPdf 19 16 21.7 +7.0
FINES FINESS Array B 152.30 328 PKPbc PKPdf 19 16 21.7 +7.4
comp=Z,11nm,0.7s,baz=80,slow=3.1,SNR=30
FINES PKPab PKPab 19 16 30.9 -2.6
comp=Z,16nm,0.9s,baz=78,slow=3.5,SNR=8.1
HENT Hendek 152.99 281 *i* P PKPdf 19 16 20.9 +5.0
ULDT Uludag 154.15 279 *i* P PKPdf 19 16 22.5 +4.9
AKASG Malin Array Be 154.52 304 PKPbc PKPdf 19 16 26.6 +8.9
comp=Z,6.0nm,0.7s,baz=67,slow=2.6,SNR=21
AKASG PKPab PKPab 19 16 40.9 -2.2
comp=Z,2.7nm,0.7s,baz=70,slow=3.8,SNR=5.2
IDI Anoyia 155.85 266 PKPbc PKPdf 19 16 31.3 +11
comp=Z,6.9nm,0.8s,baz=138,slow=12,SNR=3.4
NB2 NORSAR Subarra157.72 339 SKPbc 19 16 52.4
comp=Z,13nm,0.9s,baz=36,slow=3.3
NB2 NORSAR Subarra157.72 339 SKPb 19 16 52.4
baz=36,slow=3.4
NOA NORSAR Array B157.72 339 PKP PKPdf 19 16 23.1 +1.5
comp=Z,1.7nm,0.8s,baz=7.2,slow=1.5,SNR=3.7
NOA PKPab PKPab 19 16 54.5 -2.0
comp=Z,4.7nm,0.8s,baz=33,slow=3.1,SNR=9.2
NOA pPKPab 19 17 04.1
comp=Z,7.6nm,0.8s,baz=31,slow=3.2,SNR=10
BRG Berggiesshubel 163.65 313 *e*PKIKP PKPdf 19 16 38.8 +11
BRG pmax pmax
comp=Z,33nm,1.7s
CLL Collm 163.94 315 *e*PKIKP PKPdf 19 16 32.0 +3.5
GERES GERESS Array B 164.69 307 PKP PKPdf 19 16 30.2 +0.9
comp=Z,1.3nm,0.8s,baz=135,slow=1.9,SNR=4.5
GERES PKPab PKPab 19 17 26.0 -1.1
comp=Z,1.8nm,0.8s,baz=108,slow=4.2,SNR=5.8
GERES pPKPab 19 17 35.5
comp=Z,1.7nm,0.7s,baz=56,slow=4.8,SNR=6.0
GERES GERESS Array B 164.69 307 PKP PKPdf 19 16 30.2 +0.8
GERES PKPab PKPab 19 17 26.0 -1.1
GERES pPKPab 19 17 35.5
ESDC Sonseca Array 178.34 210 PKP PKPdf 19 16 37.7 +1.4
comp=Z,0.2nm,0.3s,baz=341,slow=2.3,SNR=7.0
ESDC pPKP 19 16 48.1
comp=Z,0.3nm,0.3s,baz=360,slow=1.7,SNR=2.9
ESDC PKPab PKPab 19 18 28.1 +0.5
comp=Z,0.4nm,0.4s,baz=122,slow=4.3,SNR=6.2
ESDC pPKPab 19 18 36.8
comp=Z,0.8nm,0.6s,baz=126,slow=3.4,SNR=7.8

*NEIC **20** 19:02:23.4, 41.11S×175.04E, h26km, ML3.7(WEL), After WEL.*

WEL 20 19:02:22.9±0.1, 41.08S×175.04E, h29km, ML3.6/23, 5C-4D, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAW	**Cannon Point**	**0.03**	**145**	⇓P		Pn	19 02 27.9	+0.7
CAW				S		Sn	19 02 31.6	+1.9
CAW	**Cannon Point**	**0.03**	**145**	P*		Pb	19 02 27.8	+0.1
CAW				S*		Sb	19 02 31.6	+0.5
KIW	**Kapiti Island**	**0.24**	**335**	⇓P		Pb	19 02 29.7	+0.2
KIW				S		Sb	19 02 34.4	+0.4
KIW	**Kapiti Island**	**0.24**	**335**	P*		Pb	19 02 29.6	+0.2
KIW				S*		Sb	19 02 34.1	+0.1
WEL	**Wellington**	**0.29**	**226**	P*		Pb	19 02 30.2	+0.2
MRW	**Makara Radio**	**0.30**	**240**	⇓P		Pb	19 02 30.3	+0.1
MRW				S		Sb	19 02 35.4	+0.2
MRW	**Makara Radio**	**0.30**	**240**	P*		Pb	19 02 30.2	0.0
MRW				S*		Sb	19 02 35.1	-0.1
BHW	**Baring Head**	**0.35**	**202**	⇑P		Pb	19 02 30.9	0.0
BHW				S		Sb	19 02 36.4	-0.1
BHW	**Baring Head**	**0.35**	**202**	⇑P*		Pb	19 02 30.9	-0.1
BHW				S*		Sb	19 02 36.1	-0.3
MTW	**Mount Morrison**	**0.35**	**103**	⇑P		Pb	19 02 31.1	+0.1
MTW				S		Sb	19 02 37.3	+0.7
MTW	**Mount Morrison**	**0.35**	**103**	P*		Pb	19 02 31.1	+0.1
MTW				S*		Sb	19 02 36.9	+0.4
MSWZ	**Moikau Station**	**0.37**	**155**	⇑P		Pb	19 02 31.3	+0.1
MSWZ				S		Sb	19 02 37.7	+0.8
MSWZ	**Moikau Station**	**0.37**	**155**	⇑P*		Pb	19 02 31.3	+0.2
MSWZ				S*		Sb	19 02 37.7	+0.8
PAWZ	**Paruwai Farm**	**0.42**	**136**	P*		Pb	19 02 32.0	+0.1
PAWZ				S*		Sb	19 02 38.9	+0.8
MRZ	**Mangatainoka R**	**0.58**	**44**	⇓P		Pb	19 02 34.5	-0.1
TUWZ	**Tuamarina**	**0.90**	**247**	P*		Pb	19 02 39.3	-0.5
TUWZ				S*		Sb	19 02 51.4	-0.1
BFZ	**Birch Farm**	**1.00**	**67**	P*		Pb	19 02 40.2	-1.2
BFZ				S*		Sb	19 02 53.3	-0.9
TSZ	**Takapari Road**	**1.24**	**35**	P*		Pb	19 02 44.0	-1.4
NNZ	**Nelson**	**1.26**	**263**	*e*PN		Pn	19 02 43.9	-0.9
NNZ				SN		Sn	19 03 02.0	+1.0
NNZ				SN		Sn	19 03 02.0	+1.1
KHZ	**Kahutara**	**1.75**	**220**	PN		Pn	19 02 50.0	-1.7
THZ	**Tophouse**	**1.75**	**246**	*e*PN		Pn	19 02 51.6	-0.1
MOVZ	**Moawhango**	**1.76**	**18**	P		Pn	19 02 52.0	+0.1
MOVZ	**Moawhango**	**1.76**	**18**	*e*PN		Pn	19 02 51.8	-0.1
WNVZ	**Wahianoa**	**1.80**	**14**	P		Pn	19 02 52.0	-0.5
WNVZ	**Wahianoa**	**1.80**	**14**	*e*PN		Pn	19 02 51.8	-0.7
DRZ	**Dome Shelter**	**1.85**	**13**	P		Pn	19 02 53.7	+0.5
DRZ	**Dome Shelter**	**1.85**	**13**	*e*PN		Pn	19 02 53.9	+0.7
RAEZ	**Rainy Point**	**1.86**	**344**	P		Pn	19 02 55.4	+2.0
RAEZ	**Rainy Point**	**1.86**	**344**	PN		Pn	19 02 55.3	+1.9
FWVZ	**Far West T-bar**	**1.86**	**12**	*e*PN		Pn	19 02 53.9	+0.5
TUVZ	**Tukino**	**1.87**	**15**	P		Pn	19 02 54.2	+0.7
TUVZ	**Tukino**	**1.87**	**15**	PN		Pn	19 02 53.8	+0.3
DFE	**Dawson Falls**	**1.90**	**337**	P		Pn	19 02 55.8	+1.9
WPVZ	**Whakapapa**	**1.91**	**12**	*e*P		Pn	19 02 55.1	+1.0
WPVZ	**Whakapapa**	**1.91**	**12**	*e*PN		Pn	19 02 54.7	+0.6
CNZ	**Chateau**	**1.92**	**12**	P		Pn	19 02 55.0	+0.8
CNZ	**Chateau**	**1.92**	**12**	*e*PN		Pn	19 02 54.7	+0.5
QRZ	**Quartz Range**	**1.92**	**277**	*e*PN		Pn	19 02 55.3	+1.0
NRZ	**Ngariki Road**	**1.94**	**334**	*e*P		Pn	19 02 56.6	+2.1
NRZ	**Ngariki Road**	**1.94**	**334**	*e*PN		Pn	19 02 56.3	+1.8
NEZ	**North Egmont**	**1.95**	**338**	*e*PN		Pn	19 02 56.4	+1.8
NGZ	**Ngauruhoe**	**1.95**	**13**	P		Pn	19 02 55.4	+0.8
NGZ	**Ngauruhoe**	**1.95**	**13**	*e*PN		Pn	19 02 54.6	0.0
NGZ				*e*PN		Pn	19 02 55.3	+0.7
NGZ				*e*PN		Pn	19 02 55.8	+1.2
VRZ	**Vera Road**	**1.97**	**354**	*e*PN		Pn	19 02 55.4	+0.5
OTVZ	**Oturere**	**1.97**	**14**	*e*PN		Pn	19 02 55.5	+0.5
WTVZ	**West Tongariro**	**2.01**	**12**	P		Pn	19 02 56.3	+0.8
WTVZ	**West Tongariro**	**2.01**	**12**	*e*PN		Pn	19 02 56.1	+0.7
NWEZ	**Newall Road**	**2.02**	**333**	P		Pn	19 02 58.0	+2.4
NWEZ	**Newall Road**	**2.02**	**333**	*e*PN		Pn	19 02 57.6	+2.0
TWVZ	**Taurewa**	**2.03**	**9**	P		Pn	19 02 56.3	+0.5
TWVZ	**Taurewa**	**2.03**	**9**	*e*PN		Pn	19 02 56.0	+0.2
PKE	**Pukeiti**	**2.05**	**336**	P		Pn	19 02 58.5	+2.4
PKE	**Pukeiti**	**2.05**	**336**	*e*PN		Pn	19 02 58.1	+2.0
MGZ	**Maungaku**	**2.11**	**11**	P		Pn	19 02 57.4	+0.4
MGZ	**Maungaku**	**2.11**	**11**	*e*PN		Pn	19 02 56.8	-0.1
MQZ	**McQueen's Vall**	**3.17**	**213**	SN		Sn	19 03 41.6	-7.6
ODZ	**Otahua Downs**	**5.11**	**218**	*e*PN		Pn	19 03 35.6	-3.9

*NEIC **20** 19:03:10.9, 41.10S×175.07E, h28km, ML3.7(WEL), After WEL.*

WEL 20 19:03:10.8±0.1, 41.10S×175.05E, h30km, ML3.5/13, 10C-4D, Error ellipse: s-maj=0.6km s-min=0.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAW	**Cannon Point**	**0.02**	**133**	⇓P		Pn	19 03 15.9	+1.0
CAW				S		Sn	19 03 19.8	+2.7
CAW	**Cannon Point**	**0.02**	**133**	⇓P*		Pb	19 03 15.9	0.0
CAW				S*		Sb	19 03 19.5	+0.2
CAW				S*		Sb	19 03 20.0	+0.8
KIW	**Kapiti Island**	**0.26**	**335**	⇑P		Pb	19 03 17.8	+0.1
KIW				S		Sb	19 03 22.9	+0.5
KIW	**Kapiti Island**	**0.26**	**335**	⇑P*		Pb	19 03 17.8	+0.1
KIW				S*		Sb	19 03 22.8	+0.4
WEL	**Wellington**	**0.28**	**228**	⇓P		Pb	19 03 18.1	+0.1
WEL				S		Sb	19 03 23.5	+0.5
WEL	**Wellington**	**0.28**	**228**	P*		Pb	19 03 18.1	0.0
WEL				S*		Sb	19 03 23.5	+0.5
MRW	**Makara Radio**	**0.30**	**243**	⇓P		Pb	19 03 18.3	+0.1
MRW				S		Sb	19 03 23.5	+0.2
MRW	**Makara Radio**	**0.30**	**243**	P*		Pb	19 03 18.2	0.0
MRW				S*		Sb	19 03 23.4	+0.2
BHW	**Baring Head**	**0.34**	**203**	⇑P		Pb	19 03 18.7	-0.1
BHW				S		Sb	19 03 24.4	+0.1
BHW	**Baring Head**	**0.34**	**203**	⇑P*		Pb	19 03 18.7	-0.1
BHW				S*		Sb	19 03 24.3	0.0
MTW	**Mount Morrison**	**0.35**	**101**	⇑P		Pb	19 03 18.7	-0.2
MTW				S		Sb	19 03 24.9	+0.5
MTW	**Mount Morrison**	**0.35**	**101**	⇑P*		Pb	19 03 18.7	-0.2
MTW				S*		Sb	19 03 24.8	+0.3
MSWZ	**Moikau Station**	**0.35**	**155**	⇑P		Pb	19 03 19.0	0.0
MSWZ				S		Sb	19 03 25.4	+0.8
MSWZ	**Moikau Station**	**0.35**	**155**	P*		Pb	19 03 19.0	0.0
MSWZ				⇑P*		Pb	19 03 19.0	0.0
PAWZ	**Paruwai Farm**	**0.40**	**135**	⇑P*		Pb	19 03 19.6	-0.1
MRZ	**Mangatainoka R**	**0.59**	**43**	⇑P		Pb	19 03 22.2	-0.5
TUWZ	**Tuamarina**	**0.90**	**248**	*e*P*		Pb	19 03 26.6	-1.1
BFZ	**Birch Farm**	**1.00**	**66**	S*		Sb	19 03 41.2	-1.0
TSZ	**Takapari Road**	**1.25**	**34**	P*		Pb	19 03 31.9	-1.7
MOVZ	**Moawhango**	**1.77**	**18**	*e*PN		Pn	19 03 40.7	+0.8

*NEIC **20** 19:03:39.1, 41.11S×175.06E, h25km, ML3.7(WEL), After WEL.*

WEL 20 19:03:38.6±0.1, 41.09S×175.04E, h28km, ML3.7/6, 7C-1D, Error ellipse: s-maj=0.4km s-min=0.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAW	**Cannon Point**	**0.03**	**139**	⇑P		Pn	19 03 43.5	+0.5
CAW				S		Sn	19 03 47.1	+1.6
CAW	**Cannon Point**	**0.03**	**139**	⇑P*		Pb	19 03 43.5	+0.1
CAW				S*		Sb	19 03 47.1	+0.5
KIW	**Kapiti Island**	**0.24**	**336**	⇓P		Pb	19 03 45.3	+0.1
KIW				S		Sb	19 03 50.1	+0.5
KIW	**Kapiti Island**	**0.24**	**336**	P*		Pb	19 03 45.2	0.0
WEL	**Wellington**	**0.29**	**226**	P*		Pb	19 03 45.7	0.0
WEL				S*		Sb	19 03 51.1	+0.5
MRW	**Makara Radio**	**0.29**	**241**	⇑P		Pb	19 03 45.8	-0.1
MRW				S		Sb	19 03 51.0	+0.2
MRW	**Makara Radio**	**0.29**	**241**	P*		Pb	19 03 45.8	0.0
BHW	**Baring Head**	**0.35**	**202**	⇑P		Pb	19 03 46.5	-0.1
BHW				S		Sb	19 03 52.1	0.0
BHW	**Baring Head**	**0.35**	**202**	⇑P*		Pb	19 03 46.5	-0.1
BHW				S*		Sb	19 03 52.0	0.0
MTW	**Mount Morrison**	**0.36**	**102**	P		Pb	19 03 46.6	-0.1
MTW				S		Sb	19 03 52.9	+0.7
MTW	**Mount Morrison**	**0.36**	**102**	P*		Pb	19 03 46.6	-0.1
MTW				S*		Sb	19 03 52.8	+0.6
MSWZ	**Moikau Station**	**0.37**	**155**	⇑P		Pb	19 03 46.9	0.0
MSWZ				S		Sb	19 03 53.4	+0.9
MSWZ	**Moikau Station**	**0.37**	**155**	P*		Pb	19 03 46.9	0.0
MSWZ				⇑P*		Pb	19 03 46.9	+0.1
MSWZ				S*		Sb	19 03 53.2	+0.7
PAWZ	**Paruwai Farm**	**0.42**	**136**	P*		Pb	19 03 47.5	-0.1
PAWZ				S*		Sb	19 03 54.6	+0.8
MRZ	**Mangatainoka R**	**0.59**	**44**	P		Pb	19 03 50.7	+0.4
TUWZ	**Tuamarina**	**0.90**	**247**	P*		Pb	19 03 54.9	-0.6

WEL 20 19:05:48.6±0.1, 41.08S×175.06E, h29km, ML3.5/18, 4C, Error ellipse: s-maj=0.6km s-min=0.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAW	**Cannon Point**	**0.03**	**170**	P*		Pb	19 05 53.4	-0.1
KIW	**Kapiti Island**	**0.25**	**332**	P*		Pb	19 05 55.4	+0.2
KIW				S*		Sb	19 06 00.3	+0.5
WEL	**Wellington**	**0.30**	**227**	P*		Pb	19 05 55.9	0.0
MRW	**Makara Radio**	**0.31**	**242**	P*		Pb	19 05 56.2	+0.1
MRW				S*		Sb	19 06 01.4	+0.2
MTW	**Mount Morrison**	**0.34**	**103**	⇑P*		Pb	19 05 56.4	-0.1
BHW	**Baring Head**	**0.36**	**204**	⇑P*		Pb	19 05 56.7	-0.1
BHW				S*		Sb	19 06 02.1	-0.2
MSWZ	**Moikau Station**	**0.36**	**157**	⇑P*		Pb	19 05 56.9	+0.1
MSWZ				S*		Sb	19 06 03.1	+0.7
PAWZ	**Paruwai Farm**	**0.41**	**138**	⇑P*		Pb	19 05 57.4	-0.1
MRZ	**Mangatainoka R**	**0.57**	**43**	P*		Pb	19 05 59.7	-0.4
TUWZ	**Tuamarina**	**0.91**	**247**	P*		Pb	19 06 05.0	-0.7
BFZ	**Birch Farm**	**0.98**	**66**	P*		Pb	19 06 09.1	+2.2
TSZ	**Takapari Road**	**1.23**	**34**	P*		Pb	19 06 09.5	-1.6
NNZ	**Nelson**	**1.28**	**263**	PN		Pn	19 06 10.5	-0.2
WAZ	**Wanganui**	**1.33**	**357**	*e*PN		Pn	19 06 12.0	+0.6
KHZ	**Kahutara**	**1.75**	**220**	PN		Pn	19 06 15.9	-1.7
KHZ				S*		Sb	19 06 36.3	-5.3
MOVZ	**Moawhango**	**1.75**	**18**	PN		Pn	19 06 17.2	-0.4
THZ	**Tophouse**	**1.76**	**247**	PN		Pn	19 06 16.7	-0.9
WNVZ	**Wahianoa**	**1.80**	**13**	*e*PN		Pn	19 06 17.3	-0.9
FWVZ	**Far West T-bar**	**1.86**	**12**	*e*PN		Pn	19 06 19.4	+0.3
TUVZ	**Tukino**	**1.87**	**14**	*e*PN		Pn	19 06 18.9	-0.3
WPVZ	**Whakapapa**	**1.91**	**11**	*e*PN		Pn	19 06 20.5	+0.7
CNZ	**Chateau**	**1.92**	**11**	*e*PN		Pn	19 06 20.3	+0.4
QRZ	**Quartz Range**	**1.94**	**277**	*e*PN		Pn	19 06 20.8	+0.6
QRZ				SN		Sn	19 06 43.4	-0.3
NGZ	**Ngauruhoe**	**1.95**	**12**	*e*PN		Pn	19 06 21.4	+1.1
NGZ				*e*PN		Pn	19 06 22.3	+2.0
VRZ	**Vera Road**	**1.97**	**353**	*e*PN		Pn	19 06 21.7	+1.1
OTVZ	**Oturere**	**1.97**	**14**	*e*PN		Pn	19 06 20.9	+0.2
WTVZ	**West Tongariro**	**2.00**	**12**	*e*PN		Pn	19 06 21.5	+0.3
TWVZ	**Taurewa**	**2.03**	**8**	*e*PN		Pn	19 06 22.6	+1.1
PKE	**Pukeiti**	**2.06**	**336**	*e*PN		Pn	19 06 23.4	+1.5
MGZ	**Maungaku**	**2.11**	**10**	*e*PN		Pn	19 06 22.7	+0.1
BKZ	**Black Stump Fm**	**2.21**	**30**	*e*PN		Pn	19 06 22.0	-2.0
DSZ	**Denniston Nort**	**2.54**	**254**	*e*PN		Pn	19 06 27.4	-1.4
HIZ	**Hauiti**	**2.57**	**356**	*e*PN		Pn	19 06 31.1	+1.8
MQZ	**McQueen's Vall**	**3.17**	**213**	SN		Sn	19 07 07.4	-7.7
WVZ	**Waitaha Valley**	**3.79**	**237**	*e*PN		Pn	19 06 42.2	-4.3
ODZ	**Otahua Downs**	**5.11**	**218**	*e*PN		Pn	19 07 01.6	-3.7

*IGQ **20** 19:07:04.6, 1.02S×81.95W, h37km±23km, mb4.8, Error ellipse: s-maj=17.3km s-min=8.4km az=175.7*
*IDC **20** 19:07:13.1±0.8, 1.16S×81.01W, mb4.3/12, mb1 4.5/14, mb1mx4.2/23, mbtmp4.3/14, ML3.9/2, MS3.9/2, Ms1 3.9/2, ms1mx2.6/24, Error ellipse: s-maj=29.3km s-min=15.8km az=62.0*
*BJI **20** 19:07:16.0, 1.20S×81.00W, h20km, mB4.5, Ms5.1, Msz4.9*
*NEIC **20** 19:07:16.1±2.5, 1.16S×80.96W, h21km±18km, mb4.6/21, MD4.8(IGQ), Error ellipse: s-maj=9.7km s-min=6.7km az=53.0*
NEIC Felt in the Bahia-Manta area.

ISC 20 19:07:17.5±0.9, 1.13S±0.06×81.07W±0.06, h43km±8km, n72, σ1°07/66, mb4.4/26, MS4.1/1, 13C-2D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.46**	**98**	P		**P**	**19 07 55.9**	**-0.1**
CUSU	**Cusua**	**2.60**	**97**	P		**P**	**19 07 59.0**	**+0.8**
JUIV	**Juive**	**2.62**	**96**	⇓P		**P**	**19 07 58.0**	**-0.4**
JUA2	**San Juan 2**	**2.62**	**70**	⇑P		**P**	**19 07 57.5**	**-1.0**
NAS1	**Nasa**	**2.64**	**79**	⇑P		**P**	**19 07 58.6**	**0.0**
ARRY	**Arrayan**	**2.64**	**98**	⇑P		**P**	**19 07 58.6**	**-0.1**
TERV	**Terraza Guagua**	**2.64**	**69**	P		**P**	**19 07 57.3**	**-1.4**
RETU	**Refugio**	**2.64**	**97**	P		**P**	**19 08 00.0**	**+1.3**
RETU				S		**S**	**19 08 39.7**	**+10**
PINO	**Pino**	**2.64**	**69**	⇑P		**P**	**19 07 57.4**	**-1.3**
PATA	**Patacocha**	**2.66**	**98**	P		**P**	**19 08 00.1**	**+1.1**
RUN2	**Runtun**	**2.67**	**96**	P		**P**	**19 07 59.4**	**+0.3**
RUN2				S		**S**	**19 08 35.4**	**+4.9**
ULBA	**Ulba**	**2.68**	**97**	⇑P		**P**	**19 07 59.4**	**+0.1**
PISA	**Pisayambo**	**2.68**	**88**	⇑P		**P**	**19 07 59.6**	**+0.3**
YANA	**Yana**	**2.69**	**68**	⇑P		**P**	**19 07 57.9**	**-1.5**
VC1	**Cotopaxi 1**	**2.71**	**80**	⇑P		**P**	**19 08 00.1**	**+0.5**
TAMB	**Tambo**	**2.73**	**81**	P		**P**	**19 08 01.7**	**+1.6**
OTAV	**Otavalo**	**2.95**	**63**	*e*Pn		**P**	**19 08 01.4**	**-1.7**
OTAV				*e*Sn		**S**	**19 08 36.0**	**-1.6**
ANTI	**Antisana**	**2.98**	**77**	⇑P		**P**	**19 08 04.2**	**+0.6**
COTA	**Cotacachi**	**3.09**	**62**	⇑P		**P**	**19 08 04.5**	**-0.6**
CAYR	**Refugio Cayamb**	**3.27**	**70**	⇑P		**P**	**19 08 09.0**	**+1.4**
CAYA	**Cayambe**	**3.30**	**69**	⇑P		**P**	**19 08 08.9**	**+0.8**
CAYA				S		**S**	**19 08 50.6**	**+4.1**
CONE	**Cono NE Rev Vo**	**3.58**	**73**	⇓P		**P**	**19 08 14.0**	**+1.9**
PAYG	**Puerto Ayora**	**9.23**	**273**	*e*Pn		**P**	**19 09 29.8**	**-1.2**
	72nm,1.2s							
SDV	**Santo Domingo**	**14.39**	**46**	Pn		**P**	**19 10 37.8**	**-2.7**
	0.6nm,0.3s,baz=237,slow=13,SNR=5.5							
SDV				LR		LR	19 16 53.7	
	comp=Z,276nm,18.1s,baz=57,slow=40							
SAML	**Samuel**	**19.42**	**114**	*e*P		**P**	**19 11 38.1**	**-5.0**
	36nm,1.0s							
LPAZ	**La Paz**	**19.73**	**140**	P		**P**	**19 11 46.0**	**-0.5**
	0.2nm,0.3s,baz=349,slow=14,SNR=13							
LPAZ	**La Paz**	**19.73**	**140**	*e*P		**P**	**19 11 45.3**	**-1.2**
	16nm,0.9s							
TEIG	**Tepich**	**22.37**	**342**	*e*P		**P**	**19 12 12.2**	**-1.2**
	23nm,1.3s,mb4.5							
TEIG				*e*			19 12 23.6	
SJG	**San Juan**	**24.11**	**37**	P		**P**	**19 12 31.8**	**+1.4**
	25nm,0.5s,mb4.9,baz=214,slow=7.2,SNR=6.8							
SJG	**San Juan**	**24.11**	**37**	*e*P		**P**	**19 12 31.4**	**+0.9**
	110nm,1.1s,mb5.2							
LVC	**Limon Verde**	**24.41**	**152**	P		**P**	**19 12 33.1**	**-0.3**
	9.1nm,1.1s,mb4.1,baz=339,slow=9.0,SNR=4.1							
LVC	**Limon Verde**	**24.41**	**152**	*e*P		**P**	**19 12 32.9**	**-0.5**
	21nm,0.9s,mb4.6							
BDFB	**Brasilia**	**35.65**	**116**	P		**P**	**19 14 12.6**	**-1.1**
	4.8nm,0.9s,mb4.4,baz=142,slow=6.5,SNR=3.2							
BDFB				LR		LR	19 30 56.5	
	comp=Z,333nm,19.4s,MS4.1,baz=190,slow=40							
BBSR	**BB Station**	**36.74**	**23**	P		**P**	**19 14 29.0**	**+6.2**
	72nm,1.2s,mb5.4							
TXAR	**Lajitas Array**	**37.21**	**326**	P		**P**	**19 14 27.4**	**+0.7**
	0.4nm,0.6s,mb3.4,baz=117,slow=10,SNR=3.5							
WMOK	**Wichita Mounta**	**39.35**	**337**	*e*P		**P**	**19 14 44.6**	**+0.1**
	2.8nm,0.7s,mb4.1							
MNTX	**Cornudas Mount**	**39.97**	**327**	*e*P		**P**	**19 14 49.2**	**-0.5**
	3.5nm,0.9s,mb4.1							
PLCA	**Paso Flores**	**40.56**	**168**	P		**P**	**19 14 54.2**	**-0.3**
	5.6nm,0.9s,mb4.2,baz=345,slow=7.6,SNR=9.3							
PLCA	**Paso Flores**	**40.56**	**168**	*e*P		**P**	**19 14 54.0**	**-0.4**
	9.1nm,1.0s,mb4.4							
TRQA	**Tornquist**	**40.72**	**157**	*e*P		**P**	**19 14 55.5**	**-0.4**
	33nm,1.4s,mb4.8							
ACSO	**Alum Creek Sta**	**41.20**	**358**	*e*P		**P**	**19 14 58.6**	**-1.2**
	19nm,0.9s,mb4.7							
ANMO	**Albuquerque**	**43.05**	**329**	P		**P**	**19 15 16.8**	**+1.8**
	2.1nm,0.6s,mb4.0,baz=150,slow=6.9,SNR=4.5							
ANMO	**Albuquerque**	**43.05**	**329**	*e*P		**P**	**19 15 16.4**	**+1.3**
	3.8nm,0.8s,mb4.2							
SDCO	**Great Sand Dun**	**44.79**	**332**	*e*P		**P**	**19 15 30.7**	**+1.6**
	4.3nm,0.8s,mb4.3							
TPH	**Tonopah**	**51.31**	**323**	*e*P		**P**	**19 16 20.1**	**+0.4**
	6.0nm,1.1s,mb4.4							
HLID	**Hailey**	**53.58**	**330**	*e*P		**P**	**19 16 37.7**	**+1.1**
	2.6nm,0.9s,mb4.2							
FCC	**Fort Churchill**	**60.60**	**352**	*e*P		**P**	**19 17 24.8**	**-1.3**
	12nm,0.9s,mb5.0							
YKA	**Yellowknife Ar**	**68.31**	**344**	P		**P**	**19 18 16.0**	**0.0**
	3.0nm,0.8s,mb4.3,baz=135,slow=5.9,SNR=31							
YKW3	**Yellowknife Ar**	**68.37**	**344**	*e*P		**P**	**19 18 15.9**	**-0.6**
DLBC	**Dease Lake**	**70.81**	**335**	P		**P**	**19 18 33.2**	**+1.8**
RES	**Resolute Bay**	**76.17**	**356**	*e*P		**P**	**19 19 00.3**	**-2.1**
	5.9nm,1.3s,mb4.4							
DBIC	**Dimbokro**	**76.44**	**83**	P		**P**	**19 19 04.9**	**-0.3**
	12nm,0.9s,mb4.8,baz=261,slow=6.5,SNR=5.3							
DBIC	**Dimbokro**	**76.44**	**83**	*e*P		**P**	**19 19 04.7**	**-0.5**
	36nm,1.2s,mb5.2							
INK	**Inuvik**	**77.97**	**342**	*e*P		**P**	**19 19 12.9**	**+0.3**
	12nm,1.3s,mb4.7							
SUMG	**Summit**	**78.29**	**12**	*e*P		**P**	**19 19 14.3**	**0.0**
	17nm,1.0s,mb4.9							
ESDC	**Sonseca Array**	**80.

s-maj=28.8km s-min=20.1km az=127.0
*JMA **20** 19:16:33.4±0.2, 33.87N×141.71E, h28km±4km, M3.5*
*NEIC **20** 19:16:34.7±2.3, 33.75N×141.73E, h37km±17km, mb4.1/6, Error ellipse: s-maj=21.5km s-min=17.4km az=97.0*

ISC 20 19:16:33.2±1.2, 33.86N±0.05×141.79E±0.08, h43km±9km, n31, σ0°78/39, mb3.8/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.04**	**320**	P	**P**	**19 16 51.2**	**-0.4**
BSO1				*e*S	**S**	**19 17 04.4**	**-0.8**
BSO3	**Boso 3**	**1.42**	**312**	P	**P**	**19 16 57.3**	**+0.3**
BSO4	**Boso 4**	**1.65**	**314**	P	**P**	**19 17 01.2**	**+0.9**
KTR	**Katsuura**	**1.77**	**317**	P	**P**	**19 17 02.8**	**+0.8**
JHJ2	**Mitsune**	**1.81**	**246**	P	**P**	**19 17 02.7**	**+0.2**
JHJ2				*e*S	**S**	**19 17 24.7**	**+0.3**
JHJ	**Hachijo jima 2**	**1.83**	**247**	Pn	**P**	**19 17 02.7**	**-0.1**
	106nm,0.3s,baz=239,slow=23,SNR=13						
JHJ				Sn	**S**	**19 17 25.1**	**+0.2**
	111nm,0.3s,baz=59,slow=23,SNR=8.7						
JIM2	**Oshima 3**	**2.13**	**294**	P	**P**	**19 17 06.4**	**-0.7**
JIM2				*e*S	**S**	**19 17 31.8**	**-0.7**
JIZS	**Izushimoda**	**2.56**	**290**	P	**P**	**19 17 13.0**	**-0.2**
JOD2	**Odawara 2**	**2.63**	**303**	P	**P**	**19 17 13.8**	**-0.5**
JOD2				*e*S	**S**	**19 17 43.8**	**-1.5**
JYN	**Shimob**	**3.13**	**302**	P	**P**	**19 17 21.4**	**0.0**
JYN				*e*S	**S**	**19 17 58.0**	**0.0**
SHZ3	**Shizuoka 3**	**3.19**	**293**	P	**P**	**19 17 23.1**	**+0.9**
JAG	**Ashikaga**	**3.20**	**324**	P	**P**	**19 17 22.2**	**-0.1**
JRY	**Ryogami san**	**3.20**	**313**	P	**P**	**19 17 22.8**	**+0.4**
MAJO	**Matsushiro**	**3.97**	**313**	*e*Pn	**P**	**19 17 33.3**	**0.0**
MAT	**Matsushiro**	**3.97**	**313**	*e*P	**P**	**19 17 34.0**	**+0.7**
MAT				*e*S	**S**	**19 18 21.0**	**+1.8**
MAT	**Matsushiro**	**3.97**	**313**	P	**P**	**19 17 33.6**	**+0.3**
MAT				S	**S**	**19 18 20.6**	**+1.4**
ASAJ	**Asahikawa**	**10.26**	**3**	Pn	**P**	**19 18 58.0**	**-2.8**
	0.3nm,0.3s,baz=228,slow=16,SNR=2.7						
ENH	**Enshi**	**27.55**	**271**	P	**P**	**19 22 16.8**	**-1.4**
	3.7nm,0.7s,mb4.1						
ULN	**Ulaanbaatar**	**29.49**	**309**	P	**P**	**19 22 35.6**	**+0.3**
	1.3nm,0.9s,mb3.7						
SONM	**Songino Array**	**29.91**	**308**	P	**P**	**19 22 40.4**	**+1.4**
	0.3nm,0.4s,mb3.4,baz=124,slow=10,SNR=2.9						
CMAR	**Chiang Mai Arr**	**41.09**	**259**	P	**P**	**19 24 14.3**	**-0.3**
	0.4nm,0.8s,mb3.1,baz=46,slow=7.9,SNR=4.5						
ZAL	**Zalesovo**	**44.34**	**315**	P	**P**	**19 24 41.4**	**+0.8**
	0.5nm,0.4s,mb3.6,baz=120,slow=16,SNR=3.3						
ZAL	**Zalesovo**	**44.34**	**315**	P	**P**	**19 24 41.4**	**+0.8**
KURK	**Kurchatov**	**48.18**	**310**	*e*P	**P**	**19 25 10.4**	**-0.6**
	2.8nm,0.7s,mb4.4						
ILAR	**Eielson Array**	**52.03**	**31**	P	**P**	**19 25 40.6**	**+0.4**
	0.9nm,0.9s,mb3.7,baz=265,slow=6.1,SNR=8.1						
CHKZ	**Chkalovo**	**52.74**	**315**	P	**P**	**19 25 40.2**	**-5.5**
	1.2nm,0.7s,mb3.9						
BVAR	**Borovoye Array**	**52.97**	**314**	P	**P**	**19 25 47.9**	**+0.5**
	0.8nm,0.7s,mb3.8,baz=68,slow=7.8,SNR=5.0						
BVAR	**Borovoye Array**	**52.97**	**314**	P	**P**	**19 25 47.9**	**+0.5**
BRVK	**Borovoye**	**53.03**	**314**	P	**P**	**19 25 47.9**	**0.0**
	1.6nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**53.97**	**189**	P	**P**	**19 25 54.5**	**-0.8**
	0.6nm,0.5s,mb3.8,baz=5.6,slow=7.5,SNR=5.2						
ARU	**Arti**	**58.96**	**320**	*e*P	**P**	**19 26 25.3**	**-5.1**
	6.0nm,1.0s,mb4.6						

*CSEM **20** 19:20:12.4±0.1, 40.23N×41.55E, h5km, MD3.7, Error ellipse: s-maj=3.0km s-min=2.4km az=120.0*
*ISK **20** 19:20:12.6, 40.22N×41.53E, h5km, MD3.7*

ISC 20 19:20:13.4±1.1, 40.23N±0.04×41.54E±0.08, h7km±8km, n16, σ0°98/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERZM	**Erzurum**	**0.35**	**203**	*i* P	**Pg**	**19 20 19.3**	**-1.2**
ERZM				*i* S	**Sg**	**19 20 26.7**	**+1.4**
EZM	**Erzurum**	**0.35**	**203**	*i* PG	**Pg**	**19 20 19.5**	**-1.0**
VRT	**Varto**	**1.10**	**180**	*i* PN	**Pn**	**19 20 33.1**	**-2.0**
VRT				*i* SN	**Sn**	**19 20 49.9**	**-0.7**
BCA	**Borcka**	**1.22**	**3**	*i* PN	**Pn**	**19 20 36.6**	**-0.2**
BCA				*i* SN	**Sn**	**19 20 53.7**	**+0.1**
KARS	**Kars**	**1.24**	**72**	*i* PN	**Pn**	**19 20 37.0**	**-0.2**
EZC	**Erzincan**	**1.41**	**251**	PN	**Pn**	**19 20 44.4**	**+4.8**
BINT	**Bingol**	**1.58**	**211**	*i* PN	**Pn**	**19 20 41.7**	**-0.3**
GUMT	**Gumushane**	**1.59**	**279**	PN	**Pn**	**19 20 42.6**	**+0.4**
BTMT	**Batman**	**2.04**	**181**	*e*PN	**Pn**	**19 20 49.9**	**+1.4**
PTK	**Pertek**	**2.13**	**232**	PN	**Pn**	**19 20 49.8**	**-0.1**
VANB	**Van**	**2.17**	**138**	PN	**Pn**	**19 20 50.4**	**-0.1**
TVAN	**Van**	**2.23**	**139**	*i* P	**Pn**	**19 20 52.8**	**+1.4**
TVAN				*i* S	**Sn**	**19 21 15.6**	**-3.8**
VANT	**Van**	**2.29**	**141**	PN	**Pn**	**19 20 52.2**	**+0.1**
BEST	**Besiri**	**2.34**	**185**	*i* P	**Pn**	**19 20 54.6**	**+1.6**
BEST				*i* S	**Sn**	**19 21 28.9**	**+6.6**
GNI	**Garni**	**2.45**	**91**	*e*PN	**Pn**	**19 20 54.7**	**+0.2**
DIY	**Diyarbakir**	**2.55**	**204**	*e*PN	**Pn**	**19 20 55.5**	**-0.3**

IGQ 20 19:24:22.2, 1.11S×81.75W, h12km±21km, mb4.2, 2D, Error ellipse: s-maj=21.1km s-min=10.2km az=177.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGUA	**Igualata**	**3.13**	**97**	P	Pn	19 25 13.4	+1.0
JUA2	**San Juan 2**	**3.26**	**74**	P	Pn	19 25 15.0	+0.8
TERV	**Terraza Guagua**	**3.27**	**74**	P	Pn	19 25 15.1	+0.7
PINO	**Pino**	**3.28**	**73**	⇓P	Pn	19 25 15.3	+0.8
NAS1	**Nasa**	**3.30**	**82**	P	Pn	19 25 17.4	+2.6
ARRY	**Arrayan**	**3.31**	**97**	P	Pn	19 25 16.1	+1.2
YANA	**Yana**	**3.32**	**73**	P	Pn	19 25 15.8	+0.7
PATA	**Patacocha**	**3.33**	**97**	P	Pn	19 25 17.8	+2.5
RUN2	**Runtun**	**3.35**	**95**	P	Pn	19 25 15.4	0.0
ULBA	**Ulba**	**3.35**	**96**	P	Pn	19 25 16.9	+1.4
VC1	**Cotopaxi 1**	**3.37**	**82**	P	Pn	19 25 18.2	+2.4
ANTI	**Antisana**	**3.64**	**80**	P	Pn	19 25 21.6	+1.9
COTA	**Cotacachi**	**3.70**	**67**	P	Pn	19 25 21.6	+1.3
CAYR	**Refugio Cayamb**	**3.90**	**73**	⇓P	Pn	19 25 26.2	+2.9
CAYR				S	Sn	19 26 09.2	-0.3
CAYA	**Cayambe**	**3.93**	**73**	P	Pn	19 25 26.3	+2.6

*BJI **20** 19:26:38.6, 6.32N×93.19E, h36km, mB5.4, mb5.2, Ms5.1, Msz4.9*
*CSEM **20** 19:26:39.6, 6.58N×93.63E, h33km, mb5.5*
*MOS **20** 19:26:39.0±0.8, 6.49N×93.48E, h33km, mb5.6/32, MS4.9/6, Error ellipse: s-maj=13.5km s-min=6.6km az=113.3*
*HRVD **20** 19:26:40.7±0.3, 6.42N×93.20E, h22km, MW5.2/45, Centroid moment Tensor Solution. LP body waves: s31,c55;Mantle waves: s45,c83; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.30±.27; $M_{\theta\theta}$-0.52±.16; $M_{\phi\phi}$5.82±.18; $M_{r\theta}$-0.35±.31; $M_{\theta\phi}$-0.71±.13; $M_{\phi r}$3.13±.30; Best double couple: $M_0$6.424×10^{16} NP1:ϕ_s354°, δ30°, λ-90°. NP2:ϕ_s174°, δ60°, λ-90°. Principal axes: T6.723, Plg15°, Azm264°; N-.595, Plg0°, Azm174°; P-6.125, Plg75°, Azm83°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **20** 19:26:40.7±0.1, 6.44N×93.35E, mb5.3/75, MS4.8/24 Error ellipse: s-maj=5.0km s-min=3.8km az=222.0*
*IDC **20** 19:26:41.4±0.4, 6.46N×93.40E, h34km±2km, mb4.8/29, mb1 4.8/30, mb1mx4.8/31, mbtmp5.0/30, ML3.7/1, MS4.6/14, Ms1 4.6/14, ms1mx4.3/24, Error ellipse: s-maj=14.0km s-min=7.6km az=50.0*

ISC 20 19:26:38.8±0.2, 6.41N±0.03×93.36E±0.03, h30km, h30km±.5km:pP-P, n317, σ1°02/299, mb5.2/126, MS4.8/50, 13C-36D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**5.25**	**353**	*e*P	**Pn**	**19 28 00.2**	**+2.9**
PBA				*e*S	**Sn**	**19 28 55.8**	**-1.8**
SNG	**Songkhla**	**7.25**	**84**	P	**Pn**	**19 28 25.0**	**-0.5**
	422nm,0.9s						
NNT	**Nongplab**	**8.79**	**45**	P	**P**	**19 28 49.2**	**+2.3**
NST	**Nakhon Sawan**	**11.36**	**35**	P	**P**	**19 29 33.0**	**+11**
PALK	**Pallekele**	**12.59**	**275**	*e*P	**P**	**19 29 36.7**	**-2.1**
	23nm,0.8s						
PALK				*e*S	**S**	**19 31 42.5**	**-17**
CM31	**Chiang Mai Arr**	**13.16**	**24**	*e*P	**P**	**19 29 47.4**	**+1.1**
	322nm,1.0s						
CM31				*e*		19 29 53.4	
CM31				*e*		19 30 01.9	
CMAR	**Chiang Mai Arr**	**13.16**	**24**	*i* P	**P**	**19 29 46.0**	**-0.3**
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**13.16**	**24**	Pn	**P**	**19 29 43.8**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=217,slow=13,SNR=24						
CMAR				LR	LR	19 35 13.1	
	comp=Z,2μm,18.1s,baz=210,slow=39						
CHG	**Chiang Mai**	**13.48**	**23**	⇑P	**P**	**19 29 51.9**	**+1.3**
	comp=Z,12nm,1.0s						
NANT	**Nan**	**14.24**	**29**	⇑P	**P**	**19 30 03.0**	**+2.3**
	comp=Z,262nm,1.0s						
UBT	**Ubonrachathani**	**14.43**	**52**	P	**P**	**19 30 11.5**	**+8.4**
VIS	**Vishakhapatnam**	**14.91**	**320**	⇓*e*P	**P**	**19 30 08.2**	**-1.2**
VIS				*e*		19 30 12.1	
	comp=Z,77nm,0.2s						
VIS				*e*	**S**	**19 32 41.4**	**-13**
BWNR	**Bhubaneshwar**	**15.63**	**333**	*e*P	**P**	**19 30 16.2**	**-2.6**
BWNR				*e*		19 30 17.9	
	comp=Z,59nm,0.3s						
BWNR				*e*	**S**	**19 32 58.1**	**-13**
KOD	**Kodaikanal**	**16.17**	**285**	*e*P	**P**	**19 30 25.7**	**0.0**
KOD				*e*P		19 30 27.0	
KOD				*e*		19 30 40.1	
	comp=Z,133nm,1.3s						
TRD	**Trivandrum**	**16.39**	**278**	*e*P	**P**	**19 30 30.6**	**+2.0**
TRD				*e*P		19 30 32.1	
TRD				*e*		19 30 34.4	
	comp=Z,61nm,1.0s						
TRD				*e*	**S**	**19 33 15.4**	**-13**
HYB	**Hyderabad**	**18.14**	**308**	*e*P	**P**	**19 30 50.0**	**-0.4**
HYB				*e*		19 30 59.0	
HYB				*e*		19 33 54.0	
HYB				*e*S	**S**	**19 34 09.0**	**+0.4**
HYB	**Hyderabad**	**18.14**	**308**	*i* P	**P**	**19 30 50.0**	**-0.4**
	comp=Z,90nm,1.0s						
HYB				*e*		19 30 59.0	
HYB				*e*		19 33 54.0	
HYB				*e*S	**S**	**19 34 09.0**	**+0.4**
BLSP	**Bilaspur**	**19.02**	**326**	*e*P	**P**	**19 31 01.0**	**-0.1**
BLSP				*e*		19 31 02.8	
	comp=Z,44nm,1.3s						
BLSP				*e*	**S**	**19 34 19.6**	**-9.1**
SHL	**Shillong**	**19.11**	**356**	⇓*e*P	**P**	**19 30 59.0**	**-3.0**
SHL				⇓*e*P		19 30 59.1	
SHL				*e*		19 31 01.9	
	comp=Z,112nm,1.2s						
SHL				*e*	**S**	**19 34 25.0**	**-5.5**
LATR	**Latur**	**20.26**	**308**	*e*	**P**	**19 31 18.5**	**+3.8**
QIZ	**Qiongzhong**	**20.37**	**50**	P	**P**	**19 31 17.1**	**+1.3**
QIZ				XP		19 31 28.0	
QIZ				S	**S**	**19 35 01.8**	**+4.4**
QIZ				SS	SS	19 35 30.9	+3.5
QIZ				AMB	AMB		
	comp=Z,192nm,1.4s						
QIZ				AMB	AMB		
	comp=Z,319nm,4.8s						
QIZ				LR	LR		
	comp=N,2μm,14.6s,MS4.8						
QIZ				LR	LR		
	comp=E,1μm,14.0s,MS4.8						
QIZ				LR	LR		
	comp=Z,4μm,13.3s,MS4.9						
QIZ	**Qiongzhong**	**20.37**	**50**	*e*P	**P**	**19 31 17.1**	**+1.2**
	comp=Z,264nm,1.1s						
QIZ				*e*		19 31 26.5	
GOA	**Goa**	**21.18**	**297**	*e*	**P**	**19 31 31.6**	**+7.5**
GOA				*e*		19 31 47.1	
	comp=Z,109nm,1.2s						
KAD	**Karad**	**21.64**	**302**	*e*P	**P**	**19 31 27.7**	**-1.1**
KAD				*e*P		19 31 27.8	
KAD				*e*		19 31 43.1	
	comp=Z,124nm,1.5s						
ALBI	**Allahabad**	**21.80**	**331**	*e*P	**P**	**19 31 30.0**	**-0.4**
JIRN	**Jiri**	**22.21**	**343**	*e*P	**P**	**19 31 34.0**	**-0.4**
	comp=Z,274nm,1.1s,mb5.6						
PKI	**Pulchoki**	**22.36**	**341**	*e*P	**P**	**19 31 35.8**	**-0.1**
	comp=Z,198nm,1.3s,mb5.4						
DMN	**Daman**	**22.50**	**341**	*e*P	**P**	**19 31 37.4**	**+0.2**
	comp=Z,159nm,1.2s,mb5.3						
KKN	**Kakani**	**22.61**	**341**	*e*P	**P**	**19 31 38.6**	**+0.2**
	comp=Z,131nm,1.0s,mb5.3						
BHPL	**Bhopal**	**22.70**	**319**	*e*P	**P**	**19 31 39.2**	**-0.2**
BHPL				*e*		19 31 53.1	
	comp=Z,63nm,1.7s						
BHPL				*e*	**S**	**19 35 52.9**	**+12**
GKN	**Gorkha**	**23.02**	**340**	*e*P	**P**	**19 31 43.3**	**+0.9**
	comp=Z,361nm,1.2s,mb5.7						
KOLN	**Koldanda**	**23.18**	**338**	*e*P	**P**	**19 31 45.4**	**+1.4**
	comp=Z,408nm,1.4s,mb5.7						
LSA	**Lhasa**	**23.26**	**355**	P	**P**	**19 31 44.3**	**-0.5**
LSA				AP		19 31 55.9	
LSA				XP		19 32 00.3	
LSA				S	**S**	**19 35 53.8**	**+2.8**
LSA				AMB	AMB		
	comp=Z,110nm,1.0s,mb5.2						
LSA				LR	LR		
	comp=N,720nm,21.6s						
LSA				LR	LR		
	comp=E,1μm,26.7s						
LSA				LR	LR		
	comp=Z,2μm,21.0s,MS4.5						
LSA	**Lhasa**	**23.26**	**355**	*e*P	**P**	**19 31 45.5**	**+0.7**
	comp=Z,138nm,1.0s,mb5.3						
BOM	**Bombay**	**23.54**	**304**	*e*	**P**	**19 32 01.4**	**+14**
DGAR	**Diego Garcia**	**24.96**	**237**	P	**P**	**19 32 00.8**	**-0.7**
	comp=Z,92nm,1.0s,mb5.3						
NDI	**New Delhi**	**26.91**	**327**	*e*P	**P**	**19 32 19.2**	**-0.1**
NDI				*e*P		19 32 19.5	
NDI				*e*		19 32 41.0	
	comp=Z,100nm,1.2s						
ENH	**Enshi**	**28.17**	**31**	*e*P	**P**	**19 32 29.8**	**-1.0**
	comp=Z,41nm,0.8s,mb5.1						
ENH				*e*		19 32 40.7	
TGY	**Tagaytay City**	**28.17**	**72**	P	**P**	**19 32 31.6**	**+0.7**
	comp=Z,111nm,0.3s,mb5.9,baz=219,slow=12,SNR=4.2						
TGY				LR	LR	19 43 55.6	
	comp=Z,1μm,20.2s,MS4.6,baz=170,slow=37						
TGY	**Tagaytay City**	**28.17**	**72**	P	**P**	**19 32 31.6**	**+0.7**
TGY				LR	LR	19 43 55.6	
SMLA	**Simla**	**28.90**	**330**	*e*	**P**	**19 32 50.7**	**+13**
SMLA				*e*		19 32 54.1	
	comp=Z,92nm,1.4s						
QZH	**Quanzhou**	**30.39**	**50**	*e*P	**P**	**19 32 51.8**	**+1.1**
QZH				LR	LR		
	comp=N,4μm,15.2s,MS5.5						
QZH				LR	LR		
	comp=E,6μm,14.4s,MS5.5						
QZH				LR	LR		
	comp=Z,9μm,14.4s,MS5.6						
XAN	**Xi'an**	**31.05**	**26**	P	**P**	**19 32 55.1**	**-1.2**
XAN				AP	pP	19 33 03.9	-1.4
XAN				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.4						
XAN				LR	LR		
	comp=N,1μm,16.4s,MS4.7						
XAN				LR	LR		
	comp=E,599nm,15.7s,MS4.7						
XAN				LR	LR		
	comp=Z,2μm,15.9s,MS4.9						
LZH	**Lanzhou**	**31.07**	**17**	⇓P	**P**	**19 32 56.0**	**-0.5**
LZH				AP	pP	19 33 03.5	-2.0
LZH				XP	sP	19 33 07.4	-2.0
LZH				PP	PP	19 33 59.3	+0.2
LZH				*e*S	**S**	**19 37 59.5**	**+0.9**
LZH				XS		19 38 12.0	
LZH				SS	SS	19 39 46.3	+2.3
LZH				AMB	AMB		
	comp=Z,68nm,1.4s,mb5.3						
LZH				AMB	AMB		
	comp=Z,414nm,6.3s						
LZH				LR	LR		
	comp=E,2μm,13.2s						
LZH				LR	LR		
	comp=Z,4μm,17.0s,MS5.1						
WHN	**Wuhan**	**31.07**	**37**	P	**P**	**19 32 56.8**	**+0.2**
WHN				LR	LR		
	comp=Z,4μm,15.9s,MS5.2						
NJ2	**Nanjing**	**34.89**	**40**	*e*P	**P**	**19 33 30.6**	**+0.8**
NJ2				PP	PP	19 34 52.1	+4.3
NJ2				XS		19 39 19.0	
NJ2				AMB	AMB		
	comp=Z,140nm,1.0s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,590nm,5.4s						
NJ2				LR	LR		
	comp=N,2μm,22.6s,MS4.9						
NJ2				LR	LR		
	comp=E,2μm,25.2s,MS4.9						
NJ2				LR	LR		
	comp=Z,3μm,23.2s,MS4.9						
TIY	**Taiyuan**	**35.67**	**26**	*e*P	**P**	**19 33 42.0**	**+5.6**
TIY				LR	LR		
	comp=N,4μm,15.0s						
WMQ	**Urumqi**	**37.59**	**353**	*e*P	**P**	**19 33 54.0**	**+1.5**
WMQ				AP	pP	19 34 01.4	-0.2
WMQ				XP	sP	19 34 04.7	-0.7
WMQ				PP	PP	19 35 22.8	+1.5
WMQ				S	**S**	**19 39 41.7**	**+2.2**
WMQ				XS		19 39 53.9	
WMQ				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,141nm,4.9s						
WMQ				LR	LR		
	comp=N,2μm,19.5s,MS5.2						
WMQ				LR	LR		
	comp=E,4μm,20.2s,MS5.2						
WMQ				LR	LR		
	comp=Z,3μm,20.3s,MS5.1						
MBWA	**Marble Bar**	**37.69**	**137**	*e*P	**P**	**19 33 52.3**	**-1.2**
	comp=Z,65nm,1.2s,mb5.2						
MBWA				*e*	pP	19 34 01.6	-1.0
JOW	**Kunigami**	**38.93**	**54**	P	**P**	**19 34 05.2**	**+1.3**
	comp=Z,24nm,0.8s,mb5.0,baz=68,slow=25,SNR=7.8						
JOW				pP	pP	19 34 15.8	+2.9
	comp=Z,63nm,0.6s,baz=276,slow=10.0,SNR=5.6						
JOW				LR	LR	19 52 23.0	
	comp=Z,1μm,18.6s,MS4.8,baz=199,slow=40						
KZA	**Kyzart**	**38.99**	**338**	P	**P**	**19 34 05.5**	**+1.3**
	SNR=12						
BJT	**Baijiatuau**	**39.24**	**28**	*e*P	**P**	**19 34 07.8**	**+1.5**
	comp=Z,66nm,0.7s,mb5.5						
BJT				*e*	pP	19 34 18.2	+2.7
UCH	**Uchtor**	**39.39**	**338**	P	**P**	**19 34 08.8**	**+1.2**
	SNR=57						
KBK	**Karagaybulak**	**39.60**	**339**	P	**P**	**19 34 10.9**	**+1.6**
	SNR=53						
TKM2	**Tokmak 2**	**39.60**	**339**	P	**P**	**19 34 10.2**	**+0.9**
	SNR=25						
AML	**Almayashu**	**39.62**	**337**	P	**P**	**19 34 11.1**	**+1.7**
	SNR=81						
AAK	**Ala-Archa**	**39.75**	**338**	P	**P**	**19 34 11.9**	**+1.4**
	SNR=42						
AAK	**Ala-Archa**	**39.75**	**338**	*d* *i*P	**P**	**19 34 10.8**	**+0.3**
AAK				pmax	pmax		
	comp=Z,44nm,0.8s,mb5.2						
AAK				MLR	MLR		
	comp=Z,700nm,14.0s,MS4.7						
AAK	**Ala-Archa**	**39.75**	**338**	*e*P	**P**	**19 34 10.3**	**-0.2**
	comp=Z,82nm,1.3s,mb5.3						
AAK				*e*	pP	19 34 21.4	+1.8
AAK				LR	LR		
	comp=Z,254nm,19.0s,MS4.1						
CHMS	**Chumysh**	**39.97**	**339**	P	**P**	**19 34 12.3**	**-0.1**
	SNR=16						
EKS2	**Erkin-Say**	**40.04**	**337**	P	**P**	**19 34 14.3**	**+1.4**
	SNR=32						
FITZ	**Fitzroy Crossi**	**40.10**	**128**	⇓*i*P	**P**	**19 34 13.0**	**-0.6**
	comp=Z,37nm,0.6s,mb5.3						
FITZ				*i*	pP	19 34 23.8	+1.0
USP	**Ospenovka**	**40.30**	**339**	P	**P**	**19 34 15.7**	**+0.7**
	SNR=41						
MKAR	**Makanchi Array**	**41.35**	**348**	*i* P	**P**	**19 34 23.6**	**0.0**
MKAR				pmax	pmax		
	comp=Z,18nm,0.7s						
SONM	**Songino Array**	**42.76**	**13**	P	**P**	**19 34 35.5**	**+0.3**
	comp=Z,7.4nm,0.9s,mb4.4,baz=198,slow=7.8,SNR=30						
SONM				pP	pP	19 34 44.3	0.0
	comp=Z,20nm,0.7s,baz=193,slow=7.9,SNR=29						
SONM				PcP	PcP	19 36 27.1	+0.2
	comp=Z,4.8nm,0.8s,baz=207,slow=2.8,SNR=4.2						
ULN	**Ulaanbaatar**	**42.94**	**14**	*e*P	**P**	**19 34 36.1**	**-0.4**
	comp=Z,12nm,0.8s,mb4.7						
ULN				*e*	pP	19 34 46.4	+0.6
ULN				LR	LR		
	comp=Z,605nm,20.0s,MS4.5						
KAKA	**Kakadu**	**43.24**	**116**	*e*P	**P**	**19 34 37.7**	**-1.8**
	comp=Z,41nm,0.8s,mb5.2						
KS15	**Wonju Array Si**	**44.05**	**40**	*e*P	**P**	**19 34 45.6**	**-0.1**
SNY	**Shenyang**	**44.32**	**33**	⇓P	**P**	**19 34 48.1**	**+0.2**
SNY				AP	pP	19 34 58.5	+1.4
SNY				XP	sP	19 35 03.3	+2.5
SNY				S	**S**	**19 41 15.5**	**-3.9**
SNY				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.1						
SNY				LR	LR		
	comp=N,1μm,16.8s,MS5.0						
SNY				LR	LR		
	comp=E,610nm,14.8s,MS5.0						
SNY				LR	LR		
	comp=Z,740nm,16.9s,MS4.7						
KLBR	**Kellerberrin**	**44.39**	**150**	*e*P	**P**	**19 34 49.3**	**+0.7**
	comp=Z,755nm,1.3s,mb6.3						
ZAK	**Zakamensk**	**44.61**	**9**	*e*P	**P**	**19 34 50.0**	**-0.1**
NWAO	**Narrogin (SRO)**	**45.22**	**151**	P	**P**	**19 34 56.0**	**+0.7**
	comp=Z,19nm,0.9s,mb4.9,baz=320,slow=13,SNR=5.7						
NWAO				pP	pP	19 35 04.9	+0.5
	comp=Z,31nm,0.9s,baz=303,slow=11,SNR=8.8						
NWAO	**Narrogin (SRO)**	**45.22**	**151**	*e*P	**P**	**19 34 55.3**	**0.0**
	comp=Z,51nm,1.1s,mb5.3						
NWAO				*e*	pP	19 35 04.9	+0.5
NWAO				LR	LR		
	comp=Z,523nm,19.0s,MS4.5						
MOY	**Mondy**	**45.56**	**7**	*e*P	pP	19 35 08.5	+1.7
KURK	**Kurchatov**	**45.85**	**347**	*d* *i*P	**P**	**19 35 00.3**	**+0.4**
KURK	**Kurchatov**	**45.85**	**347**	*e*P	**P**	**19 35 00.2**	**+0.3**
	comp=Z,75nm,0.9s,mb5.6						
KURK				*e*	pP	19 35 10.5	+1.4
KURK				LR	LR		
	comp=Z,159nm,21.0s,MS3.9						
TLY	**Talaya**	**45.93**	**9**	*e*P	pP	19 35 10.5	+0.8
TLY				*e*S	**S**	**19 41 48.8**	**+6.4**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
TLY				MLR	MLR		
	comp=Z,654nm,17.0s,MS4.6						
TLY	**Talaya**

MDJ S **S** **19 42 36.4 +4.2**
MDJ AMB AMB
comp=Z,51nm,1.4s,mb5.4
MDJ AMB AMB
comp=Z,148nm,3.2s
MDJ LR LR
comp=N,430nm,15.8s,MS4.7
MDJ LR LR
comp=E,572nm,20.0s,MS4.7
MDJ LR LR
comp=Z,641nm,16.8s,MS4.7
MDJ Mudanjiang 49.45 34 *e*P **P** **19 35 27.3 -0.9**
comp=Z,84nm,1.2s,mb5.6
MDJ *e* 19 35 39.2
MDJ LR LR
comp=Z,672nm,19.0s,MS4.7
ASPA Alice Springs 49.59 128⇓*i*P **P** **19 35 29.1 -0.5**
ASPA *i* pP 19 35 40.2 +1.3
ASPA *i* S **S** **19 42 34.6 +0.1**
ASAR Alice Springs 49.60 128 P **P** **19 35 29.3 -0.3**
comp=Z,24nm,0.7s,mb5.3,baz=300,slow=7.3,SNR=187
ASAR pP pP 19 35 39.8 +0.9
comp=Z,53nm,0.8s,baz=298,slow=7.2,SNR=34
ASAR PcP PcP 19 36 51.5 +0.3
comp=Z,9.5nm,0.7s,baz=301,slow=3.7,SNR=4.4
ASAR S **S** **19 42 32.1 -2.5**
comp=Z,3.1nm,0.9s,baz=300,slow=12,SNR=5.9
ASAR LR LR 19 56 00.7
comp=Z,281nm,20.4s,MS4.2,baz=296,slow=36
FORT Forrest 49.70 140⇓*i*P **P** **19 35 30.8 +0.5**
comp=Z,117nm,0.7s,mb6.0
FORT *i* pP 19 35 41.7 +2.1
BVA0 Borovoye Array 50.13 342 P **P** **19 35 32.7 -0.6**
BVA0 pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
BVAR Borovoye Array 50.13 342 P **P** **19 35 32.7 -0.5**
comp=Z,27nm,1.1s,mb5.2,baz=143,slow=7.4,SNR=54
BVAR pP pP 19 35 44.1 +1.5
comp=Z,6.6nm,0.5s,baz=144,slow=9.3,SNR=11
BVAR PcP PcP 19 36 52.5 -0.2
comp=Z,6.3nm,0.9s,baz=135,slow=4.1,SNR=3.0
BVAR Borovoye Array 50.13 342 P **P** **19 35 32.7 -0.5**
BVAR pP pP 19 35 44.1 +1.5
BVAR PcP PcP 19 36 52.5 -0.2
BRVK Borovoye 50.19 342 *e*P **P** **19 35 32.8 -0.9**
comp=Z,44nm,1.2s,mb5.4
BRVK *e* pP 19 35 43.9 +0.8
CHKZ Chkalovo 50.62 343 *e*P **P** **19 35 36.8 -0.2**
comp=Z,90nm,1.1s,mb5.6
CBIJ Chichi jima 50.69 60 LR LR 19 54 39.8
comp=Z,370nm,21.7s,MS4.4,baz=140,slow=33
MAJO Matsushiro 50.72 47 *e*P **P** **19 35 37.9 -0.1**
comp=Z,23nm,0.7s,mb5.2
MAJO *e* pP 19 35 48.9 +1.6
MAT Matsushiro 50.72 47 *e*P **P** **19 35 37.0 -1.0**
MAT LR LR
comp=Z,1μm,20.0s,MS4.8
MAT Matsushiro 50.72 47 P **P** **19 35 37.3 -0.7**
KLR Kul'dur 53.54 30 *e*P **P** **19 35 55.8 -3.1**
KLR *e* pP 19 36 06.0 -2.2
KLR *e*S **S** **19 43 36.5 +8.3**
KLR pmax pmax
comp=N,24nm,1.4s
KLR pmax pmax
comp=E,28nm,1.4s
KLR pmax pmax
comp=Z,43nm,1.4s,mb5.2
KLR MLR MLR
comp=E,900nm,13.0s
KLR MLR MLR
comp=Z,1μm,13.0s,MS5.1
BOD Bodaibo 53.75 14 *e*P **P** **19 35 59.8 -0.5**
GNI Garni 54.91 315 P **P** **19 36 09.3 +0.1**
comp=Z,13nm,0.9s,mb5.0,baz=242,slow=3.7,SNR=4.9
GNI Garni 54.91 315 *e*P **P** **19 36 08.2 -1.0**
comp=Z,31nm,1.0s,mb5.3
TI2 Plekhanov 55.57 317⇓*i*P **P** **19 36 13.4 -0.5**
TI2 pmax pmax
comp=Z,30nm,1.0s,mb5.3
PMG Port Moresby 55.87 106 P **P** **19 36 15.8 -0.6**
comp=Z,28nm,0.7s,mb5.4,baz=313,slow=2.6,SNR=13
PMG pP pP 19 36 26.6 +0.8
comp=Z,83nm,0.8s,baz=277,slow=7.2,SNR=13
PMG Port Moresby 55.87 106 *e*P **P** **19 36 15.4 -0.9**
comp=Z,101nm,0.8s,mb5.9
PMG *e* pP 19 36 24.7 -1.1
PMG LR LR
comp=Z,335nm,20.0s,MS4.4
CLNS Chul'man 56.07 20⇓*i*P **P** **19 36 17.2 -0.1**
CLNS *e**PP pP 19 36 26.1 -0.6
CLNS *e* 19 37 14.9
CLNS *e* 19 38 16.5
CLNS *e*S **S** **19 43 54.8 -7.3**
CLNS *e*SS SS 19 47 42.4 -6.2
CLNS pmax pmax
comp=Z,49nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,31nm,1.0s
CLNS pmax pmax
comp=E,31nm,1.2s
CLNS pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
CLNS pmax pmax
comp=N,4.0nm,0.6s
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS smax
comp=E,81nm,13.3s
CLNS smax
comp=Z,46nm,11.5s
CLNS smax
comp=N,151nm,12.9s
CLNS MLR MLR
comp=N,900nm,16.0s,MS5.0
CLNS MLR MLR
comp=E,200nm,16.0s,MS5.0
CLNS MLR MLR
comp=Z,1μm,16.0s,MS5.1
SVE Sverdlovsk 56.48 339 *e*P **P** **19 36 20.4 +0.2**
SVE *e* 19 37 16.0
SVE *e*S **S** **19 44 08.0 +0.5**
SVE pmax pmax
comp=Z,150nm,1.3s,mb5.9
SVE MLR MLR
comp=Z,2μm,15.5s,MS5.3
KMBO Kilima Mbogo 56.50 264 *i* P **P** **19 36 23.1 +2.2**
KMBO pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 56.50 264 P **P** **19 36 23.1 +2.2**
comp=Z,6.4nm,0.9s,mb4.6,baz=55,slow=10,SNR=11
KMBO LR LR 19 58 55.0
comp=Z,882nm,18.4s,MS4.9,baz=279,slow=34
KMBO Kilima Mbogo 56.50 264 *e*P **P** **19 36 21.8 +0.8**
comp=Z,13nm,1.1s,mb4.9
KMBO *e* pP 19 36 30.8 +0.4
KMBO LR LR
comp=Z,855nm,19.0s,MS4.9
ZEI Tsey 56.59 318 *e*P **P** **19 36 21.0 -0.2**
ZEI pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
ARU Arti 56.94 338 P **P** **19 36 22.0 -1.5**
comp=Z,238nm,1.0s,mb6.2,SNR=28
ARU Arti 56.94 338⇓*i*P **P** **19 36 16.7 -6.8**
ARU *e*S **S** **19 44 05.8 -7.7**
ARU *e* 19 46 06.2
ARU *e*SS SS 19 48 03.1 -0.2
ARU pmax pmax
comp=Z,55nm,1.1s,mb5.5
ARU Arti 56.94 338 *e*P **P** **19 36 17.8 -5.7**
comp=Z,64nm,1.1s,mb5.6
KIV Kislovodsk 57.89 319 *e*P **P** **19 36 29.5 -0.8**
KIV *e*S **S** **19 44 31.5 +5.2**
KIV pmax pmax
comp=N,12nm,1.0s
KIV pmax pmax
comp=Z,24nm,1.0s,mb5.2
KIV Kislovodsk 57.89 319 *e*P **P** **19 36 29.4 -0.9**
comp=Z,31nm,1.1s,mb5.2
KIV *e* pP 19 36 38.3 -1.5
KIV *e* 19 36 44.6
KIV LR LR
comp=Z,100nm,20.0s,MS3.9
CTA Charters Tower 58.29 118⇓*i*P **P** **19 36 32.8 -0.7**
comp=Z,17nm,1.3s,mb4.9
CTA *i* pP 19 36 44.0 +1.1
CTA Charters Tower 58.29 118 P **P** **19 36 33.0 -0.5**
comp=Z,17nm,0.9s,mb5.0,baz=290,slow=9.9,SNR=11
CTA pP pP 19 36 44.1 +1.2
comp=Z,36nm,0.9s,baz=295,slow=8.0,SNR=17
CTA LR LR 20 05 27.4
comp=Z,738nm,18.1s,MS4.8,baz=285,slow=40
CTAO Charters Tower 58.29 118 *e*P **P** **19 36 33.0 -0.4**
comp=Z,103nm,1.2s,mb5.7
CTAO LR LR
comp=Z,1μm,21.0s,MS5.0
ASF Jabal al Asfar 58.37 304 P **P** **19 36 34.8 +0.9**
comp=Z,18nm,1.1s,mb5.0,baz=341,slow=3.7,SNR=18
ASF pP pP 19 36 44.2 +0.9
comp=Z,14nm,1.0s,baz=16,slow=3.0,SNR=8.3
ASF LR LR 19 59 43.0
comp=Z,124nm,21.0s,MS4.0,baz=296,slow=34
YSS Yuzh-Sakhalins 58.41 38 *e*P **P** **19 36 32.5 -1.5**
YSS *e* pP 19 36 43.1 -0.3
YSS MLR MLR
comp=Z,800nm,15.0s,MS5.0
YSS MLR MLR
comp=N,600nm,17.0s,MS5.0
YSS MLR MLR
comp=E,600nm,15.0s,MS5.0
YSS Yuzh-Sakhalins 58.41 38 *e*P **P** **19 36 33.6 -0.4**
comp=E,58nm,1.1s,mb5.5
YSS LR LR
comp=Z,474nm,19.0s,MS4.6
MALT Malatya 58.82 311 *e*P **P** **19 36 36.9 -0.1**
comp=Z,14nm,1.2s,mb4.8
ADE Adelaide 59.31 137 *e*P **P** **19 36 41.2 +0.8**
EIL Elat 59.48 301 P **P** **19 36 42.5 +0.8**
comp=Z,16nm,1.0s,mb5.0,baz=76,slow=9.7,SNR=11
EIL pP pP 19 36 51.1 0.0
comp=Z,10nm,0.8s,baz=97,slow=9.3,SNR=7.5
EIL Elat 59.48 301 *e*P **P** **19 36 42.7 +1.0**
comp=Z,41nm,1.3s,mb5.3
EIL *e* pP 19 36 50.7 -0.5
STKA Stephens Creek 59.68 133⇓*i*P **P** **19 36 42.7 -0.3**
comp=Z,13nm,0.8s,mb5.0
STKA *i* pP 19 36 53.6 +1.1
STKA Stephens Creek 59.68 133 P **P** **19 36 42.6 -0.3**
comp=Z,20nm,0.9s,mb5.2,baz=315,slow=6.2,SNR=28
STKA pP pP 19 36 52.4 -0.1
comp=Z,32nm,0.8s,baz=315,slow=6.5,SNR=22
STKA LR LR 20 03 18.5
comp=Z,494nm,20.7s,MS4.6,baz=109,slow=37
SOC Sochi 59.71 317 *i* P **P** **19 36 41.3 -1.8**
SOC *e* 19 37 22.4
SOC *e*S **S** **19 44 46.4 -3.6**
SOC *e* 19 46 24.0
SOC *e*SS SS 19 48 45.8 -1.4
SOC pmax pmax
comp=N,23nm,1.2s
SOC pmax pmax
comp=Z,24nm,1.2s,mb5.1
SOC pmax pmax
comp=E,12nm,1.0s
SOKR Solikamsk 59.88 339⇓*i*P **P** **19 36 42.8 -1.2**
SOKR pmax pmax
comp=Z,50nm,1.1s,mb5.5
SOKR MLR MLR
comp=Z,720nm,20.0s,MS4.8
YAK Yakutsk 61.62 19*d i*P **P** **19 36 54.5 -1.3**
YAK pmax pmax
comp=Z,106nm,1.0s,mb5.9
YAK Yakutsk 61.62 19 *e*P **P** **19 36 54.2 -1.6**
comp=Z,125nm,0.9s,mb6.0
YAK *e* pP 19 37 05.0 -0.3
YAK LR LR
comp=Z,772nm,21.0s,MS4.8
ANN Anapa 61.69 318 *e*P **P** **19 36 46.1 -10**
ANN pmax pmax
comp=Z,35nm,1.4s,mb5.3
BRTR Keskin Array B 62.80 312 P **P** **19 37 02.7 -1.2**
comp=Z,6.9nm,0.9s,mb4.8,baz=125,slow=6.4,SNR=44
BRTR pP pP 19 37 11.6 -1.9
comp=Z,14nm,1.1s,baz=125,slow=7.2,SNR=16
MBAR Mbarara 62.88 266 *e*P **P** **19 37 03.8 -1.0**
comp=Z,22nm,1.2s,mb5.2
MBAR *e* pP 19 37 13.2 -1.1
VRSR Storozhevoye 63.12 325 *e*P **P** **19 37 04.0 -1.9**
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,1.3s
SIM Simferopol' 63.96 317 *e*P **P** **19 37 11.0 -0.5**
SIM pmax pmax
comp=Z,16nm,1.3s,mb4.9
MOS Moscow 65.93 329 *e*P **P** **19 37 22.7 -1.3**
MOS *e* pP 19 37 31.2 -2.3
MOS *e* 19 39 44.3
MOS pmax pmax
comp=Z,72nm,1.0s,mb5.7
OBN Obninsk 66.20 328*de*P **P** **19 37 22.5 -3.3**
OBN *e*S S 19 46 13.6 +2.5
OBN pmax pmax
comp=Z,75nm,1.4s,mb5.5
OBN Obninsk 66.20 328 *e*P **P** **19 37 22.4 -3.4**
comp=Z,117nm,1.4s,mb5.7
OBN *e* pP 19 37 30.6 -4.8
CNB Canberra Magne 67.01 133⇑*i*P **P** **19 37 31.8 +0.5**
comp=Z,215nm,0.9s,mb6.2
SKR Severo-Kuril's 67.98 38 *e*P **P** **19 37 44.9 +7.7**
SKR pmax pmax
comp=Z,60nm,0.5s,mb5.9
LSZ Lusaka 68.05 251 *e*P **P** **19 37 39.1 +1.0**
comp=Z,11nm,0.9s,mb4.9
LSZ *e* pP 19 37 47.6 0.0
LSZ LR LR
comp=Z,1μm,19.0s,MS5.1
CFR Carcaliu 68.10 316⇑P **P** **19 37 37.1 -0.9**
MA2 Magadan 68.42 27*d i*P **P** **19 37 39.3 -0.4**
MA2 *e* pP 19 37 50.0 +0.8
MA2 pmax pmax
comp=Z,30nm,1.0s,mb5.3
MA2 Magadan 68.42 27 *e*P **P** **19 37 38.7 -1.0**
comp=Z,59nm,0.9s,mb5.6
MA2 *e* pP 19 37 49.1 -0.1
MA2 LR LR
comp=Z,267nm,19.0s,MS4.5
ALN Alexandroupoli 68.72 311 *e*P **P** **19 37 41.5 -0.5**
IDI Anoyia 68.77 305 P **P** **19 37 41.9 -0.4**
comp=Z,15nm,0.9s,mb4.9,baz=110,slow=9.1,SNR=4.4
TIXI Tiksi 68.81 11⇓*i*P **P** **19 37 40.8 -1.2**
TIXI *e*S S 19 46 42.2 0.0
TIXI pmax pmax
comp=N,30nm,1.3s
TIXI pmax pmax
comp=Z,172nm,1.3s,mb5.8
TIXI pmax pmax
comp=E,24nm,1.4s
TIXI pmax pmax
comp=Z,218nm,1.3s,mb5.9
TIXI Tiksi 68.81 11 *i* Pr 19 37 41.1
AKASG Malin Array Be 68.82 322 P **P** **19 37 40.5 -1.8**
comp=Z,5.4nm,0.7s,mb4.6,baz=88,slow=5.1,SNR=29
AKASG pP pP 19 37 49.3 -2.5
comp=Z,4.3nm,0.5s,baz=87,slow=5.9,SNR=11
VRI Vrincioaia 69.22 317⇓P **P** **19 37 44.9 0.0**
RZN Rozhen 69.84 312 *i* P **P** **19 37 48.5 -0.3**
PGB Panagyurishte 70.39 313 *i* P **P** **19 37 52.0 -0.1**
SEY Seymchan 70.58 25 *e*P **P** **19 37 50.9 -2.0**
SEY pmax pmax
comp=N,20nm,1.0s
SEY pmax pmax
comp=E,30nm,1.0s
SEY pmax pmax
comp=Z,80nm,1.0s,mb5.6
SRS Serrai 70.59 311 *e*P **P** **19 37 52.0 -1.3**
BURAR Bucovina Array 70.61 318⇑P **P** **19 37 53.4 +0.1**
MNK Minsk 70.72 326 P **P** **19 37 49.0 -4.9**
KKB Krupnik 71.08 312 *i* P **P** **19 37 55.3 -1.0**
VTS Vitosha 71.10 313⇓P **P** **19 37 55.5 -0.9**
VTS Vitosha 71.10 313 *i* P **P** **19 37 56.0 -0.4**
KNT Kendrikon 71.11 311 *e*P **P** **19 37 55.6 -0.9**
GRG Griva 71.46 311 *e*P **P** **19 37 57.5 -1.0**
JOF Joensuu 71.83 335 *e*p **P** **19 37 58.3 -2.1**
comp=Z,37nm,0.9s,mb5.3
JOF Joensuu 71.83 335 *e*P **P** **19 37 58.3 -2.1**
JOF pmax pmax
comp=Z,37nm,0.9s,mb5.3
BOLS Boljevac 72.19 314⇓*i*P **P** **19 38 01.1 -1.8**
SKO Skopje 72.31 312 *e*P **P** **19 38 00.1 -3.5**
KWP Kalwaria 72.64 320 *e*P **P** **19 38 05.2 -0.3**
KOLS Kolonicke sedl 72.79 319 *i* P **P** **19 38 07.3 +0.9**
KOLS *e* 19 38 25.6
APA Apatity 72.94 340⇑*i*P **P** **19 38 05.4 -1.5**
APA *i* 19 38 17.3
APA pmax pmax
comp=Z,34nm,1.0s,mb5.2
SUW Suwalki 73.24 325 *e*P **P** **19 38 08.2 -0.7**
SUW *e* pP 19 38 16.9 -1.6
CRVS Cervenica-Dubn 73.32 319 *i* P **P** **19 38 10.5 +1.1**
CASY Casey 73.58 173 *e*P **P** **19 38 12.0 +1.4**
comp=Z,52nm,1.1s,mb5.4
FINES FINESS Array B 73.64 332 *i* P **P** **19 38 10.4 -0.6**
FINES pmax pmax
comp=Z,38nm,1.1s
FINES FINESS Array B 73.64 332 P **P** **19 38 10.4 -0.6**
comp=Z,38nm,1.1s,mb5.2,baz=95,slow=6.1,SNR=23
FINES pP pP 19 38 21.3 +0.7
comp=Z,17nm,0.9s,baz=102,slow=5.6,SNR=8.1
FINES LR LR 20 14 33.5
comp=Z,405nm,19.5s,MS4.7,baz=340,slow=39
KAF Kangasniemi 73.74 333 *ep* **P** **19 38 10.0 -1.6**
comp=Z,39nm,0.9s,mb5.3,baz=106,slow=5.5
KAF Kangasniemi 73.74 333 *e*P **P** **19 38 10.0 -1.6**
KAF pmax pmax
comp=Z,39nm,0.9s,mb5.3
NIE Niedzica 74.14 320 *e*P **P** **19 38 15.0 +0.8**
BOSA Boshof 74.15 238 *e*P **P** **19 38 15.8 +1.1**
comp=Z,28nm,1.1s,mb5.1
OJC Ojcow 74.59 320 *e*P **P** **19 38 16.6 -0.2**
PKSM Moragy 74.83 316⇓*e*P **P** **19 38 17.4 -0.8**
VYHS Vyhne 74.98 318 *i* P **P** **19 38 19.1 +0.1**
VYHS *ep*P pP 19 38 27.8 -0.8
VYHS *e* 19 38 35.0
OKC Ostrava-Krasne 75.60 320 *e*P **P** **19 38 22.8 +0.2**
OKC *ep*P pP 19 38 31.5 -0.7
KEV Kevo 75.95 341 *ep* **P** **19 38 22.7 -1.5**
comp=Z,31nm,1.0s,mb5.2
KEV Kevo 75.95 341 *e*P **P** **19 38 22.7 -1.5**
KEV pmax pmax
comp=Z,31nm,1.0s,mb5.2
MORC Moravsky Berou 75.98 320⇑P **P** **19 38 25.2 +0.5**
MORC Moravsky Berou 75.98 320 *e*P **P** **19 38 24.0 -0.7**
comp=Z,38nm,1.4s,mb5.1
ZST Bratislava 76.09 318 *i* P **P** **19 38 25.7 +0.3**
ZST *ep*P pP 19 38 34.8 -0.2
ZST *e* 19 38 41.5
ARCES ARCESS Array B 76.38 340 P **P** **19 38 26.9 +0.3**
comp=Z,17nm,0.8s,mb5.0,baz=89,slow=6.5,SNR=25
ARCES pP pP 19 38 37.7 +1.5
comp=Z,35nm,1.0s,baz=98,slow=5.8,SNR=9.2
ARCES LR LR 20 14 41.8
comp=Z,792nm,19.5s,MS5.0,baz=105,slow=38
DPC Dobruska-Polom 76.82 320 *e*P **P** **19 38 30.1 +0.7**
DPC *ep*P pP 19 38 38.6 -0.5
KSP Ksiaz 76.89 321 *e*P **P** **19 38 30.2 +0.4**
KSP *ep*P pP 19 38 38.8 -0.6
KSP Ksiaz 76.89 321 *e*P **P** **19 38 29.7 -0.1**
KSP *e* pP 19 38 39.0 -0.5
MAW Mawson 76.95 192 P **P** **19 38 32.0 +2.2**
comp=Z,8.6nm,0.9s,mb4.7,baz=24,slow=8.2,SNR=5.5
MAW LR LR 20 08 06.7
comp=Z,403nm,18.4s,MS4.8,baz=54,slow=32
MAW Mawson 76.95 192 *e*P **P** **19 38 31.9 +2.1**
comp=Z,18nm,0.9s,mb5.0
KTK1 Kautokeino 76.99 340 *e*P **P** **19 38 30.8 +0.8**
KTK1 *ep*P pP 19 38 40.2 +0.6
KTK1 Kautokeino 76.99 340 *e*P **P** **19 38 30.8 +0.8**
KTK1 AMb AMB 19 38 33.8
comp=Z,89nm,1.6s,mb5.4
KTK1 *ep*P pP 19 38 40.2 +0.6
GROS Grobnik 77.02 316 *i* **P** **19 38 30.4 -0.2**
UPC Upice 77.04 320 *e*P **P** **19 38 31.1 +0.5**
UPC *ep*P pP 19 38 38.1 -2.1
ARSA Arzberg 77.06 317⇓*i*P **P** **19 38 31.3 +0.5**
comp=Z,25nm,1.2s,mb5.0
BOJS Bojanci 77.12 315 *i* P **P** **19 38 31.1 -0.1**
VISS Visnje 77.43 315 *i* **P** **19 38 32.9 0.0**
LJU Ljubljana 77.66 316 *e*P **P** **19 38 34.5 +0.3**
OBKA Obir 77.68 316⇓*i*P **P** **19 38 34.2 0.0**
comp=Z,22nm,1.2s,mb5.0
BILL Bilibino 77.73 22 *i* P **P** **19 38 33.7 -0.4**
BILL pmax pmax
comp=Z,39nm,1.6s,mb5.1
BILL Bilibino 77.73 22 *e*P **P** **19 38 33.1 -1.0**
comp=Z,20nm,0.9s,mb5.1
BILL *e* 19 38 44.9
BILL LR LR
comp=Z,714nm,19.0s,MS5.0
PRU Pruhonice 77.93 320 *e*P **P** **19 38 35.6 +0.1**
PRU *ep*P pP 19 38 44.9 -0.3
PVCC Panska Ves 77.95 320 *e*P **P** **19 38 36.1 +0.4**
PVCC *ep*P pP 19 38 43.6 -1.7
VOY Vojsko 78.10 316 *e*P **P** **19 38 36.4 -0.2**
VOY *e* 19 38 43.9
BRG Berggiesshubel 78.38 321 *e*P **P** **19 38 38.0 0.0**
BRG *e* pP 19 38 47.6 0.0
BRG pmax pmax
comp=Z,84nm,2.1s,mb5.3
BRG Berggiesshubel 78.38 321 *e*P **P** **19 38 38.0 0.0**
comp=Z,84nm,2.1s,mb5.3
BRG *e* pP 19 38 47.6 0.0
ROBS Robic 78.38 316 *e*P **P** **19 38 38.0 -0.1**
GEC2 GERESS Array S 78.40 318 *e*P **P** **19 38 38.8 +0.7**
GEC2 pmax pmax
comp=Z,40nm,1.2s,mb5.2
GEC2 GERESS Array S 78.40 318 *e*P **P** **19 38 38.8 +0.7**
comp=Z,40nm,1.2s,mb5.2
GERES GERESS Array B 78.40 318 P **P** **19 38 38.7 +0.6**
comp=Z,9.4nm,0.8s,mb4.7,baz=90,slow=5.3,SNR=28
KHC Kasperske Hory 78.50 319 *e*P **P** **19 38 38.6 -0.1**
KHC *ep*P pP 19 38 47.8 -0.5
KBA Koelnbreinsper 78.54 317⇓*i*P **P** **19 38 38.9 0.0**
comp=Z,18nm,1.3s,mb4.8
TRO Tromso 78.62 340 *e*P **P** **19 38 37.8 -1.2**
TRO *ep*P pP 19 38 46.5 -2.1
SUR Sutherland 78.86 235 *e*P **P** **19 38 42.6 +1.6**
comp=Z,93nm,1.5s,mb5.5
SUR *e* pP 19 38 51.0 +0.3
CLL Collm 79.00 321⇓*i*P **P** **19 38 41.4 0.0**
CLL *e* pP 19 38 50.0 -1.1
CLL *i* 19 38 57.3
CLL pmax pmax
comp=Z,14nm,1.1s,mb4.8
CLL Collm 79.00 321⇓*i*P **P** **19 38 41.4 0.0**
comp=Z,14nm,1.1s,mb4.8
CLL *e* pP 19 38 50.0 -1.1
CLL *i* 19 38 57.3
CLL Collm 79.00 321⇓P **P** **19 38 41.4 0.0**
comp=Z,logA/T=1.1,mb4.8
CLL *e**PP pP 19 38 50.0 -1.1
CLL *i **SP sP 19 38 57.3 +3.0
HFS Hagfors 79.33 330 P **P** **19 38 42.8 -0.2**
comp=Z,19nm,1.1s,mb5.0,baz=108,slow=9.4,SNR=6.9
MOR8 Moi Rana 79.69 336 *e*P **P** **19 38 44.4 -0.5**
MOR8 *ep*P pP 19 38 53.8 -0.7
MOR8 Moi Rana 79.69 336 *e*P **P** **19 38 44.4 -0.5**
MOR8 AMb AMB 19 38 47.2
comp=Z,55nm,1.8s,mb5.2
MOR8 *ep*P pP 19 38 53.8 -0.7
WTTA Wattenberg 79.71 317⇓*i*P **P** **19 38 45.3 0.0**
comp=Z,31nm,1.1s,mb5.2
WATA Walderalm 79.75 317⇑*i*P **P** **19 38 45.5 0.0**
comp=Z,25nm,1.4s,mb5.0
MOX Moxa 79.84 320 *e*P **P** **19 38 46.6 +0.7**
MOX pmax pmax
comp=Z,76nm,2.3s,mb5.2
MOX Moxa 79.84 320 *e*P **P** **19 38 46.6 +0.7**
comp=Z,76nm,2.3s,mb5.2
MOX Moxa 79.84 320 *i* P **P** **19 38 46.6 +0.7**
comp=Z,logA/T=1.5,mb5.2
FUR Furstenfeldbru 79.98 318 *e*P **P** **19 38 46.9 +0.2**
FUR pmax pmax
comp=Z,67nm,1.3s,mb5.4
FUR Furstenfeldbru 79.98 318 *e*P **P** **19 38 46.9 +0.2**
comp=Z,67nm,1.3s,mb5.4
SQTA Sankt Quirin 80.00 317⇑*i*P **P** **19 38 46.3 -0.6**
comp=Z,22nm,1.2s,mb5.0
GRA1 Grafenberg Arr 80.06 319 *e*P **P** **19 38 48.0 +0.9**
comp=Z,35nm,1.0s,mb5.2
GRA1 *ep*P pP 19 38 56.4 -0.4
GRF Grafenberg Arr 80.06 319 *e*P **P** **19 38 48.0 +0.9**
GRF *e**PP pP 19 38 56.4 -0.4
GRF pmax pmax
comp=Z,35nm,1.0s,mb5.2

GRF	**Grafenberg Arr**	**80.06**	**319**	*eP*	**P**	**19 38 48.0**	**+0.9**
	comp=Z,35nm,1.0s,mb5.2						
GRF				*eP*	pP	19 38 56.4	-0.4
MOTA	**Moosalm**	**80.07**	**317**	⇓*iP*	**P**	**19 38 46.9**	**-0.4**
	comp=Z,14nm,1.1s,mb4.8						
NB2	**NORSAR Subarra**	**80.62**	**331**	P	**P**	**19 38 49.5**	**-0.4**
	comp=Z,3.8nm,0.9s,mb4.3,baz=95,slow=5.3						
NB2	**NORSAR Subarra**	**80.62**	**331**	P	**P**	**19 38 49.5**	**-0.4**
	baz=95,slow=5.6						
NOA	**NORSAR Array B**	**80.62**	**331**	P	**P**	**19 38 49.3**	**-0.6**
	comp=Z,12nm,1.1s,mb4.7,baz=94,slow=5.5,SNR=8.9						
NOA				LR	LR	20 17 58.4	
	comp=Z,326nm,18.1s,MS4.7,baz=145,slow=38						
NOA	**NORSAR Array B**	**80.62**	**331**	P	**P**	**19 38 49.3**	**-0.6**
NOA				LR	LR	20 17 58.4	
CLZ	**Clausthal**	**80.66**	**321**	*eP*	**P**	**19 38 51.0**	**+0.7**
	comp=Z,20nm,1.1s,mb5.0						
BSEG	**Bad Segeberg**	**80.76**	**324**	*eP*	**P**	**19 38 51.4**	**+0.7**
BSEG				pmax	pmax		
	comp=Z,65nm,1.2s,mb5.4						
DAVA	**Damuels**	**80.91**	**317**	⇓*iP*	**P**	**19 38 51.0**	**-0.7**
	comp=Z,29nm,1.2s,mb5.1						
BFO	**Black Forest**	**81.95**	**318**	*eP*	**P**	**19 38 57.3**	**+0.2**
BFO				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.8						
BFO	**Black Forest**	**81.95**	**318**	*eP*	**P**	**19 38 57.3**	**+0.2**
	comp=Z,16nm,1.4s,mb4.8						
LPG	**La Plagne**	**83.10**	**315**	*eP*	**P**	**19 39 02.8**	**-0.3**
	comp=Z,48nm,1.0s,mb5.2						
SYO	**Syowa Base**	**83.78**	**197**	⇓P	**P**	**19 39 08.4**	**+2.3**
SYO	**Syowa Base**	**83.78**	**197**	⇑PcP	PcP	19 39 13.6	+3.1
SYO	**Syowa Base**	**83.78**	**197**	⇓pP	pP	19 39 18.5	+2.7
RPZ	**Rata Peaks**	**85.57**	**135**	P	**P**	**19 39 14.9**	**-0.7**
	comp=Z,64nm,1.4s,mb5.7,baz=353,slow=9.8,SNR=3.4						
TNA	**Tin City**	**87.82**	**24**	*eP*	**P**	**19 39 26.1**	**+0.1**
TNA				*e*	pP	19 39 36.4	+0.6
EKA	**Eskdalemuir Ar**	**88.48**	**325**	P	**P**	**19 39 30.1**	**+0.7**
	comp=Z,6.6nm,0.7s,mb5.0,baz=91,slow=5.3,SNR=13						
DAG	**Danmarks Havn**	**88.73**	**348**	⇑*eP*	**P**	**19 39 30.0**	**-0.3**
DAG				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb5.2						
DAG	**Danmarks Havn**	**88.73**	**348**	⇑*eP*	**P**	**19 39 30.0**	**-0.3**
	comp=Z,5.6nm,0.5s,mb5.2						
DAG	**Danmarks Havn**	**88.73**	**348**	⇑*iP*	**P**	**19 39 30.0**	**-0.3**
	comp=Z,5.6nm,0.5s,mb5.2						
URZ	**Urewera**	**89.04**	**128**	P	**P**	**19 39 32.3**	**-0.3**
	comp=Z,11nm,1.0s,mb5.1,baz=243,slow=5.0,SNR=3.1						
ANM	**Nome**	**89.08**	**25**	*eP*	**P**	**19 39 33.8**	**+1.7**
EBER	**Berja**	**91.17**	**307**	P	**P**	**19 39 43.8**	**+1.3**
	comp=Z,16nm,1.3s,mb5.2						
EQES	**Quesada**	**91.17**	**308**	P	**P**	**19 39 43.4**	**+0.9**
	comp=Z,7.0nm,0.7s,mb5.1						
GUD	**Guadarrama**	**91.54**	**311**	P	**P**	**19 39 45.1**	**+1.0**
	comp=Z,6.9nm,0.8s,mb5.0						
ESDC	**Sonseca Array**	**91.56**	**310**	P	**P**	**19 39 45.3**	**+1.1**
	comp=Z,2.4nm,0.6s,mb4.7,baz=60,slow=4.5,SNR=14						
ESDC	**Sonseca Array**	**91.56**	**310**	P	**P**	**19 39 45.4**	**+1.2**
	comp=Z,1.9nm,0.6s,mb4.6						
ESLA	**Sonseca Array**	**91.56**	**310**	*eP*	**P**	**19 39 45.3**	**+1.1**
	comp=Z,6.0nm,1.3s,mb4.8						
ESLA				LR	LR		
	comp=Z,4μm,22.0s,MS5.8						
VNDA	**Vanda**	**91.66**	**168**	P	**P**	**19 39 45.4**	**+1.5**
	comp=Z,2.0nm,1.0s,mb4.4,baz=302,slow=6.4,SNR=4.5						
EADA	**Adamuz**	**92.29**	**309**	P	**P**	**19 39 48.7**	**+1.1**
	comp=Z,6.0nm,0.8s,mb5.0						
IMA	**Indian Mountai**	**93.27**	**22**	*eP*	**P**	**19 39 53.3**	**+1.9**
	comp=Z,26nm,1.5s,mb5.4						
SVW2	**Sparrevohn**	**94.40**	**27**	*eP*	**P**	**19 39 58.2**	**+1.5**
COLA	**College**	**95.98**	**22**	PFAKE		19 40 20.0	+16
COLA				LR	LR		
	comp=Z,298nm,20.0s,MS4.8						
MCK	**McKinley**	**96.11**	**23**	*eP*	**P**	**19 40 03.4**	**-1.1**
	comp=Z,6.1nm,1.0s,mb5.0						
MCK				LR	LR		
	comp=Z,175nm,19.0s,MS4.6						
QSPA	**South Pole Qui**	**96.32**	**180**	PFAKE		19 40 20.0	+15
QSPA				LR	LR		
	comp=Z,594nm,20.0s,MS5.1						
ILAR	**Eielson Array**	**96.39**	**22**	P	**P**	**19 40 04.4**	**-1.4**
	comp=Z,0.9nm,0.6s,mb4.4,baz=308,slow=4.8,SNR=11						
ILAR				PP	PP	19 44 00.1	-1.9
	comp=Z,1.3nm,0.8s,baz=305,slow=6.1,SNR=6.7						
ILAR				LR	LR	20 25 16.0	
	comp=Z,230nm,19.9s,MS4.7,baz=132,slow=36						
DBIC	**Dimbokro**	**97.37**	**278**	P	**P**	**19 40 12.6**	**+1.2**
	comp=Z,19nm,1.5s,mb5.3						
DBIC				*e*	pP	19 40 21.4	+0.2
DBIC				LR	LR		
	comp=Z,578nm,21.0s,MS5.0						
INK	**Inuvik**	**98.61**	**16**	*eP*	**P**	**19 40 15.9**	**+0.3**
	comp=Z,14nm,1.4s,mb5.3						
INK				*e*	pP	19 40 25.1	-0.4
RES	**Resolute Bay**	**98.89**	**2**	*eP*	**P**	**19 40 17.9**	**+1.0**
	comp=Z,12nm,0.9s,mb5.4						
RES				*e*	pP	19 40 26.9	+0.2
YKA	**Yellowknife Ar**	**108.02**	**13**	Pdiff	Pdif	19 40 59.4	+1.9
	comp=Z,0.1nm,0.3s,baz=331,slow=4.3,SNR=4.4						
YKA				PKIKP		19 45 03.4	
	comp=Z,0.1nm,0.4s,baz=336,slow=4.5,SNR=5.2						
YKA				PP	PP	19 45 24.0	-6.1
	comp=Z,0.5nm,0.7s,baz=331,slow=7.1,SNR=5.6						
YKA	**Yellowknife Ar**	**108.02**	**13**	Pdif	Pdif	19 40 59.4	+1.9
YKA				PKPdf		19 45 03.4	
YKA				PP	PP	19 45 24.0	-6.1
SCHQ	**Schefferville**	**116.78**	**347**	PKP	PKPdf	19 45 21.8	-3.6
	comp=Z,1.0nm,0.6s,baz=304,slow=8.5,SNR=3.9						
SCHQ	**Schefferville**	**116.78**	**347**	PKP	PKPdf	19 45 21.8	-3.6
SCHQ				LR	LR		
	comp=Z,652nm,22.0s,MS5.2						
MSO	**Missoula**	**121.72**	**22**	*e*PKPdf	PKPdf	19 45 31.5	-3.7
CHMT	**Chamberlain Mo**	**121.90**	**21**	*e*PKPdf	PKPdf	19 45 31.9	-3.7
HLID	**Hailey**	**124.27**	**24**	*e*PKPdf	PKPdf	19 45 37.5	-2.7
HLID				LR	LR		
	comp=Z,250nm,19.0s,MS4.9						
LAO	**LASA Array**	**124.35**	**16**	*e*PKPdf	PKPdf	19 45 37.8	-2.5
LKWY	**Lake**	**124.94**	**21**	*e*PKPdf	PKPdf	19 45 40.4	-1.1
MOOW	**Moose Ponds**	**125.53**	**21**	*e*PKPdf	PKPdf	19 45 40.1	-2.6
MOOW				*e*		19 45 49.2	
TPAW	**Teton Pass**	**125.68**	**22**	*e*PKPdf	PKPdf	19 45 39.4	-3.5
LOHW	**Long Hollow**	**125.70**	**21**	*e*PKPdf	PKPdf	19 45 40.2	-2.7
LOHW				*e*		19 45 49.7	
SNOW	**Snow King Moun**	**125.77**	**22**	*e*PKPdf	PKPdf	19 45 40.9	-2.2
NVAR	**Mina Array Bea**	**126.57**	**31**	PKP	PKPdf	19 45 42.9	-1.8
	comp=Z,3.4nm,0.8s,baz=307,slow=0.7,SNR=19						
NVAR	**Mina Array Bea**	**126.57**	**31**	PKP	PKPdf	19 45 42.9	-1.8
PDAR	**Pinedale Array**	**126.81**	**21**	PKP	PKPdf	19 45 41.5	-3.6
	comp=Z,6.9nm,1.0s,slow=1.5,SNR=25						
PDAR				PP	PP	19 47 37.0	-4.3
	comp=Z,0.8nm,0.9s,baz=45,slow=2.1,SNR=3.7						
TRCR	**Troy Canyon**	**127.98**	**29**	*e*PKPdf	PKPdf	19 45 45.2	-2.3
TRCR				*e*		19 45 59.9	
NLU	**North Lily Min**	**128.25**	**25**	*e*PKPdf	PKPdf	19 45 45.3	-2.7
MSU	**Marysvale**	**129.41**	**26**	*e*PKPdf	PKPdf	19 45 48.8	-1.4
PV10	**Paradox Valley**	**130.82**	**23**	*e*PKPdf	PKPdf	19 45 50.5	-2.5
ANMO	**Albuquerque**	**134.82**	**23**	PKP	PKPdf	19 45 57.9	-2.7
	comp=Z,4.1nm,0.8s,baz=298,slow=2.0,SNR=7.1						
ANMO	**Albuquerque**	**134.82**	**23**	*e*PKPdf	PKPdf	19 45 57.2	-3.3
ANMO				*e*		19 46 08.7	
ANMO				LR	LR		
	comp=Z,409nm,19.0s,MS5.2						
LAZ	**Ladron**	**135.03**	**24**	*e*PKPdf	PKPdf	19 45 59.3	-1.6
LPM	**Los Pinos Moun**	**135.31**	**24**	*e*PKPdf	PKPdf	19 45 56.4	-5.0
WMOK	**Wichita Mounta**	**137.50**	**15**	PFAKE		19 46 10.0	+4.5
WMOK				LR	LR		
	comp=Z,553nm,19.0s,MS5.3						
GDL2	**Guadalupe Moun**	**138.06**	**23**	*e*PKPdf	PKPdf	19 46 03.8	-2.8
MIAR	**Mount Ida**	**138.75**	**9**	*e*PKPdf	PKPdf	19 46 04.8	-2.9
TXAR	**Lajitas Array**	**140.88**	**24**	PKnKP		19 46 02.0	
	comp=Z,0.5nm,0.5s,baz=270,slow=1.3,SNR=7.6						
TXAR				PKP	PKPdf	19 46 08.7	-3.1
	comp=Z,1.7nm,0.8s,baz=90,slow=1.3,SNR=8.4						
TXAR				PP	PP	19 49 07.0	-4.2
	comp=Z,0.4nm,0.3s,baz=342,slow=4.0,SNR=4.8						
BDFB	**Brasilia**	**141.05**	**253**	PKP	PKPdf	19 46 10.2	-2.3
	comp=Z,1.8nm,0.6s,baz=157,slow=7.7,SNR=3.1						
JCT	**Junction City**	**141.22**	**18**	*e*PKPpre		19 46 04.4	
JCT				*e*PKPdf	PKPdf	19 46 09.6	-2.7
JCT				*e*		19 46 17.9	
PLCA	**Paso Flores**	**142.91**	**200**	PKP	PKPdf	19 46 12.4	-2.5
	comp=Z,3.9nm,1.1s,baz=166,slow=3.9,SNR=3.6						
SJG	**San Juan**	**148.34**	**321**	PKPbc	PKPdf	19 46 23.2	-1.5
	comp=Z,15nm,0.8s,baz=333,slow=6.8,SNR=3.1						
TEIG	**Tepich**	**153.49**	**3**	*e*PKPdf	PKPdf	19 46 29.9	-2.6
TEIG				*e*		19 46 37.3	
TEIG				*e*PKPab	PKPab	19 46 48.1	-1.6
TEIG				*e*		19 47 00.1	
LVC	**Limon Verde**	**156.50**	**225**	PKP	PKPdf	19 46 33.8	-2.5
	comp=Z,1.4nm,0.5s,baz=122,slow=5.0,SNR=3.0						
LVC				PKPab	PKPab	19 47 03.7	+1.2
	comp=Z,7.7nm,0.8s,baz=88,slow=1.8,SNR=6.6						
LVC	**Limon Verde**	**156.50**	**225**	*e*PKPdf	PKPdf	19 46 35.3	-1.1
LVC				*e*PKPab	PKPab	19 47 04.0	+1.5
LVC				*e*		19 47 13.6	
SAML	**Samuel**	**156.61**	**262**	*e*PKPdf	PKPdf	19 46 33.2	-3.6
SAML				*e*		19 46 41.5	
SAML				*e*PKPab	PKPab	19 47 03.4	+0.2
SAML				*e*		19 47 12.3	
SDV	**Santo Domingo**	**157.97**	**313**	PKP	PKPdf	19 46 35.5	-3.0
	comp=Z,6.7nm,0.9s,baz=283,slow=5.4,SNR=6.7						
LPAZ	**La Paz**	**159.38**	**240**	PKP	PKPdf	19 46 38.7	-1.5
	comp=Z,5.5nm,1.0s,baz=36,slow=3.8,SNR=13						
LPAZ				PKPab	PKPab	19 47 14.6	-0.4
	comp=Z,6.8nm,1.1s,baz=80,slow=14,SNR=5.6						
LPAZ	**La Paz**	**159.38**	**240**	*e*PKPdf	PKPdf	19 46 38.7	-1.5
LPAZ				*e*PKPab	PKPab	19 47 16.0	+1.0
OTAV	**Otavalo**	**169.49**	**309**	*e*PKPdf	PKPdf	19 46 47.3	-1.8
OTAV				*e*PKPab	PKPab	19 47 60.0	+0.8

OTT 20 19:27:25.2±0.2, 53.07N×66.96W, MN2.9/6, Blast, Labrador City, NI Mining explosion., Labrador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**1.77**	**2**	PN	Pn	19 27 57.0	-0.3
SCHQ				SG	Sg	19 28 20.4	-3.7
SCHQ				Trac		19 28 23.7	
	comp=Z,12nm,0.1s						
MNQ	**Manicouagan**	**2.77**	**205**	PN	Pn	19 28 11.2	-0.5
MNQ				Trac		19 28 55.4	
	comp=Z,7.4nm,0.1s						
SMQ	**Clarke City**	**2.85**	**177**	PN	Pn	19 28 10.8	-2.0
SMQ				SN	Sn	19 28 46.2	-2.1
SMQ				Trac		19 28 55.7	
	comp=Z,8.0nm,0.1s						
ICQ	**Pointe Anglais**	**3.55**	**183**	PN	Pn	19 28 20.8	-2.0
ICQ				SN	Sn	19 29 02.1	-4.0
ICQ				Trac		19 29 07.2	
	comp=Z,5.2nm,0.1s						
CNQ	**Baie Comeau**	**3.83**	**191**	PN	Pn	19 28 25.1	-1.7
CNQ				SN	Sn	19 29 07.2	-5.9
CNQ				Trac		19 29 13.8	
	comp=Z,2.6nm,0.1s						
GSQ	**Grosses Roches**	**4.16**	**181**	PN	Pn	19 28 29.1	-2.3
GSQ				SN	Sn	19 29 17.1	-4.4
GSQ				Trac		19 29 21.4	
	comp=Z,1.7nm,0.1s						
LG4Q	**La Grande 4**	**4.32**	**280**	PN	Pn	19 28 30.8	-2.7
LMQ	**La Malbaie**	**5.93**	**203**	PN	Pn	19 28 53.2	-3.2
LMQ				SN	Sn	19 29 56.2	-10
DRLN	**Deer Lake**	**7.06**	**119**	PN	Pn	19 29 07.9	-4.5
DRLN				SN	Sn	19 30 26.6	-7.8
VIMO	**Victor Mine**	**10.14**	**275**	PN	P	19 29 48.8	-6.2
VIMO				SN	S	19 31 37.2	-13
SILO	**Sutton Inlier**	**10.72**	**285**	PN	P	19 29 57.2	-5.7

IDC 20 19:57:34.0±2.6, 10.98S×113.02E, mb3.6/5, mb1 3.8/5, mb1mx3.7/14, mbtmp3.7/5, Error ellipse: s-maj=122.7km s-min=20.3km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.37**	**116**	P	P	20 02 35.0	-0.4
	0.3nm,0.5s,baz=281,slow=10,SNR=9.0						
ASAR	**Alice Springs**	**23.55**	**125**	P	P	20 02 46.3	-0.7
	0.8nm,0.7s,baz=302,slow=9.5,SNR=10.0						
CMAR	**Chiang Mai Arr**	**32.38**	**334**	P	P	20 04 07.0	-0.7
	0.8nm,0.8s,baz=165,slow=7.9,SNR=7.3						
STKA	**Stephens Creek**	**33.58**	**133**	P	P	20 04 15.4	-2.7
	2.3nm,0.8s,baz=310,slow=8.1,SNR=7.9						
SONM	**Songino Array**	**58.85**	**355**	P	P	20 07 32.8	-4.0
	0.4nm,0.4s,baz=180,slow=8.6,SNR=3.7						

*NEIC **20** 20:06:44.0±0.7, 41.42S×91.76W, h10km, mb4.8/10, Error ellipse: s-maj=18.9km s-min=17.6km az=112.0*
*IDC **20** 20:06:47.5±4.0, 40.52S×91.96W, mb4.0/6, mb1 4.3/7, mb1mx4.1/15, mbtmp4.0/7, ML3.5/1, MS4.3/6, Ms1 4.3/6, ms1mx3.7/22, Error ellipse: s-maj=102.2km s-min=32.2km az=5.0*

ISC 20 20:06:42.5±0.8, 41.4S±0.1×91.7W±0.2, h10km, n27, σ1§10/24, mb4.5/15, MS4.2/5, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**15.97**	**95**	Pn	**P**	**20 10 37.0**	**+8.2**
	0.1nm,0.3s,baz=244,slow=17,SNR=3.7						
PLCA				LR	LR	20 15 13.6	
	comp=Z,1μm,20.3s,baz=260,slow=31						
USHA	**Ushuaia**	**20.40**	**139**	LR	LR	20 17 27.7	
	comp=Z,559nm,21.9s,MS3.9,baz=282,slow=30						
TRQA	**Tornquist**	**23.06**	**91**	P	**P**	**20 11 58.7**	**+10**
	142nm,1.6s,mb5.2						
LVC	**Limon Verde**	**26.80**	**53**	P	**P**	**20 12 25.6**	**+1.1**
	1.6nm,0.8s,mb3.6,baz=255,slow=16,SNR=2.8						
LVC				LR	LR	20 20 16.0	
	comp=Z,610nm,18.1s,MS4.2,baz=212,slow=31						
LVC	**Limon Verde**	**26.80**	**53**	P	**P**	**20 12 25.1**	**+0.5**
	8.2nm,1.2s,mb4.1						
LPAZ	**La Paz**	**32.26**	**46**	P	**P**	**20 13 15.0**	**+1.6**
	0.6nm,0.7s,mb3.5,baz=210,slow=16,SNR=2.7						
LPAZ				LR	LR	20 23 19.0	
	comp=Z,200nm,19.3s,MS3.8,baz=36,slow=31						
OTAV	**Otavalo**	**43.17**	**20**	*eP*	**P**	**20 14 44.5**	**-0.8**
	13nm,1.1s,mb4.6						
BDFB	**Brasilia**	**45.54**	**69**	LR	LR	20 33 46.1	
	comp=Z,510nm,19.1s,MS4.5,baz=258,slow=36						
QSPA	**South Pole Qui**	**48.81**	**180**	P	**P**	**20 15 28.9**	**-0.2**
	14nm,1.1s,mb4.9						
SDV	**Santo Domingo**	**53.68**	**26**	P	**P**	**20 16 05.7**	**-1.1**
	3.2nm,0.8s,mb4.3,baz=259,slow=9.5,SNR=5.5						
RCBR	**Riachuelo**	**60.86**	**70**	P	**P**	**20 16 56.8**	**-0.9**
	22nm,1.4s,mb5.1						
TXAR	**Lajitas Array**	**71.26**	**349**	P	**P**	**20 18 02.4**	**-1.5**
	0.7nm,0.6s,mb3.8,baz=173,slow=8.1,SNR=8.8						
TXAR	**Lajitas Array**	**71.26**	**349**	P	**P**	**20 18 02.4**	**-1.5**
MIAR	**Mount Ida**	**75.62**	**358**	*eP*	**P**	**20 18 28.7**	**-0.6**
	7.8nm,1.0s,mb4.6						
ANMO	**Albuquerque**	**77.20**	**348**	*eP*	**P**	**20 18 38.2**	**+0.1**
	5.1nm,1.0s,mb4.4						
CCM	**Cathedral Cave**	**79.10**	**0**	*eP*	**P**	**20 18 47.5**	**-1.0**
	18nm,1.1s,mb4.9						
CCM				*e*		20 18 54.4	
SDCO	**Great Sand Dun**	**79.79**	**349**	P	**P**	**20 18 49.1**	**-3.1**
	7.5nm,1.2s,mb4.5						
RW3	**Ridgway**	**80.62**	**347**	*eP*	**P**	**20 18 56.8**	**+0.2**
PV01	**Paradox Valley**	**80.66**	**347**	*eP*	**P**	**20 18 57.1**	**+0.2**
PV10	**Paradox Valley**	**80.98**	**346**	*eP*	**P**	**20 18 58.9**	**+0.3**
MSU	**Marysvale**	**81.72**	**344**	P	**P**	**20 19 03.0**	**+0.6**
NVAR	**Mina Array Bea**	**83.09**	**339**	P	**P**	**20 19 11.3**	**+1.7**
	1.1nm,0.7s,mb4.0,baz=162,slow=5.7,SNR=8.8						
DAU	**Daniels Canyon**	**83.36**	**345**	*eP*	**P**	**20 19 12.4**	**+1.5**
PDAR	**Pinedale Array**	**85.34**	**347**	P	**P**	**20 19 21.1**	**+0.4**
	3.2nm,0.7s,mb4.6,baz=154,slow=5.1,SNR=11						
TPAW	**Teton Pass**	**86.28**	**346**	*eP*	**P**	**20 19 26.9**	**+1.5**
HLID	**Hailey**	**87.03**	**344**	P	**P**	**20 19 27.5**	**-1.5**
	7.1nm,1.1s,mb4.8						
DBIC	**Dimbokro**	**92.01**	**83**	LR	LR	20 55 18.1	
	comp=Z,227nm,20.2s,MS4.6,baz=294,slow=32						

IGQ 20 20:19:24.3, 0.98N×79.51W, h12km±6km, mb4.0, 1C-6D, Error ellipse: s-maj=6.8km s-min=4.5km az=146.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOR1	**San Jorge 1**	**1.31**	**138**	P	Pb	20 19 51.6	+3.3
COTA	**Cotacachi**	**1.34**	**119**	⇓P	Pb	20 19 49.8	+1.0
YANA	**Yana**	**1.44**	**139**	⇓P	Pn	20 19 51.2	+0.9
YANA				S	Sb	20 20 11.2	+2.5
PINO	**Pino**	**1.45**	**141**	⇓P	Pn	20 19 51.2	+0.8
TERV	**Terraza Guagua**	**1.46**	**142**	⇓P	Pn	20 19 51.4	+0.7
TERV				S	Sb	20 20 13.7	+4.3
GGP	**Refugio Guagua**	**1.47**	**141**	P	Pn	20 19 51.8	+1.1
JUA2	**San Juan 2**	**1.49**	**143**	⇓P	Pn	20 19 51.8	+0.8
JUA2				S	Sb	20 20 13.7	+3.4
CAYA	**Cayambe**	**1.77**	**121**	P	Pn	20 19 57.5	+2.5
CAYR	**Refugio Cayamb**	**1.78**	**122**	⇓P	Pn	20 19 57.8	+2.6
CAYR				S	Sn	20 20 26.4	+8.4
NAS1	**Nasa**	**1.91**	**147**	P	Pn	20 19 58.9	+2.0
VC1	**Cotopaxi 1**	**1.96**	**145**	P	Pn	20 19 59.9	+2.2
ANTI	**Antisana**	**1.96**	**136**	⇑P	Pn	20 20 00.5	+2.7
TAMB	**Tambo**	**2.02**	**145**	P	Pn	20 20 00.9	+2.4
CONE	**Cono NE Rev Vo**	**2.14**	**119**	P	Pn	20 20 04.9	+4.6
PISA	**Pisayambo**	**2.32**	**151**	P	Pn	20 20 05.7	+2.8
IGUA	**Igualata**	**2.60**	**160**	P	Pn	20 20 10.0	+3.1
JUIV	**Juive**	**2.61**	**156**	P	Pn	20 20 10.1	+3.1
ULBA	**Ulba**	**2.65**	**155**	P	Pn	20 20 10.4	+2.7

*BJI **20** 20:20:19.4, 30.81S×178.22W, h30km, mB5.6, mb4.9, Ms4.9, Msz4.3*
*MOS **20** 20:20:19.4±0.9, 31.11S×177.86W, h33km, mb5.4/5, Error ellipse: s-maj=30.5km s-min=21.1km az=13.4*
*IDC **20** 20:20:20.2±2.6, 30.97S×177.91W, h26km±16km, mb4.6/11, mb1 4.8/13, mb1mx4.6/17, mbtmp4.7/13, ML4.6/2, MS4.6/12, Ms1 4.6/12, ms1mx4.2/25, Error ellipse: s-maj=21.9km s-min=15.1km az=179.0*
*HRVD **20** 20:20:21.2±0.2, 31.04S×177.76W, h37km, MW5.3/57, Centroid moment Tensor Solution. LP body waves: s52, c92; Mantle waves: s57, c98; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.76±.03; $M_{\theta\theta}$0.01±.02; $M_{\phi\phi}$-0.77±.02; $M_{r\theta}$0.09±.03; $M_{\theta\phi}$-0.27±.02; $M_{r\phi}$0.53±.03; Best double couple: M_0.973×10^{17} NP1:ϕ_s202°, δ29°, λ98°. NP2:ϕ_s13°, δ62°, λ85°. Principal axes: T .927, Plg73°, Azm272°; N .092, Plg4°, Azm15°; P -1.019, Plg17°, Azm106°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **20** 20:20:21.2±0.3, 30.95S×178.13W, h35km, mb5.2/20 Error ellipse: s-maj=13.0km s-min=10.4km az=148.0*

ISC 20 20:20:19.7±0.4, 31.49S±0.05×178.02W±0.08, h33km, n155, σ1§43/80, mb5.1/25, MS4.7/12, 12C-2D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.77**	**206**	*eP*	**P**	**20 22 01.4**	**+2.1**
MXZ				S	**S**	**20 23 20.8**	**+4.7**
PUZ	**Puketiti**	**7.24**	**204**	*eP*	**P**	**20 22 05.9**	**0.0**
PUZ				S	**S**	**20 23 31.0**	**+3.1**
MWZ	**Matawai**	**7.74**	**207**	*eP*	**P**	**20 22 12.2**	**-0.6**
MWZ				S	**S**	**20 23 44.3**	**+4.0**
WCZ	**Waipu Caves**	**7.76**	**233**	*eP*	**P**	**20 22 20.7**	**+7.7**
URZ	**Urewera**	**7.85**	**209**	Pn	**Pn**	**20 22 14.2**	**-0.3**
	3.2nm,0.3s,baz=103,slow=3.8,SNR=16						
URZ				Sn	**Sn**	**20 23 47.4**	**+4.3**
	36nm,0.3s,baz=72,slow=18,SNR=13						
URZ	**Urewera**	**7.85**	**209**	*eP*	**P**	**20 22 13.5**	**-0.8**
OUZ	**Omahuta**	**7.94**	**240**	P	**P**	**20 22 22.9**	**+7.3**
KNZ	**Kokohu**	**8.29**	**204**	*eP*	**P**	**20 22 19.7**	**-0.8**
KNZ				S	**S**	**20 23 54.9**	**+0.8**
BKZ	**Black Stump Fm**	**8.87**	**209**	*eP*	**P**	**20 22 25.7**	**-2.8**
MRZ	**Mangatainoka R**	**10.51**	**208**	S	**S**	**20 24 45.2**	**-3.6**
KIW	**Kapiti Island**	**10.95**	**209**	*eP*	**P**	**20 22 54.6**	**-2.5**
MTW	**Mount Morrison**	**10.97**	**207**	S	**S**	**20 24 54.9**	**-5.0**
MRW	**Makara Radio**	**11.35**	**209**	S	**S**	**20 25 04.5**	**-4.6**
NNZ	**Nelson**	**11.92**	**213**	S	**S**	**20 25 19.2**	**-3.9**
THZ	**Tophouse**	**12.57**	**213**	*eP*	**P**	**20 23 17.0**	**-2.0**
THZ				S	**S**	**20 25 34.4**	**-4.3**
KHZ	**Kahutara**	**12.82**	**209**	*eP*	**P**	**20 23 17.7**	**-4.5**
KHZ				S	**S**	**20 25 37.4**	**-7.3**
DSZ	**Denniston Nort**	**13.09**	**216**	S	**S**	**20 25 46.1**	**-5.1**
WVZ	**Waitaha Valley**	**14.61**	**215**	S	**S**	**20 26 20.5**

VNA1	Neumayer--Stat	77.88	177		pP	20 32 29.2	+3.7
PLCA	Paso Flores	81.77	133	P	P	20 32 38.9	+2.3
	comp=Z,2.3nm,1.0s,mb4.1,baz=234,slow=14,SNR=2.6						
PLCA				LR	LR	21 00 13.9	
	comp=Z,453nm,20.0s,MS4.8,baz=185,slow=29						
PLCA	Paso Flores	81.77	133	eP	P	20 32 41.7	+5.1
	comp=Z,5.1nm,0.8s,mb4.5						
ASAJ	Asahikawa	83.40	333	LR	LR	21 07 58.5	
	comp=Z,538nm,19.4s,MS4.9,baz=160,slow=34						
QIZ	Qiongzhong	85.45	295	eP	P	20 32 58.1	+2.5
	comp=Z,30nm,1.1s,mb5.3						
YSS	Yuzh-Sakhalins	85.72	334	eP	P	20 33 02.0	+5.7
YSS	Yuzh-Sakhalins	85.72	334	P	P	20 32 52.0	-4.4
	comp=Z,17nm,0.9s,mb5.3						
CMB	Columbia Colle	87.58	42	eP	P	20 33 04.6	-1.0
	comp=Z,13nm,1.3s,mb5.0						
NVAR	Mina Array Bea	89.05	43	P	P	20 33 11.8	-0.8
	comp=Z,2.0nm,0.8s,mb4.5,baz=221,slow=7.2,SNR=17						
NVAR	Mina Array Bea	89.05	43	P	P	20 33 11.8	-0.8
NEN	Nelson	89.29	47	eP	P	20 33 13.6	-0.3
TPH	Tonopah	89.44	44	P	P	20 33 14.7	+0.2
	comp=Z,12nm,1.1s,mb5.2						
TUC	Tucson	89.80	51	eP	P	20 33 17.1	+0.7
	comp=Z,8.2nm,1.1s,mb5.0						
ENH	Enshi	92.21	304	eP	P	20 33 25.7	-1.9
	comp=Z,41nm,1.6s,mb5.5						
MSU	Marysvale	92.75	46	P	P	20 33 28.1	-1.8
TXAR	Lajitas Array	92.99	57	P	P	20 33 31.0	-0.2
	comp=Z,0.2nm,0.4s,baz=202,slow=6.7,SNR=5.4						
TXAR				LR	LR	21 10 30.6	
	comp=Z,342nm,18.2s,MS4.8,baz=180,slow=32						
LVC	Limon Verde	93.42	119	LR	LR	21 07 13.4	
	comp=Z,374nm,20.3s,MS4.8,baz=218,slow=30						
CMAR	Chiang Mai Arr	93.75	289	i P	P	20 33 35.5	+0.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	Chiang Mai Arr	93.75	289	P	P	20 33 35.0	+0.1
	comp=Z,0.6nm,0.6s,mb4.2,baz=161,slow=2.9,SNR=6.3						
CMAR				PP	PP	20 37 22.0	-1.1
	comp=Z,3.5nm,1.3s,baz=131,slow=5.5,SNR=6.4						
PDAR	Pinedale Array	96.93	44	PKKPbc		20 50 31.6	
	comp=Z,0.9nm,0.8s,baz=79,slow=3.8,SNR=7.9						
PDAR				LR	LR	21 10 47.3	
	comp=Z,247nm,18.9s,MS4.7,baz=222,slow=31						
LPAZ	La Paz	97.71	114	LR	LR	21 09 58.5	
	comp=Z,177nm,19.7s,MS4.6,baz=145,slow=30						
ILAR	Eielson Array	98.99	13	LR	LR	21 13 43.9	
	comp=Z,187nm,18.2s,MS4.6,baz=26,slow=32						
YKA	Yellowknife Ar	106.43	26	PKiKP		20 38 40.8	
	comp=Z,0.1nm,0.3s,baz=267,slow=1.7,SNR=5.6						
YKA				PKKPbc		20 50 01.8	
	comp=Z,0.4nm,0.8s,baz=41,slow=3.2,SNR=6.7						
YKA	Yellowknife Ar	106.43	26	PKPdf		20 38 40.8	
YKA				PKKPbc		20 50 01.8	
ZAL	Zalesovo	118.84	318	PKP	PKPdf	20 39 03.9	-0.5
	comp=Z,0.7nm,0.4s,baz=250,slow=3.7,SNR=4.1						
NVS	Novosibirsk	119.95	319	ePKIKP	PKPdf	20 39 04.5	-2.1
NVS				pmax	pmax		
	comp=Z,11nm,1.4s						
KURK	Kurchatov	121.79	313c	i PKIKP	PKPdf	20 39 09.7	-0.5
KURK	Kurchatov	121.79	313	ePKPdf	PKPdf	20 39 09.6	-0.6
TKM2	Tokmak 2	121.99	304	P	PKPdf	20 39 11.1	+0.3
	SNR=7.6						
KBK	Karagaybulak	122.39	303	P	PKPdf	20 39 12.2	+0.6
	SNR=6.4						
UCH	Uchtor	122.59	303	P	PKPdf	20 39 13.0	+1.0
	SNR=9.3						
CHMS	Chumysh	122.61	304	P	PKPdf	20 39 11.9	-0.1
	SNR=6.4						
AAK	Ala-Archa	122.70	303	i PKIKP	PKPdf	20 39 11.5	-0.7
AAK	Ala-Archa	122.70	303	ePKPdf	PKPdf	20 39 10.9	-1.3
USP	Ospenovka	122.86	304	P	PKPdf	20 39 12.5	0.0
	SNR=7.6						
AML	Almayashu	123.15	302	P	PKPdf	20 39 14.1	+1.0
	SNR=8.2						
EKS2	Erkin-Say	123.22	303	P	PKPdf	20 39 13.8	+0.6
	SNR=7.3						
CHKZ	Chkalovo	127.09	316	ePKPdf	PKPdf	20 39 19.3	-1.0
LSZ	Lusaka	127.13	212	ePKPdf	PKPdf	20 39 20.9	-0.5
BVAR	Borovoye Array	127.17	315	PKP	PKPdf	20 39 20.6	+0.1
	comp=Z,4.1nm,0.5s,baz=136,slow=1.6,SNR=32						
BRVK	Borovoye	127.24	315	ePKPdf	PKPdf	20 39 19.6	-1.0
KMBO	Kilima Mbogo	133.41	233	PKP	PKPdf	20 39 36.5	+3.1
	comp=Z,3.2nm,1.1s,baz=62,slow=21,SNR=4.5						
ARU	Arti	133.92	320	i PKIKP	PKPdf	20 39 28.3	-4.9
ARCES	ARCESS Array B	139.65	347	PKhKP		20 39 35.2	
	comp=Z,2.3nm,0.8s,baz=14,slow=5.0,SNR=6.5						
ARCES				PKP	PKPdf	20 39 44.3	+0.9
	comp=Z,3.2nm,0.6s,slow=2.4,SNR=8.0						
ARCES	ARCESS Array B	139.65	347	PKP	PKPdf	20 39 44.3	+0.9
JOF	Joensuu	143.43	338	epkp	PKPdf	20 39 49.5	-0.4
ZEI	Tsey	145.07	301	ePKIKP	PKPdf	20 39 53.4	-0.1
ZEI				pmax	pmax		
	comp=Z,14nm,1.4s						
MOS	Moscow	145.22	325	ePKIKP	PKPdf	20 39 51.4	-1.9
MOS				e		20 40 04.9	
MOS				pmax	pmax		
	comp=Z,57nm,1.0s						
GOF	Gofitskoye	145.42	305	ePKHKP		20 39 48.0	
KAF	Kangasniemi	145.57	340	epkp	PKPdf	20 39 52.3	-1.4
	baz=38,slow=3.2						
MSL	Mosul	145.73	289	ePKP	PKPdf	20 39 55.5	+0.7
KIV	Kislovodsk	145.82	303c	i PKP2	PKPab	20 39 55.3	-2.4
KIV	Kislovodsk	145.82	303	ePKPdf	PKPdf	20 39 52.5	-2.2
OBN	Obninsk	146.05	324c	i PKIKP	PKPdf	20 39 53.5	-1.2
OBN				e		20 43 25.6	
OBN				pmax	pmax		
	comp=Z,144nm,1.7s						
OBN	Obninsk	146.05	324	ePKPdf	PKPdf	20 39 53.2	-1.5
VOR	Voronezh	146.12	318	ePKP2	PKPab	20 39 55.0	-3.6
VOR				pmax	pmax		
	comp=Z,110nm,2.0s						
FINES	FINESS Array B	146.16	339	PKPbc	PKPbc	20 39 55.2	-0.6
	comp=Z,30nm,0.8s,baz=57,slow=4.7,SNR=80						
ERZM	Erzurum	147.15	296	i P	PKPdf	20 40 00.0	+2.9
BEST	Besiri	147.25	292	i P	PKPdf	20 39 59.3	+1.9
SOC	Sochi	148.00	303	i PKP2	PKPab	20 40 01.1	-5.2
SOC				e		20 43 26.8	
SOC				e		20 47 08.0	
SOC				eSS	SS	21 02 28.1	-5.5
SOC				pmax	pmax		
	comp=Z,24nm,1.0s						
SOC				pmax	pmax		
	comp=N,7.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,16nm,1.0s						
SOC				MLR	MLR		
	comp=Z,318nm,21.0s,MS5.1						
SOC				MLR	MLR		
	comp=N,225nm,18.0s,MS5.0						
SOC				MLR	MLR		
	comp=E,145nm,22.0s,MS5.0						
ELZG	Elazig	149.05	293	i P	PKPdf	20 40 05.6	+5.5
ANN	Anapa	149.37	306	ePKP2	PKPab	20 40 09.4	-2.4
ANN				pmax	pmax		
	comp=Z,42nm,1.0s						
MALT	Malatya	149.49	293	ePKPdf	PKPdf	20 40 01.8	+0.9
NB2	NORSAR Subarra	149.83	351	PKP	PKPdf	20 40 05.3	+4.6
	comp=Z,18nm,0.8s,baz=13,slow=2.6						
NOA	NORSAR Array B	149.83	351	PKPbc	PKPdf	20 40 05.5	+4.7
	comp=Z,8.3nm,0.7s,baz=15,slow=4.2,SNR=20						
NAO01	NORSAR Array S	150.06	351	ePKPbc	PKPdf	20 40 05.6	+4.5
GZT	Gaziantep	150.19	291	i P	PKPdf	20 40 07.7	+5.6
MNK	Minsk	150.54	329	PKIKP	PKPdf	20 40 05.0	+3.0
KAHT	Ahir Dag	150.74	292	i P	PKPdf	20 40 08.9	+6.0
SIM	Simferopol'	151.61	307	i PKIKP	PKPdf	20 40 11.6	+7.7
EIL	Elat	151.62	275	ePKPbc	PKPdf	20 40 12.2	+7.8
EIL				ePKPab	PKPab	20 40 21.5	-0.2
AKASG	Malin Array Be	152.15	321	PKPbc	PKPdf	20 40 11.7	+7.1
	comp=Z,13nm,0.7s,baz=43,slow=2.2,SNR=62						
AKASG				PKPab	PKPab	20 40 19.6	-3.7
	comp=Z,14nm,0.8s,baz=46,slow=2.6,SNR=18						
AVNT	Avonos	152.26	294	i P	PKPdf	20 40 12.2	+7.1
SUW	Suwalki	152.84	332	ePKPbc	PKPdf	20 40 13.0	+7.6
MEST	Erdemli	152.95	290	i P	PKPdf	20 40 14.0	+7.9
BRTR	Keskin Array B	153.09	297	PKP	PKPdf	20 40 06.6	+0.4
	comp=Z,0.8nm,1.0s,baz=90,slow=2.9,SNR=5.0						
BRTR				PKPbc	PKPdf	20 40 14.2	+8.1
	comp=Z,2.6nm,0.6s,baz=168,slow=4.3,SNR=36						
ELDT	Eldivan	153.14	298	i P	PKPdf	20 40 13.9	+7.7
DBIC	Dimbokro	154.49	164	PKP	PKPdf	20 40 10.7	+1.9
	comp=Z,3.8nm,1.2s,baz=84,slow=4.0,SNR=3.3						
DBIC				PKPbc	PKPdf	20 40 21.1	+12
	comp=Z,2.8nm,0.6s,baz=210,slow=4.9,SNR=5.0						
CLL	Collm	158.59	341	i PKP2	PKPab	20 40 47.4	-3.2
CLL				e		20 41 04.0	
BRG	Berggiesshubel	158.70	339	ePKP2	PKPab	20 40 48.6	-2.5
BRG				pmax	pmax		
	comp=Z,15nm,1.5s						
PRU	Pruhonice	159.27	337	epPKP		20 40 29.0	
KHC	Kasperske Hory	160.33	337	ePKPdf	PKPdf	20 40 16.3	+1.2
KHC				ex	x	20 40 40.0	
KHC				epPKP		20 41 07.5	
BAIF	Baives	161.38	356	ePKP2	PKPab	20 40 54.1	-8.6
	comp=Z,83nm,1.6s						
CDF	Champ du Feu	162.63	348	ePKP2	PKPab	20 41 00.2	-8.0
FLN	La Foliniere	162.65	5	ePKP2	PKPab	20 41 00.1	-8.2
	comp=Z,70nm,1.1s						
MEZF	Maizieres J'vi	162.85	353	ePKP2	PKPab	20 41 01.0	-8.1
QUIF	Quistinic	163.13	12	ePKP2	PKPab	20 41 02.1	-8.3
	comp=Z,97nm,1.2s						
SSF	Saint Saulge	164.41	356	ePKP2	PKPab	20 41 07.8	-8.2
	comp=Z,17nm,0.9s						
CABF	La Chapelle	164.58	349	ePKP2	PKPab	20 41 08.2	-8.5
AVF	Avril sur Loir	164.69	356	ePKP2	PKPab	20 41 08.7	-8.5
	comp=Z,100nm,1.8s						
SMF	Signal de Mont	164.80	355	ePKP2	PKPab	20 41 09.5	-8.2
	comp=Z,54nm,1.2s						
TCF	Toulx Ste Croi	165.23	359	ePKP2	PKPab	20 41 11.6	-7.9
LPL	La Plagne	165.52	347	ePKP2	PKPab	20 41 12.7	-8.2
LPG	La Plagne	165.53	346	ePKP2	PKPab	20 41 12.9	-8.0
ORIF	Oris-en-Rattie	166.25	348	ePKP2	PKPab	20 41 16.0	-8.1
	comp=Z,13nm,0.9s						
FRF	La Foret Royal	167.40	344	ePKP2	PKPab	20 41 20.4	-8.7
	comp=Z,23nm,1.0s						

IDC 20 20:50:14.2±3.6, 11.85N×92.03E, mb3.6/2, mb1 3.7/3, mb1mx3.4/18, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=92.6km s-min=32.0km az=79.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	9.37	45	Pn	P	P	20 52 32.1	-1.4
	0.1nm,0.3s,baz=233,slow=15,SNR=4.2							
SONM	Songino Array	37.85	16	P	P	P	20 57 31.9	-2.4
	0.2nm,0.4s,baz=207,slow=6.4,SNR=1.6							
WRA	Warramunga Arr	52.27	127	P	P	P	20 59 28.0	-1.9
	0.5nm,0.4s,baz=309,slow=7.9,SNR=19							

FUNV 20 20:55:13.6, 6.69N×73.17W, h169km, MW3.5, 1C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CAPV	Capacho	1.45	36	⇑iP	P	P	20 55 43.9	-0.6
CAPV				eS	S	S	20 56 05.6	-2.7
VIGV	El Vigia	2.79	40	eP	P	P	20 55 58.5	-1.2
VIGV				eS	S	S	20 56 31.1	-4.1
VIRV	Villa del Rosa	3.86	11	⇓iP	P	P	20 56 10.9	-2.5
VIRV				eS	S	S	20 56 53.5	-5.9
DABV	Dabajuro	4.89	31	eP	P	P	20 56 25.0	-1.7
DABV				eS	S	S	20 57 17.0	-6.4
BAUV	El Baul	5.55	66	⇓iP	P	P	20 56 32.2	-3.2
BAUV				eS	S	S	20 57 31.7	-7.2
CAOV	Caicara del Or	6.83	84	eP	P	P	20 56 49.2	-3.1
CAOV				eS	S	S	20 57 59.9	-9.2

*JMA **20** 20:56:25.5±0.1, 28.19N×142.93E, h13km±2km, M4.3*
*IDC **20** 20:56:26.8±0.6, 28.13N×142.05E, mb4.0/11, mb1 4.2/11, mb1mx4.0/21, mbtmp4.0/11, MS3.9/2, Ms1 3.9/2, ms1mx3.0/27, Error ellipse: s-maj=29.1km s-min=13.5km az=90.0*
*NEIC **20** 20:56:33.2±2.0, 28.11N×142.08E, h46km±17km, mb4.0/4, Error ellipse: s-maj=19.6km s-min=10.5km az=100.0*
ISC 20 20:56:30.4±2.2, 28.19N±0.04×142.0E±0.2, h32km±17km, n33, σ1§04/32, mb4.0/14, MS3.9/2, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.10	172	Pn	Pn	Pn	20 56 48.6	-1.1
	147nm,0.3s,baz=301,slow=23,SNR=23							
CBIJ				Sn	Sn	Sn	20 57 05.0	+1.1
	705nm,0.3s,baz=90,slow=20,SNR=16							
CBIJ	Chichi jima	1.10	172	P	Pn	Pn	20 56 48.8	-0.9
CBIJ				eS	Sn	Sn	20 57 05.6	+1.7
JHHJ	Haha-jima-NKT	1.56	174	eS	Sn	Sn	20 57 16.7	+1.1
BSO1	Boso 1	6.51	353	P	Pn	Pn	20 58 06.6	+0.1
BSO3	Boso 3	6.72	349	P	Pn	Pn	20 58 09.3	-0.1
JOD2	Odawara 2	7.48	341	P	Pn	Pn	20 58 22.2	+2.1
JHU	Hanno	7.98	344	P	Pn	Pn	20 58 27.0	-0.2
JRY	Ryogami san	8.24	342	P	P	P	20 58 31.1	+0.4
JHO	Hitachi	8.49	352	P	P	P	20 58 33.2	-0.9
JAG	Ashikaga	8.49	346	P	P	P	20 58 33.5	-0.7
MAJO	Matsushiro	8.93	340	P	P	P	20 58 41.1	+0.8
PMG	Port Moresby	37.70	172	LR	LR		21 16 21.7	
	comp=Z,94nm,21.1s,MS3.6,baz=23,slow=32							
BILL	Bilibino	42.43	13	eP	P	P	21 04 23.7	+0.3
	2.5nm,0.9s,mb3.8							
WRAB	Tennant Creek	48.41	190	eP	P	P	21 05 10.0	-1.6
	5.5nm,0.6s,mb4.8							
WRA	Warramunga Arr	48.42	190	P	P	P	21 05 10.3	-1.5
	6.3nm,0.8s,mb4.7,baz=12,slow=8.5,SNR=56							
ASAR	Alice Springs	52.14	189	P	P	P	21 05 38.5	-1.6
	0.5nm,0.8s,mb3.5,baz=14,slow=9.6,SNR=4.1							
MCK	McKinley	55.86	30	eP	P	P	21 06 03.9	-2.9
	1.2nm,0.6s,mb4.1							
ILAR	Eielson Array	56.84	29	P	P	P	21 06 12.7	-1.2
	1.2nm,0.7s,mb4.0,baz=258,slow=6.1,SNR=14							
BVAR	Borovoye Array	57.14	317	P	P	P	21 06 16.5	+0.3
	3.3nm,0.5s,mb4.6,baz=87,slow=6.4,SNR=20							
YKA	Yellowknife Ar	71.26	28	P	P	P	21 07 47.8	-0.4
	0.8nm,0.8s,mb3.7,baz=294,slow=6.3,SNR=12							
YKA	Yellowknife Ar	71.26	28	P	P	P	21 07 47.8	-0.4
FINES	FINESS Array B	76.90	334	P	P	P	21 08 20.4	-0.3
	1.2nm,0.6s,mb4.0,baz=63,slow=4.3,SNR=11							
FINES	FINESS Array B	76.90	334	P	P	P	21 08 20.4	-0.3
GNI	Garni	77.51	309	LR	LR		21 46 16.4	
	comp=Z,128nm,21.4s,MS4.2,baz=281,slow=38							
NVAR	Mina Array Bea	79.97	52	P	P	P	21 08 39.0	+1.0
	1.0nm,0.7s,mb3.9,baz=309,slow=5.2,SNR=8.1							
NVAR	Mina Array Bea	79.97	52	P	P	P	21 08 39.0	+1.0
NB2	NORSAR Subarra	82.54	338	P	P	P	21 08 50.9	-0.1
	0.3nm,0.8s,mb3.4,baz=50,slow=5.3							
NOA	NORSAR Array B	82.54	338	P	P	P	21 08 50.8	-0.2
	1.1nm,0.7s,mb4.0,baz=42,slow=4.9,SNR=3.9							
PDAR	Pinedale Array	83.55	45	P	P	P	21 08 57.7	+1.1
	0.3nm,0.7s,mb3.5,baz=270,slow=0.9,SNR=3.1							
BRTR	Keskin Array B	85.15	313	P	P	P	21 09 05.8	+1.2
	0.9nm,0.7s,mb4.0,baz=105,slow=4.3,SNR=8.9							
FRB	Frobisher Bay	85.25	13	P	P	P	21 09 05.0	+0.4
	1.3nm,0.6s,mb4.2,baz=23,slow=3.5,SNR=3.5							
RW3	Ridgway	87.22	48	eP	P	P	21 09 15.7	+0.8
LPAZ	La Paz	149.78	73	ePKPbc	PKPdf		21 16 20.1	+1.9

*WAR **20** 20:58:58.9, 51.41N×16.24E, h1km, MW3.1, Location given by Lubin mine, origin time based upon KSP, MW from OJC*
*PRU **20** 20:58:59.2, 51.37N×16.27E*
ISC 20 20:58:56.4±0.9, 51.39N±0.05×16.23E±0.04, n11, σ1§15/23, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.55	176	ePg	Pg	Pg	20 59 09.3	+1.8
KSP				eSg	Sg	Sg	20 59 17.1	+2.3
UPC	Upice	0.90	189	ePG	Pg	Pg	20 59 15.7	+1.3
DPC	Dobruska-Polom	1.05	177	ePG	Pg	Pg	20 59 18.3	+1.0
DPC				eSG	Sg	Sg	20 59 31.9	+0.6
	8.2nm,0.2s							
PVCC	Panska Ves	1.36	231	ePG	Pg	Pg	20 59 24.6	+1.0
PRU	Pruhonice	1.77	218	ePG	Pg	Pg	20 59 31.4	-0.4
PRU				ex	x		20 59 48.1	
PRU				eSG	Sg	Sg	20 59 54.6	-0.7
OKC	Ostrava-Krasne	1.98	141	ePG	Pg	Pg	20 59 35.4	-0.6
OKC				eSG	Sg	Sg	21 00 00.5	-1.9
CLL	Collm	2.02	269	ePG	Pg	Pg	20 59 36.0	-0.9
CLL				eSG	Sg	Sg	21 00 04.0	+0.1
OJC	Ojcow	2.55	116	ePg	Pg	Pg	20 59 46.9	-0.5
OJC				eSg	Sg	Sg	21 00 21.0	-0.4
NKC	Novy Kostel	2.67	246	ePN	Pn	Pn	20 59 42.5	+1.1
NKC				ePG	Pg	Pg	20 59 49.0	-0.6
NKC				eSG	Sg	Sg	21 00 25.9	+0.7
KHC	Kasperske Hory	2.83	218	ePN	Pn	Pn	20 59 44.0	+0.2
KHC				ePG	Pg	Pg	20 59 50.1	-2.9
KHC				eSN	Sn	Sn	21 00 18.1	-1.0
KHC				eSG	Sg	Sg	21 00 28.1	-2.6
MOA	Molln	3.77	201	⇑iPN	Pn	Pn	20 59 57.8	+0.7
MOA				i SG	Sg	Sg	21 01 01.4	-0.6
	1.9nm,0.5s							

*IDC **20** 21:05:12.7±0.9, 10.90N×141.20E, h39km±7km, mb3.8/11, mb1 4.1/11, mb1mx3.9/19, mbtmp4.0/11, Error ellipse: s-maj=24.6km s-min=18.2km az=93.0*
*NEIC **20** 21:05:12.2±0.5, 10.92N×141.09E, h35km, mb4.4/6, Error ellipse: s-maj=21.5km s-min=10.8km az=85.0*
ISC 20 21:05:10.6±0.6, 10.88N±0.08×141.1E±0.2, h38km, h38km±1.2km: pP-P, n20, σ1§04/19, mb4.2/17, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GUMO	Guam	4.58	54	Pn	P	P	21 06 10.9	-8.4
CTAO	Charters Tower	31.20	171	P	P	P	21 11 28.9	+0.2
	3.5nm,0.8s,mb4.2							
WRAB	Tennant Creek	31.33	192	eP	P	P	21 11 29.4	-0.5
	1.1nm,0.6s,mb3.9							
WRA	Warramunga Arr	31.34	192	P	P	P	21 11 29.5	-0.5
	1.4nm,1.0s,mb3.8,baz=11,slow=9.7,SNR=10							
ASAR	Alice Springs	35.04	191	P	P	P	21 12 02.1	+0.1
	1.1nm,0.8s,mb3.8,baz=17,slow=12,SNR=9.6							
CMAR	Chiang Mai Arr	41.37	286	P	P	P	21 12 56.5	+1.6
	1.2nm,1.0s,mb3.5,baz=94,slow=7.0,SNR=7.2							
CMAR				pP	pP		21 13 08.0	+2.2
	0.9nm,0.8s,baz=93,slow=6.6,SNR=4.6							
SONM	Songino Array	46.93	328	P	P	P	21 13 41.2	+1.8
	0.5nm,0.4s,mb3.8,baz=135,slow=6.1,SNR=3.4							
NWAO	Narrogin (SRO)	49.14	207	P	P	P	21 13 57.1	+0.3
	36nm,1.4s,mb5.2							
ZAL	Zalesovo	61.72	326	P	P	P	21 15 27.2	-0.1
	0.5nm,0.4s,mb4.0,baz=264,slow=5.5,SNR=3.4							
KURK	Kurchatov	64.30	321	eP	P	P	21 15 43.5	-0.9
	2.9nm,0.5s,mb4.6							
KURK				e	pP		21 15 55.0	-0.9
CHKZ	Chkalovo	69.74	323	eP	P	P	21 16 17.9	-0.8
	1.2nm,0.3s,mb4.3							
CHKZ				e	pP		21 16 29.6	-0.5
BVAR	Borovoye Array	69.77	323	P	P	P	21 16 18.9	+0.1
	1.8nm,0.4s,mb4.3,baz=110,slow=7.4,SNR=26							
BVAR				pP	pP		21 16 30.6	+0.3
	2.1nm,0.8s,baz=101,slow=7.6,SNR=6.6							
BRVK	Borovoye	69.84	323	eP	P	P	21 16 17.5	-1.8
	2.9nm,0.6s,mb4.4							
ILAR	Eielson Array	72.59	25	P	P	P	21 16 34.2	-1.2
	0.6nm,0.4s,mb3.9,baz=252,slow=5.7,SNR=18							
YKA	Yellowknife Ar	86.94	27	P	P	P	21 17 53.8	+1.3
	0.8nm,0.4s,mb4.3,baz=290,slow=4.9,SNR=13							
YKA				pP	pP		21 18 04.8	+0.4
	0.3nm,0.5s,baz=291,slow=5.4,SNR=3.7							
YKA	Yellowknife Ar	86.94	27	P	P	P	21 17 53.9	+1.3
YKA				pP	pP		21 18 04.8	+0.4
ARCES	ARCESS Array B	88.48	341	P	P	P	21 17 59.8	-0.1
	1.1nm,0.7s,mb4.2,baz=45,slow=6.9,SNR=4.9							
NVAR	Mina Array Bea	91.50	51	P	P	P	21 18 17.1	+2.3
	0.2nm,0.6s,mb3.6,baz=280,slow=5.5,SNR=3.8							
FINES	FINESS Array B	92.00	334	P	P	P	21 18 15.6	-0.9
	9.8nm,1.2s,mb5.0,baz=135,slow=2.7,SNR=6.7							
LPAZ	La Paz	151.13	104	PKPbc	PKPdf		21 25 04.0	+9.3
	1.4nm,0.7s,baz=263,slow=6.0,SNR=5.3							

*BJI **20** 21:23:56.1, 4.80N×94.10E, h30km, mb4.5*
*NEIC **20** 21:23:58.1±0.4, 4.84N×94.11E, h30km, mb4.6/11, Error ellipse: s-maj=13.0km s-min=7.9km az=56.0*
*IDC **20** 21:24:00.6±0.8, 4.91N×94.22E, h45km±6km, mb4.0/10, mb1 4.1/11, mb1mx3.9/19, mbtmp4.2/11, ML4.5/1, Error ellipse: s-maj=36.9km s-min=13.7km az=52.0*
ISC 20 21:23:54.8±4.3, 4.82N±0.08×94.15E±0.09, h20km±31km, h42km±1.7km: pP-P, n37, σ1§02/36, mb4.5/26, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PALK	Pallekele	13.59	281	P	P	P	21 27 07.8	-1.4
	14nm,1.0s							
CM31	Chiang Mai Arr	14.34	19	eP	P	P	21 27 19.5	+0.5
	6.9nm,0.5s							
CMAR	Chiang Mai Arr	14.34	19	P	P	P	21 27 19.6	+0.6
	0.8nm,0.3s,baz=214,slow=12,SNR=44							
JIRN	Jiri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.84**	**147**	Pn	P	21 27 33.2	-3.1
	0.3nm,0.3s,baz=319,slow=13,SNR=20						
WRA				Sn	S	21 30 11.5	-11
	0.3nm,0.3s,baz=315,slow=24,SNR=7.9						
ASAR	**Alice Springs**	**17.80**	**155**	P	P	21 28 13.2	-0.9
	0.3nm,0.3s,baz=326,slow=10,SNR=16						
ASAR				S	S	21 31 20.6	-11
	0.2nm,0.3s,baz=315,slow=19,SNR=16						
CMAR	**Chiang Mai Arr**	**37.00**	**315**	P	P	21 31 14.8	-1.8
	0.6nm,0.7s,baz=144,slow=7.6,SNR=5.7						
VNDA	**Vanda**	**72.40**	**172**	P	P	21 35 30.9	-1.8
	0.7nm,0.8s,baz=342,slow=6.5,SNR=3.2						
ILAR	**Eielson Array**	**95.69**	**25**	P	P	21 37 30.2	-1.5
	0.9nm,1.3s,baz=256,slow=3.7,SNR=4.0						

IDC 20 21:30:29.8±12.0, 4.86S×119.40E, mb3.4/3, mb1 3.7/3, mb1mx3.4/15, mbtmp3.5/3, Error ellipse: s-maj=294.1km s-min=171.1km az=35.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.89**	**137**	P	P	21 35 13.1	-3.2
	0.2nm,0.2s,baz=308,slow=11,SNR=9.5						
ASAR	**Alice Springs**	**23.35**	**145**	P	P	21 35 39.5	-1.4
	0.6nm,0.4s,baz=322,slow=8.5,SNR=5.5						
STKA	**Stephens Creek**	**33.99**	**145**	P	P	21 37 16.2	-1.2
	1.2nm,0.4s,baz=316,slow=8.4,SNR=7.1						

IDC 20 22:02:30.5±37.0, 8.30N×91.44E, mb3.5/2, mb1 3.7/3, mb1mx3.3/18, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=825.1km s-min=49.0km az=97.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.46**	**35**	Pn	P	22 05 29.1	-2.9
	0.1nm,0.3s,baz=237,slow=14,SNR=6.5						
WRA	**Warramunga Arr**	**50.70**	**124**	P	P	22 11 32.3	-2.0
	0.5nm,0.7s,baz=303,slow=8.8,SNR=4.6						
ASAR	**Alice Springs**	**52.25**	**128**	P	P	22 11 43.8	-2.3
	0.3nm,0.4s,baz=303,slow=6.8,SNR=4.8						

IDC 20 22:05:11.6±5.7, 5.11N×94.07E, mb3.6/3, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, ML3.1/1, MS4.2/1, Ms1 4.2/1, ms1mx2.8/22, Error ellipse: s-maj=171.2km s-min=28.3km az=73.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.09**	**19**	Pn	P	22 08 34.7	-0.3
	0.0nm,0.3s,baz=209,slow=14,SNR=2.4						
SONM	**Songino Array**	**43.86**	**12**	P	P	22 13 19.4	-2.0
	0.3nm,0.8s,baz=198,slow=9.1,SNR=2.8						
WRA	**Warramunga Arr**	**46.76**	**123**	P	P	22 13 43.1	-1.8
	0.6nm,0.4s,baz=300,slow=11,SNR=12						
ASAR	**Alice Springs**	**48.24**	**128**	P	P	22 13 54.5	-2.0
	0.5nm,0.7s,baz=309,slow=8.0,SNR=4.9						

*CASC **20** 22:07:07.9±2.6, 13.07N×87.89W, h112km±38km, MD4.4, ML3.9, mb4.2(NEIC)*
*IDC **20** 22:07:12.5±1.0, 13.24N×87.68W, h46km±5km, mb3.8/9, mb1 4.0/10, mb1mx3.7/21, mbtmp4.0/10, MS3.0/1, Ms1 3.0/1, ms1mx1.5/20, Error ellipse: s-maj=27.4km s-min=23.0km az=103.0*
*NEIC **20** 22:07:13.0±1.5, 12.89N×87.75W, h68km±16km, mb4.2/13, Error ellipse: s-maj=19.6km s-min=10.7km az=224.0*
ISC 20 22:07:10.6±0.6, 13.14N±0.09×87.7W±0.1, h46km, h46km±.9km: pP-P, n40, σ1§27/37, mb4.1/17, MS4.8/1, 1D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGAN	**Managua**	**1.71**	**125**	*i*	**S**	**22 08 06.1**	**+6.8**
	comp=E,1μm,0.7s						
JTS	**JuntasAbangare**	**3.89**	**136**	*e*Pn	**P**	**22 08 08.1**	**-1.4**
JTS				*e*Sn	**S**	**22 08 54.7**	**+0.2**
LAJ	**Bijagual**	**4.77**	**133**	*e*P	**P**	**22 08 18.2**	**-3.7**
LCR2	**La Lucha 2**	**4.94**	**133**	*e*P	**P**	**22 08 24.6**	**+0.4**
BUS	**Buena Vista**	**5.24**	**132⇓**	*e*P	**P**	**22 08 28.8**	**+0.3**
TEIG	**Tepich**	**7.07**	**355**	*e*Pn	**P**	**22 09 01.2**	**+7.1**
SDV	**Santo Domingo**	**17.25**	**102**	P	**P**	**22 11 11.2**	**+1.3**
	comp=E,0.2nm,0.3s,baz=297,slow=6.5,SNR=6.3						
SDV				LR	LR	22 17 28.6	
	comp=E,51nm,20.6s,baz=275,slow=36						
SDV	**Santo Domingo**	**17.25**	**102**	*e*P	**P**	**22 11 10.8**	**+0.9**
	comp=E,5.8nm,0.9s						
GOGA	**Godfrey**	**20.54**	**10**	P	**P**	**22 11 48.9**	**+1.2**
	comp=E,13nm,0.8s						
JCT	**Junction City**	**20.57**	**329**	P	**P**	**22 11 45.9**	**-2.2**
	comp=E,10nm,0.7s						
JCT				*e*S	**S**	**22 15 25.3**	**-5.3**
JCT				*e*		22 15 50.1	
TXAR	**Lajitas Array**	**21.90**	**320**	P	**P**	**22 12 01.4**	**-0.1**
	comp=E,3.2nm,0.6s,mb3.9,baz=140,slow=10,SNR=20						
MIAR	**Mount Ida**	**21.97**	**347**	*e*P	**P**	**22 12 04.9**	**+2.7**
	comp=E,5.6nm,0.6s,mb4.2						
MIAR				*e*		22 12 19.1	
WMOK	**Wichita Mounta**	**23.74**	**337**	*e*P	**P**	**22 12 15.6**	**-3.9**
	comp=E,1.8nm,0.9s,mb3.5						
CPRX	**Cap Rock**	**24.71**	**326**	*e*P	**P**	**22 12 29.6**	**+0.6**
AMTX	**Amarillo**	**25.08**	**332**	*e*P	**P**	**22 12 33.6**	**+1.1**
	comp=E,9.1nm,0.6s,mb4.5						
SDCO	**Great Sand Dun**	**29.20**	**330**	*e*P	**P**	**22 13 11.6**	**+1.5**
	comp=E,1.1nm,0.7s,mb3.7						
SADO	**Sadowa**	**32.35**	**11**	P	**P**	**22 13 37.5**	**-0.3**
	comp=E,2.6nm,0.5s,mb4.4,baz=193,slow=9.2,SNR=4.2						
PDAR	**Pinedale Array**	**35.06**	**331**	P	**P**	**22 14 01.3**	**+0.1**
	comp=E,0.8nm,0.6s,mb3.9,baz=129,slow=10,SNR=10						
PDAR				PcP	PcP	22 16 30.1	-2.4
	comp=E,0.4nm,0.7s,baz=146,slow=5.3,SNR=3.5						
NVAR	**Mina Array Bea**	**37.04**	**318**	PcP	PcP	22 16 37.4	-1.1
	comp=E,0.9nm,0.8s,baz=122,slow=4.3,SNR=5.8						
HLID	**Hailey**	**38.04**	**328**	*e*P	**P**	**22 14 26.6**	**+0.4**
	comp=E,1.4nm,0.8s,mb3.7						
MCMT	**McKenzie Canyo**	**38.18**	**331**	*e*P	**P**	**22 14 29.2**	**+1.8**
NEW	**Newport**	**42.70**	**331**	*e*P	**P**	**22 14 57.4**	**-7.3**
	comp=E,2.2nm,0.8s,mb3.9						
SCHQ	**Schefferville**	**44.68**	**17**	P	**P**	**22 15 21.8**	**+1.1**
	comp=E,1.5nm,0.4s,mb4.2,baz=220,slow=6.7,SNR=16						
SCHQ	**Schefferville**	**44.68**	**17**	*e*P	**P**	**22 15 21.5**	**+0.8**
	comp=E,3.3nm,0.6s,mb4.3						
FCC	**Fort Churchill**	**45.79**	**355**	*e*P	**P**	**22 15 29.4**	**-0.1**
	comp=E,3.5nm,0.6s,mb4.5						
FRB	**Frobisher Bay**	**52.29**	**11**	P	**P**	**22 16 17.9**	**-1.5**
	comp=E,1.7nm,0.5s,mb4.3,baz=215,slow=8.8,SNR=10						
FRB				pP	pP	22 16 31.1	-1.1
	comp=E,2.3nm,0.6s,baz=233,slow=4.0,SNR=2.9						
YKA	**Yellowknife Ar**	**52.89**	**345**	P	**P**	**22 16 22.9**	**-1.0**
	comp=E,0.8nm,0.6s,mb3.9,baz=137,slow=8.1,SNR=15						
YKA				pP	pP	22 16 35.9	-0.8
	comp=E,0.7nm,0.7s,baz=138,slow=7.7,SNR=5.6						
YKA				PcP	PcP	22 17 30.0	-2.5
	comp=E,0.6nm,0.7s,baz=144,slow=4.2,SNR=7.0						
YKA	**Yellowknife Ar**	**52.89**	**345**	P	**P**	**22 16 22.9**	**-1.0**
YKA				pP	pP	22 16 35.9	-0.8
YKA				PcP	PcP	22 17 30.1	-2.5
DLBC	**Dease Lake**	**55.19**	**334**	P	**P**	**22 16 40.7**	**-0.2**
	comp=E,2.1nm,0.8s,mb4.2,baz=166,slow=12,SNR=4.0						
DLBC	**Dease Lake**	**55.19**	**334**	*e*P	**P**	**22 16 39.2**	**-1.7**
RES	**Resolute Bay**	**61.66**	**358**	*e*P	**P**	**22 17 24.0**	**-1.9**
	comp=E,1.4nm,0.7s,mb4.2						
INK	**Inuvik**	**62.48**	**342**	P	**P**	**22 17 29.8**	**-1.6**
	comp=E,2.9nm,1.2s,mb4.3,baz=175,slow=4.8,SNR=4.4						
INK				pP	pP	22 17 42.5	-2.0
	comp=E,0.8nm,0.8s,baz=136,slow=8.2,SNR=2.4						
INK	**Inuvik**	**62.48**	**342**	*e*P	**P**	**22 17 29.6**	**-1.7**
	comp=E,4.7nm,1.2s,mb4.5						
ILAR	**Eielson Array**	**65.30**	**336**	P	**P**	**22 17 48.1**	**-1.7**
	comp=E,0.5nm,0.6s,mb3.8,baz=163,slow=4.6,SNR=9.9						
ILAR				pP	pP	22 18 01.1	-1.9
	comp=E,0.4nm,0.8s,baz=78,slow=6.0,SNR=4.2						
PPT	**Papeete**	**68.29**	**245**	P	**P**	**22 18 11.2**	**+1.7**
	comp=E,66nm,0.5s,baz=265,slow=1.7,SNR=4.7						
ESLA	**Sonseca Array**	**76.94**	**52**	*e*P	**P**	**22 19 00.6**	**+0.4**
PMG	**Port Moresby**	**126.18**	**268**	LR	LR	22 39 51.9	
	comp=E,200nm,19.2s,MS4.8,baz=309,slow=38						
WRA	**Warramunga Arr**	**139.25**	**255**	PKP	PKPdf	22 26 34.2	+0.7
	comp=E,0.4nm,0.8s,baz=90,slow=2.7,SNR=4.7						
WRA				pPKP		22 26 50.4	
	comp=E,1.3nm,1.0s,baz=81,slow=1.8,SNR=3.8						
ASAR	**Alice Springs**	**139.32**	**249**	PKP	PKPdf	22 26 35.4	+1.8
	comp=E,0.3nm,0.6s,baz=108,slow=1.7,SNR=3.9						
ASAR				pPKP		22 26 50.6	
	comp=E,0.7nm,0.8s,baz=76,slow=1.8,SNR=3.5						
CMAR	**Chiang Mai Arr**	**147.93**	**348**	PKPbc	PKPdf	22 26 51.4	+2.8
	comp=E,2.0nm,1.0s,baz=343,slow=4.1,SNR=8.1						
CMAR				pPKPbc		22 27 06.1	
	comp=E,0.9nm,0.8s,baz=336,slow=4.2,SNR=3.4						

IDC 20 22:13:10.3±44.0, 16.05S×173.52W, mb4.2/3, mb1 4.4/3, mb1mx3.9/15, mbtmp4.2/3, Error ellipse: s-maj=846.0km s-min=168.7km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.62**	**240**	P	P	22 21 17.6	-0.7
	1.8nm,0.6s,baz=106,slow=9.6,SNR=7.1						
WRA	**Warramunga Arr**	**49.59**	**257**	P	P	22 22 02.9	-2.6
	0.5nm,0.5s,baz=97,slow=7.4,SNR=14						
ASAR	**Alice Springs**	**49.80**	**252**	P	P	22 22 05.0	-2.2
	6.8nm,0.5s,baz=88,slow=8.1,SNR=107						

*CSEM **20** 22:13:22.9, 56.48N×4.39W, h4km, ML2.7, After BGS*
*BER **20** 22:13:23.6±0.6, 56.49N×4.37W, h5km, ML2.6, ML2.7(BGS)*
*BGS **20** 22:13:23.0±0.4, 56.49N×4.38W, h5km±5km, ML2.7*
ISC 20 22:13:22.4±0.9, 56.48N±0.03×4.41W±0.10, h12km±6km, n16, σ0§38/24, 5C-2D, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAB	**Aberfoyle**	**0.30**	**173⇑**	*i*P	**Pg**	**22 13 29.0**	**+0.3**
EAB				*e*S	**Sg**	**22 13 32.5**	**-0.5**
PCOU	**Corrie**	**0.52**	**161⇑**	*i*P	**Pb**	**22 13 33.2**	**+0.2**
PCOU				*e*S	**Sg**	**22 13 40.4**	**+0.2**
POB1	**Observatory**	**0.64**	**181**	*e*P	**Pb**	**22 13 35.6**	**+0.6**
EDU	**Dundee**	**0.77**	**85**	*e*P	**Pb**	**22 13 36.9**	**-0.5**
EAU	**Auchinoon**	**0.83**	**140**	*e*P	**Pb**	**22 13 38.3**	**-0.1**
EDI	**Edinburgh**	**0.88**	**129⇓**	*e*P	**Pb**	**22 13 38.9**	**-0.3**
EDI				*e*S	**Sb**	**22 13 51.3**	**+0.6**
EDI				AML	AML	22 13 54.8	
	comp=E,278nm,0.3s						
EDI				AML	AML	22 13 54.9	
	comp=N,579nm,0.3s						
EDI	**Edinburgh**	**0.88**	**129⇓**	*e*P	**Pb**	**22 13 38.9**	**-0.3**
EDI				*e*S	**Sb**	**22 13 51.3**	**+0.6**
EDI				AML	AML	22 13 54.8	
	comp=E,278nm,0.3s						
EDI				AML	AML	22 13 54.9	
	comp=N,579nm,0.3s						
EDI	**Edinburgh**	**0.88**	**129**	*e*P	**Pb**	**22 13 38.9**	**-0.3**
	SNR=66						
EDI				*e*S	**Sb**	**22 13 51.3**	**+0.6**
	comp=N,579nm,0.3s,SNR=66						
MDO	**Dochfour**	**0.96**	**1⇑**	*i*P	**Pb**	**22 13 40.6**	**0.0**
MME1	**Meikle Cairn**	**1.15**	**43**	*e*P	**Pb**	**22 13 43.5**	**-0.3**
MCD	**Coleburn Disti**	**1.27**	**29⇑**	*e*P	**Pb**	**22 13 46.1**	**+0.2**
MCD				*e*S	**Sb**	**22 14 01.8**	**-0.1**
MCD				AML	AML	22 14 07.5	
	comp=E,141nm,0.3s						
MCD				AML	AML	22 14 07.8	
	comp=N,135nm,0.4s						
MCD	**Coleburn Disti**	**1.27**	**29**	*e*P	**Pb**	**22 13 46.1**	**+0.3**
	SNR=57						
MCD				*e*S	**Sb**	**22 14 01.8**	**-0.1**
	comp=N,135nm,0.4s,SNR=57						
GMK	**Mull of Kintyr**	**1.32**	**211**	*e*P	**Pb**	**22 13 47.0**	**+0.3**
RRR	**Rubha Reidh**	**1.58**	**332**	*e*P	**Pn**	**22 13 50.7**	**+0.3**
RRR				AML	AML	22 14 15.7	
	comp=N,88nm,0.3s						
RRR				AML	AML	22 14 16.0	
	comp=E,104nm,0.4s						
GAL1	**Galloway**	**1.63**	**186⇑**	*i*P	**Pn**	**22 13 51.4**	**+0.2**
GAL1				*e*S	**Sn**	**22 14 11.5**	**-0.7**
GAL1				AML	AML	22 14 15.7	
	comp=E,93nm,0.2s						
GAL1				AML	AML	22 14 16.8	
	comp=N,60nm,0.2s						
GCL	**Cushendall**	**1.71**	**215**	*e*P	**Pn**	**22 13 51.9**	**-0.5**

*IDC **20** 22:18:38.3±0.3, 22.14S×68.83W, h97km±2km, mb4.2/13, mb1 4.4/15, mb1mx4.4/17, mbtmp4.6/15, MS3.8/5, Ms1 3.8/5, ms1mx3.4/17, Error ellipse: s-maj=15.6km s-min=8.2km az=90.0*
*HRVD **20** 22:18:38.5±0.4, 22.14S×69.18W, h111km±3km, MW5.0/51, Centroid moment Tensor Solution. LP body waves: s25,c30;Mantle waves: s51,c82; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.83±.21; $M_{\theta\theta}$2.20±.18; $M_{\phi\phi}$-0.37±.24; $M_{r\theta}$-0.30±.13; $M_{\theta\phi}$2.81±.17; $M_{r\phi}$-2.54±.16; Best double couple: $M_0$4.304×10^{16} NP1:φ≈274°, δ47°, λ-24°. NP2:φ≈22°, δ72°, λ-134°. Principal axes: T 4.463, Plg16°, Azm142°; N -.326, Plg41°, Azm38°; P -4.144, Plg44°, Azm248°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **20** 22:18:38.5±0.2, 22.14S×68.73W, mb5.1/46 Error ellipse: s-maj=8.1km s-min=4.5km az=83.0*
NEIC Felt [V] at Calama, [IV] at Maria Elena and [III] at Antofagasta and Tocopilla.
*GUC **20** 22:18:40.0±0.7, 22.49S×68.81W, h104km±4km, ML5.4*
ISC 20 22:18:36.9±0.2, 22.13S±0.03×68.80W±0.06, h102km, h102km±.4km: pP-P, n149, σ1§14/129, mb5.0/49, 6C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.49**	**192**	P	**P**	**22 18 54.7**	**+1.7**
	6μm,0.3s,baz=356,slow=6.4						
LVC				S	**S**	**22 19 06.6**	**+1.6**
	15μm,0.3s,baz=127,slow=21,SNR=157						
LVC	**Limon Verde**	**0.49**	**192**	*e*Pg	**P**	**22 18 54.3**	**+1.3**
LVC				*e*Sg	**S**	**22 19 06.4**	**+1.4**
LVC	**Limon Verde**	**0.49**	**192⇓**	*i*P	**P**	**22 18 55.1**	**+2.1**
LVC				*i* S	**S**	**22 19 07.1**	**+2.0**
LVC				AMP		22 19 08.5	
	comp=E,206μm,0.5s						
ANCH	**Antofagasta**	**2.14**	**224**	*e*P	**P**	**22 19 12.1**	**+0.1**
ANCH				*i* S	**S**	**22 19 36.0**	**-2.1**
ANCH				AMP		22 20 06.5	
	comp=N,32μm,0.5s						
CPN1	**Cerro Paranal**	**2.89**	**210**	*e*P	**P**	**22 19 22.2**	**0.0**
CPN1				*i* S	**S**	**22 19 54.3**	**-1.9**
CPN1				AMP		22 20 08.8	
	comp=E,17μm,0.7s						
CPCH	**Copiapo**	**5.39**	**195⇑**	*i*P	**P**	**22 19 55.4**	**-0.9**
CPCH				*i* S	**S**	**22 20 52.9**	**-4.8**
LPAZ	**La Paz**	**5.85**	**6**	P	**P**	**22 20 02.5**	**-0.1**
	comp=E,6.2nm,0.3s,baz=187,slow=8.4,SNR=83						
LPAZ	**La Paz**	**5.85**	**6**	*e*P	**P**	**22 20 02.7**	**+0.2**
	comp=E,555nm,1.0s						
VACH	**Vallenar**	**6.66**	**195**	*e*P	**P**	**22 20 11.6**	**-2.2**
VACH				*i* S	**S**	**22 21 22.4**	**-6.3**
TLL	**Tololo Astrono**	**8.20**	**192**	*e*P	**P**	**22 20 41.3**	**+6.5**
MDZ	**Mendoza**	**10.71**	**180**	*e*P	**P**	**22 21 08.2**	**-0.3**
MDZ				*e*		22 21 59.9	
MDZ				*e*		22 24 05.3	
TRQA	**Tornquist**	**16.92**	**161**	*e*P	**P**	**22 22 27.8**	**-0.9**
	comp=E,126nm,0.9s						
PLCA	**Paso Flores**	**18.60**	**184**	P	**P**	**22 22 48.6**	**-0.1**
	comp=E,0.9nm,0.3s,baz=8.1,slow=14,SNR=20						
PLCA				LR	LR	22 31 17.3	
	comp=E,262nm,18.8s,baz=9.3,slow=41						
PLCA	**Paso Flores**	**18.60**	**184**	*e*P	**P**	**22 22 48.2**	**-0.6**
	comp=E,21nm,0.8s						
BDFB	**Brasilia**	**20.68**	**75**	P	**P**	**22 23 10.4**	**-0.4**
	comp=E,20nm,0.8s,baz=254,slow=11,SNR=20						
BDFB				pP		22 23 31.1	
	comp=E,17nm,0.8s,baz=242,slow=13,SNR=4.0						
BDFB				LR	LR	22 32 59.7	
	comp=E,283nm,20.0s,baz=267,slow=42						
BAO	**Brasilia Array**	**20.71**	**75**	P	**P**	**22 23 10.1**	**-0.9**
BAO				*e*		22 23 33.7	
PAYG	**Puerto Ayora**	**29.88**	**313**	P	**P**	**22 24 38.0**	**+0.7**
	comp=E,34nm,1.0s,mb4.9						
SDV	**Santo Domingo**	**30.88**	**356**	P	**P**	**22 24 45.6**	**-0.5**
	comp=E,4.0nm,0.9s,mb4.2,baz=250,slow=2.5,SNR=6.0						
SDV				pP	pP	22 25 07.6	-1.4
	comp=E,20nm,0.8s,baz=223,slow=3.7,SNR=17						
SDV				sP	sP	22 25 19.0	-2.0
	comp=E,29nm,1.0s,baz=341,slow=19,SNR=7.6						
SDV				LR	LR	22 39 36.2	
	comp=E,148nm,19.1s,baz=215,slow=41						
SDV	**Santo Domingo**	**30.88**	**356**	*e*P	**P**	**22 24 45.7**	**-0.4**
	comp=E,36nm,1.0s,mb5.1						
SDV				*e*pP	pP	22 25 06.9	-2.1
SDV				*e*sP	sP	22 25 18.4	-2.5
USHA	**Ushuaia**	**32.65**	**180**	LR	LR	22 40 26.6	
	comp=E,168nm,19.0s,baz=186,slow=40						
RCBR	**Riachuelo**	**35.67**	**68**	*e*P	**P**	**22 25 26.7**	**-0.7**
SJG	**San Juan**	**40.08**	**4**	P	**P**	**22 26 02.6**	**-1.5**
	comp=E,21nm,0.9s,mb5.0,baz=101,slow=11,SNR=4.0						
SJG				pP	pP	22 26 26.0	-1.8
	comp=E,48nm,0.8s,baz=163,slow=2.1,SNR=7.1						
SJG	**San Juan**	**40.08**	**4**	P	**P**	**22 26 02.6**	**-1.4**
	comp=E,5.3nm,1.0s,mb4.3						
SJG				pP	pP	22 26 26.0	-1.8
SJG				*e*pP	pP	22 26 26.4	-1.4
PMSA	**Palmer Station**	**42.74**	**177**	P	**P**	**22 26 24.8**	**-0.5**
	comp=E,50nm,1.2s,mb5.1						
TEIG	**Tepich**	**46.20**	**334**	*e*P	**P**	**22 26 52.2**	**-1.5**
	comp=E,22nm,0.9s,mb4.9						
TEIG				*e*pP	pP	22 27 16.6	-1.2
TWB	**Tillmans-White**	**55.99**	**349**	*e*P	**P**	**22 28 05.9**	**-1.4**
TWB				*e*pP	pP	22 28 32.0	-0.2
TWB				*e*sP	sP	22 28 43.2	-0.4
NHSC	**New Hope**	**55.99**	**348**	*e*P	**P**	**22 28 06.9**	**-0.4**
	comp=E,262nm,1.2s,mb6.1						
NHSC				*e*pP	pP	22 28 31.8	-0.4
NHSC				*e*sP	sP	22 28 43.8	+0.2
COW	**Cow Castle Cre**	**56.36**	**348**	*e*P	**P**	**22 28 09.2**	**-0.8**
COW				*e*pP	pP	22 28 33.6	-1.3
COW				*e*sP	sP	22 28 46.0	-0.3
JSC	**Jenkinsville**	**57.34**	**348**	*e*P	**P**	**22 28 15.1**	**-1.7**
JSC				*e*pP	pP	22 28 41.0	-0.9
LRAL	**Lakeview Retre**	**57.54**	**342**	*e*P	**P**	**22 28 16.1**	**-2.2**
	comp=E,26nm,1.0s,mb5.2						
LRAL				*e*pP	pP	22 28 36.9	-6.5
HKT	**Hockley**	**57.95**	**332**	*e*P	**P**	**22 28 20.5**	**-0.6**
HKT				*e*pP	pP	22 28 43.5	-2.7
MYNC	**Murphy**	**58.72**	**345**	*e*pP	pP	22 28 50.2	-1.4
	comp=E,38nm,0.8s						
NATX	**Nacogdoches**	**59.03**	**334**	*e*P	**P**	**22 28 27.8**	**-0.8**
	comp=E,85nm,1.0s,mb5.7						
NATX				*e*pP	pP	22 28 53.2	-0.6
CPCT	**Cooper Cave**	**59.17**	**345**	*e*P	**P**	**22 28 22.3**	**-7.3**
VNA3	**Neumayer Olymp**	**59.45**	**161⇑**	*i*	**P**	**22 28 42.0**	**+11**
VNA3	**Neumayer Olymp**	**59.45**	**161⇑**	*i*	pP	22 28 57.1	+1.0
OXF	**Oxford**	**59.64**	**340**	*e*P	**P**	**22 28 29.2**	**-3.5**
	comp=E,66nm,1.0s,mb5.6						
OXF				*e*pP	pP	22 28 55.2	-2.8
VNA2	**Neumayer--Watz**	**60.02**	**161⇑**	*i*	**P**	**22 28 37.7**	**+2.8**
VNA2	**Neumayer--Watz**	**60.02**	**161⇑**	*i*	**P**	**22 28 45.8**	**+11**
VNA2	**Neumayer--Watz**	**60.02**	**161⇓**	*i*	pP	22 29 03.6	+3.4
JCT	**Junction City**	**60.20**	**329**	*e*P	**P**	**22 28 35.6**	**-1.0**
	comp=E,47nm,1.1s,mb5.4						
JCT				*e*pP	pP	22 29 00.3	-1.6
JCT				*e*sP	sP	22 29 10.8	-2.5
WVT	**Waverly**	**60.68**	**342**	*e*P	**P**	**22 28 37.5**	**-2.3**
	comp=E,36nm,1.0s,mb5.4						
WVT				*e*pP	pP	22 29 02.7	-2.4
UALR	**University of**	**60.85**	**338**	*e*P	**P**	**22 28 39.4**	**-1.6**
	comp=E,40nm,1.0s,mb5.4						
UALR				*e*pP	pP	22 29 04.5	-1.8
UALR				*e*sP	sP	22 29 16.3	-1.4
MIAR	**Mount Ida**	**61.09**	**337**	*e*P	**P**	**22 28 41.1**	**-1.6**
	comp=E,55nm,1.4s,mb5.4						
MIAR				*e*pP	pP	22 29 05.8	-2.1
MIAR				*e*sP	sP	22 29 18.0	-1.3
TXAR	**Lajitas Array**	**61.20**	**325**	P	**P**	**22 28 42.4**	**-1.1**
	comp=E,2.3nm,0.8s,mb4.2,baz=141,slow=8.0,SNR=17						
TXAR				pP	pP	22 29 07.1	-1.7
	comp=E,2.2nm,0.7s,baz=156,slow=12,SNR=7.3						
TXAR				sP	sP	22 29 18.2	-2.1
	comp=E,4.2nm,0.9s,baz=153,slow=11,SNR=6.0						
TXAR	**Lajitas Array**	**61.20**	**325**	P	**P**	**22 28 42.4**	**-1.1**
TXAR				pP	pP	22 29 07.1	-1.7
TXAR				sP	sP	22 29 18.2	-2.1
MVL	**Millersville**	**62.21**	**353**	*e*P	**P**	**22 28 49.5**	**-0.6**
MVL				*e*pP	pP	22 29 15.1	-0.4
MVL				*e*sP	sP	22 29 25.8	-1.1
WCI	**Wyandotte Cave**	**62.25**	**344**	*e*P	**P**	**22 28 47.4**	**-3.0**
	comp=E,22nm,1.0s,mb5.1						
WCI				*e*pP	pP	22 29 13.6	-2.2
WCI				*e*sP	sP	22 29 27.4	+0.3
FVM	**French Village**	**63.16**	**341**	*e*P	**P**	**22 28 55.0**	**-1.4**
FVM				*e*pP	pP	22 29 20.2	-1.7
FVM				*e*sP	sP	22 29 31.8	-1.4
WMOK	**Wichita Mounta**	**63.32**	**333**	*e*P	**P**	**22 28 55.4**	**-2.2**
	comp=E,5.4nm,0.9s,mb4.5						
WMOK				*e*pP	pP	22 29 20.5	-2.5
WMOK				*e*sP	sP	22 29 32.3	-2.0
ACSO	**Alum Creek Sta**	**63.43**	**348**	*e*P	**P**	**22 28 56.7**	**

PFO Pinyon Flat Ob 71.65 319 *eP* **P 22 29 50.1 +0.5**
comp=E,13nm,1.0s,mb4.7
PFO *epP* pP 22 30 16.1 +0.5
PHWY Pilot Hill 71.69 332 *eP* **P 22 29 50.0 +0.3**
PHWY *epP* pP 22 30 16.1 +0.3
NEN Nelson 72.13 322 *eP* **P 22 29 53.0 +0.6**
NEN *epP* pP 22 30 17.6 -0.9
SRU San Rafael 72.36 327 *eP* **P 22 29 54.4 +0.7**
SRU *epP* pP 22 30 20.3 +0.5
SRU *esP* sP 22 30 30.4 -0.3
MSU Marysvale 72.76 326 *eP* **P 22 29 57.2 +1.2**
MSU *epP* pP 22 30 22.9 +0.7
MSU *esP* sP 22 30 34.1 +1.0
MVU Marysvale 72.77 326 *eP* **P 22 29 56.9 +0.8**
comp=E,20nm,0.9s,mb5.0
MVU *epP* pP 22 30 23.1 +0.9
TMUT Trail Mountain 72.85 327 *eP* **P 22 29 57.2 +0.6**
TMUT *epP* pP 22 30 23.2 +0.5
TMUT *esP* sP 22 30 35.1 +1.5
ARUT Antelope Range 72.89 324 *eP* **P 22 29 58.7 +1.9**
ARUT *epP* pP 22 30 24.3 +1.3
DAU Daniels Canyon 73.71 328 *eP* **P 22 30 03.0 +1.4**
DAU *epP* pP 22 30 29.0 +1.2
JLU Jordanelle 73.95 328 *eP* **P 22 30 04.0 +1.0**
JLU *epP* pP 22 30 29.9 +0.7
PDAR Pinedale Array 74.71 330 P **P 22 30 06.9 -0.3**
comp=E,2.8nm,0.8s,mb4.0,baz=143,slow=7.4,SNR=20
PDAR pP pP 22 30 33.3 -0.3
comp=E,2.9nm,0.6s,baz=135,slow=7.2,SNR=6.8
SPUT South Promonto 74.98 327 *eP* **P 22 30 09.4 +0.6**
SPUT *epP* pP 22 30 35.8 +0.7
TPH Tonopah 75.19 322 *eP* **P 22 30 11.7 +1.6**
TPH *epP* pP 22 30 37.5 +1.1
TPH *esP* sP 22 30 49.4 +2.0
SBA Scott Base 75.23 190 *eP* **P 22 30 11.8 +2.2**
comp=E,9.4nm,1.0s,mb4.5
SBA *epP* pP 22 30 38.1 +2.2
HVU Hansel Valley 75.50 328 *eP* **P 22 30 12.3 +0.5**
HVU *epP* pP 22 30 38.1 0.0
SNOW Snow King Moun 75.80 330 *eP* **P 22 30 14.7 +1.2**
SNOW *epP* pP 22 30 41.9 +2.1
SNOW *esP* sP 22 30 51.1 +0.3
LOHW Long Hollow 75.84 330 *eP* **P 22 30 14.4 +0.6**
LOHW *epP* pP 22 30 41.3 +1.3
WUWY Wally Ulrich 75.85 330 *eP* **P 22 30 14.6 +0.9**
WUWY *epP* pP 22 30 40.8 +0.7
SYO Syowa Base 75.88 159 ⇓P **P 22 30 14.9 +1.5**
SYO Syowa Base 75.88 159 ⇑PcP PcP 22 30 24.1 -1.6
SYO Syowa Base 75.88 159 ⇓pP pP 22 30 41.6 +1.9
TPAW Teton Pass 75.91 330 *eP* **P 22 30 14.9 +0.8**
TPAW *epP* pP 22 30 41.5 +1.1
MOOW Moose Ponds 76.02 330 *eP* **P 22 30 15.0 +0.3**
MOOW *epP* pP 22 30 42.1 +1.1
NVAR Mina Array Bea 76.05 322 P **P 22 30 15.3 +0.3**
comp=E,2.6nm,0.9s,mb4.0,baz=142,slow=7.0,SNR=20
NVAR pP pP 22 30 41.5 +0.2
comp=E,3.8nm,0.8s,baz=148,slow=7.8,SNR=10.0
IMW Indian Meadow 76.22 330 *eP* **P 22 30 16.6 +0.8**
IMW *epP* pP 22 30 43.0 +0.8
IMW *esP* sP 22 30 53.8 +0.5
VNDA Vanda 76.25 190 P **P 22 30 17.5 +2.1**
comp=E,4.1nm,0.9s,mb4.1,baz=144,slow=3.2,SNR=10.0
VNDA sP sP 22 30 50.7 -2.1
comp=E,1.7nm,0.7s,baz=239,slow=5.0,SNR=2.6
LAO LASA Array 76.40 335 *eP* **P 22 30 17.0 +0.2**
comp=E,59nm,1.1s,mb5.2
LAO *epP* pP 22 30 44.1 +0.9
LAO *esP* sP 22 30 53.7 -0.5
LKWY Lake 76.49 331 *eP* **P 22 30 19.4 +2.1**
comp=E,33nm,1.0s,mb5.0
LKWY *epP* pP 22 30 46.6 +2.9
YFT Old Faithful 76.60 330 *eP* **P 22 30 20.0 +2.0**
YFT *epP* pP 22 30 48.3 +4.0
SCHQ Schefferville 76.67 1 P **P 22 30 17.9 -0.2**
comp=E,7.5nm,1.1s,mb4.3,baz=184,slow=3.2,SNR=4.0
SCHQ pP pP 22 30 44.7 +0.3
comp=E,10nm,0.8s,baz=163,slow=4.5,SNR=9.9
SCHQ Schefferville 76.67 1 P **P 22 30 17.9 -0.2**
comp=E,4.3nm,1.1s,mb4.1
SCHQ *epP* pP 22 30 44.4 -0.1
SCHQ pP pP 22 30 44.7 +0.3
YMR Madison River 76.82 331 *eP* **P 22 30 20.5 +1.3**
YMR *epP* pP 22 30 48.1 +2.6
CMB Columbia Colle 76.99 321 *eP* **P 22 30 21.2 +0.9**
comp=E,31nm,1.7s,mb4.8
DGMT Dagmar 77.09 337 *eP* **P 22 30 21.1 +0.5**
comp=E,80nm,1.0s,mb5.4
DGMT *epP* pP 22 30 47.4 +0.4
DGMT *esP* sP 22 30 58.9 +0.8
GCMT Greycliff 77.12 332 *eP* **P 22 30 21.2 +0.4**
GCMT *epP* pP 22 30 48.3 +1.1
QLMT Earthquake Lak 77.16 330 *eP* **P 22 30 22.5 +1.4**
QLMT *epP* pP 22 30 49.7 +2.3
HLID Hailey 77.63 328 *eP* **P 22 30 25.0 +1.3**
comp=E,24nm,1.0s,mb4.9
HLID *epP* pP 22 30 50.6 +0.5
MCMT McKenzie Canyo 77.82 330 *eP* **P 22 30 25.6 +0.9**
MCMT *epP* pP 22 30 52.8 +1.7
OHCM Honcut 78.50 321 *eP* **P 22 30 29.3 +0.8**
MOD Modoc 79.54 324 *eP* **P 22 30 34.9 +0.7**
comp=E,23nm,1.2s,mb4.9
MOD *epP* pP 22 31 01.1 +0.5
CHMT Chamberlain Mo 79.57 331 *eP* **P 22 30 35.4 +1.2**
CHMT *epP* pP 22 31 02.4 +1.7
BMO Blue Mountains 80.00 327 *eP* **P 22 30 36.7 +0.1**
comp=E,20nm,1.0s,mb4.9
BMO *epP* pP 22 31 03.3 +0.3
WALA Waterton Lakes 81.47 332 *eP* **P 22 30 45.1 +0.9**
comp=E,38nm,1.0s,mb5.2
WALA *epP* pP 22 31 11.7 +0.9
WALA *esP* sP 22 31 22.2 +0.1
FFC Flin Flon 81.66 341 *eP* **P 22 30 44.9 -0.2**
comp=E,42nm,1.4s,mb5.1
FFC *epP* pP 22 31 11.5 -0.2
NEW Newport 82.34 330 *eP* **P 22 30 48.7 0.0**
comp=E,7.6nm,0.9s,mb4.5
NEW *epP* pP 22 31 15.1 -0.3
BOSA Boshof 83.06 118 *eP* **P 22 30 54.3 +1.5**
comp=E,7.9nm,0.8s,mb4.6
BOSA *epP* pP 22 31 19.8 +0.3
FCC Fort Churchill 83.27 347 *eP* **P 22 30 53.1 -0.1**
comp=E,34nm,1.0s,mb5.1
FCC *epP* pP 22 31 20.9 +1.0
FCC *esP* sP 22 31 30.6 -0.5
MAW Mawson 83.70 163 *eP* **P 22 30 56.0 +0.8**
comp=E,6.7nm,0.7s,mb4.6
EDM Edmonton 84.38 335 *eP* **P 22 30 57.9 -1.0**
EDM *epP* pP 22 31 25.4 -0.2
ESDC Sonseca Array 86.21 44 P **P 22 31 08.5 +0.3**
comp=E,0.7nm,0.8s,baz=225,slow=4.2,SNR=5.0
ESDC pP pP 22 31 35.1 0.0
comp=E,1.9nm,0.8s,baz=243,slow=5.1,SNR=5.9
ESDC sP sP 22 31 45.8 -0.3
comp=E,3.3nm,0.9s,baz=246,slow=4.5,SNR=4.7
LSZ Lusaka 90.62 107 *eP* **P 22 31 35.2 +5.5**
comp=E,6.1nm,0.9s,mb4.7
LSZ *epP* pP 22 31 59.5 +2.6
YKA Yellowknife Ar 91.81 341 P **P 22 31 34.1 -0.1**
comp=E,5.1nm,0.8s,mb4.8,baz=136,slow=4.6,SNR=89
YKA pP pP 22 32 01.2 -0.2
comp=E,20nm,0.7s,baz=135,slow=4.5,SNR=46
YKA sP sP 22 32 11.2 -0.9
comp=E,4.1nm,0.5s,baz=139,slow=4.6,SNR=4.9
YKA Yellowknife Ar 91.81 341 P **P 22 31 34.1 -0.1**
YKA pP pP 22 32 01.2 -0.2
YKA sP sP 22 32 11.2 -0.9
CASY Casey 91.86 180 P **P 22 31 34.2 -0.1**
comp=E,31nm,1.0s,mb5.5
YKW3 Yellowknife Ar 91.87 341 *eP* **P 22 31 34.2 -0.2**
YKW3 *epP* pP 22 32 01.6 0.0
YKW3 *esP* sP 22 32 13.1 +0.7
DLBC Dease Lake 94.81 332 P **P 22 31 48.8 +0.9**
comp=E,6.8nm,1.1s,mb5.0,baz=342,slow=25,SNR=5.7
DLBC pP pP 22 32 16.8 +1.7
comp=E,8.1nm,0.9s,baz=144,slow=4.3,SNR=7.7
DLBC Dease Lake 94.81 332 *eP* **P 22 31 48.5 +0.6**
DLBC *epP* pP 22 32 16.2 +1.1
INK Inuvik 101.57 340 P P 22 32 18.1 -0.2
comp=E,1.1nm,1.0s,baz=131,slow=10,SNR=2.6
INK pP 22 32 45.0
comp=E,2.4nm,0.7s,baz=105,slow=5.7,SNR=7.6
INK sP 22 32 54.6
comp=E,1.1nm,0.8s,baz=93,slow=3.8,SNR=2.7

INK Inuvik 101.57 340 *e*Pdif P 22 32 18.1 -0.2
INK *epP* 22 32 46.0
ILAR Eielson Array 104.86 334 PP PP 22 36 57.6 +0.8
comp=E,0.7nm,1.0s,baz=90,slow=4.3,SNR=4.9
STKA Stephens Creek 118.92 209 PKP PKPdf 22 37 15.5 +1.6
comp=E,1.7nm,0.8s,baz=314,slow=14,SNR=3.0
CTA Charters Tower 125.84 222 PKP PKPdf 22 37 30.0 +2.4
comp=E,3.9nm,1.0s,baz=179,slow=3.6,SNR=2.5
CTA pP 22 37 57.2
comp=E,3.3nm,0.7s,baz=75,slow=3.7,SNR=3.2
ASAR Alice Springs 129.40 207 PKP PKPdf 22 37 36.4 +2.0
comp=E,6.6nm,0.8s,baz=148,slow=2.4,SNR=34
ASAR pPKP 22 38 03.2
comp=E,5.8nm,0.8s,baz=145,slow=2.2,SNR=12
ASAR sPKP 22 38 14.9
comp=E,1.5nm,0.7s,baz=138,slow=1.8,SNR=5.1
WRA Warramunga Arr 132.47 210 PKP PKPdf 22 37 42.7 +2.4
comp=E,4.9nm,0.8s,baz=159,slow=1.7,SNR=22
WRA pPKP 22 38 09.0
comp=E,4.8nm,0.7s,baz=156,slow=1.6,SNR=10
WRA sPKP 22 38 20.6
comp=E,1.9nm,0.6s,baz=160,slow=1.6,SNR=5.2
BVAR Borovoye Array 136.25 35 PKP PKPdf 22 37 48.9 +2.5
comp=E,3.4nm,0.8s,baz=288,slow=4.7,SNR=16
BVAR pPKP 22 38 13.7
comp=E,1.0nm,0.6s,baz=219,slow=40,SNR=1.7
BVAR sPKP 22 38 26.6
comp=E,2.2nm,0.8s,baz=225,slow=2.1,SNR=4.8
KURK Kurchatov 141.79 34 *e*PKPdf PKPdf 22 37 59.5 +3.1
ZAL Zalesovo 142.48 26 PKP PKPdf 22 37 57.4 -0.1
comp=E,4.1nm,0.7s,baz=101,slow=3.7,SNR=22
ZAL pPKP 22 38 25.1
comp=E,3.0nm,1.0s,baz=21,slow=1.5,SNR=2.5
ZAL sPKP 22 38 37.0
comp=E,3.0nm,0.8s,baz=175,slow=1.2,SNR=4.2
AAK Ala-Archa 143.26 48 *e*PKPpre 22 37 56.0
AAK *e*PKPdf PKPdf 22 37 59.7 +0.5
ASAJ Asahikawa 146.09 318 PKPbc PKPbc 22 38 07.8 +2.7
comp=E,18nm,0.9s,baz=260,slow=7.5,SNR=4.4
HYB Hyderabad 148.96 93 *i* PKP PKPdf 22 38 12.5 +3.0
HYB *e* 22 38 40.0
HYB *e* 22 38 46.0
DDI Dehra Dun 149.25 68 *e* PKPdf 22 38 12.7 +3.1
TLY Talaya 149.93 9 *e*PKPdf PKPdf 22 38 13.6 +3.6
TLY *e*PKPbc PKPdf 22 38 18.1 +8.1
TLY *e*PKPab PKPab 22 38 23.6 +0.5
TLY *ep*PKPbc 22 38 45.5
HIA Hailar 152.09 348 *e*PKPbc PKPdf 22 38 21.7 +8.4
HIA *ep*PKPbc 22 38 49.2
HIA *es*PKPbc 22 38 59.8
MAT Matsushiro 152.54 308 PKP PKPdf 22 38 23.4 +9.0
SONM Songino Array 154.06 7 PKP PKPdf 22 38 18.9 +2.9
comp=E,2.9nm,0.8s,baz=286,slow=1.0,SNR=15
SONM PKPbc PKPdf 22 38 26.9 +11
comp=E,4.3nm,0.9s,baz=307,slow=2.0,SNR=13
SONM PKPab PKPab 22 38 41.2 +0.6
comp=E,2.3nm,0.8s,baz=327,slow=3.7,SNR=6.4
SONM pPKPbc 22 38 54.6
comp=E,6.2nm,0.8s,baz=338,slow=2.0,SNR=7.8
SONM pPKPab 22 39 07.9
comp=E,4.2nm,0.8s,baz=312,slow=2.2,SNR=5.8
SONM Songino Array 154.06 7 PKP PKPdf 22 38 18.9 +2.9
SONM PKPbc PKPdf 22 38 26.9 +11
SONM PKPab PKPab 22 38 41.2 +0.6
SONM pPKPbc 22 38 54.6
SONM pPKPab 22 39 07.9
LSA Lhasa 160.47 63 *e*PKPdf PKPdf 22 38 28.9 +4.3
LSA *ep*PKPdf 22 38 56.8
CMAR Chiang Mai Arr 167.93 105 PKP PKPdf 22 38 34.2 +2.7
comp=E,1.6nm,0.9s,baz=265,slow=2.0,SNR=9.0
CMAR pPKP 22 39 01.1
comp=E,0.9nm,0.9s,baz=281,slow=3.0,SNR=2.1
CMAR PKPab PKPab 22 39 41.6 +0.2
comp=E,0.6nm,1.0s,baz=259,slow=6.7,SNR=4.2
CMAR pPKPab 22 40 08.5
comp=E,1.4nm,0.8s,baz=250,slow=5.6,SNR=7.0

NEIC ***20*** *22:25:17.7±1.3, 20.75S×169.16E, h10km, mb4.5/2, Error ellipse: s-maj=64.6km s-min=15.8km az=147.0*
IDC ***20*** *22:25:23.3±1.7, 20.21S×168.76E, h38km±9km, mb3.9/8, mb1 4.1/8, mb1mx4.0/14, mbtmp4.1/8, MS3.8/6, Ms1 3.8/6, ms1mx3.4/18, Error ellipse: s-maj=62.6km s-min=24.5km az=150.0*
ISC 20 22:25:20.3±1.4, 20.6S±0.3×168.9E±0.2, h33km, (h42km±1.2km:pP-P), n22, σ1°31/20, mb4.1/9, MS3.7/5, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.72**	**238**	*eP*	**P**	**22 26 02.2**	**-0.4**
DZM				*eS*	**S**	**22 26 34.6**	**-0.1**
DZM	**Mont Dzumac**	**2.72**	**238**	*eP*	**P**	**22 26 02.2**	**-0.4**
DZM				*eS*	**S**	**22 26 34.6**	**-0.1**
NOUC	**Port Laguerre**	**2.85**	**239**	*eP*	**P**	**22 26 04.8**	**+0.4**
NOUC				*eS*	**S**	**22 26 37.3**	**-0.6**
NOUC	**Port Laguerre**	**2.85**	**239**	*eP*	**P**	**22 26 04.8**	**+0.4**
NOUC				*eS*	**S**	**22 26 37.3**	**-0.6**
URZ	**Urewera**	**18.94**	**160**	LR	LR	22 36 31.2	
	comp=Z,274nm,18.4s,baz=20,slow=34						
CTA	**Charters Tower**	**21.27**	**267**	P	**P**	**22 30 08.4**	**+2.4**
	2.6nm,0.5s,mb3.8,baz=70,slow=12,SNR=4.7						
CTA				LR	LR	22 37 13.3	
	comp=Z,184nm,21.9s,MS3.4,baz=65,slow=34						
CTAO	**Charters Tower**	**21.27**	**267**	*eP*	**P**	**22 30 10.2**	**+4.2**
	14nm,1.0s,mb4.2						
RPZ	**Rata Peaks**	**23.08**	**176**	LR	LR	22 38 32.6	
	comp=Z,130nm,18.9s,MS3.4,baz=36,slow=34						
STKA	**Stephens Creek**	**26.87**	**240**	P	**P**	**22 31 01.9**	**+1.8**
	1.3nm,0.6s,mb3.6,baz=103,slow=17,SNR=4.3						
STKA				pP	pP	22 31 12.8	+3.3
	3.0nm,0.8s,baz=83,slow=8.3,SNR=4.4						
STKA				LR	LR	22 41 44.7	
	comp=Z,206nm,19.1s,MS3.7,baz=286,slow=36						
STKA	**Stephens Creek**	**26.87**	**240**	*eP*	**P**	**22 31 01.5**	**+1.4**
STKA				pP	pP	22 31 12.8	+3.3
STKA				LR	LR	22 41 44.7	
WRAB	**Tennant Creek**	**32.41**	**265**	*eP*	**P**	**22 31 52.8**	**+3.3**
	12nm,1.0s,mb4.7						
WRA	**Warramunga Arr**	**32.42**	**265**	P	**P**	**22 31 47.3**	**-2.2**
	2.7nm,1.1s,mb4.0,baz=91,slow=8.6,SNR=10						
WRA				pP	pP	22 31 59.3	+0.1
	1.1nm,0.5s,baz=90,slow=8.5,SNR=6.8						
ASAR	**Alice Springs**	**32.53**	**258**	P	**P**	**22 31 49.5**	**-1.1**
	3.0nm,0.8s,mb4.3,baz=84,slow=8.9,SNR=28						
ASAR				pP	pP	22 32 00.7	+0.5
	6.0nm,0.9s,baz=82,slow=8.8,SNR=11						
ASAR				PcP	PcP	22 34 36.5	-0.3
	0.8nm,0.9s,baz=93,slow=2.3,SNR=4.3						
ASAR				LR	LR	22 45 34.7	
	comp=Z,196nm,18.9s,MS3.8,baz=91,slow=37						
NWAO	**Narrogin (SRO)**	**47.33**	**244**	pP	pP	22 34 03.5	+0.7
	10nm,0.9s,baz=96,slow=9.6,SNR=3.8						
CMAR	**Chiang Mai Arr**	**78.81**	**295**	P	**P**	**22 37 22.8**	**+0.7**
	0.7nm,0.8s,mb3.6,baz=123,slow=5.4,SNR=4.3						
SONM	**Songino Array**	**88.16**	**323**	P	**P**	**22 38 09.1**	**+0.2**
	1.8nm,0.9s,mb4.3,baz=124,slow=5.2,SNR=10						
SONM	**Songino Array**	**88.16**	**323**	P	**P**	**22 38 09.1**	**+0.2**
NVAR	**Mina Array Bea**	**89.94**	**49**	P	**P**	**22 38 18.0**	**+0.3**
	0.7nm,0.5s,mb4.3,baz=219,slow=5.6,SNR=8.1						
ILAR	**Eielson Array**	**91.64**	**17**	P	**P**	**22 38 22.5**	**-2.4**
	1.2nm,1.1s,mb4.1,baz=225,slow=6.4,SNR=3.4						
TXAR	**Lajitas Array**	**97.69**	**62**	LR	LR	23 17 12.9	
	comp=Z,72nm,20.6s,MS4.2,baz=260,slow=32						
ARCES	**ARCESS Array B**	**126.33**	**345**	PKP	PKPdf	22 44 20.8	+1.6
	2.4nm,0.8s,baz=79,slow=4.6,SNR=4.3						
GRF	**Grafenberg Arr**	**146.02**	**334**	*e*PKP	PKPdf	22 44 58.1	+2.4

NIED ***20*** *22:25:00, 36.50N×143.00E, h5km, Mw3.7 Best double couple: M0 3.64×10^14 NP1:φs 183°, δ51°, λ-119°. NP2: φs 44°, δ47°, λ-59°.*
IDC ***20*** *22:25:30.9±1.5, 36.67N×144.18E, h47km±9km, mb3.6/5, mb1 3.8/6, mb1mx3.5/20, mbtmp3.9/6, ML3.9/1, Error ellipse: s-maj=56.8km s-min=14.7km az=79.0*
JMA ***20*** *22:25:32.7±0.3, 36.54N×142.96E, h68km, M3.5*
ISC 20 22:25:31.3±1.6, 36.51N±0.08×143.1E±0.1, h47km±15km, h46km±1.4km:pP-P, n14, σ0°94/20, mb3.7/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.91**	**289**	P	**P**	**22 26 02.8**	**+0.7**
ONAJ				*eS*	**S**	**22 26 25.5**	**+0.5**

JFK Kawauchi 1.95 297 P **P 22 26 03.1 +0.4**
JFK *eS* **S 22 26 25.1 -0.9**
CHOJ Chosi 1.96 246 *eS* **S 22 26 25.1 -1.0**
JHO Hitachi 2.01 274 P **P 22 26 03.9 +0.4**
JHO *eS* **S 22 26 27.0 -0.5**
JMM Marumori 2.26 307 P **P 22 26 06.9 -0.2**
JMM S **S 22 26 33.8 -0.1**
JAG Ashikaga 2.91 269 P **P 22 26 17.0 +0.7**
MAT Matsushiro 3.91 272 P **P 22 26 31.5 +1.0**
MAT S **S 22 27 16.0 +0.3**
ASAJ Asahikawa 7.61 357 P **P 22 27 19.9 -2.4**
1.9nm,0.3s,baz=141,slow=16,SNR=7.6
ASAJ S **S 22 28 41.1 -6.9**
0.6nm,0.3s,baz=276,slow=8.0,SNR=2.6
SONM Songino Array 29.18 304 P **P 22 31 34.2 +4.0**
1.1nm,0.8s,mb3.6,baz=108,slow=9.6,SNR=9.2
SONM pP pP 22 31 46.9 +4.4
0.6nm,0.6s,baz=104,slow=9.7,SNR=3.4
ZAL Zalesovo 43.26 313 P **P 22 33 30.6 +1.1**
0.5nm,0.5s,mb3.5,baz=288,slow=12,SNR=4.4
ILAR Eielson Array 49.23 32 pP **P 22 34 18.3 +1.7**
0.6nm,0.7s,mb3.8,baz=266,slow=6.3,SNR=5.2
WRA Warramunga Arr 56.74 190 P **P 22 35 12.0 -0.9**
0.9nm,0.7s,mb3.9,baz=11,slow=7.4,SNR=8.1
WRA pP pP 22 35 24.6 -1.6
1.0nm,0.6s,baz=7.6,slow=7.5,SNR=4.2
ASAR Alice Springs 60.47 190 P **P 22 35 38.5 -0.3**
0.2nm,0.4s,mb3.5,baz=7.8,slow=6.8,SNR=4.2
ASAR pP pP 22 35 51.2 -0.9
0.6nm,0.5s,baz=4.7,slow=7.6,SNR=3.6
NOA NORSAR Array B 75.18 338 P **P 22 37 09.0 -0.9**
1.7nm,0.8s,mb4.1,baz=39,slow=5.6,SNR=3.6

IGQ ***20*** *22:31:32.3, 1.02S×81.35W, h12km±21km, mb4.6, Error ellipse: s-maj=21.4km s-min=5.5km az=173.7*
IDC ***20*** *22:31:47.5±9.4, 1.08S×80.83W, h95km±90km, mb3.6/6, mb1 3.8/8, mb1mx3.5/20, mbtmp4.0/8, ML4.0/2, MS3.6/3, Ms1 3.6/3, ms1mx2.6/17, Error ellipse: s-maj=36.1km s-min=21.9km az=68.0*
ISC 20 22:31:34.1±2.9, 1.10S±0.09×81.29W±0.07, h5km±18km, n33, σ0°92/32, mb3.8/6, MS3.6/3, 4C-6D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.67**	**98**	P	**Pn**	**22 32 18.2**	**-0.4**
IGUA				S	**Sn**	**22 32 52.1**	**+0.3**
JUA2	**San Juan 2**	**2.82**	**72**	⇓P	**Pn**	**22 32 19.8**	**-0.9**
CUSU	**Cusua**	**2.82**	**97**	P	**Pn**	**22 32 20.9**	**+0.1**
TERV	**Terraza Guagua**	**2.83**	**71**	⇑P	**Pn**	**22 32 20.2**	**-0.7**
PINO	**Pino**	**2.84**	**71**	⇓P	**Pn**	**22 32 19.7**	**-1.2**
JUIV	**Juive**	**2.84**	**97**	P	**Pn**	**22 32 20.7**	**-0.2**
NAS1	**Nasa**	**2.85**	**81**	⇓P	**Pn**	**22 32 21.4**	**+0.3**
ARRY	**Arrayan**	**2.86**	**98**	⇑P	**Pn**	**22 32 20.5**	**-0.8**
RETU	**Refugio**	**2.86**	**97**	P	**Pn**	**22 32 22.1**	**+0.9**
JOR1	**San Jorge 1**	**2.86**	**68**	P	**Pn**	**22 32 20.0**	**-1.3**
PATA	**Patacocha**	**2.88**	**98**	⇓P	**Pn**	**22 32 21.8**	**+0.3**
YANA	**Yana**	**2.88**	**70**	⇓P	**Pn**	**22 32 20.7**	**-0.9**
RUN2	**Runtun**	**2.89**	**96**	P	**Pn**	**22 32 21.8**	**+0.1**
ULBA	**Ulba**	**2.90**	**97**	P	**Pn**	**22 32 21.5**	**-0.3**
PISA	**Pisayambo**	**2.90**	**89**	⇓P	**Pn**	**22 32 22.0**	**+0.1**
VC1	**Cotopaxi 1**	**2.92**	**81**	P	**Pn**	**22 32 22.3**	**+0.2**
TAMB	**Tambo**	**2.94**	**82**	P	**Pn**	**22 32 23.6**	**+1.1**
ANTI	**Antisana**	**3.19**	**78**	⇑P	**Pn**	**22 32 26.1**	**+0.2**
COTA	**Cotacachi**	**3.27**	**64**	⇑P	**Pn**	**22 32 26.3**	**-0.9**
CAYR	**Refugio Cayamb**	**3.46**	**71**	P	**Pn**	**22 32 31.0**	**+1.2**
CAYA	**Cayambe**	**3.50**	**71**	P	**Pn**	**22 32 30.9**	**+0.6**
CONE	**Cono NE Rev Vo**	**3.78**	**74**	P	**Pn**	**22 32 35.8**	**+1.4**
AZU1	**Azuela**	**3.83**	**75**	P	**Pn**	**22 32 37.4**	**+2.4**
SDV	**Santo Domingo**	**14.53**	**47**	P	**P**	**22 35 07.8**	**+5.2**
0.6nm,0.3s,baz=268,slow=14,SNR=16							
LPAZ	**La Paz**	**19.89**	**140**	P	**P**	**22 36 08.3**	**-1.3**
0.2nm,0.3s,baz=327,slow=11,SNR=6.6							
LPAZ				pP		22 36 20.8	
0.4nm,0.3s,baz=317,slow=8.2,SNR=4.9							
SJG	**San Juan**	**24.21**	**37**	P	**P**	**22 36 53.2**	**+0.2**
16nm,0.7s,mb4.5,baz=342,slow=21,SNR=5.2							
BDFB	**Brasilia**	**35.86**	**116**	LR	LR	22 55 00.5	
comp=Z,57nm,18.9s,MS3.4,baz=214,slow=39							
PLCA	**Paso Flores**	**40.63**	**167**	P	**P**	**22 39 17.9**	**+1.1**
2.1nm,0.9s,mb3.8,baz=333,slow=14,SNR=2.7							
PDAR	**Pinedale Array**	**50.54**	**333**	LR	LR	23 01 53.6	
comp=Z,34nm,18.7s,MS3.4,baz=259,slow=36							
NVAR	**Mina Array Bea**	**52.04**	**323**	P	**P**	**22 40 50.6**	**+3.5**
0.2nm,0.5s,mb3.3,baz=140,slow=7.0,SNR=3.0							
YKA	**Yellowknife Ar**	**68.22**	**344**	P	**P**	**22 42 37.6**	**-0.1**
0.5nm,0.8s,mb3.6,baz=139,slow=6.0,SNR=11							
DBIC	**Dimbokro**	**76.65**	**83**	P	**P**	**22 43 26.7**	**-1.8**
3.3nm,0.9s,mb4.2,baz=239,slow=6.7,SNR=5.6							
ILAR	**Eielson Array**	**80.81**	**337**	P	**P**	**22 43 50.2**	**+0.1**
0.5nm,0.9s,mb3.5,baz=104,slow=3.7,SNR=4.2							
ILAR				LR	LR	23 21 35.8	
comp=Z,75nm,18.5s,MS4.1,baz=168,slow=37							

BJI ***20*** *22:47:18.5, 4.92N×94.47E, h53km, mB4.8, mb4.8, Ms4.3, Msz4.0*
NEIC ***20*** *22:47:20.9±0.4, 5.36N×94.32E, h30km, mb4.7/18, Error ellipse: s-maj=10.3km s-min=7.1km az=47.0*
IDC ***20*** *22:47:23.4±0.9, 5.43N×94.35E, h49km±6km, mb4.2/12, mb1 4.4/13, mb1mx4.2/19, mbtmp4.5/13, MS3.9/3, Ms1 4.0/3, ms1mx3.2/30, Error ellipse: s-maj=32.7km s-min=14.4km az=52.0*
ISC 20 22:47:22.3±1.8, 5.42N±0.07×94.36E±0.07, h59km±16km, h51km±1.7km:pP-P, n59, σ0°88/52, mb4.6/36, MS4.3/2, 2C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.46**	**74**	P	**P**	**22 48 57.0**	**-0.1**
212nm,0.9s							
PALK	**Pallekele**	**13.70**	**278**	*eP*	**P**	**22 50 34.7**	**-0.7**
30nm,1.3s							
PALK				*eS*	**S**	**22 52 52.6**	**-14**
CM31	**Chiang Mai Arr**	**13.71**	**19**	*eP*	**P**	**22 50 39.2**	**+3.5**
6.9nm,0.4s							
CMAR	**Chiang Mai Arr**	**13.71**	**19**	P	**P**	**22 50 36.9**	**+1.3**
1.6nm,0.3s,baz=208,slow=14,SNR=38							
CMAR				LR	LR	22 55 38.7	
comp=Z,103nm,19.9s,baz=199,slow=36							
HYB	**Hyderabad**	**19.53**	**309**	*eP*		22 52 01.5	
SHL	**Shillong**	**20.18**	**354**	*eP*	**P**	**22 51 53.0**	**-1.7**
QIZ	**Qiongzhong**	**20.27**	**47**	P	**P**	**22 51 56.4**	**+0.7**
33nm,1.1s							
JIRN	**Jiri**	**23.45**	**342**	*eP*	**P**	**22 52 27.0**	**-0.3**
28nm,0.5s,mb5.0							
PKI	**Pulchoki**	**23.62**	**340**	*eP*	**P**	**22 52 28.7**	**-0.2**
13nm,0.6s,mb4.6							
DMN	**Daman**	**23.76**	**339**	*eP*	**P**	**22 52 30.6**	**+0.3**
17nm,0.7s,mb4.6							
KKN	**Kakani**	**23.87**	**340**	*eP*	**P**	**22 52 31.2**	**-0.1**
9.5nm,0.4s,mb4.6							
GKN	**Gorkha**	**24.29**	**339**	*eP*	**P**	**22 52 35.7**	**+0.2**
26nm,0.3s,mb5.1							
LSA	**Lhasa**	**24.34**	**353**	P	**P**	**22 52 37.8**	**+1.8**
LSA	**Lhasa**	**24.34**	**353**	*eP*	**P**	**22 52 37.5**	**+1.6**
12nm,0.6s,mb4.5							
KOLN	**Koldanda**	**24.47**	**336**	*eP*	**P**	**22 52 37.9**	**+0.6**
15nm,0.5s,mb4.7							
ENH	**Enshi**	**28.54**	**28**	*eP*	**P**	**22 53 13.1**	**-1.7**
14nm,0.7s,mb4.8							
WHN	**Wuhan**	**31.29**	**35

KS15	Wonju Array Si	44.16	39	P		P	22 55 26.1	-1.1
WRA	Warramunga Arr	46.69	124	P		P	22 55 47.5	0.0
	comp=Z,8.2nm,0.7s,mb4.8,baz=304,slow=9.2,SNR=74							
WRAB	Tennant Creek	46.70	124	eP		P	22 55 47.4	-0.1
	comp=Z,18nm,0.8s,mb5.1							
WB2	Warramunga Arr	46.70	124	⇑iP		P	22 55 47.6	0.0
TLY	Talaya	46.76	8	eP		P	22 55 47.4	-0.1
	comp=Z,2.9nm,0.9s,mb4.2							
KURK	Kurchatov	47.03	346	eP		P	22 55 50.3	+0.6
	comp=Z,22nm,0.9s,mb5.1							
ASPA	Alice Springs	48.20	128	eP		P	22 55 59.4	+0.2
ASAR	Alice Springs	48.20	128	P		P	22 55 59.3	0.0
	comp=Z,3.6nm,0.5s,mb4.7,baz=300,slow=7.7,SNR=60							
HIA	Hailar	48.70	22	eP		P	22 56 02.3	-0.4
	comp=Z,6.1nm,1.0s,mb4.6							
ZAL	Zalesovo	49.00	353	P		P	22 56 05.5	+0.6
	comp=Z,11nm,0.4s,mb5.2,baz=211,slow=5.5,SNR=47							
BVAR	Borovoye Array	51.37	342	P		P	22 56 22.7	-0.4
	comp=Z,7.9nm,0.7s,mb4.8,baz=143,slow=8.9,SNR=63							
BVAR				pP		pP	22 56 36.5	-2.1
	comp=Z,4.2nm,0.7s,baz=143,slow=7.4,SNR=5.4							
BRVK	Borovoye	51.44	342	eP		P	22 56 23.2	-0.4
	comp=Z,9.1nm,0.7s,mb4.8							
BRVK				e		pP	22 56 37.1	-2.0
CHKZ	Chkalovo	51.86	342	eP		P	22 56 26.8	+0.1
	comp=Z,20nm,0.6s,mb5.2							
CHKZ				e		pP	22 56 40.7	-1.6
GNI	Garni	56.31	315	P		P	22 56 57.8	-1.8
	comp=Z,22nm,1.3s,mb5.0							
KMBO	Kilima Mbogo	57.40	265	LR		LR	23 17 25.0	
	comp=Z,85nm,19.1s,MS3.9,baz=102,slow=31							
KMBO	Kilima Mbogo	57.40	265	P		P	22 57 10.3	+2.6
	comp=Z,2.2nm,1.0s,mb4.1							
ARU	Arti	58.23	338	P		P	22 57 06.8	-6.1
	comp=Z,8.5nm,1.1s,mb4.7							
ARU				e		pP	22 57 22.4	-6.3
STKA	Stephens Creek	58.28	133	P		P	22 57 13.3	-0.2
	comp=Z,2.8nm,0.7s,mb4.4,baz=306,slow=11,SNR=5.5							
STKA	Stephens Creek	58.28	133	eP		P	22 57 13.2	-0.4
KIV	Kislovodsk	59.28	319	P		P	22 57 19.2	-1.1
	comp=Z,4.3nm,1.0s,mb4.4							
BRTR	Keskin Array B	64.20	312	P		P	22 57 53.1	-0.3
	comp=Z,1.1nm,0.6s,mb4.0,baz=130,slow=7.3,SNR=12							
AKASG	Malin Array Be	70.21	322	P		P	22 58 30.0	-0.9
	comp=Z,0.9nm,0.4s,mb4.0,baz=85,slow=5.4,SNR=6.8							
FINES	FINESS Array B	74.97	332	P		P	22 58 58.8	-0.1
	comp=Z,3.2nm,1.0s,mb4.2,baz=99,slow=6.0,SNR=8.5							
FINES				pP		pP	22 59 14.6	-0.6
	comp=Z,1.7nm,0.5s,baz=101,slow=6.6,SNR=2.7							
OJC	Ojcow	75.99	320	eP		P	22 59 05.5	+0.6
ARCES	ARCESS Array B	77.64	340	P		P	22 59 14.3	+0.6
	comp=Z,0.8nm,0.4s,mb4.0,baz=103,slow=6.8,SNR=16							
ARCES				pP		pP	22 59 27.8	-2.4
	comp=Z,1.6nm,0.5s,baz=86,slow=5.5,SNR=1.9							
ARCES	ARCESS Array B	77.64	340	P		P	22 59 14.3	+0.5
ARCES				pP		pP	22 59 27.8	-2.4
GERES	GERESS Array B	79.80	319	P		P	22 59 27.0	+1.0
	comp=Z,3.6nm,0.7s,mb4.4,baz=90,slow=6.7,SNR=6.9							
GERES				pP		pP	22 59 41.6	-0.9
	comp=Z,3.1nm,0.8s,baz=114,slow=9.7,SNR=3.4							
KHC	Kasperske Hory	79.89	319	eP		P	22 59 27.0	+0.6
SYO	Syowa Base	83.14	197	⇓PcP		PcP	22 59 45.2	-2.6
SYO	Syowa Base	83.14	197	⇑pP		pP	23 00 06.7	+7.1
LPG	La Plagne	84.50	315	eP		P	22 59 51.6	+1.3
	comp=Z,14nm,0.9s,mb4.8							
VNDA	Vanda	90.49	168	LR		LR	23 33 15.2	
	comp=Z,279nm,21.7s,MS4.7,baz=162,slow=30							
ILAR	Eielson Array	96.93	22	P		P	23 00 49.3	+1.2
	comp=Z,0.6nm,0.5s,mb4.2,baz=311,slow=4.5,SNR=14							
NVAR	Mina Array Bea	126.89	32	PKP		PKPdf	23 06 23.6	+3.5
	comp=Z,1.2nm,0.6s,baz=297,slow=2.1,SNR=11							
PDAR	Pinedale Array	127.36	22	PKP		PKPdf	23 06 23.4	+2.5
	comp=Z,1.0nm,0.6s,baz=61,slow=2.1,SNR=4.8							
TXAR	Lajitas Array	141.35	26	PKP		PKPdf	23 06 50.3	+3.0
	comp=Z,0.8nm,0.5s,baz=153,slow=2.8,SNR=6.1							

IDC 20 23:22:16.9±48.0, **16.61S×178.33W, mb3.9/3, mb1 4.1/3, mb1mx3.7/13, mbtmp3.9/3, Error ellipse: s-maj=881.4km s-min=156.2km az=77.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.33	240	P	P	23 29 48.7	-1.0
	1.2nm,0.5s,baz=96,slow=9.2,SNR=4.5						
WRA	Warramunga Arr	44.95	258	P	P	23 30 33.7	-2.2
	0.5nm,0.8s,baz=95,slow=7.8,SNR=11						
ASAR	Alice Springs	45.23	253	P	P	23 30 36.0	-2.0
	2.5nm,0.5s,baz=89,slow=8.2,SNR=31						

*IDC **20** 23:25:09.1±3.9, 10.35N×91.15E, mb3.8/3, mb1 3.9/4, mb1mx3.6/17, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=106.2km s-min=29.4km az=82.0*

ISC 20 23:25:14.1±1.3, 10.4N±0.1×91.6E±0.2, h33km, n10, σ0§66/10, mb3.8/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.72	41	Pn	P	23 27 48.7	+0.1
	0.2nm,0.3s,baz=238,slow=14,SNR=3.7						
JIRN	Jiri	17.92	344	eP	P	23 29 24.5	+1.9
	5.2nm,0.4s						
PKI	Pulchoki	18.06	342	eP	P	23 29 23.7	-0.6
	12nm,0.6s						
DMN	Daman	18.19	341	eP	P	23 29 25.5	-0.5
KKN	Kakani	18.30	342	eP	P	23 29 27.4	0.0
GKN	Gorkha	18.71	340	eP	P	23 29 32.2	-0.2
KOLN	Koldanda	18.86	338	eP	P	23 29 34.1	-0.1
	6.4nm,0.5s						
SONM	Songino Array	39.36	16	P	P	23 32 41.5	-0.6
	0.6nm,0.6s,mb3.5,baz=199,slow=10.0,SNR=5.8						
WRA	Warramunga Arr	51.76	126	P	P	23 34 21.0	0.0
	1.0nm,0.8s,mb3.8,baz=305,slow=8.3,SNR=8.5						
ASAR	Alice Springs	53.45	130	P	P	23 34 33.6	+0.1
	1.3nm,0.7s,mb4.0,baz=308,slow=7.4,SNR=11						

*ISK **20** 23:27:34.9, 38.66N×27.12E, h18km, MD3.7, ML4.0*
*NEIC **20** 23:27:35.0, 38.66N×27.14E, h18km, ML4.0(ISK), ML4.0(ATH), After ISK.*
*CSEM **20** 23:27:35.6±0.1, 38.69N×27.26E, h12km, MD3.7, Error ellipse: s-maj=1.7km s-min=1.2km az=22.0*
*THE **20** 23:27:36.5, 38.72N×27.15E, h10km, ML3.9*
*ATH **20** 23:27:38.4, 39.18N×27.25E, h15km±13km, MD3.8/7, ML4.0*

ISC 20 23:27:35.6±0.4, 38.66N±0.02×27.17E±0.03, h16km±5km, n99, σ0§71/112, 6C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAG	Bornova	0.27	163	iP	Pb	23 27 41.4	-0.1
KDAG				iS	Sb	23 27 44.4	-1.1
IZM	Izmir	0.27	164	iPG	Pb	23 27 41.8	+0.2
IZM	Izmir	0.27	164	Pg	Pb	23 27 41.8	+0.2
BLCB	Balcova	0.29	200	iPG	Pb	23 27 41.4	-0.5
BLCB				iSG	Sb	23 27 46.2	+0.1
BLCB	Balcova	0.29	200	Pg	Pb	23 27 41.4	-0.5
AKS	Akhisar	0.55	66	iPG	Pb	23 27 46.7	+0.3
AKS	Akhisar	0.55	66	Pg	Pb	23 27 46.7	+0.3
AYVA	Ayvalik	0.75	331	iP	Pb	23 27 49.9	+0.1
AYVA				iS	Sb	23 28 00.2	+0.7
PRK	Paraskevi	0.91	310	⇓iPN	Pn	23 27 53.0	-0.7
MANT	Manisa	1.10	98	iP	Pb	23 27 56.5	+0.6
MANT				iS	Sb	23 28 11.4	+1.6
BALB	Balikesir	1.13	29	iPN	Pn	23 27 56.7	0.0
BALB				iSN	Sn	23 28 12.8	+0.9
BALB	Balikesir	1.13	29	Pn	Pn	23 27 56.8	0.0
BALB				Sg	Sb	23 28 12.8	+2.3
BALB	Balikesir	1.13	29	Pn	Pn	23 27 56.8	+0.1
BALB				iSn	Sn	23 28 12.8	+0.9
AYDN	Tasoluk	1.14	150	iP	Pb	23 27 56.8	+0.3
AYDN				iS	Sb	23 28 11.6	+0.8
BTOK	Tokmak	1.29	31	iP	Pb	23 27 59.4	+0.4
BTOK				iS	Sb	23 28 13.9	-1.4
EZN	Ezine	1.34	331	PN	Pn	23 27 59.8	+0.1
EZN	Ezine	1.34	331	Pn	Pn	23 27 59.9	+0.2
EZN	Ezine	1.34	331	Pn	Pn	23 27 59.9	+0.2
CANB	Canakkale	1.36	357	PN	Pn	23 27 59.4	-0.7
MLSB	Milas	1.44	160	PN	Pn	23 28 00.8	-0.4
MLSB	Milas	1.44	160	Pn	Pn	23 28 00.8	-0.4
DST	Dursunbey	1.48	50	PN	Pn	23 28 01.7	-0.1
DST	Dursunbey	1.48	50	Pn	Pn	23 28 01.7	0.0

DENT	Denizli	1.73	121	PN		Pn	23 28 05.7	+0.4
DENT	Denizli	1.73	121	Pn		Pn	23 28 05.8	+0.5
YER	Yerkesik	1.76	149	PN		Pn	23 28 05.4	-0.3
YER	Yerkesik	1.76	149	Pn		Pn	23 28 05.4	-0.3
EDC	Edincik	1.77	18	PN		Pn	23 28 06.4	+0.5
EDC	Edincik	1.77	18	Pn		Pn	23 28 06.4	+0.5
BNT	Bandirma	1.79	19	PN		Pn	23 28 05.8	-0.5
KCT	Karacabey	1.85	29	PN		Pn	23 28 06.5	-0.6
KCT	Karacabey	1.85	29	Pn		Pn	23 28 06.5	-0.6
KHL	Karahalli	1.88	99	PN		Pn	23 28 08.1	+0.6
KHL	Karahalli	1.88	99	Pn		Pn	23 28 08.2	+0.7
MRMT	Marmara Adasi	1.97	10	PN		Pn	23 28 08.1	-0.7
LIA	Limnos Island	1.98	309	⇓iPB		Pb	23 28 08.9	-1.8
LOS	Limnos	2.06	309	ePn		Pn	23 28 10.7	+0.6
MFT	Murefte	2.13	2	PN		Pn	23 28 10.8	-0.3
DALT	Dalyan (Mudla)	2.22	148	PN		Pn	23 28 12.3	0.0
DALT	Dalyan (Mudla)	2.22	148	Pn		Pn	23 28 12.3	0.0
ARMT	Armutlu	2.31	34	PN		Pn	23 28 13.2	-0.5
ALT	Altintas	2.33	79	PN		Pn	23 28 14.2	+0.2
ALN	Alexandroupoli	2.40	339	ePn		Pn	23 28 14.7	-0.2
ALN				eSn		Sn	23 28 45.2	+1.0
FETY	Fethiye	2.53	142	PN		Pn	23 28 16.0	-0.7
YLV	Yalova	2.56	41	ePN		Pn	23 28 16.3	-0.9
AOS	Alonnisos	2.61	282	ePn		Pn	23 28 18.9	+0.9
SANT	Santorini	2.65	211	ePn		Pn	23 28 23.7	+5.1
SANT				eSn		Sn	23 29 01.0	+10
BADT	Buyukada	2.66	34	ePN		Pn	23 28 18.7	+0.1
BADT	Buyukada	2.66	34	Pn		Pn	23 28 18.8	+0.1
MPAR	Parnis Oros	2.74	260	ePb		Pb	23 28 30.6	+6.8
RDO	Rodhopi	2.79	334	ePN		Pn	23 28 20.5	+0.1
ATH	Athens Observa	2.80	257	ePB		Pb	23 28 30.4	+5.7
ISK	Istanbul-Kandi	2.81	31	ePN		Pn	23 28 20.6	-0.2
ELL	Elmali	2.89	130	ePN		Pn	23 28 22.4	+0.5
ELL	Elmali	2.89	130	Pn		Pn	23 28 23.3	+1.4
HRT	Hereke	2.90	41	ePN		Pn	23 28 22.0	0.0
HRT	Hereke	2.90	41	Pn		Pn	23 28 21.1	-1.0
BCK	Bucak	2.95	113	ePN		Pn	23 28 23.2	+0.4
BCK	Bucak	2.95	113	Pn		Pn	23 28 23.2	+0.4
OUR	Ouranopolis	2.98	305	ePn		Pn	23 28 23.1	-0.1
OUR	Ouranopolis	2.98	305	ePn		Pn	23 28 23.1	-0.1
PAIG	Paliouri	2.99	296	ePn		Pn	23 28 23.7	+0.4
PAIG				eSn		Sn	23 29 00.4	+1.3
ESKT	Eskisehir	2.99	72	ePN		Pn	23 28 23.4	0.0
NSAL	Nisos Salamina	3.01	257	ePB		Pb	23 28 34.0	+5.7
NAIG	Nisos Aigina	3.03	254	ePN		Pn	23 28 30.5	+6.6
KSL	Kastellorizon	3.16	142	ePN		Pn	23 28 35.6	+10
EDRB	Edirne	3.20	354	ePN		Pn	23 28 26.1	-0.3
EDRB	Edirne	3.20	354	Pn		Pn	23 28 26.2	-0.2
EDRB	Edirne	3.20	354	Pn		Pn	23 28 26.2	-0.2
PLG	Polygyros	3.35	302	ePN		Pn	23 28 28.5	0.0
MDU	Mudurnu	3.61	59	ePN		Pn	23 28 32.1	-0.1
MDU	Mudurnu	3.61	59	Pn		Pn	23 28 32.2	0.0
SOH	Sokhos	3.65	308	ePn		Pn	23 28 32.6	-0.1
SRS	Serrai	3.69	313	ePn		Pn	23 28 32.9	-0.3
SRS				eSn		Sn	23 29 17.6	+0.8
KIZT	Kizilcal	3.69	85	ePN		Pn	23 28 33.5	+0.2
KIZT	Kizilcal	3.69	85	Pn		Pn	23 28 33.5	+0.2
NVR	Nevrokopi	3.70	318	⇓iPN		Pn	23 28 33.1	-0.3
AGG	Agios Georgios	3.79	277	ePn		Pn	23 28 35.5	+0.8
LIT	Litokhoron	3.90	293	ePn		Pn	23 28 36.4	+0.1
KNT	Kendrikon	4.13	309	ePn		Pn	23 28 39.9	+0.4
KONT	Konya--Tatoy	4.15	98	ePN		Pn	23 28 39.0	-0.8
GRG	Griva	4.33	304	ePn		Pn	23 28 42.7	+0.3
ANTO	Ankara	4.53	73	ePN		Pn	23 28 45.0	-0.3
FNA	Florina	4.94	297	ePn		Pn	23 28 50.9	-0.1
SAFT	Safranbolu	4.97	57	ePN		Pn	23 28 50.6	-0.8
SAFT	Safranbolu	4.97	57	Pn		Pn	23 28 50.6	-0.8
CSS	Prodhromos	6.17	125	P		P	23 29 03.0	-5.3
CFR	Carcaliu	6.56	6	⇓P		Pn	23 29 11.8	-2.1
CFR	Carcaliu	6.56	6	⇓P		Pn	23 29 11.8	-2.0
MLR	Muntele Rosu	6.89	353	⇑P		Pn	23 29 18.9	+0.4
MLR	Muntele Rosu	6.89	353	⇑P		Pn	23 29 18.9	+0.4
VRI	Vrincioaia	7.21	358	⇑P		Pn	23 29 22.9	-0.2
VRI	Vrincioaia	7.21	358	⇑P		Pn	23 29 22.9	-0.1
TIP	Timpagrande	8.13	277	ePn		P	23 29 29.2	-6.7
BURAR	Bucovina Array	9.07	352	⇑P		P	23 29 49.0	+0.2
BURAR	Bucovina Array	9.07	352	⇑P		P	23 29 49.0	+0.1
EIL	Elat	11.04	142	P		P	23 30 10.6	-5.3
AQU	L'Aquila	11.11	294	eP		P	23 30 08.3	-8.6
	17nm,1.1s							
CLL	Collm	16.10	326	P		P	23 31 21.0	-1.7

*IDC **20** 23:28:24.3±0.7, 6.31N×93.14E, mb4.3/14, mb1 4.4/15, mb1mx4.3/21, mbtmp4.2/15, ML4.8/1, Error ellipse: s-maj=35.8km s-min=14.4km az=51.0*
*BJI **20** 23:28:27.6, 6.25N×93.32E, h37km, mB4.7, mb4.7, Ms4.5, Msz3.9*
*MOS **20** 23:28:27.6±0.9, 6.36N×93.30E, h33km, mb4.8/12, Error ellipse: s-maj=19.5km s-min=9.9km az=97.5*
*NEIC **20** 23:28:29.1±0.4, 6.35N×93.30E, h30km, mb4.6/15, Error ellipse: s-maj=9.7km s-min=8.7km az=217.0*

ISC 20 23:28:27.0±0.5, 6.41N±0.07×93.33E±0.07, h30km, n65, σ1§06/61, mb4.5/36, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	12.57	275	P	P	23 31 27.2	+0.4
CM31	Chiang Mai Arr	13.17	24	eP	P	23 31 41.8	+7.1
	21nm,0.6s						
CMAR	Chiang Mai Arr	13.17	24	Pn	P	23 31 36.7	+2.0
	1.4nm,0.3s,baz=216,slow=14,SNR=12						
HYB	Hyderabad	18.12	308	iP	P	23 32 41.5	+3.0
HYB				e		23 35 51.0	
HYB				eS	S	23 36 01.5	+5.0
QIZ	Qiongzhong	20.39	51	P	P	23 33 06.1	+1.8
QIZ	Qiongzhong	20.39	51	eP	P	23 33 05.6	+1.2
	41nm,1.1s						
JIRN	Jiri	22.20	343	eP	P	23 33 21.0	-1.6
	23nm,0.5s,mb4.8						
PKI	Pulchoki	22.36	341	eP	P	23 33 23.1	-1.1
	37nm,0.5s,mb5.0						
DMN	Daman	22.49	341	eP	P	23 33 25.1	-0.4
	45nm,0.7s,mb5.0						
GKN	Gorkha	23.01	340	eP	P	23 33 28.9	-1.8
KOLN	Koldanda	23.17	338	eP	P	23 33 32.4	+0.2
	27nm,0.5s,mb5.0						
LSA	Lhasa	23.26	355	P	P	23 33 35.8	+2.7
LSA	Lhasa	23.26	355	eP	P	23 33 35.7	+2.6
LSA				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.6						
LSA	Lhasa	23.26	355	eP	P	23 33 35.7	+2.6
	comp=Z,19nm,0.8s,mb4.6						
ENH	Enshi	28.18	31	eP	P	23 34 18.2	-0.9
	comp=Z,8.4nm,1.0s,mb4.3						
XAN	Xi'an	31.05	26	P	P	23 34 43.5	-1.2
XAN				AP	pP	23 34 52.3	-1.3
XAN				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.7						
WMQ	Urumqi	37.59	353	P	P	23 35 42.7	+1.9
BJT	Baijiatuan	39.25	28	eP	P	23 35 56.2	+1.5
BJT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BJT	Baijiatuan	39.25	28	eP	P	23 35 56.2	+1.5
	comp=Z,9.1nm,0.7s,mb4.6						
AAK	Ala-Archa	39.74	338	eP	P	23 35 59.6	+0.8
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
AAK	Ala-Archa	39.74	338	eP	P	23 35 59.6	+0.8
	comp=Z,4.4nm,0.9s,mb4.2						
SONM	Songino Array	42.76	13	P	P	23 36 23.8	+0.3
	comp=Z,1.4nm,0.6s,mb3.9,baz=195,slow=8.4,SNR=16						
SONM				PcP	PcP	23 38 15.7	+0.5
	comp=Z,1.0nm,0.6s,baz=197,slow=3.4,SNR=7.7						
KURK	Kurchatov	45.84	347	eP	P	23 36 48.3	+0.1
KURK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
KURK	Kurchatov	45.84	347	eP	P	23 36 48.3	+0.1
	comp=Z,13nm,1.1s,mb4.8						
TLY	Talaya	45.93	9	eP	P	23 36 46.4	-2.5
ZAL	Zalesovo	47.89	353	P	P	23 37 05.5	+1.2
	comp=Z,7.8nm,0.4s,mb5.1,baz=220,slow=5.8,SNR=39						
WRA	Warramunga Arr	48.09	124	P	P	23 37 06.5	+0.2
	comp=Z,3.7nm,0.7s,mb4.5,baz=302,slow=9.2,SNR=25						
WRA				PcP	PcP	23 38 34.6	+0.6
	comp=Z,0.8nm,0.7s,baz=310,slow=2.9,SNR=5.0						
WRAB	Tennant Creek	48.09	124	eP	P	23 37 06.2	-0.2
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
WRAB	Tennant Creek	48.09	124	eP	P	23 37 06.2	-0.1
	comp=Z,10.0nm,0.7s,mb5.0						

HIA	Hailar	48.18	23	eP		P	23 37 06.9	+0.3
HIA				pmax	pmax			
	comp=Z,5.0nm,0.8s							
HIA	Hailar	48.18	23	eP		P	23 37 06.9	+0.3
	comp=Z,5.3nm,0.8s,mb4.6							
NVS	Novosibirsk	48.98	352	eP		P	23 37 12.2	-0.5
NVS				pmax	pmax			
	comp=Z,9.0nm,0.7s,mb4.9							
NVS				pmax	pmax			
	comp=N,8.0nm,1.0s							
ASAR	Alice Springs	49.61	128	P		P	23 37 18.1	+0.1
	comp=N,3.9nm,0.6s,mb4.6,baz=300,slow=7.5,SNR=32							
ASAR				PcP	PcP	23 38 40.2	+0.7	
	comp=N,1.9nm,0.6s,baz=305,slow=3.8,SNR=8.6							
BVAR	Borovoye Array	50.12	342	P		P	23 37 20.6	-1.0
	comp=N,2.3nm,0.6s,mb4.4,baz=140,slow=12,SNR=14							
BVAR				PcP	PcP	23 38 41.4	+0.5	
	comp=N,2.5nm,0.9s,baz=162,slow=4.7,SNR=4.5							
BRVK	Borovoye	50.18	342	eP		P	23 37 21.5	-0.5
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4							
BRVK	Borovoye	50.18	342	eP		P	23 37 21.5	-0.5
	comp=Z,3.2nm,0.8s,mb4.4							
CHKZ	Chkalovo	50.62	343	eP		P	23 37 24.9	-0.4
CHKZ				pmax	pmax			
	comp=Z,10.0nm,0.7s,mb4.8							
CHKZ	Chkalovo	50.62	343	eP		P	23 37 24.9	-0.4
	comp=Z,9.6nm,0.7s,mb4.8							
BOD	Bodaibo	53.75	14	eP		P	23 37 48.2	-0.5
ARU	Arti	56.93	338	eP		P	23 38 06.4	-5.4
ARU				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.7							
ARU	Arti	56.93	338	eP		P	23 38 06.4	-5.4
	comp=Z,7.0nm,0.9s,mb4.7							
STKA	Stephens Creek	59.69	133	P		P	23 38 31.2	-0.2
	comp=Z,2.0nm,0.7s,mb4.3,baz=303,slow=8.0,SNR=6.1							
STKA	Stephens Creek	59.69	133	eP		P	23 38 29.4	-2.0
BRTR	Keskin Array B	62.79	312	P		P	23 38 51.3	-0.9
	comp=Z,1.0nm,0.7s,mb4.0,baz=134,slow=7.3,SNR=9.7							
MA2	Magadan	68.43	27	eP		P	23 39 27.8	-0.3
MA2				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8							
MA2	Magadan	68.43	27	eP		P	23 39 27.8	-0.3
	comp=Z,9.3nm,0.8s,mb4.9							
AKASG	Malin Array Be	68.81	322	P		P	23 39 29.1	-1.5
	comp=Z,2.9nm,0.5s,mb4.5,baz=88,slow=6.5,SNR=4.2							
TIXI	Tiksi	68.82	11	eP		P	23 39 29.6	-0.7
TIXI				pmax	pmax			
	comp=Z,14nm,0.6s,mb5.1							
MLR	Muntele Rosu	69.66	316	P		P	23 39 36.5	+0.6
	comp=Z,0.6nm,0.5s,mb3.8,baz=315,slow=23,SNR=4.2							
JOF	Joensuu	71.82	335	ep		P	23 39 48.2	-0.5
	comp=Z,4.1nm,0.5s,mb4.6							
FINES	FINESS Array B	73.63	332	P		P	23 39 59.1	-0.2
	comp=Z,4.3nm,0.7s,mb4.5,baz=104,slow=7.9,SNR=14							
KAF	Kangasniemi	73.73	333	ep		P	23 39 59.6	-0.2
	comp=Z,3.9nm,0.7s,mb4.5,baz=106,slow=5.6							
KAF	Kangasniemi	73.73	333	eP		P	23 39 59.6	-0.2
KAF				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5							
BOSA	Boshof	74.13	238	eP		P	23 40 04.2	+1.3
BOSA				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9							
BOSA	Boshof	74.13	238	eP		P	23 40 04.2	+1.3
	comp=Z,0.8nm,0.6s,mb3.8							
ARCES	ARCESS Array B	76.37	340	P		P	23 40 15.0	+0.2
	comp=Z,3.0nm,0.6s,mb4.4,baz=90,slow=16,SNR=12							
GERES	GERESS Array B	78.38	318	P		P	23 40 26.8	+0.4
	comp=Z,0.9nm,0.3s,mb4.1,baz=74,slow=7.1,SNR=2.1							
SYO	Syowa Base	83.78	197	⇓PcP		PcP	23 40 59.1	+0.3
EKA	Eskdalemuir Ar	88.47	325	P		P	23 41 18.9	+1.1
	comp=Z,1.4nm,0.7s,mb4.3,baz=97,slow=5.4,SNR=6.2							
ESDC	Sonseca Array	91.54	310	P		P	23 41 32.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**4.85**	**185**	*e*Pn	**Pn**	**00 13 55.5**	**-1.2**
SDV	**Santo Domingo**	**8.28**	**63**	P	**P**	**00 14 45.8**	**+1.0**
	3.7nm,0.3s,baz=268,slow=12,SNR=21						
SDV				S	**Sn**	**00 16 18.0**	**-0.4**
	2.8nm,0.3s,baz=25,slow=13,SNR=3.1						
SDV				LR	LR	00 18 07.7	
	comp=Z,147nm,18.6s,baz=214,slow=39						
SAML	**Samuel**	**20.37**	**133**	*e*P	**P**	**00 17 19.9**	**-1.2**
	32nm,1.3s						
LPAZ	**La Paz**	**23.42**	**155**	P	**P**	**00 17 53.0**	**+1.4**
	2.2nm,0.8s,mb3.6,baz=342,slow=10,SNR=7.9						
LPAZ				LR	LR	00 27 55.9	
	comp=Z,73nm,19.1s,MS3.2,baz=268,slow=39						
TXAR	**Lajitas Array**	**34.16**	**318**	P	**P**	**00 19 29.3**	**+0.5**
	0.3nm,0.5s,mb3.5,baz=156,slow=8.9,SNR=3.5						
TXAR				PcP	PcP	00 22 05.5	-0.2
	0.5nm,0.7s,baz=141,slow=8.0,SNR=4.7						
CCM	**Cathedral Cave**	**34.93**	**342**	*e*P	**P**	**00 19 34.4**	**-1.0**
	9.5nm,1.0s,mb4.7						
WMOK	**Wichita Mounta**	**35.17**	**330**	P	**P**	**00 19 37.2**	**-0.2**
	1.0nm,0.6s,mb3.9						
BDFB	**Brasilia**	**36.20**	**125**	P	**P**	**00 19 46.6**	**+0.3**
	5.5nm,1.0s,mb4.5,baz=289,slow=10,SNR=6.1						
BDFB				LR	LR	00 35 55.1	
	comp=Z,115nm,20.1s,MS3.6,baz=315,slow=38						
MNTX	**Cornudas Mount**	**36.81**	**319**	*e*P	**P**	**00 19 50.5**	**-0.8**
	6.0nm,1.1s,mb4.3						
ANMO	**Albuquerque**	**39.63**	**322**	*e*P	**P**	**00 20 14.8**	**-0.1**
	1.9nm,0.7s,mb3.9						
TUC	**Tucson**	**40.83**	**316**	P	**P**	**00 20 25.2**	**+0.4**
	3.1nm,1.1s,mb3.9						
SDCO	**Great Sand Dun**	**41.00**	**326**	*e*P	**P**	**00 20 25.7**	**-0.4**
	3.8nm,1.0s,mb4.0						
DAU	**Daniels Canyon**	**46.09**	**325**	*e*P	**P**	**00 21 09.4**	**+2.1**
PLCA	**Paso Flores**	**46.13**	**172**	P	**P**	**00 21 08.8**	**+1.1**
	4.0nm,1.0s,mb4.3,baz=336,slow=10,SNR=5.7						
PLCA	**Paso Flores**	**46.13**	**172**	P	**P**	**00 21 08.8**	**+1.1**
PDAR	**Pinedale Array**	**46.74**	**328**	P	**P**	**00 21 14.6**	**+2.2**
	0.3nm,0.7s,mb3.3,baz=135,slow=10,SNR=3.3						
NVAR	**Mina Array Bea**	**49.32**	**318**	P	**P**	**00 21 32.5**	**-0.1**
	0.8nm,0.7s,mb3.9,baz=132,slow=7.7,SNR=7.2						
SCHQ	**Schefferville**	**50.40**	**8**	P	**P**	**00 21 41.0**	**+0.3**
	1.9nm,0.9s,mb4.1,baz=56,slow=18,SNR=2.9						
SCHQ	**Schefferville**	**50.40**	**8**	P	**P**	**00 21 41.0**	**+0.3**
YKA	**Yellowknife Ar**	**63.27**	**342**	P	**P**	**00 23 09.7**	**-2.3**
	1.1nm,0.7s,mb4.1,baz=132,slow=7.1,SNR=18						
YKA	**Yellowknife Ar**	**63.27**	**342**	P	**P**	**00 23 09.7**	**-2.3**
DBIC	**Dimbokro**	**72.78**	**85**	P	**P**	**00 24 12.3**	**0.0**
	3.2nm,1.1s,mb4.2,baz=282,slow=9.3,SNR=3.3						
ESDC	**Sonseca Array**	**74.53**	**50**	P	**P**	**00 24 21.7**	**-0.3**
	0.2nm,0.4s,mb3.4,baz=260,slow=5.9,SNR=3.0						
ILAR	**Eielson Array**	**76.46**	**336**	P	**P**	**00 24 31.4**	**-1.0**
	0.7nm,0.7s,mb3.7,baz=114,slow=4.1,SNR=8.8						
ASAR	**Alice Springs**	**144.10**	**236**	PKP	PKPdf	00 32 16.2	-6.1
	9.6nm,0.6s,baz=119,slow=3.8,SNR=128						
ASPA	**Alice Springs**	**144.11**	**236**	⇓*i*P	PKPbc	00 32 16.1	-1.0
WB2	**Warramunga Arr**	**145.19**	**242**	*e*P	PKPbc	00 32 20.4	+0.3
WRA	**Warramunga Arr**	**145.20**	**242**	PKPbc	PKPbc	00 32 20.0	-0.1
	5.3nm,0.9s,baz=109,slow=2.8,SNR=27						

*IDC **21** 00:31:09.8±0.9, 8.22N×94.24E, mb3.7/8, mb1 3.9/9, mb1mx3.8/17, mbtmp3.7/9, ML4.3/1, Error ellipse: s-maj=34.1km s-min=21.2km az=51.0*
*NEIC **21** 00:31:14.4±0.7, 8.19N×94.26E, h30km, mb4.1/1, Error ellipse: s-maj=27.2km s-min=16.1km az=56.0*
ISC 21 00:31:11.3±1.0, 8.0N±0.1×93.9E±0.2, h30km, n11, σ0°19/10, mb3.8/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.53**	**25**	Pn	**P**	**00 33 57.2**	**0.0**
	0.6nm,0.3s,baz=214,slow=16,SNR=3.0						
SONM	**Songino Array**	**41.14**	**13**	P	**P**	**00 38 54.4**	**-0.1**
	0.4nm,0.9s,mb3.0,baz=188,slow=10,SNR=3.5						
KURK	**Kurchatov**	**44.48**	**346**	*e*P	**P**	**00 39 21.7**	**0.0**
	3.7nm,1.2s,mb4.0						
ZAL	**Zalesovo**	**46.44**	**353**	P	**P**	**00 39 37.3**	**+0.1**
	0.8nm,0.9s,mb3.6,baz=219,slow=8.8,SNR=4.8						
WRA	**Warramunga Arr**	**48.48**	**125**	P	**P**	**00 39 53.9**	**+0.2**
	0.6nm,1.1s,mb3.5,baz=305,slow=8.6,SNR=4.4						
ASAR	**Alice Springs**	**50.13**	**130**	P	**P**	**00 40 06.1**	**-0.2**
	0.4nm,0.7s,mb3.6,baz=297,slow=6.0,SNR=4.1						
KMBO	**Kilima Mbogo**	**57.21**	**264**	P	**P**	**00 41 04.0**	**+5.3**
	1.6nm,0.7s,mb4.2,baz=43,slow=5.3,SNR=5.5						
BRTR	**Keskin Array B**	**62.21**	**311**	P	**P**	**00 41 32.5**	**-0.2**
	0.4nm,0.8s,mb3.6,baz=108,slow=4.6,SNR=3.2						
FINES	**FINESS Array B**	**72.54**	**332**	P	**P**	**00 42 37.3**	**0.0**
	2.3nm,0.8s,mb4.1,baz=112,slow=7.5,SNR=4.9						
ARCES	**ARCESS Array B**	**75.12**	**340**	P	**P**	**00 42 52.4**	**+0.3**
	6.2nm,1.3s,mb4.4,baz=113,slow=6.9,SNR=3.4						
PLCA	**Paso Flores**	**144.54**	**201**	PKP	PKPdf	00 50 48.8	-1.5
	2.9nm,1.1s,baz=81,slow=13,SNR=3.0						

*PDG **21** 00:54:48.2±0.2, 36.09N×22.70E, h15km±1km*
*CSEM **21** 00:54:48.8±0.0, 36.18N×23.65E, h110km±1km, MD3.7, Error ellipse: s-maj=2.3km s-min=1.0km az=50.0*
*ATH **21** 00:54:51.4, 35.91N×22.95E, h38km±31km, MD3.7/6*
*IDC **21** 00:54:51.1±0.9, 36.18N×23.57E, h91km±16km, mb3.6/11, mb1 3.7/19, mb1mx3.6/28, mbtmp3.8/19, Error ellipse: s-maj=25.8km s-min=13.5km az=24.0*
*NEIC **21** 00:54:51.1, 35.91N×22.95E, h31km, MD4.5(PDG), MD3.7(ATH), After ATH.*
*HLW **21** 00:54:53.3, 35.99N×23.88E, h24km, Mb4.4*
ISC 21 00:54:48.8±0.2, 36.12N±0.03×23.54E±0.04, h105km±4km, n125, σ1°34/152, mb3.7/11, 2C-12D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.77**	**321**	*e*PN	**P**	**00 55 08.0**	**+0.4**
VLI	**Veliai**	**0.77**	**321**	⇓*i*Pn	**P**	**00 55 08.2**	**+0.6**
VAM	**Vamos**	**0.89**	**143**	⇑*i*PB	**P**	**00 55 11.7**	**+2.9**
GVD	**Gavdhos**	**1.35**	**161**	*e*Pn	**P**	**00 55 17.2**	**+3.1**
GVD	**Gavdhos**	**1.35**	**161**	*e*PN	**P**	**00 55 17.1**	**+3.0**
IDI	**Anoyia**	**1.38**	**127**	P	**P**	**00 55 16.8**	**+2.5**
	28nm,0.3s,baz=295,slow=13,SNR=370						
IDI				S	**S**	**00 55 34.0**	**+0.6**
	142nm,0.3s,baz=336,slow=15,SNR=27						
SANT	**Santorini**	**1.57**	**80**	*e*Pn	**P**	**00 55 18.9**	**+2.2**
SANT				*e*Sn	**S**	**00 55 38.4**	**+1.0**
SANT	**Santorini**	**1.57**	**80**	*e*Pn	**P**	**00 55 18.9**	**+2.3**
SANT				*e*Sn	**S**	**00 55 38.4**	**+1.0**
ITM	**Ithomi**	**1.68**	**310**	⇓*i*PB	**P**	**00 55 19.4**	**+1.4**
AGG	**Agios Georgios**	**3.05**	**342**	*e*P	**P**	**00 55 38.1**	**+1.7**
EVR	**Evrytania**	**3.11**	**334**	⇑*i*PN	**P**	**00 55 39.3**	**+2.1**
VLS	**Valsamata**	**3.13**	**312**	⇓*i*PN	**P**	**00 55 36.2**	**-1.2**
XOR	**Xorichti**	**3.25**	**355**	*e*P	**P**	**00 55 41.2**	**+2.1**
LIT	**Litokhoron**	**4.06**	**349**	*e*P	**P**	**00 55 51.5**	**+1.4**
LIT	**Litokhoron**	**4.06**	**349**	P	**P**	**00 55 51.5**	**+1.4**
LIT				S	**S**	**00 56 35.8**	**-1.0**
LIT	**Litokhoron**	**4.06**	**349**	P	**P**	**00 55 51.5**	**+1.4**
LIT				S	**S**	**00 56 35.8**	**-1.0**
OUR	**Ouranopolis**	**4.22**	**5**	*e*P	**P**	**00 55 54.2**	**+1.9**
IGT	**Igoumenitsa**	**4.25**	**324**	*e*P	**P**	**00 55 53.0**	**+0.3**
THE	**Thessaloniki**	**4.53**	**354**	*e*P	**P**	**00 55 58.6**	**+2.1**
SOH	**Sokhos**	**4.70**	**358**	*e*P	**P**	**00 56 01.1**	**+2.3**
SLUM		**4.82**	**163**	P	**P**	**00 56 01.4**	**+0.9**
GRG	**Griva**	**4.91**	**350**	*e*P	**P**	**00 56 03.5**	**+1.8**
GRG	**Griva**	**4.91**	**350**	P	**P**	**00 56 03.5**	**+1.8**
GRG				S	**S**	**00 56 56.7**	**-1.0**
GRG	**Griva**	**4.91**	**350**	P	**P**	**00 56 03.5**	**+1.8**
GRG				S	**S**	**00 56 56.7**	**-1.0**
FNA	**Florina**	**4.96**	**341**	*e*P	**P**	**00 56 03.1**	**+0.8**
FNA	**Florina**	**4.96**	**341**	P	**P**	**00 56 03.1**	**+0.8**
FNA				S	**S**	**00 56 57.5**	**-1.4**
FNA	**Florina**	**4.96**	**341**	S	**S**	**00 56 57.5**	**-1.3**
SRS	**Serrai**	**4.99**	**0**	*e*P	**P**	**00 56 04.8**	**+2.0**
SRS	**Serrai**	**4.99**	**0**	P	**P**	**00 56 04.8**	**+2.0**
SRS				S	**S**	**00 57 00.7**	**+1.0**
SRS	**Serrai**	**4.99**	**0**	S	**S**	**00 57 00.7**	**+1.1**
KNT	**Kendrikon**	**5.06**	**354**	*e*P	**P**	**00 56 05.3**	**+1.6**
OHR	**Ohrid**	**5.42**	**337**	*e*Pn	Px	00 56 51.4	
OHR				*e*	**S**	**00 57 07.1**	**-3.3**
HMAT	**Matruh**	**5.83**	**148**	P	**P**	**00 56 14.1**	**0.0**
TIR	**Tirane**	**5.96**	**332**	*e*Pn	**S**	**00 57 21.0**	**-2.4**
QSH	**Qafa e Shtames**	**6.09**	**333**	*e*Pn	**S**	**00 57 23.4**	**-3.3**
TIP	**Timpagrande**	**6.19**	**302**	*e*Pn	**P**	**00 56 17.6**	**-1.4**
TIP	**Timpagrande**	**6.19**	**302**	*e*Pn	**P**	**00 56 17.6**	**-1.5**
DABA	**Dabaa**	**6.45**	**141**	P	**P**	**00 56 23.0**	**+0.2**
ULC	**Ulcinj**	**6.72**	**332**	⇓*i*Pn	**P**	**00 56 24.8**	**-1.7**
ULC				*e*Sn	**S**	**00 57 36.6**	**-5.5**
PVY	**Plav**	**7.03**	**338**	⇓*i*Pn	**P**	**00 56 29.8**	**-0.9**
PVY				*e*Sn	**S**	**00 57 45.7**	**-3.9**
SWA2		**7.05**	**166**	P	**P**	**00 56 30.5**	**-0.4**
SWA1		**7.08**	**164**	P	**P**	**00 56 31.8**	**+0.4**
SWA1				S	**S**	**00 57 44.9**	**-5.9**
TTG	**Podgorica**	**7.12**	**334**	⇓*i*Pn	**P**	**00 56 29.9**	**-2.0**
TTG				*e*Sn	**S**	**00 57 46.7**	**-5.1**
BUM	**Brajici-Budva**	**7.14**	**331**	⇓*i*Pn	**P**	**00 56 30.3**	**-2.0**
BUM				*e*Sn	**S**	**00 57 46.7**	**-5.7**
SG1	**Sgolgore (BA)**	**7.15**	**313**	*e*Pn	**P**	**00 56 31.1**	**-1.3**
BAI	**Bari**	**7.21**	**316**	*e*Pn	**P**	**00 56 31.9**	**-1.3**
IVA	**Berane**	**7.30**	**338**	*e*Pn	**P**	**00 56 33.6**	**-0.9**
IVA				*e*Sn	**S**	**00 57 52.4**	**-3.9**
HCY	**Herceg Novi**	**7.43**	**330**	⇓*i*Pn	**P**	**00 56 33.9**	**-2.2**
HCY				*e*Sn	**S**	**00 57 52.6**	**-6.8**
VAE	**Valguarnera**	**7.45**	**283**	P	**P**	**00 56 37.6**	**+1.2**
	2.7nm,0.3s,baz=242,slow=20,SNR=36						
VAE				S	**S**	**00 57 52.7**	**-7.2**
	3.0nm,0.3s,baz=88,slow=17,SNR=6.2						
VAE	**Valguarnera**	**7.45**	**283**	P	**P**	**00 56 37.7**	**+1.3**
CDT	**Castel del Mon**	**7.54**	**313**	*e*Pn	**P**	**00 56 36.4**	**-1.3**
NKY	**Niksic**	**7.55**	**334**	⇓*i*Pn	**P**	**00 56 35.9**	**-1.9**
NKY				*e*Sn	**S**	**00 57 57.3**	**-5.0**
HBRG	**Burj al 'Arab**	**7.64**	**135**	P	**P**	**00 56 39.1**	**+0.2**
BRY	**Bratogost**	**7.79**	**332**	⇓*i*Pn	**P**	**00 56 39.1**	**-2.0**
BRY				*e*Sn	**S**	**00 58 02.9**	**-5.4**
PLE	**Pljevlja**	**7.88**	**337**	⇓*i*Pn	**P**	**00 56 41.5**	**-0.7**
PLE				*e*Sn	**S**	**00 58 05.1**	**-4.6**
UPM	**Unac-Piva**	**7.92**	**335**	⇓*i*Pn	**P**	**00 56 42.0**	**-0.8**
UPM				*e*Sn	**S**	**00 58 06.5**	**-4.9**
MS1	**Monte Sant'Ang**	**8.13**	**316**	*e*Pn	**P**	**00 56 44.6**	**-1.1**
BRTR	**Keskin Array B**	**8.75**	**63**	P	**P**	**00 56 57.5**	**+3.5**
	0.1nm,0.3s,baz=214,slow=15,SNR=7.5						
BRTR				S	**S**	**00 58 28.7**	**-2.8**
	baz=210,slow=14,SNR=2.2						
BRTR	**Keskin Array B**	**8.75**	**63**	S	**S**	**00 58 28.8**	**-2.8**
HMYD	**Mayadein**	**8.77**	**134**	P	**P**	**00 56 54.0**	**-0.3**
HNAT	**Natroun**	**8.79**	**135**	P	**P**	**00 56 54.1**	**-0.3**
SQR		**8.94**	**132**	P	**P**	**00 56 55.5**	**-1.0**
SQR		**8.94**	**132**	P	**P**	**00 56 55.5**	**-1.1**
FYM	**Al Fayyum**	**8.99**	**133**	P	**P**	**00 56 56.3**	**-0.9**
AWBH		**9.00**	**148**	P	**P**	**00 56 57.0**	**-0.3**
AYT	**Al 'Ayyat**	**9.04**	**133**	P	**P**	**00 56 57.6**	**-0.3**
CII	**Carovilli**	**9.11**	**311**	*e*Pn	**P**	**00 56 59.4**	**+0.6**
	17nm,0.6s						
CII	**Carovilli**	**9.11**	**311**	*e*Pn	**P**	**00 56 59.4**	**+0.5**
	17nm,0.6s						
KOT	**Kottamia**	**9.30**	**129**	P	**P**	**00 57 00.6**	**-0.8**
HSAF	**As Saff**	**9.35**	**132**	P	**P**	**00 57 01.5**	**-0.5**
HHAG	**Hagoal**	**9.45**	**128**	P	**P**	**00 57 02.7**	**-0.7**
GLL	**Jalalah**	**9.47**	**131**	P	**P**	**00 57 03.3**	**-0.4**
MLR	**Muntele Rosu**	**9.53**	**10**	P	**P**	**00 57 04.0**	**-0.5**
	0.1nm,0.3s,baz=185,slow=17,SNR=2.1						
HBNS	**Bani Suwayf**	**9.64**	**136**	P	**P**	**00 57 05.6**	**-0.3**
HFRF	**Wahat Farafira**	**9.82**	**154**	P	**P**	**00 57 08.5**	**+0.1**
SUZ		**10.00**	**126**	P	**P**	**00 57 10.0**	**-0.8**
OFRI	**'Ofer**	**10.08**	**107**	P	**P**	**00 57 10.9**	**-0.9**
ZAF		**10.20**	**129**	P	**P**	**00 57 12.9**	**-0.5**
ZAF		**10.20**	**129**	P	**P**	**00 57 12.9**	**-0.5**
ZNM		**10.34**	**128**	P	**P**	**00 57 15.0**	**-0.3**
KSDI	**Kefar Szold**	**10.40**	**103**	P	**P**	**00 57 14.9**	**-1.2**
KZIT	**Kziot**	**10.44**	**117**	P	**P**	**00 57 15.1**	**-1.6**
RTMM	**Retamin**	**10.58**	**115**	P	**P**	**00 57 17.9**	**-0.6**
MASH	**Mash'abbe Sade**	**10.68**	**115**	P	**P**	**00 57 19.2**	**-0.7**
HNKL	**Nakhl**	**10.71**	**122**	P	**P**	**00 57 18.5**	**-1.8**
HNKL				S	**S**	**00 59 08.1**	**-11**
DRGI	**Dragot**	**10.84**	**111**	P	**P**	**00 57 21.3**	**-0.6**
MZDA	**Masada**	**10.95**	**113**	P	**P**	**00 57 22.9**	**-0.5**
ASUT		**11.05**	**140**	P	**P**	**00 57 25.1**	**+0.3**
GRB	**Gharib**	**11.06**	**132**	P	**P**	**00 57 24.2**	**-0.8**
KMTI	**Karmit**	**11.13**	**119**	P	**P**	**00 57 24.9**	**-0.9**
MBH	**Mount Berech**	**11.44**	**120**	P	**P**	**00 57 30.1**	**+0.1**
EIL	**Elat**	**11.54**	**121**	P	**P**	**00 57 31.1**	**-0.3**
	1.2nm,0.3s,baz=322,slow=19,SNR=57						
EIL				S	**S**	**00 59 27.4**	**-11**
	0.4nm,0.3s,baz=349,slow=31,SNR=2.8						
EIL	**Elat**	**11.54**	**121**	P	**P**	**00 57 31.2**	**-0.1**
TR2		**11.56**	**129**	P	**P**	**00 57 30.3**	**-1.3**
HBST	**Basata**	**11.67**	**123**	P	**P**	**00 57 32.6**	**-0.4**
HDK1	**Dakhla**	**11.68**	**153**	P	**P**	**00 57 33.4**	**+0.2**
NUB		**11.73**	**124**	P	**P**	**00 57 33.7**	**-0.1**
ASF	**Jabal al Asfar**	**11.74**	**106**	P	**P**	**00 57 33.7**	**-0.3**
	0.6nm,0.3s,baz=172,slow=23,SNR=14						
ASF				S	**S**	**00 59 37.8**	**-5.5**
	0.2nm,0.3s,baz=254,slow=17,SNR=2.5						
HDHB	**Dhahab**	**11.91**	**125**	P	**P**	**00 57 35.7**	**-0.5**
TR1		**11.97**	**130**	P	**P**	**00 57 36.0**	**-1.0**
AKRG	**Al Kharijah**	**12.15**	**149**	P	**P**	**00 57 39.4**	**0.0**
GTR	**Jabal at Tayr**	**12.17**	**148**	P	**P**	**00 57 40.2**	**+0.5**
HDK2	**Wahat Dakhilah**	**12.65**	**157**	P	**P**	**00 57 46.1**	**0.0**
HSFG		**13.01**	**134**	P	**P**	**00 57 50.5**	**-0.2**
APRS		**13.24**	**150**	P	**P**	**00 57 53.8**	**+0.1**
HEDF	**Idfu**	**13.76**	**140**	P	**P**	**00 58 01.2**	**+0.8**
HADB		**14.34**	**135**	P	**P**	**00 58 09.7**	**+1.7**
HADB		**14.34**	**135**	P	**P**	**00 58 09.6**	**+1.7**
GERES	**GERESS Array B**	**14.62**	**333**	P	**P**	**00 58 14.0**	**+2.6**
	0.2nm,0.3s,baz=169,slow=14,SNR=3.2						
GERES				S	**S**	**01 00 41.9**	**-9.2**
	0.1nm,0.3s,baz=108,slow=35,SNR=2.3						
DAVOX	**Davos**	**14.75**	**320**	P	**P**	**00 58 15.8**	**+2.7**
	0.1nm,0.3s,baz=152,slow=22,SNR=2.3						
DAVOX				S	**S**	**01 00 46.8**	**-7.3**
	0.3nm,0.3s,baz=143,slow=21,SNR=2.9						
KHC	**Kasperske Hory**	**14.91**	**334**	*e*P	**P**	**00 58 21.5**	**+6.5**
AKASG	**Malin Array Be**	**15.14**	**14**	P	**P**	**00 58 20.8**	**+2.9**
	1.1nm,0.3s,baz=202,slow=9.0,SNR=5.5						
CLL	**Collm**	**16.96**	**337**	P	**P**	**00 58 44.5**	**+3.9**
ESDC	**Sonseca Array**	**21.96**	**288**	P	**P**	**00 59 37.2**	**+2.4**
	0.7nm,0.5s,mb3.3,baz=80,slow=9.6,SNR=8.2						
HFS	**Hagfors**	**24.86**	**348**	P	**P**	**01 00 04.2**	**+1.6**
	3.8nm,0.3s,mb4.2,baz=149,slow=8.6,SNR=40						
FINES	**FINESS Array B**	**25.39**	**3**	P	**P**	**01 00 08.2**	**+0.5**
	1.9nm,0.8s,mb3.6,baz=164,slow=11,SNR=9.0						
NOA	**NORSAR Array B**	**26.14**	**346**	P	**P**	**01 00 15.4**	**+0.9**
	0.6nm,0.5s,mb3.3,baz=164,slow=9.7,SNR=3.2						
EKA	**Eskdalemuir Ar**	**26.50**	**325**	P	**P**	**01 00 19.4**	**+1.6**
	2.0nm,0.5s,mb3.8,baz=119,slow=9.2,SNR=10.0						
ARCES	**ARCESS Array B**	**33.49**	**1**	P	**P**	**01 01 20.3**	**+0.7**
	1.8nm,0.6s,mb4.1,baz=188,slow=9.6,SNR=22						
BVAR	**Borovoye Array**	**36.65**	**48**	P	**P**	**01 01 49.0**	**+2.4**
	0.2nm,0.4s,mb3.4,baz=270,slow=7.2,SNR=3.2						
JMIC	**Jan Mayen**	**38.80**	**344**	P	**P**	**01 02 07.3**	**+3.0**
	126nm,0.4s,baz=155,slow=7.4,SNR=2.6						
ZAL	**Zalesovo**	**45.29**	**47**	P	**P**	**01 02 59.5**	**+2.2**
	1.2nm,0.4s,mb4.0,baz=96,slow=9.8,SNR=5.5						
SONM	**Songino Array**	**59.90**	**51**	P	**P**	**01 04 47.4**	**+1.7**
	0.4nm,0.8s,mb3.5,baz=281,slow=7.3,SNR=2.6						
SCHQ	**Schefferville**	**61.60**	**319**	P	**P**	**01 04 58.8**	**+1.6**
	0.8nm,0.4s,mb4.1,baz=114,slow=18,SNR=4.7						
YKA	**Yellowknife Ar**	**76.13**	**341**	P	**P**	**01 06 28.5**	**+2.4**
	1.0nm,0.9s,mb3.5,baz=31,slow=5.4,SNR=13						

ISC 21 00:56:44.3±0.9, 46.40N±0.05×15.09E±0.06, n5, σ0°74/9, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.24**	**5**	*i* Pg	**Pg**	**00 56 49.1**	**0.0**
PERS				*e*Sg	**Sg**	**00 56 53.1**	**+0.8**
	comp=Z,10.0nm,0.2s						
GROS	**Grobnik**	**0.29**	**78**	*i* Pg	**Pg**	**00 56 50.4**	**+0.2**
GROS				*i* Sg	**Sg**	**00 56 55.1**	**+0.9**
	comp=Z,1.0nm,0.1s						
PDKS	**Podkum**	**0.34**	**190**	*e*Pg	**Pg**	**00 56 50.6**	**-0.5**
OBKA	**Obir**	**0.39**	**287**	⇑*i*PG	**Pg**	**00 56 52.4**	**+0.3**
OBKA				*i* SG	**Sg**	**00 56 57.7**	**+0.5**
	comp=Z,10nm,0.5s						
ARSA	**Arzberg**	**0.90**	**19**	⇑*i*PG	**Pg**	**00 57 01.0**	**-1.4**
ARSA				*i* SG	**Sg**	**00 57 13.5**	**-0.9**
	comp=Z,1.2nm,0.2s						

MAN 21 01:11:23.3, 16.75N×122.35E, h14km, mb4.6, ML3.5, MS3.4, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.54**	**290**	*e*P	Pb	01 11 33.9	-0.2
CAUP				*e*S	Sb	01 11 47.4	+6.0
BALP	**Baler**	**1.25**	**217**	*e*P	Pb	01 11 45.2	-1.1
BALP				*e*S	Sb	01 12 04.8	+2.7
APYP	**Conner**	**1.53**	**316**	*e*P	Pn	01 11 49.0	-1.4
PCPH	**Palayan**	**1.69**	**226**	⇓*e*P	Pn	01 11 52.7	-0.1
PCPH				*e*S	Sn	01 12 12.8	-1.5
BCPH	**Baguio City Da**	**1.74**	**258**	⇑*i*P	Pn	01 11 54.4	+1.0
BCPH				*i* S	Sn	01 12 15.3	-0.2
POLP	**Polilio Island**	**2.05**	**191**	*e*P	Pn	01 12 23.2	+25
POLP				*e*S	Sn	01 12 43.6	+20

*BJI **21** 01:16:32.5, 19.96S×169.66E, h17km, mB5.4, mb4.8, Ms5.0, Msz4.7*
*MOS **21** 01:16:33.0±1.1, 20.24S×168.82E, h10km, mb5.1/22, Error ellipse: s-maj=14.4km s-min=12.0km az=2.7*
*NEIC **21** 01:16:34.0±0.2, 20.27S×168.85E, h10km, mb5.0/21, Error ellipse: s-maj=8.7km s-min=5.7km az=145.0*
*HRVD **21** 01:16:34.0±0.4, 20.26S×168.68E, h23km±1km, MW5.0/48, Centroid moment Tensor Solution. LP body waves: s30,c37;Mantle waves: s48,c73; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.20±.26; $M_{\theta\theta}$-0.23±.17; $M_{\phi\phi}$-2.98±.16; $M_{r\theta}$-0.05±.31; $M_{\theta\phi}$1.13±.12; $M_{\phi r}$-1.63±.24; Best double couple: $M_0$3.676×10^{16} NP1:φs330°, δ33°, λ74°. NP2:φs170°, δ58°, λ101°. Principal axes: T 3.631, Plg75°, Azm109°; N .085, Plg9°, Azm344°; P -3.721, Plg13°, Azm252°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*LDG **21** 01:16:35.8±0.2, 19.91S×168.28E, h10km, Mb5.0/3, Ms4.4/1 Error ellipse: s-maj=16.7km s-min=3.7km az=119.0*
*IDC **21** 01:16:38.0±0.7, 20.24S×168.87E, h37km±4km, mb4.5/14, mb1 4.6/15, mb1mx4.6/18, mbtmp4.7/15, ML3.8/1, MS4.3/9, Ms1 4.3/9, ms1mx4.0/15, Error ellipse: s-maj=21.7km s-min=14.1km az=148.0*
ISC 21 01:16:36.4±0.3, 20.38S±0.06×168.77E±0.05, h37km, h37km±2.4km: pP-P, n152, σ0°92/78, mb4.8/31, MS4.3/8, 9C-10D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.75**	**232**	⇓*e*P	**P**	**01 17 18.1**	**-1.0**
DZM				*e*S	**S**	**01 17 49.9**	**-1.5**
DZM	**Mont Dzumac**	**2.75**	**232**	⇓*e*P	**P**	**01 17 18.1**	**-1.0**
DZM				*e*S	**S**	**01 17 49.9**	**-1.5**
NOUC	**Port Laguerre**	**2.87**	**233**	*e*P	**P**	**01 17 20.2**	**-0.6**
NOUC				*e*S	**S**	**01 17 54.0**	**-0.5**
URZ	**Urewera**	**19.23**	**160**	P	**P**	**01 21 00.3**	**0.0**
	0.3nm,0.3s,baz=345,slow=8.4,SNR=5.5						
URZ				LR	LR	01 27 36.0	
	comp=Z,778nm,19.6s,baz=11,slow=34						
CTA	**Charters Tower**	**21.13**	**267**	*e*P	**P**	**01 21 23.4**	**+3.0**
	31nm,1.0s,mb4.6						
CTA	**Charters Tower**	**21.13**	**267**	P	**P**	**01 21 21.6**	**+1.2**
CTA			

MAW pmax pmax
comp=Z,7.0nm,0.9s
MAW pmax pmax
comp=Z,7.0nm,0.9s
MAW Mawson 77.22 202 P **P** **01 28 28.1 +0.2**
comp=Z,6.7nm,0.9s,mb4.6,baz=103,slow=3.9,SNR=4.9
MAW pP pP 01 28 41.3 +2.1
comp=Z,6.7nm,0.9s,baz=91,slow=23,SNR=3.2
MAW LR LR 02 01 13.3
comp=Z,170nm,18.7s,MS4.4,baz=243,slow=35
BJT Baijiatuau 77.53 321 *e*P **P** **01 28 29.8 -0.5**
BJT pmax pmax
comp=Z,10.0nm,0.9s
BJT Baijiatuau 77.53 321 *e*P **P** **01 28 29.8 -0.5**
comp=Z,10nm,0.9s,mb4.8
BJI Beijing 77.54 321 *e*P **P** **01 28 30.3 0.0**
BJI pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BJI Beijing 77.54 321 *e*P **P** **01 28 30.3 0.0**
comp=Z,10.0nm,1.0s,mb4.7
CMAR Chiang Mai Arr 78.57 295 P **P** **01 28 37.4 +1.1**
CMAR pmax pmax
comp=Z,5.0nm,1.1s
CMAR Chiang Mai Arr 78.57 295 P **P** **01 28 37.4 +1.1**
comp=Z,4.7nm,1.1s,mb4.3,baz=131,slow=4.0,SNR=10
LZH Lanzhou 83.16 312 *e*P **P** **01 29 02.0 +1.8**
LZH AP pP 01 29 10.0 -1.7
LZH XP sP 01 29 13.5 -2.2
LZH AMB AMB
comp=Z,20nm,1.0s,mb5.1
LZH Lanzhou 83.16 312 *e*P **P** **01 29 02.0 +1.8**
LZH *PP pP 01 29 10.0 -1.7
LZH pmax pmax
comp=Z,20nm,1.0s,mb5.1
LZH Lanzhou 83.16 312 *e*P **P** **01 29 02.0 +1.8**
comp=Z,20nm,1.0s,mb5.1
LZH pP pP 01 29 10.0 -1.7
LZH sP sP 01 29 13.5 -2.2
CLNS Chul'man 85.27 338 *e*P **P** **01 29 10.9 +0.6**
CLNS pmax pmax
comp=Z,26nm,1.0s,mb5.3
CLNS pmax pmax
comp=N,9.0nm,1.1s
CLNS pmax pmax
comp=E,6.0nm,0.9s
ULN Ulaanbaatar 87.51 324 *e*P **P** **01 29 22.4 +0.9**
ULN pmax pmax
comp=Z,17nm,1.0s,mb5.2
ULN Ulaanbaatar 87.51 324 *e*P **P** **01 29 22.4 +0.9**
comp=Z,17nm,1.0s,mb5.2
SONM Songino Array 87.86 323 P **P** **01 29 24.1 +0.9**
comp=Z,5.7nm,0.9s,mb4.8,baz=142,slow=5.2,SNR=32
SONM pP pP 01 29 34.6 -0.1
comp=Z,6.6nm,1.0s,baz=130,slow=1.9,SNR=10
WDC Whiskeytown Da 87.97 45 *e*P **P** **01 29 23.9 0.0**
WDC pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
WDC Whiskeytown Da 87.97 45 *e*P **P** **01 29 23.9 0.0**
comp=Z,10nm,1.2s,mb4.9
BILL Bilibino 88.18 359 *e*P **P** **01 29 23.5 -0.7**
BILL pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
BILL Bilibino 88.18 359 *e*P **P** **01 29 23.5 -0.7**
comp=Z,4.9nm,0.8s,mb4.8
YBH Yreka Blue Hor 88.42 44 P **P** **01 29 26.4 +0.4**
YBH pmax pmax
comp=Z,10.0nm,1.2s
YBH Yreka Blue Hor 88.42 44 P **P** **01 29 26.4 +0.4**
comp=Z,9.5nm,1.2s,mb4.9,baz=171,slow=5.2,SNR=5.8
VNA3 Neumayer Olymp 88.62 181⇑*i*P **P** **01 29 26.8 +0.5**
VNA3 *e* pP 01 29 38.1 +0.3
VNA2 Neumayer--Watz 88.90 181⇑*i*P **P** **01 29 28.5 +0.9**
VNA2 *e* pP 01 29 39.2 0.0
NVAR Mina Array Bea 89.88 49 P **P** **01 29 32.8 -0.2**
comp=Z,5.9nm,0.9s,mb4.9,baz=215,slow=5.5,SNR=29
MOD Modoc 90.08 45 *e*P **P** **01 29 33.5 -0.3**
comp=Z,9.2nm,1.1s,mb5.0
BOD Bodaibo 90.16 334 *e*P **P** **01 29 33.0 -0.8**
ZAK Zakamensk 90.96 324⇑*e*P **P** **01 29 38.5 +0.7**
NEN Nelson 91.20 52 *e*P **P** **01 29 38.8 -0.5**
WVOR Wild Horse Val 91.43 45 *e*P **P** **01 29 39.7 -0.5**
WVOR pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
WVOR Wild Horse Val 91.43 45 *e*P **P** **01 29 39.7 -0.4**
comp=Z,8.7nm,1.1s,mb5.0
ILAR Eielson Array 91.44 17 P **P** **01 29 37.5 -2.2**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR MLR MLR
comp=Z,159nm,18.1s
ILAR Eielson Array 91.44 17 P **P** **01 29 37.5 -2.2**
comp=Z,1.0nm,0.8s,mb4.2,baz=235,slow=5.4,SNR=10
ILAR LR LR 02 09 27.0
comp=Z,159nm,18.1s,MS4.5,baz=184,slow=35
TUC Tucson 93.00 57 *e*P **P** **01 29 47.7 +0.1**
TUC pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
TUC Tucson 93.00 57 *e*P **P** **01 29 47.7 +0.1**
comp=Z,4.2nm,1.0s,mb4.8
HLID Hailey 94.71 45 *e*P **P** **01 29 54.7 -0.4**
comp=Z,1.4nm,0.9s,mb4.4
ANMO Albuquerque 97.31 56 LR LR 02 03 37.2
comp=Z,110nm,21.6s,MS4.3,slow=29
TXAR Lajitas Array 97.70 62 P **P** **01 30 09.3 +0.3**
comp=Z,1.2nm,1.1s,mb4.4,baz=225,slow=5.3,SNR=6.5
TXAR LR LR 02 07 30.0
comp=Z,200nm,18.1s,MS4.7,baz=85,slow=31
INK Inuvik 97.76 18 P **P** **01 30 06.4 -2.0**
INK pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 97.76 18 P **P** **01 30 06.4 -1.9**
comp=Z,0.9nm,0.8s,mb4.4,baz=90,slow=5.5,SNR=3.6
YKA Yellowknife Ar 101.88 27 P P 01 30 26.1 -1.0
YKA Yellowknife Ar 101.88 27 P P 01 30 26.0 -1.1
comp=Z,0.4nm,0.8s,baz=256,slow=4.7,SNR=8.9
SDV Santo Domingo 121.67 92 PKP PKPdf 01 35 26.8 -0.4
SDV Santo Domingo 121.67 92 *e*PKPdf PKPdf 01 35 27.6 +0.3
ARCES ARCESS Array B 126.05 345 PKIKP PKPdf 01 35 35.6 +1.3
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 126.05 345 PKP PKPdf 01 35 35.5 +1.2
comp=Z,4.1nm,0.9s,baz=63,slow=2.7,SNR=4.7
LSZ Lusaka 127.50 231 *e*PKIKP PKPdf 01 35 40.9 +2.3
KMBO Kilima Mbogo 127.95 252 *e*PKIKP PKPdf 01 35 42.8 +3.3
BRTR Keskin Array B 137.15 307 PKIKP PKPdf 01 35 58.5 +2.4
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 137.15 307 PKP PKPdf 01 35 58.5 +2.4
comp=Z,0.6nm,0.8s,baz=45,slow=2.0,SNR=3.2
BRG Berggiesshubel 143.69 333 *e*PKIKP PKPdf 01 36 08.7 +1.5
BRG pmax pmax
comp=Z,3.0nm,0.9s
CLL Collm 143.75 334 *e*PKIKP PKPdf 01 36 10.0 +2.7
PRU Pruhonice 144.07 331 *e*P PKPbc 01 36 09.3 +2.1
PKSM Moragy 144.49 323 *e*P PKPbc 01 36 09.6 +1.1
NKC Novy Kostel 144.80 333 *e*P PKPdf 01 36 10.3 +1.0
NKC *ex* x 01 36 20.7
MOX Moxa 144.82 335 *e*PKIKP PKPdf 01 36 10.1 +0.8
MOX pmax pmax
comp=Z,39nm,1.6s
MOX Moxa 144.82 335 *i* P PKPdf 01 36 10.1 +0.8
comp=Z,logA/T=1.4
RHK1 Bakonya 144.88 324⇓*e*P PKPdf 01 36 11.0 +1.5
DIVS Divcibare 144.89 320⇓*i*P PKPdf 01 36 10.8 +1.2
IDI Anoyia 144.99 303 PKP PKPdf 01 36 11.7 +1.6
comp=Z,20nm,1.0s,baz=30,slow=23,SNR=5.3
SKO Skopje 145.04 315 *i* P PKPdf 01 36 11.8 +1.8
comp=Z,0.0nm,0.9s
KHC Kasperske Hory 145.12 331 *e*P PKPdf 01 36 10.1 +0.2
KHC *ex* x 01 36 21.2
GERES GERESS Array B 145.27 331 PKPbc PKPbc 01 36 11.6 +1.1
comp=Z,1.9nm,0.7s,baz=34,slow=4.8,SNR=15
GERES pPKPbc 01 36 22.3
comp=Z,5.8nm,0.7s,baz=45,slow=3.8,SNR=18
ARSA Arzberg 145.50 327⇑*i*P PKPdf 01 36 12.5 +1.9
MOA Molln 145.71 329⇓*i*P PKPdf 01 36 13.7 +2.8
GRA1 Grafenberg Arr 145.72 334 *e*PKP PKPdf 01 36 13.3 +2.4
GRF Grafenberg Arr 145.72 334 *e*PKIKP PKPdf 01 36 13.3 +2.4
DMUB Kingscourt 146.37 355 *e*P PKPdf 01 36 08.4 -3.4
DMUB Kingscourt 146.37 355 *e*P PKPdf 01 36 14.2 +2.4
DMUB Kingscourt 146.37 355 *e*P PKPdf 01 36 14.2 +2.4
OBKA Obir 146.49 327⇑*i*P PKPdf 01 36 17.1 +4.8
KBA Koelnbreinsper 146.70 329⇓*i*P PKPdf 01 36 15.8 +3.2
DLF Lyons Farm 146.94 355 *e*P PKPdf 01 36 09.9 -2.9
DLF Lyons Farm 146.94 355 *e*P PKPdf 01 36 15.7 +2.9
DLF Lyons Farm 146.94 355 *e*P PKPdf 01 36 15.7 +2.9
DCN Croghan 146.95 356 *e*P PKPdf 01 36 10.4 -2.4
DCN Croghan 146.95 356 *e*P PKPdf 01 36 16.2 +3.4
DCN Croghan 146.95 356 *e*P PKPdf 01 36 16.2 +3.4
VOY Vojsko 147.15 327 *e*P PKPdf 01 36 17.2 +3.8
VOY *e* 01 36 27.7
WATA Walderalm 147.35 331⇓*i*P PKPdf 01 36 18.6 +4.9
WTTA Wattenberg 147.37 331⇑*i*P PKPdf 01 36 19.9 +6.2
MOTA Moosalm 147.56 331⇑*i*P PKPdf 01 36 18.1 +4.1
SQTA Sankt Quirin 147.60 331⇑*i*P PKPdf 01 36 18.5 +4.4
WLF Walferdange 147.66 339 *e*PKPbc PKPdf 01 36 18.9 +4.8
WLF *e*PKPab PKPab 01 36 20.9 -0.3
GIVF Givet 147.72 341 *e*PKP1 PKPdf 01 36 18.2 +4.0
BAIF Baives 147.94 341 *e*PKP1 PKPdf 01 36 19.1 +4.6
comp=Z,42nm,1.0s
DAVA Damuels 148.15 332⇑*i*P PKPdf 01 36 20.8 +5.9
CDF Champ du Feu 148.31 336 *e*PKP1 PKPdf 01 36 20.2 +5.0
comp=Z,27nm,0.9s
HINF Hinteralfeld 148.96 336 *e*PKP1 PKPdf 01 36 21.6 +5.4
comp=Z,24nm,1.1s
HAU Haudompre 148.99 337 *e*PKP1 PKPdf 01 36 21.8 +5.5
comp=Z,24nm,0.9s
MEZF Maizieres J'vi 149.03 339 *e*PKP1 PKPdf 01 36 21.4 +5.1
comp=Z,85nm,1.2s
CII Carovilli 149.68 320 *e*PKPab PKPab 01 36 28.9 -0.8
AQU L'Aquila 149.82 322 *e*PKP2 PKPab 01 36 25.0 -5.3
CABF La Chapelle 150.25 336 *e*PKP1 PKPdf 01 36 26.4 +8.1
comp=Z,41nm,1.1s
FLN La Foliniere 150.39 346 *e*PKP1 PKPdf 01 36 25.6 +7.1
comp=Z,40nm,1.0s
LDF La Druitiere 150.46 345 *e*PKP1 PKPdf 01 36 25.9 +7.3
comp=Z,56nm,1.1s
SSF Saint Saulge 150.80 339 *e*PKP1 PKPdf 01 36 26.3 +7.2
comp=Z,47nm,1.1s
GRR Gorron 150.83 346 *e*PKP1 PKPdf 01 36 27.0 +7.9
LPL La Plagne 150.88 334 *e*PKP1 PKPdf 01 36 27.1 +7.8
comp=Z,22nm,1.0s
LPG La Plagne 150.89 333 *e*PKP1 PKPdf 01 36 27.3 +8.0
comp=Z,33nm,1.2s
SMF Signal de Mont 151.05 338 *e*PKP1 PKPdf 01 36 27.4 +7.9
comp=Z,55nm,1.2s
AVF Avril sur Loir 151.09 339 *e*PKP1 PKPdf 01 36 27.6 +8.0
comp=Z,57nm,1.2s
BNI Bardonecchia 151.28 333 *e*PKPbc PKPdf 01 36 27.5 +7.6
BGF Bois d'Agland 151.46 339 *e*PKP1 PKPdf 01 36 27.7 +7.6
comp=Z,45nm,1.2s
MBDF Montbardon 151.50 333 *e*PKP1 PKPdf 01 36 28.5 +8.3
ORIF Oris-en-Rattie 151.72 334 *e*PKP1 PKPdf 01 36 28.6 +8.0
comp=Z,28nm,1.0s
TCF Toulx Ste Croi 151.91 340 *e*PKP1 PKPdf 01 36 28.7 +7.9
comp=Z,28nm,1.0s
PGF Pioggiola 152.10 327 *e*PKP1 PKPdf 01 36 29.7 +8.5
comp=Z,67nm,1.1s
VIVF Saint-Julien-l 152.26 335 *e*PKP1 PKPdf 01 36 30.4 +9.0
comp=Z,39nm,1.2s
MFF Saint Martin d 152.31 343 *e*PKP1 PKPdf 01 36 30.8 +9.4
comp=Z,59nm,1.4s
RJF Les Rejaudoux 153.00 340 *e*PKP1 PKPdf 01 36 32.2 +10
LASF Ste Croix 153.23 335 *e*PKP1 PKPdf 01 36 33.5 +11
comp=Z,52nm,1.2s
MTLF Montolieu 154.48 337 *e*PKP1 PKPdf 01 36 35.1 +11
comp=Z,38nm,1.3s
EPF Esparros 155.41 339 *e*PKP1 PKPdf 01 36 37.7 +12
ESDC Sonseca Array 159.78 344 PKPab PKPab 01 37 10.7 -1.9
comp=Z,1.7nm,0.8s,baz=17,slow=5.6,SNR=6.0

JMA 21 01:21:43.7±0.6, 45.22N×149.18E, h136km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.09**	**234**	P	P	01 22 32.2	-0.3
NEM2				*e*S	S	01 23 10.0	+0.4
JRA	**Rausu**	**3.17**	**248**	P	P	01 22 33.4	-0.2
JNK	**Nakash**	**3.59**	**244**	P	P	01 22 39.2	+0.1
JAK	**Akkeshi**	**3.92**	**237**	P	P	01 22 42.9	-0.6
JAK				*e*S	S	01 23 28.9	-0.4
JAR	**Ashorobuto**	**4.34**	**246**	P	P	01 22 49.4	+0.4
JOB	**Onbets**	**4.50**	**241**	P	P	01 22 51.2	+0.1
JOB				*e*S	S	01 23 42.4	-0.6
JCH	**Churui**	**4.94**	**240**	P	P	01 22 56.2	-0.9
JCH				*e*S	S	01 23 50.9	-2.9
JEM	**Erimo**	**5.42**	**236**	P	P	01 23 03.5	0.0
JEM				*e*S	S	01 24 02.6	-2.6
JBT2	**Biratori 2**	**5.49**	**246**	P	P	01 23 04.8	+0.4
JNBK	**Urakawa-nobuka**	**5.50**	**240**	P	P	01 23 02.8	-1.8
JNBK				*e*S	S	01 24 03.1	-4.2
JNB	**Noboribetsu**	**6.50**	**248**	P	P	01 23 17.3	-0.7
JNB				*e*S	S	01 24 28.5	-2.8
JKB	**Kayabe**	**6.79**	**243**	P	P	01 23 20.5	-1.5
JKB				*e*S	S	01 24 32.6	-5.8
JSR	**Shiriuchi**	**7.37**	**243**	P	P	01 23 27.9	-1.9
JSR				*e*S	S	01 24 47.0	-5.4
JTM	**Tenmabayashi**	**7.41**	**236**	P	P	01 23 27.9	-2.5
JTM				*e*S	S	01 24 45.9	-7.5
JANG	**Nango**	**7.43**	**232**	*e*S	S	01 24 46.1	-7.7

*LDG **21** 01:22:27.5±0.2, 19.84S×168.14E, h10km, Mb4.7/2, Error ellipse: s-maj=25.2km s-min=3.9km az=115.0*
*IDC **21** 01:22:28.3±0.8, 20.31S×168.98E, h36km±4km, mb4.1/12, mb1 4.2/13, mb1mx4.2/17, mbtmp4.3/13, ML4.0/1, Error ellipse: s-maj=30.0km s-min=15.3km az=149.0*
*NEIC **21** 01:22:28.1±0.5, 20.47S×168.98E, mb4.8/3, Error ellipse: s-maj=18.2km s-min=9.9km az=149.0*
ISC 21 01:22:26.6±0.5, 20.5S±0.1×168.94E±0.09, h36km, h36km±1.6km: pP-P, n40, σ0§97/22, mb4.3/15, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.79**	**236**	*e*P	**P**	**01 23 09.3**	**-0.5**
DZM				*e*S	**S**	**01 23 41.9**	**-0.7**
DZM	**Mont Dzumac**	**2.79**	**236**	*e*P	**P**	**01 23 09.3**	**-0.5**
DZM				*e*S	**S**	**01 23 41.9**	**-0.7**
NOUC	**Port Laguerre**	**2.91**	**237**	*e*P	**P**	**01 23 11.7**	**+0.1**
NOUC	**Port Laguerre**	**2.91**	**237**	*e*P	**P**	**01 23 11.7**	**+0.1**
URZ	**Urewera**	**19.03**	**160**	P	**P**	**01 26 48.5**	**+0.2**
0.5nm,0.3s,baz=167,slow=6.0,SNR=2.2							
CTA	**Charters Tower**	**21.28**	**267**	P	**P**	**01 27 14.4**	**+2.2**
3.6nm,0.7s,mb3.8,baz=70,slow=13,SNR=4.8							
STKA	**Stephens Creek**	**26.94**	**240**	P	**P**	**01 28 08.6**	**+1.9**
2.6nm,0.7s,mb3.9,baz=74,slow=7.4,SNR=4.4							
STKA				pP	pP	01 28 18.3	+1.6
7.1nm,0.8s,baz=69,slow=7.8,SNR=8.3							
WRAB	**Tennant Creek**	**32.43**	**265**	*e*P	**P**	**01 28 55.5**	**-0.2**
13nm,1.1s,mb4.7							
WRA	**Warramunga Arr**	**32.44**	**265**	P	**P**	**01 28 54.1**	**-1.6**
1.0nm,0.7s,mb3.8,baz=91,slow=8.5,SNR=8.5							
WRA				pP	pP	01 29 04.6	-1.4
5.3nm,0.9s,baz=92,slow=9.3,SNR=12							
ASAR	**Alice Springs**	**32.56**	**258**	P	**P**	**01 28 56.4**	**-0.5**
3.5nm,0.7s,mb4.4,baz=84,slow=8.9,SNR=15							
ASAR				pP	pP	01 29 07.7	+0.6
9.7nm,0.8s,baz=83,slow=8.9,SNR=20							
ASAR				PcP	PcP	01 31 43.5	+0.6
1.0nm,0.8s,baz=111,slow=3.1,SNR=4.7							
NWAO	**Narrogin (SRO)**	**47.38**	**244**	P	**P**	**01 30 60.0**	**+0.6**
5.4nm,0.8s,mb4.5,baz=51,slow=6.5,SNR=2.6							
NWAO				pP	pP	01 31 11.6	+1.7
18nm,0.9s,baz=90,slow=8.0,SNR=6.3							
CMAR	**Chiang Mai Arr**	**78.78**	**295**	P	**P**	**01 34 27.8**	**-0.1**
1.0nm,0.4s,mb4.1,baz=141,slow=4.1,SNR=4.5							
ULN	**Ulaanbaatar**	**87.73**	**324**	*e*P	**P**	**01 35 13.5**	**+0.6**
5.8nm,1.0s,mb4.8							
ULN				*e*pP	pP	01 35 24.2	0.0
SONM	**Songino Array**	**88.08**	**323**	P	**P**	**01 35 15.0**	**+0.4**
1.7nm,0.8s,mb4.3,baz=135,slow=5.2,SNR=8.6							
SONM				pP	pP	01 35 25.1	-0.7
2.2nm,0.9s,baz=138,slow=4.5,SNR=7.8							
YBH	**Yreka Blue Hor**	**88.42**	**44**	P	**P**	**01 35 17.2**	**+0.9**
1.5nm,0.8s,mb4.3,baz=135,slow=11,SNR=2.8							
NVAR	**Mina Array Bea**	**89.86**	**49**	P	**P**	**01 35 23.2**	**0.0**
2.4nm,1.1s,mb4.5,baz=214,slow=5.1,SNR=9.0							
BBB	**Bella Bella**	**90.70**	**33**	P	**P**	**01 35 25.9**	**-0.9**
8.7nm,0.9s,mb5.1,baz=237,slow=17							
WVOR	**Wild Horse Val**	**91.42**	**45**	*e*P	**P**	**01 35 31.1**	**+0.7**
2.1nm,0.4s,mb4.8							
ILAR	**Eielson Array**	**91.54**	**17**	P	**P**	**01 35 28.6**	**-1.8**
0.3nm,0.7s,mb3.8,baz=241,slow=5.1,SNR=5.2							
TXAR	**Lajitas Array**	**97.63**	**62**	P	**P**	**01 35 58.2**	**-0.8**
0.4nm,1.0s,mb3.9,baz=236,slow=4.5,SNR=4.0							
SDV	**Santo Domingo**	**121.50**	**92**	PKP	PKPdf	01 41 18.4	+1.1
2.5nm,0.2s,baz=255,slow=2.0,SNR=2.9							
ARCES	**ARCESS Array B**	**126.24**	**345**	PKP	PKPdf	01 41 25.9	+0.8
0.9nm,0.7s,slow=2.4,SNR=3.9							
KHC	**Kasperske Hory**	**145.33**	**331**	*e*P	PKPdf	01 42 07.5	+7.0
KHC				*e*		01 42 12.5	
KHC	**Kasperske Hory**	**145.33**	**331**	*e*P	PKPdf	01 42 07.5	+7.0
KHC				x	x	01 42 12.5	
GERES	**GERESS Array B**	**145.49**	**331**	PKPbc	PKPbc	01 42 01.6	+0.2
2.1nm,1.1s,baz=27,slow=3.0,SNR=5.4							
GERES				pPKPbc		01 42 13.2	
2.7nm,0.7s,baz=63,slow=3.0,SNR=13							
BAIF	**Baives**	**148.14**	**341**	*e*PKP1	PKPdf	01 42 11.0	+5.8
82nm,1.6s							
CDF	**Champ du Feu**	**148.51**	**336**	*e*PKP1	PKPdf	01 42 11.5	+5.7
HAU	**Haudompre**	**149.20**	**337**	*e*PKP1	PKPdf	01 42 13.0	+6.1
LDF	**La Druitiere**	**150.65**	**345**	*e*PKP1	PKPdf	01 42 17.7	+8.5
SSF	**Saint Saulge**	**151.00**	**339**	*e*PKP1	PKPdf	01 42 17.6	+7.9
GRR	**Gorron**	**151.02**	**346**	*e*PKP1	PKPdf	01 42 18.7	+9.0
LPL	**La Plagne**	**151.09**	**334**	*e*PKP1	PKPdf	01 42 18.4	+8.5
LPG	**La Plagne**	**151.10**	**334**	*e*PKP1	PKPdf	01 42 18.6	+8.7
SMF	**Signal de Mont**	**151.25**	**338**	*e*PKP1	PKPdf	01 42 18.7	+8.6
AVF	**Avril sur Loir**	**151.29**	**339**	*e*PKP1	PKPdf	01 42 18.7	+8.5
MBDF	**Montbardon**	**151.71**	**333**	*e*PKP1	PKPdf	01 42 19.9	+9.0
39nm,1.2s							
ORIF	**Oris-en-Rattie**	**151.93**	**334**	*e*PKP1	PKPdf	01 42 20.0	+8.8
PGF	**Pioggiola**	**152.31**	**327**	*e*PKP1	PKPdf	01 42 21.2	+9.4
VIVF	**Saint-Julien-l**	**152.47**	**335**	*e*PKP1	PKPdf	01 42 21.8	+10
LASF	**Ste Croix**	**153.44**	**335**	*e*PKP1	PKPdf	01 42 24.9	+12

*IDC **21** 01:45:51.0±1.5, 7.27S×106.14E, mb4.0/6, mb1 4.1/6, mb1mx3.9/15, mbtmp4.0/6, Error ellipse: s-maj=74.7km s-min=21.7km az=50.0*
ISC 21 01:45:54.8±1.4, 7.1S±0.3×106.4E±0.4, h33km, n7, σ1§45/6, mb4.0/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.99**	**118**	P	**P**	**01 52 01.1**	**-1.6**
0.3nm,0.4s,mb3.3,baz=291,slow=10,SNR=7.0							
STKA	**Stephens Creek**	**41.05**	**132**	P	**P**	**01 53 38.6**	**+1.6**
0.9nm,0.5s,mb3.7,baz=301,slow=12,SNR=3.8							
SONM	**Songino Array**	**54.68**	**0**	P	**P**	**01 55 23.8**	**+0.9**
0.6nm,0.4s,mb3.9,baz=181,slow=8.9,SNR=12							
SONM				PcP	PcP	01 56 24.7	-0.7
0.6nm,0.4s,baz=188,slow=3.7,SNR=8.9							
ZAL	**Zalesovo**	**63.45**	**346**	P	**P**	**01 56 23.2**	**-0.4**
2.4nm,0.4s,mb4.7,baz=269,slow=4.9,SNR=12							
BVAR	**Borovoye Array**	**67.20**	**337**	P	**P**	**01 56 47.6**	**-0.1**
1.5nm,0.6s,mb4.2,baz=141,slow=9.5,SNR=8.6							
BRTR	**Keskin Array B**	**81.42**	**312**	P	**P**	**01 58 09.8**	**-0.4**
1.7nm,1.1s,mb3.9,baz=146,slow=8.9,SNR=6.7							
TXAR	**Lajitas Array**	**144.09**	**48**	PKP	PKPdf	02 05 29.2	+1.4
0.6nm,0.5s,baz=298,slow=0.6,SNR=12							

*CSEM **21** 01:49:00.5±0.1, 37.01N×27.75E, h12km, MD3.5, Error ellipse: s-maj=2.7km s-min=2.1km az=67.0*
*ISK **21** 01:49:01.4, 37.03N×27.79E, h15km, MD3.5*
*ATH **21** 01:49:07.1, 36.51N×27.71E, h10km, MD3.5/3*
ISC 21 01:49:01.1±0.6, 36.96N±0.04×27.76E±0.04, h14km±5km, n23, σ0§80/27, 2C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.27**	**292**	*i* P	**Pg**	**01 49 07.3**	**+0.2**
BDRM				*i* S	**Sg**	**01 49 12.5**	**+1.4**
MLSB	**Milas**	**0.33**	**2**	*i* PG	**Pg**	**01 49 07.8**	**-0.4**
YER	**Yerkesik**	**0.45**	**67**	*i* PG	**Pg**	**01 49 09.5**	**-1.0**
YER				*i* SG	**Sg**	**01 49 16.4**	**-0.3**
AYDN	**Tasoluk**	**0.70**	**8**	*i* P	**Pb**	**01 49 14.7**	**0.0**
AYDN				*i* S	**Sb**	**01 49 24.2**	**+0.3**
DALT	**Dalyan (Mudla)**	**0.73**	**105**	*i* PG	**Pg**	**01 49 16.0**	**+0.1**
ARG	**Arkhangelos**	**0.80**	**158**⇑*i*PB	**Pb**	**01 49 15.8**	**-0.5**
FETY	**Fethiye**	**1.11**	**107**	*i* PN	**Pn**	**01 49 22.8**	**+0.6**
DNZL	**Cakiroluk**	**1.26**	**54**	*i* P	**Pb**	**01 49 24.6**	**+0.5**
DNZL				*i* S	**Sb**	**01 49 42.3**	**+2.3**
DENT	**Denizli**	**1.29**	**52**	*i* PN	**Pn**	**01 49 24.9**	**+0.1**
IZM	**Izmir**	**1.49**	**345**	PN	**Pn**	**01 49 27.6**	**0.0**
KARP	**Karpathos**	**1.49**	**199**⇑*i*PB	**Pb**	**01 49 27.1**	**-1.1**
BLCB	**Balcova**	**1.53**	**338**	PN	**Pn**	**01 49 27.6**	**-0.7**
ELL	**Elmali**	**1.74**	**96**	PN	**Pn**	**01 49 31.8**	**+0.6**
AKS	**Akhisar**	**1.92**	**1**	PN	**Pn**	**01 49 33.7**	**-0.1**
KHL	**Karahalli**	**1.95**	**45**	PN	**Pn**	**01 49 34.2**	**-0.1**
BCK	**Bucak**	**2.31**	**77**	*e*PN	**Pn**	**01 49 39.7**	**+0.3**
NPS	**Neapolis**	**2.43**	**226**	*e*PN	**Pn**	**01 49 44.3**	**+3.2**
BALB	**Balikesir**	**2.68**	**2**	*e*PN	**Pn**	**01 49 43.7**	**-0.9**
DST	**Dursunbey**	**2.73**	**14**	*e*PN	**Pn**	**01 49 45.0**	**-0.4**
ALT	**Altintas**	**2.79**	**41**	*e*PN	**Pn**	**01 49 46.0**	**-0.3**
KCT	**Karacabey**	**3.33**	**8**	*e*PN	**Pn**	**01 49 53.2**	**-0.8**
BNT	**Bandirma**	**3.39**	**2**	*e*PN	**Pn**	**01 49 53.8**	**-1.0**
KIZT	**Kizilcal**	**3.78**	**58**	*e*PN	**Pn**	**01 50 00.8**	**+0.5**

*CSEM **21** 01:54:27.4±0.1, 39.55N×2.96E, h48km±3km, ML3.1/12, Error ellipse: s-maj=2.3km s-min=1.3km az=138.0*
*MDD **21** 01:54:28.2±1.3, 39.63N×2.99E, h22km±13km, mbLg2.8/27, Error ellipse: s-maj=9.8km s-min=4.5km az=136.0, PRXIMO III LLORET DE VISTALEGRE SINEU SENCELLES II VILAFRANCA DE BONANY COTITX*
MDD EMS: IV SANT JOAN RI.
*NEIC **21** 01:54:28.2, 39.58N×3.04E, h28km, ML3.1(LDG), MN3.0(MDD), After MDD.*
NEIC Felt [IV] at Montuiri; [III] at Lloret de Vista Alegre and Sineu; [II] at Villafranca de Bonany.
*LDG **21** 01:54:29.3±0.2, 39.60N×3.03E, h25km, Ml3.1/12, Error ellipse: s-maj=4.1km s-min=2.2km az=141.0*
ISC 21 01:54:25.9±0.5, 39.70N±0.03×2.93E±0.03, h22km, n93, σ1§18/153, 1D, Balearic Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIBI	**Ibiza**	**1.40**	**242**	P	**Pn**	**01 54 50.9**	**+0.5**
EIBI				S	**Sn**	**01 55 07.1**	**-1.2**
EIBI	**Ibiza**	**1.40**	**242**	⇓P	**Pn**	**01 54 50.9**	**+0.5**
30nm,0.3s,SNR=7.9							
EIBI				S	**Sn**	**01 55 07.3**	**-1.0**
77nm,0.3s,SNR=7.9							
EIBI	**Ibiza**	**1.40**	**242**	P	**Pn**	**01 54 50.9**	**+0.5**
15nm,0.2s,SNR=7.9							
EIBI				S	**Sn**	**01 55 07.7**	**-0.6**
89nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**2.17**	**320**	P	**Pn**	**01 55 02.1**	**+0.7**

23nm,0.4s,SNR=7.9
EBEN S Sn 01 55 39.1 -0.8
27nm,0.5s,SNR=7.9
EMOS Mosqueruela 2.69 285 P Pn 01 55 09.9 +1.0
EMOS S Sn 01 55 41.2 0.0
EMOS Mosqueruela 2.69 285 P Pn 01 55 09.9 +1.0
2.4nm,0.1s,SNR=7.9
EMOS S Sn 01 55 41.1 0.0
20nm,0.4s,SNR=7.9
EMOS Mosqueruela 2.69 285 P Pn 01 55 10.1 +1.2
4.2nm,0.2s,SNR=7.9
EMOS S Sn 01 55 41.2 0.0
20nm,0.4s,SNR=7.9
EJON La Jonquera 2.75 359 P Pn 01 55 11.2 +1.6
EJON Sn Sn 01 55 42.5 0.0
EJON La Jonquera 2.75 359 P Pn 01 55 11.1 +1.4
3.1nm,0.2s,SNR=7.9
EJON S Sn 01 55 42.5 0.0
9.6nm,0.2s,SNR=7.9
EJON La Jonquera 2.75 359 P Pn 01 55 11.2 +1.6
1.3nm,0.1s,SNR=7.9
EJON Sn Sn 01 55 42.5 0.0
ESAC San Caprasio 3.28 309 P Pn 01 55 19.5 +2.3
ESAC S Sn 01 55 57.0 +1.1
ESAC San Caprasio 3.28 309 P Pn 01 55 19.3 +2.1
49nm,0.3s,SNR=7.9
ESAC S Sn 01 55 56.4 +0.4
94nm,0.3s,SNR=7.9
ESAC San Caprasio 3.28 309 P Pn 01 55 19.5 +2.3
49nm,0.3s,SNR=7.9
ESAC S Sn 01 55 57.0 +1.0
EBIE Bielsa 3.65 326 P Pn 01 55 24.5 +2.0
EBIE S Sn 01 56 06.4 +1.1
EBIE Bielsa 3.65 326 P Pn 01 55 24.3 +1.9
1.4nm,0.2s,SNR=7.9
EBIE S Sn 01 56 07.0 +1.7
14nm,0.5s,SNR=7.9
EBIE Bielsa 3.65 326 P Pn 01 55 24.5 +2.0
1.8nm,0.2s,SNR=7.9
EBIE S Sn 01 56 06.4 +1.1
14nm,0.5s,SNR=7.9
MTLF Montolieu 3.68 352 *e*Pn Pn 01 55 24.1 +1.2
MTLF *e*Sn Sn 01 56 04.7 -1.3
8.9nm,0.3s
EMUR La Murta 3.75 242 P Pn 01 55 23.6 -0.3
EMUR S Sn 01 56 04.8 -3.1
EMUR La Murta 3.75 242 P Pn 01 55 23.6 -0.3
6.8nm,0.3s,SNR=7.9
EMUR S Sn 01 56 04.9 -3.0
23nm,0.6s,SNR=7.9
EMUR La Murta 3.75 242 P Pn 01 55 23.6 -0.3
7.2nm,0.3s,SNR=7.9
EMUR S Sn 01 56 04.8 -3.1
23nm,0.6s,SNR=7.9
EPF Esparros 3.86 331 *e*Pn Pn 01 55 27.3 +1.9
EPF *e*Sn Sn 01 56 10.1 -0.5
18nm,0.3s
ETSF Etsaut 4.14 322 *e*Pn Pn 01 55 30.8 +1.4
ETSF *e*Sn Sn 01 56 16.8 -0.9
21nm,0.5s
EVIA Vianos 4.35 258 P Pn 01 55 32.7 +0.3
EVIA Vianos 4.35 258 P Pn 01 55 32.6 +0.1
8.7nm,0.4s,SNR=7.9
EVIA S Sn 01 56 24.0 +0.8
5.6nm,0.4s,SNR=7.9
EVIA Vianos 4.35 258 P Pn 01 55 32.7 +0.3
8.7nm,0.4s,SNR=7.9
LASF Ste Croix 4.43 9 *e*Pn Pn 01 55 34.0 +0.5
LASF *e*Sn Sn 01 56 22.3 -2.8
8.9nm,0.4s
LMR La Mourre 4.52 35 *e*Pn Pn 01 55 35.3 +0.5
LMR *e*Sn Sn 01 56 23.1 -4.2
8.4nm,0.3s
SJPF Ste Jean 4.62 319 *e*Pn Pn 01 55 37.7 +1.4
SJPF *e*Sn Sn 01 56 28.5 -1.5
18nm,0.5s
SMRF Simiane la Rot 4.71 24 *e*Pn Pn 01 55 37.1 -0.4
FRF La Foret Royal 4.76 35 *e*Pn Pn 01 55 38.6 +0.4
FRF *e*Sn Sn 01 56 29.0 -4.4
9.7nm,0.3s
EALK Alkurruntz 4.84 318 P Pn 01 55 41.4 +1.9
EALK S Sn 01 56 35.7 +0.1
EALK Alkurruntz 4.84 318 P Pn 01 55 41.4 +1.9
14nm,0.4s,SNR=7.9
EALK S Sn 01 56 35.5 -0.1
73nm,0.7s,SNR=7.9
EALK Alkurruntz 4.84 318 P Pn 01 55 41.4 +2.0
14nm,0.4s,SNR=7.9
EALK S Sn 01 56 35.7 +0.1
73nm,0.7s,SNR=7.9
ENIJ Nijar 4.87 238 P Pn 01 55 38.7 -1.1
3.3nm,0.3s,SNR=7.9
EQES Quesada 5.06 250 P Pn 01 55 42.7 +0.3
EQES S Sn 01 56 36.6 -4.3
EQES Quesada 5.06 250 P Pn 01 55 42.6 +0.2
5.5nm,0.4s,SNR=7.9
EQES S Sn 01 56 36.9 -4.0
9.9nm,0.5s,SNR=7.9
EQES Quesada 5.06 250 P Pn 01 55 42.7 +0.3
3.3nm,0.3s,SNR=7.9
EQES S Sn 01 56 36.7 -4.2
4.1nm,0.4s,SNR=7.9
CAF Calviac 5.26 353 *e*Pn Pn 01 55 45.7 +0.4
CAF *e*Sn Sn 01 56 42.8 -3.2
1.3nm,0.2s
VIVF Saint-Julien-l 5.31 14 *e*Pn Pn 01 55 45.4 -0.6
VIVF *e*Sn Sn 01 56 42.8 -4.5
1.9nm,0.3s
ESDC Sonseca Array 5.32 272 P Pn 01 55 46.0 -0.1
0.7nm,0.1s,baz=89,slow=14,SNR=14
ESDC S Sn 01 56 44.5 -2.9
baz=86,slow=24,SNR=7.9
ESDC Sonseca Array 5.32 272 S Sn 01 56 44.5 -2.9
SNR=7.9
ESDC Sonseca Array 5.32 272 P Pn 01 55 46.0 -0.1
0.7nm,0.1s,SNR=14
SBF Sospel 5.35 38 *e*Pn Pn 01 55 47.3 +0.7
SBF *e*Sn Sn 01 56 43.6 -4.7
3.7nm,0.3s
EBER Berja 5.36 240 P Pn 01 55 47.0 +0.3
1.7nm,0.2s,SNR=7.9
EBER S Sn 01 56 45.3 -3.3
1.7nm,0.3s,SNR=7.9
EBER Berja 5.36 240 P Pn 01 55 46.8 +0.1
0.2nm,0.1s,SNR=7.9
EBER S Sn 01 56 47.4 -1.2
4.0nm,0.5s,SNR=7.9
PGF Pioggiola 5.40 56 *e*Pn Pn 01 55 48.2 +1.0
PGF *e*Sn Sn 01 56 43.3 -6.1
2.3nm,0.3s
LFF La Frestale 5.48 344 *e*Pn Pn 01 55 48.8 +0.4
GUD Guadarrama 5.51 282 P Pn 01 55 49.4 +0.6
GUD S Sn 01 56 48.9 -3.3
GUD Guadarrama 5.51 282 P Pn 01 55 49.3 +0.5
2.2nm,0.2s,SNR=7.9
GUD S Sn 01 56 47.7 -4.5
2.2nm,0.4s,SNR=7.9
GUD Guadarrama 5.51 282 P Pn 01 55 49.4 +0.6
2.3nm,0.3s,SNR=7.9
ORIF Oris-en-Rattie 5.66 22 *e*Pn Pn 01 55 51.7 +0.8
RJF Les Rejaudoux 5.70 350 *e*Pn Pn 01 55 51.2 -0.2
RJF *e*Sn Sn 01 56 52.8 -4.2
2.1nm,0.3s
MBDF Montbardon 5.78 28 *e*Pn Pn 01 55 52.8 +0.2
ELAN Lanestosa 5.94 308 P Pn 01 55 54.9 0.0
ELAN S Sn 01 57 00.8 -2.2
ELAN Lanestosa 5.94 308 P Pn 01 55 55.5 +0.6
1.3nm,0.2s,SNR=7.9
ELAN S Sn 01 57 00.2 -2.9
5.6nm,0.2s,SNR=7.9
ELAN Lanestosa 5.94 308 P Pn 01 55 55.6 +0.7
1.1nm,0.2s,SNR=7.9
EADA Adamuz 6.05 258 P Pn 01 55 56.2 -0.2
EADA Adamuz 6.05 258 P Pn 01 55 55.6 -0.8
0.5nm,0.2s,SNR=7.9
EADA S Sn 01 57 01.5 -4.2
0.8nm,0.3s,SNR=7.9
EADA Adamuz 6.05 258 P Pn 01 55 56.2 -0.2
0.7nm,0.4s,SNR=7.9
LPG La Plagne 6.44 25 *e*Pn Pn 01 56 01.3 -0.7
LPL La Plagne 6.45 25 *e*Pn Pn 01 56 01.4 -0.7
EMIJ Mijas 6.83 245 P Pn 01 56 07.0 -0.4
0.6nm,0.3s,SNR=4.0
BGF Bois d'Agland 6.86 360 *e*Pn Pn 01 56 06.8 -1.0
EARI Arriondas 7.09 303 P Pn 01 56 12.8 +1.7
EARI S Sn 01 57 25.7 -6.0
EARI Arriondas 7.09 303 P Pn 01 56 11.9 +0.9
1.3nm,0.4s,SNR=7.9
EARI S Sn 01 57 25.7 -6.0
2.2nm,0.4s,SNR=7.9
EARI Arriondas 7.09 303 P Pn 01 56 12.8 +1.8
0.7nm,0.2s,SNR=7.9
AVF Avril sur Loir 7.09 2 *e*Pn Pn 01 56 09.6 -1.5
MFF Saint Martin d 7.25 343 *e*Pn Pn 01 56 11.9 -1.5
CABF La Chapelle 7.28 17 *e*Pn Pn 01 56 12.0 -1.8
ECAL Calabor 7.67 290 P Pn 01 56 18.6 -0.5
ECAL S Sn 01 57 40.8 -5.4
ECAL Calabor 7.67 290 P Pn 01 56 19.0 -0.1
2.1nm,0.3s,SNR=7.9
ECAL S Sn 01 57 40.1 -6.0
2.4nm,0.3s,SNR=7.9
ECAL Calabor 7.67 290 P Pn 01 56 18.6 -0.5
ERUA La Rua 8.07 293 P P 01 56 24.8 0.0
4.0nm,0.6s,SNR=7.9
EPON Pontenova 8.38 299 P P 01 56 29.4 +0.3
1.3nm,0.4s,SNR=4.0
ELOB Lobios 8.61 288 P P 01 56 32.5 +0.2
0.8nm,0.2s,SNR=7.9
GRR Gorron 9.10 344 *e*Pn P 01 56 38.0 -1.1
LDF La Druitiere 9.16 347 *e*Pn P 01 56 38.5 -1.3
QUIF Quistinic 9.32 334 *e*Pn P 01 56 39.7 -2.3
SGMF Saint Gilles 9.42 337 *e*Pn P 01 56 41.8 -1.6
ROSF Rostrenen 9.72 335 *e*Pn P 01 56 46.1 -1.4

*IDC **21** 02:13:32.4±8.0, 8.08S×123.79E, h96km±76km, mb3.7/5, mb1 3.9/7, mb1mx3.8/15, mbtmp4.2/7, ML4.3/2, Error ellipse: s-maj=40.2km s-min=23.3km az=70.0*
*NEIC **21** 02:13:36.3±1.7, 8.08S×123.91E, h136km±18km, mb4.1/5, Error ellipse: s-maj=20.1km s-min=7.8km az=223.0*
ISC 21 02:13:36.0±1.8, 8.15S±0.10×123.86E±0.08, h157km±19km, n18, σ1§21/23, mb3.9/8, 2C-2D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**7.67**	**267⇑**	*e*Pn	**P**	**02 15 27.6**	**+1.6**
KEDI				*i* Sn	**S**	**02 16 53.5**	**+1.8**
RATI	**Rata**	**8.26**	**265⇑**	*e*Pn	**P**	**02 15 33.8**	**+0.1**
RATI				*i* Sn	**S**	**02 17 06.0**	**+0.3**
KELI	**Kelakatan**	**9.27**	**269⇓**	*e*Pn	**P**	**02 15 44.6**	**-2.5**
KELI				*i* Sn	**S**	**02 17 27.0**	**-2.7**
SRDI	**Scrawed**	**9.62**	**267⇓**	*i*Pn	**P**	**02 15 50.3**	**-1.5**
SRDI				*i* Sn	**S**	**02 17 33.6**	**-4.5**
MBWA	**Marble Bar**	**13.54**	**197**	Pn	**P**	**02 16 44.4**	**+1.7**
WRA	**Warramunga Arr**	**15.51**	**140**	P	**P**	**02 17 07.0**	**-0.6**
	2.4nm,0.3s,baz=318,slow=12,SNR=80						
WRA				S	**S**	**02 19 48.4**	**-6.4**
	0.8nm,0.3s,baz=332,slow=23,SNR=4.2						
WRAB	**Tennant Creek**	**15.51**	**140**	*e*Pn	**P**	**02 17 07.2**	**-0.4**
	14nm,0.6s						
ASAR	**Alice Springs**	**18.19**	**149**	P	**P**	**02 17 40.0**	**+0.5**
	0.8nm,0.3s,baz=333,slow=12,SNR=29						
ASAR				S	**S**	**02 20 52.9**	**-1.3**
	0.1nm,0.3s,baz=11,slow=4.6,SNR=4.3						
CTA	**Charters Tower**	**24.71**	**121**	P	**P**	**02 18 46.3**	**+2.0**
	4.1nm,0.7s,mb4.1,baz=308,slow=13,SNR=3.7						
CTAO	**Charters Tower**	**24.71**	**121**	*e*P	**P**	**02 18 45.7**	**+1.4**
	3.8nm,0.6s,mb4.1						
NWAO	**Narrogin (SRO)**	**25.41**	**193**	P	**P**	**02 18 50.6**	**-0.1**
	4.4nm,0.5s,mb4.2,baz=322,slow=18,SNR=6.3						
STKA	**Stephens Creek**	**28.81**	**147**	P	**P**	**02 19 21.6**	**0.0**
	1.9nm,0.8s,mb3.9,baz=312,slow=11,SNR=4.8						
ULN	**Ulaanbaatar**	**57.72**	**347**	*e*P	**P**	**02 23 11.8**	**-0.7**
	2.3nm,0.9s,mb4.0						
SONM	**Songino Array**	**57.84**	**346**	P	**P**	**02 23 13.0**	**-0.4**
	1.1nm,0.7s,mb3.8,baz=163,slow=8.1,SNR=10						
AAK	**Ala-Archa**	**67.62**	**323**	*e*P	**P**	**02 24 18.2**	**+0.1**
	1.8nm,0.8s,mb3.9						
KURK	**Kurchatov**	**70.46**	**331**	*e*P	**P**	**02 24 34.9**	**-0.4**
	1.8nm,0.6s,mb4.0						
BVAR	**Borovoye Array**	**75.89**	**330**	P	**P**	**02 25 08.4**	**+1.7**
	0.1nm,0.3s,mb2.9,baz=162,slow=4.6,SNR=2.9						
LPAZ	**La Paz**	**152.98**	**154**	PKPbc	PKPdf	02 33 20.6	+13
	0.5nm,0.3s,slow=25,SNR=3.7						

*IDC **21** 02:21:41.3±0.9, 14.33N×146.95E, mb3.8/8, mb1 4.0/8, mb1mx3.9/19, mbtmp3.8/8, Error ellipse: s-maj=41.2km s-min=20.0km az=104.0*
*NEIC **21** 02:21:47.2±2.8, 14.30N×146.89E, h40km±23km, mb4.4/2, Error ellipse: s-maj=26.1km s-min=14.2km az=92.0*
ISC 21 02:21:47.1±3.8, 14.3N±0.1×146.8E±0.3, h55km±32km, n15, σ0§74/13, mb3.9/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.04**	**250**	*e*Pn	**P**	**02 22 19.8**	**+0.1**
WRA	**Warramunga Arr**	**36.18**	**200**	P	**P**	**02 28 45.4**	**-1.0**
	0.6nm,0.8s,mb3.6,baz=17,slow=9.3,SNR=2.7						
ASAR	**Alice Springs**	**39.79**	**199**	P	**P**	**02 29 17.4**	**+0.8**
	0.2nm,0.4s,mb3.2,baz=24,slow=9.7,SNR=2.8						
SONM	**Songino Array**	**47.28**	**323**	P	**P**	**02 30 16.8**	**0.0**
	1.1nm,0.6s,mb3.9,baz=134,slow=6.4,SNR=8.5						
KURK	**Kurchatov**	**65.28**	**319**	*e*P	**P**	**02 32 24.3**	**-1.0**
	4.2nm,0.7s,mb4.6						
ILAR	**Eielson Array**	**67.12**	**25**	P	**P**	**02 32 35.5**	**-1.3**
	0.6nm,0.5s,mb3.9,baz=256,slow=5.8,SNR=15						
BVAR	**Borovoye Array**	**70.56**	**321**	P	**P**	**02 32 58.3**	**+0.1**
	1.8nm,0.5s,mb4.2,baz=110,slow=7.5,SNR=12						
BRVK	**Borovoye**	**70.63**	**322**	*e*P	**P**	**02 32 58.7**	**+0.1**
	1.7nm,0.8s,mb4.0						
INK	**Inuvik**	**72.99**	**22**	P	**P**	**02 33 13.0**	**+0.7**
	0.6nm,0.8s,mb3.6,baz=251,slow=5.5,SNR=3.1						
INK	**Inuvik**	**72.99**	**22**	P	**P**	**02 33 13.0**	**+0.7**
YKA	**Yellowknife Ar**	**81.35**	**28**	P	**P**	**02 33 59.3**	**+0.4**
	0.2nm,0.6s,mb3.2,baz=284,slow=5.3,SNR=6.3						
ARCES	**ARCESS Array B**	**87.00**	**342**	P	**P**	**02 34 28.0**	**+0.9**
	2.7nm,0.8s,mb4.5,baz=60,slow=7.3,SNR=3.4						
ARCES	**ARCESS Array B**	**87.00**	**342**	P	**P**	**02 34 28.0**	**+0.9**
DBIC	**Dimbokro**	**145.03**	**305**	PKPbc	PKPbc	02 41 21.5	+2.0
	2.3nm,0.6s,baz=89,slow=6.5,SNR=9.0						
DBIC	**Dimbokro**	**145.03**	**305**	PKPbc	PKPbc	02 41 21.5	+2.0

IDC 21 02:23:19.3±2.9, 5.18N×94.27E, mb3.5/4, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, ML4.4/1, MS2.7/1, Ms1 2.9/1, ms1mx2.8/13, Error ellipse: s-maj=121.1km s-min=24.6km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.96**	**19**	Pn	P	02 26 45.2	+4.3
	0.6nm,0.3s,baz=213,slow=11,SNR=7.2						
CMAR				LR	LR	02 32 15.0	
	comp=Z,30nm,19.3s,baz=322,slow=38						
SONM	**Songino Array**	**43.75**	**12**	P	P	02 31 26.0	-2.2
	0.5nm,0.7s,baz=189,slow=7.7,SNR=4.7						
WRA	**Warramunga Arr**	**46.64**	**124**	P	P	02 31 50.1	-1.6
	0.7nm,0.6s,baz=301,slow=9.3,SNR=8.6						
ASAR	**Alice Springs**	**48.13**	**128**	P	P	02 32 01.2	-2.2
	0.3nm,0.4s,baz=289,slow=7.2,SNR=3.1						
BVAR	**Borovoye Array**	**51.56**	**342**	P	P	02 32 27.3	-1.9
	0.6nm,0.7s,baz=143,slow=7.2,SNR=3.6						

*IDC **21** 02:29:17.8±13.0, 17.70S×176.71W, h258km±138km, mb3.6/7, mb1 3.8/7, mb1mx3.6/15, mbtmp4.2/7, Error ellipse: s-maj=56.2km s-min=20.9km az=179.0*
ISC 21 02:29:20.8±1.0, 17.7S±0.2×176.8W±0.2, h300km, n8, σ0§38/7, mb3.8/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**21.18**	**193**	P	**P**	**02 33 43.7**	**+0.1**
	1.7nm,0.4s,mb3.7,baz=17,slow=18,SNR=3.6						
CTA	**Charters Tower**	**34.98**	**260**	P	**P**	**02 35 47.6**	**+0.7**
	1.5nm,0.3s,mb3.9,baz=85,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**40.07**	**241**	P	**P**	**02 36 28.9**	**-0.2**
	2.5nm,0.8s,mb3.6,baz=60,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**46.17**	**259**	P	**P**	**02 37 17.3**	**-0.7**
	0.6nm,0.3s,mb3.4,baz=97,slow=7.5,SNR=23						
ASAR	**Alice Springs**	**46.32**	**254**	P	**P**	**02 37 19.2**	**+0.2**
	3.4nm,0.4s,mb4.0,baz=89,slow=8.4,SNR=59						
NVAR	**Mina Array Bea**	**78.22**	**43**	P	**P**	**02 40 49.1**	**+0.1**
	2.7nm,1.1s,mb3.9,baz=225,slow=8.9,SNR=10						
TXAR	**Lajitas Array**	**84.59**	**57**	P	**P**	**02 41 22.2**	**-0.1**
	7.2nm,1.3s,mb4.3,baz=215,slow=6.6,SNR=14						
BRTR	**Keskin Array B**	**145.70**	**316**	PKPbc	PKPbc	02 48 26.8	+2.0
	1.0nm,0.9s,baz=96,slow=2.8,SNR=5.7						

IDC 21 02:58:18.1±1.6, 1.99N×127.91E, mb4.6/3, mb1 4.8/3, mb1mx4.2/13, mbtmp4.6/3, 1C, Error ellipse: s-maj=128.2km s-min=25.0km az=73.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.69**	**164**	P	P	03 03 22.0	-0.9
	11nm,0.4s,baz=344,slow=11,SNR=124						
WB2	**Warramunga Arr**	**22.70**	**164⇑**	*i*P	P	03 03 22.2	-0.7
ASAR	**Alice Springs**	**26.16**	**167**	P	P	03 03 53.9	-2.3
	3.4nm,0.4s,baz=348,slow=7.4,SNR=65						
ASPA	**Alice Springs**	**26.16**	**167**	*e*P	P	03 03 53.8	-2.3
STKA	**Stephens Creek**	**36.10**	**160**	*e*P	P	03 05 21.6	-2.2
	2.4nm,0.4s						
STKA	**Stephens Creek**	**36.10**	**160**	P	P	03 05 21.8	-2.0
	3.4nm,0.4s,baz=332,slow=8.4,SNR=18						
SONM	**Songino Array**	**49.31**	**341**	P	P	03 07 09.2	-1.7
	0.5nm,0.7s,baz=154,slow=6.2,SNR=4.1						

IDC 21 03:10:00.3±28.0, 20.17S×172.50W, mb3.9/4, mb1 4.0/4, mb1mx3.8/14, mbtmp3.9/4, Error ellipse: s-maj=519.1km s-min=168.2km az=75.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.66**	**263**	P	P	03 17 26.4	-1.2
	1.6nm,0.4s,baz=94,slow=11,SNR=5.2						
STKA	**Stephens Creek**	**42.59**	**245**	P	P	03 17 57.6	-2.3
	0.8nm,0.5s,baz=80,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**49.61**	**256**	P	P	03 18 54.0	-1.7
	1.5nm,0.9s,baz=101,slow=8.0,SNR=10						
WRA	**Warramunga Arr**	**49.76**	**261**	P	P	03 18 54.7	-2.2
	0.4nm,0.5s,baz=96,slow=8.1,SNR=12						

IDC 21 03:11:05.8±4.0, 8.11S×103.61E, h47km±9km, mb3.6/5, mb1 3.8/5, mb1mx3.6/14, mbtmp3.8/5, Error ellipse: s-maj=162.3km s-min=18.8km az=58.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**26.80**	**350**	P	P	03 16 40.2	-3.5
	2.1nm,0.6s,baz=180,slow=9.2,SNR=11						
CMAR				pP	pP	03 16 53.2	-2.6
	1.1nm,0.5s,baz=184,slow=8.4,SNR=2.0						
WRA	**Warramunga Arr**	**31.98**	**115**	P	P	03 17 27.0	-2.9
	1.6nm,0.7s,baz=285,slow=11,SNR=12						
ASAR	**Alice Springs**	**32.88**	**122**	P	P	03 17 35.4	-2.4
	0.3nm,0.8s,baz=298,slow=8.7,SNR=3.1						
STKA	**Stephens Creek**	**42.47**	**129**	P	P	03 18 56.9	-1.3
	2.8nm,0.5s,baz=309,slow=8.6,SNR=11						
SONM	**Songino Array**	**55.75**	**2**	P	P	03 20 39.8	-0.4
	0.3nm,0.6s,baz=188,slow=10,SNR=2.8						
SONM				pP	pP	03 20 52.0	-1.4
	0.6nm,0.7s,baz=177,slow=8.4,SNR=4.8						
TXAR	**Lajitas Array**	**146.80**	**47**	PKPbc	PKPbc	03 30 42.9	-0.3
	0.7nm,0.8s,baz=252,slow=2.9,SNR=9.0						
TXAR				pPKPbc		03 30 56.9	
	0.3nm,0.5s,baz=260,slow=2.1,SNR=3.4						

*IDC **21** 03:20:31.0±0.8, 28.65N×143.22E, h37km±6km, mb3.6/8, mb1 3.8/8, mb1mx3.7/20, mbtmp3.8/8, Error ellipse: s-maj=27.0km s-min=15.6km az=96.0*
*NEIC **21** 03:20:31.2±0.5, 28.60N×143.14E, mb4.1/2, Error ellipse: s-maj=21.0km s-min=10.2km az=83.0*
ISC 21 03:20:29.1±0.6, 28.58N±0.06×143.1E±0.2, h40km, h40km±1.7km: pP-P, n17, σ1§19/17, mb3.9/11, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.67**	**208**	Pn	**P**	**03 20 59.6**	**+3.2**
	18nm,0.3s,baz=105,slow=23,SNR=2.5						
CBIJ				Sn	**S**	**03 21 15.2**	**-1.7**
	54nm,0.3s,baz=82,slow=23,SNR=6.8						
GUMO	**Guam**	**15.01**	**173**	Pn	**P**	**03 24 01.2**	**+1.0**
SONM	**Songino Array**	**34.22**	**314**	P	**P**	**03 27 13.9**	**+1.0**
	0.4nm,0.6s,mb3.5,baz=114,slow=7.4,SNR=4.9						
SONM				pP	pP	03 27 25.3	+1.3
	0.9nm,0.7s,baz=132,slow=8.8,SNR=5.5						
WRAB	**Tennant Creek**	**48.96**	**191**	*e*P	**P**	**03 29 13.5**	**-0.3**
	9.4nm,1.0s,mb4.8						
WB2	**Warramunga Arr**	**48.97**	**191**	*e*P	**P**	**03 29 13.7**	**-0.1**
WRA	**Warramunga Arr**	**48.97**	**191**	P	**P**	**03 29 13.8**	**0.0**
	3.7nm,0.5s,mb4.7,baz=13,slow=8.4,SNR=36						
WRA				pP	pP	03 29 25.7	+0.5
	1.2nm,0.5s,baz=13,slow=8.5,SNR=6.9						
KURK	**Kurchatov**	**52.52**	**314**	P	**P**	**03 29 40.2**	**-0.1**
	1.6nm,0.6s,mb4.1						
ILAR	**Eielson Array**	**56.04**	**29**	P	**P**	**03 30 04.3**	**-1.7**
	0.4nm,0.7s,mb3.6,baz=266,slow=5.8,SNR=6.0						
ILAR				pP	pP	03 30 14.4	-3.1
	0.3nm,0.7s,baz=246,slow=6.6,SNR=2.2						
CHKZ	**Chkalovo**	**57.30**	**318**	*e*P	**P**	**03 30 16.4**	**+1.3**
	0.9nm,0.6s,mb4.0						
BVAR	**Borovoye Array**	**57.49**	**317**	P	**P**	**03 30 15.5**	**-1.0**
	0.5nm,0.6s,mb3.7,baz=96,slow=12,SNR=3.9						
BVAR				pP	pP	03 30 27.9	-0.2
	0.5nm,0.4s,baz=90,slow=8.9,SNR=3.3						
STKA	**Stephens Creek**	**60.14**	**181**	P	**P**	**03 30 34.7**	**-0.4**
	0.7nm,0.5s,mb4.0,baz=328,slow=10,SNR=3.7						
STKA	**Stephens Creek**	**60.14**	**181**	P	**P**	**03 30 34.7**	**-0.4**
YKA	**Yellowknife Ar**	**70.47**	**29**	P	**P**	**03 31 40.0**	**-1.0**
	0.1nm,0.4s,mb3.1,baz=292,slow=6.0,SNR=4.4						
YKA	**Yellowknife Ar**	**70.47**	**29**	P	**P**	**03 31 40.0**	**-1.1**
FINES	**FINESS Array B**	**76.97**	**334**	P	**P**	**03 32 18.6**	**-0.3**
	1.6nm,0.8s,mb4.0,baz=73,slow=8.0,SNR=2.9						
FINES				pP	pP	03 32 30.4	-0.5
	1.1nm,0.6s,baz=72,slow=4.4,SNR=1.2						
PDAR	**Pinedale Array**	**82.61**	**45**	P	**P**	**03 32 51.9**	**+2.3**
	0.3nm,0.8s,mb3.4,baz=315,slow=2.6,SNR=2.6						
LPAZ	**La Paz**	**148.77**	**74**	PKPbc	PKPdf	03 40 16.8	+7.8
	1.0nm,0.9s,baz=26,slow=4.5,SNR=4.4						

*IDC **21** 03:23:54.6±0.9, 3.11N×93.69E, mb4.1/11, mb1 4.2/12, mb1mx4.1/18, mbtmp4.0/12, ML4.1/1, MS3.2/2, Ms1 3.3/2, ms1mx2.7/22, Error ellipse: s-maj=42.3km s-min=17.3km az=50.0*
*NEIC **21** 03:24:00.7±5.0, 3.15N×93.76E, h43km±42km, mb4.5/4, Error ellipse: s-maj=38.7km s-min=9.3km az=55.0*
*BJI **21** 03:24:01.1, 2.90N×92.99E, h69km, mb4.4*
ISC 21 03:23:57.7±0.8, 3.1N±0.1×93.7E±0.2, h33km, n19, σ0§73/18, mb4.2/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.06**	**18**	Pn	**P**	**03 27 42.8**	**0.0**
	0.2nm,0.3s,baz=203,slow=13,SNR=3.8						
CMAR				LR	LR	03 34 37.3	
	comp=Z,44nm,18.6s,baz=200,slow=40						
LSA	**Lhasa**	**26.54**	**355**	P	**P**	**03 29 36.6**	**+2.1**
LSA	**Lhasa**	**26.54**	**355**	*e*P	**P**	**03 29 35.3**	**+0.8**
	23nm,0.8s,mb4.8						
SONM	**Songino Array**	**45.85**	**12**	P	**P**	**03 32 18.9**	**+0.3**
	1.0nm,0.6s,mb3.9,baz=192,slow=9.0,SNR=10.0						
SONM				PcP	PcP	03 33 56.7	+0.8
	0.7nm,0.7s,baz=195,slow=4.3,SNR=2.6						
WRA	**Warramunga Arr**	**45.98**	**122**	P	**P**	**03 32 20.3**	**+0.3**
	1.8nm,0.5s,mb4.3,baz=302,slow=8.8,SNR=10						
ASAR	**Alice Springs**	**47.31**	**126**	P	**P**	**03 32 31.1**	**+0.7**
	1.0nm,0.7s,mb3.9,baz=292,slow=7.0,SNR=5.2						
KURK	**Kurchatov**	**49.10**	**347**	*e*P	**P**	**03 32 43.5**	**-0.4**
	3.5nm,0.8s,mb4.4						
ZAL	**Zalesovo**	**51.17**	**

ARCES	ARCESS Array B	79.57	341	P	P	03 36 02.7	-0.1
	2.3nm,0.9s,mb4.1,baz=90,slow=4.5,SNR=4.2						
GERES	GERESS Array B	81.09	319	P	P	03 36 12.4	+1.2
	2.1nm,0.7s,mb4.2,baz=104,slow=5.5,SNR=13						
TXAR	Lajitas Array	143.66	26	PKP	PKPdf	03 43 30.7	+0.8
	0.2nm,0.5s,baz=156,slow=1.1,SNR=4.3						

*NEIC **21** 03:48:46.7, 16.05N×97.39W, h38km, MD4.0(MEX), After MEX.*

MEX 21 03:48:46.7±0.9, 16.05N×97.39W, h38km±46km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.79	296	*i* P	P	03 48 59.7	-1.7
PNIG				*i* S	S	03 49 09.5	-2.6
VHO	Vista Hermosa	1.20	32	*i* P	P	03 49 05.2	-2.0
VHO				*i* S	S	03 49 19.7	-2.8
OXX	Oaxaca	1.21	32	*i* P	P	03 49 06.0	-1.4
OXX				*i* S	S	03 49 20.5	-2.4
HUIG	Huatulco	1.26	102	*i* P	P	03 49 06.3	-1.9
HUIG				*i* S	S	03 49 21.2	-3.0
ACX	Acapulco	2.56	289	*e*P	P	03 49 33.0	+6.3
CMIG	Matias Romero	2.62	66	*i* P	P	03 49 24.8	-2.8
CMIG				*i* S	S	03 49 54.4	-3.9
POHV	Veracruz	3.01	2	*e*P	P	03 49 38.0	+4.9
POHV				*e*S	S	03 50 12.0	+3.7
PLIG	Platanillo	3.08	319	*e*P	P	03 49 32.4	-1.8
PLIG				*i* S	S	03 50 07.5	-2.8
PPM	Popocatepetl	3.23	339	*i* P	P	03 49 32.8	-3.4
PPM				*i* S	S	03 50 13.3	-0.6
PPM	Popocatepetl	3.23	339	*i* P	P	03 49 32.8	-3.4
PPM				*e*P		03 49 40.0	
PPM				*i* S	S	03 50 13.3	-0.6

*IDC **21** 04:20:03.6±1.2, 9.79N×93.56E, mb3.7/7, mb1 3.9/7, mb1mx3.7/17, mbtmp3.7/7, Error ellipse: s-maj=57.8km s-min=21.0km az=54.0*

*NEIC **21** 04:20:08.2±0.9, 9.78N×93.57E, h30km, mb4.1/2, Error ellipse: s-maj=41.5km s-min=13.9km az=55.0*

ISC 21 04:20:06.2±1.1, 9.8N±0.2×93.6E±0.3, h30km, n9, σ0§75/9, mb3.8/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	36.75	336	*e*P	P	04 27 13.4	+0.5
	1.7nm,0.7s,mb4.0						
SONM	Songino Array	39.45	14	P	P	04 27 34.9	-0.6
	0.4nm,0.7s,mb3.2,baz=194,slow=10,SNR=3.9						
SONM				PcP	PcP	04 29 43.7	+0.1
	0.7nm,1.0s,baz=198,slow=3.9,SNR=4.2						
ZAL	Zalesovo	44.61	353	P	P	04 28 18.3	+0.8
	0.9nm,0.3s,mb4.0,baz=231,slow=14,SNR=3.5						
BVAR	Borovoye Array	47.02	341	P	P	04 28 36.0	-0.7
	0.3nm,0.6s,mb3.4,baz=100,slow=8.8,SNR=2.2						
CHKZ	Chkalovo	47.51	342	*e*P	P	04 28 40.4	-0.1
	2.2nm,0.9s,mb4.2						
WRA	Warramunga Arr	49.83	126	P	P	04 29 00.2	+1.3
	0.7nm,0.9s,mb3.7,baz=308,slow=8.4,SNR=4.9						
ASAR	Alice Springs	51.56	131	P	P	04 29 10.8	-1.3
	1.3nm,0.8s,mb3.9,baz=312,slow=7.1,SNR=7.8						
BRTR	Keskin Array B	60.78	310	P	P	04 30 17.6	-0.2
	0.4nm,0.7s,mb3.7,baz=104,slow=5.9,SNR=3.5						
ARCES	ARCESS Array B	73.30	340	P	P	04 31 36.7	+0.3
	2.9nm,0.9s,mb4.2,baz=76,slow=5.0,SNR=3.5						

*IDC **21** 04:26:51.2±1.4, 1.52N×123.52E, mb4.0/5, mb1 4.3/5, mb1mx4.0/15, mbtmp4.0/5, MS4.8/3, Ms1 4.8/3, ms1mx3.6/22, Error ellipse: s-maj=110.7km s-min=20.5km az=73.0*

*NEIC **21** 04:27:02.5±0.6, 1.22N×122.99E, h100km, mb4.5/5, Error ellipse: s-maj=44.2km s-min=10.0km az=73.0*

ISC 21 04:26:53.6±0.8, 1.3N±0.1×122.8E±0.4, h33km, n15, σ0§62/11, mb4.2/7, MS4.4/4, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.44	172	*e*P	P	04 31 19.9	-0.4
	19nm,0.8s						
WRAB	Tennant Creek	23.93	152	*e*P	P	04 32 06.1	+0.4
	22nm,0.6s,mb4.8						
WRA	Warramunga Arr	23.93	152	P	P	04 32 06.0	+0.3
	13nm,0.7s,mb4.5,baz=331,slow=10.0,SNR=115						
WB2	Warramunga Arr	23.93	152	⇓*i*P	P	04 32 06.4	+0.6
ASAR	Alice Springs	27.04	157	P	P	04 32 35.1	0.0
	1.0nm,0.6s,mb3.5,baz=340,slow=7.1,SNR=8.2						
ASAR				PcP	PcP	04 35 55.2	-0.9
	0.4nm,0.8s,baz=354,slow=4.2,SNR=4.3						
CMAR	Chiang Mai Arr	28.96	308	LR	LR	04 44 05.3	
	comp=Z,42nm,21.1s,MS3.0,baz=115,slow=35						
FORT	Forrest	32.25	171	*e*P	P	04 33 20.6	-0.9
	53nm,0.7s						
STKA	Stephens Creek	37.47	153	*e*P	P	04 34 06.3	+0.3
	3.1nm,1.0s,mb4.1						
STKA	Stephens Creek	37.47	153	P	P	04 34 06.3	+0.3
	2.2nm,0.5s,mb4.2,baz=321,slow=7.8,SNR=7.2						
SONM	Songino Array	48.52	345	P	P	04 35 36.1	+0.7
	1.2nm,0.9s,mb3.9,baz=172,slow=5.2,SNR=12						
KURK	Kurchatov	61.78	330	*e*P	P	04 37 11.7	+0.3
	2.1nm,0.7s,mb4.4						
FX1	Attu Island--F	66.20	31	LR	LR	05 02 42.1	
	comp=Z,1.8nm,21.8s,baz=55,slow=33						
RAR	Rarotonga	78.77	112	LR	LR	05 11 52.8	
	comp=Z,750nm,19.0s,MS5.0,baz=87,slow=35						
ILAR	Eielson Array	89.02	25	P	P	04 39 44.8	-1.4
	0.6nm,0.9s,mb3.9,baz=240,slow=4.6,SNR=5.8						
ILAR				LR	LR	05 19 49.0	
	comp=Z,411nm,18.5s,MS4.9,baz=133,slow=36						
FINES	FINESS Array B	92.11	331	LR	LR	05 24 28.2	
	comp=Z,276nm,21.2s,MS4.7,baz=173,slow=38						

*IGQ **21** 04:30:15.1, 1.06S×81.97W, h17km±22km, mb5.3, Error ellipse: s-maj=19.3km s-min=8.0km az=176.3*

*IDC **21** 04:30:27.2±0.6, 1.18S×80.96W, mb4.5/13, mb1 4.7/15, mb1mx4.5/20, mbtmp4.5/15, ML4.1/2, MS4.7/13, Ms1 4.7/13, ms1mx4.3/25, Error ellipse: s-maj=24.5km s-min=13.4km az=58.0*

*BJI **21** 04:30:29.0, 1.20S×80.80W, h10km, mB5.8, Ms5.3, Msz5.0*

*NEIC **21** 04:30:29.0±0.2, 1.19S×80.84W, h10km, mb5.1/68, MS4.6/11, MD5.3(IGQ), Error ellipse: s-maj=6.8km s-min=4.1km az=224.0*

NEIC Felt at Manta.

*HRVD **21** 04:30:29.0±0.2, 1.24S×81.06W, h12km, MW5.4/63, Centroid moment Tensor Solution. LP body waves: s52,c101;Mantle waves: s63,c124; Half duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.92±.02; $M_{\theta\theta}$0.09±.01; $M_{\phi\phi}$-1.00±.02; $M_{r\theta}$-0.09±.04; $M_{\theta\phi}$0.00±.01; $M_{\phi r}$-1.28±.04; Best double couple: $M_0$1.602×10^{17} NP1:ϕ_s356°, δ18°, λ83°. NP2:ϕ_s183°, δ72°, λ92°. Principal axes: T 1.562, Plg63°, Azm97°; N .082, Plg2°, Azm2°; P -1.641, Plg27°, Azm271°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 21 04:30:30.7±1.4, 1.12S±0.05×80.97W±0.04, h29km±9km, n239, σ1§02/192, mb5.0/77, MS4.7/20, 15C-5D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.36	99	⇑P	Pn	04 31 08.5	0.0
CUSU	Cusua	2.51	97	P	Pn	04 31 11.3	+0.7
MARY	Rancho Maria	2.52	81	P	Pn	04 31 11.3	+0.7
MARY				S	Sn	04 31 50.2	+10
JUIV	Juive	2.53	97	⇑P	Pn	04 31 11.3	+0.5
JUA2	San Juan 2	2.53	69	P	Pn	04 31 10.0	-0.9
NAS1	Nasa	2.54	79	⇓P	Pn	04 31 12.3	+1.3
ARRY	Arrayan	2.55	99	⇑P	Pn	04 31 11.2	+0.2
RETU	Refugio	2.55	97	P	Pn	04 31 13.2	+2.1
TERV	Terraza Guagua	2.55	68	P	Pn	04 31 09.9	-1.1
PINO	Pino	2.55	68	⇑P	Pn	04 31 09.8	-1.3
GGP	Refugio Guagua	2.56	68	P	Pn	04 31 11.8	+0.6
GGP				S	Sn	04 31 52.1	+10
PATA	Patacocha	2.57	99	P	Pn	04 31 12.4	+1.0
RUN2	Runtun	2.58	97	P	Pn	04 31 12.2	+0.7
JOR1	San Jorge 1	2.58	65	⇑P	Pn	04 31 10.2	-1.5
ULBA	Ulba	2.59	97	P	Pn	04 31 12.2	+0.5
PISA	Pisayambo	2.59	89	P	Pn	04 31 12.5	+0.8
YANA	Yana	2.60	68	P	Pn	04 31 10.3	-1.5
VC1	Cotopaxi 1	2.61	80	⇓P	Pn	04 31 12.5	+0.5
TAMB	Tambo	2.64	81	⇑P	Pn	04 31 13.4	+1.0
OTAV	Otavalo	2.86	62	*e*Pn	Pn	04 31 14.1	-1.5
ANTI	Antisana	2.89	77	⇑P	Pn	04 31 16.5	+0.6
COTA	Cotacachi	3.00	61	⇓P	Pn	04 31 16.6	-0.9
CAYR	Refugio Cayamb	3.17	69	⇑P	Pn	04 31 21.6	+1.7
CAYA	Cayambe	3.21	68	⇑P	Pn	04 31 21.3	+0.8
CONE	Cono NE Rev Vo	3.49	73	P	Pn	04 31 26.0	+1.5
PAYG	Puerto Ayora	9.32	273	*e*Pn	P	04 32 44.8	-1.6
	961nm,1.6s						
NNA	Nana	11.55	159	Pn	P	04 33 13.6	-3.4
	893nm,1.4s,SNR=15						
JTS	JuntasAbangare	12.01	341	*e*Pn	P	04 33 23.2	+0.1
	148nm,1.6s						
SDV	Santo Domingo	14.31	46	Pn	P	04 33 52.2	-1.6
	0.5nm,0.3s,baz=244,slow=7.8,SNR=7.9						
SDV				LR	LR	04 39 29.1	
	comp=Z,3μm,21.2s,baz=240,slow=38						
SDV	Santo Domingo	14.31	46	*e*Pn	P	04 33 51.9	-1.9
	35nm,0.9s						
SAML	Samuel	19.34	114	*e*P	P	04 34 51.4	-5.6
	374nm,1.4s						
LPAZ	La Paz	19.68	141	P	P	04 34 59.2	-1.5
	0.5nm,0.3s,baz=332,slow=14,SNR=39						
LPAZ	La Paz	19.68	141	⇑*e*P	P	04 34 59.0	-1.8
	119nm,1.4s						
LPAZ				*e*S	S	04 38 41.1	+5.7
LMGC	Las Mercedes	21.41	10	*e*P	P	04 35 18.9	+0.3
	baz=196						
LMGC				*e*S	S	04 39 24.8	+15
	comp=N,3μm,10.1s						
	comp=E,2μm,9.1s						
TEIG	Tepich	22.39	342	*e*P	P	04 35 28.9	+0.6
	comp=E,22nm,1.0s,mb4.5						
SJG	San Juan	24.04	37	P	P	04 35 45.4	+0.7
	comp=E,46nm,0.6s,mb5.1,baz=229,slow=7.3,SNR=18						
SJG	San Juan	24.04	37	*e*P	P	04 35 43.8	-0.8
	comp=E,457nm,1.6s,mb5.7						
LVC	Limon Verde	24.37	152	P	P	04 35 48.1	+0.3
	comp=E,66nm,1.4s,mb4.9,baz=360,slow=6.7,SNR=16						
LVC				LR	LR	04 46 10.3	
	comp=E,2μm,18.5s,MS4.6,baz=359,slow=39						
LVC	Limon Verde	24.37	152	*e*P	P	04 35 48.1	+0.3
	comp=E,94nm,1.5s,mb5.0						
HKT	Hockley	33.99	337	*e*P	P	04 37 13.7	-0.6
	comp=E,26nm,1.8s,mb4.9						
GOGA	Godfrey	34.42	356	*e*P	P	04 37 15.8	-2.2
	comp=E,14nm,0.7s,mb5.0						
LRAL	Lakeview Retre	34.44	351	*e*P	P	04 37 17.1	-1.0
	comp=E,9.5nm,0.7s,mb4.8						
LRAL				LR	LR		
	comp=Z,816nm,19.0s,MS4.5						
JSC	Jenkinsville	35.21	360	*e*P	P	04 37 23.7	-1.0
BDFB	Brasilia	35.57	116	P	P	04 37 26.5	-1.4
	comp=Z,11nm,1.2s,mb4.7,baz=292,slow=12,SNR=7.1						
BDFB				LR	LR	04 54 08.3	
	comp=Z,5μm,18.6s,MS5.3,baz=293,slow=40						
BAO	Brasilia Array	35.59	116	*e*P	P	04 37 25.5	-2.5
MYNC	Murphy	36.12	356	*e*P	P	04 37 31.0	-1.5
	comp=Z,8.4nm,0.6s,mb4.8						
JCT	Junction City	36.18	332	*e*P	P	04 37 33.4	+0.4
	comp=Z,33nm,1.3s,mb5.1						
JCT				LR	LR		
	comp=Z,792nm,21.0s,MS4.5						
CPCT	Cooper Cave	36.53	355	*e*P	P	04 37 34.4	-1.4
TXAR	Lajitas Array	37.25	326	P	P	04 37 42.0	+0.1
	comp=Z,1.9nm,0.9s,mb3.9,baz=153,slow=8.4,SNR=17						
TXAR				PcP	PcP	04 40 01.0	-0.7
	comp=Z,1.0nm,0.7s,baz=153,slow=5.6,SNR=4.0						
TXAR				LR	LR	04 52 03.1	
	comp=Z,442nm,21.1s,MS4.2,baz=55,slow=35						
MIAR	Mount Ida	37.39	343	P	P	04 37 43.7	+0.6
WVT	Waverly	37.60	351	*e*P	P	04 37 42.6	-2.2
	comp=Z,8.4nm,0.9s,mb4.5						
WVT				LR	LR		
	comp=Z,667nm,20.0s,MS4.4						
WMOK	Wichita Mounta	39.38	337	*e*P	P	04 37 59.9	+0.2
	comp=Z,7.7nm,1.0s,mb4.4						
WCI	Wyandotte Cave	39.46	353	*e*P	P	04 37 58.7	-1.7
	comp=Z,78nm,1.7s,mb5.2						
GDL2	Guadalupe Moun	39.85	328	*e*P	P	04 38 05.3	+1.7
FVM	French Village	39.88	348	*e*P	P	04 38 02.8	-1.0
	comp=Z,7.2nm,0.8s,mb4.5						
LPA	La Plata	39.90	150	*de*P	P	04 38 01.0	-3.0
LPA				*e*S	S	04 44 08.0	+1.2
MNTX	Cornudas Mount	40.01	327	*e*P	P	04 38 04.9	-0.1
	comp=Z,8.3nm,0.9s,mb4.5						
MNTX				LR	LR		
	comp=Z,694nm,19.0s,MS4.5						
CCM	Cathedral Cave	40.12	347	*e*P	P	04 38 04.8	-1.0
	comp=Z,77nm,1.8s,mb5.1						
CPRX	Cap Rock	40.25	330	*e*P	P	04 38 07.9	+1.0
BLO	Bloomington	40.42	353	*e*P	P	04 38 06.8	-1.4
	comp=Z,12nm,0.6s,mb4.8						
PLCA	Paso Flores	40.55	168	P	P	04 38 08.4	-0.9
	comp=Z,17nm,1.1s,mb4.6,baz=347,slow=9.5,SNR=19						
PLCA	Paso Flores	40.55	168	*e*P	P	04 38 08.6	-0.7
	comp=Z,59nm,1.5s,mb5.0						
PLCA				LR	LR		
	comp=Z,1μm,21.0s,MS4.7						
TRQA	Tornquist	40.70	157	*e*P	P	04 38 09.2	-1.3
	comp=Z,79nm,1.4s,mb5.2						
AMTX	Amarillo	40.73	334	*e*P	P	04 38 09.3	-1.5
	comp=Z,17nm,1.0s,mb4.6						
ACSO	Alum Creek Sta	41.19	358	*e*P	P	04 38 12.8	-1.7
	comp=Z,26nm,0.7s,mb5.0						
KSU1	Kansas State U	42.52	342	*e*P	P	04 38 25.4	-0.1
ANMO	Albuquerque	43.09	329	P	P	04 38 30.4	+0.1
	comp=Z,4.2nm,0.9s,mb4.2,baz=149,slow=10,SNR=14						
ANMO	Albuquerque	43.09	329	*e*P	P	04 38 30.7	+0.5
	comp=Z,12nm,1.2s,mb4.5						
ANMO				LR	LR		
	comp=Z,636nm,22.0s,MS4.5						
TUC	Tucson	43.59	322	*e*P	P	04 38 34.3	0.0
	comp=Z,19nm,1.8s,mb4.5						
TUC				LR	LR		
	comp=Z,1μm,20.0s,MS4.9						
JFWS	Jewell Farm	44.62	350	*e*P	P	04 38 42.2	-0.3
	comp=Z,12nm,0.8s,mb4.8						
SDCO	Great Sand Dun	44.83	332	*e*P	P	04 38 45.0	+0.7
	comp=Z,11nm,1.0s,mb4.6						
ISCO	Idaho Springs	46.55	334	*e*P	P	04 39 00.1	+2.2
	comp=Z,4.9nm,1.0s,mb4.4						
ISCO				LR	LR		
	comp=Z,666nm,19.0s,MS4.6						
PV01	Paradox Valley	46.62	330	*e*P	P	04 38 59.2	+0.7
PV10	Paradox Valley	47.04	330	*e*P	P	04 39 01.5	-0.3
PHWY	Pilot Hill	47.72	335	*e*P	P	04 39 07.5	+0.5
PFO	Pinyon Flat Ob	48.03	319	*e*P	P	04 39 10.6	+1.0
	comp=Z,8.0nm,1.0s,mb4.7						
NEN	Nelson	48.33	323	*e*P	P	04 39 12.1	+0.2
MSU	Marysvale	48.79	327	*e*P	P	04 39 16.2	+0.9
MVU	Marysvale	48.80	327	*e*P	P	04 39 18.0	+2.5
	comp=Z,1.9nm,0.8s,mb4.2						
ARUT	Antelope Range	48.97	326	*e*P	P	04 39 18.4	+1.7
DAU	Daniels Canyon	49.70	330	*e*P	P	04 39 22.8	+0.4
JLU	Jordanelle	49.95	330	*e*P	P	04 39 24.5	+0.3
BW06	Boulder Array	50.70	333	*e*P	P	04 39 30.2	+0.3
	comp=Z,3.1nm,1.1s,mb4.2						
PDAR	Pinedale Array	50.70	333	P	P	04 39 29.8	-0.1
	comp=Z,0.9nm,0.8s,mb3.7,baz=127,slow=7.4,SNR=6.6						
PDAR				LR	LR	05 01 16.0	
	comp=Z,750nm,18.3s,MS4.7,baz=147,slow=36						
HWUT	Hardware Ranch	50.76	330	*e*P	P	04 39 30.2	-0.2
	comp=Z,4.3nm,0.9s,mb4.4						
BGU	Big Grassy Mou	50.99	329	*e*P	P	04 39 32.6	+0.4
LOHW	Long Hollow	51.84	333	*e*P	P	04 39 40.2	+1.6
TPAW	Teton Pass	51.90	332	*e*P	P	04 39 39.8	+0.7
MOOW	Moose Ponds	52.01	333	*e*P	P	04 39 41.6	+1.7
OMM	Old Mammoth Mi	52.14	322	*e*P	P	04 39 41.0	+0.1
MNV	Mina	52.15	323	*e*P	P	04 39 41.8	+0.8
	comp=Z,44nm,1.9s,mb5.1						
IMW	Indian Meadow	52.21	333	*e*P	P	04 39 43.2	+1.8
NVAR	Mina Array Bea	52.24	323	P	P	04 39 42.3	+0.6
	comp=Z,3.6nm,0.8s,mb4.3,baz=122,slow=6.9,SNR=14						
YMR	Madison River	52.82	333	P	P	04 39 45.9	-0.1
QLMT	Earthquake Lak	53.16	333	*e*P	P	04 39 50.0	+1.5
HLID	Hailey	53.62	330	*e*P	P	04 39 51.7	-0.1
	comp=Z,3.0nm,1.2s,mb4.1						
MCMT	McKenzie Canyo	53.80	332	*e*P	P	04 39 54.3	+1.2
OHCM	Honcut	54.74	322	*e*P	P	04 40 00.5	+0.4
WVOR	Wild Horse Val	55.05	327	*e*P	P	04 40 05.1	+2.7
	comp=Z,16nm,1.3s,mb4.9						
MOD	Modoc	55.64	325	P	P	04 40 05.4	-1.2
	comp=Z,14nm,1.5s,mb4.8						
MSO	Missoula	55.81	333	*e*P	P	04 40 08.5	+0.7
	comp=Z,1.4nm,0.8s,mb4.0						
BMO	Blue Mountains	55.99	329	*e*P	P	04 40 10.6	+1.5
	comp=Z,9.7nm,1.7s,mb4.6						
SCHQ	Schefferville	56.97	10	P	P	04 40 15.3	-0.6
	comp=Z,3.7nm,0.9s,mb4.4,baz=228,slow=9.7,SNR=4.3						
SCHQ				LR	LR	05 04 46.9	
	comp=Z,519nm,19.4s,MS4.6,baz=82,slow=36						
SCHQ	Schefferville	56.97	10	P	P	04 40 15.3	-0.6
SCHQ				LR	LR	05 04 46.9	
FFC	Flin Flon	58.29	346	*e*P	P	04 40 24.6	-0.6
	comp=Z,36nm,1.5s,mb5.2						
NEW	Newport	58.33	332	P	P	04 40 25.8	+0.2
EDM	Edmonton	60.51	338	*e*P	P	04 40 40.9	+0.3
FCC	Fort Churchill	60.60	352	*e*P	P	04 40 38.6	-2.5
	comp=Z,11nm,0.8s,mb5.0						
YKA	Yellowknife Ar	68.33	344	P	P	04 41 29.4	-1.9
	comp=Z,14nm,1.1s,mb4.9,baz=137,slow=6.0,SNR=56						
YKA				LR	LR	05 13 20.5	
	comp=Z,448nm,19.0s,MS4.7,baz=120,slow=38						
YKA	Yellowknife Ar	68.33	344	P	P	04 41 29.4	-1.9
YKA				LR	LR	05 13 20.5	
YKW3	Yellowknife Ar	68.38	344	*e*P	P	04 41 29.6	-2.1
PPT	Papeete	69.28	252	*e*S	S	04 50 42.1	+1.1
PPT				*e*SS	SS	04 55 13.7	+4.1
PPT				*e*LR	LR	05 02 30.4	
	comp=Z,1μm,27.5s						
TBI	Tubuai	69.84	246	*e*S	S	04 50 48.6	+1.1
TBI				*e*LR	LR	05 02 23.7	
	comp=Z,882nm,29.8s						
DLBC	Dease Lake	70.84	335	*e*P	P	04 41 47.0	+0.2
RES	Resolute Bay	76.16	356	*e*P	P	04 42 16.0	-1.5
	comp=Z,26nm,1.8s,mb4.9						
DBIC	Dimbokro	76.35	83	P	P	04 42 18.5	-1.3
	comp=Z,52nm,1.2s,mb5.3,baz=251,slow=6.0,SNR=21						
DBIC				LR	LR	05 15 19.0	
	comp=Z,635nm,18.1s,MS5.0,baz=236,slow=35						
DBIC	Dimbokro	76.35	83	*e*P	P	04 42 17.1	-2.7
	comp=Z,120nm,1.4s,mb5.6						
EVO	Evora	77.42	50	*e*P	P	04 42 20.1	-5.1
	comp=Z,48nm,1.3s,mb5.0						
EVO				*e*R			
	comp=Z,662nm,20.5s						
DAWY	Dawson	77.71	337	*e*P	P	04 42 25.3	-1.0
INK	Inuvik	77.99	342	LR	LR	05 21 43.0	
	comp=Z,700nm,18.2s,MS5.0,baz=228,slow=39						
INK	Inuvik	77.99	342	*e*P	P	04 42 27.0	-0.7
	comp=Z,67nm,1.6s,mb5.3						
SUMG	Summit	78.26	12	*e*P	P	04 42 27.9	-1.3
	comp=Z,37nm,1.3s,mb5.2						
ESDC	Sonseca Array	80.73	50	P	P	04 42 43.5	+0.3
	comp=Z,8.1nm,1.2s,mb4.5,baz=270,slow=4.5,SNR=12						
ILAR	Eielson Array	80.95	337	P	P	04 42 43.1	-0.6
	comp=Z,4.2nm,1.1s,mb4.3,baz=125,slow=3.1,SNR=13						
COLA	College	81.37	337	P	P	04 42 45.9	0.0
MCK	McKinley	81.40	335	*e*P	P	04 42 45.6	-0.5
	comp=Z,6.1nm,1.1s,mb4.4						
RSO	Redoubt South	82.06	332	*e*P	P	04 42 48.3	-1.3
QUIF	Quistinic	82.66	42	*e*P	P	04 42 53.0	0.0
	comp=Z,246nm,1.6s,mb5.7						
ROSF	Rostrenen	82.66	41	*e*P	P	04 42 52.7	-0.3
VNA3	Neumayer Olymp	82.99	162	*e*	P	04 42 56.7	+2.4
VNA3	Neumayer Olymp	82.99	162	*e*	P	04 42 58.6	+4.3
VNA3	Neumayer Olymp	82.99	162	⇑*i*P	P	04 42 53.2	-1.1
VNA3				*e*		04 42 56.7	
VNA3				*e*		04 42 58.6	
VNA3				*e*		04 46 14.2	
SGMF	Saint Gilles	83.12	41	*e*P	P	04 42 55.2	-0.2
	comp=Z,206nm,1.6s,mb5.6						
SJPF	Ste Jean	83.28	47	*e*P	P	04 42 56.6	+0.3
	comp=Z,137nm,1.4s,mb5.5						
VNA2	Neumayer--Watz	83.61	161	*e*	P	04 42 59.2	+1.8
VNA2	Neumayer--Watz	83.61	161	*e*	P	04 43 00.2	+2.8
VNA2	Neumayer--Watz	83.61	161	*e*	P	04 43 01.0	+3.6
VNA2	Neumayer--Watz	83.61	161	⇑*i*P	P	04 42 56.4	-1.0
VNA2				*e*		04 42 59.2	
VNA2				*e*		04 43 00.2	
VNA2				*e*		04 43 01.0	
VNA2				*e*		04 46 13.8	
ETSF	Etsaut	83.73	47	*e*P	P	04 42 59.1	+0.5
IMA	Indian Mountai	84.06	337	*e*P	P	04 43 00.1	+0.4
	comp=Z,115nm,1.6s,mb5.8						
GRR	Gorron	84.26	41	*e*P	P	04 43 00.9	-0.3
EPF	Esparros	84.40	47	*e*P	P	04 43 02.3	+0.3
	comp=Z,184nm,1.6s,mb5.7						
MFF	Saint Martin d	84.50	43	*e*P	P	04 43 02.4	0.0
	comp=Z,226nm,1.8s,mb5.7						
FLN	La Foliniere	84.56	41	*e*P	P	04 43 02.4	-0.3
FLN				*e*R			
	comp=Z,404nm,19.5s						
LDF	La Druitiere	84.78	41	*e*P	P	04 43 03.6	-0.1
	comp=Z,93nm,1.4s,mb5.4						
LFF	La Frestale	84.91	45	*e*P	P

comp=Z,336nm,21.3s,MS4.8,baz=167,slow=30
UPC Upice 95.31 40 *e*P **P 04 43 53.6 +0.2**
DPC Dobruska-Polom 95.52 40 *e*P **P 04 43 54.9 +0.5**
ARCES ARCESS Array B 96.77 20 LR LR 05 20 58.7
comp=Z,273nm,21.0s,MS4.7,baz=109,slow=31
VYHS Vyhne 97.34 41 *i* P **P 04 44 03.8 +1.1**
VYHS *e* pP 04 44 11.7 -0.2
PKSM Moragy 97.46 44 *e*P **P 04 44 03.8 +0.5**
URZ Urewera 98.66 231 LR LR 05 17 43.9
comp=Z,256nm,21.6s,MS4.7,baz=204,slow=29
CRVS Cervenica-Dubn 99.01 41 *i* P **P 04 44 12.4 +2.2**
CRVS Cervenica-Dubn 99.01 41 PDIF **P 04 44 12.4 +2.2**
BVAR Borovoye Array 123.06 20 PKP PKPdf 04 49 25.2 -4.4
comp=Z,0.7nm,0.7s,baz=225,slow=2.1,SNR=4.8
ZAL Zalesovo 126.06 10 PKP PKPdf 04 49 30.2 -5.2
comp=Z,1.5nm,0.8s,baz=114,slow=2.1,SNR=12
ZAL Zalesovo 126.06 10 PKP PKPdf 04 49 30.2 -5.2
KURK Kurchatov 127.64 16 *e*PKPdf PKPdf 04 49 34.5 -4.0
STKA Stephens Creek 128.04 227 PKP PKPdf 04 49 33.5 -6.4
comp=Z,2.0nm,0.8s,baz=242,slow=2.4,SNR=4.2
STKA Stephens Creek 128.04 227 *e*PKPdf PKPdf 04 49 35.9 -4.0
MDJ Mudanjiang 128.93 332 PKP PKPdf 04 49 35.6 -5.6
MDJ SS SS 05 09 04.4 +2.2
MDJ PP PP
comp=Z,134nm,4.4s
MDJ LR LR
comp=N,170nm,26.0s
MDJ LR LR
comp=Z,254nm,18.6s
SONM Songino Array 133.03 353 PKP PKPdf 04 49 44.9 -4.1
comp=Z,0.6nm,0.6s,baz=334,slow=2.0,SNR=5.5
AAK Ala-Archa 133.18 25 *e*PKPdf PKPdf 04 49 43.5 -5.9
ASAR Alice Springs 138.10 232 PKhKP 04 49 47.8
comp=Z,0.4nm,0.8s,baz=120,slow=2.0,SNR=3.3
ASAR PKP PKPdf 04 49 53.4 -5.5
comp=Z,1.1nm,0.7s,baz=109,slow=2.0,SNR=7.0
ASAR Alice Springs 138.10 232 PKP PKPdf 04 49 53.4 -5.5
WRAB Tennant Creek 139.54 237 *e*PKPdf PKPdf 04 49 57.3 -4.3
WRA Warramunga Arr 139.55 237 PKhKP 04 49 49.1
comp=Z,0.4nm,0.6s,baz=120,slow=2.9,SNR=7.7
WRA PKP PKPdf 04 49 57.1 -4.5
comp=Z,2.9nm,1.0s,baz=114,slow=1.9,SNR=9.8
WRA Warramunga Arr 139.55 237 PKP PKPdf 04 49 57.1 -4.5
JASL Jaisalmer 142.75 44 *e*P PKPdf 04 50 03.5 -3.6
JASL *e* 04 50 04.2
KLP Kalpa 143.93 31 *e*P PKPbc 04 50 03.0 -0.2
KLP *e* 05 01 12.1
KLP *e* 05 01 14.1
comp=Z,465nm,19.3s
KLP *e* 05 01 14.6
comp=E,403nm,22.0s
BHJ Bhuj 143.99 50 *e* Pdif 04 47 37.1 +7.8
KKR Kurukshetra 144.38 34 *e*P PKPbc 04 50 04.0 -0.5
KKR *e* 04 50 05.3
comp=Z,120nm,0.2s
DDI Dehra Dun 144.78 32 *e*P PKPbc 04 50 06.0 +0.4
LZH Lanzhou 144.92 353 PKP PKPdf 04 50 06.0 -4.7
LZH APKP 04 50 11.0
LZH XPKP 04 50 14.5
KHET Khetri 145.19 38 *e*P PKPbc 04 50 06.7 -0.1
KHET *e* 04 50 09.9
comp=Z,76nm,1.4s
BHGR Bahadurgarh 145.41 36 *e*P PKPbc 04 50 07.6 +0.4
NDI New Delhi 145.57 35 *e*P PKPbc 04 50 07.0 -0.7
AYAN Aya Nagar 145.67 36 *e*P PKPbc 04 50 07.5 -0.5
AYAN *e* 04 50 12.3
comp=Z,80nm,1.7s
SONA Sohna 145.82 36 *e*P PKPbc 04 50 08.2 -0.1
SONA *e* 04 50 12.1
comp=Z,68nm,1.4s
SONA *e* 05 00 27.7
SONA *e* 05 00 52.8
comp=E,246nm,17.3s
XAN Xi'an 145.97 345 PKP PKPdf 04 50 08.5 -4.0
AGRA Agra 147.09 36 *e*P PKPdf 04 50 10.9 -3.7
AGRA *e* 04 50 14.0
comp=Z,64nm,0.6s
AGRA *e* 04 50 15.2
comp=E,70nm,0.5s
AGRA *e* 04 50 18.5
comp=N,45nm,0.3s
WHN Wuhan 147.32 335 PKP PKPdf 04 50 11.8 -3.1
ENH Enshi 149.35 342 *e*PKPdf PKPdf 04 50 14.6 -3.6
ENH *e*PKPbc PKPdf 04 50 18.5 +0.4
KOLN Koldanda 149.66 28 *e*P PKPdf 04 50 14.4 -4.3
comp=N,238nm,1.7s
POO Poona 149.84 53 *e*P PKPdf 04 50 15.0 -4.2
POO *e* 04 50 22.7
comp=Z,48nm,1.1s
POO *e* 05 10 06.9
comp=N,657nm,21.6s
GKN Gorkha 149.93 26 *e*P PKPdf 04 50 14.9 -4.2
comp=N,387nm,1.6s
KKN Kakani 150.39 25 *e*P PKPdf 04 50 15.7 -4.1
comp=N,246nm,1.5s
DMN Daman 150.47 26 *e*P PKPdf 04 50 16.2 -3.8
comp=N,92nm,1.1s
LSA Lhasa 150.60 14 PKP PKPdf 04 50 18.3 -1.8
LSA Lhasa 150.60 14 *e*PKPdf PKPdf 04 50 16.7 -3.4
PKI Pulchoki 150.64 25 *e*P PKPdf 04 50 16.1 -4.1
comp=N,155nm,1.6s
KAD Karad 150.75 55 *e*P PKPdf 04 50 15.8 -4.8
KAD *e* 05 01 53.2
comp=Z,41nm,18.3s
JIRN Jiri 150.88 24 *e*P PKPdf 04 50 16.8 -3.8
comp=Z,129nm,1.4s
BLSP Bilaspur 153.42 37 *e* PKPdf 04 50 27.9 +3.5
BLSP *e* 05 03 16.8
comp=Z,34nm,16.3s
HYB Hyderabad 154.16 50 *e*P PKPdf 04 50 22.0 -3.5
HYB Hyderabad 154.16 50 *i* PKP PKPdf 04 50 22.0 -3.5
SHL Shillong 154.74 15 *e*P PKPdf 04 50 22.0 -4.1
VIS Vishakhapatnam 157.41 42 *e*P PKPdf 04 50 25.0 -4.8
CMAR Chiang Mai Arr 162.77 0 PKP PKPdf 04 50 32.5 -3.1
comp=Z,0.8nm,0.4s,baz=349,slow=2.2,SNR=5.8
CMAR PKPab PKPab 04 51 19.8 -2.1
comp=Z,0.8nm,0.3s,baz=304,slow=3.3,SNR=2.9

*IGQ **21** 04:48:37.5, 1.02S×81.57W, h12km±26km, mb4.7, Error ellipse: s-maj=25.7km s-min=6.8km az=175.3*
*IDC **21** 04:48:44.6±1.3, 1.15S×80.64W, mb3.8/6, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, ML3.6/1, Error ellipse: s-maj=44.1km s-min=25.9km az=71.0*
ISC 21 04:48:42.6±1.0, 1.07S±0.09×81.35W±0.06, h12km, n30, σ1§10/35, mb3.8/6, 8C-5D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.74**	**99**	⇓P	**Pn**	**04 49 26.3**	**-0.9**
IGUA				S	**Sn**	**04 50 02.1**	**+1.5**
JUA2	**San Juan 2**	**2.87**	**73**	⇑P	**Pn**	**04 49 27.6**	**-1.6**
JUA2				S	**Sn**	**04 50 04.4**	**+0.5**
MARY	**Rancho Maria**	**2.88**	**83**	P	**Pn**	**04 49 28.7**	**-0.5**
TERV	**Terraza Guagua**	**2.89**	**72**	P	**Pn**	**04 49 28.0**	**-1.3**
PINO	**Pino**	**2.89**	**72**	⇑P	**Pn**	**04 49 27.4**	**-1.9**
CUSU	**Cusua**	**2.89**	**97**	P	**Pn**	**04 49 29.3**	**-0.1**
JUIV	**Juive**	**2.91**	**97**	P	**Pn**	**04 49 29.4**	**-0.2**
NAS1	**Nasa**	**2.91**	**81**	⇓P	**Pn**	**04 49 29.6**	**+0.1**
JOR1	**San Jorge 1**	**2.91**	**69**	⇑P	**Pn**	**04 49 28.0**	**-1.7**
ARRY	**Arrayan**	**2.92**	**98**	⇑P	**Pn**	**04 49 29.1**	**-0.8**
RETU	**Refugio**	**2.93**	**97**	P	**Pn**	**04 49 30.1**	**+0.2**
RETU				S	**Sn**	**04 50 11.0**	**+5.7**
YANA	**Yana**	**2.94**	**71**	⇑P	**Pn**	**04 49 28.1**	**-1.9**
PATA	**Patacocha**	**2.95**	**98**	P	**Pn**	**04 49 30.0**	**-0.2**
RUN2	**Runtun**	**2.96**	**97**	P	**Pn**	**04 49 29.6**	**-0.7**
RUN2				S	**Sn**	**04 50 06.4**	**+0.4**
PISA	**Pisayambo**	**2.96**	**90**	⇓P	**Pn**	**04 49 29.9**	**-0.5**
PISA				S	**Sn**	**04 50 08.6**	**+2.4**
ULBA	**Ulba**	**2.96**	**97**	⇓P	**Pn**	**04 49 30.3**	**-0.1**
VC1	**Cotopaxi 1**	**2.98**	**82**	⇓P	**Pn**	**04 49 31.0**	**+0.4**
TAMB	**Tambo**	**3.00**	**83**	P	**Pn**	**04 49 31.4**	**+0.5**
ANTI	**Antisana**	**3.25**	**79**	⇑P	**Pn**	**04 49 34.1**	**-0.3**
COTA	**Cotacachi**	**3.32**	**65**	P	**Pn**	**04 49 34.6**	**-0.9**
CAYR	**Refugio Cayamb**	**3.51**	**72**	⇑P	**Pn**	**04 49 39.3**	**+1.1**
CAYA	**Cayambe**	**3.55**	**71**	⇑P	**Pn**	**04 49 39.1**	**+0.4**
CONE	**Cono NE Rev Vo**	**3.84**	**75**	P	**Pn**	**04 49 44.8**	**+2.0**
SDV	**Santo Domingo**	**14.56**	**47**	Pn	**P**	**04 52 12.8**	**+2.3**
	0.3nm,0.3s,baz=259,slow=9.0,SNR=20						
SJG	**San Juan**	**24.23**	**37**	P	**P**	**04 54 00.9**	**+0.4**
	9.8nm,0.5s,mb4.5,baz=221,slow=9.3,SNR=6.9						
TXAR	**Lajitas Array**	**37.01**	**327**	P	**P**	**04 56 00.3**	**+6.3**
	0.4nm,0.9s,mb3.3,baz=148,slow=9.8,SNR=5.1						
PLCA	**Paso Flores**	**40.67**	**167**	P	**P**	**04 56 25.1**	**+0.7**
	1.7nm,0.7s,mb3.8,baz=338,slow=10,SNR=4.7						
ANMO	**Albuquerque**	**42.85**	**329**	P	**P**	**04 56 49.5**	**+6.9**
	1.1nm,0.8s,mb3.6,baz=172,slow=7.1,SNR=5.1						
NVAR	**Mina Array Bea**	**51.98**	**323**	P	**P**	**04 58 00.2**	**+6.3**
	0.6nm,0.8s,mb3.6,baz=134,slow=8.3,SNR=4.7						
YKA	**Yellowknife Ar**	**68.18**	**344**	P	**P**	**04 59 46.6**	**+1.9**
	0.7nm,0.8s,mb3.7,baz=137,slow=5.6,SNR=16						

IDC 21 04:51:08.3±3.6, 16.17S×72.80W, h124km±38km, mb3.2/3, mb1 3.6/5, mb1mx3.4/15, mbtmp3.8/5, Error ellipse: s-maj=31.5km s-min=26.0km az=118.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.49**	**92**	P	P	04 52 16.0	+0.5
	1.7nm,0.3s,baz=275,slow=14,SNR=39						
LPAZ				S	S	04 53 06.8	-0.4
	0.7nm,0.3s,slow=16,SNR=3.5						
LVC	**Limon Verde**	**7.38**	**151**	P	P	04 52 54.3	-0.5
	12nm,0.3s,baz=360,slow=11,SNR=211						
LVC				S	S	04 54 15.9	-1.6
	4.1nm,0.3s,baz=180,slow=18,SNR=9.3						
BDFB	**Brasilia**	**23.84**	**92**	P	P	04 56 10.9	-0.3
	1.8nm,0.6s,baz=276,slow=8.2,SNR=4.4						
TXAR	**Lajitas Array**	**54.17**	**326**	P	P	05 00 20.8	-2.5
	0.3nm,0.6s,baz=149,slow=8.4,SNR=6.0						
YKA	**Yellowknife Ar**	**84.98**	**342**	P	P	05 03 29.2	-1.3
	0.3nm,0.6s,baz=138,slow=5.3,SNR=8.7						

*IDC **21** 04:51:39.5±0.8, 0.30S×122.49E, mb3.9/7, mb1 4.1/7, mb1mx4.0/15, mbtmp4.0/7, Error ellipse: s-maj=121.3km s-min=16.9km az=63.0*
*BJI **21** 04:51:43.3, 0.40S×122.30E, h35km, mb4.1*
*NEIC **21** 04:51:44.4±0.5, 0.43S×122.29E, h35km, mb4.6/7, Error ellipse: s-maj=68.0km s-min=9.1km az=61.0*
ISC 21 04:51:42.1±0.5, 0.5S±0.2×122.1E±0.3, h33km, n20, σ0§74/20, mb4.4/17, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**22.75**	**149**	*e*P	**P**	**04 56 43.4**	**+0.6**
	14nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**22.76**	**149**	P	**P**	**04 56 42.4**	**-0.4**
	3.1nm,0.7s,mb3.9,baz=326,slow=11,SNR=29						
ASAR	**Alice Springs**	**25.73**	**154**	P	**P**	**04 57 11.7**	**+0.2**
	1.7nm,0.9s,mb3.6,baz=322,slow=6.7,SNR=8.5						
ASAR				PcP	PcP	05 00 43.9	+2.2
	0.7nm,0.7s,baz=353,slow=2.1,SNR=5.2						
ENH	**Enshi**	**32.86**	**340**	*e*P	**P**	**04 58 16.1**	**+0.8**
	7.6nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**36.26**	**151**	P	**P**	**04 58 44.2**	**-0.1**
	0.7nm,0.5s,mb3.8,baz=323,slow=9.4,SNR=4.3						
LSA	**Lhasa**	**42.08**	**318**	*e*P	**P**	**04 59 35.0**	**+2.2**
	4.2nm,0.3s,mb4.5						
JIRN	**Jiri**	**44.37**	**312**	*e*P	**P**	**04 59 51.7**	**+0.2**
PKI	**Pulchoki**	**44.91**	**311**	*e*P	**P**	**04 59 55.4**	**-0.4**
KKN	**Kakani**	**45.12**	**312**	*e*P	**P**	**04 59 57.6**	**+0.1**
DMN	**Daman**	**45.16**	**311**	*e*P	**P**	**04 59 57.4**	**-0.3**
	20nm,1.0s,mb4.9						
GKN	**Gorkha**	**45.72**	**311**	*e*P	**P**	**05 00 02.2**	**0.0**
	7.1nm,0.2s,mb5.2						
KOLN	**Koldanda**	**46.38**	**310**	*e*P	**P**	**05 00 07.3**	**-0.1**
	11nm,0.8s,mb4.8						
SONM	**Songino Array**	**50.04**	**346**	P	**P**	**05 00 36.2**	**+0.6**
	3.0nm,0.9s,mb4.3,baz=169,slow=8.3,SNR=18						
AAK	**Ala-Archa**	**60.52**	**321**	*e*P	**P**	**05 01 50.6**	**-0.9**
	7.4nm,0.9s,mb4.8						
ZAL	**Zalesovo**	**62.38**	**336**	P	**P**	**05 02 02.9**	**-1.0**
	1.0nm,0.6s,mb4.1,baz=251,slow=8.4,SNR=5.3						
KURK	**Kurchatov**	**62.94**	**331**	*e*P	**P**	**05 02 06.8**	**-0.8**
	12nm,0.9s,mb5.0						
BVAR	**Borovoye Array**	**68.43**	**329**	P	**P**	**05 02 42.2**	**-0.4**
	4.4nm,1.0s,mb4.4,baz=127,slow=7.4,SNR=8.9						
BRVK	**Borovoye**	**68.50**	**329**	*e*P	**P**	**05 02 43.3**	**+0.1**
	3.6nm,1.0s,mb4.4						
CHKZ	**Chkalovo**	**68.67**	**330**	*e*P	**P**	**05 02 43.9**	**-0.3**
	7.4nm,1.4s,mb4.4						
BRTR	**Keskin Array B**	**89.09**	**310**	P	**P**	**05 04 39.2**	**+3.6**
	0.7nm,1.1s,mb3.9,baz=90,slow=7.2,SNR=3.1						

*IDC **21** 04:59:22.6±13.0, 21.95S×179.93W, h665km±188km, mb3.4/6, mb1 3.7/6, mb1mx3.4/14, mbtmp4.5/6, Error ellipse: s-maj=82.0km s-min=67.7km az=146.0*
*NEIC **21** 04:59:22.1±3.6, 22.34S×179.77W, h664km±52km, mb4.4/8, Error ellipse: s-maj=38.4km s-min=24.0km az=166.0*
ISC 21 04:59:16.1±1.1, 22.2S±0.4×179.7W±0.2, h600km, n18, σ0§55/18, mb4.3/11, 5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNB	**Canberra Magne**	**29.96**	**237**	⇓*i*P	**P**	**05 04 39.5**	**+0.6**
	168nm,0.7s						
CTA	**Charters Tower**	**31.79**	**267**	⇓*i*P	**P**	**05 04 55.5**	**+1.0**
	7.2nm,0.5s,mb4.6						
CTA	**Charters Tower**	**31.79**	**267**	P	**P**	**05 04 55.5**	**+1.1**
	8.7nm,0.5s,mb4.7,baz=94,slow=11,SNR=19						
CTAO	**Charters Tower**	**31.79**	**267**	*e*P	**P**	**05 04 55.4**	**+0.9**
	9.2nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**35.63**	**246**	⇓*i*P	**P**	**05 05 26.9**	**+0.5**
	4.5nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**35.63**	**246**	P	**P**	**05 05 26.9**	**+0.6**
	6.4nm,0.5s,mb4.4,baz=93,slow=9.7,SNR=27						
ASAR	**Alice Springs**	**42.61**	**259**	P	**P**	**05 06 22.9**	**+0.2**
	7.5nm,0.5s,mb4.5,baz=94,slow=8.0,SNR=95						
ASPA	**Alice Springs**	**42.61**	**259**	*e*P	**P**	**05 06 22.9**	**+0.2**
WB2	**Warramunga Arr**	**42.81**	**264**	⇓*i*P	**P**	**05 06 24.0**	**-0.3**
WRAB	**Tennant Creek**	**42.81**	**264**	*e*P	**P**	**05 06 24.0**	**-0.4**
	12nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**42.82**	**264**	P	**P**	**05 06 24.3**	**-0.1**
	4.6nm,0.4s,mb4.4,baz=90,slow=8.3,SNR=84						
KAKA	**Kakadu**	**46.46**	**273**	⇓*i*P	**P**	**05 06 52.3**	**-0.2**
	10nm,0.7s,mb4.5						
FORT	**Forrest**	**47.18**	**248**	*e*P	**P**	**05 06 56.4**	**-1.3**
	31nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**51.25**	**264**	*e*P	**P**	**05 07 28.1**	**+0.2**
	11nm,1.0s,mb4.2						
MBWA	**Marble Bar**	**55.95**	**259**	*e*P	**P**	**05 08 00.2**	**-0.7**
	7.2nm,0.7s,mb4.0						
TXAR	**Lajitas Array**	**89.31**	**58**	P	**P**	**05 11 10.8**	**-0.1**
	0.7nm,1.0s,mb3.5,baz=225,slow=5.3,SNR=5.7						
TXAR	**Lajitas Array**	**89.31**	**58**	P	**P**	**05 11 10.8**	**-0.2**
PDAR	**Pinedale Array**	**91.29**	**44**	P	**P**	**05 11 20.1**	**+0.3**
	0.4nm,0.8s,mb3.4,baz=243,slow=3.3,SNR=3.4						

*NIED **21** 05:03:00, 34.10N×141.80E, h23km, Mw4.1 Best double couple: $M_0$1.55×10^15 NP1:ϕ_s280°, δ62°, λ-97°. NP2: ϕ_s116°, δ29°, λ-76°.*
*JMA **21** 05:03:35.9±0.5, 34.08N×141.80E, h22km±4km, M4.0*
*IDC **21** 05:03:37.5±0.5, 34.24N×141.53E, mb4.0/17, mb1 4.2/18, mb1mx4.2/25, mbtmp4.0/18, ML4.0/1, Error ellipse: s-maj=19.6km s-min=13.8km az=118.0*
*MOS **21** 05:03:40.1±0.9, 34.16N×141.54E, h33km, mb4.4/12, Error ellipse: s-maj=22.9km s-min=11.3km az=113.7*
*NEIC **21** 05:03:42.9±1.3, 34.21N×141.50E, h36km±11km, mb4.5/5, MW4.1(NIED), Error ellipse: s-maj=10.8km s-min=7.9km az=95.0*
ISC 21 05:03:39.4±1.3, 34.20N±0.05×141.64E±0.06, h26km±8km, n65, σ0§93/70, mb4.0/21, 2C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.71**	**310**	P	**Pb**	**05 03 52.3**	**-0.8**
BSO2	**Boso 2**	**0.92**	**307**	*e*S	**Sb**	**05 04 11.8**	**+3.5**
BSO3	**Boso 3**	**1.11**	**303**	P	**Pn**	**05 03 58.7**	**-0.7**
BSO3				*e*S	**Sb**	**05 04 15.0**	**+1.1**
BSO4	**Boso 4**	**1.33**	**307**	⇑P	**Pn**	**05 04 03.1**	**+0.5**
BSO4				*e*S	**Sn**	**05 04 21.5**	**+1.9**
CHOJ	**Chosi**	**1.63**	**337**	P	**Pn**	**05 04 06.6**	**-0.3**
JHJ	**Hachijo jima 2**	**1.89**	**236**	Pn	**Pn**	**05 04 11.9**	**+1.3**
	50nm,0.3s,baz=114,slow=18,SNR=6.0						
JHJ				Sn	**Sn**	**05 04 34.6**	**+0.9**
	128nm,0.3s,baz=59,slow=22,SNR=5.7						
JIM2	**Oshima 3**	**1.90**	**286**	P	**Pn**	**05 04 10.0**	**-0.7**
JIZS	**Izushimoda**	**2.34**	**284**	P	**Pn**	**05 04 16.5**	**-0.6**
JOD2	**Odawara 2**	**2.35**	**297**	P	**Pn**	**05 04 16.4**	**-0.9**
JAG	**Ashikaga**	**2.85**	**322**	⇑P	**Pn**	**05 04 24.0**	**-0.3**
JYN	**Shimob**	**2.86**	**298**	P	**Pn**	**05 04 24.0**	**-0.4**
JYN				*e*S	**Sn**	**05 04 58.5**	**+0.2**
JRY	**Ryogami san**	**2.89**	**310**	P	**Pn**	**05 04 24.5**	**-0.3**
JRY				*e*S	**Sn**	**05 04 59.8**	**+0.7**
MAJO	**Matsushiro**	**3.65**	**311**	*e*P	**Pn**	**05 04 35.4**	**-0.3**
MAT	**Matsushiro**	**3.65**	**311**	P	**Pn**	**05 04 36.0**	**+0.3**
MAT				S	**Sn**	**05 05 17.0**	**-1.4**
MAT	**Matsushiro**	**3.65**	**311**	P	**Pn**	**05 04 35.9**	**+0.2**
MAT				*e*S	**Sn**	**05 05 17.9**	**-0.5**
ASAJ	**Asahikawa**	**9.93**	**4**	P	**P**	**05 05 57.8**	**-5.8**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**9.93**	**4**	Pn	**P**	**05 05 57.8**	**-5.9**
	comp=Z,1.5nm,0.3s,baz=265,slow=11,SNR=4.7						
MA2	**Magadan**	**26.09**	**11**	*e*P	**P**	**05 09 12.6**	**+0.1**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.2						
MA2	**Magadan**	**26.09**	**11**	*e*P	**P**	**05 09 12.6**	**+0.1**
	comp=Z,4.5nm,0.5s,mb4.2						
SONM	**Songino Array**	**29.60**	**308**	P	**P**	**05 09 44.4**	**-0.1**
	comp=Z,1.3nm,0.8s,mb3.7,baz=105,slow=8.7,SNR=12						
SONM				PcP	PcP	05 12 48.6	-0.4
	comp=Z,0.5nm,0.6s,baz=126,slow=2.8,SNR=4.7						
BOD	**Bodaibo**	**30.05**	**330**	*e*P	**P**	**05 09 45.8**	**-2.6**
ZAK	**Zakamensk**	**32.23**	**312**	*e*P	**P**	**05 10 06.9**	**-0.7**
KURK	**Kurchatov**	**47.86**	**310**	*e*P	**P**	**05 12 15.5**	**-1.3**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KURK	**Kurchatov**	**47.86**	**310**	*e*P	**P**	**05 12 15.5**	**-1.3**
	comp=Z,5.0nm,0.8s,mb4.6						
ILAR	**Eielson Array**	**51.80**	**31**	P	**P**	**05 12 46.6**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	**51.80**	**31**	P	**P**	**05 12 46.6**	**-0.2**
	comp=Z,2.2nm,0.7s,mb4.2,baz=265,slow=5.8,SNR=26						
BVAR	**Borovoye Array**	**52.64**	**314**	P	**P**	**05 12 52.3**	**-0.9**
	comp=Z,0.8nm,0.6s,mb3.9,baz=53,slow=7.4,SNR=4.3						
BRVK	**Borovoye**	**52.70**	**314**	P	**P**	**05 12 52.9**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**52.70**	**314**	P	**P**	**05 12 52.9**	**-0.8**
	comp=Z,1.4nm,0.6s,mb4.1						
WRAB	**Tennant Creek**	**54.28**	**188**	*e*P	**P**	**05 13 04.9**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
WRAB	**Tennant Creek**	**54.28**	**188**	*e*P	**P**	**05 13 04.9**	**-0.8**
	comp=Z,3.6nm,0.4s,mb4.7						
WRA	**Warramunga Arr**	**54.29**	**188**	P	**P**	**05 13 04.9**	**-0.9**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WRA	**Warramunga Arr**	**54.29**	**188**	P	**P**	**05 13 04.9**	**-0.9**
	comp=Z,1.8nm,0.4s,mb4.3,baz=4.0,slow=7.4,SNR=48						
INK	**Inuvik**	**56.83**	**26**	P	**P**	**05 13 23.8**	**+0.2**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**56.83**	**26**	P	**P**	**05 13 23.8**	**+0.2**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**56.83**	**26**	P	**P**	**05 13 23.8**	**+0.1**
	comp=Z,2.5nm,0.6s,mb4.4,baz=299,slow=6.9,SNR=20						
INK	**Inuvik**	**56.83**	**26**	*e*P	**P**	**05 13 23.3**	**-0.3**
	comp=Z,3.3nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**58.02**	**188**	P	**P**	**05 13 32.2**	**-0.3**
	comp=Z,1.3nm,0.6s,mb4.1,baz=11,slow=9.4,SNR=13						
STKA	**Stephens Creek**	**65.72**	**180**	P	**P**	**05 14 24.0**	**-0.1**
	comp=Z,0.4nm,0.4s,mb3.8,baz=310,slow=16,SNR=2.7						
YKA	**Yellowknife Ar**	**66.17**	**30**	P	**P**	**05 14 26.2**	**-0.2**
YKA	**Yellowknife Ar**	**66.17**	**30**	P	**P**	**05 14 26.1**	**-0.3**
	comp=Z,0.5nm,0.8s,mb3.6,baz=298,slow=6.2,SNR=10						
YBH	**Yreka Blue Hor**	**71.94**	**52**	P	**P**	**05 15 04.0**	**+1.6**
YBH				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YBH	**Yreka Blue Hor**	**71.94**	**52**	P	**P**	**05 15 04.0**	**+1.6**
YBH				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YBH	**Yreka Blue Hor**	**71.94**	**52**	P	**P**	**05 15 04.0**	**+1.6**
	comp=Z,1.3nm,0.6s,mb4.0,baz=292,slow=5.4,SNR=4.5						
NVAR	**Mina Array Bea**	**76.55**	**53**	P	**P**	**05 15 30.9**	**+1.9**
	comp=Z,2.8nm,1.1s,mb4.1,baz=285,slow=5.0,SNR=9.4						
AKASG	**Malin Array Be**	**76.66**	**323**	P	**P**	**05 15 28.8**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**76.66**	**323**	P	**P**	**05 15 28.8**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**76.66**	**323**	P	**P**	**05 15 28.8**	**-0.6**
	comp=Z,0.8nm,0.4s,mb4.0,baz=46,slow=6.1,SNR=6.0						
HFS	**Hagfors**	**76.75**	**336**	P	**P**	**05 15 29.6**	**-0.1**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**76.75**	**336**	P	**P**	**05 15 29.6**	**-0.1**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**76.75**	**336**	P	**P**	**05 15 29.6**	**-0.1**
	comp=Z,1.4nm,0.8s,mb3.9,baz=72,slow=4.7,SNR=4.4						
NB2	**NORSAR Subarra**	**76.87**	**338**	P	**P**	**05 15 30.1**	**-0.3**
	comp=Z,1.5nm,0.7s,mb4.0,baz=42,slow=5.8						
NOA	**NORSAR Array B**	**76.87**	**338**	P	**P**	**05 15 30.4**	**0.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**76.87**	**338**	P	**P**	**05 15 30.4**	**0.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**76.87**	**338**	P

0.3nm,0.3s,baz=219,slow=14,SNR=48
KKTK Khon Kaen 14.19 40 P **P 05 26 07.0 +7.5**
864nm,0.5s
CHG Chiang Mai 14.25 22 ⇑P **P 05 26 00.8 +0.5**
16nm,1.0s
VIS Vishakhapatnam 15.50 322 *e*P **P 05 26 15.2 -1.5**
VIS *e*S **S 05 28 54.2 -14**
CHRT Chiangrai 15.53 23 ⇓P **P 05 26 17.5 +0.4**
250nm,1.0s
AGT Agartala 18.29 354 *e*P **P 05 26 47.0 -4.9**
HYB Hyderabad 18.60 310 *e*P **P 05 27 02.0 +6.3**
HYB *e*S **S 05 30 20.0 +0.8**
HYB Hyderabad 18.60 310 *i*P **P 05 27 02.0 +6.3**
HYB *e*S **S 05 30 20.0 +0.8**
BLSP Bilaspur 19.67 328 *e* **P 05 27 12.4 +4.3**
BLSP *e* 05 27 13.5
comp=Z,74nm,0.6s
BLSP *e*S **S 05 30 38.4 -4.7**
SHL Shillong 19.91 356 *e*P **P 05 27 07.7 -3.0**
SHL *e*S **S 05 30 43.2 -4.9**
QIZ Qiongzhong 20.94 49 P **P 05 27 21.5 +0.1**
QIZ S **S 05 31 18.6 +10**
QIZ AMB AMB
comp=Z,79nm,1.1s
QIZ LR LR
comp=N,892nm,13.8s
QIZ LR LR
comp=Z,1μm,13.4s,MS4.5
QIZ Qiongzhong 20.94 49 *e*P **P 05 27 21.3 -0.1**
comp=Z,83nm,1.0s
KMI Kunming 21.43 24 ⇑P **P 05 27 30.0 +3.6**
KMI S **S 05 31 32.5 +14**
KMI pmax pmax
comp=Z,65nm,1.2s,mb4.8
KMI MLR MLR
comp=Z,700nm,12.6s,MS4.2
KMI Kunming 21.43 24 ⇑P **P 05 27 30.0 +3.6**
comp=Z,65nm,1.2s,mb4.8
KMI pP 05 27 35.1
KMI sP 05 27 37.6
KMI S **S 05 31 32.5 +14**
KMI sS 05 31 39.0
KMI LR LR
comp=Z,700nm,12.6s,MS4.2
KAD Karad 22.03 303 *e*P **P 05 27 41.3 +8.9**
KAD *e* 05 27 43.6
comp=Z,61nm,1.1s
KAD *i*S **S 05 31 39.7 +10**
JIRN Jiri 22.96 344 *e*P **P 05 27 42.2 +0.5**
comp=Z,55nm,0.4s,mb5.4
PKI Pulchoki 23.11 342 *e*P **P 05 27 43.9 +0.8**
comp=Z,112nm,0.5s,mb5.5
DMN Daman 23.24 341 *e*P **P 05 27 44.6 +0.2**
comp=Z,112nm,0.6s,mb5.5
BHPL Bhopal 23.28 320 *e*P **P 05 27 47.8 +3.0**
GUN Gumba 23.29 343 *e*P **P 05 27 45.4 +0.6**
comp=Z,92nm,0.8s,mb5.3
KKN Kakani 23.35 342 *e*P **P 05 27 45.5 0.0**
comp=Z,48nm,0.6s,mb5.1
GKN Gorkha 23.76 341 *e*P **P 05 27 50.3 +0.9**
comp=Z,101nm,0.4s,mb5.6
KOLN Koldanda 23.90 338 *e*P **P 05 27 51.9 +1.1**
comp=Z,125nm,0.6s,mb5.5
LSA Lhasa 24.06 355 P **P 05 27 53.0 +0.6**
LSA AP 05 28 10.6
LSA XP 05 28 15.5
LSA AMB AMB
comp=Z,90nm,0.5s,mb5.5
LSA AMB AMB
comp=Z,120nm,7.7s
LSA LR LR
comp=N,580nm,20.0s,MS4.2
LSA LR LR
comp=E,440nm,20.0s,MS4.2
LSA LR LR
comp=Z,450nm,20.0s,MS4.0
LSA Lhasa 24.06 355 *e*P **P 05 27 53.1 +0.7**
LSA pmax pmax
comp=Z,33nm,0.6s,mb4.9
LSA Lhasa 24.06 355 *e*P **P 05 27 53.0 +0.7**
comp=Z,34nm,0.6s,mb5.0
NDI New Delhi 27.56 328 *e* **P 05 28 18.0 -7.1**
DDI Dehra Dun 28.48 332 *e* **P 05 28 34.5 +1.1**
ENH Enshi 28.90 30 *e*P **P 05 28 36.1 -1.0**
comp=Z,14nm,0.6s,mb4.9
WHN Wuhan 31.75 36 ⇑P **P 05 29 02.4 -0.1**
WHN AMB AMB
comp=Z,32nm,1.0s,mb5.1
WHN LR LR
comp=Z,2μm,14.5s,MS4.9
XAN Xi'an 31.80 25 P **P 05 29 00.9 -1.9**
XAN AMB AMB
comp=Z,51nm,0.8s,mb5.4
XAN LR LR
comp=N,586nm,14.9s,MS4.5
XAN LR LR
comp=E,529nm,13.7s,MS4.5
XAN LR LR
comp=Z,765nm,15.7s,MS4.5
LZH Lanzhou 31.86 16 P **P 05 29 02.0 -1.3**
LZH AP pP 05 29 11.6 +1.9
LZH AMB AMB
comp=Z,60nm,1.3s,mb5.3
LZH LR LR
comp=E,1μm,13.3s
LZH LR LR
comp=Z,1μm,15.4s,MS4.7
LZH Lanzhou 31.86 16 P **P 05 29 02.0 -1.3**
comp=Z,60nm,1.3s,mb5.3
LZH pP pP 05 29 11.6 +1.9
LZH sP sP 05 29 14.8 +2.2
LZH LR LR
comp=Z,1μm,15.4s,MS4.7
NJ2 Nanjing 35.55 39 *e*P **P 05 29 35.8 +0.5**
NJ2 AP pP 05 29 44.3 +2.6
NJ2 XP sP 05 29 48.9 +4.4
NJ2 PP PP 05 30 56.5 +0.9
NJ2 PPP PPP 05 31 16.0 +1.3
NJ2 S **S 05 35 11.0 +2.1**
NJ2 XS 05 35 27.0
NJ2 AMB AMB
comp=Z,90nm,0.8s,mb5.8
NJ2 AMB AMB
comp=Z,1μm,5.2s
NJ2 LR LR
comp=N,1μm,12.6s
NJ2 LR LR
comp=E,960nm,18.5s
NJ2 LR LR
comp=Z,6μm,14.0s,MS5.5
SSE Sheshan 36.45 42 P **P 05 29 41.5 -1.3**
SSE S **S 05 35 22.8 +0.1**
SSE AMB AMB
comp=Z,43nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,68nm,10.0s
SSE LR LR
comp=N,147nm,25.7s,MS3.9
SSE LR LR
comp=E,180nm,25.7s,MS3.9
SSE LR LR
comp=Z,405nm,16.2s
SSE Sheshan 36.45 42 P **P 05 29 41.5 -1.3**
comp=Z,43nm,0.7s,mb5.5
SSE pP pP 05 29 50.5 +1.2
SSE S **S 05 35 22.8 +0.1**
SSE sS 05 35 38.1
SSE LR LR
comp=Z,410nm,16.2s,MS4.3
WMQ Urumqi 38.39 353 P **P 05 30 00.1 +1.1**
JOW Kunigami 39.45 54 P **P 05 30 08.9 +0.9**
comp=Z,15nm,0.7s,mb4.8,baz=162,slow=9.6,SNR=3.5
FITZ Fitzroy Crossi 39.66 127 *e*P **P 05 30 09.7 -0.1**
comp=Z,14nm,0.8s,mb4.8
BJT Baijiatuau 39.98 28 *e*P **P 05 30 12.4 +0.1**
BJT pmax pmax
comp=Z,10.0nm,0.6s
BJT Baijiatuau 39.98 28 *e*P **P 05 30 12.4 +0.1**
comp=Z,10nm,0.6s,mb4.7
BJI Beijing 40.00 28 *e*P **P 05 30 12.9 +0.4**
BJI pmax pmax
comp=Z,15nm,1.2s,mb4.6
BJI Beijing 40.00 28 *e*P **P 05 30 12.9 +0.4**
comp=Z,15nm,1.2s,mb4.6
UCH Uchtor 40.12 338 P **P 05 30 14.8 +1.4**
SNR=15
KBK Karagaybulak 40.34 339 P **P 05 30 16.8 +1.6**
SNR=5.9
TKM2 Tokmak 2 40.34 340 P **P 05 30 15.8 +0.6**
SNR=6.1
AML Almayashu 40.34 337 P **P 05 30 16.5 +1.3**
SNR=28
AAK Ala-Archa 40.48 339 P **P 05 30 17.3 +0.9**
SNR=7.5
AAK Ala-Archa 40.48 339 *e*P **P 05 30 15.9 -0.5**
AAK pmax pmax
comp=Z,20nm,1.3s,mb4.7
AAK Ala-Archa 40.48 339 *e*P **P 05 30 15.9 -0.4**
comp=Z,20nm,1.3s,mb4.7
FRU Bishkek 40.61 339 *e*P **P 05 30 18.5 +1.1**
EKS2 Erkin-Say 40.77 338 P **P 05 30 19.8 +1.1**
SNR=7.6
USP Ospenovka 41.03 339 P **P 05 30 21.3 +0.4**
SNR=9.3
MKAR Makanchi Array 42.13 349 *e*P **P 05 30 29.6 -0.3**
MKAR pmax pmax
comp=Z,9.0nm,0.7s
SONM Songino Array 43.56 13 P **P 05 30 41.2 -0.3**
comp=Z,12nm,0.7s,mb4.8,baz=196,slow=8.0,SNR=91
SONM PcP PcP 05 32 29.7 0.0
comp=Z,4.3nm,0.6s,baz=200,slow=3.7,SNR=17
SONM ScP 05 36 21.3
comp=Z,0.7nm,1.0s,baz=204,slow=3.9,SNR=4.1
ULN Ulaanbaatar 43.73 13 *e*P **P 05 30 42.2 -0.7**
ULN pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
ULN Ulaanbaatar 43.73 13 *e*P **P 05 30 42.2 -0.8**
comp=Z,10nm,0.9s,mb4.6
NWAO Narrogin (SRO) 44.55 151 P **P 05 30 50.8 +1.1**
NWAO pmax pmax
comp=Z,4.0nm,0.7s
NWAO Narrogin (SRO) 44.55 151 P **P 05 30 50.8 +1.1**
comp=Z,4.2nm,0.7s,mb4.4,baz=17,slow=14,SNR=3.7
NWAO Narrogin (SRO) 44.55 151 P **P 05 30 50.8 +1.1**
ZAK Zakamensk 45.42 9 ⇓*i*P **P 05 30 56.2 -0.2**
MOY Mondy 46.37 7 *e*P **P 05 31 05.1 +1.2**
KURK Kurchatov 46.62 347 *e*P **P 05 31 05.4 -0.5**
KURK pmax pmax
comp=Z,37nm,1.2s,mb5.2
KURK Kurchatov 46.62 347 *e*P **P 05 31 05.4 -0.6**
comp=Z,36nm,1.2s,mb5.2
TLY Talaya 46.73 9 ⇓*i*P **P 05 31 07.1 +0.3**
TLY pmax pmax
comp=Z,12nm,0.9s,mb4.8
WRA Warramunga Arr 47.67 123 P **P 05 31 14.6 -0.1**
WRA pmax pmax
comp=Z,34nm,0.7s
WRA Warramunga Arr 47.67 123 P **P 05 31 14.6 -0.1**
comp=Z,34nm,0.7s,mb5.5,baz=302,slow=9.2,SNR=16
WRAB Tennant Creek 47.68 123 *d i*P **P 05 31 14.9 +0.2**
WRAB Tennant Creek 47.68 123 *e*P **P 05 31 14.7 0.0**
comp=Z,88nm,0.9s,mb5.8
WB2 Warramunga Arr 47.68 123 ⇓*i*P **P 05 31 14.9 +0.2**
ZAL Zalesovo 48.69 353 P **P 05 31 22.6 +0.5**
ZAL pmax pmax
comp=Z,14nm,0.4s
ZAL Zalesovo 48.69 353 P **P 05 31 22.6 +0.5**
comp=Z,14nm,0.4s,mb5.3,baz=218,slow=4.4,SNR=57
HIA Hailar 48.94 23 *e*P **P 05 31 23.7 -0.3**
HIA pmax pmax
comp=Z,7.0nm,0.3s
HIA Hailar 48.94 23 *e*P **P 05 31 23.7 -0.4**
comp=Z,6.9nm,0.3s,mb5.2
FORT Forrest 49.12 140 ⇑*i*P **P 05 31 27.3 +1.5**
comp=Z,66nm,0.9s,mb5.7
ASPA Alice Springs 49.14 128 ⇓*i*P **P 05 31 26.1 +0.1**
ASAR Alice Springs 49.14 128 P **P 05 31 26.2 +0.2**
comp=Z,12nm,0.8s,mb5.0,baz=299,slow=7.8,SNR=81
ASAR pP pP 05 31 34.8 +2.1
comp=Z,8.5nm,0.6s,baz=306,slow=7.5,SNR=18
ASAR PcP PcP 05 32 49.9 +0.3
comp=Z,3.6nm,0.7s,baz=297,slow=3.7,SNR=6.5
NVS Novosibirsk 49.77 352 ⇓*i*P **P 05 31 29.2 -1.2**
NVS *e* 05 38 35.6
NVS pmax pmax
comp=Z,34nm,1.3s,mb5.2
NVS pmax pmax
comp=N,37nm,1.5s
BVAR Borovoye Array 50.88 342 P **P 05 31 37.8 -1.1**
comp=N,11nm,0.9s,mb4.8,baz=141,slow=9.5,SNR=36
BRVK Borovoye 50.94 342 P **P 05 31 38.4 -0.9**
BRVK pmax pmax
comp=Z,11nm,1.2s,mb4.7
BRVK Borovoye 50.94 342 *e*P **P 05 31 38.1 -1.2**
comp=Z,16nm,1.0s,mb4.9
KLR Kul'dur 54.26 30 *e*P **P 05 32 02.7 -1.4**
KLR MLR MLR
comp=N,1μm,17.0s,MS5.0
KLR MLR MLR
comp=E,500nm,17.0s,MS5.0
GNI Garni 55.45 316 P **P 05 32 12.6 -0.4**
GNI pmax pmax
comp=Z,2.0nm,0.4s
GNI Garni 55.45 316 P **P 05 32 12.6 -0.3**
comp=Z,1.9nm,0.4s,mb4.5,baz=202,slow=11,SNR=3.2
PMG Port Moresby 55.71 105 P **P 05 32 15.3 +0.1**
PMG pmax pmax
comp=Z,54nm,0.9s
PMG Port Moresby 55.71 105 P **P 05 32 15.3 +0.2**
comp=Z,54nm,0.9s,mb5.6,baz=284,slow=5.4,SNR=9.0
ZEI Tsey 57.15 318 *e*P **P 05 32 24.0 -1.1**
ZEI *i* *PP pP 05 32 35.3 +3.5
ZEI *i* 05 34 32.0
ZEI pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
SVE Sverdlovsk 57.21 339 *e*P **P 05 32 25.0 -0.4**
SVE pmax pmax
comp=Z,80nm,1.4s,mb5.6
ARU Arti 57.66 338 ⇑*i*P **P 05 32 22.0 -6.5**
ARU *e*S **S 05 40 16.4 -7.4**
ARU pmax pmax
comp=Z,20nm,1.0s,mb5.1
ARU Arti 57.66 338 *e*P **P 05 32 23.8 -4.7**
comp=Z,12nm,0.8s,mb5.0
CTA Charters Tower 57.96 118 P **P 05 32 30.8 -0.3**
CTA pmax pmax
comp=Z,11nm,1.0s
CTA Charters Tower 57.96 118 P **P 05 32 30.8 -0.3**
comp=Z,11nm,1.0s,mb4.8,baz=294,slow=7.6,SNR=5.6
CTAO Charters Tower 57.96 118 *e*P **P 05 32 30.6 -0.5**
CTAO pmax pmax
comp=Z,13nm,1.0s,mb4.9
CTAO Charters Tower 57.96 118 *e*P **P 05 32 30.6 -0.5**
comp=Z,13nm,1.0s,mb4.9
KIV Kislovodsk 58.46 319 *e*P **P 05 32 33.6 -0.7**
KIV pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
KIV Kislovodsk 58.46 319 *e*P **P 05 32 33.6 -0.6**
comp=Z,4.6nm,0.5s,mb4.8
ASF Jabal al Asfar 58.77 304 P **P 05 32 35.2 -1.4**
comp=Z,2.9nm,0.9s,mb4.3,baz=322,slow=13,SNR=3.2
ASF LR LR 05 57 12.4
comp=Z,110nm,18.7s,MS4.0,baz=167,slow=35
STKA Stephens Creek 59.17 132 *e*P **P 05 32 39.5 +0.1**
comp=Z,9.7nm,0.9s,mb4.8
STKA Stephens Creek 59.17 132 P **P 05 32 39.5 +0.1**
comp=Z,9.2nm,0.7s,mb4.9,baz=317,slow=6.7,SNR=20
STKA pP pP 05 32 48.6 +2.4
comp=Z,6.4nm,0.7s,baz=313,slow=6.4,SNR=8.1
STKA LR LR 05 56 52.9
comp=Z,249nm,20.5s,MS4.3,baz=114,slow=35
STKA Stephens Creek 59.17 132 *e*P **P 05 32 39.2 -0.3**
SOC Sochi 60.27 318 *e*P **P 05 32 38.2 -8.6**
SOC *e* 05 42 23.0
SOC pmax pmax
comp=Z,56nm,1.2s,mb5.5
SOC pmax pmax
comp=N,15nm,0.9s
SOC pmax pmax
comp=E,18nm,0.8s
ANN Anapa 62.25 318 *e*P **P 05 33 05.0 +4.8**
ANN pmax pmax
comp=Z,55nm,0.9s,mb5.7
YAK Yakutsk 62.41 18 *i*P **P 05 32 59.9 -1.1**
YAK pmax pmax
comp=Z,47nm,0.8s,mb5.7
YAK Yakutsk 62.41 18 *e*P **P 05 32 59.5 -1.4**
comp=Z,28nm,0.3s,mb5.9
BRTR Keskin Array B 63.29 312 P **P 05 33 06.2 -0.9**
BRTR *PP pP 05 33 15.3 +1.4
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 63.29 312 P **P 05 33 06.2 -0.9**
comp=Z,2.1nm,0.9s,mb4.3,baz=128,slow=7.0,SNR=13
BRTR pP pP 05 33 15.3 +1.4
comp=Z,1.3nm,0.7s,baz=127,slow=6.2,SNR=6.5
OBN Obninsk 66.86 329 *e*P **P 05 33 27.8 -2.1**
OBN pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
MA2 Magadan 69.16 27 *e*P **P 05 33 43.4 -0.8**
MA2 *e* 05 33 58.8
MA2 pmax pmax
comp=Z,20nm,1.4s,mb4.8
MA2 Magadan 69.16 27 *e*P **P 05 33 43.3 -0.9**
comp=Z,12nm,0.9s,mb4.8
AKASG Malin Array Be 69.42 322 P **P 05 33 44.3 -1.7**
AKASG *PP pP 05 33 52.7 -0.1
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 69.42 322 P **P 05 33 44.3 -1.7**
comp=Z,2.2nm,0.7s,mb4.2,baz=96,slow=4.6,SNR=12
AKASG pP pP 05 33 52.6 -0.1
comp=Z,0.7nm,0.4s,baz=88,slow=5.0,SNR=3.8
TIXI Tiksi 69.62 11 *e*P **P 05 33 45.1 -1.8**
TIXI pmax pmax
comp=Z,18nm,1.2s,mb4.9
TIXI MLR MLR
comp=Z,157nm,17.0s,MS4.3
MLR Muntele Rosu 70.22 316 P **P 05 33 51.2 +0.3**
MLR *PP pP 05 33 59.1 +1.4
MLR pmax pmax
comp=Z,10.0nm,1.0s
MLR pmax pmax
comp=Z,6.0nm,0.8s
MLR Muntele Rosu 70.22 316 P **P 05 33 51.2 +0.3**
comp=Z,9.5nm,1.0s,mb4.7,baz=93,slow=2.1,SNR=8.1
MLR pP pP 05 33 59.1 +1.3
comp=Z,6.1nm,0.8s,baz=141,slow=6.6,SNR=5.8
JOF Joensuu 72.54 335 *e*p **P 05 34 03.0 -1.5**
comp=Z,1.5nm,0.4s,mb4.3
JOF Joensuu 72.54 335 *e*P **P 05 34 03.0 -1.5**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
FINES FINESS Array B 74.33 333 P **P 05 34 14.2 -0.8**
FINES *PP pP 05 34 22.7 +0.9
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 74.33 333 P **P 05 34 14.2 -0.8**
comp=Z,6.1nm,0.7s,mb4.7,baz=100,slow=7.4,SNR=18
FINES pP pP 05 34 22.7 +0.8
comp=Z,4.3nm,0.7s,baz=146,slow=6.9,SNR=4.2
FINES FINESS Array B 74.33 333 P **P 05 34 14.2 -0.8**
FINES pP pP 05 34 22.7 +0.8
KAF Kangasniemi 74.43 333 *e*p **P 05 34 11.1 -4.5**
comp=Z,4.9nm,0.8s,mb4.5,baz=116,slow=5.8
KAF Kangasniemi 74.43 333 *e*P **P 05 34 11.1 -4.5**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
OJC Ojcow 75.18 320 *e*P **P 05 34 20.6 +0.5**
KEV Kevo 76.70 341 *e*p **P 05 34 27.3 -1.0**
comp=Z,1.8nm,0.4s,mb4.3
KEV Kevo 76.70 341 *e*P **P 05 34 27.3 -1.0**
KEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
ARCES ARCESS Array B 77.12 340 P **P 05 34 30.7 0.0**
ARCES pmax pmax
comp=Z,4.0nm,0.4s
ARCES MLR MLR
comp=Z,221nm,19.9s
ARCES ARCESS Array B 77.12 340 P **P 05 34 30.6 0.0**
comp=Z,4.3nm,0.4s,mb4.7,baz=93,slow=5.7,SNR=68
ARCES LR LR 06 11 58.9
comp=Z,221nm,19.9s,MS4.5,baz=0.2,slow=38
KSP Ksiaz 77.48 321 *e*P **P 05 34 34.1 +1.1**
BILL Bilibino 78.50 22 *i*P **P 05 34 37.8 -0.5**
BILL pmax pmax
comp=Z,11nm,1.2s,mb4.7
BILL Bilibino 78.50 22 *e*P **P 05 34 37.6 -0.6**
comp=Z,11nm,1.1s,mb4.7
GERES GERESS Array B 78.96 319 P **P 05 34 41.9 +0.7**
GERES *PP pP 05 34 50.5 +2.4
GERES pmax pmax
comp=Z,4.0nm,0.7s
GERES pmax pmax
comp=Z,3.0nm,0.9s
GERES GERESS Array B 78.96 319 P **P 05 34 41.9 +0.7**
comp=Z,3.6nm,0.7s,mb4.4,baz=89,slow=4.9,SNR=24
GERES pP pP 05 34 50.5 +2.4
comp=Z,3.0nm,0.9s,baz=76,slow=5.5,SNR=6.4
BRG Berggiesshubel 78.97 321 *e*P **P 05 34 42.6 +1.4**
BRG pmax pmax
comp=Z,14nm,1.3s,mb4.7
BRG Berggiesshubel 78.97 321 *e*P **P 05 34 42.6 +1.4**
comp=Z,14nm,1.3s,mb4.7
KHC Kasperske Hory 79.06 319 *e*P **P 05 34 41.5 -0.3**
KHC *e* 05 34 52.0
KHC Kasperske Hory 79.06 319 *e*P **P 05 34 41.5 -0.3**
KHC pP pP 05 34 52.0 +3.3
GRA1 Grafenberg Arr 80.63 319 *e*P **P 05 34 51.7 +1.5**
comp=Z,16nm,1.2s,mb4.8
GRA1 *e*pP pP 05 35 00.6 +3.5
GRF Grafenberg Arr 80.63 319 *e*P **P 05 34 51.7 +1.5**
GRF *e**PP pP 05 35 00.6 +3.5
GRF pmax pmax
comp=Z,16nm,1.2s,mb4.8
GRF Grafenberg Arr 80.63 319 *e*P **P 05 34 51.7 +1.5**
comp=Z,16nm,1.2s,mb4.8
GRF *e*pP pP 05 35 00.6 +3.5
NB2 NORSAR Subarra 81.30 331 P **P 05 34 52.7 -0.7**
comp=Z,1.3nm,0.5s,mb4.1,baz=100,slow=4.8
NOA NORSAR Array B 81.30 331 P **P 05 34 53.1 -0.3**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,130nm,20.9s
NOA NORSAR Array B 81.30 331 P **P 05 34 53.1 -0.3**
comp=Z,2.2nm,0.7s,mb4.2,baz=93,slow=5.7,SNR=5.3
NOA LR LR 06 15 31.5
comp=Z,130nm,20.9s,MS4.3,baz=220,slow=39
LPG La Plagne 83.63 315 *e*P **P 05 35 06.0 +0.2**
comp=Z,16nm,1.0s,mb4.8
IMA Indian Mountai 94.04 22 *e*P **P 05 35 56.6 +1.7**
ILAR Eielson Array 97.16 22 P **P 05 36 08.6 -0.6**
ILAR 05 40 02.2
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR MLR MLR
comp=Z,105nm,19.7s
ILAR Eielson Array 97.16 22 P **P 05 36 08.6 -0.7**
comp=Z,0.5nm,0.8s,mb4.0,baz=280,slow=3.7,SNR=7.5
ILAR PP PP 05 40 02.2 -6.0
comp=Z,0.5nm,0.9s,baz=291,slow=7.0,SNR=4.4
ILAR LR LR 06 21 47.5
comp=Z,105nm,19.7s,MS4.3,baz=174,slow=36
ILAR Eielson Array 97.16 22 P **P 05 36 08.6 -0.7**
ILAR PP PP 05 40 02.2 -6.0
ILAR LR LR 06 21 47.5
INK Inuvik 99.40 16 P **P 05 36 19.1 -0.2**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 99.40 16 P **P 05 36 19.1 -0.2**
comp=Z,0.5nm,0.5s,mb4.3,baz=108,slow=7.2,SNR=7.1
YKA Yellowknife Ar 108.82 13 PP PP 05 41 29.4 -7.1
comp=Z,0.5nm,0.7s,baz=332,slow=7.3,SNR=7.8
YKA PKKPbc 05 52 15.1
comp=Z,0.2nm,0.4s,baz=152,slow=3.5,SNR=7.7
YKA PKKPab 05 52 28.1
comp=Z,0.2nm,0.5s,baz=150,slow=4.6,SNR=6.4
FFC Flin Flon 118.56 10 *e*PKIKP PKPdf 05 41 25.4 -2.7
MSO Missoula 122.50 22 *e*PKPdf PKPdf 05 41 33.0 -2.8
SNOW Snow King Moun 126.54 22 *e*PKPdf PKPdf 05 41 42.1 -1.6
NVAR Mina Array Bea 127.29 31 PKPdf PKPdf 05 41 44.5 -0.9
comp=Z,2.6nm,0.7s,baz=1.8,slow=1.9,SNR=22
NVAR Mina Array Bea 127.29 31 PKP PKPdf 05 41 44.5 -0.9
PDAR Pinedale Array 127.58 21 PKP PKPdf 05 41 43.9 -1.9
comp=Z,2.5nm,0.8s,baz=66,slow=1.4,SNR=22
HWUT Hardware Ranch 127.82 24 *e*PKPdf PKPdf 05 41 44.8 -1.6
MSU Marysvale 130.16 26 *e*PKIKP PKPdf 05 41 50.2 -0.7
NEN Nelson 131.19 31 *e*PKPdf PKPdf 05 41 51.4 -1.6
GDL2 Guadalupe Moun 138.82 23 *e*PKPdf PKPdf 05 42 05.6 -1.5

MIAR	Mount Ida	139.56	9	ePKIKP	PKPdf	05 42 07.2	-1.2
TXAR	Lajitas Array	141.64	24	PKhKP		05 42 03.8	
	comp=Z,0.3nm,0.4s,baz=324,slow=0.9,SNR=12						
TXAR				PKP	PKPdf	05 42 08.8	-3.5
	comp=Z,1.3nm,0.5s,baz=324,slow=2.4,SNR=6.9						
TXAR				PKiKP		05 42 12.7	
	comp=Z,1.6nm,0.6s,baz=108,slow=0.2,SNR=26						
TXAR	Lajitas Array	141.64	24	PKP	PKPdf	05 42 08.8	-3.5
TXAR				PKPdf	PKPdf	05 42 12.7	+0.4
JCT	Junction City	142.00	19	ePKIKP	PKPdf	05 42 11.2	-1.7

JMA 21 05:23:12.0±0.2, 43.67N×147.63E, h52km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.41	258	P	P	05 23 35.7	-0.1
NEM2				eS	S	05 23 53.3	-0.1
JRA	Rausu	1.83	279	P	P	05 23 41.8	+0.1
JRA				eS	S	05 24 04.0	+0.2
JNK	Nakash	2.12	269	P	P	05 23 45.6	-0.1
JNK				eS	S	05 24 10.4	-0.4
JAK	Akkeshi	2.24	254	P	P	05 23 47.3	-0.2
JAK				eS	S	05 24 12.9	-1.2
JTKR	Abashiri--Toko	2.71	278	P	P	05 23 54.2	0.0
JAR	Ashorobuto	2.83	264	P	P	05 23 56.5	+0.6
JAR				eS	S	05 24 29.5	+0.5
JOB	Onbets	2.88	256	P	P	05 23 56.4	-0.1
JOB				eS	S	05 24 29.6	-0.5
JMP	Maruseppu	3.11	278	P	P	05 23 59.7	-0.1
JCH	Churui	3.30	253	P	P	05 24 02.1	-0.4
JCH				eS	S	05 24 38.0	-2.7
JNBK	Urakawa-nobuka	3.84	250	P	P	05 24 09.2	-0.9
JNBK				eS	S	05 24 50.6	-3.8
JSE	Soyaes	3.84	291	P	P	05 24 09.1	-1.1

IDC 21 05:35:46.7±6.0, 4.82N×93.44E, mb3.6/3, mb1 4.0/4, mb1mx3.7/17, mbtmp3.7/4, Error ellipse: s-maj=174.8km s-min=30.9km az=74.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.59	21	Pn	P	05 39 16.6	0.0
	baz=210,slow=11,SNR=13						
SONM	Songino Array	44.28	12	P	P	05 43 57.6	-2.2
	0.2nm,0.6s,baz=198,slow=4.6,SNR=2.7						
WRA	Warramunga Arr	47.13	123	P	P	05 44 20.3	-2.6
	0.6nm,0.5s,baz=304,slow=9.0,SNR=8.7						
ASAR	Alice Springs	48.56	127	P	P	05 44 32.8	-1.3
	1.1nm,0.7s,baz=302,slow=7.1,SNR=8.9						

JMA 21 05:58:53.7±0.2, 43.66N×147.23E, h27km±5km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.12	255	P	Pn	05 59 13.8	0.0
NEM2				eS	Sn	05 59 28.2	-0.2
JRA	Rausu	1.55	281	P	Pn	05 59 20.2	+0.2
JRA				eS	Sn	05 59 40.0	+0.6
JNK	Nakash	1.82	269	P	Pn	05 59 24.3	+0.4
JNK				eS	Sn	05 59 45.8	-0.5
JAK	Akkeshi	1.96	251	P	Pn	05 59 26.0	+0.1
JAK				eS	Sn	05 59 49.6	-0.3
JTKR	Abashiri--Toko	2.42	279	P	Pn	05 59 32.9	+0.4
JAR	Ashorobuto	2.54	263	P	Pn	05 59 34.8	+0.6
JAR				eS	Sn	06 00 05.2	+0.6
JOB	Onbets	2.59	254	P	Pn	05 59 35.3	+0.4
JOB				eS	Sn	06 00 05.4	-0.4
JMP	Maruseppu	2.82	278	P	Pn	05 59 38.5	+0.4
JCH	Churui	3.02	251	P	Pn	05 59 41.3	+0.4
JCH				eS	Sn	06 00 16.3	-0.3
JEM	Erimo	3.42	243	P	Pn	05 59 48.7	+2.1
JNBK	Urakawa-nobuka	3.56	249	P	Pn	05 59 50.1	+1.4

*IDC **21** 06:05:17.4±1.4, 10.93N×62.71W, h96km±13km, mb3.9/16, mb1 4.1/18, mb1mx3.9/23, mbtmp4.2/18, MS2.7/1, Ms1 2.7/1, ms1mx1.6/19, Error ellipse: s-maj=14.5km s-min=9.7km az=115.0*

*NEIC **21** 06:05:17.6±0.3, 10.87N×62.66W, h99km±4km, mb4.3/13, MD4.1(TRN), MD4.0(CAR), Error ellipse: s-maj=6.6km s-min=5.1km az=57.0*

*FUNV **21** 06:05:18.1, 10.84N×62.47W, h95km, MW3.3*

*TRN **21** 06:05:21.9, 10.89N×62.37W, h28km, MD4.0*

ISC 21 06:05:16.6±0.2, 10.79N±0.03×62.61W±0.03, h108km±2km, n64, σ1°11/84, mb4.1/26, 5C-3D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.41	111	⇑iP	P	06 05 32.2	-0.6
GUIV				eS	S	06 05 42.1	-2.9
CRUV	Carupano	0.62	259	⇑iP	P	06 05 35.0	+0.8
CRUV				eS	S	06 05 47.5	-0.1
GUNV	Guanoco	0.71	207	⇑iP	P	06 05 36.3	+1.4
GUNV				eS	S	06 05 49.2	+0.4
ITEV	Isla Los Testi	0.76	318	⇓iP	P	06 05 36.1	+0.7
ITEV				i S	S	06 05 49.1	-0.4
BUAY	Buenos Aires	1.14	127	⇑iP	P	06 05 41.7	+2.2
BUAY				eS	S	06 05 54.0	-2.7
TRN	Trinidad (W)	1.20	97	eP	P	06 05 39.6	-0.6
TRN				eS	S	06 05 54.2	-3.6
TPP	Pointe-a-Pierr	1.24	112	⇑iP	P	06 05 40.7	+0.2
TPP				eS	S	06 05 57.9	-0.8
SIPA	Siparia	1.27	121	eP	P	06 05 42.4	+1.6
SIPA				eS	S	06 05 56.4	-2.9
TBH	Brigand Hill	1.55	101	eP	P	06 05 45.4	+1.0
TBH				eS	S	06 06 06.1	+1.0
GRW	Mount Saint Ca	1.65	34	⇓iP	P	06 05 45.6	+0.1
TPR	Prospect	1.84	78	eS	S	06 06 11.2	-0.2
BOT	Bacolet	1.90	79	eP	P	06 05 48.9	+0.3
IBAV	Isla La Blanqu	2.18	298	⇓iP	P	06 05 53.7	+1.4
IBAV				eS	S	06 06 20.1	+0.9
RIOV	Rio Grande	2.82	164	eP	P	06 06 00.9	-0.2
RIOV				eS	S	06 06 32.8	-1.7
CUPV	Cœpira	3.21	257	eP	P	06 06 08.0	+1.7
CUPV				eS	S	06 06 44.8	+0.9
MERV	Las Mercedes	3.94	247	eP	P	06 06 16.8	+0.6
MERV				eS	S	06 07 01.5	-0.2
CAOV	Caicara del Or	5.03	227	eP	P	06 06 30.9	-0.1
CAOV				eS	S	06 07 25.4	-3.0
SCG	Saint Claude	5.28	10	eP	P	06 06 38.4	+4.0
SCG				eS	S	06 07 33.2	-1.4
BCG	Bois Riant Cap	5.35	10	eP	P	06 06 39.0	+3.7
BAUV	El Baul	5.66	252	eP	P	06 06 39.4	-0.1
BAUV				eS	S	06 07 40.9	-2.8
DEG	La Desirade	5.69	15	eP	P	06 06 41.5	+1.5
DEG				eS	S	06 07 40.3	-4.3
SJG	San Juan	8.04	335	P	P	06 07 11.3	-0.8
	1.2nm,0.3s,baz=136,slow=18,SNR=3.5						
SJG				S	S	06 08 34.4	-7.6
	1.7nm,0.3s,baz=349,slow=9.2,SNR=5.3						
SJG				LR	LR	06 09 19.5	
	comp=Z,58nm,19.9s,baz=108,slow=31						
SJG	San Juan	8.04	335	P	P	06 07 11.3	-0.8
SJG				S	S	06 08 34.4	-7.6
SJG				LR	LR	06 09 19.5	
SDV	Santo Domingo	8.13	257	P	P	06 07 12.3	-1.0
	1.0nm,0.3s,baz=105,slow=9.0,SNR=17						
SDV				S	S	06 08 40.0	-4.0
	7.5nm,0.3s,baz=57,slow=19,SNR=13						
SDV	Santo Domingo	8.13	257	ePn	P	06 07 12.2	-1.1
SDV				eSn	S	06 08 40.5	-3.5
SAML	Samuel	19.62	182	eP	P	06 09 39.0	0.0
	24nm,1.0s						
LPAZ	La Paz	27.45	192	P	P	06 10 56.7	+2.0
	2.0nm,0.8s,mb3.7,baz=358,slow=12,SNR=9.3						
LPAZ	La Paz	27.45	192	eP	P	06 10 56.4	+1.7
	2.9nm,0.9s,mb3.8						
BDFB	Brasilia	29.98	151	P	P	06 11 18.3	+1.1
	3.4nm,0.6s,mb4.2,baz=310,slow=11,SNR=12						
LVC	Limon Verde	33.77	191	P	P	06 11 50.8	+0.7
	2.1nm,0.7s,mb4.1,baz=360,slow=10.0,SNR=6.4						
LVC	Limon Verde	33.77	191	eP	P	06 11 50.4	+0.2
	2.4nm,0.6s,mb4.2						
HKT	Hockley	36.31	307	eP	P	06 12 11.2	-0.5
	2.4nm,0.8s,mb4.2						
JCT	Junction City	39.68	305	eP	P	06 12 39.4	-0.3
	5.0nm,0.6s,mb4.5						
TXAR	Lajitas Array	42.47	302	P	P	06 13 03.2	+0.5
	0.5nm,0.4s,mb3.6,baz=116,slow=10,SNR=21						
TXAR				PcP	PcP	06 14 53.5	-0.8
	0.4nm,0.5s,baz=115,slow=5.7,SNR=4.1						
TXAR	Lajitas Array	42.47	302	P	P	06 13 03.2	+0.5
TXAR				PcP	PcP	06 14 53.5	-0.8
CPRX	Cap Rock	43.83	307	eP	P	06 13 13.7	0.0
SCHQ	Schefferville	44.05	356	P	P	06 13 14.8	-0.4
	2.4nm,0.4s,mb4.2,baz=174,slow=8.7,SNR=18						
SCHQ	Schefferville	44.05	356	P	P	06 13 14.8	-0.4
MNTX	Cornudas Mount	44.59	304	eP	P	06 13 19.6	-0.3
	1.9nm,0.8s,mb3.9						
ANMO	Albuquerque	46.51	308	eP	P	06 13 35.6	+0.6
	1.2nm,0.6s,mb3.8						
SDCO	Great Sand Dun	46.84	312	eP	P	06 13 37.5	0.0
	4.0nm,0.9s,mb4.2						
ISCO	Idaho Springs	47.76	315	eP	P	06 13 44.4	-0.3
	4.2nm,1.2s,mb4.1						
PV01	Paradox Valley	49.23	312	eP	P	06 13 56.7	+0.7
PDAR	Pinedale Array	51.70	317	P	P	06 14 13.9	-0.8
	3.5nm,0.5s,mb4.6,baz=116,slow=9.5,SNR=41						
BW06	Boulder Array	51.70	317	eP	P	06 14 13.6	-1.1
	5.0nm,1.0s,mb4.5						
PLCA	Paso Flores	51.79	188	P	P	06 14 16.0	+0.6
	3.6nm,0.9s,mb4.4,baz=343,slow=8.0,SNR=8.0						
PLCA	Paso Flores	51.79	188	P	P	06 14 16.0	+0.6
HWUT	Hardware Ranch	52.63	315	eP	P	06 14 21.0	-0.7
	2.6nm,0.8s,mb4.3						
HLID	Hailey	55.29	316	eP	P	06 14 41.0	-0.2
	2.7nm,0.8s,mb4.3						
NVAR	Mina Array Bea	56.62	309	P	P	06 14 50.6	-0.2
	0.4nm,0.6s,mb3.6,baz=97,slow=8.8,SNR=4.3						
EDM	Edmonton	58.50	327	eP	P	06 15 02.3	-1.4
NEW	Newport	58.70	320	eP	P	06 15 03.7	-1.4
	2.0nm,0.6s,mb4.3						
YKA	Yellowknife Ar	63.53	336	P	P	06 15 34.9	-2.6
	1.1nm,0.5s,mb4.0,baz=110,slow=7.3,SNR=21						
YKA	Yellowknife Ar	63.53	336	P	P	06 15 34.9	-2.6
CLL	Collm	72.66	40	P	P	06 16 35.0	+0.8
NB2	NORSAR Subarra	72.80	29	P	P	06 16 35.9	+1.1
	5.3nm,0.9s,mb4.4,baz=261,slow=5.8						
NOA	NORSAR Array B	72.80	29	P	P	06 16 36.4	+1.5
	3.1nm,0.9s,mb4.2,baz=262,slow=5.9,SNR=4.6						
GERES	GERESS Array B	72.95	42	P	P	06 16 36.1	+0.2
	0.7nm,0.4s,mb3.8,baz=270,slow=5.3,SNR=7.4						
ILAR	Eielson Array	77.87	334	P	P	06 17 02.5	-1.0
	1.2nm,0.5s,mb3.9,baz=96,slow=4.7,SNR=36						
ARCES	ARCESS Array B	79.31	21	P	P	06 17 11.6	+0.2
	3.6nm,0.8s,mb4.3,baz=282,slow=5.1,SNR=12						
FINES	FINESS Array B	79.98	29	P	P	06 17 15.6	+0.5
	3.1nm,0.6s,mb4.3,baz=258,slow=2.8,SNR=26						
AKASG	Malin Array Be	82.90	40	P	P	06 17 26.8	-3.8
	0.6nm,0.6s,mb3.6,baz=288,slow=4.0,SNR=4.2						
BRTR	Keskin Array B	87.94	50	P	P	06 17 57.2	+1.6
	1.8nm,1.0s,mb4.0,baz=260,slow=4.2,SNR=8.0						
CMAR	Chiang Mai Arr	145.71	32	PKPbc	PKPbc	06 24 45.2	+1.2
	1.6nm,0.5s,baz=313,slow=5.0,SNR=5.5						

MAN 21 06:45:14.9, 9.95N×126.15E, h23km, mb3.9, ML2.8, MS2.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	1.29	278	eP	Pn	06 45 36.8	-1.0
MSLP				eS	Sn	06 45 56.3	+1.9
PLP	Palo	1.67	316	eP	Pn	06 45 41.7	-1.5
PLP				i S	Sn	06 46 04.0	-0.2
BIPH	Bislig	1.77	173	⇓iP	Pn	06 45 43.7	-0.9
BIPH				eS	Sn	06 46 02.1	-4.5
BESP	Borongan	1.78	337	eP	Pn	06 45 45.2	+0.4
OCLP	Ormoc	1.87	306	eP	Pn	06 45 46.5	+0.4
LLP	Lapu-Lapu	2.18	280	eP	Pn	06 45 50.4	-0.2
LLP				i S	Sn	06 46 18.7	+1.5
TBP	Tagbilaran	2.27	264	eP	Pn	06 45 50.9	-0.9
TBP				eS	Sn	06 46 19.7	+0.3
BUKP	Musuan	2.32	208	eP	Pn	06 45 52.1	-0.5
BUKP				eS	Sn	06 46 21.4	+0.7

*IDC **21** 06:50:59.3±5.7, 35.08N×77.63E, mb3.6/3, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=123.6km s-min=45.2km az=12.0*

ISC 21 06:51:01.6±0.8, 35.56N±0.09×78.3E±0.2, h10km, n13, σ0°60/14, mb3.4/3, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	3.60	214	e	Pn	06 51 59.0	+0.4
DLH				e		06 52 50.0	
BHK	Bhakra	4.44	202	eP	Pg	06 52 23.5	-6.6
BHK				eS	Sn	06 53 08.3	+5.4
NDI	New Delhi	6.92	188	e	Sg	06 54 43.0	-9.1
KOLN	Koldanda	8.97	149	eP	P	06 53 14.2	+0.1
	9.5nm,0.5s						
GKN	Gorkha	9.24	143	eP	P	06 53 17.8	-0.2
	14nm,0.4s						
KKN	Kakani	9.74	141	eP	P	06 53 25.2	+0.3
	6.8nm,0.4s						
DMN	Daman	9.80	142	eP	P	06 53 25.0	-0.7
PKI	Pulchoki	9.99	141	eP	P	06 53 28.4	+0.2
	4.8nm,0.4s						
JIRN	Jiri	10.33	138	eP	P	06 53 33.0	0.0
	14nm,0.4s						
BVAR	Borovoye Array	18.34	345	P	P	06 55 18.2	+0.6
	0.1nm,0.3s,baz=153,slow=13,SNR=4.4						
SONM	Songino Array	24.13	51	P	P	06 56 24.0	+5.7
	0.5nm,0.7s,mb3.1,baz=246,slow=9.5,SNR=4.9						
FINES	FINESS Array B	41.62	325	P	P	06 58 49.6	-1.4
	2.1nm,1.0s,mb3.7,baz=97,slow=11,SNR=3.1						
YKA	Yellowknife Ar	81.73	6	P	P	07 03 21.8	+0.7
	0.3nm,0.8s,mb3.3,baz=348,slow=4.8,SNR=4.8						

IGQ 21 06:54:25.4, 1.04S×81.22W, h12km±29km, mb4.1, 2C-8D, Error ellipse: s-maj=29.1km s-min=7.8km az=173.3, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.62	100	P	Pn	06 55 08.9	+0.7
JUA2	San Juan 2	2.73	73	P	Pn	06 55 11.4	+1.4
TERV	Terraza Guagua	2.75	72	P	Pn	06 55 11.4	+1.2
PINO	Pino	2.75	72	⇓P	Pn	06 55 11.2	+1.0
CUSU	Cusua	2.76	98	P	Pn	06 55 12.6	+2.2
NAS1	Nasa	2.77	82	P	Pn	06 55 13.5	+3.0
JUIV	Juive	2.78	98	⇓P	Pn	06 55 13.2	+2.6
YANA	Yana	2.80	71	⇓P	Pn	06 55 11.7	+0.8
ARRY	Arrayan	2.80	100	⇑P	Pn	06 55 11.6	+0.7
ARRY				S	Sn	06 55 45.5	+0.7
RETU	Refugio	2.80	99	P	Pn	06 55 13.9	+3.0
PATA	Patacocha	2.82	100	⇑P	Pn	06 55 12.8	+1.6
RUN2	Runtun	2.83	98	⇓P	Pn	06 55 12.8	+1.4
PISA	Pisayambo	2.83	90	P	Pn	06 55 12.5	+1.1
ULBA	Ulba	2.84	98	P	Pn	06 55 11.9	+0.5
VC1	Cotopaxi 1	2.84	82	P	Pn	06 55 14.4	+3.0
TAMB	Tambo	2.87	83	⇓P	Pn	06 55 14.8	+3.0
ANTI	Antisana	3.11	79	⇓P	Pn	06 55 17.3	+2.0
COTA	Cotacachi	3.18	65	P	Pn	06 55 17.6	+1.2
CAYR	Refugio Cayamb	3.37	72	⇓P	Pn	06 55 22.1	+3.0
CAYA	Cayambe	3.41	71	⇓P	Pn	06 55 22.3	+2.7

IGQ 21 06:58:43.8, 1.13S×81.42W, h12km±32km, mb4.2, 2C-5D, Error ellipse: s-maj=31.9km s-min=6.9km az=172.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.80	97	P	Pn	06 59 30.8	+1.4
IGUA				S	Sn	07 00 03.4	0.0
JUA2	San Juan 2	2.96	72	⇑P	Pn	06 59 32.5	+0.9
JUIV	Juive	2.97	96	P	Pn	06 59 33.6	+1.9
TERV	Terraza Guagua	2.97	71	P	Pn	06 59 32.7	+1.0
PINO	Pino	2.97	71	⇓P	Pn	06 59 32.5	+0.8
NAS1	Nasa	2.98	81	P	Pn	06 59 34.2	+2.3
ARRY	Arrayan	2.99	97	P	Pn	06 59 33.1	+1.2
RETU	Refugio	2.99	96	P	Pn	06 59 34.3	+2.3
PATA	Patacocha	3.01	97	P	Pn	06 59 34.2	+1.9
YANA	Yana	3.02	71	⇑P	Pn	06 59 32.9	+0.5
RUN2	Runtun	3.02	96	P	Pn	06 59 33.5	+1.1
ULBA	Ulba	3.03	96	P	Pn	06 59 34.3	+1.8
PISA	Pisayambo	3.04	89	P	Pn	06 59 34.0	+1.4
PISA				S	Sn	07 00 10.6	+1.4
VC1	Cotopaxi 1	3.06	81	P	Pn	06 59 35.2	+2.3
VC1				S	Sn	07 00 14.1	+4.4
TAMB	Tambo	3.08	82	P	Pn	06 59 36.4	+3.1
ANTI	Antisana	3.33	78	⇓P	Pn	06 59 38.7	+1.9
ANTI				S	Sn	07 00 17.8	+1.1
COTA	Cotacachi	3.41	65	⇓P	Pn	06 59 39.1	+1.2
COTA				S	Sn	07 00 18.4	-0.2
CAYR	Refugio Cayamb	3.60	72	⇓P	Pn	06 59 43.8	+3.2
CAYA	Cayambe	3.63	71	⇓P	Pn	06 59 43.9	+2.8
CAYA				S	Sn	07 00 25.6	+1.3

MAN 21 07:03:23.6, 16.63N×122.79E, h2km, mb4.3, ML3.2, MS3.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	Palanan	0.55	321	eP	Pg	07 03 34.3	-0.3
PALP				eS	Sg	07 03 39.8	-2.2
CAUP	Cauayan	0.97	289	eP	Pb	07 03 42.5	-0.3
CVP	Callao Caves	1.41	319	⇓eP	Pb	07 03 50.0	-0.3
CVP				i S	Sb	07 04 11.0	+2.4
APYP	Conner	1.92	310	eP	Pn	07 03 57.4	-0.2
APYP				eS	Sn	07 04 06.0	-17

IDC 21 07:03:46.9±11.0, 8.87S×122.26E, h233km±112km, mb3.4/1, mb1 3.0/3, mb1mx2.9/12, mbtmp3.5/3, Error ellipse: s-maj=169.2km s-min=100.3km az=31.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.05	135	P	P	07 07 19.3	-2.4
	0.2nm,0.3s,baz=310,slow=12,SNR=16						
WRA				S	S	07 10 17.2	+4.6
	0.1nm,0.3s,baz=311,slow=24,SNR=4.6						
ASAR	Alice Springs	18.46	144	P	P	07 07 45.9	-1.8
	0.1nm,0.3s,baz=327,slow=11,SNR=8.4						
STKA	Stephens Creek	29.10	145	P	P	07 09 26.1	-2.2
	0.6nm,0.3s,baz=327,slow=14,SNR=4.8						

MAN 21 07:07:19.5, 15.15N×120.43E, h70km, mb3.5, ML2.2, MS1.7, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	Palayan	0.76	57	⇓eP	P	07 07 36.5	+1.2
PCPH				eS	S	07 07 41.3	-5.6
SCZP	Santa Cruz	0.80	321	eP	P	07 07 36.8	+1.0
SCZP				eS	S	07 07 52.3	+4.4
BALP	Baler	1.25	62	eP	P	07 07 42.1	+0.6
LUBP	Lubang	1.42	187	eP	P	07 07 46.2	+2.3
POLP	Polilio Island	1.51	106	eP	P	07 07 45.7	+0.6

*NIED **21** 07:12:00, 42.70N×145.40E, h32km, Mw3.6 Best double couple: M0:2.65×10^14 NP1:φ0=248°, δ85°, λ-93°. NP2:φ0=98°, δ6°, λ-60°.*

*JMA **21** 07:12:41.5±0.1, 42.71N×145.35E, h49km±1km, M3.9*

*IDC **21** 07:12:51.1±2.0, 45.09N×144.41E, mb3.6/6, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, Error ellipse: s-maj=52.3km s-min=21.8km az=146.0*

ISC 21 07:12:41.4±1.2, 42.71N±0.08×145.35E±0.09, h50km±8km, n15, σ0°70/23, mb3.5/6, 6C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	Akkeshi	0.56	301	⇑P	P	07 12 53.4	0.0
JAK				S	S	07 13 02.4	+0.3
NEM2	Nemuro 2	0.72	23	⇑P	P	07 12 55.4	0.0
NEM2				eS	S	07 13 05.3	-0.4
JNK	Nakash	0.99	332	⇑P	P	07 12 59.0	-0.2
JNK				eS	S	07 13 11.4	-1.0
JOB	Onbets	1.13	280	P	P	07 13 01.1	0.0
JOB				eS	S	07 13 15.4	-0.5
JRA	Rausu	1.24	352	⇑P	P	07 13 02.9	+0.2
JRA				eS	S	07 13 18.5	-0.1
JAR	Ashorobuto	1.30	297	⇑P	P	07 13 03.4	-0.3
JCH	Churui	1.47	267	P	P	07 13 05.7	-0.3
JCH				eS	S	07 13 24.4	+0.1
JTKR	Abashiri--Toko	1.64	321	⇑P	P	07 13 08.9	+0.5
JTKR				eS	S	07 13 29.3	+0.8
ASAJ	Asahikawa	2.45	306	Pn	P	07 13 21.1	+1.3
	18nm,0.3s,baz=118,slow=7.5,SNR=37						
ASAJ				Sn	S	07 13 52.9	+4.2
	12nm,0.3s,baz=34,slow=30,SNR=4.9						
SONM	Songino Array	27.68	294	P	P	07 18 26.2	-0.3
	1.2nm,1.0s,mb3.5,baz=84,slow=7.4,SNR=5.9						
ILAR	Eielson Array	43.10	35	P	P	07 20 39.1	+1.4
	0.2nm,0.4s,mb3.2,baz=263,slow=6.1,SNR=10.0						
BVAR	Borovoye Array	49.15	310	P	P	07 21 25.6	-0.1
	0.3nm,0.4s,mb3.7,baz=84,slow=8.1,SNR=5.3						
YKA	Yellowknife Ar	57.40	33	P	P	07 22 30.6	+4.0
	0.1nm,0.6s,mb3.1,baz=301,slow=7.0,SNR=3.8						
FINES	FINESS Array B	65.20	333	P	P	07 23 17.2	-1.8
	2.6nm,1.0s,mb4.2,baz=59,slow=8.1,SNR=6.3						
NOA	NORSAR Array B	70.09	338	P	P	07 23 49.6	0.0
	0.4nm,0.6s,mb3.5,baz=47,slow=5.3,SNR=2.9						

IDC 21 07:16:52.9±1.7, 5.10N×94.58E, mb3.8/5, mb1 4.1/6, mb1mx3.8/17, mbtmp3.8/6, ML4.1/1, Error ellipse: s-maj=72.4km s-min=23.1km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.94	17	Pn	P	07 20 19.3	+5.1
	0.3nm,0.3s,baz=212,slow=12,SNR=11						
SONM	Songino Array	43.77	12	P	P	07 24 59.8	-2.1
	0.8nm,0.8s,baz=197,slow=7.8,SNR=7.8						
WRA	Warramunga Arr	46.34	124	P	P	07 25 21.0	-1.8
	1.9nm,0.6s,baz=300,slow=9.6,SNR=15						
ASAR	Alice Springs	47.84	128	P	P	07 25 32.7	-1.9
	0.4nm,0.5s,baz=301,slow=7.4,SNR=4.1						
ZAL	Zalesovo	49.34	352	P	P	07 25 44.2	-1.6
	1.0nm,0.4s,baz=250,slow=7.7,SNR=4.3						
GERES	GERESS Array B	80.17	319

PAWZ Paruwai Farm 0.39 138 ⇑P* Pb 07 27 44.8 -0.1
PAWZ S* Sb 07 27 51.7 +1.0
MRZ Mangatainoka R 0.57 42 P* Pb 07 27 47.2 -0.5
MRZ S* Sb 07 27 57.1 +1.5
TUWZ Tuamarina 0.92 248 P* Pb 07 27 52.6 -0.8
TUWZ S* Sb 07 28 05.2 -0.1
BFZ Birch Farm 0.98 66 P* Pb 07 27 52.7 -1.7
BFZ S* Sb 07 28 06.0 -0.9
BSWZ Blackbirch Sta 1.09 235 P* Pb 07 27 55.3 -1.0
TSZ Takapari Road 1.23 33 ⇓P* Pb 07 27 56.8 -1.9
TSZ S* Sb 07 28 12.7 -1.5
NNZ Nelson 1.29 264 PN Pn 07 27 58.3 -0.2
NNZ SN Sn 07 28 15.3 +0.4
WAZ Wanganui 1.34 357 PN Pn 07 28 00.2 +1.0
WAZ SN Sn 07 28 17.9 +1.8
PWZ Pawanui 1.73 53 PN Pn 07 28 02.4 -2.4
KHZ Kahutara 1.75 220 PN Pn 07 28 03.3 -1.9
KHZ S* Sb 07 28 23.9 -5.3
MOVZ Moawhango 1.76 17 *e*PN Pn 07 28 04.6 -0.6
THZ Tophouse 1.77 247 PN Pn 07 28 04.2 -1.1
DRZ Dome Shelter 1.85 12 *e*PN Pn 07 28 07.0 +0.4
FWVZ Far West T-bar 1.87 11 PN Pn 07 28 07.1 +0.2
TUVZ Tukino 1.88 14 *e*PN Pn 07 28 07.1 +0.2
RAEZ Rainy Point 1.88 344 *e*PN Pn 07 28 07.4 +0.4
DFE Dawson Falls 1.91 337 PN Pn 07 28 08.5 +1.0
WPVZ Whakapapa 1.92 11 PN Pn 07 28 07.7 +0.2
CNZ Chateau 1.93 11 PN Pn 07 28 07.9 +0.3
QRZ Quartz Range 1.95 277 PN Pn 07 28 07.4 -0.5
NGZ Ngauruhoe 1.96 12 PN Pn 07 28 08.3 +0.3
NRZ Ngariki Road 1.96 333 PN Pn 07 28 09.5 +1.4
NEZ North Egmont 1.97 337 PN Pn 07 28 09.6 +1.4
OTVZ Oturere 1.98 13 *e*PN Pn 07 28 08.6 +0.2
VRZ Vera Road 1.98 353 PN Pn 07 28 09.4 +1.0
WTVZ West Tongariro 2.01 11 *e*PN Pn 07 28 09.4 +0.6
NWEZ Newall Road 2.04 333 *e*PN Pn 07 28 10.6 +1.4

IDC 21 07:29:37.6±1.8, 5.94N×93.14E, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=353.2km s-min=29.2km az=38.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.99**	**123**	P	P	07 38 18.5	-2.1
	0.9nm,0.6s,baz=302,slow=8.9,SNR=8.7						
ASAR	**Alice Springs**	**49.48**	**128**	P	P	07 38 30.1	-1.9
	0.7nm,1.0s,baz=296,slow=7.9,SNR=5.1						
BRTR	**Keskin Array B**	**62.95**	**312**	P	P	07 40 06.3	-2.1
	0.7nm,0.9s,baz=140,slow=5.7,SNR=4.3						

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*IDC **21** 07:37:21.6±4.7, 17.04N×147.16E, h18km±29km, mb4.4/21, mb1 4.5/21, mb1mx4.4/23, mbtmp4.4/21, MS3.7/4, Ms1 3.7/4, ms1mx3.3/27, Error ellipse: s-maj=20.2km s-min=13.7km az=106.0*
*MOS **21** 07:37:22.5±1.1, 17.09N×147.05E, h33km, mb4.8/34, Error ellipse: s-maj=11.5km s-min=6.8km az=102.3*
*NEIC **21** 07:37:27.9±1.2, 17.01N×147.10E, h69km±10km, mb4.6/19, Error ellipse: s-maj=9.4km s-min=6.2km az=95.0*
*BJI **21** 07:37:35.2, 17.91N×146.26E, h69km, mB5.2, mb4.7, Ms4.7, Msz4.4*
ISC 21 07:37:24.6±1.4, 17.03N±0.05×147.02E±0.05, h52km±12km, h46km±10.3km: pP-P, n139, σ1°§03/137, mb4.6/56, MS3.9/7, 3C-1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**1.25**	**255**	⇑*e*P	**P**	**07 37 51.5**	**+5.4**
GUMO	**Guam**	**4.01**	**212**	*e*Pn	**P**	**07 38 25.6**	**+0.6**
GUMO				*e*Sn	**S**	**07 39 10.4**	**-0.8**
CBIJ	**Chichi jima**	**10.97**	**337**	LR	LR	07 43 13.4	
	comp=Z,387nm,21.7s,baz=274,slow=32						
JOW	**Kunigami**	**19.92**	**303**	LR	LR	07 49 34.3	
	comp=Z,184nm,18.6s,baz=346,slow=37						
MAJO	**Matsushiro**	**20.94**	**340**	*e*P	**P**	**07 42 04.8**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,21nm,0.6s						
MAJO	**Matsushiro**	**20.94**	**340**	*e*P	**P**	**07 42 04.8**	**-0.5**
	comp=Z,21nm,0.6s						
MAT	**Matsushiro**	**20.94**	**340**	*e*P	**P**	**07 42 05.0**	**-0.3**
MAT				S	**S**	**07 45 46.0**	**-4.8**
MAT				pmax	pmax		
	comp=Z,28nm,1.0s						
MAT	**Matsushiro**	**20.94**	**340**	*e*P	**P**	**07 42 05.0**	**-0.3**
	comp=Z,28nm,1.0s						
MAT				S	**S**	**07 45 46.0**	**-4.8**
MAT	**Matsushiro**	**20.94**	**340**	P	**P**	**07 42 04.6**	**-0.7**
MAT				*e*S	**S**	**07 46 00.6**	**+10**
PMG	**Port Moresby**	**26.27**	**180**	P	**P**	**07 42 58.9**	**+1.7**
PMG				pmax	pmax		
	comp=Z,65nm,1.3s						
PMG	**Port Moresby**	**26.27**	**180**	P	**P**	**07 42 58.9**	**+1.7**
	comp=Z,65nm,1.3s,mb5.0,baz=4.3,slow=15,SNR=4.3						
SSE	**Sheshan**	**27.34**	**306**	P	**P**	**07 43 03.0**	**-3.9**
SSE				XS		07 47 57.3	
SSE				AMB	AMB		
	comp=Z,23nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,86nm,3.2s						
SSE	**Sheshan**	**27.34**	**306**	P	**P**	**07 43 03.0**	**-3.9**
	comp=Z,23nm,0.8s,mb4.8						
SSE				pP	pP	07 43 11.7	-8.3
SSE				sP	sP	07 43 14.9	-11
SSE				S	**S**	**07 47 41.5**	**+0.2**
SSE				sS		07 47 57.3	
SSE				LR	LR		
	comp=Z,130nm,22.9s,MS3.4						
NJ2	**Nanjing**	**29.55**	**306**	*e*P	**P**	**07 43 25.5**	**-1.2**
NJ2				PP	PP	07 44 22.9	-1.2
NJ2				XS		07 48 34.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,602nm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,18.4s,MS5.1						
NJ2				LR	LR		
	comp=E,3μm,15.4s,MS5.1						
NJ2				LR	LR		
	comp=Z,2μm,17.2s,MS4.7						
MDJ	**Mudanjiang**	**31.17**	**336**	P	**P**	**07 43 39.8**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.6						
KLR	**Kul'dur**	**34.43**	**342**	*e*P	**P**	**07 44 06.0**	**-3.1**
BJI	**Beijing**	**35.20**	**317**	*e*P	**P**	**07 44 16.8**	**+1.0**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BJI				MLR	MLR		
	comp=Z,100nm,29.3s,MS3.4						
BJI	**Beijing**	**35.20**	**317**	*e*P	**P**	**07 44 16.8**	**+1.0**
	comp=Z,4.0nm,0.9s,mb4.3						
BJI				LR	LR		
	comp=Z,100nm,29.3s,MS3.4						
CTA	**Charters Tower**	**36.90**	**181**	LR	LR	07 57 27.5	
	comp=Z,108nm,19.7s,MS3.6,baz=219,slow=33						
WRAB	**Tennant Creek**	**38.79**	**199**	*e*P	**P**	**07 44 45.0**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**38.79**	**199**	*e*P	**P**	**07 44 45.0**	**-1.1**
	comp=Z,14nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**38.80**	**199**	*e*P	**P**	**07 44 45.3**	**-0.8**
WRA	**Warramunga Arr**	**38.80**	**199**	P	**P**	**07 44 45.4**	**-0.7**
WRA						07 50 43.8	
WRA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WRA				pmax	pmax		
	comp=E,1.0nm,1.0s						
WRA	**Warramunga Arr**	**38.80**	**199**	P	**P**	**07 44 45.4**	**-0.7**
	comp=E,6.6nm,0.7s,mb4.5,baz=23,slow=9.1,SNR=25						
WRA				ScP		07 50 43.8	
	comp=E,1.3nm,1.0s,baz=22,slow=4.0,SNR=5.2						
HIA	**Hailar**	**39.02**	**332**	*e*P	**P**	**07 44 47.8**	**+0.1**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HIA	**Hailar**	**39.02**	**332**	*e*P	**P**	**07 44 47.8**	**+0.1**
	comp=Z,5.0nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**40.77**	**212**	*e*P	**P**	**07 45 02.9**	**+0.4**
	comp=Z,16nm,1.2s,mb4.5						
KMI	**Kunming**	**41.95**	**289**	P	**P**	**07 45 12.2**	**0.0**
KMI				*P	pP	07 45 28.1	+2.2
KMI				S	**S**	**07 51 23.6**	**-3.1**
KMI				MLR	MLR		
	comp=Z,60nm,29.1s,MS3.3						
KMI	**Kunming**	**41.95**	**289**	P	**P**	**07 45 12.2**	**0.0**
KMI				pP	pP	07 45 28.1	+2.2
KMI				S	**S**	**07 51 23.6**	**-3.1**
KMI				sS		07 51 52.7	
KMI				LR	LR		
	comp=Z,60nm,29.1s,MS3.3						
ASAR	**Alice Springs**	**42.43**	**198**	P	**P**	**07 45 14.8**	**-1.4**
	comp=Z,2.7nm,0.8s,mb3.9,baz=16,slow=8.3,SNR=22						
ASPA	**Alice Springs**	**42.43**	**198**	*e*P	**P**	**07 45 16.6**	**+0.4**
MA2	**Magadan**	**42.57**	**3**	*e*P	**P**	**07 45 15.8**	**-1.0**
MA2				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
ULN	**Ulaanbaatar**	**44.85**	**322**	*e*P	**P**	**07 45 35.6**	**+0.2**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**44.85**	**322**	*e*P	**P**	**07 45 35.6**	**+0.2**
	comp=Z,7.0nm,1.0s,mb4.5						
NST	**Nakhon Sawan**	**44.93**	**275**	P	**P**	**07 45 37.0**	**+0.5**
SONM	**Songino Array**	**45.23**	**322**	P	**P**	**07 45 38.3**	**-0.1**
	comp=Z,4.1nm,0.6s,mb4.4,baz=138,slow=7.5,SNR=29						
CHG	**Chiang Mai**	**45.67**	**280**	P	**P**	**07 45 44.3**	**+1.9**
CMAR	**Chiang Mai Arr**	**45.71**	**279**	P	**P**	**07 45 44.5**	**+1.8**
CMAR				pmax	pmax		
	comp=Z,13nm,0.8s						
CMAR	**Chiang Mai Arr**	**45.71**	**279**	P	**P**	**07 45 44.5**	**+1.8**
	comp=Z,13nm,0.8s,mb4.9,baz=64,slow=6.4,SNR=68						
MBWA	**Marble Bar**	**46.44**	**216**	*e*P	**P**	**07 45 47.6**	**-0.8**
YAK	**Yakutsk**	**46.59**	**349**	*e*P	**P**	**07 45 49.9**	**+0.9**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
BOD	**Bodaibo**	**47.53**	**337**	*e*P	**P**	**07 45 55.1**	**-1.4**
ZAK	**Zakamensk**	**48.23**	**324**	⇑*i*P	**P**	**07 46 01.9**	**-0.1**
TLY	**Talaya**	**48.64**	**325**	*e*P	**P**	**07 46 05.4**	**+0.2**
TLY				*e*	pP	07 46 14.6	-4.5
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**48.91**	**186**	P	**P**	**07 46 06.0**	**-1.5**
	comp=Z,2.0nm,0.8s,mb4.2,baz=337,slow=12,SNR=3.9						
MOY	**Mondy**	**50.10**	**324**	*e*P	**P**	**07 46 16.6**	**+0.2**
FORT	**Forrest**	**50.92**	**201**	*e*P	**P**	**07 46 23.9**	**+1.0**
	comp=Z,47nm,0.8s,mb5.5						
SHL	**Shillong**	**51.77**	**289**	*e*P	**P**	**07 46 30.7**	**+1.3**
LSA	**Lhasa**	**52.38**	**295**	P	**P**	**07 46 37.0**	**+3.1**
LSA	**Lhasa**	**52.38**	**295**	*e*P	**P**	**07 46 35.0**	**+1.1**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
LSA	**Lhasa**	**52.38**	**295**	*e*P	**P**	**07 46 35.0**	**+1.1**
	comp=Z,6.9nm,0.6s,mb4.8						
BILL	**Bilibino**	**52.45**	**9**	*e*P	**P**	**07 46 34.8**	**+0.9**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BILL	**Bilibino**	**52.45**	**9**	*e*P	**P**	**07 46 34.8**	**+0.9**
	comp=Z,3.4nm,0.6s,mb4.5						
WMQ	**Urumqi**	**56.35**	**312**	P	**P**	**07 47 03.0**	**+0.2**
WMQ				AP	pP	07 47 18.9	+1.9
WMQ				XP	sP	07 47 25.9	+2.9
WMQ				PP	PP	07 49 10.4	+0.4
WMQ				S	**S**	**07 54 46.8**	**-0.7**
WMQ				XS		07 55 14.0	
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,50nm,4.3s						
WMQ				LR	LR		
	comp=N,355nm,19.8s,MS4.5						
WMQ				LR	LR		
	comp=E,215nm,19.1s,MS4.5						
WMQ				LR	LR		
	comp=Z,446nm,19.5s,MS4.6						
JIRN	**Jiri**	**56.77**	**292**	*e*P	**P**	**07 47 07.2**	**+1.2**
	comp=Z,20nm,0.6s,mb5.3						
NWAO	**Narrogin (SRO)**	**57.26**	**210**	P	**P**	**07 47 08.9**	**-0.5**
	comp=Z,13nm,0.7s,mb5.1,baz=43,slow=7.0,SNR=14						
KKN	**Kakani**	**57.57**	**292**	*e*P	**P**	**07 47 12.7**	**+1.1**
	comp=Z,13nm,0.6s,mb5.1						
DMN	**Daman**	**57.73**	**292**	*e*P	**P**	**07 47 13.8**	**+1.0**
	comp=Z,25nm,0.8s,mb5.3						
GKN	**Gorkha**	**58.13**	**293**	*e*P	**P**	**07 47 15.9**	**+0.4**
	comp=Z,43nm,1.0s,mb5.4						
KOLN	**Koldanda**	**59.06**	**292**	*e*P	**P**	**07 47 22.8**	**+0.8**
	comp=Z,12nm,0.7s,mb5.0						
ZAL	**Zalesovo**	**60.11**	**323**	P	**P**	**07 47 28.3**	**-0.6**
ZAL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZAL	**Zalesovo**	**60.11**	**323**	P	**P**	**07 47 28.2**	**-0.6**
	comp=Z,4.6nm,0.9s,mb4.5,baz=280,slow=8.1,SNR=19						
MKAR	**Makanchi Array**	**60.52**	**314**	*i*P	**P**	**07 47 31.8**	**0.0**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BLSP	**Bilaspur**	**60.96**	**286**	*e*P	**P**	**07 47 32.6**	**-2.4**
BLSP				*e*		07 47 59.9	
NVS	**Novosibirsk**	**61.19**	**324**	*e*P	**P**	**07 47 34.7**	**-1.5**
NVS				pmax	pmax		
	comp=Z,23nm,1.4s,mb5.1						
NVS				pmax	pmax		
	comp=E,20nm,1.6s						
IMA	**Indian Mountai**	**62.28**	**23**	P	**P**	**07 47 43.8**	**+0.4**
KURK	**Kurchatov**	**63.35**	**319**	*e*P	**P**	**07 47 49.5**	**-1.2**
KURK				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.1						
KURK	**Kurchatov**	**63.35**	**319**	*e*P	**P**	**07 47 49.5**	**-1.1**
	comp=Z,14nm,0.8s,mb5.1						
COLA	**College**	**64.21**	**25**	*i*P	**P**	**07 47 56.2**	**+0.2**
ILAR	**Eielson Array**	**64.58**	**26**	P	**P**	**07 47 56.5**	**-2.0**
	comp=Z,1.0nm,0.7s,mb3.9,baz=267,slow=6.1,SNR=12						
ILAR				LR	LR	08 14 23.4	
	comp=Z,67nm,18.5s,MS3.9,baz=358,slow=34						
NDI	**New Delhi**	**64.59**	**294**	*e*P	**P**	**07 47 59.0**	**-0.1**
HYB	**Hyderabad**	**65.05**	**282**	*e*P	**P**	**07 48 03.0**	**+0.7**
HYB	**Hyderabad**	**65.05**	**282**	*i*P	**P**	**07 48 03.0**	**+0.7**
FRU	**Bishkek**	**65.80**	**310**	*e*P	**P**	**07 48 07.0**	**+0.4**
AAK	**Ala-Archa**	**65.89**	**310**	*e*P	**P**	**07 48 05.1**	**-2.2**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.5						
BVA0	**Borovoye Array**	**68.56**	**321**	P	**P**	**07 48 23.6**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
BVAR	**Borovoye Array**	**68.56**	**321**	P	**P**	**07 48 23.4**	**-0.3**
	comp=Z,18nm,0.8s,mb5.0,baz=95,slow=7.8,SNR=54						
BRVK	**Borovoye**	**68.62**	**321**	P	**P**	**07 48 23.9**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
BRVK	**Borovoye**	**68.62**	**321**	*e*P	**P**	**07 48 23.1**	**-1.0**
	comp=Z,21nm,1.0s,mb5.0						
KAD	**Karad**	**69.16**	**282**	*e*P	**P**	**07 48 28.7**	**+0.6**
POO	**Poona**	**69.22**	**284**	⇓*i*P	**P**	**07 48 29.0**	**+0.5**
INK	**Inuvik**	**70.41**	**23**	*e*P	**P**	**07 48 34.1**	**-0.7**
INK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
INK	**Inuvik**	**70.41**	**23**	P	**P**	**07 48 33.9**	**-0.9**
	comp=Z,2.3nm,0.9s,mb4.1,baz=283,slow=4.7,SNR=7.8						
INK	**Inuvik**	**70.41**	**23**	*e*P	**P**	**07 48 34.1**	**-0.7**
	comp=Z,5.2nm,1.0s,mb4.4						
DLBC	**Dease Lake**	**71.98**	**33**	P	**P**	**07 48 44.8**	**+0.4**
	comp=Z,3.7nm,1.1s,mb4.2,baz=220,slow=5.8,SNR=3.8						
SVE	**Sverdlovsk**	**73.96**	**325**	*e*P	**P**	**07 48 57.0**	**+1.0**
ARU	**Arti**	**75.15**	**325**	⇑*i*P	**P**	**07 48 58.3**	**-4.6**
ARU				*e*		07 49 07.7	
ARU				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
YKW3	**Yellowknife Ar**	**78.84**	**28**	*e*P	**P**	**07 49 22.1**	**-1.3**
YKA	**Yellowknife Ar**	**78.86**	**28**	P	**P**	**07 49 22.8**	**-0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**78.86**	**28**	P	**P**	**07 49 22.8**	**-0.7**
	comp=Z,1.1nm,0.6s,mb3.9,baz=286,slow=5.5,SNR=21						
YBH	**Yreka Blue Hor**	**79.06**	**50**	P	**P**	**07 49 24.7**	**-0.4**
YBH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YBH	**Yreka Blue Hor**	**79.06**	**50**	P	**P**	**07 49 24.7**	**-0.4**
	comp=Z,3.7nm,0.7s,mb4.4,baz=292,slow=6.1,SNR=11						
BMO	**Blue Mountains**	**82.10**	**46**	*e*P	**P**	**07 49 39.9**	**-1.2**
	comp=Z,3.4nm,1.0s,mb4.2						
EDM	**Edmonton**	**82.16**	**37**	*e*P	**P**	**07 49 40.9**	**-0.3**
KEV	**Kevo**	**83.90**	**342**	*e*p	**P**	**07 49 43.1**	**-6.6**
	comp=Z,0.5nm,0.4s,mb4.0						
KEV	**Kevo**	**83.90**	**342**	*e*P	**P**	**07 49 43.1**	**-6.6**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.3						
ARCES	**ARCESS Array B**	**84.45**	**342**	P	**P**	**07 49 52.5**	**0.0**
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ARCES	**ARCESS Array B**	**84.45**	**342**	P	**P**	**07 49 52.5**	**0.0**
	comp=Z,5.6nm,0.7s,mb4.8,baz=59,slow=7.1,SNR=8.2						
DAG	**Danmarks Havn**	**86.00**	**357**	*e*P	**P**	**07 50 02.0**	**+2.0**
DAG	**Danmarks Havn**	**86.00**	**357**	*i*P	**P**	**07 50 02.0**	**+2.0**
JOF	**Joensuu**	**86.05**	**336**	*e*p	**P**	**07 49 58.1**	**-2.4**
	comp=Z,0.6nm,0.3s,mb4.3						
JOF	**Joensuu**	**86.05**	**336**	*e*P	**P**	**07 49 58.1**	**-2.4**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.5						
QLMT	**Earthquake Lak**	**86.08**	**44**	*e*P	**P**	**07 50 01.9**	**+0.8**
YMR	**Madison River**	**86.45**	**44**	*e*P	**P**	**07 50 04.5**	**+1.6**
NEN	**Nelson**	**86.64**	**54**	*e*P	**P**	**07 50 04.3**	**+0.3**
IMW	**Indian Meadow**	**86.74**	**45**	*e*P	**P**	**07 50 05.6**	**+1.3**
MOOW	**Moose Ponds**	**86.92**	**45**	*e*P	**P**	**07 50 05.5**	**+0.3**
ARUT	**Antelope Range**	**87.02**	**51**	*e*P	**P**	**07 50 06.1**	**+0.3**
HWUT	**Hardware Ranch**	**87.10**	**47**	*e*P	**P**	**07 50 06.6**	**+0.5**
	comp=Z,2.2nm,0.8s,mb4.4						
OBN	**Obninsk**	**87.35**	**327**	*e*P	**P**	**07 50 07.6**	**+0.6**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.2						
MSU	**Marysvale**	**87.71**	**50**	*e*P	**P**	**07 50 10.1**	**+0.9**
DAU	**Daniels Canyon**	**87.73**	**48**	*e*P	**P**	**07 50 09.9**	**+0.7**
PDAR	**Pinedale Array**	**88.08**	**46**	P	**P**	**07 50 09.6**	**-1.2**
	comp=Z,0.5nm,0.5s,mb4.0,baz=194,slow=2.1,SNR=6.3						
TMUT	**Trail Mountain**	**88.15**	**49**	*e*P	**P**	**07 50 12.3**	**+1.0**
KIV	**Kislovodsk**	**88.27**	**316**	*e*P	**P**	**07 50 11.7**	**0.0**
KIV				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.1						
KAF	**Kangasniemi**	**88.44**	**336**	*e*p	**P**	**07 50 11.7**	**-0.4**
	comp=Z,0.3nm,0.4s,mb3.9						
SRU	**San Rafael**	**88.72**	**49**	*e*P	**P**	**07 50 13.3**	**-0.6**
FINES	**FINESS Array B**	**88.92**	**336**	P	**P**	**07 50 14.4**	**+0.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	**FINESS Array B**	**88.92**	**336**	P	**P**	**07 50 14.3**	**0.0**
	comp=Z,3.3nm,0.6s,mb4.8,baz=65,slow=4.9,SNR=17						
PV10	**Paradox Valley**	**90.06**	**50**	*e*P	**P**	**07 50 20.7**	**+0.4**
SOC	**Sochi**	**90.39**	**316**	*e*P	**P**	**07 50 19.1**	**-2.6**
SOC				*e*		07 54 03.9	
SOC				*e*S	SKS	08 00 47.0	+0.4
SOC				*e*		08 01 20.8	
SOC				*e*SSS	SSS	08 10 51.6	+0.9
SOC				pmax	pmax		
	comp=N,14nm,0.6s						
SOC				pmax	pmax		
	comp=Z,21nm,0.6s,mb5.6						
SOC				pmax	pmax		
	comp=E,22nm,0.7s						
PV01	**Paradox Valley**	**90.50**	**50**	*e*P	**P**	**07 50 22.5**	**+0.1**
ISCO	**Idaho Springs**	**91.97**	**47**	*e*P	**P**	**07 50 29.9**	**+0.8**
ISCO				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.6						
ISCO	**Idaho Springs**	**91.97**	**47**	*e*P	**P**	**07 50 29.9**	**+0.8**
	comp=Z,3.1nm,1.0s,mb4.6						
ANMO	**Albuquerque**	**93.29**	**52**	P	**P**	**07 50 36.3**	**+1.0**
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ANMO	**Albuquerque**	**93.29**	**52**	P	**P**	**07 50 36.3**	**+1.0**
	comp=Z,0.5nm,0.4s,mb4.3,baz=240,slow=8.1,SNR=3.3						
NOA	**NORSAR Array B**	**94.56**	**340**	P	**P**	**07 50 42.5**	**+2.1**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**94.56**	**340**	P	**P**	**07 50 42.5**	**+2.1**
	comp=Z,1.6nm,0.9s,mb4.5,baz=56,slow=4.5,SNR=3.4						
NOA	**NORSAR Array B**	**94.56**	**340**	P	**P**	**07 50 42.5**	**+2.1**
BRTR	**Keskin Array B**	**96.17**	**315**	P	**P**	**07 50 48.6**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRTR	**Keskin Array B**	**96.17**	**315**	P	**P**	**07 50 48.6**	**+0.3**
	comp=Z,1.5nm,0.9s,mb4.4,baz=97,slow=3.4,SNR=7.8						
TXAR	**Lajitas Array**	**97.72**	**56**	P	**P**	**07 50 53.1**	**-2.5**
	comp=Z,0.3nm,0.9s,mb3.8,baz=288,slow=2.9,SNR=2.8						
DBIC	**Dimbokro**	**143.56**	**308**	PKIKP	PKPdf	07 56 54.4	-0.1
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.5s						
DBIC	**Dimbokro**	**143.56**	**308**	PKP	PKPdf	07 56 54.4	-0.2
	comp=Z,2.6nm,0.5s,baz=52,slow=3.6,SNR=8.2						
LVC	**Limon Verde**	**145.80**	**105**	PKPbc	PKPbc	07 57 01.7	+2.6
	comp=Z,1.9nm,0.7s,baz=0.3,slow=1.8,SNR=5.3						
LVC	**Limon Verde**	**145.80**	**105**	*e*PKPbc	PKPbc	07 57 01.3	+2.3
LPAZ	**La Paz**	**146.34**	**94**	PKP2	PKPab	07 57 03.1	-0.4
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LPAZ	**La Paz**	**146.34**	**94**	PKPbc	PKPbc	07 57 03.1	+2.6
	comp=Z,3.0nm,0.9s,baz=272,slow=4.4,SNR=10						
LPAZ	**La Paz**	**146.34**	**94**	*e*PKPbc	PKPbc	07 57 02.7	+2.2

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*IDC **21** 07:50:40.5±1.0, 50.26S×112.77E, mb4.1/4, mb1 4.3/4, mb1mx4.1/10, mbtmp4.1/4, MS3.7/2, Ms1 3.7/2, ms1mx3.0/17, Error ellipse: s-maj=49.0km s-min=25.3km az=113.0*
*NEIC **21** 07:50:42.1±0.7, 50.31S×112.87E, h10km, mb4.6/1, Error ellipse: s-maj=37.7km s-min=14.7km az=116.0*
ISC 21 07:50:39.9±1.1, 50.3S±0.2×113.0E±0.6, h10km, n11, σ0°§23/6, mb4.2/5, MS3.7/2, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**31.23**	**39**

BCPH	**Baguio City Da**	**0.34 286**	⇓*i* P	Pg	08 14 56.3	-0.6
BCPH			*i* S	Sg	08 15 02.0	+0.5
PCPH	**Palayan**	**0.74 167**	⇑*e*P	Pb	08 15 04.8	+0.3
PCPH			*e*S	Sb	08 15 17.9	+3.6
BALP	**Baler**	**0.83 131**	*e*P	Pb	08 15 05.0	-1.0
BALP			*e*S	Sb	08 15 12.9	-4.2
BOLP	**Bolinao**	**0.97 276**	*e*P	Pb	08 15 07.8	-0.6
CAUP	**Cauayan**	**1.08 53**	*e*P	Pb	08 15 08.6	-1.7
APYP	**Conner**	**1.59 11**	*e*P	Pn	08 15 18.3	-0.1
APYP			*e*S	Sb	08 15 39.9	+0.7

IDC 21 08:32:45.5±1.7, 12.19N×145.29E, mb3.7/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.7/3, Error ellipse: s-maj=193.6km s-min=29.9km az=112.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.70**	**199**	P	P	08 39 28.1	-2.6
	3.2nm,0.7s,baz=21,slow=9.7,SNR=18						
ASAR	**Alice Springs**	**37.33**	**197**	P	P	08 40 00.3	-1.3
	0.4nm,0.5s,baz=13,slow=11,SNR=7.8						
YKA	**Yellowknife Ar**	**83.91**	**27**	P	P	08 45 17.1	-1.2
	0.1nm,0.4s,baz=284,slow=5.1,SNR=6.1						

*IDC **21** 08:36:47.3±0.6, 1.16N×97.00E, mb4.6/19, mb1 4.6/20, mb1mx4.6/24, mbtmp4.6/20, ML4.9/1, MS4.3/6, Ms1 4.3/6, ms1mx4.0/17, Error ellipse: s-maj=27.6km s-min=11.4km az=49.0*

*BJI **21** 08:36:51.8, 1.13N×97.36E, h46km, mB5.3, mb5.1, Ms4.7, Msz4.6*

*MOS **21** 08:36:52.8±1.1, 1.26N×97.26E, h51km, mb5.0/31, MS4.7/7, Error ellipse: s-maj=13.8km s-min=7.3km az=104.6*

*HRVD **21** 08:36:53.9±2.2, 1.37N×97.42E, h31km±1km, MW4.8/25, Centroid moment Tensor Solution. LP body waves: s15,c22;Mantle waves: s25,c37; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.85±.23; Mθθ-1.39±.15; Mφφ-0.46±.22; MrΘ0.81±.21; MΘφ1.08±.09; Mφr-0.07±.27; Best double couple: M0 2.142×10^16 NP1:φs316°, δ36°, λ110°. NP2:φs112°, δ56°, λ76°. Principal axes: T 2.056, Plg75°, Azm342°; N .172, Plg11°, Azm120°; P -2.229, Plg10°, Azm212°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **21** 08:36:53.9±2.6, 1.22N×97.20E, h44km±22km, mb5.0/25, MS4.1/1 Error ellipse: s-maj=13.4km s-min=5.9km az=55.0*

NEIC Felt [II] at Gunungsitoli.

ISC 21 08:36:51.2±0.3, 1.23N±0.05×97.28E±0.06, h33km, (h40km±9.4km:pP-P), n135, σ1°±10/135, mb4.9/60, MS4.5/18, 8C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.78**	**29**	P	P	08 38 29.0	-1.9
	340nm,0.9s						
CMAR	**Chiang Mai Arr**	**17.19**	**5**	P	P	08 40 49.8	-0.8
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,718nm,18.1s						
CMAR	**Chiang Mai Arr**	**17.19**	**5**	P	P	08 40 49.8	-0.8
	comp=Z,1.7nm,0.3s,baz=195,slow=10,SNR=23						
CMAR				LR	LR	08 48 07.8	
	comp=Z,718nm,18.1s,baz=190,slow=39						
VIS	**Vishakhapatnam**	**21.36**	**321**	*e*P	P	08 41 39.2	+1.2
CAL	**Calcutta**	**22.90**	**338**	*e*P	P	08 41 52.9	-0.5
CAL				*e*S	S	08 46 05.9	+9.4
KMI	**Kunming**	**24.33**	**12**	⇑P	P	08 42 09.2	+2.0
KMI				*PP		08 42 22.8	
KMI				*SP		08 42 31.4	
KMI						08 42 48.6	
KMI				pmax	pmax		
	comp=Z,110nm,1.4s,mb5.1						
KMI				MLR	MLR		
	comp=Z,3μm,14.7s,MS4.8						
KMI	**Kunming**	**24.33**	**12**	⇑P	P	08 42 09.2	+2.0
	comp=Z,110nm,1.4s,mb5.1						
KMI				pP		08 42 22.8	
KMI				sP		08 42 31.4	
KMI				PP	PP	08 42 48.6	+5.8
KMI				PPP	PPP	08 43 03.4	+10
KMI				S	S	08 46 35.3	+14
KMI				sS		08 47 03.7	
KMI				SS	SS	08 47 48.4	+33
KMI				LR	LR		
	comp=Z,3μm,14.7s,MS4.8						
HYB	**Hyderabad**	**24.45**	**312**	*e*P	P	08 42 10.0	+1.5
HYB	**Hyderabad**	**24.45**	**312**	*i* P	P	08 42 10.0	+1.5
SHL	**Shillong**	**24.75**	**348**	⇑*i*P	P	08 42 11.5	+0.2
SHL				*e*S	S	08 46 30.5	+2.0
JIRN	**Jiri**	**28.34**	**339**	*e*P	P	08 42 45.2	+0.7
	comp=Z,238nm,1.3s,mb5.7						
PKI	**Pulchoki**	**28.55**	**338**	*e*P	P	08 42 46.6	+0.3
	comp=Z,112nm,1.2s,mb5.5						
GUN	**Gumba**	**28.68**	**339**	*e*P	P	08 42 48.0	+0.5
	comp=Z,95nm,0.7s,mb5.6						
DMN	**Daman**	**28.70**	**337**	*e*P	P	08 42 47.8	+0.1
	comp=Z,42nm,0.8s,mb5.2						
KKN	**Kakani**	**28.80**	**338**	*e*P	P	08 42 48.6	+0.1
	comp=Z,123nm,1.2s,mb5.5						
LSA	**Lhasa**	**28.90**	**349**	P	P	08 42 51.0	+1.6
LSA				AMB	AMB		
	comp=Z,24nm,0.8s,mb5.0						
LSA	**Lhasa**	**28.90**	**349**	*e*P	P	08 42 49.6	+0.2
LSA				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.8						
LSA	**Lhasa**	**28.90**	**349**	*e*P	P	08 42 49.6	+0.2
	comp=Z,22nm,1.0s,mb4.8						
GKN	**Gorkha**	**29.24**	**337**	*e*P	P	08 42 52.0	-0.4
	comp=Z,152nm,1.2s,mb5.6						
KOLN	**Koldanda**	**29.46**	**335**	*e*P	P	08 42 54.8	+0.4
	comp=Z,69nm,0.8s,mb5.4						
ENH	**Enshi**	**31.12**	**21**	*e*P	P	08 43 07.5	-1.7
	comp=Z,35nm,0.6s,mb5.4						
NDI	**New Delhi**	**33.35**	**327**	*e*P	P	08 43 30.0	+1.4
FITZ	**Fitzroy Crossi**	**33.88**	**126**	*e*P	P	08 43 32.3	-1.0
	comp=Z,9.4nm,0.6s,mb4.9						
DDI	**Dehra Dun**	**34.21**	**330**	*e*	P	08 43 33.8	-2.2
XAN	**Xi'an**	**34.41**	**17**	P	P	08 43 36.3	-1.3
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
LZH	**Lanzhou**	**35.21**	**9**	⇑P	P	08 43 44.5	0.0
LZH				AP	pP	08 43 59.3	+5.1
LZH				XP	sP	08 44 05.6	+7.1
LZH				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.3						
LZH				LR	LR		
	comp=N,1μm,12.8s						
LZH				LR	LR		
	comp=Z,2μm,17.5s,MS4.9						
LZH	**Lanzhou**	**35.21**	**9**	⇑P	P	08 43 44.5	0.0
	comp=Z,50nm,1.2s,mb5.3						
LZH				pP	pP	08 43 59.3	+5.1
LZH				sP	sP	08 44 05.6	+7.1
LZH				LR	LR		
	comp=Z,2μm,17.5s,MS4.9						
NJ2	**Nanjing**	**36.79**	**31**	*e*P	P	08 43 58.3	+0.4
NJ2				AP	pP	08 44 07.9	+0.2
NJ2				XP	sP	08 44 11.9	0.0
NJ2				PP	PP	08 45 26.3	+2.5
NJ2				S	S	08 49 42.0	+2.7
NJ2				XS		08 49 58.0	
NJ2				AMB	AMB		
	comp=Z,120nm,1.0s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,2μm,5.2s						
NJ2				LR	LR		
	comp=N,790nm,16.9s,MS4.8						
NJ2				LR	LR		
	comp=E,870nm,16.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,820nm,16.1s,MS4.6						
SSE	**Sheshan**	**37.34**	**35**	P	P	08 44 01.9	-0.6
SSE				XP	sP	08 44 14.4	-2.1
SSE				S	S	08 49 49.5	+1.9
SSE				XS		08 50 05.1	
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,98nm,4.1s						
SSE				LR	LR		
	comp=N,301nm,16.7s,MS4.2						
SSE				LR	LR		
	comp=E,151nm,16.7s,MS4.2						
SSE				LR	LR		
	comp=Z,301nm,15.5s,MS4.2						
SSE	**Sheshan**	**37.34**	**35**	P	P	08 44 01.9	-0.6
	comp=Z,40nm,0.7s,mb5.4						
SSE				sP	sP	08 44 14.4	-2.1
SSE				S	S	08 49 49.5	+1.9
SSE				sS		08 50 05.1	
SSE				SS	SS	08 52 33.9	+14
SSE				LR	LR		
	comp=Z,300nm,15.5s,MS4.2						
KAKA	**Kakadu**	**37.54**	**113**	*e*P	P	08 44 03.0	-1.4
	comp=Z,14nm,0.7s,mb4.8						
NWAO	**Narrogin (SRO)**	**38.85**	**153**	P	P	08 44 15.8	+0.7
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**38.85**	**153**	P	P	08 44 15.8	+0.7
	comp=Z,5.5nm,0.8s,mb4.3,baz=329,slow=12,SNR=2.8						
NWAO	**Narrogin (SRO)**	**38.85**	**153**	P	P	08 44 15.8	+0.7
JOW	**Kunigami**	**39.16**	**47**	P	P	08 44 19.1	+1.4
	comp=Z,27nm,0.6s,mb5.1,baz=220,slow=12,SNR=7.2						
WRA	**Warramunga Arr**	**41.98**	**122**	P	P	08 44 41.2	-0.1
WRA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WRA	**Warramunga Arr**	**41.98**	**122**	P	P	08 44 41.2	-0.1
	comp=Z,8.6nm,0.6s,mb4.6,baz=300,slow=9.1,SNR=69						
WRAB	**Tennant Creek**	**41.99**	**122**	*e*P	P	08 44 41.0	-0.3
WRAB				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**41.99**	**122**	*e*P	P	08 44 41.0	-0.3
	comp=Z,15nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	**41.99**	**122**	⇓*i*P	P	08 44 41.4	+0.1
BJT	**Baijiatuau**	**42.26**	**22**	*e*P	P	08 44 43.9	+0.7
BJT				pmax	pmax		
	comp=Z,16nm,0.6s						
BJT	**Baijiatuau**	**42.26**	**22**	*e*P	P	08 44 43.9	+0.7
	comp=Z,16nm,0.6s,mb4.8						
BJI	**Beijing**	**42.28**	**22**	*e*P	P	08 44 44.4	+1.0
	comp=Z,30nm,0.8s,mb5.0						
BJI				S	S	08 51 17.4	+16
BJI				LR	LR		
	comp=Z,250nm,21.6s,MS4.1						
FORT	**Forrest**	**43.25**	**140**	⇓*i*P	P	08 44 53.6	+2.1
	comp=Z,52nm,0.6s,mb5.4						
WMQ	**Urumqi**	**43.25**	**350**	P	P	08 44 52.6	+1.3
ASPA	**Alice Springs**	**43.35**	**127**	*e*P	P	08 44 52.5	+0.1
ASAR	**Alice Springs**	**43.35**	**127**	P	P	08 44 52.8	+0.4
	comp=Z,5.0nm,0.7s,mb4.4,baz=297,slow=7.8,SNR=46						
ASAR				PcP	PcP	08 46 41.7	+0.5
	comp=Z,1.8nm,0.7s,baz=296,slow=3.1,SNR=5.7						
UCH	**Uchtor**	**45.65**	**336**	P	P	08 45 11.9	+1.3
	SNR=12						
KS15	**Wonju Array Si**	**45.74**	**34**	*e*P	P	08 45 11.5	0.0
TKM2	**Tokmak 2**	**45.82**	**338**	P	P	08 45 12.7	+0.8
	SNR=8.1						
KBK	**Karagaybulak**	**45.84**	**337**	P	P	08 45 13.9	+1.8
	SNR=9.0						
AML	**Almayashu**	**45.91**	**336**	P	P	08 45 13.3	+0.6
	SNR=11						
AAK	**Ala-Archa**	**46.00**	**337**	*e*P	P	08 45 13.2	-0.2
AAK				*e*		08 46 49.3	
AAK				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
AAK	**Ala-Archa**	**46.00**	**337**	*e*P	P	08 45 13.2	-0.2
	comp=Z,16nm,1.3s,mb4.8						
AAK				*e*PcP	PcP	08 46 49.3	-0.8
FRU	**Bishkek**	**46.12**	**337**	*e*P	P	08 45 15.0	+0.7
FRU				*e*	pP	08 45 25.0	+0.8
CHMS	**Chumysh**	**46.21**	**337**	P	P	08 45 15.5	+0.5
	SNR=5.0						
EKS2	**Erkin-Say**	**46.31**	**336**	P	P	08 45 17.3	+1.5
	SNR=6.9						
USP	**Ospenovka**	**46.53**	**337**	P	P	08 45 18.0	+0.5
	SNR=19						
SONM	**Songino Array**	**47.09**	**8**	P	P	08 45 22.3	+0.5
	comp=Z,8.5nm,0.7s,mb4.8,baz=189,slow=9.2,SNR=73						
SONM				PcP	PcP	08 46 53.8	-0.1
	comp=Z,2.6nm,0.6s,baz=187,slow=4.2,SNR=8.7						
ULN	**Ulaanbaatar**	**47.21**	**9**	*e*P	P	08 45 23.0	+0.2
ULN				*e*		08 46 53.4	
ULN				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
ULN	**Ulaanbaatar**	**47.21**	**9**	*e*P	P	08 45 22.9	+0.1
	comp=Z,13nm,1.2s,mb4.7						
ULN				*e*PcP	PcP	08 46 53.4	-0.9
MKAR	**Makanchi Array**	**47.23**	**346**	*i* P	P	08 45 22.9	-0.1
MKAR				pmax	pmax		
	comp=Z,11nm,0.7s						
ZAK	**Zakamensk**	**49.23**	**5**	*e*P	P	08 45 38.2	-0.3
TLY	**Talaya**	**50.55**	**5**	P	P	08 45 49.3	+0.7
	comp=Z,66nm,0.6s,mb5.7,SNR=10						
TLY	**Talaya**	**50.55**	**5**	*e*P	P	08 45 48.8	+0.2
TLY				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
TLY	**Talaya**	**50.55**	**5**	*e*P	P	08 45 48.8	+0.3
	comp=Z,4.4nm,0.6s,mb4.6						
PMG	**Port Moresby**	**50.78**	**103**	P	P	08 45 51.0	+0.2
PMG				pmax	pmax		
	comp=Z,13nm,0.8s						
PMG	**Port Moresby**	**50.78**	**103**	P	P	08 45 51.0	+0.2
	comp=Z,13nm,0.8s,mb4.9,baz=321,slow=14,SNR=3.2						
HIA	**Hailar**	**51.58**	**19**	*e*P	P	08 45 56.1	-0.3
HIA				pmax	pmax		
	comp=Z,31nm,1.3s						
HIA	**Hailar**	**51.58**	**19**	*e*P	P	08 45 56.1	-0.3
	comp=Z,31nm,1.3s,mb5.1						
KURK	**Kurchatov**	**51.78**	**345**	P	P	08 45 57.4	-0.4
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
KURK	**Kurchatov**	**51.78**	**345**	*e*P	P	08 45 57.3	-0.6
	comp=Z,20nm,1.1s,mb5.0						
MDJ	**Mudanjiang**	**51.80**	**29**	P	P	08 45 58.6	+0.5
MDJ				XP	sP	08 46 10.9	-1.2
MDJ				PP	PP	08 47 57.1	+0.6
MDJ				S	S	08 53 20.5	+4.0
MDJ				SS	SS	08 56 54.0	+2.9
MDJ				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,127nm,3.5s						
MDJ				LR	LR		
	comp=N,218nm,18.8s,MS4.3						
MDJ				LR	LR		
	comp=E,45nm,14.7s,MS4.3						
MDJ				LR	LR		
	comp=Z,353nm,16.5s,MS4.5						
CTA	**Charters Tower**	**52.44**	**117**	P	P	08 46 03.4	+0.2
CTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CTA	**Charters Tower**	**52.44**	**117**	P	P	08 46 03.4	+0.2
	comp=Z,3.0nm,0.7s,mb4.3,baz=291,slow=12,SNR=4.1						
CTAO	**Charters Tower**	**52.44**	**117**	*e*P	P	08 46 03.2	0.0
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
CTAO	**Charters Tower**	**52.44**	**117**	*e*P	P	08 46 03.2	0.0
	comp=Z,5.8nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**53.32**	**132**	⇑*i*P	P	08 46 10.2	+0.6
	comp=Z,8.9nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**53.32**	**132**	P	P	08 46 10.2	+0.6
	comp=Z,11nm,0.7s,mb4.9,baz=304,slow=6.9,SNR=34						
STKA				LR	LR	09 11 15.6	
	comp=Z,466nm,20.8s,MS4.5,baz=119,slow=39						
ZAL	**Zalesovo**	**53.53**	**351**	P	P	08 46 11.1	+0.2
ZAL				pmax	pmax		
	comp=Z,12nm,0.7s						
ZAL	**Zalesovo**	**53.53**	**351**	P	P	08 46 11.1	+0.2
	comp=Z,12nm,0.7s,mb5.0,baz=215,slow=6.1,SNR=57						
NVS	**Novosibirsk**	**54.66**	**350**	*e*P	P	08 46 16.4	-2.7
NVS				*i* *PP	pP	08 46 36.7	+7.5
NVS				*e*S	S	08 53 55.0	-0.1
NVS				*e*PS	PS	08 54 18.4	+8.0
NVS				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
NVS				pmax	pmax		
	comp=N,19nm,1.4s						
NVS				smax			
	comp=E,20nm,1.8s						
KLR	**Kul'dur**	**56.19**	**27**	*e*P	P	08 46 27.7	-2.5
KLR				pmax	pmax		
	comp=E,16nm,1.0s						
KLR				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
KLR				MLR	MLR		
	comp=E,500nm,14.0s						
KLR				MLR	MLR		
	comp=Z,1μm,14.0s,MS5.1						
BVAR	**Borovoye Array**	**56.24**	**341**	P	P	08 46 29.3	-1.3
	comp=Z,7.6nm,0.7s,mb4.9,baz=143,slow=7.4,SNR=36						
BRVK	**Borovoye**	**56.31**	**341**	P	P	08 46 29.7	-1.4
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
BRVK	**Borovoye**	**56.31**	**341**	*e*P	P	08 46 29.4	-1.6
	comp=Z,13nm,1.0s,mb4.9						
BOD	**Bodaibo**	**57.96**	**10**	*e*P	P	08 46 41.0	-1.7
KMBO	**Kilima Mbogo**	**60.07**	**268**	LR	LR	09 11 23.1	
	comp=Z,151nm,18.6s,MS4.2,baz=105,slow=35						
YSS	**Yuzh-Sakhalins**	**60.27**	**34**	*e*P	P	08 47 05.0	+6.1
YSS				MLR	MLR		
	comp=E,300nm,15.0s,MS4.7						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s,MS4.7						
YSS				MLR	MLR		
	comp=N,200nm,14.0s,MS4.7						
YSS	**Yuzh-Sakhalins**	**60.27**	**34**	*e*P	P	08 46 58.9	0.0
	comp=N,9.4nm,0.5s,mb5.1						
GNI	**Garni**	**61.33**	**316**	*i* P	P	08 47 03.6	-2.5
GNI				pmax	pmax		
	comp=Z,32nm,0.6s						
GNI	**Garni**	**61.33**	**316**	P	P	08 47 02.9	-3.2
	comp=Z,2.0nm,0.4s,mb4.6,baz=194,slow=12,SNR=2.1						
ZEI	**Tsey**	**63.03**	**318**	*e*P	P	08 47 16.0	-1.5
ZEI				*i*		08 49 35.5	
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.8						
ARU	**Arti**	**63.18**	**337**	⇑*i*P	P	08 47 11.5	-6.8
ARU				*e*S	S	08 55 39.0	-6.7
ARU				*e*		08 57 00.6	
ARU				*e*SS	SS	08 59 45.8	-8.1
ARU				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.0						
KIV	**Kislovodsk**	**64.33**	**319**	⇓*i*P	P	08 47 24.1	-1.9
KIV				pmax	pmax		
	comp=Z,24nm,1.7s,mb5.0						
KIV				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
KIV	**Kislovodsk**	**64.33**	**319**	*e*P	P	08 47 25.2	-0.8
	comp=Z,8.7nm,0.4s,mb5.1						
MALT	**Malatya**	**65.17**	**312**	*e*P	P	08 47 30.7	-0.8
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
MALT	**Malatya**	**65.17**	**312**	*e*P	P	08 47 30.7	-0.8
	comp=Z,3.3nm,0.8s,mb4.4						
YAK	**Yakutsk**	**65.36**	**16**	*e*P	P	08 47 31.2	-1.1
YAK				pmax	pmax		
	comp=Z,87nm,1.3s,mb5.6						
YAK	**Yakutsk**	**65.36**	**16**	*e*P	P	08 47 31.2	-1.1
	comp=Z,87nm,1.3s,mb5.6						
EIL	**Elat**	**65.51**	**302**	P	P	08 47 31.0	-2.8
	comp=Z,9.0nm,1.1s,mb4.7,baz=42,slow=7.2,SNR=5.9						
EIL	**Elat**	**65.51**	**302**	*e*P	P	08 47 31.9	-1.9
	comp=Z,7.7nm,1.1s,mb4.7						
ANN	**Anapa**	**68.13**	**318**	*e*P	P	08 47 53.2	+3.1
ANN				pmax	pmax		
	comp=Z,74nm,1.1s,mb5.6						
BRTR	**Keskin Array B**	**69.15**	**312**	P	P	08 47 55.3	-1.2
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR	**Keskin Array B**	**69.15**	**312**	P	P	08 47 55.2	-1.3
	comp=Z,2.4nm,0.8s,mb4.2,baz=134,slow=7.3,SNR=17						
MA2	**Magadan**	**71.27**	**26**	*e*P	P	08 48 08.6	-0.4
MA2				S	S	08 57 23.6	+0.8
MA2				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
MA2				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.7						
MA2	**Magadan**	**71.27**	**26**	*e*P	P	08 48 08.9	-0.2
	comp=Z,7.5nm,0.6s,mb4.8						
PET	**Petropavlovsk**	**72.16**	**34**	*e*P	P	08 48 18.4	+4.0
PET				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.5						
OBN	**Obninsk**	**72.63**	**328**	*e*P	P	08 48 13.5	-3.7
OBN				pmax	pmax		
	comp=Z,35nm,1.7s,mb5.0						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.4						
MAW	**Mawson**	**72.76**	**193**	LR	LR	09 17 09.8	
	comp=Z,171nm,18.2s,MS4.4,baz=250,slow=33						
TIXI	**Tiksi**	**73.14**	**10**	⇑*i*P	P	08 48 18.9	-1.0
TIXI				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,547nm,17.0s,MS4.9						
SEY	**Seymchan**	**73.70**	**23**	*e*P	P	08 48 21.9	-1.4
SEY				*e*		08 57 47.9	
SEY				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.2						
AKASG	**Malin Array Be**	**75.28**	**322**	P	P	08 48 31.3	-1.4
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AKASG	**Malin Array Be**	**75.28**	**322**	P	P	08 48 31.3	-1.4
	comp=Z,5.7nm,0.9s,mb4.5,baz=92,slow=4.3,SNR=11						
RPZ	**Rata Peaks**	**79.17**	**135**	P	P	08 48 55.8	+1.2
	comp=Z,13nm,1.1s,mb4.8,baz=243,slow=2.3,SNR=1.8						
FINES	**FINESS Array B**	**80.01**	**332**	P	P	08 48 58.6	-0.1
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	**80.01**	**332**	P	P	08 48 58.6	-0.1
	comp=Z,2.9nm,0.7s,mb4.3,baz=90,slow=9.5,SNR=8.6						
BILL	**Bilibino**	**81.10**	**21**	*e*P	P	08 49 03.5	-0.9
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
ARCES	**ARCESS Array B**	**82.53**	**340**	P	P	08 49 11.9	+0.2
	comp=Z,4.2nm,1.0s,mb4.4,baz=117,slow=2.7,SNR=10.0						
ARCES				LR	LR	09 32 47.5	
	comp=Z,201nm,19.6s,MS4.5,baz=254,slow=41						
GERES	**GERESS Array B**	**84.84**	**319**	P	P	08 49 24.0	+0.1
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	**GERESS Array B**	**84.84**	**319**	P	P	08 49 24.0	+0.1
	comp=Z,1.9nm,0.7s,mb4.3,baz=104,slow=5.5,SNR=7.0						
GRA1	**Grafenberg Arr**	**86.51**	**320**	*e*PKP	P	08 49 33.2	+1.2
GRF	**Grafenberg Arr**	**86.51**	**320**	*e*P	P	08 49 33.2	+1.2
NB2	**NORSAR Subarra**	**87.02**	**331**	P	P	08 49 34.2	0.0
	comp=Z,0.2nm,0.7s,mb3.5,baz=96,slow=5.3						
NOA	**NORSAR Array B**	**87.02**	**331**	P	P	08 49 34.6	+0.4
	comp=Z,1.6nm,0.7s,mb4.4,baz=94,slow=4.9,SNR=4.5						
NOA				LR	LR	09 35 39.2	
	comp=Z,136nm,21.6s,MS4.3,baz=110,slow=41						
IMA	**Indian Mountai**	**96.52**	**23**	*e*P	P	08 50 19.7	+1.5
COLA	**College**	**99.22**	**23**	*i* P	P	08 50 25.5	-5.0
PDAR	**Pinedale Array**	**129.97**	**26**	PKP	PKPdf	08 55 57.3	-0.8
	comp=Z,1.1nm,1.0s,baz=20,slow=0.3,SNR=7.3						
MSU	**Marysvale**	**132.04**	**31**	*e*PKIKP	PKPdf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.25**	**6**	P	**P**	**09 16 17.1**	**-0.2**
	0.5nm,0.3s,baz=196,slow=11,SNR=9.8						
SHL	**Shillong**	**24.75**	**349**	*eP*	**P**	**09 17 38.5**	**+1.1**
ENH	**Enshi**	**31.21**	**21**	P	**P**	**09 18 35.2**	**-0.7**
	4.1nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**42.09**	**122**	P	**P**	**09 20 08.3**	**+0.2**
	0.9nm,0.5s,mb3.7,baz=301,slow=9.1,SNR=13						
ASAR	**Alice Springs**	**43.45**	**127**	P	**P**	**09 20 19.8**	**+0.6**
	0.4nm,0.5s,mb3.4,baz=300,slow=7.5,SNR=9.8						
SONM	**Songino Array**	**47.15**	**9**	P	**P**	**09 20 49.2**	**+0.9**
	1.4nm,0.8s,mb4.0,baz=187,slow=8.4,SNR=7.1						
SONM				PcP	PcP	09 22 20.6	+0.6
	0.5nm,0.6s,baz=192,slow=3.9,SNR=4.3						
KURK	**Kurchatov**	**51.78**	**345**	*eP*	**P**	**09 21 23.4**	**-0.4**
	3.5nm,1.1s,mb4.2						
STKA	**Stephens Creek**	**53.40**	**132**	P	**P**	**09 21 35.6**	**-0.7**
	1.0nm,0.8s,mb3.8,baz=156,slow=0.4,SNR=3.5						
ZAL	**Zalesovo**	**53.55**	**351**	P	**P**	**09 21 36.4**	**-0.6**
	1.7nm,0.5s,mb4.2,baz=206,slow=7.3,SNR=9.4						
BVAR	**Borovoye Array**	**56.23**	**341**	P	**P**	**09 21 56.3**	**-0.2**
	1.0nm,0.6s,mb4.1,baz=143,slow=7.4,SNR=7.5						
TXAR	**Lajitas Array**	**143.71**	**32**	PKP	PKPdf	09 31 50.0	+0.5
	0.1nm,0.5s,baz=45,slow=1.3,SNR=3.2						

IDC 21 09:16:30.1±2.0,5.67N×94.31E,mb4.0/4,mb1 4.1/5, mb1mx3.7/17,mbtmp3.9/5,ML4.2/1,Error ellipse: s-maj=86.2km s-min=24.5km az=59.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.49**	**19**	Pn	P	09 19 43.5	-1.9
	0.4nm,0.3s,baz=234,slow=15,SNR=6.6						
WRA	**Warramunga Arr**	**46.88**	**124**	P	P	09 25 02.5	-1.9
	1.0nm,0.8s,baz=303,slow=9.1,SNR=5.6						
ASAR	**Alice Springs**	**48.40**	**129**	P	P	09 25 14.3	-1.9
	1.0nm,0.7s,baz=300,slow=7.6,SNR=8.5						
ZAL	**Zalesovo**	**48.74**	**353**	P	P	09 25 15.9	-2.5
	0.9nm,0.3s,baz=224,slow=2.1,SNR=3.4						
ARCES	**ARCESS Array B**	**77.38**	**340**	P	P	09 28 26.9	-1.4
	2.4nm,0.9s,baz=90,slow=11,SNR=3.5						

IDC 21 09:21:35.0±2.5,5.71N×93.37E,mb3.8/5,mb1 4.0/6, mb1mx3.8/17,mbtmp3.8/6,ML3.8/1,MS2.9/1,Ms1 3.1/1, ms1mx2.7/24,Error ellipse: s-maj=104.9km s-min=24.0km az=60.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.79**	**23**	Pn	P	09 25 00.6	+6.2
	0.1nm,0.3s,baz=227,slow=12,SNR=8.2						
CMAR				LR	LR	09 31 08.6	
	comp=Z,44nm,18.8s,baz=186,slow=42						
SONM	**Songino Array**	**43.43**	**13**	P	P	09 29 39.4	-1.8
	0.8nm,0.7s,baz=198,slow=8.4,SNR=6.1						
WRA	**Warramunga Arr**	**47.68**	**123**	P	P	09 30 13.8	-1.7
	1.1nm,0.6s,baz=302,slow=9.1,SNR=10						
ZAL	**Zalesovo**	**48.58**	**353**	P	P	09 30 20.6	-1.5
	0.9nm,0.5s,baz=242,slow=7.5,SNR=3.2						
ASAR	**Alice Springs**	**49.16**	**128**	P	P	09 30 24.8	-2.2
	0.6nm,0.8s,baz=300,slow=7.7,SNR=6.5						
ARCES	**ARCESS Array B**	**77.03**	**340**	P	P	09 33 29.2	-2.0
	0.8nm,0.5s,baz=98,slow=6.4,SNR=4.0						

IDC 21 09:36:27.3±17.0,19.83S×178.57W,h605km±225km, mb3.0/7,mb1 3.3/7,mb1mx3.1/14,mbtmp4.0/7,Error ellipse: s-maj=104.9km s-min=67.1km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.03**	**263**	P	P	09 42 14.6	-1.3
	4.4nm,1.1s,baz=67,slow=15,SNR=3.5						
ASAR	**Alice Springs**	**44.15**	**256**	P	P	09 43 44.1	-1.5
	0.7nm,0.5s,baz=89,slow=8.0,SNR=17						
WRA	**Warramunga Arr**	**44.16**	**261**	P	P	09 43 44.1	-1.7
	0.5nm,0.2s,baz=96,slow=7.5,SNR=20						
YBH	**Yreka Blue Hor**	**80.11**	**39**	P	P	09 47 35.9	-0.7
	1.3nm,0.6s,baz=151,slow=3.6,SNR=4.9						
TXAR	**Lajitas Array**	**87.15**	**58**	P	P	09 48 10.4	-1.3
	0.4nm,0.6s,baz=214,slow=7.3,SNR=7.1						
ILAR	**Eielson Array**	**87.78**	**13**	P	P	09 48 13.0	-0.8
	0.5nm,0.5s,baz=221,slow=4.9,SNR=7.3						
PDAR	**Pinedale Array**	**88.84**	**43**	P	P	09 48 18.1	-1.3
	0.5nm,0.5s,baz=210,slow=3.3,SNR=5.9						

*IDC **21** 10:08:05.9±1.7,8.81S×157.72E,mb3.9/5,mb1 4.1/5, mb1mx3.9/11,mbtmp3.9/5,MS3.4/4,Ms1 3.4/4, ms1mx3.0/19,Error ellipse: s-maj=52.6km s-min=30.9km az=124.0*

ISC 21 10:08:09.9±1.5,8.8S±0.2×157.5E±0.3,h33km,n8,σ1°26/5, mb3.6/5,MS3.2/2,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.26**	**266**	LR	LR	10 14 26.2	
	comp=Z,206nm,18.1s,baz=76,slow=36						
CTA	**Charters Tower**	**15.66**	**223**	LR	LR	10 16 58.3	
	comp=Z,143nm,20.5s,baz=41,slow=34						
WRA	**Warramunga Arr**	**25.02**	**241**	P	**P**	**10 13 32.4**	**-0.2**
	2.4nm,0.7s,mb3.8,baz=67,slow=9.4,SNR=14						
ASAR	**Alice Springs**	**27.02**	**234**	P	**P**	**10 13 49.9**	**-1.3**
	0.5nm,0.8s,mb3.1,baz=66,slow=8.3,SNR=5.0						
ASAR				LR	LR	10 23 05.6	
	comp=Z,75nm,19.5s,MS3.3,baz=47,slow=33						
STKA	**Stephens Creek**	**27.34**	**211**	P	**P**	**10 13 55.2**	**+1.1**
	2.1nm,0.7s,mb3.8,baz=29,slow=12,SNR=6.1						
STKA				LR	LR	10 25 17.5	
	comp=Z,70nm,20.1s,MS3.2,baz=24,slow=38						
CMAR	**Chiang Mai Arr**	**63.80**	**295**	P	**P**	**10 18 42.5**	**+0.9**
	1.0nm,0.6s,mb4.0,baz=110,slow=4.8,SNR=7.4						
YKA	**Yellowknife Ar**	**96.72**	**28**	P	**P**	**10 21 37.4**	**-0.5**
	0.1nm,0.7s,mb3.4,baz=282,slow=5.7,SNR=3.7						
BDFB	**Brasilia**	**144.96**	**134**	PKP	PKPdf	10 27 44.2	-0.5
	3.5nm,0.8s,baz=281,slow=3.0,SNR=4.8						

IGQ 21 10:11:12.1,1.12S×81.43W,h12km±29km,mb4.2,3C-3D, Error ellipse: s-maj=28.2km s-min=8.4km az=172.4,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.81**	**98**	⇑P	Pn	10 11 59.3	+1.5
JUA2	**San Juan 2**	**2.96**	**72**	P	Pn	10 12 01.7	+1.7
TERV	**Terraza Guagua**	**2.98**	**72**	P	Pn	10 12 01.4	+1.3
PINO	**Pino**	**2.98**	**71**	P	Pn	10 12 01.4	+1.3
JUIV	**Juive**	**2.98**	**96**	P	Pn	10 12 01.6	+1.4
NAS1	**Nasa**	**2.99**	**81**	P	Pn	10 12 02.8	+2.4
ARRY	**Arrayan**	**3.00**	**97**	⇑P	Pn	10 12 01.2	+0.8
ARRY				S	Sn	10 12 34.9	-1.8
PATA	**Patacocha**	**3.02**	**97**	P	Pn	10 12 02.6	+1.9
YANA	**Yana**	**3.02**	**71**	P	Pn	10 12 01.8	+1.0
RUN2	**Runtun**	**3.03**	**96**	P	Pn	10 12 03.4	+2.5
ULBA	**Ulba**	**3.04**	**96**	P	Pn	10 12 02.8	+1.8
PISA	**Pisayambo**	**3.04**	**89**	P	Pn	10 12 02.5	+1.4
PISA				S	Sn	10 12 40.7	+3.0
VC1	**Cotopaxi 1**	**3.06**	**81**	⇑P	Pn	10 12 04.5	+3.2
TAMB	**Tambo**	**3.09**	**82**	P	Pn	10 12 03.5	+1.8
ANTI	**Antisana**	**3.33**	**79**	P	Pn	10 12 10.7	+5.5
COTA	**Cotacachi**	**3.41**	**65**	⇓P	Pn	10 12 07.7	+1.4
CAYR	**Refugio Cayamb**	**3.60**	**72**	⇓P	Pn	10 12 12.4	+3.4
CAYA	**Cayambe**	**3.63**	**71**	⇓P	Pn	10 12 12.6	+3.1

*IGQ **21** 10:18:00.2,1.13S×81.36W,h7km±24km,mb4.9,Error ellipse: s-maj=23.9km s-min=6.7km az=172.0*
*IDC **21** 10:18:04.3±0.8,1.08S×80.95W,mb4.2/11,mb1 4.5/13, mb1mx4.3/19,mbtmp4.3/13,ML4.6/2,MS4.1/8,Ms1 4.1/8, ms1mx3.4/24,Error ellipse: s-maj=29.2km s-min=15.6km az=61.0*
*BJI **21** 10:18:05.5,1.20S×80.90W,h10km*
*NEIC **21** 10:18:05.6±0.3,1.19S×80.87W,h10km,mb4.4/21,Error ellipse: s-maj=8.1km s-min=5.3km az=47.0*
ISC 21 10:18:03.4±1.8,1.20S±0.07×81.21W±0.04,h3km±11km, n91,σ1°12/75,mb4.3/28,MS4.2/7,3C-3D,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.58**	**97**	P	**Pn**	**10 18 46.3**	**-0.5**
CUSU	**Cusua**	**2.73**	**95**	P	**Pn**	**10 18 49.6**	**+0.6**
JUIV	**Juive**	**2.75**	**95**	P	**Pn**	**10 18 48.6**	**-0.6**
MARY	**Rancho Maria**	**2.76**	**80**	P	**Pn**	**10 18 50.6**	**+1.3**
ARRY	**Arrayan**	**2.77**	**96**	P	**Pn**	**10 18 49.3**	**-0.2**
RETU	**Refugio**	**2.77**	**95**	P	**Pn**	**10 18 50.3**	**+0.8**
RETU				S	**Sn**	**10 19 25.4**	**+1.5**
NAS1	**Nasa**	**2.78**	**78**	P	**Pn**	**10 18 49.5**	**-0.2**
PATA	**Patacocha**	**2.79**	**96**	⇓P	**Pn**	**10 18 50.5**	**+0.7**
PATA				S	**Sn**	**10 19 25.7**	**+1.3**
TERV	**Terraza Guagua**	**2.79**	**69**	P	**Pn**	**10 18 48.8**	**-1.0**
TERV	**Terraza Guagua**	**2.79**	**69**	P	**Pn**	**10 18 49.7**	**-0.2**
PINO	**Pino**	**2.79**	**68**	P	**Pn**	**10 18 47.2**	**-2.7**
RUN2	**Runtun**	**2.80**	**95**	P	**Pn**	**10 18 50.2**	**+0.3**
RUN2				S	**Sn**	**10 19 25.1**	**+0.3**
ULBA	**Ulba**	**2.81**	**95**	P	**Pn**	**10 18 50.7**	**+0.6**
PISA	**Pisayambo**	**2.82**	**87**	⇓P	**Pn**	**10 18 50.6**	**+0.3**
YANA	**Yana**	**2.84**	**68**	P	**Pn**	**10 18 48.8**	**-1.8**
VC1	**Cotopaxi 1**	**2.86**	**79**	P	**Pn**	**10 18 51.1**	**+0.3**
TAMB	**Tambo**	**2.88**	**80**	P	**Pn**	**10 18 51.3**	**+0.2**
OTAV	**Otavalo**	**3.10**	**63**	*e*Pn	**Pn**	**10 18 52.8**	**-1.4**
ANTI	**Antisana**	**3.13**	**76**	P	**Pn**	**10 18 54.8**	**+0.1**
COTA	**Cotacachi**	**3.25**	**62**	P	**Pn**	**10 18 55.5**	**-0.8**
CAYR	**Refugio Cayamb**	**3.42**	**69**	⇓P	**Pn**	**10 19 00.1**	**+1.4**
CAYA	**Cayambe**	**3.45**	**69**	⇑P	**Pn**	**10 18 59.6**	**+0.3**
CONE	**Cono NE Rev Vo**	**3.73**	**73**	P	**Pn**	**10 19 06.0**	**+2.7**
PAYG	**Puerto Ayora**	**9.09**	**273**	*e*Pn	**P**	**10 20 22.1**	**+3.5**
	248nm,1.3s						
SDV	**Santo Domingo**	**14.54**	**46**	Pn	**P**	**10 21 28.0**	**-4.3**
	11nm,0.3s,baz=254,slow=2.6,SNR=125						
SDV				LR	LR	10 27 29.0	
	comp=Z,284nm,19.3s,baz=38,slow=40						
SDV	**Santo Domingo**	**14.54**	**46**	*e*Pn	**P**	**10 21 27.6**	**-4.7**
SDV				LR	LR	10 27 29.0	
SAML	**Samuel**	**19.52**	**114**	*e*P	**P**	**10 22 28.6**	**-6.3**
	0.8nm,1.3s						
LPAZ	**La Paz**	**19.77**	**140**	P	**P**	**10 22 36.6**	**-1.1**
	0.3nm,0.3s,baz=319,slow=9.4,SNR=22						
LPAZ	**La Paz**	**19.77**	**140**	*e*P	**P**	**10 22 34.6**	**-3.2**
	8.9nm,0.6s						
TEIG	**Tepich**	**22.39**	**342**	P	**P**	**10 23 05.2**	**+0.6**
	7.5nm,1.0s,mb4.1						
SJG	**San Juan**	**24.24**	**37**	P	**P**	**10 23 22.1**	**-0.7**
	27nm,0.7s,mb4.8,baz=214,slow=5.7,SNR=7.8						
SJG	**San Juan**	**24.24**	**37**	*e*P	**P**	**10 23 21.9**	**-1.0**
	87nm,1.3s,mb5.0						
LVC	**Limon Verde**	**24.41**	**152**	P	**P**	**10 23 26.2**	**+1.7**
	3.3nm,0.8s,mb3.8,baz=0.7,slow=4.2,SNR=7.1						
LVC				LR	LR	10 33 46.9	
	comp=Z,341nm,19.8s,MS3.8,baz=180,slow=39						
LVC	**Limon Verde**	**24.41**	**152**	*e*P	**P**	**10 23 24.2**	**-0.3**
	22nm,1.2s,mb4.5						
LVC				LR	LR	10 33 46.9	
BDFB	**Brasilia**	**35.74**	**115**	P	**P**	**10 25 02.6**	**-3.2**
	1.4nm,0.4s,mb4.2,baz=312,slow=17,SNR=2.7						
BDFB				LR	LR	10 41 52.8	
	comp=Z,629nm,18.5s,MS4.4,baz=295,slow=40						
JCT	**Junction City**	**36.14**	**332**	*e*P	**P**	**10 25 09.7**	**+0.7**
	42nm,1.8s,mb5.1						
CPCT	**Cooper Cave**	**36.59**	**355**	*e*P	**P**	**10 25 11.8**	**-1.0**
TXAR	**Lajitas Array**	**37.19**	**326**	P	**P**	**10 25 17.7**	**-0.2**
	0.6nm,0.8s,mb3.5,baz=153,slow=8.4,SNR=7.7						
WVT	**Waverly**	**37.65**	**351**	*e*P	**P**	**10 25 20.4**	**-1.2**
	2.2nm,0.6s,mb4.1						
WMOK	**Wichita Mounta**	**39.36**	**337**	*e*P	**P**	**10 25 36.6**	**+0.6**
	5.2nm,1.1s,mb4.2						
MNTX	**Cornudas Mount**	**39.95**	**327**	*e*P	**P**	**10 25 41.9**	**+1.0**
	2.8nm,0.8s,mb4.0						
CPRX	**Cap Rock**	**40.20**	**330**	*e*P	**P**	**10 25 45.6**	**+2.6**
PLCA	**Paso Flores**	**40.52**	**168**	P	**P**	**10 25 45.7**	**+0.1**
	5.9nm,0.9s,mb4.2,baz=338,slow=8.8,SNR=6.6						
PLCA	**Paso Flores**	**40.52**	**168**	*e*P	**P**	**10 25 45.2**	**-0.4**
	11nm,1.0s,mb4.4						
AMTX	**Amarillo**	**40.69**	**334**	*e*P	**P**	**10 25 47.6**	**+0.6**
	6.2nm,0.9s,mb4.2						
TRQA	**Tornquist**	**40.72**	**157**	*e*P	**P**	**10 25 45.9**	**-1.3**
	41nm,1.4s,mb4.9						
ACSO	**Alum Creek Sta**	**41.26**	**358**	*e*P	**P**	**10 25 49.2**	**-2.5**
	8.4nm,0.7s,mb4.5						
KSU1	**Kansas State U**	**42.53**	**342**	*e*P	**P**	**10 26 02.3**	**+0.3**
ANMO	**Albuquerque**	**43.03**	**329**	*e*P	**P**	**10 26 07.7**	**+1.4**
	2.7nm,0.9s,mb4.0						
TUC	**Tucson**	**43.51**	**323**	*e*P	**P**	**10 26 11.8**	**+1.6**
	2.4nm,1.0s,mb3.9						
SDCO	**Great Sand Dun**	**44.79**	**332**	*e*P	**P**	**10 26 21.6**	**+1.1**
	4.6nm,0.9s,mb4.3						
JLU	**Jordanelle**	**49.90**	**330**	P	**P**	**10 27 00.9**	**+0.5**
PDAR	**Pinedale Array**	**50.66**	**333**	P	**P**	**10 27 06.3**	**+0.1**
	0.7nm,0.9s,mb3.6,baz=126,slow=7.8,SNR=5.8						
PDAR				LR	LR	10 48 53.5	
	comp=Z,158nm,18.1s,MS4.1,baz=145,slow=36						
MOOW	**Moose Ponds**	**51.97**	**333**	P	**P**	**10 27 16.5**	**+0.4**
OMM	**Old Mammoth Mi**	**52.06**	**322**	*e*P	**P**	**10 27 17.7**	**+0.8**
MNV	**Mina**	**52.07**	**323**	*e*P	**P**	**10 27 18.5**	**+1.6**
	4.0nm,1.0s,mb4.3						
HLID	**Hailey**	**53.57**	**330**	*e*P	**P**	**10 27 28.3**	**+0.3**
	0.6nm,0.5s,mb3.8						
USHA	**Ushuaia**	**54.48**	**171**	LR	LR	10 49 03.7	
	comp=Z,189nm,18.7s,MS4.2,baz=170,slow=34						
WVOR	**Wild Horse Val**	**54.98**	**327**	*e*P	**P**	**10 27 38.2**	**-0.2**
	16nm,1.4s,mb4.8						
SCHQ	**Schefferville**	**57.08**	**10**	LR	LR	10 51 51.3	
	comp=Z,137nm,19.5s,MS4.1,baz=175,slow=36						
EDM	**Edmonton**	**60.50**	**338**	*e*P	**P**	**10 28 17.7**	**+0.6**
FCC	**Fort Churchill**	**60.64**	**352**	*e*P	**P**	**10 28 15.8**	**-2.2**
	21nm,1.4s,mb5.1						
YKA	**Yellowknife Ar**	**68.33**	**344**	P	**P**	**10 29 06.8**	**-1.2**
	3.5nm,0.9s,mb4.4,baz=134,slow=6.0,SNR=54						
YKA	**Yellowknife Ar**	**68.33**	**344**	P	**P**	**10 29 06.8**	**-1.2**
YKW3	**Yellowknife Ar**	**68.39**	**344**	*e*P	**P**	**10 29 06.7**	**-1.8**
DBIC	**Dimbokro**	**76.59**	**83**	P	**P**	**10 29 55.7**	**-2.1**
	8.8nm,0.8s,mb4.7,baz=259,slow=4.2,SNR=9.8						
DBIC				LR	LR	11 01 40.9	
	comp=Z,186nm,18.6s,MS4.4,baz=232,slow=34						
DBIC	**Dimbokro**	**76.59**	**83**	P	**P**	**10 29 55.7**	**-2.1**
DBIC				LR	LR	11 01 40.9	
DAWY	**Dawson**	**77.69**	**338**	*e*P	**P**	**10 30 02.6**	**-0.3**
INK	**Inuvik**	**78.00**	**342**	*e*P	**P**	**10 30 04.3**	**-0.2**
	27nm,1.5s,mb5.0						
ILAR	**Eielson Array**	**80.93**	**337**	P	**P**	**10 30 20.2**	**-0.2**
	2.0nm,1.0s,mb4.0,baz=141,slow=3.7,SNR=11						
ESDC	**Sonseca Array**	**80.95**	**50**	P	**P**	**10 30 19.8**	**-1.3**
	0.2nm,0.3s,mb3.6,baz=276,slow=4.0,SNR=5.6						
DAG	**Danmarks Havn**	**85.07**	**12**	⇑*e*P	**P**	**10 30 40.7**	**-0.7**
	3.4nm,0.9s,mb4.5						
DAG	**Danmarks Havn**	**85.07**	**12**	⇑*i*P	**P**	**10 30 40.7**	**-0.7**
	3.4nm,0.9s,mb4.5						
NOA	**NORSAR Array B**	**92.22**	**29**	LR	LR	11 09 36.1	
	comp=Z,115nm,20.2s,MS4.3,baz=195,slow=34						
GERES	**GERESS Array B**	**94.13**	**41**	P	**P**	**10 31 23.7**	**-1.1**
	0.6nm,0.7s,mb4.2,baz=262,slow=6.9,SNR=4.4						
ASAR	**Alice Springs**	**137.87**	**232**	PKhKP		10 37 26.3	
	0.8nm,0.9s,baz=72,slow=2.9,SNR=3.2						
ASAR				PKP	PKPdf	10 37 30.9	-1.6
	0.9nm,0.8s,baz=128,slow=2.4,SNR=7.1						
ASAR	**Alice Springs**	**137.87**	**232**	PKP	PKPdf	10 37 30.9	-1.6
WRA	**Warramunga Arr**	**139.31**	**237**	PKP	PKPdf	10 37 33.0	-2.3
	1.0nm,0.8s,baz=127,slow=1.3,SNR=5.9						
LZH	**Lanzhou**	**144.97**	**353**	*e*PKP	PKPdf	10 37 42.5	-2.3
LZH				APKP		10 37 50.0	
DDI	**Dehra Dun**	**144.97**	**32**	*e*	PKPbc	10 37 41.3	-1.7
XAN	**Xi'an**	**145.98**	**345**	PKP	PKPdf	10 37 44.6	-2.0
XAN				APKP		10 37 52.8	
WHN	**Wuhan**	**147.29**	**335**	PKP	PKPdf	10 37 49.8	+0.9
ENH	**Enshi**	**149.35**	**342**	*e*PKPbc	PKPdf	10 37 54.9	+2.7
KOLN	**Koldanda**	**149.83**	**28**	*e*P	PKPdf	10 37 55.8	+2.7
	71nm,1.5s						
GKN	**Gorkha**	**150.10**	**26**	*e*P	PKPdf	10 37 56.9	+3.4
	138nm,1.3s						
KKN	**Kakani**	**150.56**	**25**	*e*P	PKPdf	10 37 58.3	+4.1
	40nm,1.0s						
DMN	**Daman**	**150.64**	**25**	*e*P	PKPdf	10 37 58.5	+4.2
GUN	**Gumba**	**150.70**	**24**	*e*P	PKPdf	10 37 58.9	+4.5
LSA	**Lhasa**	**150.74**	**14**	*e*PKP	PKPdf	10 37 57.0	+2.6
PKI	**Pulchoki**	**150.81**	**25**	*e*P	PKPdf	10 37 58.6	+4.0
	35nm,1.0s						
JIRN	**Jiri**	**151.05**	**24**	*e*P	PKPdf	10 37 58.6	+3.7
	48nm,1.1s						

*IDC **21** 10:22:53.7±1.1,4.81N×94.75E,mb4.0/9,mb1 4.2/10, mb1mx4.0/18,mbtmp4.0/10,ML4.1/1,MS2.8/1,Ms1 3.0/1, ms1mx2.6/20,Error ellipse: s-maj=53.1km s-min=19.5km az=50.0*
*NEIC **21** 10:22:57.5±0.7,4.56N×94.50E,h30km,mb4.4/5,Error ellipse: s-maj=22.9km s-min=10.9km az=59.0*
ISC 21 10:22:55.7±0.8,4.6N±0.1×94.5E±0.2,h30km,n15, σ0°91/15,mb4.1/14,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.46**	**17**	Pn	**P**	**10 26 22.2**	**+1.8**
	0.3nm,0.3s,baz=210,slow=12,SNR=20						
CMAR				LR	LR	10 31 31.8	
	comp=Z,42nm,21.4s,baz=170,slow=37						
LSA	**Lhasa**	**25.18**	**353**	*e*P	**P**	**10 28 20.8**	**+0.5**
	5.0nm,0.5s,mb4.3						
SONM	**Songino Array**	**44.28**	**11**	P	**P**	**10 31 02.6**	**-1.9**
	1.2nm,0.8s,mb3.7,baz=187,slow=8.0,SNR=8.8						
SONM				PcP	PcP	10 32 48.7	-0.4
	0.4nm,0.4s,baz=181,slow=3.8,SNR=3.6						
WRA	**Warramunga Arr**	**46.11**	**123**	P	**P**	**10 31 19.6**	**+0.2**
	1.1nm,0.6s,mb3.9,baz=302,slow=9.2,SNR=12						
WRAB	**Tennant Creek**	**46.12**	**123**	P	**P**	**10 31 19.3**	**-0.2**
	7.8nm,1.0s,mb4.6						
ASAR	**Alice Springs**	**47.58**	**128**	P	**P**	**10 31 31.1**	**+0.1**
	0.5nm,0.6s,mb3.7,baz=298,slow=7.6,SNR=6.8						
KURK	**Kurchatov**	**47.87**	**346**	*e*P	**P**	**10 31 32.5**	**-0.4**
	1.3nm,0.5s,mb4.2						
ZAL	**Zalesovo**	**49.84**	**353**	P	**P**	**10 31 47.5**	**-0.5**
	1.5nm,0.4s,mb4.4,baz=228,slow=8.2,SNR=7.6						
BVAR	**Borovoye Array**	**52.20**	**342**	P	**P**	**10 32 05.7**	**-0.3**
	1.2nm,0.5s,mb4.1,baz=135,slow=8.4,SNR=7.5						
BRVK	**Borovoye**	**52.27**	**342**	*e*P	**P**	**10 32 05.3**	**-1.1**
	2.0nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**52.70**	**342**	*e*P	**P**	**10 32 09.2**	**-0.5**
	4.1nm,0.7s,mb4.5						
BRTR	**Keskin Array B**	**64.86**	**312**	P	**P**	**10 33 35.2**	**+0.7**
	0.9nm,0.6s,mb4.0,baz=126,slow=7.3,SNR=8.0						
FINES	**FINESS Array B**	**75.78**	**333**	P	**P**	**10 34 40.0**	**-0.3**
	3.2nm,1.1s,mb4.2,baz=45,slow=2.7,SNR=3.3						
ARCES	**ARCESS Array B**	**78.47**	**340**	P	**P**	**10 34 55.3**	**+0.2**
	1.7nm,0.7s,mb4.1,baz=90,slow=7.3,SNR=7.3						
GERES	**GERESS Array B**	**80.51**	**319**	P	**P**	**10 35 08.5**	**+1.9**
	1.2nm,0.8s,mb3.9,baz=63,slow=6.0,SNR=4.1						

*JMA **21** 10:32:04.3±0.3,23.50N×121.68E,h72km,M2.7*
TAP 21 10:32:03.9,23.50N×121.62E,h29km,ML3.3,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.59**	**53**	P	Pn	10 32 30.4	-0.2
YOJ				*e*S	Sn	10 32 49.2	-1.1
HATJ	**Hateruma jima**	**2.08**	**74**	P	Pn	10 32 36.7	-0.8
HATJ				*e*S	Sn	10 33 01.4	-1.3
IRIF	**Iriomote-Funau**	**2.10**	**66**	P	Pn	10 32 37.4	-0.5
IRIF				*e*S	Sn	10 33 02.6	-0.7
JKRS	**Kuro-shima**	**2.31**	**71**	P	Pn	10 32 40.3	-0.5
JKRS				*e*S	Sn	10 33 07.7	-0.8
JIJ	**Ishigaki jima**	**2.46**	**69**	P	Pn	10 32 41.8	-1.2
JIJ				*e*S	Sn	10 33 10.2	-2.3
JTJ	**Tarama**	**3.04**	**67**	P	Pn	10 32 50.1	-1.1
JTJ				*e*S	Sn	10 33 25.2	-1.8

CASC 21 11:00:29.4±2.1,12.90N×89.12W,h30km±5km,MD3.8, ML3.5,6C-8D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.72**	**4**	⇓*i*P	Pb	11 00 43.7	+0.3
SNVI	**San Vicente**	**0.76**	**21**	*e*P	Pb	11 00 44.3	+0.3
SNVI				⇓*e*P		11 00 44.4	
SNVI				*e*S	Sb	11 00 54.9	+0.8
LCBS

KRSC 21 11:23:06.5±0.8, 55.00N×163.78E, h40km±17km, ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.33**	**336**	*i* P	P	11 23 27.1	-1.9
KBTR				*i* S	S	11 23 43.3	-2.4
KBG	**Krutoberegovo**	**1.40**	**335**	*e*P	P	11 23 29.3	-0.7
KBG				*e*S	S	11 23 47.7	+0.3
KBG				Smax			
	420nm,0.7s						
TUMR	**Tumrok**	**2.10**	**279**	*e*P	P	11 23 40.8	+0.8
TUMR				*e*S	S	11 24 05.5	+0.4
SVLR	**Shiveluch**	**2.14**	**319**	*e*P	P	11 23 40.3	-0.2
SVLR				*e*S	S	11 24 04.8	-1.3
KMNR	**Kamenistaya**	**2.16**	**292**	*e*P	P	11 23 41.6	+0.8
KMNR				*e*S	S	11 24 07.3	+0.8
KLY	**Klyuchi**	**2.21**	**308**	*e*P	P	11 23 40.0	-1.5
KLY				*e*S	S	11 24 03.9	-3.8
KOZ	**Kozyrevsk**	**2.46**	**297**	*e*P	P	11 23 45.4	+0.3
KOZ				*e*S	S	11 24 13.4	-0.8
SRDR	**Sredinnyy**	**2.65**	**301**	*e*P	P	11 23 48.4	+0.6
SRDR				*e*S	S	11 24 17.6	-1.5
KII	**Karymskiy**	**2.70**	**251**	*e*P	P	11 23 48.6	0.0
KII				*e*S	S	11 24 19.0	-1.3
SPN	**Mys Shipunski**	**2.92**	**231**	*i* P	P	11 23 50.4	-1.3
SPN				*i* S	S	11 24 22.6	-3.3
ESO	**Esso**	**3.04**	**290**	*i* P	P	11 23 53.1	-0.2
ESO				*e*S	S	11 24 26.6	-2.2
ESO				Smax			
	40nm,1.0s						
NLC	**Nalytchevo**	**3.19**	**237**	*i* P	P	11 23 54.7	-0.8
NLC				*i* S	S	11 24 30.0	-2.7
SDLR	**Sedlovina**	**3.36**	**241**	*i* P	P	11 23 58.1	+0.3
SDLR				*i* S	S	11 24 35.5	-1.4
SMAR	**Somma**	**3.41**	**241**	*e*P	P	11 23 58.7	+0.2
SMAR				*e*S	S	11 24 36.9	-1.3
UGLR	**Uglovaya**	**3.42**	**240**	*e*P	P	11 23 59.1	+0.3
UGLR				*e*S	S	11 24 39.0	+0.3
AVH	**Avacha**	**3.44**	**242**	*e*P	P	11 23 59.5	+0.5
AVH				*e*S	S	11 24 38.0	-1.0
KOK	**Koryaka**	**3.48**	**243**	*e*P	P	11 23 59.8	+0.3
KOK				*e*S	S	11 24 38.8	-1.1
PET	**Petropavlovsk**	**3.62**	**239**	*e*P	P	11 24 01.1	-0.4
PET				*i* S	S	11 24 40.7	-2.8
GNL	**Ganaly**	**3.66**	**251**	*e*P	P	11 24 02.5	+0.4
GNL				*e*S	S	11 24 43.0	-1.6
RUS	**Russkaya**	**4.05**	**233**	*i* P	P	11 24 06.8	-0.8
RUS				*i* S	S	11 24 50.7	-3.8
GRL	**Gorelyy**	**4.18**	**236**	*e*P	P	11 24 09.7	+0.2
GRL				*e*S	S	11 24 55.1	-2.7
APC	**Apacha**	**4.43**	**245**	*e*P	P	11 24 12.9	-0.1

*IDC **21** 11:39:29.3±1.1, 9.83N×84.12W, mb4.1/14, mb1 4.3/16, mb1mx4.2/23, mbtmp4.1/16, ML3.7/1, MS3.8/9, Ms1 3.9/9, ms1mx3.5/17, Error ellipse: s-maj=30.9km s-min=10.1km az=22.0*
*CASC **21** 11:39:34.1±3.0, 9.70N×84.16W, h30km±14km, MD4.3, ML3.9*
*NEIC **21** 11:39:34.5±0.5, 9.80N×84.17W, h35km, mb4.4/20, Error ellipse: s-maj=13.9km s-min=7.8km az=224.0*
NEIC Felt at Nicoya, Parrita and Quepos. Also felt in Perez Zeledon and the Valle Central.

ISC 21 11:39:33.8±0.5, 9.77N±0.07×84.11W±0.04, h48km±3km, n100, σ1§13/107, mb4.3/39, MS3.9/8, 5C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	**Escuela Geolog**	**0.18**	**18**	⇑*i*P	**P**	**11 39 39.5**	**-2.3**
SJS				*e*S	**S**	**11 39 46.9**	**-0.4**
FORC	**Fortuna**	**0.89**	**322**	*i* P	**P**	**11 39 49.6**	**-0.5**
FORC				*i* S	**S**	**11 40 03.7**	**+1.5**
JTS	**JuntasAbangare**	**0.98**	**302**	Pg	**P**	**11 39 46.5**	**-4.9**
	0.2nm,0.3s,baz=210,slow=20,SNR=7.1						
JTS				Lg		11 40 00.7	
	1.6nm,0.3s,baz=199,slow=20,SNR=32						
JTS	**JuntasAbangare**	**0.98**	**302**	⇑*i*P	**P**	**11 39 48.3**	**-3.1**
JTS				*e*Sn	**S**	**11 40 02.0**	**-2.4**
CNI	**Changuinola**	**1.61**	**102**	⇓*e*P	**P**	**11 40 01.6**	**+1.2**
DVD	**David**	**2.11**	**129**	⇓*e*P	**P**	**11 40 05.2**	**-2.1**
MADN	**Villa Maderas**	**2.15**	**320**	⇑*e*P	**P**	**11 40 09.4**	**+1.4**
PTP1	**Petroterminal**	**2.27**	**133**	⇓*e*P	**P**	**11 40 05.9**	**-3.9**
SSNN	**San Juan del S**	**2.28**	**312**	⇑*e*P	**P**	**11 40 10.2**	**+0.3**
CONN	**Concepcion**	**2.33**	**320**	*e*P	**P**	**11 40 12.2**	**+1.7**
APON	**Apoyo**	**2.87**	**318**	*e*P	**P**	**11 40 19.8**	**+1.4**
TICN	**Ticuantepe**	**3.07**	**317**	*e*P	**P**	**11 40 22.4**	**+1.3**
MGAN	**Managua**	**3.16**	**319**	*e*P	**P**	**11 40 22.3**	**-0.1**
MGAN				*i*		11 41 28.5	
	comp=E,683nm,0.6s						
XAVN	**Gruta Xavier**	**3.22**	**318**	*e*P	**P**	**11 40 22.4**	**-0.7**
APYN	**Apoyeque**	**3.29**	**318**	*e*P	**P**	**11 40 25.6**	**+1.3**
PYTN	**Playitas**	**3.35**	**325**	*e*P	**P**	**11 40 26.1**	**+1.0**
COPN	**Copaltepe**	**3.42**	**315**	⇑*e*P	**P**	**11 40 25.9**	**-0.1**
MOMJ	**Momotombo**	**3.55**	**318**	*e*P	**P**	**11 40 25.7**	**-2.1**
MIRN	**Miramar**	**3.69**	**316**	*e*P	**P**	**11 40 30.1**	**+0.4**
CNGN	**Cerro Negro**	**3.72**	**317**	*e*P	**P**	**11 40 31.9**	**+1.6**
LEON	**Leon**	**3.79**	**314**	⇓*e*P	**P**	**11 40 31.7**	**+0.4**
TEL3	**Telica 3**	**3.87**	**316**	⇓*e*P	**P**	**11 40 33.1**	**+0.7**
TELN	**Telica**	**3.88**	**317**	*e*P	**P**	**11 40 31.3**	**-1.3**
CRIN	**San Cristobal**	**4.10**	**316**	*e*P	**P**	**11 40 35.0**	**-0.7**
AZU	**Azuero**	**4.27**	**117**	*e*P	**P**	**11 40 38.5**	**+0.5**
UPA	**Univ. de Panam**	**4.58**	**99**	*e*P	**P**	**11 40 42.5**	**0.0**
CNCH	**Conchagua**	**5.05**	**314**	*e*P	**P**	**11 40 50.8**	**+1.9**
BLLM	**Bellamira**	**5.45**	**313**	*e*P	**P**	**11 40 55.8**	**+1.2**
SNVI	**San Vicente**	**6.00**	**310**	*e*P	**P**	**11 41 03.2**	**+0.9**
SNVI	**San Vicente**	**6.00**	**310**	*e*P	**P**	**11 41 03.2**	**+1.0**
SNVI				*e*S	**S**	**11 42 10.6**	**-0.1**
LCBS	**La Ceiba**	**6.14**	**310**	*e*P	**P**	**11 41 04.8**	**+0.6**
LCBS				*e*S	**S**	**11 42 11.8**	**-2.1**
LFRS	**El Faro**	**6.18**	**309**	*e*P	**P**	**11 41 05.2**	**+0.4**
LFRS				*e*S	**S**	**11 42 12.8**	**-2.3**
BOQS	**Boqueron**	**6.42**	**308**	*e*P	**P**	**11 41 08.8**	**+0.6**
BOQS				*e*S	**S**	**11 42 19.4**	**-1.5**
BOQS	**Boqueron**	**6.42**	**308**	*e*P	**P**	**11 41 08.4**	**+0.3**
BOQS				*e*S	**S**	**11 42 19.4**	**-1.5**
SBLS	**San Blas**	**6.75**	**307**	*e*P	**P**	**11 41 13.1**	**+0.4**
SBLS				*e*S	**S**	**11 42 27.3**	**-1.7**
SBLS	**San Blas**	**6.75**	**307**	*e*P	**P**	**11 41 13.2**	**+0.5**
SBLS				*e*S	**S**	**11 42 27.3**	**-1.7**
SNJE	**San Jose**	**6.75**	**308**	*e*P	**P**	**11 41 13.8**	**+1.0**
RTR	**El Retiro**	**6.80**	**308**	*e*P	**P**	**11 41 13.9**	**+0.5**
RTR				*e*S	**S**	**11 42 28.9**	**-1.5**
RTR	**El Retiro**	**6.80**	**308**	*e*P	**P**	**11 41 13.9**	**+0.5**
RTR				*e*S	**S**	**11 42 28.6**	**-1.7**
RBDL	**Robledal**	**6.96**	**309**	*e*P	**P**	**11 41 15.6**	**-0.1**
OTAV	**Otavalo**	**11.01**	**149**	*e*P	**P**	**11 42 11.5**	**-0.2**
SDV	**Santo Domingo**	**13.33**	**93**	Pn	**P**	**11 42 42.4**	**-0.1**
	comp=E,0.4nm,0.3s,baz=334,slow=11,SNR=5.4						
SDV				Sn	**S**	**11 45 08.3**	**-1.8**
	comp=E,0.6nm,0.3s,baz=47,slow=17,SNR=5.0						
SJG	**San Juan**	**19.29**	**63**	P	**P**	**11 43 57.6**	**0.0**
	comp=E,2.8nm,0.3s,baz=289,slow=17,SNR=3.7						
SJG				LR	LR	11 50 44.0	
	comp=E,150nm,18.2s,baz=255,slow=35						
SJG	**San Juan**	**19.29**	**63**	P	**P**	**11 43 57.6**	**0.0**
SJG				LR	LR	11 50 44.0	
HKT	**Hockley**	**22.87**	**333**	*e*P	**P**	**11 44 33.5**	**-0.7**
	comp=E,1.5nm,0.4s,mb3.8						
LRAL	**Lakeview Retre**	**23.31**	**354**	*e*P	**P**	**11 44 39.4**	**+0.9**
	comp=E,28nm,0.8s,mb4.8						
GOGA	**Godfrey**	**23.54**	**1**	*e*P	**P**	**11 44 42.9**	**+2.2**
	comp=E,13nm,0.7s,mb4.5						
MYNC	**Murphy**	**25.19**	**360**	*e*P	**P**	**11 44 58.1**	**+1.5**
	comp=E,14nm,0.8s,mb4.6						
JCT	**Junction City**	**25.27**	**327**	P	**P**	**11 44 57.2**	**-0.2**
	comp=E,3.5nm,0.6s,mb4.1						
CPCT	**Cooper Cave**	**25.57**	**359**	*e*P	**P**	**11 45 01.9**	**+1.7**
MIAR	**Mount Ida**	**26.14**	**342**	*e*P	**P**	**11 45 06.0**	**+0.4**
	comp=E,12nm,1.2s,mb4.3						
WVT	**Waverly**	**26.46**	**353**	*e*P	**P**	**11 45 08.8**	**+0.4**
	comp=E,2.7nm,0.6s,mb4.0						
TXAR	**Lajitas Array**	**26.72**	**319**	P	**P**	**11 45 10.8**	**-0.2**
	comp=E,1.2nm,0.5s,mb3.7,baz=145,slow=9.3,SNR=19						
TXAR				LR	LR	11 56 30.8	
	comp=E,131nm,18.3s,MS3.5,baz=215,slow=38						
WCI	**Wyandotte Cave**	**28.41**	**356**	*e*P	**P**	**11 45 25.6**	**-0.5**
	comp=E,11nm,0.9s,mb4.5						
CCM	**Cathedral Cave**	**28.89**	**348**	*e*P	**P**	**11 45 29.1**	**-1.3**
	comp=E,5.2nm,0.6s,mb4.4						
MNTX	**Cornudas Mount**	**29.41**	**321**	P	**P**	**11 45 33.2**	**-2.0**
	comp=E,1.0nm,0.7s,mb3.6						
LPAZ	**La Paz**	**30.34**	**148**	LR	LR	11 57 54.6	
	comp=E,128nm,21.6s,MS3.5,baz=275,slow=36						
ANMO	**Albuquerque**	**32.33**	**324**	P	**P**	**11 46 01.2**	**+0.4**
	comp=E,0.7nm,0.7s,mb3.6,baz=127,slow=5.7,SNR=3.3						
ANMO	**Albuquerque**	**32.33**	**324**	P	**P**	**11 45 59.8**	**-1.0**
	comp=E,0.5nm,0.7s,mb3.5						
SDCO	**Great Sand Dun**	**33.87**	**329**	*e*P	**P**	**11 46 15.4**	**+1.3**
	comp=E,1.0nm,0.8s,mb3.8						
PV10	**Paradox Valley**	**36.22**	**326**	P	**P**	**11 46 35.4**	**+1.2**
PDAR	**Pinedale Array**	**39.70**	**330**	P	**P**	**11 47 03.4**	**+0.3**
	comp=E,0.5nm,0.6s,mb3.5,baz=134,slow=10,SNR=5.9						
NVAR	**Mina Array Bea**	**41.87**	**319**	P	**P**	**11 47 22.3**	**+1.2**
	comp=E,1.4nm,0.7s,mb3.7,baz=141,slow=7.0,SNR=7.9						
NVAR				LR	LR	12 08 39.7	
	comp=E,115nm,18.5s,MS3.8,baz=90,slow=42						
BDFB	**Brasília**	**43.76**	**125**	LR	LR	12 06 13.0	
	comp=E,169nm,19.0s,MS4.0,baz=88,slow=37						
SCHQ	**Schefferville**	**47.00**	**14**	P	**P**	**11 48 01.1**	**-0.9**
	comp=E,2.2nm,0.8s,mb4.1,baz=232,slow=16,SNR=5.6						
SCHQ				LR	LR	12 07 58.3	
	comp=E,141nm,18.8s,MS4.0,baz=232,slow=36						
FFC	**Flin Flon**	**47.04**	**346**	*e*P	**P**	**11 48 02.1**	**-0.2**
	comp=E,5.4nm,0.8s,mb4.5						
PLCA	**Paso Flores**	**51.78**	**167**	P	**P**	**11 48 39.2**	**+0.2**
	comp=E,2.1nm,0.9s,mb4.0,baz=333,slow=12,SNR=3.1						
PLCA	**Paso Flores**	**51.78**	**167**	P	**P**	**11 48 39.2**	**+0.2**
YKA	**Yellowknife Ar**	**57.07**	**344**	P	**P**	**11 49 15.3**	**-2.1**
	comp=E,2.5nm,0.7s,mb4.3,baz=138,slow=7.0,SNR=61						
YKA				LR	LR	12 17 14.1	
	comp=E,84nm,21.7s,MS3.8,baz=150,slow=40						
DLBC	**Dease Lake**	**59.73**	**334**	P	**P**	**11 49 34.8**	**-1.2**
	comp=E,1.6nm,0.8s,mb4.1,baz=128,slow=19,SNR=2.5						
RES	**Resolute Bay**	**65.18**	**357**	*e*P	**P**	**11 50 10.7**	**-1.3**
	comp=E,2.1nm,0.7s,mb4.3						
INK	**Inuvik**	**66.74**	**342**	P	**P**	**11 50 21.5**	**-0.4**
	comp=E,3.3nm,0.8s,mb4.4,baz=120,slow=8.3,SNR=13						
INK	**Inuvik**	**66.74**	**342**	*e*P	**P**	**11 50 22.1**	**+0.1**
	comp=E,3.6nm,1.0s,mb4.4						
ILAR	**Eielson Array**	**69.79**	**336**	P	**P**	**11 50 40.2**	**-0.7**
	comp=E,0.8nm,0.7s,mb3.8,baz=126,slow=4.0,SNR=14						
PMSA	**Palmer Station**	**75.85**	**171**	P	**P**	**11 51 18.6**	**+2.1**
	comp=E,16nm,0.9s,mb4.9						
ESDC	**Sonseca Array**	**76.27**	**52**	P	**P**	**11 51 20.2**	**+0.7**
	comp=E,5.4nm,0.8s,mb4.5,baz=280,slow=5.7,SNR=16						
GRR	**Gorron**	**78.30**	**43**	*e*P	**P**	**11 51 30.1**	**-0.5**
	comp=E,63nm,1.2s,mb5.1						
DBIC	**Dimbokro**	**78.35**	**85**	LR	LR	12 24 16.0	
	comp=E,75nm,19.4s,MS4.0,baz=277,slow=34						
FLN	**La Foliniere**	**78.54**	**42**	*e*P	**P**	**11 51 31.5**	**-0.4**
	comp=E,21nm,0.9s,mb4.8						
LDF	**La Druitiere**	**78.78**	**42**	*e*P	**P**	**11 51 32.9**	**-0.3**
	comp=E,17nm,0.8s,mb4.8						
TCF	**Toulx Ste Croi**	**80.49**	**45**	*e*P	**P**	**11 51 41.7**	**-0.8**
	comp=E,14nm,0.9s,mb4.6						
BGF	**Bois d'Agland**	**80.91**	**44**	*e*P	**P**	**11 51 44.9**	**+0.2**
	comp=E,17nm,0.8s,mb4.7						
AVF	**Avril sur Loir**	**81.23**	**44**	*e*P	**P**	**11 51 46.3**	**-0.1**
	comp=E,51nm,1.5s,mb4.9						
SSF	**Saint Saulge**	**81.32**	**44**	*e*P	**P**	**11 51 46.3**	**-0.5**
	comp=E,9.3nm,0.8s,mb4.5						
BAIF	**Baives**	**81.52**	**41**	*e*P	**P**	**11 51 49.6**	**+1.8**
SMF	**Signal de Mont**	**81.58**	**44**	*e*P	**P**	**11 51 47.2**	**-1.0**
	comp=E,12nm,0.9s,mb4.5						
GIVF	**Givet**	**81.91**	**41**	*e*P	**P**	**11 51 49.5**	**-0.3**
MEZF	**Maizieres J'vi**	**82.22**	**42**	*e*P	**P**	**11 51 50.9**	**-0.5**
CABF	**La Chapelle**	**83.12**	**44**	*e*P	**P**	**11 51 53.8**	**-2.3**
	comp=E,70nm,1.3s,mb5.2						
HAU	**Haudompre**	**83.13**	**43**	*e*P	**P**	**11 51 55.7**	**-0.4**
HINF	**Hinteralfeld**	**83.50**	**43**	*e*P	**P**	**11 51 57.3**	**-0.6**
	comp=E,6.4nm,0.7s,mb4.4						
CDF	**Champ du Feu**	**83.70**	**42**	*e*P	**P**	**11 51 58.6**	**-0.4**
	comp=E,8.6nm,0.8s,mb4.6						
NOA	**NORSAR Array B**	**84.11**	**29**	P	**P**	**11 52 01.4**	**+0.7**
	comp=E,1.3nm,0.8s,mb4.1,baz=275,slow=4.9,SNR=4.0						
NOA				LR	LR	12 30 47.9	
	comp=E,147nm,18.8s,MS4.4,baz=5.0,slow=37						
CLL	**Collm**	**86.87**	**39**	*e*P	**P**	**11 52 16.0**	**+1.4**
CLL	**Collm**	**86.87**	**39**	P	**P**	**11 52 16.0**	**+1.4**
ARCES	**ARCESS Array B**	**87.63**	**19**	P	**P**	**11 52 18.8**	**+0.9**
	comp=E,1.4nm,0.6s,mb4.3,baz=297,slow=2.7,SNR=5.8						
GERES	**GERESS Array B**	**87.82**	**41**	P	**P**	**11 52 20.3**	**+1.1**
	comp=E,0.6nm,0.5s,mb4.1,baz=270,slow=3.9,SNR=5.0						
ASAR	**Alice Springs**	**141.20**	**244**	PKP	PKPdf	11 59 01.8	+1.6
	comp=E,0.3nm,0.6s,baz=114,slow=3.5,SNR=8.1						
WRA	**Warramunga Arr**	**141.57**	**250**	PKhKP		11 59 00.5	
	comp=E,0.4nm,0.8s,baz=93,slow=3.3,SNR=7.2						
WRA				PKP	PKPdf	11 59 04.4	+3.6
	comp=E,0.4nm,0.8s,baz=93,slow=2.9,SNR=7.5						
CMAR	**Chiang Mai Arr**	**151.80**	**354**	PKPbc	PKPdf	11 59 26.6	+8.8
	comp=E,0.7nm,0.5s,baz=334,slow=3.0,SNR=6.4						
CMAR				PKPab	PKPab	11 59 35.0	-0.6
	comp=E,2.1nm,0.9s,baz=342,slow=3.7,SNR=5.9						

MEX 21 11:40:45.4±0.5, 17.20N×96.57W, h76km±7km, MD3.8, 1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**0.19**	**232**	*i* P	P	11 40 55.5	-1.1
OXX				*i* S	S	11 41 03.5	-1.6
VHO	**Vista Hermosa**	**0.20**	**232**	⇓*i*P	P	11 40 55.5	-1.2
VHO				*i* S	S	11 41 03.4	-1.8
CMIG	**Matias Romero**	**1.61**	**94**	*e*P	P	11 41 10.4	-2.2
CMIG				*i* S	S	11 41 30.6	-1.9

*CSEM **21** 11:54:00.5±0.6, 38.75N×29.01W, h9km±4km, ML2.4, Error ellipse: s-maj=7.7km s-min=4.7km az=38.0, After PDA*
*PDA **21** 11:54:00.5±0.6, 38.75N×29.01W, h9km±4km, MD3.2, ML2.4, Error ellipse: s-maj=7.7km s-min=4.7km az=38.0*

SVSA 21 11:54:00.5±0.6, 38.75N×29.01W, h9km±4km, MD3.2, ML2.4, Error ellipse: s-maj=7.7km s-min=4.7km az=38.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.27**	**117**	*i* P	Pg	11 54 05.4	-0.8
PCED				*e*S	Sg	11 54 09.3	-0.7
	558nm,0.2s						
PCED	**Cedros**	**0.27**	**117**	*e*S	Sg	11 54 09.3	-0.7
	558nm,0.2s						
	558nm,0.2s						
CALA	**Caldeira**	**0.30**	**125**	*i* P	Pg	11 54 05.8	-0.9
CALA				*i* S	Sg	11 54 09.9	-0.9
CALA	**Caldeira**	**0.30**	**125**	*i* S	Sg	11 54 09.9	-0.9
HOR	**Horta**	**0.38**	**127**	*e*P	Pg	11 54 06.9	-1.3
HOR				*i* S	Sg	11 54 11.6	-1.7
PICO	**Pico**	**0.53**	**119**	*i* P	Pg	11 54 09.5	-1.6
PICO				*e*S	Sg	11 54 16.4	-1.8
PICO	**Pico**	**0.53**	**119**	*e*S	Sg	11 54 16.4	-1.8
ROSA	**Rosais**	**0.60**	**93**	*e*P	Pg	11 54 10.5	-2.2
ROSA				*e*S	Sg	11 54 17.7	-3.1
PMAN	**Manadas**	**0.73**	**99**	*e*S	Sb	11 54 20.8	-4.0
	40nm,0.2s						

*IDC **21** 12:25:45.3±1.3, 7.05N×125.39E, mb3.6/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=213.3km s-min=23.6km az=72.0*
*MAN **21** 12:25:47.1±7.17N×126.26E, h23km, mb4.6, ML3.5, MS3.4*

ISC 21 12:25:48.4±0.6, 7.18N±0.04×126.23E±0.05, h34km±7km, n14, σ1§13/20, mb3.4/4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.24**	**173**	*e*P	**P**	**12 25 55.1**	**-0.4**
MATI				*e*S	**S**	**12 26 01.3**	**+0.8**
DMPH	**Davao City--Mi**	**0.72**	**262**	*i* P	**P**	**12 26 00.4**	**-1.7**
DMPH				*i* S	**S**	**12 26 12.4**	**+0.3**
BIPH	**Bislig**	**1.00**	**8**	⇑*e*P	**P**	**12 26 05.2**	**-1.0**
BIPH				*e*S	**S**	**12 26 18.5**	**-0.8**
KCP	**Kidapawan**	**1.14**	**261**	⇓*e*P	**P**	**12 26 02.7**	**-5.4**
KCP				*i* S	**S**	**12 26 21.6**	**-1.3**
BUKP	**Musuan**	**1.34**	**301**	*e*P	**P**	**12 26 09.7**	**-1.4**
BUKP				*e*S	**S**	**12 26 30.0**	**+2.0**
BUTP	**Butuan**	**1.87**	**341**	*e*P	**P**	**12 26 19.7**	**+1.0**
CGP	**Cagayan de Oro**	**1.98**	**310**	*e*P	**P**	**12 26 20.0**	**-0.1**
CGP				*e*S	**S**	**12 26 45.1**	**+1.2**
PAGZ	**Pagadian**	**2.90**	**283**	*e*P	**P**	**12 26 33.2**	**-0.1**
PAGZ				*e*S	Px	12 26 42.4	
MSLP	**Maasin**	**3.23**	**335**	*e*P	**P**	**12 26 40.1**	**+2.2**
TBP	**Tagbilaran**	**3.42**	**317**	*e*P	**P**	**12 26 39.9**	**-0.7**
WRA	**Warramunga Arr**	**28.11**	**164**	P	**P**	**12 31 39.7**	**+0.1**
	1.2nm,0.8s,mb3.6,baz=344,slow=9.9,SNR=7.0						
ASAR	**Alice Springs**	**31.57**	**166**	P	**P**	**12 32 10.1**	**-0.1**
	0.5nm,0.4s,mb3.7,baz=342,slow=6.8,SNR=14						
ASAR				PcP	PcP	12 35 03.2	+0.8
	0.3nm,0.8s,baz=352,slow=2.5,SNR=3.8						
STKA	**Stephens Creek**	**41.52**	**160**	P	**P**	**12 33 36.3**	**+1.9**
	1.3nm,0.8s,mb3.6,baz=318,slow=11,SNR=3.4						
SONM	**Songino Array**	**43.89**	**341**	P	**P**	**12 33 52.2**	**-1.3**
	0.1nm,0.6s,mb2.8,baz=143,slow=7.2,SNR=3.2						

*IDC **21** 12:35:38.2±1.3, 6.07N×92.89E, mb3.9/6, mb1 4.1/7, mb1mx3.9/18, mbtmp3.9/7, ML4.1/1, Error ellipse: s-maj=56.7km s-min=20.0km az=59.0*
*NEIC **21** 12:35:43.4±0.7, 6.19N×93.06E, h30km, mb4.5/2, Error ellipse: s-maj=22.7km s-min=9.4km az=65.0*

ISC 21 12:35:41.5±0.9, 6.2N±0.1×93.1E±0.2, h30km, n11, σ0§66/11, mb4.1/8, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.43**	**25**	Pn	**P**	**12 38 52.0**	**-0.6**
	0.3nm,0.3s,baz=217,slow=14,SNR=12						
SONM	**Songino Array**	**42.99**	**13**	P	**P**	**12 43 41.5**	**+1.6**
	0.8nm,0.8s,mb3.5,baz=198,slow=5.4,SNR=3.7						
WRA	**Warramunga Arr**	**48.17**	**124**	P	**P**	**12 44 21.9**	**+0.4**
	3.4nm,0.7s,mb4.5,baz=301,slow=8.8,SNR=27						
WRA				PcP	PcP	12 45 46.6	-2.3
	0.4nm,0.8s,baz=312,slow=2.6,SNR=5.0						
WRAB	**Tennant Creek**	**48.18**	**124**	*e*P	**P**	**12 44 21.6**	**+0.1**
	6.3nm,0.7s,mb4.8						
WB2	**Warramunga Arr**	**48.18**	**124**	⇑*i*P	**P**	**12 44 21.9**	**+0.3**
ASPA	**Alice Springs**	**49.67**	**128**	*e*P	**P**	**12 44 32.9**	**-0.1**
ASAR	**Alice Springs**	**49.68**	**128**	P	**P**	**12 44 33.0**	**0.0**
	2.5nm,0.7s,mb4.4,baz=300,slow=7.5,SNR=33						
BVAR	**Borovoye Array**	**50.23**	**342**	P	**P**	**12 44 36.1**	**-0.7**
	0.7nm,0.7s,mb3.8,baz=135,slow=6.1,SNR=3.1						
CHKZ	**Chkalovo**	**50.73**	**343**	*e*P	**P**	**12 44 40.3**	**-0.3**
	2.2nm,0.6s,mb4.3						
CHKZ				*e*pP	pP	12 44 46.2	-3.6
STKA	**Stephens Creek**	**59.73**	**132**	P	**P**	**12 45 45.3**	**-0.9**
	0.9nm,0.5s,mb4.0,baz=271,slow=11,SNR=7.2						
GERES	**GERESS Array B**	**78.37**	**318**	P	**P**	**12 47 41.2**	**+0.4**
	0.5nm,0.5s,mb3.7,baz=90,slow=1.3,SNR=3.4						

*IDC **21** 12:43:09.3±1.7, 5.82N×93.05E, mb3.8/4, mb1 4.0/5, mb1mx3.8/17, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=50.6km s-min=29.4km az=55.0*
*NEIC **21** 12:43:13.5±0.9, 5.81N×92.97E, h30km, mb4.2/3, Error ellipse: s-maj=24.5km s-min=13.7km az=65.0*

ISC 21 12:43:11.6±1.2, 5.8N±0.1×93.0E±0.2, h30km, n8, σ0§46/8, mb4.0/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.85**	**24**	Pn	**P**	**12 46 28.6**	**+0.1**
	0.3nm,0.3s,baz=210,slow=14,SNR=10						
LSA	**Lhasa**	**23.82**	**356**	P	**P**	**12 48 23.6**	**+0.4**
	5.7nm,0.8s,mb4.0						
SONM	**Songino Array**	**43.41**	**13**	P	**P**	**12 51 12.7**	**-0.8**
	0.4nm,0.8s,mb3.2,baz=187,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**48.05**	**123**	P	**P**	**12 51 50.8**	**+0.1**
	1.3nm,0.7s,mb4.1,baz=302,slow=9.1,SNR=5.8						
WRAB	**Tennant Creek**	**48.05**	**123**	*e*P	**P**	**12 51 50.6**	**0.0**
	4.8nm,0.7s,mb4.6						
ZAL	**Zalesovo**	**

	comp=N,2μm,0.6s					
YUK				smax		
	comp=E,770nm,0.6s					
YUK				MLR	MLR	
	comp=N,71μm,15.0s					
YUK				MLR	MLR	
	comp=Z,74μm,15.0s					
YUK				MLR	MLR	
	comp=E,60μm,14.0s					
KS15	**Wonju Array Si**	**11.60**	**291**	*e*Pn	**P**	**12 48 20.9 +1.6**
VLA	**Vladivostok**	**11.77**	**323**	⇑*i*P	**P**	**12 48 27.0 +5.5**
VLA				*i* S	**S**	**12 50 35.0 +1.3**
VLA				pmax	pmax	
	comp=Z,4μm,13.0s					
VLA				smax		
	comp=E,11μm,11.0s					
VLA				MLR	MLR	
	comp=N,44μm,16.0s					
VLA				MLR	MLR	
	comp=Z,44μm,16.0s					
VLA				MLR	MLR	
	comp=E,28μm,14.0s					
KUR	**Kuril'sk**	**12.15**	**22**	*e*P	**P**	**12 48 19.0 -7.7**
KUR				*e*S	**S**	**12 50 28.5 -15**
KUR				pmax	pmax	
	comp=Z,220nm,0.8s					
KUR				smax		
	comp=N,260nm,0.9s					
KUR				smax		
	comp=E,330nm,0.9s					
KUR				smax		
	comp=E,10μm,4.0s					
KUR				MLR	MLR	
	comp=N,15μm,14.0s					
KUR				MLR	MLR	
	comp=E,15μm,14.0s					
KUR				MLR	MLR	
	comp=Z,49μm,14.0s					
YSS	**Yuzh-Sakhalins**	**12.90**	**4**κ	*i*P	**P**	**12 48 31.7 -5.0**
YSS				*e*S	**S**	**12 50 46.0 -15**
YSS				pmax	pmax	
	comp=Z,800nm,4.0s					
YSS				pmax	pmax	
	comp=N,130nm,1.0s					
YSS				pmax	pmax	
	comp=Z,140nm,1.0s					
YSS				smax		
	comp=E,3μm,5.0s					
YSS				MLR	MLR	
	comp=N,86μm,16.0s					
YSS				MLR	MLR	
	comp=Z,113μm,16.0s					
YSS				MLR	MLR	
	comp=E,58μm,14.0s					
YSS	**Yuzh-Sakhalins**	**12.90**	**4**	*e*Pn	**P**	**12 48 31.9 -4.7**
	comp=E,96nm,0.8s					
JOW	**Kunigami**	**13.53**	**241**	LR	LR	12 53 52.7
	comp=E,29μm,18.3s,baz=89,slow=37					
MDJ	**Mudanjiang**	**14.00**	**322**	P	**P**	**12 48 50.3 -0.9**
MDJ				AP		12 48 53.3
MDJ				XP		12 48 56.8
MDJ				S	**S**	**12 51 28.8 +1.4**
MDJ				SS	SS	12 51 46.3 +2.5
MDJ				AMB	AMB	
	comp=Z,38nm,1.0s					
MDJ				AMB	AMB	
	comp=Z,3μm,5.8s					
MDJ				LR	LR	
	comp=N,71μm,13.5s					
MDJ				LR	LR	
	comp=E,22μm,13.7s					
MDJ				LR	LR	
	comp=Z,87μm,15.4s					
MDJ	**Mudanjiang**	**14.00**	**322**	*e*Pn	**P**	**12 48 50.2 -1.0**
	comp=Z,52nm,1.1s					
UGL	**Uglegorsk**	**14.99**	**1**	*e*P	**P**	**12 49 05.0 +0.8**
UGL				*e*S	**S**	**12 51 50.0 -1.0**
UGL				pmax	pmax	
	comp=Z,60nm,0.8s					
UGL				pmax	pmax	
	comp=Z,2μm,10.0s					
UGL				smax		
	comp=N,5μm,14.0s					
UGL				smax		
	comp=E,7μm,14.0s					
UGL				smax		
	comp=Z,3μm,14.0s					
UGL				MLR	MLR	
	comp=Z,97μm,16.0s					
UGL				MLR	MLR	
	comp=N,100μm,17.0s					
UGL				MLR	MLR	
	comp=E,47μm,14.0s					
SNY	**Shenyang**	**16.13**	**304**	⇑P	**P**	**12 49 17.6 -1.4**
SNY				S	**S**	**12 52 24.0 +6.3**
SNY				AMB	AMB	
	comp=Z,40nm,1.9s					
SNY				AMB	AMB	
	comp=Z,7μm,13.2s					
SNY				LR	LR	
	comp=N,46μm,14.6s					
SNY				LR	LR	
	comp=Z,26μm,13.6s					
KLR	**Kul'dur**	**16.80**	**337**	*e*P	**P**	**12 49 21.0 -6.4**
KLR				pmax	pmax	
	comp=E,2μm,12.0s					
KLR				pmax	pmax	
	comp=Z,7μm,12.0s					
KLR				MLR	MLR	
	comp=E,46μm,13.5s					
KLR				MLR	MLR	
	comp=Z,56μm,13.5s					
SSE	**Sheshan**	**17.42**	**266**	P	**P**	**12 49 34.0 -1.3**
SSE				AP		12 49 38.0
SSE				XP		12 49 39.8
SSE				S	**S**	**12 52 47.6 +0.3**
SSE				XS		12 53 02.1
SSE				AMB	AMB	
	comp=Z,35nm,0.7s					
SSE				AMB	AMB	
	comp=Z,2μm,11.5s					
SSE				LR	LR	
	comp=N,27μm,13.9s					
SSE				LR	LR	
	comp=E,33μm,13.9s					
SSE				LR	LR	
	comp=Z,47μm,15.2s					
SSE	**Sheshan**	**17.42**	**266**	P	**P**	**12 49 34.0 -1.3**
	comp=Z,35nm,0.7s					
SSE				pP		12 49 38.0
SSE				sP		12 49 39.7
SSE				S	**S**	**12 52 47.6 +0.3**
SSE				sS		12 53 02.1
NJ2	**Nanjing**	**19.13**	**270**	*e*P	**P**	**12 49 55.4 -0.9**
NJ2				AP		12 49 58.9
NJ2				XP		12 50 02.8
NJ2				PP	PP	12 50 12.3 -0.9
NJ2				PPP	PPP	12 50 20.5 -1.7
NJ2				S	**S**	**12 53 25.0 -1.1**
NJ2				XS		12 53 32.0
NJ2				AMB	AMB	
	comp=Z,20nm,0.7s					
NJ2				AMB	AMB	
	comp=Z,10μm,6.5s					
NJ2				LR	LR	
	comp=N,24μm,15.6s					
NJ2				LR	LR	
	comp=E,75μm,16.2s					
NJ2				LR	LR	
	comp=Z,100μm,15.0s					
SKR	**Severo-Kuril's**	**19.72**	**28**	*e*P	**P**	**12 49 58.0 -5.0**
SKR				*e*S	**S**	**12 53 30.0 -9.0**
SKR				pmax	pmax	
	comp=N,5μm,14.0s					
SKR				pmax	pmax	
	comp=E,4μm,14.0s					
SKR				pmax	pmax	
	comp=Z,5μm,14.0s					
SKR				pmax	pmax	
	comp=Z,720nm,1.5s					
SKR				smax		
	comp=N,3μm,10.0s					
SKR				smax		
	comp=E,13μm,12.0s					
SKR				MLR	MLR	
	comp=N,6μm,16.0s					
SKR				MLR	MLR	
	comp=Z,22μm,16.0s					
SKR				MLR	MLR	
	comp=E,24μm,14.0s					
TIA	**Tai'an**	**20.08**	**283**	*e*P	**P**	**12 50 07.5 +0.5**
TIA				XP		12 50 20.5
TIA				S	**S**	**12 53 53.0 +6.2**
TIA				AMB	AMB	
	comp=Z,602nm,9.0s					
TIA				LR	LR	
	comp=N,22μm,14.0s,MS5.8					
TIA				LR	LR	
	comp=E,24μm,14.0s,MS5.8					
GUMO	**Guam**	**20.62**	**171**	PFAKE		12 50 20.0 +7.3
GUMO				LR	LR	
	comp=Z,13μm,19.0s,MS5.3					
BJI	**Beijing**	**21.07**	**294**	P	**P**	**12 50 17.6 +0.3**
BJI				S	**S**	**12 54 09.6 +3.0**
BJI				pmax	pmax	
	comp=Z,16nm,0.8s,mb4.4					
BJI				MLR	MLR	
	comp=Z,10μm,17.4s,MS5.2					
BJI	**Beijing**	**21.07**	**294**	P	**P**	**12 50 17.6 +0.3**
	comp=Z,16nm,0.8s,mb4.4					
BJI				S	**S**	**12 54 09.6 +3.0**
BJI				LR	LR	
	comp=Z,10μm,17.4s,MS5.2					
BJT	**Baijiatuau**	**21.08**	**294**	*e*P	**P**	**12 50 17.6 +0.4**
	comp=Z,31nm,0.8s,mb4.7					
BJT				LR	LR	
	comp=Z,9μm,22.0s,MS5.1					
QZH	**Quanzhou**	**21.92**	**252**	P	**P**	**12 50 21.4 -4.5**
QZH				S	**S**	**12 54 13.0 -10**
QZH				LR	LR	
	comp=N,19μm,14.6s,MS5.8					
QZH				LR	LR	
	comp=E,17μm,12.7s,MS5.8					
QZH				LR	LR	
	comp=Z,22μm,14.3s,MS5.7					
HIA	**Hailar**	**22.15**	**320**	*e*P	**P**	**12 50 24.5 -3.5**
	comp=Z,54nm,1.0s,mb4.9					
HIA				LR	LR	
	comp=Z,41μm,19.0s,MS5.9					
PET	**Petropavlovsk**	**22.53**	**28**	*e*P	**P**	**12 50 30.3 -1.4**
PET				*e*		12 51 01.3
PET				pmax	pmax	
	comp=Z,2μm,12.1s					
PET				pmax	pmax	
	comp=Z,2μm,11.6s					
PET	**Petropavlovsk**	**22.53**	**28**	PFAKE		12 50 40.0 +8.3
PET				LR	LR	
	comp=Z,8μm,19.0s,MS5.2					
WHN	**Wuhan**	**23.23**	**269**	P	**P**	**12 50 37.3 -1.5**
WHN				S	**S**	**12 54 41.0 -5.3**
WHN				LR	LR	
	comp=Z,76μm,15.4s,MS6.3					
CLNS	**Chul'man**	**25.45**	**338**	*e*P	**P**	**12 51 01.3 +1.4**
CLNS				*e*		12 51 33.5
CLNS				*e*PPP	PPP	12 51 46.0 -4.5
CLNS				*e*		12 54 28.0
CLNS				*e*S	**S**	**12 55 28.4 +4.5**
CLNS				*e*SS	SS	12 56 39.3 +13
CLNS				pmax	pmax	
	comp=Z,91nm,0.7s,mb5.4					
CLNS				pmax	pmax	
	comp=N,73nm,0.9s					
CLNS				pmax	pmax	
	comp=E,37nm,0.9s					
CLNS				pmax	pmax	
	comp=N,98nm,1.0s					
CLNS				pmax	pmax	
	comp=Z,111nm,1.0s,mb5.3					
CLNS				pmax	pmax	
	comp=E,53nm,0.8s					
CLNS				smax		
	comp=N,11μm,15.1s					
CLNS				smax		
	comp=Z,8μm,13.1s					
CLNS				smax		
	comp=E,1μm,13.4s					
CLNS				MLR	MLR	
	comp=Z,25μm,17.0s,MS5.8					
CLNS				MLR	MLR	
	comp=N,17μm,15.0s,MS5.7					
CLNS				MLR	MLR	
	comp=E,6μm,14.0s,MS5.7					
MA2	**Magadan**	**26.23**	**11**	*e*P	**P**	**12 51 05.5 -1.6**
MA2				*e*		12 51 40.8
MA2				*e*S	**S**	**12 55 31.6 -5.2**
MA2				pmax	pmax	
	comp=Z,60nm,1.0s,mb5.1					
MA2				MLR	MLR	
	comp=Z,21μm,19.0s,MS5.7					
MA2	**Magadan**	**26.23**	**11**	*e*P	**P**	**12 51 05.7 -1.4**
	comp=Z,82nm,1.1s,mb5.2					
MA2				LR	LR	
	comp=Z,12μm,19.0s,MS5.5					
XAN	**Xi'an**	**26.98**	**279**	P	**P**	**12 51 10.9 -3.4**
XAN				AMB	AMB	
	comp=Z,14nm,0.8s,mb4.5					
XAN				LR	LR	
	comp=N,14μm,14.9s,MS6.0					
XAN				LR	LR	
	comp=E,30μm,14.3s,MS6.0					
XAN				LR	LR	
	comp=Z,43μm,15.3s,MS6.1					
TGY	**Tagaytay City**	**27.28**	**228**	LR	LR	13 01 14.4
	comp=Z,9μm,18.3s,MS5.4,baz=286,slow=35					
ENH	**Enshi**	**27.34**	**271**	*e*P	**P**	**12 51 13.6 -4.1**
	comp=Z,34nm,1.0s,mb4.8					
ENH				LR	LR	
	comp=Z,20μm,19.0s,MS5.7					
YAK	**Yakutsk**	**28.98**	**348**	*e*P	**P**	**12 51 32.0 -0.1**
YAK				*e**PP	pP	12 51 42.2 +6.5
YAK				*e*		12 52 23.9
YAK				*e*PPP	PPP	12 52 32.7 -6.2
YAK				*e*		12 54 40.7
YAK				*e*S	**S**	**12 56 20.4 -0.9**
YAK				*e*SS	SS	12 57 45.3 -4.6
YAK				*e*SSS	SSS	12 58 00.9 -9.0
YAK				*e*		13 02 13.3
YAK				pmax	pmax	
	comp=Z,53nm,1.0s,mb5.2					
YAK				pmax	pmax	
	comp=N,23nm,1.2s					
YAK				pmax	pmax	
	comp=E,9.0nm,1.2s					
YAK				pmax	pmax	
	comp=E,14nm,1.0s					
YAK				pmax	pmax	
	comp=Z,28nm,1.0s,mb5.0					
YAK				pmax	pmax	
	comp=N,29nm,1.1s					
YAK				smax		
	comp=E,12nm,1.3s					
YAK				smax		
	comp=N,14nm,1.1s					
YAK				MLR	MLR	
	comp=Z,15μm,13.0s,MS5.8					
YAK				MLR	MLR	
	comp=N,10μm,14.0s,MS5.7					
YAK				MLR	MLR	
	comp=E,7μm,15.0s,MS5.7					
YAK	**Yakutsk**	**28.98**	**348**	*e*P	**P**	**12 51 31.8 -0.3**
	comp=E,107nm,1.0s,mb5.5					
SONM	**Songino Array**	**29.62**	**308**	P	**P**	**12 51 37.2 -0.8**
	comp=E,24nm,0.9s,mb4.9,baz=104,slow=7.9,SNR=55					
SEY	**Seymchan**	**29.67**	**10**	*e*P	**P**	**12 51 37.3 -1.0**
SEY				*e*		12 52 39.3
SEY						12 54 36.9
SEY				*e*S	**S**	**12 56 31.1 -1.2**
SEY				*e*SS	SS	12 58 11.9 +5.4
SEY				pmax	pmax	
	comp=N,10.0nm,0.8s					
SEY				pmax	pmax	
	comp=Z,50nm,0.8s,mb5.3					
SEY				pmax	pmax	
	comp=E,4.0nm,0.7s					
SEY				smax		
	comp=N,11μm,14.3s					
SEY				smax		
	comp=E,4μm,12.1s					
SMY	**Shemya**	**29.75**	**41**	PFAKE		12 51 50.0 +11
SMY				LR	LR	
	comp=Z,20μm,20.0s,MS5.8					
BOD	**Bodaibo**	**30.12**	**330**	*e*P	**P**	**12 51 44.0 +1.6**
DAV	**Davao City (W)**	**30.66**	**212**	P	**P**	**12 51 53.0 +5.4**
LZH	**Lanzhou**	**30.80**	**285**	P	**P**	**12 51 46.1 -2.5**
LZH				AMB	AMB	
	comp=Z,40nm,1.2s,mb5.1					
LZH				AMB	AMB	
	comp=Z,670nm,5.4s					
LZH				LR	LR	
	comp=E,43μm,13.0s					
LZH				LR	LR	
	comp=Z,40μm,15.1s,MS6.2					
LZH	**Lanzhou**	**30.80**	**285**	P	**P**	**12 51 46.1 -2.5**
LZH				*PP	pP	12 51 53.8 +1.5
LZH						12 52 46.0
LZH				S	**S**	**12 56 42.3 -8.2**
LZH				pmax	pmax	
	comp=Z,40nm,1.2s,mb5.1					
LZH				MLR	MLR	
	comp=Z,40μm,15.1s,MS6.2					
LZH	**Lanzhou**	**30.80**	**285**	P	**P**	**12 51 46.1 -2.5**
	comp=Z,40nm,1.2s,mb5.1					
LZH				pP	pP	12 51 53.8 +1.5
LZH				sP	sP	12 51 57.0 +3.1
LZH				PP	PP	12 52 46.0 -3.8
LZH				PPP	PPP	12 52 58.3 -6.3
LZH				S	**S**	**12 56 42.3 -8.2**
LZH				sS		12 56 57.0
LZH				SS	SS	12 58 25.4 -7.7
LZH				LR	LR	
	comp=Z,40μm,15.1s,MS6.2					
QIZ	**Qiongzhong**	**31.92**	**250**	P	**P**	**12 51 59.4 +0.8**
QIZ				XP	sP	12 52 06.8 +2.9
QIZ				PP	PP	12 53 07.5 +2.9
QIZ				S	**S**	**12 57 07.5 -0.7**
QIZ				AMB	AMB	
	comp=Z,650nm,16.9s					
QIZ				LR	LR	
	comp=N,8μm,15.6s,MS5.6					
QIZ				LR	LR	
	comp=E,7μm,16.2s,MS5.6					
QIZ				LR	LR	
	comp=Z,11μm,15.3s,MS5.7					
QIZ	**Qiongzhong**	**31.92**	**250**	PFAKE		12 52 10.0 +11
QIZ				LR	LR	
	comp=Z,8μm,19.0s,MS5.4					
IRK	**Irkutsk**	**32.23**	**316**	*e*P	**P**	**12 52 02.2 +1.2**
IRK				pmax	pmax	
	comp=Z,90nm,3.3s					
ZAK	**Zakamensk**	**32.26**	**312**	⇓*i*P	**P**	**12 52 01.3 0.0**
TLY	**Talaya**	**32.42**	**314**	P	**P**	**12 52 03.7 +1.1**
	comp=Z,350nm,0.9s,mb6.2,SNR=44					
TLY	**Talaya**	**32.42**	**314**	*e*P	**P**	**12 52 01.5 -1.1**
TLY	**Talaya**	**32.42**	**314**	*e*P	**P**	**12 52 02.6 0.0**
	comp=Z,50nm,0.9s,mb5.3					
MOY	**Mondy**	**33.99**	**314**	*e*P	**P**	**12 52 16.3 0.0**
KMI	**Kunming**	**34.74**	**266**	P	**P**	**12 52 24.8 +1.8**
KMI				*SP	sP	12 52 29.0 +0.7
KMI						12 53 44.7
KMI				S	**S**	**12 57 52.6 +0.7**
KMI				*SS		12 57 58.3
KMI				SS	SS	13 00 05.9 +1.1
KMI				pmax	pmax	
	comp=Z,9.0nm,0.9s,mb4.7					
KMI				MLR	MLR	
	comp=Z,35μm,17.0s,MS6.2					
KMI	**Kunming**	**34.74**	**266**	P	**P**	**12 52 24.8 +1.8**
	comp=Z,9.0nm,0.9s,mb4.7					
KMI				pP	pP	12 52 27.6 +0.9
KMI				sP	sP	12 52 29.0 +0.7
KMI				PP	PP	12 53 44.7 +4.6
KMI				S	**S**	**12 57 52.6 +0.7**
KMI				sS		12 57 58.3
KMI				SS	SS	13 00 05.9 +1.1
KMI				LR	LR	
	comp=Z,35μm,17.0s,MS6.2					
BILL	**Bilibino**	**36.84**	**15**	*e*P	**P**	**12 52 38.2 -2.1**
	comp=Z,81nm,1.3s,mb5.4					
BILL				LR	LR	
	comp=Z,5μm,20.0s,MS5.3					
TIXI	**Tiksi**	**38.23**	**354**	⇑*i*P	**P**	**12 52 50.7 -1.3**
TIXI				*e*		12 54 16.6
TIXI				*e*S	**S**	**12 58 40.5 -4.6**
TIXI				pmax	pmax	
	comp=Z,22nm,1.0s,mb4.8					
TIXI	**Tiksi**	**38.23**	**354**	⇑*i*P	**P**	**12 52 49.8 -2.2**
NANT	**Nan**	**39.34**	**258**	P	**P**	**12 53 01.0 -0.8**
CHRT	**Chiangrai**	**39.55**	**260**	⇓P	**P**	**12 53 03.0 -0.5**
	comp=Z,108nm,1.1s,mb5.5					
CHG	**Chiang Mai**	**40.76**	**259**	P	**P**	**12 53 13.2 -0.3**
CM31	**Chiang Mai Arr**	**40.94**	**259**	*e*P	**P**	**12 53 13.0 -2.0**
	comp=Z,6.4nm,0.6s,mb4.4					
CM31				LR	LR	
	comp=Z,8μm,19.0s,MS5.6					
CMAR	**Chiang Mai Arr**	**40.94**	**259**	P	**P**	**12 53 12.3 -2.7**
CMAR				pmax	pmax	
	comp=Z,5.0nm,0.7s					
CMAR				MLR	MLR	
	comp=Z,2μm,18.8s					
CMAR	**Chiang Mai Arr**	**40.94**	**259**	P	**P**	**12 53 12.2 -2.8**
	comp=Z,5.2nm,0.7s,mb4.3,baz=48,slow=7.4,SNR=20					
CMAR				LR	LR	13 09 30.3
	comp=Z,2μm,18.8s,MS4.9,baz=55,slow=35					
NST	**Nakhon Sawan**	**41.47**	**254**	P	**P**	**12 53 21.6 +2.3**
WMQ	**Urumqi**	**42.34**	**300**	P	**P**	**12 53 27.0 +0.8**
WMQ				AP	pP	12 53 29.8 -0.1
WMQ				XP	sP	12 53 31.8 +0.3
WMQ				PP	PP	12 55 08.3 +1.0
WMQ				S	**S**	**12 59 47.1 +0.4**
WMQ				XS		12 59 54.5
WMQ				AMB	AMB	
	comp=Z,65nm,1.4s,mb5.1					
WMQ				AMB	AMB	
	comp=Z,698nm,12.0s					
WMQ				LR	LR	
	comp=N,3μm,20.0s,MS5.5					
WMQ				LR	LR	
	comp=E,6μm,24.2s,MS5.5					
WMQ				LR	LR	
	comp=Z,6μm,26.0s,MS5.3					
LSA	**Lhasa**	**42.67**	**278**	P	**P**	**12 53 30.4 +1.3**
LSA				PP	PP	12 55 12.0 +1.1
LSA				AMB	AMB	
	comp=Z,30nm,1.2s,mb4.9					
LSA				AMB	AMB	
	comp=Z,690nm,12.0s					
LSA				LR	LR	
	comp=N,5μm,14.4s,MS5.8					
LSA				LR	LR	
	comp=E,9μm,15.4s,MS5.8					
LSA				LR	LR	
	comp=Z,14μm,15.4s,MS6.0					
LSA	**Lhasa**	**42.67**	**278**	*e*P	**P**	**12 53 30.3 +1.1**
	comp=Z,31nm,1.1s,mb5.0					
LSA				LR	LR	
	comp=Z,9μm,19.0s,MS5.7					
TNA	**Tin City**	**43.39**	**28**	*e*P	**P**	**12 53 34.5 +0.1**
SHL	**Shillong**	**43.57**	**273**	*e*P	**P**	**12 53 38.0 +1.6**
SHL				*e*		12 59 33.0
PMG	**Port Moresby**	**43.57**	**172**	P	**P**	**12 53 39.2 +2.6**
	comp=Z,28nm,1.0s,mb5.0,baz=352,slow=5.3,SNR=5.1					
PMG	**Port Moresby**	**43.57**	**172**	*e*P	**P**	**12 53 39.2 +2.6**
PMG				LR	LR	
	comp=Z,2μm,19.0s,MS5.1					
ZAL	**Zalesovo**	**44.04**	**315**	P	**P**	**12 53 39.6 -0.3**
ZAL				pmax	pmax	
	comp=Z,20nm,0.9s					
ZAL				MLR	MLR	
	comp=Z,11μm,18.1s					
ZAL	**Zalesovo**	**44.04**	**315**	P	**P**	**12 53 39.5 -0.3**
	comp=Z,20nm,0.8s,mb4.9,baz=287,slow=8.2,SNR=44					
ZAL				LR	LR	13 14 20.4
	comp=Z,11μm,18.1s,MS5.8,baz=286,slow=39					
ANM	**Nome**	**44.08**	**30**	*e*P	**P**	**12 53 41.1 +1.0**
NVS	**Novosibirsk**	**45.00**	**316**	*e*P	**P**	**12 53 46.7 -0.9**
NVS				*e*S	**S**	**13 00 21.8 -3.4**
NVS				pmax	pmax	
	comp=N,18nm,1.1s					
NVS				pmax	pmax	
	comp=E,77nm,1.1s					
NVS				pmax	pmax	
	comp=Z,105nm,1.1s,mb5.6					
MKAR	**Makanchi Array**	**45.84**	**305**	*i* P	**P**	**12 53 53.4 -0.9**
MKAR				pmax	pmax	
	comp=Z,37nm,0.8s					
KAKA	**Kakadu**	**47.33**	**192**	*e*P	**P**	**12 54 05.1 -1.5**
	comp=Z,47nm,0.9s,mb5.4					

JIRN Jiri 47.47 278 *e*P **P 12 54 05.8 -1.7**
comp=Z,294nm,1.0s,mb6.2
CAL Calcutta 47.78 271 *e*P **P 12 54 09.4 -0.7**
CAL *e* 13 00 09.8
SVW2 Sparrevohn 47.83 36 *e*P **P 12 54 12.0 +2.1**
KURK Kurchatov 47.88 310 P **P 12 54 09.2 -1.3**
KURK pmax pmax
comp=Z,43nm,0.9s,mb5.5
KURK Kurchatov 47.88 310 *e*P **P 12 54 09.0 -1.4**
comp=Z,102nm,0.9s,mb5.9
KURK LR LR
comp=Z,4μm,20.0s,MS5.4
PKI Pulchoki 48.14 278 *e*P **P 12 54 11.2 -1.6**
comp=Z,172nm,1.1s,mb6.0
KKN Kakani 48.17 279 *e*P **P 12 54 11.0 -2.0**
comp=Z,194nm,1.0s,mb6.1
DMN Daman 48.38 278 *e*P **P 12 54 13.4 -1.2**
comp=Z,172nm,1.2s,mb6.0
GKN Gorkha 48.62 279 *e*P **P 12 54 14.7 -1.7**
comp=Z,456nm,1.1s
RSO Redoubt South 49.18 37 *e*P **P 12 54 21.5 +1.2**
IMA Indian Mountai 49.19 29 *e*P **P 12 54 19.6 -0.8**
IMA pmax pmax
comp=Z,150nm,1.3s,mb5.9
IMA Indian Mountai 49.19 29 *e*P **P 12 54 21.6 +1.2**
comp=Z,27nm,1.6s,mb5.0
KDAK Kodiak Island 49.25 40 *e*P **P 12 54 19.6 -1.3**
comp=Z,34nm,0.8s,mb5.4
KDAK LR LR
comp=Z,2μm,19.0s,MS5.1
SPU Mount Spurr 49.54 36 *e*P **P 12 54 22.4 -0.7**
KOLN Koldanda 49.55 279 *e*P **P 12 54 21.7 -2.0**
comp=Z,204nm,1.2s,mb6.0
AAA Alma-Ata 50.14 301 *e*P **P 12 54 32.0 +4.0**
AAA *e*S **S 13 01 44.0 +6.0**
AAA smax
comp=E,2μm,14.0s
AAA MLR MLR
comp=Z,8μm,14.0s,MS5.9
FIB Fire Island 50.45 36 PFAKE 12 54 40.0 +10
FIB LR LR
comp=Z,2μm,19.0s,MS5.2
PWA Palmer West 50.59 35 *e*P **P 12 54 30.6 -0.5**
PWA pmax pmax
comp=Z,17nm,0.9s,mb5.0
PWA Palmer West 50.59 35 *e*P **P 12 54 30.6 -0.5**
comp=Z,17nm,0.9s,mb5.0
MCK McKinley 51.04 32 *e*P **P 12 54 33.1 -1.4**
comp=Z,9μm,1.2s
MCK LR LR
comp=Z,2μm,19.0s
TKM2 Tokmak 2 51.18 301 P **P 12 54 41.0 +5.1**
SNR=24
SML Sawmill 51.33 35 *e*P **P 12 54 36.4 -0.3**
COLA College 51.53 31 *e*P **P 12 54 38.0 -0.2**
COLA pmax pmax
comp=Z,83nm,2.1s,mb5.3
COLA College 51.53 31 *e*P **P 12 54 38.0 -0.2**
comp=Z,83nm,2.1s,mb5.3
KZA Kyzart 51.63 300 P **P 12 54 44.2 +4.9**
SNR=8.6
KBK Karagaybulak 51.71 300 P **P 12 54 41.7 +1.8**
SNR=29
CHMS Chumysh 51.77 301 P **P 12 54 43.9 +3.6**
SNR=13
USP Ospenovka 51.88 301 P **P 12 54 41.0 -0.2**
SNR=13
FRU Bishkek 51.90 301 *e*P **P 12 54 45.0 +3.7**
FRU *e*S **S 13 02 04.0 +1.7**
FRU pmax pmax
comp=Z,140nm,2.0s,mb5.5
FRU MLR MLR
comp=N,12μm,17.0s,MS6.1
FRU MLR MLR
comp=E,9μm,17.0s,MS6.1
FRU MLR MLR
comp=Z,11μm,17.0s,MS6.0
ILAR Eielson Array 51.95 31 P **P 12 54 38.7 -2.7**
ILAR pmax pmax
comp=Z,28nm,1.0s
ILAR MLR MLR
comp=Z,3μm,18.2s
ILAR Eielson Array 51.95 31 P **P 12 54 38.6 -2.7**
comp=Z,28nm,1.0s,mb5.1,baz=266,slow=5.7,SNR=77
ILAR LR LR 13 19 14.4
comp=Z,3μm,18.2s,MS5.4,baz=40,slow=39
AAK Ala-Archa 52.04 300 P **P 12 54 41.5 -0.9**
SNR=15
AAK Ala-Archa 52.04 300 P **P 12 54 41.2 -1.2**
AAK pmax pmax
comp=Z,69nm,1.7s,mb5.3
AAK Ala-Archa 52.04 300 *e*P **P 12 54 40.7 -1.7**
comp=Z,15nm,0.8s,mb5.0
AAK LR LR
comp=Z,2μm,20.0s,MS5.2
UCH Uchtor 52.13 300 P **P 12 54 46.9 +3.9**
SNR=16
CHKZ Chkalovo 52.44 315 *e*P **P 12 54 43.5 -1.8**
CHKZ pmax pmax
comp=Z,130nm,1.1s,mb5.8
CHKZ Chkalovo 52.44 315 *e*P **P 12 54 43.5 -1.8**
comp=Z,128nm,1.2s,mb5.7
THY Trims Highway 52.47 33 *e*P **P 12 54 43.3 -2.0**
EKS2 Erkin-Say 52.54 301 P **P 12 54 46.0 -0.1**
SNR=6.9
DIV Divide 52.59 36 *e*P **P 12 54 45.3 -0.9**
BVAR Borovoye Array 52.67 314 P **P 12 54 45.5 -1.5**
comp=Z,24nm,0.9s,mb5.1,baz=79,slow=7.6,SNR=45
BRVK Borovoye 52.73 314 *e*P **P 12 54 46.3 -1.1**
comp=Z,28nm,0.9s,mb5.2
BRVK LR LR
comp=Z,3μm,20.0s,MS5.3
AML Almayashu 52.74 300 P **P 12 54 46.7 -0.9**
SNR=28
DDI Dehra Dun 53.10 285 *e*P **P 12 54 48.9 -1.6**
BLSP Bilaspur 53.10 273 *e*P **P 12 54 48.0 -2.6**
BHK Bhakra 54.01 287 *e* **P 12 54 58.5 +1.4**
CTA Charters Tower 54.05 175 *e*P **P 12 54 59.0 +1.5**
comp=Z,13nm,1.0s,mb4.8
CTA Charters Tower 54.05 175 P **P 12 54 55.0 -2.5**
CTA pmax pmax
comp=Z,8.0nm,0.7s
CTA Charters Tower 54.05 175 P **P 12 54 55.0 -2.6**
comp=Z,8.4nm,0.7s,mb4.8,baz=354,slow=7.6,SNR=7.4
CTAO Charters Tower 54.05 175 PFAKE 12 55 10.0 +12
CTAO LR LR
comp=Z,3μm,20.0s,MS5.3
FITZ Fitzroy Crossi 54.06 199 *e*P **P 12 54 55.8 -1.8**
comp=Z,34nm,0.6s,mb5.5
WRAB Tennant Creek 54.14 188 ⇓*i*P **P 12 54 57.6 -0.6**
WRAB Tennant Creek 54.14 188 *e*P **P 12 54 55.1 -3.2**
comp=Z,38nm,0.8s,mb5.4
WRAB LR LR
comp=Z,1μm,19.0s,MS5.1
WB2 Warramunga Arr 54.15 188 *e*P **P 12 54 55.9 -2.4**
WB2 *e*S **S 13 02 33.8 +0.6**
WRA Warramunga Arr 54.16 188 P **P 12 54 55.2 -3.1**
WRA pmax pmax
comp=Z,5.0nm,0.5s
WRA Warramunga Arr 54.16 188 P **P 12 54 55.2 -3.1**
comp=Z,5.0nm,0.5s,mb4.8,baz=5.8,slow=7.6,SNR=54
KIP Kipapa 54.26 87 PFAKE 12 55 10.0 +11
KIP LR LR
comp=Z,4μm,19.0s,MS5.5
NDI New Delhi 54.40 283 *e*P **P 12 55 00.0 0.0**
NDI *e* 13 00 30.0
DAWY Dawson 55.24 32 *e*P **P 12 55 02.7 -3.0**
BHPL Bhopal 56.50 277 *e*P **P 12 55 17.0 +1.7**
BHPL *e* pP 12 55 19.4 +0.2
comp=Z,44nm,0.9s
INK Inuvik 56.97 26 P **P 12 55 16.5 -1.6**
INK pmax pmax
comp=Z,10.0nm,0.7s
INK Inuvik 56.97 26 P **P 12 55 16.5 -1.6**
comp=Z,9.7nm,0.7s,mb5.0,baz=289,slow=4.6,SNR=16
INK Inuvik 56.97 26 *e*P **P 12 55 14.4 -3.7**
comp=Z,21nm,1.0s,mb5.1
AJM Ajmer 57.38 282 ⇓*i*P **P 12 55 21.0 -0.6**
SVE Sverdlovsk 57.46 320 *e*P **P 12 55 24.4 +2.7**
SVE *e* 12 57 30.2
SVE *e*S **S 13 03 19.0 +2.4**
SVE pmax pmax
comp=Z,120nm,2.0s,mb5.6
SVE pmax pmax
comp=Z,140nm,1.4s,mb5.8
SVE smax
comp=N,1μm,11.0s
SVE smax
comp=E,1μm,11.0s
SVE MLR MLR
comp=Z,31μm,16.5s,MS6.5
ASAR Alice Springs 57.88 188 P **P 12 55 22.4 -2.7**
comp=Z,6.3nm,0.8s,mb4.7,baz=2.8,slow=6.4,SNR=41
ASAR LR LR 13 19 38.7
comp=Z,2μm,19.3s,MS5.3,baz=355,slow=35
ASAR PKPPKP 13 25 09.2
comp=Z,0.7nm,1.1s,baz=214,slow=3.3,SNR=3.4
ASPA Alice Springs 57.88 188 *e*P **P 12 55 24.4 -0.7**
ASPA *e*S **S 13 03 32.3 +10**
HYB Hyderabad 58.28 270 *e*P **P 12 55 25.0 -3.0**
HYB *e*S **S 13 03 28.0 -0.1**
HYB Hyderabad 58.28 270 *i* P **P 12 55 25.0 -3.0**
comp=Z,100nm,1.0s,mb5.8
HYB *e* pP 12 55 30.0 -1.8
HYB *e*S **S 13 03 28.0 -0.1**
HYB *e*ScS ScS 13 05 18.0 +4.1
HYB *e*SS SS 13 07 26.0 +4.3
SIT Sitka 58.57 39 PFAKE 12 55 40.0 +11
SIT LR LR
comp=Z,7μm,19.0s,MS5.8
ARU Arti 58.67 320 P **P 12 55 28.4 -1.7**
comp=Z,303nm,0.8s,SNR=16
ARU Arti 58.67 320 ⇓*i*P **P 12 55 24.2 -5.9**
ARU *e* 12 56 14.5
ARU *e*S **S 13 03 26.3 -6.3**
ARU *e* 13 05 10.2
ARU *e*SSS SSS 13 09 50.3 +0.4
ARU pmax pmax
comp=Z,41nm,0.8s,mb5.5
ARU MLR MLR
comp=N,5μm,17.0s,MS6.2
ARU MLR MLR
comp=Z,22μm,17.0s,MS6.3
ARU MLR MLR
comp=E,16μm,18.0s,MS6.2
ARU Arti 58.67 320 PFAKE 12 55 40.0 +10
ARU LR LR
comp=Z,2μm,21.0s,MS5.2
MBWA Marble Bar 58.73 204 *e*P **P 12 55 28.7 -2.4**
comp=Z,26nm,0.9s,mb5.3
MBWA LR LR
comp=Z,2μm,19.0s,MS5.2
MDRS Chennai 59.09 265 *e*P **P 12 55 33.0 -0.7**
MDRS *e* 13 03 42.0
LATR Latur 59.45 272 *e*P **P 12 55 37.0 +0.9**
DLBC Dease Lake 60.90 37 P **P 12 55 45.5 0.0**
comp=Z,9.5nm,0.8s,mb5.0,baz=337,slow=8.7,SNR=12
DLBC Dease Lake 60.90 37 *e*P **P 12 55 42.3 -3.1**
POO Poona 61.64 274 *e*P **P 12 55 49.2 -1.8**
POO *e* 12 55 55.7
comp=Z,97nm,1.0s
POO *i* S **S 13 04 15.0 +3.7**
PALK Pallekele 61.89 259 PFAKE 12 56 00.0 +7.2
PALK LR LR
comp=Z,475nm,20.0s,MS4.7
KAD Karad 61.97 273 *e*P **P 12 55 54.1 +0.9**
KAD *e* pP 12 55 57.8 +0.7
comp=Z,95nm,0.9s
KAD *e* pP 12 55 58.5 +1.4
comp=E,55nm,1.8s
GOA Goa 63.17 271 *e* **P 12 56 07.9 +6.7**
GOA *e* 13 04 24.4
MNGI Mangalore 63.65 268 *e*P **P 12 56 07.8 +3.3**
MNGI *e*S **S 13 04 40.7 +4.0**
AFI Afiamalu 65.17 129 PFAKE 12 56 30.0 +16
AFI LR LR
comp=Z,5μm,19.0s,MS5.7
APA Apatity 65.43 336 ⇑*i*P **P 12 56 17.5 +2.3**
APA *e* 12 56 49.0
APA *e*S S 13 04 58.0 +0.3
APA pmax pmax
comp=Z,54nm,1.4s,mb5.4
APA MLR MLR
comp=N,8μm,19.0s,MS6.4
APA MLR MLR
comp=E,21μm,19.0s,MS6.4
APA MLR MLR
comp=Z,29μm,18.0s,MS6.5
RES Resolute Bay 65.43 14 *e*P **P 12 56 13.0 -2.1**
RES pmax pmax
comp=Z,67nm,1.4s,mb5.5
RES Resolute Bay 65.43 14 *e*P **P 12 56 13.0 -2.1**
comp=Z,67nm,1.4s,mb5.5
STKA Stephens Creek 65.60 180 *e*P **P 12 56 18.6 +1.7**
comp=Z,8.4nm,0.7s,mb4.9
STKA Stephens Creek 65.60 180 P **P 12 56 16.8 -0.1**
comp=Z,7.9nm,0.9s,mb4.8,baz=358,slow=6.5,SNR=8.5
STKA LR LR 13 24 11.1
comp=Z,4μm,19.5s,MS5.6,baz=352,slow=35
FORT Forrest 65.75 193 *e*P **P 12 56 16.1 -1.7**
comp=Z,207nm,0.7s,mb6.3
PECR Pechory 66.23 323 *e*P **P 12 56 30.0 +10**
PECR *e*S S 13 05 10.0 +2.3
PECR smax
comp=N,1μm,13.0s
PECR MLR MLR
comp=Z,34μm,18.0s,MS6.6
PECR MLR MLR
comp=N,26μm,16.0s
YKW3 Yellowknife Ar 66.28 29 *e*P **P 12 56 19.4 -1.2**
YKA Yellowknife Ar 66.31 29 P **P 12 56 18.7 -2.1**
comp=N,2.1nm,0.6s,mb4.3,baz=297,slow=6.3,SNR=28
YKA PKPPKP 13 24 53.6
comp=N,0.7nm,1.2s,baz=124,slow=2.2,SNR=3.0
YKA LR LR 13 30 57.0
comp=N,3μm,18.0s,MS5.5,baz=280,slow=41
ARCES ARCESS Array B 66.80 340 LR LR 13 29 40.4
comp=N,11μm,18.7s,MS6.1,baz=55,slow=40
ARE0 ARCESS Array S 66.80 340 P **P 12 56 24.0 +0.1**
OCWA Octopus Mounta 68.29 46 *e*P **P 12 56 34.5 +0.8**
OCWA LR LR
comp=Z,3μm,19.0s,MS5.6
PGC Sidney 68.32 45 *e*P **P 12 56 32.8 -1.0**
comp=Z,31nm,0.8s,mb5.4
JOF Joensuu 68.63 333 *e*p **P 12 56 32.8 -2.6**
comp=Z,1.4nm,0.4s,mb4.2
JOF Joensuu 68.63 333 *e*P **P 12 56 32.8 -2.6**
JOF pmax pmax
comp=Z,1.0nm,0.4s
DAG Danmarks Havn 68.72 355 ⇑*e*P **P 12 56 36.5 +0.6**
DAG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
DAG MLR MLR
comp=Z,4μm,17.0s,MS5.7
DAG MLR MLR
comp=N,2μm,15.0s,MS5.7
DAG MLR MLR
comp=E,3μm,18.0s,MS5.7
DAG Danmarks Havn 68.72 355 ⇑*e*P **P 12 56 36.5 +0.6**
comp=E,9.0nm,0.8s,mb4.8
DAG LR LR
comp=Z,4μm,17.0s,MS5.7
DAG Danmarks Havn 68.72 355 ⇑*i*P **P 12 56 36.5 +0.6**
comp=Z,9.0nm,0.8s,mb4.8
comp=Z,4μm,17.0s
CMW Cultus Mountai 69.20 45 P **P 12 56 39.4 +0.2**
JCW Jim Creek 69.42 45 P **P 12 56 40.5 -0.1**
MOS Moscow 69.70 324 *e*P **P 12 56 45.6 +3.5**
MOS *e* 12 57 07.1
MOS *e* 12 59 14.0
MOS *e*S S 13 05 52.3 +3.2
MOS *e* 13 06 45.6
MOS pmax pmax
comp=Z,56nm,0.7s,mb5.6
COR Corvallis 70.31 49 *e*P **P 12 56 46.5 +0.5**
COR pmax pmax
comp=Z,71nm,1.1s,mb5.5
COR MLR MLR
comp=Z,3μm,19.0s,MS5.5
COR Corvallis 70.31 49 *e*P **P 12 56 46.5 +0.5**
comp=Z,71nm,1.1s,mb5.5
COR LR LR
comp=Z,3μm,19.0s,MS5.5
MAK Makhachkala 70.39 309 *e*P **P 12 56 48.0 +1.5**
MAK *e* 12 59 29.0
MAK *e*PPP PPP 13 01 07.0 +2.2
MAK *e*S S 13 06 02.0 +4.6
MAK *e* 13 06 50.0
MAK pmax pmax
comp=Z,2μm,10.0s
MAK pmax pmax
comp=Z,1μm,12.0s
MAK smax
comp=N,2μm,12.0s
MAK smax
comp=E,2μm,12.0s
MAK MLR MLR
comp=N,8μm,13.0s,MS6.5
MAK MLR MLR
comp=E,16μm,13.0s,MS6.5
MAK MLR MLR
comp=Z,23μm,13.0s,MS6.6
NWAO Narrogin (SRO) 70.46 202 P **P 12 56 48.8 +1.6**
NWAO pmax pmax
comp=Z,40nm,1.2s
NWAO Narrogin (SRO) 70.46 202 P **P 12 56 47.3 +0.1**
comp=Z,15nm,0.7s,mb5.0,baz=19,slow=7.6,SNR=13
NWAO Narrogin (SRO) 70.46 202 *e*P **P 12 56 47.8 +0.6**
comp=Z,40nm,1.2s,mb5.2
NWAO LR LR
comp=Z,1μm,19.0s,MS5.3
OBN Obninsk 70.54 324 ⇓*i*P **P 12 56 44.0 -3.3**
OBN *i* 12 59 23.7
OBN *i* S S 13 05 58.7 -0.3
OBN *i* PS PS 13 06 44.7 +17
OBN *i* SS SS 13 10 26.0 -6.2
OBN pmax pmax
comp=Z,27nm,1.0s,mb5.1
OBN MLR MLR
comp=Z,14μm,21.0s,MS6.2
OBN Obninsk 70.54 324 ⇓*i*P **P 12 56 44.1 -3.2**
OBN LR LR
comp=Z,14μm,21.0s,MS6.2
WTV Waterville 70.83 45 P **P 12 56 48.4 -0.8**
EBG Ellensburg 70.85 46 P **P 12 56 49.3 0.0**
VOR Voronezh 70.96 320 P **P 12 56 52.5 +2.6**
VOR pmax pmax
comp=Z,80nm,2.0s,mb5.3
KAF Kangasniemi 70.99 333 *e*p **P 12 56 46.8 -3.1**
comp=Z,1.0nm,0.4s
VFP Flag Point 71.09 48 P **P 12 56 50.8 0.0**
FINES FINESS Array B 71.48 333 P **P 12 56 51.5 -1.4**
FINES pmax pmax
comp=Z,13nm,0.8s
FINES MLR MLR
comp=Z,8μm,18.6s
FINES FINESS Array B 71.48 333 P **P 12 56 51.5 -1.4**
comp=Z,13nm,0.8s,mb4.9,baz=51,slow=8.9,SNR=11
FINES LR LR 13 31 12.8
comp=Z,8μm,18.6s,MS6.0,baz=48,slow=38
HUMO Hull Mountain 71.49 51 PFAKE 12 57 00.0 +6.8
HUMO LR LR
comp=Z,3μm,19.0s,MS5.6
CROR Criterion Ridg 71.55 48 P **P 12 56 53.3 -0.3**
EDM Edmonton 71.60 38 *e*P **P 12 56 52.4 -1.3**
EDM Edmonton 71.60 38 *e*P **P 12 56 52.1 -1.7**
WBK Wadi Bani Khal 71.81 285 P **P 12 56 58.0 +2.6**
SNR=9.3
KHMM Horse Mountain 71.83 53 *e*P **P 12 56 55.5 +0.2**
YBH Yreka Blue Hor 72.08 52 P **P 12 56 57.1 +0.3**
YBH pmax pmax
comp=Z,22nm,1.2s
YBH Yreka Blue Hor 72.08 52 P **P 12 56 56.7 -0.1**
comp=Z,5.7nm,0.8s,mb4.5,baz=279,slow=6.7,SNR=12
YBH Yreka Blue Hor 72.08 52 *e*P **P 12 56 56.5 -0.3**
comp=Z,22nm,1.2s,mb5.0
GOF Gofitskoye 72.17 313 ⇓*i*P **P 12 57 00.0 +2.8**
GOF pmax pmax
comp=Z,120nm,1.5s,mb5.6
GOF pmax pmax
comp=Z,1μm,4.0s
NEW Newport 72.18 43 P **P 12 56 56.6 -0.7**
NEW pmax pmax
comp=Z,41nm,1.1s
NEW Newport 72.18 43 *e*P **P 12 56 56.2 -1.1**
comp=Z,40nm,1.2s,mb5.2
NEW LR LR
comp=Z,3μm,19.0s,MS5.5
JMDO Jabal Madar 72.62 286 ⇓P **P 12 57 01.9 +1.5**
WDC Whiskeytown Da 72.76 52 *e*P **P 12 57 00.6 -0.2**
WDC pmax pmax
comp=Z,22nm,1.2s,mb5.0
WDC Whiskeytown Da 72.76 52 *e*P **P 12 57 00.6 -0.2**
comp=Z,22nm,1.2s,mb5.0
TI2 Plekhanov 72.77 309 *i* P **P 12 57 03.4 +2.6**
TI2 *i* 12 57 16.8
TI2 *e*S S 13 06 24.8 -0.1
TI2 MLR MLR
comp=N,6μm,16.0s,MS6.1
TI2 MLR MLR
comp=E,4μm,16.0s,MS6.1
TI2 MLR MLR
comp=Z,11μm,16.0s,MS6.2
ZEI Tsey 72.79 310 *e*P **P 12 56 59.8 -1.1**
ZEI *i* *PP pP 12 57 15.2 +10
ZEI pmax pmax
comp=Z,11nm,0.9s,mb4.8
KIV Kislovodsk 72.94 312 P **P 12 57 05.2 +3.4**
comp=Z,271nm,0.9s,mb6.2,SNR=22
KIV Kislovodsk 72.94 312 ⇑*i*P **P 12 57 03.4 +1.6**
KIV *i* 12 57 17.0
KIV *i* 12 59 50.0
KIV *i* S S 13 06 32.4 +5.6
KIV *i* SS SS 13 11 07.5 -2.3
KIV pmax pmax
comp=Z,46nm,0.9s,mb5.4
KIV MLR MLR
comp=Z,7μm,19.0s,MS6.0
KIV Kislovodsk 72.94 312 *e*P **P 12 57 02.8 +1.0**
comp=Z,61nm,1.1s,mb5.4
KIV LR LR
comp=Z,1μm,19.0s,MS5.2
BSY Bisya 73.16 286 P **P 12 57 05.5 +2.0**
SNR=17
HOPS Hopland 73.21 54 PFAKE 12 57 10.0 +6.5
HOPS LR LR
comp=Z,10μm,20.0s,MS6.1
ARQ Araqi 73.40 287 P **P 12 57 08.3 +3.5**
SNR=17
MOD Modoc 73.54 50 *e*P **P 12 57 05.0 -0.3**
MOD LR LR
comp=Z,3μm,20.0s,MS5.6
WALA Waterton Lakes 73.56 42 *e*P **P 12 57 04.5 -0.7**
comp=Z,41nm,1.3s,mb5.2
GNI Garni 73.58 307 P **P 12 57 09.2 +3.6**
GNI *e* pP 12 57 14.2 +4.7
GNI pmax pmax
comp=Z,96nm,1.2s
GNI Garni 73.58 307 P **P 12 57 04.9 -0.7**
comp=Z,2.8nm,0.5s,mb4.5,baz=27,slow=11,SNR=2.0
GNI Garni 73.58 307 *e*P **P 12 57 06.3 +0.7**
comp=Z,23nm,1.0s,mb5.0
GNI LR LR
comp=Z,6μm,19.0s,MS5.9
SUMG Summit 73.64 0 *e*P **P 12 57 05.1 -0.2**
comp=Z,11nm,0.8s,mb4.8
RAO Raoul Island 73.73 144 PFAKE 12 57 20.0 +13
RAO LR LR
comp=Z,4μm,19.0s,MS5.8
BMO Blue Mountains 73.86 47 *e*P **P 12 57 05.8 -1.4**
comp=Z,24nm,1.2s,mb5.0
BMO LR LR
comp=Z,2μm,19.0s,MS5.5
OHCM Honcut 74.09 53 *e*P **P 12 57 09.1 +0.5**
WVOR Wild Horse Val 74.32 49 *e*P **P 12 57 08.3 -1.5**
WVOR pmax pmax
comp=Z,1.0nm,0.4s
WVOR MLR MLR
comp=Z,3μm,19.0s
WVOR Wild Horse Val 74.32 49 *e*P **P 12 57 08.3 -1.6**
comp=Z,1.1nm,0.4s
WVOR LR LR
comp=Z,3μm,19.0s
MSO Missoula 74.77 44 *e*P **P 12 57 13.6 +1.2**
comp=Z,21nm,1.4s,mb4.9
MSO LR LR
comp=Z,1μm,19.0s,MS5.2
SOC Sochi 74.97 313 *e*P **P 12 57 08.8 -4.7**
SOC *e* 12 57 25.1
SOC *e* 13 00 00.8
SOC *e*PPP PPP 13 01 42.8 -5.8
SOC *e*S S 13 06 46.8 -2.7
SOC *e* 13 07 18.8
SOC *e*SS SS 13 11 36.1 -4.1
SOC pmax pmax
comp=Z,28nm,0.8s,mb5.2
SOC pmax pmax
comp=N,28nm,0.7s

SOC pmax pmax
comp=E,19nm,0.7s
SCO Scoresbysund 75.06 354 *e*P **P 12 57 13.1 -0.5**
SCO Scoresbysund 75.06 354 *i* P **P 12 57 13.1 -0.5**
CHMT Chamberlain Mo 75.11 43 *e*P **P 12 57 15.7 +1.4**
WCN Washoe City 75.26 52 *e*P **P 12 57 16.2 +0.9**
CMB Columbia Colle 75.51 54 P **P 12 57 16.5 -0.3**
CMB pmax pmax
comp=Z,26nm,1.1s,mb5.1
CMB Columbia Colle 75.51 54 *e*P **P 12 57 16.2 -0.5**
comp=Z,26nm,1.2s,mb5.0
CMB LR LR
comp=Z,5μm,19.0s,MS5.9
ANN Anapa 75.67 315 *e*P **P 12 57 18.5 +0.9**
ANN *e*S S 13 06 46.8 -10
ANN pmax pmax
comp=Z,75nm,1.0s,mb5.6
ERZM Erzurum 75.91 309 *i* P **P 12 57 22.4 +3.4**
FFC Flin Flon 76.13 32 P **P 12 57 19.0 -0.9**
FFC pmax pmax
comp=Z,21nm,1.0s,mb5.0
FFC Flin Flon 76.13 32 *e*P **P 12 57 18.3 -1.6**
comp=Z,21nm,1.0s,mb5.0
FFC LR LR
comp=Z,653nm,19.0s,MS5.0
BMN Battle Mountai 76.29 50 *e*P **P 12 57 22.1 +0.9**
BMN pmax pmax
comp=Z,51nm,1.4s,mb5.3
BMN MLR MLR
comp=Z,512nm,22.0s,MS4.8
BMN Battle Mountai 76.29 50 *e*P **P 12 57 22.1 +0.9**
comp=Z,51nm,1.4s,mb5.3
BMN LR LR
comp=Z,512nm,22.0s,MS4.8
HLID Hailey 76.31 47 *e*P **P 12 57 20.9 -0.3**
comp=Z,31nm,1.4s,mb5.0
HLID LR LR
comp=Z,3μm,20.0s,MS5.6
MCMT McKenzie Canyo 76.53 45 *e*P **P 12 57 21.6 -0.7**
FCC Fort Churchill 76.59 26 P **P 12 57 20.8 -1.7**
FCC pmax pmax
comp=Z,61nm,1.3s,mb5.4
FCC Fort Churchill 76.59 26 *e*P **P 12 57 20.5 -2.0**
comp=Z,61nm,1.4s,mb5.3
NVAR Mina Array Bea 76.68 53 P **P 12 57 23.7 +0.3**
comp=Z,4.4nm,0.8s,mb4.5,baz=287,slow=6.6,SNR=18
NVAR LR LR 13 30 59.1
comp=Z,6μm,18.5s,MS5.9,baz=295,slow=36
NVAR Mina Array Bea 76.68 53 P **P 12 57 23.7 +0.3**
NVAR LR LR 13 30 59.1
MSL Mosul 76.70 305 *e*P **P 12 57 26.5 +2.9**
MSL *e*S S 13 07 10.0 +1.3
AKASG Malin Array Be 76.71 323 P **P 12 57 21.0 -2.3**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 76.71 323 P **P 12 57 20.9 -2.3**
comp=Z,2.8nm,0.4s,mb4.5,baz=46,slow=5.8,SNR=11
BOZ Bozeman (W) 76.76 44 P **P 12 57 23.9 +0.2**
BOZ pmax pmax
comp=Z,42nm,1.3s,mb5.2
BOZ Bozeman (W) 76.76 44 *e*P **P 12 57 22.8 -0.9**
comp=Z,42nm,1.3s,mb5.2
BOZ LR LR
comp=Z,2μm,19.0s,MS5.5
MNV Mina 76.78 53 *e*P **P 12 57 23.5 -0.4**
MNV pmax pmax
comp=Z,23nm,1.4s,mb4.9
MNV MLR MLR
comp=Z,6μm,20.0s,MS5.9
MNV Mina 76.78 53 *e*P **P 12 57 23.5 -0.4**
comp=Z,23nm,1.4s,mb4.9
MNV LR LR
comp=Z,6μm,20.0s,MS5.9
NB2 NORSAR Subarra 76.96 338 P **P 12 57 23.3 -1.1**
comp=Z,10nm,0.8s,mb4.8,baz=41,slow=5.6
NB2 NORSAR Subarra 76.96 338 P **P 12 57 23.3 -1.1**
NB2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
NOA NORSAR Array B 76.96 338 P **P 12 57 23.6 -0.8**
NOA pmax pmax
comp=Z,8.0nm,0.7s
NOA MLR MLR
comp=Z,11μm,18.2s
NOA NORSAR Array B 76.96 338 P **P 12 57 23.6 -0.8**
comp=Z,7.7nm,0.7s,mb4.7,baz=40,slow=5.7,SNR=14
NOA LR LR 13 35 27.9
comp=Z,11μm,18.2s,MS6.2,baz=15,slow=39
DGAR Diego Garcia 77.16 252 PFAKE 12 57 40.0 +13
DGAR LR LR
comp=Z,637nm,20.0s,MS4.9
NAO01 NORSAR Array S 77.21 338 *e*P **P 12 57 25.0 -0.9**
comp=Z,13nm,0.9s,mb4.8
NAO01 LR LR
comp=Z,16μm,20.0s,MS6.3
QLMT Earthquake Lak 77.35 44 *e*P **P 12 57 27.2 +0.3**
SUW Suwalki 77.44 328 *e*P **P 12 57 26.9 -0.4**
SUW *e*pP pP 12 57 29.7 -1.5
SUW *e*PcP PcP 12 57 37.4 -0.8
SUW MLR MLR 13 35 09.9
comp=Z,10μm,17.4s,MS6.2
SIM Simferopol' 77.52 316 *de*P **P 12 57 30.7 +2.8**
SIM *e*S S 13 07 22.0 +4.6
SIM pmax pmax
comp=Z,300nm,11.0s
SIM MLR MLR
comp=Z,8μm,17.0s,MS6.1
TPH Tonopah 77.59 52 *e*P **P 12 57 29.1 +0.7**
TPH pmax pmax
comp=Z,43nm,1.5s,mb5.2
TPH Tonopah 77.59 52 *e*P **P 12 57 29.1 +0.7**
comp=Z,43nm,1.5s,mb5.2
YMR Madison River 77.71 44 *e*P **P 12 57 29.5 +0.5**
YNR Norris Junctio 77.85 44 *e*P **P 12 57 30.4 +0.7**
YFT Old Faithful 77.92 44 *e*P **P 12 57 32.1 +2.1**
LKWY Lake 78.10 44 PFAKE 12 57 40.0 +8.9
LKWY LR LR
comp=Z,3μm,20.0s,MS5.7
IMW Indian Meadow 78.18 45 *e*P **P 12 57 32.1 +0.6**
ELZG Elazig 78.23 309 *i* P **P 12 57 36.3 +4.4**
RBK Rabkut 78.27 283 P **P 12 57 34.2 +1.7**
SNR=14
HVU Hansel Valley 78.32 47 P **P 12 57 33.0 +0.7**
HVU Hansel Valley 78.32 47 *e*P **P 12 57 32.1 -0.2**
DAC Darwin (Calif) 78.33 54 PFAKE 12 57 40.0 +7.5
DAC LR LR
comp=Z,4μm,20.0s,MS5.7
RAR Rarotonga 78.34 126 LR LR 13 30 24.0
comp=Z,3μm,18.0s,MS5.6,baz=286,slow=34
RAR Rarotonga 78.34 126 PFAKE 12 57 40.0 +7.1
RAR LR LR
comp=Z,3μm,20.0s,MS5.7
MOOW Moose Ponds 78.38 45 *e*P **P 12 57 32.4 -0.2**
TPAW Teton Pass 78.41 45 *e*P **P 12 57 33.5 +0.7**
TRCR Troy Canyon 78.50 51 *e*P **P 12 57 34.1 +0.6**
WUWY Wally Ulrich 78.51 45 *e*P **P 12 57 33.7 +0.4**
KONO Kongsberg 78.54 337 PFAKE 12 57 40.0 +6.8
KONO LR LR
comp=Z,9μm,20.0s,MS6.1
LOHW Long Hollow 78.55 45 *e*P **P 12 57 34.0 +0.5**
SNOW Snow King Moun 78.55 45 *e*P **P 12 57 34.3 +0.7**
BGU Big Grassy Mou 78.66 48 *e*P **P 12 57 34.1 -0.1**
MALT Malatya 78.69 309 *e*P **P 12 57 35.3 +0.8**
MALT pmax pmax
comp=Z,25nm,1.2s,mb5.0
MALT Malatya 78.69 309 *e*P **P 12 57 35.3 +0.8**
comp=Z,25nm,1.2s,mb5.0
AHID Auburn Hatcher 78.75 46 *e*P **P 12 57 34.6 0.0**
comp=Z,56nm,1.4s,mb5.3
AHID LR LR
comp=Z,2μm,19.0s,MS5.4
SPUT South Promonto 78.79 48 *e*P **P 12 57 36.1 +1.2**
ABTO Aybut 79.08 284 P **P 12 57 37.9 +1.0**
SNR=11
DGMT Dagmar 79.08 38 *e*P **P 12 57 35.8 -0.6**
comp=Z,25nm,1.1s,mb5.1
DGMT LR LR
comp=Z,2μm,19.0s,MS5.5
BOYT Boyabat 79.12 313 *i* P **P 12 57 36.5 -0.3**
LAO LASA Array 79.14 40 *e*P **P 12 57 36.5 -0.2**
comp=Z,45nm,1.3s,mb5.2
LAO LR LR
comp=Z,3μm,19.0s,MS5.7
HWUT Hardware Ranch 79.16 47 *e*P **P 12 57 36.8 -0.1**
comp=Z,83nm,1.2s,mb5.5
HWUT LR LR
comp=Z,2μm,19.0s,MS5.5

URZ Urewera 79.18 152 LR LR 13 28 37.5
comp=Z,3μm,19.8s,MS5.6,baz=135,slow=33
KIS Kishinev 79.22 320 *e*P **P 12 57 40.0 +2.8**
KIS *e* 13 00 44.0
KIS *e*S S 13 07 34.0 -1.5
KIS *e*PS PS 13 08 02.0 -19
KIS MLR MLR
comp=N,18μm,16.0s,MS6.6
KIS MLR MLR
comp=Z,22μm,16.0s,MS6.6
KIS MLR MLR
comp=E,13μm,15.0s,MS6.6
KIS MLR MLR
comp=Z,22μm,16.0s
NOQ North Oquirrh 79.38 48 *e*P **P 12 57 38.5 +0.3**
TCUT Toone Canyon 79.54 47 *e*P **P 12 57 39.1 +0.1**
CTKT Corum 79.66 312 *i* P **P 12 57 43.8 +4.2**
BW06 Boulder Array 79.66 45 *e*P **P 12 57 39.1 -0.6**
comp=Z,25nm,1.2s,mb5.0
BW06 LR LR
comp=Z,2μm,19.0s,MS5.5
PDAR Pinedale Array 79.66 45 P **P 12 57 38.8 -0.9**
comp=Z,4.0nm,0.8s,mb4.4,baz=281,slow=2.3,SNR=23
PDAR LR LR 13 32 39.5
comp=Z,2μm,18.3s,MS5.4,baz=98,slow=36
GZT Gaziantep 79.80 308 *i* P **P 12 57 44.5 +4.0**
NLU North Lily Min 79.81 49 *e*P **P 12 57 40.3 -0.2**
JLU Jordanelle 79.82 48 *e*P **P 12 57 40.6 +0.1**
LVV L'vov 79.84 324 *e*P **P 12 57 46.3 +5.9**
LVV *e*S S 13 07 40.3 -1.6
LVV *e* 13 12 52.9
LVV MLR MLR
comp=Z,11μm,18.0s,MS6.2
LVV MLR MLR
comp=N,9μm,16.0s,MS6.4
LVV MLR MLR
comp=E,10μm,16.0s,MS6.4
DAU Daniels Canyon 80.05 48 P **P 12 57 42.5 +0.7**
DAU Daniels Canyon 80.05 48 *e*P **P 12 57 42.2 +0.4**
MPU Maple Canyon 80.05 48 *e*P **P 12 57 42.4 +0.6**
BSD Bornholm Skovb 80.10 332 *e*P **P 12 57 50.4 +8.7**
BSD *i* S S 13 07 35.5 -9.0
BSD MLR MLR
comp=Z,5μm,16.0s,MS5.9
BSD Bornholm Skovb 80.10 332 *i* P **P 12 57 50.4 +8.7**
BSD *i* S S 13 07 35.5 -9.0
comp=Z,5μm,16.0s
ARUT Antelope Range 80.21 51 *e*P **P 12 57 43.4 +0.7**
GKP Gorka Klasztor 80.51 330 *e*P **P 12 57 44.1 +0.1**
GKP MLR MLR 13 37 06.5
comp=Z,14μm,17.4s,MS6.4
NEN Nelson 80.53 53 *e*P **P 12 57 44.1 -0.3**
ELDT Eldivan 80.57 313 *i* P **P 12 57 49.5 +4.9**
MVU Marysvale 80.58 50 *e*P **P 12 57 44.8 +0.2**
comp=Z,30nm,1.2s,mb5.1
MVU LR LR
comp=Z,2μm,19.0s,MS5.6
BORG Borgarnes 80.59 353 PFAKE 12 58 00.0 +16
BORG LR LR
comp=Z,850nm,19.0s,MS5.1
MSU Marysvale 80.60 50 *e*P **P 12 57 45.3 +0.6**
KWP Kalwaria 80.60 325 *e*P **P 12 57 44.5 0.0**
KWP *e* 12 57 50.8
KWP MLR MLR
comp=Z,14μm,17.3s,MS6.4
KWP Kalwaria 80.60 325 *e*P **P 12 57 44.5 0.0**
KWP *e*pP pP 12 57 47.4 -1.1
KWP *e*PcP PcP 12 57 50.8 -1.0
KWP Kalwaria 80.60 325 *e*P **P 12 57 44.5 +0.1**
KWP *e*pP pP 12 57 47.4 -1.1
KWP *e*PcP PcP 12 57 50.8 -1.1
KWP MLR MLR 13 36 54.6
comp=Z,14μm,17.3s,MS6.4
PFO Pinyon Flat Ob 80.60 56 *e*P **P 12 57 44.3 -0.5**
comp=Z,14nm,1.0s,mb4.8
PFO LR LR
comp=Z,2μm,19.0s,MS5.5
COP Copenhagen 80.62 334 *e*S S 13 07 57.1 +7.2
comp=Z,2μm,17.0s
TMUT Trail Mountain 80.74 49 *e*P **P 12 57 47.1 +1.6**
BR131 Keskin Array S 80.90 312 PFAKE 12 58 00.0 +14
BR131 LR LR
comp=Z,3μm,19.0s,MS5.7
BRTR Keskin Array B 80.90 312 P **P 12 57 46.0 -0.3**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 80.90 312 P **P 12 57 46.0 -0.4**
comp=Z,7.4nm,0.8s,mb4.7,baz=110,slow=3.5,SNR=21
MUD Monsted U'grnd 81.18 335 *i* S S 13 07 57.4 +1.7
comp=Z,7μm,17.0s
SRU San Rafael 81.28 48 *e*P **P 12 57 47.2 -1.1**
KOLS Kolonicke sedl 81.28 324 *e*P **P 12 57 51.9 +3.8**
SGKT Sivrigoynuk 81.36 313 *i* P **P 12 57 52.0 +3.4**
UZH Uzhgorod 81.48 324 *e*P **P 12 57 54.0 +4.9**
UZH *i* S S 13 07 57.0 -2.0
OJC Ojcow 81.56 326 *e*P **P 12 57 53.1 +3.6**
OJC *e*S S 13 07 58.2 -1.5
OJC MLR MLR
comp=Z,8μm,18.8s,MS6.1
OJC Ojcow 81.56 326 *e*P **P 12 57 53.1 +3.6**
OJC *e*S S 13 07 58.2 -1.5
OJC *e*SS SS 13 13 05.9 -14
OJC MLR MLR 13 37 23.1
comp=Z,8μm,18.8s,MS6.1
CRVS Cervenica-Dubn 81.69 325 *e*P sP 12 57 56.1 +0.6
CRVS Cervenica-Dubn 81.69 325 *e*sP sP 12 57 56.1 +0.6
MLR Muntele Rosu 81.72 320 P **P 12 57 50.3 -0.2**
comp=Z,2.7nm,0.6s,mb4.3,baz=358,slow=14,SNR=5.5
MLR LR LR 13 39 11.8
comp=Z,13μm,18.4s,MS6.3,baz=274,slow=39
NIE Niedzica 81.88 326 *e*P **P 12 57 53.0 +1.8**
RAYN Ar Rayn 81.89 293 P **P 12 57 51.2 -0.6**
comp=Z,124nm,1.6s,mb5.6,SNR=17
OKC Ostrava-Krasne 82.58 327 *e*P **P 12 58 01.4 +6.6**
OKC MLR MLR
comp=Z,10μm,16.9s,MS6.2
OKC Ostrava-Krasne 82.58 327 *e*pP pP 12 58 01.4 +2.6
OKC AMS AMS 13 41 40.0
comp=Z,10μm,16.9s
PV10 Paradox Valley 82.64 48 *e*P **P 12 57 56.2 +0.8**
KSP Ksiaz 82.67 329 *e*P **P 12 58 01.0 +5.7**
KSP MLR MLR 13 38 54.7
comp=Z,23μm,17.5s,MS6.6
ESKT Eskisehir 82.73 313 *i* P **P 12 57 56.3 +0.5**
MORC Moravsky Berou 82.90 327 *e*P **P 12 57 56.9 +0.4**
MORC pmax pmax
comp=Z,34nm,1.5s,mb5.2
MORC Moravsky Berou 82.90 327 *e*P **P 12 57 56.9 +0.4**
comp=Z,34nm,1.5s,mb5.2
PHWY Pilot Hill 82.97 44 *e*P **P 12 57 58.2 +1.2**
DPC Dobruska-Polom 83.02 328 *e*P **P 12 57 59.2 +2.1**
DPC AMS AMS 13 39 30.0
comp=Z,11μm,14.6s
UPC Upice 83.04 328 *e*P **P 12 57 59.0 +1.8**
PV01 Paradox Valley 83.08 48 *e*P **P 12 57 57.8 +0.1**
PSZ Piszkesteto 83.13 325 *e*P **P 12 57 58.5 +0.8**
PSZ pmax pmax
comp=Z,32nm,1.0s,mb5.3
PSZ Piszkesteto 83.13 325 *e*PcP PcP 12 58 01.2 -1.6
VYHS Vyhne 83.22 326 *e*P **P 12 57 58.9 +0.7**
VYHS *e*S S 13 08 20.1 +3.3
VYHS Vyhne 83.22 326 *e*P **P 12 57 58.9 +0.7**
VYHS *e* 12 58 21.6
VYHS *e*S S 13 08 20.1 +3.3
ASF Jabal al Asfar 83.26 304 P **P 12 58 00.3 +1.6**
comp=Z,11nm,0.8s,mb4.9,baz=257,slow=4.5,SNR=8.4
ASF LR LR 13 41 57.3
comp=Z,4μm,18.3s,MS5.8,baz=283,slow=41
ULDT Uludag 83.37 314 *i* P **P 12 58 01.1 +2.0**
PVCC Panska Ves 83.65 329 *e*P **P 12 58 04.1 +3.9**
PVCC AMS AMS 13 38 50.0
comp=Z,13μm,17.8s
BRG Berggiesshubel 83.65 330 *e*P **P 12 58 04.1 +3.8**
BRG *e* 13 01 14.0
BRG *i* S S 13 08 25.0 +4.0
BRG *i* SS SS 13 13 52.0 +1.3
BRG pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
BRG MLR MLR
comp=N,8μm,14.4s,MS6.4
BRG MLR MLR
comp=E,8μm,14.4s,MS6.4
BRG MLR MLR
comp=Z,1μm,14.4s,MS5.5

BRG Berggiesshubel 83.65 330 *e*P **P 12 58 04.1 +3.8**
comp=Z,7.9nm,1.1s,mb4.8
BRG *e*PP PP 13 01 14.0 -0.9
BRG *e* 13 01 25.2
BRG *i* S S 13 08 25.0 +4.0
BRG *i* SS SS 13 13 52.0 +1.3
BRG LR LR
comp=Z,1μm,14.4s,MS5.5
CLL Collm 83.72 330 *i* P **P 12 58 02.0 +1.4**
CLL *i* 12 58 11.1
CLL *e*S S 13 08 24.0 +2.4
CLL pmax pmax
comp=Z,11nm,0.9s,mb5.0
CLL MLR MLR
comp=Z,10μm,16.3s,MS6.3
CLL Collm 83.72 330 *i* P **P 12 58 02.0 +1.4**
comp=Z,11nm,0.9s,mb5.0
CLL *i* 12 58 11.1
CLL *e*S S 13 08 24.0 +2.4
CLL LR LR
comp=Z,10μm,16.3s,MS6.3
CLL Collm 83.72 330 P **P 12 58 02.0 +1.4**
comp=Z,logA/T=1.1,mb5.0
CLL *i* *PP pP 12 58 06.4 +1.8
CLL *i* *SP sP 12 58 11.1 +5.3
CLL *i* 12 58 19.0
CLL *e*S S 13 08 24.0 +2.4
CLL *e*SS SS 13 13 54.0 +2.4
CLL *e* 13 19 18.0
ISCO Idaho Springs 83.83 46 *e*P **P 12 58 02.7 +1.2**
comp=Z,39nm,1.6s,mb5.3
ISCO LR LR
comp=Z,2μm,19.0s,MS5.6
SMOL Smolenice 83.86 326 *e*P **P 12 58 04.8 +3.4**
PRA Prague 84.05 329 AMS AMS 13 42 30.0
PRU Pruhonice 84.06 329 *e*P **P 12 58 02.3 0.0**
PRU AMS AMS 13 42 10.0
comp=Z,13μm,14.6s
ZST Bratislava 84.24 326 *e*P pP 12 58 07.8 +0.5
ZST *e* 12 58 15.3
ZST *e*S S 13 08 33.0 +6.1
ZST Bratislava 84.24 326 *e*pP pP 12 58 07.8 +0.5
ZST *e* 12 58 15.3
ZST Bratislava 84.24 326 *e*S S 13 08 33.0 +6.1
NKC Novy Kostel 84.76 330 *e*P **P 12 58 04.7 -1.1**
NKC AMS AMS 13 40 30.0
comp=Z,12μm,15.4s
MOX Moxa 84.79 331 *e*P **P 12 58 08.6 +2.6**
MOX pmax pmax
comp=Z,56nm,1.7s,mb5.4
MOX MLR MLR
comp=Z,8μm,18.0s,MS6.1
MOX Moxa 84.79 331 *e*P **P 12 58 08.6 +2.6**
comp=Z,56nm,1.7s,mb5.4
MOX *e*S S 13 08 36.0 +3.8
MOX LR LR
comp=Z,8μm,18.0s,MS6.1
MOX Moxa 84.79 331 *i* P **P 12 58 08.6 +2.6**
comp=Z,logA/T=1.5,mb5.4
MOX S S 13 08 36.0 +3.8
MOX L 13 39 33.0
BEO Belgrade 85.03 322 ⇑ *i*P **P 12 58 10.8 +3.5**
KHC Kasperske Hory 85.12 329 *e*P **P 12 58 07.5 -0.2**
KHC *e* 12 58 16.5
KHC MLR MLR
comp=Z,16μm,16.2s,MS6.5
KHC Kasperske Hory 85.12 329 *e*P **P 12 58 07.5 -0.2**
KHC x x 12 58 16.5
KHC AMS AMS 13 40 50.0
comp=Z,16μm,16.2s
SDCO Great Sand Dun 85.21 47 *e*P **P 12 58 08.2 -0.2**
comp=Z,30nm,1.4s,mb5.2
SDCO LR LR
comp=Z,2μm,19.0s,MS5.5
TUC Tucson 85.22 54 *e*P **P 12 58 08.7 +0.1**
TUC pmax pmax
comp=Z,12nm,1.2s,mb4.9
TUC Tucson 85.22 54 *e*P **P 12 58 08.7 +0.1**
comp=Z,12nm,1.3s,mb4.9
GERES GERESS Array B 85.28 328 P **P 12 58 08.0 -0.5**
GERES pmax pmax
comp=Z,13nm,1.1s
GERES GERESS Array B 85.28 328 P **P 12 58 08.0 -0.4**
comp=Z,12nm,1.1s,mb5.0,baz=38,slow=5.2,SNR=13
GRUS Gruza 85.55 321 ⇓ *i*P **P 12 58 12.8 +2.8**
KDAG Bornova 85.60 314 *i* P **P 12 58 12.8 +2.4**
ARSA Arzberg 85.66 326 ⇓ *i*P **P 12 58 14.4 +4.0**
comp=Z,24nm,1.4s,mb5.2
GRA1 Grafenberg Arr 85.69 330 *e*P **P 12 58 11.0 +0.5**
comp=Z,49nm,1.6s,mb5.5
GRA1 LR LR
comp=Z,4μm,19.7s,MS5.8
GRF Grafenberg Arr 85.69 330 *e*P **P 12 58 11.0 +0.5**
GRF pmax pmax
comp=Z,49nm,1.6s,mb5.5
GRF MLR MLR
comp=Z,4μm,19.7s,MS5.8
GRF Grafenberg Arr 85.69 330 *e*P **P 12 58 11.0 +0.5**
comp=Z,49nm,1.6s,mb5.5
GRF LR LR
comp=Z,4μm,19.7s,MS5.8
DIVS Divcibare 85.77 322 ⇑ *i*P **P 12 58 14.0 +2.9**
MOA Molln 85.78 327 ⇑ *i*P **P 12 58 13.1 +2.1**
comp=Z,30nm,1.5s,mb5.3
ESK Eskdalemuir 85.98 341 PFAKE 12 58 20.0 +8.2
ESK LR LR
comp=Z,2μm,20.0s,MS5.5
EIL Elat 86.09 303 *e*P **P 12 58 15.0 +2.0**
comp=Z,18nm,1.0s,mb5.2
GROS Grobnik 86.25 326 *e*P **P 12 58 14.9 +1.5**
GROS *e*S S 13 08 49.9 +3.4
ANMO Albuquerque 86.40 50 *e*P **P 12 58 15.3 +0.9**
ANMO Albuquerque 86.40 50 *e*P **P 12 58 15.6 +1.2**
comp=Z,8.4nm,1.1s,mb4.9
ANMO LR LR
comp=Z,4μm,20.0s,MS5.8
SKO Skopje 86.50 320 *e*P **P 12 58 08.0 -6.7**
SKO *i* 12 58 43.5
LPM Los Pinos Moun 86.70 50 *e*P **P 12 58 16.6 +0.7**
TOD Tromm 86.73 331 *e*P **P 12 58 18.9 +3.3**
HGN Heimansgroeve 86.90 334 *e*P **P 12 58 13.2 -3.3**
comp=Z,47nm,2.5s,mb5.3
HGN Heimansgroeve 86.90 334 *e*S S 13 08 50.6 -2.1
TBI Tubuai 86.92 121 *e*S S 13 08 53.1 -0.4
TBI *e*LR LR 13 25 04.1
comp=Z,5μm,20.2s,baz=310
CEY Cerknica 87.29 326 *e*P **P 12 58 18.6 +0.1**
RUP Ruppelstein 87.34 332 *e*P **P 12 58 21.9 +3.3**
SCHQ Schefferville 88.14 16 P **P 12 58 21.9 -0.4**
comp=Z,2.6nm,0.8s,mb4.5,baz=11,slow=9.0,SNR=3.1
SCHQ LR LR 13 43 54.7
comp=Z,2μm,18.4s,MS5.6,baz=4.0,slow=40
WLS Welschbruch 88.26 331 *e*P **P 12 58 27.1 +4.1**
CDF Champ du Feu 88.29 331 *e*P **P 12 58 23.9 +0.7**
FELD Feldberg 88.43 331 *e*P **P 12 58 27.6 +3.8**
ECH Echery 88.50 331 *e*P **P 12 58 26.7 +2.5**
HINF Hinteralfeld 88.94 331 *e*P **P 12 58 26.9 +0.6**
HAU Haudompre 88.99 332 *e*P **P 12 58 26.9 +0.4**
HAU *e*R
comp=Z,8μm,18.0s
MNTX Cornudas Mount 89.17 52 *e*P **P 12 58 29.2 +1.4**
comp=Z,1.6nm,0.8s,mb4.4
MNTX LR LR
comp=Z,2μm,19.0s,MS5.7
CPRX Cap Rock 89.28 50 *e*P **P 12 58 28.7 +0.4**
AMTX Amarillo 89.42 47 *e*P **P 12 58 29.3 +0.4**
comp=Z,20nm,1.3s,mb5.3
AMTX LR LR
comp=Z,4μm,19.0s,MS5.8
GDL2 Guadalupe Moun 89.51 51 *e*P **P 12 58 29.0 -0.4**
JFWS Jewell Farm 89.93 35 PFAKE 12 58 40.0 +8.9
JFWS LR LR
comp=Z,3μm,19.0s,MS5.8
FLN La Foliniere 90.85 336 *e*P **P 12 58 34.6 -0.6**
comp=Z,123nm,1.5s,mb5.7
FLN *e*R
comp=Z,13μm,18.8s
FLN La Foliniere 90.85 336 *e*P **P 12 58 34.6 -0.6**
FLN pmax pmax
comp=Z,62nm,1.5s,mb5.7
FLN MLR MLR
comp=Z,13μm,18.8s,MS6.4
VAL Valentia 90.85 343 ⇑ *i*P **P 12 58 30.9 -4.2**
LPG La Plagne 90.86 330 *e*P **P 12 58 35.3 0.0**
comp=Z,64nm,1.3s,mb5.5

LPG	**La Plagne**	**90.86**	**330**	*eP*	**P**	**12 58 35.3**	**0.0**
LPG				pmax	pmax		
comp=Z,32nm,1.3s,mb5.5							
SSF	**Saint Saulge**	**90.86**	**333**	*eP*	**P**	**12 58 36.1**	**+0.8**
SSF				pmax	pmax		
comp=Z,25nm,1.4s,mb5.3							
SSF	**Saint Saulge**	**90.86**	**333**	*eP*	**P**	**12 58 36.1**	**+0.8**
comp=Z,25nm,1.4s,mb5.4							
LDF	**La Druitiere**	**90.87**	**336**	*eP*	**P**	**12 58 34.9**	**-0.4**
comp=Z,62nm,1.2s,mb5.5							
LDF	**La Druitiere**	**90.87**	**336**	*eP*	**P**	**12 58 34.9**	**-0.4**
LDF				pmax	pmax		
comp=Z,31nm,1.2s,mb5.5							
SMF	**Signal de Mont**	**91.08**	**332**	*eP*	**P**	**12 58 36.1**	**-0.2**
comp=Z,78nm,1.4s,mb5.5							
SMF	**Signal de Mont**	**91.08**	**332**	*eP*	**P**	**12 58 36.1**	**-0.2**
SMF				pmax	pmax		
comp=Z,39nm,1.4s,mb5.5							
AVF	**Avril sur Loir**	**91.14**	**333**	*eP*	**P**	**12 58 36.5**	**-0.1**
comp=Z,68nm,1.1s,mb5.6							
WMOK	**Wichita Mounta**	**91.26**	**46**	*eP*	**P**	**12 58 37.6**	**+0.2**
WMOK				pmax	pmax		
comp=Z,14nm,1.4s,mb5.1							
WMOK	**Wichita Mounta**	**91.26**	**46**	*eP*	**P**	**12 58 37.6**	**+0.2**
comp=Z,14nm,1.4s,mb5.1							
GRR	**Gorron**	**91.30**	**336**	*eP*	**P**	**12 58 37.0**	**-0.2**
comp=Z,90nm,1.0s,mb5.7							
GRR	**Gorron**	**91.30**	**336**	*eP*	**P**	**12 58 37.0**	**-0.2**
GRR				pmax	pmax		
comp=Z,45nm,1.0s,mb5.8							
MBDF	**Montbardon**	**91.47**	**330**	*eP*	**P**	**12 58 37.2**	**-0.9**
comp=Z,69nm,1.2s,mb5.6							
MBDF	**Montbardon**	**91.47**	**330**	*eP*	**P**	**12 58 37.2**	**-0.9**
MBDF				pmax	pmax		
comp=Z,34nm,1.2s,mb5.5							
PLDF	**La Plantade**	**91.72**	**332**	*eP*	**P**	**12 58 44.4**	**+5.2**
TXAR	**Lajitas Array**	**91.83**	**52**	P	**P**	**12 58 39.9**	**-0.3**
comp=Z,1.8nm,0.8s,mb4.5,baz=300,slow=3.3,SNR=18							
SBF	**Sospel**	**91.88**	**329**	*eP*	**P**	**12 58 39.0**	**-1.0**
SGMF	**Saint Gilles**	**91.98**	**337**	*eP*	**P**	**12 58 40.2**	**-0.2**
comp=Z,354nm,1.9s,mb6.1							
SGMF	**Saint Gilles**	**91.98**	**337**	*eP*	**P**	**12 58 40.2**	**-0.2**
SGMF				pmax	pmax		
comp=Z,177nm,1.9s,mb6.1							
ROSF	**Rostrenen**	**92.14**	**337**	*eP*	**P**	**12 58 40.8**	**-0.3**
comp=Z,111nm,1.4s,mb5.7							
ROSF	**Rostrenen**	**92.14**	**337**	*eP*	**P**	**12 58 40.8**	**-0.3**
ROSF				pmax	pmax		
comp=Z,56nm,1.4s,mb5.7							
VIVF	**Saint-Julien-l**	**92.23**	**331**	*eP*	**P**	**12 58 41.3**	**-0.3**
comp=Z,50nm,1.1s,mb5.5							
VIVF	**Saint-Julien-l**	**92.23**	**331**	*eP*	**P**	**12 58 41.3**	**-0.3**
VIVF				pmax	pmax		
comp=Z,25nm,1.1s,mb5.5							
MFF	**Saint Martin d**	**92.59**	**335**	*eP*	**P**	**12 58 43.2**	**0.0**
comp=Z,217nm,1.7s,mb6.0							
MFF	**Saint Martin d**	**92.59**	**335**	*eP*	**P**	**12 58 43.2**	**0.0**
MFF				pmax	pmax		
comp=Z,109nm,1.7s,mb6.0							
CCM	**Cathedral Cave**	**93.09**	**39**	*eP*	**P**	**12 58 46.3**	**+0.6**
CCM				pmax	pmax		
comp=Z,29nm,1.5s,mb5.5							
CCM				MLR	MLR		
comp=Z,2μm,19.0s,MS5.6							
CCM	**Cathedral Cave**	**93.09**	**39**	*eP*	**P**	**12 58 46.3**	**+0.5**
comp=Z,29nm,1.5s,mb5.5							
CCM				LR	LR		
comp=Z,2μm,19.0s,MS5.6							
RJF	**Les Rejaudoux**	**93.09**	**333**	*eP*	**P**	**12 58 45.5**	**0.0**
comp=Z,52nm,1.2s,mb5.5							
RJF				*eR*			
comp=Z,7μm,17.2s							
RJF	**Les Rejaudoux**	**93.09**	**333**	*eP*	**P**	**12 58 45.5**	**0.0**
RJF				pmax	pmax		
comp=Z,26nm,1.2s,mb5.5							
RJF				MLR	MLR		
comp=Z,7μm,17.3s,MS6.2							
CAF	**Calviac**	**93.20**	**332**	*eP*	**P**	**12 58 46.4**	**+0.3**
comp=Z,87nm,1.4s,mb5.7							
CAF	**Calviac**	**93.20**	**332**	*eP*	**P**	**12 58 46.4**	**+0.3**
CAF				pmax	pmax		
comp=Z,43nm,1.4s,mb5.7							
AAM	**Ann Arbor**	**93.43**	**32**	PFAKE		12 59 00.0	+13
AAM				LR	LR		
comp=Z,3μm,19.0s,MS5.8							
JCT	**Junction City**	**93.56**	**49**	*eP*	**P**	**12 58 48.5**	**+0.4**
JCT				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.9							
JCT				MLR	MLR		
comp=Z,3μm,20.0s,MS5.7							
JCT	**Junction City**	**93.56**	**49**	*eP*	**P**	**12 58 48.5**	**+0.4**
comp=Z,3.6nm,0.8s,mb4.8							
JCT				LR	LR		
comp=Z,3μm,20.0s,MS5.7							
MIAR	**Mount Ida**	**94.41**	**43**	*eP*	**P**	**12 58 51.1**	**-0.8**
comp=Z,15nm,1.3s,mb5.3							
MIAR				LR	LR		
comp=Z,3μm,19.0s,MS5.8							
MTLF	**Montolieu**	**94.47**	**332**	*eP*	**P**	**12 58 50.7**	**-1.3**
ERPA	**Erie**	**95.14**	**30**	PFAKE		12 59 10.0	+15
ERPA				LR	LR		
comp=Z,3μm,20.0s,MS5.8							
PQI	**Presque Isle**	**95.32**	**20**	PFAKE		12 59 10.0	+14
PQI				LR	LR		
comp=Z,19μm,19.0s,MS6.6							
ACSO	**Alum Creek Sta**	**95.40**	**33**	PFAKE		12 59 10.0	+14
ACSO				LR	LR		
comp=Z,3μm,20.0s,MS5.8							
NCB	**Newcomb**	**95.76**	**25**	PFAKE		12 59 10.0	+12
NCB				LR	LR		
comp=Z,6μm,19.0s,MS6.1							
NATX	**Nacogdoches**	**95.80**	**45**	PFAKE		12 59 10.0	+12
NATX				LR	LR		
comp=Z,5μm,19.0s,MS6.0							
SJPF	**Ste Jean**	**95.98**	**334**	*eP*	**P**	**12 58 58.7**	**-0.2**
comp=Z,76nm,1.4s,mb5.6							
SJPF	**Ste Jean**	**95.98**	**334**	*eP*	**P**	**12 58 58.7**	**-0.2**
SJPF				pmax	pmax		
comp=Z,38nm,1.4s,mb5.6							
HKT	**Hockley**	**96.39**	**47**	PFAKE		12 59 10.0	+8.9
HKT				LR	LR		
comp=Z,4μm,19.0s,MS5.9							
BINY	**Binghamton**	**96.65**	**27**	PFAKE		12 59 10.0	+8.0
BINY				LR	LR		
comp=Z,5μm,19.0s,MS6.0							
OXF	**Oxford**	**96.73**	**40**	PFAKE		12 59 10.0	+7.5
OXF				LR	LR		
comp=Z,3μm,19.0s,MS5.8							
HRV	**Harvard--Oak R**	**97.97**	**24**	PFAKE		12 59 20.0	+12
HRV				LR	LR		
comp=Z,4μm,19.0s,MS5.9							
MYNC	**Murphy**	**99.01**	**36**	PFAKE		12 59 20.0	+7.2
MYNC				LR	LR		
comp=Z,4μm,19.0s,MS5.9							
LRAL	**Lakeview Retre**	**99.15**	**40**	PFAKE		12 59 20.0	+6.6
LRAL				LR	LR		
comp=Z,3μm,19.0s,MS5.8							
CBN	**Corbin**	**99.51**	**30**	PFAKE		12 59 30.0	+15
CBN				LR	LR		
comp=Z,4μm,19.0s,MS5.9							
GOGA	**Godfrey**	**100.67**	**37**	PFAKE		12 59 30.0	+10
GOGA				LR	LR		
comp=Z,2μm,19.0s,MS5.7							
PTCN	**Pitcairn Islan**	**102.32**	**112**	PFAKE		12 59 40.0	+12
PTCN				LR	LR		
comp=Z,5μm,20.0s,MS6.1							
KMBO	**Kilima Mbogo**	**102.47**	**277**	PFAKE		12 59 40.0	+11
KMBO				LR	LR		
comp=Z,2μm,19.0s,MS5.6							
NHSC	**New Hope**	**102.52**	**35**	PFAKE		12 59 40.0	+11
NHSC				LR	LR		
comp=Z,5μm,19.0s,MS6.1							
CASY	**Casey**	**102.84**	**192**	PFAKE		12 59 40.0	+11
CASY				LR	LR		
comp=Z,1μm,22.0s,MS5.3							
DWPF	**Disney**	**105.96**	**39**	PFAKE		13 04 10.0	
DWPF				LR	LR		
comp=Z,8μm,19.0s,MS6.3							
MBAR	**Mbarara**	**107.50**	**281**	PFAKE		13 04 10.0	
MBAR				LR	LR		
comp=Z,327nm,19.0s,MS4.9							
TEIG	**Tepich**	**108.13**	**49**	PFAKE		13 04 10.0	
TEIG				LR	LR		
comp=Z,5μm,20.0s,MS6.1							
BBSR	**BB Station**	**109.44**	**23**	PFAKE		13 04 10.0	
BBSR				LR	LR		
comp=Z,8μm,22.0s,MS6.2							
JTS	**JuntasAbangare**	**117.60**	**54**	PFAKE		13 04 30.0	+9.4
JTS				LR	LR		
comp=Z,7μm,19.0s,MS6.3							
LSZ	**Lusaka**	**117.63**	**270**	PFAKE		13 04 30.0	+9.4
LSZ				LR	LR		
comp=Z,2μm,21.0s,MS5.7							
QSPA	**South Pole Qui**	**123.83**	**180**	*eP*	PKPdf	13 04 28.1	-3.2
QSPA				LR	LR		
comp=Z,1μm,19.0s,MS5.6							
BOSA	**Boshof**	**126.09**	**257**	PFAKE		13 04 50.0	+13
BOSA				LR	LR		
comp=Z,1μm,19.0s,MS5.5							
DBIC	**Dimbokro**	**128.50**	**315**	PKP	PKPdf	13 04 40.8	-1.0
comp=Z,2.7nm,1.0s,baz=167,slow=5.0,SNR=3.1							
DBIC	**Dimbokro**	**128.50**	**315**	PKP	PKPdf	13 04 40.8	-1.0
DBIC				LR	LR		
comp=Z,3μm,20.0s,MS5.9							
SNAA	**Sanae**	**137.95**	**196**	⇑*iP*	PKPdf	13 04 59.4	+1.4
VNA2	**Neumayer--Watz**	**139.51**	**195**	*e*	PKPdf	13 05 02.7	+1.9
VNA2	**Neumayer--Watz**	**139.51**	**195**	*e*		13 17 57.9	
VNA2	**Neumayer--Watz**	**139.51**	**195**	⇑*iPKPdf*	PKPdf	13 05 00.0	-0.8
VNA2				*e*		13 05 02.7	
VNA2				*e*		13 17 57.9	
VNA3	**Neumayer Olymp**	**139.74**	**194**	*e*	PKPdf	13 05 02.0	+0.8
VNA3	**Neumayer Olymp**	**139.74**	**194**	*e*		13 17 58.1	
VNA3	**Neumayer Olymp**	**139.74**	**194**	⇑*iPKPdf*	PKPdf	13 04 59.4	-1.8
VNA3				*e*		13 05 02.0	
VNA3				*e*		13 17 58.1	
PMSA	**Palmer Station**	**145.56**	**161**	PFAKE		13 05 20.0	+11
PMSA				LR	LR		
comp=Z,3μm,20.0s,MS6.0							
SAML	**Samuel**	**146.20**	**48**	*e*PKPbc	PKPbc	13 05 11.8	0.0
LPAZ	**La Paz**	**147.99**	**64**	PKIKP	PKPdf	13 05 17.2	+0.4
LPAZ				pmax	pmax		
comp=Z,6.0nm,0.6s							
LPAZ	**La Paz**	**147.99**	**64**	PKPbc	PKPdf	13 05 17.2	+0.4
comp=Z,6.1nm,0.6s,baz=3.7,slow=7.7,SNR=25							
LPAZ	**La Paz**	**147.99**	**64**	*e*PKPbc	PKPdf	13 05 17.1	+0.2
USHA	**Ushuaia**	**150.56**	**144**	PKPbc	PKPdf	13 05 22.0	+2.2
comp=Z,11nm,0.8s,baz=289,slow=7.0,SNR=2.8							
TLL	**Tololo Astrono**	**152.38**	**91**	*eP*	PKPdf	13 05 26.9	+3.7
PLCA	**Paso Flores**	**153.75**	**114**	PKIKP	PKPdf	13 05 33.1	+8.3
PLCA						13 05 46.3	
PLCA				pmax	pmax		
comp=Z,4.0nm,1.1s							
PLCA	**Paso Flores**	**153.75**	**114**	PKPbc	PKPdf	13 05 33.1	+8.3
comp=Z,4.4nm,1.1s,baz=211,slow=3.9,SNR=1.7							
PLCA				PKPab	PKPab	13 05 46.3	+1.6
comp=Z,6.7nm,1.0s,baz=240,slow=5.7,SNR=4.5							
PLCA	**Paso Flores**	**153.75**	**114**	PFAKE		13 05 30.0	+5.2
PLCA				LR	LR		
comp=Z,7μm,19.0s,MS6.5							

MOS ***21*** *12:58:08.9±1.3, 34.11N×141.68E, h10km, mb4.4/17, Error ellipse: s-maj=15.9km s-min=7.7km az=109.6*
JMA ***21*** *12:58:09.3±0.4, 33.99N×141.86E, h28km, M4.6*
IDC ***21*** *12:58:09.3±0.6, 34.00N×141.58E, mb4.1/21, mb1 4.3/22, mb1mx4.3/25, mbtmp4.2/22, ML4.3/1, Error ellipse: s-maj=18.0km s-min=13.0km az=128.0*
NEIC ***21*** *12:58:11.2±0.3, 34.05N×141.56E, h10km, mb4.5/11, Error ellipse: s-maj=9.4km s-min=7.9km az=74.0*

ISC 21 12:58:11.9±1.8, 34.03N±0.04×141.62E±0.06, h27km±12km, n98, σ1§02/102, mb4.4/36, 4C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.82**	**320**	P	**Pn**	**12 58 27.4**	**-0.4**
BSO2	**Boso 2**	**1.02**	**315**	*e*S	**Sn**	**12 58 47.0**	**+2.9**
BSO3	**Boso 3**	**1.20**	**310**	P	**Pn**	**12 58 33.5**	**+0.3**
BSO3				*e*S	**Sn**	**12 58 52.4**	**+3.7**
BSO4	**Boso 4**	**1.43**	**312**	⇑P	**Pn**	**12 58 37.2**	**+0.7**
KTR	**Katsuura**	**1.55**	**316**	P	**Pn**	**12 58 38.8**	**+0.6**
KTR				*e*S	**Sn**	**12 59 01.2**	**+3.6**
JMY	**Miyakejima3**	**1.75**	**272**	P	**Pn**	**12 58 41.4**	**+0.3**
JMY				*e*S	**Sn**	**12 59 06.5**	**+3.8**
JHJ2	**Mitsune**	**1.76**	**239**	⇓P	**Pn**	**12 58 42.5**	**+1.3**
JHJ	**Hachijo jima 2**	**1.78**	**240**	Pn	**Pn**	**12 58 42.1**	**+0.6**
416nm,0.3s,baz=218,slow=21,SNR=37							
JHJ				Sn	**Sn**	**12 59 05.1**	**+1.6**
636nm,0.3s,baz=240,slow=21,SNR=11							
JIM2	**Oshima 3**	**1.94**	**291**	P	**Pn**	**12 58 43.1**	**-0.6**
JIZS	**Izushimoda**	**2.37**	**288**	P	**Pn**	**12 58 50.0**	**0.0**
JIZS				*e*S	**Sn**	**12 59 19.2**	**+0.7**
JOD2	**Odawara 2**	**2.43**	**301**	⇑P	**Pn**	**12 58 49.9**	**-0.8**
JYN	**Shimob**	**2.93**	**301**	⇑P	**Pn**	**12 58 57.4**	**-0.5**
JAG	**Ashikaga**	**2.98**	**324**	P	**Pn**	**12 58 58.2**	**-0.4**
JAG				*e*S	**Sn**	**12 59 33.3**	**-0.5**
JRY	**Ryogami san**	**2.99**	**312**	P	**Pn**	**12 58 57.9**	**-0.8**
SHZ3	**Shizuoka 3**	**3.00**	**291**	P	**Pn**	**12 58 59.5**	**+0.6**
MAJO	**Matsushiro**	**3.76**	**313**	*e*P	**Pn**	**12 59 09.5**	**-0.1**
MAT	**Matsushiro**	**3.76**	**313**	*e*P	**Pn**	**12 59 10.0**	**+0.4**
MAT				*e*S	**Sn**	**12 59 53.0**	**-0.5**
MAT	**Matsushiro**	**3.76**	**313**	P	**Pn**	**12 59 09.6**	**0.0**
MAT				S	**Sn**	**12 59 53.4**	**-0.1**
ASAJ	**Asahikawa**	**10.10**	**4**	P	**P**	**13 00 33.2**	**-5.2**
ASAJ				pmax	pmax		
comp=Z,3.0nm,0.3s							
ASAJ	**Asahikawa**	**10.10**	**4**	Pn	**P**	**13 00 33.2**	**-5.2**
comp=Z,2.9nm,0.3s,baz=202,slow=8.4,SNR=12							
YSS	**Yuzh-Sakhalins**	**12.94**	**3**	*e*P	**P**	**13 01 12.1**	**-4.7**
YSS				pmax	pmax		
comp=Z,28nm,0.8s							
YSS	**Yuzh-Sakhalins**	**12.94**	**3**	*e*Pn	**P**	**13 01 12.1**	**-4.7**
comp=Z,28nm,0.8s							
HIA	**Hailar**	**22.23**	**320**	*e*P	**P**	**13 03 05.1**	**-2.8**
HIA				pmax	pmax		
comp=Z,2μm,3.4s							
HIA	**Hailar**	**22.23**	**320**	*e*P	**P**	**13 03 05.1**	**-2.7**
comp=Z,2μm,3.4s							
MA2	**Magadan**	**26.26**	**11**	*e*P	**P**	**13 03 46.7**	**+0.2**
MA2				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.3							
MA2	**Magadan**	**26.26**	**11**	*e*P	**P**	**13 03 46.6**	**+0.2**
comp=Z,7.7nm,0.8s,mb4.3							
SONM	**Songino Array**	**29.70**	**308**	P	**P**	**13 04 17.8**	**+0.1**
comp=Z,4.4nm,0.6s,mb4.4,baz=107,slow=8.7,SNR=37							
BOD	**Bodaibo**	**30.19**	**330**	*e*P	**P**	**13 04 20.5**	**-1.5**
ZAK	**Zakamensk**	**32.34**	**312**	⇑*iP*	**P**	**13 04 40.2**	**-0.7**
TLY	**Talaya**	**32.49**	**315**	*e*P	**P**	**13 04 43.2**	**+1.0**
TLY				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.5							
TLY	**Talaya**	**32.49**	**315**	*e*P	**P**	**13 04 43.2**	**+1.0**
comp=Z,8.1nm,0.9s,mb4.5							
CMAR	**Chiang Mai Arr**	**40.99**	**259**	P	**P**	**13 05 53.3**	**-1.1**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**40.99**	**259**	P	**P**	**13 05 53.2**	**-1.1**
comp=Z,1.1nm,0.6s,mb3.7,baz=46,slow=7.5,SNR=8.9							
ZAL	**Zalesovo**	**44.12**	**315**	P	**P**	**13 06 19.6**	**+0.1**
ZAL				pmax	pmax		
comp=Z,3.0nm,0.5s							
ZAL	**Zalesovo**	**44.12**	**315**	P	**P**	**13 06 19.6**	**+0.1**
comp=Z,2.5nm,0.5s,mb4.2,baz=274,slow=6.4,SNR=8.6							
NVS	**Novosibirsk**	**45.08**	**316**	*e*P	**P**	**13 06 27.5**	**+0.3**
MKAR	**Makanchi Array**	**45.91**	**305**	*e*P	**P**	**13 06 33.3**	**-0.6**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
JIRN	**Jiri**	**47.53**	**278**	*e*P	**P**	**13 06 46.2**	**-0.8**
comp=Z,27nm,0.9s,mb5.3							
KURK	**Kurchatov**	**47.96**	**310**	*e*P	**P**	**13 06 48.8**	**-1.2**
KURK				pmax	pmax		
comp=Z,13nm,0.8s,mb5.0							
KURK	**Kurchatov**	**47.96**	**310**	*e*P	**P**	**13 06 48.8**	**-1.2**
comp=Z,14nm,0.8s,mb5.0							
KKN	**Kakani**	**48.23**	**279**	*e*P	**P**	**13 06 51.1**	**-1.3**
comp=Z,12nm,0.7s,mb5.1							
DMN	**Daman**	**48.44**	**278**	*e*P	**P**	**13 06 54.6**	**+0.6**
comp=Z,13nm,0.9s,mb5.0							
GKN	**Gorkha**	**48.68**	**279**	*e*P	**P**	**13 06 54.8**	**-1.1**
comp=Z,12nm,0.5s,mb5.2							
KOLN	**Koldanda**	**49.62**	**279**	*e*P	**P**	**13 07 02.3**	**-0.8**
ILAR	**Eielson Array**	**51.96**	**31**	P	**P**	**13 07 19.5**	**-0.9**
ILAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
ILAR	**Eielson Array**	**51.96**	**31**	P	**P**	**13 07 19.5**	**-0.9**
comp=Z,2.1nm,0.7s,mb4.2,baz=260,slow=5.8,SNR=26							
CHKZ	**Chkalovo**	**52.52**	**315**	*e*P	**P**	**13 07 23.4**	**-1.3**
CHKZ				pmax	pmax		
comp=Z,7.0nm,0.6s,mb4.8							
CHKZ	**Chkalovo**	**52.52**	**315**	*e*P	**P**	**13 07 23.4**	**-1.3**
comp=Z,6.9nm,0.6s,mb4.8							
BVAR	**Borovoye Array**	**52.75**	**314**	P	**P**	**13 07 25.7**	**-0.7**
comp=Z,1.1nm,0.5s,mb4.0,baz=101,slow=6.8,SNR=7.9							
BRVK	**Borovoye**	**52.81**	**314**	P	**P**	**13 07 26.4**	**-0.5**
BRVK				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.0							
BRVK	**Borovoye**	**52.81**	**314**	*e*P	**P**	**13 07 26.2**	**-0.7**
comp=Z,2.5nm,0.4s,mb4.5							
WB2	**Warramunga Arr**	**54.11**	**188**	*e*P	**P**	**13 07 36.0**	**-0.9**
WRA	**Warramunga Arr**	**54.12**	**188**	P	**P**	**13 07 34.8**	**-2.1**
WRA				pmax	pmax		
comp=Z,2.0nm,0.5s							
WRA	**Warramunga Arr**	**54.12**	**188**	P	**P**	**13 07 34.8**	**-2.1**
comp=Z,2.1nm,0.5s,mb4.3,baz=4.9,slow=7.6,SNR=45							
INK	**Inuvik**	**56.99**	**26**	P	**P**	**13 07 56.8**	**-0.3**
INK				pmax	pmax		
comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**56.99**	**26**	P	**P**	**13 07 56.8**	**-0.4**
comp=Z,1.0nm,0.5s,mb4.1,baz=331,slow=3.0,SNR=14							
INK	**Inuvik**	**56.99**	**26**	*e*P	**P**	**13 07 56.7**	**-0.5**
comp=Z,8.2nm,1.4s,mb4.6							
ASAR	**Alice Springs**	**57.84**	**188**	P	**P**	**13 08 02.9**	**-0.8**
comp=Z,1.3nm,0.6s,mb4.1,baz=0.5,slow=6.2,SNR=25							
ASPA	**Alice Springs**	**57.84**	**188**	*e*P	**P**	**13 08 05.2**	**+1.5**
ARU	**Arti**	**58.74**	**320**	*e*P	**P**	**13 08 03.7**	**-5.8**
ARU	**Arti**	**58.74**	**320**	*e*P	**P**	**13 08 03.6**	**-5.9**
comp=Z,2.9nm,0.4s,mb4.7							
DLBC	**Dease Lake**	**60.90**	**37**	P	**P**	**13 08 25.4**	**+1.1**
comp=Z,2.1nm,1.0s,mb4.2,baz=304,slow=11,SNR=2.8							
RES	**Resolute Bay**	**65.47**	**14**	*e*P	**P**	**13 08 53.8**	**-0.3**
RES				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.3							
RES	**Resolute Bay**	**65.47**	**14**	*e*P	**P**	**13 08 53.8**	**-0.4**
comp=Z,2.7nm,0.9s,mb4.3							
FORT	**Forrest**	**65.72**	**193**	*e*P	**P**	**13 08 56.1**	**-0.4**
comp=Z,40nm,0.7s,mb5.5							
YKA	**Yellowknife Ar**	**66.33**	**29**	P	**P**	**13 08 59.1**	**-0.7**
comp=Z,0.4nm,0.6s,mb3.6,baz=298,slow=6.1,SNR=9.5							
NWAO	**Narrogin (SRO)**	**70.44**	**202**	P	**P**	**13 09 25.0**	**-0.9**
NWAO				pmax	pmax		
comp=Z,9.0nm,0.9s							
NWAO	**Narrogin (SRO)**	**70.44**	**202**	P	**P**	**13 09 25.0**	**-0.9**
comp=Z,8.7nm,0.9s,mb4.7,baz=330,slow=5.6,SNR=6.5							
FINES	**FINESS Array B**	**71.56**	**333**	P	**P**	**13 09 31.6**	**-0.5**
FINES				pmax	pmax		
comp=Z,2.0nm,0.7s							
FINES	**FINESS Array B**	**71.56**	**333**	P	**P**	**13 09 31.6**	**-0.6**
comp=Z,2.2nm,0.7s,mb4.2,baz=117,slow=4.3,SNR=5.0							
ZEI	**Tsey**	**72.86**	**310**	*e*P	pP	13 09 49.8	+1.1
ZEI				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.2							
NVAR	**Mina Array Bea**	**76.66**	**53**	P	**P**	**13 10 02.4**	**+0.4**
comp=Z,0.8nm,0.8s,mb3.7,baz=281,slow=6.4,SNR=6.8							
NVAR	**Mina Array Bea**	**76.66**	**53**	P	**P**	**13 10 02.4**	**+0.4**
BOZ	**Bozeman (W)**	**76.76**	**44**	*e*P	**P**	**13 10 03.8**	**+1.4**
BOZ				pmax	pmax		
comp=Z,2.0nm,0.9s,mb4.0							
BOZ	**Bozeman (W)**	**76.76**	**44**	*e*P	**P**	**13 10 03.8**	**+1.4**
comp=Z,2.1nm,0.9s,mb4.1							
AKASG	**Malin Array Be**	**76.78**	**323**	P	**P**	**13 10 01.6**	**-0.9**
AKASG				pmax	pmax		
comp=Z,2.0nm,0.5s							
AKASG	**Malin Array Be**	**76.78**	**323**	P	**P**	**13 10 01.6**	**-0.9**
comp=Z,1.7nm,0.5s,mb4.3,baz=50,slow=6.0,SNR=8.9							
HFS	**Hagfors**	**76.90**	**336**	P	**P**	**13 10 02.4**	**-0.5**
HFS				pmax	pmax		
comp=Z,18nm,1.3s							
HFS	**Hagfors**	**76.90**	**336**	P	**P**	**13 10 02.4**	**-0.5**
comp=Z,18nm,1.3s,mb4.8,baz=11,slow=7.6,SNR=7.1							
NB2	**NORSAR Subarra**	**77.02**	**338**	P	**P**	**13 10 03.2**	**-0.4**
comp=Z,1.0nm,0.6s,mb3.9,baz=41,slow=5.6							
NB2	**NORSAR Subarra**	**77.02**	**338**	P	**P**	**13 10 03.2**	**-0.4**
NB2				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.9							
NOA	**NORSAR Array B**	**77.02**	**338**	P	**P**	**13 10 03.4**	**-0.2**
NOA				pmax	pmax		
comp=Z,1.0nm,0.7s							
NOA	**NORSAR Array B**	**77.02**	**338**	P	**P**	**13 10 03.4**	**-0.2**
comp=Z,1.0nm,0.7s,mb3.9,baz=66,slow=4.2,SNR=4.1							
MOOW	**Moose Ponds**	**78.38**	**45**	P	**P**	**13 10 12.7**	**+1.3**
HWUT	**Hardware Ranch**	**79.14**	**47**	*e*P	**P**	**13 10 17.0**	**+1.3**
comp=Z,5.9nm,1.2s,mb4.4							
PDAR	**Pinedale Array**	**79.66**	**45**	P	**P**	**13 10 19.9**	**+1.5**
comp=Z,1.1nm,0.9s,mb3.8,baz=281,slow=2.3,SNR=6.8							
BRTR	**Keskin Array B**

s-min=18.7km az=65.0
*NEIC **21** 13:25:52.7±1.2,27.42N×92.66E,h52km±14km,mb3.5/2, Error ellipse: s-maj=31.6km s-min=9.2km az=59.0*

ISC 21 13:25:53.4±0.7,27.41N±0.06×92.76E±0.10,h80km±10km, n13,σ1§24/14,mb3.4/7,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.00**	**203**	*i* P	**P**	**13 26 25.5**	**-0.4**
SHL				*i* S	**S**	**13 26 51.5**	**+1.7**
LSA	**Lhasa**	**2.69**	**328**	*e*Pn	**P**	**13 26 34.2**	**-1.3**
LSA				*e*Sn	**S**	**13 27 08.5**	**+1.5**
IMP	**Imphal**	**2.82**	**158**	*e*P	**P**	**13 26 36.0**	**-1.4**
LKP	**Lekhapani**	**2.94**	**91**	*e*	**P**	**13 26 40.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**10.57**	**146**	Pn	**P**	**13 28 21.7**	**-2.2**
	0.1nm,0.3s,baz=316,slow=13,SNR=4.7						
AAK	**Ala-Archa**	**21.25**	**320**	P	**P**	**13 30 33.3**	**-1.4**
	1.7nm,0.8s,mb3.4						
SONM	**Songino Array**	**23.00**	**24**	P	**P**	**13 30 52.8**	**+1.0**
	0.6nm,0.7s,mb3.1,baz=203,slow=10.0,SNR=4.1						
KURK	**Kurchatov**	**25.64**	**339**	*e*P	**P**	**13 31 16.8**	**-0.3**
	1.3nm,0.7s,mb3.5						
ZAL	**Zalesovo**	**27.14**	**350**	P	**P**	**13 31 31.1**	**+0.3**
	0.8nm,0.5s,mb3.5,baz=212,slow=7.2,SNR=4.3						
BVAR	**Borovoye Array**	**30.51**	**333**	P	**P**	**13 31 59.7**	**-1.2**
	0.2nm,0.3s,mb3.3,baz=142,slow=16,SNR=2.6						
JHJ	**Hachijo jima 2**	**40.74**	**70**	LR	LR	13 50 11.4	
	comp=Z,293nm,19.5s,baz=87,slow=36						
WRA	**Warramunga Arr**	**61.94**	**135**	P	**P**	**13 36 08.3**	**+1.0**
	0.7nm,0.6s,mb3.8,baz=322,slow=7.2,SNR=12						
ASAR	**Alice Springs**	**64.46**	**138**	P	**P**	**13 36 25.4**	**+1.5**
	0.3nm,0.6s,mb3.3,baz=326,slow=6.6,SNR=7.5						

JMA 21 13:27:05.9±0.1,29.16N×131.18E,h68km,M3.6, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**1.32**	**301**	P	P	13 27 28.9	-0.1
JNN				S	S	13 27 45.9	-0.2
JZK	**Kikaishima**	**1.35**	**232**	P	P	13 27 29.3	-0.1
JTN	**Tanegashima 3**	**1.50**	**353**	P	P	13 27 31.0	-0.3
JTN				S	S	13 27 49.6	-0.5
JKC	**Kuchinoerabu**	**1.55**	**327**	P	P	13 27 32.1	0.0
JKC				*e*S	S	13 27 51.7	+0.3
JAM	**Amami Oshima**	**1.57**	**242**	P	P	13 27 31.7	-0.6
JAM				S	S	13 27 51.0	-0.8
JTSR	**Tashiro 2**	**2.01**	**354**	P	P	13 27 38.5	+0.2
JTSR				S	S	13 28 01.4	-0.8
JNAR	**Kushima--Naru**	**2.36**	**2**	P	P	13 27 43.3	+0.1
JNAR				S	S	13 28 10.4	-0.6
JTK	**Tokunoshima**	**2.39**	**236**	P	P	13 27 43.2	-0.5
JTK				S	S	13 28 11.3	-0.6
JSU	**Suzuyama**	**2.42**	**345**	P	P	13 27 43.8	-0.3
JSU				S	S	13 28 12.3	-0.3
JTZ	**Takazaki**	**2.73**	**358**	P	P	13 27 48.5	0.0
JTZ				S	S	13 28 19.1	-1.3
JSJ	**Shimokoshiki**	**2.81**	**334**	P	P	13 27 49.1	-0.5
JZO	**Okuchi**	**3.01**	**351**	P	P	13 27 52.3	-0.1
JZO				S	S	13 28 26.6	-0.9
JTSN	**Tsuno**	**3.09**	**5**	P	P	13 27 52.9	-0.6
JMZ	**Minamidaito 2**	**3.33**	**179**	P	P	13 27 54.7	-2.1
JIU2	**Izumi 2**	**3.39**	**355**	P	P	13 27 57.4	-0.3

*IDC **21** 13:35:07.3±0.9,4.66N×95.02E,mb4.4/13,mb1 4.6/14, mb1mx4.4/21,mbtmp4.4/14,ML4.7/1,Error ellipse: s-maj=46.4km s-min=17.6km az=46.0*
*BJI **21** 13:35:11.8,4.60N×95.00E,h30km,mB4.5,mb4.9*
*NEIC **21** 13:35:11.8±0.4,4.62N×94.99E,h30km,mb4.7/10,Error ellipse: s-maj=16.3km s-min=7.9km az=50.0*

ISC 21 13:35:10.2±0.6,4.6N±0.1×95.1E±0.1,h30km,n40, σ0§99/40,mb4.5/28,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.27**	**15**	Pn	**P**	**13 38 36.2**	**+3.7**
	1.0nm,0.3s,baz=207,slow=11,SNR=64						
HYB	**Hyderabad**	**20.62**	**309**	*i* P	**P**	**13 39 51.0**	**+1.1**
JIRN	**Jiri**	**24.45**	**341**	*e*P	**P**	**13 40 27.4**	**-0.5**
	16nm,0.5s,mb4.7						
DMN	**Daman**	**24.78**	**338**	*e*P	**P**	**13 40 31.0**	**-0.1**
KKN	**Kakani**	**24.88**	**339**	*e*P	**P**	**13 40 32.4**	**+0.4**
LSA	**Lhasa**	**25.24**	**352**	*e*P	**P**	**13 40 35.0**	**-0.3**
	9.7nm,0.7s,mb4.4						
GKN	**Gorkha**	**25.31**	**338**	*e*P	**P**	**13 40 36.4**	**+0.3**
	14nm,0.3s,mb5.0						
KOLN	**Koldanda**	**25.51**	**336**	*e*P	**P**	**13 40 38.3**	**+0.3**
	34nm,0.7s,mb5.0						
XAN	**Xi'an**	**31.98**	**22**	P	**P**	**13 41 34.5**	**-1.6**
XAN				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.1						
BJT	**Baijiatuau**	**40.05**	**25**	*e*P	**P**	**13 42 45.0**	**+0.5**
	comp=Z,10nm,0.7s,mb4.7						
BJI	**Beijing**	**40.07**	**25**	*e*P	**P**	**13 42 45.7**	**+1.0**
	comp=Z,17nm,0.8s,mb4.8						
UCH	**Uchtor**	**41.72**	**337**	P	**P**	**13 42 59.6**	**+1.4**
	SNR=15						
TKM2	**Tokmak 2**	**41.90**	**338**	P	**P**	**13 43 00.7**	**+1.0**
	SNR=6.3						
KBK	**Karagaybulak**	**41.91**	**338**	P	**P**	**13 43 01.4**	**+1.6**
	SNR=17						
AML	**Almayashu**	**41.96**	**336**	P	**P**	**13 43 01.8**	**+1.6**
	SNR=14						
AAK	**Ala-Archa**	**42.07**	**337**	P	**P**	**13 43 02.1**	**+1.1**
	SNR=13						
AAK	**Ala-Archa**	**42.07**	**337**	*e*P	**P**	**13 43 00.6**	**-0.5**
	comp=Z,18nm,1.1s,mb4.6						
CHMS	**Chumysh**	**42.28**	**338**	P	**P**	**13 43 03.8**	**+0.9**
	SNR=6.0						
EKS2	**Erkin-Say**	**42.37**	**337**	P	**P**	**13 43 05.2**	**+1.6**
	SNR=5.5						
USP	**Ospenovka**	**42.61**	**338**	P	**P**	**13 43 06.2**	**+0.7**
	SNR=16						
SONM	**Songino Array**	**44.15**	**11**	P	**P**	**13 43 17.1**	**-0.8**
	comp=Z,0.5nm,0.4s,mb3.6,baz=196,slow=9.0,SNR=4.9						
SONM				PcP	PcP	13 45 02.5	-0.5
	comp=Z,1.2nm,0.4s,baz=195,slow=3.3,SNR=9.6						
WRA	**Warramunga Arr**	**45.62**	**124**	P	**P**	**13 43 30.7**	**+0.6**
	comp=Z,5.6nm,0.7s,mb4.6,baz=301,slow=9.3,SNR=18						
WRAB	**Tennant Creek**	**45.63**	**124**	*e*P	**P**	**13 43 30.6**	**+0.4**
	comp=Z,6.5nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**47.12**	**128**	P	**P**	**13 43 42.3**	**+0.4**
	comp=Z,1.0nm,0.5s,mb4.0,baz=299,slow=7.7,SNR=14						
KURK	**Kurchatov**	**47.99**	**346**	*e*P	**P**	**13 43 47.2**	**-1.2**
	comp=Z,4.1nm,0.8s,mb4.5						
ZAL	**Zalesovo**	**49.89**	**352**	P	**P**	**13 44 02.2**	**-0.7**
	comp=Z,2.7nm,0.4s,mb4.7,baz=220,slow=5.8,SNR=12						
BVAR	**Borovoye Array**	**52.37**	**341**	P	**P**	**13 44 21.0**	**-0.8**
	comp=Z,11nm,0.7s,mb4.9,baz=141,slow=9.5,SNR=76						
BRVK	**Borovoye**	**52.44**	**341**	*e*P	**P**	**13 44 20.8**	**-1.4**
	comp=Z,8.5nm,0.6s,mb4.8						
CHKZ	**Chkalovo**	**52.86**	**342**	*e*P	**P**	**13 44 24.4**	**-1.0**
	comp=Z,20nm,0.6s,mb5.2						
BRTR	**Keskin Array B**	**65.29**	**312**	P	**P**	**13 45 50.7**	**-1.1**
	comp=Z,2.7nm,0.5s,mb4.6,baz=139,slow=6.0,SNR=25						
AKASG	**Malin Array Be**	**71.30**	**322**	P	**P**	**13 46 27.3**	**-1.7**
	comp=Z,1.9nm,0.4s,mb4.4,baz=84,slow=5.1,SNR=12						
MLR	**Muntele Rosu**	**72.17**	**316**	P	**P**	**13 46 34.4**	**+0.1**
	comp=Z,4.7nm,0.7s,mb4.5,baz=4.8,slow=12,SNR=6.8						
JOF	**Joensuu**	**74.19**	**335**	*ep*	**P**	**13 46 44.1**	**-1.6**
	comp=Z,0.5nm,0.2s,mb4.1						
FINES	**FINESS Array B**	**76.03**	**332**	P	**P**	**13 46 55.6**	**-0.7**
	comp=Z,2.5nm,0.3s,mb4.5,baz=106,slow=6.1,SNR=54						
KAF	**Kangasniemi**	**76.12**	**333**	*ep*	**P**	**13 46 55.5**	**-1.3**
	comp=Z,1.0nm,0.3s,mb4.2						
KEV	**Kevo**	**78.22**	**341**	*ep*	**P**	**13 47 07.2**	**-1.1**
	comp=Z,0.4nm,0.3s,mb3.8						
ARCES	**ARCESS Array B**	**78.65**	**340**	P	**P**	**13 47 10.4**	**-0.2**
	comp=Z,2.3nm,0.4s,mb4.4,baz=93,slow=5.8,SNR=42						
GERES	**GERESS Array B**	**80.89**	**319**	P	**P**	**13 47 24.1**	**+1.0**
	comp=Z,3.1nm,0.9s,mb4.2,baz=90,slow=2.7,SNR=8.3						
HFS	**Hagfors**	**81.75**	**330**	P	**P**	**13 47 27.4**	**+0.1**
	comp=Z,1.9nm,0.5s,mb4.3,baz=108,slow=4.7,SNR=11						
DAVOX	**Davos**	**83.40**	**316**	P	**P**	**13 47 36.1**	**0.0**
	comp=Z,2.8nm,0.4s,mb4.7,baz=128,slow=3.9,SNR=7.4						

*IGQ **21** 13:44:56.2,1.06S×82.15W,h5km±19km,mb5.2,Error ellipse: s-maj=18.6km s-min=14.4km az=6.5*
*BJI **21** 13:45:14.0,1.10S×80.80W,h10km,mB6.3,Ms6.0,Msz5.8*
*NEIC **21** 13:45:14.1±0.2,1.13S×80.83W,h10km,mb5.0/50, MS5.5/123,MW6.0,MD5.2(IGQ),Error ellipse: s-maj=7.5km s-min=4.5km az=53.0,Moment Tensor Solution. s5 Moment tensor: Scale 1018Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mrφ0.00; Mθφ0.00; Best double couple: M0 1.2×1018 NP1:φs39°,δ33°,λ143°. NP2: φs162°,δ71°,λ63°. Principal axes: T 1.19, Plg56°, Azm37°; N 0, Plg25°, Azm171°; P -1.19, Plg22°, Azm272°;*
NEIC Felt [IV] at Manta. Also felt at Guayaquil.
*HRVD **21** 13:45:14.1±0.1,1.23S×81.05W,h12km,MW6.0/74, Centroid moment Tensor Solution. LP body waves: s64,c149;Mantle waves: s74,c255; Half duration: 2s4 Moment tensor: Scale 1018Nm; Mrr0.68±.01; Mθθ0.03±.01; Mφφ-0.70±.01; Mrθ0.06±.02; Mθφ0.00±.01; Mφr-0.98±.02; Best double couple: M0 1.203×1018 NP1:φs3°,δ18°,λ96°. NP2:φs177°,δ72°,λ88°. Principal axes: T 1.191, Plg63°, Azm84°; N .025, Plg2°, Azm178°; P -1.216, Plg27°, Azm269°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **21** 13:45:16.3±1.5,1.10S×80.73W,h33km,mb5.1/32, MS5.5/20 Error ellipse: s-maj=12.1km s-min=5.6km az=110.1*
*IDC **21** 13:45:17.9±4.6,1.12S×80.83W,h39km±41km,mb4.4/21, mb1 4.5/23,mb1mx4.4/28,mbtmp4.6/23,ML4.3/2,MS5.4/10, Ms1 5.4/10,ms1mx5.1/19,Error ellipse: s-maj=21.9km s-min=11.8km az=63.0*

ISC 21 13:45:16.1±0.2,1.15S±0.04×80.96W±0.03,h33km,n366, σ1§16/252,mb4.8/64,MS5.5/133,19C-6D,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUSU	**Cusua**	**2.50**	**97**	P	**P**	**13 45 57.1**	**+1.9**
MARY	**Rancho Maria**	**2.51**	**81**	P	**P**	**13 45 57.2**	**+1.8**
JUIV	**Juive**	**2.51**	**96**	P	**P**	**13 45 57.1**	**+1.7**
NAS1	**Nasa**	**2.54**	**78**	⇓P	**P**	**13 45 56.4**	**+0.6**
PINO	**Pino**	**2.55**	**67**	⇑P	**P**	**13 45 54.8**	**-1.2**
GGP	**Refugio Guagua**	**2.56**	**68**	P	**P**	**13 45 57.1**	**+1.1**
GGP				S	**S**	**13 46 39.0**	**+13**
MOV1	**Cotopaxi Vol s**	**2.56**	**80**	⇑P	**P**	**13 45 56.0**	**-0.1**
PISA	**Pisayambo**	**2.58**	**88**	P	**P**	**13 45 56.8**	**+0.4**
PITA	**Cotopaxi Volc**	**2.60**	**77**	⇑P	**P**	**13 45 56.9**	**+0.2**
VC1	**Cotopaxi 1**	**2.61**	**79**	⇑P	**P**	**13 45 57.3**	**+0.5**
TAMB	**Tambo**	**2.63**	**80**	⇑P	**P**	**13 45 57.5**	**+0.4**
COV1	**Cotopaxi Volc**	**2.66**	**80**	⇑P	**P**	**13 45 56.9**	**-0.7**
OTAV	**Otavalo**	**2.87**	**61**	*e*Pn	**Pn**	**13 45 58.9**	**-1.7**
ANTI	**Antisana**	**2.89**	**76**	⇑P	**P**	**13 46 01.4**	**+0.6**
COTA	**Cotacachi**	**3.01**	**61**	⇓P	**P**	**13 46 02.1**	**-0.4**
CAYA	**Cayambe**	**3.21**	**68**	⇑P	**P**	**13 46 06.4**	**+1.0**
PAYG	**Puerto Ayora**	**9.33**	**273**	⇓*e*Pn	**P**	**13 47 29.6**	**-1.7**
NNA	**Nana**	**11.52**	**159**	Pn	**P**	**13 47 58.2**	**-3.1**
	2μm,1.0s,SNR=44						
JTS	**JuntasAbangare**	**12.04**	**341**	*e*P	**P**	**13 48 11.6**	**+3.3**
JTS				pmax	pmax		
	comp=Z,59nm,1.1s						
JTS	**JuntasAbangare**	**12.04**	**341**	*e*P	**P**	**13 48 11.6**	**+3.2**
	comp=Z,59nm,1.1s						
SDV	**Santo Domingo**	**14.33**	**46**	Pn	**P**	**13 48 35.9**	**-2.9**
	comp=Z,0.4nm,0.3s,baz=257,slow=10,SNR=9.7						
SAML	**Samuel**	**19.32**	**114**	*e*P	**P**	**13 49 36.3**	**-5.1**
	comp=Z,162nm,0.8s						
LPAZ	**La Paz**	**19.65**	**141**	⇑*e*P	**P**	**13 49 43.7**	**-1.4**
LPAZ				pmax	pmax		
	comp=Z,34nm,0.2s						
LPAZ	**La Paz**	**19.65**	**141**	P	**P**	**13 49 43.8**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=332,slow=12,SNR=37						
LPAZ	**La Paz**	**19.65**	**141**	⇑*e*P	**P**	**13 49 43.7**	**-1.4**
	comp=Z,34nm,0.2s						
LMGC	**Las Mercedes**	**21.44**	**10**	*e*P	**P**	**13 50 03.8**	**+0.2**
LMGC				*e*S	**S**	**13 53 59.5**	**+4.9**
	comp=N,11μm,10.7s						
	comp=E,22μm,10.9s						
RCC	**Rio Carpintero**	**21.64**	**14**	*e*P	**P**	**13 49 58.1**	**-7.5**
RCC				*e*S	**S**	**13 54 03.6**	**+5.3**
	comp=N,3μm,2.4s						
	comp=E,2μm,2.0s						
MASC	**Masc**	**22.20**	**17**	*e*P	**P**	**13 50 12.5**	**+1.3**
MASC				*e*S	**S**	**13 54 22.3**	**+14**
	comp=N,8μm,9.1s						
	comp=E,17μm,10.0s						
TEIG	**Tepich**	**22.42**	**342**	*e*P	**P**	**13 50 15.1**	**+1.7**
	comp=E,86nm,1.2s,mb5.0						
TEIG				LR	LR		
	comp=Z,4μm,20.0s,MS4.9						
CCCC	**Cccc**	**22.43**	**8**	*e*P	**P**	**13 50 12.9**	**-0.6**
CCCC				*e*S	**S**	**13 54 26.7**	**+14**
	comp=N,24μm,11.2s						
	comp=E,22μm,11.2s						
MOAC	**Moa**	**22.46**	**15**	*e*P	**P**	**13 50 06.7**	**-7.1**
MOAC				*e*S	**S**	**13 54 05.2**	**-8.2**
	comp=N,13μm,8.8s						
	comp=E,34μm,8.9s						
HUIG	**Huatulco**	**22.51**	**319**	*i* P	**P**	**13 50 14.4**	**0.0**
TPP	**Pointe-a-Pierr**	**22.51**	**59**	*e*P	**P**	**13 50 09.4**	**-5.1**
TRN	**Trinidad (W)**	**22.72**	**58**	*e*P	**P**	**13 50 15.5**	**-1.0**
CMIG	**Matias Romero**	**22.74**	**323**	*i* P	**P**	**13 50 16.9**	**+0.3**
SOR	**Soroa**	**23.88**	**355**	*e*P	**P**	**13 50 28.2**	**+0.4**
SOR				*e*S	**S**	**13 54 45.1**	**+6.5**
	comp=N,8μm,5.4s						
	comp=E,8μm,5.4s						
SJG	**San Juan**	**24.06**	**37**	P	**P**	**13 50 29.8**	**+0.2**
SJG				pmax	pmax		
	comp=Z,102nm,0.7s						
SJG	**San Juan**	**24.06**	**37**	P	**P**	**13 50 29.8**	**+0.3**
	comp=Z,102nm,0.7s,mb5.4,baz=205,slow=5.8,SNR=23						
SJG	**San Juan**	**24.06**	**37**	P	**P**	**13 50 29.8**	**+0.3**
LVC	**Limon Verde**	**24.34**	**152**	P	**P**	**13 50 33.0**	**+0.8**
	comp=Z,28nm,1.1s,mb4.6,slow=5.8,SNR=14						
LVC				LR	LR	13 59 48.0	
	comp=Z,14μm,20.8s,MS5.4,baz=274,slow=36						
CAIG	**El Cayaco**	**26.25**	**314**	*i* P	**P**	**13 50 53.0**	**+2.6**
CAIG				*e*S	**S**	**13 55 23.5**	**+5.1**
PPM	**Popocatepetl**	**26.55**	**320**	*i* P	**P**	**13 50 57.3**	**+4.2**
DWPF	**Disney**	**29.10**	**359**	PFAKE		13 51 30.0	+14
DWPF				LR	LR		
	comp=Z,8μm,19.0s,MS5.3						
TLL	**Tololo Astrono**	**30.43**	**162**	⇑*i* P	**P**	**13 51 27.7**	**-0.2**
FCH	**Farellones**	**33.54**	**164**	*e*P	**P**	**13 51 56.0**	**+0.9**
MDZ	**Mendoza**	**33.56**	**161**	*e*P	**P**	**13 51 56.4**	**+1.2**
HKT	**Hockley**	**34.03**	**337**	P	**P**	**13 52 01.4**	**+2.1**
HKT				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.0						
HKT	**Hockley**	**34.03**	**337**	*e*P	**P**	**13 51 59.8**	**+0.5**
	comp=Z,28nm,1.4s,mb5.0						
HKT				LR	LR		
	comp=Z,4μm,21.0s,MS5.2						
NHSC	**New Hope**	**34.08**	**1**	*e*P	**P**	**13 52 01.1**	**+1.3**
	comp=Z,123nm,1.1s,mb5.8						
NHSC				LR	LR		
	comp=Z,9μm,20.0s,MS5.5						
GOGA	**Godfrey**	**34.46**	**356**	P	**P**	**13 52 01.5**	**-1.5**
GOGA				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
GOGA	**Godfrey**	**34.46**	**356**	*e*P	**P**	**13 52 01.1**	**-1.9**
	comp=Z,28nm,0.9s,mb5.2						
GOGA				LR	LR		
	comp=Z,10μm,19.0s,MS5.6						
LRAL	**Lakeview Retre**	**34.48**	**351**	*e*P	**P**	**13 52 00.8**	**-2.4**
	comp=Z,34nm,1.0s,mb5.2						
LRAL				LR	LR		
	comp=Z,5μm,19.0s,MS5.3						
NATX	**Nacogdoches**	**35.21**	**340**	PFAKE		13 52 20.0	+11
NATX				LR	LR		
	comp=Z,6μm,21.0s,MS5.3						
JSC	**Jenkinsville**	**35.24**	**360**	P	**P**	**13 52 10.3**	**+0.6**
JSC	**Jenkinsville**	**35.24**	**360**	*e*P	**P**	**13 52 08.4**	**-1.3**
BDFB	**Brasilia**	**35.55**	**116**	P	**P**	**13 52 09.5**	**-2.9**
BDFB				pmax	pmax		
	comp=Z,18nm,0.9s						
BDFB	**Brasilia**	**35.55**	**116**	P	**P**	**13 52 09.5**	**-3.0**
	comp=Z,18nm,0.9s,mb5.0,baz=265,slow=8.7,SNR=8.8						
BAO	**Brasilia Array**	**35.56**	**116**	*e*P	**P**	**13 52 12.1**	**-0.5**
JCT	**Junction City**	**36.21**	**332**	P	**P**	**13 52 18.6**	**+0.7**
JCT				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
JCT	**Junction City**	**36.21**	**332**	*e*P	**P**	**13 52 18.2**	**+0.2**
	comp=Z,45nm,1.1s,mb5.3						
JCT				LR	LR		
	comp=Z,5μm,20.0s,MS5.3						
OXF	**Oxford**	**36.35**	**348**	*e*P	**P**	**13 52 19.7**	**+0.7**
OXF				LR	LR		
	comp=Z,6μm,19.0s,MS5.4						
CPCT	**Cooper Cave**	**36.56**	**355**	*e*P	**P**	**13 52 19.0**	**-1.8**
BBSR	**BB Station**	**36.72**	**23**	PFAKE		13 52 30.0	+7.8
BBSR				LR	LR		
	comp=Z,8μm,22.0s,MS5.5						
TXAR	**Lajitas Array**	**37.28**	**326**	P	**P**	**13 52 26.8**	**-0.2**
	comp=Z,5.0nm,0.8s,mb4.4,baz=141,slow=8.0,SNR=14						
MIAR	**Mount Ida**	**37.43**	**343**	P	**P**	**13 52 30.0**	**+1.9**
MIAR				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.6						
MIAR	**Mount Ida**	**37.43**	**343**	*e*P	**P**	**13 52 29.4**	**+1.3**
	comp=Z,15nm,1.1s,mb4.7						
MIAR				LR	LR		
	comp=Z,5μm,20.0s,MS5.3						
RPN	**Rapa Nui**	**37.52**	**224**	PFAKE		13 52 40.0	+11
RPN				LR	LR		
	comp=Z,4μm,22.0s,MS5.2						
WVT	**Waverly**	**37.64**	**351**	P	**P**	**13 52 27.5**	**-2.4**
WVT				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
WVT	**Waverly**	**37.64**	**351**	*e*P	**P**	**13 52 27.2**	**-2.6**
	comp=Z,9.7nm,0.8s,mb4.6						
WVT				LR	LR		
	comp=Z,5μm,19.0s,MS5.3						
CBN	**Corbin**	**39.30**	**4**	PFAKE		13 52 50.0	+6.3
CBN				LR	LR		
	comp=Z,8μm,20.0s,MS5.5						
WMOK	**Wichita Mounta**	**39.41**	**337**	P	**P**	**13 52 44.6**	**0.0**
WMOK				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
WMOK	**Wichita Mounta**	**39.41**	**337**	*e*P	**P**	**13 52 43.7**	**-0.9**
	comp=Z,18nm,1.0s,mb4.7						
WMOK				LR	LR		
	comp=Z,4μm,21.0s,MS5.3						
WCI	**Wyandotte Cave**	**39.49**	**353**	P	**P**	**13 52 43.3**	**-1.9**
WCI				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.0						
WCI	**Wyandotte Cave**	**39.49**	**353**	*e*P	**P**	**13 52 43.1**	**-2.1**
	comp=Z,23nm,0.8s,mb5.0						
WCI				LR	LR		
	comp=Z,6μm,20.0s,MS5.4						
LPA	**La Plata**	**39.87**	**150**	*ce*P	**P**	**13 52 47.0**	**-1.4**
LPA				*es*P	sP	13 52 53.0	-9.4
LPA				*e*PP	PP	13 54 21.0	-2.9
LPA				*e*PP	PP	13 54 26.0	+2.1
LPA				*e*S	**S**	**13 58 53.0**	**+2.3**
LPA				*es*S		13 58 57.0	
	comp=Z,23μm,18.0s						
GDL2	**Guadalupe Moun**	**39.88**	**328**	*e*P	**P**	**13 52 49.3**	**+0.7**
FVM	**French Village**	**39.91**	**348**	P	**P**	**13 52 48.3**	**-0.4**
FVM				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.7						
FVM	**French Village**	**39.91**	**348**	*e*P	**P**	**13 52 47.8**	**-1.0**
MNTX	**Cornudas Mount**	**40.04**	**327**	*e*P	**P**	**13 52 49.4**	**-0.5**
	comp=Z,42nm,1.4s,mb5.0						
MNTX				LR	LR		
	comp=Z,7μm,19.0s,MS5.5						
CCM	**Cathedral Cave**	**40.15**	**347**	P	**P**	**13 52 50.6**	**-0.1**
CCM				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.0						
CCM	**Cathedral Cave**	**40.15**	**347**	*e*P	**P**	**13 52 50.0**	**-0.7**
	comp=Z,37nm,1.4s,mb4.9						
CCM				LR	LR		
	comp=Z,4μm,20.0s,MS5.3						
CPRX	**Cap Rock**	**40.28**	**330**	*e*P	**P**	**13 52 52.9**	**+1.0**
BLO	**Bloomington**	**40.45**	**353**	P	**P**	**13 52 52.9**	**-0.3**
BLO				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.0						
BLO	**Bloomington**	**40.45**	**353**	P	**P**	**13 52 52.9**	**-0.3**
	comp=Z,22nm,0.7s,mb5.0						
SLM	**Saint Louis**	**40.50**	**349**	*e*P	**P**	**13 52 45.2**	**-8.4**
PLCA	**Paso Flores**	**40.52**	**168**	P	**P**	**13 52 54.0**	**+0.3**
PLCA				pmax	pmax		
	comp=Z,39nm,1.1s						
PLCA	**Paso Flores**	**40.52**	**168**	P	**P**	**13 52 53.1**	**-0.7**
	comp=Z,20nm,0.9s,mb4.7,baz=346,slow=9.7,SNR=12						
PLCA	**Paso Flores**	**40.52**	**168**	*e*P	**P**	**13 52 53.4**	**-0.3**
	comp=Z,39nm,1.1s,mb5.0						
PLCA				LR	LR		
	comp=Z,7μm,19.0s,MS5.6						
TRQA	**Tornquist**	**40.66**	**157**	*e*P	**P**	**13 52 54.3**	**-0.7**
	comp=Z,73nm,1.1s,mb5.2						
TRQA				LR	LR		
	comp=Z,8μm,20.0s,MS5.5						
AMTX	**Amarillo**	**40.76**	**334**	*e*P	**P**	**13 52 55.4**	**-0.4**
	comp=Z,28nm,0.8s,mb4.9						
AMTX				LR	LR		
	comp=Z,5μm,22.0s,MS5.3						
ACSO	**Alum Creek Sta**	**41.23**	**358**	*e*P	**P**	**13 52 57.3**	**-2.3**
	comp=Z,36nm,0.9s,mb5.0						
ACSO				LR	LR		
	comp=Z,7μm,19.0s,MS5.5						
KSU1	**Kansas State U**	**42.56**	**342**	*e*P	**P**	**13 53 09.7**	**-0.9**
LPM	**Los Pinos Moun**	**42.72**	**328**	*e*P	**P**	**13 53 12.6**	**+0.7**
LENM	**Lemitar**	**42.79**	**328**	*e*P	**P**	**13 53 14.5**	**+2.0**
LAZ	**Ladron**	**43.05**	**328**	*e*P	**P**	**13 53 16.8**	**+2.1**
ERPA	**Erie**	**43.08**	**1**	PFAKE		13 53 30.0	+15
ERPA				LR	LR		
	comp=Z,8μm,19.0s,MS5.6						
ANMO	**Albuquerque**	**43.12**	**329**	P	**P**	**13 53 15.8**	**+0.6**
ANMO				pmax	pmax		
	comp=Z,16nm,1.0s						
ANMO	**Albuquerque**	**43.12**	**329**	P	**P**	**13 53 15.8**	**+0.5**
	comp=Z,16nm,1

comp=Z,11nm,1.4s,mb4.7
MVU LR LR
ARUT Antelope Range 49.00 326 P **P** **13 54 04.1 +2.4**
comp=Z,7μm,20.0s,MS5.6
ARUT Antelope Range 49.00 326 *eP* **P** **13 54 02.7 +0.9**
MPU Maple Canyon 49.63 329 P **P** **13 54 06.8 +0.3**
DAU Daniels Canyon 49.74 330 P **P** **13 54 10.1 +2.7**
DAU Daniels Canyon 49.74 330 *eP* **P** **13 54 08.0 +0.7**
JLU Jordanelle 49.98 330 *eP* **P** **13 54 09.5 +0.2**
DAC Darwin (Calif) 50.46 321 PFAKE 13 54 20.0 +7.0
DAC LR LR
comp=Z,4μm,19.0s,MS5.5
PDAR Pinedale Array 50.73 333 P **P** **13 54 23.6 +8.6**
comp=Z,1.4nm,0.9s,mb3.9,baz=146,slow=5.3,SNR=9.8
PDAR LR LR 14 16 03.5
comp=Z,5μm,21.5s,MS5.5,baz=147,slow=36
BW06 Boulder Array 50.73 333 *eP* **P** **13 54 15.2 +0.3**
BW06 LR LR
comp=Z,7μm,20.0s,MS5.7
HWUT Hardware Ranch 50.79 330 *eP* **P** **13 54 15.2 -0.2**
comp=Z,11nm,1.0s,mb4.8
HWUT LR LR
comp=Z,6μm,21.0s,MS5.6
TPH Tonopah 51.39 323 P **P** **13 54 18.9 -1.1**
TPH MLR MLR
comp=Z,5μm,20.0s,MS5.5
AHID Auburn Hatcher 51.45 332 PFAKE 13 54 30.0 +10
AHID LR LR
comp=Z,6μm,19.0s,MS5.6
LOHW Long Hollow 51.87 333 *eP* **P** **13 54 23.8 +0.3**
WUWY Wally Ulrich 51.88 333 P **P** **13 54 24.2 +0.7**
TPAW Teton Pass 51.93 332 *eP* **P** **13 54 25.7 +1.8**
MOOW Moose Ponds 52.04 333 *eP* **P** **13 54 24.3 -0.4**
MNV Mina 52.18 323 P **P** **13 54 27.7 +1.8**
MNV pmax pmax
comp=Z,82nm,2.0s,mb5.3
MNV Mina 52.18 323 *eP* **P** **13 54 26.0 +0.1**
comp=Z,82nm,2.0s,mb5.3
MNV LR LR
comp=Z,3μm,20.0s,MS5.4
IMW Indian Meadow 52.24 333 *eP* **P** **13 54 27.6 +1.4**
NVAR Mina Array Bea 52.27 323 P **P** **13 54 26.2 -0.3**
comp=Z,6.9nm,0.8s,mb4.6,baz=123,slow=8.7,SNR=17
NVAR LR LR 14 14 27.2
comp=Z,3μm,21.6s,MS5.3,baz=120,slow=33
LKWY Lake 52.52 334 P **P** **13 54 27.7 -0.6**
LKWY pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LKWY MLR MLR
comp=Z,7μm,21.0s,MS5.7
LKWY Lake 52.52 334 P **P** **13 54 27.7 -0.6**
comp=Z,4.7nm,0.8s,mb4.5
LKWY LR LR
comp=Z,7μm,21.0s,MS5.7
LAO LASA Array 52.55 338 PFAKE 13 54 40.0 +11
LAO LR LR
comp=Z,3μm,19.0s,MS5.4
PTCN Pitcairn Islan 53.01 239 PFAKE 13 54 40.0 +7.7
PTCN LR LR
comp=Z,9μm,20.0s,MS5.8
QLMT Earthquake Lak 53.19 333 *eP* **P** **13 54 33.0 -0.4**
SAO San Andreas Ge 53.22 319 PFAKE 13 54 50.0 +16
SAO LR LR
comp=Z,5μm,21.0s,MS5.5
CMB Columbia Colle 53.30 321 P **P** **13 54 33.4 -0.9**
CMB MLR MLR
comp=Z,4μm,20.0s,MS5.4
DGMT Dagmar 53.38 341 PFAKE 13 54 50.0 +15
DGMT LR LR
comp=Z,4μm,19.0s,MS5.5
HLID Hailey 53.65 330 *eP* **P** **13 54 36.9 +0.1**
comp=Z,5.8nm,0.8s,mb4.6
HLID LR LR
comp=Z,5μm,19.0s,MS5.6
WCN Washoe City 53.70 323 P **P** **13 54 41.5 +4.3**
WCN Washoe City 53.70 323 *eP* **P** **13 54 35.9 -1.3**
MCMT McKenzie Canyo 53.84 332 *eP* **P** **13 54 37.7 -0.5**
BOZ Bozeman (W) 53.91 334 P **P** **13 54 39.4 +0.7**
BOZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BOZ Bozeman (W) 53.91 334 *eP* **P** **13 54 37.9 -0.8**
comp=Z,58nm,1.6s,mb5.3
BOZ LR LR
comp=Z,3μm,20.0s,MS5.4
USHA Ushuaia 54.48 171 P **P** **13 54 41.5 -1.3**
comp=Z,24nm,1.0s,mb5.1,baz=352,slow=5.2,SNR=6.3
OHCM Honcut 54.77 322 *eP* **P** **13 54 44.8 -0.2**
WVOR Wild Horse Val 55.08 327 P **P** **13 54 48.0 +0.8**
WVOR pmax pmax
comp=Z,28nm,1.4s,mb5.1
WVOR Wild Horse Val 55.08 327 *eP* **P** **13 54 47.1 -0.1**
comp=Z,28nm,1.4s,mb5.1
WVOR LR LR
comp=Z,10μm,19.0s,MS5.9
HOPS Hopland 55.56 321 PFAKE 13 55 00.0 +9.2
HOPS LR LR
comp=Z,4μm,20.0s,MS5.5
MOD Modoc 55.67 325 *eP* **P** **13 54 50.8 -0.7**
comp=Z,51nm,1.9s,mb5.2
MOD LR LR
comp=Z,7μm,19.0s,MS5.7
MSO Missoula 55.85 333 *eP* **P** **13 54 52.3 -0.4**
comp=Z,8.1nm,1.3s,mb4.6
MSO LR LR
comp=Z,3μm,21.0s,MS5.4
BMO Blue Mountains 56.03 329 *eP* **P** **13 54 53.6 -0.4**
comp=Z,4.9nm,1.1s,mb4.5
BMO LR LR
comp=Z,4μm,19.0s,MS5.5
WDC Whiskeytown Da 56.17 323 *eP* **P** **13 54 55.2 +0.1**
WDC pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
WDC MLR MLR
comp=Z,3μm,20.0s,MS5.3
WDC Whiskeytown Da 56.17 323 *eP* **P** **13 54 55.2 +0.1**
comp=Z,3.0nm,0.8s,mb4.4
WDC LR LR
comp=Z,3μm,20.0s,MS5.3
YBH Yreka Blue Hor 56.97 324 P **P** **13 55 00.6 -0.3**
comp=Z,5.8nm,0.8s,mb4.6,baz=115,slow=5.5,SNR=12
YBH Yreka Blue Hor 56.97 324 P **P** **13 55 00.6 -0.3**
YBH LR LR
comp=Z,2μm,20.0s,MS5.3
SCHQ Schefferville 57.00 10 P **P** **13 55 00.0 -0.9**
comp=Z,5.2nm,0.9s,mb4.5,baz=232,slow=15,SNR=3.7
SCHQ LR LR 14 18 58.6
comp=Z,5μm,21.0s,MS5.6,baz=201,slow=36
KHMM Horse Mountain 57.07 322 P **P** **13 55 02.0 +0.4**
WALA Waterton Lakes 57.53 335 *eP* **P** **13 55 06.3 +1.6**
comp=Z,12nm,1.1s,mb4.8
HUMO Hull Mountain 57.65 324 PFAKE 13 55 20.0 +14
HUMO LR LR
comp=Z,4μm,20.0s,MS5.5
FFC Flin Flon 58.32 346 P **P** **13 55 09.6 -0.5**
FFC pmax pmax
comp=Z,45nm,1.5s,mb5.3
FFC Flin Flon 58.32 346 *eP* **P** **13 55 09.0 -1.1**
comp=Z,45nm,1.5s,mb5.3
FFC LR LR
comp=Z,1μm,21.0s,MS4.9
NEW Newport 58.36 332 *eP* **P** **13 55 11.4 +0.9**
NEW pmax pmax
comp=Z,17nm,1.2s
NEW MLR MLR
comp=Z,4μm,22.0s
NEW Newport 58.36 332 *eP* **P** **13 55 11.4 +0.9**
comp=Z,17nm,1.2s,mb5.0
NEW LR LR
comp=Z,4μm,22.0s,MS5.5
COR Corvallis 59.06 326 PFAKE 13 55 30.0 +15
COR LR LR
comp=Z,2μm,21.0s,MS5.2
TAOE Nuku Hiva Isla 59.39 260 *eP* **P** **13 55 05.8 -12**
TAOE *eS* **S** **14 03 10.6 -12**
TAOE *eSS* SS 14 07 13.1 -6.4
TAOE *eLQ* 14 10 10.2
TAOE *eLR* LR 14 12 38.0
baz=80
EDM Edmonton 60.54 338 P **P** **13 55 25.5 0.0**
EDM Edmonton 60.54 338 *eP* **P** **13 55 24.7 -0.8**
FCC Fort Churchill 60.63 352 *eP* **P** **13 55 23.2 -2.8**
FCC pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
FCC Fort Churchill 60.63 352 *eP* **P** **13 55 23.2 -2.9**
comp=Z,8.9nm,0.9s,mb4.9
OCWA Octopus Mounta 61.51 328 PFAKE 13 55 40.0 +7.9
OCWA LR LR
comp=Z,8μm,19.0s,MS5.9
PGC Sidney 61.70 329 *eP* **P** **13 55 31.8 -1.6**
PMSA Palmer Station 64.66 172 PFAKE 13 56 00.0 +7.4
PMSA LR LR
comp=Z,3μm,20.0s,MS5.4
FRB Frobisher Bay 65.39 6 P **P** **13 55 54.0 -3.4**
FRB pmax pmax
comp=Z,5.0nm,0.7s
FRB Frobisher Bay 65.39 6 P **P** **13 55 54.0 -3.4**
comp=Z,4.6nm,0.7s,mb4.6,baz=148,slow=6.7,SNR=9.5
YKA Yellowknife Ar 68.36 344 P **P** **13 56 14.3 -1.7**
comp=Z,4.7nm,0.8s,mb4.5,baz=136,slow=5.7,SNR=65
YKA LR LR 14 31 03.0
comp=Z,4μm,18.9s,MS5.6,baz=130,slow=40
YKW3 Yellowknife Ar 68.42 344 *eP* **P** **13 56 14.3 -2.2**
PPT Papeete 69.28 252 *ePP* PP 13 58 45.7 -12
PPT *eS* S 14 05 12.6 -13
PPT *eLQ* 14 14 21.2
PPT *eLR* LR 14 17 05.5
comp=Z,13μm,26.5s,baz=81
TBI Tubuai 69.84 246 *eS* S 14 05 20.0 -12
TBI *eLR* LR 14 17 26.3
comp=Z,8μm,29.2s,baz=77
DLBC Dease Lake 70.88 335 *eP* **P** **13 56 31.2 -0.4**
TRIS Tristan da Cun 72.35 129 PFAKE 13 56 50.0 +9.3
TRIS LR LR
comp=Z,11μm,20.0s,MS6.1
SIT Sitka 72.45 332 PFAKE 13 56 50.0 +9.1
SIT LR LR
comp=Z,4μm,20.0s,MS5.7
DBIC Dimbokro 76.34 83 P **P** **13 57 03.3 -1.1**
DBIC pmax pmax
comp=Z,36nm,0.9s
DBIC Dimbokro 76.34 83 P **P** **13 57 03.2 -1.1**
comp=Z,25nm,0.9s,mb5.2,baz=260,slow=5.7,SNR=14
DBIC Dimbokro 76.34 83 *eP* **P** **13 57 02.7 -1.7**
comp=Z,36nm,0.9s,mb5.3
DBIC LR LR
comp=Z,6μm,20.0s,MS5.9
DAWY Dawson 77.74 337 *eP* **P** **13 57 09.6 -1.6**
INK Inuvik 78.03 342 P **P** **13 57 12.3 -0.4**
INK pmax pmax
comp=Z,42nm,1.1s
INK Inuvik 78.03 342 P **P** **13 57 11.9 -0.8**
comp=Z,8.4nm,1.0s,mb4.6,baz=112,slow=5.2,SNR=3.6
INK LR LR 14 36 39.4
comp=Z,4μm,19.9s,MS5.8,baz=118,slow=40
INK Inuvik 78.03 342 *eP* **P** **13 57 12.1 -0.6**
comp=Z,42nm,1.1s,mb5.3
SUMG Summit 78.28 12 *eP* **P** **13 57 12.5 -1.5**
comp=Z,29nm,1.0s,mb5.2
KIP Kipapa 78.37 292 PFAKE 13 57 30.0 +14
KIP LR LR
comp=Z,6μm,20.0s,MS5.9
BORG Borgarnes 78.53 22 PFAKE 13 57 30.0 +14
BORG LR LR
comp=Z,1μm,20.0s,MS5.2
DIV Divide 79.10 333 P **P** **13 57 17.7 -1.0**
RAR Rarotonga 79.15 249 PFAKE 13 57 30.0 +10
RAR LR LR
comp=Z,5μm,21.0s,MS5.8
THY Trims Highway 79.99 336 P **P** **13 57 24.3 +0.9**
ESDC Sonseca Array 80.74 50 P **P** **13 57 27.1 -0.8**
comp=Z,0.4nm,0.4s,baz=256,slow=5.3,SNR=3.6
ESDC Sonseca Array 80.74 50 P **P** **13 57 27.1 -0.8**
ESLA Sonseca Array 80.74 50 PFAKE 13 57 40.0 +12
ESLA LR LR
comp=Z,14μm,22.0s,MS6.3
SLKM Skilak Lake 80.92 332 P **P** **13 57 31.5 +3.1**
SLKM Skilak Lake 80.92 332 *eP* **P** **13 57 28.3 -0.1**
ILAR Eielson Array 80.98 337 P **P** **13 57 27.9 -0.8**
ILAR 14 00 37.3
ILAR pmax pmax
comp=Z,9.0nm,1.0s
ILAR pmax pmax
comp=Z,2.0nm,1.1s
ILAR MLR MLR
comp=Z,4μm,18.5s
ILAR Eielson Array 80.98 337 P **P** **13 57 27.9 -0.8**
comp=Z,8.8nm,1.0s,mb4.6,baz=135,slow=3.1,SNR=16
ILAR PP PP 14 00 37.3 +1.6
comp=Z,2.1nm,1.1s,baz=108,slow=5.7,SNR=5.0
ILAR LR LR 14 34 35.6
comp=Z,4μm,18.5s,MS5.8,baz=236,slow=36
FIB Fire Island 81.11 333 PFAKE 13 57 40.0 +11
FIB LR LR
comp=Z,2μm,20.0s,MS5.4
KDAK Kodiak Island 81.25 329 PFAKE 13 57 40.0 +10
KDAK LR LR
comp=Z,556nm,21.0s,MS4.9
COLA College 81.40 337 *eP* **P** **13 57 31.1 +0.2**
COLA MLR MLR
comp=Z,3μm,20.0s,MS5.7
MCK McKinley 81.43 335 *eP* **P** **13 57 31.3 +0.2**
MCK pmax pmax
comp=Z,12nm,1.0s,mb4.8
MCK McKinley 81.43 335 *eP* **P** **13 57 30.8 -0.3**
comp=Z,12nm,1.0s,mb4.8
MCK LR LR
comp=Z,1μm,20.0s,MS5.2
SPU Mount Spurr 81.98 332 *eP* **P** **13 57 34.4 +0.5**
VNA3 Neumayer Olymp 82.96 162 *e* **P** **13 57 44.3 +5.5**
VNA3 Neumayer Olymp 82.96 162 *e* **P** **13 57 45.5 +6.7**
VNA3 Neumayer Olymp 82.96 162 ⇑*iP* **P** **13 57 40.7 +1.9**
VNA3 *e* 13 57 44.3
VNA3 *e* 13 57 45.5
VNA1 Neumayer--Stat 83.23 161 *e* **P** **13 57 42.3 +2.1**
VNA1 Neumayer--Stat 83.23 161 *e* **P** **13 57 43.3 +3.1**
VNA1 Neumayer--Stat 83.23 161 *e* **P** **13 57 44.8 +4.6**
VNA1 Neumayer--Stat 83.23 161 ⇑*iP* **P** **13 57 39.2 -1.0**
VNA1 *e* 13 57 42.3
VNA1 *e* 13 57 43.3
VNA1 *e* 13 57 44.8
VNA2 Neumayer--Watz 83.58 161 *e* **P** **13 57 45.2 +3.3**
VNA2 Neumayer--Watz 83.58 161 *e* **P** **13 57 46.6 +4.7**
VNA2 Neumayer--Watz 83.58 161 *e* **P** **13 57 47.6 +5.7**
VNA2 Neumayer--Watz 83.58 161 ⇑*iP* **P** **13 57 42.3 +0.4**
VNA2 *e* 13 57 45.2
VNA2 *e* 13 57 46.6
VNA2 *e* 13 57 47.6
SVW2 Sparrevohn 83.60 332 *eP* **P** **13 57 42.0 -0.2**
ESK Eskdalemuir 83.98 34 PFAKE 13 58 00.0 +16
ESK LR LR
comp=Z,698nm,20.0s,MS5.0
EKA Eskdalemuir Ar 84.01 34 P **P** **13 57 43.5 -0.9**
EKA pmax pmax
comp=Z,4.0nm,0.8s
EKA Eskdalemuir Ar 84.01 34 P **P** **13 57 43.5 -1.0**
comp=Z,3.6nm,0.8s,mb4.5,baz=252,slow=5.3,SNR=5.6
IMA Indian Mountai 84.09 337 P **P** **13 57 45.1 +0.5**
IMA pmax pmax
comp=Z,74nm,1.0s,mb5.8
IMA Indian Mountai 84.09 337 *eP* **P** **13 57 45.7 +1.1**
comp=Z,15nm,1.4s,mb4.9
DAG Danmarks Havn 84.97 12 ⇓*eP* **P** **13 57 48.0 -0.8**
DAG pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
DAG MLR MLR
comp=N,2μm,20.0s
DAG MLR MLR
comp=Z,5μm,20.0s,MS5.9
DAG Danmarks Havn 84.97 12 ⇓*eP* **P** **13 57 48.0 -0.8**
comp=Z,7.5nm,0.8s,mb4.9
DAG LR LR
comp=Z,5μm,20.0s,MS5.9
DAG Danmarks Havn 84.97 12 ⇓*iP* **P** **13 57 48.0 -0.8**
comp=Z,7.5nm,0.8s,mb4.9
comp=Z,5μm,20.0s
SNAA Sanae 85.18 162 *e* **P** **13 57 53.5 +3.6**
SNAA Sanae 85.18 162 *e* **P** **13 57 55.5 +5.6**
SNAA Sanae 85.18 162 *eP* **P** **13 57 51.0 +1.1**
SNAA Sanae 85.18 162 ⇑*iP* **P** **13 57 50.2 +0.3**
SNAA *e* 13 57 53.5
SNAA *e* 13 57 55.5
PYM Petit Puy Mans 86.60 44 *eP* **P** **13 57 58.9 +1.4**
LBL Lubilhac 86.72 45 *eP* **P** **13 58 06.9 +8.8**
PLDF La Plantade 87.05 44 *eP* **P** **13 58 06.6 +7.0**
ANM Nome 88.62 335 *eP* **P** **13 58 10.8 +4.1**
THEF They Montfort 88.81 42 *eP* **P** **13 58 07.4 -0.6**
QSPA South Pole Qui 88.91 180 *eP* **P** **13 58 08.9 +1.0**
comp=Z,25nm,1.4s,mb5.4
QSPA LR LR
comp=Z,3μm,19.0s,MS5.7
MOF Molkenrain 89.56 42 *eP* **P** **13 58 10.7 -0.9**
RUP Ruppelstein 89.59 40 *eP* **P** **13 58 07.4 -4.3**
ECH Echery 89.59 42 *eP* **P** **13 58 07.8 -4.0**
TNA Tin City 89.78 335 *eP* **P** **13 58 11.9 -0.3**
MAIT Maitri 89.82 161 *eP* **P** **13 58 12.0 -0.3**
NVL N'lazarevskaya 89.85 161 ⇑*eP* **P** **13 58 13.0 +0.6**
NVL *eS* S 14 08 45.0 -15
NVL pmax pmax
comp=Z,471nm,4.5s
ABH Alteburg 89.91 40 *eP* **P** **13 58 15.1 +1.9**
AFI Afiamalu 90.52 256 PFAKE 13 58 30.0 +13
AFI LR LR
comp=Z,3μm,19.0s,MS5.7
KONO Kongsberg 91.27 31 PFAKE 13 58 30.0 +11
KONO LR LR
comp=Z,3μm,19.0s,MS5.7
DAVOX Davos 91.41 43 P **P** **13 58 21.1 +0.9**
comp=Z,3.3nm,0.7s,mb4.8,baz=330,slow=13,SNR=3.3
NOA NORSAR Array B 92.06 29 LR LR 14 41 03.8
comp=Z,786nm,18.5s,MS5.2,baz=265,slow=36
GRA1 Grafenberg Arr 92.29 41 *eP* **P** **13 58 24.7 +0.5**
comp=Z,38nm,1.9s,mb5.4
GRA1 *eS* S 14 09 06.6 -16
GRA1 LR LR
comp=Z,2μm,20.4s,MS5.5
GRF Grafenberg Arr 92.29 41 *eP* **P** **13 58 24.7 +0.5**
GRF pmax pmax
comp=Z,38nm,1.9s,mb5.4
GRF MLR MLR
comp=Z,2μm,20.4s,MS5.5
GRF Grafenberg Arr 92.29 41 *eP* **P** **13 58 24.7 +0.5**
GRF pmax pmax
comp=Z,38nm,1.9s,mb5.4
GRF MLR MLR
comp=Z,2μm,20.4s,MS5.5
GRF Grafenberg Arr 92.29 41 *eP* **P** **13 58 24.7 +0.5**
comp=Z,38nm,1.9s,mb5.4
GRF *eS* S 14 09 06.6 -16
GRF LR LR
comp=Z,2μm,20.4s,MS5.5
MOX Moxa 92.52 40 *eP* **P** **13 58 34.0 +8.7**
NKC Novy Kostel 93.07 40 *eP* **P** **13 58 31.5 +3.7**
NKC MLR MLR
comp=Z,2μm,20.3s,MS5.6
NKC Novy Kostel 93.07 40 *epP* pP 13 58 31.5 -6.9
NKC AMS AMS 14 41 20.0
comp=Z,2μm,20.3s
SBA Scott Base 93.49 191 PFAKE 13 58 40.0 +11
SBA LR LR
comp=Z,2μm,20.0s,MS5.7
KHC Kasperske Hory 93.84 41 *eP* pP 13 58 35.2 -6.7
KHC *e* 13 58 41.5
KHC MLR MLR
comp=Z,2μm,22.0s,MS5.6
KHC Kasperske Hory 93.84 41 *eP* pP 13 58 35.2 -6.7
KHC *e* 13 58 41.5
KHC *e* 13 59 08.0
KHC LR LR
comp=Z,2μm,22.0s,MS5.6
KHC Kasperske Hory 93.84 41 *eP* **P** **13 58 30.0 -1.3**
KHC *epP* pP 13 58 35.2 -6.7
KHC *ex* x 13 58 41.5
KHC *ex* x 13 59 08.0
KHC AMS AMS 14 36 40.0
comp=Z,2μm,22.0s
GERES GERESS Array B 93.94 41 P **P** **13 58 31.6 -0.2**
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES GERESS Array B 93.94 41 P **P** **13 58 31.6 -0.2**
comp=Z,1.1nm,0.8s,mb4.3,baz=270,slow=8.8,SNR=2.1
PVCC Panska Ves 94.41 40 *eP* **P** **13 58 36.5 +2.6**
PVCC AMS AMS 14 42 20.0
comp=Z,2μm,20.1s
PRU Pruhonice 94.42 40 *eP* **P** **13 58 36.3 +2.4**
PRU AMS AMS 14 37 30.0
comp=Z,3μm,21.9s
UPC Upice 95.33 40 *eP* **P** **13 58 40.7 +2.6**
KSP Ksiaz 95.48 39 *eP* **P** **13 58 38.9 +0.1**
KSP *eS* S 14 09 57.0 +7.4
KSP *esP* SP 14 10 56.0 -16
DPC Dobruska-Polom 95.54 40 *eP* **P** **13 58 39.3 +0.3**
DPC AMS AMS 14 42 50.0
comp=Z,3μm,21.1s
OKC Ostrava-Krasne 96.76 40 AMS AMS 14 38 50.0
comp=Z,2μm,20.7s
ARCES ARCESS Array B 96.80 20 LR LR 14 39 53.1
comp=Z,1μm,21.5s,MS5.3,baz=285,slow=34
FINES FINESS Array B 99.11 28 LR LR 14 43 06.3
comp=Z,2μm,19.7s,MS5.5,baz=104,slow=35
SUR Sutherland 99.32 123 PFAKE 13 59 10.0 +13
SUR LR LR
comp=Z,2μm,21.0s,MS5.5
BILL Bilibino 99.44 339 *eP* **P** **13 58 49.9 -6.4**
BILL Bilibino 99.44 339 PFAKE 13 59 10.0 +14
BILL LR LR
comp=Z,2μm,21.0s,MS5.5
BOSA Boshof 103.65 120 PFAKE 13 59 30.0 +14
BOSA LR LR
comp=Z,7μm,19.0s,MS6.2
OBN Obninsk 106.37 32 PFAKE 14 03 50.0
OBN LR LR
comp=Z,553nm,22.0s,MS5.1
MAW Mawson 106.91 166 PFAKE 14 03 50.0
MAW LR LR
comp=Z,4μm,21.0s,MS5.9
TIXI Tiksi 107.08 351 PFAKE 14 03 50.0
TIXI LR LR
comp=Z,2μm,22.0s,MS5.7
LSZ Lusaka 108.14 106 PFAKE 14 03 50.0
LSZ LR LR
comp=Z,10μm,19.0s,MS6.4
PET Petropavlovsk 108.75 327 PFAKE 14 04 00.0
PET LR LR
comp=Z,2μm,20.0s,MS5.6
MA2 Magadan 109.41 335 PFAKE 14 04 00.0
MA2 LR LR
comp=Z,1μm,20.0s,MS5.5
BR131 Keskin Array S 109.49 48 PFAKE 14 04 00.0
BR131 LR LR
comp=Z,744nm,19.0s,MS5.3
MBAR Mbarara 111.68 91 PFAKE 14 04 00.0 +12
MBAR LR LR
comp=Z,2μm,19.0s,MS5.6
CASY Casey 112.22 185 PFAKE 14 04 00.0 +12
CASY LR LR
comp=Z,4μm,20.0s,MS6.0
KIV Kislovodsk 114.45 41 PFAKE 14 04 10.0 +17
KIV LR LR
comp=Z,294nm,21.0s,MS4.9
YAK Yakutsk 115.03 345 PFAKE 14 04 10.0 +16
YAK LR LR
comp=Z,2μm,19.0s,MS5.7
GNI Garni 117.39 45 PFAKE 14 04 10.0 +11
GNI LR LR
comp=Z,876nm,20.0s,MS5.4
KMBO Kilima Mbogo 118.18 92 PFAKE 14 04 10.0 +9.2
KMBO LR LR
comp=Z,8μm,19.0s,MS6.4
TAU Tasmania Unive 118.38 219 PFAKE 14 04 10.0 +9.4
TAU LR LR
comp=Z,851nm,20.0s,MS5.4
YSS Yuzh-Sakhalins 120.63 327 PFAKE 14 04 20.0 +15
YSS LR LR
comp=Z,2μm,19.0s,MS5.8
BRVK Borovoye 123.02 20 PFAKE 14 04 20.0 +11
BRVK LR LR
comp=Z,296nm,21.0s,MS4.9
ZAL Zalesovo 126.09 10 PKIKP PKPdf 14 04 14.9 -0.3
ZAL pmax pmax
comp=Z,1.0nm,0.6s
ZAL Zalesovo 126.09 10 PKP PKPdf 14 04 14.9 -0.3
comp=Z,0.8nm,0.6s,baz=203,slow=11,SNR=3.0
KURK Kurchatov 127.67 16 *e*PKIKP PKPdf 14 04 18.6 +0.2
KURK MLR MLR
comp=Z,518nm,19.0s,MS5.2
STKA Stephens Creek 128.03 227 *e*PKPdf PKPdf 14 04 21.7 +2.1
HIA Hailar 128.88 343 PFAKE 14 04 30.0 +9.3
HIA LR LR
comp=Z,2μm,19.0s,MS5.9
MDJ Mudanjiang 128.97 332 PKP PKPdf 14 04 24.6 +3.6
MDJ PS PS 14 16 35.8 -1.3
MDJ SS SS 14 23 52.5 +5.6
MDJ PP PP
comp=Z,1μm,8.5s
MDJ LR LR
comp=N,1μm,25.5s,MS5.6

MDJ LR LR
comp=E,1μm,25.5s,MS5.6
MDJ LR LR
comp=Z,1μm,22.3s,MS5.6
MDJ Mudanjiang 128.97 332 PFAKE 14 04 30.0 +9.0
MDJ LR LR
comp=Z,2μm,20.0s,MS5.7
CTAO Charters Tower 129.16 243 PFAKE 14 04 40.0 +18
CTAO LR LR
comp=Z,2μm,20.0s,MS5.8
MAJO Matsushiro 129.50 319 PFAKE 14 04 40.0 +18
MAJO LR LR
comp=Z,2μm,19.0s,MS5.8
TLY Talaya 129.50 356 *e*PKIKP PKPdf 14 04 21.8 0.0
TLY MLR MLR
comp=Z,334nm,20.0s,MS5.0
ZAK Zakamensk 130.82 356 *e*PKHKP 14 03 50.4
ZAK *e* 14 04 22.1
ZAK *e* 14 06 49.4
PMG Port Moresby 130.94 257 PFAKE 14 04 40.0 +14
PMG LR LR
comp=Z,3μm,20.0s,MS5.9
GUMO Guam 133.00 288 PFAKE 14 04 40.0 +11
GUMO LR LR
comp=Z,2μm,21.0s,MS5.8
SONM Songino Array 133.06 353 PKP PKPdf 14 04 30.7 +2.0
comp=Z,0.7nm,0.6s,baz=327,slow=3.2,SNR=5.2
FRU Bishkek 133.09 25 *e*PKIKP PKPdf 14 04 38.0 +9.1
AAK Ala-Archa 133.21 25 *i* PKIKP PKPdf 14 04 25.6 -3.5
AAK MLR MLR
comp=Z,2μm,21.0s,MS5.7
AAK Ala-Archa 133.21 25 *e*PKP PKPdf 14 04 25.7 -3.4
AAK *e*PKPdf PKPdf 14 04 29.8 +0.6
AAK LR LR
comp=Z,307nm,22.0s,MS5.0
WMQ Urumqi 136.33 12 PKP PKPdf 14 04 36.0 +1.2
WMQ XPKP 14 04 40.5
WMQ PP PP 14 07 19.6 +0.2
WMQ PKS PKS 14 08 10.9 +0.8
WMQ SKS SKS 14 11 45.3 +5.0
WMQ SKKS 14 14 10.6
WMQ PP PP
comp=Z,337nm,11.0s
WMQ LR LR
comp=N,2μm,25.0s,MS5.9
WMQ LR LR
comp=E,2μm,27.2s,MS5.9
WMQ LR LR
comp=Z,5μm,28.9s,MS6.1
ASAR Alice Springs 138.09 232 PKhKP 14 04 34.6
comp=Z,2.1nm,0.8s,baz=126,slow=2.7,SNR=7.7
BJI Beijing 138.27 340 PKP PKPdf 14 04 43.7 +5.2
BJT Baijiatuau 138.29 340 PFAKE 14 04 50.0 +11
BJT LR LR
comp=Z,3μm,20.0s,MS6.1
WRAB Tennant Creek 139.53 237 *e*PKIKP PKPdf 14 04 42.1 +0.8
WRAB MLR MLR
comp=Z,1μm,20.0s,MS5.6
WRA Warramunga Arr 139.54 237 PKIKP PKPdf 14 04 41.1 -0.2
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA Warramunga Arr 139.54 237 PKP PKPdf 14 04 41.1 -0.2
comp=Z,3.6nm,0.8s,baz=116,slow=1.5,SNR=12
NWAO Narrogin (SRO) 142.00 205 PKP PKPdf 14 04 44.7 -0.7
comp=Z,14nm,1.1s,baz=75,slow=6.3,SNR=3.3
NWAO Narrogin (SRO) 142.00 205 PKP PKPdf 14 04 44.7 -0.7
NWAO LR LR
comp=Z,1μm,19.0s,MS5.7
JASL Jaisalmer 142.77 44 *e*P PKPdf 14 04 44.6 -2.3
SSE Sheshan 143.57 327 PKP PKPdf 14 04 51.0 +2.9
SSE PP PP 14 08 06.4 +2.1
SSE PP PP
comp=Z,753nm,14.1s
SSE LR LR
comp=N,796nm,27.4s,MS5.4
SSE LR LR
comp=E,543nm,27.4s,MS5.4
SSE LR LR
comp=Z,1μm,24.2s,MS5.6
SSE Sheshan 143.57 327 PKP PKPdf 14 04 51.2 +3.1
SSE PP PP 14 08 06.4 +2.1
NJ2 Nanjing 144.02 331 *e*PKP PKPdf 14 04 54.0 +5.1
NJ2 PP PP 14 08 13.0 +6.0
NJ2 SS SS 14 26 52.0 +5.9
NJ2 PP PP
comp=Z,2μm,11.4s
NJ2 LR LR
comp=N,2μm,24.0s
NJ2 LR LR
comp=E,3μm,18.6s
NJ2 LR LR
comp=Z,3μm,23.6s,MS6.0
KKR Kurukshetra 144.40 34 *e*P PKPbc 14 04 48.3 -0.9
DDI Dehra Dun 144.81 32 *e*P PKPdf 14 04 48.9 -1.4
RTK Rohtak 144.87 36 *e*P PKPdf 14 04 49.6 -0.9
LZH Lanzhou 144.95 353 PKP PKPdf 14 04 50.6 +0.2
LZH APKP 14 04 56.6
LZH XPKP 14 05 01.3
LZH LR LR
comp=N,3μm,18.8s
LZH LR LR
comp=Z,4μm,19.2s,MS6.2
KHET Khetri 145.20 38 *e*P PKPdf 14 04 51.4 +0.3
KHET *e* 14 04 56.0
comp=Z,51nm,1.3s
BHGR Bahadurgarh 145.43 36 *e*P PKPdf 14 04 51.5 +0.1
BHGR *e* 14 04 53.5
comp=Z,133nm,0.3s
KUDL Kundal 145.57 37 *e*P PKPdf 14 04 52.3 +0.6
KUDL *e* 14 04 56.3
comp=Z,90nm,1.2s
AJM Ajmer 145.58 41 ⇑*i*P PKPdf 14 04 52.0 +0.2
NDI New Delhi 145.59 35 *e*P PKPdf 14 04 51.0 -0.7
AYAN Aya Nagar 145.69 36 *e*P PKPdf 14 04 52.8 +0.9
AYAN *e* 14 04 57.6
comp=Z,54nm,1.6s
SONA Sohna 145.84 36 *e*P PKPdf 14 04 53.0 +0.8
SONA *e* 14 04 57.9
comp=Z,40nm,1.1s
ASOR Ausora 145.86 35 *e*P PKPdf 14 04 52.9 +0.7
ASOR *e* 14 04 54.5
comp=Z,169nm,0.5s
XAN Xi'an 146.00 345 PKP PKPdf 14 04 52.1 -0.2
XAN APKP 14 04 58.4
KNA Kununurra 146.16 239 *e*P PKPdf 14 04 57.1 +4.1
comp=Z,7.1nm,0.9s
AGRA Agra 147.11 36 *e*P PKPdf 14 04 56.2 +1.9
AGRA *e* 14 04 57.7
comp=Z,60nm,0.3s
TATO Taipei 147.88 319 PFAKE 14 05 10.0 +14
TATO LR LR
comp=Z,2μm,20.0s,MS5.8
BOM Bombay 148.82 54 *e*P PKPdf 14 05 01.7 +4.4
BOM *e* 14 13 39.2
ENH Enshi 149.38 342 *e*PKPdf PKPdf 14 04 59.7 +1.8
ENH *e*PKPbc PKPdf 14 05 03.8 +5.8
ENH *e*PKPab PKPab 14 05 07.8 -1.4
ENH LR LR
comp=Z,2μm,20.0s,MS5.8
BHPL Bhopal 149.63 42 *e*P PKPdf 14 05 00.5 +2.0
KOLN Koldanda 149.68 28 *e*P PKPdf 14 04 59.8 +1.3
comp=Z,190nm,1.5s
POO Poona 149.85 54 ⇑*i* PKPdf 14 05 05.0 +6.1
GKN Gorkha 149.95 26 *e*P PKPdf 14 04 59.7 +0.8
comp=Z,373nm,1.3s
MBWA Marble Bar 149.98 221 PFAKE 14 05 10.0 +11
MBWA LR LR
comp=Z,2μm,19.0s,MS6.0
KKN Kakani 150.41 25 *e*P PKPdf 14 05 00.3 +0.7
comp=Z,236nm,1.5s
LSA Lhasa 150.63 14 *e*PKP PKPdf 14 05 02.4 +2.5
LSA Lhasa 150.63 14 *e*PKPdf PKPdf 14 05 02.1 +2.2
LSA *e*PKPbc PKPdf 14 05 08.1 +8.2
LSA LR LR
comp=Z,1μm,20.0s,MS5.8
JIRN Jiri 150.91 24 *e*P PKPdf 14 05 06.3 +6.0
comp=Z,108nm,1.1s
DGAR Diego Garcia 152.15 108 PFAKE 14 05 20.0 +17
DGAR LR LR
comp=Z,742nm,20.0s,MS5.5
HYB Hyderabad 154.17 50 *e*P PKPdf 14 05 06.0 +0.8
HYB Hyderabad 154.17 50 *i* PKP PKPdf 14 05 06.0 +0.8
HYB *e* 14 05 26.0
HYB *e*PP PP 14 09 10.0 +3.9
QIZ Qiongzhong 159.31 330 PFAKE 14 05 20.0 +8.2
QIZ LR LR
comp=Z,2μm,20.0s,MS5.9
PALK Pallekele 160.74 71 PFAKE 14 05 30.0 +17
PALK LR LR
comp=Z,1μm,20.0s
CM31 Chiang Mai Arr 162.80 0 PFAKE 14 05 30.0 +15
CM31 LR LR
comp=Z,2μm,19.0s
CMAR Chiang Mai Arr 162.80 0 PKPab PKPab 14 06 06.9 +0.2
comp=Z,2.1nm,0.9s,baz=339,slow=5.6,SNR=4.2
CMAR PP PP 14 09 58.3 +6.1
comp=Z,0.4nm,0.4s,baz=352,slow=5.5,SNR=4.1

*IDC **21** 13:50:20.2±5.8, 27.50N×92.69E, h37km±57km, mb3.6/6, mb1 3.8/7, mb1mx3.6/21, mbtmp3.7/7, ML3.9/1, Error ellipse: s-maj=43.6km s-min=36.9km az=53.0*
*NEIC **21** 13:50:21.6±1.0, 27.44N×92.72E, h56km±12km, mb3.7/3, Error ellipse: s-maj=23.2km s-min=9.7km az=54.0*
ISC 21 13:50:21.1±1.0, 27.42N±0.06×92.9E±0.1, h72km±13km, n14, σ1°16/17, mb3.6/9, 1D, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.04**	**206**	*i* P	**P**	**13 50 52.0**	**-1.9**
SHL				*e*S	**S**	**13 51 20.0**	**+1.9**
LSA	**Lhasa**	**2.73**	**327**	*e*Pn	**P**	**13 51 02.6**	**-1.0**
LSA				*e*Sn	**S**	**13 51 37.2**	**+1.8**
IMP	**Imphal**	**2.79**	**159**	*e*P	**P**	**13 51 04.3**	**-0.3**
AGT	**Agartala**	**3.80**	**203**	⇓*i*P	**P**	**13 51 26.0**	**+7.4**
AGT				*i* S	**S**	**13 52 11.0**	**+8.6**
CMAR	**Chiang Mai Arr**	**10.53**	**147**	Pn	**P**	**13 52 51.0**	**-0.3**
	0.3nm,0.3s,baz=320,slow=14,SNR=6.9						
AAK	**Ala-Archa**	**21.30**	**320**	*e*P	**P**	**13 55 02.4**	**-1.0**
	2.2nm,0.8s,mb3.5						
SONM	**Songino Array**	**22.97**	**24**	P	**P**	**13 55 20.5**	**+0.8**
	1.0nm,0.5s,mb3.4,baz=214,slow=10,SNR=6.9						
KURK	**Kurchatov**	**25.67**	**339**	*e*P	**P**	**13 55 45.2**	**-0.5**
	5.1nm,1.1s,mb3.9						
ZAL	**Zalesovo**	**27.15**	**350**	P	**P**	**13 55 59.5**	**+0.1**
	1.4nm,0.6s,mb3.7,baz=211,slow=4.1,SNR=7.1						
BVAR	**Borovoye Array**	**30.55**	**333**	P	**P**	**13 56 28.7**	**-1.0**
	0.5nm,0.5s,mb3.5,baz=130,slow=13,SNR=5.2						
CHKZ	**Chkalovo**	**30.95**	**334**	*e*P	**P**	**13 56 32.2**	**-0.9**
	0.8nm,0.6s,mb3.6						
GERES	**GERESS Array B**	**62.98**	**313**	P	**P**	**14 00 41.7**	**-0.6**
	0.8nm,0.5s,mb4.0,baz=80,slow=8.1,SNR=4.6						
ILAR	**Eielson Array**	**77.19**	**22**	P	**P**	**14 02 09.5**	**+1.3**
	0.5nm,0.7s,mb3.4,baz=306,slow=4.7,SNR=6.9						
INK	**Inuvik**	**78.63**	**16**	P	**P**	**14 02 18.0**	**+1.9**
	0.5nm,0.6s,mb3.6,baz=328,slow=4.3,SNR=5.0						

*NEIC **21** 13:50:32.0±2.6, 7.38S×127.86E, h81km±27km, mb4.3/2, Error ellipse: s-maj=33.7km s-min=14.4km az=55.0*
*IDC **21** 13:50:34.2±8.7, 7.51S×127.75E, h106km±89km, mb3.7/5, mb1 4.1/7, mb1mx4.0/12, mbtmp4.3/7, ML4.7/2, MS3.9/1, Ms1 3.9/1, ms1mx3.1/10, Error ellipse: s-maj=97.2km s-min=27.2km az=57.0*
ISC 21 13:50:34.6±1.9, 7.53S±0.10×128.0E±0.2, h129km±20km, n14, σ1°19/21, mb3.9/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.79**	**140**	*e*P	**P**	**13 52 16.5**	**+3.6**
	346nm,0.5s						
KAKA				*e*S	**S**	**13 53 27.4**	**-1.7**
FITZ	**Fitzroy Crossi**	**10.75**	**192**	*e*P	**P**	**13 53 04.8**	**-1.1**
	23nm,0.6s						
FITZ				*e*S	**S**	**13 54 58.0**	**-6.4**
WRAB	**Tennant Creek**	**13.80**	**154**	*e*Pn	**P**	**13 53 45.5**	**-0.4**
	71nm,0.8s						
WRAB				*e*Sn	**S**	**13 56 11.1**	**-5.2**
WRA	**Warramunga Arr**	**13.81**	**154**	P	**P**	**13 53 46.0**	**+0.1**
	5.6nm,0.3s,baz=322,slow=14,SNR=142						
WRA				S	**S**	**13 56 11.1**	**-5.3**
	4.6nm,0.3s,baz=331,slow=22,SNR=10						
WB2	**Warramunga Arr**	**13.81**	**154**	*e*P	**P**	**13 53 46.2**	**+0.2**
WB2				*e*S	**S**	**13 56 11.1**	**-5.4**
ASPA	**Alice Springs**	**17.03**	**161**	*e*P	**P**	**13 54 29.1**	**+2.7**
ASPA				*e*S	**S**	**13 57 28.8**	**-1.1**
ASAR	**Alice Springs**	**17.04**	**161**	P	**P**	**13 54 27.4**	**+1.0**
	3.3nm,0.3s,baz=336,slow=10,SNR=129						
ASAR				S	**S**	**13 57 29.5**	**-0.4**
	2.5nm,0.3s,baz=318,slow=19,SNR=9.3						
ASAR				LR	LR	14 01 36.8	
	comp=Z,394nm,18.6s,baz=289,slow=39						
FORT	**Forrest**	**23.14**	**180**	*e*P	**P**	**13 55 31.9**	**+1.8**
	35nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**27.36**	**154**	*e*P	**P**	**13 56 11.3**	**+1.6**
	3.8nm,1.9s,mb3.7						
STKA	**Stephens Creek**	**27.36**	**154**	P	**P**	**13 56 10.8**	**+1.0**
	2.0nm,0.8s,mb3.8,baz=334,slow=12,SNR=4.6						
CMAR	**Chiang Mai Arr**	**38.55**	**312**	P	**P**	**13 57 45.6**	**-0.8**
	1.0nm,0.4s,mb3.8,baz=139,slow=6.5,SNR=7.5						
SONM	**Songino Array**	**58.32**	**343**	P	**P**	**14 00 18.1**	**-0.1**
	1.3nm,0.6s,mb4.0,baz=151,slow=7.2,SNR=11						
ZAL	**Zalesovo**	**71.17**	**335**	P	**P**	**14 01 40.0**	**-1.1**
	1.1nm,0.8s,mb3.6,baz=272,slow=3.8,SNR=4.6						
BVAR	**Borovoye Array**	**77.44**	**329**	P	**P**	**14 02 17.0**	**0.0**
	0.7nm,0.5s,mb3.6,baz=126,slow=12,SNR=4.6						

IGQ 21 13:54:32.0, 1.20S×81.83W, h5km±23km, mb4.6, 4C-2D, Error ellipse: s-maj=22.9km s-min=9.8km az=170.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUSU	**Cusua**	**3.36**	**94**	P	Pn	13 55 28.4	+2.3
CUSU				S	Sn	13 56 06.1	-0.8
JUIV	**Juive**	**3.37**	**94**	P	Pn	13 55 28.1	+1.7
JUIV				S	Sn	13 56 01.1	-6.2
PINO	**Pino**	**3.38**	**72**	⇓P	Pn	13 55 27.3	+0.7
PINO				S	Sn	13 55 58.8	-8.9
NAS1	**Nasa**	**3.40**	**80**	P	Pn	13 55 27.4	+0.6
MOV1	**Cotopaxi Vol s**	**3.42**	**82**	P	Pn	13 55 28.0	+0.9
PISA	**Pisayambo**	**3.45**	**88**	P	Pn	13 55 28.1	+0.7
PISA				S	Sn	13 56 02.1	-7.1
PITA	**Cotopaxi Volc**	**3.46**	**79**	P	Pn	13 55 29.1	+1.5
VC1	**Cotopaxi 1**	**3.47**	**81**	⇑P	Pn	13 55 30.4	+2.5
TAMB	**Tambo**	**3.50**	**82**	⇑P	Pn	13 55 30.0	+1.8
COV1	**Cotopaxi Volc**	**3.53**	**81**	P	Pn	13 55 28.1	-0.5
ANTI	**Antisana**	**3.74**	**78**	⇑P	Pn	13 55 33.4	+1.7
ANTI				S	Sn	13 56 14.2	-2.5
COTA	**Cotacachi**	**3.81**	**66**	⇓P	Pn	13 55 34.0	+1.4
COTA				S	Sn	13 56 15.3	-3.1
CAYA	**Cayambe**	**4.04**	**72**	⇑P	Pn	13 55 38.5	+2.5
CAYA				S	Sn	13 56 24.0	-0.3

*ISK **21** 13:54:35.5, 34.45N×32.14E, h32km, MD4.2*
*CSEM **21** 13:54:36.2±0.0, 34.49N×32.06E, h40km, mb4.1/2, Mw3.8, Error ellipse: s-maj=1.9km s-min=1.1km az=80.0*
*NIC **21** 13:54:38.2±0.3, 34.54N×32.06E, h25km, mb4.0, ML3.7, MW3.7*
*GRAL **21** 13:54:38.2±2.7, 34.47N×32.14E, h18km±33km, MD3.9*
*HLW **21** 13:54:38.5, 34.50N×32.03E, h32km, Mb4.5*
*NEIC **21** 13:54:38.2, 34.54N×32.06E, h25km, mb4.0/3, MD3.7(ATH), ML3.7(NIC), After NIC.*
*IDC **21** 13:54:38.7±2.3, 34.48N×32.08E, h39km±24km, mb3.8/9, mb1 3.9/15, mb1mx3.8/22, mbtmp4.0/15, ML4.0/6, Error ellipse: s-maj=19.8km s-min=16.1km az=36.0*
*GII **21** 13:54:39.4±0.5, 34.46N×32.16E, h25km±30km, mb4.1/9, ML3.9/10, Mw3.8/8*
*ATH **21** 13:55:27.6, 36.15N×27.28E, h28km, MD3.7/4*
ISC 21 13:54:36.3±0.2, 34.46N±0.02×32.03E±0.02, h42km±5km, n121, σ0°90/144, mb3.9/11, 7C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.50**	**311**	⇑*i*P	**P**	**13 54 46.3**	**-0.8**
AKMC	**Akamas**	**0.62**	**23**	⇑*i*P	**P**	**13 54 48.4**	**-0.3**
SZAC	**Souni-Zanaja**	**0.76**	**67**	⇑*i*P	**P**	**13 54 50.8**	**+0.1**
ALFC	**Alevga**	**0.84**	**33**	⇑P	**P**	**13 54 51.6**	**-0.2**
ALFC				S	**S**	**13 55 02.1**	**-1.0**
ALFC	**Alevga**	**0.84**	**33**	⇑*i*P	**P**	**13 54 51.6**	**-0.2**
ALFC				S	**S**	**13 55 02.1**	**-1.0**
LEF	**Lefka**	**0.97**	**47**	*i* PG	**P**	**13 54 52.6**	**-1.0**
LEF				*i* SG	**S**	**13 55 04.6**	**-1.7**
CSS	**Prodhromos**	**1.18**	**64**	*i* P	**P**	**13 54 56.7**	**+0.2**
CSS				*i* S	**S**	**13 55 12.1**	**+0.4**
CSS	**Prodhromos**	**1.18**	**64**	⇑*i*P	**P**	**13 54 56.8**	**+0.2**
	32nm,0.3s						
CSS				S	**S**	**13 55 10.9**	**-0.8**
MAMC	**Mammari**	**1.21**	**53**	⇑*i*P	**P**	**13 54 57.5**	**+0.6**
PHNC	**Paralimni**	**1.73**	**71**	P	**P**	**13 55 07.3**	**+2.8**
MEST	**Erdemli**	**2.74**	**38**	*i* P	**P**	**13 55 19.6**	**+0.8**
MEST				*i* S	**S**	**13 55 51.8**	**+0.9**
MATL	**Matirih**	**2.90**	**108**	*e*PN	**P**	**13 55 21.4**	**+0.2**
HNTI	**Hanita**	**2.95**	**117**	Pn	**P**	**13 55 22.0**	**+0.1**
BHL	**Bhannes**	**3.05**	**99**	SN	**S**	**13 55 54.7**	**-4.2**
OFRI	**'Ofer**	**3.07**	**126**	Pn	**P**	**13 55 24.3**	**+0.7**
BCK	**Bucak**	**3.22**	**339**	*e*PN	**P**	**13 55 26.0**	**+0.3**
HWQ	**Hawqa**	**3.24**	**92**	*e*PN	**P**	**13 55 27.1**	**+1.1**
HWQ				SN	**S**	**13 56 03.5**	**-0.3**
FETY	**Fethiye**	**3.24**	**313**	*e*PN	**P**	**13 55 26.8**	**+0.8**
KSDI	**Kefar Szold**	**3.27**	**112**	Pn	**P**	**13 55 26.4**	**0.0**
SLTI	**Sal'it**	**3.35**	**130**	Pn	**P**	**13 55 27.9**	**+0.4**
SLTI				Sn	**S**	**13 56 05.2**	**-1.2**
MMLI	**Mount Malkishu**	**3.47**	**124**	Pn	**P**	**13 55 29.9**	**+0.6**
KONT	**Konya--Tatoy**	**3.49**	**4**	*e*PN	**P**	**13 55 29.4**	**-0.1**
HTY	**Hatay**	**3.75**	**62**	PN	**P**	**13 55 31.7**	**-1.4**
CEYT	**Ceyhan**	**3.95**	**49**	*e*PN	**P**	**13 55 34.9**	**-1.1**
COBT	**Iskenderun**	**4.01**	**58**	*i* P	**P**	**13 55 36.4**	**-0.5**
COBT				*i* S	**S**	**13 56 16.8**	**-6.5**
DRGI	**Dragot**	**4.01**	**134**	Pn	**P**	**13 55 37.6**	**+0.7**
DNZL	**Cakiroluk**	**4.03**	**324**	*i* P	**P**	**13 55 39.2**	**+2.1**
DNZL				*i* S	**S**	**13 56 22.0**	**-1.8**
YER	**Yerkesik**	**4.05**	**312**	PN	**P**	**13 55 38.3**	**+0.8**
KZIT	**Kziot**	**4.06**	**150**	Pn	**P**	**13 55 38.2**	**+0.6**
KZIT				Sn	**S**	**13 56 25.3**	**+0.8**
RTMM	**Retamin**	**4.06**	**146**	Pn	**P**	**13 55 38.6**	**+1.0**
DENT	**Denizli**	**4.09**	**324**	PN	**P**	**13 55 38.6**	**+0.6**
KARP	**Karpathos**	**4.15**	**287**	*e*PN	**P**	**13 55 40.0**	**+1.2**
MASH	**Mash'abbe Sade**	**4.16**	**145**	Pn	**P**	**13 55 40.4**	**+1.4**
MKRJ	**Makawir**	**4.19**	**133**	Pn	**P**	**13 55 40.5**	**+1.0**
MZDA	**Masada**	**4.21**	**137**	Pn	**P**	**13 55 39.8**	**+0.2**
MZDA				Sn	**S**	**13 56 27.5**	**-0.6**
HBRG	**Burj al 'Arab**	**4.29**	**206**	P	**P**	**13 55 40.9**	**0.0**
HBRG				S	**S**	**13 56 28.1**	**-2.2**
HMRJ	**Hamra**	**4.32**	**123**	*e*P	**P**	**13 55 37.8**	**-3.4**
	SNR=33						
KHL	**Karahalli**	**4.36**	**333**	*e*PN	**P**	**13 55 42.3**	**+0.5**
KIZT	**Kizilcal**	**4.42**	**358**	*e*PN	**P**	**13 55 42.7**	**+0.1**
MLSB	**Milas**	**4.47**	**311**	*e*PN	**P**	**13 55 43.7**	**+0.3**
HHAG	**Hagoal**	**4.49**	**179**	P	**P**	**13 55 44.7**	**+1.0**
KOT	**Kottamia**	**4.52**	**182**	P	**P**	**13 55 44.6**	**+0.6**
KOT	**Kottamia**	**4.52**	**182**	P	**P**	**13 55 44.6**	**+0.6**
BDRM	**Kayabasi**	**4.55**	**306**	*i* P	**P**	**13 55 46.0**	**+1.5**
BDRM				*i* S	**S**	**13 56 33.0**	**-3.8**
SQR		**4.62**	**189**	P	**P**	**13 55 45.8**	**+0.4**
SUZ		**4.65**	**171**	P	**P**	**13 55 46.7**	**+0.8**
ASF	**Jabal al Asfar**	**4.67**	**118**	Pn	**P**	**13 55 46.5**	**+0.4**
	4.4nm,0.3s,baz=158,slow=4.5,SNR=29						
ASF				Sn	**S**	**13 56 40.3**	**+0.6**
	5.9nm,0.3s,baz=201,slow=17,SNR=2.7						
DABA	**Dabaa**	**4.67**	**224**	P	**P**	**13 55 47.2**	**+1.1**
ZFRI	**Zfri**	**4.71**	**145**	Pn	**P**	**13 55 46.5**	**-0.3**
HMYD	**Mayadein**	**4.76**	**193**	P	**P**	**13 55 48.3**	**+0.8**
AYT	**Al 'Ayyat**	**4.80**	**189**	P	**P**	**13 55 48.8**	**+0.8**
HNKL	**Nakhl**	**4.80**	**159**	P	**P**	**13 55 48.2**	**+0.1**
FYM	**Al Fayyum**	**4.82**	**190**	P	**P**	**13 55 49.3**	**+0.9**
HSAF	**As Saff**	**4.84**	**185**	P	**P**	**13 55 49.0**	**+0.4**
ALT	**Altintas**	**4.84**	**342**	*e*PN	**P**	**13 55 49.0**	**+0.4**
GLL	**Jalalah**	**4.87**	**183**	P	**P**	**13 55 49.4**	**+0.3**
HNAT	**Natroun**	**4.96**	**194**	P	**P**	**13 55 50.4**	**+0.2**
GAZ	**Gaziantep**	**5.00**	**56**	*e*PN	**P**	**13 55 49.3**	**-1.6**
ZNM		**5.12**	**172**	P	**P**	**13 55 52.7**	**+0.3**
ZAF		**5.18**	**175**	P	**P**	**13 55 53.3**	**0.0**
MBH	**Mount Berech**	**5.25**	**151**	Pn	**P**	**13 55 54.9**	**+0.6**
SMG	**Samos**	**5.32**	**309**	*e*PN	**P**	**13 55 56.0**	**+0.8**
GZT	**Gaziantep**	**5.34**	**56**	*i* P	**P**	**13 55 55.2**	**-0.3**
GZT				*i* S	**S**	**13 57 05.3**	**+8.6**
NPS	**Neapolis**	**5.34**	**280**	*e*PB	**P**	**13 55 55.5**	**-0.1**
AQBJ	**Aqaba**	**5.36**	**151**	Pn	**P**	**13 55 57.0**	**+1.1**
EIL	**Elat**	**5.38**	**152**	Pn	**P**	**13 55 56.2**	**+0.2**
	6.5nm,0.3s,baz=324,slow=12,SNR=90						
EIL				Sn	**S**	**13 56 57.0**	**-0.5**
	19nm,0.3s,baz=312,slow=24,SNR=7.1						
EIL	**Elat**	**5.38**	**152**	*e*Pn	**P**	**13 55 55.8**	**-0.3**
EIL				*e*Sn	**S**	**13 56 56.0**	**-1.5**
EIL	**Elat**	**5.38**	**152**	Pn	**P**	**13 55 56.0**	**0.0**
EIL	**Elat**	**5.38**	**152**	*e*Pn	**P**	**13 55 55.8**	**-0.3**
EIL				*e*Sn	**S**	**13 56 56.0**	**-1.6**
BRTR	**Keskin Array B**	**5.41**	**13**	Pn	**P**	**13 55 56.7**	**+0.1**
	0.7nm,0.3s,baz=188,slow=16,SNR=17						
IZM	**Izmir**	**5.50**	**317**	PN	**P**	**13 55 58.3**	**+0.5**
KDAG	**Bornova**	**5.50**	**317**	*i* P	**P**	**13 55 58.2**	**+0.4**
KDAG				*i* S	**S**	**13 56 54.6**	**-6.2**
HBNS	**Bani Suwayf**	**5.53**	**187**	P	**P**	**13 55 58.6**	**+0.3**
AKS	**Akhisar**	**5.57**	**324**	*e*PN	**P**	**13 55 59.0**	**+0.3**
BLCB	**Balcova**	**5.62**	**316**	*e*PN	**P**	**13 56 00.3**	**+0.8**
HBST	**Basata**	**5.71**	**156**	P	**P**	**13 56 00.8**	**+0.2**
HRDS	**Abu Rudays**	**5.83**	**169**	P	**P**	**13 56 02.3**	**-0.1**
NUB		**5.85**	**157**	P	**P**	**13 56 02.7**	**0.0**
IDI	**Anoyia**	**5.93**	**280**	Pn	**P**	**13 56 04.0**	**+0.1**
	3.4nm,0.3s,baz=106,slow=11,SNR=24						
IDI				Sn	**S**	**13 57 09.4**	**-2.0**
	13nm,0.3s,baz=337,slow=22,SNR=12						
HDHB	**Dhahab**	**6.13**	**158**	P	**P**	**13 56 06.2**	**-0.4**
ULDT	**Uludag**	**6.13**	**339**	*i* P	**P**	**13 56 06.7**	**+0.1**
ULDT				*i* S	**S**	**13 57 14.9**	**-1.4**
HKAT	**Jabal Katrina**	**6.15**	**164**	P	**P**	**13 56 06.8**	**-0.1**
GRB	**Gharib**	**6.20**	**174**	P	**P**	**13 56 06.6**	**-1.0**
TR2		**6.22**	**166**	P	**P**	**13 56 07.3**	**-0.6**
MALT	**Malatya**	**6.43**	**51**	*e*Pn	**P**	**13 56 09.9**	**-1.0**
	3.6nm,0.6s						
SLUM		**6.45**	**245**	P	**P**	**13 56 10.3**	**-0.8**
VAM	**Vamos**	**6.50**	**281**	*e*PN	**P**	**13 56 11.0**	**-0.9**
GVD	**Gavdhos**	**6.56**	**276**	*e*Pn	**P**	**13 56 11.9**	**-0.8**
GVD				*e*Sn	**S**	**13 57 26.9**	**-0.3**
TR1		**6.63**	**165**	P	**P**	**13 56 13.3**	**-0.4**
AWBH		**6.67**	**204**	P	**P**	**13 56 13.7**	**-0.7**
ZEIT		**6.69**	**168**	P	**P**	**13 56 14.0**	**-0.5**
SHRM		**6.79**	**164**	P	**P**	**13 56 15.7**	**-0.1**
ASUT		**7.05**	**183**	P	**P**	**13 56 20.3**	**+0.7**
HHRG	**Al Ghardaqah**	**7.33**	**169**	P	**P**	**13 56 22.5**	**-1.0**
SWA1		**7.46**	**228**	P	**P**	**13 56 24.2**	**-1.1**
SWA2		**7.63**	**229**	P	**P**	**13 56 26.5**	**-1.2**
HFRF	**Wahat Farafira**	**7.96**	**205**	P	**P**	**13 56 31.1**	**-1.1**
HSFG		**8.03**	**168**	P	**P**	**13 56 32.4**	**-0.8**
AKRG	**Al Kharijah**	**9.02**	**189**	P	**P**	**13 56 45.2**	**-1.7**
HEDF	**Idfu**	**9.38**	**174**	P	**P**	**13 56 50.4**	**-1.4**
HDK2	**Wahat Dakhilah**	**10.45**	**196**	P	**P**	**13 57 04.8**	**-1.7**
AKASG	**Malin Array Be**	**16.36**	**354**	Pn	**P**	**13 58 25.2**	**+0.8**
	3.2nm,0.3s,baz=173,slow=9.6,SNR=42						
GERES	**GERESS Array B**	**19.78**	**322**	P	**P**	**13 59 06.0**	**+0.4**
	0.5nm,0.3s,baz=132,slow=9.7,SNR=8.8						
FINES	**FINESS Array B**	**27

BJI 21 13:59:45.4,2.50N×95.50E,h30km,mb4.5
IDC 21 13:59:45.4±2.2,2.55N×95.58E,mb4.0/5,mb1 4.2/6, mb1mx3.9/17,mbtmp4.0/6,ML4.1/1,Error ellipse: s-maj=89.0km s-min=21.3km az=60.0
NEIC 21 13:59:49.5±0.9,2.49N×95.48E,h30km,mb4.5/3,Error ellipse: s-maj=33.0km s-min=11.6km az=62.0
ISC 21 13:59:47.1±1.4,2.5N±0.2×95.4E±0.3,h30km,n9,σ0§31/9, mb4.2/8,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.27**	**12**	Pn	**P**	**14 03 35.6**	**+0.3**
	0.2nm,0.3s,baz=191,slow=9.4,SNR=19						
BJI	**Beijing**	**41.89**	**24**	*e*P	**P**	**14 07 32.2**	**-4.3**
	8.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**44.24**	**122**	P	**P**	**14 07 55.9**	**0.0**
	1.5nm,0.7s,mb3.8,baz=302,slow=9.2,SNR=6.1						
ASAR	**Alice Springs**	**45.60**	**127**	P	**P**	**14 08 06.9**	**+0.1**
	0.6nm,0.7s,mb3.6,baz=299,slow=7.8,SNR=7.4						
SONM	**Songino Array**	**46.19**	**10**	P	**P**	**14 08 10.5**	**-0.5**
	1.7nm,0.7s,mb4.1,baz=190,slow=8.0,SNR=7.8						
SONM				PcP	PcP	14 09 47.5	+0.5
	0.8nm,0.7s,baz=198,slow=3.9,SNR=4.8						
ZAL	**Zalesovo**	**52.04**	**352**	P	**P**	**14 08 56.3**	**+0.2**
	2.3nm,0.7s,mb4.2,baz=319,slow=6.1,SNR=10						
BVAR	**Borovoye Array**	**54.48**	**342**	P	**P**	**14 09 14.3**	**+0.2**
	2.0nm,0.6s,mb4.2,baz=141,slow=9.5,SNR=13						
BRVK	**Borovoye**	**54.54**	**342**	*e*P	**P**	**14 09 14.6**	**0.0**
	1.9nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**54.97**	**342**	*e*P	**P**	**14 09 17.7**	**-0.1**
	3.8nm,0.6s,mb4.6						

CSEM 21 14:05:25.8±0.9,43.01N×45.37E,h10km,mb4.2,After OBN
MOS 21 14:05:25.8±1.0,43.01N×45.37E,h10km,mb4.2/1,Error ellipse: s-maj=13.9km s-min=6.8km az=15.4
TIF 21 14:05:26.7,42.99N×45.40E,h17km±2km
ISC 21 14:05:28.0±0.5,43.04N±0.03×45.37E±0.03,h17km±7km, n30,σ1§26/53,1C-1D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.93**	**88**	*e*Pg	**Pb**	**14 05 45.0**	**-0.2**
DLMR				*e*S	**Sb**	**14 05 58.0**	**+1.0**
DLMR				pmax	pmax		
	comp=Z,649nm,0.1s						
DLMR	**Dylym**	**0.93**	**88**	*e*Pg	**Pb**	**14 05 45.0**	**-0.2**
	comp=Z,324nm,0.1s						
DLMR				*e*Sg	**Sb**	**14 05 58.0**	**+1.0**
DUS	**Dusheti**	**1.07**	**208**	P	**Pb**	**14 05 48.7**	**+1.1**
DUS				S	**Sb**	**14 06 01.9**	**+0.7**
DBC	**Dubki**	**1.07**	**91**	*i* PG	**Pb**	**14 05 47.5**	**-0.2**
DBC				*e*S	**Sb**	**14 06 02.0**	**+0.7**
UNCR	**Uncukul**	**1.10**	**107**	*i* PG	**Pb**	**14 05 47.7**	**-0.4**
UNCR				*e*S	**Sb**	**14 06 05.2**	**+3.2**
UNCR				pmax	pmax		
	comp=Z,243nm,0.3s						
UNCR	**Uncukul**	**1.10**	**107**	*i* Pg	**Pb**	**14 05 47.7**	**-0.4**
	comp=Z,122nm,0.3s						
UNCR				*e*Sg	**Sb**	**14 06 05.2**	**+3.2**
ZEI	**Tsey**	**1.11**	**256**	*i* PG	**Pb**	**14 05 46.7**	**-1.6**
ZEI				*e*		14 06 01.0	
ZEI				pmax	pmax		
	comp=Z,25nm,0.2s						
ZEI				smax			
	comp=Z,408nm,0.2s						
ZEI	**Tsey**	**1.11**	**256**	*i* Pg	**Pb**	**14 05 46.7**	**-1.6**
	comp=Z,12nm,0.2s						
ZEI				*e*Sg	**Sb**	**14 06 01.0**	**-1.4**
	comp=Z,204nm,0.2s						
KRNR	**Karanay**	**1.15**	**100**	⇑*i*PG	**Pb**	**14 05 48.0**	**-1.0**
KRNR				*i* S	**Sb**	**14 06 04.5**	**+1.0**
KRNR				pmax	pmax		
	comp=Z,133nm,0.2s						
KRNR	**Karanay**	**1.15**	**100**	*i* Pg	**Pb**	**14 05 48.0**	**-1.0**
	comp=Z,66nm,0.2s						
KRNR				*i* Sg	**Sb**	**14 06 04.5**	**+1.0**
UKTR	**Uchkent**	**1.26**	**86**	Pg	**Pn**	**14 05 49.0**	**-1.9**
UKTR				*e*Sg	**Sb**	**14 06 07.0**	**+0.4**
BUJR	**Buynaksk**	**1.30**	**99**	⇓*i*PG	**Pn**	**14 05 49.5**	**-2.0**
BUJR				*e*S	**Sb**	**14 06 08.5**	**+0.8**
BUJR				pmax	pmax		
	comp=Z,295nm,0.1s						
BUJR	**Buynaksk**	**1.30**	**99**	*i* Pg	**Pn**	**14 05 49.5**	**-2.0**
	comp=Z,148nm,0.1s						
BUJR				*e*Sg	**Sb**	**14 06 08.5**	**+0.8**
GNBR	**Gunib**	**1.35**	**119**	*e*Pg	**Pn**	**14 05 48.0**	**-4.2**
TI2	**Plekhanov**	**1.39**	**199**	*i* PG	**Pn**	**14 05 51.8**	**-0.9**
TI2				*i* S	**Sb**	**14 06 10.6**	**+0.3**
TI2				pmax	pmax		
	comp=Z,60nm,0.4s						
TI2				smax			
	comp=E,90nm,0.6s						
TI2	**Plekhanov**	**1.39**	**199**	*i* Pg	**Pn**	**14 05 51.8**	**-0.9**
	comp=E,30nm,0.4s						
TI2				*i* Sg	**Sb**	**14 06 10.6**	**+0.3**
MTA	**Mtatsminda**	**1.41**	**198**	P	**Pn**	**14 05 52.1**	**-1.0**
MTA				S	**Sb**	**14 06 11.2**	**+0.1**
ONI	**Oni**	**1.48**	**252**	P	**Pn**	**14 05 53.6**	**-0.5**
ONI				S	**Sn**	**14 06 13.9**	**+0.7**
KMKR	**Kumukh**	**1.57**	**125**	*e*PG	**Pn**	**14 05 52.0**	**-3.4**
MAK	**Makhachkala**	**1.57**	**92**	*e*PG	**Sn**	**14 06 16.2**	**+0.8**
MAK				pmax	pmax		
	comp=E,990nm,0.5s						
MAK				pmax	pmax		
	comp=Z,264nm,0.5s						
SHAR	**Shatzhatmas**	**2.09**	**290**	*e*PN	**Pn**	**14 06 02.4**	**-0.4**
SHAR				*e*S	**Sn**	**14 06 31.6**	**+3.0**
BEYR	**Belyy Ugol+**	**2.09**	**298**	*e*Sb	**Sb**	**14 06 31.7**	**+1.0**
BEYR	**Belyy Ugol+**	**2.09**	**298**	*e*Pn	**Pn**	**14 06 02.4**	**-0.4**
AKH	**Akhalkalaki**	**2.15**	**221**	P	**Pn**	**14 06 04.1**	**+0.5**
AKH				S	**Sn**	**14 06 32.7**	**+2.7**
KIV0	**Kislovodsk Arr**	**2.15**	**296**	*e*Pn	**Pn**	**14 06 02.5**	**-1.1**
KIV0				*e*Sn	**Sn**	**14 06 32.8**	**+2.7**
KIV	**Kislovodsk**	**2.15**	**296**	*e*PN	**Pn**	**14 06 02.4**	**-1.3**
KIV				*i* S	**Sn**	**14 06 32.9**	**+2.7**
KIV	**Kislovodsk**	**2.15**	**296**	*i* Sn	**Sn**	**14 06 32.9**	**+2.7**
NAGR	**Nagutskaya**	**2.35**	**308**	*e*Pn	**Pn**	**14 06 04.9**	**-1.7**
NAGR				*e*Sn	**Sn**	**14 06 35.8**	**+0.5**
GOF	**Gofitskoye**	**2.62**	**321**	*e*PN	**Pb**	**14 06 19.0**	**+4.9**
GOF				*e*S	**Sb**	**14 06 52.0**	**+5.9**
GOF				pmax	pmax		
	comp=Z,70nm,1.0s						
GOF				smax			
	comp=E,100nm,1.2s						
GOF	**Gofitskoye**	**2.62**	**321**	*e*Pn	**Pb**	**14 06 19.0**	**+4.9**
	comp=E,35nm,1.0s						
GOF				*e*Sb	**Sb**	**14 06 52.0**	**+5.9**

IGQ 21 14:12:46.8,1.21S×81.30W,h12km±33km,mb4.4,2C-2D, Error ellipse: s-maj=31.9km s-min=8.2km az=172.1,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.68**	**96**	P	Pn	14 13 31.5	+1.0
IGUA				S	Sn	14 14 04.3	+1.1
ARRY	**Arrayan**	**2.86**	**96**	⇓P	Pn	14 13 34.5	+1.4
JUA2	**San Juan 2**	**2.87**	**70**	P	Pn	14 13 34.2	+0.9
JUA2				S	Sn	14 14 06.7	-1.3
PATA	**Patacocha**	**2.88**	**96**	P	Pn	14 13 36.4	+3.0
TERV	**Terraza Guagua**	**2.88**	**69**	P	Pn	14 13 34.6	+1.1
PINO	**Pino**	**2.89**	**69**	P	Pn	14 13 33.4	-0.1
RUN2	**Runtun**	**2.90**	**94**	P	Pn	14 13 34.9	+1.3
ULBA	**Ulba**	**2.90**	**95**	P	Pn	14 13 34.9	+1.1
PISA	**Pisayambo**	**2.92**	**87**	P	Pn	14 13 35.9	+1.9
YANA	**Yana**	**2.94**	**68**	P	Pn	14 13 35.0	+0.8
VC1	**Cotopaxi 1**	**2.95**	**79**	P	Pn	14 13 36.0	+1.6
VC1				S	Sn	14 14 11.8	+1.7
TAMB	**Tambo**	**2.98**	**80**	⇑P	Pn	14 13 37.0	+2.2
TAMB				S	Sn	14 14 12.2	+1.5
ANTI	**Antisana**	**3.23**	**77**	⇑P	Pn	14 13 41.0	+2.6
ANTI				S	Sn	14 14 20.2	+3.1
COTA	**Cotacachi**	**3.34**	**63**	P	Pn	14 13 41.6	+1.8
CAYR	**Refugio Cayamb**	**3.51**	**70**	P	Pn	14 13 45.0	+2.7
CAYR				S	Sn	14 14 25.2	+0.9
CAYA	**Cayambe**	**3.55**	**69**	⇓P	Pn	14 13 45.2	+2.4

IDC 21 14:23:46.2±1.5,34.93N×138.43E,mb3.4/3,mb1 3.7/4, mb1mx3.4/22,mbtmp3.5/4,ML3.8/1,Error ellipse: s-maj=40.2km s-min=19.5km az=70.0
JMA 21 14:23:52.2±0.4,34.02N×141.73E,h50km±5km,M3.3
ISC 21 14:23:53.7±1.4,34.04N±0.06×141.6E±0.1,h38km±15km, n14,σ0§88/19,mb3.4/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.82**	**319**	P	**P**	**14 24 08.6**	**-0.2**
BSO1				*e*S	**S**	**14 24 20.8**	**+0.9**
BSO3	**Boso 3**	**1.20**	**310**	P	**P**	**14 24 14.1**	**-0.1**
BSO4	**Boso 4**	**1.43**	**312**	P	**P**	**14 24 18.0**	**+0.4**
TATJ	**Tateyama 2**	**1.75**	**305**	P	**P**	**14 24 22.3**	**+0.2**
JHJ2	**Mitsune**	**1.78**	**239**	P	**P**	**14 24 22.6**	**+0.1**
JHJ	**Hachijo jima 2**	**1.80**	**240**	Pn	**P**	**14 24 23.0**	**+0.2**
	70nm,0.3s,baz=215,slow=20,SNR=9.4						
JHJ				Sn	**S**	**14 24 45.7**	**+1.2**
	81nm,0.3s,baz=225,slow=23,SNR=4.6						
JHJ				Lg		14 24 54.3	
	47nm,0.3s,baz=93,slow=23,SNR=3.6						
JIM2	**Oshima 3**	**1.94**	**291**	P	**P**	**14 24 22.9**	**-2.0**
JIZS	**Izushimoda**	**2.38**	**287**	P	**P**	**14 24 30.9**	**-0.2**
JIZS				*e*S	**S**	**14 24 57.7**	**-1.6**
JOD2	**Odawara 2**	**2.43**	**301**	P	**P**	**14 24 30.0**	**-1.8**
JYN	**Shimob**	**2.93**	**301**	P	**P**	**14 24 39.6**	**+0.6**
JYN				*e*S	**S**	**14 25 13.8**	**+0.5**
MAT	**Matsushiro**	**3.76**	**313**	P	**P**	**14 24 51.3**	**+0.6**
MAT				S	**S**	**14 25 34.9**	**+0.6**
ILAR	**Eielson Array**	**51.94**	**31**	P	**P**	**14 33 00.8**	**+0.3**
	0.4nm,0.8s,mb3.4,baz=280,slow=5.8,SNR=4.8						
WRA	**Warramunga Arr**	**54.12**	**188**	P	**P**	**14 33 16.3**	**-1.1**
	0.2nm,0.4s,mb3.4,baz=3.0,slow=7.7,SNR=9.8						
ASAR	**Alice Springs**	**57.85**	**188**	P	**P**	**14 33 44.9**	**+0.8**
	0.2nm,0.5s,mb3.4,baz=360,slow=6.3,SNR=8.4						

IDC 21 14:26:25.8±1.5,34.90N×139.09E,mb3.3/3,mb1 3.6/3, mb1mx3.3/20,mbtmp3.3/3,Error ellipse: s-maj=53.4km s-min=16.6km az=79.0
ISC 21 14:26:31.3±5.2,34.08N±0.08×141.6E±0.1,h30km±39km, n5,σ1§29/7,mb3.4/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.80**	**238**	Pn	**Pn**	**14 27 00.5**	**-0.4**
	27nm,0.3s,baz=336,slow=21,SNR=6.4						
JHJ				Sn	**Sn**	**14 27 22.9**	**0.0**
	51nm,0.3s,baz=229,slow=19,SNR=8.2						
JHJ				Lg		14 27 25.0	
	50nm,0.3s,baz=243,slow=24,SNR=7.5						
MAT	**Matsushiro**	**3.71**	**312**	P	**Pn**	**14 27 28.6**	**+0.5**
MAT				S	**Sn**	**14 28 11.2**	**-0.1**
ILAR	**Eielson Array**	**51.92**	**31**	P	**P**	**14 35 38.5**	**-0.5**
	0.2nm,0.6s,mb3.2,baz=283,slow=6.5,SNR=4.6						
WRA	**Warramunga Arr**	**54.17**	**188**	P	**P**	**14 35 54.9**	**-1.2**
	0.2nm,0.4s,mb3.4,baz=3.8,slow=7.6,SNR=5.1						
ASAR	**Alice Springs**	**57.89**	**188**	P	**P**	**14 36 25.0**	**+2.1**
	0.4nm,0.8s,mb3.5,baz=1.5,slow=7.8,SNR=4.1						

NIED 21 14:28:00,24.70N×122.50E,h122km,Mw5.2 Best double couple: M0:7.65×10^16 NP1:φs326°,δ76°,λ-46°. NP2:φs70°, δ46°,λ-160°.
MOS 21 14:28:19.5±0.9,24.84N×122.50E,h85km,mb5.2/63,Error ellipse: s-maj=7.6km s-min=4.7km az=106.5
JMA 21 14:28:21.9±0.1,24.67N×122.48E,h89km±1km,M5.1
JMA Felt I J1.
BJI 21 14:28:21.2,24.65N×122.44E,h102km,mB5.2,mb5.2
TAP 21 14:28:21.1,24.56N×122.53E,h92km,ML5.9
TAP Felt II J at Suao, III J at Nanau, III J at Ilan, II J, III J at Nioudou, I J at Mucha, I J at Chiawan, II J at Hualien, I J at Taipai, III J at Nanshan, II J at Sanguang, II J at Kuangyinshan, III J at Hehuanshan, II J at Shilin, III J at Tachien, III J at Jungli (National Central University), II J at Nanjuang, II J at Hsinchu, II J at Hungye, I J at Liyutan, II J at Sanyi, II J at Ryuetan, I J at Yuchr, I J at Taichung, II J at Chenggung, II J at Mingjian, I J at Alishan, I J at Lidau, II J at Tsauling, II J at Gukeng, I J at Tauyuan, II J at Dacheng, II J at Chiayi, II J at Szhu, I J at Jiali, I J at Lanyu.
IDC 21 14:28:22.2±1.4,24.79N×122.54E,h100km±11km, mb4.7/24,mb1 4.9/28,mb1mx4.9/30,mbtmp5.2/28,MS4.1/3, Ms1 4.2/3,ms1mx3.5/23,Error ellipse: s-maj=12.0km s-min=8.7km az=71.0,Putative timing error at PDAR
HRVD 21 14:28:22.5±0.6,24.71N×122.47E,h90km±5km,MW5.2/55, Centroid moment Tensor Solution. LP body waves: s15,c18;Mantle waves: s55,c92; Half duration: 1§0 Moment tensor: Scale 10^16Nm; Mrr2.65±.45; Mθθ2.82±.45; Mφφ-5.47±.46; Mrθ3.98±.23; Mθφ-3.64±.34; Mφr-3.74±.24; Best double couple: M0:8.023×10^16 NP1:φs57°,δ50°,λ158°. NP2:φs161°,δ73°,λ42°. Principal axes: T 8.645, Plg41°, Azm27°; N -1.244, Plg45°, Azm179°; P -7.401, Plg15°, Azm284°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC 21 14:28:22.5±0.1,24.70N×122.46E,mb5.2/90 Error ellipse: s-maj=3.9km s-min=3.7km az=64.0
NEIC Felt at T'ai-pei. Recorded [3 TAP] in Hua-lien, I-lan, Nan-t'ou, T'ai-chung and T'ao-yuan; [2 TAP] in Chang-hua, Hsin-chu, Miao-li, T'ai-pei, T'ai-tung and Yun-lin; [1 TAP] in Chia-i and Kao-hsiung Counties. Also recorded [1 JMA] on Iriomote-jima, Ishigaki-jima and Yonaguni-jima, Ryukyu Islands.
ISC 21 14:28:20.5±0.1,24.62N±0.01×122.47E±0.01,h99km±1km, h104km±2.1km:pP-P,n475,σ1§08/546,mb5.1/124,50C-36D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.52**	**108**	P	**P**	**14 28 36.8**	**+0.3**
YOJ				*e*S	**S**	**14 28 47.6**	**-0.8**
TWC	**Suao**	**0.56**	**269**	⇓*i*P	**P**	**14 28 36.5**	**-0.3**
TWB1	**Santiao Chiao**	**0.58**	**311**	⇓*i*P	**P**	**14 28 37.3**	**+0.3**
TWB1				S	**S**	**14 28 48.5**	**-0.8**
ILA	**Ilan**	**0.67**	**282**	⇓*i*P	**P**	**14 28 38.0**	**+0.3**
ILA				S	**S**	**14 28 49.7**	**-0.9**
ENA	**Nanau**	**0.69**	**254**	⇓*i*P	**P**	**14 28 37.9**	**0.0**
ENA				S	**S**	**14 28 49.8**	**-1.2**
TWE	**Neicheng**	**0.74**	**278**	⇓*i*P	**P**	**14 28 38.7**	**+0.3**
NWF	**Wu-fen Shan**	**0.77**	**306**	⇑*i*P	**P**	**14 28 39.3**	**+0.6**
NWF				S	**S**	**14 28 51.7**	**-0.5**
ENT	**Nioudou**	**0.82**	**271**	⇓*i*P	**P**	**14 28 39.8**	**+0.6**
TWA	**Mucha**	**0.88**	**294**	⇑*i*P	**P**	**14 28 40.2**	**+0.4**
TWA				S	**S**	**14 28 53.4**	**-0.8**
TAP1	**Taipei**	**0.95**	**296**	⇑*i*P	**P**	**14 28 41.0**	**+0.4**
TAP1				S	**S**	**14 28 54.5**	**-1.2**
TATO	**Taipei**	**0.96**	**292**	*e*Pn	**P**	**14 28 40.5**	**-0.1**
TWD	**Chiawan**	**0.96**	**236**	⇓*i*P	**P**	**14 28 40.1**	**-0.6**
TWD				S	**S**	**14 28 54.2**	**-1.6**
TAP	**Taipei**	**0.97**	**296**	⇑*i*P	**P**	**14 28 41.0**	**+0.2**
TAP				S	**S**	**14 28 55.0**	**-0.9**
NSK	**Sanguang**	**1.01**	**273**	⇑*i*P	**P**	**14 28 41.9**	**+0.7**
NNS	**Nan Shan**	**1.01**	**260**	⇓*i*P	**P**	**14 28 41.6**	**+0.4**
NNS				S	**S**	**14 28 55.9**	**-0.9**
HWA	**Hwalien**	**1.02**	**231**	⇓*i*P	**P**	**14 28 41.0**	**-0.3**
PCYT	**Pengchaiyu**	**1.06**	**340**	⇑*i*P	**P**	**14 28 43.3**	**+1.4**
PCYT				S	**S**	**14 28 59.0**	**+1.1**
TWS1	**Kuangyinshan**	**1.07**	**297**	⇑*i*P	**P**	**14 28 42.5**	**+0.6**
TWS1				S	**S**	**14 28 57.7**	**-0.2**
IRIF	**Iriomote-Funau**	**1.19**	**104**	P	**P**	**14 28 43.7**	**+0.3**
IRIF				*e*S	**S**	**14 29 00.5**	**+0.1**
WHF	**Hehuan Shan**	**1.20**	**247**	⇓*i*P	**P**	**14 28 43.8**	**+0.3**
NCU	**National Centr**	**1.22**	**287**	*e*P	**P**	**14 28 44.2**	**+0.5**
NCU				S	**S**	**14 29 01.3**	**+0.3**
TWT	**Tachien**	**1.23**	**253**	⇓*i*P	**P**	**14 28 44.8**	**+0.8**
ESL	**Shilin**	**1.24**	**230**	⇓*i*P	**P**	**14 28 43.2**	**-0.8**
ESL				S	**S**	**14 28 59.0**	**-2.7**
NSTT	**Nanjuang**	**1.33**	**271**	⇑P	**P**	**14 28 45.6**	**+0.5**
NSTT				S	**S**	**14 29 03.1**	**-0.3**
HATJ	**Hateruma jima**	**1.34**	**115**	P	**P**	**14 28 45.9**	**+0.7**
HATJ				*e*S	**S**	**14 29 04.5**	**+0.9**
HSN	**Hsinchu**	**1.38**	**278**	*e*P	**P**	**14 28 45.8**	**+0.2**
HSN				S	**S**	**14 29 04.0**	**-0.3**
JKRS	**Kuro-shima**	**1.46**	**105**	P	**P**	**14 28 47.4**	**+0.8**
JKRS				*e*S	**S**	**14 29 06.9**	**+0.9**
EHY	**Hungye**	**1.53**	**224**	⇓P	**P**	**14 28 46.5**	**-1.0**
JIJ	**Ishigaki jima**	**1.55**	**99**	P	**P**	**14 28 48.1**	**+0.4**
JIJ				*e*S	**S**	**14 29 07.8**	**-0.1**
TWQ1	**Liyutan**	**1.57**	**260**	⇑P	**P**	**14 28 48.6**	**+0.6**
TWQ1				S	**S**	**14 29 08.6**	**+0.2**
NSY	**Sanyi**	**1.57**	**263**	⇑P	**P**	**14 28 48.9**	**+0.9**
NSY				S	**S**	**14 29 08.8**	**+0.4**
SMLT	**Sun Moon Lake**	**1.61**	**243**	⇓*i*P	**P**	**14 28 49.1**	**+0.6**
SMLT				S	**S**	**14 29 09.9**	**+0.6**
TYC	**Yuchr**	**1.64**	**244**	⇓P	**P**	**14 28 49.5**	**+0.6**
TYC				S	**S**	**14 29 10.3**	**+0.5**
TWF1	**Yuli**	**1.66**	**221**	⇓*i*P	**P**	**14 28 48.2**	**-0.9**
TWF1				S	**S**	**14 29 08.3**	**-2.0**
TCU	**Taichung**	**1.70**	**254**	*e*P	**P**	**14 28 50.3**	**+0.7**
TCU				S	**S**	**14 29 12.3**	**+1.0**
YUS	**Yu-Shan**	**1.79**	**231**	⇓*i*P	**P**	**14 28 51.5**	**+0.7**
YUS				S	**S**	**14 29 12.5**	**-0.7**
WNT	**Mingjian**	**1.79**	**246**	*e*P	**P**	**14 28 51.9**	**+1.1**
WNT				S	**S**	**14 29 13.8**	**+0.6**
CHKT	**Chengkung**	**1.82**	**214**	⇓P	**P**	**14 28 50.1**	**-1.2**
CHKT				S	**S**	**14 29 11.3**	**-2.6**
ALS	**Alishan**	**1.88**	**234**	⇓*i*P	**P**	**14 28 53.0**	**+1.0**
ALS				S	**S**	**14 29 15.7**	**+0.4**
CHN5	**Tsauling**	**1.93**	**238**	*e*P	**P**	**14 28 53.6**	**+1.0**
ELDTW	**Lidau**	**1.95**	**223**	⇓P	**P**	**14 28 52.2**	**-0.6**
ELDTW				S	**S**	**14 29 14.9**	**-1.9**
WGK	**Gukeng**	**1.98**	**242**	*e*P	**P**	**14 28 54.6**	**+1.4**
WGK				S	**S**	**14 29 18.8**	**+1.4**
JTJ	**Tarama**	**2.03**	**89**	P	**P**	**14 28 55.0**	**+1.0**
JTJ				*e*S	**S**	**14 29 20.2**	**+1.4**
CHN2	**Minshiung**	**2.12**	**240**	*e*P	**P**	**14 28 56.4**	**+1.2**
CHN2				S	**S**	**14 29 22.2**	**+1.3**
CHN4	**Tsaushan**	**2.13**	**234**	*e*P	**P**	**14 28 56.2**	**+0.9**
CHN4				S	**S**	**14 29 22.8**	**+1.6**
WTCT	**Ta-ch'eng**	**2.13**	**250**	*e*P	**P**	**14 28 55.6**	**+0.2**
WTCT				S	**S**	**14 29 21.2**	**0.0**
STYT	**Tauyuan**	**2.14**	**228**	⇓*i*P	**P**	**14 28 56.1**	**+0.7**
STYT				S	**S**	**14 29 21.4**	**+0.1**
CHY	**Chiayi**	**2.18**	**239**	*e*P	**P**	**14 28 57.0**	**+1.1**
CHY				S	**S**	**14 29 22.6**	**+0.3**
WTP	**Ta-pu**	**2.18**	**231**	*e*P	**P**	**14 28 56.6**	**+0.6**
WTP				S	**S**	**14 29 22.8**	**+0.4**
TWG	**Pinlang**	**2.20**	**216**	*e*P	**P**	**14 28 54.9**	**-1.4**
TWG				S	**S**	**14 29 20.7**	**-2.3**
TTN	**Taitung**	**2.22**	**213**	*e*P	**P**	**14 28 56.0**	**-0.6**
TWK	**Hsinying**	**2.26**	**234**	*e*P	**P**	**14 28 57.7**	**+0.6**
TWK				S	**S**	**14 29 24.9**	**+0.6**
WSF	**Szhu**	**2.27**	**245**	*e*P	**P**	**14 28 57.7**	**+0.4**
WSF				S	**S**	**14 29 25.0**	**+0.3**
CHN1	**Nanshi**	**2.28**	**232**	*e*P	**P**	**14 28 57.9**	**+0.5**
CHN1				S	**S**	**14 29 25.0**	**+0.2**
SGST	**Jiashian**	**2.31**	**229**	*e*P	**P**	**14 28 58.6**	**+0.8**
SGST				S	**S**	**14 29 25.8**	**+0.3**
CHN8	**Yiju**	**2.42**	**239**	*e*P	**P**	**14 28 59.7**	**+0.4**
CHN8				S	**S**	**14 29 27.9**	**-0.4**
ECL	**Taimali**	**2.45**	**215**	*e*P	**P**	**14 28 58.0**	**-1.7**
ECL				S	**S**	**14 29 25.5**	**-3.4**
CHN3	**Shinhua**	**2.46**	**232**	*e*P	**P**	**14 29 00.9**	**+1.0**
CHN3				S	**S**	**14 29 29.4**	**+0.1**
SSD	**Sandimen**	**2.51**	**222**	*e*P	**P**	**14 29 00.9**	**+0.3**
SSD				S	**S**	**14 29 31.4**	**+0.8**
SCLT	**Jiali**	**2.53**	**236**	*e*P	**P**	**14 29 01.4**	**+0.5**
SCLT				S	**S**	**14 29 31.4**	**+0.5**
JMJ	**Miyako jima 2**	**2.58**	**85**	P	**P**	**14 29 02.3**	**+0.8**
JMJ				*e*S	**S**	**14 29 32.4**	**+0.3**
TAI1	**Yung-k'ang**	**2.59**	**233**	*e*P	**P**	**14 29 02.6**	**+1.1**
TAI1				S	**S**	**14 29 32.2**	**-0.1**
TWM1	**Shoushan**	**2.59**	**227**	*e*P	**P**	**14 29 03.1**	**+1.4**
SGLT	**Jiouru**	**2.62**	**224**	*e*P	**P**	**14 29 03.6**	**+1.6**
SGLT				S	**S**	**14 29 36.1**	**+3.0**
JOGS	**Gusukube**	**2.68**	**86**	P	**P**	**14 29 03.8**	**+1.0**
JOGS				*e*S	**S**	**14 29 35.6**	**+1.1**
TAW	**Tawu**	**2.68**	**213**	*e*P	**P**	**14 29 01.4**	**-1.4**
TAW				S	**S**	**14 29 31.6**	**-2.9**
EAST	**Anshuo**	**2.68**	**214**	*e*P	**P**	**14 29 01.6**	**-1.2**
EAST				S	**S**	**14 29 32.5**	**-2.1**
LAY	**Lan-yu**	**2.71**	**198**	*e*P	**P**	**14 29 01.6**	**-1.7**
LAY				S	**S**	**14 29 30.0**	**-5.3**
SCZT	**Fangliau**	**2.81**	**218**	*e*P	**P**	**14 29 04.7**	**0.0**
SCZT				S	**S**	**14 29 37.4**	**-0.4**
KAU	**Kaohsiung**	**2.85**	**225**	*e*P	**P**	**14 29 04.5**	**-0.6**
PNG	**Penghu**	**2.86**	**249**	*e*P	**P**	**14 29 04.2**	**-1.2**
PNG				S	**S**	**14 29 36.1**	**-2.9**
WDGT	**Dungji**	**2.91**	**243**	*e*P	**P**	**14 29 05.3**	**-0.7**
WDGT				S	**S**	**14 29 37.9**	**-2.2**
TWP	**Hsiaoliuchiu**	**2.98**	**221**	*e*P	**P**	**14 29 08.1**	**+1.1**
HEN	**Hengchun**	**3.05**	**212**	*e*P	**P**	**14 29 07.6**	**-0.3**
HEN				S	**S**	**14 29 42.9**	**-0.8**
TWK1	**Hengchun**	**3.07**	**210**	*e*P	**P**	**14 29 06.8**	**-1.4**
TWK1				S	**S**	**14 29 42.9**	**-1.4**
QZH	**Quanzhou**	**3.54**	**276**	⇓*i*P	**P**	**14 29

BALP Baler 8.88 186 *e*P **P** **14 30 29.1 +1.6**
BALP *e*S **S** **14 32 06.3 -0.2**
PCPH Palayan 9.11 188⇓*e*P **P** **14 30 30.9 +0.3**
WHN Wuhan 9.31 311 ⇓P **P** **14 30 33.5 +0.2**
WHN S **S** **14 32 19.0 +2.1**
WHN AMB AMB
comp=Z,70nm,0.9s
WHN LR LR
comp=E,4μm,3.2s
WHN LR LR
comp=Z,2μm,6.3s
JSJ Shimokoshiki 9.50 41 P **P** **14 30 38.1 +2.1**
JFU Fukue jima 2 9.72 33 P **P** **14 30 41.7 +2.8**
POLP Polilio Island 9.86 183 *e*P **P** **14 30 41.2 +0.4**
JHD Hondo 10.32 39 P **P** **14 30 49.7 +2.7**
JZO Okuchi 10.36 42 P **P** **14 30 48.4 +0.9**
LQP Lukban 10.49 185 *e*P **P** **14 30 49.9 +0.6**
TGY Tagaytay City 10.56 188 P **P** **14 30 54.4 +4.1**
TGY S **S** **14 32 54.1 +6.8**
TGY pmax pmax
comp=Z,37nm,0.3s
TGY smax
comp=E,15nm,0.3s
TGY Tagaytay City 10.56 188 P **P** **14 30 54.4 +4.1**
comp=E,37nm,0.3s,baz=110,slow=7.4,SNR=5.9
TGY S **S** **14 32 54.1 +6.8**
comp=E,15nm,0.3s,baz=82,slow=19,SNR=2.8
GQP Guinayangan 10.66 180 *e*P **P** **14 30 52.4 +0.8**
GQP Guinayangan 10.66 180 *e*P **S** **14 32 44.8 -4.8**
JFA Akaike 11.61 37 P **P** **14 31 07.7 +3.5**
TIA Tai'an 12.43 340 *e*P **P** **14 31 17.8 +2.7**
TIA AMB AMB
comp=Z,69nm,1.0s
ENH Enshi 12.82 299 *e*Pn **P** **14 31 20.5 +0.2**
comp=Z,56nm,0.9s
QIZ Qiongzhong 12.97 247 P **P** **14 31 22.6 +0.3**
QIZ S **S** **14 33 46.1 +1.4**
QIZ AMB AMB
comp=Z,50nm,1.3s
QIZ LR LR
comp=N,2μm,16.3s
QIZ LR LR
comp=E,1μm,18.1s
QIZ LR LR
comp=Z,2μm,16.8s
QIZ Qiongzhong 12.97 247 *e*Pn **P** **14 31 22.1 -0.2**
QIZ *e*Sn **S** **14 33 44.1 -0.6**
KS15 Wonju Array Si 13.59 19 *e*Pn **P** **14 31 32.5 +2.2**
XAN Xi'an 15.07 312 P **P** **14 31 49.4 +0.1**
XAN AP 14 32 01.0
XAN AMB AMB
comp=Z,90nm,1.5s
XAN LR LR
comp=N,667nm,9.9s
XAN LR LR
comp=E,728nm,8.9s
XAN LR LR
comp=Z,688nm,9.4s
BJT Baijiatuau 16.24 342 *e*P **P** **14 32 04.7 +0.8**
BJT pmax pmax
comp=Z,126nm,1.1s
BJT Baijiatuau 16.24 342 *e*P **P** **14 32 04.7 +0.7**
comp=Z,126nm,1.1s
BJI Beijing 16.26 343 *e*P **P** **14 32 06.1 +1.9**
BJI pmax pmax
comp=Z,118nm,1.1s
BJI Beijing 16.26 343 *e*P **P** **14 32 06.1 +1.9**
comp=Z,118nm,1.1s
BJI S **S** **14 35 15.0 +14**
SNY Shenyang 17.18 3⇑P **P** **14 32 16.8 +1.1**
SNY AMB AMB
comp=Z,120nm,0.7s
SNY AMB AMB
comp=Z,1μm,10.6s
SNY LR LR
comp=E,1μm,11.9s
SNY LR LR
comp=Z,960nm,12.4s
JHJ Hachijo jima 2 17.35 57 P **P** **14 32 21.1 +3.2**
comp=Z,45nm,0.3s,baz=180,slow=5.7,SNR=11
JHJ LR LR 14 38 50.9
comp=Z,451nm,21.2s,baz=221,slow=36
KMI Kunming 17.91 276⇑P **P** **14 32 26.7 +2.0**
KMI S **S** **14 35 37.5 -0.4**
KMI pmax pmax
comp=Z,86nm,1.1s
KMI Kunming 17.91 276⇑P **P** **14 32 26.7 +2.0**
comp=Z,86nm,1.1s
KMI pP 14 32 41.1
KMI PP PP 14 32 43.1 +2.3
KMI PPP PPP 14 32 51.8 +0.2
KMI sP 14 32 55.8
KMI S **S** **14 35 37.5 -0.4**
KMI sS 14 36 01.3
KMI SS SS 14 36 03.8 -1.3
CBIJ Chichi jima 17.92 78 P **P** **14 32 24.9 +0.2**
comp=Z,20nm,0.3s,baz=292,slow=12,SNR=5.5
CBIJ LR LR 14 37 55.4
comp=Z,870nm,20.1s,baz=254,slow=32
MAJO Matsushiro 17.99 45 *e*P **P** **14 32 23.6 -2.0**
MAJO pmax pmax
comp=Z,30nm,0.7s
MAJO Matsushiro 17.99 45 *e*P **P** **14 32 23.6 -1.9**
comp=Z,30nm,0.7s
MAT Matsushiro 17.99 45 *e*P **P** **14 32 23.0 -2.6**
MAT S **S** **14 35 44.0 +4.4**
MAT pmax pmax
comp=Z,31nm,0.9s
MAT Matsushiro 17.99 45 *e*P **P** **14 32 23.0 -2.6**
comp=Z,31nm,0.9s
MAT S **S** **14 35 44.0 +4.4**
MAT Matsushiro 17.99 45 P **P** **14 32 22.8 -2.8**
MAT *e*S **S** **14 35 54.8 +15**
LZH Lanzhou 19.68 310 ⇓P **P** **14 32 45.8 +1.6**
LZH AP 14 33 03.8
LZH XP 14 33 17.8
LZH XS 14 36 39.0
LZH AMB AMB
comp=Z,150nm,1.4s
LZH AMB AMB
comp=Z,710nm,5.8s
LZH LR LR
comp=N,2μm,14.1s
LZH LR LR
comp=Z,1μm,14.5s
LZH Lanzhou 19.68 310 ⇓P **P** **14 32 45.7 +1.5**
LZH pmax pmax
comp=Z,150nm,1.4s
LZH Lanzhou 19.68 310 ⇓P **P** **14 32 45.7 +1.5**
comp=Z,150nm,1.4s
LZH pP 14 33 03.8
LZH PP PP 14 33 05.0 -0.1
LZH sP 14 33 17.7
LZH S **S** **14 36 24.0 +8.4**
LZH sS 14 36 39.0
LZH SS SS 14 36 56.0 +7.3
KKTK Khon Kaen 20.15 250 P **P** **14 32 51.0 +1.9**
comp=Z,2μm,0.6s
MDJ Mudanjiang 20.77 14 P **P** **14 32 55.0 -0.3**
MDJ AP 14 33 17.8
MDJ S **S** **14 36 42.1 +5.6**
MDJ AMB AMB
comp=Z,53nm,1.0s
MDJ AMB AMB
comp=Z,401nm,7.9s
MDJ LR LR
comp=N,572nm,28.4s
MDJ LR LR
comp=E,1μm,23.4s
MDJ LR LR
comp=Z,898nm,23.4s
MDJ Mudanjiang 20.77 14 *e*P **P** **14 32 54.7 -0.6**
comp=Z,65nm,1.0s
NANT Nan 21.03 258⇑P **P** **14 33 01.0 +2.9**
comp=Z,81nm,1.0s,mb5.0
CMAR Chiang Mai Arr 22.71 259 P **P** **14 33 16.7 +2.0**
CMAR 14 37 05.8
CMAR pmax pmax
comp=Z,27nm,0.8s
CMAR pmax pmax
comp=Z,7.0nm,0.7s
CMAR pmax pmax
comp=E,4.0nm,1.0s
CMAR MLR MLR
comp=Z,504nm,20.5s

CMAR Chiang Mai Arr 22.71 259 P **P** **14 33 16.7 +2.0**
comp=Z,27nm,0.8s,mb4.6,baz=60,slow=7.6,SNR=12
CMAR PcP PcP 14 37 05.8 +0.5
comp=Z,7.3nm,0.7s,baz=36,slow=1.1,SNR=22
CMAR ScP 14 40 34.4
comp=Z,3.9nm,1.0s,baz=54,slow=3.3,SNR=6.0
CMAR LR LR 14 43 33.2
comp=Z,504nm,20.5s,baz=90,slow=40
NST Nakhon Sawan 22.75 251⇑P **P** **14 33 17.3 +2.2**
comp=Z,458nm,0.7s,mb5.9
NNT Nongplab 24.60 245 P **P** **14 33 35.0 +2.0**
HIA Hailar 24.69 356 *e*P **P** **14 33 32.2 -1.3**
HIA pmax pmax
comp=Z,52nm,0.8s
HIA Hailar 24.69 356 *e*P **P** **14 33 32.2 -1.3**
comp=Z,52nm,0.8s,mb5.0
ASAJ Asahikawa 25.46 35 P **P** **14 33 39.3 -1.5**
ASAJ pmax pmax
comp=Z,37nm,0.5s
ASAJ Asahikawa 25.46 35 P **P** **14 33 39.2 -1.5**
comp=Z,37nm,0.5s,mb5.1,baz=240,slow=11,SNR=65
KLR Kul'dur 25.62 14 *e*P **P** **14 33 38.8 -3.4**
IMP Imphal 25.91 276 *e*P **P** **14 33 44.0 -1.2**
SONM Songino Array 26.44 335 P **P** **14 33 49.5 -0.4**
comp=Z,128nm,0.8s,mb5.4,baz=148,slow=8.9,SNR=474
SONM PcP PcP 14 37 12.6 -0.5
comp=Z,9.8nm,1.0s,baz=161,slow=3.9,SNR=11
SONM ScP 14 40 42.7
comp=Z,7.5nm,0.9s,baz=156,slow=3.5,SNR=18
YSS Yuzh-Sakhalins 27.55 31 *e*P **P** **14 33 59.0 -1.0**
YSS *e* pP 14 34 23.3 +1.4
YSS pmax pmax
comp=N,60nm,1.0s
YSS pmax pmax
comp=E,70nm,1.0s
YSS pmax pmax
comp=Z,120nm,1.0s,mb5.4
YSS Yuzh-Sakhalins 27.55 31 *e*P **P** **14 33 58.6 -1.4**
comp=Z,104nm,0.9s,mb5.4
YSS *e*pP pP 14 34 22.2 +0.4
SHL Shillong 27.69 278 *e* pP 14 34 31.0 +7.6
SHL *e* 14 40 47.0
LSA Lhasa 28.27 287 P **P** **14 34 08.0 +1.3**
LSA AMB AMB
comp=Z,140nm,0.8s,mb5.5
LSA Lhasa 28.27 287 *e*P **P** **14 34 06.9 +0.2**
LSA *e* 14 37 18.1
LSA pmax pmax
comp=Z,24nm,0.8s,mb4.8
LSA Lhasa 28.27 287 *e*P **P** **14 34 06.9 +0.2**
comp=Z,24nm,0.8s,mb4.8
LSA *e*PcP PcP 14 37 18.1 +0.4
ZAK Zakamensk 29.70 335⇓*i*P **P** **14 34 16.8 -2.4**
TLY Talaya 30.62 337 P **P** **14 34 26.0 -1.3**
comp=Z,494nm,0.7s,mb6.3,SNR=37
TLY Talaya 30.62 337 *e*P **P** **14 34 26.5 -0.8**
TLY pmax pmax
comp=Z,59nm,0.8s,mb5.4
TLY Talaya 30.62 337⇑*i*P **P** **14 34 26.2 -1.1**
comp=Z,57nm,0.8s,mb5.4
TLY *e*PcP PcP 14 37 22.7 -0.7
IRK Irkutsk 30.86 338 *e*P **P** **14 34 27.8 -1.6**
IRK pmax pmax
comp=Z,91nm,1.7s,mb5.2
MOY Mondy 31.61 334 *e*P **P** **14 34 35.1 -0.8**
MOY *e* 14 37 25.6
CLNS Chul'man 32.23 2 *e*P **P** **14 34 38.6 -2.7**
CLNS pmax pmax
comp=Z,15nm,1.0s,mb4.7
CLNS pmax pmax
comp=N,19nm,1.1s
CLNS pmax pmax
comp=E,9.0nm,0.8s
JIRN Jiri 32.64 283 *e*P **P** **14 34 45.3 +0.2**
comp=E,64nm,1.1s,mb5.4
PKI Pulchoki 33.33 283 *e*P **P** **14 34 50.8 -0.4**
comp=E,63nm,1.2s,mb5.3
KKN Kakani 33.43 284 *e*P **P** **14 34 51.8 -0.2**
comp=E,76nm,1.1s,mb5.4
DMN Daman 33.60 283 *e*P **P** **14 34 53.4 0.0**
comp=E,69nm,1.1s,mb5.4
BOD Bodaibo 33.72 352 *e*P **P** **14 34 50.1 -4.1**
GKN Gorkha 33.99 284 *e*P **P** **14 34 56.5 -0.3**
comp=E,51nm,0.9s,mb5.3
WMQ Urumqi 34.21 313 P **P** **14 34 58.8 +0.3**
WMQ AP pP 14 35 23.5 +2.2
WMQ XP sP 14 35 36.8 +3.7
WMQ PP PP 14 36 16.5 +0.4
WMQ S **S** **14 40 15.5 -1.3**
WMQ XS 14 41 00.1
WMQ AMB AMB
comp=Z,77nm,1.1s,mb5.5
WMQ AMB AMB
comp=Z,396nm,4.5s
KOLN Koldanda 34.92 284 *e*P **P** **14 35 04.8 +0.1**
comp=Z,65nm,1.1s,mb5.4
YAK Yakutsk 37.71 6⇑*e*P **P** **14 35 26.0 -1.8**
YAK *e* 14 37 41.5
YAK pmax pmax
comp=Z,170nm,0.9s,mb5.9
YAK Yakutsk 37.71 6⇑*e*P **P** **14 35 25.9 -1.9**
comp=Z,170nm,0.9s,mb5.9
YAK *e*PcP PcP 14 37 41.5 -2.1
MKAR Makanchi Array 38.85 315 *i* P **P** **14 35 37.2 -0.2**
MKAR pmax pmax
comp=Z,14nm,0.6s
PET Petropavlovsk 39.29 34 *e*P **P** **14 35 39.8 -1.2**
DDI Dehra Dun 39.62 288 *e*P **P** **14 35 42.3 -1.7**
MA2 Magadan 40.14 22 *e*P **P** **14 35 46.1 -1.9**
MA2 *e* 14 37 50.1
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
MA2 Magadan 40.14 22 *e*P **P** **14 35 46.1 -1.8**
comp=Z,9.5nm,0.8s,mb4.7
MA2 *e*PcP PcP 14 37 50.1 -1.1
NDI New Delhi 40.47 286 *e*P **P** **14 35 49.5 -1.5**
ZAL Zalesovo 40.53 326 P **P** **14 35 50.7 -0.5**
ZAL 14 37 50.9
ZAL pmax pmax
comp=Z,24nm,0.7s
ZAL pmax pmax
comp=Z,5.0nm,0.6s
ZAL pmax pmax
comp=E,4.0nm,1.1s
ZAL Zalesovo 40.53 326 P **P** **14 35 50.7 -0.5**
comp=E,24nm,0.7s,mb5.1,baz=270,slow=8.5,SNR=128
ZAL PcP PcP 14 37 50.9 -1.7
comp=E,5.2nm,0.6s,baz=264,slow=1.3,SNR=5.9
ZAL ScP 14 41 31.4
comp=E,3.6nm,1.1s,baz=268,slow=4.2,SNR=6.6
ZAL Zalesovo 40.53 326 P **P** **14 35 50.7 -0.5**
ZAL PcP PcP 14 37 50.9 -1.7
ZAL ScP 14 41 31.4
HYB Hyderabad 41.48 269 *e*P **P** **14 36 00.5 +1.1**
HYB Hyderabad 41.48 269 *i* P **P** **14 36 00.5 +1.1**
PMG Port Moresby 41.52 142 *e*P **P** **14 36 00.2 +0.3**
PMG pmax pmax
comp=Z,28nm,0.8s
PMG Port Moresby 41.52 142 P **P** **14 36 00.7 +0.8**
comp=Z,26nm,0.7s,mb5.1,baz=334,slow=5.6,SNR=8.8
PMG Port Moresby 41.52 142 *e*P **P** **14 36 00.2 +0.3**
comp=Z,28nm,0.8s,mb5.0
NVS Novosibirsk 41.78 327 *e*P **P** **14 35 59.5 -1.9**
NVS *e* pP 14 36 21.1 -3.5
NVS *e* 14 37 41.5
NVS pmax pmax
comp=Z,49nm,1.1s,mb5.2
NVS pmax pmax
comp=N,42nm,1.6s
NVS pmax pmax
comp=E,108nm,1.6s
TKM2 Tokmak 2 42.42 307 P **P** **14 36 08.0 +1.1**
SNR=29
KURK Kurchatov 42.52 319⇑*i*P **P** **14 36 06.7 -0.9**
KURK *e* 14 37 57.6
KURK pmax pmax
comp=Z,66nm,1.1s,mb5.3
KURK Kurchatov 42.52 319⇑*i*P **P** **14 36 06.7 -0.9**
comp=Z,66nm,1.1s,mb5.3
KURK *e*PcP PcP 14 37 57.6 -1.4
KZA Kyzart 42.54 306 P **P** **14 36 07.2 -0.7**
SNR=9.1
FITZ Fitzroy Crossi 42.58 176 *e*P **P** **14 36 07.7 -0.8**
comp=Z,24nm,0.6s,mb5.1
KBK Karagaybulak 42.85 307 P **P** **14 36 11.7 +1.3**

SNR=9.8
CHMS Chumysh 43.05 307 P **P** **14 36 12.7 +0.7**
SNR=14
UCH Uchtor 43.10 306 P **P** **14 36 14.5 +2.1**
SNR=28
FRU Bishkek 43.12 307 *i* P **P** **14 36 12.0 -0.6**
SEY Seymchan 43.17 19 *e*P **P** **14 36 11.2 -1.5**
SEY *e* 14 37 58.7
SEY pmax pmax
comp=N,10.0nm,0.7s
SEY pmax pmax
comp=E,10.0nm,0.7s
SEY pmax pmax
comp=Z,30nm,0.7s,mb5.1
AAK Ala-Archa 43.18 307 P **P** **14 36 14.4 +1.4**
SNR=6.8
AAK Ala-Archa 43.18 307 *e*P **P** **14 36 12.7 -0.4**
AAK *e* 14 38 00.1
AAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
AAK Ala-Archa 43.18 307 *e*P **P** **14 36 12.7 -0.4**
comp=Z,7.8nm,0.9s,mb4.4
AAK *e*PcP PcP 14 38 00.1 -1.3
AAK *e*ScP 14 41 42.5
USP Ospenovka 43.27 308 P **P** **14 36 14.7 +0.8**
SNR=6.8
AML Almayashu 43.69 306 P **P** **14 36 18.9 +1.6**
SNR=8.1
EKS2 Erkin-Say 43.70 307 P **P** **14 36 18.2 +0.8**
SNR=6.3
MBWA Marble Bar 45.58 184 *e*P **P** **14 36 30.4 -2.2**
comp=Z,9.2nm,0.6s,mb4.7
WRAB Tennant Creek 45.77 164 *e*P **P** **14 36 34.1 0.0**
WRAB *e**PP pP 14 36 59.4 +1.8
WRAB pmax pmax
comp=Z,30nm,0.9s,mb5.0
WRAB Tennant Creek 45.77 164 *e*P **P** **14 36 34.1 0.0**
comp=Z,30nm,0.9s,mb5.0
WRAB *e*pP pP 14 36 59.4 +1.9
WRA Warramunga Arr 45.78 164 P **P** **14 36 34.0 -0.2**
WRA 14 38 09.7
WRA pmax pmax
comp=Z,13nm,0.4s
WRA pmax pmax
comp=Z,8.0nm,0.8s
WRA Warramunga Arr 45.78 164 P **P** **14 36 34.0 -0.2**
comp=Z,13nm,0.4s,mb5.0,baz=347,slow=8.8,SNR=264
WRA PcP PcP 14 38 09.7 -0.9
comp=Z,7.6nm,0.8s,baz=340,slow=3.7,SNR=5.9
WB2 Warramunga Arr 45.78 164⇓*i*P **P** **14 36 34.1 -0.1**
WB2 *i* S **S** **14 43 08.6 -0.9**
TIXI Tiksi 47.20 3⇑*i*P **P** **14 36 42.4 -2.3**
TIXI pmax pmax
comp=Z,70nm,1.0s,mb5.3
TIXI MLR MLR
comp=Z,2μm,16.0s
FX1 Attu Island--F 47.24 40 *e*P **P** **14 36 43.7 -1.6**
BVA0 Borovoye Array 48.08 320 P **P** **14 36 50.8 -1.0**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
BVAR Borovoye Array 48.08 320 P **P** **14 36 50.9 -0.9**
comp=Z,12nm,0.7s,mb4.9,baz=104,slow=7.9,SNR=89
BVAR PcP PcP 14 38 17.3 -1.1
comp=Z,15nm,0.6s,baz=125,slow=2.5,SNR=20
BVAR ScP 14 42 02.5
comp=Z,17nm,0.9s,baz=108,slow=4.7,SNR=29
CHKZ Chkalovo 48.13 321⇑*i*P **P** **14 36 50.6 -1.5**
CHKZ *e* 14 38 16.7
CHKZ pmax pmax
comp=Z,37nm,0.8s,mb5.3
CHKZ Chkalovo 48.13 321⇑*i*P **P** **14 36 50.6 -1.5**
comp=Z,37nm,0.8s,mb5.3
CHKZ *e*PcP PcP 14 38 16.7 -1.8
BRVK Borovoye 48.15 320⇑*i*P **P** **14 36 51.4 -0.9**
BRVK *e* 14 38 17.1
BRVK pmax pmax
comp=Z,35nm,0.8s,mb5.2
BRVK Borovoye 48.15 320⇑*i*P **P** **14 36 51.4 -1.0**
comp=Z,35nm,0.8s,mb5.2
BRVK *e*PcP PcP 14 38 17.1 -1.6
BRVK *e*ScP 14 42 02.3
ASAR Alice Springs 49.27 166 P **P** **14 37 01.4 0.0**
comp=Z,3.8nm,0.4s,mb4.7,baz=346,slow=6.7,SNR=138
ASAR PcP PcP 14 38 22.4 -0.6
comp=Z,7.2nm,0.7s,baz=344,slow=3.5,SNR=6.5
ASAR ScP 14 42 07.7
comp=Z,2.7nm,1.0s,baz=6.5,slow=4.8,SNR=7.2
ASPA Alice Springs 49.27 166 *e*P **P** **14 37 01.7 +0.4**
ASPA *i* S **S** **14 44 00.8 +2.3**
CTA Charters Tower 50.11 150 *e*P **P** **14 37 08.4 +0.6**
comp=Z,9.7nm,1.5s,mb4.5
CTA Charters Tower 50.11 150 *e*P **P** **14 37 08.4 +0.6**
CTA pmax pmax
comp=Z,10.0nm,1.5s
CTA Charters Tower 50.11 150 P **P** **14 37 08.6 +0.7**
comp=Z,14nm,1.1s,mb4.8,baz=351,slow=7.7,SNR=12
CTAO Charters Tower 50.11 150 *e*P **P** **14 37 08.1 +0.3**
CTAO *e**PP pP 14 37 32.2 +0.6
CTAO pmax pmax
comp=Z,14nm,1.0s,mb4.8
CTAO Charters Tower 50.11 150 *e*P **P** **14 37 08.1 +0.2**
comp=Z,14nm,1.0s,mb4.9
CTAO *e*pP pP 14 37 32.2 +0.6
BILL Bilibino 50.88 20 *e*P **P** **14 37 12.3 -0.8**
BILL *e* 14 38 27.2
BILL pmax pmax
comp=Z,11nm,0.8s,mb4.9
BILL Bilibino 50.88 20 *e*P **P** **14 37 12.3 -0.8**
comp=Z,11nm,0.8s,mb5.0
BILL *e*PcP PcP 14 38 27.2 -1.1
FORT Forrest 55.35 174 *e*P **P** **14 37 45.9 -0.7**
comp=Z,201nm,0.6s
ARU Arti 55.47 323 P **P** **14 37 45.3 -1.8**
comp=Z,313nm,0.7s,SNR=23
ARU Arti 55.47 323⇑*i*P **P** **14 37 40.3 -6.8**
ARU *e*S **S** **14 45 20.4 -2.0**
ARU *e* 14 47 24.6
ARU *e*SS SS 14 49 07.4 -1.0
ARU *e*SSS SSS 14 51 18.2 +0.5
ARU pmax pmax
comp=Z,38nm,0.8s,mb5.5
WBK Wadi Bani Khal 57.75 282⇑P **P** **14 38 04.7 +1.0**
BIDO Bidbid 58.25 283⇑P **P** **14 38 08.6 +1.3**
HOQ Hoqain 58.96 284 P **P** **14 38 13.1 +1.0**
SNR=6.7
STKA Stephens Creek 59.08 161 *e*P **P** **14 38 12.4 -0.4**
comp=Z,3.6nm,0.5s,mb4.7
STKA Stephens Creek 59.08 161 P **P** **14 38 12.3 -0.6**
comp=Z,5.7nm,0.8s,mb4.7,baz=349,slow=7.8,SNR=7.7
TNA Tin City 59.42 27 *e*P **P** **14 38 13.1 -1.6**
ARQ Araqi 59.72 284 P **P** **14 38 17.8 +0.4**
SNR=5.8
DZM Mont Dzumac 63.08 134 *e*P **P** **14 38 40.0 0.0**
DZM Mont Dzumac 63.08 134 *e*P **P** **14 38 40.0 0.0**
RBK Rabkut 63.55 278 P **P** **14 38 42.8 -0.4**
SNR=10
ABTO Aybut 64.41 278 P **P** **14 38 48.3 -0.5**
SNR=6.8
SVW2 Sparrevohn 64.91 32 *e*P **P** **14 38 49.9 -1.4**
IMA Indian Mountai 65.29 27 *e*P **P** **14 38 53.1 -0.6**
IMA *e* 14 39 25.1
IMA pmax pmax
comp=Z,60nm,1.0s,mb5.4
IMA Indian Mountai 65.29 27 *e*P **P** **14 38 53.4 -0.3**
comp=Z,11nm,0.9s,mb4.7
GNI Garni 65.52 305⇓*i*P **P** **14 38 55.2 -0.4**
GNI pmax pmax
comp=Z,27nm,1.7s
ZEI Tsey 65.60 308 *e*P **P** **14 38 55.2 -0.9**
ZEI *i* 14 41 20.5
ZEI pmax pmax
comp=Z,13nm,1.0s,mb4.7
KIV Kislovodsk 66.22 309*c*i*P **P** **14 38 59.7 -0.3**
KIV *i* pP 14 39 25.7 +0.7
KIV pmax pmax
comp=Z,69nm,1.4s,mb5.3
KIV Kislovodsk 66.22 309 *e*P **P** **14 38 58.6 -1.4**
comp=Z,14nm,0.8s,mb4.8
APA Apatity 67.15 335⇓*i*P **P** **14 39 03.7 -1.7**
APA pmax pmax
comp=Z,58nm,0.8s,mb5.5
APA MLR MLR
comp=Z,2μm,17.0s
SLKM Skilak Lake 67.59 32 *e*P **P** **14 39 05.8 -2.5**
SLKM *e**PP pP 14 39 33.4 0.0

MCK McKinley 67.61 29 *eP* **P 14 39 06.3 -2.0**
MCK pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
MCK McKinley 67.61 29 *eP* **P 14 39 06.3 -2.1**
comp=Z,6.5nm,0.7s,mb4.6
COLA College 67.86 27 *eP* **P 14 39 08.7 -1.2**
COLA pmax pmax
comp=Z,26nm,0.8s,mb5.1
COLA College 67.86 27 *eP* **P 14 39 08.7 -1.2**
comp=Z,26nm,0.8s,mb5.7
OBN Obninsk 67.88 322 *eP* **P 14 39 05.3 -4.9**
OBN *i* pP 14 39 32.7 -2.6
OBN pmax pmax
comp=Z,21nm,1.2s,mb4.8
PMR Palmer 67.91 31 *eP* **P 14 39 08.3 -1.9**
PMR pmax pmax
comp=Z,20nm,0.8s,mb5.0
PMR Palmer 67.91 31 *eP* **P 14 39 08.3 -1.9**
comp=Z,20nm,0.8s,mb5.0
ILAR Eielson Array 68.29 27 P **P 14 39 10.3 -2.2**
ILAR pmax pmax
comp=Z,4.0nm,0.7s
ILAR Eielson Array 68.29 27 P **P 14 39 10.2 -2.3**
comp=Z,3.6nm,0.7s,mb4.3,baz=294,slow=3.1,SNR=64
SOC Sochi 68.40 309 *eP* **P 14 39 10.3 -3.3**
SOC *e* 14 41 42.1
SOC *e*PPP PPP 14 43 28.2 +2.7
SOC *e*S S 14 48 03.7 -2.0
SOC *e*SSS SSS 14 55 39.0 +4.5
SOC pmax pmax
comp=Z,39nm,0.8s,mb5.3
SOC pmax pmax
comp=N,45nm,1.0s
SOC pmax pmax
comp=E,25nm,0.9s
JOF Joensuu 68.90 331 *ep* **P 14 39 15.0 -1.3**
comp=E,1.8nm,0.2s,mb4.5
KEV Kevo 69.01 338 *ep* **P 14 39 15.1 -1.8**
comp=E,3.5nm,0.3s,mb4.7
KEV Kevo 69.01 338 *eP* **P 14 39 15.1 -1.8**
KEV pmax pmax
comp=Z,4.0nm,0.3s,mb4.7
THY Trims Highway 69.07 29 *eP* **P 14 39 16.4 -0.9**
RAYN Ar Rayn 69.34 287 P **P 14 39 19.5 -0.2**
comp=Z,71nm,1.0s,mb5.5,SNR=9.7
ARCES ARCESS Array B 69.57 338 P **P 14 39 19.2 -1.2**
ARCES pmax pmax
comp=Z,15nm,0.8s
ARCES ARCESS Array B 69.57 338 P **P 14 39 19.1 -1.2**
comp=Z,15nm,0.8s,mb4.9,baz=70,slow=6.4,SNR=44
DIV Divide 69.59 31 *eP* **P 14 39 20.0 -0.6**
comp=Z,91nm,0.8s,mb5.7
MENT Mentasta 70.08 29 *eP* **P 14 39 23.2 -0.3**
MALT Malatya 70.72 304 *eP* **P 14 39 27.8 0.0**
MALT pmax pmax
comp=Z,16nm,0.7s,mb5.0
MALT Malatya 70.72 304 *eP* **P 14 39 27.8 -0.1**
comp=Z,16nm,0.7s,mb5.0
KAF Kangasniemi 71.35 330 *ep* **P 14 39 28.5 -2.7**
comp=Z,0.8nm,0.3s
KAF Kangasniemi 71.35 330 *eP* **P 14 39 28.5 -2.7**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
DAWY Dawson 71.61 27 *eP* **P 14 39 31.9 -0.8**
FINES FINESS Array B 71.66 330 P **P 14 39 32.1 -0.9**
FINES pmax pmax
comp=Z,17nm,0.9s
FINES FINESS Array B 71.66 330 P **P 14 39 32.1 -0.9**
comp=Z,17nm,0.9s,mb4.9,baz=66,slow=6.2,SNR=45
INK Inuvik 72.38 22 P **P 14 39 36.2 -1.0**
INK pmax pmax
comp=Z,19nm,0.8s
INK Inuvik 72.38 22 P **P 14 39 36.2 -1.0**
comp=Z,19nm,0.8s,mb5.0,baz=300,slow=6.0,SNR=77
INK Inuvik 72.38 22 *eP* **P 14 39 35.8 -1.4**
comp=Z,21nm,0.8s,mb5.0
AKASG Malin Array Be 73.32 318 P **P 14 39 41.3 -1.6**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 73.32 318 P **P 14 39 41.2 -1.7**
comp=Z,3.8nm,0.7s,mb4.3,baz=57,slow=5.3,SNR=12
BRTR Keskin Array B 73.86 307 P **P 14 39 46.2 -0.1**
BRTR pmax pmax
comp=Z,10.0nm,0.8s
BRTR Keskin Array B 73.86 307 P **P 14 39 46.1 -0.2**
comp=Z,9.5nm,0.8s,mb4.6,baz=102,slow=6.1,SNR=53
SUW Suwalki 75.66 323 P **P 14 39 55.5 -0.8**
SUW pmax pmax
comp=Z,67nm,0.7s,mb5.5
SUW Suwalki 75.66 323 P **P 14 39 55.5 -0.8**
comp=Z,67nm,0.7s,mb5.5
DAG Danmarks Havn 76.11 351⇓ *eP* **P 14 39 56.8 -1.7**
DAG pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
DAG Danmarks Havn 76.11 351⇓ *eP* **P 14 39 56.8 -1.7**
comp=Z,4.8nm,0.7s,mb4.3
DAG Danmarks Havn 76.11 351⇓ *iP* **P 14 39 56.8 -1.7**
comp=Z,4.8nm,0.7s,mb4.3
DLBC Dease Lake 77.97 31 *eP* **P 14 40 09.3 +0.2**
RES Resolute Bay 78.04 9 *eP* **P 14 40 07.8 -1.4**
RES pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
RES Resolute Bay 78.04 9 *eP* **P 14 40 07.8 -1.5**
comp=Z,4.9nm,0.8s,mb4.3
KOLS Kolonicke sedl 78.16 318 *eP* **P 14 40 08.9 -1.4**
NB2 NORSAR Subarra 78.38 332 P **P 14 40 09.9 -1.4**
comp=Z,18nm,0.9s,mb4.8,baz=57,slow=5.3
NB2 NORSAR Subarra 78.38 332 P **P 14 40 09.9 -1.4**
baz=57,slow=5.3
NOA NORSAR Array B 78.38 332 P **P 14 40 10.5 -0.8**
NOA pmax pmax
comp=Z,8.0nm,0.6s
NOA NORSAR Array B 78.38 332 P **P 14 40 10.4 -0.9**
comp=Z,7.6nm,0.6s,mb4.6,baz=56,slow=5.4,SNR=32
CRVS Cervenica-Dubn 78.66 319 *eP* **P 14 40 17.4 +4.3**
CRVS Cervenica-Dubn 78.66 319 *e* **P 14 40 17.4 +4.3**
OJC Ojcow 79.09 320 *eP* **P 14 40 14.6 -0.8**
NIE Niedzica 79.13 319 *eP* **P 14 40 16.9 +1.3**
VYHS Vyhne 80.41 319 *iP* **P 14 40 22.5 0.0**
KSP Ksiaz 80.81 322 *eP* **P 14 40 24.8 +0.2**
URZ Urewera 80.84 139 P **P 14 40 25.0 -0.1**
comp=Z,9.4nm,0.5s,mb4.9,baz=28,slow=1.0,SNR=15
DPC Dobruska-Polom 81.03 321 *eP* **P 14 40 25.7 -0.1**
RPZ Rata Peaks 81.30 147 P **P 14 40 27.8 +0.4**
comp=Z,35nm,0.8s,mb5.3,baz=39,slow=6.7,SNR=13
PKSM Moragy 81.54 317⇓ *eP* **P 14 40 28.5 -0.1**
SKO Skopje 81.59 312 *iP* **P 14 40 27.5 -1.4**
PVCC Panska Ves 81.93 322 *eP* **P 14 40 30.7 +0.2**
YKW3 Yellowknife Ar 82.06 23⇑ *eP* **P 14 40 30.2 -0.7**
BRG Berggiesshubel 82.11 323 *eP* **P 14 40 31.9 +0.5**
BRG *e* pP 14 40 59.3 +2.0
BRG pmax pmax
comp=Z,13nm,1.1s,mb4.7
BRG Berggiesshubel 82.11 323 *eP* **P 14 40 31.9 +0.5**
comp=Z,13nm,1.1s,mb4.7
BRG *i* 14 40 33.9
YKA Yellowknife Ar 82.11 23 P **P 14 40 30.5 -0.7**
comp=Z,17nm,0.7s,mb5.0,baz=313,slow=4.9,SNR=196
YKA PKKPbc 14 58 57.4
comp=Z,0.3nm,0.5s,baz=128,slow=2.3,SNR=7.1
SUMG Summit 82.19 354 *eP* **P 14 40 30.9 -0.5**
comp=Z,65nm,1.4s,mb5.3
PRU Pruhonice 82.21 322 *eP* **P 14 40 32.3 +0.4**
CLL Collm 82.41 323 *iP* **P 14 40 32.6 -0.3**
CLL *i* 14 40 50.7
CLL pmax pmax
comp=Z,20nm,1.1s,mb4.9
CLL Collm 82.41 323 *iP* **P 14 40 32.6 -0.3**
comp=Z,20nm,1.1s,mb4.9
CLL *i* 14 40 50.7
CLL Collm 82.41 323 P **P 14 40 32.6 -0.3**
comp=Z,logA/T=1.3,mb4.9
CLL *i* *PP pP 14 40 50.7 -8.2
CLL *e*PP PP 14 43 43.0 -1.4
BSEG Bad Segeberg 82.46 326 *eP* **P 14 40 33.5 +0.4**
KHC Kasperske Hory 83.17 321 *eP* **P 14 40 37.3 +0.5**
GEC2 GERESS Array S 83.25 321 *eP* **P 14 40 37.5 +0.3**
GEC2 pmax pmax
comp=Z,24nm,1.1s,mb4.9
GEC2 GERESS Array S 83.25 321 *eP* **P 14 40 37.5 +0.3**
comp=Z,24nm,1.1s,mb4.9
GERES GERESS Array B 83.25 321 P **P 14 40 47.6 +10**
GERES pmax pmax
comp=Z,9.0nm,1.0s
GERES pmax pmax
comp=Z,1.0nm,1.0s
GERES GERESS Array B 83.25 321 P **P 14 40 47.6 +10**
comp=Z,9.1nm,0.9s,mb4.6,baz=56,slow=4.8,SNR=33
GERES PKKPbc 14 59 07.6
comp=Z,1.4nm,1.0s,baz=315,slow=1.9,SNR=4.0
MOX Moxa 83.50 323 *eP* **P 14 40 38.9 +0.5**
MOX pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
MOX Moxa 83.50 323 *eP* **P 14 40 38.9 +0.5**
comp=Z,8.0nm,1.1s,mb4.5
MOX Moxa 83.50 323 *iP* **P 14 40 38.9 +0.5**
comp=Z,logA/T=0.9,mb4.5
PERS Pernice 83.50 319 *eP* **P 14 40 38.9 +0.3**
CLZ Clausthal 83.54 325 *eP* **P 14 40 39.5 +0.9**
comp=Z,16nm,1.1s,mb4.8
WET Wettzell 83.56 321 *eP* **P 14 40 39.6 +0.8**
WET pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
WET Wettzell 83.56 321 *eP* **P 14 40 39.6 +0.8**
comp=Z,4.0nm,0.6s,mb4.4
LJU Ljubljana 84.14 318 *eP* **P 14 40 42.1 +0.4**
GRA1 Grafenberg Arr 84.21 323 *eP* **P 14 40 42.8 +0.8**
comp=Z,25nm,1.2s,mb4.9
GRF Grafenberg Arr 84.21 323 *eP* **P 14 40 42.8 +0.8**
GRF pmax pmax
comp=Z,25nm,1.2s,mb4.9
GRF Grafenberg Arr 84.21 323 *eP* **P 14 40 42.8 +0.8**
GRF pmax pmax
comp=Z,25nm,1.2s,mb4.9
GRF Grafenberg Arr 84.21 323 *eP* **P 14 40 42.8 +0.8**
comp=Z,25nm,1.2s,mb4.9
JAVS Javornik 84.50 318 *eP* **P 14 40 43.5 0.0**
TIP Timpagrande 86.04 311 *eP* **P 14 40 51.4 +0.1**
KMBO Kilima Mbogo 86.11 267 P **P 14 40 54.0 +1.8**
KMBO pmax pmax
comp=Z,4.0nm,0.2s
KMBO Kilima Mbogo 86.11 267 P **P 14 40 54.0 +1.8**
comp=Z,3.9nm,0.2s,mb5.0,baz=55,slow=10,SNR=3.6
PGC Sidney 86.34 37⇑ *eP* **P 14 40 53.4 +0.9**
comp=Z,249nm,1.4s,mb6.0
BFO Black Forest 86.55 322 *eP* **P 14 40 53.5 -0.1**
BFO pmax pmax
comp=Z,29nm,1.7s,mb4.9
BFO Black Forest 86.55 322 *eP* **P 14 40 53.5 -0.1**
comp=Z,29nm,1.7s,mb4.9
AQU L'Aquila 86.69 315 *eP* **P 14 40 54.9 +0.5**
WLF Walferdange 86.98 324 *eP* **P 14 40 56.2 +0.6**
CDF Champ du Feu 87.08 323 *eP* **P 14 40 56.1 -0.1**
comp=Z,44nm,1.1s,mb5.0
CDF Champ du Feu 87.08 323 *eP* **P 14 40 56.1 -0.1**
CDF pmax pmax
comp=Z,22nm,1.1s,mb5.0
GIVF Givet 87.42 325 *eP* **P 14 40 57.5 -0.2**
JCW Jim Creek 87.44 37 P **P 14 40 59.0 +1.2**
HINF Hinteralfeld 87.66 323 *eP* **P 14 40 58.2 -0.7**
BAIF Baives 87.76 325 *eP* **P 14 40 59.1 -0.3**
comp=Z,83nm,1.4s,mb5.3
BAIF Baives 87.76 325 *eP* **P 14 40 59.1 -0.3**
BAIF pmax pmax
comp=Z,42nm,1.4s,mb5.3
HAU Haudompre 87.83 323 *eP* **P 14 40 59.1 -0.6**
comp=Z,22nm,0.9s,mb4.9
HAU Haudompre 87.83 323 *eP* **P 14 40 59.1 -0.6**
HAU pmax pmax
comp=Z,11nm,0.9s,mb4.9
MEZF Maizieres J'vi 88.24 324 *eP* **P 14 41 01.5 -0.2**
comp=Z,52nm,1.1s,mb5.2
EDM Edmonton 88.65 30 *eP* **P 14 41 03.9 +0.4**
EDM *e*PP pP 14 41 30.1 +0.2
COR Corvallis 88.69 41⇑ *iP* **P 14 41 05.6 +1.7**
COR pmax pmax
comp=Z,164nm,1.1s,mb6.0
COR Corvallis 88.69 41⇑ *iP* **P 14 41 05.6 +1.8**
comp=Z,164nm,1.1s,mb6.0
WTV Waterville 88.80 37 P **P 14 41 05.2 +0.8**
EBG Ellensburg 88.93 38 P **P 14 41 06.4 +1.4**
KEBM Edson Butte 89.01 43⇑ *eP* **P 14 41 07.1 +1.6**
LPG La Plagne 89.04 321 *eP* **P 14 41 05.9 +0.4**
comp=Z,53nm,0.9s,mb5.3
LPG La Plagne 89.04 321 *eP* **P 14 41 05.9 +0.4**
LPG pmax pmax
comp=Z,27nm,0.9s,mb5.3
LPL La Plagne 89.04 321 *eP* **P 14 41 05.8 +0.3**
comp=Z,41nm,0.9s,mb5.2
LPL La Plagne 89.04 321 *eP* **P 14 41 05.8 +0.3**
LPL pmax pmax
comp=Z,21nm,0.9s,mb5.2
BNI Bardonecchia 89.34 320 *eP* **P 14 41 06.9 0.0**
BNI pmax pmax
comp=Z,15nm,1.0s,mb5.0
BNI Bardonecchia 89.34 320 *eP* **P 14 41 06.9 0.0**
comp=Z,15nm,1.0s,mb5.0
PGF Pioggiola 89.35 317 *eP* **P 14 41 06.8 -0.3**
comp=Z,45nm,0.8s,mb5.2
PGF Pioggiola 89.35 317 *eP* **P 14 41 06.8 -0.3**
PGF pmax pmax
comp=Z,23nm,0.8s,mb5.3
MBDF Montbardon 89.47 320 *eP* **P 14 41 07.4 -0.2**
comp=Z,17nm,0.9s,mb4.8
MBDF Montbardon 89.47 320 *eP* **P 14 41 07.4 -0.2**
MBDF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
SBF Sospel 89.57 319 *eP* **P 14 41 07.4 -0.7**
comp=Z,115nm,1.0s,mb5.7
SBF Sospel 89.57 319 *eP* **P 14 41 07.4 -0.7**
SBF pmax pmax
comp=Z,58nm,1.0s,mb5.7
ORIF Oris-en-Rattie 89.88 321 *eP* **P 14 41 09.3 -0.2**
comp=Z,37nm,1.0s,mb5.2
ORIF Oris-en-Rattie 89.88 321 *eP* **P 14 41 09.3 -0.2**
ORIF pmax pmax
comp=Z,18nm,1.0s,mb5.2
SSF Saint Saulge 89.94 323 *eP* **P 14 41 09.0 -0.7**
SSF pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
SSF Saint Saulge 89.94 323 *eP* **P 14 41 09.0 -0.7**
comp=Z,10nm,1.1s,mb4.9
NEW Newport 89.98 35⇑ *iP* **P 14 41 10.7 +0.8**
NEW pmax pmax
comp=Z,90nm,1.0s
NEW Newport 89.98 35⇑ *iP* **P 14 41 10.7 +0.9**
comp=Z,90nm,1.0s,mb5.8
HUMO Hull Mountain 90.00 42⇑ *eP* **P 14 41 11.4 +1.3**
comp=Z,31nm,1.1s,mb5.3
SMF Signal de Mont 90.01 323 *eP* **P 14 41 09.5 -0.5**
comp=Z,79nm,1.0s,mb5.5
SMF Signal de Mont 90.01 323 *eP* **P 14 41 09.5 -0.5**
SMF pmax pmax
comp=Z,39nm,1.0s,mb5.5
AVF Avril sur Loir 90.19 323 *eP* **P 14 41 10.3 -0.6**
comp=Z,49nm,1.1s,mb5.3
AVF Avril sur Loir 90.19 323 *eP* **P 14 41 10.3 -0.6**
AVF pmax pmax
comp=Z,25nm,1.1s,mb5.3
HYF Humbligny 90.28 324 *eP* **P 14 41 11.2 -0.1**
VIPM Ingram Point 90.31 40 P **P 14 41 12.9 +1.4**
LMR La Mourre 90.42 319 *eP* **P 14 41 11.6 -0.5**
comp=Z,84nm,1.2s,mb5.4
LMR La Mourre 90.42 319 *eP* **P 14 41 11.6 -0.5**
LMR pmax pmax
comp=Z,42nm,1.3s,mb5.4
KHMM Horse Mountain 90.48 44 *eP* **P 14 41 14.2 +1.8**
VIVF Saint-Julien-l 90.61 321 *eP* **P 14 41 12.5 -0.4**
comp=Z,35nm,0.9s,mb5.2
VIVF Saint-Julien-l 90.61 321 *eP* **P 14 41 12.5 -0.4**
VIVF pmax pmax
comp=Z,17nm,0.9s,mb5.2
YBH Yreka Blue Hor 90.64 43⇑ *eP* **P 14 41 14.1 +0.9**
YBH pmax pmax
comp=Z,51nm,1.2s
YBH Yreka Blue Hor 90.64 43⇑ *eP* **P 14 41 14.1 +0.9**
comp=Z,50nm,1.2s,mb5.5
WALA Waterton Lakes 91.11 33⇑ *eP* **P 14 41 16.4 +1.3**
comp=Z,68nm,1.0s,mb5.7
TCF Toulx Ste Croi 91.12 323 *eP* **P 14 41 14.9 -0.4**
comp=Z,39nm,1.3s,mb5.1
TCF Toulx Ste Croi 91.12 323 *eP* **P 14 41 14.9 -0.4**
TCF pmax pmax
comp=Z,19nm,1.3s,mb5.1
WDC Whiskeytown Da 91.40 44 *eP* **P 14 41 17.3 +0.6**
WDC pmax pmax
comp=Z,35nm,1.0s,mb5.4
WDC Whiskeytown Da 91.40 44 *eP* **P 14 41 17.3 +0.6**
comp=Z,35nm,1.0s,mb5.4
GRR Gorron 91.40 326 *eP* **P 14 41 16.3 -0.2**
LASF Ste Croix 91.54 321 *eP* **P 14 41 17.1 -0.2**
comp=Z,56nm,1.2s,mb5.4
FCC Fort Churchill 91.57 18⇑ *iP* **P 14 41 16.2 -0.8**
FCC pmax pmax
comp=Z,64nm,1.2s,mb5.7
FCC Fort Churchill 91.57 18⇑ *iP* **P 14 41 16.2 -0.8**
comp=Z,64nm,1.2s,mb5.7
BMO Blue Mountains 91.99 38⇑ *iP* **P 14 41 20.0 +0.7**
comp=Z,39nm,1.0s,mb5.6
CAF Calviac 92.04 322 *eP* **P 14 41 19.8 +0.3**
comp=Z,54nm,0.9s,mb5.5
CAF Calviac 92.04 322 *eP* **P 14 41 19.8 +0.3**
CAF pmax pmax
comp=Z,27nm,0.9s,mb5.5
RJF Les Rejaudoux 92.11 323 *eP* **P 14 41 20.1 +0.3**
comp=Z,77nm,1.0s,mb5.6
RJF Les Rejaudoux 92.11 323 *eP* **P 14 41 20.1 +0.3**
RJF pmax pmax
comp=Z,38nm,1.0s,mb5.6
FFC Flin Flon 92.26 24 P **P 14 41 20.1 -0.2**
comp=Z,376nm,1.0s,SNR=48
FFC Flin Flon 92.26 24⇑ *eP* **P 14 41 20.0 -0.3**
FFC pmax pmax
comp=Z,60nm,0.9s,mb5.8
FFC Flin Flon 92.26 24⇑ *eP* **P 14 41 20.0 -0.3**
comp=Z,60nm,0.9s,mb5.8
MSO Missoula 92.55 35⇑ *eP* **P 14 41 21.9 +0.1**
comp=Z,35nm,1.2s,mb5.6
ROSF Rostrenen 92.64 327 *eP* **P 14 41 22.1 -0.1**
WVOR Wild Horse Val 92.70 40 *eP* **P 14 41 23.8 +1.2**
WVOR pmax pmax
comp=Z,110nm,1.4s,mb6.0
WVOR Wild Horse Val 92.70 40 *eP* **P 14 41 23.6 +0.9**
comp=Z,107nm,1.4s,mb6.0
OHCM Honcut 92.77 44 *eP* **P 14 41 23.4 +0.3**
CHMT Chamberlain Mo 92.85 35 *eP* **P 14 41 23.7 +0.5**
MTLF Montolieu 92.93 321 *eP* **P 14 41 23.6 -0.1**
comp=Z,35nm,1.1s,mb5.3
MTLF Montolieu 92.93 321 *eP* **P 14 41 23.6 -0.1**
MTLF pmax pmax
comp=Z,18nm,1.1s,mb5.3
WCN Washoe City 93.88 43 P **P 14 41 29.7 +1.6**
WCN pmax pmax
comp=Z,24nm,1.0s,mb5.5
WCN Washoe City 93.88 43 *eP* **P 14 41 29.1 +1.1**
EPF Esparros 94.20 321 *eP* **P 14 41 30.4 +1.0**
CMB Columbia Colle 94.23 45 P **P 14 41 30.3 +0.6**
CMB pmax pmax
comp=Z,49nm,1.1s,mb5.8
CMB Columbia Colle 94.23 45 *eP* **P 14 41 30.1 +0.5**
comp=Z,49nm,1.2s,mb5.7
HLID Hailey 94.41 38 *eP* **P 14 41 31.8 +1.4**
comp=Z,28nm,0.9s,mb5.6
MCMT McKenzie Canyo 94.44 36 *eP* **P 14 41 31.2 +0.8**
BOZ Bozeman (W) 94.54 35 *eP* **P 14 41 31.7 +0.8**
BOZ pmax pmax
comp=Z,29nm,1.4s,mb5.5
BOZ Bozeman (W) 94.54 35 *eP* **P 14 41 31.7 +0.8**
comp=Z,29nm,1.4s,mb5.5
ETSF Etsaut 94.79 322 *eP* **P 14 41 32.5 +0.4**
QLMT Earthquake Lak 95.19 35 *eP* **P 14 41 35.3 +1.4**
NVAR Mina Array Bea 95.31 44 P **P 14 41 36.2 +1.6**
comp=Z,15nm,0.8s,mb5.5,baz=337,slow=2.6,SNR=76
MNV Mina 95.41 43 *eP* **P 14 41 35.9 +0.8**
MNV pmax pmax
comp=Z,32nm,1.3s,mb5.6
MNV Mina 95.41 43 *eP* **P 14 41 35.9 +0.8**
comp=Z,32nm,1.3s,mb5.6
YMR Madison River 95.55 35 *eP* **P 14 41 36.2 +0.6**
LKWY Lake 95.91 35 *eP* **P 14 41 39.7 +2.5**
LKWY pmax pmax
comp=Z,22nm,1.0s,mb5.5
LKWY Lake 95.91 35 *eP* **P 14 41 39.7 +2.5**
comp=Z,22nm,1.0s,mb5.5
IMW Indian Meadow 96.08 36 *eP* **P 14 41 39.3 +1.4**
DGMT Dagmar 96.11 29 *eP* **P 14 41 38.2 +0.2**
comp=Z,47nm,1.0s,mb5.9
TPH Tonopah 96.20 43 *eP* **P 14 41 39.7 +1.0**
TPH pmax pmax
comp=Z,47nm,1.3s,mb5.8
TPH Tonopah 96.20 43 *eP* **P 14 41 39.7 +1.1**
comp=Z,47nm,1.3s,mb5.8
MOOW Moose Ponds 96.29 36 *eP* **P 14 41 40.5 +1.6**
TPAW Teton Pass 96.35 36 *eP* **P 14 41 40.7 +1.5**
LOHW Long Hollow 96.45 36 *eP* **P 14 41 40.9 +1.3**
HWUT Hardware Ranch 97.28 38 *eP* **P 14 41 44.6 +1.1**
comp=Z,8.3nm,1.1s,mb5.1
BW06 Boulder Array 97.59 36 *eP* **P 14 41 44.8 -0.1**
comp=Z,5.9nm,1.3s,mb5.0
PDAR Pinedale Array 97.59 36 P **P 14 41 55.2 +10**
comp=Z,2.0nm,0.8s,mb4.7,baz=19,slow=0.8,SNR=15
ARUT Antelope Range 98.71 42 *eP* **P 14 41 51.8 +1.7**
MVU Marysvale 98.97 40 *e*Pdif **P 14 41 52.2 +0.9**
comp=Z,13nm,1.5s,mb5.2
MSU Marysvale 98.99 40 *eP* **P 14 41 52.1 +0.7**
NEN Nelson 99.20 44 *eP* **P 14 41 52.7 +0.3**
PFO Pinyon Flat Ob 99.43 46 *eP* **P 14 41 54.4 +0.9**
LSZ Lusaka 100.02 258 *eP* P 14 41 56.1 -0.4
PV10 Paradox Valley 100.90 39 *e*Pdif P 14 42 01.2 +1.2
PV01 Paradox Valley 101.33 39 *e*Pdif P 14 42 02.5 +0.6
SDCO Great Sand Dun 103.33 37 *e*Pdif Pdif 14 42 11.5 +0.8
MNTX Cornudas Mount 107.70 42 *e*PKP 14 46 37.9
SYO Syowa Base 110.23 202 ⇑P Pdif 14 42 39.0 -1.3
TXAR Lajitas Array 110.41 42 Pdiff Pdif 14 42 45.1 +3.1
comp=Z,0.7nm,0.8s,baz=288,slow=4.0,SNR=3.8
TXAR PKIKP 14 46 43.0
comp=Z,1.2nm,0.8s,baz=270,slow=1.3,SNR=7.3
JCT Junction City 111.86 39 *e*PKIKP PKPdf 14 46 45.4 +1.4
WVT Waverly 113.14 26 *e*PKIKP PKPdf 14 46 46.9 +0.5
QSPA South Pole Qui 114.41 180 *e*PKP PKPdf 14 46 48.9 +0.9
DBIC Dimbokro 120.02 294 PKIKP PKPdf 14 47 01.4 +1.1
DBIC pmax pmax
comp=Z,6.0nm,0.6s
DBIC pmax pmax
comp=Z,6.0nm,1.0s
DBIC Dimbokro 120.02 294 PKP PKPdf 14 47 01.4 +1.1
comp=Z,5.6nm,0.6s,baz=18,slow=2.8,SNR=12
DBIC PKKPbc 14 57 11.1
comp=Z,5.9nm,1.0s,baz=196,slow=4.2,SNR=6.4
DBIC Dimbokro 120.02 294 *e*PKPdf PKPdf 14 47 01.1 +0.8
SNAA Sanae 124.02 198 *e*PKIKP PKPdf 14 47 07.4 +0.6
VNA2 Neumayer--Watz 125.67 198⇑ *iP* PKPdf 14 47 11.3 +1.5
VNA3 Neumayer Olymp 126.13 197⇑ *iP* PKPdf 14 47 12.6 +1.9
OTAV Otavalo 148.04 42 *e*PKPdf PKPdf 14 47 54.1 +2.1
OTAV *e*PKPbc PKPdf 14 47 57.1 +5.0
USHA Ushuaia 148.76 168 PKPbc PKPdf 14 47 58.0 +6.1
comp=Z,54nm,1.0s,baz=159,slow=3.2,SNR=17
RCBR Riachuelo 152.07 308 *e*PKPbc PKPdf 14 48 06.8 +8.5
PLCA Paso Flores 160.59 149 *e*PKIKP PKPdf 14 48 10.4 +2.1
LPAZ La Paz 167.07 52 PKIKP PKPdf 14 48 17.7 +2.7
LPAZ 14 49 20.9
LPAZ pmax pmax
comp=Z,7.0nm,1.0s
LPAZ pmax pmax
comp=Z,6.0nm,0.7s
LPAZ La Paz 167.07 52 PKP PKPdf 14 48 17.6 +2.7
comp=Z,6.5nm,1.0s,baz=10,slow=3.1,SNR=14
LPAZ PKPab PKPab 14 49 20.9 -0.7
comp=Z,6.4nm,0.7s,baz=350,slow=3.5,SNR=9.2
LPAZ La Paz 167.07 52 *e*PKPdf PKPdf 14 48 17.6 +2.7
LPAZ *e*PKPab PKPab 14 49 20.6 -0.9
BDFB Brasilia 167.37 313 PKIKP PKPdf 14 48 16.7 +1.5
BDFB pmax pmax
comp=Z,10.0nm,0.8s
BDFB Brasilia 167.37 313 PKP PKPdf 14 48 16.7 +1.5
comp=Z,9.8nm,0.8s,baz=102,slow=1.3,SNR=14
LVC Limon Verde 169.38 81 PKP PKPdf 14 48 19.3 +3.1
comp=Z,2.4nm,0.9s,baz=189,slow=0.2,SNR=3.4
LVC PKPab PKPab 14 49 33.1 +1.5
comp=Z,8.9nm,0.7s,baz=356,slow=0.5,SNR=12

IGQ 21 14:49:42.1, 1.20S×81.36W, h12km±30km, mb4.2, 2C-3D,
Error ellipse: s-maj=29.9km s-min=8.2km az=171.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.74**	**96**	P	Pn	14 50 27.2	+0.5
CUSU	**Cusua**	**2.89**	**95**	P	Pn	14 50 32.5	+3.6
JUIV	**Juive**	**2.91**	**94**	P	Pn	14 50 30.7	+1.6
ARRY	**Arrayan**	**2.92**	**96**	⇓P	Pn	14 50 30.3	+0.9
ARRY				S	Sn	14 51 04.6	-0.1
JUA2	**San Juan 2**	**2.93**	**70**	P	Pn	14 50 30.4	+1.0
NAS1	**Nasa**	**2.94**	**79**	P	Pn	14 50 31.5	+1.9
TERV	**Terraza Guagua**	**2.94**	**70**	P	Pn	14 50 30.7	+1.1

PATA	Patacocha	2.94	96	P	Pn	14 50 32.6	+2.9
PINO	Pino	2.94	69	P	Pn	14 50 30.3	+0.6
PINO				S	Sn	14 51 07.5	+2.3
MOV1	Cotopaxi Vol s	2.96	81	P	Pn	14 50 30.8	+0.8
ULBA	Ulba	2.96	95	P	Pn	14 50 31.0	+1.1
PISA	Pisayambo	2.98	87	P	Pn	14 50 31.6	+1.4
YANA	Yana	2.99	69	P	Pn	14 50 31.1	+0.8
PITA	Cotopaxi Volc	3.00	78	P	Pn	14 50 32.2	+1.7
VC1	Cotopaxi 1	3.01	79	P	Pn	14 50 32.8	+2.2
TAMB	Tambo	3.04	80	⇑P	Pn	14 50 33.1	+2.1
COV1	Cotopaxi Volc	3.06	80	P	Pn	14 50 33.4	+1.9
ANTI	Antisana	3.29	77	⇑P	Pn	14 50 36.2	+1.7
COTA	Cotacachi	3.39	63	P	Pn	14 50 37.4	+1.4
CAYR	Refugio Cayamb	3.57	70	⇓P	Pn	14 50 41.6	+3.1
CAYA	Cayambe	3.60	69	⇓P	Pn	14 50 41.7	+2.7

IGQ 21 14:54:16.2, 1.20S×81.60W, h12km±25km, mb4.4, 1C-1D, Error ellipse: s-maj=24.7km s-min=9.0km az=173.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.98	96	P	Pn	14 55 05.1	+0.9
JUIV	Juive	3.15	94	P	Pn	14 55 08.7	+2.1
JUA2	San Juan 2	3.15	72	P	Pn	14 55 07.6	+0.9
ARRY	Arrayan	3.16	96	P	Pn	14 55 07.8	+0.9
TERV	Terraza Guagua	3.16	71	P	Pn	14 55 08.1	+1.2
PINO	Pino	3.17	71	P	Pn	14 55 07.5	+0.6
PINO				S	Sn	14 55 44.6	-0.4
NAS1	Nasa	3.17	80	P	Pn	14 55 09.2	+2.2
PATA	Patacocha	3.18	96	P	Pn	14 55 08.6	+1.4
RUN2	Runtun	3.20	94	P	Pn	14 55 08.7	+1.4
ULBA	Ulba	3.20	95	P	Pn	14 55 08.9	+1.5
YANA	Yana	3.21	71	P	Pn	14 55 08.8	+1.2
PISA	Pisayambo	3.22	88	⇑P	Pn	14 55 08.7	+1.0
VC1	Cotopaxi 1	3.25	80	P	Pn	14 55 10.4	+2.3
TAMB	Tambo	3.27	81	P	Pn	14 55 10.2	+1.8
ANTI	Antisana	3.52	78	P	Pn	14 55 14.0	+2.1
ANTI				S	Sn	14 55 55.5	+1.6
COTA	Cotacachi	3.60	65	P	Pn	14 55 14.4	+1.3
CAYR	Refugio Cayamb	3.79	72	P	Pn	14 55 18.8	+3.0
CAYR				S	Sn	14 56 00.3	-0.5
CAYA	Cayambe	3.82	71	⇓P	Pn	14 55 19.0	+2.7
CAYA				S	Sn	14 56 02.0	+0.3

IDC 21 14:57:24.7±3.8, 29.91N×86.88E, mb3.4/2, mb1 3.7/3, mb1mx3.4/19, mbtmp3.4/3, Error ellipse: s-maj=91.4km s-min=51.2km az=74.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	6.20	133	e	Pn	14 58 52.0	-7.7
CMAR	Chiang Mai Arr	15.83	133	Pn	P	15 01 09.1	-1.6
	baz=315,slow=10,SNR=5.2						
SONM	Songino Array	23.36	35	P	P	15 02 35.1	-0.5
	1.0nm,0.7s,baz=228,slow=11,SNR=10						
YKA	Yellowknife Ar	86.31	10	P	P	15 10 08.0	-1.1
	0.2nm,0.7s,baz=334,slow=5.0,SNR=4.2						

*IDC **21** 15:02:40.1±1.0, 25.52N×142.83E, h57km±7km, mb3.4/7, mb1 3.6/7, mb1mx3.4/19, mbtmp3.7/7, MS3.8/1, Ms1 3.8/1, ms1mx2.7/19, Error ellipse: s-maj=34.2km s-min=8.1km az=77.0*

ISC 21 15:02:38.8±2.5, 25.5N±0.1×142.8E±0.3, h62km±20km, h55km±1.2km: pP-P, n9, σ0°76/9, mb3.8/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.68	340	P	P	15 03 05.0	-1.5
	147nm,0.3s,baz=271,slow=9.6,SNR=18						
CBIJ				S	S	15 03 28.4	+1.4
	64nm,0.3s,baz=285,slow=23,SNR=9.3						
CBIJ				LR	LR	15 03 48.8	
	comp=Z,2μm,18.0s,baz=202,slow=41						
JHJ	Hachijo jima 2	8.03	341	LR	LR	15 07 54.7	
	comp=Z,599nm,18.7s,baz=103,slow=39						
SONM	Songino Array	36.25	317	P	P	15 09 37.5	-0.2
	0.4nm,0.7s,mb3.4,baz=127,slow=7.2,SNR=3.1						
WRA	Warramunga Arr	45.92	191	P	P	15 10 57.6	+0.3
	1.2nm,0.6s,mb4.0,baz=10.0,slow=8.6,SNR=15						
WRA				pP	pP	15 11 12.7	-0.7
	1.0nm,0.7s,baz=11,slow=8.6,SNR=3.2						
ASAR	Alice Springs	49.64	191	P	P	15 11 26.9	+0.6
	0.4nm,0.6s,mb3.6,baz=14,slow=12,SNR=7.5						
ASAR				pP	pP	15 11 41.0	-1.4
	0.3nm,0.6s,baz=17,slow=11,SNR=2.2						
ILAR	Eielson Array	58.83	28	P	P	15 12 32.7	-0.2
	1.0nm,1.1s,mb3.8,baz=254,slow=6.0,SNR=4.2						
BVAR	Borovoye Array	59.59	318	P	P	15 12 37.5	-0.8
	1.0nm,0.6s,mb4.0,baz=92,slow=8.1,SNR=8.3						
YKA	Yellowknife Ar	73.27	28	P	P	15 14 05.1	+0.4
	0.2nm,0.6s,mb3.2,baz=293,slow=5.8,SNR=5.0						
FINES	FINESS Array B	79.62	334	P	P	15 14 40.6	+0.1
	2.8nm,0.8s,mb4.2,baz=90,slow=7.6,SNR=9.2						
FINES				pP	pP	15 14 56.3	-1.5
	1.4nm,0.6s,baz=90,slow=5.7,SNR=2.1						

*LDG **21** 15:16:45.1±0.1, 48.13N×8.06E, h14km, Md2.8/2, Ml2.7/9, Error ellipse: s-maj=1.2km s-min=1.0km az=171.0*
*CSEM **21** 15:16:45.0±0.0, 48.12N×8.07E, h15km, ML2.7/7, Error ellipse: s-maj=0.8km s-min=0.6km az=12.0*
*ZUR **21** 15:16:45.2, 48.09N×8.07E, h13km, ML2.1/8*
*LEDBW **21** 15:16:45.3±0.1, 48.11N×8.08E, h13km±1km, ML2.3, Error ellipse: s-maj=1.6km s-min=1.0km az=144.0*
*NEIC **21** 15:16:45.0, 48.11N×8.08E, h10km, ML2.7(LDG), ML2.2(LEDBW), ML2.2(STR), After LEDBW.*

BGR 21 15:16:45.1±0.2, 48.12N×8.09E, h10km, ML2.0/1, 10C-6D, Error ellipse: s-maj=2.2km s-min=1.1km az=146.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FBB	Freiburg	0.19	234	⇑iPg	Pg	15 16 49.8	+0.4
FBB				Sg	Sg	15 16 52.5	+0.3
FBB	Freiburg	0.19	234	⇑iP	Pg	15 16 49.8	+0.4
FBB				iS	Sg	15 16 52.9	+0.6
KIZ	Kirchzarten	0.20	216	⇑iPg	Pg	15 16 49.6	+0.3
KIZ				iSg	Sg	15 16 52.8	+0.5
FELD	Feldberg	0.25	193	⇑iPg	Pg	15 16 50.5	+0.2
FELD				eSg	Sg	15 16 54.0	+0.1
	SNR=8.4						
FELD	Feldberg	0.25	193	⇑iP	Pg	15 16 50.5	+0.2
FELD				eS	Sg	15 16 54.4	+0.6
FELD				S	Sg	15 16 54.4	+0.6
FELD	Feldberg	0.25	193	Pg	Pg	15 16 50.5	+0.2
FELD				Sg	Sg	15 16 54.0	+0.2
	SNR=8.4						
BFO	Black Forest	0.27	37	⇑iPg	Pg	15 16 51.1	+0.3
BFO				iSg	Sg	15 16 55.3	+0.7
BFO	Black Forest	0.27	37	ePg	Pg	15 16 51.1	+0.3
BFO				eSg	Sg	15 16 55.2	+0.7
BFO	Black Forest	0.27	37	⇑iP	Pg	15 16 51.1	+0.3
BFO				S	Sg	15 16 55.2	+0.7
BFO	Black Forest	0.27	37	Pg	Pg	15 16 51.1	+0.3
BFO				eSg	Sg	15 16 55.2	+0.7
LIBD	Limburg	0.33	276	Pg	Pg	15 16 52.2	+0.4
LIBD				eSg	Sg	15 16 55.9	-0.5
	SNR=8.4						
LIBD	Limburg	0.33	276	Pg	Pg	15 16 51.9	0.0
LIBD				Sg	Sg	15 16 55.9	-0.5
	SNR=8.4						
SLE	Schleitheim	0.44	142	⇓iPg	Pg	15 16 54.0	-0.1
SLE				iSg	Sg	15 17 00.0	-0.1
SPAK	Spaichingen	0.47	91	⇓iPg	Pg	15 16 54.7	+0.1
WLS	Welschbruch	0.57	302	⇓iPg	Pg	15 16 56.4	-0.3
WLS				eSg	Sg	15 17 03.8	-0.7
	SNR=4.5						
WLS	Welschbruch	0.57	302	⇓iP	Pg	15 16 56.4	-0.3
WLS				S	Sg	15 17 04.1	-0.4
WLS	Welschbruch	0.57	302	Pg	Pg	15 16 56.2	-0.5
WLS				Sg	Sg	15 17 03.8	-0.7
SULZ	Sulz-Cheisache	0.59	178	⇑iPg	Pg	15 16 56.5	-0.5
SULZ				eSg	Sg	15 17 04.3	-0.6
TRULL	Truellikon	0.61	139	⇓iPg	Pg	15 16 56.8	-0.7
TRULL				eSg	Sg	15 17 05.4	-0.4
CDF	Champ du Feu	0.62	299	ePg	Pg	15 16 57.0	-0.6
CDF				eSg	Sg	15 17 04.7	-1.2
	40nm,0.2s						
ECH	Echery	0.63	280	Pg	Pg	15 16 57.0	-0.8
ECH				eSg	Sg	15 17 04.9	-1.4
	SNR=6.6						
ECH	Echery	0.63	280	Pg	Pg	15 16 56.8	-1.0
ECH				Sg	Sg	15 17 04.9	-1.4
ECH	Echery	0.63	280	P	Pb	15 16 57.1	-0.7
STEIN	Stein am Rhein	0.69	130	⇑iPg	Pg	15 16 58.5	-0.5
STEIN				iSg	Sg	15 17 08.3	+0.1
GUT	Gutenstein	0.69	93	Pg	Pg	15 16 58.6	-0.4
GUT				Sg	Sg	15 17 07.9	-0.3
MOF	Molkenrain	0.69	248	Pg	Pg	15 16 58.0	-1.0
MOF				eSg	Sg	15 17 07.3	-1.1
	SNR=4.6						
MOF	Molkenrain	0.69	248	Pg	Pg	15 16 57.8	-1.3
MOF				Sg	Sg	15 17 07.5	-0.9
MOF	Molkenrain	0.69	248	P	Pb	15 16 58.3	-0.6
MOF				S	Sb	15 17 07.6	-0.6
LBG	Lerchenberg	0.72	40	⇑iPg	Pg	15 16 59.0	-0.7
LBG				Sg	Sg	15 17 08.6	-0.8
SISB	Singen-Sch Ber	0.73	126	Pg	Pg	15 16 59.3	-0.5
SISB				Sg	Sg	15 17 09.1	-0.5
SISB	Singen-Sch Ber	0.73	126	P	Pb	15 16 59.3	-0.1
SISB				S	Sb	15 17 09.7	+0.5
BBS	Basel-Blauen	0.76	211	⇑ePg	Pg	15 16 59.4	-1.0
BBS				eSg	Sg	15 17 09.5	-1.0
	SNR=3.6						
TUBL	Tuebingen Lnz	0.78	58	Pg	Pg	15 17 00.3	-0.5
TUBL				Sg	Sg	15 17 10.7	-0.5
TUBL	Tuebingen Lnz	0.78	58	P	Pb	15 17 00.3	0.0
TUBL				S	Sb	15 17 10.7	+0.1
BALST	Balsthal	0.82	199	⇑iPg	Pg	15 16 59.8	-1.8
BALST				iSg	Sg	15 17 11.4	-1.3
WEIN	Weingarten	0.84	134	⇓iPg	Pg	15 17 01.3	-0.7
WEIN				iSg	Sg	15 17 12.9	-0.4
HINF	Hinteralfeld	0.88	251	ePn	Pn	15 17 00.2	-3.2
HINF				ePg	Pg	15 17 01.1	-1.7
HINF				eSg	Sg	15 17 11.3	-3.3
	24nm,0.2s						
LANF	Langenberg	0.89	348	eSg	Sg	15 17 13.3	-1.5
	SNR=3.5						
LANF	Langenberg	0.89	348	Pg	Pg	15 17 00.7	-2.2
WILA	Wila	0.89	141	⇑iPg	Pg	15 17 02.1	-0.9
WILA				iSg	Sg	15 17 14.2	-0.8
BUCH	Bad Urach	0.91	68	Pg	Pg	15 17 02.3	-1.1
BUCH				Sg	Sg	15 17 14.8	-0.7
BUCH	Bad Urach	0.91	68	P	Pb	15 17 02.3	-0.2
BUCH				P		15 17 02.7	
BUCH				S	Sb	15 17 14.9	+0.5
STU	Stuttgart	0.99	48	eSg	Sg	15 17 16.6	-1.5
	SNR=1.2						
LOMF	Lomont	1.14	229	ePn	Pn	15 17 06.2	-1.0
	SNR=5.3						
LOMF				Pg	Pg	15 17 06.7	-1.3
LOMF				Sg	Sg	15 17 21.4	-1.9
LOMF	Lomont	1.14	229	P	Pb	15 17 06.7	+0.2
LOMF	Lomont	1.14	229	Pg	Pg	15 17 06.0	-2.0
LOMF				Sg	Sg	15 17 20.9	-2.4
HAU	Haudompre	1.17	265	ePn	Pn	15 17 05.1	-2.4
HAU				ePg	Pg	15 17 07.1	-1.5
HAU				eSn	Sn	15 17 19.8	-3.8
HAU				eSg	Sg	15 17 21.5	-2.7
	35nm,0.4s						
KTD	Kalmit	1.21	360	ePn	Pn	15 17 07.9	-0.1
	SNR=0.8						
THEF	They Montfort	1.41	275	eSg	Sg	15 17 29.1	-3.1
	SNR=2.2						
THEF	They Montfort	1.41	275	Pn	Pn	15 17 07.9	-3.1
UBR	Uberruh	1.43	107	Sg	Sg	15 17 30.4	-2.3
HDH	Heidenheim	1.49	71	Sg	Sg	15 17 32.0	-2.7
HDH	Heidenheim	1.49	71	S	Sb	15 17 33.0	+1.7
SIND	Sindeldorf	1.59	39	P	Pn	15 17 15.0	+1.4
SIND				S	Sb	15 17 35.9	+1.6
RFYF	Reffroy	1.82	287	ePn	Pn	15 17 14.0	-2.8
	baz=104						
RFYF				ePg	Pg	15 17 18.8	-2.6
RFYF				eSn	Sn	15 17 34.8	-5.2
	baz=114						
RFYF				eSg	Sg	15 17 41.8	-3.9
	14nm,0.2s,baz=109						
RFYF	Reffroy	1.82	287	ePg	Pg	15 17 18.8	-2.6
RFYF				eSn	Sn	15 17 34.8	-5.2
RFYF				eSg	Sg	15 17 41.8	-3.9
	7.2nm,0.2s						
CABF	La Chapelle	2.03	223	ePn	Pn	15 17 16.3	-3.5
CABF				ePg	Pg	15 17 23.0	-2.6
CABF				eSn	Sn	15 17 40.8	-4.6
CABF				eSg	Sg	15 17 49.2	-3.5
	3.1nm,0.2s						
SFTF	Sexfontaines	2.04	274	ePn	Pn	15 17 17.2	-2.8
SFTF				ePg	Pg	15 17 23.0	-2.9
SFTF				eSn	Sn	15 17 40.0	-5.8
SFTF				eSg	Sg	15 17 48.9	-4.3
	5.5nm,0.2s						
MEZF	Maizieres J'vi	2.06	282	ePn	Pn	15 17 17.4	-2.9
	baz=101						
MEZF				eSn	Sn	15 17 40.7	-5.6
MEZF				eSg	Sg	15 17 49.1	-4.8
	4.1nm,0.2s						
SSF	Saint Saulge	3.27	253	eSg	Sg	15 18 27.4	-6.8
	0.9nm,0.2s						
WET	Wettzell	3.34	70	eSg	Sg	15 18 30.5	-5.8
	SNR=2.7						
MOX	Moxa	3.42	41	eSg	Sg	15 18 33.1	-6.0
	SNR=1.3						
GUNZ	Gunzen	3.58	49	eSg	Sg	15 18 37.9	-6.3
	SNR=2.0						
GEC2	GERESS Array S	3.81	77	eSg	Sg	15 18 45.4	-6.4
	SNR=2.7						

*BER **21** 15:26:11.5±1.3, 59.78N×13.36E, ML2.5(NAO), Suspected explosion*

NAO 21 15:26:09.3±2.2, 59.73N×13.28E, ML2.5, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	Hagfors	0.46	27	Pg	Pg	15 26 17.8	-0.6
	baz=208,slow=18						
HFS				Lg		15 26 23.4	
	baz=202,slow=37						
HFS				Rg		15 26 26.3	
	baz=204,slow=37						
NC6	NORSAR Subarra	1.37	319	Pn	Pn	15 26 35.2	-0.5
NC6				Lg		15 26 53.5	
FIA0	FINESS Array S	6.54	69	Pn	Pn	15 27 47.4	-1.7
	baz=263,slow=14						

*IGQ **21** 15:26:24.2, 1.01S×81.57W, h12km±25km, mb5.0, Error ellipse: s-maj=24.9km s-min=7.0km az=175.4*
*BJI **21** 15:26:31.9, 1.20S×80.90W, h10km, mB5.5, Ms5.3, Msz5.0*
*NEIC **21** 15:26:32.0±0.3, 1.22S×80.90W, h10km, mb4.8/46, MD5.0(IGQ), Error ellipse: s-maj=9.1km s-min=5.5km az=51.0*
*IDC **21** 15:26:39.6±4.2, 1.04S×80.83W, h68km±38km, mb4.2/15, mb1 4.3/17, mb1mx4.2/24, mbtmp4.5/17, ML3.8/2, MS4.7/9, Ms1 4.7/9, ms1mx4.0/21, Error ellipse: s-maj=23.0km s-min=11.8km az=62.0*

ISC 21 15:26:37.6±1.2, 1.07S±0.06×80.86W±0.08, h61km±10km, n156, σ1°11/132, mb4.7/56, 11C-6D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.26	101	⇑P	P	15 27 13.4	0.0
MARY	Rancho Maria	2.40	82	P	P	15 27 16.9	+1.6
CUSU	Cusua	2.41	99	P	P	15 27 16.4	+0.9
JUA2	San Juan 2	2.41	69	⇑P	P	15 27 14.6	-1.0
JUIV	Juive	2.42	98	P	P	15 27 15.9	+0.2
NAS1	Nasa	2.42	80	⇓P	P	15 27 15.9	+0.2
TERV	Terraza Guagua	2.42	69	⇓P	P	15 27 14.5	-1.2
PINO	Pino	2.43	68	⇑P	P	15 27 14.3	-1.5
ARRY	Arrayan	2.44	100	⇑P	P	15 27 15.8	-0.3
RETU	Refugio	2.44	99	P	P	15 27 17.5	+1.5
JOR1	San Jorge 1	2.46	65	P	P	15 27 15.0	-1.3
PATA	Patacocha	2.46	100	P	P	15 27 16.9	+0.6
RUN2	Runtun	2.47	98	P	P	15 27 16.6	+0.2
RUN2				S	S	15 27 51.9	+6.5
PISA	Pisayambo	2.48	90	⇑P	P	15 27 16.7	+0.2
YANA	Yana	2.48	68	⇑P	P	15 27 14.7	-1.7
ULBA	Ulba	2.48	99	⇓P	P	15 27 17.1	+0.6
VC1	Cotopaxi 1	2.49	80	⇑P	P	15 27 17.1	+0.4
TAMB	Tambo	2.52	82	P	P	15 27 17.2	+0.1
OTAV	Otavalo	2.74	62	⇑iPn	P	15 27 18.5	-1.6
ANTI	Antisana	2.77	77	⇑P	P	15 27 21.1	+0.5
COTA	Cotacachi	2.88	61	⇓P	P	15 27 21.1	-1.2
CAYR	Refugio Cayamb	3.05	69	⇑P	P	15 27 25.6	+1.0
CAYA	Cayambe	3.08	69	⇑P	P	15 27 25.7	+0.6
CAYA				S	S	15 28 08.8	+7.9
CONE	Cono NE Rev Vo	3.37	73	P	P	15 27 30.4	+1.4
PAYG	Puerto Ayora	9.43	272	ePn	P	15 28 45.6	-7.6
	310nm,1.2s						
JTS	JuntasAbangare	11.99	340	ePn	P	15 29 25.3	-2.7
SDV	Santo Domingo	14.20	46	P	P	15 29 57.4	+0.3
	0.3nm,0.3s,baz=250,slow=15,SNR=9.0						
SDV				LR	LR	15 35 34.1	
	comp=Z,2μm,21.1s,baz=239,slow=38						
SAML	Samuel	19.26	115	eP	P	15 30 54.8	-5.1
	212nm,1.8s						
LPAZ	La Paz	19.65	141	P	P	15 31 02.5	-1.7
	0.2nm,0.3s,baz=334,slow=11,SNR=10.0						
LPAZ	La Paz	19.65	141	eP	P	15 31 02.0	-2.2
	39nm,1.3s						
TEIG	Tepich	22.38	341	eP	P	15 31 31.6	-0.2
	39nm,1.2s,mb4.7						
SJG	San Juan	23.93	37	P	P	15 31 48.1	+1.1
	19nm,0.4s,mb4.9,baz=166,slow=6.4,SNR=12						
SJG	San Juan	23.93	37	P	P	15 31 48.1	+1.1
LVC	Limon Verde	24.36	152	P	P	15 31 50.1	-1.1
	7.9nm,1.1s,mb4.1,baz=360,slow=6.2,SNR=7.4						
HKT	Hockley	33.99	336	eP	P	15 33 15.7	-1.9
GOGA	Godfrey	34.38	356	eP	P	15 33 18.9	-2.0
	15nm,0.9s,mb4.9						
LRAL	Lakeview Retre	34.41	351	eP	P	15 33 22.6	+1.4
	14nm,0.9s,mb4.9						
JSC	Jenkinsville	35.16	359	eP	P	15 33 26.4	-1.2
BDFB	Brasilia	35.49	116	P	P	15 33 29.8	-0.7
	1.4nm,0.4s,mb4.2,baz=299,slow=14,SNR=4.4						
BDFB				LR	LR	15 50 14.6	
	comp=Z,2μm,21.0s,baz=291,slow=40						
JCT	Junction City	36.19	332	eP	P	15 33 36.2	-0.1
	25nm,1.0s,mb5.1						
CPCT	Cooper Cave	36.49	355	eP	P	15 33 37.5	-1.3
TXAR	Lajitas Array	37.27	326	P	P	15 33 45.1	-0.3
	5.8nm,1.1s,mb4.3,baz=157,slow=9.5,SNR=12						
TXAR				PcP	PcP	15 36 03.6	-0.7
	0.5nm,0.7s,baz=129,slow=5.8,SNR=3.4						
MIAR	Mount Ida	37.38	343	eP	P	15 33 44.5	-1.7
	11nm,1.1s,mb4.6						
WMOK	Wichita Mounta	39.38	336	eP	P	15 34 03.2	+0.4
	20nm,1.0s,mb4.8						
FVM	French Village	39.85	348	eP	P	15 34 05.6	-1.2
	32nm,1.4s,mb4.8						
GDL2	Guadalupe Moun	39.87	328	eP	P	15 34 07.2	+0.3
MNTX	Cornudas Mount	40.03	327	eP	P	15 34 07.0	-1.3
	12nm,0.9s,mb4.6						
CCM	Cathedral Cave	40.09	347	eP	P	15 34 07.2	-1.6
	18nm,1.1s,mb4.7						
CPRX	Cap Rock	40.27	329	eP	P	15 34 12.1	+1.9
PLCA	Paso Flores	40.58	168	P	P	15 34 14.5	+1.8
	3.5nm,1.1s,mb3.9,baz=323,slow=5.4,SNR=1.8						
PLCA	Paso Flores	40.58	168	eP	P	15 34 11.3	-1.4
	71nm,1.6s,mb5.0						
TRQA	Tornquist	40.70	157	eP	P	15 34 11.3	-2.5
	49nm,1.4s,mb4.9						
AMTX	Amarillo	40.73	333	eP	P	15 34 13.8	-0.3
	21nm,0.9s,mb4.8						
ACSO	Alum Creek Sta	41.15	358	eP	P	15 34 19.1	+1.7
	30nm,0.9s,mb4.9						
KSU1	Kansas State U	42.51	342	eP	P	15 34 28.1	-0.6
LPM	Los Pinos Moun	42.70	328	eP	P	15 34 31.3	+1.0
LENM	Lemitar	42.77	327	eP	P	15 34 32.2	+1.3
LAZ	Ladron	43.04	328	eP	P	15 34 34.7	+1.6
ANMO	Albuquerque	43.10	329	P	P	15 34 33.8	+0.2
	10nm,0.9s,mb4.5,baz=150,slow=9.4,SNR=12						
ANMO	Albuquerque	43.10	329	eP	P	15 34 33.7	+0.1
	18nm,0.9s,mb4.8						
TUC	Tucson	43.62	322	eP	P	15 34 37.1	-0.7
	6.6nm,0.9s,mb4.4						
SDCO	Great Sand Dun	44.84	332	eP	P	15 34 47.6	+0.1
	14nm,1.0s,mb4.8						
SADO	Sadowa	45.66	2	P	P	15 34 52.9	-1.1
	14nm,0.9s,mb4.9,baz=219,slow=6.1,SNR=8.6						
ISCO	Idaho Springs	46.55	334	eP	P	15 35 01.3	+0.2
	5.4nm,1.0s,mb4.4						
PV01	Paradox Valley	46.63	330	eP	P	15 35 02.8	+1.0
PV10	Paradox Valley	47.06	330	eP	P	15 35 05.2	+0.1
PHWY	Pilot Hill	47.72	335	eP	P	15 35 10.3	+0.1
PFO	Pinyon Flat Ob	48.06	319	eP	P	15 35 14.1	+1.1
	11nm,1.0s,mb4.8						
NEN	Nelson	48.36	322	eP	P	15 35 15.7	+0.4
MSU	Marysvale	48.80	327	eP	P	15 35 20.1	+1.5
MVU	Marysvale	48.82	327	eP	P	15 35 19.6	+0.8
	10nm,1.2s,mb4.7						
ARUT	Antelope Range	48.99	326	eP	P	15 35 22.1	+2.0
DAU	Daniels Canyon	49.72	330	eP	P	15 35 26.8	+1.1
JLU	Jordanelle	49.96	330	eP	P	15 35 28.7	+1.2
TCUT	Toone Canyon	50.32	330	eP	P	15 35 31.8	+1.5
BW06	Boulder Array	50.70	333	eP	P	15 35 32.5	-0.7
	18nm,1.8s,mb4.7						
PDAR	Pinedale Array	50.70	333	LR	LR	15 57 42.0	
	comp=Z,530nm,18.6s,baz=148,slow=37						
HWUT	Hardware Ranch	50.77	330	eP	P	15 35 33.8	+0.1
	12nm,1.2s,mb4.7						
SPUT	South Promonto	50.99	329	eP	P	15 35 36.2	+0.9
LOHW	Long Hollow	51.84	333	eP	P	15 35 41.5	-0.3
TPAW	Teton Pass	51.91	332	eP	P	15 35 43.9	+1.7
MOOW	Moose Ponds	52.01	333	eP	P	15 35 44.7	+1.7
MNV	Mina	52.17	323	eP	P	15 35 44.2	-0.1
	9.1nm,1.1s,mb4.6						
IMW	Indian Meadow	52.22	333	eP	P	15 35 45.4	+0.8
NVAR	Mina Array Bea	52.26	323	P	P	15 35 44.7	-0.3

18nm,1.2s,mb4.9,baz=266,slow=3.3,SNR=13
DBIC LR LR 16 11 57.9
comp=Z,500nm,18.1s,baz=177,slow=36
DBIC Dimbokro 76.23 83 *eP* **P 15 38 21.7 -0.2**
71nm,1.5s,mb5.4
DAWY Dawson 77.71 337 *eP* **P 15 38 28.4 -0.8**
INK Inuvik 77.98 342 P **P 15 38 29.5 -1.1**
6.4nm,0.9s,mb4.5,baz=122,slow=6.4,SNR=17
INK Inuvik 77.98 342 *eP* **P 15 38 30.1 -0.5**
27nm,1.1s,mb5.1
SUMG Summit 78.18 12 *eP* **P 15 38 31.2 -0.4**
44nm,1.3s,mb5.2
ESDC Sonseca Array 80.61 50 P **P 15 38 46.0 +0.6**
0.5nm,0.4s,mb3.8,baz=276,slow=4.2,SNR=8.9
ILAR Eielson Array 80.94 337 P **P 15 38 46.2 -0.4**
2.4nm,0.9s,mb4.1,baz=142,slow=3.4,SNR=18
ILAR LR LR 16 19 08.2
comp=Z,347nm,18.0s,baz=130,slow=39
MCK McKinley 81.40 335 *eP* **P 15 38 49.0 0.0**
7.0nm,1.0s,mb4.5
SPU Mount Spurr 81.95 332 *eP* **P 15 38 51.0 -0.9**
RSO Redoubt South 82.07 332 *eP* **P 15 38 53.1 +0.5**
IMA Indian Mountai 84.05 337 *eP* **P 15 39 03.3 +0.8**
21nm,1.0s,mb5.2
DAG Danmarks Havn 84.87 12⇓ *eP* **P 15 39 06.1 -0.3**
6.7nm,0.9s,mb4.8
DAG Danmarks Havn 84.87 12⇓ *iP* **P 15 39 06.1 -0.3**
6.7nm,0.9s,mb4.8
QSPA South Pole Qui 88.99 180 *eP* **P 15 39 27.3 +1.1**
183nm,2.5s,mb6.0
TNA Tin City 89.74 335 *eP* **P 15 39 31.0 +1.0**
8.5nm,1.1s,mb5.0
NOA NORSAR Array B 91.94 29 LR LR 16 15 46.1
comp=Z,156nm,19.5s,baz=265,slow=32
GRA1 Grafenberg Arr 92.16 41 *eP* **P 15 39 43.1 +1.4**
19nm,1.6s,mb5.2
GRF Grafenberg Arr 92.16 41 *eP* **P 15 39 43.1 +1.4**
19nm,1.6s,mb5.2
CLL Collm 93.25 39 P **P 15 39 48.0 +1.4**
KHC Kasperske Hory 93.71 41 *eP* **P 15 39 49.0 +0.2**
URZ Urewera 98.78 231 LR LR 16 13 55.9
comp=Z,418nm,19.3s,baz=310,slow=29
BVAR Borovoye Array 122.97 20 PKP PKPdf 15 45 27.0 -0.1
0.2nm,0.3s,baz=56,slow=5.2,SNR=2.4
ZAL Zalesovo 125.99 10 PKP PKPdf 15 45 34.2 +1.3
2.8nm,1.1s,baz=244,slow=1.5,SNR=6.5
KURK Kurchatov 127.56 16 *e*PKPdf PKPdf 15 45 36.8 +0.8
STKA Stephens Creek 128.16 227 PKP PKPdf 15 45 38.3 +0.6
2.5nm,0.9s,baz=221,slow=4.8,SNR=3.0
STKA Stephens Creek 128.16 227 *e*PKPdf PKPdf 15 45 38.9 +1.2
ULN Ulaanbaatar 132.88 353 *e*PKPdf PKPdf 15 45 49.5 +3.3
SONM Songino Array 132.99 353 PKP PKPdf 15 45 47.4 +0.9
1.6nm,1.2s,baz=38,slow=1.5,SNR=6.1
AAK Ala-Archa 133.09 25 *e*PKPdf PKPdf 15 45 52.0 +5.2
ASAR Alice Springs 138.22 232 PKP PKPdf 15 45 57.9 +1.1
3.3nm,1.1s,baz=152,slow=3.3,SNR=5.3
WRA Warramunga Arr 139.67 237 PKP PKPdf 15 46 00.2 +0.8
3.4nm,1.0s,baz=103,slow=2.5,SNR=4.1
NJ2 Nanjing 144.00 331 *e*PKP PKPdf 15 46 04.4 -2.3
DDI Dehra Dun 144.68 33 *e* PKPdf 15 46 08.3 +0.3
NDI New Delhi 145.47 35 *eP* PKPdf 15 46 10.0 +0.6
WHN Wuhan 147.32 335 PKP PKPdf 15 46 15.5 +3.0
ENH Enshi 149.34 342 *e*PKPbc PKPdf 15 46 20.3 +4.6
LSA Lhasa 150.53 14 PKP PKPdf 15 46 24.4 +6.8
LSA Lhasa 150.53 14 *e*PKPbc PKPdf 15 46 24.4 +6.8
HYB Hyderabad 154.04 50 *i* PKP PKPdf 15 46 28.5 +5.6
SHL Shillong 154.66 15 *eP* PKPdf 15 46 25.5 +2.0
CMAR Chiang Mai Arr 162.72 1 PKPab PKPab 15 47 22.9 -1.5
0.3nm,0.4s,baz=342,slow=5.7,SNR=3.1

*IDC **21** 15:35:57.4±0.9, 1.88S×140.68E, mb4.2/5, mb1 4.4/6, mb1mx4.2/12, mbtmp4.1/6, ML4.3/1, Error ellipse: s-maj=54.1km s-min=21.6km az=99.0*
*NEIC **21** 15:35:58.6±0.5, 1.91S×140.71E, h10km, mb4.3/6, Error ellipse: s-maj=24.7km s-min=7.6km az=100.0*
ISC 21 15:36:00.5±0.7, 1.96S±0.09×140.6E±0.3, h33km, n17, σ0§78/15, mb4.2/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**18.88**	**199**	*eP*	**P**	**15 40 19.9**	**-0.9**
	12nm,0.8s						
WB2	**Warramunga Arr**	**18.89**	**199**	*eP*	**P**	**15 40 20.3**	**-0.6**
WRA	**Warramunga Arr**	**18.90**	**199**	P	**P**	**15 40 20.4**	**-0.6**
	0.9nm,0.3s,baz=24,slow=12,SNR=41						
FITZ	**Fitzroy Crossi**	**21.76**	**222**	*eP*	**P**	**15 40 51.1**	**-0.1**
	7.6nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**22.54**	**196**	P	**P**	**15 40 59.6**	**+0.6**
	3.4nm,0.5s,mb4.0,baz=26,slow=11,SNR=39						
ASPA	**Alice Springs**	**22.54**	**196**	*eP*	**P**	**15 40 59.7**	**+0.7**
STKA	**Stephens Creek**	**29.77**	**178**	*eP*	**P**	**15 42 06.7**	**+0.4**
	2.8nm,1.1s,mb3.9						
STKA	**Stephens Creek**	**29.77**	**178**	P	**P**	**15 42 06.0**	**-0.4**
	4.8nm,1.1s,mb4.1,baz=0.9,slow=8.6,SNR=4.9						
YAK	**Yakutsk**	**64.36**	**354**	P	**P**	**15 46 34.5**	**-0.6**
	7.2nm,0.7s,mb4.8						
BVAR	**Borovoye Array**	**79.80**	**325**	P	**P**	**15 48 08.0**	**+0.9**
	1.2nm,0.6s,mb4.0,baz=127,slow=7.4,SNR=5.5						
CHKZ	**Chkalovo**	**79.87**	**325**	*eP*	**P**	**15 48 07.4**	**+0.1**
	1.0nm,0.4s,mb4.1						
ILAR	**Eielson Array**	**84.37**	**24**	P	**P**	**15 48 29.7**	**-0.7**
	1.1nm,0.7s,mb4.1,baz=255,slow=4.8,SNR=17						
QSPA	**South Pole Qui**	**87.98**	**180**	*eP*	**P**	**15 48 49.7**	**+2.0**
	2.9nm,0.8s,mb4.6						
YKA	**Yellowknife Ar**	**98.54**	**27**	P	**P**	**15 49 36.2**	**-0.5**
	0.1nm,0.3s,mb3.8,baz=291,slow=5.0,SNR=4.4						
YKA	**Yellowknife Ar**	**98.54**	**27**	P	**P**	**15 49 36.2**	**-0.5**
DBIC	**Dimbokro**	**145.27**	**279**	PKPbc	PKPbc	15 55 37.7	+1.4
	2.2nm,0.8s,baz=334,slow=3.7,SNR=3.7						
LPAZ	**La Paz**	**146.30**	**124**	PKPbc	PKPbc	15 55 43.0	+4.3
	4.7nm,1.0s,baz=248,slow=1.6,SNR=14						

*IDC **21** 15:37:27.4±1.1, 2.03S×140.96E, mb4.0/5, mb1 4.2/6, mb1mx4.1/12, mbtmp4.0/6, ML3.9/1, MS4.6/1, Ms1 4.6/1, ms1mx3.2/18, Error ellipse: s-maj=40.6km s-min=23.0km az=90.0*
*NEIC **21** 15:37:28.2±0.7, 1.97S×141.03E, h10km, mb4.3/4, Error ellipse: s-maj=30.9km s-min=10.2km az=90.0*
ISC 21 15:37:26.6±0.8, 2.00S±0.08×141.0E±0.3, h10km, n14, σ1§06/11, mb4.1/8, MS4.5/1, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**18.97**	**200**	*eP*	**P**	**15 41 50.4**	**-0.3**
	12nm,0.8s						
WRA	**Warramunga Arr**	**18.98**	**200**	P	**P**	**15 41 50.0**	**-0.7**
	0.4nm,0.3s,baz=24,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**22.60**	**197**	P	**P**	**15 42 29.8**	**+0.8**
	2.4nm,0.7s,mb3.7,baz=28,slow=11,SNR=6.0						
STKA	**Stephens Creek**	**29.73**	**179**	P	**P**	**15 43 34.2**	**-1.2**
	2.3nm,0.7s,mb4.0,baz=1.6,slow=11,SNR=4.2						
ASAJ	**Asahikawa**	**45.93**	**2**	LR	LR	16 03 27.0	
	comp=Z,565nm,18.3s,MS4.5,baz=324,slow=34						
CMAR	**Chiang Mai Arr**	**46.07**	**298**	P	**P**	**15 45 54.3**	**+1.4**
	0.6nm,0.5s,mb3.8,baz=108,slow=5.7,SNR=3.9						
BJI	**Beijing**	**47.60**	**334**	*eP*	**P**	**15 46 02.3**	**-2.4**
YAK	**Yakutsk**	**64.44**	**354**	P	**P**	**15 48 04.9**	**-0.3**
	9.7nm,0.8s,mb4.9						
BVAR	**Borovoye Array**	**80.03**	**325**	P	**P**	**15 49 37.7**	**-0.2**
	1.0nm,0.6s,mb3.9,baz=101,slow=7.3,SNR=3.7						
CHKZ	**Chkalovo**	**80.09**	**325**	*eP*	**P**	**15 49 38.3**	**+0.1**
	1.6nm,0.7s,mb4.1						
ILAR	**Eielson Array**	**84.25**	**24**	P	**P**	**15 50 00.1**	**+0.6**
	1.3nm,0.8s,mb4.1,baz=250,slow=4.8,SNR=6.6						
QSPA	**South Pole Qui**	**87.94**	**180**	*eP*	**P**	**15 50 19.1**	**+1.7**
	1.2nm,0.6s,mb4.3						
DBIC	**Dimbokro**	**145.62**	**279**	PKPbc	PKPbc	15 57 08.4	+1.3
	3.0nm,0.8s,baz=108,slow=6.4,SNR=3.3						
SDV	**Santo Domingo**	**147.82**	**77**	PKPbc	PKPdf	15 57 17.0	+4.0
	4.2nm,0.7s,baz=63,slow=21,SNR=5.9						

*IDC **21** 15:49:47.9±3.2, 20.22S×178.06W, h533km±37km, mb3.2/9, mb1 3.5/9, mb1mx3.4/14, mbtmp4.1/9, Error ellipse: s-maj=78.3km s-min=12.8km az=155.0*
*NEIC **21** 15:49:50.1±4.3, 20.28S×178.11W, h561km±52km, mb4.1/1, Error ellipse: s-maj=70.2km s-min=18.4km az=158.0*
ISC 21 15:49:45.2±4.1, 20.1S±0.6×178.2W±0.3, h506km±51km, n16, σ0§47/11, mb3.7/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.84**	**244**	P	**P**	**15 56 19.2**	**0.0**
	0.8nm,0.4s,mb3.5,baz=238,slow=15,SNR=2.9						
ASAR	**Alice Springs**	**44.48**	**256**	P	**P**	**15 57 12.4**	**0.0**
	8.1nm,1.2s,mb4.0,baz=90,slow=8.9,SNR=29						
ASAR				PcP	PcP	15 58 44.1	-1.4
	0.7nm,0.6s,baz=107,slow=3.6,SNR=6.7						
ASAR				S	**S**	**16 03 10.2**	**-0.4**
	0.4nm,0.8s,baz=88,slow=16,SNR=6.0						
WRAB	**Tennant Creek**	**44.51**	**262**	*eP*	**P**	**15 57 12.8**	**+0.1**
	2.1nm,0.3s,mb4.0						
WRA	**Warramunga Arr**	**44.52**	**262**	P	**P**	**15 57 12.3**	**-0.5**
	0.9nm,0.3s,mb3.6,baz=97,slow=7.6,SNR=47						
YBH	**Yreka Blue Hor**	**80.06**	**39**	P	**P**	**16 01 02.6**	**-0.1**
	2.1nm,0.7s,mb3.8,baz=180,slow=11,SNR=6.5						
NVAR	**Mina Array Bea**	**80.82**	**43**	P	**P**	**16 01 07.2**	**+0.4**
	1.1nm,0.8s,mb3.5,baz=231,slow=9.9,SNR=7.6						
TXAR	**Lajitas Array**	**86.95**	**57**	P	**P**	**16 01 37.4**	**+0.1**
	1.3nm,0.8s,mb3.7,baz=207,slow=5.6,SNR=6.8						
ILAR	**Eielson Array**	**87.34**	**13**	P	**P**	**16 01 40.5**	**-0.5**
	0.4nm,0.5s,mb3.4,baz=217,slow=5.9,SNR=7.7						
PDAR	**Pinedale Array**	**88.76**	**43**	P	**P**	**16 01 45.0**	**-0.4**
	0.7nm,0.7s,mb3.6,baz=224,slow=3.9,SNR=7.1						
CMAR	**Chiang Mai Arr**	**89.84**	**290**	P	**P**	**16 01 52.1**	**+1.1**
	2.6nm,1.1s,mb4.0,baz=111,slow=2.8,SNR=12						
BVAR	**Borovoye Array**	**118.67**	**320**	PKP	PKPdf	16 07 34.6	-0.4
	0.6nm,0.5s,baz=135,slow=6.1,SNR=6.3						
ARCES	**ARCESS Array B**	**128.49**	**350**	PKP	PKPdf	16 07 53.5	0.0
	3.0nm,0.9s,baz=344,slow=8.8,SNR=4.0						
ARCES	**ARCESS Array B**	**128.49**	**350**	PKP	PKPdf	16 07 53.5	0.0
AKASG	**Malin Array Be**	**142.58**	**331**	PKP	PKPdf	16 08 17.4	-2.3
	1.9nm,0.4s,baz=42,slow=4.3,SNR=18						
BRTR	**Keskin Array B**	**146.45**	**313**	PKPbc	PKPbc	16 08 28.7	+0.1
	0.7nm,0.5s,baz=128,slow=3.7,SNR=5.1						
CLL	**Collm**	**147.63**	**347**	*e*PKP1	PKPdf	16 08 33.0	+4.9

WEL 21 15:51:33.5±0.6, 37.27S×179.99E, h33km, ML3.6/3, Error ellipse: s-maj=5.8km s-min=5.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.37**	**257**	PN	Pn	15 51 55.5	-1.2
MXZ				SN	Sn	15 52 12.2	-1.7
PUZ	**Puketiti**	**1.59**	**239**	PN	Pn	15 51 58.2	-1.6
PUZ				SN	Sn	15 52 17.9	-1.6
MWZ	**Matawai**	**2.22**	**241**	PN	Pn	15 52 07.1	-1.7
MWZ				SN	Sn	15 52 33.2	-2.3
URZ	**Urewera**	**2.49**	**246**	PN	Pn	15 52 11.5	-1.1
URZ				SN	Sn	15 52 40.0	-2.2
KNZ	**Kokohu**	**2.53**	**226**	PN	Pn	15 52 10.8	-2.4
KNZ				SN	Sn	15 52 40.0	-3.2
BKZ	**Black Stump Fm**	**3.34**	**234**	PN	Pn	15 52 22.4	-2.4
TSZ	**Takapari Road**	**4.21**	**227**	PN	Pn	15 52 32.7	-4.4
MRZ	**Mangatainoka R**	**4.83**	**224**	PN	Pn	15 52 40.6	-5.2

IGQ 21 15:58:08.5, 1.27S×81.40W, h12km±27km, mb4.4, 4C-6D, Error ellipse: s-maj=26.3km s-min=7.5km az=171.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.77**	**95**	P	Pn	15 58 54.5	+1.0
CUSU	**Cusua**	**2.92**	**93**	P	Pn	15 58 58.7	+3.0
JUIV	**Juive**	**2.94**	**93**	⇓P	Pn	15 58 58.4	+2.5
ARRY	**Arrayan**	**2.95**	**95**	⇓P	Pn	15 58 57.2	+1.1
ARRY				S	Sn	15 59 31.1	-0.7
PATA	**Patacocha**	**2.97**	**95**	P	Pn	15 58 58.4	+2.0
JUA2	**San Juan 2**	**2.98**	**70**	⇑P	Pn	15 58 57.5	+1.0
JUA2				S	Sn	15 59 32.7	+0.2
NAS1	**Nasa**	**2.99**	**78**	P	Pn	15 58 58.0	+1.4
RUN2	**Runtun**	**2.99**	**93**	P	Pn	15 58 58.0	+1.3
ULBA	**Ulba**	**3.00**	**94**	P	Pn	15 58 58.5	+1.8
TERV	**Terraza Guagua**	**3.00**	**69**	P	Pn	15 58 58.1	+1.4
PINO	**Pino**	**3.00**	**69**	⇑P	Pn	15 58 57.7	+0.9
PISA	**Pisayambo**	**3.02**	**86**	⇑P	Pn	15 58 58.2	+1.1
YANA	**Yana**	**3.05**	**68**	⇑P	Pn	15 58 58.4	+0.9
VC1	**Cotopaxi 1**	**3.06**	**78**	P	Pn	15 58 59.2	+1.6
TAMB	**Tambo**	**3.08**	**79**	P	Pn	15 58 59.6	+1.6
ANTI	**Antisana**	**3.34**	**76**	⇓P	Pn	15 59 03.5	+1.9
COTA	**Cotacachi**	**3.45**	**63**	⇓P	Pn	15 59 04.5	+1.3
CAYR	**Refugio Cayamb**	**3.62**	**69**	⇓P	Pn	15 59 08.9	+3.3
CAYA	**Cayambe**	**3.66**	**69**	⇓P	Pn	15 59 08.8	+2.7
CAYA				S	Sn	15 59 51.8	+2.1

IDC 21 16:00:30.3±1.5, 0.37S×127.51E, mb3.5/4, mb1 3.7/4, mb1mx3.6/14, mbtmp3.6/4, Error ellipse: s-maj=147.2km s-min=23.6km az=72.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.57**	**161**	P	P	16 05 10.2	-3.3
	1.5nm,0.9s,baz=340,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.98**	**165**	P	P	16 05 47.0	-0.5
	0.7nm,0.5s,baz=342,slow=9.5,SNR=12						
STKA	**Stephens Creek**	**34.05**	**158**	P	P	16 07 16.5	-2.0
	1.4nm,0.7s,baz=338,slow=11,SNR=4.1						
SONM	**Songino Array**	**51.41**	**342**	P	P	16 09 37.0	-2.1
	0.6nm,1.0s,baz=161,slow=7.3,SNR=3.3						

*IGQ **21** 16:14:53.5, 1.20S×81.75W, h12km±27km, mb4.9, Error ellipse: s-maj=26.6km s-min=8.1km az=172.0*
*BJI **21** 16:15:05.0, 1.30S×80.80W, h10km, mB5.3, Ms5.1, Msz4.9*
*NEIC **21** 16:15:05.0±0.3, 1.27S×80.76W, h10km, mb4.6/28, MD4.9(IGQ), Error ellipse: s-maj=9.9km s-min=5.5km az=52.0*
NEIC Felt at Manta.
*IDC **21** 16:15:13.8±4.5, 1.30S×80.77W, h83km±41km, mb3.8/12, mb1 4.1/14, mb1mx3.9/22, mbtmp4.2/14, MS4.4/4, Ms1 4.4/4, ms1mx3.3/21, Error ellipse: s-maj=28.1km s-min=13.1km az=59.0*
ISC 21 16:15:08.6±1.0, 1.27S±0.06×80.90W±0.07, h46km±9km, n101, σ0§94/86, mb4.4/36, MS4.5/3, 11C-3D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.27**	**96**	P	**P**	**16 15 44.2**	**-0.2**
CUSU	**Cusua**	**2.42**	**94**	⇑P	**P**	**16 15 47.9**	**+1.3**
CUSU				S	**S**	**16 16 26.4**	**+11**
JUIV	**Juive**	**2.44**	**94**	⇑P	**P**	**16 15 47.0**	**+0.1**
ARRY	**Arrayan**	**2.45**	**96**	P	**P**	**16 15 47.0**	**0.0**
RETU	**Refugio**	**2.46**	**94**	P	**P**	**16 15 48.6**	**+1.5**
RETU				S	**S**	**16 16 26.7**	**+11**
MARY	**Rancho Maria**	**2.47**	**78**	P	**P**	**16 15 46.8**	**-0.5**
PATA	**Patacocha**	**2.48**	**95**	P	**P**	**16 15 48.2**	**+0.9**
RUN2	**Runtun**	**2.49**	**94**	⇑P	**P**	**16 15 48.3**	**+0.7**
ULBA	**Ulba**	**2.50**	**94**	⇑P	**P**	**16 15 48.2**	**+0.5**
NAS1	**Nasa**	**2.50**	**75**	⇓P	**P**	**16 15 47.7**	**0.0**
JUA2	**San Juan 2**	**2.52**	**65**	⇑P	**P**	**16 15 47.0**	**-1.0**
PISA	**Pisayambo**	**2.52**	**85**	⇓P	**P**	**16 15 47.9**	**-0.1**
PISA				S	**S**	**16 16 24.9**	**+7.2**
TERV	**Terraza Guagua**	**2.54**	**65**	P	**P**	**16 15 47.6**	**-0.7**
PINO	**Pino**	**2.54**	**64**	⇑P	**P**	**16 15 46.7**	**-1.7**
GGP	**Refugio Guagua**	**2.54**	**65**	P	**P**	**16 15 49.0**	**+0.6**
VC1	**Cotopaxi 1**	**2.57**	**76**	P	**P**	**16 15 48.6**	**-0.1**
YANA	**Yana**	**2.59**	**64**	⇑P	**P**	**16 15 47.3**	**-1.7**
TAMB	**Tambo**	**2.59**	**77**	P	**P**	**16 15 48.6**	**-0.5**
ANTI	**Antisana**	**2.85**	**73**	P	**P**	**16 15 52.5**	**-0.3**
OTAV	**Otavalo**	**2.87**	**59⇑**	*e*Pn	**P**	**16 15 51.2**	**-1.7**
COTA	**Cotacachi**	**3.01**	**58**	⇓P	**P**	**16 15 54.1**	**-0.9**
CAYR	**Refugio Cayamb**	**3.16**	**66**	P	**P**	**16 15 58.2**	**+1.1**
CAYR				S	**S**	**16 16 42.3**	**+8.4**
CAYA	**Cayambe**	**3.20**	**65**	⇑P	**P**	**16 15 58.4**	**+0.7**
CONE	**Cono NE Rev Vo**	**3.46**	**70**	P	**P**	**16 16 03.3**	**+1.9**
PAYG	**Puerto Ayora**	**9.40**	**274**	*e*Pn	**P**	**16 17 22.8**	**-1.5**
	184nm,1.3s						
SDV	**Santo Domingo**	**14.36**	**45**	P	**P**	**16 18 33.3**	**+2.3**
	0.8nm,0.3s,baz=251,slow=8.4,SNR=21						
SDV				LR	LR	16 23 53.0	
	comp=Z,816nm,20.1s,baz=241,slow=36						
SAML	**Samuel**	**19.21**	**114**	*eP*	**P**	**16 19 26.7**	**-5.0**
	165nm,1.6s						
LPAZ	**La Paz**	**19.52**	**141**	P	**P**	**16 19 34.6**	**-0.5**
	0.3nm,0.3s,baz=335,slow=10,SNR=21						
LPAZ	**La Paz**	**19.52**	**141**	*eP*	**P**	**16 19 34.1**	**-1.0**
	28nm,1.1s						
TEIG	**Tepich**	**22.55**	**342**	*eP*	**P**	**16 20 05.5**	**-0.6**
	29nm,1.3s,mb4.5						
SJG	**San Juan**	**24.11**	**36**	P	**P**	**16 20 20.7**	**-0.6**
	30nm,0.8s,mb4.8,baz=270,slow=17,SNR=5.0						
SJG	**San Juan**	**24.11**	**36**	P	**P**	**16 20 20.7**	**-0.6**
LVC	**Limon Verde**	**24.21**	**152**	P	**P**	**16 20 23.2**	**+1.0**
	13nm,1.3s,mb4.2,baz=343,slow=8.4,SNR=5.6						
LVC				LR	LR	16 30 45.6	
	comp=Z,818nm,18.1s,MS4.2,baz=327,slow=39						
LRAL	**Lakeview Retre**	**34.60**	**351**	*eP*	**P**	**16 21 54.4**	**-0.9**
	1.8nm,0.6s,mb4.2						
BDFB	**Brasilia**	**35.44**	**116**	P	**P**	**16 22 00.9**	**-1.8**
	9.1nm,1.1s,mb4.6,baz=259,slow=11,SNR=3.8						
BDFB				LR	LR	16 36 52.2	
	comp=Z,869nm,19.6s,MS4.5,baz=305,slow=37						
JCT	**Junction City**	**36.35**	**332**	*eP*	**P**	**16 22 10.5**	**+0.3**
	21nm,1.3s,mb4.9						
CPCT	**Cooper Cave**	**36.68**	**355**	*eP*	**P**	**16 22 13.6**	**+0.6**
TXAR	**Lajitas Array**	**37.42**	**326**	P	**P**	**16 22 20.0**	**+0.8**
	1.1nm,0.8s,mb3.7,baz=131,slow=8.3,SNR=3.4						
TXAR				PcP	PcP	16 24 36.8	-0.9
	0.4nm,0.6s,baz=127,slow=4.5,SNR=2.1						
WMOK	**Wichita Mounta**	**39.55**	**337**	*eP*	**P**	**16 22 37.0**	**+0.1**
	7.3nm,1.2s,mb4.3						
MNTX	**Cornudas Mount**	**40.17**	**327**	*eP*	**P**	**16 22 41.8**	**-0.3**
	5.6nm,1.1s,mb4.2						
CCM	**Cathedral Cave**	**40.28**	**347**	*eP*	**P**	**16 22 43.8**	**+0.9**
	19nm,1.6s,mb4.6						
PLCA	**Paso Flores**	**40.39**	**168**	P	**P**	**16 22 42.3**	**-1.5**
	5.3nm,0.9s,mb4.3,baz=344,slow=12,SNR=4.7						
PLCA	**Paso Flores**	**40.39**	**168**	*eP*	**P**	**16 22 43.5**	**-0.3**
	11nm,1.0s,mb4.5						
CPRX	**Cap Rock**	**40.42**	**330**	*eP*	**P**	**16 22 45.1**	**+1.0**
TRQA	**Tornquist**	**40.53**	**157**	P	**P**	**16 22 45.0**	**+0.1**
	39nm,1.6s,mb4.8						
AMTX	**Amarillo**	**40.89**	**334**	*eP*	**P**	**16 22 46.6**	**-1.4**
	4.5nm,0.6s,mb4.3						
KSU1	**Kansas State U**	**42.69**	**342**	*eP*	**P**	**16 23 03.1**	**+0.3**
TUC	**Tucson**	**43.75**	**322**	*eP*	**P**	**16 23 12.7**	**+1.2**
	13nm,1.5s,mb4.4						
SDCO	**Great Sand Dun**	**44.99**	**332**	*eP*	**P**	**16 23 22.0**	**+0.6**
	3.7nm,0.8s,mb4.3						
RW3	**Ridgway**	**46.44**	**331**	P	**P**	**16 23 34.0**	**+1.1**
ISCO	**Idaho Springs**	**46.71**	**334**	*eP*	**P**	**16 23 35.5**	**+0.5**
	1.6nm,0.7s,mb4.1						
PV10	**Paradox Valley**	**47.21**	**330**	*eP*	**P**	**16 23 38.5**	**-0.4**
NEN	**Nelson**	**48.49**	**323**	*eP*	**P**	**16 23 49.4**	**+0.4**
MSU	**Marysvale**	**48.95**	**327**	*eP*	**P**	**16 23 54.1**	**+1.7**
MVU	**Marysvale**	**48.96**	**327**	*eP*	**P**	**16 23 53.5**	**+0.9**
	5.4nm,1.2s,mb4.5						
DAU	**Daniels Canyon**	**49.87**	**330**	*eP*	**P**	**16 24 01.4**	**+1.9**
PDAR	**Pinedale Array**	**50.86**	**333**	P	**P**	**16 24 06.2**	**-0.9**
	0.3nm,0.8s,mb3.3,baz=143,slow=9.0,SNR=3.0						
HWUT	**Hardware Ranch**	**50.92**	**330**	*eP*	**P**	**16 24 07.8**	**+0.3**
	6.0nm,1.0s,mb4.5						
MNV	**Mina**	**52.31**	**323**	P	**P**	**16 24 18.4**	**+0.4**
	12nm,1.4s,mb4.6						
IMW	**Indian Meadow**	**52.38**	**333**	*eP*	**P**	**16 24 18.6**	**+0.3**
NVAR	**Mina Array Bea**	**52.40**	**323**	P	**P**	**16 24 18.7**	**+0.1**
	0.6nm,0.6s,mb3.7,baz=126,slow=9.3,SNR=9.9						
HLID	**Hailey**	**53.78**	**330**	*eP*	**P**	**16 24 28.6**	**-0.3**
	2.6nm,0.9s,mb4.2						
BOZ	**Bozeman (W)**	**54.04**	**334**	*eP*	**P**	**16 24 30.7**	**0.0**
	9.4nm,1.2s,mb4.6						
WVOR	**Wild Horse Val**	**55.21**	**327**	*eP*	**P**	**16 24 37.7**	**-1.6**
	8.7nm,1.4s,mb4.6						
YBH	**Yreka Blue Hor**	**57.10**	**324**	P	**P**	**16 24 52.0**	**-0.9**
	1.6nm,0.9s,mb4.0,baz=90,slow=5.1,SNR=2.3						
EDM	**Edmonton**	**60.68**	**338**	*eP*	**P**	**16 25 16.6**	**-0.9**
FCC	**Fort Churchill**	**60.76**	**352**	*eP*	**P**	**16 25 15.7**	**-2.2**
	4.2nm,0.8s,mb4.6						
YKA	**Yellowknife Ar**	**68.49**	**344**	P	**P**	**16 26 08.0**	**+0.1**
	3.5nm,0.8s,mb4.5,baz=137,slow=6.1,SNR=24						
YKW3	**Yellowknife Ar**	**68.55**	**344**	*eP*	**P**	**16 26 07.7**	**-0.6**
DLBC	**Dease Lake**	**71.01**	**335**	*eP*	**P**	**16 26 23.0**	**-0.4**
DBIC	**Dimbokro**	**76.29**	**83**	P	**P**	**16 26 53.7**	**-1.4**
	20nm,1.1s,mb5.0,baz=256,slow=5.4,SNR=11						
DBIC				LR	LR	16 58 20.3	
	comp=Z,372nm,18.2s,MS4.7,baz=165,slow=34						
DBIC	**Dimbokro**	**76.29**	**83**	*eP*	**P**	**16 26 52.6**	**-2.4**
	14nm,1.0s,mb4.8						
DAWY	**Dawson**	**77.88**	**337**	*eP*

KKN Kakani 25.22 342 eP P 16 41 05.4 -0.6
GKN Gorkha 25.62 341 eP P 16 41 09.4 -0.3
14nm,0.7s,mb4.6
KOLN Koldanda 25.76 339 eP P 16 41 09.8 -1.2
8.9nm,0.8s,mb4.3
SONM Songino Array 45.26 12 P P 16 43 56.8 -0.8
0.5nm,0.8s,mb3.4,baz=202,slow=6.7,SNR=4.0
WRA Warramunga Arr 46.34 122 P P 16 44 05.6 -0.9
0.3nm,0.3s,mb3.6,baz=304,slow=8.5,SNR=7.9
ASAR Alice Springs 47.71 127 P P 16 44 18.5 +1.3
0.3nm,0.9s,mb3.3,baz=315,slow=6.4,SNR=3.2
ZAL Zalesovo 50.56 353 P P 16 44 38.8 0.0
1.2nm,0.6s,mb4.0,baz=223,slow=4.3,SNR=6.7
BVAR Borovoye Array 52.75 343 P P 16 44 52.6 -2.6
0.7nm,0.6s,mb3.8,baz=140,slow=12,SNR=4.9

*IGQ **21** 16:46:48.9,0.96S×81.92W,h14km±21km,mb5.0,Error ellipse: s-maj=20.5km s-min=7.8km az=176.5*
*IDC **21** 16:46:59.7±0.7,1.03S×80.76W,mb4.2/13,mb1 4.4/15, mb1mx4.2/21,mbtmp4.2/15,ML3.9/2,MS4.3/9,Ms1 4.3/9, ms1mx3.7/25,Error ellipse: s-maj=27.0km s-min=14.1km az=55.0*
*BJI **21** 16:47:00.5,1.20S×80.90W,h10km,mB5.7,Ms5.2,Msz4.9*
*NEIC **21** 16:47:00.6±0.4,1.18S×80.87W,h10km,mb5.0/32,Error ellipse: s-maj=10.7km s-min=7.5km az=212.0*
*HRVD **21** 16:47:00.6±0.4,1.26S×81.17W,h14km±1km,MW5.0/39, Centroid moment Tensor Solution. LP body waves: s16,c20;Mantle waves: s39,c58; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}3.03±.26; $M_{\theta\theta}$0.00±.15; $M_{\phi\phi}$-3.03±.20; $M_{r\theta}$0.29±.36; $M_{r\phi}$0.68±.11; $M_{\theta\phi}$-2.38±.47; Best double couple: $M_0$3.921×10^16 NP1:ϕ_s345°,δ26°,λ84°. NP2:ϕ_s171°,δ64°,λ93°. Principal axes: T 3.854, Plg71°, Azm88°; N .134, Plg3°, Azm350°; P -3.987, Plg19°, Azm259°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 21 16:47:03.0±0.3,1.17S±0.06×81.09W±0.03,h33km,n126, σ1§13/107,mb4.8/41,MS4.3/9,16C-2D,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.47	98	⇑P	P	16 47 42.2	+0.4
CUSU	Cusua	2.62	96	⇓P	P	16 47 45.6	+1.7
JUIV	Juive	2.64	96	P	P	16 47 45.6	+1.5
MARY	Rancho Maria	2.64	81	P	P	16 47 44.6	+0.5
MARY				S	S	16 48 24.1	+8.8
ARRY	Arrayan	2.66	97	P	P	16 47 44.8	+0.4
JUA2	San Juan 2	2.66	69	⇑P	P	16 47 43.4	-1.0
RETU	Refugio	2.66	96	P	P	16 47 45.4	+1.0
NAS1	Nasa	2.67	79	⇑P	P	16 47 44.9	+0.3
TERV	Terraza Guagua	2.67	68	⇑P	P	16 47 43.1	-1.5
PINO	Pino	2.68	68	⇑P	P	16 47 43.3	-1.4
PATA	Patacocha	2.68	97	P	P	16 47 46.3	+1.6
GGP	Refugio Guagua	2.68	68	P	P	16 47 44.7	-0.1
RUN2	Runtun	2.69	95	P	P	16 47 45.5	+0.7
ULBA	Ulba	2.70	96	P	P	16 47 45.8	+0.8
PISA	Pisayambo	2.71	88	⇑P	P	16 47 45.9	+0.8
JOR1	San Jorge 1	2.71	65	P	P	16 47 44.1	-1.0
YANA	Yana	2.72	68	⇑P	P	16 47 43.6	-1.7
VC1	Cotopaxi 1	2.74	79	⇑P	P	16 47 46.1	+0.5
TAMB	Tambo	2.76	80	⇑P	P	16 47 46.3	+0.4
OTAV	Otavalo	2.98	62	⇑/Pn	Pn	16 47 46.9	-2.4
ANTI	Antisana	3.01	76	⇑P	P	16 47 50.0	+0.5
COTA	Cotacachi	3.13	62	⇓P	P	16 47 49.8	-1.4
CAYR	Refugio Cayamb	3.30	69	⇑P	P	16 47 55.0	+1.4
CAYA	Cayambe	3.33	68	⇑P	P	16 47 54.5	+0.5
CONE	Cono NE Rev Vo	3.61	73	⇑P	P	16 47 59.1	+1.1
PAYG	Puerto Ayora	9.21	273	ePn	P	16 49 13.9	-2.5
	142nm,1.4s						
NNA	Nana	11.55	159	Pn	P	16 49 46.4	-2.2
	400nm,0.9s,SNR=8.2						
SDV	Santo Domingo	14.43	46	Pn	P	16 50 21.4	-5.6
	0.3nm,0.3s,baz=249,slow=11,SNR=7.7						
ARE	Arequipa	17.90	149	eP	P	16 51 15.0	+3.8
LPAZ	La Paz	19.72	140	P	P	16 51 30.4	-2.3
	0.3nm,0.3s,baz=331,slow=11,SNR=9.3						
LPAZ	La Paz	19.72	140	eP	P	16 51 31.4	-1.4
	18nm,1.0s						
TEIG	Tepich	22.39	342	eP	P	16 52 01.9	+1.9
	84nm,1.6s,mb4.9						
SJG	San Juan	24.15	37	P	P	16 52 16.2	-1.1
	13nm,0.3s,mb4.8,baz=321,slow=20,SNR=10						
LVC	Limon Verde	24.39	152	P	P	16 52 21.0	+1.4
	12nm,1.3s,mb4.2,baz=338,slow=7.8,SNR=6.1						
LVC				LR	LR	17 01 33.2	
	comp=Z,428nm,19.5s,MS3.9,baz=61,slow=36						
HKT	Hockley	33.99	337	eP	P	16 53 47.4	+1.6
	41nm,1.6s,mb5.1						
LRAL	Lakeview Retre	34.47	351	P	P	16 53 50.7	+0.7
	44nm,1.6s,mb5.1						
BDFB	Brasilia	35.65	116	P	P	16 53 57.6	-2.2
	3.6nm,0.8s,mb4.3,baz=306,slow=11,SNR=5.5						
BDFB				LR	LR	17 10 33.9	
	comp=Z,1μm,18.1s,MS4.7,baz=162,slow=40						
JCT	Junction City	36.17	332	eP	P	16 54 05.2	+0.8
	84nm,1.5s,mb5.5						
CPCT	Cooper Cave	36.56	355	eP	P	16 54 05.8	-2.0
TXAR	Lajitas Array	37.23	326	P	P	16 54 13.4	0.0
	2.2nm,0.9s,mb4.0,baz=149,slow=7.3,SNR=12						
TXAR				PcP	PcP	16 56 35.0	+1.9
	0.3nm,0.5s,baz=124,slow=4.5,SNR=4.0						
WMOK	Wichita Mounta	39.38	337	eP	P	16 54 32.3	+1.1
	24nm,1.5s,mb4.7						
USIN	University of	39.41	352	eP	P	16 54 30.4	-1.1
	47nm,0.3s,mb5.7						
WCI	Wyandotte Cave	39.49	354	P	P	16 54 33.4	+1.2
	6.9nm,0.3s,mb4.9						
GDL2	Guadalupe Moun	39.83	328	eP	P	16 54 35.4	+0.3
MNTX	Cornudas Mount	39.98	327	eP	P	16 54 35.5	-0.9
	35nm,1.4s,mb4.9						
CCM	Cathedral Cave	40.14	348	eP	P	16 54 36.6	-0.9
	32nm,1.5s,mb4.8						
CPRX	Cap Rock	40.23	330	eP	P	16 54 38.8	+0.4
BLO	Bloomington	40.45	353	P	P	16 54 39.1	-1.0
PLCA	Paso Flores	40.53	168	P	P	16 54 40.9	+0.1
	5.5nm,0.9s,mb4.2,baz=333,slow=4.5,SNR=3.5						
TRQA	Tornquist	40.70	157	eP	P	16 54 34.7	-7.5
	45nm,1.5s,mb4.9						
AMTX	Amarillo	40.72	334	eP	P	16 54 41.0	-1.3
	36nm,1.4s,mb4.8						
ACSO	Alum Creek Sta	41.23	358	eP	P	16 54 46.3	-0.3
	16nm,1.1s,mb4.6						
KSU1	Kansas State U	42.53	342	eP	P	16 54 57.9	+0.6
LPM	Los Pinos Moun	42.66	328	eP	P	16 54 59.2	+0.8
LAZ	Ladron	43.00	328	eP	P	16 55 03.1	+1.9
ANMO	Albuquerque	43.07	329	P	P	16 55 01.8	0.0
	7.1nm,0.9s,mb4.4,baz=144,slow=10,SNR=20						
ANMO				LR	LR	17 12 51.7	
	comp=Z,190nm,20.9s,MS4.0,slow=36						
ANMO	Albuquerque	43.07	329	eP	P	16 55 00.5	-1.2
	34nm,1.5s,mb4.9						
TUC	Tucson	43.56	322	eP	P	16 55 04.5	-1.2
	27nm,1.5s,mb4.8						
SDCO	Great Sand Dun	44.81	332	eP	P	16 55 16.0	+0.2
	38nm,1.5s,mb5.0						
SADO	Sadowa	45.77	2	LR	LR	17 12 28.0	
	comp=Z,253nm,21.9s,MS4.1,baz=185,slow=34						
RW3	Ridgway	46.26	331	eP	P	16 55 28.3	+1.1
ISCO	Idaho Springs	46.54	334	eP	P	16 55 30.0	+0.6
	7.8nm,1.2s,mb4.5						
PV01	Paradox Valley	46.60	330	eP	P	16 55 30.9	+0.9
PV10	Paradox Valley	47.02	330	eP	P	16 55 33.9	+0.7
PFO	Pinyon Flat Ob	47.99	319	eP	P	16 55 40.8	-0.1
	22nm,1.4s,mb5.0						
NEN	Nelson	48.29	323	eP	P	16 55 43.3	+0.1
SRU	San Rafael	48.34	329	eP	P	16 55 43.2	-0.3
MSU	Marysvale	48.76	327	eP	P	16 55 46.5	-0.3
MVU	Marysvale	48.77	327	eP	P	16 55 47.6	+0.7
	11nm,1.5s,mb4.7						
ARUT	Antelope Range	48.94	326	eP	P	16 55 48.8	+0.6
DAU	Daniels Canyon	49.69	330	eP	P	16 55 55.8	+1.9
JLU	Jordanelle	49.93	330	eP	P	16 55 57.3	+1.5
PDAR	Pinedale Array	50.69	333	P	P	16 56 01.9	+0.4
	1.9nm,1.1s,mb3.9,baz=135,slow=8.4,SNR=10						
PDAR				LR	LR	17 18 18.8	
	comp=Z,210nm,20.8s,MS4.1,baz=150,slow=37						
BW06	Boulder Array	50.69	333	eP	P	16 56 02.8	+1.3
	18nm,1.7s,mb4.7						
HWUT	Hardware Ranch	50.74	331	eP	P	16 56 00.9	-1.1
	26nm,1.5s,mb4.9						
LOHW	Long Hollow	51.82	333	eP	P	16 56 09.3	-0.8
TPAW	Teton Pass	51.89	333	eP	P	16 56 10.6	+0.1
MOOW	Moose Ponds	51.99	333	eP	P	16 56 12.1	+0.7
MNV	Mina	52.12	323	eP	P	16 56 13.6	+1.3
	56nm,2.0s,mb5.2						
IMW	Indian Meadow	52.20	333	eP	P	16 56 12.2	-0.7
NVAR	Mina Array Bea	52.20	323	P	P	16 56 13.1	+0.1
	1.1nm,0.7s,mb3.9,baz=155,slow=6.0,SNR=11						
QLMT	Earthquake Lak	53.15	333	P	P	16 56 21.4	+1.5
HLID	Hailey	53.60	330	eP	P	16 56 23.6	+0.3
	9.1nm,1.4s,mb4.5						
BOZ	Bozeman (W)	53.87	334	eP	P	16 56 23.9	-1.3
	45nm,2.0s,mb5.0						
WVOR	Wild Horse Val	55.02	327	eP	P	16 56 34.1	+0.4
	45nm,1.8s,mb5.2						
BMO	Blue Mountains	55.98	330	eP	P	16 56 40.3	-0.3
WALA	Waterton Lakes	57.49	335	P	P	16 56 50.4	-1.0
TAOE	Nuku Hiva Isla	59.26	260	eLR	LR	17 14 13.3	
FCC	Fort Churchill	60.63	352	eP	P	16 57 10.1	-2.8
	52nm,1.7s,mb5.4						
PMSA	Palmer Station	64.67	172	P	P	16 57 31.6	-8.0
FRB	Frobisher Bay	65.42	6	LR	LR	17 28 05.8	
	comp=Z,193nm,19.4s,MS4.3,baz=17,slow=38						
YKA	Yellowknife Ar	68.34	344	P	P	16 58 01.0	-1.9
	2.0nm,0.8s,mb4.2,baz=136,slow=6.3,SNR=15						
YKW3	Yellowknife Ar	68.39	344	eP	P	16 58 02.6	-0.7
PPT	Papeete	69.16	252	eLR	LR	17 18 49.1	
	545nm,26.8s						
TBI	Tubuai	69.72	246	eLR	LR	17 19 05.0	
	364nm,28.8s						
RES	Resolute Bay	76.20	356	eP	P	16 58 49.4	+0.1
	29nm,1.9s,mb4.9						
DBIC	Dimbokro	76.47	83	P	P	16 58 49.2	-2.8
	17nm,1.2s,mb4.8,baz=236,slow=6.3,SNR=8.6						
DBIC				LR	LR	17 32 00.1	
	comp=Z,198nm,18.4s,MS4.5,baz=229,slow=36						
DBIC	Dimbokro	76.47	83	eP	P	16 58 48.3	-3.7
	40nm,1.4s,mb5.2						
DAWY	Dawson	77.71	337	eP	P	16 58 58.4	+0.4
INK	Inuvik	78.00	342	eP	P	16 58 58.3	-1.1
	42nm,1.4s,mb5.2						
SUMG	Summit	78.33	12	eP	P	16 58 59.7	-1.5
	91nm,1.9s,mb5.4						
ESDC	Sonseca Array	80.85	50	P	P	16 59 13.6	-1.9
	0.3nm,0.3s,baz=270,slow=4.7,SNR=7.2						
ILAR	Eielson Array	80.94	337	P	P	16 59 16.4	+1.0
	3.2nm,1.1s,mb4.2,baz=121,slow=2.7,SNR=17						
ILAR				LR	LR	17 36 17.6	
	comp=Z,117nm,18.6s,MS4.3,baz=258,slow=36						
MCK	McKinley	81.39	335	eP	P	16 59 18.5	+0.7
	6.5nm,1.3s,mb4.4						
IMA	Indian Mountai	84.05	337	eP	P	16 59 32.4	+1.1
DAG	Danmarks Havn	85.02	12⇑	eP	P	16 59 34.9	-1.0
	16nm,1.4s,mb5.0						
DAG	Danmarks Havn	85.02	12⇑	iP	P	16 59 34.9	-1.0
	16nm,1.4s,mb5.0						
TNA	Tin City	89.74	335	eP	P	16 59 58.9	0.0
NOA	NORSAR Array B	92.13	29	LR	LR	17 38 43.6	
	comp=Z,162nm,18.2s,MS4.5,baz=70,slow=34						
CLL	Collm	93.47	39	eP	P	17 00 15.0	-1.5
CLL	Collm	93.47	39	P	P	17 00 15.0	-1.5
GERES	GERESS Array B	94.03	41	P	P	17 00 18.8	-0.3
	0.3nm,0.4s,mb4.1,baz=170,slow=6.0,SNR=2.6						
ZAL	Zalesovo	126.13	10	PKP	PKPdf	17 06 03.0	+0.8
	0.5nm,0.3s,baz=196,slow=6.6,SNR=6.1						
ZAL	Zalesovo	126.13	10	PKP	PKPdf	17 06 03.0	+0.8
MDJ	Mudanjiang	128.92	332	PKP	PKPdf	17 06 05.0	-2.8
SONM	Songino Array	133.06	353	PKP	PKPdf	17 06 16.7	+1.1
	1.1nm,1.2s,baz=315,slow=1.7,SNR=5.9						
WMQ	Urumqi	136.37	12	ePKP	PKPdf	17 06 20.0	-1.8
WRA	Warramunga Arr	139.43	237	PKP	PKPdf	17 06 32.0	+4.0
	3.8nm,1.2s,baz=131,slow=1.8,SNR=5.2						
DDI	Dehra Dun	144.89	32	e	PKPdf	17 06 35.2	-2.2
LZH	Lanzhou	144.95	353	ePKP	PKPdf	17 06 37.3	0.0
LZH				APKP		17 06 44.0	
LZH	Lanzhou	144.95	353	ePKP	PKPdf	17 06 37.2	-0.1
LZH				pPKP		17 06 44.0	
LZH				sPKP		17 06 50.0	
NDI	New Delhi	145.68	35	eP	PKPdf	17 06 48.0	+9.2
WHN	Wuhan	147.31	335	PKP	PKPdf	17 06 46.8	+5.3
ENH	Enshi	149.36	342	ePKPbc	PKPdf	17 06 48.8	+4.0
LSA	Lhasa	150.68	14	ePKPdf	PKPdf	17 06 47.8	+0.9
LSA				ePKPbc	PKPdf	17 06 53.3	+6.4
LSA				ePKPab	PKPab	17 06 58.3	-3.3
CMAR	Chiang Mai Arr	162.81	360	PKP	PKPdf	17 07 03.5	+1.2
	0.7nm,1.0s,baz=14,slow=3.7,SNR=3.1						
CMAR				PKPab	PKPab	17 07 53.8	+0.1
	3.5nm,1.3s,baz=333,slow=6.2,SNR=5.9						

IDC 21 16:49:35.3±60.0,21.07S×176.50W,mb3.8/3,mb1 4.0/3, mb1mx3.7/13,mbtmp3.8/3,Error ellipse: s-maj=1117.0km s-min=167.7km az=84.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.81	245	P	P	16 57 02.1	-1.6
	2.5nm,0.7s,baz=106,slow=6.6,SNR=5.4						
ASAR	Alice Springs	45.75	257	P	P	16 57 58.6	-1.9
	0.9nm,0.7s,baz=104,slow=7.0,SNR=14						
WRA	Warramunga Arr	45.91	262	P	P	16 58 00.0	-1.8
	0.7nm,0.9s,baz=96,slow=8.4,SNR=14						

OTT 21 16:57:59.2±0.3,52.76N×67.30W,MN2.9/7,Blast, Mount Wright, Qc Mining explosion.,Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	2.10	7	PN	Pn	16 58 35.7	-0.3
SCHQ				SG	Sg	16 59 02.7	-6.3
SCHQ				Trac		16 59 06.0	
	comp=Z,36nm,0.2s						
MNQ	Manicouagan	2.41	203	PN	Pn	16 58 40.8	+0.3
MNQ				SG	Sg	16 59 14.7	-4.8
MNQ				Trac		16 59 21.4	
	comp=Z,18nm,0.2s						
SMQ	Clarke City	2.57	171	PN	Pn	16 58 41.4	-1.3
SMQ				SN	Sn	16 59 14.5	-0.6
SMQ				Trac		16 59 19.1	
	comp=Z,28nm,0.2s						
ICQ	Pointe Anglais	3.24	180	PN	Pn	16 58 50.3	-2.1
ICQ				SN	Sn	16 59 28.3	-3.9
ICQ				Trac		16 59 39.0	
	comp=Z,7.7nm,0.1s						
CNQ	Baie Comeau	3.50	188	PN	Pn	16 58 54.0	-1.9
CNQ				SN	Sn	16 59 35.4	-3.3
CNQ				Trac		16 59 52.4	
	comp=Z,8.8nm,0.2s						
GSQ	Grosses Roches	3.85	178	PN	Pn	16 58 58.0	-3.0
GSQ				SN	Sn	16 59 41.4	-6.4
GSQ				Trac		17 00 02.7	
	comp=Z,5.9nm,0.2s						
LG4Q	La Grande 4	4.18	285	PN	Pn	16 59 03.1	-2.6
LG4Q				PG	Pg	16 59 10.4	-12
LG4Q				SN	Sn	16 59 52.5	-3.6
LG4Q				SG	Sg	17 00 05.2	-13
LG4Q				Trac		17 00 07.4	
	comp=Z,5.1nm,0.2s						
LMQ	La Malbaie	5.57	202	PN	Pn	16 59 22.1	-3.1
LMQ				SN	Sn	17 00 24.7	-6.3
LMN	Caledonia Moun	7.10	166	PN	Pn	16 59 43.4	-3.5
LMN				SN	Sn	17 00 57.5	-12
DRLN	Deer Lake	7.10	116	PN	Pn	16 59 42.0	-5.0
DRLN				SN	Sn	17 00 58.8	-11
MALO	McAlpine Lake	8.26	256	PN	P	16 59 57.9	-5.3
VIMO	Victor Mine	9.97	277	PN	P	17 00 20.3	-6.4
SILO	Sutton Inlier	10.61	286	PN	P	17 00 28.1	-7.3
SILO				SN	S	17 02 23.1	-13

*IDC **21** 17:00:05.5±1.5,4.15N×92.50E,mb3.6/5,mb1 3.9/6, mb1mx3.7/17,mbtmp3.6/6,ML3.6/1,MS3.7/1,Ms1 3.7/1, ms1mx3.0/16,Error ellipse: s-maj=55.5km s-min=23.3km az=57.0*
*NEIC **21** 17:00:09.5±1.0,4.03N×92.43E,mb4.1/4,Error ellipse: s-maj=25.3km s-min=14.7km az=71.0*

ISC 21 17:00:08.5±1.1,4.0N±0.1×92.5E±0.2,h33km,n11, σ0§97/10,mb3.8/8,MS3.7/1,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	15.68	23	eP	P	17 03 50.5	+1.8
	1.7nm,0.6s						
CMAR	Chiang Mai Arr	15.68	23	Pn	P	17 03 47.5	-1.2
	0.1nm,0.3s,baz=214,slow=12,SNR=17						
LSA	Lhasa	25.55	357	eP	P	17 05 37.5	+1.3
	4.1nm,0.6s,mb4.1						
JOW	Kunigami	41.05	53	LR	LR	17 29 23.9	
	comp=Z,97nm,18.1s,MS3.7,baz=9.2,slow=43						
SONM	Songino Array	45.25	13	P	P	17 08 22.8	-1.8
	0.3nm,0.8s,mb3.2,baz=195,slow=8.2,SNR=2.3						
WRA	Warramunga Arr	47.55	122	P	P	17 08 43.3	+0.1
	0.6nm,0.7s,mb3.8,baz=298,slow=9.4,SNR=4.4						
KURK	Kurchatov	47.95	348	eP	P	17 08 45.7	-0.2
	1.9nm,0.8s,mb4.2						
KURK				epP	pP	17 08 53.7	-2.0
ASAR	Alice Springs	48.89	126	P	P	17 08 53.6	+0.1
	0.5nm,1.0s,mb3.5,baz=302,slow=8.5,SNR=3.4						
ZAL	Zalesovo	50.13	354	P	P	17 09 02.6	0.0
	0.6nm,0.6s,mb3.8,baz=191,slow=5.5,SNR=3.5						
CHKZ	Chkalovo	52.62	344	eP	P	17 09 21.0	-0.4
	1.7nm,0.8s,mb4.0						
CHKZ				epP	pP	17 09 29.2	-2.2
GERES	GERESS Array B	79.56	319	P	P	17 12 14.3	+0.4
	0.5nm,0.7s,mb3.6,baz=90,slow=6.9,SNR=3.2						

IGQ 21 17:20:59.9,1.00S×81.72W,h12km±26km,mb4.2,2D, Error ellipse: s-maj=25.4km s-min=9.4km az=177.7,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	3.12	99	P	Pn	17 21 49.9	0.0
JUA2	San Juan 2	3.21	76	P	Pn	17 21 52.4	+1.1
TERV	Terraza Guagua	3.22	75	P	Pn	17 21 52.4	+0.9
PINO	Pino	3.22	75	⇓P	Pn	17 21 52.1	+0.6
NAS1	Nasa	3.26	84	P	Pn	17 21 53.6	+1.6
CUSU	Cusua	3.27	98	P	Pn	17 21 55.2	+3.1
YANA	Yana	3.27	74	P	Pn	17 21 52.8	+0.7
ARRY	Arrayan	3.30	99	P	Pn	17 21 53.4	+0.8
PATA	Patacocha	3.32	99	P	Pn	17 21 54.2	+1.3
RUN2	Runtun	3.33	97	P	Pn	17 21 54.9	+1.9
PISA	Pisayambo	3.33	91	P	Pn	17 21 53.9	+0.9
VC1	Cotopaxi 1	3.34	84	P	Pn	17 21 55.4	+2.3
ULBA	Ulba	3.34	98	P	Pn	17 21 54.2	+1.1
TAMB	Tambo	3.37	85	P	Pn	17 21 55.6	+2.2
ANTI	Antisana	3.60	81	P	Pn	17 21 59.0	+2.2
ANTI				S	Sn	17 22 40.9	+1.2
COTA	Cotacachi	3.63	69	P	Pn	17 21 58.7	+1.4
COTA				S	Sn	17 22 38.2	-2.3
CAYR	Refugio Cayamb	3.85	75	P	Pn	17 22 03.1	+2.8
CAYR				S	Sn	17 22 45.8	-0.2
CAYA	Cayambe	3.88	74	⇓P	Pn	17 22 03.4	+2.6

IDC 21 17:27:38.0±11.0,1.84S×141.18E,mb3.7/2,mb1 4.0/3, mb1mx3.6/11,mbtmp3.8/3,ML3.8/1,Error ellipse: s-maj=174.9km s-min=96.5km az=176.0,Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.19	200	P	P	17 32 02.7	-3.3
	0.3nm,0.3s,baz=24,slow=12,SNR=14						
ASAR	Alice Springs	22.81	197	P	P	17 32 42.4	-1.5
	1.5nm,0.6s,baz=27,slow=11,SNR=19						
STKA	Stephens Creek	29.88	179	P	P	17 33 48.2	-1.4
	0.8nm,0.7s,baz=11,slow=10,SNR=3.5						

IGQ 21 17:40:55.9,1.26S×81.30W,h12km±24km,mb4.3,2C-3D, Error ellipse: s-maj=24.3km s-min=6.4km az=170.1,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.67	95	P	Pn	17 41 40.4	+0.8
IGUA				S	Sn	17 42 13.2	+1.0
JUIV	Juive	2.84	93	P	Pn	17 41 43.5	+1.5
ARRY	Arrayan	2.86	95	⇓P	Pn	17 41 43.6	+1.4
ARRY				S	Sn	17 42 17.4	+0.6
PATA	Patacocha	2.88	95	⇑P	Pn	17 41 44.9	+2.3
JUA2	San Juan 2	2.89	69	P	Pn	17 41 44.0	+1.3
NAS1	Nasa	2.89	78	P	Pn	17 41 45.1	+2.4
RUN2	Runtun	2.89	93	P	Pn	17 41 44.6	+1.9
ULBA	Ulba	2.90	94	⇓P	Pn	17 41 45.0	+2.1
TERV	Terraza Guagua	2.91	68	P	Pn	17 41 44.0	+1.1
TERV				S	Sn	17 42 20.6	+2.5
PINO	Pino	2.91	68	P	Pn	17 41 43.8	+0.8
PISA	Pisayambo	2.92	86	P	Pn	17 41 44.6	+1.5
YANA	Yana	2.96	68	P	Pn	17 41 44.5	+0.8
VC1	Cotopaxi 1	2.96	78	P	Pn	17 41 45.6	+1.8
TAMB	Tambo	2.99	79	P	Pn	17 41 46.2	+2.1
ANTI	Antisana	3.24	76	P	Pn	17 41 50.1	+2.4
COTA	Cotacachi	3.36	62	⇑P	Pn	17 41 50.3	+1.0
CAYR	Refugio Cayamb	3.53	69	⇓P	Pn	17 41 54.9	+3.1
CAYA	Cayambe	3.57	68	P	Pn	17 41 54.9	+2.6

*BJI **21** 17:54:28.1,4.55N×125.60E,h175km,mB5.4,mb5.2*
*IDC **21** 17:54:35.0±0.6,5.22N×125.33E,h180km±4km,mb5.2/26, mb1 5.3/27,mb1mx5.3/28,mbtmp5.7/27,MS4.7/2, Ms1 4.7/2,ms1mx4.0/24,Error ellipse: s-maj=11.1km s-min=5.5km az=70.0*
*HRVD **21** 17:54:34.9±0.2,5.14N×125.49E,h179km±1km,MW5.8/69, Centroid moment Tensor Solution. LP body waves: s65,c129;Mantle waves: s69,c199; Half duration: 2s0 Moment tensor: Scale 10^17Nm; M_{rr}-3.27±.11; $M_{\theta\theta}$-0.55±.11; $M_{\phi\phi}$3.82±.13; $M_{r\theta}$2.88±.09; $M_{\theta\phi}$0.46±.12; $M

OCLP	**Ormoc**	**6.00 354**	*e*P	**P**	**17 56 03.6 +2.3**
OCLP			*e*S	Sx	17 56 24.5
PLP	**Palo**	**6.08 358**	*e*P	**P**	**17 56 04.1 +1.6**
GUIM	**Jordan**	**6.13 335**	*e*P	**P**	**17 56 06.7 +3.5**
BESP	**Borongan**	**6.51 2**	*e*P	**P**	**17 56 11.7 +3.5**
RCP	**Roxas**	**6.92 339⇑**	*e*P	**P**	**17 56 17.8 +4.1**
	458µm,0.9s				
CUYO	**Cuyo Island**	**7.12 324**	*e*P	**P**	**17 56 19.6 +3.3**
KALP	**Kalibo**	**7.19 337⇓**	*e*P	**P**	**17 56 09.9 -7.2**
OTRP	**Odiongan**	**7.93 337**	*e*P	**P**	**17 56 28.6 +1.6**
PPR	**Puerto Princes**	**7.99 306⇓**	*e*P	**P**	**17 56 31.4 +3.6**
BATP	**Bataraza**	**8.28 297**	*e*P	**P**	**17 56 37.4 +5.9**
ENRP	**El Nido**	**8.40 317**	*e*P	**P**	**17 56 36.8 +3.6**
SJMP	**San Jose**	**8.42 331**	*e*P	**P**	**17 56 36.6 +3.2**
BUSP	**Coron**	**8.52 324**	*e*P	**P**	**17 56 36.4 +1.6**
PVCP	**Virac**	**8.56 353**	*e*P	**P**	**17 56 38.5 +3.3**
AUQP	**San Andres**	**8.60 343**	*e*P	**P**	**17 56 41.9 +6.1**
BOAC	**Boac**	**9.00 338**	*e*P	**P**	**17 56 46.4 +5.3**
GQP	**Guinayangan**	**9.22 343⇓**	*e*P	**P**	**17 56 48.1 +4.2**
LUBP	**Lubang**	**9.94 331**	*e*P	**P**	**17 56 58.0 +4.6**
TGY	**Tagaytay City**	**9.95 335**	P	**P**	**17 56 56.7 +3.3**
	43nm,0.3s,baz=245,slow=15,SNR=6.3				
BUNI	**Buntu Taipa**	**9.95 210**	*e*P	**P**	**17 56 56.4 +2.8**
	674nm,0.4s				
BUNI			*e*S	Sx	17 58 01.2
TANI	**Tanete Lipujan**	**10.27 215⇑**	*e*P	**P**	**17 57 02.0 +4.3**
TANI			pmax	pmax	
	comp=Z,2µm,0.6s				
TANI	**Tanete Lipujan**	**10.27 215⇑**	*e*P	**P**	**17 57 02.0 +4.3**
	comp=Z,2µm,0.6s				
NINI	**Niniconang**	**10.89 210⇓**	*e*P	**P**	**17 57 08.9 +3.1**
NINI			pmax	pmax	
	comp=Z,1µm,0.6s				
NINI	**Niniconang**	**10.89 210⇓**	*e*P	**P**	**17 57 08.9 +3.1**
	comp=Z,1µm,0.6s				
PCPH	**Palayan**	**11.21 339⇑**	*e*P	**P**	**17 57 12.7 +2.8**
BALP	**Baler**	**11.22 342**	*e*P	**P**	**17 57 13.8 +3.8**
SCZP	**Santa Cruz**	**11.88 334**	*e*P	**P**	**17 57 21.4 +2.9**
BCPH	**Baguio City Da**	**12.15 338⇑**	*i*P	**P**	**17 57 28.0 +6.0**
CAUP	**Cauayan**	**12.29 344**	*e*P	**P**	**17 57 25.7 +2.0**
BOLP	**Bolinao**	**12.42 335**	*e*P	**P**	**17 57 25.3 -0.1**
CVP	**Callao Caves**	**13.01 345⇑**	*e*P	**P**	**17 57 35.2 +2.2**
ABRA	**Dolores**	**13.28 341**	*e*P	**P**	**17 57 38.6 +2.2**
APYP	**Conner**	**13.32 343**	*e*P	**P**	**17 57 38.7 +1.8**
KEDI	**Kedomdong**	**16.24 214⇓**	*e*P	**P**	**17 58 15.1 +1.6**
KEDI			pmax	pmax	
	comp=Z,1µm,0.7s				
KEDI	**Kedomdong**	**16.24 214⇓**	*e*P	**P**	**17 58 15.1 +1.6**
	comp=Z,1µm,0.7s				
RATI	**Rata**	**16.77 215⇓**	*e*P	**P**	**17 58 20.8 +1.0**
	comp=Z,4µm,0.4s				
KELI	**Kelakatan**	**16.99 219⇑**	*e*P	**P**	**17 58 24.3 +1.8**
	comp=Z,968nm,0.4s				
SRDI	**Scrawed**	**17.42 220⇑**	*e*P	**P**	**17 58 29.7 +2.4**
SRDI			pmax	pmax	
	comp=Z,1µm,0.3s				
SRDI	**Scrawed**	**17.42 220⇑**	*e*P	**P**	**17 58 29.7 +2.4**
	comp=Z,1µm,0.3s				
KAKA	**Kakadu**	**19.04 158⇓**	*i*P	**P**	**17 58 45.0 +0.5**
	comp=Z,2µm,0.6s				
KAKA			*e*S	**S**	**18 02 11.0 +4.7**
KAKA			*i* SCP		18 06 19.7
QIZ	**Qiongzhong**	**20.46 314**	P	**P**	**17 59 00.4 +1.4**
QIZ			PP	PP	17 59 31.9 +6.0
QIZ			XP		17 59 53.8
QIZ			S	**S**	**18 02 33.8 +0.9**
QIZ			AMB	AMB	
	comp=Z,82nm,0.8s				
QIZ			AMB	AMB	
	comp=Z,1µm,7.9s				
QIZ	**Qiongzhong**	**20.46 314**	*e*P	**P**	**17 59 00.5 +1.4**
	comp=Z,59nm,0.6s				
QZH	**Quanzhou**	**20.79 343**	P	**P**	**17 59 02.6 +0.4**
QZH			AP		17 59 35.9
QZH			S	**S**	**18 02 39.0 +0.3**
QZH			AMB	AMB	
	comp=Z,1µm,5.7s				
QZH			LR	LR	
	comp=N,5µm,14.3s				
QZH			LR	LR	
	comp=E,16µm,15.1s				
QZH			LR	LR	
	comp=Z,18µm,16.4s				
GUMO	**Guam**	**21.12 65**	*e*P	**P**	**17 59 05.8 +0.2**
GUMO			pmax	pmax	
	comp=Z,690nm,0.9s,mb6.0				
GUMO	**Guam**	**21.12 65**	*e*P	**P**	**17 59 05.8 +0.2**
	comp=Z,686nm,0.8s,mb6.0				
JOW	**Kunigami**	**21.85 7**	P	**P**	**17 59 11.8 -0.8**
	comp=Z,198nm,0.7s,mb5.7,baz=197,slow=8.6,SNR=41				
JOW			S	**S**	**18 03 00.4 +2.7**
	comp=Z,30nm,0.7s,baz=29,slow=25,SNR=5.9				
JOW			SCP		18 06 25.6
	comp=Z,58nm,0.9s,baz=106,slow=1.1,SNR=6.7				
UBT	**Ubonrachathani**	**22.32 298**	⇓P	**P**	**17 59 19.9 +2.7**
ANAT	**Anatahan**	**22.95 59⇑**	*e*P	**P**	**17 59 25.2 +1.7**
ANA2	**Anatahan**	**23.00 59⇑**	*e*P	**P**	**17 59 25.6 +1.7**
FITZ	**Fitzroy Crossi**	**23.01 179**	⇓*i*P	**P**	**17 59 25.1 +1.1**
	comp=Z,1µm,0.3s				
FITZ			*e*S	**S**	**18 03 20.4 +2.7**
FITZ			*i* SCS	ScS	18 10 12.8 -1.1
SARN	**Sarigan**	**23.21 58⇑**	*e*P	**P**	**17 59 27.1 +1.1**
PMG	**Port Moresby**	**26.14 123**	*e*P	**P**	**17 59 52.6 -0.8**
PMG			pmax	pmax	
	comp=Z,260nm,1.3s				
PMG	**Port Moresby**	**26.14 123**	P	**P**	**17 59 53.2 -0.3**
	comp=Z,291nm,1.2s,mb5.8,baz=36,slow=3.4,SNR=44				
PMG			SCP		18 06 37.8
	comp=Z,74nm,1.0s,baz=21,slow=3.1,SNR=8.3				
PMG	**Port Moresby**	**26.14 123**	*e*P	**P**	**17 59 52.6 -0.8**
	comp=Z,264nm,1.3s,mb5.7				
SSE	**Sheshan**	**26.19 352**	P	**P**	**17 59 54.4 +0.7**
SSE			AP	pP	18 00 30.8 +1.2
SSE			XP	sP	18 00 52.1 +1.5
SSE			AMB	AMB	
	comp=Z,41nm,0.8s,mb5.1				
SSE			AMB	AMB	
	comp=Z,83µm,3.0s				
SSE			LR	LR	
	comp=N,3µm,15.4s				
SSE			LR	LR	
	comp=E,8µm,15.5s				
SSE			LR	LR	
	comp=Z,11µm,14.2s				
SSE	**Sheshan**	**26.19 352**	P	**P**	**17 59 54.4 +0.7**
	comp=Z,41nm,0.8s,mb5.1				
SSE			pP	pP	18 00 30.7 +1.1
SSE			sP	sP	18 00 52.1 +1.5
SSE			S	**S**	**18 04 11.9 +1.4**
SSE			sS		18 05 16.6
SSE			LR	LR	
	comp=Z,11µm,14.2s				
NNT	**Nongplab**	**26.28 288**	P	**P**	**17 59 56.8 +2.1**
WRAB	**Tennant Creek**	**26.39 160**	*i* P	**P**	**17 59 59.8 +4.1**
WRAB	**Tennant Creek**	**26.39 160**	*e*P	**P**	**17 59 54.2 -1.5**
	comp=Z,377nm,0.6s,mb6.2				
WRA	**Warramunga Arr**	**26.40 160**	P	**P**	**17 59 54.9 -0.8**
WRA			S	**S**	**18 04 10.4 -3.6**
WRA	**Warramunga Arr**	**26.40 160**	P	**P**	**17 59 54.9 -0.9**
	comp=Z,137nm,0.4s,mb5.9,baz=330,slow=11,SNR=674				
WRA			pP	pP	18 00 31.7 0.0
	comp=Z,116nm,0.8s,baz=344,slow=10.0,SNR=1.9				
WRA			S	**S**	**18 04 10.4 -3.6**
	comp=Z,41nm,1.0s,baz=340,slow=17,SNR=11				
WRA			ScP		18 06 38.3
	comp=Z,62nm,0.9s,baz=338,slow=3.4,SNR=9.3				
WB2	**Warramunga Arr**	**26.40 160**	⇓*i*P	**P**	**17 59 55.4 -0.4**
WB2			*i* S	**S**	**18 04 11.8 -2.3**
WB2			*i* SCS	ScS	18 10 26.3 -1.4
MBWA	**Marble Bar**	**26.60 192**	⇓*i*P	**P**	**17 59 57.4 -0.2**
	comp=Z,265nm,0.6s,mb6.0				
MBWA			*e*PcP	PcP	18 03 16.6 -0.8
MBWA			*e*ScP		18 06 38.8
NST	**Nakhon Sawan**	**26.83 295**	P	**P**	**18 00 02.0 +2.3**
	comp=Z,458nm,0.7s,mb6.2				
CBIJ	**Chichi jima**	**27.23 35**	P	**P**	**18 00 00.8 -2.5**
	comp=Z,690nm,0.5s,baz=247,slow=5.2,SNR=21				
WHN	**Wuhan**	**27.36 339**	⇓P	**P**	**18 00 04.4 0.0**
WHN			AP	pP	18 00 42.0 +1.4
NANT	**Nan**	**27.58 302**	⇓P	**P**	**18 00 03.0 -3.5**
	comp=Z,402nm,1.0s,mb6.1				
CHRT	**Chiangrai**	**28.83 303**	⇓P	**P**	**18 00 19.0 +1.3**
	comp=Z,884nm,1.1s,mb6.4				
CM31	**Chiang Mai Arr**	**28.93 300**	⇓*i*P	**P**	**18 00 19.6 +1.0**
	comp=Z,294nm,0.9s,mb6.0				
CMAR	**Chiang Mai Arr**	**28.93 300**	P	**P**	**18 00 19.1 +0.5**
	comp=Z,101nm,0.7s,mb5.7,baz=121,slow=7.6,SNR=347				
CMAR			PcP	PcP	18 03 23.6 +0.4
	comp=Z,6.2nm,0.6s,baz=126,slow=1.4,SNR=8.1				
CMAR			S	**S**	**18 04 58.2 +3.5**
	comp=Z,1.8nm,1.0s,baz=118,slow=19,SNR=2.2				
CHG	**Chiang Mai**	**29.08 300**	⇓P	**P**	**18 00 21.4 +1.5**
	comp=Z,150nm,0.8s,mb5.8				
CHG			S	**S**	**18 04 59.3 +2.3**
ENH	**Enshi**	**29.16 331**	⇓*i*P	**P**	**18 00 19.4 -1.1**
	comp=Z,58nm,0.8s,mb5.4				
ENH			*e*PcP	PcP	18 03 22.9 -0.6
ENH			*e*ScP		18 06 45.4
KMI	**Kunming**	**29.41 315**	⇑P	**P**	**18 00 24.6 +1.8**
KMI			*PP	pP	18 01 06.7 +7.2
KMI			*SP	sP	18 01 27.4 +7.2
KMI					18 01 30.0
KMI			S	**S**	**18 05 04.3 +2.2**
KMI			SS	SS	18 06 54.4 +4.1
KMI			pmax	pmax	
	comp=Z,66nm,1.0s,mb5.3				
KMI			MLR	MLR	
	comp=Z,17µm,14.9s				
KMI	**Kunming**	**29.41 315**	⇑P	**P**	**18 00 24.6 +1.8**
	comp=Z,66nm,1.0s,mb5.3				
KMI			pP	pP	18 01 06.7 +7.2
KMI			sP	sP	18 01 27.4 +7.2
KMI			PP	PP	18 01 30.0 +4.5
KMI			S	**S**	**18 05 04.3 +2.2**
KMI			sS		18 06 12.3
KMI			SS	SS	18 06 54.4 +4.1
KMI			SSS	SSS	18 07 17.0 -3.2
KMI			LR	LR	
	comp=Z,17µm,14.9s				
ASPA	**Alice Springs**	**29.77 164**	⇓*i*P	**P**	**18 00 25.7 -0.3**
ASPA			*i* S	**S**	**18 05 06.3 -1.4**
ASPA			*i* SCP		18 06 48.8
ASPA			*i* SCS	ScS	18 10 40.6 -2.3
ASPA	**Alice Springs**	**29.77 164**	⇓*i*P	**P**	**18 00 25.7 -0.3**
ASPA			*i* S	**S**	**18 05 06.3 -1.4**
ASPA			*i*		18 10 40.6
ASAR	**Alice Springs**	**29.77 164**	P	**P**	**18 00 25.6 -0.3**
	comp=Z,115nm,0.4s,mb5.9,baz=343,slow=7.3,SNR=1287				
ASAR			PcP	PcP	18 03 24.4 -0.8
	comp=Z,36nm,0.4s,baz=348,slow=2.4,SNR=11				
ASAR			S	**S**	**18 05 06.0 -1.8**
	comp=Z,19nm,0.6s,baz=355,slow=19,SNR=4.4				
ASAR			ScP		18 06 49.0
	comp=Z,63nm,0.8s,baz=348,slow=2.8,SNR=20				
TIA	**Tai'an**	**31.90 348**	*e*P	**P**	**18 00 42.0 -2.5**
KS15	**Wonju Array Si**	**32.33 4**	*e*P	**P**	**18 00 46.2 -2.0**
KS15			*e*ScP		18 06 55.7
CTA	**Charters Tower**	**32.41 141**	⇓*i*P	**P**	**18 00 49.7 +0.6**
	comp=Z,61nm,0.9s,mb5.3				
CTA			*i* PCP	PcP	18 03 32.8 +0.6
CTA			*e*S	**S**	**18 05 49.9 +0.8**
CTA			*e*SCP		18 06 58.9
CTA	**Charters Tower**	**32.41 141**	⇓*i*P	**P**	**18 00 49.7 +0.6**
CTA			*i*		18 03 32.8
CTA			*e*S	**S**	**18 05 49.9 +0.8**
CTA			pmax	pmax	
	comp=Z,61nm,0.9s				
CTA	**Charters Tower**	**32.41 141**	P	**P**	**18 00 49.3 +0.2**
	comp=Z,62nm,0.7s,mb5.5,baz=322,slow=11,SNR=73				
CTA			PcP	PcP	18 03 32.0 -0.2
	comp=Z,44nm,0.7s,baz=303,slow=6.7,SNR=5.4				
CTA			S	**S**	**18 05 49.9 +0.7**
	comp=Z,5.1nm,0.5s,baz=85,slow=19,SNR=5.8				
CTA			ScP		18 06 58.2
	comp=Z,70nm,1.0s,baz=348,slow=2.9,SNR=8.3				
CTA			LR	LR	18 14 18.4
	comp=Z,1µm,18.4s,baz=169,slow=36				
CTAO	**Charters Tower**	**32.41 141**	*e*P	**P**	**18 00 48.8 -0.3**
CTAO			*e*		18 03 31.3
CTAO			pmax	pmax	
	comp=Z,98nm,0.9s,mb5.5				
CTAO	**Charters Tower**	**32.41 141**	*e*P	**P**	**18 00 48.8 -0.3**
	comp=Z,98nm,0.9s,mb5.5				
CTAO			*e*PcP	PcP	18 03 31.3 -0.9
CTAO			*e*ScP		18 06 57.8
XAN	**Xi'an**	**32.59 334**	P	**P**	**18 00 48.5 -2.0**
XAN			AMB	AMB	
	comp=Z,77nm,0.9s,mb5.4				
XAN			LR	LR	
	comp=N,2µm,12.3s				
XAN			LR	LR	
	comp=E,7µm,17.9s				
XAN			LR	LR	
	comp=Z,4µm,16.8s				
MAT	**Matsushiro**	**33.52 19**	S	**S**	**18 06 01.4 -4.8**
FORT	**Forrest**	**35.73 176**	⇓*i*P	**P**	**18 01 17.7 +0.5**
	comp=Z,3µm,1.4s				
FORT			*e*S	**S**	**18 06 39.9 -0.3**
FORT			*e*SCP		18 07 09.6
BJT	**Baijiatuau**	**35.76 348**	*e*P	**P**	**18 01 15.7 -1.7**
BJT			pmax	pmax	
	comp=Z,63nm,1.1s				
BJT	**Baijiatuau**	**35.76 348**	*e*P	**P**	**18 01 15.7 -1.7**
	comp=Z,63nm,1.1s,mb5.2				
BJT			*e*ScP		18 07 08.0
BJI	**Beijing**	**35.78 348**	*e*P	**P**	**18 01 16.6 -0.9**
BJI			S	**S**	**18 06 46.5 +5.6**
BJI			pmax	pmax	
	comp=Z,20nm,0.8s,mb4.8				
BJI			MLR	MLR	
	comp=Z,6µm,17.9s				
BJI	**Beijing**	**35.78 348**	*e*P	**P**	**18 01 16.6 -0.9**
	comp=Z,20nm,0.8s,mb4.8				
BJI			pP	pP	18 01 54.8 -0.8
BJI			S	**S**	**18 06 46.5 +5.6**
BJI			sS		18 07 52.4
BJI			SS	SS	18 09 40.2 +26
BJI			LR	LR	
	comp=Z,6µm,17.9s				
IMP	**Imphal**	**35.90 306**	*e*P	**P**	**18 01 18.1 -0.6**
LZH	**Lanzhou**	**36.63 330**	⇓P	**P**	**18 01 26.0 +1.3**
LZH			AP	pP	18 02 07.0 +4.2
LZH			XP	sP	18 02 22.0 -1.7
LZH			PP	PP	18 02 53.3 -0.4
LZH			AMB	AMB	
	comp=Z,390nm,1.3s,mb5.9				
LZH			AMB	AMB	
	comp=Z,990nm,5.0s				
LZH			LR	LR	
	comp=N,20µm,12.9s				
LZH			LR	LR	
	comp=Z,31µm,14.8s				
LZH	**Lanzhou**	**36.63 330**	⇓P	**P**	**18 01 26.0 +1.3**
LZH			*PP	pP	18 02 07.0 +4.2
LZH					18 02 53.2
LZH			S	**S**	**18 06 54.4 +0.6**
LZH			SS	SS	18 09 31.0 -1.9
LZH					18 11 17.5
LZH			pmax	pmax	
	comp=Z,390nm,1.3s,mb5.9				
LZH			MLR	MLR	
	comp=Z,31µm,14.8s				
LZH	**Lanzhou**	**36.63 330**	⇓P	**P**	**18 01 26.0 +1.3**
	comp=Z,390nm,1.3s,mb5.9				
LZH			pP	pP	18 02 07.0 +4.2
LZH			sP	sP	18 02 22.0 -1.7
LZH			PP	PP	18 02 53.2 -0.5
LZH			S	**S**	**18 06 54.4 +0.6**
LZH			ScP		18 07 09.0
LZH			PcS		18 07 27.0
LZH			sS		18 08 01.3
LZH			SS	SS	18 09 31.0 -1.9
LZH			ScS	ScS	18 11 17.5 -0.9
LZH			LR	LR	
	comp=Z,31µm,14.8s				
SNY	**Shenyang**	**36.65 358**	⇓P	**P**	**18 01 24.3 -0.5**
SNY			AMB	AMB	
	comp=Z,40nm,0.9s,mb5.0				
SNY			AMB	AMB	
	comp=Z,140nm,5.8s				
SNY			LR	LR	
	comp=N,22µm,14.8s				
SNY			LR	LR	
	comp=Z,12µm,15.4s				
AGT	**Agartala**	**37.70 303⇑**	*i*P	**P**	**18 01 33.0 -0.8**
AGT			*i*		18 02 55.0
MUN	**Mundaring**	**37.82 193⇓**	*i*P	**P**	**18 01 35.2 +0.5**
	comp=Z,493nm,0.4s,mb6.5				
MUN			*e*SCP		18 07 16.8
MUN	**Mundaring**	**37.82 193⇓**	*i*P	**P**	**18 01 35.2 +0.5**
MUN			*e*		18 07 16.8
MUN			pmax	pmax	
	comp=Z,493nm,0.4s,mb6.5				
SHL	**Shillong**	**37.91 306**	*i* P	**P**	**18 01 36.5 +1.0**
	comp=Z,409nm,0.8s,mb6.1				
SHL			⇓*i*P		18 01 37.0
SHL			*e*S	**S**	**18 07 11.5 -1.8**
SHL			*e*S	**S**	**18 07 11.5 -1.8**
NWAO	**Narrogin (SRO)**	**38.53 191**	P	**P**	**18 01 41.4 +0.8**
NWAO	**Narrogin (SRO)**	**38.53 191**	P	**P**	**18 01 41.5 +0.9**
	comp=Z,420nm,0.3s,mb6.5,baz=24,slow=8.4,SNR=1430				
NWAO			ScP		18 07 19.9
	comp=Z,24nm,0.9s,baz=302,slow=6.5,SNR=3.5				
NWAO	**Narrogin (SRO)**	**38.53 191**	⇓*e*P	**P**	**18 01 41.4 +0.8**
	comp=Z,284nm,0.3s,mb6.4				
MDJ	**Mudanjiang**	**39.59 5⇑**	*i*P	**P**	**18 01 48.9 -0.4**
	comp=Z,105nm,0.8s,mb5.5				
MDJ			*e*ScP		18 07 23.1
MDJ			*e*S	**S**	**18 07 37.5 -0.8**
STKA	**Stephens Creek**	**39.89 158**	⇓*i*P	**P**	**18 01 53.0 +1.2**
	comp=Z,267nm,0.6s,mb6.0				
STKA			*e*S	**S**	**18 07 42.9 0.0**
STKA	**Stephens Creek**	**39.89 158**	P	**P**	**18 01 53.0 +1.1**
	comp=Z,265nm,0.6s,mb6.1,baz=332,slow=8.0,SNR=1084				
STKA			ScP		18 07 25.4
	comp=Z,28nm,0.7s,baz=325,slow=5.5,SNR=6.0				
STKA			S	**S**	**18 07 43.4 +0.5**
	comp=Z,19nm,0.7s,baz=88,slow=20,SNR=7.7				
LSA	**Lhasa**	**40.46 311**	P	**P**	**18 01 58.3 +1.8**
LSA			AMB	AMB	
	comp=Z,20nm,0.7s,mb4.9				
LSA			AMB	AMB	
	comp=Z,570nm,6.0s				
LSA			LR	LR	
	comp=N,3µm,13.0s				
LSA			LR	LR	
	comp=E,6µm,17.0s				
LSA			LR	LR	
	comp=Z,10µm,15.0s				
LSA	**Lhasa**	**40.46 311**	⇓*i*P	**P**	**18 01 58.2 +1.7**
LSA			*e*S	**S**	**18 07 52.3 +0.9**
LSA			pmax	pmax	
	comp=Z,97nm,0.6s,mb5.6				
LSA	**Lhasa**	**40.46 311**	⇓*i*P	**P**	**18 01 58.2 +1.7**
	comp=Z,97nm,0.6s,mb5.6				
LSA			*e*S	**S**	**18 07 52.3 +0.9**
ADE	**Adelaide**	**41.77 163**	⇓*i*P	**P**	**18 02 09.2 +1.9**
ASAJ	**Asahikawa**	**41.80 19**	P	**P**	**18 02 05.3 -2.0**
	comp=Z,186nm,1.0s,mb5.7,baz=258,slow=15,SNR=8.2				
ASAJ			S	**S**	**18 08 08.8 -2.0**
	comp=Z,9.8nm,0.9s,baz=53,slow=32,SNR=5.8				
VIS	**Vishakhapatnam**	**42.87 291**	*e*P	**P**	**18 02 17.1 +0.8**
VIS			*e*		18 04 00.7
JIRN	**Jiri**	**43.41 306**	*e*P	**P**	**18 02 21.6 +1.0**
	comp=Z,303nm,0.5s,mb6.2				
PKI	**Pulchoki**	**44.01 305**	*e*P	**P**	**18 02 25.6 +0.2**
	comp=Z,53nm,0.3s,mb5.6				
KKN	**Kakani**	**44.20 305**	*e*P	**P**	**18 02 27.1 +0.2**
	comp=Z,126nm,0.4s,mb5.9				
DMN	**Daman**	**44.27 305**	*e*P	**P**	**18 02 27.8 +0.3**
	comp=Z,135nm,0.7s,mb5.7				
HIA	**Hailar**	**44.31 355**	*e*P	**P**	**18 02 26.5 -1.0**
HIA			*e*		18 04 08.1
HIA			pmax	pmax	
	comp=Z,34nm,0.9s				
HIA	**Hailar**	**44.31 355**	*e*P	**P**	**18 02 26.5 -1.0**
	comp=Z,34nm,0.9s,mb5.0				
HIA			*e*PcP	PcP	18 04 08.1 -0.9
HIA			*e*ScP		18 07 41.7
PALK	**Pallekele**	**44.33 275**	*e*P	**P**	**18 02 28.4 +0.3**
	comp=Z,226nm,1.3s,mb5.6				
PALK			*e*PcP	PcP	18 04 09.4 -0.2
KLR	**Kul'dur**	**44.37 6⇓**	*e*P	**P**	**18 02 24.5 -3.4**
KLR			pmax	pmax	
	comp=E,25nm,1.2s				
KLR			pmax	pmax	
	comp=Z,43nm,1.2s,mb5.0				
YSS	**Yuzh-Sakhalins**	**44.40 17**	*i* P	**P**	**18 02 23.6 -4.6**
GKN	**Gorkha**	**44.80 305**	*e*P	**P**	**18 02 31.8 +0.1**
	comp=Z,117nm,0.5s,mb5.8				
BLSP	**Bilaspur**	**45.01 296**	⇓*i*P	**P**	**18 02 34.1 +0.7**
BLSP			*e*		18 03 19.0
MDRS	**Chennai**	**45.09 283**	*e*P	**P**	**18 02 34.0 -0.1**
ULN	**Ulaanbaatar**	**45.42 343**	*e*P	**P**	**18 02 35.4 -0.9**
ULN			pmax	pmax	
	comp=Z,7.0nm,0.6s				
ULN	**Ulaanbaatar**	**45.42 343**	*e*P	**P**	**18 02 35.4 -1.0**
	comp=Z,7.3nm,0.6s				
ULN			*e*pP	pP	18 03 12.9 -2.7
ULN			*e*ScP		18 07 45.6
KOLN	**Koldanda**	**45.56 304**	*e*P	**P**	**18 02 38.4 +0.7**
	comp=Z,705nm,0.7s,mb6.4				
SONM	**Songino Array**	**45.59 342**	P	**P**	**18 02 37.3 -0.4**
	comp=Z,7.9nm,0.9s,baz=156,slow=7.7,SNR=44				
SONM			pP	pP	18 03 14.3 -2.7
	comp=Z,18nm,0.8s,baz=167,slow=8.1,SNR=4.1				
SONM			PcP	PcP	18 04 12.9 -0.6
	comp=Z,8.2nm,0.5s,baz=163,slow=5.5,SNR=5.0				
SONM			ScP		18 07 46.7
	comp=Z,10.0nm,0.8s,baz=110,slow=2.6,SNR=4.1				
RIV	**Riverview**	**45.78 149**	*e*P	**P**	**18 02 41.1 +1.7**
CNB	**Canberra Magne**	**46.11 152**	⇓*i*P	**P**	**18 02 43.6 +1.6**
	comp=Z,4µm,1.1s				
ALBI	**Allahabad**	**46.22 300**	*e*P	**P**	**18 02 42.0 -0.9**
TOO	**Toolangi**	**46.41 158**	⇓*i*P	**P**	**18 02 46.4 +2.2**
	comp=Z,193nm,0.5s,mb6.0				
TOO			*e*S	**S**	**18 09 22.1 +4.9**
TOO	**Toolangi**	**46.41 158**	⇓*i*P	**P**	**18 02 46.4 +2.2**
TOO			*e*S	**S**	**18 09 22.1 +4.9**
TOO			pmax	pmax	
	comp=Z,193nm,0.5s,mb6.0				
HYB	**Hyderabad**	**47.29 289**	⇓*e*P	**P**	**18 02 52.0 +0.7**
HYB			*e*		18 03 37.0
HYB			*e*		18 04 47.0
HYB			*e*S	**S**	**18 09 32.0 +2.1**
HYB	**Hyderabad**	**47.29 289**	⇓*i*P	**P**	**18 02 52.0 +0.7**
	comp=Z,130nm,1.0s,mb5.5				
HYB			*e*		18 03 06.0
HYB			*e*pP	pP	18 03 22.0 -8.9
HYB			*e*		18 03 38.0
HYB			*e*sP	sP	18 03 44.0 -7.1
HYB			*e*PcP	PcP	18 04 14.0 -5.8
HYB			*e*		18 04 24.5
HYB			*e*PP	PP	18 04 47.0 +3.4
HYB			*e*		18 05 46.0
HYB			*e*ScP		18 07 57.0
HYB			*e*PcS		18 08 11.5
HYB			*e*S	**S**	**18 09 28.0 -1.9**
HYB			*e*sS		18 10 40.0
HYB			*e*ScS	ScS	18 12 20.0 -3.7
NGP	**Nagpur**	**47.55 294**	*e*P	**P**	**18 02 53.7 +0.4**
NGP			*e*		18 02 55.6
KOD	**Kodaikanal**	**47.60 279**	*e*P	**P**	**18 02 51.0 -2.8**
NOUC	**Port Laguerre**	**48.40 125**	*e*P	**P**	**18 02 60.0 +0.1**
NOUC	**Port Laguerre**	**48.40 125**	*e*P	**P**	**18 02 60.0 +0.1**
DZM	**Mont Dzumac**	**48.50 125⇑**	*e*P	**P**	**18 03 01.2 +0.6**
ZAK	**Zakamensk**	**48.80 341⇓**	*e*P	**P**	**18 03 00.5 -2.1**
LATR	**Latur**	**49.32 290**	*e*P	**P**	**18 03 07.0 0.0**
BHPL	**Bhopal**	**49.49 296**	*e*P	**P**	**18 03 08.2 0.0**
BHPL			*e*		18 03 11.2
	comp=Z,137nm,0.5s				

DDI e 18 08 13.2
SONA Sohna 51.15 302 eP P 18 03 19.5 -1.2
SONA e 18 03 22.0
comp=Z,84nm,0.6s
NDI New Delhi 51.16 303 eP P 18 03 18.0 -2.8
NDI eP 18 03 18.0
comp=Z,212nm,0.8s
NDI eS S **18 10 22.0 -1.6**
AYAN Aya Nagar 51.18 303 eP P 18 03 20.6 -0.4
AYAN e 18 03 22.8
comp=Z,35nm,0.9s
KAD Karad 51.40 288⇓iP P 18 03 21.0 -1.7
KAD eP 18 03 21.8
KAD eP 18 03 22.0
KAD e 18 03 22.4
comp=Z,519nm,1.6s
KAD e 18 03 23.4
comp=Z,34nm,0.5s
GOA Goa 51.53 286 eS S 18 10 29.4 +0.7
KUDL Kundal 51.61 302 eP P 18 03 22.8 -1.3
KUDL e 18 03 25.5
comp=Z,62nm,0.5s
TAU Tasmania Unive 51.76 159 P P 18 03 26.6 +1.5
TAU pmax pmax
comp=Z,130nm,1.0s,mb5.5
TAU Tasmania Unive 51.76 159⇓iP P 18 03 26.2 +1.1
comp=Z,126nm,1.0s,mb5.5
POO Poona 51.88 290⇓iP P 18 03 25.0 -1.3
POO eP 18 03 26.2
POO e 18 03 29.9
comp=Z,145nm,1.7s
KHET Khetri 52.17 302 eP P 18 03 27.5 -0.8
KHET e 18 03 31.1
comp=Z,53nm,0.4s
BHK Bhakra 52.70 306 e P 18 03 43.7 +12
AJM Ajmer 52.74 300⇓iP P 18 03 31.0 -1.5
BOM Bombay 52.90 290 eP P 18 03 33.4 -0.5
BOD Bodaibo 53.36 353 eP P 18 03 34.5 -2.2
DLH Dalhousie 53.44 307 eP P 18 03 36.0 -1.6
DLH e 18 04 22.0
PET Petropavlovsk 55.11 24 eP P 18 03 48.3 -1.2
comp=Z,133nm,1.2s,mb5.5
MKAR Makanchi Array 55.63 325 iP P 18 03 51.8 -1.5
MKAR pmax pmax
comp=Z,81μm,0.4s
JASL Jaisalmer 56.09 299 eP P 18 03 56.3 -0.6
YAK Yakutsk 56.95 2 eP P 18 04 00.0 -2.4
YAK e 18 04 56.5
YAK e 18 06 04.9
YAK eS S **18 11 52.8 +12**
YAK e 18 13 24.9
YAK pmax pmax
comp=Z,268nm,0.8s,mb6.1
YAK pmax pmax
comp=N,74nm,0.9s
YAK pmax pmax
comp=E,10.0nm,0.8s
YAK pmax pmax
comp=Z,46nm,0.8s,mb5.4
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,21nm,0.9s
YAK smax
comp=N,13nm,1.0s
YAK smax
comp=E,11nm,1.1s
YAK Yakutsk 56.95 2 eP P 18 04 00.8 -1.6
comp=E,318nm,0.8s,mb6.2
YAK e pP 18 04 42.1 -1.3
YAK eScP 18 08 35.2
ULHL Ulahol 57.06 318 P P 18 04 05.3 +1.8
SNR=11
AAA Alma-Ata 57.06 319 eP P 18 04 01.0 -2.5
AAA eS S **18 11 43.0 +0.7**
AAA smax
comp=N,2μm,7.0s
AAA MLR MLR
comp=Z,1μm,17.0s
KZA Kyzart 57.65 318 P P 18 04 08.3 +0.7
SNR=52
TKM2 Tokmak 2 57.78 319 P P 18 04 08.4 -0.1
SNR=29
MA2 Magadan 57.80 15c iP P 18 04 08.1 -0.3
MA2 ePPP sP 18 05 03.8 -5.2
MA2 pmax pmax
comp=Z,80nm,1.0s,mb5.5
MA2 Magadan 57.80 15⇑iP P 18 04 07.9 -0.5
comp=Z,142nm,1.0s,mb5.8
MA2 ePcP PcP 18 04 57.5 -1.4
MA2 eScP 18 08 40.2
KBK Karagaybulak 58.10 318 P P 18 04 10.4 -0.3
SNR=41
UCH Uchtor 58.21 317 P P 18 04 11.9 +0.4
SNR=76
CHMS Chumysh 58.38 318 P P 18 04 11.8 -0.8
SNR=31
AAK Ala-Archa 58.39 318 P P 18 04 12.6 -0.1
SNR=31
AAK Ala-Archa 58.39 318⇓iP P 18 04 11.3 -1.5
AAK e 18 05 00.5
AAK eS S **18 12 00.7 +1.1**
AAK pmax pmax
comp=Z,36nm,0.8s,mb5.2
AAK Ala-Archa 58.39 318⇓iP P 18 04 11.3 -1.5
comp=Z,36nm,0.8s,mb5.2
AAK ePcP PcP 18 05 00.5 -0.9
AAK eS S **18 12 00.7 +1.1**
FRU Bishkek 58.40 318 eP P 18 04 12.0 -0.8
FRU i 18 05 22.0
FRU e 18 11 58.0
FRU pmax pmax
comp=Z,110nm,2.0s,mb5.3
FRU MLR MLR
comp=Z,5μm,16.0s
USP Ospenovka 58.66 319 P P 18 04 13.8 -0.8
SNR=82
AML Almayashu 58.72 317 P P 18 04 15.0 -0.1
SNR=52
ZAL Zalesovo 58.75 333 P P 18 04 13.0 -2.1
comp=Z,9.1nm,0.4s,mb5.0,baz=267,slow=6.2,SNR=31
ZAL S S **18 11 59.8 -4.3**
comp=Z,5.4nm,0.9s,baz=151,slow=20,SNR=10
ZAL PKPPKP 18 33 46.1
comp=Z,0.6nm,0.3s,baz=208,slow=1.4,SNR=3.7
ZAL PKP2bc 18 33 55.3
comp=Z,3.5nm,0.8s,baz=105,slow=2.1,SNR=6.5
ZAL Zalesovo 58.75 333 P P 18 04 13.0 -2.1
ZAL S S **18 11 59.8 -4.3**
ZAL P'P' 18 33 46.1
ZAL ⇑e 18 33 55.3
EKS2 Erkin-Say 58.88 318 P P 18 04 16.1 -0.1
SNR=54
KURK Kurchatov 59.84 328⇓iP P 18 04 20.8 -1.8
KURK pmax pmax
comp=Z,78nm,0.7s,mb5.7
KURK Kurchatov 59.84 328⇓iP P 18 04 20.8 -1.8
comp=Z,78nm,0.6s,mb5.7
NVS Novosibirsk 60.03 333 eP P 18 04 20.3 -3.6
NVS eS S **18 12 11.3 -9.3**
NVS pmax pmax
comp=N,37nm,1.0s
NVS pmax pmax
comp=E,36nm,1.0s
NVS pmax pmax
comp=Z,77nm,1.0s,mb5.5
NVS smax
comp=N,185nm,1.9s
NVS smax
comp=E,914nm,1.9s
SEY Seymchan 61.10 14 eP P 18 04 30.4 -0.5
SEY e 18 05 03.9
SEY pmax pmax
comp=N,80nm,1.2s
SEY pmax pmax
comp=Z,250nm,1.2s,mb5.9
SEY pmax pmax
comp=E,60nm,1.1s
FX1 Attu Island--F 61.69 31 eP P 18 04 34.9 -0.2
FX1 e pP 18 05 19.9 +3.1
SMY Shemya 62.09 31 eP P 18 04 35.9 -1.8
MSZ Milford Sound 62.53 147 P P 18 04 42.0 +1.2
JCZ Jackson Bay 62.61 146 P P 18 04 42.4 +1.1
TOZ Tahuroa Road 63.15 137 P P 18 04 46.5 +1.6
LBZ Lake Benmore 63.60 146 P P 18 04 48.2 +0.4
THZ Tophouse 63.64 142 P P 18 04 47.2 -0.9
RPZ Rata Peaks 63.69 145 P P 18 04 48.4 0.0
comp=E,140nm,0.6s,mb6.0,baz=282,slow=0.7,SNR=46
RPZ LR LR 18 32 37.9
comp=E,520nm,19.7s,baz=128,slow=36
BKZ Black Stump Fm 64.55 138 P P 18 04 53.9 -0.1
AFI Afiamalu 65.25 108 eP P 18 04 59.6 +0.7
AFI pmax pmax
comp=Z,110nm,1.0s,mb5.6
AFI Afiamalu 65.25 108 eP P 18 04 59.6 +0.6
comp=Z,108nm,1.0s,mb5.6
BVAR Borovoye Array 65.41 327 P P 18 04 57.5 -1.8
comp=Z,22nm,0.6s,mb5.2,baz=135,slow=6.3,SNR=114
BVAR pP pP 18 05 38.6 -2.9
comp=Z,16nm,0.6s,baz=141,slow=6.2,SNR=2.5
BVAR S S 18 13 23.7 -3.9
comp=Z,1.6nm,0.8s,baz=129,slow=9.2,SNR=4.4
BVAR PKP2bc 18 33 40.5
comp=Z,2.0nm,0.8s,baz=315,slow=2.1,SNR=9.8
BVAR Borovoye Array 65.41 327 P P 18 04 57.5 -1.8
BVAR pP pP 18 05 38.6 -2.8
BVAR S S 18 13 23.7 -3.9
BVAR ⇑e 18 33 40.5
BRVK Borovoye 65.49 327⇓iP P 18 04 57.9 -1.9
BRVK pmax pmax
comp=Z,220nm,1.3s,mb5.8
BRVK Borovoye 65.49 327⇓iP P 18 04 57.9 -2.0
comp=Z,223nm,1.4s,mb5.8
BRVK eS S 18 13 24.1 -4.4
CHKZ Chkalovo 65.58 328⇓iP P 18 04 58.2 -2.2
CHKZ pmax pmax
comp=Z,152nm,1.3s,mb5.7
CHKZ Chkalovo 65.58 328⇓iP P 18 04 58.2 -2.3
comp=Z,152nm,1.3s,mb5.7
WBK Wadi Bani Khal 66.19 292 P P 18 05 05.0 +0.2
SNR=7.3
WBK P 18 05 05.0
SNR=7.3
WBK P 18 05 05.0
SNR=7.3
WBK P 18 05 05.0
SNR=7.3
KIWB Kanaga Island 66.44 35 eP P 18 05 04.8 -1.1
KIWB ePcP PcP 18 05 33.3 -0.7
TIXI Tiksi 66.56 1⇓iP P 18 05 04.1 -2.2
TIXI pmax pmax
comp=Z,86nm,0.9s,mb5.6
JMDO Jabal Madar 66.97 292 P P 18 05 08.6 -1.1
SNR=28
JMDO P 18 05 08.6
SNR=28
JMDO P 18 05 08.6
SNR=28
JMDO P 18 05 08.6
SNR=28
JMDO P 18 05 08.6
SNR=28
JMDO P 18 05 08.6
SNR=28
JMDO P 18 05 08.6
SNR=28
JMDO P 18 05 08.6
SNR=28
JMDO P 18 05 08.6
SNR=28
BIDO Bidbid 67.03 293 P P 18 05 10.2 0.0
SNR=30
BIDO P 18 05 10.2
SNR=30
BIDO P 18 05 10.2
SNR=30
BIDO P 18 05 10.2
SNR=30
SMDO Samad 67.07 293 P P 18 05 09.7 -0.6
SNR=21
SMDO P 18 05 09.7
SNR=21
SMDO P 18 05 09.7
SNR=21
SMDO P 18 05 09.7
SNR=21
SMDO P 18 05 09.7
SNR=21
SMDO P 18 05 09.7
SNR=21
SMDO P 18 05 09.7
SNR=21
SMDO P 18 05 09.7
SNR=21
HOQ Hoqain 67.78 293 P P 18 05 14.6 -0.2
SNR=8.7
HOQ P 18 05 14.6
SNR=8.7
HOQ P 18 05 14.6
SNR=8.7
HOQ P 18 05 14.6
SNR=8.7
HOQ P 18 05 14.6
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HOQ P 18 05 14.6
SNR=8.7
HOQ P 18 05 14.6
SNR=8.7
HOQ P 18 05 14.6
SNR=8.7
BSY Bisya 67.83 292 P P 18 05 14.9 -0.1
SNR=5.2
BSY P 18 05 14.9
SNR=5.2
BSY P 18 05 14.9
SNR=5.2
BSY P 18 05 14.9
SNR=5.2
ARQ Araqi 68.49 293 P P 18 05 18.8 -0.3
SNR=31
ARQ P 18 05 18.8
SNR=31
ARQ P 18 05 18.8
SNR=31
ARQ P 18 05 18.8
SNR=31
BILL Biiibino 68.67 15 P P 18 05 18.5 -1.0
BILL pmax pmax
comp=Z,60nm,1.2s,mb5.2
BILL Biiibino 68.67 15⇑iP P 18 05 18.2 -1.2
comp=Z,60nm,1.2s,mb5.2
RBK Rabkut 70.43 287 P P 18 05 30.3 -0.6
SNR=34
RBK P 18 05 30.3
SNR=34
RBK P 18 05 30.3
SNR=34
RBK P 18 05 30.3
SNR=34
RBK P 18 05 30.3
SNR=34
RBK P 18 05 30.3
SNR=34
RBK P 18 05 30.3
SNR=34
ABTO Aybut 71.30 287 P P 18 05 35.5 -0.6
SNR=73
ABTO P 18 05 35.5
SNR=73
ABTO P 18 05 35.5
SNR=73
ABTO P 18 05 35.5
SNR=73
NIKO Nikolski 71.60 36 eP P 18 05 36.5 -0.9
CASY Casey 71.95 186⇓iP P 18 05 39.9 +0.7
SVE Sverdlovsk 72.07 329 eP P 18 05 38.8 -1.3
SVE e 18 05 57.0
SVE e 18 06 54.0
SVE ePPP PP 18 08 25.4 +1.8
SVE eS S 18 14 38.5 -7.3
SVE pmax pmax
comp=Z,280nm,2.0s,mb5.7
SVE MLR MLR
comp=Z,5μm,11.6s
ARU Arti 73.04 328 P P 18 05 43.4 -2.4
comp=Z,668nm,0.7s,mb6.5,SNR=58
ARU Arti 73.04 328⇓iP P 18 05 39.0 -6.8
ARU e 18 06 03.4
ARU i S S 18 14 45.6 -11
ARU e 18 15 33.0
ARU pmax pmax
comp=Z,67nm,0.8s,mb5.4
UNV Unalaska Valle 73.19 35⇑eP P 18 05 45.8 -0.9
UNV epP pP 18 06 28.4 -1.4
MUKL Al Mukalla 75.42 284⇑eP P 18 06 00.2 0.0
TNA Tin City 75.96 23 eP P 18 06 02.4 +0.1
ANM Nome 76.68 25 eP P 18 06 07.3 +1.0
SDPT Sand Point 76.94 34 eP P 18 06 07.2 -0.7
comp=Z,359nm,0.8s,mb6.0
RAR Rarotonga 77.91 113 P P 18 06 11.9 -2.1
comp=Z,34nm,0.5s,mb5.2,baz=177,slow=22,SNR=5.8
RAYN Ar Rayn 78.61 293 P P 18 06 16.4 -1.3
comp=Z,798nm,0.7s,mb6.5
LBOS 79.11 283⇑eP P 18 06 19.2 -1.3
GNI Garni 79.51 310 P P 18 06 23.9 +1.7
GNI pmax pmax
comp=Z,45nm,0.9s
GNI Garni 79.51 310 P P 18 06 23.9 +1.7
comp=Z,6.8nm,0.5s,mb4.5,baz=262,slow=6.7,SNR=8.3
GNI Garni 79.51 310 eP P 18 06 23.1 +0.9
comp=Z,45nm,0.9s,mb5.1
MTA Mtatsminda 79.53 311 P P 18 06 21.2 -1.1
TI2 Plekhanov 79.57 311 iP P 18 06 22.6 +0.1
TI2 iS S 18 16 07.0 -0.8
TI2 pmax pmax
comp=Z,30nm,0.6s,mb5.1
TI2 MLR MLR
comp=N,3μm,16.0s
TI2 MLR MLR
comp=E,2μm,16.0s
TI2 MLR MLR
comp=Z,4μm,16.0s
DUS Dusheti 79.62 312 P P 18 06 23.3 +0.5
SVW2 Sparrevohn 80.36 29 eP P 18 06 26.8 +0.4
TVAN Van 80.50 308 iP P 18 06 28.2 +0.7
AKH Akhalkalaki 80.50 311 P P 18 06 27.4 -0.1
ONI Oni 80.56 312 P P 18 06 28.9 +1.0
MSL Mosul 80.72 306 eP P 18 06 27.5 -1.3
MSL epP Px 18 06 48.0
MSL esP pP 18 07 12.5 -0.1
MSL eS S 18 16 14.0 -5.8
GOF Gofitskoye 80.95 315 eP P 18 06 29.0 -0.8
GOF eS S 18 16 21.0 -1.0
GOF pmax pmax
comp=Z,140nm,1.8s,mb5.3
GOF MLR MLR
comp=Z,6μm,17.0s
KIV Kislovodsk 81.16 314 P P 18 06 31.0 +0.1
comp=Z,293nm,0.6s,mb6.1,SNR=7.8
KIV Kislovodsk 81.16 314d iP P 18 06 29.7 -1.2
KIV iS S 18 16 21.7 -2.5
KIV pmax pmax
comp=Z,32nm,1.0s,mb4.9
KIV Kislovodsk 81.16 314 eP P 18 06 29.6 -1.4
comp=Z,30nm,0.6s,mb5.1
KDAK Kodiak Island 81.57 32 eP P 18 06 33.9 +1.1
comp=Z,529nm,0.9s,mb6.2
RSO Redoubt South 81.68 30 eP P 18 06 33.5 +0.2
IMA Indian Mountai 81.78 24 P P 18 06 35.2 +1.5
IMA pmax pmax
comp=Z,330nm,0.9s,mb6.0
IMA Indian Mountai 81.78 24 eP P 18 06 34.9 +1.2
comp=Z,66nm,0.9s,mb5.3
SPU Mount Spurr 82.08 29 eP P 18 06 35.3 0.0
SPU epP pP 18 07 18.5 -0.7
ERZM Erzurum 82.09 309 iP P 18 06 36.0 +0.1
BEST Besiri 82.17 307 iP P 18 06 36.3 +0.1
SLKM Skilak Lake 82.94 30 eP P 18 06 39.7 0.0
SLKM epP pP 18 07 22.4 -1.4
FIB Fire Island 82.98 29 eP P 18 06 40.7 +0.8
PMR Palmer 83.50 29 eP P 18 06 42.3 -0.2
PMR pmax pmax
comp=Z,176nm,1.0s,mb5.8
PMR Palmer 83.50 29 eP P 18 06 42.3 -0.2
comp=Z,176nm,1.0s,mb5.8
VOR Voronezh 83.62 321 eP P 18 06 42.0 -1.3
VOR eS S 18 16 42.0 -6.8
VOR pmax pmax
comp=Z,140nm,1.6s,mb5.4
VOR pmax pmax
comp=E,100nm,1.3s
VOR smax
comp=N,380nm,1.6s
VOR smax
comp=E,750nm,1.6s
VOR smax
comp=Z,170nm,1.6s
MCK McKinley 83.65 27⇑iP P 18 06 43.1 -0.1
MCK pmax pmax
comp=Z,120nm,1.0s,mb5.6
MCK McKinley 83.65 27⇑iP P 18 06 43.1 -0.1
comp=Z,119nm,1.0s,mb5.6
MCK epP pP 18 07 26.2 -1.1
SML Sawmill 83.89 28 eP P 18 06 45.0 +0.6
ELZG Elazig 83.96 308 iP P 18 06 45.8 +0.4
COLA College 84.14 25 eP P 18 06 45.1 -0.5
COLA pmax pmax
comp=Z,24nm,0.8s,mb5.0
COLA College 84.14 25 eP P 18 06 45.5 -0.1
comp=Z,33nm,0.9s,mb5.1
MALT Malatya 84.41 308 eP P 18 06 47.7 +0.1
MALT pmax pmax
comp=Z,15nm,0.7s,mb4.8
MALT Malatya 84.41 308 eP P 18 06 47.7 +0.1
comp=Z,15nm,0.7s,mb4.8
MAW Mawson 84.48 200 eS S 18 16 52.9 -4.0
MAW Mawson 84.48 200⇓iP P 18 06 48.1 +0.8
MAW eS S 18 16 52.9 -4.0
MAW pmax pmax
comp=Z,77nm,1.0s
MAW Mawson 84.48 200 P P 18 06 48.1 +0.8
comp=Z,130nm,1.1s,mb5.6,baz=72,slow=5.2,SNR=51
MAW PKKPbc 18 24 57.5
comp=Z,5.5nm,0.9s,baz=204,slow=2.4,SNR=8.5
MAW Mawson 84.48 200⇓iP P 18 06 48.1 +0.8
comp=Z,77nm,1.0s,mb5.4
MAW eS S 18 16 52.9 -4.0
MOS Moscow 84.52 325 eP P 18 06 46.9 -0.8
MOS eS S 18 16 51.1 -6.5
MOS pmax pmax
comp=Z,129nm,1.0s,mb5.6
MOS smax
comp=N,1μm,2.7s
ILAR Eielson Array 84.55 25 P P 18 06 46.5 -1.2
ILAR S S 18 16 49.4 -8.3
ILAR Eielson Array 84.55 25 P P 18 06 46.5 -1.2
comp=N,26nm,0.8s,mb5.0,baz=250,slow=4.7,SNR=225
ILAR pP pP 18 07 29.8 -2.1
comp=N,20nm,0.8s,baz=234,slow=5.7,SNR=5.4
ILAR S S 18 16 49.4 -8.3
comp=N,1.4nm,1.1s,baz=276,slow=9.1,SNR=3.5
ILAR PKKPbc 18 24 56.3
comp=N,1.9nm,0.6s,baz=109,slow=0.9,SNR=14
VNDA Vanda 84.92 173 PKKPbc 18 24 56.9
comp=N,1.2nm,0.6s,baz=273,slow=2.4,SNR=7.9
ANN Anapa 84.92 314 eP P 18 06 48.7 -1.3
ANN eS S 18 17 00.7 -1.1
ANN pmax pmax
comp=Z,200nm,1.3s,mb5.7
THY Trims Highway 85.07 27 eP P 18 06 50.6 +0.3
THY epP pP 18 07 35.1 +0.6
DIV Divide 85.12 29 eP P 18 06 51.6 +1.0
DIV epP pP 18 07 34.6 -0.2
DIV ePP PP 18 10 07.9 -3.7
GZT Gaziantep 85.13 307 iP P 18 06 51.0 -0.2
OBN Obninsk 85.14 325c iP P 18 06 47.7 -3.1
OBN iS S 18 16 52.1 -11
OBN pmax pmax
comp=Z,217nm,1.5s,mb5.7
EYAK Cordova Ski Ar 85.15 30 eP P 18 06 51.0 +0.3
LVZ Lovozero 85.58 338 eP P 18 06 52.0 -0.7
LVZ i 18 10 19.3
LVZ pmax pmax
comp=Z,30nm,1.1s,mb4.9
LVZ pmax pmax
comp=N,20nm,1.8s
LVZ pmax pmax
comp=E,8.0nm,0.9s
SBA Scott Base 85.84 172 P P 18 06 55.5 +1.7
SBA pmax pmax
comp=Z,170nm,1.4s,mb5.6
SBA Scott Base 85.84 172⇓iP P 18 06 55.4 +1.5
comp=Z,168nm,1.4s,mb5.6
APA Apatity 86.07 337⇓iP P 18 06 54.0 -1.1
APA eS S 18 17 07.0 -5.3
APA pmax pmax
comp=Z,31nm,1.0s,mb5.0

PPT **Papeete 86.92 108** *eP* **P 18 07 01.5 +1.1**
comp=Z,36nm,0.9s,mb5.2
PPT **Papeete 86.92 108** *e*SS SS 18 23 33.4 +22
PPT *e*LR LR 18 36 02.1
comp=Z,3μm,22.5s,baz=310
PAE Paea 86.93 108 *eP* **P 18 07 02.5 +2.1**
comp=Z,66nm,1.3s,mb5.3
BOYT Boyabat 86.95 311 *iP* **P 18 06 59.4 -0.5**
CTKT Corum 87.10 310 *iP* **P 18 06 59.7 -1.0**
TIAR Tiarei 87.14 108 *eP* **P 18 07 02.5 +1.1**
comp=Z,58nm,1.1s,mb5.3
TVO Taravao 87.25 108 *eP* **P 18 07 04.2 +2.3**
comp=Z,32nm,0.8s,mb5.2
JOF Joensuu 87.34 333 *ep* **P 18 06 58.6 -2.7**
comp=Z,43nm,0.4s,mb5.6
JOF Joensuu 87.34 333 *eP* **P 18 06 58.6 -2.7**
JOF pmax pmax
comp=Z,43nm,0.4s,mb5.6
TBI Tubuai 87.67 114 *eP* **P 18 07 04.7 +0.9**
comp=Z,144nm,1.3s,mb5.6
TBI *e*SS SS 18 23 23.6 +1.2
TBI *e*LR LR 18 36 22.2
comp=Z,4μm,21.8s,baz=307
EIL Elat 87.79 299 ⇓*iP* **P 18 07 03.2 -1.0**
comp=Z,99nm,1.3s,mb5.5
DAWY Dawson 87.84 26⇑*eP* **P 18 07 04.2 +0.5**
BRTR Keskin Array B 88.05 310 P **P 18 07 03.7 -1.5**
comp=Z,11nm,0.7s,mb4.8,baz=135,slow=4.0,SNR=60
BRTR PKKPbc 18 24 50.8
comp=Z,1.2nm,0.8s,baz=209,slow=2.9,SNR=4.2
BALT Daday 88.08 311 *iP* **P 18 07 04.7 -0.7**
KMBO Kilima Mbogo 88.10 269 *iP* **P 18 07 06.9 +0.8**
KMBO pmax pmax
comp=Z,195nm,1.5s
KMBO Kilima Mbogo 88.10 269 P **P 18 07 06.8 +0.8**
comp=Z,195nm,1.4s,mb5.7,baz=69,slow=5.2,SNR=60
KMBO Kilima Mbogo 88.10 269 ⇓*iP* **P 18 07 06.7 +0.6**
comp=Z,203nm,1.5s,mb5.7
ELDT Eldivan 88.14 310 *iP* **P 18 07 04.8 -0.9**
KEV Kevo 88.15 340 *ep* **P 18 07 03.5 -1.5**
comp=Z,3.0nm,0.4s,mb4.5
KEV Kevo 88.15 340 *eP* **P 18 07 03.5 -1.5**
KEV pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
PUL Pulkovo 88.16 330 *eP* **P 18 07 04.7 -0.6**
PUL pmax pmax
comp=N,98nm,0.5s
PUL pmax pmax
comp=Z,65nm,0.5s,mb5.7
PUL pmax pmax
comp=E,105nm,0.6s
PMOR Pomariorio Ree 88.27 105 *eP* **P 18 07 08.1 +1.3**
MEH Mehetia 88.39 108 *eP* **P 18 07 09.3 +2.0**
comp=E,101nm,1.3s,mb5.5
ARCES ARCESS Array B 88.71 340 P **P 18 07 05.5 -2.1**
comp=E,25nm,0.8s,mb5.2,baz=79,slow=5.2,SNR=60
ARCES PKiKP 18 12 06.5
comp=E,1.5nm,0.4s,baz=119,slow=1.3,SNR=12
ARCES PKKPbc 18 24 47.6
comp=E,1.9nm,0.4s,baz=257,slow=3.3,SNR=25
ARE0 ARCESS Array S 88.71 340 *eP* **P 18 07 05.8 -1.8**
BJO Bjornoya 89.42 345 AMS AMS 18 42 33.9
comp=Z,3μm,21.2s
INK Inuvik 89.48 21 P **P 18 07 11.0 -0.3**
INK pmax pmax
comp=Z,17nm,0.8s
INK Inuvik 89.48 21 P **P 18 07 10.4 -0.8**
comp=Z,14nm,0.7s,mb5.0,baz=284,slow=4.4,SNR=59
INK PKiKP 18 12 07.6
comp=Z,4.2nm,1.0s,baz=344,slow=2.7,SNR=4.1
INK PKKPbc 18 24 45.0
comp=Z,5.9nm,0.5s,baz=78,slow=2.1,SNR=31
INK Inuvik 89.48 21⇑*eP* **P 18 07 11.0 -0.3**
comp=Z,17nm,0.8s,mb5.0
KTK1 Kautokeino 89.61 339 *eP* **P 18 07 10.7 -1.2**
comp=Z,30nm,1.8s,mb4.9
KAF Kangasniemi 89.75 332 *ep* **P 18 07 10.4 -2.3**
comp=Z,10nm,0.4s,mb5.1
KAF Kangasniemi 89.75 332 *eP* **P 18 07 10.4 -2.3**
KAF pmax pmax
comp=Z,10.0nm,0.4s,mb5.1
AKASG Malin Array Be 89.94 321 P **P 18 07 11.7 -2.2**
comp=Z,8.3nm,0.5s,mb5.0,baz=64,slow=4.8,SNR=48
AKASG pP pP 18 07 57.2 -1.3
comp=Z,2.7nm,0.6s,baz=64,slow=4.4,SNR=1.8
FINES FINESS Array B 89.98 332 *iP* **P 18 07 12.0 -1.7**
FINES pmax pmax
comp=Z,20nm,0.4s
FINES FINESS Array B 89.98 332 P **P 18 07 11.6 -2.1**
comp=Z,20nm,0.4s,mb5.4,baz=61,slow=5.8,SNR=96
FINES PKiKP 18 12 08.7
comp=Z,5.3nm,0.8s,baz=107,slow=3.8,SNR=4.9
FINES PKKPbc 18 24 45.4
comp=Z,2.4nm,0.8s,baz=171,slow=2.3,SNR=11
MNK Minsk 90.23 325 *eP* **P 18 07 11.0 -4.1**
TRO Tromso 90.92 340 *eP* **P 18 07 15.1 -2.9**
TRO AMS AMS 18 47 07.1
comp=Z,6μm,18.2s
MLR Muntele Rosu 92.93 316 P **P 18 07 26.4 -1.4**
comp=Z,12nm,0.5s,mb5.2,baz=252,slow=5.0,SNR=10
MLR PP PP 18 11 13.8 -1.3
comp=Z,7.9nm,0.8s,baz=159,slow=7.5,SNR=3.5
SUW Suwalki 93.00 325 *eP* **P 18 07 25.9 -2.1**
SYO Syowa Base 93.12 201 ⇑P **P 18 07 28.8 +0.7**
SYO Syowa Base 93.12 201 ⇓PcP PcP 18 07 29.9 +1.1
LOF Lofoten 93.26 340 *eP* **P 18 07 29.3 +0.5**
comp=Z,52nm,1.5s,mb5.4
DLBC Dease Lake 93.37 31 P **P 18 07 30.1 +0.6**
comp=Z,29nm,0.8s,mb5.4,baz=300,slow=5.3,SNR=34
DLBC PKKPbc 18 24 37.0
comp=Z,3.4nm,0.7s,baz=34,slow=3.8,SNR=4.6
DLBC Dease Lake 93.37 31⇑*eP* **P 18 07 30.5 +1.0**
MOR8 Moi Rana 93.66 338 *eP* **P 18 07 29.7 -0.9**
MOR8 Moi Rana 93.66 338 *eP* **P 18 07 29.5 -1.1**
KWP Kalwaria 94.25 320 *eP* **P 18 07 34.2 +0.5**
KOLS Kolonicke sedl 94.69 320 *eP* **P 18 07 35.2 -0.5**
KOLS *e* 18 07 46.7
QSPA South Pole Qui 94.95 180 ⇓*iP* **P 18 07 37.6 +1.3**
comp=Z,47nm,0.9s,mb5.7
CRVS Cervenica-Dubn 95.22 320 *eP* **P 18 07 38.9 +0.8**
NSS Namsos 95.24 336 *eP* **P 18 07 34.6 -3.3**
NSS AMS AMS 18 47 26.6
comp=Z,6μm,17.8s
DAG Danmarks Havn 95.75 352⇑*eP* **P 18 07 38.6 -1.4**
DAG pmax pmax
comp=Z,27nm,0.8s,mb5.6
DAG MLR MLR
comp=Z,2μm,17.0s
DAG Danmarks Havn 95.75 352⇑*eP* **P 18 07 38.6 -1.4**
comp=Z,27nm,0.8s,mb5.6
DAG LR LR
comp=Z,2μm,17.0s
DAG Danmarks Havn 95.75 352⇑*iP* **P 18 07 38.6 -1.4**
comp=Z,27nm,0.8s,mb5.6
comp=Z,2μm,17.0s
OJC Ojcow 95.94 321 *eP* **P 18 07 41.7 +0.3**
KECS Kecovo 95.95 320 *eP* **P 18 07 41.8 +0.4**
HFS Hagfors 96.17 332 PKKPbc 18 24 27.7
comp=Z,2.3nm,0.4s,baz=203,slow=4.3,SNR=16
PSZ Piszkesteto 96.47 319 *eP* **P 18 07 43.2 -0.6**
PSZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
PSZ Piszkesteto 96.47 319 *eP* **P 18 07 43.2 -0.6**
comp=Z,4.9nm,0.8s,mb4.9
RES Resolute Bay 96.78 10 *eP* **P 18 07 44.2 -0.5**
RES pmax pmax
comp=Z,15nm,0.9s,mb5.3
RES Resolute Bay 96.78 10 *eP* **P 18 07 44.2 -0.5**
comp=Z,15nm,0.9s,mb5.3
RES *ep*P pP 18 08 27.6 -1.9
NB2 NORSAR Subarra 96.95 333 P **P 18 07 43.1 -2.6**
comp=Z,11nm,0.7s,mb5.3,baz=66,slow=4.6
NB2 NORSAR Subarra 96.95 333 P **P 18 07 43.1 -2.6**
baz=66,slow=4.6
NOA NORSAR Array B 96.95 333 P **P 18 07 43.4 -2.3**
comp=Z,11nm,0.7s,mb5.3,baz=68,slow=4.5,SNR=24
NOA PKKPbc 18 24 26.9
comp=Z,1.5nm,0.7s,baz=68,slow=3.1,SNR=6.1
VYHS Vyhne 97.00 320 *eP* **P 18 07 45.4 -0.9**
NAO01 NORSAR Array S 97.18 333 *eP* **P 18 07 43.7 -3.1**
MORC Moravsky Berou 97.46 321 *eP* **P 18 07 48.3 0.0**
MORC pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
MORC Moravsky Berou 97.46 321 *eP* **P 18 07 48.3 0.0**
comp=Z,4.6nm,0.6s,mb5.0
KSP Ksiaz 97.90 323 *eP* **P 18 07 50.2 -0.1**

KSP *ep*P pP 18 08 35.9 +0.9
KSP Ksiaz 97.90 323 *eP* **P 18 07 50.8 +0.5**
LSZ Lusaka 98.11 255 *eP* **P 18 07 51.1 -0.9**
LSZ pmax pmax
comp=Z,9.0nm,0.6s,mb5.4
LSZ Lusaka 98.11 255 *eP* **P 18 07 51.1 -0.9**
comp=Z,9.0nm,0.6s,mb5.4
ZST Bratislava 98.20 320 *eP* **P 18 07 51.0 -0.7**
ZST Bratislava 98.20 320 PDIF **P 18 07 51.0 -0.7**
JMIC Jan Mayen 98.23 346 AMS AMS 18 45 09.2
comp=Z,970nm,18.2s
YKW3 Yellowknife Ar 98.87 24 *eP* **P 18 07 54.2 -0.3**
YKA Yellowknife Ar 98.91 24 P **P 18 07 52.2 -2.4**
comp=Z,7.9nm,0.8s,mb5.2,baz=300,slow=4.7,SNR=96
YKA *ep*P pP 18 08 37.3 -2.1
comp=Z,2.1nm,0.7s,baz=301,slow=4.7,SNR=2.4
YKA PKiKP 18 12 24.2
comp=Z,1.6nm,0.6s,baz=293,slow=1.7,SNR=9.1
YKA PKKPbc 18 24 20.0
comp=Z,5.5nm,0.5s,baz=116,slow=2.4,SNR=8.2
YKA Yellowknife Ar 98.91 24 P **P 18 07 52.2 -2.4**
YKA pP pP 18 08 37.3 -2.1
PRU Pruhonice 99.24 322 *e*PDIF **P 18 07 56.5 +0.1**
BRG Berggiesshubel 99.30 323 *eP* **P 18 07 55.1 -1.6**
BRG pmax pmax
comp=Z,15nm,0.7s,mb5.5
BRG Berggiesshubel 99.30 323 *eP* **P 18 07 55.1 -1.6**
comp=Z,15nm,0.7s,mb5.5
BRG *i* 18 07 57.6
BRG *e* 18 08 57.3
CLL Collm 99.71 324 *iP* **P 18 07 50.4 -8.1**
CLL *i* 18 07 58.1
CLL Collm 99.71 324 P **P 18 07 50.4 -8.1**
CLL Collm 99.71 324 P **P 18 07 58.1 -0.4**
comp=Z,logA/T=1.1,mb5.3
BER Bergen 99.84 334 AMS AMS 18 50 25.9
comp=Z,5μm,16.0s
KHC Kasperske Hory 100.12 322 *e*PDIF P 18 08 00.0 -0.4
GERES GERESS Array B 100.14 321 P P 18 07 59.7 -0.8
comp=Z,3.2nm,0.6s,baz=62,slow=5.0,SNR=15
GERES PKKPbc 18 24 17.7
comp=Z,2.1nm,0.8s,baz=214,slow=4.8,SNR=4.2
VISS Visnje 100.40 318 *eP* P 18 08 01.5 -0.2
CEY Cerknica 100.69 318 *eP* P 18 08 01.5 -1.5
SUMG Summit 101.81 355 *e*Pdif P 18 08 07.8 +0.4
comp=Z,7.5nm,1.0s
HUMO Hull Mountain 102.36 45 *e*Pdif Pdif 18 08 11.1 +0.6
comp=Z,7.5nm,1.0s
MAIT Maitri 102.37 198 *e*PKP Pdif 18 08 11.5 +1.6
YBH Yreka Blue Hor 102.82 45 P Pdif 18 08 12.3 -0.3
comp=Z,5.3nm,1.0s,baz=169,slow=2.1,SNR=6.8
YBH PKKPbc 18 24 10.3
comp=Z,1.9nm,0.8s,baz=87,slow=4.7,SNR=4.8
SNAA Sanae 106.10 195⇑⇑*iP* 18 12 39.8
SNAA Sanae 106.10 195⇑⇑*i* PP 18 12 51.2 -3.1
SNAA Sanae 106.10 195 Pdiff Pdif 18 08 28.4 +2.0
comp=Z,0.5nm,0.4s,baz=204,slow=7.8,SNR=11
SNAA PKKPbc 18 23 59.5
comp=Z,1.7nm,0.6s,baz=292,slow=3.7,SNR=13
SNAA Sanae 106.10 195 Pdif Pdif 18 08 28.4 +2.0
SNAA ⇑*i*PKPdf 18 12 39.8
SNAA PKKPbc 18 23 59.5
EKA Eskdalemuir Ar 106.37 332 PKKPbc 18 24 00.3
comp=Z,4.3nm,0.9s,baz=230,slow=3.3,SNR=6.1
EKA PKKPab 18 24 14.3
comp=Z,3.7nm,0.8s,baz=252,slow=3.3,SNR=5.0
NVAR Mina Array Bea 107.12 47 Pdiff Pdif 18 08 33.0 +1.4
comp=Z,4.7nm,0.9s,baz=267,slow=7.6,SNR=21
NVAR PKiKP 18 12 41.0
comp=Z,4.8nm,0.7s,baz=247,slow=3.3,SNR=7.2
NVAR PKKPbc 18 23 59.1
comp=Z,8.8nm,0.7s,baz=150,slow=4.0,SNR=40
NVAR PKKPab 18 24 13.1
comp=Z,6.9nm,0.8s,baz=105,slow=7.6,SNR=12
MNV Mina 107.23 47 *e*PKP 18 12 41.6
MNV *e*PP PP 18 13 00.4 -3.3
VNA2 Neumayer--Watz 107.72 195⇑*iP* 18 13 04.2 -2.3
HLID Hailey 107.80 41 *e*PKP 18 12 42.4
TPAW Teton Pass 110.08 40 *e*PKP PKPdf 18 12 47.6 +3.6
SNOW Snow King Moun 110.22 40 *e*PKP PKPdf 18 12 47.5 +3.3
FRB Frobisher Bay 110.61 7 PKKPbc 18 23 45.0
comp=Z,1.6nm,0.4s,baz=191,slow=4.6,SNR=5.1
NEN Nelson 110.72 49 *e*PKP PKPdf 18 12 48.0 +2.6
PDAR Pinedale Array 111.32 40 PKiKP 18 12 48.5
comp=Z,2.0nm,0.7s,baz=180,slow=2.7,SNR=4.4
PDAR PKKPbc 18 23 42.9
comp=Z,5.0nm,0.7s,baz=116,slow=4.4,SNR=20
PDAR PKKPab 18 23 53.4
comp=Z,11nm,0.8s,baz=121,slow=5.3,SNR=23
MSU Marysvale 111.50 45 P Pdif 18 08 54.8 +3.9
MSU Marysvale 111.50 45 *e*Pdif Pdif 18 08 52.1 +1.3
PV10 Paradox Valley 113.76 44 *e*PKP PKPdf 18 12 53.5 +2.1
ESDC Sonseca Array 115.50 319 PKP PKPdf 18 12 54.7 0.0
comp=Z,0.5nm,0.4s,baz=27,slow=4.4,SNR=4.1
LAZ Ladron 116.97 47 *e*PKPdf PKPdf 18 12 59.6 +2.0
PVRL Vila Real 117.02 322 *e*PKPdf PKPdf 18 12 59.0 +1.4
PVRL *e*SKPdf 18 16 17.1
ANMO Albuquerque 117.21 46 *i*PKIKP PKPdf 18 12 59.6 +1.5
ANMO Albuquerque 117.21 46 *e*PKPdf PKPdf 18 13 00.3 +2.2
MTE Manteigas 117.41 321 *e*PKPdf PKPdf 18 13 00.1 +1.8
PVIS Viseu 117.45 321 *e*PKPdf PKPdf 18 13 00.2 +1.8
PCBR Castelo Branco 117.68 320 *e*PKPdf PKPdf 18 13 00.4 +1.5
PCBR *e*SKPdf 18 16 18.1
PBEJ Beja 118.95 319 *e*PKPdf PKPdf 18 13 03.1 +1.7
PBEJ *e*SKPdf 18 16 20.3
MOE Montemor 118.99 320 *e*PKPdf PKPdf 18 13 03.6 +2.1
PALC Alcoutim 119.00 318 *e*PKPdf PKPdf 18 13 03.2 +1.7
PALC *e*SKPdf 18 16 21.4
SCHQ Schefferville 119.49 8 PKP PKPdf 18 13 03.3 +1.3
comp=Z,20nm,0.6s,baz=346,slow=2.3,SNR=42
SCHQ PKKPbc 18 23 14.3
comp=Z,5.5nm,0.7s,baz=128,slow=3.0,SNR=7.6
SCHQ Schefferville 119.49 8 *e*PKPdf PKPdf 18 13 03.1 +1.0
SCHQ *e*SKPdf 18 16 20.8
MNTX Cornudas Mount 119.53 49 *e*PKPdf PKPdf 18 13 04.3 +1.6
MNTX *e*SKPdf 18 16 21.8
GDL2 Guadalupe Moun 120.06 48 *e*PKPdf PKPdf 18 13 05.5 +1.8
KSU1 Kansas State U 121.49 38 *e*PKPdf PKPdf 18 13 07.0 +0.6
KSU1 *e*SKP 18 16 24.8
TXAR Lajitas Array 121.94 51 PKP PKPdf 18 13 09.0 +1.6
comp=Z,14nm,0.7s,baz=228,slow=0.7,SNR=27
TXAR PKKPbc 18 23 06.8
comp=Z,4.6nm,0.6s,baz=130,slow=6.1,SNR=37
TXAR Lajitas Array 121.94 51 PKP PKPdf 18 13 09.0 +1.6
TXAR PKKPbc 18 23 06.8
JFWS Jewell Farm 122.45 30 *e*PKIKP PKPdf 18 13 08.4 +0.4
WMOK Wichita Mounta 122.70 43 *e*PKIKP PKPdf 18 13 10.1 +1.4
JCT Junction City 124.29 48 *e*PKIKP PKPdf 18 13 13.6 +1.6
MIAR Mount Ida 126.25 40 *e*PKPdf PKPdf 18 13 17.2 +1.5
MIAR *e*SKPdf 18 16 35.2
MSNY Massena 127.02 18 *e*PKPdf PKPdf 18 13 18.4 +1.5
PQI Presque Isle 127.18 11 *e*PKPdf PKPdf 18 13 17.8 +0.7
HKT Hockley 127.46 46 *e*PKPdf PKPdf 18 13 19.7 +1.6
HKT *e*SKPdf 18 16 38.5
ERPA Erie 127.73 24 *e*PKPdf PKPdf 18 13 19.6 +1.3
WCI Wyandotte Cave 127.93 31 *e*PKIKP PKPdf 18 13 20.4 +1.5
ACSO Alum Creek Sta 128.00 27 *e*PKPdf PKPdf 18 13 20.1 +1.2
NCB Newcomb 128.14 18 *e*PKPdf PKPdf 18 13 20.4 +1.3
NCB *e*SKPdf 18 16 38.6
MIV Mineville/With 128.25 17 *e*PKPdf PKPdf 18 13 21.1 +1.8
MIV *e*SKPdf 18 16 38.1
MDV Middlebury 128.43 17 *e*PKPdf PKPdf 18 13 21.1 +1.5
WVT Waverly 128.64 34 *e*PKPdf PKPdf 18 13 21.4 +1.1
WVT *e*SKPdf 18 16 39.0
ACCN Adirondack Com 128.84 18 *e*PKPdf PKPdf 18 13 21.3 +0.9
DBIC Dimbokro 128.85 283 *e*PKIKP PKPdf 18 13 22.2 +1.0
DBIC Dimbokro 128.85 283 PKP PKPdf 18 13 22.1 +0.8
comp=Z,158nm,1.3s,baz=75,slow=1.6,SNR=27
DBIC SKPbc 18 16 25.2
comp=Z,12nm,0.6s,baz=59,slow=3.4,SNR=13
OXF Oxford 128.85 37 *e*PKIKP PKPdf 18 13 22.1 +1.4
USHA Ushuaia 129.15 170 PKP PKPdf 18 13 23.0 +2.4
comp=Z,29nm,0.6s,baz=155,slow=1.8,SNR=17
USHA SKPbc 18 16 26.6
comp=Z,37nm,0.8s,baz=163,slow=5.0,SNR=12
BINY Binghamton 129.16 20 *e*PKPdf PKPdf 18 13 22.5 +1.4
BINY *e*SKP 18 16 49.3
PAL Palisades 130.92 19 *e*PKIKP PKPdf 18 13 25.6 +1.1
CPCT Cooper Cave 130.96 32 *e*PKPdf PKPdf 18 13 26.2 +1.5
MVL Millersville 130.96 22 *e*PKPdf PKPdf 18 13 25.3 +0.8
LRAL Lakeview Retre 131.32 37 *e*PKPdf PKPdf 18 13 26.5 +1.1
LRAL *e*SKPbc 18 16 34.9
TEIG Tepich 138.57 52 *e*PKPdf PKPdf 18 13 39.3 +0.1

PLCA Paso Flores 141.75 160 PKhKP 18 13 40.9
comp=Z,9.5nm,0.8s,baz=241,slow=2.5,SNR=14
PLCA PKP PKPdf 18 13 46.9 +2.6
comp=Z,19nm,0.8s,baz=221,slow=1.7,SNR=16
PLCA Paso Flores 141.75 160 *e*PKPpre 18 13 41.1
PLCA PKP PKPdf 18 13 46.9 +2.6
PLCA *e*SKP 18 17 04.2
VCR Vista de Mar 145.75 64 *eP* PKPdf 18 13 55.5 +3.6
JTS JuntasAbangare 146.28 63 *e*PKP2 PKPab 18 13 55.9 -1.8
JCR Jicaral 146.32 64 *eP* PKPdf 18 13 57.7 +4.8
TRQA Tornquist 146.49 170 *e*PKPdf PKPdf 18 13 54.3 +1.8
TRQA *e*PKPbc PKPbc 18 13 56.4 +2.4
TRQA *ep*PKPdf 18 14 40.6
TRQA *e*SKPdf 18 17 12.1
TRQA *e*SKPbc 18 17 16.8
PRS1 Puriscal 146.98 63 *eP* PKPdf 18 13 59.2 +5.3
LAJ Bijagual 147.20 63 *eP* PKPdf 18 13 57.6 +3.3
TRTC Tortuguero 147.25 62 *eP* PKPdf 18 13 58.6 +4.2
LCR2 La Lucha 2 147.36 63 *eP* PKPdf 18 13 58.2 +3.6
ICR Volcan Irazu 147.41 63 *eP* PKPdf 18 13 58.8 +4.1
CICH Cipreses 147.45 155 *eP* PKPdf 18 13 59.8 +5.6
CACH El Canelo 147.55 155 *eP* PKPdf 18 14 00.4 +6.0
BUS Buena Vista 147.66 63 *eP* PKPdf 18 14 01.6 +6.5
CHCH Chadas Angostu 147.69 155 *eP* PKPdf 18 13 59.9 +5.3
FCH Farellones 148.36 155 ⇓*iP* PKPdf 18 14 02.2 +6.5
PACH Papudo 148.52 152 *eP* PKPdf 18 14 02.0 +6.0
ACR Cerro Adams 148.56 64 *eP* PKPdf 18 13 59.9 +3.3
MDZ Mendoza 149.34 156 *eP* PKPdf 18 14 02.4 +5.1
TLL Tololo Astrono 150.79 151 *eP* PKPdf 18 14 07.7 +8.1
SJG San Juan 154.38 26 PKIKP PKPdf 18 14 05.7 +0.7
SJG 18 14 29.0
SJG San Juan 154.38 26 PKP PKPdf 18 14 05.7 +0.8
comp=Z,15nm,0.6s,baz=343,slow=19,SNR=3.8
SJG PKPbc PKPdf 18 14 15.2 +10
comp=Z,15nm,0.3s,baz=324,slow=9.5,SNR=8.1
SJG PKPab PKPab 18 14 29.0 -1.9
comp=Z,16nm,0.3s,baz=351,slow=22,SNR=6.6
LVC Limon Verde 157.81 143 PKP PKPdf 18 14 13.0 +3.6
comp=Z,13nm,0.8s,baz=249,slow=3.3,SNR=17
LVC PKPab PKPab 18 14 45.9 +0.4
comp=Z,18nm,0.7s,baz=235,slow=4.8,SNR=14
CPUP Villa Florida 158.70 174 PKPdf PKPdf 18 14 12.6 +2.2
CPUP PKPab PKPab 18 14 49.2 0.0
SDV Santo Domingo 158.97 49 PKP PKPdf 18 14 13.2 +2.2
comp=Z,25nm,0.7s,baz=301,slow=6.9,SNR=43
SDV PKPab PKPab 18 14 50.0 -0.7
comp=Z,38nm,0.9s,baz=352,slow=2.8,SNR=10.0
LPAZ La Paz 162.77 131 *e*PKIKP PKPdf 18 14 17.8 +2.9
LPAZ La Paz 162.77 131 PKP PKPdf 18 14 18.6 +3.8
comp=Z,14nm,0.8s,baz=250,slow=0.1,SNR=39
LPAZ PKPab PKPab 18 15 07.6 +0.6
comp=Z,17nm,1.1s,baz=198,slow=2.3,SNR=5.6
BAO Brasilia Array 167.56 212 P PKPdf 18 14 20.1 +1.1
BAO *i* 18 14 31.1
BAO *i* 18 15 10.1
BAO *i* 18 15 28.1
BAO *e* 18 15 49.8
BAO *e* 18 19 21.0
BDFB Brasilia 167.57 212 PKP PKPdf 18 14 21.0 +2.0
comp=Z,14nm,0.7s,baz=272,slow=0.1,SNR=18
BDFB PKPab PKPab 18 15 28.2 +0.3
comp=Z,45nm,0.8s,baz=156,slow=2.6,SNR=21

NIED ***21*** *17:58:00,34.00N×141.60E,h8km,Mw5.6 Best double couple: M₀2.8×10¹⁷ NP1:φs349°,δ51°,λ70°. NP2:φs200°, δ43°,λ113°.*
BJI ***21*** *17:58:54.5,33.82N×141.46E,h17km,mB5.7,mb5.0, Ms5.8,Msz5.7*
IDC ***21*** *17:58:54.9±0.4,34.03N×141.48E,mb4.9/25,mb1 5.1/27, mb1mx5.1/28,mbtmp4.9/27,ML5.0/2,MS5.4/17,Ms1 5.4/17, ms1mx5.1/30,Error ellipse: s-maj=14.9km s-min=11.4km az=113.0*
HRVD ***21*** *17:58:56.4±0.2,33.95N×141.65E,h13km,MW5.7/67, Centroid moment Tensor Solution. LP body waves: s51,c91;Mantle waves: s67,c159; Half duration: 1s7 Moment tensor: Scale 10¹⁷Nm; Mrr3.23±.07; Mθθ0.37±.07; Mφφ-3.60±.06; Mrθ-0.15±.21; Mθφ-0.00±.05; Mφr2.11±.17; Best double couple: M₀4.017×10¹⁷ NP1:φs183°,δ29°,λ94°. NP2:φs358°,δ61°,λ88°. Principal axes: T 3.835, Plg74°, Azm261°; N .365, Plg2°, Azm359°; P -4.2, Plg16°, Azm90°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***21*** *17:58:56.4±0.2,34.00N×141.37E,h10km,mb5.3/70, MS5.5/117,MW5.8,MW5.6(NIED) Error ellipse: s-maj=5.7km s-min=4.2km az=172.0,Moment Tensor Solution. s11 Moment tensor: Scale 10¹⁷Nm; Mrr2.00; Mθθ-0.80; Mφφ-1.20; Mrθ0.06; Mφr-3.44; Mθr4.90; Best double couple: M₀6.2×10¹⁷ NP1:φs260°,δ34°,λ160°. NP2:φs7°,δ79°,λ58°. Principal axes: T 6.18, Plg46°, Azm244°; N .11, Plg32°, Azm14°; P -6.29, Plg27°, Azm122°;*
JMA ***21*** *17:58:57.0±0.5,33.97N×141.64E,h34km±4km,M5.6*
MOS ***21*** *17:58:58.7±0.9,34.85N×141.49E,h10km,mb5.4/67, MS5.5/64,Error ellipse: s-maj=10.9km s-min=5.3km az=110.7*
ISC 21 17:58:59.3±0.6,33.96N±0.04×141.40E±0.04,h40km±4km, h48km±4.4km:pP-P,n448,σ1s07/379,mb5.2/118,MS5.5/147, 20C-5D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.77**	**333**	P	**P**	**17 59 13.1**	**-0.7**
BSO3	**Boso 3**	**1.11**	**319**	P	**P**	**17 59 19.0**	**+0.4**
BSO4	**Boso 4**	**1.35**	**320**	P	**P**	**17 59 22.7**	**+0.6**
KTR	**Katsuura**	**1.48**	**323**	P	**P**	**17 59 24.9**	**+0.9**
KTR				S	**S**	**17 59 45.5**	**+3.2**
JHJ2	**Mitsune**	**1.57**	**238**	⇑P	**P**	**17 59 26.7**	**+1.5**
JMY	**Miyakejima3**	**1.57**	**274**	P	**P**	**17 59 26.6**	**+1.4**
JHJ	**Hachijo jima 2**	**1.59**	**238**	Pn	**P**	**17 59 26.8**	**+1.3**
	2μm,0.3s,baz=130,slow=3.7,SNR=175						
JHJ				Sn	**S**	**17 59 49.7**	**+4.7**
	2μm,0.3s,baz=56,slow=21,SNR=11						
JIM2	**Oshima 3**	**1.79**	**295**	P	**P**	**17 59 28.3**	**-0.1**
JKO	**Kozu shima**	**1.89**	**277**	P	**P**	**17 59 30.0**	**+0.2**
JIZS	**Izushimoda**	**2.22**	**291**	P	**P**	**17 59 34.7**	**+0.3**
JOD2	**Odawara 2**	**2.30**	**305**	P	**P**	**17 59 35.3**	**-0.4**
JYN	**Shimob**	**2.80**	**304**	⇑P	**P**	**17 59 42.9**	**+0.1**
SHZ3	**Shizuoka 3**	**2.85**	**294**	⇑P	**P**	**17 59 44.9**	**+1.4**
JRY	**Ryogami san**	**2.90**	**316**	P	**P**	**17 59 44.0**	**-0.2**
JAG	**Ashikaga**	**2.93**	**328**	P	**P**	**17 59 44.1**	**-0.5**
JNY	**Yasuok**	**3.23**	**297**	P	**P**	**17 59 50.4**	**+1.5**
JSB	**Shiboa**	**3.23**	**339**	P	**P**	**17 59 47.4**	**-1.5**
JNT	**Takato**	**3.29**	**306**	P	**P**	**17 59 50.6**	**+0.9**
JKT	**Katashina**	**3.30**	**328**	P	**P**	**17 59 49.4**	**-0.5**
JFK	**Kawauchi**	**3.42**	**353**	P	**P**	**17 59 48.3**	**-3.3**
JGK	**Kuni**	**3.44**	**320**	P	**P**	**17 59 52.4**	**+0.6**
JNG	**Nsakai**	**3.64**	**313**	P	**P**	**17 59 55.3**	**+0.6**
MAJO	**Matsushiro**	**3.67**	**315**⇑	*e*P	**P**	**17 59 55.2**	**+0.2**
MAT	**Matsushiro**	**3.67**	**315**	*e*P	**P**	**17 59 56.0**	**+1.0**
MAT				S	**S**	**18 00 40.0**	**+2.4**
MAT	**Matsushiro**	**3.67**	**315**	P	**P**	**17 59 55.0**	**0.0**
MAT				S	**S**	**18 00 39.3**	**+1.7**
MAT	**Matsushiro**	**3.67**	**315**	P	**P**	**17 59 55.1**	**+0.1**
JFY	**Yanaizu**	**3.70**	**339**	⇑P	**P**	**17 59 54.3**	**-1.3**
JGF	**Kuroka**	**3.71**	**297**	P	**P**	**17 59 57.3**	**+1.7**
JHK	**Hiroka**	**3.81**	**330**	P	**P**	**17 59 56.2**	**-0.9**
JMM	**Marumori**	**3.92**	**353**	P	**P**	**17 59 55.4**	**-3.3**
TSUJ	**Tsu 2**	**4.18**	**282**	P	**P**	**18 00 04.6**	**+2.2**
JNS	**Sasagawa**	**4.20**	**337**	P	**P**	**18 00 01.3**	**-1.3**
JGM	**Miyama**	**4.22**	**296**	P	**P**	**18 00 04.7**	**+1.8**
JSD	**Sado**	**4.79**	**329**	P	**P**	**18 00 09.5**	**-1.5**
MIYJ	**Miyakonagasawa**	**5.61**	**3**	P	**P**	**18 00 16.8**	**-5.7**
CBIJ	**Chichi jima**	**6.88**	**174**	Pn	**P**	**18 00 36.3**	**-4.0**
	161nm,0.3s,baz=274,slow=17,SNR=11						
CBIJ				Sn	**S**	**18 01 48.6**	**-10**
	193nm,0.3s,baz=245,slow=22,SNR=8.7						
ASAJ	**Asahikawa**	**10.18**	**5**	P	**P**	**18 01 19.8**	**-6.1**
ASAJ						18 03 08.4	
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				smax			
	comp=N,6.0nm,0.3s						
ASAJ	**Asahikawa**	**10.18**	**5**	Pn	**P**	**18 01 19.8**	**-6.1**
	comp=N,9.2nm,0.3s,baz=221,slow=8.8,SNR=32						
ASAJ				Sn	**S**	**18 03 08.4**	**-12**
	comp=N,6.4nm,0.3s,baz=186,slow=22,SNR=5.9						
YUK

YUK eS S 18 03 11.5 -20
YUK smax
comp=N,390nm,0.5s
YUK smax
comp=E,770nm,0.5s
YUK smax
comp=E,3μm,1.0s
VLA Vladivostok 11.78 324⇓ iP P 18 01 46.0 -1.6
VLA pmax pmax
comp=Z,4μm,6.0s
VLA MLR MLR
comp=Z,28μm,14.0s
VLA MLR MLR
comp=N,24μm,15.0s
VLA MLR MLR
comp=E,13μm,22.0s
KUR Kuril'sk 12.30 22 eP P 18 01 51.5 -3.2
KUR eS S 18 03 53.5 -18
KUR pmax pmax
comp=E,140nm,0.9s
KUR pmax pmax
comp=Z,170nm,0.9s
KUR smax
comp=N,210nm,0.9s
KUR smax
comp=E,310nm,0.9s
KUR MLR MLR
comp=N,22μm,14.0s
KUR MLR MLR
comp=E,22μm,14.0s
KUR MLR MLR
comp=Z,38μm,14.0s
YSS Yuzh-Sakhalins 13.02 4⇑ iP P 18 01 58.0 -6.2
YSS i S S 18 04 16.3 -12
YSS pmax pmax
comp=Z,160nm,1.0s
YSS MLR MLR
comp=Z,53μm,17.0s
YSS MLR MLR
comp=N,48μm,16.0s
YSS MLR MLR
comp=E,25μm,14.0s
YSS Yuzh-Sakhalins 13.02 4 ePn P 18 01 58.0 -6.1
comp=E,62nm,0.7s
UGL Uglegorsk 15.11 2 eP P 18 02 31.0 -0.5
UGL pmax pmax
comp=N,1μm,7.0s
UGL pmax pmax
comp=Z,2μm,7.0s
UGL MLR MLR
comp=Z,44μm,17.0s
UGL MLR MLR
comp=N,53μm,18.0s
UGL MLR MLR
comp=E,15μm,15.0s
SSE Sheshan 17.28 266 P P 18 02 56.9 -2.3
SSE XP 18 03 02.0
SSE S S 18 06 13.8 +5.4
SSE AMB AMB
comp=Z,43nm,0.8s
SSE AMB AMB
comp=Z,4μm,11.1s
SSE LR LR
comp=N,12μm,13.1s
SSE LR LR
comp=E,23μm,13.2s
SSE LR LR
comp=Z,31μm,12.6s
SSE Sheshan 17.28 266 P P 18 02 56.9 -2.3
comp=Z,43nm,0.8s
SSE sP 18 03 02.0
SSE S S 18 06 13.8 +5.4
SSE sS 18 06 23.6
NJ2 Nanjing 19.00 270 eP P 18 03 19.9 -0.4
NJ2 AP 18 03 24.4
NJ2 XP 18 03 27.1
NJ2 PP PP 18 03 38.5 +1.4
NJ2 S S 18 06 53.0 +5.9
NJ2 AMB AMB
comp=Z,50nm,1.0s
NJ2 AMB AMB
comp=Z,640nm,4.2s
NJ2 LR LR
comp=N,28μm,12.9s
NJ2 LR LR
comp=E,30μm,16.0s
NJ2 LR LR
comp=Z,53μm,15.1s
SKR Severo-Kuril's 19.88 28 eP P 18 03 22.0 -7.8
SKR pmax pmax
comp=N,3μm,10.0s
SKR pmax pmax
comp=E,3μm,10.0s
SKR pmax pmax
comp=Z,3μm,10.0s
SKR pmax pmax
comp=N,560nm,1.5s
SKR pmax pmax
comp=E,400nm,1.5s
SKR pmax pmax
comp=Z,640nm,1.5s
SKR MLR MLR
comp=N,6μm,16.0s
SKR MLR MLR
comp=Z,8μm,16.0s
SKR MLR MLR
comp=E,5μm,12.0s
TIA Tai'an 19.98 283 eP P 18 03 28.6 -2.4
TIA XP 18 03 39.0
TIA LR LR
comp=N,18μm,14.0s
TIA LR LR
comp=E,22μm,14.0s
GUMO Guam 20.53 170 PFAKE 18 03 50.0 +13
GUMO LR LR
comp=Z,9μm,21.0s,MS5.1
BJI Beijing 21.00 294 eP P 18 03 40.7 -0.9
BJI S S 18 07 26.1 -2.2
BJI pmax pmax
comp=Z,65nm,1.6s,mb4.7
BJI MLR MLR
comp=Z,6μm,15.6s,MS5.1
BJI Beijing 21.00 294 eP P 18 03 40.7 -0.9
comp=Z,65nm,1.6s,mb4.7
BJI S S 18 07 26.1 -2.2
BJI LR LR
comp=Z,6μm,15.6s,MS5.1
BJI Beijing 21.00 294 P 18 03 40.7 -0.9
BJT Baijiatuau 21.00 294 PFAKE 18 03 50.0 +8.4
BJT LR LR
comp=Z,9μm,22.0s,MS5.1
HIA Hailar 22.15 320 PFAKE 18 04 00.0 +7.0
HIA LR LR
comp=Z,13μm,20.0s,MS5.3
PET Petropavlovsk 22.69 28 eP P 18 03 48.8 -9.4
PET eS S 18 07 55.9 -3.3
PET pmax pmax
comp=Z,106nm,1.5s,mb5.0
PET smax
comp=N,8μm,13.6s
PET smax
comp=E,7μm,21.9s
PET MLR MLR
comp=Z,7μm,16.0s,MS5.2
PET Petropavlovsk 22.69 28 i P P 18 03 54.0 -4.2
PET LR LR
comp=Z,6μm,19.0s,MS5.1
WHN Wuhan 23.10 269 P P 18 03 58.3 -4.2
WHN AMB AMB
comp=Z,43nm,0.7s,mb5.0
WHN LR LR
comp=Z,39μm,13.2s,MS6.0
CLNS Chul'man 25.51 339 eP P 18 04 25.5 +0.1
CLNS e 18 05 01.9
CLNS ePPP PPP 18 05 09.4 -7.6
CLNS pmax pmax
comp=Z,51nm,0.7s,mb5.2
CLNS pmax pmax
comp=N,46nm,0.8s
CLNS pmax pmax
comp=E,22nm,0.7s
CLNS pmax pmax
comp=Z,69nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,86nm,1.0s
CLNS pmax pmax
comp=E,44nm,0.9s
CLNS MLR MLR
comp=Z,14μm,16.0s,MS5.6
CLNS MLR MLR
comp=N,13μm,15.0s,MS5.6
CLNS MLR MLR
comp=E,2μm,14.0s,MS5.6
MA2 Magadan 26.36 11 eP P 18 04 27.8 -5.5
MA2 LR LR
comp=Z,4μm,19.0s,MS5.0
TGY Tagaytay City 27.11 228 LR LR 18 14 33.8
comp=Z,6μm,18.1s,MS5.2,baz=14,slow=34
ENH Enshi 27.22 271 eP P 18 04 39.3 -2.2
comp=Z,42nm,0.6s,mb5.2
ENH LR LR
comp=Z,12μm,21.0s,MS5.4
YAK Yakutsk 29.06 349 PFAKE 18 05 10.0 +12
YAK LR LR
comp=Z,4μm,19.0s,MS5.1
ULN Ulaanbaatar 29.17 309 PFAKE 18 05 10.0 +11
ULN LR LR
comp=Z,9μm,19.0s,MS5.4
SONM Songino Array 29.59 308 P P 18 05 00.9 -1.6
comp=Z,8.6nm,0.6s,mb4.7,baz=113,slow=11,SNR=3.0
LZH Lanzhou 30.70 285 eP P 18 05 11.8 -0.8
LZH AP pP 18 05 16.0 -7.6
LZH XP sP 18 05 20.0 -8.8
LZH PP PP 18 06 17.0 +2.9
LZH S S 18 10 19.3 +8.0
LZH XS 18 10 30.0
LZH AMB AMB
comp=Z,80nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,1μm,4.7s
LZH LR LR
comp=N,20μm,12.9s
LZH LR LR
comp=Z,31μm,14.8s,MS6.1
LZH Lanzhou 30.70 285 eP P 18 05 11.8 -0.8
LZH *PP pP 18 05 16.0 -7.6
LZH 18 06 17.0
LZH S S 18 10 19.3 +8.0
LZH eSS SS 18 12 10.0 +15
LZH pmax pmax
comp=Z,80nm,1.0s,mb5.5
LZH MLR MLR
comp=Z,31μm,14.8s,MS6.1
LZH Lanzhou 30.70 285 eP P 18 05 11.8 -0.8
comp=Z,80nm,1.0s,mb5.5
LZH pP pP 18 05 16.0 -7.6
LZH sP sP 18 05 20.0 -8.8
LZH PP PP 18 06 17.0 +2.9
LZH S S 18 10 19.3 +8.0
LZH sS 18 10 30.0
LZH eSS SS 18 12 10.0 +15
LZH LR LR
comp=Z,31μm,14.8s,MS6.1
QIZ Qiongzhong 31.76 250 PFAKE 18 05 30.0 +7.9
QIZ LR LR
comp=Z,4μm,19.0s,MS5.2
IRK Irkutsk 32.22 316 eP P 18 05 25.5 -0.3
IRK pmax pmax
comp=Z,130nm,2.8s,mb5.3
ZAK Zakamensk 32.24 312 eP P 18 05 25.4 -0.6
TLY Talaya 32.40 315 eP P 18 05 27.6 +0.2
TLY eS S 18 10 43.9 +6.1
TLY MLR MLR
comp=Z,8μm,16.0s,MS5.5
TLY Talaya 32.40 315⇑ iP P 18 05 27.7 +0.3
TLY LR LR
comp=Z,2μm,19.0s,MS4.8
KMI Kunming 34.60 266 P P 18 05 43.7 -2.9
KMI pmax pmax
comp=Z,15nm,1.3s,mb4.8
KMI Kunming 34.60 266 P P 18 05 43.7 -2.9
comp=Z,15nm,1.3s,mb4.8
BILL Bilibino 36.98 15 eP P 18 06 03.0 -3.3
BILL pmax pmax
comp=Z,78nm,1.1s,mb5.5
BILL MLR MLR
comp=Z,6μm,17.0s,MS5.5
TIXI Tiksi 38.33 354 eP P 18 06 18.2 +0.6
TIXI e 18 07 38.9
TIXI eS S 18 12 11.1 +2.2
TIXI pmax pmax
comp=Z,50nm,1.2s,mb5.1
TIXI MLR MLR
comp=Z,12μm,17.0s,MS5.8
TIXI Tiksi 38.33 354 eP P 18 06 15.7 -1.9
TIXI LR LR
comp=Z,8μm,20.0s,MS5.5
CM31 Chiang Mai Arr 40.79 259 eP P 18 06 37.2 -1.3
comp=Z,11nm,0.6s,mb4.7
CM31 LR LR
comp=Z,6μm,22.0s,MS5.4
CMAR Chiang Mai Arr 40.79 259 P P 18 06 38.0 -0.5
CMAR pmax pmax
comp=Z,12nm,0.6s
CMAR MLR MLR
comp=Z,4μm,18.8s
CMAR Chiang Mai Arr 40.79 259 P P 18 06 38.0 -0.5
comp=Z,12nm,0.6s,mb4.7,baz=49,slow=7.1,SNR=21
CMAR LR LR 18 26 21.3
comp=Z,4μm,18.8s,MS5.3,baz=65,slow=40
WMQ Urumqi 42.28 300 P P 18 06 51.0 +0.5
WMQ AP pP 18 06 54.8 -7.1
WMQ XP sP 18 06 55.8 -11
WMQ PP PP 18 08 32.0 +0.5
WMQ S S 18 13 10.5 +2.4
WMQ XS 18 13 17.9
WMQ AMB AMB
comp=Z,84nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,300nm,5.4s
WMQ LR LR
comp=N,1μm,17.8s,MS5.0
WMQ LR LR
comp=E,1μm,18.4s,MS5.0
WMQ LR LR
comp=Z,2μm,18.7s,MS5.0
LSA Lhasa 42.56 279 PFAKE 18 07 00.0 +7.0
LSA LR LR
comp=Z,6μm,20.0s,MS5.5
PMG Port Moresby 43.48 172 PFAKE 18 07 10.0 +9.4
PMG LR LR
comp=Z,2μm,20.0s,MS5.1
ZAL Zalesovo 44.03 315 P P 18 07 04.8 +0.2
ZAL pmax pmax
comp=Z,6.0nm,0.6s
ZAL Zalesovo 44.03 315 P P 18 07 04.8 +0.2
comp=Z,5.6nm,0.6s,mb4.5,baz=278,slow=9.7,SNR=2.3
MKAR Makanchi Array 45.79 305 i P P 18 07 17.9 -0.9
JIRN Jiri 47.36 278 eP P 18 07 31.5 +0.2
comp=Z,70nm,0.5s,mb5.9
CAL Calcutta 47.65 271 eP P 18 07 35.3 +1.6
CAL e 18 11 32.1
KURK Kurchatov 47.86 310 eP P 18 07 34.0 -1.0
KURK Kurchatov 47.86 310 eP P 18 07 33.6 -1.4
comp=Z,52nm,0.8s,mb5.6
KURK LR LR
comp=Z,3μm,20.0s,MS5.2
PKI Pulchoki 48.03 278 eP P 18 07 35.8 -0.8
comp=Z,146nm,1.1s,mb5.9
KKN Kakani 48.06 279 eP P 18 07 36.2 -0.6
comp=Z,152nm,1.0s,mb6.0
DMN Daman 48.27 278 eP P 18 07 37.8 -0.7
comp=Z,152nm,1.1s,mb6.0
GKN Gorkha 48.51 279 eP P 18 07 39.5 -0.8
comp=Z,198nm,1.2s,mb6.0
KDAK Kodiak Island 49.42 40 PFAKE 18 08 00.0 +13
KDAK LR LR
comp=Z,1μm,19.0s,MS4.9
KOLN Koldanda 49.44 279 eP P 18 07 47.1 -0.4
comp=Z,55nm,0.6s,mb5.7
AAA Alma-Ata 50.09 301 eP P 18 07 54.0 +1.8
AAA eS S 18 15 13.0 +14
AAA pmax pmax
comp=Z,2μm,10.0s
AAA smax
comp=N,1μm,10.0s
AAA MLR MLR
comp=Z,5μm,16.0s,MS5.6
MCK McKinley 51.21 32 PFAKE 18 08 10.0 +10
MCK LR LR
comp=Z,1μm,19.0s,MS5.0
COLA College 51.70 31 PFAKE 18 08 20.0 +16
COLA LR LR
comp=Z,3μm,19.0s,MS5.4
AAK Ala-Archa 51.98 301 P P 18 08 06.7 +0.1
AAK pmax pmax
comp=Z,73nm,1.7s,mb5.3
AAK Ala-Archa 51.98 301⇑ iP P 18 08 05.6 -1.0
AAK LR LR
comp=Z,852nm,21.0s,MS4.8
ILAR Eielson Array 52.11 31 P P 18 08 05.3 -1.9
ILAR pmax pmax
comp=Z,11nm,0.7s
ILAR MLR MLR
comp=Z,2μm,18.6s
ILAR Eielson Array 52.11 31 P P 18 08 05.3 -1.9
comp=Z,11nm,0.7s,mb4.9,baz=262,slow=5.9,SNR=5.6
ILAR LR LR 18 32 41.7
comp=Z,2μm,18.6s,MS5.2,baz=58,slow=39
CHKZ Chkalovo 52.43 315 eP P 18 08 08.2 -1.6
CHKZ pmax pmax
comp=Z,47nm,1.0s,mb5.4
CHKZ Chkalovo 52.43 315 eP P 18 08 08.2 -1.6
comp=Z,47nm,1.0s,mb5.4
BVA0 Borovoye Array 52.66 314 P P 18 08 11.0 -0.5
BVA0 pmax pmax
comp=Z,17nm,1.4s,mb4.8
BVAR Borovoye Array 52.66 314 P P 18 08 11.0 -0.5
comp=Z,32nm,1.1s,mb5.2,baz=82,slow=10,SNR=3.8
BRVK Borovoye 52.72 314 P P 18 08 11.5 -0.4
BRVK pmax pmax
comp=Z,224nm,3.0s
BRVK Borovoye 52.72 314 eP P 18 08 10.4 -1.5
comp=Z,42nm,1.1s,mb5.3
BRVK LR LR
comp=Z,1μm,19.0s,MS5.0
FITZ Fitzroy Crossi 53.91 199 eP P 18 08 21.0 -0.2
comp=Z,54nm,0.6s,mb5.7
CTA Charters Tower 53.95 174 LR LR 18 30 20.0
comp=Z,3μm,20.8s,MS5.3,baz=353,slow=35
CTAO Charters Tower 53.95 174 PFAKE 18 08 30.0 +8.5
CTAO LR LR
comp=Z,2μm,21.0s,MS5.2
WRAB Tennant Creek 54.01 188 P P 18 08 20.0 -2.0
comp=Z,75nm,0.9s,mb5.6
WRAB LR LR
comp=Z,1μm,20.0s,MS4.9
WRA Warramunga Arr 54.02 188 P P 18 08 20.2 -1.8
comp=Z,14nm,0.5s,mb5.2,baz=5.1,slow=7.6,SNR=12
NDI New Delhi 54.30 283 eP P 18 08 21.0 -3.0
NDI e 18 12 47.0
KIP Kipapa 54.39 87 PFAKE 18 08 40.0 +15
KIP LR LR
comp=Z,5μm,21.0s,MS5.5
AYAN Aya Nagar 54.45 283 eP P 18 08 24.6 -0.5
AYAN e 18 08 28.4
comp=Z,64nm,1.0s
BHGR Bahadurgarh 54.52 283 eP P 18 08 23.2 -2.4
SONA Sohna 54.58 283 eP P 18 08 24.8 -1.2
SONA e 18 08 28.7
comp=Z,72nm,1.2s
KUDL Kundal 55.10 283 eP P 18 08 30.6 +0.8
KUDL e 18 08 32.5
comp=Z,70nm,1.4s
KHET Khetri 55.68 283 eP P 18 08 33.3 -0.7
KHET e 18 08 36.8
comp=Z,84nm,1.1s
BHPL Bhopal 56.38 277 eP P 18 08 36.7 -2.4
BHPL e 18 08 40.6
comp=Z,55nm,1.1s
INK Inuvik 57.13 26 P P 18 08 41.3 -2.6
INK pmax pmax
comp=Z,8.0nm,0.6s
INK Inuvik 57.13 26 P P 18 08 41.3 -2.5
comp=Z,8.3nm,0.6s,mb4.9,baz=286,slow=4.6,SNR=4.9
SVE Sverdlovsk 57.46 320 eP P 18 08 46.3 0.0
SVE eS S 18 16 46.4 +7.6
SVE e 18 18 31.0
SVE pmax pmax
comp=Z,280nm,2.8s,mb5.8
SVE smax
comp=N,1μm,9.6s
SVE smax
comp=E,1μm,9.6s
SVE MLR MLR
comp=Z,9μm,17.0s,MS5.9
ASAR Alice Springs 57.75 188 P P 18 08 47.1 -1.6
comp=Z,5.3nm,0.4s,mb4.9,baz=7.6,slow=6.9,SNR=11
ASAR LR LR 18 33 10.8
comp=Z,2μm,21.0s,MS5.2,baz=355,slow=36
HYB Hyderabad 58.16 270⇑ eP P 18 08 50.5 -1.2
HYB Hyderabad 58.16 270⇑ iP P 18 08 50.5 -1.2
comp=Z,110nm,1.0s,mb5.8
MBWA Marble Bar 58.57 204 eP P 18 08 53.2 -1.4
comp=Z,47nm,1.0s,mb5.5
MBWA LR LR
comp=Z,2μm,20.0s,MS5.2
ARU Arti 58.67 320⇓ iP P 18 08 49.1 -5.7
ARU e 18 10 57.4
ARU eS S 18 16 54.2 -0.4
ARU e 18 18 37.5
ARU eSS SS 18 20 45.0 -4.5
ARU pmax pmax
comp=Z,46nm,1.1s,mb5.4
ARU MLR MLR
comp=Z,7μm,17.0s,MS5.9
ARU MLR MLR
comp=N,2μm,16.0s,MS5.8
ARU MLR MLR
comp=E,5μm,16.0s,MS5.8
ARU Arti 58.67 320 eP P 18 08 49.0 -5.8
comp=E,29nm,0.5s,mb5.6
ARU LR LR
comp=Z,872nm,21.0s,MS4.8
SIT Sitka 58.74 39 PFAKE 18 09 10.0 +15
SIT LR LR
comp=Z,4μm,20.0s,MS5.6
MDRS Chennai 58.95 265 e P 18 08 59.0 +1.7
JASL Jaisalmer 60.12 284 e P 18 09 04.2 -1.0
DLBC Dease Lake 61.07 37 P P 18 09 10.8 -0.3
comp=Z,40nm,1.3s,mb5.4,baz=278,slow=6.9,SNR=3.6
DLBC LR LR 18 37 19.1
comp=Z,1μm,18.5s,MS5.1,baz=22,slow=38
DLBC Dease Lake 61.07 37 eP P 18 09 11.3 +0.2
PALK Pallekele 61.74 259 eP P 18 09 15.8 -0.5
comp=Z,31nm,1.1s,mb5.3
PALK LR LR
comp=Z,254nm,19.0s,MS4.4
KAD Karad 61.84 273 e P 18 09 15.0 -1.9
BOM Bombay 62.20 275 e P 18 09 20.8 +1.5
BBB Bella Bella 64.29 43 LR LR 18 37 45.2
comp=Z,2μm,18.6s,MS5.2,baz=76,slow=36
AFI Afiamalu 65.20 129 PFAKE 18 09 50.0 +11
AFI LR LR
comp=Z,4μm,20.0s,MS5.6
APA Apatity 65.48 336⇓ iP P 18 09 39.5 -0.5
APA pmax pmax
comp=Z,23nm,1.0s,mb5.2
STKA Stephens Creek 65.49 180 P P 18 09 40.5 -0.2
comp=Z,15nm,0.9s,mb5.0,baz=26,slow=5.7,SNR=2.5
FORT Forrest 65.61 193 eP P 18 09 40.7 -0.8
comp=Z,132nm,0.5s,mb6.2
PECR Pechory 66.25 323 eP P 18 09 41.0 -4.1
PECR MLR MLR
comp=Z,17μm,18.0s,MS6.3
PECR MLR MLR
comp=N,10μm,16.0s
YKA Yellowknife Ar 66.47 29 i P P 18 09 46.5 +0.1
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 66.47 29 P P 18 09 44.4 -2.0
comp=Z,3.3nm,0.7s,mb4.5,baz=297,slow=6.4,SNR=5.4
YKA LR LR 18 44 32.8
comp=Z,2μm,18.0s,MS5.3,baz=315,slow=41
ARCES ARCESS Array B 66.86 340 P P 18 09 48.6 -0.1
ARCES pmax pmax
comp=Z,7.0nm,0.7s
ARCES MLR MLR
comp=Z,4μm,18.8s
ARCES ARCESS Array B 66.86 340 P P 18 09 48.6 -0.2
comp=Z,6.8nm,0.7s,mb4.8,baz=76,slow=7.4,SNR=3.4
ARCES LR LR 18 46 31.1
comp=Z,4μm,18.8s,MS5.7,baz=63,slow=43
OCWA Octopus Mounta 68.47 46 PFAKE 18 10 10.0 +11
OCWA LR LR
comp=Z,2μm,19.0s,MS5.5
JOF Joensuu 68.67 333 ep P 18 09 58.2 -1.9
comp=Z,4.7nm,0.4s,mb4.8

JOF Joensuu 68.67 333 *e*P **P 18 09 58.2 -1.9**
JOF pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
MOS Moscow 69.72 324 *e*P **P 18 10 06.6 -0.1**
MOS *e* 18 10 32.2
NWAO Narrogin (SRO) 70.31 201 P **P 18 10 10.4 -0.3**
comp=Z,27nm,0.5s,mb5.4,baz=24,slow=7.8,SNR=13
NWAO Narrogin (SRO) 70.31 201 *e*P **P 18 10 09.9 -0.7**
comp=Z,22nm,0.6s,mb5.3
MAK Makhachkala 70.36 309 *e*P **P 18 10 14.0 +3.2**
MAK *i* 18 12 50.0
MAK *e*PPP PPP 18 14 35.0 +5.9
MAK *i* S S 18 19 26.5 +7.6
MAK *e* 18 20 10.0
MAK pmax pmax
comp=Z,2μm,10.0s
MAK pmax pmax
comp=Z,2μm,10.0s
MAK smax
comp=N,2μm,8.0s
MAK smax
comp=E,2μm,8.0s
COR Corvallis 70.48 49 PFAKE 18 10 20.0 +8.5
COR LR LR
comp=Z,2μm,19.0s,MS5.4
OBN Obninsk 70.55 324*c i*P **P 18 10 09.0 -2.8**
OBN *i* 18 10 13.9
OBN pmax pmax
comp=Z,49nm,1.4s,mb5.2
OBN MLR MLR
comp=Z,5μm,16.0s,MS5.9
OBN Obninsk 70.55 324‖ *i*P **P 18 10 09.0 -2.8**
OBN LR LR
comp=Z,5μm,16.0s,MS5.9
VOR Voronezh 70.96 320 *e*P **P 18 10 11.5 -2.8**
VOR pmax pmax
comp=Z,80nm,2.0s,mb5.3
KAF Kangasniemi 71.03 333 *e*p **P 18 10 13.4 -1.2**
comp=Z,13nm,0.5s,mb5.1,baz=49,slow=5.8
KAF Kangasniemi 71.03 333 *e*P **P 18 10 13.4 -1.2**
KAF pmax pmax
comp=Z,13nm,0.5s,mb5.1
FINES FINESS Array B 71.53 333 *i* P **P 18 10 17.2 -0.3**
FINES pmax pmax
comp=Z,20nm,0.8s
FINES FINESS Array B 71.53 333 P **P 18 10 16.2 -1.3**
comp=Z,20nm,0.8s,mb5.1,baz=76,slow=7.9,SNR=9.3
FINES FINESS Array B 71.53 333 P **P 18 10 16.2 -1.3**
HUMO Hull Mountain 71.66 51 PFAKE 18 10 30.0 +11
HUMO LR LR
comp=Z,2μm,19.0s,MS5.4
EDM Edmonton 71.77 38 *e*P **P 18 10 18.2 -0.9**
BIDO Bidbid 71.94 286 P **P 18 10 22.0 +1.4**
SNR=7.5
GOF Gofitskoye 72.15 313 *e*P **P 18 10 22.5 +1.0**
GOF pmax pmax
comp=Z,120nm,1.2s,mb5.7
YBH Yreka Blue Hor 72.25 51 P **P 18 10 21.5 -0.6**
comp=Z,2.9nm,0.7s,mb4.3,baz=162,slow=2.6,SNR=5.4
YBH Yreka Blue Hor 72.25 51 P **P 18 10 21.5 -0.6**
YBH LR LR
comp=Z,2μm,19.0s,MS5.3
NEW Newport 72.35 43 *e*P **P 18 10 21.8 -0.8**
NEW pmax pmax
comp=Z,15nm,1.1s
NEW MLR MLR
comp=Z,2μm,19.0s
NEW Newport 72.35 43 *e*P **P 18 10 21.8 -0.8**
comp=Z,15nm,1.1s,mb4.8
NEW LR LR
comp=Z,2μm,19.0s,MS5.4
JMDO Jabal Madar 72.53 285 P **P 18 10 24.7 +0.6**
SNR=5.5
HOQ Hoqain 72.56 287 P **P 18 10 24.9 +0.6**
SNR=8.5
KIV Kislovodsk 72.92 312*c i*P **P 18 10 25.7 -0.4**
KIV *i* 18 10 31.0
KIV *i* 18 19 56.7
KIV pmax pmax
comp=Z,51nm,0.9s,mb5.5
KIV Kislovodsk 72.92 312 *e*P **P 18 10 27.1 +1.0**
comp=Z,30nm,0.8s,mb5.3
KIV LR LR
comp=Z,1μm,19.0s,MS5.1
WDC Whiskeytown Da 72.93 52 *e*P **P 18 10 27.2 +1.0**
WDC pmax pmax
comp=Z,16nm,1.3s,mb4.8
WDC MLR MLR
comp=Z,2μm,20.0s,MS5.4
WDC Whiskeytown Da 72.93 52 *e*P **P 18 10 27.2 +1.0**
comp=Z,16nm,1.3s,mb4.8
WDC LR LR
comp=Z,2μm,20.0s,MS5.4
BSY Bisya 73.06 286 P **P 18 10 28.2 +0.8**
SNR=12
VSU Vasula 73.10 330 *e*P **P 18 10 24.9 -1.9**
JMIC Jan Mayen 73.16 350 LR LR 18 44 42.8
comp=Z,1μm,19.8s,MS5.2,baz=68,slow=38
ARQ Araqi 73.31 287 P **P 18 10 29.6 +0.9**
SNR=7.1
HOPS Hopland 73.38 54 PFAKE 18 10 40.0 +11
HOPS LR LR
comp=Z,6μm,20.0s,MS5.8
GNI Garni 73.54 307*c i*P **P 18 10 30.2 +0.4**
GNI pmax pmax
comp=Z,30nm,1.7s
GNI MLR MLR
comp=Z,4μm,20.0s
GNI Garni 73.54 307 P **P 18 10 30.7 +0.9**
comp=Z,5.4nm,0.5s,mb4.7,baz=351,slow=6.6,SNR=5.8
GNI Garni 73.54 307 *e*P **P 18 10 29.4 -0.5**
comp=Z,103nm,1.3s,mb5.6
GNI LR LR
comp=Z,4μm,21.0s,MS5.7
RAO Raoul Island 73.71 144 PFAKE 18 10 40.0 +9.0
RAO LR LR
comp=Z,3μm,19.0s,MS5.6
MOD Modoc 73.72 50 *e*P **P 18 10 30.2 -0.6**
comp=Z,15nm,1.4s,mb4.7
MOD LR LR
comp=Z,2μm,20.0s,MS5.4
WALA Waterton Lakes 73.73 42 *e*P **P 18 10 30.5 -0.2**
comp=Z,11nm,0.9s,mb4.8
SUMG Summit 73.75 360 *e*P **P 18 10 29.4 -1.0**
comp=Z,25nm,0.7s,mb5.2
BMO Blue Mountains 74.03 47 *e*P **P 18 10 32.5 -0.1**
comp=Z,5.1nm,0.7s,mb4.6
BMO LR LR
comp=Z,1μm,20.0s,MS5.2
OHCM Honcut 74.27 53 *e*P **P 18 10 34.4 +0.4**
WVOR Wild Horse Val 74.49 49 *e*P **P 18 10 35.2 -0.1**
WVOR pmax pmax
comp=Z,65nm,1.9s,mb5.2
WVOR MLR MLR
comp=Z,2μm,19.0s,MS5.4
WVOR Wild Horse Val 74.49 49 *e*P **P 18 10 35.2 -0.1**
comp=Z,65nm,1.9s,mb5.2
WVOR LR LR
comp=Z,2μm,19.0s,MS5.4
MSO Missoula 74.94 43 *e*P **P 18 10 37.1 -0.6**
comp=Z,7.1nm,1.3s,mb4.4
MSO LR LR
comp=Z,706nm,20.0s,MS5.0
SOC Sochi 74.95 313 *e*P **P 18 10 37.0 -0.8**
SOC *e*PPP PPP 18 15 14.1 +1.1
SOC *e*S S 18 20 17.0 +5.9
SOC *e*SS SS 18 25 02.9 +0.8
SOC pmax pmax
comp=Z,37nm,1.0s,mb5.3
SOC pmax pmax
comp=N,64nm,1.1s
SOC pmax pmax
comp=E,67nm,1.2s
SOC MLR MLR
comp=N,3μm,17.0s,MS5.9
SOC MLR MLR
comp=E,4μm,17.0s,MS5.9
SOC MLR MLR
comp=Z,3μm,17.0s,MS5.7
SAO San Andreas Ge 75.63 55 PFAKE 18 10 50.0 +8.1
SAO LR LR
comp=Z,3μm,20.0s,MS5.6
CMB Columbia Colle 75.68 54 *e*P **P 18 10 41.8 -0.4**
CMB pmax pmax
comp=Z,13nm,1.3s,mb4.7
CMB MLR MLR
comp=Z,4μm,21.0s,MS5.7
CMB Columbia Colle 75.68 54 *e*P **P 18 10 41.8 -0.4**
comp=Z,13nm,1.3s,mb4.7
CMB LR LR
comp=Z,4μm,21.0s,MS5.7
FFC Flin Flon 76.30 32 P **P 18 10 44.9 -0.4**
comp=Z,81nm,1.1s,mb5.6,SNR=10
FFC Flin Flon 76.30 32 *e*P **P 18 10 44.3 -1.0**
FFC pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
FFC MLR MLR
comp=Z,513nm,20.0s,MS4.8
FFC Flin Flon 76.30 32 *e*P **P 18 10 44.3 -1.0**
comp=Z,8.6nm,0.7s,mb4.8
FFC LR LR
comp=Z,513nm,20.0s,MS4.8
HLID Hailey 76.48 46 *e*P **P 18 10 46.6 0.0**
comp=Z,10nm,1.3s,mb4.6
HLID LR LR
comp=Z,2μm,20.0s,MS5.4
MSL Mosul 76.66 305 *e*P **P 18 10 46.5 -1.3**
MSL *e*pP pP 18 11 05.5 +5.7
MSL *e*S S 18 20 26.0 -4.1
TAU Tasmania Unive 76.69 176 PFAKE 18 11 00.0 +12
TAU LR LR
comp=Z,709nm,19.0s,MS5.0
AKASG Malin Array Be 76.72 323 P **P 18 10 47.0 -0.8**
AKASG pmax pmax
comp=Z,12nm,0.6s
AKASG Malin Array Be 76.72 323 P **P 18 10 47.0 -0.9**
comp=Z,12nm,0.6s,mb5.0,baz=46,slow=6.0,SNR=34
FCC Fort Churchill 76.75 26 *e*P **P 18 10 46.4 -1.4**
FCC pmax pmax
comp=Z,18nm,1.1s,mb4.9
FCC Fort Churchill 76.75 26 *e*P **P 18 10 46.4 -1.4**
comp=Z,18nm,1.1s,mb4.9
NVAR Mina Array Bea 76.85 53 P **P 18 10 49.2 +0.4**
comp=Z,4.1nm,0.6s,mb4.5,baz=300,slow=6.1,SNR=14
NVAR LR LR 18 45 20.1
comp=Z,4μm,18.2s,MS5.8,baz=270,slow=36
MNV Mina 76.95 52 *e*P **P 18 10 49.2 -0.2**
MNV pmax pmax
comp=Z,65nm,2.2s,mb5.2
MNV Mina 76.95 52 *e*P **P 18 10 49.2 -0.2**
comp=Z,65nm,2.2s,mb5.2
DGAR Diego Garcia 77.00 252 PFAKE 18 11 00.0 +10
DGAR LR LR
comp=Z,381nm,20.0s,MS4.7
NB2 NORSAR Subarra 77.01 338 P **P 18 10 49.0 -0.2**
comp=Z,15nm,0.8s,mb5.0,baz=41,slow=5.6
NB2 NORSAR Subarra 77.01 338 P **P 18 10 49.0 -0.2**
baz=41,slow=5.9
NOA NORSAR Array B 77.01 338 P **P 18 10 49.0 -0.2**
NOA pmax pmax
comp=Z,13nm,0.7s
NOA MLR MLR
comp=Z,6μm,18.4s
NOA NORSAR Array B 77.01 338 P **P 18 10 49.0 -0.2**
comp=Z,12nm,0.7s,mb4.9,baz=39,slow=5.7,SNR=29
NOA LR LR 18 48 45.5
comp=Z,6μm,18.4s,MS6.0,baz=15,slow=39
NAO01 NORSAR Array S 77.27 338 *e*P **P 18 10 49.1 -1.6**
comp=Z,9.2nm,0.7s,mb4.8
NAO01 LR LR
comp=Z,9μm,19.0s,MS6.1
SUW Suwalki 77.47 328 *e*P **P 18 10 58.9 +7.0**
SUW MLR MLR 18 50 30.6
comp=Z,4μm,18.4s,MS5.8
SIM Simferopol' 77.51 316 *e*P **P 18 10 53.7 +1.3**
SIM *e*S S 18 20 45.0 +5.9
SIM pmax pmax
comp=Z,400nm,13.2s
QLMT Earthquake Lak 77.52 44 *e*P **P 18 10 53.1 +0.7**
TPH Tonopah 77.76 52 PFAKE 18 11 10.0 +16
TPH LR LR
comp=Z,4μm,19.0s,MS5.7
YMR Madison River 77.88 44 *e*P **P 18 10 54.2 -0.1**
RBK Rabkut 78.17 283 P **P 18 10 56.5 +0.1**
SNR=11
LKWY Lake 78.27 44 *e*P **P 18 10 58.3 +1.8**
LKWY pmax pmax
comp=Z,28nm,1.3s,mb5.0
LKWY MLR MLR
comp=Z,3μm,19.0s,MS5.6
LKWY Lake 78.27 44 *e*P **P 18 10 58.3 +1.8**
comp=Z,28nm,1.3s,mb5.0
LKWY LR LR
comp=Z,3μm,19.0s,MS5.6
IMW Indian Meadow 78.35 45 *e*P **P 18 10 57.8 +0.8**
RAR Rarotonga 78.38 125 LR LR 18 39 49.9
comp=Z,2μm,18.7s,MS5.5,baz=335,slow=31
RAR Rarotonga 78.38 125 PFAKE 18 11 10.0 +12
RAR LR LR
comp=Z,3μm,19.0s,MS5.7
HVU Hansel Valley 78.49 47 *e*P **P 18 10 57.9 +0.1**
DAC Darwin (Calif) 78.50 54 PFAKE 18 11 10.0 +12
DAC LR LR
comp=Z,3μm,22.0s,MS5.5
MOOW Moose Ponds 78.55 45 *e*P **P 18 10 57.9 -0.2**
TPAW Teton Pass 78.58 45 *e*P **P 18 10 59.2 +1.0**
KONO Kongsberg 78.60 337 PFAKE 18 11 10.0 +12
KONO LR LR
comp=Z,7μm,19.0s,MS6.0
MALT Malatya 78.66 309 *e*P **P 18 10 59.4 +0.6**
MALT pmax pmax
comp=Z,52nm,1.5s,mb5.2
MALT Malatya 78.66 309 *e*P **P 18 10 59.4 +0.6**
comp=Z,52nm,1.5s,mb5.2
WUWY Wally Ulrich 78.68 45 *e*P **P 18 10 59.5 +0.7**
LOHW Long Hollow 78.72 45 *e*P **P 18 10 59.6 +0.6**
BGU Big Grassy Mou 78.83 48 *e*P **P 18 11 00.4 +0.7**
AHID Auburn Hatcher 78.92 46 PFAKE 18 11 10.0 +10
AHID LR LR
comp=Z,1μm,21.0s,MS5.2
SPUT South Promonto 78.96 47 *e*P **P 18 11 01.8 +1.4**
ABTO Aybut 78.98 283 P **P 18 11 00.6 -0.3**
SNR=13
KIS Kishinev 79.22 320 *e*P **P 18 11 00.0 -1.7**
KIS *e* 18 11 02.0
KIS *e* 18 11 08.0
KIS *e*S S 18 20 56.0 -1.3
KIS MLR MLR
comp=N,6μm,17.0s
KIS MLR MLR
comp=Z,9μm,17.0s,MS6.2
KIS MLR MLR
comp=Z,9μm,17.0s
DGMT Dagmar 79.25 38 PFAKE 18 11 10.0 +8.2
DGMT LR LR
comp=Z,2μm,19.0s,MS5.4
LAO LASA Array 79.31 40 PFAKE 18 11 10.0 +7.8
LAO LR LR
comp=Z,2μm,20.0s,MS5.5
HWUT Hardware Ranch 79.33 47 *e*P **P 18 11 03.1 +0.8**
comp=Z,96nm,1.8s,mb5.4
HWUT LR LR
comp=Z,2μm,19.0s,MS5.4
TCUT Toone Canyon 79.71 47 *e*P **P 18 11 05.0 +0.6**
FRB Frobisher Bay 79.76 13 LR LR 18 51 02.4
comp=Z,4μm,19.6s,MS5.7,baz=192,slow=39
BW06 Boulder Array 79.83 45 *e*P **P 18 11 05.0 -0.1**
comp=Z,6.5nm,0.7s,mb4.7
BW06 LR LR
comp=Z,2μm,20.0s,MS5.4
PDAR Pinedale Array 79.83 45 P **P 18 11 05.1 0.0**
comp=Z,7.4nm,0.6s,mb4.8,baz=276,slow=2.0,SNR=31
NLU North Lily Min 79.98 48 *e*P **P 18 11 07.8 +1.8**
JLU Jordanelle 79.99 48 *e*P **P 18 11 06.8 +0.9**
BSD Bornholm Skovb 80.14 332 *e*P **P 18 11 12.1 +5.6**
BSD *i* S S 18 21 14.0 +7.3
BSD pmax pmax
comp=Z,56nm,1.0s,mb5.5
BSD MLR MLR
comp=Z,3μm,19.0s,MS5.7
BSD Bornholm Skovb 80.14 332 *e*P **P 18 11 12.1 +5.6**
comp=Z,56nm,1.0s,mb5.5
BSD *i* S S 18 21 14.0 +7.3
BSD Bornholm Skovb 80.14 332 *i* P **P 18 11 12.1 +5.6**
comp=Z,56nm,1.0s,mb5.5
BSD Bornholm Skovb 80.14 332 *i* S S 18 21 14.0 +7.3
comp=Z,3μm,19.0s
DAU Daniels Canyon 80.22 48 *e*P **P 18 11 08.0 +0.8**
MPU Maple Canyon 80.22 48 *e*P **P 18 11 08.8 +1.5**
ARUT Antelope Range 80.38 51 *e*P **P 18 11 10.0 +1.9**
KWP Kalwaria 80.62 325 *e*P **P 18 11 09.7 +0.6**
KWP pmax pmax
comp=Z,22nm,0.8s,mb5.1
KWP Kalwaria 80.62 325 *e*P **P 18 11 09.7 +0.6**
comp=Z,22nm,0.8s,mb5.1
KWP Kalwaria 80.62 325 *e*P **P 18 11 13.2 +4.1**
KWP MLR MLR 18 50 47.0
comp=Z,6μm,18.7s,MS6.0
BORG Borgarnes 80.69 353 P **P 18 11 09.5 +0.3**
comp=Z,19nm,0.8s,mb5.1,baz=32,slow=5.7,SNR=5.1
NEN Nelson 80.70 53 *e*P **P 18 11 10.5 +0.7**
MVU Marysvale 80.75 50 *e*P **P 18 11 11.2 +1.2**
comp=Z,17nm,1.3s,mb4.8
MVU LR LR
comp=Z,1μm,20.0s,MS5.3
MSU Marysvale 80.77 50 *e*P **P 18 11 11.7 +1.6**
PFO Pinyon Flat Ob 80.77 56 PFAKE 18 11 20.0 +10
PFO LR LR
comp=Z,1μm,21.0s,MS5.3
BR131 Keskin Array S 80.88 312 PFAKE 18 11 20.0 +9.3
BR131 LR LR
comp=Z,2μm,19.0s,MS5.5
BRTR Keskin Array B 80.88 312 P **P 18 11 12.1 +1.4**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 80.88 312 P **P 18 11 12.1 +1.3**
comp=Z,7.2nm,0.8s,mb4.7,baz=104,slow=2.8,SNR=11
KOLS Kolonicke sedl 81.30 324 *e*P **P 18 11 13.4 +0.7**
KOLS *e* 18 11 30.8
KOLS *e* 18 14 33.9
SRU San Rafael 81.45 48 *e*P **P 18 11 13.4 -0.3**
OJC Ojcow 81.58 326 *e*P **P 18 11 14.4 +0.3**
OJC *e*S S 18 21 25.1 +3.4
OJC MLR MLR 18 58 05.6
comp=Z,4μm,18.3s,MS5.8
CRVS Cervenica-Dubn 81.71 325 *e*P **P 18 11 18.7 +3.9**
CRVS *e* 18 11 34.8
RAYN Ar Rayn 81.82 293 P **P 18 11 16.4 +0.5**
comp=Z,166nm,1.1s,mb5.9,SNR=10
NIE Niedzica 81.90 326 *e*P **P 18 11 14.0 -1.8**
OKC Ostrava-Krasne 82.61 327 *e*P **P 18 11 20.8 +1.4**
OKC AMS AMS 18 53 30.0
comp=Z,4μm,16.6s
KSP Ksiaz 82.70 328 *e*P **P 18 11 20.9 +1.0**
KSP *e*PP pP 18 11 24.3 -7.8
KSP *e* 18 14 33.0
KSP *e*S S 18 21 37.5 +4.3
KSP *e*SS SS 18 26 58.0 -1.2
KSP MLR MLR
comp=Z,15μm,17.6s,MS6.4
KSP Ksiaz 82.70 328 *e*P **P 18 11 22.1 +2.2**
KSP MLR MLR 18 52 21.3
comp=Z,11μm,18.1s,MS6.3
BSEG Bad Segeberg 82.79 333 *e*P **P 18 11 21.5 +1.2**
BSEG *e* 18 14 33.4
BSEG pmax pmax
comp=Z,21nm,0.9s,mb5.2
PV10 Paradox Valley 82.82 48 *e*P **P 18 11 21.1 +0.4**
MORC Moravsky Berou 82.92 327 *e*P **P 18 11 19.8 -1.2**
MORC pmax pmax
comp=Z,56nm,1.8s,mb5.3
MORC Moravsky Berou 82.92 327 *e*P **P 18 11 19.8 -1.2**
comp=Z,56nm,1.8s,mb5.3
DPC Dobruska-Polom 83.05 328 *e*P **P 18 11 23.5 +1.8**
DPC AMS AMS 18 52 20.0
comp=Z,5μm,16.9s
UPC Upice 83.07 328 *e*P **P 18 11 22.4 +0.6**
PHWY Pilot Hill 83.14 44 *e*P **P 18 11 23.2 +0.9**
PSZ Piszkesteto 83.15 325 *e*P **P 18 11 22.8 +0.6**
PSZ Piszkesteto 83.15 325 *e*PcP PcP 18 11 22.8 -4.4
VYHS Vyhne 83.24 326 *i* P **P 18 11 23.7 +1.0**
VYHS *e*S S 18 21 42.7 +4.1
VYHS Vyhne 83.24 326 *i* P **P 18 11 23.7 +1.0**
VYHS *e* pP 18 11 38.5 +3.6
VYHS Vyhne 83.24 326 *e*S S 18 21 42.7 +4.1
PV01 Paradox Valley 83.26 48 *e*P **P 18 11 23.4 +0.4**
PVCC Panska Ves 83.68 329 *e*P **P 18 11 25.6 +0.8**
PVCC AMS AMS 18 54 30.0
comp=Z,5μm,15.7s
BRG Berggiesshubel 83.69 330 *i* P **P 18 11 26.4 +1.6**
BRG *i* S S 18 21 49.0 +6.1
BRG pmax pmax
comp=Z,13nm,0.8s,mb5.1
BRG MLR MLR
comp=N,6μm,15.2s,MS6.1
BRG MLR MLR
comp=E,1μm,15.2s,MS6.1
BRG MLR MLR
comp=Z,7μm,15.2s,MS6.2
BRG Berggiesshubel 83.69 330 *i* P **P 18 11 26.4 +1.6**
comp=Z,12nm,0.8s,mb5.1
BRG *e* 18 11 52.0
BRG *i* S S 18 21 49.0 +6.1
BRG LR LR
comp=Z,7μm,15.2s,MS6.2
RW3 Ridgway 83.73 48 P **P 18 11 25.6 +0.2**
CLL Collm 83.75 330 *i* P **P 18 11 25.2 +0.1**
CLL *i* 18 11 33.3
CLL *e*S S 18 21 50.0 +6.4
CLL pmax pmax
comp=Z,56nm,1.6s,mb5.4
CLL MLR MLR
comp=Z,6μm,17.5s,MS6.0
CLL Collm 83.75 330 *i* P **P 18 11 25.2 +0.1**
comp=Z,56nm,1.6s,mb5.4
CLL *i* 18 11 33.3
CLL *e*S S 18 21 50.0 +6.4
CLL LR LR
comp=Z,6μm,17.5s,MS6.0
CLL Collm 83.75 330 P **P 18 11 25.2 +0.1**
comp=Z,logA/T=1.5,mb5.4
CLL *i* 18 11 33.3
CLL *i* pP 18 11 40.4 +3.0
CLL *e*PP PP 18 14 53.0 +13
CLL *e*S S 18 21 50.0 +6.4
SMOL Smolenice 83.88 326 *e*P **P 18 11 26.7 +0.8**
ISCO Idaho Springs 84.00 45 *e*P **P 18 11 27.4 +0.7**
ISCO pmax pmax
comp=Z,28nm,1.6s,mb5.1
ISCO MLR MLR
comp=Z,2μm,19.0s,MS5.5
ISCO Idaho Springs 84.00 45 *e*P **P 18 11 27.4 +0.7**
comp=Z,28nm,1.6s,mb5.1
ISCO LR LR
comp=Z,2μm,19.0s,MS5.5
PRA Prague 84.08 329 AMS AMS 18 54 00.0
PRU Pruhonice 84.09 329 *e*P **P 18 11 26.8 -0.1**
PRU AMS AMS 18 53 00.0
comp=Z,7μm,16.3s
ZST Bratislava 84.27 326 *e*P **P 18 11 28.9 +1.1**
ZST *e*S S 18 21 53.9 +5.1
CLZ Clausthal 84.40 332 *e*P **P 18 11 30.1 +1.7**
comp=Z,30nm,1.0s,mb5.4
NKC Novy Kostel 84.80 330 *e*P **P 18 11 30.9 +0.5**
NKC AMS AMS 18 53 10.0
comp=Z,7μm,15.8s
MOX Moxa 84.83 331 *e*P **P 18 11 31.1 +0.5**
MOX pmax pmax
comp=Z,69nm,1.9s,mb5.5
MOX MLR MLR
comp=Z,3μm,19.0s,MS5.7
MOX Moxa 84.83 331 *e*P **P 18 11 31.1 +0.5**
comp=Z,69nm,1.9s,mb5.5
MOX LR LR
comp=Z,3μm,19.0s,MS5.7
MOX Moxa 84.83 331 *i* P **P 18 11 31.1 +0.5**
comp=Z,logA/T=1.6,mb5.5
MOX QM 18 51 19.0
MOX RM 18 53 38.0
PKSM Moragy 84.96 324‖ *e*P **P 18 11 31.8 +0.5**
BEO Belgrade 85.04 322‖ *i*P **P 18 11 32.5 +0.7**
KHC Kasperske Hory 85.15 329 *e*P **P 18 11 32.7 +0.5**
KHC MLR MLR
comp=Z,7μm,17.1s,MS6.1
KHC Kasperske Hory 85.15 329 *e*P **P 18 11 32.7 +0.5**
KHC *e* pP 18 11 45.0 +0.5
KHC LR LR
comp=Z,7μm,17.1s,MS6.1
KHC Kasperske Hory 85.15 329 *e*P **P 18 11 32.7 +0.5**
KHC x x 18 11 45.0
KHC AMS AMS 18 54 10.0
comp=Z,7μm,17.1s
GEC2 GERESS Array S 85.31 328 *e*P **P 18 11 33.3 +0.3**
GEC2 pmax pmax
comp=Z,11nm,0.9s,mb5.0
GEC2 GERESS Array S 85.31 328 *e*P **P 18 11 33.3 +0.3**

comp=Z,11nm,0.9s,mb5.0
GERES GERESS Array B 85.31 328 P **P 18 11 33.0 0.0**
GERES pmax pmax
comp=Z,7.0nm,0.7s
GERES GERESS Array B 85.31 328 P **P 18 11 33.0 0.0**
comp=Z,6.8nm,0.7s,mb4.9,baz=38,slow=5.5,SNR=15
RHK1 Bakonya 85.32 324 *e*P **P 18 11 33.5 +0.4**
SDCO Great Sand Dun 85.39 47 *e*P **P 18 11 34.0 +0.4**
SDCO LR LR
comp=Z,23nm,1.7s,mb5.0
comp=Z,1μm,19.0s,MS5.3
TUC Tucson 85.39 54 PFAKE 18 11 50.0 +16
TUC LR LR
comp=Z,4μm,20.0s,MS5.8
WET Wettzell 85.44 329 *e*P **P 18 11 35.1 +1.5**
WET pmax pmax
comp=Z,39nm,1.8s,mb5.2
WET Wettzell 85.44 329 *e*P **P 18 11 35.1 +1.5**
comp=Z,39nm,1.8s,mb5.2
ARSA Arzberg 85.68 326⇑*i*P **P 18 11 35.5 +0.6**
comp=Z,428nm,4.4s
GRA1 Grafenberg Arr 85.72 330 *e*P **P 18 11 36.0 +1.0**
comp=Z,53nm,1.0s,mb5.7
GRA1 *e*S S 18 22 08.7 +5.7
GRA1 LR LR
comp=Z,3μm,19.4s,MS5.7
GRF Grafenberg Arr 85.72 330 *e*P **P 18 11 36.0 +1.0**
GRF *e*S S 18 22 08.7 +5.7
GRF pmax pmax
comp=Z,53nm,1.0s,mb5.7
GRF MLR MLR
comp=Z,3μm,19.4s,MS5.7
GRF Grafenberg Arr 85.72 330 *e*P **P 18 11 36.0 +1.0**
comp=Z,53nm,1.0s,mb5.7
GRF *e*S S 18 22 08.7 +5.7
GRF LR LR
comp=Z,3μm,19.4s,MS5.7
DIVS Divcibare 85.78 322⇑*i* **P 18 11 35.4 -0.1**
MOA Molln 85.81 327⇑*i*P **P 18 11 35.9 +0.4**
comp=Z,402nm,3.9s
ESK Eskdalemuir 86.05 341 *e*P **P 18 11 35.8 -0.6**
ESK pmax pmax
comp=Z,14nm,0.7s,mb5.3
ESK MLR MLR
comp=Z,843nm,20.0s,MS5.1
ESK Eskdalemuir 86.05 341 *e*P **P 18 11 35.8 -0.6**
comp=Z,14nm,0.7s,mb5.3
ESK LR LR
comp=Z,843nm,20.0s,MS5.1
PERS Pernice 86.33 326 *e*P **P 18 11 38.2 +0.2**
SKO Skopje 86.50 320 *e*P **P 18 11 40.4 +1.4**
ANMO Albuquerque 86.57 50 *e*P **P 18 11 36.6 -2.9**
ANMO Albuquerque 86.57 50 LR LR 18 49 21.7
comp=Z,3μm,18.7s,MS5.7,slow=35
ANMO Albuquerque 86.57 50 PFAKE 18 11 50.0 +10
ANMO LR LR
comp=Z,3μm,20.0s,MS5.7
TOD Tromm 86.77 331 *e*P **P 18 11 40.4 +0.3**
KBA Koelnbreinsper 86.80 327⇑*i*P **P 18 11 40.9 +0.6**
comp=Z,85nm,3.2s
KBA Koelnbreinsper 86.80 327⇑*i*P **P 18 11 40.9 +0.6**
KBA pmax pmax
comp=Z,85nm,3.2s
HGN Heimansgroeve 86.95 334 *e*P **P 18 11 40.6 -0.4**
comp=Z,36nm,1.6s,mb5.3
HGN Heimansgroeve 86.95 334 *e*S S 18 22 11.8 -3.0
ABH Alteburg 87.04 332 *e*P **P 18 11 42.3 +0.8**
BOJS Bojanci 87.10 325 *e*P **P 18 11 41.8 0.0**
CEY Cerknica 87.31 326 *e*P **P 18 11 42.5 -0.4**
CEY *e* 18 22 19.4
VOY Vojsko 87.34 326 *e*P **P 18 11 42.8 -0.2**
RUP Ruppelstein 87.38 332 *e*P **P 18 11 37.9 -5.2**
BFO Black Forest 87.97 331 *e*P **P 18 11 46.2 +0.2**
BFO pmax pmax
comp=Z,13nm,0.9s,mb5.2
BFO Black Forest 87.97 331 *e*P **P 18 11 46.2 +0.2**
comp=Z,13nm,0.9s,mb5.2
DAVA Damuels 88.15 329⇑*i*P **P 18 11 49.8 +3.0**
comp=Z,20nm,1.1s,mb5.2
SCHQ Schefferville 88.29 16 P **P 18 11 47.1 -0.2**
comp=Z,3.2nm,0.7s,mb4.7,baz=18,slow=3.4,SNR=11
SCHQ LR LR 18 53 15.6
comp=Z,2μm,21.0s,MS5.5,baz=339,slow=37
WLS Welschbruch 88.30 331 *e*P **P 18 11 48.5 +1.0**
CDF Champ du Feu 88.33 331 *e*P **P 18 11 47.6 -0.1**
comp=Z,14nm,0.9s,mb4.9
CDF Champ du Feu 88.33 331 *e*P **P 18 11 47.6 -0.1**
CDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
FELD Feldberg 88.47 331 *e*P **P 18 11 48.7 +0.4**
ECH Echery 88.53 331 *e*P **P 18 11 54.6 +6.0**
HAU Haudompre 89.03 332 *e*P **P 18 11 50.7 -0.3**
HAU *e*R
comp=Z,4μm,21.2s
MNTX Cornudas Mount 89.34 52 PFAKE 18 12 00.0 +7.1
MNTX LR LR
comp=Z,2μm,19.0s,MS5.5
AMTX Amarillo 89.59 47 PFAKE 18 12 10.0 +16
AMTX LR LR
comp=Z,2μm,19.0s,MS5.6
GDL2 Guadalupe Moun 89.68 51 P **P 18 11 55.8 +1.3**
JFWS Jewell Farm 90.09 35 PFAKE 18 12 10.0 +14
JFWS LR LR
comp=Z,2μm,19.0s,MS5.7
LPL La Plagne 90.88 330 *e*P **P 18 11 59.1 -0.7**
comp=Z,12nm,0.7s,mb5.0
LPL La Plagne 90.88 330 *e*P **P 18 11 59.1 -0.7**
LPL pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
LPG La Plagne 90.89 330 *e*P **P 18 12 00.1 +0.3**
comp=Z,20nm,0.8s,mb5.2
LPG La Plagne 90.89 330 *e*P **P 18 12 00.1 +0.3**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
FLN La Foliniere 90.90 336 *e*P **P 18 11 59.4 -0.4**
comp=Z,28nm,0.8s,mb5.3
FLN *e*R
comp=Z,4μm,21.0s
FLN La Foliniere 90.90 336 *e*P **P 18 11 59.4 -0.4**
FLN pmax pmax
comp=Z,14nm,0.8s,mb5.3
FLN MLR MLR
comp=Z,4μm,21.0s,MS5.8
SSF Saint Saulge 90.90 333 *e*P **P 18 11 59.7 -0.1**
LDF La Druitiere 90.92 336 *e*P **P 18 11 59.0 -0.9**
comp=Z,17nm,0.8s,mb5.1
LDF La Druitiere 90.92 336 *e*P **P 18 11 59.0 -0.9**
LDF pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
SMF Signal de Mont 91.12 332 *e*P **P 18 12 00.9 0.0**
comp=Z,20nm,0.8s,mb5.2
SMF Signal de Mont 91.12 332 *e*P **P 18 12 00.9 0.0**
SMF pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
AVF Avril sur Loir 91.19 333 *e*P **P 18 12 01.1 -0.1**
comp=Z,32nm,0.8s,mb5.4
AVF Avril sur Loir 91.19 333 *e*P **P 18 12 01.1 -0.1**
AVF pmax pmax
comp=Z,16nm,0.8s,mb5.4
GRR Gorron 91.35 336 *e*P **P 18 12 01.9 0.0**
comp=Z,29nm,0.8s,mb5.4
GRR Gorron 91.35 336 *e*P **P 18 12 01.9 0.0**
GRR pmax pmax
comp=Z,15nm,0.8s,mb5.4
WMOK Wichita Mounta 91.43 46 P **P 18 12 02.3 -0.3**
WMOK MLR MLR
comp=Z,2μm,19.0s,MS5.5
MBDF Montbardon 91.50 330 *e*P **P 18 12 02.6 -0.1**
comp=Z,25nm,0.7s,mb5.4
MBDF Montbardon 91.50 330 *e*P **P 18 12 02.6 -0.1**
MBDF pmax pmax
comp=Z,13nm,0.7s,mb5.4
BGF Bois d'Agland 91.57 333 *e*P **P 18 12 03.3 +0.3**
ORIF Oris-en-Rattie 91.72 330 *e*P **P 18 12 03.5 -0.2**
comp=Z,22nm,0.8s,mb5.2
ORIF *e*R
comp=Z,4μm,21.8s
PLDF La Plantade 91.76 332 *e*P **P 18 12 05.2 +1.3**
SBF Sospel 91.91 329 *e*P **P 18 12 04.4 -0.2**
comp=Z,39nm,0.8s,mb5.5
SBF Sospel 91.91 329 *e*P **P 18 12 04.4 -0.2**
SBF pmax pmax
comp=Z,20nm,0.8s,mb5.5
TXAR Lajitas Array 92.00 52 P **P 18 12 05.7 +0.3**
comp=Z,2.3nm,0.6s,mb4.7,baz=304,slow=3.4,SNR=17
TXAR LR LR 18 48 13.2
comp=Z,3μm,21.4s,MS5.7,baz=250,slow=32
SGMF Saint Gilles 92.03 337 *e*P **P 18 12 05.2 +0.2**
TCF Toulx Ste Croi 92.04 333 *e*P **P 18 12 05.1 0.0**
comp=Z,12nm,0.7s,mb5.0
TCF Toulx Ste Croi 92.04 333 *e*P **P 18 12 05.1 0.0**
TCF pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
VIVF Saint-Julien-l 92.27 331 *e*P **P 18 12 06.2 0.0**
comp=Z,13nm,0.7s,mb5.0
VIVF Saint-Julien-l 92.27 331 *e*P **P 18 12 06.2 0.0**
VIVF pmax pmax
comp=Z,7.0nm,0.7s,mb5.1
FRF La Foret Royal 92.50 329 *e*P **P 18 12 06.9 -0.4**
comp=Z,30nm,0.9s,mb5.3
FRF La Foret Royal 92.50 329 *e*P **P 18 12 06.9 -0.4**
FRF pmax pmax
comp=Z,15nm,0.9s,mb5.3
QUIF Quistinic 92.53 337 *e*P **P 18 12 07.2 -0.1**
comp=Z,22nm,0.9s,mb5.3
QUIF Quistinic 92.53 337 *e*P **P 18 12 07.2 -0.1**
QUIF pmax pmax
comp=Z,11nm,0.9s,mb5.3
MFF Saint Martin d 92.64 335 *e*P **P 18 12 08.0 +0.2**
RJF Les Rejaudoux 93.13 333 *e*P **P 18 12 10.4 +0.3**
comp=Z,27nm,0.9s,mb5.4
RJF *e*R
comp=Z,3μm,22.8s
RJF Les Rejaudoux 93.13 333 *e*P **P 18 12 10.4 +0.3**
RJF pmax pmax
comp=Z,13nm,0.9s,mb5.4
RJF MLR MLR
comp=Z,3μm,22.8s,MS5.6
CAF Calviac 93.24 332 *e*P **P 18 12 11.2 +0.6**
LASF Ste Croix 93.24 331 *e*P **P 18 12 10.9 +0.2**
comp=Z,26nm,1.0s,mb5.3
CCM Cathedral Cave 93.26 39 PFAKE 18 12 20.0 +9.1
CCM LR LR
comp=Z,1μm,20.0s,MS5.3
AAM Ann Arbor 93.60 32 PFAKE 18 12 20.0 +7.7
AAM LR LR
comp=Z,2μm,19.0s,MS5.6
JCT Junction City 93.73 49 PFAKE 18 12 20.0 +6.8
JCT LR LR
comp=Z,2μm,22.0s,MS5.6
LFF La Frestale 93.73 333 *e*P **P 18 12 13.4 +0.5**
MTLF Montolieu 94.51 331 *e*P **P 18 12 16.8 +0.4**
comp=Z,24nm,1.1s,mb5.2
MTLF Montolieu 94.51 331 *e*P **P 18 12 16.8 +0.4**
MTLF pmax pmax
comp=Z,12nm,1.1s,mb5.2
ERPA Erie 95.30 30 PFAKE 18 12 30.0 +10
ERPA LR LR
comp=Z,2μm,20.0s,MS5.6
ACSO Alum Creek Sta 95.57 33 PFAKE 18 12 30.0 +8.6
ACSO LR LR
comp=Z,2μm,21.0s,MS5.6
WCI Wyandotte Cave 95.62 36 PFAKE 18 12 30.0 +8.4
WCI LR LR
comp=Z,2μm,20.0s,MS5.5
NCB Newcomb 95.92 25 PFAKE 18 12 30.0 +7.2
NCB LR LR
comp=Z,2μm,19.0s,MS5.5
NATX Nacogdoches 95.97 45 PFAKE 18 12 40.0 +17
NATX LR LR
comp=Z,3μm,19.0s,MS5.7
WVT Waverly 96.49 38 PFAKE 18 12 40.0 +14
WVT LR LR
comp=Z,1μm,19.0s,MS5.5
HKT Hockley 96.56 47 PFAKE 18 12 40.0 +14
HKT LR LR
comp=Z,2μm,20.0s,MS5.7
BINY Binghamton 96.81 27 PFAKE 18 12 40.0 +13
BINY LR LR
comp=Z,3μm,19.0s,MS5.8
OXF Oxford 96.90 40 PFAKE 18 12 40.0 +12
OXF LR LR
comp=Z,2μm,20.0s,MS5.5
HRV Harvard--Oak R 98.13 24 PFAKE 18 12 40.0 +7.1
HRV LR LR
comp=Z,2μm,20.0s,MS5.5
MYNC Murphy 99.18 36 PFAKE 18 12 50.0 +12
MYNC LR LR
comp=Z,2μm,20.0s,MS5.7
LRAL Lakeview Retre 99.32 40 PFAKE 18 12 50.0 +11
LRAL LR LR
comp=Z,2μm,20.0s,MS5.5
CBN Corbin 99.67 30 PFAKE 18 12 50.0 +10
CBN LR LR
comp=Z,3μm,19.0s,MS5.8
GOGA Godfrey 100.84 37 PFAKE 18 13 00.0 +15
GOGA LR LR
comp=Z,2μm,20.0s,MS5.5
KMBO Kilima Mbogo 102.35 277 PFAKE 18 13 00.0 +7.3
KMBO LR LR
comp=Z,938nm,21.0s,MS5.3
PTCN Pitcairn Islan 102.40 112 PFAKE 18 13 00.0 +7.4
PTCN LR LR
comp=Z,4μm,20.0s,MS6.0
NHSC New Hope 102.69 35 PFAKE 18 13 10.0 +16
NHSC LR LR
comp=Z,2μm,20.0s,MS5.7
CASY Casey 102.70 192 PFAKE 18 13 00.0 +7.1
CASY LR LR
comp=Z,1μm,21.0s,MS5.4
DWPF Disney 106.13 39 PFAKE 18 17 30.0
DWPF LR LR
comp=Z,2μm,19.0s,MS5.6
MBAR Mbarara 107.40 281 PFAKE 18 17 40.0
MBAR LR LR
comp=Z,201nm,21.0s,MS4.7
TEIG Tepich 108.30 49 PFAKE 18 17 40.0
TEIG LR LR
comp=Z,651nm,20.0s,MS5.2
BBSR BB Station 109.59 23 PFAKE 18 17 40.0
BBSR LR LR
comp=Z,1μm,21.0s,MS5.5
SBA Scott Base 112.60 174 PFAKE 18 17 40.0 +10
SBA LR LR
comp=Z,747nm,20.0s,MS5.3
MAW Mawson 116.76 205 PFAKE 18 17 50.0 +11
MAW LR LR
comp=Z,687nm,20.0s,MS5.3
LSZ Lusaka 117.50 270 PFAKE 18 17 50.0 +8.7
LSZ LR LR
comp=Z,1μm,21.0s,MS5.6
RPN Rapa Nui 119.78 104 PFAKE 18 18 00.0 +14
RPN LR LR
comp=Z,862nm,19.0s,MS5.4
PAYG Puerto Ayora 121.45 67 PFAKE 18 18 00.0 +11
PAYG LR LR
comp=Z,3μm,19.0s,MS6.0
QSPA South Pole Qui 123.71 180 *e*PKPdf PKPdf 18 17 52.5 +0.5
QSPA LR LR
comp=Z,1μm,22.0s,MS5.6
BOSA Boshof 125.94 257 PFAKE 18 18 10.0 +13
BOSA LR LR
comp=Z,741nm,20.0s,MS5.4
SDV Santo Domingo 127.66 41 PKP PKPdf 18 18 02.8 +1.7
comp=Z,11nm,0.8s,baz=288,slow=9.7,SNR=6.0
DBIC Dimbokro 128.49 315 PFAKE 18 18 20.0 +17
DBIC LR LR
comp=Z,1μm,21.0s,MS5.6
OTAV Otavalo 129.48 56 PFAKE 18 18 20.0 +15
OTAV LR LR
comp=Z,1μm,20.0s,MS5.5
SUR Sutherland 130.86 254 PFAKE 18 18 20.0 +13
SUR LR LR
comp=Z,265nm,20.0s,MS4.9
SAML Samuel 146.37 48 *e*PKPbc PKPbc 18 18 36.9 +0.4
SAML LR LR
comp=Z,1μm,20.0s,MS5.7
LPAZ La Paz 148.16 64 *e*PKP2 PKPab 18 18 44.0 -2.4
LPAZ MLR MLR
comp=Z,766nm,20.0s
LPAZ La Paz 148.16 64 PKPbc PKPdf 18 18 43.9 +5.9
comp=Z,11nm,0.7s,baz=314,slow=2.5,SNR=10
USHA Ushuaia 150.54 144 PKPbc PKPdf 18 18 49.9 +9.3
comp=Z,21nm,1.0s,baz=263,slow=3.0,SNR=4.6
LVC Limon Verde 151.12 75 PKPbc PKPdf 18 18 51.0 +8.5
comp=Z,11nm,0.8s,baz=280,slow=5.8,SNR=5.3
RCBR Riachuelo 151.89 354 *e*PKPbc PKPdf 18 18 51.7 +7.7
RCBR LR LR
comp=Z,877nm,20.0s,MS5.6
PLCA Paso Flores 153.82 114 PFAKE 18 19 00.0 +14
PLCA LR LR
comp=Z,2μm,21.0s,MS5.8
TRQA Tornquist 160.67 109 PFAKE 18 19 10.0 +16
TRQA LR LR
comp=Z,2μm,20.0s

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*IDC **21** 18:07:24.0±0.7,34.02N×141.60E,mb4.0/10,mb1 4.2/11, mb1mx4.1/20,mbtmp4.0/11,ML3.7/1,Error ellipse: s-maj=23.5km s-min=15.3km az=121.0*
*NEIC **21** 18:07:25.5±0.6,33.90N×141.71E,h10km,mb4.5/4,Error ellipse: s-maj=14.8km s-min=12.2km az=57.0*
*MOS **21** 18:07:26.0±0.6,33.81N×141.74E,h33km,mb4.4/8,Error ellipse: s-maj=25.3km s-min=12.6km az=115.4*
*JMA **21** 18:07:27.4±0.3,33.90N×141.62E,h38km,M3.9*
ISC 21 18:07:27.8±0.6,33.94N±0.04×141.63E±0.05,h38km,n46, σ0:93/55,mb4.1/15,1C,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res ISC
BSO1	**Boso 1**	**0.89**	**323**	P	P	**P**	**18 07 44.1**	**+0.2**
BSO3	**Boso 3**	**1.26**	**313**	P	P	**P**	**18 07 49.7**	**+0.5**
BSO3				S	S	**S**	**18 08 06.6**	**+1.3**
BSO4	**Boso 4**	**1.50**	**315**	P	P	**P**	**18 07 53.7**	**+1.1**
KTR	**Katsuura**	**1.62**	**319**	P	P	**P**	**18 07 55.2**	**+0.8**
KTR				S	S	**S**	**18 08 16.2**	**+1.9**
JHJ2	**Mitsune**	**1.72**	**242**	P	P	**P**	**18 07 55.2**	**-0.6**
JHJ2				S	S	**S**	**18 08 18.2**	**+1.4**
JHJ	**Hachijo jima 2**	**1.74**	**243**	Pn	P	**P**	**18 07 56.5**	**+0.4**
	80nm,0.3s,baz=51,slow=17,SNR=8.0							
JHJ				Sn	S	**S**	**18 08 17.6**	**+0.4**
	168nm,0.3s,baz=57,slow=22,SNR=7.0							
JIM2	**Oshima 3**	**1.98**	**294**	P	P	**P**	**18 07 58.9**	**-0.5**
JIM2				S	S	**S**	**18 08 21.9**	**-1.3**
JIZS	**Izushimoda**	**2.40**	**290**	P	P	**P**	**18 08 05.5**	**-0.1**
JIZS				S	S	**S**	**18 08 32.4**	**-1.6**
JOD2	**Odawara 2**	**2.48**	**303**	P	P	**P**	**18 08 05.7**	**-0.9**
JOD2				S	S	**S**	**18 08 34.8**	**-1.1**
JYN	**Shimob**	**2.98**	**302**	P	P	**P**	**18 08 14.2**	**+0.5**
SHZ3	**Shizuoka 3**	**3.04**	**293**	P	P	**P**	**18 08 15.7**	**+1.1**
JRY	**Ryogami san**	**3.05**	**314**	P	P	**P**	**18 08 14.3**	**-0.5**
JAG	**Ashikaga**	**3.05**	**325**	⇑P	P	**P**	**18 08 14.6**	**-0.2**
JAG				S	S	**S**	**18 08 50.6**	**0.0**
MAJO	**Matsushiro**	**3.82**	**314**	*e*P	P	**P**	**18 08 26.3**	**+0.6**
MAT	**Matsushiro**	**3.82**	**314**	*e*P	P	**P**	**18 08 26.0**	**+0.3**
MAT				*e*S	S	**S**	**18 09 09.0**	**-1.0**
MAT	**Matsushiro**	**3.82**	**314**	P	P	**P**	**18 08 26.2**	**+0.5**
MAT				S	S	**S**	**18 09 08.6**	**-1.4**
ASAJ	**Asahikawa**	**10.19**	**4**	P	P	**P**	**18 09 50.6**	**-4.0**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASAJ	**Asahikawa**	**10.19**	**4**	Pn	P	**P**	**18 09 50.5**	**-4.1**
	comp=Z,0.8nm,0.3s,baz=261,slow=17,SNR=5.3							
MA2	**Magadan**	**26.35**	**10**	*e*P	P	**P**	**18 13 02.2**	**+0.3**
MA2				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.1							
MA2	**Magadan**	**26.35**	**10**	*e*P	P	**P**	**18 13 02.2**	**+0.4**
	comp=Z,5.0nm,0.8s,mb4.1							
YAK	**Yakutsk**	**29.13**	**348**	*e*P	P	**P**	**18 13 27.5**	**+0.5**
YAK				pmax	pmax			
	comp=Z,13nm,0.8s,mb4.7							
YAK	**Yakutsk**	**29.13**	**348**	*e*P	P	**P**	**18 13 27.5**	**+0.6**
	comp=Z,14nm,0.8s,mb4.7							
ULN	**Ulaanbaatar**	**29.33**	**309**	*e*P	P	**P**	**18 13 29.1**	**+0.2**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.0							
ULN	**Ulaanbaatar**	**29.33**	**309**	*e*P	P	**P**	**18 13 29.1**	**+0.1**
	comp=Z,1.7nm,0.6s,mb4.0							
SONM	**Songino Array**	**29.75**	**308**	P	P	**P**	**18 13 32.9**	**+0.2**
	comp=Z,0.9nm,0.9s,mb3.5,baz=129,slow=7.9,SNR=2.8							
TIXI	**Tiksi**	**38.38**	**354**	*e*P	P	**P**	**18 14 36.8**	**-10**
TIXI				pmax	pmax			
	comp=Z,24nm,1.7s,mb4.7							
CMAR	**Chiang Mai Arr**	**40.98**	**259**	P	P	**P**	**18 15 07.9**	**-0.8**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**40.98**	**259**	P	P	**P**	**18 15 07.9**	**-0.8**
	comp=Z,0.9nm,0.7s,mb3.5,baz=46,slow=7.6,SNR=7.3							
KURK	**Kurchatov**	**48.02**	**310**	P	P	**P**	**18 16 04.1**	**-0.8**
KURK				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.7							
KURK	**Kurchatov**	**48.02**	**310**	P	P	**P**	**18 16 04.1**	**-0.8**
	comp=Z,5.7nm,0.8s,mb4.7							
ILAR	**Eielson Array**	**52.03**	**31**	P	P	**P**	**18 16 34.9**	**-0.4**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ILAR	**Eielson Array**	**52.03**	**31**	P	P	**P**	**18 16 34.9**	**-0.5**
	comp=Z,1.4nm,0.7s,mb4.0,baz=268,slow=5.4,SNR=9.5							
WRA	**Warramunga Arr**	**54.03**	**188**	P	P	**P**	**18 16 49.2**	**-1.5**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.4s							
WRA	**Warramunga Arr**	**54.03**	**188**	P	P	**P**	**18 16 49.2**	**-1.6**
	comp=Z,1.1nm,0.3s,mb4.2,baz=2.9,slow=7.6,SNR=22							
ASAR	**Alice Springs**	**57.75**	**188**	P	P	**P**	**18 17 18.6**	**+1.1**
	comp=Z,1.3nm,0.5s,mb4.2,baz=2.1,slow=6.8,SNR=25							
YKA	**Yellowknife Ar**	**66.40**	**29**	P	P	**P**	**18 18 12.7**	**-1.9**
YKA	**Yellowknife Ar**	**66.40**	**29**	P	P	**P**	**18 18 12.6**	**-2.0**
	comp=Z,0.4nm,0.6s,mb3.6,baz=308,slow=5.3,SNR=4.9							
FINES	**FINESS Array B**	**71.64**	**333**	P	P	**P**	**18 18 46.1**	**-0.7**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
FINES	**FINESS Array B**	**71.64**	**333**	P	P	**P**	**18 18 46.1**	**-0.7**
	comp=Z,2.5nm,0.8s,mb4.2,baz=180,slow=3.8,SNR=4.1							
AKASG	**Malin Array Be**	**76.86**	**323**	P	P	**P**	**18 19 16.7**	**-0.6**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**76.86**	**323**	P	P	**P**	**18 19 16.7**	**-0.6**
	comp=Z,1.1nm,0.4s,mb4.1,baz=46,slow=6.0,SNR=11							
NB2	**NORSAR Subarra**	**77.11**	**338**	P	P	**P**	**18 19 18.9**	**+0.4**
	comp=Z,1.1nm,0.6s,mb4.0,baz=40,slow=5.8							
NOA	**NORSAR Array B**	**77.11**	**338**	P	P	**P**	**18 19 18.9**	**+0.4**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
NOA	**NORSAR Array B**	**77.11**	**338**	P	P	**P**	**18 19 18.9**	**+0.4**
	comp=Z,1.5nm,0.7s,mb4.0,baz=39,slow=5.7,SNR=4.4							
PDAR	**Pinedale Array**	**79.72**	**45**	P	P	**P**	**18 19 34.6**	**+1.5**
	comp=Z,0.7nm,0.6s,mb3.8,baz=283,slow=3.5,SNR=4.7							
LPAZ	**La Paz**	**148.00**	**64**	PKPbc	PKPdf		18 27 12.7	+6.2
	comp=Z,1.0nm,0.7s,baz=9.0,slow=7.1,SNR=5.3							

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*NIED **21** 18:10:00,33.90N×141.70E,h5km,Mw5.0 Best double couple: M0:3.01×10^16 NP1:φs251°,δ87°,λ-109°. NP2: φs152°,δ19°,λ-9°.*
*BJI **21** 18:10:28.5,33.72N×142.08E,h10km,mb4.5*
*IDC **21** 18:10:33.6±0.5,33.92N×141.56E,mb4.4/25,mb1 4.6/27, mb1mx4.6/29,mbtmp4.4/27,ML4.5/2,Error ellipse: s-maj=15.3km s-min=12.3km az=118.0*
*MOS **21** 18:10:33.1±1.0,33.86N×141.52E,h10km,mb4.7/26,Error ellipse: s-maj=15.4km s-min=7.5km az=111.3*
*JMA **21** 18:10:35.4±0.3,33.94N×141.66E,h25km±4km,M4.4*
*NEIC **21** 18:10:35.2±0.2,33.89N×141.52E,h10km,mb4.6/18, MW5.0(NIED),Error ellipse: s-maj=6.2km s-min=6.0km az=63.0*
ISC 21 18:10:36.0±1.2,33.89N±0.03×141.55E±0.04,h27km±8km, n126,σ1:06/140,mb4.5/53,1D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res ISC
BSO1	**Boso 1**	**0.89**	**328**	P	P	**Pn**	**18 10 52.1**	**-0.8**
BSO1				*e*S	S	**Sb**	**18 11 03.7**	**-0.7**
BSO2	**Boso 2**	**1.08**	**323**	*e*S	S	**Sn**	**18 11 11.1**	**+1.4**
BSO3	**Boso 3**	**1.25**	**317**	P	P	**Pn**	**18 10 58.5**	**+0.5**
BSO3				*e*S	S	**Sn**	**18 11 14.2**	**+0.2**
BSO4	**Boso 4**	**1.48**	**318**	P	P	**Pn**	**18 11 01.6**	**+0.3**
BSO4				*e*S	S	**Sn**	**18 11 19.5**	**-0.5**
KTR	**Katsuura**	**1.61**	**321**	P	P	**Pn**	**18 11 03.8**	**+0.6**
KTR				*e*S	S	**Sn**	**18 11 23.8**	**+0.5**
JHJ2	**Mitsune**	**1.64**	**242**	P	P	**Pn**	**18 11 05.6**	**+2.0**
JHJ2				*e*S	S	**Sn**	**18 11 27.7**	**+3.7**
JHJ	**Hachijo jima 2**	**1.66**	**243**	Pn	P	**Pn**	**18 11 05.7**	**+1.7**
	244nm,0.3s,baz=235,slow=15,SNR=18							
JHJ				Sn	S	**Sn**	**18 11 25.8**	**+1.2**
	445nm,0.3s,baz=250,slow=22,SNR=10							
JMY	**Miyakejima3**	**1.70**	**277**	P	P	**Pn**	**18 11 05.9**	**+1.5**
JMY				*e*S	S	**Sn**	**18 11 27.5**	**+2.0**
JIM2	**Oshima 3**	**1.94**	**296**	P	P	**Pn**	**18 11 08.2**	**+0.4**
JIM2				*e*S	S	**Sn**	**18 11 32.6**	**+1.1**
JKO	**Kozu shima**	**2.02**	**279**	P	P	**Pn**	**18 11 09.7**	**+0.6**
JKO				*e*S	S	**Sn**	**18 11 35.5**	**+1.8**
KTJJ	**Kamata 2**	**2.30**	**297**	P	P	**Pn**	**18 11 12.1**	**-0.9**
KTJJ				*e*S	S	**Sn**	**18 11 39.3**	**-1.4**
JIZS	**Izushimoda**	**2.36**	**291**	P	P	**Pn**	**18 11 14.0**	**+0.1**
JIZS				*e*S	S	**Sn**	**18 11 41.6**	**-0.6**

JOD2	Odawara 2	2.45	305	P	Pn	18 11 14.6	-0.5
JOD2				eS	Sn	18 11 44.2	-0.3
MAJO	Matsushiro	3.80	315	eP	Pn	18 11 35.3	+0.9
MAT	Matsushiro	3.80	315	eP	Pn	18 11 35.0	+0.6
MAT				eS	Sn	18 12 19.0	+0.2
MAT	Matsushiro	3.80	315	P	Pn	18 11 26.9	-7.5
MAT	Matsushiro	3.80	315	P	Pn	18 11 35.1	+0.7
MAT				S	Sn	18 12 18.5	-0.3
CBIJ	Chichi jima	6.80	175	Pn	Pn	18 12 12.3	-4.4
48nm,0.3s,baz=303,slow=19,SNR=5.6							
CBIJ				Sn	Sn	18 13 26.6	-7.3
23nm,0.3s,baz=288,slow=22,SNR=3.3							
ASAJ	Asahikawa	10.24	4	Pn	P	18 12 58.9	-5.6
3.3nm,0.3s,baz=220,slow=10,SNR=15							
ASAJ				Sn	S	18 14 45.3	-14
1.2nm,0.3s,baz=75,slow=30,SNR=2.8							
KS15	Wonju Array Si	11.66	292	Pn	P	18 13 22.3	-1.5
YSS	Yuzh-Sakhalins	13.08	4	eP	P	18 13 38.0	-4.7
YSS				pmax	pmax		
comp=Z,30nm,0.8s							
YSS	Yuzh-Sakhalins	13.08	4	eP	P	18 13 38.0	-4.7
comp=Z,35nm,0.9s							
MA2	Magadan	26.41	11	eP	P	18 16 11.5	-0.4
MA2				pmax	pmax		
comp=Z,11nm,0.8s,mb4.4							
MA2	Magadan	26.41	11	eP	P	18 16 11.5	-0.4
comp=Z,11nm,0.8s,mb4.4							
XAN	Xi'an	27.00	280	P	P	18 16 16.3	-1.4
XAN				AMB	AMB		
comp=Z,5.0nm,0.8s,mb4.1							
ENH	Enshi	27.34	271	eP	P	18 16 18.5	-2.3
comp=Z,7.2nm,0.7s,mb4.3							
YAK	Yakutsk	29.16	349	eP	P	18 16 35.4	-1.5
YAK				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.5							
YAK	Yakutsk	29.16	349	eP	P	18 16 35.4	-1.5
comp=Z,5.8nm,0.6s,mb4.5							
SONM	Songino Array	29.73	309	P	P	18 16 42.6	+0.5
comp=Z,4.1nm,0.8s,mb4.2,baz=101,slow=8.7,SNR=16							
BOD	Bodaibo	30.28	331	eP	P	18 16 45.1	-1.8
ZAK	Zakamensk	32.38	312	⇓P	P	18 17 04.3	-1.1
TLY	Talaya	32.54	315	eP	P	18 17 06.1	-0.7
TLY				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.7							
TLY	Talaya	32.54	315	eP	P	18 17 06.1	-0.8
comp=Z,7.9nm,0.9s,mb4.6							
BILL	Bilibino	37.02	15	eP	P	18 17 43.8	-1.1
BILL				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.5							
BILL	Bilibino	37.02	15	eP	P	18 17 43.8	-1.1
comp=Z,6.2nm,0.8s,mb4.5							
CM31	Chiang Mai Arr	40.90	259	eP	P	18 18 17.0	-0.8
comp=Z,6.0nm,0.8s,mb4.3							
CMAR	Chiang Mai Arr	40.90	259	P	P	18 18 17.2	-0.5
comp=Z,3.4nm,0.8s,mb4.0,baz=48,slow=7.4,SNR=28							
CMAR				ScP		18 24 08.1	
comp=Z,0.2nm,0.8s,baz=35,slow=1.4,SNR=4.1							
ZAL	Zalesovo	44.17	315	P	P	18 18 43.7	-0.3
ZAL				pmax	pmax		
comp=Z,4.0nm,0.9s							
ZAL	Zalesovo	44.17	315	P	P	18 18 43.6	-0.4
comp=Z,3.7nm,0.9s,mb4.1,baz=295,slow=8.3,SNR=7.0							
NVS	Novosibirsk	45.13	316	eP	P	18 18 50.3	-1.4
NVS				pmax	pmax		
comp=N,6.0nm,1.0s							
NVS				pmax	pmax		
comp=E,9.0nm,1.0s							
NVS				pmax	pmax		
comp=Z,12nm,1.0s,mb4.7							
JIRN	Jiri	47.49	278	eP	P	18 19 10.6	-0.2
comp=Z,20nm,0.7s,mb5.2							
KURK	Kurchatov	48.00	310	eP	P	18 19 13.7	-0.7
KURK				pmax	pmax		
comp=Z,14nm,0.8s,mb5.0							
KURK	Kurchatov	48.00	310	eP	P	18 19 13.7	-0.7
comp=Z,14nm,0.8s,mb5.1							
PKI	Pulchoki	48.16	278	eP	P	18 19 15.5	-0.5
KKN	Kakani	48.19	279	eP	P	18 19 15.2	-1.0
comp=Z,22nm,0.9s,mb5.2							
DMN	Daman	48.40	279	eP	P	18 19 17.4	-0.4
comp=Z,16nm,0.9s,mb5.0							
GKN	Gorkha	48.64	279	eP	P	18 19 18.7	-1.0
comp=Z,25nm,0.9s,mb5.3							
KOLN	Koldanda	49.58	279	eP	P	18 19 26.1	-0.8
comp=Z,16nm,1.0s,mb5.0							
ILAR	Eielson Array	52.11	31	P	P	18 19 44.6	-1.0
ILAR				pmax	pmax		
comp=Z,4.0nm,0.7s							
ILAR	Eielson Array	52.11	31	P	P	18 19 44.5	-1.1
comp=Z,3.7nm,0.7s,mb4.4,baz=268,slow=6.0,SNR=26							
AAK	Ala-Archa	52.13	301	eP	P	18 19 44.6	-1.5
AAK				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.5							
AAK	Ala-Archa	52.13	301	eP	P	18 19 44.6	-1.5
comp=Z,6.4nm,0.9s,mb4.5							
CHKZ	Chkalovo	52.57	315	eP	P	18 19 48.4	-0.9
CHKZ				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.5							
CHKZ	Chkalovo	52.57	315	eP	P	18 19 48.4	-0.9
comp=Z,6.0nm,0.9s,mb4.5							
BVAR	Borovoye Array	52.80	314	P	P	18 19 50.4	-0.5
comp=Z,3.7nm,0.8s,mb4.3,baz=90,slow=7.4,SNR=12							
BRVK	Borovoye	52.86	314	eP	P	18 19 50.6	-0.8
BRVK				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.4							
BRVK	Borovoye	52.86	314	eP	P	18 19 50.6	-0.8
comp=Z,5.3nm,1.0s,mb4.4							
CTA	Charters Tower	53.86	175	P	P	18 19 59.0	-0.2
CTA				pmax	pmax		
comp=Z,3.0nm,0.9s							
CTA	Charters Tower	53.86	175	P	P	18 19 59.0	-0.3
comp=Z,2.6nm,0.9s,mb4.2,baz=300,slow=8.1,SNR=2.2							
WRAB	Tennant Creek	53.96	188	eP	P	18 19 58.5	-1.4
WRAB				pmax	pmax		
comp=Z,31nm,1.4s,mb5.0							
WRAB	Tennant Creek	53.96	188	eP	P	18 19 58.5	-1.4
comp=Z,31nm,1.4s,mb5.0							
WRA	Warramunga Arr	53.97	188	P	P	18 19 58.8	-1.2
WRA				pmax	pmax		
comp=Z,5.0nm,0.5s							
WRA	Warramunga Arr	53.97	188	P	P	18 19 58.8	-1.2
comp=Z,4.6nm,0.5s,mb4.7,baz=4.5,slow=7.6,SNR=33							
INK	Inuvik	57.14	26	P	P	18 20 21.5	-0.8
INK				pmax	pmax		
comp=Z,2.0nm,0.7s							
INK	Inuvik	57.14	26	P	P	18 20 21.5	-0.9
comp=Z,2.2nm,0.7s,mb4.3,baz=290,slow=3.8,SNR=5.3							
ASAR	Alice Springs	57.70	188	P	P	18 20 26.6	-0.3
comp=Z,2.2nm,0.5s,mb4.4,baz=11,slow=7.4,SNR=17							
HYB	Hyderabad	58.28	270	iP	P	18 20 30.5	-0.5
MBWA	Marble Bar	58.56	204	eP	P	18 20 32.0	-0.9
comp=Z,8.8nm,0.6s,mb5.0							
ARU	Arti	58.80	320	eP	P	18 20 28.1	-6.0
DLBC	Dease Lake	61.05	37	P	P	18 20 49.8	+0.3
comp=Z,3.2nm,0.8s,mb4.5,baz=343,slow=14,SNR=3.8							
STKA	Stephens Creek	65.42	180	P	P	18 21 16.6	-2.1
comp=Z,1.5nm,0.9s,mb4.0,baz=82,slow=18,SNR=3.9							
FORT	Forrest	65.57	193	eP	P	18 21 19.4	-0.3
comp=Z,54nm,0.6s,mb5.8							
KEV	Kevo	66.42	340	ep	P	18 21 35.9	+11
comp=Z,0.3nm,0.4s,mb3.7							
YKA	Yellowknife Ar	66.48	29	P	P	18 21 23.1	-1.8
YKA				pmax	pmax		
comp=Z,1.0nm,0.8s							
YKA	Yellowknife Ar	66.48	29	P	P	18 21 23.1	-1.8
comp=Z,1.0nm,0.8s,mb3.9,baz=295,slow=6.6,SNR=11							
YKA	Yellowknife Ar	66.48	29	P	P	18 21 23.1	-1.8
ARCES	ARCESS Array B	66.97	340	P	P	18 21 26.8	-1.2
ARCES				pmax	pmax		
comp=Z,3.0nm,0.8s							
ARCES	ARCESS Array B	66.97	340	P	P	18 21 26.8	-1.2
comp=Z,3.0nm,0.8s,mb4.4,baz=67,slow=6.9,SNR=3.8							
JOF	Joensuu	68.79	333	ep	P	18 21 38.1	-1.3
comp=Z,0.6nm,0.3s,mb4.0							
JOF	Joensuu	68.79	333	eP	P	18 21 38.1	-1.3
JOF				pmax	pmax		
comp=Z,1.0nm,0.3s,mb4.2							
NWAO	Narrogin (SRO)	70.29	202	eP	P	18 21 48.3	-0.8
NWAO				pmax	pmax		
comp=Z,9.0nm,0.8s							
NWAO	Narrogin (SRO)	70.29	202	eP	P	18 21 48.3	-0.8
comp=Z,8.6nm,0.8s,mb4.7							
KAF	Kangasniemi	71.15	333	ep	P	18 21 55.3	+1.5
comp=Z,0.4nm,0.4s,mb3.7							
FINES	FINESS Array B	71.65	333	P	P	18 21 56.1	-0.7
FINES				pmax	pmax		
comp=Z,8.0nm,0.9s							
FINES	FINESS Array B	71.65	333	P	P	18 21 56.0	-0.8
comp=Z,8.3nm,0.9s,mb4.7,baz=117,slow=4.3,SNR=10							
KIV	Kislovodsk	73.06	312	eP	P	18 22 06.3	+0.8
KIV				pmax	pmax		
comp=Z,17nm,1.6s,mb4.7							
KIV	Kislovodsk	73.06	312	eP	P	18 22 05.6	+0.1
comp=Z,13nm,1.1s,mb4.8							
SUMG	Summit	73.82	0	eP	P	18 22 10.4	+1.1
comp=Z,9.9nm,1.0s,mb4.7							
BMO	Blue Mountains	73.99	47	eP	P	18 22 11.2	+0.4
comp=Z,2.3nm,0.9s,mb4.1							
NVAR	Mina Array Bea	76.80	53	P	P	18 22 28.1	+1.2
comp=Z,1.7nm,0.7s,mb4.1,baz=282,slow=6.2,SNR=12							
AKASG	Malin Array Be	76.85	323	P	P	18 22 26.8	-0.2
AKASG				pmax	pmax		
comp=Z,4.0nm,0.6s							
AKASG	Malin Array Be	76.85	323	P	P	18 22 26.8	-0.3
comp=Z,3.5nm,0.6s,mb4.5,baz=46,slow=5.9,SNR=27							
HFS	Hagfors	77.00	336	P	P	18 22 27.5	-0.1
HFS				pmax	pmax		
comp=Z,11nm,1.1s							
HFS	Hagfors	77.00	336	P	P	18 22 27.5	-0.1
comp=Z,10nm,1.1s,mb4.7,baz=90,slow=5.9,SNR=6.1							
NB2	NORSAR Subarra	77.12	338	P	P	18 22 28.0	-0.3
comp=Z,2.7nm,0.8s,mb4.2,baz=40,slow=5.6							
NOA	NORSAR Array B	77.12	338	P	P	18 22 28.2	-0.1
NOA				pmax	pmax		
comp=Z,4.0nm,0.8s							
NOA	NORSAR Array B	77.12	338	P	P	18 22 28.2	-0.1
comp=Z,4.0nm,0.8s,mb4.4,baz=40,slow=5.6,SNR=10							
NOA	NORSAR Array B	77.12	338	P	P	18 22 28.2	-0.1
IMW	Indian Meadow	78.32	45	eP	P	18 22 37.1	+1.9
MOOW	Moose Ponds	78.52	45	eP	P	18 22 37.7	+1.4
TPAW	Teton Pass	78.55	45	eP	P	18 22 37.3	+0.8
HWUT	Hardware Ranch	79.28	47	eP	P	18 22 41.9	+1.3
comp=Z,2.7nm,0.7s,mb4.3							
TCUT	Toone Canyon	79.67	47	eP	P	18 22 44.1	+1.5
PDAR	Pinedale Array	79.80	45	P	P	18 22 44.0	+0.7
comp=Z,2.0nm,0.7s,mb4.2,baz=285,slow=2.5,SNR=16							
FRB	Frobisher Bay	79.80	13	P	P	18 22 42.8	-0.1
FRB				pmax	pmax		
comp=Z,6.0nm,0.8s							
FRB	Frobisher Bay	79.80	13	P	P	18 22 42.8	-0.1
comp=Z,5.7nm,0.8s,mb4.5,baz=350,slow=5.8,SNR=9.4							
JLU	Jordanelle	79.94	48	P	P	18 22 45.2	+1.0
DAU	Daniels Canyon	80.18	48	eP	P	18 22 46.8	+1.4
ARUT	Antelope Range	80.33	51	eP	P	18 22 48.6	+2.3
BRTR	Keskin Array B	81.02	312	P	P	18 22 50.7	+0.8
BRTR				pmax	pmax		
comp=Z,2.0nm,0.9s							
BRTR	Keskin Array B	81.02	312	P	P	18 22 50.6	+0.8
comp=Z,1.9nm,0.9s,mb4.0,baz=135,slow=3.5,SNR=7.3							
SRU	San Rafael	81.40	48	eP	P	18 22 52.5	+0.6
PV10	Paradox Valley	82.77	48	eP	P	18 23 00.5	+1.5
ASF	Jabal al Asfar	83.36	304	P	P	18 23 03.8	+1.7
comp=Z,1.3nm,0.4s,mb4.3,baz=292,slow=1.2,SNR=5.1							
RW3	Ridgway	83.69	48	eP	P	18 23 05.1	+1.4
VRAC	Vranov	83.82	327	P	P	18 23 05.2	+1.2
VRAC				pmax	pmax		
comp=Z,2.0nm,0.9s							
VRAC	Vranov	83.82	327	P	P	18 23 05.2	+1.2
comp=Z,2.4nm,0.9s,mb4.3,baz=48,slow=6.8,SNR=3.9							
CLL	Collm	83.87	330	eP	P	18 23 05.0	+0.7
CLL	Collm	83.87	330	P	P	18 23 05.0	+0.7
PRU	Pruhonice	84.22	329	eP	P	18 23 07.0	+0.9
KHC	Kasperske Hory	85.28	329	eP	P	18 23 11.5	+0.1
GERES	GERESS Array B	85.44	328	P	P	18 23 12.6	+0.4
GERES				pmax	pmax		
comp=Z,2.0nm,0.7s							
GERES	GERESS Array B	85.44	328	P	P	18 23 12.6	+0.5
comp=Z,2.0nm,0.7s,mb4.3,baz=18,slow=4.2,SNR=6.7							
TXAR	Lajitas Array	91.95	52	P	P	18 23 43.8	+0.2
comp=Z,1.6nm,0.8s,mb4.4,baz=90,slow=2.5,SNR=3.6							
LPAZ	La Paz	148.08	64	PKPbc	PKPdf	18 30 22.7	+1.4
comp=Z,6.5nm,0.8s,baz=2.3,slow=7.8,SNR=21							
LVC	Limon Verde	151.02	75	PKPbc	PKPdf	18 30 29.9	+4.2
comp=Z,5.8nm,0.8s,baz=260,slow=5.9,SNR=8.0							

IGQ 21 18:11:26.9, 1.29S×81.37W, h12km±35km, mb4.7, 1C-6D, Error ellipse: s-maj=33.9km s-min=7.7km az=170.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGUA	Igualata	2.73	94	P	Pn	18 12 12.3	+0.8
IGUA				S	Sn	18 12 45.1	+0.4
CUSU	Cusua	2.89	93	P	Pn	18 12 16.1	+2.4
JUIV	Juive	2.90	93	P	Pn	18 12 16.7	+2.8
JUIV				S	Sn	18 12 50.5	+1.5
ARRY	Arrayan	2.92	94	P	Pn	18 12 15.2	+1.1
ARRY				S	Sn	18 12 48.7	-0.7
RETU	Refugio	2.92	93	P	Pn	18 12 16.9	+2.7
MARY	Rancho Maria	2.93	79	P	Pn	18 12 17.1	+2.9
PATA	Patacocha	2.94	94	⇓P	Pn	18 12 16.3	+1.9
PATA				S	Sn	18 12 49.3	-0.6
RUN2	Runtun	2.95	93	P	Pn	18 12 16.3	+1.7
RUN2				S	Sn	18 12 50.8	+0.5
JUA2	San Juan 2	2.96	69	⇑P	Pn	18 12 15.9	+1.3
NAS1	Nasa	2.96	77	⇓P	Pn	18 12 16.0	+1.3
ULBA	Ulba	2.96	93	P	Pn	18 12 16.9	+2.2
ULBA				S	Sn	18 12 51.6	+1.1
TERV	Terraza Guagua	2.98	68	P	Pn	18 12 15.8	+0.9
PINO	Pino	2.98	68	⇓P	Pn	18 12 15.3	+0.4
PISA	Pisayambo	2.99	86	P	Pn	18 12 16.5	+1.4
PISA				S	Sn	18 12 51.1	-0.1
YANA	Yana	3.03	67	P	Pn	18 12 14.6	-1.1
VC1	Cotopaxi 1	3.03	78	P	Pn	18 12 16.7	+1.0
TAMB	Tambo	3.06	79	P	Pn	18 12 17.3	+1.2
ANTI	Antisana	3.31	75	P	Pn	18 12 21.0	+1.4
COTA	Cotacachi	3.43	62	⇓P	Pn	18 12 22.6	+1.2
CAYR	Refugio Cayamb	3.60	69	⇓P	Pn	18 12 26.8	+3.1
CAYR				S	Sn	18 13 09.5	+2.8
CAYA	Cayambe	3.64	68	⇓P	Pn	18 12 26.9	+2.7
CONE	Cono NE Rev Vo	3.92	72	P	Pn	18 12 33.1	+4.8

IDC 21 18:20:30.9±25.0, 17.87S×172.37W, mb4.0/4, mb1 4.1/4, mb1mx3.9/16, mbtmp4.0/4, Error ellipse: s-maj=467.6km s-min=163.0km az=73.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	39.12	260	P	P	18 28 00.4	-1.6
1.4nm,0.4s,baz=90,slow=12,SNR=5.3							
STKA	Stephens Creek	43.72	242	P	P	18 28 37.9	-1.8
0.9nm,0.5s,baz=53,slow=9.2,SNR=4.0							
WRA	Warramunga Arr	50.29	259	P	P	18 29 29.3	-2.1
0.5nm,0.3s,baz=97,slow=7.1,SNR=32							
ASAR	Alice Springs	50.33	254	P	P	18 29 29.9	-1.9
0.6nm,0.5s,baz=89,slow=8.2,SNR=23							

IGQ 21 18:22:22.4, 1.24S×81.20W, h12km±27km, mb4.1, Error ellipse: s-maj=27.6km s-min=9.3km az=167.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGUA	Igualata	2.58	96	P	Pn	18 23 06.3	+1.6
ARRY	Arrayan	2.76	96	P	Pn	18 23 08.2	+0.8
ARRY				S	Sn	18 23 41.8	+0.8
NAS1	Nasa	2.79	78	P	Pn	18 23 11.0	+3.2
RUN2	Runtun	2.80	94	P	Pn	18 23 10.6	+2.7
ULBA	Ulba	2.80	94	P	Pn	18 23 09.1	+1.1
TERV	Terraza Guagua	2.81	68	P	Pn	18 23 10.7	+2.7
PINO	Pino	2.81	68	P	Pn	18 23 07.9	-0.2
PISA	Pisayambo	2.82	86	P	Pn	18 23 10.3	+2.0
YANA	Yana	2.86	67	P	Pn	18 23 10.8	+2.1
VC1	Cotopaxi 1	2.86	78	P	Pn	18 23 11.0	+2.1
TAMB	Tambo	2.89	79	P	Pn	18 23 10.8	+1.7
ANTI	Antisana	3.14	76	P	Pn	18 23 14.7	+1.9
COTA	Cotacachi	3.26	61	P	Pn	18 23 15.4	+0.9
CAYR	Refugio Cayamb	3.43	69	P	Pn	18 23 19.3	+2.4
CAYA	Cayambe	3.47	68	P	Pn	18 23 19.8	+2.5

*CSEM **21** 18:39:09.0±0.4, 35.06N×3.19W, h2km, mb3.3/3, Error ellipse: s-maj=9.6km s-min=4.5km az=177.0*
*SFS **21** 18:39:10.0, 35.01N×3.15W*
*NEIC **21** 18:39:10.3, 35.01N×3.15W, MG3.3(MDD), After MDD.*

MDD 21 18:39:10.0±1.6, 35.01N×3.12W, mb3.2/8, Error ellipse: s-maj=14.3km s-min=7.1km az=147.0, PRXIMO SOLUCIN POBRE, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMEL	Melilla	0.32	25	P	Pg	18 39 15.6	-0.7
128nm,0.1s,SNR=7.3							
EMEL				S	Sg	18 39 20.4	-0.2
159nm,0.1s,SNR=5.6							
EMLI	Melilla	0.32	26	P	Pg	18 39 15.6	-0.8
128nm,0.1s,SNR=7.3							
MELI	Melilla	0.32	28	P	Pg	18 39 15.2	-1.2
MELI				S	Sg	18 39 20.2	-0.4
MELI	Melilla	0.32	28	iP	Pg	18 39 15.2	-1.2
EALB	Alboran	0.93	4	P	Pg	18 39 27.8	-0.8
EALB				S	Sg	18 39 39.0	-1.9
EALB	Alboran	0.93	4	P	Pg	18 39 27.8	-0.8
6.6nm,0.1s,SNR=15							
EALB				S	Sg	18 39 39.8	-1.1
11nm,0.2s							
EALB	Alboran	0.93	4	P	Pg	18 39 27.8	-0.8
6.6nm,0.1s,SNR=15							
EBER	Berja	1.89	6	P	Pn	18 39 43.7	-0.1
EBER				S	Sn	18 40 04.0	-4.8
EBER	Berja	1.89	6	P	Pn	18 39 43.7	-0.1
1.7nm,0.1s,SNR=5.7							
EBER				S	Sn	18 40 04.8	-3.9
4.7nm,0.4s							
EBER	Berja	1.89	6	P	Pn	18 39 43.7	-0.2
1.7nm,0.1s,SNR=5.7							
EMIJ	Mijas	2.05	319	P	Pn	18 39 43.9	-2.3
EMIJ				S	Sn	18 40 09.3	-3.6
EMIJ	Mijas	2.05	319	P	Pn	18 39 43.9	-2.3
0.4nm,0.1s,SNR=7.9							
EMIJ				S	Sn	18 40 08.8	-4.1
1.2nm,0.2s,SNR=7.9							
EMIJ	Mijas	2.05	319	P	Pn	18 39 43.8	-2.4
0.4nm,0.1s,SNR=7.9							
EMIJ				S	Sn	18 40 09.3	-3.5
1.2nm,0.2s,SNR=7.9							
EQES	Quesada	2.79	1	P	Pn	18 39 55.7	-1.0
EQES				S	Sn	18 40 29.3	-2.2
EQES	Quesada	2.79	1	P	Pn	18 39 55.5	-1.1
0.7nm,0.2s,SNR=7.0							
EQES				S	Sn	18 40 28.9	-2.5
2.2nm,0.3s							
EQES	Quesada	2.79	1	P	Pn	18 39 55.7	-1.0
0.7nm,0.2s,SNR=7.0							
EQES				S	Sn	18 40 29.3	-2.2
2.2nm,0.3s							
EADA	Adamuz	3.36	340	P	Pn	18 40 05.7	+0.9
0.5nm,0.2s,SNR=4.0							
EADA				S	Sn	18 40 40.0	-6.0
0.7nm,0.3s,SNR=7.9							
EVIA	Vianos	3.65	8	S	Sn	18 40 48.9	-4.5
2.3nm,0.1s,SNR=7.9							
EMIN	Mina Concepcio	3.97	315	P	Pn	18 40 11.5	-2.0
0.2nm,0.2s,SNR=7.9							
EMIN				S	Sn	18 40 55.3	-6.2
0.2nm,0.1s,SNR=7.9							
EMIN	Mina Concepcio	3.97	315	P	Pn	18 40 11.6	-1.9
EBAD	Badajoz	4.87	321	P	Pn	18 40 23.8	-2.5
0.9nm,0.2s,SNR=7.9							
EBAD	Badajoz	4.87	321	P	Pn	18 40 23.8	-2.5

*IDC **21** 18:55:57.1±2.7, 5.60S×106.01E, h178km±24km, mb3.6/11, mb1 3.7/11, mb1mx3.6/17, mbtmp4.1/11, Error ellipse: s-maj=35.0km s-min=10.7km az=49.0*
*NEIC **21** 18:55:59.2±0.6, 5.59S×106.03E, h200km, mb3.9/2, Error ellipse: s-maj=37.5km s-min=11.6km az=54.0*

ISC 21 18:55:56.2±4.4, 5.6S±0.2×106.0E±0.2, h186km±39km, n13, σ1§02/14, mb3.8/13, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	24.86	344	P	P	19 01 03.8	+0.5
0.8nm,0.7s,mb3.4,baz=177,slow=8.8,SNR=8.2							
WRA	Warramunga Arr	31.01	120	P	P	19 01 57.0	-1.5
1.1nm,0.5s,mb3.8,baz=293,slow=9.9,SNR=5.5							
ASAR	Alice Springs	32.30	127	P	P	19 02 09.9	+0.1
1.5nm,0.4s,mb4.1,baz=294,slow=7.6,SNR=9.3							
ASAR				S	S	19 07 09.5	+1.0
0.4nm,0.6s,baz=294,slow=16,SNR=3.9							
ASAR				ScP		19 08 22.6	
0.5nm,0.9s,baz=313,slow=3.8,SNR=4.2							
LSA	Lhasa	37.85	339	eP	P	19 02 57.7	+1.1
1.9nm,0.4s,mb4.1							
STKA	Stephens Creek	42.31	133	P	P	19 03 34.1	+0.7
3.1nm,0.6s,mb4.1,baz=306,slow=6.5,SNR=14							
SONM	Songino Array	53.16	0	P	P	19 04 58.6	+1.7
0.5nm,0.4s,mb3.6,baz=176,slow=8.3,SNR=6.5							
ZAL	Zalesovo	61.90	346	P	P	19 05 57.2	-0.8
1.3nm,0.3s,mb4.2,baz=215,slow=1.5,SNR=5.2							
BVAR	Borovoye Array	65.67	337	P	P	19 06 20.8	-1.7
0.6nm,0.6s,mb3.6,baz=140,slow=9.7,SNR=5.8							
CHKZ	Chkalovo	66.09	338	eP	P	19 06 23.8	-1.4
1.2nm,0.6s,mb3.9							
ASF	Jabal al Asfar	75.55	305	P	P	19 07 23.3	+1.0
1.6nm,0.8s,mb3.7,baz=19,slow=18,SNR=6.7							
VNDA	Vanda	77.56	169	P	P	19 07 32.6	+0.1
0.9nm,1.0s,mb3.4,baz=322,slow=7.7,SNR=4.

1.7nm,0.4s,baz=81,slow=9.0,SNR=5.5
STKA Stephens Creek 41.52 245 P P 19 13 26.2 -3.1
0.9nm,0.5s,baz=103,slow=8.5,SNR=6.9
ASAR Alice Springs 48.59 256 P P 19 14 24.1 -1.8
1.0nm,0.6s,baz=94,slow=6.1,SNR=15
WRA Warramunga Arr 48.76 261 P P 19 14 25.6 -1.6
0.3nm,0.3s,baz=96,slow=7.9,SNR=32

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*NNC **21** 19:20:37.7±3.9, 42.61N×78.51E, mpv3.1, Error ellipse: s-maj=53.1km s-min=16.3km az=151.0*
*KNET **21** 19:20:38.3±0.6, 42.57N×78.21E, ml3.2, Error ellipse: s-maj=6.3km s-min=3.5km az=173.0*
ISC 21 19:20:36.9±1.5, 42.5N±0.1×78.67E±0.10, h10km, n10, σ0§98/19, 12C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.82**	**263**	⇓P	**Pn**	**19 21 06.7**	**-1.8**
	24nm,0.1s,SNR=178						
ULHL				⇓S	**Sn**	**19 21 29.1**	**-2.7**
	61nm,0.1s						
TKM2	**Tokmak 2**	**2.30**	**282**	⇑P	**Pn**	**19 21 14.9**	**-0.6**
	28nm,0.3s,SNR=21						
TKM2				⇓S	**Sn**	**19 21 42.8**	**-1.3**
	133nm,0.1s						
KZA	**Kyzart**	**2.57**	**262**	⇑P	**Pn**	**19 21 19.5**	**+0.2**
	9.3nm,0.2s,SNR=38						
KZA				⇑S	**Sn**	**19 21 52.3**	**+1.3**
	58nm,0.4s						
KBK	**Karagaybulak**	**2.75**	**275**	⇑P	**Pn**	**19 21 22.0**	**+0.1**
	32nm,0.3s,SNR=31						
KBK				⇓S	**Sn**	**19 21 56.5**	**+0.9**
	138nm,0.3s						
CHMS	**Chumysh**	**2.93**	**281**	⇑P	**Pn**	**19 21 25.0**	**+0.6**
	14nm,0.3s,SNR=8.7						
CHMS				⇑S	**Sn**	**19 21 59.9**	**-0.1**
	34nm,0.2s						
AAK	**Ala-Archa**	**3.09**	**274**	⇑Pn	**Pn**	**19 21 27.1**	**+0.4**
	1.6nm,0.5s,baz=215,slow=29						
AAK				⇓Pg	**Pg**	**19 21 31.7**	**-6.8**
	3.0nm,0.3s,baz=215,slow=29						
AAK				⇑Lg		19 22 06.9	
	35nm,0.8s,baz=215,slow=29						
AAK	**Ala-Archa**	**3.09**	**274**	⇓P	**Pn**	**19 21 26.4**	**-0.3**
	12nm,0.3s,SNR=9.7						
AAK				⇓S	**Sn**	**19 22 04.5**	**+0.5**
	36nm,0.3s						
UCH	**Uchtor**	**3.09**	**266**	⇑P	**Pn**	**19 21 27.1**	**+0.3**
	7.8nm,0.3s,SNR=6.7						
UCH				⇓S	**Sn**	**19 22 05.6**	**+1.5**
	19nm,0.3s						
USP	**Ospenovka**	**3.16**	**285**	⇓P	**Pn**	**19 21 27.0**	**-0.7**
	11nm,0.2s,SNR=12						
MK08	**Makanchi Array**	**4.98**	**30**	⇑Pn	**Pn**	**19 21 54.2**	**+0.7**
	1.0nm,0.1s,baz=210,slow=13						
MK08				⇑Sn	**Sn**	**19 22 51.8**	**-0.1**
	3.1nm,0.7s,baz=211,slow=24						
MK08				⇑Lg		19 23 11.0	
	9.7nm,0.8s,baz=214,slow=28						

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*NEIC **21** 19:21:08.2±2.2, 7.19S×120.16E, h519km±34km, mb4.0/4, Error ellipse: s-maj=27.9km s-min=10.8km az=48.0*
*IDC **21** 19:21:10.1±1.9, 7.19S×120.33E, h545km±23km, mb3.2/7, mb1 3.3/8, mb1mx3.2/17, mbtmp4.1/8, Error ellipse: s-maj=35.3km s-min=8.9km az=58.0*
ISC 21 19:21:09.4±2.3, 7.3S±0.2×120.1E±0.2, h557km±35km, n19, σ0§33/21, mb4.1/16, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**13.80**	**181**	*e*Pn	**P**	**19 24 06.2**	**-0.4**
WRA	**Warramunga Arr**	**18.69**	**134**	P	**P**	**19 24 54.0**	**+0.1**
	0.5nm,0.3s,baz=310,slow=10,SNR=58						
WRA				S	**S**	**19 27 54.9**	**+0.2**
	0.0nm,0.3s,baz=300,slow=15,SNR=2.7						
WRAB	**Tennant Creek**	**18.69**	**134**	*e*P	**P**	**19 24 54.0**	**0.0**
	4.8nm,0.5s						
ASAR	**Alice Springs**	**21.01**	**142**	P	**P**	**19 25 15.2**	**-0.2**
	2.4nm,0.4s,mb4.2,baz=319,slow=8.4,SNR=123						
ASAR				S	**S**	**19 28 32.2**	**-0.8**
	0.9nm,0.9s,baz=344,slow=26,SNR=4.7						
ASAR				PcP	PcP	19 28 59.4	+0.3
	0.4nm,0.4s,baz=324,slow=1.5,SNR=10						
ASAR				ScP		19 31 46.0	
	0.4nm,0.6s,baz=357,slow=1.2,SNR=5.6						
NWAO	**Narrogin (SRO)**	**25.66**	**186**	P	**P**	**19 25 57.6**	**+0.4**
	7.4nm,0.9s,mb4.3,baz=16,slow=11						
STKA	**Stephens Creek**	**31.63**	**144**	P	**P**	**19 26 49.1**	**+0.4**
	1.9nm,0.3s,mb4.1,baz=325,slow=9.2,SNR=22						
CMAR	**Chiang Mai Arr**	**33.01**	**321**	P	**P**	**19 27 00.2**	**-0.2**
	0.3nm,0.8s,mb2.9,baz=151,slow=6.8,SNR=4.6						
LSA	**Lhasa**	**46.11**	**324**	*e*P	**P**	**19 28 46.4**	**+0.7**
	2.3nm,0.6s,mb3.9						
JIRN	**Jiri**	**47.76**	**318**	*e*P	**P**	**19 28 58.8**	**+0.5**
	11nm,0.5s,mb4.7						
PKI	**Pulchoki**	**48.22**	**317**	*e*P	**P**	**19 29 01.6**	**-0.2**
	13nm,0.5s,mb4.7						
DMN	**Daman**	**48.45**	**317**	*e*P	**P**	**19 29 03.5**	**0.0**
	5.2nm,0.4s,mb4.4						
KKN	**Kakani**	**48.45**	**317**	*e*P	**P**	**19 29 03.4**	**-0.1**
	4.4nm,0.4s,mb4.3						
GKN	**Gorkha**	**49.02**	**317**	*e*P	**P**	**19 29 07.6**	**-0.2**
	12nm,0.4s,mb4.8						
KOLN	**Koldanda**	**49.58**	**316**	*e*P	**P**	**19 29 11.7**	**-0.2**
	5.7nm,0.2s,mb4.6						
SONM	**Songino Array**	**56.19**	**349**	P	**P**	**19 29 58.5**	**-0.2**
	0.6nm,0.5s,mb3.1,baz=166,slow=8.0,SNR=11						
ZAL	**Zalesovo**	**67.84**	**338**	P	**P**	**19 31 13.6**	**-0.2**
	4.2nm,0.3s,mb4.4,baz=253,slow=4.6,SNR=12						
KURK	**Kurchatov**	**67.95**	**333**	*e*P	**P**	**19 31 14.3**	**-0.2**
	3.9nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**73.31**	**331**	P	**P**	**19 31 46.2**	**+0.4**
	0.8nm,0.6s,mb3.3,baz=90,slow=4.4,SNR=6.6						
CHKZ	**Chkalovo**	**73.60**	**332**	*e*P	**P**	**19 31 47.1**	**-0.4**
	1.2nm,0.7s,mb3.4						

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*PGC **21** 19:22:19.7, 47.89N×129.08W, h10km, ML2.8/5, Northern Juan de Fuca ridge.*
*NEIC **21** 19:22:19.9±2.4, 47.81N×129.02W, h10km, mb3.7/3, Error ellipse: s-maj=44.6km s-min=12.7km az=67.0*
*IDC **21** 19:22:25.7±2.3, 48.30N×128.46W, mb3.3/2, mb1 3.8/8, mb1mx3.6/23, mbtmp3.6/8, ML3.4/5, MS3.7/2, Ms1 3.8/2, ms1mx3.2/17, Error ellipse: s-maj=57.9km s-min=13.6km az=72.0, Putative timing error at PDAR*
ISC 21 19:22:24.9±1.0, 48.32N±0.06×128.5W±0.1, h10km, n36, σ1§05/40, mb3.4/2, 1D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.80**	**30**	Pn	**Pn**	**19 22 56.1**	**-0.3**
GDR	**Gold River**	**2.19**	**47**	Pn	**Pn**	**19 23 02.5**	**+0.6**
WOSB	**Woss**	**2.24**	**34**	Pn	**Pn**	**19 23 02.9**	**+0.3**
MAYB	**Maynard**	**2.26**	**22**	Pn	**Pn**	**19 23 03.0**	**0.0**
BTB	**Buttle Lake**	**2.28**	**59**	Pn	**Pn**	**19 23 04.3**	**+1.1**
BTB				Sn	**Sn**	**19 23 36.1**	**+4.5**
BTB				Trac		19 23 38.5	
	comp=Z,34nm,0.4s						
HOLB	**Holberg**	**2.33**	**6**	Pn	**Pn**	**19 23 03.6**	**-0.4**
MGB	**Mount Grey**	**2.62**	**74**	Pn	**Pn**	**19 23 07.3**	**-0.7**
MGB				Trac		19 23 56.2	
	comp=Z,3.0nm,0.1s						
NCRB	**Newcastle Ridg**	**2.63**	**37**	Pn	**Pn**	**19 23 08.9**	**+0.6**
CBB	**Campbell River**	**2.68**	**49**	Pn	**Pn**	**19 23 09.6**	**+0.7**
CBB				Trac		19 23 53.5	
	comp=Z,29nm,0.8s						
PFB	**Port Renfrew**	**2.72**	**83**	Pn	**Pn**	**19 23 08.2**	**-1.3**
TXB	**Texada**	**3.01**	**61**	Pn	**Pn**	**19 23 12.9**	**-0.8**
LZB	**Mount Lazard**	**3.13**	**83**	Pn	**Pn**	**19 23 14.3**	**-1.1**
LZB				Trac		19 23 54.8	
	comp=Z,3.0nm,0.6s						
SHB	**Sechelt**	**3.31**	**66**	Pn	**Pn**	**19 23 17.9**	**0.0**
SNB	**Saturna Island**	**3.57**	**81**	Pn	**Pn**	**19 23 21.6**	**-0.1**
BIB	**Bowen Island**	**3.60**	**71**	Pn	**Pn**	**19 23 20.9**	**-1.2**
WPB	**Watts Point**	**3.73**	**67**	Pn	**Pn**	**19 23 24.3**	**+0.4**
BBB	**Bella Bella**	**3.88**	**4**	Pn	**Pn**	**19 23 25.4**	**-0.6**
	12nm,0.3s,baz=198,slow=12,SNR=28						
BBB				Sn	**Sn**	**19 24 11.6**	**-0.5**
	1.5nm,0.3s,baz=170,slow=13,SNR=4.7						
BBB	**Bella Bella**	**3.88**	**4**	Pn	**Pn**	**19 23 25.4**	**-0.6**
BBB				Sn	**Sn**	**19 24 11.6**	**-0.5**
BBB	**Bella Bella**	**3.88**	**4**	⇓Pn	**Pn**	**19 23 25.3**	**-0.7**
BBB				Sn	**Sn**	**19 24 10.5**	**-1.6**
BBB				Trac		19 24 14.5	
	comp=Z,26nm,0.7s						
WSLR	**Whistler**	**4.08**	**62**	Pn	**Pn**	**19 23 29.7**	**+0.8**
VDB	**Vedder Mountai**	**4.30**	**78**	Pn	**Pn**	**19 23 31.4**	**-0.6**
LLLB	**Lillooet**	**4.89**	**60**	Pn	**Pn**	**19 23 40.8**	**+0.4**
YBH	**Yreka Blue Hor**	**7.76**	**146**	Pn	**Pn**	**19 24 22.1**	**+1.4**
	0.1nm,0.3s,baz=336,slow=13,SNR=5.6						
NVAR	**Mina Array Bea**	**12.35**	**139**	Pn	**P**	**19 25 24.6**	**+0.9**
	baz=319,slow=9.6,SNR=3.3						
PDAR	**Pinedale Array**	**14.38**	**106**	Pn	**P**	**19 26 01.4**	**+11**
	0.0nm,0.3s,baz=315,slow=8.4,SNR=6.3						
PDAR				LR	LR	19 31 01.8	
	comp=Z,282nm,18.6s,baz=359,slow=36						
YKA	**Yellowknife Ar**	**16.19**	**24**	Pn	**P**	**19 26 13.1**	**-0.7**
	0.0nm,0.3s,baz=213,slow=12,SNR=4.5						
YKW3	**Yellowknife Ar**	**16.24**	**23**	*e*P	**P**	**19 26 16.7**	**+2.3**
FFC	**Flin Flon**	**17.64**	**59**	P	**P**	**19 26 34.9**	**+2.7**
	71nm,1.3s,SNR=8.4						
FFC	**Flin Flon**	**17.64**	**59**	*e*P	**P**	**19 26 33.8**	**+1.7**
	15nm,1.1s						
PV01	**Paradox Valley**	**17.69**	**118**	*e*P	**P**	**19 26 28.0**	**-4.9**
ILAR	**Eielson Array**	**19.22**	**336**	P	**P**	**19 26 52.4**	**+1.0**
	0.0nm,0.3s,baz=152,slow=11,SNR=8.3						
ILAR				LR	LR	19 34 54.4	
	comp=Z,246nm,18.2s,baz=336,slow=39						
SDCO	**Great Sand Dun**	**19.79**	**114**	*e*P	**P**	**19 26 50.8**	**-7.4**
	2.0nm,1.0s						
INK	**Inuvik**	**20.20**	**355**	P	**P**	**19 27 01.2**	**-1.1**
	1.8nm,1.0s,baz=160,slow=12,SNR=4.5						
ANMO	**Albuquerque**	**21.12**	**121**	P	**P**	**19 27 09.9**	**-2.1**
	1.3nm,0.8s,mb3.3,baz=306,slow=11,SNR=2.4						
MNTX	**Cornudas Mount**	**24.13**	**125**	P	**P**	**19 27 35.7**	**-6.1**
WMOK	**Wichita Mounta**	**25.88**	**111**	P	**P**	**19 27 52.9**	**-5.5**
	1.2nm,0.8s,mb3.5						

IDC 21 19:23:38.9±6.1, 4.36N×92.96E, mb3.4/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=177.3km s-min=31.9km az=74.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.18**	**22**	Pn	P	19 27 17.0	+0.5
	0.0nm,0.3s,baz=210,slow=11,SNR=9.3						
SONM	**Songino Array**	**44.83**	**13**	P	P	19 31 54.2	-2.3
	0.2nm,0.5s,baz=198,slow=7.8,SNR=3.7						
WRA	**Warramunga Arr**	**47.29**	**122**	P	P	19 32 14.1	-2.3
	0.9nm,0.7s,baz=303,slow=8.9,SNR=5.4						
ASAR	**Alice Springs**	**48.67**	**127**	P	P	19 32 25.6	-1.4
	0.3nm,0.7s,baz=300,slow=8.1,SNR=4.0						

IGQ 21 19:25:16.3, 1.27S×80.97W, h12km±23km, mb4.0, 1D, Error ellipse: s-maj=23.6km s-min=7.1km az=167.2, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.34**	**95**	P	Pn	19 25 56.5	+1.3
ARRY	**Arrayan**	**2.52**	**95**	P	Pn	19 25 59.2	+1.4
ARRY				S	Sn	19 26 30.0	+1.3
PATA	**Patacocha**	**2.54**	**95**	P	Pn	19 26 00.1	+2.0
ULBA	**Ulba**	**2.56**	**94**	P	Pn	19 26 00.9	+2.5
NAS1	**Nasa**	**2.57**	**76**	P	Pn	19 26 01.7	+3.2
JUA2	**San Juan 2**	**2.59**	**66**	P	Pn	19 26 00.2	+1.5
PISA	**Pisayambo**	**2.59**	**85**	P	Pn	19 26 00.5	+1.7
PINO	**Pino**	**2.61**	**65**	P	Pn	19 25 60.0	+1.0
VC1	**Cotopaxi 1**	**2.64**	**76**	P	Pn	19 26 02.2	+2.8
TAMB	**Tambo**	**2.66**	**78**	P	Pn	19 26 01.9	+2.1
ANTI	**Antisana**	**2.92**	**74**	P	Pn	19 26 06.2	+2.7
COTA	**Cotacachi**	**3.08**	**59**	P	Pn	19 26 07.0	+1.3
CAYR	**Refugio Cayamb**	**3.23**	**67**	P	Pn	19 26 09.8	+2.0
CAYA	**Cayambe**	**3.26**	**66**	⇓P	Pn	19 26 10.6	+2.3

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*IDC **21** 19:34:22.3±1.6, 34.05N×141.80E, mb3.7/6, mb1 3.8/6, mb1mx3.7/20, mbtmp3.7/6, Error ellipse: s-maj=47.9km s-min=21.3km az=76.0*
*JMA **21** 19:34:25.3±0.5, 33.93N×141.69E, h31km, M3.5*
*NEIC **21** 19:34:29.0±2.3, 34.03N×141.63E, h45km, mb4.1/3, Error ellipse: s-maj=91.5km s-min=13.0km az=63.0*
ISC 21 19:34:26.5±1.3, 33.95N±0.06×141.6E±0.1, h43km±10km, n23, σ0§75/29, mb3.8/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.89**	**322**	P	**P**	**19 34 42.4**	**-0.2**
BSO3	**Boso 3**	**1.26**	**313**	P	**P**	**19 34 48.1**	**+0.2**
BSO3				*e*S	**S**	**19 35 05.5**	**+1.5**
BSO4	**Boso 4**	**1.49**	**314**	P	**P**	**19 34 51.8**	**+0.5**
KTR	**Katsuura**	**1.62**	**318**	P	**P**	**19 34 53.6**	**+0.5**
JHJ2	**Mitsune**	**1.74**	**242**	P	**P**	**19 34 55.9**	**+1.1**
JHJ	**Hachijo jima 2**	**1.76**	**242**	Pn	**P**	**19 34 55.5**	**+0.4**
	29nm,0.3s,baz=54,slow=16,SNR=4.7						
JHJ				Sn	**S**	**19 35 15.8**	**-0.6**
	72nm,0.3s,baz=55,slow=24,SNR=7.8						
JIM2	**Oshima 3**	**1.98**	**293**	P	**P**	**19 34 57.6**	**-0.6**
JIM2				*e*S	**S**	**19 35 22.9**	**+1.0**
KTJJ	**Kamata 2**	**2.34**	**295**	P	**P**	**19 35 02.2**	**-1.1**
JIZS	**Izushimoda**	**2.41**	**289**	P	**P**	**19 35 04.0**	**-0.3**
JIZS				*e*S	**S**	**19 35 32.5**	**-0.3**
JOD2	**Odawara 2**	**2.48**	**303**	P	**P**	**19 35 04.3**	**-1.0**
JYN	**Shimob**	**2.98**	**302**	P	**P**	**19 35 11.7**	**-0.8**
MAJO	**Matsushiro**	**3.82**	**314**	*e*Pn	**P**	**19 35 24.4**	**+0.1**
MAT	**Matsushiro**	**3.82**	**314**	*e*P	**P**	**19 35 24.0**	**-0.3**
MAT				*e*S	**S**	**19 36 08.0**	**-0.5**
MAT	**Matsushiro**	**3.82**	**314**	P	**P**	**19 35 24.1**	**-0.2**
MAT				S	**S**	**19 36 08.0**	**-0.5**
ULN	**Ulaanbaatar**	**29.33**	**309**	*e*P	**P**	**19 40 27.6**	**+0.4**
	1.5nm,0.8s,mb3.8						
SONM	**Songino Array**	**29.75**	**308**	P	**P**	**19 40 31.6**	**+0.7**
	0.6nm,0.7s,mb3.4,baz=107,slow=7.6,SNR=5.4						
ZAL	**Zalesovo**	**44.18**	**315**	P	**P**	**19 42 33.0**	**+0.4**
	1.3nm,1.1s,mb3.6,baz=236,slow=8.6,SNR=3.9						
KURK	**Kurchatov**	**48.02**	**310**	*e*P	**P**	**19 43 02.1**	**-1.0**
	3.1nm,1.0s,mb4.3						
CHKZ	**Chkalovo**	**52.58**	**315**	*e*P	**P**	**19 43 37.2**	**-0.6**
	2.3nm,1.2s,mb4.0						
BVAR	**Borovoye Array**	**52.81**	**314**	P	**P**	**19 43 39.2**	**-0.4**
	0.8nm,0.9s,mb3.6,baz=101,slow=7.3,SNR=5.0						
WRA	**Warramunga Arr**	**54.04**	**188**	P	**P**	**19 43 48.1**	**-0.9**
	0.3nm,0.4s,mb3.6,baz=6.6,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**57.77**	**188**	P	**P**	**19 44 17.5**	**+1.7**
	0.4nm,0.9s,mb3.5,baz=22,slow=13,SNR=2.7						
AKASG	**Malin Array Be**	**76.85**	**323**	P	**P**	**19 46 15.6**	**+0.2**
	0.9nm,0.6s,mb3.9,baz=44,slow=5.8,SNR=7.7						

IDC 21 19:36:31.1±2.1, 4.12N×94.34E, mb3.7/4, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=91.8km s-min=28.8km az=55.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.95**	**17**	Pn	P	19 40 05.5	-0.1
	0.1nm,0.3s,baz=212,slow=11,SNR=9.2						
WRA	**Warramunga Arr**	**46.00**	**123**	P	P	19 44 56.4	-1.9
	0.7nm,0.7s,baz=303,slow=9.1,SNR=6.3						
ZAL	**Zalesovo**	**50.27**	**353**	P	P	19 45 27.9	-3.3
	0.4nm,0.4s,baz=256,slow=20,SNR=3.1						
BVAR	**Borovoye Array**	**52.59**	**342**	P	P	19 45 46.7	-2.0
	1.2nm,0.9s,baz=135,slow=8.4,SNR=5.6						
ARCES	**ARCESS Array B**	**78.85**	**340**	P	P	19 48 36.1	-1.2
	1.0nm,0.7s,baz=98,slow=6.4,SNR=4.1						

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*BJI **21** 19:39:23.5, 6.43N×93.44E, h43km, mB5.0, mb4.7, Ms4.3, Msz4.1*
*NEIC **21** 19:39:24.9±0.3, 6.49N×93.27E, mb4.7/23, MS4.4/1, Error ellipse: s-maj=8.5km s-min=6.1km az=58.0*
*IDC **21** 19:39:25.6±0.5, 6.60N×93.38E, h48km±4km, mb4.3/18, mb1 4.4/19, mb1mx4.3/25, mbtmp4.5/19, MS4.1/6, Ms1 4.1/6, ms1mx3.7/20, Error ellipse: s-maj=25.2km s-min=9.4km az=50.0*
ISC 21 19:39:23.4±1.6, 6.47N±0.06×93.34E±0.06, h45km±14km, h44km±1.7km: pP-P, n79, σ1§16/76, mb4.7/46, MS4.2/8, 6D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.26**	**84**	P	**P**	**19 41 20.0**	**+11**
	180nm,0.9s						
NNT	**Nongplab**	**8.76**	**46**	P	**P**	**19 41 29.5**	**-0.7**
NST	**Nakhon Sawan**	**11.31**	**35**	P	**P**	**19 42 02.2**	**-3.1**
PALK	**Pallekele**	**12.58**	**274**	Pn	**P**	**19 42 20.1**	**-2.3**
	13nm,0.6s						
CM31	**Chiang Mai Arr**	**13.11**	**24**	Pn	**P**	**19 42 27.8**	**-1.5**
	17nm,0.8s						
CM31				*e*pPn		19 42 34.0	
CMAR	**Chiang Mai Arr**	**13.11**	**24**	P	**P**	**19 42 29.3**	**0.0**
	0.8nm,0.3s,baz=212,slow=14,SNR=28						
CMAR				LR	LR	19 47 37.2	
	comp=Z,435nm,18.1s,baz=205,slow=38						
CMAR	**Chiang Mai Arr**	**13.11**	**24**	P	**P**	**19 42 29.3**	**0.0**
CMAR				LR	LR	19 47 37.2	
CHG	**Chiang Mai**	**13.43**	**23**	⇓P	**P**	**19 42 36.0**	**+2.5**
	36nm,0.8s						
KKTK	**Khon Kaen**	**13.50**	**43**	P	**P**	**19 42 43.0**	**+8.4**
	247nm,0.7s						
CHRT	**Chiangrai**	**14.72**	**25**	⇓P	**P**	**19 42 51.5**	**+1.0**
	105nm,1.2s						
HYB	**Hyderabad**	**18.09**	**308**	*i* P	**P**	**19 43 35.0**	**+1.8**
HYB				*e*		19 43 44.0	
HYB				*e*S	**S**	**19 46 40.0**	**-10**
QIZ	**Qiongzhong**	**20.34**	**51**	*e*P	**P**	**19 43 57.6**	**-1.1**
QIZ	**Qiongzhong**	**20.34**	**51**	*e*P	**P**	**19 43 57.3**	**-1.4**
	41nm,1.0s						
QIZ				*e*		19 44 09.8	
KMI	**Kunming**	**20.62**	**25**	⇓P	**P**	**19 44 02.3**	**+0.8**
	40nm,1.4s						
KMI				pP		19 44 11.6	
KMI				S	**S**	**19 47 53.5**	**+9.0**
KMI				LR	LR		
	comp=Z,330nm,16.3s,MS3.8						
JIRN	**Jiri**	**22.14**	**343**	*e*P	**P**	**19 44 17.3**	**+0.5**
	comp=Z,34nm,0.5s,mb5.1						
PKI	**Pulchoki**	**22.30**	**341**	*e*P	**P**	**19 44 20.1**	**+1.7**
	comp=Z,33nm,0.5s,mb5.0						
DMN	**Daman**	**22.43**	**341**	*e*P	**P**	**19 44 21.7**	**+2.0**
	comp=Z,52nm,0.6s,mb5.2						
KKN	**Kakani**	**22.54**	**341**	*e*P	**P**	**19 44 22.2**	**+1.3**
	comp=Z,28nm,0.6s,mb4.9						
GKN	**Gorkha**	**22.95**	**340**	*e*P	**P**	**19 44 25.1**	**+0.2**
	comp=Z,54nm,0.5s,mb5.3						
KOLN	**Koldanda**	**23.12**	**338**	*e*P	**P**	**19 44 27.3**	**+0.8**
	comp=Z,57nm,0.5s,mb5.2						
LSA	**Lhasa**	**23.20**	**355**	P	**P**	**19 44 27.4**	**+0.1**
LSA				AMB	AMB		
	comp=Z,36nm,0.6s,mb5.0						
LSA				AMB	AMB		
	comp=Z,210nm,5.0s						
LSA				LR	LR		
	comp=N,3μm,20.0s,MS5.0						
LSA				LR	LR		
	comp=E,4μm,18.7s,MS5.0						
LSA	**Lhasa**	**23.20**	**355**	*e*P	**P**	**19 44 26.8**	**-0.5**
	comp=E,18nm,0.4s,mb4.8						
ENH	**Enshi**	**28.13**	**31**	*e*P	**P**	**19 45 12.8**	**-0.7**
	comp=E,12nm,1.0s,mb4.5						
ENH				*e*pP	pP	19 45 23.4	-1.9
XAN	**Xi'an**	**30.99**	**26**	P	**P**	**19 45 36.4**	**-2.6**
XAN				AP	pP	19 45 47.0	-4.0
XAN				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
LZH	**Lanzhou**	**31.01**	**17**	P	**P**	**19 45 39.8**	**+0.7**
LZH				AP	pP	19 45 46.9	-4.2
LZH				XP	sP	19 45 51.5	-5.3
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
LZH				LR	LR		
	comp=E,770nm,13.9s						
LZH				LR	LR		
	comp=Z,790nm,20.5s						
LZH	**Lanzhou**	**31.01**	**17**	P	**P**	**19 45 39.7**	**+0.6**
	comp=Z,30nm,1.0s,mb5.1						
LZH				pP	pP	19 45 46.9	-4.2
LZH				sP	sP	19 45 51.5	-5.3
LZH				LR	LR		
	comp=Z,790nm,20.5s,MS4.4						
WHN	**Wuhan**	**31.03**	**37**	*e*P	**P**	**19 45 44.5**	**+5.2**
NJ2	**Nanjing**	**34.85**	**40**	*e*P	**P**	**19 46 10.6**	**-1.8**
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
WMQ	**Urumqi**	**37.53**	**353**	*e*P	**P**	**19 46 35.5**	**+0.5**
JOW	**Kunigami**	**38.90**	**55**	LR	LR	20 04 49.3	
	comp=Z,197nm,18.3s,MS4.0,baz=356,slow=39						
BJT	**Baijiatuau**	**39.19**	**28**	*e*P	**P**	**19 46 51.0**	**+2.2**
	comp=Z,16nm,1.1s,mb4.7						
BJT				*e*pP	pP	19 47 00.9	-0.1
BJI	**Beijing**	**39.21**	**28**	*e*P	**P**	**19 46 51.2**	**+2.3**
	comp=Z,6.0nm,1.1s,mb4.2						
AAK	**Ala-Archa**	**39.69**	**338**	P	**P**	**19 46 53.4**	**+0.5**
	comp=Z,15nm,1.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**40.15**	**128**	*e*P	**P**	**19 46 56.8**	**-0.1**
	comp=Z,22nm,0.7s,mb5.0						
SONM	**Songino Array**	**42.70**	**13**	P	**P**	**19 47 16.7**	**-0.9**
	comp=Z,3.0nm,0.8s,mb4.0,baz=203,slow=8.8,SNR=16						
SONM				pP	pP	19 47 28.4	-1.6
	comp=Z,4.4nm,0.7s,baz=193,slow=8.6,SNR=17						
SONM				PcP	PcP	19 49 09.1	-0.3
	comp=Z,0.9nm,0.5s,baz=196,slow=4.3,SNR=7.9						
MUN	**Mundaring**	**44

MA2	Magadan	68.37	27	eP	P		19 50 21.0	-1.1
	comp=Z,12nm,1.0s,mb4.9							
MA2				epP	pP		19 50 34.0	-1.2
IDI	Anoyia	68.72	305	P	P		19 50 23.2	-1.6
	comp=Z,12nm,1.0s,mb4.8,baz=92,slow=9.2,SNR=6.8							
AKASG	Malin Array Be	68.77	322	P	P		19 50 22.8	-1.9
	comp=Z,2.9nm,0.7s,mb4.3,baz=84,slow=6.1,SNR=8.5							
JOF	Joensuu	71.77	335	ep	P		19 50 41.8	-1.0
	comp=Z,1.3nm,0.4s,mb4.2							
FINES	FINESS Array B	73.58	332	P	P		19 50 52.8	-0.7
	comp=Z,5.0nm,0.7s,mb4.5,baz=87,slow=5.1,SNR=33							
KAF	Kangasniemi	73.68	333	ep	P		19 50 53.1	-0.9
	comp=Z,1.8nm,0.4s,mb4.3,baz=105,slow=5.7							
KEV	Kevo	75.89	341	ep	P		19 51 06.5	-0.1
	comp=Z,0.4nm,0.4s,mb3.7							
ARCES	ARCESS Array B	76.31	340	P	P		19 51 09.2	+0.2
	comp=Z,1.2nm,0.5s,mb4.1,baz=92,slow=5.9,SNR=14							
ARCES				pP	pP		19 51 23.4	+1.2
	comp=Z,1.2nm,0.5s,baz=104,slow=5.0,SNR=2.3							
ARCES				LR	LR		20 27 05.8	
	comp=Z,191nm,20.2s,MS4.4,baz=196,slow=38							
PRU	Pruhonice	77.88	320	eP	P		19 51 19.6	+1.5
GERES	GERESS Array B	78.34	318	P	P		19 51 21.3	+0.6
	comp=Z,2.1nm,0.7s,mb4.2,baz=79,slow=6.8,SNR=12							
GERES				pP	pP		19 51 35.1	+1.1
	comp=Z,3.8nm,0.8s,baz=108,slow=8.4,SNR=9.3							
KHC	Kasperske Hory	78.44	319	eP	P		19 51 21.0	-0.2
HFS	Hagfors	79.27	330	P	P		19 51 24.9	-0.7
	comp=Z,2.3nm,0.5s,mb4.4,baz=101,slow=7.6,SNR=17							
GRA1	Grafenberg Arr	80.01	319	eP	P		19 51 30.7	+1.0
	comp=Z,5.0nm,0.9s,mb4.4							
GRA1				epP	pP		19 51 43.4	+0.4
GRF	Grafenberg Arr	80.01	319	eP	P		19 51 30.7	+1.0
	comp=Z,5.0nm,0.9s,mb4.4							
GRF				epP	pP		19 51 43.4	+0.4
NB2	NORSAR Subarra	80.56	331	P	P		19 51 31.6	-0.8
	comp=Z,1.2nm,0.6s,mb4.0,baz=99,slow=4.8							
DAVOX	Davos	80.85	316	P	P		19 51 34.6	+0.3
	comp=Z,5.0nm,0.7s,mb4.6,baz=68,slow=8.0,SNR=7.3							
LPG	La Plagne	83.05	315	eP	P		19 51 45.6	0.0
	comp=Z,12nm,0.8s,mb4.6							
EKA	Eskdalemuir Ar	88.42	325	P	P		19 52 12.9	+1.1
	comp=Z,2.1nm,0.6s,mb4.6,baz=88,slow=5.6,SNR=12							
ESDC	Sonseca Array	91.51	310	P	P		19 52 27.7	+0.9
	comp=Z,0.8nm,0.5s,mb4.3,baz=67,slow=4.3,SNR=5.2							
NVAR	Mina Array Bea	126.52	31	PKP	PKPdf		19 58 21.8	-0.5
	comp=Z,0.3nm,0.3s,baz=227,slow=55,SNR=4.0							
PDAR	Pinedale Array	126.75	21	PKP	PKPdf		19 58 24.1	+1.5
	comp=Z,1.4nm,1.0s,baz=45,slow=2.1,SNR=7.8							
LPAZ	La Paz	159.40	240	PKP	PKPdf		19 59 21.1	+3.4
	comp=Z,1.3nm,1.0s,baz=9.5,slow=5.7,SNR=4.2							

*MOS **21** 19:43:22.0±1.0, 43.01N×45.38E, h13km, mb4.1/1, Error ellipse: s-maj=14.3km s-min=6.6km az=20.5*
*TIF **21** 19:43:23.0, 42.95N×45.36E, h27km±7km*
ISC 21 19:43:23.0±0.7, 43.05N±0.04×45.39E±0.03, h19km±7km, n21, σ1°20/39, 3C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	Botlikh	0.73	122	ePG	Pb	19 43 33.5	-3.4
BTLR				eS	Sb	19 43 42.5	-3.8
BTLR				pmax	pmax		
	comp=Z,535nm,0.3s						
DBC	Dubki	1.06	91	i PG	Pb	19 43 44.0	+1.5
DBC				eS	Sb	19 43 58.5	+2.6
DBC				pmax	pmax		
	comp=Z,116nm,0.2s						
DUS	Dusheti	1.09	208	P	Pb	19 43 42.2	-0.8
DUS				S	Sb	19 43 56.7	-0.1
UNCR	Uncukul	1.09	108	i PG	Pb	19 43 43.7	+0.7
UNCR				i S	Sb	19 44 00.7	+3.9
UNCR				pmax	pmax		
	comp=Z,431nm,0.3s						
ZEI	Tsey	1.13	256	ePG	Pb	19 43 42.7	-1.0
ZEI				e		19 43 57.5	
ZEI				pmax	pmax		
	comp=Z,308nm,0.2s						
ZEI				smax			
	comp=E,541nm,0.2s						
UKTR	Uchkent	1.24	87	ePG	Pn	19 43 45.0	-0.6
UKTR				i S	Sb	19 44 01.5	+0.3
ARKR	Arakani	1.27	110	ePG	Pn	19 43 45.0	-0.9
ARKR				eS	Sb	19 44 01.5	-0.4
ARKR				pmax	pmax		
	comp=Z,108nm,0.3s						
BUJR	Buynaksk	1.28	100	⇑iPG	Pn	19 43 47.2	+1.0
BUJR				i S	Sb	19 44 06.0	+3.5
BUJR				pmax	pmax		
	comp=Z,589nm,0.1s						
GNBR	Gunib	1.34	119	ePG	Pn	19 43 46.0	-0.9
GNBR				i S	Sb	19 44 02.5	-1.5
TI2	Plekhanov	1.40	200	⇑iPG	Pn	19 43 47.6	-0.2
TI2				i S	Sb	19 44 06.6	+0.8
TI2				pmax	pmax		
	comp=Z,130nm,0.4s						
TI2				smax			
	comp=E,100nm,0.4s						
MTA	Mtatsminda	1.43	198	P	Pn	19 43 47.9	-0.3
MTA				S	Sn	19 44 06.9	+0.4
ONI	Oni	1.50	252	P	Pn	19 43 49.4	+0.1
ONI				S	Sn	19 44 10.0	+1.6
MAK	Makhachkala	1.56	93	ePG	Pn	19 43 55.0	+5.0
MAK				e		19 44 15.2	
MAK				pmax	pmax		
	comp=Z,420nm,0.4s						
MAK				smax			
	comp=N,3μm,0.5s						
MAK				smax			
	comp=E,4μm,0.5s						
KMKR	Kumukh	1.56	125	ePG	Pn	19 43 49.0	-1.2
KMKR				eS	Sn	19 44 09.0	-1.0
KMKR				pmax	pmax		
	comp=Z,282nm,0.2s						
SGKR	Sergokala	1.77	109	ePN	Pn	19 43 51.5	-1.7
SGKR				i S	Sn	19 44 17.5	+2.1
PYA	Pyatigorsk	1.96	301	ePN	Pn	19 43 54.8	-1.0
SHAR	Shatzhatmas	2.10	290	ePN	Pn	19 44 00.0	+2.2
SHAR				eS	Sn	19 44 28.4	+4.8
KIV0	Kislovodsk Arr	2.16	296	ePN	Pn	19 43 58.0	-0.7
KIV0				eS	Sn	19 44 24.8	-0.3
AKH	Akhalkalaki	2.16	221	P	Pn	19 44 00.3	+1.6
AKH				S	Sn	19 44 29.1	+3.8
KIV	Kislovodsk	2.16	296	ePN	Pn	19 43 58.1	-0.6
KIV				e		19 44 05.5	
KIV				eS	Sn	19 44 24.9	-0.3
GOF	Gofitskoye	2.63	321	⇑iPN	Pn	19 44 15.5	+10
GOF				i S	Sn	19 44 46.5	+9.5
GOF				pmax	pmax		
	comp=Z,120nm,1.0s						
GOF				pmax	pmax		
	comp=Z,500nm,0.6s						
GOF				smax			
	comp=E,2μm,1.0s						

IGQ 21 19:45:03.2, 1.22S×81.52W, h12km±21km, mb4.0, Error ellipse: s-maj=20.9km s-min=13.8km az=1.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TERV	Terraza Guagua	3.09	70	P	Pn	19 45 54.9	+2.1
PINO	Pino	3.09	70	P	Pn	19 45 53.5	+0.6
NAS1	Nasa	3.09	79	P	Pn	19 45 55.5	+2.6
PATA	Patacocha	3.09	95	P	Pn	19 45 53.6	+0.7
ULBA	Ulba	3.12	94	P	Pn	19 45 55.3	+2.1
PISA	Pisayambo	3.13	87	P	Pn	19 45 54.7	+1.2
YANA	Yana	3.14	70	P	Pn	19 45 53.4	-0.1
VC1	Cotopaxi 1	3.16	80	P	Pn	19 45 55.4	+1.5
TAMB	Tambo	3.19	81	P	Pn	19 45 56.3	+2.1
ANTI	Antisana	3.44	77	P	Pn	19 45 59.9	+2.1
CAYR	Refugio Cayamb	3.71	71	P	Pn	19 46 04.5	+2.8
CAYA	Cayambe	3.75	70	P	Pn	19 46 04.9	+2.6
CAYA				S	Sn	19 46 46.5	-0.3

IDC 21 19:46:36.8±9.5, 11.10N×91.61E, mb3.7/2, mb1 3.5/3, mb1mx3.4/18, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=213.2km s-min=41.6km az=159.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.19	43	Pn	P	19 49 02.8	-4.7
	0.1nm,0.3s,baz=235,slow=15,SNR=4.7						
SONM	Songino Array	38.67	16	P	P	19 54 03.0	-0.9
	0.5nm,0.6s,baz=204,slow=8.0,SNR=5.9						
BRTR	Keskin Array B	58.45	310	P	P	19 56 34.5	-2.4
	1.0nm,1.0s,baz=109,slow=7.8,SNR=5.8						

*IDC **21** 19:49:02.8±4.1, 4.46S×130.11E, mb3.9/1, mb1 4.2/3, mb1mx3.9/13, mbtmp3.9/3, ML3.9/2, Error ellipse: s-maj=19.1km s-min=27.7km az=61.0*
ISC 21 19:49:09.2±2.5, 5.3S±0.4×128.5E±0.8, h33km, n8, σ0°83/10, mb4.7/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.67	159	Pn	P	19 52 50.0	+0.7
	0.6nm,0.3s,baz=349,slow=13,SNR=18						
WRA				Sn	S	19 55 33.2	-8.8
	2.1nm,0.3s,baz=328,slow=24,SNR=11						
ASAR	Alice Springs	19.03	165	P	P	19 53 30.6	-0.7
	0.7nm,0.3s,baz=347,slow=11,SNR=33						
ASAR				S	S	19 56 58.7	0.0
	0.4nm,0.3s,baz=359,slow=28,SNR=5.0						
CMAR	Chiang Mai Arr	37.45	310	P	P	19 56 24.9	+3.3
	1.5nm,0.7s,mb4.0,baz=138,slow=7.6,SNR=17						
JIRN	Jiri	52.30	311	eP	P	19 58 20.4	+0.3
	6.7nm,0.6s,mb4.7						
KKN	Kakani	53.05	311	eP	P	19 58 25.3	-0.4
DMN	Daman	53.09	310	eP	P	19 58 26.1	+0.1
	4.4nm,0.4s,mb4.8						
GKN	Gorkha	53.65	311	eP	P	19 58 29.1	-1.0
	10nm,0.4s,mb5.1						
KOLN	Koldanda	54.32	310	eP	P	19 58 35.0	-0.1
	8.1nm,0.4s,mb5.0						

IGQ 21 19:55:38.5, 1.13S×81.36W, h12km±27km, mb4.3, 2C-5D, Error ellipse: s-maj=26.2km s-min=7.0km az=172.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.74	97	P	Pn	19 56 23.6	+0.5
CUSU	Cusua	2.89	96	⇓iP	Pn	19 56 27.6	+2.4
JUA2	San Juan 2	2.90	72	P	Pn	19 56 26.1	+0.7
JUIV	Juive	2.90	96	P	Pn	19 56 27.1	+1.6
TERV	Terraza Guagua	2.91	71	⇓iP	Pn	19 56 26.9	+1.3
PINO	Pino	2.91	71	⇑iP	Pn	19 56 26.6	+1.0
NAS1	Nasa	2.92	80	P	Pn	19 56 28.2	+2.5
ARRY	Arrayan	2.92	97	P	Pn	19 56 26.6	+0.9
ARRY				S	Sn	19 57 01.3	+0.2
RETU	Refugio	2.92	96	P	Pn	19 56 28.3	+2.6
PATA	Patacocha	2.94	97	P	Pn	19 56 27.4	+1.4
PATA				S	Sn	19 57 02.4	+0.7
RUN2	Runtun	2.96	96	P	Pn	19 56 27.7	+1.5
YANA	Yana	2.96	70	⇓iP	Pn	19 56 27.3	+1.0
ULBA	Ulba	2.96	96	P	Pn	19 56 27.7	+1.4
PISA	Pisayambo	2.97	89	P	Pn	19 56 27.8	+1.4
PISA				S	Sn	19 57 04.0	+1.7
VC1	Cotopaxi 1	2.99	81	P	Pn	19 56 29.5	+2.8
TAMB	Tambo	3.02	82	P	Pn	19 56 29.2	+2.1
ANTI	Antisana	3.26	78	⇓iP	Pn	19 56 32.8	+2.2
COTA	Cotacachi	3.35	64	⇑iP	Pn	19 56 33.1	+1.4
CAYR	Refugio Cayamb	3.54	71	P	Pn	19 56 37.4	+3.0
CAYA	Cayambe	3.57	70	⇓iP	Pn	19 56 37.9	+2.9
CAYA				S	Sn	19 57 22.6	+5.1

IDC 21 19:59:09.9±3.6, 10.53N×91.00E, mb4.2/2, mb1 4.3/3, mb1mx3.7/17, mbtmp4.0/3, ML3.8/1, Error ellipse: s-maj=98.8km s-min=28.1km az=81.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.02	43	Pn	P	20 01 49.1	-2.8
	0.2nm,0.3s,baz=232,slow=14,SNR=9.5						
SONM	Songino Array	39.39	16	P	P	20 06 41.4	-1.6
	0.1nm,0.4s,baz=206,slow=8.3,SNR=2.4						
WRA	Warramunga Arr	52.32	125	P	P	20 08 23.5	-2.5
	2.3nm,0.5s,baz=306,slow=8.4,SNR=70						
ASAR	Alice Springs	53.99	129	P	P	20 08 36.3	-2.0
	2.2nm,0.6s,baz=306,slow=6.7,SNR=42						

*IDC **21** 20:06:29.6±1.0, 13.16N×92.62E, mb3.7/6, mb1 3.8/7, mb1mx3.6/18, mbtmp3.6/7, ML3.2/1, Error ellipse: s-maj=36.8km s-min=18.5km az=62.0*
*NEIC **21** 20:06:33.6±7.8, 13.17N×92.61E, h27km±54km, mb3.9/3, Error ellipse: s-maj=29.2km s-min=11.6km az=54.0*
ISC 21 20:06:32.5±0.8, 13.16N±0.09×92.7E±0.1, h33km, n14, σ0°76/14, mb3.9/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	8.02	48	ePn	P	20 08 28.8	-0.7
	1.7nm,0.6s						
CMAR	Chiang Mai Arr	8.02	48	Pn	P	20 08 29.4	0.0
	0.1nm,0.3s,baz=242,slow=15,SNR=5.0						
LSA	Lhasa	16.52	355	eP	P	20 10 23.6	+0.3
	2.8nm,0.6s						
ENH	Enshi	23.06	40	P	P	20 11 37.5	+1.3
	8.2nm,1.0s,mb4.1						
SONM	Songino Array	36.42	16	P	P	20 13 35.3	-0.6
	0.2nm,0.4s,mb3.4,baz=351,slow=24,SNR=2.9						
ZAL	Zalesovo	41.15	353	P	P	20 14 14.5	-0.7
	0.4nm,0.3s,mb3.5,baz=254,slow=9.6,SNR=2.3						
ZAL	Zalesovo	41.15	353	P	P	20 14 14.5	-0.7
CHKZ	Chkalovo	44.03	341	eP	P	20 14 38.2	-0.5
	1.5nm,0.8s,mb3.8						
NWAO	Narrogin (SRO)	51.49	153	P	P	20 15 37.0	-0.2
	46nm,1.5s,mb5.2,slow=11,SNR=3.5						
WRA	Warramunga Arr	52.58	128	P	P	20 15 45.7	+0.2
	0.5nm,0.6s,mb3.6,baz=306,slow=8.2,SNR=6.8						
ASAR	Alice Springs	54.46	132	P	P	20 15 59.3	-0.1
	0.4nm,0.7s,mb3.5,baz=312,slow=6.4,SNR=6.8						
BRTR	Keskin Array B	57.95	309	P	P	20 16 23.4	-0.7
	1.0nm,0.8s,mb3.9,baz=108,slow=7.7,SNR=6.2						
FINES	FINESS Array B	67.39	331	P	P	20 17 28.3	+1.8
	2.3nm,0.8s,mb4.2,baz=180,slow=5.7,SNR=3.8						
FINES	FINESS Array B	67.39	331	P	P	20 17 28.3	+1.8

IGQ 21 20:07:47.3, 1.16S×81.43W, h12km±26km, mb4.0, Error ellipse: s-maj=26.1km s-min=11.4km az=174.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.81	97	P	Pn	20 08 33.8	+0.8
JUA2	San Juan 2	2.97	72	P	Pn	20 08 36.5	+1.2
PINO	Pino	2.99	71	P	Pn	20 08 36.4	+0.8
PINO				S	Sn	20 09 12.9	+1.3
ARRY	Arrayan	2.99	97	P	Pn	20 08 36.3	+0.8
ULBA	Ulba	3.03	96	P	Pn	20 08 37.7	+1.6
YANA	Yana	3.04	70	P	Pn	20 08 36.4	+0.2
PISA	Pisayambo	3.04	88	P	Pn	20 08 38.5	+2.2
VC1	Cotopaxi 1	3.07	80	P	Pn	20 08 39.6	+2.9
TAMB	Tambo	3.09	81	P	Pn	20 08 40.1	+3.1
ANTI	Antisana	3.34	78	P	Pn	20 08 43.0	+2.5
COTA	Cotacachi	3.43	64	P	Pn	20 08 42.7	+1.0
CAYR	Refugio Cayamb	3.61	71	P	Pn	20 08 47.3	+2.9
CAYA	Cayambe	3.65	70	P	Pn	20 08 47.3	+2.4

IGQ 21 20:10:09.4, 1.27S×80.68W, h12km±36km, mb4.0, 1C, Error ellipse: s-maj=36.3km s-min=8.7km az=166.6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.05	96	P	Pn	20 10 46.2	+2.1
ARRY	Arrayan	2.23	96	P	Pn	20 10 47.5	+0.7
PATA	Patacocha	2.26	96	P	Pn	20 10 48.0	+0.9
ULBA	Ulba	2.28	94	P	Pn	20 10 50.8	+3.4
ULBA				S	Sn	20 11 17.1	+1.5
NAS1	Nasa	2.29	74	P	Pn	20 10 50.3	+2.6
PISA	Pisayambo	2.30	85	P	Pn	20 10 51.3	+3.5
JUA2	San Juan 2	2.32	63	P	Pn	20 10 49.5	+1.4
TERV	Terraza Guagua	2.34	62	P	Pn	20 10 50.7	+2.3
PINO	Pino	2.35	62	⇑P	Pn	20 10 49.5	+1.1
VC1	Cotopaxi 1	2.36	75	P	Pn	20 10 51.6	+3.0
TAMB	Tambo	2.38	76	P	Pn	20 10 51.2	+2.3
YANA	Yana	2.40	61	P	Pn	20 10 50.6	+1.4
ANTI	Antisana	2.65	72	P	Pn	20 10 56.1	+3.4
COTA	Cotacachi	2.83	56	P	Pn	20 10 56.3	+1.0
CAYR	Refugio Cayamb	2.96	64	P	Pn	20 11 00.7	+3.5
CAYA	Cayambe	3.00	64	P	Pn	20 11 00.8	+3.1

*IDC **21** 20:23:54.0±10.0, 36.32N×71.01E, h156km±93km, mb3.4/7, mb1 3.5/8, mb1mx3.2/19, mbtmp3.8/8, Error ellipse: s-maj=58.9km s-min=22.2km az=39.0*
*NEIC **21** 20:23:55.2±3.4, 36.36N×71.01E, h167km±27km, mb3.7/3, Error ellipse: s-maj=33.9km s-min=14.1km az=47.0*
ISC 21 20:23:54.4±0.8, 36.41N±0.07×70.7E±0.1, h167km, n25, σ0°96/26, mb3.5/6, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	5.81	130	eP	P	20 25 21.0	+1.5
DLH				eS	S	20 26 25.0	-0.7
AML	Almayashu	6.16	21	P	P	20 25 25.2	+1.0
	SNR=25						
EKS2	Erkin-Say	6.67	20	P	P	20 25 31.9	+0.9
	SNR=25						
AAK	Ala-Archa	6.87	24	P	P	20 25 31.9	-1.6
	SNR=6.4						
AAK	Ala-Archa	6.87	24	ePn	P	20 25 33.1	-0.4
	2.7nm,0.5s						
USP	Ospenovka	7.44	22	P	P	20 25 41.2	0.0
	SNR=9.8						
TKM2	Tokmak 2	7.51	29	P	P	20 25 42.8	+0.7
	SNR=6.7						
KOLN	Koldanda	13.90	125	eP	P	20 27 04.5	-0.7
GKN	Gorkha	14.46	122	eP	P	20 27 11.8	-0.4
	24nm,0.4s						
DMN	Daman	15.03	122	eP	P	20 27 20.3	+1.0
	20nm,0.5s						
KKN	Kakani	15.03	121	eP	P	20 27 19.4	0.0
	16nm,0.4s						
PKI	Pulchoki	15.26	121	eP	P	20 27 23.1	+0.9
	9.3nm,0.3s						
JIRN	Jiri	15.75	119	eP	P	20 27 29.2	+0.9
	23nm,0.3s						
BVAR	Borovoye Array	16.61	359	P	P	20 27 37.8	-0.9
	0.3nm,0.3s,baz=162,slow=9.4,SNR=9.4						
BRVK	Borovoye	16.65	359	eP	P	20 27 39.0	-0.1
	2.0nm,0.6s						
CHKZ	Chkalovo	17.26	360	eP	P	20 27 45.6	-0.9
	1.2nm,0.5s						
ZAL	Zalesovo	20.07	25	P	P	20 28 14.9	-1.4
	1.2nm,0.3s,baz=124,slow=5.8,SNR=4.9						
FINES	FINESS Array B	37.42	326	P	P	20 30 54.0	+1.4
	1.5nm,0.9s,mb3.6,baz=162,slow=6.0,SNR=5.2						
ARCES	ARCESS Array B	41.13	338	P	P	20 31 24.0	+0.9
	4.5nm,1.2s,mb4.0,baz=123,slow=7.3,SNR=6.6						
ARCES	ARCESS Array B	41.13	338	P	P	20 31 24.0	+0.9
NOA	NORSAR Array B	44.31	323	P	P	20 31 48.9	+0.2
	1.0nm,1.0s,mb3.4,baz=138,slow=19,SNR=2.7						
YKA	Yellowknife Ar	81.34	2	P	P	20 35 53.0	0.0
	0.3nm,0.4s,mb3.3,baz=351,slow=5.3,SNR=10						
YKA	Yellowknife Ar	81.34	2	P	P	20 35 53.0	0.0
WRA	Warramunga Arr	82.14	122	P	P	20 35 56.1	-1.9
	0.3nm,0.4s,mb3.3,baz=324,slow=5.0,SNR=13						
ASAR	Alice Springs	84.40	125	P	P	20 36 07.9	-1.4
	0.6nm,0.6s,mb3.5,baz=314,slow=5.0,SNR=12						

ISC 21 20:30:28.3±0.4, 46.32N±0.02×13.15E±0.03, h10km, n15, σ0°57/28, 3C-8D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOO	Bordano	0.03	263	⇑iPg	Pg	20 30 29.6	-0.5
BOO				i Sg	Sg	20 30 30.4	-1.1
BUA	Buia	0.11	189	⇓iPg	Pg	20 30 30.9	-0.2
BAD	Bernadia	0.11	142	⇓iPg	Pg	20 30 30.8	-0.3
BAD				i Sg	Sg	20 30 32.8	-0.2
MPRI	Monte Prat	0.14	233	⇓iPg	Pg	20 30 31.5	-0.1
MPRI				eSg	Sg	20 30 33.9	+0.2
PLRO	Paularo	0.23	0	⇓iPg	Pg	20 30 32.9	-0.3
PLRO				eSg	Sg	20 30 37.1	+0.8
COLI	Coloredo	0.25	140	⇓iPg	Pg	20 30 33.5	-0.1
COLI				i Sg	Sg	20 30 37.8	+0.7
ZOU	Zoufplan	0.26	333	⇓iPg	Pg	20 30 33.6	-0.2
ZOU				eSg	Sg	20 30 38.0	+0.5
ROBS	Robic	0.26	107	i Pg	Pg	20 30 33.3	-0.5
ROBS				i Sg	Sg	20 30 37.5	-0.1
	comp=Z,16nm,0.1s						
LSR	Lussari	0.30	60	⇓iPg	Pg	20 30 34.4	-0.3
LSR				i Sg	Sg	20 30 39.3	+0.5
DRE	Drenchia	0.38	113	⇓iPg	Pg	20 30 35.6	-0.4
DRE				i Sg	Sg	20 30 41.6	+0.5
MLNI	Malnisio	0.41	245	⇑iPg	Pg	20 30 36.7	0.0
MLNI				eSg	Sg	20 30 43.6	+1.4
CADS	Cadrg	0.42	103	i Pg	Pg	20 30 36.0	-0.8
CADS				i Sg	Sg	20 30 42.8	+0.2
	comp=Z,16nm,0.1s						
VOJS	Vojsko	0.59	119	i Pg	Pg	20 30 39.2	-1.0
VOJS				i Sg	Sg	20 30 49.1	+0.9
KBA	Koelnbreinsper	0.77	10	⇑iPG	Pg	20 30 43.1	-0.6
KBA				i SG	Sg	20 30 54.4	+0.4
	comp=Z,4.5nm,0.2s						
CEY	Cerknica	1.07	123	i Sg	Sg	20 31 04.5	+0.6
	comp=Z,3.0nm,0.1s						

IGQ 21 20:42:54.2, 1.03S×81.28W, h12km±25km, mb4.2, 3D, Error ellipse: s-maj=24.8km s-min=8.6km az=175.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUA2	San Juan 2	2.80	73	P	Pn	20 43 41.1	+1.5
TERV	Terraza Guagua	2.81	72	P	Pn	20 43 41.0	+1.2
PINO	Pino	2.81	72	P	Pn	20 43 40.7	+0.9
NAS1	Nasa	2.83	82	⇓P	Pn	20 43 41.8	+1.7
JUIV	Juive	2.84	98	P	Pn	20 43 42.1	+1.8
YANA	Yana	2.86	71	P	Pn	20 43 41.8	+1.3
PATA	Patacocha	2.88	99	P	Pn	20 43 41.2	+0.3
RUN2	Runtun	2.89	98	P	Pn	20 43 42.6	+1.6
PISA	Pisayambo	2.90	91	P	Pn	20 43 43.5	+2.5
ULBA	Ulba	2.90	98	P	Pn	20 43 42.8	+1.6
ULBA				S	Sn	20 44 14.2	-2.1
VC1	Cotopaxi 1	2.90	82	P	Pn	20 43 42.9	+

az=14.9
NEIC ***21*** *20:48:59.9±0.3,32.78S×178.76W,h10km,mb5.2/22, Error ellipse: s-maj=10.6km s-min=8.7km az=151.0*
IDC ***21*** *20:49:04.9±1.8,32.78S×178.73W,h44km±15km,mb4.4/14, mb1 4.6/16,mb1mx4.6/17,mbtmp4.7/16,ML5.0/2,MS5.0/12, Ms1 5.0/12,ms1mx4.4/20,Error ellipse: s-maj=17.3km s-min=10.8km az=171.0*
ISC 21 20:48:58.3±1.3,32.80S±0.04×178.83W±0.07,h7km±8km, n185,σ1§34/114,mb5.0/28,MS5.0/15,14C-5D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.30**	**205**	P	**Pn**	**20 50 19.4**	**-0.5**
MXZ				S	**Sn**	**20 51 24.8**	**+2.7**
WIZ	**White Island**	**5.74**	**214**	P	**Pn**	**20 50 28.8**	**+2.8**
PUZ	**Puketiti**	**5.77**	**204**	P	**Pn**	**20 50 25.5**	**-1.1**
PUZ				S	**Sn**	**20 51 34.8**	**+0.9**
KUZ	**Kuaotunu**	**5.97**	**227**	P	**Pn**	**20 50 33.5**	**+4.2**
MWZ	**Matawai**	**6.27**	**207**	P	**Pn**	**20 50 32.0**	**-1.6**
MWZ				S	**Sn**	**20 51 47.7**	**+1.3**
URZ	**Urewera**	**6.38**	**210**	P	**Pn**	**20 50 35.2**	**+0.1**
	57nm,0.3s,baz=331,slow=0.8,SNR=137						
URZ				S	**Sn**	**20 51 49.2**	**+0.2**
	141nm,0.3s,baz=171,slow=23,SNR=10						
URZ	**Urewera**	**6.38**	**210**	P	**Pn**	**20 50 33.6**	**-1.4**
EDRZ	**Edgecumbe**	**6.41**	**213**	P	**Pn**	**20 50 37.7**	**+2.1**
WCZ	**Waipu Caves**	**6.46**	**239**	P	**Pn**	**20 50 41.5**	**+5.3**
LIRZ	**Lichensteins R**	**6.50**	**216**	P	**Pn**	**20 50 40.9**	**+4.1**
TAZ	**Tarawera**	**6.62**	**214**	P	**Pn**	**20 50 40.9**	**+2.4**
OUZ	**Omahuta**	**6.74**	**247**	P	**Pn**	**20 50 45.9**	**+5.7**
KNZ	**Kokohu**	**6.83**	**204**	P	**Pn**	**20 50 39.1**	**-2.3**
KNZ				S	**Sn**	**20 51 59.0**	**-1.2**
PATZ	**Paeroa**	**6.86**	**214**	P	**Pn**	**20 50 43.0**	**+1.2**
BKZ	**Black Stump Fm**	**7.40**	**209**	P	**Pn**	**20 50 47.2**	**-2.2**
RATZ	**Rangitukua**	**7.47**	**214**	P	**Pn**	**20 50 51.6**	**+1.1**
HIZ	**Hauiti**	**7.67**	**220**	P	**Pn**	**20 50 55.5**	**+2.2**
MGZ	**Maungaku**	**7.69**	**215**	P	**Pn**	**20 50 54.1**	**+0.6**
NGZ	**Ngauruhoe**	**7.80**	**214**	P	**Pn**	**20 50 55.6**	**+0.5**
CNZ	**Chateau**	**7.84**	**214**	P	**Pn**	**20 50 57.2**	**+1.5**
FWVZ	**Far West T-bar**	**7.89**	**214**	P	**Pn**	**20 50 57.5**	**+1.2**
TSZ	**Takapari Road**	**8.37**	**209**	P	**P**	**20 51 00.0**	**-3.0**
WAZ	**Wanganui**	**8.55**	**214**	P	**P**	**20 51 03.9**	**-1.6**
BFZ	**Birch Farm**	**8.80**	**205**	P	**P**	**20 51 05.8**	**-3.2**
MRZ	**Mangatainoka R**	**9.04**	**208**	P	**P**	**20 51 07.8**	**-4.5**
KIW	**Kapiti Island**	**9.48**	**210**	P	**P**	**20 51 14.1**	**-4.3**
MTW	**Mount Morrison**	**9.49**	**207**	P	**P**	**20 51 14.5**	**-4.1**
CAW	**Cannon Point**	**9.62**	**209**	P	**P**	**20 51 16.2**	**-4.1**
MRW	**Makara Radio**	**9.87**	**210**	P	**P**	**20 51 21.4**	**-2.4**
NNZ	**Nelson**	**10.46**	**214**	P	**P**	**20 51 27.9**	**-3.9**
QRZ	**Quartz Range**	**10.59**	**218**	P	**P**	**20 51 30.7**	**-2.9**
THZ	**Tophouse**	**11.10**	**214**	P	**P**	**20 51 36.4**	**-4.2**
KHZ	**Kahutara**	**11.34**	**210**	P	**P**	**20 51 39.7**	**-4.2**
MQZ	**McQueen's Vall**	**12.77**	**209**	P	**P**	**20 51 58.7**	**-4.5**
RPZ	**Rata Peaks**	**13.48**	**213**	P	**P**	**20 52 08.9**	**-3.5**
	3.7nm,0.3s,baz=199,slow=2.5,SNR=8.4						
RPZ				S	**S**	**20 54 31.8**	**-12**
	7.6nm,0.3s,baz=319,slow=22,SNR=9.4						
ODZ	**Otahua Downs**	**14.70**	**211**	P	**P**	**20 52 24.9**	**-3.6**
DZM	**Mont Dzumac**	**16.86**	**306**	*e*P	**P**	**20 53 02.2**	**+5.6**
DZM	**Mont Dzumac**	**16.86**	**306**	*e*P	**P**	**20 53 02.2**	**+5.6**
NOUC	**Port Laguerre**	**16.94**	**305**	*e*P	**P**	**20 53 02.7**	**+5.2**
NOUC	**Port Laguerre**	**16.94**	**305**	*e*P	**P**	**20 53 02.7**	**+5.2**
AFI	**Afiamalu**	**19.88**	**21**	*e*P	**P**	**20 53 25.2**	**-7.9**
AFI				pmax	pmax		
	comp=Z,29nm,0.6s						
AFI	**Afiamalu**	**19.88**	**21**	*e*P	**P**	**20 53 25.2**	**-7.9**
	comp=Z,29nm,0.6s						
RAR	**Rarotonga**	**20.49**	**60**	LR	LR	20 59 46.1	
	comp=Z,791nm,20.3s,MS4.1,baz=223,slow=31						
CNB	**Canberra Magne**	**26.41**	**256**	*e*P	**P**	**20 54 41.9**	**+4.5**
	comp=Z,368nm,1.5s,mb5.7						
TBI	**Tubuai**	**27.50**	**78**	*e*LQ		20 59 51.8	
TBI				*e*LR	LR	21 01 06.8	
	comp=Z,6μm,28.0s,baz=242						
PPT	**Papeete**	**30.38**	**67**	*e*LQ		21 01 11.4	
PPT				*e*LR	LR	21 02 23.2	
	comp=Z,4μm,27.0s,baz=235						
STKA	**Stephens Creek**	**33.32**	**261**	*e*P	**P**	**20 55 40.8**	**+1.8**
	comp=Z,4.0nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**33.32**	**261**	P	**P**	**20 55 40.9**	**+1.9**
	comp=Z,4.2nm,0.5s,mb4.6,baz=105,slow=10,SNR=12						
STKA				ScP		21 02 01.7	
	comp=Z,3.8nm,1.1s,baz=127,slow=5.1,SNR=3.4						
STKA				LR	LR	21 08 55.1	
	comp=Z,6μm,18.1s,MS5.3,baz=90,slow=36						
CTA	**Charters Tower**	**33.57**	**283**	⇑*i*P	**P**	**20 55 43.1**	**+1.8**
	comp=Z,33nm,0.5s,mb5.5						
CTA	**Charters Tower**	**33.57**	**283**	P	**P**	**20 55 43.2**	**+1.9**
CTA				S	**S**	**21 01 04.6**	**+1.8**
CTA				pmax	pmax		
	comp=Z,31nm,0.5s						
CTA				smax			
	comp=E,5.0nm,1.0s						
CTA				MLR	MLR		
	comp=Z,3μm,21.0s						
CTA	**Charters Tower**	**33.57**	**283**	P	**P**	**20 55 43.2**	**+1.9**
	comp=Z,31nm,0.5s,mb5.5,baz=110,slow=10,SNR=84						
CTA				S	**S**	**21 01 04.5**	**+1.8**
	comp=Z,5.0nm,1.0s,baz=6.7,slow=20,SNR=6.5						
CTA				LR	LR	21 07 21.6	
	comp=Z,3μm,20.9s,MS4.9,baz=116,slow=33						
CTAO	**Charters Tower**	**33.57**	**283**	*e*P	**P**	**20 55 41.8**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,34nm,0.5s,mb5.5						
CTAO	**Charters Tower**	**33.57**	**283**	*e*P	**P**	**20 55 41.8**	**+0.5**
	comp=Z,34nm,0.5s,mb5.5						
PMG	**Port Moresby**	**39.07**	**299**	*e*P	**P**	**20 56 27.5**	**-0.4**
PMG				pmax	pmax		
	comp=Z,32nm,0.9s						
PMG	**Port Moresby**	**39.07**	**299**	P	**P**	**20 56 28.8**	**+0.9**
	comp=Z,31nm,0.9s,mb5.0,baz=214,slow=2.5,SNR=4.5						
PMG				LR	LR	21 10 27.7	
	comp=Z,3μm,19.7s,MS5.1,baz=106,slow=33						
PMG	**Port Moresby**	**39.07**	**299**	*e*P	**P**	**20 56 27.5**	**-0.3**
	comp=Z,32nm,0.9s,mb5.0						
DRV	**Dumont d'Urvil**	**41.66**	**203**	S	**S**	**21 03 10.0**	**+4.7**
DRV				R		21 09 00.0	
ASAR	**Alice Springs**	**42.34**	**270**	P	**P**	**20 56 55.9**	**+1.1**
	comp=Z,34nm,0.6s,mb5.2,baz=107,slow=7.1,SNR=316						
ASAR				S	**S**	**21 03 14.8**	**-1.1**
	comp=Z,3.9nm,1.0s,baz=112,slow=14,SNR=6.6						
ASAR				LR	LR	21 14 16.0	
	comp=Z,867nm,18.5s,MS4.7,baz=119,slow=36						
ASPA	**Alice Springs**	**42.34**	**270**	⇑*i*P	**P**	**20 56 55.3**	**+0.5**
ASPA				*e*S	**S**	**21 03 13.3**	**-2.6**
TAOE	**Nuku Hiva Isla**	**42.93**	**65**	*e*LR	LR	21 08 14.3	
	baz=240						
WB2	**Warramunga Arr**	**43.53**	**275**	⇑*i*P	**P**	**20 57 04.7**	**+0.2**
WB2				*e*S	**S**	**21 03 29.8**	**-3.6**
WRAB	**Tennant Creek**	**43.54**	**275***c*	*i*P	**P**	**20 57 04.8**	**+0.2**
WRAB	**Tennant Creek**	**43.54**	**275**	*e*P	**P**	**20 57 04.5**	**-0.1**
	comp=Z,57nm,0.5s,mb5.6						
WRA	**Warramunga Arr**	**43.54**	**275**	P	**P**	**20 57 04.8**	**+0.2**
WRA				S	**S**	**21 03 30.2**	**-3.3**
WRA	**Warramunga Arr**	**43.54**	**275**	P	**P**	**20 57 04.8**	**+0.2**
	comp=Z,42nm,0.5s,mb5.5,baz=114,slow=7.9,SNR=546						
WRA				ScP		21 02 39.3	
	comp=Z,4.1nm,0.8s,baz=114,slow=4.0,SNR=8.6						
WRA				S	**S**	**21 03 30.2**	**-3.3**
	comp=Z,2.9nm,0.8s,baz=115,slow=15,SNR=5.9						
FORT	**Forrest**	**44.80**	**258**	*e*P	**P**	**20 57 13.9**	**-0.7**
	comp=Z,99nm,0.5s,mb5.9						
SBA	**Scott Base**	**45.60**	**184**	*e*P	**P**	**20 57 19.3**	**-1.1**
SBA				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
SBA	**Scott Base**	**45.60**	**184**	*e*P	**P**	**20 57 19.3**	**-1.1**
	comp=Z,13nm,0.9s,mb4.8						
KAKA	**Kakadu**	**48.70**	**283**	⇓*i*P	**P**	**20 57 45.3**	**-0.3**
	comp=Z,25nm,0.6s,mb5.4						
FITZ	**Fitzroy Crossi**	**51.70**	**272**	*e*P	**P**	**20 58 07.5**	**-0.9**
	comp=Z,25nm,0.6s,mb5.3						
CASY	**Casey**	**52.70**	**209**	*e*P	**P**	**20 58 15.2**	**-0.2**
	comp=Z,16nm,0.6s,mb5.1						
NWAO	**Narrogin (SRO)**	**52.92**	**251**	P	**P**	**20 58 15.4**	**-2.1**
	comp=Z,5.3nm,0.7s,mb4.6,baz=151,slow=3.2,SNR=6.5						
MBWA	**Marble Bar**	**55.30**	**266**	*e*P	**P**	**20 58 32.7**	**-2.3**
	comp=Z,11nm,0.7s,mb5.0						
QSPA	**South Pole Qui**	**57.32**	**180**	⇓*i*P	**P**	**20 58 50.0**	**+1.2**
	comp=Z,49nm,0.9s,mb5.5						
MAW	**Mawson**	**69.82**	**201**	P	**P**	**21 00 11.7**	**+0.6**
	comp=Z,3.9nm,0.4s,mb4.7,baz=161,slow=2.9,SNR=6.2						
CBIJ	**Chichi jima**	**70.16**	**323**	LR	LR	21 26 57.3	
	comp=Z,651nm,20.7s,MS4.9,baz=164,slow=32						
SYO	**Syowa Base**	**74.62**	**193**	⇓P	**P**	**21 00 39.4**	**0.0**
SYO	**Syowa Base**	**74.62**	**193**	⇑pP	pP	21 00 42.8	+1.3
SYO	**Syowa Base**	**74.62**	**193**	⇑PcP	PcP	21 00 54.9	+0.8
SNAA	**Sanae**	**75.78**	**179**	P	**P**	**21 00 46.7**	**+0.7**
SNAA	**Sanae**	**75.78**	**179**	P	**P**	**21 00 46.6**	**+0.6**
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SNAA	**Sanae**	**75.78**	**179**	P	**P**	**21 00 46.6**	**+0.6**
	comp=Z,1.8nm,0.5s,mb4.3,baz=199,slow=8.5,SNR=14						
SNAA	**Sanae**	**75.78**	**179**	*e*P	**P**	**21 00 45.8**	**-0.2**
	comp=Z,150nm,0.8s,mb6.0						
VNA3	**Neumayer Olymp**	**75.97**	**176**	⇑*i*P	**P**	**21 00 46.4**	**-0.7**
VNA3	**Neumayer Olymp**	**75.97**	**176**	⇑*i*	**P**	**21 00 52.8**	**+5.7**
VNA3	**Neumayer Olymp**	**75.97**	**176**	⇑*i*	PcP	21 00 58.3	-1.5
JHJ	**Hachijo jima 2**	**76.28**	**325**	LR	LR	21 28 11.2	
	comp=Z,898nm,21.6s,MS5.0,baz=348,slow=31						
VNA2	**Neumayer--Watz**	**76.39**	**177**	⇓*i*P	**P**	**21 00 50.6**	**+1.1**
VNA2	**Neumayer--Watz**	**76.39**	**177**	⇓*i*	**P**	**21 00 55.5**	**+6.0**
VNA2	**Neumayer--Watz**	**76.39**	**177**	⇓*i*	PcP	21 00 57.8	-3.9
JOW	**Kunigami**	**77.76**	**313**	LR	LR	21 34 06.0	
	comp=Z,934nm,18.1s,MS5.2,baz=258,slow=35						
PLCA	**Paso Flores**	**81.39**	**133**	P	**P**	**21 01 16.9**	**-0.3**
PLCA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
PLCA				MLR	MLR		
	comp=Z,684nm,20.6s						
PLCA	**Paso Flores**	**81.39**	**133**	P	**P**	**21 01 16.9**	**-0.3**
	comp=Z,3.7nm,0.8s,mb4.3,baz=264,slow=7.6,SNR=7.5						
PLCA				LR	LR	21 28 33.9	
	comp=Z,684nm,20.6s,MS5.0,baz=230,slow=29						
PLCA	**Paso Flores**	**81.39**	**133**	*e*P	**P**	**21 01 16.7**	**-0.5**
	comp=Z,3.4nm,0.7s,mb4.4						
ASAJ	**Asahikawa**	**84.24**	**333**	LR	LR	21 37 56.2	
	comp=Z,2μm,19.2s,MS5.5,baz=180,slow=35						
WDC	**Whiskeytown Da**	**89.62**	**39**	*e*P	**P**	**21 01 58.4**	**+0.4**
WDC				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb5.0						
WDC	**Whiskeytown Da**	**89.62**	**39**	*e*P	**P**	**21 01 58.4**	**+0.3**
	comp=Z,9.4nm,1.1s,mb5.0						
YBH	**Yreka Blue Hor**	**90.35**	**38**	P	**P**	**21 02 01.8**	**+0.4**
	comp=Z,3.8nm,1.0s,mb4.7,baz=234,slow=1.5,SNR=5.0						
NVAR	**Mina Array Bea**	**90.47**	**43**	P	**P**	**21 02 03.0**	**+0.9**
	comp=Z,3.2nm,0.8s,mb4.7,baz=229,slow=10,SNR=21						
MNV	**Mina**	**90.56**	**43**	*e*P	**P**	**21 02 02.7**	**+0.2**
MNV				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.7						
MNV	**Mina**	**90.56**	**43**	*e*P	**P**	**21 02 02.7**	**+0.2**
	comp=Z,3.6nm,1.0s,mb4.7						
TUC	**Tucson**	**91.15**	**52**	*e*P	**P**	**21 02 05.6**	**+0.2**
TUC				pmax	pmax		
	comp=Z,23nm,1.6s,mb5.3						
TUC	**Tucson**	**91.15**	**52**	*e*P	**P**	**21 02 05.6**	**+0.2**
	comp=Z,23nm,1.6s,mb5.3						
ENH	**Enshi**	**92.37**	**305**	P	**P**	**21 02 10.6**	**-0.4**
	comp=Z,3.1nm,0.5s,mb4.9						
WVOR	**Wild Horse Val**	**93.01**	**40**	*e*P	**P**	**21 02 14.6**	**+1.0**
WVOR				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb5.1						
WVOR	**Wild Horse Val**	**93.01**	**40**	*e*P	**P**	**21 02 14.6**	**+1.0**
	comp=Z,8.5nm,1.1s,mb5.1						
CMAR	**Chiang Mai Arr**	**93.53**	**290**	P	**P**	**21 02 16.7**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=90,slow=1.8,SNR=3.9						
CMAR				PKKPbc		21 19 22.8	
	comp=Z,0.7nm,0.7s,baz=286,slow=4.9,SNR=6.9						
TXAR	**Lajitas Array**	**94.27**	**58**	P	**P**	**21 02 19.2**	**-0.5**
	comp=Z,0.8nm,0.7s,mb4.3,baz=180,slow=5.0,SNR=6.3						
TXAR				LR	LR	21 40 07.8	
	comp=Z,796nm,18.4s,MS5.2,baz=285,slow=32						
LPAZ	**La Paz**	**97.80**	**115**	*e*P	**P**	**21 02 36.6**	**+0.6**
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LPAZ	**La Paz**	**97.80**	**115**	P	**P**	**21 02 36.5**	**+0.5**
	comp=Z,1.5nm,0.6s,mb4.7,baz=230,slow=5.0,SNR=10						
LPAZ				LR	LR	21 37 02.0	
	comp=Z,433nm,20.9s,MS4.9,baz=72,slow=29						
LPAZ	**La Paz**	**97.80**	**115**	*e*P	**P**	**21 02 36.6**	**+0.6**
	comp=Z,2.2nm,0.8s,mb4.7						
PDAR	**Pinedale Array**	**98.35**	**44**	P	**P**	**21 02 37.0**	**-0.9**
	comp=Z,0.4nm,0.9s,mb4.0,baz=225,slow=4.2,SNR=4.1						
CPUP	**Villa Florida**	**99.04**	**129**	P	**P**	**21 02 41.1**	**-0.4**
	comp=Z,0.0nm,0.4s,baz=208,slow=8.5,SNR=3.0						
SONM	**Songino Array**	**104.44**	**318**	PKKPbc		21 18 50.7	
	comp=Z,0.4nm,0.6s,baz=277,slow=2.4,SNR=4.6						
YKA	**Yellowknife Ar**	**107.90**	**26**	PKiKP		21 07 27.0	
	comp=Z,0.3nm,0.5s,baz=246,slow=1.4,SNR=5.3						
YKA				PKKPbc		21 18 40.2	
	comp=Z,0.7nm,0.7s,baz=37,slow=3.2,SNR=9.7						
YKA				PKKPab		21 18 50.8	
	comp=Z,0.5nm,0.6s,baz=41,slow=3.1,SNR=7.0						
YKA				PKKP	PKKP	21 18 57.0	+7.3
	comp=Z,0.6nm,0.7s,baz=40,slow=3.4,SNR=7.3						
YKA	**Yellowknife Ar**	**107.90**	**26**	PKPdf		21 07 27.1	
YKA				PKKPbc		21 18 40.2	
YKA				PKKPab		21 18 50.8	
YKA				PKKP	PKKP	21 18 57.0	+7.3
ZAL	**Zalesovo**	**119.34**	**318**	PKP	PKPdf	21 07 47.2	-3.5
	comp=Z,1.4nm,0.7s,baz=210,slow=3.4,SNR=5.2						
RES	**Resolute Bay**	**119.74**	**18**	*e*PKiKP	PKPdf	21 07 48.4	-2.7
KURK	**Kurchatov**	**122.17**	**313**	*e*PKiKP	PKPdf	21 07 52.9	-3.4
AAK	**Ala-Archa**	**122.83**	**303**	⇓*i*PKiKP	PKPdf	21 07 54.3	-3.4
AAK				MLR	MLR		
	comp=Z,300nm,19.0s,MS5.0						
AAK	**Ala-Archa**	**122.83**	**303**	*e*PKPdf	PKPdf	21 07 54.2	-3.6
CHKZ	**Chkalovo**	**127.54**	**315**	*e*PKiKP	PKPdf	21 08 03.3	-3.3
BRVK	**Borovoye**	**127.67**	**315**	*e*PKiKP	PKPdf	21 08 03.4	-3.5
KMBO	**Kilima Mbogo**	**132.07**	**232**	PKP	PKPdf	21 08 16.4	0.0
	comp=Z,0.5nm,0.4s,baz=62,slow=21,SNR=3.2						
ARU	**Arti**	**134.46**	**319**	*i*PKiKP	PKPdf	21 08 12.1	-7.5
ARU				*e*		21 15 20.4	
KEV	**Kevo**	**140.29**	**346**	*e*pkp	PKPdf	21 08 19.8	-10
ARCES	**ARCESS Array B**	**140.77**	**347**	PKhKP		21 08 23.1	
	comp=Z,2.0nm,0.4s,baz=38,slow=2.5,SNR=25						
ARCES				PKP	PKPdf	21 08 29.1	-1.6
	comp=Z,4.6nm,0.5s,baz=45,slow=2.6,SNR=18						
ARCES	**ARCESS Array B**	**140.77**	**347**	PKP	PKPdf	21 08 29.1	-1.6
KTK1	**Kautokeino**	**141.64**	**347**	*e*P	PKPdf	21 08 27.1	-5.1
KTK1				AMb	AMB	21 08 30.6	
	comp=Z,44nm,2.1s						
TRO	**Tromso**	**141.80**	**350**	*e*P	PKPdf	21 08 25.8	-6.7
TRO				AMb	AMB	21 08 39.3	
	comp=Z,46nm,1.9s						
LOF	**Lofoten**	**143.91**	**352**	*e*P	PKPbc	21 08 35.4	+2.8
LOF				AMb	AMB	21 08 46.5	
	comp=Z,81nm,1.6s						
JOF	**Joensuu**	**144.36**	**337**	*e*pkp	PKPdf	21 08 33.6	-3.4
GNI	**Garni**	**144.49**	**295**	⇑*i*PKiKP	PKPdf	21 08 38.5	+0.5
GNI				MLR	MLR		
	comp=Z,300nm,21.0s						
GNI	**Garni**	**144.49**	**295**	*e*PKPdf	PKPdf	21 08 37.0	-1.0
TI2	**Plekhanov**	**144.51**	**297**	*e*PKiKP	PKPdf	21 08 34.6	-3.4
ZEI	**Tsey**	**145.12**	**299**	*e*PKiKP	PKPdf	21 08 36.6	-2.4
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MSL	**Mosul**	**145.49**	**288**	*e*PKP	PKPdf	21 08 37.5	-2.4
GOF	**Gofitskoye**	**145.58**	**303**	*e*PKiKP	PKPdf	21 08 38.0	-1.7
GOF				pmax	pmax		
	comp=Z,50nm,1.2s						
MOR8	**Moi Rana**	**145.66**	**350**	*e*P	PKPbc	21 08 36.0	-1.3
MOR8				AMb	AMB	21 08 44.2	
	comp=Z,61nm,0.7s						
MOS	**Moscow**	**145.87**	**323**	*e*PKHKP		21 08 31.3	
MOS				*e*		21 08 37.7	
KIV	**Kislovodsk**	**145.93**	**301**	*i*PKP2	PKPab	21 08 40.2	-0.8
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV	**Kislovodsk**	**145.93**	**301**	*e*PKPbc	PKPbc	21 08 39.9	+1.3
KAF	**Kangasniemi**	**146.54**	**339**	*e*pkp	PKPdf	21 08 38.5	-2.3
	baz=41,slow=2.8						
VOR	**Voronezh**	**146.59**	**316**	PKP2	PKPab	21 08 40.0	-3.3
VOR				pmax	pmax		
	comp=Z,50nm,1.8s						
OBN	**Obninsk**	**146.69**	**323***c*	*i*PKiKP	PKPdf	21 08 37.9	-3.4
OBN				*i*		21 08 42.0	
OBN				*i*		21 08 43.9	
OBN				pmax	pmax		
	comp=Z,37nm,1.4s						
OBN				MLR	MLR		
	comp=Z,300nm,17.0s,MS5.1						
OBN	**Obninsk**	**146.69**	**323**	*e*PKPdf	PKPdf	21 08 38.4	-2.9
ERZM	**Erzurum**	**147.07**	**294**	*i*P	PKPdf	21 08 43.1	+0.7
BEST	**Besiri**	**147.08**	**290**	*i*P	PKPdf	21 08 41.4	-1.1
FINES	**FINESS Array B**	**147.13**	**338**	*i*PKP2	PKPab	21 08 41.2	-3.9
FINES				pmax	pmax		
	comp=Z,37nm,0.5s						
FINES	**FINESS Array B**	**147.13**	**338**	PKPbc	PKPdf	21 08 41.2	-0.6
	comp=Z,37nm,0.5s,baz=57,slow=3.8,SNR=239						
NSS	**Namsos**	**147.55**	**351**	*e*P	PKPdf	21 08 41.1	-1.3
NSS				AMb	AMB	21 08 55.2	
	comp=Z,102nm,2.2s						
ELZG	**Elazig**	**148.90**	**291**	*i*P	PKPdf	21 08 48.1	+2.7
MALT	**Malatya**	**149.34**	**291**	*e*PKP2	PKPab	21 08 48.6	-6.1
ANN	**Anapa**	**149.55**	**304**	*i*PKP2	PKPab	21 08 48.6	-6.8
ANN				pmax	pmax		
	comp=Z,100nm,1.0s						
GZT	**Gaziantep**	**149.99**	**289**	*i*P	PKPdf	21 08 49.4	+2.2
DOMB	**Dombas**	**150.30**	**352**	*e*P	PKPdf	21 08 50.7	+3.9
DOMB				AMb	AMB	21 08 54.8	
	comp=Z,67nm,1.7s						
NB2	**NORSAR Subarra**	**151.00**	**350**	PKP	PKPdf	21 08 51.2	+3.3
	comp=Z,7.6nm,0.6s,baz=12,slow=2.5						
NB2	**NORSAR Subarra**	**151.00**	**350**	PKPab	PKPdf	21 08 51.2	+3.3
NOA	**NORSAR Array B**	**151.00**	**350**	PKPbc	PKPdf	21 08 51.1	+3.2
	comp=Z,10.0nm,0.6s,baz=14,slow=4.1,SNR=44						
EIL	**Elat**	**151.02**	**273**	*e*PKPbc	PKPdf	21 08 52.4	+3.5
FOO	**Floro**	**151.08**	**356**	*e*P	PKPdf	21 08 53.3	+5.3
FOO				AMb	AMB	21 09 02.7	
	comp=Z,101nm,1.8s						
NAO01	**NORSAR Array S**	**151.23**	**350**	*e*PKPbc	PKPdf	21 08 52.4	+4.1
MNK	**Minsk**	**151.28**	**327**	⇑*e*PKIKP	PKPdf	21 08 48.0	-0.6
HYA	**Hoyanger**	**151.43**	**355**	*e*P	PKPdf	21 08 55.7	+7.2
HYA				AMb	AMB	21 09 18.8	
	comp=Z,115nm,2.0s						
BOYT	**Boyabat**	**151.90**	**298**	*i*P	PKPdf	21 08 54.6	+4.7
AKASG	**Malin Array Be**	**152.71**	**319**	PKPbc	PKPdf	21 08 55.5	+4.7
	comp=Z,8.5nm,0.7s,baz=58,slow=2.3,SNR=20						
BRTR	**Keskin Array B**	**153.02**	**294**	PKPbc	PKPdf	21 08 56.5	+4.9
	comp=Z,4.5nm,0.6s,baz=143,slow=3.9,SNR=31						
DBIC	**Dimbokro**	**153.40**	**167**	PKPbc	PKPdf	21 08 58.9	+6.1
	comp=Z,4.5nm,0.6s,baz=262,slow=0.6,SNR=8.4						
CLL	**Collm**	**159.57**	**338**	*i*PKP2	PKPab	21 09 36.1	-1.6
CLL				pmax	pmax		
	comp=Z,13nm,0.7s						
CLL	**Collm**	**159.57**	**338**	*i*PKP2	PKPab	21 09 36.1	-1.6
CLL				*i* *PPKP2		21 09 54.7	
CLL				*e*PP	PP	21 13 29.0	+9.3
CLL				*i* *PPP		21 13 46.2	
CLL				*i* *SPP		21 13 54.9	
BRG	**Berggiesshubel**	**159.64**	**336**	*e*PKP2	PKPab	21 09 37.4	-0.6
BRG				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BRG				MLR	MLR		
	comp=N,840nm,19.5s,MS5.7						
BRG				MLR	MLR		
	comp=E,680nm,19.5s,MS5.7						
BRG				MLR	MLR		
	comp=Z,980nm,19.5s,MS5.7						
KHC	**Kasperske Hory**	**161.23**	**334**	*e*P	PKPab	21 09 46.5	+1.6
GERES	**GERESS Array B**	**161.42**	**333**	PKPab	PKPab	21 09 43.4	-2.3
	comp=Z,0.6nm,0.5s,baz=27,slow=2.2,SNR=3.8						
BAIF	**Baives**	**162.61**	**353**	*e*P

SSE Sheshan 17.52 267 P **P** **20 55 27.5 -2.9**
comp=Z,12nm,1.0s
SSE pP 20 55 38.5
SSE S **S** **20 58 34.0 -8.6**
SSE sS 20 58 57.9
NJ2 Nanjing 19.24 271 *e*P **P** **20 55 49.8 -1.6**
NJ2 AP 20 55 58.3
NJ2 PP PP 20 56 05.8 -2.7
NJ2 PPP PPP 20 56 15.0 -2.5
NJ2 S **S** **20 59 13.0 -8.7**
NJ2 XS 20 59 26.0
NJ2 AMB AMB
comp=Z,20nm,1.1s
NJ2 AMB AMB
comp=Z,42nm,3.8s
NJ2 LR LR
comp=N,2μm,13.0s
NJ2 LR LR
comp=E,1μm,16.2s
NJ2 LR LR
comp=Z,4μm,14.6s
BJI Beijing 21.26 294 *e*P **P** **20 56 10.5 -2.2**
BJI S **S** **21 00 05.4 +2.6**
BJI pmax pmax
comp=Z,4.0nm,0.9s,mb3.8
BJI MLR MLR
comp=Z,260nm,16.2s,MS3.7
BJI Beijing 21.26 294 *e*P **P** **20 56 10.5 -2.2**
comp=Z,4.0nm,0.9s,mb3.8
BJI S **S** **21 00 05.4 +2.6**
BJI LR LR
comp=Z,260nm,16.2s,MS3.7
HIA Hailar 22.38 320 *e*P **P** **20 56 22.7 -1.2**
HIA pmax pmax
comp=Z,21nm,1.4s
HIA Hailar 22.38 320 *e*P **P** **20 56 22.7 -1.2**
comp=Z,21nm,1.4s,mb4.4
PET Petropavlovsk 22.66 27 *e*P **P** **20 56 30.5 +4.0**
PET *e*S **S** **21 00 31.2 +2.8**
PET smax
comp=N,300nm,14.0s
PET smax
comp=E,300nm,17.6s
PET MLR MLR
comp=Z,500nm,22.0s,MS3.9
WHN Wuhan 23.34 269 ⇑P **P** **20 56 33.4 0.0**
CLNS Chul'man 25.68 339 *e*P **P** **20 56 56.2 +0.6**
CLNS *e*PPP PPP 20 57 39.5 -7.9
CLNS *e* 21 00 25.2
CLNS *e*S **S** **21 01 20.0 -0.2**
CLNS *e*SS SS 21 02 29.5 +4.8
CLNS pmax pmax
comp=Z,13nm,1.0s,mb4.4
CLNS pmax pmax
comp=N,10.0nm,1.3s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS pmax pmax
comp=Z,15nm,1.0s,mb4.5
CLNS pmax pmax
comp=N,16nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS smax
comp=N,276nm,5.1s
CLNS smax
comp=Z,262nm,6.1s
CLNS smax
comp=E,81nm,4.0s
CLNS MLR MLR
comp=Z,700nm,18.0s,MS4.2
CLNS MLR MLR
comp=N,600nm,16.0s,MS4.3
CLNS MLR MLR
comp=E,200nm,13.0s,MS4.3
MA2 Magadan 26.41 10 *e*P **P** **20 57 02.2 -0.1**
MA2 *e*S **S** **21 01 30.6 -1.6**
MA2 *e*SSS SSS 21 03 04.5 +4.7
MA2 pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
MA2 MLR MLR
comp=Z,3μm,15.0s,MS4.9
MA2 Magadan 26.41 10 *e*P **P** **20 57 02.3 0.0**
comp=Z,19nm,1.3s,mb4.5
XAN Xi'an 27.12 280 P **P** **20 57 07.3 -1.8**
XAN AP pP 20 57 15.5 -0.9
XAN AMB AMB
comp=Z,3.0nm,0.8s,mb3.9
ENH Enshi 27.46 271 *e*P **P** **20 57 09.1 -3.1**
comp=Z,7.5nm,0.6s,mb4.4
YAK Yakutsk 29.20 348⇓*i*P **P** **20 57 22.0 -5.6**
YAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
SONM Songino Array 29.84 309 P **P** **20 57 34.2 +0.7**
comp=Z,1.6nm,0.7s,mb3.9,baz=109,slow=8.7,SNR=14
BOD Bodaibo 30.36 331 *e*P **P** **20 57 35.6 -2.3**
ZAK Zakamensk 32.48 312⇑*i*P **P** **20 57 56.6 -0.1**
TLY Talaya 32.64 315 *e*P **P** **20 57 58.5 +0.5**
TLY pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
TLY Talaya 32.64 315 *e*P **P** **20 57 58.5 +0.5**
comp=Z,5.6nm,1.2s,mb4.4
BILL Bilibino 37.01 15 *e*P **P** **20 58 35.0 -0.2**
BILL pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
BILL Bilibino 37.01 15 *e*P **P** **20 58 35.0 -0.2**
comp=Z,3.2nm,0.7s,mb4.3
TIXI Tiksi 38.45 354 *e*P **P** **20 58 47.1 -0.2**
TIXI *e*S **S** **21 04 41.8 +1.2**
TIXI pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
TIXI MLR MLR
comp=Z,469nm,13.0s,MS4.5
CM31 Chiang Mai Arr 41.02 259 *e*P **P** **20 59 07.0 -2.0**
comp=Z,4.8nm,0.8s,mb4.2
CMAR Chiang Mai Arr 41.02 259 P **P** **20 59 08.4 -0.6**
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 41.02 259 P **P** **20 59 08.3 -0.7**
comp=Z,2.8nm,0.8s,mb4.0,baz=48,slow=7.5,SNR=18
WMQ Urumqi 42.54 300 *e*P **P** **20 59 22.0 +0.7**
WMQ PP PP 21 01 03.8 +1.2
WMQ S **S** **21 05 40.0 -1.9**
WMQ AMB AMB
comp=Z,60nm,5.4s
WMQ LR LR
comp=N,327nm,17.8s,MS4.3
WMQ LR LR
comp=E,218nm,18.4s,MS4.3
WMQ LR LR
comp=Z,447nm,18.7s,MS4.4
LSA Lhasa 42.82 279 *e*P **P** **20 59 22.9 -0.8**
ZAL Zalesovo 44.27 315 P **P** **20 59 35.9 +0.7**
ZAL pmax pmax
comp=Z,1.0nm,0.7s
ZAL Zalesovo 44.27 315 P **P** **20 59 35.9 +0.7**
comp=Z,1.2nm,0.7s,mb3.7,baz=264,slow=8.6,SNR=9.0
JIRN Jiri 47.61 278 *e*P **P** **21 00 01.6 -0.5**
comp=Z,39nm,1.0s,mb5.4
KURK Kurchatov 48.11 310 *e*P **P** **21 00 04.9 -0.7**
KURK pmax pmax
comp=Z,16nm,1.0s,mb5.0
KURK Kurchatov 48.11 310 *e*P **P** **21 00 04.8 -0.7**
comp=Z,16nm,1.0s,mb5.0
PKI Pulchoki 48.29 278 *e*P **P** **21 00 06.9 -0.4**
comp=Z,38nm,1.4s,mb5.2
KKN Kakani 48.31 279 *e*P **P** **21 00 06.8 -0.7**
comp=Z,25nm,1.0s,mb5.2
DMN Daman 48.52 279 *e*P **P** **21 00 08.7 -0.4**
GKN Gorkha 48.76 279 *e*P **P** **21 00 09.8 -1.1**
comp=Z,101nm,1.6s,mb5.6
KOLN Koldanda 49.70 279 *e*P **P** **21 00 16.4 -1.8**
comp=Z,81nm,1.7s,mb5.5
MCK McKinley 51.16 32 *e*P **P** **21 00 29.4 +0.6**
MCK pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
MCK McKinley 51.16 32 *e*P **P** **21 00 29.4 +0.6**
comp=Z,1.4nm,0.7s,mb4.0
ILAR Eielson Array 52.06 31 P **P** **21 00 35.8 +0.2**
ILAR pmax pmax
comp=Z,3.0nm,0.8s
ILAR Eielson Array 52.06 31 P **P** **21 00 35.8 +0.1**
comp=Z,3.2nm,0.8s,mb4.3,baz=269,slow=6.3,SNR=32
AAK Ala-Archa 52.24 301 *e*P **P** **21 00 35.0 -2.3**
AAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
CHKZ Chkalovo 52.67 315 *e*P **P** **21 00 39.3 -1.0**
CHKZ pmax pmax
comp=Z,19nm,1.3s,mb4.9
CHKZ Chkalovo 52.67 315 *e*P **P** **21 00 39.3 -1.1**
comp=Z,19nm,1.3s,mb4.9
BRVK Borovoye 52.96 314 *e*P **P** **21 00 42.1 -0.4**
BRVK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BRVK Borovoye 52.96 314 *e*P **P** **21 00 42.1 -0.4**
comp=Z,5.4nm,1.0s,mb4.4
DDI Dehra Dun 53.26 285 *e* **P** **21 00 44.3 -0.8**
WRAB Tennant Creek 53.96 189 *i*P **P** **21 00 47.8 -2.4**
WRA Warramunga Arr 53.97 189 P **P** **21 00 49.6 -0.7**
comp=Z,3.2nm,0.6s,mb4.4,baz=3.4,slow=7.6,SNR=6.0
WRA ScP 21 05 53.3
comp=Z,0.3nm,0.5s,baz=128,slow=0.2,SNR=6.6
DAWY Dawson 55.35 32 P **P** **21 00 59.3 -0.6**
INK Inuvik 57.11 26 P **P** **21 01 12.7 +0.2**
INK pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 57.11 26 P **P** **21 01 12.7 +0.3**
comp=Z,1.3nm,0.8s,mb4.0,baz=243,slow=5.8,SNR=4.9
ASAR Alice Springs 57.69 188 P **P** **21 01 18.6 +1.4**
comp=Z,2.9nm,1.0s,mb4.3,baz=1.5,slow=6.2,SNR=5.4
HYB Hyderabad 58.40 271 *e*P **P** **21 01 22.0 -0.1**
HYB Hyderabad 58.40 271 *i*P **P** **21 01 22.0 -0.1**
ARU Arti 58.90 320 P **P** **21 01 24.3 -0.8**
comp=Z,116nm,0.6s,mb6.1,SNR=14
ARU Arti 58.90 320⇓*i*P **P** **21 01 19.8 -5.3**
ARU *e* 21 02 10.4
ARU *e*S **S** **21 09 16.9 -11**
ARU pmax pmax
comp=Z,11nm,0.7s,mb5.0
POO Poona 61.77 274 *e* **P** **21 01 44.0 -1.3**
RES Resolute Bay 65.61 14 *e*P **P** **21 02 09.3 -0.2**
RES pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
RES Resolute Bay 65.61 14 *e*P **P** **21 02 09.3 -0.3**
comp=Z,4.8nm,1.1s,mb4.4
YKA Yellowknife Ar 66.44 29 P **P** **21 02 15.1 +0.1**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 66.44 29 P **P** **21 02 15.1 +0.2**
comp=Z,1.0nm,0.8s,mb3.9,baz=298,slow=6.4,SNR=16
JOF Joensuu 68.86 333 *e*p **P** **21 02 26.9 -3.3**
comp=Z,2.5nm,0.5s,mb4.4
JOF Joensuu 68.86 333 *e*P **P** **21 02 26.9 -3.3**
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
NWAO Narrogin (SRO) 70.31 202 P **P** **21 02 39.8 +0.2**
NWAO pmax pmax
comp=Z,7.0nm,0.9s
NWAO Narrogin (SRO) 70.31 202 P **P** **21 02 39.8 +0.2**
comp=Z,7.3nm,0.9s,mb4.6,baz=2.3,slow=10,SNR=4.6
OBN Obninsk 70.77 324⇓*i*P **P** **21 02 37.6 -4.4**
OBN pmax pmax
comp=Z,32nm,1.6s,mb5.0
KAF Kangasniemi 71.22 333 *e*p **P** **21 02 43.7 -0.9**
comp=Z,3.6nm,0.6s,mb4.5,baz=50,slow=5.8
KAF Kangasniemi 71.22 333 *e*P **P** **21 02 43.7 -0.9**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
FINES FINESS Array B 71.72 333 P **P** **21 02 47.5 -0.1**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 71.72 333 P **P** **21 02 47.5 -0.1**
comp=Z,3.1nm,0.7s,mb4.3,baz=72,slow=6.0,SNR=8.1
FINES FINESS Array B 71.72 333 P **P** **21 02 47.5 -0.1**
KIV Kislovodsk 73.16 312⇑*i*P **P** **21 02 54.8 -1.6**
KIV pmax pmax
comp=Z,20nm,1.2s,mb4.9
GNI Garni 73.79 308 *e*P **P** **21 03 00.4 +0.3**
GNI pmax pmax
comp=Z,21nm,1.7s
GNI Garni 73.79 308 *e*P **P** **21 03 00.2 +0.1**
comp=Z,8.4nm,1.0s,mb4.6
FFC Flin Flon 76.25 32 *e*P **P** **21 03 14.3 +0.4**
FFC pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
FFC Flin Flon 76.25 32 *e*P **P** **21 03 14.3 +0.4**
comp=Z,6.0nm,1.1s,mb4.4
BOZ Bozeman (W) 76.83 44 *e*P **P** **21 03 19.3 +1.9**
BOZ pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
BOZ Bozeman (W) 76.83 44 *e*P **P** **21 03 19.3 +1.9**
comp=Z,4.5nm,1.2s,mb4.3
AKASG Malin Array Be 76.94 323 P **P** **21 03 17.8 -0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 76.94 323 P **P** **21 03 17.8 -0.1**
comp=Z,2.4nm,0.5s,mb4.4,baz=46,slow=6.1,SNR=13
NB2 NORSAR Subarra 77.19 338 P **P** **21 03 19.0 0.0**
comp=Z,1.5nm,0.7s,mb4.0,baz=40,slow=5.6
NB2 NORSAR Subarra 77.19 338 P **P** **21 03 19.0 0.0**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
NB2 NORSAR Subarra 77.19 338 P **P** **21 03 19.0 0.0**
comp=Z,1.5nm,0.7s,mb4.0
NOA NORSAR Array B 77.19 338 P **P** **21 03 19.8 +0.8**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 77.19 338 P **P** **21 03 19.8 +0.8**
comp=Z,1.9nm,0.7s,mb4.2,baz=39,slow=5.6,SNR=5.6
NOQ North Oquirrh 79.43 48 *e*P **P** **21 03 31.9 +0.2**
BRTR Keskin Array B 81.13 312 P **P** **21 03 42.6 +1.8**
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 81.13 312 P **P** **21 03 42.5 +1.8**
comp=Z,2.5nm,1.0s,mb4.1,baz=108,slow=4.3,SNR=9.5
RAYN Ar Rayn 82.08 293 P **P** **21 03 47.3 +1.3**
comp=Z,45nm,1.7s,mb5.1,SNR=9.9
PSZ Piszkesteto 83.36 325 *e*P **P** **21 03 53.8 +1.6**
PSZ pmax pmax
comp=Z,35nm,1.6s,mb5.1
PSZ Piszkesteto 83.36 325 *e*P **P** **21 03 53.8 +1.6**
comp=Z,35nm,1.6s,mb5.1
VYHS Vyhne 83.46 326 *e*P **P** **21 03 53.9 +1.3**
CLL Collm 83.95 330 *i*P **P** **21 03 55.9 +0.9**
CLL pmax pmax
comp=Z,25nm,1.5s,mb5.1
CLL Collm 83.95 330 *i*P **P** **21 03 55.9 +0.9**
comp=Z,25nm,1.5s,mb5.1
CLL Collm 83.95 330 P **P** **21 03 55.9 +0.9**
comp=Z,logA/T=1.2,mb5.1
PRU Pruhonice 84.30 329 *e*P **P** **21 03 58.2 +1.4**
ZST Bratislava 84.48 326 *e*P **P** **21 03 59.8 +2.0**
KHC Kasperske Hory 85.36 329 *e*P **P** **21 04 02.9 +0.8**
GERES GERESS Array B 85.52 329 P **P** **21 04 02.8 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 85.52 329 P **P** **21 04 02.8 -0.1**
comp=Z,1.2nm,0.6s,mb4.3,baz=45,slow=3.8,SNR=6.8
GRA1 Grafenberg Arr 85.92 330 *e*P **P** **21 04 06.8 +1.9**
comp=Z,9.0nm,1.2s,mb4.9
GRF Grafenberg Arr 85.92 330 *e*P **P** **21 04 06.8 +1.9**
GRF pmax pmax
comp=Z,9.0nm,1.2s,mb4.9
GRF Grafenberg Arr 85.92 330 *e*P **P** **21 04 06.8 +1.9**
GRF pmax pmax
comp=Z,9.0nm,1.2s,mb4.9
GRF Grafenberg Arr 85.92 330 *e*P **P** **21 04 06.8 +1.9**
comp=Z,9.0nm,1.2s,mb4.9
ANMO Albuquerque 86.45 50 *i*P **P** **21 04 07.8 -0.1**
SDV Santo Domingo 127.56 42 PKP PKPdf 21 10 32.4 -2.1
comp=Z,1.0nm,0.4s,baz=264,slow=3.6,SNR=3.6
LPAZ La Paz 147.98 64 PKPbc PKPdf 21 11 13.3 +2.0
comp=Z,2.0nm,0.7s,baz=24,slow=3.9,SNR=7.8
LPAZ La Paz 147.98 64 *e*PKPbc PKPdf 21 11 12.8 +1.4
LVC Limon Verde 150.91 75 PKPbc PKPdf 21 11 20.4 +4.6
comp=Z,2.1nm,0.7s,baz=228,slow=6.9,SNR=4.5

IDC 21 20:53:59.5±0.8, 49.75S×114.94W, mb4.1/5, mb1 4.3/5, mb1mx3.9/13, mbtmp4.1/5, MS4.6/8, Ms1 4.6/8, ms1mx4.1/16, Error ellipse: s-maj=61.1km s-min=25.0km az=161.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USHA	**Ushuaia**	**28.47**	**118**	LR	LR	21 09 21.3	
	comp=Z,799nm,18.1s,baz=259,slow=32						
PLCA	**Paso Flores**	**32.12**	**91**	LR	LR	21 10 19.0	
	comp=Z,609nm,20.9s,baz=31,slow=30						
TBI	**Tubuai**	**37.71**	**302**	*e*LQ		21 09 28.3	
TBI				*e*LR	LR	21 10 58.4	
	1μm,25.5s,baz=141						
PPT	**Papeete**	**42.49**	**307**	*e*LQ		21 11 22.7	
PPT				*e*LR	LR	21 13 10.9	
	baz=148						
LVC	**Limon Verde**	**45.00**	**70**	P	P	21 02 16.8	-1.6
	6.6nm,0.8s,baz=264,slow=11,SNR=6.8						
RAR	**Rarotonga**	**45.34**	**292**	LR	LR	21 15 10.3	
	comp=Z,654nm,19.6s,baz=310,slow=28						
TAOE	**Nuku Hiva Isla**	**45.87**	**324**	*e*LR	LR	21 14 45.3	
URZ	**Urewera**	**48.62**	**257**	LR	LR	21 17 33.8	
	comp=Z,574nm,21.1s,baz=124,slow=29						
RPZ	**Rata Peaks**	**49.18**	**247**	LR	LR	21 17 12.3	
	comp=Z,992nm,21.0s,baz=268,slow=28						
SNAA	**Sanae**	**49.85**	**157**	LR	LR	21 21 38.8	
	comp=Z,1.6nm,19.0s,baz=217,slow=33						
BDFB	**Brasilia**	**63.33**	**83**	P	P	21 04 30.8	-1.9
	0.7nm,0.3s,baz=179,slow=5.7,SNR=1.9						
STKA	**Stephens Creek**	**74.25**	**239**	P	P	21 05 39.0	-0.9
	1.2nm,0.8s,baz=135,slow=4.3,SNR=3.0						
STKA				LR	LR	21 34 19.1	
	comp=Z,392nm,19.7s,baz=29,slow=33						
TXAR	**Lajitas Array**	**79.37**	**10**	P	P	21 06 07.8	-0.9
	0.7nm,0.9s,baz=214,slow=3.3,SNR=2.6						
ASAR	**Alice Springs**	**84.89**	**239**	P	P	21 06 36.5	-0.8
	2.0nm,0.9s,baz=154,slow=5.2,SNR=8.3						
ASAR				LR	LR	21 37 47.5	
	comp=Z,398nm,18.2s,baz=215,slow=31						
PMG	**Port Moresby**	**87.96**	**258**	LR	LR	21 39 30.4	
	comp=Z,394nm,18.2s,baz=347,slow=31						
DAVOX	**Davos**	**143.84**	**73**	PKP	PKPdf	21 13 35.7	-1.9
	1.8nm,0.7s,baz=135,slow=24,SNR=1.8						
GERES	**GERESS Array B**	**147.03**	**71**	PKPbc	PKPdf	21 13 42.0	-1.0
	0.9nm,0.8s,baz=249,slow=37,SNR=2.8						
SONM	**Songino Array**	**152.94**	**282**	PKPbc	PKPdf	21 13 56.1	+4.0
	0.5nm,0.7s,baz=138,slow=3.1,SNR=4.7						
SONM				PKPab	PKPab	21 14 09.4	-1.8
	0.8nm,0.6s,baz=143,slow=3.4,SNR=4.4						
BRTR	**Keskin Array B**	**155.69**	**102**	PKPab	PKPab	21 14 21.3	-1.8
	1.1nm,1.0s,slow=1.4,SNR=2.9						

IGQ 21 20:54:51.4, 1.17S×81.92W, h12km±21km, mb4.1, 1D, Error ellipse: s-maj=20.0km s-min=10.5km az=173.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**3.29**	**96**	P	Pn	20 55 44.6	+0.7
JUA2	**San Juan 2**	**3.45**	**74**	P	Pn	20 55 47.1	+1.1
TERV	**Terraza Guagua**	**3.46**	**73**	P	Pn	20 55 48.2	+2.0
PINO	**Pino**	**3.46**	**73**	P	Pn	20 55 46.4	+0.2
JUIV	**Juive**	**3.46**	**94**	P	Pn	20 55 48.5	+2.2
ARRY	**Arrayan**	**3.48**	**96**	P	Pn	20 55 47.7	+1.2
NAS1	**Nasa**	**3.48**	**81**	P	Pn	20 55 46.4	-0.2
YANA	**Yana**	**3.51**	**73**	P	Pn	20 55 47.5	+0.6
RUN2	**Runtun**	**3.51**	**94**	P	Pn	20 55 48.9	+1.9
ULBA	**Ulba**	**3.52**	**95**	P	Pn	20 55 48.3	+1.1
PISA	**Pisayambo**	**3.54**	**88**	P	Pn	20 55 48.1	+0.8
VC1	**Cotopaxi 1**	**3.56**	**82**	P	Pn	20 55 49.3	+1.7
TAMB	**Tambo**	**3.58**	**82**	P	Pn	20 55 49.6	+1.6
TAMB				S	Sn	20 56 30.7	+0.1
ANTI	**Antisana**	**3.83**	**79**	P	Pn	20 55 53.2	+1.8
COTA	**Cotacachi**	**3.88**	**67**	P	Pn	20 55 53.8	+1.6
CAYR	**Refugio Cayambo**	**4.09**	**73**	⇓P	Pn	20 55 57.9	+2.7
CAYA	**Cayambe**	**4.12**	**73**	P	Pn	20 55 58.1	+2.5

MAN 21 21:07:19.6, 15.14N×120.44E, h67km, mb3.6, ML2.3, MS1.7, Luzon

IDC 21 21:09:32.7±0.9, 17.65N×146.15E, mb3.6/6, mb1 4.0/6, mb1mx3.7/17, mbtmp3.6/6, Error ellipse: s-maj=44.0km s-min=21.0km az=117.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.12**	**198**	P	P	21 17 02.2	-1.6
	1.0nm,0.8s,baz=29,slow=9.3,SNR=30						
ASAR	**Alice Springs**	**42.77**	**197**	P	P	21 17 31.7	-2.2
	0.3nm,0.5s,baz=13,slow=8.1,SNR=3.7						
CMAR	**Chiang Mai Arr**	**44.79**	**279**	P	P	21 17 48.7	-1.6
	0.4nm,0.6s,baz=83,slow=6.8,SNR=5.4						
ILAR	**Eielson Array**	**64.39**	**26**	P	P	21 20 10.1	-2.5
	0.3nm,0.5s,baz=246,slow=6.2,SNR=7.5						
YKA	**Yellowknife Ar**	**78.71**	**28**	P	P	21 21 36.4	-1.7
	0.6nm,0.7s,baz=291,slow=5.6,SNR=5.5						
NVAR	**Mina Array Bea**	**83.44**	**52**	P	P	21 22 03.6	-0.1
	0.4nm,0.5s,baz=282,slow=5.1,SNR=4.2						

CASC 21 21:10:02.1±1.4, 12.27N×87.03W, h164km±8km, MD3.9, 10C-10D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.20**	**44**⇑	*e*P	P	21 10 24.6	-0.1
TEL3	**Telica 3**	**0.35**	**32**⇑	*i*P	P	21 10 25.1	+0.2
MIRN	**Miramar**	**0.36**	**62**⇓	*i*P	P	21 10 25.1	+0.1
TELN	**Telica**	**0.38**	**31**⇑	*e*P	P	21 10 25.1	0.0
CNGN	**Cerro Negro**	**0.40**	**55**⇑	*e*P	P	21 10 24.7	-0.4
CRIN	**San Cristobal**	**0.42**	**358**⇑	*e*P	P	21 10 25.5	+0.3
COPN	**Copaltepe**	**0.44**	**102**⇓	*e*P	P	21 10 25.2	0.0
COPN				*e*S	S	21 10 44.0	+0.9
MOMJ	**Momotombo**	**0.50**	**74**⇑	*e*P	P	21 10 25.2	-0.3
APYN	**Apoyeque**	**0.67**	**93**⇓	*e*P	P	21 10 26.1	-0.2
XAVN	**Gruta Xavier**	**0.70**	**100**⇑	*e*P	P	21 10 26.5	0.0
MGAN	**Managua**	**0.78**	**99**⇑	*e*P	P	21 10 26.8	-0.1
MGAN				*e*S	S	21 10 44.8	-1.3
TICN	**Ticuantepe**	**0.82**	**107**⇑	*e*P	P	21 10 27.5	+0.3
TICN				*e*S	S	21 10 47.1	+0.6
PYTN	**Playitas**	**0.99**	**74**⇑	*e*P	P	21 10 27.7	-0.6
APON	**Apoyo**	**1.01**	**110**⇓	*i*P	P	21 10 28.6	+0.2
CNCH	**Conchagua**	**1.27**	**322**⇓	*e*P	P	21 10 30.9	+0.1
SSNN	**San Juan del S**	**1.52**	**130**	*e*S	S	21 10 57.1	-0.3
BLLM	**Bellamira**	**1.65**	**315**⇓	*e*P	P	21 10 35.2	+0.5
BLLM				*e*S	S	21 11 00.2	+0.4
MADN	**Villa Maderas**	**1.70**	**120**⇓	*e*P	P	21 10 34.5	-0.7
SNVI	**San Vicente**	**2.21**	**307**⇓	*e*P	P	21 10 41.7	+0.8
LCBS	**La Ceiba**	**2.34**	**306**⇓	*e*P	P	21 10 43.1	+0.6
LCBS				*e*S	S	21 11 13.8	+0.1
LFRS	**El Faro**	**2.39**	**304**⇓	*e*P	P	21 10 43.9	+0.7
LFRS				*e*S	S	21 11 15.0	+0.3
LFU	**La Fuente**	**2.50**	**306**	*e*P	P	21 10 45.4	+0.9
BOQS	**Boqueron**	**2.63**	**304**	*e*P	P	21 10 46.2	+0.1
BOQS				*e*S	S	21 11 21.4	+1.6
SBLS	**San Blas**	**2.96**	**302**	*e*P	P	21 10 50.9	+0.6
SBLS				*e*S	S	21 11 28.3	+1.1

*IDC **21** 22:21:27.6±0.5, 10.75N×92.07E, mb4.4/18, mb1 4.5/19, mb1mx4.4/22, mbtmp4.4/19, ML4.4/1, MS3.2/1, Ms1 3.5/1, ms1mx2.6/24, Error ellipse: s-maj=23.6km s-min=11.9km az=50.0*

*BJI **21** 22:21:29.8, 10.53N×92.20E, h38km, mB4.9, mb4.6, Ms4.1, Msz3.7*

*MOS **21** 22:21:30.5±0.9, 10.73N×92.11E, h33km, mb4.7/28, Error ellipse: s-maj=12.1km s-min=6.5km az=95.2*

*NEIC **21** 22:21:31.6±0.2, 10.75N×92.13E, mb4.7/24, Error ellipse: s-maj=6.2km s-min=4.5km az=60.0*

ISC 21 22:21:29.5±0.3, 10.73N±0.05×92.13E±0.05, h25km, h25km±.5km: pP-P, n132, σ0: 95/133, mb4.6/49, MS4.7/2, 7C-4D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.67**	**75**	P	**Pn**	**22 23 24.8**	**+2.3**
NST	**Nakhon Sawan**	**9.21**	**57**	P	**P**	**22 23 38.1**	**-5.8**
CM31	**Chiang Mai Arr**	**10.12**	**40**	*e*Pn	**P**	**22 23 55.3**	**-1.2**
	5.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**10.12**	**40**	P	**P**	**22 23 55.1**	**-1.4**
CMAR						22 25 44.5	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,155nm,20.7s						
CMAR	**Chiang Mai Arr**	**10.12**	**40**	Pn	**P**	**22 23 55.0**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=234,slow=15,SNR=35						
CMAR				Sn	**S**	**22 25 44.5**	**-5.7**
	comp=Z,0.1nm,0.3s,baz=235,slow=25,SNR=3.4						
CMAR				LR	LR	22 27 32.5	
	comp=Z,154nm,20.6s,baz=220,slow=36						
VIS	**Vishakhapatnam**	**11.00**	**310**	*e*P	**P**	**22 24 05.6**	**-3.0**
VIS				*e*		22 24 07.4	

comp=Z,102nm,0.7s
VIS *e*S **S** **22 25 58.3 -13**
BWNR Bhubaneshwar 11.29 328 *e*P **P** **22 24 06.3 -6.2**
BWNR *e* 22 24 07.8
comp=Z,88nm,0.4s
BWNR *e*S **S** **22 26 00.8 -18**
HYB Hyderabad 14.75 298 *i* P **P** **22 24 57.5 -1.0**
HYB *e*S **S** **22 27 25.0 -17**
HYB *e* 22 27 38.0
SHL Shillong 14.76 359 *e*P **P** **22 25 00.0 +1.4**
SHL *e* **S** **22 27 31.5 -11**
BLSP Bilaspur 14.84 321 *e*P **P** **22 24 57.9 -1.8**
BLSP *e* **S** **22 27 30.2 -14**
KMI Kunming 17.50 34 ⇑P **P** **22 25 35.3 +1.7**
KMI pmax pmax
comp=Z,11nm,1.0s
KMI Kunming 17.50 34 ⇑P **P** **22 25 35.3 +1.7**
comp=Z,11nm,1.0s
JIRN Jiri 17.74 342 *e*P **P** **22 25 37.6 +1.0**
comp=Z,14nm,0.5s
PKI Pulchoki 17.90 340 *e*P **P** **22 25 39.0 +0.4**
comp=Z,47nm,0.8s
DMN Daman 18.04 339 *e*P **P** **22 25 41.2 +0.8**
comp=Z,58nm,0.8s
KKN Kakani 18.15 340 *e*P **P** **22 25 42.2 +0.5**
comp=Z,55nm,1.0s
GKN Gorkha 18.57 339 *e*P **P** **22 25 47.3 +0.4**
comp=Z,50nm,0.6s
KAD Karad 18.59 293 *e*P **P** **22 25 50.8 +3.6**
KAD *i* 22 28 56.1
KOLN Koldanda 18.75 336 *e*P **P** **22 25 49.5 +0.4**
comp=Z,46nm,0.8s
BHPL Bhopal 18.75 313 *e*P **P** **22 25 48.8 -0.4**
BHPL AMb AMB 22 26 00.1
comp=Z,26nm,0.8s
BHPL *e* **S** **22 29 04.2 -10**
LSA Lhasa 18.89 357 P **P** **22 25 52.3 +1.5**
LSA AMB AMB
comp=Z,24nm,0.9s
LSA Lhasa 18.89 357 *e*P **P** **22 25 51.7 +0.9**
LSA pmax pmax
comp=Z,63nm,0.6s
LSA Lhasa 18.89 357 *e*P **P** **22 25 51.7 +1.0**
comp=Z,64nm,0.6s
POO Poona 19.30 296 ⇑*i*P **P** **22 25 59.0 +3.4**
NDI New Delhi 22.67 324 *e*P **P** **22 26 31.0 +0.6**
DDI Dehra Dun 23.48 328 *e*P **P** **22 26 39.4 +1.1**
ENH Enshi 25.27 37 *e*P **P** **22 26 54.9 -0.7**
comp=Z,52nm,0.6s,mb5.2
LZH Lanzhou 27.38 21 *e*P **P** **22 27 15.0 0.0**
LZH XP sP 22 27 29.5 +3.9
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.6
LZH Lanzhou 27.38 21 *e*P **P** **22 27 15.0 0.0**
LZH *PP pP 22 27 22.5 +0.2
LZH *SP sP 22 27 29.5 +3.9
LZH pmax pmax
comp=Z,20nm,1.0s,mb4.6
LZH Lanzhou 27.38 21 *e*P **P** **22 27 15.0 0.0**
comp=Z,20nm,1.0s,mb4.6
LZH pP pP 22 27 22.5 +0.2
LZH sP sP 22 27 29.5 +3.9
XAN Xi'an 27.83 31 P **P** **22 27 17.3 -1.7**
XAN AMB AMB
comp=Z,9.0nm,0.6s,mb4.6
NJ2 Nanjing 32.53 45 *e*P **P** **22 27 59.5 -1.3**
NJ2 PP PP 22 29 08.5 -1.1
NJ2 PPP PPP 22 29 23.0 -2.1
NJ2 S **S** **22 33 11.0 -2.4**
NJ2 XS 22 33 27.0
NJ2 AMB AMB
comp=Z,30nm,0.7s,mb5.3
NJ2 AMB AMB
comp=Z,60nm,5.2s
NJ2 LR LR
comp=N,2μm,21.0s,MS4.9
NJ2 LR LR
comp=E,1μm,16.4s,MS4.9
WMQ Urumqi 33.19 354 *e*P **P** **22 28 08.0 +1.6**
AAK Ala-Archa 35.31 337 *e*P **P** **22 28 25.2 +0.5**
AAK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
AAK Ala-Archa 35.31 337 *e*P **P** **22 28 25.2 +0.5**
comp=Z,2.6nm,0.6s,mb4.3
BJI Beijing 36.14 32 *e*P **P** **22 28 32.1 +0.4**
BJI pmax pmax
comp=Z,12nm,0.7s,mb4.9
BJI Beijing 36.14 32 *e*P **P** **22 28 32.1 +0.4**
comp=Z,12nm,0.7s,mb4.9
MKAR Makanchi Array 36.90 349 *i* P **P** **22 28 38.1 +0.1**
MKAR pmax pmax
comp=Z,13μm,0.6s
JOW Kunigami 37.61 60 P **P** **22 28 45.0 +0.9**
comp=Z,15nm,0.7s,mb4.8,baz=189,slow=5.9,SNR=4.1
SONM Songino Array 38.88 15 P **P** **22 28 55.3 +0.6**
comp=Z,5.5nm,0.7s,mb4.4,baz=207,slow=7.9,SNR=40
ULN Ulaanbaatar 39.08 16 *e*P **P** **22 28 56.1 -0.3**
ULN *e* 22 31 06.9
ULN pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
ULN Ulaanbaatar 39.08 16 *e*P **P** **22 28 56.1 -0.2**
comp=Z,3.0nm,0.6s,mb4.2
ULN *e*PcP PcP 22 31 06.9 +0.4
ZAK Zakamensk 40.59 11 ⇓*i*P **P** **22 29 09.3 +0.6**
KURK Kurchatov 41.38 347 *e*P **P** **22 29 16.0 +0.7**
KURK *e* pP 22 29 24.2 +1.4
KURK pmax pmax
comp=Z,13nm,1.3s,mb4.4
KURK Kurchatov 41.38 347 *e*P **P** **22 29 16.0 +0.7**
comp=Z,13nm,1.3s,mb4.4
KURK *e* pP 22 29 24.2 +1.4
MOY Mondy 41.45 8 *e*P **P** **22 29 17.2 +1.4**
TLY Talaya 41.90 11 ⇑*i*P **P** **22 29 19.5 +0.1**
TLY pmax pmax
comp=Z,8.0nm,1.3s,mb4.2
ZAL Zalesovo 43.49 354 P **P** **22 29 32.9 +0.5**
ZAL pmax pmax
comp=Z,3.0nm,0.8s
ZAL Zalesovo 43.49 354 P **P** **22 29 32.9 +0.5**
comp=Z,3.2nm,0.8s,mb4.1,baz=210,slow=8.9,SNR=23
FITZ Fitzroy Crossi 43.76 131 ⇑*i*P **P** **22 29 35.1 0.0**
comp=Z,63nm,0.8s,mb5.4
NVS Novosibirsk 44.56 353 *e*P **P** **22 29 39.6 -1.5**
HIA Hailar 44.74 26 *e*P **P** **22 29 42.3 -0.4**
HIA *e*PP pP 22 29 50.3 +0.1
HIA pmax pmax
comp=Z,5.0nm,0.7s
HIA Hailar 44.74 26 *e*P **P** **22 29 42.3 -0.3**
comp=Z,4.7nm,0.7s,mb4.4
HIA *e*pP pP 22 29 50.3 +0.1
BVA0 Borovoye Array 45.66 342 P **P** **22 29 49.1 -0.8**
BVAR Borovoye Array 45.66 342 P **P** **22 29 49.7 -0.2**
comp=Z,1.0nm,0.5s,mb4.0,baz=139,slow=10.0,SNR=12
BRVK Borovoye 45.73 342 *e*P **P** **22 29 50.6 +0.2**
BRVK *e*PP pP 22 29 57.7 -0.3
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRVK Borovoye 45.73 342 *e*P **P** **22 29 50.5 +0.2**
comp=Z,3.2nm,0.8s,mb4.3
BRVK *e*pP pP 22 29 57.7 -0.3
RAYN Ar Rayn 46.14 292 P **P** **22 29 55.2 +1.1**
comp=Z,43nm,0.6s,mb5.5,SNR=8.7
CHKZ Chkalovo 46.16 342 *e*P **P** **22 29 54.1 +0.3**
CHKZ *e*PP pP 22 30 01.6 +0.2
CHKZ pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
CHKZ Chkalovo 46.16 342 *e*P **P** **22 29 54.1 +0.3**
comp=Z,6.1nm,0.6s,mb4.7
CHKZ *e*pP pP 22 30 01.6 +0.3
MUN Mundaring 48.32 152 *e*P **P** **22 30 12.5 +1.4**
comp=Z,17nm,0.9s,mb5.1
MUN Mundaring 48.32 152 *e*P **P** **22 30 12.5 +1.4**
MUN pmax pmax
comp=Z,17nm,0.9s,mb5.1
NWAO Narrogin (SRO) 49.58 152 P **P** **22 30 21.1 +0.3**
NWAO pmax pmax
comp=Z,18nm,0.9s
NWAO Narrogin (SRO) 49.58 152 P **P** **22 30 21.1 +0.3**
comp=Z,18nm,0.8s,mb5.1,baz=322,slow=7.8,SNR=14
BOD Bodaibo 49.88 15 *e*P **P** **22 30 21.7 -1.0**
GNI Garni 51.04 313 P **P** **22 30 31.1 -0.7**
comp=Z,5.2nm,0.8s,mb4.5,baz=12,slow=12,SNR=5.5
GNI Garni 51.04 313 *e*P **P** **22 30 33.0 +1.3**
GNI *e*pP pP 22 30 41.0 +1.5
WRA Warramunga Arr 51.53 126 P **P** **22 30 35.3 -0.5**
WRA pmax pmax
comp=Z,30nm,0.6s
WRA Warramunga Arr 51.53 126 P **P** **22 30 35.3 -0.5**
comp=Z,30nm,0.6s,mb5.4,baz=306,slow=8.4,SNR=515
WRAB Tennant Creek 51.54 126 *e*P **P** **22 30 35.6 -0.2**
WRAB *e*PP pP 22 30 43.3 -0.2
WRAB pmax pmax
comp=Z,54nm,0.6s,mb5.7
WRAB Tennant Creek 51.54 126 *e*P **P** **22 30 35.6 -0.2**
comp=Z,54nm,0.6s,mb5.7
WRAB *e*pP pP 22 30 43.3 -0.2
WB2 Warramunga Arr 51.54 126 ⇓*i*P **P** **22 30 35.6 -0.3**
CLNS Chul'man 52.50 22 *e*P **P** **22 30 42.9 +0.3**
CLNS pmax pmax
comp=Z,20nm,0.7s,mb5.2
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.9s
ARU Arti 52.50 337 ⇓*i*P **P** **22 30 37.2 -5.4**
ARU *e* 22 31 46.0
ARU *e*S **S** **22 38 00.2 -5.8**
ARU *e*SS SS 22 41 39.5 -3.3
ARU pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ASPA Alice Springs 53.26 130 ⇑*i*P **P** **22 30 48.6 -0.1**
ASAR Alice Springs 53.26 130 P **P** **22 30 48.5 -0.2**
comp=Z,17nm,0.7s,mb5.1,baz=308,slow=7.2,SNR=130
ASAR PcP PcP 22 31 56.9 +0.6
comp=Z,5.0nm,1.1s,baz=323,slow=4.3,SNR=4.9
KIV Kislovodsk 53.88 317 *e*P **P** **22 30 53.6 +0.6**
KIV *e*PP pP 22 31 00.4 -0.3
KIV pmax pmax
comp=Z,11nm,1.3s,mb4.6
KIV Kislovodsk 53.88 317 *e*P **P** **22 30 53.6 +0.7**
comp=Z,11nm,1.3s,mb4.6
KIV *e*pP pP 22 31 00.4 -0.3
ASF Jabal al Asfar 55.02 302 P **P** **22 31 01.3 -0.3**
comp=Z,1.3nm,0.7s,mb4.1,baz=168,slow=20,SNR=3.3
MALT Malatya 55.12 309 *e*P **P** **22 31 01.6 -0.6**
MALT *e*PP pP 22 31 09.7 -0.2
MALT pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
MALT Malatya 55.12 309 *e*P **P** **22 31 01.6 -0.6**
comp=Z,6.7nm,1.1s,mb4.6
MALT *e*pP pP 22 31 09.7 -0.2
YAK Yakutsk 57.96 20 *e*P **P** **22 31 20.5 -1.5**
YAK *e*PP pP 22 31 28.1 -1.7
YAK pmax pmax
comp=Z,22nm,0.6s,mb5.4
YAK Yakutsk 57.96 20 *e*P **P** **22 31 20.5 -1.6**
comp=Z,22nm,0.6s,mb5.4
YAK *e*pP pP 22 31 28.1 -1.7
PMG Port Moresby 58.28 108 P **P** **22 31 24.6 -0.3**
PMG pmax pmax
comp=Z,10.0nm,0.7s
PMG Port Moresby 58.28 108 P **P** **22 31 24.6 -0.4**
comp=Z,9.5nm,0.7s,mb4.9,baz=136,slow=17,SNR=4.5
BRTR Keskin Array B 59.08 310 P **P** **22 31 29.2 -1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 59.08 310 P **P** **22 31 29.2 -1.0**
comp=Z,0.8nm,0.7s,mb3.9,baz=126,slow=8.4,SNR=6.4
OBN Obninsk 61.92 328 ⇓*i*P **P** **22 31 47.0 -2.3**
OBN pmax pmax
comp=Z,5.0nm,0.4s,mb5.0
STKA Stephens Creek 63.50 134 ⇑*i*P **P** **22 32 01.2 +1.0**
comp=Z,13nm,0.6s,mb5.1
STKA Stephens Creek 63.50 134 P **P** **22 32 00.8 +0.6**
comp=Z,14nm,0.6s,mb5.2,baz=309,slow=5.7,SNR=59
AKASG Malin Array Be 64.70 321 P **P** **22 32 06.3 -1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 64.70 321 P **P** **22 32 06.3 -1.4**
comp=Z,1.2nm,0.5s,mb4.2,baz=84,slow=5.3,SNR=7.3
TIXI Tiksi 64.85 12 *e*P **P** **22 32 07.7 -0.7**
TIXI pmax pmax
comp=Z,11nm,1.3s,mb4.7
MA2 Magadan 65.19 29 *e*P **P** **22 32 09.9 -0.8**
MA2 *e*S S 22 40 47.7 -2.9
MA2 *e* 22 41 56.7
MA2 *e*SSS SSS 22 47 59.6 +2.4
MA2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
MA2 MLR MLR
comp=Z,400nm,27.0s,MS4.5
MA2 Magadan 65.19 29 *e*P **P** **22 32 10.1 -0.7**
MA2 *e*pP pP 22 32 18.1 -0.5
JOF Joensuu 67.43 334 *e*p **P** **22 32 24.3 -0.6**
comp=Z,1.4nm,0.4s,mb4.3
JOF Joensuu 67.43 334 *e*p pP 22 32 32.4 -0.4
comp=Z,1.3nm,0.4s
JOF Joensuu 67.43 334 *e*P **P** **22 32 24.3 -0.6**
JOF *e*P pP 22 32 32.4 -0.4
FINES FINESS Array B 69.27 332 P **P** **22 32 36.2 -0.2**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 69.27 332 P **P** **22 32 36.2 -0.2**
comp=Z,3.8nm,0.8s,mb4.4,baz=99,slow=7.1,SNR=25
FINES FINESS Array B 69.27 332 P **P** **22 32 36.2 -0.2**
KAF Kangasniemi 69.36 333 *e*p **P** **22 32 36.3 -0.6**
comp=Z,1.7nm,0.7s,mb4.1,baz=105,slow=5.8
KAF Kangasniemi 69.36 333 *e*p pP 22 32 44.3 -0.5
comp=Z,0.6nm,0.4s
KAF Kangasniemi 69.36 333 *e*P **P** **22 32 36.3 -0.6**
KAF *e* pP 22 32 44.3 -0.5
KAF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
KAF Kangasniemi 69.36 333 *e*P **P** **22 32 36.3 -0.6**
comp=Z,1.7nm,0.7s,mb4.1
KAF *e*P pP 22 32 44.3 -0.5
KEV Kevo 71.50 341 *e*p **P** **22 32 46.0 -3.8**
comp=Z,0.3nm,0.4s,mb3.6
ARCES ARCESS Array B 71.92 340 P **P** **22 32 52.7 +0.4**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 71.92 340 P **P** **22 32 52.7 +0.4**
comp=Z,2.6nm,0.6s,mb4.3,baz=80,slow=7.4,SNR=15
ARCES ARCESS Array B 71.92 340 P **P** **22 32 52.7 +0.4**
BILL Bilibino 74.19 22 *e*P **P** **22 33 05.6 0.0**
BILL *e*PP pP 22 33 12.8 -0.7
BILL pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
BILL Bilibino 74.19 22 *e*P **P** **22 33 05.6 +0.1**
comp=Z,2.6nm,0.5s,mb4.4
BILL *e*pP pP 22 33 12.8 -0.7
GERES GERESS Array B 74.39 318 P **P** **22 33 07.1 0.0**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 74.39 318 P **P** **22 33 07.1 0.0**
comp=Z,1.0nm,0.6s,mb4.0,baz=90,slow=5.3,SNR=9.1
CLL Collm 74.91 320 P **P** **22 33 10.0 -0.1**
NB2 NORSAR Subarra 76.28 330 P **P** **22 33 17.4 -0.3**
comp=Z,1.6nm,0.6s,mb4.1,baz=96,slow=5.3
NB2 NORSAR Subarra 76.28 330 P **P** **22 33 17.4 -0.3**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
NOA NORSAR Array B 76.28 330 P **P** **22 33 17.4 -0.3**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 76.28 330 P **P** **22 33 17.4 -0.2**
comp=Z,1.7nm,0.6s,mb4.2,baz=94,slow=5.7,SNR=5.3
NOA NORSAR Array B 76.28 330 P **P** **22 33 17.4 -0.2**
LPG La Plagne 79.21 314 *e*P **P** **22 33 34.4 +0.3**
comp=Z,15nm,0.9s,mb4.6
LPG La Plagne 79.21 314 *e*P **P** **22 33 34.4 +0.3**
LPG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ESDC Sonseca Array 87.87 310 P **P** **22 34 19.1 +0.7**
comp=Z,0.8nm,0.6s,mb4.1,baz=55,slow=4.6,SNR=5.9
ILAR Eielson Array 92.84 22 P **P** **22 34 41.0 0.0**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 92.84 22 P **P** **22 34 41.0 0.0**
comp=Z,0.9nm,0.7s,mb4.3,baz=307,slow=4.2,SNR=12
RES Resolute Bay 94.64 2 *e*P **P** **22 34 50.0 +0.9**
RES *e*PP pP 22 34 58.0 +0.9
RES pmax pmax
comp=Z,3.0nm,1.0s,mb4.7
RES Resolute Bay 94.64 2 *e*P **P** **22 34 50.0 +1.0**
comp=Z,2.6nm,1.0s,mb4.6
RES *e*pP pP 22 34 58.0 +0.9
YKA Yellowknife Ar 104.10 12 PP PP 22 39 45.9 -6.3
comp=Z,0.4nm,0.9s,baz=334,slow=7.1,SNR=4.0
PDAR Pinedale Array 123.18 19 PKP PKPdf 22 40 26.1 -2.9
comp=Z,0.7nm,0.6s,baz=109,slow=0.4,SNR=8.3
NVAR Mina Array Bea 123.43 28 PKP PKPdf 22 40 27.8 -1.9
comp=Z,1.2nm,0.6s,baz=349,slow=2.1,SNR=12
TXAR Lajitas Array 137.35 21 PKP PKPdf 22 40 54.6 -1.7
comp=Z,0.5nm,0.5s,baz=88,slow=0.4,SNR=14
PLCA Paso Flores 146.43 204 PKP2 PKPab 22 41 11.5 -0.2
PLCA pmax pmax
comp=Z,5.0nm,0.8s
PLCA Paso Flores 146.43 204 PKPbc PKPbc 22 41 11.5 +2.8
comp=Z,4.5nm,0.8s,baz=80,slow=2.9,SNR=11

IDC 21 22:27:02.1±43.0, 17.45S×172.68W, mb4.0/3, mb1 4.2/3, mb1mx3.7/14, mbtmp4.0/3, Error ellipse: s-maj=824.8km s-min=169.2km az=81.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.65**	**242**	P	P	22 35 09.1	-1.2
	1.0nm,0.5s,baz=89,slow=3.6,SNR=4.4						
WRA	**Warramunga Arr**	**50.08**	**258**	P	P	22 35 58.9	-2.2
	1.0nm,0.5s,baz=98,slow=7.2,SNR=32						
ASAR	**Alice Springs**	**50.16**	**253**	P	P	22 35 59.6	-2.1
	1.3nm,0.4s,baz=88,slow=8.1,SNR=25						

KRSC 21 22:29:44.3±1.3, 49.15N×156.36E, h40km±10km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.54**	**354**	*e*P	P	22 30 08.5	-1.3
SKR				*e*S	S	22 30 27.4	-1.4
ALID	**Alaid**	**1.80**	**343**	*e*P	P	22 30 13.5	+0.1
ALID				*e*S	S	22 30 36.3	+1.1
PAU	**Pauzhetka**	**2.34**	**7**	*e*P	P	22 30 21.7	+0.6
PAU				*e*S	S	22 30 49.5	+0.7
PAU				Smax			
	280nm,0.6s						
RUS	**Russkaya**	**3.56**	**22**	*e*P	P	22 30 38.0	-0.5
RUS				*e*S	S	22 31 18.0	-1.9
GRL	**Gorelyy**	**3.58**	**17**	*e*P	P	22 30 39.7	+1.0
GRL				*e*S	S	22 31 20.9	+0.6
APC	**Apacha**	**3.81**	**7**	*e*P	P	22 30 44.2	+2.1
KRMR	**Karymshinskiy**	**3.85**	**16**	*e*P	P	22 30 43.1	+0.5
KRMR				*e*S	S	22 31 25.8	-1.4
PET	**Petropavlovsk**	**4.14**	**20**	*e*P	P	22 30 47.1	+0.4
PET				*e*S	S	22 31 33.0	-1.5
UGLR	**Uglovaya**	**4.35**	**20**	*e*P	P	22 30 50.9	+1.2
UGLR				*e*S	S	22 31 38.6	-1.2
AVH	**Avacha**	**4.38**	**19**	*e*P	P	22 30 51.2	+1.0
AVH				*e*S	S	22 31 39.6	-1.1
KOK	**Koryaka**	**4.39**	**18**	*e*P	P	22 30 51.7	+1.5
KOK				*e*S	S	22 31 38.4	-2.4
SMAR	**Somma**	**4.39**	**20**	*e*P	P	22 30 51.3	+0.9
SMAR				*e*S	S	22 31 40.1	-0.9
SDLR	**Sedlovina**	**4.43**	**20**	*e*P	P	22 30 50.7	-0.1
SDLR				*e*S	S	22 31 39.2	-2.6
SPN	**Mys Shipunski**	**4.58**	**29**	*e*P	P	22 30 52.4	-0.5
SPN				*e*S	S	22 31 41.5	-4.1
GNL	**Ganaly**	**4.66**	**12**	*e*P	P	22 30 55.0	+0.9
GNL				*e*S	S	22 31 46.7	-0.9
KBTR	**Krutoberegovo**	**8.08**	**27**	*e*P	P	22 31 41.9	-0.1
KBTR				*e*S	S	22 33 07.0	-6.0

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*IDC **21** 22:32:39.5±1.1, 4.25N×95.69E, mb4.1/9, mb1 4.2/10, mb1mx4.0/18, mbtmp4.0/10, ML2.9/1, MS3.1/1, Ms1 3.3/1, ms1mx2.3/24, Error ellipse: s-maj=57.8km s-min=17.1km az=53.0*
*NEIC **21** 22:32:43.8±0.6, 4.14N×95.58E, h30km, mb4.4/7, Error ellipse: s-maj=18.7km s-min=8.1km az=63.0*
NEIC Felt [II] at Banda Aceh.
*BJI **21** 22:32:49.6, 4.95N×95.70E, h30km, mb4.8*
ISC 21 22:32:42.2±0.7, 4.09N±0.10×95.7E±0.1, h30km, n26, σ0.9 96/26, mb4.3/19, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**14.64**	**12**	Pn	P	**22 36 08.3**	**-1.0**
	4.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**14.64**	**12**	Pn	P	**22 36 10.5**	**+1.2**
	0.0nm,0.3s,baz=25,slow=44,SNR=2.8						
CMAR				LR	LR	22 41 10.2	
	comp=Z,80nm,19.3s,baz=190,slow=35						
CMAR	**Chiang Mai Arr**	**14.64**	**12**	Pn	P	**22 36 10.5**	**+1.2**
CMAR				LR	LR	22 41 10.2	
JIRN	**Jiri**	**25.11**	**340**	*e*P	P	**22 38 07.4**	**+1.2**
	12nm,0.5s,mb4.6						
PKI	**Pulchoki**	**25.31**	**338**	*e*P	P	**22 38 09.6**	**+1.6**
DMN	**Daman**	**25.46**	**338**	*e*P	P	**22 38 10.2**	**+0.8**
KKN	**Kakani**	**25.56**	**338**	*e*P	P	**22 38 10.9**	**+0.6**
	14nm,0.8s,mb4.5						
LSA	**Lhasa**	**25.82**	**351**	*e*P	P	**22 38 13.6**	**+0.8**
LSA	**Lhasa**	**25.82**	**351**	*e*P	P	**22 38 12.8**	**0.0**
	3.5nm,0.4s,mb4.2						
GKN	**Gorkha**	**25.99**	**337**	*e*P	P	**22 38 15.1**	**+0.7**
KOLN	**Koldanda**	**26.20**	**335**	*e*P	P	**22 38 17.0**	**+0.7**
	22nm,0.8s,mb4.8						
BJI	**Beijing**	**40.31**	**25**	*e*P	P	**22 40 20.1**	**+1.5**
	12nm,0.8s,mb4.7						
SONM	**Songino Array**	**44.55**	**10**	P	P	**22 40 52.0**	**-1.1**
	1.1nm,0.5s,mb3.9,baz=190,slow=9.3,SNR=12						
SONM				PcP	PcP	22 42 35.9	-0.6
	0.8nm,0.4s,baz=197,slow=3.6,SNR=7.3						
ULN	**Ulaanbaatar**	**44.70**	**11**	*e*P	P	**22 40 53.4**	**-1.0**
	1.0nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**44.89**	**124**	P	P	**22 40 56.6**	**+0.3**
	6.8nm,0.7s,mb4.6,baz=302,slow=9.2,SNR=34						
WRAB	**Tennant Creek**	**44.90**	**124**	*e*P	P	**22 40 56.5**	**+0.2**
	11nm,0.6s,mb4.8						
ASAR	**Alice Springs**	**46.38**	**128**	P	P	**22 41 08.5**	**+0.5**
	2.3nm,0.9s,mb4.1,baz=307,slow=7.8,SNR=12						
KURK	**Kurchatov**	**48.62**	**346**	*e*P	P	**22 41 24.4**	**-0.7**
	1.1nm,0.3s,mb4.4						
HIA	**Hailar**	**49.46**	**21**	*e*P	P	**22 41 31.4**	**-0.2**
	2.1nm,0.6s,mb4.3						
ZAL	**Zalesovo**	**50.48**	**352**	P	P	**22 41 37.8**	**-1.5**
	2.3nm,0.5s,mb4.5,baz=233,slow=6.0,SNR=11						
BVAR	**Borovoye Array**	**53.03**	**341**	P	P	**22 41 56.6**	**-2.1**
	2.0nm,1.0s,mb4.0,baz=90,slow=1.5,SNR=6.4						
CHKZ	**Chkalovo**	**53.51**	**342**	*e*P	P	**22 42 01.0**	**-1.2**
	4.9nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**56.44**	**133**	P	P	**22 42 23.6**	**-0.1**
	1.4nm,0.8s,mb4.0,baz=341,slow=22,SNR=3.1						
BRTR	**Keskin Array B**	**66.04**	**312**	P	P	**22 43 28.4**	**0.0**
	1.1nm,0.9s,mb3.9,baz=125,slow=6.4,SNR=5.2						
FINES	**FINESS Array B**	**76.74**	**332**	P	P	**22 44 31.4**	**-0.7**
	1.3nm,0.7s,mb4.0,baz=111,slow=7.6,SNR=7.3						
ARCES	**ARCESS Array B**	**79.31**	**340**	P	P	**22 44 46.0**	**-0.2**
	1.8nm,0.6s,mb4.2,baz=98,slow=6.2,SNR=21						

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*IDC **21** 22:44:56.1±1.0, 4.33N×92.82E, mb4.1/9, mb1 4.3/10, mb1mx4.1/18, mbtmp4.1/10, ML4.3/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/20, Error ellipse: s-maj=44.4km s-min=16.6km az=54.0*
*BJI **21** 22:45:00.3, 4.28N×92.98E, h45km, mB5.1, mb4.6, Ms4.1*
*NEIC **21** 22:45:01.4±0.6, 4.47N×93.02E, mb4.5/11, Error ellipse: s-maj=16.1km s-min=9.6km az=64.0*
ISC 21 22:45:00.1±0.6, 4.51N±0.08×93.2E±0.1, h31km, h31km±.5km: pP-P, n37, σ1.9 15/37, mb4.5/24, MS3.8/1, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**14.96**	**22**	*e*Pn	P	**22 48 31.1**	**-0.2**
	2.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**14.96**	**22**	Pn	P	**22 48 31.1**	**-0.1**
	0.4nm,0.3s,baz=218,slow=13,SNR=62						
CMAR				LR	LR	22 55 30.9	
	comp=Z,113nm,19.5s,baz=205,slow=42						
KKTK	**Khon Kaen**	**15.08**	**38**	P	P	**22 48 40.0**	**+7.1**
	864nm,0.7s						
CHG	**Chiang Mai**	**15.29**	**21**	⇓P	P	**22 48 35.6**	**+0.1**
	16nm,0.9s						
VIS	**Vishakhapatnam**	**16.30**	**324**	*e*P	P	**22 48 50.8**	**+2.2**
HYB	**Hyderabad**	**19.25**	**313**	*i* P	P	**22 49 31.0**	**+6.1**
IMP	**Imphal**	**20.17**	**2**	*e*P	P	**22 49 33.3**	**-1.6**
SHL	**Shillong**	**20.98**	**357**	*i* P	P	**22 49 41.0**	**-2.2**
SHL				*e*S	S	**22 53 34.0**	**+3.6**
JIRN	**Jiri**	**23.97**	**345**	*e*P	P	**22 50 13.5**	**+0.6**

PKI	Pulchoki	24.11	343	*e*P		P	22 50 15.1 +0.9
DMN	Daman	24.23	342	*e*P		P	22 50 17.2 +1.7
	130nm,0.7s,mb5.5						
KKN	Kakani	24.35	343	*e*P		P	22 50 16.3 -0.3
	82nm,0.7s,mb5.3						
GKN	Gorkha	24.75	342	*e*P		P	22 50 20.2 -0.2
	62nm,0.5s,mb5.4						
KOLN	Koldanda	24.88	339	*e*P		P	22 50 22.0 +0.3
	80nm,0.6s,mb5.4						
LSA	Lhasa	25.13	356	P		P	22 50 25.4 +1.4
LSA	Lhasa	25.13	356	*e*P		P	22 50 25.4 +1.3
	7.0nm,0.8s,mb4.2						
XAN	Xi'an	32.82	25	P		P	22 51 32.3 -0.7
XAN				AP		pP	22 51 42.0 -0.3
XAN				AMB		AMB	
	comp=Z,19nm,0.9s,mb5.0						
BJI	Beijing	41.00	27	*e*P		P	22 52 44.2 +2.2
	comp=Z,9.0nm,1.1s,mb4.3						
AAK	Ala-Archa	41.45	339	*e*P		P	22 52 45.4 -0.3
	comp=Z,12nm,1.5s,mb4.3						
AAK				*e*pP		pP	22 52 54.7 -0.3
SONM	Songino Array	44.63	13	P		P	22 53 12.2 +0.6
	comp=Z,2.3nm,0.7s,mb4.1,baz=193,slow=8.3,SNR=16						
ULN	Ulaanbaatar	44.81	13	*e*P		P	22 53 13.4 +0.4
	comp=Z,4.9nm,0.8s,mb4.4						
ULN				*e*		pP	22 53 22.2 -0.1
WRA	Warramunga Arr	47.17	122	P		P	22 53 32.2 +0.2
	comp=Z,5.9nm,0.9s,mb4.5,baz=299,slow=9.0,SNR=19						
WRAB	Tennant Creek	47.17	122	*e*P		P	22 53 32.2 +0.2
	comp=Z,14nm,1.0s,mb4.9						
KURK	Kurchatov	47.65	347	*e*P		P	22 53 34.6 -0.8
	comp=Z,2.6nm,0.6s,mb4.4						
KURK				*e*pP		pP	22 53 44.5 -0.4
ASAR	Alice Springs	48.56	127	P		P	22 53 43.0 +0.1
	comp=Z,1.3nm,0.6s,mb4.1,baz=294,slow=7.8,SNR=11						
ASAR				PcP		PcP	22 55 07.9 -0.7
	comp=Z,0.6nm,0.8s,baz=322,slow=6.0,SNR=4.1						
ZAL	Zalesovo	49.75	354	P		P	22 53 51.7 +0.1
	comp=Z,1.7nm,0.5s,mb4.3,baz=212,slow=4.2,SNR=9.4						
HIA	Hailar	49.97	22	*e*P		P	22 53 53.1 -0.2
	comp=Z,22nm,1.3s,mb5.0						
HIA				*e*pP		pP	22 54 02.3 -0.5
BVAR	Borovoye Array	51.88	343	P		P	22 54 06.5 -1.3
	comp=Z,1.1nm,0.7s,mb3.9,baz=135,slow=6.3,SNR=8.2						
BRVK	Borovoye	51.94	343	*e*P		P	22 54 06.6 -1.6
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK				*e*pP		pP	22 54 15.9 -1.9
CHKZ	Chkalovo	52.38	343	*e*P		P	22 54 10.2 -1.3
	comp=Z,4.8nm,0.5s,mb4.7						
CHKZ				*e*pP		pP	22 54 20.1 -1.1
CTA	Charters Tower	57.55	117	LR		LR	23 20 33.7
	comp=Z,76nm,18.6s,MS3.8,baz=43,slow=37						
STKA	Stephens Creek	58.52	132	P		P	22 54 56.1 0.0
	comp=Z,0.8nm,0.5s,mb4.0,baz=289,slow=8.2,SNR=6.6						
BRTR	Keskin Array B	63.95	312	P		P	22 55 30.8 -1.9
	comp=Z,0.9nm,0.7s,mb3.9,baz=131,slow=8.4,SNR=6.0						
ARCES	ARCESS Array B	78.10	341	P		P	22 56 57.8 +0.5
	comp=Z,1.4nm,0.8s,mb4.0,baz=66,slow=20,SNR=2.5						
GERES	GERESS Array B	79.71	319	P		P	22 57 03.4 -3.0
	comp=Z,1.1nm,0.7s,mb3.9,baz=90,slow=8.0,SNR=4.9						
KHC	Kasperske Hory	79.81	319	*e*P		P	22 57 10.0 +3.0
LPG	La Plagne	84.32	315	*e*P		P	22 57 31.3 +0.8
	comp=Z,16nm,1.1s,mb4.8						

IDC 21 22:45:58.6±8.2, 2.24N×95.60W, mb3.4/3, mb1 3.8/3, mb1mx3.4/15, mbtmp3.4/3, MS3.6/2, Ms1 3.6/2, ms1mx2.5/16, Error ellipse: s-maj=369.7km s-min=159.2km az=82.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	28.02	345	P	P	22 51 51.6	-2.0
	0.5nm,0.7s,baz=162,slow=12,SNR=6.8						
ANMO	Albuquerque	34.08	344	LR	LR	23 06 01.8	
	comp=Z,134nm,21.2s,slow=35						
LVC	Limon Verde	35.89	135	LR	LR	23 03 02.7	
	comp=Z,60nm,20.3s,baz=123,slow=28						
YKA	Yellowknife Ar	61.77	350	P	P	22 56 19.4	-1.8
	0.1nm,0.3s,baz=144,slow=7.3,SNR=4.3						
ILAR	Eielson Array	72.37	339	P	P	22 57 25.8	-2.4
	0.6nm,0.9s,baz=158,slow=6.2,SNR=4.8						

IGQ 21 22:46:53.4, 1.25S×81.47W, h12km±28km, mb4.5, 5C-7D, Error ellipse: s-maj=27.9km s-min=7.2km az=170.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.84	95	P	Pn	22 47 40.6	+1.2
CUSU	Cusua	3.00	94	P	Pn	22 47 44.8	+3.1
JUIV	Juive	3.01	93	⇓P	Pn	22 47 43.5	+1.6
JUIV				S	Sn	22 48 18.4	+0.2
ARRY	Arrayan	3.02	95	⇓P	Pn	22 47 42.9	+0.8
ARRY				S	Sn	22 48 18.0	-0.6
MARY	Rancho Maria	3.03	80	P	Pn	22 47 43.0	+0.9
RETU	Refugio	3.03	94	⇓P	Pn	22 47 44.4	+2.2
JUA2	San Juan 2	3.04	70	⇓P	Pn	22 47 43.4	+1.0
PATA	Patacocha	3.05	95	⇓P	Pn	22 47 44.5	+2.1
PATA				S	Sn	22 48 19.2	0.0
NAS1	Nasa	3.05	79	⇑P	Pn	22 47 43.8	+1.3
TERV	Terraza Guagua	3.06	70	P	Pn	22 47 43.8	+1.3
PINO	Pino	3.06	69	⇑P	Pn	22 47 42.7	+0.1
RUN2	Runtun	3.06	93	P	Pn	22 47 44.6	+2.0
GGP	Refugio Guagua	3.06	70	P	Pn	22 47 45.0	+2.3
ULBA	Ulba	3.07	94	⇓P	Pn	22 47 44.6	+1.9
PISA	Pisayambo	3.09	87	P	Pn	22 47 44.3	+1.3
YANA	Yana	3.11	69	⇓P	Pn	22 47 43.9	+0.6
VC1	Cotopaxi 1	3.12	79	P	Pn	22 47 44.8	+1.3
TAMB	Tambo	3.15	80	P	Pn	22 47 46.0	+2.1
ANTI	Antisana	3.40	77	⇑P	Pn	22 47 49.1	+1.7
COTA	Cotacachi	3.50	63	⇑P	Pn	22 47 50.6	+1.7
CAYR	Refugio Cayamb	3.68	70	⇑P	Pn	22 47 54.9	+3.5
CAYR				S	Sn	22 48 37.5	+2.2
CAYA	Cayambe	3.72	69	P	Pn	22 47 54.6	+2.6
CONE	Cono NE Rev Vo	4.00	73	P	Pn	22 48 00.9	+4.9

IGQ 21 22:50:58.8, 1.26S×81.51W, h12km±35km, mb4.2, 2D, Error ellipse: s-maj=34.4km s-min=8.6km az=171.3, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.88	95	P	Pn	22 51 46.5	+1.0
CUSU	Cusua	3.04	94	P	Pn	22 51 50.4	+2.7
CUSU				S	Sn	22 52 25.9	+1.6
JUIV	Juive	3.05	93	P	Pn	22 51 49.7	+1.8
ARRY	Arrayan	3.07	95	P	Pn	22 51 49.2	+1.2
ARRY				S	Sn	22 52 23.6	-1.5
RETU	Refugio	3.07	94	P	Pn	22 51 51.1	+3.0
JUA2	San Juan 2	3.09	70	P	Pn	22 51 47.7	-0.6
PATA	Patacocha	3.09	95	P	Pn	22 51 49.9	+1.5
PATA				S	Sn	22 52 24.6	-1.0
NAS1	Nasa	3.10	78	P	Pn	22 51 50.6	+2.1
NAS1				S	Sn	22 52 26.8	+1.0
TERV	Terraza Guagua	3.10	70	P	Pn	22 51 49.6	+1.1
PINO	Pino	3.10	69	P	Pn	22 51 49.1	+0.6
RUN2	Runtun	3.10	93	P	Pn	22 51 50.1	+1.5
ULBA	Ulba	3.11	94	P	Pn	22 51 50.3	+1.6
PISA	Pisayambo	3.13	86	P	Pn	22 51 50.2	+1.2
PISA				S	Sn	22 52 25.2	-1.5
YANA	Yana	3.15	69	P	Pn	22 51 49.8	+0.5
VC1	Cotopaxi 1	3.17	79	P	Pn	22 51 51.1	+1.6
TAMB	Tambo	3.19	80	P	Pn	22 51 53.2	+3.3
ANTI	Antisana	3.44	77	P	Pn	22 51 55.3	+1.8
COTA	Cotacachi	3.55	64	P	Pn	22 51 55.6	+0.7
CAYR	Refugio Cayamb	3.73	70	⇓P	Pn	22 52 00.3	+2.9
CAYR				S	Sn	22 52 40.6	-1.1
CAYA	Cayambe	3.76	69	⇓P	Pn	22 52 00.5	+2.5
CAYA				S	Sn	22 52 44.4	+1.8

*IDC **21** 22:54:18.7±1.3, 11.15N×92.03E, mb3.9/7, mb1 4.0/8, mb1mx3.7/18, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=54.9km s-min=20.0km az=56.0*
*NEIC **21** 22:54:22.7±0.9, 11.16N×91.97E, h30km, mb4.0/2, Error ellipse: s-maj=25.9km s-min=16.8km az=52.0*
ISC 21 22:54:20.2±5.2, 11.2N±0.2×92.07E±0.10, h24km±36km, n12, σ0°92/13, mb3.8/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	9.81	42	Pn	P	22 56 42.8	-0.3
	0.1nm,0.3s,baz=233,slow=14,SNR=4.2						
HYB	Hyderabad	14.48	297	*i* P	P	22 57 46.0	+0.1
HYB				*e*		23 00 17.0	
HYB				*e*S	S	23 00 26.5	0.0
ZAL	Zalesovo	43.03	354	P	P	23 02 19.9	+0.4
	1.2nm,0.7s,mb3.7,baz=226,slow=5.6,SNR=5.5						
BVAR	Borovoye Array	45.21	342	P	P	23 02 37.5	+0.4
	0.2nm,0.5s,mb3.2,baz=140,slow=12,SNR=4.5						
CHKZ	Chkalovo	45.71	342	*e*P	P	23 02 41.8	+0.7
	1.6nm,0.5s,mb4.2						
WRA	Warramunga Arr	51.85	126	P	P	23 03 29.1	0.0
	0.6nm,0.3s,mb4.0,baz=300,slow=10,SNR=18						
ASAR	Alice Springs	53.60	131	P	P	23 03 42.1	+0.1
	0.7nm,0.6s,mb3.8,baz=304,slow=6.5,SNR=8.7						
JOF	Joensuu	66.99	334	*e*p	P	23 05 10.2	-2.8
	0.4nm,0.4s,mb3.8						
FINES	FINESS Array B	68.84	332	P	P	23 05 25.1	+0.6
	1.5nm,0.6s,mb4.1,baz=124,slow=6.9,SNR=8.3						
KAF	Kangasniemi	68.92	333	*e*p	P	23 05 22.7	-2.4
	0.3nm,0.3s,mb3.7						
ARCES	ARCESS Array B	71.47	340	P	P	23 05 41.4	+0.9
	2.2nm,1.0s,mb4.0,baz=90,slow=4.9,SNR=5.5						
ILAR	Eielson Array	92.44	22	P	P	23 07 30.3	+0.3
	0.3nm,0.7s,mb3.8,baz=277,slow=4.1,SNR=5.2						

*IDC **21** 22:54:16.6±1.1, 9.74N×125.71E, mb3.8/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.8/5, Error ellipse: s-maj=105.1km s-min=23.7km az=75.0*
*MAN **21** 22:54:26.8, 9.76N×126.11E, h34km, mb4.4, ML3.2, MS3.0*
ISC 21 22:54:25.8±0.9, 9.72N±0.05×126.11E±0.08, h79km±8km, n18, σ0°90/25, mb3.8/5, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.89	213	*e*P	P	22 54 43.5	-0.2
BUTP				*e*S	S	22 54 55.8	-1.3
MSLP	Maasin	1.30	289	*e*P	P	22 54 49.0	0.0
PLP	Palo	1.82	322	*e*P	P	22 54 55.5	-0.2
PLP				*e*S	S	22 55 16.6	-1.3
CGP	Cagayan de Oro	1.88	228	*i* P	P	22 54 57.0	+0.3
CGP				*i* S	S	22 55 20.1	+0.7
BESP	Borongan	1.98	341	*e*P	P	22 54 57.8	-0.2
OCLP	Ormoc	1.98	312	*e*P	P	22 54 59.0	+1.0
BUKP	Musuan	2.10	210	*e*P	P	22 55 01.5	+1.8
BUKP				*e*S	S	22 55 28.8	+4.1
LLP	Lapu-Lapu	2.20	286⇑	*e*P	P	22 55 01.4	+0.4
LLP				*i* S	S	22 55 27.8	+0.8
TBP	Tagbilaran	2.22	269	*e*P	P	22 55 01.5	+0.2
TBP				*e*S	S	22 55 25.3	-2.4
SNPH	Sibulan	2.86	263	*e*P	P	22 55 11.0	+0.7
DCPH	Dipolog City	2.95	248⇓	*e*P	P	22 55 11.5	-0.1
DCPH				*i* S	S	22 55 45.6	-0.4
GUIM	Jordan	3.58	285	*e*P	P	22 55 20.8	+0.5
RCP	Roxas	3.78	299⇑	*e*P	P	22 55 23.7	+0.6
WRA	Warramunga Arr	30.57	165	P	P	23 00 32.9	-1.5
	0.2nm,0.4s,mb3.2,baz=343,slow=8.7,SNR=7.6						
ASAR	Alice Springs	34.05	167	P	P	23 01 04.1	-0.5
	0.5nm,0.4s,mb3.7,baz=349,slow=6.7,SNR=9.7						
ARCES	ARCESS Array B	84.65	340	P	P	23 06 51.5	0.0
	1.9nm,0.8s,mb4.1,baz=80,slow=6.4,SNR=9.4						
FINES	FINESS Array B	86.30	332	P	P	23 06 59.0	-0.8
	3.4nm,1.1s,mb4.2,baz=66,slow=4.4,SNR=6.6						
YKA	Yellowknife Ar	94.32	24	P	P	23 07 38.4	+1.2
	0.2nm,0.6s,mb3.6,baz=302,slow=4.5,SNR=5.4						

IDC 21 23:01:10.4±1.8, 5.53N×92.98E, mb3.9/4, mb1 4.0/5, mb1mx3.7/16, mbtmp3.8/5, ML4.0/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/21, Error ellipse: s-maj=75.1km s-min=29.1km az=53.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.11	24	Pn	P	23 04 31.4	-2.6
	0.2nm,0.3s,baz=225,slow=14,SNR=3.0						
WRA	Warramunga Arr	47.90	123	P	P	23 09 50.8	-1.9
	0.6nm,0.6s,baz=300,slow=9.5,SNR=7.8						
ZAL	Zalesovo	48.72	354	P	P	23 09 57.1	-1.5
	0.8nm,0.3s,baz=228,slow=5.6,SNR=3.4						
ASAJ	Asahikawa	57.94	40	LR	LR	23 37 13.0	
	comp=Z,84nm,20.0s,baz=310,slow=37						
FINES	FINESS Array B	74.25	333	P	P	23 12 49.1	-1.8
	1.3nm,0.8s,baz=104,slow=12,SNR=3.1						
ARCES	ARCESS Array B	77.08	341	P	P	23 13 05.0	-1.8
	1.6nm,0.7s,baz=90,slow=6.1,SNR=6.0						

*THE **21** 23:31:42.7, 38.92N×23.46E, h1km, ML2.6*
*ATH **21** 23:31:42.0, 38.99N×23.58E, h30km±2km, MD2.7/8, ML2.9*
*NEIC **21** 23:31:42.0, 38.99N×23.58E, h30km, ML2.9(ATH), After ATH.*
*CSEM **21** 23:31:43.1±0.1, 38.91N×23.47E, h2km, ML2.6, Error ellipse: s-maj=2.5km s-min=1.5km az=79.0*
ISC 21 23:31:41.9±0.8, 38.89N±0.03×23.48E±0.05, h5km±7km, n17, σ0°61/27, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	Alonnisos	0.42	48	*e*Pg	Pg	23 31 50.5	+0.3
AOS				*e*Sg	Sg	23 31 56.5	+0.7
NEO	Neokhori	0.46	334	*e*PB	Pb	23 31 51.5	-0.6
NEO				*e*SB	Sb	23 31 58.0	-0.9
XOR	Xorichti	0.52	335	*e*Pg	Pg	23 31 52.6	+0.2
XOR				*e*Sg	Sg	23 31 59.2	-0.2
MPAR	Parnis Oros	0.77	165	*e*PN	Pn	23 31 59.5	+0.4
MPAR				*e*SN	Sn	23 32 11.0	-0.1
PTL	Penteli	0.90	160	*e*PN	Pn	23 32 00.0	-0.9
AGG	Agios Georgios	0.91	279	*e*Pg	Pg	23 31 59.0	-0.9
AGG				*e*Sg	Sg	23 32 12.4	+0.3
AGG	Agios Georgios	0.91	279	*e*Pg	Pg	23 31 59.0	-1.0
AGG				*e*Sg	Sg	23 32 12.4	+0.3
MGER	Gerania Oros	0.92	191	*e*PN	Pn	23 32 01.5	+0.2
ATH	Athens Observa	0.94	169	*e*PN	Pn	23 32 01.5	0.0
ATH				*e*SN	Sn	23 32 15.0	-0.4
NSAL	Nisos Salamina	0.98	181	*e*PN	Pn	23 32 02.2	0.0
PAIG	Paliouri	1.04	8	*e*Pg	Pg	23 32 02.3	-0.5
PAIG				*e*Sg	Sg	23 32 16.7	0.0
NAIG	Nisos Aigina	1.13	180	*e*PN	Pn	23 32 05.0	+0.7
EVR	Evrytania	1.30	272	*e*PN	Pn	23 32 08.0	+1.2
LIT	Litokhoron	1.43	328	*e*Pb	Pb	23 32 08.2	-0.4
LIT				*e*Sb	Sb	23 32 28.4	+1.3
LIT	Litokhoron	1.43	328	*e*Pb	Pb	23 32 08.2	-0.4
LIT				*e*Sb	Sb	23 32 28.4	+1.4
OUR	Ouranopolis	1.49	15	*e*Pb	Pb	23 32 09.0	-0.7
KNT	Kendrikon	2.31	349	*e*Pn	Pn	23 32 21.4	+0.3

*IDC **21** 23:34:19.9±0.9, 14.51N×92.96E, mb4.0/7, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, ML3.6/1, Error ellipse: s-maj=33.1km s-min=18.7km az=52.0*
*NEIC **21** 23:34:22.6±0.7, 14.73N×93.01E, mb4.3/5, Error ellipse: s-maj=28.0km s-min=10.7km az=59.0*
ISC 21 23:34:21.3±5.0, 14.6N±0.1×92.88E±0.08, h28km±35km, n18, σ1°10/20, mb4.1/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.98	56	Pn	Pn	23 36 04.9	+0.4
	0.3nm,0.3s,baz=240,slow=14,SNR=3.2						
CMAR				Sn	Sn	23 37 24.0	+0.3
	0.2nm,0.3s,baz=237,slow=23,SNR=4.2						
SHL	Shillong	10.97	355	*e*P	P	23 37 01.0	+1.3
SHL				*e*S	S	23 38 50.0	-13
JIRN	Jiri	14.43	336	*e*P	P	23 37 38.3	-7.5
PKI	Pulchoki	14.68	333	*e*P	P	23 37 40.6	-8.5
	9.5nm,0.5s						
DMN	Daman	14.85	332	*e*P	P	23 37 43.1	-8.2
	17nm,0.6s						
LSA	Lhasa	15.14	354	*e*P	P	23 37 53.6	-1.5
	4.6nm,0.8s						
LSA				*e*pP		23 38 00.6	
GKN	Gorkha	15.40	332	*e*P	P	23 37 51.1	-7.4
	17nm,0.5s						
SONM	Songino Array	35.01	16	P	P	23 41 12.6	-0.8
	0.2nm,0.3s,mb3.5,baz=191,slow=8.9,SNR=3.7						
KURK	Kurchatov	37.85	345	*e*P	P	23 41 35.4	-2.0
	8.2nm,1.2s,mb4.3						
KURK				*e*pP	pP	23 41 42.7	-3.1
BVAR	Borovoye Array	42.30	340	P	P	23 42 14.8	+0.7
	0.2nm,0.4s,mb3.1,baz=153,slow=3.2,SNR=3.2						

CHKZ	Chkalovo	42.77	341	*e*P	P	23 42 16.9	-1.1
	1.8nm,0.5s,mb4.1						
CHKZ				*e*pP	pP	23 42 22.6	-3.8
GNI	Garni	49.01	311	P	P	23 43 08.0	+0.3
	5.3nm,1.0s,mb4.5						
WRA	Warramunga Arr	53.29	129	P	P	23 43 40.2	-0.1
	1.7nm,0.7s,mb4.1,baz=307,slow=11,SNR=31						
WRA				PcP	PcP	23 44 47.2	-0.5
	0.5nm,0.6s,baz=321,slow=3.4,SNR=6.7						
WRAB	Tennant Creek	53.29	129	*e*P	P	23 43 40.0	-0.4
	4.7nm,0.6s,mb4.6						
ASAR	Alice Springs	55.26	133	P	P	23 43 54.6	-0.1
	1.3nm,0.4s,mb4.3,baz=309,slow=7.0,SNR=20						
BRTR	Keskin Array B	57.24	308	P	P	23 44 09.3	+0.6
	1.3nm,0.8s,mb4.0,baz=114,slow=7.1,SNR=6.2						
FINES	FINESS Array B	66.26	331	P	P	23 45 11.6	+2.7
	1.1nm,0.6s,mb4.1,baz=104,slow=7.9,SNR=3.8						
ARCES	ARCESS Array B	68.58	340	P	P	23 45 26.9	+3.5
	3.7nm,1.1s,mb4.2,baz=90,slow=8.5,SNR=3.8						

*NEIC **22** 00:01:07.9, 15.76N×61.44W, h24km, MD3.5(TRN), After TRN.*
TRN 22 00:01:10.4, 15.78N×61.51W, h2km, M2.9(FDF), 4C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGG	Marie-Galante	0.23	53	⇓*i*P	Pg	00 01 15.3	+0.3
BBL	Barber's Block	0.25	171	⇑*i*P	Pg	00 01 16.1	+0.7
BBL				*e*S	Sg	00 01 19.9	+1.2
BBL	Barber's Block	0.25	171	*e*P	Pg	00 01 15.0	-0.5
BBL	Barber's Block	0.25	171	⇑*i*P	Pg	00 01 16.1	+0.7
BBL				*e*S	Sg	00 01 18.9	+0.1
BBL				*e*S	Sg	00 01 19.9	+1.2
DOG	Dongo Capester	0.27	338⇑	*e*P	Pg	00 01 15.9	0.0
DWS	Wesley	0.28	137	*e*P	Pg	00 01 15.6	-0.4
DWS				*e*S	Sg	00 01 19.8	0.0
SCG	Saint Claude	0.30	327⇑	*i*P	Pg	00 01 16.4	0.0
BCG	Bois Riant Cap	0.32	341	⇓*i*P	Pg	00 01 16.8	-0.1
MDN	Morne-Daniel	0.47	166	*e*P	Pg	00 01 19.8	0.0
MDN				*e*S	Sg	00 01 26.7	+0.7
DEG	La Desirade	0.69	39	*e*P	Pg	00 01 22.4	-1.6
BPA	Boggy Peak	1.30	345	*e*P	Pb	00 01 33.4	-1.9
BPA				*e*S	Sb	00 01 49.9	-2.4

WEL 22 00:04:41.3±0.3, 38.58S×175.81E, h173km±3km, ML3.6/6, 2C-6D, Error ellipse: s-maj=3.0km s-min=2.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGZ	Maungaku	0.47	207	⇓PN	P	00 05 05.5	-0.1
WTVZ	West Tongariro	0.56	198	PN	P	00 05 05.8	-0.1
TWVZ	Taurewa	0.57	211	⇓PN	P	00 05 05.7	-0.3
NGZ	Ngauruhoe	0.61	195	PN	P	00 05 06.1	-0.1
CNZ	Chateau	0.65	198	⇑PN	P	00 05 06.3	0.0
WPVZ	Whakapapa	0.66	198	PN	P	00 05 06.3	0.0
TUVZ	Tukino	0.70	190	PN	P	00 05 06.7	+0.1
WNVZ	Wahianoa	0.76	192	⇓PN	P	00 05 05.8	-1.2
WNVZ				SN	S	00 05 26.3	-0.4
BKZ	Black Stump Fm	0.79	138	⇓PN	P	00 05 07.3	+0.2
BKZ				SN	S	00 05 26.7	-0.3
MOVZ	Moawhango	0.82	183	⇓PN	P	00 05 07.0	-0.3
MOVZ				SN	S	00 05 26.6	-0.8
URZ	Urewera	1.07	73	PN	P	00 05 08.8	-0.3
URZ				SN	S	00 05 29.5	-1.0
WAZ	Wanganui	1.33	208	PN	P	00 05 10.6	-0.9
WAZ				SN	S	00 05 33.7	-1.1
MWZ	Matawai	1.37	80	PN	P	00 05 11.7	-0.2
MWZ				SN	S	00 05 34.3	-1.1
TSZ	Takapari Road	1.48	175	⇓PN	P	00 05 12.3	-0.6
TSZ				SN	S	00 05 35.7	-1.5
KNZ	Kokohu	1.52	107	PN	P	00 05 13.5	+0.2
KNZ				SN	S	00 05 37.6	-0.3
PUZ	Puketiti	1.99	76	PN	P	00 05 17.4	-0.7
PUZ				SN	S	00 05 44.7	-1.8
MRZ	Mangatainoka R	2.08	185	PN	P	00 05 17.6	-1.6
MRZ				SN	S	00 05 45.4	-3.0
MXZ	Matakaoa Point	2.22	63	PN	P	00 05 19.9	-0.9
MXZ				SN	S	00 05 50.3	-0.9
KIW	Kapiti Island	2.38	197	PN	P	00 05 20.3	-2.4
KIW				SN	S	00 05 50.5	-4.1
MTW	Mount Morrison	2.58	185	PN	P	00 05 22.6	-2.6
CAW	Cannon Point	2.59	193	⇑PN	P	00 05 22.9	-2.3
MRW	Makara Radio	2.78	198	PN	P	00 05 24.6	-2.9
TUWZ	Tuamarina	3.19	206	PN	P	00 05 29.3	-3.3
NNZ	Nelson	3.23	215	PN	P	00 05 29.1	-4.0

*IGQ **22** 00:16:30.6, 1.16S×81.51W, h12km±22km, mb5.2, Error ellipse: s-maj=21.2km s-min=6.0km az=172.5*
*IDC **22** 00:16:41.9±4.4, 1.04S×80.72W, h17km±27km, mb4.4/22, mb1 4.5/24, mb1mx4.4/28, mbtmp4.5/24, ML3.8/2, MS4.8/13, Ms1 4.8/13, ms1mx4.3/25, Error ellipse: s-maj=21.4km s-min=11.7km az=62.0*
*BJI **22** 00:16:42.0, 1.10S×80.70W, h22km, mB5.0, Ms5.1, Msz5.0*
*NEIC **22** 00:16:42.1±1.8, 1.13S×80.74W, h22km±12km, mb4.7/44, Error ellipse: s-maj=7.

LVC LR LR 00 32 21.1
comp=Z,3μm,20.9s,MS4.7,baz=323,slow=39
FCH Farellones 33.56 164⇑*i*P P 00 23 21.4 -0.1
GOGA Godfrey 34.41 356 *e*P P 00 23 27.1 -1.7
11nm,0.8s,mb4.8
LRAL Lakeview Retre 34.44 351 *e*P P 00 23 27.4 -1.7
21nm,1.1s,mb5.0
BDFB Brasilia 35.45 116 P P 00 23 36.0 -1.9
15nm,0.9s,mb4.9,baz=282,slow=9.4,SNR=13
BDFB LR LR 00 39 11.7
comp=Z,4μm,20.5s,MS5.2,baz=132,slow=38
BAO Brasilia Array 35.47 116 P P 00 23 31.5 -6.5
BAO *e* pP 00 23 41.0 -9.4
JCT Junction City 36.23 332 *e*P P 00 23 44.6 +0.3
23nm,0.9s,mb5.1
CPCT Cooper Cave 36.52 355 *e*P P 00 23 45.3 -1.4
TXAR Lajitas Array 37.31 326 P P 00 23 53.6 +0.2
1.7nm,0.9s,mb3.9,baz=194,slow=5.2,SNR=18
TXAR PcP PcP 00 26 13.6 +1.2
1.8nm,0.9s,baz=146,slow=4.5,SNR=3.6
TXAR ScP 00 30 00.1
0.7nm,1.0s,baz=225,slow=1.8,SNR=4.4
WVT Waverly 37.60 351 *e*P P 00 23 53.2 -2.6
3.7nm,0.6s,mb4.3
WMOK Wichita Mounta 39.42 336 *e*P P 00 24 10.2 -0.6
14nm,1.0s,mb4.6
WCI Wyandotte Cave 39.45 353 *e*P P 00 24 09.2 -2.0
13nm,0.9s,mb4.7
LPA La Plata 39.84 150*c*eP P 00 24 14.0 -0.4
LPA *e*S S 00 30 13.0 -2.5
LPA *e*sS 00 30 30.0
LPA *e*SS SS 00 33 25.0 +18
FVM French Village 39.88 348 *e*P P 00 24 13.1 -1.7
GDL2 Guadalupe Moun 39.91 328 *e*P P 00 24 15.7 +0.8
MNTX Cornudas Mount 40.07 327 *e*P P 00 24 16.1 -0.2
12nm,0.9s,mb4.6
CCM Cathedral Cave 40.13 347 *e*P P 00 24 14.9 -1.9
20nm,1.2s,mb4.7
CPRX Cap Rock 40.30 329 *e*P P 00 24 19.6 +1.4
PLCA Paso Flores 40.54 168 P P 00 24 19.8 -0.4
8.7nm,0.8s,mb4.4,baz=329,slow=10,SNR=5.2
PLCA Paso Flores 40.54 168 *e*P P 00 24 19.1 -1.1
14nm,0.9s,mb4.6
TRQA Tornquist 40.66 157 *e*P P 00 24 19.1 -2.0
26nm,1.1s,mb4.8
AMTX Amarillo 40.77 333 *e*P P 00 24 21.2 -0.9
17nm,0.8s,mb4.7
ACSO Alum Creek Sta 41.18 357 *e*P P 00 24 23.7 -1.7
14nm,0.9s,mb4.6
KSU1 Kansas State U 42.55 342 *e*P P 00 24 36.7 0.0
LPM Los Pinos Moun 42.74 328 *e*P P 00 24 40.0 +1.7
LENM Lemitar 42.81 327 P P 00 24 39.1 +0.1
ANMO Albuquerque 43.14 329 P P 00 24 43.0 +1.3
5.5nm,0.8s,mb4.3,baz=150,slow=10,SNR=16
ANMO Albuquerque 43.14 329 *e*P P 00 24 41.9 +0.3
10nm,1.0s,mb4.5
TUC Tucson 43.66 322 *e*P P 00 24 46.3 +0.4
6.3nm,1.0s,mb4.3
SDCO Great Sand Dun 44.87 332 *e*P P 00 24 56.2 +0.7
11nm,1.1s,mb4.6
MDV Middlebury 45.41 8 P P 00 24 57.7 -2.1
SADO Sadowa 45.69 2 P P 00 24 60.0 -2.0
5.7nm,0.9s,mb4.5,baz=231,slow=8.0,SNR=5.4
RW3 Ridgway 46.32 331 *e*P P 00 25 08.7 +1.6
ISCO Idaho Springs 46.59 334 *e*P P 00 25 10.7 +1.6
7.4nm,1.1s,mb4.5
PV01 Paradox Valley 46.67 330 P P 00 25 10.8 +1.0
PV10 Paradox Valley 47.10 330 *e*P P 00 25 14.9 +1.8
PFO Pinyon Flat Ob 48.10 319 P P 00 25 21.5 +0.4
4.9nm,1.0s,mb4.5
NEN Nelson 48.40 322 *e*P P 00 25 24.2 +0.9
SRU San Rafael 48.41 329 *e*P P 00 25 24.3 +0.9
MSU Marysvale 48.84 327 *e*P P 00 25 27.4 +0.6
ARUT Antelope Range 49.03 326 *e*P P 00 25 30.1 +1.9
MPU Maple Canyon 49.66 329 *e*P P 00 25 34.5 +1.5
DAU Daniels Canyon 49.76 330 *e*P P 00 25 34.6 +0.9
JLU Jordanelle 50.00 330 *e*P P 00 25 36.5 +0.9
TCUT Toone Canyon 50.36 330 *e*P P 00 25 39.1 +0.8
BW06 Boulder Array 50.74 333 *e*P P 00 25 41.8 +0.6
2.0nm,0.9s,mb4.0
PDAR Pinedale Array 50.74 333 P P 00 25 41.4 +0.1
1.9nm,0.8s,mb4.1,baz=135,slow=10,SNR=7.3
PDAR LR LR 00 47 30.9
comp=Z,1μm,18.0s,MS5.0,baz=146,slow=36
HWUT Hardware Ranch 50.81 330 *e*P P 00 25 41.4 -0.3
6.6nm,1.0s,mb4.5
SPUT South Promonto 51.03 329 *e*P P 00 25 44.4 +1.0
BGU Big Grassy Mou 51.05 329 *e*P P 00 25 44.8 +1.2
TPH Tonopah 51.43 323 P P 00 25 48.0 +1.6
AHID Auburn Hatcher 51.46 332 *e*P P 00 25 47.6 +1.0
1.3nm,0.3s,mb4.3
LOHW Long Hollow 51.88 333 *e*P P 00 25 50.0 +0.2
TPAW Teton Pass 51.95 332 *e*P P 00 25 49.7 -0.5
MOOW Moose Ponds 52.05 333 *e*P P 00 25 50.9 -0.2
OMM Old Mammoth Mi 52.22 322 *e*P P 00 25 51.9 -0.5
MNV Mina 52.22 323 *e*P P 00 25 52.7 +0.4
25nm,1.4s,mb5.0
IMW Indian Meadow 52.26 333 *e*P P 00 25 52.6 +0.1
NVAR Mina Array Bea 52.30 323 P P 00 25 54.1 +1.1
2.7nm,0.7s,mb4.3,baz=130,slow=7.7,SNR=17
NVAR LR LR 00 48 00.9
comp=Z,749nm,18.2s,MS4.8,baz=125,slow=36
YFT Old Faithful 52.64 333 *e*P P 00 25 56.6 +1.2
YMR Madison River 52.87 333 P P 00 25 56.8 -0.3
BMN Battle Mountai 52.98 325 *e*P P 00 25 57.5 -0.5
16nm,1.0s,mb4.9
HLID Hailey 53.67 330 *e*P P 00 26 03.0 -0.1
4.5nm,0.9s,mb4.4
MCMT McKenzie Canyo 53.85 332 *e*P P 00 26 04.8 +0.3
BOZ Bozeman (W) 53.92 334 *e*P P 00 26 04.2 -0.8
7.3nm,1.0s,mb4.6
USHA Ushuaia 54.52 171 P P 00 26 09.9 +0.7
22nm,0.8s,mb5.2,baz=325,slow=6.8,SNR=5.3
OHCM Honcut 54.81 322 *e*P P 00 26 10.6 -1.0
WVOR Wild Horse Val 55.11 326 *e*P P 00 26 13.2 -0.4
13nm,1.1s,mb4.9
BMO Blue Mountains 56.05 329 *e*P P 00 26 19.3 -1.1
3.5nm,1.1s,mb4.3
SCHQ Schefferville 56.92 10 P P 00 26 26.8 +0.3
3.7nm,0.9s,mb4.4,baz=202,slow=11,SNR=2.5
SCHQ LR LR 00 50 23.6
comp=Z,626nm,20.1s,MS4.7,baz=312,slow=36
YBH Yreka Blue Hor 57.00 323 P P 00 26 27.2 -0.1
3.4nm,0.9s,mb4.3,baz=175,slow=4.2,SNR=5.1
FFC Flin Flon 58.30 346 *e*P P 00 26 34.7 -1.5
8.8nm,1.2s,mb4.7
TAOE Nuku Hiva Isla 59.53 260 *e*P P 00 26 31.8 -13
TAOE *e*S S 00 34 34.6 -15
TAOE *e*LR LR 00 43 55.3
EDM Edmonton 60.54 338 *e*P P 00 26 50.2 -1.4
FCC Fort Churchill 60.60 352 *e*P P 00 26 49.5 -2.4
16nm,1.0s,mb5.1
YKA Yellowknife Ar 68.34 344 P P 00 27 40.9 -1.2
7.5nm,0.9s,mb4.7,baz=137,slow=5.8,SNR=66
YKA Yellowknife Ar 68.34 344 P P 00 27 40.9 -1.2
YKW3 Yellowknife Ar 68.40 344 *e*P P 00 27 40.7 -1.8
PPT Papeete 69.42 252 *e*S S 00 36 40.5 -11
PPT *e*LR LR 00 48 35.3
2μm,25.2s,baz=82
TBI Tubuai 69.98 246 *e*P P 00 27 42.7 -10
TBI *e*S S 00 36 49.5 -8.9
TBI *e*LR LR 00 48 57.8
1μm,26.8s,baz=88
DLBC Dease Lake 70.88 335 LR LR 01 01 24.4
comp=Z,750nm,18.3s,MS5.0,baz=261,slow=38
DLBC Dease Lake 70.88 335 *e*P P 00 27 57.2 -0.5
RES Resolute Bay 76.15 356 *e*P P 00 28 24.9 -3.2
4.9nm,1.1s,mb4.3
DBIC Dimbokro 76.20 83 P P 00 28 28.8 -0.8
37nm,1.1s,mb5.2,baz=258,slow=5.3,SNR=24
DBIC LR LR 00 59 45.6
comp=Z,2μm,19.4s,MS5.4,baz=242,slow=34
DBIC Dimbokro 76.20 83 *e*P P 00 28 27.8 -1.9
58nm,1.1s,mb5.4
DAWY Dawson 77.75 337 *e*P P 00 28 36.3 -1.0
INK Inuvik 78.01 342 P P 00 28 38.2 -0.5
8.0nm,0.9s,mb4.6,baz=137,slow=5.7,SNR=11
INK LR LR 01 04 01.1
comp=Z,451nm,19.8s,MS4.8,baz=302,slow=36
INK Inuvik 78.01 342 *e*P P 00 28 38.1 -0.5
0.1nm,2.2s,mb2.4
SUMG Summit 78.20 12 *e*P P 00 28 38.8 -0.8
11nm,0.8s,mb4.8
SML Sawmill 80.50 334 *e*P P 00 28 51.6 -0.7
ESDC Sonseca Array 80.61 50 P P 00 28 53.8 +0.5
3.6nm,1.1s,mb4.2,baz=271,slow=4.8,SNR=8.6

ILAR Eielson Array 80.98 337 P P 00 28 54.4 -0.3
5.0nm,1.0s,mb4.4,baz=135,slow=3.7,SNR=16
ILAR LR LR 01 07 02.2
comp=Z,735nm,18.4s,MS5.1,baz=234,slow=37
SCO Scoresbysund 81.04 17 *i*P P 00 28 55.3 +0.3
5.4nm,0.9s,mb4.5
SCO *i*S S 00 39 00.3 +1.0
COLA College 81.40 337 P P 00 28 57.0 +0.1
MCK McKinley 81.44 335 *e*P P 00 28 57.2 +0.1
6.6nm,1.0s,mb4.5
SPU Mount Spurr 81.99 332 *e*P P 00 28 58.8 -1.2
RSO Redoubt South 82.11 332 P P 00 29 01.4 +0.7
VNA3 Neumayer Olymp 82.97 162⇑*i* P 00 29 04.3 -0.6
VNA2 Neumayer--Watz 83.59 162 *e* P 00 29 12.5 +4.5
VNA2 Neumayer--Watz 83.59 162⇑*i*P P 00 29 08.5 +0.5
VNA2 *e* 00 29 12.5
SVW2 Sparrevohn 83.62 332 *e*P P 00 29 09.1 +0.8
EKA Eskdalemuir Ar 83.89 34 P P 00 29 10.2 +0.3
6.2nm,1.1s,mb4.7,baz=260,slow=5.1,SNR=3.8
IMA Indian Mountai 84.09 337 *e*P P 00 29 13.9 +3.3
6.6nm,1.1s,mb4.7
GRR Gorron 84.15 41 *e*P P 00 29 11.5 +0.2
EPF Esparros 84.28 47 *e*P P 00 29 12.9 +0.8
MFF Saint Martin d 84.39 43 *e*P P 00 29 13.0 +0.4
80nm,1.4s,mb5.3
LFF La Frestale 84.80 45 *e*P P 00 29 14.9 +0.3
50nm,1.2s,mb5.2
DAG Danmarks Havn 84.89 12⇓*e*P P 00 29 14.3 -0.2
5.0nm,0.9s,mb4.6
DAG Danmarks Havn 84.89 12⇓*i*P P 00 29 14.3 -0.2
5.0nm,0.9s,mb4.6
SNAA Sanae 85.19 162 *e* P 00 29 22.0 +6.0
SNAA Sanae 85.19 162 P P 00 29 16.7 +0.7
1.1nm,0.6s,mb4.1,baz=286,slow=7.3,SNR=0.0
SNAA Sanae 85.19 162⇑*i*P P 00 29 16.3 +0.3
SNAA *e* 00 29 22.0
JMIC Jan Mayen 85.32 18 LR LR 01 02 23.0
comp=Z,115nm,19.7s,MS4.3,baz=254,slow=32
RJF Les Rejaudoux 85.38 45 *e*P P 00 29 17.9 +0.4
RJF *e*R
700nm,22.8s
TCF Toulx Ste Croi 85.97 44 *e*P P 00 29 20.5 +0.1
19nm,1.0s,mb5.0
BGF Bois d'Agland 86.43 43 *e*P P 00 29 23.1 +0.5
57nm,1.2s,mb5.4
AVF Avril sur Loir 86.80 43 *e*P P 00 29 24.5 +0.1
SSF Saint Saulge 86.93 43 *e*P P 00 29 25.0 -0.1
SMF Signal de Mont 87.12 43 *e*P P 00 29 26.1 +0.1
GIVF Givet 88.04 40 *e*P P 00 29 31.0 +0.7
CABF La Chapelle 88.67 44 *e*P P 00 29 34.0 +0.6
11nm,1.0s,mb4.8
HAU Haudompre 88.91 42 *e*P P 00 29 34.8 +0.3
HAU *e*R
465nm,22.5s
QSPA South Pole Qui 88.96 180⇓*i*P P 00 29 39.2 +5.1
15nm,1.0s,mb5.3
HINF Hinteralfeld 89.24 42 *e*P P 00 29 36.2 +0.1
CDF Champ du Feu 89.55 42 *e*P P 00 29 37.8 +0.2
TNA Tin City 89.78 335 *e*P P 00 29 38.1 -0.1
DAVOX Davos 91.28 43 P P 00 29 47.1 +1.4
2.3nm,0.8s,mb4.5,baz=348,slow=20,SNR=4.2
NOA NORSAR Array B 91.95 29 P P 00 29 49.4 +1.0
0.8nm,0.9s,mb4.1,baz=263,slow=4.4,SNR=2.8
KHC Kasperske Hory 93.72 41 *e*P P 00 29 56.5 -0.3
GERES GERESS Array B 93.81 41 P P 00 29 58.7 +1.5
0.3nm,0.6s,mb3.9,baz=135,slow=17,SNR=1.9
VNDA Vanda 94.66 191 LR LR 01 05 11.5
comp=Z,441nm,21.6s,MS4.9,baz=166,slow=31
ARCES ARCESS Array B 96.70 20 LR LR 01 14 26.8
comp=Z,176nm,18.1s,MS4.6,baz=112,slow=36
URZ Urewera 98.78 231 LR LR 01 05 15.2
comp=Z,586nm,18.2s,MS5.1,baz=6.7,slow=30
BVAR Borovoye Array 122.99 20 PKP PKPdf 00 35 36.3 +1.1
0.7nm,0.7s,baz=315,slow=2.1,SNR=5.1
ZAL Zalesovo 126.01 10 PKP PKPdf 00 35 41.8 +0.8
2.2nm,0.9s,baz=61,slow=16,SNR=7.9
KURK Kurchatov 127.58 16 *e*PKP PKPdf 00 35 43.6 -0.5
STKA Stephens Creek 128.16 227 PKP PKPdf 00 35 48.6 +2.9
2.9nm,0.7s,baz=278,slow=1.7,SNR=6.7
SONM Songino Array 133.03 353 PKP PKPdf 00 35 55.9 +1.3
1.4nm,0.9s,baz=16,slow=0.6,SNR=6.6
AAK Ala-Archa 133.10 25 *e*PKP PKPdf 00 35 55.1 +0.2
ASAR Alice Springs 138.23 232 PKP PKPdf 00 36 05.7 +0.9
3.6nm,1.1s,baz=112,slow=2.4,SNR=9.7
WB2 Warramunga Arr 139.67 237 *e*P PKPdf 00 36 06.5 -1.0
WRA Warramunga Arr 139.68 237 PKhKP 00 36 00.6
0.9nm,1.1s,baz=40,slow=39,SNR=3.6
WRA PKP PKPdf 00 36 09.1 +1.6
1.7nm,0.9s,baz=127,slow=2.1,SNR=12
SSE Sheshan 143.60 327 PKP PKPdf 00 36 15.0 +0.9
SSE PP PP
comp=Z,136nm,10.8s
SSE LR LR
comp=N,103nm,25.7s,MS4.8
SSE LR LR
comp=E,157nm,25.6s,MS4.8
SSE LR LR
comp=Z,220nm,23.8s,MS4.8
LZH Lanzhou 144.92 353 *e*PKP PKPdf 00 36 16.5 +0.2
LZH APKP 00 36 24.0
LZH XPKP 00 36 29.0
NDI New Delhi 145.47 35 *e*P PKPdf 00 36 18.5 +1.0
XAN Xi'an 145.98 345 PKP PKPdf 00 36 18.3 +0.1
XAN APKP 00 36 26.5
KNA Kununurra 146.31 239 *e*P PKPdf 00 36 25.7 +6.5
comp=Z,8.5nm,0.8s
WHN Wuhan 147.36 335 *e*PKP PKPdf 00 36 23.0 +2.4
FITZ Fitzroy Crossi 147.71 233 *e*P PKPdf 00 36 25.3 +3.8
comp=Z,40nm,1.5s
ENH Enshi 149.37 342 *e*PKP PKPdf 00 36 25.2 +1.4
KOLN Koldanda 149.57 28 *e*P PKPdf 00 36 25.6 +1.4
comp=Z,95nm,1.4s
POO Poona 149.71 54 *e* PKPdf 00 36 30.5 +5.8
GKN Gorkha 149.84 26 *e*P PKPdf 00 36 26.2 +1.6
comp=Z,196nm,1.3s
MBWA Marble Bar 150.11 221 PKP PKPdf 00 36 30.7 +5.5
KKN Kakani 150.31 25 *e*P PKPdf 00 36 26.8 +1.4
comp=Z,79nm,1.1s
DMN Daman 150.39 26 *e*P PKPdf 00 36 27.1 +1.6
comp=Z,99nm,1.2s
LSA Lhasa 150.55 14 PKP PKPdf 00 36 28.3 +2.6
LSA Lhasa 150.55 14 *e*PKP PKPdf 00 36 27.9 +2.2
PKI Pulchoki 150.56 25 *e*P PKPdf 00 36 26.8 +1.1
JIRN Jiri 150.80 24 *e*P PKPdf 00 36 27.8 +1.7
comp=Z,69nm,1.1s
SHL Shillong 154.68 16 *e*P PKPdf 00 36 34.0 +2.4
CMAR Chiang Mai Arr 162.75 1 PKP PKPdf 00 36 44.4 +3.2
comp=Z,1.5nm,1.0s,baz=228,slow=1.7,SNR=5.3
CMAR PKPab PKPab 00 37 32.2 -0.3
comp=Z,1.6nm,0.8s,baz=340,slow=4.2,SNR=5.3

IGQ 22 00:21:44.0, 1.20S×81.58W, h12km±27km, mb4.5, 3C-2D, Error ellipse: s-maj=25.9km s-min=6.7km az=172.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.96**	**96**	⇑P	Pn	00 22 32.4	+0.7
CUSU	**Cusua**	**3.11**	**94**	P	Pn	00 22 35.9	+2.1
JUIV	**Juive**	**3.12**	**94**	P	Pn	00 22 35.4	+1.3
JUA2	**San Juan 2**	**3.13**	**72**	P	Pn	00 22 34.9	+0.7
ARRY	**Arrayan**	**3.14**	**96**	⇑P	Pn	00 22 35.1	+0.8
ARRY				S	Sn	00 23 11.2	-0.9
RETU	**Refugio**	**3.15**	**95**	P	Pn	00 22 37.0	+2.7
RETU				S	Sn	00 23 13.7	+1.5
TERV	**Terraza Guagua**	**3.15**	**71**	P	Pn	00 22 35.9	+1.5
PINO	**Pino**	**3.15**	**71**	P	Pn	00 22 35.2	+0.8
PINO				S	Sn	00 23 12.8	+0.5
NAS1	**Nasa**	**3.16**	**80**	P	Pn	00 22 35.8	+1.3
NAS1				S	Sn	00 23 12.8	+0.4
PATA	**Patacocha**	**3.16**	**95**	P	Pn	00 22 35.9	+1.3
RUN2	**Runtun**	**3.18**	**94**	P	Pn	00 22 36.6	+1.8
RUN2				S	Sn	00 23 13.4	+0.4
ULBA	**Ulba**	**3.18**	**94**	P	Pn	00 22 36.3	+1.4
YANA	**Yana**	**3.20**	**70**	⇓P	Pn	00 22 35.9	+0.8
PISA	**Pisayambo**	**3.20**	**87**	P	Pn	00 22 36.3	+1.1
PISA				S	Sn	00 23 13.0	-0.5
VC1	**Cotopaxi 1**	**3.23**	**80**	P	Pn	00 22 37.7	+2.2
TAMB	**Tambo**	**3.25**	**81**	P	Pn	00 22 38.5	+2.6
ANTI	**Antisana**	**3.50**	**78**	P	Pn	00 22 41.4	+2.0
ANTI				S	Sn	00 23 22.5	+1.3
COTA	**Cotacachi**	**3.59**	**65**	P	Pn	00 22 41.9	+1.2
CAYR	**Refugio Cayamb**	**3.77**	**71**	⇑P	Pn	00 22 46.1	+2.9
CAYA	**Cayambe**	**3.81**	**71**	⇓P	Pn	00 22 46.4	+2.7

*CSEM **22** 00:29:38.7±0.8, 38.64N×28.53W, h10km, ML1.0, Error ellipse: s-maj=3.4km s-min=2.5km az=170.0, After PDA*
*PDA **22** 00:29:38.7±0.8, 38.64N×28.53W, h10km, MD2.6, ML1.0, Error ellipse: s-maj=3.4km s-min=2.5km az=170.0*
SVSA 22 00:29:38.7±0.8, 38.64N×28.53W, h10km, MD2.6, ML1.0, Error ellipse: s-maj=3.4km s-min=2.5km az=170.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.13**	**265**	*e*P	Pg	00 29 41.2	-0.7
PCED				*e*S	Sg	00 29 44.0	-0.1
8.9nm,0.1s							
8.9nm,0.1s							
HOR	**Horta**	**0.14**	**214**	*e*S	Sg	00 29 43.8	-0.3
CALA	**Caldeira**	**0.14**	**247**	*e*P	Pg	00 29 41.6	-0.5
CALA				*e*S	Sg	00 29 44.4	0.0
PICO	**Pico**	**0.16**	**149**	*i*P	Pg	00 29 41.8	-0.6
PICO				*e*S	Sg	00 29 44.7	-0.1
PICO	**Pico**	**0.16**	**149**	*e*S	Sg	00 29 44.7	-0.1
ROSA	**Rosais**	**0.24**	**70**	*e*S	Sg	00 29 46.7	-0.6

IGQ 22 00:37:07.1, 1.17S×81.26W, h12km±27km, mb4.1, 1D, Error ellipse: s-maj=27.4km s-min=8.6km az=169.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.64**	**97**	P	Pn	00 37 51.6	+1.2
CUSU	**Cusua**	**2.79**	**96**	P	Pn	00 37 53.8	+1.3
JUIV	**Juive**	**2.81**	**95**	P	Pn	00 37 53.7	+0.9
JUA2	**San Juan 2**	**2.82**	**70**	P	Pn	00 37 54.0	+1.1
ARRY	**Arrayan**	**2.83**	**97**	P	Pn	00 37 54.4	+1.5
ARRY				S	Sn	00 38 28.4	+1.1
NAS1	**Nasa**	**2.84**	**79**	P	Pn	00 37 54.1	+1.0
TERV	**Terraza Guagua**	**2.84**	**70**	P	Pn	00 37 54.8	+1.7
PINO	**Pino**	**2.84**	**69**	P	Pn	00 37 54.1	+0.9
PATA	**Patacocha**	**2.85**	**97**	P	Pn	00 37 55.4	+2.2
PATA				S	Sn	00 38 28.6	+0.8
PISA	**Pisayambo**	**2.88**	**88**	P	Pn	00 37 56.5	+2.8
YANA	**Yana**	**2.89**	**69**	P	Pn	00 37 53.9	0.0
VC1	**Cotopaxi 1**	**2.91**	**80**	P	Pn	00 37 56.9	+2.8
TAMB	**Tambo**	**2.93**	**81**	P	Pn	00 37 57.1	+2.6
ANTI	**Antisana**	**3.18**	**77**	P	Pn	00 38 00.7	+2.7
COTA	**Cotacachi**	**3.29**	**63**	P	Pn	00 38 00.8	+1.4
CAYR	**Refugio Cayamb**	**3.46**	**70**	⇓P	Pn	00 38 05.2	+3.2
CAYA	**Cayambe**	**3.50**	**69**	P	Pn	00 38 05.3	+2.8

IDC 22 00:40:24.3±5.4, 22.02S×148.67E, mb1 3.5/3, mb1mx3.4/9, mbtmp3.3/3, ML3.3/3, Error ellipse: s-maj=52.8km s-min=24.7km az=67.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.97**	**310**	Pg	Pg	00 41 19.5	-4.1
6.7nm,0.3s,baz=131,slow=17,SNR=74							
CTA				Lg		00 41 59.0	
16nm,0.3s,baz=240,slow=23,SNR=13							
STKA	**Stephens Creek**	**11.66**	**211**	Pn	P	00 43 10.0	-5.1
0.2nm,0.3s,baz=3.4,slow=19,SNR=2.5							
WRA	**Warramunga Arr**	**13.55**	**276**	Pn	P	00 43 38.4	-2.0
0.2nm,0.3s,baz=96,slow=13,SNR=11							
WRA				Lg		00 47 31.4	
0.1nm,0.3s,baz=101,slow=26,SNR=4.0							
ASAR	**Alice Springs**	**13.71**	**260**	Pn	P	00 43 41.7	-0.9
0.1nm,0.3s,baz=78,slow=14,SNR=5.5							
ASAR				Lg		00 47 38.0	
0.1nm,0.3s,baz=95,slow=29,SNR=5.4							

*IGQ **22** 01:12:03.1, 1.25S×81.47W, h12km±19km, mb5.0, Error ellipse: s-maj=18.8km s-min=5.6km az=169.7*
*IDC **22** 01:12:11.1±0.7, 1.17S×80.67W, mb4.3/11, mb1 4.6/13, mb1mx4.4/20, mbtmp4.4/13, ML3.9/2, MS4.4/7, Ms1 4.4/7, ms1mx3.7/18, Error ellipse: s-maj=27.0km s-min=15.2km az=51.0*
*BJI **22** 01:12:14.4, 1.20S×80.80W, h26km, mB4.9, Ms5.3, Msz5.1*
*NEIC **22** 01:12:14.5±1.8, 1.20S×80.79W, h26km±12km, mb4.9/37, MS4.6/1, MD5.0(IGQ), Error ellipse: s-maj=7.2km s-min=4.7km az=222.0*
NEIC Felt strongly by people in high-rise buildings at Bahia de Caraquez, Manta and Portoviejo.
*HRVD **22** 01:12:14.5±0.3, 1.25S×80.93W, h18km±1km, MW5.1/49, Centroid moment Tensor Solution. LP body waves: s27,c35;Mantle waves: s49,c74; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.88±.24; $M_{\theta\theta}$0.05±.12; $M_{\phi\phi}$-2.92±.19; $M_{r\theta}$0.88±.30; $M_{\theta\phi}$-0.17±.09; $M_{\phi r}$-5.19±.66; Best double couple: $M_0$6.012×10^{16} NP1:ϕ_1=14°, δ15°, λ111°. NP2:ϕ_2=172°, δ76°, λ84°. Principal axes: T 6.043, Plg59°, Azm74°; N -.054, Plg5°, Azm173°; P -5.98, Plg31°, Azm267°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 22 01:12:14.9±0.8, 1.165±0.06×80.89W±0.05, h40km±6km, n143, σ0.94/117, mb4.7/44, MS4.5/8, 7C-7D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.27**	**98**	⇓P	**P**	**01 12 50.6**	**-0.2**
CUSU	**Cusua**	**2.42**	**97**	P	**P**	**01 12 52.9**	**-0.1**
JUIV	**Juive**	**2.44**	**96**	⇓P	**P**	**01 12 53.0**	**-0.2**
MARY	**Rancho Maria**	**2.44**	**80**	P	**P**	**01 12 53.3**	**+0.1**
ARRY	**Arrayan**	**2.46**	**98**	⇓P	**P**	**01 12 52.9**	**-0.5**
RETU	**Refugio**	**2.46**	**97**	P	**P**	**01 12 53.6**	**+0.1**
RETU				S	**S**	**01 13 29.5**	**+7.0**
NAS1	**Nasa**	**2.46**	**78**	P	**P**	**01 12 53.8**	**+0.2**
JUA2	**San Juan 2**	**2.47**	**68**	⇑P	**P**	**01 12 53.4**	**-0.3**
PATA	**Patacocha**	**2.48**	**98**	⇑P	**P**	**01 12 54.2**	**+0.4**
TERV	**Terraza Guagua**	**2.48**	**67**	⇑P	**P**	**01 12 53.2**	**-0.6**
PINO	**Pino**	**2.49**	**66**	⇑P	**P**	**01 12 53.1**	**-0.9**
RUN2	**Runtun**	**2.49**	**96**	P	**P**	**01 12 54.0**	**+0.1**
GGP	**Refugio Guagua**	**2.49**	**67**	P	**P**	**01 12 55.5**	**+1.5**
ULBA	**Ulba**	**2.50**	**97**	P	**P**	**01 12 54.1**	**0.0**
PISA	**Pisayambo**	**2.50**	**88**	P	**P**	**01 12 54.3**	**+0.2**
JOR1	**San Jorge 1**	**2.53**	**63**	⇑P	**P**	**01 12 53.7**	**-0.8**
VC1	**Cotopaxi 1**	**2.54**	**78**	P	**P**	**01 12 55.0**	**+0.3**
YANA	**Yana**	**2.54**	**66**	⇑P	**P**	**01 12 53.8**	**-0.8**
TAMB	**Tambo**	**2.56**	**80**	P	**P**	**01 12 55.2**	**+0.2**
OTAV	**Otavalo**	**2.80**	**60**	*e*P	**P**	**01 12 57.4**	**-1.1**
ANTI	**Antisana**	**2.82**	**75**	⇓P	**P**	**01 12 59.1**	**+0.5**
COTA	**Cotacachi**	**2.95**	**60**	P	**P**	**01 13 00.3**	**-0.2**
CAYR	**Refugio Cayamb**	**3.11**	**68**	P	**P**	**01 13 04.0**	**+1.2**
CAYA	**Cayambe**	**3.15**	**67**	⇑P	**P**	**01 13 04.5**	**+1.2**
CONE	**Cono NE Rev Vo**	**3.42**	**72**	P	**P**	**01 13 09.5**	**+2.3**
PAYG	**Puerto Ayora**	**9.41**	**273**	*e*P	**P**	**01 14 30.1**	**-0.8**
NNA	**Nana**	**11.48**	**160**	*e*P	**P**	**01 14 55.6**	**-3.8**
34nm,0.8s							
JTS	**JuntasAbangare**	**12.07**	**341**	P	**P**	**01 15 00.7**	**-6.7**
SDV	**Santo Domingo**	**14.28**	**45**	Pn	**P**	**01 15 34.5**	**-2.1**
0.2nm,0.3s,baz=228,slow=14,SNR=5.7							
ARE	**Arequipa**	**17.80**	**149**	*e*P	**P**	**01 16 25.0**	**+3.5**
SAML	**Samuel**	**19.25**	**114**	*e*P	**P**	**01 16 33.3**	**-5.5**
145nm,1.3s							
LPAZ	**La Paz**	**19.59**	**141**	P	**P**	**01 16 41.4**	**-1.3**
0.5nm,0.3s,baz=326,slow=12,SNR=28							
LPAZ	**La Paz**	**19.59**	**141**	*e*P	**P**	**01 16 41.2**	**-1.5**
42nm,1.1s							
TPP	**Pointe-a-Pierr**	**22.45**	**59**	*e*P	**P**	**01 17 13.1**	**+1.2**
TEIG	**Tepich**	**22.45**	**342**	*e*P	**P**	**01 17 11.7**	**-0.3**
12nm,1.1s,mb4.2							
TRN	**Trinidad (W)**	**22.66**	**58**	*e*P	**P**	**01 17 14.9**	**+0.8**
SJG	**San Juan**	**24.02**	**36**	P	**P**	**01

15nm,1.1s,mb4.8
CPCT **Cooper Cave** 36.58 355 *eP* P 01 19 18.4 -0.7
TXAR **Lajitas Array** 37.34 326 P P 01 19 27.7 +2.2
0.7nm,0.8s,mb3.6,baz=153,slow=5.6,SNR=9.4
TXAR PcP PcP 01 21 44.6 0.0
1.2nm,1.1s,baz=124,slow=6.5,SNR=3.8
TXAR LR LR 01 33 32.6
comp=Z,205nm,19.6s,MS3.9,baz=170,slow=34
WMOK **Wichita Mounta** 39.45 337 *eP* P 01 19 43.5 +0.5
6.8nm,1.0s,mb4.3
WCI **Wyandotte Cave** 39.51 353 *eP* P 01 19 41.8 -1.7
12nm,0.9s,mb4.6
GDL2 **Guadalupe Moun** 39.93 328 P P 01 19 49.0 +1.9
FVM **French Village** 39.94 348 *eP* P 01 19 46.4 -0.6
4.4nm,0.6s,mb4.4
MNTX **Cornudas Mount** 40.09 327 *eP* P 01 19 47.7 -0.7
7.8nm,1.1s,mb4.3
CCM **Cathedral Cave** 40.18 347 *eP* P 01 19 47.3 -1.8
28nm,1.5s,mb4.8
CPRX **Cap Rock** 40.33 330 *eP* P 01 19 50.1 -0.3
PLCA **Paso Flores** 40.49 168 P P 01 19 52.0 +0.4
8.4nm,1.0s,mb4.4,baz=349,slow=10,SNR=7.4
PLCA **Paso Flores** 40.49 168 P P 01 19 52.0 +0.4
AMTX **Amarillo** 40.80 333 P P 01 19 50.6 -3.6
6.7nm,0.7s,mb4.4
ACSO **Alum Creek Sta** 41.24 358 *eP* P 01 19 56.3 -1.5
11nm,0.8s,mb4.5
KSU1 **Kansas State U** 42.59 342 *eP* P 01 20 09.1 +0.1
ANMO **Albuquerque** 43.17 329 P P 01 20 16.3 +2.6
4.6nm,1.1s,mb4.1,baz=152,slow=10,SNR=9.0
ANMO **Albuquerque** 43.17 329 *eP* P 01 20 13.4 -0.3
5.4nm,1.0s,mb4.2
SDCO **Great Sand Dun** 44.90 332 *eP* P 01 20 28.4 +0.7
3.9nm,0.8s,mb4.3
PV01 **Paradox Valley** 46.70 330 P P 01 20 41.9 0.0
PV10 **Paradox Valley** 47.12 330 *eP* P 01 20 45.2 0.0
NEN **Nelson** 48.41 323 P P 01 20 55.3 0.0
SRU **San Rafael** 48.44 329 *eP* P 01 20 54.8 -0.7
ARUT **Antelope Range** 49.05 326 P P 01 20 59.9 -0.3
JLU **Jordanelle** 50.02 330 P P 01 21 07.5 -0.2
NOQ **North Oquirrh** 50.40 329 *eP* P 01 21 09.3 -1.2
BW06 **Boulder Array** 50.77 333 *eP* P 01 21 14.4 +1.0
PDAR **Pinedale Array** 50.77 333 P P 01 21 14.8 +1.4
0.9nm,1.1s,mb3.6,baz=129,slow=12,SNR=4.0
PDAR LR LR 01 43 05.8
comp=Z,265nm,20.6s,MS4.2,baz=145,slow=36
HWUT **Hardware Ranch** 50.84 330 *eP* P 01 21 15.0 +1.1
30nm,1.8s,mb4.9
TPAW **Teton Pass** 51.98 332 *eP* P 01 21 22.3 -0.1
MNV **Mina** 52.23 323 *eP* P 01 21 25.5 +1.1
19nm,1.6s,mb4.8
IMW **Indian Meadow** 52.29 333 *eP* P 01 21 25.9 +1.2
NVAR **Mina Array Bea** 52.32 323 P P 01 21 27.1 +2.1
1.3nm,0.8s,mb3.9,baz=125,slow=7.3,SNR=8.7
GCMT **Greycliff** 53.22 335 *eP* P 01 21 30.7 -1.0
QLMT **Earthquake Lak** 53.23 333 *eP* P 01 21 33.5 +1.8
HLID **Hailey** 53.70 330 *eP* P 01 21 36.4 +1.2
2.7nm,0.8s,mb4.2
MCMT **McKenzie Canyo** 53.88 332 *eP* P 01 21 36.3 -0.2
BOZ **Bozeman (W)** 53.95 334 *eP* P 01 21 36.8 -0.3
20nm,1.5s,mb4.8
WVOR **Wild Horse Val** 55.13 326 *eP* P 01 21 45.5 -0.2
23nm,1.5s,mb5.0
SCHQ **Schefferville** 56.99 10 LR LR 01 46 05.2
comp=Z,243nm,18.8s,MS4.3,baz=187,slow=36
FFC **Flin Flon** 58.35 346 *eP* P 01 22 06.8 -1.6
30nm,1.5s,mb5.1
EDM **Edmonton** 60.58 338 *eP* P 01 22 23.2 -0.6
FCC **Fort Churchill** 60.65 352 *eP* P 01 22 22.2 -2.0
24nm,1.3s,mb5.2
YKA **Yellowknife Ar** 68.39 344 P P 01 23 13.7 -0.6
2.3nm,0.8s,mb4.2,baz=137,slow=6.4,SNR=43
YKA **Yellowknife Ar** 68.39 344 P P 01 23 13.7 -0.6
YKW3 **Yellowknife Ar** 68.45 344 *eP* P 01 23 13.6 -1.1
RES **Resolute Bay** 76.21 356 *eP* P 01 23 56.9 -3.5
DBIC **Dimbokro** 76.27 83 P P 01 24 01.3 -0.7
18nm,0.8s,mb5.0,baz=247,slow=4.5,SNR=22
DBIC LR LR 01 55 35.8
comp=Z,485nm,18.5s,MS4.8,baz=238,slow=34
DBIC **Dimbokro** 76.27 83 *eP* P 01 24 00.6 -1.3
40nm,1.0s,mb5.3
DAWY **Dawson** 77.78 337 *eP* P 01 24 09.4 0.0
INK **Inuvik** 78.06 342 *eP* P 01 24 10.6 -0.2
41nm,1.6s,mb5.1
SUMG **Summit** 78.28 12 *eP* P 01 24 11.4 -0.7
11nm,0.9s,mb4.8
ESDC **Sonseca Array** 80.69 50 P P 01 24 25.3 -0.4
5.4nm,1.2s,mb4.3,baz=281,slow=5.4,SNR=10
ILAR **Eielson Array** 81.02 337 P P 01 24 26.9 0.0
3.0nm,1.3s,mb4.1,baz=152,slow=3.3,SNR=5.9
ILAR LR LR 02 02 35.6
comp=Z,187nm,18.4s,MS4.5,baz=347,slow=37
SJPF **Ste Jean** 83.24 47 *eP* P 01 24 38.3 -0.5
85nm,1.4s,mb5.3
ETSF **Etsaut** 83.70 47 *eP* P 01 24 41.9 +0.8
EPF **Esparros** 84.37 47 *eP* P 01 24 45.1 +0.6
24nm,1.1s,mb4.9
MFF **Saint Martin d** 84.47 43 *eP* P 01 24 45.3 +0.3
86nm,1.6s,mb5.3
FLN **La Foliniere** 84.54 41 *eP* P 01 24 45.6 +0.4
FLN *eR*
241nm,23.0s
LDF **La Druitiere** 84.75 41 *eP* P 01 24 46.5 +0.2
119nm,1.7s,mb5.4
LFF **La Frestale** 84.88 45 *eP* P 01 24 47.3 +0.3
42nm,1.1s,mb5.2
DAG **Danmarks Havn** 84.97 12⇓*eP* P 01 24 46.8 0.0
2.2nm,0.8s,mb4.3
DAG **Danmarks Havn** 84.97 12⇓*iP* P 01 24 46.8 0.0
2.2nm,0.8s,mb4.3
SNAA **Sanae** 85.15 162 P P 01 24 47.4 -0.3
RJF **Les Rejaudoux** 85.47 45 *eP* P 01 24 50.1 +0.2
26nm,1.1s,mb5.0
RJF *eR*
288nm,21.2s
TCF **Toulx Ste Croi** 86.05 44 *eP* P 01 24 52.7 -0.1
32nm,1.3s,mb5.1
HYF **Humbligny** 86.44 43 *eP* P 01 24 55.2 +0.6
BGF **Bois d'Agland** 86.52 43 *eP* P 01 24 55.3 +0.3
106nm,1.5s,mb5.5
AVF **Avril sur Loir** 86.89 43 *eP* P 01 24 56.7 -0.1
36nm,1.3s,mb5.1
SSF **Saint Saulge** 87.01 43 *eP* P 01 24 57.3 -0.1
44nm,1.5s,mb5.2
BAIF **Baives** 87.72 40 *eP* P 01 25 02.1 +1.3
GIVF **Givet** 88.12 40 *eP* P 01 25 03.3 +0.6
ORIF **Oris-en-Rattie** 88.52 45 *eP* P 01 25 05.9 +1.2
27nm,1.1s,mb5.2
ORIF *eR*
120nm,19.0s
CABF **La Chapelle** 88.75 44 *eP* P 01 25 06.2 +0.4
QSPA **South Pole Qui** 88.90 180⇓*iP* P 01 25 07.3 +1.5
11nm,1.0s,mb5.1
FRF **La Foret Royal** 89.00 47 *eP* P 01 25 07.0 -0.1
CDF **Champ du Feu** 89.64 42 *eP* P 01 25 10.0 +0.1
BVAR **Borovoye Array** 123.07 20 PKP PKPdf 01 31 08.6 +1.3
1.1nm,0.9s,baz=117,slow=3.3,SNR=3.9
ZAL **Zalesovo** 126.09 10 PKP PKPdf 01 31 15.0 +1.9
2.3nm,1.0s,baz=88,slow=2.5,SNR=14
KURK **Kurchatov** 127.66 16 *e*PKP PKPdf 01 31 15.8 -0.5
STKA **Stephens Creek** 128.08 227 PKP PKPdf 01 31 19.7 +2.0
1.6nm,0.7s,baz=69,slow=4.6,SNR=3.8
STKA **Stephens Creek** 128.08 227 PKP PKPdf 01 31 19.7 +2.0
SONM **Songino Array** 133.08 353 PKP PKPdf 01 31 27.6 +0.9
3.7nm,1.4s,baz=26,slow=2.6,SNR=4.5
WMQ **Urumqi** 136.32 12 *e*PKP PKPdf 01 31 32.8 0.0
ASAR **Alice Springs** 138.14 232 PKP PKPdf 01 31 37.4 +0.7
1.0nm,0.8s,baz=102,slow=2.9,SNR=6.4
WRA **Warramunga Arr** 139.60 237 PKP PKPdf 01 31 39.6 +0.3
1.5nm,1.1s,baz=116,slow=2.2,SNR=4.5
DDI **Dehra Dun** 144.77 33 *e* PKPbc 01 31 47.4 -0.8
LZH **Lanzhou** 144.97 353 PKP PKPdf 01 31 48.3 -0.1
LZH XPKP 01 31 58.4
LZH LR LR
comp=Z,700nm,19.8s,MS5.4
NDI **New Delhi** 145.56 35 *e* PKPdf 01 31 50.0 +0.4
XAN **Xi'an** 146.03 345 PKP PKPdf 01 31 52.0 +1.7
XAN APKP 01 31 56.8
WHN **Wuhan** 147.40 335 *e*PKP PKPdf 01 31 56.5 +3.9
ENH **Enshi** 149.42 342 *e*PKPdf PKPdf 01 31 57.1 +1.2
ENH *e*PKPbc PKPdf 01 32 01.0 +5.1
KOLN **Koldanda** 149.65 28 *eP* PKPdf 01 31 59.7 +3.4
comp=Z,109nm,1.3s
GKN **Gorkha** 149.93 26 *eP* PKPdf 01 31 58.6 +1.8
comp=Z,197nm,1.2s
KKN **Kakani** 150.39 25 *eP* PKPdf 01 31 59.3 +1.8

DMN **Daman** 150.47 26 *eP* PKPdf 01 31 59.6 +2.0
comp=Z,68nm,1.1s
LSA **Lhasa** 150.62 14 PKP PKPdf 01 32 00.4 +2.6
LSA **Lhasa** 150.62 14 *e*PKP PKPdf 01 32 01.5 +3.7
LSA *e*PKPab PKPab 01 32 11.1 -1.3
PKI **Pulchoki** 150.64 25 *eP* PKPdf 01 31 59.1 +1.2
comp=Z,78nm,1.1s
JIRN **Jiri** 150.88 24 *eP* PKPdf 01 31 59.8 +1.6
comp=Z,47nm,1.0s
SHL **Shillong** 154.75 15 *eP* PKPab 01 32 27.0 -2.9
CMAR **Chiang Mai Arr** 162.81 1 PKP PKPdf 01 32 15.2 +1.9
comp=Z,1.2nm,0.8s,baz=306,slow=2.6,SNR=4.3
CMAR PKPab PKPab 01 33 02.7 -2.1
comp=Z,0.7nm,0.5s,slow=6.3,SNR=3.0

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*IDC **22** 01:19:02.9±0.7, 8.03N×93.85E, mb4.1/14, mb1 4.2/15, mb1mx4.1/21, mbtmp4.1/15, ML4.3/1, Error ellipse: s-maj=44.5km s-min=14.6km az=54.0*
*NEIC **22** 01:19:07.2±0.4, 7.98N×93.79E, h30km, mb4.3/4, Error ellipse: s-maj=12.9km s-min=8.5km az=52.0*
ISC 22 01:19:05.2±0.5, 7.94N±0.07×93.75E±0.09, h30km, n34, σ0 91/34, mb4.2/22, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.61	25	Pn		P		01 21 52.9	+0.7
0.6nm,0.3s,baz=214,slow=14,SNR=23									
PALK	Pallekele	12.95	268	P		P		01 22 09.0	-1.1
JIRN	Jiri	20.88	341	*eP*		P		01 23 46.9	-0.7
48nm,1.0s									
PKI	Pulchoki	21.06	339	*eP*		P		01 23 48.9	-0.5
34nm,0.9s,mb4.7									
DMN	Daman	21.20	338	*eP*		P		01 23 50.7	-0.2
18nm,0.6s,mb4.6									
KKN	Kakani	21.31	339	*eP*		P		01 23 51.7	-0.2
GKN	Gorkha	21.73	338	*eP*		P		01 23 56.2	0.0
38nm,0.7s,mb5.0									
LSA	Lhasa	21.78	354	*eP*		P		01 23 55.7	-1.0
4.7nm,0.4s,mb4.3									
KOLN	Koldanda	21.93	335	*eP*		P		01 23 59.1	+0.9
15nm,0.6s,mb4.6									
AAK	Ala-Archa	38.49	337	*eP*		P		01 26 26.4	-0.1
1.2nm,0.5s,mb3.9									
SONM	Songino Array	41.19	13	P		P		01 26 48.6	-0.2
1.0nm,1.0s,mb3.4,baz=198,slow=7.8,SNR=4.9									
KURK	Kurchatov	44.45	346	*eP*		P		01 27 14.9	-0.5
NWAO	Narrogin (SRO)	46.38	152	P		P		01 27 32.5	+1.5
4.7nm,0.7s,mb4.5,baz=330,slow=7.9,SNR=6.4									
ZAL	Zalesovo	46.43	353	P		P		01 27 31.3	+0.2
3.9nm,0.3s,mb4.8,baz=208,slow=4.9,SNR=15									
WRA	Warramunga Arr	48.62	125	P		P		01 27 48.0	-0.6
1.1nm,0.5s,mb4.1,baz=306,slow=8.5,SNR=34									
WRA				PcP		PcP		01 29 14.0	-0.2
0.4nm,0.8s,baz=315,slow=2.9,SNR=8.1									
WRAB	Tennant Creek	48.62	125	*eP*		P		01 27 47.3	-1.4
BVAR	Borovoye Array	48.80	341	P		P		01 27 48.9	-0.7
0.5nm,0.3s,mb4.0,baz=137,slow=7.6,SNR=8.3									
CHKZ	Chkalovo	49.29	342	*eP*		P		01 27 52.2	-1.2
2.7nm,0.6s,mb4.5									
ASAR	Alice Springs	50.26	130	P		P		01 28 00.2	-0.9
0.8nm,0.6s,mb3.9,baz=303,slow=7.6,SNR=11									
ASAR				PcP		PcP		01 29 20.4	+0.3
0.6nm,0.6s,baz=310,slow=3.4,SNR=6.3									
MALT	Malatya	58.12	310	P		P		01 28 58.1	-0.5
BRTR	Keskin Array B	62.09	311	P		P		01 29 24.9	-1.0
0.5nm,0.5s,mb3.9,baz=134,slow=6.1,SNR=7.2									
LSZ	Lusaka	68.92	250	P		P		01 30 10.1	0.0
JOF	Joensuu	70.62	335	*ep*		P		01 30 14.4	-5.3
FINES	FINESS Array B	72.47	332	P		P		01 30 30.7	-0.1
2.5nm,0.7s,mb4.3,baz=90,slow=6.0,SNR=19									
KAF	Kangasniemi	72.56	333	*ep*		P		01 30 30.6	-0.6
2.2nm,0.6s,mb4.3									
MORC	Moravsky Berou	75.07	319	P		P		01 30 46.6	+0.5
ARCES	ARCESS Array B	75.07	340	P		P		01 30 46.3	+0.6
3.3nm,1.0s,mb4.2,baz=105,slow=5.0,SNR=7.3									
GERES	GERESS Array B	77.52	318	P		P		01 31 01.6	+1.8
0.4nm,0.6s,mb3.6,baz=72,slow=4.2,SNR=3.7									
HFS	Hagfors	78.20	330	P		P		01 31 03.9	+0.5
2.8nm,0.5s,mb4.5,baz=104,slow=6.1,SNR=20									
NB2	NORSAR Subarra	79.48	331	P		P		01 31 10.3	0.0
1.3nm,0.5s,mb4.1,baz=97,slow=5.0									
NOA	NORSAR Array B	79.48	331	P		P		01 31 10.6	+0.2
1.2nm,0.5s,mb4.1,baz=94,slow=5.1,SNR=20									
EKA	Eskdalemuir Ar	87.44	325	P		P		01 31 53.4	+2.3
3.3nm,1.1s,mb4.5,baz=99,slow=5.8,SNR=5.5									
ESDC	Sonseca Array	90.88	310	P		P		01 32 09.5	+1.9
0.3nm,0.4s,mb4.0,baz=69,slow=4.3,SNR=7.4									
BORG	Borgarnes	93.22	337	*eP*		P		01 32 19.1	+1.3

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*IDC **22** 01:33:19.6±3.6, 3.05N×93.91E, mb3.7/4, mb1 4.0/5, mb1mx3.7/17, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=121.3km s-min=25.4km az=66.0*
*NEIC **22** 01:33:22.9±1.1, 2.93N×93.65E, h30km, mb3.9/1, Error ellipse: s-maj=35.9km s-min=10.8km az=66.0*
ISC 22 01:33:20.7±1.6, 2.9N±0.2×93.6E±0.3, h30km, n8, σ0 40/8, mb3.8/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.32	18	Pn		P		01 37 09.4	-0.1
0.2nm,0.3s,baz=216,slow=12,SNR=11									
LSA	Lhasa	26.74	355	*eP*		P		01 39 00.5	+0.7
WRA	Warramunga Arr	46.00	121	P		P		01 41 43.5	-0.1
0.9nm,0.6s,mb3.9,baz=300,slow=8.9,SNR=9.3									
WRAB	Tennant Creek	46.00	121	P		P		01 41 43.5	0.0
SONM	Songino Array	46.10	12	P		P		01 41 43.6	-0.4
0.6nm,0.7s,mb3.6,baz=180,slow=6.2,SNR=3.6									
ASAR	Alice Springs	47.30	126	P		P		01 41 54.0	+0.2
0.5nm,0.7s,mb3.5,baz=299,slow=8.6,SNR=5.2									
ZAL	Zalesovo	51.37	353	P		P		01 42 25.1	+0.4
0.9nm,0.4s,mb4.1,baz=250,slow=9.1,SNR=4.1									
CHKZ	Chkalovo	54.01	343	*eP*		P		01 42 43.6	-0.7
0.6nm,0.5s,mb3.8									

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*IDC **22** 02:08:37.2±0.8, 9.78N×93.63E, mb4.0/9, mb1 4.1/10, mb1mx4.0/17, mbtmp3.9/10, ML3.7/1, MS3.1/1, Ms1 3.3/1, ms1mx2.5/18, Error ellipse: s-maj=44.2km s-min=17.1km az=54.0*
*NEIC **22** 02:08:41.8±0.4, 9.80N×93.65E, h30km, mb4.5/4, Error ellipse: s-maj=14.8km s-min=9.4km az=224.0*
ISC 22 02:08:40.6±2.4, 9.72N±0.10×93.60E±0.10, h39km±22km, n19, σ0 63/17, mb4.1/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.12	30	Pn		P		02 11 06.7	+0.2
0.2nm,0.3s,baz=214,slow=15,SNR=6.7									
CMAR				Sn		S		02 13 05.3	+5.5
1.4nm,0.3s,baz=19,slow=14,SNR=5.8									
CMAR				LR		LR		02 15 16.2	
comp=Z,89nm,18.1s,baz=240,slow=40									
PALK	Pallekele	12.98	260	P		P		02 11 45.3	+0.1
AAK	Ala-Archa	36.81	336	P		P		02 15 46.5	-0.2
1.5nm,0.7s,mb3.9									
SONM	Songino Array	39.50	14	P		P		02 16 08.8	-0.2
0.3nm,0.6s,mb3.2,baz=198,slow=9.1,SNR=2.7									
ZAL	Zalesovo	44.66	353	P		P		02 16 51.2	0.0
1.0nm,0.3s,mb4.1,baz=138,slow=4.1,SNR=3.2									
CHKZ	Chkalovo	47.56	342	*eP*		P		02 17 12.9	-1.4
1.4nm,0.5s,mb4.2									
WRA	Warramunga Arr	49.77	126	P		P		02 17 31.8	+0.1
4.0nm,0.7s,mb4.6,baz=305,slow=8.5,SNR=64									
WRAB	Tennant Creek	49.78	126	*eP*		P		02 17 31.7	-0.1
6.5nm,0.6s,mb4.8									
ASAR	Alice Springs	51.51	131	P		P		02 17 44.4	-0.5
1.1nm,0.5s,mb4.0,baz=303,slow=7.2,SNR=22									
KIV	Kislovodsk	55.60	317	*eP*		P		02 18 14.8	0.0
4.9nm,0.6s,mb4.7									
BRTR	Keskin Array B	60.83	310	P		P		02 18 50.2	-1.3
1.6nm,1.0s,mb4.1,baz=129,slow=6.6,SNR=6.7									
STKA	Stephens Creek	61.76	134	P		P		02 18 58.0	+0.2
0.9nm,0.5s,mb4.2,baz=185,slow=3.6,SNR=5.3									
FINES	FINESS Array B	70.84	332	P		P		02 19 56.2	+1.1
2.0nm,1.0s,mb4.0,baz=18,slow=6.0,SNR=3.7									
ARCES	ARCESS Array B	73.36	340	P		P		02 20 10.9	+1.0
1.1nm,0.7s,mb3.9,baz=80,slow=7.4,SNR=4.7									
MORC	Moravsky Berou	73.64	319	P		P		02 20 12.1	+0.2
GERES	GERESS Array B	76.11	318	P		P		02 20 26.6	+0.5
0.8nm,0.5s,mb3.9,baz=90,slow=8.0,SNR=6.6									
NVAR	Mina Array Bea	123.61	30	PKP		PKPdf		02 27 37.5	+3.0
0.6nm,0.7s,baz=347,slow=1.4,SNR=4.3									
TXAR	Lajitas Array	137.76	23	PKP		PKPdf		02 28 05.8	+4.2
0.1nm,0.4s,baz=343,slow=0.6,SNR=6.8									
PLCA	Paso Flores	146.06	202	PKPbc		PKPbc		02 28 20.4	+3.6
1.1nm,0.8s,baz=298,slow=15,SNR=4.8									

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*BJI **22** 02:24:12.5, 4.58N×94.85E, h60km, mb5.0*
*IDC **22** 02:24:15.9±0.8, 4.74N×95.07E, h51km±5km, mb4.1/10, mb1 4.3/11, mb1mx4.1/18, mbtmp4.4/11, Error ellipse: s-maj=42.8km s-min=13.9km az=48.0*
*NEIC **22** 02:24:15.6±0.5, 4.73N×95.03E, mb4.7/9, Error ellipse: s-maj=20.3km s-min=9.1km az=51.0*
ISC 22 02:24:14.0±0.6, 4.8N±0.1×95.1E±0.1, h51km, h51km±2.3km: pP-P, n37, σ0 81/33, mb4.6/26, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	14.07	15	P		P		02 27 30.6	-1.7
CMAR	Chiang Mai Arr	14.07	15	P		P		02 27 39.8	+7.5
1.2nm,0.3s,baz=209,slow=11,SNR=16									
JIRN	Jiri	24.27	340	*eP*		P		02 29 27.5	-0.1
14nm,0.4s,mb4.7									
PKI	Pulchoki	24.45	339	*eP*		P		02 29 28.9	-0.6
6.9nm,0.5s,mb4.3									
DMN	Daman	24.60	338	*eP*		P		02 29 30.9	0.0
9.9nm,0.7s,mb4.4									
KKN	Kakani	24.70	339	*eP*		P		02 29 31.7	-0.2
11nm,0.5s,mb4.7									
LSA	Lhasa	25.04	352	*eP*		P		02 29 36.0	+0.9
GKN	Gorkha	25.13	338	*eP*		P		02 29 36.8	+0.8
15nm,0.3s,mb5.0									
KOLN	Koldanda	25.33	336	*eP*		P		02 29 38.8	+0.9
31nm,0.7s,mb5.0									
XAN	Xi'an	31.78	22	P		P		02 30 35.1	-0.8
XAN				AMB		AMB			
comp=Z,17nm,0.7s,mb5.0									
BJI	Beijing	39.88	25	*eP*		P		02 31 46.1	+1.6
comp=Z,19nm,0.7s,mb4.9									
AAK	Ala-Archa	41.89	337	*eP*		P		02 32 02.1	+1.1
comp=Z,7.4nm,0.6s,mb4.5									
SONM	Songino Array	43.94	11	P		P		02 32 17.6	-0.1
comp=Z,0.6nm,0.4s,mb3.7,baz=192,slow=7.8,SNR=6.8									
SONM				PcP		PcP		02 34 03.5	0.0
comp=Z,0.9nm,0.5s,baz=197,slow=3.8,SNR=4.5									
WRA	Warramunga Arr	45.72	124	P		P		02 32 32.4	0.0
comp=Z,12nm,0.6s,mb5.0,baz=302,slow=9.2,SNR=52									
WRAB	Tennant Creek	45.73	124	*eP*		P		02 32 32.0	-0.3
comp=Z,23nm,0.8s,mb5.2									
WRAB				*ep*P		pP		02 32 43.8	-2.3
ASAR	Alice Springs	47.23	129	P		P		02 32 44.1	-0.1
comp=Z,1.8nm,0.5s,mb4.3,baz=299,slow=8.0,SNR=32									
ASAR				pP		pP		02 32 57.2	-0.6
comp=Z,2.3nm,0.5s,baz=300,slow=7.6,SNR=10									
TLY	Talaya	47.25	7	*eP*		P		02 32 44.1	+0.2
comp=Z,1.1nm,0.6s,mb4.0									
KURK	Kurchatov	47.80	346	*eP*		P		02 32 48.3	0.0
comp=Z,2.3nm,0.4s,mb4.6									
ZAL	Zalesovo	49.70	352	P		P		02 33 03.0	+0.2
comp=Z,4.9nm,0.6s,mb4.7,baz=217,slow=5.5,SNR=28									
BVAR	Borovoye Array	52.19	341	P		P		02 33 21.7	0.0
comp=Z,12nm,0.8s,mb4.9,baz=135,slow=8.4,SNR=56									
BVAR				pP		pP		02 33 37.2	+1.5
comp=Z,4.6nm,0.9s,baz=146,slow=10,SNR=4.1									
BRVK	Borovoye	52.25	341	*eP*		P		02 33 22.1	-0.1
comp=Z,10nm,0.6s,mb4.9									
CHKZ	Chkalovo	52.67	342	*eP*		P		02 33 24.9	-0.4
comp=Z,17nm,0.6s,mb5.2									
MALT	Malatya	61.20	311	P		P		02 34 25.5	-0.5
BRTR	Keskin Array B	65.17	312	P		P		02 34 51.8	-0.5
comp=Z,3.2nm,0.6s,mb4.5,baz=135,slow=6.7,SNR=30									
BRTR				pP		pP		02 35 07.0	+0.3
comp=Z,0.7nm,0.5s,baz=133,slow=6.6,SNR=3.2									
AKASG	Malin Array Be	71.15	322	P		P		02 35 28.3	-0.9
comp=Z,1.7nm,0.5s,mb4.2,baz=88,slow=5.0,SNR=15									
AKASG				pP		pP		02 35 43.5	-0.3
comp=Z,0.6nm,0.5s,baz=89,slow=5.1,SNR=2.4									
JOF	Joensuu	74.02	335	*ep*		P		02 35 45.0	-0.9
FINES	FINESS Array B	75.86	332	P		P		02 35 56.4	-0.1
comp=Z,3.5nm,0.5s,mb4.5,baz=99,slow=6.2,SNR=47									
FINES				pP		pP		02 36 10.6	-0.6
comp=Z,1.3nm,0.4s,baz=101,slow=7.1,SNR=2.6									
FINES	FINESS Array B	75.86	332	P		P		02 35 56.4	-0.1
FINES				pP		pP		02 36 10.6	-0.6
KAF	Kangasniemi	75.95	333	*ep*		P		02 35 54.5	-2.5
comp=Z,3.6nm,0.6s,mb4.5									
MORC	Moravsky Berou	78.33	320	*eP*		P		02 36 10.4	0.0
comp=Z,2.1nm,0.6s,mb4.2									
ARCES	ARCESS Array B	78.46	340	P		P		02 36 11.5	+0.7
comp=Z,2.5nm,0.6s,mb4.3,baz=101,slow=6.7,SNR=44									
GERES	GERESS Array B	80.75	319	P		P		02 36 25.0	+1.4
comp=Z,1.4nm,0.5s,mb4.2,baz=117,slow=6.0,SNR=9.5									
IMA	Indian Mountai	94.07	22	*eP*		P		02 37 28.8	+1.2
NVAR	Mina Array Bea	126.99	33	PKP		PKPdf		02 43 16.4	+3.4
comp=Z,0.5nm,0.7s,baz=347,slow=1.5,SNR=4.4									
NVAR	Mina Array Bea	126.99	33	PKP		PKPdf		02 43 16.4	+3.4
PDAR	Pinedale Array	127.62	23	PKP		PKPdf		02 43 16.1	+2.0
comp=Z,0.6nm,0.9s,baz=85,slow=3.5,SNR=5.0									
TXAR	Lajitas Array	141.55	27	PKhKP				02 43 38.5	
comp=Z,0.2nm,0.5s,baz=270,slow=1.3,SNR=4.7									
TXAR				PKiKP				02 43 45.1	
comp=Z,0.6nm,0.7s,baz=141,slow=1.5,SNR=7.8									

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*MOS **22** 02:57:01.4±0.8, 22.10S×63.62W, h466km, mb5.4/72, Error ellipse: s-maj=8.9km s-min=5.4km az=78.4*
*BJI **22** 02:57:07.0, 21.62S×63.62W, h521km, mB5.1*
*IDC **22** 02:57:07.9±0.4, 22.25S×63.66W, h532km±4km, mb4.7/20, mb1 4.8/23, mb1mx4.8/25, mbtmp5.4/23, Error ellipse: s-maj=14.5km

DSCH Colegio Aleman 12.66 207⇑ iP P 02 59 51.6 -0.6
TRQA Tornquist 15.82 175 eP P 03 00 20.3 -3.7
comp=E,16nm,0.7s
NNA Nana 16.18 307 P **P 03 00 29.0 +1.3**
comp=E,1µm,0.8s,SNR=55
NNA Nana 16.18 307⇑ eP **P 03 00 28.7 +1.0**
comp=E,168nm,0.9s
BAO Brasilia Array 16.23 69⇑ iP P 03 00 29.0 +0.9
PLCA Paso Flores 19.32 196 P **P 03 00 57.1 -0.7**
comp=E,1.2nm,0.3s,baz=17,slow=10,SNR=45
PLCA PcP PcP 03 04 55.3 -0.4
comp=E,2.2nm,0.3s,baz=356,slow=2.0,SNR=12
PLCA ScP 03 07 40.3
comp=E,0.2nm,0.3s,baz=326,slow=3.5,SNR=6.3
PLCA Paso Flores 19.32 196 eP **P 03 00 55.6 -2.2**
comp=E,19nm,0.7s
OTAV Otavalo 26.59 325 eP **P 03 02 04.9 +1.0**
comp=E,2.1nm,0.6s
OTAV ePcP PcP 03 05 12.5 +1.2
RCBR Riachuelo 31.41 63 eP **P 03 02 45.9 +0.2**
comp=E,20nm,0.5s,mb4.9
SDV Santo Domingo 31.68 347 P **P 03 02 47.0 -1.0**
comp=E,75nm,0.5s,mb5.4,baz=354,slow=4.1,SNR=90
SDV S **S 03 07 17.1 -4.0**
comp=E,3.5nm,0.6s,baz=276,slow=21,SNR=4.4
USHA Ushuaia 32.73 185 P **P 03 02 55.4 -0.9**
comp=E,42nm,0.9s,mb5.0,baz=358,slow=6.9,SNR=29
USHA PcP PcP 03 05 26.2 -0.7
comp=E,28nm,0.6s,baz=346,slow=3.9,SNR=19
USHA ScP 03 08 19.9
comp=E,12nm,0.9s,baz=310,slow=3.0,SNR=3.7
JTS JuntasAbangare 38.48 325 eP **P 03 03 45.7 +1.4**
comp=E,45nm,0.8s,mb5.0
SJG San Juan 40.19 356 P **P 03 03 56.7 -1.3**
comp=E,94nm,0.4s,mb5.7,baz=182,slow=3.6,SNR=60
SJG S **S 03 09 22.2 -5.8**
comp=E,22nm,0.8s,baz=331,slow=19,SNR=13
TRIS Tristan da Cun 46.48 120 eP **P 03 04 45.8 -1.5**
TEIG Tepich 48.57 329 eP **P 03 05 01.5 -1.9**
comp=E,66nm,1.0s,mb5.1
DWPF Disney 52.92 340 eP **P 03 05 33.5 -1.6**
comp=E,39nm,0.8s,mb4.8
BBSR BB Station 54.32 359 eP **P 03 05 43.2 -1.8**
NHSC New Hope 57.26 344 eP **P 03 06 04.0 -1.3**
comp=E,362nm,1.0s,mb5.6
COW Cow Castle Cre 57.65 343 eP **P 03 06 06.9 -1.1**
VNA3 Neumayer Olymp 57.84 162 e 03 10 03.3
VNA3 Neumayer Olymp 57.84 162 e Sx 03 13 40.2
VNA3 Neumayer Olymp 57.84 162⇓ iP **P 03 06 08.0 -0.7**
VNA3 ⇓iP 03 06 53.4
VNA3 e pP 03 07 51.2 -2.2
VNA3 e 03 10 03.3
VNA3 e 03 13 40.2
VNA1 Neumayer--Stat 57.98 161 e Sx 03 13 47.3
VNA1 Neumayer--Stat 57.98 161⇓ iP **P 03 06 09.5 -0.2**
VNA1 ⇓iP 03 06 54.5
VNA1 e pP 03 07 54.1 -0.3
VNA1 e 03 13 18.2
VNA1 e 03 13 47.3
VNA2 Neumayer--Watz 58.36 161 e 03 10 06.0
VNA2 Neumayer--Watz 58.36 161 eS **S 03 13 34.2 -0.1**
VNA2 Neumayer--Watz 58.36 161 e Sx 03 13 46.4
VNA2 Neumayer--Watz 58.36 161⇓ iP **P 03 06 11.7 -0.6**
VNA2 ⇓iP 03 06 55.5
VNA2 e pP 03 07 55.8 -1.4
VNA2 e 03 10 06.0
VNA2 e 03 13 15.6
VNA2 e 03 13 34.2
VNA2 e 03 13 46.4
GOGA Godfrey 58.48 341 eP **P 03 06 11.7 -1.9**
GOGA pmax pmax
comp=Z,19nm,0.2s,mb5.0
GOGA Godfrey 58.48 341 eP **P 03 06 11.7 -1.9**
comp=Z,19nm,0.2s,mb5.0
GOGA Godfrey 58.48 341 eP **P 03 06 11.7 -1.9**
comp=Z,9.5nm,0.2s,mb4.7
JSC Jenkinsville 58.65 343 eP **P 03 06 13.6 -1.1**
LRAL Lakeview Retre 59.31 337 eP **P 03 06 17.2 -1.9**
comp=Z,56nm,0.5s,mb5.0
SNAA Sanae 60.00 161 P **P 03 06 22.1 -1.0**
comp=Z,24nm,0.7s,mb4.6,baz=288,slow=7.4,SNR=206
SNAA PcP PcP 03 07 01.8 -1.0
comp=Z,17nm,1.1s,baz=241,slow=6.9,SNR=4.3
SNAA pP pP 03 08 07.5 -1.6
comp=Z,4.0nm,1.0s,baz=286,slow=8.9,SNR=2.1
SNAA Sanae 60.00 161⇓ iP **P 03 06 22.2 -1.0**
SNAA ⇓iP 03 07 01.7
SNAA e pP 03 08 07.9 -1.2
SNAA e 03 13 33.2
SNAA Sanae 60.00 161 i PcP PcP 03 07 01.7 -1.1
HKT Hockley 60.41 328 eP **P 03 06 26.0 -0.5**
HKT pmax pmax
comp=Z,46nm,1.1s,mb4.7
HKT Hockley 60.41 328 eP **P 03 06 26.0 -0.4**
comp=Z,46nm,1.1s,mb4.7
HKT Hockley 60.41 328 eP **P 03 06 26.0 -0.5**
comp=Z,23nm,1.1s,mb4.4
CPCT Cooper Cave 60.69 341 eP **P 03 06 26.5 -1.7**
NATX Nacogdoches 61.35 330 eP **P 03 06 32.3 -0.3**
comp=Z,131nm,0.8s,mb5.3
CBN Corbin 61.49 348 eP **P 03 06 32.2 -1.2**
comp=Z,41nm,0.4s,mb5.1
OXF Oxford 61.52 336 eP **P 03 06 31.2 -2.5**
OXF pmax pmax
comp=Z,185nm,0.9s,mb5.5
OXF Oxford 61.52 336 eP **P 03 06 31.2 -2.5**
comp=Z,185nm,0.9s,mb5.5
OXF Oxford 61.52 336 eP **P 03 06 31.2 -2.5**
comp=Z,92nm,0.9s,mb5.2
WVT Waverly 62.40 338 eP **P 03 06 37.2 -2.1**
WVT pmax pmax
comp=Z,193nm,0.7s,mb5.6
WVT Waverly 62.40 338 eP **P 03 06 37.2 -2.1**
comp=Z,96nm,0.7s,mb5.3
SDMD Soldier's Deli 62.56 349 eP **P 03 06 39.1 -1.2**
HALT Halls 62.74 337 eP **P 03 06 39.7 -1.8**
JCT Junction City 62.87 325 eP **P 03 06 41.9 -0.5**
JCT pmax pmax
comp=Z,63nm,0.7s,mb5.2
JCT Junction City 62.87 325 eP **P 03 06 41.9 -0.5**
comp=Z,63nm,0.7s,mb5.2
JCT Junction City 62.87 325 eP **P 03 06 41.9 -0.5**
comp=Z,32nm,0.7s,mb4.8
UALR University of 62.91 344 eP **P 03 06 40.5 -2.1**
comp=Z,32nm,0.9s,mb4.8
HBAR Harrisburg 62.92 335 eP **P 03 06 41.4 -1.3**
UTMT University of 62.95 337 eP **P 03 06 40.8 -2.1**
comp=Z,288nm,1.0s,mb5.7
GNAR Gosnell 63.04 336 eP **P 03 06 42.3 -1.1**
GLAT Glass 63.04 337 eP **P 03 06 41.8 -1.6**
MVL Millersville 63.05 349 eP **P 03 06 42.8 -0.6**
PVMO Portageville 63.32 337 eP **P 03 06 44.5 -0.7**
BRNJ Basking Ridge 63.42 351 eP **P 03 06 45.6 -0.2**
PAL Palisades 63.65 351 eP **P 03 06 45.9 -1.4**
PAL pmax pmax
comp=Z,68nm,1.1s,mb5.0
PAL Palisades 63.65 351 eP **P 03 06 45.9 -1.4**
comp=Z,68nm,1.1s,mb5.0
PAL Palisades 63.65 351 eP **P 03 06 45.9 -1.4**
comp=Z,34nm,1.1s,mb4.7
WCI Wyandotte Cave 63.80 340 eP **P 03 06 46.2 -2.1**
WCI pmax pmax
comp=Z,90nm,0.5s,mb5.5
WCI Wyandotte Cave 63.80 340 eP **P 03 06 46.1 -2.1**
comp=Z,90nm,0.5s,mb5.5
WCI Wyandotte Cave 63.80 340 eP **P 03 06 46.2 -2.1**
comp=Z,45nm,0.5s,mb5.2
USIN University of 64.00 339 eP **P 03 06 46.8 -2.8**
comp=Z,82nm,0.8s,mb5.2
TXAR Lajitas Array 64.13 321 P **P 03 06 50.4 -0.2**
comp=Z,16nm,0.7s,mb4.6,baz=149,slow=8.2,SNR=259
TXAR PcP PcP 03 07 19.6 -0.7
comp=Z,5.0nm,0.7s,baz=153,slow=10.0,SNR=5.6
TXAR pP pP 03 08 38.0 -0.5
comp=Z,2.0nm,1.1s,baz=45,slow=14,SNR=2.5
TXAR PKPPKP 03 35 29.9
comp=Z,0.5nm,0.7s,baz=135,slow=1.8,SNR=3.6
TXAR Lajitas Array 64.13 321 P **P 03 06 50.4 -0.2**
TXAR PcP PcP 03 07 19.6 -0.7
TXAR pP pP 03 08 38.0 -0.5
TXAR P'P' 03 35 29.9
DBIC Dimbokro 64.35 71 P **P 03 06 51.5 -0.7**
DBIC 03 07 20.4
DBIC pmax pmax
comp=Z,157nm,0.7s
DBIC pmax pmax
comp=Z,27nm,0.9s
DBIC Dimbokro 64.35 71 P **P 03 06 51.5 -0.7**
comp=Z,157nm,0.7s,mb5.5,baz=217,slow=6.7,SNR=319
DBIC PcP PcP 03 07 20.4 -1.1
comp=Z,26nm,0.9s,baz=192,slow=6.6,SNR=3.1
DBIC Dimbokro 64.35 71 eP **P 03 06 51.2 -1.0**
comp=Z,151nm,0.8s,mb5.5
DBIC Dimbokro 64.35 71 PcP PcP 03 07 20.4 -1.1
comp=Z,14nm,0.9s
NVL N'lazarevskaya 64.41 159⇓ iP **P 03 06 52.0 +0.4**
NVL pmax pmax
comp=Z,312nm,0.9s,mb5.7
NVL N'lazarevskaya 64.41 159 i P **P 03 06 52.0 +0.4**
comp=Z,156nm,0.9s,mb5.4
WES Weston 64.70 354 eP **P 03 06 52.3 -1.6**
ACSO Alum Creek Sta 64.71 344 eP **P 03 06 52.6 -1.5**
comp=Z,198nm,0.7s,mb5.7
BLO Bloomington 64.73 341 eP **P 03 06 52.2 -2.0**
BLO pmax pmax
comp=Z,134nm,0.7s,mb5.5
BLO Bloomington 64.73 341 eP **P 03 06 52.2 -2.0**
comp=Z,134nm,0.7s,mb5.5
BLO Bloomington 64.73 341 eP **P 03 06 52.2 -2.0**
comp=Z,67nm,0.7s,mb5.2
HRV Harvard--Oak R 64.84 354 eP **P 03 06 53.9 -0.9**
HRV pmax pmax
comp=Z,101nm,1.0s,mb5.2
HRV Harvard--Oak R 64.84 354 eP **P 03 06 53.9 -0.9**
comp=Z,101nm,1.0s,mb5.2
HRV Harvard--Oak R 64.84 354 eP **P 03 06 53.9 -0.9**
comp=Z,50nm,1.0s,mb4.9
FVM French Village 64.97 337 eP **P 03 06 53.7 -2.0**
FVM pmax pmax
comp=Z,63nm,0.6s,mb5.2
FVM French Village 64.97 337 eP **P 03 06 53.6 -2.1**
comp=Z,63nm,0.6s,mb5.2
FVM French Village 64.97 337 eP **P 03 06 53.7 -2.0**
comp=Z,32nm,0.6s,mb4.9
BINY Binghamton 65.13 350 eP **P 03 06 55.9 -0.7**
comp=Z,119nm,0.8s,mb5.4
CCM Cathedral Cave 65.34 336 eP **P 03 06 56.3 -1.7**
CCM pmax pmax
comp=Z,98nm,0.6s,mb5.4
CCM Cathedral Cave 65.34 336 eP **P 03 06 56.3 -1.7**
comp=Z,98nm,0.6s,mb5.4
CCM Cathedral Cave 65.34 336 eP **P 03 06 56.3 -1.7**
comp=Z,49nm,0.6s,mb5.1
ALLY Alegheny Colle 65.38 346 eP **P 03 06 57.4 -0.8**
SLM Saint Louis 65.49 337 eP **P 03 06 56.8 -2.1**
SLM pmax pmax
comp=Z,38nm,0.7s,mb4.9
SLM Saint Louis 65.49 337 eP **P 03 06 56.8 -2.1**
comp=Z,38nm,0.7s,mb4.9
SLM Saint Louis 65.49 337 eP **P 03 06 56.8 -2.1**
comp=Z,19nm,0.7s,mb4.6
WMOK Wichita Mounta 65.75 329 eP **P 03 06 59.0 -1.6**
WMOK pmax pmax
comp=Z,40nm,1.1s,mb4.9
WMOK Wichita Mounta 65.75 329 eP **P 03 06 59.0 -1.6**
comp=Z,40nm,1.1s,mb4.9
WMOK Wichita Mounta 65.75 329 eP **P 03 06 59.0 -1.6**
comp=Z,20nm,1.1s,mb4.6
ERPA Erie 65.80 347 eP **P 03 07 00.0 -0.7**
comp=Z,303nm,0.6s,mb6.0
FFD Franklin Falls 65.80 354 eP **P 03 06 60.0 -0.8**
comp=Z,78nm,0.3s,mb5.7
ACCN Adirondack Com 65.95 352 eP **P 03 07 01.1 -0.6**
GENY Geneseo 65.99 349 eP **P 03 07 01.2 -0.7**
CHIE El Hierro 66.48 44 P **P 03 07 04.7 -0.5**
comp=Z,17nm,0.5s,mb4.8
MDV Middlebury 66.50 353 eP **P 03 07 04.2 -0.8**
NCB Newcomb 66.60 352 eP **P 03 07 04.7 -1.1**
comp=Z,60nm,1.0s,mb5.1
MIV Mineville/With 66.61 352 eP **P 03 07 04.7 -1.0**
GDL2 Guadalupe Moun 66.67 323 eP **P 03 07 05.8 -0.6**
AAM Ann Arbor 66.83 344 eP **P 03 07 05.5 -1.6**
AAM pmax pmax
comp=Z,43nm,0.6s,mb5.2
AAM Ann Arbor 66.83 344 eP **P 03 07 05.5 -1.6**
comp=Z,43nm,0.6s,mb5.2
AAM Ann Arbor 66.83 344 eP **P 03 07 05.5 -1.6**
comp=Z,22nm,0.6s,mb4.8
MNTX Cornudas Mount 66.87 322 eP **P 03 07 06.5 -1.1**
comp=Z,48nm,0.8s,mb5.1
CPRX Cap Rock 67.03 324 eP **P 03 07 08.1 -0.4**
EHIG Higuera 67.15 43 P **P 03 07 08.9 -0.5**
EGOM La Gomera 67.26 44 P **P 03 07 09.4 -0.7**
comp=Z,119nm,0.7s,mb5.5
AMTX Amarillo 67.30 327 eP **P 03 07 09.6 -0.7**
comp=Z,57nm,0.8s,mb5.2
CCAN Las Canadas 67.69 44 P **P 03 07 12.1 -0.5**
comp=Z,24nm,0.6s,mb4.9
MSNY Massena 67.70 351 eP **P 03 07 11.7 -0.7**
QSPA South Pole Qui 67.95 180⇓ iP **P 03 07 13.8 +0.4**
comp=Z,135nm,0.5s,mb5.7
SADO Sadowa 68.17 348 P **P 03 07 14.3 -1.0**
comp=Z,46nm,0.5s,mb5.3,baz=184,slow=6.6,SNR=123
SADO PcP PcP 03 07 36.1 -0.9
comp=Z,14nm,0.6s,baz=188,slow=7.2,SNR=4.9
EOSO Osorio 68.28 45 P **P 03 07 16.4 +0.2**
comp=Z,74nm,1.2s,mb5.1
KSU1 Kansas State U 68.37 333 eP **P 03 07 15.4 -1.2**
JFWS Jewell Farm 69.31 339 eP **P 03 07 21.0 -1.2**
JFWS pmax pmax
comp=Z,216nm,0.6s,mb5.9
JFWS Jewell Farm 69.31 339 eP **P 03 07 21.0 -1.2**
comp=Z,216nm,0.6s,mb5.9
JFWS Jewell Farm 69.31 339 eP **P 03 07 21.0 -1.2**
comp=Z,108nm,0.6s,mb5.6
CFTV Fuerteventura 69.47 46 P **P 03 07 23.0 -0.4**
comp=Z,31nm,0.6s,mb5.0
LPM Los Pinos Moun 69.51 323 eP **P 03 07 24.3 +0.8**
LENM Lemitar 69.59 323 eP **P 03 07 24.6 +0.6**
LAZ Ladron 69.86 323 eP **P 03 07 26.4 +0.9**
LAZ epP pP 03 09 19.5 +3.5
ANMO Albuquerque 69.89 324 P **P 03 07 26.6 +0.9**
comp=Z,51nm,1.1s,mb5.0,baz=134,slow=6.5,SNR=60
ANMO pP pP 03 09 16.9 +0.7
comp=Z,3.3nm,1.0s,baz=129,slow=15,SNR=2.7
ANMO PKPPKP 03 35 23.9
comp=Z,2.3nm,0.9s,baz=264,slow=3.8,SNR=7.6
ANMO Albuquerque 69.89 324 eP **P 03 07 26.1 +0.4**
comp=Z,64nm,1.1s,mb5.1
ANMO epP pP 03 09 17.1 +1.0
TUC Tucson 70.50 319 eP **P 03 07 29.8 +0.4**
TUC pmax pmax
comp=Z,37nm,1.3s,mb4.8
TUC Tucson 70.50 319 eP **P 03 07 29.8 +0.4**
comp=Z,37nm,1.3s,mb4.8
TUC Tucson 70.50 319 eP **P 03 07 29.8 +0.4**
comp=Z,18nm,1.3s,mb4.5
SDCO Great Sand Dun 71.47 326 eP **P 03 07 35.1 +0.1**
comp=Z,60nm,0.9s,mb5.1
RW3 Ridgway 72.99 325 eP **P 03 07 45.0 +1.3**
ISCO Idaho Springs 73.09 327 eP **P 03 07 45.0 +0.8**
ISCO pmax pmax
comp=Z,60nm,0.8s,mb5.1
ISCO Idaho Springs 73.09 327 eP **P 03 07 45.0 +0.8**
comp=Z,60nm,0.8s,mb5.1
ISCO Idaho Springs 73.09 327 eP **P 03 07 45.0 +0.8**
comp=Z,30nm,0.8s,mb4.8
PV01 Paradox Valley 73.38 324 eP **P 03 07 46.8 +0.9**
PV01 epP pP 03 09 40.3 +2.5
PV10 Paradox Valley 73.81 324 eP **P 03 07 48.5 +0.2**
SUR Sutherland 73.99 119 eP **P 03 07 48.7 -0.7**
comp=Z,178nm,1.4s,mb5.3
SYO Syowa Base 74.06 159⇑ P **P 03 07 48.8 -0.3**
SYO Syowa Base 74.06 159⇑ PcP PcP 03 07 57.2 -4.4
SYO Syowa Base 74.06 159⇓ pP pP 03 09 37.5 -3.7
PHWY Pilot Hill 74.16 329 eP **P 03 07 51.2 +1.0**
PFO Pinyon Flat Ob 74.91 317 eP **P 03 07 55.3 +0.7**
PFO pmax pmax
comp=Z,25nm,0.9s,mb4.6
PFO Pinyon Flat Ob 74.91 317 eP **P 03 07 55.3 +0.8**
comp=Z,25nm,0.9s,mb4.6
PFO Pinyon Flat Ob 74.91 317 eP **P 03 07 55.3 +0.7**
comp=Z,12nm,0.9s,mb4.3
SRU San Rafael 75.14 324 eP **P 03 07 56.5 +0.8**
NEN Nelson 75.24 319 eP **P 03 07 57.2 +0.8**
MSU Marysvale 75.63 323 eP **P 03 07 59.8 +1.4**
MSU epP pP 03 09 51.8 +0.7
MSU Marysvale 75.63 323 eP **P 03 07 59.8 +1.3**
MVU Marysvale 75.64 323 eP **P 03 08 00.0 +1.5**
comp=Z,50nm,0.8s,mb5.0
MVU epP pP 03 09 52.7 +1.5
TMUT Trail Mountain 75.64 324 eP **P 03 07 59.7 +1.2**
ARUT Antelope Range 75.85 321 eP **P 03 08 01.0 +1.3**
SBA Scott Base 75.94 190 eP **P 03 08 00.1 +0.7**
SBA pmax pmax
comp=Z,22nm,1.1s,mb4.5
SBA Scott Base 75.94 190 eP **P 03 08 00.1 +0.6**
comp=Z,22nm,1.1s,mb4.5
SBA Scott Base 75.94 190 eP **P 03 08 00.1 +0.7**
comp=Z,11nm,1.1s,mb4.2
MPU Maple Canyon 76.38 324 eP **P 03 08 03.3 +0.7**
DAU Daniels Canyon 76.46 325 eP **P 03 08 04.5 +1.6**
NLU North Lily Min 76.58 324 eP **P 03 08 04.6 +1.0**
JLU Jordanelle 76.70 325 eP **P 03 08 05.5 +1.3**
JLU epP pP 03 09 57.4 +0.1
SCHQ Schefferville 76.81 358 P **P 03 08 04.3 -0.3**
comp=Z,37nm,0.6s,mb5.0,baz=177,slow=4.4,SNR=122
SCHQ Schefferville 76.81 358 eP **P 03 08 03.8 -0.7**
comp=Z,134nm,1.1s,mb5.3
TCUT Toone Canyon 77.04 325 eP **P 03 08 07.2 +1.1**
NOQ North Oquirrh 77.10 324 eP **P 03 08 07.2 +0.9**
BW06 Boulder Array 77.28 327 eP **P 03 08 07.8 +0.5**
comp=Z,21nm,0.8s,mb4.6
BW06 epP pP 03 10 01.1 +0.6
PDAR Pinedale Array 77.28 327 P **P 03 08 08.1 +0.8**
comp=Z,19nm,0.6s,mb4.7,baz=127,slow=8.3,SNR=198
PDAR pP pP 03 10 01.9 +1.4
comp=Z,2.1nm,0.6s,baz=130,slow=5.3,SNR=4.3
PDAR PKKPbc 03 27 07.5
comp=Z,0.4nm,0.5s,baz=41,slow=1.9,SNR=5.4
DAC Darwin (Calif) 77.34 318 eP **P 03 08 08.9 +1.1**
HWUT Hardware Ranch 77.47 325 eP **P 03 08 09.0 +0.6**
comp=Z,39nm,0.6s,mb5.0
TRCR Troy Canyon 77.48 321 eP **P 03 08 10.1 +1.6**
TRCR epP pP 03 10 03.1 +1.3
SPUT South Promonto 77.73 325 eP **P 03 08 10.7 +0.9**
SPUT epP pP 03 10 02.4 -0.8
BGU Big Grassy Mou 77.78 324 eP **P 03 08 10.5 +0.5**
BGU epP pP 03 10 02.7 -0.7
AHID Auburn Hatcher 78.06 326 eP **P 03 08 12.1 +0.5**
comp=Z,109nm,1.0s,mb5.1
HVU Hansel Valley 78.24 325 eP **P 03 08 12.8 +0.3**
TPH Tonopah 78.27 320 eP **P 03 08 13.5 +0.7**
TPH pmax pmax
comp=Z,72nm,1.3s,mb4.8
TPH Tonopah 78.27 320 eP **P 03 08 13.5 +0.7**
comp=Z,72nm,1.3s,mb4.8
TPH Tonopah 78.27 320 eP **P 03 08 13.5 +0.7**
comp=Z,36nm,1.3s,mb4.5
SNOW Snow King Moun 78.38 327 eP **P 03 08 14.1 +0.9**
LOHW Long Hollow 78.42 327 eP **P 03 08 14.2 +0.8**
WUWY Wally Ulrich 78.43 327 eP **P 03 08 13.8 +0.3**
TPAW Teton Pass 78.50 327 eP **P 03 08 14.4 +0.6**
TPAW epP pP 03 10 08.7 +1.2
MOOW Moose Ponds 78.58 327 eP **P 03 08 14.7 +0.4**
MOOW epP pP 03 10 08.2 +0.2
LAO LASA Array 78.65 332 eP **P 03 08 14.5 0.0**
comp=Z,103nm,1.1s,mb5.1
BOSA Boshof 78.79 116 eP **P 03 08 14.1 -1.6**
BOSA pmax pmax
comp=Z,68nm,0.9s,mb5.0
BOSA Boshof 78.79 116 eP **P 03 08 14.1 -1.6**
comp=Z,68nm,0.9s,mb5.0
BOSA Boshof 78.79 116 eP **P 03 08 14.1 -1.6**
comp=Z,34nm,0.9s,mb4.7
IMW Indian Meadow 78.79 327 eP **P 03 08 16.4 +1.1**
IMW epP pP 03 10 10.6 +1.4
PTEO Sao Teotonio 78.79 42 eP **P 03 08 16.4 +0.9**
comp=Z,169nm,0.9s,mb5.4
LKWY Lake 79.00 328 eP **P 03 08 18.4 +1.9**
LKWY pmax pmax
comp=Z,54nm,1.3s,mb4.7
LKWY Lake 79.00 328 eP **P 03 08 18.4 +1.9**
comp=Z,54nm,1.3s,mb4.7
LKWY Lake 79.00 328 eP **P 03 08 18.4 +1.9**
comp=Z,27nm,1.3s,mb4.4
OMM Old Mammoth Mi 79.06 318 eP **P 03 08 18.1 +1.2**
OMM epP pP 03 10 10.6 -0.2
MNV Mina 79.06 319 eP **P 03 08 17.8 +0.9**
MNV pmax pmax
comp=Z,26nm,1.0s,mb4.5
MNV Mina 79.06 319 eP **P 03 08 17.8 +0.8**
comp=Z,26nm,1.0s,mb4.5
MNV epP pP 03 10 11.6 +0.9
MNV Mina 79.06 319 eP **P 03 08 17.8 +0.9**
comp=Z,13nm,1.0s,mb4.2
YFT Old Faithful 79.14 328 eP **P 03 08 18.7 +1.5**
NVAR Mina Array Bea 79.15 319 P **P 03 08 18.7 +1.3**
comp=Z,22nm,0.7s,mb4.6,baz=134,slow=6.4,SNR=170
NVAR pP pP 03 10 13.0 +1.7
comp=Z,7.1nm,1.0s,baz=127,slow=6.6,SNR=7.5
NVAR PKKPbc 03 27 04.8
comp=Z,0.9nm,0.7s,baz=346,slow=0.7,SNR=6.8
NVAR Mina Array Bea 79.15 319 P **P 03 08 18.7 +1.3**
NVAR pP pP 03 10 13.0 +1.7
NVAR PKKPbc 03 27 04.8
DGMT Dagmar 79.18 334 eP **P 03 08 18.1 +0.8**
comp=Z,220nm,0.7s,mb5.6
PMOR Pomariorio Ree 79.21 258 eP **P 03 08 19.5 +1.4**
comp=Z,29nm,0.9s,mb4.6
YNR Norris Junctio 79.25 328 eP **P 03 08 19.2 +1.4**
YMR Madison River 79.36 328 eP **P 03 08 19.6 +1.3**
YMR epP pP 03 10 13.5 +1.2
PLOU Loures 79.39 40 eP **P 03 08 19.4 +0.8**
TVO Taravao 79.48 255 eP **P 03 08 21.4 +1.9**
comp=Z,21nm,0.7s,mb4.6
PALC Alcoutim 79.52 42 eP **P 03 08 20.2 +0.9**
comp=Z,144nm,0.9s,mb5.3
EGRO El Granado 79.56 42 P **P 03 08 19.7 +0.2**
comp=Z,202nm,1.3s,mb5.3
LRV Little Rabbit 79.59 316 eP **P 03 08 20.8 +1.1**
PBEJ Beja 79.62 42 eP **P 03 08 20.6 +0.7**
comp=Z,61nm,0.9s,mb4.9
MOE Montemor 79.64 41 eP **P 03 08 20.4 +0.5**
TIAR Tiarei 79.65 255 eP **P 03 08 21.7 +1.3**
comp=Z,28nm,0.7s,mb4.7
QLMT Earthquake Lak 79.70 328 eP **P 03 08 21.3 +1.2**
QLMT epP pP 03 10 12.9 -1.3
BMN Battle Mountai 79.80 321 eP **P 03 08 20.6 -0.1**
BMN pmax pmax
comp=Z,5.0nm,0.5s,mb4.1
BMN Battle Mountai 79.80 321 eP **P 03 08 20.6 -0.1**
comp=Z,2.5nm,0.5s,mb3.8
PAE Paea 79.82 255 eP **P 03 08 22.8 +1.5**
comp=Z,25nm,0.9s,mb4.5
EVO Evora 79.85 41⇓ iP **P 03 08 21.1 +0.1**
comp=Z,66nm,0.8s,mb4.7
SAO San Andreas Ge 80.07 316 eP **P 03 08 22.6 +0.4**
SAO pmax pmax
comp=Z,10.0nm,0.7s,mb4.2
SAO San Andreas Ge 80.07 316 eP **P 03 08 22.6 +0.4**
comp=Z,9.9nm,0.7s,mb4.2
SAO San Andreas Ge 80.07 316 eP **P 03 08 22.6 +0.4**
comp=Z,5.0nm,0.7s,mb4.0
ESPR Espera 80.17 44 P **P 03 08 22.8 +0.1**
comp=Z,95nm,0.7s,mb5.2
CMB Columbia Colle 80.18 318 eP **P 03 08 23.0 +0.3**
CMB pmax pmax
comp=Z,7.0nm,0.8s,mb4.0
CMB Columbia Colle 80.18 318 eP **P 03 08 23.0 +0.3**
comp=Z,6.7nm,0.8s,mb4.0
CMB Columbia Colle 80.18 318 eP **P 03 08 23.0 +0.3**
comp=Z,3.5nm,0.8s
EMIN Mina Concepcio 80.20 42 P **P 03 08 22.8 0.0**
comp=Z,95nm,0.9s,mb5.1
HLID Hailey 80.34 325 eP **P 03 08 24.9 +1.4**
comp=Z,62nm,0.9s,mb4.9
HLID epP pP 03 10 19.1 +1.4
BOZ Bozeman (W) 80.39 328 eP **P 03 08 23.5 -0.2**
BOZ pmax pmax
comp=Z,17nm,1.0s,mb4.3
BOZ Bozeman (W) 80.39 328 eP **P 03 08 23.4 -0.2**
comp=Z,17nm,1.0s,mb4.3
BOZ epP pP 03 10 18.3 +0.3
BOZ Bozeman (W) 80.39 328 eP **P 03 08 23.5 -0.2**
comp=Z,8.5nm,1.0s,mb4.0
MCMT McKenzie Canyo 80.41 327 eP **P 03 08 25.2 +1.4**
MCMT epP pP 03 10 19.8 +1.7
WCN Washoe City 80.58 319⇓ iP **P 03 08 26.2 +1.4**
WCN pmax pmax
comp=Z,17nm,1.0s,mb4.4
WCN Washoe City 80.58 319⇓ iP **P 03 08 26.2 +1.4**
comp=Z,17nm,1.0s,mb4.4
WCN Washoe City 80.58 319 i P **P 03 08 26.2 +1.4**
comp=Z,8.5nm,1.0s,mb4.1
EBAD Badajoz 80.60 41 P **P 03 08 24.9 0.0**

comp=Z,52nm,0.8s,mb5.0
PAHR Pah Rah Range 80.61 320 *e*P **P 03 08 26.0 +1.1**
comp=Z,54nm,1.3s,mb4.8
EMIJ Mijas 80.69 44 P **P 03 08 25.1 -0.3**
comp=Z,33nm,0.8s,mb4.9
PCBR Castelo Branco 81.00 40 *e*P **P 03 08 27.0 0.0**
comp=Z,43nm,0.8s,mb4.9
PVIS Viseu 81.30 39 *e*P **P 03 08 28.7 +0.2**
comp=Z,25nm,0.7s,mb4.8
MTE Manteigas 81.31 40 *e*P **P 03 08 28.8 +0.3**
comp=Z,47nm,0.9s,mb4.9
MTE Manteigas 81.31 40 *e*P **P 03 08 28.1 -0.4**
comp=Z,38nm,0.8s,mb4.9
ELOJ Sierra Loja 81.43 44 P **P 03 08 29.9 +0.7**
ELOJ pmax pmax
comp=Z,41nm,0.4s,mb5.2
ELOJ Sierra Loja 81.43 44 P **P 03 08 29.9 +0.7**
comp=Z,41nm,0.4s,mb5.2
ELOJ Sierra Loja 81.43 44 P **P 03 08 29.9 +0.7**
comp=Z,20nm,0.4s,mb4.9
EALB Alboran 81.46 46 P **P 03 08 28.6 -0.8**
comp=Z,63nm,0.5s,mb5.3
ELUQ Luque 81.60 44 P **P 03 08 31.0 +0.9**
ELUQ pmax pmax
comp=Z,45nm,0.4s,mb5.2
ELUQ Luque 81.60 44 P **P 03 08 31.0 +0.9**
comp=Z,45nm,0.4s,mb5.2
ELUQ Luque 81.60 44 P **P 03 08 31.0 +0.9**
comp=Z,22nm,0.4s,mb5.0
OHCM Honcut 81.65 318 *e*P **P 03 08 30.6 +0.3**
OHCM *e*pP pP 03 10 25.7 +0.7
EZAM Zamans 81.75 38 P **P 03 08 31.4 +0.7**
EZAM pmax pmax
comp=Z,17nm,0.4s,mb4.8
EZAM Zamans 81.75 38 P **P 03 08 31.4 +0.7**
comp=Z,17nm,0.4s,mb4.8
EZAM Zamans 81.75 38 P **P 03 08 31.4 +0.7**
comp=Z,8.5nm,0.4s,mb4.5
PVRL Vila Real 81.76 39 *e*P **P 03 08 31.2 +0.5**
comp=Z,119nm,1.4s,mb5.1
EADA Adamuz 81.76 43 P **P 03 08 30.6 -0.3**
comp=Z,21nm,0.6s,mb4.7
WVOR Wild Horse Val 81.91 322 *e*P **P 03 08 31.9 +0.4**
WVOR pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
WVOR Wild Horse Val 81.91 322 *e*P **P 03 08 31.9 +0.5**
comp=Z,5.7nm,0.8s,mb4.0
WVOR Wild Horse Val 81.91 322 *e*P **P 03 08 31.9 +0.4**
comp=Z,3.0nm,0.8s
ELOB Lobios 81.93 39 P **P 03 08 31.5 -0.1**
comp=Z,123nm,1.2s,mb5.2
EMAZ Mazaricos 82.10 37 P **P 03 08 32.2 -0.2**
comp=Z,31nm,0.7s,mb4.8
EBER Berja 82.11 45 P **P 03 08 32.2 -0.4**
comp=Z,17nm,0.4s,mb4.8
MAW Mawson 82.17 162 ⇓ *i*P **P 03 08 32.5 +0.3**
comp=Z,98nm,0.7s,mb5.3
MAW Mawson 82.17 162 P **P 03 08 32.6 +0.4**
MAW pmax pmax
comp=Z,110nm,0.6s
MAW Mawson 82.17 162 P **P 03 08 32.6 +0.3**
comp=Z,110nm,0.6s,mb5.4,baz=222,slow=6.2,SNR=154
STS Santiago 82.30 37 P **P 03 08 33.8 +0.4**
STS pmax pmax
comp=Z,24nm,0.6s,mb4.8
STS Santiago 82.30 37 P **P 03 08 33.8 +0.4**
comp=Z,24nm,0.6s,mb4.8
STS Santiago 82.30 37 P **P 03 08 33.8 +0.4**
comp=Z,12nm,0.6s,mb4.5
MSO Missoula 82.36 328 *e*P **P 03 08 34.0 +0.4**
comp=Z,5.8nm,1.0s,mb4.0
MSO *e*pP pP 03 10 29.9 +1.3
EQES Quesada 82.51 44 P **P 03 08 33.9 -0.7**
MOD Modoc 82.53 321 *e*P **P 03 08 35.3 +0.7**
comp=Z,31nm,1.1s,mb4.8
MOD *e*pP pP 03 10 30.7 +1.1
ENIJ Nijar 82.60 45 P **P 03 08 35.0 -0.1**
ENIJ pmax pmax
comp=Z,21nm,0.4s,mb5.0
ENIJ Nijar 82.60 45 P **P 03 08 35.0 -0.1**
comp=Z,21nm,0.4s,mb5.0
ENIJ Nijar 82.60 45 P **P 03 08 35.0 -0.1**
comp=Z,10nm,0.4s,mb4.7
PBRG Braganca 82.66 39 *e*P **P 03 08 36.0 +0.7**
comp=Z,136nm,1.3s,mb5.3
ECAL Calabor 82.75 39 P **P 03 08 35.8 +0.1**
comp=Z,103nm,0.9s,mb5.4
BMO Blue Mountains 82.75 325 *e*P **P 03 08 36.1 +0.4**
comp=Z,51nm,1.4s,mb4.9
ERUA La Rua 82.79 39 P **P 03 08 36.5 +0.5**
ERUA pmax pmax
comp=Z,59nm,0.6s,mb5.3
ERUA La Rua 82.79 39 P **P 03 08 36.5 +0.6**
comp=Z,59nm,0.6s,mb5.3
ERUA La Rua 82.79 39 P **P 03 08 36.5 +0.5**
comp=Z,30nm,0.6s,mb5.0
EINC Incio 82.84 38 P **P 03 08 36.5 +0.3**
comp=Z,61nm,0.7s,mb5.2
ESDC Sonseca Array 83.04 42 P **P 03 08 37.9 +0.6**
comp=Z,20nm,0.5s,mb4.9,baz=242,slow=4.6,SNR=210
ESDC Sonseca Array 83.04 42 P **P 03 08 37.3 0.0**
comp=Z,18nm,0.4s,mb5.0
ESLA Sonseca Array 83.04 42 *e*P **P 03 08 37.3 0.0**
comp=Z,20nm,0.9s,mb4.7
WDC Whiskeytown Da 83.05 319 *e*P **P 03 08 36.1 -1.2**
WDC pmax pmax
comp=Z,15nm,0.5s,mb4.8
WDC Whiskeytown Da 83.05 319 *e*P **P 03 08 36.1 -1.2**
comp=Z,15nm,0.5s,mb4.8
WDC Whiskeytown Da 83.05 319 *e*P **P 03 08 36.1 -1.2**
comp=Z,7.5nm,0.5s,mb4.5
EVIA Vianos 83.36 44 P **P 03 08 39.4 +0.5**
EVIA pmax pmax
comp=Z,97nm,0.6s,mb5.5
EVIA Vianos 83.36 44 P **P 03 08 39.4 +0.5**
comp=Z,48nm,0.6s,mb5.2
EPON Pontenova 83.37 38 P **P 03 08 39.4 +0.5**
comp=Z,41nm,0.5s,mb5.2
FFC Flin Flon 83.39 339 P **P 03 08 38.9 +0.2**
comp=Z,220nm,1.0s,mb5.6,SNR=30
FFC Flin Flon 83.39 339 *e*P **P 03 08 38.4 -0.3**
FFC pmax pmax
comp=Z,28nm,0.9s,mb4.8
FFC Flin Flon 83.39 339 *e*P **P 03 08 38.4 -0.3**
comp=Z,14nm,0.9s,mb4.5
GUD Guadarrama 83.50 41 P **P 03 08 40.3 +0.8**
GUD pmax pmax
comp=Z,28nm,0.6s,mb5.0
GUD Guadarrama 83.50 41 P **P 03 08 40.3 +0.8**
comp=Z,28nm,0.6s,mb5.0
GUD Guadarrama 83.50 41 P **P 03 08 40.3 +0.8**
comp=Z,14nm,0.6s,mb4.7
EMUR La Murta 83.72 45 P **P 03 08 39.8 -0.9**
comp=Z,22nm,0.5s,mb4.9
CART Cartagena 83.74 45 *e*P **P 03 08 38.9 -1.9**
comp=Z,78nm,1.3s,mb5.1
YBH Yreka Blue Hor 83.85 320 P **P 03 08 41.0 -0.2**
YBH pmax pmax
comp=Z,18nm,0.6s
YBH Yreka Blue Hor 83.85 320 P **P 03 08 41.0 -0.2**
comp=Z,18nm,0.6s,mb4.7,baz=93,slow=3.2,SNR=66
YBH Yreka Blue Hor 83.85 320 *e*P **P 03 08 40.4 -0.9**
comp=Z,14nm,0.6s,mb4.7
WALA Waterton Lakes 83.90 329 *e*P **P 03 08 41.2 0.0**
comp=Z,8.7nm,0.5s,mb4.5
KHMM Horse Mountain 83.95 319 *e*P **P 03 08 42.2 +0.5**
KRMB Red Mountain 84.44 319 *e*P **P 03 08 44.6 +0.4**
EARI Arriondas 84.47 39 P **P 03 08 44.6 +0.4**
comp=Z,24nm,1.0s,mb4.7
HUMO Hull Mountain 84.52 320 *e*P **P 03 08 44.2 -0.3**
comp=Z,7.2nm,0.6s,mb4.4
BBOR Butler Butte 84.52 321 P **P 03 08 44.4 -0.1**
FCC Fort Churchill 84.54 345 *e*P **P 03 08 44.0 -0.2**
FCC pmax pmax
comp=Z,87nm,0.8s,mb5.3
FCC Fort Churchill 84.54 345 *e*P **P 03 08 44.0 -0.2**
comp=Z,87nm,0.8s,mb5.3
FCC *e*pP pP 03 10 40.1 +0.4
FCC Fort Churchill 84.54 345 *e*P **P 03 08 44.0 -0.2**
comp=Z,44nm,0.8s,mb5.0
CROR Criterion Ridg 84.84 323 P **P 03 08 47.7 +1.7**
EBEN Beniarda 84.87 45 P **P 03 08 46.3 0.0**
comp=Z,72nm,0.7s,mb5.3
HBO Huckleberry Mo 84.89 322 P **P 03 08 46.9 +0.6**
HSO Harness Mounta 85.15 321 P **P 03 08 48.7 +1.2**
BROR Big Rock Looko 85.23 322 P **P 03 08 48.2 +0.3**
ELAN Lanestosa 85.47 40 P **P 03 08 49.6 +0.5**
comp=Z,22nm,0.7s,mb4.8
EMOS Mosqueruela 85.63 43 P **P 03 08 50.4 +0.5**
comp=Z,42nm,0.9s,mb5.1
FRB Frobisher Bay 85.80 358 P **P 03 08 49.6 -0.5**
comp=Z,12nm,0.6s,mb4.7,baz=177,slow=5.7,SNR=33
FRB pP pP 03 10 47.0 +0.9
comp=Z,19nm,1.0s,baz=167,slow=4.6,SNR=5.1
EBG Ellensburg 85.82 325 P **P 03 08 52.0 +1.3**
COR Corvallis 85.91 322 *e*P **P 03 08 51.9 +0.8**
WTV Waterville 85.99 326 P **P 03 08 52.1 +0.6**
LSZ Lusaka 86.02 105 *e*P **P 03 08 53.3 +1.0**
LSZ pmax pmax
comp=Z,80nm,0.8s,mb5.4
LSZ Lusaka 86.02 105 *e*P **P 03 08 53.3 +1.0**
comp=Z,80nm,0.8s,mb5.4
LSZ Lusaka 86.02 105 *e*P **P 03 08 53.3 +1.0**
comp=Z,40nm,0.8s,mb5.1
EIBI Ibiza 86.07 45 P **P 03 08 52.7 +0.6**
comp=Z,23nm,0.5s,mb5.1
ESAC San Caprasio 86.39 42 P **P 03 08 54.4 +0.8**
comp=Z,64nm,0.7s,mb5.4
NLW Nelson Butte 86.43 326 P **P 03 08 54.0 +0.4**
ERTA Horta de San J 86.47 43 P **P 03 08 54.4 +0.5**
comp=Z,19nm,0.5s,mb5.0
EDM Edmonton 86.58 333 *e*P **P 03 08 53.5 -0.6**
EALK Alkurruntz 86.61 40 P **P 03 08 54.4 -0.1**
comp=Z,15nm,0.7s,mb4.7
SJPF Ste Jean 86.72 41 *e*P **P 03 08 55.7 +0.7**
comp=Z,127nm,0.8s,mb5.3
SJPF Ste Jean 86.72 41 *e*P **P 03 08 55.7 +0.7**
SJPF pmax pmax
comp=Z,64nm,0.8s,mb5.3
LARF Larrau 86.81 41 *e*P **P 03 08 56.5 +1.0**
ETSF Etsaut 87.00 41 *e*P **P 03 08 57.2 +0.9**
comp=Z,87nm,0.8s,mb5.1
ETSF Etsaut 87.00 41 *e*P **P 03 08 57.2 +0.9**
ETSF pmax pmax
comp=Z,43nm,0.8s,mb5.1
EPOB Poblet 87.16 43 P **P 03 08 57.5 +0.3**
comp=Z,25nm,0.9s,mb4.8
REYF Montagne du Re 87.19 41 *e*P **P 03 08 58.1 +0.8**
EBIE Bielsa 87.31 41 P **P 03 08 59.0 +1.2**
comp=Z,14nm,0.6s,mb4.8
VIEF Viey 87.34 41 *e*P **P 03 08 58.8 +0.8**
LABF Labassere 87.47 41 *e*P **P 03 08 59.2 +0.7**
EPF Esparros 87.62 41 *e*P **P 03 08 59.8 +0.5**
comp=Z,44nm,0.7s,mb5.0
EPF Esparros 87.62 41 *e*P **P 03 08 59.8 +0.5**
EPF pmax pmax
comp=Z,22nm,0.7s,mb5.0
EMIR Miracle 87.74 43 P **P 03 08 59.9 0.0**
comp=Z,49nm,1.0s,mb5.2
MELF Melles 87.79 42 *e*P **P 03 09 01.2 +1.1**
SALF Salau 87.99 42 *e*P **P 03 09 02.1 +1.1**
MLS Moulis 88.04 42 *e*P **P 03 09 01.9 +0.7**
QUIF Quistinic 88.39 36 *e*P **P 03 09 02.1 -0.6**
comp=Z,43nm,0.6s,mb5.1
QUIF Quistinic 88.39 36 *e*P **P 03 09 02.1 -0.6**
QUIF pmax pmax
comp=Z,22nm,0.6s,mb5.1
ROSF Rostrenen 88.58 35 *e*P **P 03 09 03.1 -0.5**
comp=Z,57nm,0.5s,mb5.3
ROSF Rostrenen 88.58 35 *e*P **P 03 09 03.1 -0.5**
ROSF pmax pmax
comp=Z,28nm,0.5s,mb5.3
EJON La Jonquera 88.89 43 P **P 03 09 06.0 +0.8**
comp=Z,15nm,0.8s,mb4.9
LFF La Frestale 88.91 40 *e*P **P 03 09 05.3 0.0**
comp=Z,111nm,0.6s,mb5.6
LFF La Frestale 88.91 40 *e*P **P 03 09 05.3 0.0**
LFF pmax pmax
comp=Z,56nm,0.6s,mb5.6
SGMF Saint Gilles 88.92 36 *e*P **P 03 09 04.4 -0.8**
comp=Z,42nm,0.5s,mb5.2
SGMF Saint Gilles 88.92 36 *e*P **P 03 09 04.4 -0.8**
SGMF pmax pmax
comp=Z,21nm,0.5s,mb5.2
MTLF Montolieu 88.94 42 *e*P **P 03 09 05.2 -0.3**
comp=Z,89nm,1.0s,mb5.2
MTLF Montolieu 88.94 42 *e*P **P 03 09 05.2 -0.3**
MTLF pmax pmax
comp=Z,45nm,1.0s,mb5.2
MFF Saint Martin d 89.31 38 *e*P **P 03 09 06.9 -0.2**
comp=Z,119nm,0.7s,mb5.5
MFF Saint Martin d 89.31 38 *e*P **P 03 09 06.9 -0.2**
MFF pmax pmax
comp=Z,59nm,0.7s,mb5.5
RJF Les Rejaudoux 89.57 40 *e*P **P 03 09 08.1 -0.2**
comp=Z,77nm,1.0s,mb5.2
RJF Les Rejaudoux 89.57 40 *e*P **P 03 09 08.1 -0.2**
RJF pmax pmax
comp=Z,39nm,1.0s,mb5.2
DCN Croghan 89.65 30 *e*P **P 03 09 07.2 -1.3**
CAF Calviac 89.69 40 *e*P **P 03 09 09.0 +0.1**
comp=Z,65nm,0.8s,mb5.2
CAF Calviac 89.69 40 *e*P **P 03 09 09.0 +0.1**
CAF pmax pmax
comp=Z,33nm,0.8s,mb5.2
GRR Gorron 89.92 36 *e*P **P 03 09 09.1 -0.7**
comp=Z,108nm,0.7s,mb5.5
GRR Gorron 89.92 36 *e*P **P 03 09 09.1 -0.7**
GRR pmax pmax
comp=Z,54nm,0.7s,mb5.5
DLF Lyons Farm 89.97 30 *e*P **P 03 09 07.6 -2.3**
DMUB Kingscourt 90.18 30 *e*P **P 03 09 08.4 -2.5**
LASF Ste Croix 90.34 42 *e*P **P 03 09 12.1 +0.2**
comp=Z,33nm,0.8s,mb4.9
FLN La Foliniere 90.34 36 *e*P **P 03 09 11.1 -0.7**
comp=Z,38nm,0.7s,mb5.1
FLN La Foliniere 90.34 36 *e*P **P 03 09 11.1 -0.7**
FLN pmax pmax
comp=Z,19nm,0.7s,mb5.0
LDF La Druitiere 90.44 36 *e*P **P 03 09 11.6 -0.6**
comp=Z,82nm,0.7s,mb5.4
LDF La Druitiere 90.44 36 *e*P **P 03 09 11.6 -0.6**
LDF pmax pmax
comp=Z,41nm,0.7s,mb5.4
TCF Toulx Ste Croi 90.51 39 *e*P **P 03 09 12.3 -0.3**
comp=Z,48nm,0.9s,mb5.1
TCF Toulx Ste Croi 90.51 39 *e*P **P 03 09 12.3 -0.3**
TCF pmax pmax
comp=Z,24nm,0.9s,mb5.1
PYM Petit Puy Mans 90.69 40 *e*P **P 03 09 15.1 +1.6**
AGO Saint Agoulin 90.93 40 *e*P **P 03 09 15.7 +1.2**
BGF Bois d'Agland 91.02 39 *e*P **P 03 09 14.8 -0.2**
comp=Z,82nm,1.0s,mb5.3
BGF Bois d'Agland 91.02 39 *e*P **P 03 09 14.8 -0.2**
BGF pmax pmax
comp=Z,41nm,1.0s,mb5.3
PLDF La Plantade 91.17 40 *e*P **P 03 09 17.1 +1.4**
VIVF Saint-Julien-l 91.24 41 *e*P **P 03 09 16.4 +0.4**
comp=Z,39nm,0.8s,mb5.1
VIVF Saint-Julien-l 91.24 41 *e*P **P 03 09 16.4 +0.4**
VIVF pmax pmax
comp=Z,19nm,0.8s,mb5.1
HYF Humbligny 91.28 39 *e*P **P 03 09 15.9 -0.2**
SMRF Simiane la Rot 91.35 42 *e*P **P 03 09 17.4 +0.8**
comp=Z,48nm,0.8s,mb5.2
AVF Avril sur Loir 91.44 39 *e*P **P 03 09 16.4 -0.5**
comp=Z,27nm,0.8s,mb4.9
AVF Avril sur Loir 91.44 39 *e*P **P 03 09 16.4 -0.5**
AVF pmax pmax
comp=Z,13nm,0.8s,mb4.9
LMR La Mourre 91.63 43 *e*P **P 03 09 18.1 +0.3**
comp=Z,82nm,0.8s,mb5.5
LMR La Mourre 91.63 43 *e*P **P 03 09 18.1 +0.3**
LMR pmax pmax
comp=Z,41nm,0.8s,mb5.5
SSF Saint Saulge 91.67 39 *e*P **P 03 09 17.3 -0.6**
SSF pmax pmax
comp=Z,15nm,0.7s,mb5.1
SSF Saint Saulge 91.67 39 *e*P **P 03 09 17.3 -0.6**
comp=Z,7.5nm,0.7s,mb4.8
FRF La Foret Royal 91.83 43 *e*P **P 03 09 19.0 +0.3**
comp=Z,26nm,0.6s,mb5.2
FRF La Foret Royal 91.83 43 *e*P **P 03 09 19.0 +0.3**
FRF pmax pmax
comp=Z,13nm,0.6s,mb5.1
ORIF Oris-en-Rattie 92.01 42 *e*P **P 03 09 20.4 +0.8**
comp=Z,83nm,0.6s,mb5.6
ORIF Oris-en-Rattie 92.01 42 *e*P **P 03 09 20.4 +0.8**
ORIF pmax pmax
comp=Z,42nm,0.6s,mb5.7
GRN Grenoble 92.09 41 *e*P **P 03 09 21.0 +1.1**
REVF Revere 92.37 43 *e*P **P 03 09 21.9 +0.7**
SURF Saint Ours 92.38 42 *e*P **P 03 09 22.3 +1.0**
MBDF Montbardon 92.47 42 *e*P **P 03 09 22.4 +0.7**
comp=Z,44nm,0.9s,mb5.2
MBDF Montbardon 92.47 42 *e*P **P 03 09 22.4 +0.7**
MBDF pmax pmax
comp=Z,22nm,0.9s,mb5.2
SBF Sospel 92.47 43 *e*P **P 03 09 22.1 +0.4**
comp=Z,189nm,1.1s,mb5.7
SBF Sospel 92.47 43 *e*P **P 03 09 22.1 +0.4**
SBF pmax pmax
comp=Z,95nm,1.1s,mb5.7
PZZ Prazzo 92.57 43 P **P 03 09 22.5 +0.4**
BNI Bardonecchia 92.57 42 *e*P **P 03 09 22.6 +0.5**
BNI pmax pmax
comp=Z,24nm,1.2s,mb5.1
BNI Bardonecchia 92.57 42 *e*P **P 03 09 22.6 +0.5**
comp=Z,24nm,1.2s,mb5.1
BNI Bardonecchia 92.57 42 *e*P **P 03 09 22.6 +0.5**
comp=Z,12nm,1.2s,mb4.8
RRL Cesana Torines 92.57 42 P **P 03 09 22.8 +0.7**
STV Sta Anna Valdi 92.58 43 P **P 03 09 22.1 -0.1**
SAOF Saorge 92.61 43 *e*P **P 03 09 21.9 -0.4**
NEGI Negi 92.64 43 P **P 03 09 22.4 -0.1**
ENR Entracque 92.64 43 P **P 03 09 22.1 -0.4**
MONE Monesi 92.78 43 P **P 03 09 23.2 +0.1**
EKA Eskdalemuir Ar 92.78 30 P **P 03 09 22.1 -0.8**
comp=Z,4.9nm,0.6s,mb4.7,baz=235,slow=4.5,SNR=16
EKA PKKPbc 03 26 31.9
comp=Z,7.7nm,1.2s,baz=40,slow=3.5,SNR=5.0
IMI Imperia 92.78 43 P **P 03 09 23.1 0.0**
LPL La Plagne 92.83 42 *e*P **P 03 09 24.3 +1.0**
comp=Z,63nm,0.7s,mb5.4
LPL La Plagne 92.83 42 *e*P **P 03 09 24.3 +1.0**
LPL pmax pmax
comp=Z,32nm,0.7s,mb5.5
BHB Bricherasio 92.83 42 P **P 03 09 22.7 -0.6**
LPG La Plagne 92.83 42 *e*P **P 03 09 24.5 +1.2**
comp=Z,98nm,0.8s,mb5.6
LPG La Plagne 92.83 42 *e*P **P 03 09 24.5 +1.2**
LPG pmax pmax
comp=Z,49nm,0.8s,mb5.6
PGF Pioggiola 92.86 45 *e*P **P 03 09 23.9 +0.4**
ROB Roburent 92.95 43 P **P 03 09 23.6 -0.3**
CABF La Chapelle 92.97 40 *e*P **P 03 09 24.0 +0.1**
comp=Z,62nm,1.0s,mb5.3
CABF La Chapelle 92.97 40 *e*P **P 03 09 24.0 +0.1**
CABF pmax pmax
comp=Z,31nm,1.0s,mb5.3
RSP Reno Superiore 92.98 42 P **P 03 09 24.6 +0.6**
LSD Ceresole Reale 93.06 42 P **P 03 09 25.5 +1.1**
FIN Finale Ligure 93.13 43 P **P 03 09 24.1 -0.6**
MEZF Maizieres J'vi 93.31 38 *e*P **P 03 09 25.0 -0.4**
comp=Z,34nm,0.5s,mb5.3
TRAV 93.45 42 P **P 03 09 25.1 -1.0**
PCP Pian Castagno 93.50 43 P **P 03 09 25.3 -1.1**
YKA Yellowknife Ar 93.57 339 P **P 03 09 26.3 0.0**
YKA 03 26 28.7
YKA Yellowknife Ar 93.57 339 P **P 03 09 26.3 0.0**
comp=Z,14nm,0.6s,mb5.3,baz=127,slow=4.5,SNR=329
YKA pP pP 03 11 24.5 +0.8
comp=Z,3.0nm,0.9s,baz=128,slow=4.8,SNR=6.0
YKA PKKPbc 03 26 28.6
comp=Z,1.6nm,0.7s,baz=322,slow=3.5,SNR=22
YKA PKPPKP 03 34 42.7
comp=Z,0.5nm,1.1s,baz=273,slow=2.2,SNR=3.8
YKA Yellowknife Ar 93.57 339 P **P 03 09 26.3 0.0**
YKA pP pP 03 11 24.6 +0.8
YKA PKKPbc 03 26 28.6
YKA P'P' 03 34 42.7
YKA Yellowknife Ar 93.57 339 Ss 03 26 28.7
BAIF Baives 93.62 37 *e*P **P 03 09 26.2 -0.6**
comp=Z,28nm,1.0s,mb5.1
BAIF Baives 93.62 37 *e*P **P 03 09 26.2 -0.6**
BAIF pmax pmax
comp=Z,14nm,1.0s,mb5.0
YKW3 Yellowknife Ar 93.62 339 *e*P **P 03 09 26.1 -0.5**
ORX Oropa 93.66 42 P **P 03 09 26.5 -0.6**
GENL Genova Univers 93.70 43 P **P 03 09 26.0 -1.4**
LOMF Lomont 93.78 40 *e*P **P 03 09 28.0 +0.4**
HAU Haudompre 93.81 39 *e*P **P 03 09 27.2 -0.6**
comp=Z,30nm,0.6s,mb5.3
HAU Haudompre 93.81 39 *e*P **P 03 09 27.2 -0.6**
HAU pmax pmax
comp=Z,15nm,0.6s,mb5.3
GIVF Givet 93.98 37 *e*P **P 03 09 28.0 -0.5**
comp=Z,34nm,0.7s,mb5.3
GIVF Givet 93.98 37 *e*P **P 03 09 28.0 -0.5**
GIVF pmax pmax
comp=Z,17nm,0.7s,mb5.3
HINF Hinteralfeld 94.02 40 *e*P **P 03 09 28.1 -0.6**
comp=Z,23nm,0.6s,mb5.2
HINF Hinteralfeld 94.02 40 *e*P **P 03 09 28.1 -0.6**
HINF pmax pmax
comp=Z,11nm,0.6s,mb5.2
MOF Molkenrain 94.20 40 *e*P **P 03 09 29.3 -0.3**
ECH Echery 94.39 39 *e*P **P 03 09 30.1 -0.3**
GRAM 94.44 44 P **P 03 09 30.6 -0.1**
VALM 94.49 44 P **P 03 09 30.8 -0.1**
WLF Walferdange 94.51 38 *e*P **P 03 09 30.6 -0.3**
SARO Sassorosso 94.52 44 P **P 03 09 30.0 -1.1**
CDF Champ du Feu 94.55 39 *e*P **P 03 09 30.7 -0.4**
comp=Z,32nm,0.7s,mb5.2
CDF Champ du Feu 94.55 39 *e*P **P 03 09 30.7 -0.4**
CDF pmax pmax
comp=Z,16nm,0.7s,mb5.3
WLS Welschbruch 94.60 39 *e*P **P 03 09 30.8 -0.5**
FELD Feldberg 94.73 40 *e*P **P 03 09 32.3 +0.4**
RUP Ruppelstein 95.05 38 *e*P **P 03 09 33.1 -0.2**
DAVOX Davos 95.36 41 P **P 03 09 35.7 +1.0**
comp=Z,22nm,0.7s,mb5.4,baz=215,slow=5.3,SNR=27
DAVOX PKKPbc 03 26 25.2
comp=Z,3.0nm,0.4s,baz=324,slow=22,SNR=6.2
DAVA Damuels 95.58 41 ⇑ *i*P **P 03 09 36.1 +0.3**
comp=Z,33nm,0.8s,mb5.6
SUMG Summit 96.11 7 *e*P **P 03 09 37.4 -0.2**
comp=Z,11nm,0.6s,mb5.2
MOTA Moosalm 96.36 41 ⇓ *i*P **P 03 09 39.5 +0.2**
comp=Z,33nm,1.4s,mb5.4
MOTA Moosalm 96.36 41 ⇓ *i*P **P 03 09 39.5 +0.2**
MOTA pmax pmax
comp=Z,33nm,1.4s,mb5.4
SQTA Sankt Quirin 96.37 41 ⇑ *i*P **P 03 09 39.8 +0.5**
comp=Z,31nm,0.9s,mb5.5
SQTA Sankt Quirin 96.37 41 ⇑ *i*P **P 03 09 39.8 +0.5**
SQTA pmax pmax
comp=Z,31nm,0.9s,mb5.5
WATA Walderalm 96.64 41 ⇓ *i*P **P 03 09 40.7 +0.1**
comp=Z,21nm,1.2s,mb5.2
WATA Walderalm 96.64 41 ⇓ *i*P **P 03 09 40.7 +0.1**
WATA pmax pmax
comp=Z,21nm,1.2s,mb5.2
WTTA Wattenberg 96.65 42 ⇑ *i*P **P 03 09 41.2 +0.6**
comp=Z,28nm,0.8s,mb5.5
WTTA Wattenberg 96.65 42 ⇑ *i*P **P 03 09 41.2 +0.6**
WTTA pmax pmax
comp=Z,28nm,0.8s,mb5.5
DLBC Dease Lake 97.16 331 P **P 03 09 43.4 +0.7**
comp=Z,5.9nm,0.7s,mb4.9,baz=167,slow=25,SNR=9.5
ROBS Robic 97.39 43 *e*Pdiff **P 03 09 44.3 +0.3**
GRA1 Grafenberg Arr 97.45 39 *e*P **P 03 09 44.7 +0.5**
comp=Z,14nm,1.0s,mb5.2
GRF Grafenberg Arr 97.45 39 *e*P **P 03 09 44.7 +0.5**
GRF pmax pmax
comp=Z,28nm,1.0s,mb5.5
GRF Grafenberg Arr 97.45 39 *e*P **P 03 09 44.7 +0.5**
GRF pmax pmax
comp=Z,28nm,1.0s,mb5.5
GRF Grafenberg Arr 97.45 39 *e*P **P 03 09 44.7 +0.5**
comp=Z,14nm,1.0s,mb5.2
KBA Koelnbreinsper 97.63 42 ⇑ *i*P **P 03 09 45.0 -0.1**
comp=Z,13nm,0.6s,mb5.5
KBA Koelnbreinsper 97.63 42 ⇑ *i*P **P 03 09 45.0 -0.1**
KBA pmax pmax
comp=Z,13nm,0.6s,mb5.4
LJU Ljubljana 97.95 44 *e*Pdiff **P 03 09 46.4 -0.2**
LJU *e* 03 10 15.1
MOX Moxa 98.08 38 *e*P **P 03 09 48.0 +0.9**
OBKA Obir 98.15 43 ⇓ *i*P **P 03 09 48.0 +0.5**
comp=Z,10.0nm,0.7s,mb5.2
BOJS Bojanci 98.20 44 *i* Pdiff **P 03 09 48.1 +0.4**
NKC Novy Kostel 98.39 39 *e*PDIF **P 03 09 49.2 +0.7**
MOA Molln 98.51 42 ⇓ *i*P **P 03 09 48.9 -0.1**
comp=Z,15nm,0.7s,mb5.4
GERES GERESS Array B 98.57 41 P **P 03 09 49.4 +0.1**
comp=Z,2.1nm,0.7s,mb4.6,baz=198,slow=4.2,SNR=10
GERES PKKPbc 03 26 15.0

comp=Z,1.2nm,0.7s,baz=180,slow=1.3,SNR=5.1
KHC Kasperske Hory 98.61 40 *e*PDIF **P 03 09 49.2 -0.3**
RES Resolute Bay 98.77 352 *e*P **P 03 09 49.4 -0.2**
RES pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
RES Resolute Bay 98.77 352 *e*P **P 03 09 49.4 -0.3**
comp=Z,2.1nm,0.6s,mb4.6
RES Resolute Bay 98.77 352 *e*P **P 03 09 49.4 -0.2**
comp=Z,1.0nm,0.6s,mb4.3
ARSA Arzberg 99.06 43 ⇓*i*P **P 03 09 51.4 -0.1**
comp=Z,4.3nm,0.7s,mb4.9
CLL Collm 99.16 38 *i* P **P 03 09 52.0 +0.1**
CLL pmax pmax
comp=Z,12nm,0.9s,mb5.2
CLL Collm 99.16 38 P **P 03 09 52.0 +0.1**
comp=Z,logA/T=1.1,mb5.2
CLL Collm 99.16 38 *i* P **P 03 09 52.0 +0.1**
comp=Z,6.0nm,0.9s,mb4.9
PRU Pruhonice 99.53 40 *e*PDIF **P 03 09 53.8 +0.2**
PVCC Panska Ves 99.76 39 *e*PDIF **P 03 09 54.8 +0.2**
VRAC Vranov 100.50 41 P P 03 09 58.0 +0.1
comp=Z,2.7nm,0.6s,baz=234,slow=3.8,SNR=5.7
UPC Upice 100.60 40 *e*PDIF P 03 09 58.6 +0.3
DPC Dobruska-Polom 100.72 40 *e*P P 03 09 59.5 +0.6
IDI Anoyia 101.40 57 P P 03 10 02.5 +0.2
comp=Z,7.5nm,0.8s,baz=285,slow=8.8,SNR=2.9
VYHS Vyhne 101.59 42 *e*P P 03 10 03.1 +0.4
NOA NORSAR Array B 102.20 29 P Pdif 03 10 06.1 +1.0
comp=Z,0.9nm,0.7s,baz=340,slow=8.1,SNR=3.2
NOA PP PP 03 14 26.9 +0.4
comp=Z,1.5nm,0.8s,baz=124,slow=14,SNR=3.4
NOA PKKPbc 03 26 04.4
comp=Z,1.4nm,0.9s,baz=213,slow=3.8,SNR=3.4
INK Inuvik 103.34 339 Pdiff Pdif 03 10 10.3 +0.3
comp=Z,2.7nm,0.7s,baz=96,slow=4.5,SNR=14
INK PKiKP 03 14 25.5
comp=Z,1.9nm,0.8s,baz=159,slow=2.8,SNR=5.3
INK PKKPbc 03 26 02.5
comp=Z,4.6nm,0.5s,baz=318,slow=3.6,SNR=36
ILAR Eielson Array 107.05 334 PKiKP 03 14 32.2
comp=Z,1.0nm,0.6s,baz=215,slow=0.8,SNR=9.3
ILAR PP PP 03 14 56.6 -5.9
comp=Z,2.2nm,1.1s,baz=354,slow=0.3,SNR=5.4
ILAR PKKPbc 03 25 50.0
comp=Z,1.3nm,0.7s,baz=279,slow=3.5,SNR=15
ILAR PKKPab 03 26 05.7
comp=Z,0.5nm,0.6s,baz=286,slow=3.1,SNR=4.2
AKASG Malin Array Be 108.69 42 PKiKP 03 14 35.2
comp=Z,2.1nm,0.4s,baz=264,slow=2.8,SNR=30
AKASG PKKPbc 03 25 46.4
comp=Z,1.7nm,0.5s,baz=58,slow=3.7,SNR=9.0
AKASG PKKPab 03 25 58.4
comp=Z,0.6nm,0.4s,baz=63,slow=4.3,SNR=6.8
FINES FINESS Array B 109.17 31 PKiKP 03 14 36.7
comp=Z,1.4nm,0.6s,baz=134,slow=1.2,SNR=14
FINES PKKPbc 03 25 44.1
comp=Z,1.2nm,0.4s,baz=84,slow=5.4,SNR=15
FINES PKKPab 03 25 58.1
comp=Z,2.6nm,0.7s,baz=54,slow=5.7,SNR=8.8
BRTR Keskin Array B 109.31 54 PKiKP 03 14 37.5
comp=Z,4.3nm,0.8s,baz=194,slow=2.6,SNR=23
BRTR PP PP 03 15 20.0 +0.2
comp=Z,1.5nm,0.8s,baz=233,slow=6.2,SNR=5.0
KAF Kangasniemi 109.40 30 *e*p 03 14 36.0
comp=Z,3.0nm,0.4s
IMA Indian Mountai 110.10 334 *e*PKP PKPdf 03 14 38.6 +1.7
ARCES ARCESS Array B 110.36 22 PKiKP 03 14 38.4
comp=Z,2.4nm,0.8s,baz=245,slow=3.8,SNR=20
ARCES PKKPbc 03 25 38.2
comp=Z,3.1nm,0.8s,baz=72,slow=3.8,SNR=17
ARCES PKKPab 03 25 52.4
comp=Z,8.0nm,0.8s,baz=74,slow=5.1,SNR=13
ARCES ARCESS Array B 110.36 22 PKPdf PKPdf 03 14 38.4 +1.0
ARCES PKKPbc 03 25 38.2
ARCES PKKPab 03 25 52.4
ARCES ARCESS Array B 110.36 22 PKiKP 03 14 38.4
JOF Joensuu 111.82 29 *e*p PKPdf 03 14 40.4 +0.1
comp=Z,4.3nm,0.6s
JOF Joensuu 111.82 29 *e*PKiKP 03 14 40.4
MALT Malatya 112.67 56 *e*PKIKP PKPdf 03 14 44.2 +1.6
MALT Malatya 112.67 56 *e*PKiKP 03 14 44.2
OBN Obninsk 113.76 38κ *i*PKIKP PKPdf 03 14 43.1 -1.3
OBN pmax pmax
comp=Z,9.0nm,0.5s
OBN Obninsk 113.76 38 *e*PKP PKPdf 03 14 42.7 -1.7
OBN Obninsk 113.76 38 *i* PkIKP 03 14 43.1
comp=Z,4.5nm,0.5s
KIV Kislovodsk 116.68 51 *e*PKIKP PKPdf 03 14 51.7 +1.4
KIV Kislovodsk 116.68 51 *e*PKP PKPdf 03 14 51.7 +1.4
KIV Kislovodsk 116.68 51 *e*PkIKP 03 14 51.7
ZEI Tsey 117.44 52 *e*PKIKP PKPdf 03 14 53.8 +2.0
ZEI pmax pmax
comp=Z,16nm,0.9s
ZEI Tsey 117.44 52 *e*PkIKP 03 14 53.8
comp=Z,8.0nm,0.9s
GNI Garni 117.79 55 *e*PKIKP PKPdf 03 14 53.9 +1.3
GNI Garni 117.79 55 *e*PkIKP 03 14 53.9
TI2 Plekhanov 117.97 54 *e*PKIKP PKPdf 03 14 54.4 +1.5
TI2 Plekhanov 117.97 54 *e*PkIKP 03 14 54.4
STKA Stephens Creek 120.99 205 ⇓*i*PKP PKPdf 03 14 59.9 +0.9
comp=Z,9.1nm,0.9s
STKA *i* PKKP PKKP 03 25 04.9 +21
STKA Stephens Creek 120.99 205 PKP PKPdf 03 15 00.1 +1.2
comp=Z,11nm,0.8s,baz=139,slow=1.7,SNR=28
STKA PKKPbc 03 25 04.4
comp=Z,7.1nm,0.6s,baz=336,slow=4.9,SNR=27
STKA PKKPab 03 25 11.3
comp=Z,1.3nm,0.6s,baz=258,slow=3.1,SNR=3.1
BILL Bilibino 124.96 339 *i* PKIKP PKPdf 03 15 07.0 +1.3
BILL Bilibino 124.96 339 *e*PKP PKPdf 03 15 06.7 +1.1
BILL Bilibino 124.96 339 *i* PkIKP 03 15 07.0
ARQ Araqi 125.22 76 P PKPdf 03 15 08.1 +0.7
SNR=25
ARQ P 03 15 08.1
SNR=25
BSY Bisya 125.71 77 P PKPdf 03 15 08.9 +0.6
SNR=20
BSY P 03 15 08.9
SNR=20
HOQ Hoqain 125.98 76 P PKPdf 03 15 08.9 +0.1
SNR=6.7
HOQ P 03 15 08.9
SNR=6.7
ARU Arti 125.99 36 *i* PKIKP PKPdf 03 15 04.8 -3.2
ARU *e* 03 16 55.1
ARU Arti 125.99 36 *e*PKP PKPdf 03 15 04.6 -3.4
ARU Arti 125.99 36 *i* PkIKP 03 15 04.8
ARU *e*ppKiKP 03 16 55.1
MUN Mundaring 126.08 180 ⇓*i*PKP PKPdf 03 15 09.7 +0.8
comp=Z,14nm,0.4s
MUN Mundaring 126.08 180 *i* PkIKP 03 15 09.7
FORT Forrest 126.08 193 ⇓*i*PKP PKPdf 03 15 09.4 +0.5
comp=Z,172nm,0.6s
FORT *i* PKKP PKKP 03 24 45.3 +11
JMDO Jabal Madar 126.45 78 P PKPdf 03 15 10.0 +0.2
SNR=7.4
JMDO P 03 15 10.0
SNR=7.4
SMDO Samad 126.54 77 P PKPdf 03 15 10.6 +0.6
SNR=16
SMDO P 03 15 10.6
SNR=16
BIDO Bidbid 126.70 77 P PKPdf 03 15 11.1 +0.8
SNR=7.2
BIDO P 03 15 11.1
SNR=7.2
FX1 Attu Island--F 127.34 320 *e*PKP PKPdf 03 15 10.7 +0.1
CTA Charters Tower 128.76 217 *e*PKP PKPdf 03 15 15.5 +1.2
comp=Z,15nm,0.8s
CTA *i* SKP 03 17 46.8
CTA Charters Tower 128.76 217 PKKPbc 03 24 34.1
comp=Z,6.2nm,1.1s,baz=260,slow=9.6,SNR=3.4
TIXI Tiksi 130.06 355 ⇓*i*PKIKP PKPdf 03 15 15.9 +0.4
TIXI Tiksi 130.06 355 *i* PkIKP 03 15 15.9
ASAR Alice Springs 131.26 202 PKP PKPdf 03 15 19.6 +0.6
comp=Z,24nm,0.7s,baz=140,slow=3.8,SNR=45
ASAR pPKP 03 17 25.8
comp=Z,1.5nm,0.7s,baz=157,slow=3.7,SNR=3.8
ASAR SKPbc 03 17 55.5
comp=Z,34nm,0.9s,baz=148,slow=4.4,SNR=44
ASAR SKKP 03 28 10.7
comp=Z,2.2nm,0.9s,baz=342,slow=4.1,SNR=6.2
ASPA Alice Springs 131.26 202 *i* PKP PKPdf 03 15 19.7 +0.7
ASPA *i* SKP 03 17 55.5
ASPA *i* PKS PKS 03 18 46.0 -7.7
ASPA Alice Springs 131.26 202 *i* PKP PKPdf 03 15 19.7 +0.7
ASPA *i* SKP 03 17 55.5
ASPA *i* PKS PKS 03 18 46.0 -7.7
ASPA Alice Springs 131.26 202 *e*PkHKP 03 15 01.9
ASPA Alice Springs 131.26 202 *i* PkiKP 03 15 19.7
CHKZ Chkalovo 133.44 36 *e*PKHKP 03 15 10.1
CHKZ Chkalovo 133.44 36 *e*PkHKP 03 15 10.1
BRVK Borovoye 133.50 37 PKIKP PKPdf 03 15 22.8 +0.5
BRVK pmax pmax
comp=Z,4.0nm,0.5s
BRVK Borovoye 133.50 37 *e*PKP PKPdf 03 15 22.7 +0.4
BRVK Borovoye 133.50 37 PkIKP 03 15 22.8
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 133.57 37 SKKPbc 03 27 18.4
comp=Z,1.4nm,0.7s,baz=117,slow=3.3,SNR=5.9
BVAR SKKP 03 28 04.1
comp=Z,1.2nm,0.8s,baz=117,slow=6.6,SNR=4.2
WB2 Warramunga Arr 134.51 204 *e*PKP PKPdf 03 15 26.5 +1.4
WB2 *i* SKP 03 18 07.0
WB2 *i* PKS PKS 03 18 56.8 -2.9
WB2 Warramunga Arr 134.51 204 *e*PKP PKPdf 03 15 26.5 +1.4
WB2 *i* SKP 03 18 07.0
WB2 *i* PKS PKS 03 18 56.8 -2.9
WRA Warramunga Arr 134.52 204 PKIKP PKPdf 03 15 26.1 +1.0
WRA 03 18 06.7
WRA Warramunga Arr 134.52 204 PKP PKPdf 03 15 26.1 +1.0
comp=Z,26nm,0.4s,baz=152,slow=1.9,SNR=63
WRA pPKP 03 17 31.8
comp=Z,1.6nm,0.7s,baz=170,slow=1.9,SNR=2.4
WRA SKPbc 03 18 06.7
comp=Z,37nm,0.8s,baz=159,slow=2.6,SNR=38
WRAB Tennant Creek 134.52 204 *d*PKIKP PKPdf 03 15 26.3 +1.2
WRAB Tennant Creek 134.52 204 *e*PKPdf PKPdf 03 15 26.2 +1.1
WRAB Tennant Creek 134.52 204 *i* PkIKP 03 15 26.3
MA2 Magadan 135.47 336 ⇓*i*PKIKP PKPdf 03 15 27.2 +1.4
MA2 Magadan 135.47 336 *e*PKPdf PKPdf 03 15 27.1 +1.3
MA2 Magadan 135.47 336 *i* PkIKP 03 15 27.2
MBWA Marble Bar 136.73 185 PKP PKPdf 03 15 30.2 +1.2
FITZ Fitzroy Crossi 138.87 194 *i* PKP PKPdf 03 15 36.7 +3.6
FITZ *i* SKP 03 18 20.3
FITZ Fitzroy Crossi 138.87 194 *i* PKP PKPdf 03 15 36.7 +3.6
FITZ *i* SKP 03 18 20.3
NVS Novosibirsk 139.12 29 *e*PKHKP 03 15 24.6
NVS pmax pmax
comp=Z,77nm,0.7s
NVS pmax pmax
comp=N,8.0nm,0.6s
NVS pmax pmax
comp=E,22nm,0.7s
NVS Novosibirsk 139.12 29 *e*PkHKP 03 15 24.6
comp=E,4.0nm,0.6s
KURK Kurchatov 139.17 36*c* *i*PKHKP 03 15 26.4
KURK *i* 03 15 34.2
KURK pmax pmax
comp=Z,15nm,0.9s
KURK Kurchatov 139.17 36 *i* PkHKP 03 15 26.4
comp=Z,7.5nm,0.9s
KURK Kurchatov 139.17 36 *i* PkiKP 03 15 34.2
YAK Yakutsk 139.20 350*d* *i*PKIKP PKPdf 03 15 33.8 +1.3
YAK Yakutsk 139.20 350 *e*PKP PKPdf 03 15 33.5 +0.9
YAK Yakutsk 139.20 350 *i* PkIKP 03 15 33.8
EKS2 Erkin-Say 139.26 50 P PKPdf 03 15 36.0 +2.8
SNR=7.2
AML Almayashu 139.35 51 P PKPdf 03 15 28.5 -4.8
SNR=10
USP Ospenovka 139.59 49 P PKPdf 03 15 36.5 +2.7
SNR=6.4
AAK Ala-Archa 139.78 50 P PKPdf 03 15 29.1 -5.0
SNR=13
AAK Ala-Archa 139.78 50 *e*PKP PKPdf 03 15 26.8 -7.3
AAK Ala-Archa 139.78 50 *i* PkIKP 03 15 34.1
CHMS Chumysh 139.85 49 P PKPdf 03 15 28.2 -6.0
SNR=5.0
UCH Uchtor 139.91 50 P PKPdf 03 15 30.9 -3.4
SNR=22
KBK Karagaybulak 140.09 49 P PKPdf 03 15 30.2 -4.5
SNR=14
TKM2 Tokmak 2 140.47 49 P PKPdf 03 15 30.9 -4.4
SNR=13
KZA Kyzart 140.48 50 P PKPdf 03 15 33.1 -2.2
SNR=7.3
ULHL Ulahol 141.13 50 P PKPdf 03 15 34.0 -2.5
SNR=18
KAKA Kakadu 141.83 206⇑*i*PKP PKPdf 03 15 34.4 -4.0
comp=Z,48nm,0.6s
KAKA *i* SKP 03 18 27.7
PALK Pallekele 142.61 108 *e*PKP PKPdf 03 15 38.5 -1.3
MKAR Makanchi Array 143.24 40 *i* PKIKP PKPdf 03 15 39.9 0.0
MKAR pmax pmax
comp=Z,14nm,0.3s
BHK Bhakra 143.41 67 *e* PKPbc 03 15 39.8 +0.1
BHPL Bhopal 144.19 81 *e*P PKPbc 03 15 43.4 +1.1
BHPL *e* 03 15 43.6
comp=Z,267nm,0.0s
BHPL *i* 03 18 56.8
HYB Hyderabad 144.22 91⇓*e*P PKPdf 03 15 43.5 +1.1
HYB *e* 03 15 53.5
HYB *e* 03 16 37.5
HYB Hyderabad 144.22 91 ⇓*i*PKP PKPdf 03 15 43.5 +1.1
comp=Z,500nm,1.0s
HYB *e* 03 15 53.5
HYB *e* 03 16 37.5
HYB *e* 03 26 37.5
HYB Hyderabad 144.22 91 *e*PkIKP 03 15 43.5
NDI New Delhi 144.24 71 ⇓*i*P PKPdf 03 15 42.0 -0.2
NDI New Delhi 144.24 71 *e*P PKPdf 03 15 43.0 +0.8
BOD Bodaibo 144.43 2⇑PKIKP PKPdf 03 15 42.3 +0.7
BOD Bodaibo 144.43 2 *i* PkIKP 03 15 42.3
MDRS Chennai 144.51 99 *e* PKPdf 03 15 44.0 +0.9
MDRS *e* 03 17 35.0
CLNS Chul'man 144.89 352 *e*PKIKP PKPdf 03 15 44.5 +2.0
CLNS pmax pmax
comp=N,25nm,0.7s
CLNS pmax pmax
comp=Z,130nm,0.7s
CLNS pmax pmax
comp=E,12nm,0.9s
CLNS Chul'man 144.89 352 *e*PkIKP 03 15 44.5
YSS Yuzh-Sakhalins 147.41 326*b* *i*PKIKP PKPdf 03 15 49.0 +2.1
YSS pmax pmax
comp=Z,150nm,0.8s
YSS Yuzh-Sakhalins 147.41 326 *e*PKPdf PKPdf 03 15 48.9 +1.9
YSS Yuzh-Sakhalins 147.41 326 *i* PkIKP 03 15 49.0
comp=Z,75nm,0.8s
WMQ Urumqi 148.04 41 *e*PKP PKPdf 03 15 47.0 -1.1
MOY Mondy 148.32 18 *e*PKHKP 03 15 51.0
MOY Mondy 148.32 18 *e*PkHKP 03 15 51.0
ALBI Allahabad 148.33 78 *e*P PKPdf 03 15 50.5 +1.4
BLSP Bilaspur 148.38 84 *i* P PKPdf 03 15 50.9 +1.6
VIS Vishakhapatnam 148.71 92 *i* P PKPdf 03 15 55.7 +5.8
VIS *e* 03 15 57.0
comp=Z,150nm,1.5s
TLY Talaya 149.02 15 *e*PKHKP 03 15 51.7
TLY Talaya 149.02 15 *e*PkHKP 03 15 51.7
ASAJ Asahikawa 149.26 321 PKIKP PKPdf 03 15 51.6 +1.6
ASAJ pmax pmax
comp=Z,28nm,1.0s
ASAJ pmax pmax
comp=Z,109nm,1.0s
ASAJ Asahikawa 149.26 321 PKP PKPdf 03 15 51.5 +1.5
comp=Z,28nm,1.0s,baz=231,slow=4.2,SNR=4.9
ASAJ PKPbc PKPdf 03 15 57.0 +6.9
comp=Z,109nm,1.0s,baz=261,slow=4.6,SNR=19
KOLN Koldanda 149.90 73 *e*P PKPdf 03 15 53.1 +1.5
comp=Z,368nm,0.8s
ZAK Zakamensk 150.12 17 *e*PKHKP 03 15 53.6
ZAK Zakamensk 150.12 17 *e*PkHKP 03 15 53.6
KLR Kul'dur 150.43 339 *e*PKIKP PKPdf 03 15 50.0 -1.7
KLR *e* 03 15 55.4
KLR pmax pmax
comp=N,48nm,0.9s
KLR pmax pmax
comp=Z,84nm,0.9s
KLR Kul'dur 150.43 339 *e*PkIKP 03 15 50.0
KLR Kul'dur 150.43 339 *e*PkHKP 03 15 55.4
GKN Gorkha 150.80 72 *e*P PKPdf 03 15 54.5 +1.6
comp=Z,633nm,0.4s
DMN Daman 151.25 73 *e*P PKPdf 03 15 55.4 +1.8
comp=Z,385nm,0.8s
KKN Kakani 151.39 73 *e*P PKPdf 03 15 55.4 +1.6
comp=Z,302nm,0.5s
PKI Pulchoki 151.52 73 *e*P PKPdf 03 15 55.3 +1.4
comp=Z,99nm,0.5s
BWNR Bhubaneshwar 151.52 88 *i* PKPdf 03 16 00.7 +6.6
BWNR *e* 03 16 01.4
comp=Z,148nm,0.9s
BOK Bokaro 151.97 81 ⇓*i*P PKPdf 03 15 56.9 +2.2
BOK *e* 03 16 03.3
comp=Z,228nm,1.5s
JIRN Jiri 152.20 73 *e*P PKPdf 03 15 56.7 +1.8
comp=Z,57nm,0.3s
HIA Hailar 152.90 355 *e*PKIKP PKPdf 03 15 56.8 +1.6
HIA *e* 03 16 04.1
HIA Hailar 152.90 355 *e*PkIKP 03 15 56.8
HIA Hailar 152.90 355 *e*PkHKP 03 16 04.1
SONM Songino Array 153.26 15 PKP PKPdf 03 15 58.7 +3.0
comp=Z,21nm,0.8s,baz=303,slow=1.4,SNR=82
SONM PKPbc PKPdf 03 16 06.5 +11
comp=Z,24nm,0.6s,baz=310,slow=1.8,SNR=36
SONM PKPab PKPab 03 16 20.6 -0.1
comp=Z,34nm,0.7s,baz=317,slow=4.2,SNR=25
SONM pPKPbc 03 18 11.2
comp=Z,13nm,0.8s,baz=315,slow=1.7,SNR=10
SONM pPKPab 03 18 20.7
comp=Z,4.5nm,0.8s,baz=348,slow=1.8,SNR=2.7
ULN Ulaanbaatar 153.38 14 *e*PKIKP PKPdf 03 15 58.1 +2.2
ULN *e* 03 16 20.9
ULN Ulaanbaatar 153.38 14 *e*PkIKP 03 15 58.1
ULN Ulaanbaatar 153.38 14 *e*PKP2 03 16 20.9
MDJ Mudanjiang 155.16 337 PKP PKPdf 03 15 59.8 +1.4
LSA Lhasa 156.22 67 *e*PKP PKPdf 03 16 03.3 +3.1
LSA Lhasa 156.22 67 *e*PKPdf PKPdf 03 16 02.9 +2.7
LSA *e*PKPab PKPab 03 16 33.5 -0.4
LSA Lhasa 156.22 67 *e*PkP2 03 16 33.5
MAT Matsushiro 156.27 312 *e*PKP PKPdf 03 16 02.5 +2.4
MAT Matsushiro 156.27 312 *e*PkIKP 03 16 11.0
SHL Shillong 157.43 77 *e*P PKPdf 03 16 04.0 +2.1
SHL Shillong 157.43 77 ⇓*i* PKPdf 03 16 03.8 +1.9
BJI Beijing 162.27 0 PKIKP PKPdf 03 16 09.2 +2.5
BJI Beijing 162.27 0 PkIKP 03 16 09.2
BJT Baijiatuau 162.29 0 *e*PKIKP PKPdf 03 16 09.1 +2.4
BJT Baijiatuau 162.29 0 *e*PkIKP 03 16 09.1
LZH Lanzhou 162.46 35 ⇓PKP PKPdf 03 16 09.5 +2.5
LZH pPKP 03 17 01.0
LZH sPKP 03 18 15.5
LZH Lanzhou 162.46 35 PkIKP 03 16 09.5
LZH Lanzhou 162.46 35 PkP2 03 17 01.0
CMAR Chiang Mai Arr 163.28 100 PKP PKPdf 03 16 10.6 +2.3
comp=Z,22nm,1.0s,baz=266,slow=2.3,SNR=63
CMAR PKPab PKPab 03 17 03.9 -0.7
comp=Z,7.8nm,0.7s,baz=251,slow=6.8,SNR=14
CMAR PP PP 03 20 52.0 +0.3
comp=Z,5.4nm,1.0s,baz=275,slow=5.9,SNR=10.0
CMAR Chiang Mai Arr 163.28 100 PKP2 03 17 03.9
CHG Chiang Mai 163.37 99 ⇓P PKPdf 03 16 10.2 +1.8
comp=Z,26nm,1.0s
NANT Nan 164.97 100 P PKPdf 03 16 11.6 +1.7
XAN Xi'an 166.57 27 PKP PKPdf 03 16 12.8 +1.9
KMI Kunming 167.24 74 PKIKP PKPdf 03 16 14.8 +3.3
KMI 03 17 21.6
KMI 03 21 15.5
KMI SS SS 03 41 13.8 +1.0
KMI Kunming 167.24 74 PKP PKPdf 03 16 14.8 +3.3
KMI PKPab PKPab 03 17 21.6 0.0
KMI pPKP 03 18 20.6
KMI PP PP 03 21 15.5 +3.8
KMI SKKS 03 27 09.8
KMI SS SS 03 41 13.8 +1.0
KMI Kunming 167.24 74 PkIKP 03 16 14.8
KMI Kunming 167.24 74 PkP2 03 17 21.6
KMI Kunming 167.24 74 Ss SS 03 41 13.8 +1.0
JOW Kunigami 168.20 295 PKP PKPdf 03 16 15.2 +3.2
comp=Z,27nm,0.9s
ENH Enshi 169.94 36 *e*PKP PKPdf 03 16 14.3 +1.3
NJ2 Nanjing 169.98 348 *e*PKP PKPdf 03 16 15.1 +2.1
NJ2 PKP2 PKPab 03 17 32.8 -0.7
NJ2 APKP 03 18 14.0
NJ2 PP PP 03 21 28.0 +3.0
NJ2 PP PP
comp=Z,220nm,5.7s
WHN Wuhan 171.56 12 *e*PKP PKPdf 03 16 16.0 +2.1
WHN PKP2 PKPab 03 17 40.0 -0.6
WHN PP PP 03 21 33.0 +0.1

TAP 22 03:06:52.4, 24.80N×122.18E, h89km, ML3.5, Taiwan region

*ISK **22** 03:13:14.2, 38.26N×25.12E, h32km, MD3.5*
*ATH **22** 03:13:39.3, 38.18N×24.27E, h3km, MD2.9/4*
*CSEM **22** 03:13:39.3, 38.18N×24.27E, h3km, MD2.9/4, After ATH*
ISC 22 03:13:21.1±0.5, 38.48N±0.06×25.70E±0.05, h32km, n16, σ1§02/21, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**1.05**	**95**	PN	**Pn**	**03 13 39.3**	**-0.5**
AYVA	**Ayvalik**	**1.13**	**43**	*i* P	**Pn**	**03 13 40.5**	**-0.4**
AYVA				*i* S	**Sn**	**03 13 55.7**	**+0.3**
IZM	**Izmir**	**1.23**	**93**	PN	**Pn**	**03 13 42.0**	**-0.3**
IZM				SN	**Sn**	**03 14 02.6**	**+4.7**
KDAG	**Bornova**	**1.23**	**93**	*i* P	**Pn**	**03 13 42.1**	**-0.2**
KDAG				*i* S	**Sn**	**03 13 59.1**	**+1.2**
BOZC	**Bozcaada**	**1.39**	**11**	*i* P	**Pn**	**03 13 43.0**	**-1.6**
BOZC				*i* S	**Sn**	**03 14 04.7**	**+2.8**
EZN	**Ezine**	**1.43**	**20**	*e*PN	**Pn**	**03 13 43.7**	**-1.4**
MPAR	**Parnis Oros**	**1.58**	**259**	*e*PG	**Pn**	**03 13 47.5**	**+0.1**
AKS	**Akhisar**	**1.70**	**76**	PN	**Pn**	**03 13 50.0**	**+1.0**
NSAL	**Nisos Salamina**	**1.86**	**253**	*e*PG	**Pn**	**03 13 52.5**	**+1.2**
NAIG	**Nisos Aigina**	**1.89**	**248**	*e*PG	**Pn**	**03 13 53.6**	**+1.8**
BDRM	**Kayabasi**	**1.97**	**135**	*i* P	**Pn**	**03 13 51.9**	**-1.1**
BDRM				*i* S	**Sn**	**03 14 23.2**	**+6.4**
MGER	**Gerania Oros**	**1.99**	**256**	*e*PB	**Pb**	**03 13 55.0**	**-1.5**
BALB	**Balikesir**	**2.05**	**55**	*e*PN	**Pn**	**03 13 54.5**	**+0.4**
BNT	**Bandirma**	**2.54**	**42**	*e*PN	**Pn**	**03 14 01.2**	**+0.1**
KCT	**Karacabey**	**2.72**	**48**	*e*PN	**Pn**	**03 14 03.7**	**0.0**
DENT	**Denizli**	**2.72**	**104**	*e*PN	**Pn**	**03 14 03.4**	**-0.3**

IGQ 22 03:24:03.0, 1.15S×81.36W, h12km±25km, mb4.3, 2D, Error ellipse: s-maj=24.6km s-min=7.2km az=172.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.74**	**97**	P	Pn	03 24 48.6	+0.9
JUA2	**San Juan 2**	**2.91**	**71**	P	Pn	03 24 51.5	+1.4
TERV	**Terraza Guagua**	**2.92**	**71**	P	Pn	03 24 51.4	+1.1
PINO	**Pino**	**2.92**	**70**	P	Pn	03 24 51.2	+0.9
ARRY	**Arrayan**	**2.93**	**97**	⇓P	Pn	03 24 51.4	+1.1
ARRY				S	Sn	03 25 26.2	+0.5
NAS1	**Nasa**	**2.93**	**80**	P	Pn	03 24 52.4	+2.1
PATA	**Patacocha**	**2.95**	**97**	P	Pn	03 24 52.1	+1.5
PATA				S	Sn	03 25 27.5	+1.3
ULBA	**Ulba**	**2.97**	**96**	P	Pn	03 24 53.0	+2.1
YANA	**Yana**	**2.97**	**70**	P	Pn	03 24 51.6	+0.7
YANA				S	Sn	03 25 27.7	+0.8
PISA	**Pisayambo**	**2.98**	**88**	P	Pn	03 24 53.1	+2.0
VC1	**Cotopaxi 1**	**3.00**	**80**	P	Pn	03 24 54.0	+2.6
TAMB	**Tambo**	**3.03**	**81**	P	Pn	03 24 54.3	+2.5
ANTI	**Antisana**	**3.27**	**78**	P	Pn	03 24 57.8	+2.5
COTA	**Cotacachi**	**3.36**	**64**	P	Pn	03 24 57.6	+1.0
CAYR	**Refugio Cayamb**	**3.55**	**71**	⇓P	Pn	03 25 02.3	+3.1
CAYA	**Cayambe**	**3.58**	**70**	P	Pn	03 25 02.2	+2.6

IGQ 22 03:28:16.4, 0.99S×81.32W, h12km±23km, mb4.3, 1C-5D, Error ellipse: s-maj=23.5km s-min=7.4km az=173.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.73**	**100**	P	Pn	03 29 02.0	+1.2
IGUA				S	Sn	03 29 36.0	+2.0
JUA2	**San Juan 2**	**2.82**	**74**	P	Pn	03 29 03.5	+1.3
TERV	**Terraza Guagua**	**2.84**	**73**	P	Pn	03 29 03.9	+1.5
PINO	**Pino**	**2.84**	**73**	P	Pn	03 29 03.0	+0.6
NAS1	**Nasa**	**2.87**	**83**	P	Pn	03 29 05.0	+2.2
YANA	**Yana**	**2.88**	**73**	⇓P	Pn	03 29 03.9	+0.9
ARRY	**Arrayan**	**2.91**	**100**	⇓P	Pn	03 29 04.7	+1.2
ARRY				S	Sn	03 29 39.2	+0.5
PATA	**Patacocha**	**2.93**	**100**	⇑P	Pn	03 29 05.9	+2.1
PISA	**Pisayambo**	**2.94**	**91**	P	Pn	03 29 05.6	+1.8
RUN2	**Runtun**	**2.94**	**98**	P	Pn	03 29 04.6	+0.7
VC1	**Cotopaxi 1**	**2.94**	**83**	P	Pn	03 29 06.4	+2.5

ULBA	Ulba	2.95	99	P	Pn	03 29 06.1	+2.1
TAMB	Tambo	2.97	84	P	Pn	03 29 06.9	+2.6
ANTI	Antisana	3.21	80	⇓P	Pn	03 29 09.8	+2.2
COTA	Cotacachi	3.26	66	P	Pn	03 29 09.6	+1.2
CAYR	Refugio Cayamb	3.46	73	⇓P	Pn	03 29 14.3	+3.0
CAYA	Cayambe	3.50	72	⇓P	Pn	03 29 14.5	+2.7

NEIC ***22*** *03:34:18.9±0.9, 43.15N×15.29E, h10km, ML3.0(LDG), Error ellipse: s-maj=11.7km s-min=5.1km az=119.0*
ROM ***22*** *03:34:19.2±0.4, 43.13N×15.44E, h10km, MD2.9/2, ML2.6/12, Error ellipse: s-maj=4.6km s-min=2.6km az=90.0*
LDG ***22*** *03:34:20.8±0.4, 43.18N×15.41E, h10km, Ml3.0/4, Error ellipse: s-maj=9.5km s-min=4.8km az=72.0*
CSEM ***22*** *03:34:20.5±0.1, 43.14N×15.43E, h40km, ML2.9/4, Error ellipse: s-maj=3.3km s-min=1.9km az=88.0*

ISC 22 03:34:18.2±0.5, 43.14N±0.02×15.40E±0.07, h10km, n66, σ1§07/65, 1C-3D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TERO	Teramo	1.42 249		*e*PN	Pn	03 34 44.5	+0.4
RGNG	Rignano Grg	1.47 175		*e*PN	Pn	03 34 43.8	-1.1
NVLJ	Novalja	1.48 345		*i* Pn	Pn	03 34 43.7	-1.3
NVLJ				*i* Pg	Pg	03 34 44.9	-2.7
NVLJ				*i* Sn	Sn	03 35 05.2	+0.8
NVLJ				*i* Sg	Sg	03 35 05.6	-1.7
FGMS	Monte Sant'Ang	1.49 164		*e*PN	Pn	03 34 46.7	+1.6
	314nm,0.6s						
FGMS	Monte Sant'Ang	1.49 164		*e*Pn	Pn	03 34 46.7	+1.6
	314nm,0.6s						
MS1	Monte Sant'Ang	1.49 164		*e*Pn	Pn	03 34 46.2	+1.1
INTR	Introdacqua	1.58 225		*e*PN	Pn	03 34 46.0	-0.4
CING	Cingoli	1.63 279		*e*PN	Pn	03 34 47.4	+0.2
CII	Carovilli	1.63 210		*e*PN	Pn	03 34 48.3	+1.1
	76nm,0.6s						
CII	Carovilli	1.63 210		*e*P	Pn	03 34 47.5	+0.4
CII	Carovilli	1.63 210		*e*P	Pn	03 34 47.5	+0.3
CII	Carovilli	1.63 210		*e*Pn	Pn	03 34 48.3	+1.1
	76nm,0.6s						
AQU	L'Aquila	1.67 243		*e*P	Pn	03 34 46.3	-1.4
AQU	L'Aquila	1.67 243		*e*P	Pn	03 34 46.3	-1.4
NRCA	Norcia	1.71 260		*e*PN	Pn	03 34 48.5	+0.2
	23nm,0.4s						
NRCA	Norcia	1.71 260		*e*Pn	Pn	03 34 48.5	+0.2
	23nm,0.4s						
SNTG	Esanatoglia	1.81 275		*e*PN	Pn	03 34 49.5	-0.2
	36nm,0.7s						
SNTG	Esanatoglia	1.81 275		*e*Pn	Pn	03 34 49.5	-0.2
	36nm,0.7s						
ARV	Arcevia	1.83 282		*e*PN	Pn	03 34 50.0	0.0
PTQR	Pietraquaria	1.85 234		*e*PN	Pn	03 34 51.3	+1.0
	17nm,0.3s						
PTQR	Pietraquaria	1.85 234		*e*Pn	Pn	03 34 51.3	+1.0
	17nm,0.3s						
FSSB	Fossombrone	1.99 287		*e*PN	Pn	03 34 52.5	+0.2
	38nm,0.6s						
FSSB	Fossombrone	1.99 287		*e*Pn	Pn	03 34 52.5	+0.2
	38nm,0.6s						
MNS	Montasola	2.14 250		*e*PN	Pn	03 34 54.9	+0.4
	19nm,0.5s						
MNS	Montasola	2.14 250		*e*Pn	Pn	03 34 54.9	+0.4
	19nm,0.5s						
BOJS	Bojanci	2.37 357		*i* Pn	Pn	03 34 58.5	+0.8
BOJS				*i* Sn	Sn	03 35 31.3	+4.2
SG1	Sgolgore (BA)	2.49 157		*e*Pn	Pn	03 34 58.4	-1.0
KNDS	Knezji Dol	2.50 343		*e*Pn	Pn	03 34 59.6	+0.1
CRE	Caprese Michel	2.56 282		*e*PN	Pn	03 35 02.1	+1.6
	9.0nm,0.3s						
CRE	Caprese Michel	2.56 282		*e*Pn	Pn	03 35 02.1	+1.6
	9.0nm,0.3s						
SGO	Sicignano	2.58 182		*e*PN	Pn	03 35 00.6	-0.1
	8.0nm,0.4s						
SGO	Sicignano	2.58 182		*e*Pn	Pn	03 35 00.6	-0.1
	8.0nm,0.4s						
CEY	Cerknica	2.69 345		*e*Pn	Pn	03 35 02.4	+0.1
SFI	Santa Sofia	2.70 288		*e*PN	Pn	03 35 03.2	+0.8
	19nm,0.7s						
SFI	Santa Sofia	2.70 288		*e*Pn	Pn	03 35 03.2	+0.8
	19nm,0.7s						
TRI	Trieste	2.83 336		*e*PN	Pn	03 35 03.9	-0.3
	36nm,0.6s						
TRI	Trieste	2.83 336		*e*Pn	Pn	03 35 03.9	-0.3
	36nm,0.6s						
SEI	Scarperia	3.08 289		*e*PN	Pn	03 35 09.5	+1.6
	36nm,0.4s						
SEI	Scarperia	3.08 289		*e*Pn	Pn	03 35 09.5	+1.6
	36nm,0.4s						
VOY	Vojsko	3.09 340		*e*Pn	Pn	03 35 07.7	-0.3
VOY				*e*		03 35 14.2	
VOY				*e*Sn	Sn	03 35 44.0	-1.3
VOY				*e*		03 35 46.1	
VOY	Vojsko	3.09 340		*e*Sg	Sn	03 35 46.1	+0.8
VOY	Vojsko	3.09 340		*e*Pn	Pn	03 35 07.7	-0.3
VOY				*e*Sn	Sn	03 35 44.0	-1.3
ROBS	Robic	3.39 337		*i* Pn	Pn	03 35 11.4	-0.8
ROBS	Robic	3.39 337		*i* Pn	Pn	03 35 11.4	-0.8
OBKA	Obir	3.42 350		⇓*i*PN	Pn	03 35 12.6	-0.1
OBKA				*i* SN	Sn	03 35 55.9	+2.1
PTCC	Patocco-Chiusa	3.58 337		*e*PN	Pn	03 35 14.9	0.0
	18nm,0.8s						
PTCC	Patocco-Chiusa	3.58 337		*e*Pn	Pn	03 35 14.9	0.0
	18nm,0.8s						
FVI	Forni Avoltri	3.93 333		*e*PN	Pn	03 35 19.0	-0.9
	28nm,0.7s						
FVI	Forni Avoltri	3.93 333		*e*Pn	Pn	03 35 19.0	-0.9
	28nm,0.7s						
ARSA	Arzberg	4.11	1	⇓*i*PN	Pn	03 35 21.4	-1.1
ARSA				*i* SN	Sn	03 36 13.2	+1.9
KBA	Koelnbreinsper	4.20 340		⇑*i*PN	Pn	03 35 23.0	-0.8
KBA				*i* SN	Sn	03 36 14.9	+1.4
PGF	Pioggiola	4.75 265		*e*Pn	Pn	03 35 30.3	-1.2
PGF				*e*Sn	Sn	03 36 22.2	-5.1
	3.3nm,0.4s						
MOA	Molln	4.78 351		⇓*i*PN	Pn	03 35 31.1	-0.9
MOA				*i* SN	Sn	03 36 29.0	+0.9
SBF	Sospel	5.84 280		*e*Pn	Pn	03 35 44.3	-2.7
KHC	Kasperske Hory	6.12 349		*e*PN	Px	03 35 48.8	
KHC				*e*SN	Sx	03 37 00.5	
FRF	La Foret Royal	6.40 277		*e*Pn	Px	03 35 51.9	
MBDF	Montbardon	6.43 287		*e*Pn	Px	03 35 52.1	
MBDF				*e*Sn	Sx	03 37 02.9	
	0.9nm,0.3s						
LPG	La Plagne	6.64 294		*e*Pn	Px	03 35 56.2	
LPG				*e*Sn	Sx	03 37 08.0	
	3.9nm,0.4s						
LPL	La Plagne	6.66 294		*e*Pn	Px	03 35 54.7	
LPL				*e*Sn	Sx	03 37 08.2	
	6.4nm,0.5s						
ORIF	Oris-en-Rattie	7.09 288		*e*Pn	Px	03 36 01.7	
CABF	La Chapelle	7.47 301		*e*Pn	Px	03 36 07.2	
HINF	Hinteralfeld	7.61 311		*e*Pn	Px	03 36 08.9	
CDF	Champ du Feu	7.75 316		*e*Pn	Px	03 36 10.6	
VIVF	Saint-Julien-l	7.93 286		*e*Pn	Px	03 36 13.8	
HAU	Haudompre	8.00 311		*e*Pn	Px	03 36 13.9	
CLL	Collm	8.33 350		*e*SG	Sx	03 38 56.0	

IDC ***22*** *04:16:05.0±0.8, 56.67N×118.78E, mb3.5/12, mb1 3.7/13, mb1mx3.7/21, mbtmp3.5/13, ML4.0/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/19, Error ellipse: s-maj=19.9km s-min=19.3km az=17.0*
MOS ***22*** *04:16:06.2±1.1, 56.62N×118.42E, h20km, mb3.8/1, Error ellipse: s-maj=13.8km s-min=8.9km az=75.3*
NEIC ***22*** *04:16:06.8±0.6, 56.71N×118.68E, h10km, mb3.6/1, Error ellipse: s-maj=15.6km s-min=12.3km az=90.0*
BYKL ***22*** *04:16:10.2±0.3, 56.67N×117.97E, h14km±4km*

ISC 22 04:16:08.1±0.4, 56.59N±0.03×117.83E±0.05, h14km, n57, σ1§73/80, mb3.6/13, MS3.6/1, 6C-6D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	Chara	0.40	38	*e*PG	Pg	04 16 16.3	-0.2
CRS				*e*		04 16 20.5	
CRS				pmax	pmax		
	comp=Z,5μm,0.3s						
CRS				smax			
	comp=N,9μm,0.3s						
CRS	Chara	0.40	38	⇓*i*Pg	Pg	04 16 16.4	-0.1
CRS				Pmax		04 16 16.8	
	comp=N,6μm,0.4s						
CRS				*e*Sg	Sg	04 16 20.5	-1.5
CRS				Smax		04 16 20.8	
	comp=N,10μm,0.4s						
NLYR	Nelyaty	1.18 266		⇑*i*PN	Pn	04 16 32.6	+2.4
NLYR				*e*		04 16 48.8	
NLYR				pmax	pmax		
	comp=Z,269nm,0.3s						
NLYR				smax			
	comp=N,7μm,1.1s						
NLYR	Nelyaty	1.18 266		⇑*i*Pg	Pn	04 16 32.8	+2.6
NLYR				Pmax		04 16 38.6	
	comp=N,578nm,0.6s						
NLYR				*e*Sg	Sn	04 16 49.5	+3.5
NLYR				Smax		04 16 53.0	
	comp=N,7μm,0.8s						
BOD	Bodaibo	2.42 302		*e*PN	Pn	04 16 49.5	+1.6
BOD				*e*		04 16 53.3	
BOD				*e*		04 17 24.4	
BOD				pmax	pmax		
	comp=Z,265nm,0.4s						
BOD				smax			
	comp=N,2μm,0.3s						
BOD	Bodaibo	2.42 302		⇑*i*Pn	Pn	04 16 50.0	+2.1
BOD				⇑*i*Pg	Pg	04 16 53.5	-3.0
BOD				Pmax		04 16 58.5	
	comp=N,288nm,0.4s						
BOD				*e*Sg	Sg	04 17 24.6	-4.2
BOD				Smax		04 17 27.2	
	comp=N,2μm,0.3s						
SVKR	Severomuysk	2.42 261		*e*PN	Pg	04 16 56.3	-0.2
SVKR				*e*		04 17 26.7	
SVKR				pmax	pmax		
	comp=Z,493nm,0.4s						
SVKR				smax			
	comp=E,4μm,0.5s						
SVKR	Severomuysk	2.42 261		*e*Pn	Pn	04 16 50.8	+2.9
SVKR				⇑*i*Pg	Pg	04 16 55.1	-1.4
SVKR				Pmax		04 17 03.3	
	comp=E,498nm,0.3s						
SVKR				*e*Sg	Sg	04 17 26.9	-1.9
SVKR				Smax		04 17 38.0	
	comp=E,4μm,0.5s						
TUP	Tupik	2.48 150		*e*PN	Pn	04 16 51.4	+2.6
TUP				pmax	pmax		
	comp=Z,461nm,0.6s						
TUP	Tupik	2.48 150		⇓*i*Pn	Pn	04 16 51.5	+2.7
TUP				*e*Pg	Pg	04 16 55.5	-2.2
TUP				Pmax		04 16 56.9	
	comp=Z,460nm,0.6s						
TUP				*e*Sn	Sn	04 17 23.1	+4.0
TUP				*e*Sg	Sg	04 17 27.9	-2.9
TUP				Smax		04 17 30.2	
	comp=Z,3μm,0.6s						
UKT	Uakit	2.60 247		⇓*i*Pn	Pn	04 16 54.0	+3.5
UKT				⇓*i*Pg	Pg	04 16 58.5	-1.5
UKT				Pmax		04 17 03.1	
	comp=Z,185nm,0.8s						
UKT				*i* Sg	Sg	04 17 33.1	-1.6
UKT				Smax		04 17 33.9	
	comp=Z,2μm,0.7s						
YOA	Uoyan	3.42 265		*e*Pg	Pg	04 17 14.1	-2.4
YOA				Pmax		04 17 18.4	
	comp=Z,320nm,0.6s						
YOA				*e*Sg	Sg	04 17 59.5	-2.7
YOA				Smax		04 18 11.8	
	comp=Z,4μm,0.6s						
KMO	Kumora	3.76 262		*e*PN	Pn	04 17 10.2	+3.2
KMO				*e*		04 17 18.0	
KMO				pmax	pmax		
	comp=Z,139nm,0.5s						
KMO	Kumora	3.76 262		*e*Pn	Pn	04 17 10.5	+3.5
KMO				*e*Pg	Pg	04 17 19.1	-4.2
KMO				Pmax		04 17 37.7	
	comp=Z,136nm,0.7s						
KMO				*e*Sg	Sg	04 18 09.1	-4.3
KMO				Smax		04 18 11.7	
	comp=Z,1μm,0.9s						
CLNS	Chul'man	3.90	83	*e*PN	Pn	04 17 11.2	+2.2
CLNS				*e*S	Sn	04 17 57.9	+2.8
CLNS				pmax	pmax		
	comp=Z,54nm,0.8s						
CLNS				pmax	pmax		
	comp=N,20nm,1.0s						
CLNS				pmax	pmax		
	comp=E,18nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,61nm,0.8s						
CLNS				pmax	pmax		
	comp=N,26nm,1.1s						
CLNS				pmax	pmax		
	comp=E,64nm,1.0s						
CLNS				smax			
	comp=N,129nm,0.9s						
CLNS				smax			
	comp=Z,55nm,0.9s						
CLNS				smax			
	comp=E,92nm,0.8s						
CLNS				smax			
	comp=N,306nm,0.8s						
CLNS				smax			
	comp=E,439nm,1.0s						
CLNS				smax			
	comp=Z,171nm,1.0s						
CLNS				MLR	MLR		
	comp=Z,100nm,11.0s						
YLYR	Ulyunkhan	4.14 248		⇑*i*Pn	Pn	04 17 15.5	+3.1
YLYR				*e*Pg	Pg	04 17 26.1	-4.6
YLYR				Pmax		04 17 38.5	
	comp=Z,41nm,0.5s						
YLYR				*e*Sg	Sg	04 18 20.4	-5.5
YLYR				Smax		04 18 26.9	
	comp=Z,743nm,0.9s						
TNDR	Tynda	4.14 107		*e*	Pn	04 17 13.7	+1.2
TNDR				*e*Pg	Pg	04 17 22.0	-8.9
TNDR				*e*Sg	Sg	04 18 15.5	-11
NIZ	Nizh Angarsk	4.70 264		Pn	Pn	04 17 24.7	+4.4
NIZ				*e*Pg	Pg	04 17 36.7	-5.2
NIZ				Pmax		04 17 43.2	
	comp=Z,103nm,1.1s						
NIZ				*e*Sg	Sg	04 18 38.5	-6.1
NIZ				Smax		04 18 46.0	
	comp=Z,441nm,0.8s						
CIT	Chita	5.21 210		*e*PN	Pn	04 17 28.4	+0.8
CIT				*e*		04 17 46.0	
CIT				*e*		04 18 56.7	
CIT				pmax	pmax		
	comp=Z,30nm,0.4s						
CIT				smax			
	comp=E,803nm,0.8s						
CIT	Chita	5.21 210		*e*	Pn	04 17 28.9	+1.3
CIT				*e*Pg	Pg	04 17 47.1	-5.1
CIT				Pmax		04 17 50.3	
	comp=E,29nm,0.5s						
CIT				*e*Sg	Sg	04 18 56.4	-5.3
CIT				Smax		04 18 59.2	
	comp=E,802nm,0.8s						
SYVR	Suvo	5.36 240		*e*PN	Pn	04 17 31.6	+1.9
SYVR	Suvo	5.36 240		*e*Pn	Pn	04 17 32.6	+2.9
SYVR				*e*Pg	Pg	04 17 48.8	-6.4
SYVR				Pmax		04 17 53.4	
	comp=E,35nm,0.7s						
SYVR				*e*		04 18 31.3	
SYVR				*e*Sg	Sg	04 18 59.2	-7.5
SYVR				Smax		04 19 02.2	
	comp=E,580nm,1.2s						
KROS	Kirovskiy	5.63 109		*e*	Pn	04 17 32.5	-0.9
KROS				*e*		04 18 25.9	
KROS				*e*Sg	Sg	04 19 00.5	-15
OGRR	Ongureny	6.57 248		*e*PN	Pn	04 17 48.7	+2.0
OGRR				*e*		04 18 10.3	
OGRR				*e*		04 19 36.7	
OGRR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
OGRR				smax			
	comp=N,64nm,0.8s						
OGRR	Ongureny	6.57 248		*e*Pn	Pn	04 17 48.7	+2.0
OGRR				*e*Pg	Px	04 18 10.4	
OGRR				Pmax		04 18 30.5	
	comp=N,10.0nm,0.8s						
OGRR				*e*		04 19 06.3	
OGRR				*e*Sg	Sx	04 19 35.4	
OGRR				Smax		04 19 45.6	
	comp=N,159nm,1.5s						
TRTB	Turuntaevo	7.38 238		⇓*i*Pn	Pn	04 17 59.2	+1.2
TRTB				*e*Pg	Px	04 18 24.8	
TRTB				Pmax		04 18 40.0	
	comp=N,7.0nm,0.8s						
TRTB				*e*		04 19 37.9	
TRTB				*e*Sg	Sx	04 20 01.7	
TRTB				Smax		04 20 09.7	
	comp=N,213nm,1.3s						
ZRHB	Zarechye	7.40 241		*e*	Px	04 19 25.4	
ZRHB				*e*Sg	Sx	04 20 04.8	
ZRHB				Smax		04 20 18.4	
	comp=N,764nm,1.3s						
HIA	Hailar	7.42 170		*e*PN	Pn	04 17 57.4	-1.3
HIA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
HIA	Hailar	7.42 170		*e*P	Pn	04 17 57.4	-1.3
	comp=Z,4.8nm,0.4s						
KPC	Khapcheranga	7.63 208		*e*PN	Pn	04 18 01.5	-0.1
KPC				*e*		04 18 28.5	
KPC				*e*		04 20 08.5	
KPC				pmax	pmax		
	comp=Z,32nm,1.9s						
KPC				smax			
	comp=N,253nm,1.1s						
KPC	Khapcheranga	7.63 208		*e*Pn	Pn	04 18 01.5	-0.1
KPC				*e*Pg	Px	04 18 29.7	
KPC				Pmax		04 18 39.3	
	comp=N,5.0nm,0.9s						
KPC				*e*Sg	Sx	04 20 09.7	
KPC				Smax		04 20 17.9	
	comp=N,255nm,0.5s						
TRG	Tyrgan	7.68 245		*e*PN	Pn	04 18 03.8	+1.6
TRG				*e*		04 18 30.2	
TRG				*e*		04 20 10.7	
TRG				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TRG				smax			
	comp=E,111nm,1.0s						
TRG	Tyrgan	7.68 245		*e*Pn	Pn	04 18 05.8	+3.6
TRG				*e*Pg	Px	04 18 31.1	
TRG				Pmax		04 18 38.3	
	comp=E,4.0nm,0.5s						
TRG				*e*Sg	Sx	04 20 12.2	
TRG				Smax		04 20 29.8	
	comp=E,995nm,1.3s						
FFNB	Fofonovo	7.90 240		*e*Sg	Sx	04 20 18.5	
FFNB				Smax		04 20 28.6	
	comp=E,424nm,1.0s						
HRMR	Khuramsha	8.09 237		⇓*i*Pn	P	04 18 08.9	+0.9
HRMR				*e*Pg	Px	04 18 37.4	
HRMR				Pmax		04 18 46.0	
	comp=E,13nm,0.6s						
HRMR				*e*		04 19 37.6	
HRMR				*e*Sg	Sx	04 20 23.5	
HRMR				Smax		04 20 38.8	
	comp=E,805nm,0.9s						
YAK	Yakutsk	8.15	43	*i* PN	P	04 18 02.9	-6.0
YAK				*e*P		04 19 27.4	
YAK				pmax	pmax		
	comp=Z,3μm,0.8s						
LSTR	Listvyanka	8.95 244		*e*	P	04 18 21.2	+1.2
LSTR				*e*		04 19 03.9	
LSTR				*e*Sg	Sx	04 20 52.4	
LSTR				Smax		04 21 09.7	
	comp=Z,80nm,1.5s						
TLY	Talaya	9.66 245		*i* P	P	04 18 31.2	+1.6
TLY				pmax	pmax		
	comp=Z,4μm,0.8s						
ARS	Arshan	10.14 249		*e*	Px	04 18 56.6	
ARS				*e*Sg	Sx	04 21 27.5	
ARS				Smax		04 21 41.3	
	comp=Z,173nm,1.0s						
ULN	Ulaanbaatar	10.94 222		*i* P	P	04 18 48.8	+1.7
SONM	Songino Array	11.21 223		Pn	P	04 18 51.2	+0.3
	comp=Z,0.2nm,0.3s,baz=32,slow=12,SNR=3.5						
SONM				Sn	S	04 21 06.3	+9.4
	comp=Z,0.5nm,0.3s,baz=39,slow=20,SNR=2.8						
SONM				Lg		04 22 02.4	
	comp=Z,3.1nm,0.3s,baz=37,slow=29,SNR=21						
ORL	Orlik	11.21 256		*e*Pn	P	04 18 54.0	+3.2
ORL				*e*Pg	Px	04 19 34.6	
ORL				Pmax		04 19 39.3	
	comp=Z,3.0nm,0.8s						
ORL				*e*		04 21 24.8	
ORL				*e*Sg	Sx	04 22 00.5	
ORL				Smax		04 22 05.9	
	comp=Z,91nm,1.7s						
CHKZ	Chkalovo	26.73 284		*e*P	P	04 21 49.7	+1.2
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.5						
CHKZ	Chkalovo	26.73 284		*e*P	P	04 21 49.7	+1.3
	comp=Z,0.7nm,0.6s,mb3.4						
BVAR	Borovoye Array	27.14 283		P	P	04 21 55.9	+3.7
	comp=Z,1.3nm,0.7s,mb3.5,baz=56,slow=10,SNR=4.9						
ARCES	ARCESS Array B	39.48 326		LR	LR	04 45 39.9	
	comp=Z,90nm,18.1s,MS3.6,baz=212,slow=45						
ILAR	Eielson Array	43.05	39	P	P	04 24 02.1	-6.2
	comp=Z,0.5nm,1.1s,mb3.1,baz=301,slow=5.3,SNR=2.6						
FINES	FINESS Array B	43.75 316		P	P	04 24 14.3	+0.3
	comp=Z,3.9nm,1.0s,mb4.1,baz=70,slow=8.3,SNR=8.8						
HFS	Hagfors	49.19 320		P	P	04 24 57.2	+0.2
	comp=Z,3.0nm,1.0s,mb4.3,baz=72,slow=9.4,SNR=6.1						
AKASG	Malin Array Be	49.35 303		P	P	04 24 57.7	-0.6
	comp=Z,0.3nm,0.4s,mb3.7,baz=41,slow=8.1,SNR=3.3						
NOA	NORSAR Array B	49.41 322		P	P	04 24 57.6	-1.0
	comp=Z,1.3nm,1.0s,mb3.9,baz=36,slow=8.8,SNR=3.0						
YKA	Yellowknife Ar	54.47	27	P	P	04 25 32.5	-4.2
	comp=Z,0.1nm,0.4s,mb3.1,baz=329,slow=6.7,SNR=2.7						
BRTR	Keskin Array B	55.01 291		P	P	04 25 40.2	-0.8
	comp=Z,0.2nm,0.5s,mb3.4,baz=61,slow=6.8,SNR=2.7						
GERES	GERESS Array B	57.58 311		P	P	04 25 57.3	-1.9
	comp=Z,0.5nm,0.5s,mb3.8,baz=32,slow=17,SNR=3.9						
NVAR	Mina Array Bea	74.13	43	P	P	04 27 40.1	-5.2
	comp=Z,0.2nm,0.6s,mb3.3,baz=301,slow=5.3,SNR=2.0						
WRA	Warramunga Arr	77.49 164		P	P	04 28 01.1	-3.5
	comp=Z,0.7nm,0.7s,mb3.7,baz=353,slow=6.6,SNR=3.0						
ASAR	Alice Springs	81.08 165		P	P	04 28 22.6	-1.4
	comp=Z,0.3nm,0.9s,mb3.2,baz=12,slow=4.9,SNR=2.9						

NEIC ***22*** *04:31:19.8, 33.81S×71.39W, h41km, MD3.5(GUC), After GUC.*

GUC 22 04:31:19.8±0.8, 33.81S×71.39W, h41km±2km, MD3.5, ML2.5, 8C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.15 186		⇑*i*P	P	04 31 26.9	+0.2
LNV				*i* S	S	04 31 32.3	+0.7
LCCH	Las Cruces	0.36 336		⇓*i*P	P	04 31 28.4	-0.4
LCCH				*i* S	S	04 31 35.1	-0.1
TACH	Talagante	0.41	68	⇑*i*P	P	04 31 29.5	+0.1
TACH				*i* S	S	04 31 37.2	+1.1
RCDM	Rinconada Maip	0.58	57	*e*P	P	04 31 31.5	-0.1
RCDM				*i* S	S	04 31 40.6	+0.4
RCDM				AMP		04 31 41.5	
	comp=N,1μm,0.1s						
CHCH	Chadas Angostu	0.63 102		⇑*i*P	P	04 31 32.6	+0.3
CHCH				*i* S	S	04 31 42.6	+1.2
PUEX	Pudahuel	0.64	56	⇑*i*P	P	04 31 33.1	+0.6
PUEX				*i* S	S	04 31 42.8	+1.0
PUEX				AMP		04 31 43.6	
	comp=N,546nm,0.3s						
ANTU	Antumapu	0.68	70	⇓*i*P	P	04 31 33.1	+0.2
ANTU				*i* S	S	04 31 43.4	+0.9
ANTU				AMP		04 31 44.0	
	comp=N,373nm,0.2s						
CACH	El Canelo	0.73 115		⇓*i*P	P	04 31 34.6	+0.9
CACH				*i* S	S	04 31 46.3	+2.5
STL	Santa Lucia	0.73	60	*i* P	P	04 31 33.9	+0.2
STL				*i* S	S	04 31 44.7	+0.8
STL				AMP		04 31 45.5	
	comp=E,124nm,0.2s						
PCH	Pirque	0.76	76	⇑*i*P	P	04 31 34.3	+0.2
PCH				*i* S	S	04 31 45.5	+1.0
FSR	Penalolen	0.79	66	⇓*i*P	P	04 31 34.8	+0.2
FSR				*i* S	S	04 31 46.4	+1.0
FSR				AMP		04 31 46.7	
	comp=N

SFDO	**San Fernando**	**0.86**	**159**	⇓*i*P	P	04 31 36.0	+0.4
SFDO				*i* S	S	04 31 48.3	+1.1
SJCH	**San Jose de Ma**	**0.88**	**79**	⇓*i*P	P	04 31 35.8	-0.1
SJCH				*i* S	S	04 31 48.5	+0.9
SJCH				AMP		04 31 48.7	
	comp=E,286nm,0.2s						
PEL	**Peldehue**	**0.89**	**42**	*i* S	S	04 31 49.4	+1.6
ROCH	**El Roble**	**0.89**	**21**	*e*P	P	04 31 36.5	+0.5
ROCH				*i* S	S	04 31 48.8	+0.9
LMEL	**Las Melosas**	**0.99**	**93**	⇑*i*P	P	04 31 37.8	+0.4
LMEL				*i* S	S	04 31 51.4	+1.0
LMEL				AMP		04 31 52.5	
	comp=N,399nm,0.1s						
FCH	**Farellones**	**1.04**	**63**	⇓*i*P	P	04 31 38.4	+0.3
FCH				*i* S	S	04 31 52.7	+1.1
FCH				AMP		04 31 53.1	
	comp=E,285nm,0.1s						
PACH	**Papudo**	**1.27**	**358**	⇑*i*P	P	04 31 42.2	+0.9
PACH				*i* S	S	04 31 58.8	+1.3
JACH	**Jahuel**	**1.31**	**31**	*i* P	P	04 31 43.0	+1.0
JACH				*i* S	S	04 32 00.2	+1.7
PTCH	**Petorca**	**1.59**	**14**	*e*P	P	04 31 46.9	+1.0
PTCH				*i* S	S	04 32 07.8	+2.3
PTCH				AMP		04 32 10.1	
	comp=N,202nm,0.2s						

*NEIC **22** 04:51:13.8, 16.29N×97.41W, h70km, MD4.0(MEX), After MEX.*

MEX 22 04:51:14.7±1.2, 16.22N×97.34W, h12km±13km, MD4.0, 2C-2D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.78**	**283**	⇑*e*P	Pb	04 51 27.3	-2.4
PNIG				*e*S	Sb	04 51 38.3	-1.7
PNIG	**Pinotepa**	**0.78**	**283**	⇑*e*P	Pb	04 51 27.3	-2.4
PNIG				*e*S	Sb	04 51 37.7	-2.3
VHO	**Vista Hermosa**	**1.03**	**34**	⇓*i*P	Pb	04 51 31.2	-2.7
VHO				*e*S	Sb	04 51 44.5	-2.6
VHO	**Vista Hermosa**	**1.03**	**34**	⇓*i*P	Pb	04 51 31.2	-2.7
VHO				*e*S	Sb	04 51 43.7	-3.5
OXX	**Oaxaca**	**1.04**	**34**	*i* P	Pb	04 51 31.5	-2.7
OXX				*i* S	Sb	04 51 44.5	-3.0
HUIG	**Huatulco**	**1.26**	**111**	*e*P	Pb	04 51 34.9	-3.1
HUIG				*e*S	Sb	04 51 53.1	-0.8
HUIG	**Huatulco**	**1.26**	**111**	*e*P	Pb	04 51 34.9	-3.1
HUIG				*e*S	Sb	04 51 50.6	-3.3
CMIG	**Matias Romero**	**2.51**	**69**	*e*P	Pn	04 51 51.7	-4.3
CMIG				*e*S	Sn	04 52 21.9	-4.8
CMIG	**Matias Romero**	**2.51**	**69**	*e*P	Pn	04 51 51.7	-4.3
CMIG				*e*S	Sn	04 52 21.9	-4.8
ACX	**Acapulco**	**2.56**	**285**	*e*P	Pn	04 51 58.0	+1.3
ACX				*e*S	Sn	04 52 26.5	-1.5
IISM	**Ciudad Serdan**	**2.75**	**359**	*e*P	Pn	04 51 59.0	-0.5
IISM				*e*S	Sn	04 52 27.0	-6.0
POHV	**Veracruz**	**2.84**	**1**	*i* P	Pn	04 52 01.5	+0.8
POHV				*i* S	Sn	04 52 35.0	-0.1
PLIG	**Platanillo**	**2.99**	**317**	*e*P	Pn	04 52 08.7	+5.8
PLIG				*i* S	Sn	04 52 35.8	-3.3
PPM	**Popocatepetl**	**3.09**	**337**	*e*P	Pn	04 52 05.5	+1.2
PPM				*e*P		04 52 05.7	
PPM				*e*S	Sn	04 52 45.0	+3.5
PPM				*e*S	Sn	04 52 45.9	+4.5

*NEIC **22** 04:54:45.1, 16.22N×97.33W, h9km, MD3.8(MEX), After MEX.*

MEX 22 04:54:45.2±0.8, 16.23N×97.33W, h10km±9km, MD3.8, 2C-1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.78**	**282**	⇑*e*P	Pb	04 54 58.1	-2.3
PNIG				*e*S	Sb	04 55 08.8	-1.9
VHO	**Vista Hermosa**	**1.02**	**34**	⇓*i*P	Pb	04 55 01.8	-2.7
VHO				*e*S	Sb	04 55 14.9	-2.8
OXX	**Oaxaca**	**1.03**	**34**	*i* P	Pb	04 55 02.0	-2.7
OXX				*i* S	Sb	04 55 15.5	-2.7
HUIG	**Huatulco**	**1.26**	**111**	⇑*e*P	Pb	04 55 05.3	-3.3
HUIG				*e*S	Sb	04 55 21.0	-3.8
CMIG	**Matias Romero**	**2.50**	**70**	*e*P	Pn	04 55 23.1	-3.5
CMIG				*e*S	Sn	04 55 52.2	-5.3
ACX	**Acapulco**	**2.56**	**285**	*e*P	Pn	04 55 30.5	+3.0
ACX				*e*S	Sn	04 56 03.0	+4.0
IISM	**Ciudad Serdan**	**2.75**	**359**	*e*P	Pn	04 55 29.5	-0.7
IISM				*e*S	Sn	04 56 00.0	-3.8
POHV	**Veracruz**	**2.83**	**1**	*i* P	Pn	04 55 31.5	+0.2
PLIG	**Platanillo**	**2.99**	**316**	*i* P	Pn	04 55 40.5	+6.9
PPM	**Popocatepetl**	**3.08**	**337**	*e*P	Pn	04 55 33.6	-1.4
PPM				*e*P		04 55 35.5	
PPM				*e*S	Sn	04 56 09.7	-2.6

*IDC **22** 05:05:07.4±0.8, 13.45N×92.78E, mb3.9/12, mb1 4.1/13, mb1mx4.0/19, mbtmp3.9/13, ML3.9/1, MS3.5/2, Ms1 3.5/2, ms1mx2.7/22, Error ellipse: s-maj=34.8km s-min=15.5km az=54.0*

*BJI **22** 05:05:09.6, 13.28N×92.85E, h37km, mB4.8, mb4.2, Ms4.1, Msz3.9*

*NEIC **22** 05:05:11.6±0.4, 13.43N×92.79E, h30km, mb4.5/7, Error ellipse: s-maj=8.6km s-min=7.6km az=151.0*

ISC 22 05:05:09.5±0.5, 13.41N±0.07×92.78E±0.05, h30km, n42, σ0=99/40, mb4.1/19, MS3.8/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**7.76**	**49**	P	**Pn**	**05 07 01.5**	**-1.9**
CMAR	**Chiang Mai Arr**	**7.76**	**49**	Pn	**Pn**	**05 07 01.2**	**-2.1**
	0.5nm,0.3s,baz=240,slow=15,SNR=20						
CMAR				Sn	**Sn**	**05 08 24.0**	**-7.2**
	1.0nm,0.3s,baz=239,slow=27,SNR=5.7						
SHL	**Shillong**	**12.12**	**356**	*e*P	**P**	**05 07 56.3**	**-7.0**
SHL				*e*S	**S**	**05 10 05.0**	**-13**
PALK	**Pallekele**	**13.36**	**244**	P	**P**	**05 08 17.6**	**-2.2**
HYB	**Hyderabad**	**14.28**	**288**	*i* P	**P**	**05 08 38.5**	**+6.5**
HYB				*e*		05 10 57.0	
HYB				*e*S	**S**	**05 11 09.5**	**-0.8**
KMI	**Kunming**	**14.96**	**37**	P	**P**	**05 08 42.3**	**+1.5**
	6.0nm,0.7s						
JIRN	**Jiri**	**15.45**	**338**	*e*P	**P**	**05 08 40.2**	**-7.0**
PKI	**Pulchoki**	**15.68**	**335**	*e*P	**P**	**05 08 44.7**	**-5.5**
	15nm,0.6s						
DMN	**Daman**	**15.84**	**334**	*e*P	**P**	**05 08 47.4**	**-4.8**
	31nm,0.7s						
KKN	**Kakani**	**15.93**	**335**	*e*P	**P**	**05 08 48.5**	**-4.8**
LSA	**Lhasa**	**16.28**	**355**	P	**P**	**05 09 01.0**	**+3.2**
LSA	**Lhasa**	**16.28**	**355**	*e*P	**P**	**05 08 58.7**	**+1.0**
	12nm,0.8s						
GKN	**Gorkha**	**16.38**	**334**	*e*P	**P**	**05 08 55.0**	**-4.1**
	15nm,0.3s						
KOLN	**Koldanda**	**16.66**	**330**	*e*P	**P**	**05 09 01.4**	**-1.2**
	22nm,0.6s						
QIZ	**Qiongzhong**	**17.30**	**69**	P	**P**	**05 09 10.1**	**-0.7**
	81nm,1.5s						
ENH	**Enshi**	**22.79**	**40**	*e*P	**P**	**05 10 10.3**	**-0.7**
	38nm,1.4s,mb4.6						
LZH	**Lanzhou**	**24.67**	**22**	*e*P	**P**	**05 10 30.0**	**+0.8**
LZH				AP		05 10 34.5	
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.6						
LZH	**Lanzhou**	**24.67**	**22**	*e*P	**P**	**05 10 30.0**	**+0.8**
	comp=Z,30nm,1.5s,mb4.6						
LZH				pP		05 10 34.5	
LZH				sP		05 10 38.5	
XAN	**Xi'an**	**25.23**	**33**	P	**P**	**05 10 34.1**	**-0.4**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.3						
WMQ	**Urumqi**	**30.61**	**353**	*e*P	**P**	**05 11 24.3**	**+1.1**
WMQ				PP	PP	05 12 23.8	-0.2
WMQ				S	**S**	**05 16 24.8**	**+2.5**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,65nm,4.2s						
WMQ				LR	LR		
	comp=N,621nm,17.2s,MS4.4						
WMQ				LR	LR		
	comp=E,555nm,20.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,958nm,20.4s,MS4.4						
SONM	**Songino Array**	**36.14**	**16**	P	**P**	**05 12 11.4**	**+0.4**
	comp=Z,2.3nm,1.1s,mb4.0,baz=198,slow=7.8,SNR=7.1						
KURK	**Kurchatov**	**38.95**	**346**	*e*P	**P**	**05 12 34.7**	**+0.2**
	comp=Z,9.9nm,1.4s,mb4.3						
ZAL	**Zalesovo**	**40.92**	**353**	P	**P**	**05 12 50.6**	**-0.2**
	comp=Z,1.2nm,0.5s,mb3.8,baz=196,slow=7.3,SNR=9.4						
BVAR	**Borovoye Array**	**43.35**	**340**	P	**P**	**05 13 10.6**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.5,baz=127,slow=7.2,SNR=3.7						
CHKZ	**Chkalovo**	**43.83**	**341**	*e*P	**P**	**05 13 14.8**	**+0.3**
	comp=Z,2.6nm,0.5s,mb4.2						
MDJ	**Mudanjiang**	**44.13**	**38**	P	**P**	**05 13 17.3**	**+0.2**
ASAJ	**Asahikawa**	**52.25**	**44**	LR	LR	05 39 02.8	
	comp=Z,53nm,19.2s,MS3.6,baz=181,slow=39						
WRA	**Warramunga Arr**	**52.64**	**128**	P	**P**	**05 14 23.4**	**0.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=300,slow=10,SNR=15						
WRA				PcP	PcP	05 15 34.4	+1.2
	comp=Z,0.5nm,0.5s,baz=318,slow=3.5,SNR=2.6						
WRAB	**Tennant Creek**	**52.64**	**128**	*e*P	**P**	**05 14 23.9**	**+0.4**
	comp=Z,7.9nm,0.9s,mb4.6						
ASAR	**Alice Springs**	**54.54**	**132**	P	**P**	**05 14 37.4**	**0.0**
	comp=Z,0.8nm,0.6s,mb3.9,baz=309,slow=6.7,SNR=14						
KMBO	**Kilima Mbogo**	**56.90**	**260**	LR	LR	05 37 46.4	
	comp=Z,40nm,19.8s,MS3.5,baz=93,slow=34						
BRTR	**Keskin Array B**	**57.88**	**309**	P	**P**	**05 15 00.9**	**-0.3**
	comp=Z,0.6nm,0.9s,mb3.6,baz=148,slow=12,SNR=3.6						
STKA	**Stephens Creek**	**64.91**	**135**	P	**P**	**05 15 49.3**	**+0.6**
	comp=Z,1.2nm,0.7s,mb4.0,baz=319,slow=14,SNR=4.4						
FINES	**FINESS Array B**	**67.23**	**331**	P	**P**	**05 16 03.2**	**+0.1**
	comp=Z,2.6nm,0.9s,mb4.3,baz=214,slow=6.9,SNR=3.8						
ARCES	**ARCESS Array B**	**69.64**	**340**	P	**P**	**05 16 18.5**	**+0.7**
	comp=Z,3.7nm,0.9s,mb4.3,baz=342,slow=15,SNR=3.8						
GERES	**GERESS Array B**	**72.85**	**317**	P	**P**	**05 16 38.1**	**+0.6**
	comp=Z,0.6nm,0.6s,mb3.7,baz=90,slow=6.7,SNR=5.1						
NOA	**NORSAR Array B**	**74.29**	**330**	P	**P**	**05 16 46.4**	**+0.9**
	comp=Z,1.5nm,0.8s,mb4.0,baz=96,slow=5.6,SNR=3.0						
ILAR	**Eielson Array**	**90.13**	**22**	P	**P**	**05 18 09.0**	**+1.2**
	comp=Z,0.2nm,0.6s,mb3.6,baz=297,slow=4.0,SNR=3.4						
NVAR	**Mina Array Bea**	**120.78**	**28**	PKP	PKPdf	05 24 02.7	-1.7
	comp=Z,0.1nm,0.4s,baz=288,slow=2.9,SNR=2.0						
NVAR	**Mina Array Bea**	**120.78**	**28**	PKP	PKPdf	05 24 02.7	-1.7
TXAR	**Lajitas Array**	**134.63**	**20**	PKhKP		05 24 21.2	
	comp=Z,0.2nm,0.8s,baz=27,slow=4.0,SNR=2.8						
TXAR	**Lajitas Array**	**134.63**	**20**	PKP		05 24 21.2	

IGQ 22 05:30:11.6, 1.06S×81.41W, h12km±26km, mb4.3, 3C-4D, Error ellipse: s-maj=26.0km s-min=6.6km az=174.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.80**	**99**	⇓pP	Pn	05 30 58.5	+1.3
JUA2	**San Juan 2**	**2.92**	**73**	⇓pP	Pn	05 31 00.2	+1.3
TERV	**Terraza Guagua**	**2.94**	**73**	P	Pn	05 31 00.2	+1.1
PINO	**Pino**	**2.94**	**72**	⇓pP	Pn	05 30 60.0	+0.9
CUSU	**Cusua**	**2.95**	**97**	P	Pn	05 31 01.4	+2.2
JUIV	**Juive**	**2.96**	**97**	P	Pn	05 31 00.2	+0.8
ARRY	**Arrayan**	**2.98**	**99**	⇑P	Pn	05 31 01.1	+1.3
ARRY				S	Sn	05 31 35.6	-0.2
YANA	**Yana**	**2.99**	**72**	P	Pn	05 31 00.7	+0.9
YANA				S	Sn	05 31 35.4	-0.4
PATA	**Patacocha**	**3.01**	**98**	P	Pn	05 31 02.1	+2.1
PATA				S	Sn	05 31 37.0	+0.6
PISA	**Pisayambo**	**3.02**	**90**	P	Pn	05 31 01.8	+1.5
ULBA	**Ulba**	**3.02**	**97**	P	Pn	05 31 02.5	+2.3
VC1	**Cotopaxi 1**	**3.03**	**82**	P	Pn	05 31 03.0	+2.6
TAMB	**Tambo**	**3.06**	**83**	P	Pn	05 31 03.3	+2.5
ANTI	**Antisana**	**3.30**	**79**	P	Pn	05 31 06.3	+2.0
COTA	**Cotacachi**	**3.37**	**66**	⇑P	Pn	05 31 06.0	+0.9
CAYR	**Refugio Cayamb**	**3.56**	**73**	⇑P	Pn	05 31 10.7	+2.7
CAYR				S	Sn	05 31 52.5	+2.1
CAYA	**Cayambe**	**3.60**	**72**	⇓pP	Pn	05 31 11.2	+2.8
CAYA				S	Sn	05 31 52.1	+0.8

*NEIC **22** 05:36:24.4, 16.28N×97.36W, h32km, MD3.6(MEX), After MEX.*

MEX 22 05:36:24.4±1.0, 16.28N×97.36W, h32km±26km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.74**	**279**	*e*P	Pn	05 36 36.1	-2.6
PNIG				*e*S	Sb	05 36 46.5	-2.1
VHO	**Vista Hermosa**	**0.99**	**37**	*e*P	Pn	05 36 39.6	-2.7
VHO				*e*S	Sn	05 36 52.6	-2.7
OXX	**Oaxaca**	**1.01**	**37**	*e*P	Pn	05 36 40.5	-2.0
HUIG	**Huatulco**	**1.31**	**113**	*e*P	Pn	05 36 44.4	-2.4
HUIG				*e*S	Sn	05 37 01.0	-2.3
CMIG	**Matias Romero**	**2.51**	**71**	*e*P	Pn	05 37 00.7	-3.3
CMIG				*e*S	Sn	05 37 30.2	-3.7

IDC 22 05:50:41.0±1.4, 26.98S×112.82W, mb3.7/5, mb1 4.1/5, mb1mx3.8/15, mbtmp3.7/5, MS4.1/9, Ms1 4.1/9, ms1mx3.7/21, Error ellipse: s-maj=45.7km s-min=37.9km az=39.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAOE	**Nuku Hiva Isla**	**31.52**	**300**	*e*S	S	06 02 10.0	-5.4
TAOE				*e*LR	LR	06 05 15.6	
	baz=140						
TBI	**Tubuai**	**33.29**	**268**	*e*LQ		06 04 50.0	
TBI				*e*LR	LR	06 05 47.0	
	569nm,27.5s						
PPT	**Papeete**	**35.18**	**278**	*e*LR	LR	06 06 43.0	
	1μm,25.8s,baz=108						
PLCA	**Paso Flores**	**37.33**	**123**	LR	LR	06 09 16.0	
	comp=Z,533nm,19.0s,baz=86,slow=30						
USHA	**Ushuaia**	**42.52**	**143**	LR	LR	06 12 06.5	
	comp=Z,371nm,19.9s,baz=266,slow=30						
LPAZ	**La Paz**	**42.69**	**85**	P	P	05 58 40.8	-0.6
	3.1nm,1.2s,baz=244,slow=7.5,SNR=6.8						
LPAZ				LR	LR	06 12 56.1	
	comp=Z,363nm,19.4s,baz=92,slow=31						
RAR	**Rarotonga**	**43.06**	**267**	LR	LR	06 11 11.3	
	comp=Z,279nm,19.3s,baz=106,slow=29						
TXAR	**Lajitas Array**	**56.68**	**10**	P	P	06 00 27.6	-1.0
	0.1nm,0.6s,baz=216,slow=7.8,SNR=3.0						
TXAR				LR	LR	06 20 40.0	
	comp=Z,71nm,21.4s,baz=220,slow=32						
ANMO	**Albuquerque**	**61.89**	**6**	LR	LR	06 23 12.6	
	comp=Z,116nm,18.9s,slow=32						
VNDA	**Vanda**	**62.85**	**194**	LR	LR	06 21 59.2	
	comp=Z,130nm,20.0s,baz=136,slow=30						
NVAR	**Mina Array Bea**	**65.27**	**355**	P	P	06 01 24.9	-1.9
	1.3nm,0.9s,baz=164,slow=8.3,SNR=9.0						
PDAR	**Pinedale Array**	**69.47**	**3**	P	P	06 01 50.4	-2.7
	0.6nm,0.8s,baz=162,slow=4.7,SNR=4.4						
MAW	**Mawson**	**85.65**	**178**	LR	LR	06 38 25.5	
	comp=Z,181nm,18.6s,baz=48,slow=33						
YKA	**Yellowknife Ar**	**89.17**	**359**	P	P	06 03 37.8	-1.5
	0.4nm,0.9s,baz=171,slow=5.7,SNR=5.1						
SCHQ	**Schefferville**	**90.53**	**25**	LR	LR	06 45 08.4	
	comp=Z,58nm,18.8s,baz=111,slow=36						
SONM	**Songino Array**	**143.07**	**315**	PKP	PKPdf	06 10 14.3	-4.1
	0.4nm,1.0s,baz=63,slow=3.2,SNR=2.6						
BRTR	**Keskin Array B**	**149.42**	**57**	PKPbc	PKPdf	06 10 31.4	+2.0
	1.1nm,1.0s,baz=270,slow=3.7,SNR=3.7						
CMAR	**Chiang Mai Arr**	**149.57**	**261**	PKPbc	PKPdf	06 10 34.4	+4.2
	0.7nm,0.4s,baz=112,slow=4.9,SNR=3.0						
BVAR	**Borovoye Array**	**153.88**	**356**	PKPbc	PKPdf	06 10 39.5	+4.1
	0.8nm,0.4s,baz=260,slow=41,SNR=3.9						

IGQ 22 05:54:31.7, 1.28S×81.19W, h12km±30km, mb4.6, 3C-7D, Error ellipse: s-maj=29.1km s-min=6.8km az=169.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.56**	**95**	⇓pP	Pn	05 55 15.0	+1.3
IGUA				S	Sn	05 55 45.8	+0.8
CUSU	**Cusua**	**2.71**	**94**	⇓pP	Pn	05 55 18.2	+2.3
JUIV	**Juive**	**2.73**	**93**	P	Pn	05 55 17.2	+1.1
ARRY	**Arrayan**	**2.74**	**95**	⇓pP	Pn	05 55 17.7	+1.4
ARRY				S	Sn	05 55 49.5	-0.2
RETU	**Refugio**	**2.75**	**94**	P	Pn	05 55 19.2	+2.8
PATA	**Patacocha**	**2.76**	**95**	⇑P	Pn	05 55 18.5	+1.8
PATA				S	Sn	05 55 53.3	+3.0
RUN2	**Runtun**	**2.78**	**93**	P	Pn	05 55 18.4	+1.6
NAS1	**Nasa**	**2.79**	**77**	P	Pn	05 55 18.7	+1.8
ULBA	**Ulba**	**2.79**	**94**	P	Pn	05 55 18.3	+1.4
JUA2	**San Juan 2**	**2.79**	**68**	P	Pn	05 55 17.5	+0.5
TERV	**Terraza Guagua**	**2.81**	**67**	P	Pn	05 55 18.8	+1.6
PINO	**Pino**	**2.81**	**67**	P	Pn	05 55 17.7	+0.4
PISA	**Pisayambo**	**2.81**	**86**	P	Pn	05 55 18.9	+1.5
PISA				S	Sn	05 55 53.8	+2.3
GGP	**Refugio Guagua**	**2.82**	**67**	P	Pn	05 55 19.6	+2.3
JOR1	**San Jorge 1**	**2.85**	**64**	⇑P	Pn	05 55 19.0	+1.1
VC1	**Cotopaxi 1**	**2.86**	**77**	⇓pP	Pn	05 55 20.4	+2.5
YANA	**Yana**	**2.86**	**66**	⇑P	Pn	05 55 18.9	+0.9
TAMB	**Tambo**	**2.88**	**78**	P	Pn	05 55 21.4	+3.1
ANTI	**Antisana**	**3.14**	**75**	⇓pP	Pn	05 55 24.1	+2.2
COTA	**Cotacachi**	**3.27**	**61**	⇓pP	Pn	05 55 25.9	+2.1
CAYR	**Refugio Cayamb**	**3.43**	**68**	P	Pn	05 55 29.3	+3.2
CAYA	**Cayambe**	**3.47**	**67**	⇓pP	Pn	05 55 30.6	+3.9
CONE	**Cono NE Rev Vo**	**3.74**	**71**	P	Pn	05 55 36.0	+5.4

IGQ 22 06:03:16.4, 0.88S×81.14W, h12km±33km, mb4.1, 4C, Error ellipse: s-maj=32.0km s-min=7.6km az=178.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.58**	**104**	P	Pn	06 03 59.3	+0.6
JUA2	**San Juan 2**	**2.62**	**75**	⇑P	Pn	06 04 00.5	+1.1
TERV	**Terraza Guagua**	**2.64**	**75**	P	Pn	06 04 01.6	+2.0
PINO	**Pino**	**2.64**	**74**	P	Pn	06 04 00.2	+0.7
NAS1	**Nasa**	**2.68**	**85**	P	Pn	06 04 01.8	+1.7
YANA	**Yana**	**2.68**	**74**	⇑P	Pn	06 04 01.3	+1.1
CUSU	**Cusua**	**2.72**	**102**	P	Pn	06 04 02.0	+1.2
JUIV	**Juive**	**2.73**	**101**	P	Pn	06 04 03.4	+2.5
VC1	**Cotopaxi 1**	**2.75**	**85**	P	Pn	06 04 03.0	+1.8
RETU	**Refugio**	**2.76**	**102**	P	Pn	06 04 04.8	+3.5
ARRY	**Arrayan**	**2.76**	**103**	⇑P	Pn	06 04 01.9	+0.6
ARRY				S	Sn	06 04 30.4	-4.4
PISA	**Pisayambo**	**2.76**	**94**	P	Pn	06 04 03.1	+1.8
PATA	**Patacocha**	**2.78**	**103**	P	Pn	06 04 04.0	+2.4
RUN2	**Runtun**	**2.78**	**101**	P	Pn	06 04 03.5	+1.9
TAMB	**Tambo**	**2.78**	**86**	P	Pn	06 04 04.9	+3.3
ULBA	**Ulba**	**2.79**	**102**	P	Pn	06 04 03.0	+1.2
ANTI	**Antisana**	**3.01**	**82**	⇑P	Pn	06 04 06.5	+1.6
ANTI				S	Sn	06 04 39.8	-1.5
COTA	**Cotacachi**	**3.06**	**67**	P	Pn	06 04 07.4	+1.9
CAYR	**Refugio Cayamb**	**3.26**	**74**	P	Pn	06 04 12.4	+4.0
CAYR				S	Sn	06 04 48.6	+1.0
CAYA	**Cayambe**	**3.29**	**73**	P	Pn	06 04 12.1	+3.2

IGQ 22 06:07:03.9, 1.61S×81.09W, h12km±22km, mb4.0, 1C, Error ellipse: s-maj=22.2km s-min=11.2km az=156.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.46**	**87**	P	Pn	06 07 45.9	+1.5
ARRY	**Arrayan**	**2.64**	**88**	P	Pn	06 07 48.8	+1.7
ARRY				S	Sn	06 08 20.4	+1.1
PISA	**Pisayambo**	**2.76**	**79**	P	Pn	06 07 50.4	+1.6
NAS1	**Nasa**	**2.79**	**70**	P	Pn	06 07 51.1	+1.9
JUA2	**San Juan 2**	**2.85**	**61**	P	Pn	06 07 50.2	+0.1
VC1	**Cotopaxi 1**	**2.86**	**70**	⇑P	Pn	06 07 53.2	+3.1
TERV	**Terraza Guagua**	**2.87**	**60**	P	Pn	06 07 52.4	+2.0
PINO	**Pino**	**2.87**	**60**	P	Pn	06 07 50.0	-0.4
TAMB	**Tambo**	**2.87**	**72**	P	Pn	06 07 52.8	+2.5
YANA	**Yana**	**2.92**	**60**	P	Pn	06 07 51.7	+0.6
ANTI	**Antisana**	**3.15**	**69**	P	Pn	06 07 57.1	+2.8
CAYR	**Refugio Cayamb**	**3.48**	**62**	P	Pn	06 08 01.7	+2.7
CAYA	**Cayambe**	**3.52**	**62**	P	Pn	06 08 01.7	+2.1

*NEIC **22** 06:25:30.0, 31.94S×72.05W, h37km, MD3.7(GUC), After GUC.*

GUC 22 06:25:30.0±1.0, 31.94S×72.05W, h37km±4km, MD3.7, ML2.9, 4C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.79**	**139**	⇓*i*P	P	06 25 44.6	-0.1
PACH				*i* S	S	06 25 56.4	+1.0
ILCH	**Illapel**	**0.81**	**68**	⇑*i*P	P	06 25 45.5	+0.5
ILCH				*i* S	S	06 25 56.9	+0.9
ILCH				AMP		06 25 57.6	
	comp=E,478nm,0.2s						
ILCH				AMP		06 25 59.1	
	comp=N,655nm,0.3s						
PTCH	**Petorca**	**1.00**	**109**	⇑*i*P	P	06 25 48.0	+0.3
PTCH				*i* S	S	06 26 02.1	+1.2
PTCH				AMP		06 26 04.8	
	comp=N,692nm,0.3s						
PTCH				AMP		06 26 05.2	
	comp=E,1μm,0.2s						
JACH	**Jahuel**	**1.44**	**121**	*e*P	P	06 25 55.0	+1.0
JACH				*i* S	S	06 26 14.3	+2.4
RCDM	**Rinconada Maip**	**1.87**	**146**	⇑*i*P	P	06 26 01.1	+1.0
RCDM				*i* S	S	06 26 24.0	+1.4
RCDM				AMP		06 26 26.6	
	comp=N,103nm,0.2s						
RCDM			

NIED ***22*** *06:30:00,35.70N×141.10E,h14km,Mw3.7 Best double couple: M₀4.33×10¹⁴ NP1:φ₀337°,δ64°,λ-112°. NP2: φ₀199°,δ34°,λ-53°.*

ISC 22 06:29:55.2±1.4,35.66N±0.06×141.1E±0.1,h16km±11km, n8,σ0°39/12,4C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.21**	**281**	⇑P	**Pb**	**06 30 00.4**	**+0.1**
CHOJ				*e*S	**Sb**	**06 30 03.1**	**-0.5**
JCN	**Nagara**	**0.78**	**252**	⇑P	**Pb**	**06 30 10.3**	**+0.3**
JCN				*e*S	**Sb**	**06 30 20.8**	**+0.7**
KTR	**Katsuura**	**0.83**	**232**	P	**Pb**	**06 30 10.4**	**-0.4**
JYT	**Yasato**	**0.94**	**307**	⇑P	**Pb**	**06 30 12.6**	**0.0**
JYT				*e*S	**Sb**	**06 30 24.2**	**-0.3**
BSO3	**Boso 3**	**0.99**	**210**	P	**Pb**	**06 30 13.6**	**+0.1**
BSO1	**Boso 1**	**1.01**	**186**	⇑P	**Pb**	**06 30 13.7**	**-0.2**
JHO	**Hitachi**	**1.04**	**335**	P	**Pb**	**06 30 15.1**	**+0.7**
MAT	**Matsushiro**	**2.51**	**291**	P	**Pn**	**06 30 35.8**	**-0.4**
MAT				*e*S	**Sn**	**06 31 06.8**	**0.0**

IDC ***22*** *06:31:10.7±0.9,4.11N×93.86E,h39km±6km,mb3.8/10, mb1 4.0/11,mb1mx3.8/19,mbtmp4.1/11,ML4.1/1,Error ellipse: s-maj=43.6km s-min=17.4km az=50.0*

NEIC ***22*** *06:31:10.9±0.5,4.10N×93.84E,mb4.7/4,Error ellipse: s-maj=19.7km s-min=9.3km az=57.0*

ISC 22 06:31:08.9±0.7,4.0N±0.1×93.9E±0.2,h37km, h37km±2.6km:pP-P,n24,σ1°05/21,mb4.3/18,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.20**	**19**	Pn	**P**	**06 34 41.6**	**-1.0**
	0.3nm,0.3s,baz=212,slow=12,SNR=17						
JIRN	**Jiri**	**24.64**	**343**	*e*P	**P**	**06 36 28.0**	**+0.5**
	27nm,1.0s,mb4.7						
PKI	**Pulchoki**	**24.79**	**342**	*e*P	**P**	**06 36 30.1**	**+1.1**
DMN	**Daman**	**24.92**	**341**	*e*P	**P**	**06 36 31.1**	**+0.9**
	8.2nm,0.6s,mb4.5						
KKN	**Kakani**	**25.03**	**342**	*e*P	**P**	**06 36 32.5**	**+1.2**
	30nm,0.9s,mb4.8						
GKN	**Gorkha**	**25.44**	**341**	*e*P	**P**	**06 36 36.3**	**+1.2**
	25nm,0.8s,mb4.8						
KOLN	**Koldanda**	**25.58**	**339**	*e*P	**P**	**06 36 37.6**	**+1.1**
	13nm,0.9s,mb4.5						
LSA	**Lhasa**	**25.68**	**355**	*e*P	**P**	**06 36 41.0**	**+3.6**
	12nm,0.6s,mb4.6						
LSA				*ep*P	pP	06 36 48.0	+0.5
BJI	**Beijing**	**41.15**	**26**	*e*P	pP	06 38 59.4	-2.6
	12nm,0.7s						
SONM	**Songino Array**	**44.98**	**12**	P	**P**	**06 39 21.0**	**-1.4**
	1.2nm,0.9s,mb3.7,baz=198,slow=8.6,SNR=5.1						
WRA	**Warramunga Arr**	**46.33**	**122**	P	**P**	**06 39 33.6**	**+0.1**
	1.3nm,0.7s,mb4.0,baz=301,slow=8.7,SNR=5.0						
WRAB	**Tennant Creek**	**46.34**	**122**	*e*P	**P**	**06 39 35.1**	**+1.5**
	8.5nm,0.8s,mb4.7						
ASAR	**Alice Springs**	**47.73**	**127**	P	**P**	**06 39 45.4**	**+0.9**
	3.0nm,1.1s,mb4.2,baz=296,slow=7.2,SNR=5.9						
BVAR	**Borovoye Array**	**52.56**	**342**	P	**P**	**06 40 19.7**	**-1.2**
	1.5nm,0.7s,mb4.0,baz=162,slow=4.7,SNR=8.9						
BVAR				pP	pP	06 40 31.6	-0.2
	3.9nm,0.7s,baz=143,slow=7.4,SNR=14						
BRVK	**Borovoye**	**52.62**	**342**	*e*P	**P**	**06 40 20.7**	**-0.7**
	1.3nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**57.69**	**132**	P	**P**	**06 40 57.3**	**-1.2**
	0.7nm,0.3s,mb4.1,baz=280,slow=2.8,SNR=2.8						
BRTR	**Keskin Array B**	**64.78**	**312**	P	**P**	**06 41 45.0**	**-1.2**
	0.8nm,0.7s,mb3.9,baz=90,slow=6.2,SNR=5.8						
BRTR				pP	pP	06 41 57.2	-0.1
	0.6nm,0.7s,baz=146,slow=8.6,SNR=3.9						
FINES	**FINESS Array B**	**76.00**	**333**	P	**P**	**06 42 52.6**	**-1.1**
	1.5nm,0.6s,mb4.1,baz=76,slow=7.9,SNR=7.2						
FINES				pP	pP	06 43 03.8	-1.3
	3.1nm,1.0s,baz=90,slow=3.8,SNR=2.0						
ARCES	**ARCESS Array B**	**78.80**	**341**	P	**P**	**06 43 08.7**	**-0.6**
	2.3nm,1.0s,mb4.1,baz=90,slow=8.1,SNR=2.7						
ARCES				pP	pP	06 43 20.0	-0.5
	1.1nm,0.7s,baz=79,slow=6.2,SNR=1.7						
ARCES	**ARCESS Array B**	**78.80**	**341**	P	**P**	**06 43 08.7**	**-0.6**
ARCES				pP	pP	06 43 20.0	-0.5
GERES	**GERESS Array B**	**80.53**	**319**	P	**P**	**06 43 19.2**	**+0.3**
	1.1nm,0.8s,mb3.9,baz=82,slow=9.4,SNR=5.3						
GERES				pP	pP	06 43 30.8	+0.5
	0.4nm,0.5s,baz=153,slow=24,SNR=2.9						
HFS	**Hagfors**	**81.65**	**330**	P	**P**	**06 43 23.7**	**-0.9**
	2.8nm,0.9s,mb4.2,baz=113,slow=11,SNR=2.5						
TXAR	**Lajitas Array**	**142.82**	**26**	PKP	PKPdf	06 50 41.7	+2.5
	0.1nm,0.5s,baz=225,slow=2.6,SNR=2.4						
TXAR	**Lajitas Array**	**142.82**	**26**	PKP	PKPdf	06 50 41.7	+2.5

IDC 22 06:33:31.5±1.0,4.25N×128.14E,mb3.9/7,mb1 4.1/7, mb1mx3.9/18,mbtmp3.9/7,Error ellipse: s-maj=55.9km s-min=21.5km az=67.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.80**	**166**	P	P	06 38 55.5	-1.1
	1.1nm,0.3s,baz=344,slow=10,SNR=7.3						
CMAR	**Chiang Mai Arr**	**31.84**	**299**	P	P	06 39 58.3	-2.3
	0.8nm,0.3s,baz=129,slow=5.8,SNR=4.2						
STKA	**Stephens Creek**	**38.14**	**161**	P	P	06 40 52.6	-1.6
	1.9nm,0.7s,baz=339,slow=7.4,SNR=3.8						
SONM	**Songino Array**	**47.28**	**340**	P	P	06 42 08.5	+0.1
	0.3nm,0.4s,baz=143,slow=7.2,SNR=2.4						
BVAR	**Borovoye Array**	**67.66**	**326**	P	P	06 44 30.2	-2.2
	0.6nm,0.7s,baz=112,slow=7.8,SNR=3.7						
ILAR	**Eielson Array**	**84.03**	**25**	P	P	06 46 03.5	-1.4
	0.2nm,0.5s,baz=247,slow=6.3,SNR=4.3						
ARCES	**ARCESS Array B**	**90.45**	**340**	P	P	06 46 33.1	-2.9
	1.2nm,0.7s,baz=80,slow=7.4,SNR=3.6						

IDC ***22*** *06:43:25.2±0.7,52.30N×169.46W,mb4.1/24,mb1 4.4/26, mb1mx4.4/28,mbtmp4.2/26,ML3.8/2,MS3.8/2,Ms1 3.8/2, ms1mx3.2/24,Error ellipse: s-maj=20.9km s-min=10.9km az=180.0*

BJI ***22*** *06:43:28.0,52.44N×169.35W,h34km,mB5.4,mb4.7, Ms4.5,Msz4.6*

MOS ***22*** *06:43:29.1±1.3,52.29N×169.48W,h33km,mb4.7/28, Error ellipse: s-maj=12.0km s-min=6.5km az=88.4*

NEIC ***22*** *06:43:30.6±0.4,52.18N×169.44W,h37km±3km,mb4.5/33, MS3.8/1,ML4.1(AEIC),Error ellipse: s-maj=6.4km s-min=3.0km az=170.0*

ISC 22 06:43:29.0±0.6,52.11N±0.05×169.48W±0.04,h41km±4km, h39km±2.8km:pP-P,n168,σ1°09/177,mb4.4/59,MS4.2/8, 4C-1D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.94**	**24**	P	**P**	**06 43 44.8**	**-1.1**
NIKO				S	**S**	**06 43 59.2**	**+0.8**
OKCE	**Okmok Cone E**	**1.54**	**31**	P	**P**	**06 43 54.3**	**-0.2**
OKCE				S	**S**	**06 44 16.3**	**+2.9**
OKCD	**Okmok Cone D**	**1.56**	**32**	P	**P**	**06 43 54.7**	**0.0**
OKCD				S	**S**	**06 44 16.2**	**+2.3**
OKFG	**Magazine Ridge**	**1.61**	**36**	P	**P**	**06 43 55.2**	**-0.3**
OKFG				S	**S**	**06 44 16.3**	**+1.1**
MSW	**Makushin Switc**	**2.43**	**41**	P	**P**	**06 44 06.8**	**-0.4**
MSW				S	**S**	**06 44 36.6**	**+0.7**
UNV	**Unalaska Valle**	**2.50**	**45**	P	**P**	**06 44 07.4**	**-0.8**
UNV				S	**S**	**06 44 36.6**	**-1.1**
MTBL	**Makushin Table**	**2.51**	**41**	P	**P**	**06 44 08.4**	**0.0**
ATKA	**Atka Island**	**2.91**	**274**	P	**P**	**06 44 14.3**	**+0.3**
WPOG	**Pogromni**	**3.77**	**47**	P	**P**	**06 44 26.1**	**-0.2**
GSIG	**Igitkin Island**	**3.98**	**271**	P	**P**	**06 44 29.3**	**+0.1**
GSTR	**Great Sitkin T**	**4.06**	**272**	*e*P	**P**	**06 44 30.7**	**+0.4**
GSMY	**Great Sitkin M**	**4.06**	**272**	P	**P**	**06 44 30.8**	**+0.5**
GSTD	**Great Sitkin T**	**4.11**	**272**	P	**P**	**06 44 31.0**	**-0.1**
ADAG	**Mount Adagdak**	**4.40**	**271**	P	**P**	**06 44 35.4**	**+0.2**
KIWB	**Kanaga Island**	**4.75**	**270**	P	**P**	**06 44 40.0**	**-0.1**
KIKV	**Kanaga Island**	**4.76**	**270**	P	**P**	**06 44 40.9**	**+0.7**
SPIA	**Saint Paul Isl**	**5.09**	**355**	P	**P**	**06 44 46.5**	**+1.6**
SDPT	**Sand Point**	**6.25**	**55**	P	**P**	**06 44 59.7**	**-1.4**
FX1	**Attu Island--F**	**10.62**	**281**	Pn	**P**	**06 46 00.2**	**-1.2**
	1.5nm,0.3s,baz=286,slow=21,SNR=13						
FX1				Sn	**S**	**06 47 40.8**	**-19**
	1.6nm,0.3s,baz=102,slow=19,SNR=6.2						
FX1	**Attu Island--F**	**10.62**	**281**	P	**P**	**06 46 00.8**	**-0.6**
RSO	**Redoubt South**	**12.46**	**41**	*e*P	**P**	**06 46 24.6**	**-1.8**
TNA	**Tin City**	**13.51**	**3**	*e*P	**P**	**06 46 41.1**	**+1.1**
SLKM	**Skilak Lake**	**13.55**	**44**	*e*P	**P**	**06 46 38.1**	**-2.5**
MCK	**McKinley**	**15.86**	**35**	*e*P	**P**	**06 47 10.8**	**+0.3**
MCK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MCK	**McKinley**	**15.86**	**35**	*e*P	**P**	**06 47 10.8**	**+0.2**
	comp=Z,3.9nm,1.0s						
IMA	**Indian Mountai**	**16.09**	**24**	*e*P	**P**	**06 47 14.8**	**+1.3**
IMA				pmax	pmax		
	comp=Z,45nm,1.2s						
IMA	**Indian Mountai**	**16.09**	**24**	*e*P	**P**	**06 47 14.8**	**+1.2**
	comp=Z,45nm,1.2s						
THY	**Trims Highway**	**16.85**	**39**	*e*P	**P**	**06 47 22.4**	**-0.7**
COLA	**College**	**16.94**	**33**	*e*P	**P**	**06 47 20.7**	**-3.4**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
COLA	**College**	**16.94**	**33**	*e*P	**P**	**06 47 20.7**	**-3.4**
	comp=Z,7.8nm,0.8s						
ILAR	**Eielson Array**	**17.20**	**34**	P	**P**	**06 47 24.1**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=225,slow=12,SNR=23						
DAWY	**Dawson**	**19.67**	**41**	*e*P	**P**	**06 47 53.7**	**-3.3**
BILL	**Bilibino**	**19.80**	**333**	*e*P	**P**	**06 47 59.0**	**+0.7**
BILL				pmax	pmax		
	comp=Z,15nm,1.0s						
BILL	**Bilibino**	**19.80**	**333**	*e*P	**P**	**06 47 59.0**	**+0.6**
	comp=Z,14nm,1.0s						
DLBC	**Dease Lake**	**23.07**	**59**	P	**P**	**06 48 29.3**	**-2.1**
	comp=Z,2.3nm,0.8s,mb3.6,baz=270,slow=20,SNR=2.4						
MA2	**Magadan**	**23.23**	**304**	*e*P	**P**	**06 48 34.6**	**+1.7**
MA2				*e*S	**S**	**06 52 41.6**	**+3.4**
MA2				*e*SS	SS	06 53 45.6	+20
MA2				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
MA2				MLR	MLR		
	comp=Z,500nm,21.0s,MS3.9						
MA2	**Magadan**	**23.23**	**304**	*e*P	**P**	**06 48 34.7**	**+1.8**
	comp=Z,8.3nm,1.0s,mb4.1						
INK	**Inuvik**	**23.60**	**33**	*e*P	**P**	**06 48 34.1**	**-2.3**
INK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
INK	**Inuvik**	**23.60**	**33**	P	**P**	**06 48 33.9**	**-2.5**
	comp=Z,7.6nm,0.5s,mb4.4,baz=246,slow=7.4,SNR=73						
INK	**Inuvik**	**23.60**	**33**	*e*P	**P**	**06 48 34.1**	**-2.3**
	comp=Z,7.2nm,0.6s,mb4.3						
YKW3	**Yellowknife Ar**	**30.45**	**48**	*e*P	**P**	**06 49 39.0**	**-0.5**
YKA	**Yellowknife Ar**	**30.46**	**49**	*i*P	**P**	**06 49 39.3**	**-0.3**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
YKA	**Yellowknife Ar**	**30.46**	**49**	P	**P**	**06 49 38.9**	**-0.7**
	comp=Z,2.6nm,0.5s,mb4.2,baz=273,slow=8.1,SNR=40						
TIXI	**Tiksi**	**32.92**	**329**	*e*P	**P**	**06 50 00.1**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
YBH	**Yreka Blue Hor**	**33.05**	**89**	P	**P**	**06 50 03.4**	**+0.9**
YBH				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YBH	**Yreka Blue Hor**	**33.05**	**89**	P	**P**	**06 50 03.4**	**+0.8**
	comp=Z,1.4nm,0.9s,mb3.9,baz=304,slow=15,SNR=2.0						
MOD	**Modoc**	**34.44**	**87**	P	**P**	**06 50 15.1**	**+0.6**
	comp=Z,3.4nm,0.8s,mb4.3						
BMO	**Blue Mountains**	**34.68**	**81**	P	**P**	**06 50 16.4**	**-0.1**
	comp=Z,9.9nm,1.5s,mb4.5						
NSHM	**Saint Helena R**	**35.02**	**94**	P	**P**	**06 50 19.7**	**+0.2**
WVOR	**Wild Horse Val**	**35.16**	**85**	*e*P	**P**	**06 50 20.1**	**-0.6**
WVOR				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
WVOR	**Wild Horse Val**	**35.16**	**85**	*e*P	**P**	**06 50 20.1**	**-0.6**
	comp=Z,7.4nm,1.1s,mb4.5						
HLID	**Hailey**	**37.13**	**81**	*e*P	**P**	**06 50 37.3**	**+0.1**
	comp=Z,4.8nm,1.1s,mb4.2						
MCMT	**McKenzie Canyo**	**37.39**	**78**	*e*P	**P**	**06 50 39.6**	**+0.1**
BOZ	**Bozeman (W)**	**37.70**	**76**	*e*P	**P**	**06 50 41.6**	**-0.4**
BOZ				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.1						
BOZ	**Bozeman (W)**	**37.70**	**76**	*e*P	**P**	**06 50 41.6**	**-0.4**
	comp=Z,4.6nm,1.2s,mb4.1						
NVAR	**Mina Array Bea**	**37.73**	**91**	P	**P**	**06 50 43.7**	**+1.3**
	comp=Z,0.5nm,0.8s,mb3.3,baz=278,slow=12,SNR=4.5						
NVAR				LR	LR	07 02 15.5	
	comp=Z,115nm,20.0s,MS3.7,baz=325,slow=30						
NVAR	**Mina Array Bea**	**37.73**	**91**	P	**P**	**06 50 43.7**	**+1.3**
NVAR				LR	LR	07 02 15.5	
QLMT	**Earthquake Lak**	**38.25**	**77**	*e*P	**P**	**06 50 47.6**	**+1.0**
AHID	**Auburn Hatcher**	**39.58**	**80**	*e*P	**P**	**06 50 58.3**	**+0.6**
	comp=Z,9.2nm,1.3s,mb4.3						
HWUT	**Hardware Ranch**	**39.97**	**82**	P	**P**	**06 51 00.2**	**-0.7**
BW06	**Boulder Array**	**40.52**	**79**	*e*P	**P**	**06 51 05.1**	**-0.4**
	comp=Z,2.9nm,0.9s,mb3.9						
PDAR	**Pinedale Array**	**40.52**	**79**	P	**P**	**06 51 06.0**	**+0.5**
	comp=Z,2.1nm,0.7s,mb3.9,baz=313,slow=5.0,SNR=19						
PDAR				LR	LR	07 06 28.0	
	comp=Z,138nm,20.7s,MS3.8,baz=322,slow=34						
JLU	**Jordanelle**	**40.63**	**83**	P	**P**	**06 51 07.0**	**+0.6**
DAU	**Daniels Canyon**	**40.86**	**83**	*e*P	**P**	**06 51 09.8**	**+1.5**
FCC	**Fort Churchill**	**41.16**	**50**	*e*P	**P**	**06 51 10.2**	**-0.4**
FCC				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
FCC	**Fort Churchill**	**41.16**	**50**	*e*P	**P**	**06 51 10.2**	**-0.4**
	comp=Z,5.8nm,0.6s,mb4.4						
MVU	**Marysvale**	**41.43**	**86**	P	**P**	**06 51 13.7**	**+0.7**
	comp=Z,2.5nm,1.1s,mb3.8						
TMUT	**Trail Mountain**	**41.56**	**84**	*e*P	**P**	**06 51 15.4**	**+1.3**
NEN	**Nelson**	**41.63**	**91**	P	**P**	**06 51 14.4**	**-0.2**
SRU	**San Rafael**	**42.10**	**84**	*e*P	**P**	**06 51 19.8**	**+1.4**
BOD	**Bodaibo**	**42.10**	**309**	*e*P	**P**	**06 51 17.2**	**-1.0**
HIA	**Hailar**	**43.30**	**296**	*e*P	**P**	**06 51 27.2**	**-0.9**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HIA	**Hailar**	**43.30**	**296**	*e*P	**P**	**06 51 27.2**	**-1.0**
	comp=Z,4.2nm,0.7s,mb4.3						
PV10	**Paradox Valley**	**43.46**	**84**	*e*P	**P**	**06 51 30.6**	**+1.0**
PV01	**Paradox Valley**	**43.90**	**84**	*e*P	**P**	**06 51 33.0**	**-0.1**
TUC	**Tucson**	**46.36**	**91**	*e*P	**P**	**06 51 53.1**	**+0.3**
TUC				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.5						
TUC	**Tucson**	**46.36**	**91**	*e*P	**P**	**06 51 53.1**	**+0.3**
	comp=Z,9.9nm,1.6s,mb4.5						
ANMO	**Albuquerque**	**47.25**	**85**	*i*P	**P**	**06 52 01.8**	**+2.0**
ANMO	**Albuquerque**	**47.25**	**85**	P	**P**	**06 52 01.0**	**+1.2**
	comp=Z,0.2nm,0.4s,mb3.4,slow=13,SNR=2.3						
ANMO	**Albuquerque**	**47.25**	**85**	P	**P**	**06 52 00.8**	**+1.1**
DAG	**Danmarks Havn**	**50.05**	**8⇑**	*e*P	**P**	**06 52 19.9**	**-1.1**
DAG				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
DAG	**Danmarks Havn**	**50.05**	**8⇑**	*e*P	**P**	**06 52 19.9**	**-1.1**
	comp=Z,7.6nm,1.1s,mb4.6						
DAG	**Danmarks Havn**	**50.05**	**8⇑**	*i*P	**P**	**06 52 19.9**	**-1.1**
	comp=Z,7.6nm,1.1s,mb4.6						
MNTX	**Cornudas Mount**	**50.11**	**88**	*e*P	**P**	**06 52 21.4**	**-0.6**
	comp=Z,2.3nm,1.0s,mb4.2						
CPRX	**Cap Rock**	**50.13**	**85**	P	**P**	**06 52 21.6**	**-0.5**
GDL2	**Guadalupe Moun**	**50.40**	**87**	*e*P	**P**	**06 52 22.9**	**-1.2**
TLY	**Talaya**	**50.44**	**306**	*i*P	**P**	**06 52 24.2**	**0.0**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
TLY				MLR	MLR		
	comp=Z,700nm,18.0s,MS4.7						
BJI	**Beijing**	**50.79**	**287**	*e*P	**P**	**06 52 29.6**	**+2.6**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
BJI	**Beijing**	**50.79**	**287**	*e*P	**P**	**06 52 29.6**	**+2.6**
	comp=Z,7.0nm,0.9s,mb4.6						
ULN	**Ulaanbaatar**	**51.01**	**301**	*i*P	**P**	**06 52 28.5**	**0.0**
SUMG	**Summit**	**51.05**	**17**	*e*P	**P**	**06 52 27.6**	**-0.9**
	comp=Z,18nm,1.0s,mb5.0						
SONM	**Songino Array**	**51.37**	**301**	P	**P**	**06 52 31.2**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.0,baz=59,slow=7.2,SNR=9.1						
ZAK	**Zakamensk**	**51.41**	**305**	*e*P	**P**	**06 52 29.8**	**-1.7**
MOY	**Mondy**	**51.75**	**308**	*e*P	**P**	**06 52 34.0**	**-0.1**
WMOK	**Wichita Mounta**	**52.09**	**80**	*e*P	**P**	**06 52 35.3**	**-1.6**
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
WMOK	**Wichita Mounta**	**52.09**	**80**	*e*P	**P**	**06 52 35.3**	**-1.6**
	comp=Z,2.0nm,0.7s,mb4.2						
TXAR	**Lajitas Array**	**52.82**	**89**	P	**P**	**06 52 42.0**	**-0.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=301,slow=5.6,SNR=20						
TXAR	**Lajitas Array**	**52.82**	**89**	P	**P**	**06 52 42.0**	**-0.4**
SSE	**Sheshan**	**53.76**	**276**	P	**P**	**06 52 47.5**	**-1.8**
SSE				XP	sP	06 52 59.5	-6.3
SSE				AMB	AMB		
	comp=Z,18nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,44nm,3.4s						
SSE				LR	LR		
	comp=N,76nm,20.1s,MS3.9						
SSE				LR	LR		
	comp=E,68nm,20.1s,MS3.9						
SSE				LR	LR		
	comp=Z,76nm,20.6s,MS3.7						
SSE	**Sheshan**	**53.76**	**276**	P	**P**	**06 52 47.5**	**-1.8**
	comp=Z,18nm,0.7s,mb5.1						
SSE				sP	sP	06 52 59.5	-6.3
SSE				S	**S**	**07 00 18.2**	**-0.9**
SSE				sS		07 00 34.5	
SSE				LR	LR		
	comp=Z,80nm,20.6s,MS3.8						
NJ2	**Nanjing**	**54.52**	**278**	*e*P	**P**	**06 52 55.1**	**+0.2**
NJ2				AP	pP	06 53 05.1	-1.5
NJ2				XP	sP	06 53 10.5	-0.9
NJ2				PCP	PcP	06 53 57.1	-0.7
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,360nm,3.6s						
NJ2				LR	LR		
	comp=Z,310nm,11.3s,MS4.6						
SCO	**Scoresbysund**	**55.49**	**13**	*i*P	**P**	**06 53 00.6**	**-0.8**
SCHQ	**Schefferville**	**55.67**	**43**	P	**P**	**06 53 01.2**	**-1.6**
	comp=Z,5.7nm,1.0s,mb4.5,baz=311,slow=8.0,SNR=4.1						
NVS	**Novosibirsk**	**57.58**	**319**	*e*P	**P**	**06 53 13.8**	**-2.7**
ZAL	**Zalesovo**	**57.58**	**318**	P	**P**	**06 53 14.4**	**-2.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**57.58**	**318**	P	**P**	**06 53 14.4**	**-2.2**
	comp=Z,0.5nm,0.4s,mb3.9,baz=239,slow=18,SNR=2.9						
ARCES	**ARCESS Array B**	**58.17**	**354**	P	**P**	**06 53 19.2**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES	**ARCESS Array B**	**58.17**	**354**	P	**P**	**06 53 19.2**	**-1.3**
	comp=Z,3.9nm,0.9s,mb4.4,baz=5.5,slow=6.5,SNR=9.1						
XAN	**Xi'an**	**59.11**	**287**	P	**P**	**06 53 27.0**	**-0.5**
XAN				AP	pP	06 53 37.8	-1.5
XAN				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.5						
KURK	**Kurchatov**	**62.52**	**318**	*i*P	**P**	**06 53 49.7**	**-0.7**
KURK	**Kurchatov**	**62.52**	**318**	*e*P	**P**	**06 53 48.8**	**-1.6**
	comp=Z,4.3nm,0.6s,mb4.8						
WMQ	**Urumqi**	**63.64**	**308**	*e*P	**P**	**06 54 01.1**	**+3.3**
WMQ				PP	PP	06 56 22.8	+3.2
WMQ				S	**S**	**07 02 31.0**	**+3.8**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.8s,mb4.5						
WMQ				LR	LR		
	comp=N,124nm,19.7s,MS4.2						
WMQ				LR	LR		
	comp=E,111nm,19.6s,MS4.2						
WMQ				LR	LR		
	comp=Z,183nm,20.3s,MS4.2						
BVAR	**Borovoye Array**	**63.87**	**324**	P	**P**	**06 53 58.3**	**-0.9**
	comp=Z,5.1nm,0.6s,mb4.7,baz=53,slow=8.1,SNR=25						
BRVK	**Borovoye**	**63.88**	**324**	*e*P	**P**	**06 53 57.9**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
BRVK	**Borovoye**	**63.88**	**324**	*e*P	**P**	**06 53 57.9**	**-1.3**
	comp=Z,7.6nm,1.2s,mb4.6						
ARU	**Arti**	**64.82**	**333⇓**	*i*P	**P**	**06 53 56.3**	**-8.9**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
KAF	**Kangasniemi**	**65.43**	**352**	*ep*	**P**	**06 54 07.3**	**-1.8**
	comp=Z,5.0nm,0.5s,mb4.8						
KAF	**Kangasniemi**	**65.43**	**352**	*e*P	**P**	**06 54 07.3**	**-1.8**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
FINES	**FINESS Array B**	**66.11**	**352**	*i*P	**P**	**06 54 12.5**	**-0.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	**FINESS Array B**	**66.11**	**352**	P	**P**	**06 54 12.2**	**-1.2**
	comp=Z,3.1nm,0.6s,mb4.5,baz=31,slow=8.0,SNR=32						
NB2	**NORSAR Subarra**	**67.20**	**360**	P	**P**	**06 54 19.8**	**-0.4**
	comp=Z,2.0nm,0.7s,mb4.3,baz=359,slow=6.2						
NOA	**NORSAR Array B**	**67.20**	**360**	P	**P**	**06 54 19.6**	**-0.6**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NOA	**NORSAR Array B**	**67.20**	**360**	P	**P**	**06 54 19.6**	**-0.7**

comp=Z,1.5nm,1.0s,mb4.2,baz=19,slow=3.2,SNR=5.3
WRA Warramunga Arr 86.79 232 *i* P **P 06 56 12.8 +2.7**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 86.79 232 P **P 06 56 09.9 -0.2**
comp=Z,0.9nm,0.7s,mb4.1,baz=33,slow=5.9,SNR=7.6
ESDC Sonseca Array 87.72 11 P **P 06 56 14.7 +0.6**
comp=Z,1.5nm,0.6s,mb4.4,baz=353,slow=4.0,SNR=5.9
ASAR Alice Springs 90.18 230 P **P 06 56 26.4 +0.2**
comp=Z,1.2nm,0.6s,mb4.4,baz=32,slow=4.9,SNR=11

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*IDC **22** 06:45:05.8±2.2, 52.39N×169.48W, mb4.1/9, mb1 4.3/9, mb1mx4.1/20, mbtmp4.1/9, MS4.1/3, Ms1 4.1/3, ms1mx3.5/26, Error ellipse: s-maj=56.4km s-min=28.3km az=174.0*
*NEIC **22** 06:45:11.7±1.0, 52.34N×169.51W, h43km±5km, ML3.4(AEIC), Error ellipse: s-maj=23.0km s-min=5.0km az=158.0*
ISC 22 06:45:08.9±1.2,**52.1N**±0.1×**169.4W**±0.1,**h46**km±9km,**n23**, σ0**95**/26,**mb4.1**/9,**MS4.1**/3,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.96**	**20**	P	**P**	**06 45 24.8**	**-1.4**
NIKO				S	**S**	**06 45 39.0**	**0.0**
OKCE	**Okmok Cone E**	**1.55**	**28**	P	**P**	**06 45 34.4**	**-0.2**
OKCE				S	**S**	**06 45 56.0**	**+2.3**
OKCD	**Okmok Cone D**	**1.57**	**29**	P	**P**	**06 45 35.0**	**+0.1**
OKCD				S	**S**	**06 45 55.0**	**+0.9**
OKFG	**Magazine Ridge**	**1.62**	**33**	P	**P**	**06 45 35.2**	**-0.3**
OKFG				S	**S**	**06 45 56.0**	**+0.7**
MSW	**Makushin Switc**	**2.43**	**40**	P	**P**	**06 45 46.7**	**-0.3**
MSW				S	**S**	**06 46 15.6**	**-0.2**
UNV	**Unalaska Valle**	**2.50**	**43**	P	**P**	**06 45 47.5**	**-0.5**
UNV				S	**S**	**06 46 15.3**	**-2.0**
MTBL	**Makushin Table**	**2.51**	**40**	P	**P**	**06 45 48.4**	**+0.1**
ATKA	**Atka Island**	**2.96**	**274**	P	**P**	**06 45 55.0**	**+0.4**
AHB	**Akutan Harbor**	**2.98**	**45**	P	**P**	**06 45 55.8**	**+0.9**
GSTD	**Great Sitkin T**	**4.16**	**272**	P	**P**	**06 46 11.4**	**-0.2**
KIWB	**Kanaga Island**	**4.80**	**270**	P	**P**	**06 46 20.4**	**-0.2**
DLBC	**Dease Lake**	**23.06**	**58**	LR	LR	06 58 27.1	
	comp=Z,442nm,18.8s,MS3.9,baz=275,slow=35						
INK	**Inuvik**	**23.61**	**33**	P	**P**	**06 50 15.7**	**-0.1**
	2.2nm,0.7s,mb3.7,baz=235,slow=8.5,SNR=8.8						
YKA	**Yellowknife Ar**	**30.45**	**48**	P	**P**	**06 51 18.5**	**-0.4**
	1.1nm,0.7s,mb3.7,baz=277,slow=8.1,SNR=2.8						
PDAR	**Pinedale Array**	**40.48**	**79**	P	**P**	**06 52 45.9**	**+1.4**
	0.7nm,0.6s,mb3.6,baz=315,slow=6.4,SNR=2.2						
ARCES	**ARCESS Array B**	**58.22**	**354**	P	**P**	**06 54 58.7**	**-1.4**
	7.2nm,1.1s,mb4.6,baz=12,slow=8.3,SNR=4.7						
BVAR	**Borovoye Array**	**63.93**	**324**	P	**P**	**06 55 38.7**	**-0.1**
	1.9nm,0.5s,mb4.3,baz=59,slow=8.6,SNR=4.0						
FINES	**FINESS Array B**	**66.16**	**352**	P	**P**	**06 55 52.4**	**-0.7**
	4.1nm,0.8s,mb4.5,baz=18,slow=8.6,SNR=4.8						
NOA	**NORSAR Array B**	**67.24**	**360**	P	**P**	**06 55 58.3**	**-1.5**
	3.1nm,0.8s,mb4.4,baz=2.9,slow=6.6,SNR=5.0						
RAR	**Rarotonga**	**73.45**	**171**	LR	LR	07 23 18.0	
	comp=Z,142nm,18.9s,MS4.3,baz=291,slow=31						
CMAR	**Chiang Mai Arr**	**76.67**	**283**	P	**P**	**06 56 57.9**	**+1.2**
	0.8nm,0.4s,mb4.0,baz=31,slow=5.3,SNR=3.1						
GNI	**Garni**	**83.47**	**334**	LR	LR	07 42 02.9	
	comp=Z,97nm,20.1s,MS4.2,baz=272,slow=41						
BRTR	**Keskin Array B**	**86.40**	**342**	P	**P**	**06 57 48.9**	**+1.8**
	0.9nm,0.9s,mb4.0,baz=314,slow=0.6,SNR=3.6						

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*IDC **22** 06:54:44.4±1.1, 22.96N×121.52E, mb3.8/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.8/7, Error ellipse: s-maj=38.0km s-min=24.9km az=73.0*
*NEIC **22** 06:54:46.8±1.1, 22.85N×121.38E, h10km, mb4.3/1, ML4.5(TAP), Error ellipse: s-maj=25.8km s-min=15.2km az=94.0*
NEIC Recorded [3 TAP] in T'ai-tung County.
*JMA **22** 06:54:48.7±0.3, 22.78N×121.35E, h87km, M3.7*
*BJI **22** 06:54:48.3, 22.93N×121.09E, h10km, mB4.6, mb4.3, ML3.7, Ms4.2, Msz3.9*
*TAP **22** 06:54:48.4, 22.88N×121.27E, h19km, ML4.3*
TAP Felt II J at Taitung, II J at Pinlang, I J at Chenggung, I J at Lidau, II J at Taimali, I J at Sandimen, I J at Lanyu.
ISC 22 06:54:47.6±0.3,**22.80N**±0.02×**121.35E**±0.02,**h23**km±2km, **n74**, σ0**94**/115,**mb3.8**/8,**11C-6D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.20**	**257**	⇓*i*P	**Pb**	**06 54 53.2**	**+0.3**
TTN				S	**Sb**	**06 54 56.7**	**+0.1**
TWG	**Pinlang**	**0.26**	**275**	⇓*i*P	**Pb**	**06 54 53.2**	**-0.6**
TWG				S	**Sb**	**06 54 57.5**	**-0.7**
CHKT	**Chengkung**	**0.30**	**2**	⇓*i*P	**Pb**	**06 54 54.2**	**-0.2**
CHKT				S	**Sb**	**06 54 58.6**	**-0.5**
ECL	**Taimali**	**0.42**	**241**	⇓*i*P	**Pb**	**06 54 56.1**	**-0.2**
ECL				S	**Sb**	**06 55 01.9**	**-0.4**
ELDTW	**Lidau**	**0.50**	**321**	⇑*i*P	**Pb**	**06 54 56.5**	**-1.1**
ELDTW				S	**Sb**	**06 55 02.1**	**-2.3**
TWF1	**Yuli**	**0.55**	**355**	*i* P	**Pb**	**06 54 57.7**	**-0.8**
TWF1				S	**Sb**	**06 55 04.5**	**-1.5**
TAW	**Tawu**	**0.61**	**224**	*e*P	**Pb**	**06 54 59.6**	**+0.1**
TAW				S	**Sb**	**06 55 08.1**	**+0.4**
EAST	**Anshuo**	**0.62**	**228**	⇓*i*P	**Pb**	**06 54 59.9**	**+0.2**
STYT	**Tauyuan**	**0.66**	**303**	⇑*i*P	**Pb**	**06 54 59.4**	**-0.9**
STYT				S	**Sb**	**06 55 07.4**	**-1.6**
SSD	**Sandimen**	**0.67**	**266**	⇑*i*P	**Pb**	**06 54 59.8**	**-0.6**
SSD				S	**Sb**	**06 55 07.0**	**-2.2**
EHY	**Hungye**	**0.70**	**358**	*e*P	**Pb**	**06 55 00.2**	**-0.9**
SGST	**Jiashian**	**0.76**	**292**	⇑*i*P	**Pb**	**06 55 02.0**	**-0.1**
SGST				S	**Sb**	**06 55 12.0**	**0.0**
LAY	**Lan-yu**	**0.78**	**166**	*e*P	**Pb**	**06 55 02.9**	**+0.5**
YUS	**Yu-Shan**	**0.78**	**332**	⇑*i*P	**Pb**	**06 55 01.7**	**-0.7**
YUS				S	**Sb**	**06 55 10.6**	**-1.8**
SGLT	**Jiouru**	**0.80**	**265**	*e*P	**Pb**	**06 55 03.2**	**+0.5**
SCZT	**Fangliau**	**0.80**	**238**	⇓P	**Pb**	**06 55 03.0**	**+0.3**
WTP	**Ta-pu**	**0.81**	**303**	⇑*i*P	**Pb**	**06 55 02.7**	**-0.2**
WTP				S	**Sb**	**06 55 13.3**	**-0.1**
CHN1	**Nanshi**	**0.85**	**297**	⇑*i*P	**Pb**	**06 55 03.7**	**+0.1**
CHN1				S	**Sb**	**06 55 15.4**	**+0.9**
TWM1	**Shoushan**	**0.86**	**272**	*e*P	**Pb**	**06 55 04.6**	**+1.0**
ALS	**Alishan**	**0.87**	**325**	⇑*i*P	**Pb**	**06 55 03.6**	**-0.3**
ALS				S	**Sb**	**06 55 14.1**	**-1.0**
CHN4	**Tsaushan**	**0.89**	**308**	⇑P	**Pb**	**06 55 04.2**	**0.0**
CHN4				S	**Sb**	**06 55 15.9**	**+0.2**
TWK	**Hsinying**	**0.92**	**300**	⇑*i*P	**Pb**	**06 55 04.6**	**-0.1**
TWK				S	**Sb**	**06 55 17.9**	**+1.3**
CHN3	**Shinhua**	**0.95**	**287**	*e*P	**Pb**	**06 55 06.9**	**+1.6**
CHN3				S	**Sb**	**06 55 21.4**	**+4.0**
HEN	**Hengchun**	**0.97**	**216**	*e*P	**Pb**	**06 55 06.1**	**+0.5**
HEN				S	**Sb**	**06 55 21.7**	**+3.6**
KAU	**Kaohsiung**	**0.99**	**257**	*e*P	**Pb**	**06 55 06.3**	**+0.4**
TWK1	**Hengchun**	**0.99**	**211**	*e*P	**Pb**	**06 55 06.1**	**+0.1**
CHN5	**Tsauling**	**1.01**	**322**	⇑*i*P	**Pb**	**06 55 06.2**	**0.0**
CHN5				S	**Sb**	**06 55 18.8**	**-0.3**
ESL	**Shilin**	**1.01**	**4**	*e*P	**Pb**	**06 55 05.9**	**-0.4**
TWP	**Hsiaoliuchiu**	**1.02**	**244**	*e*P	**Pb**	**06 55 09.4**	**+2.9**
TAI1	**Yung-k'ang**	**1.06**	**283**	*e*P	**Pb**	**06 55 08.0**	**+0.8**
CHN2	**Minshiung**	**1.09**	**312**	*e*P	**Pn**	**06 55 07.9**	**+0.4**
CHN2				S	**Sb**	**06 55 23.1**	**+1.8**
CHY	**Chiayi**	**1.10**	**309**	*e*P	**Pn**	**06 55 08.2**	**+0.5**
CHY				S	**Sb**	**06 55 22.6**	**+0.8**
SCLT	**Jiali**	**1.13**	**290**	*e*P	**Pn**	**06 55 08.7**	**+0.5**
SCLT				S	**Sb**	**06 55 24.1**	**+1.5**
WGK	**Gukeng**	**1.14**	**321**	*e*P	**Pn**	**06 55 09.2**	**+0.9**
SMLT	**Sun Moon Lake**	**1.16**	**339**	P	**Pn**	**06 55 09.3**	**+0.8**
SMLT				S	**Sb**	**06 55 24.6**	**+1.3**
CHN8	**Yiju**	**1.18**	**298**	*e*P	**Pn**	**06 55 08.4**	**-0.5**
CHN8				S	**Sb**	**06 55 24.9**	**+0.7**
TYC	**Yuchr**	**1.19**	**338**	*e*P	**Pn**	**06 55 09.1**	**+0.1**
TYC				S	**Sb**	**06 55 25.7**	**+1.4**
WNT	**Mingjian**	**1.24**	**330**	*e*P	**Pn**	**06 55 10.6**	**+1.0**
WNT				S	**Sb**	**06 55 26.7**	**+1.1**
TWD	**Chiawan**	**1.29**	**10**	*e*P	**Pn**	**06 55 09.8**	**-0.7**
WSF	**Szhu**	**1.33**	**309**	*e*P	**Pn**	**06 55 10.8**	**-0.3**
WSF				S	**Sn**	**06 55 28.5**	**+0.3**
WHF	**Hehuan Shan**	**1.34**	**357**	*e*P	**Pn**	**06 55 10.6**	**-0.6**
WHF				S	**Sn**	**06 55 27.9**	**-0.5**
TWT	**Tachien**	**1.46**	**354**	*e*P	**Pn**	**06 55 13.0**	**+0.2**
TCU	**Taichung**	**1.48**	**335**	*e*P	**Pn**	**06 55 13.7**	**+0.6**
TCU				S	**Sn**	**06 55 31.8**	**-0.1**
WDGT	**Dungji**	**1.63**	**287**	*e*P	**Pn**	**06 55 15.1**	**-0.2**
WDGT				S	**Sn**	**06 55 34.2**	**-1.4**
TWQ1	**Liyutan**	**1.63**	**341**	*e*P	**Pn**	**06 55 17.3**	**+2.0**
TWQ1				S	**Sn**	**06 55 37.7**	**+2.0**
ENA	**Nanau**	**1.66**	**12**	*e*P	**Pn**	**06 55 14.4**	**-1.3**
NSY	**Sanyi**	**1.70**	**341**	*e*P	**Pn**	**06 55 17.5**	**+1.2**
NSY				S	**Sn**	**06 55 39.0**	**+1.5**
PNG	**Penghu**	**1.82**	**295**	*e*P	**Pn**	**06 55 17.7**	**-0.3**
PNG				S	**Sn**	**06 55 39.5**	**-1.0**
ENTT	**Nioudou**	**1.84**	**6**	*e*P	**Pn**	**06 55 17.2**	**-1.1**
NSTT	**Nanjuang**	**1.85**	**350**	*e*P	**Pn**	**06 55 19.2**	**+0.8**
NSTT				S	**Sn**	**06 55 41.5**	**+0.2**
TWC	**Suao**	**1.86**	**14**	*e*P	**Pn**	**06 55 18.8**	**+0.3**
TWC				S	**Sn**	**06 55 43.0**	**+1.5**
NSK	**Sanguang**	**1.87**	**0**	*e*P	**Pn**	**06 55 18.7**	**0.0**
TWE	**Neicheng**	**1.93**	**8**	*e*P	**Pn**	**06 55 19.8**	**+0.2**
TATO	**Taipei**	**2.17**	**3**	*e*P	**Pn**	**06 55 22.9**	**-0.1**
TWA	**Mucha**	**2.18**	**6**	*e*P	**Pn**	**06 55 22.7**	**-0.5**
YOJ	**Yonaguni jima**	**2.25**	**42**	P	**Pn**	**06 55 24.9**	**+0.8**
YOJ				*e*S	**Sn**	**06 55 52.2**	**+0.8**
TWB1	**Santiao Chiao**	**2.27**	**15**	*e*P	**Pn**	**06 55 23.6**	**-0.9**
NWF	**Wu-fen Shan**	**2.29**	**10**	*e*P	**Pn**	**06 55 24.8**	**0.0**
HATJ	**Hateruma jima**	**2.58**	**60**	P	**Pn**	**06 55 29.3**	**+0.5**
HATJ				*e*S	**Sn**	**06 55 59.8**	**+0.1**
IRIF	**Iriomote-Funau**	**2.66**	**55**	P	**Pn**	**06 55 30.9**	**+0.8**
IRIF				*e*S	**Sn**	**06 56 02.9**	**+1.0**
JKRS	**Kuro-shima**	**2.83**	**59**	P	**Pn**	**06 55 32.9**	**+0.5**
JKRS				*e*S	**Sn**	**06 56 06.6**	**+0.5**
JIJ	**Ishigaki jima**	**3.00**	**58**	P	**Pn**	**06 55 34.7**	**-0.1**
JIJ				*e*S	**Sn**	**06 56 10.1**	**-0.3**
KNM	**Kinmen**	**3.12**	**302**	*e*P	**Pn**	**06 55 36.9**	**+0.3**
QZH	**Quanzhou**	**3.31**	**311**	P	**Pn**	**06 55 37.9**	**-1.3**
QZH				Smax			
	comp=N,240nm,0.7s						
QZH				Smax			
	comp=E,210nm,0.6s						
JTJ	**Tarama**	**3.58**	**58**	P	**Pn**	**06 55 43.0**	**0.0**
JTJ				*e*S	**Sn**	**06 56 25.2**	**+0.2**
NJ2	**Nanjing**	**9.48**	**347**	*e*P	**P**	**06 57 04.4**	**-1.5**
NJ2				AP		06 57 09.6	
NJ2				XP		06 57 13.6	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				Smax			
	comp=N,80nm,0.9s						
NJ2				Smax			
	comp=E,90nm,0.8s						
NJ2				LR	LR		
	comp=N,2μm,12.2s						
NJ2				LR	LR		
	comp=E,2μm,7.3s						
NJ2				LR	LR		
	comp=Z,870nm,8.8s						
CMAR	**Chiang Mai Arr**	**21.41**	**262**	P	**P**	**06 59 35.7**	**-0.4**
	comp=Z,2.4nm,0.9s,mb3.5,baz=65,slow=8.8,SNR=5.1						
SONM	**Songino Array**	**27.70**	**338**	P	**P**	**07 00 34.2**	**-1.8**
	comp=Z,1.2nm,0.6s,mb3.7,baz=149,slow=9.1,SNR=7.7						
ZAL	**Zalesovo**	**41.49**	**328**	P	**P**	**07 02 33.6**	**-0.7**
	comp=Z,2.1nm,0.9s,mb3.8,baz=273,slow=8.0,SNR=12						
ASAR	**Alice Springs**	**47.77**	**164**	P	**P**	**07 03 24.7**	**-0.5**
	comp=Z,0.2nm,0.4s,mb3.5,baz=350,slow=12,SNR=7.6						
BRVK	**Borovoye**	**48.91**	**321**	P	**P**	**07 03 29.7**	**-3.9**
	comp=Z,2.0nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**72.72**	**330**	P	**P**	**07 06 13.5**	**-1.8**
	comp=Z,2.8nm,0.9s,mb4.2,baz=315,slow=2.7,SNR=3.5						
INK	**Inuvik**	**74.45**	**22**	P	**P**	**07 06 23.0**	**-2.3**
	comp=Z,0.6nm,0.9s,mb3.5,baz=333,slow=5.9,SNR=2.9						
NOA	**NORSAR Array B**	**79.52**	**332**	P	**P**	**07 06 51.3**	**-2.4**
	comp=Z,1.1nm,0.9s,mb3.8,baz=61,slow=5.2,SNR=3.2						

IGQ 22 06:56:22.9,1.05S×81.57W,h12km±22km,**mb4.1,1C-4D, Error ellipse: s-maj=21.3km s-min=12.1km az=178.9, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.96**	**99**	⇑P	Pn	06 57 12.2	+1.4
JUA2	**San Juan 2**	**3.08**	**74**	⇓P	Pn	06 57 13.5	+1.1
TERV	**Terraza Guagua**	**3.09**	**74**	P	Pn	06 57 13.9	+1.3
TERV				S	Sn	06 57 49.4	-0.4
PINO	**Pino**	**3.09**	**73**	P	Pn	06 57 13.3	+0.7
PINO				S	Sn	06 57 48.2	-1.6
YANA	**Yana**	**3.14**	**73**	P	Pn	06 57 13.5	+0.3
ARRY	**Arrayan**	**3.15**	**98**	P	Pn	06 57 14.4	+1.0
PISA	**Pisayambo**	**3.19**	**90**	P	Pn	06 57 15.7	+1.8
VC1	**Cotopaxi 1**	**3.19**	**83**	P	Pn	06 57 16.6	+2.6
TAMB	**Tambo**	**3.22**	**84**	P	Pn	06 57 16.8	+2.4
ANTI	**Antisana**	**3.46**	**80**	⇓P	Pn	06 57 20.1	+2.3
ANTI				S	Sn	06 58 00.2	+1.0
CAYR	**Refugio Cayambo**	**3.72**	**73**	⇓P	Pn	06 57 24.2	+2.7
CAYR				S	Sn	06 58 06.6	+1.0
CAYA	**Cayambe**	**3.75**	**73**	⇓P	Pn	06 57 24.3	+2.4

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*NIED **22** 06:56:00, 24.20N×122.20E, h29km, Mw4.6 Best double couple: M0 7.7×10^15 NP1:φs 250°, δ70°, λ-75°. NP2:φs 31°, δ25°, λ-126°.*
*JMA **22** 06:56:44.8±0.2, 24.22N×122.18E, h43km, M4.9*
*TAP **22** 06:56:44.8, 24.11N×122.23E, h21km, ML4.8*
TAP Felt II J at Nanau, I J at Suao, I J at Ilan, I J at Neicheng, I J at Nioudou, I J at Hehuanshan, I J, I J at Taipai.
*BJI **22** 06:56:45.5, 24.33N×122.38E, h26km, mB4.5, mb4.4, ML4.8, Ms4.2, Msz4.2*
*IDC **22** 06:56:45.5±2.6, 24.23N×122.33E, h35km±20km, mb4.0/16, mb1 4.2/17, mb1mx4.1/23, mbtmp4.2/17, ML4.2/1, MS4.3/5, Ms1 4.4/5, ms1mx3.5/29, Error ellipse: s-maj=20.9km s-min=12.8km az=66.0*
*NEIC **22** 06:56:46.5±0.9, 24.19N×122.36E, h46km±8km, mb4.5/7, Error ellipse: s-maj=10.1km s-min=6.2km az=63.0*
ISC 22 06:56:44.1±0.2,**24.06N**±0.02×**122.32E**±0.01,**h21**km,**n108**, σ1**916**/152,**mb4.3**/21,**MS4.4**/5,**9C-12D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.65**	**305**	⇓*i*P	**Pb**	**06 56 56.2**	**-0.4**
ENA				S	**Sb**	**06 57 04.3**	**-0.8**
HWA	**Hwalien**	**0.66**	**263**	*e*P	**Pb**	**06 56 57.6**	**+0.8**
TWD	**Chiawan**	**0.66**	**272**	*i* P	**Pb**	**06 56 57.2**	**+0.4**
TWC	**Suao**	**0.70**	**322**	⇓*i*P	**Pb**	**06 56 56.8**	**-0.7**
YOJ	**Yonaguni jima**	**0.75**	**57**	P	**Pb**	**06 56 59.6**	**+1.2**
YOJ				S	**Sb**	**06 57 10.2**	**+2.0**
ESL	**Shilin**	**0.84**	**254**	⇑*i*P	**Pb**	**06 56 59.6**	**-0.4**
ESL				S	**Sb**	**06 57 10.9**	**+0.1**
ILA	**Ilan**	**0.88**	**324**	P	**Pb**	**06 57 00.4**	**-0.1**
ILA				S	**Sb**	**06 57 11.4**	**-0.4**
TWE	**Neicheng**	**0.89**	**318**	⇓*i*P	**Pb**	**06 57 00.4**	**-0.3**
TWE				S	**Sb**	**06 57 11.6**	**-0.6**
ENTT	**Nioudou**	**0.90**	**310**	⇓P	**Pb**	**06 57 00.8**	**-0.1**
ENTT				S	**Sb**	**06 57 12.2**	**-0.2**
WHF	**Hehuan Shan**	**0.97**	**276**	⇓*i*P	**Pb**	**06 57 02.0**	**0.0**
WHF				S	**Sb**	**06 57 14.5**	**+0.1**
TWB1	**Santiao Chiao**	**1.00**	**343**	⇓*i*P	**Pb**	**06 57 02.3**	**-0.2**
TWB1				S	**Sb**	**06 57 14.8**	**-0.4**
TWT	**Tachien**	**1.06**	**281**	*e*P	**Pb**	**06 57 04.1**	**+0.4**
EHY	**Hungye**	**1.06**	**239**	*e*P	**Pb**	**06 57 03.0**	**-0.7**
NSK	**Sanguang**	**1.07**	**305**	⇓*i*P	**Pb**	**06 57 03.6**	**-0.2**
NSK				S	**Sb**	**06 57 17.2**	**-0.2**
NWF	**Wu-fen Shan**	**1.12**	**334**	⇓*i*P	**Pb**	**06 57 04.5**	**-0.2**
NWF				S	**Sb**	**06 57 18.3**	**-0.6**
TWA	**Mucha**	**1.14**	**324**	⇓P	**Pb**	**06 57 05.3**	**+0.3**
TWA				S	**Sb**	**06 57 19.8**	**+0.4**
TWF1	**Yuli**	**1.17**	**233**	⇑*i*P	**Pn**	**06 57 04.9**	**-0.6**
TATO	**Taipei**	**1.19**	**321**	*e*P	**Pn**	**06 57 05.5**	**-0.2**
TAP1	**Taipei**	**1.22**	**324**	*e*P	**Pn**	**06 57 06.1**	**-0.1**
TAP1				S	**Sb**	**06 57 22.2**	**+0.5**
TAP	**Taipei**	**1.23**	**323**	*e*P	**Pn**	**06 57 07.0**	**+0.7**
TAP				S	**Sb**	**06 57 22.9**	**+0.9**
CHKT	**Chengkung**	**1.29**	**223**	*e*P	**Pn**	**06 57 06.1**	**-1.1**
CHKT				S	**Sb**	**06 57 21.1**	**-2.7**
SMLT	**Sun Moon Lake**	**1.31**	**263**	⇑P	**Pn**	**06 57 07.6**	**+0.1**
SMLT				S	**Sb**	**06 57 23.4**	**-0.9**
IRIF	**Iriomote-Funau**	**1.32**	**78**	P	**Pn**	**06 57 08.6**	**+1.0**
IRIF				S	**Sb**	**06 57 26.4**	**+1.8**
TWS1	**Kuangyinshan**	**1.33**	**322**	*e*P	**Pn**	**06 57 07.9**	**+0.2**
TWS1				S	**Sb**	**06 57 25.2**	**+0.5**
NSTT	**Nanjuang**	**1.33**	**296**	*e*P	**Pn**	**06 57 08.0**	**+0.2**
TYC	**Yuchr**	**1.34**	**264**	⇑P	**Pn**	**06 57 08.0**	**0.0**
HATJ	**Hateruma jima**	**1.36**	**90**	P	**Pn**	**06 57 09.5**	**+1.3**
HATJ				S	**Sn**	**06 57 29.5**	**+3.8**
YUS	**Yu-Shan**	**1.37**	**246**	*e*P	**Pn**	**06 57 08.7**	**+0.3**
YUS				S	**Sn**	**06 57 25.4**	**-0.6**
NCU	**National Centr**	**1.38**	**312**	*e*P	**Pn**	**06 57 08.7**	**+0.2**
NCU				S	**Sn**	**06 57 27.4**	**+1.3**
TWY	**Chenhua**	**1.38**	**332**	*e*P	**Pn**	**06 57 08.1**	**-0.4**
TWY				S	**Sn**	**06 57 26.2**	**0.0**
HSN	**Hsinchu**	**1.44**	**301**	*e*P	**Pn**	**06 57 08.9**	**-0.4**
HSN				S	**Sn**	**06 57 27.9**	**+0.2**
TWQ1	**Liyutan**	**1.44**	**282**	*e*P	**Pn**	**06 57 10.3**	**+1.0**
NSY	**Sanyi**	**1.47**	**285**	*e*P	**Pn**	**06 57 11.0**	**+1.3**
ELDTW	**Lidau**	**1.47**	**234**	*e*P	**Pn**	**06 57 09.0**	**-0.8**
ALS	**Alishan**	**1.49**	**249**	*e*P	**Pn**	**06 57 10.5**	**+0.4**
ALS				S	**Sn**	**06 57 28.8**	**-0.2**
TCU	**Taichung**	**1.50**	**274**	*e*P	**Pn**	**06 57 10.8**	**+0.5**
TCU				S	**Sn**	**06 57 29.7**	**+0.3**
WNT	**Mingjian**	**1.50**	**264**	*e*P	**Pn**	**06 57 11.2**	**+0.9**
WNT				S	**Sn**	**06 57 30.0**	**+0.5**
JKRS	**Kuro-shima**	**1.56**	**83**	P	**Pn**	**06 57 12.4**	**+1.4**
JKRS				S	**Sn**	**06 57 33.3**	**+2.6**
CHN5	**Tsauling**	**1.57**	**253**	⇑P	**Pn**	**06 57 12.0**	**+0.8**
CHN5				S	**Sn**	**06 57 31.2**	**+0.2**
WGK	**Gukeng**	**1.65**	**257**	*e*P	**Pn**	**06 57 13.4**	**+1.1**
WGK				S	**Sn**	**06 57 33.7**	**+0.6**
STYT	**Tauyuan**	**1.69**	**239**	⇑P	**Pn**	**06 57 13.1**	**+0.3**
STYT				S	**Sn**	**06 57 33.1**	**-0.9**
JIJ	**Ishigaki jima**	**1.69**	**79**	P	**Pn**	**06 57 13.5**	**+0.5**
JIJ				S	**Sn**	**06 57 35.0**	**+0.8**
CHN4	**Tsaushan**	**1.73**	**246**	*e*P	**Pn**	**06 57 13.9**	**+0.4**
CHN4				S	**Sn**	**06 57 36.9**	**+1.7**
WTP	**Ta-pu**	**1.76**	**243**	*e*P	**Pn**	**06 57 14.8**	**+0.9**
WTP				S	**Sn**	**06 57 37.0**	**+1.2**
CHN2	**Minshiung**	**1.77**	**253**	*e*P	**Pn**	**06 57 15.0**	**+0.9**
CHY	**Chiayi**	**1.82**	**253**	*e*P	**Pn**	**06 57 15.8**	**+1.0**
CHY				S	**Sn**	**06 57 38.2**	**+0.7**
TWK	**Hsinying**	**1.85**	**245**	*e*P	**Pn**	**06 57 16.4**	**+1.1**
TWK				S	**Sn**	**06 57 38.3**	**+0.1**
CHN1	**Nanshi**	**1.86**	**243**	⇑P	**Pn**	**06 57 16.5**	**+1.2**
CHN1				S	**Sn**	**06 57 39.4**	**+1.1**
SGST	**Jiashian**	**1.86**	**239**	*e*P	**Pn**	**06 57 16.5**	**+1.1**
SGST				S	**Sn**	**06 57 39.7**	**+1.1**
WTCT	**Ta-ch'eng**	**1.87**	**265**	*e*P	**Pn**	**06 57 15.8**	**+0.3**
WTCT				S	**Sn**	**06 57 39.6**	**+0.8**
WSF	**Szhu**	**1.96**	**258**	*e*P	**Pn**	**06 57 17.7**	**+0.9**
WSF				S	**Sn**	**06 57 42.5**	**+1.5**
CHN3	**Shinhua**	**2.04**	**242**	*e*P	**Pn**	**06 57 19.3**	**+1.4**
CHN8	**Yiju**	**2.06**	**250**	*e*P	**Pn**	**06 57 19.0**	**+0.8**
CHN8				S	**Sn**	**06 57 44.4**	**+1.0**
JTJ	**Tarama**	**2.25**	**74**	P	**Pn**	**06 57 21.5**	**+0.5**
JTJ				S	**Sn**	**06 57 49.4**	**+1.0**
HEN	**Hengchun**	**2.51**	**216**	*e*P	**Pn**	**06 57 25.6**	**+1.0**
TWK1	**Hengchun**	**2.52**	**214**	*e*P	**Pn**	**06 57 24.4**	**-0.5**
WDGT	**Dungji**	**2.56**	**253**	*e*P	**Pn**	**06 57 25.1**	**-0.3**
WDGT				S	**Sn**	**06 57 55.1**	**-1.2**
PNG	**Penghu**	**2.58**	**260**	*e*P	**Pn**	**06 57 25.1**	**-0.6**
PNG				S	**Sn**	**06 57 55.4**	**-1.2**
JMJ	**Miyako jima 2**	**2.81**	**74**	P	**Pn**	**06 57 30.6**	**+1.6**
JMJ				S	**Sn**	**06 58 03.6**	**+0.9**
JOGS	**Gusukube**	**2.90**	**75**	P	**Pn**	**06 57 32.0**	**+1.8**
JOGS				*e*S	**Sn**	**06 58 06.1**	**+1.2**
QZH	**Quanzhou**	**3.51**	**285**

comp=Z,272nm,18.3s,MS4.6,baz=150,slow=38
NOA NORSAR Array B 78.82 332 P **P 07 08 42.7 -4.1**
NOA LR LR 07 47 17.0
JMIC Jan Mayen 79.22 345 LR LR 07 44 14.8
comp=Z,199nm,20.2s,MS4.5,baz=256,slow=36
YKA Yellowknife Ar 82.69 23 P **P 07 09 04.2 -3.0**
comp=Z,0.6nm,0.5s,mb3.9,baz=310,slow=5.2,SNR=20
YKA Yellowknife Ar 82.69 23 P **P 07 09 04.2 -3.0**
GERES GERESS Array B 83.60 321 P **P 07 09 08.6 -3.6**
comp=Z,0.4nm,0.6s,mb3.7,baz=51,slow=6.3,SNR=2.6
BORG Borgarnes 87.12 345 LR LR 07 53 07.7
comp=Z,183nm,20.4s,MS4.5,baz=51,slow=39
NVAR Mina Array Bea 95.82 43 P **P 07 10 08.1 -2.4**
comp=Z,0.6nm,0.8s,mb4.1,baz=288,slow=6.8,SNR=4.8

TAP 22 06:57:21.1, 22.84N×121.23E, h28km, ML3.9, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.12**	**222**	*i P*	Pb	06 57 26.5	+0.3
TTN				S	Sb	06 57 30.5	+0.8
TWG	**Pinlang**	**0.15**	**263**	*i P*	Pb	06 57 26.7	+0.2
TWG				S	Sb	06 57 31.2	+1.1
CHKT	**Chengkung**	**0.29**	**26**	*eP*	Pb	06 57 27.5	-0.7
ECL	**Taimali**	**0.35**	**227**	*i P*	Pb	06 57 29.7	+0.6
ECL				S	Sb	06 57 35.6	+1.1
SSD	**Sandimen**	**0.56**	**260**	*eP*	Pb	06 57 33.2	+0.9
SSD				S	Sb	06 57 41.1	+1.0
TAW	**Tawu**	**0.57**	**213**	*eP*	Pb	06 57 33.1	+0.6
TAW				S	Sb	06 57 41.7	+1.3
EAST	**Anshuo**	**0.58**	**218**	*eP*	Pb	06 57 32.6	0.0
EAST				S	Sb	06 57 41.9	+1.5
SCZT	**Fangliau**	**0.73**	**231**	*eP*	Pb	06 57 37.1	+1.9
TWK1	**Hengchun**	**0.97**	**204**	*eP*	Pn	06 57 39.4	+0.3

*IDC **22** 07:02:13.5±0.9, 2.50N×92.75E, mb3.9/7, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, MS3.8/4, Ms1 3.8/4, ms1mx3.3/21, Error ellipse: s-maj=36.5km s-min=20.5km az=53.0*
*NEIC **22** 07:02:18.1±0.6, 2.64N×92.86E, h30km, mb4.5/3, Error ellipse: s-maj=17.2km s-min=11.1km az=63.0*
ISC 22 07:02:16.9±0.8, 2.7N±0.1×92.9E±0.1, h33km, n22, σ1§02/18, mb4.1/9, MS4.0/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**16.81**	**20**	P	**P**	**07 06 09.5**	**-2.0**
4.1nm,0.5s							
CMAR	**Chiang Mai Arr**	**16.81**	**20**	Pn	**P**	**07 06 11.9**	**+0.5**
baz=216,slow=14,SNR=11							
CMAR				LR	LR	07 11 44.4	
comp=Z,146nm,21.5s,baz=75,slow=34							
HYB	**Hyderabad**	**20.31**	**317**	*eP*	**P**	**07 06 52.0**	**-1.0**
HYB	**Hyderabad**	**20.31**	**317**	*i P*	**P**	**07 06 52.0**	**-1.0**
SHL	**Shillong**	**22.80**	**358**	*eP*	**P**	**07 07 20.5**	**+2.4**
SHL				*eS*	**S**	**07 11 28.5**	**+7.9**
LSA	**Lhasa**	**26.95**	**357**	P	**P**	**07 07 56.8**	**-0.7**
11nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**46.49**	**121**	P	**P**	**07 10 43.2**	**-0.1**
1.1nm,0.6s,mb4.0,baz=300,slow=8.7,SNR=12							
WRAB	**Tennant Creek**	**46.50**	**121**	P	**P**	**07 10 43.4**	**+0.1**
15nm,1.1s,mb4.8							
SONM	**Songino Array**	**46.51**	**13**	P	**P**	**07 10 44.1**	**+1.1**
1.5nm,0.8s,mb4.0,baz=194,slow=10,SNR=6.5							
ASAR	**Alice Springs**	**47.75**	**126**	P	**P**	**07 10 52.6**	**-0.4**
1.1nm,1.0s,mb3.8,baz=296,slow=7.9,SNR=4.8							
ASAR				LR	LR	07 30 56.0	
comp=Z,96nm,19.5s,MS3.8,baz=3.7,slow=36							
KURK	**Kurchatov**	**49.38**	**348**	*eP*	**P**	**07 11 05.6**	**+0.3**
ZAL	**Zalesovo**	**51.55**	**354**	P	**P**	**07 11 22.3**	**+0.5**
1.2nm,0.4s,mb4.2,baz=206,slow=7.8,SNR=7.1							
ZAL	**Zalesovo**	**51.55**	**354**	P	**P**	**07 11 22.3**	**+0.5**
BVAR	**Borovoye Array**	**53.54**	**343**	P	**P**	**07 11 36.5**	**-0.2**
1.0nm,0.6s,mb4.0,baz=146,slow=5.3,SNR=7.7							
BRVK	**Borovoye**	**53.60**	**343**	*eP*	**P**	**07 11 35.8**	**-1.4**
BRTR	**Keskin Array B**	**64.94**	**313**	P	**P**	**07 12 55.4**	**-0.3**
0.4nm,0.8s,mb3.5,baz=102,slow=6.8,SNR=2.9							
MAW	**Mawson**	**73.19**	**192**	LR	LR	07 40 18.0	
comp=Z,59nm,18.7s,MS3.9,baz=244,slow=31							
GERES	**GERESS Array B**	**80.87**	**319**	P	**P**	**07 14 30.8**	**+1.5**
1.6nm,1.1s,mb3.9,baz=101,slow=5.0,SNR=3.4							
DBIC	**Dimbokro**	**97.34**	**277**	LR	LR	07 55 15.5	
comp=Z,123nm,21.3s,MS4.4,baz=37,slow=33							
TXAR	**Lajitas Array**	**144.48**	**25**	PKP	PKPdf	07 21 51.7	+1.1
0.7nm,0.7s,baz=197,slow=0.5,SNR=12							
TXAR	**Lajitas Array**	**144.48**	**25**	PKP	PKPdf	07 21 51.7	+1.1
LPAZ	**La Paz**	**156.90**	**233**	PKPab	PKPab	07 22 41.0	-1.1
2.8nm,1.1s,baz=3.6,slow=8.1,SNR=4.7							

*IDC **22** 07:14:40.0±4.1, 17.02S×168.59E, h221km±32km, mb3.8/7, mb1 4.0/7, mb1mx3.7/16, mbtmp4.4/7, Error ellipse: s-maj=67.4km s-min=23.2km az=148.0*
*NEIC **22** 07:14:41.0±2.4, 17.17S×168.64E, h233km±26km, mb4.4/5, Error ellipse: s-maj=43.9km s-min=13.4km az=162.0*
ISC 22 07:14:41.7±3.2, 17.3S±0.4×168.7E±0.2, h254km±35km, n19, σ0§81/17, mb4.2/9, 3C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.16**	**203**	*eP*	**P**	**07 15 59.5**	**-0.5**
NOUC	**Port Laguerre**	**5.24**	**205**	*eP*	**P**	**07 16 01.4**	**+0.4**
CTA	**Charters Tower**	**21.39**	**259**	*eP*	**P**	**07 19 11.5**	**+1.4**
3.3nm,0.4s,mb4.2							
CTA	**Charters Tower**	**21.39**	**259**	P	**P**	**07 19 11.7**	**+1.6**
4.3nm,0.5s,mb4.3,baz=92,slow=13,SNR=8.7							
CTAO	**Charters Tower**	**21.39**	**259**	*eP*	**P**	**07 19 11.3**	**+1.3**
4.9nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**28.44**	**234**	⇑*iP*	**P**	**07 20 16.2**	**+0.9**
9.1nm,0.9s,mb4.4							
STKA	**Stephens Creek**	**28.44**	**234**	P	**P**	**07 20 16.3**	**+1.0**
12nm,0.7s,mb4.6,baz=49,slow=7.6,SNR=23							
WB2	**Warramunga Arr**	**32.57**	**260**	*eP*	**P**	**07 20 50.8**	**-0.7**
WRA	**Warramunga Arr**	**32.58**	**260**	P	**P**	**07 20 50.0**	**-1.6**
0.6nm,0.3s,mb3.6,baz=80,slow=6.2,SNR=35							
ASAR	**Alice Springs**	**33.09**	**253**	P	**P**	**07 20 55.6**	**-0.3**
20nm,0.5s,mb4.9,baz=80,slow=9.1,SNR=293							
ASAR				ScP		07 26 57.0	
0.4nm,0.6s,baz=96,slow=4.0,SNR=4.1							
ASPA	**Alice Springs**	**33.09**	**253**	⇑*iP*	**P**	**07 20 55.6**	**-0.3**
FORT	**Forrest**	**39.19**	**242**	⇑*iP*	**P**	**07 21 47.6**	**+0.7**
38nm,0.5s,mb5.2							
FITZ	**Fitzroy Crossi**	**40.91**	**262**	⇓*iP*	**P**	**07 22 02.0**	**+0.9**
13nm,0.8s,mb4.4							
NWAO	**Narrogin (SRO)**	**48.61**	**241**	P	**P**	**07 23 00.8**	**-1.1**
6.5nm,0.7s,mb4.1,baz=123,slow=6.9,SNR=5.5							
NWAO	**Narrogin (SRO)**	**48.61**	**241**	P	**P**	**07 23 00.8**	**-1.1**
NVAR	**Mina Array Bea**	**87.97**	**49**	P	**P**	**07 27 04.5**	**+0.2**
0.4nm,0.6s,mb3.4,baz=240,slow=7.4,SNR=4.1							
YKA	**Yellowknife Ar**	**99.24**	**27**	P	**P**	**07 27 55.3**	**-0.1**
0.1nm,0.4s,mb3.5,baz=258,slow=4.8,SNR=5.0							
ARCES	**ARCESS Array B**	**123.09**	**345**	PKP	PKPdf	07 33 08.8	+1.3
1.8nm,1.0s,baz=315,slow=1.7,SNR=11							
ARCES	**ARCESS Array B**	**123.09**	**345**	PKP	PKPdf	07 33 08.8	+1.3

IGQ 22 07:18:02.3, 1.35S×81.51W, h12km±31km, mb4.5, 6C-2D, Error ellipse: s-maj=30.3km s-min=8.8km az=169.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.87**	**93**	⇓P	Pn	07 18 50.1	+1.3
CUSU	**Cusua**	**3.03**	**92**	P	Pn	07 18 54.0	+3.0
JUIV	**Juive**	**3.04**	**91**	P	Pn	07 18 53.2	+1.9
ARRY	**Arrayan**	**3.06**	**93**	⇑P	Pn	07 18 53.0	+1.6
PATA	**Patacocha**	**3.08**	**93**	P	Pn	07 18 53.6	+1.9
PATA				S	Sn	07 19 28.2	-0.6
MARY	**Rancho Maria**	**3.08**	**79**	P	Pn	07 18 52.9	+1.1
RUN2	**Runtun**	**3.10**	**91**	P	Pn	07 18 54.2	+2.2
ULBA	**Ulba**	**3.10**	**92**	P	Pn	07 18 53.9	+1.9
ULBA				S	Sn	07 19 28.9	-0.5
NAS1	**Nasa**	**3.11**	**77**	⇑P	Pn	07 18 53.3	+1.1
JUA2	**San Juan 2**	**3.12**	**69**	⇑P	Pn	07 18 52.7	+0.4
JUA2				S	Sn	07 19 27.3	-2.5
TERV	**Terraza Guagua**	**3.13**	**68**	P	Pn	07 18 53.4	+1.0
PINO	**Pino**	**3.13**	**68**	⇑P	Pn	07 18 52.8	+0.3
YANA	**Yana**	**3.18**	**67**	P	Pn	07 18 54.2	+1.0
VC1	**Cotopaxi 1**	**3.18**	**77**	P	Pn	07 18 54.6	+1.4
TAMB	**Tambo**	**3.21**	**78**	P	Pn	07 18 54.7	+1.1
ANTI	**Antisana**	**3.46**	**75**	⇑P	Pn	07 18 58.9	+1.7
COTA	**Cotacachi**	**3.59**	**62**	⇑P	Pn	07 19 00.6	+1.6
CAYR	**Refugio Cayamb**	**3.76**	**69**	P	Pn	07 19 04.9	+3.5
CAYR				S	Sn	07 19 48.3	+2.3
CAYA	**Cayambe**	**3.79**	**68**	⇓P	Pn	07 19 05.1	+3.3
CONE	**Cono NE Rev Vo**	**4.07**	**72**	P	Pn	07 19 10.9	+5.1

*NIED **22** 07:21:00, 46.60N×147.00E, h380km, Mw4.3 Best double couple: M₀3.33×10^15 NP1:φ_s181°, δ88°, λ126°. NP2: φ_s274°, δ36°, λ4°.*
*MOS **22** 07:21:27.4±1.4, 47.29N×146.66E, h350km, mb4.0/12, Error ellipse: s-maj=12.5km s-min=8.5km az=72.0*
*BJI **22** 07:21:28.4, 47.29N×146.57E, h355km, mB4.7, mb4.5*
*IDC **22** 07:21:28.6±0.9, 47.21N×146.56E, h350km±10km, mb3.5/20, mb1 3.8/22, mb1mx3.7/27, mbtmp4.3/22, Error ellipse: s-maj=14.1km s-min=8.9km az=160.0*
*NEIC **22** 07:21:29.8±0.7, 47.23N×146.64E, h361km±8km, mb4.1/15, Error ellipse: s-maj=9.3km s-min=5.3km az=152.0*
ISC 22 07:21:27.7±0.3, 46.98N±0.05×146.76E±0.06, h361km±4km, n99, σ1§31/114, mb3.9/36, 3C-1D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.91**	**156**	*e*PN	**P**	**07 22 18.0**	**-1.8**
KUR				S	**S**	**07 23 00.5**	**-0.1**
KUR				pmax	pmax		
comp=Z,160nm,0.5s							
KUR				smax			
comp=N,280nm,0.9s							
KUR				smax			
comp=E,140nm,0.9s							
YSS	**Yuzh-Sakhalins**	**2.74**	**271**	α *i*PN	**P**	**07 22 27.3**	**+1.2**
YSS				*e*S	**S**	**07 23 13.0**	**+1.1**
YSS				pmax	pmax		
comp=E,300nm,0.9s							
YSS				pmax	pmax		
comp=Z,430nm,0.9s							
YSS				smax			
comp=N,30nm,1.0s							
YSS				smax			
comp=E,70nm,1.0s							
YSS	**Yuzh-Sakhalins**	**2.74**	**271**	⇑*i*P	**P**	**07 22 27.4**	**+1.3**
JSE	**Soyaes**	**3.55**	**237**	P	**P**	**07 22 35.3**	**+1.9**
JTKR	**Abashiri--Toko**	**3.62**	**215**	P	**P**	**07 22 35.6**	**+1.5**
JTKR				*e*S	**S**	**07 23 27.6**	**+1.4**
NEM2	**Nemuro 2**	**3.69**	**192**	P	**P**	**07 22 33.5**	**-1.2**
NEM2				*e*S	**S**	**07 23 24.0**	**-3.4**
JWK2	**Keihoku**	**3.77**	**246**	P	**P**	**07 22 37.9**	**+2.4**
ASAJ	**Asahikawa**	**4.10**	**227**	PN	**P**	**07 22 40.7**	**+1.9**
ASAJ				S	**S**	**07 23 35.8**	**+1.2**
ASAJ				pmax	pmax		
comp=Z,5.0nm,0.3s							
ASAJ				smax			
comp=E,1.0nm,0.3s							
ASAJ	**Asahikawa**	**4.10**	**227**	P	**P**	**07 22 40.7**	**+1.9**
comp=E,4.7nm,0.3s,baz=65,slow=4.8,SNR=25							
ASAJ				S	**S**	**07 23 35.8**	**+1.2**
comp=E,0.9nm,0.3s,baz=52,slow=19,SNR=2.3							
JKK2	**Kamakawa 2**	**4.20**	**224**	P	**P**	**07 22 41.9**	**+2.0**
JAK	**Akkeshi**	**4.25**	**201**	P	**P**	**07 22 39.2**	**-1.2**
JAK				*e*S	**S**	**07 23 34.5**	**-2.9**
JAR	**Ashorobuto**	**4.25**	**211**	P	**P**	**07 22 41.1**	**+0.7**
JFR	**Furan**	**4.83**	**219**	P	**P**	**07 22 48.2**	**+1.7**
JCH	**Churui**	**4.99**	**210**	P	**P**	**07 22 47.4**	**-0.9**
JCH				*e*S	**S**	**07 23 49.0**	**-2.5**
JNBK	**Urakawa-nobuka**	**5.50**	**213**	P	**P**	**07 22 52.8**	**-1.1**
JNBK				*e*S	**S**	**07 23 59.2**	**-2.4**
JEW	**Eniwo**	**5.60**	**224**	*e*S	**S**	**07 24 02.4**	**-1.2**
JKB	**Kayabe**	**6.54**	**221**	P	**P**	**07 23 05.1**	**-0.6**
JKB				*e*S	**S**	**07 24 19.2**	**-3.6**
JOT	**Ohata**	**6.94**	**218**	P	**P**	**07 23 09.3**	**-1.1**
JOT				*e*S	**S**	**07 24 26.3**	**-4.9**
JOSM	**Okushiri--Mats**	**7.15**	**229**	P	**P**	**07 23 14.1**	**+1.3**
SKR	**Severo-Kuril's**	**7.20**	**56**	*e*PN	**P**	**07 23 09.6**	**-3.8**
SKR				pmax	pmax		
comp=Z,260nm,0.6s							
SKR				pmax	pmax		
comp=N,130nm,1.0s							
SKR				pmax	pmax		
comp=E,160nm,1.0s							
JANG	**Nango**	**7.62**	**212**	P	**P**	**07 23 17.4**	**-1.0**
JANG				*e*S	**S**	**07 24 40.2**	**-5.3**
JOM	**Ohasama**	**8.50**	**210**	P	**P**	**07 23 27.7**	**-1.0**
JOM				*e*S	**S**	**07 25 00.3**	**-3.9**
MDJ	**Mudanjiang**	**12.22**	**265**	P	**P**	**07 24 11.8**	**-1.1**
MDJ				XP		07 25 26.8	
MDJ				S	**S**	**07 26 26.3**	**+2.3**
MDJ				PCP	PcP	07 29 22.1	-1.8
MDJ				SCP		07 32 20.4	
MDJ				PCS		07 32 58.0	
MDJ				SCS	ScS	07 35 58.4	+2.1
MDJ				AMB	AMB		
comp=Z,16nm,1.5s							
MDJ				AMB	AMB		
comp=Z,70nm,7.7s							
MDJ	**Mudanjiang**	**12.22**	**265**	*eP*	**P**	**07 24 12.2**	**-0.7**
comp=Z,17nm,1.0s							
MAJO	**Matsushiro**	**12.22**	**214**	*e*PN	**P**	**07 24 14.5**	**+1.5**
MAJO				pmax	pmax		
comp=Z,25nm,0.6s							
MAJO	**Matsushiro**	**12.22**	**214**	*eP*	**P**	**07 24 14.5**	**+1.5**
comp=Z,25nm,0.6s							
MAT	**Matsushiro**	**12.22**	**214**	*e*PN	**P**	**07 24 14.0**	**+1.0**
MAT				pmax	pmax		
comp=Z,19nm,0.6s							
MAT	**Matsushiro**	**12.22**	**214**	*eP*	**P**	**07 24 14.0**	**+1.0**
comp=Z,19nm,0.6s							
MAT	**Matsushiro**	**12.22**	**214**	P	**P**	**07 24 13.8**	**+0.8**
KS15	**Wonju Array Si**	**16.89**	**242**	*eP*	**P**	**07 25 04.8**	**+1.2**
SNY	**Shenyang**	**17.32**	**261**	⇓P	**P**	**07 25 08.1**	**0.0**
SNY				AMB	AMB		
comp=Z,20nm,0.7s							
FX1	**Attu Island--F**	**17.93**	**61**	P	**P**	**07 25 15.2**	**+1.1**
comp=Z,6.3nm,0.3s,baz=86,slow=15,SNR=13							
FX1				S	**S**	**07 28 37.4**	**+20**
comp=Z,2.7nm,0.3s,baz=115,slow=23,SNR=6.9							
YAK	**Yakutsk**	**17.95**	**333**	*eP*	**P**	**07 25 12.8**	**-1.5**
YAK				*e*S	**S**	**07 28 16.9**	**-0.7**
YAK				pmax	pmax		
comp=N,4.0nm,0.9s							
YAK				pmax	pmax		
comp=Z,18nm,0.9s							
YAK				pmax	pmax		
comp=E,5.0nm,1.1s							
YAK				smax			
comp=N,15nm,1.2s							
YAK				smax			
comp=E,3.0nm,0.8s							
YAK	**Yakutsk**	**17.95**	**333**	*eP*	**P**	**07 25 13.1**	**-1.2**
BOD	**Bodaibo**	**22.51**	**311**	*eP*	**P**	**07 25 53.8**	**-4.6**
BJI	**Beijing**	**23.14**	**264**	*eP*	**P**	**07 26 07.4**	**+2.9**
BJI				pmax	pmax		
comp=Z,19nm,0.9s,mb4.3							
BJI	**Beijing**	**23.14**	**264**	*eP*	**P**	**07 26 07.4**	**+2.9**
comp=Z,19nm,0.9s,mb4.3							
BJT	**Baijiatuau**	**23.16**	**264**	*eP*	**P**	**07 26 05.7**	**+1.1**
ULN	**Ulaanbaatar**	**26.68**	**287**	*eP*	**P**	**07 26 35.8**	**-0.6**
SONM	**Songino Array**	**27.12**	**287**	P	**P**	**07 26 39.7**	**-0.7**
comp=Z,1.1nm,0.7s,mb3.2,baz=70,slow=9.0,SNR=9.1							
SONM				ScP		07 32 56.1	
comp=Z,1.0nm,1.0s,baz=72,slow=3.9,SNR=5.2							
ZAK	**Zakamensk**	**28.60**	**293**	*eP*	**P**	**07 26 49.9**	**-3.5**
ENH	**Enshi**	**33.19**	**253**	*eP*	**P**	**07 27 33.2**	**+0.1**
LZH	**Lanzhou**	**33.53**	**267**	*eP*	**P**	**07 27 37.5**	**+1.4**
LZH				AMB	AMB		
comp=Z,30nm,1.5s,mb4.3							
IMA	**Indian Mountai**	**36.20**	**37**	*eP*	**P**	**07 27 57.7**	**-0.5**
SPU	**Mount Spurr**	**37.11**	**45**	*eP*	**P**	**07 28 06.5**	**+0.8**
MCK	**McKinley**	**38.30**	**40**	*eP*	**P**	**07 28 14.9**	**-0.6**
COLA	**College**	**38.66**	**38**	*eP*	**P**	**07 28 17.8**	**-0.7**
COLA				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.0							
COLA	**College**	**38.66**	**38**	*eP*	**P**	**07 28 17.8**	**-0.7**
comp=Z,8.7nm,0.8s,mb4.0							
ZAL	**Zalesovo**	**38.91**	**304**	P	**P**	**07 28 19.6**	**-1.0**
comp=Z,1.2nm,0.5s,mb3.4,baz=337,slow=7.1,SNR=5.6							
ZAL				ScP		07 33 36.2	
comp=Z,0.6nm,0.6s,baz=61,slow=13,SNR=4.9							
ILAR	**Eielson Array**	**39.08**	**39**	P	**P**	**07 28 21.4**	**-0.5**
comp=Z,5.4nm,0.9s,mb3.8,baz=268,slow=7.2,SNR=68							
WMQ	**Urumqi**	**40.74**	**288**	*eP*	**P**	**07 28 37.1**	**+1.4**
MK02	**Makanchi Array**	**42.92**	**294**	P	**P**	**07 28 52.7**	**-0.4**
MK02				pmax	pmax		
comp=Z,4.0nm,0.8s,mb3.6							
INK	**Inuvik**	**43.78**	**32**	P	**P**	**07 28 58.7**	**-1.0**
INK				pmax	pmax		
comp=Z,3.0nm,0.4s							
INK	**Inuvik**	**43.78**	**32**	P	**P**	**07 28 58.7**	**-1.0**
comp=Z,2.7nm,0.4s,mb3.8,baz=302,slow=6.7,SNR=57							
INK	**Inuvik**	**43.78**	**32**	*eP*	**P**	**07 28 58.5**	**-1.2**
comp=Z,3.7nm,0.6s,mb3.7							
LSA	**Lhasa**	**45.91**	**268**	*eP*	**P**	**07 29 19.4**	**+2.4**
LSA				pmax	pmax		
comp=Z,5.0nm,0.7s,mb3.8							
LSA	**Lhasa**	**45.91**	**268**	*eP*	**P**	**07 29 19.4**	**+2.3**
comp=Z,5.4nm,0.7s,mb3.8							
BVAR	**Borovoye Array**	**47.29**	**307**	P	**P**	**07 29 26.2**	**-1.1**
comp=Z,0.6nm,0.4s,mb3.2,baz=68,slow=8.0,SNR=6.4							
CMAR	**Chiang Mai Arr**	**48.26**	**250**	P	**P**	**07 29 36.0**	**+0.7**
comp=Z,2.0nm,0.4s,mb3.7,baz=45,slow=6.5,SNR=6.2							
CMAR				ScP		07 34 17.3	
comp=Z,1.1nm,0.4s,baz=23,slow=4.1,SNR=6.2							
DLBC	**Dease Lake**	**48.51**	**44**	P	**P**	**07 29 37.3**	**+0.7**
comp=Z,2.2nm,0.5s,mb3.6,baz=1.1,slow=26,SNR=8.2							
JIRN	**Jiri**	**50.58**	**270**	*eP*	**P**	**07 29 53.2**	**+0.7**
comp=Z,27nm,0.6s,mb4.6							
KKN	**Kakani**	**51.12**	**271**	*eP*	**P**	**07 29 57.7**	**+1.2**
comp=Z,15nm,0.6s,mb4.4							
PKI	**Pulchoki**	**51.17**	**270**	*eP*	**P**	**07 29 55.3**	**-1.6**
DMN	**Daman**	**51.36**	**271**	*eP*	**P**	**07 29 56.8**	**-1.5**
comp=Z,17nm,0.7s,mb4.4							
ARU	**Arti**	**51.83**	**315**	*eP*	**P**	**07 29 55.0**	**-6.4**
ARU				pmax	pmax		
comp=Z,3.0nm,0.7s,mb3.7							
ARU	**Arti**	**51.83**	**315**	*eP*	**P**	**07 29 55.0**	**-6.4**
comp=Z,3.4nm,0.7s,mb3.8							
RES	**Resolute Bay**	**51.95**	**17**	*eP*	**P**	**07 30 00.0**	**-2.1**
RES				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.1							
RES	**Resolute Bay**	**51.95**	**17**	*eP*	**P**	**07 30 00.0**	**-2.1**
comp=Z,5.6nm,0.6s,mb4.1							
KOLN	**Koldanda**	**52.29**	**272**	*eP*	**P**	**07 30 05.4**	**+0.3**
comp=Z,34nm,1.3s,mb4.5							
YKA	**Yellowknife Ar**	**53.29**	**35**	P	**P**	**07 30 10.6**	**-1.3**
YKA						07 31 13.9	
YKA	**Yellowknife Ar**	**53.29**	**35**	P	**P**	**07 30 10.6**	**-1.3**
comp=Z,1.1nm,0.6s,mb3.4,baz=304,slow=7.0,SNR=31							
YKA				PcP	PcP	07 31 13.8	-0.4
comp=Z,0.3nm,0.5s,baz=308,slow=3.8,SNR=7.3							
ARCES	**ARCESS Array B**	**56.13**	**339**	P	**P**	**07 30 30.6**	**-1.4**
comp=Z,4.9nm,1.2s,mb3.7,baz=59,slow=7.4,SNR=5.4							
PGC	**Sidney**	**56.82**	**52**	P	**P**	**07 30 37.6**	**+0.5**
KAF	**Kangasniemi**	**61.31**	**332**	*ep*	**P**	**07 31 04.2**	**-3.0**
comp=Z,3.4nm,0.9s,mb3.8							
KAF	**Kangasniemi**	**61.31**	**332**	*eP*	**P**	**07 31 04.2**	**-3.0**
KAF				pmax	pmax		
comp=Z,3.0nm,0.9s,mb3.7							
YBH	**Yreka Blue Hor**	**61.40**	**58**	P	**P**	**07 31 09.3**	**+1.1**
comp=Z,2.3nm,0.6s,mb3.8,baz=344,slow=5.0,SNR=9.1							
FINES	**FINESS Array B**	**61.88**	**332**	P	**P**	**07 31 09.3**	**-1.7**
comp=Z,3.7nm,0.5s,mb4.2,baz=43,slow=7.7,SNR=42							
BMO	**Blue Mountains**	**62.48**	**53**	*eP*	**P**	**07 31 15.8**	**+0.6**
comp=Z,5.0nm,1.2s,mb3.9							
BOZ	**Bozeman (W)**	**64.99**	**49**	*eP*	**P**	**07 31 32.1**	**+1.0**
BOZ				pmax	pmax		
comp=Z,5.0nm,0.7s,mb4.2							
BOZ	**Bozeman (W)**	**64.99**	**49**	*eP*	**P**	**07 31 32.1**	**+1.0**
comp=Z,4.5nm,0.7s,mb4.2							
NVAR	**Mina Array Bea**	**66.11**	**59**	P	**P**	**07 31 39.6**	**+1.2**
comp=Z,2.5nm,0.7s,mb4.1,baz=282,slow=7.5,SNR=29							
NB2	**NORSAR Subarra**	**66.49**	**338**	P	**P**	**07 31 38.9**	**-1.5**
comp=Z,1.3nm,0.4s,mb4.0,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**66.49**	**338**	P	**P**	**07 31 39.1**	**-1.3**
comp=Z,1.6nm,0.4s,mb4.1,baz=30,slow=6.5,SNR=5.7							
HFS	**Hagfors**	**66.61**	**337**	P	**P**	**07 31 39.3**	**-1.8**
comp=Z,1.8nm,0.4s,mb4.1,baz=45,slow=6.3,SNR=16							
WRA	**Warramunga Arr**	**67.55**	**193**	P	**P**	**07 31 48.2**	**+0.6**
comp=Z,1.6nm,0.7s,mb3.8,baz=8.5,slow=6.6,SNR=8.4							
HWUT	**Hardware Ranch**	**67.77**	**53**	*eP*	**P**	**07 31 49.4**	**+0.8**
comp=Z,2.8nm,0.8s,mb4.0							
PDAR	**Pinedale Array**	**68.05**	**50**	P	**P**	**07 31 50.9**	**+0.7**
comp=Z,3.1nm,0.5s,mb4.3,baz=301,slow=1.7,SNR=39							
NLU	**North Lily Min**	**68.63**	**54**	*eP*	**P**	**07 31 54.7**	**+0.8**
AKASG	**Malin Array Be**	**68.83**	**323**	P	**P**	**07 31 53.2**	**-1.6**
AKASG		

3.0nm,0.7s,mb4.4,baz=53,slow=7.4,SNR=8.0
AKASG **Malin Array Be 76.39 348** P **P 07 39 24.4 +0.1**
0.3nm,0.3s,mb3.7,baz=12,slow=5.6,SNR=4.7

*IDC **22** 08:07:36.1±0.6,4.84N×94.65E,mb4.5/16,mb1 4.7/16, mb1mx4.6/21,mbtmp4.5/16,ML6.1/1,MS4.0/8,Ms1 4.0/8, ms1mx3.7/18,Error ellipse: s-maj=29.8km s-min=14.9km az=56.0*
*MOS **22** 08:07:39.5±1.3,4.90N×94.70E,h33km,mb4.9/28,Error ellipse: s-maj=14.0km s-min=7.3km az=98.3*
*BJI **22** 08:07:41.0,4.70N×94.76E,h62km,mB4.9,mb4.9,Ms4.5, Msz4.1*
*NEIC **22** 08:07:42.9±0.3,4.88N×94.74E,mb4.7/20,MS3.9/1,Error ellipse: s-maj=8.7km s-min=6.4km az=66.0*
ISC 22 08:07:40.9±0.4,4.90N±0.05×94.78E±0.05,h45km, h45km±2.2km:pP-P,n123,σ1§18/124,mb4.8/51,MS4.1/16, 3C-3D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.23**	**68**	P	**P**	**08 09 14.0**	**+1.3**
	240nm,0.9s						
NNT	**Nongplab**	**9.07**	**32**	P	**P**	**08 09 55.0**	**+2.8**
KKTK	**Khon Kaen**	**13.84**	**34**	P	**P**	**08 11 05.5**	**+8.9**
CMAR	**Chiang Mai Arr**	**14.07**	**16**	P	**P**	**08 11 00.2**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,27nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,433nm,21.8s						
CMAR	**Chiang Mai Arr**	**14.07**	**16**	Pn	**P**	**08 11 00.1**	**+0.5**
	comp=Z,27nm,0.3s,baz=211,slow=16,SNR=1.8						
CMAR				LR	LR	08 16 13.3	
	comp=Z,433nm,21.8s,baz=195,slow=36						
PALK	**Pallekele**	**14.19**	**280**	P	**P**	**08 10 56.9**	**-4.3**
CHG	**Chiang Mai**	**14.41**	**16**	⇓P	**P**	**08 11 10.1**	**+6.0**
	comp=Z,24nm,0.8s						
HYB	**Hyderabad**	**20.18**	**309**	*i* P	**P**	**08 12 20.0**	**+5.5**
QIZ	**Qiongzhong**	**20.33**	**45**	P	**P**	**08 12 17.5**	**+1.4**
QIZ				S	**S**	**08 15 59.6**	**+3.0**
QIZ				LR	LR		
	comp=E,530nm,16.4s						
QIZ				LR	LR		
	comp=Z,545nm,19.6s,MS3.9						
QIZ	**Qiongzhong**	**20.33**	**45**	*e*P	**P**	**08 12 17.2**	**+1.1**
	comp=Z,4.5nm,0.6s						
SHL	**Shillong**	**20.73**	**353**	*e*P	**P**	**08 12 16.5**	**-3.8**
SHL				*e*S	S	08 15 42.0	-22
KMI	**Kunming**	**21.51**	**20**	P	**P**	**08 12 29.5**	**+1.4**
KMI				*PP		08 12 42.4	
KMI				*SP		08 12 48.4	
KMI						08 13 01.3	
KMI				S	**S**	**08 16 27.1**	**+8.1**
KMI				SS	SS	08 17 00.8	+4.4
KMI				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.3						
KMI				MLR	MLR		
	comp=Z,540nm,21.0s,MS3.9						
KMI	**Kunming**	**21.51**	**20**	P	**P**	**08 12 29.5**	**+1.4**
	comp=Z,16nm,1.3s,mb4.3						
KMI				pP		08 12 42.4	
KMI				sP		08 12 48.4	
KMI				PP	PP	08 13 01.3	+8.0
KMI				S	**S**	**08 16 27.1**	**+8.1**
KMI				SS	SS	08 17 00.8	+4.4
KMI				LR	LR		
	comp=Z,540nm,21.0s,MS3.9						
JIRN	**Jiri**	**24.07**	**341**	*e*P	**P**	**08 12 52.9**	**-0.3**
	comp=Z,69nm,0.6s,mb5.3						
PKI	**Pulchoki**	**24.25**	**339**	*e*P	**P**	**08 12 53.9**	**-1.1**
	comp=Z,31nm,0.5s,mb5.0						
DMN	**Daman**	**24.39**	**339**	*e*P	**P**	**08 12 56.2**	**-0.2**
	comp=Z,29nm,0.7s,mb4.8						
KKN	**Kakani**	**24.49**	**339**	*e*P	**P**	**08 12 56.8**	**-0.6**
	comp=Z,33nm,0.6s,mb4.9						
LSA	**Lhasa**	**24.90**	**352**	P	**P**	**08 13 03.3**	**+1.9**
LSA				AP		08 13 14.3	
LSA				XP		08 13 23.0	
LSA				S	**S**	**08 17 14.4**	**-4.4**
LSA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
LSA				AMB	AMB		
	comp=Z,30nm,5.0s						
LSA				LR	LR		
	comp=N,230nm,25.0s,MS3.7						
LSA				LR	LR		
	comp=E,170nm,24.0s,MS3.7						
LSA				LR	LR		
	comp=Z,320nm,24.0s,MS3.7						
LSA	**Lhasa**	**24.90**	**352**	*e*P	**P**	**08 13 02.5**	**+1.1**
LSA				pmax	pmax		
	comp=Z,28nm,0.6s,mb5.0						
LSA	**Lhasa**	**24.90**	**352**	*e*P	**P**	**08 13 02.5**	**+1.1**
	comp=Z,28nm,0.6s,mb5.0						
GKN	**Gorkha**	**24.92**	**338**	*e*P	**P**	**08 13 01.7**	**+0.2**
	comp=Z,49nm,0.5s,mb5.3						
KOLN	**Koldanda**	**25.11**	**336**	*e*P	**P**	**08 13 03.9**	**+0.5**
	comp=Z,79nm,0.7s,mb5.3						
ENH	**Enshi**	**28.80**	**27**	*e*P	**P**	**08 13 35.5**	**-1.6**
	comp=Z,17nm,0.6s,mb4.9						
DDI	**Dehra Dun**	**29.80**	**330**	*e*	sP	08 14 04.1	+0.6
XAN	**Xi'an**	**31.83**	**23**	P	**P**	**08 14 02.3**	**-1.6**
LZH	**Lanzhou**	**32.14**	**14**	*e*P	**P**	**08 14 16.7**	**+10**
LZH				*SP	sP	08 14 26.8	+2.6
LZH				MLR	MLR		
	comp=Z,640nm,16.2s,MS4.4						
LZH	**Lanzhou**	**32.14**	**14**	*e*P	**P**	**08 14 16.7**	**+10**
LZH				pP	pP	08 14 22.7	+4.2
LZH				sP	sP	08 14 26.8	+2.6
LZH				LR	LR		
	comp=Z,640nm,16.2s,MS4.4						
NJ2	**Nanjing**	**35.18**	**37**	*e*P	**P**	**08 14 31.6**	**-1.3**
NJ2				PP	PP	08 15 50.3	-2.4
NJ2				S	**S**	**08 20 00.0**	**-2.1**
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,370nm,3.6s						
NJ2				LR	LR		
	comp=N,640nm,14.8s,MS4.8						
NJ2				LR	LR		
	comp=E,920nm,14.4s,MS4.8						
NJ2				LR	LR		
	comp=Z,910nm,16.7s,MS4.6						
SSE	**Sheshan**	**35.99**	**40**	P	**P**	**08 14 36.3**	**-3.4**
SSE				S	**S**	**08 20 11.8**	**-2.7**
SSE				AMB	AMB		
	comp=Z,42nm,0.8s,mb5.4						
SSE				AMB	AMB		
	comp=Z,69nm,3.4s						
SSE				LR	LR		
	comp=N,97nm,21.7s,MS3.7						
SSE				LR	LR		
	comp=E,89nm,21.6s,MS3.7						
SSE				LR	LR		
	comp=Z,154nm,22.3s,MS3.7						
SSE	**Sheshan**	**35.99**	**40**	P	**P**	**08 14 36.3**	**-3.4**
	comp=Z,42nm,0.8s,mb5.4						
SSE				sP	sP	08 14 49.1	-8.3
SSE				S	**S**	**08 20 11.8**	**-2.7**
SSE				sS		08 22 46.3	
SSE				LR	LR		
	comp=Z,150nm,22.3s,MS3.7						
WMQ	**Urumqi**	**39.26**	**352**	*e*P	**P**	**08 15 07.0**	**+0.1**
WMQ				AP	pP	08 15 19.3	+0.2
WMQ				PP	PP	08 16 42.3	+1.0
WMQ				S	**S**	**08 21 04.5**	**+0.3**
WMQ				AMB	AMB		
	comp=Z,84nm,1.0s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,95nm,5.4s						
WMQ				LR	LR		
	comp=N,528nm,17.8s,MS4.5						
WMQ				LR	LR		
	comp=E,411nm,18.4s,MS4.5						
WMQ				LR	LR		
	comp=Z,633nm,18.7s,MS4.5						
BJT	**Baijiatuau**	**39.93**	**26**	*e*P	**P**	**08 15 13.7**	**+1.2**
BJT				pmax	pmax		
	comp=Z,15nm,0.6s						
BJT	**Baijiatuau**	**39.93**	**26**	*e*P	**P**	**08 15 13.7**	**+1.2**
	comp=Z,15nm,0.6s,mb4.9						
BJI	**Beijing**	**39.95**	**26**	*e*P	**P**	**08 15 13.7**	**+1.0**
BJI				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.0						
BJI				MLR	MLR		
	comp=Z,310nm,25.0s,MS4.0						
UCH	**Uchtor**	**41.32**	**337**	P	**P**	**08 15 25.4**	**+1.4**
	SNR=7.1						
TKM2	**Tokmak 2**	**41.51**	**339**	P	**P**	**08 15 26.6**	**+1.0**
	SNR=5.2						
KBK	**Karagaybulak**	**41.52**	**338**	P	**P**	**08 15 27.6**	**+2.0**
	SNR=8.2						
AML	**Almayashu**	**41.56**	**336**	P	**P**	**08 15 27.3**	**+1.3**
	SNR=18						
AAK	**Ala-Archa**	**41.67**	**337**	P	**P**	**08 15 28.6**	**+1.7**
	SNR=6.8						
AAK	**Ala-Archa**	**41.67**	**337**	*e*P	**P**	**08 15 27.5**	**+0.6**
AAK				*e*PP	pP	08 15 39.5	+0.4
AAK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
AAK	**Ala-Archa**	**41.67**	**337**	*e*P	**P**	**08 15 27.5**	**+0.6**
	comp=Z,4.4nm,0.6s,mb4.3						
AAK				*e*pP	pP	08 15 39.5	+0.4
FRU	**Bishkek**	**41.80**	**338**	*e*P	pP	08 15 42.2	+2.1
FRU				pmax	pmax		
	comp=Z,60nm,2.0s,mb4.9						
EKS2	**Erkin-Say**	**41.97**	**337**	P	**P**	**08 15 30.7**	**+1.3**
	SNR=5.8						
USP	**Ospenovka**	**42.21**	**338**	P	**P**	**08 15 32.0**	**+0.7**
	SNR=11						
SONM	**Songino Array**	**43.92**	**11**	P	**P**	**08 15 44.6**	**-0.6**
	comp=Z,5.2nm,0.7s,mb4.4,baz=191,slow=8.3,SNR=43						
SONM				PcP	PcP	08 17 30.9	-0.2
	comp=Z,1.9nm,0.4s,baz=188,slow=3.9,SNR=13						
ULN	**Ulaanbaatar**	**44.08**	**12**	*i* P	**P**	**08 15 45.4**	**-1.1**
ULN	**Ulaanbaatar**	**44.08**	**12**	*e*P	**P**	**08 15 45.2**	**-1.3**
	comp=Z,4.2nm,0.6s,mb4.3						
KS15	**Wonju Array Si**	**44.30**	**38**	P	**P**	**08 15 48.0**	**-0.4**
ZAK	**Zakamensk**	**45.89**	**8**	*e*P	**P**	**08 15 58.3**	**-2.6**
ZAK				*e*		08 17 36.5	
WRA	**Warramunga Arr**	**46.06**	**124**	P	**P**	**08 16 02.8**	**+0.2**
WRA				pmax	pmax		
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**46.06**	**124**	P	**P**	**08 16 02.8**	**+0.2**
	comp=Z,16nm,1.1s,mb4.8,baz=302,slow=9.2,SNR=40						
WRAB	**Tennant Creek**	**46.07**	**124**	*e*P	**P**	**08 16 02.8**	**+0.1**
WRAB				*e*		08 16 21.2	
WRAB				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.2						
WRAB	**Tennant Creek**	**46.07**	**124**	*e*P	**P**	**08 16 02.8**	**+0.1**
	comp=Z,35nm,1.1s,mb5.2						
WRAB				*e*		08 16 21.2	
WB2	**Warramunga Arr**	**46.07**	**124**	⇑*i*P	**P**	**08 16 02.8**	**+0.1**
WB2				*i*		08 16 21.6	
TLY	**Talaya**	**47.21**	**8**	*e*P	**P**	**08 16 10.2**	**-1.0**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TLY	**Talaya**	**47.21**	**8**	*e*P	**P**	**08 16 10.2**	**-1.0**
	comp=Z,4.5nm,0.8s,mb4.5						
ASPA	**Alice Springs**	**47.56**	**128**	⇓*i*P	**P**	**08 16 14.6**	**+0.2**
ASAR	**Alice Springs**	**47.56**	**128**	P	**P**	**08 16 14.7**	**+0.3**
	comp=Z,4.5nm,0.6s,mb4.7,baz=305,slow=7.1,SNR=4.1						
KURK	**Kurchatov**	**47.63**	**346**	⇑*i*P	**P**	**08 16 14.6**	**0.0**
KURK				*e*PP	pP	08 16 26.9	0.0
KURK				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.1						
KURK	**Kurchatov**	**47.63**	**346**	⇑*i*P	**P**	**08 16 14.6**	**0.0**
	comp=Z,13nm,0.6s,mb5.1						
KURK				*e*pP	pP	08 16 26.9	0.0
HIA	**Hailar**	**49.02**	**21**	*e*P	**P**	**08 16 24.7**	**-0.6**
HIA				*e*PP	pP	08 16 37.2	-0.5
HIA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HIA	**Hailar**	**49.02**	**21**	*e*P	**P**	**08 16 24.7**	**-0.6**
	comp=Z,5.4nm,0.6s,mb4.8						
HIA				*e*pP	pP	08 16 37.2	-0.4
ZAL	**Zalesovo**	**49.56**	**352**	P	**P**	**08 16 29.4**	**0.0**
ZAL				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZAL	**Zalesovo**	**49.56**	**352**	P	**P**	**08 16 29.4**	**-0.1**
	comp=Z,10nm,0.5s,mb5.1,baz=213,slow=5.5,SNR=54						
MDJ	**Mudanjiang**	**49.94**	**32**	P	**P**	**08 16 32.6**	**+0.1**
MDJ				AP	pP	08 16 44.0	-0.9
MDJ				PCP	PcP	08 17 51.6	-0.8
MDJ				PP	PP	08 18 27.8	-0.6
MDJ				SCP		08 21 42.9	
MDJ				PCS		08 21 47.3	
MDJ				S	**S**	**08 23 42.0**	**+3.7**
MDJ				AMB	AMB		
	comp=Z,13nm,1.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,60nm,5.3s						
MDJ				LR	LR		
	comp=N,114nm,23.5s						
MDJ				LR	LR		
	comp=Z,168nm,24.7s,MS4.0						
JHJ	**Hachijo jima 2**	**50.41**	**50**	LR	LR	08 40 11.4	
	comp=Z,114nm,18.9s,MS3.9,baz=160,slow=39						
NVS	**Novosibirsk**	**50.66**	**351**	*e*P	**P**	**08 16 36.1**	**-1.7**
NVS				*e*		08 24 07.3	
NVS				pmax	pmax		
	comp=N,8.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,8.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
BVAR	**Borovoye Array**	**51.99**	**342**	P	**P**	**08 16 47.2**	**-0.7**
	comp=Z,6.3nm,0.7s,mb4.7,baz=149,slow=8.6,SNR=29						
BRVK	**Borovoye**	**52.05**	**341**	*e*P	**P**	**08 16 47.0**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BRVK	**Borovoye**	**52.05**	**341**	*e*P	**P**	**08 16 47.0**	**-1.3**
	comp=Z,3.3nm,0.5s,mb4.5						
BOD	**Bodaibo**	**54.89**	**12**	*e*P	**P**	**08 17 06.2**	**-3.0**
BOD				*e*	pP	08 17 19.6	-2.2
STKA	**Stephens Creek**	**57.62**	**133**	P	**P**	**08 17 28.1**	**-1.1**
	comp=Z,3.2nm,0.9s,mb4.3,baz=332,slow=11,SNR=5.0						
STKA	**Stephens Creek**	**57.62**	**133**	*e*P	**P**	**08 17 26.4**	**-2.7**
KMBO	**Kilima Mbogo**	**57.77**	**266**	LR	LR	08 38 02.4	
	comp=Z,146nm,20.6s,MS4.1,baz=95,slow=32						
SVE	**Sverdlovsk**	**58.38**	**339**	*e*P	pP	08 17 46.7	-0.1
ARU	**Arti**	**58.86**	**337**	⇓*i*P	**P**	**08 17 29.9**	**-7.5**
ARU				*e*		08 18 19.1	
ARU				*e*S	**S**	**08 25 30.0**	**-8.1**
ARU				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.8						
ARU	**Arti**	**58.86**	**337**	*e*P	**P**	**08 17 31.7**	**-5.7**
	comp=Z,5.7nm,1.0s,mb4.6						
ARU				*e*pP	pP	08 17 45.3	-4.8
SOC	**Sochi**	**61.77**	**317**	*e*P	**P**	**08 17 53.9**	**-3.6**
SOC				*e*		08 18 34.4	
SOC				*e*		08 20 11.7	
SOC				*e*S	**S**	**08 26 12.7**	**-2.9**
SOC				*e*		08 27 34.4	
SOC				*e*SS	SS	08 30 23.9	+4.5
SOC				pmax	pmax		
	comp=Z,47nm,1.0s,mb5.6						
SOC				pmax	pmax		
	comp=N,27nm,0.9s						
SOC				pmax	pmax		
	comp=E,22nm,0.9s						
YAK	**Yakutsk**	**62.61**	**18**	*i* P	**P**	**08 18 00.9**	**-1.9**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.1						
BRTR	**Keskin Array B**	**64.85**	**312**	P	**P**	**08 18 17.0**	**-0.9**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRTR	**Keskin Array B**	**64.85**	**312**	P	**P**	**08 18 16.9**	**-0.9**
	comp=Z,2.9nm,0.6s,mb4.5,baz=134,slow=7.7,SNR=15						
OBN	**Obninsk**	**68.22**	**328**	*e*P	**P**	**08 18 35.7**	**-3.2**
OBN				*e*	pP	08 18 50.9	-1.0
OBN				*e*		08 19 01.7	
OBN				pmax	pmax		
	comp=Z,25nm,1.6s,mb5.0						
MA2	**Magadan**	**69.10**	**27**	*e*P	**P**	**08 18 43.2**	**-1.1**
MA2				*e*		08 32 11.5	
MA2				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
TIXI	**Tiksi**	**70.01**	**11**	*i* P	**P**	**08 18 48.1**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
AKASG	**Malin Array Be**	**70.87**	**322**	P	**P**	**08 18 53.7**	**-1.5**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**70.87**	**322**	P	**P**	**08 18 53.7**	**-1.5**
	comp=Z,1.7nm,0.4s,mb4.3,baz=80,slow=5.0,SNR=23						
MLR	**Muntele Rosu**	**71.73**	**316**	P	**P**	**08 19 01.2**	**+0.7**
MLR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MLR	**Muntele Rosu**	**71.73**	**316**	P	**P**	**08 19 01.2**	**+0.8**
	comp=Z,4.6nm,0.8s,mb4.5,baz=129,slow=5.2,SNR=5.1						
BOSA	**Boshof**	**74.57**	**239**	*e*P	**P**	**08 19 18.1**	**+0.6**
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BOSA	**Boshof**	**74.57**	**239**	*e*P	**P**	**08 19 18.1**	**+0.6**
	comp=Z,2.2nm,0.7s,mb4.2						
KWP	**Kalwaria**	**74.70**	**320**	*e*P	**P**	**08 19 16.8**	**-1.0**
KWP				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
KWP	**Kalwaria**	**74.70**	**320**	*e*P	**P**	**08 19 16.8**	**-0.9**
	comp=Z,7.6nm,0.6s,mb4.8						
KOLS	**Kolonicke sedl**	**74.85**	**319**	*e*P	**P**	**08 19 19.4**	**+0.7**
KOLS				*e*pP	pP	08 19 30.2	-1.5
CRVS	**Cervenica-Dubn**	**75.37**	**319**	*e*P	**P**	**08 19 25.0**	**+3.3**
FINES	**FINESS Array B**	**75.62**	**332**	P	**P**	**08 19 22.2**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**75.62**	**332**	P	**P**	**08 19 22.2**	**-0.6**
	comp=Z,1.5nm,0.5s,mb4.2,baz=120,slow=7.1,SNR=21						
KAF	**Kangasniemi**	**75.71**	**333**	*e*p	**P**	**08 19 22.0**	**-1.3**
	comp=Z,2.2nm,0.5s,mb4.3						
KAF	**Kangasniemi**	**75.71**	**333**	*e*P	**P**	**08 19 22.0**	**-1.3**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
MAW	**Mawson**	**75.77**	**192**	P	**P**	**08 19 22.9**	**-0.7**
	comp=Z,3.6nm,0.3s,mb4.8,baz=69,slow=12,SNR=7.9						
MAW				LR	LR	08 48 08.6	
	comp=Z,95nm,18.1s,MS4.1,baz=247,slow=32						
OJC	**Ojcow**	**76.65**	**320**	*e*P	**P**	**08 19 29.1**	**+0.2**
VYHS	**Vyhne**	**77.03**	**319**	*e*P	**P**	**08 19 31.4**	**+0.3**
ZST	**Bratislava**	**78.15**	**318**	*e*P	**P**	**08 19 37.8**	**+0.6**
ARCES	**ARCESS Array B**	**78.26**	**340**	P	**P**	**08 19 37.6**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES				MLR	MLR		
	comp=Z,107nm,19.0s						
ARCES	**ARCESS Array B**	**78.26**	**340**	P	**P**	**08 19 37.6**	**+0.2**
	comp=Z,2.1nm,0.5s,mb4.4,baz=94,slow=5.8,SNR=38						
ARCES				LR	LR	08 57 06.2	
	comp=Z,107nm,19.0s,MS4.2,baz=289,slow=38						
BRG	**Berggiesshubel**	**80.43**	**321**	*i* P	**P**	**08 19 50.5**	**+0.9**
BRG				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.8						
BRG	**Berggiesshubel**	**80.43**	**321**	*i* P	**P**	**08 19 50.5**	**+0.9**
	comp=Z,20nm,1.5s,mb4.8						
GERES	**GERESS Array B**	**80.45**	**319**	P	**P**	**08 19 50.3**	**+0.6**
GERES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GERES	**GERESS Array B**	**80.45**	**319**	P	**P**	**08 19 50.3**	**+0.6**
	comp=Z,3.0nm,0.7s,mb4.3,baz=104,slow=5.5,SNR=19						
KHC	**Kasperske Hory**	**80.55**	**319**	*e*P	**P**	**08 19 50.5**	**+0.3**
KHC				*ex*	x	08 20 08.5	
CLL	**Collm**	**81.05**	**321**	P	**P**	**08 19 54.0**	**+1.2**
NOA	**NORSAR Array B**	**82.62**	**331**	LR	LR	09 02 27.9	
	comp=Z,59nm,18.8s,MS4.0,baz=325,slow=40						
DAVOX	**Davos**	**82.96**	**316**	P	**P**	**08 20 03.8**	**+1.0**
	comp=Z,6.5nm,0.6s,mb4.8,baz=134,slow=6.0,SNR=12						
LPG	**La Plagne**	**85.16**	**315**	*e*P	**P**	**08 20 13.9**	**0.0**
	comp=Z,24nm,1.1s,mb4.9						
LPG	**La Plagne**	**85.16**	**315**	*e*P	**P**	**08 20 13.9**	**0.0**
LPG				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.9						
VNDA	**Vanda**	**89.91**	**168**	LR	LR	08 55 00.9	
	comp=Z,112nm,21.8s,MS4.2,baz=330,slow=32						
EKA	**Eskdalemuir Ar**	**90.51**	**326**	P	**P**	**08 20 40.2**	**+0.9**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
EKA	**Eskdalemuir Ar**	**90.51**	**326**	P	**P**	**08 20 40.2**	**+0.9**
	comp=Z,1.1nm,0.6s,mb4.4,baz=98,slow=5.4,SNR=5.6						
IMA	**Indian Mountai**	**94.12**	**22**	*e*P	**P**	**08 20 57.4**	**+1.8**
ILAR	**Eielson Array**	**97.24**	**22**	P	**P**	**08 21 10.8**	**+0.9**
	comp=Z,0.2nm,0.6s,mb3.7,baz=287,slow=5.0,SNR=5.2						
ILAR				LR	LR	09 07 34.1	
	comp=Z,72nm,20.4s,MS4.2,baz=90,slow=37						
INK	**Inuvik**	**99.65**	**16**	*e*P	**P**	**08 21 21.4**	**+0.7**
NVAR	**Mina Array Bea**	**127.10**	**33**	PKP	PKPdf	08 26 43.6	+2.6
	comp=Z,0.4nm,0.6s,baz=294,slow=3.3,SNR=4.6						
PDAR	**Pinedale Array**	**127.67**	**23**	PKP	PKPdf	08 26 43.8	+1.8
	comp=Z,0.4nm,0.5s,baz=72,slow=3.0,SNR=7.3						
TXAR	**Lajitas Array**	**141.63**	**26**	PKhKP		08 27 03.8	
	comp=Z,0.3nm,0.5s,baz=331,slow=1.8,SNR=5.4						
TXAR				PKP	PKPdf	08 27 08.8	+0.6
	comp=Z,0.4nm,0.5s,baz=224,slow=0.3,SNR=10.0						

MAN 22 08:08:50.1,12.06N×125.39E,h1km,mb3.9,ML2.7,MS2.3, 1D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.97**	**205**	*e*P	Pb	08 09 08.8	-0.6
PLP				*i* S	Sg	08 09 25.9	+3.4
MMPH	**Masbate**	**1.75**	**280**	*e*P	Pn	08 09 22.0	+0.2
MSLP	**Maasin**	**1.98**	**195**	*e*P	Pn	08 09 25.6	+0.6
RCP	**Roxas**	**2.64**	**259**	⇓*e*P	Pn	08 09 34.6	+0.1
RCP				*e*S	Sn	08 10 08.1	+0.5
GUIM	**Jordan**	**3.09**	**243**	*e*P	Pn	08 09 41.0	0.0

IGQ 22 08:10:32.2,1.04S×80.98W,h12km±35km,mb4.3,Error ellipse: s-maj=35.4km s-min=9.8km az=172.2,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.39**	**101**	P	Pn	08 11 12.9	+1.2
IGUA				S	Sn	08 11 43.9	+2.7
JUA2	**San Juan 2**	**2.52**	**71**	P	Pn	08 11 14.1	+0.5
TERV	**Terraza Guagua**	**2.53**	**70**	P	Pn	08 11 16.5	+2.7
PINO	**Pino**	**2.53**	**70**	P	Pn	08 11 14.2	+0.4
ARRY	**Arrayan**	**2.57**	**100**	P	Pn	08 11 15.5	+1.1
ARRY				S	Sn	08 11 47.0	+1.2
YANA	**Yana**	**2.58**	**69**	P	Pn	08 11 15.1	+0.5
PATA	**Patacocha**	**2.59**	**100**	P	Pn	08 11 17.4	+2.7
RUN2	**Runtun**	**2.60**	**98**	P	Pn	08 11 15.9	+1.1
ULBA	**Ulba**	**2.61**	**99**	P	Pn	08 11 18.4	+3.5
VC1	**Cotopaxi 1**	**2.61**	**81**	P	Pn	08 11 17.7	+2.7
ANTI	**Antisana**	**2.88**	**78**	P	Pn	08 11 22.7	+3.8
ANTI				S	Sn	08 12 05.1	+11
COTA	**Cotacachi**	**2.98**	**63**	P	Pn	08 11 22.4	+2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MSWZ				S	**S**	**08 14 30.5**	**+0.8**
MSWZ	**Moikau Station**	**0.33**	**154**	⇑P*	**P**	**08 14 24.1**	**+0.3**
MSWZ				S*	**S**	**08 14 30.5**	**+0.9**
MTW	**Mount Morrison**	**0.33**	**96**	⇑P	**P**	**08 14 23.7**	**-0.2**
MTW				S	**S**	**08 14 29.8**	**0.0**
MTW	**Mount Morrison**	**0.33**	**96**	⇑P*	**P**	**08 14 23.7**	**-0.2**
MTW				S*	**S**	**08 14 29.8**	**0.0**
PAWZ	**Paruwai Farm**	**0.38**	**134**	⇑P*	**P**	**08 14 24.7**	**+0.2**
PAWZ				S*	**S**	**08 14 31.7**	**+0.9**
MRZ	**Mangatainoka R**	**0.60**	**41**	⇓P*	**P**	**08 14 27.0**	**-0.5**
MRZ				*e*S*	**S**	**08 14 35.5**	**-0.7**
CMWZ	**Cape Campbell**	**0.89**	**225**	P*	**P**	**08 14 33.1**	**+1.5**
TUWZ	**Tuamarina**	**0.90**	**250**	⇓P*	**P**	**08 14 32.2**	**+0.5**
BFZ	**Birch Farm**	**1.00**	**64**	P*	**P**	**08 14 32.7**	**-0.4**
BSWZ	**Blackbirch Sta**	**1.07**	**236**	⇓P*	**P**	**08 14 35.0**	**+0.9**
TSZ	**Takapari Road**	**1.26**	**33**	⇓P*	**P**	**08 14 36.7**	**-0.1**
NNZ	**Nelson**	**1.27**	**265**	PN	**P**	**08 14 37.8**	**+0.8**
WAZ	**Wanganui**	**1.37**	**357**	PN	**P**	**08 14 40.0**	**+1.6**
KHZ	**Kahutara**	**1.72**	**221**	⇓PN	**P**	**08 14 43.1**	**-0.3**
THZ	**Tophouse**	**1.75**	**248**	PN	**P**	**08 14 43.8**	**0.0**
PWZ	**Pawanui**	**1.75**	**52**	PN	**P**	**08 14 42.3**	**-1.5**
MOVZ	**Moawhango**	**1.79**	**17**	⇓PN	**P**	**08 14 44.5**	**0.0**
FWVZ	**Far West T-bar**	**1.90**	**12**	PN	**P**	**08 14 46.8**	**+0.8**
TUVZ	**Tukino**	**1.91**	**14**	PN	**P**	**08 14 46.9**	**+0.9**
QRZ	**Quartz Range**	**1.94**	**278**	PN	**P**	**08 14 47.4**	**+0.8**
WPVZ	**Whakapapa**	**1.95**	**11**	PN	**P**	**08 14 47.6**	**+0.9**
CNZ	**Chateau**	**1.96**	**11**	PN	**P**	**08 14 47.6**	**+0.8**
NGZ	**Ngauruhoe**	**1.99**	**12**	PN	**P**	**08 14 48.1**	**+0.8**
NEZ	**North Egmont**	**1.99**	**338**	PN	**P**	**08 14 49.1**	**+1.8**
OTVZ	**Oturere**	**2.01**	**13**	PN	**P**	**08 14 48.3**	**+0.8**
WTVZ	**West Tongariro**	**2.04**	**12**	PN	**P**	**08 14 48.7**	**+0.7**
KRVZ	**Karewarewa**	**2.07**	**13**	PN	**P**	**08 14 49.2**	**+0.8**
BKZ	**Black Stump Fm**	**2.24**	**30**	PN	**P**	**08 14 49.4**	**-1.5**
DSZ	**Denniston Nort**	**2.53**	**255**	PN	**P**	**08 14 54.5**	**-0.5**
HIZ	**Hauiti**	**2.61**	**356**	PN	**P**	**08 14 56.7**	**+0.6**
LTZ	**Lake Taylor**	**2.66**	**231**	PN	**P**	**08 14 55.7**	**-1.2**
URZ	**Urewera**	**3.27**	**30**	Pn	**P**	**08 15 01.8**	**-3.7**
	2.9nm,0.3s,baz=250,slow=3.4,SNR=13						
URZ				Sn	**S**	**08 15 40.2**	**-3.4**
	11nm,0.3s,baz=80,slow=18,SNR=6.6						
URZ				Lg		08 15 58.4	
	9.2nm,0.3s,baz=139,slow=19,SNR=2.5						
RPZ	**Rata Peaks**	**3.94**	**228**	Pn	**P**	**08 15 13.0**	**-2.0**
	2.2nm,0.3s,baz=1.4,slow=19,SNR=5.7						
RPZ				Sn	**S**	**08 15 55.1**	**-5.6**
	12nm,0.3s,baz=323,slow=22,SNR=16						
RPZ				LR	LR	08 16 07.0	
	comp=Z,140nm,20.2s,baz=194,slow=29						
ASAR	**Alice Springs**	**38.46**	**284**	P	**P**	**08 21 33.7**	**-1.7**
	1.7nm,0.5s,mb4.0,baz=126,slow=7.4,SNR=28						
WRA	**Warramunga Arr**	**40.47**	**289**	P	**P**	**08 21 50.0**	**-2.1**
	0.9nm,0.5s,mb3.8,baz=127,slow=8.3,SNR=16						
YKA	**Yellowknife Ar**	**117.53**	**30**	PKP	PKPdf	08 32 56.0	-0.4
	0.4nm,0.7s,baz=261,slow=1.6,SNR=10						
DBIC	**Dimbokro**	**145.69**	**180**	PKPbc	PKPbc	08 33 50.5	-0.5
	1.9nm,0.7s,baz=168,slow=7.9,SNR=4.1						
ARCES	**ARCESS Array B**	**147.39**	**341**	PKPbc	PKPdf	08 33 52.9	+1.5
	2.5nm,0.8s,baz=70,slow=1.8,SNR=9.3						
BRTR	**Keskin Array B**	**150.76**	**280**	PKPbc	PKPdf	08 34 02.4	+4.8
	1.0nm,0.6s,baz=126,slow=5.0,SNR=6.9						
BRTR				PKPab	PKPab	08 34 12.8	+0.3
	1.1nm,0.8s,baz=141,slow=7.9,SNR=5.1						

BJI 22 08:17:36.5, 39.16N×74.03E, h25km, ML3.5, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**16.96**	**119**	*e*P	P	08 21 35.0	+1.2

*IDC **22** 08:21:39.3±6.3, 6.03S×151.32E, h62km±55km, mb3.7/6, mb1 3.9/7, mb1mx3.8/13, mbtmp4.0/7, ML3.5/1, Error ellipse: s-maj=54.0km s-min=26.4km az=107.0*

ISC 22 08:21:39.2±4.6**, 6.0S**±0.2×**151.2E**±0.3**, h73**km±40km**, n7, σ1s30**/8**, mb3.7**/6**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.25**	**230**	P	**P**	**08 22 56.6**	**-0.2**
	10nm,0.3s,baz=42,slow=7.2,SNR=20						
PMG				S	**S**	**08 23 57.0**	**+0.3**
	16nm,0.3s,baz=132,slow=18,SNR=7.8						
WRA	**Warramunga Arr**	**21.47**	**228**	P	**P**	**08 26 22.4**	**-1.1**
	0.8nm,0.3s,mb3.5,baz=54,slow=10,SNR=15						
ASAR	**Alice Springs**	**24.20**	**222**	P	**P**	**08 26 49.6**	**-0.5**
	1.8nm,0.4s,mb3.7,baz=58,slow=8.9,SNR=21						
STKA	**Stephens Creek**	**27.25**	**198**	P	**P**	**08 27 19.7**	**+1.0**
	2.5nm,0.6s,mb3.9,baz=18,slow=13,SNR=7.6						
SONM	**Songino Array**	**66.54**	**329**	P	**P**	**08 32 24.5**	**+0.9**
	0.7nm,0.7s,mb3.6,baz=150,slow=5.6,SNR=6.2						
ILAR	**Eielson Array**	**83.88**	**22**	P	**P**	**08 34 00.3**	**-1.6**
	1.3nm,0.6s,mb4.0,baz=247,slow=5.1,SNR=25						
YKA	**Yellowknife Ar**	**97.23**	**28**	P	**P**	**08 35 05.7**	**+1.0**
	0.2nm,0.6s,mb3.7,baz=272,slow=4.9,SNR=4.3						

IDC 22 08:31:46.7±12.0**, 12.31N**×**91.09E, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.6**/17**, mbtmp3.7**/3**, Error ellipse: s-maj=411.4km s-min=32.8km az=76.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHG	**Chiang Mai**	**9.95**	**49**	PG	P	08 34 17.5	+3.4
CHG				SG	rx	08 34 47.0	
SONM	**Songino Array**	**37.66**	**17**	P	P	08 39 03.4	-1.9
	0.4nm,0.5s,baz=201,slow=8.0,SNR=4.4						
WRA	**Warramunga Arr**	**53.28**	**126**	P	P	08 41 07.4	-2.6
	0.5nm,0.4s,baz=301,slow=9.8,SNR=14						
ASAR	**Alice Springs**	**55.06**	**131**	P	P	08 41 21.1	-1.9
	0.7nm,0.5s,baz=312,slow=7.0,SNR=16						

IDC 22 08:58:16.6±11.0**, 6.04N**×**95.34E, mb3.6**/2**, mb1 3.9**/3**, mb1mx3.6**/18**, mbtmp3.7**/3**, ML4.4**/1**, Error ellipse: s-maj=302.0km s-min=43.0km az=82.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.84**	**16**	Pn	P	09 01 20.4	-2.9
	0.6nm,0.3s,baz=202,slow=14,SNR=19						
WRA	**Warramunga Arr**	**46.24**	**125**	P	P	09 06 44.2	-1.5
	0.2nm,0.5s,baz=299,slow=7.6,SNR=6.9						
ASAR	**Alice Springs**	**47.84**	**130**	P	P	09 06 56.1	-2.2
	1.0nm,1.0s,baz=301,slow=7.5,SNR=6.2						

*IDC **22** 09:00:33.5±1.5, 12.25N×125.43E, mb3.8/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.8/5, Error ellipse: s-maj=64.9km s-min=25.2km az=67.0*

*MAN **22** 09:00:41.4, 12.02N×125.21E, h1km, mb4.5, ML3.4, MS3.3*

ISC 22 09:00:38.0±1.2**, 12.28N**±0.06×**125.56E**±0.09**, h48**km±11km**, n14, σ1s15**/18**, mb3.7**/5**, 1C, Samar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.69**	**190**	*e*P	**P**	**09 00 50.1**	**-1.4**
BESP				*e*S	**S**	**09 01 01.6**	**+0.1**
PLP	**Palo**	**1.25**	**207**	*e*P	**P**	**09 00 58.0**	**-1.4**
PLP				*i* S	**S**	**09 01 14.4**	**-0.9**
MMPH	**Masbate**	**1.89**	**273**	*e*P	**P**	**09 01 11.0**	**+2.5**
	3μm,1.0s						
PVCP	**Virac**	**1.89**	**314**	*e*P	**P**	**09 01 08.1**	**-0.4**
PVCP				*e*S	**S**	**09 01 29.7**	**-1.5**
MSLP	**Maasin**	**2.24**	**198**	*e*P	**P**	**09 01 15.7**	**+2.2**
LLP	**Lapu-Lapu**	**2.50**	**219**	*e*P	**P**	**09 01 24.3**	**+7.1**
RCP	**Roxas**	**2.84**	**256**	⇑*e*P	**P**	**09 01 23.6**	**+1.5**
RCP				*e*S	**S**	**09 01 54.5**	**-0.8**
GUIM	**Jordan**	**3.34**	**241**	*e*P	**P**	**09 01 30.5**	**+1.3**
GQP	**Guinayangan**	**3.43**	**298**	*e*P	**S**	**09 02 10.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**26.37**	**287**	P	**P**	**09 06 10.6**	**-1.3**
	1.6nm,0.9s,mb3.5,baz=91,slow=7.5,SNR=5.3						
ASAR	**Alice Springs**	**36.65**	**167**	P	**P**	**09 07 42.0**	**-0.1**
	0.3nm,0.4s,mb3.5,baz=344,slow=6.3,SNR=3.5						
SONM	**Songino Array**	**38.90**	**339**	P	**P**	**09 08 01.2**	**+0.6**
	0.6nm,0.9s,mb3.3,baz=153,slow=8.3,SNR=4.2						
BVAR	**Borovoye Array**	**59.62**	**325**	P	**P**	**09 10 39.6**	**+0.1**
	2.0nm,0.9s,mb4.1,baz=112,slow=8.0,SNR=8.7						
FINES	**FINESS Array B**	**83.80**	**332**	P	**P**	**09 13 03.2**	**-0.1**
	1.8nm,0.8s,mb4.2,baz=63,slow=4.3,SNR=6.5						

*TIF **22** 09:08:37.8, 42.63N×45.51E, h15km±2km*

*MOS **22** 09:08:38.9±2.5, 42.58N×45.46E, h10km, mb3.9/1, Error ellipse: s-maj=13.9km s-min=7.5km az=8.3*

ISC 22 09:08:39.3±0.5**, 42.63N**±0.05×**45.54E**±0.03**, h10**km**, n17, σ1s36**/29**, 2C, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.51**	**86**	*e*PG	**Pg**	**09 08 47.5**	**-2.1**
BTLR				*e*S	**Sg**	**09 08 55.0**	**-1.5**
DUS	**Dusheti**	**0.82**	**229**	P	**Pb**	**09 08 54.3**	**-0.9**
DUS				S	**Sb**	**09 09 06.4**	**+0.3**
XNZR	**Khunzakh**	**0.87**	**95**	PG	**Pg**	**09 08 56.0**	**-0.8**
XNZR				*e*S	**Sb**	**09 09 08.0**	**+0.5**
UNCR	**Uncukul**	**0.93**	**84**	⇑*i*PG	**Pg**	**09 08 57.0**	**-1.0**
UNCR				S	**Sb**	**09 09 09.5**	**+0.1**
UNCR				pmax	pmax		
	comp=Z,69nm,0.2s						
DBC	**Dubki**	**1.03**	**67**	*e*PG	**Pg**	**09 09 00.0**	**0.0**
DBC				*i* S	**Sb**	**09 09 14.5**	**+2.3**
KRNR	**Karanay**	**1.03**	**78**	⇑*i*PG	**Pg**	**09 08 59.0**	**-1.0**
KRNR				*i* S	**Sb**	**09 09 13.2**	**+1.0**
KRNR				pmax	pmax		
	comp=Z,53nm,0.2s						
TI2	**Plekhanov**	**1.07**	**213**	*e*PG	**Pg**	**09 08 57.4**	**-3.3**
ARKR	**Arakani**	**1.08**	**91**	*e*PG	**Pg**	**09 08 57.5**	**-3.4**
ARKR				pmax	pmax		
	comp=Z,43nm,0.1s						
MTA	**Mtatsminda**	**1.08**	**211**	P	**Pb**	**09 08 59.7**	**-0.1**
MTA				S	**Sb**	**09 09 14.3**	**+0.5**
MTA	**Mtatsminda**	**1.08**	**211**	S	**Sb**	**09 09 07.5**	**-6.3**
BUJR	**Buynaksk**	**1.18**	**80**	*e*PG	**Pg**	**09 09 04.0**	**+1.1**
BUJR				*e*S	**Sn**	**09 09 20.7**	**+2.7**
BUJR				pmax	pmax		
	comp=Z,120nm,0.2s						
ZEI	**Tsey**	**1.22**	**277**	*e*PG	**Pg**	**09 09 00.7**	**-3.0**
ZEI				*e*		09 09 15.1	
ZEI				pmax	pmax		
	comp=Z,57nm,0.2s						
ZEI				smax			
	comp=E,131nm,0.2s						
KMKR	**Kumukh**	**1.26**	**113**	*i* PG	**Pg**	**09 09 02.0**	**-2.6**
KMKR				*i* S	**Sb**	**09 09 19.0**	**+0.1**
KMKR				pmax	pmax		
	comp=Z,154nm,0.2s						
ONI	**Oni**	**1.54**	**269**	P	**Pn**	**09 09 07.5**	**+0.4**
ONI				S	**Sb**	**09 09 28.2**	**+1.2**
URKR	**Urkarakh**	**1.62**	**106**	PN	**Pg**	**09 09 16.0**	**+4.2**
URKR				*e*S	**Sg**	**09 09 36.0**	**+2.6**
AKH	**Akhalkalaki**	**1.95**	**232**	P	**Pn**	**09 09 13.6**	**+0.7**
AKH				S	**Sn**	**09 09 38.8**	**+1.2**
KIV	**Kislovodsk**	**2.47**	**304**	*e*PN	**Pn**	**09 09 20.0**	**-0.3**
KIV				*e*		09 09 56.4	
KIV				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KIV				smax			
	comp=N,13nm,0.3s						

IDC 22 09:09:35.7±38.0**, 18.82S**×**175.47E, mb4.1**/4**, mb1 4.2**/4**, mb1mx3.9**/15**, mbtmp4.1**/4**, Error ellipse: s-maj=654.7km s-min=123.3km az=74.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**27.56**	**262**	P	P	09 15 24.7	-1.8
	5.2nm,0.7s,baz=76,slow=7.1,SNR=3.9						
STKA	**Stephens Creek**	**33.12**	**240**	P	P	09 16 13.8	-1.9
	1.3nm,0.6s,baz=110,slow=11,SNR=6.4						
WRA	**Warramunga Arr**	**38.75**	**261**	P	P	09 17 01.8	-1.9
	1.2nm,0.9s,baz=94,slow=8.5,SNR=9.7						
ASAR	**Alice Springs**	**38.94**	**255**	P	P	09 17 03.6	-1.6
	2.1nm,0.6s,baz=88,slow=9.2,SNR=43						

IDC 22 09:12:09.7±3.3**, 26.37S**×**177.07W, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.8**/14**, mbtmp3.8**/4**, MS3.9**/2**, Ms1 3.9**/2**, ms1mx3.1**/23**, Error ellipse: s-maj=155.7km s-min=43.4km az=155.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.19**	**273**	P	P	09 18 58.8	-0.3
	3.6nm,0.7s,baz=139,slow=11,SNR=3.0						
CTA				LR	LR	09 31 35.7	
	comp=Z,151nm,18.9s,baz=56,slow=34						
STKA	**Stephens Creek**	**36.36**	**251**	P	P	09 19 16.2	-1.3
	0.9nm,0.8s,baz=101,slow=5.2,SNR=2.4						
STKA				LR	LR	09 32 18.8	
	comp=Z,210nm,19.7s,baz=294,slow=33						
ASAR	**Alice Springs**	**44.30**	**262**	P	P	09 20 21.4	-1.8
	0.5nm,0.5s,baz=92,slow=7.5,SNR=8.3						
WRA	**Warramunga Arr**	**44.92**	**268**	P	P	09 20 25.0	-3.4
	1.1nm,0.6s,baz=106,slow=8.2,SNR=7.8						
AKASG	**Malin Array Be**	**148.47**	**327**	PKPbc	PKPdf	09 31 58.4	+2.2
	1.2nm,0.5s,baz=43,slow=3.8,SNR=5.1						
BRTR	**Keskin Array B**	**151.17**	**305**	PKPbc	PKPdf	09 32 04.3	+3.5
	0.9nm,0.8s,baz=108,slow=4.6,SNR=3.3						

*IDC **22** 09:18:01.2±0.4, 3.67N×94.11E, mb4.9/23, mb1 4.9/24, mb1mx4.9/26, mbtmp4.8/24, ML4.8/1, MS4.4/3, Ms1 4.4/3, ms1mx4.0/16, Error ellipse: s-maj=19.9km s-min=11.6km az=54.0*

*BJI **22** 09:18:04.0, 3.49N×94.18E, h35km, mB5.2, mb5.1, Ms5.1, Msz5.0*

*MOS **22** 09:18:04.8±1.0, 3.65N×94.13E, h33km, mb5.3/39, MS4.7/15, Error ellipse: s-maj=10.6km s-min=5.6km az=108.1*

*NEIC **22** 09:18:06.0±0.2, 3.63N×94.14E, h30km, mb5.1/32, MS4.9/83, Error ellipse: s-maj=7.7km s-min=5.4km az=56.0*

*HRVD **22** 09:18:06.0±0.6, 3.40N×94.06E, h12km, MW4.9/54, Centroid moment Tensor Solution. LP body waves: s17,c26; Mantle waves: s54,c78; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.32±.12; $M_{\theta\theta}$-0.86±.09; $M_{\phi\phi}$-1.46±.12; $M_{r\theta}$1.35±.35; $M_{\theta\phi}$1.39±.09; $M_{\phi r}$1.41±.34; Best double couple: $M_0$3.046×10^{16} NP1:ϕ_s115°,δ49°,λ48°. NP2:ϕ_s350°,δ56°,λ128°. Principal axes: T 3.491, Plg59°, Azm317°; N -.894, Plg31°, Azm146°; P -2.601, Plg4°, Azm54°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 22 09:18:01.9±1.3**, 3.60N**±0.04×**94.16E**±0.04**, h15**km±8km**, h22**km±3.1km**:pP-P, n294, σ0s97**/231**, mb5.0**/77**, MS4.8**/92**, 8C-8D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.34**	**61**	P	**Pn**	**09 19 51.0**	**-0.3**
	236nm,1.0s						
PBA	**Port Blair**	**8.13**	**350**	*e*P	**P**	**09 20 01.5**	**-0.7**
PBA				*e*S	**Sn**	**09 21 25.5**	**-9.2**
NST	**Nakhon Sawan**	**13.36**	**26**	P	**P**	**09 21 21.0**	**+7.3**
PALK	**Pallekele**	**13.88**	**286**	*e*P	**P**	**09 21 15.3**	**-5.4**
KKTK	**Khon Kaen**	**15.26**	**33**	PG	**P**	**09 21 44.0**	**+5.4**
KKTK				SG	Px	09 21 53.0	
CM31	**Chiang Mai Arr**	**15.49**	**17**	*e*P	**P**	**09 21 42.6**	**+0.9**
	77nm,0.8s						
CMAR	**Chiang Mai Arr**	**15.49**	**17**	Pn	**P**	**09 21 42.0**	**+0.3**
	1.3nm,0.3s,baz=215,slow=13,SNR=54						
CHG	**Chiang Mai**	**15.83**	**17**	⇑P	**P**	**09 21 45.7**	**-0.4**
	81nm,0.8s						
NANT	**Nan**	**16.41**	**22**	P	**P**	**09 21 55.7**	**+2.3**
MDRS	**Chennai**	**16.66**	**305**	*e*	**P**	**09 21 56.0**	**-0.7**
CHRT	**Chiangrai**	**17.08**	**18**	⇑P	**P**	**09 22 02.0**	**+0.1**
	234nm,1.0s						
VIS	**Vishakhapatnam**	**17.60**	**324**	*e*P	**P**	**09 22 07.7**	**-0.7**
VIS				*e*P		09 22 08.6	
VIS				*e*		09 22 10.9	
	comp=Z,81nm,1.4s						
TRD	**Trivandrum**	**17.78**	**287**	*e*	**P**	**09 21 58.7**	**-12**
TRD				*i*	**S**	**09 25 20.7**	**-5.6**
KOD	**Kodaikanal**	**17.83**	**293**	*e*P	**P**	**09 22 10.5**	**-0.8**
KOD				*e*P		09 22 12.0	
KOD				*e*P		09 22 12.0	
KOD				*e*P		09 25 10.0	
KOD				*e*	**S**	**09 25 14.6**	**-13**
	comp=N,61nm,1.1s						
BWNR	**Bhubaneshwar**	**18.49**	**335**	*e*	**P**	**09 22 17.8**	**-1.7**
	comp=Z,47nm,0.8s						
CAL	**Calcutta**	**19.66**	**344**	*e*P	**P**	**09 22 34.2**	**+1.0**
CAL				*e*	**S**	**09 26 24.2**	**+16**
HYB	**Hyderabad**	**20.56**	**313**	*e*P	**P**	**09 22 42.0**	**-0.9**
HYB				*e*S	**S**	**09 26 34.0**	**+6.6**
HYB	**Hyderabad**	**20.56**	**313**	*i* P	**P**	**09 22 42.0**	**-0.9**
	comp=Z,64nm,1.2s						
HYB				*e*S	**S**	**09 26 34.0**	**+6.6**
IMP	**Imphal**	**21.06**	**359**	*e*P	**P**	**09 22 46.2**	**-1.8**
MNGI	**Mangalore**	**21.25**	**297**	*i* P	**P**	**09 22 49.0**	**-0.9**
MNGI				*i* S	**S**	**09 26 43.6**	**+3.0**
QIZ	**Qiongzhong**	**21.68**	**44**	P	**P**	**09 22 55.4**	**+1.1**
QIZ				S	**S**	**09 26 48.9**	**+0.1**
QIZ				XS		09 26 59.8	
QIZ				LR	LR		
	comp=N,2μm,17.3s						
QIZ				LR	LR		
	comp=Z,2μm,17.4s,MS4.6						
QIZ	**Qiongzhong**	**21.68**	**44**	P	**P**	**09 22 53.2**	**-1.1**
QIZ				LR	LR		
	comp=Z,2μm,19.0s,MS4.5						
BLSP	**Bilaspur**	**21.81**	**329**	*e*P	**P**	**09 22 56.4**	**+0.9**
BLSP				*e*		09 23 04.7	
	comp=Z,96nm,1.8s						
BLSP				*e*		09 26 38.9	
SHL	**Shillong**	**21.95**	**354**	*e*P	**P**	**09 22 56.2**	**-0.8**
SHL				*e*S	**S**	**09 26 59.6**	**+5.8**
NGP	**Nagpur**	**22.81**	**321**	*e*P	**P**	**09 23 06.6**	**+1.0**
NGP				*e*S	**S**	**09 27 15.3**	**+5.8**
KMI	**Kunming**	**22.94**	**20**	⇑P	**P**	**09 23 08.9**	**+2.1**
KMI				*PP		09 23 17.6	
KMI				*SP		09 23 21.8	
KMI						09 23 38.5	
KMI				S	**S**	**09 27 11.7**	**-0.1**
KMI				*SS		09 27 25.2	
KMI				SS	SS	09 27 55.1	-0.9
KMI				pmax	pmax		
	comp=Z,32nm,1.4s,mb4.6						
KMI				MLR	MLR		
	comp=Z,2μm,14.0s,MS4.6						
KMI	**Kunming**	**22.94**	**20**	⇑P	**P**	**09 23 08.9**	**+2.1**
	comp=Z,32nm,1.4s,mb4.6						
KMI				pP		09 23 17.6	
KMI				sP		09 23 21.8	
KMI				PP	PP	09 23 38.5	+2.0
KMI				S	**S**	**09 27 11.7**	**-0.1**
KMI				sS		09 27 25.2	
KMI				SS	SS	09 27 55.1	-0.9
KMI				LR	LR		
	comp=Z,2μm,14.0s,MS4.6						
GOA	**Goa**	**23.24**	**302**	*e*P	**P**	**09 23 10.9**	**+1.1**
KAD	**Karad**	**23.86**	**306**	*e*P	**P**	**09 23 17.6**	**+1.7**
DGAR	**Diego Garcia**	**24.27**	**243**	PFAKE		09 23 30.0	+10
DGAR				LR	LR		
	comp=Z,454nm,20.0s,MS4.0						
POO	**Poona**	**24.80**	**308**	*e*P	**P**	**09 23 26.6**	**+1.7**
POO				*e*		09 23 28.6	
	comp=Z,26nm,0.9s						
JIRN	**Jiri**	**25.11**	**343**	*e*P	**P**	**09 23 27.9**	**+0.1**
	comp=Z,118nm,0.8s,mb5.5						
PKI	**Pulchoki**	**25.26**	**342**	*e*P	**P**	**09 23 29.5**	**+0.2**
	comp=Z,43nm,0.8s,mb5.0						
BHPL	**Bhopal**	**25.36**	**322**	*e*P	**P**	**09 23 31.9**	**+1.6**
BHPL				*e*		09 23 39.1	
	comp=Z,35nm,1.4s						
DMN	**Daman**	**25.39**	**341**	*e*P	**P**	**09 23 31.2**	**+0.7**
	comp=Z,80nm,0.9s,mb5.2						
KKN	**Kakani**	**25.50**	**341**	*e*P	**P**	**09 23 32.2**	**+0.6**
	comp=Z,84nm,0.8s,mb5.3						
BOM	**Bombay**	**25.82**	**308**	*e*P	**P**	**09 23 34.9**	**+0.3**
BOM				*e*		09 28 17.5	
GKN	**Gorkha**	**25.91**	**340**	*e*P	**P**	**09 23 35.4**	**+0.1**
	comp=Z,140nm,0.9s,mb5.5						
KOLN	**Koldanda**	**26.06**	**338**	*e*P	**P**	**09 23 37.3**	**+0.5**
	comp=Z,81nm,0.8s,mb5.3						
LSA	**Lhasa**	**26.12**	**354**	P	**P**	**09 23 38.4**	**+1.2**
LSA				AP	pP	09 23 48.3	+6.8
LSA				XP	sP	09 23 51.3	+7.9
LSA				PP	PP	09 24 20.3	+1.3
LSA				XS		09 28 23.8	
LSA				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.1						
LSA				AMB	AMB		
	comp=Z,50nm,7.7s						
LSA				LR	LR		
	comp=N,430nm,16.0s,MS4.4						
LSA				LR	LR		
	comp=E,840nm,16.0s,MS4.4						
LSA				LR	LR		
	comp=Z,890nm,16.0s,MS4.4						
LSA	**Lhasa**	**26.12**	**354**	*e*P	**P**	**09 23 38.6**	**+1.4**
LSA				pmax	pmax		
	comp=Z,241nm,0.8s,mb5.8						
LSA				MLR	MLR		
	comp=Z,995nm,20.0s,MS4.3						
LSA	**Lhasa**	**26.12**	**354**	*e*P	**P**	**09 23 38.6**	**+1.4**
	comp=Z,241nm,0.8s,mb5.8						
LSA				LR	LR		
	comp=Z,995nm,20.0s,MS4.3						
SONA	**Sohna**	**29.42**	**328**	*e*P	**P**	**09 24 06.5**	**-0.8**
SONA				AMb	AMB	09 24 08.2	
	comp=Z,40nm,0.7s,mb5.3						
AYAN	**Aya Nagar**	**29.58**	**329**	*e*P	**P**	**09 24 07.8**	**-0.9**
AYAN				AMb	AMB	09 24 09.3	
	comp=Z,34nm,0.8s,mb5.1						
NDI	**New Delhi**	**29.70**	**329**	*e*P	**P**	**09 24 09.0**	**-0.8**
KHET	**Khetri**	**29.97**	**326**	*e*P	**P**	**09 24 12.2**	**0.0**
KHET				AMb	AMB	09 24 14.4	
	comp=Z,51nm,1.2s,mb5.1						
ENH	**Enshi**	**30.23**	**27**	*e*P	**P**	**09 24 12.7**	**-1.8**
	comp=Z,24nm,0.8s,mb5.0						
ENH				LR	LR		
	comp=Z,735nm,20.0s,MS4.3						
KKR	**Kurukshetra**	**30.94**	**330**	*e*P	**P**	**09 24 19.6**	**-1.1**
WHN	**Wuhan**	**32.89**	**33**	*e*P	**P**	**09 24 38.0**	**+0.2**
WHN				S	**S**	**09 30 00.0**	**+6.2**
WHN				LR	LR		
	comp=Z,8μm,12.9s,MS5.6						
XAN	**Xi'an**	**33.26**	**23**	P	**P**	**09 24 40.0**	**-1.0**
XAN				AP	pP	09 24 46.3	+1.0
XAN				S	**S**	**09 29 58.8**	**-0.7**
XAN				AMB	AMB		
	comp=Z,57nm,0.9s,mb5.5						
XAN				LR	LR		
	comp=N,2μm,14.7s,MS5.0						
XAN				LR	LR		
	comp=E,1μm,12.7s,MS5.0						
XAN				LR	LR		
	comp=Z,2μm,13.7s,MS5.0						
LZH	**Lanzhou**	**33.54**	**14**	*e*P	**P**	**09 24 42.8**	**-0.6**
LZH				AMB	AMB		
	comp=Z,40nm,1.4s,mb5.2						
LZH				LR	LR		
	comp=N,2μm,13.7s						
LZH				LR	LR		
	comp=Z,2μm,14.3s,MS4.9						
LZH	**Lanzhou**	**33.54**	**14**	*e*P	**P**	**09 24 42.7**	**-0.7**
LZH				*SP	sP	09 24 50.2	+0.7
LZH				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.2						
LZH				MLR	MLR		
	comp=Z,2μm,14.3s,MS4.9						
LZH	**Lanzhou**	**33.54**	**14**	*e*P	**P**	**09 24 42.7**	**-0.7**
	comp=Z,40nm,1.4s,mb5.2						
LZH				pP	pP	09 24 47.4	-0.3
LZH				sP	sP	09 24 50.2	+0.7
LZH				PP	tx	09 26 52.0	
LZH				S	SS	09 32 40.3	+32
LZH				sS		09 32 50.0	
LZH				PS		09 32 56.0	
LZH				*e*SS	tx	09 36 32.0	
LZH				LR	LR		
	comp=Z,2μm,14.3s,MS4.9						
TATO	**Taipei**	**33.81**	**48**	PFAKE		09 25 00.0	+14
TATO				LR	LR		
	comp=Z,1μm,20.0s,MS4.6						
MBWA	**Marble Bar**	**35.12**	**136**	PFAKE		09 25 10.0	+13
MBWA				LR	LR		
	comp=Z,640nm,21.0s,MS4.3						
NJ2	**Nanjing**	**36.59**	**37**	*e*P	**P**	**09 25 10.5**	**+1.1**
NJ2				AP	pP	09 25 20.1	+6.4
NJ2				XP	sP	09 25 23.9	+8.3
NJ2				PP	PP	09 26 36.6	+2.6
NJ2				PPP	PPP	09 26 55.3	+1.3

NJ2 S **S** **09 30 53.0 +2.1**
NJ2 XS 09 31 11.0
NJ2 AMB AMB
comp=Z,50nm,0.9s,mb5.3
NJ2 AMB AMB
comp=Z,790nm,4.2s
NJ2 LR LR
comp=N,4μm,10.6s,MS5.7
NJ2 LR LR
comp=E,5μm,11.8s,MS5.7
NJ2 LR LR
comp=Z,7μm,12.2s,MS5.7
SSE Sheshan 37.37 40 P **P** **09 25 14.8 -1.2**
SSE XP sP 09 25 27.3 +5.1
SSE S **S** **09 31 02.0 -0.9**
SSE XS 09 31 16.4
SSE AMB AMB
comp=Z,37nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,83nm,6.1s
SSE LR LR
comp=N,2μm,16.0s,MS5.0
SSE LR LR
comp=E,794nm,16.0s,MS5.0
SSE LR LR
comp=Z,2μm,13.1s,MS5.1
SSE Sheshan 37.37 40 P **P** **09 25 14.8 -1.2**
comp=Z,37nm,0.7s,mb5.3
SSE sP sP 09 25 27.3 +5.1
SSE S **S** **09 31 02.0 -0.9**
SSE sS 09 31 16.4
SSE SS SS 09 33 48.1 +13
SSE LR LR
comp=Z,2μm,13.1s,MS5.1
FITZ Fitzroy Crossi 37.78 126⇓*i* P **P** **09 25 19.4 -0.2**
comp=Z,15nm,0.7s,mb4.8
WMQ Urumqi 40.46 353 ⇓P **P** **09 25 43.1 +1.5**
WMQ PP PP 09 27 20.1 +1.7
WMQ S **S** **09 31 50.8 +1.3**
WMQ AMB AMB
comp=Z,84nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,300nm,5.4s
WMQ LR LR
comp=N,1μm,15.6s,MS5.0
WMQ LR LR
comp=E,1μm,16.6s,MS5.0
WMQ LR LR
comp=Z,2μm,17.4s,MS5.0
BJT Baijiatuau 41.36 26 *e*P **P** **09 25 50.7 +1.7**
BJT pmax pmax
comp=Z,32nm,0.8s
BJT MLR MLR
comp=Z,961nm,19.0s
BJT Baijiatuau 41.36 26 *e*P **P** **09 25 50.7 +1.7**
comp=Z,32nm,0.8s,mb5.0
BJT LR LR
comp=Z,961nm,19.0s,MS4.7
BJI Beijing 41.38 26 *e*P **P** **09 25 50.9 +1.7**
BJI 09 27 32.5
BJI S **S** **09 31 57.2 -6.0**
BJI SS SS 09 35 07.9 +5.5
BJI pmax pmax
comp=Z,41nm,0.8s,mb5.1
BJI MLR MLR
comp=Z,270nm,19.1s,MS4.1
BJI Beijing 41.38 26 *e*P **P** **09 25 50.9 +1.7**
comp=Z,41nm,0.8s,mb5.1
BJI PP PP 09 27 32.5 +4.5
BJI S **S** **09 31 57.2 -6.0**
BJI SS SS 09 35 07.9 +5.5
BJI LR LR
comp=Z,270nm,19.1s,MS4.1
ULHL Ulahol 41.68 340 P **P** **09 25 53.1 +1.4**
SNR=6.9
KZA Kyzart 41.88 339 P **P** **09 25 55.2 +1.9**
SNR=13
UCH Uchtor 42.28 338 P **P** **09 25 58.2 +1.7**
SNR=38
NWAO Narrogin (SRO) 42.40 151 P **P** **09 25 57.7 0.0**
comp=Z,5.3nm,0.9s,mb4.2,baz=327,slow=1.6,SNR=5.4
NWAO LR LR 09 42 17.7
comp=Z,3.5nm,18.6s,baz=235,slow=34
NWAO Narrogin (SRO) 42.40 151 P **P** **09 25 57.7 0.0**
NWAO LR LR 09 42 17.7
KBK Karagaybulak 42.49 339 P **P** **09 25 58.9 +0.6**
SNR=6.4
TKM2 Tokmak 2 42.50 340 P **P** **09 25 58.7 +0.3**
SNR=24
AML Almayashu 42.51 337 P **P** **09 25 59.3 +0.8**
SNR=38
AAK Ala-Archa 42.64 338 P **P** **09 26 00.9 +1.3**
SNR=14
AAK Ala-Archa 42.64 338 *e*P **P** **09 25 59.7 +0.2**
AAK pmax pmax
comp=Z,23nm,1.0s,mb4.9
AAK MLR MLR
comp=Z,112nm,19.0s,MS3.8
AAK Ala-Archa 42.64 338 *e*P **P** **09 25 59.7 +0.2**
comp=Z,23nm,1.0s,mb4.9
AAK LR LR
comp=Z,112nm,19.0s,MS3.8
FRU Bishkek 42.77 339 *e*P **P** **09 26 01.0 +0.4**
FRU pmax pmax
comp=Z,182nm,2.5s,mb5.4
EKS2 Erkin-Say 42.93 338 P **P** **09 26 03.7 +1.8**
SNR=36
USP Ospenovka 43.19 339 P **P** **09 26 03.8 -0.1**
SNR=53
SONM Songino Array 45.31 12 P **P** **09 26 20.7 -0.3**
comp=Z,31nm,0.7s,mb5.2,baz=193,slow=7.4,SNR=142
SONM PcP PcP 09 28 00.9 -0.4
comp=Z,10nm,1.0s,baz=190,slow=4.0,SNR=4.2
ULN Ulaanbaatar 45.48 12 *e*P **P** **09 26 22.1 -0.3**
ULN pmax pmax
comp=Z,16nm,0.9s,mb4.8
ULN MLR MLR
comp=Z,397nm,21.0s,MS4.3
ULN Ulaanbaatar 45.48 12 *e*P **P** **09 26 22.1 -0.3**
comp=Z,16nm,0.9s,mb4.8
ULN LR LR
comp=Z,397nm,21.0s,MS4.3
WRA Warramunga Arr 45.87 122 P **P** **09 26 25.9 0.0**
WRA pmax pmax
comp=Z,28nm,0.7s
WRA Warramunga Arr 45.87 122 P **P** **09 26 25.9 +0.1**
comp=Z,28nm,0.7s,mb5.3,baz=300,slow=8.9,SNR=123
WRAB Tennant Creek 45.88 122 *i* P **P** **09 26 24.8 -1.1**
WRAB Tennant Creek 45.88 122 *e*P **P** **09 26 25.6 -0.3**
comp=Z,62nm,0.9s,mb5.5
WRAB LR LR
comp=Z,169nm,19.0s,MS4.0
WB2 Warramunga Arr 45.88 122⇓*i* P **P** **09 26 25.7 -0.2**
SNY Shenyang 46.28 31 ⇓P **P** **09 26 28.8 0.0**
SNY AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
SNY LR LR
comp=N,1μm,16.2s,MS4.9
SNY LR LR
comp=E,480nm,13.8s,MS4.9
SNY LR LR
comp=Z,1μm,16.2s,MS4.9
FORT Forrest 47.06 139 *e*P **P** **09 26 34.5 -0.6**
comp=Z,27nm,0.7s,mb5.3
ZAK Zakamensk 47.25 8 *e*P **P** **09 26 36.2 -0.2**
ZAK *e* 09 28 07.9
ASPA Alice Springs 47.25 127 *e*P **P** **09 26 36.6 -0.1**
ASAR Alice Springs 47.25 127 P **P** **09 26 36.2 -0.5**
comp=Z,15nm,0.7s,mb5.0,baz=297,slow=7.9,SNR=143
ASAR PcP PcP 09 28 08.3 -0.1
comp=Z,4.0nm,0.7s,baz=299,slow=3.7,SNR=6.3
TLY Talaya 48.57 8 *i* P **P** **09 26 46.8 +0.2**
TLY pmax pmax
comp=Z,28nm,0.9s,mb5.3
TLY Talaya 48.57 8 *i* P **P** **09 26 46.9 +0.3**
TLY LR LR
comp=Z,152nm,20.0s,MS4.0
KURK Kurchatov 48.74 347 *e*P **P** **09 26 47.4 -0.6**
KURK pmax pmax
comp=Z,29nm,0.8s,mb5.4
KURK MLR MLR
comp=Z,107nm,19.0s,MS3.9
KURK Kurchatov 48.74 347 *e*P **P** **09 26 47.4 -0.5**
comp=Z,29nm,0.8s,mb5.4
KURK LR LR
comp=Z,107nm,19.0s,MS3.9

HIA Hailar 50.45 22 *e*P **P** **09 27 01.3 +0.2**
HIA MLR MLR
comp=Z,2μm,20.0s
ZAL Zalesovo 50.76 353 P **P** **09 27 03.0 -0.4**
comp=Z,15nm,0.5s,mb5.2,baz=209,slow=6.2,SNR=76
RAYN Ar Rayn 50.96 297 P **P** **09 27 06.2 +0.9**
comp=Z,202nm,0.7s,SNR=22
GUMO Guam 51.02 76 PFAKE 09 27 20.0 +14
GUMO LR LR
comp=Z,886nm,19.0s,MS4.8
MDJ Mudanjiang 51.36 32 P **P** **09 27 08.4 +0.3**
MDJ PCP PcP 09 28 21.3 -1.7
MDJ PP PP 09 29 05.5 -0.5
MDJ SCP 09 32 18.8
MDJ PCS 09 32 20.1
MDJ AMB AMB
comp=Z,7.0nm,1.3s,mb4.4
MDJ AMB AMB
comp=Z,101nm,6.3s
MDJ LR LR
comp=N,515nm,17.8s,MS4.8
MDJ LR LR
comp=E,590nm,15.5s,MS4.8
MDJ LR LR
comp=Z,1μm,15.0s,MS5.0
MDJ Mudanjiang 51.36 32 PFAKE 09 27 20.0 +12
MDJ LR LR
comp=Z,862nm,19.0s,MS4.8
NVS Novosibirsk 51.85 352 *e*P **P** **09 27 10.4 -1.2**
NVS pmax pmax
comp=N,15nm,0.9s
NVS pmax pmax
comp=E,13nm,0.9s
NVS pmax pmax
comp=Z,37nm,0.9s,mb5.3
MAJO Matsushiro 52.07 45 PFAKE 09 27 30.0 +16
MAJO LR LR
comp=Z,1μm,19.0s,MS4.9
MAT Matsushiro 52.07 45 P **P** **09 27 13.0 -0.6**
BVAR Borovoye Array 53.03 342 P **P** **09 27 19.1 -1.4**
comp=Z,18nm,0.7s,mb5.1,baz=149,slow=8.6,SNR=64
BRVK Borovoye 53.09 342 *e*P **P** **09 27 19.3 -1.6**
BRVK pmax pmax
comp=Z,19nm,0.8s,mb5.1
BRVK MLR MLR
comp=Z,97nm,19.0s,MS3.9
BRVK Borovoye 53.09 342 *e*P **P** **09 27 19.3 -1.6**
comp=Z,19nm,0.8s,mb5.1
BRVK LR LR
comp=Z,97nm,19.0s,MS3.9
CHKZ Chkalovo 53.53 343 *e*P **P** **09 27 22.9 -1.2**
CHKZ pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
CHKZ Chkalovo 53.53 343 *e*P **P** **09 27 22.9 -1.2**
comp=Z,5.6nm,0.7s,mb4.6
PMG Port Moresby 54.37 104 PFAKE 09 27 40.0 +9.2
PMG LR LR
comp=Z,318nm,21.0s,MS4.4
BOD Bodaibo 56.28 13 *e*P **P** **09 27 42.5 -1.6**
CTA Charters Tower 56.29 117 P **P** **09 27 44.8 +0.1**
comp=Z,8.7nm,0.8s,mb4.8,baz=278,slow=8.7,SNR=6.1
CTAO Charters Tower 56.29 117 PFAKE 09 28 00.0 +15
CTAO LR LR
comp=Z,399nm,19.0s,MS4.5
KMBO Kilima Mbogo 57.07 266 *e*P **P** **09 27 50.6 +0.2**
KMBO MLR MLR
comp=Z,628nm,21.0s
KMBO Kilima Mbogo 57.07 266 P **P** **09 27 50.6 +0.2**
comp=Z,3.8nm,0.8s,mb4.5,baz=61,slow=13,SNR=8.1
STKA Stephens Creek 57.21 132 *e*P **P** **09 27 50.7 -0.4**
comp=Z,7.8nm,0.6s,mb4.9
STKA Stephens Creek 57.21 132 P **P** **09 27 50.9 -0.3**
comp=Z,9.6nm,0.7s,mb5.0,baz=306,slow=6.6,SNR=29
GNI Garni 57.47 316 P **P** **09 27 52.8 -0.1**
GNI pmax pmax
comp=Z,11nm,0.6s
GNI Garni 57.47 316 P **P** **09 27 52.8 0.0**
comp=Z,11nm,0.6s,mb5.0,baz=353,slow=22,SNR=6.0
GNI Garni 57.47 316 *e*P **P** **09 27 52.6 -0.2**
comp=Z,16nm,0.8s,mb5.1
GNI LR LR
comp=Z,218nm,19.0s,MS4.3
TI2 Plekhanov 58.17 318⇓*i*P **P** **09 27 57.4 -0.3**
TI2 pmax pmax
comp=Z,30nm,0.8s,mb5.4
ASAJ Asahikawa 58.66 39 P **P** **09 28 00.8 -0.3**
ASAJ pmax pmax
comp=Z,13nm,1.0s
ASAJ Asahikawa 58.66 39 P **P** **09 28 00.8 -0.3**
comp=Z,12nm,1.0s,mb4.9,baz=348,slow=6.4,SNR=4.3
ZEI Tsey 59.20 319 *e*P **P** **09 28 05.3 +0.4**
ZEI pmax pmax
comp=Z,14nm,0.8s,mb5.0
SVE Sverdlovsk 59.37 339 *e*P **P** **09 28 05.4 -0.5**
SVE pmax pmax
comp=Z,120nm,2.0s,mb5.6
ERZM Erzurum 59.73 315 *i* P **P** **09 28 08.8 +0.2**
ARU Arti 59.82 338 P **P** **09 28 08.5 -0.5**
comp=Z,186nm,0.9s,mb6.1,SNR=19
ARU Arti 59.82 338⇓*i*P **P** **09 28 02.2 -6.8**
ARU *e* 09 28 47.8
ARU *e*S **S** **09 36 09.7 -8.4**
ARU *e*SS SS 09 40 06.5 -9.1
ARU pmax pmax
comp=Z,28nm,0.9s,mb5.3
ARU Arti 59.82 338 *e*P **P** **09 28 02.4 -6.6**
comp=Z,26nm,0.9s,mb5.3
ARU LR LR
comp=Z,77nm,19.0s,MS3.9
YSS Yuzh-Sakhalins 60.16 36 *e*P **P** **09 28 12.3 +0.9**
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.3
YSS MLR MLR
comp=Z,431nm,19.0s,MS4.6
YSS Yuzh-Sakhalins 60.16 36 *e*P **P** **09 28 12.3 +0.9**
comp=Z,30nm,0.9s,mb5.3
YSS LR LR
comp=Z,431nm,19.0s,MS4.6
KIV Kislovodsk 60.52 320 *i* P **P** **09 28 11.4 -2.5**
ELZG Elazig 60.93 313 *i* P **P** **09 28 16.1 -0.7**
MALT Malatya 61.28 312 *e*P **P** **09 28 19.4 +0.2**
MALT pmax pmax
comp=Z,15nm,0.9s,mb5.1
MALT Malatya 61.28 312 *e*P **P** **09 28 19.4 +0.3**
comp=Z,15nm,0.9s,mb5.1
GZT Gaziantep 61.61 311 *i* P **P** **09 28 21.7 +0.3**
SOC Sochi 62.32 318 *e*P **P** **09 28 22.3 -3.8**
SOC *e* 09 30 43.1
SOC *e*S **S** **09 36 47.6 -2.5**
SOC *e*SS SS 09 40 54.8 -0.8
SOC pmax pmax
comp=N,15nm,0.7s
SOC pmax pmax
comp=E,19nm,0.7s
SOC pmax pmax
comp=Z,21nm,0.7s,mb5.4
SOKR Solikamsk 62.78 340⇓*i*P **P** **09 28 27.1 -1.8**
SOKR pmax pmax
comp=Z,30nm,0.8s,mb5.5
MBAR Mbarara 63.52 268 PFAKE 09 28 50.0 +15
MBAR LR LR
comp=Z,97nm,20.0s,MS4.0
YAK Yakutsk 64.03 18 *e*P **P** **09 28 35.5 -1.6**
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=Z,21nm,0.9s,mb5.2
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=Z,15nm,1.0s,mb5.0
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK Yakutsk 64.03 18 *e*P **P** **09 28 34.7 -2.4**
comp=E,44nm,0.9s,mb5.5
YAK LR LR
comp=Z,456nm,20.0s,MS4.7
ANN Anapa 64.30 319 *e*P **P** **09 28 34.9 -4.3**
ANN pmax pmax
comp=Z,89nm,1.2s,mb5.7
BOYT Boyabat 64.86 314 *i* P **P** **09 28 42.8 -0.1**
BRTR Keskin Array B 65.26 312 P **P** **09 28 44.4 -1.1**
comp=Z,7.5nm,0.9s,mb4.7,baz=128,slow=7.0,SNR=32
SGKT Sivrigoynuk 66.67 313 *i* P **P** **09 28 53.3 -1.1**

LSZ Lusaka 67.92 252 PFAKE 09 29 10.0 +7.3
LSZ LR LR
comp=Z,723nm,19.0s,MS4.9
ULDT Uludag 68.71 312 *i* P **P** **09 29 06.9 -0.4**
OBN Obninsk 69.00 329 *i* P **P** **09 29 05.9 -2.9**
OBN *i* pP 09 29 11.5 -1.8
OBN 09 29 26.0
OBN *e* 09 38 33.5
OBN pmax pmax
comp=Z,60nm,2.3s,mb5.1
BTOK Tokmak 69.45 311 *i* P **P** **09 29 10.9 -0.9**
KDAG Bornova 69.74 310 *i* P **P** **09 29 13.2 -0.4**
MA2 Magadan 70.53 27 *e*P **P** **09 29 17.3 -0.8**
MA2 *e*S S 09 38 29.6 0.0
MA2 *e* 09 39 15.6
MA2 pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MA2 MLR MLR
comp=Z,400nm,21.0s,MS4.7
MA2 Magadan 70.53 27 *e*P **P** **09 29 18.1 0.0**
comp=Z,12nm,0.8s,mb4.9
MA2 LR LR
comp=Z,396nm,19.0s,MS4.7
IDI Anoyia 71.04 306 P **P** **09 29 20.7 -0.9**
comp=Z,18nm,0.8s,mb5.1,baz=110,slow=7.4,SNR=9.2
TIXI Tiksi 71.40 11 *e*P **P** **09 29 22.7 -0.4**
TIXI pmax pmax
comp=Z,24nm,0.8s,mb5.2
TIXI MLR MLR
comp=Z,616nm,16.0s,MS5.0
TIXI Tiksi 71.40 11 *i* P **P** **09 29 22.1 -1.0**
TIXI LR LR
comp=Z,613nm,19.0s,MS4.9
AKASG Malin Array Be 71.52 323 P **P** **09 29 22.0 -2.2**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 71.52 323 P **P** **09 29 22.0 -2.2**
comp=Z,4.5nm,0.6s,mb4.5,baz=91,slow=5.1,SNR=11
VRI Vrincioaia 71.81 317 P **P** **09 29 26.3 +0.3**
PET Petropavlovsk 71.98 35 PFAKE 09 29 40.0 +13
PET LR LR
comp=Z,351nm,19.0s,MS4.7
MLR Muntele Rosu 72.25 317 P **P** **09 29 29.1 +0.5**
MLR Muntele Rosu 72.25 317 LR LR 10 03 49.4
comp=Z,137nm,18.6s,MS4.2,baz=14,slow=38
BOSA Boshof 73.37 239 PFAKE 09 29 50.0 +14
BOSA LR LR
comp=Z,571nm,19.0s,MS4.9
MAW Mawson 74.38 192 P **P** **09 29 41.9 +1.2**
comp=Z,3.7nm,0.9s,mb4.3,baz=358,slow=5.7,SNR=5.9
MAW LR LR 09 57 53.7
comp=Z,238nm,18.3s,MS4.5,baz=163,slow=32
LVV L'vov 74.50 321 *e*P **P** **09 29 31.0 -11**
JOF Joensuu 74.70 335 *e*p **P** **09 29 41.1 -1.5**
comp=Z,17nm,0.8s,mb5.0
VSU Vasula 75.26 330⇑*i*P **P** **09 29 45.6 -0.3**
KWP Kalwaria 75.30 320 *e*P **P** **09 29 46.3 0.0**
KOLS Kolonicke sedl 75.43 320 *e*P **P** **09 29 48.0 +0.9**
APA Apatity 75.84 340⇑*i*P **P** **09 29 48.6 -0.4**
APA pmax pmax
comp=Z,18nm,0.7s,mb5.1
CRVS Cervenica-Dubn 75.95 320 *e*P **P** **09 29 51.5 +1.5**
SUW Suwalki 75.98 325 *e*P **P** **09 29 48.9 -1.2**
FINES FINESS Array B 76.49 333 *i* P **P** **09 29 52.1 -0.7**
FINES pmax pmax
comp=Z,13nm,0.8s
FINES FINESS Array B 76.49 333 P **P** **09 29 51.5 -1.3**
comp=Z,13nm,0.8s,mb4.9,baz=104,slow=7.9,SNR=30
FINES FINESS Array B 76.49 333 P **P** **09 29 51.5 -1.3**
KAF Kangasniemi 76.59 333 *e*p **P** **09 29 52.3 -1.0**
comp=Z,17nm,0.9s,mb5.0
KAF Kangasniemi 76.59 333 *e*P **P** **09 29 52.3 -1.0**
KAF pmax pmax
comp=Z,17nm,0.9s,mb5.0
PSZ Piszkesteto 76.81 318 *e*P **P** **09 29 55.1 +0.2**
PSZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
PSZ Piszkesteto 76.81 318 *e*P **P** **09 29 55.0 +0.2**
comp=Z,6.6nm,0.9s,mb4.6
OJC Ojcow 77.25 321 *e*P **P** **09 29 57.2 -0.1**
VYHS Vyhne 77.60 319 *e*P **P** **09 29 59.5 +0.3**
SUR Sutherland 77.95 236 PFAKE 09 30 10.0 +8.5
SUR LR LR
comp=Z,188nm,20.0s,MS4.4
OKC Ostrava-Krasne 78.25 320 *e*P **P** **09 30 03.0 +0.3**
MORC Moravsky Berou 78.62 320 *e*P **P** **09 30 05.0 +0.2**
MORC pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MORC Moravsky Berou 78.62 320 *e*P **P** **09 30 05.0 +0.2**
comp=Z,6.8nm,0.9s,mb4.6
ZST Bratislava 78.70 318 *e*P **P** **09 30 06.0 +0.7**
KEV Kevo 78.85 341 *e*p **P** **09 30 04.8 -0.9**
comp=Z,9.9nm,0.8s,mb4.8
KEV Kevo 78.85 341 *e*P **P** **09 30 04.8 -0.9**
KEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ARCES ARCESS Array B 79.27 341 P **P** **09 30 07.4 -0.6**
comp=Z,14nm,0.7s,mb5.0,baz=101,slow=6.2,SNR=29
DPC Dobruska-Polom 79.48 320 *e*P **P** **09 30 10.2 +0.7**
KSP Ksiaz 79.56 321⇓*e*P **P** **09 30 10.8 +0.9**
KSP *e**PP pP 09 30 16.2 +1.7
KSP Ksiaz 79.56 321 *e*P **P** **09 30 11.1 +1.2**
BOJS Bojanci 79.67 315 *e*P **P** **09 30 10.6 0.0**
UPC Upice 79.70 321 *e*P **P** **09 30 11.2 +0.6**
PERS Pernice 79.87 317 *e*P **P** **09 30 12.3 +0.7**
BILL Bilibino 80.03 21 *i* P **P** **09 30 11.8 -0.3**
BILL MLR MLR
comp=Z,600nm,20.0s,MS4.9
CEY Cerknica 80.27 316 *e*P **P** **09 30 13.5 -0.3**
FX1 Attu Island--F 80.50 37 P **P** **09 30 15.9 +1.0**
FX1 pmax pmax
comp=Z,22nm,0.8s
FX1 Attu Island--F 80.50 37 P **P** **09 30 15.9 +1.0**
comp=Z,22nm,0.8s,mb5.2,baz=258,slow=9.3,SNR=3.5
PRU Pruhonice 80.58 320 *e*P **P** **09 30 16.0 +0.7**
PVCC Panska Ves 80.61 320 *e*P **P** **09 30 16.5 +1.0**
ROBS Robic 80.94 316 *e*P **P** **09 30 17.4 +0.1**
GERES GERESS Array B 81.02 319 P **P** **09 30 17.7 0.0**
comp=Z,8.4nm,0.7s,mb4.8,baz=104,slow=5.5,SNR=50
BRG Berggiesshubel 81.04 321 *i* P **P** **09 30 18.6 +0.8**
BRG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BRG Berggiesshubel 81.04 321 *i* P **P** **09 30 18.6 +0.8**
comp=Z,8.2nm,0.9s,mb4.7
BRG *e* 09 30 40.3
KHC Kasperske Hory 81.12 319 *i* P **P** **09 30 17.2 -1.0**
KHC Kasperske Hory 81.12 319 *e*P **P** **09 30 17.1 -1.1**
SYO Syowa Base 81.35 197⇑P **P** **09 30 20.7 +1.7**
SYO Syowa Base 81.35 197⇑pP pP 09 30 26.0 +2.3
CLL Collm 81.67 321 *i* P **P** **09 30 20.9 -0.1**
CLL Collm 81.67 321 P **P** **09 30 20.9 -0.1**
MOX Moxa 82.50 320 *e*P pP 09 30 32.0 +2.0
GRA1 Grafenberg Arr 82.70 319 *e*P **P** **09 30 26.9 +0.5**
comp=Z,26nm,1.3s,mb5.1
GRF Grafenberg Arr 82.70 319 *e*P **P** **09 30 26.9 +0.5**
GRF pmax pmax
comp=Z,26nm,1.3s,mb5.1
GRF Grafenberg Arr 82.70 319 *e*P **P** **09 30 26.9 +0.5**
GRF pmax pmax
comp=Z,26nm,1.3s,mb5.1
GRF Grafenberg Arr 82.70 319 *e*P **P** **09 30 26.9 +0.5**
comp=Z,26nm,1.3s,mb5.1
NB2 NORSAR Subarra 83.45 331 P **P** **09 30 28.6 -1.4**
comp=Z,7.3nm,0.9s,mb4.7,baz=91,slow=5.0
NB2 NORSAR Subarra 83.45 331 P **P** **09 30 28.6 -1.4**
NB2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
NOA NORSAR Array B 83.45 331 P **P** **09 30 29.8 -0.2**
comp=Z,4.7nm,0.8s,mb4.6,baz=94,slow=5.5,SNR=10
LPG La Plagne 85.64 315 *e*P **P** **09 30 42.0 +0.6**
comp=Z,17nm,0.9s,mb5.0
LPG La Plagne 85.64 315 *e*P **P** **09 30 42.0 +0.6**
LPG pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
URZ Urewera 86.68 129 P **P** **09 30 46.4 -0.3**
comp=Z,5.5nm,0.7s,mb4.9,baz=327,slow=5.8,SNR=4.6
VNDA Vanda 88.77 168 P **P** **09 30 57.2 +1.4**
comp=Z,1.7nm,0.9s,mb4.4,baz=277,slow=1.8,SNR=3.6
TNA Tin City 90.03 24 *e*P **P** **09 31 02.7 +0.7**
TNA LR LR
comp=Z,261nm,19.0s,MS4.7
QSPA South Pole Qui 93.53 180 PFAKE 09 31 30.0 +12
QSPA LR LR
comp=Z,448nm,19.0s,MS4.9
IMA Indian Mountai 95.55 22 *e*P **P** **09 31 29.2 +1.8**

COLA College 98.26 22 PFAKE 09 31 50.0 +10
COLA LR LR
comp=Z,322nm,19.0s,MS4.8
MCK McKinley 98.34 24 PFAKE 09 31 50.0 +10
MCK LR LR
comp=Z,184nm,20.0s,MS4.6
DBIC Dimbokro 98.52 277 PFAKE 09 31 50.0 +7.9
DBIC LR LR
comp=Z,334nm,21.0s,MS4.8
ILAR Eielson Array 98.67 22 P **P 09 31 41.4 -0.2**
comp=Z,0.5nm,0.8s,mb4.1,baz=288,slow=5.5,SNR=5.1
ILAR PKKPbc 09 48 10.3
comp=Z,0.5nm,0.8s,baz=167,slow=2.7,SNR=4.2
ILAR LR LR 10 25 36.8
comp=Z,276nm,19.3s,MS4.8,baz=124,slow=41
FIB Fire Island 98.92 26 PFAKE 09 31 50.0 +7.3
FIB LR LR
comp=Z,2μm,21.0s,MS5.5
DIV Divide 100.85 25 PFAKE 09 32 00.0 +8.5
DIV LR LR
comp=Z,2μm,20.0s,MS5.6
INK Inuvik 101.07 16 P P 09 31 52.8 +0.4
comp=Z,1.0nm,0.8s,baz=356,slow=1.0,SNR=4.5
RES Resolute Bay 101.64 2 *e*P P 09 31 55.5 +0.7
YKA Yellowknife Ar 110.55 14 PKiKP 09 36 34.1
comp=Z,0.2nm,0.7s,baz=309,slow=2.8,SNR=3.6
YKA PP PP 09 37 05.1 -9.2
comp=Z,0.1nm,0.3s,baz=304,slow=5.1,SNR=3.7
YKA PKKPbc 09 47 34.6
comp=Z,0.3nm,0.8s,baz=157,slow=2.9,SNR=5.3
YKA Yellowknife Ar 110.55 14 PKPdf PKPdf 09 36 34.1 -2.9
YKA PP PP 09 37 05.1 -9.2
YKA PKKPbc 09 47 34.6
SCHQ Schefferville 119.68 347 PKP PKPdf 09 36 52.0 -2.9
comp=Z,2.6nm,0.8s,baz=45,slow=8.6,SNR=2.8
SCHQ Schefferville 119.68 347 PKP PKPdf 09 36 52.0 -2.9
SCHQ LR LR
comp=Z,629nm,22.0s,MS5.2
YBH Yreka Blue Hor 123.80 33 PFAKE 09 37 10.0 +6.6
YBH LR LR
comp=Z,215nm,22.0s,MS4.8
MSO Missoula 124.00 23 *e*PKPdf PKPdf 09 37 01.6 -2.1
MSO LR LR
comp=Z,198nm,19.0s,MS4.8
BMO Blue Mountains 124.17 27 PFAKE 09 37 10.0 +6.0
BMO LR LR
comp=Z,267nm,20.0s,MS4.9
MOD Modoc 124.95 31 PFAKE 09 37 20.0 +14
MOD LR LR
comp=Z,154nm,19.0s,MS4.7
BOZ Bozeman (W) 125.87 22 PFAKE 09 37 20.0 +13
BOZ LR LR
comp=Z,340nm,22.0s,MS5.0
HLID Hailey 126.47 26 *e*PKPdf PKPdf 09 37 08.1 -0.3
HLID LR LR
comp=Z,233nm,19.0s,MS4.9
LAO LASA Array 126.79 17 *e*PKPdf PKPdf 09 37 08.2 -0.7
LAO LR LR
comp=Z,306nm,20.0s,MS5.0
LKWY Lake 127.25 22 PFAKE 09 37 20.0 +10
LKWY LR LR
comp=Z,533nm,21.0s,MS5.2
BMN Battle Mountai 127.60 30 PFAKE 09 37 20.0 +9.3
BMN LR LR
comp=Z,245nm,21.0s,MS4.9
CMB Columbia Colle 127.65 34 PFAKE 09 37 20.0 +9.1
CMB LR LR
comp=Z,126nm,19.0s,MS4.6
SNOW Snow King Moun 128.05 23 *e*PKPdf PKPdf 09 37 10.4 -1.1
AHID Auburn Hatcher 128.50 24 PFAKE 09 37 20.0 +7.6
AHID LR LR
comp=Z,243nm,19.0s,MS4.9
NVAR Mina Array Bea 128.52 33 PKP PKPdf 09 37 12.8 +0.2
comp=Z,2.1nm,0.7s,baz=38,slow=1.3,SNR=19
NVAR Mina Array Bea 128.52 33 PKP PKPdf 09 37 12.8 +0.2
MNV Mina 128.60 32 *e*PKIKP PKPdf 09 37 12.7 -0.1
MNV MLR MLR
comp=Z,289nm,19.0s,MS5.0
BW06 Boulder Array 129.10 22 PFAKE 09 37 20.0 +6.4
BW06 LR LR
comp=Z,400nm,20.0s,MS5.1
PDAR Pinedale Array 129.10 22 PKP PKPdf 09 37 11.7 -1.9
comp=Z,2.5nm,1.0s,baz=59,slow=0.7,SNR=14
HWUT Hardware Ranch 129.28 25 PFAKE 09 37 20.0 +6.1
HWUT LR LR
comp=Z,288nm,19.0s,MS5.0
TPH Tonopah 129.36 32 PFAKE 09 37 20.0 +5.8
TPH LR LR
comp=Z,175nm,20.0s,MS4.8
TRCR Troy Canyon 130.00 31 *e*PKPdf PKPdf 09 37 14.5 -0.9
DAC Darwin (Calif) 130.47 34 PFAKE 09 37 30.0 +14
DAC LR LR
comp=Z,206nm,20.0s,MS4.8
NCB Newcomb 131.51 349 PFAKE 09 37 30.0 +12
NCB LR LR
comp=Z,465nm,20.0s,MS5.2
MVU Marysvale 131.52 28 PFAKE 09 37 30.0 +12
MVU LR LR
comp=Z,166nm,21.0s,MS4.7
MSU Marysvale 131.53 28 *e*PKIKP PKPdf 09 37 18.7 +0.4
PV10 Paradox Valley 133.04 25 *e*PKPdf PKPdf 09 37 20.8 -0.4
ISCO Idaho Springs 133.14 21 *e*PKIKP PKPdf 09 37 21.0 -0.3
ISCO MLR MLR
comp=Z,309nm,19.0s,MS5.0
JFWS Jewell Farm 133.53 4 PFAKE 09 37 30.0 +8.1
JFWS LR LR
comp=Z,298nm,20.0s,MS5.0
BINY Binghamton 133.55 350 PFAKE 09 37 30.0 +8.1
BINY LR LR
comp=Z,480nm,21.0s,MS5.2
ERPA Erie 134.19 354 PFAKE 09 37 30.0 +6.9
ERPA LR LR
comp=Z,270nm,20.0s,MS5.0
AAM Ann Arbor 134.27 358 PFAKE 09 37 30.0 +6.7
AAM LR LR
comp=Z,390nm,20.0s,MS5.1
SDCO Great Sand Dun 135.00 22 *e*PKPdf PKPdf 09 37 24.2 -0.6
SDCO LR LR
comp=Z,416nm,20.0s,MS5.2
ACSO Alum Creek Sta 136.31 357 PFAKE 09 37 40.0 +13
ACSO LR LR
comp=Z,438nm,20.0s,MS5.2
ANMO Albuquerque 137.04 25 PKIKP PKPdf 09 37 28.4 -0.1
ANMO pmax pmax
comp=Z,3.0nm,0.8s
ANMO Albuquerque 137.04 25 PKP PKPdf 09 37 28.4 -0.1
comp=Z,2.9nm,0.8s,baz=299,slow=1.1,SNR=11
ANMO Albuquerque 137.04 25 *e*PKPdf PKPdf 09 37 28.7 +0.1
ANMO LR LR
comp=Z,257nm,19.0s,MS5.0
TUC Tucson 137.15 32 PFAKE 09 37 40.0 +11
TUC LR LR
comp=Z,220nm,20.0s,MS4.9
CBN Corbin 137.67 350 PFAKE 09 37 40.0 +10
CBN LR LR
comp=Z,256nm,19.0s,MS5.0
CCM Cathedral Cave 138.25 6 PFAKE 09 37 40.0 +9.2
CCM LR LR
comp=Z,224nm,20.0s,MS4.9
AMTX Amarillo 138.93 20 PFAKE 09 37 40.0 +7.9
AMTX LR LR
comp=Z,311nm,20.0s,MS5.0
WMOK Wichita Mounta 139.97 17 *e*PKPpre 09 37 23.5
WMOK LR LR
comp=Z,245nm,19.0s,MS5.0
MNTX Cornudas Mount 140.28 26 PFAKE 09 37 40.0 +5.4
MNTX LR LR
comp=Z,260nm,20.0s,MS5.0
WVT Waverly 140.44 3 PFAKE 09 37 40.0 +5.2
WVT LR LR
comp=Z,268nm,20.0s,MS5.0
MYNC Murphy 141.50 358 PFAKE 09 37 50.0 +13
MYNC LR LR
comp=Z,311nm,20.0s,MS5.1
OXF Oxford 141.94 5 PFAKE 09 37 50.0 +12
OXF LR LR
comp=Z,321nm,19.0s,MS5.1
TXAR Lajitas Array 143.06 26 PKP PKPdf 09 37 35.1 -4.4
comp=Z,0.6nm,0.6s,baz=318,slow=0.6,SNR=10
LRAL Lakeview Retre 143.55 2 PFAKE 09 37 50.0 +15
LRAL LR LR
comp=Z,358nm,19.0s,MS5.2
JCT Junction City 143.58 21 *e*PKPpre 09 37 35.8
JCT LR LR
comp=Z,149nm,19.0s,MS4.8

NATX Nacogdoches 143.85 13 *e*PKPpre 09 37 36.1
NATX LR LR
comp=Z,304nm,20.0s,MS5.1
HKT Hockley 145.30 15 *e*PKIKP PKPdf 09 37 41.5 -1.9
HKT MLR MLR
comp=Z,308nm,19.0s,MS5.1
DWPF Disney 148.19 353 PFAKE 09 38 00.0 +12
DWPF LR LR
comp=Z,230nm,20.0s,MS5.0
TEIG Tepich 156.20 6 PFAKE 09 38 10.0 +10
TEIG LR LR
comp=Z,121nm,19.0s,MS4.8
SAML Samuel 156.87 256 PFAKE 09 38 10.0 +8.8
SAML LR LR
comp=Z,419nm,20.0s,MS5.3
LPAZ La Paz 158.51 233 PKIKP PKPdf 09 38 01.7 -1.5
LPAZ 09 38 37.3
LPAZ MLR MLR
comp=Z,366nm,21.0s
LPAZ La Paz 158.51 233 PKP PKPdf 09 38 01.7 -1.4
comp=Z,1.1nm,0.8s,baz=26,slow=14,SNR=5.4
LPAZ PKPab PKPab 09 38 37.3 +0.3
comp=Z,1.8nm,0.6s,baz=108,slow=4.2,SNR=10
JTS JuntasAbangare 166.17 356 PFAKE 09 38 20.0 +9.0
JTS LR LR
comp=Z,65nm,20.0s
NNA Nana 167.80 226 PFAKE 09 38 20.0 +8.0
NNA LR LR
comp=Z,64nm,20.0s
OTAV Otavalo 171.69 297 PFAKE 09 38 20.0 +5.6
OTAV LR LR
comp=Z,325nm,21.0s

*MOS **22** 09:21:49.8±1.0,56.28N×115.26E,h11km,mb4.0/1,Error ellipse: s-maj=16.9km s-min=10.2km az=62.9*
BYKL 22 09:21:51.0±0.3,56.33N×115.17E,h14km±5km,5C-9D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLYR	**Nelyaty**	**0.34**	**61**	*e*PG	Pg	09 21 56.6	-1.6
NLYR				*e*		09 22 01.4	
NLYR	comp=Z,935nm,0.2s			pmax	pmax		
NLYR	comp=N,3μm,0.7s			smax			
NLYR	**Nelyaty**	**0.34**	**61**	⇓*i*Pg	Pg	09 21 56.7	-1.5
NLYR	comp=N,106nm,0.2s			⇓*i*Pg	Pg	09 21 56.7	-1.5
NLYR	comp=N,124nm,0.2s			⇓*i*Pg	Pg	09 21 56.7	-1.5
NLYR	comp=N,639nm,0.2s			*e*Sg	Sg	09 22 01.4	-1.6
NLYR				Pmax			
NLYR	comp=N,630nm,0.2s			Smax			
NLYR	comp=N,3μm,0.7s						
SVKR	**Severomuysk**	**0.93**	**257**	*e*PG	Pg	09 22 08.2	-1.4
SVKR				*e*		09 22 19.3	
SVKR	comp=Z,263nm,0.5s			pmax	pmax		
SVKR	comp=N,1μm,0.3s			smax			
SVKR	**Severomuysk**	**0.93**	**257**	*e*Pg	Pg	09 22 07.3	-2.3
SVKR				*e*Sg	Sg	09 22 19.4	-2.7
SVKR				*e*Sb	Sb	09 22 24.6	+4.4
SVKR	comp=N,564nm,0.2s			Pmax			
SVKR	comp=N,3μm,0.3s			max			
UKT	**Uakit**	**1.21**	**226**	*e*PG	Pg	09 22 12.5	-2.8
UKT	**Uakit**	**1.21**	**226**	⇓*i*Pg	Pg	09 22 12.5	-2.8
UKT	comp=N,11nm,0.3s			⇓*i*Pg	Pg	09 22 12.5	-2.8
UKT	comp=N,13nm,0.3s			⇑*i*Pg	Pg	09 22 12.5	-2.8
UKT	comp=N,19nm,0.3s			*e*Sg	Sg	09 22 28.8	-2.7
UKT				*e*Sb	Sb	09 22 31.1	+2.6
UKT	comp=N,220nm,0.6s			Pmax			
UKT	comp=N,560nm,0.6s			max			
BOD	**Bodaibo**	**1.62**	**337**	*e*PN	Pn	09 22 18.2	-1.2
BOD				*e*		09 22 38.7	
BOD	comp=Z,280nm,0.4s			pmax	pmax		
BOD	comp=E,953nm,0.6s			smax			
BOD	**Bodaibo**	**1.62**	**337**	⇑*i*Pg	Pg	09 22 19.6	-3.9
BOD				*e*Sg	Sg	09 22 39.5	-5.7
BOD	comp=E,960nm,0.7s			Smax			
CRS	**Chara**	**1.81**	**70**	*e*PN	Pn	09 22 23.7	+1.7
CRS	**Chara**	**1.81**	**70**	*e*Pg	Pg	09 22 23.8	-3.3
CRS				*i* Sg	Sg	09 22 48.1	-3.2
CRS	comp=E,360nm,0.6s			Pmax			
CRS	comp=E,716nm,1.0s			Smax			
YOA	**Uoyan**	**1.93**	**266**	⇑*i*PN	Pn	09 22 25.9	+2.0
YOA				*e*		09 22 52.7	
YOA	comp=Z,197nm,0.3s			pmax	pmax		
YOA	comp=E,2μm,0.5s			smax			
YOA	**Uoyan**	**1.93**	**266**	⇓*i*Pg	Pg	09 22 25.8	-3.9
YOA				*e*Sg	Sg	09 22 52.0	-3.5
YOA	comp=E,270nm,0.2s			Pmax			
YOA	comp=E,2μm,0.5s			Smax			
KMO	**Kumora**	**2.27**	**260**	⇓*i*PN	Pn	09 22 29.1	+0.4
KMO				*e*		09 22 31.5	
KMO				*e*S	Sn	09 22 57.3	+0.7
KMO				*e*		09 23 01.7	
KMO	comp=Z,170nm,0.5s			pmax	pmax		
KMO	comp=E,886nm,0.8s			smax			
KMO	**Kumora**	**2.27**	**260**	*i* Pn	Pn	09 22 28.9	+0.2
KMO				⇑*e*Pg	Pg	09 22 31.2	-5.1
KMO				*e*Sn	Sn	09 22 57.5	+0.9
KMO				*e*Sg	Sg	09 23 01.1	-5.5
KMO				Pmax			
KMO	comp=E,135nm,0.5s			Smax			
KMO	comp=E,886nm,0.6s						
YLYR	**Ulyunkhan**	**2.70**	**239**	*e*PN	Pn	09 22 37.4	+2.5
YLYR				*e*		09 23 14.3	
YLYR	comp=Z,37nm,0.5s			pmax	pmax		
YLYR	comp=N,266nm,0.7s			smax			
YLYR	**Ulyunkhan**	**2.70**	**239**	⇓*i*Pn	Pn	09 22 35.0	+0.1
YLYR	comp=N,18nm,0.3s			⇓*i*Pn	Pn	09 22 35.0	+0.1
YLYR	comp=N,22nm,0.3s			⇑*i*Pn	Pn	09 22 35.0	+0.1
YLYR	comp=N,36nm,0.3s			*e*Pg	Pg	09 22 39.3	-5.7
YLYR				*e*Sn	Sn	09 23 07.5	-0.1
YLYR				*e*Sg	Sg	09 23 14.2	-6.8
YLYR				Pmax			
YLYR	comp=N,40nm,0.5s			Smax			
YLYR	comp=N,260nm,0.8s						
NIZ	**Nizh Angarsk**	**3.21**	**262**	*e*PN	Pn	09 22 42.8	+0.8
NIZ				*e*		09 22 49.8	
NIZ				*e*		09 23 30.9	
NIZ	comp=Z,26nm,0.7s			pmax	pmax		
NIZ	comp=N,197nm,0.8s			smax			
NIZ	**Nizh Angarsk**	**3.21**	**262**	*e*Pn	Pn	09 22 42.5	+0.5
NIZ				*e*Pg	Pg	09 22 48.1	-6.9
NIZ				*e*Sg	Sg	09 23 30.0	-7.8
NIZ				Pmax			
NIZ	comp=N,31nm,0.7s			Smax			
NIZ	comp=N,236nm,0.8s						
TUP	**Tupik**	**3.33**	**123**	*e*PN	Pn	09 22 42.8	-1.0
TUP				*e*		09 22 49.8	
TUP				*e*		09 23 34.3	
TUP				pmax	pmax		
TUP	comp=Z,71nm,0.3s			smax			
TUP	comp=E,267nm,0.6s						
SYVR	**Suvo**	**4.00**	**230**	*e*PN	Pn	09 22 52.4	-1.0
SYVR				*e*		09 23 01.9	
SYVR				*e*		09 23 54.4	
SYVR				pmax	pmax		
SYVR	comp=Z,10.0nm,0.5s			smax			
SYVR	comp=E,97nm,0.5s						
SYVR	**Suvo**	**4.00**	**230**	*e*Pn	Pn	09 22 52.2	-1.2
SYVR				*e*Pg	Pg	09 23 02.9	-8.1
SYVR				*e*Sg	Sg	09 23 54.9	-9.5
SYVR				Pmax			
SYVR	comp=E,9.0nm,0.3s			Smax			
SYVR	comp=E,172nm,1.9s						
CIT	**Chita**	**4.42**	**193**	*e*PN	Pn	09 22 57.0	-2.3
CIT				*e*		09 23 10.3	
CIT				*e*		09 24 08.3	
CIT				pmax	pmax		
CIT	comp=Z,20nm,0.9s			smax			
CIT	comp=E,275nm,0.7s						
CIT	**Chita**	**4.42**	**193**	*e*Pn	Pn	09 22 57.3	-2.0
CIT				*e*Pg	Pg	09 23 10.0	-9.3
CIT				*e*Sg	Sg	09 24 07.6	-11
CIT				Pmax			
CIT	comp=E,15nm,0.6s			Smax			
CIT	comp=E,275nm,0.6s						
OGRR	**Ongureny**	**5.12**	**241**	*e*Pn	Pn	09 23 07.8	-1.5
OGRR				*e*Pg	Pg	09 23 22.8	-11
OGRR				*e*Sn	Sn	09 24 05.4	-3.5
OGRR				*e*Sg	Sg	09 24 29.8	-12
OGRR				Pmax			
OGRR	comp=E,7.0nm,0.5s			Smax			
OGRR	comp=E,61nm,1.9s						
TNDR	**Tynda**	**5.53**	**98**	*e*Sg	Sg	09 24 43.2	-12
TRTB	**Turuntaevo**	**6.03**	**230**	*e*	Pn	09 23 28.2	+6.2
TRTB				*e*Pg	Pg	09 23 40.4	-11
TRTB				*e*Sg	Sg	09 24 59.7	-12
TRTB				Smax			
TRTB	comp=E,68nm,1.5s						
TRG	**Tyrgan**	**6.25**	**239**	*e*Pn	Pn	09 23 24.0	-1.2
TRG				*e*Pg	Pg	09 23 44.0	-12
TRG				*e*Sg	Sg	09 25 05.5	-14
TRG				Pmax			
TRG	comp=E,2.0nm,0.8s			Smax			
TRG	comp=E,31nm,1.3s						
FFNB	**Fofonovo**	**6.54**	**232**	*e*Sg	Sg	09 25 14.8	-14
FFNB				Smax			
FFNB	comp=E,84nm,0.9s						
HRMR	**Khuramsha**	**6.75**	**229**	*e*Pg	Pg	09 23 53.8	-12
HRMR				*e*		09 24 48.8	
HRMR				*e*Sg	Sg	09 25 21.2	-15
HRMR				Pmax			
HRMR	comp=E,11nm,0.6s			Smax			
HRMR	comp=E,172nm,1.0s						
KPC	**Khapcheranga**	**6.85**	**195**	*e*PN	Pn	09 23 30.5	-3.0
KPC				*e*		09 23 52.5	
KPC				*e*		09 25 23.5	
KPC				pmax	pmax		
KPC	comp=Z,33nm,2.2s			smax			
KPC	comp=E,70nm,1.1s						
KPC	**Khapcheranga**	**6.85**	**195**	*e*Pn	Pn	09 23 30.2	-3.3
KPC				*e*Pg	Pg	09 23 53.5	-14
KPC				*e*Sn	Sn	09 24 48.5	-3.5
KPC				*e*Sg	Sg	09 25 22.2	-17
KPC				Pmax			
KPC	comp=E,3.0nm,0.5s			Smax			
KPC	comp=E,70nm,2.4s						
ZEA	**Zeya**	**7.41**	**105**	*e*Sg	Sg	09 25 41.8	-16
TLY	**Talaya**	**8.23**	**240**	*e*	P	09 24 26.7	+34
TLY				*e*Sg	Sg	09 26 05.1	-20
TLY				Smax			
TLY	comp=E,26nm,2.3s						
ARS	**Arshan**	**8.69**	**245**	*e*	Sn	09 25 40.2	+2.2
ARS				*e*Sg	Sg	09 26 20.0	-20
ARS				Smax			
ARS	comp=E,67nm,1.1s						
ORL	**Orlik**	**9.72**	**253**	*e*	P	09 24 24.0	+11
ORL				*e*		09 26 23.4	
ORL				*e*Sg	Sg	09 26 50.3	-24
ORL				Smax			
ORL	comp=E,27nm,2.5s						

*IDC **22** 09:24:28.6±0.5,3.67N×94.11E,mb4.8/18,mb1 4.8/19, mb1mx4.7/24,mbtmp4.8/19,ML4.7/1,MS4.3/6,Ms1 4.3/6, ms1mx4.2/16,Error ellipse: s-maj=23.2km s-min=13.1km az=47.0*
*BJI **22** 09:24:31.5,3.22N×94.23E,h50km,mB5.1,mb4.9,Ms5.1, Msz4.8*
*MOS **22** 09:24:31.5±1.0,3.60N×94.14E,h33km,mb5.3/39, MS4.6/4,Error ellipse: s-maj=10.5km s-min=5.6km az=108.2*
*HRVD **22** 09:24:33.0±0.5,3.58N×93.96E,h12km,MW4.9/48, Centroid moment Tensor Solution. LP body waves: s12,c13;Mantle waves: s48,c85; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.78±.13; $M_{\theta\theta}$0.12±.09; $M_{\phi\phi}$-1.90±.13; $M_{r\theta}$0.62±.37; $M_{\theta\phi}$1.68±.09; $M_{\phi r}$1.21±.35; Best double couple: $M_0$2.828×10^{16} NP1:ϕ_s120°,δ46°,λ39°. NP2:ϕ_s0°,δ63°,λ129°. Principal axes: T 2.68, Plg54°, Azm320°; N .298, Plg34°, Azm160°; P -2.976, Plg10°, Azm63°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 09:24:33.0±0.2,3.60N×94.09E,h30km,mb5.0/39, MS4.4/1 Error ellipse: s-maj=6.4km s-min=4.8km az=224.0*

ISC 22 09:24:30.0±1.8,3.59N±0.04×94.16E±0.04,h22km±12km, h21km±2.0km:pP-P,n191,σ0^{s}91/191,mb5.0/74,MS4.7/14, 7C-3D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.35**	**61**	P	**Pn**	**09 26 19.0**	**+0.2**
	190nm,1.0s						
PALK	**Pallekele**	**13.88**	**286**	*e*P	**P**	**09 27 45.2**	**-2.9**
CM31	**Chiang Mai Arr**	**15.50**	**17**	*e*P	**P**	**09 28 09.7**	**+0.5**
	62nm,0.8s						
CMAR	**Chiang Mai Arr**	**15.50**	**17**	Pn	**P**	**09 28 08.2**	**-1.0**
	1.0nm,0.3s,baz=211,slow=13,SNR=23						
UBT	**Ubonrachathani**	**15.76**	**42**	P	**P**	**09 28 18.5**	**+5.9**
CHG	**Chiang Mai**	**15.83**	**17**	⇑P	**P**	**09 28 17.1**	**+3.6**
	12nm,0.8s						
NANT	**Nan**	**16.41**	**22**	P	**P**	**09 28 12.0**	**-8.9**
CHRT	**Chiangrai**	**17.08**	**18**	⇑P	**P**	**09 28 29.0**	**-0.3**
	179nm,1.0s						
HYB	**Hyderabad**	**20.57**	**313**	*e*P	**P**	**09 29 09.5**	**-0.7**
HYB				*e*S	**S**	**09 33 02.0**	**+7.8**
HYB				pmax	pmax		
	comp=Z,125nm,1.4s						
HYB	**Hyderabad**	**20.57**	**313**	*e*P	**P**	**09 29 09.5**	**-0.7**
	comp=Z,125nm,1.4s						
HYB				*e*S	**S**	**09 33 02.0**	**+7.8**
HYB	**Hyderabad**	**20.57**	**313**	*i* P	**P**	**09 29 09.5**	**-0.7**
	comp=Z,125nm,1.4s						
HYB				*e*S	**S**	**09 33 02.0**	**+7.8**
QIZ	**Qiongzhong**	**21.69**	**44**	P	**P**	**09 29 19.3**	**-2.3**
QIZ	**Qiongzhong**	**21.69**	**44**	P	**P**	**09 29 21.9**	**+0.4**
	comp=Z,44nm,1.3s,mb4.7						
BLSP	**Bilaspur**	**21.81**	**329**	*e*P	**P**	**09 29 23.2**	**+0.4**
BLSP				*e*		09 29 25.5	
	comp=Z,90nm,1.5s						
SHL	**Shillong**	**21.96**	**354**	*e*P	**P**	**09 29 23.0**	**-1.2**
SHL				*e*		09 33 33.0	
KMI	**Kunming**	**22.94**	**20**	P	**P**	**09 29 35.9**	**+1.8**
KMI				*PP		09 29 43.5	
KMI				*SP		09 29 47.2	
KMI						09 30 05.4	
KMI				S	**S**	**09 33 37.9**	**-0.6**
KMI				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.5						
KMI				MLR	MLR		

comp=Z,1μm,13.8s,MS4.6
KMI Kunming 22.94 20 P **P 09 29 35.9 +1.8**
comp=Z,25nm,1.3s,mb4.5
KMI pP 09 29 43.5
KMI sP 09 29 47.2
KMI PP PP 09 30 05.4 +1.5
KMI S **S 09 33 37.9 -0.6**
KMI LR LR
comp=Z,1μm,13.8s,MS4.6
KAD Karad 23.87 306 *e*P **P 09 29 43.5 +0.3**
KAD *e* 09 29 46.5
comp=Z,44nm,1.2s
POO Poona 24.80 308 *e*P **P 09 29 53.0 +0.8**
POO *e* 09 29 56.2
comp=Z,23nm,0.8s
JIRN Jiri 25.11 343 *e*P **P 09 29 55.9 +0.9**
comp=Z,94nm,0.9s,mb5.3
PKI Pulchoki 25.27 342 *e*P **P 09 29 56.9 +0.4**
comp=Z,74nm,1.0s,mb5.2
BHPL Bhopal 25.37 322 *e*P **P 09 29 57.5 0.0**
BHPL *e* 09 30 01.4
comp=Z,53nm,1.3s
DMN Daman 25.40 341 *e*P **P 09 29 58.2 +0.5**
comp=Z,68nm,0.9s,mb5.2
KKN Kakani 25.51 341 *e*P **P 09 29 59.1 +0.3**
comp=Z,108nm,0.9s,mb5.4
GKN Gorkha 25.92 340 *e*P **P 09 30 03.0 +0.4**
comp=Z,153nm,0.9s,mb5.5
KOLN Koldanda 26.07 338 *e*P **P 09 30 04.4 +0.4**
comp=Z,175nm,1.6s,mb5.3
LSA Lhasa 26.12 354 *e*P **P 09 30 07.6 +3.1**
LSA Lhasa 26.12 354 *e*P **P 09 30 06.4 +1.9**
LSA pmax pmax
comp=Z,144nm,0.8s,mb5.6
LSA Lhasa 26.12 354 *e*P **P 09 30 06.3 +1.9**
comp=Z,144nm,0.8s,mb5.6
ENH Enshi 30.24 27 *e*P **P 09 30 40.4 -1.2**
comp=Z,32nm,1.1s,mb5.0
WHN Wuhan 32.90 33 P **P 09 31 04.6 -0.4**
WHN LR LR
comp=Z,6μm,11.9s,MS5.5
XAN Xi'an 33.27 23 P **P 09 31 06.6 -1.6**
XAN AMB AMB
comp=Z,38nm,1.0s,mb5.3
LZH Lanzhou 33.55 14 *e*P **P 09 31 09.5 -1.1**
LZH AP pP 09 31 23.0 +6.0
LZH XP sP 09 31 27.0 +7.2
LZH AMB AMB
comp=Z,30nm,1.5s,mb5.0
LZH Lanzhou 33.55 14 *e*P **P 09 31 09.5 -1.1**
LZH *PP pP 09 31 23.0 +6.0
LZH pmax pmax
comp=Z,30nm,1.5s,mb5.0
LZH Lanzhou 33.55 14 *e*P **P 09 31 09.5 -1.1**
comp=Z,30nm,1.5s,mb5.0
LZH pP pP 09 31 23.0 +6.0
LZH sP sP 09 31 27.0 +7.2
MBWA Marble Bar 35.12 136 *e*P **P 09 31 23.8 -0.4**
comp=Z,23nm,1.1s,mb5.0
NJ2 Nanjing 36.59 37 *e*P **P 09 31 37.4 +0.8**
NJ2 AP pP 09 31 46.6 +3.6
NJ2 XP sP 09 31 50.5 +4.7
NJ2 PP PP 09 33 05.3 +4.0
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.3
NJ2 LR LR
comp=N,4μm,19.5s,MS5.3
NJ2 LR LR
comp=E,4μm,21.1s,MS5.3
NJ2 LR LR
comp=Z,6μm,20.3s,MS5.4
SSE Sheshan 37.38 40 P **P 09 31 42.8 -0.4**
SSE S **S 09 37 30.8 +1.3**
SSE AMB AMB
comp=Z,57nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,90nm,4.0s
SSE LR LR
comp=N,990nm,16.8s,MS4.7
SSE LR LR
comp=E,332nm,16.7s,MS4.7
SSE LR LR
comp=Z,780nm,15.5s,MS4.6
SSE Sheshan 37.38 40 P **P 09 31 42.7 -0.5**
comp=Z,57nm,0.7s,mb5.5
SSE sP sP 09 31 55.5 +3.1
SSE S **S 09 37 30.8 +1.3**
SSE sS 09 37 45.9
SSE LR LR
comp=Z,780nm,15.5s,MS4.6
FITZ Fitzroy Crossi 37.78 126 *e*P **P 09 31 46.8 +0.1**
comp=Z,14nm,0.9s,mb4.7
KAKA Kakadu 41.33 114 *e*P **P 09 32 17.5 +1.3**
comp=Z,12nm,0.7s,mb4.7
BJT Baijiatuau 41.37 26 *e*P **P 09 32 17.4 +1.2**
BJT pmax pmax
comp=Z,17nm,0.8s
BJT Baijiatuau 41.37 26 *e*P **P 09 32 17.4 +1.1**
comp=Z,17nm,0.8s,mb4.7
BJI Beijing 41.39 26 *e*P **P 09 32 17.6 +1.2**
BJI S **S 09 38 20.6 -9.2**
BJI pmax pmax
comp=Z,24nm,0.9s,mb4.8
BJI MLR MLR
comp=Z,630nm,21.8s,MS4.4
BJI Beijing 41.39 26 *e*P **P 09 32 17.6 +1.2**
comp=Z,24nm,0.9s,mb4.8
BJI S **S 09 38 20.6 -9.2**
BJI LR LR
comp=Z,630nm,21.8s,MS4.4
ULHL Ulahol 41.68 340 P **P 09 32 20.1 +1.3**
SNR=5.5
KZA Kyzart 41.88 339 P **P 09 32 21.9 +1.4**
SNR=9.1
UCH Uchtor 42.28 338 P **P 09 32 25.2 +1.5**
SNR=31
KBK Karagaybulak 42.50 339 P **P 09 32 27.0 +1.5**
SNR=5.7
TKM2 Tokmak 2 42.50 340 P **P 09 32 26.5 +1.0**
SNR=15
AML Almayashu 42.51 337 P **P 09 32 27.0 +1.4**
SNR=38
AAK Ala-Archa 42.64 338 P **P 09 32 27.9 +1.2**
SNR=13
AAK Ala-Archa 42.64 338 P **P 09 32 27.5 +0.8**
AAK pmax pmax
comp=Z,29nm,1.2s,mb4.9
AAK Ala-Archa 42.64 338 *e*P **P 09 32 26.0 -0.7**
comp=Z,26nm,1.1s,mb4.9
FRU Bishkek 42.77 339 *e*P **P 09 32 28.5 +0.7**
FRU pmax pmax
comp=Z,50nm,2.0s,mb4.9
CHMS Chumysh 42.87 339 P **P 09 32 28.9 +0.4**
SNR=6.6
EKS2 Erkin-Say 42.93 338 P **P 09 32 30.4 +1.3**
SNR=19
USP Ospenovka 43.19 339 P **P 09 32 31.8 +0.7**
SNR=30
MK02 Makanchi Array 44.22 348 P **P 09 32 39.9 +0.4**
MK02 pmax pmax
comp=Z,76nm,1.0s,mb5.4
SONM Songino Array 45.32 12 P **P 09 32 48.5 +0.3**
comp=Z,20nm,0.9s,mb4.9,baz=192,slow=7.9,SNR=80
SONM PcP PcP 09 34 27.9 -0.3
comp=Z,6.1nm,0.9s,baz=191,slow=3.1,SNR=3.7
ULN Ulaanbaatar 45.48 12 *e*P **P 09 32 49.2 -0.3**
ULN pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
ULN Ulaanbaatar 45.48 12 *e*P **P 09 32 49.2 -0.3**
comp=Z,8.2nm,0.9s,mb4.6
WRA Warramunga Arr 45.87 122 P **P 09 32 52.8 -0.2**
comp=Z,20nm,0.8s,mb5.1,baz=301,slow=8.8,SNR=59
WRAB Tennant Creek 45.88 122 *e*P **P 09 32 53.4 +0.4**
WRAB pmax pmax
comp=Z,60nm,1.0s,mb5.5
WRAB Tennant Creek 45.88 122 *e*P **P 09 32 53.4 +0.4**
comp=Z,60nm,1.0s,mb5.5
WB2 Warramunga Arr 45.88 122⇑ *i*P **P 09 32 53.3 +0.2**
ASPA Alice Springs 47.25 127⇑ *i*P **P 09 33 03.9 0.0**
ASAR Alice Springs 47.25 127 P **P 09 33 04.1 +0.2**
comp=Z,8.6nm,0.8s,mb4.7,baz=303,slow=7.7,SNR=50
ASAR LR LR 09 56 36.8
comp=Z,239nm,18.0s,MS4.2,baz=308,slow=41
ZAK Zakamensk 47.26 8 *i* P **P 09 33 02.6 -0.9**
ZAK *e* 09 34 30.2
ZAK *e* 09 34 59.2

TLY Talaya 48.58 8 P **P 09 33 14.1 +0.3**
comp=Z,108nm,0.8s,mb5.9,SNR=20
TLY Talaya 48.58 8 *e*P **P 09 33 14.5 +0.7**
TLY pmax pmax
comp=Z,22nm,1.0s,mb5.1
TLY Talaya 48.58 8 *e*P **P 09 33 14.5 +0.7**
comp=Z,22nm,1.0s,mb5.1
KURK Kurchatov 48.75 347 P **P 09 33 15.5 +0.4**
KURK pmax pmax
comp=Z,22nm,1.1s,mb5.1
KURK Kurchatov 48.75 347 *e*P **P 09 33 15.2 +0.1**
comp=Z,41nm,1.1s,mb5.4
IRK Irkutsk 49.21 8 *e*P **P 09 33 18.0 -0.7**
IRK pmax pmax
comp=Z,32nm,1.0s,mb5.3
HIA Hailar 50.45 22 *e*P **P 09 33 28.3 +0.1**
HIA pmax pmax
comp=Z,14nm,0.7s
HIA Hailar 50.45 22 *e*P **P 09 33 28.3 +0.1**
comp=Z,14nm,0.7s,mb5.1
ZAL Zalesovo 50.77 353 P **P 09 33 30.6 +0.1**
comp=Z,13nm,0.4s,mb5.2,baz=205,slow=5.8,SNR=36
ZAL LR LR 09 58 32.4
comp=Z,398nm,18.3s,MS4.5,baz=201,slow=40
RAYN Ar Rayn 50.96 297 P **P 09 33 32.2 -0.2**
comp=Z,171nm,0.8s,mb6.0,SNR=17
MDJ Mudanjiang 51.37 32 P **P 09 33 35.0 -0.2**
MDJ PCP PcP 09 34 48.1 -1.9
MDJ PP PP 09 35 32.3 -0.8
MDJ PCS 09 38 46.8
MDJ S **S 09 40 55.3 +3.4**
MDJ AMB AMB
comp=Z,6.0nm,1.7s,mb4.2
MDJ AMB AMB
comp=Z,90nm,6.7s
MDJ LR LR
comp=N,735nm,18.6s,MS5.0
MDJ LR LR
comp=E,926nm,16.4s,MS5.0
MDJ LR LR
comp=Z,799nm,16.9s,MS4.8
NVS Novosibirsk 51.86 352 *e*P **P 09 33 37.3 -1.5**
NVS *e* 09 40 59.4
NVS pmax pmax
comp=N,20nm,1.2s
NVS pmax pmax
comp=E,13nm,1.2s
NVS pmax pmax
comp=Z,44nm,1.2s,mb5.3
BVAR Borovoye Array 53.03 342 P **P 09 33 46.7 -0.9**
comp=Z,14nm,0.9s,mb4.9,baz=149,slow=8.6,SNR=40
BRVK Borovoye 53.09 342 *e*P **P 09 33 47.3 -0.8**
BRVK pmax pmax
comp=Z,37nm,1.2s,mb5.2
BRVK Borovoye 53.09 342 *e*P **P 09 33 47.3 -0.8**
comp=Z,37nm,1.2s,mb5.2
CHKZ Chkalovo 53.53 343 P **P 09 33 50.8 -0.5**
CHKZ pmax pmax
comp=Z,70nm,1.3s,mb5.4
CTA Charters Tower 56.28 117 *e*P **P 09 34 12.0 +0.2**
comp=Z,6.9nm,0.9s,mb4.7
CTA Charters Tower 56.28 117 P **P 09 34 11.9 +0.1**
CTA pmax pmax
comp=Z,8.0nm,0.9s
CTA Charters Tower 56.28 117 P **P 09 34 11.9 +0.1**
comp=Z,8.2nm,0.9s,mb4.8,baz=259,slow=8.3,SNR=1.7
CTAO Charters Tower 56.28 117 *e*P **P 09 34 12.0 +0.2**
CTAO pmax pmax
comp=Z,13nm,1.1s,mb4.9
CTAO Charters Tower 56.28 117 *e*P **P 09 34 11.9 +0.2**
comp=Z,13nm,1.1s,mb4.9
BOD Bodaibo 56.29 13 *e*P **P 09 34 08.9 -2.4**
KMBO Kilima Mbogo 57.07 266 P **P 09 34 17.9 +0.3**
comp=Z,4.0nm,0.8s,mb4.5,baz=61,slow=11,SNR=7.7
KMBO LR LR 09 56 55.1
comp=Z,482nm,18.1s,MS4.6,baz=93,slow=34
KMBO Kilima Mbogo 57.07 266 *e*P **P 09 34 17.7 +0.2**
comp=Z,11nm,1.2s,mb4.8
STKA Stephens Creek 57.20 132⇓ *i*P **P 09 34 17.7 -0.5**
comp=Z,4.5nm,0.6s,mb4.7
STKA Stephens Creek 57.20 132 P **P 09 34 18.0 -0.3**
comp=Z,5.1nm,0.7s,mb4.7,baz=318,slow=8.1,SNR=14
GNI Garni 57.48 316 P **P 09 34 19.8 -0.2**
comp=Z,2.3nm,0.4s,mb4.6,baz=332,slow=23,SNR=3.8
GNI LR LR 10 02 30.5
comp=Z,146nm,18.6s,MS4.1,baz=327,slow=40
TI2 Plekhanov 58.17 318 *e*P **P 09 34 24.2 -0.7**
TI2 pmax pmax
comp=Z,30nm,1.0s,mb5.3
CLNS Chul'man 58.43 19 *e*P **P 09 34 25.5 -0.9**
CLNS *e* 09 35 14.3
CLNS *e* 09 36 30.5
CLNS *e*S **S 09 42 26.0 -0.5**
CLNS pmax pmax
comp=Z,20nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=E,8.0nm,1.2s
CLNS pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CLNS pmax pmax
comp=N,3.0nm,0.8s
CLNS pmax pmax
comp=E,3.0nm,0.9s
CLNS smax
comp=N,89nm,12.3s
CLNS smax
comp=Z,71nm,12.5s
CLNS smax
comp=E,42nm,12.8s
ZEI Tsey 59.21 319 *e*P **P 09 34 31.6 -0.4**
ZEI pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SVE Sverdlovsk 59.37 339 *e*P **P 09 34 31.0 -2.0**
SVE pmax pmax
comp=Z,140nm,2.0s,mb5.7
ARU Arti 59.83 338 P **P 09 34 35.1 -1.0**
comp=Z,175nm,1.1s,mb6.0,SNR=12
ARU Arti 59.83 338⇓ *i*P **P 09 34 28.4 -7.7**
ARU *e*S **S 09 42 34.4 -10**
ARU pmax pmax
comp=Z,37nm,1.1s,mb5.3
ARU Arti 59.83 338 *e*P **P 09 34 30.3 -5.9**
comp=Z,32nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 60.16 36 *e*P **P 09 34 38.2 -0.4**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS MLR MLR
comp=Z,500nm,16.0s,MS4.8
YSS MLR MLR
comp=N,500nm,15.0s
YSS Yuzh-Sakhalins 60.16 36 *e*P **P 09 34 38.5 -0.1**
comp=N,41nm,1.2s,mb5.3
KIV Kislovodsk 60.52 320 *e*P **P 09 34 39.2 -1.9**
KIV pmax pmax
comp=Z,22nm,1.0s,mb5.2
KIV Kislovodsk 60.52 320 *e*P **P 09 34 39.2 -1.9**
comp=Z,22nm,1.0s,mb5.2
MALT Malatya 61.28 312 *e*P **P 09 34 46.0 -0.3**
MALT pmax pmax
comp=Z,34nm,1.2s,mb5.3
MALT Malatya 61.28 312 *e*P **P 09 34 46.0 -0.3**
comp=Z,34nm,1.2s,mb5.3
SOC Sochi 62.32 318 *e*P **P 09 34 48.0 -5.2**
SOC *e* 09 35 27.0
SOC *e* 09 37 17.8
SOC *e*S **S 09 43 10.5 -6.0**
SOC *e* 09 44 40.9
SOC *e*SSS SSS 09 50 01.5 -3.1
SOC pmax pmax
comp=Z,34nm,0.8s,mb5.5
SOC pmax pmax
comp=N,15nm,0.7s
SOC pmax pmax
comp=E,37nm,0.8s
SOKR Solikamsk 62.78 340⇓ *i*P **P 09 34 54.7 -1.3**
SOKR pmax pmax
comp=Z,40nm,1.0s,mb5.5
SOKR MLR MLR
comp=Z,630nm,22.0s,MS4.7
YAK Yakutsk 64.03 18 *e*P **P 09 35 03.2 -1.0**
YAK pmax pmax
comp=Z,50nm,1.1s,mb5.5
YAK Yakutsk 64.03 18 *e*P **P 09 35 03.2 -1.0**
comp=Z,50nm,1.1s,mb5.5

BRTR Keskin Array B 65.27 312 P **P 09 35 11.4 -1.1**
comp=Z,8.3nm,1.0s,mb4.7,baz=123,slow=7.8,SNR=25
MOS Moscow 68.74 330 *e*P **P 09 35 31.5 -2.8**
MOS *e* 09 35 55.9
MOS *e*S S 09 44 27.0 -7.9
MOS pmax pmax
comp=Z,58nm,1.2s,mb5.4
OBN Obninsk 69.00 329⇑ *i*P **P 09 35 32.7 -3.2**
OBN *i* pP 09 35 38.8 -3.9
OBN *e* 09 35 52.3
OBN pmax pmax
comp=Z,28nm,1.2s,mb5.1
OBN Obninsk 69.00 329 *i* P **P 09 35 32.9 -3.0**
MA2 Magadan 70.54 27 *e*P **P 09 35 44.6 -0.6**
MA2 *e*S S 09 44 57.6 +1.6
MA2 *e*SSS SSS 09 52 35.6 +0.8
MA2 pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MA2 Magadan 70.54 27 *i* P **P 09 35 44.9 -0.3**
IDI Anoyia 71.05 306 P **P 09 35 48.6 -0.1**
comp=Z,16nm,1.0s,mb4.9,baz=112,slow=9.9,SNR=3.6
TIXI Tiksi 71.40 11 *i* P **P 09 35 49.4 -0.8**
AKASG Malin Array Be 71.52 323 P **P 09 35 49.3 -2.0**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 71.52 323 P **P 09 35 49.3 -2.0**
comp=Z,4.0nm,0.7s,mb4.4,baz=90,slow=4.9,SNR=13
VRI Vrincioaia 71.81 317 P **P 09 35 53.6 +0.5**
MLR Muntele Rosu 72.25 317 P **P 09 35 56.3 +0.6**
BOSA Boshof 73.37 239 *e*P **P 09 36 01.4 -1.3**
BOSA pmax pmax
comp=Z,12nm,1.3s,mb4.7
BOSA Boshof 73.37 239 *e*P **P 09 36 01.4 -1.3**
comp=Z,12nm,1.3s,mb4.7
MAW Mawson 74.38 192 *e*P **P 09 36 07.1 -0.6**
MAW pmax pmax
comp=Z,5.0nm,1.0s
MAW Mawson 74.38 192 *e*P **P 09 36 07.1 -0.6**
comp=Z,5.0nm,1.0s,mb4.4
JOF Joensuu 74.70 335 *e*p **P 09 36 08.3 -1.4**
comp=Z,16nm,0.9s,mb5.0
KWP Kalwaria 75.30 320 *e*P **P 09 36 13.5 +0.1**
KOLS Kolonicke sedl 75.44 320 *e*P **P 09 36 14.1 -0.1**
KOLS *e* pP 09 36 20.9 -0.1
APA Apatity 75.84 340⇑ *i*P **P 09 36 16.0 -0.1**
APA pmax pmax
comp=Z,20nm,0.8s,mb5.1
CRVS Cervenica-Dubn 75.96 320 *e*P **P 09 36 20.4 +3.3**
SUW Suwalki 75.98 325 *e*P **P 09 36 16.2 -1.0**
SUW Suwalki 75.98 325 *e*P **P 09 36 16.2 -0.9**
FINES FINESS Array B 76.49 333 P **P 09 36 19.3 -0.5**
comp=Z,8.6nm,0.8s,mb4.7,baz=101,slow=9.7,SNR=18
FINES LR LR 10 13 50.6
comp=Z,153nm,18.8s,MS4.3,baz=284,slow=39
KAF Kangasniemi 76.59 333 *e*p **P 09 36 19.5 -0.9**
comp=Z,19nm,0.9s,mb5.0
KAF Kangasniemi 76.59 333 *e*P **P 09 36 19.5 -0.9**
KAF pmax pmax
comp=Z,19nm,0.9s,mb5.0
NIE Niedzica 76.79 320 *e*P **P 09 36 22.6 +0.8**
PSZ Piszkesteto 76.81 318 *e*P **P 09 36 21.7 -0.3**
PSZ pmax pmax
comp=Z,37nm,2.0s,mb5.0
PSZ Piszkesteto 76.81 318 *e*P **P 09 36 21.7 -0.2**
comp=Z,37nm,2.0s,mb5.0
OJC Ojcow 77.26 321 *e*P **P 09 36 24.3 -0.1**
VYHS Vyhne 77.60 319 *e*P **P 09 36 26.5 +0.2**
OKC Ostrava-Krasne 78.25 320 *e*P **P 09 36 30.2 +0.4**
ZST Bratislava 78.71 318 *e*P **P 09 36 33.1 +0.7**
ARCES ARCESS Array B 79.28 341 P **P 09 36 34.9 -0.1**
comp=Z,9.0nm,0.8s,mb4.8,baz=104,slow=5.0,SNR=19
ARE0 ARCESS Array S 79.28 341 *e*P **P 09 36 34.9 -0.2**
DPC Dobruska-Polom 79.48 320 *e*P **P 09 36 37.3 +0.7**
DPC *e*pP pP 09 36 42.7 -0.7
KSP Ksiaz 79.56 321 *e*P **P 09 36 37.6 +0.6**
KSP *e**PP pP 09 36 43.4 -0.5
BOJS Bojanci 79.67 315 *e*P **P 09 36 37.9 +0.2**
UPC Upice 79.70 321 *e*P **P 09 36 37.9 +0.2**
UPC *e*pP pP 09 36 42.9 -1.7
PERS Pernice 79.87 317 *i* P **P 09 36 39.2 +0.5**
BILL Bilibino 80.04 21 *i* P **P 09 36 39.3 +0.1**
LJU Ljubljana 80.22 316 *e*P **P 09 36 41.1 +0.5**
FX1 Attu Island--F 80.51 37 P **P 09 36 42.8 +0.8**
FX1 pmax pmax
comp=Z,11nm,0.5s
FX1 Attu Island--F 80.51 37 P **P 09 36 42.8 +0.8**
comp=Z,11nm,0.5s,mb5.0,baz=73,slow=19,SNR=2.7
PRU Pruhonice 80.58 320 *e*P **P 09 36 43.2 +0.8**
PRU *e*pP pP 09 36 48.8 -0.5
PVCC Panska Ves 80.62 320 *e*P **P 09 36 42.9 +0.3**
ROBS Robic 80.95 316 *e*P **P 09 36 43.6 -0.9**
GERES GERESS Array B 81.02 319 P **P 09 36 45.1 +0.4**
comp=Z,7.1nm,0.8s,mb4.6,baz=104,slow=5.5,SNR=41
BRG Berggiesshubel 81.05 321 *e*P **P 09 36 45.5 +0.6**
BRG *e* pP 09 36 51.4 -0.4
BRG pmax pmax
comp=Z,21nm,1.5s,mb4.8
BRG Berggiesshubel 81.05 321 *e*P **P 09 36 45.5 +0.6**
comp=Z,21nm,1.5s,mb4.8
BRG *e* pP 09 36 51.4 -0.4
KHC Kasperske Hory 81.13 319 *e*P **P 09 36 45.7 +0.4**
KHC *e*pP pP 09 36 56.0 +3.8
SYO Syowa Base 81.35 197⇑⇑ P **P 09 36 47.6 +1.5**
CLL Collm 81.68 321 *e*P **P 09 36 49.0 +0.9**
CLL *e* 09 37 09.0
CLL Collm 81.68 321 P **P 09 36 49.0 +0.9**
CLL *e* 09 37 09.0
HFS Hagfors 82.15 330 P **P 09 36 50.4 0.0**
comp=Z,5.5nm,0.8s,mb4.5,baz=153,slow=3.3,SNR=6.0
GRA1 Grafenberg Arr 82.70 319 *e*P **P 09 36 54.1 +0.6**
comp=Z,16nm,1.0s,mb5.0
GRF Grafenberg Arr 82.70 319 *e*P **P 09 36 54.1 +0.6**
GRF pmax pmax
comp=Z,16nm,1.0s,mb5.0
GRF Grafenberg Arr 82.70 319 *e*P **P 09 36 54.1 +0.6**
GRF pmax pmax
comp=Z,16nm,1.0s,mb5.0
GRF Grafenberg Arr 82.70 319 *e*P **P 09 36 54.1 +0.6**
comp=Z,16nm,1.0s,mb5.0
NB2 NORSAR Subarra 83.45 331 P **P 09 36 56.3 -0.8**
comp=Z,1.5nm,0.8s,mb4.1,baz=97,slow=5.0
NB2 NORSAR Subarra 83.45 331 P **P 09 36 56.3 -0.8**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
NOA NORSAR Array B 83.45 331 P **P 09 36 56.4 -0.7**
comp=Z,3.7nm,0.9s,mb4.4,baz=94,slow=5.4,SNR=4.9
NOA LR LR 10 16 08.4
comp=Z,176nm,18.7s,MS4.5,baz=325,slow=37
LPG La Plagne 85.64 315 *e*P **P 09 37 09.2 +0.7**
comp=Z,9.1nm,0.8s,mb4.8
LPG La Plagne 85.64 315 *e*P **P 09 37 09.2 +0.7**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
TNA Tin City 90.03 24 *e*P **P 09 37 29.3 +0.2**
RES Resolute Bay 101.65 2 *e*P P 09 38 23.7 +1.8
RES pmax pmax
comp=Z,4.0nm,1.1s
RES Resolute Bay 101.65 2 *e*Pdif P 09 38 23.7 +1.8
comp=Z,4.4nm,1.1s
YKA Yellowknife Ar 110.55 14 PP PP 09 43 36.3 -5.1
comp=Z,0.1nm,0.4s,baz=334,slow=7.7,SNR=7.8
YKA PKKPbc 09 54 04.0
comp=Z,0.2nm,0.5s,baz=143,slow=3.0,SNR=5.9
NVAR Mina Array Bea 128.53 33 PKP PKPdf 09 43 39.8 -0.5
comp=Z,1.6nm,0.8s,baz=32,slow=0.4,SNR=12
MNV Mina 128.60 32 *e*PKIKP PKPdf 09 43 39.6 -0.9
PDAR Pinedale Array 129.11 22 PKP PKPdf 09 43 39.5 -1.8
comp=Z,1.6nm,1.0s,baz=45,slow=2.1,SNR=11
PV10 Paradox Valley 133.04 25 *e*PKPdf PKPdf 09 43 48.0 -1.0
ANMO Albuquerque 137.04 25 PKP PKPdf 09 43 55.3 -1.0
comp=Z,2.7nm,0.9s,baz=319,slow=1.3,SNR=8.1
WMOK Wichita Mounta 139.98 17 *e*PKHKP 09 43 50.7
TXAR Lajitas Array 143.06 26 PKP PKPdf 09 44 03.3 -4.0
comp=Z,0.4nm,0.5s,baz=279,slow=0.6,SNR=7.9
TXAR PP PP 09 47 15.3 -1.6
comp=Z,0.8nm,1.0s,baz=323,slow=4.5,SNR=3.6
JCT Junction City 143.59 21 *e*PKIKP PKPdf 09 44 02.4 -5.7
LVC Limon Verde 154.97 219 PKPab PKPab 09 44 49.8 +1.2
comp=Z,3.2nm,0.7s,baz=32,slow=0.9,SNR=4.8
LPAZ La Paz 158.50 233 PKP PKPdf 09 44 30.2 -0.7
comp=Z,0.5nm,0.5s,baz=20,slow=6.1,SNR=4.1
LPAZ PKPab PKPab 09 45 04.5 +0.6
comp=Z,1.6nm,0.8s,baz=104,slow=7.7,SNR=6.4

MOS ***22*** *09:59:08.8±1.2,54.07N×164.81E,h51km,mb4.0/1,Error ellipse: s-maj=21.6km s-min=19.4km az=40.1*

KRSC 22 09:59:08.2±1.2,54.10N×165.06E,h39km±8km,ML4.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.23**	**25**	*i* P	P	09 59 26.6	-2.5
BKI				*i* S	S	09 59 41.9	-2.9
KBTR	**Krutoberegovo**	**2.47**	**330**	P	P	09 59 46.4	-0.6
KBTR				S	S	10 00 13.8	-2.4
KBTR	**Krutoberegovo**	**2.47**	**330**	*e*P	P	09 59 46.4	-0.6
KBTR				*e*S	S	10 00 13.7	-2.5
KBG	**Krutoberegovo**	**2.55**	**329**	*e*P	P	09 59 47.4	-0.6
KBG				*e*S	S	10 00 16.0	-2.1
KBG				Smax			
	2μm,0.7s						
TUMR	**Tumrok**	**3.09**	**295**	*i* P	P	09 59 56.9	+1.2
TUMR				*e*S	S	10 00 31.3	-0.5
SPN	**Mys Shipunski**	**3.17**	**254**	P	P	09 59 56.1	-0.7
SPN				S	S	10 00 30.2	-3.6
SPN	**Mys Shipunski**	**3.17**	**254**	*e*P	P	09 59 56.1	-0.7
SPN				*e*S	S	10 00 30.3	-3.5
KMNR	**Kamenistaya**	**3.24**	**303**	*e*P	P	09 59 58.6	+0.7
KMNR				*e*S	S	10 00 34.9	-0.8
KII	**Karymskiy**	**3.31**	**271**	P	P	09 59 59.3	+0.5
KII	**Karymskiy**	**3.31**	**271**	*e*P	P	09 59 59.0	+0.2
KII				*e*S	S	10 00 35.7	-1.7
SVLR	**Shiveluch**	**3.31**	**320**	*e*P	P	09 59 59.8	+0.9
SVLR				*e*S	S	10 00 37.1	-0.4
KPT	**Kopyto**	**3.35**	**306**	*e*P	P	10 00 00.6	+1.1
KPT				*e*S	S	10 00 39.7	+1.1
KLY	**Klyuchi**	**3.36**	**313**	P	P	09 59 58.8	-0.8
KLY				S	S	10 00 36.0	-2.8
KLY	**Klyuchi**	**3.36**	**313**	*e*P	P	09 59 58.7	-0.9
KLY				*e*S	S	10 00 35.9	-2.9
NLC	**Nalytchevo**	**3.53**	**257**	P	P	10 00 01.5	-0.5
NLC				S	S	10 00 40.0	-3.0
NLC	**Nalytchevo**	**3.53**	**257**	*i* P	P	10 00 01.5	-0.5
NLC				*i* S	S	10 00 40.1	-2.9
KOZR	**Kozyr**	**3.56**	**306**	PN	P	10 00 03.7	+1.3
KOZR				S	S	10 00 44.3	+0.4
KOZ	**Kozyrevsk**	**3.57**	**305**	P	P	10 00 03.7	+1.2
KOZ				S	S	10 00 44.3	+0.3
KOZ	**Kozyrevsk**	**3.57**	**305**	*e*P	P	10 00 03.7	+1.2
KOZ				*e*S	S	10 00 44.4	+0.4
SDLR	**Sedlovina**	**3.76**	**260**	*i* P	P	10 00 05.2	-0.1
SDLR				*e*S	S	10 00 48.4	-0.6
SRDR	**Sredinnyy**	**3.78**	**308**	*e*P	P	10 00 06.5	+0.9
SRDR				*e*S	S	10 00 48.6	-0.8
SMAR	**Somma**	**3.81**	**260**	*e*P	P	10 00 06.0	0.0
SMAR				*e*S	S	10 00 48.5	-1.8
UGLR	**Uglovaya**	**3.82**	**259**	*i* P	P	10 00 06.3	+0.3
UGLR				*i* S	S	10 00 49.1	-1.2
AVH	**Avacha**	**3.85**	**260**	*i* P	P	10 00 06.6	+0.1
AVH				*i* S	S	10 00 49.2	-2.0
KOK	**Koryaka**	**3.90**	**261**	*i* P	P	10 00 07.4	+0.1
KOK				*i* S	S	10 00 48.9	-3.6
PET	**Petropavlovsk**	**3.97**	**257**	P	P	10 00 07.9	-0.3
PET				S	S	10 00 51.2	-3.0
PET	**Petropavlovsk**	**3.97**	**257**	*e*P	P	10 00 07.9	-0.3
PET				*e*S	S	10 00 51.4	-2.8
ESO	**Esso**	**4.09**	**299**	*e*P	P	10 00 09.7	-0.3
ESO				*e*S	S	10 00 54.2	-3.1
ESO				Smax			
	60nm,1.0s						
GNL	**Ganaly**	**4.23**	**267**	*i* P	P	10 00 12.8	+0.9
GNL				*i* S	S	10 00 59.7	-1.1
RUS	**Russkaya**	**4.27**	**250**	P	P	10 00 11.3	-1.2
RUS				S	S	10 00 56.8	-5.0
RUS	**Russkaya**	**4.27**	**250**	*e*P	P	10 00 12.1	-0.4
RUS				*e*S	S	10 00 58.6	-3.2
KRMR	**Karymshinskiy**	**4.33**	**256**	*i* P	P	10 00 13.1	-0.3
KRMR				*i* S	S	10 01 00.5	-2.8
GRL	**Gorelyy**	**4.47**	**253**	*e*P	P	10 00 15.3	0.0
GRL				*e*S	S	10 01 03.8	-2.9
APC	**Apacha**	**4.86**	**259**	*e*P	P	10 00 21.8	+0.9
APC				*e*S	S	10 01 15.3	-1.3
OSSR	**Ossora**	**5.28**	**349**	*e*P	P	10 00 24.5	-2.2
OSSR				Smax			
	100nm,0.2s						
SKR	**Severo-Kuril's**	**6.46**	**242**	*e*S	S	10 01 53.4	-3.1
KAMR	**Kamenskoye**	**8.40**	**4**	*i* P	P	10 01 09.7	-0.6
KAMR				*e*S	S	10 02 37.4	-7.6

IDC 22 10:05:11.6±8.4,10.83N×92.60E,mb3.9/4,mb1 4.1/4, mb1mx3.7/17,mbtmp3.9/4,Error ellipse: s-maj=288.7km s-min=30.1km az=75.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**38.67**	**15**	P	P	10 12 37.0	-1.7
	0.3nm,0.4s,baz=206,slow=8.3,SNR=6.1						
WRA	**Warramunga Arr**	**51.22**	**127**	P	P	10 14 17.3	-2.1
	2.2nm,0.5s,baz=306,slow=8.3,SNR=40						
WB2	**Warramunga Arr**	**51.23**	**127**	*e*P	P	10 14 17.2	-2.2
ASAR	**Alice Springs**	**52.98**	**131**	P	P	10 14 30.1	-2.5
	0.8nm,0.5s,baz=308,slow=7.1,SNR=13						
STKA	**Stephens Creek**	**63.24**	**134**	P	P	10 15 42.5	-1.9
	1.6nm,0.8s,baz=304,slow=7.3,SNR=2.9						

IDC ***22*** *10:48:39.6±0.5,10.66S×123.94E,mb4.6/15,mb1 4.7/16, mb1mx4.6/18,mbtmp4.6/16,ML5.0/2,MS4.4/7,Ms1 4.4/7, ms1mx3.8/23,Error ellipse: s-maj=20.7km s-min=11.9km az=54.0*

BJI ***22*** *10:48:43.8,10.65S×123.91E,h39km,mB5.1,mb5.0, Ms4.8,Msz4.5*

MOS ***22*** *10:48:43.4±1.5,10.72S×123.77E,h33km,mb5.0/20,Error ellipse: s-maj=12.0km s-min=6.7km az=121.4*

HRVD ***22*** *10:48:45.7±0.2,10.76S×124.19E,h20km±1km,MW5.1/55, Centroid moment Tensor Solution. LP body waves: s39,c56;Mantle waves: s55,c93; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-1.20±.17; $M_{\theta\theta}$2.54±.13; $M_{\phi\phi}$-1.34±.17; $M_{r\theta}$0.07±.24; $M_{r\phi}$3.39±.11; $M_{\theta\phi}$4.63±.45; Best double couple: $M_0$6.093×10^16^ NP1:φs97°,δ42°,λ-13°. NP2:φs197°,δ81°,λ-132°. Principal axes: T 5.629, Plg25°, Azm318°; N .929, Plg41°, Azm204°; P -6.558, Plg39°, Azm70°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***22*** *10:48:45.7±1.0,10.73S×123.95E,h42km±9km,mb4.9/30 Error ellipse: s-maj=10.9km s-min=6.0km az=69.0*

ISC 22 10:48:40.5±1.3,10.83S±0.04×124.01E±0.05,h25km±9km, h26km±3.5km:pP-P,n148,σ1§34/147,mb4.9/54,MS4.4/13, 9C-11D,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**7.40**	**168**	⇓*i*P	**Pn**	**10 50 29.5**	**-0.3**
	248nm,0.3s						
FITZ				*e*S	**Sn**	**10 51 49.6**	**-4.2**
NINI	**Niniconang**	**7.63**	**326**	⇓*e*P	**Pn**	**10 50 35.3**	**+2.3**
BUNI	**Buntu Taipa**	**8.01**	**333**	⇓*e*Pn	**P**	**10 50 39.6**	**+1.4**
KEDI	**Kedomdong**	**8.13**	**286**	⇓*e*Pn	**P**	**10 50 39.4**	**-0.5**
KEDI				*e*Sn	**Sn**	**10 52 07.9**	**-4.0**
KAKA	**Kakadu**	**8.46**	**104**	*e*P	**P**	**10 50 43.2**	**-1.4**
	119nm,0.3s						
KAKA				*e*S	**Sn**	**10 52 16.6**	**-3.7**
RATI	**Rata**	**8.61**	**283**	⇓*e*Pn	**P**	**10 50 46.1**	**-0.5**
RATI				*e*Sn	**Sn**	**10 52 18.1**	**-5.9**
TANI	**Tanete Lipujan**	**8.66**	**328**	⇓*e*P	**P**	**10 50 49.2**	**+1.9**
KELI	**Kelakatan**	**9.74**	**285**	⇓*e*P	**P**	**10 51 01.5**	**-0.8**
	238nm,0.2s						
SRDI	**Scrawed**	**10.01**	**283**	⇑*e*P	**P**	**10 51 03.4**	**-2.6**
SRDI				pmax	pmax		
	comp=Z,142nm,0.2s						
SRDI	**Scrawed**	**10.01**	**283**	⇑*e*P	**P**	**10 51 03.4**	**-2.6**
	comp=Z,142nm,0.2s						
MBWA	**Marble Bar**	**11.06**	**201**	*e*P	**P**	**10 51 19.9**	**-0.5**
	comp=Z,13nm,0.6s						
MBWA				*e*S	**S**	**10 53 12.8**	**-12**
WRA	**Warramunga Arr**	**13.46**	**134**	Pn	**P**	**10 51 48.8**	**-3.7**
	comp=Z,8.7nm,0.3s,baz=305,slow=14,SNR=350						
WRA				Sn	**S**	**10 54 09.0**	**-13**
	comp=Z,26nm,0.3s,baz=300,slow=25,SNR=18						
WRA				Lg		10 55 56.2	
	baz=305,slow=23,SNR=4.3						
WRAB	**Tennant Creek**	**13.46**	**133**	*e*P	**P**	**10 51 48.8**	**-3.7**
WRAB				pmax	pmax		
	comp=Z,222nm,0.9s						
WRAB	**Tennant Creek**	**13.46**	**133**	*e*P	**P**	**10 51 48.8**	**-3.7**
	comp=Z,222nm,0.9s						
WRAB				*e*S	**S**	**10 54 07.7**	**-15**
WB2	**Warramunga Arr**	**13.47**	**134**	⇓*i*P	**P**	**10 51 48.7**	**-3.9**
WB2				*e*S	**S**	**10 54 09.1**	**-13**
ASPA	**Alice Springs**	**15.87**	**145**	⇓*i*P	**P**	**10 52 22.5**	**-1.6**
ASPA				*e*S	**S**	**10 55 09.9**	**-9.4**
ASAR	**Alice Springs**	**15.87**	**145**	Pn	**P**	**10 52 22.4**	**-1.7**
	comp=Z,13nm,0.3s,baz=321,slow=12,SNR=894						
ASAR				Sn	**S**	**10 55 08.8**	**-10**
	comp=Z,9.4nm,0.3s,baz=313,slow=19,SNR=9.8						
ASAR				Lg		10 57 13.9	
	baz=333,slow=32,SNR=2.3						
ASAR				LR	LR	10 58 41.2	
	comp=Z,2μm,20.4s,baz=318,slow=38						
FORT	**Forrest**	**20.20**	**170**	*e*P	**P**	**10 53 17.7**	**+1.3**
	comp=Z,633nm,0.7s						
FORT				*e*S	**S**	**10 56 50.5**	**-6.1**
MUN	**Mundaring**	**22.25**	**198**	*e*P	**P**	**10 53 38.3**	**+1.2**
	comp=Z,16nm,0.5s,mb4.7						
MUN				*e*S	**S**	**10 57 34.4**	**-1.2**
MUN	**Mundaring**	**22.25**	**198**	*e*P	**P**	**10 53 38.3**	**+1.2**
MUN				*e*S	**S**	**10 57 34.4**	**-1.2**
MUN				pmax	pmax		
	comp=Z,16nm,0.5s,mb4.7						
PMG	**Port Moresby**	**22.83**	**89**	*i* P	**P**	**10 53 47.7**	**+4.5**
PMG	**Port Moresby**	**22.83**	**89**	P	**P**	**10 53 44.4**	**+1.2**
	comp=Z,21nm,0.7s,mb4.7,baz=259,slow=6.7,SNR=9.4						
PMG				LR	LR	11 04 43.5	
	comp=Z,2μm,18.6s,MS4.5,baz=264,slow=42						
PMG	**Port Moresby**	**22.83**	**89**	*e*P	**P**	**10 53 44.1**	**+0.9**
	comp=Z,19nm,0.7s,mb4.6						
NWAO	**Narrogin (SRO)**	**22.86**	**195**	P	**P**	**10 53 44.8**	**+1.6**
NWAO				S	**S**	**10 57 51.2**	**+4.5**
NWAO				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NWAO				smax			
	comp=E,69nm,1.1s						
NWAO	**Narrogin (SRO)**	**22.86**	**195**	P	**P**	**10 53 44.8**	**+1.6**
	comp=E,9.8nm,0.7s,mb4.3,baz=35,slow=6.6,SNR=11						
NWAO				S	**S**	**10 57 51.2**	**+4.5**
	comp=E,68nm,1.1s,baz=113,slow=20,SNR=5.2						
NWAO	**Narrogin (SRO)**	**22.86**	**195**	*e*P	**P**	**10 53 44.3**	**+1.0**
	comp=E,30nm,1.1s,mb4.6						
CTA	**Charters Tower**	**23.31**	**116**	*e*P	**P**	**10 53 50.8**	**+3.1**
	comp=E,23nm,1.0s,mb4.6						
CTA	**Charters Tower**	**23.31**	**116**	P	**P**	**10 53 51.2**	**+3.5**
CTA				S	**S**	**10 58 07.6**	**+13**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CTA				smax			
	comp=E,6.0nm,0.8s						
CTA				MLR	MLR		
	comp=Z,2μm,18.2s						
CTA	**Charters Tower**	**23.31**	**116**	P	**P**	**10 53 51.2**	**+3.5**
	comp=Z,8.3nm,0.8s,mb4.2,baz=286,slow=13,SNR=13						
CTA				S	**S**	**10 58 07.6**	**+13**
	comp=Z,6.1nm,0.8s,baz=343,slow=23,SNR=2.1						
CTA				Lg		11 01 06.0	
	comp=Z,21nm,1.1s,baz=330,slow=20,SNR=2.2						
CTA				LR	LR	11 04 01.6	
	comp=Z,2μm,18.2s,MS4.6,baz=292,slow=39						
CTAO	**Charters Tower**	**23.31**	**116**	*e*P	**P**	**10 53 51.1**	**+3.4**
CTAO				pmax	pmax		
	comp=Z,60nm,1.3s,mb4.9						
CTAO	**Charters Tower**	**23.31**	**116**	*e*P	**P**	**10 53 51.1**	**+3.4**
	comp=Z,60nm,1.3s,mb4.9						
STKA	**Stephens Creek**	**26.51**	**145**	⇓*i*P	**P**	**10 54 20.0**	**+2.0**
	comp=Z,31nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**26.51**	**145**	P	**P**	**10 54 20.3**	**+2.2**
	comp=Z,15nm,0.7s,mb4.6,baz=315,slow=8.7,SNR=34						
STKA				S	S	10 59 12.6	+24
	comp=Z,10nm,0.7s,baz=296,slow=14,SNR=2.7						
STKA				LR	LR	11 05 39.5	
	comp=Z,2μm,18.4s,MS4.8,baz=339,slow=38						
ADE	**Adelaide**	**27.51**	**153**	*e*P	**P**	**10 54 32.2**	**+5.1**
QIZ	**Qiongzhong**	**32.79**	**335**	*e*P	**P**	**10 55 14.3**	**+0.1**
QIZ				S	**S**	**11 00 25.3**	**-3.3**
QIZ				AMB	AMB		
	comp=Z,175nm,4.3s						
QIZ				LR	LR		
	comp=N,279nm,23.5s						
QIZ				LR	LR		
	comp=Z,477nm,26.5s,MS4.1						
QIZ	**Qiongzhong**	**32.79**	**335**	*e*P	**P**	**10 55 13.2**	**-1.0**
	comp=Z,16nm,0.8s,mb5.0						
TOO	**Toolangi**	**32.89**	**148**	*e*P	**P**	**10 55 18.3**	**+3.4**
	comp=Z,27nm,0.7s,mb5.3						
TOO	**Toolangi**	**32.89**	**148**	*e*P	**P**	**10 55 18.3**	**+3.4**
TOO				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.3						
KKTK	**Khon Kaen**	**34.17**	**322**	P	**P**	**10 55 26.0**	**-0.2**
NANT	**Nan**	**37.35**	**322**	P	**P**	**10 55 54.0**	**+0.9**
JOW	**Kunigami**	**37.66**	**6**	P	**P**	**10 55 55.2**	**-0.5**
	comp=Z,7.7nm,0.5s,mb4.7,baz=302,slow=26,SNR=4.2						
CM31	**Chiang Mai Arr**	**38.19**	**319**	*e*P	**P**	**10 55 59.5**	**-0.7**
	comp=Z,12nm,0.5s,mb4.9						
CMAR	**Chiang Mai Arr**	**38.19**	**319**	P	**P**	**10 55 59.8**	**-0.4**
	comp=Z,9.6nm,0.6s,mb4.7,baz=143,slow=6.5,SNR=38						
KMI	**Kunming**	**41.32**	**330**	⇑P	**P**	**10 56 27.7**	**+1.7**
KMI				*PP	pP	10 56 33.2	-0.3
KMI						10 57 59.7	
KMI				S	**S**	**11 02 36.1**	**-2.5**
KMI				pmax	pmax		
	comp=Z,30nm,1.6s,mb4.7						
KMI				MLR	MLR		
	comp=Z,380nm,22.5s,MS4.2						
KMI	**Kunming**	**41.32**	**330**	⇑P	**P**	**10 56 27.7**	**+1.7**
	comp=Z,30nm,1.6s,mb4.7						
KMI				pP	pP	10 56 33.2	-0.3
KMI				PP	PP	10 57 59.7	-4.7
KMI				S	**S**	**11 02 36.1**	**-2.5**
KMI				sS		11 02 46.7	
KMI				LR	LR		
	comp=Z,380nm,22.5s,MS4.2						
CBIJ	**Chichi jima**	**41.62**	**25**	LR	LR	11 10 07.6	
	comp=Z,142nm,21.6s,MS3.8,baz=208,slow=31						
SSE	**Sheshan**	**41.77**	**356**	P	**P**	**10 56 31.3**	**+1.6**
SSE				AP	pP	10 56 39.9	+2.7
SSE				XP	sP	10 56 44.0	+3.7
SSE				S	**S**	**11 02 46.9**	**+1.6**
SSE				XS		11 03 02.5	
SSE				AMB	AMB		
	comp=Z,42nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,114nm,3.1s						
SSE				LR	LR		
	comp=N,131nm,29.0s,MS3.7						
SSE				LR	LR		
	comp=E,84nm,29.0s,MS3.7						
SSE				LR	LR		
	comp=Z,179nm,29.9s,MS3.8						
SSE	**Sheshan**	**41.77**	**356**	P	**P**	**10 56 31.3**	**+1.6**
	comp=Z,42nm,0.7s,mb5.2						
SSE				pP	pP	10 56 39.9	+2.7
SSE				sP	sP	10 56 44.0	+3.7
SSE				S	**S**	**11 02 46.9**	**+1.6**
SSE				sS		11 03 02.5	
SSE				SS	SS	11 05 54.0	+7.6
SSE				LR	LR		
	comp=Z,180nm,29.9s,MS3.8						
WHN	**Wuhan**	**42.17**	**348**	*e*P	**P**	**10 56 35.0**	**+2.0**
NJ2	**Nanjing**	**42.92**	**354**	*e*P	**P**	**10 56 41.3**	**+2.2**
NJ2				AP	pP	10 56 50.5	+3.9
NJ2				XP	sP	10 56 55.6	+5.8
NJ2				PP	PP	10 58 16.5	-4.7
NJ2				S	**S**	**11 02 57.0**	**-5.2**
NJ2				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,570nm,4.1s						
NJ2				LR	LR		
	comp=N,2μm,22.8s,MS5.1						
NJ2				LR	LR		
	comp=E,2μm,22.9s,MS5.1						
NJ2				LR	LR		
	comp=Z,3μm,21.6s,MS5.2						
ENH	**Enshi**	**43.19**	**342**	*e*P	**P**	**10 56 41.0**	**-0.3**
	comp=Z,16nm,0.6s,mb4.9						
XAN	**Xi'an**	**46.87**	**343**	P	**P**	**10 57 09.4**	**-1.3**
XAN				AMB	AMB		
	comp=Z,22nm,0.6s,mb5.3						
SHL	**Shillong**	**47.83**	**320**	⇑*i*P	**P**	**10 57 17.5**	**-0.9**
KS15	**Wonju Array Si**	**48.15**	**4**	P	**P**	**10 57 19.6**	**-1.2**
MAJO	**Matsushiro**	**48.98**	**15**	*e*P	**P**	**10 57 26.9**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
MAJO	**Matsushiro**	**48.98**	**15**	*e*P	**P**	**10 57 26.9**	**-0.2**
	comp=Z,11nm,0.9s,mb4.9						
LZH	**Lanzhou**	**50.39**	**339**	*e*P	**P**	**10 57 38.0**	**0.0**
LZH				AP	pP	10 57 44.0	-1.6
LZH				XP	sP	10 57 48.5	-0.1
LZH				AMB	AMB		
	comp=Z,55nm,1.5s,mb5.4						
LZH	**Lanzhou**	**50.39**	**339**	*e*P	**P**	**10 57 38.0**	**0.0**
	comp=Z,55nm,1.5s,mb5.4						
LZH				*SP	sP	10 57 48.5	-0.1
LZH				pmax	pmax		
	comp=Z,55nm,1.5s,mb5.4						
LZH	**Lanzhou**	**50.39**	**339**	*e*P	**P**	**10 57 38.0**	**0.0**
	comp=Z,55nm,1.5s,mb5.4						
LZH				pP	pP	10 57 44.0	-1.6
LZH				sP	sP	10 57 48.5	-0.1
BJT	**Baijiatuau**	**51.11**	**352**	*e*P	**P**	**10 57 42.3**	**-1.0**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BJT	**Baijiatuau**	**51.11**	**352**	*e*P	**P**	**10 57 42.3**	**-1.1**
	comp=Z,7.3nm,0.5s,mb4.9						
BJI	**Beijing**	**51.13**	**352**	*e*P	**P**	**10 57 42.3**	**-1.2**
BJI				S	**S**	**11 04 57.7**	**-0.7**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
BJI				MLR	MLR		
	comp=Z,100nm,24.6s,MS3.8						
BJI	**Beijing**	**51.13**	**352**	*e*P	**P**	**10 57 42.3**	**-1.2**
	comp=Z,9.0nm,0.8s,mb4.8						
BJI				S	**S**	**11 04 57.7**	**-0.7**
BJI				SS	SS	11 08 39.2	+7.6
BJI				LR	LR		
	comp=Z,100nm,24.6s,MS3.8						
LSA	**Lhasa**	**51.24**	**323**	P	**P**	**10 57 46.0**	**+1.5**
LSA				AMB	AMB		
	comp=Z,24nm,0.8s,mb5.2						
LSA	**Lhasa**	**51.24**	**323**	*e*P	**P**	**10 57 44.8**	**+0.3**
LSA				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.3						
LSA	**Lhasa**	**51.24**	**323**	*e*P	**P**	**10 57 44.8**	**+0.2**
	comp=Z,23nm,0.6s,mb5.3						
RPZ	**Rata Peaks**	**52.12**	**138**	P	**P**	**10 57 53.1**	**+2.1**
	comp=Z,8.1nm,0.6s,mb4.9,baz=317,slow=6.5,SNR=5.3						
HYB	**Hyderabad**	**52.96**	**302**	*e*P	**P**	**10 57 56.5**	**-1.1**
HYB				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.4						
HYB	**Hyderabad**	**52.96**	**302**	*e*P	**P**	**10 57 56.5**	**-1.1**
	comp=Z,38nm,0.8s,mb5.4						
HYB	**Hyderabad**	**52.96**	**302**	*i* P	**P**	**10 57 56.5**	**-1.1**
	comp=Z,38nm,0.8s,mb5.4						
JIRN	**Jiri**	**52.97**	**317**	*e*P	**P**	**10 57 57.3**	**-0.3**
	comp=Z,61nm,0.5s,mb5.8						
PKI	**Pulchoki**	**53.44**	**316**	*e*P	**P**	**10 58 00.3**	**-0.7**
	comp=Z,55nm,0.5s,mb5.7						
KKN	**Kakani**	**53.67**	**317**	*e*P	**P**	**10 58 02.3**	**-0.4**
	comp=Z,46nm,0.7s,mb5.5						
DMN	**Daman**	**53.67**	**316**	*e*P	**P**	**10 58 01.9**	**-0.8**
	comp=Z,32nm,0.5s,mb5.5						
GKN	**Gorkha**	**54.24**	**316**	*e*P	**P**	**10 58 06.1**	**-0.7**
	comp=Z,63nm,0.5s,mb5.8						
URZ	**Urewera**	**54.59**	**129**	P	**P**	**10 58 09.8**	**+0.6**
	comp=Z,5.4nm,0.8s,mb4.6,baz=31,slow=5.2,SNR=5.2						
KOLN	**Koldanda**	**54.81**	**315**	*e*P	**P**	**10 58 10.4**	**-0.6**
	comp=Z,39nm,0.6s,mb5.6						
MDJ	**Mudanjiang**	**55.41**	**5**	P	**P**	**10 58 14.8**	**-0.4**
MDJ				AP	pP	10 58 30.6	+7.7
MDJ				PCP	PcP	10 59 15.4	+0.2
MDJ				PP	PP	11 00 18.9	-1.6
MDJ				SCP		11 03 07.9	
MDJ				PCS		11 03 14.5	
MDJ				S	**S**	**11 05 52.5**	**-4.0**
MDJ				SCS	ScS	11 07 58.4	-0.8
MDJ				SS	SS	11 09 41.9	+0.8
MDJ				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,45nm,4.1s						
MDJ				LR	LR		
	comp=E,180nm,43.6s						
MDJ				LR	LR		
	comp=Z,92nm,27.8s						
MDJ	**Mudanjiang**	**55.41**	**5**	*e*P	**P**	**10 58 15.1**	**-0.2**
	comp=Z,14nm,1.0s,mb5.0						
ASAJ	**Asahikawa**	**57.23**	**16**	LR	LR	11 21 38.1	
	comp=Z,104nm,20.1s,MS3.9,baz=197,slow=35						
NDI	**New Delhi**	**59.88**	**312**	*e*P	**P**	**10 58 43.0**	**-3.9**
HIA	**Hailar**	**59.95**	**357**	*e*P	**P**	**10 58 45.2**	**-1.9**
HIA				pmax	pmax		
	comp=Z,19nm,0.9s						
HIA	**Hailar**	**59.95**	**357**	*e*P	**P**	**10 58 45.2**	**-1.9**
	comp=Z,19nm,0.9s,mb5.1						
ULN	**Ulaanbaatar**	**60.35**	**347**	*e*P	**P**	**10 58 49.2**	**-0.6**
ULN				pmax	pmax		
	comp=Z,23nm,1.5s,mb5.0						
ULN	**Ulaanbaatar**	**60.35**	**347**	*e*P	**P**	**10 58 49.2**	**-0.6**
	comp=Z,23nm,1.5s,mb5.0						
SONM	**Songino Array**	**60.47**	**346**	P	**P**	**10 58 50.0**	**-0.6**
	comp=Z,3.7nm,0.5s,mb4.7,baz=161,slow=8.5,SNR=46						
ZAK	**Zakamensk**	**63.59**	**345**	*e*P	**P**	**10 59 09.8**	**-1.6**
WMQ	**Urumqi**	**63.63**	**331**	*e*P	**P**	**10 59 12.8**	**+1.0**
WMQ				AP	pP	10 59 29.0	+9.4
WMQ				PP	PP	11 01 34.5	+1.0
WMQ				S	**S**	**11 07 39.8**	**-2.8**
WMQ				AMB	AMB		
	comp=Z,18nm,1.2s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,113nm,6.5s						
WMQ				LR	LR		
	comp=N,254nm,19.1s,MS4.6						
WMQ				LR	LR		
	comp=E,325nm,18.8s,MS4.6						
WMQ				LR	LR		
	comp=Z,362nm,19.0s,MS4.6						
TLY	**Talaya**	**64.70**	**346**	*i* P	**P**	**10 59 19.1**	**+0.

comp=Z,4.0nm,1.1s,mb4.3
SVE Sverdlovsk 85.06 330 *e*P **P 11 01 14.0 -1.2**
ARU Arti 85.89 330 *e*P **P 11 01 17.0 -2.4**
ARU *e* 11 04 34.4
ARU *e*S S 11 11 38.3 -11
ARU Arti 85.89 330 *e*P **P 11 01 16.6 -2.8**
comp=Z,4.5nm,0.5s,mb5.0
KMBO Kilima Mbogo 86.61 270 *e*P **P 11 01 23.0 -0.9**
KMBO pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 86.61 270 *e*P **P 11 01 22.9 -1.0**
comp=Z,6.2nm,0.9s,mb4.8
TI2 Plekhanov 89.24 313 *e*P **P 11 01 39.2 +3.3**
TI2 *e* 11 01 51.6
ZEI Tsey 90.12 313 *e*P **P 11 01 45.1 +5.1**
ZEI pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
SNAA Sanae 90.53 195⇑ *i*P **P 11 01 44.6 +3.3**
SNAA *e* 11 01 56.4
SNAA *e* 11 01 59.7
VNA2 Neumayer--Watz 92.14 194⇑ *i*P **P 11 01 52.5 +3.9**
VNA2 *e* pP 11 02 02.5 +5.8
VNA2 *e* 11 02 06.5
SOC Sochi 93.28 314 *e*P **P 11 01 53.8 -0.7**
SOC *e* 11 05 38.4
SOC *e*S SKS 11 12 23.6 -10
SOC *e* 11 13 04.0
SOC *e*SS SS 11 19 17.4 -0.2
SOC *e*SSS SSS 11 23 00.7 +3.6
SOC pmax pmax
comp=Z,43nm,1.0s,mb5.8
SOC pmax pmax
comp=N,50nm,0.9s
SOC pmax pmax
comp=E,31nm,0.8s
BRTR Keskin Array B 97.11 309 P **P 11 02 13.9 +1.9**
comp=E,0.5nm,0.9s,mb3.9,baz=201,slow=32,SNR=2.4
OBN Obninsk 97.33 325 *e*P **P 11 02 13.5 +0.8**
OBN *e* 11 02 28.2
OBN pmax pmax
comp=Z,48nm,2.6s,mb5.5
OBN MLR MLR
comp=Z,300nm,15.0s,MS4.9
ILAR Eielson Array 99.33 26 P **P 11 02 21.9 +0.4**
comp=Z,0.3nm,0.7s,mb3.9,baz=236,slow=5.1,SNR=6.7
PSZ Piszkesteto 107.41 317 *e*PKiKP 11 07 06.9
YKA Yellowknife Ar 113.76 26 PKiKP 11 07 19.7
comp=Z,0.7nm,0.5s,baz=297,slow=1.9,SNR=47
YKA PKKPbc 11 18 02.2
comp=Z,0.1nm,0.6s,baz=98,slow=7.5,SNR=5.5
YKA PKKPab 11 18 14.9
comp=Z,0.2nm,0.6s,baz=107,slow=3.5,SNR=7.7
YKA Yellowknife Ar 113.76 26 PKPdf PKPdf 11 07 19.8 -1.6
YKA PKKPbc 11 18 02.2
YKA PKKPab 11 18 14.9
NVAR Mina Array Bea 118.30 52 PKP PKPdf 11 07 30.4 -0.4
comp=Z,0.5nm,0.7s,baz=52,slow=1.0,SNR=4.8
HLID Hailey 120.14 46 *e*PKPdf PKPdf 11 07 34.4 +0.2
IMW Indian Meadow 122.47 45 *e*PKPdf PKPdf 11 07 39.0 +0.4
SNOW Snow King Moun 122.73 45 *e*PKPdf PKPdf 11 07 39.6 +0.5
LOHW Long Hollow 122.79 45 *e*PKPdf PKPdf 11 07 39.4 +0.1
MSU Marysvale 123.00 51 *e*PKIKP PKPdf 11 07 40.6 +0.8
PDAR Pinedale Array 123.78 45 PKP PKPdf 11 07 40.7 -0.6
comp=Z,0.6nm,0.6s,baz=71,slow=1.6,SNR=8.0
PV10 Paradox Valley 125.42 50 *e*PKPdf PKPdf 11 07 42.0 -2.6
PV01 Paradox Valley 125.84 51 *e*PKPdf PKPdf 11 07 45.1 -0.3
SDCO Great Sand Dun 128.28 50 *e*PKPdf PKPdf 11 07 48.5 -1.6
DBIC Dimbokro 129.34 270 PKP PKPdf 11 07 51.2 -1.6
comp=Z,2.0nm,0.5s,baz=90,slow=2.0,SNR=8.5
TXAR Lajitas Array 131.96 60 PKP PKPdf 11 07 55.5 -1.9
comp=Z,0.4nm,0.8s,baz=180,slow=2.4,SNR=6.0
TXAR SKP 11 11 29.2
comp=Z,0.7nm,0.9s,baz=288,slow=2.9,SNR=3.5
JCT Junction City 134.93 58 *e*PKIKP PKPdf 11 07 59.8 -3.1
SCHQ Schefferville 135.28 9 PKP PKPdf 11 08 01.1 -1.7
comp=Z,1.9nm,0.7s,baz=269,slow=6.8,SNR=4.8
FWV Forest Hill 145.26 36 *e*PKPdf PKPdf 11 08 19.3 -1.8
ELN Prospectdale 145.54 36 *e*PKPbc PKPbc 11 08 20.2 +2.6
MVL Millersville 145.80 28 *e*PKPdf PKPdf 11 08 18.7 -3.2
PAL Palisades 146.04 25 *e*PKP2 PKPab 11 08 20.6 -0.6
GOGA Godfrey 146.24 44 *e*PKP2 PKPab 11 08 23.1 +0.9
TEIG Tepich 147.57 69 *e*PKPbc PKPdf 11 08 27.1 +1.7
LPAZ La Paz 150.50 156 *e*PKIKP PKPdf 11 08 35.8 +5.6
LPAZ La Paz 150.50 156 PKPbc PKPdf 11 08 36.1 +5.9
comp=Z,3.5nm,0.7s,baz=185,slow=1.5,SNR=12

IDC ***22*** *11:01:36.8±0.7, 12.15N×125.62E, mb4.1/9, mb1 4.2/9, mb1mx4.0/20, mbtmp4.1/9, MS3.6/1, Ms1 3.6/1, ms1mx2.3/29, Error ellipse: s-maj=45.0km s-min=16.4km az=67.0*
NEIC ***22*** *11:01:38.4±0.4, 12.12N×125.60E, h10km, mb4.3/2, Error ellipse: s-maj=24.9km s-min=8.9km az=66.0*
ISC 22 11:01:39.0±1.7, 12.30N±0.05×125.89E±0.07, h31km±11km**, n30,** σ1°00/33**, mb4.2**/17**, MS3.5**/1**, 2C-1D, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.82**	**213**	*e*P	**Pn**	**11 01 54.4**	**-0.1**
BESP				*e*S	**Sb**	**11 02 05.9**	**+0.4**
PLP	**Palo**	**1.44**	**218**	*e*P	**Pn**	**11 02 02.4**	**-0.9**
PLP				*i* S	**Sn**	**11 02 19.7**	**-1.6**
PVCP	**Virac**	**2.13**	**308**	*e*P	**Pn**	**11 02 12.6**	**-0.7**
PVCP				*e*S	**Sn**	**11 02 47.3**	**+8.4**
MMPH	**Masbate** 5μm,1.0s	**2.21**	**272**	*e*P	**Pn**	**11 02 15.0**	**+0.5**
MSLP	**Maasin**	**2.38**	**205**	*e*P	**Pn**	**11 02 18.3**	**+1.5**
MSLP				*e*S	**Sn**	**11 02 50.8**	**+5.6**
SCPH	**Surigao**	**2.53**	**189**⇑	*i*P	**Pn**	**11 02 19.2**	**+0.2**
LLP	**Lapu-Lapu**	**2.73**	**224**⇓	*e*P	**Pn**	**11 02 21.4**	**-0.4**
LLP				*e*S	**Sn**	**11 02 55.5**	**+1.5**
RCP	**Roxas**	**3.16**	**257**⇑	*e*P	**Pn**	**11 02 27.9**	**-0.1**
RCP				*e*S	**Sn**	**11 03 06.6**	**+1.5**
GUIM	**Jordan**	**3.64**	**243**	*e*P	**Pn**	**11 02 34.3**	**-0.4**
JHJ	**Hachijo jima 2**	**24.32**	**29**	LR	LR	11 14 21.2	
	comp=Z,152nm,20.6s,MS3.5,baz=124,slow=31						
CMAR	**Chiang Mai Arr** 1.6nm,0.8s,mb3.6,baz=95,slow=7.0,SNR=6.9	**26.68**	**287**	P	**P**	**11 07 15.9**	**-1.6**
WRA	**Warramunga Arr** 0.8nm,1.0s,mb3.6,baz=346,slow=9.3,SNR=3.8	**33.10**	**165**	P	**P**	**11 08 13.2**	**-1.4**
WRA				PcP	PcP	11 10 57.7	+0.2
	0.8nm,0.6s,baz=342,slow=3.0,SNR=8.6						
ASAR	**Alice Springs** 1.6nm,0.4s,mb4.2,baz=343,slow=7.0,SNR=19	**36.59**	**168**	P	**P**	**11 08 44.0**	**-0.5**
ASAR				PcP	PcP	11 11 07.5	-0.1
	0.5nm,0.5s,baz=347,slow=3.1,SNR=6.1						
SONM	**Songino Array** 0.8nm,0.6s,mb3.6,baz=166,slow=8.6,SNR=7.2	**39.00**	**339**	P	**P**	**11 09 05.7**	**+1.2**
JIRN	**Jiri** 17nm,0.8s,mb4.8	**40.12**	**298**	*e*P	**P**	**11 09 13.7**	**-0.2**
PKI	**Pulchoki** 7.9nm,0.6s,mb4.5	**40.77**	**298**	*e*P	**P**	**11 09 18.4**	**-0.8**
KKN	**Kakani** 5.4nm,0.4s,mb4.6	**40.93**	**298**	*e*P	**P**	**11 09 20.0**	**-0.5**
DMN	**Daman** 3.9nm,0.3s,mb4.6	**41.04**	**298**	*e*P	**P**	**11 09 21.6**	**+0.2**
GKN	**Gorkha** 4.5nm,0.3s,mb4.6	**41.53**	**298**	*e*P	**P**	**11 09 24.4**	**-1.2**
KOLN	**Koldanda** 14nm,0.8s,mb4.6	**42.38**	**298**	*e*P	**P**	**11 09 31.2**	**-1.3**
STKA	**Stephens Creek** 1.7nm,1.0s,mb4.0,baz=311,slow=9.3,SNR=2.8	**46.43**	**161**	P	**P**	**11 10 05.3**	**+0.3**
STKA	**Stephens Creek**	**46.43**	**161**	P	**P**	**11 10 05.3**	**+0.3**
BVAR	**Borovoye Array** 2.0nm,0.6s,mb4.3,baz=112,slow=8.0,SNR=11	**59.80**	**325**	P	**P**	**11 11 43.7**	**+0.1**
BRVK	**Borovoye** 5.6nm,0.9s,mb4.6	**59.87**	**325**	*e*P	**P**	**11 11 44.4**	**+0.2**
CHKZ	**Chkalovo** 0.7nm,0.6s,mb3.9	**59.91**	**326**	*e*P	**P**	**11 11 43.9**	**-0.6**
ARCES	**ARCESS Array B** 4.0nm,0.8s,mb4.4,baz=297,slow=2.7,SNR=5.1	**82.17**	**340**	P	**P**	**11 13 59.8**	**+1.8**
INK	**Inuvik** 0.9nm,0.8s,mb3.9,baz=298,slow=9.2,SNR=5.7	**82.55**	**22**	P	**P**	**11 14 02.3**	**+2.3**
FINES	**FINESS Array B** 1.6nm,0.5s,mb4.4,baz=84,slow=4.7,SNR=16	**83.94**	**332**	P	**P**	**11 14 08.3**	**+1.1**
PLCA	**Paso Flores** 1.6nm,0.7s,baz=208,slow=2.7,SNR=3.0	**148.20**	**156**	PKPbc	PKPdf	11 21 25.7	+1.6
PLCA	**Paso Flores**	**148.20**	**156**	PKPbc	PKPdf	11 21 25.7	+1.6

HLW ***22*** *11:02:22.9, 31.39N×35.40E, h10km, Mb3.9*
CSEM ***22*** *11:02:23.8±0.1, 31.41N×35.38E, h40km, Mw3.4, Error ellipse: s-maj=4.3km s-min=1.4km az=103.0*

GII ***22*** *11:02:24.5±0.1, 31.40N×35.47E, h22km±2km, ML3.5/12, Mw3.4/6*
GII Felt III.
ISC 22 11:02:22.7±0.4**, 31.39N**±0.02×**35.46E**±0.06**, h22**km**, n46,** σ0°59/54**, 2C-7D, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZDA	**Masada**	**0.12**	**229**	Pn	**Pn**	**11 02 29.4**	**+0.5**
MZDA				Sn	**Sn**	**11 02 33.3**	**+0.8**
MZDA	**Masada**	**0.12**	**229**	Sn	**Sn**	**11 02 33.3**	**+0.8**
DSI	**Dead Sea**	**0.20**	**339**	Pn	**Pn**	**11 02 29.9**	**-0.2**
DSI	**Dead Sea**	**0.20**	**339**	⇓Pn	**Pn**	**11 02 29.9**	**-0.1**
DRGI	**Dragot**	**0.21**	**344**	Pn	**Pn**	**11 02 29.9**	**-0.4**
DRGI	**Dragot**	**0.21**	**344**	⇓Pn	**Pn**	**11 02 29.9**	**-0.4**
MKRJ	**Makawir**	**0.23**	**42**	Pn	**Pn**	**11 02 30.3**	**-0.1**
YTIR	**Yattir**	**0.30**	**266**	Pn	**Pn**	**11 02 31.5**	**+0.1**
AMZI	**Amatzia**	**0.48**	**279**	Sn	**Sn**	**11 02 41.9**	**+0.2**
MASH	**Mash'abbe Sade**	**0.70**	**236**	Pn	**Pn**	**11 02 37.6**	**+0.4**
RTMM	**Retamin**	**0.74**	**244**	Pn	**Pn**	**11 02 38.4**	**+0.5**
ZFRI	**Zfri**	**0.86**	**197**	Pn	**Pn**	**11 02 39.8**	**+0.2**
ZFRI	**Zfri**	**0.86**	**197**	⇓Pn	**Pn**	**11 02 39.8**	**+0.2**
SLTI	**Sal'it**	**0.93**	**337**	Pn	**Pn**	**11 02 40.3**	**-0.1**
SLTI				Sn	**Sn**	**11 02 52.9**	**-0.1**
QRNJ	**Al-Qirein** SNR=55	**0.95**	**6**⇑	*e*P	**Pb**	**11 02 36.2**	**-4.1**
RMNI	**Mount Ramon**	**0.99**	**218**	Pn	**Pn**	**11 02 41.8**	**+0.4**
KZIT	**Kziot**	**1.03**	**243**	Pn	**Pn**	**11 02 42.5**	**+0.5**
KZIT				Sn	**Sn**	**11 02 56.6**	**+0.8**
KZIT	**Kziot**	**1.03**	**243**	⇓Pn	**Pn**	**11 02 42.5**	**+0.6**
KZIT				Sn	**Sn**	**11 02 56.6**	**+0.8**
MMLI	**Mount Malkishu**	**1.05**	**358**	Pn	**Pn**	**11 02 42.0**	**-0.2**
PRNI	**Paran**	**1.10**	**201**	Pn	**Pn**	**11 02 43.5**	**+0.6**
PRNI	**Paran**	**1.10**	**201**	⇓Pn	**Pn**	**11 02 43.5**	**+0.5**
OFRI	**'Ofer**	**1.30**	**342**	Pn	**Pn**	**11 02 46.0**	**+0.2**
HRFI	**Mount Harif**	**1.39**	**195**	Sn	**Sn**	**11 03 05.6**	**+0.6**
KMTI	**Karmit**	**1.43**	**207**	Pn	**Pn**	**11 02 48.1**	**+0.5**
KMTI				Sn	**Sn**	**11 03 05.9**	**+0.1**
KMTI	**Karmit**	**1.43**	**207**	⇓Pn	**Pn**	**11 02 48.1**	**+0.5**
KMTI				Sn	**Sn**	**11 03 05.9**	**+0.1**
KSHT	**Keshet**	**1.62**	**10**	Pn	**Pn**	**11 02 50.3**	**-0.1**
MMA0	**Mount Meron ar**	**1.63**	**358**	Pn	**Pn**	**11 02 50.6**	**+0.1**
MMA1	**Mount Meron ar**	**1.63**	**358**	Pn	**Pn**	**11 02 50.6**	**+0.1**
MMC1	**Mount Meron ar**	**1.64**	**358**	Pn	**Pn**	**11 02 50.5**	**-0.2**
MBH	**Mount Berech**	**1.66**	**197**	Pn	**Pn**	**11 02 51.2**	**+0.3**
AQBJ	**Aqaba**	**1.69**	**192**	Pn	**Pn**	**11 02 51.8**	**+0.4**
HNTI	**Hanita**	**1.71**	**352**	Pn	**Pn**	**11 02 52.2**	**+0.6**
HNTI				Sn	**Sn**	**11 03 13.4**	**+0.4**
EIL	**Elat**	**1.77**	**195**	Pn	**Pn**	**11 02 52.4**	**-0.1**
EIL	**Elat**	**1.77**	**195**	⇓Pn	**Pn**	**11 02 52.4**	**-0.1**
KSDI	**Kefar Szold**	**1.81**	**5**	Pn	**Pn**	**11 02 53.2**	**+0.1**
HNKL	**Nakhl**	**1.93**	**222**	P	**Pn**	**11 02 54.9**	**+0.1**
HBST	**Basata**	**2.25**	**196**	P	**Pn**	**11 02 59.8**	**+0.4**
NUB		**2.45**	**197**	P	**Pn**	**11 03 02.5**	**+0.2**
SUZ		**2.74**	**236**	P	**Pn**	**11 03 06.0**	**-0.4**
HDHB	**Dhahab**	**2.75**	**196**	P	**Pn**	**11 03 05.6**	**-1.0**
ZNM		**3.00**	**229**	⇑P	**Pn**	**11 03 09.4**	**-0.7**
ZNM				S	**Sn**	**11 03 43.3**	**-2.5**
HKAT	**Jabal Katrina**	**3.12**	**204**	P	**Pn**	**11 03 10.9**	**-0.9**
HHAG	**Hagoal**	**3.23**	**245**	P	**Pn**	**11 03 11.9**	**-1.4**
HRDS	**Abu Rudays**	**3.26**	**216**	P	**Pn**	**11 03 13.4**	**-0.3**
ZAF		**3.28**	**231**	P	**Pn**	**11 03 13.3**	**-0.7**
TR2		**3.35**	**207**	P	**Pn**	**11 03 14.4**	**-0.6**

IDC ***22*** *11:07:24.4±0.5, 3.54N×94.09E, mb4.6/17, mb1 4.7/18, mb1mx4.6/21, mbtmp4.6/18, ML4.3/1, MS4.3/3, Ms1 4.3/3, ms1mx3.3/24, Error ellipse: s-maj=25.7km s-min=13.1km az=47.0*
BJI ***22*** *11:07:27.9, 3.52N×94.12E, h35km, mB5.2, mb4.9, Ms4.7, Msz4.6*
MOS ***22*** *11:07:27.7±1.2, 3.59N×94.15E, h33km, mb5.2/25, MS4.4/5, Error ellipse: s-maj=11.9km s-min=6.6km az=104.4*
HRVD ***22*** *11:07:29.2±1.3, 3.25N×94.15E, h15km±3km, MW4.7/29, Centroid moment Tensor Solution. LP body waves: s5,c5; Mantle waves: s29,c45; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.04±.26; $M_{\theta\theta}$-0.21±.14; $M_{\phi\phi}$-0.82±.17; $M_{r\theta}$0.04±.61; $M_{\theta\phi}$0.61±.11; $M_{r\phi}$0.45±.55; Best double couple: $M_0$1.216×10^{16} NP1:ϕ_s133°,δ38°,λ66°. NP2: ϕ_s343°,δ56°,λ108°. Principal axes: T 1.169, Plg73°, Azm299°; N .094, Plg15°, Azm152°; P -1.264, Plg9°, Azm60°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***22*** *11:07:29.2±0.3, 3.58N×94.16E, h30km, mb5.0/24 Error ellipse: s-maj=9.2km s-min=7.1km az=45.0*
ISC 22 11:07:27.7±0.3**, 3.55N**±0.05×**94.15E**±0.05**, h33**km**, (h16**km±7.1km**: pP-P), n147,** σ1°**22**/142**, mb4.9**/54**, MS4.4**/12**, 4C-4D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**13.41**	**26**	P	**P**	**11 10 39.0**	**+0.8**
PALK	**Pallekele**	**13.89**	**286**	*e*P	**P**	**11 10 41.3**	**-3.4**
KKTK	**Khon Kaen** 370nm,0.6s	**15.30**	**33**	P	**P**	**11 11 08.5**	**+5.4**
CM31	**Chiang Mai Arr** 41nm,0.8s	**15.54**	**17**	*e*P	**P**	**11 11 04.0**	**-2.2**
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=215,slow=12,SNR=37	**15.54**	**17**	Pn	**P**	**11 11 04.0**	**-2.2**
UBT	**Ubonrachathani**	**15.80**	**42**	P	**P**	**11 11 16.0**	**+6.5**
CHG	**Chiang Mai** 48nm,1.0s	**15.88**	**17**⇑	P	**P**	**11 11 09.0**	**-1.5**
NANT	**Nan**	**16.45**	**22**	P	**P**	**11 11 19.0**	**+1.2**
CHRT	**Chiangrai** 153nm,1.2s	**17.13**	**18**⇑	P	**P**	**11 11 17.0**	**-9.3**
CAL	**Calcutta**	**19.70**	**344**	*e*	**P**	**11 11 58.2**	**+1.0**
CAL				*e*		11 15 46.7	
HYB	**Hyderabad**	**20.59**	**313**	*e*P	**P**	**11 12 08.0**	**+1.3**
HYB				*e*S	**S**	**11 15 45.0**	**-5.1**
HYB	**Hyderabad**	**20.59**	**313**	*i* P	**P**	**11 12 08.0**	**+1.3**
HYB				*e*S	**S**	**11 15 45.0**	**-5.1**
IMP	**Imphal**	**21.11**	**359**	*e*	**P**	**11 12 10.6**	**-1.4**
QIZ	**Qiongzhong**	**21.72**	**44**	P	**P**	**11 12 20.1**	**+2.0**
QIZ				S	**S**	**11 16 13.8**	**+2.2**
QIZ				LR	LR		
	comp=N,1μm,16.4s,MS4.4						
QIZ				LR	LR		
	comp=E,625nm,17.3s,MS4.4						
QIZ				LR	LR		
	comp=Z,822nm,17.2s,MS4.2						
KMI	**Kunming**	**22.99**	**20**⇑	P	**P**	**11 12 33.1**	**+2.4**
KMI				*SP		11 12 39.8	
KMI						11 12 59.6	
KMI				S	**S**	**11 16 27.9**	**-6.7**
KMI				*SS		11 16 38.5	
KMI				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.5						
KMI				MLR	MLR		
	comp=Z,700nm,16.9s,MS4.2						
KMI	**Kunming**	**22.99**	**20**⇑	P	**P**	**11 12 33.1**	**+2.4**
	comp=Z,25nm,1.2s,mb4.5						
KMI				pP		11 12 37.5	
KMI				sP		11 12 39.8	
KMI				PP	PP	11 12 59.6	-1.2
KMI				S	**S**	**11 16 27.9**	**-6.7**
KMI				sS	Sx	11 16 38.5	
KMI				SS	SS	11 17 04.7	-15
KMI				LR	LR		
	comp=Z,700nm,16.9s,MS4.2						
POO	**Poona**	**24.83**	**308**	*e*	**P**	**11 12 51.1**	**+2.4**
POO				*e*		11 12 52.4	
BHPL	**Bhopal**	**25.40**	**322**	*e*P	**P**	**11 12 54.1**	**+0.1**
BHPL				*e*		11 12 57.2	
	comp=Z,24nm,1.0s						
BHPL				*e*		11 16 01.7	
LSA	**Lhasa**	**26.16**	**354**	P	**P**	**11 13 03.4**	**+2.3**
LSA				AMB	AMB		
	comp=Z,21nm,0.9s,mb4.7						
LSA	**Lhasa**	**26.16**	**354**	*e*P	**P**	**11 13 02.5**	**+1.4**
LSA				pmax	pmax		
	comp=Z,108nm,0.9s,mb5.4						
LSA	**Lhasa**	**26.16**	**354**	*e*P	**P**	**11 13 02.5**	**+1.3**
	comp=Z,108nm,0.9s,mb5.4						
AJM	**Ajmer**	**29.48**	**323**	*e*	**P**	**11 13 33.4**	**+2.3**
NDI	**New Delhi**	**29.74**	**329**	*e*P	**P**	**11 13 31.0**	**-2.4**
ENH	**Enshi**	**30.28**	**27**	*e*P	**P**	**11 13 35.9**	**-2.3**
	comp=Z,14nm,1.0s,mb4.7						
DDI	**Dehra Dun**	**30.67**	**332**	*e*	**P**	**11 13 41.0**	**-0.7**
WHN	**Wuhan**	**32.94**	**33**	*e*P	**P**	**11 14 02.0**	**+0.4**
XAN	**Xi'an**	**33.31**	**23**	P	**P**	**11 14 03.0**	**-1.7**
XAN				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
LZH	**Lanzhou**	**33.59**	**14**	*e*P	**P**	**11 14 07.0**	**-0.1**
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.2						
LZH	**Lanzhou**	**33.59**	**14**	*e*P	**P**	**11 14 07.0**	**-0.1**
	comp=Z,42nm,1.5s,mb5.2						
LZH				pP	Px	11 14 37.5	
LZH				sP	Px	11 14 51.0	
NJ2	**Nanjing**	**36.63**	**36**	*e*P	**P**	**11 14 35.3**	**+2.2**
NJ2				AP	pP	11 14 44.9	+2.1
NJ2				XP	sP	11 14 49.5	+2.4
NJ2				PP	PP	11 15 59.8	+1.6
NJ2				PPP	PPP	11 16 20.0	+1.8
NJ2				S	**S**	**11 20 16.0**	**+2.7**
NJ2				XS		11 20 33.0	
NJ2				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,600nm,3.6s						
NJ2				LR	LR		
	comp=N,2μm,12.7s,MS5.2						
NJ2				LR	LR		
	comp=E,2μm,10.0s,MS5.2						
NJ2				LR	LR		
	comp=Z,3μm,11.6s,MS5.3						
SSE	**Sheshan**	**37.41**	**40**	P	**P**	**11 14 39.3**	**-0.4**
SSE				XP	sP	11 14 51.8	-1.9
SSE				S	**S**	**11 20 26.8**	**+1.5**
SSE				XS		11 20 42.0	
SSE				AMB	AMB		
	comp=Z,26nm,0.6s,mb5.2						
SSE				AMB	AMB		
	comp=Z,169nm,3.1s						
SSE				LR	LR		
	comp=N,347nm,17.5s,MS4.3						
SSE				LR	LR		
	comp=E,182nm,17.5s,MS4.3						
SSE				LR	LR		
	comp=Z,313nm,15.4s,MS4.2						
SSE	**Sheshan**	**37.41**	**40**	P	**P**	**11 14 39.2**	**-0.5**
	comp=Z,26nm,0.6s,mb5.2						
SSE				S	**S**	**11 20 26.8**	**+1.5**
SSE				sS		11 20 42.0	
SSE				SS	SS	11 23 11.6	+13
SSE				LR	LR		
	comp=Z,310nm,15.4s,MS4.2						
BJT	**Baijiatuau**	**41.41**	**26**	*e*P	**P**	**11 15 13.7**	**+1.0**
BJT				pmax	pmax		
	comp=Z,28nm,1.1s						
BJT	**Baijiatuau**	**41.41**	**26**	*e*P	**P**	**11 15 13.7**	**+1.0**
	comp=Z,28nm,1.1s,mb4.8						
BJI	**Beijing**	**41.43**	**26**	*e*P	**P**	**11 15 13.2**	**+0.3**
BJI				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.7						
BJI	**Beijing**	**41.43**	**26**	*e*P	**P**	**11 15 13.2**	**+0.3**
	comp=Z,19nm,0.9s,mb4.7						
ULHL	**Ulahol** SNR=8.9	**41.72**	**340**	P	**P**	**11 15 15.5**	**+0.2**
KZA	**Kyzart** SNR=11	**41.92**	**339**	P	**P**	**11 15 17.8**	**+0.8**
UCH	**Uchtor** SNR=31	**42.32**	**338**	P	**P**	**11 15 21.5**	**+1.2**
KBK	**Karagaybulak** SNR=23	**42.54**	**339**	P	**P**	**11 15 23.1**	**+1.1**
TKM2	**Tokmak 2** SNR=16	**42.54**	**340**	P	**P**	**11 15 22.9**	**+0.8**
AML	**Almayashu** SNR=33	**42.55**	**337**	P	**P**	**11 15 22.7**	**+0.6**
AAK	**Ala-Archa** SNR=12	**42.68**	**339**	P	**P**	**11 15 25.0**	**+1.8**
AAK	**Ala-Archa**	**42.68**	**339**⇓	*i*P	**P**	**11 15 23.3**	**+0.1**
AAK				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.8						
AAK	**Ala-Archa**	**42.68**	**339**	*e*P	**P**	**11 15 22.9**	**-0.3**
	comp=Z,19nm,1.0s,mb4.8						
FRU	**Bishkek**	**42.81**	**339**	*e*P	**P**	**11 15 27.4**	**+3.1**
FRU				pmax	pmax		
	comp=Z,48nm,2.0s,mb4.9						
EKS2	**Erkin-Say** SNR=8.6	**42.97**	**338**	P	**P**	**11 15 26.6**	**+1.1**
USP	**Ospenovka** SNR=32	**43.23**	**339**	P	**P**	**11 15 27.7**	**0.0**
SONM	**Songino Array**	**45.36**	**12**	P	**P**	**11 15 44.9**	**+0.1**
	comp=Z,11nm,0.8s,mb4.8,baz=192,slow=7.9,SNR=61						
SONM				PcP	PcP	11 17 24.1	-0.2
	comp=Z,3.5nm,1.0s,baz=198,slow=4.6,SNR=2.9						
ULN	**Ulaanbaatar**	**45.52**	**12**	*i* P	**P**	**11 15 45.8**	**-0.3**
ULN	**Ulaanbaatar**	**45.52**	**12**	*e*P	**P**	**11 15 45.4**	**-0.6**
	comp=Z,18nm,1.3s,mb4.8						
WRA	**Warramunga Arr**	**45.85**	**122**	P	**P**	**11 15 49.1**	**0.0**
	comp=Z,17nm,1.0s,mb4.9,baz=299,slow=8.9,SNR=41						
WRAB	**Tennant Creek**	**45.86**	**122**	*e*P	**P**	**11 15 49.6**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.3						
WRAB	**Tennant Creek**	**45.86**	**122**	*e*P	**P**	**11 15 49.6**	**+0.5**
	comp=Z,35nm,0.9s,mb5.3						
WB2	**Warramunga Arr**	**45.86**	**122**	*e*P	**P**	**11 15 49.6**	**+0.5**
ASPA	**Alice Springs**	**47.23**	**127**	*e*P	**P**	**11 16 00.5**	**+0.7**
ASAR	**Alice Springs**	**47.23**	**127**	P	**P**	**11 15 59.9**	**+0.1**
	comp=Z,5.7nm,0.9s,mb4.5,baz=299,slow=7.2,SNR=28						
TLY	**Talaya**	**48.62**	**8**	P	**P**	**11 16 11.6**	**+1.4**
	comp=Z,57nm,1.0s,mb5.5,SNR=15						
TLY	**Talaya**	**48.62**	**8**	*e*P	**P**	**11 16 10.4**	**+0.2**
TLY				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
TLY	**Talaya**	**48.62**	**8**	*e*P	**P**	**11 16 10.4**	**+0.1**
	comp=Z,12nm,1.0s,mb4.9						
KURK	**Kurchatov**	**48.79**	**347**	*e*P	**P**	**11 16 11.3**	**-0.3**
KURK				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
KURK	**Kurchatov**	**48.79**	**347**	*e*P	**P**	**11 16 11.3**	**-0.2**
	comp=Z,25nm,1.1s,mb5.2						
HIA	**Hailar**	**50.49**	**22**	*e*P	**P**	**11 16 24.9**	**+0.2**
HIA				pmax	pmax		
	comp=Z,19nm,0.9s						
HIA	**Hailar**	**50.49**	**22**	*e*P	**

comp=Z,2.8nm,0.9s,mb4.3,baz=66,slow=11,SNR=4.3
KMBO LR LR 11 39 41.7
comp=Z,212nm,18.1s,MS4.3,baz=94,slow=34
KMBO Kilima Mbogo 57.06 266 *eP* **P 11 17 13.6 +0.1**
comp=Z,3.1nm,0.9s,mb4.3
STKA Stephens Creek 57.18 132 P **P 11 17 13.6 -0.6**
comp=Z,5.2nm,0.8s,mb4.6,baz=325,slow=8.3,SNR=5.5
STKA Stephens Creek 57.18 132 *eP* **P 11 17 12.4 -1.7**
GNI Garni 57.50 316 P **P 11 17 16.2 -0.1**
comp=Z,10nm,0.9s,mb4.8,baz=100,slow=6.1,SNR=2.7
CLNS Chul'man 58.48 19 *eP* **P 11 17 21.8 -1.0**
CLNS *e**PP pP 11 17 26.9 -6.0
CLNS *e* 11 18 11.1
CLNS *e* 11 19 29.2
CLNS *eS* **S 11 25 28.0 +5.9**
CLNS pmax pmax
comp=Z,13nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,7.0nm,0.7s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS pmax pmax
comp=N,4.0nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
CLNS smax
comp=N,5.0nm,0.9s
CLNS smax
comp=Z,3.0nm,1.0s
CLNS smax
comp=E,3.0nm,0.9s
CLNS MLR MLR
comp=Z,400nm,14.0s,MS4.7
CLNS MLR MLR
comp=N,200nm,13.0s,MS4.5
CLNS MLR MLR
comp=E,100nm,13.0s,MS4.5
ZEI Tsey 59.23 319 *eP* **P 11 17 28.7 +0.4**
ZEI pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
SVE Sverdlovsk 59.41 339 *eP* **P 11 17 28.0 -1.4**
ARU Arti 59.87 338 P **P 11 17 31.1 -1.4**
comp=Z,94nm,0.7s,mb5.9,SNR=8.2
ARU Arti 59.87 338 ||*iP* **P 11 17 25.4 -7.1**
ARU *e* 11 18 11.8
ARU *eS* **S 11 25 31.7 -8.5**
ARU pmax pmax
comp=Z,22nm,1.0s,mb5.1
ARU Arti 59.87 338 *eP* **P 11 17 26.4 -6.0**
comp=Z,29nm,1.1s,mb5.2
YSS Yuzh-Sakhalins 60.20 36 *eP* **P 11 17 35.3 +0.4**
YSS pmax pmax
comp=Z,27nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 60.20 36 *eP* **P 11 17 35.3 +0.4**
comp=Z,27nm,1.0s,mb5.2
KIV Kislovodsk 60.55 320 *iP* **P 11 17 36.0 -1.4**
KIV pmax pmax
comp=Z,23nm,1.3s,mb5.2
MALT Malatya 61.30 312 *eP* **P 11 17 42.9 +0.4**
MALT pmax pmax
comp=Z,21nm,1.2s,mb5.1
MALT Malatya 61.30 312 *eP* **P 11 17 42.9 +0.4**
comp=Z,21nm,1.2s,mb5.1
EIL Elat 61.64 302 P **P 11 17 44.9 0.0**
comp=Z,8.6nm,1.0s,mb4.8,baz=68,slow=5.4,SNR=3.3
SOC Sochi 62.35 318 *eP* **P 11 17 43.8 -5.6**
SOC *eS* **S 11 26 11.0 -1.0**
SOC pmax pmax
comp=Z,47nm,1.1s,mb5.5
SOC pmax pmax
comp=N,18nm,0.8s
SOC pmax pmax
comp=E,53nm,1.2s
SOKR Solikamsk 62.82 340 ||*iP* **P 11 17 49.7 -2.7**
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.2
SOKR MLR MLR
comp=Z,180nm,17.0s,MS4.3
YAK Yakutsk 64.08 18 *eP* **P 11 18 00.0 -0.5**
YAK pmax pmax
comp=Z,19nm,0.8s,mb5.2
YAK Yakutsk 64.08 18 *eP* **P 11 17 60.0 -0.5**
comp=Z,18nm,0.8s,mb5.2
ANN Anapa 64.33 319 *eP* **P 11 17 55.2 -7.3**
ANN pmax pmax
comp=Z,92nm,1.1s,mb5.7
BRTR Keskin Array B 65.29 312 P **P 11 18 07.7 -1.1**
comp=Z,4.1nm,0.9s,mb4.5,baz=135,slow=5.2,SNR=17
OBN Obninsk 69.04 329 *eP* **P 11 18 29.6 -2.5**
OBN *e* 11 18 37.7
OBN *e* 11 18 57.7
OBN pmax pmax
comp=Z,27nm,1.7s,mb4.9
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.5
MA2 Magadan 70.58 27 *eP* **P 11 18 41.3 -0.1**
MA2 *eS* S 11 27 53.6 +2.2
MA2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MA2 MLR MLR
comp=Z,400nm,27.0s,MS4.5
MA2 Magadan 70.58 27 *eP* **P 11 18 41.0 -0.4**
comp=Z,41nm,1.6s,mb5.1
IDI Anoyia 71.07 306 P **P 11 18 45.1 +0.3**
comp=Z,14nm,0.9s,mb4.9,baz=79,slow=10,SNR=3.5
TIXI Tiksi 71.44 11 *iP* **P 11 18 45.6 -0.8**
TIXI pmax pmax
comp=Z,28nm,2.0s,mb4.8
AKASG Malin Array Be 71.55 323 P **P 11 18 45.4 -2.0**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 71.55 323 P **P 11 18 45.4 -2.0**
comp=Z,3.4nm,0.9s,mb4.3,baz=86,slow=4.8,SNR=8.7
JOF Joensuu 74.74 335 *ep* **P 11 19 04.8 -1.1**
KOLS Kolonicke sedl 75.47 320 *eP* **P 11 19 11.5 +1.2**
CRVS Cervenica-Dubn 75.99 320 *eP* pP 11 19 18.0 -5.6
CRVS Cervenica-Dubn 75.99 320 *e* pP 11 19 18.0 -5.6
SUW Suwalki 76.01 325 *eP* **P 11 19 12.5 -0.9**
FINES FINESS Array B 76.53 333 P **P 11 19 15.2 -0.9**
comp=Z,5.5nm,0.9s,mb4.5,baz=153,slow=4.3,SNR=9.2
KECS Kecovo 76.55 319 *eP* pP 11 19 22.8 -4.0
KECS Kecovo 76.55 319 *e* pP 11 19 22.8 -4.0
KAF Kangasniemi 76.63 333 *ep* **P 11 19 16.0 -0.7**
PSZ Piszkesteto 76.84 318 *eP* **P 11 19 18.3 +0.1**
VYHS Vyhne 77.63 319 *eP* **P 11 19 22.9 +0.3**
ZST Bratislava 78.73 318 *eP* **P 11 19 29.4 +0.8**
ARCES ARCESS Array B 79.32 341 P **P 11 19 31.3 -0.1**
comp=Z,6.2nm,0.9s,mb4.5,baz=117,slow=2.7,SNR=7.5
ARCES LR LR 11 56 58.4
comp=Z,164nm,18.9s,MS4.4,baz=321,slow=38
KSP Ksiaz 79.59 321 *eP* **P 11 19 34.0 +0.8**
KSP *e**PP pP 11 19 39.4 -4.2
KSP Ksiaz 79.59 321 *eP* **P 11 19 34.7 +1.5**
BOJS Bojanci 79.70 315 *eP* **P 11 19 34.6 +0.7**
BOJS *i* 11 19 38.9
PERS Pernice 79.90 317 *eP* **P 11 19 36.2 +1.2**
GERES GERESS Array B 81.05 319 P **P 11 19 41.6 +0.6**
comp=Z,5.1nm,0.9s,mb4.4,baz=104,slow=5.5,SNR=22
BRG Berggiesshubel 81.08 321 *eP* **P 11 19 41.8 +0.7**
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BRG Berggiesshubel 81.08 321 *eP* **P 11 19 41.8 +0.7**
comp=Z,6.0nm,1.0s,mb4.5
KHC Kasperske Hory 81.16 319 *eP* **P 11 19 42.5 +0.9**
SYO Syowa Base 81.31 197 ||pP pP 11 19 48.9 -3.5
CLL Collm 81.71 321 *eP* **P 11 19 46.0 +1.6**
CLL Collm 81.71 321 P **P 11 19 46.0 +1.6**
NOA NORSAR Array B 83.49 331 P **P 11 19 52.8 -0.5**
comp=Z,3.5nm,1.0s,mb4.3,baz=94,slow=5.8,SNR=3.4
LPG La Plagne 85.67 315 *eP* **P 11 20 07.8 +3.2**
comp=Z,14nm,1.0s,mb4.8
LPG La Plagne 85.67 315 *eP* **P 11 20 07.8 +3.2**
LPG pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
VNDA Vanda 88.72 168 P **P 11 20 18.3 -0.4**
comp=Z,1.3nm,0.6s,mb4.5,baz=173,slow=3.2,SNR=6.0
ILAR Eielson Array 98.72 22 PKKPbc 11 37 43.1
comp=Z,0.2nm,0.6s,baz=307,slow=4.4,SNR=5.3
YKA Yellowknife Ar 110.60 14 PP PP 11 26 31.7 -6.0
comp=Z,0.3nm,0.9s,baz=331,slow=7.7,SNR=4.1
YKA PKKPab 11 37 13.3
comp=Z,0.1nm,0.6s,baz=153,slow=4.8,SNR=3.8
NVAR Mina Array Bea 128.56 33 PKP PKPdf 11 26 35.1 +3.0
comp=Z,1.6nm,1.1s,baz=14,slow=1.1,SNR=5.7
PDAR Pinedale Array 129.15 22 PKP PKPdf 11 26 36.6 +3.6
comp=Z,1.4nm,1.0s,slow=1.5,SNR=7.5
PV10 Paradox Valley 133.09 25 *e*PKPdf PKPdf 11 26 41.4 +0.8
ANMO Albuquerque 137.08 25 *e*PKIKP PKPdf 11 26 51.8 +3.6
MNTX Cornudas Mount 140.32 27 *e*PKPdf PKPdf 11 26 57.1 +3.0
TXAR Lajitas Array 143.11 26 PKP PKPdf 11 26 59.5 +0.5
comp=Z,0.9nm,0.9s,baz=77,slow=1.1,SNR=6.3
JCT Junction City 143.63 21 *e*PKIKP PKPdf 11 27 01.8 +1.9
LPAZ La Paz 158.47 233 PKP2 PKPab 11 28 00.6 +0.9
LPAZ pmax pmax
comp=Z,2.0nm,1.0s
LPAZ La Paz 158.47 233 PKPab PKPab 11 28 00.6 +0.9
comp=Z,1.6nm,1.0s,baz=149,slow=9.1,SNR=3.9

IDC ***22*** *11:13:35.6±1.3, 6.93N×94.17E, mb4.1/7, mb1 4.3/8, mb1mx4.0/19, mbtmp4.1/8, ML4.1/1, Error ellipse: s-maj=63.6km s-min=19.4km az=54.0*
BJI ***22*** *11:13:37.7, 6.19N×93.62E, h57km, mb4.5, Ms4.7, Msz4.7*
NEIC ***22*** *11:13:38.9±0.8, 6.66N×93.71E, h30km, mb4.5/6, Error ellipse: s-maj=22.0km s-min=10.7km az=69.0*
ISC 22 11:13:38.3±0.7, 6.74N±0.09×94.0E±0.1, h30km, n26, σ1§29/26, mb4.4/18, MS4.6/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**12.59**	**22**	P	**P**	**11 16 38.7**	**+0.3**
	15nm,0.8s						
CMAR	**Chiang Mai Arr**	**12.59**	**22**	Pn	**P**	**11 16 40.7**	**+2.4**
	0.3nm,0.3s,baz=221,slow=13,SNR=18						
HYB	**Hyderabad**	**18.46**	**306**	*iP*	**P**	**11 17 57.0**	**+3.1**
HYB				*e*		11 21 07.0	
KMI	**Kunming**	**20.09**	**24**	P	**P**	**11 18 13.3**	**+0.9**
	14nm,0.8s						
JIRN	**Jiri**	**22.09**	**341**	*eP*	**P**	**11 18 35.3**	**+2.5**
	43nm,1.0s,mb4.8						
DMN	**Daman**	**22.42**	**339**	*eP*	**P**	**11 18 36.8**	**+0.8**
	30nm,0.8s,mb4.8						
KKN	**Kakani**	**22.52**	**339**	*eP*	**P**	**11 18 37.8**	**+0.7**
	41nm,1.1s,mb4.8						
GKN	**Gorkha**	**22.94**	**338**	*eP*	**P**	**11 18 42.5**	**+1.2**
	51nm,0.9s,mb4.9						
LSA	**Lhasa**	**23.00**	**354**	P	**P**	**11 18 41.3**	**-0.5**
LSA	**Lhasa**	**23.00**	**354**	*eP*	**P**	**11 18 41.8**	**0.0**
	26nm,1.4s,mb4.5						
KOLN	**Koldanda**	**23.14**	**336**	*eP*	**P**	**11 18 42.4**	**-0.7**
	14nm,0.8s,mb4.5						
XAN	**Xi'an**	**30.46**	**25**	P	**P**	**11 19 49.1**	**-1.6**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
XAN				LR	LR		
	comp=N,637nm,13.7s,MS4.6						
XAN				LR	LR		
	comp=E,620nm,12.3s,MS4.6						
XAN				LR	LR		
	comp=Z,968nm,13.3s,MS4.6						
SONM	**Songino Array**	**42.28**	**12**	P	**P**	**11 21 29.0**	**-1.8**
	comp=Z,0.9nm,0.8s,mb3.5,baz=192,slow=8.4,SNR=5.6						
KURK	**Kurchatov**	**45.68**	**346**	P	**P**	**11 21 55.7**	**-2.4**
	comp=Z,2.7nm,0.7s,mb4.3						
HIA	**Hailar**	**47.60**	**23**	*eP*	**P**	**11 22 12.9**	**-0.5**
	comp=Z,7.6nm,0.8s,mb4.8						
ZAL	**Zalesovo**	**47.65**	**353**	P	**P**	**11 22 11.6**	**-2.1**
	comp=Z,7.7nm,0.8s,mb4.8,baz=208,slow=8.7,SNR=13						
ZAL	**Zalesovo**	**47.65**	**353**	P	**P**	**11 22 11.6**	**-2.1**
WRA	**Warramunga Arr**	**47.70**	**125**	P	**P**	**11 22 14.3**	**-0.3**
	comp=Z,4.4nm,0.8s,mb4.5,baz=305,slow=8.5,SNR=33						
WRAB	**Tennant Creek**	**47.71**	**125**	*eP*	**P**	**11 22 14.4**	**-0.2**
	comp=Z,4.7nm,0.7s,mb4.6						
WB2	**Warramunga Arr**	**47.71**	**125**	*eP*	**P**	**11 22 15.5**	**+0.8**
ASPA	**Alice Springs**	**49.28**	**129**	*eP*	**P**	**11 22 27.7**	**+1.0**
ASAR	**Alice Springs**	**49.28**	**129**	P	**P**	**11 22 26.9**	**+0.2**
	comp=Z,0.7nm,0.3s,mb4.2,baz=302,slow=7.9,SNR=19						
BVAR	**Borovoye Array**	**50.02**	**342**	P	**P**	**11 22 32.2**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.8,baz=143,slow=7.2,SNR=3.4						
CHKZ	**Chkalovo**	**50.51**	**342**	P	**P**	**11 22 32.6**	**-3.1**
	comp=Z,2.1nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**73.66**	**332**	P	**P**	**11 25 09.7**	**-1.0**
	comp=Z,2.2nm,1.0s,mb4.1,baz=117,slow=4.3,SNR=4.0						
GERES	**GERESS Array B**	**78.59**	**318**	P	**P**	**11 25 39.0**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=104,slow=4.0,SNR=3.0						

NEIC ***22*** *11:18:44.9±0.8, 17.52S×178.86W, h600km, mb4.1/3, Error ellipse: s-maj=51.1km s-min=9.5km az=154.0*
IDC ***22*** *11:18:47.5±14.0, 17.45S×178.97W, h633km±194km, mb3.2/8, mb1 3.5/8, mb1mx3.3/15, mbtmp4.2/8, Error ellipse: s-maj=75.7km s-min=59.1km az=169.0*
ISC 22 11:18:43.9±1.2, 17.5S±0.5×178.9W±0.3, h600km, n14, σ0§31/14, mb3.8/10, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.04**	**260**	P	**P**	**11 24 33.3**	**+0.5**
	4.3nm,0.9s,mb4.1,baz=72,slow=9.6,SNR=3.9						
CTAO	**Charters Tower**	**33.04**	**260**	P	**P**	**11 24 32.8**	**0.0**
	2.9nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**38.41**	**241**	P	**P**	**11 25 16.9**	**0.0**
	4.4nm,0.6s,mb4.2,baz=94,slow=9.8,SNR=12						
STKA	**Stephens Creek**	**38.41**	**241**	*eP*	**P**	**11 25 16.6**	**-0.3**
WB2	**Warramunga Arr**	**44.22**	**259**	*eP*	**P**	**11 26 02.7**	**-0.4**
WRA	**Warramunga Arr**	**44.23**	**259**	P	**P**	**11 26 02.8**	**-0.4**
	3.0nm,0.8s,mb3.9,baz=96,slow=7.2,SNR=50						
ASAR	**Alice Springs**	**44.44**	**254**	P	**P**	**11 26 04.7**	**0.0**
	16nm,0.5s,mb4.8,baz=88,slow=8.3,SNR=339						
ASPA	**Alice Springs**	**44.44**	**254**	||*iP*	**P**	**11 26 04.7**	**-0.1**
KAKA	**Kakadu**	**47.10**	**269**	*eP*	**P**	**11 26 25.6**	**+0.5**
	5.6nm,0.5s,mb4.3						
FITZ	**Fitzroy Crossi**	**52.62**	**260**	*eP*	**P**	**11 27 05.9**	**+0.5**
	11nm,1.3s,mb4.0						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**11 29 50.5**	**+0.1**
	0.4nm,0.6s,mb2.9,baz=228,slow=9.3,SNR=4.8						
ILAR	**Eielson Array**	**85.58**	**13**	P	**P**	**11 30 20.0**	**-0.4**
	0.2nm,0.4s,mb3.1,baz=224,slow=5.1,SNR=12						
TXAR	**Lajitas Array**	**86.18**	**58**	P	**P**	**11 30 24.3**	**+0.2**
	0.7nm,0.7s,mb3.4,baz=213,slow=5.2,SNR=7.3						
PDAR	**Pinedale Array**	**87.38**	**44**	P	**P**	**11 30 29.5**	**0.0**
	0.4nm,0.5s,mb3.4,baz=189,slow=1.0,SNR=4.8						

IDC ***22*** *11:24:19.2±0.7, 8.57N×93.85E, h22km±3km, mb3.8/11, mb1 4.0/12, mb1mx3.9/20, mbtmp3.9/12, ML4.5/1, Error ellipse: s-maj=34.2km s-min=13.4km az=59.0*
NEIC ***22*** *11:24:19.2±0.5, 8.39N×93.61E, mb4.6/4, Error ellipse: s-maj=18.1km s-min=10.0km az=75.0*
ISC 22 11:24:17.1±0.6, 8.41N±0.08×93.7E±0.1, h23km, h23km±.5km:pP-P, n23, σ0§92/21, mb4.1/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.21**	**27**	*eP*	**P**	**11 26 60.0**	**+0.7**
	5.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.21**	**27**	Pn	**P**	**11 26 59.8**	**+0.4**
	0.9nm,0.3s,baz=213,slow=15,SNR=7.9						
HYB	**Hyderabad**	**17.25**	**303**	*iP*	**P**	**11 28 24.0**	**+5.7**
LSA	**Lhasa**	**21.31**	**354**	*eP*	**P**	**11 29 05.5**	**+0.9**
	5.7nm,0.4s,mb4.2						
SONM	**Songino Array**	**40.74**	**13**	P	**P**	**11 31 56.1**	**-1.8**
	0.4nm,0.6s,mb3.2,baz=210,slow=6.8,SNR=4.8						
SONM				pP	pP	11 32 03.8	-1.2
	0.3nm,0.5s,baz=194,slow=8.4,SNR=2.9						
MUN	**Mundaring**	**45.56**	**153**	*eP*	**P**	**11 32 39.1**	**+1.8**
	12nm,0.8s,mb4.9						
ZAL	**Zalesovo**	**45.96**	**353**	P	**P**	**11 32 40.4**	**+0.3**
	1.7nm,0.4s,mb4.3,baz=217,slow=5.2,SNR=8.4						
ZAL				pP	pP	11 32 47.3	+0.1
	2.3nm,0.6s,baz=224,slow=7.5,SNR=3.7						
NWAO	**Narrogin (SRO)**	**46.83**	**153**	P	**P**	**11 32 48.4**	**+1.1**
	4.9nm,0.5s,mb4.7,baz=348,slow=8.5,SNR=6.7						
NWAO				pP	pP	11 32 55.6	+1.3
	11nm,0.6s,baz=319,slow=8.2,SNR=4.7						
NWAO	**Narrogin (SRO)**	**46.83**	**153**	*eP*	**P**	**11 32 48.8**	**+1.6**
	7.4nm,0.7s,mb4.7						
BVAR	**Borovoye Array**	**48.34**	**341**	P	**P**	**11 32 58.7**	**-0.1**
	0.9nm,0.9s,mb3.8,baz=112,slow=8.0,SNR=4.3						
BVAR				pP	pP	11 33 05.3	-0.7
	0.7nm,0.6s,baz=146,slow=5.3,SNR=4.6						
WRA	**Warramunga Arr**	**48.93**	**126**	P	**P**	**11 33 03.1**	**-0.8**
	0.8nm,0.5s,mb4.0,baz=303,slow=8.9,SNR=22						
ASAR	**Alice Springs**	**50.60**	**130**	P	**P**	**11 33 15.9**	**-0.7**
	0.3nm,0.4s,mb3.5,baz=303,slow=7.2,SNR=12						
STKA	**Stephens Creek**	**60.80**	**134**	*eP*	**P**	**11 34 28.6**	**-1.4**
BRTR	**Keskin Array B**	**61.74**	**311**	P	**P**	**11 34 35.6**	**-0.6**
	0.9nm,0.7s,mb4.0,baz=124,slow=7.2,SNR=6.8						
BRTR				pP	pP	11 34 42.6	-1.0
	1.4nm,0.7s,baz=104,slow=5.1,SNR=6.3						
FINES	**FINESS Array B**	**72.03**	**332**	P	**P**	**11 35 40.7**	**-0.3**
	1.1nm,0.6s,mb4.0,baz=72,slow=6.0,SNR=7.2						
FINES				pP	pP	11 35 47.8	-0.5
	0.8nm,0.4s,baz=135,slow=2.7,SNR=1.6						
FINES	**FINESS Array B**	**72.03**	**332**	P	**P**	**11 35 40.7**	**-0.3**
FINES				pP	pP	11 35 47.8	-0.5
ARCES	**ARCESS Array B**	**74.61**	**340**	P	**P**	**11 35 55.8**	**-0.2**
	2.9nm,0.8s,mb4.2,baz=90,slow=7.2,SNR=4.9						
GERES	**GERESS Array B**	**77.13**	**318**	P	**P**	**11 36 11.4**	**+0.8**
	0.3nm,0.4s,mb3.6,baz=79,slow=5.0,SNR=2.4						
NB2	**NORSAR Subarra**	**79.05**	**331**	P	**P**	**11 36 20.6**	**-0.2**
	3.6nm,0.8s,mb4.3,baz=95,slow=5.0						
NB2	**NORSAR Subarra**	**79.05**	**331**	P	**P**	**11 36 20.6**	**-0.2**
	3.6nm,0.8s,mb4.3						
NOA	**NORSAR Array B**	**79.05**	**331**	P	**P**	**11 36 20.7**	**-0.1**
	0.9nm,0.6s,mb3.9,baz=93,slow=5.5,SNR=3.1						
NOA				pP	pP	11 36 28.5	+0.2
	1.9nm,0.7s,baz=91,slow=5.7,SNR=3.6						
TXAR	**Lajitas Array**	**138.92**	**23**	PKP	PKPdf	11 43 45.5	-1.5
	0.1nm,0.7s,baz=270,slow=2.5,SNR=3.6						
PLCA	**Paso Flores**	**144.89**	**201**	PKPbc	PKPbc	11 43 55.9	+3.1
	6.6nm,1.2s,baz=158,slow=2.0,SNR=3.3						

IDC 22 11:25:02.5±4.0, 9.43N×89.88E, mb3.9/3, mb1 4.1/4, mb1mx3.8/18, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=108.7km s-min=29.6km az=80.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.56**	**43**	Pn	P	11 28 04.3	-1.1
	0.1nm,0.3s,baz=227,slow=14,SNR=4.9						
SONM	**Songino Array**	**40.74**	**17**	P	P	11 32 44.8	-1.9
	0.4nm,0.7s,baz=207,slow=6.7,SNR=2.6						
WRA	**Warramunga Arr**	**52.60**	**124**	P	P	11 34 17.0	-3.7
	1.9nm,0.8s,baz=308,slow=8.0,SNR=7.5						
ASAR	**Alice Springs**	**54.16**	**128**	P	P	11 34 31.2	-0.9
	0.9nm,0.5s,baz=309,slow=7.0,SNR=11						

IDC ***22*** *11:27:39.3±0.4, 31.61S×177.84W, mb4.9/17, mb1 5.0/20, mb1mx4.9/22, mbtmp4.9/20, ML4.5/3, MS5.1/13, Ms1 5.1/13, ms1mx4.7/21, Error ellipse: s-maj=18.9km s-min=11.6km az=176.0*
MOS ***22*** *11:27:40.6±1.5, 31.51S×177.91W, h10km, mb5.8/23, MS5.5/4, Error ellipse: s-maj=15.5km s-min=10.9km az=83.0*
BJI ***22*** *11:27:41.0, 31.36S×177.65W, h19km, mB5.8, mb5.5, Ms5.4, Msz5.1*
HRVD ***22*** *11:27:43.2±0.2, 31.67S×177.51W, h14km, MW5.5/69, Centroid moment Tensor Solution. LP body waves: s61,c128; Mantle waves: s69,c144; Half duration: 1§5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.53±.03; $M_{\theta\theta}$-0.05±.03; $M_{\phi\phi}$-1.48±.02; $M_{r\theta}$0.22±.07; $M_{\theta\phi}$-0.41±.02; $M_{\phi r}$1.57±.06; Best double couple: $M_0$2.223×10^{17} NP1: ϕ_s200°, δ23°, λ100°. NP2:ϕ_s10°, δ68°, λ86°. Principal axes: T 2.201, Plg67°, Azm273°; N .046, Plg4°, Azm11°; P -2.246, Plg23°, Azm103°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***22*** *11:27:43.2±3.6, 31.61S×177.93W, h24km±24km, mb5.4/41, MS5.3/113, MW5.7 Error ellipse: s-maj=9.3km s-min=6.7km az=140.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{17}Nm; M_{rr}1.20; $M_{\theta\theta}$1.44; $M_{\phi\phi}$-2.64; $M_{r\theta}$2.16; $M_{\theta\phi}$0.46; $M_{\phi r}$2.43; Best double couple: $M_0$4×10^{17} NP1:ϕ_s138°, δ33°, λ19°. NP2:ϕ_s32°, δ80°, λ122°. Principal axes: T 4.12, Plg46°, Azm335°; N -.24, Plg31°, Azm206°; P -3.88, Plg28°, Azm97°;*
ISC 22 11:27:39.3±1.3, 32.25S±0.04×177.74W±0.05, h18km±9km, h16km±4.0km:pP-P, n436, σ1§29/164, mb5.3/60, MS5.3/124, 19C-11D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.99**	**357**	*eP*	**Pn**	**11 28 18.2**	**-8.7**
MXZ	**Matakaoa Point**	**6.22**	**210**	P	**Pn**	**11 29 14.7**	**+2.1**
MXZ				*eS*	**Sn**	**11 30 29.4**	**+5.4**
MXZ				T		11 36 01.8	
KUZ	**Kuaotunu**	**7.02**	**228**	*eP*	**Pn**	**11 29 28.4**	**+4.5**
MWZ	**Matawai**	**7.20**	**211**	P	**Pn**	**11 29 27.2**	**+0.8**
MWZ				*eS*	**Sn**	**11 30 54.5**	**+5.9**
URZ	**Urewera**	**7.33**	**214**	Pn	**Pn**	**11 29 30.5**	**+2.2**
	4.9nm,0.3s,baz=46,slow=1.9,SNR=26						
URZ				Sn	**Sn**	**11 30 57.6**	**+5.8**
	34nm,0.3s,baz=163,slow=20,SNR=15						
URZ	**Urewera**	**7.33**	**214**	*eP*	**Pn**	**11 29 29.1**	**+0.9**
WCZ	**Waipu Caves**	**7.53**	**239**	P	**Pn**	**11 29 37.6**	**+6.6**
KNZ	**Kokohu**	**7.72**	**208**	P	**Pn**	**11 29 34.3**	**+0.6**
KNZ				S	**Sn**	**11 31 02.1**	**+0.5**
OUZ	**Omahuta**	**7.80**	**245**	P	**Pn**	**11 29 41.3**	**+6.5**
BKZ	**Black Stump Fm**	**8.35**	**213**	*eP*	**P**	**11 29 43.6**	**+1.2**
BKZ				*eS*	**Sn**	**11 31 20.3**	**+3.2**
TSZ	**Takapari Road**	**9.31**	**211**	*eP*	**P**	**11 29 55.3**	**-0.5**
TSZ				*eS*	**Sn**	**11 31 40.9**	**-0.2**
BFZ	**Birch Farm**	**9.71**	**208**	*eS*	**Sn**	**11 31 52.0**	**+1.1**
MRZ	**Mangatainoka R**	**9.97**	**211**	*eP*	**P**	**11 30 03.4**	**-1.4**
MRZ				*eS*	**Sn**	**11 31 53.5**	**-3.8**
KIW	**Kapiti Island**	**10.43**	**212**	*eS*	**S**	**11 32 06.7**	**-1.9**
MRW	**Makara Radio**	**10.82**	**212**	*eS*	**S**	**11 32 15.4**	**-2.7**
NNZ	**Nelson**	**11.44**	**216**	*eS*	**S**	**11 32 29.0**	**-4.2**
QRZ	**Quartz Range**	**11.59**	**220**	*eS*	**S**	**11 32 35.0**	**-2.0**
THZ	**Tophouse**	**12.08**	**216**	*eP*	**P**	**11 30 31.6**	**-2.0**
THZ				*eS*	**S**	**11 32 46.6**	**-2.2**
KHZ	**Kahutara**	**12.29**	**212**	*eP*	**P**	**11 30 35.2**	**-1.2**
KHZ				*eS*	**S**	**11 32 48.9**	**-5.0**
MQZ	**McQueen's Vall**	**13.71**	**211**	*eS*	**S**	**11 33 20.1**	**-7.9**
RPZ	**Rata Peaks**	**14.45**	**214**	Pn	**P**	**11 31 08.3**	**+3.4**
RPZ				Sn	**S**	**11 33 38.3**	**-7.2**
	3.7nm,0.3s,baz=315,slow=18,SNR=10.0						
DZM	**Mont Dzumac**	**17.32**	**302**	||*eP*	**P**	**11 31 43.3**	**+1.3**
DZM	**Mont Dzumac**	**17.32**	**302**	||*eP*	**P**	**11 31 43.3**	**+1.3**
NOUC	**Port Laguerre**	**17.41**	**302**	*eP*	**P**	**11 31 43.8**	**+0.9**
RAR	**Rarotonga**	**19.42**	**60**	P	**P**	**11 32 03.6**	**-3.9**
RAR				pmax	pmax		
	comp=Z,78nm,0.9s						
RAR	**Rarotonga**	**19.42**	**60**	P	**P**	**11 32 03.4**	**-4.1**
	comp=Z,1.4nm,0.3s,baz=220,slow=6.7,SNR=4.0						
RAR				LR	LR	11 37 20.4	
	comp=Z,3μm,21.7s,baz=231,slow=30						
RAR	**Rarotonga**	**19.42**	**60**	P	**P**	**11 32 03.6**	**-4.0**
	comp=Z,78nm,0.8s						
TBI	**Tubuai**	**26.48**	**78**	*e*LQ		11 38 22

STKA eS S 11 39 53.6 +1.2
STKA eScP 11 40 50.4
CTA Charters Tower 34.35 282 ⇑iP **P 11 34 27.9 +0.6**
comp=Z,147nm,1.1s,mb5.8
CTA eS S 11 39 52.5 -0.5
CTA eSCP 11 40 50.6
CTA Charters Tower 34.35 282 P **P 11 34 28.1 +0.7**
comp=Z,363nm,1.2s,mb6.2,baz=104,slow=10,SNR=52
CTA LR LR 11 47 15.9
comp=Z,9μm,19.2s,MS5.5,baz=146,slow=34
CTAO Charters Tower 34.35 282 eP **P 11 34 27.7 +0.4**
CTAO pmax pmax
comp=Z,270nm,1.1s,mb6.1
CTAO Charters Tower 34.35 282 eP **P 11 34 26.7 -0.6**
comp=Z,266nm,1.1s,mb6.1
CTAO LR LR
comp=Z,10μm,19.0s,MS5.6
PMG Port Moresby 39.62 297 iP **P 11 35 09.9 -1.9**
PMG Port Moresby 39.62 297 P **P 11 35 10.4 -1.4**
comp=Z,14nm,0.9s,mb4.7,baz=234,slow=7.6,SNR=8.2
PMG PcP PcP 11 37 20.0 +0.7
comp=Z,68nm,1.1s,baz=200,slow=1.5,SNR=5.0
PMG ScP 11 41 11.3
comp=Z,24nm,0.9s,baz=80,slow=4.0,SNR=7.5
PMG LR LR 11 49 09.0
comp=Z,919nm,18.3s,MS4.7,baz=311,slow=33
PMG Port Moresby 39.62 297⇑eP **P 11 35 09.9 -1.9**
comp=Z,45nm,1.0s,mb5.2
PMG LR LR
comp=Z,2μm,21.0s,MS4.9
TAOE Nuku Hiva Isla 41.86 65 eLQ 11 44 52.6
TAOE eLR LR 11 46 32.8
PTCN Pitcairn Islan 42.14 93 PFAKE 11 35 50.0 +18
PTCN LR LR
comp=Z,3μm,21.0s,MS5.1
ASAR Alice Springs 43.26 269 P **P 11 35 41.5 -0.1**
comp=Z,94nm,1.1s,mb5.4,baz=115,slow=7.9,SNR=196
ASAR ScP 11 41 22.9
comp=Z,4.7nm,0.9s,baz=118,slow=4.6,SNR=9.6
ASAR S S **11 42 09.7 +2.2**
comp=Z,1.9nm,0.7s,baz=106,slow=7.8,SNR=4.4
ASAR LR LR 11 54 04.8
comp=Z,3μm,18.7s,MS5.2,baz=114,slow=37
ASPA Alice Springs 43.26 269⇑iP **P 11 35 41.5 -0.1**
ASPA eSCP 11 41 24.2
ASPA eS S **11 42 06.8 -0.7**
ASPA eSS ScS 11 45 39.4 +0.6
WB2 Warramunga Arr 44.41 274⇑iP **P 11 35 50.1 -0.8**
WB2 eSCP 11 41 28.9
WB2 ePCS 11 41 36.3
WB2 eS S **11 42 14.8 -9.3**
WRAB Tennant Creek 44.41 274 iP **P 11 35 50.8 -0.2**
WRAB Tennant Creek 44.41 274 eP **P 11 35 50.3 -0.7**
comp=Z,316nm,1.3s,mb5.9
WRAB LR LR
comp=Z,3μm,19.0s,MS5.3
WRA Warramunga Arr 44.41 274 P **P 11 35 50.7 -0.3**
comp=Z,40nm,0.7s,mb5.3,baz=113,slow=7.6,SNR=170
WRA ScP 11 41 27.3
comp=Z,21nm,1.3s,baz=114,slow=4.0,SNR=12
WRA S S **11 42 25.8 +1.5**
comp=Z,2.5nm,0.9s,baz=112,slow=19,SNR=4.9
FORT Forrest 45.81 257⇓iP **P 11 36 02.0 0.0**
comp=Z,388nm,1.4s,mb6.1
FORT eS S **11 42 42.7 -1.5**
SBA Scott Base 46.22 184 P pP 11 36 11.3 +1.2
comp=Z,114nm,1.4s
SBA LR LR
comp=Z,3μm,19.0s,MS5.3
VNDA Vanda 46.29 186 P pP 11 36 11.8 +1.2
comp=Z,3.1nm,0.9s,baz=34,slow=9.3,SNR=6.3
VNDA Vanda 46.29 186 P pP 11 36 11.8 +1.2
KAKA Kakadu 49.49 281⇓iP **P 11 36 29.7 -1.2**
comp=Z,47nm,0.9s,mb5.5
FITZ Fitzroy Crossi 52.60 271⇓iP **P 11 36 53.7 -0.8**
comp=Z,106nm,1.4s,mb5.6
CASY Casey 53.62 208 eP **P 11 37 04.8 +3.4**
comp=Z,58nm,1.0s,mb5.5
CASY LR LR
comp=Z,3μm,19.0s,MS5.3
NWAO Narrogin (SRO) 53.97 251 P **P 11 37 04.5 +0.1**
comp=Z,8.9nm,0.9s,mb4.7,baz=2.2,slow=20,SNR=4.2
NWAO Narrogin (SRO) 53.97 251 P **P 11 37 03.2 -1.2**
NWAO LR LR
comp=Z,2μm,19.0s,MS5.2
MUN Mundaring 55.10 251 eP **P 11 37 12.8 +0.1**
comp=Z,23nm,1.5s,mb5.0
MBWA Marble Bar 56.26 265 eP **P 11 37 19.1 -2.1**
comp=Z,102nm,1.2s,mb5.7
MBWA LR LR
comp=Z,4μm,19.0s,MS5.6
QSPA South Pole Qui 57.87 180 eP pP 11 37 37.8 +0.3
comp=Z,186nm,1.2s
GUMO Guam 57.95 316 PFAKE 11 37 40.0 +6.8
GUMO LR LR
comp=Z,2μm,22.0s,MS5.2
PMSA Palmer Station 70.50 155 PFAKE 11 39 10.0 +16
PMSA LR LR
comp=Z,2μm,20.0s,MS5.4
MAW Mawson 70.66 201⇑iP pP 11 38 59.8 -1.2
comp=Z,28nm,1.2s
MAW Mawson 70.66 201 P pP 11 38 59.4 -1.6
MAW pmax pmax
comp=Z,100nm,1.3s
MAW Mawson 70.66 201 P pP 11 39 00.2 -0.8
comp=Z,60nm,1.3s,baz=112,slow=7.7,SNR=25
MAW LR LR 12 10 44.7
comp=Z,5μm,19.0s,MS5.8,baz=116,slow=36
USHA Ushuaia 74.28 145 LR LR 12 04 07.1
comp=Z,531nm,18.7s,MS4.9,baz=224,slow=29
TGY Tagaytay City 74.57 298 P **P 11 39 19.7 +0.3**
comp=Z,125nm,0.4s,mb6.2,baz=260,slow=12,SNR=4.8
SYO Syowa Base 75.37 193 ⇑P **P 11 39 26.2 +3.3**
SYO Syowa Base 75.37 193 ⇑pP pP 11 39 28.1 -0.5
SYO Syowa Base 75.37 193 ⇓PcP PcP 11 39 40.9 +4.4
SNAA Sanae 76.31 178 e **P 11 39 36.8 +8.6**
SNAA Sanae 76.31 178 e PcP 11 39 42.9 +2.4
SNAA Sanae 76.31 178 P **P 11 39 32.8 +4.6**
SNAA pmax pmax
comp=Z,270nm,1.2s
SNAA Sanae 76.31 178 P **P 11 39 32.4 +4.2**
comp=Z,4.1nm,1.0s,mb4.3,baz=201,slow=7.6,SNR=1.3
SNAA Sanae 76.31 178⇑iP **P 11 39 32.4 +4.2**
SNAA e pP 11 39 36.8 +2.9
SNAA e 11 39 42.9
VNA3 Neumayer Olymp 76.45 176 e **P 11 39 36.7 +7.7**
VNA3 Neumayer Olymp 76.45 176 e PcP 11 39 44.7 +3.6
VNA3 Neumayer Olymp 76.45 176⇑iP **P 11 39 33.2 +4.2**
VNA3 e 11 39 36.7
VNA3 e 11 39 44.7
VNA2 Neumayer--Watz 76.89 177 e **P 11 39 39.5 +8.0**
VNA2 Neumayer--Watz 76.89 177 e PcP 11 39 47.3 +4.3
VNA2 Neumayer--Watz 76.89 177⇑iP **P 11 39 36.1 +4.6**
VNA2 e 11 39 39.5
VNA2 e 11 39 47.3
NVL N'lazarevskaya 77.05 183⇑eP **P 11 39 42.0 +10**
NVL eS S 11 49 21.0 +2.3
NVL pmax pmax
comp=Z,194nm,2.2s,mb5.7
VNA1 Neumayer--Stat 77.12 176 e **P 11 39 43.8 +11**
VNA1 Neumayer--Stat 77.12 176 e PcP 11 39 48.7 +4.7
VNA1 Neumayer--Stat 77.12 176⇑iP **P 11 39 38.9 +6.2**
VNA1 e pP 11 39 43.8 +5.4
VNA1 e 11 39 48.7
MAJO Matsushiro 79.88 325 P **P 11 39 46.5 -2.0**
MAJO pmax pmax
comp=Z,23nm,1.1s,mb5.0
MAJO Matsushiro 79.88 325 eP **P 11 39 45.3 -3.2**
comp=Z,23nm,1.1s,mb5.0
MAJO LR LR
comp=Z,1μm,20.0s,MS5.2
MAT Matsushiro 79.88 325 eP **P 11 39 43.0 -5.5**
comp=Z,33nm,1.3s,mb5.1
MAT eS S 11 49 54.0 +4.4
MAT LR LR
comp=Z,710nm,20.0s,MS5.0
MAT Matsushiro 79.88 325 P **P 11 39 43.4 -5.1**
MAT eS S 11 49 49.0 -0.6
PLCA Paso Flores 81.09 133 P **P 11 40 00.1 +5.3**
PLCA pmax pmax
comp=Z,160nm,2.0s
PLCA Paso Flores 81.09 133 P **P 11 39 58.7 +3.9**
comp=Z,15nm,1.1s,mb4.8,baz=235,slow=5.4,SNR=11
PLCA LR LR 12 10 22.6
comp=Z,904nm,18.1s,MS5.2,baz=228,slow=31

PLCA Paso Flores 81.09 133 eP **P 11 39 59.1 +4.3**
comp=Z,163nm,2.0s,mb5.6
PLCA LR LR
comp=Z,1μm,19.0s,MS5.3
TATO Taipei 81.22 307 PFAKE 11 40 10.0 +14
TATO LR LR
comp=Z,1μm,20.0s,MS5.3
SMY Shemya 84.92 355 P **P 11 40 11.7 -2.4**
SSE Sheshan 85.48 311 P **P 11 40 17.9 +0.4**
SSE AP pP 11 40 21.1 -2.2
SSE PP PP 11 43 34.8 -2.8
SSE S S 11 50 47.5 +1.0
SSE XS 11 50 53.5
SSE SS SS 11 56 17.3 -8.1
SSE AMB AMB
comp=Z,19nm,1.0s,mb5.2
SSE LR LR
comp=N,228nm,22.2s,MS4.6
SSE LR LR
comp=E,200nm,22.2s,MS4.6
SSE LR LR
comp=Z,455nm,19.8s,MS4.9
SSE Sheshan 85.48 311 P **P 11 40 17.9 +0.4**
comp=Z,19nm,1.0s,mb5.2
SSE pP pP 11 40 21.1 -2.2
SSE sP sP 11 40 22.5 -2.7
SSE PP PP 11 43 34.8 -2.8
SSE S S 11 50 47.5 +1.0
SSE sS 11 50 53.5
SSE SS SS 11 56 17.2 -8.2
SSE LR LR
comp=Z,460nm,19.8s,MS4.9
QIZ Qiongzhong 85.98 295 PFAKE 11 40 30.0 +10
QIZ LR LR
comp=Z,539nm,20.0s,MS4.9
UNV Unalaska Valle 86.29 7 PFAKE 11 40 30.0 +9.1
UNV LR LR
comp=Z,4μm,20.0s,MS5.8
SAO San Andreas Ge 86.49 42 PFAKE 11 40 30.0 +7.6
SAO LR LR
comp=Z,2μm,19.0s,MS5.6
YSS Yuzh-Sakhalins 86.50 334αeP **P 11 40 22.0 -0.1**
YSS e 11 50 44.0
YSS eS S 11 50 53.0 -2.8
YSS ePPS PPS 11 52 08.0 -16
YSS pmax pmax
comp=Z,90nm,1.2s,mb5.9
YSS pmax pmax
comp=Z,900nm,5.0s
YSS MLR MLR
comp=Z,2μm,18.0s,MS5.4
YSS MLR MLR
comp=N,1μm,19.0s,MS5.4
YSS MLR MLR
comp=E,800nm,18.0s,MS5.4
YSS Yuzh-Sakhalins 86.50 334 eP **P 11 40 22.3 +0.2**
comp=E,64nm,1.1s,mb5.8
YSS LR LR
comp=Z,879nm,19.0s,MS5.2
HOPS Hopland 87.19 40 eP **P 11 40 26.1 +0.4**
comp=Z,51nm,1.5s,mb5.5
HOPS LR LR
comp=Z,3μm,20.0s,MS5.7
PFO Pinyon Flat Ob 87.29 47 P **P 11 40 27.8 +1.5**
PFO pmax pmax
comp=Z,100nm,2.0s,mb5.7
PFO Pinyon Flat Ob 87.29 47 eP **P 11 40 27.5 +1.2**
comp=Z,41nm,1.5s,mb5.4
PFO LR LR
comp=Z,416nm,19.0s,MS4.9
PET Petropavlovsk 87.37 346 eP **P 11 40 27.6 +1.4**
PET e 11 45 40.3
PET eS S 11 51 03.5 -0.5
PET ePS PS 11 52 02.9 -6.3
PET ePPS PPS 11 52 27.4 -8.2
PET eSS SS 11 56 51.5 -0.6
PET pmax pmax
comp=Z,200nm,13.0s
PET pmax pmax
comp=Z,200nm,11.8s
PET pmax pmax
comp=Z,100nm,29.8s
PET smax
comp=E,600nm,15.7s
PET smax
comp=N,500nm,17.0s
PET MLR MLR
comp=Z,1μm,17.0s,MS5.3
PET Petropavlovsk 87.37 346 PFAKE 11 40 40.0 +14
PET LR LR
comp=Z,2μm,20.0s,MS5.4
NJ2 Nanjing 87.61 311 eP **P 11 40 25.6 -2.3**
NJ2 AP pP 11 40 35.4 +1.7
NJ2 XP sP 11 40 39.9 +4.4
NJ2 PP PP 11 43 51.0 -4.6
NJ2 SKS SKS 11 50 48.0 -11
NJ2 S S 11 51 02.0 -4.8
NJ2 XS 11 51 20.0
NJ2 AMB AMB
comp=Z,80nm,1.3s,mb5.8
NJ2 AMB AMB
comp=Z,780nm,10.7s
NJ2 LR LR
comp=N,870nm,18.0s,MS5.3
NJ2 LR LR
comp=E,730nm,17.2s,MS5.3
NJ2 LR LR
comp=Z,540nm,13.5s,MS5.1
TRQA Tornquist 87.98 135 PFAKE 11 40 50.0 +20
TRQA LR LR
comp=Z,1μm,19.0s,MS5.4
CMB Columbia Colle 87.98 42 P **P 11 40 29.8 +0.3**
CMB pmax pmax
comp=Z,47nm,1.5s,mb5.5
CMB Columbia Colle 87.98 42 eP **P 11 40 29.4 -0.1**
comp=Z,30nm,1.3s,mb5.4
CMB LR LR
comp=Z,2μm,19.0s,MS5.6
VLA Vladivostok 88.04 326 iP **P 11 40 34.0 +4.3**
OHCM Honcut 88.29 40 eP **P 11 40 31.3 +0.3**
DAC Darwin (Calif) 88.39 45 PFAKE 11 40 40.0 +8.5
DAC LR LR
comp=Z,2μm,19.0s,MS5.5
OMM Old Mammoth Mi 88.49 43 eP **P 11 40 31.3 -0.7**
WDC Whiskeytown Da 88.61 39 P **P 11 40 33.3 +0.8**
WDC pmax pmax
comp=Z,54nm,1.7s,mb5.6
WDC Whiskeytown Da 88.61 39 eP **P 11 40 32.9 +0.5**
comp=Z,13nm,1.1s,mb5.2
WDC LR LR
comp=Z,2μm,19.0s,MS5.5
WCN Washoe City 89.22 41 P **P 11 40 36.5 +1.1**
WCN pmax pmax
comp=Z,43nm,1.5s,mb5.6
WCN Washoe City 89.22 41 eP **P 11 40 35.7 +0.3**
YBH Yreka Blue Hor 89.35 38 P **P 11 40 36.1 +0.1**
comp=Z,18nm,1.4s,mb5.2,baz=159,slow=2.9,SNR=5.1
YBH Yreka Blue Hor 89.35 38 P **P 11 40 36.1 +0.1**
YBH LR LR
comp=Z,1μm,19.0s,MS5.4
NVAR Mina Array Bea 89.44 43 P **P 11 40 37.0 +0.5**
comp=Z,3.5nm,0.8s,mb4.8,baz=198,slow=4.9,SNR=34
NVAR PKKPbc 11 58 21.1
comp=Z,0.3nm,0.7s,baz=270,slow=3.0,SNR=3.9
NVAR LR LR 12 17 56.1
comp=Z,2μm,18.1s,MS5.6,baz=280,slow=34
MNV Mina 89.53 43 P **P 11 40 37.8 +0.9**
MNV pmax pmax
comp=Z,29nm,1.4s,mb5.4
MNV Mina 89.53 43 eP **P 11 40 37.5 +0.6**
comp=Z,29nm,1.4s,mb5.4
MNV LR LR
comp=Z,2μm,19.0s,MS5.5
NEN Nelson 89.64 46 eP **P 11 40 38.5 +1.0**
TPH Tonopah 89.83 43 P **P 11 40 40.1 +1.8**
TPH pmax pmax
comp=Z,39nm,1.3s,mb5.6
TPH Tonopah 89.83 43 eP **P 11 40 39.8 +1.5**
comp=Z,37nm,1.3s,mb5.6
TPH LR LR
comp=Z,957nm,20.0s,MS5.2
HUMO Hull Mountain 89.85 37 PFAKE 11 40 50.0 +12
HUMO LR LR
comp=Z,1μm,21.0s,MS5.2
TUC Tucson 90.09 51 P **P 11 40 41.4 +1.7**

TUC pmax pmax
comp=Z,32nm,1.3s,mb5.5
TUC Tucson 90.09 51 eP **P 11 40 41.1 +1.5**
comp=Z,32nm,1.3s,mb5.5
TUC LR LR
comp=Z,1μm,19.0s,MS5.3
MDJ Mudanjiang 90.27 325 P **P 11 40 39.5 -0.7**
MDJ PP PP 11 44 10.4 -6.2
MDJ S S 11 51 31.5 +0.5
MDJ SS SS 11 57 28.9 -5.6
MDJ AMB AMB
comp=Z,43nm,1.3s,mb5.6
MDJ AMB AMB
comp=Z,557nm,8.5s
MDJ LR LR
comp=N,428nm,19.9s,MS5.0
MDJ LR LR
comp=E,432nm,20.2s,MS5.0
MDJ LR LR
comp=Z,854nm,18.7s,MS5.2
MDJ Mudanjiang 90.27 325 eP **P 11 40 39.7 -0.4**
comp=Z,102nm,1.4s,mb6.0
MDJ LR LR
comp=Z,1μm,19.0s,MS5.4
MOD Modoc 90.74 39 eP **P 11 40 41.8 -0.6**
comp=Z,1.9nm,0.4s,mb4.8
MOD LR LR
comp=Z,2μm,19.0s,MS5.6
COR Corvallis 91.11 36 PFAKE 11 40 50.0 +6.0
COR LR LR
comp=Z,2μm,19.0s,MS5.6
SNY Shenyang 91.35 320⇓P **P 11 40 45.0 -0.2**
SNY AMB AMB
comp=Z,30nm,1.3s,mb5.5
SNY LR LR
comp=N,640nm,17.1s,MS5.2
SNY LR LR
comp=E,420nm,19.8s,MS5.2
SNY LR LR
comp=Z,860nm,18.0s,MS5.2
BMN Battle Mountai 91.42 42 P **P 11 40 47.1 +1.6**
BMN pmax pmax
comp=Z,26nm,1.4s,mb5.4
BMN Battle Mountai 91.42 42 eP **P 11 40 46.0 +0.4**
WVOR Wild Horse Val 92.00 39 P **P 11 40 48.5 +0.3**
WVOR pmax pmax
comp=Z,36nm,1.6s,mb5.5
WVOR Wild Horse Val 92.00 39 eP **P 11 40 48.1 -0.1**
comp=Z,36nm,1.7s,mb5.4
WVOR LR LR
comp=Z,3μm,20.0s,MS5.8
KDAK Kodiak Island 92.15 13 PFAKE 11 41 00.0 +12
KDAK LR LR
comp=Z,572nm,20.0s,MS5.0
NNA Nana 92.70 106 PFAKE 11 41 10.0 +18
NNA LR LR
comp=Z,171nm,20.0s,MS4.5
KLR Kul'dur 92.73 330 eP **P 11 40 47.9 -3.5**
KLR pmax pmax
comp=Z,42nm,1.6s,mb5.6
ENH Enshi 92.82 304 eP **P 11 40 52.6 +0.3**
comp=Z,44nm,1.3s,mb5.7
LVC Limon Verde 92.85 119 P **P 11 40 57.7 +5.2**
comp=Z,5.5nm,1.1s,mb4.9,baz=189,slow=1.7,SNR=4.6
OCWA Octopus Mounta 92.99 33 PFAKE 11 41 00.0 +7.4
OCWA LR LR
comp=Z,2μm,19.0s,MS5.5
MVU Marysvale 93.08 46 eP **P 11 40 54.8 +1.6**
comp=Z,15nm,1.5s,mb5.2
MVU LR LR
comp=Z,693nm,19.0s,MS5.1
MSU Marysvale 93.11 46 P **P 11 40 55.4 +2.0**
MSU Marysvale 93.11 46 eP **P 11 40 54.9 +1.5**
TXAR Lajitas Array 93.20 57 P **P 11 40 54.7 +0.7**
comp=Z,2.8nm,1.0s,mb4.7,baz=214,slow=4.5,SNR=23
TXAR PKKPbc 11 58 07.8
comp=Z,0.3nm,0.8s,baz=135,slow=1.8,SNR=3.9
TXAR LR LR 12 18 46.8
comp=Z,484nm,18.4s,MS5.0,baz=195,slow=33
TXAR Lajitas Array 93.20 57 P **P 11 40 54.7 +0.7**
TXAR PKKPbc 11 58 07.8
TXAR LR LR 12 18 46.8
MNTX Cornudas Mount 93.37 54 PFAKE 11 41 10.0 +15
MNTX LR LR
comp=Z,782nm,19.0s,MS5.2
CM31 Chiang Mai Arr 94.21 289 PFAKE 11 41 10.0 +11
CM31 LR LR
comp=Z,1μm,20.0s,MS5.3
CMAR Chiang Mai Arr 94.21 289 P **P 11 41 00.1 +1.2**
comp=Z,2.9nm,1.0s,mb4.7,baz=146,slow=3.6,SNR=16
CMAR PP PP 11 44 46.5 -2.1
comp=Z,6.0nm,1.1s,baz=137,slow=6.3,SNR=9.2
BMO Blue Mountains 94.35 38 eP **P 11 40 58.3 -0.6**
comp=Z,19nm,1.8s,mb5.2
BMO LR LR
comp=Z,2μm,19.0s,MS5.5
BJT Baijiatuau 94.38 315 P **P 11 40 59.3 +0.1**
BJT pmax pmax
comp=Z,24nm,1.3s
BJT Baijiatuau 94.38 315 eP **P 11 40 57.6 -1.6**
comp=Z,24nm,1.4s,mb5.4
BJT LR LR
comp=Z,1μm,19.0s,MS5.3
BJI Beijing 94.39 315 eP **P 11 40 58.1 -1.1**
comp=Z,18nm,1.3s,mb5.3
BJI SKS SKS 11 51 32.4 -6.1
BJI S S 11 52 10.2 +3.0
BJI SS SS 11 58 34.4 +1.1
BJI LR LR
comp=Z,590nm,21.0s,MS5.0
SRU San Rafael 94.49 46 P **P 11 41 00.8 +1.1**
SRU San Rafael 94.49 46 eP **P 11 41 00.4 +0.7**
ANMO Albuquerque 94.56 51 iP **P 11 41 01.1 +1.0**
ANMO Albuquerque 94.56 51 P **P 11 41 00.4 +0.3**
comp=Z,3.5nm,1.1s,mb4.7,baz=220,slow=4.4,SNR=6.4
ANMO Albuquerque 94.56 51 eP **P 11 41 00.8 +0.7**
comp=Z,7.5nm,1.4s,mb4.9
ANMO LR LR
comp=Z,1μm,19.0s,MS5.3
KMI Kunming 94.84 297 P **P 11 41 03.1 +1.4**
comp=Z,7.0nm,1.7s,mb4.8
KMI PP tx 11 47 00.6
KMI SKS SKS 11 51 39.0 -2.3
KMI S S 11 52 15.3 +3.9
KMI SS SS 11 58 42.9 +2.8
KMI LR LR
comp=Z,530nm,23.1s,MS4.9
PV10 Paradox Valley 94.95 47 eP **P 11 41 02.4 +0.5**
HLID Hailey 95.06 41 eP **P 11 41 02.5 +0.3**
comp=Z,8.5nm,1.3s,mb5.0
HLID LR LR
comp=Z,842nm,20.0s,MS5.2
PV01 Paradox Valley 95.10 48 eP **P 11 41 03.8 +1.2**
MA2 Magadan 95.12 345 eP **P 11 41 00.8 -1.3**
MA2 e 11 51 35.3
MA2 eS S 11 52 08.2 -4.7
MA2 eSS SS 11 58 32.7 -10
MA2 eSSS SSS 12 02 17.7 -7.7
MA2 pmax pmax
comp=Z,20nm,1.4s,mb5.3
MA2 MLR MLR
comp=Z,300nm,20.0s,MS4.8
MA2 Magadan 95.12 345 eP **P 11 41 00.7 -1.4**
comp=Z,38nm,1.4s,mb5.6
MA2 LR LR
comp=Z,836nm,20.0s,MS5.2
HWUT Hardware Ranch 95.43 44 PFAKE 11 41 20.0 +16
HWUT LR LR
comp=Z,2μm,19.0s,MS5.6
FIB Fire Island 95.76 13 PFAKE 11 41 20.0 +15
FIB LR LR
comp=Z,2μm,19.0s,MS5.6
SIT Sitka 95.91 22 PFAKE 11 41 20.0 +14
SIT LR LR
comp=Z,655nm,20.0s,MS5.1
AHID Auburn Hatcher 96.42 43 PFAKE 11 41 20.0 +12
AHID LR LR
comp=Z,1μm,19.0s,MS5.4
JCT Junction City 96.61 58 PFAKE 11 41 20.0 +10
JCT LR LR
comp=Z,1μm,19.5s,MS5.5
MCMT McKenzie Canyo 96.73 40 eP **P 11 41 10.5 +0.7**
NEW Newport 96.73 36 PFAKE 11 41 20.0 +10
NEW LR LR
comp=Z,2μm,19.0s,MS5.7
SDCO Great Sand Dun 96.82 49 PFAKE 11 41 20.0 +10

SDCO LR LR
comp=Z,914nm,19.0s,MS5.3
WUWY Wally Ulrich 97.11 42 *e*P **P 11 41 09.9 -1.6**
LPAZ La Paz 97.19 114 P **P 11 41 17.4 +5.0**
comp=Z,1.5nm,0.9s,mb4.4,baz=219,slow=3.7,SNR=4.7
LPAZ LR LR 12 19 50.0
comp=Z,339nm,18.7s,MS4.9,baz=163,slow=32
BW06 Boulder Array 97.32 44 PFAKE 11 41 20.0 +7.5
BW06 LR LR
comp=Z,2μm,19.0s,MS5.5
PDAR Pinedale Array 97.32 44 P **P 11 41 11.2 -1.3**
comp=Z,0.6nm,0.7s,baz=207,slow=3.3,SNR=6.4
PDAR PP PP 11 45 14.1 +2.1
comp=Z,1.9nm,1.2s,baz=243,slow=3.3,SNR=4.3
PDAR PKKPbc 11 57 54.1
comp=Z,0.6nm,0.7s,baz=45,slow=2.1,SNR=6.7
PDAR LR LR 12 22 44.3
comp=Z,970nm,18.4s,baz=254,slow=34
MSO Missoula 97.42 38 PFAKE 11 41 20.0 +7.1
MSO LR LR
comp=Z,1μm,19.0s,MS5.5
AMTX Amarillo 97.73 54 PFAKE 11 41 30.0 +15
AMTX LR LR
comp=Z,1μm,21.0s,MS5.4
JTS JuntasAbangare 97.75 83 PFAKE 11 41 30.0 +15
JTS LR LR
comp=Z,168nm,20.0s,MS4.5
SEY Seymchan 97.82 347 *e*P **P 11 41 13.5 -0.8**
SEY 11 45 15.6
SEY 11 47 25.2
SEY *e* 11 51 49.8
SEY *e*S S 11 52 35.4 -0.3
SEY PS PS 11 54 05.2 -1.2
SEY SS SS 11 59 18.0 -2.8
SEY SSS SSS 12 03 02.6 -4.8
SEY pmax pmax
comp=Z,20nm,1.0s,mb5.6
SEY smax
comp=N,610nm,14.3s
SEY smax
comp=E,1μm,17.7s
SEY MLR MLR
comp=N,2μm,19.0s
SEY MLR MLR
comp=Z,4μm,19.0s,MS6.0
SEY MLR MLR
comp=E,100nm,12.0s
BOZ Bozeman (W) 97.92 40 PFAKE 11 41 30.0 +15
BOZ LR LR
comp=Z,1μm,19.0s,MS5.5
LKWY Lake 97.93 42 PFAKE 11 41 30.0 +15
LKWY LR LR
comp=Z,2μm,19.0s,MS5.6
ISCO Idaho Springs 97.94 48 PFAKE 11 41 30.0 +15
ISCO LR LR
comp=Z,732nm,19.0s,MS5.2
OTAV Otavalo 97.99 95 PFAKE 11 41 30.0 +14
OTAV LR LR
comp=Z,442nm,19.0s,MS5.0
HIA Hailar 98.34 324 PFAKE 11 41 30.0 +13
HIA LR LR
comp=Z,1μm,19.0s,MS5.4
MCK McKinley 98.34 13 PFAKE 11 41 30.0 +13
MCK LR LR
comp=Z,987nm,20.0s,MS5.3
HKT Hockley 99.22 61 PFAKE 11 41 30.0 +8.6
HKT LR LR
comp=Z,702nm,19.0s,MS5.2
COLA College 99.58 12 PFAKE 11 41 30.0 +7.8
COLA LR LR
comp=Z,2μm,20.0s,MS5.5
WMOK Wichita Mounta 99.65 55 PFAKE 11 41 40.0 +17
WMOK LR LR
comp=Z,908nm,19.0s,MS5.3
ILAR Eielson Array 99.67 13 P **P 11 41 22.6 0.0**
comp=Z,0.4nm,0.7s,baz=319,slow=33,SNR=5.8
ILAR PP PP 11 45 29.2 -0.1
comp=Z,2.5nm,1.0s,baz=212,slow=6.0,SNR=6.2
ILAR LR LR 12 24 58.6
comp=Z,571nm,18.3s,baz=229,slow=35
TEIG Tepich 100.08 73 PFAKE 11 41 40.0 +14
TEIG LR LR
comp=Z,188nm,19.0s,MS4.6
BILL Bilibino 100.69 354 PFAKE 11 41 40.0 +13
BILL LR LR
comp=Z,1μm,19.0s,MS5.5
NATX Nacogdoches 101.02 59 PFAKE 11 41 40.0 +10
NATX LR LR
comp=Z,889nm,19.0s,MS5.3
LAO LASA Array 101.55 42 PFAKE 11 41 40.0 +8.5
LAO LR LR
comp=Z,1μm,19.0s,MS5.4
DGAR Diego Garcia 102.52 253 PFAKE 11 41 50.0 +13
DGAR LR LR
comp=Z,367nm,20.0s,MS4.9
PALK Pallekele 103.60 270 PFAKE 11 41 50.0 +8.6
PALK LR LR
comp=Z,302nm,19.0s,MS4.8
DGMT Dagmar 103.69 41 PFAKE 11 41 50.0 +9.0
DGMT LR LR
comp=Z,1μm,19.0s,MS5.5
ULN Ulaanbaatar 104.29 318 PFAKE 11 41 50.0 +6.3
ULN LR LR
comp=Z,866nm,19.0s,MS5.3
SONM Songino Array 104.65 318 Pdiff Pdif 11 41 44.7 -0.6
comp=Z,1.5nm,1.2s,baz=117,slow=2.8,SNR=5.6
SONM PKKPbc 11 57 31.7
comp=Z,0.2nm,0.3s,baz=238,slow=6.4,SNR=4.2
SAML Samuel 105.42 111 PFAKE 11 46 20.0
SAML LR LR
comp=Z,880nm,20.0s,MS5.3
LSA Lhasa 106.02 295 PFAKE 11 46 20.0
LSA LR LR
comp=Z,509nm,19.0s,MS5.1
OXF Oxford 106.21 59 PFAKE 11 46 20.0
OXF LR LR
comp=Z,1μm,19.0s,MS5.4
CCM Cathedral Cave 106.56 55 PFAKE 11 46 20.0
CCM LR LR
comp=Z,655nm,20.0s,MS5.2
YKA Yellowknife Ar 107.01 26 Pdiff Pdif 11 42 06.8 +12
comp=Z,1.0nm,1.2s,baz=240,slow=5.7,SNR=3.6
YKA PKiKP 11 46 05.0
comp=Z,0.2nm,0.6s,baz=249,slow=1.8,SNR=8.1
YKA PP PP 11 46 29.8 +4.8
comp=Z,1.0nm,1.1s,baz=230,slow=8.0,SNR=6.2
YKA PKKPbc 11 57 23.4
comp=Z,0.3nm,0.6s,baz=41,slow=3.3,SNR=5.3
YKA Yellowknife Ar 107.01 26 PKPdf 11 46 05.0
YKA PP PP 11 46 29.8 +4.8
YKA PKKPbc 11 57 23.4
LRAL Lakeview Retre 107.30 62 PFAKE 11 46 20.0
LRAL LR LR
comp=Z,593nm,20.0s,MS5.1
ZAK Zakamensk 107.71 319 *e*P Pdif 11 42 00.0 +1.4
WVT Waverly 108.10 58 PFAKE 11 46 20.0
WVT LR LR
comp=Z,637nm,19.0s,MS5.2
TLY Talaya 108.14 320 PFAKE 11 46 20.0
TLY LR LR
comp=Z,125nm,20.0s,MS4.5
DWPF Disney 109.34 69 PFAKE 11 46 20.0
DWPF LR LR
comp=Z,354nm,19.0s,MS5.0
JFWS Jewell Farm 109.45 51 PFAKE 11 46 20.0
JFWS LR LR
comp=Z,1μm,19.0s,MS5.5
TIXI Tiksi 110.10 344 PFAKE 11 46 20.0 +7.2
TIXI LR LR
comp=Z,852nm,21.0s,MS5.3
GOGA Godfrey 110.11 63 PFAKE 11 46 20.0 +6.2
GOGA LR LR
comp=Z,514nm,18.8s,MS5.1
WCI Wyandotte Cave 110.12 57 PFAKE 11 46 20.0 +6.3
WCI LR LR
comp=Z,919nm,19.0s,MS5.4
NHSC New Hope 112.47 64 PFAKE 11 46 30.0 +12
NHSC LR LR
comp=Z,582nm,19.0s,MS5.2
ACSO Alum Creek Sta 113.29 56 PFAKE 11 46 30.0 +10
ACSO LR LR
comp=Z,2μm,20.0s,MS5.7
SUR Sutherland 113.37 197 PFAKE 11 46 30.0 +10
SUR LR LR
comp=Z,505nm,19.0s,MS5.1
AAM Ann Arbor 113.63 54 PFAKE 11 46 30.0 +10
AAM LR LR
comp=Z,1μm,19.0s,MS5.5
WMQ Urumqi 114.53 308 PDIF Pdif 11 42 30.3 +1.5
WMQ PP PP 11 47 20.0 -0.2
WMQ SKS SKS 11 53 32.1 +21
WMQ S 11 54 56.8
WMQ SS SS 12 03 07.0 -1.7
WMQ PP PP
comp=Z,101nm,10.1s
WMQ LR LR
comp=N,735nm,26.2s,MS5.3
WMQ LR LR
comp=E,642nm,25.7s,MS5.3
WMQ LR LR
comp=Z,1μm,28.4s,MS5.4
BOSA Boshof 115.65 202 PFAKE 11 46 40.0 +15
BOSA LR LR
comp=Z,1μm,19.0s,MS5.5
ERPA Erie 116.09 55 PFAKE 11 46 40.0 +15
ERPA LR LR
comp=Z,1μm,19.0s,MS5.6
CBN Corbin 116.56 60 PFAKE 11 46 40.0 +14
CBN LR LR
comp=Z,1μm,19.0s,MS5.5
BINY Binghamton 118.92 56 PFAKE 11 46 40.0 +9.2
BINY LR LR
comp=Z,2μm,19.0s,MS5.7
RES Resolute Bay 118.94 18 PKIKP PKPdf 11 46 26.8 -3.3
RES Resolute Bay 118.94 18 *e*PKPdf PKPdf 11 46 25.8 -4.3
ZAL Zalesovo 119.56 318 PKP PKPdf 11 46 28.7 -2.9
comp=Z,2.2nm,1.2s,baz=239,slow=3.7,SNR=6.3
NVS Novosibirsk 120.67 318 *i* PKIKP PKPdf 11 46 29.6 -4.2
NVS *e* 11 47 58.5
NVS *e*S SKS 11 53 26.4 -6.1
NVS pmax pmax
comp=Z,22nm,1.8s
NVS pmax pmax
comp=N,12nm,2.1s
NVS pmax pmax
comp=E,8.0nm,1.5s
NVS pmax pmax
comp=Z,8.0nm,1.0s
NVS pmax pmax
comp=N,9.0nm,1.3s
NVS pmax pmax
comp=E,7.0nm,1.3s
NVS smax
comp=N,26nm,2.4s
NVS smax
comp=E,34nm,2.6s
NCB Newcomb 120.69 55 PFAKE 11 46 40.0 +5.8
NCB LR LR
comp=Z,887nm,19.0s,MS5.4
HRV Harvard--Oak R 122.15 57 PFAKE 11 46 50.0 +13
HRV LR LR
comp=Z,989nm,20.0s,MS5.5
KURK Kurchatov 122.47 313 PKIKP PKPdf 11 46 33.7 -3.7
KURK Kurchatov 122.47 313 *e*PKPdf PKPdf 11 46 33.4 -3.9
KURK LR LR
comp=Z,173nm,19.0s,MS4.7
TKM2 Tokmak 2 122.60 303 P PKPdf 11 46 35.2 -2.6
SNR=11
KZA Kyzart 122.62 302 P PKPdf 11 46 36.9 -0.9
SNR=13
UCH Uchtor 123.19 302 P PKPdf 11 46 38.0 -0.9
SNR=19
CHMS Chumysh 123.22 303 P PKPdf 11 46 36.3 -2.7
SNR=7.3
FRU Bishkek 123.27 303 *e*PKIKP PKPdf 11 46 37.0 -2.1
FRU pmax pmax
comp=Z,52nm,2.0s
AAK Ala-Archa 123.31 303 P PKPdf 11 46 37.4 -1.8
SNR=6.0
AAK Ala-Archa 123.31 303 PKIKP PKPdf 11 46 35.6 -3.6
AAK Ala-Archa 123.31 303 *e*PKPdf PKPdf 11 46 34.1 -5.1
AAK LR LR
comp=Z,186nm,19.0s,MS4.8
USP Ospenovka 123.47 303 P PKPdf 11 46 38.0 -1.5
SNR=8.1
AML Almayashu 123.75 302 P PKPdf 11 46 38.6 -1.5
SNR=13
EKS2 Erkin-Say 123.83 303 P PKPdf 11 46 38.6 -1.7
SNR=8.1
LSZ Lusaka 126.62 212 PKIKP PKPdf 11 46 46.6 +0.4
LSZ Lusaka 126.62 212 *e*PKPdf PKPdf 11 46 46.2 0.0
LSZ LR LR
comp=Z,2μm,19.0s,MS5.7
SCHQ Schefferville 127.45 43 PKP PKPdf 11 46 44.3 -2.5
comp=Z,14nm,1.2s,baz=10,slow=4.8,SNR=4.7
SCHQ Schefferville 127.45 43 PKP PKPdf 11 46 44.3 -2.5
SCHQ LR LR
comp=Z,2μm,20.0s,MS5.8
RCBR Riachuelo 127.54 129 PFAKE 11 47 00.0 +12
RCBR LR LR
comp=Z,1μm,19.0s,MS5.7
CHKZ Chkalovo 127.79 316 PKIKP PKPdf 11 46 44.7 -2.8
CHKZ Chkalovo 127.79 316 *e*PKPdf PKPdf 11 46 44.1 -3.4
BVAR Borovoye Array 127.87 315 PKP PKPdf 11 46 45.0 -2.7
comp=Z,4.3nm,0.7s,baz=117,slow=3.3,SNR=30
BRVK Borovoye 127.93 315 PKIKP PKPdf 11 46 45.5 -2.4
BRVK Borovoye 127.93 315 *e*PKPdf PKPdf 11 46 45.2 -2.6
BRVK LR LR
comp=Z,143nm,19.0s,MS4.7
KMBO Kilima Mbogo 133.13 232 PKP PKPdf 11 46 58.5 -0.3
comp=Z,2.0nm,0.8s,baz=47,slow=22,SNR=4.1
KMBO SKPbc 11 50 28.7
comp=Z,16nm,0.9s,baz=63,slow=2.6,SNR=24
KMBO Kilima Mbogo 133.13 232 *e*PKPdf PKPdf 11 46 57.3 -1.5
KMBO LR LR
comp=Z,941nm,19.0s,MS5.5
SVE Sverdlovsk 133.46 320 *i* PKIKP PKPdf 11 46 55.7 -2.5
SVE pmax pmax
comp=Z,110nm,2.5s
ARU Arti 134.64 319 *i* PKIKP PKPdf 11 46 52.2 -8.2
MBAR Mbarara 137.67 225 PKPdf PKPdf 11 47 07.2 0.0
MBAR LR LR
comp=Z,281nm,19.0s,MS5.0
APA Apatity 140.23 342⇑ *i* PKHKP 11 46 46.6
ARCES ARCESS Array B 140.44 347 PKhKP 11 47 01.0
comp=Z,1.6nm,0.7s,baz=90,slow=1.2,SNR=8.4
ARCES PKP PKPdf 11 47 07.8 -2.9
comp=Z,5.4nm,0.9s,slow=1.2,SNR=6.3
JOF Joensuu 144.21 338 *e*p PKPbc 11 47 10.7 -2.0
TI2 Plekhanov 145.07 298⇓ *i* PKIKP PKPdf 11 47 17.0 -2.4
TI2 pmax pmax
comp=Z,130nm,1.0s
GNI Garni 145.09 295 *i* P PKPbc 11 47 16.4 +0.5
GNI Garni 145.09 295 *i* PKIKP PKPdf 11 47 16.6 -2.9
GNI Garni 145.09 295 PKP PKPdf 11 47 16.8 -2.7
comp=Z,46nm,1.0s,baz=161,slow=2.8,SNR=30
GNI Garni 145.09 295 *e*PKPdf PKPdf 11 47 17.5 -2.0
GNI LR LR
comp=Z,655nm,20.0s,MS5.4
ZEI Tsey 145.65 300 *e*PKP2 PKPab 11 47 17.1 -2.0
ZEI pmax pmax
comp=Z,124nm,1.2s
MOS Moscow 145.97 324⇓ *i* PKIKP PKPdf 11 47 19.2 -1.3
MOS *e*PPP PPP 11 53 51.6 -7.2
MOS pmax pmax
comp=Z,1μm,1.5s
MOS pmax pmax
comp=Z,821nm,1.3s
GOF Gofitskoye 146.04 304 *i* PKIKP PKPdf 11 47 20.0 -1.0
GOF pmax pmax
comp=Z,720nm,1.5s
GOF pmax pmax
comp=Z,3μm,4.0s
TVAN Van 146.09 292 *i* P PKPbc 11 47 20.1 +1.7
VANB Van 146.10 292 *i* P PKPbc 11 47 19.8 +1.3
MSL Mosul 146.19 288 *i* PKP PKPdf 11 47 21.5 0.0
KARS Kars 146.34 296 P PKPbc 11 47 21.9 +2.9
KAF Kangasniemi 146.36 340 *e*p PKPbc 11 47 17.5 -0.8
comp=Z,47nm,1.0s
KAF Kangasniemi 146.36 340 *e*PKP2 PKPab 11 47 17.5 -3.8
KAF pmax pmax
comp=Z,47nm,1.0s
KIV Kislovodsk 146.42 302⇓ *i* PKP2 PKPab 11 47 21.5 -0.6
KIV pmax pmax
comp=Z,194nm,1.4s
KIV Kislovodsk 146.42 302 *e*PKPdf PKPdf 11 47 21.1 -0.5
KIV LR LR
comp=Z,161nm,19.0s,MS4.8
PUL Pulkovo 146.76 334 *i* P PKPbc 11 47 20.7 +1.4
OBN Obninsk 146.80 324 *c*PKHKP 11 47 16.0
OBN *i* 11 47 18.8
OBN *e*SS SS 12 09 34.8 -8.6
OBN pmax pmax
comp=Z,200nm,1.9s
OBN pmax pmax
comp=Z,802nm,1.5s
OBN Obninsk 146.80 324 *e*PKPdf PKPdf 11 47 18.2 -3.8
OBN LR LR
comp=Z,176nm,20.0s,MS4.8
VOR Voronezh 146.83 317 *e*PKP2 PKPab 11 47 21.0 -2.4
VOR pmax pmax
comp=N,200nm,1.3s
VOR pmax pmax
comp=E,340nm,1.3s
VOR pmax pmax
comp=Z,740nm,1.3s
VOR pmax pmax
comp=N,80nm,1.4s
VOR pmax pmax
comp=E,30nm,1.4s
VOR pmax pmax
comp=Z,50nm,1.4s
FINES FINESS Array B 146.95 339 PKPbc PKPbc 11 47 18.8 -0.9
comp=Z,17nm,0.6s,baz=53,slow=4.3,SNR=111
BCA Borcka 147.42 298 *e*P PKPdf 11 47 24.2 +0.8
VRT Varto 147.56 293 *i* P PKPdf 11 47 26.7 +3.0
BTMT Batman 147.58 292 P PKPdf 11 47 25.3 +1.5
ERZM Erzurum 147.68 295 *i* P PKPdf 11 47 25.2 +1.3
EZM Erzurum 147.68 295 P PKPdf 11 47 25.3 +1.4
BEST Besiri 147.75 291 *i* P PKPdf 11 47 24.9 +0.8
BINT Bingol 148.37 293 *i* P PKPdf 11 47 27.6 +2.6
SOC Sochi 148.60 302 *i* PKIKP PKPdf 11 47 24.5 -0.7
EZC Erzincan 148.88 295 P PKPdf 11 47 30.2 +4.4
VSU Vasula 148.99 335 *i* PKP2 PKPab 11 47 26.9 -4.9
GUMT Gumushane 149.10 296 *i* P PKPdf 11 47 29.7 +3.6
PTK Pertek 149.23 293 P PKPdf 11 47 30.2 +3.8
ELZG Elazig 149.55 292 *i* P PKPdf 11 47 30.5 +3.6
URFA Urfa 149.68 290 *e*P PKPdf 11 47 30.9 +3.7
MALT Malatya 149.99 292 PKHKP 11 47 26.4
MALT Malatya 149.99 292 *e*PKPdf PKPdf 11 47 26.3 -1.3
MALT *e*PKPbc PKPdf 11 47 31.7 +4.1
MYA Malataya 149.99 292 P PKPdf 11 47 32.1 +4.5
ANN Anapa 150.00 305 *i* PKP2 PKPab 11 47 30.1 -6.3
ANN pmax pmax
comp=Z,245nm,1.4s
NB2 NORSAR Subarra150.60 351 PKP PKPdf 11 47 30.3 +2.5
comp=Z,75nm,1.4s,baz=15,slow=2.9
NB2 NORSAR Subarra150.60 351 PKPa 11 47 30.3
baz=15,slow=2.9
NB2 NORSAR Subarra150.60 351 PKPab PKPab 11 47 30.3 -8.1
NOA NORSAR Array B 150.60 351 PKPbc PKPdf 11 47 30.4 +2.5
comp=Z,63nm,1.4s,baz=14,slow=4.1,SNR=9.7
GZT Gaziantep 150.68 290 *i* P PKPdf 11 47 32.8 +4.2
NAO01 NORSAR Array S 150.84 351 *e*PKPbc PKPdf 11 47 30.6 +2.5
GAZ Gaziantep 150.96 290 *i* P PKPdf 11 47 34.2 +5.1
SVST Sivas 151.08 295 *i* P PKPdf 11 47 34.5 +5.3
KAHT Ahir Dag 151.23 290 *i* P PKPdf 11 47 34.4 +4.9
MNK Minsk 151.30 328⇓ *e*PKIKP PKPdf 11 47 29.0 0.0
COBT Iskenderun 151.71 288 *i* P PKPdf 11 47 33.2 +3.0
HTY Hatay 151.79 287 P PKPdf 11 47 35.4 +5.0
EIL Elat 151.90 273 *e*P PKPdf 11 47 35.2 +4.4
EIL Elat 151.90 273 *e*PKPbc PKPdf 11 47 35.9 +5.2
BNN Bunyan 152.00 293 P PKPdf 11 47 36.1 +5.5
BHL Bhannes 152.03 283 *e*P PKPdf 11 47 35.9 +5.1
CEYT Ceyhan 152.12 289 *e*P PKPdf 11 47 35.8 +5.0
SIM Simferopol' 152.25 306 *i* PKIKP PKPdf 11 47 37.1 +6.3
SIM pmax pmax
comp=Z,80nm,1.2s
BOYT Boyabat 152.45 299 *i* P PKPdf 11 47 36.6 +5.5
BYBT Boyabat 152.54 299 *e*P PKPdf 11 47 37.5 +6.2
CTKT Corum 152.65 297 *i* P PKPdf 11 47 37.0 +5.5
CORM Corum 152.82 296 *e*P PKPdf 11 47 37.8 +6.1
AKASG Malin Array Be 152.88 321 PKP PKPdf 11 47 28.5 -3.0
comp=Z,0.2nm,0.2s,baz=40,slow=1.2,SNR=5.1
AKASG PKPbc PKPdf 11 47 36.2 +4.8
comp=Z,6.3nm,0.6s,baz=43,slow=2.3,SNR=45
NIG Nigde 153.00 292 *e*P PKPdf 11 47 38.2 +6.2
TOS Tosya 153.16 298 *e*P PKPdf 11 47 37.8 +5.6
MEST Erdemli 153.41 288 *i* P PKPdf 11 47 38.6 +5.9
CANT Cankiri 153.53 297 *e*P PKPdf 11 47 39.6 +6.9
BALT Daday 153.55 299 *i* P PKPdf 11 47 35.5 +2.8
KAMT Kaman 153.61 294 P PKPdf 11 47 39.1 +6.3
SUW Suwalki 153.61 332 *e*PKIKP PKPdf 11 47 37.7 +5.3
SUW *e* 11 47 49.2
SUW Suwalki 153.61 332 *e*PKP PKPdf 11 47 38.8 +6.4
SUW Suwalki 153.61 332 *e*PKP PKPdf 11 47 38.8 +6.5
BR131 Keskin Array S 153.63 295 PFAKE 11 47 40.0 +7.1
BR131 LR LR
comp=Z,684nm,21.0s,MS5.4
BRTR Keskin Array B 153.63 295 PKP PKPdf 11 47 29.1 -3.7
comp=Z,6.2nm,1.4s,slow=4.9,SNR=5.5
BRTR PKPbc PKPdf 11 47 39.0 +6.1
comp=Z,43nm,1.3s,baz=142,slow=4.5,SNR=48
ELDT Eldivan 153.69 297 *i* P PKPdf 11 47 39.3 +6.4
DBIC Dimbokro 153.70 164 PKIKP PKPdf 11 47 34.4 +0.7
DBIC Dimbokro 153.70 164 PKP PKPdf 11 47 32.1 -1.6
comp=Z,6.5nm,1.1s,baz=206,slow=3.7,SNR=5.6
DBIC PKPbc PKPdf 11 47 41.6 +7.9
comp=Z,25nm,1.3s,baz=140,slow=2.9,SNR=6.2
DBIC Dimbokro 153.70 164 *e*PKPdf PKPdf 11 47 33.6 -0.1
DBIC LR LR
comp=Z,863nm,19.0s,MS5.6
SAFT Safranbolu 154.12 299 P PKPdf 11 47 39.6 +6.1
ANTO Ankara 154.26 296 *e*P PKPdf 11 47 39.2 +5.5
SGKT Sivrigoynuk 154.71 298 *i* P PKPdf 11 47 38.9 +4.6
KIS Kishinev 154.95 314 *i* PKIKP PKPdf 11 47 35.0 +0.6
KIZT Kizilcal 155.08 294 P PKPdf 11 47 41.5 +6.6
MDU Mudurnu 155.36 298 *e*P PKPdf 11 47 41.8 +6.7
HENT Hendek 155.53 299 *i* P PKPdf 11 47 42.9 +7.6
ESKT Eskisehir 155.79 295 *e*P PKPdf 11 47 44.8 +9.0
ESKT Eskisehir 155.79 295 *i* P PKPdf 11 47 43.6 +7.9
LVV L'vov 156.10 324 *e*PKP2 PKPab 11 47 58.8 -3.2
GKP Gorka Klasztor 156.38 337 *e*PKP PKPab 11 48 01.6 -1.5
ESK Eskdalemuir 156.62 8 PFAKE 11 47 50.0 +14
ESK LR LR
comp=Z,196nm,19.0s,MS5.0
VRI Vrincioaia 156.75 313 PKP2 PKPab 11 48 04.7 -0.2
KWP Kalwaria 156.88 325 PKP2 PKPab 11 48 02.8 -2.5
KWP Kalwaria 156.88 325 *e*PKP PKPab 11 48 04.1 -1.2
ULDT Uludag 156.98 298 *i* P PKPdf 11 47 45.8 +8.5
KOLS Kolonicke sedl 157.55 324 *e*PKP PKPdf 11 47 36.7 -1.1
KOLS *e* 11 48 06.5
BSEG Bad Segeberg 157.57 347 *e*PKP2 PKPab 11 48 06.1 -2.0
OJC Ojcow 157.82 329 *e*PKP PKPdf 11 47 35.8 -2.3
CRVS Cervenica-Dubn 157.97 325 *e*PKP PKPab 11 48 08.9 -1.2
NIE Niedzica 158.17 327 *e*PKP PKPdf 11 47 38.0 -0.5
KSP Ksiaz 158.72 335 *e*PKPdf PKPdf 11 47 39.2 0.0
KSP *e*PKPab PKPab 11 48 11.6 -1.6
KSP *e* 11 48 17.4
KSP Ksiaz 158.72 335 *e*PKP PKPab 11 48 11.9 -1.3
KECS Kecovo 158.74 325 *i* PKP PKPab 11 48 11.6 -1.8
OKC Ostrava-Krasne 158.81 331 *e*PKPab PKPab 11 48 11.9 -1.7
OKC *ex* x 11 48 18.2
UPC Upice 159.10 335 *e*PKPab PKPab 11 48 13.8 -1.1
UPC *ex* x 11 48 21.1
DPC Dobruska-Polom 159.12 334 *e*PKPab PKPab 11 48 13.7 -1.2
CLL Collm 159.38 341 *i* PKP2 PKPab 11 48 13.8 -2.2
CLL pmax pmax
comp=Z,61nm,1.2s
CLL Collm 159.38 341 *e* PKPdf 11 47 52.0 +12
CLL *i* PKP2 PKPab 11 48 13.8 -2.2
CLL *e**PPKP2 11 48 21.0
CLL *i* 11 48 25.9
CLL *i* 11 48 33.8
PSZ Piszkesteto 159.41 325 PKP2 PKPab 11 48 15.6 -0.7
PSZ Piszkesteto 159.41 325⇑ *i* PKP/p PKPab 11 48 15.5 -0.8
BRG Berggiesshubel 159.49 339 *e*PKIKP PKPdf 11 47 39.9 -0.1
BRG pmax pmax
comp=Z,8.0nm,1.3s
VYHS Vyhne 159.51 327 *i* PKP PKPab 11 48 15.2 -1.5
VYHS *e* 11 48 23.7
PVCC Panska Ves 159.58 337 *e*PKPab PKPab 11 48 15.8 -1.1
VRAC Vranov 159.85 332 PKP2 PKPab 11 48 17.8 -0.3
PRU Pruhonice 160.05 336 *e*PKPab PKPab 11 48 17.5 -1.5
PRU *ex* x 11 48 23.8
SMOL Smolenice 160.12 329 *e*PKP PKPab 11 48 18.3 -1.0
SRO Srobarova 160.24 327 *e*PKP PKPab 11 48 18.5 -1.4
MOX Moxa 160.35 342 *e* PKPab 11 48 18.9 -1.3
MOX LR LR
comp=Z,800nm,18.0s
NKC Novy Kostel 160.50 340 *e*PKPab PKPab 11 48 19.1 -1.8
ZST Bratislava 160.50 329 *e*PKP PKPdf 11 47 39.3 -1.9
ZST *e* 11 48 19.0

ZST *e* 12 18 08.6
BOLS Boljevac 160.70 312 ⇑*i*PKP PKPab 11 48 20.1 -1.9
KHC Kasperske Hory 161.11 337 *e*PKPdf PKPdf 11 47 40.0 -1.8
KHC *e*PKPab PKPab 11 48 21.8 -1.8
GERES GERESS Array B 161.31 336 PKP PKPdf 11 47 40.1 -1.9
comp=Z,0.2nm,0.4s,baz=198,slow=4.2,SNR=4.0
GERES PKPab PKPab 11 48 22.2 -2.3
comp=Z,4.9nm,1.0s,baz=56,slow=4.8,SNR=15
GRF Grafenberg Arr 161.33 342 *e*PKP2 PKPab 11 48 23.2 -1.3
WET Wettzell 161.33 338 *e*PKP2 PKPab 11 48 23.2 -1.3
GRUS Gruza 161.44 314 ⇓*i*PKP PKPab 11 48 23.8 -1.4
DIVS Divcibare 161.76 315 *e*PKP PKPab 11 48 25.2 -1.3
SKO Skopje 161.92 308 *e*PKIKP PKPdf 11 47 38.0 -4.8
SKO *i*PKP2 Px 11 48 04.0
BAIF Baives 162.15 356 *e*PKP2 PKPab 11 48 25.4 -2.7
WLF Walferdange 162.36 352 PKP2 PKPab 11 48 27.1 -1.9
PERS Pernice 162.57 329 *e*PKPdf PKPab 11 48 28.4 -1.6
FUR Furstenfeldbru 162.69 339 *e*PKP2 PKPab 11 48 29.1 -1.4
LANF Langenberg 162.77 348 PKP PKPab 11 48 28.8 -2.0
BFO Black Forest 163.29 346 *e*PKP2 PKPab 11 48 30.9 -2.2
VISS Visnje 163.33 328 *e*PKPdf PKPab 11 48 31.7 -1.6
BOJS Bojanci 163.37 326 *e*PKPdf PKPab 11 48 32.1 -1.5
FLN La Foliniere 163.37 6 *e*PKP2 PKPab 11 48 30.5 -2.9
comp=Z,114nm,1.6s
WLS Welschbruch 163.40 348 PKP PKPab 11 48 31.4 -2.1
CDF Champ du Feu 163.41 348 *e*PKP2 PKPab 11 48 31.2 -2.4
comp=Z,118nm,1.7s
LDF La Druitiere 163.57 6 *e*PKP2 PKPab 11 48 31.8 -2.5
SGMF Saint Gilles 163.60 11 *e*PKP2 PKPab 11 48 31.2 -3.2
ECH Echery 163.62 348 PKP PKPab 11 48 32.3 -2.2
MEZF Maizieres J'vi 163.63 353 *e*PKP2 PKPab 11 48 32.3 -2.2
comp=Z,124nm,1.6s
GRR Gorron 163.71 7 *e*PKP2 PKPab 11 48 32.3 -2.6
THEF They Montfort 163.79 351 PKP PKPab 11 48 33.5 -1.8
QUIF Quistinic 163.81 13 *e*PKP2 PKPab 11 48 32.0 -3.4
comp=Z,97nm,1.3s
HAU Haudompre 163.96 350 *e*PKP2 PKPab 11 48 33.4 -2.6
MOF Molkenrain 163.98 348 PKP PKPab 11 48 30.7 -5.4
HINF Hinteralfeld 164.06 349 *e*PKP2 PKPab 11 48 33.8 -2.7
comp=Z,102nm,1.7s
LOMF Lomont 164.52 348 PKP PKPab 11 48 36.6 -1.9
SSF Saint Saulge 165.17 357 *e*PKP2 PKPab 11 48 39.0 -2.3
comp=Z,44nm,1.4s
CABF La Chapelle 165.36 350 *e*PKP2 PKPab 11 48 40.0 -2.1
comp=Z,121nm,1.7s
AVF Avril sur Loir 165.45 357 *e*PKP2 PKPab 11 48 39.7 -2.8
comp=Z,82nm,1.8s
SMF Signal de Mont 165.57 356 *e*PKP2 PKPab 11 48 40.6 -2.5
comp=Z,130nm,1.6s
BGF Bois d'Agland 165.70 358 *e*PKP2 PKPab 11 48 41.1 -2.5
LPL La Plagne 166.30 347 *e*PKP2 PKPab 11 48 44.9 -1.4
comp=Z,91nm,1.5s
LPG La Plagne 166.32 347 *e*PKP2 PKPab 11 48 45.1 -1.3
comp=Z,134nm,1.5s
ORIF Oris-en-Rattie 167.04 348 *e*PKP2 PKPab 11 48 46.9 -2.6
comp=Z,70nm,1.4s
MBDF Montbardon 167.05 346 *e*PKP2 PKPab 11 48 47.1 -2.4
comp=Z,135nm,1.6s
VIVF Saint-Julien-l 167.27 352 *e*PKP2 PKPab 11 48 48.7 -1.8
comp=Z,115nm,1.6s
LFF La Frestale 167.27 5 *e*PKP2 PKPab 11 48 48.2 -2.3
comp=Z,115nm,1.5s
SBF Sospel 167.71 342 *e*PKP2 PKPab 11 48 50.1 -2.4
comp=Z,182nm,1.2s
SMRF Simiane la Rot 168.00 348 *e*PKP2 PKPab 11 48 52.2 -1.6
FRF La Foret Royal 168.19 344 *e*PKP2 PKPab 11 48 52.0 -2.6
comp=Z,252nm,1.7s
PGF Pioggiola 168.41 334 *e*PKP2 PKPab 11 48 53.1 -2.5
comp=Z,123nm,1.3s
LMR La Mourre 168.44 344 *e*PKP2 PKPab 11 48 53.5 -2.2
comp=Z,156nm,1.4s
ESLA Sonseca Array 171.04 32 PFAKE 11 48 00.0 +10
ESLA LR LR
comp=Z,5μm,19.0s

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*IDC **22** 11:33:47.2±2.9, 31.93S×177.76W, mb4.1/2, mb1 4.3/3, mb1mx3.8/15, mbtmp4.1/3, ML3.1/1, Error ellipse: s-maj=70.1km s-min=35.7km az=117.0*
ISC 22 11:33:48.5±2.9, 32.1S±0.1×177.5W±0.5, h33km, n7, σ0°66°/9, mb4.0/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.49**	**211**	P	**P**	**11 35 25.1**	**+1.0**
MWZ	**Matawai**	**7.47**	**212**	*e*P	**P**	**11 35 37.5**	**-0.3**
MWZ				*e*S	**S**	**11 37 02.1**	**-0.2**
URZ	**Urewera**	**7.60**	**214**	Pn	**Pn**	**11 35 38.4**	**-1.4**
	0.3nm,0.3s,baz=47,slow=17,SNR=5.6						
URZ				Sn	**Sn**	**11 37 05.9**	**+0.2**
	3.7nm,0.3s,baz=188,slow=22,SNR=12						
THZ	**Tophouse**	**12.35**	**216**	*e*P	**P**	**11 36 45.4**	**+0.6**
THZ				*e*S	**S**	**11 38 54.2**	**-8.1**
ASAR	**Alice Springs**	**43.48**	**268**	P	**P**	**11 41 50.5**	**0.0**
	1.1nm,0.5s,mb3.9,baz=105,slow=7.1,SNR=7.5						
WRA	**Warramunga Arr**	**44.62**	**274**	P	**P**	**11 41 59.7**	**0.0**
	1.7nm,0.5s,mb4.2,baz=114,slow=7.8,SNR=20						
FINES	**FINESS Array B**	**146.85**	**339**	PKPbc	PKPbc	11 53 29.2	+3.0
	2.5nm,0.8s,baz=34,slow=5.0,SNR=9.3						

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*NEIC **22** 11:39:44.5±0.9, 2.50N×95.35E, mb4.7/9, Error ellipse: s-maj=25.5km s-min=11.4km az=68.0*
*IDC **22** 11:39:45.3±1.4, 2.60N×95.41E, h23km±4km, mb4.2/6, mb1 4.4/7, mb1mx4.0/17, mbtmp4.3/7, ML4.4/1, Error ellipse: s-maj=58.2km s-min=15.8km az=58.0*
*BJI **22** 11:39:50.1, 3.48N×95.41E, h23km, mB5.0, mb4.8, Ms4.6, Msz4.4*
ISC 22 11:39:43.6±0.8, 2.6N±0.1×95.5E±0.1, h23km, h23km±.9km:pP-P, n32, σ1°16/27, mb4.6/21, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**16.17**	**12**	*e*P	**P**	**11 43 32.4**	**+1.2**
	7.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**16.17**	**12**	Pn	**P**	**11 43 31.4**	**+0.2**
	0.5nm,0.3s,baz=201,slow=11,SNR=72						
KMI	**Kunming**	**23.50**	**17**	⇑P	**P**	**11 44 54.1**	**+1.2**
	17nm,1.3s,mb4.3						
JIRN	**Jiri**	**26.52**	**341**	*e*P	**P**	**11 45 22.5**	**+1.0**
	14nm,0.5s,mb4.7						
PKI	**Pulchoki**	**26.69**	**340**	*e*P	**P**	**11 45 23.2**	**+0.1**
	15nm,0.8s,mb4.6						
DMN	**Daman**	**26.84**	**339**	*e*P	**P**	**11 45 24.5**	**+0.1**
	20nm,0.7s,mb4.8						
KKN	**Kakani**	**26.94**	**340**	*e*P	**P**	**11 45 25.6**	**+0.2**
	37nm,0.9s,mb4.9						
LSA	**Lhasa**	**27.32**	**352**	P	**P**	**11 45 29.1**	**+0.3**
LSA	**Lhasa**	**27.32**	**352**	*e*P	**P**	**11 45 29.3**	**+0.4**
	16nm,0.9s,mb4.5						
GKN	**Gorkha**	**27.36**	**339**	*e*P	**P**	**11 45 30.2**	**+1.0**
	49nm,0.9s,mb5.0						
KOLN	**Koldanda**	**27.55**	**337**	*e*P	**P**	**11 45 32.0**	**+1.1**
	25nm,0.9s,mb4.9						
ENH	**Enshi**	**30.59**	**24**	*e*P	**P**	**11 45 55.5**	**-2.6**
	15nm,1.1s,mb4.7						
XAN	**Xi'an**	**33.74**	**20**	P	**P**	**11 46 23.4**	**-2.3**
XAN				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.5						
BJT	**Baijiatuao**	**41.74**	**24**	*e*P	**P**	**11 47 33.6**	**+0.9**
	comp=Z,16nm,0.7s,mb4.8						
BJT				*e*pP	pP	11 47 39.5	-0.1
BJI	**Beijing**	**41.76**	**24**	*e*P	**P**	**11 47 33.7**	**+0.8**
	comp=Z,24nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**44.18**	**122**	P	**P**	**11 47 53.6**	**+0.8**
	comp=Z,2.7nm,0.7s,mb4.1,baz=301,slow=9.0,SNR=18						
WRA				pP	pP	11 48 00.6	+0.8
	comp=Z,1.1nm,0.6s,baz=303,slow=9.1,SNR=5.0						
WRAB	**Tennant Creek**	**44.18**	**122**	*e*P	**P**	**11 47 52.4**	**-0.5**
	comp=Z,8.0nm,1.0s,mb4.4						
ASAR	**Alice Springs**	**45.55**	**127**	P	**P**	**11 48 04.8**	**+1.0**
	comp=Z,1.1nm,0.6s,mb4.0,baz=300,slow=7.8,SNR=15						
ASAR				PcP	PcP	11 49 41.8	-0.9
	comp=Z,0.2nm,0.7s,baz=311,slow=3.1,SNR=3.8						
SONM	**Songino Array**	**46.09**	**10**	P	**P**	**11 48 06.9**	**-0.8**
	comp=Z,3.4nm,0.8s,mb4.3,baz=192,slow=8.5,SNR=16						
SONM				pP	pP	11 48 13.7	-0.9
	comp=Z,5.6nm,0.8s,baz=190,slow=8.6,SNR=19						
SONM				PcP	PcP	11 49 43.5	-0.8
	comp=Z,1.5nm,0.7s,baz=199,slow=3.0,SNR=4.9						
SONM				pPcP		11 49 51.4	
	comp=Z,1.9nm,0.7s,baz=196,slow=3.9,SNR=5.7						
KURK	**Kurchatov**	**50.08**	**346**	*e*P	**P**	**11 48 41.2**	**+2.5**
HIA	**Hailar**	**50.94**	**20**	*e*P	**P**	**11 48 43.6**	**-1.7**
	comp=Z,7.0nm,1.1s,mb4.5						
ZAL	**Zalesovo**	**51.98**	**352**	P	**P**	**11 48 52.4**	**-0.7**
	comp=Z,6.1nm,0.6s,mb4.7,baz=218,slow=7.3,SNR=25						
ZAL				pP	pP	11 48 60.0	-0.2
	comp=Z,5.4nm,0.6s,baz=208,slow=5.6,SNR=11						
BVAR	**Borovoye Array**	**54.44**	**342**	P	**P**	**11 49 10.4**	**-0.9**
	comp=Z,5.0nm,0.8s,mb4.5,baz=135,slow=8.4,SNR=8.3						
BVAR				pP	pP	11 49 17.4	-1.0
	comp=Z,9.5nm,0.9s,baz=149,slow=8.6,SNR=9.2						
BRVK	**Borovoye**	**54.50**	**342**	*e*P	**P**	**11 49 10.1**	**-1.7**
	comp=Z,20nm,1.3s,mb5.0						
CHKZ	**Chkalovo**	**54.93**	**342**	*e*P	**P**	**11 49 13.7**	**-1.3**
FINES	**FINESS Array B**	**78.03**	**333**	pP	pP	11 51 47.9	-1.2
	comp=Z,5.0nm,1.1s,baz=108,slow=6.0,SNR=2.1						
ARCES	**ARCESS Array B**	**80.71**	**340**	P	**P**	**11 51 55.2**	**-0.8**
	comp=Z,2.9nm,0.9s,mb4.2,baz=90,slow=9.0,SNR=3.5						
ARCES				pP	pP	11 52 03.3	-0.1
	comp=Z,1.8nm,0.7s,baz=90,slow=6.1,SNR=2.1						
ARCES	**ARCESS Array B**	**80.71**	**340**	P	**P**	**11 51 55.2**	**-0.9**
ARCES				pP	pP	11 52 03.3	-0.1
GERES	**GERESS Array B**	**82.69**	**319**	pP	pP	11 52 14.2	-0.1
	comp=Z,1.1nm,0.8s,baz=117,slow=6.6,SNR=4.2						
NVAR	**Mina Array Bea**	**128.65**	**34**	pPKP		11 58 59.3	
	comp=Z,1.2nm,1.0s,baz=332,slow=1.7,SNR=3.7						
TXAR	**Lajitas Array**	**143.36**	**29**	PKP	PKPdf	11 59 16.2	-5.1
	comp=Z,0.4nm,1.0s,baz=315,slow=1.8,SNR=3.7						
TXAR	**Lajitas Array**	**143.36**	**29**	PKP	PKPdf	11 59 16.2	-5.1

IDC 22 11:49:35.5±11.0, 12.95N×90.86E, mb3.7/2, mb1 3.9/3, mb1mx3.5/18, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=234.4km s-min=52.0km az=112.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.52**	**54**	Pn	P	11 51 54.5	-2.6
	0.1nm,0.3s,baz=241,slow=16,SNR=4.8						
WRA	**Warramunga Arr**	**53.84**	**127**	P	P	11 58 59.9	-3.0
	0.7nm,0.6s,baz=310,slow=8.0,SNR=8.6						
ASAR	**Alice Springs**	**55.64**	**131**	P	P	11 59 14.2	-1.8
	0.5nm,0.5s,baz=311,slow=7.2,SNR=12						

IDC 22 11:52:49.6±9.7, 10.78N×94.42E, mb3.7/2, mb1 3.9/3, mb1mx3.5/18, mbtmp3.6/3, ML3.1/1, Error ellipse: s-maj=228.7km s-min=42.5km az=93.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.79**	**29**	Pn	P	11 54 57.1	-3.9
	0.1nm,0.3s,baz=212,slow=12,SNR=4.9						
WRA	**Warramunga Arr**	**49.76**	**128**	P	P	12 01 43.0	-3.3
	0.5nm,0.8s,baz=296,slow=9.3,SNR=5.9						
ASAR	**Alice Springs**	**51.60**	**132**	P	P	12 01 59.4	-0.8
	0.4nm,0.4s,baz=311,slow=7.1,SNR=9.4						

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*NEIC **22** 11:57:42.0±0.9, 53.05S×159.42E, h10km, mb4.4/1, Error ellipse: s-maj=16.1km s-min=13.9km az=182.0*
*IDC **22** 11:57:44.6±1.6, 52.49S×159.30E, mb4.1/4, mb1 4.3/6, mb1mx4.0/11, mbtmp4.2/6, ML4.0/2, MS4.5/1, Ms1 4.5/1, ms1mx2.6/17, Error ellipse: s-maj=40.5km s-min=27.0km az=29.0*
ISC 22 11:57:44.8±1.2, 52.1S±0.1×159.9E±0.1, h10km, n14, σ0°94/14, mb4.0/4, MS4.4/1, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**8.15**	**43**	P	**P**	**11 59 47.1**	**+1.1**
MLZ	**Mavora Lakes**	**8.68**	**42**	P	**P**	**11 59 54.7**	**+1.3**
TUZ	**Tuapeka**	**8.86**	**50**	P	**P**	**11 59 55.7**	**-0.1**
TUZ				*e*S	**Sn**	**12 01 35.9**	**-0.8**
EAZ	**Earnscleugh**	**9.26**	**46**	*e*P	**P**	**12 00 01.3**	**-0.1**
ODZ	**Otahua Downs**	**10.01**	**49**	*e*P	**P**	**12 00 10.9**	**-0.7**
RPZ	**Rata Peaks**	**11.22**	**46**	Pn	**P**	**12 00 34.6**	**+6.3**
	1.8nm,0.3s,baz=13,slow=22,SNR=4.9						
TAU	**Tasmania Unive**	**12.54**	**312**	*e*P	**P**	**12 00 45.6**	**-0.4**
URZ	**Urewera**	**18.33**	**48**	P	**P**	**12 02 05.7**	**+5.0**
	0.2nm,0.3s,baz=184,slow=9.7,SNR=4.0						
STKA	**Stephens Creek**	**24.26**	**319**	P	**P**	**12 03 04.7**	**+1.8**
	4.3nm,0.8s,mb3.9,baz=137,slow=12,SNR=6.1						
STKA	**Stephens Creek**	**24.26**	**319**	*e*P	**P**	**12 03 05.1**	**+2.3**
CTA	**Charters Tower**	**33.70**	**336**	LR	LR	12 16 25.9	
	comp=Z,692nm,18.2s,MS4.4,baz=235,slow=33						
ASAR	**Alice Springs**	**34.69**	**315**	P	**P**	**12 04 36.0**	**-0.7**
	2.5nm,0.8s,mb4.2,baz=155,slow=8.1,SNR=20						
WRA	**Warramunga Arr**	**37.81**	**318**	P	**P**	**12 05 01.8**	**-1.2**
	1.6nm,0.8s,mb3.8,baz=153,slow=7.6,SNR=7.1						
PLCA	**Paso Flores**	**77.67**	**143**	P	**P**	**12 09 42.6**	**0.0**
	1.9nm,0.9s,mb4.0,baz=278,slow=5.2,SNR=3.0						

IDC 22 12:01:49.3±2.8, 15.73S×174.15W, mb3.4/3, mb1 3.8/3, mb1mx3.6/14, mbtmp3.4/3, Error ellipse: s-maj=333.6km s-min=33.3km az=157.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.06**	**257**	P	P	12 10 38.9	-1.6
	0.3nm,0.6s,baz=92,slow=6.6,SNR=8.8						
ASAR	**Alice Springs**	**49.32**	**252**	P	P	12 10 40.2	-2.2
	0.4nm,0.5s,baz=88,slow=7.8,SNR=11						
TXAR	**Lajitas Array**	**81.40**	**56**	P	P	12 14 08.7	-1.2
	0.3nm,0.8s,baz=225,slow=7.1,SNR=3.7						

IDC 22 12:05:55.5±2.9, 32.61S×178.54W, mb3.7/2, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, ML3.5/1, MS3.9/1, Ms1 4.0/1, ms1mx2.3/21, Error ellipse: s-maj=67.6km s-min=35.7km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.66**	**211**	Pn	Pn	12 07 33.8	-3.1
	0.9nm,0.3s,baz=231,slow=7.5,SNR=7.9						
URZ				Sn	Sn	12 08 50.3	-4.2
	0.6nm,0.3s,baz=299,slow=22,SNR=6.4						
ASAR	**Alice Springs**	**42.58**	**270**	P	P	12 13 53.5	-1.4
	0.2nm,0.5s,baz=110,slow=8.2,SNR=6.0						
WRA	**Warramunga Arr**	**43.77**	**275**	P	P	12 14 02.9	-1.7
	0.7nm,0.3s,baz=114,slow=8.0,SNR=21						
VNDA	**Vanda**	**45.85**	**186**	LR	LR	12 31 39.4	
	comp=Z,138nm,18.3s,baz=353,slow=34						
FINES	**FINESS Array B**	**147.04**	**338**	PKPbc	PKPdf	12 25 38.8	-0.4
	3.0nm,1.1s,slow=1.9,SNR=8.5						

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*IDC **22** 12:08:17.5±0.8, 14.53N×92.37E, h22km±4km, mb3.8/7, mb1 4.0/8, mb1mx3.8/17, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=32.5km s-min=13.5km az=56.0*
*NEIC **22** 12:08:17.3±0.6, 14.44N×92.35E, mb4.3/2, Error ellipse: s-maj=17.0km s-min=8.9km az=59.0*
ISC 22 12:08:14.8±0.7, 14.6N±0.1×92.3E±0.1, h23km, h23km±.6km:pP-P, n22, σ1°22/21, mb4.0/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.46**	**58**	Pn	**Pn**	**12 10 04.8**	**-0.3**
	0.2nm,0.3s,baz=251,slow=15,SNR=4.6						
CMAR				Sn	**Sn**	**12 11 22.9**	**-7.0**
	0.4nm,0.3s,baz=248,slow=26,SNR=5.0						
JIRN	**Jiri**	**14.20**	**337**	*e*P	**P**	**12 11 36.5**	**-0.4**
	4.7nm,0.2s						
PKI	**Pulchoki**	**14.43**	**335**	*e*P	**P**	**12 11 40.0**	**+0.2**
	19nm,0.7s						
DMN	**Daman**	**14.59**	**334**	*e*P	**P**	**12 11 41.0**	**-0.9**
	7.9nm,0.3s						
KKN	**Kakani**	**14.68**	**335**	*e*P	**P**	**12 11 41.4**	**-1.7**
LSA	**Lhasa**	**15.09**	**356**	P	**P**	**12 11 52.9**	**+4.4**
	13nm,1.2s						
GKN	**Gorkha**	**15.14**	**333**	*e*P	**P**	**12 11 46.3**	**-2.8**
	12nm,0.3s						
KOLN	**Koldanda**	**15.42**	**330**	*e*P	**P**	**12 11 50.9**	**-1.8**
	5.7nm,0.3s						
SONM	**Songino Array**	**35.17**	**17**	P	**P**	**12 15 09.5**	**+0.5**
	2.0nm,1.2s,mb3.9,baz=207,slow=8.3,SNR=7.2						
SONM				pP	pP	12 15 16.6	+0.7
	1.2nm,0.8s,baz=207,slow=8.3,SNR=8.5						
KURK	**Kurchatov**	**37.71**	**346**	*e*P	**P**	**12 15 31.5**	**+1.2**
	8.3nm,1.0s,mb4.4						
ZAL	**Zalesovo**	**39.71**	**353**	P	**P**	**12 15 48.6**	**+1.5**
	0.8nm,0.7s,mb3.5,baz=158,slow=2.1,SNR=4.2						
ZAL				pP	pP	12 15 55.2	+1.2
	1.3nm,0.6s,baz=202,slow=8.0,SNR=4.4						
BVAR	**Borovoye Array**	**42.10**	**340**	P	**P**	**12 16 09.5**	**+2.8**
	0.4nm,0.8s,mb3.1,baz=158,slow=7.8,SNR=2.7						
BVAR				pP	pP	12 16 15.4	+1.8
	1.0nm,0.9s,baz=143,slow=7.4,SNR=3.9						
CHKZ	**Chkalovo**	**42.58**	**341**	*e*P	**P**	**12 16 11.8**	**+1.2**
CHKZ				*e*pP	pP	12 16 18.9	+1.4
FITZ	**Fitzroy Crossi**	**46.21**	**134**	*e*P	**P**	**12 16 39.7**	**-0.5**
WRA	**Warramunga Arr**	**53.73**	**129**	P	**P**	**12 17 37.3**	**-0.5**
	4.1nm,0.9s,mb4.4,baz=311,slow=8.0,SNR=21						
WRA				pP	pP	12 17 44.8	0.0
	3.1nm,0.9s,baz=309,slow=7.8,SNR=9.5						
WB2	**Warramunga Arr**	**53.74**	**129**	*e*P	**P**	**12 17 37.3**	**-0.5**
ASAR	**Alice Springs**	**55.68**	**132**	P	**P**	**12 17 51.4**	**-0.5**
	1.5nm,0.4s,mb4.4,baz=310,slow=7.2,SNR=32						
ASAR				pP	pP	12 17 59.2	+0.2
	1.0nm,0.5s,baz=309,slow=6.8,SNR=6.1						
BRTR	**Keskin Array B**	**56.79**	**308**	pP	pP	12 18 07.2	+0.4
	1.8nm,0.8s,baz=121,slow=7.2,SNR=5.4						
AKASG	**Malin Array Be**	**61.84**	**320**	pP	pP	12 18 41.5	-0.2
	0.1nm,0.2s,baz=84,slow=4.6,SNR=1.9						
FINES	**FINESS Array B**	**65.98**	**331**	P	**P**	**12 19 01.8**	**+0.4**
	4.5nm,1.1s,mb4.4,baz=104,slow=5.7,SNR=3.4						
FINES				pP	pP	12 19 08.7	+0.2
	2.5nm,1.0s,baz=90,slow=5.7,SNR=2.3						
FINES	**FINESS Array B**	**65.98**	**331**	P	**P**	**12 19 01.8**	**+0.4**
FINES				pP	pP	12 19 08.7	+0.2
GERES	**GERESS Array B**	**71.68**	**317**	P	**P**	**12 19 38.6**	**+1.8**
	0.4nm,0.7s,mb3.5,baz=63,slow=6.6,SNR=3.0						
GERES				pP	pP	12 19 45.7	+1.7
	0.9nm,0.6s,baz=90,slow=5.3,SNR=6.1						

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*BJI **22** 12:11:55.6, 14.26N×91.96E, h35km, mB5.0, mb4.4, Ms4.3, Msz4.1*
*NEIC **22** 12:11:56.8±0.5, 14.38N×92.22E, mb4.5/10, Error ellipse: s-maj=13.5km s-min=7.6km az=64.0*
*IDC **22** 12:11:57.0±0.7, 14.48N×92.35E, h21km±4km, mb4.0/12, mb1 4.1/13, mb1mx4.0/20, mbtmp4.0/13, ML3.4/1, Error ellipse: s-maj=30.9km s-min=13.7km az=56.0*
ISC 22 12:11:54.6±0.5, 14.38N±0.07×92.26E±0.09, h21km, h21km±1.2km:pP-P, n38, σ1°10/40, mb4.2/24, MS4.2/3, 1C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.59**	**57**	Pn	**Pn**	**12 13 45.5**	**-1.4**
	0.2nm,0.3s,baz=245,slow=13,SNR=3.3						
CMAR				Sn	**Sn**	**12 15 03.6**	**-10**
	0.3nm,0.3s,baz=245,slow=30,SNR=2.8						
SHL	**Shillong**	**11.14**	**358**	*e*P	**P**	**12 14 24.5**	**-11**
SHL				*e*S	**S**	**12 16 26.5**	**-14**
JIRN	**Jiri**	**14.38**	**338**	*e*P	**P**	**12 15 14.1**	**-5.1**
	43nm,0.7s						
PKI	**Pulchoki**	**14.60**	**335**	*e*P	**P**	**12 15 16.3**	**-5.8**
	48nm,0.7s						
DMN	**Daman**	**14.76**	**334**	*e*P	**P**	**12 15 17.6**	**-6.6**
	78nm,0.7s						
LSA	**Lhasa**	**15.29**	**356**	P	**P**	**12 15 31.4**	**+0.4**
LSA	**Lhasa**	**15.29**	**356**	*e*P	**P**	**12 15 31.5**	**+0.4**
	12nm,0.7s						
GKN	**Gorkha**	**15.30**	**334**	*e*P	**P**	**12 15 25.7**	**-5.6**
	28nm,0.4s						
KOLN	**Koldanda**	**15.58**	**330**	*e*P	**P**	**12 15 30.4**	**-4.4**
	34nm,0.6s						
ENH	**Enshi**	**22.41**	**42**	*e*P	**P**	**12 16 55.5**	**+2.2**
	14nm,0.7s,mb4.5						
LZH	**Lanzhou**	**23.98**	**24**	*e*P	**P**	**12 17 10.5**	**+1.8**
LZH				AP		12 17 16.0	
LZH				XP		12 17 20.0	
LZH				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.6						
LZH	**Lanzhou**	**23.98**	**24**	*e*P	**P**	**12 17 10.5**	**+1.8**
	comp=Z,30nm,1.2s,mb4.6						
LZH				pP		12 17 16.0	
LZH				sP		12 17 20.0	
XAN	**Xi'an**	**24.71**	**35**	P	**P**	**12 17 13.9**	**-2.0**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.1						
XAN				LR	LR		
	comp=N,337nm,18.3s,MS4.1						
XAN				LR	LR		
	comp=E,385nm,18.1s,MS4.1						
XAN				LR	LR		
	comp=Z,686nm,18.9s,MS4.2						
WMQ	**Urumqi**	**29.61**	**353**	*e*P	**P**	**12 18 02.3**	**+1.7**
WMQ				AP	pP	12 18 06.1	-0.6
WMQ				PP	PP	12 18 59.0	+2.0
WMQ				S	**S**	**12 22 56.5**	**+3.1**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,65nm,4.2s						
WMQ				LR	LR		
	comp=N,411nm,17.2s,MS4.3						
WMQ				LR	LR		
	comp=E,445nm,20.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,466nm,21.5s,MS4.1						
SONM	**Songino Array**	**35.37**	**17**	P	**P**	**12 18 49.1**	**-1.7**
	comp=Z,1.5nm,0.9s,mb3.9,baz=201,slow=7.5,SNR=9.0						
SONM				ScP		12 25 05.0	
	comp=Z,0.2nm,0.6s,baz=108,slow=3.9,SNR=3.6						
ULN	**Ulaanbaatar**	**35.58**	**17**	*e*P	**P**	**12 18 55.1**	**+2.5**
	comp=Z,1.1nm,0.7s,mb3.9						
KURK	**Kurchatov**	**37.90**	**346**	*e*P	**P**	**12 19 10.9**	**-1.1**
	comp=Z,12nm,1.0s,mb4.6						
TLY	**Talaya**	**38.32**	**11**	*e*P	**P**	**12 19 16.7**	**+1

comp=Z,2.3nm,0.6s,baz=106,slow=6.8,SNR=4.5
ARCES ARCESS Array B 68.56 340 P **P** **12 22 57.8 +0.1**
comp=Z,1.6nm,0.5s,mb4.2,baz=84,slow=9.1,SNR=3.7
ARCES pP pP 12 23 04.5 +0.4
comp=Z,1.6nm,0.5s,baz=90,slow=7.2,SNR=2.5
GERES GERESS Array B 71.81 317 P **P** **12 23 18.6 +0.9**
comp=Z,0.7nm,0.7s,mb3.7,baz=90,slow=1.3,SNR=3.6
GERES pP pP 12 23 25.3 +1.1
comp=Z,1.4nm,0.6s,baz=76,slow=5.5,SNR=7.5
SYO Syowa Base 91.05 197 ⇓sP sP 12 25 05.4 -1.8
YKA Yellowknife Ar 100.54 12 P P 12 25 41.3 -0.4
comp=Z,0.3nm,0.9s,baz=332,slow=5.5,SNR=3.6

IDC 22 12:26:12.4±2.9,31.90S×177.92W,h66km±8km,mb3.5/3, mb1 3.7/4,mb1mx3.4/15,mbtmp3.8/4,Error ellipse: s-maj=59.0km s-min=24.0km az=110.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.54**	**211**	P	P		12 27 57.9	-4.1
	0.3nm,0.3s,baz=329,slow=13,SNR=2.6							
URZ				S	S		12 29 24.8	-2.1
	4.3nm,0.3s,baz=128,slow=23,SNR=14							
STKA	**Stephens Creek**	**34.24**	**259**	P	P		12 32 52.2	-1.7
	0.7nm,0.6s,baz=119,slow=13,SNR=3.9							
ASAR	**Alice Springs**	**43.12**	**268**	P	P		12 34 06.2	-1.9
	1.0nm,0.8s,baz=110,slow=6.9,SNR=7.7							
ASAR				pP	pP		12 34 23.3	-1.5
	1.2nm,0.5s,baz=114,slow=7.8,SNR=5.8							
WRA	**Warramunga Arr**	**44.24**	**274**	P	P		12 34 15.4	-1.7
	0.7nm,0.5s,baz=113,slow=7.6,SNR=13							
WRA				pP	pP		12 34 31.5	-2.5
	4.0nm,0.9s,baz=115,slow=7.5,SNR=12							
WRA				sP	sP		12 34 40.7	-1.1
	2.6nm,1.0s,baz=114,slow=7.6,SNR=3.8							
FINES	**FINESS Array B**	**146.57**	**339**	PKPbc	PKPbc		12 45 45.0	-0.3
	4.7nm,1.1s,baz=45,slow=3.9,SNR=9.5							

*IDC **22** 12:30:17.1±0.7,31.67S×177.75W,mb4.6/9,mb1 4.8/11, mb1mx4.5/18,mbtmp4.5/11,ML4.1/2,MS4.3/9,Ms1 4.4/9, ms1mx3.9/25,Error ellipse: s-maj=30.0km s-min=20.1km az=159.0*
*BJI **22** 12:30:18.8,31.60S×177.80W,h10km,mB5.4,mb4.5, Ms5.2,Msz4.9*
*HRVD **22** 12:30:18.8±0.6,31.43S×177.34W,h22km±1km,MW5.0/46, Centroid moment Tensor Solution. LP body waves: s16,c20;Mantle waves: s46,c67; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.69±.34; Mθθ-0.46±.23; Mφφ-2.23±.20; Mrθ-1.09±.43; Mθφ-0.87±.15; Mφr1.95±.29; Best double couple: M0 3.392×10^16 NP1:φs219°,δ34°, λ129°. NP2:φs356°,δ64°,λ67°. Principal axes: T 3.78, Plg63°, Azm228°; N -.774, Plg20°, Azm6°; P -3.003, Plg16°, Azm102°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 12:30:18.8±0.4,31.56S×177.76W,h10km,mb5.0/12 Error ellipse: s-maj=17.2km s-min=11.0km az=169.0*
ISC 22 12:30:17.0±0.5,32.02S±0.05×177.8W±0.1,h10km,n76, σ1§15/49,mb4.7/18,MS4.5/12,3C-6D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.38**	**209**	P	**Pn**		**12 31 53.3**	**-0.1**
MXZ				S	**Sn**		**12 33 08.8**	**+1.7**
MWZ	**Matawai**	**7.36**	**210**	*eP*	**Pn**		**12 32 05.9**	**-1.3**
MWZ				S	**Sn**		**12 33 32.5**	**+0.9**
URZ	**Urewera**	**7.48**	**212**	Pn	**Pn**		**12 32 08.7**	**-0.2**
	2.1nm,0.3s,baz=354,slow=9.0,SNR=13							
URZ				Sn	**Sn**		**12 33 35.7**	**+1.0**
	20nm,0.3s,baz=122,slow=23,SNR=16							
URZ	**Urewera**	**7.48**	**212**	*eP*	**Pn**		**12 32 08.2**	**-0.7**
OUZ	**Omahuta**	**7.84**	**244**	*eP*	**Pn**		**12 32 20.1**	**+6.3**
KNZ	**Kokohu**	**7.89**	**206**	*eS*	**Sn**		**12 33 45.1**	**+0.2**
BKZ	**Black Stump Fm**	**8.50**	**211**	*eP*	**P**		**12 32 21.4**	**-1.7**
BKZ				S	**Sn**		**12 33 58.3**	**-1.8**
TSZ	**Takapari Road**	**9.47**	**210**	*eP*	**P**		**12 32 33.4**	**-3.1**
MRZ	**Mangatainoka R**	**10.13**	**210**	S	**S**		**12 34 33.6**	**-6.7**
NNZ	**Nelson**	**11.58**	**215**	*eS*	**S**		**12 35 09.0**	**-6.8**
THZ	**Tophouse**	**12.22**	**215**	*eP*	**P**		**12 33 12.8**	**-1.3**
THZ				*eS*	**S**		**12 35 25.2**	**-6.3**
KHZ	**Kahutara**	**12.45**	**211**	*eS*	**S**		**12 35 28.1**	**-8.7**
MQZ	**McQueen's Vall**	**13.87**	**210**	*eS*	**S**		**12 35 58.3**	**-13**
RPZ	**Rata Peaks**	**14.60**	**214**	Pn	**P**		**12 33 44.3**	**-1.1**
	1.3nm,0.3s,baz=33,slow=20,SNR=3.7							
RPZ				Sn	**S**		**12 36 20.6**	**-7.6**
	2.8nm,0.3s,baz=67,slow=18,SNR=5.7							
RAR	**Rarotonga**	**19.37**	**61**	LR	LR		12 40 48.7	
	comp=Z,422nm,19.0s,baz=121,slow=33							
TBI	**Tubuai**	**26.50**	**78**	*eLQ*			12 40 59.1	
TBI				*eLR*	LR		12 42 06.4	
	732nm,29.8s,baz=239							
CNB	**Canberra Magne**	**27.44**	**254**	*eP*	**P**		**12 36 08.7**	**+3.8**
	194nm,1.3s,mb5.5							
PPT	**Papeete**	**29.29**	**67**	*eLQ*			12 42 03.7	
PPT				*eLR*	LR		12 43 18.7	
	586nm,28.2s,baz=226							
CTA	**Charters Tower**	**34.24**	**281**	*iP*	**P**		**12 37 06.7**	**+1.5**
	15nm,0.7s,mb5.0							
CTA	**Charters Tower**	**34.24**	**281**	P	**P**		**12 37 05.2**	**0.0**
	16nm,0.7s,mb5.0,baz=100,slow=11,SNR=10							
CTAO	**Charters Tower**	**34.24**	**281**	*eP*	**P**		**12 37 06.1**	**+0.9**
	23nm,0.9s,mb5.1							
CTAO				LR	LR			
	comp=Z,896nm,21.0s,MS4.5							
STKA	**Stephens Creek**	**34.29**	**259**	*eP*	**P**		**12 37 07.8**	**+2.3**
	comp=Z,4.4nm,0.6s,mb4.6							
STKA	**Stephens Creek**	**34.29**	**259**	P	**P**		**12 37 06.7**	**+1.1**
	comp=Z,6.2nm,0.6s,mb4.7,baz=99,slow=9.8,SNR=20							
STKA				LR	LR		12 50 48.9	
	comp=Z,1μm,18.1s,MS4.7,baz=286,slow=36							
PMG	**Port Moresby**	**39.45**	**297**	LR	LR		12 49 04.2	
	comp=Z,487nm,19.6s,MS4.3,baz=214,slow=29							
TAOE	**Nuku Hiva Isla**	**41.83**	**65**	*eLR*	LR		12 49 06.0	
ASAR	**Alice Springs**	**43.20**	**269**	P	**P**		**12 38 20.2**	**+0.3**
	comp=Z,5.7nm,0.5s,mb4.5,baz=105,slow=7.1,SNR=44							
ASAR				LR	LR		12 54 46.2	
	comp=Z,188nm,18.9s,MS4.0,baz=189,slow=34							
ASPA	**Alice Springs**	**43.20**	**269**	⇓*iP*	**P**		**12 38 20.3**	**+0.4**
WB2	**Warramunga Arr**	**44.32**	**274**	⇓*iP*	**P**		**12 38 29.0**	**-0.1**
WRAB	**Tennant Creek**	**44.33**	**274**	*eP*	**P**		**12 38 28.3**	**-0.8**
	comp=Z,49nm,0.8s,mb5.3							
WRAB				LR	LR			
	comp=Z,338nm,20.0s,MS4.3							
WRA	**Warramunga Arr**	**44.33**	**274**	P	**P**		**12 38 28.8**	**-0.4**
	comp=Z,6.7nm,0.4s,mb4.8,baz=113,slow=7.9,SNR=150							
FORT	**Forrest**	**45.80**	**257**	*eP*	**P**		**12 38 40.9**	**+0.2**
	comp=Z,35nm,0.7s,mb5.4							
VNDA	**Vanda**	**46.51**	**186**	LR	LR		12 56 14.7	
	comp=Z,414nm,18.1s,MS4.4,baz=7.9,slow=33							
FITZ	**Fitzroy Crossi**	**52.52**	**271**	*eP*	**P**		**12 39 32.3**	**-0.5**
	comp=Z,17nm,1.2s,mb4.9							
QSPA	**South Pole Qui**	**58.10**	**180**	⇓*iP*	**P**		**12 40 16.2**	**+3.9**
	comp=Z,18nm,0.8s,mb5.2							
MAW	**Mawson**	**70.85**	**201**	P	**P**		**12 41 38.0**	**+2.5**
	comp=Z,15nm,1.3s,mb4.8,baz=133,slow=11,SNR=5.2							
MAW	**Mawson**	**70.85**	**201**	*eP*	**P**		**12 41 37.7**	**+2.3**
	comp=Z,12nm,1.3s,mb4.7							
USHA	**Ushuaia**	**74.50**	**146**	LR	LR		13 06 04.0	
	comp=Z,215nm,20.4s,MS4.4,baz=192,slow=29							
SYO	**Syowa Base**	**75.58**	**193**	⇓P	**P**		**12 42 04.0**	**+1.0**
SYO	**Syowa Base**	**75.58**	**193**	⇓PcP	PcP		12 42 18.7	+2.4
SNAA	**Sanae**	**76.54**	**178**	⇑*i*	**P**		**12 42 09.9**	**+1.5**
SNAA	**Sanae**	**76.54**	**178**		PcP		12 42 18.9	-1.5
SNAA	**Sanae**	**76.54**	**178**	P	**P**		**12 42 10.5**	**+2.1**
	comp=Z,1.0nm,0.7s,mb3.9,baz=357,slow=2.7,SNR=4.9							
VNA3	**Neumayer Olymp**	**76.69**	**176**	⇑*i*	**P**		**12 42 12.6**	**+3.4**
VNA3	**Neumayer Olymp**	**76.69**	**176**		PcP		12 42 22.3	+1.2
VNA2	**Neumayer--Watz**	**77.12**	**177**	⇑*i*	**P**		**12 42 16.1**	**+4.4**
VNA2	**Neumayer--Watz**	**77.12**	**177**		PcP		12 42 24.1	+1.2
PLCA	**Paso Flores**	**81.30**	**133**	LR	LR		13 12 33.4	
	comp=Z,237nm,18.4s,MS4.6,baz=81,slow=31							
NVAR	**Mina Array Bea**	**89.32**	**43**	P	**P**		**12 43 14.2**	**-0.7**
	comp=Z,2.3nm,0.9s,mb4.5,baz=233,slow=10,SNR=13							
MNV	**Mina**	**89.41**	**43**	*eP*	**P**		**12 43 14.9**	**-0.4**
	comp=Z,4.9nm,1.2s,mb4.7							
TUC	**Tucson**	**90.00**	**51**	*eP*	**P**		**12 43 18.6**	**+0.5**
	comp=Z,4.1nm,1.0s,mb4.7							
MDJ	**Mudanjiang**	**90.04**	**325**	P	**P**		**12 43 16.8**	**-1.2**
MDJ				AMB	AMB			
	comp=Z,4.0nm,1.2s,mb4.6							
MDJ				AMB	AMB			
	comp=Z,75nm,4.3s							
MDJ				LR	LR			
	comp=N,125nm,22.1s,MS4.3							
MDJ				LR	LR			
	comp=E,88nm,26.7s,MS4.3							
MDJ				LR	LR			
	comp=Z,150nm,18.6s							
LVC	**Limon Verde**	**93.02**	**119**	LR	LR		13 15 50.3	
	comp=Z,155nm,20.7s,MS4.4,baz=349,slow=29							
TXAR	**Lajitas Array**	**93.13**	**57**	P	**P**		**12 43 32.1**	**-0.6**
	comp=Z,1.1nm,1.0s,mb4.2,baz=217,slow=6.3,SNR=8.0							
KMI	**Kunming**	**94.68**	**297**	P	**P**		**12 43 41.3**	**+1.4**
	comp=Z,5.0nm,1.4s,mb4.8							
KMI				sP	sP		12 43 49.0	+4.9
KMI				S	S		12 54 52.0	+2.1
KMI				SS	SS		13 01 20.0	+2.6
KMI				LR	LR			
	comp=Z,390nm,19.4s,MS4.9							
PV01	**Paradox Valley**	**95.00**	**48**	P	**P**		**12 43 40.9**	**-0.1**
PDAR	**Pinedale Array**	**97.20**	**44**	P	**P**		**12 43 50.3**	**-0.6**
	comp=Z,0.3nm,0.8s,mb3.8,baz=225,slow=4.2,SNR=3.6							
LPAZ	**La Paz**	**97.35**	**114**	LR	LR		13 17 22.2	
	comp=Z,122nm,18.1s,MS4.4,baz=318,slow=29							
JTS	**JuntasAbangare**	**97.79**	**83**	LR	LR		13 20 21.9	
	comp=Z,2.3nm,20.2s,baz=318,slow=31							
KURK	**Kurchatov**	**122.27**	**313**	*e*PKPdf	PKPdf		12 49 10.3	-4.7
CHKZ	**Chkalovo**	**127.58**	**316**	*e*PKPdf	PKPdf		12 49 22.6	-2.6
BVAR	**Borovoye Array**	**127.66**	**315**	PKP	PKPdf		12 49 22.6	-2.8
	comp=Z,0.8nm,0.5s,baz=270,slow=40,SNR=6.4							
BRVK	**Borovoye**	**127.72**	**315**	*e*PKPdf	PKPdf		12 49 22.8	-2.7
ARCES	**ARCESS Array B**	**140.20**	**347**	PKhKP			12 49 40.5	
	comp=Z,2.4nm,0.9s,baz=63,slow=2.7,SNR=4.5							
GNI	**Garni**	**144.93**	**296**	PKP	PKPdf		12 49 56.1	-1.2
	comp=Z,1.6nm,0.4s,baz=70,slow=5.4,SNR=4.5							
KAF	**Kangasniemi**	**146.12**	**340**	*ep*	PKPbc		12 49 56.4	-0.3
	comp=Z,7.1nm,0.6s							
KIV	**Kislovodsk**	**146.24**	**302**	*e*PKPdf	PKPdf		12 49 58.8	-0.6
OBN	**Obninsk**	**146.57**	**324**	*e*PKPdf	PKPdf		12 49 56.6	-3.0
FINES	**FINESS Array B**	**146.71**	**339**	PKPbc	PKPbc		12 49 58.2	+0.2
	comp=Z,5.6nm,0.5s,baz=62,slow=3.6,SNR=50							
MALT	**Malatya**	**149.84**	**292**	*e*PKPbc	PKPdf		12 50 09.3	+3.8
NB2	**NORSAR Subarra**	**150.37**	**351**	PKP	PKPdf		12 50 10.2	+4.7
	comp=Z,14nm,1.7s,baz=34,slow=3.4							
NOA	**NORSAR Array B**	**150.37**	**351**	PKPbc	PKPdf		12 50 08.5	+3.0
	comp=Z,2.0nm,0.9s,baz=17,slow=4.0,SNR=3.1							
HFS	**Hagfors**	**150.85**	**348**	PKPbc	PKPdf		12 50 09.6	+3.3
	comp=Z,6.6nm,0.9s,baz=117,slow=3.3,SNR=4.8							
HFS				PKPab	PKPab		12 50 17.3	-1.1
	comp=Z,2.9nm,0.7s,baz=90,slow=4.4,SNR=8.2							
AKASG	**Malin Array Be**	**152.66**	**321**	PKPbc	PKPdf		12 50 13.9	+4.7
	comp=Z,0.7nm,0.4s,baz=44,slow=2.5,SNR=8.1							
AKASG				PKPab	PKPab		12 50 24.2	-2.1
	comp=Z,2.1nm,0.7s,baz=40,slow=3.1,SNR=9.4							
BRTR	**Keskin Array B**	**153.47**	**296**	PKPbc	PKPdf		12 50 17.4	+6.7
	comp=Z,1.4nm,0.5s,baz=142,slow=2.7,SNR=9.6							
CLL	**Collm**	**159.14**	**341**	*e*PKP2	PKPab		12 50 52.0	-2.0
GERES	**GERESS Array B**	**161.08**	**336**	PKPab	PKPab		12 51 01.0	-1.3
	comp=Z,2.1nm,1.1s,baz=90,slow=5.3,SNR=3.8							

MAN 22 12:31:40.4,13.50N×120.85E,h1km,mb4.0,ML2.8,MS2.4, 2C-2D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.60**	**8**	⇓*eP*		Pg	12 31 53.0	+0.6
TGY				*i S*		Sg	12 32 02.2	+1.7
LUBP	**Lubang**	**0.63**	**291**	*eP*		Pg	12 31 52.4	-0.6
LUBP				*eS*		Sg	12 32 01.8	+0.4
LUBP	**Lubang**	**0.63**	**291**	⇑*eP*		Pg	12 31 52.4	-0.6
LQP	**Lukban**	**0.90**	**48**	⇓*iP*		Pg	12 31 57.7	-0.7
LQP				*i S*		Sg	12 32 07.6	-2.8
BOAC	**Boac**	**0.97**	**92**	*eP*		Pb	12 31 59.1	-0.5
BOAC				*eS*		Sg	12 32 13.4	+0.8
GQP	**Guinayangan**	**1.60**	**75**	⇑*eP*		Pn	12 32 09.5	-0.5
POLP	**Polilio Island**	**1.61**	**41**	*eP*		Pn	12 32 09.5	-0.6
BALP	**Baler**	**2.33**	**17**	*eP*		Pn	12 32 22.2	+1.7

SKHL 22 12:32:00.5±1.2,48.28N×130.68E,h10km,mb3.5/1, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**1.19**	**36**	*e*Pg		Pg	12 32 21.0	-3.2
KLR				*e*Sg		Sg	12 32 36.8	-3.3
GRNR	**Gornyy**	**4.49**	**54**	*e*Sg		Sg	12 34 22.3	-7.8
GRNR				A			12 34 28.0	
	28nm,0.8s							
EKMR	**Ekimchan**	**5.01**	**16**	*e*Pg		Pg	12 33 31.9	-8.6
EKMR				AMB		AMB	12 33 38.5	
	4.0nm,0.6s							
EKMR				*e*Sg		Sg	12 34 37.6	-10
EKMR				A			12 34 43.5	
	17nm,0.6s							
EKMR				A			12 34 43.5	
	12nm,0.6s							
YASR	**Yasnyy**	**5.30**	**342**	*e*Pn		Pn	12 33 19.9	-1.8
YASR				*e*Sg		Sg	12 34 46.9	-10
YASR				A			12 34 51.8	
	6.0nm,0.6s							
ZEA	**Zeya**	**5.88**	**340**	*e*Sg		Sg	12 35 04.0	-12
ZEA				A			12 35 08.8	
	10.0nm,0.6s							
BMKR	**Bomnak**	**6.54**	**351**	*e*rx		rx	12 34 43.6	
BMKR				*e*Sg		Sg	12 35 23.5	-15
BMKR				A			12 35 30.5	
	6.0nm,0.5s							
KROS	**Kirovskiy**	**6.58**	**341**	*e*Sn		Sn	12 34 52.4	-3.3
KROS				*e*Sg		Sg	12 35 27.5	-12
KROS				A			12 35 29.2	
	3.0nm,0.7s							

*IDC **22** 12:41:16.9±0.8,0.83S×20.68W,mb4.1/12,mb1 4.3/13, mb1mx4.0/22,mbtmp4.1/13,ML4.6/1,Error ellipse: s-maj=31.1km s-min=19.6km az=123.0*
*NEIC **22** 12:41:18.0±0.4,0.89S×20.80W,h10km,mb4.6/18,Error ellipse: s-maj=12.8km s-min=8.8km az=122.0*
ISC 22 12:41:17.0±0.6,0.81S±0.09×20.7W±0.1,h10km,n44, σ0§91/42,mb4.4/27,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**16.00**	**252**	*eP*		**P**	**12 44 59.2**	**-4.9**
	28nm,0.5s							
DBIC	**Dimbokro**	**17.44**	**65**	P		**P**	**12 45 23.5**	**+1.3**
	1.9nm,0.3s,baz=236,slow=14,SNR=23							
DBIC	**Dimbokro**	**17.44**	**65**	*eP*		**P**	**12 45 23.0**	**+0.8**
	13nm,0.8s							
ESDC	**Sonseca Array**	**43.09**	**19**	P		**P**	**12 49 20.0**	**+0.9**
	0.6nm,0.4s,mb3.7,baz=199,slow=8.1,SNR=8.3							
ESDC				PP		PP	12 51 04.2	+2.6
	0.1nm,0.3s,baz=198,slow=9.4,SNR=4.1							
SJPF	**Ste Jean**	**47.08**	**19**	*eP*		**P**	**12 49 51.5**	**+0.5**
	54nm,1.3s,mb5.0							
ETSF	**Etsaut**	**47.12**	**20**	*eP*		**P**	**12 49 51.8**	**+0.6**
	19nm,1.0s,mb4.7							
EPF	**Esparros**	**47.55**	**21**	*eP*		**P**	**12 49 55.3**	**+0.6**
	21nm,1.1s,mb4.8							
LPAZ	**La Paz**	**49.23**	**249**	P		**P**	**12 50 07.4**	**-0.5**
	4.0nm,0.6s,mb4.6,baz=80,slow=5.0,SNR=13							
LPAZ	**La Paz**	**49.23**	**249**	*eP*		**P**	**12 50 07.0**	**-1.0**
	4.7nm,0.8s,mb4.6							
LFF	**La Frestale**	**49.36**	**20**	*eP*		**P**	**12 50 08.9**	**+0.3**
CAF	**Calviac**	**49.81**	**21**	*eP*		**P**	**12 50 12.1**	**0.0**
SUR	**Sutherland**	**50.11**	**133**	P		**P**	**12 50 11.8**	**-2.7**
MFF	**Saint Martin d**	**50.54**	**18**	*eP*		**P**	**12 50 17.3**	**-0.3**
	16nm,1.0s,mb4.6							
TCF	**Toulx Ste Croi**	**51.04**	**20**	*eP*		**P**	**12 50 21.4**	**0.0**
ORIF	**Oris-en-Rattie**	**51.27**	**24**	*eP*		**P**	**12 50 23.8**	**+0.6**
MBDF	**Montbardon**	**51.48**	**25**	*eP*		**P**	**12 50 25.6**	**+0.8**
	14nm,0.9s,mb4.6							
BOSA	**Boshof**	**51.81**	**127**	*eP*		**P**	**12 50 28.4**	**+0.8**
	2.1nm,0.6s,mb4.2							
GRR	**Gorron**	**51.93**	**17**	*eP*		**P**	**12 50 27.6**	**-0.6**
	51nm,1.2s,mb5.0							
LPG	**La Plagne**	**52.10**	**24**	*eP*		**P**	**12 50 30.3**	**+0.8**
	20nm,1.0s,mb4.7							
LPL	**La Plagne**	**52.10**	**24**	*eP*		**P**	**12 50 30.2**	**+0.7**
	21nm,1.0s,mb4.7							
SSF	**Saint Saulge**	**52.16**	**21**	*eP*		**P**	**12 50 29.9**	**0.0**
	6.6nm,0.8s,mb4.3							
HAU	**Haudompre**	**53.99**	**22**	*eP*		**P**	**12 50 43.0**	**-0.5**
	24nm,1.0s,mb4.8							
DAVOX	**Davos**	**54.43**	**25**	P		**P**	**12 50 46.0**	**-0.7**
	7.9nm,1.0s,mb4.6,baz=236,slow=9.7,SNR=5.2							
CDF	**Champ du Feu**	**54.68**	**22**	*eP*		**P**	**12 50 47.8**	**-0.7**
	11nm,1.0s,mb4.6							
BAIF	**Baives**	**54.97**	**19**	*eP*		**P**	**12 50 49.7**	**-1.0**
	9.6nm,0.7s,mb4.6							
GERES	**GERESS Array B**	**57.67**	**26**	P		**P**	**12 51 08.8**	**-1.2**
	1.3nm,0.7s,mb4.1,baz=217,slow=6.7,SNR=6.6							
GERES				PP		PP	12 53 14.7	-4.9
	1.0nm,0.8s,baz=207,slow=9.0,SNR=3.9							
GERES	**GERESS Array B**	**57.67**	**26**	P		**P**	**12 51 08.8**	**-1.2**
GERES				PP		PP	12 53 14.7	-4.9
EKA	**Eskdalemuir Ar**	**57.77**	**12**	P		**P**	**12 51 09.4**	**-1.1**
	1.0nm,0.5s,mb4.1,baz=196,slow=6.1,SNR=6.6							
BRTR	**Keskin Array B**	**63.83**	**44**	P		**P**	**12 51 51.2**	**-0.8**
	1.1nm,0.7s,mb4.0,baz=227,slow=6.6,SNR=3.2							
HFS	**Hagfors**	**66.36**	**18**	P		**P**	**12 52 07.5**	**-0.5**
	3.9nm,0.7s,mb4.5,baz=225,slow=8.4,SNR=4.9							
NB2	**NORSAR Subarra**	**66.36**	**16**	P		**P**	**12 52 07.4**	**-0.6**
	1.3nm,0.6s,mb4.1,baz=209,slow=6.5							
NOA	**NORSAR Array B**	**66.36**	**16**	P		**P**	**12 52 07.0**	**-1.0**
	1.5nm,0.7s,mb4.1,baz=211,slow=6.5,SNR=4.6							
NOA	**NORSAR Array B**	**66.36**	**16**	P		**P**	**12 52 07.0**	**-1.0**
FINES	**FINESS Array B**	**71.52**	**22**	P		**P**	**12 52 39.8**	**-0.1**
	1.2nm,0.7s,mb4.0,baz=243,slow=3.1,SNR=4.0							
FINES	**FINESS Array B**	**71.52**	**22**	P		**P**	**12 52 39.8**	**-0.1**
TXAR	**Lajitas Array**	**84.29**	**299**	P		**P**	**12 53 53.0**	**+2.1**
	0.6nm,0.9s,mb3.7,baz=135,slow=7.1,SNR=4.7							
SDCO	**Great Sand Dun**	**86.40**	**308**	*eP*		**P**	**12 54 06.0**	**+4.8**
	0.8nm,0.8s,mb4.0							
MAW	**Mawson**	**86.79**	**158**	P		**P**	**12 54 01.8**	**-0.6**
	1.9nm,0.3s,mb4.8,baz=270,slow=9.1,SNR=7.3							
PV10	**Paradox Valley**	**89.22**	**308**	*eP*		**P**	**12 54 18.3**	**+3.5**
QSPA	**South Pole Qui**	**89.27**	**180**	P		**P**	**12 54 16.0**	**+1.9**
	3.0nm,0.9s,mb4.6							
YKA	**Yellowknife Ar**	**92.54**	**332**	P		**P**	**12 54 29.4**	**-0.1**
	0.3nm,0.7s,mb3.8,baz=91,slow=5.1,SNR=4.9							
YKA	**Yellowknife Ar**	**92.54**	**332**	P		**P**	**12 54 29.4**	**-0.1**
ASAR	**Alice Springs**	**145.32**	**136**	PKPbc	PKPbc		13 00 57.8	+1.3
	1.8nm,0.6s,baz=227,slow=3.0,SNR=29							
WRA	**Warramunga Arr**	**147.98**	**131**	PKPbc	PKPdf		13 01 04.9	+1.4
	0.8nm,1.0s,baz=236,slow=2.9,SNR=5.4							

IDC 22 12:41:47.4±1.6,2.37S×68.08E,mb3.8/4,mb1 4.0/4, mb1mx3.7/17,mbtmp3.8/4,Error ellipse: s-maj=50.2km s-min=33.5km az=56.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**36.76**	**54**	P	P		12 48 57.5	-1.2
	0.4nm,0.4s,baz=253,slow=12,SNR=3.8							
SONM	**Songino Array**	**60.14**	**29**	P	P		12 51 56.4	-2.8
	1.5nm,1.0s,baz=221,slow=6.6,SNR=10							
WRA	**Warramunga Arr**	**66.89**	**111**	P	P		12 52 41.8	-2.3
	1.1nm,0.9s,baz=285,slow=6.3,SNR=6.0							
ASAR	**Alice Springs**	**66.94**	**115**	P	P		12 52 42.5	-1.9
	1.0nm,0.8s,baz=278,slow=5.9,SNR=8.2							
TXAR	**Lajitas Array**	**152.06**	**344**	PKPbc	PKPdf		13 01 45.3	+4.8
	0.8nm,0.8s,baz=90,slow=2.5,SNR=9.0							
TXAR				PKPab	PKPab		13 01 55.2	-1.9
	1.0nm,1.1s,baz=45,slow=1.8,SNR=5.2							

IGQ 22 12:52:10.4,1.16S×81.57W,h12km±27km,mb4.3,2D, Error ellipse: s-maj=26.3km s-min=8.9km az=172.8,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.95**	**97**	P		Pn	12 52 58.5	+0.5
IGUA				S		Sn	12 53 32.4	-1.3

QIZ	**Qiongzhong**	**20.23**	**45**	*e*P	**P**	**13 03 06.0**	**-0.3**
	comp=E,64nm,1.3s						
HYB	**Hyderabad**	**20.27**	**309**⇓	*e*P	**P**	**13 03 07.0**	**+0.3**
HYB				*e*S	**S**	**13 06 43.5**	**-3.5**
HYB				pmax	pmax		
	comp=Z,100nm,1.2s						
HYB	**Hyderabad**	**20.27**	**309**⇓	*e*P	**P**	**13 03 07.0**	**+0.3**
	comp=Z,100nm,1.2s						
HYB				*e*S	**S**	**13 06 43.5**	**-3.5**
HYB	**Hyderabad**	**20.27**	**309**⇓	*i*P	**P**	**13 03 07.0**	**+0.3**
	comp=Z,100nm,1.2s						
HYB				*e*		13 06 43.5	
HYB				*e*S	**S**	**13 06 54.5**	**+7.5**
SHL	**Shillong**	**20.75**	**352**	*e*P	**P**	**13 03 09.8**	**-1.7**
SHL				*e*		13 06 35.0	
SHL				*e*	**S**	**13 06 52.0**	**-4.2**
BLSP	**Bilaspur**	**21.12**	**325**⇓	*e*P	**P**	**13 03 16.1**	**+0.6**
BLSP				*e*		13 03 17.3	
	comp=Z,81nm,1.1s						
BLSP				*e*S	**S**	**13 07 07.5**	**+4.1**
KMI	**Kunming**	**21.46**	**20**	P	**P**	**13 03 21.2**	**+2.4**
KMI				*PP		13 03 36.3	
KMI				*SP		13 03 41.8	
KMI				S	**S**	**13 07 12.2**	**+2.4**
KMI				SS	SS	13 07 54.9	+8.9
KMI				pmax	pmax		
	comp=Z,56nm,1.1s,mb4.8						
KMI				MLR	MLR		
	comp=Z,390nm,25.2s,MS3.7						
KMI	**Kunming**	**21.46**	**20**	P	**P**	**13 03 21.2**	**+2.4**
	comp=Z,56nm,1.1s,mb4.8						
KMI				pP		13 03 36.3	
KMI				sP		13 03 41.8	
KMI				S	**S**	**13 07 12.2**	**+2.4**
KMI				SS	SS	13 07 54.9	+8.9
KMI				LR	LR		
	comp=Z,390nm,25.2s,MS3.7						
KAD	**Karad**	**23.74**	**303**	*e*P	**P**	**13 03 43.7**	**+2.3**
KAD				*e*	**S**	**13 08 00.7**	**+10**
JIRN	**Jiri**	**24.10**	**341**	*e*P	**P**	**13 03 44.4**	**-0.4**
	comp=Z,60nm,0.7s,mb5.1						
PKI	**Pulchoki**	**24.29**	**339**	*e*P	**P**	**13 03 45.4**	**-1.2**
	comp=Z,22nm,0.6s,mb4.8						
DMN	**Daman**	**24.43**	**339**	*e*P	**P**	**13 03 47.7**	**-0.3**
	comp=Z,37nm,0.7s,mb4.9						
KKN	**Kakani**	**24.53**	**339**	*e*P	**P**	**13 03 48.3**	**-0.7**
	comp=Z,43nm,0.8s,mb5.0						
POO	**Poona**	**24.62**	**305**⇓	*e*P	**P**	**13 03 52.0**	**+2.0**
POO				*e*		13 03 53.5	
	comp=Z,22nm,0.5s						
POO				*e*S	**S**	**13 08 08.8**	**+2.8**
BHPL	**Bhopal**	**24.84**	**319**⇓	*e*P	**P**	**13 03 53.1**	**+1.1**
BHPL				*e*		13 03 57.2	
	comp=Z,55nm,1.2s						
BHPL				*e*S	**S**	**13 08 12.1**	**+2.4**
LSA	**Lhasa**	**24.92**	**352**	P	**P**	**13 03 53.8**	**+1.1**
LSA				AMB	AMB		
	comp=Z,24nm,1.0s,mb4.7						
LSA	**Lhasa**	**24.92**	**352**	*e*P	**P**	**13 03 53.0**	**+0.3**
LSA				pmax	pmax		
	comp=Z,21nm,0.6s,mb4.8						
LSA	**Lhasa**	**24.92**	**352**	*e*P	**P**	**13 03 53.0**	**+0.3**
	comp=Z,21nm,0.6s,mb4.8						
GKN	**Gorkha**	**24.96**	**338**	*e*P	**P**	**13 03 53.1**	**0.0**
	comp=Z,70nm,0.7s,mb5.3						
KOLN	**Koldanda**	**25.16**	**336**	*e*P	**P**	**13 03 55.1**	**+0.1**
	comp=Z,72nm,0.8s,mb5.2						
TGY	**Tagaytay City**	**27.22**	**69**	P	**P**	**13 04 13.8**	**-0.4**
	comp=Z,127nm,0.5s,mb5.7,baz=149,slow=6.0,SNR=4.5						
LQP	**Lukban**	**27.78**	**69**⇑	*e*P	**P**	**13 04 20.0**	**+0.7**
ENH	**Enshi**	**28.74**	**27**	*e*P	**P**	**13 04 26.2**	**-1.5**
	comp=Z,48nm,0.7s,mb5.3						
NDI	**New Delhi**	**29.00**	**327**	*e*	sP	13 04 49.0	+4.0
SMLA	**Simla**	**30.96**	**329**	*e*P	**P**	**13 04 45.9**	**-1.6**
WHN	**Wuhan**	**31.40**	**33**	⇓P	**P**	**13 04 52.0**	**+0.6**
XAN	**Xi'an**	**31.78**	**22**	P	**P**	**13 04 53.1**	**-1.6**
XAN				AMB	AMB		
	comp=Z,171nm,0.7s,mb6.0						
LZH	**Lanzhou**	**32.10**	**14**	⇑P	**P**	**13 04 56.5**	**-1.0**
LZH				AP	pP	13 05 10.1	+2.2
LZH				XP	sP	13 05 18.3	+5.7
LZH				AMB	AMB		
	comp=Z,80nm,1.1s,mb5.5						
LZH	**Lanzhou**	**32.10**	**14**	⇑P	**P**	**13 04 56.5**	**-1.0**
LZH				*PP	pP	13 05 10.1	+2.2
LZH				pmax	pmax		
	comp=Z,80nm,1.1s,mb5.5						
LZH	**Lanzhou**	**32.10**	**14**	⇑P	**P**	**13 04 56.5**	**-1.0**
	comp=Z,80nm,1.1s,mb5.5						
LZH				pP	pP	13 05 10.1	+2.2
LZH				sP	sP	13 05 18.3	+5.7
NJ2	**Nanjing**	**35.10**	**37**	*e*P	**P**	**13 05 24.3**	**+0.9**
NJ2				AP	pP	13 05 33.1	-0.8
NJ2				XP	sP	13 05 38.3	-0.3
NJ2				PP	PP	13 06 41.5	-1.1
NJ2				PPP	PPP	13 06 58.4	-2.4
NJ2				S	**S**	**13 10 56.0**	**+3.3**
NJ2				XS		13 11 10.0	
NJ2				AMB	AMB		
	comp=Z,170nm,0.9s,mb6.0						
NJ2				AMB	AMB		
	comp=Z,1μm,3.8s						
NJ2				LR	LR		
	comp=N,860nm,17.4s,MS4.7						
NJ2				LR	LR		
	comp=E,1μm,19.3s,MS4.7						
NJ2				LR	LR		
	comp=Z,880nm,11.5s						
MBWA	**Marble Bar**	**35.55**	**138**	*e*P	**P**	**13 05 26.2**	**-1.1**
SSE	**Sheshan**	**35.90**	**40**	P	**P**	**13 05 27.0**	**-3.2**
SSE				S	**S**	**13 11 02.8**	**-2.2**
SSE				SS	SS	13 13 36.8	+8.9
SSE				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,84nm,4.9s						
SSE				LR	LR		
	comp=N,134nm,24.7s,MS3.8						
SSE				LR	LR		
	comp=E,158nm,24.7s,MS3.8						
SSE				LR	LR		
	comp=Z,194nm,20.4s,MS3.9						
SSE	**Sheshan**	**35.90**	**40**	P	**P**	**13 05 27.0**	**-3.2**
	comp=Z,29nm,0.8s,mb5.3						
SSE				sP	sP	13 05 40.0	-5.4
SSE				S	**S**	**13 11 02.7**	**-2.3**
SSE				sS		13 11 17.3	
SSE				SS	SS	13 13 36.8	+8.9
SSE				LR	LR		
	comp=Z,190nm,20.4s,MS3.9						
TIA	**Tai'an**	**37.26**	**30**	P	**P**	**13 05 41.8**	**+0.2**
TIA				AMB	AMB		
	comp=Z,59nm,1.0s,mb5.4						
FITZ	**Fitzroy Crossi**	**37.97**	**128**	*e*P	**P**	**13 05 47.4**	**-0.3**
	comp=Z,19nm,0.9s,mb4.8						
WMQ	**Urumqi**	**39.27**	**352**	P	**P**	**13 05 59.3**	**+1.0**
WMQ				AP	pP	13 06 14.5	+5.7
WMQ				XP	sP	13 06 21.8	+8.4
WMQ				PP	PP	13 07 34.6	+2.0
WMQ				S	**S**	**13 11 55.5**	**-0.8**
WMQ				XS		13 12 21.5	
WMQ				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,163nm,4.3s						
WMQ				LR	LR		
	comp=N,2μm,17.5s,MS5.0						
WMQ				LR	LR		
	comp=E,1μm,18.2s,MS5.0						
WMQ				LR	LR		
	comp=Z,2μm,17.6s,MS4.9						
BJT	**Baijiatuau**	**39.87**	**26**	*e*P	**P**	**13 06 04.9**	**+1.6**
BJT				pmax	pmax		
	comp=Z,81nm,0.9s						
BJT	**Baijiatuau**	**39.87**	**26**	*e*P	**P**	**13 06 04.9**	**+1.7**
	comp=Z,81nm,0.9s,mb5.5						
BJI	**Beijing**	**39.89**	**26**	*e*P	**P**	**13 06 05.1**	**+1.7**
BJI				pmax	pmax		
	comp=Z,99nm,1.2s,mb5.4						
BJI				MLR	MLR		
	comp=Z,200nm,24.4s,MS3.9						
BJI	**Beijing**	**39.89**	**26**	*e*P	**P**	**13 06 05.1**	**+1.7**
	comp=Z,99nm,1.2s,mb5.4						
BJI				S		13 11 31.5	
BJI				LR	LR		
	comp=Z,200nm,24.4s,MS3.9						
KZA	**Kyzart**	**40.95**	**338**	P	**P**	**13 06 13.8**	**+1.6**
	SNR=7.8						
KAKA	**Kakadu**	**41.20**	**116**	*e*P	**P**	**13 06 14.8**	**+0.3**
	comp=Z,6.2nm,0.4s,mb4.6						
UCH	**Uchtor**	**41.36**	**337**	P	**P**	**13 06 17.1**	**+1.5**
	SNR=22						
TKM2	**Tokmak 2**	**41.55**	**339**	P	**P**	**13 06 18.2**	**+1.1**
	SNR=16						
KBK	**Karagaybulak**	**41.56**	**338**	P	**P**	**13 06 18.7**	**+1.4**
	SNR=32						
AML	**Almayashu**	**41.61**	**336**	P	**P**	**13 06 18.7**	**+1.1**
	SNR=38						
AAK	**Ala-Archa**	**41.72**	**337**	P	**P**	**13 06 20.2**	**+1.7**
	SNR=16						
AAK	**Ala-Archa**	**41.72**	**337**	*e*P	**P**	**13 06 19.0**	**+0.5**
AAK				pmax	pmax		
	comp=Z,35nm,1.0s,mb4.9						
AAK	**Ala-Archa**	**41.72**	**337**	*e*P	**P**	**13 06 18.9**	**+0.4**
	comp=Z,35nm,1.0s,mb5.0						
FRU	**Bishkek**	**41.84**	**338**	*e*P	**P**	**13 06 22.0**	**+2.5**
FRU				pmax	pmax		
	comp=Z,52nm,2.0s,mb4.8						
CHMS	**Chumysh**	**41.93**	**338**	P	**P**	**13 06 21.2**	**+1.0**
	SNR=8.6						
EKS2	**Erkin-Say**	**42.02**	**337**	P	**P**	**13 06 22.3**	**+1.3**
	SNR=16						
USP	**Ospenovka**	**42.26**	**338**	P	**P**	**13 06 23.8**	**+0.8**
	SNR=22						
MK02	**Makanchi Array**	**43.10**	**347**	P	**P**	**13 06 29.5**	**-0.4**
MK02				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.5						
NWAO	**Narrogin (SRO)**	**43.18**	**152**	P	**P**	**13 06 31.7**	**+1.0**
	comp=Z,8.0nm,0.9s,mb4.4,baz=100,slow=12,SNR=3.1						
SONM	**Songino Array**	**43.89**	**11**	P	**P**	**13 06 35.7**	**-0.5**
	comp=Z,20nm,0.8s,mb4.9,baz=190,slow=8.0,SNR=146						
SONM				PcP	PcP	13 08 22.0	-0.5
	comp=Z,6.7nm,0.5s,baz=194,slow=3.9,SNR=15						
SONM				ScP		13 12 08.2	
	comp=Z,1.0nm,0.7s,baz=204,slow=3.5,SNR=4.3						
ULN	**Ulaanbaatar**	**44.05**	**12**	*e*P	**P**	**13 06 36.6**	**-0.9**
ULN				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**44.05**	**12**	*e*P	**P**	**13 06 36.6**	**-0.9**
	comp=Z,12nm,0.8s,mb4.7						
KS15	**Wonju Array Si**	**44.22**	**38**	*e*P	**P**	**13 06 39.0**	**0.0**
SNY	**Shenyang**	**44.78**	**31**	⇑P	**P**	**13 06 43.3**	**-0.1**
SNY				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
ZAK	**Zakamensk**	**45.87**	**7**	*e*P	**P**	**13 06 50.9**	**-1.1**
ZAK				*e*		13 08 28.3	
WRA	**Warramunga Arr**	**45.96**	**124**	P	**P**	**13 06 53.3**	**+0.2**
WRA						13 08 30.2	
WRA	**Warramunga Arr**	**45.96**	**124**	P	**P**	**13 06 53.3**	**+0.2**
	comp=Z,49nm,0.8s,mb5.5,baz=302,slow=9.2,SNR=296						
WRA				PcP	PcP	13 08 30.1	+0.2
	comp=Z,2.6nm,0.7s,baz=306,slow=3.3,SNR=2.6						
WRAB	**Tennant Creek**	**45.96**	**124**⇑	*i*P	**P**	**13 06 53.4**	**+0.3**
WRAB	**Tennant Creek**	**45.96**	**124**	*e*P	**P**	**13 06 53.2**	**+0.1**
	comp=Z,74nm,0.7s,mb5.7						
WB2	**Warramunga Arr**	**45.97**	**124**	*e*P	**P**	**13 06 53.6**	**+0.4**
MOY	**Mondy**	**46.88**	**5**	*e*P	**P**	**13 06 59.6**	**-0.3**
TLY	**Talaya**	**47.19**	**7**	*e*P	**P**	**13 07 02.5**	**+0.2**
ASPA	**Alice Springs**	**47.46**	**128**⇓	*i*P	**P**	**13 07 05.3**	**+0.4**
ASAR	**Alice Springs**	**47.46**	**128**	P	**P**	**13 07 05.2**	**+0.4**
	comp=Z,16nm,0.6s,mb5.1,baz=299,slow=7.6,SNR=120						
ASAR				PcP	PcP	13 08 35.2	0.0
	comp=Z,4.9nm,0.7s,baz=308,slow=3.4,SNR=4.8						
ASAR				LR	LR	13 25 40.1	
	comp=Z,200nm,21.9s,MS4.0,baz=312,slow=34						
FORT	**Forrest**	**47.57**	**140**	*e*P	**P**	**13 07 06.2**	**+0.6**
	comp=Z,64nm,0.6s,mb5.8						
KURK	**Kurchatov**	**47.66**	**346**⇑	*i*P	**P**	**13 07 06.0**	**0.0**
KURK	**Kurchatov**	**47.66**	**346**	*e*P	**P**	**13 07 05.5**	**-0.5**
	comp=Z,15nm,0.6s,mb5.2						
HIA	**Hailar**	**48.97**	**21**	*e*P	**P**	**13 07 15.4**	**-0.8**
HIA				pmax	pmax		
	comp=Z,13nm,0.6s						
HIA	**Hailar**	**48.97**	**21**	*e*P	**P**	**13 07 15.4**	**-0.8**
	comp=Z,13nm,0.6s,mb5.1						
ZAL	**Zalesovo**	**49.57**	**352**	P	**P**	**13 07 20.6**	**-0.2**
	comp=Z,18nm,0.6s,mb5.3,baz=212,slow=5.4,SNR=97						
MDJ	**Mudanjiang**	**49.86**	**32**	P	**P**	**13 07 23.3**	**+0.1**
MDJ				AP	pP	13 07 36.4	+2.5
MDJ				XP	sP	13 07 42.8	+4.5
MDJ				PCP	PcP	13 08 43.0	-0.6
MDJ				PP	PP	13 09 18.4	-0.4
MDJ				SCP		13 12 34.1	
MDJ				PCS		13 12 39.8	
MDJ				S	**S**	**13 14 30.9**	**+1.7**
MDJ				XS		13 14 54.6	
MDJ				SCS	ScS	13 17 09.3	+0.8
MDJ				SS	SS	13 18 04.3	+5.7
MDJ				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.2						
MDJ				LR	LR		
	comp=N,125nm,21.8s,MS4.0						
MDJ				LR	LR		
	comp=E,88nm,23.7s,MS4.0						
MDJ				LR	LR		
	comp=Z,150nm,19.0s,MS4.0						
MDJ	**Mudanjiang**	**49.86**	**32**	*e*P	**P**	**13 07 23.1**	**0.0**
	comp=Z,60nm,1.2s,mb5.5						
CBIJ	**Chichi jima**	**50.12**	**59**	LR	LR	13 27 46.3	
	comp=Z,248nm,19.1s,MS4.2,baz=336,slow=35						
MAJO	**Matsushiro**	**50.63**	**46**	*e*P	**P**	**13 07 29.3**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
MAJO	**Matsushiro**	**50.63**	**46**	*e*P	**P**	**13 07 29.3**	**+0.1**
	comp=Z,10nm,0.7s,mb4.9						
MAT	**Matsushiro**	**50.63**	**46**	*e*P	**P**	**13 07 29.0**	**-0.1**
MAT	**Matsushiro**	**50.63**	**46**	P	**P**	**13 07 28.7**	**-0.4**
NVS	**Novosibirsk**	**50.67**	**351**	*e*P	**P**	**13 07 27.7**	**-1.5**
NVS				*e*PP	pP	13 07 38.6	-1.3
NVS				*i* S	**S**	**13 14 36.7**	**-3.6**
NVS				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1						
NVS				pmax	pmax		
	comp=N,27nm,1.4s						
NVS				pmax	pmax		
	comp=E,14nm,1.2s						
NVS				smax			
	comp=N,29nm,1.6s						
NVS				smax			
	comp=E,8.0nm,1.5s						
BVAR	**Borovoye Array**	**52.03**	**341**	P	**P**	**13 07 38.6**	**-0.8**
	comp=E,14nm,0.8s,mb5.0,baz=141,slow=9.5,SNR=71						
BRVK	**Borovoye**	**52.09**	**341**	*e*P	**P**	**13 07 39.0**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.0						
BRVK	**Borovoye**	**52.09**	**341**	*e*P	**P**	**13 07 39.0**	**-0.9**
	comp=Z,13nm,0.6s,mb5.0						
CHKZ	**Chkalovo**	**52.51**	**342**	P	**P**	**13 07 42.3**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
CHKZ	**Chkalovo**	**52.51**	**342**	*e*P	**P**	**13 07 42.1**	**-1.0**
	comp=Z,33nm,0.7s,mb5.4						
PMG	**Port Moresby**	**53.98**	**105**	P	**P**	**13 07 53.9**	**-0.6**
	comp=Z,7.0nm,0.4s,mb4.9,baz=292,slow=4.8,SNR=8.4						
KLR	**Kul'dur**	**54.06**	**29**	*e*P	**P**	**13 07 51.0**	**-3.6**
KLR				pmax	pmax		
	comp=E,35nm,1.8s						
KLR				pmax	pmax		
	comp=Z,70nm,1.8s,mb5.3						
BOD	**Bodaibo**	**54.85**	**12**	*e*P	**P**	**13 07 58.3**	**-2.0**
GNI	**Garni**	**57.06**	**315**	*i* P	**P**	**13 08 15.3**	**-1.1**
GNI				pmax	pmax		
	comp=Z,15nm,1.7s						
GNI	**Garni**	**57.06**	**315**	P	**P**	**13 08 16.7**	**+0.4**
	comp=Z,1.9nm,0.4s,mb4.5,baz=17,slow=15,SNR=2.2						
STKA	**Stephens Creek**	**57.53**	**133**	*e*P	**P**	**13 08 19.7**	**-0.1**
	comp=Z,9.3nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**57.53**	**133**	P	**P**	**13 08 19.7**	**-0.1**
	comp=Z,11nm,0.8s,mb5.0,baz=307,slow=6.7,SNR=30						
STKA				PcP	PcP	13 09 12.3	-0.5
	comp=Z,5.7nm,0.9s,baz=286,slow=7.9,SNR=3.1						
STKA				LR	LR	13 33 35.7	
	comp=Z,264nm,18.1s,MS4.4,baz=27,slow=36						
KMBO	**Kilima Mbogo**	**57.91**	**266**	*e*P	**P**	**13 08 22.0**	**-0.7**
KMBO	**Kilima Mbogo**	**57.91**	**266**	P	**P**	**13 08 23.0**	**+0.3**
	comp=Z,1.8nm,0.7s,mb4.2,baz=51,slow=15,SNR=3.9						
SVE	**Sverdlovsk**	**58.42**	**339**	*e*P	**P**	**13 08 24.7**	**-1.0**
YSS	**Yuzh-Sakhalins**	**58.67**	**36**⇓	*i*P	**P**	**13 08 27.3**	**-0.3**
YSS				pmax	pmax		
	comp=Z,99nm,1.3s,mb5.7						
YSS	**Yuzh-Sakhalins**	**58.67**	**36**	*e*P	**P**	**13 08 26.8**	**-0.8**
	comp=Z,63nm,1.0s,mb5.6						
ARU	**Arti**	**58.90**	**337**	P	**P**	**13 08 27.7**	**-1.4**
	comp=Z,74nm,0.8s,mb5.8,SNR=8.5						
ARU	**Arti**	**58.90**	**337**⇑	*i*P	**P**	**13 08 22.0**	**-7.1**
ARU				*e*		13 09 12.3	
ARU				*e*S	**S**	**13 16 24.0**	**-6.7**
ARU				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
ARU	**Arti**	**58.90**	**337**	*e*P	**P**	**13 08 22.4**	**-6.6**
	comp=Z,8.1nm,0.7s,mb4.9						
KIV	**Kislovodsk**	**60.03**	**319**	*i* P	**P**	**13 08 36.6**	**-0.4**
KIV				pmax	pmax		
	comp=Z,26nm,1.7s,mb5.0						
SOC	**Sochi**	**61.86**	**317**	*e*P	**P**	**13 08 46.4**	**-3.0**
SOC				*e*		13 09 28.2	
SOC				*e*		13 11 04.2	
SOC				*e*S	**S**	**13 17 10.4**	**+1.7**
SOC				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.4						
SOC				pmax	pmax		
	comp=N,14nm,0.8s						
SOC				pmax	pmax		
	comp=E,21nm,1.0s						
YAK	**Yakutsk**	**62.56**	**18**⇑	*i*P	**P**	**13 08 51.8**	**-2.0**
YAK				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.5						
YAK	**Yakutsk**	**62.56**	**18**	*e*P	**P**	**13 08 51.4**	**-2.5**
	comp=Z,35nm,0.5s,mb5.7						
TOO	**Toolangi**	**63.18**	**137**	*e*P	**P**	**13 09 00.0**	**+1.7**
	comp=Z,11nm,0.7s,mb5.1						
TOO	**Toolangi**	**63.18**	**137**	*e*P	**P**	**13 09 00.0**	**+1.7**
TOO				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.1						
CNB	**Canberra Magne**	**64.86**	**133**	*e*P	**P**	**13 09 10.0**	**+0.7**
	comp=Z,178nm,1.0s,mb6.0						
BRTR	**Keskin Array B**	**64.95**	**312**	P	**P**	**13 09 08.7**	**-1.1**
	comp=Z,3.6nm,0.5s,mb4.6,baz=134,slow=7.4,SNR=27						
OBN	**Obninsk**	**68.28**	**328**	*e*P	**P**	**13 09 30.5**	**-0.1**
OBN				*e*	pP	13 09 42.0	+0.2
OBN				*e*		13 09 57.4	
OBN				pmax	pmax		
	comp=Z,31nm,2.0s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.2						
MA2	**Magadan**	**69.04**	**27**⇑	*i*P	**P**	**13 09 34.4**	**-0.8**
MA2				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.2						
MA2	**Magadan**	**69.04**	**27**	*e*P	**P**	**13 09 34.0**	**-1.2**
	comp=Z,17nm,0.6s,mb5.2						
TIXI	**Tiksi**	**69.98**	**11**	*d i*P	**P**	**13 09 39.4**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,60nm,1.4s,mb5.3						
KIS	**Kishinev**	**70.22**	**318**	*e*P	**P**	**13 09 34.0**	**-8.7**
PET	**Petropavlovsk**	**70.49**	**35**⇑	*i*P	**P**	**13 09 43.5**	**-0.7**
PET				*e*S	S	13 18 50.7	-2.7
PET				pmax	pmax		
	comp=Z,51nm,1.0s,mb5.4						
PET				smax			
	comp=E,200nm,21.0s						
PET				MLR	MLR		
	comp=Z,200nm,14.0s,MS4.5						
IDI	**Anoyia**	**70.89**	**306**	P	**P**	**13 09 46.1**	**-0.8**
	comp=Z,19nm,1.1s,mb4.9,baz=91,slow=9.4,SNR=7.9						
AKASG	**Malin Array Be**	**70.94**	**322**	P	**P**	**13 09 45.2**	**-1.8**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKASG	**Malin Array Be**	**70.94**	**322**	P	**P**	**13 09 45.2**	**-1.8**
	comp=Z,2.6nm,0.5s,mb4.5,baz=89,slow=5.0,SNR=18						
SEY	**Seymchan**	**71.30**	**24**	*e*P	**P**	**13 09 48.4**	**-0.5**
SEY				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
MLR	**Muntele Rosu**	**71.82**	**316**	P	**P**	**13 09 52.5**	**+0.2**
	comp=Z,6.9nm,0.5s,mb4.8,baz=139,slow=4.3,SNR=6.2						
JOF	**Joensuu**	**73.84**	**335**	*ep*	**P**	**13 10 01.4**	**-2.5**
	comp=Z,8.1nm,0.9s,mb4.7						
BOSA	**Boshof**	**74.68**	**239**	*e*P	**P**	**13 10 09.9**	**+0.4**
KWP	**Kalwaria**	**74.78**	**320**	*e*P	**P**	**13 10 09.9**	**+0.3**
APA	**Apatity**	**74.88**	**340**⇓	*i*P	**P**	**13 10 10.6**	**+0.8**
APA				*i*		13 10 27.9	
APA				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
KOLS	**Kolonicke sedl**	**74.93**	**319**	*e*P	**P**	**13 10 10.9**	**+0.4**
SUW	**Suwalki**	**75.35**	**325**	*e*P	**P**	**13 10 12.6**	**-0.2**
CRVS	**Cervenica-Dubn**	**75.45**	**319**	*e*P	**P**	**13 10 14.0**	**+0.5**
FINES	**FINESS Array B**	**75.68**	**332**	P	**P**	**13 10 13.7**	**-0.8**
	comp=Z,6.3nm,0.7s,mb4.6,baz=104,slow=6.9,SNR=28						
KAF	**Kangasniemi**	**75.77**	**333**	*ep*	**P**	**13 10 13.8**	**-1.2**
	comp=Z,3.9nm,0.6s,mb4.5						
KAF	**Kangasniemi**	**75.77**	**333**	*e*P	**P**	**13 10 13.8**	**-1.2**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
MAW	**Mawson**	**75.81**	**192**	LR	LR	13 36 59.0	
	comp=Z,102nm,18.9s,MS4.2,baz=64,slow=30						
NIE	**Niedzica**	**76.28**	**320**	*e*P	**P**	**13 10 18.9**	**+0.7**
PSZ	**Piszkesteto**	**76.34**	**318**	*e*P	**P**	**13 10 17.9**	**-0.6**
PSZ				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
PSZ	**Piszkesteto**	**76.34**	**318**	*e*P	**P**	**13 10 17.9**	**-0.6**
	comp=Z,9.2nm,0.9s,mb4.7						
OJC	**Ojcow**	**76.73**	**320**	*e*P	**P**	**13 10 20.8**	**+0.1**
VYHS	**Vyhne**	**77.12**	**319**	*e*P	**P**	**13 10 22.8**	**-0.1**
OKC	**Ostrava-Krasne**	**77.73**	**320**	*e*P	**P**	**13 10 26.7**	**+0.4**
OKC				*ep*P	pP	13 10 36.1	-1.4
TIP	**Timpagrande**	**77.73**	**309**	*e*P	**P**	**13 10 25.6**	**-0.9**
KEV	**Kevo**	**77.87**	**341**	*ep*	**P**	**13 10 25.2**	**-1.5**
	comp=Z,9.1nm,0.8s,mb4.8						
KEV	**Kevo**	**77.87**	**341**	*e*P	**P**	**13 10 25.2**	**-1.5**
KEV			

CLL	Collm	81.13 321	P	P	13 10 45.0	+0.4
CLL			*i* *PP	pP	13 10 55.4	-0.5
CLL			*e**SP	sP	13 11 03.0	+3.1
HFS	Hagfors	81.39 330	P	P	13 10 45.4	-0.4
	comp=Z,4.6nm,0.7s,mb4.5,baz=90,slow=4.0,SNR=23					
NKC	Novy Kostel	81.43 320	*e*P	P	13 10 45.9	-0.3
WTTA	Wattenberg	81.85 317 ⇓	*i*P	P	13 10 48.3	-0.1
	comp=Z,9.7nm,0.6s,mb4.9					
WTTA	Wattenberg	81.85 317 ⇓	*i*P	P	13 10 48.3	-0.1
WTTA			pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9					
WATA	Walderalm	81.90 317 ⇓	*i*P	P	13 10 48.1	-0.6
	comp=Z,6.9nm,1.1s,mb4.5					
WATA	Walderalm	81.90 317 ⇓	*i*P	P	13 10 48.1	-0.6
WATA			pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5					
MOX	Moxa	81.97 320	*e*P	P	13 10 50.0	+1.0
SQTA	Sankt Quirin	82.14 317 ⇓	*i*P	P	13 10 49.6	-0.3
	comp=Z,3.9nm,0.7s,mb4.5					
SQTA	Sankt Quirin	82.14 317 ⇓	*i*P	P	13 10 49.6	-0.3
SQTA			pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5					
GRA1	Grafenberg Arr	82.20 319	*e*P	P	13 10 50.5	+0.3
	comp=Z,16nm,0.9s,mb5.0					
GRF	Grafenberg Arr	82.20 319	*e*P	P	13 10 50.5	+0.3
GRF			pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0					
GRF	Grafenberg Arr	82.20 319	*e*P	P	13 10 50.5	+0.3
GRF			pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0					
GRF	Grafenberg Arr	82.20 319	*e*P	P	13 10 50.5	+0.3
	comp=Z,16nm,0.9s,mb5.0					
MOTA	Moosalm	82.22 317 ⇓	*i*P	P	13 10 50.1	-0.2
	comp=Z,8.0nm,1.2s,mb4.5					
MOTA	Moosalm	82.22 317 ⇓	*i*P	P	13 10 50.1	-0.2
MOTA			pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5					
NB2	NORSAR Subarra	82.68 331	P	P	13 10 51.5	-0.9
	comp=Z,2.3nm,0.7s,mb4.3,baz=98,slow=4.8					
NB2	NORSAR Subarra	82.68 331	P	P	13 10 51.5	-0.9
NB2			pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3					
NOA	NORSAR Array B	82.68 331	P	P	13 10 51.7	-0.6
	comp=Z,3.3nm,0.8s,mb4.4,baz=94,slow=5.5,SNR=8.3					
DAVOX	Davos	83.05 316	P	P	13 10 55.4	+0.9
	comp=Z,17nm,0.7s,mb5.2,baz=130,slow=6.6,SNR=20					
DAVA	Damuels	83.05 317 ⇓	*i*P	P	13 10 55.0	+0.4
	comp=Z,9.5nm,0.8s,mb4.9					
LPG	La Plagne	85.24 315	*e*P	P	13 11 06.2	+0.5
	comp=Z,18nm,0.9s,mb4.9					
LPG	La Plagne	85.24 315	*e*P	P	13 11 06.2	+0.5
LPG			pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9					
TNA	Tin City	88.54 24	*e*P	P	13 11 21.2	0.0
VNDA	Vanda	89.89 168	P	P	13 11 27.7	+0.4
	comp=Z,0.8nm,0.6s,mb4.2,baz=308,slow=6.6,SNR=3.7					
ESDC	Sonseca Array	93.70 310	P	P	13 11 44.8	-1.0
	comp=Z,0.2nm,0.3s,mb4.0,baz=80,slow=4.3,SNR=4.0					
IMA	Indian Mountai	94.06 22	*e*P	P	13 11 47.9	+1.1
MCK	McKinley	96.86 24	*e*P	P	13 11 58.6	-1.0
MCK			pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.4					
MCK	McKinley	96.86 24	*e*P	P	13 11 58.6	-1.0
	comp=Z,0.9nm,0.6s,mb4.4					
ILAR	Eielson Array	97.19 22	P	P	13 12 00.5	-0.6
	comp=Z,0.8nm,0.8s,mb4.2,baz=287,slow=4.0,SNR=9.1					
ILAR			PP	PP	13 15 55.7	-4.5
	comp=Z,0.7nm,1.1s,baz=286,slow=7.6,SNR=4.4					
INK	Inuvik	99.61 16	*e*P	P	13 12 11.2	-0.7
INK			pmax	pmax		
	comp=Z,3.0nm,0.9s					
INK	Inuvik	99.61 16	*e*Pdif	P	13 12 11.2	-0.8
	comp=Z,2.5nm,0.9s,mb4.6					
RES	Resolute Bay	100.31 3	*e*P	P	13 12 15.7	+0.7
YKA	Yellowknife Ar	109.11 14	PKiKP		13 16 57.5	
	comp=Z,0.1nm,0.6s,baz=7.4,slow=2.4,SNR=3.8					
YKA			PP	PP	13 17 21.8	-8.8
	comp=Z,0.3nm,0.7s,baz=336,slow=7.7,SNR=5.1					
YKA	Yellowknife Ar	109.11 14	PKPdf		13 16 57.5	
YKA			PP	PP	13 17 21.8	-8.8
SCHQ	Schefferville	118.57 348	PKP	PKPdf	13 17 16.2	+0.7
	comp=Z,1.0nm,0.5s,slow=4.0,SNR=5.0					
SCHQ	Schefferville	118.57 348	PKP	PKPdf	13 17 16.2	+0.7
HLID	Hailey	124.97 26	*e*PKPdf	PKPdf	13 17 30.1	+1.9
SNOW	Snow King Moun	126.56 23	*e*PKPdf	PKPdf	13 17 33.0	+1.7
NVAR	Mina Array Bea	127.03 33	PKP	PKPdf	13 17 34.9	+2.5
	comp=Z,4.4nm,1.0s,baz=270,slow=3.2,SNR=20					
MNV	Mina	127.10 32	*e*PKIKP	PKPdf	13 17 35.0	+2.5
PDAR	Pinedale Array	127.62 23	PKP	PKPdf	13 17 34.4	+1.0
	comp=Z,3.9nm,1.1s,baz=70,slow=1.3,SNR=18					
TMUT	Trail Mountain	129.84 26	*e*PKPdf	PKPdf	13 17 40.5	+2.8
MSU	Marysvale	130.04 28	*e*PKIKP	PKPdf	13 17 40.0	+1.9
SADO	Sadowa	130.26 354	PKP	PKPdf	13 17 39.1	+0.8
	comp=Z,7.6nm,1.0s,baz=157,slow=4.2,SNR=3.5					
PV10	Paradox Valley	131.55 25	*e*PKPdf	PKPdf	13 17 44.2	+3.3
ANMO	Albuquerque	135.54 25	PKP	PKPdf	13 17 50.2	+1.8
	comp=Z,2.1nm,0.7s,baz=192,slow=3.5,SNR=10					
TUC	Tucson	135.66 32	*e*PKIKP	PKPdf	13 17 50.5	+1.8
LPM	Los Pinos Moun	136.01 26	*e*Pdif	Pdif	13 14 53.3	0.0
TXAR	Lajitas Array	141.56 27	PKhKP		13 17 54.6	
	comp=Z,0.9nm,0.5s,baz=154,slow=1.9,SNR=16					
TXAR			PKP	PKPdf	13 17 58.1	-1.5
	comp=Z,1.0nm,0.5s,baz=179,slow=0.3,SNR=19					
TXAR	Lajitas Array	141.56 27	PKP	PKPdf	13 17 54.6	-4.9
TXAR			PKP	PKPdf	13 17 58.1	-1.5
PLCA	Paso Flores	142.01 198	PKhKP		13 17 58.0	
	comp=Z,1.0nm,0.8s,baz=150,slow=1.5,SNR=3.4					
JCT	Junction City	142.10 21	*e*PKHKP		13 17 56.3	
JCT			*e*		13 18 02.6	
LPAZ	La Paz	159.88 235	PKP	PKPdf	13 18 29.6	+2.3
	comp=Z,1.3nm,0.8s,baz=94,slow=5.7,SNR=3.8					

*IDC **22** 13:11:22.0±1.9, 5.14N×93.37E, h28km±6km, mb3.7/6, mb1 3.9/7, mb1mx3.6/19, mbtmp3.8/7, ML3.5/1, Error ellipse: s-maj=68.7km s-min=17.8km az=63.0*

ISC 22 13:11:20.0±1.3, 5.2N±0.2×93.4E±0.3, h28km, h28km±.3km; pP-P, n7, σ0§48/7, mb3.9/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.28	22	Pn	P	13 14 42.6	-0.1
	0.1nm,0.3s,baz=221,slow=14,SNR=7.7						
SONM	Songino Array	43.95	13	P	P	13 19 27.1	+0.6
	0.8nm,0.7s,mb3.6,baz=196,slow=7.8,SNR=7.0						
SONM				pP	pP	13 19 35.6	+0.8
	0.8nm,0.8s,baz=190,slow=10,SNR=5.1						
SONM				PcP	PcP	13 21 13.1	+0.5
	0.3nm,0.7s,baz=197,slow=3.2,SNR=3.0						
WRA	Warramunga Arr	47.37 123		P	P	13 19 53.8	-0.1
	1.6nm,0.6s,mb4.1,baz=301,slow=9.1,SNR=13						
WRA				pP	pP	13 20 02.1	-0.3
	2.7nm,0.8s,baz=301,slow=9.1,SNR=11						
ASAR	Alice Springs	48.81 128		P	P	13 20 05.2	0.0
	0.5nm,0.6s,mb3.7,baz=287,slow=7.8,SNR=4.5						
ASAR				pP	pP	13 20 13.7	0.0
	0.6nm,0.7s,baz=304,slow=8.2,SNR=4.4						
ZAL	Zalesovo	49.12 353		P	P	13 20 06.3	-0.8
	0.8nm,0.3s,mb4.2,baz=43,slow=19,SNR=3.4						
BVAR	Borovoye Array	51.31 342		P	P	13 20 23.5	-0.3
	0.8nm,0.8s,mb3.7,baz=153,slow=9.9,SNR=4.8						
ARCES	ARCESS Array B	77.55 341		P	P	13 23 15.3	+0.7
	2.0nm,0.9s,mb4.1,baz=96,slow=8.2,SNR=3.6						

*IDC **22** 13:23:31.1±1.0, 34.05N×141.66E, mb3.7/6, mb1 3.9/7, mb1mx3.7/20, mbtmp3.7/7, ML3.4/1, Error ellipse: s-maj=28.9km s-min=19.7km az=106.0*

*NEIC **22** 13:23:32.7±0.7, 34.06N×141.72E, h10km, mb4.3/3, Error ellipse: s-maj=19.3km s-min=11.1km az=62.0*

*JMA **22** 13:23:33.0±0.5, 33.95N×141.58E, h30km, M3.5*

ISC 22 13:23:33.7±0.7, 34.01N±0.05×141.58E±0.07, h30km, n21, σ0§89/27, mb3.8/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.81	323	P	Pn	13 23 48.7	-0.5
BSO1				S	Sb	13 24 01.1	+1.2
BSO3	Boso 3	1.19	312	P	Pn	13 23 54.5	0.0
BSO4	Boso 4	1.42	314	P	Pn	13 23 59.3	+1.5
JHJ2	Mitsune	1.72	239	P	Pn	13 24 02.8	+0.6
JHJ	Hachijo jima 2	1.74	240	Pn	Pn	13 24 02.9	+0.5
	67nm,0.3s,baz=344,slow=2.5,SNR=20						
JHJ				Sn	Sn	13 24 24.2	+0.4
	113nm,0.3s,baz=56,slow=22,SNR=6.9						
JIM2	Oshima 3	1.91	292	P	Pn	13 24 04.3	-0.6
KTJJ	Kamata 2	2.27	294	P	Pn	13 24 09.2	-0.8
KTJJ				S	Sn	13 24 34.8	-2.5
JIZS	Izushimoda	2.34	288	P	Pn	13 24 11.5	+0.4
JIZS				S	Sn	13 24 37.8	-1.3
MAJO	Matsushiro	3.74	313	*e*P	Pn	13 24 31.4	+0.5
MAT	Matsushiro	3.74	313	*e*P	Pn	13 24 31.0	+0.1
MAT				*e*S	Sn	13 25 15.0	+0.5
MAT	Matsushiro	3.74	313	P	Pn	13 24 31.1	+0.2
MAT				S	Sn	13 25 15.2	+0.7
ASAJ	Asahikawa	10.12	4	Pn	P	13 25 53.5	-6.7
	0.4nm,0.3s,baz=104,slow=16,SNR=3.7						
SONM	Songino Array	29.68	308	P	P	13 29 39.3	+0.3
	1.0nm,0.8s,mb3.6,baz=116,slow=9.0,SNR=7.0						
ZAL	Zalesovo	44.10	315	P	P	13 31 40.9	+0.1
	0.5nm,0.5s,mb3.5,baz=310,slow=7.9,SNR=2.5						
KURK	Kurchatov	47.95	310	*e*P	P	13 32 11.5	+0.2
	4.5nm,0.9s,mb4.5						
ILAR	Eielson Array	51.99	31	P	P	13 32 41.2	-0.8
	0.9nm,0.8s,mb3.8,baz=244,slow=6.5,SNR=8.1						
CHKZ	Chkalovo	52.51	315	P	P	13 32 40.9	-5.1
	0.8nm,0.7s,mb3.8						
WRAB	Tennant Creek	54.08	188	*e*P	P	13 32 58.0	-0.1
	1.8nm,0.5s,mb4.3						
WRA	Warramunga Arr	54.09	188	P	P	13 32 56.7	-1.4
	0.5nm,0.3s,mb3.9,baz=4.0,slow=7.6,SNR=14						
ASAR	Alice Springs	57.82	188	P	P	13 33 26.4	+1.6
	0.6nm,0.7s,mb3.7,baz=4.5,slow=7.6,SNR=9.1						
YKA	Yellowknife Ar	66.36	29	P	P	13 34 20.5	-0.8
	0.3nm,1.0s,mb3.3,baz=292,slow=6.5,SNR=4.1						

IDC 22 13:31:41.7±4.0, 10.00N×91.22E, mb3.4/3, mb1 3.5/4, mb1mx3.4/18, mbtmp3.3/4, MS3.1/1, Ms1 3.3/1, ms1mx2.8/14, Error ellipse: s-maj=107.7km s-min=29.0km az=80.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.26	41	Pn	P	13 34 23.9	-3.1
	baz=238,slow=14,SNR=3.1						
CMAR				LR	LR	13 39 11.7	
	comp=Z,99nm,19.0s,baz=220,slow=40						
SONM	Songino Array	39.83	16	P	P	13 39 16.6	-1.8
	0.2nm,0.5s,baz=198,slow=11,SNR=2.5						
WRA	Warramunga Arr	51.84	125	P	P	13 40 52.0	-2.2
	0.3nm,0.4s,baz=300,slow=9.9,SNR=14						
ASAR	Alice Springs	53.49	129	P	P	13 41 04.4	-2.0
	0.2nm,0.4s,baz=319,slow=5.5,SNR=5.3						

*IDC **22** 13:37:59.9±1.9, 33.76N×72.58E, mb3.7/6, mb1 4.0/7, mb1mx3.7/19, mbtmp3.8/7, ML4.0/1, Error ellipse: s-maj=54.4km s-min=23.1km az=60.0*

*NEIC **22** 13:38:00.6±1.4, 33.58N×72.33E, h10km, mb3.5/2, Error ellipse: s-maj=37.3km s-min=14.1km az=64.0*

*BJI **22** 13:38:04.3, 33.86N×73.14E, h10km, ML4.0*

ISC 22 13:38:00.9±0.5, 33.93N±0.03×73.27E±0.05, h10km, n37, σ1§14/41, mb3.7/6, 1C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	0.27	181	⇓P	Sg	13 38 10.2	-0.2
CEP	Cherat	1.14	265	P	Pb	13 38 18.4	-3.8
THW	Thamme Wali	1.71	229	⇓P	Pn	13 38 30.1	-0.9
SARP	Sargodha	2.07	194	⇓P	Pn	13 38 36.6	+0.5
SARP				S	Sn	13 39 03.0	+0.9
SBDP	Sheikh Budin	2.63	232	P	Pn	13 38 43.3	-0.8
DRP	Derazinda	3.38	231	⇑P	Pn	13 38 53.8	-1.0
BHK	Bhakra	3.65	133	*e*PN	Pg	13 39 16.4	+2.7
BHK				*e*SN	Sg	13 40 00.4	-2.0
DDI	Dehra Dun	5.42	130	*e*P	Pn	13 39 26.2	+2.4
DDI				*e*		13 41 14.2	
BHGR	Bahadurgarh	6.10	148	*e*	Pg	13 40 01.7	-0.8
NDI	New Delhi	6.22	146	*e*PN	Pn	13 39 36.0	+0.9
NDI				*e*		13 40 04.0	
NDI				*e*SN	Sn	13 40 47.0	-0.1
KHET	Khetri	6.23	159	*e*PN	Pn	13 39 35.2	0.0
KHET				*e*PG	Pg	13 40 01.1	-4.1
KHET				*i*		13 41 24.9	
JOSI	Joshimath	6.30	121	*e*	Pn	13 39 35.8	-0.4
JOSI				*i*		13 41 03.3	
AYAN	Aya Nagar	6.36	148	*e*PN	Pn	13 39 37.7	+0.8
AYAN				*e*		13 40 00.3	
AYAN				*i*		13 41 27.0	
AYAN				*e*		13 41 47.8	
	comp=Z,33nm,0.6s						
KUDL	Kundal	6.39	154	*e*PN	Pn	13 39 36.9	-0.6
KUDL				*e*		13 40 54.8	
KUDL				*i*		13 41 28.6	
KUDL				*e*		13 41 37.4	
	comp=Z,43nm,0.6s						
SONA	Sohna	6.54	149	*e*PN	Pn	13 39 40.8	+1.3
SONA				*e*PG	Pg	13 40 06.2	-5.2
SONA				*e*		13 40 54.8	
SONA				*i*		13 41 31.5	
SONA				*e*		13 41 60.0	
	comp=N,38nm,0.7s						
SONA				*e*		13 42 00.3	
	comp=E,44nm,0.8s						
JASL	Jaisalmer	7.28	197	*e*	Pb	13 40 03.0	-4.1
AJM	Ajmer	7.52	171	*e*	Pn	13 39 55.6	+2.3
AJM				*e*		13 41 24.9	
AGRA	Agra	7.80	148	*e*PN	Pn	13 39 57.9	+0.7
AGRA				*e*		13 41 24.0	
AGRA				*e*		13 42 38.7	
	comp=N,109nm,0.5s						
AGRA				*e*		13 42 38.9	
	comp=E,159nm,0.7s						
AAK	Ala-Archa	8.74	6	*e*P	P	13 40 14.8	+4.5
	comp=E,3.2nm,0.4s						
KOLN	Koldanda	10.79	122	*e*P	P	13 40 38.6	+0.1
	comp=E,17nm,0.6s						
BHPL	Bhopal	11.26	160	*e*	Sx	13 43 05.4	
GKN	Gorkha	11.40	118	*e*P	P	13 40 46.3	-0.6
	comp=E,13nm,0.3s						
DMN	Daman	11.97	119	*e*P	P	13 40 53.8	-0.7
	comp=E,27nm,0.6s						
KKN	Kakani	11.99	117	*e*P	P	13 40 53.1	-1.8
	comp=E,29nm,0.6s						
PKI	Pulchoki	12.21	118	*e*P	P	13 40 56.8	-1.0
	comp=E,24nm,0.6s						
JIRN	Jiri	12.74	116	*e*P	P	13 41 03.9	-1.0
	comp=E,21nm,0.4s						
BVAR	Borovoye Array	19.20	355	P	P	13 42 28.2	+0.9
	comp=E,0.5nm,0.3s,baz=160,slow=9.8,SNR=11						
BRVK	Borovoye	19.24	355	*e*P	P	13 42 26.8	-0.9
	comp=E,2.4nm,0.8s						
CHKZ	Chkalovo	19.83	355	P	P	13 42 35.0	+0.5
	comp=E,1.1nm,0.6s						
ZAL	Zalesovo	21.60	19	P	P	13 42 53.8	+1.0
	comp=E,2.7nm,0.4s,mb4.0,baz=183,slow=6.3,SNR=8.2						
CMAR	Chiang Mai Arr	27.61	117	P	P	13 43 54.0	+3.6
	comp=E,2.1nm,0.9s,mb3.8,baz=302,slow=8.8,SNR=9.3						
SONM	Songino Array	28.39	51	P	P	13 44 01.3	+4.0
	comp=E,0.8nm,0.9s,mb3.3,baz=270,slow=7.9,SNR=4.3						
ARCES	ARCESS Array B	44.22	338	P	P	13 46 10.6	-0.9
	comp=E,11nm,1.2s,mb4.5,baz=112,slow=6.5,SNR=5.1						
ARCES	ARCESS Array B	44.22	338	P	P	13 46 10.6	-0.9
WRA	Warramunga Arr	79.05	123	P	P	13 50 07.8	+0.8
	comp=E,0.4nm,0.8s,mb3.4,baz=322,slow=4.9,SNR=6.3						
YKA	Yellowknife Ar	83.70	4	P	P	13 50 30.2	-0.4
	comp=E,0.1nm,0.4s,mb3.3,baz=349,slow=4.9,SNR=4.3						
YKA	Yellowknife Ar	83.70	4	P	P	13 50 30.2	-0.4

*IDC **22** 14:02:33.9±3.5, 22.31N×143.42E, h102km±30km, mb3.4/7, mb1 3.7/8, mb1mx3.5/19, mbtmp3.8/8, Error ellipse: s-maj=35.5km s-min=19.2km az=98.0*

ISC 22 14:02:32.8±3.2, 22.3N±0.1×143.4E±0.3, h104km±28km, n10, σ0§97/9, mb3.5/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	4.90	347	P	P	14 03 46.3	+0.8
	22nm,0.3s,baz=281,slow=21,SNR=6.2						
CBIJ				S	S	14 04 40.6	-0.7
	13nm,0.3s,baz=118,slow=24,SNR=6.4						
SONM	Songino Array	39.01	320	P	P	14 09 51.7	+1.2
	0.4nm,0.4s,mb3.6,baz=131,slow=7.2,SNR=4.9						
WRA	Warramunga Arr	42.91	193	P	P	14 10 22.2	-0.8
	0.4nm,0.5s,mb3.4,baz=17,slow=8.5,SNR=13						
ASAR	Alice Springs	46.62	192	pP	pP	14 11 17.9	+0.7
	0.2nm,0.6s,baz=6.7,slow=7.7,SNR=4.0						
ILAR	Eielson Array	61.41	27	P	P	14 12 38.3	-1.7
	0.6nm,0.8s,mb3.7,baz=267,slow=4.6,SNR=5.7						
YKA	Yellowknife Ar	75.82	28	P	P	14 14 08.6	-0.2
	0.4nm,0.4s,mb3.5,baz=293,slow=5.6,SNR=6.9						
NVAR	Mina Array Bea	82.61	52	P	P	14 14 46.7	+0.8
	0.7nm,0.6s,mb3.7,baz=274,slow=6.5,SNR=8.9						
FINES	FINESS Array B	82.72	335	P	P	14 14 45.3	-0.7
	0.4nm,0.3s,mb3.7,baz=77,slow=5.3,SNR=12						
PDAR	Pinedale Array	86.82	45	P	P	14 15 07.9	+1.2
	0.4nm,0.8s,mb3.4,baz=315,slow=3.8,SNR=3.7						
PLCA	Paso Flores	146.00	131	PKPbc	PKPbc	14 22 01.5	+0.8
	1.1nm,0.7s,baz=196,slow=3.0,SNR=3.9						

IDC 22 14:14:12.0±10.0, 17.67S×178.48W, h634km±120km, mb2.9/4, mb1 3.1/4, mb1mx2.8/14, mbtmp3.9/4, Error ellipse: s-maj=121.8km s-min=48.6km az=130.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.69	241	P	P	14 20 44.1	-1.3
	2.0nm,0.7s,baz=98,slow=12,SNR=6.9						
WB2	Warramunga Arr	44.60	259	*e*P	P	14 21 30.3	-1.8
WRA	Warramunga Arr	44.61	259	P	P	14 21 30.5	-1.7
	0.6nm,0.4s,baz=94,slow=6.9,SNR=21						
ASAR	Alice Springs	44.79	254	P	P	14 21 31.8	-1.8
	2.7nm,0.7s,baz=90,slow=8.3,SNR=44						
ASAR				PcP	PcP	14 22 59.5	-2.1
	0.2nm,0.5s,baz=116,slow=3.8,SNR=4.4						
ASPA	Alice Springs	44.79	254	*e*P	P	14 21 31.9	-1.7
ILAR	Eielson Array	85.67	13	P	P	14 25 45.0	-1.2
	0.2nm,0.5s,baz=226,slow=4.3,SNR=5.2						

IDC 22 14:43:22.5±2.9, 28.03N×141.72E, mb4.0/4, mb1 4.1/4, mb1mx3.6/20, mbtmp4.0/4, Error ellipse: s-maj=154.1km s-min=23.9km az=80.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.22	189	P	P	14 52 05.2	-1.9
	0.4nm,0.3s,baz=6.6,slow=7.8,SNR=17						
ASAR	Alice Springs	51.95	189	P	P	14 52 33.0	-2.6
	0.2nm,0.6s,baz=353,slow=5.9,SNR=5.9						
BVAR	Borovoye Array	57.08	317	P	P	14 53 10.9	-1.8
	2.6nm,0.5s,baz=86,slow=7.3,SNR=17						
FINES	FINESS Array B	76.93	334	P	P	14 55 16.1	-1.9
	1.3nm,0.5s,baz=66,slow=5.1,SNR=21						

WEL 22 14:47:05.3±0.3, 38.40S×176.05E, h144km±2km, ML3.7/9, 10C-1D, Error ellipse: s-maj=2.1km s-min=1.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KATZ	Kakaramea	0.64	205	PN	P	14 47 27.0	-0.2
MGZ	Maungaku	0.72	213	⇑PN	P	14 47 27.6	-0.1
WTVZ	West Tongariro	0.80	206	PN	P	14 47 28.0	-0.2
OTVZ	Oturere	0.82	201	PN	P	14 47 28.5	+0.1
TWVZ	Taurewa	0.83	215	⇑PN	P	14 47 28.1	-0.3
BKZ	Black Stump Fm	0.84	156	⇑PN	P	14 47 28.5	0.0
BKZ				SN	S	14 47 45.5	-0.9
BKZ				SN	S	14 47 45.6	-0.8
URZ	Urewera	0.85	81	PN	P	14 47 27.5	-1.0
URZ				SN	S	14 47 45.6	-0.9
NGZ	Ngauruhoe	0.85	204	PN	P	14 47 28.6	0.0
CNZ	Chateau	0.89	206	PN	P	14 47 28.7	-0.2
WPVZ	Whakapapa	0.90	206	⇑PN	P	14 47 28.8	-0.1
TUVZ	Tukino	0.92	199	PN	P	14 47 29.1	0.0
HIZ	Hauiti	0.94	262	⇑PN	P	14 47 28.6	-0.6
MOVZ	Moawhango	1.04	193	⇑PN	P	14 47 29.6	-0.4
MWZ	Matawai	1.17	87	⇓PN	P	14 47 31.2	-0.1
MWZ				SN	S	14 47 50.7	-0.6
KNZ	Kokohu	1.42	117	PN	P	14 47 34.0	+0.1
KNZ				SN	S	14 47 54.5	-1.4
WAZ	Wanganui	1.59	211	⇑PN	P	14 47 34.9	-0.8
WAZ				SN	S	14 47 58.3	-0.9
TSZ	Takapari Road	1.66	182	⇑PN	P	14 47 35.7	-0.9
TSZ				SN	S	14 47 59.6	-0.9
PWZ	Pawanui	1.75	159	PN	P	14 47 37.0	-0.5
MXZ	Matakaoa Point	1.97	66	PN	P	14 47 40.0	-0.1
MXZ				SN	S	14 48 06.3	-0.4
BFZ	Birch Farm	2.29	176	PN	P	14 47 42.2	-1.8
MRZ	Mangatainoka R	2.29	189	⇑PN	P	14 47 41.9	-2.2
MRZ				SN	S	14 48 09.7	-4.1
KIW	Kapiti Island	2.62	199	PN	P	14 47 45.1	-3.1
MTW	Mount Morrison	2.79	188	PN	P	14 47 47.2	-3.2
CAW	Cannon Point	2.81	195	PN	P	14 47 47.5	-3.2
MRW	Makara Radio	3.01	200	PN	P	14 47 49.9	-3.4
MSWZ	Moikau Station	3.08	191	⇑PN	P	14 47 50.5	-3.7
TUWZ	Tuamarina	3.44	207	PN	P	14 47 54.5	-4.4
NNZ	Nelson	3.49	215	PN	P	14 47 55.4	-4.2
THZ	Tophouse	4.14	215	PN	P	14 48 03.2	-4.9
KHZ	Kahutara	4.45	205	PN	P	14 48 07.4	-4.8
LTZ	Lake Ta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.44**	**43**	Pn	Pn	14 52 18.9	-2.1
	0.1nm,0.3s,baz=245,slow=15,SNR=3.5						
CMAR				Sn	Sn	14 53 42.4	-4.8
	0.2nm,0.3s,baz=239,slow=26,SNR=4.2						
SONM	**Songino Array**	**36.28**	**15**	P	P	14 57 33.7	-1.8
	2.3nm,1.4s,baz=190,slow=8.8,SNR=2.8						
WRA	**Warramunga Arr**	**51.80**	**129**	P	P	14 59 38.7	-2.0
	0.2nm,0.5s,baz=300,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**53.72**	**133**	P	P	14 59 52.5	-2.4
	0.1nm,0.3s,baz=308,slow=6.4,SNR=6.6						

WEL 22 14:54:22.3±0.4,36.64S×177.57E,h217km±8km,ML3.9/1,1C,Error ellipse: s-maj=14.4km s-min=11.3km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.10**	**147**	PN	P	14 54 54.5	-0.2
MXZ				SN	S	14 55 19.0	-0.8
MXZ				SN	S	14 55 19.4	-0.4
URZ	**Urewera**	**1.66**	**192**	⇑PN	P	14 54 59.1	-0.2
URZ				SN	S	14 55 27.6	-0.2
MWZ	**Matawai**	**1.69**	**181**	PN	P	14 54 59.5	-0.1
MWZ				SN	S	14 55 28.3	-0.1
MWZ				SN	S	14 55 28.5	+0.2
BKZ	**Black Stump Fm**	**2.66**	**198**	PN	P	14 55 08.7	-0.8
BKZ				eSN	S	14 55 44.2	-1.8
TSZ	**Takapari Road**	**3.64**	**200**	PN	P	14 55 19.0	-2.0

*IDC **22** 14:55:48.2±3.1,37.52N×102.56E,mb3.5/2,mb1 3.7/3,mb1mx3.4/19,mbtmp3.5/3,ML4.1/1,Error ellipse: s-maj=80.0km s-min=44.3km az=118.0*
*BJI **22** 14:55:54.2,37.60N×102.40E,h12km,ML3.6*
ISC 22 14:55:49.1±1.4,37.7N±0.1×102.4E±0.3,h12km,n5,σ0°46/6,mb3.4/2,Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**1.94**	**144**	PG	**Pg**	**14 56 27.3**	**-0.6**
LZH				SG	**Sg**	**14 56 54.1**	**+0.3**
LZH				Smax			
	comp=N,3μm,0.7s						
LZH				Smax			
	comp=E,1μm,0.8s						
LZH				LR	LR		
	comp=N,3μm,4.0s						
LZH				LR	LR		
	comp=Z,870nm,4.1s						
XAN	**Xi'an**	**6.39**	**123**	PG	**Pg**	**14 57 51.6**	**-5.0**
SONM	**Songino Array**	**10.56**	**15**	Pn	**P**	**14 58 23.2**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=194,slow=14,SNR=12						
SONM				Lg		15 01 26.8	
	comp=Z,0.2nm,0.3s,baz=214,slow=31,SNR=7.4						
FINES	**FINESS Array B**	**51.42**	**323**	P	**P**	**15 04 55.7**	**+0.1**
	comp=Z,0.3nm,0.4s,mb3.5,baz=90,slow=7.6,SNR=4.0						
YKA	**Yellowknife Ar**	**75.83**	**17**	P	**P**	**15 07 36.4**	**+0.2**
	comp=Z,0.2nm,0.6s,mb3.3,baz=329,slow=4.7,SNR=3.1						

*ATH **22** 15:03:38.7,36.64N×28.26E,h50km±3km,MD3.0/3*
*CSEM **22** 15:03:38.7±0.1,36.65N×28.28E,h40km,MD3.2,Error ellipse: s-maj=4.1km s-min=3.2km az=72.0*
*ISK **22** 15:03:39.1,36.70N×28.35E,h59km,MD3.2*
ISC 22 15:03:38.7±0.8,36.62N±0.04×28.28E±0.05,h59km±8km,n17,σ0°53/27,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.33**	**62**	PG	**P**	**15 03 49.1**	**+0.1**
DALT				SG	**S**	**15 03 55.5**	**-1.1**
ARG	**Arkhangelos**	**0.42**	**197**	*e*P	**P**	**15 03 50.0**	**+0.1**
ARG				*e*S	**S**	**15 03 58.0**	**-0.1**
YER	**Yerkesik**	**0.52**	**0**	*i* PG	**P**	**15 03 51.2**	**+0.3**
YER				*i* SG	**S**	**15 03 59.3**	**-0.5**
FETY	**Fethiye**	**0.65**	**88**	PG	**P**	**15 03 52.7**	**+0.4**
FETY				SG	**S**	**15 04 03.0**	**+0.5**
MLSB	**Milas**	**0.79**	**329**	*i* PG	**P**	**15 03 54.7**	**+0.6**
MLSB				*i* SG	**S**	**15 04 06.2**	**+0.6**
BDRM	**Kayabasi**	**0.81**	**304**	*i* P	**P**	**15 03 54.4**	**+0.1**
BDRM				*i* S	**S**	**15 04 05.7**	**-0.3**
AYDN	**Tasoluk**	**1.09**	**343**	*i* P	**P**	**15 03 58.9**	**+0.7**
AYDN				*i* S	**S**	**15 04 13.0**	**+0.4**
DNZL	**Cakiroluk**	**1.23**	**30**	*i* P	**P**	**15 04 00.8**	**+0.7**
DNZL				*i* S	**S**	**15 04 17.2**	**+1.1**
DENT	**Denizli**	**1.28**	**28**	*e*PN	**P**	**15 04 00.4**	**-0.5**
ELL	**Elmali**	**1.31**	**84**	*e*PN	**P**	**15 04 00.4**	**-1.0**
KARP	**Karpathos**	**1.40**	**221**	*e*P	**P**	**15 04 03.0**	**+0.4**
SMG	**Samos**	**1.59**	**314**	*e*P	**P**	**15 04 05.0**	**-0.1**
SMG				*e*S	**S**	**15 04 24.5**	**-0.1**
IZM	**Izmir**	**1.95**	**336**	*e*PN	**P**	**15 04 09.9**	**-0.3**
KDAG	**Bornova**	**1.96**	**336**	*i* P	**P**	**15 04 09.9**	**-0.3**
KDAG				*i* S	**S**	**15 04 32.8**	**-0.7**
KHL	**Karahalli**	**1.97**	**30**	*e*PN	**P**	**15 04 09.8**	**-0.6**
BLCB	**Balcova**	**2.02**	**331**	PN	**P**	**15 04 10.9**	**-0.2**
AKS	**Akhisar**	**2.29**	**351**	*i* PN	**P**	**15 04 14.7**	**-0.2**

IDC 22 15:18:54.5±2.5,4.79N×92.95E,mb3.7/4,mb1 3.8/5,mb1mx3.6/19,mbtmp3.7/5,Error ellipse: s-maj=83.6km s-min=28.1km az=60.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.80**	**23**	Pn	P	15 22 25.4	-1.8
	baz=219,slow=14,SNR=5.7						
SONM	**Songino Array**	**44.42**	**13**	P	P	15 27 06.5	-2.3
	1.0nm,0.9s,baz=191,slow=7.3,SNR=7.2						
WRA	**Warramunga Arr**	**47.52**	**123**	P	P	15 27 31.9	-2.0
	0.7nm,0.8s,baz=298,slow=9.1,SNR=3.7						
ZAL	**Zalesovo**	**49.45**	**354**	P	P	15 27 47.0	-1.2
	1.2nm,0.9s,baz=211,slow=8.5,SNR=5.1						
BVAR	**Borovoye Array**	**51.54**	**343**	P	P	15 28 01.8	-2.4
	1.0nm,0.6s,baz=141,slow=9.2,SNR=7.7						

IGQ 22 15:22:10.2,3.06S×78.31W,h12km±6km,mb4.0,4C-3D,Error ellipse: s-maj=20.8km s-min=5.3km az=172.3,Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	**Arrayan**	**1.55**	**355**	⇑P	Pn	15 22 38.8	+0.9
ARRY				S	Sb	15 23 02.1	+4.1
PATA	**Patacocha**	**1.56**	**355**	⇓P	Pn	15 22 39.2	+1.3
PATA				S	Sb	15 23 01.5	+3.5
IGUA	**Igualata**	**1.60**	**348**	⇓P	Pn	15 22 41.2	+2.7
ULBA	**Ulba**	**1.61**	**356**	⇑P	Pn	15 22 40.1	+1.4
ULBA				S	Sn	15 23 03.6	+4.2
CUSU	**Cusua**	**1.62**	**354**	P	Pn	15 22 40.0	+1.1
RUN2	**Runtun**	**1.63**	**356**	⇓P	Pn	15 22 40.4	+1.3
RUN2				S	Sn	15 23 04.5	+4.3
JUIV	**Juive**	**1.64**	**354**	P	Pn	15 22 40.3	+1.2
JUIV				S	Sn	15 23 04.3	+4.1
PISA	**Pisayambo**	**1.99**	**358**	P	Pn	15 22 46.6	+2.4
PISA				S	Sn	15 23 16.0	+6.7
TAMB	**Tambo**	**2.35**	**359**	P	Pn	15 22 52.6	+3.2
TAMB				S	Sn	15 23 27.0	+8.6
VC1	**Cotopaxi 1**	**2.41**	**358**	⇑P	Pn	15 22 53.7	+3.6
VC1				S	Sn	15 23 29.9	+10
NAS1	**Nasa**	**2.42**	**356**	P	Pn	15 22 54.3	+4.0
ANTI	**Antisana**	**2.60**	**3**	⇑P	Pn	15 22 55.4	+2.5
ANTI				S	Sn	15 23 31.4	+6.7
PINO	**Pino**	**2.90**	**354**	P	Pn	15 23 03.2	+6.1
YANA	**Yana**	**2.94**	**355**	P	Pn	15 23 02.6	+4.9
CAYR	**Refugio Cayamb**	**3.07**	**6**	P	Pn	15 23 03.5	+3.9
CAYR				S	Sn	15 23 46.0	+9.4
COTA	**Cotacachi**	**3.38**	**359**	P	Pn	15 23 14.5	+11

IDC 22 15:27:55.6±2.7,4.26N×93.93E,mb3.5/3,mb1 3.7/4,mb1mx3.5/19,mbtmp3.5/4,ML3.4/1,Error ellipse: s-maj=103.6km s-min=29.5km az=59.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.94**	**19**	Pn	P	15 31 28.6	-1.3
	0.1nm,0.3s,baz=213,slow=11,SNR=10						
WRA	**Warramunga Arr**	**46.42**	**123**	P	P	15 36 24.0	-2.2
	0.9nm,0.8s,baz=302,slow=9.2,SNR=6.8						
ASAR	**Alice Springs**	**47.83**	**127**	P	P	15 36 35.7	-1.6
	0.4nm,0.9s,baz=304,slow=8.3,SNR=3.8						
BVAR	**Borovoye Array**	**52.33**	**342**	P	P	15 37 08.9	-2.4
	0.2nm,0.4s,baz=135,slow=4.1,SNR=3.5						

IDC 22 15:35:17.3±19.0,6.79N×94.20E,mb3.5/2,mb1 3.9/3,mb1mx3.5/18,mbtmp3.6/3,ML4.1/1,MS3.6/1,Ms1 3.6/1,ms1mx2.6/20,Error ellipse: s-maj=487.4km s-min=44.3km az=86.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.48**	**21**	Pn	P	15 38 16.5	-2.7
	0.3nm,0.3s,baz=230,slow=14,SNR=6.7						
WRA	**Warramunga Arr**	**47.60**	**125**	P	P	15 43 55.5	-1.7
	0.6nm,0.7s,baz=305,slow=8.5,SNR=7.0						
ASAR	**Alice Springs**	**49.19**	**129**	P	P	15 44 07.2	-2.3
	0.7nm,0.9s,baz=300,slow=7.2,SNR=5.2						
KMBO	**Kilima Mbogo**	**57.37**	**264**	LR	LR	16 07 49.5	
	comp=Z,45nm,18.9s,baz=92,slow=34						

*IDC **22** 15:45:45.5±1.1,4.38N×96.10E,mb3.8/7,mb1 4.0/8,mb1mx3.8/18,mbtmp3.8/8,ML3.9/1,Error ellipse: s-maj=65.3km s-min=17.9km az=51.0*
ISC 22 15:45:48.6±1.1,4.4N±0.3×96.1E±0.3,h33km,n8,σ0°25/8,mb3.8/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.28**	**11**	Pn	**P**	**15 49 17.8**	**+7.2**
	0.2nm,0.3s,baz=200,slow=11,SNR=13						
SONM	**Songino Array**	**44.20**	**10**	P	**P**	**15 53 56.5**	**+0.2**
	0.4nm,0.5s,mb3.4,baz=195,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**44.66**	**124**	P	**P**	**15 54 00.4**	**+0.1**
	1.8nm,0.5s,mb4.2,baz=302,slow=9.1,SNR=22						
ASAR	**Alice Springs**	**46.19**	**129**	P	**P**	**15 54 12.6**	**+0.1**
	0.9nm,0.4s,mb4.0,baz=303,slow=7.1,SNR=27						
BVAR	**Borovoye Array**	**52.92**	**341**	P	**P**	**15 55 03.2**	**-0.5**
	0.3nm,0.4s,mb3.5,baz=135,slow=8.2,SNR=4.6						
STKA	**Stephens Creek**	**56.29**	**133**	P	**P**	**15 55 28.4**	**-0.2**
	1.2nm,0.8s,mb4.0,baz=339,slow=14,SNR=2.8						
BRTR	**Keskin Array B**	**66.20**	**312**	P	**P**	**15 56 35.6**	**+0.2**
	0.3nm,0.4s,mb3.6,baz=137,slow=7.7,SNR=3.9						
ARCES	**ARCESS Array B**	**79.21**	**340**	P	**P**	**15 57 51.8**	**+0.2**
	2.0nm,0.9s,mb4.0,baz=100,slow=5.5,SNR=3.8						

IDC 22 15:51:31.9±10.0,13.46N×91.91E,mb3.4/2,mb1 3.7/3,mb1mx3.4/18,mbtmp3.4/3,ML3.6/1,Error ellipse: s-maj=215.9km s-min=48.9km az=111.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.39**	**53**	Pn	P	15 53 34.1	-3.6
	0.2nm,0.3s,baz=241,slow=15,SNR=12						
WRA	**Warramunga Arr**	**53.33**	**128**	P	P	16 00 53.1	-2.4
	0.2nm,0.5s,baz=301,slow=9.7,SNR=4.9						
ASAR	**Alice Springs**	**55.20**	**132**	P	P	16 01 07.2	-2.0
	0.1nm,0.4s,baz=308,slow=6.9,SNR=6.0						

*IDC **22** 15:51:47.1±1.4,34.21N×141.55E,mb3.5/3,mb1 3.8/3,mb1mx3.5/20,mbtmp3.5/3,Error ellipse: s-maj=55.8km s-min=22.0km az=129.0*
*JMA **22** 15:51:50.1±0.5,34.09N×141.63E,h31km±3km,M3.3*
ISC 22 15:51:50.4±1.9,34.11N±0.06×141.7E±0.2,h37km±20km,n11,σ0°81/14,mb3.5/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.78**	**314**	P	**P**	**15 52 04.6**	**-0.3**
BSO3	**Boso 3**	**1.17**	**306**	P	**P**	**15 52 10.4**	**-0.1**
BSO4	**Boso 4**	**1.40**	**309**	P	**P**	**15 52 14.7**	**+0.9**
BSO4				S	**S**	**15 52 30.5**	**-0.7**
JHJ2	**Mitsune**	**1.83**	**237**	P	**P**	**15 52 20.3**	**+0.3**
JHJ	**Hachijo jima 2**	**1.85**	**238**	Pn	**P**	**15 52 20.3**	**+0.1**
	68nm,0.3s,baz=15,slow=18,SNR=9.1						
JHJ				Sn	**S**	**15 52 42.5**	**-0.2**
	72nm,0.3s,baz=56,slow=23,SNR=6.0						
JIM2	**Oshima 3**	**1.94**	**289**	P	**P**	**15 52 21.1**	**-0.4**
JIZS	**Izushimoda**	**2.38**	**286**	P	**P**	**15 52 27.3**	**-0.5**
MAT	**Matsushiro**	**3.72**	**312**	P	**P**	**15 52 47.2**	**+0.3**
MAT				S	**S**	**15 53 30.8**	**+0.7**
ILAR	**Eielson Array**	**51.87**	**31**	P	**P**	**16 00 56.4**	**-0.4**
	0.5nm,0.7s,mb3.5,baz=262,slow=6.0,SNR=7.4						
WRA	**Warramunga Arr**	**54.20**	**188**	P	**P**	**16 01 13.1**	**-1.6**
	0.3nm,0.4s,mb3.6,baz=7.0,slow=7.6,SNR=10						
ASAR	**Alice Springs**	**57.93**	**188**	P	**P**	**16 01 43.6**	**+2.2**
	0.2nm,0.5s,mb3.4,baz=358,slow=6.3,SNR=6.7						

IDC 22 15:53:45.9±6.0,23.73S×174.75W,mb4.0/4,mb1 4.2/4,mb1mx3.9/15,mbtmp4.0/4,Error ellipse: s-maj=150.2km s-min=102.3km az=148.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.28**	**268**	P	P	16 00 52.7	-0.5
	1.2nm,0.3s,baz=94,slow=12,SNR=5.4						
STKA	**Stephens Creek**	**39.25**	**248**	P	P	16 01 14.8	-3.2
	0.6nm,0.4s,baz=95,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**46.80**	**259**	P	P	16 02 17.2	-2.1
	0.9nm,0.4s,baz=92,slow=7.4,SNR=43						
WRA	**Warramunga Arr**	**47.21**	**264**	P	P	16 02 20.9	-1.8
	1.1nm,0.3s,baz=100,slow=7.2,SNR=42						
FINES	**FINESS Array B**	**139.68**	**345**	PKP	PKPdf	16 13 15.2	-1.9
	1.2nm,0.8s,baz=45,slow=3.9,SNR=3.7						
FINES	**FINESS Array B**	**139.68**	**345**		PKPdf	16 13 15.3	-1.9

*SNSN **22** 15:54:51.8,24.48N×35.34E,Ml3.0*
*HLW **22** 15:54:53.1,24.38N×36.29E,h24km,Mb3.3*
*CSEM **22** 15:54:57.3±0.2,24.62N×35.87E,h20km,ML3.0,Error ellipse: s-maj=11.2km s-min=4.7km az=1.0*
ISC 22 15:54:57.4±0.7,24.71N±0.10×35.89E±0.04,h10km,n9,σ0°93/11,Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAGS	**Hagol**	**0.89**	**248**	P	**Pb**	**15 55 13.4**	**-1.1**
HAGS				S	**Sb**	**15 55 27.4**	**+1.2**
EMRS	**Mersa Alam**	**1.00**	**288**	P	**Pb**	**15 55 16.7**	**+0.3**
HADB		**1.31**	**299**	P	**Pb**	**15 55 21.7**	**0.0**
UMJS	**Umm Lajj**	**1.39**	**68**	P	**Pn**	**15 55 22.8**	**-0.2**
HSHL	**Bi'r Shalatayn**	**1.66**	**196**	P	**Pn**	**15 55 17.2**	**-10**
HQSR		**1.71**	**308**	P	**Pn**	**15 55 26.8**	**-0.8**
YNBS	**Yanbu' al Bahr**	**1.95**	**101**	P	**Pn**	**15 55 30.0**	**-1.0**
YNBS				S	**Sg**	**15 56 02.4**	**0.0**
DBAS	**Duba**	**2.49**	**2**	P	**Pn**	**15 55 34.1**	**-4.6**
KBRS	**Khaybar**	**3.23**	**70**	P	**Pg**	**15 56 03.9**	**+1.9**

MAN 22 15:56:00.4,9.35N×126.17E,h45km,mb4.2,ML3.0,MS2.8,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.66**	**235**	*e*P	P	15 56 15.0	+1.6
SCPH	**Surigao**	**0.80**	**303**	⇓*e*P	P	15 56 15.3	-0.1
SCPH				*i* S	S	15 56 28.6	+2.2
BIPH	**Bislig**	**1.17**	**171**	*e*P	P	15 56 21.0	+0.4
BIPH				*e*S	S	15 56 34.0	-1.6
MSLP	**Maasin**	**1.51**	**301**	*e*P	P	15 56 25.2	-0.4
MSLP				*e*S	S	15 56 46.5	+2.3
BUKP	**Musuan**	**1.82**	**217**	*e*P	P	15 56 35.0	+5.1
PLP	**Palo**	**2.15**	**327**	*e*P	P	15 56 34.2	-0.4
PLP				*e*S	S	15 57 01.1	+0.8

*GUC **22** 15:59:53.1±0.6,34.35S×70.44W,h118km±2km,MD3.9,ML4.1*
*NEIC **22** 15:59:53.1,34.35S×70.44W,h118km,mb3.9/2,MD3.9(GUC),After GUC.*
ISC 22 15:59:52.8±0.5,34.36S±0.03×70.48W±0.07,h123km±3km,n35,σ0°49/55,mb4.6/1,12C-11D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.06**	**50**	⇑*i*P	**P**	**16 00 09.3**	**-0.3**
CICH				*i* S	**S**	**16 00 22.4**	**+0.2**
CACH	**El Canelo**	**0.26**	**337**	⇓*i*P	**P**	**16 00 10.0**	**+0.1**
CACH				*i* S	**S**	**16 00 22.9**	**-0.1**
CHCH	**Chadas Angostu**	**0.45**	**341**	*i* P	**P**	**16 00 10.6**	**-0.3**
CHCH				*i* S	**S**	**16 00 24.1**	**-0.4**
SFDO	**San Fernando**	**0.51**	**240**	⇓*i*P	**P**	**16 00 11.5**	**+0.3**
SFDO				*i* S	**S**	**16 00 25.4**	**+0.2**
LMEL	**Las Melosas**	**0.56**	**24**	⇓*i*P	**P**	**16 00 11.5**	**0.0**
LMEL				*i* S	**S**	**16 00 25.7**	**0.0**
LMEL				AMP		16 00 35.0	
	comp=N,4μm,0.2s						
SJCH	**San Jose de Ma**	**0.72**	**8**	*i* P	**P**	**16 00 12.6**	**0.0**
SJCH				*i* S	**S**	**16 00 27.2**	**-0.6**
PCH	**Pirque**	**0.74**	**357**	⇑*i*P	**P**	**16 00 13.1**	**+0.3**
PCH				*i* S	**S**	**16 00 27.9**	**-0.1**
ANTU	**Antumapu**	**0.80**	**350**	AMP		16 00 29.4	
	comp=N,11μm,0.5s						
TACH	**Talagante**	**0.80**	**331**	⇑*i*P	**P**	**16 00 13.4**	**+0.1**
TACH				*i* S	**S**	**16 00 28.6**	**-0.3**
LNV	**Longovilo**	**0.87**	**297**	⇑*i*P	**P**	**16 00 14.1**	**0.0**
FSR	**Penalolen**	**0.88**	**357**	⇓*i*P	**P**	**16 00 14.3**	**+0.2**
FSR				*i* S	**S**	**16 00 30.0**	**-0.2**
FSR				AMP		16 00 31.4	
	comp=E,3μm,0.3s						
NICH	**Los Niches**	**0.89**	**224**	⇑*i*P	**P**	**16 00 14.5**	**+0.2**
NICH				*i* S	**S**	**16 00 30.7**	**+0.3**
RCDM	**Rinconada Maip**	**0.91**	**342**	*i* P	**P**	**16 00 14.3**	**-0.1**
RCDM				*i* S	**S**	**16 00 30.3**	**-0.4**
RCDM				AMP		16 00 31.4	
	comp=E,6μm,0.2s						
SAN	**Santiago**	**0.92**	**350**	AMP		16 00 31.4	
	comp=E,6μm,0.4s						
STL	**Santa Lucia**	**0.93**	**351**	⇓*i*P	**P**	**16 00 14.6**	**0.0**
STL				*i* S	**S**	**16 00 30.6**	**-0.4**
STL				AMP		16 00 31.3	
	comp=E,3μm,0.3s						
PUEX	**Pudahuel**	**0.94**	**346**	⇑*i*P	**P**	**16 00 14.9**	**+0.2**
PUEX				*i* S	**S**	**16 00 31.2**	**-0.1**
PUEX				AMP		16 00 31.9	
	comp=N,13μm,0.4s						
DSCH	**Colegio Aleman**	**0.96**	**355**	⇑*i*P	**P**	**16 00 15.0**	**+0.1**
DSCH				*i* S	**S**	**16 00 31.7**	**+0.2**
DSCH				AMP		16 00 32.8	
	comp=E,6μm,0.4s						
CLCH	**Cerro Calan**	**0.96**	**357**	⇓*i*P	**P**	**16 00 15.1**	**+0.2**
CLCH				*i* S	**S**	**16 00 31.6**	**+0.1**
CLCH				AMP		16 00 33.5	
	comp=E,5μm,0.4s						
FCH	**Farellones**	**1.04**	**9**	⇓*i*P	**P**	**16 00 16.1**	**+0.4**
FCH				*i* S	**S**	**16 00 33.8**	**+0.9**
FCH				AMP		16 00 34.5	
	comp=N,3μm,0.3s						
PEL	**Peldehue**	**1.22**	**352**	⇑*i*P	**P**	**16 00 17.9**	**+0.2**
PEL				*i* S	**S**	**16 00 36.5**	**+0.1**
LCCH	**Las Cruces**	**1.27**	**314**	⇑*i*P	**P**	**16 00 18.0**	**-0.1**
LCCH				*i* S	**S**	**16 00 37.3**	**+0.1**
TALC	**Talca**	**1.41**	**222**	⇑*i*P	**P**	**16 00 19.7**	**0.0**
TALC				*i* S	**S**	**16 00 40.3**	**+0.1**
TALC				AMP		16 00 40.6	
	comp=E,6μm,0.1s						
ROCH	**El Roble**	**1.45**	**342**	⇓*i*P	**P**	**16 00 20.6**	**+0.3**
JACH	**Jahuel**	**1.68**	**357**	⇑*i*P	**P**	**16 00 23.1**	**+0.2**
JACH				*i* S	**S**	**16 00 45.7**	**+0.1**
LNCH	**Linares**	**1.75**	**212**	⇑*i*P	**P**	**16 00 24.0**	**+0.3**
LNCH				*i* S	**S**	**16 00 47.6**	**+0.4**
LNCH				AMP		16 00 49.2	
	comp=N,1μm,0.4s						
PACH	**Papudo**	**1.99**	**336**	⇓*i*P	**P**	**16 00 26.5**	**-0.1**
PTCH	**Petorca**	**2.12**	**350**	⇓*i*P	**P**	**16 00 28.3**	**-0.1**
PTCH				*i* S	**S**	**16 00 55.0**	**-0.3**
PTCH				AMP		16 01 01.5	
	comp=E,2μm,0.3s						
CCHI	**Chillan**	**2.59**	**210**	AMP		16 01 07.5	
	comp=E,844nm,0.5s						
ILCH	**Illapel**	**2.78**	**348**	AMP		16 01 12.1	
	comp=N,761nm,0.2s						
ZON	**Zonda**	**3.19**	**29**	*e*P	**P**	**16 00 42.0**	**-0.5**
ZON				*e*S	**S**	**16 01 22.0**	**+1.7**
TLL	**Tololo Astrono**	**4.19**	**356**	⇓*i*P	**P**	**16 00 55.1**	**-0.9**
TLL				*i* S	**S**	**16 01 42.9**	**-1.4**
PLCA	**Paso Flores**	**6.36**	**181**	*e*Pn	**P**	**16 01 24.1**	**-1.3**
TRQA	**Tornquist**	**7.79**	**121**	*e*Pn	**P**	**16 01 43.7**	**-1.1**
LPAZ	**La Paz**	**18.12**	**7**	P	**P**	**16 03 59.0**	**+1.3**
	comp=N,1.4nm,0.7s						
QSPA	**South Pole Qui**	**55.88**	**180**	*e*P	**P**	**16 09 19.7**	**+0.3**
	comp=N,2.9nm,0.5s,mb4.6						

*CASC **22** 16:00:30.8±1.8,13.21N×89.60W,h48km±13km,MD4.3,ML4.6,mb4.4(NEIC)*
*IDC **22** 16:00:30.6±1.3,13.50N×88.99W,h58km±5km,mb3.7/7,mb1 4.0/7,mb1mx3.6/19,mbtmp4.0/7,MS3.2/2,Ms1 3.2/2,ms1mx2.0/24,Error ellipse: s-maj=30.0km s-min=28.1km az=60.0*
*NEIC **22** 16:00:34.2±1.1,13.41N×89.26W,h100km±9km,mb4.4/9,MD4.7(SNET),Error ellipse: s-maj=21.5km s-min=10.9km az=52.0*
NEIC Felt [III] at San Salvador.
ISC 22 16:00:30.4±0.5,13.31N±0.06×89.53W±0.05,h79km±4km,h58km±1.4km:pP-P,n52,σ1°15/58,mb4.2/11,11C-8D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.47**	**37**	⇓*e*P	**P**	**16 00 43.2**	**-0.7**
SNET				*e*S	**S**	**16 00 53.0**	**-0.9**
SNET				*i*		16 00 56.2	
	comp=Z,33μm,0.4s						
BOQS	**Boqueron**	**0.48**	**30**	⇓*e*P	**P**	**16 00 43.6**	**-0.4**
SBLS	**San Blas**	**0.53**	**350**	⇓*e*P	**P**	**16 00 43.7**	**-0.8**
LFRS	**El Faro**	**0.55**	**56**	⇑*e*P	**P**	**16 00 44.0**	**-0.7**
SNJE	**San Jose**	**0.56**	**352**	⇓*e*P	**P**	**16 00 44.1**	**-0.7**
LFU	**La Fuente**	**0.59**	**43**	⇑*e*P	**P**	**16 00 45.1**	**0.0**
RTR	**El Retiro**	**0.59**	**349**	⇓*e*P	**P**	**16 00 44.6**	**-0.6**
LBRS	**Las Brisas**	**0.63**	**48**	⇑*e*P	**P**	**16 00 45.6**	**+0.1**
LCBS	**La Ceiba**	**0.63**	**57**	⇑*e*P	**P**	**16 00 45.2**	**-0.3**
**SNVI

TXAR				pPcP		16 09 29.0	
OXF	**Oxford**	**21.11**	**0**	P	**P**	**16 05 14.1**	**+3.7**
	comp=Z,33nm,0.8s,mb4.7						
WMOK	**Wichita Mounta**	**22.92**	**340**	*eP*	**P**	**16 05 28.4**	**+0.1**
	comp=Z,4.3nm,0.6s,mb4.0						
WMOK				*e*		16 05 42.3	
ANMO	**Albuquerque**	**26.43**	**327**	LR	LR	16 17 15.6	
	comp=Z,33nm,20.4s,slow=38						
PV10	**Paradox Valley**	**30.39**	**329**	P	**P**	**16 06 36.6**	**-0.7**
PDAR	**Pinedale Array**	**34.08**	**333**	P	**P**	**16 07 09.3**	**0.0**
	comp=Z,0.3nm,0.6s,mb3.3,baz=128,slow=10,SNR=3.6						
PDAR				PcP	PcP	16 09 45.1	-0.2
	comp=Z,0.4nm,0.7s,baz=112,slow=4.9,SNR=4.1						
PDAR				pPcP		16 10 01.2	
	comp=Z,0.5nm,0.6s,baz=153,slow=3.3,SNR=4.1						
HWUT	**Hardware Ranch**	**34.10**	**330**	P	**P**	**16 07 17.6**	**+8.0**
	comp=Z,1.6nm,0.4s,mb4.2						
NVAR	**Mina Array Bea**	**35.73**	**320**	P	**P**	**16 07 26.4**	**+2.9**
	comp=Z,2.0nm,0.7s,mb4.1,baz=145,slow=7.8,SNR=19						
NVAR				pP	pP	16 07 40.8	-1.7
	comp=Z,3.8nm,0.8s,baz=154,slow=7.6,SNR=19						
NVAR				PcP	PcP	16 09 51.5	+1.2
	comp=Z,2.4nm,1.0s,baz=114,slow=6.2,SNR=7.6						
NVAR				pPcP		16 10 07.8	
	comp=Z,1.3nm,0.8s,baz=108,slow=6.1,SNR=5.8						
MCMT	**McKenzie Canyo**	**37.17**	**332**	*eP*	**P**	**16 07 36.0**	**+0.6**
SCHQ	**Schefferville**	**45.07**	**18**	P	**P**	**16 08 38.9**	**-1.2**
	comp=Z,1.7nm,0.6s,mb4.0,baz=231,slow=19,SNR=14						
SCHQ				pP	pP	16 08 53.6	-5.9
	comp=Z,1.9nm,0.5s,baz=239,slow=7.5,SNR=2.5						
SCHQ	**Schefferville**	**45.07**	**18**	*eP*	**P**	**16 08 38.9**	**-1.3**
	comp=Z,6.9nm,1.0s,mb4.3						
FCC	**Fort Churchill**	**45.49**	**357**	*eP*	**P**	**16 08 42.2**	**-1.3**
	comp=Z,3.4nm,0.6s,mb4.2						
FCC				*e*	pP	16 08 58.1	-4.7
YKA	**Yellowknife Ar**	**52.27**	**346**	P	**P**	**16 09 35.0**	**-0.6**
	comp=Z,1.3nm,0.5s,mb4.2,baz=144,slow=7.7,SNR=42						
YKA				pPcP		16 11 01.2	
	comp=Z,0.4nm,0.7s,baz=145,slow=4.0,SNR=3.7						
YKA				LR	LR	16 36 06.3	
	comp=Z,38nm,19.3s,baz=70,slow=41						
YKA	**Yellowknife Ar**	**52.27**	**346**	P	**P**	**16 09 35.0**	**-0.6**
YKA				pPcP		16 11 01.2	
YKA				LR	LR	16 36 06.3	
FRB	**Frobisher Bay**	**52.47**	**12**	P	**P**	**16 09 35.0**	**-2.1**
	comp=Z,2.9nm,0.4s,mb4.7,baz=209,slow=6.9,SNR=5.9						
FRB				pP	pP	16 09 50.5	-6.4
	comp=Z,2.5nm,0.5s,baz=211,slow=7.9,SNR=2.8						
RES	**Resolute Bay**	**61.44**	**358**	*eP*	**P**	**16 10 38.3**	**-2.2**
	comp=Z,2.4nm,0.7s,mb4.3						
INK	**Inuvik**	**61.79**	**343**	P	**P**	**16 10 41.5**	**-1.4**
	comp=Z,0.9nm,0.5s,mb4.1,baz=146,slow=6.6,SNR=12						
INK	**Inuvik**	**61.79**	**343**	*eP*	**P**	**16 10 40.8**	**-2.1**
	comp=Z,2.1nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**137.55**	**255**	PKP	PKPdf	16 19 48.8	+2.7
	comp=Z,1.0nm,0.7s,baz=87,slow=2.2,SNR=9.1						
WRA				SKPbc		16 23 19.6	
	comp=Z,0.3nm,0.8s,baz=93,slow=3.2,SNR=3.5						
ASAR	**Alice Springs**	**137.69**	**249**	PKP	PKPdf	16 19 49.4	+3.1
	comp=Z,0.8nm,0.9s,baz=94,slow=1.8,SNR=5.2						
ASAR				SKPbc		16 23 19.2	
	comp=Z,0.3nm,1.0s,baz=352,slow=40,SNR=3.1						
CMAR	**Chiang Mai Arr**	**147.35**	**345**	PKPbc	PKPdf	16 20 07.7	+4.3
	comp=Z,2.1nm,0.6s,baz=344,slow=3.7,SNR=17						
CMAR				pPKPbc		16 20 24.2	
	comp=Z,3.6nm,0.9s,baz=346,slow=3.3,SNR=9.9						

NIED ***22*** *16:01:00,33.90N×141.70E,h5km,Mw4.1 Best double couple: M0 1.4×10^15 NP1:φs140°,δ62°,λ71°. NP2:φs356°, δ33°,λ121°.*
IDC ***22*** *16:01:36.8±0.6,33.94N×141.59E,mb3.8/15,mb1 4.1/16, mb1mx4.0/22,mbtmp3.9/16,ML4.0/1,MS3.4/1,Ms1 3.4/1, ms1mx2.5/30,Error ellipse: s-maj=19.6km s-min=14.0km az=130.0*
MOS ***22*** *16:01:36.7±1.4,34.05N×141.78E,h10km,mb4.5/13,Error ellipse: s-maj=16.6km s-min=9.1km az=102.7*
JMA ***22*** *16:01:39.5±0.4,33.94N×141.73E,h32km±5km,M3.7*
BJI ***22*** *16:01:42.9,34.33N×141.80E,h55km,mB4.9,mb4.0, Ms3.7,Msz3.6*
NEIC ***22*** *16:01:43.8±1.8,34.00N×141.52E,h44km±15km,mb4.3/17, Error ellipse: s-maj=13.2km s-min=9.7km az=121.0*

ISC 22 16:01:41.7±1.0,33.96N±0.05×141.57E±0.08,h41km±8km, n73,σ0°96/77,mb4.1/31,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.85**	**325**	P	**P**	**16 01 56.5**	**-0.8**
BSO1				S	**S**	**16 02 09.3**	**+0.5**
BSO3	**Boso 3**	**1.22**	**314**	P	**P**	**16 02 02.3**	**-0.2**
BSO4	**Boso 4**	**1.45**	**316**	P	**P**	**16 02 06.3**	**+0.4**
KTR	**Katsuura**	**1.58**	**319**	P	**P**	**16 02 08.3**	**+0.6**
JHJ2	**Mitsune**	**1.69**	**241**	P	**P**	**16 02 09.9**	**+0.6**
JHJ	**Hachijo jima 2**	**1.71**	**241**	Pn	**P**	**16 02 08.8**	**-0.7**
	70nm,0.3s,baz=212,slow=3.3,SNR=9.9						
JHJ				Sn	**S**	**16 02 31.2**	**+0.8**
	150nm,0.3s,baz=85,slow=23,SNR=8.4						
JIM2	**Oshima 3**	**1.93**	**294**	P	**P**	**16 02 12.6**	**-0.1**
JKO	**Kozu shima**	**2.03**	**277**	P	**P**	**16 02 14.6**	**+0.4**
KTJJ	**Kamata 2**	**2.29**	**296**	P	**P**	**16 02 17.2**	**-0.6**
JIZS	**Izushimoda**	**2.35**	**290**	P	**P**	**16 02 18.8**	**0.0**
JIZS				S	**S**	**16 02 47.2**	**+0.6**
JOD2	**Odawara 2**	**2.43**	**303**	P	**P**	**16 02 19.3**	**-0.5**
MAJO	**Matsushiro**	**3.77**	**314**	*eP*	**P**	**16 02 38.3**	**-0.6**
MAT	**Matsushiro**	**3.77**	**314**	*eP*	**P**	**16 02 39.0**	**+0.1**
MAT				*eS*	**S**	**16 03 23.0**	**+0.4**
MAT	**Matsushiro**	**3.77**	**314**	P	**P**	**16 02 38.7**	**-0.2**
MAT				S	**S**	**16 03 23.2**	**+0.6**
ASAJ	**Asahikawa**	**10.18**	**4**	P	**P**	**16 04 02.3**	**-5.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.18**	**4**	Pn	**P**	**16 04 02.2**	**-5.9**
	comp=Z,1.4nm,0.3s,baz=233,slow=11,SNR=8.7						
KS15	**Wonju Array Si**	**11.66**	**291**	P	**P**	**16 04 21.8**	**-6.5**
YSS	**Yuzh-Sakhalins**	**13.01**	**4**	*eP*	**P**	**16 04 40.5**	**-5.9**
YSS				pmax	pmax		
	comp=Z,16nm,0.9s						
YSS	**Yuzh-Sakhalins**	**13.01**	**4**	*eP*	**P**	**16 04 40.5**	**-5.9**
	comp=Z,16nm,0.9s						
JOW	**Kunigami**	**13.49**	**242**	LR	LR	16 09 49.4	
	comp=Z,145nm,19.4s,baz=117,slow=36						
MDJ	**Mudanjiang**	**14.10**	**323**	P	**P**	**16 04 56.1**	**-4.6**
MDJ				AP		16 05 04.8	
MDJ				XP		16 05 10.9	
MDJ				S	**S**	**16 07 25.9**	**-11**
MDJ				PCP	PcP	16 10 18.0	-0.8
MDJ				SCP		16 13 47.9	
MDJ				PCS		16 13 52.8	
MDJ				SCS	ScS	16 17 25.3	+1.5
MDJ				AMB	AMB		
	comp=Z,6.0nm,2.2s						
MDJ				AMB	AMB		
	comp=Z,105nm,5.1s						
MDJ				LR	LR		
	comp=N,168nm,17.5s						
MDJ				LR	LR		
	comp=E,158nm,15.1s						
MDJ				LR	LR		
	comp=Z,231nm,16.6s						
MA2	**Magadan**	**26.34**	**11**	*eP*	**P**	**16 07 15.0**	**-0.4**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.2						
MA2	**Magadan**	**26.34**	**11**	*eP*	**P**	**16 07 15.0**	**-0.4**
	comp=Z,7.4nm,0.9s,mb4.2						
ULN	**Ulaanbaatar**	**29.28**	**309**	*eP*	**P**	**16 07 42.8**	**+0.7**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
ULN	**Ulaanbaatar**	**29.28**	**309**	*eP*	**P**	**16 07 42.8**	**+0.8**
	comp=Z,4.4nm,1.0s,mb4.1						
SONM	**Songino Array**	**29.70**	**308**	P	**P**	**16 07 45.5**	**-0.3**
	comp=Z,0.8nm,0.8s,mb3.5,baz=98,slow=8.7,SNR=6.3						
QIZ	**Qiongzhong**	**31.89**	**250**	*eP*	**P**	**16 08 04.8**	**-0.7**
	comp=Z,46nm,1.6s,mb5.0						
ZAK	**Zakamensk**	**32.35**	**312**	*eP*	**P**	**16 08 09.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**40.93**	**259**	P	**P**	**16 09 20.2**	**-1.7**
	comp=Z,0.8nm,0.7s,mb3.5,baz=43,slow=6.7,SNR=7.4						
WMQ	**Urumqi**	**42.41**	**300**	*eP*	**P**	**16 09 35.0**	**+1.2**
ZAL	**Zalesovo**	**44.14**	**315**	P	**P**	**16 09 47.1**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.3,baz=229,slow=20,SNR=2.5						
KURK	**Kurchatov**	**47.97**	**310**	*eP*	**P**	**16 10 17.4**	**-0.7**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
KURK	**Kurchatov**	**47.97**	**310**	*eP*	**P**	**16 10 17.4**	**-0.7**
	comp=Z,5.8nm,1.0s,mb4.6						
COLA	**College**	**51.63**	**31**	*eP*	**P**	**16 10 42.2**	**-3.6**
COLA				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
COLA	**College**	**51.63**	**31**	*eP*	**P**	**16 10 42.1**	**-3.7**
	comp=Z,8.5nm,1.2s,mb4.5						
ILAR	**Eielson Array**	**52.04**	**31**	P	**P**	**16 10 47.6**	**-1.3**
	comp=Z,2.4nm,0.7s,mb4.2,baz=262,slow=6.0,SNR=33						
AAK	**Ala-Archa**	**52.11**	**301**	P	**P**	**16 10 45.0**	**-4.8**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
AAK	**Ala-Archa**	**52.11**	**301**	P	**P**	**16 10 45.0**	**-4.7**
	comp=Z,1.3nm,0.9s,mb3.9						
CHKZ	**Chkalovo**	**52.54**	**315**	*eP*	**P**	**16 10 51.9**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
CHKZ	**Chkalovo**	**52.54**	**315**	*eP*	**P**	**16 10 51.9**	**-0.9**
	comp=Z,2.7nm,1.1s,mb4.1						
BVAR	**Borovoye Array**	**52.77**	**314**	P	**P**	**16 10 53.6**	**-1.0**
	comp=Z,1.1nm,0.9s,mb3.8,baz=76,slow=6.1,SNR=4.2						
WRAB	**Tennant Creek**	**54.03**	**188**	*eP*	**P**	**16 11 05.2**	**+0.9**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
WRAB	**Tennant Creek**	**54.03**	**188**	*eP*	**P**	**16 11 05.2**	**+0.9**
	comp=Z,6.3nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**54.04**	**188**	P	**P**	**16 11 03.0**	**-1.4**
	comp=Z,0.8nm,0.4s,mb4.0,baz=3.3,slow=7.6,SNR=18						
INK	**Inuvik**	**57.08**	**26**	*eP*	**P**	**16 11 25.1**	**-0.6**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**57.08**	**26**	P	**P**	**16 11 25.0**	**-0.7**
	comp=Z,1.4nm,0.7s,mb4.1,baz=286,slow=3.0,SNR=6.9						
INK	**Inuvik**	**57.08**	**26**	*eP*	**P**	**16 11 25.1**	**-0.6**
	comp=Z,2.2nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**57.77**	**188**	P	**P**	**16 11 28.9**	**-2.2**
	comp=Z,0.3nm,0.4s,mb3.6,baz=0.7,slow=6.1,SNR=18						
MBWA	**Marble Bar**	**58.62**	**204**	*eP*	**P**	**16 11 39.5**	**+2.4**
	comp=Z,36nm,1.6s,mb5.2						
ARU	**Arti**	**58.77**	**320**	P	**P**	**16 11 31.8**	**-5.9**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ARU	**Arti**	**58.77**	**320**	P	**P**	**16 11 31.8**	**-5.8**
	comp=Z,2.4nm,0.6s,mb4.4						
RES	**Resolute Bay**	**65.55**	**14**	*eP*	**P**	**16 12 22.0**	**-0.6**
RES				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
RES	**Resolute Bay**	**65.55**	**14**	*eP*	**P**	**16 12 22.0**	**-0.5**
	comp=Z,2.7nm,0.9s,mb4.3						
YKA	**Yellowknife Ar**	**66.41**	**29**	P	**P**	**16 12 26.6**	**-1.6**
YKA	**Yellowknife Ar**	**66.41**	**29**	P	**P**	**16 12 26.5**	**-1.7**
	comp=Z,0.2nm,0.3s,mb3.6,baz=295,slow=6.4,SNR=8.6						
FINES	**FINESS Array B**	**71.60**	**333**	P	**P**	**16 13 00.0**	**-0.2**
FINES	**FINESS Array B**	**71.60**	**333**	P	**P**	**16 13 00.0**	**-0.2**
	comp=Z,3.2nm,1.0s,mb4.2,baz=270,slow=7.6,SNR=4.4						
SUMG	**Summit**	**73.76**	**0**	P	**P**	**16 13 13.8**	**+1.2**
	comp=Z,14nm,1.4s,mb4.7						
CMB	**Columbia Colle**	**75.56**	**54**	*eP*	**P**	**16 13 24.4**	**+0.7**
CMB				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
CMB	**Columbia Colle**	**75.56**	**54**	*eP*	**P**	**16 13 24.4**	**+0.6**
	comp=Z,1.4nm,0.8s,mb3.9						
HLID	**Hailey**	**76.38**	**47**	*eP*	**P**	**16 13 29.6**	**+1.3**
	comp=Z,2.5nm,1.1s,mb4.1						
FCC	**Fort Churchill**	**76.70**	**26**	*eP*	**P**	**16 13 29.0**	**-0.7**
FCC				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
FCC	**Fort Churchill**	**76.70**	**26**	*eP*	**P**	**16 13 29.0**	**-0.7**
	comp=Z,2.4nm,1.1s,mb4.0						
NVAR	**Mina Array Bea**	**76.74**	**53**	P	**P**	**16 13 31.1**	**+0.7**
	comp=Z,0.8nm,0.7s,mb3.8,baz=283,slow=6.1,SNR=8.1						
AKASG	**Malin Array Be**	**76.81**	**323**	P	**P**	**16 13 29.9**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**76.81**	**323**	P	**P**	**16 13 29.9**	**-0.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=44,slow=5.5,SNR=7.3						
BW06	**Boulder Array**	**79.74**	**45**	*eP*	**P**	**16 13 47.5**	**+0.7**
	comp=Z,1.4nm,0.8s,mb3.9						
PDAR	**Pinedale Array**	**79.74**	**45**	P	**P**	**16 13 47.5**	**+0.7**
	comp=Z,0.8nm,0.7s,mb3.8,baz=258,slow=2.7,SNR=7.9						
BRTR	**Keskin Array B**	**80.99**	**312**	P	**P**	**16 13 54.8**	**+1.3**
	comp=Z,0.5nm,0.8s,mb3.5,baz=40,slow=5.1,SNR=4.4						
PV10	**Paradox Valley**	**82.71**	**48**	*eP*	**P**	**16 14 04.6**	**+2.2**
PV01	**Paradox Valley**	**83.15**	**48**	P	**P**	**16 14 06.3**	**+1.7**
GERES	**GERESS Array B**	**85.39**	**328**	P	**P**	**16 14 15.2**	**-0.5**
	comp=Z,0.7nm,0.9s,mb3.8,baz=72,slow=4.2,SNR=3.3						
LPAZ	**La Paz**	**148.03**	**64**	PKPbc	PKPdf	16 21 24.9	+4.9
	comp=Z,1.2nm,0.6s,baz=351,slow=11,SNR=8.0						

NEIC ***22*** *16:09:46.5,37.05S×177.38E,h180km,After WEL.*

WEL 22 16:09:52.5±0.1,37.29S×177.47E,h134km±1km,ML3.7/1, 3C,Error ellipse: s-maj=1.0km s-min=0.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.72**	**113**	P	P	16 10 13.5	-0.1
MXZ	**Matakaoa Point**	**0.72**	**113**	⇑PN	P	16 10 13.5	-0.2
MXZ				SN	S	16 10 29.5	-0.2
URZ	**Urewera**	**1.01**	**196**	P	P	16 10 16.0	-0.1
URZ	**Urewera**	**1.01**	**196**	⇑PN	P	16 10 16.0	-0.1
URZ				SN	S	16 10 33.6	-0.4
MWZ	**Matawai**	**1.04**	**178**	*eP*	P	16 10 16.4	0.0
MWZ	**Matawai**	**1.04**	**178**	⇑PN	P	16 10 16.4	-0.1
MWZ				SN	S	16 10 34.3	-0.3
KUZ	**Kuaotunu**	**1.50**	**291**	PN	P	16 10 20.8	-0.5
KNZ	**Kokohu**	**1.73**	**175**	P	P	16 10 23.4	-0.6
KNZ	**Kokohu**	**1.73**	**175**	PN	P	16 10 23.3	-0.6
KNZ				SN	S	16 10 47.0	-1.0
BKZ	**Black Stump Fm**	**2.03**	**202**	*eP*	P	16 10 27.0	-0.4
BKZ	**Black Stump Fm**	**2.03**	**202**	PN	P	16 10 26.8	-0.6
BKZ				SN	S	16 10 53.3	-0.8
TSZ	**Takapari Road**	**3.01**	**203**	*eP*	P	16 10 37.7	-2.5
TSZ	**Takapari Road**	**3.01**	**203**	PN	P	16 10 37.8	-2.4
TSZ				SN	S	16 11 14.2	-2.3
MQZ	**McQueen's Vall**	**7.38**	**208**	*eSN*	S	16 12 50.5	-11

MAN 22 16:26:30.4,15.52N×122.55E,h1km,mb4.3,ML3.1,MS2.9, 1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.96**	**283**	*eP*	Pb	16 26 49.2	-0.5
BALP				*eS*	Sg	16 27 02.1	-0.4
PCPH	**Palayan**	**1.40**	**272**	*eP*	Pb	16 26 56.2	-0.9
PCPH				*i* S	Sb	16 27 13.5	-1.9
PALP	**Palanan**	**1.54**	**356**	*eP*	Pn	16 26 58.6	-0.6
CAUP	**Cauayan**	**1.58**	**334**	*eP*	Pn	16 27 10.0	+10
CAUP				*eS*	Sb	16 27 20.6	0.0
GQP	**Guinayangan**	**1.61**	**184**	⇓*i*P	Pn	16 27 00.9	+0.8
GQP				*i* S	Sb	16 27 21.6	+0.3
LQP	**Lukban**	**1.71**	**215**	*eP*	Pn	16 27 01.1	-0.4
BCPH	**Baguio City Da**	**2.08**	**295**	*eP*	Pn	16 27 08.0	+1.1
BCPH				*eS*	Sn	16 27 34.0	+0.2
BOAC	**Boac**	**2.16**	**199**	*eP*	Pn	16 27 06.0	-2.1
CVP	**Callao Caves**	**2.28**	**342**	*eP*	Pn	16 27 10.0	+0.2
CVP				*i* S	Sn	16 27 39.0	+0.1
APYP	**Conner**	**2.65**	**332**	*eP*	Pn	16 27 14.5	-0.5
APYP				*eS*	Sn	16 27 46.8	-1.4
ABRA	**Dolores**	**2.76**	**320**	*eP*	Pn	16 27 17.1	+0.5

IDC 22 16:31:27.4±45.0,19.07S×174.06W,mb4.1/3,mb1 4.3/3, mb1mx3.8/15,mbtmp4.1/3,Error ellipse: s-maj=852.6km s-min=174.0km az=82.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.75**	**243**	P	P	16 39 18.3	-1.8
	1.6nm,1.1s,baz=92,slow=14,SNR=3.6						
ASAR	**Alice Springs**	**48.47**	**255**	P	P	16 40 12.1	-1.8
	3.3nm,0.6s,baz=94,slow=8.1,SNR=83						
ASPA	**Alice Springs**	**48.47**	**255**	*eP*	P	16 40 12.2	-1.7
WB2	**Warramunga Arr**	**48.48**	**260**	*eP*	P	16 40 12.8	-1.2
WRA	**Warramunga Arr**	**48.49**	**260**	P	P	16 40 12.2	-1.9
	0.9nm,0.2s,baz=96,slow=7.3,SNR=76						
KAKA	**Kakadu**	**51.69**	**269**	*eP*	P	16 40 39.3	+0.7
	3.0nm,0.4s						

NEIC ***22*** *16:45:30.5±0.7,8.29S×122.09E,h195km±8km,mb4.4/9, Error ellipse: s-maj=12.5km s-min=6.9km az=222.0*
IDC ***22*** *16:45:32.3±2.5,8.26S×122.06E,h216km±24km,mb3.5/6, mb1 3.8/8,mb1mx3.6/16,mbtmp4.2/8,Error ellipse: s-maj=64.5km s-min=9.6km az=57.0*

ISC 22 16:45:29.1±0.7,8.32S±0.07×122.16E±0.07,h200km±8km, n29,σ1°33/35,mb4.0/12,7C-3D,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NINI	**Niniconang**	**4.55**	**328**	*eP*n	P	**16 46 39.8**	**+1.3**
BUNI	**Buntu Taipa**	**4.98**	**338**	‖*eP*	P	**16 46 44.7**	**+0.8**
TANI	**Tanete Lipujan**	**5.58**	**330**	‖*eP*	P	**16 46 52.4**	**+0.7**
KEDI	**Kedomdong**	**5.99**	**268**	‖*eP*	P	**16 46 57.2**	**+0.2**
	309nm,0.3s						
RATI	**Rata**	**6.57**	**266**	⇑*eP*	P	**16 47 04.0**	**-0.5**
	381nm,0.2s						
KELI	**Kelakatan**	**7.59**	**270**	⇑*eP*	P	**16 47 16.9**	**-1.0**
SRDI	**Scrawed**	**7.94**	**268**	⇑*eP*	P	**16 47 21.0**	**-1.3**
KAKA	**Kakadu**	**11.01**	**114**	*eP*	P	**16 48 01.2**	**-1.1**
	20nm,0.5s						
KAKA				*eS*	S	**16 49 55.7**	**-6.7**
WRA	**Warramunga Arr**	**16.51**	**136**	P	P	**16 49 10.7**	**-0.3**
	3.4nm,0.3s,baz=313,slow=11,SNR=139						
WRA				S	S	**16 52 04.6**	**-2.6**
	1.5nm,0.3s,baz=308,slow=23,SNR=7.4						
WRAB	**Tennant Creek**	**16.51**	**136**	*eP*	P	**16 49 10.6**	**-0.4**
	20nm,0.5s						
WRAB				*eS*	S	**16 52 07.1**	**0.0**
WB2	**Warramunga Arr**	**16.52**	**136**	⇑*i P*	P	**16 49 10.6**	**-0.5**
WB2				*eS*	S	**16 52 06.0**	**-1.3**
ASPA	**Alice Springs**	**18.96**	**145**	⇓*i P*	P	**16 49 38.8**	**+1.5**
ASPA				*eS*	S	**16 53 06.9**	**+10**
ASAR	**Alice Springs**	**18.96**	**145**	P	P	**16 49 38.8**	**+1.4**
	2.8nm,0.3s,baz=324,slow=11,SNR=241						
ASAR				S	S	**16 53 03.8**	**+6.5**
	0.4nm,0.3s,baz=321,slow=24,SNR=12						
ASAR				ScP		16 57 09.2	
	0.1nm,0.3s,baz=340,slow=1.9,SNR=7.1						
FORT	**Forrest**	**23.02**	**167**	*eP*	P	**16 50 20.2**	**+2.6**
	61nm,0.7s,mb5.2						
PMG	**Port Moresby**	**24.72**	**94**	*eP*	P	**16 50 33.8**	**0.0**
CTA	**Charters Tower**	**26.08**	**119**	P	P	**16 50 48.1**	**+1.8**
	5.1nm,0.8s,mb4.2,baz=317,slow=9.8,SNR=3.9						
CTAO	**Charters Tower**	**26.08**	**119**	*eP*	P	**16 50 48.0**	**+1.7**
STKA	**Stephens Creek**	**29.60**	**145**	⇓*i P*	P	**16 51 19.2**	**+1.4**
	3.8nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**29.60**	**145**	P	P	**16 51 18.6**	**+0.8**
	9.1nm,0.7s,mb4.5,baz=320,slow=9.3,SNR=32						
CMAR	**Chiang Mai Arr**	**35.11**	**319**	P	P	**16 52 05.1**	**-0.3**
	0.5nm,0.6s,mb3.2,baz=159,slow=7.5,SNR=5.5						
SONM	**Songino Array**	**57.62**	**347**	P	P	**16 54 59.3**	**-1.1**
	2.0nm,0.7s,mb3.9,baz=165,slow=8.5,SNR=11						
ZAL	**Zalesovo**	**69.56**	**337**	P	P	**16 56 16.7**	**-1.4**
	1.0nm,0.4s,mb3.8,baz=222,slow=7.2,SNR=5.6						
KURK	**Kurchatov**	**69.81**	**332**	*eP*	P	**16 56 19.0**	**-0.7**
	2.2nm,0.8s,mb3.8						
MAW	**Mawson**	**70.95**	**200**	P	P	**16 56 24.4**	**-1.8**
	7.1nm,1.3s,mb4.1						
BVAR	**Borovoye Array**	**75.21**	**331**	P	P	**16 56 49.2**	**-2.0**
	0.2nm,0.4s,mb3.1,baz=126,slow=12,SNR=2.7						
CHKZ	**Chkalovo**	**75.49**	**331**	P	P	**16 56 51.8**	**-1.0**
	3.4nm,1.4s,mb3.8						
QSPA	**South Pole Qui**	**81.67**	**180**	*eP*	P	**16 57 28.7**	**+3.0**
	1.5nm,0.8s,mb3.7						
MALT	**Malatya**	**90.22**	**309**	P	P	**16 58 11.1**	**+2.8**
LSZ	**Lusaka**	**91.64**	**254**	*eP*	P	**16 58 16.5**	**+1.2**
	2.9nm,1.0s,mb4.2						

IDC ***22*** *16:56:48.6±0.7,8.03N×93.88E,mb3.9/12,mb1 4.1/13, mb1mx4.0/20,mbtmp3.9/13,ML3.6/1,MS3.6/5,Ms1 3.7/5, ms1mx3.2/25,Error ellipse: s-maj=29.2km s-min=16.6km az=47.0*
BJI ***22*** *16:56:55.3,7.80N×94.17E,h70km,mB4.9,mb4.4,Ms4.3, Msz3.9*
NEIC ***22*** *16:56:55.7±1.2,8.13N×93.95E,h49km±11km,mb4.6/18, Error ellipse: s-maj=9.8km s-min=9.1km az=216.0*

ISC 22 16:56:53.4±1.7,8.13N±0.07×93.96E±0.07,h43km±15km, n54,σ1°10/52,mb4.4/36,MS3.6/5,Nicobar Islands region

| Code | Station

ARU	Arti	55.59	337	P	P	17 06 21.7	-5.2
	comp=Z,3.7nm,1.0s,mb4.4						
YSS	Yuzh-Sakhalins	56.69	38	P	P	17 06 34.3	-0.6
	comp=Z,19nm,1.1s,mb5.0						
KIV	Kislovodsk	57.02	318	*e*P	P	17 06 36.5	-0.7
KMBO	Kilima Mbogo	57.28	263	LR	LR	17 26 57.1	
	comp=Z,65nm,20.4s,MS3.7,baz=94,slow=32						
KMBO	Kilima Mbogo	57.28	263	*e*P	P	17 06 44.4	+4.9
	comp=Z,6.5nm,1.0s,mb4.6						
MALT	Malatya	58.17	310	P	P	17 06 45.2	-0.2
	comp=Z,2.5nm,0.9s,mb4.2						
EIL	Elat	59.15	300	LR	LR	17 31 07.5	
	comp=Z,39nm,18.7s,MS3.6,baz=81,slow=35						
STKA	Stephens Creek	60.40	134	P	P	17 07 05.5	+4.5
BRTR	Keskin Array B	62.13	311	P	P	17 07 10.6	-2.0
	comp=Z,2.0nm,1.0s,mb4.2,baz=116,slow=7.7,SNR=9.2						
AKASG	Malin Array Be	67.85	322	P	P	17 07 48.1	-1.1
	comp=Z,0.5nm,0.5s,mb3.9,baz=85,slow=5.4,SNR=5.3						
FINES	FINESS Array B	72.41	332	P	P	17 08 16.9	+0.2
	comp=Z,2.2nm,0.8s,mb4.2,baz=104,slow=7.9,SNR=6.8						
KAF	Kangasniemi	72.49	333	*e*p	P	17 08 22.2	+5.0
ARCES	ARCESS Array B	74.97	340	P	P	17 08 32.2	+0.7
	comp=Z,2.3nm,0.9s,mb4.1,baz=90,slow=4.9,SNR=5.0						
ARCES				LR	LR	17 43 03.5	
	comp=Z,76nm,18.5s,MS4.0,baz=14,slow=37						
ARCES	ARCESS Array B	74.97	340	P	P	17 08 32.2	+0.7
ARCES				LR	LR	17 43 03.5	
BOSA	Boshof	75.57	238	P	P	17 08 35.8	0.0
	comp=Z,4.5nm,0.9s,mb4.4						
GERES	GERESS Array B	77.52	318	P	P	17 08 47.6	+1.2
	comp=Z,1.7nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=15						
HFS	Hagfors	78.15	330	P	P	17 08 49.5	-0.1
	comp=Z,7.9nm,1.2s,mb4.5,baz=270,slow=4.4,SNR=4.7						
MAW	Mawson	78.74	192	P	P	17 08 56.0	+3.3
	comp=Z,4.1nm,1.0s,mb4.3						
LPG	La Plagne	82.32	315	*e*P	P	17 09 13.0	+0.9
	comp=Z,13nm,0.8s,mb4.6						
ESDC	Sonseca Array	90.92	310	P	P	17 09 55.6	+1.3
	comp=Z,0.3nm,0.5s,mb3.9,baz=64,slow=4.6,SNR=5.4						
ESLA	Sonseca Array	90.92	310	P	P	17 09 53.6	-0.6
	comp=Z,18nm,1.9s,mb5.1						
PLCA	Paso Flores	144.72	201	PKP	PKPdf	17 16 27.0	+1.2
	comp=Z,3.6nm,0.8s,baz=145,slow=2.1,SNR=6.3						

OTT 22 17:00:02.4±0.2, 52.75N×67.34W, MN2.8/7, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	2.10	8	PN	Pn	17 00 38.1	-1.2
SCHQ				SN	Sn	17 01 05.9	-0.6
SCHQ				Trac		17 01 10.1	
	comp=Z,25nm,0.2s						
MNQ	Manicouagan	2.40	202	PN	Pn	17 00 43.0	-0.5
MNQ				SN	Sn	17 01 14.0	0.0
MNQ				Trac		17 01 19.1	
	comp=Z,17nm,0.2s						
SMQ	Clarke City	2.57	171	PN	Pn	17 00 44.9	-1.0
SMQ				SN	Sn	17 01 16.4	-1.9
SMQ				Trac		17 01 24.5	
	comp=Z,12nm,0.2s						
ICQ	Pointe Anglais	3.24	179	PN	Pn	17 00 53.6	-1.8
ICQ				SN	Sn	17 01 31.6	-3.6
ICQ				Trac		17 01 42.8	
	comp=Z,14nm,0.3s						
CNQ	Baie Comeau	3.49	188	PN	Pn	17 00 54.8	-4.2
CNQ				SN	Sn	17 01 41.4	-0.2
CNQ				Trac		17 01 57.4	
	comp=Z,8.0nm,0.3s						
GSQ	Grosses Roches	3.85	178	PN	Pn	17 01 02.9	-1.2
GSQ				SN	Sn	17 01 46.0	-4.8
GSQ				Trac		17 02 06.0	
	comp=Z,6.3nm,0.2s						
LG4Q	La Grande 4	4.16	285	PN	Pn	17 01 05.9	-2.7
LG4Q				PG	Pg	17 01 14.4	-11
LG4Q				SN	Sn	17 01 54.7	-3.9
LG4Q				SG	Sg	17 02 08.9	-12
LG4Q				Trac		17 02 15.4	
	comp=Z,5.8nm,0.2s						
LMQ	La Malbaie	5.55	201	PN	Pn	17 01 25.2	-3.1
LMQ				SN	Sn	17 02 29.7	-4.1
DRLN	Deer Lake	7.12	116	PN	Pn	17 01 46.1	-4.3
DRLN				SN	Sn	17 03 03.6	-9.5
DRLN				SG	Sg	17 03 39.7	-20
VLDQ	Val d'Or	7.95	238	PN	Pn	17 01 58.0	-4.0
MALO	McAlpine Lake	8.24	256	PN	P	17 02 00.9	-5.1
VIMO	Victor Mine	9.94	277	PN	P	17 02 22.9	-6.6
VIMO				SN	Sn	17 04 07.7	-15
SILO	Sutton Inlier	10.58	286	PN	P	17 02 33.0	-5.2
SILO				SN	S	17 04 22.8	-16

*IGQ **22** 17:15:24.9, 1.22N×81.08W, h16km, mb5.0, Error ellipse: s-maj=37.1km s-min=8.5km az=44.0*
*IDC **22** 17:15:36.2±0.7, 0.63N×80.31W, mb4.3/13, mb1 4.6/14, mb1mx4.4/22, mbtmp4.4/14, ML4.4/1, MS4.0/10, Ms1 4.1/10, ms1mx3.6/23, Error ellipse: s-maj=27.1km s-min=14.3km az=59.0*
*BJI **22** 17:15:37.9, 0.70N×80.30W, h10km, mB5.1, Ms5.1, Msz5.0*
*NEIC **22** 17:15:38.0±0.2, 0.66N×80.28W, h10km, mb4.8/41, Error ellipse: s-maj=7.5km s-min=4.7km az=48.0*

ISC 22 17:15:41.4±0.7, 0.67N±0.05×80.32W±0.06, h47km±7km, n134, σ1§04/117, mb4.7/48, MS4.1/9, 11C, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	1.73	188	P	P	17 16 03.8	-5.8
JOR1	San Jorge 1	1.81	112	P	P	17 16 11.6	+0.8
PINO	Pino	1.90	116	⇑P	P	17 16 11.0	-1.0
TERV	Terraza Guagua	1.91	116	⇑P	P	17 16 11.2	-1.0
YANA	Yana	1.92	114	⇑P	P	17 16 11.3	-0.9
OTAV	Otavalo	1.92	103	*e*Pn	P	17 16 11.8	-0.5
OTAV				*e*Sn	S	17 16 38.1	+2.9
JUA2	San Juan 2	1.93	117	⇑P	P	17 16 11.5	-0.9
COTA	Cotacachi	2.01	100	⇑P	P	17 16 13.4	-0.2
NAS1	Nasa	2.25	125	⇑P	P	17 16 16.6	-0.5
MARY	Rancho Maria	2.30	127	P	P	17 16 18.1	+0.3
VC1	Cotopaxi 1	2.32	124	⇑P	P	17 16 17.6	-0.4
TAMB	Tambo	2.38	125	⇑P	P	17 16 18.6	-0.2
CAYR	Refugio Cayamb	2.40	106	⇑P	P	17 16 20.4	+1.2
CAYA	Cayambe	2.40	104	⇑P	P	17 16 20.3	+1.0
ANTI	Antisana	2.43	117	⇑P	P	17 16 19.5	-0.1
PISA	Pisayambo	2.59	132	P	P	17 16 22.9	+1.1
IGUA	Igualata	2.73	142	P	P	17 16 24.1	+0.2
CONE	Cono NE Rev Vo	2.78	105	P	P	17 16 26.8	+2.2
JUIV	Juive	2.79	138	P	P	17 16 25.5	+0.8
RUN2	Runtun	2.82	138	P	P	17 16 25.7	+0.5
ULBA	Ulba	2.84	138	P	P	17 16 24.7	-0.8
ARRY	Arrayan	2.86	139	P	P	17 16 26.3	+0.6
PAYG	Puerto Ayora	10.06	262	*e*P	P	17 18 01.5	-4.7
JTS	JuntasAbangare	10.61	334	*e*P	P	17 18 13.5	-0.3
	91nm,1.2s						
SDV	Santo Domingo	12.63	49	Pn	P	17 18 39.1	-1.9
	2.2nm,0.3s,baz=290,slow=3.8,SNR=10						
SDV				LR	LR	17 23 54.1	
	comp=Z,797nm,20.6s,baz=246,slow=39						
NNA	Nana	13.04	165	*e*P	P	17 18 44.1	-2.4
	25nm,0.9s						
ARE	Arequipa	19.12	153	*e*P	P	17 20 12.0	+8.5
LPAZ	La Paz	20.71	145	P	P	17 20 18.8	-1.6
	4.9nm,0.7s,baz=338,slow=11,SNR=14						
LPAZ	La Paz	20.71	145	*e*P	P	17 20 18.7	-1.7
	27nm,1.3s						
TEIG	Tepich	20.93	339	*e*P	P	17 20 16.4	-6.3
	16nm,1.0s						
SJG	San Juan	22.23	38	P	P	17 20 35.6	0.0
	5.0nm,0.3s,mb4.4,baz=305,slow=23,SNR=3.3						
SJG	San Juan	22.23	38	P	P	17 20 35.6	0.0
LVC	Limon Verde	25.68	155	P	P	17 21 07.9	-1.1
	8.4nm,1.0s,mb4.2,baz=282,slow=3.7,SNR=8.0						
OXF	Oxford	34.72	347	*e*P	P	17 22 34.9	+5.7
CPCT	Cooper Cave	34.82	354	*e*P	P	17 22 28.2	-1.8
JCT	Junction City	34.95	330	*e*P	P	17 22 31.7	+0.6
	43nm,1.3s,mb5.2						
WVT	Waverly	35.96	350	P	P	17 22 36.8	-2.9
TXAR	Lajitas Array	36.16	324	P	P	17 22 40.6	-0.9
	1.1nm,0.9s,mb3.8,baz=153,slow=8.4,SNR=7.2						
TXAR				LR	LR	17 37 19.3	
	comp=Z,82nm,18.7s,MS3.5,baz=170,slow=36						
WMOK	Wichita Mounta	38.02	335	P	P	17 22 55.0	-2.1
	8.3nm,1.0s,mb4.4						
CCM	Cathedral Cave	38.53	346	*e*P	P	17 23 00.0	-1.2
	14nm,1.0s,mb4.6						
GDL2	Guadalupe Moun	38.70	326	*e*P	P	17 23 03.9	+1.2
MNTX	Cornudas Mount	38.91	325	*e*P	P	17 23 03.5	-0.8
	24nm,1.3s,mb4.8						
CPRX	Cap Rock	39.07	328	*e*P	P	17 23 07.2	+1.5
ACSO	Alum Creek Sta	39.45	357	*e*P	P	17 23 06.2	-2.6
	34nm,0.9s,mb5.1						
KSU1	Kansas State U	41.05	341	*e*P	P	17 23 19.9	-2.1
LENM	Lemitar	41.62	326	*e*P	P	17 23 29.3	+2.4
LAZ	Ladron	41.89	326	*e*P	P	17 23 30.8	+1.7
ANMO	Albuquerque	41.92	327	P	P	17 23 30.8	+1.4
	14nm,1.0s,mb4.5,baz=148,slow=9.1,SNR=22						
ANMO				LR	LR	17 44 04.7	
	comp=Z,128nm,19.8s,MS3.8,slow=41						
ANMO	Albuquerque	41.92	327	*e*P	P	17 23 29.8	+0.5
	19nm,1.1s,mb4.6						
TRQA	Tornquist	42.09	158	*e*P	P	17 23 29.1	-1.5
	12nm,1.0s,mb4.5						
PLCA	Paso Flores	42.16	169	P	P	17 23 30.6	-0.6
	6.7nm,0.7s,mb4.4,baz=342,slow=10,SNR=13						
PLCA	Paso Flores	42.16	169	*e*P	P	17 23 30.4	-0.8
	36nm,1.4s,mb4.8						
TUC	Tucson	42.60	321	*e*P	P	17 23 35.8	+0.8
	6.8nm,1.0s,mb4.3						
SDCO	Great Sand Dun	43.58	331	*e*P	P	17 23 43.7	+0.9
	22nm,1.0s,mb4.8						
RCBR	Riachuelo	44.81	99	*e*P	P	17 23 50.6	-2.5
	9.4nm,1.0s,mb4.6						
RW3	Ridgedale	45.06	329	*e*P	P	17 23 55.9	+1.2
ISCO	Idaho Springs	45.26	332	*e*P	P	17 23 56.4	+0.2
	7.4nm,1.0s,mb4.5						
PV01	Paradox Valley	45.43	328	*e*P	P	17 23 59.1	+1.4
PV10	Paradox Valley	45.86	328	*e*P	P	17 24 00.9	-0.2
SRU	San Rafael	47.18	328	*e*P	P	17 24 11.6	+0.1
NEN	Nelson	47.33	321	*e*P	P	17 24 13.1	+0.3
MSU	Marysvale	47.66	326	*e*P	P	17 24 16.3	+1.0
MVU	Marysvale	47.67	326	*e*P	P	17 24 16.2	+0.9
	8.8nm,1.1s,mb4.7						
DAU	Daniels Canyon	48.52	328	*e*P	P	17 24 22.8	+0.9
JLU	Jordanelle	48.76	328	*e*P	P	17 24 23.4	-0.3
TCUT	Toone Canyon	49.11	329	*e*P	P	17 24 26.9	+0.4
PDAR	Pindedale Array	49.43	332	P	P	17 24 28.6	-0.3
	2.3nm,0.9s,mb4.2,baz=129,slow=9.5,SNR=10						
HWUT	Hardware Ranch	49.55	329	*e*P	P	17 24 29.9	+0.1
	12nm,1.0s,mb4.9						
BGU	Big Grassy Mou	49.82	328	*e*P	P	17 24 32.0	+0.1
TPH	Tonopah	50.34	322	P	P	17 24 35.8	-0.1
	9.0nm,1.0s,mb4.8						
MNV	Mina	51.14	322	*e*P	P	17 24 42.8	+0.8
	18nm,1.0s,mb5.0						
OMM	Old Mammoth Mi	51.17	320	*e*P	P	17 24 42.8	+0.6
NVAR	Mina Array Bea	51.23	322	P	P	17 24 43.8	+1.2
	11nm,0.9s,mb4.8,baz=119,slow=9.3,SNR=48						
NVAR				LR	LR	17 45 44.8	
	comp=Z,165nm,18.7s,MS4.1,baz=220,slow=35						
YMR	Madison River	51.54	332	*e*P	P	17 24 45.1	+0.3
GCMT	Greycliff	51.82	334	*e*P	P	17 24 47.2	+0.2
BMN	Battle Mountai	51.84	324	*e*P	P	17 24 47.2	0.0
	17nm,1.1s,mb4.9						
QLMT	Earthquake Lak	51.88	332	*e*P	P	17 24 48.9	+1.5
HLID	Hailey	52.41	329	*e*P	P	17 24 51.2	-0.2
	9.2nm,0.9s,mb4.7						
BOZ	Bozeman (W)	52.58	333	*e*P	P	17 24 51.8	-0.9
	9.8nm,1.0s,mb4.7						
OHCM	Honcut	53.76	321	*e*P	P	17 25 01.5	0.0
WVOR	Wild Horse Val	53.94	325	*e*P	P	17 25 02.2	-0.6
	23nm,1.2s,mb5.0						
YBH	Yreka Blue Hor	55.91	322	P	P	17 25 15.4	-1.7
	2.4nm,0.7s,mb4.3,baz=51,slow=6.1,SNR=4.0						
WALA	Waterton Lakes	56.17	334	P	P	17 25 13.7	-5.1
	8.0nm,0.9s,mb4.8						
NEW	Newport	57.07	332	P	P	17 25 24.3	-1.0
	7.7nm,1.2s,mb4.6						
FCC	Fort Churchill	58.93	352	*e*P	P	17 25 35.8	-2.4
	11nm,1.0s,mb4.8						
EDM	Edmonton	59.11	338	*e*P	P	17 25 38.0	-1.5
YKA	Yellowknife Ar	66.80	343	P	P	17 26 29.2	-1.0
	2.9nm,0.8s,mb4.3,baz=134,slow=6.4,SNR=38						
YKA	Yellowknife Ar	66.80	343	P	P	17 26 29.2	-1.0
YKW3	Yellowknife Ar	66.86	344	*e*P	P	17 26 29.5	-1.0
DLBC	Dease Lake	69.51	335	LR	LR	17 59 06.2	
	comp=Z,149nm,18.9s,MS4.2,baz=77,slow=38						
DLBC	Dease Lake	69.51	335	*e*P	P	17 26 47.1	0.0
RES	Resolute Bay	74.43	356	P	P	17 27 14.6	-1.4
	4.4nm,1.1s,mb4.3						
DBIC	Dimbokro	75.48	83	P	P	17 27 23.5	+0.3
	14nm,1.2s,mb4.8,baz=245,slow=7.4,SNR=6.4						
DBIC				LR	LR	17 57 51.0	
	comp=Z,124nm,21.1s,MS4.2,baz=290,slow=34						
DBIC	Dimbokro	75.48	83	*e*P	P	17 27 23.6	+0.4
	50nm,1.6s,mb5.2						
DBIC				*e*		17 27 29.5	
DAWY	Dawson	76.32	337	*e*P	P	17 27 26.9	-0.1
SUMG	Summit	76.38	12	*e*P	P	17 27 26.3	-0.9
	15nm,1.2s,mb4.8						
INK	Inuvik	76.50	342	LR	LR	18 01 41.9	
	comp=Z,168nm,18.7s,MS4.4,baz=311,slow=36						
INK	Inuvik	76.50	342	*e*P	P	17 27 27.8	-0.2
	26nm,1.2s,mb5.0						
ESDC	Sonseca Array	79.08	50	P	P	17 27 42.8	0.0
	3.7nm,1.0s,mb4.2,baz=271,slow=5.6,SNR=9.7						
ESLA	Sonseca Array	79.08	50	*e*P	P	17 27 43.1	+0.3
	3.9nm,1.2s,mb4.2						
ILAR	Eielson Array	79.57	336	P	P	17 27 44.6	-0.4
	2.2nm,1.0s,mb4.1,baz=121,slow=3.4,SNR=13						
ILAR				PP	PP	17 30 46.5	-0.8
	0.6nm,0.9s,baz=113,slow=6.9,SNR=5.8						
ILAR				LR	LR	18 05 07.9	
	comp=Z,113nm,19.0s,MS4.2,baz=4.1,slow=37						
COLA	College	80.00	336	P	P	17 27 48.3	+1.0
	4.0nm,0.8s,mb4.4						
GRR	Gorron	82.50	41	*e*P	P	17 28 01.0	+0.4
EPF	Esparros	82.71	47	*e*P	P	17 28 02.9	+1.1
	38nm,1.3s,mb5.0						
MFF	Saint Martin d	82.75	43	*e*P	P	17 28 02.4	+0.4
RJF	Les Rejaudoux	83.77	45	*e*P	P	17 28 07.6	+0.4
MTLF	Montolieu	84.10	47	*e*P	P	17 28 09.4	+0.5
	73nm,1.6s,mb5.2						
TCF	Toulx Ste Croi	84.34	44	*e*P	P	17 28 10.3	+0.3
	12nm,1.0s,mb4.7						
BGF	Bois d'Agland	84.80	43	*e*P	P	17 28 12.8	+0.5
	46nm,1.3s,mb5.2						
AVF	Avril sur Loir	85.17	43	*e*P	P	17 28 14.3	+0.2
	17nm,1.2s,mb4.8						
SSF	Saint Saulge	85.29	43	*e*P	P	17 28 14.6	-0.2
	34nm,1.5s,mb5.0						
SMF	Signal de Mont	85.49	43	*e*P	P	17 28 15.8	0.0
	65nm,1.7s,mb5.2						
GIVF	Givet	86.36	40	*e*P	P	17 28 20.7	+0.8
SNAA	Sanae	86.70	162	*e*P	P	17 28 22.2	+1.1
	45nm,1.0s,mb5.7						
CABF	La Chapelle	87.04	44	*e*P	P	17 28 24.2	+0.9
HINF	Hinteralfeld	87.60	42	*e*P	P	17 28 26.3	+0.3
NOA	NORSAR Array B	90.16	29	LR	LR	18 07 45.3	
	comp=Z,66nm,18.1s,MS4.1,baz=90,slow=35						
QSPA	South Pole Qui	90.72	180	*e*P	P	17 28 41.6	+1.5
	9.2nm,1.1s,mb5.0						
ARCES	ARCESS Array B	94.88	20	LR	LR	18 08 15.9	
	comp=Z,83nm,19.4s,MS4.2,baz=2.5,slow=33						
SBA	Scott Base	95.39	191	P	P	17 29 02.6	+1.1
	31nm,1.4s,mb5.5						
ZAL	Zalesovo	124.19	11	PKP	PKPdf	17 34 36.8	+1.6
	0.8nm,0.8s,baz=48,slow=1.0,SNR=7.3						
MDJ	Mudanjiang	127.65	333	PKP	PKPdf	17 34 43.1	+1.0
SONM	Songino Array	131.34	354	PKP	PKPdf	17 34 49.7	+0.6
	1.6nm,1.1s,slow=1.2,SNR=4.2						
ASAR	Alice Springs	139.71	233	PKhKP		17 34 57.9	
	0.3nm,0.7s,baz=124,slow=3.6,SNR=4.7						
WRA	Warramunga Arr	141.06	238	PKhKP		17 35 03.1	
	2.6nm,1.2s,baz=123,slow=2.0,SNR=6.2						
ENH	Enshi	147.84	344	*e*PKPdf	PKPdf	17 35 20.4	+1.4
ENH				*e*PKPbc	PKPdf	17 35 23.1	+4.0
GKN	Gorkha	148.04	26	*e*P	PKPdf	17 35 21.0	+1.6
	43nm,1.2s						
KKN	Kakani	148.50	25	*e*P	PKPdf	17 35 18.0	-2.2
	17nm,0.8s						
DMN	Daman	148.59	25	*e*P	PKPdf	17 35 20.3	0.0
	41nm,1.2s						
LSA	Lhasa	148.72	14	*e*PKP	PKPdf	17 35 25.6	+5.1
LSA	Lhasa	148.72	14	*e*PKPdf	PKPdf	17 35 23.4	+3.0
PKI	Pulchoki	148.75	25	*e*P	PKPdf	17 35 19.9	-0.7
	23nm,0.9s						
JIRN	Jiri	148.99	24	*e*P	PKPdf	17 35 18.7	-2.3
	60nm,1.6s						
CMAR	Chiang Mai Arr	160.98	2	PKP	PKPdf	17 35 38.5	+1.4
	0.8nm,1.1s,baz=309,slow=1.5,SNR=5.6						
CMAR				PKPab	PKPab	17 36 21.1	-1.4
	1.0nm,1.0s,baz=339,slow=6.0,SNR=6.0						

*IDC **22** 17:19:25.5±1.2, 7.79N×93.96E, mb3.9/7, mb1 4.0/8, mb1mx3.8/19, mbtmp3.8/8, ML3.6/1, MS3.0/1, Ms1 3.2/1, ms1mx2.4/23, Error ellipse: s-maj=56.2km s-min=21.4km az=53.0*

ISC 22 17:19:29.2±0.9, 8.0N±0.1×94.2E±0.2, h33km, n8, σ0§58/8, mb3.9/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.40	23	Pn	P	17 22 12.6	-0.3
	0.1nm,0.3s,baz=211,slow=14,SNR=11						
CMAR				LR	LR	17 26 41.8	
	comp=Z,65nm,18.1s,baz=205,slow=37						
ZAL	Zalesovo	46.48	352	P	P	17 27 56.0	+1.0
	0.9nm,0.8s,mb3.8,baz=185,slow=4.8,SNR=5.6						
WRA	Warramunga Arr	48.24	126	P	P	17 28 09.2	0.0
	0.5nm,0.6s,mb3.8,baz=304,slow=8.5,SNR=11						
ASAR	Alice Springs	49.90	130	P	P	17 28 22.0	0.0
	0.6nm,0.9s,mb3.6,baz=305,slow=7.9,SNR=4.4						
ARCES	ARCESS Array B	75.22	340	P	P	17 31 09.2	-0.7
	1.6nm,0.9s,mb4.0,baz=315,slow=8.6,SNR=3.0						
GERES	GERESS Array B	77.83	318	P	P	17 31 24.4	-0.6
	0.4nm,0.7s,mb3.5,baz=90,slow=6.7,SNR=3.6						
HFS	Hagfors	78.43	330	P	P	17 31 28.9	+0.7
	19nm,1.4s,mb4.8,baz=90,slow=7.4,SNR=6.3						
NOA	NORSAR Array B	79.70	331	P	P	17 31 34.9	-0.2
	0.9nm,0.7s,mb3.8,baz=38,slow=5.0,SNR=3.4						

IDC 22 17:35:15.6±2.8, 32.11S×177.38W, mb4.1/4, mb1 4.2/5, mb1mx3.8/16, mbtmp4.0/5, ML3.1/1, Error ellipse: s-maj=62.4km s-min=34.9km az=122.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.61	215	Pn	Pn	17 37 07.4	-3.1
	0.3nm,0.3s,baz=131,slow=20,SNR=2.7						
URZ				Sn	Sn	17 38 35.4	-3.1
	1.8nm,0.3s,baz=226,slow=16,SNR=13						
CTA	Charters Tower	34.62	281	P	P	17 42 07.4	-1.3
	11nm,1.0s,baz=79,slow=13,SNR=3.5						
STKA	Stephens Creek	34.65	259	P	P	17 42 08.2	-0.5
	1.4nm,0.9s,baz=74,slow=7.4,SNR=3.2						
ASAR	Alice Springs	43.57	268	P	P	17 43 21.4	-1.7
	1.2nm,0.7s,baz=114,slow=7.6,SNR=12						
WRA	Warramunga Arr	44.71	274	P	P	17 43 29.2	-3.3
	0.8nm,0.3s,baz=111,slow=8.1,SNR=20						
FINES	FINESS Array B	146.93	339	PKPbc	PKPbc	17 54 58.6	-0.2
	1.4nm,0.8s,baz=62,slow=3.3,SNR=12						

*IDC **22** 17:37:25.9±4.5, 14.23N×88.41W, mb3.1/2, mb1 3.7/2, mb1mx3.2/17, mbtmp3.2/2, Error ellipse: s-maj=173.3km s-min=73.0km az=43.0*
*CASC **22** 17:37:43.7±1.9, 13.91N×90.01W, h115km±8km, MD4.0, ML3.6*

ISC 22 17:37:43.8±0.6, 14.0N±0.1×89.98W±0.08, h120km±5km, n26, σ1§01/33, mb3.6/1, 4C-5D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	El Retiro	0.33	100	*e*P	P	17 38 00.5	-0.4
SBLS	San Blas	0.36	108	⇑*e*P	P	17 38 00.8	-0.3
SBLS				*e*S	S	17 38 14.8	+0.5
SNJE	San Jose	0.37	103	⇑*e*P	P	17 38 00.8	-0.3
IXG	Ixpaco	0.51	295	*e*P	P	17 38 01.1	-0.9
IXG				*e*S	S	17 38 17.6	+1.9
BOQS	Boqueron	0.71	108	⇑*e*P	P	17 38 02.9	-0.4
NBG	Las Nubes	0.72	330	⇓*e*P	P	17 38 03.9	+0.5
NBG				*e*S	S	17 38 20.0	+1.5
SNET	Serv Nac Est T	0.77	110	*e*P	P	17 38 03.1	-0.7
SNET				*e*S	S	17 38 17.4	-1.7
SNET				*i*		17 38 20.2	
	comp=Z,1μm,0.3s						
LFU	La Fuente	0.86	104	⇓*e*P	P	17 38 04.7	0.0
LBRS	Las Brisas	0.93	103	*e*P	P	17 38 05.1	-0.3
LFRS	El Faro	0.95	110	*e*P	P	17 38 05.1	-0.5
LFRS				*e*S	S	17 38 21.4	-0.5
FUG	Fuego 3	0.97	300	⇓*i*P	P	17 38 05.0	-0.8
LCBS	La Ceiba	1.01	107	*e*P	P	17 38 05.9	-0.4
SNVI	San Vicente	1.16	107	*e*P	P	17 38 07.3	-0.4
SNVI				*e*S	S	17 38 26.0	+0.3
TP2	Tecpan 2

9.4nm,0.6s,mb4.9
STKA Stephens Creek 36.77 253 P **P 17 55 48.4 +1.3**
1.6nm,0.6s,mb4.0,baz=343,slow=9.0,SNR=8.4
ASAR Alice Springs 44.91 263 P **P 17 56 54.4 0.0**
1.1nm,0.5s,mb4.0,baz=99,slow=7.2,SNR=32
ASAR LR LR 18 15 32.4
comp=Z,92nm,18.8s,MS3.7,baz=143,slow=36
ASPA Alice Springs 44.92 263 *eP* **P 17 56 55.6 +1.2**
WB2 Warramunga Arr 45.63 268 *eP* **P 17 56 59.1 -1.0**
WRAB Tennant Creek 45.63 268 *eP* **P 17 56 58.9 -1.2**
7.1nm,0.7s,mb4.7
WRA Warramunga Arr 45.64 268 P **P 17 56 59.2 -1.1**
2.2nm,0.5s,mb4.3,baz=111,slow=6.6,SNR=42
FORT Forrest 48.38 252 *eP* **P 17 57 20.9 -0.7**
28nm,0.5s,mb5.5
MBWA Marble Bar 58.16 261 P **P 17 58 34.0 0.0**
18nm,1.3s,mb4.9
CASY Casey 58.52 207 *eP* **P 17 58 38.0 +2.0**
12nm,0.6s,mb5.1
QSPA South Pole Qui 62.72 180 *eP* **P 17 59 06.5 +2.1**
6.7nm,0.9s,mb4.8
MAW Mawson 75.67 200 LR LR 18 34 32.7
comp=Z,134nm,18.3s,MS4.3,baz=66,slow=36
FX1 Attu Island--F 80.45 354 LR LR 18 29 10.1
comp=Z,40nm,21.8s,MS3.7,baz=288,slow=30
SNAA Sanae 81.11 178 P **P 18 00 54.1 +0.4**
CMB Columbia Colle 83.48 41 P **P 18 01 06.3 -0.3**
NVAR Mina Array Bea 84.97 42 P **P 18 01 13.3 -0.8**
1.1nm,0.8s,mb4.0,baz=221,slow=10,SNR=7.8
NVAR LR LR 18 34 43.9
comp=Z,188nm,18.5s,MS4.5,baz=330,slow=33
NVAR Mina Array Bea 84.97 42 P **P 18 01 13.3 -0.8**
NVAR LR LR 18 34 43.9
TXAR Lajitas Array 89.45 56 P **P 18 01 35.7 -0.2**
0.7nm,0.8s,mb4.1,baz=225,slow=5.3,SNR=5.3
TXAR Lajitas Array 89.45 56 P **P 18 01 35.7 -0.2**
PDAR Pinedale Array 92.88 43 LR LR 18 37 51.3
comp=Z,88nm,18.4s,MS4.2,baz=355,slow=32
CMAR Chiang Mai Arr 93.89 289 P **P 18 01 58.7 +2.1**
0.6nm,0.7s,mb4.1,baz=129,slow=4.2,SNR=6.7
ILAR Eielson Array 94.65 12 P **P 18 01 57.3 -1.7**
1.4nm,1.2s,mb4.3,baz=269,slow=3.7,SNR=4.1
FINES FINESS Array B 142.80 342 PKhKP 18 08 05.3
7.2nm,1.3s,baz=53,slow=6.9,SNR=4.7
NB2 NORSAR Subarra 145.97 354 PKP PKPdf 18 08 16.5 +0.8
1.9nm,0.8s,baz=17,slow=2.6
NOA NORSAR Array B 145.97 354 PKP PKPdf 18 08 16.0 +0.4
2.6nm,0.8s,baz=5.7,slow=4.2,SNR=5.0
NOA NORSAR Array B 145.97 354 PKP PKPdf 18 08 16.0 +0.4
AKASG Malin Array Be 149.73 327 PKPbc PKPdf 18 08 27.7 +5.6
1.5nm,0.7s,baz=40,slow=3.5,SNR=11
BRTR Keskin Array B 152.36 304 PKPbc PKPdf 18 08 34.8 +8.3
0.6nm,0.5s,baz=131,slow=4.9,SNR=6.3

OTT 22 18:16:29.1±0.1, 64.49N×110.26W, h1km, MN2.5/6, Blast, Diavik Mine, Nt Mining explosion., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVKN	**Diavik Mine**	**0.03**	**311**	PG	Pg	18 16 29.6	-0.2
LGSN	**Lac de Gras So**	**0.17**	**161**	PG	Pg	18 16 32.3	-0.2
LGSN				SG	Sg	18 16 34.6	-0.1
LGSN				Trac		18 16 35.1	
	comp=Z,76nm,0.1s						
LDGN	**Lac de Gras No**	**0.22**	**329**	PG	Pg	18 16 31.9	-1.7
LDGN				SG	Sg	18 16 33.9	-2.7
LDGN				Trac		18 16 34.9	
	comp=Z,142nm,0.1s						
EKTN	**Ekati Mine**	**0.26**	**324**	PG	Pg	18 16 33.9	-0.5
EKTN				SG	Sg	18 16 36.8	-1.0
EKTN				Trac		18 16 38.5	
	comp=Z,42nm,0.1s						
MLON	**Marlo Lake**	**0.55**	**163**	PG	Pg	18 16 39.1	-0.9
MLON				SG	Sg	18 16 45.4	-1.9
MLON				Trac		18 16 47.2	
	comp=Z,16nm,0.1s						
KNDN	**Kennady Lake**	**1.17**	**156**	PG	Pg	18 16 50.5	-2.0
KNDN				SG	Sg	18 17 05.7	-2.4
KNDN				Trac		18 17 06.4	
	comp=Z,15nm,0.1s						
IHLN	**Indian Hill La**	**1.22**	**194**	PG	Pg	18 16 51.6	-1.9
IHLN				SG	Sg	18 17 07.3	-2.5
IHLN				Trac		18 17 09.7	
	comp=Z,11nm,0.1s						
GBLN	**Grizzly Bear L**	**1.23**	**258**	PG	Pg	18 16 51.8	-1.8
GBLN				SG	Sg	18 17 07.5	-2.5
LUPN	**Lupin Mine**	**1.32**	**342**	PG	Pg	18 16 52.9	-2.7
LUPN				SG	Sg	18 17 10.2	-3.1
LUPN				Trac		18 17 13.1	
	comp=Z,26nm,0.1s						
CTLN	**Castor Lake**	**2.50**	**271**	PN	Pn	18 17 10.4	-1.1
CTLN				SG	Sg	18 17 45.5	-6.9
YKW3	**Yellowknife Ar**	**2.75**	**227**	PN	Pn	18 17 12.7	-2.5
YKW3				PG	Pg	18 17 17.6	-6.4
YKW3				SN	Sn	18 17 45.1	-4.4
YKW3				SG	Sg	18 17 51.7	-8.9
YKW3				Trac		18 18 00.1	
	comp=Z,4.6nm,0.2s						
GALN	**Gameti Lake**	**3.10**	**266**	PN	Pn	18 17 18.1	-2.1
GALN				PG	Pg	18 17 25.0	-6.0
GALN				SN	Sn	18 17 54.4	-3.9
GALN				SG	Sg	18 18 02.7	-10
GALN				Trac		18 18 03.3	
	comp=Z,10nm,0.2s						
FCC	**Fort Churchill**	**9.58**	**119**	PN	P	18 18 45.5	-5.5
FCC				SN	Sn	18 20 24.2	-16
INK	**Inuvik**	**10.05**	**303**	PN	P	18 18 52.9	-4.5
INK				SN	S	18 20 18.8	-33

*IDC **22** 18:27:40.0±1.1, 31.86S×71.99W, mb3.9/5, mb1 4.0/8, mb1mx4.0/13, mbtmp3.8/8, ML4.0/3, MS3.5/1, Ms1 3.4/1, ms1mx2.5/16, Error ellipse: s-maj=47.6km s-min=21.8km az=81.0*
*GUC **22** 18:27:41.1±0.5, 31.83S×72.21W, h28km±1km, MD4.3, ML4.1*
*NEIC **22** 18:27:41.1, 31.83S×72.21W, h28km, mb4.6/1, ML4.1(GUC), After GUC.*
ISC 22 18:27:40.0±1.2, 31.84S±0.03×72.27W±0.05, h13km±9km, n40, σ0°71/50, mb4.2/6, 11C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.96**	**78**	⇑*i*P	**Pb**	**18 27 57.8**	**-0.2**
ILCH				*i* S	**Sb**	**18 28 10.3**	**0.0**
ILCH				AMP		18 28 10.7	
	comp=N,7μm,0.3s						
PACH	**Papudo**	**0.99**	**135**	⇓*i*P	**Pb**	**18 27 58.4**	**-0.1**
PACH				*i* S	**Sb**	**18 28 11.6**	**+0.3**
PTCH	**Petorca**	**1.21**	**111**	*eP*	**Pb**	**18 28 01.7**	**-0.7**
PTCH				*i* S	**Sb**	**18 28 17.2**	**-0.6**
PTCH				AMP		18 28 19.7	
	comp=N,8μm,0.4s						
IHA	**Instituto Hidr**	**1.29**	**156**	⇑*i*P	**Pb**	**18 28 03.5**	**-0.3**
IHA				*i* S	**Sb**	**18 28 20.2**	**+0.1**
ROCH	**El Roble**	**1.55**	**137**	*i* P	**Pn**	**18 28 07.4**	**-0.2**
ROCH				*i* S	**Sb**	**18 28 27.9**	**+0.4**
JACH	**Jahuel**	**1.65**	**121**	*eP*	**Pn**	**18 28 08.8**	**-0.1**
JACH				*i* S	**Sn**	**18 28 29.9**	**-0.3**
LCCH	**Las Cruces**	**1.73**	**160**	⇓*i*P	**Pn**	**18 28 09.9**	**-0.2**
RCDM	**Rinconada Maip**	**2.05**	**144**	⇑*i*P	**Pn**	**18 28 14.9**	**+0.1**
RCDM				*i* S	**Sn**	**18 28 40.2**	**-0.2**
RCDM				AMP		18 28 47.3	
	comp=N,1μm,0.8s						
TLL	**Tololo Astrono**	**2.09**	**37**	⇑*eP*	**Pn**	**18 28 15.5**	**+0.2**
TLL				AMP		18 28 56.7	
	comp=N,2μm,1.0s						
DSCH	**Colegio Aleman**	**2.11**	**138**	⇑*i*P	**Pn**	**18 28 15.8**	**+0.1**
DSCH				AMP		18 28 52.0	
	comp=N,4μm,0.6s						
LSCH	**La Serena**	**2.12**	**25**	AMP		18 28 55.2	
	comp=E,1μm,0.7s						
TACH	**Talagante**	**2.13**	**149**	*eP*	**Pn**	**18 28 15.9**	**+0.1**
CLCH	**Cerro Calan**	**2.13**	**137**	⇑*i*P	**Pn**	**18 28 15.7**	**-0.1**
CLCH				*i* S	**Sn**	**18 28 42.4**	**0.0**
CLCH				AMP		18 29 02.9	
	comp=E,4μm,0.6s						
CLCH				AMP		18 29 03.4	
	comp=E,4μm,0.6s						
FSR	**Penalolen**	**2.20**	**139**	*eP*	**Pn**	**18 28 16.9**	**+0.1**
FSR				*i* S	**Sn**	**18 28 43.9**	**-0.2**
FSR				AMP		18 28 56.3	
	comp=N,2μm,0.7s						
ANTU	**Antumapu**	**2.21**	**142**	*i* P	**Pn**	**18 28 17.1**	**+0.2**
ANTU				AMP		18 28 56.7	
	comp=N,2μm,0.4s						
FCH	**Farellones**	**2.23**	**132**	⇑*i*P	**Pn**	**18 28 17.2**	**-0.1**
FCH				*i* S	**Sn**	**18 28 45.5**	**+0.5**
FCH				AMP		18 28 53.4	
	comp=E,954nm,0.3s						
PCH	**Pirque**	**2.31**	**141**	*i* P	**Pn**	**18 28 18.5**	**+0.1**
CHCH	**Chadas Angostu**	**2.49**	**147**	*i* P	**Pn**	**18 28 21.3**	**+0.3**
LMEL	**Las Melosas**	**2.65**	**140**	⇑*i*P	**Pn**	**18 28 23.4**	**+0.1**
LMEL				*i* S	**Sn**	**18 28 55.1**	**-0.5**
LMEL				AMP		18 29 16.9	
	comp=N,931nm,0.6s						
CACH	**El Canelo**	**2.67**	**149**	⇑*i*P	**Pn**	**18 28 24.4**	**+0.9**
CACH				*i* S	**Sn**	**18 28 57.0**	**+0.9**
CICH	**Cipreses**	**2.92**	**148**	*i* S	**Sn**	**18 29 01.9**	**-0.5**
SFDO	**San Fernando**	**2.96**	**160**	⇓*i*P	**Pn**	**18 28 27.5**	**-0.2**
MDZ	**Mendoza**	**3.07**	**111**	*eP*	**Pn**	**18 28 32.9**	**+3.6**
MDZ				*e*		18 28 36.1	
MDZ				*e*		18 29 13.4	
ZON	**Zonda**	**3.07**	**85**	*eP*	**Pn**	**18 28 31.0**	**+1.7**
ZON				*eS*	**Sn**	**18 29 11.0**	**+4.7**
PLCA	**Paso Flores**	**8.98**	**172**	Pn	**P**	**18 29 50.8**	**-1.7**
	comp=N,0.6nm,0.3s,baz=314,slow=8.4,SNR=13						
PLCA				LR	LR	18 33 45.9	
	comp=N,262nm,18.8s,baz=352,slow=41						
PLCA	**Paso Flores**	**8.98**	**172**	*e*Pn	**P**	**18 29 49.3**	**-3.2**
PLCA				LR	LR	18 33 45.9	
LVC	**Limon Verde**	**9.66**	**19**	Pn	**P**	**18 30 00.1**	**-1.9**
	comp=N,0.2nm,0.3s,baz=231,slow=19,SNR=2.6						
TRQA	**Tornquist**	**10.47**	**129**	*e*Pn	**P**	**18 30 14.1**	**+1.1**
	comp=N,8.9nm,0.6s						
LPAZ	**La Paz**	**15.93**	**15**	Pn	**P**	**18 31 26.1**	**+0.4**
	comp=N,0.1nm,0.3s,baz=186,slow=6.9,SNR=8.1						
LPAZ	**La Paz**	**15.93**	**15**	*eP*	**P**	**18 31 20.7**	**-5.0**
	comp=N,4.0nm,0.9s						
VNA2	**Neumayer--Watz**	**52.08**	**158**	⇑*i*	pP	18 36 57.4	+2.2
VNA2	**Neumayer--Watz**	**52.08**	**158**		sP	18 37 07.5	+11
SNAA	**Sanae**	**53.66**	**158**	⇑*i*	**P**	**18 37 02.9**	**-0.2**
SNAA	**Sanae**	**53.66**	**158**	P	**P**	**18 37 02.2**	**-0.9**
	comp=N,1.2nm,0.8s,mb3.9,baz=329,slow=6.4,SNR=6.5						
SNAA	**Sanae**	**53.66**	**158**	*eP*	**P**	**18 37 00.9**	**-2.1**
	comp=N,71nm,1.0s,mb5.5						
QSPA	**South Pole Qui**	**58.39**	**180**	*eP*	**P**	**18 37 36.7**	**-0.3**
	comp=N,5.8nm,1.0s,mb4.6						
TXAR	**Lajitas Array**	**67.76**	**331**	P	**P**	**18 38 40.5**	**+0.7**
	comp=N,0.4nm,0.7s,mb3.5,baz=143,slow=4.5,SNR=2.7						
DBIC	**Dimbokro**	**74.68**	**72**	P	**P**	**18 39 20.5**	**-1.1**
	comp=N,2.5nm,0.7s,mb4.3,baz=248,slow=4.7,SNR=4.7						
MAW	**Mawson**	**75.30**	**164**	P	**P**	**18 39 24.1**	**0.0**
	comp=N,3.0nm,1.1s,mb4.1,baz=221,slow=8.0,SNR=3.7						
NVAR	**Mina Array Bea**	**82.00**	**325**	P	**P**	**18 40 02.8**	**+1.6**
	comp=N,1.0nm,1.1s,mb3.7,baz=144,slow=7.8,SNR=2.7						

*JMA **22** 18:29:16.9±0.6, 33.61N×141.82E, h23km, M3.1*
*IDC **22** 18:29:22.4±6.5, 33.52N×141.59E, h48km±55km, mb3.4/3, mb1 3.6/3, mb1mx3.2/19, mbtmp3.7/3, Error ellipse: s-maj=50.2km s-min=26.5km az=73.0*
ISC 22 18:29:17.4±2.6, 33.57N±0.06×141.81E±0.10, h31km±23km, n15, σ0°75/19, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.28**	**328**	P	**Pn**	**18 29 39.3**	**-0.1**
BSO3	**Boso 3**	**1.63**	**319**	P	**Pn**	**18 29 44.8**	**+0.3**
JHJ2	**Mitsune**	**1.73**	**255**	P	**Pn**	**18 29 47.0**	**+1.1**
JHJ	**Hachijo jima 2**	**1.76**	**256**	P	**Pn**	**18 29 47.0**	**+0.7**
	17nm,0.3s,baz=81,slow=23,SNR=7.4						
JHJ				S	**Sn**	**18 30 06.2**	**-1.6**
	19nm,0.3s,baz=76,slow=23,SNR=3.5						
BSO4	**Boso 4**	**1.87**	**320**	P	**Pn**	**18 29 48.6**	**+0.8**
CHOJ	**Chosi**	**2.26**	**340**	P	**Pn**	**18 29 53.6**	**+0.1**
JOD2	**Odawara 2**	**2.81**	**308**	P	**Pn**	**18 30 00.3**	**-1.0**
JYN	**Shimob**	**3.31**	**306**	P	**Pn**	**18 30 08.0**	**-0.4**
JYN				*eS*	**Sn**	**18 30 47.6**	**+0.5**
JRY	**Ryogami san**	**3.42**	**316**	P	**Pn**	**18 30 10.2**	**+0.3**
JRY				*eS*	**Sn**	**18 30 50.6**	**+0.8**
JAG	**Ashikaga**	**3.44**	**326**	P	**Pn**	**18 30 10.0**	**-0.2**
MAT	**Matsushiro**	**4.18**	**316**	P	**Pn**	**18 30 20.7**	**-0.1**
JMM	**Marumori**	**4.36**	**349**	P	**Pn**	**18 30 22.1**	**-1.3**
JMM				S	**Sn**	**18 31 08.3**	**-5.5**
SONM	**Songino Array**	**30.10**	**309**	P	**P**	**18 35 25.9**	**-0.3**
	0.6nm,0.8s,mb3.4,baz=121,slow=8.4,SNR=3.6						
WRA	**Warramunga Arr**	**53.69**	**189**	P	**P**	**18 38 38.2**	**-0.6**
	0.3nm,0.8s,mb3.3,baz=6.6,slow=7.6,SNR=6.7						
ASAR	**Alice Springs**	**57.42**	**189**	P	**P**	**18 39 06.7**	**+1.0**
	0.3nm,0.9s,mb3.3,baz=355,slow=5.9,SNR=3.8						

*IDC **22** 18:38:07.3±0.4, 14.65N×92.46E, mb4.6/24, mb1 4.6/25, mb1mx4.6/25, mbtmp4.5/25, ML4.2/1, MS4.8/18, Ms1 4.9/18, ms1mx4.7/24, Error ellipse: s-maj=19.9km s-min=11.1km az=54.0*
*BJI **22** 18:38:12.7, 14.85N×92.45E, h23km, mB5.3, mb4.8, Ms5.2, Msz4.9*
*MOS **22** 18:38:12.7±1.1, 14.41N×92.83E, h33km, mb5.6/98, MS5.0/33, Error ellipse: s-maj=7.8km s-min=4.2km az=123.8*
*HRVD **22** 18:38:14.0±0.2, 14.59N×92.22E, h12km, MW5.5/65, Centroid moment Tensor Solution. LP body waves: s59,c108; Mantle waves: s65,c149; Half duration: 1s+4 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.29±.03; $M_{\theta\theta}$0.32±.03; $M_{\phi\phi}$0.96±.03; $M_{r\theta}$1.54±.07; $M_{\theta\phi}$0.83±.02; $M_{\phi r}$0.90±.07; Best double couple: M_o2.282×10^{17} NP1: ϕ_s14°, δ23°, λ-128°. NP2:ϕ_s234°, δ72°, λ-75°. Principal axes: T 2.302, Plg25°, Azm313°; N -.041, Plg14°, Azm50°; P -2.262, Plg60°, Azm166°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 18:38:14.0±0.2, 14.55N×92.94E, h30km, mb5.4/119, MS5.0/14, MW5.5 Error ellipse: s-maj=7.7km s-min=5.3km az=212.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.58; $M_{\theta\theta}$0.02; $M_{\phi\phi}$1.56; $M_{r\theta}$0.78; $M_{\theta\phi}$0.73; $M_{\phi r}$0.17; Best double couple: M_o1.9×10^{17} NP1: ϕ_s1°, δ42°, λ-123°. NP2:ϕ_s223°, δ56°, λ-64°. Principal axes: T 1.91, Plg8°, Azm294°; N -.01, Plg22°, Azm27°; P -1.9, Plg67°, Azm186°;*
*CSEM **22** 18:38:18.8, 15.21N×92.47E, h33km, mb5.5*
ISC 22 18:38:12.4±0.2, 14.51N±0.03×92.82E±0.03, h29km, h29km±.6km: pP-P, n481, σ1°38/491, mb5.2/157, MS5.0/59, 24C-8D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.84**	**181**	*eP*	**Pn**	**18 38 58.1**	**+1.2**
NNT	**Nongplab**	**6.99**	**105**	P	**Pn**	**18 39 58.0**	**+2.4**
CM31	**Chiang Mai Arr**	**7.07**	**55**	Pn	**Pn**	**18 39 54.5**	**-2.1**
CMAR	**Chiang Mai Arr**	**7.07**	**55**	Pn	**Pn**	**18 39 55.0**	**-1.6**
	0.9nm,0.3s,baz=246,slow=15,SNR=27						
CMAR				Sn	**Sn**	**18 41 23.7**	**+7.0**
	5.6nm,0.3s,baz=243,slow=29,SNR=5.6						
CMAR				LR	LR	18 42 40.7	
	comp=Z,2μm,18.7s,baz=235,slow=38						
NST	**Nakhon Sawan**	**7.16**	**80**	P	**Pn**	**18 39 57.0**	**-0.9**
	133nm,0.5s						
CHG	**Chiang Mai**	**7.26**	**53**	PG	**Pn**	**18 40 05.9**	**+6.5**
CHG				SG	**Sn**	**18 41 19.8**	**-1.9**
CHRT	**Chiangrai**	**8.53**	**50**	⇑PN	**P**	**18 40 16.5**	**-0.5**
CHRT				PG	**P**	**18 40 23.0**	**+6.0**
CHRT				SG	Sx	18 42 40.5	
VIS	**Vishakhapatnam**	**9.66**	**291**	⇑*eP*	**P**	**18 40 20.8**	**-12**
	comp=Z,724nm,1.0s						
VIS				*e*		18 41 54.6	
KKTK	**Khon Kaen**	**9.82**	**78**	PN	**P**	**18 40 42.0**	**+7.1**
KKTK				PG	P	18 40 56.0	+21
KKTK				SG	Px	18 41 07.5	
IMP	**Imphal**	**10.27**	**6**	*eP*	**P**	**18 40 37.0**	**-4.1**
SHL	**Shillong**	**11.03**	**356**	*eP*	**P**	**18 40 40.3**	**-11**
	comp=Z,109nm,0.9s						
SHL				*e*	**S**	**18 42 45.0**	**-10**
BLSP	**Bilaspur**	**12.66**	**308**	*eP*	**P**	**18 41 02.6**	**-11**
	comp=Z,192nm,0.8s						
BLSP				*eS*	Sx	18 43 07.7	
PALK	**Pallekele**	**13.90**	**240**	*eP*	**P**	**18 41 21.2**	**-8.8**
	comp=Z,65nm,1.5s						
HYB	**Hyderabad**	**14.02**	**284**	*eP*	**P**	**18 41 23.5**	**-8.0**
HYB				pmax	pmax		
	comp=Z,143nm,1.2s						
HYB	**Hyderabad**	**14.02**	**284**	*i* P	**P**	**18 41 23.5**	**-8.0**
	comp=Z,143nm,1.2s						
HYB				*e*		18 43 37.0	
HYB				*e*		18 43 44.0	
HYB				*eS*	**S**	**18 43 53.5**	**-13**
HYB				LR	LR	18 56 56.0	
	comp=Z,15nm,10.0s						
KMI	**Kunming**	**14.08**	**40**	P	**P**	**18 41 35.1**	**+2.8**
KMI				S	**S**	**18 44 09.4**	**+0.9**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KMI	**Kunming**	**14.08**	**40**	P	**P**	**18 41 35.1**	**+2.8**
	comp=Z,9.0nm,1.1s						
KMI				pP		18 41 40.4	
KMI				sP		18 41 43.0	
KMI				S	**S**	**18 44 09.4**	**+0.9**
KMI				sS		18 44 18.6	
JIRN	**Jiri**	**14.46**	**336**	*eP*	**P**	**18 41 26.5**	**-11**
	comp=Z,196nm,0.7s						
PKI	**Pulchoki**	**14.71**	**333**	*eP*	**P**	**18 41 30.0**	**-11**
	comp=Z,232nm,0.5s						
DMN	**Daman**	**14.88**	**332**	*eP*	**P**	**18 41 32.0**	**-11**
	comp=Z,432nm,0.7s						
ALBI	**Allahabad**	**14.91**	**318**	*eP*	**P**	**18 41 35.0**	**-8.1**
KKN	**Kakani**	**14.96**	**333**	*eP*	**P**	**18 41 33.6**	**-10**
	comp=Z,244nm,0.6s						
LSA	**Lhasa**	**15.19**	**354**	P	**P**	**18 41 45.1**	**-1.7**
LSA				AMB	AMB		
	comp=Z,12nm,0.6s						
LSA				LR	LR		
	comp=N,341nm,10.0s						
LSA				LR	LR		
	comp=E,451nm,10.0s						
LSA				LR	LR		
	comp=Z,2μm,12.0s						
LSA	**Lhasa**	**15.19**	**354**	*eP*	**P**	**18 41 37.6**	**-9.2**
LSA				pmax	pmax		
	comp=Z,11nm,0.6s						
LSA	**Lhasa**	**15.19**	**354**	*eP*	**P**	**18 41 37.6**	**-9.2**
	comp=Z,11nm,0.6s						
LSA				*eS*	**S**	**18 44 23.6**	**-11**
GKN	**Gorkha**	**15.43**	**332**	*eP*	**P**	**18 41 40.3**	**-10**
	comp=Z,333nm,0.3s						
KOD	**Kodaikanal**	**15.58**	**256**	*eP*	**P**	**18 41 47.7**	**-4.2**
KOD				*eP*		18 41 48.0	
KOD				*e*		18 42 05.1	
	comp=Z,124nm,1.1s						
KOLN	**Koldanda**	**15.73**	**328**	*eP*	**P**	**18 41 45.4**	**-8.4**
	comp=Z,351nm,0.6s						
LATR	**Latur**	**16.07**	**286**	*eP*	**P**	**18 41 49.0**	**-9.1**
LATR				*e*		18 44 33.5	
TRD	**Trivandrum**	**16.64**	**251**	*eP*	**P**	**18 41 57.0**	**-8.4**
	comp=Z,56nm,1.3s						
BHPL	**Bhopal**	**16.95**	**303**	*eP*	**P**	**18 42 01.9**	**-7.3**
BHPL				*eP*		18 42 02.0	
BHPL				*e*		18 42 13.2	
	comp=Z,291nm,1.8s						
JHNI	**Jhansi**	**17.27**	**311**	*eP*	**P**	**18 42 05.0**	**-8.2**
JHNI				*eS*	**S**	**18 45 17.0**	**-5.6**
MNGI	**Mangalore**	**17.55**	**267**	*i* P	**P**	**18 42 11.4**	**-5.4**
KAD	**Karad**	**18.14**	**281**	*eP*	**P**	**18 42 18.6**	**-5.6**
KAD				*e*		18 42 30.2	
	comp=Z,143nm,1.4s						
KAD				*e*	**S**	**18 45 54.6**	**+12**
GOA	**Goa**	**18.37**	**275**	*e*	**P**	**18 42 26.9**	**-0.1**
GOA				*e*		18 42 36.0	
	comp=Z,165nm,2.0s						
BOM	**Bombay**	**19.65**	**286**	⇓*e*	**P**	**18 42 38.9**	**-3.1**
BOM				*e*		18 42 42.2	
	comp=Z,227nm,1.6s						
BOM				*eS*	**S**	**18 46 08.9**	**-7.4**
NDI	**New Delhi**	**20.20**	**317**	*eP*	**P**	**18 42 41.0**	**-6.7**
NDI				*eP*		18 42 41.8	
NDI				*e*		18 42 57.1	
	comp=Z,250nm,1.4s						
NDI				*e*	**S**	**18 46 28.3**	**+0.7**
NDI				*e*		18 46 45.0	
SMLA	**Simla**	**21.90**	**322**	*e*	**P**	**18 43 13.3**	**+8.3**
SMLA				*e*		18 43 24.1	
	comp=Z,726nm,1.8s						
ENH	**Enshi**	**21.94**	**42**	*eP*	**P**	**18 43 02.0**	**-3.5**
	comp=Z,142nm,1.0s,mb5.3						
LZH	**Lanzhou**	**23.65**	**23**	*eP*	**P**	**18 43 23.0**	**+0.8**
LZH				AP		18 43 32.0	
LZH				XP		18 43 36.9	
LZH				AMB	AMB		
	comp=Z,120nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,210nm,4.0s						
LZH				LR	LR		
	comp=E,4μm,12.1s						
LZH				LR	LR		
	comp=Z,7μm,16.7s,MS5.2						
LZH	**Lanzhou**	**23.65**	**23**	*eP*	**P**	**18 43 23.0**	**+0.8**
LZH				*PP		18 43 32.0	
LZH				*SP		18 43 36.9	
LZH						18 44 02.0	
LZH				S	**S**	**18 47 41.4**	**+10**
LZH				*SS		18 47 52.0	
LZH				SS	SS	18 48 37.0	+16
LZH				pmax	pmax		
	comp=Z,120nm,1.5s,mb5.1						
LZH				MLR	MLR		
	comp=Z,7μm,16.7s,MS5.2						
LZH	**Lanzhou**	**23.65**	**23**	*eP*	**P**	**18 43 23.0**	**+0.8**
	comp=Z,120nm,1.5s,mb5.1						
LZH				pP		18 43 32.0	
LZH				sP		18 43 36.9	
LZH				PP	PP	18 44 02.0	+6.9
LZH				S	**S**	**18 47 41.4**	**+10**
LZH				sS		18 47 52.0	
LZH				SS	SS	18 48 37.0	+16
LZH				LR	LR		
	comp=Z,7μm,16.7s,MS5.2						
XAN	**Xi'an**	**24.30**	**34**	P	**P**	**18 43 26.6**	**-2.0**
XAN				AP		18 43 35.1	
XAN				S	**S**	**18 47 42.0**	**-0.7**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
XAN				LR	LR		
	comp=N,3μm,15.7s,MS5.0						
XAN				LR	LR		
	comp=E,2μm,13.2s,MS5.0						
XAN				LR	LR		
	comp=Z,3μm,20.0s						
QZH	**Quanzhou**	**26.34**	**63**	P	**P**	**18 43 53.3**	**+5.4**
QZH				S	**S**	**18 48 25.0**	**+8.1**
QZH				LR	LR		
	comp=N,940nm,4.6s						
QZH				LR	LR		
	comp=E,4μm,12.3s						
QZH				LR	LR		
	comp=Z,4μm,14.0s,MS5.1						
TGY	**Tagaytay City**	**27.24

comp=Z,5μm,20.4s,MS5.1
TIA Tai'an 30.65 41 *e*P **P 18 44 28.0 +1.4**
SSE Sheshan 30.79 53 P **P 18 44 29.5 +1.6**
SSE XP sP 18 44 41.3 +1.0
SSE S **S 18 49 29.0 +0.7**
SSE XS 18 49 43.8
SSE AMB AMB
comp=Z,9.0nm,0.8s,mb4.7
SSE AMB AMB
comp=Z,92nm,7.1s
SSE LR LR
comp=N,2μm,20.4s,MS4.9
SSE LR LR
comp=E,1μm,20.4s,MS4.9
SSE LR LR
comp=Z,996nm,22.3s,MS4.4
SSE Sheshan 30.79 53 P **P 18 44 29.5 +1.6**
comp=Z,9.0nm,0.8s,mb4.7
SSE sP sP 18 44 41.3 +1.0
SSE S **S 18 49 29.0 +0.7**
SSE sS 18 49 43.7
SSE SS SS 18 51 40.1 +29
SSE LR LR
comp=Z,1μm,22.3s,MS4.4
AAA Alma-Ata 31.73 338 *e*P **P 18 44 40.0 +3.9**
AAA *e*S **S 18 49 42.0 -0.8**
AAA pmax pmax
comp=Z,500nm,4.0s
AAA smax
comp=N,1μm,7.0s
AAA MLR MLR
comp=Z,2μm,16.0s,MS4.8
TKM2 Tokmak 2 31.95 336 P **P 18 44 39.8 +1.9**
SNR=7.7
AML Almayashu 32.10 333 P **P 18 44 36.8 -2.5**
SNR=16
AAK Ala-Archa 32.16 334 P **P 18 44 37.6 -2.3**
SNR=7.7
AAK Ala-Archa 32.16 334 *i* P **P 18 44 37.4 -2.4**
AAK pmax pmax
comp=Z,33nm,1.5s,mb4.9
AAK MLR MLR
comp=Z,6μm,20.0s,MS5.3
AAK Ala-Archa 32.16 334 *e*P **P 18 44 36.4 -3.4**
comp=Z,48nm,1.2s,mb5.2
FRU Bishkek 32.28 335 *e*P **P 18 44 42.0 +1.2**
FRU pmax pmax
comp=Z,70nm,1.5s,mb5.3
FRU MLR MLR
comp=Z,5μm,22.0s,MS5.1
CHMS Chumysh 32.36 335 P **P 18 44 42.5 +1.0**
SNR=5.2
EKS2 Erkin-Say 32.49 333 P **P 18 44 44.0 +1.3**
SNR=8.0
BJT Baijiatuau 32.61 34 *e*P **P 18 44 41.7 -2.0**
BJT pmax pmax
comp=Z,84nm,1.5s
BJT Baijiatuau 32.61 34 *e*P **P 18 44 41.7 -2.0**
comp=Z,84nm,1.5s,mb5.5
BJI Beijing 32.63 34 P **P 18 44 45.8 +1.9**
BJI S **S 18 49 57.1 +0.3**
BJI pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BJI MLR MLR
comp=Z,1μm,25.2s,MS4.5
BJI Beijing 32.63 34 P **P 18 44 45.8 +1.9**
comp=Z,10.0nm,0.8s,mb4.8
BJI S **S 18 49 57.1 +0.3**
BJI LR LR
comp=Z,1μm,25.2s,MS4.5
USP Ospenovka 32.68 335 P **P 18 44 41.4 -2.9**
SNR=16
MK02 Makanchi Array 33.34 347 P **P 18 44 46.3 -3.7**
MK02 pmax pmax
comp=Z,205nm,1.1s,mb6.0
SONM Songino Array 35.09 16 P **P 18 45 03.1 -1.9**
comp=Z,27nm,1.3s,mb5.0,baz=187,slow=9.5,SNR=19
JOW Kunigami 35.24 64 LR LR 19 00 32.0
comp=Z,1μm,21.8s,MS4.6,baz=271,slow=38
ULN Ulaanbaatar 35.29 17 *e*P **P 18 45 03.2 -3.6**
ULN pmax pmax
comp=Z,80nm,1.4s,mb5.5
ULN Ulaanbaatar 35.29 17 *e*P **P 18 45 03.2 -3.6**
comp=Z,80nm,1.4s,mb5.5
ZAK Zakamensk 36.77 11 *e*P **P 18 45 19.0 -0.2**
ZAK *e* 18 47 44.3
MOY Mondy 37.64 8 *e*P **P 18 45 28.2 +1.7**
KURK Kurchatov 37.90 345 P **P 18 45 27.6 -1.1**
KURK pmax pmax
comp=Z,178nm,1.2s,mb5.7
KURK Kurchatov 37.90 345 *e*P **P 18 45 24.8 -3.9**
comp=Z,310nm,1.2s,mb5.9
SNY Shenyang 38.05 38 ⇑P **P 18 45 30.9 +0.8**
SNY S **S 18 51 26.8 +6.4**
SNY AMB AMB
comp=Z,20nm,1.3s,mb4.7
SNY LR LR
comp=N,980nm,16.2s,MS5.0
SNY LR LR
comp=E,1μm,14.4s,MS5.0
SNY LR LR
comp=Z,2μm,16.5s,MS5.0
TLY Talaya 38.08 11 P **P 18 45 27.3 -3.0**
comp=Z,84nm,1.1s,mb5.4,SNR=14
TLY Talaya 38.08 11 *e*P **P 18 45 32.3 +2.0**
TLY *e* 18 47 04.2
TLY *e*S **S 18 51 19.5 -1.2**
TLY pmax pmax
comp=Z,29nm,1.1s,mb4.9
TLY MLR MLR
comp=Z,1μm,16.0s,MS4.8
TLY Talaya 38.08 11 P **P 18 45 25.0 -5.2**
comp=Z,37nm,1.1s,mb5.0
KS15 Wonju Array Si 38.59 47 P **P 18 45 36.4 +1.7**
IRK Irkutsk 38.74 11 *e*P **P 18 45 37.3 +1.6**
IRK *e* 18 51 37.3
IRK pmax pmax
comp=Z,70nm,2.9s,mb4.9
ZAL Zalesovo 39.84 353 P **P 18 45 41.5 -3.3**
comp=Z,6.6nm,0.7s,mb4.5,baz=202,slow=6.3,SNR=24
ZAL LR LR 19 06 00.8
comp=Z,3μm,18.9s,MS5.1,baz=316,slow=42
NVS Novosibirsk 40.93 352 *e*P **P 18 45 49.3 -4.5**
NVS pmax pmax
comp=Z,87nm,1.8s,mb5.1
NVS pmax pmax
comp=N,71nm,1.6s
NVS pmax pmax
comp=E,22nm,1.5s
HIA Hailar 41.08 27 *e*P **P 18 45 53.6 -1.5**
HIA pmax pmax
comp=Z,34nm,1.2s
HIA Hailar 41.08 27 *e*P **P 18 45 53.6 -1.5**
comp=Z,34nm,1.2s,mb4.9
BVAR Borovoye Array 42.34 340 P **P 18 46 00.8 -4.6**
comp=Z,3.9nm,0.8s,baz=149,slow=8.6,SNR=19
BVAR PcP PcP 18 47 57.7 -1.5
comp=Z,1.9nm,0.6s,baz=180,slow=5.8,SNR=2.3
BRVK Borovoye 42.40 340 P **P 18 46 02.3 -3.6**
BRVK pmax pmax
comp=Z,17nm,1.0s,mb4.6
BRVK Borovoye 42.40 340 *e*P **P 18 46 01.9 -3.9**
comp=Z,38nm,1.1s,mb4.9
CHKZ Chkalovo 42.81 341 *i* P **P 18 46 05.9 -3.3**
CHKZ pmax pmax
comp=Z,109nm,1.1s,mb5.5
CHKZ Chkalovo 42.81 341 *e*P **P 18 46 05.2 -4.0**
comp=Z,120nm,0.9s,mb5.6
MBWA Marble Bar 44.21 143 *e*P **P 18 46 21.6 +0.5**
comp=Z,147nm,1.6s,mb5.5
MAJO Matsushiro 45.94 53 *e*P **P 18 46 34.3 -0.4**
MAJO pmax pmax
comp=Z,23nm,0.9s,mb5.1
MAJO Matsushiro 45.94 53 *e*P **P 18 46 34.3 -0.4**
comp=Z,24nm,0.9s,mb5.1
MAT Matsushiro 45.94 53 *e*P **P 18 46 39.0 +4.3**
MAT *e*S **S 18 53 10.0 -6.7**
MAT pmax pmax
comp=Z,44nm,1.4s,mb5.2
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.6
MAT Matsushiro 45.94 53 *e*P **P 18 46 39.0 +4.3**
comp=Z,44nm,1.4s,mb5.2
MAT *e*S **S 18 53 10.0 -6.7**
MAT LR LR
comp=Z,710nm,20.0s,MS4.6

MAT Matsushiro 45.94 53 P **P 18 46 32.7 -2.0**
MAT S **S 18 53 16.0 -0.7**
BOD Bodaibo 46.08 16 *e*P **P 18 46 32.4 -3.0**
JHJ Hachijo jima 2 46.36 58 LR LR 19 06 00.7
comp=Z,827nm,18.5s,MS4.7,baz=282,slow=36
KLR Kul'dur 47.01 34 *e*P **P 18 46 42.2 -0.7**
CBIJ Chichi jima 47.54 66 LR LR 19 04 56.5
comp=Z,491nm,21.8s,MS4.4,baz=276,slow=34
BHD Baghdad 47.60 302 *e*P **P 18 46 39.0 -8.8**
KAKA Kakadu 47.66 123 *e*P **P 18 46 50.6 +2.1**
comp=Z,17nm,0.6s,mb5.2
CLNS Chul'man 48.77 23 *e*P **P 18 46 58.6 +2.1**
CLNS *e**PP pP 18 47 05.9 +0.5
CLNS *e* 18 48 26.9
CLNS *e* 18 48 45.8
CLNS *e*S **S 18 53 53.3 -3.1**
CLNS *e*SS SS 18 57 23.2 +0.9
CLNS pmax pmax
comp=N,20nm,0.8s
CLNS pmax pmax
comp=Z,41nm,0.8s,mb5.5
CLNS pmax pmax
comp=E,23nm,1.0s
CLNS pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS smax
comp=N,266nm,12.8s
CLNS smax
comp=Z,115nm,13.2s
CLNS smax
comp=E,44nm,11.2s
CLNS MLR MLR
comp=Z,2μm,16.0s,MS5.1
CLNS MLR MLR
comp=N,1μm,17.0s,MS5.1
CLNS MLR MLR
comp=E,100nm,13.0s,MS5.1
SVE Sverdlovsk 48.80 337 ⇓*i*P **P 18 46 54.6 -2.2**
SVE *e*S **S 18 54 00.0 +3.1**
SVE pmax pmax
comp=Z,190nm,1.5s,mb5.9
SVE smax
comp=N,1μm,8.0s
SVE smax
comp=E,400nm,8.0s
SVE MLR MLR
comp=Z,2μm,17.4s,MS5.3
GNI Garni 49.01 311 *i* P **P 18 46 57.4 -1.2**
GNI pmax pmax
comp=Z,227nm,1.5s
GNI MLR MLR
comp=Z,2μm,19.0s
GNI Garni 49.01 311 P **P 18 46 56.4 -2.2**
comp=Z,91nm,1.1s,mb5.7,baz=165,slow=4.5,SNR=24
GNI LR LR 19 10 56.7
comp=Z,2μm,19.4s,MS5.0,baz=282,slow=40
GNI Garni 49.01 311 *e*P **P 18 46 55.9 -2.7**
comp=Z,339nm,1.2s,mb6.2
MSL Mosul 49.27 306 *e*P **P 18 47 01.5 +0.9**
ARU Arti 49.33 336 P **P 18 46 57.2 -3.6**
comp=Z,427nm,1.2s,mb6.3,SNR=18
ARU Arti 49.33 336 ⇑*i*P **P 18 46 53.3 -7.5**
ARU *e* 18 48 19.6
ARU *e* 18 56 43.4
ARU pmax pmax
comp=Z,72nm,0.9s,mb5.7
ARU MLR MLR
comp=Z,3μm,24.0s,MS5.2
ARU MLR MLR
comp=N,1μm,21.0s,MS5.1
ARU MLR MLR
comp=E,2μm,22.0s,MS5.1
ARU Arti 49.33 336 *e*P **P 18 46 51.4 -9.4**
comp=E,102nm,1.0s,mb5.8
TI2 Plekhanov 49.49 313 *e*P **P 18 47 02.6 +0.3**
TI2 *i* pP 18 47 11.2 0.0
TI2 *e*S **S 18 54 09.0 +2.3**
TI2 pmax pmax
comp=Z,110nm,0.8s,mb5.9
TI2 MLR MLR
comp=N,500nm,17.0s,MS4.9
TI2 MLR MLR
comp=E,1μm,17.0s,MS4.9
TI2 MLR MLR
comp=Z,1μm,17.0s,MS4.9
ZEI Tsey 50.42 314 *e*P **P 18 47 07.8 -1.6**
ZEI *i* *PP pP 18 47 17.7 -0.7
ZEI *i* 18 49 03.4
ZEI pmax pmax
comp=Z,32nm,1.1s,mb5.3
BEST Besiri 51.04 307 *i* P **P 18 47 10.7 -3.5**
MUN Mundaring 51.38 154 ⇑*i*P **P 18 47 16.3 -0.5**
comp=Z,89nm,0.7s,mb5.8
MUN Mundaring 51.38 154 ⇑*i*P **P 18 47 16.3 -0.5**
MUN pmax pmax
comp=Z,89nm,0.7s,mb5.8
ERZM Erzurum 51.44 310 *i* P **P 18 47 15.5 -1.6**
ASAJ Asahikawa 51.45 45 LR LR 19 13 33.4
comp=Z,661nm,18.4s,MS4.7,baz=78,slow=41
KIV Kislovodsk 51.64 315 P **P 18 47 19.1 +0.5**
comp=Z,846nm,0.7s,SNR=12
KIV Kislovodsk 51.64 315 *i* P **P 18 47 17.4 -1.2**
KIV pmax pmax
comp=Z,79nm,1.2s,mb5.5
KIV MLR MLR
comp=Z,2μm,16.0s,MS5.1
KIV Kislovodsk 51.64 315 *e*P **P 18 47 15.3 -3.3**
comp=Z,127nm,0.8s,mb5.9
GOF Gofitskoye 51.77 316 ⇑*i*P **P 18 47 20.5 +0.9**
GOF *i* pP 18 47 29.0 +0.5
GOF pmax pmax
comp=Z,90nm,1.5s,mb5.5
GOF MLR MLR
comp=Z,2μm,16.0s,MS5.2
SOKR Solikamsk 52.19 338 ⇑*i*P **P 18 47 22.9 +0.3**
SOKR *e* pP 18 47 32.3 +0.8
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.2
SOKR MLR MLR
comp=Z,2μm,23.0s,MS5.0
YSS Yuzh-Sakhalins 52.52 41 *e*P **P 18 47 27.0 +1.8**
YSS *i* 18 47 38.5
YSS Yuzh-Sakhalins 52.52 41 *e*P **P 18 47 27.2 +1.9**
comp=Z,38nm,0.8s,mb5.4
NWAO Narrogin (SRO) 52.63 154 *e*P **P 18 47 24.4 -1.8**
NWAO *e* 18 47 39.0
NWAO pmax pmax
comp=Z,109nm,0.9s
NWAO Narrogin (SRO) 52.63 154 P **P 18 47 24.8 -1.4**
comp=Z,24nm,0.8s,mb5.2,baz=330,slow=9.8,SNR=16
NWAO LR LR 19 09 41.2
comp=Z,6.5nm,19.8s,baz=160,slow=36
NWAO Narrogin (SRO) 52.63 154 *e*P **P 18 47 24.4 -1.8**
comp=Z,109nm,0.9s,mb5.8
NWAO *e* 18 47 39.0
ELZG Elazig 52.93 307 *i* P **P 18 47 26.0 -2.4**
WRA Warramunga Arr 53.29 129 P **P 18 47 30.2 -1.1**
comp=Z,14nm,0.9s,mb4.9,baz=300,slow=9.9,SNR=49
WRA PcP PcP 18 48 39.7 +1.1
comp=Z,14nm,0.6s,baz=316,slow=3.5,SNR=11
WRAB Tennant Creek 53.29 129 *e*P **P 18 47 30.4 -0.9**
WRAB pmax pmax
comp=Z,131nm,0.8s,mb5.9
WRAB Tennant Creek 53.29 129 *e*P **P 18 47 30.4 -0.9**
comp=Z,131nm,0.8s,mb5.9
WB2 Warramunga Arr 53.30 129 *e*P **P 18 47 30.4 -0.9**
WB2 *e*PCP PcP 18 48 42.8 +4.2
MALT Malatya 53.32 307 *e*P **P 18 47 27.3 -4.0**
MALT pmax pmax
comp=Z,37nm,1.1s,mb5.2
MALT Malatya 53.32 307 *e*P **P 18 47 27.3 -3.9**
comp=Z,37nm,1.1s,mb5.2
SOC Sochi 53.59 314 *i* P **P 18 47 29.0 -4.1**
SOC *e* 18 48 37.4
SOC *e* 18 49 27.9
SOC *e*PPP PPP 18 50 38.5 -5.1
SOC *e* 18 57 10.9
SOC pmax pmax
comp=Z,47nm,0.7s,mb5.5
SOC pmax pmax
comp=N,14nm,0.6s
SOC pmax pmax

comp=E,11nm,0.7s
SOC MLR MLR
comp=Z,741nm,17.0s,MS4.8
SOC MLR MLR
comp=N,1μm,21.0s,MS5.1
SOC MLR MLR
comp=E,1μm,20.0s,MS5.1
GZT Gaziantep 53.82 306 *i* P **P 18 47 30.9 -4.0**
YAK Yakutsk 54.20 20 *e*P **P 18 47 37.6 +0.2**
YAK *e**PP pP 18 47 48.2 +1.9
YAK *e* 18 48 39.2
YAK *e* 18 49 36.3
YAK *e*S **S 18 55 16.3 +5.4**
YAK *e* 18 57 23.3
YAK *e*SS SS 18 59 00.0 +7.6
YAK pmax pmax
comp=Z,20nm,0.8s,mb5.1
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
YAK pmax pmax
comp=N,2.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK smax
comp=E,92nm,7.6s
YAK smax
comp=N,33nm,6.9s
YAK MLR MLR
comp=Z,700nm,24.0s,MS4.6
YAK MLR MLR
comp=N,400nm,14.0s
YAK MLR MLR
comp=E,600nm,16.0s
YAK Yakutsk 54.20 20 *e*P **P 18 47 35.1 -2.3**
comp=E,74nm,0.7s,mb5.7
KAHT Ahir Dag 54.41 306 *i* P **P 18 47 35.2 -4.0**
ASPA Alice Springs 55.25 133 *e*P **P 18 47 44.8 -0.8**
ASPA *e*S **S 18 55 32.5 +7.0**
ASAR Alice Springs 55.26 133 P **P 18 47 44.9 -0.8**
comp=E,18nm,0.9s,mb5.1,baz=311,slow=7.2,SNR=90
ASAR PcP PcP 18 48 46.9 +0.8
comp=E,12nm,0.6s,baz=318,slow=3.7,SNR=9.2
ASAR LR LR 19 13 44.2
comp=E,505nm,20.9s,MS4.6,baz=303,slow=38
ASAR PKPPKP 19 18 00.8
comp=E,0.4nm,0.7s,baz=145,slow=2.7,SNR=4.3
ANN Anapa 55.49 315 *e*P **P 18 47 39.3 -7.8**
ANN pmax pmax
comp=Z,111nm,1.7s,mb5.6
ANN MLR MLR
comp=Z,352nm,19.0s,MS4.5
ANN MLR MLR
comp=N,732nm,20.0s,MS5.2
ANN MLR MLR
comp=E,2μm,20.0s,MS5.2
PECR Pechory 55.76 330 *e*P **P 18 47 50.0 +1.2**
PECR MLR MLR
comp=Z,1μm,17.0s,MS5.1
AVNT Avonos 56.16 307 *i* P **P 18 47 46.2 -5.7**
FORT Forrest 56.36 143 *e*P **P 18 47 53.0 -0.5**
comp=Z,249nm,0.5s
MEST Erdemli 56.42 304 *i* P **P 18 47 43.8 -10**
VOR Voronezh 56.48 323 *e*P **P 18 47 52.0 -2.0**
VOR *e* pP 18 48 02.5 -0.5
VOR pmax pmax
comp=E,70nm,1.4s
VOR pmax pmax
comp=Z,90nm,1.4s,mb5.6
BOYT Boyabat 56.56 310 *i* P **P 18 47 49.5 -5.3**
KMBO Kilima Mbogo 57.13 259 *e*P **P 18 47 57.3 -1.9**
KMBO pmax pmax
comp=Z,15nm,1.1s
KMBO Kilima Mbogo 57.13 259 P **P 18 47 54.8 -4.4**
comp=Z,3.8nm,1.0s,mb4.4,baz=45,slow=12,SNR=5.2
KMBO LR LR 19 08 30.5
comp=Z,2μm,20.9s,MS5.1,baz=95,slow=32
KMBO Kilima Mbogo 57.13 259 *e*P **P 18 47 57.3 -1.9**
comp=Z,15nm,1.1s,mb4.9
BRTR Keskin Array B 57.23 308 P **P 18 47 53.7 -5.9**
comp=Z,22nm,1.3s,mb5.0,baz=120,slow=6.9,SNR=14
ELDT Eldivan 57.51 309 *i* P **P 18 47 54.8 -6.8**
SIM Simferopol' 57.82 314 P **P 18 48 04.4 +0.8**
SIM *e*S **S 18 56 00.5 +1.3**
SIM pmax pmax
comp=Z,60nm,1.0s,mb5.6
SIM MLR MLR
comp=Z,2μm,23.0s,MS5.1
SIM Simferopol' 57.82 314 *e*Pr 18 48 04.5
MOS Moscow 58.80 327 ⇓*i*P **P 18 48 08.9 -1.4**
MOS *e* pP 18 48 18.6 -0.8
MOS *e* 18 49 00.6
MOS *e* 18 50 19.2
MOS pmax pmax
comp=Z,88nm,1.6s,mb5.5
PMG Port Moresby 58.89 111 *e*P **P 18 48 11.9 +0.4**
PMG pmax pmax
comp=Z,58nm,1.0s
PMG Port Moresby 58.89 111 P **P 18 48 10.7 -0.8**
comp=Z,13nm,0.9s,mb4.9,baz=236,slow=10.0,SNR=2.3
PMG Port Moresby 58.89 111 *e*P **P 18 48 11.9 +0.4**
comp=Z,58nm,1.0s,mb5.6
OBN Obninsk 59.14 326 ⇓*i*P **P 18 48 09.2 -3.5**
OBN *i* pP 18 48 18.9 -2.9
OBN *e* 18 49 03.2
OBN *e*S **S 18 56 09.3 -7.0**
OBN pmax pmax
comp=Z,96nm,1.9s,mb5.5
OBN MLR MLR
comp=Z,1μm,17.0s,MS5.1
OBN Obninsk 59.14 326 *e*P **P 18 48 09.0 -3.7**
comp=Z,312nm,1.5s,mb6.1
ULDT Uludag 60.72 308 *i* P **P 18 48 14.1 -10**
TIXI Tiksi 61.04 12 ⇑*i*P **P 18 48 21.5 -4.0**
TIXI *e*S **S 18 56 43.9 +3.4**
TIXI *e*SS SS 19 00 48.7 +7.0
TIXI pmax pmax
comp=Z,86nm,1.8s,mb5.6
TIXI MLR MLR
comp=Z,882nm,17.0s,MS5.0
MA2 Magadan 61.58 29 *i* P **P 18 48 30.0 +0.7**
MA2 pmax pmax
comp=Z,26nm,1.2s,mb5.2
MA2 Magadan 61.58 29 *e*P **P 18 48 28.4 -0.9**
comp=Z,21nm,0.8s,mb5.3
TIRR Tirgusor 61.74 313 P **P 18 48 31.4 +0.8**
PSN Preselentsi 61.81 312 *e*P **P 18 48 26.0 -5.1**
KIS Kishinev 61.83 316 *e*P **P 18 48 27.0 -4.1**
KIS *e* 18 49 14.0
KIS *e*S **S 18 56 48.0 -2.8**
KIS MLR MLR
comp=Z,1μm,17.0s,MS5.0
KIS MLR MLR
comp=Z,900nm,17.0s
AKASG Malin Array Be 62.22 320 P **P 18 48 27.2 -6.5**
AKASG pmax pmax
comp=Z,41nm,1.3s
AKASG Malin Array Be 62.22 320 P **P 18 48 27.2 -6.5**
comp=Z,41nm,1.3s,mb5.4,baz=88,slow=4.5,SNR=22
CTA Charters Tower 62.79 122 P **P 18 48 37.1 -0.7**
comp=Z,7.7nm,1.1s,mb4.8,baz=290,slow=10,SNR=3.0
JMB Yambol 62.85 310 *e*P **P 18 48 37.0 -1.0**
VRI Vrincioaia 63.10 314 P **P 18 48 40.4 +0.8**
ALN Alexandroupoli 63.13 309 *e*P **P 18 48 37.2 -2.6**
MBAR Mbarara 63.20 262 *e*P **P 18 48 40.1 -0.6**
MBAR *e**PP pP 18 48 49.0 -0.8
MBAR pmax pmax
comp=Z,35nm,1.1s,mb5.4
MBAR Mbarara 63.20 262 *e*P **P 18 48 40.1 -0.6**
comp=Z,35nm,1.1s,mb5.4
MBAR *e*pP pP 18 48 49.0 -0.9
SANT Santorini 63.39 304 *e*P **P 18 48 38.8 -2.9**
comp=Z,85nm,0.6s,mb6.0
SANT *e* pP 18 48 47.7 -3.1
SEY Seymchan 63.52 26 *e*P **P 18 48 42.8 +0.7**
SEY 18 49 24.0
SEY 18 51 04.2
SEY PPP PPP 18 52 40.2 +5.2
SEY *e*S **S 18 57 11.2 -0.7**
SEY 18 58 34.7
SEY SS SS 19 01 27.8 +6.9
SEY pmax pmax

comp=Z,60nm,1.2s,mb5.5
SEY pmax pmax
comp=E,30nm,1.6s
SEY smax
comp=N,710nm,17.9s
SEY smax
comp=E,440nm,23.2s
SEY MLR MLR
comp=Z,4µm,21.0s,MS5.6
SEY MLR MLR
comp=N,930nm,14.0s
SEY MLR MLR
comp=E,3µm,20.0s
MLR Muntele Rosu 63.60 314 P **P 18 48 42.8 -0.1**
KDZ Kurdzhali 63.66 309 *e*P **P 18 48 42.0 -1.3**
MNK Minsk 63.82 324 *e*P **P 18 48 40.0 -4.2**
PUL Pulkovo 63.83 330 *e*P **P 18 48 45.3 +1.1**
PUL *i* 18 49 26.2
PUL *e*S **S 18 57 07.1 -8.6**
PUL *i* 18 58 34.3
PUL pmax pmax
comp=Z,88nm,0.6s,mb6.0
PUL pmax pmax
comp=N,63nm,0.7s
PUL pmax pmax
comp=E,134nm,0.9s
PUL smax
comp=N,340nm,12.9s
PUL smax
comp=Z,123nm,8.0s
PUL smax
comp=E,215nm,11.9s
PUL MLR MLR
comp=Z,981nm,15.0s,MS5.1
PUL MLR MLR
comp=N,1µm,20.0s,MS5.2
PUL MLR MLR
comp=E,771nm,16.0s,MS5.2
IDI Anoyia 63.84 302 P **P 18 48 39.3 -5.4**
comp=E,4.4nm,0.6s,mb4.7,baz=253,slow=16,SNR=2.9
RZN Rozhen 64.18 309 *e*P **P 18 48 45.0 -1.8**
BURAR Bucovina Array 64.34 316 P **P 18 48 49.2 +1.5**
JOF Joensuu 64.35 333 *e*p **P 18 48 47.3 -0.2**
PGB Panagyurishte 64.64 310 *e*P **P 18 48 49.0 -0.8**
MMB Musomiste 64.92 309 *e*P **P 18 48 50.0 -1.6**
SRS Serrai 65.00 309 *e*P **P 18 48 49.2 -2.9**
APA Apatity 65.22 339⇑ *i*P **P 18 48 55.2 +2.1**
APA *e*SSS SSS 19 04 48.0 +8.4
APA pmax pmax
comp=Z,45nm,1.1s,mb5.4
APA MLR MLR
comp=Z,2µm,18.0s,MS5.5
XOR Xorichti 65.25 307 *e*P **P 18 48 52.7 -1.0**
VTS Vitosha 65.35 310 *e*P **P 18 48 52.0 -2.3**
LVV L'vov 65.37 318 *e*P **P 18 48 50.4 -3.9**
LVV *i* 18 49 02.2
LVV *i* 18 58 44.8
KKB Krupnik 65.41 310 *e*P **P 18 48 50.0 -4.7**
KNT Kendrikon 65.52 309 *e*P **P 18 48 54.3 -1.2**
STKA Stephens Creek 65.66 135 *e*P **P 18 48 55.3 -1.2**
comp=Z,14nm,0.8s,mb5.0
STKA Stephens Creek 65.66 135 P **P 18 48 55.5 -1.0**
comp=Z,13nm,0.7s,mb5.1,baz=311,slow=7.8,SNR=9.5
STKA LR LR 19 18 18.8
comp=Z,1µm,21.8s,MS5.1,baz=301,slow=36
ADE Adelaide 65.70 140 *e*P **P 18 49 02.4 +5.7**
VAY Valandovo 65.78 309 *e*P **P 18 48 56.2 -0.9**
VAY *e* pP 18 49 04.8 -1.4
LIT Litokhoron 65.81 308 *e*P **P 18 48 54.6 -2.7**
GRG Griva 65.89 309 *e*P **P 18 48 53.8 -4.0**
KWP Kalwaria 66.21 318 *e*P **P 18 49 00.3 +0.6**
KWP *e* pP 18 49 08.2 -0.6
KWP MLR MLR 19 17 21.9
comp=Z,1µm,27.5s,MS4.9
FINES FINESS Array B 66.29 331 P **P 18 48 55.2 -4.8**
comp=Z,1.7nm,0.5s,mb4.3,baz=101,slow=5.4,SNR=17
FINES LR LR 19 19 30.3
comp=Z,1µm,20.8s,MS5.1,baz=113,slow=38
FINES FINESS Array B 66.29 331 P **P 18 48 55.2 -4.8**
FINES LR LR 19 19 30.3
BOLS Boljevac 66.32 312⇓ *i*P **P 18 48 58.8 -1.7**
KAF Kangasniemi 66.34 332 *e*p **P 18 49 00.7 +0.4**
comp=Z,22nm,0.8s,mb5.2,baz=103,slow=6.1
KAF Kangasniemi 66.34 332 *e*P **P 18 49 00.7 +0.4**
KAF pmax pmax
comp=Z,22nm,0.8s,mb5.2
KOLS Kolonicke sedl 66.43 317 *e*P **P 18 49 02.4 +1.3**
KOLS *e* pP 18 49 09.8 -0.4
SUW Suwalki 66.43 323 *e*P **P 18 49 00.2 -0.8**
SUW *e* pP 18 49 09.3 -0.9
SUW MLR MLR 19 21 45.1
comp=Z,2µm,21.1s,MS5.2
SKO Skopje 66.64 310 *i* P **P 18 49 01.0 -1.6**
SKO *i* pP 18 49 10.0 -1.7
SKO pmax pmax
comp=Z,27nm,0.7s,mb5.4
SKO Skopje 66.64 310 *i* P **P 18 49 01.0 -1.6**
comp=Z,27nm,0.7s,mb5.4
SKO *i* pP 18 49 10.0 -1.7
SKO Skopje 66.64 310 *i* P **P 18 49 01.0 -1.6**
SKO *i* pP 18 49 10.0 -1.7
comp=Z,0.0nm,0.7s
FNA Florina 66.67 308 *e*P **P 18 49 03.7 +0.9**
CRVS Cervenica-Dubn 66.96 317 *i* P **P 18 49 08.0 +3.5**
CRVS Cervenica-Dubn 66.96 317 *i* **P 18 49 08.0 +3.5**
OHR Ohrid 67.11 309 *e*P **P 18 49 04.4 -1.2**
OHR *e* pP 18 49 12.2 -2.5
GRUS Gruza 67.22 312⇓ *i*P **P 18 49 05.4 -0.8**
KECS Kecovo 67.58 317 *e*pP pP 18 49 16.5 -1.0
DIVS Divcibare 67.75 312⇑ *i*P **P 18 49 09.4 -0.1**
NIE Niedzica 67.75 318 *e*P **P 18 49 10.0 +0.6**
PSZ Piszkesteto 67.94 316 *e*P **P 18 49 05.8 -4.9**
PSZ 18 49 11.4
PSZ pmax pmax
comp=Z,55nm,1.1s,mb5.5
PSZ Piszkesteto 67.94 316 *e*P **P 18 49 05.8 -4.9**
comp=Z,56nm,1.1s,mb5.5
PSZ P 18 49 11.4
OJC Ojcow 68.13 319 *e*P **P 18 49 10.3 -1.5**
ARCES ARCESS Array B 68.62 340 P **P 18 49 10.3 -4.3**
comp=Z,2.4nm,0.7s,mb4.2,baz=88,slow=5.8,SNR=12
ARCES LR LR 19 22 30.9
comp=Z,3µm,18.5s,MS5.5,baz=113,slow=39
ARCES ARCESS Array B 68.62 340 P **P 18 49 10.3 -4.3**
ARCES LR LR 19 22 30.9
AREO ARCESS Array S 68.62 340 *e*P **P 18 49 10.1 -4.5**
VYHS Vyhne 68.67 317 *e*P **P 18 49 13.5 -1.7**
VYHS *e*pP pP 18 49 23.9 -0.5
PKSM Moragy 68.74 314⇑ *e*P **P 18 49 15.1 -0.6**
SRO Srobarova 69.00 316 *e*P **P 18 49 17.7 +0.4**
SRO *e*pP pP 18 49 26.6 +0.2
SRO1 Iza 69.06 316 *e*P **P 18 49 18.5 +0.9**
SRO1 *e*pP pP 18 49 26.7 0.0
RAC Raciborz 69.15 318 *e*P **P 18 49 19.2 +1.1**
RAC MLR MLR 19 24 58.3
comp=Z,1µm,18.5s,MS5.1
OKC Ostrava-Krasne 69.17 318 *e*P **P 18 49 18.2 -0.1**
OKC *e*pP pP 18 49 27.5 +0.1
KTK1 Kautokeino 69.27 339 *e*P **P 18 49 22.4 +3.8**
comp=Z,69nm,1.6s,mb5.3
KTK1 Kautokeino 69.27 339 *e*P **P 18 49 22.4 +3.8**
KTK1 AMb AMB 18 49 30.8
comp=Z,69nm,1.6s,mb5.3
MORC Moravsky Berou 69.56 318 *e*P **P 18 49 16.7 -4.0**
MORC pmax pmax
comp=Z,47nm,1.0s,mb5.4
MORC Moravsky Berou 69.56 318 *e*P **P 18 49 16.7 -4.0**
comp=Z,47nm,1.0s,mb5.4
SMOL Smolenice 69.61 317 *e*P **P 18 49 22.4 +1.4**
SMOL *e* pP 18 49 29.8 -0.3
ZST Bratislava 69.82 316 *e*P **P 18 49 22.7 +0.4**
ZST *e* pP 18 49 31.0 -0.4
ZST *e*PP rx 18 51 32.2
ZST *e* 19 01 32.0
GKP Gorka Klasztor 69.88 322 *e*P **P 18 49 20.8 -1.7**
GKP *e* 18 49 32.1
GKP MLR MLR
comp=Z,1µm,20.4s,MS5.1
GKP Gorka Klasztor 69.88 322 *e*P **P 18 49 20.9 -1.7**
GKP *e* 18 49 32.1
GKP MLR MLR 19 24 00.4
comp=Z,1µm,20.4s,MS5.1
DPC Dobruska-Polom 70.36 319 *e*P **P 18 49 26.2 +0.7**
DPC *e*pP pP 18 49 35.3 +0.7
DPC AMS AMS 19 24 50.0
comp=Z,700nm,19.7s
KSP Ksiaz 70.39 319 *e*P **P 18 49 26.0 +0.3**
KSP *e**PP pP 18 49 34.9 +0.1
KSP *e*S S 18 58 32.0 -2.9
KSP MLR MLR
comp=Z,2µm,19.5s,MS5.5
KSP Ksiaz 70.39 319 *e*P **P 18 49 26.0 +0.3**
KSP *e* 18 49 29.7
KSP *e*pP pP 18 49 34.9 +0.1
KSP *e*S S 18 58 32.0 -2.9
KSP LR LR
comp=Z,2µm,19.5s,MS5.5
KSP Ksiaz 70.39 319 *e*P **P 18 49 25.2 -0.5**
KSP *e* pP 18 49 35.4 +0.6
KSP MLR MLR 19 24 52.5
comp=Z,2µm,19.5s,MS5.4
LSZ Lusaka 70.41 248 *e*P **P 18 49 22.2 -4.2**
LSZ pmax pmax
comp=Z,31nm,1.0s,mb5.2
LSZ Lusaka 70.41 248 *e*P **P 18 49 22.2 -4.2**
comp=Z,31nm,1.0s,mb5.2
BILL Bilibino 70.46 22 *e*P **P 18 49 27.1 +1.3**
BILL *e* pP 18 49 37.5 +2.5
BILL pmax pmax
comp=Z,15nm,0.9s,mb4.9
BILL Bilibino 70.46 22 *e*P **P 18 49 22.9 -3.0**
comp=Z,20nm,0.7s,mb5.1
UPC Upice 70.56 319 *e*P **P 18 49 26.6 -0.1**
ARSA Arzberg 70.89 315⇑ *i*P **P 18 49 29.0 +0.2**
comp=Z,26nm,1.8s,mb4.9
TRO Tromso 70.89 339 *e*P **P 18 49 29.7 +1.3**
comp=Z,75nm,1.9s,mb5.3
TRO Tromso 70.89 339 *e*P **P 18 49 29.7 +1.3**
TRO AMb AMB 18 49 36.9
comp=Z,75nm,1.9s,mb5.3
BOJS Bojanci 71.11 313 *e*P **P 18 49 31.0 +0.8**
PERS Pernice 71.18 315 *e*P **P 18 49 31.8 +1.3**
BSD Bornholm Skovb 71.31 324 *e*P **P 18 49 35.5 +4.3**
BSD pmax pmax
comp=Z,54nm,0.9s,mb5.5
BSD Bornholm Skovb 71.31 324 *e*P **P 18 49 35.5 +4.3**
comp=Z,54nm,0.9s,mb5.5
BSD Bornholm Skovb 71.31 324 *i* P **P 18 49 35.5 +4.3**
comp=Z,54nm,0.9s,mb5.5
comp=Z,670nm,18.0s
PVCC Panska Ves 71.48 319 *e*P **P 18 49 31.4 -0.9**
PVCC AMS AMS 19 25 20.0
comp=Z,800nm,18.8s
PRU Pruhonice 71.51 318 *e*P **P 18 49 32.8 +0.4**
PRU *e*pP pP 18 49 41.8 +0.2
PRU AMS AMS 19 25 40.0
comp=Z,700nm,18.3s
OBKA Obir 71.57 315⇑ *i*P **P 18 49 33.1 +0.2**
comp=Z,38nm,1.3s,mb5.2
MOA Molln 71.73 316⇑ *i*P **P 18 49 33.3 -0.5**
comp=Z,32nm,1.4s,mb5.1
BRG Berggiesshubel 71.88 319 *e*P **P 18 49 34.8 +0.1**
BRG *i* pP 18 49 44.3 +0.5
BRG *i* 18 49 51.6
BRG *i* 18 58 51.0
BRG pmax pmax
comp=Z,42nm,0.9s,mb5.4
BRG MLR MLR
comp=Z,1µm,15.2s,MS5.4
BRG Berggiesshubel 71.88 319 *e*P **P 18 49 34.8 +0.1**
comp=Z,42nm,0.9s,mb5.4
BRG *i* pP 18 49 44.3 +0.5
BRG *i* 18 49 51.6
BRG *e*PP PP 18 51 59.0 -17
BRG *i* 18 58 51.0
BRG *e* 19 04 02.0
BRG LR LR
comp=Z,1µm,15.2s,MS5.4
RUE Ruedersdorf 71.96 321 *e*P **P 18 49 30.6 -4.6**
comp=Z,98nm,0.8s,mb5.8
VOY Vojsko 72.05 314 *e*P **P 18 49 30.8 -4.9**
VOY *e* 18 49 35.9
GEC2 GERESS Array S 72.08 317 *e*P **P 18 49 35.3 -0.6**
GEC2 pmax pmax
comp=Z,49nm,1.0s,mb5.4
GEC2 GERESS Array S 72.08 317 *e*P **P 18 49 35.3 -0.6**
comp=Z,49nm,1.0s,mb5.4
GERES GERESS Array B 72.08 317 P **P 18 49 31.4 -4.4**
comp=Z,3.9nm,0.8s,mb4.4,baz=92,slow=5.3,SNR=11
MOR8 Moi Rana 72.13 335 *e*P **P 18 49 38.0 +2.1**
comp=Z,72nm,1.7s,mb5.3
MOR8 Moi Rana 72.13 335 *e*P **P 18 49 38.0 +2.1**
MOR8 AMb AMB 18 49 47.7
comp=Z,72nm,1.7s,mb5.3
KHC Kasperske Hory 72.15 317 *e*P **P 18 49 35.8 -0.5**
KHC *e*pP pP 18 49 45.0 -0.5
KHC AMS AMS 19 26 00.0
comp=Z,700nm,20.1s
ROBS Robic 72.30 314 *e*P **P 18 49 37.2 -0.1**
KBA Koelnbreinsper 72.38 315⇑ *i*P **P 18 49 35.9 -1.8**
comp=Z,25nm,1.2s,mb5.0
KBA Koelnbreinsper 72.38 315⇑ *i*P **P 18 49 35.9 -1.8**
KBA pmax pmax
comp=Z,25nm,1.2s,mb5.0
CLL Collm 72.46 320 *i* P **P 18 49 37.5 -0.6**
CLL *i* pP 18 49 47.3 0.0
CLL *e*S S 18 59 00.0 +1.2
CLL pmax pmax
comp=Z,18nm,1.1s,mb4.9
CLL MLR MLR
comp=Z,1µm,20.6s,MS5.2
CLL Collm 72.46 320 *i* P **P 18 49 37.5 -0.6**
comp=Z,18nm,1.1s,mb4.9
CLL *i* pP 18 49 47.3 0.0
CLL *e*S S 18 59 00.0 +1.2
CLL LR LR
comp=Z,1µm,20.6s,MS5.2
CLL Collm 72.46 320 P **P 18 49 37.5 -0.6**
comp=Z,logA/T=1.2,mb4.9
CLL *i* *PP pP 18 49 47.3 0.0
CLL *e* 18 50 27.0
CLL *e*S S 18 59 00.0 +1.2
CLL *e*SSS SSS 19 06 54.0 +4.9
WET Wettzell 72.61 317 *e*P **P 18 49 38.5 -0.5**
WET pmax pmax
comp=Z,58nm,1.3s,mb5.3
WET Wettzell 72.61 317 *e*P **P 18 49 38.5 -0.5**
comp=Z,58nm,1.3s,mb5.3
LOF Lofoten 72.64 337 *e*P **P 18 49 41.0 +2.2**
COP Copenhagen 72.73 324 *i* P **P 18 49 28.1 -11**
comp=Z,53nm,1.2s,mb5.3
COP *i* S S 18 59 03.9 +2.1
comp=Z,370nm,18.0s
NKC Novy Kostel 72.85 318 *e*P **P 18 49 40.2 -0.2**
NKC *e*pP pP 18 49 50.0 +0.4
NKC AMS AMS 19 26 20.0
comp=Z,1µm,18.0s
NB2 NORSAR Subarra 73.36 330 P **P 18 49 40.4 -2.8**
comp=Z,25nm,0.8s,mb5.2,baz=89,slow=5.8
NB2 NORSAR Subarra 73.36 330 P **P 18 49 40.4 -2.8**
baz=89,slow=6.2
NOA NORSAR Array B 73.36 330 P **P 18 49 40.6 -2.6**
comp=Z,14nm,1.0s,mb4.8,baz=90,slow=5.8,SNR=14
NOA LR LR 19 27 55.7
comp=Z,573nm,18.5s,MS4.9,baz=80,slow=41
MOX Moxa 73.36 319 *e*P **P 18 49 44.6 +1.2**
MOX *e*S S 18 59 08.0 -1.0
MOX pmax pmax
comp=Z,113nm,1.7s,mb5.5
MOX MLR MLR
comp=Z,600nm,19.0s,MS4.9
MOX Moxa 73.36 319 *e*P **P 18 49 44.6 +1.2**
comp=Z,113nm,1.7s,mb5.5
MOX *e*S S 18 59 08.0 -1.0
MOX LR LR
comp=Z,600nm,19.0s,MS4.9
MOX Moxa 73.36 319 *i* P **P 18 49 44.6 +1.2**
comp=Z,logA/T=1.8,mb5.5
MOX S S 18 59 08.0 -1.0
MOX L 19 29 24.0
WTTA Wattenberg 73.53 315⇑ *i*P **P 18 49 43.2 -1.3**
comp=Z,27nm,1.3s,mb5.0
WTTA Wattenberg 73.53 315⇑ *i*P **P 18 49 43.2 -1.3**
WTTA pmax pmax
comp=Z,27nm,1.3s,mb5.0
GRA1 Grafenberg Arr 73.66 318 *e*P **P 18 49 45.2 0.0**
comp=Z,76nm,1.2s,mb5.5
GRF Grafenberg Arr 73.66 318 *e*P **P 18 49 45.2 0.0**
GRF pmax pmax
comp=Z,76nm,1.2s,mb5.5
GRF Grafenberg Arr 73.66 318 *e*P **P 18 49 45.2 0.0**
comp=Z,76nm,1.2s,mb5.5
GRF Grafenberg Arr 73.66 318 *e*P **P 18 49 45.2 0.0**
comp=Z,76nm,1.2s,mb5.5
GRFO Grafenberg 73.67 318 *e*P **P 18 49 45.2 0.0**
FUR Furstenfeldbru 73.72 316 *e*P **P 18 49 44.6 -0.9**
SQTA Sankt Quirin 73.83 315⇑ *i*P **P 18 49 44.2 -1.9**
comp=Z,50nm,1.7s,mb5.2
SQTA Sankt Quirin 73.83 315⇑ *i*P **P 18 49 44.2 -1.9**
SQTA pmax pmax
comp=Z,50nm,1.7s,mb5.2
MOTA Moosalm 73.89 316⇑ *i*P **P 18 49 46.0 -0.5**
comp=Z,14nm,1.1s,mb4.8
MOTA Moosalm 73.89 316⇑ *i*P **P 18 49 46.0 -0.5**
MOTA pmax pmax
comp=Z,14nm,1.1s,mb4.8
BSEG Bad Segeberg 74.00 322 *e*P **P 18 49 47.1 +0.1**
CLZ Clausthal 74.08 320 *e*P **P 18 49 47.3 -0.2**
comp=Z,56nm,0.9s,mb5.5
MUD Monsted U'grnd 74.54 325 *i* P pP 18 50 00.0 +0.7
comp=Z,23nm,0.7s
MUD *i* S S 18 59 22.8 +0.8
comp=Z,600nm,17.0s
SARO Sassorosso 74.64 312 P **P 18 49 55.3 +4.4**
DAVA Damuels 74.72 316⇓ *i*P **P 18 49 50.9 -0.4**
comp=Z,56nm,1.1s,mb5.4
VALM 74.73 312 P **P 18 49 56.1 +4.6**
VINC Vinca 74.82 312 P **P 18 49 56.4 +4.4**
GRAM 74.85 313 P **P 18 49 56.8 +4.6**
CODM 75.01 313 P **P 18 49 56.4 +3.3**
STU Stuttgart 75.06 317 P **P 18 49 53.3 +0.1**
STU pmax pmax
comp=Z,24nm,0.7s,mb5.2
STU Stuttgart 75.06 317 P **P 18 49 53.3 +0.1**
comp=Z,24nm,0.7s,mb5.2
BFO Black Forest 75.67 317 *e*P **P 18 49 55.7 -1.0**
BFO pmax pmax
comp=Z,32nm,1.3s,mb5.1
BFO Black Forest 75.67 317 *e*P **P 18 49 55.7 -1.0**
comp=Z,32nm,1.3s,mb5.1
PGF Pioggiola 75.83 311 *e*P **P 18 49 58.0 +0.2**
comp=Z,152nm,1.3s,mb5.5
PGF Pioggiola 75.83 311 *e*P **P 18 49 58.0 +0.2**
PGF pmax pmax
comp=Z,76nm,1.3s,mb5.5
PCP Pian Castagno 75.93 313 P **P 18 49 59.8 +1.5**
FELD Feldberg 75.93 316 *e*P **P 18 49 58.4 +0.2**
LANF Langenberg 75.95 317 *e*P **P 18 49 57.7 -0.6**
ORX Oropa 76.20 314 P **P 18 50 01.8 +2.0**
FIN Finale Ligure 76.20 313 P **P 18 50 00.8 +0.9**
WLS Welschbruch 76.31 317 *e*P **P 18 50 00.8 +0.5**
BBS Basel-Blauen 76.31 316 *e*P **P 18 50 00.4 0.0**
RUP Ruppelstein 76.36 318 *e*P **P 18 50 01.1 +0.5**
CDF Champ du Feu 76.36 317 *e*P **P 18 50 01.0 +0.4**
comp=Z,48nm,1.2s,mb5.0
CDF Champ du Feu 76.36 317 *e*P **P 18 50 01.0 +0.4**
CDF pmax pmax
comp=Z,24nm,1.2s,mb5.0
TRAV 76.38 314 P **P 18 50 02.0 +1.2**
ROB Roburent 76.44 313 P **P 18 50 01.8 +0.7**
IMI Imperia 76.47 312 P **P 18 50 01.6 +0.2**
MOF Molkenrain 76.52 316 *e*P **P 18 50 05.5 +4.0**
MONE Monesi 76.55 312 P **P 18 50 02.1 +0.4**
HINF Hinteralfeld 76.71 316 *e*P **P 18 50 02.8 +0.2**
comp=Z,19nm,0.8s,mb4.8
HINF Hinteralfeld 76.71 316 *e*P **P 18 50 02.8 +0.2**
HINF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
RSP Reno Superiore 76.76 314 P **P 18 50 03.5 +0.6**
ENR Entracque 76.77 313 P **P 18 50 02.4 -0.6**
LSD Ceresole Reale 76.80 314 P **P 18 50 03.7 +0.6**
BHB Bricherasio 76.80 313 P **P 18 50 02.9 -0.2**
SBF Sospel 76.80 312 *e*P **P 18 50 03.5 +0.3**
comp=Z,52nm,0.8s,mb5.2
SBF Sospel 76.80 312 *e*P **P 18 50 03.5 +0.3**
SBF pmax pmax
comp=Z,26nm,0.8s,mb5.2
STV Sta Anna Valdi 76.83 313 P **P 18 50 02.3 -1.1**
FENE Fenestrelle 76.92 313 P **P 18 50 04.1 +0.3**
WLF Walferdange 76.95 318 *e*P **P 18 50 05.9 +2.0**
WLF pmax pmax
comp=Z,143nm,1.8s,mb5.6
WLF Walferdange 76.95 318 *e*P **P 18 50 05.9 +2.0**
comp=Z,143nm,1.8s,mb5.6
PZZ Prazzo 76.96 313 P **P 18 50 03.5 -0.5**
HAU Haudompre 77.02 317 *e*P **P 18 50 04.6 +0.3**
comp=Z,91nm,1.2s,mb5.3
HAU *e*R
comp=Z,795nm,19.5s
HAU Haudompre 77.02 317 *e*P **P 18 50 04.6 +0.3**
HAU pmax pmax
comp=Z,45nm,1.2s,mb5.3
HAU MLR MLR
comp=Z,800nm,19.5s,MS5.0
LPG La Plagne 77.07 314 *e*P **P 18 50 05.8 +1.1**
comp=Z,110nm,0.8s,mb5.5
LPG La Plagne 77.07 314 *e*P **P 18 50 05.8 +1.1**
LPG pmax pmax
comp=Z,55nm,0.8s,mb5.5
LPL La Plagne 77.08 314 *e*P **P 18 50 05.8 +1.1**
comp=Z,152nm,0.8s,mb5.7
LPL La Plagne 77.08 314 *e*P **P 18 50 05.8 +1.1**
LPL pmax pmax
comp=Z,76nm,0.8s,mb5.7
RRL Cesana Torines 77.12 313 P **P 18 50 04.6 -0.4**
RSL Roselend 77.13 314 *e*P **P 18 50 05.6 +0.6**
MBDF Montbardon 77.16 313 *e*P **P 18 50 07.2 +2.0**
comp=Z,50nm,0.7s,mb5.3
MBDF Montbardon 77.16 313 *e*P **P 18 50 07.2 +2.0**
MBDF pmax pmax
comp=Z,25nm,0.7s,mb5.2
SURF Saint Ours 77.16 313 *e*P **P 18 50 08.3 +3.1**
BNI Bardonecchia 77.18 314 P **P 18 50 04.6 -0.7**
BNI pmax pmax
comp=Z,88nm,1.3s,mb5.5
BNI Bardonecchia 77.18 314 P **P 18 50 04.6 -0.7**
comp=Z,88nm,1.3s,mb5.5
THEF They Montfort 77.24 317 *e*P **P 18 50 08.1 +2.6**
CABF La Chapelle 77.38 315 *e*P **P 18 50 07.2 +0.9**
comp=Z,188nm,1.4s,mb5.5
CABF La Chapelle 77.38 315 *e*P **P 18 50 07.2 +0.9**
CABF pmax pmax
comp=Z,94nm,1.4s,mb5.5
FRF La Foret Royal 77.41 312 *e*P **P 18 50 07.0 +0.4**
comp=Z,172nm,1.2s,mb5.5
FRF La Foret Royal 77.41 312 *e*P **P 18 50 07.0 +0.4**
FRF pmax pmax
comp=Z,86nm,1.2s,mb5.6
LMR La Mourre 77.54 312 *e*P **P 18 50 07.8 +0.5**
GIVF Givet 77.74 319 *e*P **P 18 50 09.1 +0.9**
comp=Z,79nm,1.4s,mb5.2
GIVF Givet 77.74 319 *e*P **P 18 50 09.1 +0.9**
GIVF pmax pmax
comp=Z,40nm,1.4s,mb5.2
ORIF Oris-en-Rattie 77.76 313 *e*P **P 18 50 08.7 +0.2**
ORIF *e*R
comp=Z,776nm,21.8s
MEZF Maizieres J'vi 77.82 317 *e*P **P 18 50 09.3 +0.6**
comp=Z,92nm,1.3s,mb5.2
OG05 Jujurieux 77.89 315 *e*P **P 18 50 12.5 +3.3**
BOSA Boshof 78.09 236 *e*P **P 18 50 06.6 -4.0**
BOSA pmax pmax
comp=Z,21nm,0.7s,mb5.2
BOSA Boshof 78.09 236 *e*P **P 18 50 06.6 -4.0**
comp=Z,21nm,0.7s,mb5.2
SMRF Simiane la Rot 78.12 313 *e*P **P 18 50 11.6 +1.2**
comp=Z,57nm,0.9s,mb5.2
BAIF Baives 78.14 319 *e*P **P 18 50 11.5 +1.1**
comp=Z,68nm,1.0s,mb5.2
BAIF Baives 78.14 319 *e*P **P 18 50 11.5 +1.1**
BAIF pmax pmax
comp=Z,34nm,1.0s,mb5.2
VIVF Saint-Julien-l 78.62 314 *e*P **P 18 50 13.9 +0.7**
comp=Z,95nm,1.1s,mb5.3
VIVF Saint-Julien-l 78.62 314 *e*P **P 18 50 13.9 +0.7**
VIVF pmax pmax
comp=Z,48nm,1.1s,mb5.3
SMF Signal de Mont 78.91 315 *e*P **P 18 50 15.2 +0.5**
comp=Z,55nm,0.8s,mb5.2
SMF Signal de Mont 78.91 315 *e*P **P 18 50 15.2 +0.5**
SMF pmax pmax
comp=Z,28nm,0.8s,mb5.2
SSF Saint Saulge 79.07 316 *e*P **P 18 50 16.2 +0.6**

SSF pmax pmax
comp=Z,46nm,1.2s,mb5.3
SSF Saint Saulge 79.07 316 *eP* **P 18 50 16.2 +0.6**
comp=Z,46nm,1.2s,mb5.3
PLDF La Plantade 79.17 315 *eP* **P 18 50 17.9 +1.7**
COLF Collangettes 79.19 314 *eP* **P 18 50 17.2 +0.9**
AVF Avril sur Loir 79.22 316 *eP* **P 18 50 16.9 +0.5**
comp=Z,90nm,1.2s,mb5.3
AVF Avril sur Loir 79.22 316 *eP* **P 18 50 16.9 +0.5**
AVF pmax pmax
comp=Z,45nm,1.2s,mb5.3
LASF Ste Croix 79.32 313 *eP* **P 18 50 18.2 +1.2**
comp=Z,153nm,1.2s,mb5.5
BGF Bois d'Agland 79.60 315 *eP* **P 18 50 19.3 +0.8**
comp=Z,80nm,1.3s,mb5.2
BGF Bois d'Agland 79.60 315 *eP* **P 18 50 19.3 +0.8**
BGF pmax pmax
comp=Z,40nm,1.3s,mb5.2
HYF Humbligny 79.61 316 *eP* **P 18 50 19.8 +1.3**
PYM Petit Puy Mans 79.63 315 *eP* **P 18 50 21.9 +3.2**
TCF Toulx Ste Croi 80.08 315 *eP* **P 18 50 22.1 +1.0**
comp=Z,86nm,1.1s,mb5.3
TCF Toulx Ste Croi 80.08 315 *eP* **P 18 50 22.1 +1.0**
TCF pmax pmax
comp=Z,43nm,1.1s,mb5.3
CAF Calviac 80.43 314 *eP* **P 18 50 24.1 +1.1**
comp=Z,74nm,1.2s,mb5.2
CAF Calviac 80.43 314 *eP* **P 18 50 24.1 +1.1**
CAF pmax pmax
comp=Z,37nm,1.2s,mb5.2
MTLF Montolieu 80.63 312 *eP* **P 18 50 24.9 +0.9**
comp=Z,114nm,1.1s,mb5.4
MTLF Montolieu 80.63 312 *eP* **P 18 50 24.9 +0.9**
MTLF pmax pmax
comp=Z,57nm,1.1s,mb5.4
TNA Tin City 80.70 25 *eP* **P 18 50 26.7 +2.8**
RJF Les Rejaudoux 80.74 314 *eP* **P 18 50 25.9 +1.3**
comp=Z,83nm,1.0s,mb5.3
RJF *eR*
comp=Z,680nm,20.5s
RJF Les Rejaudoux 80.74 314 *eP* **P 18 50 25.9 +1.3**
RJF pmax pmax
comp=Z,42nm,1.0s,mb5.3
RJF MLR MLR
comp=Z,680nm,20.5s,MS5.0
DAG Danmarks Havn 80.75 347 *eP* **P 18 50 24.0 -0.1**
DAG pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
DAG Danmarks Havn 80.75 347 *eP* **P 18 50 24.0 -0.1**
comp=Z,2.7nm,0.6s,mb4.3
DAG Danmarks Havn 80.75 347 *i* P **P 18 50 24.0 -0.1**
comp=Z,2.7nm,0.6s,mb4.3
LDF La Druitiere 81.19 318 *eP* **P 18 50 27.7 +0.9**
comp=Z,50nm,0.8s,mb5.2
LDF La Druitiere 81.19 318 *eP* **P 18 50 27.7 +0.9**
LDF pmax pmax
comp=Z,25nm,0.8s,mb5.2
LFF La Frestale 81.35 314 *eP* **P 18 50 29.1 +1.3**
comp=Z,76nm,1.2s,mb5.2
LFF La Frestale 81.35 314 *eP* **P 18 50 29.1 +1.3**
LFF pmax pmax
comp=Z,38nm,1.2s,mb5.2
FLN La Foliniere 81.38 318 *eP* **P 18 50 28.8 +0.9**
comp=Z,56nm,1.0s,mb5.2
FLN *eR*
comp=Z,935nm,21.2s
FLN La Foliniere 81.38 318 *eP* **P 18 50 28.8 +0.9**
FLN pmax pmax
comp=Z,28nm,1.0s,mb5.2
FLN MLR MLR
comp=Z,930nm,21.3s,MS5.1
EMIR Miracle 81.41 311 P **P 18 50 31.6 +3.5**
comp=Z,46nm,0.7s,mb5.5
MFF Saint Martin d 81.61 316 *eP* **P 18 50 30.0 +0.9**
comp=Z,100nm,1.1s,mb5.4
MFF Saint Martin d 81.61 316 *eP* **P 18 50 30.0 +0.9**
MFF pmax pmax
comp=Z,50nm,1.1s,mb5.4
GRR Gorron 81.71 318 *eP* **P 18 50 30.5 +0.9**
EPOB Poblet 81.85 311 P **P 18 50 33.8 +3.3**
comp=Z,26nm,0.6s,mb5.3
EPF Esparros 82.03 312 *eP* **P 18 50 31.7 +0.3**
EBIE Bielsa 82.25 312 P **P 18 50 36.9 +4.4**
comp=Z,16nm,0.9s,mb4.9
VIEF Viey 82.29 312 *eP* **P 18 50 37.9 +5.2**
EBR Ebro Roquetas 82.40 310 *e*PCP PcP 18 50 39.7 +0.8
ERTA Horta de San J 82.48 310 P **P 18 50 38.2 +4.5**
comp=Z,28nm,0.9s,mb5.2
ETSF Etsaut 82.71 312 *eP* **P 18 50 36.2 +1.3**
comp=Z,38nm,1.0s,mb5.1
ETSF Etsaut 82.71 312 *eP* **P 18 50 36.2 +1.3**
ETSF pmax pmax
comp=Z,19nm,1.0s,mb5.1
SGMF Saint Gilles 82.84 318 *eP* **P 18 50 36.5 +1.0**
comp=Z,127nm,1.2s,mb5.5
SGMF Saint Gilles 82.84 318 *eP* **P 18 50 36.5 +1.0**
SGMF pmax pmax
comp=Z,63nm,1.2s,mb5.5
ESAC San Caprasio 82.91 311 P **P 18 50 40.0 +4.1**
comp=Z,60nm,1.3s,mb5.5
SJPF Ste Jean 83.13 313 *eP* **P 18 50 38.5 +1.4**
EMOS Mosqueruela 83.21 310 P **P 18 50 40.3 +2.8**
comp=Z,2.3nm,0.6s,mb4.4
ROSF Rostrenen 83.29 318 *eP* **P 18 50 38.9 +1.2**
comp=Z,64nm,1.1s,mb5.3
ROSF Rostrenen 83.29 318 *eP* **P 18 50 38.9 +1.2**
ROSF pmax pmax
comp=Z,32nm,1.1s,mb5.3
QUIF Quistinic 83.32 318 *eP* **P 18 50 38.7 +0.8**
comp=Z,26nm,0.8s,mb5.0
QUIF Quistinic 83.32 318 *eP* **P 18 50 38.7 +0.8**
QUIF pmax pmax
comp=Z,13nm,0.8s,mb5.0
SCO Scoresbysund 84.37 342 *eP* **P 18 50 44.2 +1.5**
SCO pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
SCO Scoresbysund 84.37 342 *eP* **P 18 50 44.2 +1.5**
comp=Z,7.7nm,0.7s,mb4.9
SCO Scoresbysund 84.37 342 *i* P **P 18 50 44.2 +1.5**
comp=Z,7.7nm,0.7s,mb4.9
MAW Mawson 84.74 191 P **P 18 50 44.1 -0.5**
MAW pmax pmax
comp=Z,12nm,0.9s
MAW MLR MLR
comp=Z,412nm,21.1s
MAW Mawson 84.74 191 P **P 18 50 44.1 -0.6**
comp=Z,12nm,0.9s,mb5.0,baz=39,slow=9.2,SNR=12
MAW LR LR 19 22 21.7
comp=Z,412nm,21.1s,MS4.8,baz=43,slow=31
MAW Mawson 84.74 191 *eP* **P 18 50 42.9 -1.8**
comp=Z,31nm,1.2s,mb5.3
EVIA Vianos 85.15 309 P **P 18 50 51.3 +3.9**
EVIA pmax pmax
comp=Z,13nm,0.8s,mb5.1
EVIA Vianos 85.15 309 P **P 18 50 51.3 +4.0**
comp=Z,13nm,0.8s,mb5.1
ENIJ Nijar 85.34 307 P pP 18 50 56.1 -1.7
ENIJ pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
ENIJ Nijar 85.34 307 P pP 18 50 56.1 -1.6
comp=Z,7.0nm,0.6s
EQES Quesada 85.80 308 P **P 18 50 54.9 +4.3**
comp=Z,19nm,1.8s,mb5.0
GUD Guadarrama 85.86 311 P **P 18 50 51.9 +1.0**
GUD pmax pmax
comp=Z,23nm,1.2s,mb5.3
GUD Guadarrama 85.86 311 P **P 18 50 51.9 +1.0**
comp=Z,23nm,1.2s,mb5.3
EBER Berja 85.89 307 P **P 18 50 57.2 +6.1**
comp=Z,1.5nm,0.5s,mb4.5
ESDC Sonseca Array 85.98 310 P **P 18 50 48.4 -3.1**
comp=Z,3.9nm,1.0s,mb4.6,baz=38,slow=5.6,SNR=4.9
ESLA Sonseca Array 85.98 310 *eP* **P 18 50 51.3 -0.2**
comp=Z,7.0nm,1.1s,mb4.8
IMA Indian Mountai 86.00 22 *eP* **P 18 50 50.7 -0.2**
EADA Adamuz 86.85 308 P **P 18 50 59.5 +3.7**
comp=Z,11nm,0.9s,mb5.1
SUMG Summit 87.42 347 *eP* **P 18 50 57.3 -0.5**
comp=Z,78nm,1.1s,mb5.8
ESPR Espera 88.19 308 P **P 18 51 06.2 +3.9**
comp=Z,12nm,1.0s,mb5.1
ELOB Lobios 88.34 313 P **P 18 51 05.3 +2.4**
comp=Z,22nm,1.3s,mb5.2
MTE Manteigas 88.41 311 *eP* **P 18 51 08.6 +5.4**
MTE *eS* rx 19 01 50.4
MTE *e*SS SS 19 08 08.3 +30

EBAD Badajoz 88.51 310 P **P 18 51 07.4 +3.6**
comp=Z,9.7nm,1.0s,mb5.1
PCBR Castelo Branco 88.53 311 *eP* **P 18 51 08.4 +4.6**
comp=Z,27nm,1.2s,mb5.5
EMIN Mina Concepcio 88.55 309 P **P 18 51 08.0 +4.0**
comp=Z,12nm,1.1s,mb5.2
PVIS Viseu 88.57 312 *eP* pP 18 51 10.7 -2.7
comp=Z,28nm,1.4s
MCK McKinley 88.91 23 *eP* **P 18 51 03.9 -1.1**
MCK pmax pmax
comp=Z,16nm,1.2s,mb5.2
MCK McKinley 88.91 23 *eP* **P 18 51 03.9 -1.2**
comp=Z,16nm,1.2s,mb5.2
ILAR Eielson Array 89.11 22 P **P 18 51 02.6 -3.3**
comp=Z,0.2nm,0.5s,baz=197,slow=14,SNR=2.4
ILAR PP PP 18 54 42.6 +4.2
comp=Z,1.5nm,0.8s,baz=305,slow=7.2,SNR=5.2
ILAR PKKPbc
comp=Z,0.3nm,0.6s,baz=165,slow=2.2,SNR=5.3
ILAR LR LR 19 37 04.7
comp=Z,391nm,19.1s,MS4.8,baz=166,slow=40
PWA Palmer West 89.61 25 *eP* **P 18 51 11.6 +3.2**
PWA pmax pmax
comp=Z,16nm,0.7s,mb5.5
PWA Palmer West 89.61 25 *eP* **P 18 51 11.6 +3.2**
comp=Z,16nm,0.7s,mb5.5
INK Inuvik 91.00 16 *eP* **P 18 51 12.6 -2.1**
INK pmax pmax
comp=Z,9.0nm,0.8s
INK Inuvik 91.00 16 P **P 18 51 12.5 -2.1**
comp=Z,2.2nm,0.8s,mb4.5,baz=359,slow=3.4,SNR=9.5
INK Inuvik 91.00 16 *eP* **P 18 51 12.6 -2.1**
comp=Z,8.6nm,0.8s,mb5.1
SYO Syowa Base 91.34 197 ⇑P **P 18 51 15.5 -0.7**
SYO Syowa Base 91.34 197 ⇓PcP PcP 18 51 18.6 +1.2
DAWY Dawson 92.14 20 *eP* **P 18 51 23.4 +3.4**
DBIC Dimbokro 95.72 278 P **P 18 51 33.0 -4.7**
comp=Z,3.1nm,1.0s,mb4.7,baz=142,slow=7.3,SNR=2.2
DBIC LR LR 19 38 56.1
comp=Z,634nm,18.1s,MS5.1,baz=48,slow=38
DBIC Dimbokro 95.72 278 P **P 18 51 33.0 -4.7**
DBIC LR LR 19 38 56.1
VNDA Vanda 99.65 168 P **P 18 51 52.0 -2.0**
comp=Z,0.8nm,0.8s,mb4.2,baz=216,slow=23,SNR=2.2
VNDA LR LR 19 35 27.3
comp=Z,479nm,18.6s,MS5.0,baz=304,slow=34
YKA Yellowknife Ar 100.29 13 P **P** 18 51 54.5 -2.7
comp=Z,0.1nm,0.2s,baz=327,slow=3.6,SNR=3.0
YKA PP PP 18 56 03.4 -2.6
comp=Z,0.7nm,0.7s,baz=333,slow=7.2,SNR=6.0
YKA PKKPbc 19 08 12.8
comp=Z,0.2nm,0.5s,baz=153,slow=4.1,SNR=4.9
YKA Yellowknife Ar 100.29 13 P P 18 51 54.5 -2.7
YKA PP PP 18 56 03.4 -2.6
YKA PKKPbc 19 08 12.8
PDAR Pinedale Array 119.41 19 PKP PKPdf 18 56 57.6 -6.8
comp=Z,0.3nm,0.9s,baz=125,slow=23,SNR=2.6
PDAR PP PP 18 58 22.8 -2.8
comp=Z,0.9nm,1.0s,baz=315,slow=3.8,SNR=1.9
PDAR PKKPbc 19 07 13.9
comp=Z,0.7nm,0.7s,baz=158,slow=4.9,SNR=2.8
NVAR Mina Array Bea 119.81 28 PKP PKPdf 18 57 00.9 -4.4
comp=Z,0.2nm,0.6s,baz=230,slow=25,SNR=2.0
NVAR PP PP 18 58 24.7 -3.4
comp=Z,0.2nm,0.5s,baz=288,slow=2.9,SNR=1.8
PPT Papeete 120.19 102 *e*PP PP 18 58 23.2 -7.8
PPT *e*LR LR 19 33 59.4
comp=Z,403nm,23.5s
TBI Tubuai 120.81 109 *e*PP PP 18 58 28.4 -6.9
TBI *e*SP SP 19 08 05.8 -14
TBI *e*SS SS 19 15 01.7 +0.2
TBI *e*LR LR 19 34 17.5
comp=Z,588nm,31.0s
MSU Marysvale 122.29 23 PKIKP PKPdf 18 57 09.8 -0.3
TXAR Lajitas Array 133.60 20 PKP PKPdf 18 57 24.1 -7.8
comp=Z,0.2nm,0.7s,baz=48,slow=45,SNR=2.3
TXAR PP PP 18 59 55.1 -4.6
comp=Z,1.2nm,1.1s,baz=337,slow=6.9,SNR=3.4
TEIG Tepich 145.46 2 *eP* PKPbc 18 57 45.5 -3.6
TEIG *e*PKPdf PKPdf 18 57 51.8 -1.8
TRQA Tornquist 147.63 219 *e*PKPdf PKPdf 18 57 53.0 -3.7
CPUP Villa Florida 149.73 242 PKPbc PKPdf 18 57 59.3 -1.1
comp=Z,0.0nm,0.3s,baz=302,slow=12,SNR=2.2
PLCA Paso Flores 150.12 206 PKIKP PKPdf 18 57 56.9 -3.7
PLCA *e* 18 58 01.5
PLCA Paso Flores 150.12 206 PKPbc PKPdf 18 58 00.7 +0.2
comp=Z,13nm,0.9s,baz=226,slow=1.8,SNR=8.9
PLCA Paso Flores 150.12 206 PKPdf PKPdf 18 57 56.9 -3.7
PLCA PKPbc PKPdf 18 58 00.7 +0.2
PLCA *e*PKPbc PKPdf 18 58 01.5 +0.9
LPAZ La Paz 161.55 262 PKP2 PKPab 18 58 55.1 -3.0
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
LPAZ La Paz 161.55 262 PKPab PKPab 18 58 55.1 -3.0
comp=Z,2.0nm,0.8s,baz=217,slow=5.6,SNR=2.8

IDC 22 18:38:31.7±13.0, 2.77S×120.72E, mb4.2/3, mb1 4.4/3, mb1mx4.0/15, mbtmp4.2/3, Error ellipse: s-maj=318.5km s-min=180.3km az=37.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.64**	**143**	P	P	18 43 22.2	-3.7
5.8nm,0.9s,baz=321,slow=12,SNR=21							
WB2	**Warramunga Arr**	**21.65**	**143**	*eP*	P	18 43 23.3	-2.6
ASPA	**Alice Springs**	**24.38**	**150**	*eP*	P	18 43 52.5	-0.4
ASAR	**Alice Springs**	**24.38**	**150**	P	P	18 43 52.4	-0.5
3.9nm,0.7s,baz=324,slow=7.9,SNR=45							
STKA	**Stephens Creek**	**34.99**	**148**	*eP*	P	18 45 26.6	-1.4
4.5nm,0.9s							
STKA	**Stephens Creek**	**34.99**	**148**	P	P	18 45 26.6	-1.5
4.7nm,0.8s,baz=323,slow=7.9,SNR=11							

*IDC **22** 18:47:38.7±1.0, 5.43N×94.23E, mb4.1/13, mb1 4.3/14, mb1mx4.1/21, mbtmp4.1/14, ML4.7/1, Error ellipse: s-maj=47.6km s-min=18.2km az=48.0*
*NEIC **22** 18:47:42.6±0.7, 5.20N×94.04E, h30km, mb4.6/7, Error ellipse: s-maj=19.8km s-min=12.3km az=65.0*
ISC 22 18:47:40.8±0.7, 5.22N±0.10×94.1E±0.1, h30km, n23, σ0s98/23, mb4.2/20, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**14.00**	**20**	*eP*	P	18 51 00.8	+1.2
3.5nm,0.3s							
CMAR	**Chiang Mai Arr**	**14.00**	**20**	Pn	P	18 51 01.0	+1.4
1.3nm,0.3s,baz=209,slow=15,SNR=51							
LSA	**Lhasa**	**24.50**	**354**	*eP*	P	18 52 59.5	+0.5
6.4nm,0.7s,mb4.3							
ENH	**Enshi**	**28.86**	**29**	*eP*	P	18 53 34.9	-4.2
4.2nm,0.5s,mb4.4							
SONM	**Songino Array**	**43.76**	**12**	P	P	18 55 43.6	-1.8
0.4nm,0.4s,mb3.5,baz=188,slow=8.0,SNR=4.1							
ULN	**Ulaanbaatar**	**43.93**	**13**	*eP*	P	18 55 44.8	-2.0
1.5nm,0.7s,mb3.8							
WRA	**Warramunga Arr**	**46.84**	**123**	P	P	18 56 10.5	+0.1
1.5nm,0.7s,mb4.0,baz=305,slow=8.8,SNR=15							
WRAB	**Tennant Creek**	**46.85**	**123**	*eP*	P	18 56 10.3	-0.1
10nm,0.9s,mb4.8							
KURK	**Kurchatov**	**47.15**	**347**	*eP*	P	18 56 12.4	0.0
9.2nm,0.6s,mb4.9							
ASAR	**Alice Springs**	**48.33**	**128**	P	P	18 56 22.5	+0.5
0.9nm,0.7s,mb3.9,baz=303,slow=6.4,SNR=13							
ZAL	**Zalesovo**	**49.15**	**353**	P	P	18 56 27.9	0.0
4.7nm,0.4s,mb4.9,baz=214,slow=5.6,SNR=18							
BVAR	**Borovoye Array**	**51.46**	**342**	P	P	18 56 45.1	-0.4
2.4nm,0.5s,mb4.4,baz=143,slow=10,SNR=27							
BRVK	**Borovoye**	**51.52**	**342**	*eP*	P	18 56 45.4	-0.6
4.9nm,0.6s,mb4.6							
CHKZ	**Chkalovo**	**51.95**	**343**	*eP*	P	18 56 49.0	-0.2
10nm,0.5s,mb5.0							
BRTR	**Keskin Array B**	**64.10**	**312**	P	P	18 58 15.2	+0.5
0.6nm,0.7s,mb3.7,baz=142,slow=8.0,SNR=4.4							
AKASG	**Malin Array Be**	**70.17**	**322**	P	P	18 58 52.3	-0.5
0.3nm,0.4s,mb3.6,baz=76,slow=4.9,SNR=4.9							
FINES	**FINESS Array B**	**75.00**	**333**	P	P	18 59 19.7	-1.4
1.7nm,0.9s,mb4.0,baz=109,slow=6.7,SNR=10							
FINES	**FINESS Array B**	**75.00**	**333**	P	P	18 59 19.7	-1.4
ARCES	**ARCESS Array B**	**77.72**	**340**	P	P	18 59 36.6	+0.5
1.5nm,0.7s,mb4.0,baz=94,slow=6.3,SNR=9.3							
GERES	**GERESS Array B**	**79.73**	**319**	P	P	18 59 48.8	+1.2
1.5nm,1.0s,mb4.2,baz=90,slow=4.0,SNR=9.1							
DAVOX	**Davos**	**82.23**	**316**	P	P	19 00 03.2	+2.5
2.8nm,0.6s,mb4.4,baz=153,slow=9.4,SNR=6.4							

ILAR Eielson Array 97.22 22 P **P 19 01 11.2 -0.5**
0.2nm,0.6s,mb3.7,baz=312,slow=4.4,SNR=4.8
INK Inuvik 99.55 16 P **P 19 01 21.6 -0.5**
0.7nm,0.8s,mb4.1,baz=354,slow=2.5,SNR=3.6

*IGQ **22** 18:52:27.4, 0.94N×80.82W, h7km±22km, mb4.8, Error ellipse: s-maj=24.6km s-min=6.1km az=47.2*
*IDC **22** 18:52:36.6±0.7, 0.60N×80.61W, mb4.0/12, mb1 4.3/13, mb1mx4.1/23, mbtmp4.1/13, ML3.5/1, Error ellipse: s-maj=30.5km s-min=15.6km az=66.0*
*NEIC **22** 18:52:36.8±0.5, 0.47N×80.37W, h10km, mb4.6/16, Error ellipse: s-maj=15.2km s-min=9.4km az=50.0*
ISC 22 18:52:36.3±0.4, 0.64N±0.05×80.47W±0.05, h10km, n59, σ1s35/60, mb4.3/22, 11C, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.68**	**182**	⇑P	Pn	18 53 03.4	-2.6
JOR1	**San Jorge 1**	**1.94**	**109**	P	Pn	18 53 10.3	+0.6
PINO	**Pino**	**2.03**	**113**	⇑P	Pn	18 53 09.7	-1.2
TERV	**Terraza Guagua**	**2.04**	**113**	⇑P	Pn	18 53 09.9	-1.2
YANA	**Yana**	**2.04**	**111**	⇑P	Pn	18 53 10.1	-1.2
JUA2	**San Juan 2**	**2.05**	**114**	⇑P	Pn	18 53 10.3	-1.0
OTAV	**Otavalo**	**2.06**	**101**	*e*Pn	Pn	18 53 09.9	-1.5
OTAV				*e*Sn	Sn	18 53 38.1	+0.7
COTA	**Cotacachi**	**2.16**	**98**	⇑P	Pn	18 53 12.4	-0.4
NAS1	**Nasa**	**2.36**	**122**	P	Pn	18 53 15.7	-0.1
MARY	**Rancho Maria**	**2.41**	**124**	P	Pn	18 53 16.6	+0.2
VC1	**Cotopaxi 1**	**2.43**	**121**	P	Pn	18 53 16.3	-0.4
TAMB	**Tambo**	**2.48**	**122**	P	Pn	18 53 18.2	+0.7
CAYR	**Refugio Cayamb**	**2.54**	**104**	⇑P	Pn	18 53 19.0	+0.6
CAYR				S	Sn	18 53 53.1	+3.4
CAYA	**Cayambe**	**2.55**	**103**	⇑P	Pn	18 53 19.0	+0.6
CAYA				S	Sn	18 53 54.0	+4.2
ANTI	**Antisana**	**2.55**	**115**	⇑P	Pn	18 53 18.3	-0.1
PISA	**Pisayambo**	**2.68**	**129**	⇑P	Pn	18 53 21.1	+0.8
IGUA	**Igualata**	**2.80**	**139**	P	Pn	18 53 22.0	0.0
CONE	**Cono NE Rev Vo**	**2.92**	**104**	⇑P	Pn	18 53 25.8	+2.1
ULBA	**Ulba**	**2.92**	**135**	P	Pn	18 53 24.4	+0.6
ARRY	**Arrayan**	**2.93**	**136**	P	Pn	18 53 24.0	+0.1
SDV	**Santo Domingo**	**12.78**	**50**	Pn	P	18 55 39.6	-1.4
0.3nm,0.3s,baz=252,slow=14,SNR=5.9							
NNA	**Nana**	**13.05**	**164**	*eP*	P	18 55 46.8	+2.2
52nm,1.4s							
LPAZ	**La Paz**	**20.76**	**145**	P	P	18 57 18.6	-1.6
3.0nm,0.7s,baz=334,slow=11,SNR=9.7							
LPAZ	**La Paz**	**20.76**	**145**	*eP*	P	18 57 17.4	-2.7
23nm,1.4s							
SJG	**San Juan**	**22.36**	**38**	P	P	18 57 39.2	+3.1
3.5nm,0.3s,mb4.3,baz=334,slow=22,SNR=2.1							
LVC	**Limon Verde**	**25.71**	**155**	P	P	18 58 10.4	+1.8
7.6nm,0.9s,mb4.2,baz=321,slow=7.0,SNR=5.8							
BBSR	**BB Station**	**34.90**	**24**	*eP*	P	18 59 28.2	-2.1
159nm,1.4s							
WMOK	**Wichita Mounta**	**37.99**	**335**	P	P	18 59 58.4	+2.1
9.3nm,1.4s,mb4.3							
ACSO	**Alum Creek Sta**	**39.48**	**357**	*eP*	P	19 00 05.9	-2.8
18nm,1.1s,mb4.7							
KSU1	**Kansas State U**	**41.03**	**341**	*eP*	P	19 00 23.6	+2.1
ANMO	**Albuquerque**	**41.87**	**327**	P	P	19 00 28.9	+0.4
2.7nm,0.9s,mb3.9							
ANMO	**Albuquerque**	**41.87**	**327**	*eP*	P	19 00 29.1	+0.6
9.3nm,1.3s,mb4.2							
TRQA	**Tornquist**	**42.11**	**158**	P	P	19 00 25.6	-4.8
11nm,1.2s,mb4.3							
PLCA	**Paso Flores**	**42.15**	**169**	P	P	19 00 29.9	-0.9
6.6nm,0.9s,mb4.3,baz=343,slow=9.3,SNR=4.3							
PLCA	**Paso Flores**	**42.15**	**169**	*eP*	P	19 00 29.0	-1.7
13nm,1.0s,mb4.5							
PLCA				*e*	pP	19 00 33.0	-0.8
SDCO	**Great Sand Dun**	**43.53**	**331**	*eP*	P	19 00 42.1	+0.1
19nm,1.5s,mb4.6							
RCBR	**Riachuelo**	**44.96**	**99**	P	P	19 00 52.0	-1.9
16nm,1.2s,mb4.7							
PV10	**Paradox Valley**	**45.81**	**328**	*eP*	P	19 00 59.4	-0.9
PDAR	**Pinedale Array**	**49.39**	**332**	P	P	19 01 27.2	-1.0
0.4nm,0.8s,mb3.5,baz=82,slow=10,SNR=2.7							
HWUT	**Hardware Ranch**	**49.50**	**329**	P	P	19 01 30.1	+1.0
NVAR	**Mina Array Bea**	**51.16**	**322**	P	P	19 01 42.2	+0.4
1.8nm,0.7s,mb4.1,baz=148,slow=6.9,SNR=14							
HLID	**Hailey**	**52.37**	**329**	*eP*	P	19 01 50.4	-0.5
10nm,1.5s,mb4.5							
FCC	**Fort Churchill**	**58.94**	**352**	*eP*	P	19 02 37.1	-1.0
33nm,1.9s,mb5.0							
YKA	**Yellowknife Ar**	**66.79**	**344**	P	P	19 03 27.9	-2.1
1.0nm,0.9s,mb3.9,baz=135,slow=5.9,SNR=11							
YKA	**Yellowknife Ar**	**66.79**	**344**	P	P	19 03 27.9	-2.1
DLBC	**Dease Lake**	**69.48**	**335**	*eP*	P	19 03 46.2	-0.7
RES	**Resolute Bay**	**74.46**	**356**	P	P	19 04 17.2	+1.0
2.3nm,1.1s,mb4.0							
DBIC	**Dimbokro**	**75.64**	**83**	P	P	19 04 20.9	-3.3
9.8nm,1.3s,mb4.6							
SUMG	**Summit**	**76.45**	**12**	*eP*	P	19 04 29.7	+2.1
12nm,1.2s,mb4.7							
INK	**Inuvik**	**76.48**	**342**	P	P	19 04 27.7	-0.1
3.2nm,0.9s,mb4.2,baz=116,slow=5.9,SNR=9.3							
INK	**Inuvik**	**76.48**	**342**	*eP*	P	19 04 27.6	-0.2
4.2nm,1.0s,mb4.3							
ESDC	**Sonseca Array**	**79.22**	**50**	P	P	19 04 44.9	+1.4
0.0nm,0.3s,baz=268,slow=7.5,SNR=4.4							
ESLA	**Sonseca Array**	**79.22**	**50**	*eP*	P	19 04 42.7	-0.8
3.1nm,1.3s,mb4.1							
ILAR	**Eielson Array**	**79.55**	**336**	P	P	19 04 46.5	+1.8
0.9nm,1.0s,mb3.7,baz=110,slow=4.7,SNR=7.3							
SNAA	**Sanae**	**86.72**	**162**	P	P	19 05 23.8	+2.4
0.5nm,0.8s,mb3.8,baz=316,slow=6.9,SNR=3.1							
SNAA	**Sanae**	**86.72**	**162**	*eP*	P	19 05 24.1	+2.8
QSPA	**South Pole Qui**	**90.68**	**180**	*eP*	P	19 05 40.4	+0.4
5.1nm,0.9s,mb4.8							
ASAR	**Alice Springs**	**139.56**	**233**	PKhKP		19 12 00.3	
0.4nm,0.9s,baz=117,slow=3.9,SNR=3.8							
ASAR				PKP	PKPdf	19 12 06.0	-2.2
0.8nm,0.9s,baz=124,slow=1.0,SNR=5.8							
WRA	**Warramunga Arr**	**140.90**	**238**	PKP	PKPdf	19 12 06.8	-4.0
0.8nm,0.8s,baz=122,slow=2.6,SNR=5.1							

IDC 22 18:55:57.8±10.0, 5.45N×93.37E, mb3.7/2, mb1 3.8/3, mb1mx3.4/18, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=256.7km s-min=49.9km az=86.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.03**	**22**	Pn	P	18 59 17.3	-2.9
0.0nm,0.3s,baz=218,slow=14,SNR=4.3							
WRA	**Warramunga Arr**	**47.53**	**123**	P	P	19 04 35.5	-1.7
1.0nm,0.5s,baz=299,slow=9.8,SNR=15							
ASAR	**Alice Springs**	**49.00**	**128**	P	P	19 04 46.4	-2.1
0.3nm,0.5s,baz=298,slow=8.0,SNR=6.1							

CASC 22 19:00:45.5±1.6, 12.58N×88.24W, h35km±999km, MD3.7, 3C-8D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.79**	**30**	⇓*eP*	P	19 01 00.4	+0.2
CNCH				*eS*	S	19 01 11.9	+0.9
BLLM	**Bellamira**	**0.85**	**360**	⇓*eP*	P	19 01 01.4	+0.3
BLLM				*eS*	S	19 01 13.1	+0.6
CRIN	**San Cristobal**	**1.16**	**84**	⇓*eP*	P	19 01 06.0	+0.5
CRIN				*eS*	S	19 01 21.0	+0.5
SNVI	**San Vicente**	**1.18**	**330**	*eP*	P	19 01 06.3	+0.5
SNVI				*eS*	S	19 01 21.2	+0.3
LCBS	**La Ceiba**	**1.29**	**326**	⇓*eP*	P	19 01 07.7	+0.4
LCBS				*eS*	S	19 01 23.9	+0.3
LFRS	**El Faro**	**1.31**	**322**	⇓*eP*	P	19 01 08.0	+0.3
LFRS				*eS*	S	19 01 24.4	+0.2
TEL3	**Telica 3**	**1.36**	**90**	⇓*eP*	P	19

TICN	Ticuantepe	2.03 105	*e*P	P	19 01 17.4	-0.6
TICN			*e*S	S	19 01 40.7	-1.7

*IDC **22** 19:03:26.1±0.9, 14.43N×92.10E, mb3.8/8, mb1 3.9/9, mb1mx3.7/19, mbtmp3.7/9, ML3.3/1, Error ellipse: s-maj=38.6km s-min=17.8km az=53.0*

ISC 22 19:03:28.6±0.9, **14.7N**±0.1×**92.1E**±0.1, **h33**km, **n15**, σ1§**65**/16, **mb3.8/8, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.53**	**59**	Pn	**Pn**	**19 05 19.1**	**+0.1**
	0.1nm,0.3s,baz=245,slow=15,SNR=4.3						
CMAR				Sn	**Sn**	**19 06 36.9**	**-7.3**
	0.1nm,0.3s,baz=247,slow=30,SNR=3.2						
JIRN	**Jiri**	**14.03**	**338**	*e*P	**P**	**19 06 47.2**	**-0.1**
	11nm,0.7s						
PKI	**Pulchoki**	**14.26**	**335**	*e*P	**P**	**19 06 48.5**	**-1.8**
	9.0nm,0.6s						
DMN	**Daman**	**14.41**	**334**	*e*P	**P**	**19 06 50.4**	**-2.0**
KKN	**Kakani**	**14.50**	**335**	*e*P	**P**	**19 06 51.3**	**-2.2**
GKN	**Gorkha**	**14.96**	**333**	*e*P	**P**	**19 06 58.3**	**-1.2**
	9.4nm,0.3s						
KOLN	**Koldanda**	**15.24**	**330**	*e*P	**P**	**19 07 04.5**	**+1.4**
	10nm,0.5s						
SONM	**Songino Array**	**35.10**	**17**	P	**P**	**19 10 24.1**	**+3.3**
	0.8nm,0.8s,mb3.7,baz=211,slow=8.4,SNR=3.1						
ZAL	**Zalesovo**	**39.58**	**353**	P	**P**	**19 11 00.6**	**+2.3**
	0.8nm,0.5s,mb3.7,baz=246,slow=3.4,SNR=3.3						
BVAR	**Borovoye Array**	**41.94**	**340**	P	**P**	**19 11 19.4**	**+1.6**
	0.4nm,0.4s,mb3.4,baz=153,slow=13,SNR=4.3						
WRA	**Warramunga Arr**	**53.93**	**129**	P	**P**	**19 12 50.3**	**-1.3**
	2.2nm,0.7s,mb4.2,baz=310,slow=7.8,SNR=17						
WRA				PcP	PcP	19 13 56.8	+0.1
	0.3nm,0.6s,baz=318,slow=3.5,SNR=4.6						
ASAR	**Alice Springs**	**55.87**	**132**	P	**P**	**19 13 04.7**	**-1.0**
	1.2nm,0.7s,mb4.0,baz=310,slow=6.9,SNR=21						
ASAR				PcP	PcP	19 14 04.7	+0.5
	0.7nm,0.8s,baz=327,slow=4.7,SNR=5.1						
BRTR	**Keskin Array B**	**56.59**	**308**	P	**P**	**19 13 10.8**	**+0.2**
	0.4nm,0.6s,mb3.6,baz=63,slow=3.2,SNR=3.8						
FINES	**FINESS Array B**	**65.81**	**331**	P	**P**	**19 14 15.3**	**+2.8**
	1.2nm,0.8s,mb4.0,baz=153,slow=9.3,SNR=2.4						
GERES	**GERESS Array B**	**71.49**	**317**	P	**P**	**19 14 51.1**	**+3.2**
	0.2nm,0.3s,mb3.5,baz=49,slow=9.0,SNR=2.0						

*IDC **22** 19:10:24.7±2.9, 43.38N×105.15W, mb3.8/1, mb1 3.5/3, mb1mx3.2/18, mbtmp3.2/3, ML3.7/2, Error ellipse: s-maj=69.2km s-min=13.6km az=157.0*
*NEIC **22** 19:10:30.1±0.7, 43.60N×105.32W, ML3.0, Error ellipse: s-maj=9.4km s-min=6.1km az=89.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] S of Gillette.

ISC 22 19:10:29.0±0.9, **43.57N**±0.05×**105.4W**±0.1, **n25**, σ0§**87**/25, **mb4.0/1, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.27**	**182**	*e*Pn	**Pn**	**19 11 09.6**	**+1.3**
LAO	**LASA Array**	**3.18**	**349**	*e*Pn	**Pn**	**19 11 21.5**	**+0.3**
BW06	**Boulder Array**	**3.18**	**257**	*e*Pn	**Pn**	**19 11 20.8**	**-0.5**
PDAR	**Pinedale Array**	**3.18**	**257**	Pn	**Pn**	**19 11 21.3**	**0.0**
PDAR				Lg		19 12 06.5	
PDAR	**Pinedale Array**	**3.18**	**257**	Pn	**Pn**	**19 11 21.3**	**0.0**
	2.0nm,0.3s,baz=74,slow=16,SNR=55						
PDAR				Lg		19 12 06.5	
	5.4nm,0.3s,baz=69,slow=33,SNR=8.9						
ISCO	**Idaho Springs**	**3.77**	**183**	*e*Pn	**Pn**	**19 11 30.4**	**+0.8**
LKWY	**Lake**	**3.77**	**287**	*e*Pn	**Pn**	**19 11 29.8**	**+0.1**
LOHW	**Long Hollow**	**3.82**	**272**	*e*Pn	**Pn**	**19 11 31.0**	**+0.7**
WUWY	**Wally Ulrich**	**3.92**	**271**	*e*Pn	**Pn**	**19 11 34.0**	**+2.2**
SNOW	**Snow King Moun**	**3.94**	**270**	*e*P	**Pn**	**19 11 32.2**	**+0.3**
YFT	**Old Faithful**	**4.06**	**284**	*e*Pn	**Pn**	**19 11 33.8**	**+0.1**
YMR	**Madison River**	**4.19**	**287**	Pn	**Pn**	**19 11 35.8**	**+0.1**
AHID	**Auburn Hatcher**	**4.29**	**261**	Pn	**Pn**	**19 11 46.1**	**+9.2**
QLMT	**Earthquake Lak**	**4.55**	**288**	*e*Pn	**Pn**	**19 11 49.6**	**+8.9**
QLMT				*e*		19 11 50.1	
DGMT	**Dagmar**	**4.96**	**9**	Pn	**Pn**	**19 11 45.8**	**-0.8**
HWUT	**Hardware Ranch**	**4.99**	**249**	*e*Pn	**Pn**	**19 11 47.0**	**0.0**
	4.5nm,0.4s						
TCUT	**Toone Canyon**	**5.12**	**243**	*e*Pn	**Pn**	**19 11 47.2**	**-1.5**
DAU	**Daniels Canyon**	**5.42**	**236**	*e*Pn	**Pn**	**19 11 52.9**	**0.0**
RW3	**Ridgway**	**5.60**	**199**	Pn	**Pn**	**19 12 00.2**	**+4.6**
SDCO	**Great Sand Dun**	**5.82**	**181**	*e*Pn	**Pn**	**19 11 58.4**	**-0.2**
SRU	**San Rafael**	**5.92**	**223**	*e*Pn	**Pn**	**19 11 59.5**	**-0.6**
PV01	**Paradox Valley**	**5.96**	**205**	Pn	**Pn**	**19 12 00.4**	**-0.2**
TMUT	**Trail Mountain**	**6.13**	**228**	*e*Pn	**Pn**	**19 12 01.4**	**-1.7**
YKA	**Yellowknife Ar**	**19.72**	**347**	P	**P**	**19 14 58.6**	**-4.0**
	0.1nm,0.3s,baz=155,slow=11,SNR=3.6						
ARCES	**ARCESS Array B**	**61.59**	**18**	P	**P**	**19 20 43.8**	**-6.1**
	0.5nm,0.5s,mb4.0,baz=330,slow=7.3,SNR=4.9						

IDC 22 19:15:20.8±41.0, **14.08N**×**92.65E, mb3.6**/2, **mb1 3.6**/3, **mb1mx3.3**/18, **mbtmp3.3**/3, **Error ellipse: s-maj=873.5km s-min=51.2km az=113.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.45**	**53**	Pn	Pn	19 17 11.0	-2.4
	baz=247,slow=16,SNR=2.3						
CMAR				Sn	Sn	19 18 26.5	-13
	0.1nm,0.3s,baz=242,slow=17,SNR=4.4						
WRA	**Warramunga Arr**	**53.15**	**129**	P	P	19 24 40.5	-2.5
	0.7nm,0.7s,baz=311,slow=7.7,SNR=8.1						
ASAR	**Alice Springs**	**55.08**	**132**	P	P	19 24 55.0	-2.1
	0.3nm,0.4s,baz=311,slow=6.9,SNR=16						

*IDC **22** 19:28:19.4±1.2, 4.06N×93.85E, mb3.9/8, mb1 4.0/9, mb1mx3.8/19, mbtmp3.8/9, ML3.7/1, Error ellipse: s-maj=55.3km s-min=20.1km az=53.0*

ISC 22 19:28:22.8±1.0, **4.1N**±0.1×**94.0E**±0.2, **h33**km, **n9**, σ0§**43**/9, **mb3.8/8, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.05**	**18**	Pn	**P**	**19 31 55.0**	**+0.1**
	0.1nm,0.3s,baz=197,slow=15,SNR=13						
SONM	**Songino Array**	**44.84**	**12**	P	**P**	**19 36 35.6**	**0.0**
	0.8nm,0.8s,mb3.6,baz=203,slow=9.4,SNR=3.9						
WRA	**Warramunga Arr**	**46.32**	**123**	P	**P**	**19 36 47.8**	**0.0**
	0.9nm,0.4s,mb4.0,baz=300,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**47.72**	**127**	P	**P**	**19 36 58.8**	**0.0**
	0.5nm,0.7s,mb3.7,baz=298,slow=8.4,SNR=7.1						
ZAL	**Zalesovo**	**56.22**	**353**	P	**P**	**19 37 18.2**	**+0.6**
	0.7nm,0.5s,mb4.0,baz=228,slow=6.5,SNR=4.6						
BVAR	**Borovoye Array**	**52.47**	**342**	P	**P**	**19 37 34.0**	**-0.6**
	0.6nm,0.5s,mb3.8,baz=146,slow=9.6,SNR=6.6						
FINES	**FINESS Array B**	**75.93**	**333**	P	**P**	**19 40 07.4**	**-0.4**
	1.5nm,0.9s,mb3.9,baz=90,slow=7.6,SNR=9.0						
ARCES	**ARCESS Array B**	**78.72**	**341**	P	**P**	**19 40 22.8**	**-0.4**
	1.4nm,0.9s,mb3.9,baz=90,slow=3.6,SNR=3.5						
GERES	**GERESS Array B**	**80.50**	**319**	P	**P**	**19 40 34.0**	**+0.8**
	0.6nm,0.8s,mb3.5,baz=135,slow=6.9,SNR=3.5						

*JMA **22** 19:37:01.3±0.4, 34.11N×141.74E, h27km±4km, M3.2*
*IDC **22** 19:37:04.9±3.5, 34.70N×139.65E, h42km±29km, mb3.4/4, mb1 3.6/5, mb1mx3.3/22, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=85.0km s-min=13.7km az=97.0*

ISC 22 19:37:02.1±1.5, **34.07N**±0.08×**141.63E**±0.10, **h25**km±10km, **n13**, σ0§**91**/18, **mb3.6**/4, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.79**	**318**	P	**Pb**	**19 37 16.8**	**-0.4**
BSO1				*e*S	**Sb**	**19 37 28.2**	**+0.7**
BSO2	**Boso 2**	**0.99**	**314**	*e*S	**Sb**	**19 37 33.5**	**+0.3**
BSO3	**Boso 3**	**1.18**	**309**	P	**Pn**	**19 37 23.5**	**+0.3**
BSO3				*e*S	**Sn**	**19 37 39.3**	**+0.8**
BSO4	**Boso 4**	**1.41**	**311**	P	**Pn**	**19 37 27.1**	**+0.6**
CHOJ	**Chosi**	**1.75**	**339**	P	**Pn**	**19 37 30.6**	**-0.8**
JHJ	**Hachijo jima 2**	**1.81**	**239**	P	**Pn**	**19 37 29.8**	**-2.4**
	13nm,0.3s,baz=278,slow=23,SNR=2.0						
JHJ				S	**Sn**	**19 37 49.8**	**-4.7**
	42nm,0.3s,baz=255,slow=20,SNR=4.6						
JOD2	**Odawara 2**	**2.41**	**300**	P	**Pn**	**19 37 40.8**	**0.0**
JOD2				*e*S	**Sn**	**19 38 10.0**	**+0.2**
MAT	**Matsushiro**	**3.73**	**312**	P	**Pn**	**19 37 59.3**	**-0.3**
MAT				S	**Sn**	**19 38 42.1**	**-1.1**
ASAJ	**Asahikawa**	**10.06**	**4**	P	**P**	**19 39 22.4**	**-5.8**
	0.8nm,0.3s,baz=237,slow=27,SNR=5.2						
ILAR	**Eielson Array**	**51.92**	**31**	P	**P**	**19 46 09.4**	**-1.1**
	0.5nm,0.7s,mb3.6,baz=263,slow=6.1,SNR=6.5						
WRA	**Warramunga Arr**	**54.15**	**188**	P	**P**	**19 46 28.8**	**+1.2**
	0.7nm,0.6s,mb3.7,baz=3.6,slow=7.5,SNR=14						
INK	**Inuvik**	**56.96**	**26**	P	**P**	**19 46 47.5**	**+0.2**
	0.7nm,0.7s,mb3.8,baz=288,slow=3.2						
ASAR	**Alice Springs**	**57.88**	**188**	P	**P**	**19 46 55.8**	**+1.3**
	0.4nm,0.9s,mb3.5,baz=5.5,slow=6.2,SNR=5.6						

*IDC **22** 19:45:40.3±1.6, 5.46N×94.44E, mb4.0/8, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, ML4.2/1, MS2.8/1, Ms1 3.0/1, ms1mx2.4/28, Error ellipse: s-maj=80.4km s-min=17.6km az=57.0*
*NEIC **22** 19:45:44.1±0.7, 5.18N×94.12E, h30km, mb4.1/2, Error ellipse: s-maj=27.2km s-min=9.8km az=62.0*

ISC 22 19:45:42.2±0.9, **5.2N**±0.1×**94.2E**±0.2, **h30**km, **n15**, σ0§**83**/15, **mb4.0**/10, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.98**	**19**	Pn	**P**	**19 49 01.8**	**+1.0**
	0.4nm,0.3s,baz=208,slow=14,SNR=15						
CMAR				LR	LR	19 53 37.1	
	comp=Z,39nm,21.8s,baz=315,slow=35						
AAK	**Ala-Archa**	**41.16**	**338**	*e*P	**P**	**19 53 27.2**	**+1.6**
	1.0nm,0.6s,mb3.6						
SONM	**Songino Array**	**43.76**	**12**	P	**P**	**19 53 44.6**	**-2.2**
	0.9nm,0.7s,mb3.6,baz=187,slow=8.2,SNR=6.6						
WRA	**Warramunga Arr**	**46.74**	**124**	P	**P**	**19 54 10.8**	**-0.1**
	2.0nm,0.6s,mb4.2,baz=306,slow=9.1,SNR=21						
WB2	**Warramunga Arr**	**46.75**	**124**	*e*P	**P**	**19 54 10.9**	**-0.1**
ASPA	**Alice Springs**	**48.23**	**128**	*e*P	**P**	**19 54 22.9**	**+0.4**
ASAR	**Alice Springs**	**48.23**	**128**	P	**P**	**19 54 22.8**	**+0.2**
	1.6nm,0.5s,mb4.3,baz=298,slow=7.6,SNR=33						
ZAL	**Zalesovo**	**49.19**	**353**	P	**P**	**19 54 28.9**	**-0.6**
	0.9nm,0.7s,mb3.9,baz=225,slow=9.1,SNR=4.8						
ZAL	**Zalesovo**	**49.19**	**353**	P	**P**	**19 54 28.9**	**-0.6**
BVAR	**Borovoye Array**	**51.52**	**342**	P	**P**	**19 54 46.4**	**-0.9**
	1.0nm,0.5s,mb4.0,baz=149,slow=8.6,SNR=11						
CHKZ	**Chkalovo**	**52.01**	**342**	*e*P	**P**	**19 54 50.9**	**-0.2**
	4.2nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**58.28**	**133**	P	**P**	**19 55 36.6**	**-0.1**
	0.4nm,0.4s,mb3.8,baz=315,slow=8.6,SNR=4.7						
FINES	**FINESS Array B**	**75.07**	**333**	P	**P**	**19 57 23.0**	**+0.2**
	0.8nm,0.7s,mb3.8,baz=108,slow=4.4,SNR=5.3						
ARCES	**ARCESS Array B**	**77.77**	**340**	P	**P**	**19 57 38.2**	**+0.4**
	3.4nm,0.9s,mb4.3,baz=102,slow=6.3,SNR=8.5						
ARCES	**ARCESS Array B**	**77.77**	**340**	P	**P**	**19 57 38.2**	**+0.4**

*IGQ **22** 19:50:32.4, 0.79N×80.69W, h12km±24km, mb4.5, Error ellipse: s-maj=25.7km s-min=7.1km az=48.0*
*IDC **22** 19:50:36.2±1.3, 1.07N×79.62W, mb3.5/4, mb1 3.9/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=119.3km s-min=23.8km az=66.0*

ISC 22 19:50:34.7±2.0, **0.7N**±0.1×**80.67W**±0.07, **h7**km±15km, **n18**, σ0§**84**/22, **mb3.6**/3, **5C-1D, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.78**	**176**	P	**Pn**	**19 51 06.3**	**+0.2**
PINO	**Pino**	**2.24**	**113**	⇑P	**Pn**	**19 51 11.7**	**-1.1**
TERV	**Terraza Guagua**	**2.25**	**114**	P	**Pn**	**19 51 11.8**	**-1.2**
YANA	**Yana**	**2.26**	**112**	⇑P	**Pn**	**19 51 12.0**	**-1.0**
YANA				S	**Sn**	**19 51 39.9**	**-1.6**
JUA2	**San Juan 2**	**2.27**	**115**	P	**Pn**	**19 51 12.1**	**-1.1**
COTA	**Cotacachi**	**2.36**	**100**	⇑P	**Pn**	**19 51 14.3**	**-0.2**
NAS1	**Nasa**	**2.58**	**122**	P	**Pn**	**19 51 17.5**	**-0.1**
VC1	**Cotopaxi 1**	**2.65**	**121**	P	**Pn**	**19 51 18.7**	**+0.1**
TAMB	**Tambo**	**2.70**	**122**	P	**Pn**	**19 51 20.0**	**+0.6**
CAYR	**Refugio Cayamb**	**2.76**	**105**	⇑P	**Pn**	**19 51 21.0**	**+0.9**
CAYR				S	**Sn**	**19 51 54.5**	**+0.4**
CAYA	**Cayambe**	**2.76**	**104**	⇑P	**Pn**	**19 51 20.9**	**+0.8**
CAYA				S	**Sn**	**19 51 54.5**	**+0.4**
ANTI	**Antisana**	**2.77**	**115**	⇓P	**Pn**	**19 51 20.6**	**+0.3**
ANTI				S	**Sn**	**19 51 55.1**	**+0.7**
PISA	**Pisayambo**	**2.90**	**128**	P	**Pn**	**19 51 22.5**	**+0.4**
CONE	**Cono NE Rev Vo**	**3.13**	**105**	P	**Pn**	**19 51 27.2**	**+1.8**
LPAZ	**La Paz**	**20.96**	**144**	P	**P**	**19 55 20.1**	**-0.8**
	1.5nm,0.8s,baz=307,slow=11,SNR=4.6						
PLCA	**Paso Flores**	**42.29**	**169**	P	**P**	**19 58 31.5**	**+0.8**
	1.7nm,0.8s,mb3.8,baz=332,slow=9.8,SNR=4.3						
NVAR	**Mina Array Bea**	**50.96**	**322**	P	**P**	**19 59 43.9**	**+4.8**
	0.8nm,0.9s,mb3.7,baz=126,slow=7.8,SNR=5.3						
YKA	**Yellowknife Ar**	**66.64**	**344**	P	**P**	**20 01 27.6**	**-0.4**
	0.1nm,0.3s,mb3.3,baz=124,slow=6.3,SNR=3.0						

IDC 22 19:50:53.6±2.9, **31.88S**×**177.88W, mb3.5**/2, **mb1 3.7**/3, **mb1mx3.5**/15, **mbtmp3.5**/3, **ML2.8**/1, **Error ellipse: s-maj=69.2km s-min=35.5km az=117.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.58**	**211**	Pn	Pn	19 52 44.2	-3.7
	0.1nm,0.3s,baz=188,slow=7.8,SNR=2.3						
URZ				Sn	Sn	19 54 12.4	-3.2
	0.8nm,0.3s,baz=175,slow=21,SNR=9.3						
ASAR	**Alice Springs**	**43.15**	**268**	P	P	19 58 55.7	-2.0
	0.3nm,0.5s,baz=106,slow=7.0,SNR=4.1						
WRA	**Warramunga Arr**	**44.27**	**274**	P	P	19 59 05.7	-1.1
	0.4nm,0.4s,baz=112,slow=8.0,SNR=12						
FINES	**FINESS Array B**	**146.56**	**339**	PKPbc	PKPbc	20 10 35.3	-0.6
	1.3nm,0.8s,baz=27,slow=4.3,SNR=11						

*BJI **22** 19:53:29.6, 33.97N×25.78E, h41km, mB5.0, mb4.6, Ms4.7, Msz4.5*
*ATH **22** 19:53:30.3, 34.14N×26.07E, h27km±9km, MD3.9/14*
*NEIC **22** 19:53:30.3, 34.14N×26.07E, h27km, mb4.3/23, MD3.9(ATH), After ATH.*
*CSEM **22** 19:53:31.0±0.0, 34.15N×26.34E, h60km, mb4.1/9, Error ellipse: s-maj=2.0km s-min=1.0km az=53.0*
*HLW **22** 19:53:33.5, 34.08N×26.28E, h25km, Mb4.0*
*IDC **22** 19:53:37.3±2.6, 34.53N×26.17E, h60km±18km, mb3.8/12, mb1 3.9/17, mb1mx3.8/22, mbtmp4.0/17, Error ellipse: s-maj=31.0km s-min=14.0km az=177.0*

ISC 22 19:53:30.5±0.3, **34.11N**±0.02×**26.21E**±0.03, **h37**km±4km, **n167**, σ1§**11**/182, **mb4.3**/34, **5C-1D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**1.26**	**337**	*e*Pn	**P**	**19 53 52.6**	**+0.8**
IDI	**Anoyia**	**1.60**	**318**	P	**P**	**19 53 59.9**	**+3.1**
	14nm,0.3s,baz=128,slow=13,SNR=119						
IDI				S	**S**	**19 54 20.3**	**+3.7**
	74nm,0.3s,baz=309,slow=16,SNR=20						
KARP	**Karpathos**	**1.64**	**28**	*e*PN	**P**	**19 53 59.8**	**+2.5**
KARP				*e*SN	**S**	**19 54 21.4**	**+4.0**
GVD	**Gavdhos**	**1.90**	**293**	*e*Pn	**P**	**19 54 02.3**	**+1.3**
GVD	**Gavdhos**	**1.90**	**293**	*e*Pn	**P**	**19 54 02.3**	**+1.3**
VAM	**Vamos**	**2.10**	**309**	*e*PN	**P**	**19 54 06.0**	**+2.0**
SANT	**Santorini**	**2.34**	**345**	*e*Pn	**P**	**19 54 07.1**	**-0.2**
SANT	**Santorini**	**2.34**	**345**	*e*Pn	**P**	**19 54 07.1**	**-0.3**
ARG	**Arkhangelos**	**2.63**	**36**	*e*PN	**P**	**19 54 14.5**	**+3.1**
SLUM		**2.74**	**198**	⇑P	**P**	**19 54 15.3**	**+2.3**
APE	**Apeiranthos**	**3.01**	**350**	PN	**P**	**19 54 16.2**	**-0.7**
APE	**Apeiranthos**	**3.01**	**350**	*e*PN	**P**	**19 54 17.4**	**+0.5**
APE				*e*SN	**S**	**19 54 52.6**	**+0.5**
HMAT	**Matruh**	**3.09**	**166**	P	**P**	**19 54 19.7**	**+1.6**
BDRM	**Kayabasi**	**3.12**	**18**	*i* P	**P**	**19 54 19.1**	**+0.7**
BDRM				*i* S	**S**	**19 54 52.8**	**-2.2**
KYTH	**Kithira**	**3.39**	**311**	*e*PN	**P**	**19 54 23.0**	**+0.8**
KSL	**Kastellorizon**	**3.44**	**53**	*e*PN	**P**	**19 54 24.2**	**+1.3**
FETY	**Fethiye**	**3.45**	**42**	PN	**P**	**19 54 24.0**	**+0.9**
FETY				SN	**S**	**19 55 04.0**	**+0.7**
YER	**Yerkesik**	**3.46**	**29**	PN	**P**	**19 54 24.3**	**+1.0**
VLI	**Veliai**	**3.73**	**315**	*e*PN	**P**	**19 54 27.3**	**+0.1**
VLI				*e*SN	**S**	**19 55 08.1**	**-2.4**
AYDN	**Tasoluk**	**3.80**	**20**	*i* P	**P**	**19 54 28.8**	**+0.7**
AYDN				*i* S	**S**	**19 55 11.0**	**-1.1**
ELL	**Elmali**	**4.01**	**48**	PN	**P**	**19 54 32.1**	**+1.0**
DNZL	**Cakiroluk**	**4.25**	**32**	*i* P	**P**	**19 54 34.6**	**+0.1**
DNZL				*i* S	**S**	**19 55 20.2**	**-3.5**
NAIG	**Nisos Aigina**	**4.26**	**330**	*e*PN	**P**	**19 54 34.6**	**-0.1**
DENT	**Denizli**	**4.30**	**31**	PN	**P**	**19 54 35.8**	**+0.6**
BLCB	**Balcova**	**4.32**	**9**	PN	**P**	**19 54 36.0**	**+0.4**
IZM	**Izmir**	**4.37**	**11**	PN	**P**	**19 54 36.5**	**+0.4**
PTL	**Penteli**	**4.37**	**335**	*e*PN	**P**	**19 54 36.8**	**+0.6**
NSAL	**Nisos Salamina**	**4.40**	**330**	*e*PN	**P**	**19 54 36.5**	**-0.1**
ITM	**Ithomi**	**4.65**	**313**	*e*PN	**P**	**19 54 40.0**	**-0.1**
HBRG	**Burj al 'Arab**	**4.67**	**138**	⇓P	**P**	**19 54 41.3**	**+0.8**
MANT	**Manisa**	**4.77**	**23**	*i* P	**P**	**19 54 40.9**	**-1.0**
MANT				*i* S	**S**	**19 55 29.9**	**-6.8**
SWA1		**4.85**	**185**	P	**P**	**19 54 44.1**	**+1.1**
BCK	**Bucak**	**4.89**	**45**	PN	**P**	**19 54 44.7**	**+1.2**
SWA2		**4.89**	**188**	P	**P**	**19 54 44.8**	**+1.2**
AKS	**Akhisar**	**4.94**	**15**	PN	**P**	**19 54 44.0**	**-0.2**
KHL	**Karahalli**	**4.99**	**32**	PN	**P**	**19 54 44.9**	**-0.1**
LKR	**Lokris**	**5.22**	**331**	*e*PN	**P**	**19 54 48.6**	**+0.4**
LEF	**Lefka**	**5.60**	**78**	*e*PN	**P**	**19 54 53.9**	**+0.4**
XOR	**Xorichti**	**5.78**	**336**	*e*P	**P**	**19 54 56.0**	**0.0**
HMYD	**Mayadein**	**5.80**	**137**	P	**P**	**19 54 56.5**	**+0.2**
AGG	**Agios Georgios**	**5.82**	**329**	*e*P	**P**	**19 54 56.0**	**-0.5**
AGG	**Agios Georgios**	**5.82**	**329**	P	**P**	**19 54 56.0**	**-0.5**
AGG				S	**S**	**19 55 59.4**	**-3.6**
HNAT	**Natroun**	**5.82**	**139**	⇑P	**P**	**19 54 57.1**	**+0.5**
HDMB	**Hadim**	**5.86**	**59**	*e*PN	**P**	**19 54 56.7**	**-0.4**
CSS	**Prodhromos**	**5.94**	**80**	*e*Pn	**P**	**19 54 56.8**	**-1.4**
	31nm,0.7s						
CSS				*e*Sn	Sx	19 55 52.4	
CSS	**Prodhromos**	**5.94**	**80**	*e*Pn	**P**	**19 54 56.8**	**-1.4**
	31nm,0.7s						
EVR	**Evrytania**	**5.97**	**325**	*e*PN	**P**	**19 55 00.5**	**+1.9**
SQR		**5.97**	**133**	P	**P**	**19 54 58.6**	**-0.1**
FYM	**Al Fayyum**	**6.02**	**136**	P	**P**	**19 54 59.2**	**-0.2**
AYT	**Al 'Ayyat**	**6.07**	**135**	⇑P	**P**	**19 55 00.1**	**0.0**
AWBH		**6.21**	**157**	P	**P**	**19 55 02.0**	**0.0**
KONT	**Konya--Tatoy**	**6.29**	**51**	*e*PN	**P**	**19 55 03.4**	**+0.2**
HSAF	**As Saff**	**6.38**	**133**	P	**P**	**19 55 04.5**	**+0.1**
OUR	**Ouranopolis**	**6.47**	**345**	*e*P	**P**	**19 55 05.7**	**0.0**
HHAG	**Hagoal**	**6.49**	**128**	P	**P**	**19 55 05.9**	**-0.1**
HHAG				S	**S**	**19 56 14.2**	**-5.5**
GLL	**Jalalah**	**6.50**	**132**	P	**P**	**19 55 05.8**	**-0.4**
ESKT	**Eskisehir**	**6.56**	**33**	*e*PN	**P**	**19 55 07.0**	**-0.1**
KIZT	**Kizilcal**	**6.60**	**42**	P	**P**	**19 55 07.4**	**-0.1**
HBNS	**Bani Suwayf**	**6.68**	**139**	⇑P	**P**	**19 55 08.3**	**-0.3**
LIT	**Litokhoron**	**6.68**	**335**	*e*P	**P**	**19 55 08.6**	**-0.2**
SUZ		**7.05**	**125**	P	**P**	**19 55 13.2**	**-0.7**
HFRF	**Wahat Farafira**	**7.17**	**165**	P	**P**	**19 55 15.6**	**+0.1**
IGT	**Igoumenitsa**	**7.18**	**321**	*e*P	**P**	**19 55 14.0**	**-1.7**
ZAF		**7.23**	**130**	P	**P**	**19 55 15.3**	**-1.1**
ZNM		**7.38**	**128**	P	**P**	**19 55 17.5**	**-0.9**
GRG	**Griva**	**7.48**	**337**	*e*P	**P**	**19 55 19.3**	**-0.5**
KNT	**Kendrikon**	**7.52**	**341**	*e*P	**P**	**19 55 20.6**	**+0.2**
FNA	**Florina**	**7.70**	**331**	*e*P	**P**	**19 55 22.4**	**-0.5**
FNA	**Florina**	**7.70**	**331**	P	**P**	**19 55 22.4**	**-0.5**
FNA				S	**S**	**19 56 45.6**	**-4.1**
HNKL	**Nakhl**	**7.80**	**120**	P	**P**	**19 55 23.2**	**-1.1**
GRB	**Gharib**	**8.09**	**134**	P	**P**	**19 55 27.3**	**-1.1**
ASUT		**8.12**	**144**	P	**P**	**19 55 28.3**	**-0.4**
BRTR	**Keskin Array B**	**8.17**	**45**	P	**P**	**19 55 29.3**	**-0.2**
	0.4nm,0.3s,baz=220,slow=14,SNR=18						
BRTR				S	**S**	**19 56 57.3**	**-4.3**
	0.5nm,0.3s,baz=216,slow=24,SNR=11						
TR2		**8.59**	**130**	P	**P**	**19 55 33.4**	**-1.9**
EIL	**

BVAR	**Borovoye Array**	**36.46**	**45**	P	**P**	**20 00 35.0 +1.4**
	3.2nm,0.7s,mb4.4,baz=252,slow=4.7,SNR=24					
CHKZ	**Chkalovo**	**36.75**	**44**	*e*P	**P**	**20 00 37.1 +1.1**
	13nm,1.1s,mb4.7					
KURK	**Kurchatov**	**41.18**	**50**	*e*P	**P**	**20 01 14.2 +1.3**
	10.0nm,0.9s,mb4.5					
ZAL	**Zalesovo**	**45.10**	**45**	P	**P**	**20 01 45.7 +1.1**
	2.5nm,0.5s,mb4.3,baz=132,slow=7.0,SNR=13					
ZAL	**Zalesovo**	**45.10**	**45**	P	**P**	**20 01 45.7 +1.0**
WMQ	**Urumqi**	**47.79**	**59**	P	**P**	**20 02 08.5 +2.5**
WMQ				PP	PP	20 03 59.6 +2.4
WMQ				S	**S**	**20 09 04.6 +5.5**
WMQ				PS	PS	20 09 12.5 +0.2
WMQ				AMB	AMB	
	comp=Z,46nm,1.2s					
WMQ				AMB	AMB	
	comp=Z,284nm,6.5s					
WMQ				LR	LR	
	comp=N,988nm,19.1s					
WMQ				LR	LR	
	comp=E,911nm,18.8s					
WMQ				LR	LR	
	comp=Z,1μm,19.0s					
KOLN	**Koldanda**	**49.09**	**81**	*e*P	**P**	**20 02 17.3 +1.0**
	comp=Z,7.1nm,0.8s,mb4.7					
LSZ	**Lusaka**	**49.14**	**177**	P	**P**	**20 02 20.4 +3.6**
	comp=Z,6.9nm,1.4s,mb4.5					
GKN	**Gorkha**	**49.85**	**80**	*e*P	**P**	**20 02 23.4 +1.3**
	comp=Z,12nm,0.7s,mb5.0					
DMN	**Daman**	**50.38**	**81**	*e*P	**P**	**20 02 27.8 +1.6**
	comp=Z,17nm,0.9s,mb5.1					
KKN	**Kakani**	**50.45**	**80**	*e*P	**P**	**20 02 28.0 +1.2**
	comp=Z,9.5nm,0.6s,mb5.0					
PKI	**Pulchoki**	**50.64**	**80**	*e*P	**P**	**20 02 29.2 +1.0**
	comp=Z,13nm,0.9s,mb4.8					
JIRN	**Jiri**	**51.25**	**80**	*e*P	**P**	**20 02 34.1 +1.3**
	comp=Z,11nm,0.8s,mb4.9					
LSA	**Lhasa**	**54.48**	**76**	P	**P**	**20 02 58.0 +1.2**
	comp=Z,1.6nm,0.7s,mb4.1					
TLY	**Talaya**	**56.69**	**47**	*e*P	**P**	**20 03 14.8 +2.3**
	comp=Z,2.0nm,0.5s,mb4.4					
SONM	**Songino Array**	**59.49**	**50**	P	**P**	**20 03 33.3 +1.3**
	comp=Z,0.9nm,0.7s,mb3.9,baz=280,slow=7.5,SNR=5.8					
SCHQ	**Schefferville**	**64.55**	**320**	P	**P**	**20 04 06.1 +0.4**
	comp=Z,2.5nm,0.8s,mb4.3,baz=70,slow=5.0,SNR=10					
SCHQ	**Schefferville**	**64.55**	**320**	*e*P	**P**	**20 04 05.9 +0.2**
	comp=Z,4.7nm,0.6s,mb4.7					
SCHQ	**Schefferville**	**64.55**	**320**	*e*P	**P**	**20 04 05.9 +0.2**
	comp=Z,4.7nm,0.6s,mb4.7					
CMAR	**Chiang Mai Arr**	**65.83**	**83**	P	**P**	**20 04 15.3 +0.8**
	comp=Z,0.8nm,0.8s,mb3.8,baz=298,slow=8.2,SNR=10					
YAK	**Yakutsk**	**66.36**	**30**	*e*P	**P**	**20 04 16.1 -1.1**
	comp=Z,4.2nm,0.6s,mb4.7					
YAK	**Yakutsk**	**66.36**	**30**	*e*P	**P**	**20 04 16.1 -1.1**
	comp=Z,4.2nm,0.6s,mb4.7					
HIA	**Hailar**	**67.16**	**45**	*e*P	**P**	**20 04 22.8 +0.4**
	comp=Z,3.5nm,1.0s,mb4.3					
MA2	**Magadan**	**76.06**	**26**	*e*P	**P**	**20 05 16.3 +0.9**
	comp=Z,3.8nm,0.7s,mb4.4					
YKA	**Yellowknife Ar**	**78.72**	**343**	P	**P**	**20 05 30.9 +0.8**
	comp=Z,0.5nm,0.5s,mb3.7,baz=33,slow=5.5,SNR=14					
YKA	**Yellowknife Ar**	**78.72**	**343**	P	**P**	**20 05 30.9 +0.8**
YSS	**Yuzh-Sakhalins**	**81.22**	**38**	P	**P**	**20 05 42.1 -1.8**
	comp=Z,9.4nm,1.0s,mb4.7					

IGQ 22 19:58:25.0,0.75S×81.11W,h5$^{km}_{\pm}$7^{km},mb4.1,3C-4D, Error ellipse: s-maj=12.2km s-min=7.5km az=173.8,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.64**	**118**	⇑P	Pg	19 58 36.9	-0.9
JUA2	**San Juan 2**	**2.56**	**78**	P	Pn	19 59 08.9	+1.0
JUA2				S	Sn	19 59 41.6	+1.8
TERV	**Terraza Guagua**	**2.57**	**77**	P	Pn	19 59 09.0	+1.0
PINO	**Pino**	**2.57**	**77**	⇓P	Pn	19 59 08.9	+0.9
IGUA	**Igualata**	**2.58**	**107**	P	Pn	19 59 10.2	+2.1
YANA	**Yana**	**2.62**	**76**	P	Pn	19 59 09.4	+0.8
NAS1	**Nasa**	**2.64**	**88**	P	Pn	19 59 11.4	+2.4
VC1	**Cotopaxi 1**	**2.71**	**88**	⇑P	Pn	19 59 12.4	+2.4
JUIV	**Juive**	**2.73**	**104**	P	Pn	19 59 11.9	+1.6
PISA	**Pisayambo**	**2.74**	**97**	P	Pn	19 59 12.5	+2.0
TAMB	**Tambo**	**2.74**	**89**	P	Pn	19 59 13.7	+3.2
ARRY	**Arrayan**	**2.76**	**106**	P	Pn	19 59 11.5	+0.7
RUN2	**Runtun**	**2.78**	**104**	P	Pn	19 59 12.2	+1.2
PATA	**Patacocha**	**2.78**	**106**	P	Pn	19 59 12.8	+1.7
ULBA	**Ulba**	**2.79**	**105**	P	Pn	19 59 13.4	+2.2
ANTI	**Antisana**	**2.97**	**84**	⇓P	Pn	19 59 15.9	+2.3
COTA	**Cotacachi**	**2.98**	**69**	⇓P	Pn	19 59 15.3	+1.6
CAYR	**Refugio Cayamb**	**3.20**	**76**	⇑P	Pn	19 59 20.6	+3.7
CAYA	**Cayambe**	**3.23**	**75**	⇓P	Pn	19 59 20.5	+3.2

IGQ 22 20:14:35.6,1.19S×81.29W,h12$^{km}_{\pm}$5^{km},mb4.2,1C-4D, Error ellipse: s-maj=7.4km s-min=6.6km az=118.6,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.76**	**79**	⇑P	Pb	20 14 48.7	-1.4
IGUA	**Igualata**	**2.67**	**96**	P	Pn	20 15 19.9	+0.8
IGUA				S	Sn	20 15 52.5	+0.8
ARRY	**Arrayan**	**2.85**	**96**	P	Pn	20 15 22.8	+1.0
ARRY				S	Sn	20 15 56.7	+0.3
JUA2	**San Juan 2**	**2.85**	**70**	P	Pn	20 15 23.4	+1.6
JUA2				S	Sn	20 15 56.8	+0.3
NAS1	**Nasa**	**2.87**	**79**	P	Pn	20 15 23.7	+1.7
TERV	**Terraza Guagua**	**2.87**	**69**	P	Pn	20 15 23.2	+1.1
PINO	**Pino**	**2.87**	**69**	P	Pn	20 15 23.0	+1.0
PINO				S	Sn	20 15 57.8	+0.9
PATA	**Patacocha**	**2.87**	**96**	P	Pn	20 15 23.8	+1.7
RUN2	**Runtun**	**2.88**	**95**	P	Pn	20 15 24.8	+2.5
ULBA	**Ulba**	**2.89**	**95**	P	Pn	20 15 24.1	+1.7
ULBA				S	Sn	20 15 58.6	+1.2
PISA	**Pisayambo**	**2.91**	**87**	P	Pn	20 15 24.9	+2.4
PISA				S	Sn	20 15 59.8	+2.0
YANA	**Yana**	**2.92**	**69**	⇓P	Pn	20 15 23.5	+0.8
VC1	**Cotopaxi 1**	**2.94**	**79**	P	Pn	20 15 25.1	+2.1
TAMB	**Tambo**	**2.96**	**80**	P	Pn	20 15 25.9	+2.5
ANTI	**Antisana**	**3.21**	**77**	⇓P	Pn	20 15 29.7	+2.7
ANTI				S	Sn	20 16 09.4	+3.9
COTA	**Cotacachi**	**3.32**	**63**	P	Pn	20 15 29.5	+1.1
COTA				S	Sn	20 16 08.8	+0.7
CAYR	**Refugio Cayamb**	**3.50**	**70**	⇓P	Pn	20 15 34.0	+3.1
CAYR				S	Sn	20 16 18.6	+6.0
CAYA	**Cayambe**	**3.53**	**69**	⇓P	Pn	20 15 34.1	+2.7

IGQ 22 20:25:37.3,1.23S×81.27W,h6$^{km}_{\pm}$5^{km},mb4.5,2C-2D, Error ellipse: s-maj=7.4km s-min=6.1km az=139.0,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.74**	**76**	⇑P	Pg	20 25 51.2	-1.1
IGUA	**Igualata**	**2.64**	**96**	P	Pn	20 26 22.1	+0.9
IGUA				S	Sn	20 26 54.6	+0.6
CUSU	**Cusua**	**2.80**	**94**	P	Pn	20 26 26.2	+2.8
JUIV	**Juive**	**2.81**	**94**	P	Pn	20 26 25.5	+1.8
ARRY	**Arrayan**	**2.83**	**96**	P	Pn	20 26 25.4	+1.5
ARRY				S	Sn	20 26 58.2	-0.5
PATA	**Patacocha**	**2.85**	**95**	P	Pn	20 26 25.9	+1.7
PATA				S	Sn	20 26 59.8	+0.5
JUA2	**San Juan 2**	**2.85**	**69**	P	Pn	20 26 25.1	+0.9
NAS1	**Nasa**	**2.85**	**78**	⇓P	Pn	20 26 26.4	+2.1
RUN2	**Runtun**	**2.86**	**94**	P	Pn	20 26 26.0	+1.6
RUN2				S	Sn	20 27 01.6	+2.0
TERV	**Terraza Guagua**	**2.86**	**69**	P	Pn	20 26 25.4	+0.9
PINO	**Pino**	**2.87**	**68**	P	Pn	20 26 25.4	+0.9
ULBA	**Ulba**	**2.87**	**94**	P	Pn	20 26 26.8	+2.3
ULBA				S	Sn	20 27 01.3	+1.5
PISA	**Pisayambo**	**2.89**	**87**	P	Pn	20 26 26.7	+1.9
YANA	**Yana**	**2.92**	**68**	P	Pn	20 26 25.5	+0.4
VC1	**Cotopaxi 1**	**2.92**	**78**	P	Pn	20 26 27.2	+1.9
TAMB	**Tambo**	**2.95**	**80**	P	Pn	20 26 28.8	+3.1
ANTI	**Antisana**	**3.20**	**76**	P	Pn	20 26 31.2	+2.0
ANTI				S	Sn	20 27 09.3	+1.0
COTA	**Cotacachi**	**3.32**	**62**	⇑P	Pn	20 26 32.0	+1.1
COTA				S	Sn	20 27 13.0	+1.9
CAYR	**Refugio Cayamb**	**3.49**	**69**	P	Pn	20 26 36.2	+2.9
CAYA	**Cayambe**	**3.52**	**68**	⇓P	Pn	20 26 36.6	+2.8
CONE	**Cono NE Rev Vo**	**3.81**	**72**	P	Pn	20 26 43.7	+5.9

BJI ***22*** *20:30:15.6, 7.60S×159.95E, h38^{km}, mB6.4, mb6.0, Ms6.3, Msz6.3*
MOS ***22*** *20:30:16.5±1.3, 7.59S×159.48E, h26^{km}, mb6.3/63, MS6.4/73, Error ellipse: s-maj=6.9km s-min=5.6km az=72.2*
IDC ***22*** *20:30:17.2±1.5, 7.89S×159.47E, h25$^{km}_{\pm}$9^{km}, mb5.7/28, mb1 5.7/30, mb1mx5.7/30, mbtmp5.8/30, MS6.4/18, Ms1 6.4/18, ms1mx6.3/20, Error ellipse: s-maj=10.4km s-min=9.3km az=88.0*
NEIC ***22*** *20:30:17.4±0.1, 7.73S×159.48E, h29^{km}, mb6.2/108, ME5.9, MS6.5/131, MW6.4, Error ellipse: s-maj=4.8km s-min=3.4km az=147.0 Broadband fault plane solution: P waves. NP1:ϕ_s99°, δ60°, λ-85°. NP2:ϕ_s269°, δ30°, λ-99°. Principal axes: T Plg15°, Azm185°; N Plg0°, Azm0°; P Plg74°, Azm22°; Moment Tensor Solution. s44 Moment tensor: Scale 10^{18} Nm; M_{rr}-3.58; $M_{\theta\theta}$4.97; $M_{\phi\phi}$-1.41; $M_{r\theta}$-0.84; $M_{\theta\phi}$0.61; $M_{\phi r}$1.49; Best double couple: M_o4.8×10^{18} NP1:ϕ_s239°, δ47°, λ-129°. NP2:ϕ_s109°, δ56°, λ-56°. Principal axes: T 5.08, Plg5°, Azm176°; N -.63, Plg27°, Azm268°; P -4.45, Plg62°, Azm77°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [II] at Honiara.
HRVD ***22*** *20:30:17.4±0.1, 7.66S×159.69E, h28^{km}, MW6.4/77, Centroid moment Tensor Solution. LP body waves: s74,c200; Mantle waves: s77,c336; Half duration: 3*7 Moment tensor: Scale 10^{18}Nm; M_{rr}-3.41±.02; $M_{\theta\theta}$3.87±.02; $M_{\phi\phi}$-0.46±.02; $M_{r\theta}$-2.14±.04; $M_{\theta\phi}$-0.28±.02; $M_{\phi r}$0.48±.05; Best double couple: M_o4.26×10^{18} NP1: ϕ_s268°, δ30°, λ-100°. NP2:ϕ_s99°, δ61°, λ-84°. Principal axes: T 4.484, Plg15°, Azm185°; N -.455, Plg5°, Azm276°; P -4.036, Plg74°, Azm23°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 22 20:30:16.9±0.1,7.78S±0.02×159.51E±0.02,h36^{km}, h36$^{km}_{\pm}$3.6^{km}:pP-P,n915,σ1§13/471,mb6.1/152,MS6.4/167, 61C-42D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**12.32**	**262**	P	**P**	**20 33 17.6**	**+4.8**
PMG				SN	**S**	**20 35 41.0**	**+11**
PMG				pmax	pmax		
	comp=Z,800nm,0.3s						
PMG	**Port Moresby**	**12.32**	**262**	Pn	**P**	**20 33 17.6**	**+4.8**
	comp=Z,0.8nm,0.3s,baz=63,slow=7.2,SNR=15						
PMG				Sn	**S**	**20 35 41.0**	**+11**
	comp=Z,1.7nm,0.3s,baz=314,slow=18,SNR=1.5						
PMG	**Port Moresby**	**12.32**	**262**	*e*P	**P**	**20 33 10.3**	**-2.6**
	comp=Z,703nm,1.5s						
PMG				Pn	**P**	**20 33 17.6**	**+4.8**
PMG				Sn	**S**	**20 35 41.0**	**+11**
NOUC	**Port Laguerre**	**15.67**	**156**	*e*P	**P**	**20 33 56.9**	**+0.1**
NOUC				*e*S	**S**	**20 36 50.0**	**+0.7**
DZM	**Mont Dzumac**	**15.70**	**156⇑**	*e*P	**P**	**20 33 56.9**	**-0.3**
DZM				*e*S	**S**	**20 36 50.6**	**+0.6**
DZM	**Mont Dzumac**	**15.70**	**156⇑**	*e*P	**P**	**20 33 56.9**	**-0.3**
DZM				*e*S	**S**	**20 36 50.6**	**+0.6**
CTA	**Charters Tower**	**17.74**	**225**	*e*P	**P**	**20 34 26.4**	**+3.5**
	comp=Z,602nm,1.2s						
CTA				*e*S	**S**	**20 37 52.5**	**+16**
CTA	**Charters Tower**	**17.74**	**225**	*e*P	**P**	**20 34 26.4**	**+3.5**
CTA				pmax	pmax		
	comp=Z,602nm,1.2s						
CTA	**Charters Tower**	**17.74**	**225**	P	**P**	**20 34 26.3**	**+3.5**
	comp=Z,16nm,0.3s,baz=50,slow=12,SNR=115						
CTA				S	**S**	**20 37 52.1**	**+15**
	comp=Z,1.6nm,0.3s,baz=225,slow=12,SNR=3.3						
CTAO	**Charters Tower**	**17.74**	**225**	*e*P	**P**	**20 34 23.4**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,1μm,1.3s						
CTAO	**Charters Tower**	**17.74**	**225**	*e*P	**P**	**20 34 23.4**	**+0.6**
	comp=Z,1μm,1.3s						
GUMO	**Guam**	**25.73**	**326**	*e*P	**P**	**20 35 45.3**	**-0.8**
GUMO				pmax	pmax		
	comp=Z,7μm,1.1s,mb7.1						
GUMO				MLR	MLR		
	comp=Z,81μm,22.0s,MS6.2						
GUMO	**Guam**	**25.73**	**326**	*e*P	**P**	**20 35 45.3**	**-0.7**
	comp=Z,7μm,1.1s,mb7.1						
GUMO				LR	LR		
	comp=Z,81μm,22.0s,MS6.2						
RIV	**Riverview**	**27.05**	**195⇑**	*i*P	**P**	**20 36 00.1**	**+2.1**
KAKA	**Kakadu**	**27.08**	**257**	*e*P	**P**	**20 35 57.9**	**-0.6**
	comp=Z,196nm,0.9s,mb5.6						
WRAB	**Tennant Creek**	**27.20**	**241**	*d*P	**P**	**20 35 58.2**	**-1.4**
WRAB	**Tennant Creek**	**27.20**	**241**	*e*P	**P**	**20 35 57.6**	**-2.0**
	comp=Z,568nm,1.0s,mb6.0						
WRAB				LR	LR		
	comp=Z,43μm,21.0s,MS6.0						
WB2	**Warramunga Arr**	**27.20**	**241⇑**	*i*P	**P**	**20 35 58.5**	**-1.1**
WB2				*e*PCP	PcP	20 39 20.5	+1.0
WB2				*e*S	**S**	**20 40 35.7**	**+1.5**
WB2				*e*PCS		20 43 01.5	
WB2				*e*SCS	ScS	20 46 50.2	+4.6
WRA	**Warramunga Arr**	**27.22**	**241**	P	**P**	**20 35 58.6**	**-1.1**
	comp=Z,376nm,1.1s,mb5.8,baz=65,slow=9.2,SNR=208						
WRA				PcP	PcP	20 39 20.2	+0.7
	comp=Z,94nm,0.8s,baz=69,slow=2.9,SNR=11						
WRA				S	**S**	**20 40 34.6**	**+0.3**
	comp=Z,62nm,1.2s,baz=80,slow=14,SNR=5.0						
WRA				ScS	ScS	20 46 50.6	+4.9
	comp=Z,14nm,1.4s,baz=63,slow=1.9,SNR=3.8						
WRA				P3KPbc		21 08 34.5	
	comp=Z,7.3nm,0.9s,baz=248,slow=2.7,SNR=15						
WRA	**Warramunga Arr**	**27.22**	**241**	P	**P**	**20 35 58.6**	**-1.1**
WRA				PcP	PcP	20 39 20.2	+0.7
WRA				S	**S**	**20 40 34.6**	**+0.3**
WRA				ScS	ScS	20 46 50.6	+4.9
WRA				*e*		21 08 34.5	
AFI	**Afiamalu**	**28.83**	**105**	*e*P	**P**	**20 36 12.2**	**-2.1**
AFI				pmax	pmax		
	comp=Z,401nm,1.2s,mb6.0						
AFI				MLR	MLR		
	comp=Z,56μm,22.0s,MS6.1						
AFI	**Afiamalu**	**28.83**	**105**	*e*P	**P**	**20 36 12.2**	**-2.1**
	comp=Z,402nm,1.2s,mb6.0						
AFI				LR	LR		
	comp=Z,56μm,22.0s,MS6.1						
CNB	**Canberra Magne**	**28.94**	**197⇓**	*i*P	**P**	**20 36 15.2**	**+0.1**
	comp=Z,2μm,1.0s,mb6.7						
CNB				*e*SCP		20 43 06.1	
ASAR	**Alice Springs**	**29.19**	**234**	P	**P**	**20 36 15.4**	**-2.0**
	comp=Z,114nm,0.8s,mb5.6,baz=61,slow=9.5,SNR=513						
ASAR				PcP	PcP	20 39 24.2	-0.1
	comp=Z,31nm,0.8s,baz=76,slow=2.7,SNR=5.7						
ASAR				S	**S**	**20 41 05.2**	**-0.8**
	comp=Z,90nm,1.2s,baz=63,slow=15,SNR=6.1						
ASAR				ScP		20 43 06.4	
	comp=Z,21nm,1.1s,baz=61,slow=3.6,SNR=6.7						
ASAR				ScS	ScS	20 46 58.4	+3.8
	comp=Z,2.0nm,0.8s,baz=68,slow=2.9,SNR=4.8						
ASAR				LR	LR	20 47 44.6	
	comp=Z,43μm,19.0s,MS6.1,baz=60,slow=36						
ASAR				P3KPbc		21 08 26.6	
	comp=Z,5.4nm,0.9s,baz=262,slow=1.7,SNR=13						
ASAR	**Alice Springs**	**29.19**	**234**	P	**P**	**20 36 15.4**	**-2.0**
ASAR				PcP	PcP	20 39 24.2	-0.1
ASAR				S	**S**	**20 41 05.2**	**-0.8**
ASAR				ScP		20 43 06.4	
ASAR				ScS	ScS	20 46 58.4	+3.8
ASAR				LR	LR	20 47 44.6	
ASAR				*e*		21 08 26.6	
ASPA	**Alice Springs**	**29.19**	**234⇑**	*i*P	**P**	**20 36 15.6**	**-1.8**
ASPA				*e*S	**S**	**20 41 04.5**	**-1.5**
ASPA				*e*PCS		20 43 10.1	
ASPA				*e*SCS	ScS	20 46 58.3	+3.7
ASPA	**Alice Springs**	**29.19**	**234⇑**	*i*P	**P**	**20 36 15.6**	**-1.8**
ASPA				*e*S	**S**	**20 41 04.5**	**-1.5**
ASPA				*e*		20 46 58.3	
STKA	**Stephens Creek**	**29.21**	**212⇑**	*i*P	**P**	**20 36 16.3**	**-1.2**
	comp=Z,99nm,0.6s,mb5.7						
STKA				*e*SCP		20 43 06.4	
STKA				*e*SCS	ScS	20 46 55.0	+0.4
STKA	**Stephens Creek**	**29.21**	**212**	P	**P**	**20 36 16.7**	**-0.8**
	comp=Z,72nm,0.6s,mb5.6,baz=5.8,slow=8.5,SNR=126						
STKA				S	**S**	**20 40 59.8**	**-6.4**
	comp=Z,18nm,0.9s,baz=331,slow=16,SNR=1.2						
STKA				ScP		20 43 05.4	
	comp=Z,73nm,1.1s,baz=48,slow=3.8,SNR=7.8						
STKA				LR	LR	20 48 25.2	
	comp=Z,206μm,18.0s,MS6.8,baz=32,slow=37						
STKA				P3KPbc		21 08 25.0	
	comp=Z,6.3nm,1.0s,baz=220,slow=1.4,SNR=5.6						
RAO	**Raoul Island**	**30.12**	**138**	PFAKE		20 36 40.0	+14
RAO				LR	LR		
	comp=Z,70μm,20.0s,MS6.3						
TOO	**Toolangi**	**32.27**	**201**	*e*P	**P**	**20 36 44.4**	**-0.1**
	comp=Z,118nm,0.7s,mb5.8						
TOO				*e*PCP	PcP	20 39 34.2	+1.9
TOO				*e*SCP		20 43 16.9	
TOO	**Toolangi**	**32.27**	**201**	*e*P	**P**	**20 36 44.4**	**-0.1**
TOO				*e*		20 39 34.2	
TOO				pmax	pmax		
	comp=Z,118nm,0.7s,mb5.8						
ADE	**Adelaide**	**33.12**	**212**	*e*P	**P**	**20 36 51.2**	**-0.7**
URZ	**Urewera**	**34.26**	**155**	P	**P**	**20 37 02.2**	**+0.5**
	comp=Z,11nm,0.4s,mb5.1,baz=352,slow=7.3,SNR=14						
URZ				S	**S**	**20 42 24.2**	**-1.0**
	comp=Z,16nm,1.2s,baz=184,slow=19,SNR=2.1						
URZ				LR	LR	20 49 50.2	
	comp=Z,66μm,19.0s,MS6.4,baz=332,slow=34						
URZ	**Urewera**	**34.26**	**155**	*e*P	**P**	**20 37 01.6**	**-0.1**
PUZ	**Puketiti**	**34.60**	**153**	*e*P	**P**	**20 37 02.9**	**-1.7**
BKZ	**Black Stump Fm**	**34.78**	**157**	*e*P	**P**	**20 37 04.7**	**-1.5**
TSZ	**Takapari Road**	**35.35**	**158**	*e*P	**P**	**20 37 09.2**	**-1.8**
THZ	**Tophouse**	**35.86**	**163**	P	**P**	**20 37 13.8**	**-1.5**
THZ				PcP	PcP	20 39 40.2	-2.2
MATI	**Mati**	**36.25**	**293**	*e*P	**P**	**20 37 18.4**	**-0.4**
TAU	**Tasmania Unive**	**36.60**	**195**	*e*P	**P**	**20 37 23.1**	**+1.6**
TAU				pmax	pmax		
	comp=Z,259nm,1.2s,mb5.9						
TAU				MLR	MLR		
	comp=Z,8μm,19.0s,MS5.5						
TAU	**Tasmania Unive**	**36.60**	**195**	*e*P	**P**	**20 37 23.1**	**+1.6**
	comp=Z,259nm,1.2s,mb5.9						
TAU				LR	LR		
	comp=Z,8μm,19.0s,MS5.5						
BIPH	**Bislig**	**36.65**	**295⇑**	*i*P	**P**	**20 37 25.5**	**+3.2**
DAV	**Davao City (W)**	**36.91**	**293**	*e*P	**P**	**20 37 26.8**	**+2.3**
RPZ	**Rata Peaks**	**37.19**	**166**	P	**P**	**20 37 25.1**	**-1.4**
	comp=Z,52nm,0.8s,mb5.4,baz=254,slow=1.9,SNR=13						
RPZ				S	**S**	**20 43 03.5**	**-6.9**
	comp=Z,20nm,1.2s,baz=100,slow=6.1,SNR=1.9						
FORT	**Forrest**	**37.25**	**228⇓**	*i*P	**P**	**20 37 26.3**	**-0.8**
	comp=Z,491nm,0.7s,mb6.5						
FORT				*e*S	**S**	**20 43 13.9**	**+2.6**
KCP	**Kidapawan**	**37.34**	**292**	*e*P	**P**	**20 37 30.0**	**+2.0**
LBZ	**Lake Benmore**	**37.63**	**167**	PcP	PcP	20 39 49.2	+1.4
BUTP	**Butuan**	**37.65**	**296**	*e*P	**P**	**20 37 30.9**	**+0.3**
BUKP	**Musuan**	**37.70**	**294**	*e*P	**P**	**20 37 31.1**	**0.0**
SCPH	**Surigao**	**38.11**	**297⇑**	*e*P	**P**	**20 37 36.4**	**+1.9**
CBIJ	**Chichi jima**	**38.52**	**335**	P	**P**	**20 37 36.8**	**-1.0**
	comp=Z,568nm,1.2s,mb6.2,baz=271,slow=4.8,SNR=6.6						
CBIJ				LR	LR	20 52 10.9	
	comp=Z,52μm,20.7s,MS6.3,baz=154,slow=34						
MSLP	**Maasin**	**38.82**	**297**	*e*P	**P**	**20 37 41.1**	**+0.7**
PLP	**Palo**	**39.18**	**298**	*e*P	**P**	**20 37 43.3**	**0.0**
BUNI	**Buntu Taipa**	**39.20**	**274⇑**	*e*P	**P**	**20 37 43.3**	**-0.2**
	comp=Z,27nm,0.6s,mb5.2						
PAGZ	**Pagadian**	**39.22**	**293**	*e*P	**P**	**20 37 44.7**	**+1.0**
TBP	**Tagbilaran**	**39.52**	**295**	*e*P	**P**	**20 37 46.6**	**+0.4**
NINI	**Niniconang**	**39.66**	**272⇓**	*e*P	**P**	**20 37 46.4**	**-0.9**
NINI				pmax	pmax		
	comp=Z,1μm,0.9s,mb6.6						
NINI	**Niniconang**	**39.66**	**272⇓**	*e*P	**P**	**20 37 46.4**	**-0.9**
	comp=Z,1μm,0.9s,mb6.6						
LLP	**Lapu-Lapu**	**39.70**	**296⇑**	*e*P	**P**	**20 37 47.8**	**+0.1**
TANI	**Tanete Lipujan**	**40.15**	**274⇑**	*e*P	**P**	**20 37 50.0**	**-1.5**
TANI				pmax	pmax		
	comp=Z,76nm,0.7s,mb5.5						
TANI	**Tanete Lipujan**	**40.15**	**274⇑**	*e*P	**P**	**20 37 50.0**	**-1.5**
	comp=Z,76nm,0.7s,mb5.5						
MBWA	**Marble Bar**	**40.62**	**247**	*e*P	**P**	**20 37 54.2**	**-1.0**
	comp=Z,76nm,1.1s,mb5.2						
MBWA				LR	LR		
	comp=Z,44μm,22.0s,MS6.3						
PVCP	**Virac**	**41.03**	**301**	*e*P	**P**	**20 37 59.3**	**+0.6**
GUIM	**Jordan**	**41.05**	**296**	*e*P	**P**	**20 37 59.5**	**+0.7**
RAR	**Rarotonga**	**41.48**	**113**	P	**P**	**20 38 02.5**	**+0.2**
RAR				pmax	pmax		
	comp=Z,84nm,1.1s						
RAR	**Rarotonga**	**41.48**	**113**	P	**P**	**20 38 02.5**	**+0.2**
	comp=Z,84nm,1.1s,mb5.3,baz=271,slow=5.2,SNR=3.1						
RAR	**Rarotonga**	**41.48**	**113**	P	**P**	**20 38 01.8**	**-0.5**
	comp=Z,106nm,1.0s,mb5.4			

MAJO LR LR
comp=Z,25μm,20.0s,MS6.2
MAT Matsushiro 48.41 337 *e*P **P 20 38 55.0 -2.7**
MAT *e*S **S 20 45 55.0 +0.3**
MAT pmax pmax
comp=Z,147nm,1.5s,mb5.8
MAT MLR MLR
comp=Z,27μm,20.0s,MS6.2
MAT Matsushiro 48.41 337 *e*P **P 20 38 55.0 -2.7**
comp=Z,147nm,1.5s,mb5.8
MAT *e*S **S 20 45 55.0 +0.3**
MAT LR LR
comp=Z,27μm,20.0s,MS6.2
MAT Matsushiro 48.41 337 P **P 20 38 54.7 -3.0**
MAT S **S 20 45 54.0 -0.7**
TATO Taipei 49.31 312 *e*P **P 20 39 03.1 -1.6**
comp=Z,502nm,1.4s,mb6.3
TATO LR LR
comp=Z,30μm,20.0s,MS6.3
PPT Papeete 50.48 106 *e*P **P 20 39 13.6 -0.2**
comp=Z,66nm,1.1s,mb5.6
PPT Papeete 50.48 106 *e*LQ 20 51 37.9
PPT *e*LR LR 20 53 32.3
comp=Z,35μm,27.8s,baz=274
PPT Papeete 50.48 106 P **P 20 39 14.7 +0.9**
comp=Z,17nm,0.3s,mb5.5,baz=167,slow=5.0,SNR=4.5
PAE Paea 50.48 106 *e*P **P 20 39 13.4 -0.4**
comp=Z,156nm,1.1s,mb6.0
TIAR Tiarei 50.70 106 *e*P **P 20 39 15.3 -0.2**
comp=Z,375nm,1.1s,mb6.2
KIP Kipapa 50.79 54 *e*P **P 20 39 15.6 -0.5**
KIP pmax pmax
comp=Z,327nm,1.2s,mb6.1
KIP MLR MLR
comp=Z,36μm,21.0s,MS6.4
KIP Kipapa 50.79 54 *e*P **P 20 39 15.6 -0.5**
comp=Z,327nm,1.2s,mb6.1
KIP LR LR
comp=Z,36μm,21.0s,MS6.4
TVO Taravao 50.80 107 *e*P **P 20 39 16.2 -0.1**
comp=Z,175nm,1.1s,mb5.9
TBI Tubuai 51.26 114 *e*P **P 20 39 19.3 -0.3**
comp=Z,449nm,1.0s,mb6.3
TBI *e*LQ 20 51 54.7
TBI *e*LR LR 20 54 21.5
comp=Z,25μm,36.8s,baz=290
QZH Quanzhou 51.44 310⇓ *i*P **P 20 39 21.3 +0.3**
QZH AP pP 20 39 32.1 +0.5
QZH PP PP 20 41 22.0 +3.0
QZH S **S 20 46 38.1 +1.2**
QZH AMB AMB
comp=Z,2μm,1.2s,mb6.8
QZH LR LR
comp=N,28μm,20.9s,MS6.3
QZH LR LR
comp=E,12μm,18.2s,MS6.3
QZH LR LR
comp=Z,35μm,20.6s,MS6.4
SPT South Point 51.56 58⇓ *e*P **P 20 39 20.5 -1.5**
DAH Dandelion 51.73 58⇓ *e*P **P 20 39 22.2 -1.1**
WOH Wood Valley 51.83 58⇓ *e*P **P 20 39 22.1 -1.8**
SWH Southwest Rift 51.83 58⇓ *e*P **P 20 39 22.7 -1.2**
MWH Mokuaweoweo 51.85 58⇓ *e*P **P 20 39 23.0 -1.1**
HKL Haleakala 51.87 56 *e*P **P 20 39 23.4 -0.9**
MEH Mehetia 51.94 107 *e*P **P 20 39 24.2 -0.6**
comp=Z,148nm,1.3s,mb5.7
PMOR Pomariorio Ree 51.95 103 *e*P **P 20 39 24.6 -0.3**
comp=Z,316nm,1.2s,mb6.1
DES Desert 51.96 58⇓ *e*P **P 20 39 23.7 -1.2**
PLL Puu Ulaula 51.99 58⇓ *e*P **P 20 39 24.1 -1.0**
HMH Humuula 52.00 58⇓ *e*P **P 20 39 24.6 -0.6**
MLH Mauna Loa 52.03 58⇓ *e*P **P 20 39 24.3 -1.2**
OUT Outlet 52.07 58⇓ *e*P **P 20 39 24.2 -1.5**
NGH National Guard 52.43 58⇓ *e*P **P 20 39 27.5 -0.9**
YUK Yuzh-Kuril'sk 53.03 348 *e*P **P 20 39 31.0 -1.7**
YUK *e* 20 40 42.0
YUK *e* 20 41 35.0
YUK *e*S **S 20 47 03.0 +4.6**
YUK *e*PS PS 20 47 14.0 +0.5
YUK *e* 20 49 24.0
YUK pmax pmax
comp=Z,7μm,10.0s
YUK pmax pmax
comp=Z,190nm,0.5s,mb6.3
YUK pmax pmax
comp=E,530nm,0.8s
SSE Sheshan 53.29 318 P **P 20 39 34.4 -0.4**
SSE PP PP 20 41 32.8 -3.8
SSE S **S 20 47 05.3 +3.2**
SSE SS SS 20 50 45.4 +4.1
SSE AMB AMB
comp=Z,306nm,1.3s,mb6.1
SSE AMB AMB
comp=Z,3μm,10.7s
SSE LR LR
comp=N,4μm,18.5s,MS5.8
SSE LR LR
comp=E,6μm,18.5s,MS5.8
SSE LR LR
comp=Z,12μm,20.6s,MS5.9
SSE Sheshan 53.29 318 P **P 20 39 34.4 -0.4**
comp=Z,306nm,1.3s,mb6.1
SSE sP sP 20 39 38.0 -12
SSE PP PP 20 41 32.7 -3.9
SSE S **S 20 47 05.2 +3.1**
SSE sS 20 47 10.6
SSE SS SS 20 50 45.4 +4.1
SSE LR LR
comp=Z,12μm,20.6s,MS5.9
HKC Hong Kong 53.54 305 *e*P **P 20 39 42.0 +5.3**
HKC S **S 20 47 07.0 +1.5**
KS15 Wonju Array Si 53.83 329 *e*P **P 20 39 38.5 -0.2**
KS15 *e* 20 40 03.5
ASAJ Asahikawa 53.88 345 P **P 20 39 39.3 +0.4**
ASAJ pmax pmax
comp=Z,87nm,0.9s
ASAJ Asahikawa 53.88 345 P **P 20 39 39.3 +0.4**
comp=Z,87nm,0.8s,mb5.7,baz=225,slow=10.0,SNR=23
NJ2 Nanjing 55.44 318 *e*P **P 20 39 51.0 +0.6**
NJ2 AP pP 20 40 01.3 0.0
NJ2 XP sP 20 40 05.9 +0.4
NJ2 S **S 20 47 36.0 +5.1**
NJ2 XS 20 47 52.0
NJ2 AMB AMB
comp=Z,1μm,1.4s,mb6.7
NJ2 AMB AMB
comp=Z,7μm,11.0s
NJ2 LR LR
comp=N,15μm,18.4s,MS6.3
NJ2 LR LR
comp=E,23μm,21.5s,MS6.3
NJ2 LR LR
comp=Z,24μm,20.1s,MS6.3
QIZ Qiongzhong 55.73 299 P **P 20 39 53.8 +1.1**
QIZ AP pP 20 40 02.9 -0.6
QIZ *e*S **S 20 47 36.1 +1.1**
QIZ XS 20 47 53.6
QIZ AMB AMB
comp=Z,207nm,1.2s,mb6.0
QIZ AMB AMB
comp=Z,5μm,18.1s
QIZ LR LR
comp=E,8μm,25.5s
QIZ LR LR
comp=Z,20μm,25.7s,MS6.1
QIZ Qiongzhong 55.73 299 *e*P **P 20 39 53.7 +1.0**
comp=Z,309nm,1.2s,mb6.2
QIZ *e* 20 40 19.4
YSS Yuzh-Sakhalins 56.49 346κ *i*P **P 20 39 56.0 -1.8**
YSS *i* *SP sP 20 40 10.0 -2.9
YSS *e* 20 40 56.0
YSS *e*PPP PPP 20 43 23.0 -0.2
YSS *e*S **S 20 47 43.0 -1.8**
YSS *i* PS PS 20 47 50.0 -12
YSS *e*SSS SSS 20 53 41.0 -3.0
YSS pmax pmax
comp=Z,270nm,1.2s,mb6.2
YSS pmax pmax
comp=Z,4μm,8.0s
YSS MLR MLR
comp=Z,36μm,19.0s,MS6.5
YSS MLR MLR
comp=N,31μm,20.0s
YSS Yuzh-Sakhalins 56.49 346 *e*P **P 20 39 56.7 -1.1**
comp=N,444nm,1.1s,mb6.4
YSS LR LR
comp=Z,42μm,20.0s,MS6.5
VLA Vladivostok 56.55 336⇑ *i*P **P 20 40 00.0 +1.8**
VLA *i* 20 42 11.0
VLA *i* S **S 20 47 48.0 +2.5**
VLA pmax pmax
comp=N,3μm,10.0s
VLA pmax pmax
comp=Z,5μm,10.0s
VLA pmax pmax
comp=E,2μm,11.0s
VLA pmax pmax
comp=Z,2μm,6.0s
VLA smax
comp=N,4μm,12.0s
VLA MLR MLR
comp=Z,12μm,15.0s,MS6.1
VLA MLR MLR
comp=N,12μm,18.0s,MS6.1
VLA MLR MLR
comp=E,6μm,17.0s,MS6.1
WHN Wuhan 57.67 314⇑P **P 20 40 04.6 -1.8**
WHN S **S 20 47 59.0 -1.5**
WHN AMB AMB
comp=Z,224nm,1.2s,mb6.1
WHN LR LR
comp=N,3μm,16.9s,MS6.3
WHN LR LR
comp=E,21μm,17.6s,MS6.3
WHN LR LR
comp=Z,48μm,22.1s,MS6.6
SKR Severo-Kuril's 58.30 357 *e*P **P 20 40 04.0 -6.5**
SKR *e* 20 40 54.0
SKR *e* 20 42 23.0
SKR *e*PPP PPP 20 43 38.0 -6.8
SKR *e*S **S 20 48 05.0 -3.4**
SKR *e*SS SS 20 51 56.0 -6.2
SKR pmax pmax
comp=Z,640nm,1.4s,mb6.5
SKR pmax pmax
comp=N,5μm,16.0s
SKR pmax pmax
comp=Z,8μm,16.0s
SKR smax
comp=N,10μm,20.0s
SKR smax
comp=E,9μm,20.0s
SKR MLR MLR
comp=N,25μm,18.0s,MS6.5
SKR MLR MLR
comp=Z,33μm,18.0s,MS6.5
SKR MLR MLR
comp=E,14μm,16.0s,MS6.5
UBT Ubonrachathani 58.64 293⇑P **P 20 40 14.5 +1.2**
comp=E,465nm,1.0s,mb6.5
MDJ Mudanjiang 58.72 335 P **P 20 40 12.4 -1.1**
MDJ PCP PcP 20 41 01.8 -1.0
MDJ PP PP 20 42 22.3 -2.9
MDJ SCP 20 45 02.3
MDJ PCS 20 45 03.5
MDJ S **S 20 48 18.5 +4.5**
MDJ SS SS 20 52 09.6 +0.6
MDJ AMB AMB
comp=Z,160nm,1.7s,mb5.8
MDJ AMB AMB
comp=Z,3μm,8.7s
MDJ LR LR
comp=N,13μm,25.2s,MS6.0
MDJ LR LR
comp=E,8μm,25.8s,MS6.0
MDJ LR LR
comp=Z,25μm,24.1s,MS6.2
MDJ Mudanjiang 58.72 335 *e*P **P 20 40 12.5 -1.0**
comp=Z,482nm,1.5s,mb6.3
TIA Tai'an 59.15 321⇓P **P 20 40 15.1 -1.5**
TIA XP sP 20 40 31.5 -0.3
TIA S **S 20 48 20.5 +0.7**
TIA AMB AMB
comp=Z,171nm,1.2s,mb6.0
TIA AMB AMB
comp=Z,1μm,8.0s
TIA LR LR
comp=N,11μm,17.0s,MS6.2
TIA LR LR
comp=E,8μm,17.0s,MS6.2
SNY Shenyang 59.32 329⇑P **P 20 40 14.6 -3.1**
SNY XP sP 20 40 29.5 -3.3
SNY PP PP 20 42 30.3 -0.3
SNY S **S 20 48 24.8 +3.0**
SNY XS 20 48 43.1
SNY LR LR
comp=N,9μm,21.3s
SNY LR LR
comp=Z,29μm,25.1s,MS6.3
DRV Dumont d'Urvil 60.30 189 P **P 20 40 33.0 +8.9**
DRV S **S 20 48 40.0 +5.9**
DRV SS SS 20 52 38.0 +5.0
DRV L 20 55 00.0
DRV R 20 59 00.0
PET Petropavlovsk 60.57 359 *d i*P **P 20 40 24.3 -1.9**
PET *e*S **S 20 48 34.6 -3.2**
PET *e*SS SS 20 52 42.6 +5.1
PET *e*SSS SSS 20 55 05.6 -7.5
PET pmax pmax
comp=Z,227nm,1.3s,mb6.1
PET pmax pmax
comp=Z,5μm,24.3s
PET pmax pmax
comp=N,4μm,17.0s
PET pmax pmax
comp=Z,7μm,14.0s
PET pmax pmax
comp=N,1μm,24.0s
PET pmax pmax
comp=Z,2μm,15.7s
PET pmax pmax
comp=Z,3μm,14.4s
PET pmax pmax
comp=Z,2μm,21.8s
PET smax
comp=N,5μm,10.2s
PET smax
comp=E,4μm,13.5s
PET smax
comp=N,8μm,22.6s
PET MLR MLR
comp=Z,13μm,18.0s,MS6.1
PET MLR MLR
comp=Z,11μm,17.0s
PET MLR MLR
comp=N,22μm,19.0s
PET MLR MLR
comp=N,20μm,19.0s
PET Petropavlovsk 60.57 359 *e*P **P 20 40 24.2 -1.9**
comp=N,399nm,1.3s,mb6.4
PET LR LR
comp=Z,19μm,20.0s,MS6.2
SNG Songkhla 60.58 283 P **P 20 40 26.0 -0.7**
KKTK Khon Kaen 60.99 293⇓P **P 20 40 30.0 +0.5**
comp=Z,2μm,0.8s
ENH Enshi 61.10 311 *e*P **P 20 40 29.1 -1.0**
comp=Z,499nm,0.9s,mb6.6
ENH *e*S **S 20 48 46.3 +1.5**
FX1 Attu Island--F 61.54 9 P **P 20 40 31.4 -1.3**
FX1 pmax pmax
comp=Z,124nm,0.6s
FX1 Attu Island--F 61.54 9 P **P 20 40 31.4 -1.3**
comp=Z,124nm,0.6s,mb6.2,baz=172,slow=4.0,SNR=14
FX1 Attu Island--F 61.54 9 *e*P **P 20 40 31.8 -0.8**
SMY Shemya 61.55 10 *e*P **P 20 40 32.0 -0.7**
SMY pmax pmax
comp=Z,953nm,1.3s,mb6.8
SMY MLR MLR
comp=Z,54μm,21.0s,MS6.7
SMY Shemya 61.55 10 *e*P **P 20 40 32.0 -0.8**
comp=Z,953nm,1.3s,mb6.8
SMY LR LR
comp=Z,54μm,21.0s,MS6.7
KLR Kul'dur 61.76 340 *e*P **P 20 40 29.7 -4.5**
KLR pmax pmax
comp=N,90nm,2.0s
KLR pmax pmax
comp=E,90nm,2.0s
KLR pmax pmax
comp=Z,220nm,2.0s,mb5.9
COCO West Island 61.77 260 *e*P **P 20 40 33.0 -1.7**
comp=Z,193nm,1.0s,mb6.2
BJT Baijiatuau 62.14 323 *e*P **P 20 40 36.0 -0.9**
BJT pmax pmax
comp=Z,557nm,1.5s
BJT Baijiatuau 62.14 323 *e*P **P 20 40 36.0 -0.9**
comp=Z,557nm,1.5s,mb6.5
BJI Beijing 62.15 323 *e*P **P 20 40 35.6 -1.4**
BJI 20 42 53.3
BJI S **S 20 48 54.3 -3.8**
BJI SS SS 20 53 07.6 +4.6
BJI pmax pmax
comp=Z,216nm,1.4s,mb6.1
BJI MLR MLR
comp=Z,27μm,22.9s,MS6.3
BJI Beijing 62.15 323 *e*P **P 20 40 35.6 -1.4**
comp=Z,216nm,1.4s,mb6.1
BJI PP PP 20 42 53.3 -2.7
BJI S **S 20 48 54.3 -3.8**
BJI SS SS 20 53 07.6 +4.6
BJI LR LR
comp=Z,27μm,22.9s,MS6.3
KIWB Kanaga Island 62.69 16 *e*P **P 20 40 39.0 -1.4**
NNT Nongplab 62.75 288 P **P 20 40 42.5 +1.2**
NST Nakhon Sawan 63.25 292⇑P **P 20 40 45.0 +0.4**
comp=Z,275nm,1.1s,mb6.3
XAN Xi'an 63.42 314 P **P 20 40 44.6 -0.9**
XAN XS 20 49 31.6
XAN AMB AMB
comp=Z,96nm,1.2s,mb5.8
XAN LR LR
comp=N,4μm,17.2s,MS6.1
XAN LR LR
comp=E,10μm,18.4s,MS6.1
XAN LR LR
comp=Z,21μm,18.4s,MS6.4
KMI Kunming 64.19 303⇓P **P 20 40 51.6 +0.9**
KMI *SP sP 20 40 56.5 -9.3
KMI 20 43 14.8
KMI PPP PPP 20 44 49.1 +2.9
KMI S **S 20 49 29.6 +5.8**
KMI PS PS 20 49 48.6 +0.3
KMI SS SS 20 53 39.2 +4.4
KMI pmax pmax
comp=Z,124nm,1.4s,mb5.8
KMI MLR MLR
comp=Z,12μm,21.0s,MS6.1
KMI Kunming 64.19 303⇓P **P 20 40 51.6 +0.9**
comp=Z,124nm,1.4s,mb5.8
KMI pP pP 20 40 54.3 -7.4
KMI sP sP 20 40 56.5 -9.3
KMI PP PP 20 43 14.8 +1.0
KMI PPP PPP 20 44 49.1 +2.9
KMI S **S 20 49 29.6 +5.8**
KMI sS 20 49 33.3
KMI PS PS 20 49 48.6 +0.3
KMI SS SS 20 53 39.2 +4.4
KMI LR LR
comp=Z,12μm,21.0s,MS6.1
RKT Rikitea 64.49 112 *e*P **P 20 40 51.9 -0.8**
comp=Z,257nm,1.2s,mb6.1
CHRT Chiangrai 64.87 296⇓P **P 20 40 55.0 -0.2**
comp=Z,2μm,1.2s,mb7.0
CM31 Chiang Mai Arr 65.17 294 *e*P **P 20 40 58.1 +0.9**
comp=Z,1μm,1.2s,mb6.8
CM31 LR LR
comp=Z,7μm,20.0s,MS5.9
CMAR Chiang Mai Arr 65.17 294 P **P 20 40 58.0 +0.8**
comp=Z,377nm,1.0s,mb6.4,baz=112,slow=4.0,SNR=332
CMAR S S 20 49 40.5 +4.6
comp=Z,3.4nm,1.2s,baz=135,slow=1.3,SNR=2.8
CMAR PKKP PKKP 21 01 17.2 +5.7
comp=Z,0.5nm,0.7s,baz=304,slow=5.2,SNR=4.2
CMAR LR LR 21 09 01.1
comp=Z,5μm,20.7s,MS5.7,baz=120,slow=36
CMAR PKPPKP 21 09 30.7
comp=Z,5.2nm,1.2s,baz=300,slow=3.6,SNR=4.2
CMAR PKP2ab 21 09 46.6
comp=Z,9.1nm,0.9s,baz=282,slow=4.5,SNR=9.9
CHG Chiang Mai 65.28 295⇓P **P 20 40 54.2 -3.7**
comp=Z,150nm,1.4s,mb5.8
NIKO Nikolski 66.23 20 *e*P **P 20 41 02.0 -1.3**
NIKO *e* 20 41 16.8
HIA Hailar 66.59 333 *e*P **P 20 41 04.6 -1.1**
HIA pmax pmax
comp=Z,457nm,1.4s
HIA Hailar 66.59 333 *e*P **P 20 41 04.6 -1.0**
comp=Z,457nm,1.4s,mb6.3
CASY Casey 67.28 199 *e*P **P 20 41 08.3 -1.5**
comp=Z,269nm,1.4s,mb6.1
CASY *e* pP 20 41 20.9 0.0
CASY LR LR
comp=Z,14μm,21.0s,MS6.2
MA2 Magadan 67.50 355 *e*P **P 20 41 09.0 -2.2**
MA2 *e* pP 20 41 22.3 0.0
MA2 pmax pmax
comp=Z,140nm,1.0s,mb6.0
MA2 MLR MLR
comp=Z,19μm,22.0s,MS6.3
MA2 Magadan 67.50 355 *e*P **P 20 41 09.0 -2.2**
comp=Z,140nm,1.0s,mb6.0
MA2 *e* pP 20 41 22.3 0.0
MA2 LR LR
comp=Z,19μm,22.0s,MS6.3
UNV Unalaska Valle 67.76 21 *e*P **P 20 41 11.2 -1.7**
comp=Z,945nm,1.4s,mb6.6
UNV LR LR
comp=Z,45μm,20.0s,MS6.7
LZH Lanzhou 68.05 314⇑P **P 20 41 16.4 +1.3**
LZH AP pP 20 41 30.8 +4.6
LZH PP PP 20 43 48.0 +0.6
LZH S S 20 50 13.8 +3.3
LZH XS 20 50 34.0
LZH AMB AMB
comp=Z,2μm,1.3s,mb6.9
LZH AMB AMB
comp=Z,4μm,4.0s
LZH LR LR
comp=E,25μm,18.9s
LZH LR LR
comp=Z,45μm,20.0s,MS6.7
LZH Lanzhou 68.05 314⇑P **P 20 41 16.4 +1.3**
LZH *PP pP 20 41 30.8 +4.6
LZH *SP sP 20 41 37.7 +7.5
LZH 20 43 48.0
LZH S S 20 50 13.8 +3.3
LZH *SS 20 50 34.0
LZH PS PS 20 50 55.3 +15
LZH SS SS 20 54 40.3 +5.8
LZH pmax pmax
comp=Z,2μm,1.3s,mb6.9
LZH MLR MLR
comp=Z,45μm,20.0s,MS6.7
LZH Lanzhou 68.05 314⇑P **P 20 41 16.4 +1.3**
comp=Z,2μm,1.3s,mb6.9
LZH pP pP 20 41 30.8 +4.6
LZH sP sP 20 41 37.7 +7.5
LZH PP PP 20 43 48.0 +0.6
LZH S S 20 50 13.8 +3.3
LZH sS 20 50 34.0
LZH PS PS 20 50 55.3 +15
LZH SS SS 20 54 40.3 +5.8
LZH LR LR
comp=Z,45μm,20.0s,MS6.7
PTCN Pitcairn Islan 69.01 114 PFAKE 20 41 30.0 +8.8
PTCN LR LR
comp=Z,13μm,21.0s,MS6.1
VNDA Vanda 69.72 179 P **P 20 41 25.3 +0.6**
comp=Z,20nm,0.8s,mb5.1,baz=346,slow=7.1,SNR=28
VNDA S S 20 50 23.8 -5.8
comp=Z,1.4nm,1.1s,baz=45,slow=16,SNR=1.8
VNDA LR LR 21 06 39.1
comp=Z,51μm,20.8s,MS6.8,baz=4.2,slow=31
VNDA PKPPKP 21 09 30.0
comp=Z,6.7nm,1.1s,baz=212,slow=4.2,SNR=4.3
VNDA Vanda 69.72 179 P **P 20 41 25.3 +0.6**
VNDA S S 20 50 23.8 -5.8
VNDA LR LR 21 06 39.1
VNDA P'P' 21 09 30.0
SBA Scott Base 70.14 178 P **P 20 41 33.1 +5.8**
SBA Scott Base 70.14 178 P **P 20 41 27.8 +0.5**
comp=Z,158nm,1.3s,mb5.8
SBA LR LR
comp=Z,30μm,21.0s,MS6.5
CLNS Chul'man 70.38 341 *e*P **P 20 41 29.3 +0.3**
CLNS *e*PP pP 20 41 37.2 -2.9

CLNS e 20 41 51.9
CLNS e 20 44 01.1
CLNS ePPP PPP 20 45 39.4 -7.9
CLNS eS S 20 50 37.2 -0.4
CLNS e 20 51 23.1
CLNS pmax pmax
comp=Z,274nm,1.0s,mb6.1
CLNS pmax pmax
comp=N,119nm,1.1s
CLNS pmax pmax
comp=E,36nm,1.1s
CLNS pmax pmax
comp=Z,70nm,1.1s,mb5.5
CLNS pmax pmax
comp=N,47nm,0.9s
CLNS pmax pmax
comp=E,41nm,1.1s
CLNS smax
comp=N,2μm,12.4s
CLNS smax
comp=Z,1μm,12.1s
CLNS smax
comp=E,486nm,12.5s
CLNS MLR MLR
comp=Z,14μm,18.0s,MS6.2
CLNS MLR MLR
comp=N,7μm,17.0s,MS6.0
CLNS MLR MLR
comp=E,2μm,16.0s,MS6.0
SEY Seymchan 70.72 357 eP **P 20 41 29.0 -2.0**
SEY 20 41 57.4
SEY 20 44 05.7
SEY ePPP PPP 20 45 55.9 +5.3
SEY eS S 20 50 40.5 -1.0
SEY PS PS 20 51 10.8 -3.1
SEY 20 51 31.4
SEY pmax pmax
comp=N,250nm,1.3s
SEY pmax pmax
comp=Z,660nm,1.3s,mb6.4
SEY pmax pmax
comp=E,20nm,0.9s
SEY MLR MLR
comp=N,84μm,19.0s,MS7.1
SEY MLR MLR
comp=Z,149μm,19.0s,MS7.3
SEY MLR MLR
comp=E,46μm,17.0s,MS7.1
SDPT Sand Point 71.15 23 eP **P 20 41 31.8 -1.9**
comp=E,331nm,1.0s,mb6.2
IMP Imphal 71.56 299 eP **P 20 41 35.0 -1.7**
ULN Ulaanbaatar 72.11 326 eP **P 20 41 39.9 +0.4**
ULN pmax pmax
comp=Z,621nm,1.1s,mb6.5
ULN MLR MLR
comp=Z,13μm,20.0s,MS6.2
ULN Ulaanbaatar 72.11 326 eP **P 20 41 39.9 +0.4**
comp=Z,621nm,1.1s,mb6.5
ULN LR LR
comp=Z,13μm,20.0s,MS6.2
SONM Songino Array 72.46 326 P **P 20 41 41.6 0.0**
comp=Z,271nm,0.8s,mb6.2,baz=133,slow=5.4,SNR=339
SONM S S 20 51 08.2 +6.3
comp=Z,0.5nm,0.7s,baz=292,slow=7.8,SNR=2.9
SONM PKPPKP 21 09 22.7
comp=Z,3.0nm,1.1s,baz=270,slow=1.2,SNR=9.8
YAK Yakutsk 73.34 346 *d iP* **P 20 41 45.8 -0.8**
YAK e*PP pP 20 41 56.1 -1.5
YAK e 20 42 01.7
YAK e 20 44 33.5
YAK eS S 20 51 12.7 +1.2
YAK e 20 51 53.8
YAK eSS SS 20 55 49.9 -6.4
YAK pmax pmax
comp=Z,245nm,1.0s,mb6.1
YAK pmax pmax
comp=N,70nm,1.2s
YAK pmax pmax
comp=E,47nm,1.1s
YAK pmax pmax
comp=Z,22nm,1.0s
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK smax
comp=N,2μm,11.1s
YAK smax
comp=E,1μm,13.5s
YAK Yakutsk 73.34 346 eP **P 20 41 45.1 -1.4**
comp=E,518nm,0.8s,mb6.5
YAK e 20 42 09.6
YAK LR LR
comp=Z,32μm,21.0s,MS6.6
SHL Shillong 73.57 299 eP **P 20 41 50.0 +1.4**
SHL eS S 20 51 19.0 +4.2
AGT Agartala 73.63 298 ⇑ *iP* **P 20 41 49.0 0.0**
AGT *i* 20 43 41.0
MIR Mirnyy 73.66 202 *c*eP **P 20 41 56.0 +7.7**
MIR ePP PP 20 44 42.0 +7.4
MIR ePPP PPP 20 46 28.0 +9.1
MIR eS S 20 51 16.0 +1.1
MIR eSS SS 20 56 00.0 -0.9
MIR pmax pmax
comp=Z,3μm,13.0s
BOD Bodaibo 75.05 337 eP **P 20 41 54.3 -2.2**
LSA Lhasa 75.43 303 P **P 20 42 01.0 +1.7**
LSA S S 20 51 37.1 +1.6
LSA AMB AMB
comp=Z,40nm,1.2s,mb5.2
LSA AMB AMB
comp=Z,360nm,16.0s
LSA LR LR
comp=N,4μm,24.0s,MS5.9
LSA LR LR
comp=E,6μm,24.0s,MS5.9
LSA LR LR
comp=Z,6μm,25.0s,MS5.8
LSA Lhasa 75.43 303 eP **P 20 42 00.5 +1.2**
LSA pmax pmax
comp=Z,291nm,1.5s,mb6.0
LSA Lhasa 75.43 303 eP **P 20 42 00.5 +1.2**
comp=Z,292nm,1.5s,mb6.0
ZAK Zakamensk 75.56 327 ⇓ *iP* **P 20 41 59.7 +0.1**
CAL Calcutta 75.86 296 eP **P 20 42 04.4 +2.5**
CAL e 20 51 51.8
KDAK Kodiak Island 75.98 24 eP **P 20 42 01.4 -0.4**
comp=Z,984nm,1.0s,mb6.7
IRK Irkutsk 76.04 329 eP **P 20 42 02.0 -0.3**
IRK e 20 42 18.5
IRK e 20 51 33.6
IRK pmax pmax
comp=Z,349nm,2.1s,mb5.9
TLY Talaya 76.06 328 P **P 20 42 02.3 -0.1**
comp=Z,1μm,1.0s,mb6.8
TLY Talaya 76.06 328 eP **P 20 42 02.5 +0.1**
TLY e 20 45 00.4
TLY eS S 20 51 45.7 +3.8
TLY pmax pmax
comp=Z,268nm,1.1s,mb6.1
TLY Talaya 76.06 328 eP **P 20 42 02.0 -0.4**
comp=Z,299nm,1.0s,mb6.2
TLY LR LR
comp=Z,4μm,20.0s,MS5.7
ANM Nome 76.78 15 eP **P 20 42 06.6 +0.4**
GTK Gangtok 76.87 300 eP **P 20 42 07.0 -0.6**
TNA Tin City 76.99 13 eP **P 20 42 06.0 -1.4**
comp=Z,97nm,1.1s,mb5.7
TNA LR LR
comp=Z,17μm,19.0s,MS6.4
SVW2 Sparrevohn 77.09 21 eP **P 20 42 07.5 -0.6**
MOY Mondy 77.46 327 eP **P 20 42 10.7 +0.4**
RSO Redoubt South 77.68 22 eP **P 20 42 09.8 -1.5**
SPU Mount Spurr 78.41 22 eP **P 20 42 13.5 -1.8**
SLKM Skilak Lake 78.67 23 eP **P 20 42 15.7 -1.0**
JIRN Jiri 79.04 300 eP **P 20 42 19.1 -0.4**
comp=Z,390nm,1.2s,mb6.2
FIB Fire Island 79.10 22 eP **P 20 42 18.3 -0.8**
FIB MLR MLR
comp=Z,7μm,20.0s,MS6.0
VIS Vishakhapatnam 79.35 290 eP **P 20 42 21.4 +0.1**
VIS e 20 42 29.1
comp=Z,282nm,1.3s
PKI Pulchoki 79.69 300 eP **P 20 42 22.8 -0.2**
comp=Z,503nm,1.2s,mb6.3
PMR Palmer 79.76 22 eP **P 20 42 21.6 -1.1**
PMR pmax pmax
comp=Z,463nm,1.0s,mb6.4
PMR Palmer 79.76 22 eP **P 20 42 21.6 -1.1**
comp=Z,463nm,1.0s,mb6.4
KKN Kakani 79.85 300 eP **P 20 42 23.6 -0.3**
comp=Z,234nm,0.9s,mb6.1
DMN Daman 79.96 300 eP **P 20 42 24.8 +0.3**
comp=Z,549nm,1.0s,mb6.4
PALK Pallekele 79.99 279 eP **P 20 42 26.4 +1.5**
comp=Z,513nm,1.1s,mb6.4
PALK LR LR
comp=Z,1μm,19.0s,MS5.3
SML Sawmill 80.19 22 eP **P 20 42 23.9 -1.1**
GKN Gorkha 80.46 300 eP **P 20 42 25.9 -1.2**
comp=Z,460nm,0.8s,mb6.4
EYAK Cordova Ski Ar 80.46 24 eP **P 20 42 25.1 -1.3**
DIV Divide 80.78 24 eP **P 20 42 27.0 -1.2**
comp=Z,775nm,1.1s,mb6.5
DIV LR LR
comp=Z,86μm,20.0s,MS7.1
IMA Indian Mountai 81.15 18 eP **P 20 42 29.1 -0.9**
IMA pmax pmax
comp=Z,660nm,1.0s,mb6.5
IMA Indian Mountai 81.15 18 eP **P 20 42 30.4 +0.4**
comp=Z,139nm,1.0s,mb5.8
MCK McKinley 81.16 21 eP **P 20 42 28.1 -2.0**
MCK pmax pmax
comp=Z,322nm,1.0s,mb6.2
MCK MLR MLR
comp=Z,11μm,20.0s,MS6.2
MCK McKinley 81.16 21 eP **P 20 42 28.1 -1.9**
comp=Z,322nm,1.0s,mb6.2
MCK LR LR
comp=Z,11μm,20.0s,MS6.2
KOLN Koldanda 81.29 300 eP **P 20 42 31.6 +0.1**
comp=Z,206nm,0.9s,mb6.1
BLSP Bilaspur 81.35 294 e **P 20 42 31.5 -0.4**
MDRS Chennai 81.39 284 eP **P 20 42 32.0 -0.3**
MDRS e 20 46 22.0
TIXI Tiksi 81.81 351 eP **P 20 42 32.4 -0.9**
TIXI eS S 20 52 44.2 +1.8
TIXI ePS PS 20 53 32.4 -3.7
TIXI eSS SS 20 58 00.2 -3.9
TIXI eSSS SSS 21 01 24.0 -3.0
TIXI pmax pmax
comp=Z,312nm,1.6s,mb6.0
TIXI pmax pmax
comp=N,81nm,1.5s
TIXI pmax pmax
comp=E,88nm,1.4s
TIXI pmax pmax
comp=Z,629nm,1.8s,mb6.2
TIXI MLR MLR
comp=N,16μm,18.0s,MS6.6
TIXI MLR MLR
comp=E,17μm,18.0s,MS6.6
TIXI MLR MLR
comp=Z,29μm,18.0s,MS6.7
TIXI Tiksi 81.81 351 ⇓ *iP* **P 20 42 32.0 -1.3**
TIXI LR LR
comp=Z,15μm,19.0s,MS6.4
THY Trims Highway 82.11 22 eP **P 20 42 34.6 -0.3**
QSPA South Pole Qui 82.20 180 eP **P 20 42 35.9 +0.7**
comp=Z,117nm,1.1s,mb5.7
COLA College 82.23 20 eP **P 20 42 33.7 -1.9**
COLA pmax pmax
comp=Z,320nm,1.0s,mb6.2
COLA College 82.23 20 eP **P 20 42 34.0 -1.6**
comp=Z,468nm,1.1s,mb6.3
ALBI Allahabad 82.31 297 eP **P 20 42 36.0 -0.8**
WMQ Urumqi 82.47 316 ⇑ *iP* **P 20 42 37.6 +0.3**
WMQ PP PP 20 45 48.6 +0.1
WMQ S S 20 52 52.0 +2.3
WMQ AMB AMB
comp=Z,593nm,1.5s,mb6.3
WMQ AMB AMB
comp=Z,4μm,7.6s
WMQ LR LR
comp=N,6μm,17.2s,MS6.2
WMQ LR LR
comp=E,6μm,18.7s,MS6.2
WMQ LR LR
comp=Z,8μm,18.0s,MS6.1
ILAR Eielson Array 82.50 20 P **P 20 42 35.2 -1.8**
comp=Z,153nm,1.1s,mb5.9,baz=257,slow=4.7,SNR=195
ILAR PP PP 20 45 44.9 -3.4
comp=Z,23nm,1.2s,baz=238,slow=7.8,SNR=4.3
ILAR PKKPbc 21 01 03.0
comp=Z,2.2nm,0.7s,baz=341,slow=1.5,SNR=17
ILAR PKPPKP 21 08 59.1
comp=Z,0.6nm,0.9s,baz=121,slow=1.5,SNR=4.8
ILAR LR LR 21 20 13.9
comp=Z,20μm,18.9s,MS6.5,baz=262,slow=36
MENT Mentasta 82.60 23 eP **P 20 42 37.3 -0.2**
SIT Sitka 83.41 30 eP **P 20 42 42.2 +0.5**
SIT pmax pmax
comp=Z,310nm,1.4s,mb6.2
SIT Sitka 83.41 30 eP **P 20 42 42.7 +1.0**
comp=Z,383nm,1.7s,mb6.2
KOD Kodaikanal 83.61 281 eP **P 20 42 48.0 +4.2**
HYB Hyderabad 83.76 288 ⇓ eP **P 20 42 44.0 -0.4**
HYB eS S 20 53 06.0 +2.7
HYB pmax pmax
comp=Z,375nm,1.4s,mb6.3
HYB Hyderabad 83.76 288 ⇓ eP **P 20 42 44.0 -0.4**
comp=Z,375nm,1.4s,mb6.3
HYB eS S 20 53 06.0 +2.7
HYB Hyderabad 83.76 288 ⇓ *iP* **P 20 42 44.0 -0.4**
comp=Z,375nm,1.4s,mb6.3
HYB esP sP 20 42 56.0 -3.6
HYB ePP PP 20 46 00.0 +0.5
HYB eSKS SKS 20 53 00.0 -0.5
HYB eS S 20 53 06.0 +2.7
HYB e 20 54 00.0
TRD Trivandrum 83.84 279 e **P 20 42 53.4 +8.4**
NGP Nagpur 83.97 292 eP **P 20 42 44.5 -0.9**
NGP e 20 43 01.8
NGP eS S 20 53 05.6 +0.3
DAWY Dawson 84.85 23 eP **P 20 42 48.9 0.0**
KHMM Horse Mountain 85.16 48 eP **P 20 42 52.5 +1.6**
HOPS Hopland 85.18 50 eP **P 20 42 51.6 +0.5**
comp=Z,344nm,1.1s,mb6.4
HOPS LR LR
comp=Z,11μm,19.0s,MS6.3
KRMB Red Mountain 85.19 47 eP **P 20 42 52.1 +1.0**
SAC San Andreas 85.35 51 eP **P 20 42 51.0 -1.0**
MAW Mawson 85.39 202 eP **P 20 42 52.8 +1.4**
comp=Z,31nm,0.8s,mb5.5
MAW Mawson 85.39 202 P **P 20 42 51.1 -0.3**
MAW S S 20 53 11.8 -6.4
MAW pmax pmax
comp=Z,20nm,0.9s
MAW smax
comp=E,2.0nm,0.3s
MAW pmax pmax
comp=Z,4.0nm,0.8s
MAW MLR MLR
comp=Z,31μm,21.9s
MAW Mawson 85.39 202 P **P 20 42 51.1 -0.3**
comp=Z,20nm,0.9s,mb5.2,baz=89,slow=6.1,SNR=19
MAW S S 20 53 11.8 -6.4
comp=Z,1.5nm,0.3s,baz=246,slow=20,SNR=3.3
MAW PKKPbc 21 00 57.9
comp=Z,3.7nm,0.8s,baz=4.0,slow=2.8,SNR=4.4
MAW LR LR 21 16 23.9
comp=Z,31μm,21.9s,MS6.7,baz=82,slow=32
NSHM Saint Helena R 85.42 50 eP **P 20 42 52.8 +0.5**
BBB Bella Bella 85.48 36 P **P 20 42 54.2 +2.0**
comp=Z,38nm,0.9s,mb5.5,baz=207,slow=3.6,SNR=4.5
BBB Bella Bella 85.48 36 P **P 20 42 54.2 +2.0**
LATR Latur 85.80 289 eP **P 20 42 55.5 +0.9**
BHPL Bhopal 85.83 294 eP **P 20 42 54.4 -0.3**
BHPL e 20 43 00.7
comp=Z,128nm,1.7s
SAO San Andreas Ge 85.92 52 P **P 20 42 55.7 +0.9**
SAO pmax pmax
comp=Z,130nm,1.1s,mb6.1
SAO San Andreas Ge 85.92 52 eP **P 20 42 55.6 +0.8**
comp=Z,179nm,1.2s,mb6.2
SAO LR LR
comp=Z,17μm,21.0s,MS6.4
WDC Whiskeytown Da 85.96 48 eP **P 20 42 55.4 +0.5**
WDC pmax pmax
comp=Z,381nm,1.3s,mb6.5
WDC MLR MLR
comp=Z,13μm,21.0s,MS6.3
WDC Whiskeytown Da 85.96 48 eP **P 20 42 55.4 +0.5**
comp=Z,382nm,1.3s,mb6.5
WDC LR LR
comp=Z,13μm,21.0s,MS6.3
YBH Yreka Blue Hor 86.11 47 P **P 20 42 56.8 +1.2**
YBH S S 20 53 28.5 +2.7
YBH pmax pmax
comp=Z,190nm,0.9s
YBH smax
comp=E,1.0nm,0.7s
YBH Yreka Blue Hor 86.11 47 P **P 20 42 56.8 +1.3**
comp=E,190nm,0.9s,mb6.3,baz=183,slow=3.1,SNR=87
YBH S S 20 53 28.5 +2.7
comp=E,0.8nm,0.7s,baz=346,slow=17,SNR=1.9
YBH Yreka Blue Hor 86.11 47 eP **P 20 42 56.4 +0.9**
comp=E,256nm,1.0s,mb6.4
YBH LR LR
comp=Z,16μm,20.0s,MS6.4
DGAR Diego Garcia 86.12 263 P **P 20 42 57.5 +1.2**
DGAR pmax pmax
comp=Z,580nm,1.4s,mb6.6
DGAR Diego Garcia 86.12 263 eP **P 20 42 56.9 +0.6**
comp=Z,524nm,1.3s,mb6.6
DGAR LR LR
comp=Z,2μm,21.0s,MS5.6
HUMO Hull Mountain 86.14 46 eP **P 20 42 56.8 +1.1**
comp=Z,275nm,1.0s,mb6.4
HUMO LR LR
comp=Z,22μm,21.0s,MS6.5
LRV Little Rabbit 86.19 53 eP **P 20 42 57.4 +1.4**
COR Corvallis 86.39 44 eP **P 20 42 57.8 +0.9**
COR e pP 20 43 07.7 -0.5
COR pmax pmax
comp=Z,217nm,1.3s,mb6.2
COR MLR MLR
comp=Z,7μm,21.0s,MS6.0
COR Corvallis 86.39 44 eP **P 20 42 57.8 +1.0**
comp=Z,217nm,1.3s,mb6.2
COR e pP 20 43 07.7 -0.5
COR LR LR
comp=Z,7μm,21.0s,MS6.0
OHCM Honcut 86.47 50 eP **P 20 42 57.6 +0.2**
DLBC Dease Lake 86.56 30 P **P 20 42 58.2 +0.8**
comp=Z,76nm,0.9s,mb5.9,baz=224,slow=7.0,SNR=25
DLBC PKKPbc 21 00 55.2
comp=Z,1.3nm,0.3s,baz=201,slow=20,SNR=5.3
DLBC LR LR 21 14 30.2
comp=Z,33μm,20.4s,MS6.7,baz=272,slow=31
DLBC Dease Lake 86.56 30 eP **P 20 42 57.7 +0.3**
DDI Dehra Dun 86.58 301 eP **P 20 42 57.8 -0.3**
BUOR Burton Butte 86.58 47 P **P 20 42 59.0 +1.2**
MNGI Mangalore 86.59 283 *i* **P 20 43 02.4 +3.9**
MNGI *i* 20 53 29.1
OCWA Octopus Mounta 86.62 41 PFAKE 20 43 10.0 +12
OCWA LR LR
comp=Z,30μm,20.0s,MS6.7
LTIM Timbered Crate 86.88 48 P **P 20 43 00.3 +1.0**
HBO Huckleberry Mo 86.89 45 P **P 20 43 00.5 +1.2**
NDI New Delhi 86.99 299 eP **P 20 42 59.0 -1.2**
NDI e 20 53 36.0
CMB Columbia Colle 87.02 51 P **P 20 43 00.4 +0.3**
CMB S S 20 53 40.6 +6.0
CMB Columbia Colle 87.02 51 eP **P 20 42 59.8 -0.3**
CMB pmax pmax
comp=Z,130nm,1.2s,mb6.0
CMB MLR MLR
comp=Z,14μm,21.0s,MS6.3
CMB Columbia Colle 87.02 51 eP **P 20 42 59.8 -0.3**
comp=Z,130nm,1.2s,mb6.0
CMB LR LR
comp=Z,14μm,21.0s,MS6.3
PGC Sidney 87.32 40 eP **P 20 43 01.2 -0.1**
comp=Z,269nm,1.1s,mb6.4
ZAL Zalesovo 87.36 325 P **P 20 43 00.9 -0.4**
comp=Z,33nm,0.8s,mb5.6,baz=273,slow=5.4,SNR=74
ZAL PKKPbc 21 00 54.6
comp=Z,1.1nm,0.7s,baz=54,slow=1.9,SNR=4.6
ZAL LR LR 21 21 09.2
comp=Z,17μm,21.5s,MS6.4,baz=278,slow=35
WCN Washoe City 87.77 50 eP **P 20 43 04.0 +0.3**
WCN pmax pmax
comp=Z,380nm,1.3s,mb6.5
WCN Washoe City 87.77 50 eP **P 20 43 04.0 +0.4**
comp=Z,380nm,1.3s,mb6.5
KAD Karad 87.86 288 ⇑ *iP* **P 20 43 03.5 -1.1**
MOD Modoc 87.90 47 eP **P 20 43 04.8 +0.6**
comp=Z,273nm,1.1s,mb6.4
MOD LR LR
comp=Z,14μm,19.0s,MS6.4
GOA Goa 87.93 286 eS S 20 53 38.0 -5.6
OMM Old Mammoth Mi 88.02 52 eP **P 20 43 05.1 +0.2**
BHK Bhakra 88.16 302 e pP 20 43 20.3 +3.2
POO Poona 88.36 289 eP **P 20 43 05.7 -1.3**
POO e 20 43 12.8
comp=Z,58nm,1.5s
NVS Novosibirsk 88.50 326 *i* P **P 20 43 05.9 -0.9**
NVS e 20 46 34.4
NVS *i* 20 53 32.5
NVS *i* S S 20 53 44.7 -3.3
NVS ePS PS 20 55 01.7 +3.1
NVS pmax pmax
comp=Z,262nm,1.4s,mb6.3
NVS pmax pmax
comp=N,58nm,1.3s
NVS pmax pmax
comp=E,146nm,1.3s
NVS pmax pmax
comp=Z,90nm,2.2s,mb5.6
NVS pmax pmax
comp=N,38nm,2.5s
NVS pmax pmax
comp=E,87nm,2.4s
NVS smax
comp=N,83nm,2.3s
NVS smax
comp=E,94nm,2.6s
NVAR Mina Array Bea 88.71 51 P **P 20 43 09.2 +1.0**
comp=E,88nm,0.9s,mb6.1,baz=238,slow=4.2,SNR=176
NVAR PP PP 20 46 40.1 +0.6
comp=E,6.9nm,1.0s,baz=256,slow=3.7,SNR=3.7
NVAR PKKP PKKP 21 00 45.0 +10
comp=E,0.7nm,0.8s,baz=92,slow=2.3,SNR=4.3
NVAR PKKPbc 21 00 52.2
comp=E,3.4nm,0.7s,baz=97,slow=4.2,SNR=15
NVAR PKPPKP 21 08 51.5
comp=E,1.8nm,1.0s,baz=71,slow=4.6,SNR=6.6
NVAR LR LR 21 16 06.8
comp=E,13μm,20.2s,MS6.4,baz=260,slow=31
MNV Mina 88.82 51 P **P 20 43 08.9 +0.1**
MNV pmax pmax
comp=Z,190nm,1.0s,mb6.4
MNV Mina 88.82 51 eP **P 20 43 09.3 +0.6**
comp=Z,227nm,1.0s,mb6.5
MNV LR LR
comp=Z,14μm,20.0s,MS6.4
DAC Darwin (Calif) 88.86 53 eP **P 20 43 10.2 +1.2**
DAC pmax pmax
comp=Z,108nm,0.9s,mb6.2
DAC MLR MLR
comp=Z,23μm,20.0s,MS6.6
DAC Darwin (Calif) 88.86 53 eP **P 20 43 10.2 +1.2**
comp=Z,108nm,0.9s,mb6.2
DAC LR LR
comp=Z,23μm,20.0s,MS6.6
INK Inuvik 88.90 20 P **P 20 43 08.0 -0.4**
INK S S 20 53 49.8 -1.6
INK pmax pmax
comp=Z,107nm,1.1s
INK smax
comp=E,1.0nm,0.9s
INK pmax pmax
comp=Z,6.0nm,0.9s
INK pmax pmax
comp=Z,5.0nm,1.2s
INK MLR MLR
comp=Z,23μm,19.3s
INK Inuvik 88.90 20 P **P 20 43 08.0 -0.4**
comp=Z,107nm,1.1s,mb6.1,baz=235,slow=6.2,SNR=79
INK S S 20 53 49.8 -1.7
comp=Z,1.0nm,0.9s,baz=209,slow=19,SNR=1.9
INK PKKPbc 21 00 48.0
comp=Z,6.2nm,0.9s,baz=40,slow=3.6,SNR=10
INK PKPPKP 21 08 56.5
comp=Z,4.6nm,1.2s,baz=153,slow=3.5,SNR=4.5
INK LR LR 21 21 13.3

comp=Z,23µm,19.3s,MS6.6,baz=269,slow=34
INK Inuvik 88.90 20 *e*P **P 20 43 07.5 -0.9**
comp=Z,258nm,1.3s,mb6.4
WVOR Wild Horse Val 89.22 47 *e*P **P 20 43 11.7 +1.1**
WVOR pmax pmax
comp=Z,371nm,1.3s,mb6.6
WVOR MLR MLR
comp=Z,18µm,20.0s,MS6.5
WVOR Wild Horse Val 89.22 47 *e*P **P 20 43 11.7 +1.1**
comp=Z,370nm,1.3s,mb6.5
WVOR LR LR
comp=Z,18µm,20.0s,MS6.5
PFO Pinyon Flat Ob 89.32 56 *e*P **P 20 43 11.9 +0.7**
PFO pmax pmax
comp=Z,289nm,1.4s,mb6.4
PFO MLR MLR
comp=Z,11µm,20.0s,MS6.3
PFO Pinyon Flat Ob 89.32 56 *e*P **P 20 43 11.9 +0.7**
comp=Z,289nm,1.4s,mb6.4
PFO LR LR
comp=Z,11µm,20.0s,MS6.3
WTV Waterville 89.38 42 P **P 20 43 10.9 -0.3**
TPH Tonopah 89.48 52 *e*P **P 20 43 12.7 +0.8**
TPH pmax pmax
comp=Z,102nm,1.0s,mb6.1
TPH MLR MLR
comp=Z,12µm,20.0s,MS6.3
TPH Tonopah 89.48 52 *e*P **P 20 43 12.7 +0.8**
comp=Z,102nm,1.0s,mb6.1
TPH LR LR
comp=Z,12µm,20.0s,MS6.3
BMN Battle Mountai 89.90 49 *e*P **P 20 43 14.2 +0.4**
BMN pmax pmax
comp=Z,79nm,0.9s,mb6.0
BMN MLR MLR
comp=Z,9µm,22.0s,MS6.1
BMN Battle Mountai 89.90 49 *e*P **P 20 43 14.2 +0.5**
comp=Z,79nm,0.9s,mb6.0
BMN LR LR
comp=Z,9µm,22.0s,MS6.1
AAA Alma-Ata 89.90 314 *e*P **P 20 43 16.0 +2.3**
AAA *e*S S 20 53 46.0 -15
AAA pmax pmax
comp=Z,2µm,12.0s
AAA smax
comp=E,2µm,14.0s
AAA MLR MLR
comp=Z,6µm,18.0s,MS6.1
OD2 Odessa Site #2 90.14 42 P **P 20 43 14.5 -0.2**
ULHL Ulahol 90.22 312 P **P 20 43 16.3 +1.0**
SNR=6.4
KURK Kurchatov 90.23 321 *e*P **P 20 43 14.3 -0.8**
KURK pmax pmax
comp=Z,321nm,1.4s,mb6.5
KURK MLR MLR
comp=Z,3µm,19.0s,MS5.8
KURK Kurchatov 90.23 321 *e*P **P 20 43 14.3 -0.8**
comp=Z,321nm,1.4s,mb6.5
KURK LR LR
comp=Z,3µm,19.0s,MS5.8
BMO Blue Mountains 90.62 45 *e*P **P 20 43 16.4 -0.7**
BMO pmax pmax
comp=Z,304nm,1.3s,mb6.5
BMO MLR MLR
comp=Z,29µm,21.0s,MS6.7
BMO Blue Mountains 90.62 45 *e*P **P 20 43 16.4 -0.7**
comp=Z,304nm,1.3s,mb6.5
BMO LR LR
comp=Z,29µm,21.0s,MS6.7
TRCR Troy Canyon 90.80 52 *e*P **P 20 43 19.1 +1.1**
TKM2 Tokmak 2 90.81 313 P **P 20 43 18.4 +0.4**
SNR=16
KZA Kyzart 90.92 312 P **P 20 43 20.2 +1.7**
SNR=26
NEN Nelson 90.96 54 *e*P **P 20 43 19.5 +0.6**
KBK Karagaybulak 91.23 313 P **P 20 43 20.4 +0.4**
SNR=28
NEW Newport 91.35 42 *e*P **P 20 43 19.3 -1.1**
NEW pmax pmax
comp=Z,84nm,1.0s
NEW MLR MLR
comp=Z,28µm,21.0s
NEW Newport 91.35 42 *e*P **P 20 43 19.3 -1.1**
comp=Z,84nm,1.0s,mb6.0
NEW LR LR
comp=Z,28µm,21.0s,MS6.7
CHMS Chumysh 91.43 313 P **P 20 43 21.0 +0.1**
SNR=34
UCH Uchtor 91.48 312 P **P 20 43 22.6 +1.5**
SNR=45
FRU Bishkek 91.50 313 ⇑*i*P **P 20 43 21.0 -0.2**
FRU *e* 20 54 08.0
FRU pmax pmax
comp=Z,77nm,1.5s,mb5.8
AAK Ala-Archa 91.56 313 P **P 20 43 21.7 +0.2**
SNR=30
AAK Ala-Archa 91.56 313 *e*P **P 20 43 20.7 -0.8**
AAK pmax pmax
comp=Z,54nm,1.0s,mb5.8
AAK MLR MLR
comp=Z,2µm,21.0s,MS5.6
AAK Ala-Archa 91.56 313 *e*P **P 20 43 20.7 -0.8**
comp=Z,54nm,1.0s,mb5.8
AAK LR LR
comp=Z,2µm,21.0s,MS5.6
USP Ospenovka 91.66 313 P **P 20 43 21.7 -0.2**
SNR=44
AML Almayashu 92.07 312 P **P 20 43 24.5 +0.7**
SNR=59
EKS2 Erkin-Say 92.09 313 P **P 20 43 24.5 +0.6**
SNR=22
ARUT Antelope Range 92.39 52 *e*P **P 20 43 26.5 +1.1**
HLID Hailey 92.47 47 *e*P **P 20 43 26.3 +0.6**
comp=Z,269nm,1.3s,mb6.4
HLID LR LR
comp=Z,19µm,19.0s,MS6.6
SYO Syowa Base 93.02 198 ⇑P **P 20 43 28.1 +0.5**
SYO Syowa Base 93.02 198 ⇓pP pP 20 43 40.3 +1.3
BGU Big Grassy Mou 93.12 49 *e*P **P 20 43 29.4 +0.7**
BGU *e*PP PP 20 47 12.2 -2.7
MSO Missoula 93.26 43 *e*P **P 20 43 29.2 0.0**
comp=Z,12nm,1.0s,mb5.3
MSO LR LR
comp=Z,17µm,20.0s,MS6.5
HVU Hansel Valley 93.42 48 *e*P **P 20 43 31.3 +1.3**
MVU Marysvale 93.44 52 *e*P **P 20 43 31.9 +1.7**
comp=Z,366nm,1.4s,mb6.6
MVU LR LR
comp=Z,13µm,20.0s,MS6.4
MSU Marysvale 93.47 52 *e*P **P 20 43 31.9 +1.6**
WALA Waterton Lakes 93.58 41 *e*P **P 20 43 31.1 +0.5**
comp=Z,66nm,0.9s,mb6.1
SPUT South Promonto 93.61 49 *e*P **P 20 43 32.0 +1.2**
NLU North Lily Min 93.72 50 *e*P **P 20 43 32.3 +0.8**
CHMT Chamberlain Mo 93.74 43 *e*P **P 20 43 30.6 -0.7**
MCMT McKenzie Canyo 93.75 45 *e*P **P 20 43 31.4 0.0**
NOQ North Oquirrh 93.77 50 *e*P **P 20 43 32.8 +1.2**
TUC Tucson 93.85 58 P **P 20 43 32.5 +0.3**
TUC SKKSac 20 54 25.9
TUC sS 20 55 01.2
TUC Tucson 93.85 58 *e*P **P 20 43 33.7 +1.5**
TUC pmax pmax
comp=Z,34nm,0.9s,mb5.8
TUC MLR MLR
comp=Z,27µm,19.0s,MS6.7
TUC Tucson 93.85 58 *e*P **P 20 43 33.7 +1.5**
comp=Z,34nm,0.9s,mb5.8
TUC LR LR
comp=Z,27µm,19.0s,MS6.7
CTU Camp Tracy 94.06 50 *e*P **P 20 43 34.2 +1.3**
MPU Maple Canyon 94.07 50 *e*P **P 20 43 34.4 +1.4**
JLU Jordanelle 94.27 50 *e*P **P 20 43 35.2 +1.3**
HWUT Hardware Ranch 94.30 49 *e*P **P 20 43 34.4 +0.4**
comp=Z,75nm,0.8s,mb6.2
HWUT LR LR
comp=Z,11µm,21.0s,MS6.3
TMUT Trail Mountain 94.31 51 *e*P **P 20 43 35.5 +1.4**
TCUT Toone Canyon 94.36 49 *e*P **P 20 43 35.6 +1.3**
DAU Daniels Canyon 94.40 50 *e*P **P 20 43 35.5 +1.0**
DAU *e* 20 47 22.8
EDM Edmonton 94.46 37 *e*P **P 20 43 33.0 -1.4**
BOZ Bozeman (W) 94.70 45 *e*P **P 20 43 34.1 -1.6**
BOZ pmax pmax
comp=Z,51nm,0.9s,mb6.0
BOZ MLR MLR
comp=Z,28µm,20.0s,MS6.7
BOZ Bozeman (W) 94.70 45 *e*P **P 20 43 34.1 -1.7**
comp=Z,51nm,0.9s,mb6.0
BOZ LR LR
comp=Z,28µm,20.0s,MS6.7
QLMT Earthquake Lak 94.76 46 *e*P **P 20 43 36.7 +0.7**
AHID Auburn Hatcher 94.77 48 *e*P **P 20 43 36.8 +0.7**
comp=Z,56nm,1.3s,mb5.8
AHID LR LR
comp=Z,7µm,19.0s,MS6.2
SRU San Rafael 94.82 51 *e*P **P 20 43 36.6 +0.1**
YKA Yellowknife Ar 94.94 28 P **P 20 43 35.5 -0.9**
comp=Z,71nm,0.8s,mb6.2,baz=259,slow=4.5,SNR=252
YKA PP PP 20 47 25.9 -2.0
comp=Z,8.9nm,1.1s,baz=264,slow=7.7,SNR=3.7
YKA PKKPbc 21 00 31.9
comp=Z,3.2nm,0.7s,baz=78,slow=2.7,SNR=20
YKA PKPPKP 21 08 42.8
comp=Z,0.5nm,0.7s,baz=58,slow=2.0,SNR=5.8
YKA LR LR 21 20 54.9
comp=Z,27µm,20.4s,MS6.7,baz=260,slow=32
YKA Yellowknife Ar 94.94 28 P **P 20 43 35.5 -0.9**
YKA PP PP 20 47 25.9 -2.0
YKA PKKPbc 21 00 31.9
YKA P'P' 21 08 42.9
YKA LR LR 21 20 54.9
YKW3 Yellowknife Ar 94.94 28 *e*P **P 20 43 35.3 -1.1**
YKW3 *e*PP PP 20 47 21.8 -6.2
TPAW Teton Pass 94.96 47 *e*P **P 20 43 37.5 +0.6**
IMW Indian Meadow 95.01 47 *e*P **P 20 43 38.1 +0.9**
IMW *e*PP PP 20 47 21.5 -7.4
YMR Madison River 95.07 46 *e*P **P 20 43 38.5 +1.0**
YMR *e*PP PP 20 47 20.0 -9.4
SNOW Snow King Moun 95.10 47 *e*P **P 20 43 38.8 +1.2**
WUWY Wally Ulrich 95.11 47 *e*P **P 20 43 38.7 +1.0**
MOOW Moose Ponds 95.13 47 *e*P **P 20 43 38.5 +0.7**
MOOW *e*PP PP 20 47 19.2 -11
YFT Old Faithful 95.14 46 *e*P **P 20 43 40.2 +2.4**
LOHW Long Hollow 95.22 47 *e*P **P 20 43 38.7 +0.5**
LOHW *e*PP PP 20 47 25.4 -5.2
YNR Norris Junctio 95.28 46 *e*P **P 20 43 40.5 +2.1**
LKWY Lake 95.46 46 *e*P **P 20 43 41.3 +2.1**
LKWY pmax pmax
comp=Z,38nm,1.0s,mb5.8
LKWY MLR MLR
comp=Z,22µm,20.0s,MS6.6
LKWY Lake 95.46 46 *e*P **P 20 43 41.3 +2.0**
comp=Z,38nm,1.0s,mb5.8
LKWY LR LR
comp=Z,22µm,20.0s,MS6.6
CHKZ Chkalovo 95.55 323 *e*P **P 20 43 37.9 -1.5**
CHKZ pmax pmax
comp=Z,159nm,1.3s,mb6.3
CHKZ Chkalovo 95.55 323 *e*P **P 20 43 37.9 -1.5**
comp=Z,159nm,1.3s,mb6.3
BVAR Borovoye Array 95.63 323 P **P 20 43 38.9 -0.8**
comp=Z,60nm,1.0s,mb6.0,baz=117,slow=3.3,SNR=90
BVAR PP PP 20 47 31.6 -2.0
comp=Z,18nm,1.1s,baz=90,slow=7.4,SNR=3.8
BVAR S S 20 54 26.3 -25
comp=Z,2.9nm,1.2s,baz=50,slow=11,SNR=2.6
BVAR PKKPbc 21 00 32.6
comp=Z,2.1nm,0.7s,baz=297,slow=3.3,SNR=8.4
BRVK Borovoye 95.69 323 *e*P **P 20 43 38.9 -1.2**
BRVK pmax pmax
comp=Z,124nm,1.1s,mb6.2
BRVK MLR MLR
comp=Z,2µm,20.0s,MS5.7
BRVK Borovoye 95.69 323 *e*P **P 20 43 38.9 -1.2**
comp=Z,124nm,1.1s,mb6.2
BRVK LR LR
comp=Z,2µm,20.0s,MS5.7
BW06 Boulder Array 95.90 48 PFAKE 20 43 50.0 +8.7
BW06 LR LR
comp=Z,10µm,19.0s,MS6.3
PDAR Pinedale Array 95.90 48 P **P 20 43 41.5 +0.2**
comp=Z,35nm,1.1s,mb5.7,baz=243,slow=3.3,SNR=80
PDAR PKKPbc 21 00 30.2
comp=Z,2.0nm,0.9s,baz=95,slow=6.3,SNR=6.2
PDAR PKPPKP 21 08 48.1
comp=Z,1.0nm,1.0s,baz=90,slow=3.0,SNR=6.1
PDAR LR LR 21 23 39.7
comp=Z,9µm,19.1s,MS6.2,baz=287,slow=33
PV10 Paradox Valley 95.90 52 *e*P **P 20 43 42.8 +1.4**
GCMT Greycliff 96.09 45 *e*P **P 20 43 42.6 +0.6**
PV01 Paradox Valley 96.25 52 *e*P **P 20 43 44.1 +1.1**
RW3 Ridgway 96.95 52 *e*P **P 20 43 47.4 +1.2**
LAZ Ladron 97.09 56 *e*P **P 20 43 49.3 +2.4**
LENM Lemitar 97.21 57 *e*P **P 20 43 49.4 +1.9**
LPM Los Pinos Moun 97.51 56 *e*P **P 20 43 50.0 +1.2**
ANMO Albuquerque 97.69 56 P **P 20 43 50.9 +1.3**
ANMO 20 47 49.9
ANMO pmax pmax
comp=Z,9.0nm,0.8s
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO pmax pmax
comp=Z,2.0nm,0.7s
ANMO MLR MLR
comp=Z,26µm,21.9s
ANMO Albuquerque 97.69 56 P **P 20 43 50.9 +1.3**
comp=Z,8.5nm,0.8s,mb5.3,baz=257,slow=5.0,SNR=24
ANMO PP PP 20 47 49.9 -0.7
comp=Z,2.3nm,0.8s,baz=268,slow=9.5,SNR=3.1
ANMO PKKPbc 21 00 30.1
comp=Z,1.7nm,0.7s,baz=250,slow=1.8,SNR=4.4
ANMO LR LR 21 19 43.7
comp=Z,26µm,21.9s,MS6.7,slow=30
ANMO Albuquerque 97.69 56 *e*P **P 20 43 50.7 +1.0**
comp=Z,31nm,1.3s,mb5.7
ANMO LR LR
comp=Z,28µm,22.0s,MS6.7
MNTX Cornudas Mount 98.37 59 *e*P **P 20 43 51.0 -1.7**
comp=Z,25nm,1.1s,mb5.7
MNTX *e*PP PP 20 47 44.1 -12
MNTX LR LR
comp=Z,24µm,20.0s,MS6.7
LAO LASA Array 98.53 44 *e*P **P 20 43 53.3 +0.2**
comp=Z,239nm,1.1s,mb6.6
LAO LR LR
comp=Z,19µm,20.0s,MS6.6
SDCO Great Sand Dun 98.64 53 *e*P **P 20 43 54.8 +0.9**
comp=Z,15nm,1.0s,mb5.5
SDCO *e*PP PP 20 47 49.0 -8.5
SDCO LR LR
comp=Z,14µm,19.0s,MS6.5
NVL N'lazarevskaya 98.66 190 ⇓*e*P **P 20 44 04.0 +11**
NVL *e* 20 48 03.0
NVL *e*S SKS 20 54 28.0 +0.9
NVL *e* 20 56 46.0
NVL pmax pmax
comp=Z,524nm,6.8s
NVL MLR MLR
comp=Z,31µm,18.0s,MS6.8
ISCO Idaho Springs 98.66 51 *e*P **P 20 43 54.8 +0.9**
ISCO pmax pmax
comp=Z,18nm,0.9s,mb5.6
ISCO MLR MLR
comp=Z,13µm,21.0s,MS6.4
ISCO Idaho Springs 98.66 51 *e*P **P 20 43 54.8 +1.0**
comp=Z,18nm,0.9s,mb5.6
ISCO LR LR
comp=Z,13µm,21.0s,MS6.4
MAIT Maitri 98.67 190 *e*P **P 20 43 59.5 +6.3**
PHWY Pilot Hill 98.85 49 *e*P **P 20 43 55.2 +0.5**
PHWY *e* pP 20 44 07.3 +1.2
PHWY *e*PP PP 20 47 47.6 -11
GDL2 Guadalupe Moun 99.26 59 *e*P **P 20 43 57.0 +0.3**
TXAR Lajitas Array 99.69 62 P **P 20 43 59.6 +0.9**
comp=Z,6.0nm,0.9s,baz=270,slow=5.0,SNR=16
TXAR PP PP 20 48 02.2 -3.5
comp=Z,11nm,1.1s,baz=260,slow=7.6,SNR=7.2
TXAR PKKPbc 21 00 22.3
comp=Z,4.9nm,0.8s,baz=121,slow=4.8,SNR=12
TXAR PKPPKP 21 08 43.2
comp=Z,0.3nm,0.4s,baz=153,slow=2.8,SNR=4.6
TXAR LR LR 21 24 33.9
comp=Z,14µm,18.7s,MS6.5,baz=325,slow=33
TXAR Lajitas Array 99.69 62 P **P 20 43 59.6 +0.9**
TXAR PP PP 20 48 02.2 -3.5
TXAR PKKPbc 21 00 22.3
TXAR P'P' 21 08 43.2
TXAR LR LR 21 24 33.9
CPRX Cap Rock 99.73 58 *e*P **P 20 43 59.2 +0.4**
CPRX *e*PP PP 20 48 00.0 -5.9
SNAA Sanae 99.86 186 P **P 20 44 03.0 +4.4**
SNAA Sanae 99.86 186 P **P 20 44 00.3 +1.7**
SNAA pmax pmax
comp=Z,190nm,1.1s
SNAA Sanae 99.86 186 PKKPbc 21 00 20.3
comp=Z,3.2nm,1.1s,baz=287,slow=1.5,SNR=7.8
SNAA LR LR 21 25 33.9
comp=Z,41nm,20.9s,baz=156,slow=33
SNAA Sanae 99.86 186 *e*P **P 20 43 58.9 +0.4**
comp=Z,221nm,1.1s,mb6.5
DGMT Dagmar 99.94 42 *e*P **P 20 43 58.9 -0.6**
comp=Z,73nm,0.9s,mb6.1
DGMT *e*PP PP 20 48 03.2 -4.0
DGMT LR LR
comp=Z,13µm,22.0s,MS6.4
PMSA Palmer Station 100.73 163 PFAKE 20 44 10.0 +7.3
PMSA LR LR
comp=Z,20µm,19.0s,MS6.6
VNA3 Neumayer Olymp 100.81 184 ⇑*i* P 20 44 08.5 +5.6
VNA2 Neumayer--Watz 100.97 184 ⇑*i* P 20 44 09.7 +6.1
FFC Flin Flon 101.22 36 *e*P P 20 44 03.4 -1.7
FFC *e* 20 48 11.0
FFC pmax pmax
comp=Z,24nm,1.1s
FFC Flin Flon 101.22 36 *e*P P 20 44 03.4 -1.7
comp=Z,24nm,1.1s
FFC *e*PP PP 20 48 11.0 -6.1
SVE Sverdlovsk 101.33 326 *e*P P 20 44 04.8 -0.7
SVE *e*SS SS 21 02 47.0 +3.2
SVE *e*SSS SSS 21 06 31.0 -5.2
SVE pmax pmax
comp=Z,100nm,1.4s
RES Resolute Bay 101.56 15 *e*P P 20 44 04.8 -1.4
RES pmax pmax
comp=Z,41nm,1.1s
RES Resolute Bay 101.56 15 *e*Pdif P 20 44 04.8 -1.4
comp=Z,41nm,1.1s
AMTX Amarillo 101.61 56 *e*Pdif P 20 44 08.0 +0.6
comp=Z,20nm,1.0s
AMTX LR LR
comp=Z,27µm,20.0s,MS6.8
ARU Arti 102.50 326 ⇓*i*P Pdif 20 44 04.0 -6.7
ARU *i* SP SP 20 57 29.7 +3.1
ARU pmax pmax
comp=Z,36nm,1.1s
ARU Arti 102.50 326 *e*Pdif Pdif 20 44 04.4 -6.3
comp=Z,47nm,1.3s
JCT Junction City 103.09 61 *e*P Pdif 20 44 13.7 -0.3
JCT pmax pmax
comp=Z,31nm,1.0s
JCT MLR MLR
comp=Z,16µm,21.0s,MS6.5
JCT Junction City 103.09 61 *e*Pdif Pdif 20 44 13.7 -0.4
comp=Z,31nm,1.0s
JCT LR LR
comp=Z,16µm,21.0s,MS6.5
SOKR Solikamsk 103.11 329 ⇑*i*P Pdif 20 44 10.9 -2.5
SOKR SSS SS 21 03 06.6 -2.0
SOKR pmax pmax
comp=Z,30nm,1.1s
SOKR MLR MLR
comp=Z,17µm,23.0s,MS6.5
CBKS Cedar Bluff 103.20 52 PFAKE 20 44 30.0 +16
CBKS LR LR
comp=Z,5.0nm,20.0s
WMOK Wichita Mounta 104.00 56 *e*P Pdif 20 44 21.5 +3.6
WMOK pmax pmax
comp=Z,6.0nm,0.9s
WMOK MLR MLR
comp=Z,26µm,20.0s,MS6.8
WMOK Wichita Mounta 104.00 56 *e*Pdif Pdif 20 44 21.5 +3.6
comp=Z,6.4nm,0.9s
WMOK LR LR
comp=Z,26µm,20.0s,MS6.8
FCC Fort Churchill 105.11 31 *e*P Pdif 20 44 20.1 -2.1
FCC pmax pmax
comp=Z,14nm,1.0s
FCC Fort Churchill 105.11 31 *e*Pdif Pdif 20 44 20.1 -2.1
comp=Z,14nm,1.0s
KSU1 Kansas State U 105.63 52 *e*Pdif Pdif 20 44 27.4 +2.5
HKT Hockley 106.52 61 P Pdif 20 44 30.9 +1.8
HKT *e* 20 48 51.2
HKT pmax pmax
comp=Z,25nm,1.3s
HKT Hockley 106.52 61 *e*Pdif Pdif 20 44 30.5 +1.4
comp=Z,24nm,1.4s
HKT *e*PKP 20 48 44.1
HKT LR LR
comp=Z,4µm,20.0s,MS5.9
NATX Nacogdoches 107.50 59 PFAKE 20 48 50.0
NATX LR LR
comp=Z,31µm,20.0s,MS6.9
CCM Cathedral Cave 109.90 52 PFAKE 20 49 00.0
CCM LR LR
comp=Z,5µm,20.0s,MS6.1
PAYG Puerto Ayora 109.91 94 PFAKE 20 49 00.0
PAYG LR LR
comp=Z,9µm,19.0s,MS6.4
JFWS Jewell Farm 110.07 47 PFAKE 20 49 00.0 +15
JFWS LR LR
comp=Z,23µm,20.0s,MS6.7
APA Apatity 110.38 341 ⇑*i*PKIKP PKPdf 20 48 47.2 +2.5
APA *i* 20 49 25.5
APA *e* 20 55 18.0
APA *i* PS PS 20 58 54.0 +4.9
APA *e*PPS PPS 21 00 00.0 +2.1
APA pmax pmax
comp=Z,26nm,1.0s
DAG Danmarks Havn 111.04 360 *e*PKIKP PKPdf 20 48 42.0 -3.9
DAG MLR MLR
comp=Z,17µm,20.0s,MS6.6
DAG Danmarks Havn 111.04 360 *i* P PKPdf 20 48 42.0 -3.9
comp=Z,3.8nm,1.1s
comp=Z,17µm,20.0s
ARCES ARCESS Array B 111.59 344 Pdiff Pdif 20 44 51.6 +1.1
comp=Z,5.0nm,0.9s,slow=6.1,SNR=5.8
ARCES PKIKP 20 48 48.8
comp=Z,10nm,0.8s,baz=42,slow=1.8,SNR=16
ARCES PKKPbc 20 59 42.7
comp=Z,12nm,0.7s,baz=237,slow=1.9,SNR=15
OXF Oxford 111.72 56 PFAKE 20 49 00.0 +12
OXF LR LR
comp=Z,21µm,20.0s,MS6.7
WVT Waverly 112.83 54 PFAKE 20 49 00.0 +10
WVT LR LR
comp=Z,15µm,20.0s,MS6.6
PLCA Paso Flores 113.33 141 PKiKP 20 48 53.4
comp=Z,5.0nm,0.9s,baz=262,slow=5.0,SNR=5.3
PLCA PP PP 20 49 47.3 +0.1
comp=Z,4.6nm,1.0s,baz=287,slow=7.8,SNR=2.9
PLCA PKKPbc 20 59 39.4
comp=Z,12nm,1.0s,baz=48,slow=3.5,SNR=11
PLCA Paso Flores 113.33 141 PKPdf PKPdf 20 48 53.4 +2.2
PLCA PP PP 20 49 47.3 +0.1
PLCA PKKPbc 20 59 39.4
PLCA LR LR
comp=Z,7µm,19.0s,MS6.2
TEIG Tepich 113.45 71 PFAKE 20 49 10.0 +18
TEIG LR LR
comp=Z,9µm,22.0s,MS6.3
TI2 Plekhanov 113.57 312 *e*PKIKP PKPdf 20 48 56.0 +4.4
TI2 MLR MLR
comp=N,4µm,19.0s,MS6.2
TI2 MLR MLR
comp=E,4µm,19.0s,MS6.2
TI2 MLR MLR
comp=Z,6µm,19.0s,MS6.2
JOF Joensuu 113.58 337 *e*p PKPdf 20 48 50.6 -0.5
WCI Wyandotte Cave 113.75 52 *e*PKIKP PKPdf 20 48 53.0 +0.9
WCI MLR MLR
comp=Z,4µm,20.0s,MS6.1
GNI Garni 113.87 310 *e*PKIKP PKPdf 20 48 53.8 +1.5
GNI MLR MLR
comp=Z,7µm,19.0s
LRAL Lakeview Retre 113.88 57 *e*PKPdf PKPdf 20 48 53.2 +0.7
LRAL LR LR
comp=Z,23µm,20.0s,MS6.8
ZEI Tsey 113.98 313 *e*PKIKP PKPdf 20 48 53.9 +1.5
ZEI pmax pmax
comp=Z,20nm,1.1s
MOS Moscow 114.02 328 *e*PKIKP PKPdf 20 48 52.7 +0.5
GOF Gofitskoye 114.08 316 *e*PKIKP PKPdf 20 48 55.0 +2.4
GOF pmax pmax
comp=Z,40nm,1.4s
SUMG Summit 114.35 6 *e*PKPdf PKPdf 20 48 54.8 +2.2
KIV Kislovodsk 114.58 315 ⇓*i*P Pdif 20 45 03.4 -0.8
KIV *i* 20 48 55.5

KIV *i* 20 49 51.3
KIV *e* 20 56 08.3
KIV *i* PS PS 20 59 33.6 +3.9
KIV *i* SS SS 21 05 43.5 +0.4
KIV pmax pmax
comp=Z,200nm,17.0s
KIV pmax pmax
comp=Z,28nm,1.3s
KIV MLR MLR
comp=Z,12μm,24.0s,MS6.4
KIV pmax pmax
comp=Z,6.0nm,0.3s
KIV smax
comp=N,14nm,0.4s
KIV pmax pmax
comp=Z,35nm,1.2s
KIV Kislovodsk 114.58 315 *e*PKPdf PKPdf 20 48 55.2 +1.6
KIV LR LR
comp=Z,3μm,22.0s,MS5.8
OBN Obninsk 114.81 328 *e*P Pdif 20 45 02.7 -2.3
OBN *i* 20 48 53.7
OBN *e* 20 49 07.5
OBN *e*PPS PPS 21 00 43.6 -4.1
OBN *i* SS SS 21 05 47.9 +2.1
OBN pmax pmax
comp=Z,33nm,1.9s
OBN pmax pmax
comp=Z,35nm,1.2s
OBN MLR MLR
comp=Z,10μm,20.0s,MS6.4
OBN Obninsk 114.81 328 *e*PKPdf PKPdf 20 48 52.6 -1.2
OBN LR LR
comp=Z,4μm,19.0s,MS6.0
BHD Baghdad 115.22 303 *e*PKP PKPdf 20 48 42.0 -13
BHD *e*PP PP 20 49 50.0 -11
BHD *e*SKS 20 57 01.0
PUL Pulkovo 115.65 334 *e*P Pdif 20 45 19.6 +11
PUL *e*PS PS 20 59 32.6 -6.7
PUL *i* SS SS 21 05 57.0 +0.4
PUL pmax pmax
comp=N,19nm,0.7s
PUL pmax pmax
comp=E,59nm,0.7s
PUL pmax pmax
comp=Z,48nm,0.7s
MSL Mosul 115.82 307 *e*PKP PKPdf 20 48 58.5 +2.3
MSL *e*SKS1 20 57 07.0
MSL *e*SKS2 20 57 37.0
ACSO Alum Creek Sta 115.91 49 *e*PKPdf PKPdf 20 48 57.4 +1.1
ACSO LR LR
comp=Z,15μm,20.0s,MS6.6
KAF Kangasniemi 115.96 338 *e*p PKPdf 20 48 55.9 +0.1
comp=Z,10nm,0.9s
JTS JuntasAbangare 116.38 82 *e*PKIKP PKPdf 20 48 58.3 +0.6
FINES FINESS Array B 116.44 337 Pdiff Pdif 20 45 13.1 +1.1
comp=Z,1.8nm,0.7s,baz=72,slow=6.0,SNR=7.9
FINES PKP PKPdf 20 48 57.8 +1.0
comp=Z,21nm,1.1s,baz=90,slow=1.9,SNR=15
FINES PKKPbc 20 59 27.0
comp=Z,8.6nm,0.8s,baz=180,slow=1.9,SNR=16
FINES FINESS Array B 116.44 337 Pdif Pdif 20 45 13.1 +1.1
FINES PKP PKPdf 20 48 57.8 +1.0
FINES PKKPbc 20 59 27.0
ERZM Erzurum 116.46 311 *i* P PKPdf 20 48 57.8 +0.4
SOC Sochi 116.76 315 *i* PKIKP PKPdf 20 48 58.5 +0.7
SOC *e* 20 50 07.1
SOC *e* 20 56 09.0
SOC *e*PS PS 20 59 48.1 -1.6
SOC *e*SS SS 21 06 06.1 -5.3
SOC *e*SSS SSS 21 10 24.9 -8.0
SOC MLR MLR
comp=Z,11μm,22.0s,MS6.4
SOC MLR MLR
comp=N,4μm,20.0s,MS6.2
SOC MLR MLR
comp=E,5μm,20.0s,MS6.2
GOGA Godfrey 116.76 57 PFAKE 20 49 10.0 +12
GOGA LR LR
comp=Z,23μm,20.0s,MS6.8
BEST Besiri 116.95 309 *i* P PKPdf 20 49 00.6 +2.2
SCO Scoresbysund 117.36 1 *i* P PKPdf 20 49 00.3 +2.0
comp=Z,9.2nm,1.0s
SADO Sadowa 117.49 43 PKKPbc 20 59 22.1
comp=Z,32nm,1.3s,baz=217,slow=3.5,SNR=3.6
ERPA Erie 117.65 46 PFAKE 20 49 10.0 +10
ERPA LR LR
comp=Z,24μm,20.0s,MS6.8
VSU Vasula 117.92 334 *i* PKIKP PKPdf 20 49 00.8 +1.2
ANN Anapa 117.98 317 *i* PKIKP PKPdf 20 48 59.2 -0.9
ANN *e* 20 56 08.4
ANN pmax pmax
comp=Z,87nm,1.3s
ELZG Elazig 118.58 310 *i* P PKPdf 20 49 02.3 +0.8
GENY Geneseo 119.01 45 *e*PKPdf PKPdf 20 49 01.9 -0.3
MALT Malatya 119.05 310 *e*PKIKP PKPdf 20 49 04.3 +1.9
MALT *e* 20 50 24.9
DWPF Disney 119.22 62 PFAKE 20 49 20.0 +17
DWPF LR LR
comp=Z,2μm,21.0s,MS5.8
NHSC New Hope 119.53 56 PFAKE 20 49 20.0 +17
NHSC LR LR
comp=Z,34μm,20.0s,MS7.0
MNK Minsk 119.58 330 *e*PKIKP PKPdf 20 49 01.0 -2.0
GZT Gaziantep 119.94 309 *i* P PKPdf 20 49 04.7 +0.5
SIM Simferopol' 120.15 318 *i* PKIKP PKPdf 20 49 06.5 +2.1
SIM 20 50 31.8
SIM PS PS 21 00 21.9 +1.7
SIM PPS PPS 21 01 43.9 -0.6
SIM SS SS 21 07 22.5 +27
SIM pmax pmax
comp=Z,960nm,12.4s
TRQA Tornquist 120.22 143 *e*PKPdf PKPdf 20 49 06.2 +1.5
TRQA *e*PP PP 20 50 28.3 -6.2
TRQA LR LR
comp=Z,11μm,20.0s,MS6.5
SCHQ Schefferville 120.36 29 PKP PKPdf 20 49 05.9 +1.4
comp=Z,7.0nm,0.8s,baz=27,slow=1.4,SNR=8.4
SCHQ PP PP 20 50 32.4 -2.7
comp=Z,11nm,1.0s,baz=302,slow=5.2,SNR=4.6
SCHQ Schefferville 120.36 29 PKP PKPdf 20 49 05.9 +1.4
SCHQ PP PP 20 50 32.4 -2.7
SCHQ LR LR
comp=Z,30μm,19.0s,MS7.0
BINY Binghamton 120.47 45 *e*PKPdf PKPdf 20 49 05.6 +0.5
BINY LR LR
comp=Z,16μm,19.0s,MS6.7
CBN Corbin 120.62 50 *e*PKPdf PKPdf 20 49 06.0 +0.6
CBN LR LR
comp=Z,30μm,20.0s,MS6.9
NNA Nana 120.63 109 *e*PKPdf PKPdf 20 49 07.0 +1.1
NNA LR LR
comp=Z,1μm,21.0s,MS5.5
SDMD Soldier's Deli 120.69 49 *e*PKPdf PKPdf 20 49 06.8 +1.2
AKASG Malin Array Be 120.75 326 P Pdif 20 45 32.8 +1.6
AKASG 20 49 06.4
AKASG 20 50 36.4
AKASG pmax pmax
comp=Z,1.0nm,0.8s
AKASG pmax pmax
comp=Z,29nm,0.8s
AKASG pmax pmax
comp=Z,34nm,1.2s
AKASG pmax pmax
comp=Z,6.0nm,1.0s
AKASG Malin Array Be 120.75 326 Pdiff Pdif 20 45 32.8 +1.6
comp=Z,1.1nm,0.8s,baz=42,slow=4.7,SNR=7.2
AKASG PKP PKPdf 20 49 06.4 +1.0
comp=Z,29nm,0.8s,baz=58,slow=1.7,SNR=62
AKASG PP PP 20 50 36.4 -1.5
comp=Z,34nm,1.2s,baz=46,slow=6.3,SNR=9.4
AKASG PKKPbc 20 59 12.2
comp=Z,5.8nm,1.0s,baz=250,slow=4.6,SNR=12
MVL Millersville 120.88 48 *e*PKPdf PKPdf 20 49 06.5 +0.6
NCB Newcomb 121.08 43 *e*PKPdf PKPdf 20 49 07.1 +0.9
NCB LR LR
comp=Z,13μm,20.0s,MS6.6
COBT Iskenderun 121.16 308 *i* P PKPdf 20 49 06.9 +0.4
MIV Mineville/With 121.51 42 *e*PKPdf PKPdf 20 49 07.6 +0.6
AVNT Avonos 121.62 311 *i* P PKPdf 20 49 08.2 +0.9
KMBO Kilima Mbogo 121.75 264 *e*PKIKP PKPdf 20 49 10.5 +2.3
KMBO MLR MLR
comp=Z,6μm,21.0s
KMBO Kilima Mbogo 121.75 264 PKP PKPdf 20 49 11.2 +3.0
comp=Z,26nm,1.0s,baz=30,slow=3.0,SNR=26
KMBO PKKPbc 20 59 08.8
comp=Z,4.3nm,1.1s,baz=339,slow=4.5,SNR=5.9
OTAV Otavalo 121.75 95 PFAKE 20 49 20.0 +12
OTAV LR LR
comp=Z,7μm,20.0s,MS6.3
MDV Middlebury 121.77 42 *e*PKPdf PKPdf 20 49 08.1 +0.6
BALT Daday 121.83 314 *i* P PKPdf 20 49 08.6 +0.9
NB2 NORSAR Subarra121.86 342 PKPdf PKPdf 20 49 07.8 +0.6
comp=Z,1.2nm,0.7s,baz=52,slow=2.5
NB2 NORSAR Subarra121.86 342 ⇓PKP PKPdf 20 49 07.8 +0.6
NOA NORSAR Array B121.86 342 PKP PKPdf 20 49 08.1 +0.8
comp=Z,16nm,0.8s,baz=38,slow=1.9,SNR=24
NOA PKKPbc 20 59 09.4
comp=Z,3.0nm,0.8s,baz=259,slow=2.1,SNR=5.9
NOA NORSAR Array B121.86 342 PKP PKPdf 20 49 08.1 +0.8
NOA PKKPbc 20 59 09.4
BRNJ Basking Ridge 121.97 47 *e*PKPdf PKPdf 20 49 09.5 +1.6
NAO01 NORSAR Array S122.11 342 *e*PKPdf PKPdf 20 49 09.6 +1.9
NAO01 LR LR
comp=Z,19μm,22.0s,MS6.7
SUW Suwalki 122.11 331 *e*PKIKP PKPdf 20 49 09.8 +1.9
SUW *e* 20 56 22.6
SUW Suwalki 122.11 331 *e*PKP PKPdf 20 49 09.8 +1.9
SUW *e*PP PP 20 50 39.0 -8.3
SUW *e*SKS SKS 20 56 22.6 +19
SUW Suwalki 122.11 331 *e*PKP PKPdf 20 49 09.8 +1.8
SUW *e*PP PP 20 50 39.0 -8.4
SUW *e*SKS SKS 20 56 22.6 +19
SUW MLR MLR 21 39 00.6
comp=Z,19μm,26.1s,MS6.6
ELDT Eldivan 122.15 313 *i* P PKPdf 20 49 09.9 +1.6
BR131 Keskin Array S 122.24 312 PFAKE 20 49 20.0 +11
BR131 LR LR
comp=Z,5μm,19.0s,MS6.2
BRTR Keskin Array B 122.24 312 PKP PKPdf 20 49 09.7 +1.2
comp=Z,10nm,0.8s,baz=148,slow=4.8,SNR=34
BRTR PP PP 20 50 40.8 -7.7
comp=Z,7.8nm,1.1s,baz=74,slow=2.6,SNR=3.6
BRTR PKKPbc 20 59 07.8
comp=Z,7.2nm,0.8s,baz=228,slow=3.6,SNR=16
BRTR SKKPbc 21 02 55.3
comp=Z,1.1nm,1.1s,baz=98,slow=10,SNR=3.0
PAL Palisades 122.33 46 *e*PKIKP PKPdf 20 49 09.4 +0.7
CPNY Central Park 122.37 46 *e*PKPdf PKPdf 20 49 10.3 +1.6
HNH Hanover 122.48 43 *e*PKPdf PKPdf 20 49 10.0 +1.1
KIS Kishinev 122.70 322 *e*PKIKP PKPdf 20 49 08.0 -1.3
KIS *e* 20 50 45.0
KIS *e* 20 53 22.0
KIS *e* 20 56 20.0
MEST Erdemli 122.78 309 *i* P PKPdf 20 49 10.1 +0.4
ANTO Ankara 122.81 313 PKIKP PKPdf 20 49 11.9 +2.2
BOSA Boshof 122.95 229 PKIKP PKPdf 20 49 12.2 +2.0
BOSA Boshof 122.95 229 *e*PKPdf PKPdf 20 49 11.9 +1.7
BOSA LR LR
comp=Z,18μm,20.0s,MS6.7
FFD Franklin Falls 123.00 43 *e*PKPdf PKPdf 20 49 11.1 +1.2
BORG Borgarnes 123.13 0 *e*PKPdf PKPdf 20 49 11.6 +1.9
BORG LR LR
comp=Z,1μm,20.0s,MS5.6
IAS Iasi 123.38 323 PKIKP PKPdf 20 49 12.6 +2.0
HRV Harvard--Oak R 123.44 44 *e*PKIKP PKPdf 20 49 11.7 +0.9
HRV MLR MLR
comp=Z,16μm,20.0s,MS6.7
KONO Kongsberg 123.46 342 PFAKE 20 49 20.0 +10
KONO LR LR
comp=Z,20μm,21.0s,MS6.8
WES Weston 123.64 44 *e*PKIKP PKPdf 20 49 11.9 +0.7
WES MLR MLR
comp=Z,20μm,21.0s,MS6.7
EIL Elat 123.74 300 PKP PKPdf 20 49 14.3 +2.6
comp=Z,40nm,0.9s
EIL PKKPbc 20 59 02.6
comp=Z,14nm,1.2s,baz=340,slow=5.8,SNR=4.2
EIL Elat 123.74 300 *e*PKPdf PKPdf 20 49 13.6 +1.9
LVC Limon Verde 123.80 124 PKP PKPdf 20 49 14.8 +2.8
comp=Z,18nm,0.9s,baz=225,slow=0.9,SNR=16
LVC PP PP 20 51 00.4 +0.5
comp=Z,3.4nm,0.5s,baz=204,slow=15,SNR=4.1
HENT Hendek 123.84 314 *i* P PKPdf 20 49 12.0 +0.4
WVL Waterville 123.86 41 PFAKE 20 49 20.0 +8.4
WVL LR LR
comp=Z,48μm,21.0s,MS7.1
CSS Prodhromos 123.86 307 *e*PKPdf PKPdf 20 49 13.4 +1.6
SUR Sutherland 123.93 222 *e*PKPdf PKPdf 20 49 15.2 +3.2
SUR LR LR
comp=Z,5μm,20.0s,MS6.2
PQI Presque Isle 123.94 38 PFAKE 20 49 20.0 +8.3
PQI LR LR
comp=Z,54μm,19.0s,MS7.2
LVV L'vov 124.06 327 *i* PKIKP PKPdf 20 49 12.4 +0.6
LVV *e* 20 51 00.4
LVV MLR MLR
comp=N,3μm,17.0s,MS6.2
LVV MLR MLR
comp=E,3μm,17.0s,MS6.2
LVV MLR MLR
comp=Z,5μm,17.0s,MS6.2
TIRR Tirgusor 124.08 319 PKIKP PKPdf 20 49 14.2 +2.2
WAR Warsaw 124.22 330 *e*PKIKP PKPdf 20 49 12.9 +0.9
WAR MLR MLR
comp=Z,21μm,25.1s,MS6.7
WAR Warsaw 124.22 330 *e*PKP PKPdf 20 49 12.9 +0.9
WAR *e*PP PP 20 51 20.5 +19
WAR LR LR
comp=Z,21μm,25.1s,MS6.7
WAR Warsaw 124.22 330 *e*PKP PKPdf 20 49 12.9 +0.8
WAR *e*PP PP 20 51 20.5 +19
WAR MLR MLR 21 40 28.3
comp=Z,21μm,25.1s,MS6.7
ESKT Eskisehir 124.34 313 *i* P PKPdf 20 49 13.8 +1.2
VRI Vrincioaia 124.51 322 PKIKP PKPdf 20 49 14.6 +1.8
BURAR Bucovina Array 124.56 324 P PKPdf 20 49 16.6 +3.7
PSN Preselentsi 124.56 319 *e*P PKPdf 20 49 18.0 +5.0
KWP Kalwaria 124.88 327 *e*PKIKP PKPdf 20 49 13.7 +0.3
KWP *e* 20 51 00.8
KWP Kalwaria 124.88 327 *e*PKPdf PKPdf 20 49 13.7 +0.3
KWP *e*PKP PKPdf 20 49 15.4 +2.0
KWP *e*PP PP 20 51 00.8 -5.2
KWP *e*SKS SKS 20 56 30.0 +17
KWP Kalwaria 124.88 327 *e*PKPdf PKPdf 20 49 13.7 +0.3
KWP *e*PKP PKPdf 20 49 15.4 +2.0
KWP *e*PP PP 20 51 00.8 -5.2
KWP *e*SKS SKS 20 56 30.0 +17
KWP MLR MLR 21 43 26.9
comp=Z,16μm,23.1s,MS6.6
BSD Bornholm Skovb 125.04 336 *e*PKIKP PKPdf 20 49 16.3 +2.8
BSD *e* 20 51 03.4
BSD Bornholm Skovb 125.04 336 *e*P PKPdf 20 49 16.3 +2.8
BSD *i* 20 50 04.5
BSD *e* 20 51 03.4
BSD Bornholm Skovb 125.04 336 *i* P PKPdf 20 49 16.3 +2.8
comp=Z,54nm,0.9s
BSD *i* 20 50 04.5
BSD *e* 20 51 03.4
comp=Z,12μm,20.0s
MLR Muntele Rosu 125.17 321 PKP PKPdf 20 49 15.6 +1.6
comp=Z,43nm,1.0s,baz=19,slow=2.7,SNR=24
MLR PP PP 20 51 07.3 -0.7
comp=Z,43nm,1.3s,baz=320,slow=4.8,SNR=4.4
MLR PKKPbc 20 58 55.2
comp=Z,9.5nm,0.9s,baz=214,slow=3.9,SNR=7.3
MLR SKKPbc 21 02 47.4
comp=Z,25nm,1.3s,baz=334,slow=6.3,SNR=3.8
EMMW East Machias 125.20 40 PFAKE 20 49 30.0 +16
EMMW LR LR
comp=Z,79μm,20.0s,MS7.4
PRD Provadia 125.29 318 *e*P PKPdf 20 49 17.0 +2.7
GKP Gorka Klasztor 125.33 333 *e*PKP PKPdf 20 49 15.8 +1.7
GKP *e*PP PP 20 51 14.8 +5.9
GKP MLR MLR 21 43 33.8
comp=Z,22μm,23.2s,MS6.8
ULDT Uludag 125.34 314 *i* P PKPdf 20 49 14.7 +0.2
SNX Sinaia 125.50 321 PKHKP 20 49 03.8
KOLS Kolonicke sedl 125.51 327 *i* PKP PKPdf 20 49 17.1 +2.5
COP Copenhagen 125.59 338 ⇑*i*PKIKP PKPdf 20 49 18.8 +4.3
COP *i* 20 51 07.9
COP *i* S PS 21 01 07.9 +0.1
COP MLR MLR
comp=Z,12μm,21.0s,MS6.5
COP Copenhagen 125.59 338 ⇑*i*P PKPdf 20 49 18.8 +4.3
comp=Z,48nm,0.9s
COP *i* 20 51 07.9
COP *i* 20 52 37.6
COP *i* S PS 21 01 07.9 +0.1
comp=Z,12μm,21.0s
BUC1 Bucharest 125.66 320 PKIKP PKPdf 20 49 17.4 +2.4
LRW Lerwick 125.77 348 *e*P PKPdf 20 49 16.1 +1.4
SAN1 Sandwick 125.89 348 *e*P PKPdf 20 49 16.3 +1.3
CRVS Cervenica-Dubn 125.97 327 *e*PKIKP PKPdf 20 49 18.6 +3.1
CRVS *e* 21 01 09.5
OJC Ojcow 126.06 329 *e*Pdiff Pdif 20 45 55.2 +0.6
OJC *e*PKPdf PKPdf 20 49 17.5 +1.9
OJC *e*PP PP 20 51 12.1 -1.9
OJC ⇑*e*SKSa 20 56 19.9
OJC *e*SP SP 21 01 05.4 -2.5
OJC *e*SS SS 21 08 06.3 -3.8
OJC MLR MLR 21 45 43.7
comp=Z,14μm,21.9s,MS6.6
JMB Yambol 126.15 318 *e*P PKPdf 20 49 18.0 +2.0
MUD Monsted U'grnd 126.15 340 ⇑*i*P PKPdf 20 49 19.5 +3.9
comp=Z,70nm,1.1s
comp=Z,17μm,22.0s
SZH Strazhica 126.22 319 *e*P PKPdf 20 49 18.0 +1.9
BTOK Tokmak 126.27 314 *i* P PKPdf 20 49 16.5 +0.2
NIE Niedzica 126.28 328 *e*PKP PKPdf 20 49 18.7 +2.6
DNZL Cakiroluk 126.30 312 *i* P PKPdf 20 49 18.0 +1.5
LSZ Lusaka 126.60 245 *e*PKIKP PKPdf 20 49 19.8 +2.2
LSZ MLR MLR
comp=Z,12μm,20.0s,MS6.6
PVL Pavlikeni 126.63 319 P PKPdf 20 49 20.0 +3.0
KECS Kecovo 126.74 327 *e*PKP PKPdf 20 49 19.2 +2.2
RAC Raciborz 126.96 330 *e*PKIKP PKPdf 20 49 19.1 +1.7
RAC *e* 20 51 14.5
RAC MLR MLR
comp=Z,22μm,20.4s,MS6.8
RAC Raciborz 126.96 330 *e*PKPdf PKPdf 20 49 19.1 +1.7
RAC *e*PP PP 20 51 14.5 -4.9
RAC LME 21 41 18.7
RAC LMN 21 42 11.0
RAC MLR MLR 21 48 24.2
comp=Z,22μm,20.4s,MS6.8
DIM Dimitrovgrad 127.03 318 *e*P PKPdf 20 49 20.0 +2.2
LPAZ La Paz 127.13 117 PKIKP PKPdf 20 49 21.5 +2.9
LPAZ 20 51 21.1
LPAZ pmax pmax
comp=Z,39nm,0.9s
LPAZ pmax pmax
comp=Z,3.0nm,0.9s
LPAZ pmax pmax
comp=E,4.0nm,1.1s
LPAZ La Paz 127.13 117 PKP PKPdf 20 49 21.5 +2.9
comp=E,39nm,0.9s,baz=337,slow=2.2,SNR=52
LPAZ PP PP 20 51 21.1 -0.3
comp=E,2.7nm,0.9s,baz=278,slow=7.1,SNR=1.1
LPAZ SKKPbc 21 02 35.8
comp=E,3.9nm,1.1s,baz=35,slow=13,SNR=4.2
LPAZ La Paz 127.13 117 *e*PKPdf PKPdf 20 49 21.2 +2.6
LPAZ LR LR
comp=Z,6μm,22.0s,MS6.2
OKC Ostrava-Krasne 127.14 330 *e*PKPdf PKPdf 20 49 19.5 +1.7
OKC *e*PP PP 20 51 14.2 -6.4
OKC AMS AMS 21 48 20.0
comp=Z,16μm,20.0s
ALN Alexandroupoli 127.19 316 *e*P PKPdf 20 49 18.8 +0.7
KDZ Kurdzhali 127.29 317 *e*P PKPdf 20 49 20.0 +1.7
KDAG Bornova 127.35 313 *i* P PKPdf 20 49 16.8 -1.7
KSP Ksiaz 127.39 331 *e*P Pdif 20 46 05.0 +4.6
KSP *e* 20 49 19.9
KSP *e* 20 51 18.0
KSP *e**SP 21 01 14.5
KSP *e*PPS PPS 21 02 54.0 -3.9
KSP *e*SS SS 21 08 24.0 -3.0
KSP MLR MLR
comp=Z,26μm,21.7s,MS6.9
KSP Ksiaz 127.39 331 *e*Pdif Pdif 20 46 05.0 +4.6
KSP *e*PKP PKPdf 20 49 19.9 +1.7
KSP *e*PP PP 20 51 18.0 -4.3
KSP *e*PKS PKS 20 52 42.0 -12
KSP *e*P 21 01 14.5
KSP *e*PPS PPS 21 02 54.0 -3.9
KSP *e*SS SS 21 08 24.0 -3.0
KSP LR LR
comp=Z,26μm,21.7s,MS6.9
KSP Ksiaz 127.39 331 *e*PKP PKPdf 20 49 20.4 +2.2
KSP *e*PP PP 20 51 14.6 -7.7
KSP *e*SKS SKS 20 56 15.5 -4.5
KSP MLR MLR 21 46 50.0
comp=Z,21μm,22.0s,MS6.8
PSZ Piszkesteto 127.39 327 PKIKP PKPdf 20 49 20.1 +1.8
PSZ Piszkesteto 127.39 327 ⇑*e*P PKPdf 20 49 20.2 +1.9
RUE Ruedersdorf 127.39 334 *e*PKPdf PKPdf 20 49 19.5 +1.3
MORC Moravsky Berou 127.48 330 PKIKP PKPdf 20 49 19.6 +1.2
MORC Moravsky Berou 127.48 330 *e*PKPdf PKPdf 20 49 19.9 +1.5
VYHS Vyhne 127.61 328 *i* PKIKP PKPdf 20 49 20.3 +1.6
VYHS *e* 21 01 20.7
VYHS Vyhne 127.61 328 *i* PKP PKPdf 20 49 20.3 +1.6
VYHS *e*PP PP 20 51 04.0 -20
VYHS *e* 21 01 20.7
VYHS *e* 21 02 37.6
VYHS Vyhne 127.61 328 *e*SP SP 21 01 20.7 -0.6
VYHS *e* 21 02 37.6
PGB Panagyurishte 127.70 319 P PKPdf 20 49 21.0 +2.0
DPC Dobruska-Polom 127.70 331 *e*PKPdf PKPdf 20 49 20.8 +2.0
DPC *e*PP PP 20 51 18.5 -6.0
DPC *e*SKKP 21 03 04.9
DPC AMS AMS 21 46 40.0
comp=Z,17μm,21.2s
BSEG Bad Segeberg 127.72 337 *e*PKPdf PKPdf 20 49 20.5 +1.8
BSEG *e*PP PP 20 51 16.2 -8.3
RZN Rozhen 127.74 318 P PKPdf 20 49 19.0 -0.1
UPC Upice 127.74 331 *e*PKPdf PKPdf 20 49 20.5 +1.6
UPC *ex* x 20 51 28.8
KOLL Kolacno 127.79 328 *i* PKP PKPdf 20 49 20.7 +1.7
KOLL *e* 20 49 36.2
MLA1 Latheron 127.89 349 *e*P PKPdf 20 49 20.4 +1.4
VRAC Vranov 128.25 330 PKIKP PKPdf 20 49 21.9 +2.0
MBAR Mbarara 128.25 263 *e*PKIKP PKPdf 20 49 22.4 +1.5
MBAR MLR MLR
comp=Z,2μm,20.0s,MS5.7
LOS Limnos 128.27 316 *e*P PKPdf 20 49 21.1 +0.9
VTS Vitosha 128.30 319 PKIKP PKPdf 20 49 22.1 +1.9
VTS Vitosha 128.30 319 P PKPdf 20 49 22.0 +1.8
SRO Srobarova 128.31 327 *e*PKP PKPdf 20 49 22.6 +2.6
SRO *e* 20 49 44.9
PKS7 Kunszentmiklos 128.31 326 ⇓*e*P PKPdf 20 49 22.5 +2.4
SMOL Smolenice 128.34 329 *i* PKIKP PKPdf 20 49 22.6 +2.5
SMOL *e* 20 51 31.0
SMOL Smolenice 128.34 329 *i* PKP PKPdf 20 49 22.6 +2.5
SMOL *e* 20 49 41.9
SMOL *e*PP PP 20 51 31.0 +1.9
MVH1 Achvaich 128.41 349 *e*P PKPdf 20 49 22.1 +2.2
PVCC Panska Ves 128.41 332 AMS AMS 21 45 40.0
comp=Z,29μm,22.4s
MMB Musomiste 128.44 318 P PKPdf 20 49 21.5 +1.0
BRG Berggiesshubel 128.46 333 *e*P Pdif 20 46 10.0 +4.9
BRG *i* SP SP 21 01 31.0 +2.6
BRG *i* SS SS 21 08 45.0 +4.8
BRG MLR MLR
comp=Z,24μm,19.4s,MS6.9
BRG Berggiesshubel 128.46 333 *e*Pdif Pdif 20 46 10.0 +4.9
BRG ⇑*i*PKP PKPdf 20 49 24.0 +3.8
BRG *i* 20 49 35.6
BRG *e*PP PP 20 51 21.0 -8.8
BRG *i* SKP 20 52 45.0
BRG *e* 20 59 12.9
BRG *i* SP SP 21 01 31.0 +2.6
BRG *e* 21 02 12.6
BRG *i* SS SS 21 08 45.0 +4.8
BRG LR LR
comp=Z,24μm,19.4s,MS6.9
BOLS Boljevac 128.46 321 ⇓*i*PKP PKPdf 20 49 20.0 -0.4
MCD Coleburn Disti 128.54 348 *e*P PKPdf 20 49 21.2 +1.0
CLL Collm 128.57 334 *i* PKIKP PKPdf 20 49 22.2 +1.8
CLL MLR MLR
comp=Z,24μm,21.1s,MS6.9
CLL Collm 128.57 334 *i* PKP PKPdf 20 49 22.2 +1.8
CLL *i* 20 49 38.7
CLL *e*PKS PKS 20 52 41.0 -15
CLL LR LR
comp=Z,24μm,21.1s,MS6.9
CLL Collm 128.57 334 *i* PKIKP PKPdf 20 49 22.2 +1.8
comp=Z,logA/T=2.0
CLL *i* 20 49 26.8
CLL *i* 20 49 38.7
CLL *e* 20 51 18.0
CLL *i* PP PP 20 51 30.4 -0.2

CLL *e*PKS PKS 20 52 41.0 -15
CLL *e*PPP PPP 20 54 24.0 +7.8
CLL *e*PS PS 21 01 30.0 -3.8
CLL *e*PPS PPS 21 03 04.0 -5.5
CLL *e* 21 04 11.0
CLL *e*SS SS 21 08 36.0 -5.7
CLL *e*SSS SSS 21 13 48.0 +19
ZST Bratislava 128.71 328 *i* PKP PKPdf 20 49 22.8 +2.0
ZST *e* 20 49 40.2
ZST *e* 20 50 02.7
ZST *e* 21 02 19.6
ZST Bratislava 128.71 328 *i* PKP PKPdf 20 49 22.8 +2.0
ZST *e* 20 49 40.2
ZST *e*PP PP 20 51 32.2 +0.6
ZST *e*SP SP 21 01 32.0 +1.3
ZST *e* 21 02 19.6
KKB Krupnik 128.73 319 P PKPdf 20 49 22.0 +1.0
SRS Serrai 128.75 318 *e*P PKPdf 20 49 20.7 -0.4
PRA Prague 128.79 332 AMS AMS 21 46 30.0
PRU Pruhonice 128.79 332 *e*PKPdf PKPdf 20 49 22.7 +1.8
PRU *e*PP PP 20 51 30.1 -2.1
PRU *e*x x 21 01 27.8
PRU *e*x x 21 03 18.0
PRU AMS AMS 21 46 00.0
comp=Z,26μm,22.1s
OUR Ouranopolis 128.85 317 *e*P PKPdf 20 49 22.4 +1.1
MDO Dochfour 128.90 349 *e*P PKPdf 20 49 21.3 +0.4
VKA Vienna 129.06 329 ⇑*i*PKP PKPdf 20 49 23.6 +2.1
BARS Barje 129.07 320 ⇑*i*PKP PKPdf 20 49 22.9 +1.2
PKSM Moragy 129.09 326 ⇑*e*PKIKP PKPdf 20 49 23.4 +1.8
KNT Kendrikon 129.19 318 *e*P PKPdf 20 49 21.2 -0.7
GRUS Gruza 129.19 322 ⇑*i*PKP PKPdf 20 49 23.1 +1.2
CLZ Clausthal 129.29 336 *e*PKPdf PKPdf 20 49 23.8 +2.0
CLZ *e*PP PP 20 51 26.8 -8.5
SOP Sopron 129.31 328 *e*P PKPdf 20 49 18.9 -3.1
SOP Sopron 129.31 328 *e*PKP/D PKPdf 20 49 18.9 -3.1
VAY Valandovo 129.33 318 ⇑*i*PKIKP PKPdf 20 49 23.1 +0.9
SANT Santorini 129.46 311 *e*PKPdf PKPdf 20 49 23.8 +1.2
RHK1 Bakonya 129.48 326 *e*P PKPdf 20 49 24.5 +2.2
DIVS Divcibare 129.52 323 ⇑*i*PKP PKPdf 20 49 22.8 +0.3
NKC Novy Kostel 129.58 333 *e*PKPdf PKPdf 20 49 24.2 +1.8
NKC *e*SP SP 21 01 41.4 +3.4
NKC *e*x x 21 03 24.0
NKC AMS AMS 21 52 20.0
comp=Z,19μm,18.5s
GRG Griva 129.62 318 *e*P PKPdf 20 49 24.1 +1.4
MOX Moxa 129.65 334 *e*PKIKP PKPdf 20 49 24.8 +2.3
MOX *e* 20 51 37.7
MOX *e* 21 01 38.0
MOX *e*SS SS 21 08 59.0 +3.8
MOX MLR MLR
comp=Z,14μm,22.0s,MS6.6
MOX Moxa 129.65 334 *i* P PKPdf 20 49 24.8 +2.3
comp=Z,logA/T=1.8
MOX PP PP 20 51 38.0 +0.4
MOX *e* 21 01 38.0
MOX SS SS 21 08 59.0 +3.8
MOX L 21 48 15.0
SKO Skopje 129.75 320 *e*PKHKP 20 49 13.0
SKO *i* PKIKP PKPdf 20 49 24.5 +1.5
comp=Z,0.1nm,1.1s
SKO *i* PP PP 20 51 31.0 -7.4
SKO *i* PKS PKS 20 52 49.0 -9.4
XOR Xorichti 129.83 316 *e*P PKPdf 20 49 23.1 -0.1
KHC Kasperske Hory 129.84 331 *e*PKPdf PKPdf 20 49 24.8 +1.9
KHC *e*PP PP 20 51 38.1 -0.6
KHC AMS AMS 21 46 30.0
comp=Z,24μm,21.8s
WIT Witteveen 129.95 339 *e*PKP PKPdf 20 49 25.3 +2.3
LIT Litokhoron 129.97 317 *e*P PKPdf 20 49 24.2 +0.8
GEC2 GERESS Array S 129.97 331 *e*PKPdf PKPdf 20 49 24.9 +1.7
GEC2 *e*PP PP 20 51 31.6 -7.9
GERES GERESS Array B 129.97 331 PKhKP 20 49 16.9
comp=Z,2.5nm,1.2s,baz=45,slow=1.9,SNR=4.9
GERES PKP PKPdf 20 49 25.5 +2.3
comp=Z,27nm,0.9s,baz=90,slow=1.3,SNR=68
GERES PKKP PKKP 20 59 30.1 +11
comp=Z,0.3nm,0.5s,baz=270,slow=1.3,SNR=3.5
EAB Aberfoyle 130.06 348 *e*P PKPdf 20 49 23.1 -0.1
EAB AMb AMB 20 49 30.7
comp=Z,179nm,1.3s
ARSA Arzberg 130.13 328 ⇑*i*P PKPdf 20 49 21.0 -2.5
WET Wettzell 130.16 332 *e*PKIKP PKPdf 20 49 25.4 +1.9
WET *e* 20 51 33.5
EAU Auchinoon 130.20 348 *e*P PKPdf 20 49 24.3 +0.9
EAU AMb AMB 20 49 27.3
comp=Z,165nm,1.6s
MOA Molln 130.38 330 ⇑*i*P PKPdf 20 49 24.9 +0.9
FNA Florina 130.38 318 *e*P PKPdf 20 49 25.7 +1.5
SDV Santo Domingo 130.40 85 PKhKP 20 49 18.4
comp=Z,1.7nm,0.6s,baz=138,slow=3.1,SNR=3.5
SDV PKP PKPdf 20 49 26.5 +1.6
comp=Z,97nm,0.8s,baz=281,slow=1.4,SNR=47
SDV PP PP 20 51 39.1 -4.3
comp=Z,5.5nm,0.8s,baz=0.5,slow=8.3,SNR=1.7
SDV SKPbc 20 52 50.3
comp=Z,31nm,1.1s,baz=28,slow=22,SNR=7.8
GRA1 Grafenberg Arr 130.52 333 *e*Pdif Pdif 20 46 22.6 +8.4
GRA1 *e*PKPdf PKPdf 20 49 26.2 +2.0
GRA1 *e*PP PP 20 51 36.1 -7.2
GRA1 *e* 20 52 56.8
GRA1 LR LR
comp=Z,17μm,21.2s,MS6.7
GRF Grafenberg Arr 130.52 333 *e*P Pdif 20 46 22.6 +8.4
GRF *e* 20 49 26.2
GRF *e* 20 51 36.1
GRF MLR MLR
comp=Z,17μm,21.2s,MS6.7
GRF Grafenberg Arr 130.52 333 *e*P Pdif 20 46 22.6 +8.4
GRF *e* 20 49 26.2
GRF *e* 20 51 36.1
GRF MLR MLR
comp=Z,17μm,21.2s,MS6.7
GRF Grafenberg Arr 130.52 333 *e*Pdif Pdif 20 46 22.6 +8.4
GRF *e*PKP PKPdf 20 49 26.2 +2.0
GRF *e*PP PP 20 51 36.1 -7.2
GRF *e* 20 52 56.8
GRF LR LR
comp=Z,17μm,21.2s,MS6.7
AGG Agios Georgios 130.58 316 *e*P PKPdf 20 49 26.0 +1.4
WTSB Winterswijk 130.58 338 *e*PKP PKPdf 20 49 26.0 +1.8
comp=Z,111nm,1.7s
WTSB *e*PP PP 20 51 38.0 -5.6
OHR Ohrid 130.60 319 *i* PKIKP PKPdf 20 49 28.4 +3.8
ESK Eskdalemuir 130.63 347 PFAKE 20 49 40.0 +16
ESK LR LR
comp=Z,3μm,20.0s,MS5.9
ESK Eskdalemuir 130.63 347 *e*P PKPdf 20 49 26.4 +2.2
OBKA Obir 131.12 328 ⇑*i*P PKPdf 20 49 22.1 -3.3
KBA Koelnbreinsper 131.36 330 ⇑*i*P PKPdf 20 49 26.5 +0.6
BOJS Bojanci 131.40 327 *e*PKPdf PKPdf 20 49 27.2 +1.2
BOJS *e*pPKPdf 20 49 30.6
BOJS *e*PP PP 20 51 47.4 -1.7
BOJS *e* 20 52 54.5
BOJS *e* 20 52 55.9
LJU Ljubljana 131.44 328 *e*PKPdf PKPdf 20 49 27.1 +1.0
LJU *e*pPKPdf 20 49 30.7
LJU *e*PP PP 20 51 49.3 0.0
LJU *e* 20 52 53.4
LJU *i* 20 52 55.2
SIND Sindeldorf 131.49 334 ⇑*e*P PKPdf 20 49 27.6 +1.6
HPK Haverah Park 131.50 345 *e*P PKPdf 20 49 28.3 +2.4
FUR Furstenfeldbru 131.60 332 *e*PKIKP PKPdf 20 49 28.1 +1.8
FUR *e* 20 51 42.8
TOD Tromm 131.63 335 PKIKP PKPdf 20 49 27.8 +1.5
TOD Tromm 131.63 335 *e*P PKPdf 20 49 27.9 +1.6
SWS Schriesheim 131.77 335 *e*P PKPdf 20 49 28.0 +1.4
VOY Vojsko 131.78 328 *e* PKPdf 20 49 24.2 -2.5
VOY *e*PKPdf PKPdf 20 49 27.4 +0.7
HDH Heidenheim 131.79 333 ⇑*e*P PKPdf 20 49 28.1 +1.5
HGN Heimansgroeve 131.87 338 *e*PKP PKPdf 20 49 26.3 -0.4
comp=Z,72nm,1.6s
HGN *e*PP PP 20 51 49.9 -2.0
LHO Holmfirth 131.94 345 *e*P PKPdf 20 49 24.0 -2.8
LHO Holmfirth 131.94 345 *e*P PKPdf 20 49 27.0 +0.2
ABH Alteburg 131.94 336 PKP PKPdf 20 49 28.9 +2.0
ABH Alteburg 131.94 336 *e*P PKPdf 20 49 28.8 +1.9
WATA Walderalm 132.05 331 ⇑*i*P PKPdf 20 49 28.8 +1.6
STU Stuttgart 132.10 334 *e*PKHKP 20 49 11.1
STU *e* 20 49 29.7
NVLJ Novalja 132.20 326 *i* P PKPdf 20 49 30.3 +2.8
BUCH Bad Urach 132.27 333 *e*P PKPdf 20 49 29.4 +1.8

MOTA Moosalm 132.27 331 ⇓*i*P PKPdf 20 49 29.4 +1.8
BBSR BB Station 132.28 53 PFAKE 20 49 40.0 +12
BBSR LR LR
comp=Z,10μm,21.0s,MS6.5
RUP Ruppelstein 132.28 336 PKIKP PKPdf 20 49 29.9 +2.4
RUP Ruppelstein 132.28 336 *e*P PKPdf 20 49 29.7 +2.2
SQTA Sankt Quirin 132.31 331 ⇑*i*P PKPdf 20 49 29.6 +1.9
LBG Lerchenberg 132.35 334 *e*P PKPdf 20 49 29.4 +1.7
UBR Uberruh 132.50 332 *e*P PKPdf 20 49 29.7 +1.7
LANF Langenberg 132.53 335 PKP PKPdf 20 49 30.4 +2.4
GUT Gutenstein 132.66 333 *e*P PKPdf 20 49 29.7 +1.4
WLF Walferdange 132.67 337 PKIKP PKPdf 20 49 30.2 +1.9
WLF Walferdange 132.67 337 *e*PKPpre 20 49 17.2
WLF *e*PKPdf PKPdf 20 49 30.3 +2.0
DMUB Kingscourt 132.72 349 *e*P PKPdf 20 49 31.0 +2.7
SPAK Spaichingen 132.78 333 *e*P PKPdf 20 49 29.9 +1.4
GIVF Givet 132.82 338 *e*PKIKP PKPdf 20 49 17.1 -11
comp=Z,230nm,1.2s
DAVA Damuels 132.89 332 ⇓*i*P PKPdf 20 49 25.5 -3.3
BAIF Baives 133.09 338 *e*PKIKP PKPdf 20 49 17.6 -11
comp=Z,142nm,1.3s
WLS Welschbruch 133.16 335 PKP PKPdf 20 49 30.9 +1.6
CDF Champ du Feu 133.20 335 *e*PKIKP PKPdf 20 49 17.5 -12
comp=Z,86nm,1.1s
DLF Lyons Farm 133.22 349 ⇑*i*P PKPdf 20 49 33.4 +4.2
DAVOX Davos 133.26 332 PKP PKPdf 20 49 31.2 +1.7
comp=Z,72nm,1.2s,baz=43,slow=4.0,SNR=9.5
DAVOX PP PP 20 51 59.1 -1.4
comp=Z,9.9nm,1.0s,baz=351,slow=13,SNR=2.0
DAVOX SKPbc 20 53 01.3
comp=Z,28nm,1.1s,baz=18,slow=8.1,SNR=5.0
DAVOX SKKPbc 21 02 16.6
comp=Z,7.4nm,1.0s,baz=335,slow=3.6,SNR=4.4
LIBD Limburg 133.26 334 *e*P PKPdf 20 49 31.6 +2.1
KIZ Kirchzarten 133.27 334 *e*P PKPdf 20 49 31.1 +1.6
FELD Feldberg 133.30 334 ⇑*e*P PKPdf 20 49 31.2 +1.7
DCN Crogḥan 133.32 349 ⇑*i*P PKPdf 20 49 33.8 +4.4
ECH Echery 133.40 335 PKP PKPdf 20 49 31.9 +2.2
MOF Molkenrain 133.69 334 PKP PKPdf 20 49 32.1 +1.8
BBS Basel-Blauen 133.83 334 PKP PKPdf 20 49 32.2 +1.7
BBS Basel-Blauen 133.83 334 ⇑*e*P PKPdf 20 49 31.8 +1.3
HINF Hinteralfeld 133.84 335 *e*PKIKP PKPdf 20 49 18.8 -12
comp=Z,181nm,1.3s
THEF They Montfort 133.88 336 PKP PKPdf 20 49 32.3 +1.7
HAU Haudompre 133.90 335 *e*PKIKP PKPdf 20 49 19.0 -12
comp=Z,134nm,1.3s
HAU *e*R
comp=Z,27μm,20.8s
MEZF Maizieres J'vi 134.03 336 *e*PKIKP PKPdf 20 49 19.8 -11
comp=Z,261nm,1.2s
LOMF Lomont 134.21 334 PKP PKPdf 20 49 31.4 +0.1
TIP Timpagrande 134.25 319 *e*PKPdf PKPdf 20 49 33.1 +1.5
CII Carovilli 134.29 323 *e*PKPdf PKPdf 20 49 32.9 +1.3
AQU L'Aquila 134.43 325 *e*PKIKP PKPdf 20 49 34.1 +2.3
SJG San Juan 134.44 72 PKP PKPdf 20 49 34.7 +2.3
comp=Z,128nm,1.1s,baz=286,slow=0.8,SNR=15
SJG PP PP 20 52 04.2 -5.0
comp=Z,30nm,0.9s,baz=283,slow=4.7,SNR=3.5
SJG SKPbc 20 53 08.2
comp=Z,41nm,1.0s,baz=76,slow=23,SNR=6.6
SJG San Juan 134.44 72 PKP PKPdf 20 49 34.7 +2.3
SJG PP PP 20 52 04.2 -5.0
SJG SKPbc 20 53 08.2
TRIS Tristan da Cun 134.73 189 PFAKE 20 49 50.0 +17
TRIS LR LR
comp=Z,9μm,21.0s,MS6.5
GRAM 134.80 329 P PKPdf 20 49 26.3 -6.1
VALM 134.81 329 P PKPdf 20 49 26.2 -6.2
SARO Sassorosso 134.85 329 P PKPdf 20 49 26.2 -6.3
VLC Villacollemand 134.87 329 *e*PKPpre 20 49 29.9
CODM 134.98 329 P PKPdf 20 49 26.5 -6.2
ORX Oropa 135.00 332 PKIKP PKPdf 20 49 27.2 -5.5
OG01 Vacheresse 135.06 333 PKP PKPdf 20 49 33.6 +0.8
CABF La Chapelle 135.10 334 *e*PKIKP PKPdf 20 49 22.1 -11
comp=Z,259nm,1.2s
TRAV 135.19 332 P PKPdf 20 49 27.3 -5.7
LSD Ceresole Reale 135.51 332 PKHKP 20 49 27.0
PCP Pian Castagno 135.53 330 PKHKP 20 49 26.2
RSL Roselend 135.58 333 PKP PKPdf 20 49 36.8 +3.0
LPL La Plagne 135.66 333 *e*PKIKP PKPdf 20 49 22.0 -12
comp=Z,126nm,1.1s
LPG La Plagne 135.66 333 *e*PKIKP PKPdf 20 49 22.1 -12
comp=Z,138nm,1.1s
RSP Reno Superiore 135.69 332 PKHKP 20 49 26.6
FLN La Foliniere 135.80 341 *e*PKIKP PKPdf 20 49 21.6 -12
comp=Z,156nm,1.2s
FLN *e*R
comp=Z,29μm,21.5s
SSF Saint Saulge 135.81 336 *e*PKIKP PKPdf 20 49 22.0 -12
comp=Z,183nm,1.1s
LDF La Druitiere 135.84 341 *e*PKIKP PKPdf 20 49 21.8 -12
comp=Z,121nm,1.2s
FENE Fenestrelle 135.88 332 P PKPdf 20 49 25.6 -8.7
FIN Finale Ligure 135.94 330 PKHKP 20 49 24.5
HYF Humbligny 135.98 337 *e*PKIKP PKPdf 20 49 22.7 -12
SMF Signal de Mont 136.02 336 *e*PKIKP PKPdf 20 49 22.2 -12
comp=Z,139nm,1.2s
BNI Bardonecchia 136.04 332 *e*PKHKP 20 49 26.5
BNI *e* 20 49 36.9
ROB Roburent 136.04 331 PKHKP 20 49 25.6
RRL Cesana Torines 136.09 332 PKHKP 20 49 26.5
AVF Avril sur Loir 136.10 336 *e*PKIKP PKPdf 20 49 22.1 -13
comp=Z,77nm,1.2s
MBDF Montbardon 136.24 332 *e*PKIKP PKPdf 20 49 23.9 -11
comp=Z,68nm,1.0s
PZZ Prazzo 136.25 331 PKHKP 20 49 25.4
MONE Monesi 136.25 330 P PKPdf 20 49 25.4 -10
GRR Gorron 136.25 341 *e*PKIKP PKPdf 20 49 22.6 -12
comp=Z,100nm,1.2s
ENR Entracque 136.31 331 PKHKP 20 49 25.1
IMI Imperia 136.31 330 P PKPdf 20 49 24.8 -10
STV Sta Anna Valdi 136.34 331 PKHKP 20 49 25.7
AUTN L'Aution 136.47 331 PKP PKPdf 20 49 37.3 +1.8
BGF Bois d'Agland 136.49 337 *e*PKIKP PKPdf 20 49 23.2 -12
comp=Z,153nm,1.1s
ORIF Oris-en-Rattie 136.50 333 *e*PKIKP PKPdf 20 49 24.6 -11
comp=Z,59nm,0.8s
ORIF *e*R
comp=Z,23μm,22.8s
SBF Sospel 136.57 330 *e*PKIKP PKPdf 20 49 23.1 -13
comp=Z,272nm,1.2s
MVIF Mont Vial 136.68 331 PKP PKPdf 20 49 37.6 +1.7
PGF Pioggiola 136.72 328 *e*PKIKP PKPdf 20 49 23.6 -12
comp=Z,259nm,1.0s
SGMF Saint Gilles 136.90 342 *e*PKIKP PKPdf 20 49 23.5 -13
comp=Z,125nm,1.1s
TCF Toulx Ste Croi 136.96 337 *e*PKIKP PKPdf 20 49 23.0 -13
comp=Z,200nm,1.2s
PYM Petit Puy Mans 137.08 336 PKP PKPdf 20 49 30.8 -5.8
VIVF Saint-Julien-l 137.09 334 *e*PKIKP PKPdf 20 49 23.5 -13
comp=Z,126nm,1.3s
FRF La Foret Royal 137.18 331 *e*PKIKP PKPdf 20 49 24.2 -13
comp=Z,278nm,1.3s
VERF Verneugheol 137.29 336 PKP PKPdf 20 49 39.0 +2.0
SMRF Simiane la Rot 137.37 332 *e*PKIKP PKPdf 20 49 24.2 -13
comp=Z,400nm,1.4s
QUIF Quistinic 137.38 343 *e*PKIKP PKPdf 20 49 23.6 -13
comp=Z,84nm,1.1s
VILF Villemus 137.40 332 PKP PKPdf 20 49 36.7 -0.5
LBL Lubilhac 137.41 335 PKP PKPdf 20 49 34.4 -2.8
LMR La Mourre 137.41 331 *e*PKIKP PKPdf 20 49 24.9 -12
comp=Z,301nm,1.3s
MFF Saint Martin d 137.56 339 *e*PKIKP PKPdf 20 49 26.5 -11
comp=Z,104nm,1.0s
PRAF Pradon 137.69 332 PKP PKPdf 20 49 36.9 -0.8
LCHF La Chataignera 137.71 340 PKP PKPdf 20 49 41.2 +3.5
TREF Trevaresse 137.73 332 PKP PKPdf 20 49 38.1 +0.3
RJF Les Rejaudoux 138.04 337 *e*PKIKP PKPdf 20 49 26.3 -12
comp=Z,150nm,1.5s
RJF *e*R
comp=Z,22μm,22.5s
LASF Ste Croix 138.07 334 *e*PKIKP PKPdf 20 49 26.8 -12
comp=Z,182nm,1.2s
CAF Calviac 138.14 336 *e*PKIKP PKPdf 20 49 25.6 -13
comp=Z,111nm,1.3s
VSL Villasalto 138.60 324 *e*PKPpre 20 49 33.2
LFF La Frestale 138.65 337 *e*PKIKP PKPdf 20 49 26.5 -13
comp=Z,144nm,1.2s
MTLF Montolieu 139.37 334 *e*PKIKP PKPdf 20 49 27.8 -13
comp=Z,169nm,1.2s
LRDF Laroque-de-Fa 139.55 334 PKP PKPdf 20 49 38.1 -3.0
LPEF Le Peyrat 139.82 334 PKP PKPdf 20 49 37.4 -4.2
FILF Fillols 139.85 333 PKP PKPdf 20 49 38.6 -3.0
MLS Moulis 140.16 335 PKP PKPdf 20 49 38.8 -3.4

MELF Melles 140.37 335 PKP PKPdf 20 49 40.2 -2.4
EPF Esparros 140.41 336 *e*PKIKP PKPdf 20 49 32.7 -10
comp=Z,266nm,1.4s
LABF Labassere 140.50 336 PKP PKPdf 20 49 41.7 -1.2
RESF Ens 140.59 336 PKP PKPdf 20 49 42.1 -0.9
VIEF Viey 140.66 336 PKP PKPdf 20 49 42.1 -1.0
REYF Montagne du Re 140.67 337 PKP PKPdf 20 49 42.1 -1.1
EBIE Bielsa 140.77 336 PKP PKPdf 20 49 42.0 -1.4
EMIR Miracle 140.82 334 PKP PKPdf 20 49 42.2 -1.3
ETSF Etsaut 140.88 337 *e*PKIKP PKPdf 20 49 34.4 -9.1
comp=Z,175nm,1.2s
FDAF Les Forges d'A 140.95 337 PKP PKPdf 20 49 43.6 -0.1
SJPF Ste Jean 140.95 337 *e*PKIKP PKPdf 20 49 32.9 -11
comp=Z,98nm,1.2s
EALK Alkurruntz 140.97 338 PKP PKPdf 20 49 40.3 -3.4
EPOB Poblet 141.47 334 PKP PKPdf 20 49 41.3 -3.3
ELAN Lanestosa 141.65 340 PKP PKPdf 20 49 42.0 -2.9
ESAC San Caprasio 141.83 336 PKP PKPdf 20 49 44.6 -0.6
ERTA Horta de San J 142.12 334 PKP PKPdf 20 49 43.9 -1.8
EBR Ebro Roquetas 142.16 334 *e*PKPDF PKPdf 20 49 45.0 -0.8
EARI Arriondas 142.16 342 PKP PKPdf 20 49 44.2 -1.5
EPON Pontenova 142.71 344 PKP PKPdf 20 49 44.5 -2.1
EMOS Mosqueruela 142.96 334 PKP PKPdf 20 49 46.4 -0.8
EIBI Ibiza 143.21 331 PKP PKPdf 20 49 48.5 +0.9
EINC Incio 143.38 344 PKP PKPdf 20 49 47.4 -0.4
STS Santiago 143.49 345 PKIKP PKPdf 20 49 48.1 +0.1
ERUA La Rua 143.57 343 PKIKP PKPdf 20 49 46.2 -1.9
ECAL Calabor 143.87 342 PKP PKPdf 20 49 47.8 -0.9
PBRG Braganca 143.99 342 *e*PKP PKPdf 20 49 47.5 -1.4
BAO Brasilia Array 144.17 131 *e*P PKPbc 20 49 49.1 -0.2
BAO *i* 20 49 54.0
GUD Guadarrama 144.18 339 PKIKP PKPdf 20 49 49.3 0.0
EBEN Beniarda 144.20 332 PKP PKPdf 20 49 49.5 +0.1
EZAM Zamans 144.22 345 PKIKP PKPdf 20 49 48.9 -0.4
ELOB Lobios 144.31 344 PKP PKPdf 20 49 49.4 0.0
PVRL Vila Real 144.77 343 *e*PKP PKPdf 20 49 51.3 +1.0
ESDC Sonseca Array 144.96 338 PKPbc PKPbc 20 49 51.8 +0.9
comp=Z,72nm,0.9s,baz=23,slow=3.1,SNR=94
ESDC PP PP 20 53 02.6 -10
comp=Z,3.7nm,0.8s,baz=3.7,slow=7.9,SNR=4.3
ESDC SKKPbc 21 01 32.8
comp=Z,4.6nm,1.1s,baz=220,slow=3.6,SNR=5.7
ESDC Sonseca Array 144.96 338 ⇑PKP PKPdf 20 49 51.6 +0.9
ESLA Sonseca Array 144.96 338 *e*PKP PKPdf 20 49 51.3 +0.6
ESLA LR LR
comp=Z,87μm,21.0s
EVIA Vianos 145.26 335 PKIKP PKPdf 20 49 53.0 +1.8
PVIS Viseu 145.34 343 *e*PKP PKPdf 20 49 52.6 +1.3
EMUR La Murta 145.37 333 PKP PKPdf 20 49 52.4 +0.9
CART Cartagena 145.47 332 *e*PKPdf PKPdf 20 49 52.0 +0.4
MTE Manteigas 145.52 342 *e*PKP PKPdf 20 49 53.2 +1.6
MTE *e*PP PP 20 53 12.2 -3.9
MTE *e*SS SS 21 12 02.2 -0.3
MTE *e*LR LR 21 41 55.4
comp=Z,13μm,21.2s
MTE Manteigas 145.52 342 *e*PKPdf PKPdf 20 49 53.0 +1.4
PCBR Castelo Branco 146.02 342 *e*PKP PKPdf 20 49 55.1 +2.6
EQES Quesada 146.21 335 PKP PKPdf 20 49 55.6 +2.8
EADA Adamuz 146.50 337 PKP PKPdf 20 49 56.5 +3.1
ENIJ Nijar 146.52 333 PKP2 PKPab 20 49 55.8 -2.2
EBAD Badajoz 146.86 341 PKP PKPdf 20 49 55.8 +1.8
EBER Berja 146.89 334 PKP PKPdf 20 49 56.8 +2.8
ELUQ Luque 146.91 336 PKIKP PKPdf 20 49 56.0 +1.9
ALMR Almeirim 146.98 343 *e*P PKPdf 20 49 55.9 +1.8
ELOJ Sierra Loja 147.21 335 PKIKP PKPdf 20 49 56.1 +1.5
EVO Evora 147.38 342 ⇑*i*PKIKP PKPdf 20 49 57.3 +2.5
comp=Z,1μm,1.3s
EVO *e*R
comp=Z,21μm,23.0s
PLOU Loures 147.39 343 *e*PKP PKPdf 20 49 59.3 +4.5
MOE Montemor 147.49 342 *e*PKP PKPdf 20 50 00.2 +5.2
LIS Lisbon 147.55 343 *e*P PKPdf 20 49 55.3 +0.2
EMIN Mina Concepcio 147.63 339 PKP PKPdf 20 49 57.4 +2.1
EALB Alboran 147.75 333 PKP PKPdf 20 49 58.3 +2.8
PBEJ Beja 147.80 341 *e*PKP PKPdf 20 49 57.9 +2.4
EMIJ Mijas 147.97 336 PKP PKPdf 20 49 57.8 +2.0
STGR Santa Cruz 148.11 11 *e*PKP PKPdf 20 50 02.7 +6.7
EGRO El Granado 148.12 340 PKP PKPdf 20 49 58.0 +1.9
ESPR Espera 148.13 337 PKP PKPdf 20 49 59.1 +3.0
PALC Alcoutim 148.18 340 *e*PKP PKPdf 20 49 57.8 +1.7
PCED Cedros 148.41 12 *e*PKP PKPdf 20 50 02.2 +5.8
ROSA Rosais 148.41 12 *e*PKP PKPdf 20 50 03.1 +6.6
CALA Caldeira 148.45 12 *e*PKP PKPdf 20 49 59.2 +2.7
PTEO Sao Teotonio 148.51 342 *e*PKP PKPdf 20 49 58.8 +2.2
HOR Horta 148.52 12 *e*PKP PKPdf 20 49 58.8 +2.2
PMAN Manadas 148.53 11 *e*PKP PKPdf 20 50 03.2 +6.6
PSBA Serra de Santa 148.54 10 *e*PKP PKPdf 20 50 01.4 +4.7
PBIS Biscoitos 148.56 10 *e*PKP PKPdf 20 50 03.3 +6.6
PVNV Vila Nova 148.58 10 *e*PKP PKPdf 20 50 03.8 +7.1
ASBA Santa Barbara 148.59 10 *e*PKP PKPdf 20 50 04.1 +7.4
PICO Pico 148.59 12 *e*PKP PKPdf 20 50 03.4 +6.7
PPAD Pico dos Padre 148.61 10 *e*PKP PKPdf 20 50 03.4 +6.6
SFS San Fernando 148.62 338 *e*PKIKP PKPdf 20 49 59.7 +2.9
PFAV Pico das Favas 148.64 10 *e*PKP PKPdf 20 50 05.3 +8.5
PPNO Prainha do Nor 148.65 12 *e*PKP PKPdf 20 50 01.0 +4.2
RIB2 Ribeirinha 148.66 10 *e*PKP PKPdf 20 50 04.2 +7.3
ADH Angra Heroismo 148.67 10 *e*PKP PKPdf 20 49 55.1 -1.8
SET4 Mosteiros 149.66 8 *e*PKP PKPdf 20 50 08.2 +10
SET2 Ginetes 149.69 8 *e*PKP PKPdf 20 50 07.4 +8.9
PFAD Fenais da Ajud 149.76 8 *e*PKP PKPdf 20 50 07.2 +8.6
PMAT Coroa da Mata 149.76 8 *e*PKP PKPdf 20 50 09.3 +11
PVER Pico Vermelho 149.78 8 *e*PKP PKPdf 20 50 05.9 +7.2
MESC Monte Escuro 149.79 8 *e*PKP PKPdf 20 50 07.4 +8.7
CML Cha da Macela 149.80 8 *e*PKP PKPdf 20 50 06.8 +8.1
LFA Lagoa do Fogo 149.80 8 *e*PKP PKPdf 20 50 07.9 +9.2
PDA Ponta Delgada 149.80 8 *i* PKP PKPdf 20 50 06.4 +7.7
PDA Ponta Delgada 149.80 8 *i* PP PP 20 53 53.0 +12
PDA Ponta Delgada 149.80 8 *e*LR LR 21 40 39.0
MIRA Miradouro 149.82 8 *e*PKP PKPdf 20 50 07.5 +8.8
PCNG Congro 149.82 8 *e*PKP PKPdf 20 50 07.2 +8.5
VIF Vila Franca 149.84 8 *e*PKP PKPdf 20 50 07.3 +8.5
PRCH Ribeira Ch 149.85 8 *e*PKP PKPdf 20 50 07.5 +8.7
PSMN Pico do Norte, 150.62 7 *e*PKP PKPdf 20 50 08.8 +8.8
RCBR Riachuelo 159.53 131 *e*PKPdf PKPdf 20 50 14.3 +1.7
RCBR *e*PKPab PKPab 20 50 53.2 +0.1
RCBR LR LR
comp=Z,10μm,20.0s,MS6.6
DBIC Dimbokro 164.45 267 PKIKP PKPdf 20 50 19.1 +1.5
DBIC 20 51 14.6
DBIC 20 55 01.4
DBIC pmax pmax
comp=Z,21nm,1.0s
DBIC pmax pmax
comp=Z,73nm,0.9s
DBIC pmax pmax
comp=Z,12nm,1.1s
DBIC Dimbokro 164.45 267 PKP PKPdf 20 50 19.1 +1.5
comp=Z,21nm,1.0s,baz=17,slow=1.0,SNR=11
DBIC PKPab PKPab 20 51 14.6 +0.1
comp=Z,73nm,0.9s,baz=81,slow=4.6,SNR=17
DBIC PP PP 20 55 01.4 -0.6
comp=Z,12nm,1.1s,baz=27,slow=9.3,SNR=3.8
DBIC Dimbokro 164.45 267 *e*PKPdf PKPdf 20 50 19.4 +1.8
DBIC *e*PKPab PKPab 20 51 14.2 -0.3
DBIC LR LR
comp=Z,17μm,20.0s

IDC 22 20:36:54.6±4.9, 6.55S×159.70E, mb4.4/5, mb1 4.7/5, mb1mx4.5/15, mbtmp4.4/5, Error ellipse: s-maj=195.0km s-min=43.7km az=174.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**64.85**	**294**	P	P	20 47 36.0	-2.1
	3.0nm,0.9s,baz=114,slow=4.3,SNR=3.3						
ILAR	**Eielson Array**	**81.29**	**20**	P	P	20 49 12.4	-1.5
	1.7nm,0.6s,baz=246,slow=4.8,SNR=6.8						
YBH	**Yreka Blue Hor**	**85.14**	**47**	P	P	20 49 33.0	-1.1
	3.2nm,0.9s,baz=269,slow=5.8,SNR=2.8						
NVAR	**Mina Array Bea**	**87.79**	**51**	P	P	20 49 46.5	-0.6
	2.4nm,0.8s,baz=244,slow=4.1,SNR=3.7						
YKA	**Yellowknife Ar**	**93.77**	**28**	P	P	20 50 12.9	-1.5
	1.9nm,0.7s,baz=262,slow=4.5,SNR=5.0						

IDC 22 20:45:51.0±2.6, 7.80S×159.59E, mb3.9/4, mb1 4.1/4, mb1mx3.9/14, mbtmp3.8/4, Error ellipse: s-maj=93.5km s-min=31.9km az=126.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.27**	**241**	P	P	20 51 37.9	-1.3
	0.8nm,0.7s,baz=65,slow=8.9,SNR=3.9						
ASAR	**Alice Springs**	**29.24**	**234**	P	P	20 51 54.3	-2.7
	0.5nm,0.4s,baz=62,slow=9.7,SNR=7.5						
SONM	**Songino Array**	**72.52**	**326**	P	P	20 57 20.4	-1.3
	0.2nm,0.5s,baz=134,slow=5.4,SNR=5.7						
YKA	**Yellowknife Ar**	**94.92**	**28**	P	P	20 59 14.3	-1.7
	0.5nm,0.8s,baz=258,slow=4.5,SNR=4.1						

IGQ 22 21:21:00.1, 1.02N×80.68W, h12km±26km, mb4.2, 2C-2D, Error ellipse: s-maj=30.1km s-min=7.9km az=50.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**2.06**	**176**	P	Pn	21 21 37.9	+3.0
PINO	**Pino**	**2.38**	**119**	P	Pn	21 21 40.4	+0.9
TERV	**Terraza Guagua**	**2.39**	**120**	P	Pn	21 21 40.5	+0.9
YANA	**Yana**	**2.39**	**118**	⇑P	Pn	21 21 40.5	+0.9
YANA				S	Sn	21 22 07.0	-2.2
JUA2	**San Juan 2**	**2.41**	**120**	P	Pn	21 21 40.9	+1.0
COTA	**Cotacachi**	**2.44**	**106**	⇑P	Pn	21 21 43.0	+2.6
COTA				S	Sn	21 22 12.5	+2.2
NAS1	**Nasa**	**2.74**	**127**	P	Pn	21 21 45.6	+0.9
VC1	**Cotopaxi 1**	**2.81**	**126**	P	Pn	21 21 47.9	+2.2
CAYA	**Cayambe**	**2.85**	**109**	⇓P	Pn	21 21 49.8	+3.6
CAYA				S	Sn	21 22 23.7	+3.0
CAYR	**Refugio Cayamb**	**2.85**	**110**	⇓P	Pn	21 21 49.9	+3.6
CAYR				S	Sn	21 22 23.1	+2.3
TAMB	**Tambo**	**2.87**	**126**	P	Pn	21 21 48.6	+2.1
ANTI	**Antisana**	**2.91**	**120**	P	Pn	21 21 49.0	+2.0
PISA	**Pisayambo**	**3.08**	**132**	P	Pn	21 21 51.7	+2.1
ULBA	**Ulba**	**3.34**	**137**	P	Pn	21 21 54.6	+1.4

*IDC **22** 21:21:35.5±0.8, 14.55N×92.36E, h23km±4km, mb3.7/11, mb1 3.9/12, mb1mx3.8/20, mbtmp3.8/12, ML3.3/1, Error ellipse: s-maj=29.7km s-min=15.4km az=49.0*

ISC 22 21:21:33.9±0.8, 14.83N±0.09×92.46E±0.06, h25km, h25km±.8km: pP-P, n21, σ1°25/20, mb3.9/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.18**	**59**	Pn	**Pn**	**21 23 20.9**	**+0.7**
	0.1nm,0.3s,baz=245,slow=15,SNR=6.2						
CMAR				Sn	**Sn**	**21 24 41.7**	**-0.2**
	0.5nm,0.3s,baz=244,slow=27,SNR=5.8						
SHL	**Shillong**	**10.69**	**357**	*e*P	**P**	**21 24 07.0**	**-1.8**
JIRN	**Jiri**	**14.03**	**336**	*e*P	**P**	**21 24 52.6**	**-1.0**
	8.4nm,0.4s						
PKI	**Pulchoki**	**14.27**	**334**	*e*P	**P**	**21 24 55.5**	**-1.2**
	9.7nm,0.4s						
DMN	**Daman**	**14.44**	**333**	*e*P	**P**	**21 24 58.3**	**-0.6**
	29nm,0.6s						
KKN	**Kakani**	**14.52**	**334**	*e*P	**P**	**21 24 58.8**	**-1.1**
GKN	**Gorkha**	**14.98**	**332**	*e*P	**P**	**21 25 05.5**	**-0.5**
	20nm,0.3s						
KOLN	**Koldanda**	**15.28**	**329**	*e*P	**P**	**21 25 09.6**	**-0.3**
	24nm,0.6s						
SONM	**Songino Array**	**34.88**	**16**	P	**P**	**21 28 27.5**	**+2.1**
	1.2nm,1.0s,mb3.8,baz=210,slow=10.0,SNR=5.3						
ZAL	**Zalesovo**	**39.48**	**353**	P	**P**	**21 29 06.5**	**+2.5**
	0.6nm,0.8s,mb3.4,baz=238,slow=23,SNR=3.9						
ZAL				pP	pP	21 29 14.1	+2.7
	1.1nm,0.7s,baz=212,slow=12,SNR=4.8						
BVAR	**Borovoye Array**	**41.92**	**340**	P	**P**	**21 29 26.0**	**+1.9**
	0.5nm,0.7s,mb3.2,baz=135,slow=6.3,SNR=4.0						
BVAR				pP	pP	21 29 33.8	+2.4
	1.0nm,0.8s,baz=143,slow=7.4,SNR=4.9						
GNI	**Garni**	**48.54**	**311**	P	**P**	**21 30 19.3**	**+2.2**
	1.9nm,0.6s,mb4.3,baz=171,slow=3.9,SNR=3.0						
WRA	**Warramunga Arr**	**53.76**	**129**	P	**P**	**21 30 55.3**	**-1.6**
	2.5nm,0.6s,mb4.3,baz=293,slow=9.6,SNR=43						
WRA				PcP	PcP	21 32 02.2	-0.5
	1.0nm,0.6s,baz=318,slow=3.3,SNR=8.1						
ASAR	**Alice Springs**	**55.73**	**133**	P	**P**	**21 31 09.7**	**-1.6**
	2.8nm,0.7s,mb4.4,baz=310,slow=6.8,SNR=40						
ASAR				PcP	PcP	21 32 09.8	-0.4
	1.3nm,0.9s,baz=313,slow=3.5,SNR=6.9						
BRTR	**Keskin Array B**	**56.76**	**308**	P	**P**	**21 31 17.9**	**-0.5**
	0.3nm,0.7s,mb3.4,baz=90,slow=7.2,SNR=2.1						
BRTR				pP	pP	21 31 25.5	-0.5
	1.4nm,0.8s,baz=116,slow=7.9,SNR=8.3						
AKASG	**Malin Array Be**	**61.75**	**320**	pP	pP	21 31 59.1	-1.3
	0.1nm,0.3s,baz=80,slow=4.2,SNR=3.4						
MLR	**Muntele Rosu**	**63.13**	**314**	P	**P**	**21 32 02.4**	**+0.4**
	1.1nm,0.6s,mb4.2,baz=99,slow=7.0,SNR=2.9						
MLR				pP	pP	21 32 10.5	+0.9
	1.9nm,0.9s,baz=125,slow=3.6,SNR=4.0						
FINES	**FINESS Array B**	**65.84**	**331**	P	**P**	**21 32 19.9**	**+0.6**
	1.7nm,0.9s,mb4.0,baz=228,slow=31,SNR=3.0						
FINES				pP	pP	21 32 26.7	-0.2
	1.3nm,0.6s,baz=108,slow=6.0,SNR=2.6						
ARCES	**ARCESS Array B**	**68.20**	**340**	P	**P**	**21 32 35.4**	**+1.2**
	2.2nm,0.8s,mb4.2,baz=14,slow=15,SNR=2.8						
ARCES				pP	pP	21 32 42.1	+0.3
	3.5nm,0.9s,baz=63,slow=8.1,SNR=3.0						
GERES	**GERESS Array B**	**71.61**	**317**	P	**P**	**21 32 55.3**	**+0.1**
	1.0nm,1.0s,mb3.7,baz=59,slow=7.8,SNR=4.8						
GERES				pP	pP	21 33 03.6	+0.7
	1.0nm,0.7s,baz=79,slow=6.8,SNR=6.6						
PLCA	**Paso Flores**	**150.25**	**207**	PKPbc	PKPdf	21 41 27.9	+5.4
	2.3nm,1.0s,baz=68,slow=4.0,SNR=3.2						

CASC 22 21:28:02.0±1.5, 13.90N×90.52W, h94km±10km, MD3.7, 6C-9D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.28**	**13**	⇓*e*P	P	21 28 14.9	-0.8
IXG				⇑*e*P		21 28 15.4	
FUG	**Fuego 3**	**0.62**	**330**	*e*P	P	21 28 17.8	-0.5
NBG	**Las Nubes**	**0.70**	**14**	⇓*e*P	P	21 28 19.8	+0.8
RBDL	**Robledal**	**0.83**	**75**	⇑*e*P	P	21 28 20.3	-0.1
RTR	**El Retiro**	**0.85**	**90**	⇑*e*P	P	21 28 20.6	+0.1
RTR				*e*S	S	21 28 36.0	+1.7
SBLS	**San Blas**	**0.87**	**94**	⇓*e*P	P	21 28 20.7	-0.1
SBLS				*e*S	S	21 28 36.3	+1.5
SNJE	**San Jose**	**0.89**	**92**	⇓*e*P	P	21 28 20.7	-0.2
SNJE				*e*S	S	21 28 36.1	+1.0
TP2	**Tecpan 2**	**1.00**	**331**	⇓*e*P	P	21 28 23.1	+0.8
TP2				*e*S	S	21 28 39.8	+2.4
JAT	**Jato**	**1.16**	**291**	*e*P	P	21 28 24.1	-0.1
JAT				*e*S	S	21 28 42.1	+1.4
BOQS	**Boqueron**	**1.22**	**98**	⇓*e*P	P	21 28 24.7	-0.2
MTO2	**Montecristo 2**	**1.23**	**66**	⇓*e*P	P	21 28 25.2	+0.2
LFU	**La Fuente**	**1.37**	**96**	⇓*e*P	P	21 28 26.8	0.0
LBRS	**Las Brisas**	**1.44**	**96**	*e*P	P	21 28 27.1	-0.5
LFRS	**El Faro**	**1.44**	**101**	⇑*e*P	P	21 28 27.3	-0.3
LFRS				*e*S	S	21 28 48.2	+1.5
LCBS	**La Ceiba**	**1.52**	**99**	⇑*e*P	P	21 28 28.4	-0.2
SNVI	**San Vicente**	**1.66**	**100**	⇓*e*P	P	21 28 31.4	+1.0
SNVI				*e*S	S	21 28 53.0	+1.7
CNCH	**Conchagua**	**2.69**	**103**	⇑*e*P	P	21 28 44.4	0.0

*NEIC **22** 21:38:06.6±2.2, 7.57S×127.22E, h138km±24km, mb4.3/14, Error ellipse: s-maj=16.5km s-min=12.3km az=69.0*
*IDC **22** 21:38:19.1±5.0, 7.81S×127.05E, h264km±56km, mb3.8/7, mb1 3.9/10, mb1mx3.8/16, mbtmp4.5/10, Error ellipse: s-maj=23.0km s-min=14.3km az=67.0*

ISC 22 21:38:05.8±1.7, 7.54S±0.06×127.3E±0.1, h154km±18km, n36, σ1°92/43, mb4.4/22, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.19**	**136**	⇑*i*P	**P**	**21 39 51.2**	**+1.8**
	53nm,0.2s						
KAKA				*e*S	**S**	**21 41 06.6**	**-3.4**
WRAB	**Tennant Creek**	**14.07**	**152**	*e*P	**P**	**21 41 17.9**	**-1.7**
	24nm,0.5s						
WRAB				*e*S	**S**	**21 43 40.5**	**-12**
WRA	**Warramunga Arr**	**14.08**	**152**	P	**P**	**21 41 18.2**	**-1.4**
	3.8nm,0.3s,baz=325,slow=13,SNR=97						
WRA				S	**S**	**21 43 49.2**	**-3.0**
	6.0nm,0.3s,baz=326,slow=24,SNR=13						
WB2	**Warramunga Arr**	**14.08**	**152**	*e*P	**P**	**21 41 18.1**	**-1.6**
WB2				*e*S	**S**	**21 43 46.7**	**-5.7**
MBWA	**Marble Bar**	**15.40**	**208**	*e*P	**P**	**21 41 37.2**	**+1.0**
	9.5nm,1.0s						
MBWA				*e*S	**S**	**21 44 12.7**	**-10**
ASPA	**Alice Springs**	**17.23**	**159**	*e*P	**P**	**21 41 59.3**	**+0.6**
ASPA				*e*S	**S**	**21 45 03.7**	**+0.2**
ASAR	**Alice Springs**	**17.23**	**159**	P	**P**	**21 41 59.5**	**+0.8**
	12nm,0.3s,baz=338,slow=12,SNR=222						
ASAR				S	**S**	**21 45 03.9**	**+0.4**
	1.7nm,0.3s,baz=317,slow=18,SNR=12						
PMG	**Port Moresby**	**19.70**	**97**	P	**P**	**21 42 32.0**	**+6.6**
	1.7nm,0.3s,baz=332,slow=13,SNR=5.8						
PMG	**Port Moresby**	**19.70**	**97**	*e*P	**P**	**21 42 27.0**	**+1.5**
	5.9nm,0.4s						
CTA	**Charters Tower**	**22.18**	**126**	P	**P**	**21 42 54.1**	**+4.1**
	3.8nm,0.6s,mb4.0,baz=291,slow=11,SNR=5.7						
CTAO	**Charters Tower**	**22.18**	**126**	*e*P	**P**	**21 42 54.0**	**+4.0**
	6.0nm,0.7s,mb4.1						
FORT	**Forrest**	**23.13**	**178**	*e*P	**P**	**21 43 00.2**	**+0.9**
	46nm,0.5s,mb5.2						
NWAO	**Narrogin (SRO)**	**26.94**	**199**	P	**P**	**21 43 34.3**	**-0.6**
	5.2nm,0.6s,mb4.3,baz=29,slow=6.8,SNR=8.0						
NWAO	**Narrogin (SRO)**	**26.94**	**199**	*e*P	**P**	**21 43 34.1**	**-0.8**
	4.1nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**27.62**	**153**	⇑*i*P	**P**	**21 43 41.8**	**+0.7**
	4.3nm,0.3s,mb4.7						
STKA	**Stephens Creek**	**27.62**	**153**	P	**P**	**21 43 42.0**	**+0.8**
	4.3nm,0.5s,mb4.5,baz=325,slow=9.2,SNR=21						
STKA	**Stephens Creek**	**27.62**	**153**	*e*P	**P**	**21 43 41.4**	**+0.3**
STKA				*e*		21 43 45.9	
CM31	**Chiang Mai Arr**	**38.10**	**313**	*e*P	**P**	**21 45 12.7**	**+1.0**
	3.8nm,0.6s,mb4.2						
CMAR	**Chiang Mai Arr**	**38.10**	**313**	P	**P**	**21 45 12.8**	**+1.2**
	4.6nm,0.6s,mb4.3,baz=141,slow=6.9,SNR=44						
MAJO	**Matsushiro**	**45.02**	**12**	P	**P**	**21 46 08.0**	**+0.1**
	14nm,1.2s,mb4.5						
LSA	**Lhasa**	**50.80**	**318**	*e*P	**P**	**21 46 53.1**	**+0.4**
	4.3nm,0.7s,mb4.2						
JIRN	**Jiri**	**52.98**	**313**	*e*P	**P**	**21 47 08.5**	**-0.5**
	5.5nm,0.7s,mb4.4						
PKI	**Pulchoki**	**53.50**	**312**	*e*P	**P**	**21 47 11.9**	**-0.9**
	5.3nm,0.4s,mb4.6						
KKN	**Kakani**	**53.72**	**313**	*e*P	**P**	**21 47 13.8**	**-0.6**
	5.5nm,0.6s,mb4.5						
DMN	**Daman**	**53.74**	**312**	*e*P	**P**	**21 47 13.9**	**-0.7**
	5.2nm,0.5s,mb4.5						
GKN	**Gorkha**	**54.30**	**312**	*e*P	**P**	**21 47 17.8**	**-0.9**
	11nm,0.5s,mb4.9						
KOLN	**Koldanda**	**54.94**	**312**	*e*P	**P**	**21 47 22.0**	**-1.3**
	9.2nm,0.4s,mb4.9						
ULN	**Ulaanbaatar**	**58.00**	**344**	*e*P	**P**	**21 47 45.4**	**+0.6**
	2.8nm,0.8s,mb4.1						
SONM	**Songino Array**	**58.16**	**344**	P	**P**	**21 47 46.8**	**+1.0**
	0.9nm,0.5s,mb3.9,baz=165,slow=7.0,SNR=15						
ZAL	**Zalesovo**	**70.92**	**335**	P	**P**	**21 49 08.0**	**-0.2**
	2.1nm,0.4s,mb4.2,baz=263,slow=7.0,SNR=8.9						
ZAL	**Zalesovo**	**70.92**	**335**	P	**P**	**21 49 08.0**	**-0.2**
KURK	**Kurchatov**	**71.62**	**330**	*e*P	**P**	**21 49 11.6**	**-0.8**
	7.7nm,1.2s,mb4.3						
MAW	**Mawson**	**73.49**	**201**	*e*P	**P**	**21 49 24.4**	**+1.4**
	14nm,0.3s,mb5.2						
BVAR	**Borovoye Array**	**77.13**	**329**	P	**P**	**21 49 43.9**	**+0.1**
	1.3nm,0.6s,mb3.7,baz=121,slow=8.6,SNR=9.0						
BRVK	**Borovoye**	**77.20**	**329**	P	**P**	**21 49 44.0**	**-0.3**
	1.4nm,0.6s,mb3.8						
CHKZ	**Chkalovo**	**77.35**	**329**	*e*P	**P**	**21 49 44.9**	**-0.2**
	2.1nm,0.9s,mb3.8						

*CSEM **22** 21:40:04.3±0.1, 36.71N×5.05W, h22km±1km, ML2.7/3, Error ellipse: s-maj=4.6km s-min=2.9km az=174.0*
*SFS **22** 21:40:04.0, 36.64N×5.03W*

MDD 22 21:40:05.0±0.2, 36.72N×5.00W, h23km±1km, mbLg2.1/12, 2C-1D, Error ellipse: s-maj=3.7km s-min=2.1km az=16.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.23**	**130**	⇓Pg	Pb	21 40 10.6	-0.4
	14nm,0.1s,SNR=18						
EMIJ				Lg		21 40 15.0	
	94nm,0.2s,SNR=7.9						
REAL	**Reales**	**0.29**	**216**	⇑Pg	Pb	21 40 11.7	0.0
REAL				Lg		21 40 16.9	
REAL	**Reales**	**0.29**	**216**	*i* P	Pb	21 40 11.7	0.0
LIJA	**Lijar**	**0.38**	**300**	⇑Pg	Pb	21 40 12.3	-0.8
LIJA				Lg		21 40 18.9	
LIJA	**Lijar**	**0.38**	**300**	*i* P	Pb	21 40 12.3	-0.8
ESPR	**Espera**	**0.71**	**283**	Pg	Pb	21 40 18.2	-0.4
	10nm,0.3s,SNR=7.9						
ESPR				Lg		21 40 29.3	
	42nm,0.3s,SNR=7.9						
ESPR	**Espera**	**0.71**	**283**	Pg	Pb	21 40 18.2	-0.4
	10nm,0.3s,baz=99,slow=7.9						
GIBL	**Gibalbin**	**0.79**	**279**	Pg	Pb	21 40 21.0	+1.0
GIBL				Lg		21 40 32.3	
GIBL	**Gibalbin**	**0.79**	**279**	*e*P	Pb	21 40 21.0	+1.0
GIBL				*e*S	Sb	21 40 32.3	+2.1
ELOJ	**Sierra Loja**	**0.80**	**57**	Pg	Pb	21 40 21.2	+1.0
	4.4nm,0.2s,SNR=11						
ELOJ				Lg		21 40 31.6	
	6.2nm,0.2s,SNR=9.3						
ELUQ	**Luque**	**1.02**	**34**	Pg	Pb	21 40 23.4	-0.6
	3.9nm,0.1s,SNR=6.4						
ELUQ				Lg		21 40 37.0	
	14nm,0.2s,SNR=15						
EADA	**Adamuz**	**1.49**	**13**	Pn	Pn	21 40 29.0	-1.7
	0.1nm,0.1s,SNR=4.0						
EADA				Pg	Pn	21 40 30.7	-0.1
	2.9nm,0.1s,SNR=7.9						
EADA				Lg		21 40 49.7	
	26nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**1.49**	**13**	Pn	Pn	21 40 29.0	-1.8
	0.1nm,0.1s,SNR=4.0						
EADA	**Adamuz**	**1.49**	**13**	Pg	Pn	21 40 30.7	-0.1
	2.9nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.70**	**309**	Pn	Pn	21 40 30.8	-3.0
	0.2nm,0.1s,SNR=7.9						
EMIN				Pg	Pn	21 40 32.9	-0.9
	1.4nm,0.2s,SNR=7.9						
EMIN				Lg		21 40 54.3	
	5.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.70**	**309**	Pn	Pn	21 40 30.8	-3.0
	0.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.70**	**309**	Pg	Pn	21 40 32.9	-0.9
	1.4nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.70**	**83**	Pg	Pn	21 40 35.3	+1.5
	3.5nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.70**	**83**	Pg	Pn	21 40 35.3	+1.5
	3.5nm,0.3s,SNR=7.9						
EQES	**Quesada**	**1.88**	**54**	Pn	Pn	21 40 33.8	-2.6
	0.4nm,0.1s,SNR=4.0						
EQES				Pg	Pn	21 40 39.7	+3.3
	1.8nm,0.2s,SNR=7.9						
EQES				Lg		21 41 04.9	
	7.8nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.88**	**54**	Pn	Pn	21 40 33.8	-2.6
	0.4nm,0.1s,SNR=4.0						
EQES	**Quesada**	**1.88**	**54**	Pg	Pn	21 40 39.7	+3.3
	1.8nm,0.2s,SNR=7.9						
PALC	**Alcoutim**	**2.12**	**291**	*e*Pn	Pn	21 40 36.8	-3.0
PALC				*e*Sn	Sn	21 41 02.1	-3.6
PALC				*e*Sg	Sn	21 41 08.6	+2.9
	8.5nm,0.4s						
PALC	**Alcoutim**	**2.12**	**291**	Pn	Pn	21 40 36.8	-3.0
PALC				Sn	Sn	21 41 02.1	-3.6
PALC				Lg		21 41 08.6	
	4.2nm,0.4s						
PALC	**Alcoutim**	**2.12**	**291**	Pn	Pn	21 40 37.3	-2.5
PALC				*e*Sn	Sn	21 41 02.1	-3.6
PALC				*e*Sg	Sn	21 41 08.6	+2.9
	8.5nm,0.4s						
EGRO	**El Granado**	**2.15**	**293**	Pn	Pn	21 40 36.8	-3.4
	0.2nm,0.1s,SNR=7.9						
EGRO				Pg	Pn	21 40 42.1	+1.9
	1.3nm,0.2s,SNR=7.9						
EGRO				Sn	Sn	21 41 02.1	-4.3
	2.1nm,0.2s,SNR=7.9						
EGRO				Lg		21 41 09.3	
	4.9nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**2.15**	**293**	Pn	Pn	21 40 36.8	-3.4
	0.2nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.15**	**293**	Pg	Pn	21 40 42.1	+1.9
	1.3nm,0.2s,SNR=7.9						
EGRO				Sn	Sn	21 41 02.1	-4.3
	2.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.59**	**322**	Pn	Pn	21 40 43.5	-3.0
	0.4nm,0.1s,SNR=7.9						
EBAD				Pg	Pn	21 40 50.1	+3.6
	1.1nm,0.2s,SNR=4.0						
EBAD				Sn	Sn	21 41 12.2	-5.4
	2.1nm,0.2s,SNR=7.9						
EBAD				Lg		21 41 22.5	
	6.2nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.59**	**322**	Pn	Pn	21 40 43.5	-3.0
	0.4nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.59**	**322**	Pg	Pn	21 40 50.1	+3.6
	1.1nm,0.2s,SNR=4.0						
EBAD				Sn	Sn	21 41 12.2	-5.4
	2.1nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**2.63**	**301**	Pn	Pn	21 40 43.2	-4.0
PBEJ				*e*Sn	Sn	21 41 15.0	-3.8
PBEJ				*e*Sg	Sn	21 41 23.2	+4.4
EVIA	**Vianos**	**2.76**	**45**	Lg		21 41 29.2	
	2.3nm,0.2s,SNR=4.0						
ESDC	**Sonseca Array**	**3.06**	**15**	Pn	Pn	21 40 51.4	-1.8
	0.3nm,0.1s,baz=196,slow=12,SNR=4.0						
ESDC				Pg	Pn	21 41 00.1	+6.8
	0.3nm,0.1s,baz=200,slow=17,SNR=7.4						
ESDC				Lg		21 41 37.4	
	5.0nm,0.5s,baz=196,slow=28,SNR=14						
ESDC	**Sonseca Array**	**3.06**	**15**	Pn	Pn	21 40 51.4	-1.9
	0.3nm,0.1s,baz=196,slow=12,SNR=4.0						
ESDC	**Sonseca Array**	**3.06**	**15**	Pg	Pn	21 41 00.1	+6.8
	0.3nm,0.1s,slow=17,SNR=7.4						
PTEO	**Sao Teotonio**	**3.09**	**287**	Lg		21 41 40.4	
PCBR	**Castelo Branco**	**3.68**	**329**	Pn	Pn	21 40 57.5	-4.5
PCBR				Sn	Sn	21 41 39.0	-6.2
GUD	**Guadarrama**	**3.98**	**9**	Pn	Pn	21 41 04.1	-2.1
	0.2nm,0.2s,SNR=4.0						
GUD				Lg		21 42 04.6	
	1.6nm,0.4s,SNR=7.9						

*ATH **22** 21:42:32.0, 39.14N×24.34E, h16km, MD2.6/4*
*NEIC **22** 21:42:32.0, 39.14N×24.34E, h16km, MD2.6(ATH), After ATH.*
*THE **22** 21:42:33.8, 39.12N×24.21E, h9km, ML2.3*
*CSEM **22** 21:42:33.1±0.2, 39.05N×24.24E, h2km, ML2.3, Error ellipse: s-maj=4.2km s-min=3.4km az=149.0*

ISC 22 21:42:32.8±0.8, 39.11N±0.04×24.23E±0.05, h13km±6km, n11, σ0°72/18, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.28**	**283**	*e*Pg	**Pg**	**21 42 38.3**	**-0.5**
AOS				*e*Sg	**Sg**	**21 42 43.2**	**+0.4**
NEO	**Neokhori**	**0.81**	**285**	*e*PN	**Pn**	**21 42 49.0**	**-0.7**
NEO				*e*SN	**Sn**	**21 43 01.0**	**-0.5**
XOR	**Xorichti**	**0.84**	**288**	*e*Pg	**Pg**	**21 42 49.6**	**-0.2**
XOR				*e*Sg	**Sg**	**21 43 01.2**	**0.0**
PAIG	**Paliouri**	**0.92**	**333**	*e*Pg	**Pg**	**21 42 50.8**	**-0.6**
PAIG				*e*Sg	**Sg**	**21 43 04.2**	**+0.5**
MPAR	**Parnis Oros**	**1.03**	**202**	*e*PN	**Pn**	**21 42 52.5**	**-0.4**
LOS	**Limnos**	**1.06**	**38**	*e*Pg	**Pg**	**21 42 53.5**	**-0.5**
LOS				*e*Sg	**Sg**	**21 43 09.0**	**+0.8**
PTL	**Penteli**	**1.09**	**195**	*e*PN	**Pn**	**21 42 53.2**	**-0.6**
OUR	**Ouranopolis**	**1.24**	**351**	*e*Pb	**Pb**	**21 42 56.0**	**+0.4**
NSAL	**Nisos Salamina**	**1.34**	**207**	*e*PN	**Pn**	**21 42 59.0**	**+1.7**
AGG	**Agios Georgios**	**1.48**	**267**	*e*Pb	**Pb**	**21 42 59.6**	**-0.1**
AGG				*e*Sb	**Sb**	**21 43 19.9**	**+1.6**
LIT	**Litokhoron**	**1.67**	**307**	*e*Pb	**Pb**	**21 43 01.9**	**-1.1**
LIT				*e*Sb	**Sb**	**21 43 23.7**	**-0.1**

IDC 22 21:52:05.5±3.9, 11.01N×90.99E, mb3.4/3, mb1 3.6/4, mb1mx3.4/18, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=99.6km s-min=31.9km az=83.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.67**	**45**	Pn	P	21 54 40.0	-2.7
	0.1nm,0.3s,baz=235,slow=14,SNR=3.6						
SONM	**Songino Array**	**38.93**	**17**	P	P	21 59 32.9	-1.8
	0.2nm,0.5s,baz=207,slow=6.4,SNR=2.2						
WRA	**Warramunga Arr**	**52.60**	**126**	P	P	22 01 21.3	-2.3
	0.7nm,0.6s,baz=306,slow=8.6,SNR=7.3						
ASAR	**Alice Springs**	**54.30**	**130**	P	P	22 01 34.0	-2.0
	0.3nm,0.6s,baz=306,slow=6.8,SNR=6.1						

*IDC **22** 21:53:46.1±4.6, 7.74N×92.19E, mb3.8/3, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=128.8km s-min=28.6km az=78.0*

ISC 22 21:53:51.3±3.2, 7.9N±0.1×92.7E±0.6, h33km, n11, σ0°01/4, mb3.8/3, Nicobar Islands region

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

JUIV	Juive	2.93	91	⇓P	Pn	22 06 27.6	+1.2
ARRY	Arrayan	2.94	92	P	Pn	22 06 27.2	+0.7
RETU	Refugio	2.95	91	P	Pn	22 06 29.4	+2.7
PATA	Patacocha	2.96	92	P	Pn	22 06 29.0	+2.1
MARY	Rancho Maria	2.98	77	P	Pn	22 06 29.5	+2.3
RUN2	Runtun	2.98	91	P	Pn	22 06 28.9	+1.7
ULBA	Ulba	2.99	91	P	Pn	22 06 28.7	+1.4
ULBA				S	Sn	22 07 03.5	+0.1
NAS1	Nasa	3.02	75	P	Pn	22 06 28.7	+1.1
JUA2	San Juan 2	3.03	67	P	Pn	22 06 28.9	+1.1
PISA	Pisayambo	3.03	84	P	Pn	22 06 29.3	+1.5
TERV	Terraza Guagua	3.04	67	P	Pn	22 06 29.1	+1.1
PINO	Pino	3.05	66	P	Pn	22 06 28.8	+0.7
VC1	Cotopaxi 1	3.09	76	P	Pn	22 06 30.8	+2.1
VC1				S	Sn	22 07 06.9	+1.2
YANA	Yana	3.10	66	P	Pn	22 06 29.5	+0.7
YANA				S	Sn	22 07 06.0	0.0
TAMB	Tambo	3.11	77	P	Pn	22 06 30.4	+1.5
ANTI	Antisana	3.37	74	⇑P	Pn	22 06 34.3	+1.7
ANTI				S	Sn	22 07 13.3	+0.4
COTA	Cotacachi	3.51	61	P	Pn	22 06 36.4	+1.7
CAYR	Refugio Cayamb	3.67	68	P	Pn	22 06 40.2	+3.3
CAYR				S	Sn	22 07 22.4	+1.9
CAYA	Cayambe	3.71	67	P	Pn	22 06 40.8	+3.4
CONE	Cono NE Rev Vo	3.98	71	P	Pn	22 06 46.7	+5.4

IGQ 22 22:33:23.9, 0.99S×81.39W, h12km±8km, mb4.4, 2C-5D, Error ellipse: s-maj=10.2km s-min=6.2km az=160.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.84	94	P	Pb	22 33 38.6	-1.3
IGUA	Igualata	2.79	100	P	Pn	22 34 10.4	+1.2
JUA2	San Juan 2	2.89	75	P	Pn	22 34 12.1	+1.5
TERV	Terraza Guagua	2.90	74	P	Pn	22 34 11.7	+0.9
PINO	Pino	2.90	74	⇓P	Pn	22 34 11.6	+0.8
NAS1	Nasa	2.93	83	P	Pn	22 34 12.8	+1.6
YANA	Yana	2.95	73	⇓P	Pn	22 34 12.2	+0.8
JUIV	Juive	2.96	98	P	Pn	22 34 13.8	+2.3
ARRY	Arrayan	2.98	100	⇑P	Pn	22 34 13.1	+1.2
ARRY				S	Sn	22 34 47.3	-0.5
PATA	Patacocha	3.00	100	⇓P	Pn	22 34 14.1	+1.9
PISA	Pisayambo	3.00	91	P	Pn	22 34 13.9	+1.6
VC1	Cotopaxi 1	3.00	83	⇓P	Pn	22 34 15.0	+2.7
RUN2	Runtun	3.01	98	P	Pn	22 34 14.1	+1.8
RUN2				S	Sn	22 34 49.5	+0.9
ULBA	Ulba	3.02	99	⇓P	Pn	22 34 14.2	+1.8
TAMB	Tambo	3.04	85	P	Pn	22 34 15.3	+2.6
ANTI	Antisana	3.27	81	P	Pn	22 34 18.3	+2.2
COTA	Cotacachi	3.32	67	P	Pn	22 34 17.8	+1.1
CAYR	Refugio Cayamb	3.52	74	P	Pn	22 34 22.6	+2.9
CAYR				S	Sn	22 35 03.3	+1.5
CAYA	Cayambe	3.56	73	⇑P	Pn	22 34 22.9	+2.7
CONE	Cono NE Rev Vo	3.85	76	P	Pn	22 34 29.4	+5.0

OTT 22 22:33:45.5±0.3, 78.44N×109.36W, h18km, ML3.3/2, Gustaf-Lougheed Arch Seismic Zone. 135km west from Isachsen, Nu, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	Eureka	4.57	58	PN	Pn	22 34 52.8	-2.7
EUNU				SN	Sn	22 35 43.7	-5.1
RES	Resolute Bay	5.04	131	PN	Pn	22 34 59.5	-2.8
RES				SN	Sn	22 35 54.5	-6.3
RES				Trac		22 36 04.8	
	comp=Z,6.2nm,0.2s						
IGL	Igloolik	11.69	126	SN	S	22 38 34.6	-11
INK	Inuvik	12.13	226	PN	P	22 36 34.9	-5.4
INK				SN	S	22 38 43.0	-13
INK				Trac		22 38 53.2	
	comp=Z,1.4nm,0.5s						
LUPN	Lupin Mine	12.78	184	SN	S	22 39 00.3	-11
YKW3	Yellowknife Ar	16.04	189	PN	P	22 37 29.2	-2.2
YKW3				SN	S	22 40 16.6	-12

IDC 22 22:54:20.2±2.5, 52.63N×179.23W, h238km±36km, mb2.9/5, mb1 3.2/6, mb1mx3.0/22, mbtmp3.5/6, Error ellipse: s-maj=48.6km s-min=29.0km az=2.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	Attu Island--F	4.63	276	P	P	22 55 32.0	+0.5
	6.0nm,0.3s,baz=116,slow=19,SNR=7.2						
FX1				S	S	22 56 26.9	-0.3
	3.9nm,0.3s,baz=222,slow=22,SNR=11						
ILAR	Eielson Array	20.45	41	P	P	22 58 39.5	-0.6
	0.2nm,0.6s,baz=234,slow=7.8,SNR=5.7						
INK	Inuvik	26.60	36	P	P	22 59 35.5	-2.3
	0.8nm,0.8s,baz=278,slow=7.1,SNR=2.7						
YKA	Yellowknife Ar	34.57	48	P	P	23 00 46.0	-1.5
	0.5nm,0.8s,baz=283,slow=8.4,SNR=5.5						
NVAR	Mina Array Bea	43.67	84	P	P	23 02 01.3	-1.4
	0.3nm,0.3s,baz=297,slow=3.3,SNR=3.8						
ARCES	ARCESS Array B	56.81	350	P	P	23 03 39.1	-1.8
	1.8nm,0.9s,baz=14,slow=7.4,SNR=3.2						

*JMA **22** 22:55:23.9±0.4, 23.12N×121.35E, h3km, M3.7*
*TAP **22** 22:55:24.9, 23.34N×121.15E, h4km, ML4.2*
TAP Felt III J at Yuli, III J at Lidau, III J at Hungye, II J at Chenggung, I J at Alishan, I J at Tauyuan, I J at Dapu, II J at Shilin, I J at Hehuanshan.
*NEIC **22** 22:55:29.7±0.6, 23.32N×121.73E, h35km, mb4.0/2, ML4.3(TAP), Error ellipse: s-maj=13.6km s-min=12.0km az=88.0*
NEIC Recorded [3 TAP] in Hua-lien and T'ai-tung; [1 TAP] in Chia-i and Kao-hsiung Counties.
*IDC **22** 22:55:31.1±4.5, 23.34N×121.79E, h51km±45km, mb3.4/7, mb1 3.6/8, mb1mx3.4/20, mbtmp3.8/8, ML3.7/1, Error ellipse: s-maj=33.7km s-min=17.2km az=63.0*

ISC 22 22:55:25.0±0.3, 23.29N±0.01×121.23E±0.02, h5km±2km, n80, σ1§03/132, mb3.7/9, 7C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWF1	Yuli	0.09	47	⇓iP	Pg	22 55 28.6	+1.5
TWF1				S	Sg	22 55 30.6	+2.2
ELDTW	Lidau	0.22	242	⇓iP	Pg	22 55 29.3	-0.1
ELDTW				S	Sg	22 55 32.0	-0.4
CHKT	Chengkung	0.23	146	⇑iP	Pg	22 55 32.6	+2.9
CHKT				S	Sg	22 55 37.7	+4.8
EHY	Hungye	0.23	22	⇓iP	Pg	22 55 30.2	+0.5
EHY				S	Sg	22 55 33.1	+0.2
YUS	Yu-Shan	0.32	308	⇓iP	Pg	22 55 30.9	-0.5
YUS				S	Sg	22 55 34.3	-1.4
ALS	Alishan	0.44	300	⇓iP	Pg	22 55 33.3	-0.6
ALS				S	Sg	22 55 38.6	-1.3
STYT	Tauyuan	0.45	254	⇓iP	Pg	22 55 33.8	-0.2
STYT				S	Sg	22 55 39.0	-1.0
TWG	Pinlang	0.49	197	⇑iP	Pg	22 55 35.5	+0.7
TWG				S	Sg	22 55 42.5	+1.1
TTN	Taitung	0.54	188	eP	Pg	22 55 37.3	+1.6
ESL	Shilin	0.56	20	eP	Pg	22 55 35.5	-0.6
ESL				S	Sg	22 55 43.2	-0.3
WTP	Ta-pu	0.56	266	⇓iP	Pg	22 55 36.3	0.0
WTP				S	Sg	22 55 43.3	-0.5
CHN4	Tsaushan	0.58	276	⇓iP	Pg	22 55 36.6	-0.1
CHN4				S	Sg	22 55 45.2	+0.7
CHN5	Tsauling	0.59	301	⇓iP	Pg	22 55 36.4	-0.4
SGST	Jiashian	0.63	251	⇓iP	Pg	22 55 37.8	+0.3
SGST				S	Sg	22 55 46.2	+0.3
CHN1	Nanshi	0.65	261	⇓iP	Pg	22 55 38.3	+0.3
CHN1				S	Sg	22 55 47.0	+0.3
SMLT	Sun Moon Lake	0.66	333	⇑iP	Pg	22 55 37.1	-1.1
SMLT				S	Sg	22 55 44.3	-2.7
TWK	Hsinying	0.68	268	⇓iP	Pg	22 55 38.5	-0.1
TYC	Yuchr	0.70	331	⇑iP	Pg	22 55 37.8	-1.1
WGK	Gukeng	0.72	303	eP	Pg	22 55 39.7	+0.2
WGK				S	Sg	22 55 49.5	+0.3
CHN2	Minshiung	0.73	289	eP	Pg	22 55 39.9	+0.3
CHN2				S	Sg	22 55 49.9	+0.6
ECL	Taimali	0.73	200	⇑iP	Pg	22 55 39.5	-0.2
ECL				S	Sg	22 55 49.3	-0.2
CHY	Chiayi	0.77	286	eP	Pg	22 55 40.3	0.0
CHY				S	Sg	22 55 50.3	-0.2
HWA	Hwalien	0.77	27	eP	Pg	22 55 40.0	-0.3
HWA				S	Sg	22 55 51.4	+0.8
WNT	Mingjian	0.77	320	eP	Pg	22 55 40.8	+0.4
WNT				S	Sg	22 55 50.8	+0.2
SSD	Sandimen	0.77	225	⇓iP	Pg	22 55 39.7	-0.7
CHN3	Shinhua	0.82	255	eP	Pb	22 55 42.0	+0.8
WHF	Hehuan Shan	0.85	2	⇑iP	Pb	22 55 40.4	-1.4
WHF				S	Sb	22 55 53.0	-0.3
TWD	Chiawan	0.86	23	⇑iP	Pb	22 55 41.3	-0.6
TWD				S	Sb	22 55 53.4	-0.1
TWM1	Shoushan	0.87	238	eP	Pb	22 55 43.3	+1.1
SGLT	Jiouru	0.88	230	eP	Pb	22 55 42.8	+0.5
CHN8	Yiju	0.93	274	eP	Pb	22 55 42.9	-0.3
CHN8				S	Sb	22 55 56.5	+0.8
TAI1	Yung-k'ang	0.95	255	eP	Pb	22 55 44.0	+0.5
SCLT	Jiali	0.96	263	eP	Pb	22 55 42.2	-1.4
TWT	Tachien	0.96	357	eP	Pb	22 55 42.3	-1.4
TWT				S	Sb	22 55 56.3	-0.1
EAST	Anshuo	0.97	201	eP	Pb	22 55 43.5	-0.3
WSF	Szhu	0.98	291	eP	Pb	22 55 43.7	-0.4
WSF				S	Sb	22 55 57.1	0.0
TCU	Taichung	0.99	330	eP	Pb	22 55 43.6	-0.5
TCU				S	Sb	22 55 57.2	-0.1
SCZT	Fangliau	1.07	212	eP	Pb	22 55 45.7	+0.1
KAU	Kaohsiung	1.11	230	eP	Pb	22 55 47.3	+1.1
TWQ1	Liyutan	1.13	339	eP	Pb	22 55 46.8	+0.2
TWQ1				S	Sb	22 56 03.3	+1.9
NSY	Sanyi	1.20	339	eP	Pb	22 55 48.3	+0.6
NSY				S	Sb	22 56 04.5	+1.1
ENA	Nanau	1.23	23	eP	Pb	22 55 46.4	-1.8
ENA				S	Sb	22 56 04.3	+0.1
TWP	Hsiaoliuchiu	1.23	220	eP	Pb	22 55 51.7	+3.4
LAY	Lan-yu	1.28	166	eP	Pb	22 55 48.1	-1.1
NSTT	Nanjuang	1.35	351	eP	Pb	22 55 50.1	-0.2
NSTT				S	Sb	22 56 08.7	+1.0
HEN	Hengchun	1.36	199	eP	Pb	22 55 51.2	+0.8
HEN				S	Sb	22 56 11.8	+3.9
ENTT	Nioudou	1.38	13	eP	Pb	22 55 49.7	-1.1
ENTT				S	Sb	22 56 08.1	-0.5
NSK	Sanguang	1.38	5	eP	Pb	22 55 49.9	-1.0
NSK				S	Sb	22 56 08.3	-0.5
TWK1	Hengchun	1.40	196	eP	Pn	22 55 52.5	+1.4
TWK1				S	Sb	22 56 13.1	+4.0
TWC	Suao	1.43	23	eP	Pn	22 55 50.7	-0.9
TWC				S	Sb	22 56 10.7	+0.6
WDGT	Dungji	1.44	269	eP	Pn	22 55 50.8	-1.0
WDGT				S	Sb	22 56 09.0	-1.4
TWE	Neicheng	1.48	16	eP	Pn	22 55 52.3	0.0
TWE				S	Sb	22 56 11.8	+0.2
HSN	Hsinchu	1.52	351	eP	Pn	22 55 53.8	+0.8
PNG	Penghu	1.56	280	eP	Pn	22 55 52.3	-1.1
PNG				S	Sb	22 56 11.8	-2.1
NCU	National Centr	1.67	359	eP	Pn	22 55 54.2	-0.9
NCU				S	Sn	22 56 19.9	+2.8
TATO	Taipei	1.69	8	ePn	Pn	22 55 55.7	+0.3
TATO				eSn	Sn	22 56 19.5	+1.8
TWA	Mucha	1.71	11	eP	Pn	22 55 56.2	+0.5
TAP	Taipei	1.76	8	eP	Pn	22 55 57.6	+1.3
TAP				S	Sn	22 56 21.4	+2.1
TAP1	Taipei	1.76	9	eP	Pn	22 55 56.6	+0.3
TAP1				S	Sn	22 56 20.6	+1.3
TWS1	Kuangyinshan	1.81	6	eP	Pn	22 55 58.1	+1.1
TWS1				S	Sn	22 56 23.5	+2.9
NWF	Wu-fen Shan	1.84	16	eP	Pn	22 55 57.1	-0.4
NWF				S	Sn	22 56 22.1	+0.7
TWB1	Santiao Chiao	1.85	22	eP	Pn	22 55 57.4	-0.1
TWB1				S	Sn	22 56 21.8	+0.3
TWY	Chenhua	2.00	10	eP	Pn	22 56 00.6	+0.7
TWY				S	Sn	22 56 26.4	+0.9
YOJ	Yonaguni jima	2.01	54	P	Pn	22 55 59.6	-0.3
YOJ				S	Sn	22 56 25.6	0.0
PCYT	Pengchaiyu	2.45	18	eP	Pn	22 56 07.9	+1.7
HATJ	Hateruma jima	2.48	72	P	Pn	22 56 05.9	-0.8
HATJ				S	Sn	22 56 35.8	-1.9
IRIF	Iriomote-Funau	2.52	65	P	Pn	22 56 06.6	-0.6
IRIF				S	Sn	22 56 38.1	-0.5
JKRS	Kuro-shima	2.72	69	P	Pn	22 56 08.4	-1.6
JKRS				S	Sn	22 56 42.6	-1.1
JIJ	Ishigaki jima	2.88	68	P	Pn	22 56 11.1	-1.2
JIJ				S	Sn	22 56 45.8	-1.9
JTJ	Tarama	3.45	66	P	Pn	22 56 19.9	-0.6
JTJ				S	Sn	22 57 01.5	-0.8
JOW	Kunigami	7.30	60	P	Pn	22 57 08.8	-6.0
	3.4nm,0.3s,baz=285,slow=27,SNR=4.8						
CM31	Chiang Mai Arr	21.36	261	eP	P	23 00 19.1	+3.6
	1.8nm,0.6s,mb3.6						
CMAR	Chiang Mai Arr	21.36	261	P	P	23 00 19.5	+4.1
	1.0nm,1.0s,mb3.1,baz=65,slow=7.9,SNR=6.6						
SONM	Songino Array	27.20	338	P	P	23 01 10.9	-0.5
	0.4nm,0.6s,mb3.1,baz=160,slow=11,SNR=4.6						
ZAL	Zalesovo	41.02	328	P	P	23 03 12.3	+1.8
	0.6nm,0.3s,mb3.7,baz=223,slow=16,SNR=2.7						
WRA	Warramunga Arr	44.83	162	P	P	23 03 38.3	-3.7
	1.0nm,0.7s,mb3.8,baz=345,slow=9.0,SNR=5.4						
ASAR	Alice Springs	48.27	164	P	P	23 04 07.9	-1.2
	0.4nm,0.5s,mb3.7,baz=342,slow=8.9,SNR=4.9						
CHKZ	Chkalovo	48.46	322	eP	P	23 04 12.4	+2.2
	2.5nm,1.0s,mb4.2						
CHKZ				e		23 04 17.5	
STKA	Stephens Creek	58.22	160	P	P	23 05 19.1	-3.5
	1.2nm,0.7s,mb4.0,baz=351,slow=11,SNR=2.4						
FINES	FINESS Array B	72.23	330	P	P	23 06 51.2	-1.5
	1.5nm,1.1s,mb3.9,baz=79,slow=7.1,SNR=3.3						

IDC 22 22:58:22.8±8.2, 6.07S×146.70E, h97km±52km, mb3.3/2, mb1 3.6/5, mb1mx3.4/14, mbtmp3.9/5, Error ellipse: s-maj=86.5km s-min=54.9km az=55.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.35	172	P	P	22 59 12.8	-1.5
	22nm,0.3s,baz=49,slow=5.5,SNR=50						
PMG				S	S	22 59 52.7	-0.5
	8.7nm,0.3s,baz=15,slow=7.4,SNR=4.7						
CTA	Charters Tower	13.95	182	P	P	23 01 37.6	+0.2
	0.7nm,0.3s,baz=352,slow=13,SNR=6.8						
WRA	Warramunga Arr	18.29	220	P	P	23 02 29.5	-2.1
	0.4nm,0.3s,baz=43,slow=12,SNR=12						
ASAR	Alice Springs	21.40	214	P	P	23 03 03.0	-1.3
	0.8nm,0.4s,baz=51,slow=8.7,SNR=14						
STKA	Stephens Creek	26.12	190	P	P	23 03 47.5	-2.2
	0.8nm,0.4s,baz=17,slow=11,SNR=3.3						

IDC 22 23:22:09.9±6.8, 14.80S×174.15W, mb4.2/3, mb1 4.5/3, mb1mx3.9/14, mbtmp4.2/3, Error ellipse: s-maj=317.1km s-min=33.3km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	49.26	256	eP	P	23 31 00.9	-1.8
WRA	Warramunga Arr	49.28	256	P	P	23 31 01.0	-1.8
	1.0nm,0.4s,baz=91,slow=7.0,SNR=14						
ASAR	Alice Springs	49.61	251	P	P	23 31 03.2	-2.1
	12nm,0.6s,baz=87,slow=7.9,SNR=172						
ASPA	Alice Springs	49.61	251	eP	P	23 31 03.1	-2.2
ILAR	Eielson Array	82.00	11	P	P	23 34 31.6	-1.3
	0.3nm,0.8s,baz=205,slow=5.4,SNR=4.5						
GERES	GERESS Array B	145.44	351	PKPbc	PKPbc	23 41 49.0	-1.4
	0.6nm,0.8s,baz=135,slow=1.4,SNR=5.6						

*JMA **22** 23:24:36.4, 38.64N×141.92E, h10km±1km, M4.1*
Broadband fault plane solution: P waves. NP1:φs183°, δ47°, λ15°. NP2:φs83°, δ79°, λ136°. Principal axes: T Plg38°, Azm33°; N Plg45°, Azm252°; P Plg21°, Azm140°;
JMA Felt I J1.
*IDC **22** 23:24:36.0±1.1, 38.82N×141.49E, mb3.9/5, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, ML3.6/1, MS4.4/1, Ms1 4.4/1, ms1mx2.9/32 Error ellipse: s-maj=41.9km s-min=21.1km az=93.0*
*NEIC **22** 23:24:42.3±2.8, 38.80N×141.66E, h43km±23km, mb4.2/3, Error ellipse: s-maj=28.4km s-min=15.0km az=78.0*
NEIC Recorded [1 JMA] in Iwate and Miyagi Prefectures.

ISC 22 23:24:36.5±1.7, 38.68N±0.05×142.0E±0.1, h15km±11km, n18, σ1§00/23, mb4.0/8, 1C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.46	332	⇓P	Pb	23 24 45.9	+0.2
OFUJ				eS	Sb	23 24 52.3	+0.4
JIO	Ouri	0.52	245	⇑P	Pb	23 24 45.8	-0.9
JIO				S	Sb	23 24 52.0	-1.7
JMK	Ichinoseki	0.63	296	⇓P	Pb	23 24 48.5	-0.1
JMK				S	Sb	23 24 56.9	0.0
MIYJ	Miyakonagasawa	0.90	354	P	Pb	23 24 53.8	+0.5
MIYJ				eS	Sb	23 25 06.2	+1.3
MAJO	Matsushiro	3.65	235	eP	Pn	23 25 34.9	+1.1
MAT	Matsushiro	3.65	235	eP	Pn	23 25 35.0	+1.3
MAT				eS	Sn	23 26 19.0	+2.0
MAT	Matsushiro	3.65	235	P	Pn	23 25 34.8	+1.1
MAT				S	Sn	23 26 18.5	+1.5
ASAJ	Asahikawa	5.46	5	Pn	Pn	23 25 57.5	-1.8
	1.9nm,0.3s,baz=254,slow=7.8,SNR=10						
JOW	Kunigami	16.46	228	LR	LR	23 34 10.4	
	comp=Z,1μm,18.8s,baz=278,slow=35						
SONM	Songino Array	27.26	301	P	P	23 30 18.0	-3.8
	0.5nm,0.9s,mb3.0,baz=90,slow=2.5,SNR=3.8						
KURK	Kurchatov	45.27	307	eP	P	23 32 53.7	-1.1
	2.1nm,0.8s,mb4.0						
ILAR	Eielson Array	47.89	33	P	P	23 33 15.7	+0.3
	0.4nm,0.5s,mb3.7,baz=268,slow=6.5,SNR=6.9						
CHKZ	Chkalovo	49.51	312	P	P	23 33 28.0	0.0
	1.4nm,0.9s,mb4.0						
WRAB	Tennant Creek	58.73	188	P	P	23 34 36.4	+0.3
WRA	Warramunga Arr	58.74	188	P	P	23 34 36.7	+0.5
	1.5nm,0.4s,mb4.4,baz=6.2,slow=7.2,SNR=12						
ASAR	Alice Springs	62.47	188	P	P	23 35 01.4	-0.1
	0.7nm,0.6s,mb4.0,baz=14,slow=12,SNR=6.4						
FINES	FINESS Array B	67.56	332	P	P	23 35 32.5	-1.4
	1.4nm,0.8s,mb4.0,baz=45,slow=5.4,SNR=4.6						
WVOR	Wild Horse Val	71.12	51	P	P	23 35 50.9	-5.2
	9.4nm,1.2s,mb4.6						

IDC 22 23:29:42.8±3.7, 2.91N×93.90E, mb3.7/3, mb1 4.0/4, mb1mx3.6/18, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=120.8km s-min=30.4km az=64.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.22	17	Pn	P	23 33 32.2	-1.6
	0.2nm,0.3s,baz=206,slow=12,SNR=5.7						
WRA	Warramunga Arr	45.73	122	P	P	23 38 06.0	-1.9
	1.6nm,0.5s,baz=302,slow=9.2,SNR=8.2						
SONM	Songino Array	46.03	12	P	P	23 38 09.5	-0.4
	0.2nm,0.6s,baz=191,slow=7.3,SNR=2.9						
ZAL	Zalesovo	51.41	353	P	P	23 38 48.3	-3.1
	1.1nm,0.4s,baz=141,slow=6.5,SNR=5.5						

IDC 22 23:33:04.5±9.4, 9.44N×93.17E, mb3.9/3, mb1 4.1/4, mb1mx3.6/18, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=222.1km s-min=53.9km az=143.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.57	31	Pn	P	23 35 36.6	-3.9
	0.1nm,0.3s,baz=221,slow=15,SNR=4.8						
ZAL	Zalesovo	44.88	353	P	P	23 41 21.8	-0.7
	0.6nm,0.5s,baz=203,slow=10,SNR=5.5						
FINES	FINESS Array B	70.89	332	P	P	23 44 21.6	-3.6
	1.9nm,0.9s,baz=101,slow=7.1,SNR=5.0						
GERES	GERESS Array B	76.03	318	P	P	23 44 54.7	-0.8
	0.5nm,0.6s,baz=79,slow=6.8,SNR=6.5						

*NIED **22** 23:41:00, 42.60N×143.00E, h119km, Mw4.6 Best double couple: M0 7.74×10^15 NP1:φs263°, δ78°, λ-85°. NP2:φs59°, δ13°, λ-113°.*
*MOS **22** 23:41:42.3±0.9, 42.59N×142.91E, h104km, mb4.8/56, Error ellipse: s-maj=8.1km s-min=4.8km az=98.1*
*BJI **22** 23:41:43.1, 42.72N×142.96E, h117km, mB5.3, mb4.9*
*SKHL **22** 23:41:44.2±0.9, 42.77N×142.59E, h68km±10km, mb5.0/12, msh5.2/2*
*NEIC **22** 23:41:44.9±0.6, 42.59N×142.88E, h114km±5km, mb4.7/87, MW4.6(NIED), Error ellipse: s-maj=4.3km s-min=3.5km az=137.0*
NEIC Recorded [2 JMA] in south-central Hokkaido and [1 JMA] in the Chitose area and in eastern Hokkaido. Also recorded [2 JMA] in Aomori and [1 JMA] in Iwate Prefectures, Honshu.
*IDC **22** 23:41:44.9±0.5, 42.61N×142.87E, h112km±4km, mb4.4/23, mb1 4.5/25, mb1mx4.5/26, mbtmp4.8/25, Error ellipse: s-maj=12.4km s-min=7.0km az=85.0*
*JMA **22** 23:41:45.5±0.1, 42.63N×142.97E, h106km±1km, M4.5 Broadband fault plane solution: P waves. NP1:φs81°, δ13°, λ-102°. NP2:φs273°, δ77°, λ-87°. Principal axes: T Plg32°, Azm1°; N Plg3°, Azm93°; P Plg58°, Azm187°;*
JMA Felt II J1.

ISC 22 23:41:43.5±0.2, 42.58N±0.02×142.91E±0.03, h116km±1km, h109km±1.5km; pP-P, n323, σ0§99/330, mb4.7/118, 35C-18D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.32	201	⇑P	P	23 42 01.5	+1.4
JNBK				eS	S	23 42 14.0	+1.3
JCH	Churui	0.34	83	⇓P	P	23 42 00.6	+0.3
JCH				eS	S	23 42 12.0	-0.9
JBT2	Biratori 2	0.45	297	⇓P	P	23 42 01.7	+0.8
JBT2				eS	S	23 42 14.9	+1.0
JEM	Erimo	0.59	161	P	P	23 42 03.1	+1.4
JEM				eS	S	23 42 16.6	+1.0
JFR	Furan	0.63	339	⇓P	P	23 42 02.6	+0.6
JFR				eS	S	23 42 15.9	-0.2
JOB	Onbets	0.76	64	⇓P	P	23 42 04.0	+0.9
JOB				eS	S	23 42 18.1	+0.2
JAR	Ashorobuto	0.96	41	⇓P	P	23 42 05.5	+0.4
JAR				S	S	23 42 20.7	-0.5
JAB	Ashibetsu	1.05	332	⇓P	P	23 42 06.7	+0.6
JAB				eS	S	23 42 23.2	+0.3
JEW	Eniwo	1.10	284	⇓P	P	23 42 07.5	+0.9

YSS *i* S **S** **23 43 39.6 0.0**
YSS A 23 43 42.0
430nm,1.0s
YSS A 23 43 42.0
250nm,1.0s
YSS A 23 43 42.3
3µm,3.0s
YSS A 23 43 42.3
2µm,3.0s
KUR Kuril'sk 4.46 52⇑ *i*PN **P** **23 42 50.0 -0.4**
KUR *i* S **S** **23 43 40.2 -1.4**
KUR pmax pmax
comp=Z,150nm,0.5s
KUR smax
comp=N,440nm,0.5s
KUR smax
comp=E,350nm,0.5s
KUR Kuril'sk 4.46 52 *i* P **P** **23 42 50.0 -0.4**
KUR AMB AMB 23 42 50.3
comp=E,150nm,0.5s
KUR *i* S **S** **23 43 40.2 -1.4**
KUR A 23 43 41.3
comp=E,440nm,0.5s
KUR A 23 43 41.3
comp=E,350nm,0.5s
TEY Ternei 5.18 300 *e*P **P** **23 42 55.0 -5.1**
TEY AMB AMB 23 42 56.5
comp=E,80nm,0.8s
UGL Uglegorsk 6.53 355 *e*P **P** **23 43 15.0 -3.4**
UGL AMB AMB 23 43 20.0
comp=E,250nm,1.0s
UGL AMB AMB 23 43 20.5
comp=E,70nm,0.8s
UGL AMB AMB 23 43 20.5
comp=E,120nm,0.8s
UGL A 23 44 49.0
comp=E,160nm,1.0s
UGL A 23 44 52.0
comp=E,1µm,4.0s
UGL A 23 44 52.0
comp=E,600nm,4.0s
MAJO Matsushiro 7.03 213 *e*PN **P** **23 43 24.4 -0.9**
MAT Matsushiro 7.03 213 *e*PN **P** **23 43 25.0 -0.3**
MAT *e*S **S** **23 44 43.0 -1.2**
MAT pmax pmax
comp=Z,30nm,1.0s
MAT Matsushiro 7.03 213 *e*P **P** **23 43 25.0 -0.3**
comp=Z,30nm,1.0s
MAT *e*S **S** **23 44 43.0 -1.2**
MAT Matsushiro 7.03 213 P **P** **23 43 24.5 -0.8**
MAT S **S** **23 44 43.4 -0.8**
TYV Tymovskoe 8.29 359 *e*P **P** **23 43 39.0 -3.3**
TYV AMB AMB 23 43 41.0
comp=Z,40nm,0.8s
GRNR Gornyy 9.32 334 *e*P **P** **23 43 56.0 -0.2**
GRNR AMB AMB 23 43 57.0
comp=Z,90nm,1.0s
GRNR AMB AMB 23 43 57.0
comp=Z,170nm,1.0s
JHJ Hachijo jima 2 9.76 196 P **P** **23 43 59.9 -2.1**
comp=Z,63nm,0.3s,baz=248,slow=16,SNR=9.3
JHJ S **S** **23 45 40.1 -10**
comp=Z,92nm,0.3s,baz=302,slow=23,SNR=10
MDJ Mudanjiang 9.87 286 P **P** **23 44 01.4 -2.0**
MDJ XP 23 44 35.1
MDJ S **S** **23 45 51.4 -1.4**
MDJ PCP PcP 23 50 05.3 -1.3
MDJ SCP 23 53 26.4
MDJ PCS 23 53 38.1
MDJ SCS ScS 23 57 00.8 +0.7
MDJ AMB AMB
comp=Z,6.0nm,2.0s
MDJ AMB AMB
comp=Z,431nm,11.0s
MDJ LR LR
comp=N,285nm,20.8s
MDJ LR LR
comp=E,145nm,18.6s
MDJ LR LR
comp=Z,260nm,17.9s
MDJ Mudanjiang 9.87 286 *e*P **P** **23 44 04.0 +0.5**
comp=Z,30nm,1.3s
KLR Kul'dur 10.23 314 *e*PN **P** **23 44 05.2 -2.9**
KLR Kul'dur 10.23 314 *e*rx rx 23 44 05.2
KLR *e*rx rx 23 46 18.0
NKL Nikolayevsk 10.69 353 *e*P **P** **23 44 08.0 -6.2**
NKL AMB AMB 23 44 11.0
comp=Z,20nm,0.8s
NKL AMB AMB 23 44 11.0
comp=Z,50nm,0.8s
NKL *e*rx rx 23 44 17.0
SKR Severo-Kuril's 12.16 44 *e*PN **P** **23 44 32.5 -1.2**
KS15 Wonju Array Si 12.60 251 P **P** **23 44 44.1 +4.5**
PAU Pauzhetka 12.98 42 *e*P **P** **23 44 43.5 -1.0**
YASR Yasnyy 14.63 322 *e*P **P** **23 45 00.8 -4.8**
YASR AMB AMB 23 45 08.1
comp=Z,5.0nm,0.7s
YASR AMB AMB 23 45 08.1
comp=Z,7.0nm,0.7s
YASR AMB AMB 23 45 08.1
comp=Z,12nm,0.7s
ZEA Zeya 15.25 322 *e*P **P** **23 45 10.7 -2.8**
ZEA AMB AMB 23 45 13.1
comp=Z,50nm,0.8s
ZEA AMB AMB 23 45 13.1
comp=Z,40nm,0.8s
ZEA AMB AMB 23 45 13.1
comp=Z,70nm,0.8s
BMKR Bomnak 15.25 328 *e*P **P** **23 45 09.5 -4.0**
BMKR AMB AMB 23 45 10.8
comp=Z,21nm,0.9s
CBIJ Chichi jima 15.46 182 P **P** **23 45 14.9 -1.3**
comp=Z,21nm,0.3s,baz=273,slow=23,SNR=12
CBIJ S **S** **23 47 55.8 -8.3**
comp=Z,34nm,0.3s,baz=92,slow=23,SNR=7.6
KROS Kirovskiy 15.84 324 *e*P **P** **23 45 16.4 -4.4**
KROS AMB AMB 23 45 20.5
comp=Z,6.0nm,0.5s
HIA Hailar 17.41 301 *e*P **P** **23 45 38.1 -2.3**
HIA pmax pmax
comp=Z,66nm,0.8s
HIA Hailar 17.41 301 *e*P **P** **23 45 38.1 -2.2**
comp=Z,66nm,0.8s
MA2 Magadan 17.70 13 *i* P **P** **23 45 41.2 -2.6**
MA2 pmax pmax
comp=Z,85nm,1.4s
MA2 Magadan 17.70 13 *e*P **P** **23 45 41.0 -2.9**
comp=Z,53nm,0.9s
CLNS Chul'man 18.34 327 *e*P **P** **23 45 49.3 -1.8**
CLNS pmax pmax
comp=Z,39nm,0.6s
CLNS pmax pmax
comp=N,26nm,0.8s
CLNS pmax pmax
comp=E,12nm,0.6s
BJI Beijing 20.21 272 *e*P **P** **23 46 11.8 +0.7**
BJI pmax pmax
comp=Z,9.0nm,0.8s
BJI Beijing 20.21 272 *e*P **P** **23 46 11.8 +0.7**
comp=Z,9.0nm,0.8s
BJT Baijiatuan 20.22 272 *e*P **P** **23 46 11.8 +0.6**
BJT pmax pmax
comp=Z,12nm,1.0s
BJT Baijiatuan 20.22 272 *e*P **P** **23 46 11.8 +0.6**
comp=Z,12nm,1.0s
YAK Yakutsk 21.02 342 *c i*P **P** **23 46 15.4 -3.7**
YAK *e* 23 46 48.1
YAK *e*S **S** **23 49 59.6 -1.7**
YAK *e**SS 23 50 19.5
YAK pmax pmax
comp=Z,74nm,0.8s,mb5.1
YAK pmax pmax
comp=N,21nm,1.0s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=Z,13nm,0.9s,mb4.3
YAK pmax pmax
comp=N,6.0nm,0.8s
YAK pmax pmax
comp=E,7.0nm,0.8s
YAK smax
comp=N,10.0nm,1.0s
YAK smax
comp=E,6.0nm,0.9s
YAK smax
comp=Z,5.0nm,0.9s
YAK MLR MLR
comp=Z,100nm,13.0s
YAK MLR MLR
comp=N,200nm,20.0s
YAK MLR MLR
comp=E,200nm,23.0s
YAK Yakutsk 21.02 342 *e*P **P** **23 46 15.0 -4.1**
comp=E,180nm,0.7s,mb5.5
SEY Seymchan 21.14 12 *e*P **P** **23 46 18.8 -1.5**
SEY pmax pmax
comp=E,30nm,0.9s
SEY pmax pmax
comp=Z,80nm,0.9s,mb5.0
NJ2 Nanjing 21.75 249 *e*P **P** **23 46 29.3 +2.7**
NJ2 S **S** **23 50 16.0 +1.1**
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,860nm,4.6s
NJ2 LR LR
comp=N,1µm,21.0s
NJ2 LR LR
comp=E,850nm,20.0s
NJ2 LR LR
comp=Z,880nm,13.4s
BOD Bodaibo 23.72 320 *e*P **P** **23 46 41.8 -3.6**
TATO Taipei 24.89 232 *e*P **P** **23 46 57.6 +0.7**
comp=Z,80nm,0.9s,mb5.2
ULN Ulaanbaatar 25.64 294 *i* P **P** **23 47 04.1 +0.4**
ULN Ulaanbaatar 25.64 294 *e*P **P** **23 47 03.6 -0.2**
comp=Z,12nm,1.0s,mb4.3
WHN Wuhan 25.76 252 ⇑P **P** **23 47 05.5 +0.5**
SONM Songino Array 26.09 294 P **P** **23 47 08.3 +0.4**
comp=Z,9.8nm,0.6s,mb4.5,baz=86,slow=7.9,SNR=47
IRK Irkutsk 27.58 304 *e*P **P** **23 47 20.3 -1.1**
TLY Talaya 27.92 303 *e*P **P** **23 47 24.6 0.0**
TLY pmax pmax
comp=Z,33nm,0.9s,mb4.9
TLY Talaya 27.92 303 *e*P **P** **23 47 24.6 0.0**
comp=Z,33nm,0.9s,mb4.9
ZAK Zakamensk 28.11 300 *e*P **P** **23 47 26.0 -0.2**
BILL Bilibino 28.40 18 *i* P **P** **23 47 25.9 -2.8**
BILL Bilibino 28.40 18 *e*P **P** **23 47 24.1 -4.6**
comp=Z,5.8nm,0.8s,mb4.2
GUMO Guam 28.93 176 *e*P **P** **23 47 32.1 -1.8**
GUMO pmax pmax
comp=Z,431nm,1.3s,mb5.9
GUMO Guam 28.93 176 *e*P **P** **23 47 32.1 -1.9**
comp=Z,431nm,1.3s,mb5.9
ENH Enshi 29.37 256 *e*P **P** **23 47 37.0 -0.8**
comp=Z,13nm,0.9s,mb4.6
MOY Mondy 29.57 303 *e*P **P** **23 47 39.4 +0.1**
TIXI Tiksi 29.96 351 *i* P **P** **23 47 38.4 -4.2**
TIXI pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
LZH Lanzhou 30.70 271 *e*P **P** **23 47 50.4 +1.0**
LZH AP pP 23 48 14.6 -0.3
LZH XP sP 23 48 27.5 -0.9
LZH AMB AMB
comp=Z,30nm,1.0s,mb5.0
LZH Lanzhou 30.70 271 *e*P **P** **23 47 50.4 +1.0**
comp=Z,30nm,1.0s,mb5.0
LZH pP pP 23 48 14.6 -0.3
LZH sP sP 23 48 27.5 -0.9
TGY Tagaytay City 34.12 220 P **P** **23 48 18.3 -0.9**
comp=Z,96nm,0.3s,mb6.1,baz=235,slow=11,SNR=4.2
TNA Tin City 35.52 33 *e*P **P** **23 48 29.6 -1.0**
comp=Z,20nm,1.5s,mb4.8
KMI Kunming 37.22 255 P **P** **23 48 46.2 +0.9**
KMI pmax pmax
comp=Z,11nm,0.9s,mb4.8
KMI Kunming 37.22 255 P **P** **23 48 46.2 +0.9**
comp=Z,11nm,0.9s,mb4.8
ZAL Zalesovo 39.25 307 P **P** **23 49 02.4 +0.5**
comp=Z,16nm,0.5s,mb5.1,baz=296,slow=8.5,SNR=108
ZAL ScP 23 54 47.5
comp=Z,1.8nm,0.7s,baz=274,slow=5.8,SNR=9.8
WMQ Urumqi 39.63 291 *e*P **P** **23 49 05.9 +0.8**
WMQ AP pP 23 49 31.3 -0.3
WMQ XP sP 23 49 44.3 -1.0
WMQ PP PP 23 50 45.5 +4.0
WMQ S **S** **23 55 00.3 +1.0**
WMQ XS 23 55 44.3
WMQ AMB AMB
comp=Z,15nm,1.1s,mb4.7
WMQ AMB AMB
comp=Z,79nm,4.5s
NVS Novosibirsk 40.04 309 *i* P **P** **23 49 07.7 -0.6**
NVS pmax pmax
comp=Z,23nm,1.6s,mb4.8
NVS pmax pmax
comp=N,10.0nm,1.3s
NVS pmax pmax
comp=E,19nm,1.5s
SVW2 Sparrevohn 40.51 41 *e*P **P** **23 49 13.1 +1.0**
IMA Indian Mountai 41.38 33 *e*P **P** **23 49 19.6 +0.3**
IMA pmax pmax
comp=Z,6.0nm,0.3s,mb4.9
IMA Indian Mountai 41.38 33 *e*P **P** **23 49 19.6 +0.3**
comp=Z,6.2nm,0.3s,mb4.9
RSO Redoubt South 41.93 42 *e*P **P** **23 49 24.6 +0.9**
LSA Lhasa 43.10 270 P **P** **23 49 37.2 +3.5**
LSA pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
LSA Lhasa 43.10 270 P **P** **23 49 37.2 +3.5**
comp=Z,7.3nm,1.0s,mb4.4
MCK McKinley 43.45 37 *e*P **P** **23 49 36.0 0.0**
MCK pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
MCK McKinley 43.45 37 *e*P **P** **23 49 36.0 -0.1**
comp=Z,7.8nm,0.8s,mb4.5
KURK Kurchatov 43.61 304 *e*P **P** **23 49 37.3 -0.2**
KURK pmax pmax
comp=Z,39nm,0.8s,mb5.2
KURK Kurchatov 43.61 304 *e*P **P** **23 49 37.2 -0.2**
comp=Z,39nm,0.8s,mb5.2
COLA College 43.84 35 *e*P **P** **23 49 39.9 +0.8**
COLA pmax pmax
comp=Z,30nm,0.7s,mb5.1
COLA College 43.84 35 *e*P **P** **23 49 39.9 +0.8**
comp=Z,30nm,0.7s,mb5.1
SML Sawmill 43.92 40 *e*P **P** **23 49 39.8 0.0**
CMAR Chiang Mai Arr 44.21 251 P **P** **23 49 43.8 +1.0**
comp=Z,2.3nm,0.7s,mb4.0,baz=44,slow=7.8,SNR=8.1
ILAR Eielson Array 44.26 35 P **P** **23 49 42.6 +0.1**
comp=Z,14nm,0.5s,mb4.9,baz=261,slow=5.2,SNR=216
ILAR pP pP 23 50 08.2 -1.1
comp=Z,3.9nm,0.6s,baz=267,slow=6.6,SNR=3.6
THY Trims Highway 44.90 37 *e*P **P** **23 49 47.6 -0.1**
MENT Mentasta 45.88 38 *e*P **P** **23 49 56.6 +1.1**
CHKZ Chkalovo 47.51 310 *e*P **P** **23 50 07.7 -0.6**
CHKZ pmax pmax
comp=Z,96nm,0.9s,mb5.6
CHKZ Chkalovo 47.51 310 *e*P **P** **23 50 07.7 -0.6**
comp=Z,96nm,0.9s,mb5.6
DAWY Dawson 47.58 36 *e*P **P** **23 50 08.0 -0.7**
BVAR Borovoye Array 47.84 309 P **P** **23 50 11.2 +0.3**
comp=Z,23nm,0.5s,mb5.3,baz=79,slow=9.4,SNR=173
BVAR ScP 23 55 21.9
comp=Z,2.0nm,0.8s,baz=90,slow=4.4,SNR=7.4
JIRN Jiri 47.87 271 *e*P **P** **23 50 12.0 +0.5**
comp=Z,4.7nm,0.3s,mb4.7
BRVK Borovoye 47.89 309 *e*P **P** **23 50 11.3 0.0**
BRVK pmax pmax
comp=Z,72nm,1.1s,mb5.4
BRVK Borovoye 47.89 309 *e*P **P** **23 50 11.3 0.0**
comp=Z,72nm,1.1s,mb5.4
KKN Kakani 48.47 272 *e*P **P** **23 50 16.7 +0.5**
comp=Z,9.8nm,0.6s,mb4.8
PKI Pulchoki 48.49 271 *e*P **P** **23 50 15.3 -1.1**
DMN Daman 48.70 272 *e*P **P** **23 50 16.7 -1.2**
comp=Z,7.4nm,0.7s,mb4.8
GKN Gorkha 48.83 272 *e*P **P** **23 50 18.7 -0.2**
comp=Z,5.4nm,0.4s,mb4.9
INK Inuvik 48.97 29 *e*P **P** **23 50 18.9 -0.5**
INK pmax pmax
comp=Z,15nm,0.6s
INK Inuvik 48.97 29 *e*P **P** **23 50 18.9 -0.5**
comp=Z,15nm,0.6s,mb5.1
AAK Ala-Archa 49.05 295 *i* P **P** **23 50 20.4 0.0**
AAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
AAK Ala-Archa 49.05 295 *e*P **P** **23 50 19.1 -1.3**
comp=Z,6.3nm,0.6s,mb4.7
KOLN Koldanda 49.72 273 *e*P **P** **23 50 25.8 0.0**
comp=Z,11nm,0.6s,mb5.0
ARU Arti 53.06 316 P **P** **23 50 49.6 -0.9**
comp=Z,202nm,0.6s,mb6.3,SNR=13
ARU Arti 53.06 316⇓ *i*P **P** **23 50 44.2 -6.3**
ARU pmax pmax
comp=Z,19nm,0.7s,mb5.2
ARU Arti 53.06 316 *e*P **P** **23 50 44.7 -5.8**
comp=Z,27nm,0.8s,mb5.3
DLBC Dease Lake 53.62 41 *e*P **P** **23 50 55.4 +0.8**
KAKA Kakadu 55.85 192 *i*P **P** **23 51 10.7 -0.7**
comp=Z,26nm,0.6s,mb5.4
RES Resolute Bay 56.96 16 *e*P **P** **23 51 16.8 -1.6**
RES *e* pP 23 51 43.0 -3.4
RES pmax pmax
comp=Z,37nm,0.6s,mb5.6
RES Resolute Bay 56.96 16 *e*P **P** **23 51 16.8 -1.6**
comp=Z,37nm,0.6s,mb5.6
RES *e* pP 23 51 43.0 -3.4
YKW3 Yellowknife Ar 58.44 32 *e*P **P** **23 51 27.8 -1.1**
YKA Yellowknife Ar 58.48 32 P **P** **23 51 28.7 -0.5**
YKA *PP pP 23 51 55.9 -1.4
YKA Yellowknife Ar 58.48 32 P **P** **23 51 28.6 -0.5**
comp=Z,3.6nm,0.6s,mb4.6,baz=305,slow=6.7,SNR=100
YKA pP pP 23 51 55.9 -1.4
comp=Z,1.5nm,0.6s,baz=302,slow=6.8,SNR=2.3
KEV Kevo 58.69 338 *e*p **P** **23 51 28.7 -1.9**
comp=Z,9.3nm,0.7s,mb4.9
KEV Kevo 58.69 338 *e*P **P** **23 51 28.7 -1.9**
KEV pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
ARCES ARCESS Array B 59.24 339 P **P** **23 51 33.2 -1.2**
comp=Z,2.2nm,0.5s,mb4.5,baz=68,slow=8.0,SNR=23
ARE0 ARCESS Array S 59.24 339 P **P** **23 51 34.2 -0.2**
KTK1 Kautokeino 60.19 339 *e*P **P** **23 51 40.8 -0.1**
KTK1 AMb AMB 23 51 45.1
comp=Z,30nm,1.2s,mb5.2
DAG Danmarks Havn 60.36 355⇓ *e*P **P** **23 51 40.6 -1.4**
DAG pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
DAG Danmarks Havn 60.36 355⇓ *e*P **P** **23 51 40.6 -1.4**
comp=Z,6.7nm,0.6s,mb4.8
DAG Danmarks Havn 60.36 355⇓ *i*P **P** **23 51 40.6 -1.4**
comp=Z,6.7nm,0.6s,mb4.8
TRO Tromso 60.86 341 *e*P **P** **23 51 43.2 -2.3**
TRO AMb AMB 23 51 44.5
comp=Z,85nm,1.8s,mb5.5
JOF Joensuu 61.65 331 *e*p **P** **23 51 48.2 -2.6**
comp=Z,6.1nm,0.4s,mb5.0
CTA Charters Tower 62.42 176 P **P** **23 51 55.5 -1.1**
comp=Z,5.2nm,0.9s,mb4.5,baz=342,slow=13,SNR=4.2
CTAO Charters Tower 62.42 176 *e*P **P** **23 51 53.9 -2.7**
CTAO pmax pmax
comp=Z,63nm,1.7s,mb5.4
CTAO Charters Tower 62.42 176 *e*P **P** **23 51 53.9 -2.7**
comp=Z,63nm,1.7s,mb5.4
WRAB Tennant Creek 62.69 189 *i* P **P** **23 51 56.3 -2.1**
WRAB Tennant Creek 62.69 189 *e*P **P** **23 51 56.2 -2.2**
comp=Z,21nm,0.9s,mb5.1
WB2 Warramunga Arr 62.70 189⇓ *i*P **P** **23 51 57.2 -1.2**
WRA Warramunga Arr 62.70 189 P **P** **23 51 57.3 -1.1**
comp=Z,7.2nm,0.6s,mb4.8,baz=7.0,slow=6.8,SNR=40
WRA pP pP 23 52 25.2 -1.7
comp=Z,4.2nm,0.9s,baz=6.7,slow=6.8,SNR=2.1
KAF Kangasniemi 63.93 332 *e*p **P** **23 52 03.5 -2.3**
comp=Z,6.1nm,0.5s,mb4.7,baz=46,slow=6.2
KAF Kangasniemi 63.93 332 *e*P **P** **23 52 03.5 -2.3**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
EDM Edmonton 64.34 40 *e*P **P** **23 52 07.7 -0.9**
OBN Obninsk 64.38 322 *e*P **P** **23 52 05.4 -3.4**
OBN 23 52 42.0
OBN 23 54 32.0
OBN pmax pmax
comp=Z,18nm,1.0s,mb4.9
OBN MLR MLR
comp=Z,100nm,15.0s
OBN Obninsk 64.38 322 *e*P **P** **23 52 05.6 -3.3**
comp=Z,19nm,0.8s,mb5.0
FINES FINESS Array B 64.47 332 P **P** **23 52 08.0 -1.3**
comp=Z,13nm,0.4s,mb5.1,baz=54,slow=8.2,SNR=242
MOR8 Moi Rana 64.58 339 *e*P **P** **23 52 07.4 -2.5**
comp=Z,54nm,1.1s,mb5.3
MOR8 Moi Rana 64.58 339 *e*P **P** **23 52 07.4 -2.5**
MOR8 AMb AMB 23 52 10.9
comp=Z,54nm,1.1s,mb5.3
SUMG Summit 65.15 0 *e*P **P** **23 52 13.5 0.0**
comp=Z,33nm,0.7s,mb5.3
SUMG *e* pP 23 52 41.6 -0.6
NEW Newport 65.42 46 *e*P **P** **23 52 15.6 -0.1**
NEW pmax pmax
comp=Z,8.0nm,0.8s
NEW Newport 65.42 46 *e*P **P** **23 52 15.6 -0.1**
comp=Z,7.8nm,0.8s,mb4.6
ASAR Alice Springs 66.43 189 P **P** **23 52 22.3 -0.2**
comp=Z,6.2nm,0.8s,mb4.5,baz=8.2,slow=6.2,SNR=36
ASAR pP pP 23 52 50.4 -0.8
comp=Z,1.8nm,0.6s,baz=2.5,slow=5.9,SNR=3.1
WALA Waterton Lakes 66.61 44 *e*P **P** **23 52 22.9 -0.4**
comp=Z,12nm,1.0s,mb4.7
SCO Scoresbysund 66.72 355 *i* P **P** **23 52 23.1 -0.5**
SCO pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
SCO Scoresbysund 66.72 355 *i* P **P** **23 52 23.1 -0.5**
comp=Z,4.6nm,0.5s,mb4.6
MBWA Marble Bar 66.92 204 P **P** **23 52 24.7 -0.9**
comp=Z,12nm,0.8s,mb4.8
BMO Blue Mountains 67.39 49 *e*P **P** **23 52 28.3 +0.2**
comp=Z,4.3nm,0.9s,mb4.3
KIV Kislovodsk 68.19 310 *e*P **P** **23 52 33.7 +0.6**
KIV pmax pmax
comp=Z,26nm,0.7s,mb5.2
KIV Kislovodsk 68.19 310 *e*P **P** **23 52 33.7 +0.6**
comp=Z,26nm,0.7s,mb5.2
OHCM Honcut 68.31 56 *e*P **P** **23 52 34.0 0.0**
FFC Flin Flon 68.46 34 P **P** **23 52 34.3 -0.3**
comp=Z,82nm,0.8s,mb5.6,SNR=12
FFC Flin Flon 68.46 34 *e*P **P** **23 52 33.9 -0.7**
FFC pmax pmax
comp=Z,14nm,0.9s,mb4.8
FFC Flin Flon 68.46 34 *e*P **P** **23 52 33.9 -0.7**
comp=Z,14nm,0.9s,mb4.8
FFC *e* 23 52 42.2
FCC Fort Churchill 68.56 28 *e*P **P** **23 52 34.3 -0.8**
FCC *e* pP 23 52 59.5 -4.5
FCC pmax pmax
comp=Z,17nm,1.0s,mb4.8
FCC Fort Churchill 68.56 28 *e*P **P** **23 52 34.3 -0.8**
comp=Z,17nm,1.0s,mb4.8
FCC *e* pP 23 52 59.5 -4.5
NB2 NORSAR Subarra 69.53 337 P **P** **23 52 39.9 -1.1**
comp=Z,7.6nm,0.6s,mb4.7,baz=35,slow=6.2
NB2 NORSAR Subarra 69.53 337 P **P** **23 52 39.9 -1.1**
baz=35,slow=6.5
NOA NORSAR Array B 69.53 337 P **P** **23 52 40.2 -0.9**
comp=Z,10nm,0.8s,mb4.7,baz=36,slow=6.1,SNR=32
CMB Columbia Colle 69.79 57 *e*P **P** **23 52 43.5 +0.4**
CMB pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
CMB Columbia Colle 69.79 57 *e*P **P** **23 52 43.5 +0.4**
comp=Z,9.0nm,1.0s,mb4.5
HLID Hailey 69.82 49 *e*P **P** **23 52 43.3 +0.2**
comp=Z,2.6nm,0.9s,mb4.1
BOZ Bozeman (W) 69.99 46 *e*P **P** **23 52 44.6 +0.5**
BOZ pmax pmax
comp=Z,13nm,0.7s,mb4.9
BOZ Bozeman (W) 69.99 46 *e*P **P** **23 52 44.6 +0.5**
comp=Z,13nm,0.7s,mb4.9
ANN Anapa 70.54 313 *e*P **P** **23 52 45.3 -2.2**
ANN *e**PP pP 23 53 25.5 +9.0
ANN pmax pmax
comp=Z,97nm,1.3s,mb5.5
AKASG Malin Array Be 70.64 322 P **P** **23 52 47.1 -0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 70.64 322 P **P** **23 52 47.0 -0.9**
comp=Z,3.1nm,0.4s,mb4.5,baz=41,slow=6.1,SNR=37
NVAR Mina Array Bea 70.82 55 P **P** **23 52 50.5 +1.3**
comp=Z,3.2nm,0.6s,mb4.3,baz=299,slow=5.5,SNR=21
NVAR pP pP 23 53 18.0 -0.3
comp=Z,1.2nm,0.6s,baz=285,slow=5.1,SNR=3.0
NVAR Mina Array Bea 70.82 55 P **P** **23 52 50.5 +1.3**
NVAR pP pP 23 53 18.0 -0.3
IMW Indian Meadow 71.51 47 *e*P **P** **23 52 54.2 +1.0**
TPH Tonopah 71.70 55 P **P** **23 52 55.1 +0.6**
TPH pmax pmax
comp=Z,10.0nm,1.1s,mb4.6

TPH Tonopah 71.70 55 P **P 23 52 55.1 +0.6**
comp=Z,9.9nm,1.1s,mb4.5
MOOW Moose Ponds 71.71 47 *eP* **P 23 52 55.5 +1.1**
MOOW *e* 23 53 32.5
TPAW Teton Pass 71.77 47 *eP* **P 23 52 55.7 +0.8**
BORG Borgarnes 72.30 353 *eP* **P 23 52 58.9 +1.3**
HWUT Hardware Ranch 72.69 49 *eP* **P 23 53 00.8 +0.6**
comp=Z,8.7nm,1.0s,mb4.5
BW06 Boulder Array 73.01 47 *eP* **P 23 53 02.4 +0.3**
comp=Z,12nm,1.0s,mb4.7
PDAR Pinedale Array 73.01 47 P **P 23 53 02.6 +0.6**
comp=Z,5.0nm,0.7s,mb4.5,baz=255,slow=0.4,SNR=35
PDAR pP pP 23 53 29.2 -2.1
comp=Z,1.6nm,0.7s,baz=263,slow=1.7,SNR=3.7
STKA Stephens Creek 74.10 181 ||*iP* **P 23 53 09.2 +0.6**
comp=Z,2.6nm,0.6s,mb4.1
STKA Stephens Creek 74.10 181 P **P 23 53 08.7 +0.1**
comp=Z,3.8nm,0.7s,mb4.2,baz=344,slow=8.9,SNR=11
STKA Stephens Creek 74.10 181 *eP* **P 23 53 08.6 0.0**
FORT Forrest 74.26 193 ⇑*iP* **P 23 53 10.4 +0.8**
comp=Z,70nm,0.8s,mb5.4
MALT Malatya 74.28 308 *eP* **P 23 53 10.7 +1.1**
MALT pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
MALT Malatya 74.28 308 *eP* **P 23 53 10.7 +1.1**
comp=Z,9.2nm,1.1s,mb4.4
KWP Kalwaria 74.30 324 *eP* **P 23 53 09.8 +0.4**
KWP pmax pmax
comp=Z,24nm,0.9s,mb4.9
KWP Kalwaria 74.30 324 *eP* **P 23 53 09.8 +0.3**
comp=Z,24nm,0.9s,mb4.9
TMUT Trail Mountain 74.44 51 *eP* **P 23 53 11.0 +0.6**
BURAR Bucovina Array 74.68 322 P **P 23 53 12.2 +0.5**
SRU San Rafael 74.95 51 *eP* **P 23 53 13.9 +0.5**
PFO Pinyon Flat Ob 75.07 58 *eP* **P 23 53 12.4 -1.8**
PFO pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
PFO Pinyon Flat Ob 75.07 58 *eP* **P 23 53 12.4 -1.8**
comp=Z,3.3nm,0.8s,mb4.1
OJC Ojcow 75.08 326 *eP* **P 23 53 14.1 +0.3**
KSP Ksiaz 76.00 326⇑ *eP* **P 23 53 19.3 +0.3**
BRTR Keskin Array B 76.05 311 P **P 23 53 19.5 0.0**
comp=Z,2.2nm,0.8s,mb3.9,baz=70,slow=3.3,SNR=13
OKC Ostrava-Krasne 76.05 327 *eP* **P 23 53 19.5 +0.2**
PV10 Paradox Valley 76.30 50 *eP* **P 23 53 22.5 +1.5**
MORC Moravsky Berou 76.34 327 P **P 23 53 21.7 +0.7**
MORC Moravsky Berou 76.34 327 *eP* **P 23 53 21.3 +0.3**
comp=Z,13nm,1.0s,mb4.6
UPC Upice 76.37 328 *eP* **P 23 53 22.0 +0.9**
DPC Dobruska-Polom 76.38 328 *eP* **P 23 53 21.8 +0.7**
PV01 Paradox Valley 76.73 50 *eP* **P 23 53 24.1 +0.7**
PSZ Piszkesteto 76.82 325 *eP* **P 23 53 23.0 -0.7**
PSZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
PSZ Piszkesteto 76.82 325 *eP* **P 23 53 23.0 -0.7**
comp=Z,8.2nm,1.0s,mb4.4
CLL Collm 76.86 330⇑*iP* **P 23 53 23.7 -0.1**
CLL *i* 23 53 28.4
CLL pmax pmax
comp=Z,18nm,1.1s,mb4.7
CLL Collm 76.86 330⇑*iP* **P 23 53 23.7 -0.1**
comp=Z,18nm,1.1s,mb4.7
CLL *i* 23 53 28.4
CLL Collm 76.86 330 ⇑P **P 23 53 23.7 -0.1**
comp=Z,logA/T=1.2,mb4.7
CLL *i* 23 53 28.4
CLL *e* 23 53 40.0
CLL *e**PP pP 23 53 52.0 -1.4
BRG Berggiesshubel 76.87 330 *eP* **P 23 53 28.0 +4.1**
BRG pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
BRG Berggiesshubel 76.87 330 *eP* **P 23 53 28.0 +4.1**
comp=Z,4.8nm,0.8s,mb4.3
PVCC Panska Ves 76.91 329 *eP* **P 23 53 24.6 +0.5**
PVCC *ex* x 23 53 29.5
VRAC Vranov 77.09 327 P **P 23 53 26.0 +0.8**
RW3 Ridgway 77.15 50 *eP* **P 23 53 26.9 +1.1**
ISCO Idaho Springs 77.21 47 *eP* **P 23 53 26.6 +0.6**
ISCO pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
ISCO Idaho Springs 77.21 47 *eP* **P 23 53 26.6 +0.6**
comp=Z,3.6nm,0.8s,mb4.2
PRU Pruhonice 77.35 329 *eP* **P 23 53 26.9 +0.3**
PRU *ex* x 23 53 31.7
KHC Kasperske Hory 78.42 329 *eP* **P 23 53 33.0 +0.6**
KHC *e* 23 53 38.5
KHC Kasperske Hory 78.42 329 *eP* **P 23 53 33.0 +0.6**
KHC x x 23 53 38.5
GERES GERESS Array B 78.60 329 P **P 23 53 33.6 +0.1**
comp=Z,1.2nm,0.5s,mb4.0,baz=35,slow=6.3,SNR=20
GERES PP PP 23 56 30.4 -3.8
comp=Z,1.4nm,1.1s,baz=45,slow=7.5,SNR=4.3
SDCO Great Sand Dun 78.73 49 *eP* **P 23 53 35.2 +0.8**
comp=Z,7.1nm,1.1s,mb4.4
NWAO Narrogin (SRO) 78.74 202 P **P 23 53 35.4 +0.8**
NWAO pmax pmax
comp=Z,17nm,0.6s
NWAO Narrogin (SRO) 78.74 202 P **P 23 53 35.4 +0.8**
comp=Z,17nm,0.6s,mb5.0,baz=20,slow=7.2,SNR=18
NWAO Narrogin (SRO) 78.74 202 *eP* **P 23 53 35.1 +0.5**
comp=Z,25nm,1.0s,mb5.0
GRA1 Grafenberg Arr 78.84 330 *eP* **P 23 53 35.5 +0.8**
GRA1 *ep*P PcP 23 53 40.2 -3.2
GRF Grafenberg Arr 78.84 330 *eP* **P 23 53 35.5 +0.8**
GRF *e**PP PcP 23 53 40.2 -3.2
VTS Vitosha 79.38 319 P **P 23 53 38.8 +1.0**
SCHQ Schefferville 79.70 17 P **P 23 53 39.5 +0.1**
comp=Z,3.2nm,0.6s,mb4.3,baz=14,slow=9.2,SNR=9.6
SCHQ Schefferville 79.70 17 *eP* **P 23 53 39.0 -0.3**
comp=Z,18nm,1.1s,mb4.8
ANMO Albuquerque 80.18 51 *eP* **P 23 53 43.3 +1.0**
ANMO pmax pmax
comp=Z,4.0nm,1.0s
ANMO Albuquerque 80.18 51 *eP* **P 23 53 43.3 +1.0**
comp=Z,4.4nm,1.0s,mb4.2
STU Stuttgart 80.34 331 *eP* **P 23 53 42.7 -0.2**
STU pmax pmax
comp=Z,11nm,0.8s,mb4.7
STU Stuttgart 80.34 331 *eP* **P 23 53 42.7 -0.2**
comp=Z,11nm,0.8s,mb4.7
GIVF Givet 80.69 334 *eP* **P 23 53 44.3 -0.4**
BAIF Baives 80.92 334 *eP* **P 23 53 45.6 -0.3**
comp=Z,7.2nm,0.8s,mb4.2
BAIF Baives 80.92 334 *eP* **P 23 53 45.6 -0.3**
BAIF pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
CDF Champ du Feu 81.32 332⇑*iP* **P 23 53 48.2 +0.2**
comp=Z,7.2nm,0.7s,mb4.3
CDF Champ du Feu 81.32 332⇑*iP* **P 23 53 48.2 +0.2**
CDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
HINF Hinteralfeld 81.98 332 *eP* **P 23 53 51.7 +0.2**
comp=Z,3.9nm,0.6s,mb4.1
HINF Hinteralfeld 81.98 332 *eP* **P 23 53 51.7 +0.2**
HINF pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
HAU Haudompre 81.99 332 *eP* **P 23 53 51.3 -0.2**
CPRX Cap Rock 83.05 51 *eP* **P 23 53 55.2 -2.0**
CABF La Chapelle 83.28 332 *eP* **P 23 53 58.3 +0.2**
GDL2 Guadalupe Moun 83.37 52 *eP* **P 23 54 00.0 +1.1**
FLN La Foliniere 83.51 337 *eP* **P 23 53 59.0 -0.1**
comp=Z,15nm,0.8s,mb4.6
FLN La Foliniere 83.51 337 *eP* **P 23 53 59.0 -0.1**
FLN pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
LDF La Druitiere 83.55 336 *eP* **P 23 53 59.2 -0.1**
comp=Z,5.9nm,0.6s,mb4.3
LDF La Druitiere 83.55 336 *eP* **P 23 53 59.2 -0.1**
LDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
SSF Saint Saulge 83.77 333⇑*iP* **P 23 54 00.6 +0.1**
SSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
SSF Saint Saulge 83.77 333⇑*iP* **P 23 54 00.6 +0.1**
comp=Z,6.6nm,0.9s,mb4.5
HYF Humbligny 83.87 334 *eP* **P 23 54 01.6 +0.6**
GRR Gorron 83.95 337 *eP* **P 23 54 01.5 +0.2**
comp=Z,26nm,0.9s,mb4.8
GRR Gorron 83.95 337 *eP* **P 23 54 01.5 +0.2**
GRR pmax pmax
comp=Z,13nm,0.9s,mb4.8
LPL La Plagne 83.99 331 *eP* **P 23 54 01.9 +0.3**
comp=Z,5.7nm,0.6s,mb4.3
LPL La Plagne 83.99 331 *eP* **P 23 54 01.9 +0.3**
LPL pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
LPG La Plagne 84.00 331 *eP* **P 23 54 02.6 +0.9**
comp=Z,8.1nm,0.6s,mb4.4
LPG La Plagne 84.00 331 *eP* **P 23 54 02.6 +0.9**
LPG pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
SMF Signal de Mont 84.02 333⇑*iP* **P 23 54 02.1 +0.4**
comp=Z,16nm,0.8s,mb4.6
SMF Signal de Mont 84.02 333⇑*iP* **P 23 54 02.1 +0.4**
SMF pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
IDI Anoyia 84.04 313 P **P 23 54 01.6 -0.5**
comp=Z,12nm,0.7s,mb4.8,baz=317,slow=5.9,SNR=12
AVF Avril sur Loir 84.06 333⇑*iP* **P 23 54 02.3 +0.4**
comp=Z,23nm,0.8s,mb4.8
AVF Avril sur Loir 84.06 333⇑*iP* **P 23 54 02.3 +0.4**
AVF pmax pmax
comp=Z,11nm,0.8s,mb4.7
BGF Bois d'Agland 84.43 334 *eP* **P 23 54 04.7 +0.9**
comp=Z,7.5nm,0.7s,mb4.3
BGF Bois d'Agland 84.43 334 *eP* **P 23 54 04.7 +0.9**
BGF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
WMOK Wichita Mounta 84.62 47 *eP* **P 23 54 04.5 -0.5**
WMOK pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
WMOK Wichita Mounta 84.62 47 *eP* **P 23 54 04.5 -0.5**
comp=Z,8.7nm,1.1s,mb4.6
MBDF Montbardon 84.66 330⇑*iP* **P 23 54 06.0 +1.0**
comp=Z,6.5nm,0.6s,mb4.4
MBDF Montbardon 84.66 330⇑*iP* **P 23 54 06.0 +1.0**
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ROSF Rostrenen 84.69 338 *eP* **P 23 54 05.7 +0.7**
ORIF Oris-en-Rattie 84.81 331⇑*iP* **P 23 54 06.5 +0.8**
comp=Z,21nm,1.0s,mb4.7
ORIF Oris-en-Rattie 84.81 331⇑*iP* **P 23 54 06.5 +0.8**
ORIF pmax pmax
comp=Z,11nm,1.0s,mb4.7
TCF Toulx Ste Croi 84.88 334 *eP* **P 23 54 06.6 +0.6**
SBF Sospel 85.15 329 *eP* **P 23 54 07.1 -0.3**
VIVF Saint-Julien-l 85.30 332⇑*iP* **P 23 54 08.9 +0.8**
comp=Z,13nm,0.8s,mb4.6
VIVF Saint-Julien-l 85.30 332⇑*iP* **P 23 54 08.9 +0.8**
VIVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MFF Saint Martin d 85.34 335 *eP* **P 23 54 09.1 +0.8**
comp=Z,35nm,1.0s,mb4.9
MFF Saint Martin d 85.34 335 *eP* **P 23 54 09.1 +0.8**
MFF pmax pmax
comp=Z,18nm,1.0s,mb5.0
SMRF Simiane la Rot 85.74 331 *eP* **P 23 54 11.2 +0.9**
comp=Z,14nm,0.8s,mb4.6
TXAR Lajitas Array 85.86 53 P **P 23 54 12.9 +1.6**
comp=Z,3.4nm,0.6s,mb4.5,baz=291,slow=3.7,SNR=16
LMR La Mourre 85.95 330⇑*iP* **P 23 54 11.5 +0.1**
comp=Z,20nm,0.8s,mb4.8
LMR La Mourre 85.95 330⇑*iP* **P 23 54 11.5 +0.1**
LMR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
RJF Les Rejaudoux 85.97 334 *eP* **P 23 54 12.3 +0.9**
CAF Calviac 86.13 333⇑*iP* **P 23 54 13.6 +1.4**
comp=Z,16nm,0.7s,mb4.7
CAF Calviac 86.13 333⇑*iP* **P 23 54 13.6 +1.4**
CAF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
LASF Ste Croix 86.26 332 *eP* **P 23 54 13.9 +1.0**
comp=Z,26nm,1.1s,mb4.8
LFF La Frestale 86.55 334 *eP* **P 23 54 15.6 +1.4**
comp=Z,12nm,0.7s,mb4.6
LFF La Frestale 86.55 334 *eP* **P 23 54 15.6 +1.4**
LFF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MTLF Montolieu 87.48 332 *eP* **P 23 54 19.9 +1.1**
EPF Esparros 88.38 334 *eP* **P 23 54 24.5 +1.4**
comp=Z,5.2nm,0.7s,mb4.4
EPF Esparros 88.38 334 *eP* **P 23 54 24.5 +1.4**
EPF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
ETSF Etsaut 88.79 334⇑*iP* **P 23 54 26.4 +1.4**
comp=Z,13nm,0.6s,mb4.9
ETSF Etsaut 88.79 334⇑*iP* **P 23 54 26.4 +1.4**
ETSF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
SJPF Ste Jean 88.81 335 *eP* **P 23 54 26.3 +1.2**
comp=Z,22nm,1.2s,mb4.8
SJPF Ste Jean 88.81 335 *eP* **P 23 54 26.3 +1.2**
SJPF pmax pmax
comp=Z,11nm,1.2s,mb4.8
ESDC Sonseca Array 92.80 335 P **P 23 54 44.2 +0.4**
comp=Z,1.1nm,0.8s,mb4.2,baz=53,slow=2.0,SNR=5.5
DBIC Dimbokro 122.88 321 PKIKP PKPdf 00 00 27.1 +0.8
DBIC pmax pmax
comp=Z,3.0nm,1.1s
DBIC Dimbokro 122.88 321 PKP PKPdf 00 00 27.1 +0.8
comp=Z,3.1nm,1.1s,baz=337,slow=2.1,SNR=3.6
SNAA Sanae 146.37 199 *e* PKPdf 00 01 15.5 +7.6
SNAA Sanae 146.37 199 *e* PKPab 00 01 16.8 +4.1
SNAA Sanae 146.37 199 *e* Px 00 01 46.1
SNAA Sanae 146.37 199 *e* Px 00 01 48.3
SNAA Sanae 146.37 199 *e* Px 00 02 00.4
SNAA Sanae 146.37 199 PKP2 PKPab 00 01 11.6 -1.1
SNAA pmax pmax
comp=Z,2.0nm,0.5s
SNAA Sanae 146.37 199 PKPbc PKPbc 00 01 11.6 +2.4
comp=Z,2.0nm,0.5s,baz=164,slow=4.7,SNR=32
SNAA Sanae 146.37 199⇑*iP* PKPdf 00 01 11.4 +3.5
SNAA *e* 00 01 15.5
SNAA *e* 00 01 16.8
SNAA *e* 00 01 46.1
SNAA *e* 00 01 48.3
SNAA *e* 00 02 00.4
VNA2 Neumayer--Watz 147.95 198 *e* PKPdf 00 01 20.5 +10
VNA2 Neumayer--Watz 147.95 198 *e* PKPab 00 01 22.1 +3.3
VNA2 Neumayer--Watz 147.95 198 *e* Px 00 01 52.4
VNA2 Neumayer--Watz 147.95 198 *e* Px 00 01 54.5
VNA2 Neumayer--Watz 147.95 198⇑*iP* PKPdf 00 01 16.4 +5.8
VNA2 *e* 00 01 20.5
VNA2 *e* 00 01 22.1
VNA2 *e* 00 01 52.4
VNA2 *e* 00 01 54.5
VNA2 *e* 00 02 09.2
VNA3 Neumayer Olymp 148.21 196 *e* PKPdf 00 01 20.6 +10
VNA3 Neumayer Olymp 148.21 196 *e* PKPab 00 01 22.1 +2.2
VNA3 Neumayer Olymp 148.21 196⇑*iP* PKPdf 00 01 16.9 +5.9
VNA3 *e* 00 01 20.6
VNA3 *e* 00 01 22.1
VNA3 *e* 00 02 09.0
VNA1 Neumayer--Stat 148.35 198⇑*i* PKPab 00 01 21.7 +1.2
BAO Brasilia Array 151.57 22 P PKPdf 00 01 26.7 +9.0
BAO *e* 00 01 35.9

*IDC **22** 23:46:33.3±1.8, 9.58S×112.70E, mb4.0/6, mb1 4.2/6, mb1mx4.0/14, mbtmp4.0/6, Error ellipse: s-maj=90.8km s-min=20.2km az=49.0*
*NEIC **22** 23:46:37.7±0.6, 9.70S×112.74E, h35km, mb4.4/7, Error ellipse: s-maj=12.6km s-min=8.8km az=223.0*
ISC 22 23:46:36.5±0.7, 9.58S±0.08×112.67E±0.06, h33km, n20, σ0°95/23, mb4.2/13, 4D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.82**	**53**	||*eP*n	**Pn**	**23 47 06.7**	**+0.6**
SRDI				*eS*n	**Sn**	**23 47 29.5**	**+1.3**
KELI	**Kelakatan**	**2.25**	**53**	||*eP*n	**Pn**	**23 47 13.7**	**+1.4**
KELI				*eS*n	**Sn**	**23 47 38.4**	**-0.8**
RATI	**Rata**	**2.95**	**74**	||*eP*n	**Pn**	**23 47 22.0**	**-0.3**
KEDI	**Kedomdong**	**3.57**	**73**	||*eP*n	**Pn**	**23 47 30.9**	**-0.1**
KEDI				*eS*n	**Sn**	**23 48 09.0**	**-3.6**
MBWA	**Marble Bar**	**13.37**	**150**	*eP*	**P**	**23 49 40.9**	**-5.6**
MBWA				*eS*	Sx	23 51 50.8	
WRA	**Warramunga Arr**	**23.32**	**119**	P	**P**	**23 51 43.3**	**+0.6**
	0.7nm,0.4s,mb3.4,baz=292,slow=12,SNR=4.2						
WRAB	**Tennant Creek**	**23.33**	**119**	*eP*	**P**	**23 51 42.6**	**-0.2**
	15nm,1.2s,mb4.3						
ASAR	**Alice Springs**	**24.65**	**127**	P	**P**	**23 51 55.8**	**+0.1**
	1.3nm,0.5s,mb3.7,baz=304,slow=8.9,SNR=26						
CMAR	**Chiang Mai Arr**	**30.97**	**334**	P	**P**	**23 52 54.3**	**+1.0**
	1.0nm,0.4s,mb4.0,baz=159,slow=7.7,SNR=4.1						
PALK	**Pallekele**	**35.98**	**297**	P	**P**	**23 53 40.4**	**+3.9**
LSA	**Lhasa**	**44.21**	**333**	*eP*	**P**	**23 54 45.7**	**+1.2**
	2.4nm,0.7s,mb4.0						
BJT	**Baijiatuau**	**49.45**	**4**	*eP*	**P**	**23 55 24.9**	**-0.7**
	7.9nm,0.5s,mb5.0						
BJI	**Beijing**	**49.47**	**4**	*eP*	**P**	**23 55 25.0**	**-0.7**
	11nm,0.6s,mb5.1						
ULN	**Ulaanbaatar**	**57.40**	**356**	*eP*	**P**	**23 56 23.3**	**-0.9**
	5.2nm,0.8s,mb4.6						
SONM	**Songino Array**	**57.43**	**355**	P	**P**	**23 56 23.7**	**-0.7**
	3.9nm,0.7s,mb4.5,baz=176,slow=8.3,SNR=28						
KURK	**Kurchatov**	**66.92**	**337**	*eP*	**P**	**23 57 26.7**	**-1.0**
	1.2nm,0.8s,mb4.0						
ZAL	**Zalesovo**	**67.53**	**343**	P	**P**	**23 57 30.6**	**-0.8**
	1.7nm,0.4s,mb4.5,baz=212,slow=3.8,SNR=6.9						
BRVK	**Borovoye**	**72.06**	**335**	P	**P**	**23 58 04.7**	**+5.6**
CHKZ	**Chkalovo**	**72.37**	**335**	P	**P**	**23 58 00.5**	**-0.4**
	2.0nm,0.9s,mb4.0						
BRTR	**Keskin Array B**	**87.73**	**311**	P	**P**	**23 59 24.4**	**+1.0**
	0.8nm,0.7s,mb4.0,baz=117,slow=6.4,SNR=4.6						

*IDC **22** 23:47:06.0±1.5, 31.95S×177.69W, mb4.4/4, mb1 4.4/5, mb1mx4.1/16, mbtmp4.3/5, ML3.8/1, Error ellipse: s-maj=49.3km s-min=28.7km az=141.0*
ISC 22 23:47:12.1±2.0, 31.96S±0.08×178.1W±0.3, h33km, n17, σ1°08/12, mb4.3/4, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**6.78**	**205**	*eS*	**S**	**23 50 10.1**	**+1.3**
MWZ	**Matawai**	**7.29**	**208**	*eS*	**S**	**23 50 22.4**	**+1.0**
URZ	**Urewera**	**7.40**	**211**	Pn	**Pn**	**23 48 58.8**	**-1.9**
	1.3nm,0.3s,baz=249,slow=14,SNR=6.5						
URZ				Sn	**Sn**	**23 50 24.5**	**+0.2**
	12nm,0.3s,baz=175,slow=19,SNR=20						
KNZ	**Kokohu**	**7.83**	**205**	*eS*	**S**	**23 50 33.0**	**-1.9**
MRZ	**Mangatainoka R**	**10.06**	**209**	S	**S**	**23 51 23.9**	**-6.2**
KIW	**Kapiti Island**	**10.50**	**210**	*eS*	**S**	**23 51 34.7**	**-6.3**
CTA	**Charters Tower**	**33.97**	**282**	P	**P**	**23 53 55.2**	**+0.4**
	11nm,0.8s,mb4.8,baz=129,slow=8.6,SNR=6.1						
STKA	**Stephens Creek**	**34.05**	**259**	P	**P**	**23 53 56.0**	**+0.7**
	2.4nm,0.7s,mb4.2,baz=98,slow=8.5,SNR=3.8						
ASAR	**Alice Springs**	**42.94**	**269**	P	**P**	**23 55 09.2**	**-0.6**
	1.9nm,0.5s,mb4.1,baz=106,slow=7.4,SNR=13						
WRA	**Warramunga Arr**	**44.07**	**274**	P	**P**	**23 55 18.5**	**-0.4**
	1.7nm,0.3s,mb4.2,baz=112,slow=8.0,SNR=11						
SYO	**Syowa Base**	**75.58**	**193**	⇑P	**P**	**23 58 55.4**	**+0.8**
BVAR	**Borovoye Array**	**127.44**	**315**	PKP	PKPdf	00 06 12.9	-0.5
	0.4nm,0.3s,baz=114,slow=1.4,SNR=7.8						
ARCES	**ARCESS Array B**	**140.09**	**347**	PKP	PKPdf	00 06 34.4	-2.1
	1.7nm,0.8s,baz=11,slow=4.6,SNR=3.7						
KAF	**Kangasniemi**	**145.97**	**340**	*e*pkp	PKPdf	00 06 46.1	-0.7
	baz=43,slow=3.4						
FINES	**FINESS Array B**	**146.56**	**339**	PKPbc	PKPbc	00 06 48.4	-0.7
	4.9nm,0.8s,baz=63,slow=3.1,SNR=26						
AKASG	**Malin Array Be**	**152.46**	**321**	PKPbc	PKPdf	00 07 04.1	+6.8
	1.0nm,0.6s,baz=42,slow=2.0,SNR=9.7						
BRTR	**Keskin Array B**	**153.21**	**296**	PKPbc	PKPdf	00 07 06.2	+7.5
	1.5nm,0.9s,baz=155,slow=2.8,SNR=7.2						

IDC 22 23:48:13.7±1.8, 39.10N×110.65E, mb3.7/2, mb1 4.0/3, mb1mx3.5/19, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=61.4km s-min=24.2km az=97.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.26**	**342**	Pn	P	23 50 29.8	-1.7
	0.1nm,0.3s,baz=157,slow=14,SNR=9.1						
SONM				Lg		23 53 06.4	
	0.2nm,0.3s,baz=163,slow=26,SNR=4.2						
CMAR	**Chiang Mai Arr**	**22.95**	**210**	P	P	23 53 19.6	-1.2
	5.1nm,1.0s,baz=12,slow=9.4,SNR=15						
YKA	**Yellowknife Ar**	**72.42**	**20**	P	P	23 59 41.2	-1.9
	0.5nm,0.9s,baz=326,slow=5.4,SNR=5.4						

IDC 22 23:58:12.0±4.8, 7.83N×90.56E, mb3.4/2, mb1 3.8/3, mb1mx3.5/18, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=125.8km s-min=39.0km az=78.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.35**	**37**	Pn	P	00 01 22.8	-2.6
	0.1nm,0.3s,baz=228,slow=14,SNR=9.5						
JIRN	**Jiri**	**20.16**	**349**	*eP*	P	00 03 02.6	+12
	8.4nm,0.5s						
PKI	**Pulchoki**	**20.23**	**347**	*eP*	P	00 03 05.9	+14
	20nm,0.8s						
DMN	**Daman**	**20.34**	**346**	*eP*	P	00 03 06.8	+14
	32nm,0.9s						
KKN	**Kakani**	**20.48**	**347**	*eP*	P	00 03 05.4	+11
GKN	**Gorkha**	**20.84**	**345**	*eP*	P	00 03 07.5	+10
	12nm,0.3s						
SONM	**Songino Array**	**42.08**	**16**	P	P	00 06 05.7	-1.6
	0.3nm,0.6s,baz=198,slow=7.8,SNR=3.8						
WRA	**Warramunga Arr**	**51.16**	**123**	P	P	00 07 17.2	-2.1
	0.6nm,0.7s,baz=302,slow=9.2,SNR=3.9						

*IDC **22** 23:59:56.8±1.0, 7.95S×159.71E, h26km±4km, mb3.8/7, mb1 4.0/7, mb1mx3.9/15, mbtmp3.9/7, Error ellipse: s-maj=25.8km s-min=20.5km az=119.0*
ISC 22 23:59:55.1±0.8, 8.0S±0.2×159.6E±0.2, h26km, (h26km±1.2km: pP-P), n8, σ0°80/7, mb3.8/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**17.70**	**226**	pP		00 04 07.3	
	0.9nm,0.3s,baz=54,slow=10,SNR=9.7						
WRA	**Warramunga Arr**	**27.24**	**241**	P	**P**	**00 05 39.5**	**+0.1**
	0.6nm,0.4s,mb3.4,baz=67,slow=9.2,SNR=5.4						
WRA				pP	pP	00 05 47.0	+0.1
	1.1nm,0.4s,baz=66,slow=9.1,SNR=7.7						
STKA	**Stephens Creek**	**29.12**	**213**	P	**P**	**00 05 57.2**	**+0.9**
	1.9nm,0.5s,mb4.1,baz=44,slow=14,SNR=8.3						
ASAR	**Alice Springs**	**29.19**	**235**	P	**P**	**00 05 56.6**	**-0.4**
	0.8nm,0.5s,mb3.7,baz=62,slow=9.6,SNR=10						
ASAR				pP	pP	00 06 05.0	+0.5
	1.0nm,0.5s,baz=61,slow=9.8,SNR=7.9						
URZ	**Urewera**	**34.03**	**155**	P	**P**	**00 06 38.6**	**-0.8**
	2.1nm,0.3s,mb4.5,baz=270,slow=5.1,SNR=3.8						
URZ				pP	pP	00 06 45.7	-1.3
	3.4nm,0.3s,baz=303,slow=6.8,SNR=4.0						
SONM	**Songino Array**	**72.69**	**326**	P	**P**	**00 11 22.3**	**-0.5**
	0.3nm,0.6s,mb3.4,baz=142,slow=5.3,SNR=4.0						
SONM				sP	sP	00 11 34.7	+1.0
	0.7nm,0.7s,baz=149,slow=6.5,SNR=4.1						
NVAR	**Mina Array Bea**	**88.72**	**51**	P	**P**	**00 12 49.6**	**+1.5**
	0.3nm,0.4s,mb4.0,baz=207,slow=2.0,SNR=3.9						
YKA	**Yellowknife Ar**	**95.04**	**28**	P	**P**	**00 13 15.9**	**-0.7**
	0.1nm,0.4s,mb3.6,baz=262,slow=3.9,SNR=4.8						

*IDC **23** 00:05:08.9±0.8, 56.12S×26.89W, h84km±5km, mb4.3/7, mb1 4.3/8, mb1mx4.1/12, mbtmp4.6/8, Error ellipse: s-maj=32.1km s-min=14.1km az=53.0*
*NEIC **23** 00:05:08.8±0.4, 56.13S×27.02W, mb4.5/1, Error ellipse: s-maj=16.9km s-min=7.6km az=60.0*
ISC 23 00:05:07.4±0.6, 56.18S±0.09×27.0W±0.2, h86km, (h86km±3.1km: pP-P), n36, σ1°06/24, mb4.3/10, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.64**	**158**	*e*	P	**00 09 02.3**	**+6.2**
VNA1	**Neumayer--Stat**	**16.64**	**158**	⇑*iP*	**P**	**00 08 59.2**	**+3.1**
VNA1				*e*		00 09 02.3	
VNA3	**Neumayer Olymp**	**16.84**	**161**	*e*	P	**00 09 02.5**	**+4.0**
VNA3	**Neumayer Olymp**	**16.84**	**161**	*e*		00 09 14.3	
VNA3	**Neumayer Olymp**	**16.84**	**161**	*e*		00 09 25.4	
VNA3	**Neumayer Olymp**	**16.84**	**161**	⇑*iP*	**P**	**00 08 58.9**	**+0.4**
VNA3				*e*		00 09 02.5	
VNA3				*e*		00 09 14.3	
VNA3				*e*		00 09 25.4	
VNA3				*e*		00 11 59.2	
VNA2	**Neumayer--Watz**	**17.04**	**158**	*e*	P	**00 09 04.9**	**+3.9**
VNA2	**Neumayer--Watz**	**17.04**	**158**	*e*		00 09 17.1	
VNA2	**Neumayer--Watz**	**17.04**	**158**	*e*		00 09 26.6	
VNA2	**Neumayer--Watz**	**17.04**	**158**	⇑*iP*	**P**	**00 09 01.7**	**+0.7**
VNA2				*e*		00 09 04.9	
VNA

SNAA	**Sanae**	**18.59 156**	*e*			00 09 38.3	
SNAA	**Sanae**	**18.59 156**	*e*			00 09 49.1	
SNAA	**Sanae**	**18.59 156**	P		**P**	**00 09 18.6**	**-1.1**
	0.8nm,0.3s,baz=307,slow=9.8,SNR=68						
SNAA			S		**S**	**00 12 38.4**	**-2.3**
	0.1nm,0.3s,baz=272,slow=17,SNR=2.2						
SNAA	**Sanae**	**18.59 156**	⇑*i*P		**P**	**00 09 18.4**	**-1.3**
	14nm,0.5s						
SNAA			*e*			00 09 25.4	
SNAA			*e*			00 09 38.3	
SNAA			*e*			00 09 49.1	
TRQA	**Tornquist**	**29.46 293**	*e*P		**P**	**00 11 03.6**	**-1.4**
	0.6nm,0.5s,mb3.5						
QSPA	**South Pole Qui**	**34.08 180**	⇑*i*P		**P**	**00 11 44.2**	**-0.6**
	19nm,0.5s,mb5.2						
CPUP	**Villa Florida**	**36.97 311**	P		**P**	**00 12 09.1**	**-0.7**
	0.0nm,0.3s,baz=211,slow=19,SNR=1.7						
CPUP			pP		pP	00 12 29.4	-0.8
	0.0nm,0.3s,baz=238,slow=5.1,SNR=1.8						
MAW	**Mawson**	**39.99 143**	P		**P**	**00 12 35.3**	**+0.8**
	4.0nm,0.5s,mb4.5,baz=225,slow=7.5,SNR=9.3						
MAW	**Mawson**	**39.99 143**	*e*P		**P**	**00 12 34.8**	**+0.3**
	3.9nm,0.5s,mb4.5						
LVC	**Limon Verde**	**45.45 300**	P		**P**	**00 13 20.0**	**+0.7**
	8.0nm,0.7s,mb4.5,baz=149,slow=4.3,SNR=13						
LVC			pP		pP	00 13 41.8	+1.8
	3.7nm,0.5s,baz=119,slow=4.0,SNR=4.0						
BOSA	**Boshof**	**45.90 76**	P		**P**	**00 13 22.9**	**+0.1**
	0.4nm,0.4s,mb3.5						
VNDA	**Vanda**	**46.45 183**	P		**P**	**00 13 27.2**	**+0.6**
	6.3nm,0.7s,mb4.5,baz=189,slow=6.2,SNR=38						
LPAZ	**La Paz**	**50.53 305**	P		**P**	**00 13 59.9**	**+1.0**
	4.2nm,0.5s,mb4.7,baz=138,slow=6.3,SNR=24						
LPAZ			pP		pP	00 14 20.0	+0.1
	3.4nm,0.6s,baz=170,slow=6.4,SNR=5.2						
LPAZ	**La Paz**	**50.53 305**	P		**P**	**00 13 59.9**	**+1.0**
LPAZ			pP		pP	00 14 20.0	+0.1
DBIC	**Dimbokro**	**65.24 24**	P		**P**	**00 15 41.8**	**-0.2**
	34nm,1.6s,mb4.9,baz=175,slow=12,SNR=2.6						
DBIC	**Dimbokro**	**65.24 24**	*e*P		**P**	**00 15 40.8**	**-1.2**
	0.4nm,0.5s,mb3.5						
STKA	**Stephens Creek**	**91.76 170**	P		**P**	**00 18 07.0**	**+0.7**
	0.9nm,0.5s,mb4.3,baz=135,slow=8.6,SNR=3.5						
ASAR	**Alice Springs**	**98.84 162**	P		**P**	**00 18 38.6**	**0.0**
	0.6nm,0.7s,mb4.2,baz=186,slow=4.7,SNR=8.3						
FINES	**FINESS Array B**	**124.45 28**	PKP		PKPdf	00 23 56.3	+0.8
	0.9nm,0.6s,baz=117,slow=4.3,SNR=6.7						
YKA	**Yellowknife Ar**	**136.33 318**	PKP		PKPdf	00 24 18.8	+1.1
	0.4nm,0.5s,baz=126,slow=2.4,SNR=6.9						
YKA			pPKP			00 24 41.0	
	0.2nm,0.6s,baz=121,slow=2.2,SNR=2.1						
YKA			SKPbc			00 27 40.0	
	0.7nm,0.9s,baz=124,slow=2.9,SNR=8.9						
YKA			SKP			00 27 46.0	
	0.7nm,0.9s,baz=121,slow=3.2,SNR=6.1						
YKA	**Yellowknife Ar**	**136.33 318**	PKP		PKPdf	00 24 18.8	+1.1
YKA			pPKP			00 24 41.0	
YKA			SKPbc			00 27 40.0	
YKA			SKP			00 27 46.0	
INK	**Inuvik**	**145.96 320**	*e*PKPbc		PKPbc	00 24 36.8	+1.2
ILAR	**Eielson Array**	**150.27 311**	PKPbc		PKPdf	00 24 48.5	+6.9
	1.9nm,0.8s,baz=135,slow=1.5,SNR=20						
ILAR			pPKPbc			00 25 10.5	
	2.0nm,0.7s,baz=120,slow=1.4,SNR=6.4						
SONM	**Songino Array**	**150.63 87**	PKPbc		PKPdf	00 24 49.8	+7.2
	1.8nm,0.5s,baz=223,slow=3.2,SNR=21						
COLA	**College**	**150.70 311**	*e*PKPdf		PKPdf	00 24 41.4	-0.8

*IDC **23** 00:06:03.5±1.4, 8.45N×92.95E, mb3.7/7, mb1 3.9/8, mb1mx3.7/18, mbtmp3.7/8, Error ellipse: s-maj=44.3km s-min=27.4km az=48.0*
*NEIC **23** 00:06:08.3±1.2, 8.57N×92.99E, h30km, mb3.9/1, Error ellipse: s-maj=26.8km s-min=23.7km az=77.0*

ISC 23 00:06:06.9±1.1, 8.6N±0.2×93.1E±0.2, h33km, n9, σ1§15/9, mb3.7/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.35**	**30**	Pn	**P**	**00 08 50.1**	**+0.2**
	baz=214,slow=13,SNR=3.6						
LSA	**Lhasa**	**21.08**	**355**	*e*P	**P**	**00 10 48.5**	**-2.3**
	1.7nm,0.4s,mb3.7						
SONM	**Songino Array**	**40.71**	**14**	P	**P**	**00 13 48.0**	**+1.8**
	0.5nm,1.0s,mb3.1,baz=180,slow=2.9,SNR=2.8						
ZAL	**Zalesovo**	**45.71**	**353**	P	**P**	**00 14 25.8**	**-0.8**
	0.6nm,0.3s,mb4.0,baz=224,slow=15,SNR=3.1						
WRA	**Warramunga Arr**	**49.54**	**125**	P	**P**	**00 14 56.4**	**-0.6**
	0.4nm,0.9s,mb3.4,baz=304,slow=8.8,SNR=3.7						
BRTR	**Keskin Array B**	**61.16**	**311**	P	**P**	**00 16 20.0**	**-0.7**
	0.8nm,0.9s,mb3.9,baz=126,slow=7.2,SNR=4.2						
FINES	**FINESS Array B**	**71.58**	**332**	P	**P**	**00 17 26.7**	**+0.1**
	1.0nm,0.7s,mb3.9,baz=112,slow=7.5,SNR=4.2						
ARCES	**ARCESS Array B**	**74.24**	**340**	P	**P**	**00 17 42.2**	**+0.2**
	2.2nm,0.9s,mb4.1,baz=98,slow=6.4,SNR=5.7						
GERES	**GERESS Array B**	**76.58**	**318**	P	**P**	**00 17 57.6**	**+1.7**
	0.5nm,0.7s,mb3.5,baz=90,slow=12,SNR=3.4						

*IDC **23** 00:29:59.8±1.2, 51.44N×161.28E, mb3.8/9, mb1 4.2/10, mb1mx3.9/22, mbtmp3.9/10, ML4.4/1, Error ellipse: s-maj=31.3km s-min=15.0km az=173.0*
*KRSC **23** 00:30:00.4±0.5, 51.47N×160.97E, h40km±49km, ML4.1*
*MOS **23** 00:30:00.4±1.3, 51.54N×161.03E, h33km, mb4.1/4, Error ellipse: s-maj=20.1km s-min=11.0km az=95.3*
*NEIC **23** 00:30:00.7±0.9, 51.65N×161.10E, h10km, mb3.9/2, Error ellipse: s-maj=22.6km s-min=13.2km az=8.0*

ISC 23 00:29:59.5±1.5, 51.53N±0.04×160.97E±0.05, h21km±12km, n48, σ0§99/68, mb3.8/10, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.68**	**340**	P	**Pn**	**00 30 27.5**	**-0.6**
SPN				S	**Sn**	**00 30 47.1**	**-2.1**
SPN	**Mys Shipunski**	**1.68**	**340**	*e*P	**Pn**	**00 30 27.5**	**-0.6**
SPN				*i* S	**Sn**	**00 30 48.0**	**-1.2**
RUS	**Russkaya**	**1.77**	**302**	*i* P	**Pn**	**00 30 29.3**	**-0.1**
RUS				*i* S	**Sn**	**00 30 51.0**	**-0.5**
NLC	**Nalytchevo**	**1.93**	**329**	P	**Pn**	**00 30 32.2**	**+0.5**
NLC				S	**Sn**	**00 30 55.5**	**0.0**
NLC	**Nalytchevo**	**1.93**	**329**	*e*P	**Pn**	**00 30 32.4**	**+0.7**
NLC				*i* S	**Sn**	**00 30 55.5**	**0.0**
GRL	**Gorelyy**	**2.06**	**301**	*i* P	**Pn**	**00 30 34.6**	**+1.0**
GRL				*i* S	**Sn**	**00 30 59.3**	**+0.3**
PET	**Petropavlovsk**	**2.07**	**317**	P	**Pn**	**00 30 34.8**	**+1.1**
PET				S	**Sn**	**00 30 59.0**	**-0.1**
PET	**Petropavlovsk**	**2.07**	**317**	*e*PN	**Pn**	**00 30 34.1**	**+0.4**
PET				*e*S	**Sn**	**00 30 58.9**	**-0.2**
PET				smax			
	comp=N,304nm,0.5s						
PET				smax			
	comp=E,444nm,1.0s						
PET				MLR	MLR		
	comp=Z,300nm,14.0s						
PET	**Petropavlovsk**	**2.07**	**317**	*e*Pn	**Pn**	**00 30 33.9**	**+0.1**
PET	**Petropavlovsk**	**2.07**	**317**	*e*P	**Pn**	**00 30 33.9**	**+0.2**
PET				*e*S	**Sn**	**00 30 58.5**	**-0.6**
UGLR	**Uglovaya**	**2.14**	**323**	*e*P	**Pn**	**00 30 35.4**	**+0.7**
SDLR	**Sedlovina**	**2.17**	**325**	*e*P	**Pn**	**00 30 35.9**	**+0.7**
SDLR				*i* S	**Sn**	**00 31 02.1**	**+0.4**
KRMR	**Karymshinskiy**	**2.18**	**308**	*e*P	**Pn**	**00 30 35.7**	**+0.3**
KRMR				*e*S	**Sn**	**00 31 01.3**	**-0.7**
SMAR	**Somma**	**2.19**	**323**	*e*P	**Pn**	**00 30 36.0**	**+0.5**
AVH	**Avacha**	**2.21**	**323**	*e*P	**Pn**	**00 30 36.6**	**+0.8**
AVH				*i* S	**Sn**	**00 31 02.8**	**0.0**
KOK	**Koryaka**	**2.27**	**322**	*e*P	**Pn**	**00 30 37.6**	**+0.9**
KOK				*i* S	**Sn**	**00 31 04.8**	**+0.5**
PAU	**Pauzhetka**	**2.60**	**270**	*e*P	**Pn**	**00 30 41.4**	**+0.1**
PAU				*e*S	**Sn**	**00 31 10.9**	**-1.7**
PAU				Smax			
	comp=Z,280nm,0.2s						
APC	**Apacha**	**2.73**	**302**	*e*P	**Pn**	**00 30 43.7**	**+0.5**
APC				*e*S	**Sn**	**00 31 15.2**	**-0.7**
APC				Smax			
	comp=Z,90nm,0.7s						
GNL	**Ganaly**	**2.85**	**321**	*i* P	**Pn**	**00 30 46.1**	**+1.2**
GNL				*i* S	**Sn**	**00 31 19.4**	**+0.4**
SKR	**Severo-Kuril's**	**3.17**	**256**	*e*PN	**Pn**	**00 30 48.5**	**-1.0**
SKR				pmax	pmax		
	comp=N,40nm,0.3s						
SKR				pmax	pmax		
	comp=E,40nm,0.3s						
SKR				pmax	pmax		
	comp=Z,70nm,0.3s						
SKR	**Severo-Kuril's**	**3.17**	**256**	*e*P	**Pn**	**00 30 48.5**	**-1.0**
SKR				*e*S	**Sn**	**00 31 23.5**	**-3.6**
ALID	**Alaid**	**3.47**	**261**	*e*P	**Pn**	**00 30 52.8**	**-0.9**
ALID				*i* S	**Sn**	**00 31 30.8**	**-3.9**
TUMR	**Tumrok**	**3.80**	**353**	*e*P	**Pn**	**00 30 58.9**	**+0.6**
KMNR	**Kamenistaya**	**4.26**	**354**	*e*P	**Pn**	**00 31 05.9**	**+1.0**
BKI	**Bering**	**4.75**	**37**	*e*P	**Pn**	**00 31 09.4**	**-2.4**
BKI				*e*S	**Sn**	**00 31 59.7**	**-7.3**
BKI				Smax			
	comp=Z,90nm,0.9s						
KBTR	**Krutoberegovo**	**4.82**	**12**	P	**Pn**	**00 31 11.3**	**-1.5**
KBTR	**Krutoberegovo**	**4.82**	**12**	*e*P	**Pn**	**00 31 11.6**	**-1.2**
FX1	**Attu Island--F**	**7.62**	**75**	Pn	**Pn**	**00 31 49.5**	**-2.7**
	comp=Z,22nm,0.3s,baz=261,slow=1.8,SNR=17						
FX1				Sn	**Sn**	**00 33 08.4**	**-10**
	comp=Z,14nm,0.3s,baz=109,slow=20,SNR=6.6						
FX1	**Attu Island--F**	**7.62**	**75**	*e*P	**Pn**	**00 31 49.0**	**-3.2**
BILL	**Bilibino**	**16.77**	**7**	*e*P	**P**	**00 33 51.7**	**-2.7**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ILAR	**Eielson Array**	**29.56**	**43**	P	**P**	**00 36 04.8**	**+0.1**
	2.0nm,0.4nm,0.9s,mb3.2,baz=258,slow=8.4,SNR=5.2						
INK	**Inuvik**	**34.80**	**36**	P	**P**	**00 36 50.2**	**-0.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**34.80**	**36**	P	**P**	**00 36 50.2**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=277,slow=9.9,SNR=4.2						
INK	**Inuvik**	**34.80**	**36**	P	**P**	**00 36 48.4**	**-1.9**
	comp=Z,0.6nm,0.5s,mb3.8						
YKA	**Yellowknife Ar**	**43.97**	**42**	P	**P**	**00 38 06.6**	**+0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**43.97**	**42**	P	**P**	**00 38 06.6**	**+0.3**
	comp=Z,0.5nm,0.7s,mb3.3,baz=295,slow=7.7,SNR=7.9						
YKA	**Yellowknife Ar**	**43.97**	**42**	P	**P**	**00 38 06.6**	**+0.3**
ARCES	**ARCESS Array B**	**54.95**	**342**	P	**P**	**00 39 34.6**	**+4.0**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARCES	**ARCESS Array B**	**54.95**	**342**	P	**P**	**00 39 34.6**	**+4.0**
	comp=Z,2.8nm,0.9s,mb4.3,baz=27,slow=10,SNR=2.7						
NVAR	**Mina Array Bea**	**55.78**	**70**	P	**P**	**00 39 38.0**	**+0.9**
	comp=Z,1.2nm,0.8s,mb4.0,baz=296,slow=6.5,SNR=8.6						
BW06	**Boulder Array**	**57.83**	**60**	P	**P**	**00 39 51.2**	**-0.3**
	comp=Z,2.1nm,1.0s,mb4.1						
PDAR	**Pinedale Array**	**57.83**	**60**	P	**P**	**00 39 51.5**	**0.0**
	comp=Z,0.9nm,0.8s,mb3.9,baz=315,slow=4.9,SNR=7.9						
FINES	**FINESS Array B**	**61.78**	**337**	P	**P**	**00 40 19.9**	**+1.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	**FINESS Array B**	**61.78**	**337**	P	**P**	**00 40 19.9**	**+1.5**
	comp=Z,2.1nm,1.0s,mb4.2,baz=45,slow=2.7,SNR=6.6						
FINES	**FINESS Array B**	**61.78**	**337**	P	**P**	**00 40 19.9**	**+1.5**
TXAR	**Lajitas Array**	**70.76**	**67**	P	**P**	**00 41 16.5**	**+0.5**
	comp=Z,0.7nm,0.5s,mb3.8,baz=307,slow=6.3,SNR=4.7						
TXAR	**Lajitas Array**	**70.76**	**67**	P	**P**	**00 41 16.5**	**+0.5**
ASAR	**Alice Springs**	**78.56**	**205**	P	**P**	**00 42 02.5**	**+1.5**
	comp=Z,0.6nm,0.9s,mb3.5,baz=21,slow=5.9,SNR=4.3						

*MOS **23** 00:35:04.2±0.9, 34.05N×142.11E, h10km, mb4.3/5, Error ellipse: s-maj=28.4km s-min=12.6km az=107.5*
*IDC **23** 00:35:05.7±0.9, 34.07N×142.01E, mb3.7/8, mb1 3.9/11, mb1mx3.7/22, mbtmp3.8/11, ML3.9/3, Error ellipse: s-maj=28.3km s-min=18.2km az=96.0*
*JMA **23** 00:35:06.8±0.3, 34.00N×142.14E, h42km, M3.7*
*NEIC **23** 00:35:07.1±0.5, 34.01N×141.95E, h10km, mb4.3/3, Error ellipse: s-maj=14.3km s-min=8.9km az=60.0*

ISC 23 00:35:06.7±1.4, 34.03N±0.04×142.07E±0.05, h24km±10km, n37, σ1§00/48, mb3.8/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.10**	**305**	P	**Pn**	**00 35 26.9**	**+0.1**
BSO1				S	**Sb**	**00 35 41.7**	**+0.9**
BSO2	**Boso 2**	**1.31**	**304**	*e*S	**Sn**	**00 35 48.3**	**+1.8**
BSO3	**Boso 3**	**1.50**	**301**	P	**Pn**	**00 35 33.0**	**+0.4**
BSO4	**Boso 4**	**1.72**	**304**	P	**Pn**	**00 35 36.7**	**+1.0**
BSO4				*e*S	**Sn**	**00 35 58.3**	**+1.2**
CHOJ	**Chosi**	**1.94**	**329**	P	**Pn**	**00 35 39.1**	**+0.2**
CHOJ				*e*S	**Sn**	**00 36 02.6**	**-0.1**
JHJ2	**Mitsune**	**2.10**	**245**	P	**Pn**	**00 35 42.0**	**+1.0**
JHJ2				*e*S	**Sn**	**00 36 06.6**	**0.0**
JHJ	**Hachijo jima 2**	**2.12**	**245**	Pn	**Pn**	**00 35 42.3**	**+0.9**
	65nm,0.3s,baz=247,slow=20,SNR=26						
JHJ				Sn	**Sn**	**00 36 04.8**	**-2.4**
	328nm,0.3s,baz=64,slow=23,SNR=24						
JIM2	**Oshima 3**	**2.29**	**288**	P	**Pn**	**00 35 43.2**	**-0.6**
JOD2	**Odawara 2**	**2.75**	**297**	P	**Pn**	**00 35 49.5**	**-0.9**
JAG	**Ashikaga**	**3.21**	**319**	P	**Pn**	**00 35 56.7**	**-0.2**
JYN	**Shimob**	**3.25**	**298**	P	**Pn**	**00 35 57.7**	**+0.2**
JYN				*e*S	**Sn**	**00 36 34.2**	**-1.7**
JRY	**Ryogami san**	**3.27**	**308**	P	**Pn**	**00 35 57.6**	**-0.2**
JRY				S	**Sn**	**00 36 36.6**	**+0.2**
SHZ3	**Shizuoka 3**	**3.35**	**289**	*e*S	**Sn**	**00 36 39.2**	**+0.8**
MAJO	**Matsushiro**	**4.03**	**309**	*e*P	**Pn**	**00 36 08.0**	**-0.6**
MAT	**Matsushiro**	**4.03**	**309**	*e*P	**Pn**	**00 36 08.0**	**-0.6**
MAT				*e*S	**Sn**	**00 36 53.0**	**-2.7**
MAT	**Matsushiro**	**4.03**	**309**	P	**Pn**	**00 36 08.4**	**-0.2**
MAT				S	**Sn**	**00 36 53.2**	**-2.5**
CBIJ	**Chichi jima**	**6.91**	**179**	Pn	**Pn**	**00 36 49.0**	**-0.3**
	8.2nm,0.3s,baz=278,slow=20,SNR=3.4						
CBIJ				Sn	**Sn**	**00 38 02.4**	**-5.6**
	5.2nm,0.3s,baz=274,slow=21,SNR=2.8						
ASAJ	**Asahikawa**	**10.08**	**2**	P	**P**	**00 37 30.6**	**-2.6**
ASAJ						00 39 19.0	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.08**	**2**	Pn	**P**	**00 37 30.6**	**-2.6**
	comp=Z,0.9nm,0.3s,baz=233,slow=10,SNR=4.1						
ASAJ				Sn	**S**	**00 39 19.0**	**-7.5**
	comp=Z,0.3nm,0.3s,baz=322,slow=16,SNR=2.4						
YSS	**Yuzh-Sakhalins**	**12.92**	**2**	*e*P	**P**	**00 38 10.4**	**-1.2**
ENH	**Enshi**	**27.78**	**271**	*e*P	**P**	**00 40 55.7**	**-0.1**
	comp=Z,4.6nm,0.4s,mb4.5						
SONM	**Songino Array**	**29.98**	**308**	P	**P**	**00 41 15.1**	**-0.4**
	comp=Z,0.6nm,1.1s,mb3.3,baz=68,slow=7.8,SNR=2.8						
ZAL	**Zalesovo**	**44.38**	**315**	P	**P**	**00 43 17.7**	**+0.8**
	comp=Z,0.3nm,0.3s,mb3.4,baz=242,slow=22,SNR=2.4						
KURK	**Kurchatov**	**48.24**	**310**	*e*P	**P**	**00 43 47.0**	**-0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
KURK	**Kurchatov**	**48.24**	**310**	*e*P	**P**	**00 43 47.0**	**-0.4**
	comp=Z,2.3nm,0.8s,mb4.3						
WRAB	**Tennant Creek**	**54.16**	**189**	*e*P	**P**	**00 44 31.6**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
WRAB	**Tennant Creek**	**54.16**	**189**	*e*P	**P**	**00 44 31.6**	**-0.9**
	comp=Z,1.6nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**54.17**	**189**	P	**P**	**00 44 32.3**	**-0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**54.17**	**189**	P	**P**	**00 44 32.3**	**-0.3**
	comp=Z,0.7nm,0.4s,mb3.9,baz=6.5,slow=7.6,SNR=6.8						
ASAR	**Alice Springs**	**57.90**	**189**	P	**P**	**00 45 00.0**	**+0.7**
	comp=Z,0.3nm,0.5s,mb3.6,baz=17,slow=8.8,SNR=4.2						
YKA	**Yellowknife Ar**	**66.14**	**30**	P	**P**	**00 45 54.9**	**+1.1**
YKA	**Yellowknife Ar**	**66.14**	**30**	P	**P**	**00 45 54.8**	**+1.0**
	comp=Z,0.1nm,0.7s,mb3.0,baz=299,slow=6.3,SNR=4.2						
FINES	**FINESS Array B**	**71.72**	**333**	P	**P**	**00 46 28.7**	**+0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	**FINESS Array B**	**71.72**	**333**	P	**P**	**00 46 28.7**	**+0.3**
	comp=Z,1.0nm,0.9s,mb3.7,baz=27,slow=4.3,SNR=4.3						
NOA	**NORSAR Array B**	**77.16**	**338**	P	**P**	**00 47 00.0**	**+0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
NOA	**NORSAR Array B**	**77.16**	**338**	P	**P**	**00 47 00.0**	**+0.4**
	comp=Z,1.8nm,1.1s,mb3.9,baz=36,slow=12,SNR=2.6						
PDAR	**Pinedale Array**	**79.39**	**45**	P	**P**	**00 47 14.6**	**+2.4**
	comp=Z,0.8nm,1.0s,mb3.6,baz=297,slow=3.3,SNR=4.8						

CASC 23 01:03:47.2±1.3, 12.19N×87.91W, h31km±16km, MD3.7, 3C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**1.02**	**77**	⇑*e*P	Pn	01 04 04.6	-1.0
CNCH	**Conchagua**	**1.08**	**4**	*e*P	Pn	01 04 06.6	+0.1
CNCH				*e*S	Sn	01 04 21.2	+0.7
TEL3	**Telica 3**	**1.11**	**70**	⇑*e*P	Pn	01 04 06.5	-0.3
MIRN	**Miramar**	**1.20**	**78**	*e*P	Pn	01 04 07.4	-0.7
MIRN				*e*S	Sn	01 04 24.8	+1.3
COPN	**Copaltepe**	**1.29**	**90**	⇑*e*P	Pn	01 04 08.5	-1.0
COPN				*e*S	Sn	01 04 26.1	+0.2
MOMJ	**Momotombo**	**1.36**	**81**	*e*P	Pn	01 04 09.6	-0.9
APYN	**Apoyeque**	**1.53**	**88**	*e*P	Pn	01 04 13.0	+0.2
LCBS	**La Ceiba**	**1.79**	**325**	*e*P	Pn	01 04 16.7	+0.1
LCBS				*e*S	Sn	01 04 38.2	-0.2
LFRS	**El Faro**	**1.81**	**322**	*e*P	Pn	01 04 16.8	-0.1
LFRS				*e*S	Sn	01 04 39.1	0.0
LFU	**La Fuente**	**1.94**	**323**	*e*P	Pn	01 04 18.8	0.0

*IDC **23** 01:03:51.5±0.5, 5.93S×151.57E, mb5.1/17, mb1 5.2/18, mb1mx5.2/19, mbtmp5.0/18, ML3.3/1, MS4.8/11, Ms1 4.8/11, ms1mx4.5/20, Error ellipse: s-maj=16.6km s-min=10.8km az=117.0*
*CSEM **23** 01:03:52.7, 5.47S×151.37E, h5km, mb5.5*
*MOS **23** 01:03:52.1±1.2, 5.67S×151.53E, h10km, mb5.4/26, MS4.9/10, Error ellipse: s-maj=10.1km s-min=7.3km az=90.1*
*BJI **23** 01:03:53.2, 5.99S×152.35E, h50km, mB5.5, mb5.0, Ms5.3, Msz5.0*
*HRVD **23** 01:03:55.5±0.2, 6.07S×151.89E, h17km, MW5.4/64, Centroid moment Tensor Solution. LP body waves: s58,c106; Mantle waves: s64,c133; Half duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.80±.04; $M_{\theta\theta}$0.66±.02; $M_{\phi\phi}$0.14±.02; $M_{r\theta}$-0.77±.07; $M_{\theta\phi}$0.49±.02; $M_{\phi r}$-1.18±.09; Best double couple: $M_0$1.663×10^{17} NP1: ϕ_s261°, δ20°, λ-48°. NP2:ϕ_s37°, δ75°, λ-104°. Principal axes: T 1.663, Plg29°, Azm138°; N .002, Plg13°, Azm41°; P -1.664, Plg58°, Azm289°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 01:03:55.5±0.2, 5.85S×151.58E, mb5.3/44, MS5.0/4 Error ellipse: s-maj=6.8km s-min=5.2km az=124.0*

ISC 23 01:03:55.2±0.2, 5.83S±0.04×151.51E±0.04, h33km, (h34km±8.9km: pP-P), n226, σ1§07/199, mb5.3/74, MS4.9/26, 8C-9D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.07**	**199**	Pn	**P**	**01 07 30.8**	**+3.3**
	0.1nm,0.3s,baz=28,slow=12,SNR=5.8						
CTA				LR	LR	01 12 24.8	
	comp=Z,4μm,18.9s,baz=21,slow=34						
CTAO	**Charters Tower**	**15.07**	**199**	*e*P	**P**	**01 07 33.5**	**+6.0**
CTAO				pmax	pmax		
	comp=Z,35nm,0.9s						
CTAO	**Charters Tower**	**15.07**	**199**	*e*P	**P**	**01 07 33.5**	**+5.9**
	comp=Z,35nm,0.9s						
KAKA	**Kakadu**	**20.02**	**249**	⇓*i*P	**P**	**01 08 28.1**	**-0.1**
	comp=Z,230nm,0.9s						
NOUC	**Port Laguerre**	**21.59**	**140**	*e*P	**P**	**01 08 42.5**	**-1.8**
DZM	**Mont Dzumac**	**21.66**	**140**	*e*P	**P**	**01 08 40.2**	**-4.8**
DZM	**Mont Dzumac**	**21.66**	**140**	*e*P	**P**	**01 08 40.2**	**-4.8**
WRAB	**Tennant Creek**	**21.79**	**228**	*e*P	**P**	**01 08 46.5**	**+0.2**
WRAB				*e*S	**S**	**01 12 45.4**	**+5.1**
WRAB				pmax	pmax		
	comp=Z,153nm,0.9s,mb5.4						
WRAB	**Tennant Creek**	**21.79**	**228**	*e*P	**P**	**01 08 46.5**	**+0.2**
	comp=Z,153nm,0.9s,mb5.4						
WRAB				*e*S	**S**	**01 12 45.4**	**+5.0**
WB2	**Warramunga Arr**	**21.80**	**228**	⇓*i*P	**P**	**01 08 46.5**	**+0.1**
WB2				*e*S	**S**	**01 12 44.8**	**+4.4**
WRA	**Warramunga Arr**	**21.81**	**228**	P	**P**	**01 08 46.5**	**0.0**
	comp=Z,71nm,0.9s,mb5.1,baz=52,slow=9.5,SNR=96						
WRA				S	**S**	**01 12 46.5**	**+5.9**
	comp=Z,25nm,1.2s,baz=54,slow=17,SNR=6.5						
WRA				ScP		01 16 24.6	
	comp=Z,3.9nm,1.0s,baz=45,slow=2.4,SNR=5.3						
WRA	**Warramunga Arr**	**21.81**	**228**	P	**P**	**01 08 46.5**	**0.0**
WRA				S	**S**	**01 12 46.5**	**+5.9**
WRA				ScP		01 16 24.6	
ASAR	**Alice Springs**	**24.53**	**222**	P	**P**	**01 09 14.5**	**+1.2**
	comp=Z,145nm,0.8s,mb5.5,baz=56,slow=9.0,SNR

QIZ eS S 01 19 23.4 -3.4
QIZ XS 01 19 55.8
QIZ AMB AMB
comp=Z,394nm,10.2s
QIZ LR LR
comp=N,2μm,13.5s,MS5.2
QIZ LR LR
comp=E,952nm,17.7s,MS5.2
QIZ LR LR
comp=Z,1μm,18.5s,MS4.9
NJ2 Nanjing 48.85 323 eP P **01 12 41.0 +1.2**
NJ2 AP pP 01 12 50.1 +0.4
NJ2 XP sP 01 12 55.9 +2.1
NJ2 PCP PcP 01 14 04.4 0.0
NJ2 S S **01 19 43.0 +3.1**
NJ2 AMB AMB
comp=Z,210nm,1.0s,mb6.1
NJ2 AMB AMB
comp=Z,1μm,7.3s
NJ2 LR LR
comp=N,3μm,16.1s,MS5.4
NJ2 LR LR
comp=E,2μm,17.0s,MS5.4
NJ2 LR LR
comp=Z,4μm,12.7s,MS5.6
RAR Rarotonga 49.55 113 LR LR 01 31 13.2
comp=Z,592nm,18.2s,MS4.6,baz=276,slow=33
WHN Wuhan 50.73 318 P P **01 12 55.5 +1.3**
TIA Tai'an 52.80 325 eP P **01 13 09.0 -0.7**
ENH Enshi 53.93 314 eP P **01 13 18.1 -0.1**
comp=Z,15nm,0.9s,mb4.9
MDJ Mudanjiang 53.95 341 P P **01 13 18.4 +0.3**
MDJ PCP PcP 01 14 22.3 -0.8
MDJ PP PP 01 15 20.3 -0.6
MDJ S S **01 20 47.0 -2.7**
MDJ SCS ScS 01 22 57.8 -3.5
MDJ SS SS 01 24 28.9 -1.6
MDJ AMB AMB
comp=Z,5.0nm,0.5s,mb4.7
MDJ AMB AMB
comp=Z,224nm,5.2s
MDJ LR LR
comp=N,761nm,16.1s
MDJ LR LR
comp=E,190nm,10.8s
MDJ LR LR
comp=Z,932nm,15.2s,MS5.0
BJT Baijiatuau 56.04 328 eP P **01 13 32.7 -0.6**
BJI Beijing 56.05 328 P P **01 13 33.2 -0.2**
BJI 01 15 34.3
BJI S S **01 21 23.0 +5.0**
BJI pmax pmax
comp=Z,11nm,1.4s,mb4.7
BJI MLR MLR
comp=Z,1μm,17.9s,MS5.0
BJI Beijing 56.05 328 P P **01 13 33.2 -0.2**
comp=Z,11nm,1.4s,mb4.7
BJI PP PP 01 15 34.3 -5.6
BJI S S **01 21 23.0 +5.0**
BJI SS SS 01 25 22.2 +18
BJI LR LR
comp=Z,1μm,17.9s,MS5.0
XAN Xi'an 56.49 318 P P **01 13 36.1 -0.6**
XAN S S **01 21 21.1 -2.9**
XAN AMB AMB
comp=Z,9.0nm,0.9s,mb4.8
XAN LR LR
comp=N,628nm,17.5s,MS5.0
XAN LR LR
comp=E,741nm,17.5s,MS5.0
XAN LR LR
comp=Z,1μm,17.1s,MS5.0
KMI Kunming 56.51 305 P P **01 13 38.0 +1.1**
KMI *PP pP 01 13 46.9 -0.1
KMI 01 15 41.4
KMI S S **01 21 29.2 +4.9**
KMI *SS 01 21 43.5
KMI pmax pmax
comp=Z,27nm,1.1s,mb5.2
KMI MLR MLR
comp=Z,590nm,22.2s,MS4.6
KMI Kunming 56.51 305 P P **01 13 38.0 +1.1**
comp=Z,27nm,1.1s,mb5.2
KMI pP pP 01 13 46.9 -0.1
KMI sP sP 01 13 51.0 +0.1
KMI PP PP 01 15 41.4 -2.8
KMI S S **01 21 29.2 +4.9**
KMI sS 01 21 43.5
KMI SS SS 01 25 21.3 +9.0
KMI LR LR
comp=Z,590nm,22.2s,MS4.6
CMAR Chiang Mai Arr 57.16 296 P P **01 13 42.4 +0.7**
comp=Z,5.1nm,0.7s,mb4.7,baz=114,slow=5.3,SNR=23
KLR Kul'dur 57.48 345 eP P **01 13 38.2 -5.3**
PPT Papeete 58.65 107 eSS SS 01 25 43.6 -3.4
PPT eLQ 01 28 35.0
PPT eLR LR 01 31 12.1
comp=Z,586nm,22.8s
PAE Paea 58.65 107 eP P **01 13 52.0 0.0**
comp=Z,110nm,1.4s,mb5.7
TIAR Tiarei 58.86 107 eP P **01 13 53.7 +0.1**
comp=Z,90nm,1.1s,mb5.7
PET Petropavlovsk 58.94 5 eP P **01 13 56.7 +3.1**
PET eS S **01 22 02.0 +6.2**
PET ePS PS 01 22 17.2 +2.8
PET pmax pmax
comp=Z,400nm,19.6s
PET MLR MLR
comp=Z,700nm,18.0s,MS4.8
TBI Tubuai 59.31 114 eSS SS 01 25 51.9 -5.4
TBI eLQ 01 29 08.7
TBI eLR LR 01 31 38.2
comp=Z,1μm,35.8s
MEH Mehetia 60.10 107 eP P **01 14 02.3 +0.2**
comp=Z,47nm,0.9s,mb5.5
PMOR Pomariorio Ree 60.13 104 eP P **01 14 02.5 +0.2**
PMOR epP pP 01 14 18.1 +5.7
comp=Z,311nm,1.5s
LZH Lanzhou 61.08 317 P P **01 14 09.3 +0.7**
LZH PP PP 01 16 30.0 +4.8
LZH S S **01 22 28.0 +4.4**
LZH AMB AMB
comp=Z,80nm,1.4s,mb5.7
LZH AMB AMB
comp=Z,640nm,4.8s
LZH LR LR
comp=N,2μm,17.3s
LZH LR LR
comp=Z,2μm,18.4s,MS5.2
LZH Lanzhou 61.08 317 P P **01 14 09.3 +0.7**
LZH *SP sP 01 14 50.3 +28
LZH 01 16 30.0
LZH S S **01 22 28.0 +4.4**
LZH pmax pmax
comp=Z,80nm,1.4s,mb5.7
LZH MLR MLR
comp=Z,2μm,18.4s,MS5.2
LZH Lanzhou 61.08 317 P P **01 14 09.3 +0.7**
comp=Z,80nm,1.4s,mb5.7
LZH pP pP 01 14 36.6 +18
LZH sP sP 01 14 50.3 +28
LZH PP PP 01 16 30.0 +4.8
LZH S S **01 22 28.0 +4.4**
LZH PS PS 01 23 01.2 +18
LZH sS 01 23 15.3
LZH SS SS 01 26 38.0 +13
LZH LR LR
comp=Z,2μm,18.4s,MS5.2
HIA Hailar 61.45 337 eP P **01 14 10.1 -0.8**
HIA pmax pmax
comp=Z,19nm,0.9s
HIA Hailar 61.45 337 eP P **01 14 10.1 -0.8**
comp=Z,19nm,0.9s,mb5.2
MA2 Magadan 65.20 360 eP P **01 14 32.6 -2.7**
MA2 eS S 01 23 11.3 -3.3
MA2 eSS SS 01 27 25.9 -3.2
MA2 pmax pmax
comp=Z,20nm,1.8s,mb4.8
MA2 Magadan 65.20 360 eP P **01 14 32.9 -2.4**
comp=Z,9.1nm,0.6s,mb5.0
CLNS Chul'man 66.14 344 eP P **01 14 39.1 -2.2**
CLNS e 01 15 06.8
CLNS ePPP PPP 01 18 41.8 -2.7
CLNS eS S 01 23 28.8 +2.8
CLNS ePS PS 01 24 00.2 +7.9

CLNS e 01 24 29.6
CLNS eSS SS 01 27 47.4 +4.0
CLNS pmax pmax
comp=Z,14nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,4.0nm,0.7s
CLNS pmax pmax
comp=E,3.0nm,0.6s
CLNS pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
CLNS pmax pmax
comp=N,4.0nm,1.7s
CLNS smax
comp=N,184nm,12.5s
CLNS smax
comp=E,63nm,15.3s
ULN Ulaanbaatar 66.20 329 eP P **01 14 42.0 +0.1**
ULN pmax pmax
comp=Z,22nm,1.1s,mb5.1
ULN Ulaanbaatar 66.20 329 eP P **01 14 42.0 +0.1**
comp=Z,22nm,1.1s,mb5.1
SONM Songino Array 66.52 329 P P **01 14 44.6 +0.6**
comp=Z,18nm,1.1s,mb5.0,baz=135,slow=5.2,SNR=57
TAOE Nuku Hiva Isla 67.77 97 eLR LR 01 35 18.3
LSA Lhasa 67.77 305 P P **01 14 52.0 -0.1**
LSA AMB AMB
comp=Z,24nm,1.0s,mb5.2
LSA Lhasa 67.77 305 eP P **01 14 52.9 +0.8**
LSA pmax pmax
comp=Z,14nm,0.8s,mb5.0
LSA Lhasa 67.77 305 eP P **01 14 52.9 +0.8**
comp=Z,14nm,0.8s,mb5.0
SEY Seymchan 68.57 0 eP P **01 14 54.1 -2.4**
SEY 01 15 17.3
SEY eS S 01 23 56.3 +1.1
SEY SS SS 01 28 26.9 +5.7
SEY pmax pmax
comp=Z,30nm,1.2s,mb5.1
SEY smax
comp=N,280nm,14.7s
SEY smax
comp=E,860nm,20.0s
SEY MLR MLR
comp=Z,2μm,20.0s,MS5.2
SEY MLR MLR
comp=N,1μm,18.0s,MS5.2
SEY MLR MLR
comp=E,190nm,18.0s,MS5.2
ZAK Zakamensk 69.71 329 ⇑ iP P **01 15 03.1 -0.6**
YAK Yakutsk 69.73 349 eP P **01 15 00.5 -3.2**
YAK pmax pmax
comp=Z,13nm,1.1s,mb4.8
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,1.2s
YAK MLR MLR
comp=Z,281nm,18.0s,MS4.5
YAK MLR MLR
comp=N,273nm,14.0s,MS4.7
YAK MLR MLR
comp=E,246nm,18.0s,MS4.7
YAK Yakutsk 69.73 349 eP P **01 15 02.2 -1.5**
comp=E,43nm,1.2s,mb5.2
BOD Bodaibo 70.30 340 eP P **01 15 05.6 -1.6**
TLY Talaya 70.33 331 P P **01 15 07.7 +0.2**
comp=E,53nm,1.2s,mb5.3,SNR=12
TLY Talaya 70.33 331 eP P **01 15 07.5 0.0**
TLY eS S 01 24 10.0 -6.1
TLY pmax pmax
comp=Z,12nm,1.2s,mb4.7
TLY MLR MLR
comp=Z,681nm,19.0s,MS4.9
TLY Talaya 70.33 331 eP P **01 15 07.3 -0.2**
comp=Z,14nm,1.2s,mb4.8
IRK Irkutsk 70.38 331 eP P **01 15 06.4 -1.4**
VIS Vishakhapatnam 71.22 291 eP P **01 15 15.9 +2.4**
VIS e 01 15 19.6
comp=Z,44nm,1.5s
JIRN Jiri 71.23 302 eP P **01 15 13.3 0.0**
comp=Z,144nm,1.5s,mb5.7
MOY Mondy 71.64 330 eP P **01 15 16.1 +0.7**
VNDA Vanda 71.86 178 P P **01 15 16.2 -0.1**
comp=Z,7.4nm,0.6s,mb4.8,baz=329,slow=7.4,SNR=14
VNDA LR LR 01 45 44.8
comp=Z,378nm,18.2s,MS4.7,baz=350,slow=35
VNDA Vanda 71.86 178 P P **01 15 16.2 -0.1**
VNDA LR LR 01 45 44.8
PKI Pulchoki 71.86 301 eP P **01 15 16.9 -0.2**
comp=Z,89nm,1.4s,mb5.5
KKN Kakani 72.03 302 eP P **01 15 18.2 +0.1**
comp=Z,43nm,0.9s,mb5.4
DMN Daman 72.13 301 eP P **01 15 19.2 +0.5**
comp=Z,92nm,1.1s,mb5.6
GKN Gorkha 72.64 302 eP P **01 15 21.3 -0.5**
comp=Z,74nm,0.9s,mb5.6
KOLN Koldanda 73.46 301 eP P **01 15 26.5 -0.2**
comp=Z,89nm,1.3s,mb5.5
BILL Bilibino 74.43 6 eP P **01 15 30.4 -1.1**
BILL pmax pmax
comp=Z,31nm,1.1s,mb5.2
BILL Bilibino 74.43 6 eP P **01 15 30.4 -1.1**
comp=Z,31nm,1.1s,mb5.2
HYB Hyderabad 75.62 290 eP P **01 15 39.0 -0.3**
HYB Hyderabad 75.62 290 i P P **01 15 39.0 -0.3**
WMQ Urumqi 75.63 318 eP P **01 15 39.0 +0.1**
WMQ PP PP 01 18 32.0 +1.5
WMQ AMB AMB
comp=Z,51nm,1.4s,mb5.3
WMQ AMB AMB
comp=Z,248nm,5.4s
TRD Trivandrum 75.69 280 eP P **01 15 38.6 -1.2**
TRD e 01 15 45.9
comp=Z,66nm,1.4s
TRD i 01 22 11.4
TNA Tin City 77.13 16 eP P **01 15 46.9 0.0**
comp=Z,12nm,1.1s,mb4.7
ANM Nome 77.14 18 eP P **01 15 48.6 +1.6**
BHPL Bhopal 77.80 295 eP P **01 15 49.8 -1.7**
BHPL e 01 15 54.3
comp=Z,28nm,1.0s
SVW2 Sparrevohn 78.27 23 eP P **01 15 54.2 +0.9**
TIXI Tiksi 78.75 353 eP P **01 15 53.6 -2.1**
TIXI eS S 01 26 00.9 +11
TIXI pmax pmax
comp=Z,13nm,1.1s,mb4.8
TIXI MLR MLR
comp=Z,902nm,18.0s,MS5.2
DDI Dehra Dun 78.80 302 e P **01 15 56.8 0.0**
RSO Redoubt South 79.05 25 eP P **01 15 57.2 -0.3**
NDI New Delhi 79.14 301 eP P **01 15 57.0 -1.7**
NDI e 01 23 04.0
KAD Karad 79.71 289 eP P **01 16 01.0 -1.0**
SLKM Skilak Lake 80.14 25 eP P **01 16 03.2 -0.2**
FIB Fire Island 80.50 25 eP P **01 16 06.0 +0.7**
AJM Ajmer 80.92 298 eP P **01 16 06.7 -1.6**
AJM e 01 16 10.3
comp=Z,39nm,1.2s
PMR Palmer 81.15 25 eP P **01 16 08.8 +0.1**
PMR pmax pmax
comp=Z,132nm,1.4s,mb5.7
PMR Palmer 81.15 25 eP P **01 16 08.8 +0.1**
comp=Z,132nm,1.4s,mb5.7
ZAL Zalesovo 81.31 327 P P **01 16 09.2 -0.5**
comp=Z,5.8nm,0.7s,mb4.6,baz=274,slow=6.4,SNR=30
ZAL LR LR 01 55 49.5
comp=Z,1μm,18.5s,MS5.2,baz=279,slow=38
SML Sawmill 81.58 25 eP P **01 16 10.8 -0.2**
IMA Indian Mountai 81.85 20 eP P **01 16 13.5 +1.2**
IMA pmax pmax
comp=Z,43nm,1.0s,mb5.3
IMA Indian Mountai 81.85 20 eP P **01 16 13.5 +1.2**
comp=Z,43nm,1.0s,mb5.3
MCK McKinley 82.30 23 eP P **01 16 14.0 -0.7**
MCK pmax pmax
comp=Z,104nm,1.1s,mb5.7
MCK McKinley 82.30 23 eP P **01 16 14.0 -0.7**
comp=Z,104nm,1.1s,mb5.7
DIV Divide 82.35 26 eP P **01 16 15.3 +0.4**
comp=Z,343nm,1.2s,mb6.2
NVS Novosibirsk 82.49 327 i P P **01 16 14.5 -1.3**
NVS pmax pmax
comp=Z,31nm,1.9s,mb4.9
NVS pmax pmax
comp=N,14nm,1.8s
NVS pmax pmax

comp=E,17nm,1.8s
COLA College 83.28 22 ⇓ iP P **01 16 18.6 -1.0**
COLA College 83.28 22 eP P **01 16 19.6 0.0**
comp=E,108nm,1.0s,mb5.8
THY Trims Highway 83.40 24 eP P **01 16 21.0 +0.7**
ILAR Eielson Array 83.59 22 P P **01 16 20.4 -0.8**
comp=E,34nm,0.8s,mb5.5,baz=260,slow=5.0,SNR=177
ILAR PKKPbc 01 34 39.2
comp=E,0.3nm,0.7s,baz=5.8,slow=1.9,SNR=4.4
KZA Kyzart 83.77 313 P P **01 16 24.4 +1.7**
SNR=16
KURK Kurchatov 83.79 322 eP P **01 16 21.5 -1.0**
KURK pmax pmax
comp=Z,22nm,1.0s,mb5.2
KURK Kurchatov 83.79 322 eP P **01 16 21.5 -1.0**
comp=Z,22nm,1.0s,mb5.2
MENT Mentasta 84.01 25 eP P **01 16 24.2 +0.8**
MAW Mawson 84.13 203 ⇑ iP P **01 16 24.4 +0.5**
comp=Z,18nm,1.1s,mb5.1
MAW Mawson 84.13 203 ⇑ iP P **01 16 24.4 +0.5**
MAW pmax pmax
comp=Z,18nm,1.1s
MAW Mawson 84.13 203 P P **01 16 24.2 +0.3**
comp=Z,16nm,0.9s,mb5.1,baz=80,slow=6.7,SNR=13
MAW LR LR 01 53 54.5
comp=Z,621nm,18.2s,MS5.0,baz=76,slow=36
QSPA South Pole Qui 84.14 180 eP P **01 16 24.0 +0.3**
comp=Z,108nm,1.1s,mb5.9
CHMS Chumysh 84.34 314 P P **01 16 26.1 +0.6**
SNR=17
FRU Bishkek 84.40 314 eP P **01 16 26.5 +0.7**
FRU pmax pmax
comp=Z,80nm,1.8s,mb5.5
AAK Ala-Archa 84.44 314 P P **01 16 30.7 +4.7**
SNR=8.7
AAK Ala-Archa 84.44 314 ⇓ iP P **01 16 26.2 +0.1**
AAK pmax pmax
comp=Z,36nm,1.6s,mb5.2
AAK Ala-Archa 84.44 314 eP P **01 16 24.9 -1.1**
comp=Z,18nm,0.9s,mb5.2
USP Ospenovka 84.58 314 P P **01 16 27.3 +0.5**
SNR=22
AML Almayashu 84.91 313 P P **01 16 30.2 +1.8**
SNR=16
EKS2 Erkin-Say 84.97 314 P P **01 16 29.9 +1.2**
SNR=8.5
DAWY Dawson 86.25 24 ⇓ eP P **01 16 35.2 +0.8**
DLBC Dease Lake 88.92 31 eP P **01 16 49.1 +1.6**
CHKZ Chkalovo 89.28 324 eP P **01 16 47.7 -1.6**
CHKZ pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
CHKZ Chkalovo 89.28 324 eP P **01 16 47.7 -1.6**
comp=Z,7.8nm,0.8s,mb5.1
BVAR Borovoye Array 89.29 323 P P **01 16 48.6 -0.7**
comp=Z,7.7nm,0.7s,mb5.1,baz=104,slow=6.1,SNR=49
BRVK Borovoye 89.36 323 eP P **01 16 48.5 -1.2**
BRVK pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
BRVK Borovoye 89.36 323 eP P **01 16 48.5 -1.2**
comp=Z,9.3nm,0.9s,mb5.1
INK Inuvik 89.87 21 eP P **01 16 51.6 -0.1**
INK pmax pmax
comp=Z,116nm,1.3s
INK Inuvik 89.87 21 LR LR 01 55 00.5
comp=Z,576nm,19.9s,MS5.0,baz=249,slow=34
INK Inuvik 89.87 21 eP P **01 16 51.6 -0.1**
comp=Z,116nm,1.3s,mb6.0
HUMO Hull Mountain 90.62 47 eP P **01 16 56.0 +0.1**
comp=Z,23nm,1.1s,mb5.4
YBH Yreka Blue Hor 90.69 48 P P **01 16 56.9 +0.7**
comp=Z,11nm,1.1s,mb5.1,baz=138,slow=6.4,SNR=9.8
OHCM Honcut 91.34 51 P P **01 16 58.7 -0.6**
SYO Syowa Base 92.28 200 ⇓ iP P **01 17 02.9 0.0**
MOD Modoc 92.50 48 eP P **01 17 04.6 +0.1**
comp=Z,19nm,1.2s,mb5.3
WCN Washoe City 92.67 51 eP P **01 17 05.8 +0.4**
WCN pmax pmax
comp=Z,16nm,1.1s,mb5.4
WCN Washoe City 92.67 51 eP P **01 17 05.8 +0.4**
comp=Z,16nm,1.1s,mb5.4
OMM Old Mammoth Mi 93.11 53 eP P **01 17 07.7 +0.2**
NVAR Mina Array Bea 93.72 52 P P **01 17 11.6 +1.4**
comp=Z,11nm,1.0s,mb5.2,baz=258,slow=5.0,SNR=46
NVAR Mina Array Bea 93.72 52 P P **01 17 11.6 +1.4**
MNV Mina 93.84 52 eP P **01 17 11.2 +0.5**
MNV pmax pmax
comp=Z,21nm,1.2s,mb5.4
MNV Mina 93.84 52 eP P **01 17 11.2 +0.5**
comp=Z,21nm,1.2s,mb5.5
PFO Pinyon Flat Ob 94.88 57 eP P **01 17 16.2 +0.6**
PFO pmax pmax
comp=Z,13nm,1.2s,mb5.2
PFO Pinyon Flat Ob 94.88 57 eP P **01 17 16.2 +0.6**
comp=Z,13nm,1.2s,mb5.2
BMO Blue Mountains 94.90 46 eP P **01 17 15.1 -0.3**
BMO pmax pmax
comp=Z,11nm,1.3s,mb5.1
BMO Blue Mountains 94.90 46 eP P **01 17 15.1 -0.3**
comp=Z,11nm,1.3s,mb5.1
TRCR Troy Canyon 95.85 52 eP P **01 17 21.5 +1.6**
NEN Nelson 96.32 55 eP P **01 17 23.2 +1.1**
ARU Arti 96.45 326 eP P **01 17 14.0 -8.1**
YKW3 Yellowknife Ar 96.92 28 eP P **01 17 24.1 -0.1**
YKA Yellowknife Ar 96.93 28 P P **01 17 24.9 +0.7**
comp=Z,3.1nm,0.8s,mb4.8,baz=269,slow=4.3,SNR=46
YKA PKKPbc 01 34 05.3
comp=Z,0.6nm,0.8s,baz=86,slow=2.8,SNR=15
HLID Hailey 96.93 47 eP P **01 17 25.3 +0.6**
comp=Z,2.3nm,0.8s,mb4.7
ARUT Antelope Range 97.52 53 eP P **01 17 28.5 +1.0**
EDM Edmonton 97.71 37 eP P **01 17 26.4 -1.6**
MVU Marysvale 98.50 52 eP P **01 17 32.2 +0.3**
MSU Marysvale 98.53 52 eP P **01 17 32.1 +0.1**
WUAZ Wupatki 99.14 55 ePdif P **01 17 36.4 +1.6**
comp=Z,101nm,1.0s,mb6.3
TMUT Trail Mountain 99.29 51 ePdif P **01 17 36.2 +0.8**
PDAR Pinedale Array 100.48 48 P P 01 17 40.8 -0.1
comp=Z,2.2nm,0.9s,baz=270,slow=3.0,SNR=14
PDAR PP PP 01 21 46.9 -3.5
comp=Z,1.7nm,1.0s,baz=270,slow=4.4,SNR=7.1
PV10 Paradox Valley 101.00 52 eP P 01 17 43.9 +0.7
RES Resolute Bay 101.72 14 eP P 01 17 45.5 -0.1
RES pmax pmax
comp=Z,25nm,1.4s
RES Resolute Bay 101.72 14 eP P 01 17 45.5 -0.1
comp=Z,25nm,1.4s
RW3 Ridgway 102.06 52 P Pdif 01 17 48.5 +0.5
ARCES ARCESS Array B 107.47 343 PKiKP 01 22 22.8
comp=Z,1.1nm,0.8s,baz=90,slow=1.2,SNR=3.6
ARCES ARCESS Array B 107.47 343 PKPdf 01 22 22.8
OBN Obninsk 108.88 327 eP Pdif 01 18 25.6 +8.0
OBN eSS SS 01 38 12.3 +6.6
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN MLR MLR
comp=Z,300nm,17.0s,MS4.9
AKASG Malin Array Be 114.57 324 PKIKP PKPdf 01 22 33.5 +1.3
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 114.57 324 PKP PKPdf 01 22 33.5 +1.3
comp=Z,0.5nm,0.4s,baz=51,slow=2.1,SNR=5.7
BRTR Keskin Array B 115.02 311 PKP PKPdf 01 22 34.8 +1.5
comp=Z,1.4nm,1.0s,slow=1.2,SNR=6.5
NOA NORSAR Array B 117.43 339 PKP PKPdf 01 22 37.6 +0.2
comp=Z,0.9nm,0.8s,baz=326,slow=24,SNR=3.3
LSZ Lusaka 120.07 249 ePKIKP PKPdf 01 22 44.8 +1.2
MYNC Murphy 121.22 52 eP Pdif 01 19 12.8 +0.4
OKC Ostrava-Krasne 121.28 327 ePKPdf PKPdf 01 22 46.5 +1.3
DPC Dobruska-Polom 121.98 328 ePKPdf PKPdf 01 22 48.0 +1.5
PVCC Panska Ves 122.80 329 ePKPdf PKPdf 01 22 49.4 +1.3
PKSM Moragy 122.86 323 ⇑ iPKIKP PKPdf 01 22 49.9 +1.5
BRG Berggiesshubel 122.91 329 ePKIKP PKPdf 01 22 50.3 +2.0
IDI Anoyia 122.93 309 PKP PKPdf 01 22 50.2 +1.4
comp=Z,23nm,1.0s,baz=40,slow=4.5,SNR=4.3
SKO Skopje 123.01 317 i P PKPdf 01 22 49.9 +1.1
DIVS Divcibare 123.03 320 ⇓ iPKP PKPdf 01 22 50.4 +1.6
CLL Collm 123.12 330 ePKIKP PKPdf 01 22 51.0 +2.3
PRU Pruhonice 123.13 328 ePKPdf PKPdf 01 22 47.5 -1.3
NKC Novy Kostel 124.06 329 ePKPdf PKPdf 01 22 52.1 +1.6
KHC Kasperske Hory 124.14 328 ePKPdf PKPdf 01 22 52.4 +1.7
KHC epPKP 01 23 04.0
MOX Moxa 124.22 330 ePKIKP PKPdf 01 22 54.0 +3.2
MOX MLR MLR
comp=Z,400nm,19.0s,MS5.1
GERES GERESS Array B 124.24 328 PKP PKPdf 01 22 52.4 +1.4
comp=Z,1.8nm,0.7s,slow=1.3,SNR=14

GRA1	**Grafenberg Arr**	**125.01**	**330**	*e*PKPdf	PKPdf	01 22 53.9	+1.5
GRF	**Grafenberg Arr**	**125.01**	**330**	*e*PKIKP	PKPdf	01 22 53.9	+1.5
BOJS	**Bojanci**	**125.26**	**323**	*e*P	PKPdf	01 22 54.2	+1.2
VISS	**Visnje**	**125.34**	**324**	*e*P	PKPdf	01 22 54.1	+1.0
LJU	**Ljubljana**	**125.39**	**324**	*e*P	PKPdf	01 22 54.3	+1.1
EKA	**Eskdalemuir Ar**	**126.63**	**342**	PKP	PKPdf	01 22 56.4	+1.0
	comp=Z,1.7nm,0.8s,baz=11,slow=3.6,SNR=3.3						
CABF	**La Chapelle**	**129.63**	**329**	*e*PKIKP	PKPdf	01 23 00.4	-0.9
OTAV	**Otavalo**	**129.82**	**95**	*e*P	PKPdf	01 23 03.8	+1.2
LPG	**La Plagne**	**130.03**	**328**	*e*PKIKP	PKPdf	01 23 01.8	-0.3
	comp=Z,16nm,1.0s						
LPAZ	**La Paz**	**135.04**	**120**	PKIKP	PKPdf	01 23 11.9	-0.4
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LPAZ	**La Paz**	**135.04**	**120**	PKP	PKPdf	01 23 11.9	-0.4
	comp=Z,2.3nm,0.9s,baz=177,slow=2.2,SNR=4.2						
LPAZ	**La Paz**	**135.04**	**120**	*e*PKPdf	PKPdf	01 23 11.2	-1.1
CPUP	**Villa Florida**	**137.53**	**140**	PKP	PKPdf	01 23 16.2	-0.5
	comp=Z,0.0nm,0.3s,baz=258,slow=13,SNR=1.9						
EVO	**Evora**	**142.52**	**333**	*e*PKIKP	PKPdf	01 23 22.8	-2.4
	comp=Z,17nm,1.1s						
BAO	**Brasilia Array**	**151.23**	**138**	P	PKPdf	01 23 43.1	+2.9
BAO				*e*		01 23 48.5	
BAO				*i*		01 24 11.0	
DBIC	**Dimbokro**	**156.50**	**273**	PKP	PKPdf	01 23 49.2	+1.7
	comp=Z,5.5nm,1.1s,baz=100,slow=3.4,SNR=3.5						
DBIC				PKPab	PKPab	01 24 18.9	+0.1
	comp=Z,21nm,1.0s,baz=100,slow=6.1,SNR=5.7						
DBIC	**Dimbokro**	**156.50**	**273**	PKP	PKPdf	01 23 49.2	+1.7
DBIC				PKPab	PKPab	01 24 18.9	+0.1

IDC 23 01:13:06.2±2.0, 5.99S×152.17E, mb3.6/3, mb1 4.0/3, mb1mx3.7/12, mbtmp3.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/21, Error ellipse: s-maj=127.0km s-min=30.0km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.20**	**230**	P	P	01 18 04.7	-1.2
	0.3nm,0.4s,baz=55,slow=10.0,SNR=4.6						
ASAR	**Alice Springs**	**24.85**	**223**	P	P	01 18 30.4	-1.6
	1.6nm,0.5s,baz=56,slow=9.1,SNR=12						
ASAR				LR	LR	01 28 17.9	
	comp=Z,62nm,21.9s,baz=159,slow=37						
ILAR	**Eielson Array**	**83.49**	**22**	P	P	01 25 35.7	-1.2
	0.4nm,0.8s,baz=243,slow=5.5,SNR=5.7						

*BJI **23** 01:17:23.9, 6.85N×93.68E, h38km, mB5.4, mb4.7, Ms4.6, Msz4.3*
*IDC **23** 01:17:31.6±4.4, 7.80N×94.09E, h26km±29km, mb4.0/18, mb1 4.2/19, mb1mx4.1/22, mbtmp4.2/19, ML4.4/1, MS3.9/1, Ms1 4.1/1, ms1mx2.9/25, Error ellipse: s-maj=26.7km s-min=12.7km az=61.0*
*MOS **23** 01:17:31.5±2.0, 7.90N×94.13E, h33km, mb4.9/10, Error ellipse: s-maj=16.4km s-min=8.6km az=97.7*
*NEIC **23** 01:17:32.8±1.2, 7.75N×94.09E, h38km±10km, mb4.7/15, Error ellipse: s-maj=10.3km s-min=8.5km az=52.0*
ISC 23 01:17:30.3±0.4, 7.77N±0.06×94.05E±0.06, h33km, n78, σ1§12/75, mb4.6/44, MS4.7/3, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.53**	**95**	P	P	01 19 06.5	-0.1
	290nm,0.9s						
NNT	**Nongplab**	**7.36**	**49**	P	P	01 19 17.5	-0.7
CM31	**Chiang Mai Arr**	**11.64**	**24**	*e*P	P	01 20 17.6	+0.4
CMAR	**Chiang Mai Arr**	**11.64**	**24**	Pn	P	01 20 17.6	+0.3
	0.8nm,0.3s,baz=211,slow=14,SNR=54						
CMAR				LR	LR	01 24 53.0	
	comp=Z,517nm,18.1s,baz=215,slow=38						
PALK	**Pallekele**	**13.25**	**269**	Pn	P	01 20 36.9	-1.8
PALK				*e*Sn	S	01 22 54.8	-11
SHL	**Shillong**	**17.82**	**354**	*e*P	P	01 21 35.0	-2.5
HYB	**Hyderabad**	**17.90**	**304**	*e*P	P	01 21 41.5	+3.0
HYB	**Hyderabad**	**17.90**	**304**	*i* P	P	01 21 41.5	+3.0
HYB				*e*S	S	01 24 48.5	-5.7
KMI	**Kunming**	**19.15**	**25**	P	P	01 21 56.8	+3.1
KMI				pP		01 22 05.8	
JIRN	**Jiri**	**21.14**	**340**	*e*P	P	01 22 15.0	+0.2
	74nm,0.8s,mb5.0						
PKI	**Pulchoki**	**21.33**	**338**	*e*P	P	01 22 16.5	-0.2
	80nm,1.0s,mb5.0						
DMN	**Daman**	**21.48**	**338**	*e*P	P	01 22 18.0	-0.2
	79nm,0.9s,mb5.1						
KKN	**Kakani**	**21.58**	**338**	*e*P	P	01 22 19.2	0.0
	188nm,1.5s,mb5.3						
LSA	**Lhasa**	**21.99**	**353**	*e*P	P	01 22 22.3	-1.0
	40nm,0.8s,mb4.9						
GKN	**Gorkha**	**22.01**	**337**	*e*P	P	01 22 23.2	-0.3
	63nm,0.7s,mb5.2						
KOLN	**Koldanda**	**22.22**	**335**	*e*P	P	01 22 26.9	+1.3
	80nm,0.9s,mb5.2						
NJ2	**Nanjing**	**33.41**	**40**	*e*P	P	01 24 09.9	+1.8
NJ2				AP	pP	01 24 19.1	+1.3
NJ2				XP	sP	01 24 24.4	+2.3
NJ2				PP	PP	01 25 22.9	+2.5
NJ2				S	S	01 29 30.0	+4.0
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,690nm,5.1s						
NJ2				LR	LR		
	comp=N,1μm,11.5s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,15.7s,MS5.0						
NJ2				LR	LR		
	comp=Z,2μm,19.6s,MS4.8						
SSE	**Sheshan**	**34.36**	**44**	*e*P	P	01 24 15.8	-0.5
SSE				AMB	AMB		
	comp=Z,21nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,148nm,3.5s						
SSE	**Sheshan**	**34.36**	**44**	*e*P	P	01 24 15.8	-0.5
	comp=Z,21nm,0.7s,mb5.2						
WMQ	**Urumqi**	**36.34**	**352**	*e*P	P	01 24 33.0	-0.1
AAK	**Ala-Archa**	**38.77**	**337**	*i* P	P	01 24 52.8	-0.6
AAK				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.4						
AAK	**Ala-Archa**	**38.77**	**337**	*e*P	P	01 24 50.9	-2.5
	comp=Z,12nm,1.2s,mb4.5						
SONM	**Songino Array**	**41.28**	**13**	P	P	01 25 14.7	+0.5
	comp=Z,2.0nm,0.8s,mb3.8,baz=196,slow=7.4,SNR=14						
SONM				PcP	PcP	01 27 13.7	+0.6
	comp=Z,0.9nm,0.9s,baz=196,slow=3.9,SNR=4.4						
SONM				ScP		01 31 01.0	
	comp=Z,0.5nm,0.8s,baz=198,slow=3.9,SNR=3.8						
ULN	**Ulaanbaatar**	**41.46**	**13**	*i* P	P	01 25 16.5	+0.9
ULN	**Ulaanbaatar**	**41.46**	**13**	P	P	01 25 15.1	-0.5
	comp=Z,2.2nm,0.8s,mb3.8						
ZAK	**Zakamensk**	**43.17**	**9**	*e*P	P	01 25 26.0	-3.6
ZAK				*e*		01 27 21.2	
KURK	**Kurchatov**	**44.69**	**346**	*i* P	P	01 25 41.7	-0.2
KURK	**Kurchatov**	**44.69**	**346**	*e*P	P	01 25 41.5	-0.4
	comp=Z,22nm,1.1s,mb4.9						
NWAO	**Narrogin (SRO)**	**46.09**	**153**	P	P	01 25 53.9	+0.5
	comp=Z,3.8nm,0.6s,mb4.5,baz=339,slow=9.7,SNR=5.6						
NWAO	**Narrogin (SRO)**	**46.09**	**153**	*e*P	P	01 25 53.7	+0.3
	comp=Z,3.1nm,0.6s,mb4.4						
ZAL	**Zalesovo**	**46.64**	**352**	P	P	01 25 57.1	-0.2
	comp=Z,11nm,0.7s,mb4.9,baz=216,slow=5.0,SNR=25						
NVS	**Novosibirsk**	**47.74**	**352**	*e*P	P	01 26 04.6	-1.3
NVS				*e*		01 26 16.7	
NVS				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
NVS				pmax	pmax		
	comp=N,17nm,1.2s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.0s						
WRA	**Warramunga Arr**	**48.27**	**125**	P	P	01 26 09.8	-0.7
	comp=E,1.3nm,0.6s,mb4.1,baz=304,slow=8.6,SNR=8.3						
WRAB	**Tennant Creek**	**48.27**	**125**	*e*P	P	01 26 09.1	-1.5
	comp=E,2.1nm,0.5s,mb4.4						
BVAR	**Borovoye Array**	**49.06**	**341**	P	P	01 26 16.3	+0.1
	comp=E,2.7nm,0.9s,mb4.3,baz=141,slow=9.5,SNR=10.0						
BRVK	**Borovoye**	**49.12**	**341**	*e*P	P	01 26 15.9	-0.8
	comp=E,5.7nm,1.1s,mb4.5						
CHKZ	**Chkalovo**	**49.55**	**342**	*e*P	P	01 26 18.9	-1.1
	comp=E,13nm,1.0s,mb4.9						
ASAR	**Alice Springs**	**49.91**	**130**	P	P	01 26 22.2	-0.9
	comp=E,1.4nm,0.8s,mb4.0,baz=312,slow=7.0,SNR=8.7						
ASAR				PcP	PcP	01 27 43.3	-0.1
	comp=E,1.5nm,0.7s,baz=312,slow=3.5,SNR=6.3						
BOD	**Bodaibo**	**52.27**	**13**	*e*P	P	01 26 38.8	-1.7
GNI	**Garni**	**54.45**	**314**	P	P	01 26 57.8	+0.9
	comp=E,2.4nm,0.8s,mb4.2,baz=232,slow=12,SNR=2.9						
ARU	**Arti**	**55.95**	**337**	⇑*i*P	P	01 27 02.6	-4.9
ARU				*e*		01 27 59.9	
ARU				*e*S	S	01 34 48.0	-3.6
ARU				*e*SS	SS	01 38 34.5	-3.0
ARU				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
ARU	**Arti**	**55.95**	**337**	*e*P	P	01 27 03.7	-3.9
	comp=Z,9.0nm,1.2s,mb4.7						
YSS	**Yuzh-Sakhalins**	**56.92**	**38**	P	P	01 27 22.0	+7.4
KIV	**Kislovodsk**	**57.34**	**318**	*e*P	P	01 27 19.9	+2.3
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
KIV	**Kislovodsk**	**57.34**	**318**	*e*P	P	01 27 19.2	+1.6
	comp=Z,14nm,1.3s,mb4.8						
SOC	**Sochi**	**59.20**	**317**	*e*P	P	01 27 25.9	-4.7
SOC				*e*		01 28 13.8	
SOC				*e*PPP	PPP	01 31 02.9	-5.1
SOC				*e*S	S	01 35 34.1	-0.2
SOC				*e*		01 37 14.4	
SOC				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
SOC				pmax	pmax		
	comp=N,23nm,1.1s						
SOC				pmax	pmax		
	comp=E,6.0nm,0.9s						
STKA	**Stephens Creek**	**60.09**	**134**	P	P	01 27 36.5	-0.4
	comp=E,0.7nm,0.6s,mb3.9,baz=291,slow=8.6,SNR=3.0						
YAK	**Yakutsk**	**60.12**	**18**	*i* P	P	01 27 37.2	+0.5
YAK				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
BRTR	**Keskin Array B**	**62.43**	**311**	P	P	01 27 50.9	-1.7
	comp=Z,3.8nm,1.2s,mb4.4,baz=135,slow=6.5,SNR=7.8						
OBN	**Obninsk**	**65.42**	**328**	*i* P	P	01 28 10.6	-1.3
OBN				*i*		01 28 15.7	
OBN				pmax	pmax		
	comp=Z,26nm,1.7s,mb5.0						
OBN				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.4						
MA2	**Magadan**	**66.90**	**28**	*e*P	P	01 28 21.9	+0.7
MA2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
TIXI	**Tiksi**	**67.35**	**11**	*e*P	P	01 28 23.9	0.0
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,425nm,14.0s,MS4.8						
AKASG	**Malin Array Be**	**68.18**	**322**	P	P	01 28 29.8	+0.4
	comp=Z,0.4nm,0.3s,mb3.9,baz=84,slow=4.7,SNR=3.5						
JOF	**Joensuu**	**70.91**	**334**	*e*pkp	P	01 28 45.3	-0.6
FINES	**FINESS Array B**	**72.77**	**332**	P	P	01 28 56.5	-0.4
	comp=Z,3.5nm,0.7s,mb4.4,baz=225,slow=2.7,SNR=12						
KAF	**Kangasniemi**	**72.85**	**333**	*e*pkp	P	01 28 54.2	-3.2
OKC	**Ostrava-Krasne**	**75.02**	**319**	*e*P	P	01 29 16.0	+5.7
ARCES	**ARCESS Array B**	**75.34**	**340**	P	P	01 29 11.8	+0.1
	comp=Z,3.0nm,0.8s,mb4.3,baz=95,slow=6.9,SNR=7.0						
BILL	**Bilibino**	**76.22**	**22**	*e*P	P	01 29 18.2	+1.4
BILL				*e*		01 32 09.7	
BILL				*e*S	S	01 39 02.0	+4.6
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
DPC	**Dobruska-Polom**	**76.23**	**320**	*e*P	P	01 29 21.4	+4.2
BRG	**Berggiesshubel**	**77.78**	**320**	*e*P	pP	01 29 33.2	-3.0
BRG				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.5						
BRG	**Berggiesshubel**	**77.78**	**320**	*e*P	pP	01 29 33.2	-3.0
	comp=Z,8.1nm,1.4s						
GERES	**GERESS Array B**	**77.85**	**318**	P	P	01 29 26.8	+0.5
	comp=Z,1.4nm,0.6s,mb4.0,baz=90,slow=5.3,SNR=14						
KHC	**Kasperske Hory**	**77.94**	**319**	*e*P	P	01 29 28.8	+2.0
MAW	**Mawson**	**78.41**	**192**	P	P	01 29 30.4	+1.4
	comp=Z,5.1nm,0.7s,mb4.5,baz=70,slow=9.8,SNR=8.4						
HFS	**Hagfors**	**78.50**	**330**	P	P	01 29 30.8	+1.1
	baz=100,slow=8.8						
NB2	**NORSAR Subarra**	**79.78**	**331**	P	P	01 29 37.2	+0.6
	comp=Z,9.8nm,1.2s,mb4.6,baz=93,slow=5.6						
NOA	**NORSAR Array B**	**79.78**	**331**	P	P	01 29 37.5	+0.9
	comp=Z,4.1nm,1.0s,mb4.3,baz=91,slow=5.8,SNR=6.5						
LPG	**La Plagne**	**82.63**	**315**	*e*P	P	01 29 53.2	+1.4
	comp=Z,15nm,0.9s,mb4.7						
EKA	**Eskdalemuir Ar**	**87.76**	**325**	P	P	01 30 17.4	+0.3
	comp=Z,2.0nm,1.0s,mb4.3,baz=60,slow=5.7,SNR=3.0						
ESDC	**Sonseca Array**	**91.22**	**310**	P	P	01 30 35.6	+1.8
	comp=Z,0.7nm,0.7s,mb4.1,baz=90,slow=5.1,SNR=4.4						
ILAR	**Eielson Array**	**94.88**	**22**	P	P	01 30 50.1	+0.2
	comp=Z,0.3nm,0.7s,mb3.8,baz=316,slow=4.4,SNR=4.8						
NVAR	**Mina Array Bea**	**125.05**	**31**	PKP	PKPdf	01 36 31.1	+3.3
	comp=Z,1.1nm,0.7s,baz=274,slow=1.7,SNR=7.3						
PDAR	**Pinedale Array**	**125.30**	**21**	PKP	PKPdf	01 36 29.7	+1.5
	comp=Z,0.5nm,0.7s,baz=180,slow=3.0,SNR=5.9						
PLCA	**Paso Flores**	**144.42**	**200**	PKP	PKPdf	01 37 05.3	+1.8
	comp=Z,4.3nm,0.9s,baz=203,slow=7.8,SNR=7.9						
PLCA	**Paso Flores**	**144.42**	**200**	*e*PKPdf	PKPdf	01 37 04.9	+1.4
PLCA				PKP	PKPdf	01 37 05.3	+1.8
CPUP	**Villa Florida**	**147.13**	**232**	PKPbc	PKPdf	01 37 12.8	+4.3
	comp=Z,0.0nm,0.6s,baz=5.6,slow=17,SNR=1.6						
LPAZ	**La Paz**	**160.64**	**242**	PKP	PKPdf	01 37 31.3	+3.8
	comp=Z,0.9nm,0.9s,baz=63,slow=2.3,SNR=3.1						

*NEIC **23** 01:19:21.8, 31.82S×72.19W, h30km, ML3.6(GUC), After GUC.*
GUC 23 01:19:21.8±0.8, 31.82S×72.19W, h30km±2km, MD3.7, ML3.6, 8C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.88**	**78**	⇓*i*P	Pn	01 19 38.3	0.0
ILCH				*i* S	Sb	01 19 50.3	+0.3
ILCH				AMP		01 19 51.1	
	comp=N,3μm,0.6s						
PACH	**Papudo**	**0.96**	**139**	⇓*i*P	Pn	01 19 39.0	-0.3
PACH				*i* S	Sn	01 19 52.2	+0.2
PTCH	**Petorca**	**1.16**	**113**	⇓*i*P	Pn	01 19 42.1	-0.1
PTCH				*i* S	Sn	01 19 57.6	+0.5
PTCH				AMP		01 19 59.0	
	comp=N,2μm,0.4s						
ROCH	**El Roble**	**1.52**	**140**	⇑*i*P	Pn	01 19 48.1	+0.7
ROCH				*i* S	Sn	01 20 08.6	+2.3
JACH	**Jahuel**	**1.60**	**123**	⇑*i*P	Pn	01 19 49.3	+0.7
JACH				*i* S	Sn	01 20 10.4	+2.0
LCCH	**Las Cruces**	**1.73**	**163**	⇑*i*P	Pn	01 19 50.8	+0.3
LCCH				*i* S	Sn	01 20 13.5	+1.7
TLL	**Tololo Astrono**	**2.03**	**36**	⇑*i*P	Pn	01 19 55.9	+1.2
TLL				*i* S	Sn	01 20 21.6	+2.3
TLL				AMP		01 20 34.6	
	comp=N,996nm,0.6s						
RCDM	**Rinconada Maip**	**2.03**	**145**	*i* P	Pn	01 19 55.3	+0.6
RCDM				*i* S	Sn	01 20 21.2	+1.8
RCDM				AMP		01 20 31.9	
	comp=E,397nm,0.6s						
SAN	**Santiago**	**2.08**	**142**	AMP		01 20 38.2	
	comp=E,504nm,0.5s						
DSCH	**Colegio Aleman**	**2.08**	**140**	⇑*i*P	Pn	01 19 58.2	+2.8
DSCH				*i* S	Sn	01 20 24.5	+3.8
DSCH				AMP		01 20 32.8	
	comp=N,1μm,0.5s						
CLCH	**Cerro Calan**	**2.10**	**139**	⇑*i*P	Pn	01 19 56.2	+0.5
CLCH				*i* S	Sn	01 20 22.5	+1.4
CLCH				AMP		01 20 40.6	
	comp=E,1μm,0.7s						
TACH	**Talagante**	**2.11**	**150**	*i* P	Pn	01 19 56.8	+0.9
TACH				*i* S	Sn	01 20 22.4	+1.0
FCH	**Farellones**	**2.20**	**134**	⇑*i*P	Pn	01 19 57.8	+0.7
FCH				*i* S	Sn	01 20 26.2	+2.7
FCH				AMP		01 20 36.1	
	comp=E,375nm,0.6s						
PCH	**Pirque**	**2.28**	**142**	*i* P	Pn	01 19 59.2	+0.9
PCH				*i* S	Sn	01 20 27.8	+2.0
CHCH	**Chadas Angostu**	**2.47**	**149**	*i* P	Pn	01 20 01.7	+0.7
CHCH				*i* S	Sn	01 20 31.7	+1.2
LMEL	**Las Melosas**	**2.62**	**141**	⇑*i*P	Pn	01 20 04.2	+1.0
LMEL				*i* S	Sn	01 20 35.5	+1.1
LMEL				AMP		01 20 55.4	
	comp=N,236nm,0.6s						
CACH	**El Canelo**	**2.65**	**150**	⇓*i*P	Pn	01 20 05.3	+1.7
CACH				*i* S	Sn	01 20 37.3	+2.3
SFDO	**San Fernando**	**2.96**	**161**	*i* P	Pn	01 20 08.3	+0.4
SFDO				*i* S	Sn	01 20 43.4	+0.6
MDZ	**Mendoza**	**3.02**	**112**	*e*P	Pn	01 20 10.2	+1.5
MDZ				*i* S	Sn	01 20 56.3	+12

*IDC **23** 01:26:01.4±0.8, 7.56N×93.81E, mb3.9/11, mb1 4.1/12, mb1mx3.9/20, mbtmp3.9/12, Error ellipse: s-maj=39.1km s-min=16.7km az=57.0*
*NEIC **23** 01:26:06.1±0.5, 7.55N×93.84E, h30km, mb4.2/3, Error ellipse: s-maj=16.6km s-min=8.3km az=64.0*
ISC 23 01:26:04.3±0.7, 7.6N±0.1×93.9E±0.2, h30km, n16, σ0§78/16, mb4.0/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.86**	**24**	Pn	P	01 28 53.9	-0.7
	baz=208,slow=14,SNR=5.1						
LSA	**Lhasa**	**22.15**	**354**	*e*P	P	01 31 01.3	+2.0
	7.5nm,0.6s,mb4.3						
SONM	**Songino Array**	**41.49**	**13**	P	P	01 33 49.8	-0.5
	0.8nm,0.8s,mb3.4,baz=196,slow=9.5,SNR=7.3						
SONM				PcP	PcP	01 35 47.8	-0.4
	0.3nm,0.5s,baz=183,slow=4.2,SNR=3.6						
NWAO	**Narrogin (SRO)**	**46.00**	**152**	P	P	01 34 25.9	-1.1
	3.2nm,0.7s,mb4.4,baz=252,slow=20,SNR=3.0						
ZAL	**Zalesovo**	**46.80**	**353**	P	P	01 34 32.9	-0.1
	2.9nm,0.4s,mb4.6,baz=206,slow=5.0,SNR=12						
WRA	**Warramunga Arr**	**48.28**	**125**	P	P	01 34 45.4	+0.3
	0.3nm,0.5s,mb3.6,baz=304,slow=9.0,SNR=2.4						
WRAB	**Tennant Creek**	**48.29**	**125**	*e*P	P	01 34 45.6	+0.5
	0.9nm,0.5s,mb4.1						
CHKZ	**Chkalovo**	**49.67**	**342**	*e*P	P	01 34 54.6	-0.7
	1.3nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**49.91**	**130**	P	P	01 34 58.1	+0.5
	0.5nm,0.9s,mb3.5,baz=305,slow=7.6,SNR=2.6						
BRTR	**Keskin Array B**	**62.44**	**311**	P	P	01 36 26.2	-1.0
	0.3nm,0.5s,mb3.6,baz=135,slow=7.0,SNR=4.3						
FINES	**FINESS Array B**	**72.86**	**332**	P	P	01 37 31.6	-0.4
	1.8nm,0.8s,mb4.0,baz=115,slow=8.4,SNR=8.7						
ARCES	**ARCESS Array B**	**75.45**	**340**	P	P	01 37 46.7	-0.2
	2.8nm,1.1s,mb4.1,baz=113,slow=6.9,SNR=3.5						
GERES	**GERESS Array B**	**77.89**	**318**	P	P	01 38 02.1	+1.2
	0.6nm,0.7s,mb3.6,baz=90,slow=4.0,SNR=5.2						
HFS	**Hagfors**	**78.59**	**330**	P	P	01 38 04.8	+0.3
	0.9nm,0.5s,mb4.0,baz=135,slow=8.4,SNR=6.9						
HFS	**Hagfors**	**78.59**	**330**	P	P	01 38 04.8	+0.3
NOA	**NORSAR Array B**	**79.87**	**331**	P	P	01 38 11.7	+0.3
	1.4nm,0.8s,mb3.9,baz=32,slow=3.2,SNR=3.6						

*IDC **23** 01:26:55.1±3.1, 20.39S×167.32E, mb3.9/3, mb1 4.1/3, mb1mx3.9/13, mbtmp3.9/3, Error ellipse: s-maj=130.6km s-min=42.2km az=146.0*
NEIC 23 01:26:56.5±1.3, 20.33S×167.32E, h10km, Error ellipse: s-maj=33.1km s-min=15.6km az=105.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**1.91**	**205**	*e*P	Pn	01 27 28.6	-0.9
DZM				*e*S	Sn	01 28 00.9	+7.1
DZM	**Mont Dzumac**	**1.91**	**205**	*e*P	Pn	01 27 28.6	-0.9
DZM				*e*S	Sn	01 28 00.9	+7.1
NOUC	**Port Laguerre**	**2.00**	**208**	*e*P	Pn	01 27 31.0	+0.3
NOUC				*e*S	Sn	01 28 03.9	+8.0
NOUC	**Port Laguerre**	**2.00**	**208**	*e*P	Pn	01 27 31.0	+0.3
NOUC				*e*S	Sn	01 28 03.9	+7.9
STKA	**Stephens Creek**	**25.73**	**238**	P	P	01 32 27.1	-1.8
	1.6nm,0.8s,baz=50,slow=7.9,SNR=3.0						
WRA	**Warramunga Arr**	**30.94**	**265**	P	P	01 33 13.6	-2.4
	1.2nm,1.1s,baz=90,slow=7.9,SNR=4.7						
ASAR	**Alice Springs**	**31.12**	**258**	P	P	01 33 15.9	-1.6
	1.5nm,0.5s,baz=88,slow=9.0,SNR=31						
GERES	**GERESS Array B**	**144.56**	**330**	PKP	PKPdf	01 46 33.9	-2.2
	0.2nm,0.4s,baz=31,slow=5.7,SNR=4.7						
DAVOX	**Davos**	**147.83**	**330**	PKPbc	PKPdf	01 46 41.5	-0.3
	1.4nm,0.5s,baz=329,slow=10,SNR=4.4						
DAVOX	**Davos**	**147.83**	**330**	PKPbc	PKPdf	01 46 41.5	-0.3

IDC 23 01:28:30.9±1.9, 5.97S×152.13E, mb3.8/4, mb1 4.1/4, mb1mx4.0/12, mbtmp3.8/4, Error ellipse: s-maj=74.0km s-min=25.1km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.18**	**230**	P	P	01 33 29.5	-1.0
	1.9nm,0.4s,baz=54,slow=9.9,SNR=10						
ASAR	**Alice Springs**	**24.85**	**223**	P	P	01 33 54.9	-1.7
	3.4nm,0.5s,baz=57,slow=8.9,SNR=28						
SONM	**Songino Array**	**66.96**	**328**	P	P	01 39 25.6	-1.9
	0.4nm,0.8s,baz=135,slow=4.1,SNR=3.5						
ILAR	**Eielson Array**	**83.48**	**22**	P	P	01 41 00.3	-1.3
	0.6nm,0.7s,baz=249,slow=5.4,SNR=11

WEL 23 02:27:47.9±0.1, 41.08S×175.07E, h28km, ML3.6/18, 7C-2D, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAW	**Cannon Point**	**0.03**	**186**	⇑P*	Pb	02 27 52.8	+0.1
CAW				S*	Sb	02 27 56.5	+0.6
KIW	**Kapiti Island**	**0.25**	**331**	⇓P*	Pb	02 27 54.7	+0.1
KIW				S*	Sb	02 27 59.6	+0.5
WEL	**Wellington**	**0.31**	**228**	⇑P*	Pb	02 27 55.2	0.0
WEL				S*	Sb	02 28 01.1	+0.7
MRW	**Makara Radio**	**0.32**	**242**	⇑P*	Pb	02 27 55.4	0.0
MRW				S*	Sb	02 28 00.7	+0.2
MTW	**Mount Morrison**	**0.33**	**103**	⇑P*	Pb	02 27 55.7	+0.1
MTW				S*	Sb	02 28 01.8	+0.8
MSWZ	**Moikau Station**	**0.36**	**158**	⇑P*	Pb	02 27 56.2	+0.2
MSWZ				S*	Sb	02 28 02.5	+0.9
BHW	**Baring Head**	**0.36**	**205**	⇑P*	Pb	02 27 55.9	-0.2
BHW				S*	Sb	02 28 01.6	0.0
PAWZ	**Paruwai Farm**	**0.40**	**138**	⇑P*	Pb	02 27 56.7	+0.1
PAWZ				S*	Sb	02 28 03.4	+0.7
MRZ	**Mangatainoka R**	**0.57**	**43**	⇓P*	Pb	02 27 59.0	-0.3
MRZ				S*	Sb	02 28 07.6	+0.4
TUWZ	**Tuamarina**	**0.92**	**247**	P*	Pb	02 28 04.4	-0.7
TUWZ				S*	Sb	02 28 16.2	-0.8
BFZ	**Birch Farm**	**0.98**	**66**	P*	Pb	02 28 04.7	-1.4
BFZ				S*	Sb	02 28 17.9	-0.8
BSWZ	**Blackbirch Sta**	**1.10**	**235**	P*	Pb	02 28 07.1	-1.0
BSWZ				S*	Sb	02 28 22.0	-0.2
TSZ	**Takapari Road**	**1.23**	**34**	P*	Pb	02 28 08.8	-1.5
TSZ				S*	Sb	02 28 25.1	-0.6
NNZ	**Nelson**	**1.28**	**263**	PN	Pn	02 28 10.0	-0.2
NNZ				SN	Sn	02 28 25.7	-0.9
WAZ	**Wanganui**	**1.33**	**357**	PN	Pn	02 28 11.6	+0.8
MOVZ	**Moawhango**	**1.75**	**18**	PN	Pn	02 28 16.5	-0.4
KHZ	**Kahutara**	**1.76**	**220**	PN	Pn	02 28 15.2	-1.8
KHZ				S*	Sb	02 28 35.9	-5.3
THZ	**Tophouse**	**1.77**	**247**	PN	Pn	02 28 16.1	-1.0
THZ				S*	Sb	02 28 37.0	-4.3
WNVZ	**Wahianoa**	**1.80**	**13**	PN	Pn	02 28 16.4	-1.2
WNVZ				SN	Sn	02 28 39.5	-0.1

IDC 23 02:29:23.0±2.1, 5.34S×152.20E, mb3.7/3, mb1 4.1/3, mb1mx3.8/13, mbtmp3.7/3, Error ellipse: s-maj=155.1km s-min=27.2km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.64**	**229**	P	P	02 34 25.0	-2.3
	2.0nm,0.7s,baz=53,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**25.35**	**222**	P	P	02 34 52.6	-0.9
	1.4nm,0.6s,baz=58,slow=8.8,SNR=24						
ILAR	**Eielson Array**	**82.88**	**22**	P	P	02 41 49.4	-1.2
	0.5nm,0.6s,baz=246,slow=6.2,SNR=9.8						

IDC 23 02:29:31.3±1.7, 4.96S×151.74E, mb3.7/5, mb1 3.9/5, mb1mx3.8/13, mbtmp3.7/5, Error ellipse: s-maj=65.4km s-min=24.8km az=110.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.56**	**227**	P	P	02 34 32.9	-1.8
	1.2nm,0.5s,baz=50,slow=10.0,SNR=5.6						
ASAR	**Alice Springs**	**25.33**	**221**	P	P	02 35 01.8	+0.2
	1.4nm,0.5s,baz=56,slow=9.0,SNR=8.3						
STKA	**Stephens Creek**	**28.42**	**198**	P	P	02 35 26.4	-3.5
	1.1nm,0.8s,baz=41,slow=9.3,SNR=2.5						
SONM	**Songino Array**	**65.90**	**328**	P	P	02 40 18.8	-2.4
	0.1nm,0.4s,baz=141,slow=5.7,SNR=1.9						
ILAR	**Eielson Array**	**82.70**	**22**	P	P	02 41 57.1	-0.9
	0.5nm,0.6s,baz=246,slow=5.5,SNR=3.9						

*CSEM **23** 02:30:10.5±0.1, 45.03N×7.67E, h8km, ML2.5/16, Error ellipse: s-maj=1.5km s-min=1.2km az=82.0*
*ROM **23** 02:30:10.9±0.2, 45.07N×7.55E, h11km±3km, MD2.5/2, ML1.8/4, Error ellipse: s-maj=3.6km s-min=1.8km az=90.0*
*LDG **23** 02:30:12.4±0.2, 45.06N×7.53E, h2km, Md2.5/2, Ml2.4/14, Error ellipse: s-maj=3.7km s-min=1.9km az=87.0*
*GEN **23** 02:30:12.1, 45.10N×7.51E, h25km, ML2.8*
*NEIC **23** 02:30:12.1, 45.10N×7.51E, h25km, ML2.8(GEN), ML2.4(LDG), ML2.2(STR), After GEN.*
*ZUR **23** 02:30:14.9, 45.30N×7.68E, h10km, ML1.8/8*

ISC 23 02:30:11.6±0.2, 45.07N±0.01×7.56E±0.02, h23km±2km, n96, σ0§92/149, 2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSP	**Reno Superiore**	**0.23**	**292**	P	**Pb**	**02 30 17.7**	**+0.3**
RSP				S	**Sb**	**02 30 21.3**	**-0.2**
RSP	**Reno Superiore**	**0.23**	**292**	P	**Pb**	**02 30 17.7**	**+0.3**
BHB	**Bricherasio**	**0.31**	**224**	P	**Pb**	**02 30 19.0**	**+0.4**
BHB				S	**Sb**	**02 30 23.5**	**+0.1**
BHB	**Bricherasio**	**0.31**	**224**	P	**Pb**	**02 30 19.0**	**+0.4**
FENE	**Fenestrelle**	**0.36**	**264**	P	**Pb**	**02 30 19.6**	**+0.3**
FENE				S	**Sb**	**02 30 24.3**	**-0.3**
FENE	**Fenestrelle**	**0.36**	**264**	P	**Pb**	**02 30 19.6**	**+0.3**
TRAV		**0.46**	**16**	P	**Pb**	**02 30 21.0**	**0.0**
TRAV				S	**Sb**	**02 30 26.8**	**-0.7**
TRAV		**0.46**	**16**	P	**Pb**	**02 30 21.0**	**0.0**
LSD	**Ceresole Reale**	**0.49**	**324**	P	**Pb**	**02 30 21.9**	**+0.5**
LSD				S	**Sb**	**02 30 28.0**	**-0.1**
LSD	**Ceresole Reale**	**0.49**	**324**	P	**Pb**	**02 30 21.9**	**+0.5**
RRL	**Cesana Torines**	**0.57**	**255**	P	**Pb**	**02 30 23.1**	**+0.3**
RRL				S	**Sb**	**02 30 30.4**	**-0.2**
RRL	**Cesana Torines**	**0.57**	**255**	P	**Pb**	**02 30 23.1**	**+0.3**
DOI	**San Damiano**	**0.61**	**202**	⇓*i*PG	**Pb**	**02 30 23.2**	**-0.2**
BNI	**Bardonecchia**	**0.63**	**269**	*e*Pg	**Pb**	**02 30 24.0**	**+0.2**
BNI				*e*Sg	**Sb**	**02 30 31.9**	**-0.2**
BNI	**Bardonecchia**	**0.63**	**269**	*e*Pg	**Pb**	**02 30 24.0**	**+0.2**
BNI	**Bardonecchia**	**0.63**	**269**	*e*Sg	**Sb**	**02 30 31.9**	**-0.2**
ORO	**Oropa**	**0.63**	**28**	*e*PG	**Pb**	**02 30 24.1**	**+0.2**
ORO				SG	**Sb**	**02 30 32.4**	**+0.1**
	75nm,0.2s						
ORO	**Oropa**	**0.63**	**28**	*e*Pg	**Pb**	**02 30 24.1**	**+0.2**
	75nm,0.2s						
ORO				Sg	**Sb**	**02 30 32.4**	**+0.1**
ORX	**Oropa**	**0.64**	**27**	P	**Pb**	**02 30 23.8**	**-0.2**
ORX				S	**Sb**	**02 30 31.4**	**-1.0**
ORX	**Oropa**	**0.64**	**27**	P	**Pb**	**02 30 23.8**	**-0.2**
PZZ	**Prazzo**	**0.65**	**211**	P	**Pb**	**02 30 23.8**	**-0.3**
PZZ				S	**Sb**	**02 30 31.5**	**-1.3**
PZZ	**Prazzo**	**0.65**	**211**	P	**Pb**	**02 30 23.8**	**-0.4**
MBDF	**Montbardon**	**0.66**	**239**	*e*Pg	**Pb**	**02 30 24.7**	**+0.4**
MBDF				*e*Sg	**Sb**	**02 30 32.3**	**-0.7**
	30nm,0.2s						
LPG	**La Plagne**	**0.72**	**307**	*e*Pg	**Pb**	**02 30 25.7**	**+0.4**
LPG				*e*Sg	**Sb**	**02 30 34.8**	**+0.1**
	34nm,0.3s						
LPL	**La Plagne**	**0.74**	**308**	*e*Pg	**Pb**	**02 30 26.1**	**+0.5**
LPL				*e*Sg	**Sb**	**02 30 34.9**	**-0.4**
	30nm,0.2s						
SURF	**Saint Ours**	**0.79**	**223**	Pg	**Pb**	**02 30 26.8**	**+0.2**
SURF				Sg	**Sb**	**02 30 37.3**	**+0.4**
ROB	**Roburent**	**0.80**	**164**	P	**Pb**	**02 30 27.6**	**+0.9**
ROB				S	**Sb**	**02 30 37.7**	**+0.6**
ROB	**Roburent**	**0.80**	**164**	P	**Pb**	**02 30 27.6**	**+0.9**
ROB				S	**Sb**	**02 30 37.7**	**+0.6**
STV	**Sta Anna Valdi**	**0.84**	**192**	P	**Pb**	**02 30 26.6**	**-0.7**
STV				S	**Sb**	**02 30 36.4**	**-1.8**
STV	**Sta Anna Valdi**	**0.84**	**192**	P	**Pb**	**02 30 26.6**	**-0.8**
ENR	**Entracque**	**0.85**	**187**	P	**Pb**	**02 30 26.9**	**-0.5**
ENR				S	**Sb**	**02 30 37.1**	**-1.3**
ENR	**Entracque**	**0.85**	**187**	P	**Pb**	**02 30 27.0**	**-0.5**
PCP	**Pian Castagno**	**0.87**	**127**	P	**Pb**	**02 30 28.7**	**+0.8**
PCP				S	**Sb**	**02 30 39.6**	**+0.4**
PCP	**Pian Castagno**	**0.87**	**127**	P	**Pb**	**02 30 28.7**	**+0.8**
PCP				S	**Sb**	**02 30 39.6**	**+0.4**
FIN	**Finale Ligure**	**0.97**	**152**	*e*PG	**Pb**	**02 30 30.8**	**+1.2**
FIN				SG	**Sb**	**02 30 43.7**	**+1.7**
	18nm,0.2s						
FIN	**Finale Ligure**	**0.97**	**152**	P	**Pb**	**02 30 29.4**	**-0.2**
FIN	**Finale Ligure**	**0.97**	**152**	*e*Pg	**Pb**	**02 30 30.8**	**+1.2**
	18nm,0.2s						
FIN				Sg	**Sb**	**02 30 43.7**	**+1.7**
FIN	**Finale Ligure**	**0.97**	**152**	P	**Pb**	**02 30 29.4**	**-0.2**
MONE	**Monesi**	**1.00**	**172**	P	**Pb**	**02 30 29.9**	**-0.1**
MONE	**Monesi**	**1.00**	**172**	P	**Pb**	**02 30 29.9**	**-0.1**
DIX	**Grande Dixence**	**1.02**	**354**	⇓*i*Pg	**Pb**	**02 30 30.4**	**0.0**
DIX				*e*Sg	**Sb**	**02 30 42.2**	**-1.2**
MMK	**Mattmark**	**1.02**	**16**	*e*P	**Pb**	**02 30 30.1**	**-0.4**
AUTN	**L'Aution**	**1.07**	**185**	Pg	**Pn**	**02 30 34.5**	**+3.1**
AUTN				Sg	**Sb**	**02 30 44.8**	**-0.2**
AUTN	**L'Aution**	**1.07**	**185**	Pg	**Pn**	**02 30 32.1**	**+0.7**
AUTN	**L'Aution**	**1.07**	**185**	Sg	**Sb**	**02 30 44.8**	**-0.2**
TOUF	**Mont Tournerai**	**1.08**	**192**	Pg	**Pn**	**02 30 36.8**	**+5.4**
TOUF	**Mont Tournerai**	**1.08**	**192**	Pg	**Pn**	**02 30 31.1**	**-0.3**
TOUF				Sg	**Sb**	**02 30 44.1**	**-0.9**
SAOF	**Saorge**	**1.08**	**180**	Pg	**Pb**	**02 30 33.8**	**+2.4**
SAOF				Sg	**Sb**	**02 30 44.1**	**-1.0**
SAOF	**Saorge**	**1.08**	**180**	Pg	**Pb**	**02 30 32.3**	**+0.9**
SAOF				Sg	**Sb**	**02 30 44.1**	**-1.0**
EMV	**Vieux Emosson**	**1.10**	**335**	*e*Pg	**Pn**	**02 30 32.8**	**+1.1**
EMV				*e*Sg	**Sb**	**02 30 45.8**	**+0.1**
SALAN	**Lac Salanfe**	**1.16**	**339**	*e*P	**Pn**	**02 30 33.7**	**+1.2**
SALAN	**Lac Salanfe**	**1.16**	**339**	*e*Pg	**Pn**	**02 30 33.8**	**+1.3**
VAI	**Varese**	**1.17**	**46**	*e*PN	**Pn**	**02 30 32.8**	**+0.1**
	8.0nm,0.3s						
VAI	**Varese**	**1.17**	**46**	*e*Pn	**Pn**	**02 30 32.8**	**+0.1**
	8.0nm,0.3s						
IMI	**Imperia**	**1.18**	**168**	*e*PN	**Pn**	**02 30 33.6**	**+0.8**
IMI				SN	**Sn**	**02 30 48.6**	**+0.3**
	18nm,0.2s						
IMI	**Imperia**	**1.18**	**168**	P	**Pn**	**02 30 31.8**	**-1.0**
IMI	**Imperia**	**1.18**	**168**	P	**Pn**	**02 30 31.8**	**-1.0**
IMI	**Imperia**	**1.18**	**168**	*e*Pn	**Pn**	**02 30 33.6**	**+0.8**
	18nm,0.2s						
IMI				Sn	**Sn**	**02 30 48.6**	**+0.3**
GENL	**Genova Univers**	**1.20**	**123**	P	**Pn**	**02 30 32.3**	**-0.8**
GENL	**Genova Univers**	**1.20**	**123**	P	**Pn**	**02 30 32.3**	**-0.8**
ORIF	**Oris-en-Rattie**	**1.20**	**264**	*e*Pn	**Pn**	**02 30 33.4**	**+0.2**
ORIF				*e*Pg	**Pn**	**02 30 34.4**	**+1.2**
ORIF				*e*Sg	**Sb**	**02 30 49.6**	**+0.9**
	18nm,0.3s						
MVIF	**Mont Vial**	**1.21**	**194**	Pg	**Pn**	**02 30 38.1**	**+4.9**
MVIF				Sg	**Sb**	**02 30 52.5**	**+3.7**
MVIF	**Mont Vial**	**1.21**	**194**	Pg	**Pn**	**02 30 32.9**	**-0.3**
MVIF				Sg	**Sb**	**02 30 50.8**	**+2.0**
SBF	**Sospel**	**1.21**	**184**	*e*Pn	**Pn**	**02 30 33.1**	**-0.1**
SBF				*e*Pg	**Pn**	**02 30 34.5**	**+1.3**
SBF				*e*Sn	**Sn**	**02 30 49.0**	**0.0**
	52nm,0.5s						
NEGI	**Negi**	**1.22**	**175**	P	**Pn**	**02 30 32.6**	**-0.9**
NEGI	**Negi**	**1.22**	**175**	P	**Pn**	**02 30 32.6**	**-0.9**
GRYON	**Gryon**	**1.23**	**345**	*e*P	**Pn**	**02 30 35.3**	**+1.8**
SENIN	**Lac Senin**	**1.31**	**352**	*e*P	**Pn**	**02 30 36.6**	**+1.9**
AIGLE	**Aigle**	**1.34**	**342**	*e*Pg	**Pn**	**02 30 37.7**	**+2.5**
MUGIO	**Muggio**	**1.35**	**50**	*e*Pg	**Pn**	**02 30 35.3**	**+0.1**
FUSIO	**Fusio**	**1.59**	**29**	*e*Pg	**Pn**	**02 30 37.8**	**-0.9**
FRF	**La Foret Royal**	**1.64**	**204**	*e*Pn	**Pn**	**02 30 40.4**	**+0.9**
FRF				*e*Pg	**Pn**	**02 30 42.5**	**+3.0**
FRF				*e*Sn	**Sn**	**02 31 00.3**	**+0.2**
	7.6nm,0.2s						
HASLI	**Hasliberg**	**1.74**	**13**	*e*Pb	**Pb**	**02 30 43.2**	**+0.5**
CODM		**1.76**	**112**	P	**Pn**	**02 30 40.9**	**-0.3**
CODM		**1.76**	**112**	P	**Pn**	**02 30 40.9**	**-0.3**
SMRF	**Simiane la Rot**	**1.79**	**233**	*e*Pg	**Pn**	**02 30 44.9**	**+3.3**
SMRF				*e*Sn	**Sn**	**02 31 03.9**	**+0.1**
SMRF				*e*Sg	**Sn**	**02 31 08.0**	**+4.2**
	5.1nm,0.3s						
CABF	**La Chapelle**	**1.86**	**327**	*e*Pn	**Pn**	**02 30 43.6**	**+1.1**
CABF				*e*Sn	**Sn**	**02 31 06.1**	**+0.6**
CABF				*e*Sg	**Sn**	**02 31 10.5**	**+5.0**
	28nm,0.9s						
GRAM		**1.87**	**107**	P	**Pn**	**02 30 42.4**	**-0.3**
GRAM		**1.87**	**107**	P	**Pn**	**02 30 42.4**	**-0.4**
LMR	**La Mourre**	**1.89**	**204**	*e*Pn	**Pn**	**02 30 43.6**	**+0.6**
LMR				*e*Pg	**Pn**	**02 30 45.9**	**+2.9**
LMR				*e*Sn	**Sn**	**02 31 06.1**	**-0.2**
	6.4nm,0.2s						
VDL	**Val di Lei**	**1.95**	**43**	*e*P*	**Pb**	**02 30 44.3**	**-1.9**
VALM		**2.04**	**110**	P	**Pn**	**02 30 44.8**	**-0.4**
VALM		**2.04**	**110**	P	**Pn**	**02 30 44.8**	**-0.4**
VIVF	**Saint-Julien-I**	**2.06**	**265**	*e*Pn	**Pn**	**02 30 46.6**	**+1.1**
VIVF				*e*Sn	**Sn**	**02 31 10.5**	**-0.2**
	5.7nm,0.5s						
PGF	**Pioggiola**	**2.72**	**157**	*e*Pn	**Pn**	**02 30 53.9**	**-1.0**
PGF				*e*Sn	**Sn**	**02 31 25.9**	**-1.6**
HINF	**Hinteralfeld**	**2.79**	**350**	*e*Pn	**Pn**	**02 30 55.9**	**0.0**
HINF				*e*Sn	**Sn**	**02 31 28.3**	**-1.0**
	2.0nm,0.3s						
LASF	**Ste Croix**	**2.83**	**251**	*e*Pn	**Pn**	**02 30 57.2**	**+0.8**
LASF				*e*Sn	**Sn**	**02 31 28.5**	**-1.6**
	3.6nm,0.5s						
SMF	**Signal de Mont**	**3.04**	**303**	*e*Pn	**Pn**	**02 31 00.0**	**+0.5**
SMF				*e*Sn	**Sn**	**02 31 33.7**	**-1.9**
	2.9nm,0.4s						
HAU	**Haudompre**	**3.06**	**345**	*e*Pn	**Pn**	**02 31 00.0**	**+0.3**
HAU				*e*Sg	**Sn**	**02 31 48.6**	**+13**
	2.8nm,0.3s						
CDF	**Champ du Feu**	**3.35**	**357**	*e*Pn	**Pn**	**02 31 03.6**	**-0.3**
CDF				*e*Sn	**Sn**	**02 31 42.0**	**-1.4**
	1.1nm,0.3s						
AVF	**Avril sur Loir**	**3.41**	**302**	*e*Pn	**Pn**	**02 31 05.1**	**+0.5**
AVF				*e*Sn	**Sn**	**02 31 42.8**	**-2.0**
	0.7nm,0.2s						
SSF	**Saint Saulge**	**3.46**	**307**	*e*Pn	**Pn**	**02 31 06.1**	**+0.7**
BGF	**Bois d'Agland**	**3.62**	**296**	*e*Pn	**Pn**	**02 31 07.8**	**+0.1**
MEZF	**Maizieres J'vi**	**3.84**	**334**	*e*Pn	**Pn**	**02 31 10.4**	**-0.4**
MTLF	**Montolieu**	**4.21**	**248**	*e*Pn	**Pn**	**02 31 15.3**	**-0.8**
RJF	**Les Rejaudoux**	**4.28**	**275**	*e*Sn	**Sn**	**02 32 03.5**	**-3.5**
	1.3nm,0.2s						

IDC 23 02:32:34.1±1.8, 6.25N×92.63E, mb3.7/6, mb1 3.8/6, mb1mx3.6/18, mbtmp3.7/6, Error ellipse: s-maj=90.9km s-min=22.6km az=54.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**43.07**	**14**	P	P	02 40 35.1	-2.3
	0.3nm,0.6s,baz=208,slow=4.1,SNR=3.1						
WRA	**Warramunga Arr**	**48.58**	**123**	P	P	02 41 20.4	-1.2
	0.4nm,0.7s,baz=299,slow=8.9,SNR=4.6						
BVAR	**Borovoye Array**	**50.06**	**343**	P	P	02 41 31.8	-0.8
	0.7nm,0.7s,baz=153,slow=13,SNR=2.1						
ASAR	**Alice Springs**	**50.07**	**128**	P	P	02 41 30.5	-2.5
	0.4nm,0.9s,baz=309,slow=5.8,SNR=3.0						
FINES	**FINESS Array B**	**73.44**	**333**	P	P	02 44 07.4	-2.6
	2.1nm,1.1s,baz=124,slow=6.9,SNR=5.3						
ARCES	**ARCESS Array B**	**76.28**	**341**	P	P	02 44 24.3	-1.8
	2.6nm,1.0s,baz=100,slow=6.2,SNR=5.4						

IDC 23 02:33:36.6±1.8, 5.81S×151.45E, mb3.5/4, mb1 3.8/4, mb1mx3.6/12, mbtmp3.5/4, Error ellipse: s-maj=94.2km s-min=29.4km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.77**	**228**	P	P	02 38 30.3	-1.8
	0.4nm,0.4s,baz=54,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**24.50**	**222**	P	P	02 38 58.1	-0.8
	0.6nm,0.5s,baz=55,slow=8.9,SNR=9.6						
STKA	**Stephens Creek**	**27.52**	**198**	P	P	02 39 24.6	-2.4
	0.8nm,0.5s,baz=18,slow=6.4,SNR=3.7						
ILAR	**Eielson Array**	**83.60**	**22**	P	P	02 46 06.5	-1.3
	0.3nm,0.7s,baz=246,slow=3.7,SNR=4.4						

IGQ 23 02:34:02.8, 1.13S×81.36W, h5km±5km, mb4.1, 5C-5D, Error ellipse: s-maj=11.5km s-min=6.6km az=136.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.82**	**85**	⇑P	Pb	02 34 18.0	-1.1
IGUA	**Igualata**	**2.74**	**98**	⇓P	Pn	02 34 49.4	+1.1
IGUA				S	Sn	02 35 24.4	+2.2
JUA2	**San Juan 2**	**2.90**	**72**	⇓P	Pn	02 34 52.1	+1.6
TERV	**Terraza Guagua**	**2.91**	**71**	P	Pn	02 34 51.9	+1.2
PINO	**Pino**	**2.92**	**71**	⇑P	Pn	02 34 51.8	+1.1
NAS1	**Nasa**	**2.92**	**80**	P	Pn	02 34 52.5	+1.6
ARRY	**Arrayan**	**2.93**	**97**	⇑P	Pn	02 34 52.0	+1.1
PATA	**Patacocha**	**2.95**	**97**	P	Pn	02 34 53.5	+2.3
PATA				S	Sn	02 35 28.1	+0.6
YANA	**Yana**	**2.96**	**70**	⇑P	Pn	02 34 52.3	+0.9
ULBA	**Ulba**	**2.97**	**96**	P	Pn	02 34 54.1	+2.7
PISA	**Pisayambo**	**2.97**	**89**	P	Pn	02 34 52.7	+1.1
VC1	**Cotopaxi 1**	**3.00**	**81**	P	Pn	02 34 54.5	+2.6
ANTI	**Antisana**	**3.27**	**78**	⇑P	Pn	02 34 58.3	+2.5
COTA	**Cotacachi**	**3.35**	**64**	⇓P	Pn	02 34 58.1	+1.2
CAYR	**Refugio Cayamb**	**3.54**	**71**	⇓P	Pn	02 35 02.8	+3.2
CAYA	**Cayambe**	**3.57**	**71**	⇓P	Pn	02 35 03.0	+2.9

MAN 23 02:34:37.9, 15.89N×120.96E, h6km, mb3.7, ML2.5, MS2.0, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**0.35**	**158**	⇓*i*P	Pg	02 34 45.8	+0.9
PCPH				*i* S	Sg	02 34 52.7	+3.1
BALP	**Baler**	**0.61**	**104**	*e*P	Pg	02 34 49.9	-0.2
BALP				*e*S	Sg	02 34 58.7	+0.5
BCPH	**Baguio City Da**	**0.61**	**323**	⇑*i*P	Pg	02 34 49.6	-0.5
BCPH				*i* S	Sg	02 34 57.9	-0.4
SCZP	**Santa Cruz**	**1.02**	**264**	*e*P	Pb	02 34 57.5	+0.1
CAUP	**Cauayan**	**1.34**	**38**	*e*P	Pb	02 35 01.8	-1.2
POLP	**Polilio Island**	**1.49**	**141**	*e*P	Pn	02 35 02.4	-2.9
APYP	**Conner**	**1.98**	**8**	*e*P	Pn	02 35 12.9	+0.6

*IDC **23** 02:36:48.3±0.8, 6.71N×92.99E, mb3.9/11, mb1 4.1/12, mb1mx4.0/19, mbtmp3.9/12, ML4.4/1, Error ellipse: s-maj=39.4km s-min=17.5km az=51.0*
*NEIC **23** 02:36:52.4±0.6, 6.49N×92.80E, h30km, mb4.2/4, Error ellipse: s-maj=20.4km s-min=12.5km az=63.0*

ISC 23 02:36:50.2±0.7, 6.4N±0.1×92.8E±0.1, h30km, n23, σ0§97/22, mb4.1/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.38**	**26**	Pn	**P**	**02 40 02.1**	**+1.4**
	0.6nm,0.3s,baz=231,slow=14,SNR=29						
JIRN	**Jiri**	**22.04**	**344**	*e*P	**P**	**02 41 43.7**	**-0.5**
	22nm,0.9s,mb4.6						
PKI	**Pulchoki**	**22.17**	**342**	*e*P	**P**	**02 41 45.5**	**0.0**
	8.5nm,0.5s,mb4.4						
DMN	**Daman**	**22.30**	**342**	*e*P	**P**	**02 41 47.4**	**+0.6**
KKN	**Kakani**	**22.42**	**342**	*e*P	**P**	**02 41 48.7**	**+0.7**
GKN	**Gorkha**	**22.82**	**341**	*e*P	**P**	**02 41 53.3**	**+1.3**
KOLN	**Koldanda**	**22.96**	**339**	*e*P	**P**	**02 41 53.7**	**+0.3**
	30nm,1.0s,mb4.7						
LSA	**Lhasa**	**23.21**	**356**	P	**P**	**02 41 55.9**	**+0.1**
	5.9nm,0.9s,mb4.0						
AAK	**Ala-Archa**	**39.53**	**339**	*e*P	**P**	**02 44 20.1**	**-0.1**
	2.6nm,0.8s,mb4.0						
SONM	**Songino Array**	**42.87**	**13**	P	**P**	**02 44 45.6**	**-2.0**
	0.8nm,0.7s,mb3.5,baz=190,slow=7.5,SNR=7.0						
SONM				PcP	PcP	02 46 39.4	+0.6
	0.7nm,0.7s,baz=203,slow=3.8,SNR=4.7						
ZAL	**Zalesovo**	**47.82**	**354**	P	**P**	**02 45 25.9**	**-1.1**
	1.1nm,0.4s,mb4.3,baz=237,slow=7.8,SNR=6.3						
WRA	**Warramunga Arr**	**48.54**	**124**	P	**P**	**02 45 33.2**	**+0.2**
	1.5nm,0.6s,mb4.2,baz=303,slow=9.1,SNR=12						
WRAB	**Tennant Creek**	**48.55**	**124**	*e*P	**P**	**02 45 32.9**	**-0.2**
	3.9nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**49.95**	**342**	P	**P**	**02 45 42.1**	**-1.2**
	0.8nm,0.6s,mb3.9,baz=141,slow=9.5,SNR=5.7						
BRVK	**Borovoye**	**50.01**	**342**	*e*P	**P**	**02 45 42.7**	**-1.1**
	1.4nm,0.5s,mb4.2						
ASAR	**Alice Springs**	**50.04**	**128**	P	**P**	**02 45 44.7**	**+0.2**
	0.6nm,0.6s,mb3.8,baz=300,slow=8.0,SNR=11						
ASAR				PcP	PcP	02 47 05.3	+1.0
	0.8nm,0.6s,baz=304,slow=3.6,SNR=8.5						
BRTR	**Keskin Array B**	**62.37**	**312**	P	**P**	**02 47 12.7**	**+0.1**
	1.1nm,0.7s,mb4.1,baz=118,slow=8.4,SNR=11						
AKASG	**Malin Array Be**	**68.47**	**322**	P	**P**	**02 47 50.1**	**-1.6**
	0.5nm,0.5s,mb3.8,baz=90,slow=5.0,SNR=4.8						
FINES	**FINESS Array B**	**73.37**	**333**	P	**P**	**02 48 20.6**	**-0.4**
	1.4nm,0.7s,mb4.0,baz=135,slow=8.1,SNR=7.5						
ARCES	**ARCESS Array B**	**76.18**	**340**	P	**P**	**02 48 37.0**	**0.0**
	2.8nm,

BALP *e*S Sb 03 05 29.0 +1.1
ABRA Dolores 1.59 18 *e*P Pn 03 05 11.7 -1.6
CAUP Cauayan 1.76 62 *e*P Pn 03 05 16.8 +1.1
APYP Conner 2.00 30 *e*P Pn 03 05 18.5 -0.6
APYP *e*S Sn 03 05 45.2 +1.1
CVP Callao Caves 2.21 45 *e*P Pn 03 05 23.0 +0.8
LUBP Lubang 2.38 179 *e*P Pn 03 05 24.7 +0.1
LQP Lukban 2.39 147 *e*P Pn 03 05 26.6 +1.8

*IDC **23** 03:06:48.2±1.5, 15.58S×173.25W, mb3.9/8, mb1 4.3/8, mb1mx4.1/15, mbtmp3.9/8, Error ellipse: s-maj=95.3km s-min=20.1km az=147.0*
*NEIC **23** 03:06:49.9±0.7, 15.53S×173.32W, h10km, mb4.4/6, Error ellipse: s-maj=42.9km s-min=8.6km az=146.0*
ISC 23 03:06:51.8±1.0, 15.5S±0.4×173.4W±0.3, h33km, n23, σ0§47/18, mb4.0/14, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.22**	**46**	⇑*i*P	**P**	**03 07 26.8**	**-0.1**
STKA	**Stephens Creek**	**43.99**	**240**	P	**P**	**03 14 56.5**	**-1.5**
	0.6nm,0.4s,mb3.6,baz=39,slow=6.5,SNR=3.0						
STKA	**Stephens Creek**	**43.99**	**240**	*e*P	**P**	**03 14 56.6**	**-1.4**
WRAB	**Tennant Creek**	**49.81**	**257**	*e*P	**P**	**03 15 44.1**	**+0.3**
	0.6nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**49.82**	**257**	P	**P**	**03 15 44.5**	**+0.6**
	0.5nm,0.7s,mb3.7,baz=96,slow=7.7,SNR=3.4						
ASAR	**Alice Springs**	**50.08**	**252**	P	**P**	**03 15 46.5**	**+0.6**
	1.2nm,0.5s,mb4.2,baz=89,slow=7.7,SNR=19						
NVAR	**Mina Array Bea**	**74.39**	**42**	P	**P**	**03 18 28.4**	**+0.1**
	1.7nm,0.8s,mb4.0,baz=221,slow=8.8,SNR=12						
MOD	**Modoc**	**75.19**	**38**	*e*P	**P**	**03 18 32.6**	**-0.2**
	3.9nm,0.8s,mb4.4						
WVOR	**Wild Horse Val**	**76.50**	**38**	*e*P	**P**	**03 18 40.2**	**-0.1**
	3.9nm,0.9s,mb4.3						
BMO	**Blue Mountains**	**78.69**	**37**	*e*P	**P**	**03 18 52.0**	**-0.4**
	2.8nm,1.0s,mb4.2						
TXAR	**Lajitas Array**	**80.66**	**56**	P	**P**	**03 19 03.8**	**+0.4**
	0.7nm,0.9s,mb3.6,baz=211,slow=7.3,SNR=5.0						
GDL2	**Guadalupe Moun**	**81.27**	**53**	*e*P	**P**	**03 19 07.1**	**+0.6**
BW06	**Boulder Array**	**82.33**	**42**	*e*P	**P**	**03 19 11.7**	**-0.1**
	2.4nm,1.2s,mb4.0						
PDAR	**Pinedale Array**	**82.33**	**42**	P	**P**	**03 19 11.9**	**+0.2**
	1.2nm,0.9s,mb3.8,baz=207,slow=3.3,SNR=8.1						
COLA	**College**	**82.44**	**11**	*e*P	**P**	**03 19 11.7**	**-0.2**
	5.8nm,0.8s,mb4.6						
ILAR	**Eielson Array**	**82.52**	**11**	P	**P**	**03 19 11.9**	**-0.4**
	0.7nm,0.5s,mb4.0,baz=227,slow=5.9,SNR=29						
DAWY	**Dawson**	**83.50**	**14**	*e*P	**P**	**03 19 17.4**	**+0.1**
YKA	**Yellowknife Ar**	**90.17**	**23**	P	**P**	**03 19 49.6**	**-0.1**
	0.7nm,0.9s,mb4.0,baz=240,slow=4.4,SNR=11						
DPC	**Dobruska-Polom**	**144.34**	**349**	*e*PKP	PKPdf	03 26 25.6	+1.2
PRU	**Pruhonice**	**144.98**	**351**	*e*PKP	PKPdf	03 26 27.6	+2.0
KHC	**Kasperske Hory**	**145.95**	**352**	*e*PKP	PKPdf	03 26 31.2	+3.9
BRTR	**Keskin Array B**	**146.21**	**321**	PKPbc	PKPbc	03 26 32.3	+3.2
	3.5nm,1.1s,baz=135,slow=1.7,SNR=8.8						
GERES	**GERESS Array B**	**146.22**	**352**	PKPbc	PKPbc	03 26 30.9	+2.1
	0.8nm,0.8s,slow=7.8,SNR=5.4						

IDC 23 03:07:09.4±2.4, 6.69S×150.72E, mb3.4/3, mb1 3.8/3, mb1mx3.6/12, mbtmp3.5/3, Error ellipse: s-maj=186.5km s-min=28.9km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.65**	**229**	P	P	03 11 51.7	-1.7
	1.0nm,1.1s,baz=53,slow=9.8,SNR=2.6						
ASAR	**Alice Springs**	**23.37**	**222**	P	P	03 12 19.1	-1.6
	0.9nm,0.8s,baz=54,slow=9.5,SNR=7.8						
ILAR	**Eielson Array**	**84.68**	**22**	P	P	03 19 45.0	-1.1
	0.5nm,0.8s,baz=252,slow=5.7,SNR=2.9						

MAN 23 03:27:12.6, 7.88N×123.14E, h33km, mb3.5, ML2.2, MS1.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.24**	**97**	*e*P	P	03 27 21.0	+1.3
PAGZ				*e*S	S	03 27 24.6	0.0
DCPH	**Dipolog City**	**0.73**	**17**	⇑*e*P	P	03 27 26.3	-0.1
DCPH				*e*S	S	03 27 35.4	-1.1
SNPH	**Sibulan**	**1.46**	**4**	*e*P	P	03 27 37.5	+0.7

IGQ 23 03:27:28.6, 1.19S×81.40W, h12km±8km, mb4.2, 2C-3D, Error ellipse: s-maj=10.3km s-min=10.1km az=95.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.87**	**81**	⇑P	Pb	03 27 43.2	-1.9
IGUA	**Igualata**	**2.78**	**96**	P	Pn	03 28 14.9	+1.0
JUA2	**San Juan 2**	**2.96**	**71**	P	Pn	03 28 17.6	+1.2
ARRY	**Arrayan**	**2.96**	**96**	⇑P	Pn	03 28 18.0	+1.5
ARRY				S	Sn	03 28 50.6	-1.6
TERV	**Terraza Guagua**	**2.98**	**70**	P	Pn	03 28 19.6	+3.0
NAS1	**Nasa**	**2.98**	**79**	P	Pn	03 28 18.8	+2.2
NAS1				S	Sn	03 28 53.1	+0.5
PINO	**Pino**	**2.98**	**70**	⇓P	Pn	03 28 17.1	+0.5
ULBA	**Ulba**	**3.01**	**95**	P	Pn	03 28 19.1	+2.0
PISA	**Pisayambo**	**3.02**	**88**	P	Pn	03 28 19.5	+2.2
YANA	**Yana**	**3.03**	**69**	⇓P	Pn	03 28 18.1	+0.8
VC1	**Cotopaxi 1**	**3.05**	**80**	P	Pn	03 28 19.8	+2.1
TAMB	**Tambo**	**3.08**	**81**	P	Pn	03 28 20.4	+2.4
ANTI	**Antisana**	**3.33**	**77**	P	Pn	03 28 23.7	+2.1
ANTI				S	Sn	03 29 03.9	+2.5
COTA	**Cotacachi**	**3.42**	**64**	P	Pn	03 28 24.1	+1.2
CAYR	**Refugio Cayamb**	**3.60**	**71**	⇓P	Pn	03 28 28.6	+3.1
CAYA	**Cayambe**	**3.64**	**70**	P	Pn	03 28 28.5	+2.5

*GUC **23** 03:27:46.0±0.7, 27.90S×66.46W, h146km±74km*
*NEIC **23** 03:27:47.6±0.7, 27.88S×66.51W, h172km±8km, mb3.7/3, Error ellipse: s-maj=11.6km s-min=9.3km az=95.0*
*IDC **23** 03:27:48.0±1.9, 27.79S×66.29W, h178km±18km, mb3.4/4, mb1 3.6/7, mb1mx3.5/14, mbtmp3.9/7, Error ellipse: s-maj=25.2km s-min=15.1km az=59.0*
ISC 23 03:27:47.1±0.7, 27.91S±0.03×66.60W±0.07, h180km±9km, n27, σ1§06/33, mb3.5/5, 2C-3D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**3.37**	**278**	⇓*i*P	**P**	**03 28 40.1**	**-0.9**
CPCH				*i*S	**S**	**03 29 21.4**	**-1.1**
VACH	**Vallenar**	**3.73**	**259**	*e*P	**P**	**03 28 45.5**	**0.0**
VACH				*i*S	**S**	**03 29 30.1**	**-0.3**
ZON	**Zonda**	**4.05**	**206**	⇓*i*P	**P**	**03 28 51.0**	**+1.4**
ZON				*e*S	**S**	**03 29 39.0**	**+1.2**
TLL	**Tololo Astrono**	**4.32**	**238**	⇑*i*P	**P**	**03 28 53.8**	**+0.8**
TLL				*i*S	**S**	**03 29 44.9**	**+1.1**
LSCH	**La Serena**	**4.53**	**243**	*i*S	**S**	**03 29 48.2**	**-0.6**
LVC	**Limon Verde**	**5.67**	**338**	P	**P**	**03 29 12.1**	**+1.6**
	4.5nm,0.3s,baz=157,slow=8.4,SNR=66						
LVC				S	**S**	**03 30 14.9**	**-0.4**
	6.6nm,0.3s,baz=233,slow=24,SNR=19						
PTCH	**Petorca**	**5.74**	**220**	*i*S	**S**	**03 30 16.1**	**-0.9**
FCH	**Farellones**	**6.27**	**210**	⇑*i*P	**P**	**03 29 19.2**	**+0.8**
FCH				*i*S	**S**	**03 30 30.1**	**+0.6**
CLCH	**Cerro Calan**	**6.44**	**211**	⇓*i*P	**P**	**03 29 20.6**	**-0.1**
CLCH				*i*S	**S**	**03 30 33.1**	**-0.3**
RCDM	**Rinconada Maip**	**6.64**	**212**	*i*P	**P**	**03 29 22.1**	**-1.2**
RCDM				*i*S	**S**	**03 30 35.9**	**-2.3**
CPUP	**Villa Florida**	**8.41**	**81**	P	**P**	**03 29 44.6**	**-2.1**
	0.0nm,0.3s,baz=268,slow=15,SNR=1.9						
TRQA	**Tornquist**	**10.84**	**160**	P	**P**	**03 30 20.5**	**+2.1**
LPAZ	**La Paz**	**11.65**	**353**	P	**P**	**03 30 29.4**	**+0.5**
	1.1nm,0.3s,baz=147,slow=9.5,SNR=18						
LPAZ				S	**S**	**03 32 36.6**	**+0.7**
	0.1nm,0.3s,baz=178,slow=21,SNR=2.7						
LPAZ	**La Paz**	**11.65**	**353**	*e*P	**P**	**03 30 29.3**	**+0.4**
	2.3nm,0.3s						
LPAZ				*e*		03 30 37.6	
LPAZ				S	**S**	**03 32 36.6**	**+0.7**
PLCA	**Paso Flores**	**13.20**	**193**	P	**P**	**03 30 49.1**	**+0.5**
	0.1nm,0.3s,baz=346,slow=12,SNR=2.5						
PLCA	**Paso Flores**	**13.20**	**193**	*e*P	**P**	**03 30 49.1**	**+0.5**
BAO	**Brasilia Array**	**21.13**	**59**	P	**P**	**03 32 17.5**	**-1.3**
SNAA	**Sanae**	**55.57**	**160**	P	**P**	**03 37 04.9**	**-0.7**
	0.4nm,0.5s,mb3.5,baz=314,slow=12,SNR=8.8						
TXAR	**Lajitas Array**	**67.06**	**325**	P	**P**	**03 38 23.3**	**+0.1**
	0.3nm,0.7s,mb3.2,baz=153,slow=8.1,SNR=2.7						
DBIC	**Dimbokro**	**68.75**	**70**	P	**P**	**03 38 30.2**	**-3.7**
	7.7nm,1.2s,mb4.3,baz=94,slow=1.5,SNR=8.6						
DBIC	**Dimbokro**	**68.75**	**70**	*e*P	**P**	**03 38 30.4**	**-3.5**
	0.4nm,0.3s,mb3.6						
BW06	**Boulder Array**	**80.67**	**329**	*e*P	**P**	**03 39 41.9**	**+0.5**
	0.6nm,0.5s,mb3.5						
PDAR	**Pinedale Array**	**80.67**	**329**	P	**P**	**03 39 42.1**	**+0.8**
	0.8nm,0.5s,mb3.6,baz=130,slow=7.9,SNR=9.5						
ASAR	**Alice Springs**	**125.05**	**203**	PKP	PKPdf	03 46 27.5	+1.0
	0.7nm,0.7s,baz=136,slow=1.7,SNR=9.3						
WRA	**Warramunga Arr**	**128.30**	**205**	PKP	PKPdf	03 46 34.1	+1.2
	0.2nm,0.4s,baz=158,slow=2.0,SNR=10.0						
ZAL	**Zalesovo**	**146.60**	**31**	PKPbc	PKPbc	03 47 09.6	+3.0
	1.2nm,0.4s,baz=82,slow=7.1,SNR=4.0						
ZAL	**Zalesovo**	**146.60**	**31**	PKPbc	PKPbc	03 47 09.6	+3.0

*BJI **23** 03:32:24.6, 13.98S×65.69E, h22km, mB5.5, mb5.0, Ms5.2, Msz4.8*
*IDC **23** 03:32:25.6±0.5, 13.71S×66.15E, mb4.6/19, mb1 4.7/19, mb1mx4.7/19, mbtmp4.6/19, MS4.8/12, Ms1 4.8/12, ms1mx4.7/20, Error ellipse: s-maj=19.0km s-min=13.7km az=46.0*
*MOS **23** 03:32:26.1±1.8, 13.81S×66.30E, h10km, mb5.1/35, MS4.8/21, Error ellipse: s-maj=9.7km s-min=6.3km az=105.8*
*HRVD **23** 03:32:27.1±0.1, 13.70S×66.09E, h15km±1km, MW5.5/73, Centroid moment Tensor Solution. LP body waves: s64,c134;Mantle waves: s73,c162; Half duration: 1§4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.23±.03; $M_{\theta\theta}$-1.82±.03; $M_{\phi\phi}$2.05±.04; $M_{r\theta}$-0.39±.06; $M_{\theta\phi}$0.81±.03; $M_{\phi r}$-0.05±.05; Best double couple: $M_0$2.138×10^{17} NP1: ϕ_s147°, δ80°, λ-174°. NP2:ϕ_p56°, δ84°, λ-10°. Principal axes: T 2.218, Plg3°, Azm102°; N -.161, Plg78°, Azm205°; P -2.058, Plg12°, Azm11°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 03:32:27.1±0.3, 13.88S×66.19E, h10km, mb4.9/44, MS5.0/100, MW5.5 Error ellipse: s-maj=11.7km s-min=9.0km az=206.0, Moment Tensor Solution. s5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.16; $M_{\theta\theta}$-2.27; $M_{\phi\phi}$2.11; $M_{r\theta}$-0.72; $M_{\theta\phi}$0.14; $M_{\phi r}$0.24; Best double couple: $M_0$2.3×10^{17} NP1:ϕ_s46°, δ74°, λ-6°. NP2:ϕ_s137°, δ84°, λ-164°. Principal axes: T 2.14, Plg7°, Azm271°; N .33, Plg73°, Azm158°; P -2.48, Plg15°, Azm3°;*
ISC 23 03:32:25.1±1.7, 13.89S±0.06×66.35E±0.05, h3km±10km, h16km±2.7km:pP-P, n317, σ1§36/188, mb4.9/74, MS5.0/108, 14C-8D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**8.80**	**44**	P	**P**	**03 34 32.8**	**-3.3**
DGAR	**Diego Garcia**	**8.80**	**44**	*e*P	**P**	**03 34 31.2**	**-4.9**
	153nm,0.6s						
TRD	**Trivandrum**	**24.62**	**26**	*e*P	**P**	**03 37 49.4**	**+1.3**
TRD				*i*		03 41 31.4	
PALK	**Pallekele**	**25.40**	**35**	*e*P	**P**	**03 37 57.6**	**+2.1**
	85nm,1.3s,mb5.1						
PALK				LR	LR		
	comp=Z,583nm,20.0s,MS4.1						
KMBO	**Kilima Mbogo**	**31.45**	**291**	P	**P**	**03 38 47.1**	**-3.1**
	comp=Z,3.3nm,0.9s,mb4.2,baz=83,slow=6.8,SNR=9.0						
KMBO				LR	LR	03 48 38.0	
	comp=Z,1μm,21.3s,MS4.6,baz=100,slow=31						
KMBO	**Kilima Mbogo**	**31.45**	**291**	*e*P	**P**	**03 38 47.0**	**-3.3**
	comp=Z,11nm,1.3s,mb4.5						
KMBO				LR	LR		
	comp=Z,2μm,22.0s,MS4.6						
HYB	**Hyderabad**	**33.36**	**22**	*e*P	**P**	**03 39 06.0**	**-0.8**
HYB	**Hyderabad**	**33.36**	**22**	*i*P	**P**	**03 39 06.0**	**-0.8**
HYB				*e*S	**S**	**03 44 26.0**	**-1.3**
HYB				LR	LR	03 50 32.0	
	comp=Z,3.4nm,18.0s						
LSZ	**Lusaka**	**36.92**	**263**	*e*P	**P**	**03 39 34.2**	**-3.1**
LSZ				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
LSZ				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.1						
LSZ	**Lusaka**	**36.92**	**263**	*e*P	**P**	**03 39 34.1**	**-3.1**
	comp=Z,8.7nm,0.9s,mb4.6						
LSZ				LR	LR		
	comp=Z,3μm,19.0s,MS5.1						
MBAR	**Mbarara**	**37.63**	**288**	PFAKE		03 39 50.0	+6.8
MBAR				LR	LR		
	comp=Z,447nm,21.0s,MS4.2						
BOSA	**Boshof**	**40.78**	**242**	*e*P	**P**	**03 40 07.1**	**-2.2**
BOSA				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.7						
BOSA				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.8						
BOSA	**Boshof**	**40.78**	**242**	*e*P	**P**	**03 40 07.1**	**-2.2**
	comp=Z,21nm,1.1s,mb4.7						
BOSA				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
NDI	**New Delhi**	**43.61**	**14**	*e*P	**P**	**03 40 31.0**	**-1.5**
NDI				*e*S	**S**	**03 47 04.0**	**+1.7**
KOLN	**Koldanda**	**44.66**	**22**	*e*P	**P**	**03 40 40.9**	**-0.2**
	comp=Z,51nm,0.8s,mb5.4						
DMN	**Daman**	**45.09**	**24**	*e*P	**P**	**03 40 44.0**	**-0.5**
	comp=Z,89nm,1.0s,mb5.5						
PKI	**Pulchoki**	**45.17**	**24**	*e*P	**P**	**03 40 44.7**	**-0.5**
	comp=Z,53nm,1.1s,mb5.3						
GKN	**Gorkha**	**45.26**	**23**	*e*P	**P**	**03 40 45.1**	**-0.7**
	comp=Z,77nm,1.0s,mb5.5						
KKN	**Kakani**	**45.32**	**24**	*e*P	**P**	**03 40 45.9**	**-0.4**
	comp=Z,70nm,1.0s,mb5.5						
SUR	**Sutherland**	**45.35**	**238**	P	**P**	**03 40 44.4**	**-2.1**
	comp=Z,18nm,1.2s,mb4.8						
SUR				LR	LR		
	comp=Z,398nm,19.0s,MS4.4						
CM31	**Chiang Mai Arr**	**45.45**	**46**	PFAKE		03 41 00.0	+13
CM31				LR	LR		
	comp=Z,777nm,20.0s,MS4.6						
CMAR	**Chiang Mai Arr**	**45.45**	**46**	P	**P**	**03 40 47.7**	**+0.2**
	comp=Z,5.8nm,0.8s,mb4.5,baz=242,slow=10,SNR=24						
CMAR				LR	LR	03 58 33.5	
	comp=Z,587nm,18.9s,MS4.5,baz=235,slow=34						
JIRN	**Jiri**	**45.57**	**25**	*e*P	**P**	**03 40 48.0**	**-0.3**
	comp=Z,67nm,1.1s,mb5.5						
SHL	**Shillong**	**46.45**	**32**	*e*P	**P**	**03 40 55.0**	**-0.2**
SHL				*i*		03 47 43.0	
LSA	**Lhasa**	**49.50**	**29**	P	**P**	**03 41 20.0**	**+0.9**
LSA	**Lhasa**	**49.50**	**29**	*e*P	**P**	**03 41 18.8**	**-0.3**
LSA				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.2						
LSA				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.8						
LSA	**Lhasa**	**49.50**	**29**	*e*P	**P**	**03 41 18.8**	**-0.3**
	comp=Z,24nm,0.9s,mb5.2						
LSA				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
NWAO	**Narrogin (SRO)**	**49.89**	**121**	P	**P**	**03 41 23.5**	**+1.6**
NWAO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NWAO				MLR	MLR		
	comp=Z,1μm,21.0s						
NWAO	**Narrogin (SRO)**	**49.89**	**121**	P	**P**	**03 41 23.6**	**+1.6**
	comp=Z,8.4nm,0.8s,mb4.8,baz=270,slow=9.1,SNR=3.2						
NWAO				LR	LR	03 57 45.8	
	comp=Z,7.2nm,18.2s,baz=285,slow=30						
NWAO	**Narrogin (SRO)**	**49.89**	**121**	P	**P**	**03 41 23.5**	**+1.5**
	comp=Z,1.3nm,0.6s,mb4.1						
NWAO				LR	LR		
	comp=Z,1μm,21.0s,MS4.8						
MBWA	**Marble Bar**	**51.23**	**106**	*e*P	**P**	**03 41 31.8**	**-0.4**
	comp=Z,18nm,1.1s,mb4.9						
MBWA				LR	LR		
	comp=Z,945nm,20.0s,MS4.8						
KMI	**Kunming**	**52.56**	**43**	P	**P**	**03 41 45.9**	**+3.6**
KMI				S	**S**	**03 49 11.5**	**+3.1**
KMI				*SS		03 49 16.9	
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KMI				MLR	MLR		
	comp=Z,460nm,21.9s,MS4.5						
KMI	**Kunming**	**52.56**	**43**	P	**P**	**03 41 45.9**	**+3.6**
	comp=Z,9.0nm,0.8s,mb4.8						
KMI				S	**S**	**03 49 11.5**	**+3.1**
KMI				sS		03 49 16.9	
KMI				SS	SS	03 52 53.2	+8.0
KMI				LR	LR		
	comp=Z,460nm,21.9s,MS4.5						
MAW	**Mawson**	**53.71**	**182**	P	**P**	**03 41 50.7**	**+0.4**
	comp=Z,4.3nm,1.1s,mb4.3,baz=271,slow=24,SNR=4.1						
MAW				LR	LR	03 59 11.9	
	comp=Z,677nm,20.2s,MS4.7,baz=346,slow=30						
MAW	**Mawson**	**53.71**	**182**	*e*P	**P**	**03 41 50.0**	**-0.3**
	comp=Z,16nm,1.4s,mb4.8						
QIZ	**Qiongzhong**	**53.91**	**54**	*e*P	**P**	**03 41 51.8**	**-0.5**
QIZ				S	**S**	**03 49 26.9**	**+0.2**
QIZ				LR	LR		
	comp=E,657nm,20.8s						
QIZ				LR	LR		
	comp=Z,543nm,15.6s						
QIZ	**Qiongzhong**	**53.91**	**54**	PFAKE		03 42 00.0	+7.7
QIZ				LR	LR		
	comp=Z,495nm,19.0s,MS4.6						
AAK	**Ala-Archa**	**56.74**	**7**	*e*P	**P**	**03 42 09.4**	**-3.2**
AAK				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
AAK				MLR	MLR		
	comp=Z,236nm,20.0s,MS4.3						
AAK	**Ala-Archa**	**56.74**	**7**	*e*P	**P**	**03 42 09.4**	**-3.2**
	comp=Z,16nm,1.1s,mb5.0						
AAK				LR	LR		
	comp=Z,236nm,20.0s,MS4.3						
GNI	**Garni**	**57.39**	**340**	*i*P	**P**	**03 42 14.4**	**-2.9**
GNI				pmax	pmax		
	comp=Z,77nm,1.8s						
GNI				MLR	MLR		
	comp=Z,400nm,21.0s						
GNI	**Garni**	**57.39**	**340**	*e*P	**P**	**03 42 15.8**	**-1.5**
	comp=Z,41nm,1.0s,mb5.4						
GNI				LR	LR		
	comp=Z,479nm,20.0s,MS4.6						
SYO	**Syowa Base**	**57.66**	**191**	⇑X	**P**	**03 42 14.1**	**-4.6**
SYO	**Syowa Base**	**57.66**	**191**	⇓PcP	PcP	03 43 07.0	-4.7
MALT	**Malatya**	**58.15**	**334**	P	**P**	**03 42 22.7**	**+0.1**
MALT				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
MALT	**Malatya**	**58.15**	**334**	P	**P**	**03 42 22.7**	**+0.1**
	comp=Z,8.1nm,1.3s,mb4.6						
CASY	**Casey**	**60.01**	**161**	PFAKE		03 42 50.0	+15
CASY				LR	LR		
	comp=Z,639nm,19.0s,MS4.8						
ZEI	**Tsey**	**60.03**	**341**	*e*P	**P**	**03 42 36.5**	**+0.9**
ZEI				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
ENH	**Enshi**	**60.44**	**43**	*e*P	**P**	**03 42 37.4**	**-1.1**
	comp=Z,20nm,0.7s,mb5.2						
ENH				LR	LR		
	comp=Z,686nm,20.0s,MS4.8						
WMQ	**Urumqi**	**60.65**	**18**	*e*P	**P**	**03 42 39.6**	**-0.2**
WMQ				AP	pP	03 42 42.3	+1.5
WMQ				PP	PP	03 44 55.0	-0.6
WMQ				S	**S**	**03 50 53.0**	**-2.2**
WMQ				AMB	AMB		
	comp=Z,100nm,1.2s,mb5.8						
WMQ				AMB	AMB		
	comp=Z,475nm,5.0s						
WMQ				LR	LR		
	comp=N,2μm,18.1s,MS5.3						
WMQ				LR	LR		
	comp=E,1μm,18.0s,MS5.3						
WMQ				LR	LR		
	comp=Z,2μm,18.6s,MS5.3						
TGY	**Tagaytay City**	**60.78**	**65**	P	**P**	**03 42 41.4**	**+0.3**
	comp=Z,197nm,0.3s,baz=248,slow=12,SNR=3.4						
LZH	**Lanzhou**	**61.04**	**34**	*e*P	**P**	**03 42 43.8**	**+1.3**
LZH				AP	pP	03 42 50.8	+7.2
LZH				XP	sP	03 42 55.8	+12
LZH				PP	PP	03 45 00.5	+1.3
LZH				S	**S**	**03 50 58.0**	**-2.3**
LZH				XS		03 51 12.0	
LZH				PS	PS	03 51 17.0	+1.4
LZH				SS	SS	03 55 01.0	-0.1
LZH				AMB	AMB		
	comp=Z,50nm,1.4s,mb5.5						
LZH				AMB	AMB		
	comp=Z,190nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,17.0s						
LZH				LR	LR		
	comp=Z,1μm,21.0s,MS5.0						
LZH	**Lanzhou**	**61.04**	**34**	*e*P	**P**	**03 42 43.7**	**+1.2**
LZH				*PP	pP	03 42 50.8	+7.2
LZH						03 45 00.5	
LZH				S	**S**	**03 50 58.0**	**-2.3**
LZH				*SS		03 51 12.0	
LZH				PS	PS	03 51 17.0	+1.4
LZH				SS	SS	03 55 01.0	-0.1
LZH				pmax	pmax		
	comp=Z,50nm,1.4s,mb5.5						
LZH				MLR	MLR		
	comp=Z,1μm,21.0s,MS5.0						
LZH	**Lanzhou**	**61.04**	**34**	*e*P	**P**	**03 42 43.7**	**+1.2**
	comp=Z,50nm,1.4s,mb5.5						
LZH				pP	pP	03 42 50.8	+7.2
LZH				sP	sP	03 42 55.7	+12
LZH				PP	PP	03 45 00.5	+1.3
LZH				S	**S**	**03 50 58.0**	**-2.3**
LZH				sS		03 51 12.0	
LZH				PS	PS	03 51 17.0	+1.4
LZH				SS	SS	03 55 01.0	-0.1
LZH				LR	LR		
	comp=Z,1μm,21.0s,MS5.0						
BRTR	**Keskin Array B**	**61.42**	**332**	P	**P**	**03 42 42.5**	**-2.6**
	comp=Z,7.1nm,1.0s,mb4.7,baz=156,slow=10,SNR=26						
BR131	**Keskin Array S**	**61.42**	**332**	PFAKE		03 43 00.0	+15
BR131				LR	LR		
	comp=Z,348nm,19.0s,MS4.5						
KIV	**Kislovodsk**	**61.48**	**341**	*e*P	**P**	**03 42 43.4**	**-2.0**
KIV				*e*		03 45 00.9	
KIV				*e*S	**S**	**03 51 01.8**	**-4.0**
KIV				*e*SS	SS	03 55 01.2	-6.9
KIV				*e*SSS	SSS	03 57 49.4	+2.2
KIV				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.9						
KIV	**Kislovodsk**	**61.48**	**341**	*e*P	**P**

KURK pmax pmax
comp=Z,13nm,0.8s,mb5.0
KURK Kurchatov 65.22 9 *e*P **P 03 43 06.4 -3.6**
comp=Z,13nm,0.8s,mb5.0
KURK LR LR
comp=Z,240nm,22.0s,MS4.3
BRVK Borovoye 66.76 3 *e*P **P 03 43 16.8 -3.0**
BRVK pmax pmax
comp=Z,16nm,0.8s,mb5.1
BRVK MLR MLR
comp=Z,149nm,22.0s,MS4.2
BRVK Borovoye 66.76 3 *e*P **P 03 43 16.8 -3.0**
comp=Z,16nm,0.8s,mb5.1
BRVK LR LR
comp=Z,149nm,22.0s,MS4.2
NJ2 Nanjing 67.92 47 *e*P **P 03 43 29.4 +1.9**
NJ2 AP pP 03 43 39.3 +11
NJ2 PCP PcP 03 43 51.6 -2.3
NJ2 S S 03 52 22.0 -3.4
NJ2 AMB AMB
comp=Z,40nm,0.8s,mb5.5
NJ2 AMB AMB
comp=Z,450nm,5.5s
NJ2 LR LR
comp=N,780nm,14.4s,MS5.2
NJ2 LR LR
comp=E,640nm,14.3s,MS5.2
NJ2 LR LR
comp=Z,720nm,14.3s,MS5.0
SSE Sheshan 69.08 49 *e*P **P 03 43 35.9 +1.2**
SSE AP pP 03 43 39.3 +3.6
SSE PCP PcP 03 43 54.8 -4.0
SSE PP PP 03 46 06.4 -3.1
SSE S S 03 52 44.1 +4.9
SSE AMB AMB
comp=Z,24nm,1.0s,mb5.1
SSE AMB AMB
comp=Z,95nm,4.5s
SSE LR LR
comp=N,518nm,29.1s,MS4.7
SSE LR LR
comp=E,273nm,29.0s,MS4.7
SSE LR LR
comp=Z,239nm,27.5s,MS4.3
SSE Sheshan 69.08 49 *e*P **P 03 43 35.9 +1.2**
comp=Z,24nm,1.0s,mb5.1
SSE pP pP 03 43 39.3 +3.6
SSE PcP PcP 03 43 54.7 -4.1
SSE PP PP 03 46 06.4 -3.1
SSE S S 03 52 44.1 +4.9
SSE sS 03 52 49.3
SSE SS SS 03 57 22.0 +15
SSE LR LR
comp=Z,240nm,27.5s,MS4.3
TIA Tai'an 69.13 42 *e*P **P 03 43 34.4 -0.5**
SKO Skopje 69.27 326 *e*P **P 03 43 35.0 -0.7**
KIS Kishinev 69.31 334 *e*P **P 03 43 35.0 -0.8**
KIS *e* 03 43 54.0
ZAL Zalesovo 69.37 12 P **P 03 43 33.6 -2.4**
comp=Z,13nm,1.0s,mb4.8,baz=175,slow=5.8,SNR=15
ZAL LR LR 04 13 11.7
comp=Z,984nm,18.3s,MS5.1,baz=270,slow=35
NVS Novosibirsk 69.95 10 *i* P **P 03 43 36.5 -3.0**
NVS pmax pmax
comp=Z,31nm,1.5s,mb5.0
NVS pmax pmax
comp=N,31nm,1.6s
NVS pmax pmax
comp=E,4.0nm,2.2s
ARU Arti 70.36 355 *e*P **P 03 43 37.2 -4.8**
ARU *e* 03 43 58.5
ARU *e*S S 03 52 44.2 -10
ARU Arti 70.36 355 *e*P **P 03 43 34.6 -7.5**
comp=E,24nm,1.3s,mb5.0
STKA Stephens Creek 70.38 119 P **P 03 43 42.9 +0.3**
comp=E,2.3nm,0.7s,mb4.2,baz=252,slow=8.6,SNR=3.4
STKA LR LR 04 10 03.7
comp=E,2μm,20.7s,MS5.3,baz=253,slow=32
STKA Stephens Creek 70.38 119 *e*P **P 03 43 42.6 0.0**
SNAA Sanae 70.40 198 *e* **P 03 43 52.1 +10**
SNAA Sanae 70.40 198 *e* **P 03 43 53.5 +11**
SNAA Sanae 70.40 198 *e* **P 03 43 59.3 +17**
SNAA Sanae 70.40 198⇑ *i*P **P 03 43 48.3 +6.3**
SNAA *e* 03 43 52.1
SNAA *e* 03 43 53.5
SNAA *e* 03 43 59.3
SNAA pmax pmax
comp=Z,1.0nm,0.8s
SNAA Sanae 70.40 198 P **P 03 43 41.7 -0.4**
comp=Z,0.2nm,0.6s,baz=33,slow=6.7,SNR=3.7
SNAA Sanae 70.40 198⇑ *i*P **P 03 43 48.3 +6.3**
comp=Z,1.5nm,0.8s,mb4.0
SNAA *e* 03 43 52.1
SNAA *e* 03 43 53.5
SNAA *e* 03 43 59.3
SVE Sverdlovsk 70.61 357 *e*P **P 03 43 46.0 +2.4**
VAE Valguarnera 70.62 318 LR LR 04 13 14.5
comp=Z,367nm,18.2s,MS4.7,baz=320,slow=35
BJT Baijiatuau 70.83 38 PFAKE 03 44 00.0 +15
BJT LR LR
comp=Z,522nm,20.0s,MS4.8
SONM Songino Array 71.06 27 P **P 03 43 44.9 -1.6**
comp=Z,8.8nm,0.8s,mb4.8,baz=217,slow=6.6,SNR=43
ULN Ulaanbaatar 71.38 28 *e*P **P 03 43 47.5 -0.9**
ULN pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
ULN MLR MLR
comp=Z,487nm,20.0s,MS4.8
ULN Ulaanbaatar 71.38 28 *e*P **P 03 43 47.5 -0.8**
comp=Z,8.0nm,1.1s,mb4.6
ULN LR LR
comp=Z,487nm,20.0s,MS4.8
DIVS Divcibare 71.49 327⇑ *i*P **P 03 43 50.2 +1.1**
VNA2 Neumayer--Watz 71.66 199 *e* **P 03 43 58.8 +9.1**
VNA2 Neumayer--Watz 71.66 199 *e* **P 03 43 59.5 +10**
VNA2 Neumayer--Watz 71.66 199 *e* **P 03 44 06.2 +17**
VNA2 Neumayer--Watz 71.66 199⇑ *i*P **P 03 43 55.7 +6.0**
VNA2 *e* 03 43 58.8
VNA2 *e* 03 43 59.5
VNA2 *e* 03 44 06.2
VNA2 *e* 03 46 34.2
ZAK Zakamensk 71.72 24 *e*P **P 03 43 47.2 -3.2**
MOY Mondy 71.89 22 *e*P **P 03 43 52.4 +1.1**
AKASG Malin Array Be 72.04 336 P **P 03 43 49.5 -2.8**
AKASG 03 46 28.7
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 72.04 336 P **P 03 43 49.5 -2.8**
comp=Z,5.3nm,0.8s,mb4.5,baz=139,slow=5.1,SNR=28
AKASG PP PP 03 46 28.7 -5.3
comp=Z,0.3nm,0.5s,baz=129,slow=5.9,SNR=3.3
VNA3 Neumayer Olymp 72.44 199 *e* **P 03 44 07.0 +13**
VNA3 Neumayer Olymp 72.44 199 *e* **P 03 44 11.8 +17**
VNA3 Neumayer Olymp 72.44 199 *e* PP 03 46 28.0 -9.2
VNA3 Neumayer Olymp 72.44 199⇑ *i*P **P 03 44 02.7 +8.4**
VNA3 *e* 03 44 07.0
VNA3 *e* 03 44 11.8
VNA3 *e* 03 46 28.0
TLY Talaya 72.89 23 *e*P **P 03 43 59.4 +2.2**
TLY *e*S S 03 53 20.0 -3.0
TLY pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
TLY Talaya 72.89 23 P **P 03 43 54.6 -2.6**
comp=Z,12nm,1.2s,mb4.7
TLY *e* 03 43 59.6
TLY LR LR
comp=Z,225nm,22.0s,MS4.4
OBN Obninsk 73.20 343 *i* P **P 03 43 58.2 -0.8**
OBN *e* 03 44 17.5
OBN *e* 03 46 41.0
OBN *e*SS SS 03 58 06.2 -4.0
OBN pmax pmax
comp=Z,37nm,1.8s,mb5.0
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.6
OBN Obninsk 73.20 343 PFAKE 03 44 10.0 +11
OBN LR LR
comp=Z,113nm,21.0s,MS4.1
MOS Moscow 73.45 344 *e*P **P 03 44 00.7 +0.3**
MOS *e* 03 44 16.1
MOS *e*S S 03 53 31.5 +2.2
MOS pmax pmax
comp=Z,80nm,1.6s,mb5.4
LVV L'vov 73.54 333 *i* P **P 03 44 02.0 +0.9**

DBIC Dimbokro 73.54 281 *e*P **P 03 43 58.7 -3.1**
DBIC pmax pmax
comp=Z,16nm,1.0s
DBIC MLR MLR
comp=Z,447nm,20.0s
DBIC Dimbokro 73.54 281 P **P 03 43 58.6 -3.3**
comp=Z,5.7nm,1.1s,mb4.4,baz=78,slow=8.9,SNR=6.2
DBIC LR LR 04 16 48.7
comp=Z,326nm,18.5s,MS4.7,baz=96,slow=36
DBIC Dimbokro 73.54 281 *e*P **P 03 43 58.7 -3.2**
comp=Z,16nm,1.0s,mb4.9
DBIC LR LR
comp=Z,447nm,20.0s,MS4.8
PKSM Moragy 73.61 328⇓ *e*P **P 03 44 02.8 +1.2**
KOLS Kolonicke sedl 73.69 331 *e*P **P 03 44 02.4 +0.4**
KOLS *e* 03 44 08.0
KOLS *e* 03 44 11.4
KWP Kalwaria 73.99 332 *e*P **P 03 44 04.4 +0.6**
CRVS Cervenica-Dubn 74.05 331 *e* PcP 03 44 18.9 -0.7
SRO Srobarova 74.84 329 *e*P **P 03 44 08.7 0.0**
VYHS Vyhne 75.04 329 *e*P **P 03 44 10.8 +1.0**
PDKS Podkum 75.46 326 *e*P **P 03 44 14.6 +2.3**
CEY Cerknica 75.57 325 *e*P **P 03 44 14.2 +1.3**
OJC Ojcow 75.75 331 *e*P **P 03 44 19.5 +5.7**
SMOL Smolenice 75.75 329 *e*P **P 03 44 15.2 +1.3**
ARSA Arzberg 75.92 327⇑ *i*P **P 03 44 16.4 +1.5**
comp=Z,7.9nm,0.8s,mb4.7
CTA Charters Tower 76.03 108 P **P 03 44 16.2 +0.2**
comp=Z,17nm,1.1s,mb4.9,baz=261,slow=8.4,SNR=4.0
CTA LR LR 04 15 57.2
comp=Z,2μm,18.9s,MS5.4,baz=248,slow=34
CTAO Charters Tower 76.03 108 P **P 03 44 14.5 -1.5**
CTAO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CTAO MLR MLR
comp=Z,2μm,19.0s,MS5.4
CTAO Charters Tower 76.03 108 P **P 03 44 14.5 -1.5**
comp=Z,5.5nm,0.8s,mb4.5
CTAO LR LR
comp=Z,2μm,19.0s,MS5.4
OKC Ostrava-Krasne 76.27 330 *e*P **P 03 44 18.0 +1.2**
OKC *e*x x 03 44 23.7
OKC *e*S S 03 54 08.3 +7.6
OKC AMS AMS 04 17 10.0
MORC Moravsky Berou 76.53 330 P **P 03 44 17.4 -0.8**
MOA Molln 76.96 327⇑ *i*P **P 03 44 21.5 +0.8**
comp=Z,17nm,1.0s,mb4.9
KBA Koelnbreinsper 76.98 326⇓ *i*P **P 03 44 22.6 +1.8**
comp=Z,9.1nm,1.2s,mb4.6
KBA Koelnbreinsper 76.98 326⇓ *i*P **P 03 44 22.6 +1.8**
KBA pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
DPC Dobruska-Polom 77.50 330 *e*P **P 03 44 25.3 +1.7**
DPC *e*PCP PcP 03 44 32.0 -2.4
DPC *e*S S 03 54 18.9 +4.9
DPC AMS AMS 04 15 00.0
VNDA Vanda 77.73 167 P **P 03 44 26.4 +2.0**
comp=Z,3.4nm,1.2s,mb4.2,baz=180,slow=1.3,SNR=3.0
VNDA LR LR 04 14 11.4
comp=Z,551nm,21.5s,MS4.8,baz=169,slow=32
UPC Upice 77.75 330 *e*P **P 03 44 27.0 +2.0**
UPC *e*PCP PcP 03 44 31.9 -3.6
GERES GERESS Array B 77.87 328 P **P 03 44 25.2 -0.5**
comp=Z,2.6nm,1.0s,mb4.1,baz=143,slow=6.7,SNR=10
WTTA Wattenberg 78.03 325⇑ *i*P **P 03 44 27.7 +1.1**
comp=Z,14nm,1.0s,mb4.8
WTTA Wattenberg 78.03 325⇑ *i*P **P 03 44 27.7 +1.1**
WTTA pmax pmax
comp=Z,14nm,1.0s,mb4.8
WATA Walderalm 78.10 325⇑ *i*P **P 03 44 27.6 +0.6**
comp=Z,16nm,1.4s,mb4.8
WATA Walderalm 78.10 325⇑ *i*P **P 03 44 27.6 +0.6**
WATA pmax pmax
comp=Z,16nm,1.4s,mb4.8
KHC Kasperske Hory 78.11 328 *e*P **P 03 44 27.8 +0.8**
KHC *e*x x 03 44 32.7
KHC *e*S S 03 54 22.3 +1.7
KHC AMS AMS 04 17 20.0
comp=Z,200nm,16.0s
PRU Pruhonice 78.15 329 *e*P **P 03 44 28.2 +1.0**
PRU *e*PCP PcP 03 44 34.0 -3.2
PRU *e*S S 03 54 21.4 +0.4
PRU AMS AMS 04 18 00.0
comp=Z,300nm,18.5s
SQTA Sankt Quirin 78.24 325⇓ *i*P **P 03 44 27.3 -0.4**
comp=Z,6.8nm,1.1s,mb4.5
SQTA Sankt Quirin 78.24 325⇓ *i*P **P 03 44 27.3 -0.4**
SQTA pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
MOTA Moosalm 78.37 325⇓ *i*P **P 03 44 27.8 -0.6**
comp=Z,5.9nm,1.2s,mb4.4
MOTA Moosalm 78.37 325⇓ *i*P **P 03 44 27.8 -0.6**
MOTA pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
PVCC Panska Ves 78.47 329 *e*P **P 03 44 30.4 +1.5**
PVCC AMS AMS 04 15 30.0
comp=Z,200nm,20.3s
HIA Hailar 78.52 32 PFAKE 03 44 40.0 +11
HIA LR LR
comp=Z,419nm,22.0s,MS4.7
SBA Scott Base 78.70 168 PFAKE 03 44 40.0 +10
SBA LR LR
comp=Z,437nm,20.0s,MS4.8
PMG Port Moresby 78.95 97 LR LR 04 16 24.0
comp=Z,480nm,19.5s,MS4.8,baz=14,slow=33
PMG Port Moresby 78.95 97 PFAKE 03 44 40.0 +7.7
PMG LR LR
comp=Z,589nm,21.0s,MS4.9
BRG Berggiesshubel 79.00 329 *e*P **P 03 44 33.2 +1.4**
BRG *e*S S 03 54 24.0 -6.1
BRG pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
BRG Berggiesshubel 79.00 329 *e*P **P 03 44 33.2 +1.4**
comp=Z,4.1nm,1.3s,mb4.2
BRG *e*S S 03 54 24.0 -6.1
BRG *e*SS SS 03 59 26.0 -12
DAVA Damuels 79.02 325⇑ *i*P **P 03 44 33.1 +1.1**
comp=Z,16nm,1.6s,mb4.7
VSU Vasula 79.03 340 *i* P **P 03 44 31.5 -0.3**
NKC Novy Kostel 79.36 328 *e*P **P 03 44 35.9 +2.1**
NKC *e*PCP PcP 03 44 42.3 -0.1
NKC *e*S S 03 54 33.4 -0.6
NKC AMS AMS 04 11 40.0
comp=Z,300nm,18.4s
MBDF Montbardon 79.44 321 *e*P **P 03 44 31.7 -2.7**
comp=Z,16nm,1.0s,mb4.6
MBDF Montbardon 79.44 321 *e*P **P 03 44 31.7 -2.7**
MBDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
GRA1 Grafenberg Arr 79.68 327 *e*P **P 03 44 36.0 +0.5**
comp=Z,16nm,1.2s,mb4.8
GRA1 *e*pP pP 03 44 41.0 +4.4
GRF Grafenberg Arr 79.68 327 *e*P **P 03 44 36.0 +0.5**
GRF *e**PP pP 03 44 41.0 +4.4
GRF pmax pmax
comp=Z,16nm,1.2s,mb4.8
GRF Grafenberg Arr 79.68 327 *e*P **P 03 44 36.0 +0.5**
GRF *e**PP pP 03 44 41.0 +4.4
GRF pmax pmax
comp=Z,16nm,1.2s,mb4.8
GRF Grafenberg Arr 79.68 327 *e*P **P 03 44 36.0 +0.5**
comp=Z,16nm,1.2s,mb4.8
GRF *e*pP pP 03 44 41.0 +4.4
CLL Collm 79.73 329 P sP 03 44 43.0 +5.8
CLL *e* 03 44 58.0
CLL Collm 79.73 329 *e**SP sP 03 44 43.0 +5.8
CLL *e* 03 44 58.0
LPL La Plagne 79.88 322 *e*P **P 03 44 35.2 -1.5**
MOX Moxa 80.03 328 *e*P **P 03 44 44.0 +6.6**
CABF La Chapelle 80.83 323 *e*P **P 03 44 38.1 -3.6**
comp=Z,26nm,1.3s,mb4.7
CABF La Chapelle 80.83 323 *e*P **P 03 44 38.1 -3.6**
CABF pmax pmax
comp=Z,13nm,1.3s,mb4.7
JOF Joensuu 81.27 345 *e*pkp **P 03 44 40.5 -3.2**
BOD Bodaibo 81.46 24 *e*P **P 03 44 41.6 -3.2**
FINES FINESS Array B 81.56 342 P **P 03 44 45.0 -0.2**
comp=Z,3.8nm,1.1s,mb4.2,baz=225,slow=22,SNR=4.6
MDJ Mudanjiang 81.65 40 P **P 03 44 46.8 +0.7**
MDJ AP pP 03 44 50.1 +3.0
MDJ S S 03 54 58.8 +0.9
MDJ SCS ScS 03 55 13.8 +0.5
MDJ AMB AMB
comp=Z,11nm,0.8s,mb4.8

MDJ AMB AMB
comp=Z,55nm,3.3s
MDJ LR LR
comp=N,449nm,32.5s,MS4.7
MDJ LR LR
comp=E,228nm,32.5s,MS4.7
MDJ LR LR
comp=Z,307nm,19.5s
MDJ Mudanjiang 81.65 40 *e*P **P 03 44 46.4 +0.4**
comp=Z,10nm,0.8s,mb4.8
MDJ LR LR
comp=Z,428nm,20.0s,MS4.8
KAF Kangasniemi 82.01 342 *e*pkp **P 03 44 49.2 +1.7**
GUMO Guam 82.40 74 PFAKE 03 45 00.0 +9.5
GUMO LR LR
comp=Z,1μm,22.0s,MS5.3
ETSF Etsaut 83.22 317 *e*P **P 03 44 52.9 -1.3**
comp=Z,12nm,0.8s,mb4.7
ETSF Etsaut 83.22 317 *e*P **P 03 44 52.9 -1.3**
ETSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
BAIF Baives 83.68 325 *e*P **P 03 44 55.4 -1.0**
comp=Z,37nm,1.3s,mb5.0
BAIF Baives 83.68 325 *e*P **P 03 44 55.4 -1.0**
BAIF pmax pmax
comp=Z,19nm,1.3s,mb5.1
SJPF Ste Jean 83.75 317 *e*P **P 03 44 54.4 -2.6**
comp=Z,126nm,1.7s,mb5.5
SJPF Ste Jean 83.75 317 *e*P **P 03 44 54.4 -2.6**
SJPF pmax pmax
comp=Z,63nm,1.7s,mb5.5
MAJO Matsushiro 84.14 50 PFAKE 03 45 10.0 +11
MAJO LR LR
comp=Z,422nm,20.0s,MS4.8
MAT Matsushiro 84.14 50 *e*P **P 03 44 59.0 -0.1**
MAT Matsushiro 84.14 50 P **P 03 44 59.0 -0.1**
ESDC Sonseca Array 84.21 313 P **P 03 44 58.4 -1.0**
comp=Z,3.0nm,0.8s,mb4.5,baz=69,slow=3.2,SNR=5.1
ESLA Sonseca Array 84.21 313 PFAKE 03 45 10.0 +11
ESLA LR LR
comp=Z,4μm,20.0s,MS5.8
NOA NORSAR Array B 86.46 336 P **P 03 45 12.8 +2.8**
comp=Z,1.7nm,0.7s,mb4.4,baz=120,slow=4.7,SNR=3.3
ARCES ARCESS Array B 87.99 347 P **P 03 45 20.4 +3.2**
comp=Z,6.5nm,0.8s,mb4.9,baz=146,slow=4.4,SNR=9.9
ARCES LR LR 04 29 35.3
comp=Z,274nm,18.0s,MS4.7,baz=142,slow=39
ARCES ARCESS Array B 87.99 347 P **P 03 45 20.4 +3.2**
ARCES LR LR 04 29 35.3
YAK Yakutsk 90.28 25 *i* P **P 03 45 28.5 +0.2**
YAK pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
YAK MLR MLR
comp=Z,600nm,21.0s,MS5.0
YAK Yakutsk 90.28 25 PFAKE 03 45 40.0 +12
YAK LR LR
comp=Z,555nm,20.0s,MS5.0
YSS Yuzh-Sakhalins 91.00 42 PFAKE 03 45 40.0 +8.1
YSS LR LR
comp=Z,299nm,22.0s,MS4.7
TIXI Tiksi 94.84 16⇑ *i*P **P 03 45 48.9 -0.1**
TIXI pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
TIXI Tiksi 94.84 16 PFAKE 03 46 00.0 +11
TIXI LR LR
comp=Z,1μm,22.0s,MS5.3
MA2 Magadan 99.05 31 PFAKE 03 46 20.0 +12
MA2 LR LR
comp=Z,342nm,19.0s,MS4.9
RCBR Riachuelo 100.42 261 PFAKE 03 46 30.0 +14
RCBR LR LR
comp=Z,787nm,19.0s,MS5.2
BILL Bilibino 106.50 23 *e*P Pdif 03 46 40.8 -0.6
BILL *e*PS PS 04 00 23.0 -1.2
BILL pmax pmax
comp=Z,2.0nm,1.4s
BILL MLR MLR
comp=Z,500nm,19.0s,MS5.1
BILL Bilibino 106.50 23 PFAKE 03 51 00.0
BILL LR LR
comp=Z,610nm,22.0s,MS5.1
TRQA Tornquist 109.20 221 PFAKE 03 51 10.0
TRQA LR LR
comp=Z,305nm,19.0s,MS4.9
SMY Shemya 111.68 39 PFAKE 03 51 10.0 +7.0
SMY LR LR
comp=Z,4μm,19.0s,MS6.0
AFI Afiamalu 116.17 113 PFAKE 03 51 20.0 +7.2
AFI LR LR
comp=Z,2μm,20.0s,MS5.7
TNA Tin City 116.93 22 PFAKE 03 51 20.0 +6.9
TNA LR LR
comp=Z,354nm,22.0s,MS4.9
IMA Indian Mountai 121.41 18 *e*PKIKP PKPdf 03 51 21.0 -0.9
COLA College 123.97 17 PFAKE 03 51 40.0 +13
COLA LR LR
comp=Z,556nm,20.0s,MS5.2
INK Inuvik 124.13 9 *e*PKIKP PKPdf 03 51 25.0 -2.1
ILAR Eielson Array 124.31 17 PKP PKPdf 03 51 25.2 -2.3
comp=Z,3.1nm,1.0s,baz=309,slow=3.0,SNR=20
MCK McKinley 124.50 18 PFAKE 03 51 40.0 +12
MCK LR LR
comp=Z,217nm,20.0s,MS4.8
SAML Samuel 125.02 249 PFAKE 03 51 40.0 +10
SAML LR LR
comp=Z,508nm,19.0s,MS5.2
SCHQ Schefferville 125.39 329 PKP PKPdf 03 51 27.5 -2.2
comp=Z,1.4nm,0.7s,baz=333,slow=13,SNR=1.6
SCHQ Schefferville 125.39 329 PKP PKPdf 03 51 27.5 -2.2
SCHQ LR LR
comp=Z,658nm,19.0s,MS5.3
LPAZ La Paz 125.94 238 PKIKP PKPdf 03 51 32.2 +0.4
LPAZ pmax pmax
comp=Z,1.0nm,1.0s
LPAZ La Paz 125.94 238 PKP PKPdf 03 51 32.1 +0.4
comp=Z,1.3nm,1.0s,baz=97,slow=1.7,SNR=2.5
LPAZ La Paz 125.94 238 PKPdf PKPdf 03 51 31.9 +0.1
LPAZ LR LR
comp=Z,260nm,19.0s,MS4.9
FIB Fire Island 125.94 21 PFAKE 03 51 40.0 +9.4
FIB LR LR
comp=Z,1μm,21.0s,MS5.5
KDAK Kodiak Island 127.31 25 PFAKE 03 51 40.0 +6.7
KDAK LR LR
comp=Z,172nm,19.0s,MS4.8
DIV Divide 127.43 19 PFAKE 03 51 40.0 +6.6
DIV LR LR
comp=Z,2μm,19.0s,MS5.7
TBI Tubuai 129.04 136 *e*SS SS 04 11 28.8 +24
TBI *e*LR LR 04 32 19.4
comp=Z,244nm,26.0s
PQI Presque Isle 129.84 320 PFAKE 03 51 50.0 +11
PQI LR LR
comp=Z,5μm,22.0s
EMMW East Machias 130.28 318 PFAKE 03 51 50.0 +11
EMMW LR LR
comp=Z,5μm,21.0s
YKA Yellowknife Ar 131.46 1 PKP PKPdf 03 51 40.1 -1.0
comp=Z,2.3nm,0.8s,baz=350,slow=2.3,SNR=31
YKA PP PP 03 53 52.5 -10
comp=Z,0.4nm,0.7s,baz=358,slow=6.2,SNR=4.8
YKA Yellowknife Ar 131.46 1 PKP PKPdf 03 51 40.1 -1.0
YKA PP PP 03 53 52.5 -10
WVL Waterville 131.78 318 PFAKE 03 51 50.0 +7.7
WVL LR LR
comp=Z,6μm,22.0s
PPT Papeete 132.74 130 *e*SS SS 04 11 54.2 +4.2
PPT *e*LR LR 04 33 40.4
comp=Z,338nm,24.2s
WES Weston 133.80 316 PFAKE 03 52 00.0 +14
WES LR LR
comp=Z,2μm,19.0s,MS5.7
NCB Newcomb 134.96 320 PFAKE 03 52 00.0 +12
NCB LR LR
comp=Z,787nm,19.0s,MS5.5
NNA Nana 135.36 237 PFAKE 03 52 00.0 +10
NNA LR LR
comp=Z,86nm,19.0s,MS4.5
BINY Binghamton 136.96 318 PFAKE 03 52 00.0 +8.2
BINY LR LR
comp=Z,962nm,22.0s,MS5.5
ERPA Erie 139.53 321 PFAKE 03 52 10.0 +13
ERPA LR LR
comp=Z,436nm,21.0s,MS5.2
CBN Corbin 139.79 314 PFAKE 03 52 10.0 +13
CBN LR LR

comp=Z,732nm,20.0s,MS5.4
EDM Edmonton 140.76 360 PKIKP PKPdf 03 51 55.2 -3.3
ACSO Alum Creek Sta 142.46 320 PFAKE 03 52 10.0 +8.1
ACSO LR LR
comp=Z,745nm,19.0s,MS5.5
OTAV Otavalo 142.61 252 PFAKE 03 52 10.0 +7.1
OTAV LR LR
comp=Z,483nm,22.0s,MS5.2
DGMT Dagmar 144.65 349 *e*PKPdf PKPdf 03 52 04.6 -0.8
DGMT LR LR
comp=Z,462nm,20.0s,MS5.2
JFWS Jewell Farm 144.75 330 PFAKE 03 52 20.0 +17
JFWS LR LR
comp=Z,514nm,21.0s,MS5.3
RPW Rockport 144.94 9 P PKPbc 03 52 06.5 +2.7
TAOE Nuku Hiva Isla 145.33 129 *e*SS tx 04 15 06.0
TAOE *e*LR LR 04 40 05.5
NEW Newport 145.61 4 *e*PKIKP PKPdf 03 52 07.2 +0.2
NEW MLR MLR
comp=Z,161nm,22.0s
TTW Tolt Reservoir 145.64 10 P PKPbc 03 52 08.7 +3.2
WCI Wyandotte Cave 145.72 320 PFAKE 03 52 20.0 +14
WCI LR LR
comp=Z,189nm,21.0s,MS4.8
WTV Waterville 145.89 8 P PKPbc 03 52 09.0 +2.8
ETW Entiat 145.93 8 P PKPbc 03 52 09.4 +3.1
MYNC Murphy 146.05 314 PFAKE 03 52 20.0 +13
MYNC LR LR
comp=Z,795nm,19.0s,MS5.5
CPCT Cooper Cave 146.13 314 PKPdf PKPdf 03 52 07.3 -1.1
OD2 Odessa Site #2 146.34 6 P PKPbc 03 52 10.7 +3.5
LAO LASA Array 146.72 351 *e*PKPdf PKPdf 03 52 07.2 -1.8
DWPF Disney 146.88 300 PFAKE 03 52 20.0 +11
DWPF LR LR
comp=Z,585nm,20.0s,MS5.4
MXC Moxie City 146.94 8 P PKPbc 03 52 13.5 +4.8
CHMT Chamberlain Mo 147.08 359 *e*PKPbc PKPdf 03 52 10.2 +0.6
MSO Missoula 147.16 0 *e*PKPbc PKPdf 03 52 10.4 +0.7
MSO LR LR
comp=Z,336nm,21.0s,MS5.1
WVT Waverly 147.97 318 *e*PKIKP PKPdf 03 52 08.4 -2.9
WVT *e* 03 52 14.8
WVT MLR MLR
comp=Z,409nm,19.0s,MS5.2
GCMT Greycliff 148.03 355 PKPbc PKPdf 03 52 12.9 +1.7
BOZ Bozeman (W) 148.30 357 PFAKE 03 52 20.0 +8.4
BOZ LR LR
comp=Z,328nm,22.0s,MS5.1
FVM French Village 148.36 324 PKP2 PKPab 03 52 14.2 -4.3
FVM French Village 148.36 324 *e*PKPbc PKPdf 03 52 13.8 +1.9
CCM Cathedral Cave 148.78 325 PKP2 PKPab 03 52 17.3 -2.9
CCM Cathedral Cave 148.78 325 *e*PKPbc PKPdf 03 52 14.4 +1.8
CCM LR LR
comp=Z,377nm,20.0s,MS5.2
BMO Blue Mountains 148.99 5 *e*PKIKP PKPdf 03 52 15.1 +2.4
BMO *e* 03 52 18.7
BMO MLR MLR
comp=Z,447nm,22.0s,MS5.2
QLMT Earthquake Lak 149.11 357 *e*PKPbc PKPdf 03 52 16.8 +3.9
QLMT *e*PKPab PKPab 03 52 20.5 -0.8
LRAL Lakeview Retre 149.15 313 *e*PKPbc PKPdf 03 52 14.4 +1.1
LRAL LR LR
comp=Z,500nm,19.0s,MS5.3
MCMT McKenzie Canyo 149.16 359 *e*PKPab PKPab 03 52 18.7 -2.8
YNR Norris Junctio 149.18 356 *e*PKPab PKPab 03 52 20.4 -1.1
YMR Madison River 149.24 356 *e*PKPbc PKPdf 03 52 15.8 +2.7
LKWY Lake 149.30 355 *e*PKP2 PKPab 03 52 18.8 -3.3
LKWY MLR MLR
comp=Z,647nm,20.0s,MS5.4
YFT Old Faithful 149.45 356 *e*PKPab PKPab 03 52 21.5 -1.2
OXF Oxford 149.97 317 PFAKE 03 52 20.0 +5.4
OXF LR LR
comp=Z,964nm,21.0s,MS5.6
IMW Indian Meadow 150.01 356 *e*PKPbc PKPdf 03 52 18.2 +3.8
MOOW Moose Ponds 150.14 356 *e*PKPbc PKPdf 03 52 17.7 +3.1
MOOW *e*PKPab PKPab 03 52 22.7 -2.8
LOHW Long Hollow 150.27 356 *e*PKPbc PKPdf 03 52 18.1 +3.3
LOHW *e*PKPab PKPab 03 52 23.0 -3.1
HUMO Hull Mountain 150.28 14 *e*PKPab PKPab 03 52 23.0 -3.2
HUMO LR LR
comp=Z,467nm,22.0s,MS5.2
WUWY Wally Ulrich 150.35 356 *e*PKPdf PKPdf 03 52 13.9 -1.0
WUWY *e*PKPab PKPab 03 52 23.4 -3.1
TPAW Teton Pass 150.41 356 *e*PKPbc PKPdf 03 52 18.3 +3.3
TPAW *e*PKPab PKPab 03 52 23.7 -3.0
HLID Hailey 150.43 1 PKPbc PKPdf 03 52 17.9 +2.9
HLID *e*PKPab PKPab 03 52 23.2 -3.6
HLID LR LR
comp=Z,461nm,21.0s,MS5.3
SNOW Snow King Moun 150.43 356 PKPbc PKPdf 03 52 18.2 +3.2
KSU1 Kansas State U 150.73 332 *e*PKPab PKPab 03 52 22.6 -5.6
BW06 Boulder Array 151.01 354 PFAKE 03 52 30.0 +14
BW06 LR LR
comp=Z,299nm,19.0s,MS5.1
PDAR Pinedale Array 151.01 354 PKPbc PKPdf 03 52 18.8 +2.8
comp=Z,4.1nm,0.9s,baz=56,slow=1.4,SNR=22
AHID Auburn Hatcher 151.15 356 PFAKE 03 52 30.0 +14
AHID LR LR
comp=Z,237nm,19.0s,MS5.0
YBH Yreka Blue Hor 151.17 14 *e*PKIKP PKPdf 03 52 24.7 +8.5
YBH MLR MLR
comp=Z,353nm,20.0s
WVOR Wild Horse Val 151.24 8 *e*PKIKP PKPdf 03 52 20.9 +4.7
WVOR MLR MLR
comp=Z,491nm,21.0s,MS5.3
MOD Modoc 151.50 10 *e*PKPbc PKPdf 03 52 20.5 +3.8
MOD *e*PKPab PKPab 03 52 26.0 -5.4
MOD LR LR
comp=Z,302nm,19.0s,MS5.1
PHWY Pilot Hill 151.77 347 *e*PKPbc PKPdf 03 52 24.7 +7.6
HVU Hansel Valley 152.20 359 *e*PKIKP PKPdf 03 52 17.3 -0.4
WDC Whiskeytown Da 152.30 15 *e*PKIKP PKPdf 03 52 24.3 +6.4
WDC MLR MLR
comp=Z,199nm,20.0s,MS4.9
HWUT Hardware Ranch 152.33 357 *e*PKPbc PKPdf 03 52 20.6 +2.7
HWUT *e*PKPab PKPab 03 52 27.2 -7.6
HWUT LR LR
comp=Z,450nm,21.0s,MS5.2
SPUT South Promonto 152.66 358 PKPbc PKPdf 03 52 22.3 +4.0
TCUT Toone Canyon 152.81 356 *e*PKP PKPdf 03 52 28.3 +10
ISCO Idaho Springs 153.24 346 PFAKE 03 52 30.0 +11
ISCO LR LR
comp=Z,393nm,19.0s,MS5.2
DAU Daniels Canyon 153.50 356 *e*PKIKP PKPdf 03 52 24.3 +4.8
SRU San Rafael 154.73 354 *e*PKP PKPdf 03 52 31.0 +10
TEIG Tepich 154.95 288 PFAKE 03 52 30.0 +7.9
TEIG LR LR
comp=Z,206nm,20.0s,MS5.0
NATX Nacogdoches 155.12 319 PFAKE 03 52 30.0 +8.0
NATX LR LR
comp=Z,462nm,19.0s,MS5.3
SDCO Great Sand Dun 155.16 344 PFAKE 03 52 30.0 +8.1
SDCO LR LR
comp=Z,505nm,21.0s,MS5.3
NVAR Mina Array Bea 155.22 9 PKP PKPdf 03 52 24.3 +2.4
comp=Z,0.9nm,0.8s,baz=2.4,slow=1.4,SNR=7.1
NVAR PKPbc PKPdf 03 52 32.2 +10
comp=Z,3.2nm,0.8s,baz=332,slow=0.7,SNR=18
CMB Columbia Colle 155.22 13 PFAKE 03 52 30.0 +8.1
CMB LR LR
comp=Z,376nm,19.0s,MS5.2
MNV Mina 155.24 8 *e*PKP PKPdf 03 52 34.0 +12
PV10 Paradox Valley 155.27 351 *e*PKPbc PKPdf 03 52 27.3 +5.3
WMOK Wichita Mounta 155.27 330 PFAKE 03 52 30.0 +7.9
WMOK LR LR
comp=Z,349nm,20.0s,MS5.2
MVU Marysvale 155.45 357 PFAKE 03 52 30.0 +7.8
MVU LR LR
comp=Z,356nm,20.0s,MS5.2
TPH Tonopah 155.71 7 PFAKE 03 52 30.0 +7.4
TPH LR LR
comp=Z,324nm,21.0s,MS5.1
SAO San Andreas Ge 156.18 16 PFAKE 03 52 30.0 +6.8
SAO LR LR
comp=Z,405nm,21.0s,MS5.2
AMTX Amarillo 156.47 335 PFAKE 03 52 30.0 +6.3
AMTX LR LR
comp=Z,513nm,20.0s,MS5.3
HKT Hockley 157.06 317 PFAKE 03 52 30.0 +5.4
HKT LR LR
comp=Z,354nm,20.0s,MS5.2
DAC Darwin (Calif) 157.43 8 PFAKE 03 52 40.0 +15
DAC LR LR
comp=Z,439nm,19.0s,MS5.3
ANMO Albuquerque 158.05 344 PFAKE 03 52 40.0 +14
ANMO LR LR
comp=Z,442nm,22.0s,MS5.2
NEN Nelson 158.31 3 *e*PKP PKPdf 03 52 29.7 +3.7
WUAZ Wupatki 158.37 355 PFAKE 03 52 40.0 +14
WUAZ LR LR
comp=Z,5μm,20.0s
JCT Junction City 159.13 325 PFAKE 03 52 40.0 +13
JCT LR LR
comp=Z,362nm,22.0s,MS5.2
PFO Pinyon Flat Ob 160.21 7 PFAKE 03 52 40.0 +12
PFO LR LR
comp=Z,82nm,20.0s
MNTX Cornudas Mount 160.72 338 PFAKE 03 52 40.0 +11
MNTX LR LR
comp=Z,405nm,21.0s
TUC Tucson 161.48 352 PFAKE 03 52 40.0 +10
TUC LR LR
comp=Z,252nm,20.0s
TXAR Lajitas Array 162.06 331 PKP PKPdf 03 52 30.0 -0.2
comp=Z,1.2nm,1.0s,baz=9.5,slow=5.5,SNR=2.8
TXAR PKPab PKPab 03 53 13.8 -3.1
comp=Z,1.0nm,0.9s,baz=67,slow=6.9,SNR=2.9
TXAR Lajitas Array 162.06 331 PKP PKPdf 03 52 30.0 -0.2
TXAR PKPab PKPab 03 53 13.8 -3.2

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*IDC **23** 03:47:03.6±0.8, 9.40N×93.04E, mb4.0/13, mb1 4.1/14, mb1mx4.0/22, mbtmp4.0/14, ML4.3/1, Error ellipse: s-maj=42.2km s-min=15.2km az=58.0*
*NEIC **23** 03:47:08.1±0.5, 9.41N×93.09E, h30km, mb4.3/3, Error ellipse: s-maj=22.7km s-min=9.0km az=58.0*
ISC 23 03:47:05.6±0.6, 9.18N±0.08×92.83E±0.07, h30km, n23, σ0$91/24, mb4.0/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.96**	**32**	Pn	**P**	**03 49 44.5**	**+0.8**
	0.7nm,0.3s,baz=225,slow=14,SNR=7.5						
PALK	**Pallekele**	**12.15**	**262**	P	**P**	**03 50 09.7**	**+10**
PALK				*e*S	**S**	**03 52 14.8**	**-0.6**
JIRN	**Jiri**	**19.42**	**342**	*e*P	**P**	**03 51 34.0**	**+1.4**
PKI	**Pulchoki**	**19.59**	**340**	*e*P	**P**	**03 51 39.9**	**+5.5**
DMN	**Daman**	**19.73**	**339**	*e*P	**P**	**03 51 42.6**	**+6.6**
GUN	**Gumba**	**19.75**	**342**	*e*P	**P**	**03 51 36.3**	**+0.1**
GKN	**Gorkha**	**20.25**	**339**	*e*P	**P**	**03 51 42.1**	**+0.6**
SONM	**Songino Array**	**40.20**	**14**	P	**P**	**03 54 40.3**	**-0.8**
	1.7nm,0.9s,mb3.8,baz=198,slow=7.2,SNR=12						
SONM				PcP	PcP	03 56 45.6	+0.2
	0.2nm,0.6s,baz=211,slow=4.1,SNR=3.7						
ULN	**Ulaanbaatar**	**40.39**	**15**	*e*P	**P**	**03 54 41.0**	**-1.7**
	1.0nm,0.7s,mb3.6						
ZAL	**Zalesovo**	**45.10**	**353**	P	**P**	**03 55 20.7**	**-0.2**
	0.6nm,0.3s,mb3.8,baz=58,slow=24,SNR=2.7						
BVAR	**Borovoye Array**	**47.35**	**342**	P	**P**	**03 55 38.3**	**-0.4**
	1.1nm,0.9s,mb3.8,baz=135,slow=8.4,SNR=5.7						
NWAO	**Narrogin (SRO)**	**47.90**	**152**	P	**P**	**03 55 45.4**	**+2.0**
	2.8nm,0.7s,mb4.4,baz=104,slow=23,SNR=2.1						
WRA	**Warramunga Arr**	**50.07**	**126**	P	**P**	**03 56 00.0**	**-0.1**
	1.0nm,0.5s,mb4.1,baz=303,slow=8.8,SNR=11						
WRA				PcP	PcP	03 57 20.4	+0.5
	0.3nm,0.5s,baz=314,slow=3.0,SNR=5.5						
WRAB	**Tennant Creek**	**50.07**	**126**	*e*P	**P**	**03 55 59.8**	**-0.4**
	1.9nm,0.5s,mb4.4						
ASAR	**Alice Springs**	**51.74**	**130**	P	**P**	**03 56 12.3**	**-0.5**
	0.6nm,0.5s,mb3.8,baz=303,slow=7.4,SNR=18						
ASAR				PcP	PcP	03 57 27.1	+1.1
	0.5nm,0.6s,baz=316,slow=3.7,SNR=7.7						
BRTR	**Keskin Array B**	**60.60**	**311**	P	**P**	**03 57 16.6**	**+0.5**
	0.5nm,0.6s,mb3.8,baz=135,slow=7.0,SNR=5.2						
FINES	**FINESS Array B**	**70.96**	**332**	P	**P**	**03 58 21.5**	**-0.6**
	0.9nm,0.9s,mb3.7,baz=45,slow=11,SNR=4.7						
ARCES	**ARCESS Array B**	**73.61**	**340**	P	**P**	**03 58 37.1**	**-0.5**
	2.8nm,1.0s,mb4.1,baz=90,slow=6.3,SNR=3.1						
GERES	**GERESS Array B**	**76.00**	**318**	P	**P**	**03 58 53.2**	**+1.5**
	0.3nm,0.4s,mb3.6,baz=63,slow=6.0,SNR=4.9						
HFS	**Hagfors**	**76.68**	**330**	P	**P**	**03 58 55.5**	**+0.1**
	3.2nm,1.0s,mb4.2,baz=108,slow=4.7,SNR=5.4						
ILAR	**Eielson Array**	**94.03**	**22**	P	**P**	**04 00 21.1**	**-0.8**
	0.4nm,0.6s,mb4.0,baz=299,slow=4.2,SNR=7.5						
INK	**Inuvik**	**96.10**	**16**	P	**P**	**04 00 31.3**	**0.0**
	1.0nm,0.6s,mb4.5,baz=309,slow=1.7,SNR=9.9						
INK	**Inuvik**	**96.10**	**16**	*e*P	**P**	**04 00 31.1**	**-0.2**
	1.1nm,0.7s,mb4.4						

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*IDC **23** 04:31:10.5±1.0, 4.37N×93.12E, mb4.2/11, mb1 4.3/12, mb1mx4.2/18, mbtmp4.1/12, ML2.7/1, MS3.6/3, Ms1 3.7/3, ms1mx3.2/19, Error ellipse: s-maj=41.3km s-min=21.8km az=47.0*
*BJI **23** 04:31:11.9, 4.03N×92.95E, h30km, mb4.3, Ms3.8, Msz3.8*
*NEIC **23** 04:31:15.4±0.4, 4.35N×93.17E, h30km, mb4.5/11, Error ellipse: s-maj=9.6km s-min=8.3km az=218.0*
ISC 23 04:31:14.5±0.5, 4.46N±0.07×93.27E±0.06, h33km, n70, σ1$00/71, mb4.4/26, MS3.7/3, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**7.17**	**356**	*e*P	**P**	**04 32 57.5**	**-2.1**
PBA				*e*S	**S**	**04 34 11.7**	**-9.1**
SNG	**Songkhla**	**7.80**	**69**	P	**P**	**04 33 06.0**	**-2.4**
PALK	**Pallekele**	**12.80**	**283**	*e*P	**P**	**04 34 13.1**	**-3.9**
	9.7nm,0.3s						
CM31	**Chiang Mai Arr**	**14.98**	**21**	*e*Pn	**P**	**04 34 46.2**	**+0.5**
	13nm,0.6s						
CM31				*e*		04 34 53.9	
CMAR	**Chiang Mai Arr**	**14.98**	**21**	Pn	**P**	**04 34 45.1**	**-0.6**
	0.0nm,0.3s,baz=218,slow=13,SNR=17						
CMAR				LR	LR	04 41 57.0	
	comp=Z,174nm,18.0s,baz=208,slow=43						
CMAR	**Chiang Mai Arr**	**14.98**	**21**	Pn	**P**	**04 34 45.1**	**-0.6**
CMAR				LR	LR	04 41 57.0	
KKTK	**Khon Kaen**	**15.08**	**38**	P	**P**	**04 34 48.5**	**+1.5**
	494nm,0.8s						
CHG	**Chiang Mai**	**15.31**	**21**	⇓P	**P**	**04 34 55.1**	**+5.2**
	10.0nm,0.9s						
VIS	**Vishakhapatnam**	**16.38**	**324**	*e*P	**P**	**04 35 01.8**	**-1.9**
VIS				*e*		04 35 03.9	
	comp=Z,117nm,0.8s						
VIS				*e*S	**S**	**04 38 02.8**	**-1.0**
KOD	**Kodaikanal**	**16.68**	**291**	*e*P	**P**	**04 35 07.3**	**-0.1**
HYB	**Hyderabad**	**19.33**	**313**	*e*P	**P**	**04 35 39.0**	**-0.9**
	comp=Z,40nm,1.0s						
HYB				*e*S	**S**	**04 39 07.0**	**-3.8**
HYB	**Hyderabad**	**19.33**	**313**	*i* P	**P**	**04 35 39.0**	**-0.9**
	comp=Z,40nm,1.0s						
HYB				*e*S	**S**	**04 39 07.0**	**-3.8**
SHL	**Shillong**	**21.03**	**357**	*e*P	**P**	**04 35 57.0**	**-0.9**
SHL				*e*P		04 36 07.8	
SHL				*e*		04 36 11.8	
	comp=Z,36nm,0.5s						
SHL				*e*		04 39 42.5	
KMI	**Kunming**	**22.47**	**23**	P	**P**	**04 36 16.1**	**+3.8**
	comp=Z,12nm,1.2s,mb4.2						
KMI				sP		04 36 29.3	
KMI				LR	LR		
	comp=Z,220nm,14.5s,MS3.7						
KAD	**Karad**	**22.64**	**306**	*e*P	**P**	**04 36 14.8**	**+0.7**
KAD				*e*		04 36 17.0	
	comp=Z,66nm,0.9s						
POO	**Poona**	**23.57**	**308**	*e*P	**P**	**04 36 25.0**	**+1.8**
POO				AMb	AMB	04 36 28.1	
	comp=Z,27nm,1.1s,mb4.6						
JIRN	**Jiri**	**24.04**	**344**	*e*P	**P**	**04 36 28.8**	**+1.1**
	comp=Z,67nm,0.4s,mb5.4						
BHPL	**Bhopal**	**24.14**	**322**	*e*P	**P**	**04 36 30.7**	**+2.0**
BHPL				AMb	AMB	04 36 31.3	
	comp=Z,20nm,0.7s,mb4.7						
PKI	**Pulchoki**	**24.17**	**343**	*e*P	**P**	**04 36 29.6**	**+0.6**
DMN	**Daman**	**24.30**	**342**	*e*P	**P**	**04 36 31.7**	**+1.5**
	comp=Z,148nm,0.5s						
KKN	**Kakani**	**24.42**	**343**	*e*P	**P**	**04 36 32.2**	**+0.8**
	comp=Z,134nm,0.8s,mb5.4						
GKN	**Gorkha**	**24.81**	**342**	*e*P	**P**	**04 36 35.9**	**+0.7**
	comp=Z,75nm,0.3s						
KOLN	**Koldanda**	**24.94**	**339**	*e*P	**P**	**04 36 37.0**	**+0.5**
	comp=Z,64nm,0.5s,mb5.4						
LSA	**Lhasa**	**25.18**	**356**	*e*P	**P**	**04 36 42.0**	**+3.3**
LSA	**Lhasa**	**25.18**	**356**	*e*P	**P**	**04 36 40.8**	**+2.1**
	comp=Z,13nm,0.6s,mb4.7						
NDI	**New Delhi**	**28.51**	**329**	*e*	**P**	**04 37 08.0**	**-1.2**
XAN	**Xi'an**	**32.84**	**24**	P	**P**	**04 37 52.3**	**+4.9**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
MBWA	**Marble Bar**	**36.35**	**135**	*e*P	**P**	**04 38 16.8**	**-0.8**
	comp=Z,0.8nm,0.4s,mb4.0						
MBWA				*e*	pP	04 38 27.6	+0.2
AAK	**Ala-Archa**	**41.52**	**339**	*e*P	**P**	**04 38 59.7**	**-0.7**
	comp=Z,6.0nm,1.1s,mb4.1						
SONM	**Songino Array**	**44.66**	**13**	P	**P**	**04 39 26.1**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.6,baz=180,slow=4.9,SNR=8.1						
WRA	**Warramunga Arr**	**47.09**	**122**	P	**P**	**04 39 45.1**	**-0.3**
	comp=Z,1.0nm,0.8s,mb3.8,baz=299,slow=9.0,SNR=3.4						
KURK	**Kurchatov**	**47.71**	**347**	*e*P	**P**	**04 39 50.2**	**+0.2**
	comp=Z,12nm,0.6s,mb5.1						
ASAR	**Alice Springs**	**48.48**	**127**	P	**P**	**04 39 55.7**	**-0.6**
	comp=Z,0.4nm,0.9s,mb3.5,baz=293,slow=6.9,SNR=3.2						
ASAR				LR	LR	05 02 48.0	
	comp=Z,69nm,20.2s,MS3.6,baz=338,slow=39						
BVAR	**Borovoye Array**	**51.94**	**343**	P	**P**	**04 40 21.6**	**-0.7**
	comp=Z,8.4nm,0.6s,mb4.8,baz=141,slow=9.5,SNR=62						
BRVK	**Borovoye**	**52.01**	**343**	*e*P	**P**	**04 40 22.1**	**-0.7**
	comp=Z,3.8nm,0.5s,mb4.6						
GNI	**Garni**	**56.24**	**316**	*e*P	**P**	**04 40 53.2**	**-0.8**
CTA	**Charters Tower**	**57.47**	**117**	LR	LR	05 06 14.3	
	comp=Z,57nm,18.9s,MS3.7,baz=43,slow=37						
BRTR	**Keskin Array B**	**64.03**	**312**	P	**P**	**04 41 46.0**	**-1.3**
	comp=Z,5.4nm,0.7s,mb4.7,baz=128,slow=7.4,SNR=42						
AKASG	**Malin Array Be**	**70.30**	**323**	P	**P**	**04 42 24.6**	**-2.0**
	comp=Z,1.1nm,0.4s,mb4.1,baz=87,slow=4.9,SNR=11						
KOLS	**Kolonicke sedl**	**74.20**	**320**	*e*P	**P**	**04 42 50.5**	**+0.7**
CRVS	**Cervenica-Dubn**	**74.72**	**319**	*e*P	**P**	**04 42 57.0**	**+4.2**
CRVS	**Cervenica-Dubn**	**74.72**	**319**	*e*	**P**	**04 42 57.0**	**+4.2**
FINES	**FINESS Array B**	**75.32**	**333**	P	**P**	**04 42 55.2**	**-0.8**
	comp=Z,2.0nm,0.5s,mb4.3,baz=96,slow=5.8,SNR=24						
FINES	**FINESS Array B**	**75.32**	**333**	P	**P**	**04 42 55.2**	**-0.8**
KAF	**Kangasniemi**	**75.43**	**333**	*e*p	**P**	**04 42 55.5**	**-1.1**
	comp=Z,1.5nm,0.4s,mb4.3,baz=106,slow=5.4						
VYHS	**Vyhne**	**76.37**	**319**	*e*P	**P**	**04 43 02.3**	**+0.1**
SRO	**Srobarova**	**76.61**	**318**	*e*P	**P**	**04 43 04.6**	**+1.0**
OKC	**Ostrava-Krasne**	**77.02**	**320**	*e*P	**P**	**04 43 06.3**	**+0.4**
ZST	**Bratislava**	**77.47**	**318**	*e*P	**P**	**04 43 08.9**	**+0.4**
ARCES	**ARCESS Array B**	**78.17**	**341**	P	**P**	**04 43 12.1**	**+0.2**
	comp=Z,3.8nm,0.7s,mb4.4,baz=90,slow=7.3,SNR=10						
ARCES	**ARCESS Array B**	**78.17**	**341**	P	**P**	**04 43 12.1**	**+0.2**
DPC	**Dobruska-Polom**	**78.25**	**320**	*e*P	**P**	**04 43 13.4**	**+0.7**
GROS	**Grobnik**	**78.35**	**316**	*i* P	**P**	**04 43 13.1**	**-0.3**
UPC	**Upice**	**78.47**	**321**	*e*P	**P**	**04 43 14.7**	**+0.8**
PERS	**Pernice**	**78.64**	**317**	*i* P	**P**	**04 43 15.0**	**+0.1**
PRU	**Pruhonice**	**79.35**	**320**	*e*P	**P**	**04 43 19.2**	**+0.5**
PVCC	**Panska Ves**	**79.39**	**320**	*e*P	**P**	**04 43 19.3**	**+0.4**
CADS	**Cadrg**	**79.55**	**316**	*i* P	**P**	**04 43 19.5**	**-0.4**
GERES	**GERESS Array B**	**79.79**	**319**	P	**P**	**04 43 21.4**	**+0.3**
	comp=Z,4.2nm,0.7s,mb4.5,baz=104,slow=5.5,SNR=38						
BRG	**Berggiesshubel**	**79.82**	**321**	*i* P	**P**	**04 43 21.2**	**0.0**
	comp=Z,3.3nm,0.8s,mb4.3						
KHC	**Kasperske Hory**	**79.89**	**319**	*e*P	**P**	**04 43 21.9**	**+0.2**
CLL	**Collm**	**80.45**	**321**	*e*P	**P**	**04 43 24.0**	**-0.6**
CLL	**Collm**	**80.45**	**321**	P	**P**	**04 43 24.0**	**-0.6**
GRA1	**Grafenberg Arr**	**81.47**	**319**	*e*P	**P**	**04 43 30.6**	**+0.6**
GRF	**Grafenberg Arr**	**81.47**	**319**	*e*P	**P**	**04 43 30.6**	**+0.6**
NOA	**NORSAR Array B**	**82.27**	**331**	P	**P**	**04 43 34.3**	**+0.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=95,slow=6.2,SNR=2.9						
LPG	**La Plagne**	**84.40**	**315**	*e*P	**P**	**04 43 45.2**	**+0.1**
	comp=Z,7.2nm,0.7s,mb4.6						
ESDC	**Sonseca Array**	**92.73**	**310**	P	**P**	**04 44 25.6**	**+0.6**
	comp=Z,0.3nm,0.6s,mb3.9,baz=65,slow=3.9,SNR=5.8						
CPUP	**Villa Florida**	**144.44**	**229**	PKP	PKPdf	04 50 48.2	0.0
	comp=Z,0.0nm,0.3s,baz=181,slow=12,SNR=1.6						
CPUP	**Villa Florida**	**144.44**	**229**	PKP	PKPdf	04 50 48.2	0.0

IDC 23 04:43:39.1±20.0, 7.20N×94.32E, h112km±117km, mb3.7/4, mb1 3.7/5, mb1mx3.3/18, mbtmp3.9/5, Error ellipse: s-maj=241.0km s-min=101.9km az=153.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.06**	**22**	P	P	04 46 27.4	-0.9
	baz=210,slow=14,SNR=0.8						
SONM	**Songino Array**	**41.78**	**12**	P	P	04 51 17.4	-1.6
	0.7nm,0.9s,baz=188,slow=8.7,SNR=4.9						
ZAL	**Zalesovo**	**47.23**	**352**	P	P	04 52 00.6	-1.9
	1.7nm,0.4s,baz=210,slow=5.6,SNR=7.2						
FINES	**FINESS Array B**	**73.38**	**332**	P	P	04 54 58.6	-1.8
	1.0nm,0.8s,baz=124,slow=5.0,SNR=7.5						
ARCES	**ARCESS Array B**	**75.95**	**340**	P	P	04 55 13.6	-1.4
	3.9nm,1.0s,baz=90,slow=5.4,SNR=3.9						

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*IDC **23** 05:07:01.1±0.7, 3.06N×93.73E, mb4.2/16, mb1 4.3/17, mb1mx4.2/23, mbtmp4.1/17, ML4.0/1, Error ellipse: s-maj=28.8km s-min=15.1km az=46.0*
*NEIC **23** 05:07:05.8±0.3, 3.08N×93.78E, h30km, mb4.4/6, Error ellipse: s-maj=12.5km s-min=7.2km az=56.0*
ISC 23 05:07:04.4±0.5, 3.09N±0.09×93.8E±0.1, h33km, n26, σ0$77/25, mb4.2/22, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.08**	**18**	Pn	**P**	**05 10 48.9**	**-0.9**
	0.2nm,0.3s,baz=212,slow=12,SNR=15						
LSA	**Lhasa**	**26.58**	**355**	*e*P	**P**	**05 12 43.5**	**+1.9**
	14nm,0.7s,mb4.6						
MBWA	**Marble Bar**	**35.02**	**135**	*e*P	**P**	**05 13 56.7**	**+0.5**
	0.7nm,0.5s,mb3.9						
SONM	**Songino Array**	**45.88**	**12**	P	**P**	**05 15 25.6**	**0.0**
	1.2nm,0.7s,mb4.0,baz=188,slow=7.3,SNR=11						
SONM				PcP	PcP	05 17 01.8	-1.0
	0.7nm,0.9s,baz=225,slow=2.0,SNR=2.8						
WRA	**Warramunga Arr**	**45.92**	**122**	P	**P**	**05 15 26.2**	**0.0**
	5.1nm,0.9s,mb4.5,baz=300,slow=9.0,SNR=18						
WRAB	**Tennant Creek**	**45.92**	**122**	*e*P	**P**	**05 15 26.2**	**-0.1**
	11nm,1.0s,mb4.8						
ULN	**Ulaanbaatar**	**46.05**	**12**	P	**P**	**05 15 26.9**	**0.0**
	1.3nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**47.24**	**126**	P	**P**	**05 15 36.5**	**-0.1**
	6.8nm,1.2s,mb4.5,baz=300,slow=7.9,SNR=17						
ASAR				PcP	PcP	05 17 08.2	+0.2
	0.4nm,0.7s,baz=270,slow=0.9,SNR=3.4						
KURK	**Kurchatov**	**49.15**	**347**	*e*P	**P**	**05 15 51.2**	**+0.1**
	3.3nm,0.9s,mb4.4						
ZAL	**Zalesovo**	**51.22**	**353**	P	**P**	**05 16 07.3**	**+0.6**
	1.6nm,0.4s,mb4.3,baz=219,slow=3.7,SNR=9.3						
BVAR	**Borovoye Array**	**53.40**	**343**	P	**P**	**05 16 22.6**	**-0.6**
	1.7nm,0.8s,mb4.1,baz=149,slow=8.6,SNR=11						
BRVK	**Borovoye**	**53.46**	**343**	*e*P	**P**	**05 16 22.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.16**	**18**	Pn	**P**	**05 11 00.1**	**+1.3**
	0.6nm,0.3s,baz=214,slow=12,SNR=9.9						
LSA	**Lhasa**	**26.66**	**355**	*eP*	**P**	**05 12 51.5**	**+1.0**
	22nm,0.6s,mb4.9						
MBWA	**Marble Bar**	**34.98**	**135**	*eP*	**P**	**05 14 04.0**	**0.0**
	4.5nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**45.89**	**122**	P	**P**	**05 15 34.3**	**+0.1**
	3.9nm,0.7s,mb4.5,baz=300,slow=8.9,SNR=12						
WRA	**Warramunga Arr**	**45.89**	**122**	P	**P**	**05 15 34.3**	**+0.1**
WRAB	**Tennant Creek**	**45.90**	**122**	*eP*	**P**	**05 15 33.7**	**-0.4**
	3.3nm,0.5s,mb4.5						
SONM	**Songino Array**	**45.96**	**12**	P	**P**	**05 15 33.8**	**-0.4**
	1.4nm,0.7s,mb4.0,baz=193,slow=8.5,SNR=8.9						
SONM				PcP	PcP	05 17 11.3	+0.2
	0.6nm,0.7s,baz=183,slow=3.6,SNR=3.5						
SONM	**Songino Array**	**45.96**	**12**	P	**P**	**05 15 33.8**	**-0.4**
SONM				PcP	PcP	05 17 11.3	+0.2
ASAR	**Alice Springs**	**47.22**	**126**	P	**P**	**05 15 44.8**	**+0.3**
	2.7nm,1.0s,mb4.1,baz=301,slow=7.2,SNR=8.7						
ASAR				PcP	PcP	05 17 16.4	+0.5
	0.4nm,0.5s,baz=302,slow=3.2,SNR=5.4						
ASAR	**Alice Springs**	**47.22**	**126**	P	**P**	**05 15 44.8**	**+0.3**
ASAR				PcP	PcP	05 17 16.4	+0.5
KURK	**Kurchatov**	**49.22**	**347**	*eP*	**P**	**05 15 59.2**	**-0.5**
	5.4nm,0.8s,mb4.6						
ZAL	**Zalesovo**	**51.29**	**353**	P	**P**	**05 16 15.0**	**-0.4**
	3.7nm,0.5s,mb4.5,baz=200,slow=5.5,SNR=11						
ZAL	**Zalesovo**	**51.29**	**353**	P	**P**	**05 16 15.0**	**-0.4**
BVAR	**Borovoye Array**	**53.47**	**343**	P	**P**	**05 16 30.1**	**-1.6**
	2.8nm,0.6s,mb4.3,baz=149,slow=8.6,SNR=13						
BVAR	**Borovoye Array**	**53.47**	**343**	P	**P**	**05 16 30.1**	**-1.6**
BRVK	**Borovoye**	**53.52**	**343**	*eP*	**P**	**05 16 30.5**	**-1.7**
	3.7nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**57.11**	**131**	P	**P**	**05 16 58.2**	**-0.2**
	1.8nm,0.7s,mb4.2,baz=279,slow=7.1,SNR=3.9						
STKA	**Stephens Creek**	**57.11**	**131**	*eP*	**P**	**05 16 58.1**	**-0.3**
BRTR	**Keskin Array B**	**65.37**	**313**	P	**P**	**05 17 53.5**	**-0.5**
	3.4nm,1.1s,mb4.3,baz=136,slow=8.3,SNR=7.9						
BRTR	**Keskin Array B**	**65.37**	**313**	P	**P**	**05 17 53.5**	**-0.5**
IDI	**Anoyia**	**71.08**	**306**	P	**P**	**05 18 30.2**	**+0.6**
	9.6nm,0.8s,mb4.8,baz=229,slow=10,SNR=2.8						
AKASG	**Malin Array Be**	**71.75**	**323**	P	**P**	**05 18 32.1**	**-1.2**
	1.2nm,0.7s,mb4.0,baz=92,slow=4.8,SNR=4.0						
MLR	**Muntele Rosu**	**72.41**	**317**	P	**P**	**05 18 38.1**	**+0.8**
	3.0nm,0.8s,mb4.3,baz=169,slow=2.0,SNR=4.7						
MLR	**Muntele Rosu**	**72.41**	**317**	P	**P**	**05 18 38.1**	**+0.8**
FINES	**FINESS Array B**	**76.83**	**333**	P	**P**	**05 19 01.9**	**-0.7**
	1.6nm,0.7s,mb4.1,baz=90,slow=7.6,SNR=3.6						
FINES	**FINESS Array B**	**76.83**	**333**	P	**P**	**05 19 01.9**	**-0.7**
ARCES	**ARCESS Array B**	**79.69**	**341**	P	**P**	**05 19 18.2**	**+0.1**
	2.8nm,0.9s,mb4.2,baz=78,slow=11,SNR=4.7						
ARCES	**ARCESS Array B**	**79.69**	**341**	P	**P**	**05 19 18.2**	**+0.1**
VAE	**Valguarnera**	**79.73**	**307**	P	**P**	**05 19 19.8**	**+0.8**
	11nm,0.9s,mb4.8,baz=326,slow=2.5,SNR=2.8						
VAE	**Valguarnera**	**79.73**	**307**	P	**P**	**05 19 19.8**	**+0.8**
GERES	**GERESS Array B**	**81.20**	**319**	P	**P**	**05 19 27.6**	**+1.0**
	1.9nm,0.7s,mb4.2,baz=108,slow=5.6,SNR=11						
GERES	**GERESS Array B**	**81.20**	**319**	P	**P**	**05 19 27.6**	**+1.0**
DAVOX	**Davos**	**83.63**	**317**	P	**P**	**05 19 40.6**	**+1.5**
	5.7nm,0.7s,mb4.8,baz=137,slow=5.5,SNR=6.8						
DAVOX	**Davos**	**83.63**	**317**	P	**P**	**05 19 40.6**	**+1.5**
CPUP	**Villa Florida**	**143.87**	**227**	PKP	PKPdf	05 26 46.2	+1.0
	0.0nm,0.4s,baz=249,slow=12,SNR=1.7						
CPUP	**Villa Florida**	**143.87**	**227**	PKP	PKPdf	05 26 46.2	+1.0

IDC 23 05:19:46.5±14.0, 4.86N×96.32E, h68km±118km, mb3.5/5, mb1 3.7/6, mb1mx3.4/17, mbtmp3.8/6, ML4.5/1, Error ellipse: s-maj=146.3km s-min=20.9km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.76**	**11**	P	P	05 22 58.5	-1.4
	0.7nm,0.3s,baz=194,slow=18,SNR=4.2						
SONM	**Songino Array**	**43.68**	**10**	P	P	05 27 44.6	-1.8
	0.3nm,0.4s,baz=194,slow=9.9,SNR=2.6						
WRA	**Warramunga Arr**	**44.76**	**125**	P	P	05 27 53.7	-1.8
	0.6nm,0.4s,baz=301,slow=9.3,SNR=6.1						
ASAR	**Alice Springs**	**46.33**	**129**	P	P	05 28 06.2	-1.7
	1.5nm,0.6s,baz=299,slow=7.3,SNR=27						
STKA	**Stephens Creek**	**56.47**	**134**	P	P	05 29 21.2	-2.9
	0.8nm,0.6s,baz=305,slow=12,SNR=2.9						
ARCES	**ARCESS Array B**	**78.82**	**340**	P	P	05 31 41.9	-1.5
	2.9nm,0.9s,baz=90,slow=6.3,SNR=3.5						

*IGQ **23** 05:24:02.2, 0.82S×81.25W, h9km±4km, mb4.8, Error ellipse: s-maj=7.7km s-min=4.8km az=152.5*
*NEIC **23** 05:24:06.2±0.5, 1.12S×80.99W, h10km, mb4.3/1, MD4.8(IGQ), Error ellipse: s-maj=12.6km s-min=8.0km az=64.0*
*IDC **23** 05:24:13.1±5.2, 1.06S×80.85W, h64km±48km, mb3.6/12, mb1 3.8/14, mb1mx3.7/22, mbtmp3.9/14, ML3.4/2, MS3.6/1, Ms1 3.7/1, ms1mx1.9/18, Error ellipse: s-maj=27.9km s-min=13.9km az=65.0*
ISC 23 05:24:04.9±1.6, 1.10S±0.06×81.17W±0.04, h11km±11km, n46, σ1°20/52, mb3.9/13, 12C-3D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.63**	**85**	⇑P	**Pb**	**05 24 16.1**	**-1.4**
IGUA	**Igualata**	**2.56**	**99**	⇑P	**Pn**	**05 24 47.1**	**0.0**
CUSU	**Cusua**	**2.71**	**97**	P	**Pn**	**05 24 51.5**	**+2.2**
JUA2	**San Juan 2**	**2.71**	**71**	⇑P	**Pn**	**05 24 48.4**	**-0.9**
JUA2				S	**Sn**	**05 25 21.3**	**-1.1**
JUIV	**Juive**	**2.73**	**97**	P	**Pn**	**05 24 49.8**	**+0.3**
TERV	**Terraza Guagua**	**2.73**	**70**	⇓P	**Pn**	**05 24 48.7**	**-0.8**
PINO	**Pino**	**2.73**	**70**	⇑P	**Pn**	**05 24 48.2**	**-1.3**
NAS1	**Nasa**	**2.73**	**80**	⇑P	**Pn**	**05 24 49.9**	**+0.3**
ARRY	**Arrayan**	**2.75**	**98**	⇓P	**Pn**	**05 24 50.1**	**+0.4**
ARRY				S	**Sn**	**05 25 24.5**	**+1.3**
RETU	**Refugio**	**2.75**	**97**	P	**Pn**	**05 24 52.4**	**+2.7**
JOR1	**San Jorge 1**	**2.76**	**67**	P	**Pn**	**05 24 49.2**	**-0.7**
PATA	**Patacocha**	**2.77**	**98**	P	**Pn**	**05 24 51.5**	**+1.4**
RUN2	**Runtun**	**2.78**	**97**	P	**Pn**	**05 24 50.6**	**+0.5**
RUN2				S	**Sn**	**05 25 26.1**	**+2.1**
YANA	**Yana**	**2.78**	**69**	⇑P	**Pn**	**05 24 48.8**	**-1.4**
ULBA	**Ulba**	**2.79**	**97**	P	**Pn**	**05 24 50.7**	**+0.4**
PISA	**Pisayambo**	**2.79**	**89**	⇑P	**Pn**	**05 24 50.9**	**+0.6**
VC1	**Cotopaxi 1**	**2.81**	**81**	⇑P	**Pn**	**05 24 51.1**	**+0.5**
TAMB	**Tambo**	**2.83**	**82**	P	**Pn**	**05 24 51.3**	**+0.4**
OTAV	**Otavalo**	**3.03**	**64**	⇑*i*Pn	**Pn**	**05 24 51.9**	**-1.8**
OTAV				Sn	**Sn**	**05 25 28.5**	**-1.9**
ANTI	**Antisana**	**3.08**	**78**	⇑P	**Pn**	**05 24 55.1**	**+0.6**
COTA	**Cotacachi**	**3.17**	**63**	⇑P	**Pn**	**05 24 54.7**	**-1.1**
CAYR	**Refugio Cayamb**	**3.35**	**71**	⇓P	**Pn**	**05 24 59.4**	**+1.0**
CAYR				S	**Sn**	**05 25 42.5**	**+3.9**
CAYA	**Cayambe**	**3.39**	**70**	⇑P	**Pn**	**05 24 59.8**	**+0.9**
CONE	**Cono NE Rev Vo**	**3.68**	**74**	P	**Pn**	**05 25 04.6**	**+1.7**
PAYG	**Puerto Ayora**	**9.12**	**273**	*e*Pn	**P**	**05 26 13.6**	**-5.9**
NNA	**Nana**	**11.64**	**159**	*e*Pn	**P**	**05 26 51.8**	**-2.3**
NNA				*e*Sn	**S**	**05 28 55.7**	**-9.4**
SDV	**Santo Domingo**	**14.45**	**46**	P	**P**	**05 27 31.5**	**-0.1**
	0.2nm,0.3s,baz=225,slow=10,SNR=4.7						
LPAZ	**La Paz**	**19.82**	**140**	P	**P**	**05 28 37.4**	**-1.3**
	0.1nm,0.3s,baz=325,slow=14,SNR=5.6						
LPAZ				LR	LR	05 37 33.2	
	comp=Z,166nm,20.2s,baz=254,slow=41						
SJG	**San Juan**	**24.15**	**37**	P	**P**	**05 29 22.0**	**-0.2**
	14nm,0.9s,mb4.4,baz=219,slow=5.8,SNR=3.4						
SJG	**San Juan**	**24.15**	**37**	P	**P**	**05 29 22.0**	**-0.2**
LVC	**Limon Verde**	**24.48**	**152**	P	**P**	**05 29 25.9**	**+0.4**
	2.4nm,0.8s,mb3.7,baz=8.2,slow=6.2,SNR=2.2						
BAO	**Brasília Array**	**35.77**	**116**	P	**P**	**05 31 03.0**	**-3.3**
TXAR	**Lajitas Array**	**37.13**	**326**	P	**P**	**05 31 18.9**	**+1.3**
	0.6nm,0.8s,mb3.5,baz=142,slow=14,SNR=5.1						
TXAR				PcP	PcP	05 33 37.6	-0.7
	0.6nm,0.8s,baz=169,slow=6.4,SNR=5.4						
CPRX	**Cap Rock**	**40.14**	**330**	*eP*	**P**	**05 31 42.5**	**-0.1**
PLCA	**Paso Flores**	**40.61**	**168**	P	**P**	**05 31 44.6**	**-1.8**
	4.6nm,1.2s,mb4.0,baz=355,slow=12,SNR=2.7						
ANMO	**Albuquerque**	**42.97**	**329**	P	**P**	**05 32 06.7**	**+0.8**
	3.1nm,0.9s,mb4.0,baz=151,slow=9.4,SNR=10						
SDCO	**Great Sand Dun**	**44.72**	**332**	*eP*	**P**	**05 32 21.4**	**+1.3**
	3.2nm,0.8s,mb4.2						
WUAZ	**Wupatki**	**46.06**	**325**	*eP*	**P**	**05 32 31.2**	**+0.5**
	100nm,1.0s						
PDAR	**Pinedale Array**	**50.59**	**333**	P	**P**	**05 33 06.3**	**+0.5**
	0.3nm,0.8s,mb3.3,baz=162,slow=4.7,SNR=3.9						
NVAR	**Mina Array Bea**	**52.10**	**323**	P	**P**	**05 33 17.5**	**+0.1**
	0.4nm,0.7s,mb3.5,baz=139,slow=7.4,SNR=4.0						
NVAR				PcP	PcP	05 34 28.6	-0.9
	0.8nm,0.8s,baz=129,slow=4.2,SNR=3.8						
USHA	**Ushuaia**	**54.56**	**171**	P	**P**	**05 33 35.7**	**+0.3**
	8.4nm,0.8s,mb4.8,baz=232,slow=5.3,SNR=3.1						
YKA	**Yellowknife Ar**	**68.25**	**344**	P	**P**	**05 35 07.9**	**+0.2**
	1.1nm,1.0s,mb3.9,baz=137,slow=5.9,SNR=13						
YKA	**Yellowknife Ar**	**68.25**	**344**	P	**P**	**05 35 07.9**	**+0.2**
DBIC	**Dimbokro**	**76.54**	**83**	P	**P**	**05 35 54.6**	**-3.0**
	2.3nm,1.0s,mb4.1,baz=274,slow=8.0,SNR=2.2						
ILAR	**Eielson Array**	**80.85**	**337**	P	**P**	**05 36 20.4**	**+0.3**
	0.5nm,0.9s,mb3.5,baz=124,slow=4.1,SNR=5.3						
ESDC	**Sonseca Array**	**80.87**	**50**	P	**P**	**05 36 18.9**	**-1.8**
	0.9nm,0.9s,mb3.7,baz=270,slow=4.4,SNR=5.1						

*MAN **23** 05:25:04.1, 13.81N×120.22E, h52km, mb3.9, ML2.7, MS2.3*
ISC 23 05:25:03.8±1.2, 13.74N±0.06×120.2E±0.1, h16km±7km, n8, σ0°79/12, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.06**	**96**	*eP*	**Pb**	**05 25 07.1**	**+0.3**
LUBP				*e*S	**Sb**	**05 25 08.8**	**-0.1**
TGY	**Tagaytay City**	**0.81**	**64**	⇑*e*P	**Pb**	**05 25 20.2**	**+1.1**
TGY				*i* S	**Sb**	**05 25 34.3**	**+4.6**
NBP	**Mount Natib**	**1.02**	**13**	*eP*	**Pb**	**05 25 22.7**	**+0.1**
LBPH	**Los Banos**	**1.05**	**67**	*eP*	**Pb**	**05 25 21.7**	**-1.5**
LQP	**Lukban**	**1.37**	**74**	*eP*	**Sb**	**05 25 42.1**	**-3.5**
SJMP	**San Jose**	**1.56**	**144**	*eP*	**Pn**	**05 25 30.9**	**-0.3**
SJMP				*e*S	**Sn**	**05 25 52.1**	**+0.8**
BUSP	**Coron**	**1.73**	**180**	*eP*	**Pn**	**05 25 33.7**	**+0.2**
BUSP				*e*S	**Sn**	**05 25 54.5**	**-0.8**
ENPP	**El Nido**	**2.63**	**196**	*eP*	**Pn**	**05 25 46.8**	**+0.4**

IDC 23 05:31:53.3±1.7, 4.26N×94.29E, mb3.9/5, mb1 4.1/6, mb1mx3.7/19, mbtmp3.9/6, ML4.3/1, Error ellipse: s-maj=87.3km s-min=22.8km az=53.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.83**	**18**	Pn	P	05 35 24.7	-1.6
	0.4nm,0.3s,baz=208,slow=10,SNR=5.3						
WRA	**Warramunga Arr**	**46.12**	**123**	P	P	05 40 19.3	-2.2
	1.2nm,0.6s,baz=302,slow=9.2,SNR=8.3						
ASAR	**Alice Springs**	**47.55**	**128**	P	P	05 40 31.4	-1.4
	0.4nm,0.7s,baz=296,slow=7.8,SNR=5.1						
BVAR	**Borovoye Array**	**52.45**	**342**	P	P	05 41 07.9	-2.0
	1.1nm,0.6s,baz=149,slow=8.6,SNR=7.4						
FINES	**FINESS Array B**	**75.97**	**333**	P	P	05 43 42.0	-1.7
	1.4nm,0.8s,baz=104,slow=5.7,SNR=4.2						
ARCES	**ARCESS Array B**	**78.70**	**340**	P	P	05 43 56.8	-1.9
	2.9nm,1.0s,baz=90,slow=6.1,SNR=4.0						

*BJI **23** 05:39:20.1, 4.22S×141.62E, h77km, mB5.5, mb4.7*
*NEIC **23** 05:39:22.8±0.3, 3.73S×141.36E, mb4.7/11, Error ellipse: s-maj=8.8km s-min=5.4km az=84.0*
*IDC **23** 05:39:24.2±3.0, 3.82S×141.28E, h60km±27km, mb4.0/12, mb1 4.2/15, mb1mx4.2/17, mbtmp4.4/15, ML4.1/3, MS3.8/6, Ms1 3.9/6, ms1mx3.4/16, Error ellipse: s-maj=20.0km s-min=12.9km az=91.0*
ISC 23 05:39:19.9±1.6, 3.71S±0.04×141.39E±0.06, h36km±15km, n55, σ0°78/54, mb4.6/28, MS3.8/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.05**	**135**	P	**P**	**05 41 18.5**	**+1.3**
	13nm,0.3s,baz=322,slow=9.0,SNR=39						
PMG				S	**S**	**05 42 48.2**	**+0.1**
	2.4nm,0.3s,baz=163,slow=19,SNR=3.0						
PMG	**Port Moresby**	**8.05**	**135**	*eP*	**P**	**05 41 18.3**	**+1.0**
PMG				S	**S**	**05 42 48.2**	**+0.1**
KAKA	**Kakadu**	**12.58**	**224**	*eP*	**P**	**05 42 18.4**	**-0.8**
	57nm,0.4s						
KAKA				*e*S	**S**	**05 44 33.5**	**-5.5**
CTA	**Charters Tower**	**16.95**	**164**	P	**P**	**05 43 17.4**	**+1.4**
	0.2nm,0.3s,baz=60,slow=11,SNR=2.2						
CTA				LR	LR	05 50 07.9	
	comp=Z,291nm,18.5s,baz=23,slow=38						
CTAO	**Charters Tower**	**16.95**	**164**	P	**P**	**05 43 15.9**	**-0.1**
	1.5nm,0.5s						
WRAB	**Tennant Creek**	**17.52**	**203**	*eP*	**P**	**05 43 23.2**	**+0.1**
	31nm,0.8s						
WB2	**Warramunga Arr**	**17.53**	**202**	*eP*	**P**	**05 43 23.4**	**+0.1**
WB2				*e*S	**S**	**05 46 33.2**	**-1.9**
WRA	**Warramunga Arr**	**17.53**	**203**	P	**P**	**05 43 23.7**	**+0.4**
	1.0nm,0.3s,baz=22,slow=13,SNR=21						
WRA				S	**S**	**05 46 36.5**	**+1.3**
	0.4nm,0.3s,baz=24,slow=23,SNR=3.5						
FITZ	**Fitzroy Crossi**	**21.03**	**226**	*eP*	**P**	**05 44 03.4**	**+0.4**
	14nm,0.6s,mb4.5						
FITZ				*e*S	**S**	**05 47 51.8**	**+1.6**
ASAR	**Alice Springs**	**21.11**	**199**	P	**P**	**05 44 03.0**	**-0.8**
	3.0nm,0.5s,mb3.9,baz=29,slow=10,SNR=32						
ASAR				S	**S**	**05 47 53.4**	**+1.7**
	1.4nm,0.7s,baz=28,slow=13,SNR=2.2						
ASAR				LR	LR	05 52 24.0	
	comp=Z,184nm,18.2s,MS3.5,baz=16,slow=37						
ASPA	**Alice Springs**	**21.11**	**199**	*eP*	**P**	**05 44 03.7**	**-0.1**
ASPA				*e*S	**S**	**05 48 02.9**	**+11**
MBWA	**Marble Bar**	**27.27**	**229**	P	**P**	**05 45 03.0**	**-0.2**
	5.7nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**28.02**	**180**	P	**P**	**05 45 09.3**	**-0.5**
	0.9nm,0.6s,mb3.6,baz=324,slow=17,SNR=2.2						
STKA				LR	LR	05 57 36.6	
	comp=Z,413nm,18.8s,MS4.0,baz=20,slow=39						
JHJ	**Hachijo jima 2**	**36.66**	**358**	LR	LR	05 58 22.9	
	comp=Z,162nm,20.6s,MS3.8,baz=86,slow=31						
CMAR	**Chiang Mai Arr**	**47.25**	**299**	P	**P**	**05 47 51.2**	**-0.6**
	1.1nm,0.5s,mb4.1,baz=120,slow=6.4,SNR=7.7						
CMAR				LR	LR	06 10 50.1	
	comp=Z,43nm,18.3s,MS3.5,baz=95,slow=40						
URZ	**Urewera**	**47.36**	**141**	P	**P**	**05 47 52.1**	**-0.3**
	3.3nm,0.6s,mb4.5,baz=210,slow=9.3,SNR=5.7						
RPZ	**Rata Peaks**	**47.70**	**151**	P	**P**	**05 47 53.6**	**-1.4**
	5.6nm,0.5s,mb4.9,baz=17,slow=3.0,SNR=5.3						
XAN	**Xi'an**	**48.45**	**323**	P	**P**	**05 48 00.0**	**-0.9**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.5						
LZH	**Lanzhou**	**52.90**	**322**	*eP*	**P**	**05 48 35.0**	**+0.3**
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.0						
LZH	**Lanzhou**	**52.90**	**322**	*eP*	**P**	**05 48 35.0**	**+0.3**
	comp=Z,30nm,1.5s,mb5.0						
LZH				pP	pP	05 48 48.0	+2.5
LZH				sP	sP	05 49 07.0	+17
SHL	**Shillong**	**56.10**	**304**	*eP*	**P**	**05 48 58.0**	**-0.2**
LSA	**Lhasa**	**58.42**	**308**	*eP*	**P**	**05 49 15.2**	**+0.6**
	comp=Z,12nm,1.1s,mb4.8						
SONM	**Songino Array**	**59.78**	**333**	P	**P**	**05 49 23.4**	**-0.4**
	comp=Z,1.1nm,0.8s,mb3.9,baz=151,slow=8.7,SNR=6.2						
JIRN	**Jiri**	**61.61**	**304**	*eP*	**P**	**05 49 36.7**	**+0.2**
	comp=Z,20nm,1.0s,mb5.2						
PKI	**Pulchoki**	**62.22**	**304**	*eP**	**P**	**05 49 40.2**	**-0.4**
	comp=Z,3.0nm,0.5s,mb4.7						
KKN	**Kakani**	**62.41**	**304**	*eP*	**P**	**05 49 41.7**	**-0.1**
	comp=Z,36nm,0.9s,mb5.5						
DMN	**Daman**	**62.49**	**304**	*eP*	**P**	**05 49 42.2**	**-0.1**
	comp=Z,28nm,0.9s,mb5.4						
GKN	**Gorkha**	**63.01**	**304**	*eP*	**P**	**05 49 45.8**	**-0.1**
	comp=Z,45nm,1.0s,mb5.6						
KOLN	**Koldanda**	**63.79**	**303**	*eP*	**P**	**05 49 51.0**	**-0.1**
	comp=Z,19nm,0.7s,mb5.2						
TLY	**Talaya**	**63.83**	**335**	*eP*	**P**	**05 49 50.6**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.4						
TLY				*e*pP	pP	05 50 04.8	+2.9
VNDA	**Vanda**	**74.56**	**175**	P	**P**	**05 50 55.9**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.0,baz=325,slow=7.5,SNR=6.4						
VNDA				LR	LR	06 22 01.8	
	comp=Z,108nm,18.5s,MS4.2,baz=337,slow=34						
KZA	**Kyzart**	**75.07**	**315**	P	**P**	**05 51 01.5**	**+1.5**
	SNR=13						
TKM2	**Tokmak 2**	**75.11**	**316**	P	**P**	**05 51 00.8**	**+0.6**
	SNR=7.6						
UCH	**Uchtor**	**75.64**	**315**	P	**P**	**05 51 04.5**	**+1.3**
	SNR=10						
CHMS	**Chumysh**	**75.72**	**316**	P	**P**	**05 51 04.0**	**+0.3**
	SNR=5.3						
AAK	**Ala-Archa**	**75.78**	**316**	*eP*	**P**	**05 51 03.2**	**-0.8**
	comp=Z,12nm,1.4s,mb4.6						
USP	**Ospenovka**	**75.98**	**316**	P	**P**	**05 51 05.1**	**-0.1**
	SNR=8.2						
KURK	**Kurchatov**	**76.07**	**324**	*eP*	**P**	**05 51 04.8**	**-0.7**
	comp=Z,14nm,1.0s,mb4.8						
AML	**Almayashu**	**76.19**	**315**	P	**P**	**05 51 07.5**	**+1.2**
	SNR=7.9						
BVAR	**Borovoye Array**	**81.66**	**325**	P	**P**	**05 51 36.1**	**+0.2**
	comp=Z,19nm,0.7s,mb5.1,baz=112,slow=8.0,SNR=118						
BRVK	**Borovoye**	**81.73**	**325**	*eP*	**P**	**05 51 36.3**	**+0.1**
	comp=Z,19nm,0.8s,mb5.1						
MAW	**Mawson**	**82.21**	**202**	P	**P**	**05 51 38.0**	**-0.4**
	comp=Z,2.9nm,0.8s,mb4.2,baz=311,slow=13,SNR=3.4						
MAW	**Mawson**	**82.21**	**202**	P	**P**	**05 51 38.1**	**-0.4**
	comp=Z,4.0nm,0.7s,mb4.5						
ILAR	**Eielson Array**	**85.64**	**24**	P	**P**	**05 51 54.4**	**-1.4**
	comp=Z,0.9nm,0.6s,mb4.2,baz=255,slow=4.6,SNR=10						
QSPA	**South Pole Qui**	**86.24**	**180**	P	**P**	**05 51 57.5**	**-0.8**
	comp=Z,8.8nm,1.0s,mb4.9						
INK	**Inuvik**	**91.61**	**22**	P	**P**	**05 52 24.2**	**+0.1**
	comp=Z,2.4nm,1.1s,mb4.4,baz=264,slow=7.9,SNR=3.7						
YKA	**Yellowknife Ar**	**99.74**	**27**	P	**P**	**05 53 02.7**	**+1.5**
	comp=Z,0.2nm,0.2s,mb4.2,baz=282,slow=4.8,SNR=3.1						
ARCES	**ARCESS Array B**	**102.32**	**341**	P	Pdif	05 53 11.3	-1.4
	comp=Z,2.5nm,0.8s,baz=90,slow=6.1,SNR=6.9						
ARCES	**ARCESS Array B**	**102.32**	**341**	P	Pdif	05 53 11.3	-1.4
FINES	**FINESS Array B**	**105.15**	**333**	Pdiff	Pdif	05 53 24.3	-1.0
	comp=Z,1.1nm,0.8s,baz=124,slow=5.0,SNR=3.9						
FINES	**FINESS Array B**	**105.15**	**333**	Pdif	Pdif	05 53 24.3	-1.0
LPAZ	**La Paz**	**144.69**	**125**	PKP	PKPdf	05 58 56.2	+2.4
	comp=Z,0.8nm,0.6s,baz=333,slow=11,SNR=3.2						
DBIC	**Dimbokro**	**146.26**	**276**	PKPbc	PKPbc	05 58 58.3	+0.5
	comp=Z,1.5nm,0.5s,baz=67,slow=3.7,SNR=7.9						
DBIC	**Dimbokro**	**146.26**	**276**	*e*PKPdf	PKPdf	05 58 56.3	-0.3
SDV	**Santo Domingo**	**147.78**	**79**	PKPbc	PKPdf	05 59 04.3	+5.2

IDC 23 05:45:20.4±3.9, 16.88S×177.66W, h398km±35km, mb3.4/5, mb1 3.6/5, mb1mx3.2/15, mbtmp4.2/5, Error ellipse: s-maj=111.3km s-min=25.0km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.76**	**240**	P	P	05 52 16.6	-1.3
	2.4nm,0.6s,baz=96,slow=9.5,SNR=7.4						
WRA	**Warramunga Arr**	**45.53**	**258**	P	P	05 53 02.4	-1.9
	0.4nm,0.3s,baz=95,slow=7.4,SNR=4.7						
ASAR	**Alice Springs**	**45.77**	**253**	P	P	05 53 04.3	-1.7
	7.2nm,0.5s,baz=89,slow=7.8,SNR=60						
ASAR				ScP		05 57 48.4	
	0.7nm,0.7s,baz=286,slow=2.9,SNR=4.1						
NWAO	**Narrogin (SRO)**	**60.33**	**241**	P	P	05 54 49.4	-1.6
	3.6nm,0.7s,baz=97,slow=4.2,SNR=2.9						
NVAR	**Mina Array Bea**	**78.19**	**44**	P	P	05 56 37.5	-1.0
	0.5nm,0.9s,baz=244,slow=7.1,SNR=3.6						

*NEIC **23** 05:47:19.9±0.6, 14.34N×92.90E, h30km, mb4.3/3, Error ellipse: s-maj=17.7km s-min=10.5km az=55.0*
*IDC **23** 05:47:27.2±6.8, 14.72N×93.30E, h94km±60km, mb3.6/7, mb1 3.7/8, mb1mx3.5/20, mbtmp3.

2C-4D, Error ellipse: s-maj=5.8km s-min=2.9km az=86.0, PRXIMO DATOS INTENSIDAD: IMGP-ESCALA MM, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**0.13**	**120**	*i* Pg	Pb	06 15 41.5	+0.1
PLOU				*e*Sg	Sb	06 15 44.7	+0.3
	2μm,0.1s						
PLOU	**Loures**	**0.13**	**120**	⇑Pg	Pb	06 15 41.5	+0.1
PLOU				Lg		06 15 44.7	
	1μm,0.1s						
PLOU	**Loures**	**0.13**	**120**	Pg	Pb	06 15 41.2	-0.2
PLOU				*e*Sg	Sb	06 15 44.7	+0.3
	2μm,0.1s						
INMG	**Instituto de M**	**0.22**	**142**	*i* Pg	Pb	06 15 42.6	+0.1
INMG				*e*Sg	Sb	06 15 46.2	-0.1
INMG	**Instituto de M**	**0.22**	**142**	⇑Pg	Pb	06 15 42.6	+0.1
INMG				Lg		06 15 46.2	
INMG	**Instituto de M**	**0.22**	**142**	*e*Sg	Sb	06 15 46.2	-0.1
LIS	**Lisbon**	**0.26**	**153**	*e*P	Pb	06 15 43.0	-0.1
LIS				*e*S	Sb	06 15 46.5	-0.7
LIS				*e*S	Sb	06 15 46.6	-0.7
LIS				AML	AML	06 15 48.2	
	comp=E,2μm,0.3s						
LIS	**Lisbon**	**0.26**	**153**	Pg	Pb	06 15 43.0	-0.1
LIS				Lg		06 15 46.5	
	comp=E,2μm,0.3s						
ALMR	**Almeirim**	**0.60**	**70**	*e*P	Pb	06 15 48.7	+0.1
ALMR				AML	AML	06 15 48.9	
	comp=Z,694nm,0.1s						
ALMR				*e*S	Sb	06 15 56.8	+0.2
ALMR				*e*S	Sb	06 15 56.8	+0.2
ALMR	**Almeirim**	**0.60**	**70**	Pg	Pb	06 15 48.7	+0.1
	comp=Z,348nm,0.1s						
ALMR				Lg		06 15 56.8	
MOE	**Montemor**	**0.86**	**120**	*i* P	Pb	06 15 52.1	-0.9
MOE				*e*S	Sb	06 16 03.2	-0.8
MOE	**Montemor**	**0.86**	**120**	Pg	Pb	06 15 52.1	-0.9
MOE				Lg		06 16 03.1	
EVO	**Evora**	**1.09**	**112**	*e*Pn	Pn	06 15 54.0	-3.1
EVO				*e*Pg	Pb	06 15 54.8	-2.2
EVO				*e*Sg	Sb	06 16 08.1	-2.6
	comp=Z,492nm,0.2s						
PBEJ	**Beja**	**1.46**	**129**	*e*Pn	Pn	06 16 00.3	-2.0
PBEJ				*e*Sg	Sn	06 16 21.1	+0.2
	comp=Z,64nm,0.1s						
PBEJ	**Beja**	**1.46**	**129**	Pn	Pn	06 16 00.3	-2.0
PBEJ				Lg		06 16 21.1	
	comp=Z,32nm,0.1s						
PBEJ	**Beja**	**1.46**	**129**	Pn	Pn	06 16 00.3	-2.0
PBEJ				Sn	Sn	06 16 19.1	-1.8
PBEJ				*e*Sg	Sn	06 16 21.1	+0.2
	comp=Z,64nm,0.1s						
PTEO	**Sao Teotonio**	**1.48**	**162**	*e*Pn	Pn	06 16 00.7	-1.9
PTEO				*e*Pg	Pn	06 16 02.9	+0.3
PTEO				*e*Sg	Sn	06 16 21.4	0.0
	comp=Z,79nm,0.3s						
PTEO	**Sao Teotonio**	**1.48**	**162**	Pn	Pn	06 16 00.8	-1.8
PTEO	**Sao Teotonio**	**1.48**	**162**	Pn	Pn	06 16 00.7	-1.9
PTEO				Pg	Pn	06 16 02.9	+0.3
PTEO				Lg		06 16 21.4	
	comp=Z,39nm,0.3s						
PCBR	**Castelo Branco**	**1.67**	**57**	*e*Pg	Pn	06 16 06.4	+1.1
PCBR				*e*Sg	Sn	06 16 27.8	+1.5
	comp=Z,54nm,0.4s						
PCBR	**Castelo Branco**	**1.67**	**57**	*e*Pg	Pn	06 16 06.4	+1.1
PCBR				*e*Sg	Sn	06 16 27.8	+1.5
	comp=Z,54nm,0.4s						
EBAD	**Badajoz**	**1.80**	**96**	Pn	Pn	06 16 04.6	-2.6
EBAD				Pg	Pn	06 16 08.8	+1.6
EBAD				Sn	Sn	06 16 25.7	-3.8
EBAD				Lg		06 16 31.6	
EBAD	**Badajoz**	**1.80**	**96**	Pn	Pn	06 16 04.7	-2.5
	comp=Z,1.0nm,0.1s,SNR=22						
EBAD				Pg	Pn	06 16 08.8	+1.6
	comp=Z,13nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	06 16 25.7	-3.8
	comp=Z,19nm,0.1s,SNR=25						
EBAD				Lg		06 16 31.2	
	comp=Z,506nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**1.80**	**96**	Pn	Pn	06 16 04.6	-2.6
	comp=Z,1.0nm,0.1s,SNR=22						
EBAD	**Badajoz**	**1.80**	**96**	Pg	Pn	06 16 08.8	+1.6
	comp=Z,13nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	06 16 25.7	-3.8
	comp=Z,19nm,0.1s,SNR=25						
MTE	**Manteigas**	**1.98**	**43**	*e*Pg	Pn	06 16 13.3	+3.5
MTE				*e*Sg	Sn	06 16 39.3	+5.1
	comp=Z,90nm,0.6s						
MTE	**Manteigas**	**1.98**	**43**	Pn	Pn	06 16 07.8	-2.0
MTE				Sn	Sn	06 16 36.5	+2.3
MTE	**Manteigas**	**1.98**	**43**	Pn	Pn	06 16 07.8	-2.0
MTE				Pg	Pn	06 16 13.3	+3.5
MTE				Sn	Sn	06 16 36.5	+2.3
MTE				Lg		06 16 39.3	
	comp=Z,45nm,0.6s						
MTE	**Manteigas**	**1.98**	**43**	*e*Pg	Pn	06 16 13.3	+3.5
MTE				*e*Sg	Sn	06 16 39.3	+5.1
	comp=Z,90nm,0.6s						
EGRO	**El Granado**	**2.01**	**134**	Pn	Pn	06 16 08.1	-2.2
EGRO				Pg	Pn	06 16 13.8	+3.5
EGRO				Sn	Sn	06 16 34.9	-0.2
EGRO				Lg		06 16 39.3	
EGRO	**El Granado**	**2.01**	**134**	Pn	Pn	06 16 08.1	-2.2
	comp=Z,1.1nm,0.1s,SNR=7.9						
EGRO				Pg	Pn	06 16 13.2	+2.9
	comp=Z,12nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	06 16 33.1	-2.0
	comp=Z,14nm,0.2s,SNR=7.9						
EGRO				Lg		06 16 39.3	
	comp=Z,76nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**2.01**	**134**	Sn	Sn	06 16 34.9	-0.2
	comp=Z,14nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**2.01**	**134**	Pn	Pn	06 16 08.1	-2.2
	comp=Z,1.1nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.01**	**134**	Pg	Pn	06 16 13.8	+3.5
	comp=Z,12nm,0.1s,SNR=7.9						
PALC	**Alcoutim**	**2.07**	**135**	*e*Pn	Pn	06 16 08.9	-2.2
PALC				*e*Sg	Sn	06 16 40.1	+3.7
	comp=Z,70nm,0.2s						
PALC	**Alcoutim**	**2.07**	**135**	Pn	Pn	06 16 08.8	-2.3
PALC				Sn	Sn	06 16 34.1	-2.3
PALC				*e*Sg	Sn	06 16 40.1	+3.7
	comp=Z,70nm,0.2s						
PVIS	**Viseu**	**2.07**	**31**	*e*Pn	Pn	06 16 09.5	-1.6
	comp=Z,71nm,0.1s						
EMIN	**Mina Concepcio**	**2.38**	**119**	⇓Pn	Pn	06 16 13.2	-2.4
EMIN				Pg	Pn	06 16 18.8	+3.2
EMIN				Sn	Sn	06 16 40.9	-3.5
EMIN				Lg		06 16 49.8	
EMIN	**Mina Concepcio**	**2.38**	**119**	⇓Pn	Pn	06 16 13.2	-2.4
	comp=Z,1.4nm,0.3s,SNR=18						
EMIN				Pg	Pn	06 16 18.9	+3.3
	comp=Z,3.1nm,0.1s,SNR=21						
EMIN				Sn	Sn	06 16 40.8	-3.6
	comp=Z,4.0nm,0.1s,SNR=7.9						
EMIN				Lg		06 16 49.7	
	comp=Z,42nm,0.2s,SNR=5.0						
EMIN	**Mina Concepcio**	**2.38**	**119**	Pn	Pn	06 16 13.2	-2.4
	comp=Z,1.4nm,0.3s,SNR=18						
EMIN	**Mina Concepcio**	**2.38**	**119**	Pg	Pn	06 16 18.8	+3.2
	comp=Z,3.1nm,0.1s,SNR=21						
EMIN				Sn	Sn	06 16 40.9	-3.5
	comp=Z,4.0nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**2.62**	**27**	*e*Pn	Pn	06 16 16.8	-2.2
PVRL				*e*Sn	Sn	06 16 46.0	-4.5
PVRL				*e*Sg	Sn	06 16 58.5	+8.0
	comp=Z,40nm,0.2s						
PVRL	**Vila Real**	**2.62**	**27**	Pn	Pn	06 16 16.8	-2.2
PVRL				Sn	Sn	06 16 46.0	-4.5
PVRL				Lg		06 16 58.5	
	comp=Z,20nm,0.2s						
ELOB	**Lobios**	**3.06**	**18**	⇓Pn	Pn	06 16 22.9	-2.4
ELOB				Pg	Pn	06 16 28.1	+2.8
ELOB				Sn	Sn	06 16 57.3	-4.3
ELOB				Lg		06 17 13.3	
ELOB	**Lobios**	**3.06**	**18**	⇓Pn	Pn	06 16 22.9	-2.4
	comp=Z,0.9nm,0.1s,SNR=18						
ELOB				Sn	Sn	06 16 57.3	-4.3
	comp=Z,5.8nm,0.1s,SNR=5.0						
EZAM	**Zamans**	**3.23**	**8**	Pn	Pn	06 16 25.4	-2.2
	comp=Z,1.4nm,0.1s,SNR=7.9						
EZAM				Lg		06 17 17.4	
	comp=Z,20nm,0.4s,SNR=5.5						
ESPR	**Espera**	**3.43**	**126**	Pn	Pn	06 16 28.7	-1.8
ESPR				Lg		06 17 24.8	
ESPR	**Espera**	**3.43**	**126**	Pn	Pn	06 16 28.4	-2.0
	comp=Z,3.4nm,0.1s,SNR=22						
ESPR				Lg		06 17 24.8	
	comp=Z,24nm,0.2s,SNR=5.0						
ESPR	**Espera**	**3.43**	**126**	Pn	Pn	06 16 28.7	-1.7
	comp=Z,3.4nm,0.1s,SNR=22						
PBRG	**Braganca**	**3.46**	**34**	*e*Pn	Pn	06 16 28.2	-2.6
PBRG				*e*Sn	Sn	06 17 05.9	-5.7
	comp=Z,12nm,0.3s						
ECAL	**Calabor**	**3.57**	**32**	Pn	Pn	06 16 29.7	-2.8
ECAL				Pg	Pn	06 16 36.0	+3.5
ECAL				Sn	Sn	06 17 09.3	-5.1
ECAL				Lg		06 17 29.6	
ECAL	**Calabor**	**3.57**	**32**	Pn	Pn	06 16 30.0	-2.4
	comp=Z,0.7nm,0.1s,SNR=16						
ECAL				Sn	Sn	06 17 08.8	-5.7
	comp=Z,20nm,0.3s,SNR=6.5						
ECAL				Lg		06 17 28.9	
	comp=Z,37nm,0.3s,SNR=5.0						
ECAL	**Calabor**	**3.57**	**32**	Pn	Pn	06 16 29.7	-2.8
	comp=Z,0.7nm,0.1s,SNR=16						
ECAL				Sn	Sn	06 17 09.3	-5.2
	comp=Z,20nm,0.3s,SNR=6.5						
EADA	**Adamuz**	**3.79**	**100**	Pn	Pn	06 16 32.8	-2.7
EADA				Sn	Sn	06 17 13.0	-6.9
EADA				Lg		06 17 34.5	
EADA	**Adamuz**	**3.79**	**100**	Pn	Pn	06 16 32.7	-2.8
	comp=Z,0.6nm,0.1s,SNR=15						
EADA				Sn	Sn	06 17 13.9	-6.1
	comp=Z,13nm,0.2s,SNR=5.4						
EADA				Lg		06 17 33.9	
	comp=Z,27nm,0.4s,SNR=5.0						
EADA	**Adamuz**	**3.79**	**100**	Pn	Pn	06 16 32.8	-2.7
	comp=Z,0.6nm,0.1s,SNR=15						
EADA				Sn	Sn	06 17 13.0	-6.9
	comp=Z,13nm,0.2s,SNR=5.4						
ERUA	**La Rua**	**3.81**	**25**	Pn	Pn	06 16 33.2	-2.6
ERUA				Sn	Sn	06 17 15.6	-4.9
ERUA				Lg		06 17 38.4	
ERUA	**La Rua**	**3.81**	**25**	Pn	Pn	06 16 33.1	-2.7
	comp=Z,0.4nm,0.2s,SNR=4.0						
ERUA				Sn	Sn	06 17 15.1	-5.5
	comp=Z,4.7nm,0.2s,SNR=8.4						
ERUA				Lg		06 17 38.1	
	comp=Z,8.5nm,0.4s,SNR=5.0						
ERUA	**La Rua**	**3.81**	**25**	Pn	Pn	06 16 33.2	-2.6
	comp=Z,0.4nm,0.2s,SNR=4.0						
ERUA				Sn	Sn	06 17 15.6	-4.9
	comp=Z,4.7nm,0.2s,SNR=8.4						
STS	**Santiago**	**3.97**	**8**	Pn	Pn	06 16 36.4	-1.8
STS				Sn	Sn	06 17 19.8	-4.9
STS				Lg		06 17 41.2	
STS	**Santiago**	**3.97**	**8**	Pn	Pn	06 16 35.6	-2.6
	comp=Z,8.1nm,0.1s,SNR=7.9						
STS				Sn	Sn	06 17 17.5	-7.2
	comp=Z,3.8nm,0.1s,SNR=7.9						
STS				Lg		06 17 40.4	
	comp=Z,5.0nm,0.3s,SNR=7.9						
STS	**Santiago**	**3.97**	**8**	Pn	Pn	06 16 36.4	-1.8
	comp=Z,8.1nm,0.1s,SNR=7.9						
STS				Sn	Sn	06 17 19.8	-4.8
	comp=Z,3.8nm,0.1s,SNR=7.9						
EINC	**Incio**	**3.99**	**21**	Pn	Pn	06 16 35.7	-2.7
EINC				Sn	Sn	06 17 20.3	-4.8
EINC				Lg		06 17 42.9	
EINC	**Incio**	**3.99**	**21**	Pn	Pn	06 16 35.8	-2.6
	comp=Z,0.4nm,0.1s,SNR=9.2						
EINC				Sn	Sn	06 17 18.3	-6.8
	comp=Z,1.3nm,0.1s,SNR=7.9						
EINC				Lg		06 17 42.1	
	comp=Z,4.2nm,0.2s,SNR=5.0						
EINC	**Incio**	**3.99**	**21**	Pn	Pn	06 16 35.7	-2.7
	comp=Z,0.4nm,0.1s,SNR=9.2						
EINC				Sn	Sn	06 17 20.3	-4.8
	comp=Z,1.3nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**4.20**	**108**	Lg		06 17 48.1	
	comp=Z,15nm,0.4s,SNR=9.8						
ESDC	**Sonseca Array**	**4.20**	**78**	Pn	Pn	06 16 38.6	-2.9
	comp=Z,1.7nm,0.1s,baz=258,slow=13,SNR=30						
ESDC				Sn	Sn	06 17 24.4	-6.1
	comp=Z,5.7nm,0.2s,baz=264,slow=24,SNR=7.6						
ESDC				Lg		06 17 46.1	
	comp=Z,8.3nm,0.3s,baz=261,slow=28,SNR=5.2						
ESDC	**Sonseca Array**	**4.20**	**78**	Pn	Pn	06 16 38.6	-2.9
	comp=Z,1.7nm,0.1s,SNR=30						
ESDC				Sn	Sn	06 17 24.4	-6.1
	comp=Z,5.7nm,0.2s,SNR=7.6						
EMIJ	**Mijas**	**4.31**	**122**	Pn	Pn	06 16 40.5	-2.4
EMIJ				Lg		06 17 53.5	
EMIJ	**Mijas**	**4.31**	**122**	Pn	Pn	06 16 40.3	-2.7
	comp=Z,1.9nm,0.2s,SNR=8.0						
EMIJ				Lg		06 17 52.8	
	comp=Z,6.1nm,0.3s,SNR=5.0						
EMIJ	**Mijas**	**4.31**	**122**	Pn	Pn	06 16 40.5	-2.5
	comp=Z,1.9nm,0.2s,SNR=8.0						
GUD	**Guadarrama**	**4.31**	**65**	Pn	Pn	06 16 40.7	-2.3
GUD				Sn	Sn	06 17 28.0	-5.2
GUD				Lg		06 17 50.0	
GUD	**Guadarrama**	**4.31**	**65**	Pn	Pn	06 16 40.3	-2.7
	SNR=4.0						
GUD				Lg		06 17 49.8	
	comp=Z,23nm,0.5s,SNR=7.7						
GUD	**Guadarrama**	**4.31**	**65**	Pn	Pn	06 16 40.7	-2.3
	SNR=4.0						
GUD				Sn	Sn	06 17 28.0	-5.2
	comp=Z,2.6nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**4.45**	**112**	Pn	Pn	06 16 42.7	-2.2
ELOJ				Lg		06 17 55.2	
ELOJ	**Sierra Loja**	**4.45**	**112**	Pn	Pn	06 16 42.7	-2.2
	SNR=4.0						
ELOJ				Sn	Sn	06 17 31.5	-5.2
	comp=Z,0.9nm,0.2s,SNR=7.9						
ELOJ				Lg		06 17 55.4	
	comp=Z,4.0nm,0.4s,SNR=6.2						
EPON	**Pontenova**	**4.66**	**20**	Pn	Pn	06 16 44.8	-3.2
EPON				Sn	Sn	06 17 34.9	-7.2
EPON				Lg		06 18 02.9	
EPON	**Pontenova**	**4.66**	**20**	Pn	Pn	06 16 44.8	-3.2
	comp=Z,0.7nm,0.1s,SNR=6.0						
EPON				Sn	Sn	06 17 33.7	-8.4
	comp=Z,1.9nm,0.3s,SNR=7.9						
EPON				Lg		06 18 02.5	
	comp=Z,3.7nm,0.2s,SNR=4.0						
EPON	**Pontenova**	**4.66**	**20**	Pn	Pn	06 16 44.8	-3.2
	comp=Z,0.7nm,0.1s,SNR=6.0						
EPON				Sn	Sn	06 17 34.9	-7.3
	comp=Z,1.9nm,0.3s,SNR=7.9						
EQES	**Quesada**	**5.03**	**101**	Pn	Pn	06 16 49.9	-3.3
EQES				Sn	Sn	06 17 44.3	-7.0
EQES				Lg		06 18 14.7	
EQES	**Quesada**	**5.03**	**101**	Pn	Pn	06 16 49.7	-3.5
	comp=Z,0.4nm,0.2s,SNR=7.9						
EQES				Sn	Sn	06 17 43.4	-7.9
	comp=Z,1.4nm,0.2s,SNR=7.9						
EQES				Lg		06 18 14.7	
	comp=Z,15nm,0.4s,SNR=7.9						
EQES	**Quesada**	**5.03**	**101**	Pn	Pn	06 16 49.9	-3.2
	comp=Z,0.4nm,0.2s,SNR=7.9						
EQES				Sn	Sn	06 17 44.3	-7.0
	comp=Z,1.4nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**5.32**	**91**	Pn	Pn	06 16 53.5	-3.7
EVIA				Lg		06 18 22.3	
EVIA	**Vianos**	**5.32**	**91**	Pn	Pn	06 16 53.7	-3.5
	comp=Z,0.7nm,0.2s,SNR=4.0						
EVIA				Lg		06 18 22.3	
	comp=Z,26nm,0.5s,SNR=8.0						
EVIA	**Vianos**	**5.32**	**91**	Pn	Pn	06 16 53.5	-3.8
	comp=Z,0.7nm,0.2s,SNR=4.0						
EARI	**Arriondas**	**5.33**	**34**	Pn	Pn	06 16 54.8	-2.6
EARI				Sn	Sn	06 17 51.9	-7.0
EARI				Lg		06 18 24.1	
EARI	**Arriondas**	**5.33**	**34**	Pn	Pn	06 16 54.7	-2.7
	comp=Z,0.2nm,0.2s,SNR=9.9						
EARI				Sn	Sn	06 17 51.4	-7.5
	comp=Z,0.8nm,0.3s,SNR=7.9						
EARI				Lg		06 18 23.4	
	comp=Z,3.5nm,0.5s,SNR=4.0						
EARI	**Arriondas**	**5.33**	**34**	Pn	Pn	06 16 54.8	-2.6
	comp=Z,0.2nm,0.2s,SNR=9.9						
EARI				Sn	Sn	06 17 51.9	-7.0
	comp=Z,0.8nm,0.3s,SNR=7.9						
EBER	**Berja**	**5.47**	**110**	Pn	Pn	06 16 57.4	-1.9
EBER				Lg		06 18 30.5	
EBER	**Berja**	**5.47**	**110**	Pn	Pn	06 16 57.3	-2.0
	comp=Z,0.3nm,0.1s,SNR=7.9						
EBER				Lg		06 18 29.1	
	comp=Z,17nm,0.6s,SNR=7.9						
EBER	**Berja**	**5.47**	**110**	Pn	Pn	06 16 57.4	-1.9
	comp=Z,0.3nm,0.1s,SNR=7.9						
ENIJ	**Nijar**	**5.94**	**107**	Pn	Pn	06 17 03.2	-2.8
	comp=Z,1.4nm,0.4s,SNR=7.9						
ENIJ				Lg		06 18 44.9	
	comp=Z,4.5nm,0.5s,SNR=7.9						
ELAN	**Lanestosa**	**6.16**	**44**	Pn	Pn	06 17 05.2	-3.9
	comp=Z,0.6nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	06 18 10.7	-8.9
	SNR=7.9						
ELAN				Lg		06 18 50.2	
	comp=Z,4.5nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**6.43**	**97**	Pn	Pn	06 17 13.1	+0.2
	comp=Z,0.6nm,0.4s,SNR=4.0						
EMUR				Lg		06 18 59.3	
	comp=Z,15nm,0.7s,SNR=7.9						
EMOS	**Mosqueruela**	**6.96**	**76**	Pn	Pn	06 17 22.4	+2.1
EMOS				Sn	Sn	06 18 29.3	-10
EMOS				Lg		06 19 17.4	
EMOS	**Mosqueruela**	**6.96**	**76**	Pn	Pn	06 17 17.7	-2.6
	comp=Z,0.7nm,0.3s,SNR=7.9						
EMOS				Sn	Sn	06 18 28.5	-11
	comp=Z,0.4nm,0.2s,SNR=7.9						
EMOS				Lg		06 19 16.1	
	comp=Z,3.3nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**7.09**	**89**	Lg		06 19 19.9	
	comp=Z,6.3nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**7.27**	**52**	Pn	Pn	06 17 22.6	-2.1
	comp=Z,0.7nm,0.3s,SNR=4.0						
EALK				Sn	Sn	06 18 35.4	-12
	comp=Z,1.9nm,0.6s,SNR=4.0						
EALK				Lg		06 19 24.7	
	comp=Z,1.7nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**7.29**	**65**	Lg		06 19 26.9	
	comp=Z,11nm,0.5s,SNR=4.0						
SJPF	**Ste Jean**	**7.38**	**53**	*e*Pn	Pn	06 17 22.7	-3.6
ERTA	**Horta de San J**	**7.67**	**72**	Sn	Sn	06 18 44.8	-13
	comp=Z,0.3nm,0.1s,SNR=7.9						
ERTA				Lg		06 19 37.4	
	comp=Z,1.2nm,0.3s,SNR=4.0						
ETSF	**Etsaut**	**7.70**	**56**	*e*Pn	Pn	06 17 26.2	-4.6
EBIE	**Bielsa**	**8.07**	**59**	Pn	P	06 17 32.8	-3.2
EBIE	**Bielsa**	**8.07**	**59**	Pn	P	06 17 37.5	+1.6
	comp=Z,1.3nm,0.2s,SNR=11						
EPF	**Esparros**	**8.35**	**58**	*e*Pn	P	06 17 35.8	-4.0
LFF	**La Frestale**	**9.57**	**48**	*e*Pn	P	06 17 51.3	-5.4
QUIF	**Quistinic**	**10.01**	**24**	*e*Pn	P	06 17 58.3	-4.3
RJF	**Les Rejaudoux**	**10.23**	**48**	*e*Pn	P	06 18 00.5	-5.2
ROSF	**Rostrenen**	**10.34**	**23**	*e*Pn	P	06 18 03.1	-4.1

IDC ***23*** *06:15:59.5±0.5,2.67N×94.38E,mb4.7/17,mb1 4.8/18, mb1mx4.8/21,mbtmp4.7/18,ML4.6/1,MS4.3/8,Ms1 4.3/8, ms1mx4.0/19,Error ellipse: s-maj=20.4km s-min=11.9km az=48.0*

BJI ***23*** *06:16:02.0,2.58N×94.39E,h28km,mB5.2,mb5.0,Ms5.1, Msz4.9*

MOS ***23*** *06:16:02.9±1.0,2.61N×94.36E,h33km,mb5.3/37, MS4.7/6,Error ellipse: s-maj=9.9km s-min=5.8km az=112.6*

HRVD ***23*** *06:16:03.7±0.4,2.43N×94.32E,h12km,MW4.9/54, Centroid moment Tensor Solution. LP body waves: s27,c38;Mantle waves: s54,c93; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.13±.13; $M_{\theta\theta}$-1.96±.10; $M_{\phi\phi}$-0.17±.13; $M_{r\theta}$0.11±.30; $M_{r\phi}$2.44±.09; $M_{\theta r}$-0.47±.35; Best double couple: $M_0$2.986×10^{16} NP1:$\varkappa_s$=283°,δ46°,λ57°. NP2:$\varkappa_s$145°,δ53°,λ119°. Principal axes: T 2.286, Plg67°, Azm117°; N 1.401, Plg23°, Azm307°; P -3.686, Plg4°, Azm215°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***23*** *06:16:03.7±0.2,2.60N×94.39E,mb5.0/35,MS4.4/6 Error ellipse: s-maj=6.7km s-min=4.8km az=225.0*

ISC 23 06:16:01.9±0.2,2.61N±0.04×94.41E±0.04,h28km, h28km±.9km:pP-P,n220,σ1s04/221,mb5.0/73,MS4.7/29, 16C-15D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.67**	**54**	P	**Pn**	**06 17 53.0**	**-1.7**
	290nm,1.0s						
PBA	**Port Blair**	**9.13**	**350**	*e*P	**P**	**06 18 14.0**	**-1.0**
NST	**Nakhon Sawan**	**14.15**	**23**	P	**P**	**06 19 28.0**	**+5.1**
PALK	**Pallekele**	**14.41**	**289**	*e*P	**P**	**06 19 27.4**	**+1.0**
	16nm,0.8s						
KKTK	**Khon Kaen**	**15.95**	**31**	⇑P	**P**	**06 19 50.5**	**+4.1**
	926nm,0.9s						
CM31	**Chiang Mai Arr**	**16.36**	**15**	*e*P	**P**	**06 19 51.4**	**-0.2**
	20nm,0.6s						
CMAR	**Chiang Mai Arr**	**16.36**	**15**	Pn	**P**	**06 19 50.2**	**-1.3**
	0.9nm,0.3s,baz=205,slow=10,SNR=32						
CMAR				PcP	PcP	06 24 45.0	+0.4
	0.2nm,0.3s,baz=233,slow=2.4,SNR=4.2						
CMAR				LR	LR	06 26 11.6	
	comp=Z,833nm,20.1s,baz=200,slow=38						
CHG	**Chiang Mai**	**16.70**	**15**	⇓P	**P**	**06 19 54.4**	**-1.4**
	60nm,1.2s						
TRD	**Trivandrum**	**18.32**	**289**	*e*	**P**	**06 20 13.4**	**-2.7**
TRD				*i*		06 23 31.4	
KOD	**Kodaikanal**	**18.45**	**295**	*e*P	**P**	**06 20 18.3**	**+0.6**
KOD				*e*P		06 20 24.0	
KOD				*e*S	**S**	**06 23 45.3**	**+6.1**
VIS	**

KMI pmax pmax
comp=Z,45nm,1.6s,mb4.7
KMI MLR MLR
comp=Z,3μm,12.5s,MS5.0
KMI Kunming 23.78 19 P **P 06 21 15.7 +2.4**
comp=Z,45nm,1.6s,mb4.7
KMI pP 06 21 24.2
KMI PPP PPP 06 22 04.0 +7.3
KMI S **S 06 25 33.9 +10**
KMI sS 06 25 48.1
KMI SSS SSS 06 26 48.0 +18
KMI LR LR
comp=Z,3μm,12.5s,MS5.0
GOA Goa 23.98 303 *e*P **P 06 21 15.1 -0.3**
GOA *e* 06 21 24.0
GOA *e* 06 21 42.3
comp=Z,93nm,1.8s
KAD Karad 24.65 308 *e*P **P 06 21 23.0 +1.1**
POO Poona 25.61 310 *e*P **P 06 21 32.0 +1.1**
JIRN Jiri 26.12 343 *e*P **P 06 21 36.2 +0.6**
comp=Z,103nm,1.1s,mb5.3
PKI Pulchoki 26.27 342 *e*P **P 06 21 37.1 +0.1**
comp=Z,57nm,1.3s,mb5.0
BHPL Bhopal 26.29 323 *e*P **P 06 21 35.9 -1.3**
BHPL *e*P 06 21 38.1
BHPL *e* 06 21 40.3
comp=Z,28nm,1.2s
BHPL *e* 06 21 41.0
comp=Z,33nm,1.6s
BHPL *e*S **S 06 26 11.8 +5.8**
DMN Daman 26.40 341 *e*P **P 06 21 38.4 +0.2**
comp=Z,162nm,1.4s,mb5.3
KKN Kakani 26.51 342 *e*P **P 06 21 39.4 +0.2**
comp=Z,42nm,0.9s,mb5.0
BOM Bombay 26.62 309 *e*P **P 06 21 38.7 -1.6**
BOM *e* 06 21 49.9
comp=Z,70nm,1.4s
GKN Gorkha 26.92 341 *e*P **P 06 21 43.1 +0.2**
comp=Z,83nm,1.0s,mb5.2
KOLN Koldanda 27.06 339 *e*P **P 06 21 44.8 +0.5**
comp=Z,56nm,0.9s,mb5.1
LSA Lhasa 27.11 354 P **P 06 21 45.3 +0.6**
LSA S **S 06 26 22.8 +3.4**
LSA AMB AMB
comp=Z,11nm,1.2s,mb4.3
LSA AMB AMB
comp=Z,45nm,7.0s
LSA LR LR
comp=N,390nm,16.0s,MS4.3
LSA LR LR
comp=E,640nm,16.0s,MS4.3
LSA LR LR
comp=Z,570nm,14.0s,MS4.3
LSA Lhasa 27.11 354 *e*P **P 06 21 46.0 +1.3**
LSA pmax pmax
comp=Z,27nm,0.8s,mb4.8
LSA Lhasa 27.11 354 *e*P **P 06 21 46.0 +1.3**
comp=Z,27nm,0.8s,mb4.8
TGY Tagaytay City 28.58 65 P **P 06 21 58.9 +0.8**
comp=Z,164nm,0.6s,mb6.0,baz=208,slow=23,SNR=2.8
AGRA Agra 29.11 329 *e*P **P 06 22 03.0 +0.1**
AGRA *e* 06 22 03.9
comp=Z,40nm,0.2s
SONA Sohna 30.38 329 *e*P **P 06 22 13.4 -0.7**
SONA *e*P 06 22 13.9
SONA *e* 06 22 15.4
comp=Z,23nm,0.9s
AYAN Aya Nagar 30.55 329 *e*P **P 06 22 15.1 -0.5**
AYAN *e* 06 22 17.2
comp=Z,25nm,1.3s
KUDL Kundal 30.61 328 *e*P **P 06 22 15.1 -1.0**
KUDL ⇓*e*P 06 22 15.9
KUDL *e* 06 22 18.0
comp=Z,15nm,1.3s
KUDL *e* 06 22 18.0
comp=Z,16nm,1.5s
NDI New Delhi 30.67 329⇑*e*P **P 06 22 13.6 -3.0**
NDI *e*P 06 22 15.0
KHET Khetri 30.93 327 *e*P **P 06 22 17.4 -1.5**
KHET *e* 06 22 21.4
comp=Z,22nm,1.1s
ENH Enshi 31.00 26 *e*P **P 06 22 18.2 -1.3**
comp=Z,5.5nm,0.4s,mb4.7
ENH LR LR
comp=Z,3μm,19.0s,MS4.9
JOSI Joshimath 31.14 335 *e*P **P 06 22 16.3 -4.5**
JOSI *e*P 06 22 16.6
JOSI *e* pP 06 22 25.0 -3.9
comp=Z,206nm,1.0s
DDI Dehra Dun 31.61 332 *e* **P 06 22 24.0 -0.9**
KKR Kurukshetra 31.91 330 *e*P **P 06 22 27.5 0.0**
SMLA Simla 32.70 332 *e* **P 06 22 46.4 +12**
JASL Jaisalmer 33.04 319 *e* **P 06 22 38.9 +1.5**
WHN Wuhan 33.58 32 P **P 06 22 42.3 +0.2**
WHN S **S 06 28 06.8 +5.2**
WHN LR LR
comp=Z,7μm,13.0s,MS5.6
XAN Xi'an 34.07 22 P **P 06 22 45.3 -1.0**
XAN AP pP 06 22 53.3 -1.2
XAN S **S 06 28 07.0 -2.2**
XAN AMB AMB
comp=Z,19nm,1.4s,mb4.8
XAN LR LR
comp=N,1μm,14.5s,MS5.0
XAN LR LR
comp=E,1μm,13.0s,MS5.0
XAN LR LR
comp=Z,2μm,13.3s,MS4.9
MBWA Marble Bar 34.25 135 *e*P **P 06 22 47.9 -0.1**
comp=Z,24nm,1.0s,mb5.1
FITZ Fitzroy Crossi 37.02 125⇑*i*P **P 06 23 10.4 -1.0**
comp=Z,23nm,0.8s,mb5.1
NJ2 Nanjing 37.23 36 *e*P **P 06 23 14.3 +1.2**
NJ2 AP pP 06 23 22.3 +1.0
NJ2 XP sP 06 23 27.6 +2.8
NJ2 PP PP 06 24 41.6 +1.0
NJ2 S **S 06 29 04.0 +6.1**
NJ2 AMB AMB
comp=Z,180nm,1.1s,mb5.8
NJ2 AMB AMB
comp=Z,590nm,4.4s
NJ2 LR LR
comp=N,3μm,11.6s,MS5.5
NJ2 LR LR
comp=E,3μm,11.0s,MS5.5
NJ2 LR LR
comp=Z,5μm,11.9s,MS5.5
TIA Tai'an 39.48 29 *e*P **P 06 23 32.8 +0.9**
NWAO Narrogin (SRO) 41.42 150 P **P 06 23 48.2 +0.3**
NWAO pmax pmax
comp=Z,14nm,0.9s
NWAO Narrogin (SRO) 41.42 150 P **P 06 23 48.2 +0.4**
comp=Z,14nm,0.9s,mb4.6,baz=321,slow=5.8,SNR=7.9
NWAO Narrogin (SRO) 41.42 150 *e*P **P 06 23 47.6 -0.3**
WMQ Urumqi 41.46 353 *e*P **P 06 23 49.5 +1.4**
WMQ AP pP 06 23 56.9 +0.5
WMQ XP sP 06 24 00.3 +0.5
WMQ PP PP 06 25 29.0 +2.1
WMQ S **S 06 30 03.3 +1.9**
WMQ XS 06 30 15.6
WMQ AMB AMB
comp=Z,84nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,189nm,5.4s
WMQ LR LR
comp=N,958nm,17.8s,MS4.8
WMQ LR LR
comp=E,782nm,18.4s,MS4.8
WMQ LR LR
comp=Z,2μm,18.7s,MS5.0
BJT Baijiatuau 42.14 25 *e*P **P 06 23 55.3 +1.6**
BJT pmax pmax
comp=Z,19nm,0.8s
BJT Baijiatuau 42.14 25 *e*P **P 06 23 55.3 +1.5**
comp=Z,18nm,0.8s,mb4.8
BJI Beijing 42.16 25 *e*P **P 06 23 55.8 +1.9**
BJI *PP pP 06 24 07.3 +5.1
BJI *SP sP 06 24 11.2 +5.6
BJI 06 25 43.0
BJI S **S 06 30 19.8 +8.0**
BJI pmax pmax
comp=Z,32nm,1.0s,mb4.9
BJI MLR MLR
comp=Z,610nm,20.7s,MS4.5
BJI Beijing 42.16 25 *e*P **P 06 23 55.8 +1.9**
comp=Z,32nm,1.0s,mb4.9
BJI pP pP 06 24 07.3 +5.1
BJI sP sP 06 24 11.2 +5.6
BJI PP PP 06 25 43.0 +8.5
BJI S **S 06 30 19.8 +8.0**
BJI SS SS 06 33 40.0 +26
BJI LR LR
comp=Z,610nm,20.7s,MS4.5
UCH Uchtor 43.28 338 P **P 06 24 03.9 +0.9**
SNR=10
TKM2 Tokmak 2 43.50 340 P **P 06 24 06.2 +1.4**
SNR=7.3
AML Almayashu 43.50 338 P **P 06 24 06.2 +1.4**
SNR=14
AAK Ala-Archa 43.64 339 P **P 06 24 07.5 +1.6**
SNR=5.3
AAK Ala-Archa 43.64 339 *e*P **P 06 24 06.2 +0.3**
AAK pmax pmax
comp=Z,30nm,1.5s,mb4.8
AAK MLR MLR
comp=Z,93nm,20.0s,MS3.7
AAK Ala-Archa 43.64 339 *e*P **P 06 24 06.2 +0.2**
comp=Z,30nm,1.5s,mb4.8
AAK LR LR
comp=Z,93nm,20.0s,MS3.7
FRU Bishkek 43.77 339 *e*P **P 06 24 08.5 +1.5**
FRU pmax pmax
comp=Z,40nm,1.9s,mb4.8
EKS2 Erkin-Say 43.93 338 P **P 06 24 09.5 +1.2**
SNR=7.3
USP Ospenovka 44.19 339 P **P 06 24 11.2 +0.8**
SNR=11
WRA Warramunga Arr 45.15 122 P **P 06 24 18.3 -0.1**
comp=Z,21nm,0.8s,mb5.0,baz=300,slow=8.9,SNR=93
WRAB Tennant Creek 45.15 122⇑*e*P **P 06 24 18.4 0.0**
WRAB Tennant Creek 45.15 122 *e*P **P 06 24 18.1 -0.3**
comp=Z,32nm,0.8s,mb5.2
WB2 Warramunga Arr 45.16 122⇑*i*P **P 06 24 18.0 -0.4**
MK02 Makanchi Array 45.23 348 P **P 06 24 19.0 +0.4**
MK02 pmax pmax
comp=Z,19nm,0.9s,mb4.9
FORT Forrest 46.16 139⇑*i*P **P 06 24 26.9 +0.6**
comp=Z,106nm,0.9s,mb5.8
SONM Songino Array 46.22 11 P **P 06 24 27.1 +0.6**
comp=Z,11nm,1.0s,mb4.8,baz=198,slow=7.8,SNR=67
SONM PcP PcP 06 26 01.7 -0.7
comp=Z,4.8nm,0.8s,baz=193,slow=5.0,SNR=4.3
KS15 Wonju Array Si 46.32 37 *e*P **P 06 24 28.0 +0.6**
KS15 *e* pP 06 24 37.0 +1.2
ULN Ulaanbaatar 46.38 12 *e*P **P 06 24 27.9 +0.1**
ULN pmax pmax
comp=Z,46nm,1.8s,mb5.1
ULN MLR MLR
comp=Z,600nm,20.0s,MS4.5
ULN Ulaanbaatar 46.38 12 *e*P **P 06 24 27.9 +0.1**
comp=Z,46nm,1.8s,mb5.1
ULN LR LR
comp=Z,600nm,20.0s,MS4.5
ASPA Alice Springs 46.47 126⇑*i*P **P 06 24 28.8 0.0**
ASAR Alice Springs 46.47 126 P **P 06 24 28.4 -0.4**
comp=Z,12nm,0.8s,mb4.8,baz=302,slow=7.5,SNR=76
ASAR PcP PcP 06 26 02.9 -0.7
comp=Z,5.5nm,0.9s,baz=291,slow=3.3,SNR=8.1
SNY Shenyang 47.00 30⇑P **P 06 24 33.0 +0.3**
SNY S **S 06 31 27.1 +5.5**
SNY AMB AMB
comp=Z,40nm,1.0s,mb5.3
SNY LR LR
comp=N,950nm,15.3s,MS5.0
SNY LR LR
comp=E,650nm,12.9s,MS5.0
SNY LR LR
comp=Z,940nm,17.5s,MS4.8
ZAK Zakamensk 48.19 8 *e*P **P 06 24 42.5 +0.6**
TLY Talaya 49.51 8 P **P 06 24 53.7 +1.6**
comp=Z,85nm,1.0s,mb5.7,SNR=15
TLY Talaya 49.51 8 *e*P **P 06 24 52.9 +0.8**
TLY *e*S **S 06 32 00.2 +3.5**
TLY *e*SS ScS 06 34 44.9 +6.1
TLY pmax pmax
comp=Z,17nm,1.1s,mb5.0
TLY MLR MLR
comp=Z,713nm,15.0s,MS4.8
TLY Talaya 49.51 8 *e*P **P 06 24 53.0 +0.9**
comp=Z,60nm,1.8s,mb5.3
TLY *e* pP 06 25 01.4 +0.9
KURK Kurchatov 49.75 347 *e*P **P 06 24 54.1 +0.1**
KURK pmax pmax
comp=Z,103nm,1.8s,mb5.6
KURK Kurchatov 49.75 347 *e*P **P 06 24 54.1 +0.1**
comp=Z,103nm,1.8s,mb5.6
IRK Irkutsk 50.14 8 *e*P **P 06 24 57.5 +0.6**
IRK *e* 06 26 22.0
IRK *e* 06 26 54.2
IRK pmax pmax
comp=Z,48nm,1.9s,mb5.2
HIA Hailar 51.27 21 *e*P **P 06 25 06.0 +0.5**
HIA pmax pmax
comp=Z,69nm,1.1s
HIA Hailar 51.27 21 *e*P **P 06 25 06.0 +0.4**
comp=Z,69nm,1.1s,mb5.5
RAYN Ar Rayn 51.63 298 P **P 06 25 09.9 +1.3**
comp=Z,100nm,0.8s,mb5.8,SNR=8.0
ZAL Zalesovo 51.76 353 P **P 06 25 08.9 -0.3**
comp=Z,13nm,1.1s,mb4.8,baz=201,slow=6.8,SNR=58
MDJ Mudanjiang 52.06 31 P **P 06 25 11.9 +0.3**
MDJ AP pP 06 25 17.8 -2.3
MDJ XP sP 06 25 20.9 -2.4
MDJ PCP PcP 06 26 18.9 -4.6
MDJ PP PP 06 27 12.5 +2.0
MDJ XS 06 32 54.1
MDJ SCS ScS 06 34 59.5 +3.1
MDJ AMB AMB
comp=Z,22nm,1.4s,mb4.9
MDJ AMB AMB
comp=Z,152nm,4.1s
MDJ LR LR
comp=N,524nm,14.1s,MS5.0
MDJ LR LR
comp=E,949nm,14.1s,MS5.0
MDJ LR LR
comp=Z,1μm,14.9s,MS5.0
MDJ Mudanjiang 52.06 31 *e*P **P 06 25 12.2 +0.6**
comp=Z,21nm,1.3s,mb4.9
NVS Novosibirsk 52.85 352⇑*i*P **P 06 25 16.2 -1.2**
NVS *e**PP pP 06 25 28.0 +2.2
NVS *i* S **S 06 32 43.7 +1.0**
NVS *e* 06 35 00.1
NVS pmax pmax
comp=Z,58nm,1.8s,mb5.2
NVS pmax pmax
comp=N,38nm,1.7s
NVS pmax pmax
comp=E,16nm,1.4s
NVS pmax pmax
comp=Z,20nm,2.1s,mb4.7
NVS pmax pmax
comp=N,17nm,1.8s
NVS pmax pmax
comp=E,10.0nm,2.5s
NVS smax
comp=N,25nm,1.8s
NVS smax
comp=E,37nm,2.0s
PMG Port Moresby 53.89 104⇓*e*P **P 06 25 25.8 +0.3**
PMG Port Moresby 53.89 104 P **P 06 25 25.4 -0.2**
comp=E,30nm,0.9s,mb5.2,baz=273,slow=3.3,SNR=5.2
PMG Port Moresby 53.89 104 *e*P **P 06 25 25.1 -0.5**
BRVK Borovoye 54.10 342 *e*P **P 06 25 25.6 -0.9**
BRVK *e* pP 06 25 34.0 -1.0
BRVK pmax pmax
comp=Z,22nm,1.3s,mb4.9
BRVK MLR MLR
comp=Z,61nm,19.0s,MS3.7
BRVK Borovoye 54.10 342 *e*P **P 06 25 25.6 -0.9**
comp=Z,22nm,1.3s,mb4.9
BRVK *e* pP 06 25 34.0 -0.9
BRVK LR LR
comp=Z,61nm,19.0s,MS3.7
CTA Charters Tower 55.63 116 *e*P **P 06 25 37.8 -0.4**
comp=Z,19nm,1.0s,mb5.1
CTA Charters Tower 55.63 116 *e*P **P 06 25 37.8 -0.4**
CTA pmax pmax
comp=Z,19nm,1.0s
CTA Charters Tower 55.63 116 P **P 06 25 37.4 -0.8**
comp=Z,25nm,1.0s,mb5.2,baz=298,slow=8.6,SNR=8.0
CTA LR LR 06 50 41.4
comp=Z,227nm,21.3s,MS4.2,baz=229,slow=37
CTAO Charters Tower 55.63 116 *e*P **P 06 25 37.6 -0.6**
STKA Stephens Creek 56.37 131⇑*i*P **P 06 25 43.0 -0.4**
comp=Z,14nm,0.8s,mb5.0
STKA Stephens Creek 56.37 131 P **P 06 25 43.1 -0.3**
comp=Z,15nm,0.7s,mb5.1,baz=303,slow=6.5,SNR=35
BOD Bodaibo 57.19 12⇓*i*P **P 06 25 48.3 -0.5**
KMBO Kilima Mbogo 57.26 267 P **P 06 25 51.3 +1.3**
KMBO pmax pmax
comp=Z,35nm,1.8s
KMBO Kilima Mbogo 57.26 267 P **P 06 25 51.0 +1.0**
comp=Z,5.0nm,0.3s,mb5.0,baz=81,slow=9.7,SNR=6.6
KMBO LR LR 06 46 48.3
comp=Z,259nm,18.6s,MS4.4,baz=88,slow=32
KMBO Kilima Mbogo 57.26 267 P **P 06 25 51.3 +1.4**
comp=Z,35nm,1.8s,mb5.1
GNI Garni 58.35 317 *e*P **P 06 25 57.4 +0.2**
GNI Garni 58.35 317 P **P 06 25 57.0 -0.2**
comp=Z,6.6nm,0.7s,mb4.8,baz=174,slow=12,SNR=5.8
CLNS Chul'man 59.27 19 *e*P **P 06 25 59.4 -4.0**
CLNS *e* 06 26 49.6
CLNS *e* 06 28 10.0
CLNS *e*PPP PPP 06 29 40.2 -0.8
CLNS *e*S **S 06 34 01.1 -6.9**
CLNS *e* 06 35 46.1
CLNS pmax pmax
comp=Z,24nm,1.0s,mb5.2
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,14nm,1.2s
CLNS pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
CLNS pmax pmax
comp=N,2.0nm,0.7s
CLNS smax
comp=N,4.0nm,0.6s
ZEI Tsey 60.10 319 *e*P **P 06 26 08.3 -1.0**
ZEI pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
SVE Sverdlovsk 60.37 339 *e*P **P 06 26 10.0 -0.9**
YSS Yuzh-Sakhalins 60.80 36⇑*e*P **P 06 26 14.0 0.0**
YSS S **S 06 34 34.0 +6.2**
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.5
YSS Yuzh-Sakhalins 60.80 36 *e*P **P 06 26 14.7 +0.7**
comp=Z,32nm,1.2s,mb5.3
ARU Arti 60.82 338 P **P 06 26 13.9 -0.1**
comp=Z,110nm,1.1s,mb5.9,SNR=9.4
ARU Arti 60.82 338⇑*i*P **P 06 26 05.8 -8.2**
ARU pmax pmax
comp=Z,23nm,1.1s,mb5.2
ARU Arti 60.82 338 *e*P **P 06 26 07.4 -6.6**
comp=Z,39nm,1.4s,mb5.3
KIV Kislovodsk 61.43 320 *e*P **P 06 26 17.6 -0.7**
KIV *e* 06 26 56.8
KIV *e* 06 28 33.5
KIV *e*S **S 06 34 37.7 +1.9**
KIV *e*SS SS 06 38 38.0 -0.2
KIV pmax pmax
comp=Z,19nm,1.0s,mb5.2
KIV pmax pmax
comp=N,15nm,1.1s
KIV MLR MLR
comp=E,61nm,16.0s
KIV MLR MLR
comp=Z,94nm,16.0s,MS4.0
KIV Kislovodsk 61.43 320 *e*P **P 06 26 17.8 -0.5**
MALT Malatya 62.12 312 *e*P **P 06 26 22.4 -0.6**
MALT *e* pP 06 26 32.3 +0.6
MALT pmax pmax
comp=Z,18nm,1.1s,mb5.1
MALT Malatya 62.12 312 *e*P **P 06 26 22.4 -0.6**
comp=Z,18nm,1.1s,mb5.1
MALT *e* pP 06 26 32.2 +0.6
SOC Sochi 63.21 318 *e*P **P 06 26 26.6 -3.6**
SOC *e* 06 26 59.5
SOC *e* 06 28 48.2
SOC *e*PPP PPP 06 30 25.8 +3.8
SOC *e*S **S 06 34 55.4 -2.9**
SOC *e*SS SS 06 39 03.8 -2.7
SOC *e*SSS SSS 06 41 53.8 +1.6
SOC pmax pmax
comp=Z,20nm,0.7s,mb5.4
SOC pmax pmax
comp=N,11nm,0.8s
SOC pmax pmax
comp=E,31nm,0.9s
MBAR Mbarara 63.73 268 *e*P **P 06 26 33.9 -0.2**
MBAR *e* pP 06 26 41.8 -0.9
YAK Yakutsk 64.88 17 *e*P **P 06 26 40.2 -0.6**
YAK *e* pP 06 26 48.4 -1.0
YAK *e*S **S 06 35 22.1 +3.4**
YAK *e* 06 36 27.1
YAK pmax pmax
comp=Z,23nm,0.9s,mb5.2
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK smax
comp=E,2.0nm,1.1s
YAK smax
comp=N,1.0nm,0.9s
YAK MLR MLR
comp=Z,501nm,13.0s,MS4.9
YAK MLR MLR
comp=N,375nm,15.0s,MS4.8
YAK MLR MLR
comp=E,336nm,14.0s,MS4.8
YAK Yakutsk 64.88 17 *e*P **P 06 26 39.8 -1.0**
YAK *e* pP 06 26 48.8 -0.6
ANN Anapa 65.20 319 *e*P **P 06 26 38.7 -4.5**
ANN *e* 06 26 53.6
ANN *e* 06 27 10.1
ANN pmax pmax
comp=Z,32nm,1.1s,mb5.3
BRTR Keskin Array B 66.11 313 P **P 06 26 47.1 -1.9**
comp=Z,3.9nm,0.8s,mb4.5,baz=128,slow=7.2,SNR=24
LSZ Lusaka 67.86 252 *e*P **P 06 26 59.8 -0.7**
LSZ pmax pmax
comp=Z,18nm,1.6s,mb4.8
LSZ Lusaka 67.86 252 *e*P **P 06 26 59.8 -0.7**
comp=Z,18nm,1.6s,mb4.9
MOS Moscow 69.70 330 *e*P **P 06 27 08.3 -2.9**
MOS *e* 06 27 27.5
MOS *e*S S 06 36 18.5 +1.7
MOS pmax pmax
comp=Z,78nm,1.3s,mb5.5
OBN Obninsk 69.97 329⇑*e*P **P 06 27 09.5 -3.3**
OBN pmax pmax
comp=Z,28nm,1.1s,mb5.1
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.2
TIRR Tirgusor 71.18 316 ⇓P **P 06 27 20.0 -0.4**
MA2 Magadan 71.30 27 *e*P **P 06 27 21.0 +0.1**
MA2 *e*S S 06 36 39.4 +4.1
MA2 *e*SS SS 06 41 17.5 +5.9
MA2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
MA2 MLR MLR
comp=Z,900nm,20.0s,MS5.0
MA2 Magadan 71.30 27 *e*P **P 06 27 20.4 -0.4**
comp=Z,8.4nm,0.8s,mb4.7
CFR Carcaliu 71.56 317 ⇓P **P 06 27 22.2 -0.5**
TIXI Tiksi 72.31 11⇑*e*P **P 06 27 26.2 -0.5**
TIXI pmax pmax
comp=Z,68nm,1.8s,mb5.3
AKASG Malin Array Be 72.45 323 P **P 06 27 26.3 -1.6**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 72.45 323 P **P 06 27 26.3 -1.6**
comp=Z,4.5nm,0.8s,mb4.4,baz=90,slow=4.6,SNR=15
VRI Vrincioaia 72.69 317 ⇓P **P 06 27 29.8 +0.4**
VRI Vrincioaia 72.69 317 P **P 06 27 29.7 +0.3**
MLR Muntele Rosu 73.13 317 P **P 06 27 32.5 +0.5**
MAW Mawson 73.47 192 *e*P **P 06 27 34.4 +0.9**
MAW *e* pP 06 27 43.2 +1.0
MAW pmax pmax
comp=Z,8.0nm,0.8s
MAW Mawson 73.47 192 P **P 06 27 34.6 +1.0**
comp=Z,6.6nm,0.8s,mb4.6,baz=20,slow=8.8,SNR=12
MAW LR LR 06 53 08.1
comp=Z,176nm,18.5s,MS4.4,baz=156,slow=30

MAW	**Mawson**	**73.47**	**192**	*e*P	**P**	**06 27 34.4**	**+0.9**
	comp=Z,7.6nm,0.8s,mb4.7						
MAW				*e*	pP	06 27 43.2	+1.0
SEY	**Seymchan**	**73.58**	**24**	*e*P	**P**	**06 27 33.9**	**-0.4**
SEY						06 27 52.5	
SEY						06 30 21.3	
SEY				*e*PPP	PPP	06 32 04.9	+0.5
SEY				*e*S	S	06 37 00.9	-0.3
SEY						06 37 32.9	
SEY				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.2						
SEY				pmax	pmax		
	comp=E,20nm,1.1s						
SEY				smax			
	comp=N,220nm,13.6s						
SEY				smax			
	comp=E,50nm,10.7s						
SEY				MLR	MLR		
	comp=N,1μm,18.0s,MS5.3						
SEY				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.4						
SEY				MLR	MLR		
	comp=E,600nm,15.0s,MS5.3						
LVV	**L'vov**	**75.42**	**321**	*e*P	**P**	**06 27 44.4**	**-0.7**
JOF	**Joensuu**	**75.69**	**335**	*e*p	**P**	**06 27 44.2**	**-2.2**
	comp=E,6.7nm,0.8s,mb4.6						
BZS	**Buzias**	**76.13**	**316**	⇓P	**P**	**06 27 48.3**	**-0.9**
KOLS	**Kolonicke sedl**	**76.34**	**320**	*e*P	**P**	**06 27 51.0**	**+0.6**
KOLS				*e*pP	pP	06 27 59.9	+0.8
SUW	**Suwalki**	**76.92**	**325**	*e*P	**P**	**06 27 52.8**	**-0.7**
KECS	**Kecovo**	**77.42**	**319**	*e*P	**P**	**06 27 57.2**	**+0.9**
FINES	**FINESS Array B**	**77.47**	**333**	P	**P**	**06 27 55.9**	**-0.5**
	comp=E,5.5nm,0.8s,mb4.5,baz=104,slow=7.9,SNR=14						
FINES				LR	LR	07 06 10.4	
	comp=E,172nm,18.0s,MS4.4,baz=148,slow=39						
KAF	**Kangasniemi**	**77.58**	**333**	*e*p	**P**	**06 27 54.8**	**-2.1**
	comp=E,13nm,1.0s,mb4.8,baz=106,slow=5.2						
KAF	**Kangasniemi**	**77.58**	**333**	*e*P	**P**	**06 27 54.8**	**-2.1**
KAF				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
OJC	**Ojcow**	**78.17**	**321**	*e*P	**P**	**06 28 00.0**	**-0.4**
VYHS	**Vyhne**	**78.50**	**319**	*e*P	**P**	**06 28 02.0**	**-0.3**
VYHS				*e*pP	pP	06 28 10.2	-0.8
OKC	**Ostrava-Krasne**	**79.16**	**320**	*e*P	**P**	**06 28 05.9**	**+0.1**
MORC	**Moravsky Berou**	**79.53**	**320**	*e*P	**P**	**06 28 08.0**	**+0.1**
MORC				*e*	pP	06 28 16.8	+0.1
MORC				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
MORC	**Moravsky Berou**	**79.53**	**320**	*e*P	**P**	**06 28 08.0**	**+0.1**
	comp=Z,12nm,1.4s,mb4.6						
MORC				*e*	pP	06 28 16.8	+0.2
ZST	**Bratislava**	**79.60**	**318**	*e*P	**P**	**06 28 08.8**	**+0.5**
ZST				*e*pP	pP	06 28 17.9	+0.9
ARCES	**ARCESS Array B**	**80.28**	**341**	P	**P**	**06 28 11.5**	**0.0**
	comp=Z,5.3nm,0.9s,mb4.5,baz=130,slow=9.5,SNR=8.1						
ARCES				LR	LR	07 07 38.6	
	comp=Z,234nm,18.6s,MS4.6,baz=345,slow=39						
DPC	**Dobruska-Polom**	**80.39**	**321**	*e*P	**P**	**06 28 13.3**	**+0.8**
GROS	**Grobnik**	**80.47**	**317**	*e*P	**P**	**06 28 12.3**	**-0.7**
KSP	**Ksiaz**	**80.47**	**321**	*e*P	**P**	**06 28 13.5**	**+0.6**
KSP				*e**PP	pP	06 28 22.0	+0.3
KSP	**Ksiaz**	**80.47**	**321**	*e*P	**P**	**06 28 13.3**	**+0.4**
SYO	**Syowa Base**	**80.49**	**197**	⇓P	**P**	**06 28 13.8**	**+1.2**
SYO	**Syowa Base**	**80.49**	**197**	⇓pP	pP	06 28 22.4	+1.0
BOJS	**Bojanci**	**80.54**	**316**	*i* P	**P**	**06 28 13.5**	**+0.1**
UPC	**Upice**	**80.61**	**321**	*e*P	**P**	**06 28 10.6**	**-3.0**
PERS	**Pernice**	**80.75**	**317**	*e*P	**P**	**06 28 14.8**	**+0.4**
PERS				*e*	pP	06 28 23.5	+0.2
PERS	**Pernice**	**80.75**	**317**	⇑*i*P	**P**	**06 28 14.9**	**+0.4**
PERS				*e*	pP	06 28 23.5	+0.2
BILL	**Bilibino**	**80.86**	**21**	⇓*e*P	**P**	**06 28 15.0**	**+0.4**
BILL				*i*	pP	06 28 24.6	+1.2
BILL				*i* SS	SS	06 43 39.7	+2.9
BILL				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
BILL				MLR	MLR		
	comp=Z,1μm,16.0s,MS5.3						
LJU	**Ljubljana**	**81.10**	**316**	*e*P	**P**	**06 28 17.3**	**+1.0**
PRU	**Pruhonice**	**81.49**	**320**	*e*P	**P**	**06 28 16.6**	**-1.6**
PVCC	**Panska Ves**	**81.53**	**321**	*e*P	**P**	**06 28 18.1**	**-0.3**
GERES	**GERESS Array B**	**81.92**	**319**	P	**P**	**06 28 21.0**	**+0.5**
	comp=Z,5.3nm,0.9s,mb4.5,baz=104,slow=5.5,SNR=40						
BRG	**Berggiesshubel**	**81.96**	**321**	*e*P	**P**	**06 28 21.8**	**+1.2**
BRG				*e*	pP	06 28 30.4	+0.9
BRG				pmax	pmax		
	comp=Z,28nm,1.9s,mb4.9						
BRG	**Berggiesshubel**	**81.96**	**321**	*e*P	**P**	**06 28 21.8**	**+1.2**
	comp=Z,28nm,1.9s,mb4.9						
BRG				*e*	pP	06 28 30.4	+0.9
BRG				*e*		06 29 31.0	
KHC	**Kasperske Hory**	**82.03**	**319**	*e*P	**P**	**06 28 20.7**	**-0.3**
CLL	**Collm**	**82.59**	**321**	*e*P	**P**	**06 28 25.0**	**+1.1**
CLL				*e*	pP	06 28 33.0	+0.3
CLL	**Collm**	**82.59**	**321**	P	**P**	**06 28 25.0**	**+1.1**
CLL				*e**PP	pP	06 28 33.0	+0.3
NKC	**Novy Kostel**	**82.85**	**320**	*e*P	pP	06 28 33.3	-0.8
NKC	**Novy Kostel**	**82.85**	**320**	*e*pP	pP	06 28 33.3	-0.8
GRA1	**Grafenberg Arr**	**83.60**	**320**	*e*P	**P**	**06 28 30.0**	**+0.8**
	comp=Z,16nm,1.2s,mb5.0						
GRA1				*e*pP	pP	06 28 38.0	0.0
GRF	**Grafenberg Arr**	**83.60**	**320**	*e*P	**P**	**06 28 30.0**	**+0.8**
GRF				*e**PP	pP	06 28 38.0	0.0
GRF				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.0						
GRF	**Grafenberg Arr**	**83.60**	**320**	*e*P	**P**	**06 28 30.0**	**+0.8**
GRF				*e**PP	pP	06 28 38.0	0.0
GRF				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.0						
GRF	**Grafenberg Arr**	**83.60**	**320**	*e*P	**P**	**06 28 30.0**	**+0.8**
	comp=Z,16nm,1.2s,mb5.0						
GRF				*e*pP	pP	06 28 38.0	0.0
NB2	**NORSAR Subarra**	**84.42**	**331**	P	**P**	**06 28 32.7**	**-0.3**
	comp=Z,1.7nm,0.8s,mb4.2,baz=95,slow=5.0						
NB2	**NORSAR Subarra**	**84.42**	**331**	P	**P**	**06 28 32.7**	**-0.3**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
NOA	**NORSAR Array B**	**84.42**	**331**	P	**P**	**06 28 33.0**	**0.0**
	comp=Z,3.6nm,0.9s,mb4.5,baz=93,slow=5.8,SNR=6.2						
LPG	**La Plagne**	**86.51**	**315**	*e*P	**P**	**06 28 44.5**	**+0.7**
	comp=Z,53nm,1.5s,mb5.2						
LPG	**La Plagne**	**86.51**	**315**	*e*P	**P**	**06 28 44.5**	**+0.7**
LPG				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.3						
VNDA	**Vanda**	**87.76**	**168**	LR	LR	07 03 32.5	
	comp=Z,143nm,18.8s,MS4.4,baz=304,slow=32						
DBIC	**Dimbokro**	**98.89**	**277**	LR	LR	07 09 57.3	
	comp=Z,116nm,18.5s,MS4.4,baz=68,slow=33						
ILAR	**Eielson Array**	**99.48**	**22**	PP	PP	06 33 40.7	-8.6
	comp=Z,0.5nm,0.9s,baz=280,slow=5.5,SNR=3.6						
YKA	**Yellowknife Ar**	**111.44**	**14**	PKiKP		06 34 34.5	
	comp=Z,0.1nm,0.4s,baz=312,slow=1.8,SNR=4.0						
YKA				PP	PP	06 35 08.0	-11
	comp=Z,0.3nm,0.8s,baz=335,slow=7.1,SNR=5.0						
YKA				PKKPbc		06 45 29.6	
	comp=Z,0.7nm,1.0s,baz=144,slow=3.6,SNR=9.2						
YKA	**Yellowknife Ar**	**111.44**	**14**	PKPdf	PKPdf	06 34 34.5	-3.5
YKA				PP	PP	06 35 08.1	-11
YKA				PKKPbc		06 45 29.6	
NVAR	**Mina Array Bea**	**129.21**	**33**	PKP	PKPdf	06 35 10.8	-2.4
	comp=Z,1.8nm,0.8s,baz=262,slow=1.4,SNR=15						
PDAR	**Pinedale Array**	**129.91**	**23**	PKP	PKPdf	06 35 11.3	-3.1
	comp=Z,1.8nm,0.9s,baz=315,slow=2.1,SNR=11						
MSU	**Marysvale**	**132.28**	**28**	*e*PKIKP	PKPdf	06 35 16.9	-2.2
MSU				*e*		06 35 27.8	
NEN	**Nelson**	**133.12**	**33**	*e*P	PKPdf	06 35 18.8	-1.9
PV10	**Paradox Valley**	**133.82**	**26**	*e*P	PKPdf	06 35 20.1	-1.8
PV10				*e*		06 35 29.5	
GDL2	**Guadalupe Moun**	**141.06**	**26**	*e*P	PKPdf	06 35 31.9	-3.5
TXAR	**Lajitas Array**	**143.82**	**27**	PKP	PKPdf	06 35 35.2	-5.0
	comp=Z,4.8nm,0.9s,baz=242,slow=1.8,SNR=26						
JCT	**Junction City**	**144.41**	**21**	*e*PKIKP	PKPdf	06 35 36.6	-4.6
NATX	**Nacogdoches**	**144.75**	**13**	*e*PKPdf	PKPdf	06 35 37.8	-4.0
HKT	**Hockley**	**146.17**	**16**	*e*PKPdf	PKPdf	06 35 41.9	-2.4
HKT				*e*		06 35 51.8	
SAML	**Samuel**	**156.84**	**253**	*e*PKPdf	PKPdf	06 35 57.9	-2.5
SAML				*e*		06 36 07.2	
LPAZ	**La Paz**	**158.09**	**231**	PKIKP	PKPdf	06 36 00.0	-2.0
LPAZ						06 36 34.1	
LPAZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LPAZ	**La Paz**	**158.09**	**231**	PKP	PKPdf	06 35 60.0	-2.0
	comp=Z,2.2nm,1.0s,baz=85,slow=3.3,SNR=5.9						
LPAZ				PKPab	PKPab	06 36 34.1	+1.0
	comp=Z,2.5nm,0.8s,baz=140,slow=5.1,SNR=6.3						
LPAZ	**La Paz**	**158.09**	**231**	*e*PKPdf	PKPdf	06 36 00.2	-1.8
LPAZ				*e*PKPab	PKPab	06 36 33.9	+0.8
LPAZ				LR	LR		
	comp=Z,169nm,19.0s,MS4.9						
OTAV	**Otavalo**	**172.32**	**292**	*e*PKPdf	PKPdf	06 36 11.7	-2.4

WEL 23 06:21:21.2±0.1, 45.96S×167.45E, h13km±2km, ML3.6/4, 2D, Error ellipse: s-maj=1.9km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**0.36**	**79**	⇓P*	Pb	06 21 28.4	-0.5
WHZ				S*	Sb	06 21 33.7	-0.3
DCZ	**Deep Cove**	**0.53**	**337**	⇓P	Pb	06 21 31.5	-0.2
DCZ				S*	Sb	06 21 39.3	+0.4
MLZ	**Mavora Lakes**	**0.80**	**40**	P*	Pb	06 21 35.4	-1.1
MLZ				S*	Sb	06 21 46.9	0.0
MSZ	**Milford Sound**	**1.33**	**15**	PN	Pn	06 21 44.4	-1.3
MSZ				SN	Sn	06 22 01.9	-1.3
EAZ	**Earnscleugh**	**1.50**	**62**	PN	Pn	06 21 47.3	-0.6
EAZ				*e*SN	Sn	06 22 06.4	-1.0
TUZ	**Tuapeka**	**1.53**	**91**	PN	Pn	06 21 47.2	-1.1
TUZ				SN	Sn	06 22 06.6	-1.6
WKZ	**Wanaka**	**1.58**	**45**	PN	Pn	06 21 49.2	-0.1
WKZ				SN	Sn	06 22 10.1	+0.4
JCZ	**Jackson Bay**	**2.10**	**27**	PN	Pn	06 21 56.6	-0.1
LBZ	**Lake Benmore**	**2.50**	**52**	PN	Pn	06 21 59.8	-2.4

IDC 23 06:38:01.4±1.5, 7.83S×159.64E, mb3.7/5, mb1 3.9/5, mb1mx3.9/14, mbtmp3.7/5, Error ellipse: s-maj=64.5km s-min=28.3km az=139.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.30**	**241**	P	P	06 43 48.3	-1.5
	0.4nm,0.6s,baz=67,slow=9.4,SNR=2.9						
ASAR	**Alice Springs**	**29.26**	**235**	P	P	06 44 05.0	-2.5
	0.5nm,0.9s,baz=62,slow=9.5,SNR=3.7						
SONM	**Songino Array**	**72.58**	**326**	P	P	06 49 31.0	-1.4
	1.0nm,0.7s,baz=137,slow=5.6,SNR=7.1						
NVAR	**Mina Array Bea**	**88.64**	**51**	P	P	06 50 57.2	-0.8
	0.4nm,0.8s,baz=280,slow=5.5,SNR=2.9						
YKA	**Yellowknife Ar**	**94.92**	**28**	P	P	06 51 24.6	-1.9
	0.1nm,0.4s,baz=260,slow=4.6,SNR=8.2						

IDC 23 06:42:27.5±7.0, 5.62S×151.33E, h79km±58km, mb3.6/3, mb1 3.9/4, mb1mx3.6/13, mbtmp4.0/4, ML3.0/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/17, Error ellipse: s-maj=171.7km s-min=34.4km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.59**	**227**	P	P	06 43 48.4	-1.3
	2.7nm,0.3s,baz=58,slow=9.5,SNR=8.0						
PMG				S	S	06 44 55.1	+1.8
	7.4nm,0.3s,baz=341,slow=2.6,SNR=8.3						
WRA	**Warramunga Arr**	**21.81**	**228**	P	P	06 47 12.6	-2.0
	4.6nm,1.1s,baz=54,slow=9.3,SNR=9.2						
ASAR	**Alice Springs**	**24.56**	**221**	P	P	06 47 40.7	-0.7
	5.5nm,1.0s,baz=55,slow=9.4,SNR=27						
URZ	**Urewera**	**40.05**	**148**	LR	LR	07 02 26.8	
	comp=Z,88nm,19.9s,baz=96,slow=30						
ILAR	**Eielson Array**	**83.47**	**22**	P	P	06 54 46.0	-1.4
	0.7nm,0.8s,baz=248,slow=5.1,SNR=7.0						

NEIC ***23*** *07:06:40.8±1.0, 17.88S×69.52W, h144km±11km, mb3.5/3, Error ellipse: s-maj=18.4km s-min=13.5km az=79.0*
IDC ***23*** *07:06:41.6±1.5, 18.00S×69.19W, h143km±11km, mb3.5/3, mb1 3.6/4, mb1mx3.5/13, mbtmp3.9/4, Error ellipse: s-maj=39.9km s-min=9.7km az=101.0*
ISC 23 07:06:41.7±1.2, 18.01S±0.07×69.1W±0.2, h153km±9km, n13, σ1§15/17, mb3.6/3, 1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.96**	**29**	P	**P**	**07 07 17.9**	**+1.1**
	50nm,0.3s,baz=214,slow=7.3,SNR=1550						
LPAZ				S	**S**	**07 07 43.7**	**-0.2**
	9.4nm,0.3s,baz=261,slow=23,SNR=6.4						
LPAZ	**La Paz**	**1.96**	**29**	⇓*i*Pn	**P**	**07 07 17.9**	**+1.1**
LPAZ				S	**S**	**07 07 43.7**	**-0.2**
LPAZ				*e*Sn	**S**	**07 07 43.9**	**0.0**
LVC	**Limon Verde**	**4.58**	**177**	P	**P**	**07 07 51.4**	**+0.9**
	2.5nm,0.3s,baz=14,slow=8.5,SNR=34						
LVC				S	**S**	**07 08 42.2**	**-1.4**
	13nm,0.3s,baz=233,slow=21,SNR=14						
NNA	**Nana**	**9.56**	**308**	*e*Pn	**P**	**07 08 48.8**	**-7.9**
SAML	**Samuel**	**10.70**	**33**	*e*Pn	**P**	**07 09 08.9**	**-2.8**
	1.9nm,0.4s						
SAML				*e*Sn	**S**	**07 11 03.4**	**-5.9**
BAO	**Brasilia Array**	**20.37**	**86**	P	**P**	**07 11 09.1**	**+1.1**
BAO				*i*		07 11 12.1	
TRQA	**Tornquist**	**20.93**	**164**	*e*P	**P**	**07 11 13.0**	**-0.5**
	0.7nm,0.4s						
PLCA	**Paso Flores**	**22.68**	**183**	P	**P**	**07 11 32.1**	**+1.5**
	0.7nm,0.6s,mb3.3,baz=10,slow=12,SNR=3.8						
PLCA	**Paso Flores**	**22.68**	**183**	*e*P	**P**	**07 11 32.3**	**+1.7**
	0.4nm,0.5s,mb3.1						
DBIC	**Dimbokro**	**67.98**	**75**	P	**P**	**07 17 26.4**	**-0.4**
	4.2nm,0.6s,mb4.4,baz=224,slow=4.4,SNR=13						
YKA	**Yellowknife Ar**	**87.84**	**341**	P	**P**	**07 19 13.7**	**-0.6**
	0.3nm,0.5s,mb3.4,baz=133,slow=4.8,SNR=15						
YKA	**Yellowknife Ar**	**87.84**	**341**	P	**P**	**07 19 13.7**	**-0.6**
SONM	**Songino Array**	**150.03**	**6**	PKPbc	PKPdf	07 26 14.7	+6.1
	0.4nm,0.6s,baz=346,slow=1.6,SNR=4.0						

IDC ***23*** *07:10:27.7±1.3, 14.76N×81.69W, mb3.5/6, mb1 3.9/7, mb1mx3.8/18, mbtmp3.6/7, ML4.2/1, Error ellipse: s-maj=61.9km s-min=23.7km az=54.0*
NEIC 23 07:10:28.8±0.6, 14.68N×81.75W, h10km, Error ellipse: s-maj=15.4km s-min=9.4km az=53.0, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**5.37**	**216**	*e*Pn	Pn	07 11 48.6	-2.3
	7.8nm,0.6s						
JTS				*e*Pg	Pg	07 12 07.9	-8.0
JTS				*e*S	Sn	07 13 04.0	+10
TEIG	**Tepich**	**8.32**	**312**	*e*Pn	P	07 12 29.2	-3.2
	8.6nm,0.4s						
SDV	**Santo Domingo**	**12.31**	**117**	Pn	P	07 13 23.9	-3.3
	1.3nm,0.3s,baz=315,slow=10.0,SNR=20						
SDV				Sn	S	07 15 34.9	-11
	0.6nm,0.3s,baz=302,slow=21,SNR=4.5						
TXAR	**Lajitas Array**	**24.95**	**309**	P	P	07 15 53.2	-0.7
	1.1nm,0.7s,baz=124,slow=9.8,SNR=10						
TXAR	**Lajitas Array**	**24.95**	**309**	P	P	07 15 53.2	-0.7
PDAR	**Pinedale Array**	**36.80**	**325**	P	P	07 17 36.8	-2.0
	0.3nm,0.6s,baz=127,slow=15,SNR=3.5						
NVAR	**Mina Array Bea**	**39.96**	**313**	P	P	07 18 03.6	-1.7
	0.4nm,0.7s,baz=121,slow=9.1,SNR=3.6						
YKA	**Yellowknife Ar**	**53.09**	**342**	P	P	07 19 45.9	-2.6
	0.1nm,0.2s,baz=134,slow=7.9,SNR=6.9						
YKA	**Yellowknife Ar**	**53.09**	**342**	P	P	07 19 45.9	-2.6
PLCA	**Paso Flores**	**56.10**	**170**	P	P	07 20 09.3	-1.4
	1.7nm,0.9s,baz=311,slow=3.4,SNR=2.9						
ILAR	**Eielson Array**	**66.30**	**335**	P	P	07 21 18.1	-1.2
	0.2nm,0.6s,baz=108,slow=4.8,SNR=6.9						

IDC ***23*** *07:26:29.8±0.7, 56.30N×153.58W, mb4.4/25, mb1 4.5/29, mb1mx4.5/31, mbtmp4.4/29, ML3.8/4, MS4.1/5, Ms1 4.1/5, ms1mx3.5/27, Error ellipse: s-maj=21.2km s-min=11.7km az=23.0*
MOS ***23*** *07:26:29.5±1.0, 56.29N×153.57W, h10km, mb4.9/31, MS4.4/6, Error ellipse: s-maj=11.8km s-min=4.6km az=84.7*
BJI ***23*** *07:26:30.0, 56.00N×153.40W, h26km, mB5.2, mb4.9, Ms5.0, Msz4.6*
NEIC ***23*** *07:26:31.9, 56.05N×153.37W, h26km, mb4.6/42, MS4.2/1, ML4.3(AEIC), After AEIC.*
ISC 23 07:26:31.5±0.2, 56.27N±0.03×153.58W±0.05, h24km, h24km±2.1km: pP-P, n220, σ1§19/223, mb4.6/75, MS4.5/8,

5C-6D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.61**	**19**	P	**Pn**	**07 27 00.0**	**+1.1**
KDAK				S	**Sn**	**07 27 20.1**	**+1.0**
KAWH	**Katmai**	**2.22**	**343**	P	**Pn**	**07 27 09.2**	**+1.6**
KAIC	**Katmai Ikaglui**	**2.36**	**341**	P	**Pn**	**07 27 11.3**	**+1.7**
KAHC	**Katmai Hardscr**	**2.51**	**343**	P	**Pn**	**07 27 13.4**	**+1.7**
MCNL	**McNeil River**	**2.95**	**352**	P	**Pn**	**07 27 19.4**	**+1.4**
AUI	**Augustine Isla**	**3.08**	**1**	P	**Pn**	**07 27 21.3**	**+1.5**
OPT	**Oil Point**	**3.40**	**3**	P	**Pn**	**07 27 26.1**	**+1.8**
CNPM	**China Poot**	**3.50**	**20**	P	**Pn**	**07 27 26.2**	**+0.4**
BRLK	**Bradley Lake**	**3.79**	**21**	P	**Pn**	**07 27 29.6**	**-0.3**
ILW	**Iliamna West**	**3.81**	**3**	P	**Pn**	**07 27 30.9**	**+0.7**
INE	**Iliamna NE**	**3.81**	**4**	P	**Pn**	**07 27 31.1**	**+0.8**
ILIM	**Iliamna**	**3.84**	**5**	P	**Pn**	**07 27 31.6**	**+1.0**
SDPT	**Sand Point**	**4.00**	**260**	P	**Pn**	**07 27 31.3**	**-1.7**
RSO	**Redoubt South**	**4.23**	**6**	*e*P	**Pn**	**07 27 36.4**	**+0.2**
RDN	**Redoubt North**	**4.28**	**5**	P	**Pn**	**07 27 37.8**	**+0.9**
NCT	**North Crescent**	**4.32**	**4**	P	**Pn**	**07 27 38.0**	**+0.6**
DFR	**Drift River**	**4.36**	**6**	P	**Pn**	**07 27 38.8**	**+0.8**
SEW	**Seward**	**4.42**	**28**	P	**Pn**	**07 27 37.0**	**-1.9**
SLKM	**Skilak Lake**	**4.60**	**21**	*e*P	**Pn**	**07 27 40.2**	**-1.3**
PVV	**Pavlof Volcano**	**4.72**	**262**	P	**Pn**	**07 27 41.4**	**-1.7**
MPA	**Moose Pass**	**4.78**	**26**	P	**Pn**	**07 27 42.6**	**-1.3**
HAG	**Hague Volcano**	**4.80**	**262**	P	**Pn**	**07 27 42.7**	**-1.5**
DOL	**Dolgoi Island**	**4.82**	**260**	P	**Pn**	**07 27 42.3**	**-2.2**
SVW2	**Sparrevohn**	**4.96**	**349**	P	**Pn**	**07 27 46.6**	**+0.2**
SPU	**Mount Spurr**	**4.99**	**9**	*e*P	**Pn**	**07 27 46.8**	**-0.2**
CKN	**Chakachatna No**	**5.02**	**8**	P	**Pn**	**07 27 48.0**	**+0.6**
FIB	**Fire Island**	**5.22**	**18**	*e*P	**Pn**	**07 27 49.5**	**-0.7**
RC01	**Rabbit Creek A**	**5.23**	**21**	P	**Pn**	**07 27 49.0**	**-1.4**
STLK	**Strandline Lak**	**5.32**	**9**	P	**Pn**	**07 27 52.0**	**+0.4**
HIN	**Hinchinbrook I**	**5.57**	**39**	P	**Pn**	**07 27 52.8**	**-2.3**
PWA	**Palmer West**	**5.73**	**18**	P	**Pn**	**07 27 56.4**	**-0.9**
FALS	**False Pass**	**5.76**	**260**	P	**Pn**	**07 27 54.7**	**-3.1**
PMR	**Palmer**	**5.81**	**21**	P	**Pn**	**07 27 56.7**	**-1.8**
EYAK	**Cordova Ski Ar**	**5.94**	**41**	P	**Pn**	**07 27 58.2**	**-2.2**
GHO	**Glory Hole Cre**	**6.02**	**22**	P	**Pn**	**07 28 00.0**	**-1.4**
SSLN	**Shishaldin Nor**	**6.09**	**260**	P	**Pn**	**07 28 00.6**	**-1.9**
SML	**Sawmill**	**6.18**	**24**	P	**Pn**	**07 28 02.4**	**-1.3**
DIV	**Divide**	**6.35**	**37**	*e*P	**Pn**	**07 28 03.5**	**-2.5**
SCM	**Sheep Creek Mo**	**6.44**	**27**	P	**Pn**	**07 28 05.9**	**-1.5**
WFAR	**Faris Peak**	**6.61**	**259**	P	**Pn**	**07 28 07.4**	**-2.4**
TT01	**Tatalina**	**6.77**	**350**	P	**Pn**	**07 28 12.1**	**0.0**
GLB	**Gilahina Butte**	**7.25**	**40**	P	**Pn**	**07 28 16.1**	**-2.6**
AHB	**Akutan Harbor**	**7.33**	**258**	P	**Pn**	**07 28 16.9**	**-3.0**
TRF	**Thorofare Moun**	**7.39**	**12**	P	**Pn**	**07 28 19.4**	**-1.3**
KTH	**Kantishna Hill**	**7.43**	**9**	P	**Pn**	**07 28 21.1**	**-0.2**
BALM	**Baldy**	**7.56**	**46**	P	**Pn**	**07 28 20.7**	**-2.3**
UNV	**Unalaska Valle**	**7.81**	**257**	P	**Pn**	**07 28 22.2**	**-4.4**
MCK	**McKinley**	**7.84**	**15**	P	**Pn**	**07 28 25.5**	**-1.5**
PAX	**Paxson**	**7.87**	**28**	P	**Pn**	**07 28 25.1**	**-2.4**
MSW	**Makushin Switc**	**7.94**	**258**	P	**Pn**	**07 28 24.5**	**-3.8**
THY	**Trims Highway**	**8.18**	**26**	*e*P	**P**	**07 28 30.7**	**-0.9**
CCB	**Clear Creek Bu**	**8.87**	**16**	P	**P**	**07 28 38.6**	**-2.7**
BCA3	**Beaver Creek A**	**9.05**	**36**	P	**P**	**07 28 41.4**	**-2.4**
COLA	**College**	**9.08**	**16**	⇑*e*P	**P**	**07 28 43.7**	**-0.5**
COLA	**College**	**9.08**	**16**	P	**P**	**07 28 40.9**	**-3.3**
IL1	**Eielson Array**	**9.14**	**18**	P	**P**	**07 28 43.4**	**-1.6**
ILAR	**Eielson Array**	**9.14**	**18**	Pn	**P**	**07 28 41.5**	**-3.5**
	0.7nm,0.3s,baz=201,slow=13,SNR=73						
ILAR				Sn	**Sn**	**07 30 19.1**	**-9.1**
	0.3nm,0.3s,baz=203,slow=23,SNR=2.7						
ILAR				LR	LR	07 32 48.6	
	comp=Z,1μm,18.9s,baz=218,slow=42						
IM02	**Indian Mountai**	**9.77**	**359**	P	**P**	**07 28 51.5**	**-2.0**
IMA	**Indian Mountai**	**9.84**	**360**	*e*P	**P**	**07 28 55.2**	**+0.8**
IMA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
IMA	**Indian Mountai**	**9.84**	**360**	*e*P	**P**	**07 28 55.2**	**+0.8**
	comp=Z,2.1nm,0.6s

comp=E,4.0nm,1.0s
YAK MLR MLR
comp=Z,256nm,14.0s,MS4.2
YAK MLR MLR
comp=E,220nm,17.0s
ANMO Albuquerque 38.27 104 P **P** 07 33 51.7 +0.4
comp=E,0.2nm,0.3s,baz=293,slow=15,SNR=2.7
ANMO Albuquerque 38.27 104 *eP* **P** 07 33 52.1 +0.7
YSS Yuzh-Sakhalins 39.28 284 P **P** 07 34 06.0 +6.3
FRB Frobisher Bay 40.11 43 P **P** 07 34 06.7 +0.3
comp=E,0.9nm,0.5s,mb3.8,baz=290,slow=16,SNR=3.9
FRB LR LR 07 51 49.9
comp=E,601nm,19.0s,MS4.5,baz=299,slow=38
CPRX Cap Rock 41.12 103 *eP* **P** 07 34 15.7 +0.7
ASAJ Asahikawa 41.15 281 P **P** 07 34 15.1 -0.1
ASAJ pmax pmax
comp=Z,6.0nm,0.8s
ASAJ Asahikawa 41.15 281 P **P** 07 34 15.1 -0.1
comp=Z,6.3nm,0.8s,mb4.3,baz=325,slow=9.4,SNR=5.6
MNTX Cornudas Mount 41.33 106 *eP* **P** 07 34 17.0 +0.3
comp=Z,7.2nm,1.1s,mb4.2
GDL2 Guadalupe Moun 41.49 104 *eP* **P** 07 34 17.4 -0.7
WMOK Wichita Mounta 42.64 97 *eP* **P** 07 34 27.4 0.0
WMOK pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
WMOK Wichita Mounta 42.64 97 *eP* **P** 07 34 27.4 0.0
comp=Z,5.7nm,1.1s,mb4.2
SUMG Summit 43.95 23 *eP* **P** 07 34 38.3 +0.8
comp=Z,24nm,1.1s,mb4.8
TXAR Lajitas Array 44.09 106 P **P** 07 34 39.6 +0.4
comp=Z,2.7nm,0.8s,mb4.0,baz=316,slow=5.3,SNR=20
DAG Danmarks Havn 44.20 14⇓ *eP* **P** 07 34 39.9 +0.3
DAG pmax pmax
comp=Z,11nm,0.9s,mb4.6
DAG Danmarks Havn 44.20 14⇓ *eP* **P** 07 34 39.9 +0.3
comp=Z,11nm,0.9s,mb4.6
DAG Danmarks Havn 44.20 14⇓ *iP* **P** 07 34 39.9 +0.3
comp=Z,11nm,0.9s,mb4.6
JCT Junction City 45.29 102 *eP* **P** 07 34 48.6 -0.3
JCT pmax pmax
comp=Z,12nm,1.0s,mb4.7
JCT Junction City 45.29 102 *eP* **P** 07 34 48.6 -0.3
comp=Z,12nm,1.0s,mb4.7
SCHQ Schefferville 45.95 53 P **P** 07 34 53.9 +0.1
comp=Z,7.0nm,0.8s,mb4.7,baz=301,slow=7.2,SNR=9.6
BOD Bodaibo 46.49 313 *eP* **P** 07 34 56.5 -1.5
BOD Bodaibo 46.49 313 *eP* **P** 07 34 56.5 -1.5
BORG Borgarnes 53.93 23 P **P** 07 35 54.7 +0.1
comp=Z,19nm,1.1s,mb5.0,baz=67,slow=4.4,SNR=2.9
ARCES ARCESS Array B 54.50 0 P **P** 07 35 58.1 -0.7
comp=Z,2.9nm,0.6s,mb4.5,baz=7.2,slow=7.7,SNR=19
TLY Talaya 55.07 312 *eP* **P** 07 36 02.9 -0.3
TLY pmax pmax
comp=Z,41nm,1.8s,mb5.2
TLY Talaya 55.07 312 *eP* **P** 07 36 02.9 -0.3
comp=Z,40nm,1.8s,mb5.2
MOY Mondy 56.16 314 *eP* **P** 07 36 11.8 +0.8
ZAK Zakamensk 56.20 311⇓ *iP* **P** 07 36 10.8 -0.5
ULN Ulaanbaatar 56.47 307 *c iP* **P** 07 36 13.2 -0.1
ULN Ulaanbaatar 56.47 307 *eP* **P** 07 36 12.5 -0.9
comp=Z,6.3nm,0.9s,mb4.7
SONM Songino Array 56.78 308 P **P** 07 36 15.9 +0.3
comp=Z,15nm,0.8s,mb5.1,baz=41,slow=7.1,SNR=119
SONM PcP PcP 07 37 11.7 +0.6
comp=Z,3.1nm,0.8s,baz=34,slow=2.6,SNR=4.7
NVS Novosibirsk 59.98 326 *i P* **P** 07 36 36.1 -1.7
NVS pmax pmax
comp=Z,11nm,1.4s,mb4.7
NVS pmax pmax
comp=N,12nm,1.9s
NVS pmax pmax
comp=E,18nm,2.0s
ZAL Zalesovo 60.24 325 P **P** 07 36 39.2 -0.4
comp=E,14nm,1.1s,mb4.9,baz=349,slow=7.9,SNR=25
SSE Sheshan 62.21 285 *eP* **P** 07 36 49.5 -3.7
comp=E,31nm,0.7s,mb5.5
NB2 NORSAR Subarra 62.42 8 P **P** 07 36 54.0 -0.2
comp=E,3.3nm,0.8s,mb4.5,baz=350,slow=6.5
NOA NORSAR Array B 62.42 8 P **P** 07 36 53.5 -0.7
comp=E,5.0nm,0.8s,mb4.7,baz=351,slow=6.7,SNR=13
FINES FINESS Array B 62.63 0 P **P** 07 36 54.6 -0.9
comp=E,2.7nm,0.8s,mb4.4,baz=27,slow=8.5,SNR=6.2
NJ2 Nanjing 62.72 287 *eP* **P** 07 36 55.1 -1.5
NJ2 AP pP 07 37 05.4 +1.3
NJ2 PCP PcP 07 37 33.3 -1.6
NJ2 S **S** 07 45 18.0 -4.1
NJ2 AMB AMB
comp=Z,50nm,1.1s,mb5.6
NJ2 AMB AMB
comp=Z,600nm,4.0s
NJ2 LR LR
comp=N,500nm,22.0s,MS4.8
NJ2 LR LR
comp=E,420nm,20.4s,MS4.8
NJ2 LR LR
comp=Z,490nm,14.0s
ARU Arti 64.68 341⇓ *iP* **P** 07 37 03.0 -6.0
ARU *e* 07 37 37.0
ARU *eS* **S** 07 45 37.6 -8.4
ARU pmax pmax
comp=Z,11nm,0.8s,mb4.9
ARU Arti 64.68 341 *eP* **P** 07 37 03.5 -5.5
comp=Z,7.5nm,0.8s,mb4.8
KURK Kurchatov 64.96 326 *c iP* **P** 07 37 10.7 -0.2
BRVK Borovoye 65.24 333 *eP* **P** 07 37 12.1 -0.5
BRVK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
BRVK Borovoye 65.24 333 *eP* **P** 07 37 12.1 -0.5
comp=Z,10nm,1.0s,mb4.8
BVAR Borovoye Array 65.24 332 P **P** 07 37 11.7 -0.9
comp=Z,7.5nm,0.7s,mb4.8,baz=37,slow=7.4,SNR=38
EKA Eskdalemuir Ar 66.18 18 P **P** 07 37 17.9 -0.6
comp=Z,2.8nm,0.7s,mb4.4,baz=330,slow=4.6,SNR=7.8
LZH Lanzhou 67.16 301 *eP* **P** 07 37 25.3 +0.2
LZH AP pP 07 37 35.1 +2.5
LZH AMB AMB
comp=Z,20nm,1.0s,mb5.1
LZH LR LR
comp=N,950nm,16.0s
LZH LR LR
comp=Z,540nm,16.4s,MS4.8
LZH Lanzhou 67.16 301 *eP* **P** 07 37 25.2 +0.1
LZH pmax pmax
comp=Z,20nm,1.0s,mb5.1
LZH MLR MLR
comp=Z,540nm,16.4s,MS4.8
LZH Lanzhou 67.16 301 *eP* **P** 07 37 25.2 +0.1
comp=Z,20nm,1.0s,mb5.1
LZH pP pP 07 37 35.1 +2.5
LZH sP sP 07 37 39.9 +4.6
LZH LR LR
comp=Z,540nm,16.4s,MS4.8
WMQ Urumqi 67.76 317 *eP* **P** 07 37 29.5 +0.7
OBN Obninsk 68.67 354⇓ *eP* **P** 07 37 32.0 -2.3
OBN *i* pP 07 37 39.3 -2.5
OBN *e* 07 40 05.4
OBN *i* S S 07 46 35.3 +1.0
OBN pmax pmax
comp=Z,13nm,0.9s,mb4.9
CLL Collm 72.22 9 P **P** 07 37 56.0 +0.2
BRG Berggiesshubel 72.73 8 *eP* **P** 07 37 59.7 +1.0
BRG pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
BRG Berggiesshubel 72.73 8 *eP* **P** 07 37 59.7 +1.0
comp=Z,7.6nm,1.1s,mb4.5
MOX Moxa 72.75 10 *eP* **P** 07 37 59.5 +0.6
MOX Moxa 72.75 10 *i P* **P** 07 37 59.5 +0.6
KSP Ksiaz 72.93 7 *eP* **P** 07 38 00.9 +1.0
PVCC Panska Ves 73.12 8 *eP* **P** 07 38 02.3 +1.3
PVCC *ep*P pP 07 38 09.5 +0.9
NKC Novy Kostel 73.23 9 *eP* pP 07 38 07.4 -1.8
NKC Novy Kostel 73.23 9 *ep*P pP 07 38 07.4 -1.8
UPC Upice 73.24 7 *eP* **P** 07 38 03.1 +1.4
AKASG Malin Array Be 73.37 358 P **P** 07 38 02.2 -0.3
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 73.37 358 P **P** 07 38 02.2 -0.3
comp=Z,4.8nm,0.8s,mb4.5,baz=3.4,slow=5.8,SNR=29
DPC Dobruska-Polom 73.42 7 *eP* **P** 07 38 03.8 +1.0
DPC *ep*P pP 07 38 10.7 +0.4
AAK Ala-Archa 73.45 325 *i P* **P** 07 38 02.3 -0.8
AAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
AAK MLR MLR
comp=Z,600nm,17.0s,MS5.0
PRU Pruhonice 73.65 8 *eP* **P** 07 38 05.3 +1.2
PRU *ep*P pP 07 38 11.8 +0.1
GRA1 Grafenberg Arr 73.65 10 *eP* **P** 07 38 05.5 +1.4
GRF Grafenberg Arr 73.65 10 *eP* **P** 07 38 05.5 +1.4
SJG San Juan 73.72 82 P **P** 07 38 04.9 -0.2
comp=Z,8.3nm,0.9s,mb4.7,baz=355,slow=20,SNR=2.8
OKC Ostrava-Krasne 74.04 6 *eP* **P** 07 38 08.0 +1.6
OKC *ep*P pP 07 38 13.7 -0.2
KHC Kasperske Hory 74.43 9 *eP* **P** 07 38 10.1 +1.5
KHC *ep*P pP 07 38 17.1 +0.9
VRAC Vranov 74.47 7 P **P** 07 38 10.1 +1.2
comp=Z,2.2nm,0.8s,mb4.1,baz=14,slow=8.7,SNR=2.6
GERES GERESS Array B 74.72 9 P **P** 07 38 10.9 +0.5
comp=Z,5.7nm,1.1s,mb4.4,baz=350,slow=4.6,SNR=27
HAU Haudompre 74.75 14 *eP* **P** 07 38 11.3 +0.8
comp=Z,10nm,0.8s,mb4.5
HAU *eR*
comp=Z,110nm,18.2s
HAU Haudompre 74.75 14 *eP* **P** 07 38 11.3 +0.8
HAU pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
HAU MLR MLR
comp=Z,110nm,18.3s,MS4.2
MFF Saint Martin d 75.11 19 *eP* **P** 07 38 13.6 +1.0
comp=Z,24nm,0.9s,mb4.8
MFF Saint Martin d 75.11 19 *eP* **P** 07 38 13.6 +1.0
MFF pmax pmax
comp=Z,12nm,0.9s,mb4.8
SSF Saint Saulge 75.27 16 *eP* **P** 07 38 14.5 +1.0
SSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
SSF Saint Saulge 75.27 16 *eP* **P** 07 38 14.5 +1.0
comp=Z,3.4nm,0.7s,mb4.4
AVF Avril sur Loir 75.51 16 *eP* **P** 07 38 15.5 +0.6
comp=Z,17nm,0.9s,mb4.7
AVF Avril sur Loir 75.51 16 *eP* **P** 07 38 15.5 +0.6
AVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BGF Bois d'Agland 75.65 17 *eP* **P** 07 38 16.5 +0.8
comp=Z,9.8nm,0.7s,mb4.5
BGF Bois d'Agland 75.65 17 *eP* **P** 07 38 16.5 +0.8
BGF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SMF Signal de Mont 75.72 16 *eP* **P** 07 38 16.9 +0.8
CABF La Chapelle 76.08 14 *eP* **P** 07 38 19.4 +1.2
DAVOX Davos 76.39 12 P **P** 07 38 21.2 +1.3
comp=Z,1.9nm,0.7s,mb4.2
RJF Les Rejaudoux 76.65 18 *eP* **P** 07 38 22.7 +1.3
RJF *eR*
comp=Z,174nm,17.8s
LFF La Frestale 76.87 18 *eP* **P** 07 38 23.6 +1.0
comp=Z,43nm,0.9s,mb5.1
LFF La Frestale 76.87 18 *eP* **P** 07 38 23.6 +1.0
LFF pmax pmax
comp=Z,22nm,0.9s,mb5.1
CAF Calviac 77.11 17 *eP* **P** 07 38 24.9 +1.0
comp=Z,8.4nm,0.8s,mb4.4
CAF Calviac 77.11 17 *eP* **P** 07 38 24.9 +1.0
CAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
EINC Incio 77.39 25 P **P** 07 38 26.4 +0.8
comp=Z,3.7nm,0.6s,mb4.5
VIVF Saint-Julien-l 77.60 16 *eP* **P** 07 38 27.7 +1.1
comp=Z,12nm,0.9s,mb4.5
VIVF Saint-Julien-l 77.60 16 *eP* **P** 07 38 27.7 +1.1
VIVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ORIF Oris-en-Rattie 77.71 15 *eP* **P** 07 38 28.6 +1.4
comp=Z,9.3nm,0.9s,mb4.4
ORIF *eR*
comp=Z,129nm,19.8s
ETSF Etsaut 78.61 20 *eP* **P** 07 38 33.9 +1.7
comp=Z,13nm,0.7s,mb4.6
ETSF Etsaut 78.61 20 *eP* **P** 07 38 33.9 +1.7
ETSF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MTLF Montolieu 78.68 18 *eP* **P** 07 38 33.6 +1.0
comp=Z,13nm,0.9s,mb4.5
MTLF Montolieu 78.68 18 *eP* **P** 07 38 33.6 +1.0
MTLF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KIV Kislovodsk 79.21 348 *eP* **P** 07 38 36.6 +1.1
KIV *e* 07 41 35.8
KIV *eS* S 07 48 33.3 +0.7
KIV *e*SS SS 07 53 42.7 +0.6
KIV pmax pmax
comp=Z,11nm,0.9s,mb4.8
SOC Sochi 79.89 350 *eP* **P** 07 38 38.2 -0.9
SOC *e* 07 41 48.7
SOC *eS* S 07 48 39.2 -0.5
SOC *e* 07 49 06.1
SOC *e*SSS SSS 07 57 09.3 -3.8
SOC pmax pmax
comp=Z,32nm,0.9s,mb5.2
SOC pmax pmax
comp=N,27nm,1.1s
SOC pmax pmax
comp=E,17nm,0.9s
GUD Guadarrama 80.04 23 P **P** 07 38 41.5 +1.5
GUD pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
GUD Guadarrama 80.04 23 P **P** 07 38 41.5 +1.4
comp=Z,4.1nm,0.8s,mb4.4
ESDC Sonseca Array 81.01 23 P **P** 07 38 46.1 +1.0
comp=Z,2.7nm,0.7s,mb4.3,baz=344,slow=5.0,SNR=23
ESDC Sonseca Array 81.01 23 P **P** 07 38 46.5 +1.3
comp=Z,5.8nm,0.8s,mb4.6
EMOS Mosqueruela 81.07 20 P **P** 07 38 47.3 +1.8
comp=Z,4.8nm,0.8s,mb4.5
EBAD Badajoz 81.18 26 P **P** 07 38 47.0 +1.0
comp=Z,2.0nm,0.5s,mb4.3
JIRN Jiri 82.30 309 *eP* **P** 07 38 53.6 +1.5
comp=Z,21nm,0.8s,mb5.1
EADA Adamuz 82.31 24 P **P** 07 38 53.5 +1.6
comp=Z,4.0nm,0.9s,mb4.3
KKN Kakani 82.57 310 *eP* **P** 07 38 54.7 +1.2
GKN Gorkha 82.66 311 *eP* **P** 07 38 54.8 +0.8
GNI Garni 82.70 346 P **P** 07 38 55.8 +1.8
GNI Garni 82.70 346 P **P** 07 38 55.7 +1.8
comp=Z,1.4nm,0.4s,mb4.3,baz=198,slow=18,SNR=2.2
PKI Pulchoki 82.71 310 *eP* **P** 07 38 55.0 +0.7
comp=Z,13nm,0.9s,mb5.0
DMN Daman 82.81 310 *eP* **P** 07 38 55.9 +1.1
comp=Z,18nm,0.9s,mb5.1
ESPR Espera 83.25 26 P **P** 07 38 58.0 +1.1
comp=Z,3.2nm,0.6s,mb4.5
KOLN Koldanda 83.30 311 *eP* **P** 07 38 58.2 +0.9
comp=Z,12nm,0.8s,mb5.0
EMUR La Murta 83.35 22 P **P** 07 38 58.4 +1.0
comp=Z,3.2nm,0.7s,mb4.5
CMAR Chiang Mai Arr 84.14 294 P **P** 07 39 01.9 +0.2
comp=Z,3.9nm,0.7s,mb4.7,baz=8.3,slow=5.5,SNR=21
BRTR Keskin Array B 84.18 354 P **P** 07 39 03.0 +1.5
comp=Z,2.2nm,1.0s,mb4.3,baz=23,slow=0.5,SNR=6.9
QSPA South Pole Qui 146.05 180⇑ *iP* PKPbc 07 46 10.2 +2.6

*IDC **23** 07:27:38.1±1.0, 36.16N×69.21E, mb3.9/12, mb1 4.1/14, mb1mx3.9/21, mbtmp3.9/14, ML4.4/1, MS3.0/1, Ms1 3.2/1, ms1mx2.6/26, Error ellipse: s-maj=25.1km s-min=21.7km az=41.0*
*NEIC **23** 07:27:40.0±0.9, 36.36N×69.25E, h10km, mb3.7/3, Error ellipse: s-maj=18.9km s-min=15.4km az=127.0*
*NNC **23** 07:27:40.9±7.2, 36.51N×68.70E, h13km±48km, mpv4.6, Error ellipse: s-maj=101.2km s-min=44.7km az=144.0*
*MOS **23** 07:27:42.4±1.4, 36.50N×69.17E, h33km, mb4.1/2, Error ellipse: s-maj=20.4km s-min=10.8km az=81.9*

ISC 23 07:27:40.4±2.0, 36.29N±0.04×69.14E±0.07, h26km±15km, n55, σ1°29/59, mb3.7/12, MS3.0/1, 7C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=62	**6.82**	**30**	P	**Pn**	**07 29 22.1**	**+0.7**
UCH	**Uchtor** SNR=26	**7.25**	**33**	P	**Pn**	**07 29 28.3**	**+0.9**
EKS2	**Erkin-Say** SNR=8.3	**7.30**	**28**	P	**Pn**	**07 29 28.9**	**+0.8**
KZA	**Kyzart** SNR=8.8	**7.47**	**38**	P	**Pn**	**07 29 32.0**	**+1.4**
AAK	**Ala-Archa** 17nm,0.5s	**7.56**	**32**	⇑Pn	**Pn**	**07 29 32.4**	**+0.6**
AAK	25nm,1.1s			⇑Sn	**Sn**	**07 30 57.9**	**+0.3**
AAK	36nm,1.1s			⇑Lg		07 31 41.5	
AAK	**Ala-Archa** SNR=37	**7.56**	**32**	P	**Pn**	**07 29 32.5**	**+0.6**
AAK	**Ala-Archa**	**7.56**	**32**	*e*P	**Pn**	**07 29 31.1**	**-0.8**
AAK	comp=Z,24nm,0.5s			pmax	pmax		
AAK	**Ala-Archa** comp=Z,24nm,0.5s	**7.56**	**32**	*e*Pn	**Pn**	**07 29 31.1**	**-0.8**
BHK	**Bhakra**	**7.76**	**127**	*e*	**Sn**	**07 31 06.8**	**+4.3**
CHMS	**Chumysh** SNR=20	**7.97**	**31**	P	**Pn**	**07 29 37.6**	**+0.1**
USP	**Ospenovka** SNR=9.3	**8.10**	**29**	P	**P**	**07 29 38.7**	**-0.5**
ULHL	**Ulahol** SNR=9.9	**8.10**	**41**	P	**P**	**07 29 39.5**	**+0.2**
TKM2	**Tokmak 2** SNR=14	**8.28**	**35**	P	**P**	**07 29 42.1**	**+0.3**
KLP	**Kalpa**	**8.93**	**119**	*e*P	**P**	**07 29 54.1**	**+3.3**
KLP				*e*S	**Sn**	**07 31 38.8**	**+7.1**
DDI	**Dehra Dun**	**9.54**	**126**	*e*	**P**	**07 30 06.1**	**+6.9**
KHET	**Khetri**	**9.95**	**144**	*e*S	**Sn**	**07 31 54.1**	**-2.6**
KHET				*e*		07 31 59.8	
	comp=N,20nm,0.6s						
NDI	**New Delhi**	**10.19**	**136**	*e*P	**P**	**07 30 10.0**	**+1.8**
NDI				*e*S	**S**	**07 32 02.5**	**-0.2**
KUDL	**Kundal**	**10.23**	**141**	*e*P	**P**	**07 30 08.2**	**-0.5**
KUDL				*e*S	**S**	**07 32 02.7**	**-0.8**
KUDL				*e*		07 32 04.3	
	comp=Z,18nm,0.7s						
AYAN	**Aya Nagar**	**10.30**	**137**	*e*P	**P**	**07 30 10.3**	**+0.6**
AYAN				*e*		07 32 06.5	
	comp=Z,28nm,0.9s						
SONA	**Sohna**	**10.46**	**138**	*e*P	**P**	**07 30 12.8**	**+0.9**
SONA				*e*S	**S**	**07 32 07.8**	**-1.4**
SONA				*e*		07 32 11.3	
	comp=N,21nm,0.3s						
SONA				*e*		07 32 11.6	
	comp=E,27nm,0.3s						
MK31	**Makanchi Array**	**14.37**	**39**	⇑P	**P**	**07 31 03.3**	**-0.7**
	comp=E,0.6nm,0.5s,baz=224,slow=15,SNR=11						
KOLN	**Koldanda**	**14.90**	**121**	*e*P	**P**	**07 31 10.9**	**-0.3**
	comp=E,15nm,0.7s						
GKN	**Gorkha**	**15.49**	**118**	*e*P	**P**	**07 31 20.4**	**+1.5**
	comp=E,42nm,0.7s						
KURK	**Kurchatov**	**15.95**	**22**	⇑P	**P**	**07 31 21.6**	**-3.0**
	comp=E,2.7nm,1.3s						
KURK	**Kurchatov**	**15.95**	**22**	*e*P	**P**	**07 31 21.1**	**-3.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**15.95**	**22**	*e*Pn	**P**	**07 31 21.1**	**-3.5**
	comp=Z,1.9nm,0.6s						
KURK				*e*P		07 31 27.2	
DMN	**Daman**	**16.06**	**118**	*e*P	**P**	**07 31 24.6**	**-1.6**
	comp=Z,16nm,0.4s						
KKN	**Kakani**	**16.08**	**117**	*e*P	**P**	**07 31 27.5**	**+1.1**
PKI	**Pulchoki**	**16.30**	**118**	*e*P	**P**	**07 31 27.8**	**-1.4**
BVA0	**Borovoye Array**	**16.76**	**3**	⇑P	**P**	**07 31 33.0**	**-1.8**
	comp=Z,0.5nm,0.6s						
BVAR	**Borovoye Array**	**16.76**	**3**	Pn	**P**	**07 31 31.9**	**-2.9**
	comp=Z,1.5nm,0.3s,baz=163,slow=11,SNR=23						
BRVK	**Borovoye**	**16.79**	**2**	*e*P	**P**	**07 31 32.9**	**-2.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRVK	**Borovoye**	**16.79**	**2**	*e*P	**P**	**07 31 32.9**	**-2.2**
	comp=Z,4.8nm,0.6s						
JIRN	**Jiri**	**16.81**	**116**	*e*P	**P**	**07 31 36.8**	**+1.1**
	comp=Z,22nm,0.5s						
CHKZ	**Chkalovo**	**17.42**	**3**	⇑P	**P**	**07 31 40.8**	**-2.2**
	comp=Z,2.1nm,0.5s						
GNI	**Garni**	**19.54**	**289**	P	**P**	**07 32 07.5**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=202,slow=22,SNR=2.2						
ZAL	**Zalesovo**	**20.74**	**27**	P	**P**	**07 32 19.7**	**-1.7**
	comp=Z,4.8nm,0.4s,baz=150,slow=7.6,SNR=24						
NVS	**Novosibirsk**	**20.94**	**23**	*e*P	**P**	**07 32 21.1**	**-2.3**
ARU	**Arti**	**21.38**	**344**	*e*P	**P**	**07 32 22.9**	**-5.0**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.8						
ARU	**Arti**	**21.38**	**344**	*e*P	**P**	**07 32 22.9**	**-5.0**
	comp=Z,3.0nm,0.6s,mb3.8						
ZAK	**Zakamensk**	**28.26**	**49**	*e*P	**P**	**07 33 34.1**	**+0.8**
SONM	**Songino Array**	**29.69**	**55**	P	**P**	**07 33 49.3**	**+3.1**
	comp=Z,0.4nm,0.8s,mb3.2,baz=265,slow=9.0,SNR=4.2						
CMAR	**Chiang Mai Arr**	**31.69**	**116**	LR	LR	07 49 30.3	
	comp=Z,31nm,21.0s,MS3.0,baz=70,slow=42						
AKASG	**Malin Array Be**	**31.92**	**309**	P	**P**	**07 34 06.1**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**31.92**	**309**	P	**P**	**07 34 06.1**	**+0.3**
	comp=Z,0.9nm,0.6s,mb3.8,baz=88,slow=7.3,SNR=6.7						
FINES	**FINESS Array B**	**36.83**	**327**	P	**P**	**07 34 48.3**	**+0.5**
	comp=Z,2.0nm,0.9s,mb3.9,baz=124,slow=6.9,SNR=4.9						
ARCES	**ARCESS Array B**	**40.77**	**338**	P	**P**	**07 35 22.1**	**+1.5**
	comp=Z,2.4nm,0.8s,mb3.9,baz=127,slow=9.0,SNR=4.0						
NB2	**NORSAR Subarra**	**43.65**	**323**	P	**P**	**07 35 45.3**	**+1.2**
	comp=Z,0.7nm,0.4s,mb3.7,baz=99,slow=7.9						
NOA	**NORSAR Array B**	**43.65**	**323**	P	**P**	**07 35 45.0**	**+0.9**
	comp=Z,3.4nm,1.1s,mb4.0,baz=99,slow=8.1,SNR=3.7						
DBIC	**Dimbokro**	**73.19**	**266**	P	**P**	**07 39 11.7**	**+0.5**
	comp=Z,2.7nm,1.1s,mb4.1,baz=336,slow=3.2,SNR=4.0						
INK	**Inuvik**	**74.34**	**9**	P	**P**	**07 39 18.6**	**+1.8**
	comp=Z,1.6nm,0.5s,mb4.2,baz=346,slow=4.6,SNR=28						
ILAR	**Eielson Array**	**75.38**	**15**	P	**P**	**07 39 23.4**	**+0.6**
	comp=Z,0.6nm,0.9s,mb3.5,baz=292,slow=5.1,SNR=6.8						
YKA	**Yellowknife Ar**	**81.51**	**2**	P	**P**	**07 39 57.9**	**+1.6**
	comp=Z,0.3nm,0.4s,mb3.6,baz=352,slow=5.3,SNR=13						
WRA	**Warramunga Arr**	**83.16**	**121**	P	**P**	**07 40 05.9**	**+0.1**
	comp=Z,0.5nm,0.9s,mb3.5,baz=314,slow=5.9,SNR=3.6						
ASAR	**Alice Springs**	**85.37**	**124**	P	**P**	**07 40 16.1**	**-0.7**
	comp=Z,0.2nm,0.6s,mb3.4,baz=323,slow=4.5,SNR=2.6						

*IDC **23** 07:46:39.2±1.8, 3.64S×104.82W, mb3.5/7, mb1 3.8/7, mb1mx3.8/11, mbtmp3.5/7, MS4.0/1, Ms1 4.0/1, ms1mx3.0/13, Error ellipse: s-maj=82.1km s-min=21.0km az=51.0*

ISC 23 07:46:36.5±2.5, 4.2S±0.4×105.5W±0.5, h10km, n10, σ1°05/8, mb3.4/7, MS4.0/1, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**33.36**	**3**	P	**P**	**07 53 18.2**	**+1.0**
	0.2nm,0.7s,mb3.2,baz=190,slow=10,SNR=2.4						
LPAZ	**La Paz**	**38.58**	**111**	P	**P**	**07 54 01.9**	**+0.2**
	0.4nm,0.6s,mb3.3,baz=280,slow=11,SNR=2.7						
NVAR	**Mina Array Bea**	**44.02**	**345**	P	**P**	**07 54 47.8**	**+1.5**
	0.3nm,0.7s,mb3.1,baz=153,slow=10,SNR=4.0						
PDAR	**Pinedale Array**	**46.87**	**356**	P	**P**	**07 55 06.8**	**-2.0**
	0.9nm,0.9s,mb3.7,baz=174,slow=9.1,SNR=5.5						
PLCA	**Paso Flores**	**48.05**	**144**	LR	LR	08 09 35.1	
	comp=Z,178nm,19.9s,MS4.0,baz=14,slow=29						
CPUP	**Villa Florida**	**51.00**	**121**	P	**P**	**07 55 40.9**	**-0.1**
YKA	**Yellowknife Ar**	**66.84**	**355**	P	**P**	**07 57 29.2**	**-1.4**
	0.2nm,0.5s,mb3.4,baz=163,slow=6.6,SNR=6.1						
INK	**Inuvik**	**74.92**	**350**	P	**P**	**07 58 19.5**	**+0.3**
	1.1nm,0.8s,mb3.8,baz=173,slow=4.9,SNR=3.4						
ILAR	**Eielson Array**	**75.21**	**343**	P	**P**	**07 58 21.1**	**+0.1**
	0.3nm,0.4s,mb3.5,baz=149,slow=5.3,SNR=11						
CMAR	**Chiang Mai Arr**	**152.24**	**303**	PKPbc	PKPdf	08 06 38.5	+8.9
	1.1nm,0.4s,baz=90,slow=0.9,SNR=5.0						

*IDC **23** 08:07:55.2±1.1, 5.47N×94.43E, mb4.1/10, mb1 4.2/11, mb1mx4.0/19, mbtmp4.0/11, ML4.6/1, Error ellipse: s-maj=53.3km s-min=19.7km az=49.0*
*NEIC **23** 08:07:59.1±0.7, 5.23N×94.18E, h30km, mb4.4/4, Error ellipse: s-maj=25.2km s-min=13.3km az=60.0*

ISC 23 08:07:57.8±0.8, 5.4N±0.2×94.4E±0.2, h30km, n21, σ0°69/17, mb4.1/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.72**	**19**	Pn	**P**	**08 11 17.2**	**+4.3**
	1.1nm,0.3s,baz=210,slow=14,SNR=10						
SONM	**Songino Array**	**43.51**	**12**	P	**P**	**08 15 59.9**	**-0.5**
	0.6nm,0.5s,mb3.6,baz=194,slow=8.9,SNR=7.9						
SONM				PcP	PcP	08 17 48.2	-0.3
	0.3nm,0.4s,baz=192,slow=3.7,SNR=4.2						
ULN	**Ulaanbaatar**	**43.68**	**12**	*e*P	**P**	**08 16 01.0**	**-0.8**
	0.9nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**46.68**	**124**	P	**P**	**08 16 26.4**	**+0.3**
	1.6nm,0.8s,mb4.0,baz=306,slow=9.2,SNR=6.2						
WRAB	**Tennant Creek**	**46.69**	**124**	*e*P	**P**	**08 16 26.6**	**+0.5**
	2.6nm,0.5s,mb4.4						
KURK	**Kurchatov**	**47.04**	**346**	*e*P	**P**	**08 16 29.1**	**+0.5**
	2.8nm,0.4s,mb4.5						
ASAR	**Alice Springs**	**48.19**	**128**	P	**P**	**08 16 37.1**	**-0.8**
	0.7nm,0.4s,mb4.0,baz=299,slow=8.0,SNR=17						

BVAR	**Borovoye Array**	**51.38**	**342**	P		**P**	**08 17 01.6**	**-0.4**
	1.1nm,0.5s,mb4.1,baz=146,slow=11,SNR=11							
BRVK	**Borovoye**	**51.45**	**342**	*e*P		**P**	**08 17 01.9**	**-0.5**
	2.2nm,0.5s,mb4.3							
BRTR	**Keskin Array B**	**64.21**	**312**	P		**P**	**08 18 32.2**	**-0.2**
	0.3nm,0.4s,mb3.6,baz=127,slow=7.2,SNR=4.4							
BRTR	**Keskin Array B**	**64.21**	**312**	P		**P**	**08 18 32.2**	**-0.2**
FINES	**FINESS Array B**	**74.99**	**332**	P		**P**	**08 19 37.7**	**-0.3**
	1.6nm,0.9s,mb3.9,baz=96,slow=6.1,SNR=4.9							
FINES	**FINESS Array B**	**74.99**	**332**	P		**P**	**08 19 37.7**	**-0.3**
ARCES	**ARCESS Array B**	**77.65**	**340**	P		**P**	**08 19 53.0**	**+0.2**
	2.5nm,0.9s,mb4.1,baz=103,slow=6.6,SNR=5.5							
GERES	**GERESS Array B**	**79.81**	**319**	P		**P**	**08 20 05.9**	**+0.9**
	0.7nm,0.5s,mb3.8,baz=104,slow=5.5,SNR=9.6							
ILAR	**Eielson Array**	**96.93**	**22**	P		**P**	**08 21 27.3**	**-0.1**
	5.7nm,1.6s,mb4.8,baz=307,slow=4.5,SNR=4.3							
INK	**Inuvik**	**99.29**	**16**	P		**P**	**08 21 38.3**	**+0.4**
	0.4nm,0.7s,mb4.1,baz=297,slow=2.3,SNR=3.7							
NVAR	**Mina Array Bea**	**126.89**	**32**	PKP	PKPdf		08 27 02.4	-2.1
	0.3nm,0.7s,baz=299,slow=1.8,SNR=4.2							
NVAR	**Mina Array Bea**	**126.89**	**32**	PKP	PKPdf		08 27 02.4	-2.1
TXAR	**Lajitas Array**	**141.36**	**26**	PKhKP			08 27 25.4	
	0.1nm,0.4s,baz=320,slow=7.0,SNR=2.7							
TXAR				PKiKP			08 27 31.6	
	0.3nm,0.5s,baz=225,slow=1.5,SNR=4.4							
TXAR	**Lajitas Array**	**141.36**	**26**	PKP	PKPdf		08 27 25.4	-6.3
TXAR				PKPdf	PKPdf		08 27 31.6	-0.2

MOS ***23*** *08:22:13.8±0.9, 13.64N×92.94E, h33km, mb5.0/18, Error ellipse: s-maj=10.4km s-min=6.8km az=123.4*
IDC ***23*** *08:22:14.8±0.6, 13.63N×92.89E, h27km±3km, mb4.3/20, mb1 4.4/21, mb1mx4.4/24, mbtmp4.5/21, ML4.2/1, MS4.1/7, Ms1 4.1/7, ms1mx3.7/23, Error ellipse: s-maj=18.8km s-min=11.0km az=46.0*
HRVD ***23*** *08:22:15.2±0.6, 13.64N×92.84E, h27km±2km, MW4.8/48, Centroid moment Tensor Solution. LP body waves: s12,c15;Mantle waves: s48,c72; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.37±.14; Mθθ0.28±.10; Mφφ0.09±.12; Mrθ0.01±.18; Mθφ1.72±.08; Mφr-0.97±.23; Best double couple: M0 1.997×10^16 NP1:φs270°, δ59°, λ-8°. NP2:φs4°, δ83°, λ-149°. Principal axes: T 2.097, Plg16°, Azm133°; N -.199, Plg58°, Azm16°; P -1.898, Plg27°, Azm232°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***23*** *08:22:15.2±0.2, 13.56N×92.86E, mb4.9/27 Error ellipse: s-maj=5.9km s-min=5.1km az=37.0*
BJI ***23*** *08:22:16.6, 13.38N×93.59E, h29km, mB5.0, mb4.6, Ms4.3, Msz4.0*
ISC 23 08:22:13.2±0.2,**13.53N**±0.04×**92.77E**±0.03,**h30**km, **h30**km±.7km**:pP-P,n161,**σ1º**12/167,mb4.7**/54,**MS4.1**/16, **7C-8D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**6.85**	**97**	P	**Pn**	**08 23 54.5**	**+0.3**
NST	**Nakhon Sawan**	**7.43**	**72**	P	**Pn**	**08 23 57.8**	**-4.7**
	68nm,0.6s						
CM31	**Chiang Mai Arr**	**7.69**	**50**	*e*P	**Pn**	**08 24 05.9**	**-0.2**
	8.7nm,0.3s						
CM31				S	**Sn**	**08 25 23.3**	**-10**
CMAR	**Chiang Mai Arr**	**7.69**	**50**	Pn	**Pn**	**08 24 03.2**	**-2.9**
	0.9nm,0.3s,baz=237,slow=15,SNR=22						
CMAR				Sn	**Sn**	**08 25 25.8**	**-7.2**
	3.0nm,0.3s,baz=239,slow=28,SNR=10						
CMAR				LR	LR	08 27 37.5	
	comp=Z,747nm,20.4s,baz=235,slow=43						
CHG	**Chiang Mai**	**7.92**	**48**	⇓P	**Pn**	**08 24 10.6**	**+1.3**
	54nm,0.8s						
CHRT	**Chiangrai**	**9.21**	**46**	⇑P	**P**	**08 24 29.0**	**+1.9**
	234nm,0.8s						
BWNR	**Bhubaneshwar**	**9.47**	**316**	*e*P	**P**	**08 24 30.0**	**-0.7**
BWNR				*e*S	**Sn**	**08 26 00.0**	**-17**
BWNR				*e*		08 26 07.9	
	comp=E,1μm,0.8s						
BWNR				*e*		08 26 08.0	
CAL	**Calcutta**	**9.91**	**335**	*e*	Px	08 25 06.4	
CAL				*e*		08 26 49.6	
CAL				*e*		08 26 58.3	
VIS	**Vishakhapatnam**	**10.01**	**296**	*e*P	**P**	**08 24 36.5**	**-1.7**
VIS				*e*		08 24 43.7	
	comp=Z,44nm,0.4s						
VIS				*e*		08 26 23.9	
	comp=E,244nm,0.2s						
VIS				*e*		08 26 23.9	
	comp=N,320nm,0.2s						
KKTK	**Khon Kaen**	**10.11**	**73**	PG	**P**	**08 24 41.0**	**+1.4**
KKTK				SG	Px	08 24 56.0	
AGT	**Agartala**	**10.40**	**352**	⇑*i*	**P**	**08 24 51.0**	**+7.4**
AGT				*i*		08 27 10.0	
SHL	**Shillong**	**12.00**	**356**	*e*P	**P**	**08 25 05.0**	**-0.4**
SHL				*e*S	**S**	**08 27 04.0**	**-15**
BLSP	**Bilaspur**	**13.25**	**312**	*e*P	**P**	**08 25 20.7**	**-1.3**
BLSP				*e*S	**S**	**08 27 32.6**	**-17**
PALK	**Pallekele**	**13.40**	**244**	*e*P	**P**	**08 25 24.0**	**0.0**
	comp=N,49nm,1.1s						
HYB	**Hyderabad**	**14.24**	**288**	*i* P	**P**	**08 25 36.0**	**+0.9**
HYB				*e*		08 25 45.0	
HYB				*e*		08 28 02.0	
HYB				*e*S	**S**	**08 28 12.5**	**-0.4**
KMI	**Kunming**	**14.87**	**38**	P	**P**	**08 25 42.4**	**-0.9**
KMI				S	**S**	**08 28 29.2**	**+1.5**
KMI				pmax	pmax		
	comp=Z,14nm,0.5s						
KMI	**Kunming**	**14.87**	**38**	P	**P**	**08 25 42.4**	**-0.9**
	comp=Z,14nm,0.5s						
KMI				S	**S**	**08 28 29.2**	**+1.5**
JIRN	**Jiri**	**15.34**	**337**	*e*P	**P**	**08 25 47.4**	**-2.1**
	comp=Z,84nm,0.7s						
PKI	**Pulchoki**	**15.57**	**335**	*e*P	**P**	**08 25 51.4**	**-1.0**
	comp=Z,54nm,0.7s						
ALBI	**Allahabad**	**15.62**	**320**	*e*	**S**	**08 28 30.5**	**-15**
DMN	**Daman**	**15.73**	**334**	*e*P	**P**	**08 25 53.8**	**-0.7**
	comp=Z,101nm,0.7s						
LSA	**Lhasa**	**16.16**	**355**	P	**P**	**08 26 04.3**	**+4.4**
LSA	**Lhasa**	**16.16**	**355**	*e*P	**P**	**08 26 03.4**	**+3.5**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LSA	**Lhasa**	**16.16**	**355**	*e*P	**P**	**08 26 03.4**	**+3.5**
	comp=Z,6.9nm,0.6s						
GKN	**Gorkha**	**16.28**	**333**	*e*P	**P**	**08 26 00.4**	**-1.0**
	comp=Z,28nm,0.3s						
TRD	**Trivandrum**	**16.30**	**254**	*e*P	**P**	**08 26 08.0**	**+6.1**
TRD				*e*		08 26 09.7	
	comp=Z,62nm,0.9s						
KOLN	**Koldanda**	**16.55**	**330**	*e*P	**P**	**08 26 04.0**	**-0.9**
	comp=Z,68nm,0.7s						
BHPL	**Bhopal**	**17.46**	**306**	*e*P	**P**	**08 26 16.9**	**+0.6**
BHPL				*e*		08 26 20.9	
	comp=Z,20nm,0.7s						
KAD	**Karad**	**18.31**	**284**	*e*P	**P**	**08 26 27.0**	**+0.1**
KAD				*i*		08 29 34.0	
BOM	**Bombay**	**19.89**	**288**	*e*	**S**	**08 30 11.5**	**-11**
BOM				*e*		08 31 08.7	
KALG	**Kalgarh**	**20.53**	**323**	*e*	**P**	**08 26 48.6**	**-3.2**
	comp=Z,66nm,0.8s						
KALG				*e*P		08 26 51.5	
ASOR	**Ausora**	**20.59**	**320**	*e*	**P**	**08 26 56.8**	**+4.3**
SONA	**Sohna**	**20.69**	**318**	*e*	**P**	**08 27 06.4**	**+13**
SONA				*e*		08 27 10.2	
	comp=Z,41nm,1.1s						
AYAN	**Aya Nagar**	**20.81**	**318**	*e*	**P**	**08 26 52.1**	**-2.6**
AYAN				*e*		08 27 05.5	
	comp=Z,14nm,0.8s						
NDI	**New Delhi**	**20.89**	**319**	*e*P	**P**	**08 26 55.0**	**-0.6**
NDI				*e*		08 30 31.0	
KUDL	**Kundal**	**21.01**	**316**	*e*P	**P**	**08 26 56.7**	**-0.1**
KUDL				*e*		08 27 08.4	
	comp=Z,23nm,1.1s						
KUDL				*e*S	**S**	**08 30 46.4**	**+2.1**
AJM	**Ajmer**	**21.32**	**310**	*e*P	**P**	**08 27 01.0**	**+1.0**
KHET	**Khetri**	**21.43**	**315**	*e*	**P**	**08 26 56.6**	**-4.4**
KHET				*e*		08 27 05.9	
	comp=Z,15nm,0.6s						
DDI	**Dehra Dun**	**21.54**	**323**	*e*P	**P**	**08 27 03.3**	**+1.2**
DDI				*e*		08 30 51.3	
KLP	**Kalpa**	**22.34**	**326**	*e*	**P**	**08 27 13.7**	**+3.6**
KLP				*e*		08 27 19.0	
	comp=Z,22nm,1.7s						
ENH	**Enshi**	**22.71**	**40**	*e*P	**P**	**08 27 12.6**	**-1.3**
	comp=Z,20nm,0.8s,mb4.6						
LZH	**Lanzhou**	**24.57**	**22**	P	**P**	**08 27 34.0**	**+2.2**
LZH				AP		08 27 45.6	
LZH				XP		08 27 49.5	
LZH				PP	PP	08 28 12.0	+4.0
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
LZH				LR	LR		
	comp=E,850nm,15.0s						
LZH				LR	LR		
	comp=Z,930nm,18.0s,MS4.3						
LZH	**Lanzhou**	**24.57**	**22**	P	**P**	**08 27 34.0**	**+2.2**
LZH				*PP		08 27 45.6	
LZH						08 28 12.0	
LZH				SS	SS	08 32 50.0	+6.0
LZH				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
LZH				MLR	MLR		
	comp=Z,930nm,18.0s,MS4.3						
LZH	**Lanzhou**	**24.57**	**22**	P	**P**	**08 27 34.0**	**+2.2**
	comp=Z,30nm,1.0s,mb4.8						
LZH				pP		08 27 45.6	
LZH				sP		08 27 49.5	
LZH				PP	PP	08 28 12.0	+4.0
LZH				SS	SS	08 32 50.0	+6.0
LZH				LR	LR		
	comp=Z,930nm,18.0s,MS4.3						
XAN	**Xi'an**	**25.14**	**33**	P	**P**	**08 27 36.1**	**-1.2**
XAN				AP	pP	08 27 45.3	-0.8
XAN				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.4						
XAN				LR	LR		
	comp=N,207nm,13.6s,MS4.0						
XAN				LR	LR		
	comp=E,257nm,13.6s,MS4.0						
XAN				LR	LR		
	comp=Z,259nm,15.4s,MS3.9						
WHN	**Wuhan**	**26.12**	**46**	*e*P	**P**	**08 27 46.0**	**-0.5**
NJ2	**Nanjing**	**30.16**	**48**	*e*P	**P**	**08 28 23.1**	**+0.1**
NJ2				AP	pP	08 28 31.5	-0.5
NJ2				XP	sP	08 28 37.6	+1.7
NJ2				PP	PP	08 29 22.6	+0.7
NJ2				S	**S**	**08 33 21.0**	**+2.1**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,180nm,7.0s						
NJ2				LR	LR		
	comp=N,780nm,14.3s,MS4.6						
NJ2				LR	LR		
	comp=E,640nm,13.9s,MS4.6						
NJ2				LR	LR		
	comp=Z,840nm,14.5s,MS4.5						
WMQ	**Urumqi**	**30.50**	**353**	*e*P	**P**	**08 28 27.6**	**+1.7**
SSE	**Sheshan**	**31.43**	**52**	*e*P	**P**	**08 28 32.9**	**-1.3**
SSE				XP	sP	08 28 45.5	-1.6
SSE				S	**S**	**08 33 40.8**	**+2.1**
SSE				AMB	AMB		
	comp=Z,24nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,163nm,4.1s						
SSE				LR	LR		
	comp=N,218nm,24.3s,MS3.8						
SSE				LR	LR		
	comp=E,60nm,24.2s,MS3.8						
SSE				LR	LR		
	comp=Z,195nm,21.8s,MS3.7						
SSE	**Sheshan**	**31.43**	**52**	*e*P	**P**	**08 28 32.9**	**-1.3**
	comp=Z,24nm,0.7s,mb5.1						
SSE				sP	sP	08 28 45.5	-1.6
SSE				S	**S**	**08 33 40.7**	**+2.0**
SSE				sS		08 33 56.1	
SSE				SS	SS	08 35 59.1	+32
SSE				LR	LR		
	comp=Z,200nm,21.8s,MS3.8						
AAK	**Ala-Archa**	**33.03**	**335**	⇓*e*P	**P**	**08 28 48.0**	**0.0**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
AAK				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.1						
AAK	**Ala-Archa**	**33.03**	**335**	P	**P**	**08 28 47.1**	**-0.9**
	comp=Z,7.3nm,1.1s,mb4.5						
MK02	**Makanchi Array**	**34.28**	**347**	P	**P**	**08 28 58.9**	**+0.1**
MK02				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
SONM	**Songino Array**	**36.04**	**16**	P	**P**	**08 29 13.7**	**0.0**
	comp=Z,2.4nm,1.0s,mb4.1,baz=191,slow=6.3,SNR=11						
SONM				PcP	PcP	08 31 40.8	+0.8
	comp=Z,1.0nm,0.9s,baz=192,slow=2.9,SNR=2.9						
SONM				ScP		08 35 24.8	
	comp=Z,0.6nm,0.9s,baz=180,slow=1.4,SNR=3.7						
ULN	**Ulaanbaatar**	**36.24**	**16**	*i* P	**P**	**08 29 15.8**	**+0.3**
ZAK	**Zakamensk**	**37.74**	**11**	*e*P	**P**	**08 29 32.2**	**+4.2**
KURK	**Kurchatov**	**38.83**	**346**	*e*P	**P**	**08 29 35.9**	**-1.3**
KURK				*e*	pP	08 29 45.4	-0.9
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
KURK	**Kurchatov**	**38.83**	**346**	*e*P	**P**	**08 29 35.9**	**-1.3**
	comp=Z,2.9nm,0.9s,mb4.0						
KURK				*e*	pP	08 29 45.4	-1.0
TLY	**Talaya**	**39.05**	**11**	*i* P	**P**	**08 29 40.9**	**+1.9**
TLY				MLR	MLR		
	comp=Z,200nm,14.0s,MS4.1						
NVS	**Novosibirsk**	**41.89**	**352**	*e*P	**P**	**08 29 55.0**	**-7.3**
NVS				pmax	pmax		
	comp=Z,12nm,1.8s,mb4.2						
NVS				pmax	pmax		
	comp=N,10.0nm,2.0s						
NVS				pmax	pmax		
	comp=E,21nm,3.3s						
BVAR	**Borovoye Array**	**43.24**	**340**	P	**P**	**08 30 13.0**	**-0.4**
	comp=E,0.9nm,0.6s,mb3.6,baz=162,slow=9.4,SNR=4.5						
BRVK	**Borovoye**	**43.30**	**340**	*e*P	**P**	**08 30 13.8**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
BRVK	**Borovoye**	**43.30**	**340**	*e*P	**P**	**08 30 13.8**	**-0.1**
	comp=Z,3.2nm,0.8s,mb4.1						
MBWA	**Marble Bar**	**43.47**	**142**	*e*P	**P**	**08 30 15.0**	**-0.6**
	comp=Z,8.6nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**43.72**	**341**	P	**P**	**08 30 16.9**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.4						
MDJ	**Mudanjiang**	**44.05**	**38**	P	**P**	**08 30 21.5**	**+1.4**
MDJ				AP	pP	08 30 30.5	+1.3
MDJ				XP	sP	08 30 34.3	+1.3
MDJ				PP	PP	08 32 04.8	+0.7
MDJ				PCP	PcP	08 32 06.0	+0.3
MDJ				SCP		08 35 55.6	
MDJ				PCS		08 35 59.1	
MDJ				S	**S**	**08 36 51.5**	**+1.7**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,111nm,5.3s						
MDJ				LR	LR		
	comp=N,138nm,19.9s,MS3.9						
MDJ				LR	LR		
	comp=E,57nm,19.9s,MS3.9						
MDJ				LR	LR		
	comp=Z,93nm,17.4s,MS3.8						
FITZ	**Fitzroy Crossi**	**45.15**	**133**	⇓*i*P	**P**	**08 30 28.7**	**-0.6**
	comp=Z,31nm,1.0s,mb5.1						
MAT	**Matsushiro**	**46.57**	**52**	*e*P	**P**	**08 30 40.0**	**-0.3**
MAT				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
MAT	**Matsushiro**	**46.57**	**52**	*e*P	**P**	**08 30 40.0**	**-0.3**
	comp=Z,11nm,1.0s,mb4.7						
MAT	**Matsushiro**	**46.57**	**52**	P	**P**	**08 30 39.9**	**-0.4**
BOD	**Bodaibo**	**47.03**	**15**	*e*P	**P**	**08 30 40.0**	**-3.6**
KAKA	**Kakadu**	**47.17**	**122**	⇓*i*P	**P**	**08 30 44.0**	**-1.3**
	comp=Z,8.0nm,0.6s,mb4.8						
GNI	**Garni**	**49.62**	**312**	*e*P	**P**	**08 31 06.1**	**+2.1**
GNI				pmax	pmax		
	comp=Z,25nm,1.3s						
GNI	**Garni**	**49.62**	**312**	P	**P**	**08 31 04.0**	**+0.1**
	comp=Z,6.7nm,0.8s,mb4.8,baz=165,slow=22,SNR=5.0						
GNI	**Garni**	**49.62**	**312**	*e*P	**P**	**08 31 06.1**	**+2.1**
	comp=Z,25nm,1.3s,mb5.1						
ARU	**Arti**	**50.20**	**336**	*e*P	**P**	**08 31 03.0**	**-5.2**
ARU				*e*		08 32 20.9	
ARU				*e*		08 32 58.1	
ARU				*e*S	**S**	**08 38 11.3**	**-5.5**
ARU				*e*SS	SS	08 41 40.4	-6.7
MUN	**Mundaring**	**50.52**	**154**	⇓*i*P	**P**	**08 31 11.6**	**+0.7**
	comp=Z,9.5nm,0.4s,mb5.1						
MUN	**Mundaring**	**50.52**	**154**	⇓*i*P	**P**	**08 31 11.6**	**+0.7**
MUN				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb5.1						
ZEI	**Tsey**	**51.07**	**315**	*e*P	**P**	**08 31 15.0**	**0.0**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
NWAO	**Narrogin (SRO)**	**51.77**	**154**	*e*P	**P**	**08 31 20.4**	**0.0**
NWAO				pmax	pmax		
	comp=Z,12nm,0.5s						
NWAO	**Narrogin (SRO)**	**51.77**	**154**	P	**P**	**08 31 20.0**	**-0.5**
	comp=Z,18nm,0.5s,mb5.2,baz=326,slow=7.0,SNR=23						
NWAO	**Narrogin (SRO)**	**51.77**	**154**	*e*P	**P**	**08 31 20.4**	**0.0**
	comp=Z,12nm,0.5s,mb5.1						
KIV	**Kislovodsk**	**52.30**	**316**	*e*P	**P**	**08 31 25.2**	**+0.9**
KIV				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**52.30**	**316**	*e*P	**P**	**08 31 25.2**	**+0.9**
	comp=Z,19nm,1.0s,mb5.0						
WRA	**Warramunga Arr**	**52.71**	**128**	P	**P**	**08 31 26.4**	**-1.3**
	comp=Z,37nm,0.7s,mb5.4,baz=307,slow=8.2,SNR=175						
WRA				PcP	PcP	08 32 37.3	+0.2
	comp=Z,4.6nm,0.6s,baz=316,slow=3.2,SNR=8.0						
WRAB	**Tennant Creek**	**52.72**	**128**	*e*P	**P**	**08 31 27.2**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,17nm,0.5s,mb5.2						
WRAB	**Tennant Creek**	**52.72**	**128**	*e*P	**P**	**08 31 27.1**	**-0.6**
	comp=Z,16nm,0.5s,mb5.2						
WB2	**Warramunga Arr**	**52.72**	**128**	⇑*i*P	**P**	**08 31 27.1**	**-0.7**
YSS	**Yuzh-Sakhalins**	**53.29**	**41**	P	**P**	**08 31 30.8**	**-0.8**
YSS				*e*	pP	08 31 41.6	+0.7
YSS	**Yuzh-Sakhalins**	**53.29**	**41**	*e*pP	pP	08 31 41.9	+1.0
	comp=Z,11nm,0.8s						
SOC	**Sochi**	**54.23**	**314**	*e*P	**P**	**08 31 32.7**	**-5.8**
SOC				*e*S	**S**	**08 39 06.6**	**-5.6**
SOC				*e*		08 41 18.0	
SOC				*e*SS	SS	08 42 55.4	+1.7
SOC				*e*SSS	SSS	08 44 47.4	-2.8
SOC				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.2						
SOC				pmax	pmax		
	comp=N,25nm,0.8s						
SOC				pmax	pmax		
	comp=E,22nm,1.0s						
ASPA	**Alice Springs**	**54.62**	**132**	⇑*i*P	**P**	**08 31 41.1**	**-0.6**
ASAR	**Alice Springs**	**54.63**	**132**	P	**P**	**08 31 41.0**	**-0.7**
	comp=E,20nm,0.7s,mb5.2,baz=310,slow=6.7,SNR=345						
ASAR				PcP	PcP	08 32 44.8	+0.5
	comp=E,2.3nm,0.7s,baz=307,slow=3.6,SNR=5.7						
ASAR				ScP		08 36 39.5	
	comp=E,1.8nm,1.1s,baz=309,slow=3.7,SNR=5.2						
YAK	**Yakutsk**	**55.13**	**20**	*i* P	**P**	**08 31 42.6**	**-2.3**
EIL	**Elat**	**55.58**	**297**	P	**P**	**08 31 49.3**	**+0.7**
	comp=E,2.4nm,0.5s,mb4.5,baz=44,slow=19,SNR=3.0						
FORT	**Forrest**	**55.60**	**143**	*e*P	**P**	**08 31 48.7**	**0.0**
	comp=E,51nm,1.2s,mb5.4						
ANN	**Anapa**	**56.15**	**315**	*e*P	**P**	**08 31 50.2**	**-2.2**
KMBO	**Kilima Mbogo**	**56.91**	**260**	P	**P**	**08 31 59.7**	**+1.3**
	comp=E,0.9nm,0.2s,mb4.4,baz=68,slow=19,SNR=3.2						
KMBO				LR	LR	08 54 08.7	
	comp=E,179nm,19.5s,MS4.2,baz=93,slow=34						
KMBO	**Kilima Mbogo**	**56.91**	**260**	P	**P**	**08 31 59.7**	**+1.3**
KMBO				LR	LR	08 54 08.7	
BRTR	**Keskin Array B**	**57.81**	**309**	P	**P**	**08 32 03.7**	**-0.6**
	comp=E,6.5nm,0.8s,mb4.7,baz=119,slow=7.4,SNR=34						
BRTR				pP	pP	08 32 12.5	-1.2
	comp=E,2.4nm,0.7s,baz=120,slow=8.1,SNR=6.7						
PMG	**Port Moresby**	**58.59**	**110**	*c i*P	**P**	**08 32 10.0**	**-0.1**
OBN	**Obninsk**	**59.93**	**327**	⇓*e*P	**P**	**08 32 18.0**	**-0.8**
OBN				*e*		08 33 04.0	
OBN				*e*		08 34 28.7	
OBN				*e*S	**S**	**08 40 28.8**	**+1.8**
OBN				*e*SS	SS	08 44 23.4	-1.3
OBN				pmax	pmax		
	comp=Z,31nm,1.6s,mb5.1						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.1						
TIXI	**Tiksi**	**62.00**	**12**	*e*P	**P**	**08 32 30.0**	**-2.7**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,86nm,19.0s,MS3.9						
MA2	**Magadan**	**62.45**	**29**	*e*P	**P**	**08 32 37.6**	**+1.8**
MA2				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.6						
AKASG	**Malin Array Be**	**62.94**	**320**	P	**P**	**08 32 37.7**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**62.94**	**320**	P	**P**	**08 32 37.7**	**-1.4**
	comp=Z,1.0nm,0.6s,mb4.1,baz=89,slow=4.7,SNR=9.9						
MLR	**Muntele Rosu**	**64.25**	**314**	P	**P**	**08 32 48.5**	**+0.6**
	comp=Z,13nm,1.0s,mb4.9,baz=103,slow=4.8,SNR=10						
IDI	**Anoyia**	**64.33**	**303**	P	**P**	**08 32 48.5**	**0.0**
	comp=Z,32nm,1.2s,mb5.2,baz=248,slow=22,SNR=2.4						
STKA	**Stephens Creek**	**65.00**	**135**	⇑*i*P	**P**	**08 32 52.8**	**-0.1**
	comp=Z,7.2nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**65.00**	**135**	P	**P**	**08 32 52.5**	**-0.4**
	comp=Z,7.8nm,0.7s,mb4.8,baz=314,slow=7.1,SNR=26						
KWP	**Kalwaria**	**66.91**	**318**	*e*P	**P**	**08 33 04.9**	**+0.1**
KOLS	**Kolonicke sedl**	**67.12**	**318**	*e*P	**P**	**08 33 07.4**	**+1.2**
FINES	**FINESS Array B**	**67.12**	**331**	P	**P**	**08 33 05.0**	**-0.9**
	comp=Z,2.1nm,0.7s,mb4.3,baz=104,slow=7.9,SNR=8.9						
FINES				pP	pP	08 33 14.2	-1.3
	comp=Z,2.7nm,0.8s,baz=117,slow=4.3,SNR=4.5						
CRVS	**Cervenica-Dubn**	**67.65**	**317**	*e*P	**P**	**08 33 11.7**	**+2.2**
VYHS	**Vyhne**	**69.36**	**317**	*e*P	**P**	**08 33 20.3**	**+0.2**
ARCES	**ARCESS Array B**	**69.53**	**340**	P	**P**	**08 33 20.0**	**-0.8**
	comp=Z,2.1nm,0.7s,mb4.2,baz=79,slow=6.2,SNR=11						
ARCES				LR	LR	09 07 07.0	
	comp=Z,216nm,19.7s,MS4.4,baz=286,slow=39						
OKC	**Ostrava-Krasne**	**69.87**	**318**	*e*P	**P**	**08 33 23.6**	**+0.4**
LSZ	**Lusaka**	**70.00**	**248**	*e*P	**P**	**08 33 26.7

GRF Grafenberg Arr 74.36 318 *eP* **P 08 33 50.3 +0.5**
GRF pmax pmax
comp=Z,11nm,1.2s,mb4.7
GRF Grafenberg Arr 74.36 318 *eP* **P 08 33 50.3 +0.5**
comp=Z,11nm,1.2s,mb4.7
BOSA Boshof 77.51 236 *eP* **P 08 34 10.5 +2.4**
BOSA pmax pmax
comp=Z,13nm,0.9s,mb4.9
BOSA Boshof 77.51 236 *eP* **P 08 34 10.5 +2.4**
comp=Z,13nm,0.9s,mb4.8
LPL La Plagne 77.73 314 *eP* **P 08 34 09.5 +0.6**
comp=Z,32nm,0.9s,mb5.0
LPL La Plagne 77.73 314 *eP* **P 08 34 09.5 +0.6**
LPL pmax pmax
comp=Z,16nm,0.9s,mb5.0
JMIC Jan Mayen 80.95 341 LR LR 09 13 19.4
comp=Z,77nm,19.1s,MS4.1,baz=251,slow=38
MAW Mawson 83.78 191 LR LR 09 04 27.8
comp=Z,138nm,18.9s,MS4.4,baz=62,slow=30
ESDC Sonseca Array 86.58 310 P **P 08 34 55.7 +0.6**
comp=Z,1.4nm,0.9s,mb4.2,baz=49,slow=4.8,SNR=7.0
ESDC pP pP 08 35 05.5 +0.7
comp=Z,1.6nm,0.9s,baz=75,slow=3.9,SNR=4.0
ILAR Eielson Array 90.03 22 P **P 08 35 10.6 -0.3**
comp=Z,0.7nm,0.7s,mb4.1,baz=303,slow=4.5,SNR=12
RPZ Rata Peaks 90.96 135 P **P 08 35 16.1 +0.3**
comp=Z,4.7nm,0.8s,mb4.9,baz=48,slow=21,SNR=2.2
INK Inuvik 91.95 16 P **P 08 35 20.1 +0.4**
comp=Z,1.9nm,1.2s,mb4.3,baz=291,slow=1.1,SNR=3.6
DBIC Dimbokro 95.82 278 LR LR 09 18 11.6
comp=Z,50nm,18.5s,MS4.0,baz=62,slow=35
PDAR Pinedale Array 120.35 19 PKP PKPdf 08 41 04.0 -3.0
comp=Z,0.3nm,0.9s,baz=270,slow=1.8,SNR=2.6
NVAR Mina Array Bea 120.69 28 PKP PKPdf 08 41 05.2 -2.6
comp=Z,0.8nm,0.8s,baz=345,slow=1.4,SNR=6.1
TXAR Lajitas Array 134.53 20 PKP PKPdf 08 41 32.6 -1.9
comp=Z,0.3nm,0.7s,baz=27,slow=2.0,SNR=2.9
PLCA Paso Flores 149.22 205 PKPbc PKPdf 08 42 02.7 +2.8
comp=Z,2.0nm,0.9s,baz=192,slow=13,SNR=3.5
LPAZ La Paz 161.34 259 PKPab PKPab 08 42 59.4 +1.6
comp=Z,1.3nm,0.9s,baz=110,slow=6.6,SNR=3.9

IDC 23 08:33:09.4±2.9,31.85S×177.80W,mb3.8/2,mb1 4.0/3, mb1mx3.7/15,mbtmp3.8/3,ML3.2/1,Error ellipse: s-maj=70.1km s-min=35.8km az=118.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.63**	**212**	Pn	Pn	08 35 01.3	-3.3
URZ	0.3nm,0.3s,baz=36,slow=8.8,SNR=4.4			Sn	Sn	08 36 28.9	-3.9
ASAR	**Alice Springs**	**43.22**	**268**	P	P	08 41 12.7	-1.4
	2.8nm,0.3s,baz=160,slow=19,SNR=13						
WRA	**Warramunga Arr**	**44.34**	**274**	P	P	08 41 21.5	-1.7
	0.8nm,0.8s,baz=107,slow=7.1,SNR=6.5						
FINES	**FINESS Array B**	**146.56**	**339**	PKPbc	PKPbc	08 52 51.1	-0.6
	0.7nm,0.4s,baz=113,slow=7.9,SNR=13						
	1.5nm,0.8s,baz=56,slow=5.0,SNR=11						

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*IDC **23** 08:36:51.3±0.9, 14.53N×92.15E, mb3.8/8, mb1 4.0/9, mb1mx3.8/18, mbtmp3.8/9, ML3.8/1, MS2.5/1, Ms1 2.7/1, ms1mx2.3/24, Error ellipse: s-maj=35.1km s-min=21.5km az=47.0*

*NEIC **23** 08:36:55.9±0.5, 14.54N×92.15E, h30km, mb4.3/1, Error ellipse: s-maj=15.5km s-min=10.8km az=45.0*

ISC 23 08:36:53.7±0.8, 14.6N±0.1×92.1E±0.1, h30km, n20, σ1°02/19, mb4.0/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.57**	**59**	**Pn**	**Pn**	**08 38 45.1**	**+0.2**
	0.4nm,0.3s,baz=243,slow=14,SNR=2.4						
CMAR				LR	LR	08 42 02.0	
	comp=Z,41nm,21.6s,baz=255,slow=41						
JIRN	**Jiri**	**14.09**	**338**	*eP*	**P**	**08 40 11.9**	**-1.7**
	3.6nm,0.3s						
DMN	**Daman**	**14.47**	**334**	*eP*	**P**	**08 40 16.8**	**-1.8**
	6.4nm,0.4s						
GKN	**Gorkha**	**15.02**	**334**	*eP*	**P**	**08 40 25.1**	**-0.6**
	14nm,0.3s						
KOLN	**Koldanda**	**15.29**	**330**	*eP*	**P**	**08 40 28.8**	**-0.5**
	11nm,0.5s						
SONM	**Songino Array**	**35.17**	**17**	P	**P**	**08 43 47.2**	**+0.3**
	0.1nm,0.4s,mb3.1,baz=207,slow=8.3,SNR=4.0						
KURK	**Kurchatov**	**37.62**	**346**	*eP*	**P**	**08 44 09.2**	**+1.6**
	4.7nm,1.0s,mb4.2						
CHKZ	**Chkalovo**	**42.48**	**341**	*eP*	**P**	**08 44 48.9**	**+1.1**
WRA	**Warramunga Arr**	**53.89**	**129**	P	**P**	**08 46 16.1**	**-0.7**
	0.4nm,0.6s,mb3.6,baz=306,slow=10,SNR=3.7						
WRAB	**Tennant Creek**	**53.89**	**128**	*eP*	**P**	**08 46 16.8**	**-0.1**
	10nm,1.1s,mb4.7						
ASAR	**Alice Springs**	**55.83**	**132**	P	**P**	**08 46 29.6**	**-1.4**
	0.2nm,0.4s,mb3.5,baz=314,slow=7.0,SNR=5.5						
BRTR	**Keskin Array B**	**56.63**	**308**	P	**P**	**08 46 36.5**	**0.0**
	0.8nm,0.7s,mb3.8,baz=130,slow=8.3,SNR=5.0						
BRTR	**Keskin Array B**	**56.63**	**308**	P	**P**	**08 46 36.5**	**0.0**
FINES	**FINESS Array B**	**65.86**	**331**	P	**P**	**08 47 39.2**	**+0.8**
	0.9nm,0.5s,mb4.1,baz=100,slow=8.5,SNR=10						
FINES	**FINESS Array B**	**65.86**	**331**	P	**P**	**08 47 39.2**	**+0.8**
ARCES	**ARCESS Array B**	**68.28**	**340**	P	**P**	**08 47 54.6**	**+1.0**
	2.9nm,0.8s,mb4.3,baz=97,slow=7.3,SNR=3.6						
GERES	**GERESS Array B**	**71.53**	**317**	P	**P**	**08 48 15.1**	**+1.2**
	0.6nm,0.7s,mb3.7,baz=104,slow=5.5,SNR=5.8						
INK	**Inuvik**	**91.07**	**15**	P	**P**	**08 49 57.4**	**+1.2**
	4.1nm,1.3s,mb4.6,baz=330,slow=1.4,SNR=3.1						
INK	**Inuvik**	**91.07**	**15**	P	**P**	**08 49 55.9**	**-0.3**
CPUP	**Villa Florida**	**149.18**	**243**	PKPbc	PKPdf	08 56 43.0	+2.2
	0.0nm,0.5s,baz=12,slow=20,SNR=1.5						

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*IDC **23** 08:45:04.1±5.0, 5.84S×151.74E, h49km±46km, mb4.0/10, mb1 4.3/12, mb1mx4.2/15, mbtmp4.3/12, ML3.7/2, MS3.8/4, Ms1 3.8/4, ms1mx3.5/15, Error ellipse: s-maj=41.3km s-min=21.8km az=101.0*

*NEIC **23** 08:45:05.7±2.1, 5.82S×151.59E, h64km±18km, mb4.6/9, Error ellipse: s-maj=18.5km s-min=11.7km az=118.0*

ISC 23 08:45:04.8±3.1, 5.8S±0.1×151.6E±0.2, h69km±27km, n28, σ0°79/27, mb4.2/16, 2C-2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.64**	**230**	P	**P**	**08 46 27.9**	**+0.1**
	14nm,0.3s,baz=50,slow=6.8,SNR=32						
PMG				S	**S**	**08 47 33.3**	**+1.3**
	7.7nm,0.3s,baz=96,slow=3.7,SNR=3.5						
PMG				LR	LR	08 49 00.6	
	comp=Z,444nm,18.4s,baz=40,slow=41						
PMG	**Port Moresby**	**5.64**	**230**	*eP*	**P**	**08 46 27.5**	**-0.2**
PMG				*eS*	**S**	**08 47 32.2**	**+0.3**
PMG				LR	LR	08 49 00.6	
CTA	**Charters Tower**	**15.10**	**199**	P	**P**	**08 48 40.0**	**+4.5**
	0.2nm,0.3s,baz=34,slow=4.8,SNR=3.7						
CTA				LR	LR	08 53 35.7	
	comp=Z,166nm,19.1s,baz=223,slow=34						
CTAO	**Charters Tower**	**15.10**	**199**	P	**P**	**08 48 36.4**	**+0.8**
	2.7nm,0.7s						
KAKA	**Kakadu**	**20.07**	**249**	⇓*iP*	**P**	**08 49 34.2**	**-1.0**
	9.3nm,0.3s						
WRAB	**Tennant Creek**	**21.84**	**228**	*eP*	**P**	**08 49 51.3**	**-1.7**
	23nm,1.0s,mb4.5						
WB2	**Warramunga Arr**	**21.84**	**228**	*eP*	**P**	**08 49 53.2**	**+0.1**
WRA	**Warramunga Arr**	**21.85**	**228**	P	**P**	**08 49 52.5**	**-0.7**
	5.0nm,0.4s,mb4.2,baz=54,slow=9.9,SNR=26						
ASAR	**Alice Springs**	**24.58**	**222**	P	**P**	**08 50 20.3**	**+0.5**
	10nm,0.6s,mb4.4,baz=56,slow=8.5,SNR=87						
ASPA	**Alice Springs**	**24.58**	**222**	⇑P	**P**	**08 50 20.3**	**+0.5**
STKA	**Stephens Creek**	**27.56**	**199**	*eP*	**P**	**08 50 46.5**	**-0.9**
	4.2nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**27.56**	**199**	P	**P**	**08 50 46.4**	**-1.0**
	3.2nm,0.6s,mb4.1,baz=17,slow=12,SNR=8.9						
FITZ	**Fitzroy Crossi**	**28.10**	**242**	⇓*iP*	**P**	**08 50 52.0**	**-0.4**
	12nm,0.6s,mb4.6						
MBWA	**Marble Bar**	**34.40**	**241**	*eP*	**P**	**08 51 47.5**	**-0.2**
	8.9nm,0.6s,mb4.8						
SONM	**Songino Array**	**66.53**	**329**	P	**P**	**08 55 50.5**	**+0.9**
	1.1nm,0.8s,mb3.7,baz=135,slow=6.1,SNR=4.3						
VNDA	**Vanda**	**71.87**	**178**	P	**P**	**08 56 22.3**	**+0.5**
	14nm,1.4s,mb4.6,baz=333,slow=9.0,SNR=3.5						
MCK	**McKinley**	**82.27**	**23**	*eP*	**P**	**08 57 19.3**	**-0.6**
	6.5nm,1.2s,mb4.3						
COLA	**College**	**83.24**	**22**	*eP*	**P**	**08 57 24.2**	**-0.6**
	4.5nm,0.8s,mb4.3						
ILAR	**Eielson Array**	**83.56**	**22**	P	**P**	**08 57 25.6**	**-0.8**
	2.8nm,0.7s,mb4.2,baz=249,slow=5.2,SNR=52						
ILAR				LR	LR	09 29 34.8	
	comp=Z,87nm,19.1s,baz=359,slow=32						
QSPA	**South Pole Qui**	**84.16**	**180**	⇑*iP*	**P**	**08 57 30.2**	**+1.1**
	7.3nm,0.9s,mb4.5						
MAW	**Mawson**	**84.17**	**203**	LR	LR	09 34 51.5	
	comp=Z,68nm,18.8s,baz=240,slow=36						
BVAR	**Borovoye Array**	**89.31**	**323**	P	**P**	**08 57 56.1**	**+1.5**
	0.6nm,0.5s,mb3.9,baz=117,slow=5.1,SNR=4.4						
INK	**Inuvik**	**89.84**	**21**	P	**P**	**08 57 57.2**	**+0.5**
	1.9nm,1.1s,mb4.1,baz=273,slow=5.4,SNR=7.5						
INK	**Inuvik**	**89.84**	**21**	*eP*	**P**	**08 57 57.3**	**+0.6**
	0.4nm,0.5s,mb3.8						
NVAR	**Mina Array Bea**	**93.67**	**52**	P	**P**	**08 58 14.9**	**-0.3**
	0.2nm,0.4s,mb3.8,baz=252,slow=5.7,SNR=3.7						
YKA	**Yellowknife Ar**	**96.89**	**28**	P	**P**	**08 58 29.5**	**+0.3**
	0.5nm,0.8s,mb4.0,baz=270,slow=4.7,SNR=8.8						
PDAR	**Pinedale Array**	**100.44**	**48**	P	P	08 58 46.2	+0.4
	0.3nm,0.8s,baz=304,slow=3.3,SNR=3.1						
GERES	**GERESS Array B**	**124.25**	**328**	PKP	PKPdf	09 03 58.0	+2.1
	0.1nm,0.3s,slow=1.0,SNR=2.5						

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*IDC **23** 08:47:49.6±0.6, 9.88N×93.65E, mb4.1/15, mb1 4.2/16, mb1mx4.1/22, mbtmp4.0/16, ML3.9/1, MS3.2/1, Ms1 3.5/1, ms1mx3.0/19, Error ellipse: s-maj=30.6km s-min=15.3km az=52.0*

*BJI **23** 08:47:53.0, 9.66N×93.66E, h40km, mB5.3, mb4.6, Ms4.5, Ms2.4 2*

*NEIC **23** 08:47:54.1±0.4, 9.79N×93.69E, h30km, mb4.5/8, Error ellipse: s-maj=13.3km s-min=8.1km az=64.0*

ISC 23 08:47:52.2±0.5, 9.80N±0.08×93.81E±0.08, h30km, n41, σ1°11/35, mb4.2/21, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.94**	**29**	Pn	**P**	**08 50 15.6**	**-0.7**
	0.3nm,0.3s,baz=217,slow=14,SNR=5.6						
CMAR				LR	LR	08 54 23.5	
	comp=Z,143nm,18.8s,baz=210,slow=40						
HYB	**Hyderabad**	**16.65**	**299**	*iP*	**P**	**08 51 48.0**	**+2.8**
HYB				*eS*	**S**	**08 54 49.0**	**+0.8**
KMI	**Kunming**	**17.45**	**28**	P	**P**	**08 51 57.5**	**+2.3**
	12nm,0.5s						
JIRN	**Jiri**	**19.17**	**339**	*eP*	**P**	**08 52 17.1**	**+0.9**
PKI	**Pulchoki**	**19.38**	**337**	*eP*	**P**	**08 52 19.6**	**+1.0**
	13nm,0.7s						
GUN	**Gumba**	**19.51**	**339**	*eP*	**P**	**08 52 18.9**	**-1.2**
DMN	**Daman**	**19.53**	**336**	*eP*	**P**	**08 52 21.5**	**+1.2**
	30nm,1.1s						
KKN	**Kakani**	**19.62**	**337**	*eP*	**P**	**08 52 22.3**	**+0.9**
	25nm,0.9s						
LSA	**Lhasa**	**19.96**	**353**	*eP*	**P**	**08 52 24.6**	**-0.4**
	14nm,0.8s						
GKN	**Gorkha**	**20.07**	**336**	*eP*	**P**	**08 52 25.3**	**-0.8**
	36nm,0.8s						
KOLN	**Koldanda**	**20.30**	**333**	*eP*	**P**	**08 52 28.8**	**+0.2**
	14nm,0.7s						
AAK	**Ala-Archa**	**36.83**	**336**	*eP*	**P**	**08 54 58.9**	**-0.6**
	7.9nm,0.9s,mb4.5						
SONM	**Songino Array**	**39.37**	**13**	P	**P**	**08 55 20.8**	**0.0**
	1.8nm,0.8s,mb3.8,baz=198,slow=8.0,SNR=13						
MBWA	**Marble Bar**	**39.93**	**141**	*eP*	**P**	**08 55 25.1**	**-0.6**
	0.9nm,0.5s,mb3.8						
BVAR	**Borovoye Array**	**47.08**	**341**	P	**P**	**08 56 21.7**	**-1.5**
	2.9nm,1.0s,mb4.2,baz=153,slow=6.6,SNR=9.6						
BRVK	**Borovoye**	**47.14**	**341**	*eP*	**P**	**08 56 23.3**	**-0.3**
	2.4nm,0.9s,mb4.1						
CHKZ	**Chkalovo**	**47.56**	**341**	*eP*	**P**	**08 56 26.3**	**-0.6**
	7.1nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**49.65**	**127**	P	**P**	**08 56 44.1**	**+0.6**
	1.6nm,0.4s,mb4.4,baz=306,slow=8.4,SNR=9.7						
WRAB	**Tennant Creek**	**49.65**	**127**	*eP*	**P**	**08 56 44.2**	**+0.6**
	4.4nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**51.40**	**131**	P	**P**	**08 56 57.5**	**+0.6**
	2.2nm,0.6s,mb4.3,baz=306,slow=6.7,SNR=26						
KIV	**Kislovodsk**	**55.69**	**317**	*eP*	**P**	**08 57 28.9**	**+0.7**
	14nm,0.8s,mb5.0						
BRTR	**Keskin Array B**	**60.94**	**310**	P	**P**	**08 58 03.0**	**-2.0**
	2.1nm,0.8s,mb4.3,baz=115,slow=6.3,SNR=11						
STKA	**Stephens Creek**	**61.66**	**134**	P	**P**	**08 58 11.0**	**+1.0**
	1.0nm,0.6s,mb4.2,baz=336,slow=9.6,SNR=4.1						
STKA	**Stephens Creek**	**61.66**	**134**	P	**P**	**08 58 10.0**	**0.0**
AKASG	**Malin Array Be**	**66.46**	**321**	P	**P**	**08 58 38.9**	**-2.1**
	3.0nm,1.0s,mb4.3,baz=89,slow=3.8,SNR=6.5						
MLR	**Muntele Rosu**	**67.58**	**315**	P	**P**	**08 58 48.9**	**+0.7**
	1.8nm,0.4s,mb4.5,baz=130,slow=16,SNR=3.5						
FINES	**FINESS Array B**	**70.87**	**332**	P	**P**	**08 59 07.0**	**-1.2**
	0.8nm,0.7s,mb3.7,baz=79,slow=9.7,SNR=3.6						
ARCES	**ARCESS Array B**	**73.36**	**340**	P	**P**	**08 59 22.8**	**0.0**
	2.2nm,0.8s,mb4.1,baz=91,slow=6.4,SNR=13						
ARCES	**ARCESS Array B**	**73.36**	**340**	P	**P**	**08 59 22.8**	**0.0**
GERES	**GERESS Array B**	**76.19**	**318**	P	**P**	**08 59 39.4**	**0.0**
	1.7nm,0.8s,mb4.0,baz=90,slow=5.3,SNR=12						
NOA	**NORSAR Array B**	**77.91**	**330**	P	**P**	**08 59 46.8**	**-1.9**
	1.4nm,0.8s,mb4.0,baz=96,slow=5.6,SNR=3.1						
DAVOX	**Davos**	**78.79**	**316**	P	**P**	**08 59 54.4**	**+0.5**
	1.1nm,0.4s,mb4.1,baz=345,slow=6.2,SNR=3.8						
EKA	**Eskdalemuir Ar**	**85.97**	**325**	P	**P**	**09 00 29.4**	**-1.3**
	2.1nm,0.8s,mb4.4,baz=104,slow=5.9,SNR=3.7						
SYO	**Syowa Base**	**87.14**	**197**	⇓pP	pP	09 00 46.6	+0.8
INK	**Inuvik**	**95.25**	**16**	P	**P**	**09 01 15.9**	**+2.0**
	0.5nm,0.9s,mb4.0,baz=315,slow=4.3,SNR=3.2						
NVAR	**Mina Array Bea**	**123.44**	**38**	PKP	PKPdf	09 06 50.1	-2.0
	0.5nm,0.7s,baz=359,slow=1.5,SNR=5.7						
PDAR	**Pinedale Array**	**123.50**	**21**	PKP	PKPdf	09 06 49.0	-3.2
	0.4nm,0.6s,baz=135,slow=2.1,SNR=4.5						
TXAR	**Lajitas Array**	**137.60**	**23**	PKhKP		09 07 12.2	
	0.6nm,1.1s,baz=174,slow=8.2,SNR=2.6						
TXAR				PKiKP		09 07 18.0	
	0.3nm,0.6s,baz=310,slow=0.9,SNR=4.1						
PLCA	**Paso Flores**	**146.22**	**202**	PKPbc	PKPbc	09 07 33.0	+2.9
	0.9nm,0.7s,baz=124,slow=2.2,SNR=3.8						
CPUP	**Villa Florida**	**148.13**	**235**	PKPbc	PKPdf	09 07 38.2	+0.5
CPUP	**Villa Florida**	**148.13**	**235**	PKPbc	PKPdf	09 07 38.2	+0.5

IGQ 23 09:18:36.1, 0.87S×81.36W, h7km±5km, mb4.3, 1C-11D, Error ellipse: s-maj=12.2km s-min=6.0km az=151.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.83**	**103**	⇓P	Pb	09 18 51.5	-0.9
IGUA	**Igualata**	**2.79**	**103**	⇑P	Pn	09 19 22.8	+0.8
JUA2	**San Juan 2**	**2.83**	**77**	⇓P	Pn	09 19 24.2	+1.7
TERV	**Terraza Guagua**	**2.84**	**76**	⇓P	Pn	09 19 24.1	+1.4
PINO	**Pino**	**2.84**	**76**	⇓P	Pn	09 19 24.0	+1.3
YANA	**Yana**	**2.88**	**75**	⇓P	Pn	09 19 24.5	+1.2
NAS1	**Nasa**	**2.89**	**85**	⇓P	Pn	09 19 26.2	+2.8
VC1	**Cotopaxi 1**	**2.96**	**86**	⇓P	Pn	09 19 27.2	+2.8
ARRY	**Arrayan**	**2.97**	**102**	⇓P	Pn	09 19 25.7	+1.2
ARRY				S	Sn	09 20 01.2	+0.4
PISA	**Pisayambo**	**2.98**	**94**	P	Pn	09 19 26.4	+1.7
TAMB	**Tambo**	**3.00**	**87**	P	Pn	09 19 28.1	+3.3
RUN2	**Runtun**	**3.00**	**101**	P	Pn	09 19 26.4	+1.5
ULBA	**Ulba**	**3.01**	**101**	P	Pn	09 19 26.9	+1.9
ANTI	**Antisana**	**3.23**	**83**	⇓P	Pn	09 19 30.7	+2.6
COTA	**Cotacachi**	**3.25**	**68**	P	Pn	09 19 29.9	+1.4
CAYR	**Refugio Cayamb**	**3.46**	**75**	⇓P	Pn	09 19 35.1	+3.6
CAYA	**Cayambe**	**3.50**	**75**	⇓P	Pn	09 19 35.4	+3.4

IDC 23 09:24:03.5±6.3, 5.28S×151.08E, h64km±55km, mb3.5/3, mb1 3.9/4, mb1mx3.5/12, mbtmp3.9/4, ML2.9/1, Error ellipse: s-maj=129.2km s-min=32.4km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.65**	**223**	P	P	09 25 24.9	-1.8
	2.4nm,0.3s,baz=42,slow=8.0,SNR=7.1						
PMG				S	S	09 26 29.3	-1.7
	3.4nm,0.3s,baz=142,slow=15,SNR=6.9						
WRA	**Warramunga Arr**	**21.86**	**227**	P	P	09 28 50.8	-1.5
	1.0nm,0.4s,baz=53,slow=10,SNR=12						
ASAR	**Alice Springs**	**24.66**	**220**	P	P	09 29 18.5	-1.1
	2.3nm,0.6s,baz=54,slow=8.9,SNR=23						
ILAR	**Eielson Array**	**83.25**	**22**	P	P	09 36 22.6	-1.4
	0.6nm,0.6s,baz=252,slow=5.1,SNR=13						

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*IDC **23** 09:26:19.7±0.9, 12.16N×142.75E, mb3.7/7, mb1 4.0/7, mb1mx3.8/18, mbtmp3.7/7, Error ellipse: s-maj=70.5km s-min=22.8km az=105.0*

*NEIC **23** 09:26:22.9±0.6, 12.09N×142.92E, h20km, Error ellipse: s-maj=31.4km s-min=11.7km az=119.0*

ISC 23 09:26:20.9±6.6, 12.0N±0.2×143.0E±0.2, h17km±46km, n11, σ0°85/10, mb3.7/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.44**	**50**	*eP*	**Pn**	**09 27 00.9**	**+0.3**
GUMO				*eS*	**Sn**	**09 27 29.9**	**-0.3**
WRA	**Warramunga Arr**	**32.88**	**195**	P	**P**	**09 32 55.8**	**-0.5**
	0.5nm,0.8s,mb3.5,baz=15,slow=9.6,SNR=3.8						
WRA	**Warramunga Arr**	**32.88**	**195**	P	**P**	**09 32 55.8**	**-0.5**
ASAR	**Alice Springs**	**36.56**	**194**	P	**P**	**09 33 27.8**	**0.0**
	0.2nm,0.5s,mb3.2,baz=26,slow=12,SNR=3.8						
ILAR	**Eielson Array**	**70.78**	**25**	P	**P**	**09 37 36.4**	**-1.6**
	0.4nm,0.5s,mb3.6,baz=250,slow=5.6,SNR=8.1						
INK	**Inuvik**	**76.52**	**22**	P	**P**	**09 38 10.9**	**-0.4**
	1.5nm,1.1s,mb3.9,baz=262,slow=7.1,SNR=2.4						
YKA	**Yellowknife Ar**	**85.10**	**27**	P	**P**	**09 38 57.1**	**+0.4**
	0.2nm,0.6s,mb3.4,baz=285,slow=5.1,SNR=5.9						
ARCES	**ARCESS Array B**	**87.99**	**342**	P	**P**	**09 39 11.2**	**+0.4**
	2.8nm,0.9s,mb4.5,baz=84,slow=8.2,SNR=3.4						
NVAR	**Mina Array Bea**	**89.36**	**51**	P	**P**	**09 39 19.8**	**+1.8**
	0.5nm,0.9s,mb3.9,baz=252,slow=5.7,SNR=3.3						
LVC	**Limon Verde**	**147.88**	**113**	PKPbc	PKPdf	09 46 08.6	+1.9
	1.9nm,0.7s,baz=231,slow=9.9,SNR=2.9						
LPAZ	**La Paz**	**149.59**	**102**	PKPbc	PKPdf	09 46 13.2	+3.6
	0.4nm,0.7s,baz=331,slow=7.8,SNR=2.2						

IDC 23 09:27:51.6±8.9, 32.18S×177.64W, h58km±74km, mb4.1/4, mb1 4.2/5, mb1mx3.8/16, mbtmp4.2/5, ML3.3/1, Error ellipse: s-maj=55.3km s-min=36.1km az=36.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.43**	**214**	P	P	09 29 37.2	-2.5
	0.5nm,0.3s,baz=355,slow=11,SNR=2.9						
URZ				S	S	09 31 00.7	-2.7
	1.3nm,0.3s,baz=317,slow=20,SNR=10						
STKA	**Stephens Creek**	**34.41**	**259**	P	P	09 34 34.5	-0.8
	2.0nm,0.9s,baz=114,slow=5.8,SNR=4.0						
CTA	**Charters Tower**	**34.42**	**282**	P	P	09 34 33.9	-1.6
	21nm,1.2s,baz=90,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**43.34**	**269**	P	P	09 35 47.7	-2.1
	2.6nm,0.7s,baz=110,slow=7.7,SNR=22						
WRA	**Warramunga Arr**	**44.49**	**274**	P	P	09 35 56.7	-2.3
	3.0nm,0.8s,baz=114,slow=7.6,SNR=15						
FINES	**FINESS Array B**	**146.91**	**339**	PKPbc	PKPbc	09 47 26.5	+0.3
	4.0nm,1.0s,baz=45,slow=3.9,SNR=12						
AKASG	**Malin Array Be**	**152.88**	**321**	PKPab	PKPab	09 47 51.7	-3.4
	0.5nm,0.6s,baz=50,slow=4.2,SNR=5.2						
DBIC	**Dimbokro**	**153.74**	**164**	PKPab	PKPab	09 47 56.8	-3.0
	2.8nm,1.0s,baz=207,slow=18,SNR=3.0						

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*IGQ **23** 09:50:27.6, 1.47S×81.33W, h9km±5km, mb4.6, Error ellipse: s-maj=7.2km s-min=6.7km az=3.8*

*NEIC **23** 09:50:34.6±0.8, 1.38S×80.84W, h10km, mb4.0/2, Error ellipse: s-maj=20.1km s-min=13.0km az=17.0*

*IDC **23** 09:50:47.3±6.3, 1.50S×80.84W, h132km±59km, mb3.4/5, mb1 3.5/7, mb1mx3.3/20, mbtmp3.9/7, MS3.3/1, Ms1 3.3/1, ms1mx1.9/24, Error ellipse: s-maj=37.6km s-min=21.6km az=46.0*

ISC 23 09:50:32.0±1.5, 1.38S±0.08×81.12W±0.05, h3km±9km, n37, σ1°06/44, mb3.7/5, 6C-5D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.66**	**60**	⇑P	**Pg**	**09 50 44.2**	**-0.8**
IGUA	**Igualata**	**2.48**	**93**	⇓P	**Pn**	**09 51 13.5**	**-0.4**
IGUA				S	**Sn**	**09 51 46.9**	**+1.9**
CUSU	**Cusua**	**2.63**	**91**	P	**Pn**	**09 51 16.7**	**+0.6**
JUIV	**Juive**	**2.65**	**91**	P	**Pn**	**09 51 16.2**	**-0.1**
JUIV				S	**Sn**	**09 51 48.7**	**-0.6**
ARRY	**Arrayan**	**2.66**	**93**	⇓P	**Pn**	**09 51 16.1**	**-0.4**
ARRY				S	**Sn**	**09 51 48.7**	**-1.0**
RETU	**Refugio**	**2.67**	**92**	P	**Pn**	**09 51 17.7**	**+1.1**
PATA	**Patacocha**	**2.68**	**93**	P	**Pn**	**09 51 17.4**	**+0.7**
RUN2	**Runtun**	**2.70**	**91**	P	**Pn**	**09 51 17.2**	**+

MSU	**Marysvale**	**13.29**	**109**	*eP*	**P**	**09 54 20.7**	**+0.9**
BW06	**Boulder Array**	**13.68**	**89**	P	**P**	**09 54 24.3**	**-0.5**
PDAR	**Pinedale Array**	**13.68**	**89**	Pn	**P**	**09 54 28.8**	**+4.0**
	0.1nm,0.3s,baz=297,slow=6.0,SNR=3.5						
PDAR				LR	LR	09 59 03.3	
	comp=Z,205nm,20.5s,baz=0.3,slow=34						
SRU	**San Rafael**	**14.16**	**104**	P	**P**	**09 54 34.0**	**+2.8**
PV10	**Paradox Valley**	**15.53**	**105**	P	**P**	**09 54 49.4**	**+0.3**
PV01	**Paradox Valley**	**15.97**	**105**	*eP*	**P**	**09 54 55.8**	**+1.1**
SDCO	**Great Sand Dun**	**18.30**	**102**	*eP*	**P**	**09 55 24.7**	**+0.6**
	11nm,1.5s						
ANMO	**Albuquerque**	**19.07**	**111**	P	**P**	**09 55 33.4**	**-0.1**
	baz=318,slow=11,SNR=5.1						
ANMO				LR	LR	10 03 22.6	
	comp=Z,382nm,19.2s,slow=38						
ANMO	**Albuquerque**	**19.07**	**111**	*eP*	**P**	**09 55 33.7**	**+0.2**
	2.5nm,1.0s						
LPM	**Los Pinos Moun**	**19.33**	**113**	*eP*	**P**	**09 55 36.5**	**0.0**
YKA	**Yellowknife Ar**	**20.16**	**19**	P	**P**	**09 55 45.9**	**+0.4**
	0.9nm,0.7s,baz=207,slow=11,SNR=18						
YKA				LR	LR	10 03 36.8	
	comp=Z,57nm,18.9s,MS3.0,baz=215,slow=37						
MNTX	**Cornudas Mount**	**21.78**	**117**	*eP*	**P**	**09 56 03.3**	**+1.0**
	2.7nm,0.9s,mb3.7						
CPRX	**Cap Rock**	**21.94**	**112**	*eP*	**P**	**09 56 04.8**	**+0.9**
CPRX				*e*		09 56 12.9	
AMTX	**Amarillo**	**22.39**	**105**	*eP*	**P**	**09 56 09.7**	**+1.2**
	11nm,1.0s,mb4.3						
ILAR	**Eielson Array**	**23.27**	**340**	P	**P**	**09 56 17.4**	**+0.7**
	0.2nm,0.7s,mb2.7,baz=147,slow=9.4,SNR=3.7						
ILAR				LR	LR	10 03 38.1	
	comp=Z,112nm,19.8s,MS3.3,baz=173,slow=32						
TXAR	**Lajitas Array**	**24.46**	**119**	P	**P**	**09 56 28.4**	**-0.1**
	0.1nm,0.6s,baz=246,slow=33,SNR=3.1						
TXAR				LR	LR	10 06 28.7	
	comp=Z,130nm,19.0s,baz=350,slow=38						
WMOK	**Wichita Mounta**	**24.50**	**102**	*eP*	**P**	**09 56 30.2**	**+1.2**
	17nm,0.9s,mb4.6						
WMOK				*eP*	P	09 56 37.0	
SONM	**Songino Array**	**76.67**	**326**	P	**P**	**10 02 59.2**	**-1.6**
	0.6nm,0.8s,mb3.6,baz=36,slow=3.4,SNR=6.1						
BVAR	**Borovoye Array**	**82.02**	**349**	P	**P**	**10 03 35.6**	**+6.0**
	0.3nm,0.5s,mb3.5,baz=18,slow=4.6,SNR=3.3						

*NEIC **23** 09:56:36.0,31.60S×71.86W,h25km,ML3.4(GUC),After GUC.*

GUC 23 09:56:36.0±0.7,31.60S×71.86W,h25km±2km,MD3.5, ML3.4,5C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.59**	**93**	⇑*iP*	Pb	09 56 47.4	-0.2
ILCH				*i* S	Sb	09 56 56.1	+0.5
ILCH				AMP		09 56 56.3	
	comp=N,2μm,0.2s						
PACH	**Papudo**	**1.00**	**159**	*i* P	Pn	09 56 53.8	-0.7
PACH				*i* S	Sb	09 57 07.1	-0.1
PTCH	**Petorca**	**1.03**	**130**	⇑*iP*	Pn	09 56 54.4	-0.6
PTCH				*i* S	Sb	09 57 08.0	-0.1
PTCH				AMP		09 57 08.5	
	comp=N,5μm,0.3s						
JACH	**Jahuel**	**1.52**	**135**	⇓*iP*	Pn	09 57 02.4	+0.5
JACH				*i* S	Sn	09 57 22.2	+1.1
ROCH	**El Roble**	**1.54**	**153**	*i* P	Pn	09 57 02.7	+0.4
ROCH				*i* S	Sn	09 57 23.2	+1.6
TLL	**Tololo Astrono**	**1.69**	**33**	⇓*iP*	Pn	09 57 04.9	+0.4
TLL				*i* S	Sn	09 57 27.6	+2.1
TLL				AMP		09 57 34.2	
	comp=E,618nm,0.4s						
LSCH	**La Serena**	**1.77**	**17**	*i* P	Pn	09 57 06.2	+0.7
LSCH				*i* S	Sn	09 57 28.5	+1.1
LSCH				AMP		09 57 34.8	
	comp=E,346nm,0.3s						
LCCH	**Las Cruces**	**1.88**	**173**	*i* P	Pn	09 57 07.8	+0.6
LCCH				*i* S	Sn	09 57 31.8	+1.4
RCDM	**Rinconada Maip**	**2.08**	**155**	*i* P	Pn	09 57 09.8	-0.2
RCDM				*i* S	Sn	09 57 35.7	+0.3
RCDM				AMP		09 57 42.4	
	comp=E,278nm,0.1s						
DSCH	**Colegio Aleman**	**2.10**	**149**	⇑*iP*	Pn	09 57 10.6	+0.3
DSCH				*i* S	Sn	09 57 37.3	+1.6
DSCH				AMP		09 57 45.8	
	comp=N,673nm,0.4s						
CLCH	**Cerro Calan**	**2.11**	**148**	⇑*iP*	Pn	09 57 10.8	+0.4
CLCH				*i* S	Sn	09 57 37.8	+1.8
CLCH				AMP		09 57 44.1	
	comp=E,490nm,0.6s						
FCH	**Farellones**	**2.17**	**143**	AMP		09 57 45.6	
	comp=E,198nm,0.1s						
TACH	**Talagante**	**2.19**	**159**	*i* P	Pn	09 57 12.0	+0.5
TACH				*i* S	Sn	09 57 39.3	+1.2
ANTU	**Antumapu**	**2.22**	**153**	AMP		09 57 49.3	
	comp=E,316nm,0.5s						
PCH	**Pirque**	**2.31**	**151**	*i* P	Pn	09 57 14.3	+1.0
PCH				*i* S	Sn	09 57 42.6	+1.5
CHCH	**Chadas Angostu**	**2.54**	**157**	*i* P	Pn	09 57 17.0	+0.5
CHCH				*i* S	Sn	09 57 48.2	+1.3
LMEL	**Las Melosas**	**2.64**	**149**	*i* P	Pn	09 57 18.5	+0.6
LMEL				*i* S	Sn	09 57 50.9	+1.4
LMEL				AMP		09 58 03.1	
	comp=N,238nm,0.2s						
ZON	**Zonda**	**2.71**	**90**	*eP*	Pn	09 57 23.0	+4.0
ZON				*eS*	Sn	09 57 59.0	+7.6
SFDO	**San Fernando**	**3.09**	**167**	⇑*iP*	Pn	09 57 24.4	0.0
SFDO				*i* S	Sn	09 58 01.7	+0.8

MAN 23 09:57:11.8,11.16N×124.65E,h7km,mb4.2,ML3.1,MS2.8, 2D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.12**	**202**	*eP*	Pg	09 57 15.8	+1.3
OCLP				*eS*	Sg	09 57 18.0	+1.7
PLP	**Palo**	**0.32**	**89**	*eP*	Pg	09 57 18.4	+0.1
PLP				*eS*	Sg	09 57 23.6	+0.9
BESP	**Borongan**	**0.89**	**60**	*eP*	Pb	09 57 28.6	-0.5
MSLP	**Maasin**	**1.04**	**169**	*eP*	Pb	09 57 32.4	+0.7
LLP	**Lapu-Lapu**	**1.08**	**219**	⇓*eP*	Pb	09 57 31.3	-1.1
LLP				*eS*	Sb	09 57 46.7	+0.3
TBP	**Tagbilaran**	**1.65**	**208**	*eP*	Pn	09 57 40.5	-1.0
TBP				*eS*	Sn	09 58 05.0	+1.8
RCP	**Roxas**	**1.91**	**282**	⇓*eP*	Pn	09 57 44.4	-0.8
RCP				*eS*	Sn	09 58 09.6	-0.1
GUIM	**Jordan**	**2.10**	**256**	*eP*	Pn	09 57 48.3	+0.5
PVCP	**Virac**	**2.47**	**349**	*eP*	Pn	09 57 54.4	+1.2
PVCP				*eS*	Sn	09 58 15.0	-8.9

IGQ 23 10:00:00.5,0.94S×81.31W,h9km±3km,mb4.5,6C-6D, Error ellipse: s-maj=6.6km s-min=3.7km az=140.0,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.78**	**98**	⇑P	Pb	10 00 14.9	-0.8
IGUA	**Igualata**	**2.73**	**102**	P	Pn	10 00 46.2	+0.9
IGUA				S	Sn	10 01 19.7	+0.9
JUA2	**San Juan 2**	**2.80**	**75**	⇓P	Pn	10 00 48.3	+2.0
TERV	**Terraza Guagua**	**2.81**	**74**	⇓P	Pn	10 00 48.0	+1.5
PINO	**Pino**	**2.82**	**74**	⇓P	Pn	10 00 47.9	+1.4
JOR1	**San Jorge 1**	**2.83**	**71**	P	Pn	10 00 48.0	+1.2
NAS1	**Nasa**	**2.85**	**84**	⇑P	Pn	10 00 49.0	+2.0
YANA	**Yana**	**2.86**	**73**	⇓P	Pn	10 00 48.5	+1.3
CUSU	**Cusua**	**2.88**	**100**	P	Pn	10 00 50.0	+2.6
JUIV	**Juive**	**2.89**	**100**	P	Pn	10 00 49.0	+1.5
ARRY	**Arrayan**	**2.91**	**101**	⇓P	Pn	10 00 49.2	+1.3
ARRY				S	Sn	10 01 23.9	+0.5
VC1	**Cotopaxi 1**	**2.93**	**84**	⇑P	Pn	10 00 50.3	+2.2
PISA	**Pisayambo**	**2.93**	**92**	P	Pn	10 00 49.9	+1.7
PISA				S	Sn	10 01 26.1	+2.3
PATA	**Patacocha**	**2.93**	**101**	P	Pn	10 00 50.1	+1.9
RUN2	**Runtun**	**2.94**	**99**	P	Pn	10 00 49.7	+1.4
ULBA	**Ulba**	**2.95**	**100**	P	Pn	10 00 50.3	+1.8
TAMB	**Tambo**	**2.96**	**85**	P	Pn	10 00 50.4	+1.9
ANTI	**Antisana**	**3.19**	**81**	⇑P	Pn	10 00 54.2	+2.4
COTA	**Cotacachi**	**3.23**	**67**	⇓P	Pn	10 00 54.4	+1.9
CAYR	**Refugio Cayamb**	**3.44**	**74**	⇑P	Pn	10 00 59.0	+3.6
CAYR				S	Sn	10 01 41.2	+4.4
CAYA	**Cayambe**	**3.47**	**73**	⇑P	Pn	10 00 59.1	+3.3
CONE	**Cono NE Rev Vo**	**3.77**	**77**	P	Pn	10 01 05.8	+5.7

IDC 23 10:01:02.1±7.6,5.62S×151.46E,h53km±65km,mb3.0/3, mb1 3.4/4,mb1mx3.3/12,mbtmp3.4/4,ML3.0/1,Error ellipse: s-maj=141.7km s-min=36.8km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.69**	**228**	P	P	10 02 24.4	-1.7
	2.7nm,0.3s,baz=151,slow=17,SNR=9.3						
PMG				S	S	10 03 28.2	-2.8
	0.3nm,0.3s,baz=150,slow=18,SNR=2.6						
WRA	**Warramunga Arr**	**21.91**	**228**	P	P	10 05 52.8	+0.3
	0.5nm,0.7s,baz=52,slow=10.0,SNR=3.5						
ASAR	**Alice Springs**	**24.66**	**222**	P	P	10 06 17.6	-1.8
	0.4nm,0.5s,baz=56,slow=9.3,SNR=7.9						
ILAR	**Eielson Array**	**83.41**	**22**	P	P	10 13 23.3	-1.6
	0.3nm,0.8s,baz=248,slow=4.8,SNR=4.4						

*IGQ **23** 10:06:01.6, 1.17S×81.24W,h20km±5km,mb5.1,Error ellipse: s-maj=10.3km s-min=5.5km az=160.1*
*BJI **23** 10:06:05.7, 1.20S×80.80W,h15km,mB5.5,Ms5.2,Msz4.9*
*HRVD **23** 10:06:07.7±0.4, 1.30S×80.89W,h24km±2km,MW5.0/50, Centroid moment Tensor Solution. LP body waves: s19,c21;Mantle waves: s50,c84; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.19±.22; $M_{\theta\theta}$2.33±.14; $M_{\phi\phi}$-3.52±.20; $M_{r\theta}$-0.10±.19; $M_{\theta\phi}$0.61±.12; $M_{\phi r}$-2.03±.32; Best double couple: $M_0$3.426×10^{16} NP1:φs306°, δ58°, λ3°. NP2:φs215°, δ87°, λ148°. Principal axes: T 2.534, Plg24°, Azm166°; N 1.784, Plg58°, Azm30°; P -4.318, Plg20°, Azm265°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 10:06:07.7±0.2, 1.20S×80.80W,mb5.1/96,MS4.3/8, MD5.1(IGQ) Error ellipse: s-maj=5.3km s-min=3.3km az=220.0*
NEIC Felt strongly at Bahia de Caraquez and Manta.
*MOS **23** 10:06:09.0±0.9, 1.14S×80.87W,h33km,mb5.4/52, MS4.3/12,Error ellipse: s-maj=9.0km s-min=5.6km az=101.7*
*IDC **23** 10:06:12.8±4.0, 1.18S×80.82W,h56km±36km,mb4.3/18, mb1 4.5/20,mb1mx4.5/24,mbtmp4.6/20,ML4.4/2,MS4.3/14, Ms1 4.3/14,ms1mx3.9/24,Error ellipse: s-maj=22.6km s-min=10.9km az=65.0*

ISC 23 10:06:06.0±0.2,1.27S±0.04×80.95W±0.02,h16km, h16km±.3km:pP-P,n346,σ1.9s05/304,mb5.0/108,MS4.4/27, 23C-17D,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.46**	**62**	⇑P	Pb	**10 06 14.7**	**-0.7**
IGUA	**Igualata**	**2.33**	**95**	⇓P	Pn	**10 06 44.9**	**+0.6**
CUSU	**Cusua**	**2.48**	**94**	⇑P	Pn	**10 06 47.5**	**+0.9**
JUIV	**Juive**	**2.49**	**94**	⇓P	Pn	**10 06 47.2**	**+0.4**
ARRY	**Arrayan**	**2.51**	**95**	⇓P	Pn	**10 06 47.5**	**+0.5**
RETU	**Refugio**	**2.51**	**94**	P	Pn	**10 06 49.2**	**+2.2**
MARY	**Rancho Maria**	**2.52**	**78**	P	Pn	**10 06 47.7**	**+0.5**
PATA	**Patacocha**	**2.53**	**95**	P	Pn	**10 06 48.6**	**+1.3**
PATA				S	Sn	**10 07 21.4**	**+3.4**
RUN2	**Runtun**	**2.54**	**93**	⇑P	Pn	**10 06 48.3**	**+0.8**
ULBA	**Ulba**	**2.55**	**94**	⇓P	Pn	**10 06 48.3**	**+0.7**
NAS1	**Nasa**	**2.56**	**76**	⇓P	Pn	**10 06 47.9**	**+0.2**
JUA2	**San Juan 2**	**2.57**	**66**	⇓P	Pn	**10 06 47.4**	**-0.5**
PISA	**Pisayambo**	**2.58**	**85**	⇓P	Pn	**10 06 48.9**	**+0.9**
TERV	**Terraza Guagua**	**2.59**	**65**	⇑P	Pn	**10 06 47.8**	**-0.3**
PINO	**Pino**	**2.59**	**65**	⇓P	Pn	**10 06 47.2**	**-0.9**
GGP	**Refugio Guagua**	**2.60**	**65**	P	Pn	**10 06 49.9**	**+1.6**
VC1	**Cotopaxi 1**	**2.63**	**76**	⇓P	Pn	**10 06 49.3**	**+0.7**
JOR1	**San Jorge 1**	**2.64**	**61**	P	Pn	**10 06 47.0**	**-1.8**
YANA	**Yana**	**2.64**	**64**	P	Pn	**10 06 47.7**	**-1.1**
TAMB	**Tambo**	**2.65**	**78**	⇓P	Pn	**10 06 49.5**	**+0.5**
ANTI	**Antisana**	**2.91**	**74**	⇓P	Pn	**10 06 53.4**	**+0.7**
OTAV	**Otavalo**	**2.92**	**59**	⇓*iP*	Pn	**10 06 51.8**	**-0.9**
COTA	**Cotacachi**	**3.06**	**59**	P	Pn	**10 06 54.6**	**-0.2**
CAYR	**Refugio Cayamb**	**3.21**	**67**	P	Pn	**10 06 58.4**	**+1.5**
CAYA	**Cayambe**	**3.25**	**66**	⇑P	Pn	**10 06 59.2**	**+1.7**
CONE	**Cono NE Rev Vo**	**3.52**	**70**	P	Pn	**10 07 04.0**	**+2.6**
PAYG	**Puerto Ayora**	**9.35**	**274**	⇓*eP*	**P**	**10 08 24.3**	**+1.0**
PTP1	**Petroterminal**	**9.52**	**351**	*eP*	**P**	**10 08 29.4**	**+3.6**
DVD	**David**	**9.75**	**351**	*eP*	**P**	**10 08 32.6**	**+3.6**
UPA	**Univ. de Panam**	**10.28**	**8**	*eP*	**P**	**10 08 39.0**	**+2.9**
BUS	**Buena Vista**	**11.11**	**345**	*eP*	**P**	**10 08 50.0**	**+2.5**
LCR2	**La Lucha 2**	**11.35**	**345**	*eP*	**P**	**10 08 52.9**	**+2.1**
NNA	**Nana**	**11.40**	**159**	Pn	**P**	**10 08 49.7**	**-1.8**
	913nm,1.0s,SNR=34						
NNA	**Nana**	**11.40**	**159**	⇑*eP*	**P**	**10 08 48.7**	**-2.9**
LAJ	**Bijagual**	**11.50**	**344**	*eP*	**P**	**10 08 54.6**	**+1.8**
ICR	**Volcan Irazu**	**11.54**	**346**	*eP*	**P**	**10 08 56.1**	**+2.8**
SJS	**Escuela Geolog**	**11.55**	**345**	*eP*	**P**	**10 08 55.4**	**+1.9**
JCR	**Jicaral**	**11.79**	**340**	*eP*	**P**	**10 09 00.8**	**+3.9**
TRTC	**Tortuguero**	**12.08**	**347**	*eP*	**P**	**10 09 03.7**	**+3.0**
JTS	**JuntasAbangare**	**12.15**	**341**	⇑*iP*	**P**	**10 09 03.6**	**+1.9**
JTS				pmax	pmax		
	comp=Z,81nm,1.1s						
JTS	**JuntasAbangare**	**12.15**	**341**	⇑*iP*	**P**	**10 09 03.5**	**+1.9**
	comp=Z,81nm,1.1s						
SDV	**Santo Domingo**	**14.41**	**45**	P	**P**	**10 09 30.6**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=250,slow=12,SNR=16						
SAML	**Samuel**	**19.26**	**114**	*eP*	**P**	**10 10 28.4**	**-4.5**
	comp=Z,99nm,1.0s						
LPAZ	**La Paz**	**19.56**	**140**	⇑*eP*	**P**	**10 10 35.5**	**-0.7**
LPAZ				pmax	pmax		
	comp=Z,158nm,1.4s						
LPAZ	**La Paz**	**19.56**	**140**	P	**P**	**10 10 35.5**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=325,slow=11,SNR=109						
LPAZ	**La Paz**	**19.56**	**140**	⇑*eP*	**P**	**10 10 35.5**	**-0.7**
	comp=Z,158nm,1.4s						
CCIG	**Comitan**	**20.64**	**328**	*i* P	**P**	**10 10 47.5**	**-0.2**
TEIG	**Tepich**	**22.53**	**342**	⇓*eP*	**P**	**10 11 06.9**	**0.0**
	comp=Z,81nm,1.2s,mb5.0						
TPP	**Pointe-a-Pierr**	**22.57**	**59**	*eP*	**P**	**10 11 07.3**	**0.0**
TPP				*i*		10 11 16.1	
TPP	**Pointe-a-Pierr**	**22.57**	**59**	*i*	**P**	**10 11 16.1**	**+8.8**
TRN	**Trinidad (W)**	**22.77**	**58**	*eP*	**P**	**10 11 09.3**	**0.0**
CMIG	**Matias Romero**	**22.84**	**324**	*i* P	**P**	**10 11 11.0**	**+1.1**
TBH	**Brigand Hill**	**22.98**	**59**	*eP*	**P**	**10 11 11.2**	**-0.2**
TPR	**Prospect**	**23.57**	**58**	*eP*	**P**	**10 11 16.3**	**-0.8**
TPR				*i*		10 11 21.7	
TPR	**Prospect**	**23.57**	**58**	*i*	**P**	**10 11 21.7**	**+4.6**
SJG	**San Juan**	**24.15**	**36**	P	**P**	**10 11 23.2**	**+0.5**
	comp=Z,28nm,0.6s,mb4.9,baz=223,slow=5.0,SNR=12						
LVC	**Limon Verde**	**24.23**	**152**	P	**P**	**10 11 25.1**	**+1.6**
	comp=Z,21nm,1.0s,mb4.5,baz=323,slow=8.1,SNR=16						
LVC				LR	LR	10 22 09.2	
	comp=Z,1μm,20.2s,MS4.3,baz=317,slow=39						
PNIG	**Pinotepa**	**24.40**	**317**	*i* P	**P**	**10 11 28.0**	**+2.8**
CAIG	**El Cayaco**	**26.34**	**315**	*i* P	**P**	**10 11 44.4**	**+1.0**
PPM	**Popocatepetl**	**26.64**	**320**	*i* P	**P**	**10 11 48.9**	**+2.7**
CPUP	**Villa Florida**	**33.73**	**140**	P	**P**	**10 12 50.7**	**+1.6**
	comp=Z,0.0nm,0.6s,baz=199,slow=15,SNR=1.8						
GOGA	**Godfrey**	**34.57**	**356**	*eP*	**P**	**10 12 54.9**	**-1.4**
GOGA				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.4						
GOGA	**Godfrey**	**34.57**	**356**	*eP*	**P**	**10 12 54.9**	**-1.4**
	comp=Z,46nm,0.9s,mb5.4						
GOGA				*e*	pP	10 12 59.6	-1.4
LRAL	**Lakeview Retre**	**34.59**	**351**	*eP*	**P**	**10 12 55.7**	**-0.8**
	comp=Z,68nm,0.9s,mb5.6						
LRAL				*e*	pP	10 13 00.5	-0.7
NATX	**Nacogdoches**	**35.33**	**340**	P	**P**	**10 13 02.0**	**-0.8**
	comp=Z,25nm,1.0s,mb5.1						
JSC	**Jenkinsville**	**35.36**	**360**	*eP*	**P**	**10 13 02.3**	**-0.8**
BAO	**Brasilia Array**	**35.51**	**115**	⇑*eP*	**P**	**10 13 03.0**	**-1.4**
BAO				*e*	pP	10 13 06.1	-3.0
MYNC	**Murphy**	**36.27**	**356**	*eP*	**P**	**10 13 09.6**	**-1.2**
MYNC				pmax	pmax		
	comp=Z,88nm,0.9s,mb5.7						
MYNC	**Murphy**	**36.27**	**356**	*eP*	**P**	**10 13 09.6**	**-1.2**
	comp=Z,88nm,0.9s,mb5.7						
MYNC				*e*	pP	10 13 14.6	-0.8
JCT	**Junction City**	**36.32**	**332**	*eP*	**P**	**10 13 12.0**	**+0.8**
JCT				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.3						
JCT				MLR	MLR		
	comp=Z,312nm,19.0s,MS4.1						
JCT	**Junction City**	**36.32**	**332**	*eP*	**P**	**10 13 12.0**	**+0.8**
	comp=Z,35nm,0.8s,mb5.3						
JCT				LR	LR		
	comp=Z,312nm,19.0s,MS4.1						
CPCT	**Cooper Cave**	**36.68**	**355**	*eP*	**P**	**10 13 13.2**	**-1.0**
CPCT				*e*	pP	10 13 18.3	-0.5
TXAR	**Lajitas Array**	**37.39**	**326**	P	**P**	**10 13 20.1**	**-0.1**
	comp=Z,4.1nm,0.8s,mb4.3,baz=145,slow=10,SNR=20						
TXAR				PcP	PcP	10 15 39.4	-0.1
	comp=Z,3.0nm,0.8s,baz=149,slow=7.3,SNR=7.2						
TXAR				LR	LR	10 27 38.3	
	comp=Z,210nm,18.1s,MS4.0,baz=75,slow=34						
TXAR	**Lajitas Array**	**37.39**	**326**	P	**P**	**10 13 20.1**	**-0.1**
TXAR				PcP	PcP	10 15 39.4	-0.1
TXAR				LR	LR	10 27 38.3	
UALR	**University of**	**37.41**	**344**	*eP*	**P**	**10 13 19.8**	**-0.5**
	comp=Z,47nm,1.1s,mb5.2						
WVT	**Waverly**	**37.75**	**351**	*eP*	**P**	**10 13 21.4**	**-1.8**
WVT				pmax	pmax		
	comp=Z,39nm,0.9s,mb5.1						
WVT	**Waverly**	**37.75**	**351**	*eP*	**P**	**10 13 21.4**	**-1.8**
	comp=Z,39nm,0.9s,mb5.1						
WVT				*e*	pP	10 13 25.6	-2.2
WMOK	**Wichita Mounta**	**39.52**	**337**	*eP*	**P**	**10 13 37.9**	**-0.1**
WMOK				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.9						
WMOK	**Wichita Mounta**	**39.52**	**337**	*eP*	**P**	**10 13 37.9**	**-0.1**
	comp=Z,24nm,1.0s,mb4.9						
USIN	**University of**	**39.53**	**352**	*eP*	**P**	**10 13 36.3**	**-1.7**
	comp=Z,106nm,1.0s,mb5.5						
USIN				*e*	pP	10 13 41.3	-1.4
WCI	**Wyandotte Cave**	**39.61**	**353**	*eP*	**P**	**10 13 36.7**	**-2.0**
WCI				pmax	pmax		
	comp=Z,51nm,0.8s,mb5.3						
WCI	**Wyandotte Cave**	**39.61**	**353**	*eP*	**P**	**10 13 36.7**	**-2.0**
	comp=Z,50nm,0.8s,mb5.3						
WCI				*e*	pP	10 13 41.6	-1.7
GDL2	**Guadalupe Moun**	**39.99**	**328**	*eP*	**P**	**10 13 43.1**	**+1.2**
FVM	**French Village**	**40.02**	**348**	*eP*	**P**	**10 13 40.9**	**-1.2**
FVM				*e*	pP	10 13 45.4	-1.4
MNTX	**Cornudas Mount**	**40.14**	**327**	*eP*	**P**	**10 13 43.5**	**+0.3**
	comp=Z,23nm,1.0s,mb4.9						
MNTX				*e*	pP	10 13 47.6	-0.2
CCM	**Cathedral Cave**	**40.27**	**347**	*eP*	**P**	**10 13 43.0**	**-1.1**
CCM				pmax	pmax		
	comp=Z,48nm,1.1s,mb5.1						
CCM				MLR	MLR		
	comp=Z,309nm,20.0s,MS4.2						
CCM	**Cathedral Cave**	**40.27**	**347**	*eP*	**P**	**10 13 43.0**	**-1.1**
	comp=Z,48nm,1.1s,mb5.1						
CCM				*e*	pP	10 13 47.4	-1.4
CCM				LR	LR		
	comp=Z,309nm,20.0s,MS4.2						
CPRX	**Cap Rock**	**40.39**	**330**	*eP*	**P**	**10 13 46.1**	**+1.0**
PLCA	**Paso Flores**	**40.40**	**168**	*eP*	**P**	**10 13 45.8**	**+0.6**
PLCA				pmax	pmax		
	comp=Z,44nm,1.3s						
PLCA	**Paso Flores**	**40.40**	**168**	P	**P**	**10 13 45.3**	**+0.1**
	comp=Z,11nm,0.9s,mb4.6,baz=344,slow=10,SNR=15						
PLCA				LR	LR	10 27 45.2	
	comp=Z,277nm,19.4s,MS4.1,baz=5.1,slow=32						
PLCA	**Paso Flores**	**40.40**	**168**	*eP*	**P**	**10 13 45.8**	**+0.6**
	comp=Z,44nm,1.3s,mb5.0						
TRQA	**Tornquist**	**40.55**	**157**	*eP*	**P**	**10 13 45.7**	**-0.8**
	comp=Z,50nm,1.1s,mb5.0						
TRQA				LR	LR		
	comp=Z,435nm,21.0s,MS4.3						
BLO	**Bloomington**	**40.57**	**353**	*eP*	**P**	**10 13 44.4**	**-2.2**
BLO				*e*	pP	10 13 49.4	-1.8
BLO				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.2						
BLO	**Bloomington**	**40.57**	**353**	*eP*	**P**	**10 13 44.4**	**-2.1**
	comp=Z,50nm,0.8s,mb5.2						
BLO				*e*	pP	10 13 49.4	-1.9
SLM	**Saint Louis**	**40.62**	**349**	*eP*	**P**	**10 13 45.9**	**-1.1**
SLM				pmax	pmax		
	comp=Z,80nm,0.9s,mb5.3						
SLM	**Saint Louis**	**40.62**	**349**	*eP*	**P**	**10 13 45.9**	**-1.1**
	comp=Z,80nm,0.9s,mb5.3						
AMTX	**Amarillo**	**40.87**	**334**	*eP*	**P**	**10 13 49.4**	**+0.3**
	comp=Z,44nm,0.8s,mb5.1						
ACSO	**Alum Creek Sta**	**41.34**	**358**	*eP*	**P**	**10 13 51.7**	**-1.2**
	comp=Z,73nm,0.8s,mb5.4						
ACSO				*e*	pP	10 13 56.4	-1.2
KSU1	**Kansas State U**	**42.67**	**342**	*eP*	**P**	**10 14 03.8**	**0.0**
KSU1				*e*	pP	10 14 08.8	+0.3
LPM	**Los Pinos Moun**	**42.82**	**328**	*eP*	**P**	**10 14 06.3**	**+1.1**
ANMO

comp=Z,141nm,20.8s,MS4.0,baz=145,slow=33
NVAR Mina Array Bea 52.37 323 P **P 10 15 19.9 +0.1**
NVAR LR LR 10 35 23.3
YFT Old Faithful 52.73 333 P **P 10 15 23.6 +1.1**
LRV Little Rabbit 52.83 319 *e*P **P 10 15 23.8 +0.4**
YMR Madison River 52.96 333 *e*P **P 10 15 24.0 -0.2**
BMN Battle Mountai 53.05 326 *e*P **P 10 15 25.2 +0.3**
BMN pmax pmax
comp=Z,15nm,1.0s,mb4.9
BMN Battle Mountai 53.05 326 *e*P **P 10 15 25.2 +0.3**
comp=Z,15nm,1.0s,mb4.9
BMN *e* pP 10 15 30.0 +0.3
QLMT Earthquake Lak 53.30 333 *e*P **P 10 15 27.6 +1.0**
CMB Columbia Colle 53.40 321 *e*P **P 10 15 26.4 -1.0**
CMB pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CMB Columbia Colle 53.40 321 *e*P **P 10 15 26.4 -1.0**
comp=Z,7.5nm,1.0s,mb4.6
DGMT Dagmar 53.49 341 *e*P **P 10 15 27.0 -1.0**
comp=Z,12nm,0.9s,mb4.8
HLID Hailey 53.76 330 *e*P **P 10 15 29.9 -0.1**
comp=Z,9.2nm,0.9s,mb4.7
WCN Washoe City 53.80 323 *e*P **P 10 15 31.0 +0.7**
MCMT McKenzie Canyo 53.94 332 *e*P **P 10 15 31.8 +0.5**
USHA Ushuaia 54.37 171 P **P 10 15 34.7 +0.4**
comp=Z,11nm,0.8s,mb4.8,baz=355,slow=11,SNR=3.5
OHCM Honcut 54.87 322 *e*P **P 10 15 38.1 -0.2**
WVOR Wild Horse Val 55.18 327 *e*P **P 10 15 39.3 -1.2**
WVOR pmax pmax
comp=Z,32nm,1.2s,mb5.2
WVOR Wild Horse Val 55.18 327 *e*P **P 10 15 39.3 -1.2**
comp=Z,32nm,1.2s,mb5.2
MOD Modoc 55.77 325 *e*P **P 10 15 44.4 -0.3**
comp=Z,7.6nm,1.0s,mb4.7
MSO Missoula 55.96 333 *e*P **P 10 15 45.7 -0.2**
comp=Z,16nm,1.4s,mb4.9
BMO Blue Mountains 56.13 329 *e*P **P 10 15 44.5 -2.8**
comp=Z,8.0nm,1.1s,mb4.7
YBH Yreka Blue Hor 57.07 324 *e*P **P 10 15 51.7 -2.3**
YBH pmax pmax
comp=Z,9.0nm,0.9s
YBH Yreka Blue Hor 57.07 324 *e*P **P 10 15 51.7 -2.3**
comp=Z,9.4nm,0.9s,mb4.8
BSMT Bassoo Peak 57.10 333 P **P 10 15 54.6 +0.4**
SCHQ Schefferville 57.11 10 P **P 10 15 51.8 -2.4**
comp=Z,4.7nm,0.8s,mb4.6,baz=350,slow=11,SNR=2.2
SCHQ LR LR 10 38 59.3
comp=Z,224nm,18.6s,MS4.3,baz=189,slow=34
BUOR Burton Butte 57.13 324 P **P 10 15 54.5 0.0**
VIPM Ingram Point 57.63 327 P **P 10 15 58.5 +0.5**
WALA Waterton Lakes 57.64 335 *e*P **P 10 15 57.7 -0.3**
comp=Z,16nm,1.0s,mb5.0
HBO Huckleberry Mo 58.15 326 P **P 10 16 01.4 -0.1**
FFC Flin Flon 58.44 346 P **P 10 16 02.5 -0.9**
comp=Z,104nm,0.8s,mb5.9,SNR=12
FFC Flin Flon 58.44 346 *e*P **P 10 16 02.4 -1.0**
FFC pmax pmax
comp=Z,53nm,1.3s,mb5.4
FFC Flin Flon 58.44 346 *e*P **P 10 16 02.4 -1.0**
comp=Z,53nm,1.3s,mb5.4
NEW Newport 58.47 332 *e*P **P 10 16 02.9 -0.8**
NEW pmax pmax
comp=Z,17nm,1.2s
NEW MLR MLR
comp=Z,342nm,21.0s
NEW Newport 58.47 332 *e*P **P 10 16 02.9 -0.8**
comp=Z,17nm,1.2s,mb5.0
NEW LR LR
comp=Z,342nm,21.0s,MS4.4
OD2 Odessa Site #2 58.60 331 P **P 10 16 04.8 +0.1**
MXC Moxie City 58.84 329 P **P 10 16 07.3 +0.9**
EBG Ellensburg 59.20 329 P **P 10 16 09.7 +0.8**
NAC Naches 59.22 329 P **P 10 16 09.8 +0.8**
EDM Edmonton 60.66 338 *e*P **P 10 16 17.5 -1.2**
FCC Fort Churchill 60.75 352 *e*P **P 10 16 17.4 -1.9**
FCC *e* pP 10 16 22.5 -1.6
FCC pmax pmax
comp=Z,57nm,1.0s,mb5.7
FCC Fort Churchill 60.75 352 *e*P **P 10 16 17.4 -1.9**
comp=Z,57nm,1.0s,mb5.7
FCC *e* pP 10 16 22.4 -1.7
BBB Bella Bella 66.34 330 P **P 10 16 57.2 +1.0**
comp=Z,25nm,0.8s,mb5.3,baz=96,slow=7.3
BBB LR LR 10 50 55.9
comp=Z,203nm,18.2s,MS4.4,baz=122,slow=40
BBB Bella Bella 66.34 330 P **P 10 16 57.2 +1.0**
BBB LR LR 10 50 55.9
CHIE El Hierro 66.90 59 P **P 10 17 02.1 +1.9**
comp=Z,42nm,0.7s,mb5.6
CCAN Las Canadas 68.19 59 P **P 10 17 09.3 +1.0**
comp=Z,1.5nm,0.6s,mb4.2
YKA Yellowknife Ar 68.47 344 P **P 10 17 08.0 -1.4**
comp=Z,18nm,1.0s,mb5.1,baz=135,slow=6.1,SNR=228
YKA LR LR 10 50 14.5
comp=Z,240nm,18.4s,MS4.5,baz=130,slow=39
YKA Yellowknife Ar 68.47 344 P **P 10 17 08.0 -1.4**
YKA LR LR 10 50 14.5
YKW3 Yellowknife Ar 68.53 344 *e*P **P 10 17 08.6 -1.2**
YKW3 *e* pP 10 17 13.6 -1.1
TBI Tubuai 69.80 246 *e*S S 10 26 57.4 +32
TBI *e*LR LR 10 38 34.4
comp=Z,197nm,30.0s
DLBC Dease Lake 70.98 335 P **P 10 17 25.4 +0.5**
comp=Z,24nm,0.8s,mb5.2,baz=140,slow=5.8,SNR=43
DLBC LR LR 10 50 29.6
comp=Z,210nm,19.2s,MS4.4,baz=85,slow=37
DLBC Dease Lake 70.98 335 *e*P **P 10 17 25.5 +0.6**
DLBC *e* pP 10 17 30.6 +0.9
RES Resolute Bay 76.31 356 *e*P **P 10 17 54.1 -1.5**
RES pmax pmax
comp=Z,12nm,0.9s,mb4.8
RES Resolute Bay 76.31 356 *e*P **P 10 17 54.1 -1.5**
comp=Z,12nm,0.9s,mb4.8
RES *e* pP 10 17 58.8 -1.8
DBIC Dimbokro 76.35 83 P **P 10 17 56.0 -0.9**
comp=Z,44nm,1.0s,mb5.3,baz=248,slow=5.9,SNR=16
DBIC LR LR 10 49 40.4
comp=Z,441nm,18.2s,MS4.8,baz=232,slow=34
DBIC Dimbokro 76.35 83 *e*P **P 10 17 55.7 -1.3**
comp=Z,94nm,1.3s,mb5.6
DBIC LR LR
comp=Z,535nm,19.0s,MS4.9
DAWY Dawson 77.86 337 *e*P **P 10 18 04.0 -0.3**
DAWY *e* pP 10 18 09.4 +0.2
INK Inuvik 78.14 342 *e*P **P 10 18 05.8 0.0**
INK *e* pP 10 18 11.3 +0.6
INK pmax pmax
comp=Z,61nm,1.1s
INK Inuvik 78.14 342 P **P 10 18 05.6 -0.2**
comp=Z,5.1nm,0.7s,mb4.5,baz=116,slow=5.0,SNR=37
INK Inuvik 78.14 342 *e*P **P 10 18 05.8 0.0**
comp=Z,61nm,1.1s,mb5.4
INK *e* pP 10 18 11.3 +0.5
SUMG Summit 78.40 12 *e*P **P 10 18 06.8 -0.4**
comp=Z,34nm,0.9s,mb5.3
EINC Incio 78.85 46 P **P 10 18 15.1 +4.8**
comp=Z,9.2nm,0.8s,mb4.8
EPON Pontenova 79.14 46 P **P 10 18 11.5 -0.3**
comp=Z,2.4nm,0.7s,mb4.2
EMIJ Mijas 79.68 53 P **P 10 18 20.6 +5.8**
comp=Z,1.2nm,0.4s,mb4.2
THY Trims Highway 80.10 336 P **P 10 18 17.0 +0.5**
THY *e* pP 10 18 22.3 +0.8
EARI Arriondas 80.52 46 P **P 10 18 22.8 +3.6**
comp=Z,1.2nm,0.5s,mb4.1
SML Sawmill 80.60 334 *e*P **P 10 18 19.2 0.0**
SML *e* pP 10 18 24.5 +0.3
ESDC Sonseca Array 80.81 50 P **P 10 18 20.3 -0.6**
comp=Z,4.4nm,0.9s,mb4.4,baz=272,slow=5.3,SNR=8.6
ESDC Sonseca Array 80.81 50 P **P 10 18 21.6 +0.8**
comp=Z,9.6nm,1.1s,mb4.6
ESLA Sonseca Array 80.81 50 *e*P **P 10 18 19.8 -1.1**
comp=Z,2.4nm,1.0s,mb4.1
GUD Guadarrama 80.82 49 P **P 10 18 26.0 +5.1**
GUD pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
GUD Guadarrama 80.82 49 P **P 10 18 25.9 +5.1**
comp=Z,1.6nm,0.8s,mb4.0
ILAR Eielson Array 81.09 337 P **P 10 18 20.6 -1.1**
comp=Z,1.2nm,0.7s,baz=125,slow=3.5,SNR=26
ILAR PP PP 10 21 29.1 -0.1
comp=Z,1.8nm,1.0s,baz=104,slow=6.8,SNR=4.7
ILAR LR LR 10 55 33.3
comp=Z,179nm,18.3s,baz=282,slow=36
EQES Quesada 81.21 52 P **P 10 18 25.1 +2.1**
comp=Z,6.8nm,0.9s,mb4.6

FIB Fire Island 81.22 333 P **P 10 18 23.0 +0.5**
FIB *e* pP 10 18 28.4 +1.0
COLA College 81.51 337⇑ *e*P **P 10 18 23.8 -0.1**
COLA College 81.51 337 *e*P **P 10 18 23.7 -0.2**
comp=Z,11nm,1.0s,mb4.8
MCK McKinley 81.54 335 *e*P **P 10 18 23.8 -0.3**
MCK *e* pP 10 18 29.2 +0.1
MCK pmax pmax
comp=Z,18nm,1.0s,mb5.0
MCK McKinley 81.54 335 *e*P **P 10 18 23.8 -0.3**
comp=Z,18nm,1.0s,mb5.0
MCK *e* pP 10 18 29.2 +0.1
ENIJ Nijar 81.77 53 P **P 10 18 31.7 +5.8**
ENIJ pmax pmax
comp=Z,11nm,0.8s,mb4.8
ENIJ Nijar 81.77 53 P **P 10 18 31.7 +5.8**
comp=Z,11nm,0.8s,mb4.8
EVIA Vianos 81.77 51 P **P 10 18 31.2 +5.3**
EVIA pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
EVIA Vianos 81.77 51 P **P 10 18 31.2 +5.3**
comp=Z,3.6nm,0.7s,mb4.4
SPU Mount Spurr 82.09 332 *e*P **P 10 18 27.9 +0.9**
SPU *e* pP 10 18 32.2 +0.2
RSO Redoubt South 82.20 332 *e*P **P 10 18 27.7 0.0**
RSO *e* pP 10 18 33.0 +0.4
EMUR La Murta 82.65 52 P **P 10 18 35.5 +5.1**
comp=Z,26nm,1.4s,mb5.1
VNA1 Neumayer--Stat 83.12 161⇑ *i*P **P 10 18 32.5 +0.3**
SJPF Ste Jean 83.36 47 *e*P **P 10 18 34.0 0.0**
comp=Z,49nm,1.1s,mb5.2
SJPF Ste Jean 83.36 47 *e*P **P 10 18 34.0 0.0**
SJPF pmax pmax
comp=Z,24nm,1.1s,mb5.1
VNA2 Neumayer--Watz 83.47 161 *e* **P 10 18 36.1 +2.1**
VNA2 Neumayer--Watz 83.47 161 *e* **P 10 18 38.5 +4.5**
VNA2 Neumayer--Watz 83.47 161⇑ *i*P **P 10 18 35.0 +1.0**
VNA2 *e* 10 18 36.1
VNA2 *e* pP 10 18 38.5 -0.5
EBEN Beniarda 83.55 51 P **P 10 18 40.7 +5.6**
comp=Z,2.4nm,0.9s,mb4.3
EMOS Mosqueruela 83.56 49 P **P 10 18 40.6 +5.5**
comp=Z,2.1nm,0.6s,mb4.4
SVW2 Sparrevohn 83.71 332 *e*P **P 10 18 34.1 -1.3**
ESAC San Caprasio 83.73 48 P **P 10 18 41.8 +5.8**
comp=Z,43nm,0.9s,mb5.6
ETSF Etsaut 83.82 47 *e*P **P 10 18 36.4 0.0**
comp=Z,23nm,0.9s,mb5.0
ETSF Etsaut 83.82 47 *e*P **P 10 18 36.4 0.0**
ETSF pmax pmax
comp=Z,11nm,0.9s,mb5.0
IMA Indian Mountai 84.20 337 *e*P **P 10 18 38.4 +0.7**
IMA pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
IMA Indian Mountai 84.20 337 *e*P **P 10 18 38.4 +0.7**
comp=Z,4.8nm,1.0s,mb4.6
ERTA Horta de San J 84.24 49 P **P 10 18 38.9 +0.3**
comp=Z,11nm,0.9s,mb5.0
EBIE Bielsa 84.30 47 P **P 10 18 39.8 +1.0**
comp=Z,12nm,0.7s,mb5.1
EBR Ebro Roquetas 84.35 49 *e*PCP PcP 10 18 41.0 -2.3
GRR Gorron 84.36 41 *e*P **P 10 18 38.4 -0.6**
comp=Z,69nm,1.2s,mb5.4
GRR Gorron 84.36 41 *e*P **P 10 18 38.4 -0.6**
GRR pmax pmax
comp=Z,35nm,1.2s,mb5.4
EPF Esparros 84.49 47 *e*P **P 10 18 39.6 -0.1**
comp=Z,49nm,1.0s,mb5.3
EPF Esparros 84.49 47 *e*P **P 10 18 39.6 -0.1**
EPF pmax pmax
comp=Z,24nm,1.0s,mb5.3
MFF Saint Martin d 84.59 43 *e*P **P 10 18 39.7 -0.5**
comp=Z,46nm,1.1s,mb5.2
MFF Saint Martin d 84.59 43 *e*P **P 10 18 39.7 -0.5**
MFF pmax pmax
comp=Z,23nm,1.1s,mb5.2
FLN La Foliniere 84.66 41 *e*P **P 10 18 40.1 -0.3**
comp=Z,77nm,1.2s,mb5.4
FLN *e*R
comp=Z,119nm,20.8s
FLN La Foliniere 84.66 41 *e*P **P 10 18 40.1 -0.3**
FLN pmax pmax
comp=Z,39nm,1.2s,mb5.4
FLN MLR MLR
comp=Z,120nm,20.8s,MS4.3
EPOB Poblet 84.84 48 P **P 10 18 45.9 +4.4**
LDF La Druitiere 84.88 41 *e*P **P 10 18 41.0 -0.5**
comp=Z,71nm,1.2s,mb5.4
LDF La Druitiere 84.88 41 *e*P **P 10 18 41.0 -0.5**
LDF pmax pmax
comp=Z,35nm,1.2s,mb5.4
LFF La Frestale 85.00 45 *e*P **P 10 18 41.8 -0.4**
comp=Z,45nm,0.8s,mb5.3
LFF La Frestale 85.00 45 *e*P **P 10 18 41.8 -0.4**
LFF pmax pmax
comp=Z,22nm,0.8s,mb5.3
SNAA Sanae 85.07 162 *e* **P 10 18 40.3 -1.7**
SNAA Sanae 85.07 162 *e* **P 10 18 42.7 +0.7**
SNAA Sanae 85.07 162 *i* P **P 10 18 42.2 +0.2**
SNAA Sanae 85.07 162 P **P 10 18 41.9 0.0**
comp=Z,1.3nm,0.7s,mb4.2,baz=264,slow=8.6,SNR=6.0
SNAA Sanae 85.07 162⇑ *i*P **P 10 18 38.9 -3.1**
SNAA *e* 10 18 40.3
DAG Danmarks Havn 85.09 12⇑ *e*P **P 10 18 41.8 -0.2**
DAG pmax pmax
comp=Z,25nm,0.7s,mb5.5
DAG Danmarks Havn 85.09 12⇑ *e*P **P 10 18 41.8 -0.2**
comp=Z,25nm,0.7s,mb5.5
DAG Danmarks Havn 85.09 12⇑ *i*P **P 10 18 41.8 -0.2**
comp=Z,25nm,0.7s,mb5.5
RJF Les Rejaudoux 85.59 45 *e*P **P 10 18 44.6 -0.6**
comp=Z,32nm,0.9s,mb5.2
RJF *e*R
comp=Z,178nm,22.5s
RJF Les Rejaudoux 85.59 45 *e*P **P 10 18 44.6 -0.6**
RJF pmax pmax
comp=Z,16nm,0.9s,mb5.2
RJF MLR MLR
comp=Z,180nm,22.5s,MS4.4
MTLF Montolieu 85.89 47 *e*P **P 10 18 46.1 -0.6**
comp=Z,31nm,1.0s,mb5.2
MTLF Montolieu 85.89 47 *e*P **P 10 18 46.1 -0.6**
MTLF pmax pmax
comp=Z,16nm,1.0s,mb5.2
CAF Calviac 85.94 45 *e*P **P 10 18 46.3 -0.6**
comp=Z,28nm,1.0s,mb5.2
CAF Calviac 85.94 45 *e*P **P 10 18 46.3 -0.6**
CAF pmax pmax
comp=Z,14nm,1.0s,mb5.2
TCF Toulx Ste Croi 86.18 44 *e*P **P 10 18 47.3 -0.8**
comp=Z,37nm,1.0s,mb5.3
TCF Toulx Ste Croi 86.18 44 *e*P **P 10 18 47.3 -0.8**
TCF pmax pmax
comp=Z,18nm,1.0s,mb5.3
BGF Bois d'Agland 86.64 43 *e*P **P 10 18 50.0 -0.3**
comp=Z,77nm,1.2s,mb5.5
BGF Bois d'Agland 86.64 43 *e*P **P 10 18 50.0 -0.3**
BGF pmax pmax
comp=Z,38nm,1.2s,mb5.5
AVF Avril sur Loir 87.01 43 *e*P **P 10 18 51.2 -0.9**
comp=Z,48nm,1.3s,mb5.3
AVF Avril sur Loir 87.01 43 *e*P **P 10 18 51.2 -0.9**
AVF pmax pmax
comp=Z,24nm,1.3s,mb5.3
SSF Saint Saulge 87.14 43 *e*P **P 10 18 51.7 -1.0**
SSF pmax pmax
comp=Z,15nm,1.1s,mb5.1
SSF Saint Saulge 87.14 43 *e*P **P 10 18 51.7 -1.0**
comp=Z,15nm,1.1s,mb5.1
SMF Signal de Mont 87.33 43 *e*P **P 10 18 52.8 -0.9**
comp=Z,26nm,1.1s,mb5.1
SMF Signal de Mont 87.33 43 *e*P **P 10 18 52.8 -0.9**
SMF pmax pmax
comp=Z,13nm,1.1s,mb5.1
VIVF Saint-Julien-l 87.78 45 *e*P **P 10 18 55.7 -0.2**
comp=Z,16nm,1.0s,mb4.9
VIVF Saint-Julien-l 87.78 45 *e*P **P 10 18 55.7 -0.2**
VIVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
GIVF Givet 88.25 40 *e*P **P 10 18 57.9 -0.1**
comp=Z,42nm,1.1s,mb5.3
GIVF Givet 88.25 40 *e*P **P 10 18 57.9 -0.1**
GIVF pmax pmax
comp=Z,21nm,1.1s,mb5.3
MEZF Maizieres J'vi 88.29 42 *e*P **P 10 18 57.9 -0.3**
comp=Z,23nm,0.9s,mb5.1

ORIF Oris-en-Rattie 88.64 45 *e*P **P 10 19 00.0 0.0**
comp=Z,22nm,0.9s,mb5.2
ORIF *e*R
comp=Z,123nm,20.5s
QSPA South Pole Qui 88.79 180⇑ *i*P **P 10 19 01.3 +1.3**
comp=Z,18nm,1.1s,mb5.3
CABF La Chapelle 88.87 44 *e*P **P 10 19 00.7 -0.4**
comp=Z,32nm,1.2s,mb5.2
CABF La Chapelle 88.87 44 *e*P **P 10 19 00.7 -0.4**
CABF pmax pmax
comp=Z,16nm,1.2s,mb5.2
FRF La Foret Royal 89.12 47 *e*P **P 10 19 01.5 -0.8**
comp=Z,54nm,1.1s,mb5.5
FRF La Foret Royal 89.12 47 *e*P **P 10 19 01.5 -0.8**
FRF pmax pmax
comp=Z,27nm,1.1s,mb5.5
HAU Haudompre 89.12 42 *e*P **P 10 19 01.6 -0.6**
HAU *e*R
comp=Z,102nm,17.8s
MBDF Montbardon 89.26 45 *e*P **P 10 19 02.9 -0.1**
comp=Z,28nm,1.1s,mb5.2
MBDF Montbardon 89.26 45 *e*P **P 10 19 02.9 -0.1**
MBDF pmax pmax
comp=Z,14nm,1.1s,mb5.2
LPG La Plagne 89.28 45 *e*P **P 10 19 03.6 +0.6**
comp=Z,20nm,1.1s,mb5.0
LPG La Plagne 89.28 45 *e*P **P 10 19 03.6 +0.6**
LPG pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
HINF Hinteralfeld 89.45 42 *e*P **P 10 19 02.9 -0.9**
SBF Sospel 89.70 46 *e*P **P 10 19 05.0 -0.1**
comp=Z,61nm,1.0s,mb5.6
SBF Sospel 89.70 46 *e*P **P 10 19 05.0 -0.1**
SBF pmax pmax
comp=Z,31nm,1.0s,mb5.6
CDF Champ du Feu 89.76 42 *e*P **P 10 19 04.6 -0.6**
NOA NORSAR Array B 92.16 29 LR LR 10 55 42.7
comp=Z,100nm,18.7s,MS4.3,baz=290,slow=32
KHC Kasperske Hory 93.93 41 *e*P **P 10 19 24.0 -0.4**
KHC *e*pP pP 10 19 28.6 -0.8
GERES GERESS Array B 94.02 41 P **P 10 19 24.1 -0.7**
comp=Z,0.5nm,0.6s,mb4.1,baz=270,slow=2.7,SNR=5.1
VNDA Vanda 94.47 191 LR LR 10 53 40.5
comp=Z,83nm,19.4s,MS4.2,baz=151,slow=30
PVCC Panska Ves 94.49 40 *e*P **P 10 19 29.9 +3.0**
PVCC *e*pP pP 10 19 34.4 +2.5
UPC Upice 95.41 40 *e*pP pP 10 19 35.1 -1.1
DPC Dobruska-Polom 95.62 40 *e*P **P 10 19 32.5 +0.4**
DPC *e*pP pP 10 19 37.0 -0.1
FINES FINESS Array B 99.21 28 P **P 10 19 47.0 -1.0**
comp=Z,0.8nm,0.6s,mb4.4,baz=239,slow=8.1,SNR=2.6
FINES LR LR 10 59 31.3
comp=Z,142nm,18.6s,MS4.5,baz=165,slow=32
BILL Bilibino 99.55 339⇑ *e*P **P 10 19 48.9 -0.6**
BILL *e* 10 23 53.4
BILL pmax pmax
comp=Z,12nm,2.1s,mb5.0
BILL MLR MLR
comp=Z,100nm,24.0s,MS4.2
KIV Kislovodsk 114.53 41 *i* PKIKP PKPdf 10 24 45.8 -3.6
KIV pmax pmax
comp=Z,7.0nm,1.2s
KIV MLR MLR
comp=Z,44nm,17.0s,MS4.1
KIV MLR MLR
comp=E,19nm,20.0s
BVAR Borovoye Array 123.19 20 PKP PKPdf 10 25 02.9 -3.0
comp=E,1.3nm,0.7s,SNR=9.2
BVAR PP PP 10 26 38.2 -8.9
comp=E,4.4nm,1.3s,baz=342,slow=4.6,SNR=3.5
NVS Novosibirsk 125.06 11 *e*PKIKP PKPdf 10 25 07.4 -2.2
KURK Kurchatov 127.78 16 *e i*PKIKP PKPdf 10 25 12.2 -2.7
KURK Kurchatov 127.78 16 *e*P PKPdf 10 25 12.1 -2.8
STKA Stephens Creek 127.96 227 *e*P PKPdf 10 25 12.8 -3.0
comp=E,3.5nm,0.7s
STKA Stephens Creek 127.96 227 PKP PKPdf 10 25 11.2 -4.7
comp=E,2.4nm,0.9s,baz=80,slow=5.5,SNR=3.7
MDJ Mudanjiang 129.07 332 PKP PKPdf 10 25 14.9 -2.7
TLY Talaya 129.62 356⇑ *i*PKIKP PKPdf 10 25 15.9 -2.5
TLY MLR MLR
comp=Z,100nm,19.0s,MS4.5
ZAK Zakamensk 130.93 356 *e*PKIKP PKPdf 10 25 17.8 -3.2
ULN Ulaanbaatar 133.07 353⇓ *i*PKIKP PKPdf 10 25 21.9 -3.2
SONM Songino Array 133.18 353 PKhKP 10 25 12.6
comp=Z,0.4nm,0.6s,baz=27,slow=5.5,SNR=3.6
SONM PKP PKPdf 10 25 22.3 -2.9
comp=Z,1.3nm,0.8s,baz=325,slow=1.6,SNR=9.2
SONM PP PP 10 27 49.0 -3.1
comp=Z,1.9nm,1.1s,baz=357,slow=4.9,SNR=4.6
AAK Ala-Archa 133.31 25⇑ *i*PKIKP PKPdf 10 25 23.1 -2.5
AAK MLR MLR
comp=Z,100nm,23.0s,MS4.5
WMQ Urumqi 136.44 12 PKP PKPdf 10 25 28.6 -2.7
WMQ PP PP 10 28 12.6 0.0
WMQ PP PP
comp=Z,34nm,11.0s
WMQ LR LR
comp=N,215nm,25.0s,MS4.9
WMQ LR LR
comp=E,223nm,27.2s,MS4.9
WMQ LR LR
comp=Z,384nm,28.9s,MS5.0
ASAR Alice Springs 138.02 232 PKhKP 10 25 21.1
comp=Z,0.5nm,0.8s,baz=115,slow=3.4,SNR=5.7
ASAR PKP PKPdf 10 25 33.1 -1.7
comp=Z,2.2nm,0.9s,baz=136,slow=3.6,SNR=9.3
ASPA Alice Springs 138.03 232 *e*P PKPdf 10 25 33.1 -1.8
BJI Beijing 138.38 340 PKP PKPdf 10 25 37.8 +2.7
BJI PP tx 10 29 07.4
WB2 Warramunga Arr 139.47 237 *e*P PKPdf 10 25 28.2 -9.4
WRAB Tennant Creek 139.48 237 *i* PKIKP PKPdf 10 25 35.0 -2.6
WRA Warramunga Arr 139.48 237 PKhKP 10 25 24.8
comp=Z,0.6nm,0.7s,baz=126,slow=2.0,SNR=8.9
WRA PKP PKPdf 10 25 34.0 -3.6
comp=Z,2.0nm,0.7s,baz=115,slow=2.0,SNR=13
SSE Sheshan 143.68 327 *e*PKP PKPdf 10 25 40.0 -4.7
SSE PP PP 10 28 57.0 -0.5
SSE SS SS 10 47 33.1 -3.6
SSE LR LR
comp=N,71nm,20.8s,MS4.5
SSE LR LR
comp=E,28nm,20.8s,MS4.5
SSE LR LR
comp=Z,69nm,17.0s,MS4.5
SSE Sheshan 143.68 327 *e*PKP PKPdf 10 25 40.6 -4.1
SSE PP PP 10 28 57.0 -0.5
NJ2 Nanjing 144.13 331 *e*PKP PKPdf 10 25 41.6 -3.8
LZH Lanzhou 145.07 353 *e*PKIKP PKPdf 10 25 43.5 -3.5
LZH 10 25 54.0
LZH 10 25 57.0
WHN Wuhan 147.46 335 PKP PKPdf 10 25 50.3 -0.9
FITZ Fitzroy Crossi 147.51 232 *e*P PKPdf 10 25 51.9 +0.3
comp=Z,20nm,0.8s
ENH Enshi 149.50 342 *e*PKPdf PKPdf 10 25 51.7 -2.7
ENH *e*PKPbc PKPdf 10 25 55.7 +1.2
KOLN Koldanda 149.78 28 *e*P PKPdf 10 25 52.4 -2.6
comp=Z,91nm,1.2s
GKN Gorkha 150.05 26 *e*P PKPdf 10 25 53.3 -2.1
comp=Z,116nm,1.1s
KKN Kakani 150.52 25 *e*P PKPdf 10 25 55.0 -1.1
comp=Z,58nm,0.7s
DMN Daman 150.60 26 *e*P PKPdf 10 25 54.1 -2.1
comp=Z,108nm,1.3s
LSA Lhasa 150.74 14 PKP PKPdf 10 25 55.6 -0.8
LSA Lhasa 150.74 14 *e*PKPbc PKPdf 10 26 00.2 +3.8
PKI Pulchoki 150.76 25 *e*P PKPdf 10 25 54.5 -2.0
comp=Z,58nm,0.9s
JIRN Jiri 151.01 24 *e*P PKPdf 10 25 54.6 -2.3
comp=Z,47nm,0.8s
HYB Hyderabad 154.24 50 *i* PKP PKPdf 10 25 58.0 -3.7
KMI Kunming 156.02 352 PKIKP PKPdf 10 26 02.2 -1.6
KMI MLR MLR
comp=Z,140nm,19.3s,MS4.8
CMAR Chiang Mai Arr 162.92 0 PKP PKPdf 10 26 09.2 -2.7
comp=Z,0.5nm,0.3s,baz=320,slow=2.0,SNR=4.9
CMAR PKPab PKPab 10 26 57.7 -2.3
comp=Z,1.3nm,0.6s,baz=347,slow=5.4,SNR=7.6
CMAR PP PP 10 30 39.9 -5.5
comp=Z,0.4nm,0.5s,baz=355,slow=7.2,SNR=4.6

*ATH **23** 10:13:26.0, 38.29N×22.17E, h96km±6km, ML3.3*
*NEIC **23** 10:13:26.0, 38.29N×22.17E, h96km, After ATH.*
*CSEM **23** 10:13:27.8±0.2, 38.25N×22.19E, h60km, ML3.3, Error ellipse: s-maj=4.9km s-min=1.4km az=54.0*

*THE **23** 10:13:29.8, 38.33N×22.26E, h72km, ML3.1*
ISC 23 10:13:27.9±0.8, 38.27N±0.03×22.23E±0.05, h80km±10km, n20, σ0§70/30, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.73**	**333**	*eP*	**P**	**10 13 44.5**	**+0.4**
EVR				*eS*	**S**	**10 13 56.0**	**-0.1**
AGG	**Agios Georgios**	**0.76**	**6**	*eP*g	**P**	**10 13 44.4**	**-0.1**
AGG				*eS*g	**S**	**10 13 56.4**	**-0.3**
MGER	**Gerania Oros**	**0.86**	**109**	*eP*	**P**	**10 13 45.5**	**0.0**
NSAL	**Nisos Salamina**	**1.04**	**110**	*eP*	**P**	**10 13 47.5**	**-0.1**
NSAL				*eS*	**S**	**10 14 02.5**	**0.0**
ITM	**Ithomi**	**1.11**	**192**	*eP*	**P**	**10 13 49.0**	**+0.5**
ITM				*eS*	**S**	**10 14 06.0**	**+2.0**
NAIG	**Nisos Aigina**	**1.12**	**116**	*eP*	**P**	**10 13 48.5**	**-0.1**
MPAR	**Parnis Oros**	**1.19**	**95**	*eP*	**P**	**10 13 50.0**	**+0.4**
MPAR				*eS*	**S**	**10 14 06.0**	**+0.1**
ATH	**Athens Observa**	**1.21**	**103**	*eP*	**P**	**10 13 50.0**	**+0.2**
ATH				*eS*	**S**	**10 14 05.6**	**-0.7**
VLS	**Valsamata**	**1.29**	**267**	*eP*	**P**	**10 13 49.0**	**-1.9**
NEO	**Neokhori**	**1.30**	**37**	*eP*	**P**	**10 13 51.8**	**+0.8**
PTL	**Penteli**	**1.31**	**99**	*eP*	**P**	**10 13 51.5**	**+0.3**
PTL				*eS*	**S**	**10 14 07.5**	**-1.1**
XOR	**Xorichti**	**1.33**	**34**	*e*Pb	**P**	**10 13 52.0**	**+0.4**
XOR				*e*Sb	**S**	**10 14 08.4**	**-0.6**
AOS	**Alonnisos**	**1.58**	**55**	*e*Pb	**P**	**10 13 55.1**	**+0.4**
VLI	**Veliai**	**1.64**	**160**	*eP*	**P**	**10 13 54.5**	**-1.1**
LIT	**Litokhoron**	**1.84**	**6**	*e*Pb	**P**	**10 13 58.2**	**0.0**
LIT				*e*Sb	**S**	**10 14 21.0**	**+0.4**
KEK	**Kerkira**	**2.38**	**308**	*eP*	**P**	**10 14 04.5**	**-1.2**
OUR	**Ouranopolis**	**2.48**	**33**	*e*Pn	**P**	**10 14 07.2**	**+0.2**
FNA	**Florina**	**2.60**	**346**	*e*Pn	**P**	**10 14 09.0**	**+0.2**
FNA				*e*Sn	**S**	**10 14 40.0**	**+0.7**
FNA	**Florina**	**2.60**	**346**	*e*Sn	**S**	**10 14 40.0**	**+0.7**
LOS	**Limnos**	**2.78**	**52**	*e*Pn	**P**	**10 14 11.7**	**+0.5**

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*IDC **23** 10:17:25.6±2.4, 53.80N×168.44W, h120km±19km, mb3.5/11, mb1 3.8/13, mb1mx3.6/23, mbtmp4.0/13, Error ellipse: s-maj=24.3km s-min=14.7km az=11.0*
*NEIC **23** 10:17:26.0±0.3, 53.71N×168.45W, h124km±2km, mb3.9/3, Error ellipse: s-maj=10.2km s-min=5.2km az=153.0*
ISC 23 10:17:24.9±0.5, 53.78N±0.09×168.48W±0.10, h128km±3km, n41, σ0§68/46, mb3.9/14, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCE	**Okmok Cone E**	**0.40**	**151**	P	**P**	**10 17 43.8**	**+0.5**
OKCE				S	**S**	**10 17 57.2**	**-0.1**
OKCD	**Okmok Cone D**	**0.41**	**147**	P	**P**	**10 17 43.9**	**+0.6**
OKCD				S	**S**	**10 17 57.6**	**+0.3**
OKER	**East Rim**	**0.41**	**141**	P	**P**	**10 17 43.8**	**+0.5**
OKFG	**Magazine Ridge**	**0.50**	**137**	P	**P**	**10 17 43.8**	**0.0**
OKFG				S	**S**	**10 17 57.2**	**-1.0**
NIKO	**Nikolski**	**0.83**	**196**	P	**P**	**10 17 46.6**	**+0.4**
NIKO				S	**S**	**10 18 01.8**	**-0.7**
MSW	**Makushin Switc**	**1.02**	**81**	P	**P**	**10 17 48.2**	**+0.3**
MTBL	**Makushin Table**	**1.08**	**79**	P	**P**	**10 17 49.2**	**+0.5**
UNV	**Unalaska Valle**	**1.18**	**86**	P	**P**	**10 17 49.4**	**-0.2**
UNV				S	**S**	**10 18 06.4**	**-1.9**
WESS	**West Dahl Sout**	**2.32**	**71**	P	**P**	**10 18 04.2**	**+0.9**
WESN	**West Dahl Nort**	**2.42**	**69**	P	**P**	**10 18 05.5**	**+0.8**
FALS	**False Pass**	**3.16**	**68**	P	**P**	**10 18 14.3**	**0.0**
DT1	**Dutton Round H**	**3.86**	**67**	P	**P**	**10 18 23.9**	**+0.2**
DTNA	**Dutton South F**	**3.89**	**67**	P	**P**	**10 18 24.4**	**+0.3**
DOL	**Dolgoi Island**	**4.10**	**68**	P	**P**	**10 18 27.2**	**+0.3**
HAG	**Hague Volcano**	**4.13**	**65**	P	**P**	**10 18 27.9**	**+0.6**
SDPT	**Sand Point**	**4.92**	**68**	P	**P**	**10 18 37.4**	**-0.5**
FX1	**Attu Island--F**	**11.01**	**273**	P	**P**	**10 19 59.6**	**+0.2**
	4.1nm,0.3s,baz=65,slow=19,SNR=2.2						
ILAR	**Eielson Array**	**15.49**	**36**	P	**P**	**10 20 56.6**	**-0.4**
	0.4nm,0.3s,baz=240,slow=11,SNR=26						
ILAR				ScP		10 29 12.3	
	0.0nm,0.3s,baz=288,slow=3.9,SNR=4.5						
DLBC	**Dease Lake**	**21.73**	**62**	P	**P**	**10 22 06.0**	**-0.2**
	2.2nm,0.8s,mb3.6,baz=211,slow=13,SNR=2.5						
INK	**Inuvik**	**21.88**	**35**	P	**P**	**10 22 07.5**	**-0.3**
	2.1nm,0.4s,mb3.9,baz=194,slow=8.4,SNR=28						
INK				PcP	PcP	10 26 02.7	-1.1
	1.4nm,0.9s,baz=145,slow=9.6,SNR=3.4						
INK	**Inuvik**	**21.88**	**35**	*e*P	**P**	**10 22 07.0**	**-0.7**
YKA	**Yellowknife Ar**	**28.92**	**51**	P	**P**	**10 23 11.9**	**-1.5**
	0.3nm,0.6s,mb3.1,baz=273,slow=7.7,SNR=8.1						
YKA				PcP	PcP	10 26 19.1	-0.3
	0.1nm,0.5s,baz=285,slow=2.6,SNR=4.7						
YKA				ScP		10 29 48.4	
	0.2nm,0.5s,baz=283,slow=3.2,SNR=9.8						
EDM	**Edmonton**	**32.10**	**68**	*e*P	**P**	**10 23 40.2**	**-1.3**
NEW	**Newport**	**32.18**	**79**	*e*P	**P**	**10 23 42.5**	**+0.3**
WALA	**Waterton Lakes**	**33.64**	**75**	P	**P**	**10 23 56.6**	**+1.8**
HLID	**Hailey**	**36.31**	**84**	*e*P	**P**	**10 24 17.8**	**+0.4**
	0.7nm,0.4s,mb3.9						
MCMT	**McKenzie Canyo**	**36.50**	**81**	*e*P	**P**	**10 24 19.1**	**+0.1**
NVAR	**Mina Array Bea**	**37.18**	**94**	P	**P**	**10 24 25.1**	**+0.2**
	1.7nm,0.6s,mb4.1,baz=307,slow=7.4,SNR=20						
FFC	**Flin Flon**	**37.55**	**61**	P	**P**	**10 24 28.9**	**+1.2**
BW06	**Boulder Array**	**39.64**	**81**	P	**P**	**10 24 46.2**	**+1.0**
PDAR	**Pinedale Array**	**39.64**	**81**	P	**P**	**10 24 45.3**	**+0.1**
	1.0nm,0.7s,mb3.7,baz=300,slow=6.0,SNR=7.6						
PV01	**Paradox Valley**	**43.15**	**86**	*e*P	**P**	**10 25 13.5**	**-0.4**
MNTX	**Cornudas Mount**	**49.48**	**90**	*e*P	**P**	**10 26 03.4**	**-0.4**
	1.9nm,0.5s,mb4.3						
WMOK	**Wichita Mounta**	**51.24**	**82**	*e*P	**P**	**10 26 16.2**	**-0.9**
	0.8nm,0.6s,mb3.9						
TXAR	**Lajitas Array**	**52.21**	**91**	P	**P**	**10 26 24.0**	**-0.5**
	2.1nm,0.4s,mb4.5,baz=298,slow=5.8,SNR=42						
ARCES	**ARCESS Array B**	**56.58**	**354**	P	**P**	**10 26 55.7**	**+0.1**
	2.1nm,0.8s,mb4.2,baz=18,slow=5.7,SNR=3.7						
ARCES	**ARCESS Array B**	**56.58**	**354**	P	**P**	**10 26 55.7**	**+0.1**
BVAR	**Borovoye Array**	**62.87**	**324**	P	**P**	**10 27 38.8**	**-0.1**
	0.4nm,0.4s,mb3.7,baz=44,slow=6.2,SNR=7.1						
BVAR				PcP	PcP	10 28 13.8	-1.9
	0.8nm,0.6s,baz=76,slow=6.1,SNR=4.1						
FINES	**FINESS Array B**	**64.55**	**352**	P	**P**	**10 27 49.2**	**-0.4**
	1.9nm,1.0s,mb3.9,baz=27,slow=8.5,SNR=8.1						
AKASG	**Malin Array Be**	**74.84**	**348**	P	**P**	**10 28 51.5**	**-0.7**
	1.1nm,0.6s,mb3.8,baz=16,slow=5.8,SNR=5.4						
WRA	**Warramunga Arr**	**88.29**	**232**	P	**P**	**10 30 02.9**	**+0.1**
	0.4nm,1.0s,mb3.4,baz=38,slow=6.1,SNR=5.3						

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*IDC **23** 10:27:22.2±1.0, 10.89N×140.72E, mb3.6/7, mb1 3.8/7, mb1mx3.7/19, mbtmp3.6/7, MS3.4/1, Ms1 3.4/1, ms1mx2.6/21, Error ellipse: s-maj=49.1km s-min=20.9km az=92.0*
*NEIC **23** 10:27:24.0±0.6, 10.92N×140.62E, h10km, mb4.6/2, Error ellipse: s-maj=29.9km s-min=10.8km az=86.0*
ISC 23 10:27:22.3±0.7, 10.87N±0.10×140.6E±0.3, h10km, n10, σ0§38/10, mb3.8/9, MS3.3/1, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**21.17**	**162**	*eP*	**P**	**10 32 10.8**	**+0.6**
	26nm,1.2s,mb4.4						
WRAB	**Tennant Creek**	**31.22**	**191**	*eP*	**P**	**10 33 44.3**	**0.0**
	14nm,1.3s,mb4.7						
WRA	**Warramunga Arr**	**31.23**	**191**	P	**P**	**10 33 44.4**	**-0.1**
	0.7nm,0.9s,mb3.5,baz=13,slow=9.7,SNR=3.4						
ASAR	**Alice Springs**	**34.94**	**191**	P	**P**	**10 34 16.3**	**-0.3**
	0.2nm,0.6s,mb3.3,baz=18,slow=12,SNR=3.2						
ASAR				LR	LR	10 48 58.1	
	comp=Z,57nm,18.9s,MS3.3,baz=53,slow=37						
SONM	**Songino Array**	**46.70**	**329**	P	**P**	**10 35 53.9**	**+0.8**
	0.2nm,0.4s,mb3.4,baz=124,slow=5.2,SNR=3.0						
BVAR	**Borovoye Array**	**69.50**	**323**	P	**P**	**10 38 33.0**	**-0.1**
	0.6nm,0.6s,mb3.7,baz=117,slow=9.7,SNR=4.0						
ILAR	**Eielson Array**	**72.80**	**25**	P	**P**	**10 38 52.5**	**-0.2**
	0.3nm,0.7s,mb3.4,baz=246,slow=5.1,SNR=6.7						
YKA	**Yellowknife Ar**	**87.16**	**27**	P	**P**	**10 40 09.5**	**-0.1**
	0.2nm,0.4s,mb3.7,baz=289,slow=5.1,SNR=4.1						
YKA	**Yellowknife Ar**	**87.16**	**27**	P	**P**	**10 40 09.5**	**-0.1**
FINES	**FINESS Array B**	**91.81**	**334**	P	**P**	**10 40 30.9**	**-0.5**
	1.0nm,0.6s,mb4.3,baz=72,slow=6.0,SNR=7.4						

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*IDC **23** 10:32:09.4±1.5, 5.65N×93.06E, mb3.6/6, mb1 3.8/7, mb1mx3.7/19, mbtmp3.6/7, ML4.3/1, Error ellipse: s-maj=54.5km s-min=22.3km az=58.0*
*NEIC **23** 10:32:13.9±0.7, 5.64N×93.08E, h30km, mb3.9/2, Error ellipse: s-maj=23.1km s-min=10.9km az=64.0*
ISC 23 10:32:12.1±1.1, 5.7N±0.1×93.1E±0.2, h30km, n9, σ0§50/9, mb3.7/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.93**	**24**	Pn	**P**	**10 35 30.3**	**+0.3**
	0.4nm,0.3s,baz=215,slow=11,SNR=4.2						
SONM	**Songino Array**	**43.52**	**13**	P	**P**	**10 40 14.4**	**-0.4**
	0.3nm,0.7s,mb3.1,baz=180,slow=5.8,SNR=3.1						
WRA	**Warramunga Arr**	**47.86**	**123**	P	**P**	**10 40 49.4**	**-0.2**
	0.7nm,0.7s,mb3.8,baz=302,slow=9.0,SNR=6.6						
WRAB	**Tennant Creek**	**47.86**	**123**	P	**P**	**10 40 49.5**	**-0.2**
	0.7nm,0.5s,mb4.0						
ZAL	**Zalesovo**	**48.60**	**353**	P	**P**	**10 40 55.5**	**+0.6**
	0.7nm,0.4s,mb4.1,baz=61,slow=3.4,SNR=3.6						
ASAR	**Alice Springs**	**49.33**	**128**	P	**P**	**10 41 01.3**	**+0.4**
	0.4nm,0.7s,mb3.6,baz=304,slow=7.1,SNR=4.7						
BVAR	**Borovoye Array**	**50.76**	**342**	P	**P**	**10 41 10.5**	**-0.9**
	0.3nm,0.6s,mb3.4,baz=144,slow=12,SNR=3.1						
CHKZ	**Chkalovo**	**51.26**	**343**	*eP*	**P**	**10 41 14.9**	**-0.3**
	1.3nm,0.8s,mb3.9						
GERES	**GERESS Array B**	**78.79**	**319**	P	**P**	**10 44 14.4**	**+0.7**
	0.2nm,0.5s,mb3.4,baz=90,slow=5.9,SNR=6.1						

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*IDC **23** 10:38:18.0±2.2, 24.02S×179.91E, h518km±23km, mb3.3/9, mb1 3.5/10, mb1mx3.3/18, mbtmp4.2/10, Error ellipse: s-maj=30.6km s-min=17.0km az=162.0*
*NEIC **23** 10:38:20.7±2.9, 24.13S×179.83E, h557km±39km, mb4.4/2, Error ellipse: s-maj=32.6km s-min=13.0km az=185.0*
ISC 23 10:38:18.5±4.2, 23.9S±0.1×179.7E±0.1, h534km±53km, n15, σ0§81/16, mb3.9/11, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.53**	**188**	P	**P**	**10 41 22.3**	**-1.0**
	0.6nm,0.3s,baz=328,slow=9.5,SNR=5.7						
URZ				S	**S**	**10 43 53.2**	**+0.9**
	0.2nm,0.3s,baz=120,slow=14,SNR=2.1						
CTA	**Charters Tower**	**31.24**	**270**	P	**P**	**10 43 56.8**	**+0.9**
	6.5nm,0.4s,mb4.5,baz=88,slow=11,SNR=20						
CTAO	**Charters Tower**	**31.24**	**270**	*eP*	**P**	**10 43 56.4**	**+0.5**
	8.6nm,0.5s,mb4.5						
PMG	**Port Moresby**	**34.26**	**289**	P	**P**	**10 44 23.2**	**+1.8**
	8.3nm,0.7s,mb4.4,baz=112,slow=13,SNR=3.1						
STKA	**Stephens Creek**	**34.52**	**248**	P	**P**	**10 44 24.3**	**+0.9**
	0.6nm,0.3s,mb3.6,baz=100,slow=6.1,SNR=2.8						
ASAR	**Alice Springs**	**41.81**	**261**	P	**P**	**10 45 22.9**	**+0.1**
	2.0nm,0.4s,mb4.0,baz=97,slow=7.4,SNR=39						
ASAR				ScP		10 50 07.5	
	1.5nm,1.1s,baz=97,slow=4.6,SNR=6.6						
ASPA	**Alice Springs**	**41.81**	**261**	*eP*	**P**	**10 45 22.8**	**0.0**
WB2	**Warramunga Arr**	**42.16**	**266**	*i*P	**P**	**10 45 25.2**	**-0.5**
WRAB	**Tennant Creek**	**42.17**	**266**	*eP*	**P**	**10 45 25.1**	**-0.6**
	7.2nm,0.3s,mb4.7						
WRA	**Warramunga Arr**	**42.17**	**266**	P	**P**	**10 45 25.3**	**-0.4**
	3.7nm,0.3s,mb4.3,baz=96,slow=8.4,SNR=270						
WRA				ScP		10 50 09.6	
	0.6nm,0.7s,baz=95,slow=3.5,SNR=4.9						
KAKA	**Kakadu**	**46.07**	**275**	*i*P	**P**	**10 45 55.2**	**-1.0**
	2.9nm,0.3s,mb4.3						
NWAO	**Narrogin (SRO)**	**55.04**	**246**	P	**P**	**10 47 00.5**	**-1.1**
	3.1nm,0.7s,mb3.7,baz=324,slow=17,SNR=2.9						
NVAR	**Mina Array Bea**	**84.88**	**44**	P	**P**	**10 49 58.5**	**+0.6**
	0.4nm,0.7s,mb3.1,baz=221,slow=8.3,SNR=2.9						
TXAR	**Lajitas Array**	**90.61**	**58**	P	**P**	**10 50 24.6**	**-0.4**
	0.4nm,0.7s,mb3.5,baz=225,slow=7.1,SNR=5.7						
ANMO	**Albuquerque**	**91.12**	**52**	P	**P**	**10 50 27.3**	**+0.1**
	0.3nm,0.6s,mb3.4,baz=321,slow=16,SNR=2.5						

IDC 23 10:40:52.5±4.2, 35.68S×79.58E, mb3.8/3, mb1 4.0/3, mb1mx3.7/13, mbtmp3.8/3, MS4.0/1, Ms1 4.0/1, ms1mx2.8/18, Error ellipse: s-maj=203.7km s-min=54.8km az=23.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**48.15**	**91**	P	P	10 49 33.7	-2.7
	1.8nm,1.0s,baz=241,slow=5.8,SNR=3.9						
WRA	**Warramunga Arr**	**50.30**	**87**	P	P	10 49 51.2	-1.8
	1.0nm,1.0s,baz=236,slow=7.5,SNR=3.6						
STKA	**Stephens Creek**	**50.94**	**105**	P	P	10 49 56.2	-1.5
	2.5nm,0.8s,baz=236,slow=7.3,SNR=4.4						
CTA	**Charters Tower**	**59.92**	**94**	LR	LR	11 12 53.9	
	comp=Z,122nm,20.3s,baz=225,slow=32						
YKA	**Yellowknife Ar**	**151.74**	**14**	PKPbc	PKPdf	11 00 47.9	+4.5
	0.1nm,0.6s,baz=326,slow=3.0,SNR=4.2						

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*IDC **23** 10:42:23.2±1.0, 11.34N×92.72E, mb3.6/6, mb1 3.7/7, mb1mx3.6/19, mbtmp3.5/7, ML3.9/1, Error ellipse: s-maj=44.3km s-min=20.9km az=57.0*
*NEIC **23** 10:42:25.9±0.9, 11.14N×92.22E, h30km, mb4.2/4, Error ellipse: s-maj=24.9km s-min=14.9km az=72.0*
ISC 23 10:42:22.6±0.9, 11.1N±0.1×92.0E±0.1, h30km, n13, σ1§10/12, mb3.8/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.94**	**41**	Pn	**P**	**10 44 45.2**	**-1.5**
	0.3nm,0.3s,baz=236,slow=14,SNR=2.5						
HYB	**Hyderabad**	**14.52**	**297**	*i* P	**P**	**10 45 47.0**	**-1.2**
LSA	**Lhasa**	**18.58**	**358**	*eP*	**P**	**10 46 40.1**	**+0.6**
	3.4nm,0.4s						
ENH	**Enshi**	**25.08**	**38**	*eP*	**P**	**10 47 46.9**	**+0.7**
	3.7nm,0.7s,mb4.0						
SONM	**Songino Array**	**38.60**	**16**	P	**P**	**10 49 44.0**	**-0.8**
	1.4nm,1.1s,mb3.6,baz=208,slow=8.6,SNR=5.4						
ZAL	**Zalesovo**	**43.16**	**354**	P	**P**	**10 50 24.4**	**+2.1**
	0.8nm,0.3s,mb3.9,baz=314,slow=12,SNR=2.9						
BVAR	**Borovoye Array**	**45.34**	**342**	P	**P**	**10 50 41.2**	**+1.5**
	0.5nm,0.6s,mb3.5,baz=146,slow=5.2,SNR=2.9						
CHKZ	**Chkalovo**	**45.83**	**342**	*eP*	**P**	**10 50 42.4**	**-1.2**
	2.9nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**51.79**	**126**	P	**P**	**10 51 30.0**	**-0.1**
	0.2nm,0.4s,mb3.4,baz=301,slow=9.9,SNR=11						
WRAB	**Tennant Creek**	**51.79**	**126**	*eP*	**P**	**10 51 29.6**	**-0.6**
	4.1nm,0.8s,mb4.4						
ASAR	**Alice Springs**	**53.53**	**130**	P	**P**	**10 51 43.9**	**+0.8**
	0.3nm,0.5s,mb3.5,baz=307,slow=7.3,SNR=4.0						
ASAR				PcP	PcP	10 52 52.7	+3.1
	0.7nm,0.8s,baz=323,slow=4.5,SNR=2.6						
BRTR	**Keskin Array B**	**58.81**	**310**	P	**P**	**10 52 26.6**	**+5.9**
	0.2nm,0.5s,mb3.4,baz=103,slow=4.0,SNR=2.6						
CPUP	**Villa Florida**	**147.36**	**238**	PKPbc	PKPdf	11 02 10.1	+3.3
	0.0nm,0.3s,baz=234,slow=20,SNR=2.1						

JMA 23 10:48:40.9±0.2, 37.96N×144.46E, h60km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.46**	**298**	P	P	10 49 19.7	+0.2
OFUJ				*e*S	S	10 49 49.2	+0.8
JIO	**Ouri**	**2.50**	**282**	P	P	10 49 20.3	+0.2
JIO				*e*S	S	10 49 49.2	-0.3
MIYJ	**Miyakonagasawa**	**2.62**	**309**	P	P	10 49 21.6	-0.2
MIYJ				*e*S	S	10 49 52.7	+0.2
JMK	**Ichinoseki**	**2.73**	**292**	P	P	10 49 23.6	+0.2
JMK				*e*S	S	10 49 56.8	+1.5
JOT	**Ohata**	**4.31**	**323**	P	P	10 49 45.1	-0.5
JOT				*e*S	S	10 50 32.3	-2.9
JCH	**Churui**	**4.72**	**350**	P	P	10 49 49.1	-2.3
JCH				*e*S	S	10 50 38.7	-6.8
JKB	**Kayabe**	**4.72**	**327**	P	P	10 49 50.9	-0.5
JKB				*e*S	S	10 50 42.8	-2.7
JRY	**Ryogami san**	**4.85**	**248**	P	P	10 49 52.3	-0.9
JRY				*e*S	S	10 50 44.6	-4.1
JOD2	**Odawara 2**	**5.09**	**240**	*e*S	S	10 50 50.5	-4.1
NEM2	**Nemuro 2**	**5.49**	**10**	P	P	10 49 57.0	-4.9
NEM2				*e*S	S	10 50 54.8	-10
JTKR	**Abashiri--Toko**	**6.02**	**356**	P	P	10 50 06.9	-2.4
JTKR				*e*S	S	10 51 10.3	-7.5

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*NIED **23** 11:11:00, 34.10N×141.80E, h8km, Mw3.9 Best double couple: M0 9.17×10^14 NP1:φs 39°, δ61°, λ119°. NP2:φs 170°, δ40°, λ48°.*
*MOS **23** 11:11:50.2±1.6, 34.19N×141.67E, h10km, mb4.3/14, Error ellipse: s-maj=17.2km s-min=8.4km az=108.0*
*IDC **23** 11:11:51.0±0.7, 34.11N×141.56E, mb3.9/15, mb1 4.1/17, mb1mx4.1/24, mbtmp4.0/17, ML4.1/2, MS3.5/1, Ms1 3.5/1, ms1mx2.5/30, Error ellipse: s-maj=20.7km s-min=14.7km az=119.0*
*JMA **23** 11:11:52.1±0.3, 34.11N×141.79E, h36km±4km, M4.0*
*NEIC **23** 11:11:54.6±0.5, 34.06N×141.45E, mb4.3/7, Error ellipse: s-maj=12.1km s-min=10.0km az=68.0*
ISC 23 11:11:52.5±1.2, 34.10N±0.04×141.72E±0.05, h26km±8km, n69, σ0§97/83, mb4.2/25, 4C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.82**	**312**	⇑P	**Pb**	**11 12 08.0**	**0.0**
BSO3	**Boso 3**	**1.22**	**305**	⇓P	**Pn**	**11 12 14.3**	**+0.3**
BSO3				*e*S	**Sn**	**11 12 31.6**	**+1.9**
BSO4	**Boso 4**	**1.44**	**308**	⇑P	**Pn**	**11 12 18.0**	**+0.8**
BSO4				*e*S	**Sn**	**11 12 37.8**	**+2.4**
JHJ2	**Mitsune**	**1.87**	**239**	P	**Pn**	**11 12 24.4**	**+1.1**
JHJ2				*e*S	**Sn**	**11 12 46.5**	**+0.2**
JHJ	**Hachijo jima 2**	**1.89**	**239**	Pn	**Pn**	**11 12 24.2**	**+0.6**
	212nm,0.3s,baz=153,slow=5.7,SNR=62						
JHJ				Sn	**Sn**	**11 12 47.8**	**+1.0**
	232nm,0.3s,baz=244,slow=24,SNR=11						
JIM2	**Oshima 3**	**1.99**	**289**	P	**Pn**	**11 12 24.5**	**-0.5**
JIM2				*e*S	**Sn**	**11 12 49.1**	**-0.2**
JIZS	**Izushimoda**	**2.42**	**285**	P	**Pn**	**11 12 30.9**	**-0.4**
JIZS				*e*S	**Sn**	**11 13 00.4**	**0.0**
JOD2	**Odawara 2**	**2.46**	**299**	P	**Pn**	**11 12 30.9**	**-0.8**
JOD2				*e*S	**Sn**	**11 13 00.7**	**-0.5**
JYN	**Shimob**	**2.96**	**299**	P	**Pn**	**11 12 38.1**	**-0.8**
JYN				*e*S	**Sn**	**11 13 14.5**	**+0.6**
JAG	**Ashikaga**	**2.96**	**322**	⇑P	**Pn**	**11 12 38.7**	**-0.3**
JAG				*e*S	**Sn**	**11 13 12.5**	**-1.6**
JRY	**Ryogami san**	**3.00**	**310**	P	**Pn**	**11 12 38.9**	**-0.5**
JRY				*e*S	**Sn**	**11 13 16.0**	**+1.1**
SHZ3	**Shizuoka 3**	**3.05**	**289**	P	**Pn**	**11 12 41.2**	**+1.0**
MAJO	**Matsushiro**	**3.76**	**311**	*eP*	**Pn**	**11 12 50.3**	**0.0**
MAT	**Matsushiro**	**3.76**	**311**	*eP*	**Pn**	**11 12 50.0**	**-0.3**
MAT				*e*S	**Sn**	**11 13 33.0**	**-1.3**
MAT	**Matsushiro**	**3.76**	**311**	P	**Pn**	**11 12 49.8**	**-0.5**
MAT				S	**Sn**	**11 13 32.7**	**-1.6**
CBIJ	**Chichi jima**	**7.00**	**177**	Pn	**Pn**	**11 13 35.1**	**-0.8**
	15nm,0.3s,baz=258,slow=22,SNR=8.5						
CBIJ				Sn	**Sn**	**11 14 49.6**	**-5.9**
	17nm,0.3s,baz=290,slow=21,SNR=4.4						
CBIJ				LR	LR	11 15 19.3	
	comp=Z,369nm,19.6s,baz=97,slow=30						
ERM	**Erimo**	**7.98**	**8**	*eP*	**Pn**	**11 13 51.8**	**+2.1**
ERM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ERM	**Erimo**	**7.98**	**8**	*eP*	**Pn**	**11 13 51.8**	**+2.0**
	comp=Z,2.3nm,0.6s						
ASAJ	**Asahikawa**	**10.02**	**4**	P	**P**	**11 14 13.4**	**-4.5**
ASAJ						11 16 01.4	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.02**	**4**	Pn	**P**	**11 14 13.3**	**-4.6**
	comp=N,1.3nm,0.3s,baz=219,slow=6.5,SNR=8.2						
ASAJ				Sn	**S**	**11 16 01.4**	**-9.2**
	comp=N,0.5nm,0.3s,baz=314,slow=30,SNR=4.6						
YSS	**Yuzh-Sakhalins**	**12.86**	**3**	*eP*	**P**	**11 14 51.8**	**-4.6**
YSS				pmax	pmax		
	comp=Z,5.0nm,0.5s						
YSS	**Yuzh-Sakhalins**	**12.86**	**3**	*eP*	**P**	**11 14 51.8**	**-4.5**
	comp=Z,5.0nm,0.5s						
HIA	**Hailar**	**22.22**	**320**	*eP*	**P**	**11 16 46.1**	**-2.3**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HIA	**Hailar**	**22.22**	**320**	*eP*	**P**	**11 16 46.1**	**-2.3**
	comp=Z,6.4nm,0.9s,mb4.0						
ULN	**Ulaanbaatar**	**29.29**	**308**	*eP*	**P**	**11 17 54.7**	**0.0**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.3						
ULN	**Ulaanbaatar**	**29.29**	**308**	*eP*	**P**	**11 17 54.7**	**0.0**
	comp=Z,6.8nm,1.2s,mb4.2						
SONM	**Songino Array**	**29.71**	**308**	P	**P**	**11 17 58.5**	**0.0**
	comp=Z,2.7nm,0.6s,mb4.1,baz=104,slow=8.7,SNR=28						
BOD	**Bodaibo**	**30.16**	**330**	*eP*	**P**	**11 17 58.7**	**-3.7**
ZAK	**Zakamensk**	**32.34**	**312**	⇑*i*P	**P**	**11 18 21.6**	**0.0**
CMAR	**Chiang Mai Arr**	**41.08**	**259**	P	**P

GERES	**GERESS Array B**	**85.33 329**	P	**P**	**11 24 28.8**	**+0.6**
GERES			pmax	pmax		
comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**85.33 329**	P	**P**	**11 24 28.8**	**+0.6**
comp=Z,0.7nm,0.7s,mb3.9,baz=18,slow=4.2,SNR=5.1						

*NEIC **23** 11:14:27.4±2.4, 8.44S×118.35E, h80km±22km, mb4.1/3, Error ellipse: s-maj=18.7km s-min=12.5km az=67.0*
*IDC **23** 11:14:34.2±2.4, 8.44S×118.62E, h142km±20km, mb3.8/7, mb1 3.9/8, mb1mx3.7/16, mbtmp4.2/8, Error ellipse: s-maj=27.1km s-min=12.4km az=51.0*
ISC 23 11:14:24.1±2.9, 8.4S±0.1×118.4E±0.1, h69km±27km, n14, σ0°51/15, mb4.0/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBWA	**Marble Bar**	**12.79**	**174**	*e*Pn	**P**	**11 17 25.2**	**+0.4**
WRA	**Warramunga Arr**	**19.25**	**128**	P	**P**	**11 18 45.5**	**-0.2**
1.2nm,0.3s,baz=302,slow=12,SNR=77							
WRA				S	**S**	**11 22 13.9**	**-0.3**
0.2nm,0.3s,baz=300,slow=26,SNR=3.1							
WRA				ScP		11 26 26.1	
0.1nm,0.3s,baz=323,slow=2.1,SNR=5.8							
WRAB	**Tennant Creek**	**19.25**	**128**	*e*P	**P**	**11 18 45.4**	**-0.3**
16nm,0.8s							
ASAR	**Alice Springs**	**21.26**	**138**	P	**P**	**11 19 07.2**	**+0.6**
4.5nm,0.4s,mb4.2,baz=310,slow=9.1,SNR=234							
ASAR				S	**S**	**11 22 55.0**	**+1.2**
1.8nm,0.9s,baz=308,slow=21,SNR=4.4							
ASAR				ScP		11 26 31.1	
0.4nm,0.4s,baz=325,slow=2.0,SNR=4.7							
NWAO	**Narrogin (SRO)**	**24.48**	**182**	P	**P**	**11 19 38.0**	**-0.1**
5.3nm,0.5s,mb4.2,baz=347,slow=11,SNR=9.2							
NWAO	**Narrogin (SRO)**	**24.48**	**182**	*e*P	**P**	**11 19 37.6**	**-0.4**
6.6nm,0.8s,mb4.0							
STKA	**Stephens Creek**	**31.82**	**141**	P	**P**	**11 20 44.2**	**-0.3**
2.2nm,0.5s,mb4.1,baz=316,slow=14,SNR=9.0							
STKA	**Stephens Creek**	**31.82**	**141**	*e*P	**P**	**11 20 44.1**	**-0.4**
SONM	**Songino Array**	**56.95**	**350**	P	**P**	**11 24 04.9**	**+0.2**
0.6nm,0.5s,mb3.9,baz=174,slow=8.7,SNR=5.8							
ZAL	**Zalesovo**	**68.23**	**339**	P	**P**	**11 25 20.3**	**+0.9**
0.5nm,0.3s,mb3.8,baz=331,slow=11,SNR=3.3							
MAW	**Mawson**	**69.64**	**200**	P	**P**	**11 25 27.8**	**-0.1**
1.8nm,0.8s,mb4.0,baz=85,slow=12,SNR=2.9							
VNDA	**Vanda**	**72.71**	**171**	P	**P**	**11 25 45.7**	**-0.4**
3.9nm,1.2s,mb4.1,baz=329,slow=12,SNR=7.4							
CHKZ	**Chkalovo**	**73.77**	**333**	P	**P**	**11 25 51.9**	**-0.8**
2.3nm,1.3s,mb3.8							
CPUP	**Villa Florida**	**145.28**	**187**	PKPbc	PKPbc	11 33 56.5	+1.4
0.0nm,0.3s,baz=202,slow=5.4,SNR=1.7							

*CSEM **23** 11:19:12.1±0.1, 44.48N×6.85E, h9km, ML2.6/12, Error ellipse: s-maj=1.7km s-min=1.2km az=68.0*
*GEN **23** 11:19:12.2, 44.47N×6.77E, h1km, ML2.7*
*NEIC **23** 11:19:12.2, 44.47N×6.77E, h1km, ML2.7(GEN), ML2.7(LDG), ML2.5(STR), After GEN.*
*LDG **23** 11:19:13.0±0.1, 44.44N×6.76E, h2km, Md2.4/1, Ml2.7/11, Error ellipse: s-maj=2.0km s-min=1.3km az=66.0*
ISC 23 11:19:11.5±0.2, 44.46N±0.01×6.72E±0.02, h9km±2km, n58, σ0°71/114, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.07**	**69**	Pg	**Pg**	**11 19 13.8**	**+0.3**
SURF				Sg	**Sg**	**11 19 14.9**	**0.0**
MBDF	**Montbardon**	**0.27**	**7**	*e*Pg	**Pg**	**11 19 17.5**	**+0.4**
MBDF				*e*Sg	**Sg**	**11 19 21.3**	**+0.4**
256nm,0.3s							
PZZ	**Prazzo**	**0.28**	**80**	P	**Pg**	**11 19 17.5**	**+0.3**
PZZ				S	**Sg**	**11 19 21.2**	**+0.3**
OG22	**Abries**	**0.40**	**23**	Pg	**Pg**	**11 19 19.7**	**+0.1**
OG22				Sg	**Sg**	**11 19 25.2**	**+0.2**
RRL	**Cesana Torines**	**0.47**	**5**	P	**Pg**	**11 19 21.3**	**+0.4**
RRL				S	**Sg**	**11 19 27.5**	**+0.3**
OG25	**Le Caire**	**0.47**	**260**	Pg	**Pg**	**11 19 22.6**	**+1.5**
STV	**Sta Anna Valdi**	**0.48**	**116**	P	**Pg**	**11 19 21.4**	**+0.2**
STV				S	**Sg**	**11 19 27.5**	**-0.1**
STV	**Sta Anna Valdi**	**0.48**	**116**	P	**Pg**	**11 19 21.4**	**+0.2**
STV				S	**Sg**	**11 19 27.5**	**-0.2**
BHB	**Bricherasio**	**0.55**	**45**	P	**Pg**	**11 19 22.2**	**-0.3**
BHB				S	**Sg**	**11 19 29.0**	**-0.8**
BHB	**Bricherasio**	**0.55**	**45**	S	**Sg**	**11 19 29.0**	**-0.8**
BHB	**Bricherasio**	**0.55**	**45**	P	**Pg**	**11 19 22.2**	**-0.3**
ENR	**Entracque**	**0.55**	**114**	P	**Pg**	**11 19 22.6**	**0.0**
ENR				S	**Sg**	**11 19 29.6**	**-0.4**
ENR	**Entracque**	**0.55**	**114**	P	**Pg**	**11 19 22.6**	**0.0**
ENR				S	**Sg**	**11 19 29.5**	**-0.5**
TOUF	**Mont Tournerai**	**0.58**	**139**	Pg	**Pg**	**11 19 23.4**	**+0.2**
TOUF				Sg	**Sg**	**11 19 31.2**	**+0.2**
BNI	**Bardonecchia**	**0.60**	**357**	*e*Pg	**Pg**	**11 19 24.1**	**+0.7**
BNI				*e*Sg	**Sg**	**11 19 31.5**	**0.0**
BNI	**Bardonecchia**	**0.60**	**357**	*e*Pg	**Pg**	**11 19 24.1**	**+0.6**
BNI				*e*Sg	**Sg**	**11 19 31.5**	**0.0**
FENE	**Fenestrelle**	**0.62**	**23**	P	**Pg**	**11 19 23.9**	**-0.1**
FENE				S	**Sg**	**11 19 32.1**	**-0.3**
FENE	**Fenestrelle**	**0.62**	**23**	P	**Pg**	**11 19 23.9**	**-0.1**
FENE				S	**Sg**	**11 19 32.1**	**-0.3**
MVIF	**Mont Vial**	**0.64**	**151**	Pg	**Pg**	**11 19 24.8**	**+0.5**
MVIF				Sg	**Sg**	**11 19 34.3**	**+1.4**
AUTN	**L'Aution**	**0.68**	**132**	Pg	**Pg**	**11 19 25.2**	**0.0**
AUTN				Sg	**Sg**	**11 19 35.5**	**+1.1**
ORIF	**Oris-en-Rattie**	**0.76**	**308**	*e*Pg	**Pg**	**11 19 26.8**	**+0.1**
ORIF				*e*Sg	**Sg**	**11 19 36.7**	**-0.2**
21nm,0.2s							
SAOF	**Saorge**	**0.76**	**128**	Pg	**Pg**	**11 19 26.5**	**-0.2**
SAOF				Sg	**Sg**	**11 19 36.4**	**-0.5**
SBF	**Sospel**	**0.78**	**139**	*e*Pg	**Pg**	**11 19 27.4**	**+0.2**
SBF				*e*Sg	**Sg**	**11 19 37.1**	**-0.6**
94nm,0.4s							
RSP	**Reno Superiore**	**0.79**	**28**	P	**Pb**	**11 19 27.0**	**0.0**
RSP				S	**Sb**	**11 19 37.1**	**-0.5**
RSP	**Reno Superiore**	**0.79**	**28**	P	**Pb**	**11 19 27.0**	**0.0**
RSP				S	**Sb**	**11 19 37.2**	**-0.4**
MONE	**Monesi**	**0.83**	**117**	P	**Pb**	**11 19 27.9**	**+0.2**
MONE				S	**Sb**	**11 19 38.4**	**-0.4**
MONE	**Monesi**	**0.83**	**117**	P	**Pb**	**11 19 27.9**	**+0.2**
MONE				S	**Sb**	**11 19 38.4**	**-0.3**
ROB	**Roburent**	**0.84**	**101**	P	**Pb**	**11 19 27.9**	**+0.1**
ROB				S	**Sb**	**11 19 38.4**	**-0.6**
REVF	**Revere**	**0.85**	**147**	Pg	**Pg**	**11 19 28.8**	**+0.2**
FRF	**La Foret Royal**	**0.90**	**184**	*e*Pg	**Pg**	**11 19 29.6**	**+0.2**
FRF				*e*Pn	**Pn**	**11 19 30.7**	**+0.6**
FRF				*e*Sg	**Sg**	**11 19 40.5**	**-0.9**
25nm,0.2s							
FRF				*e*Sn	**Sn**	**11 19 43.0**	**-0.3**
NEGI	**Negi**	**0.93**	**130**	P	**Pb**	**11 19 29.8**	**+0.4**
NEGI				S	**Sb**	**11 19 41.9**	**+0.3**
NEGI	**Negi**	**0.93**	**130**	P	**Pb**	**11 19 29.8**	**+0.4**
NEGI				S	**Sb**	**11 19 41.9**	**+0.3**
SMRF	**Simiane la Rot**	**0.95**	**240**	*e*Pn	**Pn**	**11 19 32.1**	**+1.1**
SMRF				*e*Sg	**Sg**	**11 19 43.1**	**-0.3**
SMRF				*e*Sn	**Sn**	**11 19 45.4**	**+0.6**
43nm,0.3s							
IMI	**Imperia**	**1.00**	**123**	P	**Pb**	**11 19 30.9**	**+0.3**
IMI				S	**Sb**	**11 19 43.8**	**+0.1**
IMI	**Imperia**	**1.00**	**123**	P	**Pb**	**11 19 30.9**	**+0.3**
IMI				S	**Sb**	**11 19 43.8**	**+0.2**
LPG	**La Plagne**	**1.04**	**1**	*e*Pg	**Pg**	**11 19 31.6**	**-0.7**
LPG				*e*Sg	**Sg**	**11 19 46.5**	**+0.3**
19nm,0.3s							
LSD	**Ceresole Reale**	**1.05**	**17**	P	**Pb**	**11 19 31.8**	**+0.5**
LSD				S	**Sb**	**11 19 45.3**	**+0.3**
LSD	**Ceresole Reale**	**1.05**	**17**	P	**Pb**	**11 19 31.8**	**+0.4**
LSD				S	**Sb**	**11 19 45.3**	**+0.3**
LPL	**La Plagne**	**1.06**	**0**	*e*Pg	**Pg**	**11 19 32.1**	**-0.6**
LPL				*e*Sg	**Sg**	**11 19 47.0**	**+0.1**
26nm,0.4s							
LPL				*e*Sn	**Sn**	**11 19 48.7**	**+1.3**
FIN	**Finale Ligure**	**1.09**	**103**	P	**Pb**	**11 19 32.1**	**-0.1**
FIN				S	**Sb**	**11 19 45.7**	**-0.6**
FIN	**Finale Ligure**	**1.09**	**103**	P	**Pb**	**11 19 32.1**	**-0.1**
FIN				S	**Sb**	**11 19 45.7**	**-0.6**
LMR	**La Mourre**	**1.13**	**188**	*e*Pg	**Pg**	**11 19 34.4**	**+0.3**
LMR				*e*Pn	**Pn**	**11 19 34.9**	**+1.4**
LMR				*e*Sg	**Sg**	**11 19 47.9**	**-1.4**
30nm,0.3s							
LMR				*e*Sn	**Sn**	**11 19 49.0**	**-0.3**
LMR	**La Mourre**	**1.13**	**188**	*e*Pn	**Pn**	**11 19 34.9**	**+1.4**
LMR				*e*Sg	**Sg**	**11 19 47.9**	**-1.4**
15nm,0.3s							
LMR				*e*Sn	**Sn**	**11 19 49.0**	**-0.3**
RSL	**Roselend**	**1.23**	**357**	Pg	**Pg**	**11 19 39.5**	**+3.3**
TRAV		**1.28**	**34**	P	**Pb**	**11 19 35.2**	**-0.1**
TRAV		**1.28**	**34**	P	**Pb**	**11 19 35.2**	**-0.2**
PCP	**Pian Castagno**	**1.31**	**86**	P	**Pb**	**11 19 35.8**	**0.0**
PCP	**Pian Castagno**	**1.31**	**86**	P	**Pb**	**11 19 35.8**	**0.0**
ORX	**Oropa**	**1.48**	**37**	P	**Pn**	**11 19 38.1**	**-0.3**
VIVF	**Saint-Julien-I**	**1.52**	**286**	*e*Pn	**Pn**	**11 19 40.2**	**+1.2**
VIVF				*e*Pg	**Pg**	**11 19 41.6**	**-0.2**
VIVF				*e*Sn	**Sn**	**11 19 59.1**	**+0.1**
VIVF				*e*Sg	**Sg**	**11 20 01.1**	**-0.9**
13nm,0.3s							
LASF	**Ste Croix**	**2.09**	**261**	*e*Pn	**Pn**	**11 19 47.4**	**+0.2**
LASF				*e*Sn	**Sn**	**11 20 12.1**	**-1.6**
2.6nm,0.3s							
CABF	**La Chapelle**	**2.20**	**349**	*e*Pn	**Pn**	**11 19 49.4**	**+0.6**
CABF				*e*Pg	**Pg**	**11 19 54.2**	**-1.2**
CABF				*e*Sg	**Sg**	**11 20 23.0**	**-1.8**
6.3nm,0.4s							
PGF	**Pioggiola**	**2.53**	**138**	*e*Pn	**Pn**	**11 19 52.2**	**-1.2**
PGF				*e*Sn	**Sn**	**11 20 22.9**	**-1.7**
5.8nm,0.2s							
SMF	**Signal de Mont**	**2.98**	**318**	*e*Pn	**Pn**	**11 20 00.4**	**+0.5**
SMF				*e*Pg	**Pg**	**11 20 08.7**	**-2.3**
AVF	**Avril sur Loir**	**3.32**	**316**	*e*Pn	**Pn**	**11 20 04.7**	**-0.1**
AVF				*e*Sg	**Sg**	**11 20 58.0**	**-4.1**
2.6nm,0.3s							
HINF	**Hinteralfeld**	**3.36**	**1**	*e*Pn	**Pn**	**11 20 05.2**	**-0.1**
SSF	**Saint Saulge**	**3.44**	**320**	*e*Pn	**Pn**	**11 20 06.7**	**+0.2**
SSF				*e*Sg	**Sg**	**11 21 01.8**	**-4.3**
1.9nm,0.3s							
HAU	**Haudompre**	**3.56**	**356**	*e*Pn	**Pn**	**11 20 08.5**	**+0.4**

IDC 23 11:51:07.1±52.0, 14.84S×171.58W, mb3.9/3, mb1 4.1/3, mb1mx3.7/15, mbtmp3.9/3, Error ellipse: s-maj=1016.0km s-min=191.7km az=78.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**45.84**	**240**	P	P	11 59 30.6	-2.3
1.1nm,0.6s,baz=99,slow=11,SNR=3.3							
WRA	**Warramunga Arr**	**51.69**	**256**	P	P	12 00 16.3	-2.0
0.4nm,0.6s,baz=91,slow=6.8,SNR=13							
ASAR	**Alice Springs**	**51.96**	**251**	P	P	12 00 18.4	-1.9
4.1nm,0.8s,baz=89,slow=7.8,SNR=88							

IDC 23 12:03:09.0±1.5, 11.54N×139.63E, h37km±7km, mb3.1/4, mb1 3.5/4, mb1mx3.3/18, mbtmp3.3/4, Error ellipse: s-maj=184.1km s-min=17.8km az=106.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.71**	**189**	P	P	12 09 29.0	-2.7
0.5nm,1.0s,baz=10,slow=9.3,SNR=4.4							
WRA				pP	pP	12 09 40.0	-2.2
0.4nm,0.6s,baz=11,slow=9.8,SNR=2.3							
ASAR	**Alice Springs**	**35.43**	**189**	P	P	12 10 01.9	-2.0
0.4nm,0.9s,baz=15,slow=14,SNR=2.9							
ASAR				pP	pP	12 10 12.2	-2.1
0.3nm,0.5s,baz=17,slow=12,SNR=4.0							
ILAR	**Eielson Array**	**72.61**	**26**	P	P	12 14 31.7	-2.4
0.3nm,0.8s,baz=242,slow=6.2,SNR=6.8							
ILAR				pP	pP	12 14 43.0	-2.4
0.2nm,0.6s,baz=249,slow=5.4,SNR=1.6							
YKA	**Yellowknife Ar**	**87.00**	**27**	P	P	12 15 51.0	-0.3
0.1nm,0.4s,baz=287,slow=5.0,SNR=4.1							
YKA				pP	pP	12 16 02.8	0.0
0.2nm,0.7s,baz=289,slow=5.4,SNR=4.3							

*PRU **23** 12:03:59.7, 51.39N×16.07E*
*WAR **23** 12:03:59.1, 51.45N×16.09E, h1km, ML2.3, Mining Induced*
*NEIC **23** 12:04:00.9±1.4, 51.30N×15.96E, h5km, MG2.9(WAR), Error ellipse: s-maj=16.9km s-min=6.0km az=204.0*
ISC 23 12:03:56.6±0.9, 51.44N±0.05×16.06E±0.04, n15, σ1°26/31, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.61**	**166**	*e*PG	**Pg**	**12 04 10.0**	**+1.1**
KSP				*e*SG	**Sg**	**12 04 19.0**	**+1.9**
KSP	**Ksiaz**	**0.61**	**166**	*i*Pg	**Pg**	**12 04 10.5**	**+1.6**
KSP				*e*Sg	**Sg**	**12 04 18.8**	**+1.7**
UPC	**Upice**	**0.93**	**182**	*e*PG	**Pg**	**12 04 16.5**	**+1.2**
DPC	**Dobruska-Polom**	**1.10**	**171**	*e*PG	**Pg**	**12 04 19.3**	**+0.7**
DPC				*e*SG	**Sg**	**12 04 33.7**	**+0.4**
18nm,0.4s							
PVCC	**Panska Ves**	**1.31**	**227**	*e*PG	**Pg**	**12 04 23.6**	**+0.8**
BRG	**Berggiesshubel**	**1.45**	**248**	*e*Pg	**Pg**	**12 04 26.2**	**+0.6**
BRG				*e*Sg	**Sg**	**12 04 46.0**	**+1.1**
PRU	**Pruhonice**	**1.74**	**214**	*e*PN	**Pn**	**12 04 30.3**	**+1.9**
PRU				*e*PG	**Pg**	**12 04 32.2**	**+0.8**
PRU				*ex*	x	12 04 34.8	
PRU				*ex*	x	12 04 47.1	
PRU				*e*SG	**Sg**	**12 04 54.2**	**-0.5**
5.5nm,0.2s							
MORC	**Moravsky Berou**	**1.91**	**150**	*e*Pn	**Pn**	**12 04 31.6**	**+0.8**
CLL	**Collm**	**1.92**	**267**	*e*Pg	**Pg**	**12 04 34.0**	**-1.0**
CLL				*e*Sg	**Sg**	**12 05 01.0**	**+0.4**
CLL	**Collm**	**1.92**	**267**	*e*PG	**Pg**	**12 04 34.0**	**-1.0**
CLL				*i*		12 04 38.7	
CLL				*e*SG	**Sg**	**12 05 01.0**	**+0.4**
OKC	**Ostrava-Krasne**	**2.08**	**140**	*e*PG	**Pg**	**12 04 36.7**	**-1.5**
OKC				*e*SG	**Sg**	**12 05 03.5**	**-2.5**
NKC	**Novy Kostel**	**2.59**	**244**	*e*PN	**Pn**	**12 04 41.4**	**+0.9**
NKC				*e*PG	**Pg**	**12 04 47.4**	**-0.9**
NKC				*e*SG	**Sg**	**12 05 22.1**	**-0.7**
8.4nm,0.2s							
OJC	**Ojcow**	**2.67**	**116**	*e*Pg	**Pg**	**12 04 48.7**	**-1.2**
OJC				*e*Sg	**Sg**	**12 05 25.2**	**-0.2**
KHC	**Kasperske Hory**	**2.81**	**216**	*e*PN	**Pn**	**12 04 45.0**	**+1.4**
KHC				*e*PG	**Pg**	**12 04 50.2**	**-2.4**
KHC				*e*SN	**Sn**	**12 05 15.6**	**-3.0**
KHC				*e*SG	**Sg**	**12 05 27.5**	**-2.5**
MOX	**Moxa**	**2.92**	**256**	*e*Pg	**Pg**	**12 04 54.0**	**-0.8**
MOX				*e*Sg	**Sg**	**12 05 33.2**	**-0.5**

IDC 23 12:17:09.5±1.6, 5.86S×130.09E, mb3.6/1, mb1 4.0/3, mb1mx3.8/12, mbtmp3.8/3, ML4.0/2, Error ellipse: s-maj=142.0km s-min=29.0km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.60**	**164**	Pn	P	12 20 36.5	-3.0
1.3nm,0.3s,baz=347,slow=13,SNR=30							
WRA				Sn	S	12 23 06.1	-17
1.3nm,0.3s,baz=338,slow=23,SNR=6.8							
ASAR	**Alice Springs**	**18.09**	**169**	P	P	12 21 22.9	-1.0
0.3nm,0.3s,baz=348,slow=10,SNR=16							
ASAR				S	S	12 24 30.8	-13
0.3nm,0.3s,baz=352,slow=27,SNR=4.6							
SONM	**Songino Array**	**57.39**	**341**	P	P	12 27 00.1	-2.0
0.4nm,0.5s,baz=161,slow=6.3,SNR=8.8							
SONM				PcP	PcP	12 27 53.2	-2.7
0.3nm,0.6s,baz=300,slow=4.2,SNR=2.5							

MEX 23 12:34:26.6±1.4, 16.24N×98.46W, h10km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.36**	**64**	*i* P	Pg	12 34 32.6	-1.3
PNIG				*i* S	Sg	12 34 38.0	-0.9
VHO	**Vista Hermosa**	**1.85**	**63**	*i* P	Pn	12 34 55.9	-2.9
VHO				*i* S	Sn	12 35 19.0	-3.4
OXX	**Oaxaca**	**1.86**	**63**	*e*P	Pn	12 35 00.0	+1.1
OXX				*e*S	Sn	12 35 26.0	+3.3

*TAP **23** 12:47:27.7, 24.31N×122.81E, h21km±1km, ML3.3*
JMA 23 12:47:27.7±0.1, 24.54N×122.89E, h62km±1km, M2.9, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.14**	**125**	P	P	12 47 37.1	+0.1
YOJ				S	S	12 47 43.8	-0.1
IRIF	**Iriomote-Funau**	**0.79**	**105**	P	P	12 47 43.2	-0.1
IRIF				S	S	12 47 54.8	-0.1
HATJ	**Hateruma jima**	**0.96**	**120**	P	P	12 47 45.5	-0.1
HATJ				*e*S	S	12 47 58.3	-0.5
JKRS	**Kuro-shima**	**1.06**	**106**	P	P	12 47 47.0	+0.1
JKRS				S	S	12 48 01.8	+0.6
JIJ	**Ishigaki jima**	**1.16**	**98**	P	P	12 47 47.6	-0.5
JIJ				S	S	12 48 02.6	-0.8
JTJ	**Tarama**	**1.65**	**86**	P	P	12 47 55.3	+0.2
JTJ				*e*S	S	12 48 15.5	+0.2

IDC 23 12:49:48.7±7.2, 2.27N×95.28E, mb3.3/3, mb1 3.5/4, mb1mx3.4/18, mbtmp3.3/4, ML3.5/1, Error ellipse: s-maj=223.5km s-min=30.0km az=70.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.48**	**12**	Pn	P	12 53 42.3	-0.8
0.1nm,0.3s,baz=200,slow=11,SNR=4.5							
WRA	**Warramunga Arr**	**44.23**	**122**	P	P	12 57 60.0	-1.9
0.5nm,1.0s,baz=297,slow=9.4,SNR=4.3							
ASAR	**Alice Springs**	**45.57**	**127**	P	P	12 58 10.9	-1.6
0.2nm,0.7s,baz=300,slow=8.3,SNR=3.8							
SONM	**Songino Array**	**46.39**	**10**	P	P	12 58 16.7	-2.1
0.4nm,0.6s,baz=191,slow=9.1,SNR=5.1							

*MOS **23** 12:54:37.9±1.3, 51.76N×159.50E, h50km, mb4.1/13, Error ellipse: s-maj=15.5km s-min=8.4km az=85.5*
*KRSC **23** 12:54:38.9±0.5, 51.79N×159.60E, h32km±5km, ML4.5*
*IDC **23** 12:54:42.2±0.6, 51.90N×159.27E, h59km±5km, mb3.6/19, mb1 3.9/21, mb1mx3.9/25, mbtmp4.0/21, Error ellipse: s-maj=18.2km s-min=11.5km az=151.0*
*NEIC **23** 12:54:42.1±0.5, 51.94N×159.20E, mb4.0/5, Error ellipse: s-maj=13.1km s-min=9.2km az=155.0*
ISC 23 12:54:38.6±0.7, 51.74N±0.05×159.61E±0.06, h50km±6km, h59km±1.7km; pP-P, n77, σ1°05/97, mb3.9/24, 2C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.97**	**316**	*i* P	**P**	**12 54 55.7**	**-0.4**
RUS				*i* S	**S**	**12 55 07.8**	**-1.3**
GRL	**Gorelyy**	**1.25**	**311**	*i* P	**P**	**12 55 00.8**	**+0.8**
GRL				*i* S	**S**	**12 55 16.8**	**+0.8**
SPN	**Mys Shipunski**	**1.38**	**10**	*i* P	**P**	**12 55 02.0**	**0.0**
SPN				*i* S	**S**	**12 55 18.6**	**-0.7**
PET	**Petropavlovsk**	**1.41**	**336**	P	**P**	**12 55 02.3**	**-0.1**
PET				S	**S**	**12 55 19.5**	**-0.6**
PET	**Petropavlovsk**	**1.41**	**336**	*e*PN	**P**	**12 55 02.4**	**0.0**
PET				*e*S	**S**	**12 55 19.7**	**-0.4**
PET				pmax	pmax		
comp=Z,518nm,0.6s							
PET				smax			
comp=N,2μm,0.4s							
PET				smax			
comp=E,1μm,0.5s							
PET	**Petropavlovsk**	**1.41**	**336**	*e*Pn	**P**	**12 55 01.9**	**-0.5**
PET				*e*Sn	**S**	**12 55 13.2**	**-6.9**
PET	**Petropavlovsk**	**1.41**	**336**	*i* P	**P**	**12 55 02.2**	**-0.2**
PET				*i* S	**S**	**12 55 19.5**	**-0.6**
KRMR	**Karymshinskiy**	**1.42**	**321**	*i* P	**P**	**12 55 02.6**	**0.0**
KRMR				*i* S	**S**	**12 55 19.6**	**-0.7**
NLC	**Nalytchevo**	**1.44**	**354**	P	**P**	**12 55 02.4**	**-0.4**
NLC				S	**S**	**12 55 19.9**	**-0.9**
NLC	**Nalytchevo**	**1.44**	**354**	*e*P	**P**	**12 55 03.0**	**+0.2**
NLC				*e*S	**S**	**12 55 20.5**	**-0.3**
UGLR	**Uglovaya**	**1.54**	**342**	*e*P	**P**	**12 55 04.5**	**+0.2**
SDLR	**Sedlovina**	**1.60**	**344**	*i* P	**P**	**12 55 05.0**	**-0.1**
SMAR	**Somma**	**1.60**	**342**	*e*P	**P**	**12 55 05.3**	**+0.2**
AVH	**Avacha**	**1.61**	**341**	*i* P	**P**	**12 55 05.7**	**+0.4**
KOK	**Koryaka**	**1.66**	**339**	*e*P	**P**	**12 55 06.6**	**+0.7**
KOK				*i* S	**S**	**12 55 27.5**	**+1.3**
PAU	**Pauzhetka**	**1.77**	**262**	*e*P	**P**	**12 55 08.0**	**+0.6**
PAU				*i* S	**S**	**12 55 29.0**	**+0.2**
PAU				Smax			
comp=E,2μm,0.6s							
APC	**Apacha**	**1.92**	**309**	*e*P	**P**	**12 55 10.5**	**+1.0**
APC				*e*S	**S**	**12 55 33.3**	**+0.9**
APC				Smax			
comp=E,300nm,0.9s							
GNL	**Ganaly**	**2.20**	**333**	*i* P	**P**	**12 55 14.1**	**+0.5**
GNL				*i* S	**S**	**12 55 40.3**	**+0.7**
SKR	**Severo-Kuril's**	**2.44**	**246**	↑*i* PN	**P**	**12 55 14.2**	**-2.8**
SKR				*i* S	**S**	**12 55 41.5**	**-4.2**
SKR				pmax	pmax		
comp=E,80nm,0.5s							
SKR				pmax	pmax		
comp=Z,140nm,0.5s							
SKR				pmax	pmax		
comp=N,50nm,0.2s							
SKR				smax			
comp=E,600nm,0.7s							
SKR				smax			
comp=N,520nm,0.5s							
SKR				smax			
comp=Z,270nm,1.0s							
SKR	**Severo-Kuril's**	**2.44**	**246**	*e*	**P**	**12 55 27.3**	**+10**
ALID	**Alaid**	**2.70**	**253**	*e*P	**P**	**12 55 20.6**	**0.0**
TUMR	**Tumrok**	**3.56**	**5**	*e*P	**P**	**12 55 33.6**	**+0.8**
KMNR	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**44.37**	**41**	P	**P**	**13 02 45.7**	**+0.6**
YKA				pP	pP	13 03 01.8	+3.2
CHKZ	**Chkalovo**	**50.51**	**310**	*eP*	**P**	**13 03 29.6**	**-3.6**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
CHKZ	**Chkalovo**	**50.51**	**310**	*eP*	**P**	**13 03 29.6**	**-3.6**
	comp=Z,2.2nm,0.5s,mb4.3						
BVAR	**Borovoye Array**	**51.00**	**309**	P	**P**	**13 03 34.2**	**-2.8**
	comp=Z,1.2nm,0.3s,mb4.2,baz=52,slow=8.2,SNR=8.0						
ARCES	**ARCESS Array B**	**54.48**	**342**	P	**P**	**13 04 01.0**	**-1.7**
ARCES				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ARCES	**ARCESS Array B**	**54.48**	**342**	P	**P**	**13 04 01.0**	**-1.7**
	comp=Z,10nm,1.2s,mb4.6,baz=35,slow=7.9,SNR=11						
AAK	**Ala-Archa**	**55.42**	**297**	P	**P**	**13 04 05.8**	**-4.0**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
AAK	**Ala-Archa**	**55.42**	**297**	P	**P**	**13 04 05.8**	**-4.1**
	comp=Z,0.7nm,0.5s,mb4.0						
NVAR	**Mina Array Bea**	**56.49**	**69**	P	**P**	**13 04 19.8**	**+2.1**
	comp=Z,0.4nm,0.5s,mb3.7,baz=301,slow=8.6,SNR=4.7						
NVAR	**Mina Array Bea**	**56.49**	**69**	P	**P**	**13 04 19.8**	**+2.1**
CMAR	**Chiang Mai Arr**	**57.62**	**258**	P	**P**	**13 04 26.1**	**+0.2**
CMAR				*PP	pP	13 04 41.3	+1.5
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**57.62**	**258**	P	**P**	**13 04 26.1**	**+0.2**
	comp=Z,1.0nm,0.9s,mb3.8,baz=27,slow=6.9,SNR=5.0						
CMAR				pP	pP	13 04 41.2	+1.5
	comp=Z,1.3nm,1.0s,baz=28,slow=7.8,SNR=3.0						
BW06	**Boulder Array**	**58.45**	**60**	*eP*	**P**	**13 04 32.8**	**+1.5**
	comp=Z,1.0nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**58.45**	**60**	P	**P**	**13 04 33.0**	**+1.7**
	comp=Z,0.9nm,0.6s,mb4.0,baz=315,slow=3.4,SNR=9.4						
PDAR				pP	pP	13 04 48.8	+3.5
	comp=Z,0.2nm,0.8s,baz=63,slow=26,SNR=2.6						
FINES	**FINESS Array B**	**61.24**	**337**	P	**P**	**13 04 48.7**	**-1.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**61.24**	**337**	P	**P**	**13 04 48.6**	**-1.6**
	comp=Z,0.8nm,0.4s,mb4.2,baz=44,slow=8.5,SNR=16						
NB2	**NORSAR Subarra**	**64.76**	**344**	P	**P**	**13 05 12.4**	**-0.9**
	comp=Z,0.8nm,0.5s,mb4.0,baz=22,slow=6.5						
NOA	**NORSAR Array B**	**64.76**	**344**	P	**P**	**13 05 12.5**	**-0.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**64.76**	**344**	P	**P**	**13 05 12.5**	**-0.8**
	comp=Z,1.0nm,0.6s,mb4.0,baz=20,slow=6.9,SNR=4.2						
SCHQ	**Schefferville**	**66.99**	**27**	P	**P**	**13 05 27.8**	**+0.2**
	comp=Z,0.9nm,0.5s,mb4.1,baz=222,slow=17,SNR=3.9						
AKASG	**Malin Array Be**	**69.62**	**329**	P	**P**	**13 05 42.2**	**-1.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**69.62**	**329**	P	**P**	**13 05 42.2**	**-1.8**
	comp=Z,0.8nm,0.4s,mb4.0,baz=30,slow=6.1,SNR=8.6						
TXAR	**Lajitas Array**	**71.45**	**66**	P	**P**	**13 05 57.4**	**+1.9**
	comp=Z,1.2nm,0.5s,mb4.1,baz=300,slow=4.7,SNR=16						
TXAR				pP	pP	13 06 14.5	+4.7
	comp=Z,0.4nm,0.6s,baz=302,slow=5.5,SNR=2.5						
WRA	**Warramunga Arr**	**74.73**	**205**	P	**P**	**13 06 15.5**	**+0.7**
WRA				*PP	pP	13 06 31.2	+2.0
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**74.73**	**205**	P	**P**	**13 06 15.5**	**+0.7**
	comp=Z,0.3nm,0.7s,mb3.3,baz=19,slow=6.1,SNR=5.0						
WRA				pP	pP	13 06 31.2	+2.0
	comp=Z,2.1nm,0.8s,baz=20,slow=6.1,SNR=10						
MLR	**Muntele Rosu**	**75.24**	**328**	P	**P**	**13 06 18.2**	**+1.0**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MLR	**Muntele Rosu**	**75.24**	**328**	P	**P**	**13 06 18.2**	**+1.0**
	comp=Z,1.1nm,0.5s,mb4.1,baz=162,slow=13,SNR=2.8						
GERES	**GERESS Array B**	**75.65**	**338**	P	**P**	**13 06 20.1**	**+0.6**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**75.65**	**338**	P	**P**	**13 06 20.1**	**+0.6**
	comp=Z,0.7nm,0.5s,mb3.9,baz=36,slow=5.8,SNR=7.7						
ASAR	**Alice Springs**	**78.40**	**204**	P	**P**	**13 06 36.8**	**+1.4**
	comp=Z,0.5nm,0.9s,mb3.4,baz=18,slow=5.2,SNR=4.3						
ASAR				pP	pP	13 06 52.4	+2.5
	comp=Z,0.7nm,0.5s,baz=19,slow=5.1,SNR=5.8						

*IDC **23** 13:09:57.9±0.7, 4.01S×152.74E, mb4.2/13, mb1 4.3/15, mb1mx4.3/18, mbtmp4.1/15, ML3.4/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/19, Error ellipse: s-maj=25.8km s-min=15.8km az=110.0*
*NEIC **23** 13:10:03.7±3.1, 4.02S×152.64E, h41km±27km, mb4.4/7, Error ellipse: s-maj=20.9km s-min=16.0km az=104.0*
ISC 23 13:09:57.8±4.5, 4.02S±0.09×152.7E±0.1, h10km±28km, n29, σ1§08/29, mb4.2/19, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.68**	**226**	Pn	**Pn**	**13 11 53.1**	**+0.6**
	1.4nm,0.3s,baz=158,slow=20,SNR=6.1						
PMG				Sn	**Sn**	**13 13 22.1**	**+1.6**
	1.8nm,0.3s,baz=127,slow=20,SNR=4.2						
PMG				LR	LR	13 14 48.3	
	comp=Z,175nm,19.9s,baz=61,slow=38						
PMG	**Port Moresby**	**7.68**	**226**	*eP*	**Pn**	**13 11 53.8**	**+1.3**
	24nm,0.5s						
PMG				*eS*	**Sn**	**13 13 18.6**	**-1.9**
PMG				LR	LR	13 14 48.3	
CTA	**Charters Tower**	**17.16**	**201**	P	**P**	**13 13 58.9**	**-0.6**
	0.2nm,0.3s,baz=9.5,slow=12,SNR=2.2						
CTA				LR	LR	13 18 38.8	
	comp=Z,94nm,20.1s,baz=46,slow=30						
CTA	**Charters Tower**	**17.16**	**201**	P	**P**	**13 13 58.9**	**-0.6**
CTA				LR	LR	13 18 38.8	
KAKA	**Kakadu**	**21.82**	**245**	*eP*	**P**	**13 14 52.4**	**+0.1**
	10nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**23.89**	**227**	*eP*	**P**	**13 15 12.4**	**-0.3**
	14nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**23.89**	**227**	*eP*	**P**	**13 15 12.4**	**-0.3**
WRA	**Warramunga Arr**	**23.90**	**227**	P	**P**	**13 15 12.5**	**-0.3**
	1.4nm,0.3s,mb3.9,baz=50,slow=9.7,SNR=58						
ASAR	**Alice Springs**	**26.67**	**221**	P	**P**	**13 15 38.5**	**-0.5**
	0.5nm,0.5s,mb3.3,baz=53,slow=9.0,SNR=14						
ASPA	**Alice Springs**	**26.67**	**221**	*eP*	**P**	**13 15 41.9**	**+2.9**
STKA	**Stephens Creek**	**29.61**	**199**	P	**P**	**13 16 04.5**	**-1.1**
	0.9nm,0.3s,mb4.0,baz=176,slow=13,SNR=3.1						
FITZ	**Fitzroy Crossi**	**29.96**	**240**	*eP*	**P**	**13 16 07.4**	**-1.4**
	3.7nm,0.4s,mb4.5						
URZ	**Urewera**	**40.70**	**150**	P	**P**	**13 17 40.8**	**+0.6**
	5.5nm,0.6s,mb4.3,baz=35,slow=2.6,SNR=8.3						
RPZ	**Rata Peaks**	**42.73**	**160**	P	**P**	**13 17 56.4**	**-0.5**
	6.9nm,0.6s,mb4.5,baz=49,slow=8.6,SNR=12						
SONM	**Songino Array**	**65.63**	**328**	P	**P**	**13 20 45.9**	**+1.6**
	0.6nm,0.7s,mb3.7,baz=124,slow=4.5,SNR=5.3						
VNDA	**Vanda**	**73.60**	**178**	P	**P**	**13 21 34.3**	**+1.6**
	4.5nm,0.7s,mb4.5,baz=324,slow=6.1,SNR=14						
MCK	**McKinley**	**80.18**	**23**	*eP*	**P**	**13 22 07.7**	**-2.0**
	4.7nm,1.1s,mb4.3						
COLA	**College**	**81.17**	**22**	*eP*	**P**	**13 22 15.1**	**+0.2**
	2.8nm,0.9s,mb4.2						
ILAR	**Eielson Array**	**81.48**	**22**	P	**P**	**13 22 15.7**	**-0.8**
	1.7nm,1.0s,mb3.9,baz=253,slow=5.4,SNR=9.7						
QSPA	**South Pole Qui**	**85.93**	**180**	||*iP*	**P**	**13 22 42.2**	**+3.4**
	9.7nm,0.7s,mb5.1						
MAW	**Mawson**	**86.25**	**203**	P	**P**	**13 22 40.9**	**+0.3**
	2.8nm,1.1s,mb4.4,baz=90,slow=8.1,SNR=3.6						
MAW	**Mawson**	**86.25**	**203**	P	**P**	**13 22 39.9**	**-0.7**
	0.8nm,0.6s,mb4.1						
BVAR	**Borovoye Array**	**88.57**	**323**	P	**P**	**13 22 52.4**	**+0.2**
	0.6nm,0.7s,mb4.0,baz=117,slow=3.2,SNR=3.0						
NVAR	**Mina Array Bea**	**91.67**	**52**	P	**P**	**13 23 06.1**	**-0.8**
	0.5nm,0.9s,mb3.8,baz=252,slow=4.2,SNR=3.9						
YKA	**Yellowknife Ar**	**94.78**	**28**	P	**P**	**13 23 20.8**	**+0.1**
	0.3nm,0.6s,mb3.9,baz=271,slow=4.8,SNR=9.6						
PDAR	**Pinedale Array**	**98.39**	**48**	P	**P**	**13 23 38.6**	**+1.1**
	0.4nm,0.8s,mb4.0,baz=243,slow=4.0,SNR=3.5						
PDAR	**Pinedale Array**	**98.39**	**48**	P	**P**	**13 23 38.6**	**+1.1**
LPAZ	**La Paz**	**134.85**	**118**	PKP	PKPdf	13 29 20.6	-0.6
	2.7nm,0.8s,baz=257,slow=2.9,SNR=6.5						
CPUP	**Villa Florida**	**138.09**	**138**	PKP	PKPdf	13 29 26.9	-0.1
	0.0nm,0.3s,baz=144,slow=15,SNR=1.5						

*HEL **23** 13:14:05.9±0.3, 60.84N×29.17E, ML2.0, ML2.6(NAO), Explosion*
*CSEM **23** 13:14:05.8±0.4, 60.79N×29.14E, h15km, ML3.1/1, Error ellipse: s-maj=8.8km s-min=5.9km az=139.0*

*NAO **23** 13:14:06.1±3.3, 60.91N×28.94E, ML2.6*
*BER **23** 13:14:07.4±2.4, 60.87N×28.89E, ML2.6(NAO), Suspected explosion*
ISC 23 13:14:05.3±1.0, 60.89N±0.05×29.04E±0.09, n22, σ0§91/40, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.81**	**245**	*eP*	**Pg**	**13 14 21.5**	**+0.1**
VJF				*eS*	**Sg**	**13 14 31.7**	**-0.5**
VJF	**Virojoki**	**0.81**	**245**	P	**Pg**	**13 14 21.4**	**0.0**
FIA0	**FINESS Array S**	**1.54**	**293**	*eP*	**Pn**	**13 14 33.2**	**-0.9**
FIA0				*eS*	**Sb**	**13 14 53.8**	**-0.6**
FIA0	**FINESS Array S**	**1.54**	**293**	Pn	**Pn**	**13 14 33.3**	**-0.8**
	baz=113,slow=18						
FIA0				Lg		13 14 53.9	
	baz=105,slow=28						
FIA0				Rg		13 15 01.1	
	baz=120,slow=56						
PVF	**Pernaja**	**1.60**	**259**	*eP*	**Pn**	**13 14 34.6**	**-0.4**
PVF				*eS*	**Sb**	**13 14 57.2**	**+1.1**
PVF	**Pernaja**	**1.60**	**259**	P	**Pn**	**13 14 34.5**	**-0.4**
KAF	**Kangasniemi**	**1.80**	**314**	*eP*	**Pn**	**13 14 38.1**	**+0.4**
KAF				*eS*	**Sn**	**13 15 01.8**	**+0.2**
KAF				*eSG*	**Sg**	**13 15 03.8**	**-1.3**
KAF				MSG		13 15 04.1	
	comp=Z,9.0nm,0.2s						
KAF	**Kangasniemi**	**1.80**	**314**	P	**Pn**	**13 14 38.1**	**+0.3**
KAF				S	**Sn**	**13 15 01.7**	**+0.1**
KAF				Sg	**Sg**	**13 15 03.7**	**-1.4**
	comp=Z,9.0nm,0.2s						
SUF	**Sumiainen**	**2.29**	**325**	*eP*	**Pn**	**13 14 46.1**	**+1.3**
SUF				*eS*	**Sn**	**13 15 15.3**	**+1.0**
SUF	**Sumiainen**	**2.29**	**325**	P	**Pn**	**13 14 46.1**	**+1.2**
SUF				S	**Sn**	**13 15 15.2**	**+1.0**
JOF	**Joensuu**	**2.31**	**27**	*eP*	**Pn**	**13 14 45.4**	**+0.3**
JOF				*eS*	**Sn**	**13 15 14.0**	**-0.5**
JOF	**Joensuu**	**2.31**	**27**	P	**Pn**	**13 14 45.3**	**+0.2**
JOF				S	**Sn**	**13 15 14.0**	**-0.6**
KEF	**Keuruu**	**2.37**	**305**	*eP*	**Pn**	**13 14 46.9**	**+0.9**
KEF				*eS*	**Sn**	**13 15 17.3**	**+1.1**
KJN	**Kajaani**	**3.27**	**350**	*eP*	**Pn**	**13 14 58.7**	**-0.1**
KJN				*eS*	**Sn**	**13 15 38.5**	**-0.5**
KJN	**Kajaani**	**3.27**	**350**	P	**Pn**	**13 14 58.7**	**-0.1**
KJN				S	**Sn**	**13 15 38.4**	**-0.6**
VAF	**Ylistaro**	**3.70**	**309**	*eP*	**Pn**	**13 15 06.2**	**+1.2**
VAF				*eS*	**Sn**	**13 15 49.6**	**-0.3**
VAF	**Ylistaro**	**3.70**	**309**	P	**Pn**	**13 15 06.1**	**+1.2**
VAF				S	**Sn**	**13 15 49.6**	**-0.3**
HFS	**Hagfors**	**7.61**	**271**	Pn	**Pn**	**13 15 57.7**	**-2.4**
	baz=86,slow=11						
HFS	**Hagfors**	**7.61**	**271**	*eP*	**Pn**	**13 15 57.7**	**-2.4**
ARA0	**ARCESS Array S**	**8.81**	**352**	Pn	**P**	**13 16 12.9**	**-3.9**
	baz=168,slow=14						
ARA0				Sn	**Sn**	**13 17 49.4**	**-8.6**
	baz=169,slow=28						
ARA0	**ARCESS Array S**	**8.81**	**352**	*eP*	**P**	**13 16 12.9**	**-3.9**
ARA0				*eS*	**Sn**	**13 17 49.4**	**-8.6**
ARA0	**ARCESS Array S**	**8.81**	**352**	Pn	**P**	**13 16 12.9**	**-3.9**
	SNR=8.1						

IDC 23 13:16:08.1±1.7, 11.17N×139.97E, mb3.6/4, mb1 3.9/4, mb1mx3.7/18, mbtmp3.6/4, Error ellipse: s-maj=206.8km s-min=24.9km az=106.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.41**	**190**	P	P	13 22 30.8	-2.5
	0.9nm,0.6s,baz=10,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**35.12**	**190**	P	P	13 23 03.6	-1.9
	0.6nm,0.4s,baz=21,slow=12,SNR=10						
ASAR				PcP	PcP	13 25 35.6	-1.8
	0.4nm,1.1s,baz=13,slow=2.4,SNR=4.3						
ILAR	**Eielson Array**	**72.79**	**25**	P	P	13 27 39.5	-0.6
	0.3nm,0.7s,baz=255,slow=5.7,SNR=4.0						
YKA	**Yellowknife Ar**	**87.18**	**27**	P	P	13 28 54.1	-3.0
	0.3nm,0.6s,baz=290,slow=5.0,SNR=3.3						

*BJI **23** 13:16:51.5, 8.19N×93.75E, h29km, mb4.3, Ms3.9*
*NEIC **23** 13:16:53.1±0.7, 8.13N×94.17E, h30km, mb4.3/8, Error ellipse: s-maj=20.7km s-min=14.8km az=90.0*
*IDC **23** 13:17:00.5±5.1, 8.33N×94.50E, h92km±46km, mb3.7/14, mb1 3.8/15, mb1mx3.8/22, mbtmp4.0/15, MS3.4/3, Ms1 3.5/3, ms1mx3.0/19, Error ellipse: s-maj=30.0km s-min=16.8km az=57.0*
ISC 23 13:16:50.5±0.7, 8.06N±0.09×94.2E±0.1, h30km, n37, σ0§96/34, mb4.2/25, MS3.7/2, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.34**	**24**	*eP*	**P**	**13 19 34.1**	**+0.4**
	2.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**11.34**	**24**	P	**P**	**13 19 34.3**	**+0.6**
	0.1nm,0.3s,baz=212,slow=14,SNR=18						
CMAR				LR	LR	13 23 56.7	
	comp=Z,57nm,19.6s,baz=220,slow=38						
SHL	**Shillong**	**17.55**	**353**	*eP*	**P**	**13 20 52.0**	**-2.7**
KMI	**Kunming**	**18.85**	**25**	P	**P**	**13 21 14.0**	**+3.3**
	8.0nm,1.0s						
JIRN	**Jiri**	**20.90**	**340**	*eP*	**P**	**13 21 32.2**	**-0.8**
	84nm,1.5s						
PKI	**Pulchoki**	**21.10**	**338**	*eP*	**P**	**13 21 35.1**	**+0.1**
	61nm,1.2s,mb4.8						
DMN	**Daman**	**21.25**	**337**	*eP*	**P**	**13 21 37.2**	**+0.7**
	23nm,0.8s,mb4.5						
KKN	**Kakani**	**21.34**	**338**	*eP*	**P**	**13 21 38.2**	**+0.7**
	39nm,1.0s,mb4.7						
LSA	**Lhasa**	**21.71**	**353**	P	**P**	**13 21 40.0**	**-1.2**
LSA	**Lhasa**	**21.71**	**353**	*eP*	**P**	**13 21 40.4**	**-0.8**
	5.3nm,0.6s,mb4.2						
GKN	**Gorkha**	**21.78**	**337**	*eP*	**P**	**13 21 42.5**	**+0.6**
	39nm,0.9s,mb4.8						
KOLN	**Koldanda**	**22.00**	**334**	*eP*	**P**	**13 21 44.7**	**+0.6**
	71nm,1.3s,mb4.9						
NDI	**New Delhi**	**25.99**	**324**	*e*	**P**	**13 22 23.0**	**+0.3**
AAK	**Ala-Archa**	**38.54**	**337**	P	**P**	**13 24 10.6**	**-1.6**
	5.0nm,1.1s,mb4.2						
SONM	**Songino Array**	**40.98**	**13**	P	**P**	**13 24 32.7**	**+0.4**
	1.3nm,1.0s,mb3.5,baz=190,slow=7.5,SNR=7.9						
ULN	**Ulaanbaatar**	**41.16**	**13**	*eP*	**P**	**13 24 33.4**	**-0.4**
	1.9nm,1.1s,mb3.6						
KURK	**Kurchatov**	**44.44**	**346**	*eP*	**P**	**13 24 60.0**	**-0.5**
	8.8nm,1.2s,mb4.4						
ZAL	**Zalesovo**	**46.37**	**352**	P	**P**	**13 25 17.0**	**+1.3**
	4.7nm,1.2s,mb4.3,baz=305,slow=10,SNR=7.9						
ZAL	**Zalesovo**	**46.37**	**352**	P	**P**	**13 25 17.0**	**+1.3**
WRA	**Warramunga Arr**	**48.36**	**126**	P	**P**	**13 25 31.8**	**0.0**
	0.7nm,0.9s,mb3.7,baz=304,slow=8.7,SNR=5.4						
BVAR	**Borovoye Array**	**48.82**	**341**	P	**P**	**13 25 34.8**	**-0.2**
	0.8nm,0.7s,mb3.9,baz=146,slow=5.3,SNR=4.8						
BRVK	**Borovoye**	**48.88**	**341**	*eP*	**P**	**13 25 34.4**	**-1.1**
	4.8nm,1.3s,mb4.4						
CHKZ	**Chkalovo**	**49.30**	**342**	*eP*	**P**	**13 25 38.1**	**-0.6**
	5.2nm,1.0s,mb4.5						
ASAR	**Alice Springs**	**50.02**	**130**	P	**P**	**13 25 44.0**	**-0.6**
	1.3nm,1.1s,mb3.9,baz=306,slow=8.0,SNR=5.4						
GNI	**Garni**	**54.32**	**314**	LR	LR	13 54 57.4	
	comp=Z,26nm,18.0s,MS3.3,baz=156,slow=42						
KMBO	**Kilima Mbogo**	**57.45**	**264**	P	**P**	**13 26 43.4**	**+3.9**
	2.7nm,0.9s,mb4.3,baz=52,slow=10,SNR=8.0						
KMBO	**Kilima Mbogo**	**57.45**	**264**	*eP*	**P**	**13 26 43.3**	**+3.8**
	4.7nm,1.0s,mb4.5						
BRTR	**Keskin Array B**	**62.32**	**311**	P	**P**	**13 27 15.9**	**+3.4**
	0.8nm,0.7s,mb3.9,baz=135,slow=7.0,SNR=3.8						
AKASG	**Malin Array Be**	**68.02**	**322**	P	**P**	**13 27 47.9**	**-1.2**
	0.6nm,0.6s,mb3.8,baz=94,slow=4.7,SNR=3.6						
MLR	**Muntele Rosu**	**69.05**	**316**	P	**P**	**13 28 00.6**	**+5.0**
	3.2nm,0.9s,mb4.2,baz=92,slow=8.7,SNR=3.4						
FINES	**FINESS Array B**	**72.56**	**332**	P	**P**	**13 28 16.3**	**-0.1**
	0.5nm,0.5s,mb3.7,baz=90,slow=5.7,SNR=6.7						
ARCES	**ARCESS Array B**	**75.10**	**340**	P	**P**	**13 28 31.7**	**+0.6**
	3.7nm,0.8s,mb4.3,baz=108,slow=5.7,SNR=3.6						
ARCES				LR	LR	14 07 47.2	
	comp=Z,85nm,18.2s,MS4.1,baz=181,slow=41						
GERES	**GERESS Array B**	**77.70**	**318**	P	**P**	**13 28 46.4**	**+0.3**
	1.1nm,0.7s,mb3.9,baz=90,slow=4.0,SNR=8.8						
HFS	**Hagfors**	**78.30**	**330**	P	**P**	**13 28 48.9**	**-0.2**
	1.9nm,0.7s,mb4.1,baz=104,slow=6.1,SNR=4.3						
DAVOX	**Davos**	**80.27**	**316**	P	**P**	**13 29 01.3**	**+1.2**
	1.4nm,0.5s,mb4.2						
PLCA	**Paso Flores**	**144.72**	**200**	PKPbc	PKPbc	13 36 28.5	+3.9
	2.2nm,0.9s,baz=149,slow=6.0,SNR=3.5						
CPUP	**Villa Florida**	**147.38**	**233**	PKPbc	PKPdf	13 36 36.6	+1.9
	0.0nm,0.5s,baz=198,slow=15,SNR=1.6						

IGQ 23 13:23:48.9, 1.10S×81.71W, h12km±7km, mb4.4, 5C-8D, Error ellipse: s-maj=9.7km s-min=7.5km az=148.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.16**	**88**	||P	Pb	13 24 08.1	-2.3
IGUA	**Igualata**	**3.10**	**97**	||P	Pn	13 24 40.0	+1.4
IGUA				S	Sn	13 25 17.7	+1.8
JUA2	**San Juan 2**	**3.23**	**74**	P	Pn	13 24 42.2	+1.8
JUA2				S	Sn	13 25 16.6	-2.6
TERV	**Terraza Guagua**	**3.24**	**74**	||P	Pn	13 24 42.2	+1.6
PINO	**Pino**	**3.24**	**73**	||P	Pn	13 24 42.0	+1.4
JUIV	**Juive**	**3.26**	**96**	P	Pn	13 24 42.9	+2.0
NAS1	**Nasa**	**3.26**	**82**	P	Pn	13 24 40.6	-0.3
ARRY	**Arrayan**	**3.28**	**97**	||P	Pn	13 24 42.6	+1.4
ARRY				S	Sn	13 25 17.1	-3.4
YANA	**Yana**	**3.29**	**73**	||P	Pn	13 24 42.4	+1.1
PATA	**Patacocha**	**3.30**	**97**	P	Pn	13 24 42.1	+0.7
ULBA	**Ulba**	**3.32**	**96**	P	Pn	13 24 43.7	+1.9
ULBA				S	Sn	13 25 21.8	+0.3
PISA	**Pisayambo**	**3.32**	**89**	||P	Pn	13 24 43.4	+1.6
VC1	**Cotopaxi 1**	**3.34**	**82**	||P	Pn	13 24 44.5	+2.5
VC1				S	Sn	13 25 27.5	+5.6
TAMB	**Tambo**	**3.37**	**83**	||P	Pn	13 24 45.6	+3.2
ANTI	**Antisana**	**3.61**	**80**	||P	Pn	13 24 48.1	+2.3
COTA	**Cotacachi**	**3.66**	**67**	||P	Pn	13 24 48.3	+1.7
CAYR	**Refugio Cayamb**	**3.86**	**73**	||P	Pn	13 24 53.0	+3.5
CAYR				S	Sn	13 25 35.9	+0.6
CAYA	**Cayambe**	**3.90**	**73**	||P	Pn	13 24 53.2	+3.2

IDC 23 13:42:32.6±12.0, 6.01N×94.51E, mb3.2/2, mb1 3.6/3, mb1mx3.3/18, mbtmp3.3/3, Error ellipse: s-maj=321.5km s-min=47.0km az=84.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.11**	**19**	Pn	P	13 45 40.2	-2.6
	baz=210,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**46.90**	**124**	P	P	13 51 05.8	-1.2
	0.4nm,0.9s,baz=308,slow=8.7,SNR=5.1						
ASAR	**Alice Springs**	**48.45**	**129**	P	P	13 51 16.6	-2.6
	0.1nm,0.5s,baz=304,slow=7.9,SNR=5.8						

*NEIC **23** 14:12:27.6±0.7, 8.09N×92.74E, mb4.2/2, Error ellipse: s-maj=16.5km s-min=11.1km az=54.0*
*IDC **23** 14:12:28.2±1.1, 8.54N×93.18E, h30km±5km, mb3.6/8, mb1 3.8/9, mb1mx3.6/19, mbtmp3.7/9, ML4.0/1, MS3.6/3, Ms1 3.6/3, ms1mx3.0/22, Error ellipse: s-maj=46.9km s-min=13.7km az=58.0*
ISC 23 14:12:25.5±0.6, 8.19N±0.08×92.82E±0.09, h29km, h29km±2.0km: pP-P, n28, σ1§11/25, mb4.1/12, MS3.6/3, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.81**	**30**	*eP*	**P**	**14 15 17.4**	**+2.2**
CMAR	**Chiang Mai Arr**	**11.81**	**30**	Pn	**P**	**14 15 14.0**	**-1.2**
	0.3nm,0.3s,baz=228,slow=16,SNR=9.3						
HYB	**Hyderabad**	**16.65**	**305**	P	**P**	**14 16 19.0**	**+0.5**
HYB	**Hyderabad**	**16.65**	**305**	||P	**P**	**14 16 19.0**	**+0.5**
QIZ	**Qiongzhong**	**19.72**	**55**	*eP*	**P**	**14 16 57.5**	**+1.6**
JIRN	**Jiri**	**20.35**	**343**	*eP*	**P**	**14 17 01.0**	**-1.4**
	16nm,0.5s						
PKI	**Pulchoki**	**20.51**	**341**	*eP*	**P**	**14 17 03.7**	**-0.4**
DMN	**Daman**	**20.64**	**340**	*eP*	**P**	**14 17 04.4**	**-1.1**
	29nm,0.9s						
KKN	**Kakani**	**20.75**	**341**	*eP*	**P**

WRA **Warramunga Arr** 42.57 266 P P 14 24 33.3 -0.4
5.7nm,0.4s,mb4.4,baz=98,slow=8.3,SNR=14.5
KAKA **Kakadu** 46.51 275 ||i P P 14 25 03.7 -0.9
4.3nm,0.2s,mb4.5
FITZ **Fitzroy Crossi** 50.99 266 eP P 14 25 38.1 -0.2
5.4nm,0.5s,mb4.1
MAW **Mawson** 77.58 200 P P 14 28 26.4 -0.1
1.3nm,0.6s,mb3.5,baz=148,slow=9.5,SNR=4.2
ARCES **ARCESS Array B** 132.17 348 PKP PKPdf 14 35 39.3 +1.0
3.7nm,1.0s,baz=29,slow=1.9,SNR=5.3
FINES **FINESS Array B** 138.74 341 SKP 14 38 40.5
1.0nm,0.8s,baz=34,slow=5.0,SNR=5.1
BRTR **Keskin Array B** 147.87 307 PKPbc PKPdf 14 36 11.9 +5.0
0.5nm,0.6s,baz=141,slow=7.9,SNR=2.9
BRTR PKPab PKPab 14 36 16.6 -0.4
0.8nm,0.6s,baz=101,slow=2.1,SNR=3.9
CLL **Collm** 151.15 343 ePKP1 PKPdf 14 36 20.0 +8.4

*MOS **23** 14:17:39.3±1.5, 52.74N×158.72E, h102km, mb4.2/7, Error ellipse: s-maj=16.0km s-min=8.0km az=79.3*
*KRSC **23** 14:17:40.3±0.5, 52.72N×158.85E, h95km±2km, ML4.5*
*NEIC **23** 14:17:41.0±0.5, 52.80N×158.61E, mb3.9/4, Error ellipse: s-maj=12.4km s-min=9.2km az=155.0*
*IDC **23** 14:17:46.6±3.1, 52.91N×158.45E, h148km±27km, mb3.4/17, mb1 3.6/18, mb1mx3.6/22, mbtmp3.8/18, MS3.4/1, Ms1 3.4/1, ms1mx2.6/17, Error ellipse: s-maj=18.7km s-min=13.6km az=154.0*

ISC 23 14:17:39.9±0.3, 52.73N±0.03×158.75E±0.07, h105km±2km, n77, σ1°18/101, mb3.7/21, 1C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**0.30**	**349**	**P**	**P**	**14 17 54.9**	**-0.3**
PET				S	S	14 18 05.3	-1.3
PET	**Petropavlovsk**	**0.30**	**349**	ePn	P	14 17 54.7	-0.4
PET				eSn	S	14 18 04.8	-1.8
PET	**Petropavlovsk**	**0.30**	**349**	i P	P	14 17 54.9	-0.3
PET				i S	S	14 18 04.8	-1.8
RUS	**Russkaya**	**0.33**	**206**	P	P	14 17 54.9	-0.4
RUS	**Russkaya**	**0.33**	**206**	i P	P	14 17 54.8	-0.5
RUS				i S	S	14 18 05.4	-1.5
KRMR	**Karymshinskiy**	**0.39**	**285**	i P	P	14 17 55.4	-0.2
KRMR				i S	S	14 18 06.4	-1.0
GRL	**Gorelyy**	**0.45**	**247**	i P	P	14 17 56.8	+0.8
GRL				i S	S	14 18 08.8	+0.7
UGLR	**Uglovaya**	**0.48**	**5**	i P	P	14 17 56.3	+0.1
SMAR	**Somma**	**0.53**	**3**	i P	P	14 17 56.6	0.0
AVH	**Avacha**	**0.53**	**359**	i P	P	14 17 57.0	+0.4
AVH				i S	S	14 18 09.0	-0.1
SDLR	**Sedlovina**	**0.55**	**8**	i P	P	14 17 56.5	-0.2
SDLR				i S	S	14 18 08.3	-1.0
KOK	**Koryaka**	**0.56**	**353**	i P	P	14 17 57.2	+0.4
KOK				i S	S	14 18 09.5	0.0
NLC	**Nalytchevo**	**0.57**	**39**	i P	P	14 17 56.2	-0.6
SPN	**Mys Shipunski**	**0.85**	**64**	i P	P	14 17 59.0	-0.5
APC	**Apacha**	**0.98**	**282**	i P	P	14 18 02.0	+1.2
APC				i S	S	14 18 17.5	+1.0
APC				Smax			
980nm,1.0s							
GNL	**Ganaly**	**1.08**	**334**	i P	P	14 18 02.1	+0.3
GNL				i S	S	14 18 18.0	-0.3
PAU	**Pauzhetka**	**1.74**	**224**	i P	P	14 18 11.5	+1.6
PAU				eS	S	14 18 33.5	+1.3
PAU				Smax			
1μm,0.6s							
SKR	**Severo-Kuril's**	**2.63**	**220**	ePN	P	14 18 19.4	-2.3
SKR				i S	S	14 18 51.4	-1.6
SKR				pmax	pmax		
comp=N,60nm,0.6s							
SKR				pmax	pmax		
comp=Z,110nm,0.6s							
SKR				pmax	pmax		
comp=E,80nm,0.4s							
SKR				smax			
comp=N,150nm,0.5s							
SKR				smax			
comp=E,390nm,0.5s							
SKR				smax			
comp=Z,140nm,0.5s							
TUMR	**Tumrok**	**2.69**	**17**	eP	P	14 18 24.0	+1.5
TUMR				eS	S	14 18 55.8	+1.4
KMNR	**Kamenistaya**	**3.15**	**15**	eP	P	14 18 30.6	+1.8
KMNR				eS	S	14 19 06.9	+1.1
ESO	**Esso**	**3.20**	**359**	i P	P	14 18 30.4	+0.9
ESO				eS	S	14 19 06.4	-0.5
ESO				Smax			
comp=Z,80nm,0.7s							
KOZ	**Kozyrevsk**	**3.40**	**11**	P	P	14 18 32.8	+0.6
KOZ				S	S	14 19 12.1	+0.4
KOZ	**Kozyrevsk**	**3.40**	**11**	eP	P	14 18 32.4	+0.2
KOZ				eS	S	14 19 10.3	-1.4
KOZR	**Kozyr**	**3.41**	**11**	PN	P	14 18 32.8	+0.5
KOZR				S	S	14 19 12.1	+0.1
ZLN	**Zelenaya**	**3.50**	**19**	eP	P	14 18 35.7	+2.1
SRDR	**Sredinnyy**	**3.64**	**9**	eP	P	14 18 36.0	+0.6
SVLR	**Shiveluch**	**4.11**	**19**	eP	P	14 18 43.0	+1.1
SVLR				eS	S	14 19 28.7	-0.5
KBTR	**Krutoberegovo**	**4.21**	**33**	P	P	14 18 43.1	-0.2
KBTR				S	S	14 19 29.6	-2.1
KBTR	**Krutoberegovo**	**4.21**	**33**	eP	P	14 18 43.2	-0.1
KBTR				i S	S	14 19 29.6	-2.1
KBG	**Krutoberegovo**	**4.22**	**32**	e	P	14 18 47.0	+3.7
BKI	**Bering**	**4.93**	**57**	i P	P	14 18 51.1	-1.9
BKI				i S	S	14 19 41.9	-7.4
MA2	**Magadan**	**8.17**	**330**	ePn	P	14 19 37.2	-0.1
MA2				eSn	Px	14 20 35.9	
FX1	**Attu Island--F**	**8.74**	**83**	P	P	14 19 44.3	-0.5
FX1				S	S	14 21 15.4	-7.0
FX1	**Attu Island--F**	**8.74**	**83**	ePn	P	14 19 43.5	-1.4
FX1				eSn	S	14 21 16.6	-5.8
YSS	**Yuzh-Sakhalins**	**11.82**	**247**	||ePN	P	14 20 27.9	+1.8
ASAJ	**Asahikawa**	**13.73**	**238**	P	P	14 20 53.2	+2.3
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASAJ	**Asahikawa**	**13.73**	**238**	P	P	14 20 53.2	+2.3
comp=Z,0.8nm,0.3s,baz=69,slow=10,SNR=7.9							
BILL	**Bilibino**	**15.78**	**10**	i P	P	14 21 19.4	+2.6
BILL				pmax	pmax		
comp=Z,4.0nm,2.0s							
BILL	**Bilibino**	**15.78**	**10**	P	P	14 21 17.8	+1.0
comp=Z,1.2nm,0.5s							
YAK	**Yakutsk**	**18.07**	**312**	c iP	P	14 21 44.0	-1.1
YAK				pmax	pmax		
comp=Z,23nm,0.6s							
YAK	**Yakutsk**	**18.07**	**312**	eP	P	14 21 43.4	-1.7
comp=Z,29nm,0.6s							
MAJO	**Matsushiro**	**21.69**	**230**	eP	P	14 22 22.5	-0.7
MAJO				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.0							
MAJO	**Matsushiro**	**21.69**	**230**	eP	P	14 22 22.5	-0.6
comp=Z,4.9nm,0.6s,mb4.0							
MAT	**Matsushiro**	**21.69**	**230**	eP	P	14 22 24.0	+0.8
MAT	**Matsushiro**	**21.69**	**230**	P	P	14 22 23.6	+0.4
TIXI	**Tiksi**	**23.08**	**336**	||eP	P	14 22 36.6	+0.3
TIXI				pmax	pmax		
comp=Z,3.0nm,0.5s,mb3.9							
ILAR	**Eielson Array**	**29.65**	**45**	P	P	14 23 36.3	-0.8
ILAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
ILAR	**Eielson Array**	**29.65**	**45**	P	P	14 23 36.3	-0.8
comp=Z,0.5nm,0.7s,mb3.3,baz=254,slow=5.3,SNR=8.4							
SONM	**Songino Array**	**33.19**	**283**	P	P	14 24 07.5	-0.7
comp=Z,0.2nm,0.5s,mb3.2,baz=63,slow=6.4,SNR=4.1							
SONM				PcP	PcP	14 26 48.7	0.0
comp=Z,0.3nm,0.6s,baz=90,slow=2.2,SNR=4.3							
SONM				ScP		14 30 15.0	
comp=Z,0.6nm,1.2s,baz=76,slow=5.1,SNR=3.6							
INK	**Inuvik**	**34.65**	**37**	P	P	14 24 21.0	+0.5
INK				pmax	pmax		
comp=Z,1.0nm,0.4s							
INK	**Inuvik**	**34.65**	**37**	P	P	14 24 20.9	+0.4
comp=Z,0.6nm,0.4s,mb3.8,baz=304,slow=6.6,SNR=10							
SSE	**Sheshan**	**34.77**	**247**	eP	P	14 24 24.2	+2.3
comp=Z,29nm,0.7s							
ZAL	**Zalesovo**	**42.30**	**302**	PcP	PcP	14 27 17.2	+0.6
comp=Z,0.9nm,0.4s,baz=45,slow=2.5,SNR=4.2							
ZAL				LR	LR	14 42 37.9	
comp=Z,41nm,18.0s,baz=342,slow=36							
NVS	**Novosibirsk**	**42.65**	**304**	eP	P	14 25 25.4	-1.6
YKA	**Yellowknife Ar**	**43.98**	**42**	P	P	14 25 39.1	+1.5
comp=Z,0.1nm,0.4s,mb2.9,baz=297,slow=7.8,SNR=3.0							
CHKZ	**Chkalovo**	**49.47**	**309**	eP	P	14 26 17.6	-3.3
CHKZ				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.3							
CHKZ	**Chkalovo**	**49.47**	**309**	eP	P	14 26 17.6	-3.3
comp=Z,2.5nm,0.5s,mb4.4							
BVAR	**Borovoye Array**	**49.97**	**308**	P	P	14 26 22.2	-2.5
comp=Z,1.3nm,0.4s,mb4.2,baz=60,slow=7.6,SNR=12							
BVAR				PcP	PcP	14 27 42.5	-1.0
comp=Z,2.3nm,0.5s,baz=60,slow=2.6,SNR=15							
BRVK	**Borovoye**	**50.00**	**308**	eP	P	14 26 22.6	-2.3
ARCES	**ARCESS Array B**	**53.37**	**341**	P	P	14 26 47.8	-2.3
ARCES				pmax	pmax		
comp=Z,6.0nm,1.1s							
ARCES	**ARCESS Array B**	**53.37**	**341**	P	P	14 26 47.8	-2.3
comp=Z,6.2nm,1.1s,mb4.5,baz=43,slow=7.4,SNR=5.5							
NVAR	**Mina Array Bea**	**56.63**	**69**	P	P	14 27 14.9	+0.9
comp=Z,0.4nm,0.7s,mb3.5,baz=292,slow=7.9,SNR=3.9							
BW06	**Boulder Array**	**58.41**	**60**	eP	P	14 27 27.4	+1.0
comp=Z,0.8nm,0.8s,mb3.8							
PDAR	**Pinedale Array**	**58.41**	**60**	P	P	14 27 27.4	+1.0
comp=Z,0.7nm,0.7s,mb3.8,baz=12,slow=4.0,SNR=5.3							
PDAR				pP	pP	14 27 52.0	-0.1
comp=Z,0.5nm,0.7s,baz=307,slow=3.0,SNR=3.5							
FINES	**FINESS Array B**	**60.12**	**336**	P	P	14 27 36.3	-1.6
FINES						14 28 19.9	
FINES				pmax	pmax		
comp=Z,1.0nm,0.5s							
FINES				pmax	pmax		
comp=Z,2.0nm,1.0s							
FINES	**FINESS Array B**	**60.12**	**336**	P	P	14 27 36.2	-1.7
comp=Z,0.9nm,0.5s,mb4.0,baz=38,slow=8.4,SNR=10							
FINES				PcP	PcP	14 28 19.9	-2.4
comp=Z,2.1nm,1.0s,baz=45,slow=2.7,SNR=3.5							
FINES	**FINESS Array B**	**60.12**	**336**	P	P	14 27 36.2	-1.7
FINES				PcP	PcP	14 28 19.9	-2.4
NB2	**NORSAR Subarra**	**63.66**	**343**	P	P	14 27 59.3	-2.1
comp=Z,1.5nm,0.5s,mb4.1,baz=30,slow=6.2							
NOA	**NORSAR Array B**	**63.66**	**343**	P	P	14 28 00.0	-1.4
NOA				pmax	pmax		
comp=Z,1.0nm,0.5s							
NOA	**NORSAR Array B**	**63.66**	**343**	P	P	14 28 00.0	-1.4
comp=Z,1.3nm,0.5s,mb4.0,baz=10,slow=5.0,SNR=6.7							
SCHQ	**Schefferville**	**66.34**	**27**	P	P	14 28 17.9	-0.9
comp=Z,1.1nm,0.8s,mb3.8,baz=297,slow=9.0,SNR=3.2							
AKASG	**Malin Array Be**	**68.50**	**328**	P	P	14 28 31.2	-1.1
comp=Z,0.3nm,0.3s,mb3.5,baz=34,slow=6.2,SNR=3.7							
TXAR	**Lajitas Array**	**71.53**	**66**	P	P	14 28 52.1	+1.1
comp=Z,0.2nm,0.4s,mb3.3,baz=281,slow=3.1,SNR=3.7							
TXAR				pP	pP	14 29 17.1	-0.6
comp=Z,0.3nm,0.4s,baz=109,slow=0.8,SNR=2.6							
GERES	**GERESS Array B**	**74.53**	**337**	P	P	14 29 08.2	0.0
comp=Z,0.4nm,0.5s,mb3.4,baz=23,slow=7.5,SNR=3.4							
WRA	**Warramunga Arr**	**75.42**	**204**	P	P	14 29 13.6	-0.2
comp=Z,0.4nm,0.5s,mb3.5,baz=22,slow=6.0,SNR=5.7							
ASAR	**Alice Springs**	**79.10**	**203**	P	P	14 29 35.4	+1.2
comp=Z,1.2nm,1.1s,mb3.6,baz=11,slow=5.6,SNR=4.7							
ESDC	**Sonseca Array**	**86.75**	**347**	P	P	14 30 12.6	-0.1
comp=Z,0.6nm,0.5s,mb3.8,baz=4.0,slow=4.1,SNR=6.9							

MAN 23 14:18:19.7, 9.43N×125.75E, h12km, mb4.2, ML3.0, MS2.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.44**	**324**	i P	Pg	14 18 29.2	+0.5
SCPH				eS	Sg	14 18 39.9	+5.2
BUTP	**Butuan**	**0.47**	**195**	eP	Pg	14 18 29.5	+0.2
BUTP				eS	Sg	14 18 40.8	+5.1
MSLP	**Maasin**	**1.12**	**309**	eP	Pb	14 18 41.2	+0.7
BUKP	**Musuan**	**1.68**	**204**	eP	Pn	14 18 48.7	-0.4
OCLP	**Ormoc**	**1.96**	**325**	eP	Pn	14 18 52.6	-0.6

NDI 23 14:20:39.0±5.3, 29.75N×80.44E, h12km±23km, MD2.9, ML2.9, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**0.28**	**224**	eP	Pg	14 20 42.5	-2.5
PTH				eS	Sg	14 20 48.7	-0.3
KALG	**Kalgarh**	**1.49**	**261**	eP	Pn	14 20 51.3	-14
KALG				eS	Sb	14 21 12.7	-12
KALG				e		14 21 15.9	
comp=E,335nm,0.4s							
DDI	**Dehra Dun**	**2.14**	**286**	eP	Pn	14 21 16.1	+1.0
DDI				e		14 21 49.7	
NDI	**New Delhi**	**3.01**	**250**	eS	Sn	14 22 02.0	-1.8
SMLA	**Simla**	**3.14**	**297**	i P	Pn	14 21 46.9	+18
SMLA				i S	Sn	14 22 19.6	+12
AYAN	**Aya Nagar**	**3.16**	**247**	eP	Pn	14 21 28.4	-1.2
AYAN				eS	Sn	14 22 05.3	-2.4
KHET	**Khetri**	**4.39**	**249**	eS	Sn	14 22 34.2	-4.6
KHET				e		14 22 55.9	
comp=E,16nm,0.1s							
KHET				e		14 23 06.5	
comp=N,22nm,0.1s							

IDC 23 14:31:51.2±4.2, 8.12N×91.94E, mb3.4/2, mb1 3.7/3, mb1mx3.4/18, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=109.6km s-min=34.1km az=76.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.33**	**33**	Pn	P	14 34 46.9	-4.1
0.1nm,0.3s,baz=227,slow=14,SNR=11							
SONM	**Songino Array**	**41.44**	**15**	P	P	14 39 40.1	-1.1
0.7nm,1.1s,baz=196,slow=9.0,SNR=5.1							
WRA	**Warramunga Arr**	**50.19**	**124**	P	P	14 40 48.9	-2.2
0.3nm,0.5s,baz=302,slow=9.4,SNR=2.8							

*NIED **23** 14:46:00, 33.90N×141.90E, h5km, Mw3.7 Best double couple: M0=4.32×10^14 NP1:φs=326°, δ48°, λ-70°. NP2: φs=117°, δ46°, λ-111°.*
*JMA **23** 14:46:26.0±0.3, 33.95N×141.91E, h59km±4km, M3.7*
*NEIC **23** 14:46:28.7±4.4, 33.88N×141.67E, h28km±30km, mb4.2/3, Error ellipse: s-maj=15.2km s-min=12.4km az=89.0*
*IDC **23** 14:46:29.1±5.6, 33.90N×141.76E, h31km±42km, mb3.4/10, mb1 3.7/12, mb1mx3.6/22, mbtmp3.7/12, ML3.9/2, Error ellipse: s-maj=21.5km s-min=15.7km az=96.0*

ISC 23 14:46:26.3±1.6, 33.97N±0.03×141.85E±0.05, h29km±12km, n32, σ1°03/47, mb3.7/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.99**	**314**	P	**Pn**	**14 46 44.6**	**+0.2**
BSO1				eS	**Sn**	**14 46 59.1**	**+1.5**
BSO3	**Boso 3**	**1.38**	**307**	P	**Pn**	**14 46 50.7**	**+0.7**
BSO3				S	**Sn**	**14 47 08.8**	**+1.3**
BSO4	**Boso 4**	**1.61**	**310**	P	**Pn**	**14 46 54.3**	**+1.0**
KTR	**Katsuura**	**1.73**	**313**	P	**Pn**	**14 46 55.5**	**+0.6**
KTR				eS	**Sn**	**14 47 16.0**	**-0.2**
JHJ2	**Mitsune**	**1.90**	**244**	P	**Pn**	**14 46 58.5**	**+1.1**
JHJ2				S	**Sn**	**14 47 22.2**	**+1.6**
CHOJ	**Chosi**	**1.91**	**335**	P	**Pn**	**14 46 57.8**	**+0.2**
CHOJ				eS	**Sn**	**14 47 21.3**	**+0.4**
JHJ	**Hachijo jima 2**	**1.92**	**244**	Pn	**Pn**	**14 46 58.6**	**+0.9**
103nm,0.3s,baz=80,slow=14,SNR=25							
JHJ				Sn	**Sn**	**14 47 21.4**	**+0.3**
194nm,0.3s,baz=82,slow=22,SNR=19							
JIM2	**Oshima 3**	**2.13**	**291**	P	**Pn**	**14 47 00.3**	**-0.5**
JIM2				eS	**Sn**	**14 47 25.4**	**-1.2**
JIZS	**Izushimoda**	**2.57**	**288**	P	**Pn**	**14 47 06.9**	**-0.1**
JIZS				eS	**Sn**	**14 47 36.2**	**-1.4**
JOD2	**Odawara 2**	**2.62**	**300**	P	**Pn**	**14 47 07.0**	**-0.7**
JOD2				eS	**Sn**	**14 47 39.2**	**+0.4**
JYT	**Yasato**	**2.63**	**329**	P	**Pn**	**14 47 08.2**	**+0.3**
JHU	**Hanno**	**2.83**	**312**	P	**Pn**	**14 47 10.5**	**-0.1**
JHU				eS	**Sn**	**14 47 43.3**	**-0.8**
JHO	**Hitachi**	**2.84**	**339**	P	**Pn**	**14 47 10.0**	**-0.8**
JHO				eS	**Sn**	**14 47 42.3**	**-2.1**
JRY	**Ryogami san**	**3.17**	**311**	P	**Pn**	**14 47 15.3**	**-0.2**
MAJO	**Matsushiro**	**3.93**	**312**	ePn	**Pn**	**14 47 26.8**	**+0.4**
MAT	**Matsushiro**	**3.93**	**312**	eP	**Pn**	**14 47 26.0**	**-0.3**
MAT				eS	**Sn**	**14 48 10.0**	**-2.1**
MAT	**Matsushiro**	**3.93**	**312**	P	**Pn**	**14 47 26.4**	**+0.1**
MAT				S	**Sn**	**14 48 10.4**	**-1.7**
CBIJ	**Chichi jima**	**6.86**	**177**	Pn	**Pn**	**14 48 06.5**	**-1.2**
10nm,0.3s,baz=278,slow=21,SNR=4.6							
CBIJ				Sn	**Sn**	**14 49 22.6**	**-2.9**
9.9nm,0.3s,baz=312,slow=16,SNR=2.9							
ASAJ	**Asahikawa**	**10.15**	**3**	Pn	P	**14 48 51.8**	**-1.5**
0.8nm,0.3s,baz=332,slow=14,SNR=3.1							
ASAJ				Sn	**S**	**14 50 36.2**	**-11**
0.2nm,0.3s,baz=324,slow=31,SNR=2.8							
SONM	**Songino Array**	**29.88**	**308**	P	P	**14 52 34.2**	**+0.8**
0.3nm,0.5s,mb3.3,baz=108,slow=9.1,SNR=3.5							
CMAR	**Chiang Mai Arr**	**41.16**	**259**	P	P	**14 54 09.1**	**-0.8**
0.3nm,0.4s,mb3.2,baz=45,slow=7.3,SNR=4.8							
ZAL	**Zalesovo**	**44.29**	**315**	P	P	**14 54 36.3**	**+1.3**
0.6nm,0.5s,mb3.6,baz=341,slow=21,SNR=2.7							
KURK	**Kurchatov**	**48.14**	**310**	eP	P	**14 55 05.2**	**-0.3**
1.6nm,0.6s,mb4.2							
ILAR	**Eielson Array**	**51.91**	**31**	P	P	**14 55 35.3**	**+1.1**
0.6nm,0.9s,mb3.5,baz=271,slow=5.8,SNR=4.3							
CHKZ	**Chkalovo**	**52.69**	**315**	eP	P	**14 55 39.5**	**-0.7**
3.4nm,1.1s,mb4.2							
BVAR	**Borovoye Array**	**52.93**	**314**	P	P	**14 55 41.5**	**-0.4**
0.4nm,0.4s,mb3.7,baz=76,slow=5.9,SNR=6.1							
BRVK	**Borovoye**	**52.98**	**314**	eP	P	**14 55 41.9**	**-0.4**
0.8nm,0.3s,mb4.1							
WRA	**Warramunga Arr**	**54.08**	**189**	P	P	**14 55 49.9**	**-0.9**
0.6nm,0.4s,mb3.9,baz=3.2,slow=7.4,SNR=18							
ASAR	**Alice Springs**	**57.81**	**189**	P	P	**14 56 17.1**	**-0.4**
0.3nm,0.5s,mb3.6,baz=360,slow=5.9,SNR=8.2							
FINES	**FINESS Array B**	**71.69**	**333**	P	P	**14 57 47.0**	**0.0**
1.1nm,0.8s,mb3.8,baz=37,slow=6.9,SNR=4.5							
NVAR	**Mina Array Bea**	**76.55**	**53**	P	P	**14 58 17.9**	**+2.3**
0.3nm,0.7s,mb3.3,baz=297,slow=4.0,SNR=2.9							
PDAR	**Pinedale Array**	**79.57**	**45**	P	P	**14 58 34.3**	**+2.3**
0.2nm,0.5s,mb3.3,baz=333,slow=2.0,SNR=2.6							

IDC 23 15:06:10.1±2.9, 13.51N×92.78E, mb3.3/3, mb1 3.5/4, mb1mx3.4/18, mbtmp3.3/4, ML3.6/1, Error ellipse: s-maj=65.5km s-min=29.8km az=93.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.70**	**49**	Pn	Pn	15 08 03.5	-2.8
0.2nm,0.3s,baz=242,slow=14,SNR=6.2							
CMAR				Sn	Sn	15 09 30.4	-4.9
0.1nm,0.3s,baz=247,slow=19,SNR=2.7							
SONM	**Songino Array**	**36.06**	**16**	P	P	15 13 13.8	-1.5
0.4nm,0.9s,baz=198,slow=4.6,SNR=2.6							
WRA	**Warramunga Arr**	**52.69**	**128**	P	P	15 15 27.2	-1.8
0.4nm,0.8s,baz=302,slow=9.6,SNR=3.8							
ASAR	**Alice Springs**	**54.60**	**132**	P	P	15 15 40.2	-2.7
0.2nm,0.5s,baz=313,slow=7.1,SNR=5.9							

*IDC **23** 15:09:58.0±0.9, 10.87N×141.25E, mb3.6/6, mb1 3.9/6, mb1mx3.8/18, mbtmp3.6/6, MS3.2/2, Ms1 3.2/2, ms1mx2.6/23, Error ellipse: s-maj=46.0km s-min=21.1km az=93.0*
*NEIC **23** 15:10:02.6±0.7, 10.84N×141.17E, h30km, mb4.3/1, Error ellipse: s-maj=31.7km s-min=14.9km az=89.0*

ISC 23 15:09:57.7±0.9, 10.8N±0.1×141.1E±0.3, h10km, n10, σ0°87/7, mb3.7/7, MS3.1/2, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.14**	**171**	LR	LR	15 26 12.5	
comp=Z,49nm,20.5s,MS3.2,baz=225,slow=31							
WRA	**Warramunga Arr**	**31.31**	**192**	P	P	**15 16 20.2**	**-0.4**
1.0nm,0.7s,mb3.7,baz=12,slow=9.7,SNR=7.5							
ASAR	**Alice Springs**	**35.01**	**192**	P	P	**15 16 53.1**	**+0.4**
0.7nm,0.7s,mb3.7,baz=22,slow=12,SNR=9.1							
ASAR				LR	LR	15 30 34.3	
comp=Z,33nm,18.8s,MS3.1,baz=227,slow=35							
SONM	**Songino Array**	**47.00**	**328**	P	P	**15 18 31.9**	**+0.9**
0.1nm,0.5s,mb3.0,baz=135,slow=8.2,SNR=2.9							
KURK	**Kurchatov**	**64.38**	**321**	eP	P	**15 20 35.1**	**-0.9**
1.8nm,0.7s,mb4.2							
BVAR	**Borovoye Array**	**69.84**	**323**	P	P	**15 21 10.5**	**-0.1**
0.6nm,0.6s,mb3.7,baz=112,slow=9.5,SNR=5.6							
ILAR	**Eielson Array**	**72.60**	**25**	P	P	**15 21 25.6**	**-1.3**
0.4nm,0.6s,mb3.5,baz=249,slow=5.6,SNR=6.9							
YKA	**Yellowknife Ar**	**86.96**	**27**	P	P	**15 22 45.3**	**+1.3**
0.2nm,0.4s,mb3.7,baz=287,slow=5.1,SNR=6.4							
LPAZ	**La Paz**	**151.06**	**104**	PKPbc	PKPdf	15 29 55.0	+5.9
1.6nm,1.0s,baz=270,slow=1.0,SNR=4.1							
LPAZ	**La Paz**	**151.06**	**104**	PKPbc	PKPdf	15 29 55.0	+5.9

*NEIC **23** 15:13:37.4±4.4, 5.65N×93.19E, h4km±27km, mb4.4/4, Error ellipse: s-maj=11.4km s-min=8.7km az=49.0*
*IDC **23** 15:13:42.5±8.5, 5.73N×93.29E, h37km±68km, mb3.9/9, mb1 4.0/10, mb1mx3.8/20, mbtmp4.1/10, ML4.0/1, Error ellipse: s-maj=53.5km s-min=15.8km az=58.0*

ISC 23 15:13:39.6±0.6, 5.64N±0.09×93.2E±0.1, h33km, n18, σ0°99/18, mb4.2/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.48**	**278**	Pn	P	**15 16 35.6**	**-2.2**
PALK				eSn	S	**15 18 47.3**	**-9.4**
CMAR	**Chiang Mai Arr**	**13.94**	**23**	Pn	P	**15 16 56.5**	**-0.7**
0.2nm,0.3s,baz=220,slow=13,SNR=8.8							
LSA	**Lhasa**	**24.01**	**356**	eP	P	**15 18 54.1**	**+1.6**
SONM	**Songino Array**	**43.55**	**13**	P	P	**15 21 41.8**	**-0.3**
2.0nm,1.0s,mb3.8,baz=197,slow=7.8,SNR=11							

BRTR Keskin Array B 61.26 311 P **P 15 26 24.4 -0.8**
1.1nm,1.1s,mb3.9,baz=90,slow=4.3,SNR=2.8

*NEIC **23** 15:23:22.2±0.8,5.14N×94.70E,h30km,mb4.1/4,Error ellipse: s-maj=38.8km s-min=9.9km az=55.0*
*IDC **23** 15:23:40.8±10.0,5.35N×95.10E,h196km±91km,mb3.3/8, mb1 3.5/9,mb1mx3.3/19,mbtmp3.8/9,Error ellipse: s-maj=76.1km s-min=13.9km az=57.0*
ISC 23 15:23:20.3±1.1,5.2N±0.2×94.7E±0.3,h30km,n14, σ0§80/14,mb3.9/13,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.86**	**17**	P	**P**	**15 26 46.0**	**+8.7**
	0.1nm,0.3s,baz=212,slow=11,SNR=15						
LSA	**Lhasa**	**24.65**	**353**	*eP*	**P**	**15 28 41.2**	**+1.3**
	2.9nm,0.6s,mb4.0						
SONM	**Songino Array**	**43.70**	**11**	P	**P**	**15 31 23.9**	**-0.5**
	0.5nm,0.5s,mb3.5,baz=197,slow=8.4,SNR=6.6						
WRA	**Warramunga Arr**	**46.25**	**124**	P	**P**	**15 31 45.6**	**+0.5**
	1.8nm,0.7s,mb4.1,baz=303,slow=9.3,SNR=18						
WRAB	**Tennant Creek**	**46.26**	**124**	*eP*	**P**	**15 31 45.3**	**+0.1**
	4.3nm,0.7s,mb4.5						
KURK	**Kurchatov**	**47.38**	**346**	*eP*	**P**	**15 31 53.9**	**+0.3**
	1.4nm,0.5s,mb4.2						
ASAR	**Alice Springs**	**47.76**	**128**	P	**P**	**15 31 56.6**	**-0.5**
	0.5nm,0.7s,mb3.7,baz=306,slow=7.7,SNR=9.5						
ZAL	**Zalesovo**	**49.31**	**352**	P	**P**	**15 32 09.2**	**+0.7**
	1.9nm,0.8s,mb4.2,baz=312,slow=6.8,SNR=11						
BVAR	**Borovoye Array**	**51.74**	**342**	P	**P**	**15 32 26.7**	**-0.4**
	0.7nm,0.6s,mb3.8,baz=150,slow=10,SNR=7.7						
BRVK	**Borovoye**	**51.80**	**341**	*eP*	**P**	**15 32 26.5**	**-1.1**
	0.7nm,0.5s,mb3.9						
CHKZ	**Chkalovo**	**52.22**	**342**	*eP*	**P**	**15 32 29.8**	**-0.9**
	1.3nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**75.37**	**332**	P	**P**	**15 35 01.6**	**-1.1**
	1.4nm,0.9s,mb3.9,baz=270,slow=27,SNR=3.4						
ARCES	**ARCESS Array B**	**78.01**	**340**	P	**P**	**15 35 17.7**	**+0.4**
	1.8nm,0.8s,mb4.0,baz=113,slow=6.9,SNR=4.0						
GERES	**GERESS Array B**	**80.23**	**319**	P	**P**	**15 35 31.1**	**+1.4**
	0.2nm,0.6s,mb3.2,baz=127,slow=6.7,SNR=4.6						

*NEIC **23** 15:27:38.6±1.0,5.88N×92.85E,h30km,mb4.1/1,Error ellipse: s-maj=30.4km s-min=15.5km az=70.0*
*IDC **23** 15:27:42.4±13.0,6.01N×93.03E,h60km±106km,mb3.4/5, mb1 3.6/6,mb1mx3.4/19,mbtmp3.7/6,Error ellipse: s-maj=108.3km s-min=23.3km az=59.0*
ISC 23 15:27:36.6±1.2,5.9N±0.2×92.9E±0.2,h30km,n7,σ0§52/7, mb3.8/6,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.81**	**25**	P	**P**	**15 30 53.0**	**+0.1**
	baz=218,slow=15,SNR=4.7						
SONM	**Songino Array**	**43.36**	**13**	P	**P**	**15 35 38.0**	**+0.1**
	0.3nm,0.8s,mb3.1,baz=207,slow=3.2,SNR=2.5						
WRA	**Warramunga Arr**	**48.18**	**123**	P	**P**	**15 36 15.7**	**-0.9**
	1.3nm,0.9s,mb4.0,baz=301,slow=9.2,SNR=5.0						
BVAR	**Borovoye Array**	**50.47**	**343**	P	**P**	**15 36 34.0**	**+0.2**
	0.3nm,0.7s,mb3.5,baz=135,slow=12,SNR=3.0						
CHKZ	**Chkalovo**	**50.97**	**343**	*eP*	**P**	**15 36 37.4**	**-0.1**
	1.0nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**59.68**	**132**	P	**P**	**15 37 41.9**	**+1.0**
	1.2nm,0.8s,mb4.0,baz=303,slow=9.9,SNR=2.9						
ARCES	**ARCESS Array B**	**76.70**	**341**	P	**P**	**15 39 26.0**	**-0.3**
	2.8nm,0.9s,mb4.2,baz=100,slow=5.5,SNR=2.5						

*NEIC **23** 15:34:42.2±1.4,4.72N×94.31E,mb4.1/3,Error ellipse: s-maj=43.6km s-min=15.5km az=66.0*
*IDC **23** 15:34:43.4±2.6,5.01N×94.62E,h24km±6km,mb3.2/5, mb1 3.4/6,mb1mx3.3/19,mbtmp3.3/6,ML3.5/1,Error ellipse: s-maj=101.9km s-min=17.5km az=62.0*
ISC 23 15:34:40.2±0.8,4.8N±0.1×94.3E±0.1,h25km, h25km±2.1km:pP-P,n10,σ1§04/10,mb3.6/8,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**13.76**	**281**	P	**P**	**15 37 56.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**14.36**	**18**	Pn	**P**	**15 38 05.5**	**+1.3**
	0.1nm,0.3s,baz=219,slow=12,SNR=4.5						
LSA	**Lhasa**	**25.00**	**353**	P	**P**	**15 40 00.3**	**-3.5**
	3.1nm,0.7s,mb4.0						
SONM	**Songino Array**	**44.17**	**12**	P	**P**	**15 42 46.1**	**-2.6**
	0.2nm,0.6s,mb3.1,baz=202,slow=7.8,SNR=3.2						
SONM				pP	pP	15 42 55.3	-1.0
	1.2nm,0.8s,baz=191,slow=9.5,SNR=8.6						
WRA	**Warramunga Arr**	**46.37**	**123**	P	**P**	**15 43 07.2**	**+0.6**
	0.6nm,0.6s,mb3.7,baz=301,slow=9.1,SNR=6.1						
WRA				pP	pP	15 43 15.0	+0.7
	1.1nm,0.6s,baz=300,slow=9.1,SNR=8.1						
WRAB	**Tennant Creek**	**46.37**	**123**	*eP*	**P**	**15 43 06.1**	**-0.6**
	1.1nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**47.83**	**128**	P	**P**	**15 43 18.4**	**+0.2**
	0.1nm,0.8s,mb2.9,baz=291,slow=7.7,SNR=2.4						
ASAR				pP	pP	15 43 26.1	+0.2
	0.8nm,0.9s,baz=321,slow=6.1,SNR=4.7						
ZAL	**Zalesovo**	**49.65**	**353**	P	**P**	**15 43 31.6**	**-0.1**
	0.3nm,0.5s,mb3.6,baz=132,slow=17,SNR=2.1						
ZAL				pP	pP	15 43 37.7	-1.8
	0.7nm,0.8s,baz=282,slow=6.1,SNR=3.3						
BVAR	**Borovoye Array**	**51.99**	**342**	P	**P**	**15 43 50.1**	**+0.5**
	0.3nm,0.5s,mb3.5,baz=100,slow=8.8,SNR=3.5						
CHKZ	**Chkalovo**	**52.48**	**342**	*eP*	**P**	**15 43 53.6**	**+0.4**
	3.0nm,1.1s,mb4.1						

*IDC **23** 15:42:49.3±1.1,4.98N×93.07E,mb3.5/5,mb1 3.7/6, mb1mx3.6/17,mbtmp3.5/6,ML3.5/1,Error ellipse: s-maj=45.0km s-min=21.5km az=49.0*
*NEIC **23** 15:42:50.7±6.0,5.01N×92.99E,h6km±38km,mb4.3/2, Error ellipse: s-maj=17.5km s-min=13.4km az=212.0*
ISC 23 15:42:52.6±0.8,5.0N±0.1×93.0E±0.1,h33km,n11, σ1§06/12,mb4.0/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.38**	**281**	Pn	**P**	**15 45 48.1**	**-1.3**
PALK				*e*Sn	**S**	**15 47 59.1**	**-8.1**
CMAR	**Chiang Mai Arr**	**14.57**	**23**	Pn	**P**	**15 46 17.6**	**-0.9**
	0.1nm,0.3s,baz=225,slow=12,SNR=6.0						
SONM	**Songino Array**	**44.18**	**13**	P	**P**	**15 50 59.9**	**-0.3**
	0.5nm,0.9s,mb3.2,baz=198,slow=7.8,SNR=4.5						
WRA	**Warramunga Arr**	**47.66**	**123**	P	**P**	**15 51 26.1**	**-2.0**
	1.4nm,0.6s,mb4.2,baz=300,slow=9.1,SNR=14						
WRAB	**Tennant Creek**	**47.66**	**123**	*eP*	**P**	**15 51 30.0**	**+1.9**
	2.4nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**49.08**	**127**	P	**P**	**15 51 38.6**	**-0.4**
	0.5nm,0.8s,mb3.6,baz=306,slow=7.3,SNR=4.8						
ZAL	**Zalesovo**	**49.21**	**354**	P	**P**	**15 51 40.3**	**+0.7**
	0.4nm,0.7s,mb3.6,baz=188,slow=14,SNR=2.6						
CHKZ	**Chkalovo**	**51.81**	**343**	*eP*	**P**	**15 51 59.5**	**+0.1**
	0.7nm,0.3s,mb4.1						
IDI	**Anoyia**	**69.23**	**306**	P	**P**	**15 53 59.4**	**+0.9**
	10nm,0.8s,mb4.8,baz=143,slow=19,SNR=2.3						
ARCES	**ARCESS Array B**	**77.53**	**341**	P	**P**	**15 54 46.5**	**0.0**
	17nm,1.3s,mb4.8,baz=107,slow=9.4,SNR=4.6						
GERES	**GERESS Array B**	**79.15**	**319**	P	**P**	**15 54 57.1**	**+1.3**
	0.4nm,0.7s,mb3.5,baz=114,slow=12,SNR=3.0						

*THE **23** 15:43:52.7,40.39N×25.61E,h4km,ML3.1*
*SOF **23** 15:43:52.4,40.48N×25.73E,h5km,MD2.7*
*CSEM **23** 15:43:52.7,40.39N×25.61E,h4km,ML3.1,After THE*
ISC 23 15:43:51.2±0.6,40.36N±0.03×25.70E±0.03,h8km±5km, n20,σ1§17/29,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.58**	**152**	*i* P	**Pg**	**15 44 03.0**	**+0.1**
BOZC				*i* S	**Sg**	**15 44 10.4**	**-0.3**
ALN	**Alexandroupoli**	**0.60**	**26**	*e*Pg	**Pg**	**15 44 04.0**	**+0.8**
ALN				*e*Sg	**Sg**	**15 44 12.8**	**+1.4**
LOS	**Limnos**	**0.63**	**228**	*e*Pg	**Pg**	**15 44 04.3**	**+0.4**
LOS				*e*Sg	**Sg**	**15 44 13.3**	**+0.9**
SART	**Tekirdag**	**1.18**	**73**	*i* P	**Pb**	**15 44 13.8**	**+0.4**
SART				*i* S	**Sb**	**15 44 27.4**	**-1.3**
AYVA	**Ayvalik**	**1.30**	**144**	*i* P	**Pb**	**15 44 15.8**	**+0.4**
AYVA				*i* S	**Sb**	**15 44 32.5**	**+0.4**
KDZ	**Kurdzhali**	**1.31**	**351**	*i* Pg	**Pg**	**15 44 16.0**	**-1.4**
OUR	**Ouranopolis**	**1.31**	**270**	*e*Pb	**Pb**	**15 44 15.8**	**+0.1**
OUR				*e*Sb	**Sb**	**15 44 34.4**	**+1.8**
RZN	**Rozhen**	**1.52**	**331**	*i* P	**Pn**	**15 44 20.0**	**+1.1**
DIM	**Dimitrovgrad**	**1.70**	**356**	*i* P	**Pn**	**15 44 23.0**	**+1.6**
SRS	**Serrai**	**1.77**	**296**	*e*Pb	**Pb**	**15 44 22.0**	**-1.6**
SRS				*e*Sb	**Sb**	**15 44 45.0**	**-1.0**
SOH	**Sokhos**	**1.85**	**285**	*e*Pb	**Pb**	**15 44 23.2**	**-1.7**
BTOK	**Tokmak**	**1.89**	**108**	*i* P	**Pn**	**15 44 24.1**	**0.0**
BTOK				*i* S	**Sn**	**15 44 51.3**	**+3.0**
PLD	**Plovdiv**	**1.90**	**337**	*i* P	**Pn**	**15 44 28.5**	**+4.2**
AKS	**Akhisar**	**2.20**	**131**	*e*PN	**Pn**	**15 44 26.8**	**-1.8**
JMB	**Yambol**	**2.21**	**17**	*i* Pg	**Pg**	**15 44 34.0**	**-1.3**
KNT	**Kendrikon**	**2.27**	**292**	*e*Pn	**Pn**	**15 44 29.5**	**-0.2**
KNT				*e*Sn	**Sn**	**15 44 57.8**	**-0.4**
IZM	**Izmir**	**2.30**	**148**	*e*PN	**Pn**	**15 44 28.4**	**-1.7**
KKB	**Krupnik**	**2.49**	**308**	*i* P	**Pn**	**15 44 34.0**	**+1.3**
ULDT	**Uludag**	**2.64**	**94**	*i* P	**Pn**	**15 44 41.2**	**+6.3**
VTS	**Vitosha**	**2.91**	**321**	*e*P	**Pn**	**15 44 46.5**	**+7.7**

*IDC **23** 15:46:27.9±1.1,2.56N×95.76E,mb4.2/9,mb1 4.3/10, mb1mx4.1/19,mbtmp4.2/10,ML4.2/1,MS3.6/2,Ms1 3.7/2, ms1mx3.3/16,Error ellipse: s-maj=55.9km s-min=17.1km az=57.0*
*BJI **23** 15:46:28.8,2.44N×95.89E,h28km,mB4.6,mb4.8,Ms4.3, Msz3.9*
*NEIC **23** 15:46:31.1±0.7,2.59N×95.80E,mb4.5/11,Error ellipse: s-maj=21.1km s-min=10.5km az=68.0*
ISC 23 15:46:31.3±0.7,2.62N±0.09×95.8E±0.1,h33km,n32, σ0§95/32,mb4.4/25,MS3.9/2,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**16.03**	**11**	*e*P	**P**	**15 50 18.4**	**+2.4**
	14nm,1.0s						
CMAR	**Chiang Mai Arr**	**16.03**	**11**	Pn	**P**	**15 50 15.2**	**-0.9**
	0.3nm,0.3s,baz=198,slow=11,SNR=42						
CMAR				LR	LR	15 56 24.8	
	comp=Z,113nm,19.2s,baz=205,slow=37						
KMI	**Kunming**	**23.34**	**16**	P	**P**	**15 51 39.8**	**+2.1**
	13nm,1.3s,mb4.2						
KMI				pP		15 51 45.5	
KMI				S	**S**	**15 56 01.6**	**+17**
KMI				sS		15 56 12.0	
KMI				LR	LR		
	comp=Z,260nm,13.9s,MS3.8						
JIRN	**Jiri**	**26.55**	**341**	*e*P	**P**	**15 52 09.0**	**+0.8**
	comp=Z,83nm,0.7s,mb5.3						
PKI	**Pulchoki**	**26.74**	**339**	*e*P	**P**	**15 52 10.5**	**+0.5**
DMN	**Daman**	**26.88**	**339**	*e*P	**P**	**15 52 11.3**	**0.0**
	comp=Z,19nm,0.9s,mb4.6						
KKN	**Kakani**	**26.99**	**339**	*e*P	**P**	**15 52 12.2**	**0.0**
	comp=Z,38nm,0.9s,mb4.9						
LSA	**Lhasa**	**27.30**	**351**	P	**P**	**15 52 15.3**	**+0.2**
LSA	**Lhasa**	**27.30**	**351**	*e*P	**P**	**15 52 14.6**	**-0.5**
	comp=Z,4.9nm,0.4s,mb4.4						
GKN	**Gorkha**	**27.41**	**338**	*e*P	**P**	**15 52 16.0**	**-0.1**
	comp=Z,12nm,0.3s,mb4.8						
KOLN	**Koldanda**	**27.61**	**336**	*e*P	**P**	**15 52 18.0**	**+0.1**
	comp=Z,19nm,0.7s,mb4.8						
ENH	**Enshi**	**30.40**	**24**	P	**P**	**15 52 39.5**	**-3.3**
	comp=Z,2.7nm,0.4s,mb4.3						
XAN	**Xi'an**	**33.56**	**20**	P	**P**	**15 53 08.9**	**-1.5**
XAN				AP	pP	15 53 16.1	-4.0
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
LZH	**Lanzhou**	**34.12**	**12**	*e*P	**P**	**15 53 14.0**	**-1.2**
LZH				AP	pP	15 53 20.0	-4.9
LZH				XP	sP	15 53 24.0	-5.2
LZH				AMB	AMB		
	comp=Z,28nm,1.2s,mb5.1						
LZH	**Lanzhou**	**34.12**	**12**	*e*P	**P**	**15 53 14.0**	**-1.2**
	comp=Z,28nm,1.2s,mb5.1						
LZH				pP	pP	15 53 20.0	-4.9
LZH				sP	sP	15 53 24.0	-5.2
BJT	**Baijiatuau**	**41.55**	**24**	*e*P	**P**	**15 54 18.0**	**+0.6**
BJT				*e*		15 54 24.5	
BJI	**Beijing**	**41.57**	**24**	P	**P**	**15 54 18.3**	**+0.7**
	comp=Z,19nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**43.94**	**122**	P	**P**	**15 54 37.0**	**-0.2**
	comp=Z,1.0nm,0.5s,mb3.8,baz=299,slow=9.6,SNR=14						
WRAB	**Tennant Creek**	**43.95**	**122**	*e*P	**P**	**15 54 37.3**	**0.0**
	comp=Z,16nm,1.3s,mb4.6						
AAK	**Ala-Archa**	**44.17**	**337**	*e*P	**P**	**15 54 39.2**	**+0.4**
	comp=Z,2.1nm,0.8s,mb3.9						
ASAR	**Alice Springs**	**45.34**	**127**	P	**P**	**15 54 48.7**	**+0.3**
	comp=Z,0.5nm,0.4s,mb3.7,baz=299,slow=7.9,SNR=23						
SONM	**Songino Array**	**45.96**	**10**	P	**P**	**15 54 52.8**	**-0.2**
	comp=Z,2.1nm,0.5s,mb4.3,baz=192,slow=9.1,SNR=30						
ULN	**Ulaanbaatar**	**46.10**	**10**	P	**P**	**15 54 53.5**	**-0.7**
	comp=Z,1.3nm,0.4s,mb4.2						
ZAL	**Zalesovo**	**51.95**	**352**	P	**P**	**15 55 40.2**	**+1.1**
	comp=Z,3.0nm,0.6s,mb4.4,baz=308,slow=6.0,SNR=16						
CTA	**Charters Tower**	**54.36**	**117**	LR	LR	16 20 59.1	
	comp=Z,90nm,18.0s,MS3.9,baz=59,slow=38						
BVAR	**Borovoye Array**	**54.47**	**341**	P	**P**	**15 55 56.8**	**-1.1**
	comp=Z,1.7nm,0.5s,mb4.2,baz=248,slow=40,SNR=13						
BRVK	**Borovoye**	**54.54**	**341**	*e*P	**P**	**15 55 56.5**	**-1.8**
	comp=Z,3.2nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**54.96**	**342**	*e*P	**P**	**15 56 00.5**	**-0.9**
	comp=Z,4.5nm,0.6s,mb4.7						
FINES	**FINESS Array B**	**78.12**	**333**	P	**P**	**15 58 28.3**	**-0.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=112,slow=10,SNR=5.1						
ARCES	**ARCESS Array B**	**80.75**	**340**	P	**P**	**15 58 43.1**	**+0.5**
	comp=Z,1.1nm,0.5s,mb4.1,baz=92,slow=5.8,SNR=14						
RPZ	**Rata Peaks**	**81.17**	**135**	P	**P**	**15 58 45.6**	**+0.3**
	comp=Z,22nm,1.4s,mb4.9,baz=167,slow=14,SNR=2.8						
GERES	**GERESS Array B**	**82.85**	**319**	P	**P**	**15 58 54.7**	**+0.9**
	comp=Z,0.7nm,0.8s,mb3.7,baz=124,slow=4.8,SNR=3.6						

*IDC **23** 15:59:35.0±1.1,13.54N×93.34E,mb3.7/5,mb1 3.8/6, mb1mx3.6/18,mbtmp3.6/6,ML3.1/1,Error ellipse: s-maj=31.8km s-min=22.7km az=54.0*
*NEIC **23** 15:59:36.9±1.1,13.37N×92.76E,h30km,mb3.5/2,Error ellipse: s-maj=26.4km s-min=14.4km az=70.0*
ISC 23 15:59:37.3±0.9,13.6N±0.1×93.4E±0.1,h30km,n9, σ1§01/10,mb3.6/6,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**7.26**	**47**	*e*P	**Pn**	**16 01 28.4**	**+4.3**
CMAR	**Chiang Mai Arr**	**7.26**	**47**	Pn	**Pn**	**16 01 24.1**	**0.0**
	0.1nm,0.3s,baz=242,slow=15,SNR=6.5						
CMAR				Sn	**Sn**	**16 02 46.3**	**-0.1**
	0.1nm,0.3s,baz=249,slow=17,SNR=4.3						
LSA	**Lhasa**	**16.20**	**353**	*e*P	**P**	**16 03 25.4**	**+0.8**
	1.7nm,0.5s						
SONM	**Songino Array**	**35.87**	**15**	P	**P**	**16 06 36.1**	**-0.4**
	0.2nm,0.5s,mb3.3,baz=207,slow=3.2,SNR=3.2						
CHKZ	**Chkalovo**	**43.89**	**341**	*e*P	**P**	**16 07 39.7**	**-3.0**
	0.5nm,0.5s,mb3.5						
WRA	**Warramunga Arr**	**52.28**	**129**	P	**P**	**16 08 48.5**	**0.0**
	0.8nm,0.5s,mb3.9,baz=301,slow=9.7,SNR=11						
WRA				PcP	PcP	16 09 59.6	0.0
	0.5nm,0.5s,baz=319,slow=3.2,SNR=5.8						
ASAR	**Alice Springs**	**54.22**	**133**	P	**P**	**16 09 02.9**	**+0.1**
	1.0nm,0.8s,mb3.8,baz=306,slow=6.7,SNR=4.1						
BRTR	**Keskin Array B**	**58.24**	**308**	P	**P**	**16 09 30.7**	**-0.7**
	1.0nm,1.0s,mb3.8,baz=121,slow=8.4,SNR=3.9						
GERES	**GERESS Array B**	**73.14**	**317**	P	**P**	**16 11 08.6**	**+1.7**
	0.5nm,0.7s,mb3.6,baz=90,slow=4.0,SNR=4.9						

*NEIC **23** 16:03:22.0±2.9,6.12S×152.14E,h36km±29km,mb4.0/1, Error ellipse: s-maj=29.9km s-min=19.7km az=149.0*
*IDC **23** 16:03:25.9±7.0,5.81S×151.58E,h65km±60km,mb3.6/4, mb1 3.9/5,mb1mx3.6/14,mbtmp4.0/5,ML3.0/1,Error ellipse: s-maj=118.5km s-min=30.8km az=125.0*
ISC 23 16:03:20.1±0.8,6.2S±0.2×152.1E±0.2,h33km,n9, σ0§96/11,mb4.1/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.83**	**236**	P	**P**	**16 04 47.6**	**+1.2**
	2.8nm,0.3s,baz=37,slow=6.2,SNR=13						
PMG				S	**S**	**16 05 51.2**	**-1.8**
	2.6nm,0.3s,baz=147,slow=18,SNR=3.2						
PMG	**Port Moresby**	**5.83**	**236**	*e*P	**P**	**16 04 47.1**	**+0.7**
PMG				*e*S	**S**	**16 05 51.5**	**-1.6**
WRA	**Warramunga Arr**	**22.00**	**230**	P	**P**	**16 08 14.9**	**+1.6**
	1.8nm,0.7s,mb3.6,baz=55,slow=10,SNR=15						
ASAR	**Alice Springs**	**24.65**	**223**	P	**P**	**16 08 39.8**	**+0.4**
	2.7nm,0.6s,mb3.9,baz=53,slow=9.0,SNR=27						
AFI	**Afiamalu**	**36.39**	**105**	*e*P	**P**	**16 10 23.0**	**-0.7**
	4.9nm,0.5s,mb4.7						
COLA	**College**	**83.38**	**22**	*e*P	**P**	**16 15 44.4**	**-0.7**
	0.8nm,0.6s,mb3.9						
ILAR	**Eielson Array**	**83.69**	**22**	P	**P**	**16 15 46.2**	**-0.4**
	1.5nm,1.0s,mb4.1,baz=244,slow=5.3,SNR=21						
INK	**Inuvik**	**89.98**	**21**	P	**P**	**16 16 17.6**	**+0.4**
	1.2nm,1.1s,mb4.1,baz=353,slow=4.1,SNR=2.7						
INK	**Inuvik**	**89.98**	**21**	*e*P	**P**	**16 16 17.6**	**+0.5**

*IDC **23** 16:04:08.3±0.7,52.40N×170.71W,mb4.1/18,mb1 4.3/19, mb1mx4.3/23,mbtmp4.1/19,ML3.6/1,MS3.2/2,Ms1 3.2/2, ms1mx2.9/23,Error ellipse: s-maj=22.9km s-min=15.1km az=169.0*
*NEIC **23** 16:04:14.4,52.32N×170.54W,h34km,ML3.4(AEIC),After AEIC.*
ISC 23 16:04:14.4±0.8,52.4N±0.1×170.63W±0.08,h56km±5km, n40,σ0§89/44,mb4.2/22,MS3.4/1,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.22**	**61**	P	**P**	**16 04 34.4**	**-1.2**
NIKO				S	**S**	**16 04 47.8**	**-3.4**
OKCE	**Okmok Cone E**	**1.81**	**54**	P	**P**	**16 04 44.2**	**+0.5**
OKCE				S	**S**	**16 05 08.6**	**+3.0**
OKCD	**Okmok Cone D**	**1.84**	**55**	P	**P**	**16 04 44.5**	**+0.4**
OKCD				S	**S**	**16 05 08.3**	**+2.0**
OKFG	**Magazine Ridge**	**1.93**	**57**	P	**P**	**16 04 44.9**	**-0.6**
OKFG				S	**S**	**16 05 08.4**	**-0.1**
ATKA	**Atka Island**	**2.20**	**266**	P	**P**	**16 04 48.9**	**-0.4**
ATKA				S	**S**	**16 05 15.5**	**+0.2**
MSW	**Makushin Switc**	**2.77**	**55**	P	**P**	**16 04 58.0**	**+0.6**
MTBL	**Makushin Table**	**2.85**	**55**	P	**P**	**16 04 58.9**	**+0.4**
UNV	**Unalaska Valle**	**2.88**	**58**	P	**P**	**16 04 58.1**	**-0.8**
UNV				S	**S**	**16 05 31.7**	**-0.7**
GSIG	**Igitkin Island**	**3.29**	**265**	P	**P**	**16 05 05.2**	**+0.5**
GSMY	**Great Sitkin M**	**3.36**	**266**	P	**P**	**16 05 05.9**	**+0.2**
FX1	**Attu Island--F**	**9.87**	**279**	LR	LR	16 09 31.2	
	comp=Z,67nm,18.8s,baz=257,slow=33						
ILAR	**Eielson Array**	**17.36**	**35**	P	**P**	**16 08 11.8**	**-2.1**
	0.1nm,0.3s,baz=222,slow=11,SNR=13						
ILAR				PcP	PcP	16 12 52.5	-1.8
	0.0nm,0.3s,baz=268,slow=2.9,SNR=4.7						
DLBC	**Dease Lake**	**23.53**	**59**	P	**P**	**16 09 20.9**	**+1.3**
	2.1nm,0.6s,mb3.7,baz=266,slow=11,SNR=7.1						
INK	**Inuvik**	**23.75**	**34**	P	**P**	**16 09 22.2**	**+0.5**
	1.6nm,0.4s,mb3.8,baz=244,slow=8.5,SNR=30						
INK				PcP	PcP	16 13 05.5	-0.5
	1.2nm,0.8s,baz=183,slow=2.1,SNR=4.7						
INK				LR	LR	16 19 59.0	
	comp=Z,124nm,18.8s,MS3.4,baz=335,slow=40						
YKA	**Yellowknife Ar**	**30.80**	**49**	P	**P**	**16 10 26.3**	**-0.2**
	0.4nm,0.4s,mb3.6,baz=273,slow=8.3,SNR=9.6						
YKA				PcP	PcP	16 13 22.6	-0.1
	0.4nm,0.8s,baz=287,slow=2.5,SNR=5.9						
YKA	**Yellowknife Ar**	**30.80**	**49**	P	**P**	**16 10 26.3**	**-0.2**
YKA				PcP	PcP	16 13 22.6	-0.1
NVAR	**Mina Array Bea**	**38.44**	**90**	P	**P**	**16 11 32.5**	**+0.5**
	0.6nm,0.8s,mb3.4,baz=318,slow=7.0,SNR=3.9						
PDAR	**Pinedale Array**	**41.15**	**78**	P	**P**	**16 11 55.0**	**+0.5**
	1.6nm,0.6s,mb3.9,baz=306,slow=3.0,SNR=19						
SONM	**Songino Array**	**50.62**	**300**	P	**P**	**16 13 09.2**	**-0.1**
	1.0nm,0.4s,mb4.1,baz=61,slow=6.3,SNR=30						
SONM				PcP	PcP	16 14 26.3	-0.1
	0.8nm,0.7s,baz=105,slow=1.2,SNR=6.0						
TXAR	**Lajitas Array**	**53.52**	**88**	P	**P**	**16 13 30.2**	**-1.1**
	1.3nm,0.9s,mb3.9,baz=288,slow=5.4,SNR=12						
SCHQ	**Schefferville**	**55.94**	**43**	P	**P**	**16 13 47.8**	**-0.7**
	4.8nm,0.9s,mb4.5,baz=311,slow=7.6,SNR=5.8						
ZAL	**Zalesovo**	**56.89**	**317**	PcP	PcP	16 14 50.0	-0.1
	0.7nm,0.3s,baz=249,slow=10,SNR=3.5						
ZAL				ScP		16 18 50.1	
	0.7nm,0.3s,baz=163,slow=9.5,SNR=3.4						
ARCES	**ARCESS Array B**	**57.80**	**353**	P	**P**	**16 14 00.5**	**-1.1**
	3.4nm,0.7s,mb4.5,baz=22,slow=6.2,SNR=6.2						
ARCES	**ARCESS Array B**	**57.80

0.5nm,0.7s,baz=310,slow=3.7,SNR=4.4
GERES **GERESS Array B 73.55 317** P **P 16 15 54.3 -3.2**
0.2nm,0.5s,mb3.3,baz=80,slow=6.0,SNR=2.1
GERES **GERESS Array B 73.55 317** P **P 16 15 54.3 -3.2**
INK **Inuvik 92.66 16** P **P 16 17 35.0 -0.3**
2.8nm,1.2s,mb4.6,baz=277,slow=11,SNR=3.5

IDC 23 16:08:27.3±6.0, 13.29N×92.98E, mb3.2/2, mb1 3.4/3, mb1mx3.2/18, mbtmp3.1/3, ML3.2/1, Error ellipse: s-maj=125.3km s-min=46.8km az=103.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.70**	**47**	Pn	Pn	16 10 20.4	-3.1
	0.1nm,0.3s,baz=238,slow=16,SNR=4.4						
WRA	**Warramunga Arr**	**52.41**	**128**	P	P	16 17 41.8	-2.3
	0.2nm,0.4s,baz=303,slow=9.3,SNR=11						
ASAR	**Alice Springs**	**54.32**	**132**	P	P	16 17 56.1	-2.0
	0.1nm,0.5s,baz=310,slow=7.1,SNR=6.1						

IGQ 23 16:09:41.0, 1.40S×81.16W, h7km±6km, mb4.0, 5C-1D, Error ellipse: s-maj=9.9km s-min=8.0km az=139.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.71**	**61**	⇑P	Pg	16 09 54.1	-1.0
IGUA	**Igualata**	**2.53**	**92**	⇑P	Pn	16 10 24.3	+1.2
IGUA				S	Sn	16 10 58.4	+4.0
JUIV	**Juive**	**2.70**	**91**	P	Pn	16 10 27.3	+1.8
ARRY	**Arrayan**	**2.71**	**92**	⇑P	Pn	16 10 27.0	+1.3
ARRY				S	Sn	16 10 58.4	-0.7
PATA	**Patacocha**	**2.73**	**92**	P	Pn	16 10 28.1	+2.1
RUN2	**Runtun**	**2.75**	**91**	P	Pn	16 10 28.2	+2.0
ULBA	**Ulba**	**2.75**	**91**	P	Pn	16 10 27.6	+1.2
NAS1	**Nasa**	**2.79**	**74**	P	Pn	16 10 31.5	+4.6
PISA	**Pisayambo**	**2.80**	**83**	P	Pn	16 10 30.3	+3.4
JUA2	**San Juan 2**	**2.81**	**65**	P	Pn	16 10 28.6	+1.4
TERV	**Terraza Guagua**	**2.83**	**65**	P	Pn	16 10 28.9	+1.5
PINO	**Pino**	**2.84**	**64**	⇑P	Pn	16 10 28.8	+1.3
VC1	**Cotopaxi 1**	**2.86**	**75**	P	Pn	16 10 29.4	+1.5
TAMB	**Tambo**	**2.88**	**76**	⇑P	Pn	16 10 30.7	+2.6
YANA	**Yana**	**2.89**	**64**	P	Pn	16 10 29.2	+1.0
ANTI	**Antisana**	**3.15**	**73**	P	Pn	16 10 34.0	+2.1
COTA	**Cotacachi**	**3.31**	**59**	P	Pn	16 10 35.9	+1.7
CAYR	**Refugio Cayamb**	**3.46**	**66**	⇓P	Pn	16 10 40.0	+3.7

IDC 23 16:19:46.4±9.5, 7.86N×93.85E, mb3.6/2, mb1 3.8/3, mb1mx3.4/17, mbtmp3.5/3, Error ellipse: s-maj=259.9km s-min=43.5km az=136.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.64**	**25**	Pn	P	16 22 33.4	-3.6
	baz=212,slow=12,SNR=3.2						
CMAR				Sn	S	16 24 46.2	-2.6
	0.1nm,0.3s,baz=90,slow=30,SNR=2.8						
SONM	**Songino Array**	**41.24**	**13**	P	P	16 27 33.4	-1.3
	0.4nm,0.7s,baz=180,slow=10,SNR=4.1						
GERES	**GERESS Array B**	**77.64**	**318**	P	P	16 31 44.9	-1.4
	0.5nm,0.8s,baz=104,slow=5.5,SNR=5.1						

*IDC **23** 16:31:39.5±0.7, 26.59N×142.63E, mb3.8/13, mb1 4.1/13, mb1mx4.0/18, mbtmp3.8/13, MS3.8/3, Ms1 3.9/3, ms1mx3.1/32, Error ellipse: s-maj=20.3km s-min=13.2km az=66.0*
*NEIC **23** 16:31:45.3±1.5, 26.57N×142.56E, h39km±13km, mb4.1/6, Error ellipse: s-maj=10.6km s-min=6.7km az=97.0*
ISC 23 16:31:43.2±1.8, 26.56N±0.08×142.5E±0.1, h37km±15km, n27, σ0°75/26, mb3.9/19, MS4.3/2, 1D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.62**	**329**	Pn	P	16 31 55.6	0.0
	289nm,0.3s,baz=86,slow=19,SNR=37						
CBIJ				Sn	S	16 32 08.3	+3.8
	1μm,0.3s,baz=281,slow=23,SNR=29						
MAJO	**Matsushiro**	**10.61**	**341**	eP	P	16 34 14.8	-1.2
JOW	**Kunigami**	**12.76**	**274**	LR	LR	16 38 38.9	
	comp=Z,64nm,18.6s,baz=99,slow=33						
SONM	**Songino Array**	**35.32**	**317**	P	P	16 38 36.7	-0.1
	0.2nm,0.3s,mb3.5,baz=37,slow=39,SNR=3.2						
CM31	**Chiang Mai Arr**	**40.92**	**268**	P	P	16 39 23.2	-0.7
	1.0nm,0.6s,mb3.6						
CMAR	**Chiang Mai Arr**	**40.92**	**268**	P	P	16 39 24.9	+1.1
	0.6nm,0.7s,mb3.3,baz=78,slow=5.7,SNR=9.0						
WRAB	**Tennant Creek**	**46.90**	**191**	eP	P	16 40 12.5	+0.4
	8.5nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	**46.91**	**191**	⇓iP	P	16 40 12.4	+0.2
WRA	**Warramunga Arr**	**46.91**	**191**	P	P	16 40 12.2	0.0
	3.9nm,0.5s,mb4.6,baz=9.8,slow=8.4,SNR=37						
ASAR	**Alice Springs**	**50.63**	**190**	P	P	16 40 40.9	-0.1
	0.4nm,0.5s,mb3.6,baz=12,slow=6.4,SNR=15						
KURK	**Kurchatov**	**53.59**	**315**	eP	P	16 41 02.6	-0.2
	0.9nm,0.6s,mb3.9						
ILAR	**Eielson Array**	**58.03**	**28**	P	P	16 41 33.5	-1.0
	0.5nm,0.6s,mb3.7,baz=266,slow=6.6,SNR=11						
STKA	**Stephens Creek**	**58.12**	**181**	P	P	16 41 34.5	-1.1
	2.5nm,0.8s,mb4.3,baz=318,slow=6.1,SNR=3.8						
CHKZ	**Chkalovo**	**58.48**	**318**	eP	P	16 41 37.2	-0.6
	1.0nm,0.8s,mb3.9						
BRVK	**Borovoye**	**58.72**	**318**	eP	P	16 41 39.0	-0.5
	3.5nm,1.1s,mb4.3						
INK	**Inuvik**	**63.38**	**24**	eP	P	16 42 10.3	-0.5
	0.7nm,0.6s,mb4.0						
BBB	**Bella Bella**	**69.10**	**41**	LR	LR	17 09 37.6	
	comp=Z,104nm,21.3s,MS4.0,baz=68,slow=33						
YKA	**Yellowknife Ar**	**72.46**	**28**	P	P	16 43 07.2	-0.1
	0.3nm,0.4s,mb3.6,baz=292,slow=6.0,SNR=10.0						
YKA	**Yellowknife Ar**	**72.46**	**28**	P	P	16 43 07.2	-0.1
ARCES	**ARCESS Array B**	**74.15**	**341**	P	P	16 43 17.7	+0.6
	2.4nm,0.8s,mb4.2,baz=14,slow=5.0,SNR=4.0						
ARCES	**ARCESS Array B**	**74.15**	**341**	P	P	16 43 17.7	+0.6
FINES	**FINESS Array B**	**78.57**	**334**	P	P	16 43 42.8	+0.6
	2.5nm,0.9s,mb4.1,baz=72,slow=5.2,SNR=15						
NVAR	**Mina Array Bea**	**80.60**	**52**	P	P	16 43 53.7	+0.1
	0.5nm,0.8s,mb3.5,baz=270,slow=6.3,SNR=3.6						
NVAR				LR	LR	17 12 06.0	
	comp=Z,224nm,21.0s,MS4.5,baz=75,slow=30						
NVAR	**Mina Array Bea**	**80.60**	**52**	P	P	16 43 53.7	+0.1
NVAR				LR	LR	17 12 06.0	
NOA	**NORSAR Array B**	**84.22**	**338**	P	P	16 44 11.8	0.0
	1.5nm,1.0s,mb4.1,baz=63,slow=3.7,SNR=2.8						
PDAR	**Pinedale Array**	**84.36**	**45**	P	P	16 44 14.2	+1.3
	0.2nm,0.8s,mb3.3,baz=297,slow=2.0,SNR=2.4						
TXAR	**Lajitas Array**	**95.66**	**53**	P	P	16 45 07.5	+1.1
	0.3nm,0.6s,mb3.9,baz=329,slow=7.3,SNR=3.5						

IDC 23 16:39:27.9±4.4, 9.02N×91.98E, mb3.3/3, mb1 3.5/4, mb1mx3.3/18, mbtmp3.2/4, ML3.3/1, Error ellipse: s-maj=118.6km s-min=31.9km az=80.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.56**	**35**	Pn	P	16 42 14.0	-3.4
	0.1nm,0.3s,baz=224,slow=15,SNR=4.5						
SONM	**Songino Array**	**40.56**	**15**	P	P	16 47 09.3	-1.4
	0.4nm,1.0s,baz=196,slow=10,SNR=2.2						
WRA	**Warramunga Arr**	**50.67**	**125**	P	P	16 48 29.9	-1.6
	0.3nm,0.6s,baz=304,slow=8.5,SNR=4.4						
ASAR	**Alice Springs**	**52.29**	**129**	P	P	16 48 41.0	-2.7
	0.3nm,0.8s,baz=306,slow=7.5,SNR=4.7						

*CSEM **23** 16:46:53.6, 37.07N×27.99E, h23km, MD3.1, After ISK*
*ISK **23** 16:46:53.6, 37.07N×27.99E, h23km, MD3.1*
*ATH **23** 16:47:50.0, 37.02N×28.13E, h10km, MD3.0/3*
ISC 23 16:47:52.2±0.8, 36.93N±0.04×27.88E±0.05, h14km±5km, n14, σ0°66/20, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.37**	**347**	*i* PG	**Pg**	**16 48 00.1**	**0.0**
MLSB				*i* SG	**Sg**	**16 48 05.7**	**+0.4**
BDRM	**Kayabasi**	**0.38**	**291**	*i* P	**Pb**	**16 47 59.5**	**-0.6**
BDRM				*i* S	**Sb**	**16 48 05.3**	**-0.1**
YER	**Yerkesik**	**0.38**	**58**	*i* PG	**Pg**	**16 48 00.1**	**-0.1**
YER				*i* SG	**Sg**	**16 48 04.9**	**-0.6**
AYDN	**Tasoluk**	**0.73**	**360**	*i* P	**Pb**	**16 48 06.3**	**+0.2**
AYDN				*i* S	**Sb**	**16 48 15.4**	**-0.1**
ARG	**Arkhangelos**	**0.74**	**165**	*e*PB	**Pb**	**16 48 06.5**	**+0.1**
FETY	**Fethiye**	**1.01**	**107**	*e*PG	**Pg**	**16 48 12.5**	**0.0**
SMG	**Samos**	**1.14**	**313**	*e*PB	**Pb**	**16 48 14.0**	**+0.9**
DNZL	**Cakiroluk**	**1.20**	**50**	*i* P	**Pb**	**16 48 15.7**	**+1.6**
DNZL				*i* S	**Sb**	**16 48 30.1**	**+0.9**
DENT	**Denizli**	**1.23**	**48**	PN	**Pn**	**16 48 13.2**	**-1.8**
KARP	**Karpathos**	**1.50**	**203**	*e*PN	**Pn**	**16 48 19.0**	**+0.1**
IZM	**Izmir**	**1.54**	**342**	PN	**Pn**	**16 48 19.1**	**-0.4**
BLCB	**Balcova**	**1.60**	**336**	*e*PN	**Pn**	**16 48 20.6**	**+0.4**
MANT	**Manisa**	**1.64**	**19**	*i* P	**Pn**	**16 48 21.1**	**+0.1**
MANT				*i* S	**Sn**	**16 48 41.3**	**-0.5**
AKS	**Akhisar**	**1.94**	**358**	PN	**Pn**	**16 48 24.7**	**-0.5**

*BJI **23** 16:55:47.0, 13.81N×92.88E, h18km, mB5.2, mb4.8, Ms4.8, Msz4.5*
*MOS **23** 16:55:48.3±1.2, 13.65N×93.02E, h33km, mb5.1/34, MS4.5/11, Error ellipse: s-maj=8.6km s-min=5.4km az=115.3*
*IDC **23** 16:55:48.0±3.5, 13.62N×92.90E, h20km±21km, mb4.5/20, mb1 4.6/21, mb1mx4.6/23, mbtmp4.6/21, ML4.2/1, MS4.5/14, Ms1 4.5/14, ms1mx4.3/23, Error ellipse: s-maj=21.0km s-min=10.9km az=48.0*
*HRVD **23** 16:55:49.3±0.3, 13.64N×92.91E, h14km±1km, MW5.0/58, Centroid moment Tensor Solution. LP body waves: s31,c43;Mantle waves: s58,c108; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.96±.15; $M_{\theta\theta}$4.03±.14; $M_{\phi\phi}$-3.07±.12; $M_{r\theta}$2.57±.40; $M_{\theta\phi}$-0.60±.09; $M_{\phi r}$1.51±.32; Best double couple: M_o4.69×10^{16} NP1: ϕ_s139°,δ49°,λ-8°. NP2ϕ_s235°,δ84°,λ-138°. Principal axes: T5.118, Plg23°, Azm360°; N-.852, Plg48°, Azm242°; P-4.262, Plg33°, Azm106°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **23** 16:55:49.3±0.2, 13.64N×93.01E, mb5.0/41, MS4.2/8 Error ellipse: s-maj=6.6km s-min=5.5km az=205.0*
ISC 23 16:55:47.6±0.2, 13.71N±0.03×93.00E±0.03, h28km, h28km±1.2km: pP-P, n225, σ1°32/232, mb4.8/74, MS4.5/34, 16C-12D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.06**	**187**	⇑*e*P	**Pn**	**16 56 21.9**	**+0.9**
NNT	**Nongplab**	**6.65**	**99**	P	**Pn**	**16 57 28.5**	**+2.4**
NST	**Nakhon Sawan**	**7.17**	**73**	⇑P	**Pn**	**16 57 34.1**	**+0.7**
	220nm,0.7s						
CM31	**Chiang Mai Arr**	**7.41**	**50**	*e*Pn	**Pn**	**16 57 36.0**	**-0.8**
	18nm,0.4s						
CM31				Sn	**Sn**	**16 58 55.1**	**-5.6**
CMAR	**Chiang Mai Arr**	**7.41**	**50**	Pn	**Pn**	**16 57 36.0**	**-0.7**
	1.0nm,0.3s,baz=241,slow=15,SNR=94						
CMAR				Sn	**Sn**	**16 58 59.0**	**-1.7**
	8.9nm,0.3s,baz=240,slow=29,SNR=6.5						
CHG	**Chiang Mai**	**7.63**	**48**	PG	**Pn**	**16 57 39.3**	**-0.6**
CHG				SG	**Sn**	**16 58 57.0**	**-9.4**
CHRT	**Chiangrai**	**8.92**	**46**	⇑PN	**P**	**16 57 58.0**	**+0.2**
CHRT				PG	**P**	**16 58 04.5**	**+6.7**
CHRT				SG	**Sn**	**16 59 48.0**	**+10**
BWNR	**Bhubaneshwar**	**9.50**	**315**	*e*	**P**	**16 58 00.3**	**-5.4**
	comp=Z,184nm,1.0s						
BWNR				*e*		16 59 35.5	
BWNR				*e*	**Sn**	**16 59 57.6**	**+4.9**
	comp=E,939nm,0.5s						
BWNR				*e*		16 59 58.6	
	comp=N,522nm,0.5s						
CAL	**Calcutta**	**9.84**	**334**	*e*P	**P**	**16 58 10.1**	**-0.4**
CAL				*e*S	**Sn**	**16 59 55.3**	**-5.8**
KKTK	**Khon Kaen**	**9.84**	**73**	P	**P**	**16 58 13.2**	**+2.7**
	comp=N,2μm,0.6s						
VIS	**Vishakhapatnam**	**10.13**	**294**	*e*P	**P**	**16 58 12.2**	**-2.4**
	comp=Z,281nm,1.5s						
VIS				*e*S	**S**	**17 00 02.8**	**-5.5**
VIS				*e*		17 07 32.9	
IMP	**Imphal**	**11.05**	**4**	*e*P	**P**	**16 58 24.6**	**-2.5**
SHL	**Shillong**	**11.84**	**355**	*e*	**P**	**16 58 32.5**	**-5.3**
	comp=Z,198nm,1.2s						
SHL				*e*S	**S**	**17 00 37.0**	**-13**
BLSP	**Bilaspur**	**13.30**	**311**	⇑*e*P	**P**	**16 58 55.4**	**-1.9**
	comp=Z,51nm,1.2s						
BLSP				*e*S	**S**	**17 01 15.9**	**-9.3**
PALK	**Pallekele**	**13.68**	**243**	*e*Pn	**P**	**16 58 59.0**	**-3.5**
PALK				*e*Sn	**S**	**17 01 18.3**	**-16**
HYB	**Hyderabad**	**14.40**	**287**	*e*P	**P**	**16 59 13.0**	**+1.1**
HYB				*e*S	**S**	**17 01 50.0**	**-1.5**
HYB	**Hyderabad**	**14.40**	**287**	*e*P	**P**	**16 59 13.0**	**+1.1**
HYB				*e*		16 59 23.0	
HYB				*e*S	**S**	**17 01 50.0**	**-1.5**
HYB	**Hyderabad**	**14.40**	**287**	*i* P	**P**	**16 59 13.0**	**+1.1**
HYB				*e*		16 59 23.0	
HYB				*e*S	**S**	**17 01 50.0**	**-1.5**
KMI	**Kunming**	**14.59**	**37**	P	**P**	**16 59 22.7**	**+8.4**
KMI				S	**S**	**17 01 58.8**	**+2.9**
KMI				pmax	pmax		
	comp=Z,31nm,1.1s						
KMI	**Kunming**	**14.59**	**37**	P	**P**	**16 59 22.7**	**+8.4**
	comp=Z,31nm,1.1s						
KMI				sP		16 59 33.3	
KMI				S	**S**	**17 01 58.8**	**+2.9**
JIRN	**Jiri**	**15.27**	**336**	*e*P	**P**	**16 59 20.4**	**-2.7**
	comp=Z,78nm,0.6s						
PKI	**Pulchoki**	**15.51**	**334**	*e*P	**P**	**16 59 23.7**	**-2.5**
KOD	**Kodaikanal**	**15.59**	**259**	*e*	**P**	**16 59 29.1**	**+1.8**
	comp=Z,48nm,1.7s						
ALBI	**Allahabad**	**15.62**	**319**	*e*	**S**	**17 02 08.0**	**-12**
DMN	**Daman**	**15.67**	**333**	*e*P	**P**	**16 59 25.9**	**-2.4**
	comp=Z,155nm,0.6s						
KKN	**Kakani**	**15.75**	**334**	*e*P	**P**	**16 59 27.3**	**-2.1**
	comp=Z,101nm,0.7s						
LSA	**Lhasa**	**16.00**	**354**	P	**P**	**16 59 28.8**	**-3.8**
LSA	**Lhasa**	**16.00**	**354**	*e*P	**P**	**16 59 28.7**	**-3.9**
LSA				pmax	pmax		
	comp=Z,43nm,0.9s						
LSA	**Lhasa**	**16.00**	**354**	*e*P	**P**	**16 59 28.7**	**-3.9**
	comp=Z,43nm,0.9s						
GKN	**Gorkha**	**16.22**	**333**	*e*P	**P**	**16 59 32.7**	**-2.6**
	comp=Z,172nm,0.8s						
KOLN	**Koldanda**	**16.51**	**329**	*e*P	**P**	**16 59 37.3**	**-1.7**
	comp=Z,178nm,0.7s						
QIZ	**Qiongzhong**	**17.00**	**70**	P	**P**	**16 59 46.0**	**+0.8**
QIZ				PP	PP	17 00 00.1	+0.7
QIZ				S	**S**	**17 02 51.5**	**-0.4**
QIZ				LR	LR		
	comp=N,2μm,18.9s						
QIZ				LR	LR		
	comp=Z,2μm,15.5s						
QIZ	**Qiongzhong**	**17.00**	**70**	P	**P**	**16 59 48.7**	**+3.5**
	comp=Z,65nm,1.2s						
BHPL	**Bhopal**	**17.54**	**305**	*e*P	**P**	**16 59 54.0**	**+2.0**
MNGI	**Mangalore**	**17.71**	**270**	*i* P	**P**	**16 59 56.3**	**+2.1**
MNGI				*i*		17 02 53.3	
KAD	**Karad**	**18.48**	**284**	*e*P	**P**	**17 00 06.8**	**+3.1**
KAD				*e*		17 00 09.2	
	comp=Z,29nm,0.8s						
KAD				*e*		17 11 15.0	
BOM	**Bombay**	**20.05**	**288**	⇓*e*	**P**	**17 00 26.4**	**+4.8**
BOM				*e*		17 00 31.6	
	comp=Z,78nm,1.4s						
BOM				*e*		17 03 39.0	
NDI	**New Delhi**	**20.91**	**318**	*e*P	**P**	**17 00 29.7**	**-0.7**
NDI				*e*S	**S**	**17 04 27.5**	**+10**
NDI				*e*		17 11 52.0	
ENH	**Enshi**	**22.43**	**40**	*e*P	**P**	**17 00 45.8**	**+0.1**
	comp=Z,79nm,0.8s,mb5.2						
SMLA	**Simla**	**22.64**	**323**	⇑*e*	**P**	**17 01 02.2**	**+14**
SMLA				*e*		17 01 15.7	
	comp=Z,166nm,1.1s						
LZH	**Lanzhou**	**24.32**	**22**	⇓P	**P**	**17 01 06.3**	**+2.2**
LZH				AP		17 01 14.4	
LZH				XP		17 01 17.8	
LZH				AMB	AMB		
	comp=Z,390nm,1.4s,mb5.6						
LZH				AMB	AMB		
	comp=Z,990nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,13.0s						
LZH				LR	LR		
	comp=Z,3μm,21.8s						
LZH	**Lanzhou**	**24.32**	**22**	⇓P	**P**	**17 01 06.3**	**+2.2**
	comp=Z,390nm,1.4s,mb5.6						
LZH				pP		17 01 14.4	
LZH				sP		17 01 17.8	
LZH				PP	PP	17 01 46.0	+6.5
LZH				S	**S**	**17 05 30.0**	**+12**
LZH				sS		17 05 45.0	
LZH				SS	SS	17 06 35.0	+22
LZH				LR	LR		
	comp=Z,3μm,21.8s,MS4.8						
XAN	**Xi'an**	**24.86**	**33**	P	**P**	**17 01 10.3**	**+0.9**
XAN				AP		17 01 19.8	
XAN				S	**S**	**17 05 25.1**	**-2.7**
XAN				AMB	AMB		
	comp=Z,48nm,0.9s,mb5.0						
XAN				LR	LR		
	comp=N,661nm,21.9s						
XAN				LR	LR		
	comp=E,641nm,16.4s						
XAN				LR	LR		
	comp=Z,773nm,21.9s,MS4.2						
TGY	**Tagaytay City**	**27.11**	**86**	P	**P**	**17 01 32.8**	**+2.4**
	comp=Z,42nm,0.4s,mb5.3,baz=228,slow=19,SNR=2.6						
NJ2	**Nanjing**	**29.88**	**48**	*e*P	**P**	**17 01 56.1**	**+0.8**
NJ2				AP	pP	17 02 06.5	+3.1
NJ2				XP	sP	17 02 10.4	+3.4
NJ2				PP	PP	17 02 54.8	+1.9
NJ2				PPP	PPP	17 03 09.3	+2.6
NJ2				S	**S**	**17 06 50.0**	**+0.7**
NJ2				XS		17 07 05.0	
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,360nm,4.5s						
NJ2				LR	LR		
	comp=N,2μm,14.2s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,17.7s,MS5.0						
NJ2				LR	LR		
	comp=Z,2μm,12.2s						
WMQ	**Urumqi**	**30.35**	**352**	*e*P	**P**	**17 02 00.9**	**+1.6**
WMQ				AP	pP	17 02 08.1	+0.7
WMQ				XP	sP	17 02 11.5	+0.5
WMQ				AMB	AMB		
	comp=Z,25nm,0.5s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,206nm,4.2s						
WMQ				LR	LR		
	comp=N,1μm,17.2s,MS4.8						
WMQ				LR	LR		
	comp=E,2μm,20.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,2μm,20.4s,MS4.7						
SSE	**Sheshan**	**31.14**	**52**	*e*P	**P**	**17 02 04.0**	**-2.4**
SSE				AP	pP	17 02 12.9	-1.6
SSE				XP	sP	17 02 15.9	-2.2
SSE				S	**S**	**17 07 09.5**	**+0.3**
SSE				XS		17 07 23.5	
SSE				AMB	AMB		
	comp=Z,22nm,1.2s,mb4.9						
SSE				AMB	AMB		
	comp=Z,24nm,2.8s,mb4.5						
SSE				LR	LR		
	comp=N,1μm,22.6s,MS4.6						
SSE				LR	LR		
	comp=E,585nm,22.5s,MS4.6						
SSE				LR	LR		
	comp=Z,985nm,15.0s						
SSE	**Sheshan**	**31.14**	**52**	*e*P	**P**	**17 02 04.0**	**-2.4**
	comp=Z,22nm,1.2s,mb4.9						
SSE				pP	pP	17 02 12.9	-1.6
SSE				sP	sP	17 02 15.9	-2.2
SSE				S	**S**	**17 07 09.5**	**+0.3**
SSE				sS		17 07 23.5	
SSE				SS	SS	17 09 24.9	+30
SSE				LR	LR		
	comp=Z,990nm,15.0s,MS4.6						
KZA	**Kyzart**	**32.19**	**335**	P	**P**	**17 02 16.8**	**+1.3**
	SNR=8.8						
UCH	**Uchtor**	**32.62**	**334**	P	**P**	**17 02 20.6**	**+1.4**
	SNR=6.7						
TKM2	**Tokmak 2**	**32.75**	**336**	P	**P**	**17 02 20.7**	**+0.3**
	SNR=6.4						
KBK	**Karagaybulak**	**32.79**	**335**	P	**P**	**17 02 21.8**	**+1.1**
	SNR=7.6						
AML	**Almayashu**	**32.89**	**333**	P	**P**	**17 02 22.6**	**+1.0**
	SNR=12						
AAK	**Ala-Archa**	**32.96**	**334**	P	**P**	**17 02 23.0**	**+0.8**
AAK				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.0						
AAK	**Ala-Archa**	**32.96**	**334**	*e*P	**P**	**17 02 21.3**	**-0.8**
	comp=Z,13nm,1.4s,mb4.7						
AAK				LR	LR		
	comp=Z,194nm,20.0s,MS3.8						
FRU	**Bishkek**	**33.07**	**335**	*e*P	**P**	**17 02 24.0**	**+0.8**
CHMS	**Chumysh**	**33.16**	**335**	P	**P**	**17 02 24.4**	**+0.5**
	SNR=9.5						
BJT	**Baijiatuau**	**33.17**	**34**	*e*P	**P**	**17 02 24.5**	**+0.5**
BJT				pmax	pmax		
	comp=Z,56nm,1.4s						
BJT	**Baijiatuau**	**33.17**	**34**	*e*P	**P**	**17 02 24.5**	**+0.5**
	comp=Z,56nm,1.4s,mb5.3						
EKS2	**Erkin-Say**	**33.29**	**334**	P	**P**	**17 02 26.0**	**+0.9**
	SNR=7.4						
USP	**Ospenovka**	**33.48**	**335**	P	**P**	**17 02 26.9**	**+0.2**
	SNR=21						
MK02	**Makanchi Array**	**34.16**	**347**	P	**P**	**17 02 32.6**	**+0.1**
MK02				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
JOW	**Kunigami**	**35.44**	**63**	P	**P**	**17 02 45.0**	**+1.3**
	comp=Z,24nm,0.8s,mb5.2,baz=219,slow=8.6,SNR=6.1						
SONM	**Songino Array**	**35.80**	**15**	P	**P**	**17 02 47.3**	**+0.8**
	comp=Z,12nm,1.1s,mb4.8,baz=201,slow=7.4,SNR=55						
SONM				ScP		17 08 58.7	
	comp=Z,1.0nm,0.9s,baz=236,slow=4.5,SNR=4.5						
ULN	**Ulaanbaatar**	**36.00**	**16**	*e*P	**P**	**17 02 47.5**	**-0.8**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
ULN				MLR	MLR		
	comp=Z,969nm,20.0s,MS4.6						
ULN	**Ulaanbaatar**	**36.00**	**16**	*e*P	**P**	**17 02 47.5**	**-0.8**
	comp=Z,6.6nm,0.8s,mb4.6						
ULN				LR	LR		
	comp=Z,969nm,20.0s,MS4.6						
ZAK	**Zakamensk**	**37.52**	**11**	*e*P	**P**	**17 03 00.3**	**-0.6**
ZAK				*e*		17 05 19.2	
MOY	**Mondy**	**38.40**	**8**	*e*P	**P**	**17 03 09.9**	**+1.5**
SNY	**Shenyang**	**38.57**	**38**	⇓P	**P**	**17 03 12.1**	**+2.2**
SNY				S	**S**	**17 09 02.1**	**-1.6**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.3						
SNY				LR	LR		
	comp=N,470nm,23.5s,MS4.4						
SNY				LR	LR		
	comp=E,610nm,25.5s,MS4.4						
SNY				LR	LR		
	comp=Z,450nm,25.0s,MS4.2						
KURK	**Kurchatov**	**38.71**	**345**	*c iP*	**P**	**17 03 10.9**	**-0.1**

comp=E,10.0nm,1.2s
NVS smax
comp=E,14nm,1.5s
BVA0 Borovoye Array 43.15 340 P **P 17 03 47.2 -0.2**
BVA0 pmax pmax
comp=Z,2.0nm,1.3s,mb3.7
BVAR Borovoye Array 43.15 340 P **P 17 03 47.0 -0.4**
comp=Z,15nm,1.2s,mb4.6,baz=149,slow=8.6,SNR=22
BRVK Borovoye 43.21 340 *e*P **P 17 03 47.0 -0.9**
BRVK pmax pmax
comp=Z,11nm,1.2s,mb4.5
BRVK MLR MLR
comp=Z,166nm,20.0s,MS3.9
BRVK Borovoye 43.21 340 *e*P **P 17 03 47.0 -0.9**
comp=Z,11nm,1.2s,mb4.5
BRVK LR LR
comp=Z,166nm,20.0s,MS3.9
MBWA Marble Bar 43.47 142 *e*P **P 17 03 48.7 -1.7**
comp=Z,2.7nm,0.6s,mb4.2
CHKZ Chkalovo 43.62 341 *e*P **P 17 03 51.0 -0.2**
CHKZ *e* pP 17 03 59.3 -0.2
CHKZ pmax pmax
comp=Z,29nm,1.1s,mb4.9
CHKZ Chkalovo 43.62 341 *e*P **P 17 03 51.0 -0.3**
comp=Z,29nm,1.1s,mb4.9
CHKZ *e* pP 17 03 59.3 -0.2
MDJ Mudanjiang 43.77 38 P **P 17 03 53.0 +0.5**
MDJ AMB AMB
comp=Z,5.0nm,1.2s,mb4.1
MDJ AMB AMB
comp=Z,119nm,4.5s
MAJO Matsushiro 46.28 52 *e*P **P 17 04 13.3 +0.5**
MAJO pmax pmax
comp=Z,21nm,0.8s,mb5.1
MAJO Matsushiro 46.28 52 *e*P **P 17 04 13.3 +0.6**
comp=Z,21nm,0.8s,mb5.1
MAT Matsushiro 46.28 52 *e*P **P 17 04 13.0 +0.2**
MAT pmax pmax
comp=Z,18nm,0.9s,mb5.0
MAT Matsushiro 46.28 52 *e*P **P 17 04 13.0 +0.2**
comp=Z,18nm,0.9s,mb5.0
MAT Matsushiro 46.28 52 P **P 17 04 13.3 +0.5**
BOD Bodaibo 46.80 15 *e*P **P 17 04 16.0 -0.6**
CLNS Chul'man 49.44 22 *e*P **P 17 04 37.4 +0.3**
CLNS *e* 17 06 30.3
CLNS *e*S **S 17 11 54.6 +13**
CLNS pmax pmax
comp=Z,16nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,6.0nm,0.6s
CLNS pmax pmax
comp=N,10.0nm,1.1s
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS smax
comp=N,4.0nm,0.8s
SVE Sverdlovsk 49.61 337 *e*P **P 17 04 38.5 +0.1**
GNI Garni 49.67 311 *e*P **P 17 04 40.5 +1.4**
GNI pmax pmax
comp=Z,25nm,1.0s
GNI Garni 49.67 311 LR LR 17 29 58.5
comp=Z,272nm,18.7s,MS4.3,baz=275,slow=41
GNI Garni 49.67 311 *e*P **P 17 04 40.5 +1.4**
comp=Z,25nm,1.0s,mb5.2
ARU Arti 50.12 336 ⇓*i*P **P 17 04 36.4 -6.0**
ARU *e*S **S 17 11 43.6 -7.2**
ARU *e*SS SS 17 15 16.7 -4.2
ARU pmax pmax
comp=Z,14nm,1.4s,mb4.8
ARU MLR MLR
comp=N,400nm,20.0s,MS4.5
ARU MLR MLR
comp=Z,500nm,20.0s,MS4.5
ARU MLR MLR
comp=E,200nm,15.0s,MS4.5
TI2 Plekhanov 50.17 313 *e*P **P 17 04 43.6 +0.7**
MUN Mundaring 50.58 154 *e*P **P 17 04 45.6 -0.6**
comp=E,33nm,1.7s,mb5.0
MUN Mundaring 50.58 154 *e*P **P 17 04 45.6 -0.6**
MUN pmax pmax
comp=Z,33nm,1.7s,mb5.0
ZEI Tsey 51.11 314 *e*P **P 17 04 50.9 +0.9**
ZEI *i* *PP pP 17 05 00.4 +1.9
ZEI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
NWAO Narrogin (SRO) 51.83 154 *e*P **P 17 04 53.8 -1.9**
NWAO pmax pmax
comp=Z,24nm,1.1s
NWAO Narrogin (SRO) 51.83 154 *e*P **P 17 04 53.8 -1.9**
comp=Z,24nm,1.1s,mb5.0
KIV Kislovodsk 52.33 315 *e*P **P 17 04 59.9 +0.6**
KIV pmax pmax
comp=N,13nm,1.0s
KIV pmax pmax
comp=Z,28nm,1.0s,mb5.2
KIV MLR MLR
comp=N,285nm,18.0s,MS4.5
KIV MLR MLR
comp=E,294nm,18.0s,MS4.5
KIV MLR MLR
comp=Z,344nm,18.0s,MS4.4
KIV Kislovodsk 52.33 315 *e*P **P 17 04 59.1 -0.2**
comp=Z,21nm,0.8s,mb5.1
KIV LR LR
comp=Z,98nm,19.0s,MS3.9
GOF Gofitskoye 52.47 317 *e*P **P 17 05 03.0 +2.7**
WRA Warramunga Arr 52.65 129 P **P 17 05 00.6 -1.4**
comp=Z,23nm,0.7s,mb5.2,baz=300,slow=10,SNR=158
WRA PcP PcP 17 06 11.2 -0.5
comp=Z,7.9nm,0.7s,baz=316,slow=3.2,SNR=16
WRAB Tennant Creek 52.66 129 ⇓*e*P **P 17 05 00.5 -1.5**
WRAB Tennant Creek 52.66 129 *e*P **P 17 05 00.4 -1.6**
comp=Z,46nm,0.7s,mb5.5
WRAB LR LR
comp=Z,165nm,21.0s,MS4.0
WB2 Warramunga Arr 52.66 129 ⇓*i*P **P 17 05 00.4 -1.7**
YSS Yuzh-Sakhalins 53.01 41 ⇑*e*P **P 17 05 04.8 +0.5**
YSS *i* pP 17 05 12.8 +0.1
YSS *e* 17 06 12.3
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.3
YSS MLR MLR
comp=Z,500nm,16.0s,MS4.7
YSS Yuzh-Sakhalins 53.01 41 *e*P **P 17 05 04.7 +0.5**
comp=Z,14nm,1.0s,mb4.8
YSS *e* pP 17 05 12.8 0.0
MALT Malatya 53.95 308 *e*P **P 17 05 07.9 -3.3**
MALT pmax pmax
comp=Z,18nm,1.4s,mb4.8
MALT Malatya 53.95 308 *e*P **P 17 05 07.8 -3.4**
comp=Z,18nm,1.4s,mb4.8
SOC Sochi 54.27 314 *e*P **P 17 05 11.1 -2.4**
SOC *e* 17 06 11.0
SOC *e*PPP PPP 17 08 21.9 -5.7
SOC *e*S **S 17 12 43.6 -4.0**
SOC *e* 17 14 57.5
SOC *e*SS SS 17 16 28.8 -0.5
SOC *e*SSS SSS 17 18 32.0 +6.2
SOC pmax pmax
comp=N,13nm,0.8s
SOC pmax pmax
comp=E,13nm,0.8s
SOC pmax pmax
comp=Z,23nm,0.8s,mb5.2
SOC MLR MLR
comp=Z,277nm,17.0s,MS4.4
SOC MLR MLR
comp=N,145nm,16.0s,MS4.6
SOC MLR MLR
comp=E,431nm,19.0s,MS4.6
ASPA Alice Springs 54.58 133 ⇑*i*P **P 17 05 15.0 -1.1**
ASAR Alice Springs 54.58 133 P **P 17 05 14.6 -1.6**
comp=E,12nm,0.5s,mb5.2,baz=309,slow=6.8,SNR=282
ASAR PcP PcP 17 06 18.6 -0.4
comp=E,4.7nm,0.7s,baz=313,slow=5.0,SNR=5.6
ASAR ScP 17 10 14.8
comp=E,0.5nm,0.8s,baz=328,slow=3.6,SNR=4.0
YAK Yakutsk 54.89 20 *e*P **P 17 05 17.8 -0.1**
YAK pmax pmax
comp=Z,11nm,0.8s,mb4.9
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK Yakutsk 54.89 20 *e*P **P 17 05 16.9 -1.0**
comp=E,23nm,0.7s,mb5.3
YAK LR LR
comp=Z,353nm,21.0s,MS4.4
ANN Anapa 56.18 315 *e*P **P 17 05 29.8 +2.4**
ANN pmax pmax
comp=Z,44nm,1.2s,mb5.4
KMBO Kilima Mbogo 57.16 260 P **P 17 05 38.8 +3.9**
comp=Z,0.9nm,0.6s,mb4.0,baz=43,slow=23,SNR=4.9
KMBO LR LR 17 28 07.0
comp=Z,250nm,21.1s,MS4.3,baz=95,slow=34
BRTR Keskin Array B 57.87 308 P **P 17 05 38.3 -1.2**
comp=Z,5.2nm,0.7s,mb4.7,baz=120,slow=6.9,SNR=13
PMG Port Moresby 58.45 110 P **P 17 05 43.3 -0.6**
comp=Z,29nm,0.8s,mb5.3,baz=232,slow=3.1,SNR=10.0
MOS Moscow 59.57 327 *e*P pP 17 05 58.9 -0.8
OBN Obninsk 59.90 326 ⇑*e*P **P 17 05 50.9 -2.5**
OBN *e*S **S 17 14 03.4 +1.7**
OBN pmax pmax
comp=Z,32nm,1.9s,mb5.0
TIXI Tiksi 61.78 12 ⇓*i*P **P 17 06 04.9 -1.0**
TIXI pmax pmax
comp=Z,17nm,0.9s,mb5.2
TIXI MLR MLR
comp=Z,355nm,18.0s,MS4.6
MA2 Magadan 62.19 29 *e*P **P 17 06 08.7 -0.1**
MA2 *e* pP 17 06 19.0 +1.5
MA2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
MA2 Magadan 62.19 29 *e*P **P 17 06 08.0 -0.8**
comp=Z,16nm,1.0s,mb5.1
CTA Charters Tower 62.22 122 P **P 17 06 08.6 -1.0**
comp=Z,12nm,0.9s,mb5.0,baz=304,slow=9.3,SNR=2.8
TIRR Tirgusor 62.42 313 ⇑P **P 17 06 10.4 -0.2**
CFR Carcaliu 62.71 314 ⇓P **P 17 06 13.4 +0.9**
AKASG Malin Array Be 62.95 320 P **P 17 06 11.9 -2.0**
AKASG pmax pmax
comp=Z,9.0nm,1.1s
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 62.95 320 P **P 17 06 11.9 -2.0**
comp=Z,8.9nm,1.1s,mb4.8,baz=79,slow=6.1,SNR=11
AKASG PP PP 17 08 22.1 -12
comp=Z,1.4nm,0.6s,baz=101,slow=9.7,SNR=5.5
MBAR Mbarara 63.27 262 *d*⇑*i*P **P 17 06 21.4 +4.8**
VRI Vrincioaia 63.79 315 ⇑P **P 17 06 20.8 +1.2**
MLR Muntele Rosu 64.29 314 ⇑P **P 17 06 23.4 +0.6**
MLR Muntele Rosu 64.29 314 LR LR 17 38 25.9
comp=Z,388nm,21.2s,MS4.6,baz=258,slow=40
PET Petropavlovsk 64.55 38 *e*P **P 17 06 17.9 -6.5**
PET *e* 17 15 08.0
PET MLR MLR
comp=Z,500nm,22.0s,MS4.7
STKA Stephens Creek 64.97 135 *e*P **P 17 06 26.3 -1.2**
comp=Z,4.5nm,0.6s,mb4.7
STKA Stephens Creek 64.97 135 P **P 17 06 26.1 -1.4**
comp=Z,5.7nm,0.7s,mb4.7,baz=311,slow=5.6,SNR=23
STKA LR LR 17 39 00.1
comp=Z,309nm,19.5s,MS4.5,baz=152,slow=40
BURAR Bucovina Array 65.04 316 ⇓P **P 17 06 28.2 +0.6**
JOF Joensuu 65.14 334 *e*p **P 17 06 27.6 -0.5**
comp=Z,7.2nm,0.7s,mb4.8
APA Apatity 66.03 339 ⇑*i*P **P 17 06 34.7 +1.0**
APA *i* 17 07 06.8
FINES FINESS Array B 67.07 331 P **P 17 06 39.5 -1.0**
comp=Z,5.2nm,0.7s,mb4.7,baz=104,slow=6.4,SNR=21
FINES LR LR 17 40 17.3
comp=Z,373nm,18.4s,MS4.6,baz=277,slow=40
FINES FINESS Array B 67.07 331 P **P 17 06 39.5 -1.0**
FINES LR LR 17 40 17.3
KAF Kangasniemi 67.13 332 *e*p **P 17 06 44.6 +3.8**
comp=Z,0.4nm,0.3s,mb3.9,baz=354,slow=5.7
KOLS Kolonicke sedl 67.14 318 *e*P **P 17 06 42.3 +1.3**
SUW Suwalki 67.17 323 P **P 17 06 40.3 -0.9**
SUW pmax pmax
comp=Z,54nm,1.1s,mb5.5
SUW Suwalki 67.17 323 P **P 17 06 40.3 -0.9**
comp=Z,54nm,1.1s,mb5.5
CRVS Cervenica-Dubn 67.67 317 *e* **P 17 06 50.4 +6.0**
CRVS *e*sP sP 17 06 57.1 +1.0
PSZ Piszkesteto 68.64 316 *e*P **P 17 06 49.9 -0.6**
KEV Kevo 69.00 340 *e*p **P 17 06 50.2 -2.1**
comp=Z,12nm,0.7s,mb4.9
KEV Kevo 69.00 340 *e*P **P 17 06 50.2 -2.1**
KEV pmax pmax
comp=Z,12nm,0.7s,mb4.9
VYHS Vyhne 69.38 317 *e*P **P 17 06 54.2 -0.8**
VYHS *e* 17 07 00.3
PKSM Moragy 69.43 314 *e*P **P 17 06 54.4 -0.9**
ARCES ARCESS Array B 69.43 340 P **P 17 06 55.0 0.0**
comp=Z,6.5nm,0.7s,mb4.7,baz=86,slow=6.2,SNR=27
ARCES LR LR 17 39 12.6
comp=Z,415nm,18.6s,MS4.7,baz=115,slow=38
SRO Srobarova 69.70 316 *e*P **P 17 06 56.3 -0.7**
SRO *e*pP pP 17 07 04.9 -0.7
OKC Ostrava-Krasne 69.89 318 *e*P **P 17 06 58.7 +0.6**
OKC *e*pP pP 17 07 05.8 -0.9
OKC AMS AMS 17 42 30.0
MORC Moravsky Berou 70.28 318 *e*P **P 17 07 00.0 -0.4**
MORC pmax pmax
comp=Z,13nm,1.1s,mb4.8
MORC Moravsky Berou 70.28 318 *e*P **P 17 07 00.0 -0.4**
comp=Z,13nm,1.1s,mb4.8
LSZ Lusaka 70.28 248 *e*P **P 17 07 00.9 -0.1**
LSZ pmax pmax
comp=Z,32nm,1.7s,mb5.0
LSZ Lusaka 70.28 248 *e*P **P 17 07 00.9 -0.1**
comp=Z,32nm,1.7s,mb5.0
ZST Bratislava 70.52 317 *e*P **P 17 07 04.9 +2.9**
DPC Dobruska-Polom 71.08 319 *e*P **P 17 07 10.3 +5.0**
DPC *e*sP sP 17 07 19.4 +2.3
DPC AMS AMS 17 46 30.0
KSP Ksiaz 71.11 319 *e*P **P 17 07 05.1 -0.4**
KSP *e**PP pP 17 07 14.0 -0.1
BILL Bilibino 71.13 22 ⇑*e*P **P 17 07 05.6 +0.3**
BILL *e* 17 07 24.1
BILL *e* 17 09 43.9
BILL pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BILL MLR MLR
comp=Z,400nm,18.0s,MS4.7
BILL Bilibino 71.13 22 P **P 17 07 05.0 -0.3**
comp=Z,1.7nm,0.4s,mb4.3
UPC Upice 71.28 319 *e*P **P 17 07 08.6 +2.1**
UPC *e*pP pP 17 07 17.4 +2.2
PVCC Panska Ves 72.20 319 *e*P pP 17 07 20.1 -0.6
PVCC Panska Ves 72.20 319 *e*pP pP 17 07 20.1 -0.6
PVCC AMS AMS 17 42 40.0
PRU Pruhonice 72.22 318 *e*P **P 17 07 14.7 +2.6**
PRU AMS AMS 17 40 30.0
BRG Berggiesshubel 72.60 319 *e*P **P 17 07 16.0 +1.6**
BRG *i* pP 17 07 22.7 -0.3
BRG pmax pmax
comp=Z,13nm,1.4s,mb4.7
BRG Berggiesshubel 72.60 319 *e*P **P 17 07 16.0 +1.6**
comp=Z,13nm,1.4s,mb4.7
BRG *i* pP 17 07 22.7 -0.3
VOY Vojsko 72.73 314 *e*P **P 17 07 14.5 -0.7**
VOY *e* pP 17 07 23.7 -0.2
GERES GERESS Array B 72.78 317 P **P 17 07 15.4 -0.1**
comp=Z,3.4nm,0.7s,mb4.4,baz=92,slow=5.5,SNR=21
KHC Kasperske Hory 72.86 317 *e*P **P 17 07 14.9 -1.0**
KHC *e*pP pP 17 07 24.5 -0.1
KHC AMS AMS 17 43 50.0
CLL Collm 73.19 320 *e* **P 17 07 20.0 +2.2**
CLL Collm 73.19 320 P **P 17 07 20.0 +2.2**
CLL *e**PP pP 17 07 26.0 -0.5
NKC Novy Kostel 73.56 319 *e*P pP 17 07 27.3 -1.4
NKC AMS AMS 17 42 20.0
MOX Moxa 74.08 319 *e*P **P 17 07 22.2 -0.8**
MOX MLR MLR
comp=Z,300nm,20.0s,MS4.6
MOX Moxa 74.08 319 *i*P **P 17 07 22.2 -0.8**
MOX L 17 43 52.0
NB2 NORSAR Subarra 74.14 330 P **P 17 07 22.2 -0.9**
comp=Z,2.8nm,0.6s,mb4.4,baz=89,slow=5.6
NB2 NORSAR Subarra 74.14 330 P **P 17 07 22.2 -0.9**
NB2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
NOA NORSAR Array B 74.14 330 P **P 17 07 22.2 -0.9**
comp=Z,3.2nm,0.6s,mb4.4,baz=90,slow=5.8,SNR=12
NOA LR LR 17 45 25.8
comp=Z,205nm,18.2s,MS4.5,baz=100,slow=40
GRA1 Grafenberg Arr 74.38 318 *e*P **P 17 07 25.5 +0.8**
comp=Z,20nm,1.2s,mb4.9
GRF Grafenberg Arr 74.38 318 *e*P **P 17 07 25.5 +0.8**
GRF pmax pmax
comp=Z,20nm,1.2s,mb4.9
GRF Grafenberg Arr 74.38 318 *e*P **P 17 07 25.5 +0.8**
GRF pmax pmax
comp=Z,20nm,1.2s,mb4.9
GRF Grafenberg Arr 74.38 318 *e*P **P 17 07 25.5 +0.8**
comp=Z,20nm,1.2s,mb4.9
LPG La Plagne 77.75 314 *e*P **P 17 07 43.8 -0.1**
comp=Z,51nm,0.8s,mb5.2
LPG La Plagne 77.75 314 *e*P **P 17 07 43.8 -0.1**
LPG pmax pmax
comp=Z,25nm,0.8s,mb5.2
BOSA Boshof 77.80 236 *e*P **P 17 07 44.4 -0.1**
BOSA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BOSA Boshof 77.80 236 *e*P **P 17 07 44.4 0.0**
comp=Z,8.8nm,0.8s,mb4.7
BNI Bardonecchia 77.86 314 *e*P **P 17 07 46.3 +1.8**
BNI pmax pmax
comp=Z,16nm,0.8s,mb5.0
BNI Bardonecchia 77.86 314 *e*P **P 17 07 46.3 +1.8**
comp=Z,16nm,0.8s,mb5.0
JMIC Jan Mayen 80.86 341 LR LR 17 46 50.7
comp=Z,225nm,20.9s,MS4.5,baz=261,slow=38
MAW Mawson 84.00 191 P **P 17 08 17.0 +0.6**
comp=Z,2.1nm,0.7s,mb4.4,baz=347,slow=7.1,SNR=4.2
ESDC Sonseca Array 86.63 310 P **P 17 08 30.6 +0.5**
comp=Z,1.1nm,0.7s,mb4.2,baz=64,slow=4.8,SNR=4.4
IMA Indian Mountai 86.67 22 *e*P **P 17 08 32.2 +2.5**
IMA pmax pmax
comp=Z,3.0nm,0.5s,mb4.8
IMA Indian Mountai 86.67 22 *e*P **P 17 08 32.2 +2.5**
comp=Z,2.7nm,0.5s,mb4.7
BORG Borgarnes 87.65 337 LR LR 17 49 25.5
comp=Z,276nm,18.4s,MS4.7,baz=119,slow=37
ILAR Eielson Array 89.78 22 P **P 17 08 44.5 0.0**
comp=Z,2.3nm,0.7s,mb4.6,baz=299,slow=3.9,SNR=41
ILAR PP PP 17 12 20.1 +0.7
comp=Z,1.0nm,0.9s,baz=301,slow=7.9,SNR=4.0
ILAR LR LR 17 53 40.4
comp=Z,188nm,20.1s,MS4.5,baz=141,slow=39
PWA Palmer West 90.26 25 *e*P **P 17 08 48.2 +1.3**
PWA pmax pmax
comp=Z,34nm,0.8s,mb5.7
PWA Palmer West 90.26 25 *e*P **P 17 08 48.2 +1.3**
comp=Z,34nm,0.8s,mb5.7
SYO Syowa Base 90.63 197 ⇓PcP PcP 17 08 52.2 +2.5
SYO Syowa Base 90.63 197 ⇑pP pP 17 08 58.0 +0.7
SML Sawmill 90.81 25 *e*P **P 17 08 49.5 +0.1**
DAWY Dawson 92.82 20 *e*P **P 17 09 00.0 +1.4**
URZ Urewera 93.82 128 P **P 17 09 03.1 -0.7**
comp=Z,2.9nm,0.7s,mb4.8,baz=256,slow=4.2,SNR=3.7
URZ LR LR 17 55 37.3
comp=Z,208nm,18.2s,MS4.6,baz=125,slow=38
DBIC Dimbokro 96.02 278 LR LR 17 54 13.7
comp=Z,89nm,19.6s,MS4.2,baz=34,slow=36
AFI Afiamalu 98.17 102 *e*P **P 17 09 22.4 -1.7**
AFI pmax pmax
comp=Z,20nm,0.8s,mb5.7
AFI Afiamalu 98.17 102 *e*P **P 17 09 22.4 -1.7**
comp=Z,20nm,0.8s,mb5.7
VNDA Vanda 98.84 168 LR LR 17 52 31.3
comp=Z,233nm,19.0s,MS4.7,baz=301,slow=34
YKA Yellowknife Ar 101.03 13 PP PP 17 13 44.1 -3.2
comp=Z,0.3nm,0.5s,baz=335,slow=8.2,SNR=5.2
PDAR Pinedale Array 120.10 19 PKP PKPdf 17 14 38.2 -2.8
comp=Z,1.3nm,1.1s,baz=159,slow=0.9,SNR=6.0
NVAR Mina Array Bea 120.42 28 PKP PKPdf 17 14 39.7 -2.1
comp=Z,0.4nm,0.3s,baz=41,slow=28,SNR=6.8
NVAR Mina Array Bea 120.42 28 PKP PKPdf 17 14 39.7 -2.1
MSU Marysvale 122.95 23 *e*PKIKP PKPdf 17 14 44.8 -1.9
ANMO Albuquerque 128.20 20 PKP PKPdf 17 14 55.8 -1.2
comp=Z,4.4nm,1.1s,baz=79,slow=2.4,SNR=3.9
TXAR Lajitas Array 134.28 20 PKP PKPdf 17 15 06.7 -1.9
comp=Z,0.6nm,0.6s,baz=171,slow=2.2,SNR=6.7
TEIG Tepich 146.25 2 *e*PKPab PKPab 17 15 28.4 -0.8
PLCA Paso Flores 149.48 205 PKPbc PKPdf 17 15 37.3 +2.4
comp=Z,3.9nm,1.0s,baz=291,slow=0.2,SNR=3.9
CPUP Villa Florida 149.51 241 PKPbc PKPdf 17 15 36.6 +1.3
comp=Z,0.0nm,0.3s,baz=216,slow=15,SNR=1.6
SDV Santo Domingo 152.29 323 PKPbc PKPdf 17 15 46.0 +6.1
comp=Z,6.9nm,1.0s,baz=27,slow=2.7,SNR=5.3

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*IGQ **23** 17:06:08.2, 1.21S×81.38W, h6km±4km, mb4.5, Error ellipse: s-maj=7.8km s-min=5.3km az=133.2*
*NEIC **23** 17:06:14.9±0.5, 1.22S×80.90W, h10km, mb4.2/4, MD4.5(IGQ), Error ellipse: s-maj=16.5km s-min=10.2km az=60.0*
*IDC **23** 17:06:28.8±5.1, 1.25S×80.82W, h132km±49km, mb3.6/15, mb1 3.8/17, mb1mx3.7/25, mbtmp4.0/17, MS3.4/1, Ms1 3.4/1, ms1mx3.0/20, Error ellipse: s-maj=25.4km s-min=12.5km az=69.0*
ISC 23 17:06:12.4±0.5, 1.24S±0.07×81.20W±0.03, h6km, n47, σ1$24/51, mb4.0/16, 9C-2D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.68**	**74**	⇑P	**Pg**	**17 06 24.0**	**-2.0**
IGUA	**Igualata**	**2.57**	**96**	⇑P	**Pn**	**17 06 54.7**	**-0.6**
IGUA				S	**Sn**	**17 07 29.4**	**+2.2**
CUSU	**Cusua**	**2.72**	**94**	P	**Pn**	**17 06 57.6**	**+0.2**
JUIV	**Juive**	**2.74**	**94**	P	**Pn**	**17 06 57.7**	**0.0**
ARRY	**Arrayan**	**2.75**	**96**	⇑P	**Pn**	**17 06 57.6**	**-0.4**
ARRY				S	**Sn**	**17 07 32.0**	**+0.1**
RETU	**Refugio**	**2.76**	**94**	P	**Pn**	**17 06 57.7**	**-0.3**
PATA	**Patacocha**	**2.77**	**95**	P	**Pn**	**17 06 58.6**	**+0.3**
PATA				S	**Sn**	**17 07 34.9**	**+2.5**
JUA2	**San Juan 2**	**2.78**	**69**	⇑P	**Pn**	**17 06 58.0**	**-0.4**
NAS1	**Nasa**	**2.78**	**78**	P	**Pn**	**17 06 58.5**	**+0.1**
RUN2	**Runtun**	**2.79**	**94**	P	**Pn**	**17 06 58.7**	**+0.3**
ULBA	**Ulba**	**2.80**	**94**	⇑P	**Pn**	**17 06 58.9**	**+0.4**
TERV	**Terraza Guagua**	**2.80**	**68**	P	**Pn**	**17 06 57.9**	**-0.6**
PINO	**Pino**	**2.80**	**67**	⇓P	**Pn**	**17 06 57.6**	**-1.0**
PISA	**Pisayambo**	**2.82**	**86**	⇑P	**Pn**	**17 06 58.9**	**+0.1**
YANA	**Yana**	**2.85**	**67**	P	**Pn**	**17 06 58.1**	**-1.2**
VC1	**Cotopaxi 1**	**2.85**	**78**	P	**Pn**	**17 06 59.6**	**+0.2**
TAMB	**Tambo**	**2.88**	**79**	P	**Pn**	**17 06 59.8**	**+0.1**
OTAV	**Otavalo**	**3.11**	**62**	⇑*e*Pn	**Pn**	**17 07 01.1**	**-1.9**
OTAV				*e*Sn	**Sn**	**17 07 37.9**	**-3.0**
ANTI	**Antisana**	**3.13**	**76**	⇑P	**Pn**	**17 07 03.5**	**+0.2**
COTA	**Cotacachi**	**3.26**	**61**	⇓P	**Pn**	**17 07 04.4**	**-0.7**
CAYR	**Refugio Cayamb**	**3.42**	**69**	P	**Pn**	**17 07 08.9**	**+1.4**
CAYA	**Cayambe**	**3.46**	**68**	⇑P	**Pn**	**17 07 08.9**	**+1.0**
CONE	**Cono NE Rev Vo**	**3.74**	**72**	P	**Pn**	**17 07 13.9**	**+2.0**
PAYG	**Puerto Ayora**	**9.11**	**273**	P	**P**	**17 08 26.3**	**-1.1**
SDV	**Santo Domingo**	**14.56**	**46**	P	**P**	**17 09 46.9**	**+5.8**
	0.8nm,0.3s,baz=256,slow=9.0,SNR=20						
SDV				LR	LR	17 15 50.1	
	comp=Z,149nm,21.0s,baz=241,slow=39						
LPAZ	**La Paz**	**19.73**	**140**	P	**P**	**17 10 44.9**	**-1.0**
	0.3nm,0.3s,baz=347,slow=13,SNR=8.1						
LPAZ	**La Paz**	**19.73**	**140**	*e*P	**P**	**17 10 43.8**	**-2.1**
	2.3nm,0.6s						
SJG	**San Juan**	**24.27**	**37**	P	**P**	**17 11 31.6**	**0.0**
	7.5nm,0.5s,mb4.4,baz=222,slow=5.6,SNR=5.5						
LVC	**Limon Verde**	**24.37**	**152**	P	**P**	**17 11 34.0**	**+1.4**
	1.5nm,0.6s,mb3.6,baz=272,slow=9.7,SNR=3.0						
TXAR	**Lajitas Array**	**37.23**	**327**	P	**P**	**17 13 29.7**	**+3.0**
	0.3nm,0.8s,mb3.2,baz=146,slow=13,SNR=2.7						
PLCA	**Paso Flores**	**40.48**	**168**	P	**P**	**17 13 53.4**	**-0.2**
	2.0nm,0.7s,mb3.9,baz=336,slow=5.5,SNR=3.3						
PLCA	**Paso Flores**	**40.48**	**168**	P	**P**	**17 13 52.9**	**-0.8**
	26nm,1.8s,mb4.7						
ANMO	**Albuquerque**	**43.07**	**329**	P	**P**	**17 14 17.7**	**+2.6**
	0.9nm,0.6s,mb3.7,baz=159,slow=11,SNR=4.1						
SDCO	**Great Sand Dun**	**44.83**	**332**	*e*P	**P**	**17 14 30.8**	**+1.6**
	1.4nm,0.7s,mb3.9						
PV10	**Paradox Valley**	**47.03**	**330**	*e*P	**P**	**17 14 47.6**	**+1.0**
NVAR	**Mina Array Bea**	**52.20**	**323**	P	**P**	**17 15 28.6**	**+2.3**
	1.1nm,0.8s,mb3.8,baz=126,slow=7.8,SNR=2.5						
USHA	**Ushuaia**	**54.43**	**171**	P	**P**	**17 15 41.6**	**-1.1**
	2.5nm,0.4s,mb4.5,baz=7.8,slow=10,SNR=2.7						
YBH	**Yreka Blue Hor**	**56.90**	**324**	P	**P**	**17 16 03.0**	**+2.2**
	1.2nm,0.8s,mb4.0,baz=338,slow=13,SNR=2.9						
SCHQ	**Schefferville**	**57.12**	**10**	P	**P**	**17 16 00.3**	**-1.8**
	2.8nm,1.0s,mb4.2,baz=207,slow=7.7,SNR=2.2						
YKA	**Yellowknife Ar**	**68.38**	**344**	P	**P**	**17 17 15.4**	**-1.3**
	0.7nm,0.6s,mb3.9,baz=132,slow=6.3,SNR=11						
YKA	**Yellowknife Ar**	**68.38**	**344**	P	**P**	**17 17 15.4**	**-1.3**
DLBC	**Dease Lake**	**70.86**	**335**	P	**P**	**17 17 32.4**	**+0.4**
	1.2nm,0.7s,mb4.0,baz=217,slow=6.5,SNR=3.7						

DBIC	Dimbokro	76.58	83	P	P	17 18 04.0	-2.2
	2.6nm,1.0s,mb4.1,baz=297,slow=9.6,SNR=3.3						
INK	Inuvik	78.04	342	P	P	17 18 12.9	-0.3
	0.6nm,0.6s,mb3.7,baz=20,slow=12,SNR=5.0						
INK	Inuvik	78.04	342	eP	P	17 18 11.7	-1.5
	3.9nm,1.1s,mb4.2						
ILAR	Eielson Array	80.97	337	P	P	17 18 28.1	-1.0
	0.6nm,0.9s,mb3.5,baz=131,slow=5.4,SNR=4.2						
GERES	GERESS Array B	94.16	41	P	P	17 19 33.4	0.0
	0.8nm,1.1s,mb4.1,baz=284,slow=8.1,SNR=2.8						

IDC 23 17:13:21.7±17.0, 5.45N×94.85E, h181km±125km, mb2.8/3, mb1 3.0/4, mb1mx2.8/18, mbtmp3.3/4, Error ellipse: s-maj=231.0km s-min=28.6km az=69.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.53	17	P	P	17 16 26.6	-1.0
	0.1nm,0.3s,baz=213,slow=12,SNR=8.9						
SONM	Songino Array	43.38	11	P	P	17 21 06.2	-1.5
	0.2nm,0.4s,baz=190,slow=7.5,SNR=3.6						
WRA	Warramunga Arr	46.31	124	P	P	17 21 29.4	-1.9
	0.2nm,0.5s,baz=303,slow=9.6,SNR=6.9						
ASAR	Alice Springs	47.84	129	P	P	17 21 41.6	-1.6
	0.2nm,0.5s,baz=310,slow=8.0,SNR=4.4						

*NEIC **23** 17:15:30.2±0.5, 7.65N×94.07E, h30km, mb4.3/9, Error ellipse: s-maj=15.2km s-min=10.4km az=72.0*
*BJI **23** 17:15:35.0, 7.28N×93.86E, h57km, mb4.4*
*IDC **23** 17:15:39.9±5.7, 7.82N×94.17E, h112km±52km, mb3.6/16, mb1 3.7/17, mb1mx3.7/23, mbtmp3.9/17, Error ellipse: s-maj=30.8km s-min=12.9km az=58.0*

ISC 23 17:15:28.2±0.5, 7.59N±0.08×94.11E±0.10, h30km, n45, σ1§32/42, mb4.2/29, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.78	23	eP	P	17 18 18.0	+0.5
	1.1nm,0.4s						
CMAR	Chiang Mai Arr	11.78	23	P	P	17 18 21.2	+3.8
	0.3nm,0.3s,baz=212,slow=14,SNR=17						
PALK	Pallekele	13.30	270	ePn	P	17 18 45.0	+7.3
PALK				eSn	S	17 20 52.3	-13
HYB	Hyderabad	18.04	304	i P	P	17 19 40.5	+1.9
JIRN	Jiri	21.32	340	eP	P	17 20 16.2	+1.2
	33nm,0.8s,mb4.7						
PKI	Pulchoki	21.51	339	eP	P	17 20 19.4	+2.5
DMN	Daman	21.66	338	eP	P	17 20 20.1	+1.7
	39nm,0.9s,mb4.8						
KKN	Kakani	21.76	338	eP	P	17 20 20.1	+0.7
LSA	Lhasa	22.17	353	P	P	17 20 22.8	-0.7
	6.8nm,0.8s,mb4.1						
GKN	Gorkha	22.19	337	eP	P	17 20 23.2	-0.5
	22nm,0.7s,mb4.7						
KOLN	Koldanda	22.40	335	eP	P	17 20 26.2	+0.4
	50nm,1.3s,mb4.8						
AAK	Ala-Archa	38.95	337	eP	P	17 22 53.6	+0.2
	4.7nm,1.0s,mb4.2						
SONM	Songino Array	41.44	13	P	P	17 23 15.3	+1.4
	0.3nm,0.4s,mb3.2,baz=192,slow=7.4,SNR=3.9						
ULN	Ulaanbaatar	41.62	13	eP	P	17 23 14.5	-0.8
	2.4nm,0.9s,mb3.8						
KURK	Kurchatov	44.87	346	eP	P	17 23 39.8	-1.9
	3.7nm,0.9s,mb4.2						
NWAO	Narrogin (SRO)	45.91	153	P	P	17 23 54.3	+4.1
	2.6nm,0.6s,mb4.3,baz=289,slow=23,SNR=2.8						
NWAO	Narrogin (SRO)	45.91	153	eP	P	17 23 49.1	-1.1
	1.4nm,0.6s,mb4.1						
ZAL	Zalesovo	46.82	352	P	P	17 23 58.3	+1.2
	1.2nm,0.4s,mb4.2,baz=289,slow=7.5,SNR=7.0						
WRA	Warramunga Arr	48.13	125	P	P	17 24 08.7	+0.9
	0.9nm,0.5s,mb4.0,baz=304,slow=8.7,SNR=12						
WRAB	Tennant Creek	48.13	125	eP	P	17 24 08.0	+0.2
	4.9nm,0.7s,mb4.7						
BVAR	Borovoye Array	49.24	341	P	P	17 24 13.8	-2.1
	0.6nm,0.7s,mb3.8,baz=196,slow=37,SNR=2.1						
CHKZ	Chkalovo	49.73	342	eP	P	17 24 17.9	-1.8
	6.2nm,1.2s,mb4.5						
ASAR	Alice Springs	49.76	130	P	P	17 24 20.8	+0.4
	1.3nm,0.6s,mb4.2,baz=302,slow=7.5,SNR=16						
KMBO	Kilima Mbogo	57.36	264	P	P	17 25 18.7	+2.1
	0.2nm,0.3s,mb3.6,baz=49,slow=22,SNR=4.4						
BRTR	Keskin Array B	62.59	311	P	P	17 25 49.9	-2.1
	0.8nm,0.8s,mb3.9,baz=112,slow=7.8,SNR=3.2						
AKASG	Malin Array Be	68.35	322	P	P	17 26 26.7	-2.2
	0.7nm,0.8s,mb3.7,baz=153,slow=13,SNR=3.0						
LSZ	Lusaka	69.14	251	eP	P	17 26 35.6	+1.2
	2.2nm,0.6s,mb4.3						
MLR	Muntele Rosu	69.35	316	P	P	17 26 35.2	+0.1
	1.5nm,0.7s,mb4.1,baz=143,slow=19,SNR=3.5						
JOF	Joensuu	71.09	335	ep	P	17 26 44.4	-1.1
	2.2nm,0.6s,mb4.3						
FINES	FINESS Array B	72.94	332	P	P	17 26 55.9	-0.6
	1.6nm,0.7s,mb4.1,baz=135,slow=2.7,SNR=10						
FINES	FINESS Array B	72.94	332	P	P	17 26 55.9	-0.6
KAF	Kangasniemi	73.03	333	ep	P	17 26 56.3	-0.6
GERES	GERESS Array B	78.01	318	P	P	17 27 25.7	+0.2
	0.8nm,0.6s,mb3.8,baz=90,slow=5.3,SNR=10						
KHC	Kasperske Hory	78.10	319	eP	P	17 27 22.5	-3.5
HFS	Hagfors	78.68	330	P	P	17 27 29.0	+0.1
	2.7nm,0.9s,mb4.2,baz=108,slow=9.4,SNR=4.4						
NB2	NORSAR Subarra	79.96	331	P	P	17 27 34.0	-1.9
	4.5nm,1.0s,mb4.3,baz=92,slow=5.6						
NOA	NORSAR Array B	79.96	331	P	P	17 27 35.0	-0.9
	1.6nm,0.9s,mb3.9,baz=103,slow=5.5,SNR=3.3						
DAVOX	Davos	80.57	316	P	P	17 27 39.9	+0.5
	3.1nm,1.1s,mb4.2,baz=140,slow=20,SNR=2.6						
DAVOX	Davos	80.57	316	P	P	17 27 39.9	+0.5
LPG	La Plagne	82.79	315	eP	P	17 27 48.1	-2.9
	14nm,1.0s,mb4.7						
ESDC	Sonseca Array	91.37	310	P	P	17 28 33.4	+0.6
	0.2nm,0.4s,mb3.8,baz=63,slow=3.5,SNR=3.8						
CPUP	Villa Florida	147.06	232	PKPbc	PKPdf	17 35 11.0	-0.9
	0.0nm,0.6s,baz=276,slow=14,SNR=1.6						
CPUP	Villa Florida	147.06	232	PKPbc	PKPdf	17 35 11.0	-0.9
LPAZ	La Paz	160.60	242	PKPab	PKPab	17 36 11.3	+1.5
	0.8nm,0.3s,baz=314,slow=17,SNR=3.6						
LPAZ	La Paz	160.60	242	PKPab	PKPab	17 36 11.3	+1.5

KRSC 23 17:19:54.4±0.4, 54.48N×161.25E, h9km±2km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	Tumrok	1.03	322	eP	Pb	17 20 14.6	+0.7
TUMR				eS	Sb	17 20 29.0	+1.7
KMNR	Kamenistaya	1.41	336	eP	Pn	17 20 20.9	+0.6
KMNR				eS	Sb	17 20 40.0	+1.7
SPN	Mys Shipunski	1.56	208	eP	Pn	17 20 21.5	-1.1
SPN				eS	Sb	17 20 42.4	-0.5
KPT	Kopyto	1.60	339	eP	Pn	17 20 24.8	+1.7
NLC	Nalytchevo	1.73	222	eP	Pn	17 20 24.7	-0.2
NLC				eS	Sn	17 20 46.7	-0.6
KOZ	Kozyrevsk	1.77	334	eP	Pn	17 20 26.0	+0.5
SDLR	Sedlovina	1.85	230	eP	Pn	17 20 27.4	+0.8
SDLR				eS	Sn	17 20 51.3	+1.0
KLY	Klyuchi	1.87	350	eP	Pn	17 20 27.9	+1.0
KLY				eS	Sn	17 20 52.0	+1.2
SMAR	Somma	1.90	231	i P	Pn	17 20 28.1	+0.8
UGLR	Uglovaya	1.92	229	i P	Pn	17 20 28.5	+0.9
AVH	Avacha	1.92	232	eP	Pn	17 20 28.6	+0.9
AVH				eS	Sn	17 20 53.6	+1.4
KBTR	Krutoberegovo	1.95	27	eP	Pn	17 20 28.6	+0.5
KBTR				eS	Sn	17 20 53.4	+0.5
KOK	Koryaka	1.95	233	eP	Pn	17 20 29.2	+1.1
KBG	Krutoberegovo	1.96	24	eP	Pn	17 20 29.2	+0.9
KBG				eS	Sn	17 20 54.7	+1.5
KBG				Smax			
	200nm,0.6s						
SRDR	Sredinnyy	2.04	335	eP	Pn	17 20 30.6	+1.3
SRDR				i S	Sn	17 20 57.1	+2.0
ESO	Esso	2.06	316	eP	Pn	17 20 29.0	-0.6
ESO				eS	Sn	17 20 54.5	-1.1
ESO				Smax			
	60nm,1.0s						
GNL	Ganaly	2.10	249	eP	Pn	17 20 31.1	+0.9
GNL				eS	Sn	17 20 57.9	+1.2
SVLR	Shiveluch	2.10	360	eP	Pn	17 20 30.5	+0.2
SVLR				i S	Sn	17 20 56.9	+0.1
PET	Petropavlovsk	2.12	228	eP	Pn	17 20 31.1	+0.5
PET				eS	Sn	17 20 58.0	+0.7
KRMR	Karymshinskiy	2.49	230	eP	Pn	17 20 37.1	+1.4
KRMR				eS	Sn	17 21 08.4	+1.9
RUS	Russkaya	2.62	220	eP	Pn	17 20 37.0	-0.7
GRL	Gorelyy	2.71	226	eP	Pn	17 20 40.1	+1.2
GRL				i S	Sn	17 21 13.3	+1.2
BKI	Bering	2.83	73	eS	Sn	17 21 12.0	-3.1

IDC 23 17:30:59.1±3.4, 36.40S×78.71E, mb4.1/3, mb1 4.3/3, mb1mx3.7/13, mbtmp4.1/3, MS3.8/3, Ms1 3.8/3, ms1mx3.4/15, Error ellipse: s-maj=177.7km s-min=47.7km az=22.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	Mawson	32.52	191	LR	LR	17 47 38.6	
	comp=Z,188nm,19.3s,baz=60,slow=31						
ASAR	Alice Springs	48.85	91	P	P	17 39 46.2	-2.1
	1.6nm,1.0s,baz=241,slow=6.6,SNR=6.6						
ASAR				LR	LR	17 58 06.4	
	comp=Z,102nm,18.1s,baz=216,slow=33						
WRA	Warramunga Arr	51.04	87	P	P	17 40 03.2	-2.0
	2.2nm,1.0s,baz=238,slow=7.5,SNR=7.8						
STKA	Stephens Creek	51.44	104	P	P	17 40 06.2	-1.9
	3.1nm,0.8s,baz=258,slow=7.0,SNR=4.8						
CMAR	Chiang Mai Arr	57.82	23	LR	LR	18 00 49.9	
	comp=Z,56nm,18.1s,baz=225,slow=31						
INK	Inuvik	143.34	19	PKP	PKPdf	17 50 34.1	-2.0
	1.5nm,1.1s,baz=268,slow=4.2,SNR=3.2						
YKA	Yellowknife Ar	152.60	13	PKPbc	PKPdf	17 50 56.4	+5.2
	0.1nm,0.4s,baz=333,slow=2.8,SNR=3.8						

*CSEM **23** 17:31:32.9±0.2, 67.17N×20.99E, h2km, ML2.5, Error ellipse: s-maj=6.4km s-min=3.3km az=88.0, Suspected Mining explosion.*
*HEL **23** 17:31:33.3±0.1, 67.18N×20.68E, ML2.0, ML2.5(UPP), Explosion*
*UPP **23** 17:31:33.0, 67.18N×20.68E, h0km, ML2.5, Suspected Mining explosion.*

ISC 23 17:31:31.9±0.5, 67.21N±0.03×20.78E±0.07, n23, σ1§17/30, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.12	223	i P	Pg	17 31 34.5	+0.2
DUNU				i S	Sg	17 31 35.6	-0.2
MASU	Masugnsbyn	0.54	62	i P	Pg	17 31 43.8	+1.3
KUA	Kurravaara	0.77	348	i P	Pg	17 31 47.4	+0.1
ERTU	Ertsjaerv	0.86	139	i P	Pg	17 31 48.6	-0.4
NIKU	Nikkaluokta	0.94	316	eP	Pg	17 31 50.2	-0.4
NIKU	Nikkaluokta	0.94	316	P	Pg	17 31 50.2	-0.5
SJUU	Sjulsmark	1.74	169	eP	Pn	17 32 03.7	+0.2
KIF	Kilpisjarvi	1.81	0	eP	Pn	17 32 06.1	+1.6
KIF				eS	Sn	17 32 27.7	-0.8
KIF	Kilpisjarvi	1.81	0	P	Pn	17 32 06.0	+1.5
KIF				S	Sn	17 32 27.6	-0.8
LILU	Lilltraesk	1.97	191	eP	Pn	17 32 07.4	+0.6
KTK1	Kautokeino	2.03	26	eP	Pn	17 32 09.2	+1.5
SGF	Sodankyl	2.24	81	eP	Pn	17 32 12.9	+2.2
SGF				eSG	Sg	17 32 43.6	-2.9
SGF				MSG		17 32 47.3	
	comp=Z,7.9nm,0.3s						
SGF	Sodankyl	2.24	81	P	Pn	17 32 12.9	+2.2
SGF				Sg	Sg	17 32 43.5	-3.0
	comp=Z,7.9nm,0.3s						
TRO	Tromso	2.53	345	eSG	Sg	17 32 52.5	-3.6
MOR8	Moi Rana	2.73	250	eSG	Sn	17 32 52.5	+0.7
LOF	Lofoten	2.91	292	e	Sg	17 33 07.2	-1.7
LOF	Lofoten	2.91	292	e	Sg	17 33 07.2	-1.7
OUL	Oulu	2.98	133	eS	Sn	17 32 57.3	-0.9
KEV	Kevo	3.44	39	eP	Pn	17 32 28.2	+0.4
KEV				eS	Sn	17 33 09.6	-0.3
KEV	Kevo	3.44	39	P	Pn	17 32 28.2	+0.4
KEV				S	Sn	17 33 09.5	-0.3
MSF	Maaselka	3.55	108	eS	Sn	17 33 10.4	-2.3
KU4	Oulanka	3.59	100	eS	Sn	17 33 14.1	+0.4
NSS	Namsos	4.50	237	eSG	Sg	17 33 52.2	-10

IDC 23 17:36:02.6±4.1, 10.55N×92.05E, mb3.3/3, mb1 3.5/4, mb1mx3.4/18, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=110.2km s-min=30.7km az=82.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.31	40	Pn	P	17 38 32.2	-2.7
	0.1nm,0.3s,baz=225,slow=13,SNR=3.9						
SONM	Songino Array	39.08	15	P	P	17 43 31.3	-1.8
	0.3nm,0.8s,baz=199,slow=7.9,SNR=2.5						
WRA	Warramunga Arr	51.49	126	P	P	17 45 10.1	-2.3
	0.3nm,0.4s,baz=306,slow=8.3,SNR=8.6						
ASAR	Alice Springs	53.21	130	P	P	17 45 23.1	-2.1
	0.3nm,0.5s,baz=308,slow=7.0,SNR=8.1						

IDC 23 17:41:40.0±10.0, 19.71S×178.22W, h563km±122km, mb2.8/5, mb1 3.2/5, mb1mx3.0/14, mbtmp3.7/5, Error ellipse: s-maj=117.3km s-min=32.6km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.51	256	P	P	17 49 02.0	-1.5
	1.4nm,0.7s,baz=92,slow=7.8,SNR=16						
ASAR				PcP	PcP	17 50 33.2	-1.7
	0.5nm,1.0s,baz=96,slow=3.6,SNR=4.0						
WRA	Warramunga Arr	44.51	261	P	P	17 49 02.2	-1.4
	0.3nm,0.4s,baz=98,slow=7.9,SNR=15						
NVAR	Mina Array Bea	80.59	44	P	P	17 52 54.9	-0.5
	0.7nm,0.9s,baz=249,slow=13,SNR=4.0						
TXAR	Lajitas Array	86.81	57	P	P	17 53 25.0	-1.2
	0.1nm,0.4s,baz=259,slow=4.6,SNR=3.5						
ILAR	Eielson Array	87.59	13	P	P	17 53 27.9	-1.2
	0.2nm,0.6s,baz=218,slow=4.8,SNR=4.5						

*IDC **23** 17:44:37.8±1.3, 13.42N×92.82E, mb3.7/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=43.7km s-min=21.3km az=60.0*
*NEIC **23** 17:44:42.3±0.8, 13.44N×92.89E, h30km, mb3.6/2, Error ellipse: s-maj=20.6km s-min=11.5km az=65.0*

ISC 23 17:44:41.0±0.9, 13.53N±0.09×93.1E±0.1, h30km, n10, σ1§13/11, mb3.6/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.43	48	Pn	Pn	17 46 31.4	+1.2
	0.1nm,0.3s,baz=238,slow=16,SNR=5.6						
CMAR				Sn	Sn	17 47 52.1	-2.3
	0.2nm,0.3s,baz=239,slow=29,SNR=6.2						
LSA	Lhasa	16.20	354	eP	P	17 48 29.8	+1.5
	2.1nm,0.6s						
SONM	Songino Array	35.94	15	P	P	17 51 42.3	+1.4
	0.5nm,0.9s,mb3.4,baz=180,slow=4.3,SNR=3.0						
ZAL	Zalesovo	40.84	352	P	P	17 52 21.2	-0.5
	0.5nm,0.2s,mb3.7,baz=317,slow=23,SNR=2.9						
ZAL	Zalesovo	40.84	352	P	P	17 52 21.2	-0.5
CHKZ	Chkalovo	43.83	341	eP	P	17 52 44.4	-1.6
	0.7nm,0.5s,mb3.6						
WRA	Warramunga Arr	52.44	129	P	P	17 53 53.7	+0.2
	0.7nm,0.6s,mb3.8,baz=312,slow=7.7,SNR=17						
WRAB	Tennant Creek	52.45	129	eP	P	17 53 53.4	-0.2
ASAR	Alice Springs	54.37	133	P	P	17 54 07.8	+0.2
	0.5nm,0.5s,mb3.7,baz=305,slow=6.7,SNR=18						
GERES	GERESS Array B	73.00	317	P	P	17 56 08.9	-0.9
	0.4nm,0.7s,mb3.5,baz=198,slow=4.2,SNR=2.6						

*CSEM **23** 18:05:10.4±0.6, 67.16N×20.71E, ML2.8, Error ellipse: s-maj=18.3km s-min=13.6km az=57.0, Suspected Mining explosion.*
*UPP **23** 18:05:11.3, 67.17N×20.72E, h0km, ML2.8, Suspected Mining explosion.*

HEL 23 18:05:11.8±0.1, 67.16N×20.72E, ML1.7, ML2.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.07	235	i P	Pg	18 05 12.7	-0.5
DUNU				i S	Sg	18 05 14.4	+0.3
DUNU	Dundret	0.07	235	P	Pg	18 05 12.6	-0.6
MASU	Masugnsbyn	0.58	59	i P	Pg	18 05 21.9	-1.4
KUA	Kurravaara	0.81	350	i P	Pg	18 05 25.7	-2.3
KUA				i S	Sg	18 05 37.5	-1.2
ERTU	Ertsjaerv	0.84	136	i P	Pg	18 05 27.0	-1.7
ERTU	Ertsjaerv	0.84	136	P	Pg	18 05 27.0	-1.7
	baz=182						
NIKU	Nikkaluokta	0.96	318	eP	Pg	18 05 29.5	-1.5
SJUU	Sjulsmark	1.70	167	eP	Pn	18 05 42.2	-0.7
SJUU	Sjulsmark	1.70	167	P	Pn	18 05 42.1	-0.8
KIF	Kilpisjarvi	1.85	1	eP	Pn	18 05 43.9	-1.1
KIF				eS	Sn	18 06 09.7	+0.1
KIF	Kilpisjarvi	1.85	1	P	Pn	18 05 43.9	-1.2
KIF				S	Sn	18 06 09.6	+0.1
SGF	Sodankyl	2.27	80	eP	Pn	18 05 51.1	+0.1
SGF				eS	Sn	18 06 18.3	-1.9
SGF				eSG	Sg	18 06 22.2	-5.2
SGF				MSG		18 06 23.3	
	comp=Z,3.2nm,0.3s						
SGF	Sodankyl	2.27	80	P	Pn	18 05 51.1	0.0
SGF				S	Sn	18 06 18.3	-1.9
MSF	Maaselka	3.56	107	eP	Pn	18 06 08.3	-1.1
MSF				eS	Sn	18 06 50.4	-2.5

*ATH **23** 18:13:42.8, 38.93N×24.38E, h17km±6km, MD3.0/9, ML3.1*
*NEIC **23** 18:13:42.7, 38.92N×24.38E, h5km, ML3.1(ATH), After ATH.*
*THE **23** 18:13:43.9, 38.95N×24.32E, h11km, ML2.8*
*CSEM **23** 18:13:43.2±0.1, 38.95N×24.40E, h8km, ML2.8, Error ellipse: s-maj=2.9km s-min=2.1km az=104.0*

ISC 23 18:13:42.3±0.8, 38.94N±0.03×24.35E±0.05, h7km±6km, n21, σ0§84/34, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	Alonnisos	0.43	304	ePg	Pg	18 13 51.7	+0.8
AOS				eSg	Sg	18 13 58.0	+1.4
MPAR	Parnis Oros	0.91	211	ePN	Pn	18 14 00.3	-1.1
MPAR				eSN	Sn	18 14 14.0	-0.9
NEO	Neokhori	0.94	294	ePN	Pn	18 14 01.5	-0.3
PTL	Penteli	0.96	203	ePN	Pb	18 14 01.0	+0.1
PTL				eSN	Sn	18 14 15.2	-0.9
PTL	Penteli	0.96	203	ePb	Pb	18 14 01.0	+0.1
PTL				eSb	Sb	18 14 15.5	+1.9
XOR	Xorichti	0.99	296	ePg	Pg	18 14 01.9	-0.1
ATH	Athens Observa	1.08	207	ePN	Pn	18 14 03.0	-0.8
ATH				eSN	Sn	18 14 19.0	-0.1
ATH	Athens Observa	1.08	207	eSb	Sn	18 14 19.0	-0.1
PAIG	Paliouri	1.11	333	ePg	Pg	18 14 04.2	-0.4
PAIG				eSg	Sg	18 14 19.7	+0.3
LOS	Limnos	1.15	30	ePg	Pg	18 14 04.8	-0.6
NSAL	Nisos Salamina	1.23	214	ePB	Pb	18 14 05.5	-0.1
NSAL				eSN	Sn	18 14 22.8	-0.3
MGER	Gerania Oros	1.27	222	ePN	Pn	18 14 07.0	+0.5
MGER				eSN	Sn	18 14 25.0	+1.0
NAIG	Nisos Aigina	1.35	210	ePB	Pb	18 14 06.5	-1.1
NAIG				eSN	Sn	18 14 27.0	+1.0
OUR	Ouranopolis	1.42	349	ePb	Pb	18 14 08.4	-0.4
OUR				eSb	Sb	18 14 27.6	+0.6
PRK	Paraskevi	1.54	78	ePN	Pn	18 14 10.5	+0.2
PRK				eSN	Sn	18 14 32.5	+1.8
PRK	Paraskevi	1.54	78	eSb	Sn	18 14 32.5	+1.8
AGG	Agios Georgios	1.57	274	ePb	Pb	18 14 10.7	-0.6
AGG				eSb	Sb	18 14 31.0	-0.2
LIT	Litokhoron	1.84	310	ePb	Pb	18 14 14.5	-1.4
EVR	Evrytania	1.97	270	ePN	Pn	18 14 18.0	+1.5
SOH	Sokhos	2.03	338	ePn	Pn	18 14 17.2	-0.2
SOH				eSn	Sn	18 14 42.9	-0.4
ALN	Alexandroupoli	2.36	33	ePn	Pn	18 14 21.4	-0.6

*IGQ **23** 18:25:27.0, 0.89S×81.54W, h12km±7km, mb4.7, Error ellipse: s-maj=8.7km s-min=5.6km az=167.9*
*IDC **23** 18:25:33.6±1.0, 1.35S×81.67W, mb3.8/9, mb1 4.1/11, mb1mx3.9/22, mbtmp3.9/11, ML4.4/2, Error ellipse: s-maj=36.3km s-min=19.5km az=52.0*
*NEIC **23** 18:25:34.6±0.6, 1.01S×81.14W, h10km, mb4.0/4, Error ellipse: s-maj=19.3km s-min=11.8km az=214.0*

ISC 23 18:25:33.2±0.6, 0.98S±0.07×81.22W±0.04, h10km, n43, σ1§14/45, mb3.8/10, 11C-2D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.67	96	⇑P	Pb	18 25 44.4	-2.1
IGUA	Igualata	2.62	101	⇑P	Pn	18 26 15.5	-0.9
IGUA				S	Sn	18 26 51.8	+3.1
JUA2	San Juan 2	2.72	74	⇑P	Pn	18 26 16.9	-0.9
TERV	Terraza Guagua	2.73	73	⇑P	Pn	18 26 17.1	-0.8
PINO	Pino	2.73	73	⇑P	Pn	18 26 16.7	-1.3
NAS1	Nasa	2.76	83	P	Pn	18 26 18.3	0.0
CUSU	Cusua	2.77	99	P	Pn	18 26 19.2	+0.7
YANA	Yana	2.78	72	P	Pn	18 26 17.1	-1.5
JUIV	Juive	2.79	99	P	Pn	18 26 18.8	+0.1
ARRY	Arrayan	2.81	101	⇑P	Pn	18 26 18.3	-0.7
RETU	Refugio	2.81	100	P	Pn	18 26 21.1	+2.1
PATA	Patacocha	2.83	101	P	Pn	18 26 20.0	+0.7
PATA				S	Sn	18 26 55.5	+1.8
PISA	Pisayambo	2.83	92	⇓P	Pn	18 26 19.5	+0.1
VC1	Cotopaxi 1	2.83	83	⇑P	Pn	18 26 19.5	+0.1
RUN2	Runtun	2.83	99	P	Pn	18 26 18.8	-0.6
ULBA	Ulba	2.84	99	⇑P	Pn	18 26 19.5	0.0
TAMB	Tambo	2.86	84	P	Pn	18 26 19.7	-0.1
OTAV	Otavalo	3.02	66	⇑iPn	Pn	18 26 20.4	-1.6
OTAV				eSn	Sn	18 26 56.7	-1.9
ANTI	Antisana	3.10	80	⇑P	Pn	18 26 23.4	+0.3
COTA	Cotacachi	3.16	66	⇑P	Pn	18 26 23.1	-0.9
COTA				S	Sn	18 27 04.0	+1.8
CAYR	Refugio Cayamb	3.36	73	P	Pn	18 26 28.0	+1.2
CAYA	Cayambe	3.39	72	⇑P	Pn	18 26 28.2

Ms1 3.9/4, ms1mx3.3/28, Error ellipse: s-maj=20.7km s-min=10.6km az=58.0

ISC 23 18:26:18.7±0.4, 9.37N±0.05×93.18E±0.05, h30km, (h54km±7.1km:pP-P), n129, σ1§02/129, mb4.6/48, MS3.9/8, 10C-2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.19**	**63**	P	**Pn**	**18 28 09.3**	**+4.7**
NST	**Nakhon Sawan**	**9.24**	**47**	P	**P**	**18 28 37.3**	**+4.2**
	92nm,0.5s						
CM31	**Chiang Mai Arr**	**10.63**	**31**	*e*P	**P**	**18 28 55.5**	**+3.3**
	7.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**10.63**	**31**	P	**P**	**18 28 55.0**	**+2.8**
	2.6nm,0.3s,baz=220,slow=14,SNR=50						
CMAR				LR	LR	18 32 57.3	
	comp=Z,159nm,20.4s,baz=220,slow=37						
CMAR				ScP		18 38 21.9	
	0.1nm,0.3s,baz=240,slow=3.1,SNR=4.4						
CHG	**Chiang Mai**	**10.93**	**30**	||P	**P**	**18 29 00.8**	**+4.4**
	10.0nm,0.7s						
VIS	**Vishakhapatnam**	**12.67**	**312**	*e*P	**P**	**18 29 18.7**	**-1.2**
VIS				*e*S	**S**	**18 31 23.0**	**-18**
VIS				*e*		18 31 30.4	
	comp=N,138nm,0.4s						
VIS				*e*		18 31 30.4	
	comp=E,121nm,0.3s						
BWNR	**Bhubaneshwar**	**12.99**	**328**	*e*P	**P**	**18 29 20.4**	**-3.7**
BWNR				*e*S	**S**	**18 31 29.6**	**-19**
BWNR				*e*		18 31 35.6	
	comp=N,161nm,0.4s						
BWNR				*e*		18 31 36.0	
	comp=E,305nm,0.5s						
IMP	**Imphal**	**15.35**	**3**	*e*P	**P**	**18 29 58.2**	**+3.1**
SHL	**Shillong**	**16.16**	**356**	*e*P	**P**	**18 30 10.0**	**+4.5**
SHL				*e*	**S**	**18 32 55.0**	**-8.4**
HYB	**Hyderabad**	**16.31**	**301**	*e*P	**P**	**18 30 08.0**	**+0.5**
HYB				*e*S	**S**	**18 32 56.0**	**-11**
HYB	**Hyderabad**	**16.31**	**301**	*i* P	**P**	**18 30 08.0**	**+0.5**
HYB				*e*		18 32 56.0	
HYB				*e*S	**S**	**18 33 06.0**	**-1.0**
BLSP	**Bilaspur**	**16.54**	**321**	*e*P	**P**	**18 30 11.3**	**+1.0**
BLSP				*e*		18 30 11.8	
	comp=Z,7.2nm,0.3s						
BLSP				*e*	**S**	**18 32 60.0**	**-12**
KMI	**Kunming**	**18.12**	**29**	P	**P**	**18 30 29.7**	**-0.5**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KMI	**Kunming**	**18.12**	**29**	P	**P**	**18 30 29.7**	**-0.5**
	comp=Z,7.0nm,0.5s						
LATR	**Latur**	**18.45**	**301**	*e*	**S**	**18 33 44.3**	**-12**
JIRN	**Jiri**	**19.35**	**341**	*e*P	**P**	**18 30 45.9**	**+1.0**
	comp=Z,36nm,0.7s						
PKI	**Pulchoki**	**19.54**	**339**	*e*P	**P**	**18 30 46.0**	**-0.9**
	comp=Z,12nm,0.4s						
DMN	**Daman**	**19.68**	**338**	*e*P	**P**	**18 30 48.4**	**-0.1**
	comp=Z,38nm,0.9s						
KKN	**Kakani**	**19.78**	**339**	*e*P	**P**	**18 30 49.5**	**-0.1**
	comp=Z,32nm,0.7s						
KAD	**Karad**	**20.08**	**295**	*e*P	**P**	**18 30 54.0**	**+1.1**
KAD				*e*	**S**	**18 34 21.0**	**-11**
GKN	**Gorkha**	**20.21**	**338**	*e*P	**P**	**18 30 54.4**	**+0.3**
	comp=Z,35nm,0.5s						
LSA	**Lhasa**	**20.32**	**355**	P	**P**	**18 30 54.4**	**-0.8**
LSA	**Lhasa**	**20.32**	**355**	*e*P	**P**	**18 30 54.7**	**-0.5**
LSA				pmax	pmax		
	comp=Z,19nm,0.4s						
LSA	**Lhasa**	**20.32**	**355**	*e*P	**P**	**18 30 54.7**	**-0.5**
	comp=Z,18nm,0.4s						
KOLN	**Koldanda**	**20.41**	**335**	*e*P	**P**	**18 30 56.6**	**+0.4**
	comp=Z,28nm,0.6s						
ENH	**Enshi**	**25.78**	**34**	*e*P	**P**	**18 31 48.1**	**-0.9**
	comp=Z,12nm,0.7s,mb4.5						
LZH	**Lanzhou**	**28.31**	**18**	*e*P	**P**	**18 32 11.0**	**-1.0**
LZH				AMB	AMB		
	comp=Z,26nm,1.0s,mb4.8						
LZH	**Lanzhou**	**28.31**	**18**	*e*P	**P**	**18 32 11.0**	**-1.0**
LZH				*PP	pP	18 32 19.0	-1.8
LZH				*SP	sP	18 32 24.0	-0.7
LZH				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.8						
LZH	**Lanzhou**	**28.31**	**18**	*e*P	**P**	**18 32 11.0**	**-1.0**
	comp=Z,26nm,1.0s,mb4.8						
LZH				pP	pP	18 32 19.0	-1.8
LZH				sP	sP	18 32 24.0	-0.7
XAN	**Xi'an**	**28.50**	**28**	P	**P**	**18 32 12.0**	**-1.7**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.3						
NJ2	**Nanjing**	**32.79**	**43**	*e*P	**P**	**18 32 51.4**	**-0.3**
NJ2				AP	pP	18 33 01.3	+0.8
NJ2				XP	sP	18 33 05.4	+1.0
NJ2				PP	PP	18 34 01.4	-0.2
NJ2				PPP	PPP	18 34 16.1	-1.3
NJ2				S	**S**	**18 38 04.0**	**-1.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,380nm,5.1s						
NJ2				LR	LR		
	comp=N,350nm,15.3s,MS4.3						
NJ2				LR	LR		
	comp=E,270nm,15.9s,MS4.3						
NJ2				LR	LR		
	comp=Z,410nm,14.8s,MS4.3						
SSE	**Sheshan**	**33.85**	**46**	*e*P	**P**	**18 32 58.4**	**-2.5**
SSE				AP	pP	18 33 07.9	-1.9
SSE				S	**S**	**18 38 22.4**	**+0.4**
SSE				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,66nm,3.9s						
SSE				LR	LR		
	comp=N,125nm,23.1s,MS3.6						
SSE				LR	LR		
	comp=E,49nm,22.9s,MS3.6						
SSE				LR	LR		
	comp=Z,73nm,21.7s,MS3.4						
SSE	**Sheshan**	**33.85**	**46**	*e*P	**P**	**18 32 58.4**	**-2.5**
	comp=Z,22nm,0.7s,mb5.2						
SSE				pP	pP	18 33 07.9	-1.9
SSE				sP	sP	18 33 11.8	-1.8
SSE				S	**S**	**18 38 22.4**	**+0.4**
SSE				sS		18 38 37.3	
SSE				SS	SS	18 40 42.9	+14
SSE				LR	LR		
	comp=Z,70nm,21.7s,MS3.4						
WMQ	**Urumqi**	**34.65**	**353**	*e*P	**P**	**18 33 07.9**	**+0.2**
KZA	**Kyzart**	**36.20**	**337**	P	**P**	**18 33 22.3**	**+1.5**
	SNR=11						
UCH	**Uchtor**	**36.61**	**337**	P	**P**	**18 33 25.7**	**+1.5**
	SNR=13						
BJT	**Baijiatuau**	**36.75**	**30**	*e*P	**P**	**18 33 26.2**	**+0.7**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BJT	**Baijiatuau**	**36.75**	**30**	*e*P	**P**	**18 33 26.1**	**+0.7**
	comp=Z,9.2nm,0.8s,mb4.7						
BJI	**Beijing**	**36.77**	**30**	*e*P	**P**	**18 33 26.7**	**+1.1**
BJI				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.9						
BJI				MLR	MLR		
	comp=Z,100nm,23.7s,MS3.5						
TKM2	**Tokmak 2**	**36.80**	**338**	P	**P**	**18 33 26.9**	**+1.1**
	SNR=11						
KBK	**Karagaybulak**	**36.81**	**337**	P	**P**	**18 33 27.5**	**+1.6**
	SNR=32						
AML	**Almayashu**	**36.86**	**336**	P	**P**	**18 33 28.0**	**+1.7**
	SNR=53						
AAK	**Ala-Archa**	**36.96**	**337**	P	**P**	**18 33 28.7**	**+1.5**
	SNR=18						
AAK	**Ala-Archa**	**36.96**	**337**	*e*P	**P**	**18 33 27.3**	**+0.1**
AAK				*e*		18 35 48.0	
AAK				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
AAK	**Ala-Archa**	**36.96**	**337**	*e*P	**P**	**18 33 27.3**	**0.0**
	comp=Z,15nm,0.8s,mb4.9						
AAK				*e*PcP	PcP	18 35 48.0	-0.4
CHMS	**Chumysh**	**37.18**	**337**	P	**P**	**18 33 29.9**	**+0.9**
	SNR=7.6						
EKS2	**Erkin-Say**	**37.27**	**336**	P	**P**	**18 33 31.3**	**+1.5**
	SNR=26						
USP	**Ospenovka**	**37.50**	**337**	P	**P**	**18 33 32.4**	**+0.6**
	SNR=35						
MK02	**Makanchi Array**	**38.41**	**348**	P	**P**	**18 33 39.0**	**-0.3**
MK02				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
SONM	**Songino Array**	**39.94**	**14**	P	**P**	**18 33 51.9**	**-0.1**
	comp=Z,11nm,0.9s,mb4.6,baz=202,slow=6.7,SNR=74						
SONM				pP	pP	18 34 10.8	+10
	comp=Z,6.2nm,1.2s,baz=198,slow=7.8,SNR=2.9						
SONM				PcP	PcP	18 35 58.2	+0.6
	comp=Z,2.2nm,0.5s,baz=206,slow=3.8,SNR=13						
MBWA	**Marble Bar**	**40.01**	**140**	P	**P**	**18 33 51.7**	**-1.2**
	comp=Z,1.3nm,0.6s,mb3.8						
ULN	**Ulaanbaatar**	**40.12**	**15**	*e*P	**P**	**18 33 53.0**	**-0.5**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**40.12**	**15**	*e*P	**P**	**18 33 53.0**	**-0.5**
	comp=Z,7.6nm,0.8s,mb4.5						
ZAK	**Zakamensk**	**41.74**	**10⇑**	*e*P	**P**	**18 34 05.8**	**-1.0**
ZAK				*e*		18 36 01.9	
SNY	**Shenyang**	**41.96**	**34**	⇑P	**P**	**18 34 09.4**	**+0.7**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.8						
MOY	**Mondy**	**42.66**	**7**	*e*P	**P**	**18 34 15.1**	**+0.8**
KURK	**Kurchatov**	**42.94**	**346**	*e*P	**P**	**18 34 16.2**	**-0.4**
KURK				*e*		18 36 06.8	
KURK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4						
KURK	**Kurchatov**	**42.94**	**346**	*e*P	**P**	**18 34 16.2**	**-0.4**
	comp=Z,8.9nm,1.1s,mb4.4						
KURK				*e*PcP	PcP	18 36 06.8	-0.7
TLY	**Talaya**	**43.05**	**10⇑**	*e*P	**P**	**18 34 18.4**	**+0.9**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.1						
ZAL	**Zalesovo**	**44.95**	**353**	P	**P**	**18 34 33.8**	**+0.9**
	comp=Z,2.4nm,0.3s,mb4.4,baz=303,slow=6.4,SNR=15						
ZAL				pP	pP	18 34 50.5	+8.6
	comp=Z,1.7nm,0.5s,baz=298,slow=6.8,SNR=2.3						
ZAL				PcP	PcP	18 36 15.0	+0.7
	comp=Z,0.9nm,0.7s,baz=291,slow=7.8,SNR=3.3						
HIA	**Hailar**	**45.54**	**24**	*e*P	**P**	**18 34 37.9**	**+0.3**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HIA	**Hailar**	**45.54**	**24**	*e*P	**P**	**18 34 37.9**	**+0.3**
	comp=Z,9.6nm,0.9s,mb4.7						
NVS	**Novosibirsk**	**46.04**	**352**	*e*P	**P**	**18 34 40.5**	**-0.9**
MDJ	**Mudanjiang**	**47.13**	**35**	P	**P**	**18 34 49.3**	**-0.9**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,94nm,5.4s						
BVA0	**Borovoye Array**	**47.28**	**341**	P	**P**	**18 34 50.4**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.7						
BVAR	**Borovoye Array**	**47.28**	**341**	P	**P**	**18 34 50.4**	**-0.8**
	comp=Z,3.8nm,0.7s,mb4.5,baz=140,slow=9.0,SNR=34						
BVAR				pP	pP	18 35 08.5	+8.2
	comp=Z,0.7nm,0.5s,baz=158,slow=8.0,SNR=3.1						
BVAR				PcP	PcP	18 36 22.3	-0.1
	comp=Z,1.3nm,0.6s,baz=207,slow=3.3,SNR=4.2						
BRVK	**Borovoye**	**47.34**	**341**	*e*P	**P**	**18 34 50.5**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**47.34**	**341**	*e*P	**P**	**18 34 50.5**	**-1.2**
	comp=Z,6.5nm,0.9s,mb4.6						
CHKZ	**Chkalovo**	**47.77**	**342⇑**	*i*P	**P**	**18 34 54.6**	**-0.5**
CHKZ				*e*		18 36 23.3	
CHKZ				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.2						
CHKZ	**Chkalovo**	**47.77**	**342⇑**	*i*P	**P**	**18 34 54.6**	**-0.5**
	comp=Z,15nm,0.6s,mb5.2						
CHKZ				*e*PcP	PcP	18 36 23.3	-0.9
NWAO	**Narrogin (SRO)**	**47.90**	**152**	P	**P**	**18 34 57.8**	**+1.3**
NWAO				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**47.90**	**152**	P	**P**	**18 34 57.8**	**+1.3**
	comp=Z,10nm,0.7s,mb5.0,baz=317,slow=11,SNR=11						
NWAO	**Narrogin (SRO)**	**47.90**	**152**	*e*P	**P**	**18 34 57.2**	**+0.8**
	comp=Z,5.1nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**49.90**	**126**	P	**P**	**18 35 12.3**	**+0.3**
	comp=Z,6.6nm,0.5s,mb4.9,baz=303,slow=8.9,SNR=68						
WRA				PcP	PcP	18 36 33.3	+1.0
	comp=Z,1.7nm,0.6s,baz=315,slow=3.0,SNR=12						
WRAB	**Tennant Creek**	**49.91**	**126⇑**	*e*P	**P**	**18 35 12.5**	**+0.5**
WRAB	**Tennant Creek**	**49.91**	**126**	*e*P	**P**	**18 35 12.3**	**+0.3**
	comp=Z,14nm,0.6s,mb5.2						
WB2	**Warramunga Arr**	**49.91**	**126⇑**	*i*P	**P**	**18 35 12.4**	**+0.3**
BOD	**Bodaibo**	**50.93**	**14**	*e*P	**P**	**18 35 17.8**	**-1.5**
ASPA	**Alice Springs**	**51.60**	**130⇑**	*i*P	**P**	**18 35 24.8**	**0.0**
ASAR	**Alice Springs**	**51.60**	**130**	P	**P**	**18 35 24.9**	**0.0**
	comp=Z,3.8nm,0.5s,mb4.6,baz=304,slow=7.2,SNR=90						
ASAR				PcP	PcP	18 36 39.5	+1.0
	comp=Z,3.2nm,0.6s,baz=311,slow=3.5,SNR=16						
ASAR				pPcP		18 36 57.9	
	comp=Z,3.4nm,1.1s,baz=304,slow=3.4,SNR=6.0						
ARU	**Arti**	**54.15**	**337**	||*i*P	**P**	**18 35 37.1**	**-6.2**
ARU				*e*		18 37 39.3	
ARU				*e*S	**S**	**18 43 09.2**	**-7.3**
ARU				*e*SS	SS	18 46 49.7	-8.1
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
KIV	**Kislovodsk**	**55.58**	**318**	*e*P	**P**	**18 35 54.0**	**0.0**
KIV				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
KIV				pmax	pmax		
	comp=N,6.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,53nm,17.0s,MS3.7						
KIV				MLR	MLR		
	comp=N,54nm,17.0s						
KIV	**Kislovodsk**	**55.58**	**318**	*e*P	**P**	**18 35 53.8**	**-0.2**
	comp=N,14nm,0.8s,mb5.0						
YSS	**Yuzh-Sakhalins**	**56.21**	**39**	*c i*P	**P**	**18 35 58.6**	**+0.1**
YSS				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.2						
EIL	**Elat**	**57.87**	**299**	LR	LR	19 01 23.0	
	comp=Z,80nm,19.1s,MS3.9,baz=292,slow=36						
YAK	**Yakutsk**	**58.90**	**19**	*e*P	**P**	**18 36 15.4**	**-1.8**
YAK				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.2						
YAK	**Yakutsk**	**58.90**	**19**	*e*P	**P**	**18 36 15.4**	**-1.8**
	comp=Z,20nm,0.8s,mb5.2						
ANN	**Anapa**	**59.40**	**317**	*e*P	**P**	**18 36 15.6**	**-5.3**
ANN				*e*		18 36 27.0	
ANN				pmax	pmax		
	comp=Z,43nm,1.3s,mb5.3						
CTA	**Charters Tower**	**59.87**	**120**	LR	LR	19 05 03.6	
	comp=Z,216nm,18.4s,MS4.3,baz=46,slow=39						
BRTR	**Keskin Array B**	**60.74**	**310**	P	**P**	**18 36 28.9**	**-1.2**
	comp=Z,3.5nm,0.7s,mb4.6,baz=126,slow=7.5,SNR=20						
BRTR				pP	pP	18 36 49.0	+10
	comp=Z,2.2nm,0.8s,baz=121,slow=8.0,SNR=4.9						
STKA	**Stephens Creek**	**61.82**	**134**	P	**P**	**18 36 38.4**	**+0.8**
	comp=Z,2.6nm,0.7s,mb4.5,baz=331,slow=11,SNR=5.9						
STKA	**Stephens Creek**	**61.82**	**134**	P	**P**	**18 36 38.4**	**+0.8**
OBN	**Obninsk**	**63.62**	**328**	*e*P	**P**	**18 36 46.4**	**-2.7**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
TIXI	**Tiksi**	**65.97**	**12⇑**	*i*P	**P**	**18 37 02.9**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,23nm,0.5s,mb5.5						
TIXI				MLR	MLR		
	comp=Z,80nm,18.0s,MS4.0						
AKASG	**Malin Array Be**	**66.40**	**321**	P	**P**	**18 37 05.5**	**-1.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**66.40**	**321**	P	**P**	**18 37 05.5**	**-1.7**
	comp=Z,1.1nm,0.4s,mb4.2,baz=88,slow=4.9,SNR=14						
IDI	**Anoyia**	**66.94**	**304**	P	**P**	**18 37 10.2**	**-0.7**
	comp=Z,8.6nm,0.8s,mb4.9,baz=319,slow=19,SNR=3.4						
KWP	**Kalwaria**	**70.28**	**319**	*e*P	**P**	**18 37 31.0**	**-0.3**
FINES	**FINESS Array B**	**70.95**	**332**	P	**P**	**18 37 34.1**	**-1.1**
	comp=Z,1.9nm,0.6s,mb4.2,baz=108,slow=5.7,SNR=19						
ARCES	**ARCESS Array B**	**73.55**	**340**	P	**P**	**18 37 50.2**	**-0.1**
	comp=Z,3.8nm,1.0s,mb4.3,baz=98,slow=7.2,SNR=8.8						
DPC	**Dobruska-Polom**	**74.46**	**320**	*e*P	**P**	**18 37 56.6**	**+0.6**
KSP	**Ksiaz**	**74.51**	**320**	*e*P	**P**	**18 37 56.6**	**+0.3**
KSP	**Ksiaz**	**74.51**	**320**	*e*P	**P**	**18 37 56.7**	**+0.4**
UPC	**Upice**	**74.67**	**320**	*e*P	**P**	**18 37 57.2**	**0.0**
BILL	**Bilibino**	**75.06**	**22**	*e*P	**P**	**18 37 59.2**	**0.0**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
GERES	**GERESS Array B**	**76.09**	**318**	P	**P**	**18 38 05.7**	**+0.3**
	comp=Z,4.3nm,0.8s,mb4.4,baz=85,slow=6.0,SNR=22						
GERES				pP	pP	18 38 24.4	+10
	comp=Z,1.4nm,0.7s,baz=72,slow=4.2,SNR=3.5						
KHC	**Kasperske Hory**	**76.17**	**318**	*e*P	**P**	**18 38 06.0**	**+0.1**
HFS	**Hagfors**	**76.69**	**330**	P	**P**	**18 38 07.9**	**-0.6**
	comp=Z,2.1nm,0.4s,mb4.4,baz=108,slow=4.7,SNR=23						
NKC	**Novy Kostel**	**76.94**	**319**	*e*P	**P**	**18 38 10.2**	**+0.1**
NB2	**NORSAR Subarra**	**77.97**	**330**	P	**P**	**18 38 14.1**	**-1.4**
	comp=Z,0.2nm,0.7s,mb3.2,baz=96,slow=5.8						
NOA	**NORSAR Array B**	**77.97**	**330**	P	**P**	**18 38 14.7**	**-0.9**
	comp=Z,1.1nm,0.6s,mb3.9,baz=94,slow=5.2,SNR=3.9						
NOA				LR	LR	19 13 49.1	
	comp=Z,78nm,18.4s,MS4.1,baz=185,slow=36						
DAVOX	**Davos**	**78.66**	**316**	P	**P**	**18 38 20.1**	**+0.5**
	comp=Z,1.5nm,0.4s,mb4.3,baz=92,slow=8.8,SNR=6.0						
LPG	**La Plagne**	**80.90**	**315**	*e*P	**P**	**18 38 32.4**	**+0.7**
	comp=Z,19nm,0.9s,mb4.7						
LPG	**La Plagne**	**80.90**	**315**	*e*P	**P**	**18 38 32.4**	**+0.7**
LPG				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
IMA	**Indian Mountai**	**90.61**	**22**	*e*P	**P**	**18 39 20.3**	**+1.1**
IMA				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.5						
IMA	**Indian Mountai**	**90.61**	**22**	*e*P	**P**	**18 39 20.2**	**+1.0**
	comp=Z,21nm,0.8s,mb5.5						
ILAR	**Eielson Array**	**93.72**	**22**	P	**P**	**18 39 33.2**	**-0.3**
	comp=Z,2.4nm,0.7s,mb4.8,baz=317,slow=5.3,SNR=21						
INK	**Inuvik**	**95.83**	**16**	P	**P**	**18 39 43.6**	**+0.4**
INK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
INK	**Inuvik**	**95.83**	**16**	P	**P**	**18 39 43.6**	**+0.5**
	comp=Z,3.6nm,0.5s,mb5.1,baz=340,slow=5.4,SNR=38						
INK	**Inuvik**	**95.83**	**16**	*e*P	**P**	**18 39 43.5**	**+0.3**
	comp=Z,1.7nm,0.4s,mb4.8						
YKA	**Yellowknife Ar**	**105.20**	**13**	PP	PP	18 44 43.8	-5.6
	comp=Z,1.1nm,0.8s,baz=334,slow=8.0,SNR=13						
PDAR	**Pinedale Array**	**124.11**	**20**	PKP	PKPdf	18 45 16.7	-3.2
	comp=Z,1.4nm,0.9s,baz=62,slow=2.2,SNR=9.9						
PDAR				pPKP		18 45 35.8	
	comp=Z,1.0nm,1.0s,baz=56,slow=5.3,SNR=3.8						
NVAR	**Mina Array Bea**	**124.12**	**30**	PKP	PKPdf	18 45 17.9	-2.1
	comp=Z,1.2nm,0.7s,baz=351,slow=1.7,SNR=7.6						
NVAR	**Mina Array Bea**	**124.12**	**30**	PKP	PKPdf	18 45 17.9	-2.1
TXAR	**Lajitas Array**	**138.24**	**22**	PKhKP		18 45 35.8	
	comp=Z,0.1nm,0.4s,baz=315,slow=1.3,SNR=3.5						
TXAR				PKiKP		18 45 46.2	
	comp=Z,0.6nm,0.6s,baz=327,slow=0.8,SNR=9.2						
PLCA	**Paso Flores**	**145.59**	**202**	PKPbc	PKPbc	18 45 58.5	+3.4
	comp=Z,4.3nm,0.8s,baz=152,slow=8.2,SNR=7.6						
PLCA				pPKPbc		18 46 16.4	
	comp=Z,4.3nm,0.9s,baz=195,slow=6.4,SNR=3.6						
PLCA	**Paso Flores**	**145.59**	**202**	PKPbc	PKPbc	18 45 58.5	+3.4
PLCA				pPKPbc		18 46 16.4	
SJG	**San Juan**	**145.91**	**323**	PKPbc	PKPbc	18 45 59.3	+2.7
	comp=Z,4.5nm,0.4s,baz=306,slow=22,SNR=3.5						
CPUP	**Villa Florida**	**147.37**	**235**	PKPbc	PKPdf	18 46 03.1	+0.2
	comp=Z,0.0nm,0.3s,baz=184,slow=15,SNR=1.6						
CPUP				pPKPbc		18 46 21.9	
	comp=Z,0.0nm,0.5s,baz=48,slow=20,SNR=1.5						

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*BJI **23** 18:44:10.0, 2.71N×126.98E, h10km, mB4.8, mb4.6, Ms4.4, Msz4.0*

*IDC **23** 18:44:17.0±0.6, 3.41N×126.60E, mb4.4/17, mb1 4.5/17, mb1mx4.4/21, mbtmp4.4/17, MS4.0/4, Ms1 4.1/4, ms1mx3.5/21, Error ellipse: s-maj=30.5km s-min=13.0km az=71.0*

*NEIC **23** 18:44:18.5±0.3, 3.41N×126.58E, h10km, mb4.7/17, Error ellipse: s-maj=16.2km s-min=5.9km az=75.0*

*MOS **23** 18:44:20.7±1.3, 3.49N×126.56E, h33km, mb5.0/13, Error ellipse: s-maj=20.1km s-min=8.1km az=105.7*

*MAN **23** 18:44:37.3, 4.37N×125.77E, h10km, mb5.2, ML4.1, MS4.2*

ISC 23 18:44:24.1±1.1, 3.41N±0.04×126.59E±0.09, h72km±9km, h33km±9.5km:pP-P, n86, σ1§06/88, mb4.4/44, 5C-5D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**3.53**	**355**	*e*P	**P**	**18 45 22.1**	**+4.3**
MATI				*e*S	**S**	**18 45 59.2**	**+0.6**
KCP	**Kidapawan**	**3.87**	**337**	||*e*P	**P**	**18 45 22.8**	**+0.1**
BUKP	**Musuan**	**4.69**	**341**	*e*P	**P**	**18 45 33.3**	**-0.8**
BIPH	**Bislig**	**4.75**	**357**	||*e*P	**P**	**18 45 38.5**	**+3.6**
BIPH				*i* S	**S**	**18 46 25.9**	**-3.1**
PAGZ	**Pagadian**	**5.44**	**324**	*e*P	**P**	**18 45 45.1**	**+0.8**
BUTP	**Butuan**	**5.60**	**350**	*e*P	**P**	**18 45 53.8**	**+7.2**
KAKA	**Kakadu**	**17.04**	**160**	*e*P	**P**	**18 48 22.6**	**+3.4**
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.40**	**182**	*e*P	**P**	**18 49 08.1**	**+0.3**
	11nm,0.6s,mb4.4						
PMG	**Port Moresby**	**24.13**	**122**	LR	LR	19 00 03.0	
	comp=Z,233nm,19.6s,baz=81,slow=39						
WRAB	**Tennant Creek**	**24.42**	**162**	||*e*P	**P**	**18 49 37.6**	**+0.2**
WRAB	**Tennant Creek**	**24.42**	**162**	*e*P	**P**	**18 49 36.8**	**-0.6**
	67nm,1.1s,mb4.9						
WRA	**Warramunga Arr**	**24.43**	**162**	P	**P**	**18 49 37.0**	**-0.4**
	20nm,0.9s,mb4.5,baz=337,slow=11,SNR=39						
WB2	**Warramunga Arr**	**24.43**	**162**	⇑*i*P	**P**	**18 49 36.9**	**-0.5**
WB2				*e*S	**S**	**18 53 57.8**	**+8.5**
MBWA	**Marble

MDJ AMB AMB
comp=Z,7.0nm,0.7s,mb4.6
MDJ AMB AMB
comp=Z,101nm,5.6s
LSA Lhasa 42.55 312 P **P 18 52 16.0 +1.4**
LSA Lhasa 42.55 312 *eP* **P 18 52 14.9 +0.3**
LSA pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
LSA Lhasa 42.55 312 *eP* **P 18 52 14.9 +0.4**
comp=Z,7.9nm,1.1s,mb4.4
ASAJ Asahikawa 42.93 17 P **P 18 52 17.4 -0.1**
ASAJ pmax pmax
comp=Z,19nm,1.2s
ASAJ Asahikawa 42.93 17 P **P 18 52 17.4 -0.1**
comp=Z,19nm,1.2s,mb4.7,baz=82,slow=27,SNR=3.5
JIRN Jiri 45.45 306 *eP* **P 18 52 38.3 +0.3**
comp=Z,13nm,0.8s,mb4.7
YSS Yuzh-Sakhalins 45.58 15 *eP* **P 18 52 39.0 +0.2**
KLR Kul'dur 45.86 5 *eP* **P 18 52 36.4 -4.5**
PKI Pulchoki 46.04 306 *eP* **P 18 52 42.8 +0.1**
HIA Hailar 46.06 354 *eP* **P 18 52 43.1 +0.6**
HIA pmax pmax
comp=Z,13nm,1.2s
HIA Hailar 46.06 354 *eP* **P 18 52 43.1 +0.6**
comp=Z,13nm,1.2s,mb4.5
KKN Kakani 46.23 306 *eP* **P 18 52 44.5 +0.3**
DMN Daman 46.30 306 *eP* **P 18 52 44.4 -0.3**
GKN Gorkha 46.84 306 *eP* **P 18 52 49.2 +0.2**
ULN Ulaanbaatar 47.38 342 *eP* **P 18 52 53.0 +0.1**
ULN *e* 18 53 01.0
ULN pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
ULN Ulaanbaatar 47.38 342 *eP* **P 18 52 53.0 +0.1**
comp=Z,3.4nm,1.0s,mb4.0
ULN *e* 18 53 01.0
SONM Songino Array 47.55 342 P **P 18 52 53.5 -0.8**
comp=Z,2.8nm,0.9s,mb4.1,baz=158,slow=6.9,SNR=19
KOLN Koldanda 47.59 305 *eP* **P 18 52 54.9 0.0**
comp=Z,25nm,0.9s,mb5.1
HYB Hyderabad 49.09 290 *iP* **P 18 53 08.0 +1.4**
ZAK Zakamensk 50.78 341 *eP* **P 18 53 17.8 -1.3**
ZAK *e* 18 54 34.6
TLY Talaya 51.79 342⇓ *eP* **P 18 53 27.1 +0.5**
TLY pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
TLY MLR MLR
comp=Z,100nm,21.0s
BOD Bodaibo 55.16 352 *eP* **P 18 53 49.4 -2.0**
YAK Yakutsk 58.53 2⇓ *eP* **P 18 54 14.3 -0.9**
YAK pmax pmax
comp=Z,13nm,1.5s,mb4.7
YAK Yakutsk 58.53 2 P **P 18 54 14.1 -1.1**
comp=Z,7.3nm,0.9s,mb4.7
AAK Ala-Archa 60.50 318⇓ *eP* **P 18 54 29.7 +0.6**
AAK MLR MLR
comp=Z,200nm,23.0s
AAK Ala-Archa 60.50 318 P **P 18 54 29.2 +0.2**
comp=Z,1.5nm,0.9s,mb4.0
ZAL Zalesovo 60.81 333 P **P 18 54 31.9 +0.8**
comp=Z,0.8nm,0.6s,mb3.9,baz=344,slow=10,SNR=6.8
ZAL LR LR 19 23 09.5
comp=Z,115nm,18.2s,baz=77,slow=38
RPZ Rata Peaks 61.58 145 P **P 18 54 36.8 +0.4**
comp=Z,8.1nm,0.9s,mb4.7,baz=9.1,slow=11,SNR=2.5
KURK Kurchatov 61.93 328⇑ *eP* **P 18 54 37.6 -1.0**
KURK Kurchatov 61.93 328 *eP* **P 18 54 36.8 -1.8**
comp=Z,17nm,1.1s,mb5.0
NVS Novosibirsk 62.09 333 *eP* **P 18 54 36.7 -2.9**
BVAR Borovoye Array 67.51 327 P **P 18 55 14.3 -0.3**
comp=Z,5.1nm,1.0s,mb4.3,baz=124,slow=5.3,SNR=14
BRVK Borovoye 67.58 327 *eP* **P 18 55 14.4 -0.7**
BRVK pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
BRVK Borovoye 67.58 327 *eP* **P 18 55 14.4 -0.7**
comp=Z,9.8nm,0.9s,mb4.6
CHKZ Chkalovo 67.68 328 *eP* **P 18 55 14.9 -0.7**
CHKZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
CHKZ Chkalovo 67.68 328 *eP* **P 18 55 14.8 -0.8**
comp=Z,3.9nm,0.9s,mb4.2
TIXI Tiksi 68.16 1⇑ *iP* **P 18 55 17.8 -0.6**
TIXI pmax pmax
comp=Z,5.0nm,1.2s,mb4.2
TIXI MLR MLR
comp=Z,78nm,19.0s
BILL Bilibino 69.89 15 *eP* **P 18 55 28.2 -0.9**
BILL pmax pmax
comp=Z,3.0nm,1.3s,mb4.0
ARU Arti 75.13 328 *eP* **P 18 55 55.0 -5.1**
IMA Indian Mountai 82.73 24 *eP* **P 18 56 41.8 +0.6**
MCK McKinley 84.51 26 P **P 18 56 52.9 +2.8**
SOC Sochi 85.40 313 *eP* **P 18 56 54.2 -0.8**
SOC *e* 19 00 11.9
SOC *e*S S 19 07 14.7 -3.9
SOC *e*SS SS 19 13 07.4 +9.3
SOC *e*SSS SSS 19 16 33.1 +6.0
SOC pmax pmax
comp=N,27nm,1.0s
SOC pmax pmax
comp=Z,17nm,1.0s,mb4.9
SOC pmax pmax
comp=E,12nm,1.1s
ILAR Eielson Array 85.45 25 P **P 18 56 57.1 +2.3**
comp=E,1.2nm,1.0s,mb3.8,baz=247,slow=5.4,SNR=5.4
OBN Obninsk 87.24 325 *eP* **P 18 56 58.0 -5.7**
OBN pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KMBO Kilima Mbogo 89.41 269 P **P 18 57 18.1 +3.0**
comp=Z,2.5nm,0.9s,mb4.2,baz=56,slow=8.5,SNR=6.1
BRTR Keskin Array B 90.12 310 P **P 18 57 18.8 +1.1**
comp=Z,0.9nm,0.8s,mb4.0,baz=124,slow=4.5,SNR=4.6
ARCES ARCESS Array B 90.70 340 P **P 18 57 23.0 +3.2**
comp=Z,2.5nm,0.7s,mb4.5,baz=80,slow=7.4,SNR=5.5
ARCES LR LR 19 41 53.8
comp=Z,72nm,18.1s,baz=205,slow=38
FINES FINESS Array B 92.05 332 P **P 18 57 26.7 +0.6**
comp=Z,3.8nm,1.1s,mb4.6,baz=156,slow=19,SNR=3.2
AKASG Malin Array Be 92.05 321 P **P 18 57 26.1 -0.3**
comp=Z,0.3nm,0.5s,mb3.8,baz=64,slow=4.3,SNR=5.9
NOA NORSAR Array B 99.01 334 LR LR 19 46 29.2
comp=Z,96nm,18.6s,baz=215,slow=38
YKA Yellowknife Ar 99.84 24 P **P 18 58 03.3 +1.6**
comp=Z,0.1nm,0.6s,mb3.6,baz=300,slow=5.0,SNR=3.7

*TAP **23** 19:00:05.0, 23.96N×122.65E, h3km±1km, ML2.6*
JMA 23 19:00:04.9±0.1, 23.97N×122.88E, h8km±4km, M2.4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.50**	**14**	P	Pg	19 00 14.8	-0.3
YOJ				S	Sg	19 00 21.6	-0.2
HATJ	**Hateruma jima**	**0.85**	**84**	P	Pb	19 00 20.9	-0.6
HATJ				*e*S	Sb	19 00 32.7	-0.1
IRIF	**Iriomote-Funau**	**0.86**	**65**	P	Pb	19 00 21.3	-0.3
IRIF				*e*S	Sb	19 00 33.1	+0.1
JKRS	**Kuro-shima**	**1.07**	**75**	P	Pb	19 00 25.1	-0.1
JKRS				*e*S	Sb	19 00 39.5	+0.4
JIJ	**Ishigaki jima**	**1.22**	**71**	P	Pb	19 00 27.3	-0.5
JIJ				*e*S	Sb	19 00 43.4	-0.1
JTJ	**Tarama**	**1.79**	**68**	P	Pn	19 00 36.5	+0.1

*NEIC **23** 19:02:39.0±0.8, 7.51N×93.88E, h30km, mb3.8/2, Error ellipse: s-maj=25.7km s-min=12.3km az=64.0*
*IDC **23** 19:02:44.2±9.6, 7.50N×93.94E, h74km±80km, mb3.5/6, mb1 3.7/7, mb1mx3.4/17, mbtmp3.7/7, ML3.7/1, MS2.8/1, Ms1 3.0/1, ms1mx2.3/19, Error ellipse: s-maj=80.9km s-min=20.0km az=56.0*
ISC 23 19:02:37.3±0.8, 7.5N±0.1×93.9E±0.1, h30km, n19, σ0 93/19, mb3.9/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.98**	**24**	*eP*	**P**	**19 05 27.9**	**-1.3**
	4.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**11.98**	**24**	P	**P**	**19 05 31.3**	**+2.0**
	0.1nm,0.3s,baz=213,slow=15,SNR=8.0						
CMAR				LR	LR	19 10 40.0	
	comp=Z,40nm,18.6s,baz=145,slow=40						
JIRN	**Jiri**	**21.39**	**341**	*eP*	**P**	**19 07 24.3**	**-0.5**
	11nm,0.7s,mb4.3						
DMN	**Daman**	**21.72**	**338**	*eP*	**P**	**19 07 28.6**	**+0.5**
	12nm,0.7s,mb4.4						
KKN	**Kakani**	**21.82**	**339**	*eP*	**P**	**19 07 30.1**	**+1.0**
	7.0nm,0.6s,mb4.3						
GKN	**Gorkha**	**22.25**	**338**	*eP*	**P**	**19 07 34.4**	**+1.0**
LSA	**Lhasa**	**22.28**	**354**	*eP*	**P**	**19 07 31.6**	**-2.1**
	2.5nm,0.6s,mb3.8						
KOLN	**Koldanda**	**22.45**	**335**	*eP*	**P**	**19 07 35.7**	**+0.3**
SONM	**Songino Array**	**41.62**	**13**	P	**P**	**19 10 24.3**	**-0.1**
	0.6nm,1.0s,mb3.2,baz=204,slow=7.6,SNR=3.7						
ZAL	**Zalesovo**	**46.93**	**353**	P	**P**	**19 11 07.8**	**+0.7**
	1.2nm,0.3s,mb4.2,baz=302,slow=5.1,SNR=6.2						
ZAL	**Zalesovo**	**46.93**	**353**	P	**P**	**19 11 07.8**	**+0.7**
WRA	**Warramunga Arr**	**48.20**	**125**	P	**P**	**19 11 17.0**	**-0.4**
	0.3nm,0.5s,mb3.6,baz=305,slow=8.8,SNR=3.6						
WRAB	**Tennant Creek**	**48.20**	**125**	P	**P**	**19 11 17.5**	**0.0**
CHKZ	**Chkalovo**	**49.80**	**342**	*eP*	**P**	**19 11 28.3**	**-1.1**
	0.4nm,0.4s,mb3.8						
ASAR	**Alice Springs**	**49.81**	**130**	P	**P**	**19 11 30.6**	**+0.7**
	0.5nm,0.6s,mb3.8,baz=303,slow=7.7,SNR=7.1						
FINES	**FINESS Array B**	**72.98**	**332**	P	**P**	**19 14 05.1**	**-0.7**
	0.9nm,0.6s,mb3.9,baz=135,slow=3.9,SNR=6.5						
ARCES	**ARCESS Array B**	**75.59**	**340**	P	**P**	**19 14 20.5**	**-0.2**
	79nm,1.6s,baz=108,slow=2.9,SNR=4.6						
ARCES	**ARCESS Array B**	**75.59**	**340**	P	**P**	**19 14 20.5**	**-0.2**
GERES	**GERESS Array B**	**77.99**	**318**	P	**P**	**19 14 34.8**	**+0.3**
	0.4nm,0.6s,mb3.5,baz=63,slow=2.2,SNR=2.3						

*CNRM **23** 19:07:07.0, 33.67N×5.96W, h30km, MD2.7*
*CSEM **23** 19:07:23.2±0.3, 33.93N×5.58W, h25km, MD2.7, Error ellipse: s-maj=29.4km s-min=4.9km az=68.0*
MDD 23 19:07:24.4±1.7, 33.71N×5.94W, h24km±16km, mb3.5/3, Error ellipse: s-maj=19.1km s-min=9.9km az=42.0, SOLUCIN POBRE, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIF	**Mishlifen**	**0.67**	**116**	*i*P	Pb	19 07 36.5	-0.7
MIF				*i*S	Sb	19 07 46.5	+0.5
IFR	**Ifrane**	**0.71**	**105**	P	Pb	19 07 36.0	-1.9
CZD	**Col de Zad**	**1.01**	**131**	*i*P	Pb	19 07 42.0	-1.0
CZD				*i*S	Sb	19 07 54.0	-1.9
TZK	**Tazeka**	**1.51**	**75**	P	Pn	19 07 50.0	-0.4
TZK				S	Sn	19 08 07.0	-2.5
EGRO	**El Granado**	**4.02**	**342**	P	Pn	19 08 24.2	-2.0
	0.5nm,0.1s,SNR=7.9						
EGRO				S	Sn	19 09 05.7	-7.4
	0.4nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.02**	**342**	P	Pn	19 08 24.2	-1.9
	0.2nm,0.1s,SNR=7.9						
EGRO				S	Sn	19 09 07.1	-6.0
	0.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.10**	**352**	S	Sn	19 09 09.6	-5.4
	0.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.10**	**352**	S	Sn	19 09 09.8	-5.2
	0.1nm,0.1s,SNR=7.9						
ENIJ	**Nijar**	**4.46**	**42**	S	Sn	19 09 17.1	-7.2
	1.0nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**4.59**	**14**	P	Pn	19 08 31.4	-2.8
	0.1nm,0.1s,SNR=7.9						
EADA				S	Sn	19 09 19.2	-8.3
	0.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.59**	**14**	S	Sn	19 09 19.2	-8.2
	0.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.11**	**351**	P	Pn	19 08 38.3	-3.3
	0.4nm,0.1s,SNR=7.9						
EBAD				S	Sn	19 09 34.1	-6.5
	0.5nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.11**	**351**	P	Pn	19 08 38.1	-3.5
	0.4nm,0.1s,SNR=7.9						
EBAD				S	Sn	19 09 33.9	-6.8
	0.2nm,0.1s,SNR=7.9						

*NEIC **23** 19:08:36.9±0.5, 13.25N×144.48E, h10km, mb4.3/2, Error ellipse: s-maj=18.4km s-min=8.7km az=117.0*
*IDC **23** 19:08:37.2±0.8, 13.11N×143.89E, mb3.8/9, mb1 4.0/9, mb1mx3.9/21, mbtmp3.8/9, MS3.6/2, Ms1 3.6/2, ms1mx2.9/27, Error ellipse: s-maj=41.5km s-min=16.2km az=97.0*
ISC 23 19:08:35.4±0.6, 13.20N±0.10×144.5E±0.1, h10km, n15, σ0 98/15, mb3.9/11, MS3.5/2, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.54**	**44**⇓	*e*Pg	**Pg**	**19 08 46.8**	**+0.6**
GUMO				*e*Sg	**Sg**	**19 08 52.8**	**-0.8**
ASAJ	**Asahikawa**	**30.86**	**357**	LR	LR	19 25 59.4	
	comp=Z,86nm,18.5s,MS3.4,baz=159,slow=34						
CTA	**Charters Tower**	**33.12**	**177**	P	**P**	**19 15 13.7**	**-0.3**
	15nm,1.2s,mb4.8,baz=13,slow=18,SNR=2.5						
WRAB	**Tennant Creek**	**34.40**	**197**	*eP*	**P**	**19 15 24.4**	**-0.7**
	4.3nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**34.41**	**197**	*eP*	**P**	**19 15 25.0**	**-0.2**
WRA	**Warramunga Arr**	**34.41**	**197**	P	**P**	**19 15 24.7**	**-0.5**
	2.7nm,0.8s,mb4.2,baz=19,slow=9.5,SNR=10						
FITZ	**Fitzroy Crossi**	**36.23**	**211**	*eP*	**P**	**19 15 41.4**	**+0.7**
	4.2nm,0.9s,mb4.4						
ASAR	**Alice Springs**	**38.07**	**196**	P	**P**	**19 15 55.9**	**-0.2**
	1.4nm,0.6s,mb3.9,baz=19,slow=6.7,SNR=18						
ASAR				LR	LR	19 30 30.1	
	comp=Z,87nm,18.5s,MS3.6,baz=45,slow=35						
ASPA	**Alice Springs**	**38.07**	**196**	*eP*	**P**	**19 15 56.0**	**-0.1**
STKA	**Stephens Creek**	**44.90**	**183**	P	**P**	**19 16 52.8**	**+0.6**
	0.9nm,0.5s,mb3.9,baz=4.1,slow=14,SNR=2.6						
SONM	**Songino Array**	**46.84**	**325**	P	**P**	**19 17 05.1**	**-2.2**
	0.3nm,0.7s,mb3.3,baz=127,slow=7.2,SNR=2.7						
ILAR	**Eielson Array**	**69.08**	**25**	P	**P**	**19 19 46.1**	**+2.8**
	0.5nm,0.6s,mb3.6,baz=241,slow=4.1,SNR=10						
BVAR	**Borovoye Array**	**70.00**	**322**	P	**P**	**19 19 49.8**	**+0.7**
	0.3nm,0.6s,mb3.4,baz=90,slow=2.9,SNR=2.7						
DLBC	**Dease Lake**	**76.51**	**33**	P	**P**	**19 20 32.1**	**+5.0**
	0.9nm,0.9s,mb3.7,baz=165,slow=21,SNR=2.3						
YKA	**Yellowknife Ar**	**83.38**	**27**	P	**P**	**19 21 08.3**	**+4.5**
	0.1nm,0.5s,mb3.1,baz=283,slow=5.1,SNR=4.3						

*NEIC **23** 19:11:21.0±1.0, 2.51N×96.03E, mb4.1/7, Error ellipse: s-maj=32.0km s-min=11.0km az=65.0*
*BJI **23** 19:11:23.2, 3.09N×96.23E, h30km, mB4.9, mb4.6*
*IDC **23** 19:11:28.0±12.0, 2.78N×96.47E, h74km±102km, mb3.5/5, mb1 3.7/6, mb1mx3.5/18, mbtmp3.8/6, ML4.1/1, Error ellipse: s-maj=109.4km s-min=19.5km az=59.0*
ISC 23 19:11:19.4±0.9, 2.5N±0.1×96.1E±0.2, h30km, n20, σ0 88/19, mb4.2/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**16.08**	**10**	*eP*	**P**	**19 15 05.1**	**-0.1**
	5.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.08**	**10**	P	**P**	**19 15 06.6**	**+1.4**
	0.3nm,0.3s,baz=196,slow=11,SNR=22						
JIRN	**Jiri**	**26.73**	**340**	*eP*	**P**	**19 16 59.2**	**+0.8**
	25nm,1.0s,mb4.7						
DMN	**Daman**	**27.07**	**338**	*eP*	**P**	**19 17 02.6**	**+1.1**
	17nm,1.0s,mb4.5						
KKN	**Kakani**	**27.16**	**339**	*eP*	**P**	**19 17 02.5**	**+0.1**
	13nm,0.9s,mb4.5						
LSA	**Lhasa**	**27.43**	**351**	*eP*	**P**	**19 17 04.4**	**-0.4**
LSA	**Lhasa**	**27.43**	**351**	*eP*	**P**	**19 17 04.4**	**-0.4**
	1.8nm,0.6s,mb3.8						
GKN	**Gorkha**	**27.60**	**338**	*eP*	**P**	**19 17 06.5**	**+0.2**
	20nm,0.9s,mb4.8						
KOLN	**Koldanda**	**27.80**	**336**	*eP*	**P**	**19 17 08.6**	**+0.5**
	20nm,0.9s,mb4.8						
BJI	**Beijing**	**41.55**	**23**	*eP*	**P**	**19 19 06.1**	**0.0**
	13nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**43.68**	**122**	P	**P**	**19 19 23.6**	**0.0**
	0.8nm,0.9s,mb3.4,baz=300,slow=9.4,SNR=4.7						
WRA				pP	pP	19 19 31.2	-1.6
	0.9nm,0.6s,baz=301,slow=9.1,SNR=5.0						
WRAB	**Tennant Creek**	**43.68**	**122**	*eP*	**P**	**19 19 23.2**	**-0.5**
	1.1nm,0.5s,mb3.8						
ASAR	**Alice Springs**	**45.08**	**127**	P	**P**	**19 19 36.5**	**+1.5**
	0.4nm,0.9s,mb3.2,baz=301,slow=8.1,SNR=3.9						
SONM	**Songino Array**	**46.01**	**10**	P	**P**	**19 19 41.3**	**-0.7**
	4.6nm,1.1s,mb4.3,baz=190,slow=9.4,SNR=21						
SONM				pP	pP	19 19 51.7	+0.6
	1.0nm,0.9s,baz=191,slow=8.1,SNR=3.8						
SONM				PcP	PcP	19 21 19.0	+0.3
	0.3nm,0.7s,baz=200,slow=4.4,SNR=4.0						
KURK	**Kurchatov**	**50.24**	**346**	*eP*	**P**	**19 20 13.8**	**-1.1**
	2.6nm,0.8s,mb4.3						
ZAL	**Zalesovo**	**52.08**	**352**	P	**P**	**19 20 29.2**	**+0.4**
	2.0nm,0.8s,mb4.1,baz=294,slow=4.9,SNR=13						
PMG	**Port Moresby**	**52.24**	**104**	pP	pP	19 20 39.0	-0.8
	9.0nm,0.8s,baz=295,slow=10,SNR=3.5						
BVAR	**Borovoye Array**	**54.65**	**341**	P	**P**	**19 20 47.5**	**-0.2**
	0.3nm,0.4s,mb3.7,baz=150,slow=12,SNR=3.2						
CHKZ	**Chkalovo**	**55.13**	**342**	*eP*	**P**	**19 20 50.0**	**-1.2**
	1.9nm,0.8s,mb4.2						
YAK	**Yakutsk**	**64.47**	**17**	*eP*	**P**	**19 21 53.2**	**-2.1**
	6.5nm,0.9s,mb4.7						

*NEIC **23** 19:24:32.0±2.7, 5.43S×151.73E, h66km±22km, mb4.2/5, Error ellipse: s-maj=22.6km s-min=12.1km az=98.0*
*IDC **23** 19:24:33.5±4.8, 5.45S×151.74E, h79km±41km, mb3.6/9, mb1 3.8/10, mb1mx3.8/13, mbtmp3.9/10, ML2.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/18, Error ellipse: s-maj=35.7km s-min=15.0km az=92.0*
ISC 23 19:24:30.6±3.6, 5.41S±0.09×151.8E±0.2, h69km±30km, n25, σ1 905/25, mb3.9/14, 1C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.05**	**229**	P	**P**	**19 25 58.7**	**-0.7**
	2.1nm,0.3s,baz=61,slow=8.1,SNR=12						
PMG				S	**S**	**19 27 09.8**	**+1.7**
	3.8nm,0.3s,baz=172,slow=14,SNR=4.2						
PMG	**Port Moresby**	**6.05**	**229**	*eP*	**P**	**19 25 58.3**	**-1.1**
PMG				S	**S**	**19 27 09.8**	**+1.7**
CTA	**Charters Tower**	**15.54**	**200**	LR	LR	19 33 12.2	
	comp=Z,80nm,20.4s,baz=229,slow=34						
KAKA	**Kakadu**	**20.41**	**248**⇓	*iP*	**P**	**19 29 03.3**	**-1.2**
	23nm,0.9s						
WRAB	**Tennant Creek**	**22.26**	**228**	*eP*	**P**	**19 29 22.8**	**-0.3**
	4.5nm,0.6s,mb4.0						
WB2	**Warramunga Arr**	**22.26**	**228**⇑	*iP*	**P**	**19 29 23.2**	**+0.1**
WRA	**Warramunga Arr**	**22.27**	**228**	P	**P**	**19 29 23.3**	**+0.1**
	4.2nm,0.8s,mb3.8,baz=52,slow=9.7,SNR=18						
ASAR	**Alice Springs**	**25.01**	**222**	P	**P**	**19 29 49.5**	**-0.3**
	4.8nm,0.6s,mb4.1,baz=57,slow=8.4,SNR=58						
ASPA	**Alice Springs**	**25.01**	**222**	*eP*	**P**	**19 29 51.5**	**+1.6**
STKA	**Stephens Creek**	**28.00**	**199**	P	**P**	**19 30 16.1**	**-1.2**
	0.8nm,0.7s,mb3.4,baz=357,slow=11,SNR=2.7						
STKA	**Stephens Creek**	**28.00**	**199**	*eP*	**P**	**19 30 15.8**	**-1.6**
FITZ	**Fitzroy Crossi**	**28.47**	**241**	*eP*	**P**	**19 30 20.9**	**-0.7**
	5.7nm,0.6s,mb4.3						
CBIJ	**Chichi jima**	**33.62**	**344**	P	**P**	**19 31 05.8**	**-0.9**
	78nm,0.6s,baz=301,slow=21,SNR=2.1						
JOW	**Kunigami**	**39.30**	**326**	P	**P**	**19 31 56.1**	**+1.5**
	21nm,0.8s,mb5.0,baz=112,slow=6.3,SNR=4.8						
JHJ	**Hachijo jima 2**	**39.97**	**344**	P	**P**	**19 32 01.2**	**+1.1**
	228nm,0.5s,baz=66,slow=23,SNR=3.7						
CMAR	**Chiang Mai Arr**	**57.21**	**296**	P	**P**	**19 34 13.2**	**-0.3**
	1.4nm,1.1s,mb3.9,baz=80,slow=8.7,SNR=5.6						
ULN	**Ulaanbaatar**	**65.97**	**329**	*eP*	**P**	**19 35 10.3**	**-1.6**
	1.5nm,0.9s,mb3.8						
SONM	**Songino Array**	**66.29**	**328**	P	**P**	**19 35 12.4**	**-1.6**
	1.1nm,0.7s,mb3.8,baz=138,slow=3.9,SNR=9.7						
VNDA	**Vanda**	**72.26**	**178**	P	**P**	**19 35 50.2**	**+0.1**
	1.6nm,0.9s,mb3.9,baz=98,slow=21,SNR=2.4						
VNDA	**Vanda**	**72.26**	**178**	P	**P**	**19 35 50.2**	**+0.1**
ZAL	**Zalesovo**	**81.09**	**327**	P	**P**	**19 36 41.1**	**+1.3**
	2.6nm,1.1s,mb4.0,baz=0.8,slow=3.4,SNR=7.4						
ILAR	**Eielson Array**	**83.11**	**22**	P	**P**	**19 36 51.2**	**+1.2**
	0.6nm,0.6s,mb3.6,baz=254,slow=5.1,SNR=12						
CHKZ	**Chkalovo**	**89.09**	**324**	*eP*	**P**	**19 37 19.2**	**-0.2**
	1.3nm,0.7s,mb4.1						
YKA	**Yellowknife Ar**	**96.44**	**28**	P	**P**	**19 37 53.8**	**+0.7**
	0.1nm,0.5s,mb3.5,baz=267,slow=4.7,SNR=3.7						
GERES	**GERESS Array B**	**124.03**	**328**	PKP	PKPdf	19 43 22.4	+1.0
	0.7nm,0.7s,baz=180,slow=1.3,SNR=4.0						

IDC 23 19:37:36.1±1.8, 3.21N×126.10E, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=187.2km s-min=24.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.39**	**161**	P	P	19 42 56.0	-1.4
	2.9nm,1.0s,baz=340,slow=10,SNR=7.2						
ASAR	**Alice Springs**	**27.78**	**165**	P	P	19 43 27.1	-1.9
	0.2nm,0.6s,baz=346,slow=7.1,SNR=2.7						
STKA	**Stephens Creek**	**37.88**	**158**	P	P	19 44 55.5	-1.2
	1.2nm,0.5s,baz=322,slow=11,SNR=3.9						
BVAR	**Borovoye Array**	**67.41**	**327**	P	P	19 48 33.3	-2.3
	0.1nm,0.3s,baz=130,slow=11,SNR=3.3						

*IDC **23** 19:42:33.0±0.9, 13.70N×92.94E, mb3.9/7, mb1 4.0/8, mb1mx3.7/18, mbtmp3.8/8, ML3.5/1, MS2.6/1, Ms1 2.8/1, ms1mx2.2/29, Error ellipse: s-maj=47.9km s-min=18.4km az=48.0*
*NEIC **23** 19:42:37.3±0.5, 13.47N×92.67E, h30km, mb4.3/1, Error ellipse: s-maj=11.1km s-min=7.6km az=159.0*
ISC 23 19:42:34.9±0.6, 13.45N±0.10×92.66E±0.08, h30km, n13, σ0 82/14, mb3.9/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**7.83**	**50**	P	**Pn**	**19 44 28.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**7.83**	**50**	Pn	**Pn**	**19 44 23.2**	**-6.6**
	0.2nm,0.3s,baz=241,slow=15,SNR=5.4						
CMAR				Sn	**Sn**	**19 45 43.4**	**-15**
	0.4nm,0.3s,baz=238,slow=27,SNR=11						
CMAR				LR	LR	19 47 46.4	
	comp=Z,47nm,20.2s,baz=210,slow=42						
PALK	**Pallekele**	**13.26**	**244**	*e*Sn	**S**	**19 48 10.4**	**-0.9**
CHKZ	**Chkalovo**	**43.76**	**341**	*eP*	**P**	**19 50 39.1**	**-0.3**
	0.6nm,0.4s,mb3.7						
WRA	**Warramunga Arr**	**52.75**	**128**	P	**P**	**19 51 50.4**	**+0.7**
	0.7nm,0.5s,mb3.8,baz=308,slow=8.1,SNR=5.6						
WRAB	**Tennant Creek**	**52.75**	**128**	*eP*	**P**	**19 51 49.7**	**0.0**
	1.8nm,0.5s,mb4.3						
ASAR	**Alice Springs**	**54.65**	**132**	P	**P**	**19 52 04.0**	**+0.3**
	0.6nm,0.4s,mb4.0,baz=310,slow=7.0,SNR=29						
BRTR	**Keskin Array B**	**57.77**	**309**	P	**P**	**19 52 26.7**	**+0.9**
	0.6nm,0.8s,mb3.7,baz=68,slow=6.7,SNR=3.6						
STKA	**Stephens Creek**	**65.02**	**135**	P	**P**	**19 53 14.4**	**-0.4**
	1.0nm,0.8s

ellipse: s-maj=10.7km s-min=6.0km az=98.0

HRVD ***23*** *19:59:45.4±0.5, 1.01S×120.05E, h12km, MW5.3/28, Centroid moment Tensor Solution. LP body waves: s24,c44;Mantle waves: s28,c49; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.53±.06; $M_{\theta\theta}$0.84±.04; $M_{\phi\phi}$-0.31±.07; $M_{r\theta}$0.15±.12; $M_{\theta\phi}$-0.60±.04; $M_{\phi r}$-0.36±.13; Best double couple: M_0.99×10^{17} NP1:ϕ_s76°, δ52°,λ-151°. NP2:ϕ_s327°,δ68°,λ-42°. Principal axes: T 1.144, Plg10°, Azm25°; N -.309, Plg43°, Azm124°; P -.835, Plg45°, Azm285°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***23*** *19:59:45.4±0.3, 1.10S×120.15E, mb4.9/28 Error ellipse: s-maj=9.3km s-min=5.0km az=82.0*

ISC 23 19:59:44.7±0.2,**1.13S**±0.03×**120.12E**±0.05,**h33**km,**n125**, σ1§**17**/130,**mb4.8**/58,**MS3.8**/1,**8C-5D,Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.36**	**309**	*eP*		**S**		**20 00 01.2**	**+2.0**
TANI	**Tanete Lipujan**	**2.40**	**198**	⇓*eP*		**P**		**20 00 21.7**	**-0.7**
TANI				*epP*				20 00 24.7	
BUNI	**Buntu Taipa**	**2.52**	**175**	⇓*eP*		**P**		**20 00 24.4**	**+0.3**
NINI	**Niniconang**	**3.29**	**186**	⇑*eP*		**P**		**20 00 35.5**	**+0.5**
MKS	**Makassar**	**4.11**	**189**	*eP*		**P**		**20 00 47.0**	**+0.3**
MNI	**Manado**	**5.37**	**62**	*eP*		**P**		**20 01 03.0**	**-1.5**
KEDI	**Kedomdong**	**8.32**	**208**	*eP*		**P**		**20 01 44.5**	**-1.4**
KEDI					pmax	pmax			
	comp=Z,33nm,0.3s								
KEDI	**Kedomdong**	**8.32**	**208**	*eP*		**P**		**20 01 44.5**	**-1.4**
	comp=Z,33nm,0.3s								
RATI	**Rata**	**8.81**	**211**	⇑*eP*		**P**		**20 01 51.0**	**-1.7**
	comp=Z,55nm,0.3s								
KELI	**Kelakatan**	**9.00**	**218**	⇑*eP*		**P**		**20 01 53.5**	**-1.7**
	comp=Z,19nm,0.3s								
DAV	**Davao City (W)**	**9.80**	**34**	*eP*		**P**		**20 02 12.0**	**+5.5**
TGY	**Tagaytay City**	**15.16**	**3**	Pn		**P**		**20 03 17.8**	**-0.4**
	comp=Z,34nm,0.3s,baz=208,slow=15,SNR=2.1								
TGY					LR		LR	20 09 45.9	
	comp=Z,1μm,20.0s,baz=76,slow=40								
KAKA	**Kakadu**	**16.78**	**134**	*eP*		**P**		**20 03 42.4**	**+3.6**
	comp=Z,35nm,0.9s								
FITZ	**Fitzroy Crossi**	**17.71**	**162**	*eP*		**P**		**20 03 52.4**	**+1.9**
	comp=Z,28nm,1.0s								
MBWA	**Marble Bar**	**19.91**	**181**	*eP*		**P**		**20 04 14.0**	**-2.4**
	comp=Z,36nm,1.3s								
QIZ	**Qiongzhong**	**22.43**	**334**	*eP*		**P**		**20 04 35.2**	**-7.0**
	comp=Z,45nm,1.1s,mb4.8								
WRAB	**Tennant Creek**	**23.30**	**144**	*eP*		**P**		**20 04 50.9**	**+0.1**
WRAB					pmax	pmax			
	comp=Z,132nm,1.0s,mb5.3								
WRAB	**Tennant Creek**	**23.30**	**144**	*eP*		**P**		**20 04 50.9**	**+0.2**
	comp=Z,132nm,1.0s,mb5.3								
WRA	**Warramunga Arr**	**23.30**	**144**	P		**P**		**20 04 51.1**	**+0.3**
	comp=Z,16nm,1.0s,mb4.4,baz=322,slow=11,SNR=5.3								
WRA					S		**S**	**20 09 06.7**	**+10**
	comp=Z,6.0nm,1.3s,baz=315,slow=19,SNR=7.3								
WB2	**Warramunga Arr**	**23.31**	**144**	⇓*iP*		**P**		**20 04 51.8**	**+1.0**
WB2				*eS*		**S**		**20 09 06.0**	**+8.7**
KKTK	**Khon Kaen**	**24.35**	**316**	P		**P**		**20 05 02.0**	**+1.1**
	comp=Z,247nm,0.9s,mb5.6								
NNT	**Nongplab**	**24.40**	**305**	P		**P**		**20 05 02.0**	**+0.6**
ASPA	**Alice Springs**	**26.09**	**150**	⇑*iP*		**P**		**20 05 20.6**	**+3.2**
ASPA				*eS*		**S**		**20 10 03.7**	**+20**
ASAR	**Alice Springs**	**26.09**	**150**	P		**P**		**20 05 17.6**	**+0.2**
	comp=Z,2.6nm,0.6s,mb4.0,baz=329,slow=8.4,SNR=24								
ASAR				PcP		PcP		20 08 45.0	0.0
	comp=Z,3.5nm,0.7s,baz=344,slow=1.9,SNR=13								
NANT	**Nan**	**27.50**	**317**	P		**P**		**20 05 29.0**	**-1.4**
PMG	**Port Moresby**	**28.13**	**108**	P		**P**		**20 05 33.9**	**-2.2**
PMG					pmax	pmax			
	comp=Z,4.0nm,0.6s								
PMG	**Port Moresby**	**28.13**	**108**	P		**P**		**20 05 39.0**	**+2.8**
	comp=Z,9.9nm,0.7s,mb4.5,baz=108,slow=4.4,SNR=2.9								
PMG	**Port Moresby**	**28.13**	**108**	P		**P**		**20 05 33.9**	**-2.2**
	comp=Z,3.7nm,0.6s,mb4.2								
CM31	**Chiang Mai Arr**	**28.51**	**314**	*eP*		**P**		**20 05 36.7**	**-2.7**
	comp=Z,9.4nm,0.9s,mb4.5								
CMAR	**Chiang Mai Arr**	**28.51**	**314**	P		**P**		**20 05 39.4**	**0.0**
	comp=Z,9.6nm,1.0s,mb4.5,baz=137,slow=7.1,SNR=47								
CMAR				PcP		PcP		20 08 50.4	-0.5
	comp=Z,1.5nm,0.7s,baz=184,slow=1.6,SNR=4.5								
CHG	**Chiang Mai**	**28.74**	**315**	⇓P		**P**		**20 05 41.5**	**0.0**
	comp=Z,12nm,1.0s,mb4.6								
KMI	**Kunming**	**31.06**	**328**	P		**P**		**20 06 01.7**	**-0.4**
KMI				*PP		pP		20 06 10.6	-1.1
KMI				*SP		sP		20 06 15.0	-1.1
KMI								20 07 05.5	
KMI				S		**S**		**20 11 05.2**	**+1.5**
KMI				*SS				20 11 19.2	
KMI				pmax		pmax			
	comp=Z,14nm,1.4s,mb4.6								
KMI				MLR		MLR			
	comp=Z,240nm,20.7s,MS3.8								
KMI	**Kunming**	**31.06**	**328**	P		**P**		**20 06 01.7**	**-0.4**
	comp=Z,14nm,1.4s,mb4.6								
KMI				pP		pP		20 06 10.6	-1.1
KMI				sP		sP		20 06 15.0	-1.1
KMI				PP		PP		20 07 05.5	+0.8
KMI				S		**S**		**20 11 05.2**	**+1.5**
KMI				sS				20 11 19.2	
KMI				LR		LR			
	comp=Z,240nm,20.7s,MS3.8								
NWAO	**Narrogin (SRO)**	**31.74**	**185**	P		**P**		**20 06 08.0**	**0.0**
	comp=Z,5.7nm,0.7s,mb4.5,baz=138,slow=16,SNR=4.2								
WHN	**Wuhan**	**31.98**	**351**	P		**P**		**20 06 12.1**	**+2.0**
ENH	**Enshi**	**32.83**	**343**	*eP*		**P**		**20 06 15.8**	**-1.8**
	comp=Z,16nm,0.9s,mb4.9								
NJ2	**Nanjing**	**33.02**	**358**	*eP*		**P**		**20 06 21.4**	**+2.2**
NJ2					AMB	AMB			
	comp=Z,20nm,0.9s,mb5.0								
XAN	**Xi'an**	**36.53**	**344**	P		**P**		**20 06 48.9**	**-0.3**
XAN					AMB	AMB			
	comp=Z,6.0nm,1.1s,mb4.3								
STKA	**Stephens Creek**	**36.69**	**149**	P		**P**		**20 06 50.1**	**-0.4**
	comp=Z,6.0nm,0.7s,mb4.5,baz=309,slow=8.5,SNR=10								
STKA	**Stephens Creek**	**36.69**	**149**	*eP*		**P**		**20 06 50.0**	**-0.5**
LZH	**Lanzhou**	**40.01**	**339**	*eP*		**P**		**20 07 19.5**	**+1.3**
LZH					AMB	AMB			
	comp=Z,30nm,1.5s,mb4.8								
LZH	**Lanzhou**	**40.01**	**339**	*eP*		**P**		**20 07 19.5**	**+1.3**
LZH				*PP		pP		20 07 27.5	-0.5
LZH				*SP		sP		20 07 32.0	-0.2
LZH				pmax		pmax			
	comp=Z,30nm,1.5s,mb4.8								
LZH	**Lanzhou**	**40.01**	**339**	*eP*		**P**		**20 07 19.5**	**+1.3**
	comp=Z,30nm,1.5s,mb4.8								
LZH				pP		pP		20 07 27.5	-0.5
LZH				sP		sP		20 07 32.0	-0.2
MAJO	**Matsushiro**	**41.09**	**22**	*eP*		**P**		**20 07 25.4**	**-1.7**
MAJO				pmax		pmax			
	comp=Z,44nm,1.6s,mb4.8								
MAJO	**Matsushiro**	**41.09**	**22**	*eP*		**P**		**20 07 25.4**	**-1.7**
	comp=Z,44nm,1.6s,mb4.8								
MAT	**Matsushiro**	**41.09**	**22**	*eP*		**P**		**20 07 25.0**	**-2.1**
MAT				*eS*		**S**		**20 13 41.0**	**+3.6**
MAT				pmax		pmax			
	comp=Z,33nm,1.5s,mb4.7								
MAT	**Matsushiro**	**41.09**	**22**	*eP*		**P**		**20 07 25.0**	**-2.1**
	comp=Z,33nm,1.5s,mb4.8								
MAT				*eS*		**S**		**20 13 41.0**	**+3.6**
MAT	**Matsushiro**	**41.09**	**22**	P		**P**		**20 07 25.4**	**-1.7**
MAT				S		**S**		**20 13 41.0**	**+3.6**
BJT	**Baijiatuau**	**41.11**	**355**	*eP*		**P**		**20 07 26.4**	**-0.8**
BJT				pmax		pmax			
	comp=Z,46nm,1.1s								
BJT	**Baijiatuau**	**41.11**	**355**	*eP*		**P**		**20 07 26.4**	**-0.8**
	comp=Z,46nm,1.1s,mb5.0								
BJI	**Beijing**	**41.13**	**355**	*eP*		**P**		**20 07 29.4**	**+2.0**
BJI				pmax		pmax			
	comp=Z,34nm,1.0s,mb4.9								
BJI	**Beijing**	**41.13**	**355**	*eP*		**P**		**20 07 29.4**	**+2.0**
	comp=Z,34nm,1.0s,mb4.9								
LSA	**Lhasa**	**41.29**	**320**	P		**P**		**20 07 30.4**	**+1.6**
LSA					AMB	AMB			
	comp=Z,11nm,1.0s,mb4.4								
LSA	**Lhasa**	**41.29**	**320**	*eP*		**P**		**20 07 30.3**	**+1.5**
LSA				pmax		pmax			
	comp=Z,29nm,0.8s,mb5.0								
LSA	**Lhasa**	**41.29**	**320**	*eP*		**P**		**20 07 30.3**	**+1.5**
	comp=Z,29nm,0.8s,mb5.0								
SNY	**Shenyang**	**42.88**	**4**	⇑P		**P**		**20 07 42.3**	**+0.6**
SNY					AMB	AMB			
	comp=Z,20nm,1.4s,mb4.7								
JIRN	**Jiri**	**43.38**	**314**	*eP*		**P**		**20 07 46.8**	**+0.7**
	comp=Z,68nm,1.0s,mb5.3								
PKI	**Pulchoki**	**43.90**	**313**	*eP*		**P**		**20 07 50.0**	**-0.2**
	comp=Z,45nm,1.0s,mb5.2								
KKN	**Kakani**	**44.12**	**313**	*eP*		**P**		**20 07 52.3**	**+0.3**
	comp=Z,102nm,1.4s,mb5.4								
DMN	**Daman**	**44.14**	**313**	*eP*		**P**		**20 07 52.6**	**+0.4**
	comp=Z,51nm,0.9s,mb5.2								
GKN	**Gorkha**	**44.70**	**313**	*eP*		**P**		**20 07 56.8**	**+0.1**
	comp=Z,50nm,0.8s,mb5.4								
HYB	**Hyderabad**	**44.90**	**296**	*eP*		**P**		**20 07 58.0**	**-0.3**
HYB	**Hyderabad**	**44.90**	**296**	*iP*		**P**		**20 07 58.0**	**-0.3**
	comp=Z,30nm,1.0s,mb5.1								
KOLN	**Koldanda**	**45.34**	**312**	*eP*		**P**		**20 08 01.0**	**-0.8**
	comp=Z,42nm,0.8s,mb5.3								
MDJ	**Mudanjiang**	**46.33**	**9**	*eP*		**P**		**20 08 05.9**	**-3.5**
	comp=Z,22nm,1.0s,mb5.0								
ULN	**Ulaanbaatar**	**50.11**	**349**	*eP*		**P**		**20 08 38.4**	**-0.3**
ULN					pmax	pmax			
	comp=Z,13nm,0.8s,mb5.0								
ULN	**Ulaanbaatar**	**50.11**	**349**	*eP*		**P**		**20 08 38.4**	**-0.3**
	comp=Z,13nm,0.8s,mb5.0								
HIA	**Hailar**	**50.20**	**360**	P		**P**		**20 08 36.0**	**-3.4**
HIA					pmax	pmax			
	comp=Z,34nm,2.1s								
HIA	**Hailar**	**50.20**	**360**	P		**P**		**20 08 36.0**	**-3.3**
	comp=Z,34nm,2.1s,mb5.0								
SONM	**Songino Array**	**50.22**	**348**	P		**P**		**20 08 39.7**	**+0.2**
	comp=Z,12nm,1.1s,mb4.9,baz=167,slow=9.2,SNR=56								
KLR	**Kul'dur**	**51.16**	**10**	*eP*		**P**		**20 08 44.0**	**-2.6**
ZAK	**Zakamensk**	**53.30**	**347**	⇓*iP*		**P**		**20 09 01.9**	**-0.8**
WMQ	**Urumqi**	**53.32**	**331**	P		**P**		**20 09 03.8**	**+0.9**
MOY	**Mondy**	**55.04**	**346**	*eP*		**P**		**20 09 15.7**	**+0.3**
MK02	**Makanchi Array**	**58.08**	**330**	P		**P**		**20 09 36.2**	**-0.9**
MK02					pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.7								
BOD	**Bodaibo**	**58.97**	**356**	*eP*		**P**		**20 09 41.8**	**-1.4**
KZA	**Kyzart**	**59.04**	**322**	P		**P**		**20 09 44.7**	**+0.7**
	SNR=7.2								
TKM2	**Tokmak 2**	**59.31**	**323**	P		**P**		**20 09 46.3**	**+0.5**
	SNR=7.3								
KBK	**Karagaybulak**	**59.55**	**323**	P		**P**		**20 09 48.3**	**+0.8**
	SNR=7.3								
AAK	**Ala-Archa**	**59.82**	**322**	P		**P**		**20 09 49.3**	**0.0**
	SNR=7.7								
AAK	**Ala-Archa**	**59.82**	**322**	P		**P**		**20 09 49.4**	**+0.1**
AAK					pmax	pmax			
	comp=Z,14nm,1.1s,mb4.9								
AAK	**Ala-Archa**	**59.82**	**322**	*eP*		**P**		**20 09 48.2**	**-1.1**
	comp=Z,6.4nm,0.8s,mb4.7								
AML	**Almayashu**	**60.03**	**322**	P		**P**		**20 09 51.1**	**+0.3**
	SNR=11								
EKS2	**Erkin-Say**	**60.27**	**322**	P		**P**		**20 09 53.2**	**+0.8**
	SNR=7.1								
RPZ	**Rata Peaks**	**61.94**	**140**	P		**P**		**20 10 05.2**	**+1.6**
	comp=Z,17nm,0.8s,mb5.2,baz=1.4,slow=3.1,SNR=9.3								
ZAL	**Zalesovo**	**62.19**	**337**	P		**P**		**20 10 05.6**	**+0.5**
	comp=Z,5.1nm,0.8s,mb4.7,baz=336,slow=8.9,SNR=12								
KURK	**Kurchatov**	**62.55**	**332**	P		**P**		**20 10 06.6**	**-1.0**
KURK					pmax	pmax			
	comp=Z,13nm,1.0s,mb5.0								
KURK	**Kurchatov**	**62.55**	**332**	*eP*		**P**		**20 10 06.4**	**-1.2**
	comp=Z,22nm,1.0s,mb5.2								
YAK	**Yakutsk**	**63.42**	**5**	*eP*		**P**		**20 10 11.7**	**-1.5**
YAK					pmax	pmax			
	comp=Z,12nm,0.8s,mb5.1								
YAK					pmax	pmax			
	comp=N,6.0nm,1.1s								
YAK					pmax	pmax			
	comp=E,3.0nm,1.1s								
YAK	**Yakutsk**	**63.42**	**5**	*eP*		**P**		**20 10 10.0**	**-3.2**
	comp=E,26nm,0.9s,mb5.4								
NVS	**Novosibirsk**	**63.48**	**337**	⇓*iP*		**P**		**20 10 11.7**	**-2.0**
NVS					pmax	pmax			
	comp=Z,11nm,1.0s,mb4.9								
NVS					pmax	pmax			
	comp=N,10.0nm,1.3s								
BVA0	**Borovoye Array**	**67.99**	**330**	P		**P**		**20 10 41.9**	**-0.6**
BVA0					pmax	pmax			
	comp=Z,5.0nm,1.5s,mb4.3								
BVAR	**Borovoye Array**	**67.99**	**330**	P		**P**		**20 10 41.9**	**-0.7**
	comp=Z,5.7nm,0.9s,mb4.6,baz=129,slow=9.5,SNR=23								
BRVK	**Borovoye**	**68.06**	**330**	*eP*		**P**		**20 10 41.9**	**-1.1**
BRVK					pmax	pmax			
	comp=Z,19nm,1.3s,mb5.0								
BRVK	**Borovoye**	**68.06**	**330**	*eP*		**P**		**20 10 41.9**	**-1.1**
	comp=Z,19nm,1.3s,mb5.0								
CHKZ	**Chkalovo**	**68.25**	**331**	P		**P**		**20 10 43.3**	**-0.8**
CHKZ					pmax	pmax			
	comp=Z,33nm,1.6s,mb5.1								
CHKZ	**Chkalovo**	**68.25**	**331**	*eP*		**P**		**20 10 43.1**	**-1.0**
	comp=Z,16nm,1.1s,mb5.0								
SVE	**Sverdlovsk**	**74.77**	**331**	*eP*		**P**		**20 11 23.5**	**+0.4**
ARU	**Arti**	**75.63**	**330**	*eP*		**P**		**20 11 20.4**	**-7.6**
ARU	**Arti**	**75.63**	**330**	*eP*		**P**		**20 11 20.0**	**-8.0**
	comp=Z,11nm,0.9s,mb4.8								
MAW	**Mawson**	**76.97**	**199**	P		**P**		**20 11 36.4**	**+1.0**
	comp=Z,2.6nm,0.7s,mb4.3,baz=62,slow=6.0,SNR=3.5								
VNDA	**Vanda**	**79.55**	**172**	P		**P**		**20 11 50.2**	**+0.8**
	comp=Z,3.4nm,0.9s,mb4.3,baz=219,slow=2.5,SNR=6.6								
GNI	**Garni**	**79.58**	**311**	P		**P**		**20 11 51.8**	**+1.5**
	comp=Z,12nm,1.1s,mb4.7,baz=204,slow=23,SNR=3.1								
TI2	**Plekhanov**	**79.86**	**313**	*iP*		**P**		**20 11 52.0**	**+0.2**
GOF	**Gofitskoye**	**81.69**	**316**	*eP*		**P**		**20 12 02.0**	**+0.6**
KMBO	**Kilima Mbogo**	**82.84**	**269**	P		**P**		**20 12 07.9**	**0.0**
KMBO					pmax	pmax			
	comp=Z,4.0nm,0.9s								
KMBO	**Kilima Mbogo**	**82.84**	**269**	P		**P**		**20 12 07.8**	**-0.1**
	comp=Z,4.3nm,0.9s,mb4.5,baz=56,slow=6.2,SNR=14								
KMBO	**Kilima Mbogo**	**82.84**	**269**	*eP*		**P**		**20 12 07.0**	**-1.0**
	comp=Z,5.6nm,1.0s,mb4.5								
MALT	**Malatya**	**84.17**	**309**	*eP*		**P**		**20 12 14.0**	**-0.2**
MALT					pmax	pmax			
	comp=Z,18nm,1.4s,mb5.0								
MALT	**Malatya**	**84.17**	**309**	*eP*		**P**		**20 12 14.0**	**-0.2**
	comp=Z,18nm,1.4s,mb5.0								
SYO	**Syowa Base**	**85.55**	**201**	⇑P		**P**		**20 12 20.6**	**+0.3**
SYO	**Syowa Base**	**85.55**	**201**	⇑PcP		PcP		20 12 23.0	-0.8
EIL	**Elat**	**86.35**	**300**	P		**P**		**20 12 25.2**	**0.0**
	comp=Z,18nm,1.0s,mb5.2,baz=49,slow=2.6,SNR=5.3								
EIL	**Elat**	**86.35**	**300**	*eP*		**P**		**20 12 24.8**	**-0.5**
	comp=Z,22nm,1.1s,mb5.3								
BRTR	**Keskin Array B**	**88.00**	**310**	P		**P**		**20 12 32.5**	**-0.4**
	comp=Z,6.1nm,0.9s,mb4.8,baz=120,slow=5.3,SNR=16								
MBAR	**Mbarara**	**89.37**	**269**	*eP*		**P**		**20 12 38.9**	**-1.2**
MBAR					pmax	pmax			
	comp=Z,11nm,1.1s,mb5.1								
MBAR	**Mbarara**	**89.37**	**269**	*eP*		**P**		**20 12 38.9**	**-1.2**
	comp=Z,11nm,1.1s,mb5.1								
AKASG	**Malin Array Be**	**91.44**	**321**	P		**P**		**20 12 47.9**	**-1.0**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	**91.44**	**321**	P		**P**		**20 12 47.9**	**-1.0**
	comp=Z,0.9nm,0.6s,mb4.2,baz=75,slow=4.4,SNR=7.3								
ARCES	**ARCESS Array B**	**92.67**	**339**	P		**P**		**20 12 55.3**	**+1.2**
	comp=Z,1.2nm,0.6s,mb4.5,baz=104,slow=5.0,SNR=6.5								
FINES	**FINESS Array B**	**92.93**	**331**	P		**P**		**20 12 57.0**	**+1.5**
	comp=Z,17nm,1.4s,mb5.3,baz=135,slow=8.1,SNR=3.4								
MLR	**Muntele Rosu**	**93.73**	**315**	P		**P**		**20 13 01.5**	**+2.0**
	comp=Z,3.8nm,1.0s,mb4.8,baz=110,slow=4.1,SNR=4.0								
HFS	**Hagfors**	**99.12**	**331**	P		**P**		**20 13 24.3**	**+0.8**
	comp=Z,8.2nm,1.1s,mb5.2,baz=174,slow=40,SNR=2.7								
NOA	**NORSAR Array B**	**100.07**	**332**	P		P		20 13 27.7	-0.2
	comp=Z,2.0nm,0.9s,baz=74,slow=4.7,SNR=2.7								
CPUP	**Villa Florida**	**152.59**	**185**	PKPbc		PKPdf		20 19 40.1	+8.8
	comp=Z,0.0nm,0.4s,baz=38,slow=19,SNR=1.4								

IDC ***23*** *20:10:10.8±0.3, 1.15S×119.98E, mb5.3/30, mb1 5.3/31, mb1mx5.3/32, mbtmp5.3/31, MS5.8/17, Ms1 5.8/17, ms1mx5.6/22, Error ellipse: s-maj=15.8km s-min=8.0km az=58.0*

DHMR ***23*** *20:10:11.8±3.0, 1.33S×119.90E, h10km, mb5.8*

NEIC ***23*** *20:10:12.2±0.2, 1.20S×119.93E, h11km, mb5.8/66, ME6.0, MS5.9/113, MW6.1, Error ellipse: s-maj=7.8km s-min=4.9km az=72.0 Broadband fault plane solution: P waves. NP1:ϕ_s320°, δ60°, λ-90°. NP2:ϕ_s140°, δ30°, λ-90°. Principal axes: T Plg15°, Azm50°; N Plg0°, Azm0°; P Plg75°, Azm230°; Moment Tensor Solution. s24 Moment tensor: Scale 10^{18} Nm; M_{rr}-1.39; $M_{\theta\theta}$1.09; $M_{\phi\phi}$0.30; $M_{r\theta}$-0.66; $M_{\theta\phi}$-0.49; $M_{\phi r}$-0.04; Best double couple: $M_0$1.5×10^{18} NP1:ϕ_s306°, δ34°, λ-72°. NP2:ϕ_s104°, δ58°, λ-102°. Principal axes: T 1.44, Plg12°, Azm203°; N .13, Plg10°, Azm111°; P -1.57, Plg74°, Azm341°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC One person killed, four injured and at least 136 buildings damaged [V] in the Palu area. Felt [III] at Parigi. New hot springs formed in the Bobo area.

MOS ***23*** *20:10:15.2±2.2, 1.11S×120.02E, h33km, mb6.2/44, MS5.8/58 Error ellipse: s-maj=7.6km s-min=4.5km az=108.8*

BJI ***23*** *20:10:17.1, 1.20S×119.90E, h48km, mB6.4, mb5.7, Ms6.0, Msz5.9*

HRVD ***23*** *20:10:17.2±0.1, 1.01S×120.08E, h12km, MW6.2/77, Centroid moment Tensor Solution. LP body waves: s75,c173;Mantle waves: s77,c311; Half duration: 3§2 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.90±.02; $M_{\theta\theta}$2.13±.01; $M_{\phi\phi}$-0.22±.02; $M_{r\theta}$0.51±.05; $M_{\theta\phi}$-1.62±.01; $M_{\phi r}$-1.10±.05; Best double couple: $M_0$2.802×10^{18} NP1: ϕ_s90°, δ41°, λ-133°. NP2:ϕ_s321°, δ61°, λ-59°. Principal axes: T 3.139, Plg11°, Azm29°; N -.671, Plg27°, Azm125°; P -2.465, Plg61°, Azm279°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 23 20:10:15.5±0.5,**1.27S**±0.02×**119.88E**±0.03,**h44**km±4km, **h39**km±4.7km:**pP-P,n542,**σ1§**34**/437,**mb5.8**/125,**MS5.9**/163, **42C-43D,Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TANI	**Tanete Lipujan**	**2.21**	**193**	⇓*eP*		**P**		**20 10 50.9**	**+0.4**
BUNI	**Buntu Taipa**	**2.42**	**169**	⇓*eP*		**P**		**20 10 53.2**	**-0.2**
BUNI				*epP*				20 10 55.1	
NINI	**Niniconang**	**3.14**	**182**	⇓*eP*		**P**		**20 11 04.4**	**+0.7**
MNI	**Manado**	**5.65**	**62**	*eP*		**P**		**20 11 32.5**	**-6.5**
KEDI	**Kedomdong**	**8.09**	**207**	⇑*eP*		**P**		**20 12 13.3**	**+0.2**
KEDI					pmax	pmax			
	comp=Z,343nm,0.9s								
KEDI	**Kedomdong**	**8.09**	**207**	⇑*eP*		**P**		**20 12 13.3**	**+0.2**
	comp=Z,343nm,0.9s								
RATI	**Rata**	**8.58**	**210**	⇓*eP*		**P**		**20 12 19.9**	**+0.1**
	comp=Z,218nm,0.2s								
KELI	**Kelakatan**	**8.74**	**218**	⇑*eP*		**P**		**20 12 23.3**	**+1.2**
	comp=Z,183nm,0.4s								
SRDI	**Scrawed**	**9.16**	**218**	⇑*eP*		**P**		**20 12 29.3**	**+1.4**
IPIL	**Ipil**	**9.39**	**17**	*eP*		**P**		**20 12 28.8**	**-2.2**
PAGZ	**Pagadian**	**9.71**	**21**	*eP*		**P**		**20 12 30.5**	**-5.0**
KCP	**Kidapawan**	**9.73**	**32**	⇓*eP*		**P**		**20 12 33.5**	**-2.4**
DAV	**Davao City (W)**	**10.05**	**34**	*eP*		**P**		**20 12 39.0**	**-1.2**
BATP	**Bataraza**	**10.21**	**348**	*eP*		**P**		**20 12 41.5**	**-0.9**
MATI	**Mati**	**10.35**	**38**	*eP*		**P**		**20 12 47.3**	**+2.9**
BUKP	**Musuan**	**10.45**	**30**	*eP*		**P**		**20 12 39.9**	**-5.9**
PPR	**Puerto Princes**	**11.03**	**354**	⇓*iP*		**P**		**20 12 55.0**	**+1.4**
SNPH	**Sibulan**	**11.06**	**18**	*eP*		**P**		**20 12 55.0**	**+1.0**
TBP	**Tagbilaran**	**11.59**	**20**	*eP*		**P**		**20 13 03.9**	**+2.8**
BUTP	**Butuan**	**11.67**	**29**	*eP*		**P**		**20 13 02.9**	**+0.7**
CUYO	**Cuyo Island**	**12.09**	**5**	*eP*		**P**		**20 13 06.0**	**-1.9**
GUIM	**Jordan**	**12.12**	**13**	*eP*		**P**		**20 13 07.2**	**-1.1**
LLP	**Lapu-Lapu**	**12.21**	**19**	*eP*		**P**		**20 13 09.4**	**-0.1**
MSLP	**Maasin**	**12.36**	**24**	*eP*		**P**		**20 13 11.9**	**+0.3**
ENPP	**El Nido**	**12.40**	**358**	*eP*		**P**		**20 13 10.4**	**-

comp=Z,30nm,0.7s,mb5.0,baz=293,slow=12,SNR=12
PMG S **S** **20 20 52.8 +3.5**
comp=Z,3.9nm,0.6s,baz=247,slow=22,SNR=2.1
PMG Port Moresby 28.32 108 *e*P **P** **20 16 07.0 -0.5**
comp=Z,131nm,0.9s,mb5.6
PMG LR LR
comp=Z,11μm,21.0s,MS5.4
CM31 Chiang Mai Arr 28.43 315 *e*P **P** **20 16 07.6 -0.8**
comp=Z,52nm,0.9s,mb5.2
CM31 LR LR
comp=Z,24μm,19.0s,MS5.8
CMAR Chiang Mai Arr 28.43 315 P **P** **20 16 08.1 -0.3**
comp=Z,35nm,1.0s,mb5.0,baz=138,slow=7.2,SNR=114
CMAR PcP PcP 20 19 20.9 +0.9
comp=Z,15nm,0.8s,baz=178,slow=1.3,SNR=7.8
CMAR ScP 20 23 03.3
comp=Z,6.3nm,1.1s,baz=153,slow=3.3,SNR=5.5
CHG Chiang Mai 28.66 315 ⇓P **P** **20 16 10.2 -0.3**
comp=Z,77nm,1.0s,mb5.4
CHRT Chiangrai 28.81 318 ⇓P **P** **20 16 12.0 +0.2**
comp=Z,574nm,1.4s,mb6.1
GUMO Guam 28.84 58 PFAKE 20 16 20.0 +7.9
GUMO LR LR
comp=Z,9μm,21.0s,MS5.3
JOW Kunigami 29.09 16 P **P** **20 16 13.7 -0.6**
comp=Z,28nm,0.8s,mb5.0,baz=213,slow=6.4,SNR=6.3
JOW S **S** **20 20 54.8 -6.6**
comp=Z,3.8nm,0.4s,baz=193,slow=26,SNR=1.6
JOW LR LR 20 28 43.5
comp=Z,32μm,20.7s,MS5.9,baz=209,slow=38
FORT Forrest 30.36 166 *e*P **P** **20 16 27.8 +2.3**
comp=Z,208nm,0.6s,mb6.0
KMI Kunming 31.05 329 P **P** **20 16 32.4 +0.8**
KMI *PP pP 20 16 41.0 -2.5
KMI *SP sP 20 16 46.8 -2.3
KMI 20 17 38.2
KMI S **S** **20 21 34.7 +2.3**
KMI SS SS 20 23 39.0 +20
KMI pmax pmax
comp=Z,66nm,1.8s,mb5.2
KMI MLR MLR
comp=Z,21μm,16.4s,MS5.9
KMI Kunming 31.05 329 P **P** **20 16 32.4 +0.8**
comp=Z,66nm,1.8s,mb5.2
KMI pP pP 20 16 41.0 -2.5
KMI sP sP 20 16 46.8 -2.3
KMI PP PP 20 17 38.3 +3.6
KMI S **S** **20 21 34.8 +2.4**
KMI LR LR
comp=Z,21μm,16.4s,MS5.9
NWAO Narrogin (SRO) 31.59 184 *e*P **P** **20 16 34.8 -1.5**
NWAO pmax pmax
comp=Z,21nm,0.6s
NWAO MLR MLR
comp=Z,23μm,22.0s
NWAO Narrogin (SRO) 31.59 184 P **P** **20 16 37.0 +0.6**
comp=Z,13nm,0.6s,mb5.0,baz=8.3,slow=7.6,SNR=5.7
NWAO LR LR 20 29 42.7
comp=Z,131nm,19.4s,baz=13,slow=37
NWAO Narrogin (SRO) 31.59 184 *e*P **P** **20 16 34.8 -1.5**
comp=Z,21nm,0.6s,mb5.2
NWAO LR LR
comp=Z,23μm,22.0s,MS5.8
CTA Charters Tower 31.86 128 ⇓*i*P **P** **20 16 38.4 -0.4**
comp=Z,38nm,0.9s,mb5.2
CTA Charters Tower 31.86 128 ⇓*i*P **P** **20 16 38.4 -0.4**
CTA pmax pmax
comp=Z,38nm,0.9s
CTA Charters Tower 31.86 128 P **P** **20 16 38.3 -0.5**
comp=Z,34nm,0.9s,mb5.2,baz=305,slow=11,SNR=8.3
CTAO Charters Tower 31.86 128 *e*P **P** **20 16 37.8 -1.0**
CTAO pmax pmax
comp=Z,142nm,1.4s,mb5.6
CTAO MLR MLR
comp=Z,17μm,19.0s,MS5.8
CTAO Charters Tower 31.86 128 *e*P **P** **20 16 37.8 -1.0**
comp=Z,142nm,1.4s,mb5.6
CTAO LR LR
comp=Z,17μm,19.0s,MS5.8
WHN Wuhan 32.07 351 P **P** **20 16 40.5 -0.1**
WHN S **S** **20 21 55.0 +6.6**
WHN LR LR
comp=Z,38μm,20.1s,MS6.1
SSE Sheshan 32.21 2 ⇓P **P** **20 16 43.3 +1.5**
SSE S **S** **20 21 57.0 +6.5**
SSE AMB AMB
comp=Z,268nm,1.5s,mb5.8
SSE AMB AMB
comp=Z,3μm,8.9s
SSE LR LR
comp=N,20μm,37.4s,MS5.6
SSE LR LR
comp=E,10μm,37.1s,MS5.6
SSE LR LR
comp=Z,26μm,33.4s,MS5.7
SSE Sheshan 32.21 2 ⇓P **P** **20 16 43.3 +1.5**
comp=Z,270nm,1.5s,mb5.9
SSE S **S** **20 21 57.0 +6.5**
SSE LR LR
comp=Z,26μm,33.4s,MS5.7
ENH Enshi 32.89 343 *e*P **P** **20 16 46.4 -1.3**
comp=Z,368nm,1.0s,mb6.3
NJ2 Nanjing 33.15 358 *e*P **P** **20 16 49.6 -0.4**
NJ2 AP pP 20 16 59.1 -2.8
NJ2 PP PP 20 18 02.6 +0.8
NJ2 PPP PPP 20 18 20.3 +2.1
NJ2 S **S** **20 22 09.0 +3.8**
NJ2 XS 20 22 25.0
NJ2 AMB AMB
comp=Z,2μm,6.7s
NJ2 LR LR
comp=N,2μm,16.7s,MS4.9
NJ2 LR LR
comp=E,570nm,17.3s,MS4.9
CBIJ Chichi jima 35.45 36 P **P** **20 17 07.0 -2.8**
comp=E,333nm,0.7s,mb6.3,baz=239,slow=10,SNR=4.6
CBIJ LR LR 20 29 50.1
comp=E,21μm,21.8s,MS5.8,baz=222,slow=33
IMP Imphal 36.10 318 *e*P **P** **20 17 13.5 -1.7**
XAN Xi'an 36.60 345 P **P** **20 17 17.3 -2.1**
XAN AP pP 20 17 28.9 -2.5
XAN S **S** **20 22 56.9 -1.5**
XAN AMB AMB
comp=Z,72nm,1.3s,mb5.3
XAN LR LR
comp=N,11μm,21.0s,MS5.8
XAN LR LR
comp=E,12μm,21.0s,MS5.8
XAN LR LR
comp=Z,21μm,20.6s,MS5.9
STKA Stephens Creek 36.70 148 ⇑*i*P **P** **20 17 19.8 -0.5**
comp=Z,82nm,0.8s,mb5.6
STKA Stephens Creek 36.70 148 P **P** **20 17 19.4 -0.9**
comp=Z,12nm,0.6s,mb4.9,baz=316,slow=9.5,SNR=14
STKA S **S** **20 23 03.9 +3.8**
comp=Z,4.4nm,0.7s,baz=326,slow=20,SNR=1.8
STKA LR LR 20 34 58.3
comp=Z,11μm,18.0s,MS5.7,baz=114,slow=40
TIA Tai'an 37.38 356 P **P** **20 17 25.8 0.0**
TIA S **S** **20 23 11.1 +0.9**
TIA AMB AMB
comp=Z,536nm,1.3s,mb6.2
TIA AMB AMB
comp=Z,4μm,6.0s
TIA LR LR
comp=N,4μm,20.6s,MS5.4
TIA LR LR
comp=E,6μm,22.5s,MS5.4
AGT Agartala 37.40 314 ⇑*i*P **P** **20 17 26.0 -0.2**
AGT *i* 20 20 38.0
ADE Adelaide 37.84 154 P **P** **20 17 24.6 -5.2**
SHL Shillong 38.01 316 ⇓*i*P **P** **20 17 32.0 +0.8**
SHL *i*S **S** **20 23 26.0 +6.0**
CAL Calcutta 38.80 309 *e*P **P** **20 17 39.7 +1.8**
CAL *e* 20 19 13.8
CAL *e* 20 23 43.2
JHJ Hachijo jima 2 39.02 27 LR LR 20 31 16.3
comp=E,28μm,21.2s,MS6.1,baz=233,slow=32
KS15 Wonju Array Si 39.22 10 *e*P **P** **20 17 39.5 -1.7**
TIY Taiyuan 39.39 351 ⇑P **P** **20 17 40.5 -2.1**
TIY LR LR
comp=N,16μm,20.0s,MS5.9
TIY LR LR
comp=E,3μm,19.0s,MS5.9
BWNR Bhubaneshwar 39.67 305 *e* **P** **20 17 43.3 -1.8**
BWNR *e* 20 17 48.6
comp=Z,94nm,1.2s
PALK Pallekele 39.99 283 *e*P **P** **20 17 44.9 -2.9**
comp=Z,221nm,1.6s,mb5.6
PALK LR LR
comp=Z,4μm,20.0s,MS5.2
LZH Lanzhou 40.05 340 P **P** **20 17 48.6 +0.5**
LZH PP PP 20 19 27.0 +2.7
LZH S **S** **20 23 56.0 +5.2**
LZH XS 20 24 16.0
LZH AMB AMB
comp=Z,400nm,1.2s,mb6.0
LZH AMB AMB
comp=Z,7μm,4.8s
LZH LR LR
comp=N,34μm,20.3s
LZH LR LR
comp=Z,58μm,21.1s,MS6.4
LZH Lanzhou 40.05 340 P **P** **20 17 48.6 +0.5**
LZH *SP sP 20 17 59.2 -6.5
LZH 20 19 27.0
LZH S **S** **20 23 56.0 +5.2**
LZH *SS 20 24 16.0
LZH pmax pmax
comp=Z,400nm,1.2s,mb6.0
LZH MLR MLR
comp=Z,58μm,21.1s,MS6.4
LZH Lanzhou 40.05 340 P **P** **20 17 48.6 +0.5**
comp=Z,400nm,1.2s,mb6.0
LZH PP PP 20 19 27.0 +2.7
LZH S **S** **20 23 56.0 +5.2**
LZH sS 20 24 16.0
LZH LR LR
comp=Z,58μm,21.1s,MS6.4
VIS Vishakhapatnam 40.63 299 *e*P **P** **20 17 55.3 +2.2**
VIS *e* 20 17 59.8
comp=Z,141nm,0.9s
BJT Baijiatuau 41.23 356 *e*P **P** **20 17 57.3 -0.5**
BJT pmax pmax
comp=Z,1μm,1.3s
BJT Baijiatuau 41.23 356 *e*P **P** **20 17 57.3 -0.5**
comp=Z,1μm,1.3s,mb6.3
LSA Lhasa 41.24 321 P **P** **20 17 59.5 +1.5**
LSA AP pP 20 18 09.0 -1.2
LSA XP sP 20 18 17.0 +1.4
LSA S **S** **20 24 17.5 +9.0**
LSA AMB AMB
comp=Z,57nm,1.2s,mb5.1
LSA AMB AMB
comp=Z,3μm,7.4s
LSA LR LR
comp=N,7μm,23.0s,MS5.7
LSA LR LR
comp=E,9μm,24.0s,MS5.7
LSA Lhasa 41.24 321 *e*P **P** **20 17 58.0 0.0**
LSA pmax pmax
comp=Z,150nm,0.8s,mb5.7
LSA Lhasa 41.24 321 P **P** **20 17 59.5 +1.5**
comp=Z,57nm,1.2s,mb5.1
LSA pP pP 20 18 09.0 -1.2
LSA sP sP 20 18 17.0 +1.4
LSA S **S** **20 24 17.5 +9.0**
BJI Beijing 41.25 356 P **P** **20 17 59.1 +1.2**
BJI 20 19 36.6
BJI S **S** **20 24 09.8 +1.3**
BJI SS SS 20 27 04.1 -4.1
BJI pmax pmax
comp=Z,681nm,1.3s,mb6.1
BJI MLR MLR
comp=Z,14μm,23.5s,MS5.8
BJI Beijing 41.25 356 P **P** **20 17 59.1 +1.2**
comp=Z,680nm,1.3s,mb6.1
BJI PP PP 20 19 36.6 +0.1
BJI S **S** **20 24 09.8 +1.3**
BJI SS SS 20 27 04.1 -4.1
BJI LR LR
comp=Z,14μm,23.5s,MS5.8
MAJO Matsushiro 41.30 23 P **P** **20 17 53.8 -4.6**
MAJO pmax pmax
comp=Z,280nm,1.4s,mb5.7
MAJO MLR MLR
comp=Z,24μm,22.0s,MS6.0
MAJO Matsushiro 41.30 23 *e*P **P** **20 17 53.5 -4.9**
comp=Z,282nm,1.4s,mb5.7
MAJO LR LR
comp=Z,24μm,22.0s,MS6.0
MAT Matsushiro 41.30 23 *e*P **P** **20 17 54.0 -4.4**
MAT *e*S **S** **20 24 05.0 -4.3**
MAT pmax pmax
comp=Z,75nm,1.5s,mb5.1
MAT MLR MLR
comp=Z,17μm,20.0s,MS5.9
MAT Matsushiro 41.30 23 *e*P **P** **20 17 54.0 -4.4**
comp=Z,75nm,1.5s,mb5.1
MAT *e*S **S** **20 24 05.0 -4.3**
MAT LR LR
comp=Z,17μm,20.0s,MS5.9
MAT Matsushiro 41.30 23 P **P** **20 17 53.6 -4.8**
MAT S **S** **20 24 05.0 -4.3**
GTK Gangtok 41.39 316 *e*P **P** **20 18 01.0 +1.8**
MDRS Chennai 41.81 291 *e*P **P** **20 18 02.0 -0.9**
MDRS *e* 20 24 28.0
SNY Shenyang 43.03 4 ⇓P **P** **20 18 10.8 -1.8**
SNY S **S** **20 24 32.4 -2.2**
SNY AMB AMB
comp=Z,30nm,1.6s,mb4.8
SNY LR LR
comp=N,11μm,25.5s,MS5.8
SNY LR LR
comp=E,7μm,21.6s,MS5.8
SNY LR LR
comp=Z,22μm,32.4s
TOO Toolangi 43.14 150 ⇑*i*P **P** **20 18 18.9 +5.3**
comp=Z,29nm,0.9s,mb5.0
TOO Toolangi 43.14 150 ⇑*i*P **P** **20 18 18.9 +5.3**
TOO pmax pmax
comp=Z,29nm,0.9s,mb5.0
JIRN Jiri 43.30 314 *e*P **P** **20 18 15.4 +0.4**
comp=Z,468nm,1.0s,mb6.2
BLSP Bilaspur 43.55 305 *e*P **P** **20 18 17.0 -0.1**
BLSP *e* 20 18 20.2
comp=Z,89nm,0.9s
BLSP *e* 20 20 04.1
CNB Canberra Magne 43.58 144 *e*P **P** **20 18 19.9 +2.7**
comp=Z,4μm,1.9s,mb6.8
KOD Kodaikanal 43.72 286 *e*P **P** **20 18 18.0 -0.6**
PKI Pulchoki 43.82 313 *e*P **P** **20 18 19.3 +0.1**
comp=Z,436nm,1.2s,mb6.1
TRD Trivandrum 43.87 284 *e*P **P** **20 18 20.7 +1.0**
TRD *e* 20 18 23.6
comp=Z,128nm,1.9s
KKN Kakani 44.03 314 *e*P **P** **20 18 20.9 0.0**
comp=Z,440nm,1.1s,mb6.1
DMN Daman 44.06 313 *e*P **P** **20 18 21.2 +0.1**
comp=Z,546nm,1.1s,mb6.2
GKN Gorkha 44.62 313 *e*P **P** **20 18 25.4 -0.2**
comp=Z,412nm,1.0s,mb6.2
HYB Hyderabad 44.74 296 ⇓*e*P **P** **20 18 26.0 -0.7**
HYB *e*S **S** **20 25 10.0 +10**
HYB Hyderabad 44.74 296 ⇓*i*P **P** **20 18 26.0 -0.7**
comp=Z,180nm,1.0s,mb5.9
HYB *e*PP PP 20 20 12.0 -0.5
HYB *e*S **S** **20 25 10.0 +10**
HYB LR LR 20 40 56.0
comp=Z,10nm,19.0s
KOLN Koldanda 45.25 312 *e*P **P** **20 18 30.7 0.0**
comp=Z,663nm,1.3s,mb6.3
ALBI Allahabad 45.33 308 *e*P **P** **20 18 30.5 -0.8**
VLA Vladivostok 45.49 12 ⇓*i*P **P** **20 18 38.0 +5.6**
VLA *i* 20 20 20.0
VLA *i* S **S** **20 25 12.0 +1.8**
VLA pmax pmax
comp=Z,2μm,13.0s
VLA pmax pmax
comp=Z,2μm,8.0s
VLA smax
comp=N,5μm,10.0s
VLA MLR MLR
comp=Z,12μm,18.0s,MS5.9
VLA MLR MLR
comp=N,7μm,20.0s,MS5.7
VLA MLR MLR
comp=E,4μm,17.0s,MS5.7
NGP Nagpur 45.71 302 *e* **P** **20 18 38.8 +4.4**
NGP *e* 20 25 34.9
MDJ Mudanjiang 46.50 10 P **P** **20 18 39.4 -0.9**
MDJ PP PP 20 20 25.9 -3.7
MDJ PCS 20 24 12.5
MDJ S **S** **20 25 22.6 -1.9**
MDJ AMB AMB
comp=Z,77nm,0.9s,mb5.6
MDJ AMB AMB
comp=Z,2μm,4.4s
MDJ LR LR
comp=N,17μm,38.1s,MS5.8
MDJ LR LR
comp=E,7μm,33.9s,MS5.8
MDJ LR LR
comp=Z,19μm,34.8s,MS5.8
MDJ Mudanjiang 46.50 10 P **P** **20 18 39.4 -0.9**
comp=Z,77nm,0.9s,mb5.6
MDJ PP PP 20 20 25.9 -3.7
MDJ PcS 20 24 12.5
MDJ S **S** **20 25 22.6 -1.9**
MDJ LR LR
comp=Z,20μm,34.8s,MS5.8
LATR Latur 46.87 297 *e*P **P** **20 18 43.8 +0.3**
MNGI Mangalore 46.87 289 *i*P **P** **20 18 44.0 +0.4**
MNGI *i* 20 25 42.3
DGAR Diego Garcia 47.65 261 P **P** **20 18 49.4 -0.4**
DGAR pmax pmax
comp=Z,780nm,1.4s,mb6.5
DGAR MLR MLR
comp=Z,2μm,20.0s,MS5.1
DGAR Diego Garcia 47.65 261 *e*P **P** **20 18 49.1 -0.7**
comp=Z,783nm,1.4s,mb6.5
DGAR LR LR
comp=Z,2μm,20.0s,MS5.1
BHPL Bhopal 47.94 303 ⇓*i*P **P** **20 18 51.6 -0.3**
BHPL *e* 20 18 56.7
comp=Z,74nm,0.8s
ERM Erimo 47.95 23 PFAKE 20 19 00.0 +8.2
ERM LR LR
comp=Z,9.0nm,19.0s
TAU Tasmania Unive 48.18 153 *e*P **P** **20 18 52.9 -0.6**
TAU pmax pmax
comp=Z,332nm,1.4s,mb6.2
TAU MLR MLR
comp=Z,6μm,20.0s,MS5.6
TAU Tasmania Unive 48.18 153 *e*P **P** **20 18 52.9 -0.6**
comp=Z,332nm,1.4s,mb6.2
TAU LR LR
comp=Z,6μm,20.0s,MS5.6
GOA Goa 48.46 292 ⇑*i* **P** **20 19 01.9 +5.9**
GOA *i* 20 26 04.4
KAD Karad 48.65 294 *e*P **P** **20 18 57.0 -0.5**
KAD *e* 20 18 58.7
comp=Z,80nm,1.1s
POO Poona 49.33 296 *e*P **P** **20 19 02.5 -0.2**
POO *e* 20 19 03.8
comp=Z,51nm,1.4s
POO *i* 20 25 55.0
ASAJ Asahikawa 49.54 21 P **P** **20 19 00.7 -3.3**
comp=Z,44nm,1.0s,mb5.5,baz=254,slow=18,SNR=12
ASAJ S **S** **20 26 00.4 -6.9**
comp=Z,8.6nm,1.1s,baz=285,slow=7.2,SNR=1.9
ASAJ LR LR 20 40 43.8
comp=Z,15μm,20.2s,MS6.0,baz=237,slow=37
NOUC Port Laguerre 49.66 118 *e*P **P** **20 19 05.1 -0.1**
NOUC Port Laguerre 49.66 118 *e*P **P** **20 19 05.1 -0.1**
DZM Mont Dzumac 49.77 118 *e*P **P** **20 19 03.1 -3.0**
DZM Mont Dzumac 49.77 118 *e*P **P** **20 19 03.1 -3.0**
ULN Ulaanbaatar 50.20 349 *e*P **P** **20 19 08.3 -0.6**
ULN pmax pmax
comp=Z,688nm,1.3s,mb6.5
ULN MLR MLR
comp=Z,14μm,21.0s,MS5.9
ULN Ulaanbaatar 50.20 349 *e*P **P** **20 19 08.2 -0.7**
comp=Z,688nm,1.3s,mb6.5
ULN LR LR
comp=Z,14μm,21.0s,MS5.9
SONM Songino Array 50.30 348 P **P** **20 19 09.4 -0.4**
comp=Z,130nm,1.0s,mb5.9,baz=167,slow=8.1,SNR=100
SONM S **S** **20 26 22.5 +4.7**
comp=Z,0.6nm,0.9s,baz=141,slow=9.2,SNR=1.9
SONM PKPPKP 20 49 58.2
comp=Z,1.3nm,1.1s,baz=214,slow=4.5,SNR=3.9
HIA Hailar 50.34 360 *e*P **P** **20 19 07.8 -2.2**
HIA pmax pmax
comp=Z,2.0nm,0.3s
HIA Hailar 50.34 360 *e*P **P** **20 19 07.8 -2.2**
comp=Z,2.4nm,0.3s,mb4.7
BOM Bombay 50.38 296 *e*P **P** **20 19 12.2 +1.5**
BOM *e* 20 26 29.9
NDI New Delhi 50.54 310 ⇓*i*P **P** **20 19 09.5 -2.4**
NDI *e*S **S** **20 26 25.0 +3.5**
DDI Dehra Dun 50.72 312 *e*P **P** **20 19 11.8 -1.3**
DDI *e* 20 26 32.0
YUK Yuzh-Kuril'sk 50.73 24 *e*P **P** **20 19 07.0 -6.1**
YUK pmax pmax
comp=Z,5μm,4.0s
KLR Kul'dur 51.33 10 *e*P **P** **20 19 12.2 -5.3**
KLR *e* 20 21 19.8
KLR *e*S **S** **20 26 31.5 -0.6**
KLR *e* 20 29 06.0
KLR pmax pmax
comp=N,60nm,1.8s
KLR pmax pmax
comp=E,100nm,1.8s
KLR pmax pmax
comp=Z,170nm,1.8s,mb5.7
KLR pmax pmax
comp=Z,2μm,11.0s
KLR MLR MLR
comp=E,5μm,20.0s
AJM Ajmer 51.59 306 *i*P **P** **20 19 18.0 -1.8**
BHV Bhavnagar 51.90 299 *e*P **P** **20 19 23.5 +1.3**
YSS Yuzh-Sakhalins 52.05 20 *eαe*P **P** **20 19 20.0 -2.9**
YSS *e* pP 20 19 34.0 -1.3
YSS *e* 20 20 37.0
YSS *e*PPP PPP 20 22 26.0 -0.4
YSS *e*S **S** **20 26 38.0 -3.9**
YSS pmax pmax
comp=N,80nm,1.5s
YSS pmax pmax
comp=Z,160nm,1.5s,mb5.7
YSS pmax pmax
comp=Z,2μm,12.0s
YSS smax
comp=E,2μm,16.0s
YSS MLR MLR
comp=Z,6μm,19.0s,MS5.7
YSS MLR MLR
comp=N,8μm,20.0s,MS5.8
YSS MLR MLR
comp=E,5μm,18.0s,MS5.8
YSS Yuzh-Sakhalins 52.05 20 *e*Pcu **P** **20 19 20.0 -2.9**
comp=E,160nm,1.5s,mb5.7
YSS *e* pP 20 19 34.0 -1.3
YSS *e* 20 20 37.0
YSS *e*PPP PPP 20 22 26.0 -0.4
YSS *e*S **S** **20 26 38.0 -3.9**
YSS LR LR
comp=Z,6μm,19.0s,MS5.7
BHK Bhakra 52.48 312 *e*P **P** **20 19 27.2 +0.8**
BHK *e* 20 26 58.6
WMQ Urumqi 53.32 331 P **P** **20 19 33.0 +0.5**
WMQ PP PP 20 21 34.8 +0.4
WMQ S **S** **20 27 02.5 +3.2**
WMQ AMB AMB
comp=Z,426nm,1.7s,mb6.1
WMQ AMB AMB
comp=Z,2μm,5.2s
WMQ LR LR
comp=N,8μm,17.8s,MS6.0
WMQ LR LR
comp=E,8μm,18.0s,MS6.0
WMQ LR LR
comp=Z,13μm,18.2s,MS6.0
ZAK Zakamensk 53.38 347 *e*P **P** **20 19 31.2 -1.6**
ZAK *e* 20 27 10.1
TLY Talaya 54.52 348 P **P** **20 19 40.2 -1.0**
comp=Z,984nm,1.5s,mb6.6
TLY Talaya 54.52 348 *e*P **P** **20 19 40.8 -0.4**
TLY *e*S **S** **20 27 18.2 +2.9**
TLY pmax pmax
comp=Z,256nm,1.4s,mb6.1
TLY MLR MLR
comp=Z,11μm,19.0s,MS6.0
IRK Irkutsk 54.92 348 *e*P **P** **20 19 47.1 +3.0**
IRK *e*S **S** **20 27 28.5 +7.8**

IRK pmax pmax
comp=Z,443nm,3.4s
MOY Mondy 55.11 346 *e*P **P** **20 19 45.4 -0.1**
CLNS Chul'man 58.06 3 *e*P **P** **20 20 03.6 -2.8**
CLNS *e**PP pP 20 20 09.9 -9.2
CLNS *e* 20 20 53.2
CLNS *e* 20 22 13.4
CLNS *e*S **S** **20 28 06.1 +3.9**
CLNS *e*PS PS 20 28 18.1 -3.9
CLNS pmax pmax
comp=Z,43nm,1.4s,mb5.3
CLNS pmax pmax
comp=N,24nm,1.1s
CLNS pmax pmax
comp=E,11nm,0.7s
CLNS pmax pmax
comp=N,39nm,1.2s
CLNS pmax pmax
comp=Z,27nm,1.2s,mb5.2
CLNS pmax pmax
comp=E,18nm,1.0s
CLNS smax
comp=N,17nm,1.1s
CLNS smax
comp=E,7.0nm,1.4s
CLNS MLR MLR
comp=Z,802μm,20.0s
CLNS MLR MLR
comp=N,6μm,18.0s,MS5.8
CLNS MLR MLR
comp=E,500nm,15.0s,MS5.8
AAA Alma-Ata 58.69 324*c i*P **P** **20 20 14.0 +3.0**
AAA *i* S **S** **20 28 24.5 +14**
AAA pmax pmax
comp=Z,4μm,5.0s
AAA smax
comp=E,3μm,11.0s
AAA MLR MLR
comp=Z,4μm,18.0s,MS5.6
KZA Kyzart 59.00 322 P **P** **20 20 13.3 +0.1**
SNR=19
BOD Bodaibo 59.09 356 *e*P **P** **20 20 11.4 -2.2**
TKM2 Tokmak 2 59.28 323 P **P** **20 20 15.4 +0.3**
SNR=25
KBK Karagaybulak 59.52 323 P **P** **20 20 16.7 0.0**
SNR=31
UCH Uchtor 59.53 322 P **P** **20 20 17.2 +0.3**
SNR=30
AAK Ala-Archa 59.78 323 P **P** **20 20 18.3 -0.2**
SNR=38
AAK Ala-Archa 59.78 323⇓*e*P **P** **20 20 17.3 -1.2**
AAK pmax pmax
comp=Z,20nm,1.3s,mb5.0
AAK MLR MLR
comp=Z,8μm,18.0s,MS5.9
AAK Ala-Archa 59.78 323⇓*e*P **P** **20 20 17.3 -1.2**
comp=Z,20nm,1.3s,mb5.0
AAK LR LR
comp=Z,8μm,18.0s,MS5.9
FRU Bishkek 59.82 323 *e*P **P** **20 20 19.0 +0.2**
FRU *e* 20 21 07.0
FRU *e* 20 22 30.0
FRU *e*S **S** **20 28 34.0 +8.8**
FRU pmax pmax
comp=Z,2μm,3.5s
FRU pmax pmax
comp=Z,4μm,5.5s
CHMS Chumysh 59.83 323 P **P** **20 20 18.5 -0.4**
SNR=20
AML Almayashu 59.99 322 P **P** **20 20 19.9 -0.1**
SNR=52
USP Ospenovka 60.13 323 P **P** **20 20 20.3 -0.7**
SNR=26
EKS2 Erkin-Say 60.23 322 P **P** **20 20 21.6 -0.1**
SNR=26
SKR Severo-Kuril's 60.26 26 *e* PP 20 22 32.0 -4.8
SKR MLR MLR
comp=Z,6μm,18.0s,MS5.8
RPZ Rata Peaks 61.99 140 P **P** **20 20 32.6 -0.9**
comp=Z,49nm,0.7s,mb5.7,baz=336,slow=1.9,SNR=15
ZAL Zalesovo 62.22 337 P **P** **20 20 34.7 -0.2**
comp=Z,475nm,1.4s,mb6.4,baz=334,slow=5.5,SNR=37
ZAL S **S** **20 29 01.2 +5.5**
comp=Z,0.5nm,0.6s,baz=197,slow=23,SNR=2.0
ZAL LR LR 20 49 46.9
comp=Z,5μm,21.6s,MS5.6,baz=332,slow=38
THZ Tophouse 62.33 138 *e*P **P** **20 20 34.7 -1.1**
KURK Kurchatov 62.56 332 P **P** **20 20 35.5 -1.7**
KURK pmax pmax
comp=Z,390nm,1.0s,mb6.5
PET Petropavlovsk 63.04 25 *e*P **P** **20 20 42.5 +2.1**
PET *e* 20 21 18.8
PET *e*S **S** **20 29 10.2 +4.2**
PET *e*PS PS 20 29 28.9 -1.5
PET *e*SS SS 20 33 20.0 +5.8
PET pmax pmax
comp=Z,2μm,6.9s
PET pmax pmax
comp=Z,2μm,16.0s
PET pmax pmax
comp=Z,68nm,1.2s,mb5.7
PET pmax pmax
comp=Z,77nm,1.9s,mb5.5
PET smax
comp=E,1μm,22.7s
PET smax
comp=N,2μm,11.2s
PET smax
comp=N,4μm,23.2s
PET MLR MLR
comp=Z,8μm,20.0s,MS5.9
PET Petropavlovsk 63.04 25 *e*P **P** **20 20 42.5 +2.1**
comp=Z,68nm,1.2s,mb5.7
PET *e* 20 21 18.8
PET *e*S **S** **20 29 10.2 +4.2**
PET *e*PS PS 20 29 28.9 -1.5
PET *e*SS SS 20 33 20.0 +5.8
PET LR LR
comp=Z,8μm,20.0s,MS5.9
NVS Novosibirsk 63.51 337⇑*i*P **P** **20 20 40.7 -2.7**
NVS *i* S **S** **20 29 15.7 +4.0**
NVS pmax pmax
comp=Z,462nm,1.6s,mb6.3
NVS pmax pmax
comp=N,297nm,1.5s
NVS pmax pmax
comp=E,262nm,1.4s
NVS smax
comp=E,600nm,2.6s
YAK Yakutsk 63.57 5*c i*P **P** **20 20 42.1 -1.6**
YAK *e* pP 20 20 50.7 -5.8
YAK *e*S **S** **20 29 13.7 +1.3**
YAK *e*SS SS 20 33 16.4 -5.5
YAK pmax pmax
comp=Z,70nm,0.7s,mb5.8
YAK pmax pmax
comp=N,61nm,1.1s
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK pmax pmax
comp=Z,18nm,1.2s,mb5.0
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK smax
comp=N,12nm,1.2s
YAK smax
comp=Z,2.0nm,1.0s
YAK smax
comp=E,10.0nm,1.2s
YAK MLR MLR
comp=Z,4μm,20.0s,MS5.6
YAK MLR MLR
comp=N,4μm,19.0s,MS5.7
YAK MLR MLR
comp=E,3μm,18.0s,MS5.7
YAK Yakutsk 63.57 5⇑*i*P **P** **20 20 42.1 -1.6**
comp=E,70nm,0.7s,mb5.8
YAK *e* pP 20 20 50.7 -5.8
YAK *e*S **S** **20 29 13.7 +1.3**
YAK *e*SS SS 20 33 16.4 -5.5
YAK LR LR
comp=Z,4μm,20.0s,MS5.6
URZ Urewera 63.93 133 P **P** **20 20 45.5 -0.9**
comp=Z,56nm,1.0s,mb5.5,baz=9.1,slow=3.4,SNR=13

MWZ Matawai 64.26 132 *e*P **P** **20 20 47.6 -1.0**
JMDO Jabal Madar 64.57 295⇑P **P** **20 20 49.9 -0.9**
SNR=14
CASY Casey 65.22 184 P **P** **20 20 52.3 -2.0**
comp=Z,24nm,1.0s,mb5.2
CASY LR LR
comp=Z,14μm,21.0s,MS6.1
RAO Raoul Island 65.29 122 PFAKE 20 21 00.0 +4.6
RAO LR LR
comp=Z,6μm,21.0s,MS5.8
MA2 Magadan 65.31 17 *e*P **P** **20 20 53.6 -1.4**
MA2 *e* 20 21 27.1
MA2 *e*S S 20 29 34.3 +0.4
MA2 *e*SS SS 20 33 50.7 +1.7
MA2 pmax pmax
comp=Z,100nm,1.5s,mb5.6
MA2 pmax pmax
comp=E,20nm,1.6s
MA2 pmax pmax
comp=N,60nm,2.1s
MA2 MLR MLR
comp=Z,14μm,23.9s,MS6.1
BSY Bisya 65.47 296⇑P **P** **20 20 55.8 -0.9**
ARQ Araqi 66.21 296 P **P** **20 21 00.7 -0.7**
SNR=12
DRV Dumont d'Urvil 66.79 171 P **P** **20 21 03.0 -1.3**
DRV S S 20 30 15.0 +23
DRV SS SS 20 34 14.0 +2.1
DRV R 20 42 00.0
RBK Rabkut 67.27 289⇓P **P** **20 21 09.0 +0.9**
SNR=22
MIR Mirnyy 67.85 191*o e*P **P** **20 21 16.4 +5.5**
MIR *e* 20 23 38.0
MIR *e*S S 20 30 15.0 +11
MIR *e*SS SS 20 34 37.0 +9.0
MIR pmax pmax
comp=Z,170nm,1.4s,mb5.9
MIR pmax pmax
comp=Z,1μm,10.0s
MIR MLR MLR
comp=N,2μm,18.0s,MS5.5
MIR MLR MLR
comp=E,2μm,18.0s,MS5.5
MIR MLR MLR
comp=Z,4μm,18.0s,MS5.7
BVAR Borovoye Array 67.99 330 P **P** **20 21 10.7 -1.4**
comp=Z,102nm,1.2s,mb5.7,baz=127,slow=7.4,SNR=39
BVAR S S 20 30 14.2 +7.8
comp=Z,1.0nm,0.5s,baz=76,slow=5.9,SNR=2.1
BRVK Borovoye 68.06 330 *e*P **P** **20 21 11.4 -1.1**
BRVK pmax pmax
comp=Z,491nm,1.4s,mb6.3
BRVK MLR MLR
comp=Z,2μm,21.0s,MS5.4
BRVK Borovoye 68.06 330 *e*P **P** **20 21 11.4 -1.1**
comp=Z,491nm,1.4s,mb6.3
BRVK LR LR
comp=Z,2μm,21.0s,MS5.4
ABTO Aybut 68.10 289⇑P **P** **20 21 12.7 -0.6**
SNR=18
CHKZ Chkalovo 68.25 331 *e*P **P** **20 21 12.2 -1.5**
CHKZ pmax pmax
comp=Z,545nm,1.4s,mb6.4
SEY Seymchan 68.52 15 *e*P **P** **20 21 13.5 -1.7**
SEY 20 23 48.0
SEY *e*S S 20 30 13.6 +1.0
SEY 20 30 54.6
SEY *e*SSS SSS 20 37 36.2 -3.7
SEY smax
comp=N,19μm,16.2s
SEY smax
comp=E,2μm,14.1s
SEY MLR MLR
comp=Z,9μm,16.0s,MS6.1
SEY MLR MLR
comp=N,12μm,18.0s,MS6.2
SEY MLR MLR
comp=E,5μm,14.0s,MS6.2
AFI Afiamalu 68.69 104 *e*P **P** **20 21 18.1 +1.1**
AFI pmax pmax
comp=Z,208nm,1.2s,mb5.9
AFI MLR MLR
comp=Z,4μm,21.0s,MS5.7
AFI Afiamalu 68.69 104 *e*P **P** **20 21 18.1 +1.1**
comp=Z,208nm,1.2s,mb5.9
AFI LR LR
comp=Z,4μm,21.0s,MS5.7
MUKL Al Mukalla 71.80 286⇓*i*P **P** **20 21 35.0 -0.8**
MUKL AMb AMB 20 21 36.8
comp=Z,270nm,1.2s,mb6.0
TIXI Tiksi 73.03 3 PFAKE 20 21 50.0 +7.8
TIXI LR LR
comp=Z,13μm,22.0s,MS6.2
SVE Sverdlovsk 74.77 331 *e*P **P** **20 21 52.0 -0.5**
SVE *e* pP 20 22 08.0 +2.4
SVE *e*S S 20 31 27.0 +2.6
SVE pmax pmax
comp=Z,400nm,1.3s,mb6.2
SVE MLR MLR
comp=Z,6μm,20.0s,MS5.9
LBOS 75.39 285⇓*e*P **P** **20 21 56.5 -0.5**
LBOS AMb AMB 20 21 57.3
comp=N,154nm,1.8s
ARU Arti 75.62 330 P **P** **20 21 56.0 -1.5**
comp=N,1μm,1.5s,mb6.6
ARU Arti 75.62 330⇓*i*P **P** **20 21 52.8 -4.7**
ARU *e* pP 20 22 05.4 -5.1
ARU *i* S S 20 31 31.6 -2.3
ARU *i* 20 31 58.7
ARU *e*SSS SSS 20 39 40.1 -3.0
ARU pmax pmax
comp=Z,313nm,1.4s,mb6.0
ARU MLR MLR
comp=Z,9μm,21.0s,MS6.0
ARU MLR MLR
comp=N,3μm,23.0s,MS5.9
ARU MLR MLR
comp=E,6μm,19.0s,MS5.9
ARU Arti 75.62 330⇓*i*P **P** **20 21 52.8 -4.7**
comp=E,313nm,1.4s,mb6.0
ARU *e* pP 20 22 05.4 -5.1
ARU *i* S S 20 31 31.6 -2.3
ARU *i* 20 31 58.7
ARU *e*SSS SSS 20 39 40.1 -3.0
ARU LR LR
comp=Z,9μm,21.0s,MS6.0
BILL Bilibino 76.17 16 P **P** **20 22 02.1 +1.7**
BILL pmax pmax
comp=Z,86nm,1.7s,mb5.4
BILL Bilibino 76.17 16 *e*P **P** **20 21 58.2 -2.1**
comp=Z,86nm,1.8s,mb5.4
BILL LR LR
comp=Z,5μm,21.0s,MS5.8
DHBB Dhamar BB 76.28 285⇓*i*P **P** **20 22 01.6 -0.4**
DHBB AMb AMB 20 22 02.8
comp=E,124nm,2.2s
MAW Mawson 76.77 199 *e*P **P** **20 22 05.0 +1.3**
MAW pmax pmax
comp=Z,81nm,1.0s
MAW Mawson 76.77 199 P **P** **20 22 04.8 +1.1**
comp=Z,12nm,0.8s,mb4.9,baz=54,slow=5.3,SNR=14
MAW S S 20 31 54.7 +8.5
comp=Z,1.9nm,0.4s,baz=179,slow=20,SNR=1.3
MAW LR LR 20 54 59.1
comp=Z,7μm,19.4s,MS6.0,baz=53,slow=35
MAW Mawson 76.77 199 *e*P **P** **20 22 04.1 +0.4**
comp=Z,80nm,1.0s,mb5.6
MAW LR LR
comp=Z,16μm,22.0s,MS6.3
MAK Makhachkala 78.03 314*d i*P **P** **20 22 17.0 +5.7**
MAK *i* pP 20 22 27.0 +2.7
MAK *e* 20 25 10.0
MAK *e*S S 20 32 06.0 +5.6
MAK *e*PS PS 20 32 50.0 +2.5
MAK pmax pmax
comp=Z,6μm,5.0s
MAK smax
comp=N,6μm,12.0s
MAK smax
comp=E,2μm,12.0s
MAK MLR MLR
comp=Z,2μm,18.0s,MS5.5
VNDA Vanda 79.45 171 P **P** **20 22 19.2 +0.8**
comp=Z,37nm,1.0s,mb5.3,baz=316,slow=6.1,SNR=13
VNDA LR LR 20 58 16.9
comp=Z,5μm,20.5s,MS5.8,baz=323,slow=36

GNI Garni 79.48 311 *e*P **P** **20 22 17.1 -2.2**
GNI pmax pmax
comp=Z,251nm,1.5s
GNI MLR MLR
comp=Z,3μm,20.0s
GNI Garni 79.48 311 P **P** **20 22 20.4 +1.1**
comp=Z,34nm,1.0s,mb5.2,baz=165,slow=7.3,SNR=12
GNI Garni 79.48 311 *e*P **P** **20 22 17.1 -2.2**
comp=Z,251nm,1.5s,mb5.9
GNI LR LR
comp=Z,3μm,20.0s,MS5.6
MTA Mtatsminda 79.74 313 P **P** **20 22 20.4 -0.2**
MTA S S 20 32 26.2 +7.7
TI2 Plekhanov 79.78 313⇓*i*P **P** **20 22 20.6 -0.2**
TI2 *i* pP 20 22 36.6 +2.7
TI2 *i* S S 20 32 28.0 +9.2
TI2 pmax pmax
comp=Z,600nm,1.5s,mb6.3
TI2 MLR MLR
comp=N,2μm,17.0s,MS5.7
TI2 MLR MLR
comp=E,2μm,17.0s,MS5.7
DUS Dusheti 79.88 313 P **P** **20 22 21.4 0.0**
MSL Mosul 80.11 307 *e*P **P** **20 22 23.0 +0.3**
MSL *i* PcP PcP 20 22 29.0 -1.3
MSL *e*S S 20 32 19.0 -3.5
MSL *e*SKS SKS 20 32 31.0 -0.5
MSL *e*sS 20 32 51.5
SBA Scott Base 80.43 171 *e*P **P** **20 22 24.1 +0.5**
SBA pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
SBA MLR MLR
comp=Z,5μm,20.0s,MS5.9
SBA Scott Base 80.43 171 *e*P **P** **20 22 24.1 +0.5**
comp=Z,5.8nm,0.6s,mb4.7
SBA LR LR
comp=Z,5μm,20.0s,MS5.9
RAR Rarotonga 80.55 111 P **P** **20 22 29.3 +4.0**
RAR Rarotonga 80.55 111 P **P** **20 22 27.7 +2.4**
ZEI Tsey 80.59 314 *e*P **P** **20 22 24.9 -0.2**
ZEI *i* 20 25 32.6
ZEI pmax pmax
comp=Z,199nm,1.5s,mb5.8
AKH Akhalkalaki 80.64 312 P **P** **20 22 26.1 +0.7**
GOF Gofitskoye 81.62 316*o i*P **P** **20 22 30.0 -0.5**
GOF *i* S S 20 32 48.0 +10
GOF pmax pmax
comp=Z,315nm,1.6s,mb6.0
GOF pmax pmax
comp=Z,6μm,5.0s
GOF smax
comp=E,4μm,8.0s
GOF MLR MLR
comp=Z,5μm,16.0s,MS6.0
KIV Kislovodsk 81.67 315 P **P** **20 22 34.8 +4.0**
comp=Z,398nm,1.4s,mb6.2,SNR=11
KIV Kislovodsk 81.67 315 *e*P **P** **20 22 31.8 +1.0**
KIV *e* 20 25 39.6
KIV *i* S S 20 32 43.9 +5.5
KIV *e*SS SS 20 38 00.3 +0.7
KIV pmax pmax
comp=Z,118nm,1.6s,mb5.6
KIV pmax pmax
comp=N,70nm,1.5s
KIV pmax pmax
comp=E,95nm,1.7s
KIV smax
comp=N,544nm,2.8s
KIV Kislovodsk 81.67 315 *e*P **P** **20 22 31.8 +1.0**
comp=N,118nm,1.6s,mb5.6
KIV *e* 20 25 39.6
KIV *i* S S 20 32 43.9 +5.5
KIV *e*SS SS 20 38 00.3 +0.7
KMBO Kilima Mbogo 82.60 269 *e*P **P** **20 22 36.3 +0.1**
KMBO pmax pmax
comp=Z,93nm,1.4s
KMBO MLR MLR
comp=Z,4μm,20.0s
KMBO Kilima Mbogo 82.60 269 P **P** **20 22 36.8 +0.7**
comp=Z,24nm,1.1s,mb5.1,baz=45,slow=5.7,SNR=20
KMBO LR LR 20 59 09.9
comp=Z,4μm,20.4s,MS5.8,baz=91,slow=36
KMBO Kilima Mbogo 82.60 269 *e*P **P** **20 22 36.3 +0.1**
comp=Z,93nm,1.4s,mb5.6
KMBO LR LR
comp=Z,4μm,20.0s,MS5.8
KIP Kipapa 83.11 68 PFAKE 20 22 50.0 +11
KIP LR LR
comp=Z,7μm,21.0s,MS6.0
SOC Sochi 83.74 314 *e*P **P** **20 22 40.1 -1.3**
SOC *i* S S 20 33 00.6 +1.2
SOC *e*SS SS 20 38 36.9 +7.0
SOC pmax pmax
comp=Z,43nm,0.9s,mb5.6
SOC pmax pmax
comp=N,12nm,1.0s
SOC pmax pmax
comp=E,23nm,1.2s
SOC MLR MLR
comp=Z,3μm,18.0s,MS5.8
SOC MLR MLR
comp=N,3μm,21.0s,MS5.9
SOC MLR MLR
comp=E,4μm,23.0s,MS5.9
SOC Sochi 83.74 314 *e*P **P** **20 22 40.1 -1.3**
comp=E,43nm,0.9s,mb5.6
SOC *i* S S 20 33 00.6 +1.2
SOC *e*SS SS 20 38 36.9 +7.0
SOC LR LR
comp=Z,3μm,18.0s,MS5.8
TNA Tin City 83.85 23 *e*P **P** **20 22 37.3 -4.1**
comp=Z,197nm,2.4s,mb5.8
MALT Malatya 84.07 309 P **P** **20 22 43.5 +0.3**
MALT pmax pmax
comp=Z,260nm,1.5s,mb6.1
MALT Malatya 84.07 309 *e*P **P** **20 22 42.5 -0.7**
comp=Z,258nm,1.5s,mb6.1
SDPT Sand Point 85.15 34 *e*P **P** **20 22 49.3 +1.2**
comp=Z,108nm,0.9s,mb6.0
VOR Voronezh 85.21 322⇑*i*P **P** **20 22 48.0 -0.5**
VOR *e* 20 33 20.5
VOR pmax pmax
comp=Z,120nm,1.2s,mb5.9
SYO Syowa Base 85.34 201⇑P **P** **20 22 50.4 +1.6**
SYO Syowa Base 85.34 201⇓PcP PcP 20 22 54.5 +2.2
SYO Syowa Base 85.34 201⇓pP pP 20 22 59.0 -3.0
ANN Anapa 85.52 315 *e*P **P** **20 22 49.6 -0.6**
EIL Elat 86.21 300 P **P** **20 22 55.1 +1.2**
comp=Z,300nm,1.3s,mb6.3,baz=102,slow=2.2,SNR=17
EIL Elat 86.21 300 *e*P **P** **20 22 54.3 +0.3**
comp=Z,803nm,1.5s,mb6.7
MOS Moscow 86.67 326 *e*P **P** **20 22 56.7 +1.1**
MOS *e* 20 26 18.5
MOS *e*S S 20 33 19.9 -7.7
MOS pmax pmax
comp=Z,655nm,1.8s,mb6.6
MOS pmax pmax
comp=Z,2μm,2.6s,mb6.9
OBN Obninsk 87.19 325⇓*i*P **P** **20 22 55.5 -2.6**
OBN *e* 20 26 18.0
OBN *e* 20 33 29.1
OBN pmax pmax
comp=Z,33nm,0.9s,mb5.6
OBN MLR MLR
comp=Z,5μm,20.0s,MS5.9
OBN Obninsk 87.19 325⇓*i*P **P** **20 22 55.5 -2.6**
comp=Z,33nm,0.9s,mb5.6
OBN *e* 20 26 18.0
OBN *e* 20 33 29.1
OBN LR LR
comp=Z,5μm,20.0s,MS5.9
SIM Simferopol' 87.88 315⇑*e*P **P** **20 23 02.3 +0.6**
SIM *e*S S 20 33 44.0 +4.6
SIM *e*PS tx 20 35 20.0
CSS Prodhromos 87.88 305 P **P** **20 23 01.1 -0.9**
comp=Z,299nm,1.4s,mb6.3
BR131 Keskin Array S 87.90 310 PFAKE 20 23 10.0 +8.1
BR131 LR LR
comp=Z,2μm,19.0s,MS5.6
BRTR Keskin Array B 87.90 310 P **P** **20 23 01.4 -0.5**
comp=Z,22nm,0.8s,mb5.4,baz=119,slow=3.5,SNR=60
QSPA South Pole Qui 88.67 180 *e*P **P** **20 23 05.6 +0.9**
comp=Z,123nm,1.3s,mb6.1
MBAR Mbarara 89.13 269 P **P** **20 23 08.2 -0.2**
MBAR pmax pmax

comp=Z,250nm,1.5s,mb6.3
MBAR Mbarara 89.13 269 *e*P **P 20 23 07.3 -1.0**
comp=Z,254nm,1.5s,mb6.3
MBAR LR LR
comp=Z,1μm,20.0s,MS5.4
LVZ Lovozero 89.36 338 P **P 20 23 10.4 +2.2**
comp=Z,825nm,1.5s,mb6.8,SNR=13
LVZ Lovozero 89.36 338 *e*P **P 20 23 09.3 +1.1**
LVZ *e* 20 26 36.8
LVZ *e*S S 20 33 54.2 +1.6
LVZ pmax pmax
comp=Z,200nm,1.2s,mb6.3
LVZ pmax pmax
comp=N,24nm,1.4s
LVZ pmax pmax
comp=E,45nm,1.4s
LVZ pmax pmax
comp=Z,2μm,3.1s
LVZ smax
comp=N,2μm,10.1s
LVZ MLR MLR
comp=Z,5μm,19.0s,MS6.0
IMA Indian Mountai 89.70 24 *e*P **P 20 23 13.6 +3.8**
IMA pmax pmax
comp=Z,72nm,1.3s,mb5.8
IMA Indian Mountai 89.70 24 *e*P **P 20 23 13.2 +3.4**
comp=Z,15nm,1.4s,mb5.1
RSO Redoubt South 89.79 30 P **P 20 23 10.8 +0.4**
APA Apatity 89.81 337⇓*e*P **P 20 23 10.2 -0.1**
APA *i* S S 20 34 05.0 +8.3
APA *i* SS SS 20 40 05.0 +6.8
APA pmax pmax
comp=Z,260nm,1.4s,mb6.4
APA MLR MLR
comp=Z,6μm,19.0s,MS6.1
TBI Tubuai 90.11 113 *e*SS SS 20 40 04.5 +0.9
TBI *e*LR LR 20 53 26.5
comp=Z,4μm,26.0s
PAE Paea 90.14 108 *e*P **P 20 23 21.5 +8.5**
comp=Z,226nm,1.3s,mb6.3
PPT Papeete 90.14 107 *e*P **P 20 23 21.7 +8.7**
comp=Z,109nm,1.5s,mb6.0
PPT Papeete 90.14 107 *e*SS SS 20 40 02.1 -2.1
PPT *e*LR LR 20 53 01.7
comp=Z,6μm,32.0s
TIAR Tiarei 90.36 107 *e*P **P 20 23 22.6 +8.6**
comp=Z,299nm,1.2s,mb6.5
TVO Taravao 90.45 108 *e*P **P 20 23 23.1 +8.7**
comp=Z,213nm,1.3s,mb6.3
JOF Joensuu 90.46 333 *e*p **P 20 23 12.7 -0.8**
comp=Z,104nm,1.4s,mb6.0
PUL Pulkovo 90.86 330 *e*P **P 20 23 14.9 -0.5**
PUL *e* 20 26 49.1
PUL *e*S S 20 33 59.1 -7.2
PUL pmax pmax
comp=Z,216nm,1.6s,mb6.2
PUL pmax pmax
comp=N,65nm,1.7s
PUL pmax pmax
comp=E,280nm,1.2s
PUL MLR MLR
comp=Z,8μm,20.0s,MS6.1
PUL Pulkovo 90.86 330 *e*P **P 20 23 14.9 -0.5**
comp=Z,216nm,1.6s,mb6.2
PUL *e* 20 26 49.1
PUL *e*S S 20 33 59.1 -7.2
PUL LR LR
comp=Z,8μm,20.0s,MS6.1
FIB Fire Island 91.08 29 PFAKE 20 23 30.0 +14
FIB LR LR
comp=Z,4μm,22.0s,MS5.8
PWA Palmer West 91.22 29 *e*P **P 20 23 14.9 -2.1**
PWA pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
PWA Palmer West 91.22 29 *e*P **P 20 23 14.9 -2.1**
comp=Z,4.3nm,0.6s,mb5.0
LSZ Lusaka 91.30 255 P **P 20 23 17.7 -0.8**
LSZ pmax pmax
comp=Z,98nm,1.6s,mb5.9
LSZ Lusaka 91.30 255 *e*P **P 20 23 16.6 -1.8**
comp=Z,98nm,1.6s,mb5.9
LSZ LR LR
comp=Z,7μm,20.0s,MS6.1
AKASG Malin Array Be 91.39 321 P **P 20 23 16.8 -1.2**
comp=Z,12nm,0.8s,mb5.3,baz=77,slow=3.9,SNR=26
AKASG PP PP 20 26 51.5 -6.8
comp=Z,1.4nm,0.8s,baz=63,slow=6.4,SNR=4.3
AKASG PKKPbc 20 40 44.9
comp=Z,3.2nm,0.7s,baz=271,slow=3.5,SNR=17
KIS Kishinev 91.64 317 *e*P **P 20 23 18.0 -1.3**
KIS *e* 20 27 03.0
KIS *e*S S 20 34 18.0 +4.5
KIS *e*PS PS 20 35 38.0 +4.5
KIS pmax pmax
comp=Z,108nm,1.7s,mb5.9
KIS MLR MLR
comp=N,2μm,24.0s,MS5.9
KIS MLR MLR
comp=E,5μm,24.0s,MS5.9
KIS MLR MLR
comp=Z,5μm,24.0s,MS5.9
KIS MLR MLR
comp=Z,4μm,24.0s
MCK McKinley 91.66 26 P **P 20 23 20.9 +1.9**
MCK pmax pmax
comp=Z,8.0nm,0.6s,mb5.2
MCK McKinley 91.66 26 *e*P **P 20 23 19.9 +0.9**
comp=Z,8.3nm,0.6s,mb5.2
MCK LR LR
comp=Z,2μm,22.0s,MS5.5
PMOR Pomariorio Ree 91.83 105 *e*P **P 20 23 29.4 +8.5**
comp=Z,104nm,1.2s,mb6.0
TIRR Tirgusor 91.93 314 P **P 20 23 24.1 +3.4**
SML Sawmill 91.96 28 P **P 20 23 24.4 +3.0**
SML Sawmill 91.96 28 *e*P **P 20 23 20.6 +0.2**
PSN Preselentsi 92.09 313 *e*P **P 20 23 23.0 +1.5**
COLA College 92.11 25 *e*P **P 20 23 22.6 +1.6**
COLA pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
COLA MLR MLR
comp=Z,3μm,21.0s,MS5.7
COLA College 92.11 25 *e*P **P 20 23 22.6 +1.6**
comp=Z,6.7nm,0.9s,mb5.0
COLA LR LR
comp=Z,3μm,21.0s,MS5.7
CFR Carcaliu 92.12 315 ⇓P **P 20 23 20.9 -0.7**
MNK Minsk 92.22 324 *e*P **P 20 23 18.0 -3.8**
HARR Harsova 92.27 314 P **P 20 23 23.3 +1.0**
ILAR Eielson Array 92.52 25 P **P 20 23 22.2 -0.7**
comp=Z,6.0nm,1.2s,mb4.9,baz=297,slow=3.2,SNR=7.8
ILAR PKKPbc 20 40 43.5
comp=Z,1.0nm,0.7s,baz=203,slow=1.6,SNR=5.9
ILAR PKPPKP 20 48 50.5
comp=Z,1.4nm,1.2s,baz=180,slow=1.4,SNR=4.7
ILAR LR LR 21 06 48.8
comp=Z,2μm,20.2s,MS5.6,baz=243,slow=37
ARCES ARCESS Array B 92.72 339 P **P 20 23 24.3 +0.5**
comp=Z,10.0nm,0.7s,mb5.3,baz=79,slow=6.2,SNR=14
ARCES LR LR 21 08 35.1
comp=Z,7μm,21.4s,MS6.0,baz=85,slow=38
ARCES ARCESS Array B 92.72 339 P **P 20 23 24.3 +0.5**
ARCES LR LR 21 08 35.1
ARE0 ARCESS Array S 92.72 339 *e*P **P 20 23 24.8 +1.1**
KAF Kangasniemi 92.79 332 *e*p **P 20 23 24.3 +0.1**
comp=Z,37nm,1.2s,mb5.7,baz=83,slow=4.1
KAF Kangasniemi 92.79 332 *e*P **P 20 23 24.3 +0.1**
KAF pmax pmax
comp=Z,37nm,1.2s,mb5.7
BRD Bordesti 92.90 315 ⇓P **P 20 23 27.7 +2.6**
FINES FINESS Array B 92.93 331 P **P 20 23 24.4 -0.5**
comp=Z,6.2nm,0.7s,mb5.1,baz=95,slow=5.7,SNR=14
FINES PP PP 20 27 10.0 -0.5
comp=Z,12nm,1.2s,baz=100,slow=12,SNR=4.1
FINES LR LR 21 10 19.9
comp=Z,3μm,20.7s,MS5.8,baz=273,slow=39
THY Trims Highway 93.09 27 P **P 20 23 25.4 -0.2**
VRI Vrincioaia 93.10 316 P **P 20 23 30.2 +4.1**
VRI Vrincioaia 93.10 316 ⇑P **P 20 23 25.5 -0.6**
DIV Divide 93.21 29 *e*P **P 20 23 27.1 +0.9**
comp=Z,113nm,1.4s,mb6.1
JMB Yambol 93.28 312 *e*P **P 20 23 27.0 0.0**
BOSA Boshof 93.46 241 PKKPdf 20 38 58.7
BOSA Boshof 93.46 241 P **P 20 23 28.8 +0.7**
BOSA pmax pmax
comp=Z,99nm,1.5s,mb6.0
BOSA Boshof 93.46 241 *e*P **P 20 23 27.4 -0.7**
comp=Z,100nm,1.6s,mb6.0
BOSA LR LR
comp=Z,11μm,20.0s,MS6.3
BUC1 Bucharest 93.64 314 P **P 20 23 31.8 +3.3**
MLR Muntele Rosu 93.66 315 P **P 20 23 27.8 -0.8**
comp=Z,18nm,1.0s,mb5.5,baz=38,slow=4.1,SNR=18
MLR PP PP 20 27 17.1 +0.4
comp=Z,12nm,1.0s,baz=64,slow=5.6,SNR=3.4
MLR LR LR 21 13 21.3
comp=Z,4μm,22.0s,MS5.8,baz=66,slow=40
SZH Strazhica 93.74 313 *e*P **P 20 23 30.0 +1.0**
SNX Sinaia 93.97 315 P **P 20 23 34.4 +4.4**
BURAR Bucovina Array 94.08 317⇑P **P 20 23 30.2 -0.2**
NVL N'lazarevskaya 94.70 198⇑*e*P **P 20 23 41.0 +8.3**
NVL *e* 20 27 26.0
NVL *e*S PS 20 36 07.0 +0.1
NVL pmax pmax
comp=Z,534nm,4.3s
NVL MLR MLR
comp=Z,5μm,20.0s,MS6.0
LVV L'vov 94.74 320 *e*P **P 20 23 36.5 +3.1**
LVV *e* 20 27 24.3
IDI Anoyia 94.80 305 P **P 20 23 35.1 +1.0**
comp=Z,12nm,0.8s,mb5.4,baz=40,slow=12,SNR=4.0
SUW Suwalki 94.97 324 P **P 20 23 33.1 -1.2**
SUW pmax pmax
comp=Z,200nm,1.2s,mb6.4
SUW Suwalki 94.97 324 *e*P **P 20 23 33.3 -1.0**
SUW *e*pP pP 20 23 37.7 -10
SUW Suwalki 94.97 324 *e*P **P 20 23 33.3 -1.1**
SUW *e*pP pP 20 23 37.7 -10
SUW MLR MLR 21 07 12.5
comp=Z,7μm,26.8s,MS6.0
PGB Panagyurishte 95.07 312 *e*P **P 20 23 37.0 +1.9**
MMB Musomiste 95.44 311 *e*P **P 20 23 37.0 +0.2**
KWP Kalwaria 95.61 320 *e*P **P 20 23 39.1 +1.7**
KWP *e*PP PP 20 27 23.4 -7.8
KWP Kalwaria 95.61 320 *e*P **P 20 23 39.1 +1.8**
KWP *e*PP PP 20 27 23.4 -7.8
KWP MLR MLR 21 14 14.7
comp=Z,6μm,22.8s,MS6.0
VTS Vitosha 95.77 313 P **P 20 23 40.8 +2.6**
VTS Vitosha 95.77 313 *e*P **P 20 23 35.0 -3.3**
DAWY Dawson 95.83 26 *e*P **P 20 23 37.2 -0.8**
KKB Krupnik 95.91 312 *e*P **P 20 23 37.0 -1.9**
KOLS Kolonicke sedl 95.96 319 *e*P **P 20 23 41.0 +2.1**
KOLS *e* 20 23 44.8
KOLS *e*PP tx 20 26 59.8
KOLS Kolonicke sedl 95.96 319 *e*pP **P 20 23 41.0 +2.1**
KOLS *e* 20 23 44.8
KOLS *e* 20 26 59.8
VAY Valandovo 96.33 311 *i* P **P 20 23 42.6 +1.8**
WAR Warsaw 96.43 322 *e*P **P 20 23 41.9 +0.9**
WAR MLR MLR 21 08 31.4
comp=Z,6μm,25.0s,MS5.9
CRVS Cervenica-Dubn 96.49 319 *e*P pP 20 23 46.8 -8.0
CRVS Cervenica-Dubn 96.49 319 *e*pP pP 20 23 46.8 -8.0
CRVS *e* 20 27 02.1
BOLS Boljevac 96.59 314⇓*i*P **P 20 23 44.6 +2.6**
SUR Sutherland 96.98 237 P **P 20 23 44.4 +0.3**
comp=Z,249nm,1.9s,mb6.3
SUR LR LR
comp=Z,4μm,21.0s,MS5.8
SKO Skopje 97.12 312 *e*P **P 20 23 46.6 +2.1**
SKO *i* PP PP 20 27 40.0 -3.5
KECS Kecovo 97.18 319 *e*P pP 20 23 50.2 -7.8
KECS Kecovo 97.18 319 *e*pP pP 20 23 50.2 -7.8
NIE Niedzica 97.19 320 *e*P **P 20 23 48.9 +4.3**
INK Inuvik 97.27 21 P **P 20 23 47.3 +2.8**
INK pmax pmax
comp=Z,10.0nm,1.0s
INK Inuvik 97.27 21 P **P 20 23 45.0 +0.5**
comp=Z,14nm,1.2s,mb5.3,baz=276,slow=8.1,SNR=12
INK LR LR 21 06 42.3
comp=Z,2μm,21.7s,MS5.6,baz=293,slow=35
INK Inuvik 97.27 21 *e*P **P 20 23 44.4 -0.2**
comp=Z,9.9nm,1.0s,mb5.2
OJC Ojcow 97.42 320 *e*P **P 20 23 47.4 +1.8**
OJC *i* 20 23 53.4
OJC *e* 20 27 47.2
OJC *e* 20 34 22.0
OJC *e*S S 20 35 08.5 +5.5
OJC MLR MLR
comp=Z,4μm,20.8s,MS5.9
OJC Ojcow 97.42 320 *e*P **P 20 23 47.4 +1.8**
OJC *e* 20 23 53.4
OJC *e*PP PP 20 27 47.2 +1.5
OJC ⇑*e*SKSa 20 34 22.0
OJC *e*S S 20 35 08.5 +5.5
OJC MLR MLR 21 14 10.4
comp=Z,4μm,20.8s,MS5.9
GRUS Gruza 97.49 314⇓*i*P **P 20 23 44.8 -1.2**
PSZ Piszkesteto 97.63 318 P **P 20 23 50.5 +3.9**
PSZ pmax pmax
comp=Z,90nm,1.8s,mb6.0
PSZ Piszkesteto 97.63 318 *e*P **P 20 23 46.7 +0.1**
comp=Z,90nm,1.8s,mb6.0
PSZ Piszkesteto 97.63 318⇑*e*P **P 20 23 49.8 +3.2**
DIVS Divcibare 97.98 314 *e*P **P 20 23 46.6 -1.7**
VYHS Vyhne 98.27 319 *e*P **P 20 23 52.5 +3.1**
VYHS *e* 20 27 17.2
OKC Ostrava-Krasne 98.53 320 *e*PDIF **P 20 23 54.8 +4.2**
OKC *e*S S 20 35 12.4 +0.1
OKC *e*x x 20 42 24.2
OKC AMS AMS 21 10 10.0
comp=Z,5μm,24.7s
GKP Gorka Klasztor 98.57 324 *e*P **P 20 23 53.8 +3.1**
GKP MLR MLR 21 09 41.5
comp=Z,6μm,22.8s,MS6.0
SNAA Sanae 98.63 196⇑*i*P **P 20 23 50.0 -0.6**
SNAA Sanae 98.63 196⇑*i* **P 20 24 02.0 +11**
SNAA Sanae 98.63 196 P **P 20 23 56.0 +5.4**
SNAA *e* pP 20 24 12.9 +8.9
SNAA pmax pmax
comp=Z,69nm,1.0s
SRO2 Moca 98.66 318 *e*P **P 20 23 55.5 +4.3**
SRO2 Moca 98.66 318 *e* **P 20 23 55.5 +4.3**
PKSM Moragy 98.69 316 *e*P **P 20 23 54.4 +3.0**
SRO Srobarova 98.70 318 *e*P **P 20 23 55.9 +4.5**
SRO Srobarova 98.70 318 *e* **P 20 23 55.9 +4.5**
SRO1 Iza 98.76 318 *e*P **P 20 23 55.8 +4.1**
SRO1 Iza 98.76 318 *e* **P 20 23 55.8 +4.1**
MORC Moravsky Berou 98.93 320 P **P 20 23 53.7 +1.3**
MORC pmax pmax
comp=Z,52nm,1.8s,mb5.8
MORC Moravsky Berou 98.93 320 *e*P **P 20 23 52.6 +0.2**
comp=Z,52nm,1.8s,mb5.8
SIT Sitka 99.09 32 PFAKE 20 24 00.0 +7.1
SIT LR LR
comp=Z,6μm,22.0s,MS6.0
HFS Hagfors 99.12 331 P **P 20 23 52.2 -0.8**
comp=Z,24nm,0.9s,mb5.7,baz=90,slow=1.5,SNR=12
HFS PP PP 20 28 01.5 +3.5
comp=Z,9.6nm,0.9s,baz=108,slow=9.4,SNR=4.3
ZST Bratislava 99.45 319 *e*P **P 20 23 58.9 +4.1**
ZST Bratislava 99.45 319 *e* **P 20 23 58.9 +4.1**
KSP Ksiaz 99.55 321 *e*P **P 20 23 53.6 -1.6**
KSP *e* 20 28 00.0
KSP *e* 20 34 33.0
KSP *e*S S 20 35 27.5 +6.7
KSP *e*SS SS 20 42 22.0 +5.9
KSP MLR MLR
comp=Z,11μm,23.2s,MS6.3
KSP Ksiaz 99.55 321 *e*P **P 20 23 53.6 -1.6**
KSP *e*pP pP 20 23 58.3 -10
KSP *e*PP PP 20 28 00.0 -1.7
KSP *e*SKS SKS 20 34 33.0 +4.3
KSP *e*S S 20 35 27.5 +6.7
KSP *e*SS SS 20 42 22.0 +5.9
KSP LR LR
comp=Z,11μm,23.2s,MS6.3
KSP Ksiaz 99.55 321 *e*P **P 20 23 59.3 +4.1**
KSP MLR MLR 21 10 32.9
comp=Z,8μm,23.5s,MS6.2
VRAC Vranov 99.61 320 P **P 20 23 57.7 +2.2**
comp=Z,25nm,1.4s,mb5.4,baz=54,slow=8.4,SNR=7.8
VRAC LR LR 21 17 06.8
comp=Z,3μm,20.9s,MS5.8,baz=186,slow=40
VRAC Vranov 99.61 320 *e*P **P 20 24 00.3 +4.8**
DPC Dobruska-Polom 99.61 321 *e*P **P 20 23 54.1 -1.4**
DPC *e*S S 20 35 31.4 +10
DPC *e*SS SS 20 42 26.2 +9.2
DPC MLR MLR
comp=Z,6μm,20.7s,MS6.1
DPC Dobruska-Polom 99.61 321 *e*PDIF **P 20 23 54.1 -1.4**
DPC *e*x x 20 28 13.1
DPC *e*SDIF 20 35 31.4
DPC *e*SS SS 20 42 26.2 +9.2
DPC AMS AMS 21 12 20.0
comp=Z,6μm,20.7s
TAOE Nuku Hiva Isla 99.66 99 *e*LR LR 20 57 34.9
UPC Upice 99.78 321 *e*PDIF **P 20 23 55.5 -0.8**
NB2 NORSAR Subarra100.07 332 P P 20 23 55.1 -2.3
comp=Z,94nm,1.7s,baz=75,slow=4.5
NB2 NORSAR Subarra100.07 332 P P 20 23 55.1 -2.3
baz=75,slow=4.6
NOA NORSAR Array B 100.07 332 P P 20 23 56.5 -0.8
comp=Z,12nm,0.9s,baz=75,slow=4.5,SNR=9.8
NOA PP PP 20 28 06.1 +0.5
comp=Z,12nm,1.1s,baz=69,slow=7.6,SNR=4.3
VNA2 Neumayer--Watz 100.27 195⇑*i*P P 20 24 06.2 +8.1
VNA2 Neumayer--Watz 100.27 195⇑*i* PP 20 28 00.2 -6.8
NAO01 NORSAR Array S 100.28 332 PFAKE 20 24 10.0 +12
NAO01 LR LR
comp=Z,8μm,19.0s,MS6.2
PVCC Panska Ves 100.68 321 *e*P P 20 24 04.8 +4.4
PVCC *e* 20 28 15.4
PVCC *e*SS SS 20 42 45.0 +13
PVCC MLR MLR
comp=Z,6μm,24.3s,MS6.0
PVCC Panska Ves 100.68 321 *e*PDIF P 20 24 04.8 +4.4
PVCC *e*PP PP 20 28 15.4 +4.6
PVCC *e*SDIF 20 35 43.3
PVCC *e*SS SS 20 42 45.0 +13
PVCC AMS AMS 21 11 00.0
comp=Z,6μm,24.3s
PRU Pruhonice 100.80 321 *e*P P 20 24 03.8 +2.9
PRU *e* 20 28 19.2
PRU *e*SS SS 20 42 46.4 +13
PRU MLR MLR
comp=Z,6μm,25.7s,MS6.0
PRU Pruhonice 100.80 321 *e*PDIF P 20 24 03.8 +2.9
PRU *e*x x 20 28 19.2
PRU *e*SDIF 20 35 45.5
PRU *e*SS SS 20 42 46.4 +13
PRU AMS AMS 21 10 40.0
comp=Z,6μm,25.7s
BRG Berggiesshubel 101.01 322 *e*P P 20 24 04.5 +2.7
BRG *e* 20 28 15.0
BRG *i* S S 20 35 38.0 +5.0
BRG pmax pmax
comp=Z,36nm,1.4s
BRG MLR MLR
comp=Z,7μm,24.9s,MS6.1
BRG Berggiesshubel 101.01 322 *e*P P 20 24 04.5 +2.7
comp=Z,36nm,1.4s
BRG *e*PP PP 20 28 15.0 +1.7
BRG *i* S S 20 35 38.0 +5.0
BRG *i* SS SS 20 42 22.0 -14
BRG LR LR
comp=Z,7μm,24.9s,MS6.1
PERS Pernice 101.04 317 *e*Pdiff P 20 24 06.5 +4.4
PERS *e*PP PP 20 28 15.8 +2.1
PERS *e* 20 35 39.8
PERS *e*SS SS 20 42 47.3 +10
BOJS Bojanci 101.14 316 *e*Pdiff P 20 24 07.3 +4.7
BOJS *e*PP PP 20 28 16.1 +1.7
BOJS *e*SS SS 20 42 49.8 +11
DAG Danmarks Havn 101.18 351⇑*e*P P 20 24 04.2 +2.1
DAG pmax pmax
comp=Z,16nm,1.2s
DAG MLR MLR
comp=Z,4μm,22.0s,MS5.9
DAG Danmarks Havn 101.18 351⇑*e*P P 20 24 04.2 +2.1
comp=Z,16nm,1.2s
DAG LR LR
comp=Z,4μm,22.0s,MS5.9
DAG Danmarks Havn 101.18 351⇑*i*P P 20 24 04.2 +2.1
comp=Z,16nm,1.2s
comp=Z,4μm,22.0s
KONO Kongsberg 101.24 331 PFAKE 20 24 10.0 +7.4
KONO LR LR
comp=Z,9μm,20.0s,MS6.3
CLL Collm 101.49 322 *i* P P 20 24 06.3 +2.3
CLL *e*S S 20 35 43.0 +5.9
CLL pmax pmax
comp=Z,19nm,1.5s
CLL MLR MLR
comp=Z,4μm,18.2s,MS6.0
CLL Collm 101.49 322 *i* P P 20 24 06.3 +2.3
comp=Z,19nm,1.5s
CLL *e*S S 20 35 43.0 +5.9
CLL LR LR
comp=Z,4μm,18.2s,MS6.0
CLL Collm 101.49 322 P P 20 24 06.3 +2.3
comp=Z,logA/T=1.1
CLL *e* 20 27 57.0
CLL *i* PP PP 20 28 17.7 +1.0
CLL *e* 20 30 01.0
CLL *e*S S 20 35 43.0 +5.9
CLL *e*PS PS 20 37 24.0 +5.4
CLL *e*PPS PPS 20 38 12.0 +3.3
CLL *e*SS SS 20 43 00.0 +17
CLL *e* 20 50 06.0
LJU Ljubljana 101.54 317 *e*Pdiff P 20 24 09.0 +4.7
LJU *e*PP PP 20 28 20.0 +2.8
LJU *e*Sdiff 20 35 46.2
GERES GERESS Array B 101.57 320 P P 20 24 03.4 -1.0
comp=Z,0.9nm,0.8s,baz=166,slow=4.0,SNR=3.1
GERES PP PP 20 28 09.9 -7.4
comp=Z,1.6nm,0.8s,baz=63,slow=3.0,SNR=4.2
GERES PKKPbc 20 40 17.2
comp=Z,1.0nm,1.1s,baz=180,slow=1.3,SNR=3.5
KHC Kasperske Hory 101.59 320 *e*P P 20 24 02.7 -1.8
KHC *e* 20 28 19.9
KHC *e*S S 20 35 39.4 +1.5
KHC *e*SS SS 20 42 59.8 +15
KHC MLR MLR
comp=Z,5μm,25.2s,MS6.0
KHC Kasperske Hory 101.59 320 *e*PDIF P 20 24 02.7 -1.8
KHC *e*x x 20 27 05.0
KHC *e*x x 20 27 51.5
KHC *e*PP PP 20 28 19.9 +2.4
KHC *e*SDIF 20 35 39.4
KHC *e*x x 20 42 59.8
KHC AMS AMS 21 11 30.0
comp=Z,5μm,25.2s
WET Wettzell 102.03 320 *e*P Pdif 20 24 10.2 +3.7
WET *e* 20 28 19.6
NKC Novy Kostel 102.07 321 *e*P Pdif 20 24 11.7 +5.1
NKC *e*SS SS 20 43 07.6 +16
NKC Novy Kostel 102.07 321 *e*PDIF Pdif 20 24 11.7 +5.1
NKC *e*x x 20 28 29.1
NKC *e*SDIF 20 35 57.2
NKC *e*x x 20 43 07.6
NKC AMS AMS 21 19 40.0
comp=Z,7μm,21.0s
MOX Moxa 102.50 322 *e*P Pdif 20 24 07.1 -1.4
MOX *e* 20 28 27.3
MOX pmax pmax
comp=Z,52nm,2.0s
MOX MLR MLR
comp=Z,4μm,22.0s,MS5.8
MOX Moxa 102.50 322 *e*P Pdif 20 24 07.1 -1.4
comp=Z,52nm,2.0s
MOX *e*PP PP 20 28 27.3 +3.0
MOX LR LR
comp=Z,4μm,22.0s,MS5.8
MOX Moxa 102.50 322 *i* P Pdif 20 24 07.1 -1.4
comp=Z,logA/T=1.4
MOX PP PP 20 28 27.0 +2.7
MOX L 21 18 52.0
CLZ Clausthal 102.96 323 *e*Pdif Pdif 20 24 14.2 +3.7
CLZ *e*PP PP 20 28 25.8 -2.2
GRA1 Grafenberg Arr 102.97 321 *e*Pdif Pdif 20 24 15.5 +4.9
GRA1 *e*PP PP 20 28 26.7 -1.4
GRA1 *e*SS SS 20 42 56.1 -7.9
GRA1 LR LR
comp=Z,7μm,21.2s,MS6.2
GRF Grafenberg Arr 102.97 321 *e*P Pdif 20 24 15.5 +4.9
GRF *e* 20 28 26.7
GRF MLR MLR
comp=Z,7μm,21.2s,MS6.2
GRF Grafenberg Arr 102.97 321 *e*P Pdif 20 24 15.5 +4.9
GRF *e* 20 28 26.7
GRF MLR MLR
comp=Z,7μm,21.2s,MS6.2

GRF Grafenberg Arr 102.97 321 *e*Pdif Pdif 20 24 15.5 +4.9
GRF *e*PP PP 20 28 26.7 -1.4
GRF *e*SS SS 20 42 56.1 -7.9
GRF LR LR
comp=Z,7μm,21.2s,MS6.2
FUR Furstenfeldbru 103.29 319 *e*P Pdif 20 24 16.2 +4.2
FUR *e* 20 28 27.9
DAVOX Davos 104.53 318 Pdiff Pdif 20 24 18.8 +1.2
comp=Z,7.4nm,1.2s,baz=166,slow=2.7,SNR=3.1
HAU Haudompre 106.52 320 *e*PP PP 20 28 36.5 -18
YKA Yellowknife Ar 106.81 23 Pdiff Pdif 20 24 32.5 +5.4
comp=Z,0.5nm,0.7s,baz=300,slow=4.6,SNR=6.5
YKA PKKPbc 20 39 55.9
comp=Z,0.6nm,0.8s,baz=108,slow=2.9,SNR=5.6
YKA PKKP PKKP 20 40 11.0 +12
comp=Z,0.5nm,0.9s,baz=112,slow=2.9,SNR=3.8
YKA Yellowknife Ar 106.81 23 Pdif Pdif 20 24 32.5 +5.3
YKA PKKPbc 20 39 55.9
YKA PKKP PKKP 20 40 11.1 +12
LPG La Plagne 106.97 317 *e*PP PP 20 28 37.2 -21
comp=Z,158nm,1.6s
PTCN Pitcairn Islan 107.53 117 PFAKE 20 28 50.0
PTCN LR LR
comp=Z,3μm,19.0s,MS5.9
OCWA Octopus Mounta 108.14 40 PFAKE 20 28 50.0
OCWA LR LR
comp=Z,6μm,22.0s,MS6.1
SMF Signal de Mont 108.56 319 *e*PP PP 20 28 40.5 -29
comp=Z,54nm,1.2s
ESK Eskdalemuir 109.27 330 PFAKE 20 28 50.0
ESK LR LR
comp=Z,2μm,22.0s,MS5.6
COR Corvallis 109.74 43 PFAKE 20 28 50.0
COR LR LR
comp=Z,1μm,22.0s,MS5.5
HUMO Hull Mountain 110.60 45 PFAKE 20 29 00.0 +17
HUMO LR LR
comp=Z,2μm,20.0s,MS5.8
BORG Borgarnes 110.74 343 PFAKE 20 28 50.0 +6.9
BORG LR LR
comp=Z,973nm,21.0s,MS5.4
YBH Yreka Blue Hor 111.04 45 PFAKE 20 29 00.0 +16
YBH LR LR
comp=Z,3μm,22.0s,MS5.9
WDC Whiskeytown Da 111.52 47 PFAKE 20 29 00.0 +15
WDC LR LR
comp=Z,7μm,21.0s,MS6.2
HOPS Hopland 111.60 48 PFAKE 20 29 00.0 +15
HOPS LR LR
comp=Z,5μm,22.0s,MS6.0
NEW Newport 112.34 37 PFAKE 20 29 00.0 +13
NEW LR LR
comp=Z,5μm,22.0s,MS6.1
MOD Modoc 112.69 45 PFAKE 20 29 00.0 +13
MOD LR LR
comp=Z,3μm,21.0s,MS5.8
SAO San Andreas Ge 113.47 50 PFAKE 20 29 00.0 +11
SAO LR LR
comp=Z,5μm,21.0s,MS6.0
WVOR Wild Horse Val 113.66 44 PFAKE 20 29 00.0 +11
WVOR LR LR
comp=Z,5μm,22.0s,MS6.0
CMB Columbia Colle 113.89 49 PFAKE 20 29 00.0 +10
CMB LR LR
comp=Z,4μm,22.0s,MS6.0
PMSA Palmer Station 114.05 178 PFAKE 20 29 00.0 +10
PMSA LR LR
comp=Z,4μm,20.0s,MS6.0
MSO Missoula 114.91 38 *e*PKPdf PKPdf 20 28 57.2 +5.5
NVAR Mina Array Bea 115.31 48 PP PP 20 30 04.1 +5.2
comp=Z,2.2nm,0.9s,baz=273,slow=6.2,SNR=3.5
NVAR PKKPab 20 39 38.4
comp=Z,2.3nm,0.9s,baz=106,slow=3.5,SNR=9.4
BMN Battle Mountai 115.39 45 PFAKE 20 29 00.0 +7.2
BMN LR LR
comp=Z,4μm,20.0s,MS6.1
MNV Mina 115.42 48 PFAKE 20 29 00.0 +7.1
MNV LR LR
comp=Z,2μm,19.0s,MS5.6
HLID Hailey 116.06 41 *e*PKPdf PKPdf 20 28 50.5 -3.5
HLID LR LR
comp=Z,3μm,21.0s,MS5.9
TPH Tonopah 116.24 48 PFAKE 20 29 10.0 +16
TPH LR LR
comp=Z,4μm,22.0s,MS6.0
ESDC Sonseca Array 116.34 314 PKP PKPdf 20 28 57.6 +3.0
comp=Z,1.1nm,0.8s,baz=63,slow=3.3,SNR=6.2
ESDC PP PP 20 30 05.7 -0.3
comp=Z,2.9nm,0.9s,baz=54,slow=7.7,SNR=6.8
ESDC PKKPab 20 39 41.5
comp=Z,1.3nm,0.9s,baz=253,slow=4.3,SNR=7.0
DAC Darwin (Calif) 116.57 50 PFAKE 20 29 10.0 +15
DAC LR LR
comp=Z,5μm,22.0s,MS6.1
FFC Flin Flon 116.73 26 PFAKE 20 29 10.0 +15
FFC LR LR
comp=Z,964nm,20.0s,MS5.4
BOZ Bozeman (W) 116.88 38 PKIKP PKPdf 20 28 58.6 +3.1
BOZ MLR MLR
comp=Z,4μm,22.0s,MS6.0
FRB Frobisher Bay 117.36 4 PKP PKPdf 20 28 57.2 +1.3
comp=Z,2.1nm,0.6s,baz=39,slow=6.5,SNR=3.4
PFO Pinyon Flat Ob 118.34 52 PFAKE 20 29 10.0 +11
PFO LR LR
comp=Z,707nm,21.0s,MS5.3
MTE Manteigas 118.56 316 *e*PP PP 20 30 19.8 -1.7
MTE *e*SS SS 20 46 36.5 +4.6
MTE *e*LQ 21 02 41.3
comp=Z,3μm,16.9s
AHID Auburn Hatcher 118.58 41 PFAKE 20 29 10.0 +11
AHID LR LR
comp=Z,4μm,22.0s,MS6.0
PCBR Castelo Branco 118.76 316 *e*PP PP 20 30 26.9 +4.0
HWUT Hardware Ranch 118.81 42 PFAKE 20 29 10.0 +11
HWUT LR LR
comp=Z,5μm,21.0s,MS6.1
NEN Nelson 118.88 49 *e*PKPdf PKPdf 20 29 01.9 +2.2
LAO LASA Array 119.55 35 *e*PKPdf PKPdf 20 29 01.2 +0.5
LAO LR LR
comp=Z,5μm,22.0s,MS6.1
BW06 Boulder Array 119.58 40 PFAKE 20 29 10.0 +9.1
BW06 LR LR
comp=Z,3μm,22.0s,MS5.8
PDAR Pinedale Array 119.58 40 PKKPbc 20 39 18.2
comp=Z,6.7nm,0.7s,baz=131,slow=6.0,SNR=13
DGMT Dagmar 119.63 32 PFAKE 20 29 10.0 +9.2
DGMT LR LR
comp=Z,3μm,19.0s,MS5.9
MVU Marysvale 119.71 45 PFAKE 20 29 10.0 +8.8
MVU LR LR
comp=Z,3μm,20.0s,MS6.0
MSU Marysvale 119.73 45 *e*PKIKP PKPdf 20 29 02.6 +1.3
PALC Alcoutim 119.73 313 *e*PKPdf PKPdf 20 29 04.1 +2.8
PALC *e*PP PP 20 30 28.5 -0.5
PBEJ Beja 119.79 314 *e*PKPdf PKPdf 20 29 06.9 +5.5
PBEJ *e*PP PP 20 30 31.3 +1.9
SRU San Rafael 120.64 44 PKIKP PKPdf 20 29 03.1 +0.1
WUAZ Wupatki 121.55 48 PKPdf PKPdf 20 29 08.2 +3.3
WUAZ LR LR
comp=Z,56μm,22.0s
TRIS Tristan da Cun 121.59 224 PFAKE 20 29 20.0 +15
TRIS LR LR
comp=Z,5μm,22.0s,MS6.1
PV01 Paradox Valley 122.44 44 *e*PKPdf PKPdf 20 29 08.1 +1.6
TUC Tucson 123.25 52 PFAKE 20 29 20.0 +12
TUC LR LR
comp=Z,2μm,22.0s,MS5.7
ISCO Idaho Springs 123.64 41 PFAKE 20 29 20.0 +11
ISCO LR LR
comp=Z,4μm,20.0s,MS6.1
DBIC Dimbokro 124.64 277 PKP PKPdf 20 29 12.8 +1.3
comp=Z,19nm,0.9s,baz=64,slow=1.9,SNR=13
DBIC Dimbokro 124.64 277 *e*PKPdf PKPdf 20 29 13.2 +1.8
DBIC LR LR
comp=Z,3μm,20.0s,MS6.0
SDCO Great Sand Dun 124.76 43 PFAKE 20 29 20.0 +9.0
SDCO LR LR
comp=Z,6μm,22.0s,MS6.2
ANMO Albuquerque 125.42 47 PKIKP PKPdf 20 29 14.2 +1.8
ANMO MLR MLR
comp=Z,2μm,21.0s
ANMO Albuquerque 125.42 47 PKP PKPdf 20 29 14.2 +1.9
comp=Z,1.3nm,0.8s,baz=297,slow=14,SNR=1.7
SCHQ Schefferville 126.33 5 PKP PKPdf 20 29 13.4 -0.1
comp=Z,3.0nm,0.7s,baz=24,slow=3.8,SNR=4.2
SCHQ Schefferville 126.33 5 PKP PKPdf 20 29 13.4 -0.1
SCHQ LR LR
comp=Z,7μm,21.0s,MS6.3
MNTX Cornudas Mount 127.69 50 PFAKE 20 29 30.0 +13
MNTX LR LR
comp=Z,3μm,22.0s,MS5.9
AMTX Amarillo 128.87 44 PFAKE 20 29 30.0 +11
AMTX LR LR
comp=Z,3μm,19.0s,MS6.0
JFWS Jewell Farm 130.56 29 PFAKE 20 29 30.0 +8.0
JFWS LR LR
comp=Z,5μm,22.0s,MS6.2
WMOK Wichita Mounta 130.95 43 PFAKE 20 29 30.0 +7.0
WMOK LR LR
comp=Z,6μm,21.0s,MS6.2
JCT Junction City 132.48 48 PFAKE 20 29 40.0 +14
JCT LR LR
comp=Z,3μm,22.0s,MS6.0
SADO Sadowa 133.53 19 PKP PKPdf 20 29 31.2 +3.6
comp=Z,10.0nm,0.7s,baz=355,slow=1.7,SNR=8.2
SADO Sadowa 133.53 19 PKP PKPdf 20 29 31.2 +3.6
CCM Cathedral Cave 133.56 34 PFAKE 20 29 40.0 +12
CCM LR LR
comp=Z,899nm,20.0s,MS5.5
FVM French Village 134.07 34 PKIKP PKPdf 20 29 31.7 +2.9
NATX Nacogdoches 135.48 44 PFAKE 20 29 40.0 +8.5
NATX LR LR
comp=Z,4μm,21.0s,MS6.2
ERPA Erie 135.58 21 PFAKE 20 29 40.0 +8.6
ERPA LR LR
comp=Z,5μm,20.0s,MS6.3
NCB Newcomb 135.67 15 PFAKE 20 29 40.0 +8.5
NCB LR LR
comp=Z,8μm,22.0s,MS6.4
HKT Hockley 135.68 46 PFAKE 20 29 40.0 +8.1
HKT LR LR
comp=Z,785nm,22.0s,MS5.4
ACSO Alum Creek Sta 136.01 25 PFAKE 20 29 40.0 +7.8
ACSO LR LR
comp=Z,5μm,20.0s,MS6.2
WCI Wyandotte Cave 136.07 30 PFAKE 20 29 40.0 +7.6
WCI LR LR
comp=Z,885nm,20.0s,MS5.5
PLCA Paso Flores 137.13 168 PKIKP PKPdf 20 29 34.4 +0.1
PLCA MLR MLR
comp=Z,3μm,21.0s
PLCA Paso Flores 137.13 168 PKP PKPdf 20 29 34.4 +0.1
comp=Z,1.7nm,0.8s,baz=212,slow=9.5,SNR=2.7
HRV Harvard--Oak R 137.68 13 PFAKE 20 29 50.0 +15
HRV LR LR
comp=Z,13μm,22.0s,MS6.6
LRAL Lakeview Retre 139.56 36 PFAKE 20 29 50.0 +11
LRAL LR LR
comp=Z,5μm,22.0s,MS6.2
CBN Corbin 139.97 21 PFAKE 20 29 50.0 +10
CBN LR LR
comp=Z,6μm,22.0s,MS6.3
TRQA Tornquist 140.83 178 *e*PKPdf PKPdf 20 29 42.0 +0.8
TRQA LR LR
comp=Z,6μm,21.0s,MS6.3
GOGA Godfrey 141.25 32 PFAKE 20 29 50.0 +8.0
GOGA LR LR
comp=Z,4μm,22.0s,MS6.2
NHSC New Hope 143.15 29 PFAKE 20 30 00.0 +17
NHSC LR LR
comp=Z,6μm,22.0s,MS6.3
LPA La Plata 143.96 183 *de*PKP PKPdf 20 29 46.0 -0.6
LPA PKIKP PKPdf 20 29 49.0 +2.4
LPA *e*SKP 20 33 18.0
comp=Z,6μm,24.0s
CLCH Cerro Calan 144.15 165 *i* P PKPbc 20 29 48.6 +2.2
FCH Farellones 144.28 165 *e*P PKPbc 20 29 50.1 +3.4
MDZ Mendoza 145.05 167 *e*PKIKP PKPdf 20 29 54.2 +5.6
CCIG Comitan 145.11 63 *i* P PKPdf 20 29 54.3 +5.2
DWPF Disney 146.41 35 PFAKE 20 30 00.0 +8.9
DWPF LR LR
comp=Z,978nm,22.0s,MS5.5
TEIG Tepich 146.65 54 PKPdf PKPdf 20 29 56.0 +4.3
TEIG LR LR
comp=Z,1μm,22.0s,MS5.7
TLL Tololo Astrono 147.12 163 *e*P PKPdf 20 29 57.5 +5.3
BBSR BB Station 148.76 7 PFAKE 20 30 10.0 +15
BBSR LR LR
comp=Z,4μm,21.0s,MS6.1
PAYG Puerto Ayora 149.78 93 PFAKE 20 30 10.0 +13
PAYG LR LR
comp=Z,3μm,20.0s,MS6.0
RCBR Riachuelo 154.81 254 *e*PKP PKPdf 20 30 09.9 +5.7
RCBR LR LR
comp=Z,6μm,20.0s,MS6.4
NNA Nana 158.80 129 *e*PKPdf PKPdf 20 30 07.1 -2.1
NNA LR LR
comp=Z,788nm,21.0s,MS5.5
BAO Brasilia Array 159.36 215 P PKPdf 20 30 13.1 +3.3
BAO *e* 20 30 19.0
LPAZ La Paz 160.85 156 *e*PKIKP PKPdf 20 30 14.7 +3.3
LPAZ *e* 20 30 57.1
LPAZ MLR MLR
comp=Z,3μm,22.0s
LPAZ La Paz 160.85 156 PKP PKPdf 20 30 15.7 +4.3
comp=Z,13nm,0.9s,baz=3.0,slow=1.6,SNR=28
LPAZ PKPab PKPab 20 30 58.0 +1.8
comp=Z,11nm,0.7s,baz=119,slow=0.9,SNR=7.1
LPAZ PP PP 20 34 46.8 +6.5
comp=Z,9.4nm,1.3s,baz=217,slow=6.2,SNR=3.7
OTAV Otavalo 161.65 93 *e*PKPdf PKPdf 20 30 15.1 +2.8
OTAV LR LR
comp=Z,3μm,22.0s
SJG San Juan 162.25 19 PKP PKPdf 20 30 13.6 +0.9
comp=Z,15nm,1.1s,baz=333,slow=16,SNR=2.1
SJG PKPab PKPab 20 31 03.1 +0.7
comp=Z,13nm,0.9s,baz=275,slow=6.1,SNR=4.8
SDV Santo Domingo 167.09 54 PKP PKPdf 20 30 18.1 +0.8
comp=Z,6.7nm,1.0s,baz=115,slow=1.8,SNR=6.0

IDC ***23*** *20:15:55.5±1.1,0.98S×120.25E,mb4.2/6,mb1 4.4/6, mb1mx4.1/17,mbtmp4.2/6,Error ellipse: s-maj=94.0km s-min=20.6km az=59.0*
NEIC ***23*** *20:16:00.1±0.6,0.92S×120.36E,h30km,mb4.7/4,Error ellipse: s-maj=50.2km s-min=11.6km az=60.0*
ISC 23 20:15:58.8±0.7,0.9S±0.2×120.4E±0.3,h33km,n11, σ1§01/11,mb4.4/10,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.37**	**145**	P	**P**	**20 21 04.7**	**-0.8**
	11nm,0.9s,mb4.3,baz=325,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**26.18**	**151**	P	**P**	**20 21 33.1**	**+0.7**
	3.5nm,0.9s,mb3.9,baz=332,slow=8.1,SNR=2.8						
CMAR	**Chiang Mai Arr**	**28.52**	**313**	P	**P**	**20 21 52.4**	**-1.3**
	1.5nm,0.8s,mb3.8,baz=139,slow=7.0,SNR=4.2						
CMAR				PcP	PcP	20 25 03.3	-1.7
	1.0nm,0.8s,baz=138,slow=2.2,SNR=4.3						
STKA	**Stephens Creek**	**36.78**	**149**	P	**P**	**20 23 05.8**	**+0.4**
LSA	**Lhasa**	**41.26**	**320**	*e*P	**P**	**20 23 43.8**	**+1.1**
	7.0nm,0.7s,mb4.4						
ULN	**Ulaanbaatar**	**49.91**	**348**	*e*P	**P**	**20 24 52.5**	**+1.2**
	3.0nm,0.6s,mb4.5						
SONM	**Songino Array**	**50.02**	**348**	P	**P**	**20 24 52.9**	**+0.7**
	2.8nm,0.6s,mb4.5,baz=168,slow=8.9,SNR=7.2						
ZAL	**Zalesovo**	**62.05**	**337**	P	**P**	**20 26 19.4**	**+1.0**
	2.7nm,1.0s,mb4.3,baz=159,slow=2.0,SNR=3.1						
KURK	**Kurchatov**	**62.45**	**331**	*e*P	**P**	**20 26 20.3**	**-0.8**
	16nm,1.2s,mb5.0						
YAK	**Yakutsk**	**63.13**	**5**	*e*P	**P**	**20 26 23.7**	**-1.8**
	5.5nm,0.6s,mb4.9						
BVAR	**Borovoye Array**	**67.89**	**330**	P	**P**	**20 26 55.5**	**-0.6**
	3.5nm,1.1s,mb4.3,baz=124,slow=5.2,SNR=2.2						

BJI ***23*** *20:19:06.5,51.11N×177.04W,h32km,mb5.3*
IDC ***23*** *20:19:09.7±0.5,51.68N×176.80W,h42km±4km,mb4.2/23, mb1 4.3/24,mb1mx4.2/29,mbtmp4.4/24,ML4.3/1,Error ellipse: s-maj=16.2km s-min=10.4km az=163.0*
NEIC ***23*** *20:19:09.1±0.3,51.46N×176.79W,mb4.7/17, ML4.4(AEIC),Error ellipse: s-maj=7.2km s-min=4.7km az=172.0*
NEIC Felt [III] on Adak.
ISC 23 20:19:07.4±0.3,51.43N±0.06×176.79W±0.05,h39km, h39km±1.4km:pP-P,n95,σ1§19/92,mb4.6/47,1C, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.43**	**321**	P	**P**	**20 19 20.0**	**+2.8**
KIWB	**Kanaga Island**	**0.48**	**332**	P	**P**	**20 19 20.5**	**+2.7**
KIKV	**Kanaga Island**	**0.51**	**333**	P	**P**	**20 19 20.9**	**+2.7**
ADAG	**Mount Adagdak**	**0.57**	**12**	P	**P**	**20 19 20.8**	**+1.8**
GSTD	**Great Sitkin T**	**0.75**	**32**	P	**P**	**20 19 23.1**	**+1.7**
GSMY	**Great Sitkin M**	**0.77**	**36**	P	**P**	**20 19 23.3**	**+1.6**
GSIG	**Igitkin Island**	**0.78**	**44**	P	**P**	**20 19 23.2**	**+1.3**
GSTR	**Great Sitkin T**	**0.81**	**34**	P	**P**	**20 19 24.2**	**+1.9**
ATKA	**Atka Island**	**1.79**	**63**	P	**P**	**20 19 37.3**	**+1.0**
ATKA				S	**S**	**20 19 57.7**	**-0.3**
FX1	**Attu Island--F**	**6.35**	**287**	P	**P**	**20 20 42.4**	**+1.5**
	22nm,0.3s,baz=190,slow=10,SNR=14						
FX1				S	**S**	**20 21 53.5**	**+0.4**
	8.1nm,0.3s,baz=244,slow=23,SNR=2.4						
FX1	**Attu Island--F**	**6.35**	**287**	*e*P	**P**	**20 20 41.9**	**+1.0**
UNV	**Unalaska Valle**	**6.71**	**65**	P	**P**	**20 20 46.8**	**+0.8**
SPIA	**Saint Paul Isl**	**6.92**	**31**	P	**P**	**20 20 48.1**	**-0.8**
WTUG	**Tugumak**	**8.21**	**60**	P	**P**	**20 21 07.0**	**+0.2**
DOL	**Dolgoi Island**	**9.68**	**62**	P	**P**	**20 21 27.2**	**+0.1**
ANM	**Nome**	**14.46**	**20**	*e*P	**P**	**20 22 34.3**	**+3.4**
SVW2	**Sparrevohn**	**15.18**	**42**	*e*P	**P**	**20 22 44.5**	**+4.3**
KDAK	**Kodiak Island**	**15.35**	**56**	*e*P	**P**	**20 22 44.8**	**+2.3**
	57nm,0.4s						
SPU	**Mount Spurr**	**16.74**	**45**	*e*P	**P**	**20 23 01.7**	**+1.6**
SLKM	**Skilak Lake**	**17.31**	**48**	*e*P	**P**	**20 23 07.0**	**-0.3**
IMA	**Indian Mountai**	**18.77**	**30**	*e*P	**P**	**20 23 24.1**	**-1.2**
ILAR	**Eielson Array**	**20.43**	**38**	P	**P**	**20 23 41.7**	**-1.8**
	4.6nm,0.6s,baz=243,slow=7.2,SNR=18						
ILAR				PcP	PcP	20 27 50.8	-3.9
	3.7nm,1.1s,baz=298,slow=5.7,SNR=6.7						
INK	**Inuvik**	**26.70**	**35**	P	**P**	**20 24 42.1**	**-2.2**
	3.6nm,0.4s,mb4.2,baz=230,slow=7.5,SNR=15						
INK				PcP	PcP	20 28 06.0	-1.5
	8.4nm,0.9s,baz=250,slow=1.3,SNR=7.0						
ASAJ	**Asahikawa**	**27.96**	**271**	P	**P**	**20 24 57.0**	**+0.9**
	15nm,1.0s,mb4.6,baz=353,slow=5.4,SNR=4.7						
YKA	**Yellowknife Ar**	**34.28**	**47**	P	**P**	**20 25 49.6**	**-1.8**
	2.5nm,0.7s,mb4.3,baz=284,slow=8.1,SNR=21						
YKA				PcP	PcP	20 28 26.6	-0.7
	3.1nm,0.6s,baz=288,slow=2.9,SNR=29						
YKA				ScP		20 32 05.9	
	0.6nm,0.7s,baz=291,slow=3.1,SNR=4.6						
YBH	**Yreka Blue Hor**	**37.63**	**83**	P	**P**	**20 26 21.7**	**+1.7**
	5.2nm,0.9s,mb4.2,baz=345,slow=6.8,SNR=5.5						
NEW	**Newport**	**37.68**	**71**	*e*P	**P**	**20 26 20.1**	**-0.3**
	18nm,0.9s,mb4.8						
EDM	**Edmonton**	**37.69**	**62**	*e*P	**P**	**20 26 19.2**	**-1.1**
MOD	**Modoc**	**39.02**	**81**	*e*P	**P**	**20 26 33.0**	**+1.4**
	5.3nm,0.8s,mb4.3						
WALA	**Waterton Lakes**	**39.19**	**68**	*e*P	**P**	**20 26 32.8**	**-0.1**
	10nm,1.0s,mb4.5						
BMO	**Blue Mountains**	**39.27**	**76**	*e*P	**P**	**20 26 33.4**	**-0.2**
	2.9nm,0.6s,mb4.2						
WVOR	**Wild Horse Val**	**39.76**	**80**	*e*P	**P**	**20 26 38.6**	**+1.0**
	8.1nm,0.9s,mb4.5						
OHCM	**Honcut**	**39.77**	**85**	*e*P	**P**	**20 26 38.6**	**+0.8**
BOZ	**Bozeman (W)**	**42.25**	**71**	*e*P	**P**	**20 26 58.1**	**0.0**
	3.6nm,0.9s,mb4.0						
NVAR	**Mina Array Bea**	**42.30**	**84**	P	**P**	**20 26 59.6**	**+1.1**
	2.9nm,0.8s,mb3.9,baz=298,slow=6.5,SNR=13						
NVAR				PcP	PcP	20 28 52.5	+0.1
	2.0nm,0.7s,baz=296,slow=1.6,SNR=8.1						
LKWY	**Lake**	**43.57**	**72**	*e*P	**P**	**20 27 09.8**	**+0.9**
	7.0nm,0.8s,mb4.4						
LAO	**LASA Array**	**44.85**	**67**	*e*P	**P**	**20 27 18.1**	**-1.1**
	24nm,0.8s,mb5.1						
BW06	**Boulder Array**	**45.09**	**73**	*e*P	**P**	**20 27 20.9**	**-0.3**
	9.9nm,0.8s,mb4.7						
BW06				*e*pP	pP	20 27 32.0	-0.3
PDAR	**Pinedale Array**	**45.09**	**73**	P	**P**	**20 27 21.6**	**+0.4**
	8.8nm,0.7s,mb4.7,baz=315,slow=3.3,SNR=67						
PDAR				pP	pP	20 27 32.5	+0.3
	5.4nm,0.6s,baz=315,slow=4.2,SNR=11						
MSU	**Marysvale**	**46.04**	**80**	*e*P	**P**	**20 27 29.3**	**+0.5**
TMUT	**Trail Mountain**	**46.16**	**78**	*e*P	**P**	**20 27 30.7**	**+1.0**
SRU	**San Rafael**	**46.69**	**78**	*e*P	**P**	**20 27 33.8**	**-0.1**
SONM	**Songino Array**	**47.75**	**298**	P	**P**	**20 27 41.8**	**-0.2**
	1.4nm,0.8s,mb4.0,baz=54,slow=6.6,SNR=11						
SONM				PcP	PcP	20 29 10.4	-0.7
	4.6nm,0.7s,baz=67,slow=2.0,SNR=24						
SONM				ScP		20 32 59.3	
	0.5nm,0.7s,baz=38,slow=3.4,SNR=3.3						
PV10	**Paradox Valley**	**48.06**	**78**	*e*P	**P**	**20 27 45.0**	**+0.4**
WUAZ	**Wupatki**	**48.44**	**83**	*e*P	**P**	**20 27 48.3**	**+0.8**
	107nm,0.7s,mb6.0						
PV01	**Paradox Valley**	**48.49**	**78**	*e*P	**P**	**20 27 48.1**	**+0.2**
RW3	**Ridgway**	**48.96**	**77**	*e*P	**P**	**20 27 51.6**	**+0.1**
SDCO	**Great Sand Dun**	**50.61**	**76**	*e*P	**P**	**20 28 04.3**	**0.0**
	12nm,1.3s,mb4.7						
ANMO	**Albuquerque**	**51.84**	**80**	P	**P**	**20 28 13.8**	**+0.3**
	0.6nm,0.4s,mb3.9,baz=340,slow=8.3,SNR=3.6						
LPM	**Los Pinos Moun**	**52.16**	**80**	*e*P	**P**	**20 28 16.0**	**+0.1**
FRB	**Frobisher Bay**	**52.32**	**32**	P	**P**	**20 28 14.4**	**-2.3**
	5.9nm,0.4s,mb4.9,baz=309,slow=8.2,SNR=20						
MNTX	**Cornudas Mount**	**54.70**	**82**	*e*P	**P**	**20 28 34.4**	**-0.4**
	7.0nm,0.9s,mb4.7						
XAN	**Xi'an**	**54.88**	**282**	P	**P**	**20 28 35.4**	**-0.6**
XAN				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.1						
ZAL	**Zalesovo**	**54.92**	**314**	PcP	PcP	20 29 37.0	-0.5
	comp=Z,1.2nm,0.5s,baz=68,slow=9.5,SNR=4.3						
KSU1	**Kansas State U**	**55.05**	**69**	*e*P	**P**	**20 28 35.4**	**-1.8**
WMOK	**Wichita Mounta**	**56.67**	**75**	*e*P	**P**	**20 28 47.7**	**-1.2**
ENH	**Enshi**	**57.12**	**279**	*e*P	**P**	**20 28 50.7**	**-1.4**
	comp=Z,16nm,0.8s,mb5.1						
TXAR	**Lajitas Array**	**57.40**	**83**	P	**P**	**20 28 53.7**	**-0.5**
	comp=Z,5.3nm,0.7s,mb4.7,baz=305,slow=5.7,SNR=79						
TXAR				PcP	PcP	20 29 47.7	+0.2
	comp=Z,2.7nm,0.8s,baz=306,slow=1.4,SNR=4.8						
TXAR	**Lajitas Array**	**57.40**	**83**	P	**P**	**20 28 53.7**	**-0.5**
TXAR				PcP	PcP	20 29 47.7	+0.2
ARCES	**ARCESS Array B**	**58.25**	**351**	P	**P**	**20 28 57.4**	**-2.1**
	comp=Z,1.4nm,0.6s,mb4.2,baz=18,slow=7.7,SNR=6.7						
ARCES	**ARCESS Array B**	**58.25**	**351**	P	**P**	**20 28 57.4**	**-2.1**
SCHQ	**Schefferville**	**59.18**	**39**	P	**P**	**20 29 03.2**	**-2.9**
	comp=Z,2.1nm,0.7s,mb4.3,baz=8.6,slow=7.3,SNR=6.0						
SADO	**Sadowa**	**60.80**	**54**	P	**P**	**20 29 14.9**	**-2.5**
	comp=Z,4.2nm,0.5s,mb4.8,baz=1.4,slow=8.4,SNR=5.2						
USIN	**University of**	**60.97**	**65**	*e*P	**P**	**20 29 16.9**	**-1.8**
USIN				*e*pP	pP	20 29 26.5	-3.7
BVAR	**Borovoye Array**	**61.66**	**321**	P	**P**	**20 29 21.8**	**-1.3**
	comp=Z,4.5nm,0.6s,mb4.8,baz=54,slow=6.3,SNR=32						
BVAR				pP	pP	20 29 34.4	-0.2
	comp=Z,1.8nm,0.7s,baz=60,slow=6.1,SNR=3.8						
BVAR				PcP	PcP	20 30 03.1	-1.0
	comp=Z,1.7nm,0.5s,baz=76,slow=3.2,SNR=4.7						
WVT	**Waverly**	**62.16**	**66**	*e*PKHKP	**P**	**20 29 24.7**	**-2.0**
WVT				*e*	pP	20 29 35.4	-2.9
WVT				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.8						
WVT	**Waverly**	**62.16**	**66**	*e*P	**P**	**20 29 24.7**	**-2.0**
	comp=Z,5.2nm,0.6s,mb4.8						
WVT				*e*	pP	20 29 35.4	-2.8
OXF	**Oxford**	**62.39**	**69**	*e*PKHKP	**P**	**20 29 26.9**	**-1.4**
OXF				*e**PP	pP	20 29 37.5	-2.3
OXF				pmax	pmax		
	comp=Z,31nm,0.7s,mb5.5						
OXF	**Oxford**	**62.39**	**69**	*e*P	**P**	**20 29 26.9**	**-1.4**
	comp=Z,31nm,0.7s,mb5.5						
OXF				*e*pP	pP	20 29 37.5	-2.4
MIV	**Mineville/With**	**64.09**	**51**	P	**P**	**20 29 38.9**	**-0.3**
KMI	**Kunming**	**64.96**	**279**	P	**P**	**20 29 45.3**	**+0.1**
FINES	**FINESS Array B**	**66.01**	**348**	P	**P**	**20 29 50.1**	**-1.2**
	comp=Z,1.6nm,0.8s,mb4.1,baz=27,slow=6.2,SNR=3.6						
NOA	**NORSAR Array B**	**67.70**	**356**	P	**P**	**20 30 00.2**	**-1.7**
	comp=Z,0.8nm,0.7s,mb3.9,baz=5.7,slow=6.5,SNR=2.9						
HFS	**Hagfors**	**68.47**	**354**	P	**P**	**20 30 05.0**	**-1.8**
	comp=Z,2.8nm,0.8s,mb4.4,slow=4.4,SNR=6.8						
LSA	**Lhasa**	**68.61**	**291**	*e*P	**P**	**20 30 08.7**	**+0.6**
	comp=Z,3.4nm,0.4s,mb4.6						
CM31	**Chiang Mai Arr**	**72.26**	**277**	*e*P	**P**	**20 30 29.3**	**-1.1**
	comp=Z,2.2nm,0.6s,mb4.3						
CMAR	**Chiang Mai Arr**	**72.26**	**277**	P	**P**	**20 30 30.6**	**+0.2**
	comp=Z,4.4nm,0.7s,mb4.5,baz=27,slow=7.1,SNR=33						
CMAR				pP	pP	20 30 43.4	+1.2
	comp=Z,2.1nm,0.7s,baz=26,slow=6.3,SNR=5.1						
JIRN	**Jiri**	**73.01**	**293**	*e*P	**P**	**20 30 35.0**	**+0.3**
	comp=Z,23nm,0.7s,mb5.2						
KKN	**Kakani**	**73.44**	**294**	*e*P	**P**	**20 30 36.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DMN	**Daman**	**73.67**	**294**	eP	**P**	**20 30 38.8**	**+0.2**
	comp=Z,17nm,1.0s,mb4.9						
KOLN	**Koldanda**	**74.41**	**295**	eP	**P**	**20 30 42.3**	**-0.5**
	comp=Z,5.7nm,0.7s,mb4.6						
WB2	**Warramunga Arr**	**82.93**	**226**	eP	**P**	**20 31 30.1**	**+0.7**
WRA	**Warramunga Arr**	**82.93**	**226**	P	**P**	**20 31 29.8**	**+0.4**
	comp=Z,2.5nm,0.5s,mb4.5,baz=33,slow=5.8,SNR=17						
WRA				pP	pP	20 31 42.5	+1.1
	comp=Z,1.7nm,0.7s,baz=37,slow=6.2,SNR=5.1						
HYB	**Hyderabad**	**85.37**	**292**	i P	**P**	**20 31 42.0**	**+0.3**
BRTR	**Keskin Array B**	**85.41**	**337**	P	**P**	**20 31 41.2**	**-0.2**
	comp=Z,2.9nm,0.8s,mb4.5,baz=53,slow=2.6,SNR=11						
FITZ	**Fitzroy Crossi**	**85.50**	**234**	eP	**P**	**20 31 44.1**	**+1.8**
	comp=Z,36nm,0.4s,mb5.8						
ASAR	**Alice Springs**	**86.39**	**224**	P	**P**	**20 31 48.0**	**+1.4**
	comp=Z,5.2nm,0.8s,mb4.8,baz=24,slow=4.7,SNR=26						
ASAR				pP	pP	20 32 00.3	+1.7
	comp=Z,3.1nm,0.8s,baz=29,slow=4.7,SNR=9.9						
STKA	**Stephens Creek**	**90.66**	**214**	P	**P**	**20 32 08.5**	**+1.7**
	comp=Z,4.6nm,0.8s,mb4.9,baz=6.1,slow=6.2,SNR=10.0						
STKA				pP	pP	20 32 21.1	+2.1
	comp=Z,3.4nm,0.7s,baz=325,slow=8.5,SNR=5.3						
STKA	**Stephens Creek**	**90.66**	**214**	P	**P**	**20 32 08.5**	**+1.7**
STKA				pP	pP	20 32 21.1	+2.1
DBIC	**Dimbokro**	**121.72**	**9**	PKP	PKPdf	20 37 57.1	-0.2
	comp=Z,2.2nm,0.5s,baz=327,slow=2.9,SNR=11						
KMBO	**Kilima Mbogo**	**122.27**	**319**	PKP	PKPdf	20 37 59.9	+1.4
	comp=Z,1.1nm,0.6s,baz=30,slow=24,SNR=6.6						
QSPA	**South Pole Qui**	**141.18**	**180**	⇑iP	PKPdf	20 38 36.9	+4.9
MAW	**Mawson**	**147.29**	**218**	PKPbc	PKPdf	20 38 47.4	+4.7
	comp=Z,11nm,0.8s,baz=20,slow=1.3,SNR=12						

IDC 23 20:28:31.0±2.0**,13.37N×126.73E,mb3.7**/3**,mb1 3.9**/3**,mb1mx3.6**/18**,mbtmp3.7**/3**,Error ellipse: s-maj=262.0km s-min=24.6km az=73.0,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.94**	**167**	P	P	20 35 16.6	-1.7
	1.1nm,0.4s,baz=348,slow=8.9,SNR=8.6						
ASAR	**Alice Springs**	**37.47**	**169**	P	P	20 35 45.9	-2.3
	0.3nm,0.5s,baz=353,slow=13,SNR=5.2						
SONM	**Songino Array**	**38.31**	**338**	P	P	20 35 53.4	-1.6
	0.8nm,0.7s,baz=162,slow=8.3,SNR=8.8						

IDC 23 20:34:00.5±1.3,19.13N×121.70E,mb3.6/5,mb1 3.8/5,mb1mx3.5/20,mbtmp3.6/5,Error ellipse: s-maj=89.1km s-min=22.4km az=83.0

ISC 23 20:34:08.0±1.5**,19.1N**±0.1×**121.3E**±0.2**,h78km**±15km**,n12,**σ**1s25**/14**,mb3.4**/5**,1D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.15**	**140**	eP	**P**	**20 34 28.6**	**-0.4**
APYP	**Conner**	**1.26**	**181**	eP	**P**	**20 34 28.2**	**-2.3**
APYP				eS	**S**	**20 34 46.7**	**-0.6**
ABRA	**Dolores**	**1.56**	**200**	eP	**P**	**20 34 30.4**	**-4.2**
CAUP	**Cauayan**	**2.23**	**166**	eP	**P**	**20 34 46.2**	**+2.5**
PALP	**Palanan**	**2.33**	**152**	eP	**P**	**20 34 45.7**	**+0.7**
BCPH	**Baguio City Da**	**2.81**	**194**	⇓iP	**P**	**20 34 50.8**	**-1.0**
BCPH				i S	**S**	**20 35 25.9**	**+1.4**
BALP	**Baler**	**3.38**	**175**	eP	**P**	**20 35 01.2**	**+1.4**
SONM	**Songino Array**	**31.09**	**340**	P	**P**	**20 40 21.4**	**+0.4**
	0.5nm,0.9s,mb3.2,baz=153,slow=9.7,SNR=2.8						
WRA	**Warramunga Arr**	**40.89**	**161**	P	**P**	**20 41 42.1**	**-2.0**
	0.5nm,0.5s,mb3.6,baz=342,slow=8.9,SNR=5.4						
WRA				PcP	PcP	20 43 45.5	+1.4
	0.6nm,0.8s,baz=341,slow=3.4,SNR=4.4						
ASAR	**Alice Springs**	**44.28**	**163**	P	**P**	**20 42 11.6**	**-0.3**
	0.8nm,0.9s,mb3.5,baz=346,slow=6.7,SNR=9.6						
ILAR	**Eielson Array**	**73.67**	**27**	P	**P**	**20 45 34.5**	**-0.1**
	1.0nm,1.1s,mb3.5,baz=286,slow=6.0,SNR=4.3						
INK	**Inuvik**	**77.87**	**22**	P	**P**	**20 45 59.1**	**+0.8**
	0.4nm,0.5s,mb3.4,baz=300,slow=10.0,SNR=3.9						

BJI 23 20:36:06.2,2.59N×94.35E,h31km,mB6.0,mb5.0,Ms5.6,Msz4.9

MOS 23 20:36:07.3±1.0,2.71N×94.34E,h33km,mb5.2/27,Error ellipse: s-maj=10.8km s-min=6.1km az=112.6

IDC 23 20:36:07.9±0.5,2.72N×94.33E,h24km±2km,mb4.3/19,mb1 4.4/20,mb1mx4.4/25,mbtmp4.5/20,ML4.4/1,Error ellipse: s-maj=21.3km s-min=10.4km az=44.0

HRVD 23 20:36:08.1±0.6,2.66N×94.31E,h17km±2km,MW5.2/39, Centroid moment Tensor Solution. LP body waves: s1,c1; Mantle waves: s39,c65; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.62±.75; $M_{\theta\theta}$-0.89±.47; $M_{\phi\phi}$-0.72±.56; $M_{r\theta}$-0.65±1.53; $M_{\theta\phi}$6.77±.37; $M_{\phi r}$3.24±1.58; Best double couple: $M_0$7.53×10^{16} NP1:ϕ_s90°,δ63°,λ5°. NP2:ϕ_s358°,δ86°,λ153°. Principal axes: T 6.709, Plg22°, Azm310°; N 1.645, Plg62°, Azm169°; P -8.351, Plg16°, Azm47°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC 23 20:36:08.1±0.2,2.71N×94.34E,mb5.0/25 Error ellipse: s-maj=7.8km s-min=5.0km az=45.0

ISC 23 20:36:06.2±0.3**,2.72N**±0.04×**94.36E**±0.04**,h26km,h26km**±.5km**:pP-P,n180,**σ**1s05**/157**,mb4.9**/66**,MS5.7**/2**,4C-13D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.65**	**54**	P	**Pn**	**20 37 58.0**	**-0.8**
	650nm,1.0s						
NST	**Nakhon Sawan**	**14.07**	**23**	P	**P**	**20 39 25.8**	**-0.6**
PALK	**Pallekele**	**14.34**	**289**	eP	**P**	**20 39 28.5**	**-1.4**
	51nm,0.9s						
KKTK	**Khon Kaen**	**15.89**	**31**	P	**P**	**20 39 50.0**	**0.0**
	926nm,0.8s						
CM31	**Chiang Mai Arr**	**16.27**	**16**	eP	**P**	**20 39 53.5**	**-1.4**
	26nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.27**	**16**	Pn	**P**	**20 39 53.7**	**-1.2**
	0.5nm,0.3s,baz=200,slow=10,SNR=42						
CHG	**Chiang Mai**	**16.61**	**15**	⇑P	**P**	**20 39 57.5**	**-1.7**
	84nm,1.0s						
CHRT	**Chiangrai**	**17.85**	**17**	⇓P	**P**	**20 40 12.5**	**-2.2**
	287nm,1.2s						
KOD	**Kodaikanal**	**18.36**	**295**	eP	**P**	**20 40 17.6**	**-3.5**
KOD				e		20 40 26.2	
	comp=Z,63nm,1.7s						
KOD				e		20 40 29.9	
VIS	**Vishakhapatnam**	**18.43**	**325**	eP	**P**	**20 40 22.9**	**+1.0**
VIS				e		20 40 30.1	
	comp=Z,87nm,1.4s						
HYB	**Hyderabad**	**21.31**	**314**	eP	**P**	**20 40 54.0**	**+0.5**
HYB	**Hyderabad**	**21.31**	**314**	i P	**P**	**20 40 54.0**	**+0.5**
	comp=Z,71nm,1.2s,mb4.9						
HYB				e		20 41 03.0	
IMP	**Imphal**	**21.94**	**359**	eP	**P**	**20 40 58.1**	**-1.7**
QIZ	**Qiongzhong**	**22.19**	**42**	P	**P**	**20 41 04.5**	**+2.2**
BLSP	**Bilaspur**	**22.66**	**329**	eP	**P**	**20 41 07.5**	**+0.5**
SHL	**Shillong**	**22.84**	**354**	eP	**P**	**20 41 08.0**	**-0.8**
SHL				e		20 41 09.7	
	comp=Z,50nm,1.2s						
SHL				i S	**S**	**20 45 14.0**	**+1.9**
NGP	**Nagpur**	**23.62**	**322**	eP	**P**	**20 41 15.3**	**-1.1**
KMI	**Kunming**	**23.69**	**19**	P	**P**	**20 41 19.2**	**+2.2**
KMI				*PP		20 41 26.9	
KMI				pmax	pmax		
	comp=Z,30nm,1.7s,mb4.5						
KMI	**Kunming**	**23.69**	**19**	P	**P**	**20 41 19.2**	**+2.2**
	comp=Z,30nm,1.7s,mb4.5						
KMI				pP		20 41 26.9	
GOA	**Goa**	**23.89**	**303**	eP	**P**	**20 41 15.2**	**-3.8**
GOA				e		20 41 31.6	
	comp=Z,79nm,1.6s						
KAD	**Karad**	**24.55**	**308**	e		20 41 35.0	
POO	**Poona**	**25.51**	**309**	e	pP	20 41 44.8	+2.8
JIRN	**Jiri**	**26.00**	**343**	eP	**P**	**20 41 39.5**	**+0.4**
	comp=Z,90nm,0.7s,mb5.4						
PKI	**Pulchoki**	**26.16**	**342**	eP	**P**	**20 41 40.7**	**+0.2**
	comp=Z,98nm,1.0s,mb5.3						
BHPL	**Bhopal**	**26.18**	**323**	eP	**P**	**20 41 42.5**	**+1.8**
BHPL				e	pP	20 41 51.5	+3.3
	comp=Z,33nm,1.3s						
DMN	**Daman**	**26.29**	**341**	eP	**P**	**20 41 41.4**	**-0.3**
	comp=Z,79nm,0.8s,mb5.3						
KKN	**Kakani**	**26.40**	**342**	eP	**P**	**20 41 42.9**	**+0.2**
	comp=Z,156nm,1.2s,mb5.4						
BOM	**Bombay**	**26.52**	**309**	eP	**P**	**20 41 38.7**	**-5.2**
BOM				e		20 41 40.8	
	comp=Z,91nm,1.6s						
GKN	**Gorkha**	**26.80**	**341**	eP	**P**	**20 41 45.8**	**-0.6**
	comp=Z,136nm,1.0s,mb5.4						
KOLN	**Koldanda**	**26.95**	**339**	eP	**P**	**20 41 47.7**	**-0.1**
	comp=Z,86nm,0.9s,mb5.3						
LSA	**Lhasa**	**27.01**	**354**	eP	**P**	**20 41 49.9**	**+1.6**
LSA				pmax	pmax		
	comp=Z,80nm,1.1s,mb5.2						
LSA	**Lhasa**	**27.01**	**354**	eP	**P**	**20 41 49.9**	**+1.6**
	comp=Z,80nm,1.1s,mb5.2						
NDI	**New Delhi**	**30.55**	**329**	eP	**P**	**20 42 18.7**	**-1.5**
NDI				e		20 42 22.1	
	comp=Z,31nm,1.1s						
DDI	**Dehra Dun**	**31.50**	**332**	eP	**P**	**20 42 28.9**	**+0.4**
SMLA	**Simla**	**32.59**	**332**	e	pP	20 42 51.0	+5.5
SMLA				e		20 43 02.4	
	comp=Z,76nm,1.4s						
WHN	**Wuhan**	**33.52**	**32**	P	**P**	**20 42 47.0**	**+0.9**
XAN	**Xi'an**	**34.00**	**22**	P	**P**	**20 42 48.8**	**-1.4**
XAN				AP	pP	20 42 56.5	-1.3
XAN				AMB	AMB		
	comp=Z,131nm,1.6s,mb5.6						
MBWA	**Marble Bar**	**34.36**	**135**	eP	**P**	**20 42 52.8**	**-0.5**
	comp=Z,1.8nm,0.5s,mb4.3						
FITZ	**Fitzroy Crossi**	**37.11**	**125**	eP	**P**	**20 43 16.4**	**-0.3**
	comp=Z,19nm,0.4s,mb5.3						
NJ2	**Nanjing**	**37.18**	**36**	eP	**P**	**20 43 18.5**	**+1.3**
NJ2				AP	pP	20 43 28.4	+3.6
NJ2				XP	sP	20 43 32.9	+4.8
NJ2				PP	PP	20 44 49.8	+5.4
NJ2				S	**S**	**20 49 10.0**	**+8.2**
NJ2				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,1µm,4.7s						
NJ2				LR	LR		
	comp=N,7µm,18.4s,MS5.6						
NJ2				LR	LR		
	comp=E,5µm,13.5s,MS5.6						
NJ2				LR	LR		
	comp=Z,8µm,15.8s,MS5.6						
SSE	**Sheshan**	**37.92**	**39**	eP	**P**	**20 43 24.5**	**+1.1**
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,3µm,12.0s						
SSE	**Sheshan**	**37.92**	**39**	eP	**P**	**20 43 24.5**	**+1.1**
	comp=Z,35nm,0.7s,mb5.2						
WMQ	**Urumqi**	**41.35**	**353**	P	**P**	**20 43 53.0**	**+1.3**
NWAO	**Narrogin (SRO)**	**41.53**	**150**	P	**P**	**20 43 54.1**	**+0.7**
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**41.53**	**150**	P	**P**	**20 43 54.0**	**+0.7**
	comp=Z,7.0nm,0.7s,mb4.4,slow=4.0,SNR=4.8						
NWAO	**Narrogin (SRO)**	**41.53**	**150**	eP	**P**	**20 43 54.0**	**+0.6**
BJT	**Baijiatuau**	**42.06**	**25**	eP	**P**	**20 43 58.8**	**+1.1**
BJT				e	pP	20 44 06.9	+1.5
BJT				pmax	pmax		
	comp=Z,22nm,0.8s						
BJT	**Baijiatuau**	**42.06**	**25**	eP	**P**	**20 43 58.8**	**+1.1**
	comp=Z,22nm,0.8s,mb4.8						
BJT				e	pP	20 44 06.8	+1.5
BJI	**Beijing**	**42.09**	**25**	P	**P**	**20 43 59.8**	**+2.0**
BJI				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.6						
BJI	**Beijing**	**42.09**	**25**	P	**P**	**20 43 59.8**	**+2.0**
	comp=Z,15nm,1.0s,mb4.6						
KZA	**Kyzart**	**42.77**	**339**	P	**P**	**20 44 05.2**	**+1.8**
	SNR=7.0						
UCH	**Uchtor**	**43.17**	**338**	P	**P**	**20 44 07.7**	**+1.1**
	SNR=15						
KBK	**Karagaybulak**	**43.38**	**339**	P	**P**	**20 44 09.1**	**+0.7**
	SNR=18						
TKM2	**Tokmak 2**	**43.39**	**340**	P	**P**	**20 44 09.8**	**+1.4**
	SNR=8.8						
AML	**Almayashu**	**43.39**	**338**	P	**P**	**20 44 09.5**	**+1.0**
	SNR=16						
AAK	**Ala-Archa**	**43.53**	**339**	P	**P**	**20 44 11.2**	**+1.6**
	SNR=8.5						
AAK	**Ala-Archa**	**43.53**	**339**	⇓eP	**P**	**20 44 10.0**	**+0.5**
AAK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
AAK	**Ala-Archa**	**43.53**	**339**	eP	**P**	**20 44 09.2**	**-0.3**
	comp=Z,33nm,1.4s,mb4.9						
EKS2	**Erkin-Say**	**43.81**	**338**	P	**P**	**20 44 13.1**	**+1.3**
	SNR=8.3						
USP	**Ospenovka**	**44.08**	**339**	P	**P**	**20 44 14.2**	**+0.2**
	SNR=20						
MK02	**Makanchi Array**	**45.12**	**348**	P	**P**	**20 44 22.7**	**+0.4**
MK02				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.3						
WRA	**Warramunga Arr**	**45.24**	**122**	P	**P**	**20 44 23.8**	**+0.2**
	comp=Z,2.7nm,0.6s,mb4.3,baz=300,slow=8.8,SNR=23						
WRAB	**Tennant Creek**	**45.25**	**122**	eP	**P**	**20 44 23.6**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,71nm,1.5s,mb5.3						
WRAB	**Tennant Creek**	**45.25**	**122**	eP	**P**	**20 44 23.6**	**-0.1**
	comp=Z,71nm,1.5s,mb5.3						
WB2	**Warramunga Arr**	**45.25**	**122**	eP	**P**	**20 44 24.0**	**+0.3**
SONM	**Songino Array**	**46.13**	**11**	P	**P**	**20 44 30.6**	**+0.3**
	comp=Z,8.2nm,1.1s,mb4.6,baz=192,slow=8.8,SNR=36						
SONM				PcP	PcP	20 46 07.2	+0.6
	comp=Z,1.9nm,0.9s,baz=188,slow=4.4,SNR=3.9						
SONM				pPcP		20 46 15.0	
	comp=Z,4.2nm,0.7s,baz=190,slow=3.8,SNR=8.3						
KS15	**Wonju Array Si**	**46.27**	**37**	eP	**P**	**20 44 32.4**	**+0.9**
ULN	**Ulaanbaatar**	**46.29**	**12**	eP	**P**	**20 44 31.2**	**-0.4**
ULN				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
ULN	**Ulaanbaatar**	**46.29**	**12**	eP	**P**	**20 44 31.2**	**-0.3**
	comp=Z,16nm,1.2s,mb4.8						
ASPA	**Alice Springs**	**46.57**	**127**	eP	**P**	**20 44 34.5**	**+0.4**
ASAR	**Alice Springs**	**46.57**	**127**	P	**P**	**20 44 34.5**	**+0.4**
	comp=Z,1.6nm,0.5s,mb4.2,baz=294,slow=7.8,SNR=32						
ASAR				PcP	PcP	20 46 08.6	+0.1
	comp=Z,1.5nm,0.7s,baz=297,slow=4.0,SNR=5.7						
ASAR				pPcP		20 46 16.5	
	comp=Z,1.2nm,0.6s,baz=300,slow=3.7,SNR=4.0						
SNY	**Shenyang**	**46.93**	**30**	⇑P	**P**	**20 44 37.0**	**+0.3**
SNY				AMB	AMB		
	comp=Z,30nm,1.7s,mb5.0						
ZAK	**Zakamensk**	**48.09**	**8**	eP	**P**	**20 44 45.1**	**-0.6**
ZAK				e		20 46 20.6	
MOY	**Mondy**	**49.10**	**5**	eP	pP	20 45 00.7	-0.6
TLY	**Talaya**	**49.41**	**8**	eP	**P**	**20 44 57.1**	**+1.2**
TLY				e	pP	20 45 04.9	+1.2
KURK	**Kurchatov**	**49.64**	**347**	eP	**P**	**20 44 57.8**	**+0.1**
KURK				e	pP	20 45 06.0	+0.5
KURK				pmax	pmax		
	comp=Z,65nm,1.6s,mb5.4						
KURK	**Kurchatov**	**49.64**	**347**	eP	**P**	**20 44 57.8**	**+0.2**
	comp=Z,65nm,1.6s,mb5.4						
KURK				e	pP	20 45 06.0	+0.5
ZAL	**Zalesovo**	**51.66**	**353**	P	**P**	**20 45 14.0**	**+1.1**
	comp=Z,6.2nm,1.0s,mb4.5,baz=288,slow=6.9,SNR=35						
ZAL				pP	pP	20 45 21.7	+0.9
	comp=Z,15nm,0.5s,baz=289,slow=6.7,SNR=32						
MDJ	**Mudanjiang**	**52.00**	**32**	P	**P**	**20 45 14.9**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,2µm,14.3s						
NVS	**Novosibirsk**	**52.74**	**352**	⇓iP	**P**	**20 45 20.2**	**-0.9**
NVS				i S	**S**	**20 52 46.9**	**+1.0**
NVS				i PS	ScS	20 55 10.8	+5.1
NVS				pmax	pmax		
	comp=Z,47nm,1.1s,mb5.3						
NVS				pmax	pmax		
	comp=N,44nm,1.4s						
NVS				pmax	pmax		
	comp=E,18nm,1.1s						
NVS				smax			
	comp=N,22nm,1.9s						
BVA0	**Borovoye Array**	**53.92**	**342**	P	**P**	**20 45 29.1**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BVAR	**Borovoye Array**	**53.92**	**342**	P	**P**	**20 45 28.9**	**-0.9**
	comp=Z,4.6nm,0.7s,mb4.5,baz=143,slow=7.4,SNR=26						
BVAR				pP	pP	20 45 37.0	-0.6
	comp=Z,16nm,0.7s,baz=145,slow=8.4,SNR=32						
PMG	**Port Moresby**	**53.96**	**104**	P	**P**	**20 45 29.4**	**-1.2**
	comp=Z,6.0nm,0.8s,mb4.6,baz=315,slow=19,SNR=2.7						
PMG				pP	pP	20 45 38.0	-0.5
	comp=Z,23nm,1.1s,baz=326,slow=8.9,SNR=3.8						
BRVK	**Borovoye**	**53.98**	**342**	eP	**P**	**20 45 29.0**	**-1.2**
BRVK				e	pP	20 45 37.4	-0.7
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
BRVK	**Borovoye**	**53.98**	**342**	eP	**P**	**20 45 29.0**	**-1.2**
	comp=Z,5.5nm,0.7s,mb4.6						
BRVK				e	pP	20 45 37.4	-0.7
CHKZ	**Chkalovo**	**54.42**	**343**	eP	**P**	**20 45 32.4**	**-1.0**
CHKZ				e	pP	20 45 40.9	-0.4
CHKZ				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.3						
CHKZ	**Chkalovo**	**54.42**	**343**	eP	**P**	**20 45 32.4**	**-1.0**
	comp=Z,38nm,0.9s,mb5.3						
CHKZ				e	pP	20 45 40.9	-0.4
CTA	**Charters Tower**	**55.71**	**116**	P	**P**	**20 45 42.0**	**-1.3**
	comp=Z,10nm,1.0s,mb4.8,baz=245,slow=13,SNR=3.0						
CTA				pP	pP	20 45 51.0	-0.2
	comp=Z,15nm,0.9s,baz=265,slow=7.3,SNR=3.9						
CTAO	**Charters Tower**	**55.71**	**116**	eP	**P**	**20 45 43.6**	**+0.3**
CTAO				e	pP	20 45 51.4	+0.2
KLR	**Kul'dur**	**56.23**	**29**	eP	**P**	**20 45 43.8**	**-2.8**
KLR				e	pP	20 45 52.2	-2.3
KLR				pmax	pmax		
	comp=E,30nm,1.2s						
KLR				pmax	pmax		
	comp=Z,47nm,1.2s,mb5.4						
STKA	**Stephens Creek**	**56.48**	**131**	P	**P**	**20 45 48.4**	**-0.2**
	comp=Z,3.3nm,0.6s,mb4.6,baz=291,slow=6.1,SNR=17						
BOD	**Bodaibo**	**57.09**	**12**	eP	**P**	**20 45 51.5**	**-1.2**
BOD				e	pP	20 45 59.3	-1.3
KMBO	**Kilima Mbogo**	**57.22**	**267**	P	**P**	**20 45 54.7**	**+0.5**
	comp=Z,2.4nm,0.8s,mb4.3,baz=57,slow=11,SNR=8.3						
GNI	**Garni**	**58.24**	**317**	P	**P**	**20 46 01.4**	**+0.4**
GNI				e		20 46 07.3	
GNI	**Garni**	**58.24**	**317**	P	**P**	**20 46 01.6**	**+0.6**
	comp=Z,9.5nm,1.0s,mb4.8,baz=251,slow=17,SNR=2.3						
TI2	**Plekhanov**	**58.96**	**318**	⇓iP	**P**	**20 46 05.6**	**-0.4**
CLNS	**Chul'man**	**59.19**	**19**	eP	**P**	**20 46 05.7**	**-1.6**
CLNS				pmax	pmax		
	comp=N,20nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.3						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.8s						
ASAJ	**Asahikawa**	**59.21**	**39**	P	**P**	**20 46 07.5**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,15nm,1.3s						
ASAJ	**Asahikawa**	**59.21**	**39**	P	**P**	**20 46 07.5**	**-0.2**
	comp=Z,15nm,1.3s,mb4.8,baz=247,slow=13,SNR=2.0						
ZEI	**Tsey**	**59.99**	**319**	eP	**P**	**20 46 12.6**	**-0.5**
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
SVE	**Sverdlovsk**	**60.26**	**339**	eP	**P**	**20 46 08.4**	**-6.3**
SVE				pmax	pmax		
	comp=Z,60nm,1.5s,mb5.4						
ARU	**Arti**	**60.71**	**338**	⇓iP	**P**	**20 46 11.5**	**-6.3**
ARU				e		20 48 29.5	
ARU				eS	**S**	**20 54 24.9**	**-6.3**
ARU				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.2						
YSS	**Yuzh-Sakhalins**	**60.75**	**36**	⇓iP	**P**	**20 46 18.8**	**+0.6**
YSS				e	pP	20 46 26.8	+0.6
KIV	**Kislovodsk**	**61.32**	**320**	eP	**P**	**20 46 20.6**	**-1.5**
KIV				e	pP	20 46 27.3	-2.8
KIV				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
KIV	**Kislovodsk**	**61.32**	**320**	eP	**P**	**20 46 20.6**	**-1.5**
	comp=Z,20nm,1.0s,mb5.2						
KIV				e	pP	20 46 27.3	-2.8
MALT	**Malatya**	**62.02**	**312**	eP	**P**	**20 46 26.7**	**-0.2**
MALT				e	pP	20 46 35.3	+0.4
MALT				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
MALT	**Malatya**	**62.02**	**312**	eP	**P**	**20 46 26.7**	**-0.2**
	comp=Z,9.2nm,0.9s,mb4.9						
MALT				e	pP	20 46 35.3	+0.4
EIL	**Elat**	**62.25**	**302**	P	**P**	**20 46 28.9**	**+0.3**
	comp=Z,3.9nm,0.9s,mb4.5,baz=22,slow=19,SNR=2.1						
YAK	**Yakutsk**	**64.80**	**18**	eP	**P**	**20 46 43.9**	**-0.9**
YAK				e	pP	20 46 52.0	-0.8
YAK				pmax	pmax		
	comp=Z,53nm,1.1s,mb5.5						
YAK	**Yakutsk**	**64.80**	**18**	eP	**P**	**20 46 43.9**	**-0.9**
	comp=Z,53nm,1.1s,mb5.5						
YAK				e	pP	20 46 52.0	-0.8
ANN	**Anapa**	**65.09**	**319**	eP	pP	20 46 59.4	+4.4
ANN				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.5						
BRTR	**Keskin Array B**	**66.00**	**313**	P	**P**	**20 46 51.4**	**-1.5**
	comp=Z,2.4nm,0.8s,mb4.3,baz=134,slow=5.3,SNR=11						
BRTR				pP	pP	20 46 60.0	-1.0
	comp=Z,4.8nm,0.8s,baz=132,slow=7.2,SNR=14						
LSZ	**Lusaka**	**67.84**	**252**	eP	**P**	**20 47 04.5**	**-0.5**
LSZ				e	pP	20 47 12.9	-0.1
LSZ				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.6						
LSZ	**Lusaka**	**67.84**	**252**	eP	**P**	**20 47 04.5**	**-0.5**
	comp=Z,9.0nm,1.4s,mb4.6						
LSZ				e	pP	20 47 12.9	-0.1
OBN	**Obninsk**	**69.85**	**329**	⇓eP	**P**	**20 47 13.3**	**-3.4**
OBN				i	pP	20 47 21.7	-3.0
OBN				e		20 47 36.6	
OBN				e		20 49 50.0	
OBN				eS	S	20 56 19.9	-3.4
OBN				pmax	pmax		
	comp=Z,47nm,1.9s,mb5.1						
OBN				MLR	MLR		
	comp=Z,5µm,20.0s,MS5.8						
TIRR	**Tirgusor**	**71.07**	**316**	⇓P	**P**	**20 47 23.5**	**-0.8**
MA2	**Magadan**	**71.23**	**27**	eP	**P**	**20 47 25.3**	**+0.3**
MA2				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
CFR	**Carcaliu**	**71.45**	**317**	⇓P	**P**	**20 47 25.2**	**-1.4**
HARR	**Harsova**	**71.46**	**316**	⇓P	**P**	**20 47 26.5**	**-0.2**
KIS	**Kishinev**	**71.49**	**319**	eP	**P**	**20 47 24.0**	**-2.8**
KIS				e	pP	20 47 33.0	-1.8
KIS				e		20 47 39.0	
TIXI	**Tiksi**	**72.22**	**11**	⇑iP	**P**	**20 47 30.2**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,77nm,1.4s,mb5.4						
AKASG	**Malin Array Be**	**72.34**	**323**	P	**P**	**20 47 30.0**	**-1.7**
AKASG				*PP	pP	20 47 38.4	-1.4
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKASG	**Malin Array Be**	**72.34**	**323**	P	**P**	**20 47 29.9**	**-1.8**
	comp=Z,1.8nm,0.7s,mb4.1,baz=96,slow=4.4,SNR=13						
AKASG				pP	pP	20 47 38.4	-1.4
	comp=Z,5.1nm,0.7s,baz=90,slow=4.8,SNR=14						
VRI	**Vrincioaia**	**72.58**	**317**	⇓P	**P**	**20 47 33.1**	**-0.2**
MLR	**Muntele Rosu**	**73.03**	**317**	⇓P	**P**	**20 47 36.3**	**+0.4**
BURAR	**Bucovina Array**	**74.02**	**319**	⇓P	**P**	**20 47 41.4**	**-0.3**
JOF	**Joensuu**	**75.58**	**335**	ep	**P**	**20 47 48.7**	**-1.6**
BZS	**Buzias**	**76.02**	**316**	⇑P	**P**	**20 47 46.5**	**-6.7**
KWP	**Kalwaria**	**76.10**	**321**	eP	**P**	**20 47 53.7**	**+0.2**
KWP				e	pP	20 48 01.9	+0.2
KWP				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
KWP	**Kalwaria**	**76.10**	**321**	eP	**P**	**20 47 53.7**	**+0.2**
	comp=Z,8.1nm,0.6s,mb4.8						
KWP				e	pP	20 48 01.9	+0.2
KOLS	**Kolonicke sedl**	**76.23**	**320**	eP	**P**	**20 47 54.8**	**+0.5**
KOLS				epP	pP	20 48 02.5	+0.1
SUW	**Suwalki**	**76.81**	**325**	eP	**P**	**20 47 56.5**	**-0.9**
SUW				e	pP	20 48 03.8	-1.7
SUW				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb5.0						
SUW	**Suwalki**	**76.81**	**325**	eP	**P**	**20 47 56.5**	**-0.9**
	comp=Z,7.7nm,0.4s,mb5.0						
SUW				e	pP	20 48 03.8	-1.8
FINES	**FINESS Array B**	**77.36**	**333**	P	**P**	**20 47 59.8**	**-0.5**
	comp=Z,2.0nm,0.6s,mb4.2,baz=72,slow=6.0,SNR=8.2						
FINES				pP	pP	20 48 07.4	-1.0
	comp=Z,6.5nm,0.7s,baz=104,slow=7.9,SNR=12						
KAF	**Kangasniemi**	**77.46**	**333**	ep	**P**	**20 47 59.5**	**-1.3**
PSZ	**Piszkesteto**	**77.60**	**318**	ePcP	PcP	20 48 10.0	-2.5
OJC	**Ojcow**	**78.06**	**321**	eP	**P**	**20 48 04.5**	**+0.1**
VYHS	**Vyhne**	**78.39**	**319**	eP	**P**	**20 48 06.7**	**+0.5**
VYHS				epP	pP	20 48 14.2	-0.2
SRO	**Srobarova**	**78.63**	**318**	eP	**P**	**20 48 08.3**	**+0.7**
OKC	**Ostrava-Krasne**	**79.05**	**320**	eP	pP	20 48 18.5	+0.5
OKC	**Ostrava-Krasne**	**79.05**	**320**	epP	pP	20 48 18.5	+0.5
MORC	**Moravsky Berou**	**79.42**	**320**	eP	**P**	**20 48 12.1**	**+0.2**
MORC				e	pP	20 48 18.8	-1.2
MORC				pmax	pmax		

comp=Z,12nm,1.3s,mb4.7
MORC Moravsky Berou 79.42 320 *e*P **P 20 48 12.1 +0.2**
comp=Z,12nm,1.3s,mb4.7
MORC *e* pP 20 48 18.8 -1.2
ZST Bratislava 79.49 318 *e*P **P 20 48 12.8 +0.6**
ZST epP pP 20 48 20.0 -0.4
ARCES ARCESS Array B 80.17 341 P **P 20 48 15.8 +0.4**
comp=Z,3.8nm,0.8s,mb4.4,baz=99,slow=7.5,SNR=6.6
ARCES pP pP 20 48 23.4 -0.2
comp=Z,7.6nm,0.8s,baz=104,slow=5.0,SNR=5.6
DPC Dobruska-Polom 80.28 321 *e*P **P 20 48 17.5 +1.1**
DPC epP pP 20 48 25.5 +0.9
KSP Ksiaz 80.37 321 *e*P **P 20 48 17.5 +0.6**
KSP *e**PP pP 20 48 25.6 +0.6
UPC Upice 80.50 321 *e*P pP 20 48 25.5 -0.3
UPC Upice 80.50 321 epP pP 20 48 25.5 -0.3
BILL Bilibino 80.78 21 *e*P **P 20 48 19.6 +0.9**
BILL *e* pP 20 48 26.6 -0.3
BILL *e*S S 20 58 26.3 +2.7
BILL pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
PRU Pruhonice 81.38 320 *e*P pP 20 48 30.8 +0.4
PRU Pruhonice 81.38 320 epP pP 20 48 30.8 +0.4
PVCC Panska Ves 81.42 321 *e*P **P 20 48 23.9 +1.5**
AQU L'Aquila 81.49 312 *e*P **P 20 48 26.4 +3.4**
AQU pmax pmax
comp=Z,29nm,1.2s,mb5.1
AQU L'Aquila 81.49 312 *e*P **P 20 48 26.4 +3.5**
comp=Z,29nm,1.2s,mb5.1
GERES GERESS Array B 81.81 319 P **P 20 48 25.2 +0.7**
comp=Z,3.0nm,0.9s,mb4.2,baz=90,slow=5.3,SNR=16
GERES pP pP 20 48 33.3 +0.6
comp=Z,6.8nm,0.7s,baz=104,slow=5.5,SNR=21
KHC Kasperske Hory 81.92 319 *e*P pP 20 48 33.2 0.0
KHC Kasperske Hory 81.92 319 *e*P **P 20 48 29.0 +4.0**
KHC epP pP 20 48 33.2 0.0
CLL Collm 82.48 321 *e*P **P 20 48 30.0 +2.1**
CLL Collm 82.48 321 P **P 20 48 30.0 +2.1**
NKC Novy Kostel 82.74 320 *e*P **P 20 48 28.4 -0.9**
GRA1 Grafenberg Arr 83.49 320 *e*P **P 20 48 34.5 +1.3**
comp=Z,6.0nm,0.7s,mb4.7
GRF Grafenberg Arr 83.49 320 *e*P **P 20 48 34.5 +1.3**
GRF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
GRF Grafenberg Arr 83.49 320 *e*P **P 20 48 34.5 +1.3**
GRF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
GRF Grafenberg Arr 83.49 320 *e*P **P 20 48 34.5 +1.3**
comp=Z,6.0nm,0.7s,mb4.7
DAVOX Davos 84.25 317 P **P 20 48 37.6 +0.6**
comp=Z,3.9nm,0.6s,mb4.7,baz=18,slow=3.6,SNR=12
DAVOX pP pP 20 48 46.2 +0.9
comp=Z,12nm,0.6s,baz=90,slow=9.1,SNR=11
NB2 NORSAR Subarra 84.31 331 P pP 20 48 44.6 -0.7
comp=Z,3.9nm,0.8s,baz=97,slow=5.0
NOA NORSAR Array B 84.31 331 pP pP 20 48 44.9 -0.4
comp=Z,6.6nm,0.9s,baz=94,slow=5.4,SNR=8.3
LPG La Plagne 86.40 315 *e*P pP 20 48 55.6 -0.5
comp=Z,30nm,1.1s
LPG La Plagne 86.40 315 *e*P pP 20 48 55.6 -0.5
LPG pmax pmax
comp=Z,15nm,1.1s,mb5.1
ILAR Eielson Array 99.40 22 PP PP 20 53 52.2 -1.1
comp=Z,0.7nm,1.0s,baz=300,slow=7.3,SNR=3.4
YKA Yellowknife Ar 111.35 14 PP PP 20 55 13.3 -9.2
comp=Z,0.2nm,0.5s,baz=330,slow=7.7,SNR=4.1
NVAR Mina Array Bea 129.15 33 PKP PKPdf 20 55 14.5 -3.0
comp=Z,0.6nm,0.7s,baz=246,slow=0.8,SNR=4.2
NVAR pPKP 20 55 23.5
comp=Z,2.4nm,1.0s,baz=290,slow=1.2,SNR=6.0
NVAR Mina Array Bea 129.15 33 PKP PKPdf 20 55 14.5 -3.0
NVAR pPKP 20 55 23.5
PDAR Pinedale Array 129.83 23 PKP PKPdf 20 55 16.1 -2.6
comp=Z,1.7nm,1.2s,baz=45,slow=1.3,SNR=3.6
PLCA Paso Flores 139.78 198 PKP PKPdf 20 55 35.4 -1.8
comp=Z,5.7nm,1.3s,baz=277,slow=7.4,SNR=3.1
TXAR Lajitas Array 143.75 27 PKP PKPdf 20 55 40.6 -3.8
comp=Z,0.7nm,0.7s,baz=180,slow=4.5,SNR=2.5
TXAR pPKP 20 55 47.9
comp=Z,2.9nm,0.8s,baz=297,slow=2.8,SNR=5.5
TXAR PP PP 20 59 05.5 +8.9
comp=Z,1.7nm,0.9s,slow=3.8,SNR=4.5
TXAR Lajitas Array 143.75 27 PKP PKPdf 20 55 40.6 -3.8
TXAR pPKP 20 55 47.9
TXAR PP PP 20 59 05.5 +8.9
JCT Junction City 144.33 21 PKIKP PKPdf 20 55 41.3 -4.1
JCT *e* 20 55 49.0
LPAZ La Paz 158.12 231 PKP PKPdf 20 56 04.2 -2.3
comp=Z,0.6nm,0.7s,baz=66,slow=4.7,SNR=3.6
LPAZ PKPab PKPab 20 56 38.5 +0.6
comp=Z,1.2nm,0.9s,baz=113,slow=2.8,SNR=4.0

NEIC ***23*** *20:50:08.1, 17.11N×101.10W, h13km, MD4.1(MEX), After MEX.*
MEX 23 20:50:08.1±1.1, 17.11N×101.10W, h13km±14km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.60**	**325**	*i* P	Pb	20 50 18.4	-1.6
ZIIG				*i* S	Sb	20 50 26.4	-1.7
CAIG	**El Cayaco**	**0.80**	**95**	*e*P	Pb	20 50 20.7	-2.7
CAIG				*e*S	Sb	20 50 31.0	-2.9
ACX	**Acapulco**	**1.16**	**102**	*i* P	Pb	20 50 27.0	-2.6
ACX				*i* S	Sb	20 50 41.0	-3.4
PLIG	**Platanillo**	**1.99**	**50**	*e*P	Pn	20 50 36.9	-4.9
PLIG				*e*S	Sn	20 51 01.2	-5.6
CHVM	**Chichinautzin**	**2.70**	**43**	*e*P	Pn	20 50 45.5	-6.7
CHVM				*i* S	Sn	20 51 21.6	-3.5
IIZ	**Mezontepec**	**2.72**	**40**	*e*P	Pn	20 50 43.5	-8.8
UNM	**Universidad Na**	**2.86**	**39**	*e*P	Pn	20 50 52.1	-2.4
UNM				*e*S	Sn	20 51 25.8	-3.3
MDVM	**Presa Madin**	**2.98**	**36**	*e*P	Pn	20 50 50.8	-5.3
PPM	**Popocatepetl**	**3.05**	**50**	*e*P	Pn	20 50 54.2	-3.0
PPM				*i* S	Sn	20 51 24.7	-9.2
PPM				*e*S	Sn	20 51 30.8	-3.0
PPM	**Popocatepetl**	**3.05**	**50**	*e*P	Pn	20 50 51.5	-5.6
PPM				*e*P		20 50 54.2	
PPM				*i* S	Sn	20 51 24.7	-9.2
PPM				*e*S	Sn	20 51 30.8	-3.0
PTVM	**Pico Tres Padr**	**3.11**	**37**	*e*P	Pn	20 50 54.5	-3.3
VHO	**Vista Hermosa**	**4.18**	**90**	*i* S	Sn	20 51 55.5	-7.0
OXX	**Oaxaca**	**4.19**	**90**	*e*P	Pn	20 51 15.0	+1.7

CSEM ***23*** *20:54:53.9±0.0, 36.84N×27.75E, h5km, mb4.6/2, Error ellipse: s-maj=1.4km s-min=1.1km az=73.0*
ISK ***23*** *20:54:54.3, 36.90N×27.67E, h8km, ML4.1*
IDC ***23*** *20:54:54.6±0.8, 37.00N×27.78E, mb3.9/13, mb1 4.0/19, mb1mx4.0/23, mbtmp3.9/19, ML3.8/6, Error ellipse: s-maj=18.5km s-min=16.5km az=132.0*
ATH ***23*** *20:54:56.6, 36.90N×27.62E, h6km, MD4.0/18, ML4.2*
NEIC ***23*** *20:54:56.5±0.3, 36.91N×27.85E, h10km, mb4.1/15, ML4.2(ATH), Error ellipse: s-maj=6.0km s-min=4.9km az=221.0*
HLW ***23*** *20:55:07.4, 36.21N×27.80E, h20km, Mb4.0*
ISC 23 20:54:54.5±0.2, 36.85N±0.01×27.78E±0.02, h8km, n185, σ1°15/205, mb4.1/25, 4C-8D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.35**	**309**	*i* P	**Pg**	**20 55 02.7**	**+1.1**
BDRM				*i* S	**Sg**	**20 55 10.3**	**+4.0**
MLSB	**Milas**	**0.45**	**359**	*i* PG	**Pg**	**20 55 03.2**	**-0.3**
YER	**Yerkesik**	**0.49**	**54**	*i* PG	**Pg**	**20 55 04.8**	**+0.4**
ARG	**Arkhangelos**	**0.69**	**156**	*e*PB	**Pb**	**20 55 11.0**	**+2.7**
AYDN	**Tasoluk**	**0.81**	**5**	*i* P	**Pb**	**20 55 10.3**	**-0.2**
AYDN				*i* S	**Sb**	**20 55 20.1**	**-1.3**
FETY	**Fethiye**	**1.07**	**101**	*i* PN	**Pn**	**20 55 16.5**	**+0.9**
FETY				SN	**Sn**	**20 55 33.8**	**+3.1**
SMG	**Samos**	**1.14**	**319**	*e*PN	**Pn**	**20 55 16.8**	**0.0**
SMG				*e*SB	**Sb**	**20 55 31.5**	**+0.6**
DNZL	**Cakiroluk**	**1.31**	**50**	*i* P	**Pb**	**20 55 19.6**	**+0.6**
DNZL				*i* S	**Sb**	**20 55 38.6**	**+2.8**
DENT	**Denizli**	**1.35**	**47**	*i* PN	**Pn**	**20 55 20.0**	**+0.3**
KARP	**Karpathos**	**1.39**	**201**	*e*PB	**Pb**	**20 55 23.0**	**+2.6**
KARP				*e*SB	**Sb**	**20 55 40.5**	**+2.3**
IZM	**Izmir**	**1.60**	**345**	*i* PN	**Pn**	**20 55 22.8**	**-0.5**
KDAG	**Bornova**	**1.60**	**345**	*i* P	**Pn**	**20 55 22.8**	**-0.6**
KDAG				*i* S	**Sb**	**20 55 38.7**	**-5.6**
KSL	**Kastellorizon**	**1.61**	**115**	*e*PB	**Pb**	**20 55 27.0**	**+2.9**
KSL				*e*SG	**Sg**	**20 55 56.0**	**+7.8**
BLCB	**Balcova**	**1.64**	**339**	*i* PN	**Pn**	**20 55 23.4**	**-0.5**
ELL	**Elmali**	**1.71**	**93**	PN	**Pn**	**20 55 26.4**	**+1.5**
MANT	**Manisa**	**1.75**	**20**	*i* P	**Pn**	**20 55 25.5**	**0.0**
MANT				*i* S	**Sn**	**20 55 49.3**	**+1.2**
APE	**Apeiranthos**	**1.82**	**278**	*e*PN	**Pn**	**20 55 25.3**	**-1.1**
APE	**Apeiranthos**	**1.82**	**278**	*e*Pg	**Pg**	**20 55 27.5**	**-3.3**
SANT	**Santorini**	**1.93**	**256**	*e*Pn	**Pn**	**20 55 29.8**	**+1.8**
SANT				*e*		20 55 34.1	
SANT				*e*Sn	**Sn**	**20 55 58.4**	**+5.7**
SANT	**Santorini**	**1.93**	**256**	*e*Pn	**Pn**	**20 55 29.8**	**+1.8**
KHL	**Karahalli**	**2.02**	**43**	*i* PN	**Pn**	**20 55 30.4**	**+1.1**
AKS	**Akhisar**	**2.03**	**1**	*i* PN	**Pn**	**20 55 28.5**	**-0.9**
ANTB	**Antalya**	**2.30**	**88**	PN	**Pn**	**20 55 35.4**	**+2.1**
BCK	**Bucak**	**2.32**	**74**	PN	**Pn**	**20 55 35.7**	**+2.0**
NPS	**Neapolis**	**2.37**	**229**	*e*PN	**Pn**	**20 55 38.0**	**+3.7**
AYVA	**Ayvalik**	**2.60**	**341**	*i* P	**Pn**	**20 55 37.9**	**+0.2**
PRK	**Paraskevi**	**2.67**	**334**	*e*PN	**Pn**	**20 55 38.0**	**-0.7**
BALB	**Balikesir**	**2.79**	**2**	PN	**Pn**	**20 55 40.2**	**-0.1**
IDI	**Anoyia**	**2.81**	**237**	Pn	**Pn**	**20 55 43.1**	**+2.5**
	8.7nm,0.3s,baz=41,slow=6.5,SNR=38						
IDI				Sn	**Sn**	**20 56 18.8**	**+3.7**
	13nm,0.3s,baz=88,slow=18,SNR=4.1						
ALT	**Altintas**	**2.87**	**39**	*e*PN	**Pn**	**20 55 42.1**	**+0.6**
BTOK	**Tokmak**	**2.92**	**4**	*i* P	**Pn**	**20 55 41.1**	**-1.0**
BTOK				*i* S	**Sg**	**20 56 33.5**	**+1.9**
EZN	**Ezine**	**3.19**	**339**	*e*PN	**Pn**	**20 55 45.4**	**-0.6**
CANB	**Canakkale**	**3.21**	**350**	*e*PN	**Pn**	**20 55 45.3**	**-1.0**
VAM	**Vamos**	**3.24**	**245**	*e*PG	**Pg**	**20 55 54.0**	**-5.2**
BOZC	**Bozcaada**	**3.28**	**336**	*i* P	**Pn**	**20 55 46.5**	**-0.9**
BOZC				*i* S	**Sn**	**20 56 22.0**	**-5.1**
ORLT	**Orhaneli**	**3.31**	**15**	*e*PN	**Pn**	**20 55 47.7**	**0.0**
PTL	**Penteli**	**3.34**	**292**	*e*PN	**Pn**	**20 55 49.2**	**+1.1**
ATH	**Athens Observa**	**3.43**	**290**	*e*PN	**Pn**	**20 55 50.8**	**+1.4**
KCT	**Karacabey**	**3.44**	**7**	*i* PN	**Pn**	**20 55 48.5**	**-1.1**
ULDT	**Uludag**	**3.46**	**17**	*i* P	**Pn**	**20 55 49.1**	**-0.6**
MPAR	**Parnis Oros**	**3.47**	**293**	*e*PN	**Pn**	**20 55 51.0**	**+1.0**
EDC	**Edincik**	**3.49**	**1**	*i* PN	**Pn**	**20 55 49.0**	**-1.4**
BNT	**Bandirma**	**3.50**	**2**	*i* PN	**Pn**	**20 55 49.1**	**-1.3**
NAIG	**Nisos Aigina**	**3.54**	**286**	*e*PG	**Pg**	**20 55 58.0**	**-7.2**
ESKT	**Eskisehir**	**3.60**	**41**	*e*PN	**Pn**	**20 55 52.8**	**+0.9**
ESKT	**Eskisehir**	**3.60**	**41**	*i* P	**Pn**	**20 55 53.4**	**+1.6**
ESKT				*i* S	**Sg**	**20 56 49.3**	**-5.0**
NSAL	**Nisos Salamina**	**3.60**	**288**	*e*PB	**Pb**	**20 55 54.5**	**-3.6**
LOS	**Limnos**	**3.74**	**326**	*e*P	**Pn**	**20 55 54.0**	**+0.2**
MRMT	**Marmara Adasi**	**3.75**	**358**	*e*PN	**Pn**	**20 55 53.9**	**-0.1**
HDMB	**Hadim**	**3.77**	**87**	PN	**Pn**	**20 55 56.3**	**+2.0**
MGER	**Gerania Oros**	**3.77**	**289**	*e*PN	**Pn**	**20 55 55.5**	**+1.2**
KONT	**Konya--Tatoy**	**3.81**	**72**	*e*PN	**Pn**	**20 55 56.3**	**+1.6**
KIZT	**Kizilcal**	**3.82**	**57**	*e*PN	**Pn**	**20 55 56.1**	**+1.1**
KYTH	**Kithira**	**3.86**	**263**	*e*PB	**Pb**	**20 55 59.0**	**-3.6**
SART	**Tekirdag**	**3.86**	**353**	*i* P	**Pn**	**20 55 54.6**	**-0.9**
VLI	**Veliai**	**3.89**	**270**	*e*PB	**Pb**	**20 55 59.0**	**-4.1**
YLV	**Yalova**	**3.92**	**18**	*e*PN	**Pn**	**20 55 56.7**	**+0.4**
MFT	**Murefte**	**3.95**	**354**	*e*PN	**Pn**	**20 55 56.2**	**-0.7**
GPA	**Golpazari**	**3.96**	**29**	*e*PN	**Pn**	**20 55 57.5**	**+0.5**
HRT	**Hereke**	**4.23**	**20**	*e*PN	**Pn**	**20 55 60.0**	**-0.8**
ALN	**Alexandroupoli**	**4.26**	**342**	*e*P	**Pn**	**20 55 60.0**	**-1.3**
ISK	**Istanbul-Kandi**	**4.33**	**13**	*e*PN	**Pn**	**20 56 01.7**	**-0.5**
XOR	**Xorichti**	**4.41**	**306**	*e*P	**Pn**	**20 56 04.2**	**+0.9**
LEF	**Lefka**	**4.49**	**111**	*e*PN	**Pn**	**20 56 05.7**	**+1.3**
MDU	**Mudurnu**	**4.50**	**36**	*e*PN	**Pn**	**20 56 05.4**	**+0.8**
OUR	**Ouranopolis**	**4.58**	**321**	*e*P	**Pn**	**20 56 05.7**	**-0.1**
RDO	**Rodhopi**	**4.63**	**339**	*e*PN	**Pn**	**20 56 06.0**	**-0.5**
HENT	**Hendek**	**4.66**	**31**	*i* P	**Pg**	**20 56 20.2**	**-7.2**
AGG	**Agios Georgios**	**4.83**	**298**	*e*P	**Pn**	**20 56 10.7**	**+1.5**
CSS	**Prodhromos**	**4.88**	**111**	*e*Pn	**Pn**	**20 56 09.9**	**-0.1**
CSS	**Prodhromos**	**4.88**	**111**	*e*Pn	**Pn**	**20 56 09.9**	**-0.1**
LOD	**Lodumlu**	**4.95**	**51**	*e*PN	**Pn**	**20 56 12.0**	**+1.0**
ANTO	**Ankara**	**4.96**	**51**	*e*PN	**Pn**	**20 56 11.6**	**+0.5**
EDRB	**Edirne**	**5.06**	**351**	*e*PN	**Pn**	**20 56 12.6**	**+0.1**
EVR	**Evrytania**	**5.16**	**295**	*e*PN	**Pn**	**20 56 16.0**	**+2.1**
SOH	**Sokhos**	**5.26**	**320**	*e*P	**Pn**	**20 56 15.6**	**+0.2**
LIT	**Litokhoron**	**5.27**	**310**	*e*P	**Pn**	**20 56 16.6**	**+1.1**
THE	**Thessaloniki**	**5.33**	**317**	*e*P	**Pn**	**20 56 16.9**	**+0.5**
SRS	**Serrai**	**5.37**	**324**	*e*P	**Pn**	**20 56 16.6**	**-0.3**
BRTR	**Keskin Array B**	**5.43**	**56**	Pn	**Pn**	**20 56 18.4**	**+0.7**
	4.6nm,0.3s,baz=239,slow=15,SNR=133						
BRTR				Sn	**Sn**	**20 57 19.4**	**-1.8**
	0.8nm,0.3s,baz=232,slow=24,SNR=2.8						
ELDT	**Eldivan**	**5.72**	**49**	*i* P	**Pn**	**20 56 22.6**	**+0.8**
KNT	**Kendrikon**	**5.75**	**320**	*e*P	**Pn**	**20 56 22.4**	**+0.2**
SLUM		**5.75**	**202**	P	**Pn**	**20 56 23.1**	**+0.8**
HMAT	**Matruh**	**5.77**	**186**	P	**Pn**	**20 56 22.5**	**0.0**
GRG	**Griva**	**5.87**	**316**	*e*P	**Pn**	**20 56 25.0**	**+1.1**
FNA	**Florina**	**6.36**	**310**	*e*P	**Pn**	**20 56 31.6**	**+0.8**
FNA	**Florina**	**6.36**	**310**	*e*P	**Pn**	**20 56 31.6**	**+0.7**
HBRG	**Burj al 'Arab**	**6.49**	**164**	P	**Pn**	**20 56 32.6**	**-0.1**
HMYD	**Mayadein**	**7.47**	**159**	P	**Pn**	**20 56 46.1**	**-0.4**
HNAT	**Natroun**	**7.58**	**161**	P	**Pn**	**20 56 47.6**	**-0.4**
TIRR	**Tirgusor**	**7.62**	**3**	⇓P	**Pn**	**20 56 44.7**	**-3.9**
FYM	**Al Fayyum**	**7.64**	**158**	P	**Pn**	**20 56 48.4**	**-0.5**
FYM				S	**Sn**	**20 58 03.9**	**-13**
AYT	**Al 'Ayyat**	**7.66**	**157**	P	**Pn**	**20 56 49.6**	**+0.4**
SWA1		**7.76**	**194**	P	**Pn**	**20 56 49.8**	**-0.8**
HHAG	**Hagoal**	**7.76**	**151**	P	**Pn**	**20 56 50.8**	**+0.2**
SWA2		**7.83**	**195**	P	**Pn**	**20 56 50.7**	**-0.8**
HARR	**Harsova**	**7.83**	**1**	⇓P	**Pn**	**20 56 48.9**	**-2.7**
HSAF	**As Saff**	**7.87**	**155**	P	**Pn**	**20 56 51.9**	**-0.2**
HSAF	**As Saff**	**7.87**	**155**	P	**Pn**	**20 56 51.8**	**-0.3**
GLL	**Jalalah**	**7.96**	**154**	P	**Pn**	**20 56 52.8**	**-0.5**
SUZ		**8.16**	**147**	P	**P**	**20 56 56.5**	**+0.4**
SUZ		**8.16**	**147**	P	**P**	**20 56 56.5**	**+0.3**
CFR	**Carcaliu**	**8.33**	**2**	⇓P	**P**	**20 56 55.0**	**-3.4**
HBNS	**Bani Suwayf**	**8.38**	**159**	P	**P**	**20 56 58.5**	**-0.8**
ZAF		**8.54**	**151**	P	**P**	**20 57 01.3**	**-0.1**
AWBH		**8.56**	**173**	P	**P**	**20 57 00.1**	**-1.5**
MLR	**Muntele Rosu**	**8.74**	**351**	Pn	**P**	**20 57 00.8**	**-3.5**
	0.2nm,0.3s,baz=166,slow=5.9,SNR=9.8						
MLR	**Muntele Rosu**	**8.74**	**351**	⇓P	**P**	**20 57 04.1**	**-0.1**
MLR	**Muntele Rosu**	**8.74**	**351**	⇓P	**P**	**20 57 04.1**	**-0.1**
TIP	**Timpagrande**	**9.01**	**288**	*e*Pn	**P**	**20 57 08.4**	**+0.5**
VRI	**Vrincioaia**	**9.04**	**355**	⇓P	**P**	**20 57 11.0**	**+2.6**
EIL	**Elat**	**9.34**	**138**	Pn	**P**	**20 57 12.2**	**-0.2**
	1.7nm,0.3s,baz=154,slow=5.1,SNR=14						
EIL				Sn	**Sn**	**20 58 51.8**	**-7.0**
	1.7nm,0.3s,baz=86,slow=32,SNR=3.7						
EIL	**Elat**	**9.34**	**138**	*e*Pn	**P**	**20 57 12.0**	**-0.4**
EIL				*e*Sn	**Sn**	**20 58 51.9**	**-6.9**
EIL	**Elat**	**9.34**	**138**	*e*Pn	**P**	**20 57 12.0**	**-0.5**
EIL				*e*Sn	**Sn**	**20 58 51.9**	**-6.9**
GRB	**Gharib**	**9.54**	**152**	P	**P**	**20 57 14.4**	**-0.8**
HBST	**Basata**	**9.59**	**141**	P	**P**	**20 57 16.6**	**+0.7**
HFRF	**Wahat Farafira**	**9.68**	**177**	P	**P**	**20 57 17.2**	**0.0**
ALWS	**Ilw as Safayha**	**9.68**	**139**	P	**P**	**20 57 18.1**	**+0.9**
NUB		**9.70**	**142**	P	**P**	**20 57 17.5**	**+0.1**
HKAT	**Jabal Katrina**	**9.81**	**146**	P	**P**	**20 57 18.5**	**-0.5**
TR2		**9.81**	**148**	P	**P**	**20 57 18.8**	**-0.2**
HAQS	**Haql**	**9.82**	**140**	P	**P**	**20 57 18.0**	**-1.1**
HAQS				S	**Sn**	**20 59 11.8**	**+1.1**
BZS	**Buzias**	**9.91**	**334**	⇓P	**P**	**20 57 19.2**	**-1.1**
BZS	**Buzias**	**9.91**	**334**	⇓P	**P**	**20 57 19.2**	**-1.1**
HDHB	**Dhahab**	**9.94**	**143**	P	**P**	**20 57 21.0**	**+0.3**
ASUT		**9.95**	**160**	P	**P**	**20 57 19.7**	**-1.3**
TAYS	**Tayyib Ism**	**10.20**	**142**	P	**P**	**20 57 23.8**	**-0.6**
TR1		**10.24**	**148**	P	**P**	**20 57 24.6**	**-0.2**
AYUS	**'Aynunah**	**10.70**	**142**	P	**P**	**20 57 31.0**	**-0.1**
HHRG	**Al Ghardaqah**	**10.78**	**151**	P	**P**	**20 57 31.3**	**-1.0**
BURAR	**Bucovina Array**	**10.93**	**351**	⇑P	**P**	**20 57 33.7**	**-0.5**
BURAR	**Bucovina Array**	**10.93**	**351**	⇑P	**P**	**20 57 33.7**	**-0.5**
AKRG	**Al Kharijah**	**11.55**	**168**	P	**P**	**20 57 41.2**	**-1.6**
GTR	**Jabal at Tayr**	**11.55**	**167**	P	**P**	**20 57 41.0**	**-1.8**
HDK2	**Wahat Dakhilah**	**12.53**	**175**	P	**P**	**20 57 53.9**	**-2.1**
HEF	**Idfu**	**12.60**	**157**	P	**P**	**20 57 55.7**	**-1.1**
AKASG	**Malin Array Be**	**13.89**	**4**	Pn	**P**	**20 58 10.0**	**-3.8**
	0.3nm,0.3s,baz=184,slow=12,SNR=3.9						
GERES	**GERESS Array B**	**15.79**	**324**	Pn	**P**	**20 58 44.3**	**+5.6**
	0.1nm,0.3s,baz=143,slow=4.9,SNR=5.8						
DPC	**Dobruska-Polom**	**15.82**	**332**	*e*P	**P**	**20 58 51.5**	**+12**
KHC	**Kasperske Hory**	**16.05**	**324**	*e*P	**P**	**20 58 48.4**	**+6.4**
PRU	**Pruhonice**	**16.25**	**328**	*e*P	**P**	**20 58 48.7**	**+4.2**
PVCC	**Panska Ves**	**16.64**	**329**	*e*P	**P**	**20 58 57.6**	**+8.0**
SBF	**Sospel**	**17.00**	**301**	*e*P	**P**	**20 58 57.5**	**+3.4**
BRG	**Berggiesshubel**	**17.17**	**329**	P	**P**	**20 59 03.0**	**+6.8**
	4.8nm,0.9s						
NKC	**Novy Kostel**	**17.35**	**325**	*e*P	**P**	**20 59 04.5**	**+6.1**
MBDF	**Montbardon**	**17.72**	**303**	*e*P	**P**	**20 59 04.1**	**+1.0**
	23nm,1.0s						
CLL	**Collm**	**17.88**	**329**	⇑*i*P	**P**	**20 59 09.9**	**+4.8**
	10.0nm,0.7s						
CLL				*i*		20 59 13.2	
CLL	**Collm**	**17.88**	**329**	⇑P	**P**	**20 59 09.9**	**+4.8**
	logA/T=1.2						
CLL				*i*		20 59 13.2	
LPG	**La Plagne**	**18.00**	**305**	*e*P	**P**	**20 59 09.5**	**+2.9**
LPL	**La Plagne**	**18.02**	**305**	*e*P	**P**	**20 59 10.2**	**+3.4**
	11nm,0.8s						
CABF	**La Chapelle**	**18.85**	**308**	*e*P	**P**	**20 59 17.8**	**+0.7**
	64nm,1.2s						
CDF	**Champ du Feu**	**18.94**	**314**	*e*P	**P**	**20 59 20.6**	**+2.5**
HAU	**Haudompre**	**19.29**	**312**	*e*P	**P**	**20 59 22.6**	**+0.3**
SMF	**Signal de Mont**	**20.30**	**306**	*e*P	**P**	**20 59 33.2**	**-0.2**
	17nm,0.8s						
SSF	**Saint Saulge**	**20.66**	**307**	*e*P	**P**	**20 59 36.6**	**-0.6**
	16nm,1.2s						
AVF	**Avril sur Loir**	**20.66**	**306**	*e*P	**P**	**20 59 35.8**	**-1.4**
	19nm,0.9s						
FLN	**La Foliniere**	**23.77**	**309**	*e*P	**P**	**21 00 08.9**	**+0.9**
	31nm,0.9s,mb4.4						
GRR	**Gorron**	**23.88**	**308**	*e*P	**P**	**21 00 09.2**	**+0.1**
	49nm,0.9s,mb4.6						
FINES	**FINESS Array B**	**24.64**	**358**	P	**P**	**21 00 15.7**	**-0.7**
	3.0nm,0.7s,mb4.0,baz=154,slow=12,SNR=7.8						
HFS	**Hagfors**	**24.99**	**343**	P	**P**	**21 00 18.6**	**-1.2**
	4.8nm,0.8s,mb4.0,baz=140,slow=12,SNR=5.3						
ESDC	**Sonseca Array**	**25.02**	**286**	P	**P**	**21 00 20.9**	**+0.6**
	3.1nm,0.8s,mb3.9,baz=81,slow=9.5,SNR=12						
ESLA	**Sonseca Array**	**25.02**	**286**	*e*P	**P**	**21 00 23.8**	**+3.5**
	0.4nm,0.6s,mb3.1						
NOA	**NORSAR Array B**	**26.39**	**342**	P	**P**	**21 00 32.1**	**-0.7**
	1.3nm,1.0s,mb3.4,baz=148,slow=12,SNR=2.6						
ARCES	**ARCESS Array B**	**32.77**	**359**	P	**P**	**21 01 29.1**	**-0.6**
	2.6nm,0.8s,mb4.2,baz=186,slow=8.2,SNR=3.2						
ARCES	**ARCESS Array B**	**32.77**	**359**	P	**P**	**21 01 29.1**	**-0.6**
CHKZ	**Chkalovo**	**33.91**	**46**	*e*P	**P**	**21 01 39.2**	**-0.6**
	2.3nm,1.0s,mb4.1						
KURK	**Kurchatov**	**38.47**	**52**	*e*P	**P**	**21 02 12.2**	**-6.2**
	2.4nm,0.8s,mb4.0						
DBIC	**Dimbokro**	**42.28**	**233**	P	**P**	**21 02 49.9**	**-0.5**
	1.4nm,0.6s,mb3.8,baz=356,slow=10,SNR=3.2						
DBIC	**Dimbokro**	**42.28**	**233**	*e*P	**P**	**21 02 49.6**	**-0.8**
ZAL	**Zalesovo**	**42.29**	**47**	P	**P**	**21 02 48.5**	**-1.4**
	0.8nm,0.8s,mb3.4,baz=243,slow=8.1,SNR=4.5						
KOLN	**Koldanda**	**47.46**	**84**	*e*P	**P**	**21 03 30.1**	**-1.6**
	4.1nm,0.6s,mb4.5						
SUMG	**Summit**	**48.18**	**338**	*e*P	**P**	**21 03 36.6**	**-0.2**
	8.4nm,1.1s,mb4.7						
GKN	**Gorkha**	**48.19**	**83**	*e*P	**P**	**21 03 35.5**	**-1.9**
	22nm,1.3s,mb5.0						
DMN	**Daman**	**48.73**	**84**	*e*P	**P**	**21 03 40.6**	**-1.0**
	7.6nm,0.7s,mb4.8						
KKN	**Kakani**	**48.79**	**83**	*e*P	**P**	**21 03 41.3**	**-0.7**
	5.0nm,0.6s,mb4.7						
JIRN	**Jiri**	**49.57**	**83**	*e*P	**P**	**21 03 47.7**	**-0.4**
	25nm,1.5s,mb5.0						
SONM	**Songino Array

FITZ Fitzroy Crossi 17.68 163 *e*P **P 21 06 41.8 +2.3**
comp=Z,60nm,0.9s
MBWA Marble Bar 19.90 181 *e*P **P 21 07 06.6 +1.0**
comp=Z,25nm,1.1s
QIZ Qiongzhong 22.48 334 P **P 21 07 38.3 +6.5**
QIZ Qiongzhong 22.48 334 P **P 21 07 31.9 +0.1**
WRAB Tennant Creek 23.25 144 *e*P **P 21 07 39.5 0.0**
WRAB pmax pmax
comp=Z,99nm,0.8s,mb5.3
WRAB Tennant Creek 23.25 144 *e*P **P 21 07 39.5 0.0**
comp=Z,98nm,0.8s,mb5.3
WRA Warramunga Arr 23.25 144 P **P 21 07 40.2 +0.7**
comp=Z,61nm,1.1s,mb5.0,baz=316,slow=13,SNR=57
WB2 Warramunga Arr 23.26 144⇓*i*P **P 21 07 40.3 +0.7**
NNT Nongplab 24.46 305 P **P 21 07 55.0 +3.7**
ASAR Alice Springs 26.04 150 P **P 21 08 06.4 +0.2**
comp=Z,8.0nm,0.8s,mb4.3,baz=316,slow=7.5,SNR=42
ASAR PcP PcP 21 11 33.7 -0.4
comp=Z,1.0nm,0.7s,baz=348,slow=2.2,SNR=4.0
ASAR LR LR 21 18 58.8
comp=Z,1μm,18.3s,MS4.5,baz=139,slow=38
CM31 Chiang Mai Arr 28.57 314 *e*P **P 21 08 28.5 -0.7**
comp=Z,3.0nm,0.6s,mb4.2
CMAR Chiang Mai Arr 28.57 314 P **P 21 08 28.9 -0.2**
comp=Z,2.4nm,0.7s,mb4.0,baz=134,slow=7.1,SNR=18
CMAR PcP PcP 21 11 39.8 -0.3
comp=Z,1.2nm,0.9s,baz=165,slow=2.4,SNR=4.1
CHG Chiang Mai 28.80 315⇓P **P 21 08 35.8 +4.6**
comp=Z,12nm,1.1s,mb4.5
JOW Kunigami 28.88 15 LR LR 21 20 31.5
comp=Z,1μm,18.8s,MS4.6,baz=130,slow=37
FORT Forrest 30.41 167 *e*P **P 21 08 48.3 +2.8**
comp=Z,37nm,0.6s,mb5.3
CTA Charters Tower 31.69 128 LR LR 21 21 20.5
comp=Z,2μm,18.7s,MS4.8,baz=312,slow=36
NWAO Narrogin (SRO) 31.74 185 P **P 21 08 57.7 +0.5**
NWAO pmax pmax
comp=Z,30nm,1.2s
NWAO Narrogin (SRO) 31.74 185 P **P 21 08 57.7 +0.5**
comp=Z,30nm,1.2s,mb5.0
WHN Wuhan 32.00 350 P **P 21 09 01.8 +2.3**
SSE Sheshan 32.07 2 *e*P **P 21 08 58.5 -1.6**
SSE AMB AMB
comp=Z,24nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,939nm,11.7s
SSE Sheshan 32.07 2 *e*P **P 21 08 58.5 -1.6**
comp=Z,24nm,0.8s,mb5.1
ENH Enshi 32.86 343 *e*P **P 21 09 07.5 +0.5**
comp=Z,18nm,0.8s,mb5.0
NJ2 Nanjing 33.03 358 *e*P **P 21 09 12.3 +3.8**
NJ2 AP pP 21 09 23.1 +4.3
NJ2 XP sP 21 09 26.6 +3.1
NJ2 PP PP 21 10 24.3 +4.6
NJ2 S **S 21 14 36.0 +12**
NJ2 AMB AMB
comp=Z,1μm,6.0s
NJ2 LR LR
comp=N,2μm,20.2s,MS5.0
NJ2 LR LR
comp=E,1μm,19.3s,MS5.0
NJ2 LR LR
comp=Z,3μm,18.4s,MS5.1
CBIJ Chichi jima 35.16 35 LR LR 21 22 28.4
comp=Z,758nm,19.8s,MS4.5,baz=192,slow=34
XAN Xi'an 36.56 344 P **P 21 09 38.5 -0.1**
XAN AP pP 21 09 48.5 -0.5
XAN AMB AMB
comp=Z,5.0nm,1.3s,mb4.2
STKA Stephens Creek 36.65 149 *e*P **P 21 09 39.7 +0.4**
comp=Z,9.5nm,0.6s,mb4.8
STKA Stephens Creek 36.65 149 P **P 21 09 39.9 +0.5**
comp=Z,11nm,0.7s,mb4.8,baz=319,slow=7.9,SNR=16
STKA LR LR 21 26 52.0
comp=Z,1μm,18.6s,MS4.7,baz=224,slow=40
SHL Shillong 38.14 316 *e*P **P 21 09 53.0 +1.1**
JHJ Hachijo jima 2 38.76 27 LR LR 21 23 34.0
comp=Z,1μm,20.3s,MS4.7,baz=223,slow=32
LZH Lanzhou 40.05 339 *e*P **P 21 10 09.0 +1.4**
LZH AP pP 21 10 20.0 +1.9
LZH XP sP 21 10 25.0 +2.3
LZH AMB AMB
comp=Z,30nm,1.5s,mb4.8
LZH Lanzhou 40.05 339 *e*P **P 21 10 09.0 +1.4**
comp=Z,30nm,1.5s,mb4.8
LZH pP pP 21 10 20.0 +1.9
LZH sP sP 21 10 25.0 +2.3
PALK Pallekele 40.27 283 *e*P **P 21 10 09.6 -0.1**
comp=Z,1.8nm,0.5s,mb4.1
MAJO Matsushiro 41.06 22 *e*P **P 21 10 14.8 -1.3**
MAJO pmax pmax
comp=Z,61nm,1.6s,mb5.0
MAJO Matsushiro 41.06 22 *e*P **P 21 10 14.8 -1.3**
comp=Z,61nm,1.6s,mb5.0
MAT Matsushiro 41.06 22 *e*P **P 21 10 15.0 -1.1**
MAT pmax pmax
comp=Z,37nm,1.6s,mb4.8
MAT Matsushiro 41.06 22 *e*P **P 21 10 15.0 -1.1**
comp=Z,37nm,1.6s,mb4.8
MAT Matsushiro 41.06 22 P **P 21 10 14.5 -1.6**
BJT Baijiatuau 41.13 355 *e*P **P 21 10 17.4 +0.9**
BJT pmax pmax
comp=Z,16nm,0.7s
BJT Baijiatuau 41.13 355 *e*P **P 21 10 17.4 +0.8**
comp=Z,16nm,0.7s,mb4.8
BJI Beijing 41.15 355 P **P 21 10 21.3 +4.6**
BJI pmax pmax
comp=Z,32nm,1.0s,mb4.9
BJI Beijing 41.15 355 P **P 21 10 21.3 +4.6**
comp=Z,32nm,1.0s,mb4.9
LSA Lhasa 41.34 320 P **P 21 10 20.8 +2.4**
LSA Lhasa 41.34 320 *e*P **P 21 10 19.9 +1.5**
LSA pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
LSA Lhasa 41.34 320 *e*P **P 21 10 19.9 +1.5**
comp=Z,9.7nm,0.8s,mb4.5
SNY Shenyang 42.88 4⇓P **P 21 10 30.8 -0.1**
SNY AMB AMB
comp=Z,20nm,1.5s,mb4.6
JIRN Jiri 43.44 314 *e*P **P 21 10 36.8 +1.1**
comp=Z,35nm,0.8s,mb5.1
PKI Pulchoki 43.96 313 *e*P **P 21 10 40.8 +0.9**
comp=Z,46nm,1.1s,mb5.1
KKN Kakani 44.18 313 *e*P **P 21 10 43.3 +1.7**
comp=Z,56nm,1.1s,mb5.2
DMN Daman 44.20 313 *e*P **P 21 10 42.7 +0.9**
comp=Z,20nm,0.6s,mb5.1
GKN Gorkha 44.77 313 *e*P **P 21 10 46.5 +0.1**
comp=Z,27nm,0.6s,mb5.3
HYB Hyderabad 44.97 296 *e*P **P 21 10 47.0 -1.1**
HYB Hyderabad 44.97 296 *i*P **P 21 10 47.0 -1.1**
KOLN Koldanda 45.40 312 *e*P **P 21 10 51.4 0.0**
comp=Z,58nm,1.1s,mb5.3
MDJ Mudanjiang 46.32 9 P **P 21 10 56.3 -2.2**
MDJ AMB AMB
comp=Z,24nm,0.9s,mb5.1
MDJ AMB AMB
comp=Z,2μm,12.3s
MDJ Mudanjiang 46.32 9 *e*P **P 21 10 57.7 -0.8**
comp=Z,20nm,0.8s,mb5.1
ASAJ Asahikawa 49.30 21 P **P 21 11 22.2 +0.5**
ASAJ pmax pmax
comp=Z,7.0nm,0.7s
ASAJ Asahikawa 49.30 21 P **P 21 11 22.2 +0.5**
comp=Z,7.4nm,0.7s,mb4.8,baz=283,slow=4.1,SNR=9.4
ULN Ulaanbaatar 50.13 348⇑*e*P **P 21 11 29.0 +0.9**
ULN Ulaanbaatar 50.13 348 *e*P **P 21 11 28.3 +0.2**
comp=Z,31nm,1.1s,mb5.3
SONM Songino Array 50.24 348 P **P 21 11 29.3 +0.4**
comp=Z,5.1nm,0.8s,mb4.6,baz=167,slow=9.1,SNR=22
KLR Kul'dur 51.16 10 *e*P **P 21 11 30.0 -5.8**
YSS Yuzh-Sakhalins 51.82 20 *i*P **P 21 11 38.6 -2.2**
WMQ Urumqi 53.36 331 P **P 21 11 57.5 +5.1**
TLY Talaya 54.46 347 *ce*P **P 21 12 02.0 +1.6**
TLY pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
TLY Talaya 54.46 347 *e*P **P 21 12 00.2 -0.1**
comp=Z,12nm,1.2s,mb4.7
MOY Mondy 55.07 346 *e*P **P 21 12 04.5 -0.3**
CLNS Chul'man 57.92 3 *e*P **P 21 12 22.4 -2.6**
CLNS pmax pmax
comp=Z,15nm,1.0s,mb5.0
CLNS pmax pmax
comp=N,7.0nm,0.8s
MK02 Makanchi Array 58.13 330 P **P 21 12 26.4 -0.2**
MK02 pmax pmax
comp=Z,11nm,0.9s,mb4.9
BOD Bodaibo 58.99 356 *e*P **P 21 12 29.4 -3.1**
AAK Ala-Archa 59.87 322 *c i*P **P 21 12 40.3 +1.5**
AAK pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
AAK Ala-Archa 59.87 322 *e*P **P 21 12 39.5 +0.7**
comp=Z,6.1nm,0.8s,mb4.7
ZAL Zalesovo 62.23 337 P **P 21 12 55.0 +0.4**
comp=Z,2.2nm,0.8s,mb4.3,baz=349,slow=5.6,SNR=15
KURK Kurchatov 62.60 332 *c i*P **P 21 12 58.0 +0.9**
KURK Kurchatov 62.60 332 *e*P **P 21 12 56.5 -0.6**
comp=Z,26nm,1.1s,mb5.3
YAK Yakutsk 63.42 5 *c i*P **P 21 13 01.9 -0.5**
YAK pmax pmax
comp=Z,22nm,0.6s,mb5.5
YAK Yakutsk 63.42 5 *e*P **P 21 13 01.8 -0.5**
comp=Z,23nm,0.7s,mb5.4
NVS Novosibirsk 63.51 337 *e*P **P 21 12 52.4 -11**
NVS pmax pmax
comp=Z,25nm,2.0s,mb4.9
NVS pmax pmax
comp=N,9.0nm,1.6s
NVS pmax pmax
comp=E,10.0nm,1.8s
URZ Urewera 63.78 133 P **P 21 13 05.2 +0.1**
comp=E,2.6nm,0.5s,mb4.6,baz=337,slow=15,SNR=2.7
BVA0 Borovoye Array 68.04 330 P **P 21 13 32.3 +0.3**
BVA0 pmax pmax
comp=Z,11nm,2.2s,mb4.5
BVAR Borovoye Array 68.04 330 P **P 21 13 31.5 -0.5**
comp=Z,2.7nm,0.7s,mb4.4,baz=117,slow=6.6,SNR=12
BRVK Borovoye 68.11 330 *e*P **P 21 13 31.3 -1.1**
BRVK pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
BRVK Borovoye 68.11 330 *e*P **P 21 13 31.3 -1.1**
comp=Z,7.9nm,1.0s,mb4.7
CHKZ Chkalovo 68.30 331 P **P 21 13 33.2 -0.4**
CHKZ pmax pmax
comp=Z,40nm,2.1s,mb5.1
CHKZ Chkalovo 68.30 331 *e*P **P 21 13 33.1 -0.5**
comp=Z,6.0nm,0.8s,mb4.7
TIXI Tiksi 72.88 3⇑*e*P **P 21 14 00.1 -0.9**
TIXI pmax pmax
comp=Z,10.0nm,1.6s,mb4.5
ARU Arti 75.67 330 *e*P **P 21 14 10.9 -6.5**
MAW Mawson 76.99 199 P **P 21 14 23.4 -1.3**
VNDA Vanda 79.53 172 P **P 21 14 38.4 -0.1**
comp=Z,1.5nm,0.9s,mb3.9,baz=346,slow=6.1,SNR=3.5
ZEI Tsey 80.73 314 *e*P **P 21 14 45.9 +0.3**
ZEI pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
KMBO Kilima Mbogo 82.92 269 P **P 21 14 57.0 -0.5**
comp=Z,1.2nm,0.6s,mb4.1,baz=53,slow=9.5,SNR=5.8
SOC Sochi 83.88 314 *e*P **P 21 15 01.7 -0.1**
SOC *e* 21 18 10.0
SOC *e*S S 21 25 21.3 +0.1
SOC pmax pmax
comp=Z,26nm,1.1s,mb5.3
SOC pmax pmax
comp=N,12nm,0.8s
SOC pmax pmax
comp=E,25nm,1.0s
SYO Syowa Base 85.57 201⇓P **P 21 15 09.3 -0.3**
BRTR Keskin Array B 88.06 310 P **P 21 15 22.4 0.0**
comp=E,3.9nm,0.9s,mb4.6,baz=125,slow=5.3,SNR=8.7
MBAR Mbarara 89.44 269 *i*P **P 21 15 28.6 -1.0**
AKASG Malin Array Be 91.49 321 P **P 21 15 37.3 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 91.49 321 P **P 21 15 37.2 -1.0**
comp=Z,0.5nm,0.5s,mb4.1,baz=75,slow=4.6,SNR=4.6
LVC Limon Verde 154.78 160 PKPab PKPab 21 22 51.4 +1.6
comp=Z,9.2nm,1.2s,baz=233,slow=5.1,SNR=3.5
LPAZ La Paz 160.83 155 PKPab PKPab 21 23 16.8 +0.9
comp=Z,1.5nm,0.7s,baz=194,slow=3.5,SNR=4.7

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*BJI **23** 21:32:14.2, 50.70N×157.29E, h63km, mB4.9, mb4.5, Ms4.9, Msz4.7*
*MOS **23** 21:32:19.9±1.4, 50.50N×156.51E, h75km, mb4.3/14, Error ellipse: s-maj=12.0km s-min=6.6km az=74.6*
MOS Felt (IV-V) at Severo-Kuril'sk.
*KRSC **23** 21:32:19.9±0.6, 50.39N×156.85E, h20km±9km, ML5.0*
*SKHL **23** 21:32:19.0±0.0, 50.17N×156.76E, h38km±5km, mb5.0/7*
SKHL Felt (IV-V) at Severo-Kurilsk.
*IDC **23** 21:32:20.9±0.8, 50.58N×156.22E, h65km±6km, mb3.8/18, mb1 4.0/19, mb1mx4.0/24, mbtmp4.1/19, Error ellipse: s-maj=18.2km s-min=12.7km az=152.0*
*NEIC **23** 21:32:20.9±0.4, 50.54N×156.40E, mb4.3/9, Error ellipse: s-maj=11.7km s-min=7.4km az=148.0*
NEIC Felt [V] at Severo-Kuril'sk, Paramushir.
ISC 23 21:32:19.1±0.3, 50.32N±0.03×156.65E±0.05, h64km, h64km±1.9km; pP-P, n109, σ1§34/131, mb4.1/25, 2C-7D,
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.50**	**317**	⇓*i*PN		**P**	**21 32 31.0**	**-0.5**
SKR				*i*S		**S**	**21 32 40.0**	**-0.5**
SKR				pmax	pmax			
SKR	comp=N,18μm,1.0s			pmax	pmax			
SKR	comp=E,25μm,1.0s			pmax	pmax			
SKR	comp=Z,22μm,1.0s			smax				
SKR	comp=N,85μm,1.0s			smax				
SKR	comp=E,80μm,1.0s			smax				
SKR	**Severo-Kuril's**	**0.50**	**317**	⇓*i*P		**P**	**21 32 31.0**	**-0.5**
SKR				⇓*i*P			21 32 31.0	
SKR				AMB	AMB		21 32 32.0	
SKR	comp=E,18μm,1.0s			AMB	AMB		21 32 32.0	
SKR	comp=E,25μm,1.0s			AMB	AMB		21 32 32.0	
SKR	comp=E,22μm,1.0s			A			21 32 41.0	
SKR	comp=E,80μm,1.0s			A			21 32 41.0	
SKR	comp=E,1000μm,1.0s			A			21 32 41.0	
SKR	comp=E,85μm,1.0s			A			21 32 41.0	
SKR	comp=E,80μm,1.0s			A			21 32 42.1	
SKR	comp=E,38μm,0.6s			A			21 32 42.1	
SKR	comp=E,81μm,0.2s			A			21 32 42.1	
SKR	comp=E,47μm,0.2s			Smax				
SKR	**Severo-Kuril's**	**0.50**	**317**	*i*P		**P**	**21 32 31.0**	**-0.5**
SKR				*i*S		**S**	**21 32 40.0**	**-0.5**
ALID	**Alaid**	**0.89**	**309**	*i*P		**P**	**21 32 37.9**	**+1.8**
ALID				*i*S		**S**	**21 32 50.9**	**+2.2**
PAU	**Pauzhetka**	**1.15**	**5**	*i*P		**P**	**21 32 40.6**	**+1.0**
PAU				*i*S		**S**	**21 32 55.4**	**+0.6**
PAU	comp=E,14μm,0.2s			Smax				
GRL	**Gorelyy**	**2.41**	**21**	*e*P		**P**	**21 32 58.0**	**+0.9**
GRL				*e*S		**S**	**21 33 25.5**	**+0.1**
RUS	**Russkaya**	**2.42**	**28**	P		**P**	**21 32 56.6**	**-0.6**
RUS				S		**S**	**21 33 23.8**	**-1.8**
RUS	**Russkaya**	**2.42**	**28**	*e*P		**P**	**21 32 56.7**	**-0.5**
RUS				*e*S		**S**	**21 33 24.2**	**-1.4**
APC	**Apacha**	**2.63**	**7**	*e*P		**P**	**21 33 00.5**	**+0.3**
APC				*e*S		**S**	**21 33 29.5**	**-1.5**
APC	comp=E,320nm,0.9s			Smax				
KRMR	**Karymshinskiy**	**2.68**	**20**	*e*P		**P**	**21 33 02.3**	**+1.4**
KRMR				*e*S		**S**	**21 33 33.2**	**+1.0**
PET	**Petropavlovsk**	**2.98**	**24**	P		**P**	**21 33 05.9**	**+0.7**
PET				S		**S**	**21 33 39.7**	**-0.2**
PET	**Petropavlovsk**	**2.98**	**24**	*e*PN		**P**	**21 33 06.0**	**+0.8**
PET				*e*S		**S**	**21 33 41.2**	**+1.3**
PET	comp=Z,200nm,0.6s			pmax	pmax			
PET	comp=Z,178nm,0.5s			pmax	pmax			
PET	comp=E,700nm,1.1s			smax				
PET	comp=E,1μm,0.7s			smax				
PET	comp=N,1μm,0.7s			smax				
PET				MLR	MLR			
PET	comp=Z,500nm,20.0s			S		**S**	**21 33 35.9**	**-4.0**
PET	**Petropavlovsk**	**2.98**	**24**	*i*Pn		**P**	**21 33 05.6**	**+0.4**
PET				S		**S**	**21 33 35.9**	**-4.0**
PET	**Petropavlovsk**	**2.98**	**24**	*e*P		**P**	**21 33 06.0**	**+0.8**
PET				AMB	AMB		21 33 06.6	
PET	comp=Z,200nm,0.6s			AMB	AMB		21 33 07.1	
PET	comp=Z,170nm,0.5s			*e*S		**S**	**21 33 41.2**	**+1.3**
PET				A			21 33 41.2	
PET	comp=Z,740nm,1.1s			A			21 33 43.0	
PET	comp=Z,1μm,0.7s			A			21 33 43.0	
PET	comp=Z,1μm,0.7s			A			21 33 43.0	
PET	**Petropavlovsk**	**2.98**	**24**	*e*P		**P**	**21 33 05.9**	**+0.7**
PET				*e*S		**S**	**21 33 39.3**	**-0.6**
UGLR	**Uglovaya**	**3.19**	**24**	*e*P		**P**	**21 33 09.2**	**+1.0**
AVH	**Avacha**	**3.22**	**23**	*e*P		**P**	**21 33 10.2**	**+1.6**
AVH				*e*S		**S**	**21 33 47.0**	**+1.1**
KOK	**Koryaka**	**3.22**	**22**	*i*P		**P**	**21 33 10.5**	**+1.9**
SMAR	**Somma**	**3.24**	**24**	*e*P		**P**	**21 33 10.5**	**+1.7**
SDLR	**Sedlovina**	**3.27**	**24**	*i*P		**P**	**21 33 09.7**	**+0.4**
SDLR				*e*S		**S**	**21 33 46.0**	**-1.2**
NLC	**Nalytchevo**	**3.31**	**29**	P		**P**	**21 33 08.5**	**-1.3**
NLC				S		**S**	**21 33 45.1**	**-3.1**
NLC	**Nalytchevo**	**3.31**	**29**	*e*P		**P**	**21 33 09.6**	**-0.2**
NLC				*e*S		**S**	**21 33 46.2**	**-2.0**
GNL	**Ganaly**	**3.47**	**13**	*e*P		**P**	**21 33 13.5**	**+1.4**
GNL				*e*S		**S**	**21 33 52.4**	**+0.2**
SPN	**Mys Shipunski**	**3.48**	**36**	P		**P**	**21 33 12.0**	**-0.3**
SPN				S		**S**	**21 33 50.7**	**-1.8**
SPN	**Mys Shipunski**	**3.48**	**36**	*e*P		**P**	**21 33 12.0**	**-0.3**
SPN				*e*S		**S**	**21 33 49.9**	**-2.6**
TUMR	**Tumrok**	**5.40**	**22**	*e*P		**P**	**21 33 41.5**	**+2.5**
ESO	**Esso**	**5.75**	**12**	*e*P		**P**	**21 33 46.2**	**+2.5**
KBTR	**Krutoberegovo**	**6.96**	**30**	P		**P**	**21 33 59.1**	**-1.6**
KBTR	**Krutoberegovo**	**6.96**	**30**	*e*P		**P**	**21 34 00.4**	**-0.3**
KUR	**Kuril'sk**	**7.80**	**233**	*e*P		**P**	**21 34 11.5**	**-0.8**
KUR				AMB	AMB		21 34 14.5	
KUR	comp=Z,360nm,1.0s			A			21 35 56.0	
KUR	comp=Z,140nm,0.9s			A			21 35 56.0	
TYV	**Tymovskoe**	**8.92**	**279**	*erx*		rx	21 34 26.0	
UGL	**Uglegorsk**	**9.53**	**268**	*e*P		**P**	**21 34 36.0**	**+0.1**
UGL				AMB	AMB		21 34 37.0	
UGL	comp=Z,80nm,0.6s			AMB	AMB		21 34 37.0	
UGL	comp=Z,50nm,0.6s			AMB	AMB		21 34 37.0	
UGL	comp=Z,90nm,0.6s			AMB	AMB		21 34 37.0	
YUK	**Yuzh-Kuril'sk**	**9.66**	**234**	*e*P		**P**	**21 34 38.5**	**+0.8**
YUK				AMB	AMB		21 34 41.2	
YUK	comp=Z,320nm,0.4s			AMB	AMB		21 34 41.2	
YSS	**Yuzh-Sakhalins**	**9.79**	**255**	⇓*i*PN		**P**	**21 34 42.3**	**+2.8**
YSS				*e*S		**S**	**21 36 30.0**	**+1.2**
YSS				pmax	pmax			
YSS	comp=N,20nm,0.8s			pmax	pmax			
YSS	comp=E,30nm,0.8s			pmax	pmax			
YSS	comp=Z,20nm,0.8s			smax				
YSS	comp=N,20nm,0.7s			smax				
YSS	**Yuzh-Sakhalins**	**9.79**	**255**	*e*P		**P**	**21 34 40.0**	**+0.5**
YSS	comp=N,25nm,1.0s							
YSS	**Yuzh-Sakhalins**	**9.79**	**255**	⇓*i*P		**P**	**21 34 42.3**	**+2.8**
YSS				AMB	AMB		21 34 43.1	
YSS	comp=N,30nm,0.8s			AMB	AMB		21 34 43.1	
YSS	comp=N,20nm,0.8s			*e*S		**S**	**21 36 30.0**	**+1.2**
YSS				A			21 36 32.0	
YSS	comp=N,20nm,0.7s							
MA2	**Magadan**	**9.87**	**342**⇑	*e*PN		**P**	**21 34 40.8**	**+0.4**
MA2				pmax	pmax			
MA2	comp=Z,8.0nm,0.9s							
MA2	**Magadan**	**9.87**	**342**	*e*P		**P**	**21 34 36.9**	**-3.5**
NKL	**Nikolayevsk**	**10.30**	**292**	*e*P		**P**	**21 34 42.0**	**-4.4**
NKL				AMB	AMB		21 34 43.0	
NKL	comp=Z,22nm,1.0s							
FX1	**Attu Island--F**	**10.59**	**70**	P		**P**	**21 34 49.1**	**-1.1**
FX1	comp=Z,12nm,0.3s,baz=252,slow=23,SNR=43			S		**S**	**21 36 38.1**	**-10**
FX1	comp=Z,20nm,0.3s,baz=202,slow=19,SNR=8.6							
FX1	**Attu Island--F**	**10.59**	**70**	*e*P		**P**	**21 34 48.6**	**-1.7**
ASAJ	**Asahikawa**	**11.38**	**242**	PN		**P**	**21 35 01.7**	**+0.7**
ASAJ				pmax	pmax			
ASAJ	comp=Z,2.0nm,0.3s							
ASAJ	**Asahikawa**	**11.38**	**242**	P		**P**	**21 35 01.7**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=74,slow=11,SNR=32							
EKMR	**Ekimchan**	**14.93**	**290**	*e*P		**P**	**21 35 47.3**	**-0.3**
EKMR				AMB	AMB		21 35 52.1	
EKMR	comp=Z,10.0nm,0.5s							
BMKR	**Bomnak**	**17.43**	**295**	*e*P		**P**	**21 36 18.0**	**-1.1**
BMKR				AMB	AMB		21 36 19.4	
BMKR	comp=Z,13nm,0.7s							
YASR	**Yasnyy**	**17.92**	**291**	*e*P		**P**	**21 36 21.4**	**-3.8**
YASR				AMB	AMB		21 36 25.5	
YASR	comp=Z,7.0nm,0.8s							
BILL	**Bilibino**	**18.40**	**11**⇑	*e*P		**P**	**21 36 29.5**	**-1.4**
BILL				*e*S		**S**	**21 39 51.9**	**+1.3**
BILL				pmax	pmax			
BILL	comp=Z,7.0nm,1.1s							
BILL	comp=Z,700nm,20.0s			MLR	MLR			
BILL	**Bilibino**	**18.40**	**11**	*e*P		**P**	**21 36 29.2**	**-1.7**
	comp=Z,2.5nm,0.5s							
YAK	**Yakutsk**	**18.88**	**319**	*e*P		**P**	**21 36 33.9**	**-2.6**
YAK				pmax	pmax			
YAK	comp=Z,28nm,0.6s							
YAK	**Yakutsk**	**18.88**	**319**	*e*P		**P**	**21 36 33.9**	**-2.6**
	comp=Z,28nm,0.6s							
MDJ	**Mudanjiang**	**19.10**	**263**	P		**P**	**21 36 42.3**	**+3.2**
MDJ				AMB	AMB			
MDJ	comp=Z,16nm,0.9s			AMB	AMB			
MDJ	comp=Z,466nm,11.3s							
MDJ	**Mudanjiang**	**19.10**	**263**	*e*P		**P**	**21 36 42.0**	**+2.9**
MAJO	**Matsushiro**	**19.14**	**231**	*e*P		**P**	**21 36 40.8**	**+1.2**
MAJO				pmax	pmax			
MAJO	comp=Z,7.0nm,0.4s							
MAJO	**Matsushiro**	**19.14**	**231**	*e*P		**P**	**21 36 40.8**	**+1.2**
	comp=Z,6.5nm,0.4s							
MAT	**Matsushiro**	**19.14**	**231**	*e*P		**P**	**21 36 40.0**	**+0.4**
MAT	**Matsushiro**	**19.14**	**231**	P		**P**	**21 36 39.5**	**-0.1**
CLNS	**Chul'man**	**19.82**	**301**	*e*P		**P**	**21 36 46.3**	**-0.5**
CLNS				pmax	pmax			
CLNS	comp=Z,11nm,1.1s			pmax	pmax			
CLNS	comp=N,10.0nm,1.0s			pmax	pmax			
CLNS	comp=E,9.0nm,1.0s							
TIXI	**Tiksi**	**24.82**	**339**	*e*P		**P**	**21 37 33.9**	**-2.2**
TIXI				*e*			21 37 51.9	
TIXI				pmax	pmax			
TIXI	comp=Z,4.0nm,0.8s,mb4.0							
BOD	**Bodaibo**	**25.75**	**303**	*e*P		**P**	**21 37 44.7**	**-0.3**
BOD				*e*		pP	21 37 58.7	-1.5
COLA	**College**	**31.89**	**42**⇓	*e*P		**P**	**21 38 40.0**	**0.0**
ILAR	**Eielson Array**	**32.30**	**42**	P		**P**	**21 38 42.6**	**-1.0**
ILAR				pmax	pmax			
ILAR	comp=Z,1.0nm,0.9s							
ILAR	**Eielson Array**	**32.30**	**42**	P		**P**	**21 38 42.6**	**-1.0**
	comp=Z,1.2nm,0.9s,mb3.7,baz=272,slow=5.6,SNR=18							
SONM	**Songino Array**	**32.51**	**285**	P		**P**	**21 38 43.4**	**-2.2**
	comp=Z,0.2nm,0.5s,mb3.3,baz=64,slow=7.8,SNR=7.3							
SONM				PcP	PcP		21 41 29.5	-1.7
SONM	comp=Z,0.4nm,0.8s,baz=70,slow=0.9,SNR=5.4							
SSE	**Sheshan**	**32.61**	**247**	*e*P		**P**	**21 38 44.9**	**-1.7**
SSE				AMB	AMB			
SSE	comp=Z,37nm,0.7s			AMB	AMB			
SSE	comp=Z,80nm,3.7s							
SSE	**Sheshan**	**32.61**	**247**	*e*P		**P**	**21 38 44.9**	**-1.7**
	comp=Z,37nm,0.7s							
NJ2	**Nanjing**	**33.33**	**251**	*e*P		**P**	**21 38 55.3**	**+2.4**
NJ2				AP	pP		21 39 12.5	+3.8
NJ2				PP	PP		21 40 09.6	+3.5
NJ2				S		**S**	**21 44 10.0**	**+2.1**
NJ2				AMB	AMB			
NJ2	comp=Z,20nm,1.1s,mb5.0			AMB	AMB			

comp=Z,1μm,6.4s
NJ2 LR LR
comp=N,1μm,15.8s
NJ2 LR LR
comp=E,920nm,18.3s
NJ2 LR LR
comp=Z,960nm,15.1s
ZAK Zakamensk 33.44 291 *eP* **P 21 38 51.4 -2.2**
INK Inuvik 37.38 35 *eP* **P 21 39 26.7 -0.1**
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 37.38 35 P **P 21 39 26.9 +0.1**
comp=Z,1.5nm,0.4s,mb4.2,baz=277,slow=6.8,SNR=10
INK Inuvik 37.38 35 *eP* **P 21 39 26.7 -0.2**
comp=Z,2.2nm,0.6s,mb4.2
YKA Yellowknife Ar 46.66 40 P **P 21 40 42.7 +0.2**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 46.66 40 P **P 21 40 42.7 +0.2**
comp=Z,2.2nm,0.7s,mb4.2,baz=298,slow=7.6,SNR=32
YKA Yellowknife Ar 46.66 40 P **P 21 40 42.7 +0.2**
RES Resolute Bay 46.69 20 P **P 21 40 41.8 -0.7**
KURK Kurchatov 47.39 302 *eP* **P 21 40 45.2 -3.1**
KURK pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
KURK Kurchatov 47.39 302 *eP* **P 21 40 45.2 -3.1**
comp=Z,1.6nm,0.3s,mb4.4
CHKZ Chkalovo 49.96 309 *eP* **P 21 41 04.5 -3.7**
CHKZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
CHKZ Chkalovo 49.96 309 *eP* **P 21 41 04.5 -3.7**
comp=Z,2.0nm,0.6s,mb4.3
BVAR Borovoye Array 50.44 309 P **P 21 41 08.5 -3.3**
comp=Z,0.7nm,0.3s,mb4.1,baz=59,slow=7.4,SNR=14
BRVK Borovoye 50.47 309 *eP* **P 21 41 08.5 -3.6**
BRVK pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
BRVK Borovoye 50.47 309 *eP* **P 21 41 08.5 -3.6**
comp=Z,1.0nm,0.4s,mb4.2
YBH Yreka Blue Hor 54.06 66 P **P 21 41 39.9 +0.9**
YBH pmax pmax
comp=Z,1.0nm,0.7s
YBH Yreka Blue Hor 54.06 66 P **P 21 41 39.9 +0.9**
comp=Z,1.4nm,0.7s,mb4.0,baz=270,slow=9.1,SNR=4.0
ARCES ARCESS Array B 55.24 341 P **P 21 41 43.1 -4.2**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 55.24 341 P **P 21 41 43.1 -4.2**
comp=Z,1.5nm,0.8s,mb4.1,baz=37,slow=7.7,SNR=6.2
CMAR Chiang Mai Arr 55.48 257 P **P 21 41 49.0 -0.7**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 55.48 257 P **P 21 41 49.0 -0.7**
comp=Z,2.4nm,0.6s,mb4.4,baz=32,slow=6.7,SNR=16
HLID Hailey 57.61 59 *eP* **P 21 42 05.2 +0.7**
comp=Z,2.6nm,1.3s,mb4.1
NVAR Mina Array Bea 58.77 66 P **P 21 42 13.3 +0.7**
comp=Z,0.6nm,0.4s,mb4.0,baz=299,slow=7.2,SNR=8.0
NVAR pP pP 21 42 30.6 +1.1
comp=Z,0.8nm,0.5s,baz=298,slow=7.0,SNR=4.5
BW06 Boulder Array 60.79 57 *eP* **P 21 42 26.7 +0.3**
comp=Z,2.7nm,0.8s,mb4.4
PDAR Pinedale Array 60.79 57 P **P 21 42 27.2 +0.7**
comp=Z,4.3nm,1.0s,mb4.5,baz=311,slow=2.7,SNR=22
PDAR pP pP 21 42 43.7 +0.2
comp=Z,2.2nm,0.8s,baz=305,slow=2.6,SNR=8.8
FINES FINESS Array B 61.79 336 P **P 21 42 28.4 -4.5**
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 61.79 336 P **P 21 42 28.4 -4.5**
comp=Z,2.2nm,0.9s,mb4.3,baz=18,slow=6.0,SNR=4.8
PV10 Paradox Valley 64.11 61 *eP* **P 21 42 49.7 +1.2**
NOA NORSAR Array B 65.57 342 P **P 21 42 54.2 -3.4**
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA NORSAR Array B 65.57 342 P **P 21 42 54.2 -3.4**
comp=Z,1.8nm,0.9s,mb4.1,baz=317,slow=3.4,SNR=2.6
SCHQ Schefferville 69.09 25 P **P 21 43 18.1 -1.6**
comp=Z,1.7nm,0.8s,mb4.0,baz=357,slow=11,SNR=6.6
AKASG Malin Array Be 69.84 327 P **P 21 43 20.5 -3.9**
comp=Z,0.3nm,0.3s,mb3.7,baz=29,slow=6.3,SNR=3.6
WRAB Tennant Creek 72.67 202 *eP* **P 21 43 40.9 -0.9**
WRA Warramunga Arr 72.68 202 P **P 21 43 41.0 -0.8**
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 72.68 202 P **P 21 43 41.0 -0.8**
comp=Z,2.5nm,0.7s,mb4.3,baz=18,slow=6.2,SNR=11
TXAR Lajitas Array 73.75 64 P **P 21 43 48.7 +0.8**
comp=Z,4.3nm,1.0s,mb4.3,baz=293,slow=4.5,SNR=26
TXAR pP pP 21 44 06.2 +0.7
comp=Z,0.9nm,0.5s,baz=300,slow=5.1,SNR=5.8
KHC Kasperske Hory 75.99 336 *eP* **P 21 44 04.5 +4.1**
ASAR Alice Springs 76.37 201 P **P 21 44 03.5 +0.4**
comp=Z,1.9nm,0.6s,mb4.2,baz=13,slow=5.3,SNR=24
BRTR Keskin Array B 77.34 318 P **P 21 44 08.0 -0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 77.34 318 P **P 21 44 08.0 -0.1**
comp=Z,0.9nm,0.9s,mb3.7,baz=72,slow=4.6,SNR=3.2
PLCA Paso Flores 146.09 92 PKP2 PKPab 21 51 52.9 -1.1
PLCA pmax pmax
comp=Z,2.0nm,0.6s
PLCA Paso Flores 146.09 92 PKPbc PKPbc 21 51 52.9 +1.6
comp=Z,2.2nm,0.6s,baz=284,slow=5.1,SNR=6.9
PLCA Paso Flores 146.09 92 PKPbc PKPbc 21 51 52.9 +1.6

*ATH **23** 21:54:58.8, 37.06N×27.87E, h37km±20km, MD3.1/3*
*CSEM **23** 21:55:00.6±0.1, 37.01N×27.79E, h15km, MD3.2, Error ellipse: s-maj=3.2km s-min=2.0km az=78.0*
*ISK **23** 21:55:00.3, 36.99N×27.78E, h14km, MD3.2*
ISC 23 21:55:00.8±0.5, 36.97N±0.03×27.73E±0.05, h22km±5km, n19, σ0°73/28, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.24**	**293**	*i* P	**Pb**	**21 55 06.8**	**-0.1**
BDRM				*i* S	**Sb**	**21 55 11.8**	**+0.9**
MLSB	**Milas**	**0.33**	**7**	PG	**Pb**	**21 55 07.3**	**-0.7**
MLSB				SG	**Sb**	**21 55 12.8**	**-0.2**
YER	**Yerkesik**	**0.47**	**70**	*i* PG	**Pb**	**21 55 08.8**	**-1.7**
AYDN	**Tasoluk**	**0.70**	**10**	*i* P	**Pb**	**21 55 14.4**	**+0.1**
AYDN				*i* S	**Sb**	**21 55 24.5**	**+1.0**
ARG	**Arkhangelos**	**0.82**	**157**	*e*PN	**Pn**	**21 55 15.5**	**-1.6**
ARG				*e*SN	**Sn**	**21 55 28.5**	**0.0**
SMG	**Samos**	**1.02**	**316**	*e*PN	**Pn**	**21 55 18.5**	**-1.5**
FETY	**Fethiye**	**1.14**	**107**	PN	**Pn**	**21 55 22.0**	**+0.3**
FETY				SN	**Sn**	**21 55 37.8**	**+1.1**
DNZL	**Cakiroluk**	**1.27**	**55**	*i* P	**Pn**	**21 55 23.0**	**-0.5**
DNZL				*i* S	**Sb**	**21 55 40.6**	**+0.7**
DENT	**Denizli**	**1.30**	**53**	PN	**Pn**	**21 55 24.3**	**+0.3**
IZM	**Izmir**	**1.47**	**346**	PN	**Pn**	**21 55 26.9**	**+0.5**
KDAG	**Bornova**	**1.48**	**346**	*i* P	**Pn**	**21 55 26.6**	**+0.1**
KDAG				*i* S	**Sn**	**21 55 45.2**	**0.0**
KARP	**Karpathos**	**1.49**	**198**	*e*PB	**Pb**	**21 55 27.5**	**-0.2**
KARP				*e*SN	**Sn**	**21 55 46.5**	**+0.8**
BLCB	**Balcova**	**1.51**	**339**	PN	**Pn**	**21 55 27.5**	**+0.5**
MANT	**Manisa**	**1.65**	**23**	*i* P	**Pn**	**21 55 28.7**	**-0.3**
MANT				*i* S	**Sn**	**21 55 49.4**	**-0.4**
ELL	**Elmali**	**1.76**	**97**	*e*PN	**Pn**	**21 55 31.0**	**+0.4**
AKS	**Akhisar**	**1.91**	**2**	PN	**Pn**	**21 55 32.8**	**+0.2**
KHL	**Karahalli**	**1.96**	**46**	*e*PN	**Pn**	**21 55 33.4**	**0.0**
BCK	**Bucak**	**2.34**	**77**	*e*PN	**Pn**	**21 55 39.5**	**+0.7**
ALT	**Altintas**	**2.81**	**41**	*e*PN	**Pn**	**21 55 44.6**	**-0.9**

*ATH **23** 21:55:55.2, 37.10N×28.13E, h10km, MD3.2/3*
*CSEM **23** 21:55:57.8±0.1, 36.99N×27.73E, h8km, MD3.3, Error ellipse: s-maj=2.8km s-min=2.6km az=40.0*
*ISK **23** 21:55:58.6, 37.05N×27.75E, h7km, MD3.3*
ISC 23 21:55:58.9±0.7, 36.96N±0.03×27.78E±0.04, h6km±5km, n17, σ1°04/26, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.29**	**292**	*i* P	**Pg**	**21 56 05.3**	**+0.6**
BDRM				*i* S	**Sg**	**21 56 10.2**	**+1.7**
YER	**Yerkesik**	**0.44**	**66**	*i* PG	**Pg**	**21 56 07.4**	**-0.4**
YER				*i* SG	**Sg**	**21 56 14.1**	**+0.4**
AYDN	**Tasoluk**	**0.71**	**7**	*i* P	**Pg**	**21 56 12.6**	**-0.5**
AYDN				*i* S	**Sg**	**21 56 22.4**	**-0.1**
ARG	**Arkhangelos**	**0.79**	**159**	*e*PB	**Pb**	**21 56 13.0**	**-1.7**
ARG	**Arkhangelos**	**0.79**	**159**	*e*P	**Pb**	**21 56 14.5**	**-0.2**
ARG				*e*S	**Sb**	**21 56 27.0**	**+1.6**
SMG	**Samos**	**1.06**	**315**	*e*PB	**Pb**	**21 56 18.5**	**-0.8**
FETY	**Fethiye**	**1.10**	**107**	PN	**Pn**	**21 56 20.9**	**+0.1**
FETY				SN	**Sn**	**21 56 37.5**	**+1.1**
DNZL	**Cakiroluk**	**1.25**	**54**	*i* P	**Pb**	**21 56 22.2**	**-0.3**
DNZL				*i* S	**Sb**	**21 56 41.8**	**+3.1**
DENT	**Denizli**	**1.28**	**51**	PN	**Pn**	**21 56 22.4**	**-0.9**
DENT				SN	**Sn**	**21 56 40.7**	**-0.3**
KARP	**Karpathos**	**1.49**	**200**	*e*PB	**Pb**	**21 56 25.5**	**-1.2**
IZM	**Izmir**	**1.49**	**344**	PN	**Pn**	**21 56 25.2**	**-1.2**
KDAG	**Bornova**	**1.50**	**345**	*i* P	**Pn**	**21 56 27.1**	**+0.6**
KDAG				*i* S	**Sb**	**21 56 48.3**	**+2.4**
BLCB	**Balcova**	**1.54**	**338**	PN	**Pn**	**21 56 26.5**	**-0.6**
MANT	**Manisa**	**1.65**	**22**	*i* P	**Pn**	**21 56 25.1**	**-3.6**
MANT				*i* S	**Sn**	**21 56 50.8**	**+0.3**
ELL	**Elmali**	**1.72**	**96**	*e*PN	**Pn**	**21 56 30.0**	**+0.3**
AKS	**Akhisar**	**1.92**	**1**	PN	**Pn**	**21 56 31.0**	**-1.5**
KHL	**Karahalli**	**1.94**	**45**	*e*PN	**Pn**	**21 56 32.5**	**-0.4**

IGQ 23 22:03:30.0, 1.11S×81.42W, h12km±25km, mb4.1, 1C-3D, Error ellipse: s-maj=25.4km s-min=7.2km az=172.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.81**	**98**	P	Pn	22 04 16.9	+1.3
IGUA				S	Sn	22 04 50.8	+1.2
JUA2	**San Juan 2**	**2.95**	**73**	P	Pn	22 04 18.6	+0.9
TERV	**Terraza Guagua**	**2.96**	**72**	P	Pn	22 04 20.4	+2.6
PINO	**Pino**	**2.96**	**71**	P	Pn	22 04 18.0	+0.2
NAS1	**Nasa**	**2.98**	**81**	P	Pn	22 04 20.1	+2.1
ARRY	**Arrayan**	**2.99**	**98**	⇓P	Pn	22 04 19.6	+1.4
ARRY				S	Sn	22 04 54.4	+0.1
PATA	**Patacocha**	**3.01**	**98**	P	Pn	22 04 21.1	+2.6
YANA	**Yana**	**3.01**	**71**	P	Pn	22 04 19.4	+0.8
ULBA	**Ulba**	**3.03**	**96**	P	Pn	22 04 21.0	+2.2
VC1	**Cotopaxi 1**	**3.05**	**81**	P	Pn	22 04 21.6	+2.5
ANTI	**Antisana**	**3.32**	**79**	P	Pn	22 04 24.5	+1.5
COTA	**Cotacachi**	**3.40**	**65**	⇑P	Pn	22 04 25.0	+1.0
COTA				S	Sn	22 05 06.1	+1.4
CAYR	**Refugio Cayambi**	**3.59**	**72**	⇓P	Pn	22 04 29.3	+2.6
CAYA	**Cayambe**	**3.62**	**71**	⇓P	Pn	22 04 29.6	+2.3

*NEIC **23** 22:04:46.8±1.0, 21.96S×179.33W, h565km±13km, mb4.7/8, Error ellipse: s-maj=16.3km s-min=10.7km az=143.0*
*IDC **23** 22:04:49.4±1.9, 22.02S×179.54W, h583km±19km, mb3.8/6, mb1 3.9/7, mb1mx3.5/16, mbtmp4.8/7, Error ellipse: s-maj=24.9km s-min=16.3km az=170.0*
ISC 23 22:04:46.6±1.4, 22.00S±0.09×179.4W±0.2, h570km±28km, n33, σ0°93/24, mb4.7/12, 10D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.85**	**43**	*e*P	**P**	**22 07 12.8**	**-1.0**
	23nm,0.6s						
URZ	**Urewera**	**16.48**	**190**	P	**P**	**22 08 09.5**	**+0.1**
	1.8nm,0.3s,baz=353,slow=5.5,SNR=12						
URZ				S	**S**	**22 10 52.5**	**-0.6**
	1.2nm,0.3s,baz=266,slow=23,SNR=7.9						
CNB	**Canberra Magne**	**30.29**	**237**	⇓*i*P	**P**	**22 10 15.1**	**+1.4**
	402nm,0.7s						
CTA	**Charters Tower**	**32.04**	**267**	*e*P	**P**	**22 10 29.5**	**+0.8**
	13nm,0.5s,mb4.7						
TOO	**Toolangi**	**33.94**	**235**	⇓*i*P	**P**	**22 10 45.5**	**+1.1**
	14nm,0.6s,mb4.7						
PMG	**Port Moresby**	**34.42**	**286**	P	**P**	**22 10 48.8**	**+0.2**
	22nm,0.9s,mb4.7,baz=64,slow=4.7,SNR=5.2						
PMG	**Port Moresby**	**34.42**	**286**	*e*P	**P**	**22 10 49.1**	**+0.5**
STKA	**Stephens Creek**	**35.94**	**246**	⇓*i*P	**P**	**22 11 02.0**	**+1.0**
	10nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**35.94**	**246**	P	**P**	**22 11 02.2**	**+1.1**
	15nm,0.6s,mb4.7,baz=90,slow=10.0,SNR=37						
ASAR	**Alice Springs**	**42.89**	**258**	P	**P**	**22 11 57.1**	**0.0**
	21nm,0.7s,mb4.8,baz=91,slow=8.2,SNR=183						
ASAR				PcP	PcP	22 13 34.9	-0.4
	1.7nm,0.6s,baz=100,slow=4.0,SNR=5.4						
ASAR				ScP		22 16 31.9	
	0.7nm,0.6s,baz=122,slow=3.2,SNR=5.3						
ASAR				S	**S**	**22 17 38.9**	**-2.8**
	0.4nm,0.5s,baz=96,slow=16,SNR=4.9						
ASPA	**Alice Springs**	**42.89**	**258**	⇓*i*P	**P**	**22 11 57.0**	**-0.2**
WB2	**Warramunga Arr**	**43.08**	**264**	⇓*i*P	**P**	**22 11 58.0**	**-0.6**
WRAB	**Tennant Creek**	**43.08**	**264**	*e*P	**P**	**22 11 57.9**	**-0.7**
	33nm,0.9s,mb4.9						
WRA	**Warramunga Arr**	**43.09**	**264**	P	**P**	**22 11 58.1**	**-0.6**
	12nm,0.7s,mb4.5,baz=97,slow=7.9,SNR=76						
WRA				ScP		22 16 33.1	
	1.1nm,1.0s,baz=93,slow=4.2,SNR=5.2						
WRA				S	**S**	**22 17 42.4**	**-2.2**
	0.2nm,0.5s,baz=97,slow=14,SNR=2.6						
KAKA	**Kakadu**	**46.69**	**273**	⇓*i*P	**P**	**22 12 25.8**	**-0.8**
	9.2nm,0.4s,mb4.7						
FORT	**Forrest**	**47.48**	**248**	⇓*i*P	**P**	**22 12 31.6**	**-0.8**
	93nm,0.6s,mb5.5						
FITZ	**Fitzroy Crossi**	**51.52**	**264**	⇓*i*P	**P**	**22 13 02.0**	**-0.3**
	8.0nm,0.5s,mb4.3						
VNDA	**Vanda**	**56.31**	**185**	P	**P**	**22 13 35.0**	**-0.2**
	2.5nm,1.1s,baz=9.0,slow=6.8,SNR=4.6						
VNDA	**Vanda**	**56.31**	**185**	P	**P**	**22 13 35.0**	**-0.2**
ENH	**Enshi**	**85.78**	**305**	*e*P	**P**	**22 16 28.1**	**+0.8**
	7.2nm,1.0s,mb4.3						
CMAR	**Chiang Mai Arr**	**89.36**	**290**	P	**P**	**22 16 46.2**	**+1.8**
	4.1nm,0.8s,mb4.3,baz=130,slow=2.9,SNR=28						
BVAR	**Borovoye Array**	**119.35**	**319**	PKP	PKPdf	22 22 31.3	+0.1
	1.1nm,0.4s,baz=133,slow=1.7,SNR=14						
ARCES	**ARCESS Array B**	**130.14**	**349**	PKP	PKPdf	22 22 52.8	+1.3
	2.8nm,0.8s,baz=60,slow=2.2,SNR=7.0						
FINES	**FINESS Array B**	**136.81**	**342**	PKhKP		22 22 59.0	
	2.3nm,1.1s,baz=45,slow=5.4,SNR=4.1						
FINES				PKP	PKPdf	22 23 06.3	+2.3
	0.6nm,0.4s,baz=141,slow=1.8,SNR=6.2						
AKASG	**Malin Array Be**	**143.64**	**329**	PKP	PKPdf	22 23 15.9	-0.5
	1.9nm,0.4s,baz=40,slow=4.3,SNR=36						
BRTR	**Keskin Array B**	**146.81**	**310**	PKPbc	PKPbc	22 23 26.4	+2.0
	2.0nm,0.7s,baz=137,slow=4.7,SNR=9.2						
CLL	**Collm**	**149.18**	**345**	⇓*i*P	PKPdf	22 23 25.6	+0.1
CLL				*i*		22 23 31.8	
CLL	**Collm**	**149.18**	**345**	⇓P	PKPdf	22 23 25.6	+0.1
CLL				*i*		22 23 31.8	
BRG	**Berggiesshubel**	**149.34**	**343**	*i* P	PKPdf	22 23 32.9	+7.1
PRU	**Pruhonice**	**149.97**	**342**	*e*PKPbc	PKPdf	22 23 34.0	+7.2
KHC	**Kasperske Hory**	**151.02**	**342**	*e*P	PKPdf	22 23 36.0	+7.6
KHC				*e*		22 23 47.5	
KHC	**Kasperske Hory**	**151.02**	**342**	*e*PKPbc	PKPdf	22 23 36.0	+7.6
KHC				PKPab	PKPab	22 23 47.5	0.0
GERES	**GERESS Array B**	**151.24**	**342**	PKPbc	PKPdf	22 23 37.1	+8.4
	0.9nm,0.4s,baz=36,slow=2.3,SNR=7.3						

*IDC **23** 22:18:20.3±1.7, 3.32N×95.14E, mb3.9/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, ML3.9/1, Error ellipse: s-maj=74.1km s-min=20.3km az=58.0*
*NEIC **23** 22:18:23.2±0.5, 3.21N×94.84E, h30km, mb4.2/5, Error ellipse: s-maj=13.9km s-min=8.5km az=55.0*
ISC 23 22:18:20.1±5.5, 3.2N±0.1×94.8E±0.1, h21km±41km, n15, σ0°77/15, mb4.0/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.65**	**287**	*e*P	**P**	**22 21 48.3**	**0.0**
CM31	**Chiang Mai Arr**	**15.69**	**15**	*e*P	**P**	**22 22 00.9**	**-0.9**
	1.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**15.69**	**15**	Pn	**P**	**22 22 02.4**	**+0.6**
	0.2nm,0.3s,baz=211,slow=11,SNR=14						
LSA	**Lhasa**	**26.59**	**353**	*e*P	**P**	**22 24 00.3**	**+1.4**
	4.8nm,0.7s,mb4.1						
AAK	**Ala-Archa**	**43.26**	**338**	P	**P**	**22 26 22.1**	**+0.2**
WRA	**Warramunga Arr**	**45.09**	**122**	P	**P**	**22 26 36.4**	**-0.5**
	2.7nm,0.8s,mb4.1,baz=302,slow=9.1,SNR=12						
WRAB	**Tennant Creek**	**45.09**	**122**	*e*P	**P**	**22 26 36.4**	**-0.6**
	5.5nm,1.0s,mb4.3						
SONM	**Songino Array**	**45.57**	**11**	P	**P**	**22 26 40.7**	**+0.3**
	0.4nm,0.6s,mb3.5,baz=189,slow=8.4,SNR=5.0						
ASAR	**Alice Springs**	**46.47**	**127**	P	**P**	**22 26 48.6**	**+0.8**
	1.2nm,0.8s,mb3.9,baz=304,slow=8.1,SNR=6.9						
BVAR	**Borovoye Array**	**53.62**	**342**	P	**P**	**22 27 41.5**	**-0.5**
	1.7nm,0.9s,mb4.0,baz=149,slow=8.4,SNR=7.6						
BRVK	**Borovoye**	**53.68**	**342**	*e*P	**P**	**22 27 41.5**	**-1.0**
	1.0nm,0.7s,mb3.9						
CHKZ	**Chkalovo**	**54.11**	**342**	*e*P	**P**	**22 27 45.1**	**-0.6**
	2.3nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**56.43**	**132**	P	**P**	**22 28 03.2**	**+0.3**
	1.3nm,0.7s,mb4.1,baz=346,slow=11,SNR=2.9						
STKA	**Stephens Creek**	**56.43**	**132**	*e*P	**P**	**22 28 03.1**	**+0.2**
FINES	**FINESS Array B**	**77.15**	**333**	P	**P**	**22 30 17.3**	**+3.6**
	0.9nm,0.8s,mb3.8,slow=1.9,SNR=4.4						

*BJI **23** 22:36:01.9, 35.84N×29.23E, h26km, mB5.8, mb5.4, Ms5.6, Msz5.4*
*MOS **23** 22:36:03.9±1.1, 35.74N×29.71E, h22km, mb5.6/86, MS5.2/45, Error ellipse: s-maj=3.8km s-min=1.9km az=119.8*
*CSEM **23** 22:36:05.8, 35.80N×29.70E, h30km, ML6.1*
*DHMR **23** 22:36:05.6±3.0, 35.87N×29.70E, h10km, mb5.4*
*NEIC **23** 22:36:05.5±0.2, 35.80N×29.64E, h10km, mb5.4/154, MS5.4/107, MW5.8, ML5.6(THE), ML5.5(ISK), ML5.4(GII), Error ellipse: s-maj=3.4km s-min=2.0km az=17.0, Moment Tensor Solution. s5 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.72; $M_{\theta\theta}$-3.17; $M_{\phi\phi}$3.89; $M_{r\theta}$2.06; $M_{\theta\phi}$-2.36; $M_{\phi r}$-0.80; Best double couple: $M_0$4.8×10^{17} NP1:ϕ_s207°, δ62°, λ-8°. NP2:ϕ_s300°, δ83°, λ-152°. Principal axes: T 4.96, Plg14°, Azm70°; N -.27, Plg61°, Azm313°; P -4.69, Plg25°, Azm167°;*
NEIC Felt [V] at Fethiye, Turkey. Felt [II] at Cairo, Egypt. Felt [II] at Larnaca, Limassol and Nicosia, Cyprus. Felt at Antalya, Kas and along much of the southern coast of Turkey.
*ZUR_RM **23** 22:36:05, 35.80N×29.64E, h24km, Mw5.9/28, Moment Tensor Solution. s28 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.90; $M_{\theta\theta}$-5.36; $M_{\phi\phi}$6.25; $M_{r\theta}$2.80; $M_{\theta\phi}$0.61; $M_{\phi r}$-2.69; Best double couple: $M_0$7.05×10^{17} NP1:ϕ_s320°, δ84°, λ-146°. NP2:ϕ_s226°, δ56°, λ-7°. Principal axes: T 7.163, Plg19°, Azm88°; N -.224, Plg55°, Azm328°; P -6.939, Plg28°, Azm189°;*
*HRVD **23** 22:36:05.5±0.2, 35.89N×29.68E, h24km, MW5.8/74, Centroid moment Tensor Solution. LP body waves: s53,c98;Mantle waves: s74,c195; Half duration: 2±0 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.10±.08; $M_{\theta\theta}$-3.37±.07; $M_{\phi\phi}$4.46±.08; $M_{r\theta}$3.56±.22; $M_{\theta\phi}$0.54±.06; $M_{\phi r}$-3.54±.22; Best double couple: $M_0$6.455×10^{17} NP1: ϕ_s224°, δ38°, λ-10°. NP2:ϕ_s322°, δ84°, λ-128°. Principal axes: T 6.319, Plg28°, Azm82°; N .262, Plg38°, Azm327°; P -6.591, Plg39°, Azm198°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*ISK **23** 22:36:05.2, 35.79N×29.58E, h22km, ML5.8*
*THE **23** 22:36:08.4, 35.90N×29.71E, h5km, ML5.7*
*SFS **23** 22:36:08.0, 35.95N×29.71E, h32km*
*PDG **23** 22:36:08.7±0.3, 36.03N×29.52E, h22km±1km*
*NIC **23** 22:36:08.5±0.0, 36.36N×29.69E, h30km*
NIC Felt earthquake; Maximum Intensity 2; Earthquake Eastern Medi/nean Sea 45 km S Kas.Felt I=II at Nicosia , Larnaca & Li.
*GRAL **23** 22:36:09.4±1.7, 35.94N×30.02E, h0km±485km, MD5.6*
*IDC **23** 22:36:09.9±1.1, 35.98N×29.64E, h42km±8km, mb4.9/20, mb1 5.1/29, mb1mx5.1/29, mbtmp5.2/29, ML4.8/8, MS5.2/12, Ms1 5.2/12, ms1mx5.0/21, Error ellipse: s-maj=9.7km s-min=7.1km az=158.0*
*HLW **23** 22:36:10.0, 35.83N×29.59E, h30km, Mb5.7*
ISC 23 22:36:07.4±0.2, 35.85N±0.01×29.67E±0.01, h42km±1km, h32km±3.6km: pP-P, n1126, σ1°14/1173, mb5.4/186, MS5.3/133, 98C-50D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.92**	**329**	*i* PG	**P**	**22 36 24.1**	**+0.2**
FETY				*i* SG	**S**	**22 36 36.3**	**+0.1**
ELL	**Elmali**	**0.92**	**12**	*i* PG	**P**	**22 36 23.9**	**-0.1**
ELL	**Elmali**	**0.92**	**12**	Pg	**P**	**22 36 24.2**	**+0.2**
ELL	**Elmali**	**0.92**	**12**	*i* P	**P**	**22 36 24.2**	**+0.2**
ARG	**Arkhangelos**	**1.30**	**287**	*i* P	**P**	**22 36 30.1**	**+0.6**
ANTB	**Antalya**	**1.32**	**37**	*i* PN	**P**	**22 36 31.1**	**+1.3**
ANTB				*i* SN	**S**	**22 36 49.2**	**+2.8**
YER	**Yerkesik**	**1.70**	**319**	*i* PN	**P**	**22 36 36.3**	**+1.2**
YER	**Yerkesik**	**1.70**	**319**	Pn	**P**	**22 36 36.1**	**+1.0**
YER	**Yerkesik**	**1.70**	**319**	P	**P**	**22 36 36.1**	**+1.0**
YER	**Yerkesik**	**1.70**	**319**	*i* Pn	**P**	**22 36 36.3**	**+1.2**
BCK	**Bucak**	**1.77**	**25**	*i* PN	**P**	**22 36 38.0**	**+1.8**
BCK	**Bucak**	**1.77**	**25**	P	**P**	**22 36 38.2**	**+2.0**
DNZL	**Cakiroluk**	**1.90**	**345**	*i* P	**P**	**22 36 39.0**	**+0.9**
DNZL				*i* S	**S**	**22 37 04.7**	**+3.7**
DENT	**Denizli**	**1.97**	**345**	*i* PN	**P**	**22 36 38.9**	**0.0**
DENT	**Denizli**	**1.97**	**345**	Pn	**P**	**22 36 39.2**	**+0.3**
MLSB	**Milas**	**2.10**	**314**	PN	**P**	**22 36 40.9**	**+0.1**
MLSB	**Milas**	**2.10**	**314**	Pn	**P**	**22 36 41.2**	**+0.4**
BDRM	**Kayabasi**	**2.16**	**305**	*i* P	**P**	**22 36 42.2**	**+0.5**
TKTP	**Tekketepe**	**2.25**	**13**	*i* P	**P**	**22 36 45.4**	**+2.4**
TKTP				*i* S	Sx	22 37 38.8	
AYDN	**Tasoluk**	**2.31**	**322**	*i* P	**P**	**22 36 45.8**	**+2.0**
AYDN				*i* S	**S**	**22 37 16.3**	**+5.1**
PPCY	**Paphos**	**2.39**	**113**	⇑P	**P**	**22 36 46.7**	**+1.7**
PPCY				S	**S**	**22 37 21.8**	**+8.5**
PPCY	**Paphos**	**2.39**	**113**	⇑*i*P	**P**	**22 36 46.7**	**+1.7**
PPCY				S	**S**	**22 37 21.8**	**+8.5**
KHL	**Karahalli**	**2.47**	**357**	*i* PN	**P**	**22 36 46.2**	**0.0**
KHL	**Karahalli**	**2.47**	**357**	Pn	**P**	**22 36 46.4**	**+0.2**
ALFC	**Alevga

LOD	Lodumlu	4.72	30	*e*PN	P	22 37 17.8	-0.2
LOD	Lodumlu	4.72	30	Pn	P	22 37 19.0	+1.0
EYL	Eskiyayla	4.73	5	Pn	P	22 37 18.6	+0.5
ARMT	Armutlu	4.75	353	*i* PN	P	22 37 18.5	0.0
KAMT	Kaman	4.76	41	*i* PN	P	22 37 18.8	+0.2
KAMT	Kaman	4.76	41	Pn	P	22 37 19.0	+0.4
MDU	Mudurnu	4.77	14	PN	P	22 37 18.7	0.0
MDU	Mudurnu	4.77	14	Pn	P	22 37 18.9	+0.2
EZN	Ezine	4.77	327	Pn	P	22 37 19.5	+0.8
EZN	Ezine	4.77	327	*e*P	P	22 37 19.5	+0.8
4.0nm,0.9s							
BOZC	Bozcaada	4.91	325	*i* P	P	22 37 20.0	-0.7
HRT	Hereke	4.97	0	PN	P	22 37 22.4	+0.9
HRT	Hereke	4.97	0	Pn	P	22 37 23.1	+1.7
BRTR	Keskin Array B	4.99	38	P	P	22 37 21.2	-0.6
BRTR				S	S	22 38 17.8	-1.1
BRTR				pmax	pmax		
comp=Z,90nm,0.3s							
BRTR				smax			
comp=N,167nm,0.3s							
BRTR	Keskin Array B	4.99	38	P	P	22 37 21.1	-0.6
comp=N,90nm,0.3s,baz=203,slow=13,SNR=858							
BRTR				S	S	22 38 17.8	-1.1
comp=N,167nm,0.3s,baz=209,slow=23,SNR=40							
BRTR	Keskin Array B	4.99	38	P	P	22 37 21.1	-0.7
BRTR				*e*S	S	22 38 17.8	-1.1
comp=N,84nm,0.3s							
BADT	Buyukada	5.01	355	Pn	P	22 37 24.1	+1.9
MRMT	Marmara Adasi	5.02	342	Pn	P	22 37 22.2	0.0
CEYT	Ceyhan	5.04	75	PN	P	22 37 21.9	-0.6
CEYT	Ceyhan	5.04	75	Pn	P	22 37 22.2	-0.3
HENT	Hendek	5.06	11	*i* P	P	22 37 23.3	+0.5
AVNT	Avonos	5.07	53	*i* P	P	22 37 23.0	+0.1
HMAT	Matruh	5.20	205	P	P	22 37 25.2	+0.5
HMAT				S	S	22 38 19.8	-4.6
SART	Tekirdag	5.21	339	*i* P	P	22 37 28.0	+3.1
MATL	Matirih	5.23	115	*e*PN	P	22 37 25.0	-0.1
ISK	Istanbul-Kandi	5.23	355	*e*PN	P	22 37 25.9	+0.7
ISK	Istanbul-Kandi	5.23	355	Pn	P	22 37 25.8	+0.6
HTY	Hatay	5.26	85	PN	P	22 37 24.6	-0.9
HTY	Hatay	5.26	85	Pn	P	22 37 24.7	-0.8
HBRG	Burj al 'Arab	5.26	178	P	P	22 37 26.4	+0.8
HBRG				S	S	22 38 22.1	-3.7
MFT	Murefte	5.28	340	Pn	P	22 37 26.8	+1.0
BHL	Bhannes	5.29	110	*e*PN	P	22 37 24.5	-1.5
BHL				SN	S	22 38 20.2	-6.4
HNTI	Hanita	5.32	120	Pn	P	22 37 26.0	-0.4
HNTI				Sn	S	22 38 23.6	-3.7
COBT	Iskenderun	5.37	81	*i* P	P	22 37 27.0	-0.2
LIA	Limnos Island	5.38	320	Pn	P	22 37 26.7	-0.5
HWQ	Hawqa	5.38	105	*e*PN	P	22 37 26.9	-0.4
HWQ				SN	S	22 38 24.1	-4.8
LOS	Limnos	5.46	320	*e*Pn	P	22 37 28.0	-0.3
ELDT	Eldivan	5.50	31	*i* P	P	22 37 29.4	+0.5
KSDI	Kefar Szold	5.61	116	Pn	P	22 37 30.3	-0.2
AOS	Alonnisos	5.67	308	*e*Pn	P	22 37 31.6	+0.4
CANT	Cankiri	5.68	32	PN	P	22 37 31.8	+0.4
CANT	Cankiri	5.68	32	Pn	P	22 37 32.3	+0.9
SLUM		5.71	222	P	P	22 37 31.9	0.0
SLUM				S	S	22 38 31.6	-5.5
SLTI	Sal'it	5.73	127	Pn	P	22 37 31.6	-0.5
SLTI				S	S	22 38 34.3	-3.3
SLTI	Sal'it	5.73	127	Sn	S	22 38 34.3	-3.3
BNN	Bunyan	5.76	57	PN	P	22 37 33.3	+0.7
BNN	Bunyan	5.76	57	Pn	P	22 37 34.1	+1.5
ALN	Alexandroupoli	5.79	332	*e*Pn	P	22 37 32.1	-0.8
ALN				*e*Sn	S	22 38 39.2	+0.3
CORM	Corum	5.83	41	PN	P	22 37 33.8	+0.2
YOZ	Yozgat	5.87	48	PN	P	22 37 35.2	+1.2
YOZ	Yozgat	5.87	48	Pn	P	22 37 35.0	+1.0
SAFT	Safranbolu	5.88	23	PN	P	22 37 33.9	-0.3
SAFT	Safranbolu	5.88	23	Pn	P	22 37 34.8	+0.6
KHB	Jabal al Khash	6.00	169	P	P	22 37 36.4	+0.4
SQR		6.09	167	P	P	22 37 37.6	+0.5
HMYD	Mayadein	6.11	171	P	P	22 37 37.7	+0.2
NEO	Neokhori	6.17	306	Pn	P	22 37 38.2	-0.1
RDO	Rodhopi	6.20	330	P	P	22 37 38.7	0.0
TOS	Tosya	6.21	32	PN	P	22 37 39.0	+0.2
GAZ	Gaziantep	6.22	76	Pn	P	22 37 36.8	-2.2
XOR	Xorichti	6.22	306	*e*Pn	P	22 37 39.2	+0.1
HHAG	Hagoal	6.22	160	P	P	22 37 39.1	+0.1
HHAG				S	S	22 38 44.7	-5.2
PAIG	Paliouri	6.24	312	*e*Pn	P	22 37 39.7	+0.3
FYM	Al Fayyum	6.25	169	P	P	22 37 39.3	-0.1
FYM				S	S	22 38 45.0	-5.4
FYM	Al Fayyum	6.25	169	S	S	22 38 45.0	-5.4
HNAT	Natroun	6.25	172	P	P	22 37 39.1	-0.3
AYT	Al 'Ayyat	6.25	168	P	P	22 37 39.8	+0.3
KZIT	Kziot	6.32	140	Pn	P	22 37 40.7	+0.3
KZIT				Sn	S	22 38 47.1	-5.1
OUR	Ouranopolis	6.33	317	*e*Pn	P	22 37 40.7	0.0
OUR				*e*Sn	S	22 38 53.5	+0.9
RTMM	Retamin	6.36	137	⇓Pn	P	22 37 41.1	+0.1
ITM	Ithomi	6.37	284	P	P	22 37 42.5	+1.3
BALT	Daday	6.38	26	*i* P	P	22 37 41.3	+0.1
DRGI	Dragot	6.38	130	Pn	P	22 37 41.2	-0.1
EDRB	Edirne	6.41	340	Pn	P	22 37 43.2	+1.5
HSAF	As Saff	6.41	165	P	P	22 37 42.1	+0.4
MASH	Mash'abbe Sade	6.46	137	Pn	P	22 37 42.3	-0.1
GLL	Jalalah	6.49	164	P	P	22 37 43.1	+0.3
MZDA	Masada	6.56	132	Pn	P	22 37 43.7	-0.2
MZDA				S	S	22 38 53.9	-4.4
MZDA	Masada	6.56	132	Sn	S	22 38 53.9	-4.4
AGG	Agios Georgios	6.64	301	*e*Pn	P	22 37 45.7	+0.8
AGG				*e*Sn	S	22 39 00.8	+0.6
BYBT	Boyabat	6.89	34	Pn	P	22 37 48.5	+0.1
BOYT	Boyabat	6.91	35	*i* P	P	22 37 48.1	-0.6
HNKL	Nakhl	6.93	147	P	P	22 37 48.7	-0.3
BZK	Bozkurt	6.98	28	Pn	P	22 37 52.5	+2.8
ZAF		6.98	159	P	P	22 37 49.9	+0.1
ZNM		7.00	156	P	P	22 37 50.3	+0.4
HBNS	Bani Suwayf	7.00	169	P	P	22 37 49.6	-0.4
ZFRI	Zfri	7.01	137	⇓Pn	P	22 37 49.2	-1.0
SOH	Sokhos	7.02	317	*e*Pn	P	22 37 50.1	-0.2
LIT	Litokhoron	7.08	309	*e*Pn	P	22 37 51.4	+0.3
SRS	Serrai	7.09	320	*e*Pn	P	22 37 50.4	-0.9
THE	Thessaloniki	7.11	314	*e*Pn	P	22 37 51.7	+0.1
KMTI	Karmit	7.13	142	⇓Pn	P	22 37 51.0	-0.8
KMTI				Sn	S	22 39 07.7	-4.7
SWA1		7.37	208	P	P	22 37 53.5	-1.5
MALT	Malatya	7.42	68⇑	*e*P	P	22 37 54.5	-1.4
MALT				pmax	pmax		
comp=Z,120nm,0.5s							
MALT	Malatya	7.42	68	Pn	P	22 37 54.2	-1.7
MYA	Malataya	7.43	68	P	P	22 37 55.1	-0.8
MBH	Mount Berech	7.48	142	Pn	P	22 37 56.0	-0.6
SWA2		7.48	210	P	P	22 37 55.5	-1.1
KNT	Kendrikon	7.50	317	*e*Pn	P	22 37 56.8	-0.1
KNT				*e*Sn	S	22 39 21.0	-0.6
AWBH		7.53	185	P	P	22 37 56.4	-1.0
EIL	Elat	7.60	143	P	P	22 37 58.2	-0.1
comp=Z,131nm,0.3s,baz=329,slow=11,SNR=450							
EIL				S	S	22 39 18.2	-5.8
comp=Z,159nm,0.3s,baz=49,slow=34,SNR=6.5							
EIL				LR	LR	22 43 07.9	
comp=Z,14μm,18.3s,baz=328,slow=54							
EIL	Elat	7.60	143	Pn	P	22 37 57.6	-0.7
GRG	Griva	7.65	314	*e*Pn	P	22 37 59.1	+0.1
HRDS	Abu Rudays	7.75	156	P	P	22 37 59.6	-0.7
HBST	Basata	7.87	146	P	P	22 38 01.2	-0.9
NUB		8.00	147	P	P	22 38 02.9	-0.9
GRB	Gharib	8.01	160	P	P	22 38 02.3	-1.6
FNA	Florina	8.17	310	*e*Pn	P	22 38 07.0	+0.9
FNA				*e*Sn	S	22 39 38.6	+0.5
HKAT	Jabal Katrina	8.17	152	P	P	22 38 05.2	-1.0
TR2		8.20	154	P	P	22 38 05.1	-1.5
HDHB	Dhahab	8.25	148	P	P	22 38 06.2	-1.1
IGT	Igoumenitsa	8.26	299	*e*Pn	P	22 38 08.9	+1.4
IGT				*e*Sn	S	22 39 40.1	-0.4
BIA	Bitola	8.33	311	*i* Pn	P	22 38 12.6	+4.1
BIA			⇑	*i*		22 38 18.5	
BIA				*i* Sn	Sx	22 39 55.2	
LSK	Leskovik	8.34	304	*e*Pn	P	22 38 14.4	+5.8
VTS	Vitosha	8.39	325	P	P	22 38 09.8	+0.5
ASUT		8.58	169	P	P	22 38 10.8	-1.1
ZEIT		8.61	156	P	P	22 38 10.7	-1.5
TR1		8.62	154	P	P	22 38 11.1	-1.3
TIRR	Tirgusor	8.65	354	P	P	22 38 12.4	-0.5
DIY	Diyarbakir	8.71	73	Pn	P	22 38 13.2	-0.4
OHR	Ohrid	8.71	310	*i* P	P	22 38 14.0	+0.3
OHR				*i*		22 39 58.4	
OHR	Ohrid	8.71	310	*i* Pn	P	22 38 14.0	+0.3
OHR				*i*		22 38 21.6	
OHR				*i* Sn	S	22 39 58.4	+6.7
OHR				*e*		22 40 40.2	
HFRF	Wahat Farafira	8.75	188	P	P	22 38 13.5	-0.7
SHRM		8.79	153	P	P	22 38 14.4	-0.4
SKO	Skopje	8.86	316	*i* Pn	P	22 38 16.6	+0.9
comp=Z,0.0nm,0.7s							
SKO				*i*		22 38 21.8	
comp=Z,0.0nm,0.6s							
SKO				*i*		22 38 26.0	
comp=Z,0.1nm,0.6s							
SKO				*i*		22 38 35.0	
comp=Z,0.2nm,0.7s							
SKO				*i* Sn	Sx	22 40 33.8	
SKO				*i*		22 40 56.0	
SKO				Lm		22 42 00.0	
comp=N,32nm,5.0s							
SKO				Lm		22 42 18.0	
comp=E,24nm,6.0s							
EZC	Erzincan	8.93	61	P	P	22 38 12.4	-4.3
HARR	Harsova	8.93	352	P	P	22 38 16.3	-0.4
BUC1	Bucharest	8.93	343	P	P	22 38 22.8	+6.0
GUMT	Gumushane	9.00	56	Pn	P	22 38 18.8	+1.2
BINT	Bingol	9.13	67	P	P	22 38 19.7	+0.2
HHRG	Al Ghardaqah	9.22	158	P	P	22 38 19.9	-0.9
BARS	Barje	9.23	321⇑	*i* Pn	P	22 38 19.9	-1.0
BARS				Sn	S	22 40 09.2	+4.5
VLO	Vlora	9.24	303	*e*Pn	P	22 38 23.7	+2.7
CFR	Carcaliu	9.39	353	⇑P	P	22 38 23.0	-0.1
TIR	Tirane	9.43	309	*e*Pn	P	22 38 27.9	+4.3
TIR				*i* Sn	S	22 40 14.0	+4.6
SIM	Simferopol'	9.70	19⇓	*e*P	P	22 38 28.4	+1.1
SIM				*e*S	S	22 40 13.6	-2.5
SIM				pmax	pmax		
comp=Z,294nm,0.8s							
SIM				MLR	MLR		
comp=Z,5μm,8.0s							
SIM				MLR	MLR		
comp=Z,17μm,17.0s							
PUK	Puka	9.80	312	*e*Pn	P	22 38 33.4	+4.7
BRD	Bordesti	9.90	349	⇑P	P	22 38 31.3	+1.3
BOLS	Boljevac	9.93	326	⇓*i*Pn	P	22 38 30.2	-0.2
BOLS				Sn	S	22 40 22.4	+0.8
VRT	Varto	9.98	67	Pn	P	22 38 30.6	-0.5
SNX	Sinaia	10.01	343	P	P	22 38 30.7	-0.8
MLR	Muntele Rosu	10.04	345	P	P	22 38 31.3	-0.6
MLR				pmax	pmax		
comp=Z,3.0nm,0.3s							
MLR	Muntele Rosu	10.04	345	P	P	22 38 31.3	-0.6
comp=Z,3.2nm,0.3s,baz=164,slow=6.2,SNR=59							
MLR	Muntele Rosu	10.04	345	P	P	22 38 31.8	-0.1
PVY	Plav	10.09	315	*e*Pn	P	22 38 32.4	-0.3
PVY				*e*Sn	S	22 40 18.5	-7.1
LCI	Lecce	10.15	300	P	P	22 38 33.0	-0.4
ULC	Ulcinj	10.15	310	*e*Pn	P	22 38 33.0	-0.5
ULC				*e*Sn	S	22 40 20.2	-6.9
VRI	Vrincioaia	10.25	348	P	P	22 38 37.7	+2.9
HDK1	Dakhla	10.27	181	P	P	22 38 33.8	-1.4
IVA	Berane	10.31	316	*e*Pn	P	22 38 35.3	-0.3
IVA				*e*Sn	S	22 40 23.7	-7.2
TTG	Podgorica	10.41	312	*e*Pn	P	22 38 36.7	-0.4
TTG				*e*Sn	S	22 40 26.4	-7.0
BUM	Brajici-Budva	10.56	311	*e*Pn	P	22 38 38.5	-0.6
BUM				*e*Sn	S	22 40 30.1	-6.9
GRUS	Gruza	10.57	322⇑	*i* Pn	P	22 38 40.3	+1.1
GRUS				Sn	S	22 40 35.6	-1.6
SVIS	Svilajnac	10.63	325⇑	*i* Pn	P	22 38 39.0	-1.0
SVIS				Sn	S	22 40 33.8	-4.9
ANN	Anapa	10.72	31⇑	*i* P	P	22 38 40.1	-1.2
ANN				*i* S	S	22 40 37.1	-3.9
ANN				pmax	pmax		
comp=Z,277nm,2.0s							
ANN				MLR	MLR		
comp=Z,2μm,11.0s							
ANN				MLR	MLR		
comp=N,14μm,10.0s							
ANN				MLR	MLR		
comp=E,10μm,10.0s							
TIP	Timpagrande	10.78	292	*e*Pn	P	22 38 38.6	-3.5
TIP				*e*Sn	S	22 40 26.7	-16
NKY	Niksic	10.79	313	*e*Pn	P	22 38 42.0	-0.2
NKY				*e*Sn	S	22 40 35.5	-7.3
NKY	Niksic	10.79	313	*e*Pn	P	22 38 42.0	-0.2
NKY				*e*Sn	S	22 40 35.5	-7.2
NVSS	Nova Varos 2	10.83	318⇑	*i* P	P	22 38 48.2	+5.4
MSL	Mosul	10.88	84	*e*P	P	22 38 45.5	+2.1
MSL				*e*S	Sx	22 41 05.5	
MSL				*i* LQ		22 42 16.0	
MSL				*i* LR	LR	22 42 36.5	
HCY	Herceg Novi	10.88	311	*e*Pn	P	22 38 43.1	-0.4
HCY				*e*Sn	S	22 40 37.7	-7.3
PLE	Pljevlja	10.88	316	*e*Pn	P	22 38 43.1	-0.3
PLE				*e*Sn	S	22 40 37.6	-7.3
BCA	Borcka	10.89	56	Pn	P	22 38 44.3	+0.7
SOC	Sochi	10.93	42	*e*P	P	22 38 40.7	-3.4
SOC				*e*		22 40 37.6	
SOC				pmax	pmax		
comp=Z,336nm,1.7s							
SOC				pmax	pmax		
comp=N,334nm,1.5s							
SOC				pmax	pmax		
comp=E,286nm,1.4s							
SOC				MLR	MLR		
comp=E,9μm,13.0s							
SOC				MLR	MLR		
comp=Z,15μm,13.0s							
SOC				MLR	MLR		
comp=N,28μm,17.0s							
SOC	Sochi	10.93	42	*i* P	P	22 38 43.2	-0.9
BRT	Bari-Castellan	10.99	301	P	P	22 38 44.8	-0.2
UPM	Unac-Piva	11.08	315	*e*Pn	P	22 38 45.9	-0.2
UPM				*e*Sn	S	22 40 42.4	-7.3
DIVS	Divcibare	11.08	321	*e*Pn/P		22 38 45.9	
BRY	Bratogost	11.12	313	*e*Pn	P	22 38 46.5	-0.1
BRY				*e*Sn	S	22 40 43.2	-7.3
BRY	Bratogost	11.12	313	*e*Pn	P	22 38 46.5	-0.1
BRY				*e*Sn	S	22 40 43.2	-7.3
HEDF	Idfu	11.14	163	P	P	22 38 45.2	-1.8
KIS	Kishinev	11.16	357	*e*P	P	22 38 45.0	-2.2
KIS				*i* S	S	22 40 48.0	-3.6
KIS				MLR	MLR		
comp=N,15μm,14.0s							
KIS				MLR	MLR		
comp=Z,13μm,14.0s							
KIS				MLR	MLR		
comp=E,8μm,9.0s							
KIS				MLR	MLR		
comp=Z,11μm,18.0s							
KIS	Kishinev	11.16	357	*e*P	P	22 38 46.0	-1.2
VANB	Van	11.28	72	Pn	P	22 38 47.0	-1.8
IAS	Iasi	11.44	353	P	P	22 38 50.5	-0.5
BZS	Buzias	11.50	330	⇓P	P	22 38 50.7	-1.1
HDK2	Wahat Dakhilah	11.51	183	P	P	22 38 50.4	-1.6
KARS	Kars	11.58	62	P	P	22 38 51.6	-1.3
AKH	Akhalkalaki	12.15	59	P	P	22 39 01.1	+0.5
BURAR	Bucovina Array	12.21	346	P	P	22 39 01.3	-0.1
FG4	Candela	12.27	300	P	P	22 39 01.1	-1.1
VAE	Valguarnera	12.36	282	P	P	22 39 03.1	-0.2
comp=Z,6.8nm,0.3s,baz=310,slow=0.4,SNR=44							
VAE				S	S	22 41 08.0	-13
comp=Z,58nm,0.3s,baz=191,slow=3.1,SNR=6.7							
BHD	Baghdad	12.40	98	*i* P	P	22 38 52.0	-12
BHD				*i* S	S	22 41 13.0	-8.7
BHD				*i* LQ		22 43 03.5	
BHD				*i* LR	LR	22 43 26.0	
BHD				*i* PcP	PcP	22 44 38.0	-4.4
AKRL	Khor El Raml	12.43	167	P	P	22 39 02.6	-1.8
RGNG	Rignano Grg	12.43	302	P	P	22 39 02.6	-1.7
GNI	Garni	12.64	66*c*	*i* P	P	22 39 08.8	+1.6
GNI				pmax	pmax		
comp=Z,232nm,1.8s							
GNI				MLR	MLR		
comp=Z,17μm,16.0s							
GNI	Garni	12.64	66	P	P	22 39 08.4	+1.2
comp=Z,1.1nm,0.3s,baz=42,slow=4.9,SNR=16							
GNI	Garni	12.64	66	Pn	P	22 39 07.1	-0.1
MRB1	Monte Rocchett	12.66	299	P	P	22 39 06.6	-0.7
KIV	Kislovodsk	12.85	47	Pn	P	22 39 10.5	+0.5
comp=Z,4μm,1.3s,SNR=29							
KIV	Kislovodsk	12.85	47*d*	*i* P	P	22 39 08.6	-1.4
KIV				*e*S	S	22 41 30.4	-2.1
KIV				pmax	pmax		
comp=N,56nm,1.3s							
KIV				pmax	pmax		
comp=Z,116nm,1.3s							
KIV				MLR	MLR		
comp=N,12μm,23.0s							
KIV				MLR	MLR		
comp=Z,11μm,23.0s							
KIV				MLR	MLR		
comp=E,9μm,18.0s							
KIV	Kislovodsk	12.85	47⇑	*e*Pn	P	22 39 09.6	-0.3
comp=E,416nm,1.1s							
KIV				*e*		22 39 20.0	
CIGN	Sant'Elia a Pi	12.89	301	P	P	22 39 09.6	-0.9
FAVR	Favara	12.94	281	P	P	22 39 10.8	-0.4
ZEI	Tsey	13.00	54	*e*P	P	22 39 11.8	-0.1
TI2	Plekhanov	13.15	59⇑	*i* P	P	22 39 14.8	+1.0
TI2				pmax	pmax		
comp=N,1μm,2.5s							
TI2				pmax	pmax		
comp=E,3μm,2.5s							
TI2				pmax	pmax		
comp=Z,4μm,2.5s							
TI2				MLR	MLR		
comp=N,18μm,14.0s							
TI2				MLR	MLR		
comp=Z,19μm,14.0s							
TI2				MLR	MLR		
comp=E,14μm,19.0s							
TI2	Plekhanov	13.15	59⇑	*i* P	P	22 39 15.6	+1.8
comp=E,800nm,2.0s							
MTA	Mtatsminda	13.16	59	P	P	22 39 14.4	+0.4
MTA				S	Sx	22 41 57.4	
DUS	Dusheti	13.25	57	P	P	22 39 15.4	+0.2
PKSN	Nyarlorinc	13.25	329⇑	*e*P	P	22 39 17.0	+1.8
PKSM	Moragy	13.27	325⇑	*e*P	P	22 39 14.8	-0.6
PKSM				*i*		22 41 56.8	
CII	Carovilli	13.34	301	*e*P	P	22 39 16.4	+0.1
comp=E,110nm,0.7s							
CII				*e*S	S	22 41 33.4	-11
MIDA	Miranda	13.34	300	P	P	22 39 15.1	-1.3
RFI	Roccamonfina	13.42	299	P	P	22 39 16.7	-0.7
RNI2	Rionero Sannit	13.43	300	P	P	22 39 18.2	+0.6
RHK1	Bakonya	13.46	323	*e*P	P	22 39 17.6	-0.3
PKS7	Kunszentmiklos	13.67	328⇑	*e*P	P	22 39 22.0	+1.4
VENT	Ventotene	13.67	296	P	P	22 39 21.7	+1.0
SDI	San Donato	13.68	300	P	P	22 39 19.9	-0.8
GOF	Gofitskoye	13.71	44⇓	*i* P	P	22 39 20.0	-1.1
GOF				pmax	pmax		
comp=Z,198nm,1.3s							
GOF				pmax	pmax		
comp=Z,10μm,1.0s							
GOF				MLR	MLR		
comp=Z,20μm,16.0s							
GOF				MLR	MLR		
comp=N,35μm,14.0s							
GOF				MLR	MLR		
comp=E,27μm,14.0s							
PKS9	Tamasi	13.71	325	*e*P	P	22 39 22.4	+1.2
INTR	Introdacqua	13.72	301	P	P	22 39 21.6	+0.3
VVLD	Villa Vallelon	13.87	301	P	P	22 39 22.8	-0.4
UZH	Uzhgorod	13.88	339	*e*P	P	22 39 30.0	+6.6
UZH				*e*S	S	22 42 08.0	+11
UZH	Uzhgorod	13.88	339	*e*P	P	22 39 24.0	+0.6
GUAR	Guarcino	14.06	300	P	P	22 39 25.5	-0.2
PSZ	Piszkesteto	14.07	332⇑	*e*P	P	22 39 26.0	+0.2
PTQR	Pietraquaria	14.07	301	P	P	22 39 26.6	+0.7
TERO	Teramo	14.16	303	P	P	22 39 26.9	-0.1
KOLS	Kolonicke sedl	14.16	340	P	P	22 39 27.5	+0.5
KOLS	Kolonicke sedl	14.16	340	*e*PN	P	22 39 27.0	0.0
AQU	L'Aquila	14.19	302	*e*P	P	22 39 27.9	+0.4
AQU				*e*S	S	22 42 00.1	-4.3
AQU				pmax	pmax		
comp=Z,60nm,0.8s							
AQU	L'Aquila	14.19	302	*e*P	P	22 39 27.9	+0.4
comp=Z,60nm,0.8s							
AQU				*e*S	S	22 42 00.1	-4.3
NVLJ	Novalja	14.25	312	*i* Pn	P	22 39 30.6	+2.4
NVLJ				*i* Sn	S	22 42 04.4	-1.4
KECS	Kecovo	14.33	335	*e*PN	P	22 39 29.3	+0.1
CERT	Cerreto	14.34	300	P	P	22 39 28.4	-1.0
FIAM	Fiamignano	14.36	302	P	P	22 39 29.1	-0.5
CRVS	Cervenica-Dubn	14.37	338	*e*PN	P	22 39 31.6	+1.8
MA9	Marino	14.51	299	P	P	22 39 31.7	+0.1
MTCE	Montecelio	14.53	300	P	P	22 39 32.2	+0.2
LVV	L'vov	14.55	345	*e*P	P	22 39 33.1	+0.9
LVV				MLR	MLR		
comp=N,9μm,13.0s							
LVV				MLR	MLR		
comp=Z,9μm,13.0s							
LVV				MLR	MLR		
comp=E,2μm,12.5s							
NRCA	Norcia	14.57	304	P	P	22 39 31.9	-0.5
SRO1	Iza	14.62	328	*e*P	P	22 39 40.0	+6.9
SRO	Srobarova	14.63	328	*e*PN	P	22 39 35.2	+2.1
KWP	Kalwaria	14.68	342	*e*P	P	22 39 35.2	+1.3
KWP				*e*pP		22 39 44.5	
KWP	Kalwaria	14.68	342	*e*P	P	22 39 35.2	+1.4
KWP				*e*pP		22 39 44.5	
KWP				MLR	MLR	22 46 32.4	
comp=E,19μm,17.9s							
MNS	Montasola	14.70	301	P	P	22 39 34.4	+0.3
CING	Cingoli	14.74	306	P	P	22 39 33.5	-1.1
AKASG	Malin Array Be	14.85	359	P	P	22 39 33.7	-2.3
AKASG				pmax	pmax		
comp=Z,3.0nm,0.3s							
AKASG	Malin Array Be	14.85	359	P	P	22 39 33.7	-2.3
comp=Z,3.2nm,0.3s,baz=184,slow=9.3,SNR=24							
AKASG				ScP		22 48 16.8	
baz=205,slow=1.5,SNR=12							
SNTG	Esanatoglia	14.86	305	P	P

VOY			*e*			22 39 49.6
VOY			*e*			22 40 12.9
CRE	**Caprese Michel**	**15.66 305**	P		**P**	**22 39 45.7 -0.9**
SFI	**Santa Sofia**	**15.85 306**	P		**P**	**22 39 49.8 +0.9**
VKA	**Vienna**	**15.85 326**	⇓*i*P		**P**	**22 39 49.2 +0.3**
VKA			*i*			22 39 59.7
	comp=Z,989nm,2.5s					
VKA	**Vienna**	**15.85 326**	⇓*i*P		**P**	**22 39 49.2 +0.3**
	comp=Z,989nm,2.5s					
VKA			*i*			22 39 59.7
PGD	**Poggio Sodo**	**15.92 306**	P		**P**	**22 39 51.8 +2.0**
OJC	**Ojcow**	**16.05 337**	*e*P		**P**	**22 39 54.5 +3.0**
OJC			*ep*P			22 40 01.3
OJC			*e*S		**S**	**22 43 03.4 +16**
OJC			MLR	MLR		22 48 26.7
	comp=Z,15µm,11.6s					
VMG	**Vicchio**	**16.07 306**	P		**P**	**22 39 53.3 +1.5**
GRFL	**Gerfalco**	**16.14 302**	P		**P**	**22 39 53.2 +0.5**
BUA	**Buia**	**16.19 315**	⇓*e*P		**P**	**22 39 55.0 +1.8**
SEI	**Scarperia**	**16.23 306**	P		**P**	**22 39 54.8 +1.0**
MPRI	**Monte Prat**	**16.28 315**	⇑*e*P		**P**	**22 39 56.0 +1.6**
OKC	**Ostrava-Krasne**	**16.31 333**	*e*P		**P**	**22 39 56.3 +1.6**
OKC			*ep*P			22 40 07.0
OKC			*e*S		**S**	**22 43 10.1 +16**
OKC			AMS	AMS		22 48 10.0
	comp=Z,13µm,11.1s					
FNVD	**Fontana Vidola**	**16.43 306**	P		**P**	**22 39 57.0 +0.7**
MLNI	**Malnisio**	**16.45 314**	⇑*e*P		**P**	**22 39 57.0 +0.5**
VSL	**Villasalto**	**16.47 289**	*e*P		**P**	**22 39 54.9 -1.9**
	comp=Z,228nm,1.0s					
CAE	**Caneva**	**16.47 313**	⇑*e*P		**P**	**22 39 58.0 +1.2**
MORC	**Moravsky Berou**	**16.49 331**	P		**P**	**22 40 00.6 +3.6**
MORC	**Moravsky Berou**	**16.49 331**	*e*P		**P**	**22 39 56.7 -0.2**
	comp=Z,79nm,1.4s					
RAC	**Raciborz**	**16.49 333**	*e*P		**P**	**22 39 56.3 -0.7**
RAC			*e*S		**S**	**22 43 08.3 +10**
RAC			LMN			22 45 23.6
RAC			LME			22 45 24.3
RAC			MLR	MLR		22 47 12.4
	comp=Z,12µm,18.6s					
VRAC	**Vranov**	**16.51 329**	P		**P**	**22 39 58.1 +0.9**
VRAC			pmax	pmax		
	comp=Z,1.0nm,0.3s					
VRAC	**Vranov**	**16.51 329**	P		**P**	**22 39 58.1 +0.9**
	comp=Z,0.7nm,0.3s,baz=131,slow=10,SNR=37					
VRAC	**Vranov**	**16.51 329**	P		**P**	**22 40 00.8 +3.6**
MOA	**Molln**	**16.56 321**	⇑*i*P		**P**	**22 39 58.7 +0.8**
	comp=Z,69nm,1.0s					
KBA	**Koelnbreinsper**	**16.56 318**	⇑*i*P		**P**	**22 39 58.3 +0.4**
	comp=Z,76nm,0.7s					
KBA	**Koelnbreinsper**	**16.56 318**	⇑*i*P		**P**	**22 39 58.3 +0.4**
KBA			pmax	pmax		
	comp=Z,76nm,0.7s					
PII	**Pisa**	**16.66 304**	P		**P**	**22 39 58.4 -0.7**
BDI	**Bagni Di Lucca**	**16.74 305**	P		**P**	**22 39 59.5 -0.7**
CGRP	**Cima Grappa**	**16.79 312**	⇑*e*P		**P**	**22 40 01.0 +0.2**
GSCL	**Gusciola**	**16.86 306**	P		**P**	**22 40 02.8 +1.1**
VLC	**Villacollemand**	**16.92 305**	*e*P		**P**	**22 40 01.1 -1.3**
	comp=Z,216nm,1.8s					
CTI	**Castel Tesino**	**16.96 312**	P		**P**	**22 40 01.8 -1.2**
ERBM	**Eremo**	**17.00 306**	P		**P**	**22 40 04.9 +1.5**
VALM		**17.08 306**	P		**P**	**22 40 06.0 +1.5**
VALM		**17.08 306**	P		**P**	**22 40 06.0 +1.5**
GRAM		**17.26 306**	P		**P**	**22 40 08.0 +1.3**
GRAM		**17.26 306**	P		**P**	**22 40 08.0 +1.3**
VOR	**Voronezh**	**17.28 20**	*e*P		**P**	**22 40 07.0 +0.1**
VOR			pmax	pmax		
	comp=N,240nm,1.7s					
VOR			pmax	pmax		
	comp=E,250nm,1.7s					
VOR			pmax	pmax		
	comp=Z,300nm,1.7s					
PGF	**Pioggiola**	**17.34 299**	*e*P		**P**	**22 40 03.8 -3.9**
	comp=Z,713nm,1.4s					
PGF	**Pioggiola**	**17.34 299**	*e*P		**P**	**22 40 03.8 -3.9**
PGF			pmax	pmax		
	comp=Z,356nm,1.4s					
CODM		**17.36 305**	P		**P**	**22 40 08.6 +0.6**
CODM		**17.36 305**	P		**P**	**22 40 08.6 +0.6**
DPC	**Dobruska-Polom**	**17.42 330**	*e*P		**P**	**22 40 08.1 -0.6**
DPC			*e*S		**S**	**22 43 29.7 +10**
DPC	**Dobruska-Polom**	**17.42 330**	*e*P		**P**	**22 40 08.1 -0.6**
DPC			*ep*P			22 40 19.9
DPC			*e*S		**S**	**22 43 29.7 +10**
DPC			AMS	AMS		22 47 50.0
	comp=Z,9µm,13.6s					
APPI	**Appiano**	**17.44 313**	P		**P**	**22 40 09.8 +0.9**
SAL	**Salo**	**17.44 310**	P		**P**	**22 40 09.5 +0.5**
GEC2	**GERESS Array S**	**17.50 323**	*e*P		**P**	**22 40 09.3 -0.4**
GEC2			*e*S		**S**	**22 43 33.4 +12**
GERES	**GERESS Array B**	**17.50 323**	P		**P**	**22 40 10.7 +1.0**
	comp=Z,1.4nm,0.3s,baz=135,slow=11,SNR=74					
GERES			ScP			22 48 22.4
	baz=45,slow=1.9,SNR=5.1					
WAR	**Warsaw**	**17.50 342**	*e*P		**P**	**22 40 10.4 +0.7**
WAR			*ep*P			22 40 18.3
WAR			*e*S		**S**	**22 43 35.2 +14**
WAR			*es*S	SS		22 43 47.1 +3.3
WAR	**Warsaw**	**17.50 342**	*e*P		**P**	**22 40 10.4 +0.7**
WAR			*ep*P			22 40 18.3
WAR			*e*S		**S**	**22 43 35.2 +14**
WAR			*es*S			22 43 47.1
WAR			MLR	MLR		22 47 41.1
	comp=Z,9µm,17.1s					
WTTA	**Wattenberg**	**17.62 316**	⇑*i*P		**P**	**22 40 13.5 +2.3**
	comp=Z,49nm,0.7s					
WTTA	**Wattenberg**	**17.62 316**	⇑*i*P		**P**	**22 40 13.5 +2.3**
WTTA			pmax	pmax		
	comp=Z,49nm,0.7s					
MABI	**Malga Bissina**	**17.66 311**	P		**P**	**22 40 11.3 -0.4**
UPC	**Upice**	**17.67 330**	*e*P		**P**	**22 40 12.6 +0.8**
UPC			*ep*P			22 40 20.1
WATA	**Walderalm**	**17.70 316**	⇓*i*P		**P**	**22 40 13.2 +1.1**
	comp=Z,40nm,0.7s					
WATA	**Walderalm**	**17.70 316**	⇓*i*P		**P**	**22 40 13.2 +1.1**
WATA			pmax	pmax		
	comp=Z,40nm,0.7s					
KHC	**Kasperske Hory**	**17.75 323**	*e*P		**P**	**22 40 13.2 +0.4**
KHC			*e*S		**S**	**22 43 36.8 +10**
KHC	**Kasperske Hory**	**17.75 323**	*e*P		**P**	**22 40 13.2 +0.4**
KHC			*ep*P			22 40 22.9
KHC			*ex*	x		22 40 38.5
KHC			*e*S		**S**	**22 43 36.8 +10**
KHC			AMS	AMS		22 48 00.0
	comp=Z,13µm,12.2s					
BOB	**Bobbio (Coli)**	**17.77 306**	P		**P**	**22 40 12.2 -0.9**
KSP	**Ksiaz**	**17.82 331**	⇑*e*P		**P**	**22 40 13.6 -0.1**
KSP			*e*S		**S**	**22 43 37.0 +8.8**
KSP	**Ksiaz**	**17.82 331**	⇑*e*P		**P**	**22 40 13.6 -0.1**
KSP			*ep*P			22 40 22.1
KSP			*e*PP	PP		22 40 29.0 +0.4
KSP			*e*S		**S**	**22 43 37.0 +8.8**
KSP	**Ksiaz**	**17.82 331**	*e*P		**P**	**22 40 13.4 -0.2**
KSP			*ep*P			22 40 26.6
KSP			*e*S		**S**	**22 43 39.8 +12**
KSP			*es*S			22 43 51.7
KSP			MLR	MLR		22 46 38.8
	comp=Z,12µm,21.7s					
SQTA	**Sankt Quirin**	**17.84 315**	⇓*i*P		**P**	**22 40 14.3 +0.4**
	comp=Z,72nm,0.8s					
SQTA	**Sankt Quirin**	**17.84 315**	⇓*i*P		**P**	**22 40 14.3 +0.4**
SQTA			pmax	pmax		
	comp=Z,72nm,0.8s					
PRU	**Pruhonice**	**17.91 327**	*e*P		**P**	**22 40 14.8 +0.1**
PRU			*e*S		**S**	**22 43 39.9 +10**
PRU	**Pruhonice**	**17.91 327**	*e*P		**P**	**22 40 14.8 +0.1**
PRU			*ep*P			22 40 26.6
PRU			*e*S		**S**	**22 43 39.9 +10**
PRU			AMS	AMS		22 48 10.0
	comp=Z,13µm,13.2s					
ABSA	**Djebel Ababsia**	**17.94 278**	P		**P**	**22 40 18.0 +2.7**
GENL	**Genova Univers**	**17.95 305**	P		**P**	**22 40 15.1 -0.2**
CMAH	**Djebel Manchou**	**17.96 279**	P		**P**	**22 40 17.5 +2.0**
MOTA	**Moosalm**	**17.97 315**	⇑*i*P		**P**	**22 40 15.4 -0.1**
	comp=Z,46nm,0.8s					
MOTA	**Moosalm**	**17.97 315**	⇑*i*P		**P**	**22 40 15.4 -0.1**
MOTA			pmax	pmax		
	comp=Z,46nm,0.8s					
PRA	**Prague**	**18.01 327**	P		**P**	**22 40 17.0 +0.9**
PRA			AMS	AMS		22 48 20.0
WET	**Wettzell**	**18.10 322**	*e*P		**P**	**22 40 15.8 -1.4**
PCP	**Pian Castagno**	**18.28 305**	P		**P**	**22 40 19.2 -0.3**
PVCC	**Panska Ves**	**18.29 328**	*e*P		**P**	**22 40 20.2 +0.7**
PVCC			*es*		**S**	**22 43 49.1 +10**
PVCC	**Panska Ves**	**18.29 328**	*e*P		**P**	**22 40 20.2 +0.7**
PVCC			*ep*P			22 40 31.0
PVCC			*e*S		**S**	**22 43 49.1 +10**
PVCC			AMS	AMS		22 48 30.0
	comp=Z,10µm,14.7s					
FUR	**Furstenfeldbru**	**18.33 318**	*e*P		**P**	**22 40 17.9 -2.2**
DAVOX	**Davos**	**18.39 312**	P		**P**	**22 40 20.8 0.0**
	comp=Z,1.0nm,0.3s,baz=113,slow=11,SNR=26					
DAVOX			S		**S**	**22 43 44.4 +3.3**
	comp=Z,0.6nm,0.3s,baz=128,slow=19,SNR=1.8					
DAVOX	**Davos**	**18.39 312**	P		**P**	**22 40 20.8 0.0**
DAVOX			S		**S**	**22 43 44.4 +3.3**
FIN	**Finale Ligure**	**18.39 304**	P		**P**	**22 40 19.2 -1.7**
CAEH	**'Ain El Ouahch**	**18.41 280**	P		**P**	**22 40 22.0 +0.9**
VDL	**Val di Lei**	**18.50 311**	⇓P		**P**	**22 40 23.9 +1.8**
IMI	**Imperia**	**18.52 302**	P		**P**	**22 40 21.4 -0.9**
IMI	**Imperia**	**18.52 302**	P		**P**	**22 40 21.4 -0.9**
CKFL	**Kef-Lekhel**	**18.54 278**	P		**P**	**22 40 24.0 +1.3**
NEGI	**Negi**	**18.62 302**	P		**P**	**22 40 22.8 -0.9**
NEGI	**Negi**	**18.62 302**	P		**P**	**22 40 22.8 -0.8**
DAVA	**Damuels**	**18.64 314**	⇑*i*P		**P**	**22 40 22.7 -1.2**
	comp=Z,106nm,0.7s					
ROB	**Roburent**	**18.65 304**	P		**P**	**22 40 21.6 -2.4**
VAI	**Varese**	**18.66 309**	P		**P**	**22 40 23.2 -0.9**
MONE	**Monesi**	**18.66 303**	P		**P**	**22 40 22.6 -1.4**
MONE	**Monesi**	**18.66 303**	P		**P**	**22 40 22.6 -1.5**
MNK	**Minsk**	**18.70 357**	*e*P		**P**	**22 40 18.0 -6.4**
UBR	**Uberruh**	**18.72 315**	P		**P**	**22 40 23.0 -1.7**
UBR	**Uberruh**	**18.72 315**	*e*P		**P**	**22 40 23.9 -0.8**
SUW	**Suwalki**	**18.72 348**	*e*P		**P**	**22 40 23.5 -1.2**
SUW			*e*S		**S**	**22 43 53.7 +5.2**
SUW	**Suwalki**	**18.72 348**	*e*P		**P**	**22 40 23.5 -1.2**
SUW			*ep*P			22 40 29.1
SUW			*e*S		**S**	**22 43 53.7 +5.2**
SUW			*es*S	SS		22 44 04.0 -10
SUW	**Suwalki**	**18.72 348**	*e*P		**P**	**22 40 23.5 -1.2**
SUW			*ep*P			22 40 29.1
SUW			*e*S		**S**	**22 43 53.7 +5.2**
SUW			*es*S			22 44 04.0
SUW			MLR	MLR		22 48 39.5
	comp=Z,9µm,18.5s					
CASM	**Ain Smara**	**18.74 278**	P		**P**	**22 40 27.0 +1.9**
SAOF	**Saorge**	**18.77 302**	*e*P		**P**	**22 40 25.0 -0.4**
BRG	**Berggiesshubel**	**18.81 328**	*i* P		**P**	**22 40 25.3 -0.5**
BRG			*i* S		**S**	**22 44 00.0 +9.4**
BRG			pmax	pmax		
	comp=Z,233nm,1.9s					
BRG	**Berggiesshubel**	**18.81 328**	*i* P		**P**	**22 40 25.3 -0.5**
	comp=Z,233nm,1.9s					
BRG			*i* PP	PP		22 40 35.8 -6.4
BRG			*i* S		**S**	**22 44 00.0 +9.4**
BRG			*e*ScP			22 48 26.5
BRG	**Berggiesshubel**	**18.81 328**	*e*P		**P**	**22 40 23.9 -1.9**
SBF	**Sospel**	**18.81 302**	*e*P		**P**	**22 40 24.1 -1.8**
	comp=Z,1µm,1.2s					
SBF	**Sospel**	**18.81 302**	*e*P		**P**	**22 40 24.1 -1.8**
SBF			pmax	pmax		
	comp=Z,630nm,1.2s					
REVF	**Revere**	**18.82 302**	*e*P		**P**	**22 40 25.6 -0.4**
CTEI	**Djebel Teioual**	**18.83 278**	P		**P**	**22 40 28.0 +1.9**
AUTN	**L'Aution**	**18.86 302**	*e*P		**P**	**22 40 26.5 +0.1**
NOTT	**Nottersdorf**	**18.91 323**	*e*P		**P**	**22 40 24.6 -2.4**
ENR	**Entracque**	**18.94 303**	P		**P**	**22 40 26.3 -1.0**
LLS	**Linth-Limmern**	**18.95 312**	⇑P		**P**	**22 40 28.0 +0.5**
TOUF	**Mont Tournerai**	**18.99 302**	*e*P		**P**	**22 40 28.1 +0.2**
STV	**Sta Anna Valdi**	**19.01 303**	P		**P**	**22 40 26.9 -1.3**
BERN	**Bernov**	**19.01 324**	⇓P		**P**	**22 40 19.1 -9.0**
MVIF	**Mont Vial**	**19.02 302**	*e*P		**P**	**22 40 28.4 +0.1**
NKC	**Novy Kostel**	**19.04 324**	*e*P		**P**	**22 40 27.9 -0.6**
NKC			*e*S		**S**	**22 44 05.9 +10**
NKC	**Novy Kostel**	**19.04 324**	*e*P		**P**	**22 40 27.9 -0.6**
NKC			*ep*P			22 40 40.1
NKC			*e*S		**S**	**22 44 05.9 +10**
NKC			AMS	AMS		22 47 50.0
	comp=Z,10µm,15.5s					
ORO	**Oropa**	**19.06 307**	P		**P**	**22 40 26.9 -1.9**
ORX	**Oropa**	**19.07 307**	P		**P**	**22 40 27.0 -1.8**
HDH	**Heidenheim**	**19.16 318**	P		**P**	**22 40 29.6 -0.2**
HDH	**Heidenheim**	**19.16 318**	*e*P		**P**	**22 40 28.6 -1.2**
TRAV		**19.17 307**	P		**P**	**22 40 26.8 -3.2**
TRAV		**19.17 307**	P		**P**	**22 40 26.8 -3.2**
GUNZ	**Gunzen**	**19.18 324**	*e*P		**P**	**22 40 29.0 -1.1**
MCGN	**Macugnaga**	**19.19 308**	P		**P**	**22 40 29.7 -0.5**
DFRA	**Djebel Bou Aff**	**19.21 279**	P		**P**	**22 40 31.0 +0.6**
MUO	**Muotathal**	**19.23 312**	⇓P		**P**	**22 40 29.8 -0.8**
PZZ	**Prazzo**	**19.24 304**	P		**P**	**22 40 28.4 -2.4**
BHB	**Bricherasio**	**19.25 305**	P		**P**	**22 40 28.1 -2.7**
MMK	**Mattmark**	**19.25 309**	⇑P		**P**	**22 40 30.4 -0.4**
WERD	**Werda**	**19.25 325**	*e*P		**P**	**22 40 28.3 -2.5**
FRF	**La Foret Royal**	**19.27 301**	*e*P		**P**	**22 40 28.8 -2.3**
	comp=Z,354nm,1.2s					
FRF	**La Foret Royal**	**19.27 301**	*e*P		**P**	**22 40 28.8 -2.3**
FRF			pmax	pmax		
	comp=Z,177nm,1.2s					
WILA	**Wila**	**19.28 313**	⇑P		**P**	**22 40 29.7 -1.5**
GRA1	**Grafenberg Arr**	**19.29 322**	*e*P		**P**	**22 40 29.1 -2.1**
GRF	**Grafenberg Arr**	**19.29 322**	*e*P		**P**	**22 40 29.1 -2.1**
CMER	**Merouana**	**19.29 276**	P		**P**	**22 40 31.5 +0.1**
LMR	**La Mourre**	**19.31 300**	*e*P		**P**	**22 40 30.1 -1.4**
	comp=Z,393nm,1.2s					
LMR	**La Mourre**	**19.31 300**	*e*P		**P**	**22 40 30.1 -1.4**
LMR			pmax	pmax		
	comp=Z,197nm,1.2s					
RSP	**Reno Superiore**	**19.36 306**	P		**P**	**22 40 29.2 -2.9**
SISB	**Singen-Sch Ber**	**19.38 314**	P		**P**	**22 40 31.6 -0.7**
SURF	**Saint Ours**	**19.43 303**	*e*P		**P**	**22 40 33.7 +0.9**
FENE	**Fenestrelle**	**19.44 305**	P		**P**	**22 40 30.5 -2.5**
OG22	**Abries**	**19.45 304**	*e*P		**P**	**22 40 31.6 -1.5**
ZUR	**Zurich**	**19.45 313**	⇓P		**P**	**22 40 34.2 +1.1**
GKP	**Gorka Klasztor**	**19.49 337**	*e*P		**P**	**22 40 32.9 -0.5**
GKP			*ep*P			22 40 40.3
GKP	**Gorka Klasztor**	**19.49 337**	*e*P		**P**	**22 40 32.9 -0.5**
GKP			*ep*P			22 40 40.3
GKP			MLR	MLR		22 49 18.6
	comp=Z,11µm,22.3s					
GUT	**Gutenstein**	**19.49 315**	P		**P**	**22 40 33.1 -0.4**
GUT	**Gutenstein**	**19.49 315**	*e*P		**P**	**22 40 31.9 -1.6**
CLL	**Collm**	**19.54 327**	*i* P		**P**	**22 40 33.3 -0.7**
CLL			*e*S		**S**	**22 44 16.0 +9.3**
CLL			pmax	pmax		
	comp=Z,81nm,1.3s					
CLL	**Collm**	**19.54 327**	*i* P		**P**	**22 40 33.3 -0.7**
	comp=Z,81nm,1.3s					
CLL			*i*			22 40 43.2
CLL			*e*S		**S**	**22 44 16.0 +9.3**
CLL	**Collm**	**19.54 327**	P		**P**	**22 40 33.3 -0.7**
	comp=Z,logA/T=1.8					
CLL			*i*			22 40 43.2
CLL			*i*			22 41 08.4
CLL			*e*			22 43 16.0
CLL			*e*			22 44 06.0
CLL			*e*S		**S**	**22 44 16.0 +9.3**
CLL			*e*			22 44 31.0
CLL	**Collm**	**19.54 327**	*e*P		**P**	**22 40 32.6 -1.4**
CLL			*e*S		**S**	**22 44 20.5 +14**
LSD	**Ceresole Reale**	**19.54 306**	P		**P**	**22 40 32.1 -1.9**
MBDF	**Montbardon**	**19.54 304**	*e*P		**P**	**22 40 31.9 -2.1**
	comp=Z,362nm,0.7s					
MBDF	**Montbardon**	**19.54 304**	*e*P		**P**	**22 40 31.9 -2.1**
MBDF			pmax	pmax		
	comp=Z,181nm,0.7s					
CKHR	**Kef el Ahmar**	**19.55 278**	P		**P**	**22 40 35.0 +0.8**
BUCH	**Bad Urach**	**19.56 316**	P		**P**	**22 40 34.0 -0.2**
BUCH	**Bad Urach**	**19.56 316**	⇓*e*P		**P**	**22 40 32.9 -1.3**
IDID	**Didziasalis**	**19.57 355**	*e*P		**P**	**22 40 32.8 -1.5**
IDID			AMPb	AMB		22 40 39.9
	comp=Z,51nm,0.8s					
RRL	**Cesana Torines**	**19.59 305**	P		**P**	**22 40 32.7 -1.9**
LKBD	**Leukerbad**	**19.60 309**	⇓P		**P**	**22 40 33.9 -0.8**
DIX	**Grande Dixence**	**19.61 308**	⇓P		**P**	**22 40 34.5 -0.3**
SET	**Setif**	**19.62 278**	P		**P**	**22 40 36.0 +1.0**
IIGN	**Ignalina**	**19.65 354**	*e*P		**P**	**22 40 33.6 -1.6**
IIGN			AMPb	AMB		22 40 42.8
	comp=Z,39nm,1.5s					
SPAK	**Spaichingen**	**19.70 315**	P		**P**	**22 40 37.3 +1.6**
SPAK	**Spaichingen**	**19.70 315**	⇓*e*P		**P**	**22 40 37.0 +1.3**
SLE	**Schleitheim**	**19.70 314**	⇑P		**P**	**22 40 34.5 -1.2**
TAVF	**Tavernes**	**19.70 300**	*e*P		**P**	**22 40 36.4 +0.6**
BNI	**Bardonecchia**	**19.71 305**	P		**P**	**22 40 36.0 +0.1**
BNI			pmax	pmax		
	comp=Z,160nm,1.0s					
BNI	**Bardonecchia**	**19.71 305**	*e*P		**P**	**22 40 35.7 -0.1**
	comp=Z,158nm,1.0s					
MOX	**Moxa**	**19.71 324**	*i* P		**P**	**22 40 34.7 -1.1**
	comp=Z,logA/T=2.7					
MOX			*i*			22 40 46.0
MOX			S		**S**	**22 44 18.0 +7.5**
MOX			QM			22 47 20.0
MOX			RM			22 48 20.0
MOX	**Moxa**	**19.71 324**	*e*P		**P**	**22 40 34.7 -1.1**
MOX	**Moxa**	**19.71 324**	*e*S		**S**	**22 44 21.8 +11**
SULZ	**Sulz-Cheisache**	**19.81 313**	⇑P		**P**	**22 40 36.2 -0.7**
LPG	**La Plagne**	**19.82 306**	*e*P		**P**	**22 40 36.4 -0.6**
	comp=Z,414nm,0.8s					
LPG	**La Plagne**	**19.82 306**	*e*P		**P**	**22 40 36.4 -0.6**
LPG			pmax	pmax		
	comp=Z,207nm,0.8s					
STU	**Stuttgart**	**19.82 317**	*e*P		**P**	**22 40 35.6 -1.5**
STU			pmax	pmax		
	comp=Z,180nm,1.0s					
STU	**Stuttgart**	**19.82 317**	*e*P		**P**	**22 40 35.6 -1.5**
	comp=Z,180nm,1.0s					
STU	**Stuttgart**	**19.82 317**	*e*P		**P**	**22 40 34.7 -2.4**
LPL	**La Plagne**	**19.83 306**	*e*P		**P**	**22 40 36.4 -0.8**
	comp=Z,257nm,0.7s					
LPL	**La Plagne**	**19.83 306**	*e*P		**P**	**22 40 36.4 -0.8**
LPL			pmax	pmax		
	comp=Z,129nm,0.7s					
OBN	**Obninsk**	**19.85 12**	⇓*e*P		**P**	**22 40 33.0 -4.3**
OBN			*e*S		**S**	**22 44 16.6 +3.3**
OBN			pmax	pmax		
	comp=Z,163nm,1.9s					
OBN			MLR	MLR		
	comp=Z,5µm,13.0s					
OBN	**Obninsk**	**19.85 12**	*e*P		**P**	**22 40 31.6 -5.7**
	comp=Z,154nm,1.2s					
ISAL	**Salakas**	**19.88 354**	*e*P		**P**	**22 40 36.0 -1.6**
ISAL			AMPb	AMB		22 40 49.7
	comp=Z,39nm,1.4s					
BERF	**Bertagne**	**19.88 299**	*e*P		**P**	**22 40 38.1 +0.3**
SIND	**Sindeldorf**	**19.92 319**	⇓*e*P		**P**	**22 40 36.9 -1.2**
EMV	**Vieux Emosson**	**19.93 308**	⇓P		**P**	**22 40 37.2 -1.1**
PUYF	**Puyloubier**	**19.93 300**	*e*P		**P**	**22 40 37.0 -1.3**
RSL	**Roselend**	**19.97 307**	*e*P		**P**	**22 40 37.8 -0.8**
LBG	**Lerchenberg**	**19.99 316**	P		**P**	**22 40 38.6 -0.2**
LBG	**Lerchenberg**	**19.99 316**	⇓*e*P		**P**	**22 40 38.4 -0.4**
VILF	**Villemus**	**20.00 301**	*e*P		**P**	**22 40 40.1 +1.1**
FELD	**Feldberg**	**20.04 314**	*e*P		**P**	**22 40 40.6 +1.2**
FELD	**Feldberg**	**20.04 314**	*e*P		**P**	**22 40 40.5 +1.1**
IZAR	**Zarasai**	**20.04 354**	*e*P		**P**	**22 40 37.8 -1.5**
IZAR			AMPb	AMB		22 40 48.1
	comp=Z,48nm,1.7s					
BFO	**Black Forest**	**20.08 315**	*e*P		**P**	**22 40 37.8 -2.0**
BFO			*e*S		**S**	**22 44 27.7 +10**
RUE	**Ruedersdorf**	**20.08 331**	*e*P		**P**	**22 40 39.0 -0.8**
	comp=Z,194nm,1.0s					
KIZ	**Kirchzarten**	**20.13 314**	P		**P**	**22 40 40.1 -0.2**
KIZ	**Kirchzarten**	**20.13 314**	*e*P		**P**	**22 40 41.0 +0.7**
GDM	**Grand'Maison**	**20.13 305**	*e*P		**P**	**22 40 39.4 -1.0**
SMRF	**Simiane la Rot**	**20.13 301**	*e*P		**P**	**22 40 38.7 -1.7**
	comp=Z,151nm,0.9s					
BBS	**Basel-Blauen**	**20.14 312**	*e*P		**P**	**22 40 41.9 +1.4**
BBS	**Basel-Blauen**	**20.14 312**	*e*P		**P**	**22 40 41.8 +1.3**
OG01	**Vacheresse**	**20.17 308**	*e*P		**P**	**22 40 36.3 -4.5**
TREF	**Trevaresse**	**20.18 300**	*e*P		**P**	**22 40 41.2 +0.3**
ORIF	**Oris-en-Rattie**	**20.20 304**	*e*P		**P**	**22 40 39.0 -2.1**
	comp=Z,273nm,0.9s					
ORIF			*e*R			
	comp=Z,11µm,22.5s					
PRAF	**Pradon**	**20.37 300**	*e*P		**P**	**22 40 41.0 -1.9**
GRN	**Grenoble**	**20.39 305**	*e*P		**P**	**22 40 41.2 -1.9**
LIBD	**Limburg**	**20.41 314**	*e*P		**P**	**22 40 43.9 +0.6**
SWS	**Schriesheim**	**20.48 318**	P		**P**	**22 40 43.3 -0.7**
SWS	**Schriesheim**	**20.48 318**	*e*P		**P**	**22 40 43.0 -1.0**
OCF	**Saint Nazaire**	**20.49 303**	*e*P		**P**	**22 40 43.0 -1.1**
OG26	**St.-Nazaire-De**	**20.49 303**	*e*P		**P**	**22 40 43.0 -1.1**
TOD	**Tromm**	**20.50 319**	⇓*e*P		**P**	**22 40 43.1 -1.1**
LOMF	**Lomont**	**20.50 311**	*e*P		**P**	**22 40 44.0 -0.3**
STR	**Strasbourg**	**20.53 315**	*e*P		**P**	**22 40 44.5 0.0**
MOF	**Molkenrain**	**20.55 313**	*e*P		**P**	**22 40 43.4 -1.3**
UBBA	**Unterbreizbach**	**20.61 323**	*e*S		**S**	**22 44 35.8 +7.5**
MOS	**Moscow**	**20.63 13α**	*i*P		**P**	**22 40 43.7 -1.8**
MOS			*e*			22 40 55.9
MOS			*e*			22 41 00.8
MOS			*i* S		**S**	**22 44 25.8 -2.9**
MOS			*e*			22 44 51.8
MOS			*es*S	SS		22 45 00.7 -0.1
MOS			pmax	pmax		
	comp=Z,605nm,1.3s					
MOS			smax			
	comp=E,3µm,5.0s					
CABF	**La Chapelle**	**20.66 309**	*e*P		**P**	**22 40 44.1 -1.8**
	comp=E,421nm,0.9s					
CABF	**La Chapelle**	**20.66 309**	*e*P		**P**	**22 40 44.1 -1.8**
CABF			pmax	pmax		
	comp=

BUG Bochum--Univer 22.35 321 *eP* **P 22 40 59.3 -3.5**
MTLF Montolieu 22.37 298 *eP* **P 22 41 02.2 -0.8**
comp=Z,563nm,1.3s,mb5.5
MTLF Montolieu 22.37 298 *eP* **P 22 41 02.2 -0.8**
MTLF pmax pmax
comp=Z,282nm,1.3s,mb5.5
PYM Petit Puy Mans 22.38 304 *eP* **P 22 41 06.1 +3.0**
AGO Saint Agoulin 22.39 305 *eP* **P 22 41 04.1 +0.9**
SSF Saint Saulge 22.47 308 *eP* **P 22 41 03.3 -0.7**
SSF pmax pmax
comp=Z,113nm,0.9s,mb5.3
SSF Saint Saulge 22.47 308 *eP* **P 22 41 03.3 -0.7**
comp=Z,113nm,0.9s,mb5.3
AVF Avril sur Loir 22.48 307 *eP* **P 22 41 03.2 -0.9**
comp=Z,226nm,1.0s,mb5.2
AVF Avril sur Loir 22.48 307 *eP* **P 22 41 03.2 -0.9**
AVF pmax pmax
comp=Z,113nm,1.0s,mb5.2
BSEG Bad Segeberg 22.56 329 *eP* **P 22 41 02.6 -2.2**
FRNF Fournols 22.58 303 *eP* **P 22 41 07.2 +2.1**
IBBN Ibbenburen 22.63 323 *eS* 22 45 21.4
EMIR Miracle 22.67 294 ⇑P **P 22 41 07.2 +1.2**
comp=Z,345nm,2.0s,mb5.4
EMIR Miracle 22.67 294 P **P 22 41 07.2 +1.2**
comp=Z,345nm,2.0s,mb5.4,SNR=18
EIBI Ibiza 22.67 287 P **P 22 41 07.8 +1.8**
comp=Z,211nm,1.7s,mb5.3
EIBI Ibiza 22.67 287 P **P 22 41 07.8 +1.8**
comp=Z,211nm,1.7s,mb5.3,SNR=5.7
HGN Heimansgroeve 22.68 318⇑*eP* **P 22 41 05.5 -0.4**
comp=Z,100nm,1.4s,mb5.0
HGN *ex* x 22 41 31.2
HGN *eS* **S 22 45 13.2 +6.5**
PECR Pechory 22.69 21 *eP* **P 22 41 04.6 -1.5**
PECR *eS* **S 22 45 12.0 +5.1**
PECR pmax pmax
comp=N,1μm,4.0s
PECR pmax pmax
comp=Z,2μm,4.0s
PECR smax
comp=N,4μm,6.0s
PECR MLR MLR
comp=Z,18μm,18.0s,MS5.5
PECR MLR MLR
comp=N,8μm,19.0s
BGF Bois d'Agland 22.73 306 *eP* **P 22 41 06.2 -0.4**
comp=N,194nm,0.8s,mb5.3
BGF Bois d'Agland 22.73 306 *eP* **P 22 41 06.2 -0.4**
BGF pmax pmax
comp=Z,97nm,0.8s,mb5.3
CAF Calviac 22.81 302 *eP* **P 22 41 08.3 +1.0**
comp=Z,262nm,1.1s,mb5.3
CAF Calviac 22.81 302 *eP* **P 22 41 08.3 +1.0**
CAF pmax pmax
comp=Z,131nm,1.1s,mb5.3
WTSB Winterswijk 22.90 322⇑*eP* **P 22 41 07.4 -0.7**
comp=Z,35nm,1.3s,mb4.7
WTSB *ex* x 22 41 18.7
WTSB *eS* **S 22 45 15.3 +4.8**
EPOB Poblet 22.95 293 ⇓P **P 22 41 09.1 +0.4**
comp=Z,61nm,1.0s,mb5.0
EPOB Poblet 22.95 293 P **P 22 41 09.1 +0.4**
comp=Z,61nm,1.0s,mb5.0,SNR=18
GIVF Givet 22.95 316 *eP* **P 22 41 07.9 -0.8**
comp=Z,127nm,0.9s,mb5.0
GIVF Givet 22.95 316 *eP* **P 22 41 07.9 -0.8**
GIVF pmax pmax
comp=Z,63nm,0.9s,mb5.0
TCF Toulx Ste Croi 23.07 305 *eP* **P 22 41 09.5 -0.3**
comp=Z,241nm,1.2s,mb5.2
TCF Toulx Ste Croi 23.07 305 *eP* **P 22 41 09.5 -0.3**
TCF pmax pmax
comp=Z,120nm,1.2s,mb5.2
COP Copenhagen 23.08 335 *eP* **P 22 41 09.4 -0.4**
COP *i* S **S 22 45 25.0 +11**
COP pmax pmax
comp=Z,102nm,0.8s,mb5.3
COP MLR MLR
comp=Z,2μm,18.0s,MS4.6
COP Copenhagen 23.08 335 *eP* **P 22 41 09.4 -0.4**
comp=Z,102nm,0.8s,mb5.3
COP *i* S **S 22 45 25.0 +11**
COP LR LR
comp=Z,2μm,18.0s,MS4.6
COP Copenhagen 23.08 335 *i* P **P 22 41 09.4 -0.4**
comp=Z,102nm,0.8s,mb5.3
COP *i* S **S 22 45 25.0 +11**
comp=Z,2μm,18.0s
HYF Humbligny 23.10 308 *eP* **P 22 41 11.4 +1.3**
MLS Moulis 23.12 297 *eP* **P 22 41 10.9 +0.6**
RJF Les Rejaudoux 23.27 303 *eP* **P 22 41 12.2 +0.4**
comp=Z,429nm,1.1s,mb5.5
RJF *eR*
comp=Z,6μm,21.5s
RJF Les Rejaudoux 23.27 303 *eP* **P 22 41 12.2 +0.4**
RJF pmax pmax
comp=Z,215nm,1.1s,mb5.5
RJF MLR MLR
comp=Z,6μm,21.5s,MS5.0
BAIF Baives 23.28 315 *eP* **P 22 41 12.0 +0.2**
comp=Z,158nm,0.9s,mb5.1
BAIF Baives 23.28 315 *eP* **P 22 41 12.0 +0.2**
BAIF pmax pmax
comp=Z,79nm,0.9s,mb5.1
MELF Melles 23.35 296 *eP* **P 22 41 14.8 +2.2**
EBR Ebro Roquetas 23.36 291 *eP* **P 22 41 14.2 +1.5**
ERTA Horta de San J 23.49 291 ⇑P **P 22 41 15.6 +1.7**
comp=Z,212nm,1.3s,mb5.4
ERTA Horta de San J 23.49 291 P **P 22 41 15.6 +1.7**
comp=Z,212nm,1.3s,mb5.4,SNR=18
RESF Ens 23.65 296 *eP* **P 22 41 17.1 +1.6**
EPF Esparros 23.68 297 *eP* **P 22 41 15.9 +0.2**
comp=Z,64nm,0.8s,mb4.8
EPF Esparros 23.68 297 *eP* **P 22 41 15.9 +0.2**
EPF pmax pmax
comp=Z,32nm,0.8s,mb4.8
LFF La Frestale 23.73 301 *eP* **P 22 41 17.7 +1.5**
comp=Z,252nm,1.1s,mb5.2
LFF La Frestale 23.73 301 *eP* **P 22 41 17.7 +1.5**
LFF pmax pmax
comp=Z,126nm,1.1s,mb5.3
EBIE Bielsa 23.78 296 P **P 22 41 18.4 +1.7**
comp=Z,318nm,2.4s,mb5.3
EBIE Bielsa 23.78 296 P **P 22 41 18.4 +1.7**
comp=Z,318nm,2.4s,mb5.3,SNR=16
LABF Labassere 23.87 297 *eP* **P 22 41 19.1 +1.5**
VIEF Viey 23.89 296 *eP* **P 22 41 19.3 +1.5**
EBEN Beniarda 23.91 286 P **P 22 41 19.2 +1.1**
comp=Z,265nm,1.4s,mb5.5
EBEN Beniarda 23.91 286 P **P 22 41 19.2 +1.2**
comp=Z,265nm,1.4s,mb5.5,SNR=14
PUL Pulkovo 23.94 1 *eP* **P 22 41 18.0 -0.1**
PUL *eS* **S 22 45 25.1 -3.6**
PUL pmax pmax
comp=N,387nm,1.0s
PUL pmax pmax
comp=Z,211nm,1.0s,mb5.5
PUL pmax pmax
comp=E,36nm,0.7s
PUL smax
comp=N,807nm,1.5s
PUL smax
comp=Z,64nm,1.1s
PUL smax
comp=E,994nm,1.7s
PUL MLR MLR
comp=Z,6μm,12.0s,MS5.3
PUL MLR MLR
comp=N,6μm,14.0s,MS5.3
PUL MLR MLR
comp=E,1μm,11.0s,MS5.3
PUL Pulkovo 23.94 1⇑*eP* **P 22 41 17.8 -0.3**
EMOS Mosqueruela 24.08 290 ⇑P **P 22 41 21.6 +2.0**
comp=E,326nm,1.8s,mb5.5
EMOS Mosqueruela 24.08 290 P **P 22 41 21.6 +1.9**
comp=E,326nm,1.8s,mb5.5,SNR=18
ESAC San Caprasio 24.14 293 ⇓P **P 22 41 21.5 +1.3**
comp=E,389nm,1.8s,mb5.5
ESAC San Caprasio 24.14 293 P **P 22 41 21.5 +1.2**
comp=E,389nm,1.8s,mb5.5,SNR=18
FDAF Les Forges d'A 24.31 296 *eP* **P 22 41 21.4 -0.5**
ETSF Etsaut 24.31 296 *eP* **P 22 41 23.3 +1.3**
comp=E,318nm,1.3s,mb5.3
ETSF Etsaut 24.31 296 *eP* **P 22 41 23.3 +1.3**
ETSF pmax pmax
comp=Z,159nm,1.3s,mb5.3

CART Cartagena 24.59 283 *eP* **P 22 41 25.4 +0.6**
comp=Z,28nm,0.6s,mb5.0
CART Cartagena 24.59 283 *i* P **P 22 41 23.3 -1.5**
CART *i* S 22 46 20.7
LARF Larrau 24.64 296 *eP* **P 22 41 26.5 +1.3**
MFF Saint Martin d 24.72 305 *eP* **P 22 41 25.7 -0.2**
comp=Z,159nm,0.9s,mb5.3
MFF Saint Martin d 24.72 305 *eP* **P 22 41 25.7 -0.2**
MFF pmax pmax
comp=Z,80nm,0.9s,mb5.2
EMUR La Murta 24.76 284 ⇑P **P 22 41 26.8 +0.4**
comp=Z,244nm,2.0s,mb5.4
EMUR La Murta 24.76 284 P **P 22 41 26.8 +0.4**
comp=Z,244nm,2.0s,mb5.4,SNR=18
SJPF Ste Jean 24.82 296 *eP* **P 22 41 26.9 0.0**
comp=Z,394nm,1.2s,mb5.5
SJPF Ste Jean 24.82 296 *eP* **P 22 41 26.9 0.0**
SJPF pmax pmax
comp=Z,197nm,1.2s,mb5.5
MUD Monsted U'grnd 24.84 332 *i* P **P 22 41 28.8 +1.8**
MUD pmax pmax
comp=Z,111nm,1.0s,mb5.3
MUD Monsted U'grnd 24.84 332 *i* P **P 22 41 28.8 +1.8**
comp=Z,111nm,1.0s,mb5.3
MUD *i* S 22 46 06.7
comp=Z,5μm,17.0s
OSSF Osses 24.87 297 *eP* **P 22 41 27.5 +0.2**
DHBB Dhamar BB 24.96 144⇑*eP* **P 22 41 31.2 +2.7**
DHBB AMb AMB 22 41 32.1
comp=Z,278nm,2.1s,mb5.4
DHBB Dhamar BB 24.96 144⇑*eP* **P 22 41 31.2 +2.7**
comp=Z,139nm,2.1s,mb5.1
LCHF La Chataignera 25.14 305 *eP* **P 22 41 28.7 -1.2**
LDF La Druitiere 25.29 309 *eP* **P 22 41 29.6 -1.7**
comp=Z,170nm,1.0s,mb5.2
LDF La Druitiere 25.29 309 *eP* **P 22 41 29.6 -1.7**
LDF pmax pmax
comp=Z,85nm,1.0s,mb5.2
FLN La Foliniere 25.57 310 *eP* **P 22 41 33.0 -0.9**
comp=Z,91nm,0.7s,mb5.1
FLN *eR*
comp=Z,5μm,19.5s
FLN La Foliniere 25.57 310 *eP* **P 22 41 33.0 -0.9**
FLN pmax pmax
comp=Z,45nm,0.7s,mb5.1
FLN MLR MLR
comp=Z,5μm,19.5s,MS5.0
ENIJ Nijar 25.62 282 ⇓P **P 22 41 35.1 +0.6**
ENIJ pmax pmax
comp=Z,123nm,1.1s,mb5.3
ENIJ Nijar 25.62 282 ⇓P **P 22 41 35.1 +0.6**
comp=Z,123nm,1.1s,mb5.3
ENIJ Nijar 25.62 282 P **P 22 41 35.1 +0.6**
comp=Z,123nm,1.1s,mb5.4,SNR=18
EVIA Vianos 25.69 286 ⇓P **P 22 41 36.1 +1.0**
EVIA pmax pmax
comp=Z,87nm,1.0s,mb5.2
EVIA Vianos 25.69 286 ⇓P **P 22 41 36.1 +0.9**
comp=Z,87nm,1.0s,mb5.2
EVIA Vianos 25.69 286 P **P 22 41 36.1 +1.0**
comp=Z,87nm,1.0s,mb5.3,SNR=18
GRR Gorron 25.69 309 *eP* **P 22 41 33.2 -1.9**
comp=Z,364nm,1.1s,mb5.5
GRR Gorron 25.69 309 *eP* **P 22 41 33.2 -1.9**
GRR pmax pmax
comp=Z,182nm,1.1s,mb5.5
FINES FINESS Array B 25.72 356 P **P 22 41 34.3 -0.9**
FINES pmax pmax
comp=Z,117nm,1.1s
FINES MLR MLR
comp=Z,4μm,18.2s
FINES FINESS Array B 25.72 356 P **P 22 41 34.3 -0.9**
comp=Z,116nm,1.1s,mb5.3,baz=152,slow=12,SNR=82
FINES LR LR 22 52 32.6
comp=Z,4μm,18.2s,MS5.0,baz=306,slow=38
LBOS 25.98 143⇓*iP* **P 22 41 40.4 +2.4**
LBOS AMb AMB 22 41 41.7
comp=Z,46nm,1.3s,mb4.8
EBER Berja 26.17 282 ⇑P **P 22 41 41.0 +1.4**
comp=Z,431nm,1.3s,mb5.8
EBER Berja 26.17 282 P **P 22 41 41.0 +1.4**
comp=Z,431nm,1.3s,mb5.8,SNR=18
EQES Quesada 26.21 284 ⇑P **P 22 41 40.5 +0.6**
comp=Z,312nm,1.2s,mb5.7
EQES Quesada 26.21 284 P **P 22 41 40.5 +0.6**
comp=Z,312nm,1.2s,mb5.7,SNR=18
KAF Kangasniemi 26.37 356 *ep* **P 22 41 40.5 -0.7**
comp=Z,85nm,0.9s,mb5.3,baz=172,slow=9.3
KAF Kangasniemi 26.37 356 *eP* **P 22 41 40.5 -0.7**
KAF pmax pmax
comp=Z,85nm,0.9s,mb5.3
ARQ Araqi 26.38 111 ⇓P **P 22 41 43.6 +1.9**
SNR=20
HFS Hagfors 26.40 342 P **P 22 41 41.7 +0.2**
HFS pmax pmax
comp=Z,200nm,1.0s
HFS Hagfors 26.40 342 P **P 22 41 41.7 +0.1**
comp=Z,200nm,1.0s,mb5.6,baz=149,slow=8.6,SNR=61
EALB Alboran 26.43 280 ⇑P **P 22 41 43.0 +1.0**
comp=Z,1μm,1.1s,mb6.4
EALB Alboran 26.43 280 P **P 22 41 43.0 +1.0**
comp=Z,1μm,1.1s,mb6.4,SNR=18
ELAN Lanestosa 26.44 296 P **P 22 41 41.7 -0.4**
comp=Z,331nm,1.4s,mb5.7
ELAN Lanestosa 26.44 296 P **P 22 41 41.7 -0.4**
comp=Z,331nm,1.4s,mb5.7,SNR=9.7
EMLI Melilla 26.47 278 P **P 22 41 44.2 +1.8**
comp=Z,856nm,1.0s,mb6.2,SNR=18
SGMF Saint Gilles 26.74 308 *eP* **P 22 41 43.1 -1.6**
comp=Z,63nm,0.8s,mb4.9
SGMF Saint Gilles 26.74 308 *eP* **P 22 41 43.1 -1.6**
SGMF pmax pmax
comp=Z,32nm,0.8s,mb4.9
ESDC Sonseca Array 26.77 288 P **P 22 41 45.0 -0.1**
comp=Z,103nm,0.9s,mb5.3,baz=83,slow=9.2,SNR=77
ESDC Sonseca Array 26.77 288 P **P 22 41 45.4 +0.3**
comp=Z,96nm,0.9s,mb5.3
ESDC Sonseca Array 26.77 288 P **P 22 41 45.4 +0.3**
comp=Z,96nm,0.9s,mb5.3,SNR=74
ESLA Sonseca Array 26.77 288 *eP* **P 22 41 44.6 -0.5**
comp=Z,40nm,1.0s,mb4.9
ESLA LR LR
comp=Z,23μm,21.0s,MS5.7
HOQ Hoqain 26.85 109 P **P 22 41 47.7 +1.7**
SNR=14
GUD Guadarrama 26.89 291 ⇑P **P 22 41 46.3 +0.1**
GUD pmax pmax
comp=Z,38nm,0.8s,mb5.0
GUD Guadarrama 26.89 291 ⇑P **P 22 41 46.3 +0.2**
comp=Z,38nm,0.8s,mb5.0
GUD Guadarrama 26.89 291 P **P 22 41 46.3 +0.1**
comp=Z,38nm,0.8s,mb5.0,SNR=18
QUIF Quistinic 27.05 307 *eP* **P 22 41 46.3 -1.3**
comp=Z,50nm,0.7s,mb4.8
QUIF Quistinic 27.05 307 *eP* **P 22 41 46.3 -1.3**
QUIF pmax pmax
comp=Z,25nm,0.7s,mb4.8
JOF Joensuu 27.12 2 *ep* **P 22 41 46.6 -1.4**
comp=Z,19nm,0.6s,mb4.8
ELOJ Sierra Loja 27.14 283 ⇑P **P 22 41 48.3 -0.2**
ELOJ pmax pmax
comp=Z,24nm,0.8s,mb4.8
ELOJ Sierra Loja 27.14 283 ⇑P **P 22 41 48.3 -0.2**
comp=Z,24nm,0.8s,mb4.8
ELOJ Sierra Loja 27.14 283 P **P 22 41 48.3 -0.2**
comp=Z,24nm,0.8s,mb4.8,SNR=18
KONO Kongsberg 27.15 338 PFAKE 22 42 00.0 +12
KONO LR LR
comp=Z,5μm,21.0s,MS5.1
ELUQ Luque 27.18 284 ⇑P **P 22 41 48.5 -0.4**
ELUQ pmax pmax
comp=Z,93nm,0.7s,mb5.4
ELUQ Luque 27.18 284 ⇑P **P 22 41 48.5 -0.4**
comp=Z,92nm,0.7s,mb5.4
ELUQ Luque 27.18 284 P **P 22 41 48.5 -0.4**
comp=Z,92nm,0.7s,mb5.4,SNR=18
ROSF Rostrenen 27.22 308 *eP* **P 22 41 46.6 -2.6**
comp=Z,45nm,0.8s,mb4.8
ROSF Rostrenen 27.22 308 *eP* **P 22 41 46.6 -2.6**
ROSF pmax pmax
comp=Z,22nm,0.8s,mb4.7
BSY Bisya 27.23 111 P **P 22 41 51.0 +1.6**
SNR=21
BSYO Bisya 27.27 111 P **P 22 41 51.0 +1.2**
SNR=21
EADA Adamuz 27.35 285 ⇑P **P 22 41 50.8 +0.3**
comp=Z,237nm,1.4s,mb5.5

EADA Adamuz 27.35 285 P **P 22 41 50.8 +0.3**
comp=Z,237nm,1.4s,mb5.5,SNR=18
MUKL Al Mukalla 27.47 136⇑*eP* **P 22 41 53.5 +1.7**
MUKL AMb AMB 22 41 54.3
comp=Z,71nm,1.4s,mb5.0
BIDO Bidbid 27.51 109 ⇑P **P 22 41 53.7 +1.7**
SNR=19
SMDO Samad 27.70 110 P **P 22 41 55.4 +1.6**
SNR=27
EMIJ Mijas 27.71 282 ⇑P **P 22 41 53.6 -0.2**
comp=Z,330nm,1.7s,mb5.7
EMIJ Mijas 27.71 282 P **P 22 41 53.6 -0.2**
comp=Z,330nm,1.7s,mb5.7,SNR=18
EARI Arriondas 27.74 296 P **P 22 41 56.1 +2.2**
comp=Z,302nm,2.1s,mb5.6
EARI Arriondas 27.74 296 P **P 22 41 56.1 +2.1**
comp=Z,302nm,2.1s,mb5.5,SNR=6.9
NAO01 NORSAR Array S 27.75 340 *eP* **P 22 41 52.8 -1.0**
comp=Z,74nm,0.8s,mb5.4
NB2 NORSAR Subarra 27.82 341 P **P 22 41 53.4 -1.1**
comp=Z,46nm,0.9s,mb5.1,baz=146,slow=9.3
NB2 NORSAR Subarra 27.82 341 P **P 22 41 53.4 -1.1**
baz=146,slow=10
NOA NORSAR Array B 27.82 341 P **P 22 41 53.6 -0.9**
NOA pmax pmax
comp=Z,23nm,0.7s
NOA MLR MLR
comp=Z,5μm,20.9s
NOA NORSAR Array B 27.82 341 P **P 22 41 53.5 -0.9**
comp=Z,23nm,0.7s,mb4.9,baz=146,slow=9.6,SNR=33
NOA LR LR 22 54 38.3
comp=Z,5μm,20.9s,MS5.0,baz=140,slow=40
ABTO Aybut 27.91 125 P **P 22 41 57.4 +1.7**
SNR=69
BLS5 Blasjo 28.01 335 *eP* **P 22 41 57.0 +0.7**
comp=Z,55nm,0.8s,mb5.2
BLS5 Blasjo 28.01 335 *eP* **P 22 41 57.0 +0.7**
BLS5 AMb AMB 22 42 04.5
comp=Z,55nm,0.8s,mb5.2
BLS5 Blasjo 28.01 335 *eP* **P 22 41 57.0 +0.8**
comp=Z,55nm,0.8s,mb5.2,SNR=34
JMDO Jabal Madar 28.13 111 P **P 22 41 59.1 +1.5**
SNR=22
ARU Arti 28.36 34 P **P 22 41 57.0 -2.4**
comp=Z,448nm,0.6s,mb6.3,SNR=36
ARU Arti 28.36 34 *eP* **P 22 41 52.6 -6.8**
ARU *e*PPP PPP 22 42 45.5 -18
ARU *e*SSS SSS 22 48 01.7 -25
ARU MLR MLR
comp=E,3μm,20.0s,MS5.1
ARU MLR MLR
comp=Z,5μm,20.0s,MS5.1
ARU MLR MLR
comp=N,3μm,18.0s,MS5.1
ARU Arti 28.36 34 *eP* **P 22 41 52.1 -7.3**
comp=N,33nm,0.9s,mb5.0
RBK Rabkut 28.41 124 ⇓P **P 22 42 01.7 +1.5**
SNR=89
ESPR Espera 28.53 283 ⇓P **P 22 41 59.9 -1.1**
comp=N,101nm,1.2s,mb5.4
ESPR Espera 28.53 283 P **P 22 41 59.9 -1.1**
comp=N,101nm,1.2s,mb5.4,SNR=18
WBK Wadi Bani Khal 28.65 109 ⇑P **P 22 42 04.4 +2.1**
ECAL Calabor 28.82 293 P **P 22 42 05.5 +1.8**
comp=N,106nm,1.6s,mb5.3
ECAL Calabor 28.82 293 P **P 22 42 05.5 +1.9**
comp=N,106nm,1.6s,mb5.3,SNR=4.8
PBRG Braganca 28.83 293 *eP* **P 22 42 03.6 -0.1**
comp=N,89nm,1.3s,mb5.3
PBRG *ep*P pP 22 42 12.2 -2.9
PBRG Braganca 28.83 293 *eP* **P 22 42 03.5 -0.2**
SFS San Fernando 28.87 282 *eP* **P 22 42 03.8 -0.3**
SFS pmax pmax
comp=Z,137nm,0.9s,mb5.7
SFS San Fernando 28.87 282 *eP* **P 22 42 03.8 -0.3**
comp=Z,137nm,0.9s,mb5.7
SFS San Fernando 28.87 282 *i* P **P 22 42 13.3 +9.2**
EMIN Mina Concepcio 29.05 285 ⇑P **P 22 42 05.1 -0.6**
comp=Z,324nm,1.7s,mb5.8
EMIN Mina Concepcio 29.05 285 P **P 22 42 05.1 -0.5**
comp=Z,324nm,1.7s,mb5.8,SNR=18
EPON Pontenova 29.16 296 P **P 22 42 07.3 +0.7**
comp=Z,47nm,1.0s,mb5.2
EPON Pontenova 29.16 296 P **P 22 42 07.3 +0.7**
comp=Z,47nm,1.0s,mb5.2,SNR=6.1
EBAD Badajoz 29.20 287 ⇑P **P 22 42 06.5 -0.4**
comp=Z,143nm,1.6s,mb5.5
EBAD Badajoz 29.20 287 P **P 22 42 06.6 -0.4**
comp=Z,143nm,1.6s,mb5.5,SNR=18
DOMB Dombas 29.23 340 *eP* **P 22 42 09.5 +2.4**
comp=Z,116nm,2.1s,mb5.2
DOMB Dombas 29.23 340 *eP* **P 22 42 09.5 +2.4**
DOMB AMb AMB 22 42 26.6
comp=Z,116nm,2.1s,mb5.2
DOMB Dombas 29.23 340 *eP* **P 22 42 09.5 +2.4**
comp=Z,116nm,2.1s,mb5.2,SNR=29
EINC Incio 29.29 295 P **P 22 42 07.2 -0.5**
comp=Z,174nm,1.8s,mb5.5
EINC Incio 29.29 295 P **P 22 42 07.2 -0.5**
comp=Z,174nm,1.8s,mb5.5,SNR=7.9
PCBR Castelo Branco 29.46 289 *eP* **P 22 42 09.1 -0.2**
comp=Z,118nm,1.4s,mb5.4
PCBR Castelo Branco 29.46 289 *eP* **P 22 42 09.0 -0.3**
MTE Manteigas 29.48 290 *eP* **P 22 42 09.4 -0.1**
comp=Z,110nm,1.5s,mb5.4
MTE *eS* **S 22 47 04.5 +4.9**
MTE *e*LQ 22 49 14.5
MTE *e*LR LR 22 50 29.1
comp=Z,5μm,19.3s
MTE Manteigas 29.48 290 *eP* **P 22 42 09.0 -0.5**
comp=Z,44nm,0.8s,mb5.2
SVE Sverdlovsk 29.54 35 *eP* **P 22 42 09.0 -0.9**
SVE *e* 22 43 10.0
SVE *e* 22 45 12.0
SVE *eS* **S 22 46 56.0 -4.4**
SVE *e*SS SS 22 48 44.0 +8.6
SVE pmax pmax
comp=Z,200nm,1.3s,mb5.7
PVRL Vila Real 29.57 292 *eP* **P 22 42 12.0 +1.7**
comp=Z,53nm,1.4s,mb5.1
EKA Eskdalemuir Ar 29.70 321 P **P 22 42 09.5 -1.8**
EKA 22 45 16.1
EKA pmax pmax
comp=Z,11nm,0.9s
EKA Eskdalemuir Ar 29.70 321 P **P 22 42 09.5 -1.8**
comp=Z,11nm,0.9s,mb4.6,baz=114,slow=10,SNR=9.7
EKA PcP PcP 22 45 16.1 +1.2
comp=Z,9.9nm,0.8s,baz=135,slow=3.5,SNR=4.9
EGRO El Granado 29.71 284 ⇑P **P 22 42 11.6 0.0**
comp=Z,226nm,1.2s,mb5.8
EGRO El Granado 29.71 284 P **P 22 42 11.6 0.0**
comp=Z,226nm,1.2s,mb5.8,SNR=18
PALC Alcoutim 29.72 284 *eP* **P 22 42 11.6 0.0**
comp=Z,341nm,1.4s,mb5.9
PALC Alcoutim 29.72 284 *eP* **P 22 42 11.4 -0.2**
ESK Eskdalemuir 29.72 321 PFAKE 22 42 20.0 +8.5
ESK LR LR
comp=Z,2μm,19.0s,MS4.7
PVIS Viseu 29.73 291 *eP* **P 22 42 12.3 +0.6**
comp=Z,72nm,1.7s,mb5.1
PVIS Viseu 29.73 291 *eP* **P 22 42 12.1 +0.4**
PBEJ Beja 29.95 285 *eP* **P 22 42 13.8 +0.1**
comp=Z,260nm,1.4s,mb5.8
PBEJ Beja 29.95 285 *eP* **P 22 42 13.7 0.0**
EVO Evora 30.00 287 *eP* **P 22 42 14.7 +0.6**
comp=Z,62nm,0.9s,mb5.0
EVO *eR*
comp=Z,4μm,22.5s
STS Santiago 30.17 295 P **P 22 42 15.7 +0.1**
STS Santiago 30.17 295 P **P 22 42 15.6 0.0**
SNR=7.9
EZAM Zamans 30.28 294 P **P 22 42 17.3 +0.7**
EZAM pmax pmax
comp=Z,24nm,0.8s,mb5.0
EZAM Zamans 30.28 294 P **P 22 42 17.3 +0.6**
comp=Z,24nm,0.8s,mb5.0
EZAM Zamans 30.28 294 P **P 22 42 17.3 +0.7**
comp=Z,24nm,0.8s,mb5.0,SNR=7.9
PTEO Sao Teotonio 30.69 285 *eP* **P 22 42 20.5 +0.2**
comp=Z,264nm,1.3s,mb5.9
PTEO *ep*P pP 22 42 27.9 -3.8
PTEO Sao Teotonio 30.69 285 *eP* **P 22 42 20.3 0.0**
PLOU Loures 30.84 287 *eP* **P 22 42 22.3 +0.7**
comp=Z,86nm,1.7s,mb5.3
PLOU *ep*P pP 22 42 29.2 -3.9
PLOU Loures 30.84 287 *eP* **P 22 42 22.1 +0.5**
MOR8 Moi Rana 31.65 348 *eP* **P 22 42 29.2 +0.8**

comp=Z,82nm,1.3s,mb5.4
MOR8 Moi Rana 31.65 348 *e*P **P 22 42 29.2 +0.8**
MOR8 AMb AMB 22 42 44.1
comp=Z,82nm,1.3s,mb5.4
MOR8 Moi Rana 31.65 348 *e*P **P 22 42 29.2 +0.7**
comp=Z,82nm,1.3s,mb5.4,SNR=28
APA Apatity 31.84 3⇑*i*P **P 22 42 29.5 -0.6**
APA *e*S **S 22 47 42.0 +5.5**
APA pmax pmax
comp=Z,55nm,0.9s,mb5.4
APA MLR MLR
comp=Z,8μm,14.0s,MS5.6
LVZ Lovozero 32.22 4 *e*P **P 22 42 32.1 -1.3**
LVZ *e*S **S 22 47 48.4 +5.9**
LVZ pmax pmax
comp=Z,26nm,1.0s,mb5.0
LVZ pmax pmax
comp=N,17nm,0.9s
LVZ pmax pmax
comp=E,10.0nm,1.1s
LVZ MLR MLR
comp=N,5μm,14.0s
LVZ MLR MLR
comp=Z,6μm,14.0s,MS5.4
LVZ MLR MLR
comp=E,2μm,23.0s
BRVK Borovoye 33.17 46 *e*P **P 22 42 40.3 -1.5**
BRVK pmax pmax
comp=Z,172nm,1.6s,mb5.7
BRVK MLR MLR
comp=Z,2μm,22.0s,MS4.8
BRVK Borovoye 33.17 46 *e*P **P 22 42 40.3 -1.5**
comp=Z,172nm,1.6s,mb5.7
BRVK LR LR
comp=Z,2μm,22.0s,MS4.8
BVA0 Borovoye Array 33.22 46 P **P 22 42 41.6 -0.6**
BVA0 pmax pmax
comp=Z,39nm,1.7s,mb5.1
BVAR Borovoye Array 33.22 46 P **P 22 42 41.2 -1.1**
comp=Z,6.0nm,0.3s,mb5.0,baz=251,slow=7.2,SNR=87
BVAR ScP 22 49 06.4
comp=Z,13nm,1.1s,baz=256,slow=6.1,SNR=4.0
KTK1 Kautokeino 33.41 356 *e*P **P 22 42 44.1 +0.4**
comp=Z,113nm,1.3s,mb5.6
KTK1 Kautokeino 33.41 356 *e*P **P 22 42 44.1 +0.4**
KTK1 AMb AMB 22 42 46.2
comp=Z,113nm,1.3s,mb5.7
KTK1 Kautokeino 33.41 356 *e*P **P 22 42 44.1 +0.4**
comp=Z,113nm,1.3s,mb5.7,SNR=28
CHKZ Chkalovo 33.52 45 *e*P **P 22 42 43.2 -1.6**
CHKZ pmax pmax
comp=Z,83nm,0.9s,mb5.7
CHKZ Chkalovo 33.52 45 *e*P **P 22 42 43.2 -1.6**
comp=Z,83nm,0.9s,mb5.7
ARCES ARCESS Array B 33.82 357 P **P 22 42 46.4 -0.9**
ARCES pmax pmax
comp=Z,41nm,0.8s
ARCES ARCESS Array B 33.82 357 P **P 22 42 46.4 -0.9**
comp=Z,41nm,0.8s,mb5.4,baz=166,slow=7.3,SNR=62
ARE0 ARCESS Array S 33.82 357 *e*P **P 22 42 46.4 -0.9**
KEV Kevo 34.00 358 *e*p **P 22 42 47.9 -0.9**
comp=Z,34nm,1.1s,mb5.2
KEV Kevo 34.00 358 *e*P **P 22 42 47.9 -0.9**
KEV pmax pmax
comp=Z,34nm,1.1s,mb5.2
TRO Tromso 34.35 353 *e*P **P 22 42 50.1 -1.7**
AML Almayashu 34.49 66 P **P 22 42 54.0 +0.7**
SNR=18
EKS2 Erkin-Say 34.52 65 P **P 22 42 54.3 +0.8**
SNR=46
USP Ospenovka 35.01 64 P **P 22 42 57.4 -0.3**
SNR=26
AAK Ala-Archa 35.05 65 P **P 22 42 57.9 -0.2**
SNR=93
AAK Ala-Archa 35.05 65*c i*P **P 22 42 57.7 -0.4**
AAK pmax pmax
comp=Z,72nm,1.0s,mb5.6
AAK MLR MLR
comp=Z,6μm,18.0s,MS5.4
AAK Ala-Archa 35.05 65⇑*e*P **P 22 42 56.6 -1.4**
comp=Z,44nm,0.6s,mb5.6
AAK LR LR
comp=Z,2μm,21.0s,MS4.8
UCH Uchtor 35.09 66 P **P 22 42 59.1 +0.7**
SNR=40
FRU Bishkek 35.12 65*αe*P **P 22 42 59.0 +0.3**
FRU *e* 22 44 12.0
FRU S **S 22 48 30.0 +2.3**
FRU 22 50 48.0
FRU pmax pmax
comp=Z,490nm,2.5s,mb6.0
FRU MLR MLR
comp=Z,6μm,21.0s,MS5.3
CHMS Chumysh 35.21 64 P **P 22 42 59.7 +0.2**
SNR=58
KBK Karagaybulak 35.38 65 P **P 22 43 01.6 +0.8**
SNR=67
KZA Kyzart 35.65 66 P **P 22 43 03.7 +0.5**
SNR=52
TKM2 Tokmak 2 35.84 64 P **P 22 43 04.9 +0.1**
SNR=54
MBAR Mbarara 36.28 178⇓*e*P **P 22 43 10.4 +1.6**
MBAR pmax pmax
comp=Z,112nm,1.3s,mb5.6
MBAR MLR MLR
comp=Z,774nm,20.0s,MS4.5
MBAR Mbarara 36.28 178⇓*e*P **P 22 43 10.4 +1.7**
comp=Z,112nm,1.3s,mb5.6
MBAR LR LR
comp=Z,774nm,20.0s,MS4.5
ULHL Ulahol 36.37 65 P **P 22 43 11.1 +1.8**
SNR=9.9
AAA Alma-Ata 36.79 64*c i*P **P 22 43 12.0 -0.8**
AAA *i* S **S 22 48 57.0 +3.6**
AAA MLR MLR
comp=Z,2μm,18.0s,MS4.9
EFAM Famara 36.82 272 P **P 22 43 15.0 +1.8**
comp=Z,131nm,1.3s,mb5.6
EFAM Famara 36.82 272 P **P 22 43 15.0 +1.9**
comp=Z,131nm,1.3s,mb5.6,SNR=11
CFUE Fuerteventura 37.33 272 P **P 22 43 18.4 +1.0**
SNR=7.9
KMBO Kilima Mbogo 37.46 167 P **P 22 43 22.3 +3.6**
comp=Z,5.7nm,0.8s,mb4.5,baz=352,slow=9.1,SNR=30
KMBO PcP PcP 22 45 40.3 +3.3
comp=Z,16nm,1.0s,baz=21,slow=4.4,SNR=6.8
KMBO ScP 22 49 24.3
comp=Z,5.4nm,1.0s,baz=344,slow=4.7,SNR=5.2
KMBO Kilima Mbogo 37.46 167⇓*e*P **P 22 43 21.8 +3.1**
comp=Z,118nm,1.9s,mb5.4
KMBO LR LR
comp=Z,2μm,19.0s,MS5.0
CFTV Fuerteventura 37.54 271 P **P 22 43 21.6 +2.4**
comp=Z,16nm,0.8s,mb4.8,SNR=8.0
KURK Kurchatov 37.89 51 P **P 22 43 20.8 -1.1**
KURK pmax pmax
comp=Z,95nm,1.0s,mb5.5
KURK Kurchatov 37.89 51⇑*e*P **P 22 43 20.4 -1.5**
comp=Z,123nm,0.8s,mb5.7
KURK LR LR
comp=Z,2μm,20.0s,MS4.8
EOSO Osorio 38.86 272 P **P 22 43 35.0 +4.8**
comp=Z,25nm,0.6s,mb5.1
EOSO Osorio 38.86 272 P **P 22 43 35.0 +4.8**
comp=Z,25nm,0.6s,mb5.1,SNR=7.3
BHK Bhakra 38.89 83 *e*P **P 22 43 31.1 +0.7**
BHK *e*S **S 22 49 24.5 -0.9**
AJM Ajmer 39.32 91 *e*P **P 22 43 34.7 +0.7**
AJM *e* 22 43 37.0
comp=Z,127nm,0.6s
EBAJ Bajamar 39.32 273 P **P 22 43 36.1 +2.0**
comp=Z,29nm,0.7s,mb5.1,SNR=8.1
CRAJ Montana Rajada 39.63 272 P **P 22 43 39.9 +3.3**
SNR=7.9
CCAN Las Canadas 39.66 272 P **P 22 43 40.0 +3.2**
comp=Z,38nm,0.9s,mb5.1,SNR=11
CHIO Chio 39.82 273 P **P 22 43 42.3 +4.1**
comp=Z,43nm,0.8s,mb5.2,SNR=6.7
EGOM La Gomera 40.17 273 P **P 22 43 45.0 +3.9**
comp=Z,39nm,0.8s,mb5.2
EGOM La Gomera 40.17 273 P **P 22 43 45.0 +3.9**
comp=Z,39nm,0.8s,mb5.2,SNR=5.1
MK02 Makanchi Array 40.33 58 P **P 22 43 41.0 -1.2**
MK02 pmax pmax
comp=Z,47nm,0.8s,mb5.3
EHIG Higuera 40.50 274 P **P 22 43 47.0 +3.2**
comp=Z,126nm,0.7s,mb5.7
EHIG Higuera 40.50 274 P **P 22 43 47.0 +3.2**
comp=Z,126nm,0.7s,mb5.6,SNR=7.1
NDI New Delhi 40.52 86 *e*P **P 22 43 43.0 -1.0**
NDI *e* 22 49 48.5
NDI *e*S **S 22 49 49.5 -0.3**
CHIE El Hierro 40.95 272 P **P 22 43 52.8 +5.2**
CHIE El Hierro 40.95 272 P **P 22 43 52.8 +5.2**
SNR=7.9
NVS Novosibirsk 41.00 45⇑*i*P **P 22 43 46.5 -1.2**
NVS *i* 22 45 19.1
NVS *i* S **S 22 49 53.3 -3.4**
NVS *i* 22 53 45.2
NVS pmax pmax
comp=E,76nm,1.4s
NVS pmax pmax
comp=Z,165nm,1.4s,mb5.5
NVS pmax pmax
comp=N,115nm,1.8s
NVS pmax pmax
comp=Z,199nm,1.6s,mb5.5
NVS pmax pmax
comp=N,71nm,1.5s
NVS pmax pmax
comp=E,112nm,1.5s
NVS smax
comp=N,139nm,1.9s
BORG Borgarnes 41.75 330 P **P 22 43 55.2 +1.5**
comp=N,42nm,1.0s,mb5.0,baz=69,slow=7.7,SNR=3.8
BORG Borgarnes 41.75 330 P **P 22 43 55.2 +1.5**
BORG LR LR
comp=Z,540nm,21.0s,MS4.4
ZAL Zalesovo 41.86 47 P **P 22 43 54.3 -0.3**
ZAL S **S 22 50 06.5 -2.8**
ZAL pmax pmax
comp=Z,17nm,0.4s
ZAL pmax pmax
comp=N,5.0nm,0.8s
ZAL smax
comp=N,11nm,0.9s
ZAL MLR MLR
comp=Z,3μm,21.3s
ZAL Zalesovo 41.86 47 P **P 22 43 54.3 -0.4**
comp=Z,17nm,0.3s,mb5.1,baz=204,slow=7.3,SNR=59
ZAL ScP 22 49 39.0
comp=Z,4.9nm,0.8s,baz=91,slow=0.9,SNR=3.6
ZAL S **S 22 50 06.5 -2.8**
comp=Z,10nm,0.9s,baz=299,slow=24,SNR=28
ZAL LR LR 23 06 10.3
comp=Z,3μm,21.3s,MS5.1,baz=200,slow=43
POO Poona 42.53 102 *e*P **P 22 44 02.9 +2.3**
POO *e* 22 44 05.1
comp=Z,90nm,1.5s
DBIC Dimbokro 42.93 236 P **P 22 44 04.7 +0.7**
DBIC S **S 22 50 25.1 -0.5**
DBIC Dimbokro 42.93 236 P **P 22 44 04.7 +0.7**
DBIC S **S 22 50 24.5 -1.1**
DBIC pmax pmax
comp=Z,146nm,0.9s
DBIC smax
comp=N,9.0nm,0.9s
DBIC MLR MLR
comp=Z,5μm,19.1s
DBIC Dimbokro 42.93 236 P **P 22 44 04.7 +0.7**
comp=Z,146nm,0.9s,mb5.7,baz=25,slow=9.0,SNR=124
DBIC S **S 22 50 24.5 -1.0**
comp=Z,9.0nm,0.9s,baz=273,slow=22,SNR=8.3
DBIC LR LR 23 05 50.2
comp=Z,5μm,19.1s,MS5.5,baz=24,slow=41
DBIC Dimbokro 42.93 236 *e*P **P 22 44 04.5 +0.5**
comp=Z,183nm,1.0s,mb5.8
DBIC LR LR
comp=Z,6μm,19.0s,MS5.5
BHPL Bhopal 43.02 94 *e*P **P 22 44 05.1 +0.5**
BHPL *e* 22 44 07.3
comp=Z,132nm,0.7s
BHPL *e*S **S 22 50 25.2 -1.6**
BHPL *e*S **S 22 50 29.0 +2.3**
SCO Scoresbysund 44.05 338 *i* P **P 22 44 14.0 +1.6**
SCO pmax pmax
comp=Z,22nm,0.8s,mb4.9
SCO Scoresbysund 44.05 338 *i* P **P 22 44 14.0 +1.6**
comp=Z,22nm,0.8s,mb4.9
GOA Goa 44.22 106 *e*S **S 22 50 36.8 -7.4**
WMQ Urumqi 44.47 61 P **P 22 44 16.8 +0.8**
WMQ AP pP 22 44 26.8 -1.1
WMQ XP sP 22 44 30.6 -2.4
WMQ PP PP 22 46 01.8 +0.6
WMQ S **S 22 50 48.8 +1.3**
WMQ XS 22 51 05.0
WMQ AMB AMB
comp=Z,41nm,1.4s,mb5.0
WMQ AMB AMB
comp=Z,441nm,12.0s
WMQ LR LR
comp=N,2μm,20.0s,MS5.2
WMQ LR LR
comp=E,3μm,24.2s,MS5.2
WMQ LR LR
comp=Z,3μm,26.0s,MS5.0
LATR Latur 44.75 100 *e*P **P 22 44 19.8 +1.2**
NGP Nagpur 45.35 95 *e*P **P 22 44 23.4 +0.1**
NGP *e*S **S 22 51 01.8 +1.3**
ALBI Allahabad 45.64 88 *e*P **P 22 44 28.5 +2.8**
KOLN Koldanda 46.05 84 *e*P **P 22 44 28.9 0.0**
comp=Z,147nm,0.5s,mb6.2
DAG Danmarks Havn 46.23 346⇑*e*P **P 22 44 30.2 +0.6**
DAG pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
DAG Danmarks Havn 46.23 346⇑*e*P **P 22 44 30.2 +0.6**
comp=Z,10nm,0.9s,mb4.8
DAG Danmarks Havn 46.23 346⇑*i*P **P 22 44 30.2 +0.6**
comp=Z,10.0nm,0.9s,mb4.8
MNGI Mangalore 46.51 108 *i* P **P 22 44 33.2 +0.6**
MNGI *i* S **S 22 51 21.2 +4.1**
GKN Gorkha 46.79 83 *e*P **P 22 44 34.6 -0.1**
comp=Z,209nm,0.4s
HYB Hyderabad 46.88 100⇑*i*P **P 22 44 35.5 0.0**
comp=Z,162nm,0.8s,mb6.0
HYB *e*PP PP 22 46 30.0 +4.4
HYB *e*ScP 22 49 59.0
HYB *e*S **S 22 51 24.0 +1.6**
HYB *e*ScS ScS 22 54 26.0 +2.3
HYB *e*SS SS 22 55 00.0 +18
HYB LR LR 23 07 42.0
comp=Z,3.2nm,20.0s
DMN Daman 47.33 84 *e*P **P 22 44 39.2 +0.3**
comp=Z,646nm,1.0s
BLSP Bilaspur 47.37 92 *e*P **P 22 44 38.8 -0.5**
BLSP *e* 22 44 40.4
comp=Z,69nm,1.1s
BLSP *e*S **S 22 51 23.1 -6.1**
BLSP *e*S **S 22 51 26.7 -2.5**
KKN Kakani 47.40 83 *e*P **P 22 44 39.3 -0.2**
comp=Z,199nm,0.5s,mb6.3
PKI Pulchoki 47.59 84 *e*P **P 22 44 40.9 -0.1**
comp=Z,616nm,1.2s
JIRN Jiri 48.19 83 *e*P **P 22 44 45.6 0.0**
comp=Z,231nm,0.8s,mb6.3
SUMG Summit 49.67 338 *e*P **P 22 44 57.1 +0.7**
comp=Z,56nm,0.9s,mb5.6
KOD Kodaikanal 50.20 108⇑*i*P **P 22 45 00.0 -1.3**
VIS Vishakhapatnam 50.56 96 *e*P **P 22 45 01.6 -2.4**
MDRS Chennai 50.68 103 *e*P **P 22 45 05.0 +0.1**
MDRS *e*S **S 22 52 17.0 +1.5**
LSZ Lusaka 50.86 182 *e*P **P 22 45 08.5 +2.2**
LSZ pmax pmax
comp=Z,80nm,1.1s,mb5.6
LSZ MLR MLR
comp=Z,3μm,21.0s,MS5.3
LSZ Lusaka 50.86 182 *e*P **P 22 45 08.5 +2.2**
comp=Z,80nm,1.1s,mb5.6
LSZ LR LR
comp=Z,3μm,21.0s,MS5.3
LSA Lhasa 51.33 78 P **P 22 45 09.8 +0.2**
LSA AP pP 22 45 17.8 -3.8
LSA XP sP 22 45 21.5 -5.1
LSA S **S 22 52 18.9 -5.4**
LSA AMB AMB
comp=Z,61nm,1.6s,mb5.3
LSA AMB AMB
comp=Z,490nm,6.0s
LSA LR LR
comp=N,840nm,18.0s
LSA LR LR
comp=E,2μm,27.0s
LSA LR LR
comp=Z,2μm,27.0s
LSA Lhasa 51.33 78 *e*P **P 22 45 09.4 -0.2**
comp=Z,0.5nm,0.4s
MOY Mondy 51.82 49 *e*P **P 22 45 13.1 +0.1**
CAL Calcutta 52.21 88 *e*P **P 22 45 15.3 -1.0**
CAL *e*S **S 22 52 38.3 +1.8**
TLY Talaya 53.43 48 P **P 22 45 24.2 -0.8**
comp=Z,263nm,0.9s,mb6.2,SNR=25
TLY Talaya 53.43 48 *e*P **P 22 45 24.5 -0.5**
TLY *e*S **S 22 52 44.9 -7.7**
TLY *e*SS SS 22 56 33.4 +1.1
TLY pmax pmax
comp=Z,48nm,1.0s,mb5.4
TLY MLR MLR
comp=Z,5μm,23.0s,MS5.5
TLY Talaya 53.43 48 *e*P **P 22 45 23.4 -1.6**
comp=Z,41nm,0.9s,mb5.4
IRK Irkutsk 53.67 47 *e*P **P 22 45 25.4 -1.4**
IRK *e* 22 48 39.2
IRK *e* 22 55 09.8
IRK pmax pmax
comp=Z,223nm,3.1s
SHL Shillong 53.68 83 *e*P **P 22 45 27.0 -0.3**
SHL *e*S **S 22 52 55.0 -1.5**
AGT Agartala 53.94 85⇑*i*P **P 22 45 29.0 -0.2**
PALK Pallekele 54.54 109 *e*P **P 22 45 34.1 +0.4**
comp=Z,90nm,1.4s,mb5.6
PALK LR LR
comp=Z,438nm,19.0s,MS4.5
IMP Imphal 55.69 82 *e*P **P 22 45 41.2 -0.7**
SONM Songino Array 56.19 52 P **P 22 45 44.0 -1.1**
comp=Z,69nm,1.2s,mb5.5,baz=286,slow=7.1,SNR=113
SONM ScP 22 50 38.6
comp=Z,6.8nm,1.0s,baz=252,slow=3.9,SNR=4.4
SONM S **S 22 53 30.9 +1.1**
comp=Z,1.3nm,1.0s,baz=282,slow=27,SNR=2.8
ULN Ulaanbaatar 56.60 52 *e*P **P 22 45 46.3 -1.8**
ULN pmax pmax
comp=Z,45nm,1.0s,mb5.5
ULN MLR MLR
comp=Z,2μm,21.0s,MS5.2
ULN Ulaanbaatar 56.60 52 *e*P **P 22 45 46.3 -1.8**
comp=Z,45nm,1.0s,mb5.5
ULN LR LR
comp=Z,2μm,21.0s,MS5.2
BOD Bodaibo 57.63 39⇑*i*P **P 22 45 52.9 -2.4**
LZH Lanzhou 58.58 66⇓P **P 22 46 01.8 -0.4**
LZH AP pP 22 46 15.8 +1.4
LZH PCP PcP 22 46 47.0 -4.9
LZH PP PP 22 48 17.4 +3.7
LZH PCS 22 50 45.0
LZH SCP 22 50 50.0
LZH S **S 22 54 02.3 +1.0**
LZH XS 22 54 24.0
LZH SCS ScS 22 55 47.0 +2.4
LZH SS SS 22 57 57.1 +1.1
LZH AMB AMB
comp=Z,160nm,1.4s,mb5.9
LZH AMB AMB
comp=Z,1μm,4.5s
LZH LR LR
comp=N,5μm,19.0s
LZH LR LR
comp=Z,8μm,21.0s,MS5.8
LZH Lanzhou 58.58 66⇓P **P 22 46 01.7 -0.5**
LZH *PP pP 22 46 15.7 +1.3
LZH 22 46 47.0
LZH 22 48 17.4
LZH S **S 22 54 02.3 +1.0**
LZH *SS 22 54 24.0
LZH 22 55 47.0
LZH SS SS 22 57 57.1 +1.1
LZH pmax pmax
comp=Z,160nm,1.4s,mb5.9
LZH MLR MLR
comp=Z,8μm,21.0s,MS5.8
LZH Lanzhou 58.58 66⇓P **P 22 46 01.7 -0.5**
comp=Z,160nm,1.4s,mb5.9
LZH pP pP 22 46 15.7 +1.3
LZH sP sP 22 46 21.6 +2.3
LZH PcP PcP 22 46 47.0 -4.9
LZH PP PP 22 48 17.4 +3.7
LZH PcS 22 50 45.0
LZH ScP 22 50 50.0
LZH S **S 22 54 02.3 +1.0**
LZH sS 22 54 24.0
LZH ScS ScS 22 55 47.0 +2.4
LZH SS SS 22 57 57.1 +1.1
LZH LR LR
comp=Z,8μm,21.0s,MS5.8
DGAR Diego Garcia 58.90 128 PFAKE 22 46 20.0 +15
DGAR LR LR
comp=Z,490nm,21.0s,MS4.6
TIXI Tiksi 59.21 21 *e*P **P 22 46 04.3 -1.8**
TIXI pmax pmax
comp=Z,30nm,0.9s,mb5.3
TIXI MLR MLR
comp=Z,5μm,18.0s,MS5.6
TIXI Tiksi 59.21 21⇑*e*P **P 22 46 04.4 -1.7**
TIXI LR LR
comp=Z,5μm,20.0s,MS5.7
KMI Kunming 62.58 78 P **P 22 46 28.6 -0.9**
KMI *PP pP 22 46 37.0 -4.8
KMI 22 48 47.3
KMI S **S 22 54 48.6 -4.0**
KMI *SS 22 55 03.8
KMI 22 56 18.1
KMI pmax pmax
comp=Z,37nm,0.9s,mb5.5
KMI MLR MLR
comp=Z,2μm,20.5s,MS5.3
KMI Kunming 62.58 78 P **P 22 46 28.6 -0.9**
comp=Z,37nm,0.9s,mb5.5
KMI pP pP 22 46 37.0 -4.8
KMI sP sP 22 46 40.9 -5.8
KMI PP PP 22 48 47.3 -1.9
KMI S **S 22 54 48.6 -4.0**
KMI sS 22 55 03.8
KMI ScS ScS 22 56 18.1 +3.6
KMI SS SS 22 58 47.6 -12
KMI LR LR
comp=Z,2μm,20.5s,MS5.3
CHG Chiang Mai 62.67 86⇑P **P 22 46 28.9 -1.3**
comp=Z,56nm,0.8s,mb5.8
CHRT Chiangrai 62.80 84⇓P **P 22 46 30.5 -0.6**
comp=Z,376nm,1.2s,mb6.4
CM31 Chiang Mai Arr 62.85 86 *e*P **P 22 46 29.2 -2.3**
comp=Z,40nm,0.8s,mb5.6
CM31 LR LR
comp=Z,1μm,19.0s,MS5.0
CMAR Chiang Mai Arr 62.85 86 P **P 22 46 30.4 -1.0**
CMAR S **S 22 54 57.6 +1.5**
CMAR pmax pmax
comp=Z,38nm,0.8s
CMAR smax
comp=N,1.0nm,0.6s
CMAR MLR MLR
comp=Z,614nm,21.4s
CMAR Chiang Mai Arr 62.85 86 P **P 22 46 30.4 -1.1**
comp=Z,38nm,0.8s,mb5.6,baz=298,slow=8.0,SNR=132
CMAR S **S 22 54 57.5 +1.5**
comp=Z,0.6nm,0.6s,baz=299,slow=17,SNR=3.4
CMAR LR LR 23 20 15.1
comp=Z,614nm,21.4s,MS4.7,baz=290,slow=42
XAN Xi'an 63.22 66 P **P 22 46 32.3 -1.4**
XAN AP pP 22 46 42.0 -4.0
XAN AMB AMB
comp=Z,33nm,1.9s,mb5.1
XAN LR LR
comp=N,2μm,21.5s,MS5.4
XAN LR LR
comp=E,2μm,20.7s,MS5.4
XAN LR LR
comp=Z,3μm,21.5s,MS5.5
YAK Yakutsk 63.41 31 *e*P **P 22 46 32.6 -2.0**
YAK *e* 22 47 11.5
YAK *e* 22 48 51.6
YAK *e*S **S 22 54 55.8 -6.7**
YAK *e* 22 56 23.7
YAK pmax pmax
comp=Z,23nm,1.0s,mb5.3
YAK pmax pmax
comp=N,2.0nm,0.6s

YAK pmax pmax
comp=E,8.0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,11nm,1.0s,mb4.9
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK smax
comp=E,187nm,8.9s
YAK smax
comp=Z,141nm,12.7s
YAK smax
comp=N,291nm,18.9s
YAK MLR MLR
comp=Z,1µm,17.0s,MS5.1
YAK MLR MLR
comp=N,878nm,20.0s,MS5.3
YAK MLR MLR
comp=E,2µm,19.0s,MS5.3
YAK Yakutsk 63.41 31 *e*P **P 22 46 33.4 -1.2**
comp=E,36nm,0.8s,mb5.6
YAK LR LR
comp=Z,3µm,21.0s,MS5.5
CLNS Chul'man 63.49 38 *ce*P **P 22 46 34.1 -1.0**
CLNS *e**PP pP 22 46 40.9 -6.6
CLNS *e* 22 47 11.2
CLNS *e*S **S 22 55 03.7 +0.2**
CLNS *e*PS PS 22 55 23.1 -5.1
CLNS *e* 22 56 26.6
CLNS *e*SS SS 22 59 10.4 -2.4
CLNS pmax pmax
comp=Z,39nm,1.1s,mb5.5
CLNS pmax pmax
comp=N,3.0nm,0.7s
CLNS pmax pmax
comp=E,12nm,0.8s
CLNS smax
comp=N,11nm,1.0s
CLNS smax
comp=E,4.0nm,1.2s
CLNS MLR MLR
comp=Z,2µm,16.0s,MS5.5
CLNS MLR MLR
comp=N,2µm,17.0s
HIA Hailar 63.91 47 *e*P **P 22 46 37.1 -0.8**
HIA *e* 22 46 43.3
HIA pmax pmax
comp=Z,36nm,0.8s
HIA Hailar 63.91 47 *e*P **P 22 46 37.1 -0.8**
comp=Z,36nm,0.8s,mb5.5
HIA *e* 22 46 43.2
RES Resolute Bay 63.92 346 P **P 22 46 38.5 +0.9**
RES pmax pmax
comp=Z,22nm,1.0s,mb5.1
RES Resolute Bay 63.92 346 *e*P **P 22 46 38.0 +0.4**
comp=Z,22nm,1.0s,mb5.1
NANT Nan 64.09 85 ⇑P **P 22 46 37.0 -2.6**
comp=Z,75nm,1.0s,mb5.7
BOSA Boshof 64.25 184 *e*P **P 22 46 42.6 +2.1**
BOSA pmax pmax
comp=Z,94nm,1.0s,mb5.8
BOSA MLR MLR
comp=Z,2µm,20.0s,MS5.4
BOSA Boshof 64.25 184 *e*P **P 22 46 42.6 +2.1**
comp=Z,94nm,1.0s,mb5.8
BOSA LR LR
comp=Z,2µm,20.0s,MS5.4
SCHQ Schefferville 65.02 321 P **P 22 46 44.2 -0.8**
comp=Z,6.7nm,0.8s,mb4.7,baz=48,slow=7.8,SNR=8.5
SCHQ LR LR 23 13 33.5
comp=Z,2µm,20.5s,MS5.3,baz=320,slow=35
SCHQ Schefferville 65.02 321 *e*P **P 22 46 44.1 -0.9**
comp=Z,12nm,0.7s,mb5.0
SCHQ LR LR
comp=Z,4µm,19.0s,MS5.7
NST Nakhon Sawan 65.28 88 P **P 22 46 46.3 -1.0**
comp=Z,88nm,1.0s,mb5.7
ENH Enshi 65.38 70 *e*P **P 22 46 46.2 -1.6**
comp=Z,84nm,0.9s,mb5.8
BJI Beijing 65.70 57 P **P 22 46 49.5 -0.1**
BJI *SP sP 22 47 02.0 -4.8
BJI 22 49 15.9
BJI S S 22 55 28.5 -2.4
BJI pmax pmax
comp=Z,46nm,1.3s,mb5.3
BJI MLR MLR
comp=Z,4µm,18.7s,MS5.6
BJI Beijing 65.70 57 P **P 22 46 49.5 -0.1**
comp=Z,46nm,1.3s,mb5.3
BJI sP sP 22 47 02.0 -4.8
BJI PP PP 22 49 15.9 -0.8
BJI S S 22 55 28.5 -2.4
BJI SS SS 23 00 01.0 +14
BJI LR LR
comp=Z,4µm,18.7s,MS5.6
BJT Baijiatuau 65.70 57 *e*P **P 22 46 49.3 -0.4**
BJT pmax pmax
comp=Z,114nm,1.2s
BJT Baijiatuau 65.70 57 *e*P **P 22 46 49.3 -0.3**
comp=Z,114nm,1.2s,mb5.8
NNT Nongplab 66.63 91 P **P 22 46 56.0 +0.1**
KKTK Khon Kaen 67.11 86 P **P 22 46 58.2 -0.7**
comp=Z,1µm,0.9s
TIA Tai'an 68.16 61 P **P 22 47 04.8 -0.4**
TIA S S 22 56 01.8 +1.1
TIA LR LR
comp=N,2µm,30.4s,MS5.2
TIA LR LR
comp=E,1µm,27.5s,MS5.2
SUR Sutherland 68.38 188 *e*P **P 22 47 09.4 +2.8**
comp=E,92nm,1.2s,mb5.7
SUR LR LR
comp=Z,1µm,21.0s,MS5.1
WHN Wuhan 68.92 67 P **P 22 47 09.5 -0.5**
WHN S S 22 56 06.8 -3.0
WHN SKS SKS 22 56 58.0 -3.8
WHN LR LR
comp=Z,5µm,18.0s,MS5.8
UBT Ubonrachathani 69.47 86 P **P 22 47 13.5 -0.1**
SNY Shenyang 69.76 53 ⇓P **P 22 47 14.8 -0.2**
SNY S S 22 56 16.0 -3.6
SNY AMB AMB
comp=Z,40nm,1.1s,mb5.3
SNY LR LR
comp=N,3µm,20.4s,MS5.7
SNY LR LR
comp=E,2µm,18.6s,MS5.7
SNY LR LR
comp=Z,3µm,18.6s,MS5.6
SNG Songkhla 70.40 95 P **P 22 47 17.0 -2.3**
comp=Z,260nm,1.0s,mb6.1
KLR Kul'dur 70.81 43 *e*P **P 22 47 17.7 -3.5**
KLR *e* 22 49 53.0
KLR pmax pmax
comp=N,46nm,1.8s
KLR pmax pmax
comp=E,64nm,1.8s
KLR pmax pmax
comp=Z,85nm,1.8s,mb5.4
KLR MLR MLR
comp=E,2µm,21.0s
QIZ Qiongzhong 71.33 80 P **P 22 47 25.1 +0.3**
QIZ AP pP 22 47 38.3 +0.9
QIZ S S 22 56 38.4 +0.2
QIZ AMB AMB
comp=Z,47nm,1.3s,mb5.3
QIZ AMB AMB
comp=Z,311nm,7.3s
QIZ LR LR
comp=E,1µm,25.5s
QIZ LR LR
comp=Z,1µm,21.8s,MS5.1
QIZ Qiongzhong 71.33 80 *e*P **P 22 47 24.2 -0.6**
comp=Z,49nm,1.1s,mb5.3
BILL Bilibino 71.45 16 ⇑*e*P **P 22 47 24.3 -0.4**
BILL *e* pP 22 47 38.3 +1.1
BILL *e* 22 50 03.4
BILL *i*S S 22 56 40.4 +1.7
BILL pmax pmax
comp=Z,122nm,1.7s,mb5.6
BILL MLR MLR
comp=Z,2µm,15.0s,MS5.4
BILL Bilibino 71.45 16 *e*P **P 22 47 24.2 -0.5**
comp=Z,76nm,1.3s,mb5.5
BILL LR LR
comp=Z,2µm,19.0s,MS5.4
NJ2 Nanjing 71.48 64 *e*P **P 22 47 24.8 -0.7**
NJ2 AP pP 22 47 35.9 -2.1
NJ2 XP sP 22 47 38.1 -4.6
NJ2 PP PP 22 50 05.1 -1.3
NJ2 S S 22 56 39.0 -0.7
NJ2 XS 22 56 57.0
NJ2 AMB AMB
comp=Z,130nm,1.0s,mb5.8
NJ2 AMB AMB
comp=Z,2µm,7.0s
NJ2 LR LR
comp=N,2µm,15.8s,MS5.6
NJ2 LR LR
comp=E,1µm,19.8s,MS5.6
NJ2 LR LR
comp=Z,3µm,13.2s
SEY Seymchan 71.48 24 *e*P **P 22 47 25.7 +0.7**
SEY 22 47 43.2
SEY *e* 22 50 00.3
SEY *e*S S 22 56 40.5 +1.3
SEY 22 57 28.2
SEY SS SS 23 01 13.4 -3.1
SEY *e*SSS SSS 23 04 31.7 +7.6
SEY pmax pmax
comp=E,50nm,1.1s
SEY pmax pmax
comp=Z,90nm,1.1s,mb5.6
SEY pmax pmax
comp=N,20nm,0.8s
SEY smax
comp=N,1µm,9.5s
SEY smax
comp=E,80nm,8.8s
SEY MLR MLR
comp=Z,4µm,25.0s,MS5.5
SEY MLR MLR
comp=E,7µm,24.0s
MDJ Mudanjiang 72.06 48 P **P 22 47 26.8 -1.9**
MDJ AP pP 22 47 36.0 -5.2
MDJ PCP PcP 22 47 45.9 -1.4
MDJ PP PP 22 50 05.1 -5.7
MDJ S S 22 56 46.8 +0.6
MDJ SCS ScS 22 57 28.6 +0.9
MDJ AMB AMB
comp=Z,15nm,1.3s,mb4.8
MDJ AMB AMB
comp=Z,278nm,6.4s
MDJ LR LR
comp=N,2µm,24.2s,MS5.3
MDJ LR LR
comp=E,1µm,23.0s,MS5.3
MDJ LR LR
comp=Z,2µm,18.1s,MS5.5
MDJ Mudanjiang 72.06 48 *e*P **P 22 47 28.6 -0.1**
comp=Z,32nm,1.3s,mb5.1
MA2 Magadan 73.25 27 *e*P **P 22 47 35.5 +0.1**
MA2 *e*S S 22 57 00.9 +1.6
MA2 pmax pmax
comp=Z,90nm,1.2s,mb5.6
MA2 pmax pmax
comp=E,30nm,1.5s
MA2 pmax pmax
comp=N,10.0nm,0.9s
MA2 MLR MLR
comp=Z,9µm,24.9s,MS6.0
MA2 Magadan 73.25 27 *e*P **P 22 47 35.2 -0.1**
comp=Z,121nm,1.1s,mb5.7
MA2 LR LR
comp=Z,3µm,19.0s,MS5.5
SSE Sheshan 73.67 63 ⇑P **P 22 47 38.5 0.0**
SSE XP sP 22 47 51.4 -4.3
SSE PCP PcP 22 47 56.1 +1.7
SSE S S 22 57 03.5 -1.2
SSE XS 22 57 18.6
SSE SCS ScS 22 57 41.8 +1.0
SSE AMB AMB
comp=Z,55nm,1.1s,mb5.4
SSE AMB AMB
comp=Z,296nm,4.6s
SSE LR LR
comp=N,743nm,29.9s,MS5.2
SSE LR LR
comp=E,2µm,30.1s,MS5.2
SSE LR LR
comp=Z,1µm,21.0s
SSE Sheshan 73.67 63 ⇑P **P 22 47 38.5 0.0**
comp=Z,55nm,1.1s,mb5.4
SSE sP sP 22 47 51.4 -4.3
SSE PcP PcP 22 47 56.1 +1.7
SSE S S 22 57 03.5 -1.2
SSE sS 22 57 18.6
SSE ScS ScS 22 57 41.8 +1.0
SSE SS SS 23 02 30.8 +40
SSE LR LR
comp=Z,1µm,21.0s,MS5.2
RCBR Riachuelo 74.01 250 *e*P **P 22 47 42.0 +1.2**
comp=Z,65nm,1.0s,mb5.5
RCBR LR LR
comp=Z,3µm,22.0s,MS5.5
VLA Vladivostok 74.27 48 *e*P **P 22 47 40.0 -1.7**
VLA *e* 22 50 28.0
VLA *e*S S 22 57 09.0 -2.1
VLA pmax pmax
comp=Z,600nm,4.0s
VLA pmax pmax
comp=Z,500nm,5.0s
VLA smax
comp=N,700nm,4.0s
ACCN Adirondack Com 74.78 313 P **P 22 47 47.0 +2.3**
KS15 Wonju Array Si 74.90 55 *e*P **P 22 47 45.3 -0.2**
INK Inuvik 75.40 354 P **P 22 47 47.9 +0.2**
INK pmax pmax
comp=Z,16nm,1.0s
INK Inuvik 75.40 354 *e*P **P 22 47 47.2 -0.4**
comp=Z,16nm,1.0s,mb4.9
SADO Sadowa 77.14 316 P **P 22 47 58.5 +0.5**
comp=Z,15nm,1.2s,mb4.8,baz=22,slow=8.9,SNR=3.5
TATO Taipei 77.21 68 PFAKE 22 48 10.0 +11
TATO LR LR
comp=Z,1µm,20.0s,MS5.2
YKW3 Yellowknife Ar 77.81 344 *e*P **P 22 48 01.1 -0.3**
YKA Yellowknife Ar 77.87 344 P **P 22 48 01.6 -0.1**
comp=Z,11nm,0.9s,mb4.8,baz=30,slow=5.6,SNR=106
YKA PKPPKP 23 15 08.7
comp=Z,0.9nm,1.0s,baz=213,slow=2.5,SNR=7.5
YKA LR LR 23 23 49.2
comp=Z,2µm,21.2s,MS5.4,baz=25,slow=37
TNA Tin City 78.00 7 *e*P **P 22 48 02.5 +0.2**
YSS Yuzh-Sakhalins 78.08 40 *ce*P **P 22 48 03.0 -0.2**
YSS *e**SP sP 22 48 18.0 -2.5
YSS *e*S S 22 57 50.0 -2.7
YSS pmax pmax
comp=Z,240nm,1.0s,mb6.1
YSS Yuzh-Sakhalins 78.08 40 *e*P **P 22 48 03.1 -0.1**
comp=Z,286nm,1.1s,mb6.1
YSS LR LR
comp=Z,2µm,20.0s,MS5.5
IMA Indian Mountai 78.38 1 P **P 22 48 06.0 +1.6**
IMA pmax pmax
comp=Z,67nm,0.9s,mb5.6
IMA Indian Mountai 78.38 1 *e*P **P 22 48 06.2 +1.8**
comp=Z,48nm,1.4s,mb5.2
SDMD Soldier's Deli 79.06 311 *e*P **P 22 48 09.7 +1.0**
ANM Nome 79.22 7 *e*P **P 22 48 10.7 +1.6**
ERPA Erie 79.27 315 PFAKE 22 48 20.0 +10
ERPA LR LR
comp=Z,3µm,19.0s,MS5.7
COCO West Island 79.29 113 PFAKE 22 48 20.0 +10
COCO LR LR
comp=Z,496nm,21.0s,MS4.8
COLA College 79.59 359 P **P 22 48 12.3 +1.2**
COLA pmax pmax
comp=Z,190nm,2.4s,mb5.6
COLA College 79.59 359 *e*P **P 22 48 12.8 +1.7**
comp=Z,164nm,2.4s,mb5.5
ILAR Eielson Array 79.68 358 P **P 22 48 12.2 +0.6**
comp=Z,1.9nm,0.7s,baz=338,slow=3.9,SNR=20
ILAR PKKPbc 23 06 59.7
comp=Z,1.3nm,0.9s,baz=221,slow=2.2,SNR=8.8
ILAR PKPPKP 23 15 01.2
comp=Z,0.6nm,0.9s,baz=229,slow=4.7,SNR=4.0
ILAR LR LR 23 25 50.9
comp=Z,744nm,21.4s,baz=226,slow=38
DAWY Dawson 80.04 355 *e*P **P 22 48 14.5 +1.0**
CBN Corbin 80.12 310 PFAKE 22 48 30.0 +16
CBN LR LR
comp=Z,2µm,20.0s,MS5.5
FFC Flin Flon 80.69 334 P **P 22 48 17.4 +0.3**
comp=Z,86nm,1.4s,mb5.5,SNR=11
FFC Flin Flon 80.69 334 PFAKE 22 48 30.0 +13
FFC LR LR
comp=Z,555nm,20.0s,MS4.9
MCK McKinley 80.75 359 P **P 22 48 18.4 +1.1**
MCK pmax pmax
comp=Z,11nm,1.1s,mb4.7
MCK McKinley 80.75 359 *e*P **P 22 48 17.6 +0.4**
comp=Z,11nm,1.2s,mb4.7
MCK LR LR
comp=Z,605nm,20.0s,MS5.0
THY Trims Highway 81.01 358 P **P 22 48 19.1 +0.5**
PET Petropavlovsk 81.03 28 *e*P **P 22 48 18.8 -0.2**
PET *e*S S 22 58 24.0 +0.4
PET pmax pmax
comp=Z,13nm,0.9s,mb4.9
PET Petropavlovsk 81.03 28 PFAKE 22 48 30.0 +11
PET LR LR
comp=Z,3µm,19.0s,MS5.7
MENT Mentasta 81.41 357 *e*P **P 22 48 22.0 +1.3**
YUK Yuzh-Kuril'sk 81.65 41 ⇑*i*P **P 22 48 21.5 -0.9**
YUK pmax pmax
comp=Z,390nm,0.8s,mb6.4
MAJO Matsushiro 82.09 50 *e*P **P 22 48 24.5 -0.3**
MAJO pmax pmax
comp=Z,92nm,1.0s,mb5.7
MAJO MLR MLR
comp=Z,2µm,19.0s,MS5.5
MAJO Matsushiro 82.09 50 *e*P **P 22 48 24.5 -0.4**
comp=Z,92nm,1.0s,mb5.7
MAJO LR LR
comp=Z,2µm,19.0s,MS5.5
MAT Matsushiro 82.09 50 *e*P **P 22 48 24.0 -0.8**
MAT *e*S S 22 58 34.0 -0.8
MAT pmax pmax
comp=Z,86nm,1.0s,mb5.6
MAT MLR MLR
comp=Z,1µm,19.0s,MS5.3
MAT Matsushiro 82.09 50 *e*P **P 22 48 24.0 -0.8**
comp=Z,86nm,1.0s,mb5.6
MAT *e*S S 22 58 34.0 -0.8
MAT LR LR
comp=Z,1µm,19.0s,MS5.3
MAT Matsushiro 82.09 50 P **P 22 48 24.4 -0.4**
MAT S S 22 58 33.0 -1.8
ACSO Alum Creek Sta 82.21 315 *e*P **P 22 48 25.8 +0.5**
comp=Z,31nm,1.2s,mb5.1
ACSO LR LR
comp=Z,3µm,22.0s,MS5.6
SML Sawmill 82.67 359 P **P 22 48 29.0 +1.7**
SML Sawmill 82.67 359 *e*P **P 22 48 27.9 +0.6**
PWA Palmer West 82.85 360 *e*P **P 22 48 29.3 +1.2**
PWA pmax pmax
comp=Z,43nm,0.8s,mb5.5
PWA Palmer West 82.85 360 *e*P **P 22 48 29.3 +1.2**
comp=Z,43nm,0.8s,mb5.5
SPU Mount Spurr 83.31 1 *e*P **P 22 48 30.6 +0.1**
SVW2 Sparrevohn 83.31 3 *e*P **P 22 48 32.2 +1.7**
FIB Fire Island 83.33 360 P **P 22 48 31.9 +1.3**
FIB MLR MLR
comp=Z,1µm,21.0s,MS5.2
EYAK Cordova Ski Ar 83.88 358 *e*P **P 22 48 34.2 +0.9**
SLKM Skilak Lake 83.99 360 *e*P **P 22 48 33.9 0.0**
SJG San Juan 84.15 288 P **P 22 48 38.3 +2.6**
SJG pmax pmax
comp=Z,9.0nm,0.6s
SJG San Juan 84.15 288 P **P 22 48 38.3 +2.6**
comp=Z,9.0nm,0.6s,mb5.1,baz=7.5,slow=23,SNR=4.5
SJG San Juan 84.15 288 P **P 22 48 38.3 +2.6**
JFWS Jewell Farm 84.38 320 PFAKE 22 48 50.0 +14
JFWS LR LR
comp=Z,2µm,21.0s,MS5.5
BLO Bloomington 84.95 316 *e*P **P 22 48 40.0 +0.8**
BLO pmax pmax
comp=Z,16nm,0.8s,mb5.2
BLO Bloomington 84.95 316 *e*P **P 22 48 40.0 +0.8**
comp=Z,16nm,0.8s,mb5.2
JSC Jenkinsville 85.03 309 P **P 22 48 40.9 +1.2**
NHSC New Hope 85.10 308 PFAKE 22 48 50.0 +10
NHSC LR LR
comp=Z,2µm,19.0s,MS5.4
WCI Wyandotte Cave 85.46 315 PFAKE 22 48 50.0 +8.3
WCI LR LR
comp=Z,524nm,20.0s,MS4.9
EDM Edmonton 85.66 339 P **P 22 48 43.7 +1.3**
EDM Edmonton 85.66 339 *e*P **P 22 48 42.8 +0.5**
FX1 Attu Island--F 86.10 21 *e*P **P 22 48 45.0 +0.4**
CPCT Cooper Cave 86.28 312 *e*P **P 22 48 47.8 +2.0**
MYNC Murphy 86.29 311 *e*P **P 22 48 47.5 +1.6**
MYNC pmax pmax
comp=Z,32nm,1.1s,mb5.5
MYNC MLR MLR
comp=Z,3µm,20.0s,MS5.7
MYNC Murphy 86.29 311 *e*P **P 22 48 47.5 +1.6**
comp=Z,32nm,1.1s,mb5.5
MYNC LR LR
comp=Z,3µm,20.0s,MS5.7
USIN University of 86.43 315 *e*P **P 22 48 47.2 +0.8**
SMY Shemya 86.51 21 PFAKE 22 49 00.0 +13
SMY LR LR
comp=Z,8µm,20.0s,MS6.1
DGMT Dagmar 86.53 331 PFAKE 22 49 00.0 +13
DGMT LR LR
comp=Z,2µm,19.0s,MS5.6
SIT Sitka 86.59 352 PFAKE 22 49 00.0 +13
SIT LR LR
comp=Z,2µm,19.0s,MS5.6
KDAK Kodiak Island 86.71 1 PFAKE 22 49 00.0 +13
KDAK LR LR
comp=Z,429nm,20.0s,MS4.8
GOGA Godfrey 86.99 310 PFAKE 22 49 00.0 +11
GOGA LR LR
comp=Z,2µm,22.0s,MS5.5
SLM Saint Louis 87.40 317 *e*P **P 22 48 52.3 +1.1**
WVT Waverly 87.79 314 PFAKE 22 49 10.0 +17
WVT LR LR
comp=Z,3µm,21.0s,MS5.7
FVM French Village 87.97 317 P **P 22 48 55.5 +1.6**
FVM pmax pmax
comp=Z,47nm,1.4s,mb5.5
FVM French Village 87.97 317 *e*P **P 22 48 55.2 +1.3**
CCM Cathedral Cave 88.37 317 *e*P **P 22 48 57.0 +1.1**
CCM pmax pmax
comp=Z,19nm,1.3s,mb5.2
CCM MLR MLR
comp=Z,474nm,21.0s,MS4.9
CCM Cathedral Cave 88.37 317 *e*P **P 22 48 57.0 +1.2**
comp=Z,19nm,1.3s,mb5.2
CCM LR LR
comp=Z,474nm,21.0s,MS4.9
LAO LASA Array 88.78 331 *e*P **P 22 48 58.8 +1.2**
comp=Z,33nm,1.0s,mb5.6
LAO LR LR
comp=Z,3µm,20.0s,MS5.6
BAO Brasilia Array 89.36 250 *e*P **P 22 49 05.0 +4.0**
BAO *i* pP 22 49 15.1 +1.2
BAO *i* pP 22 49 20.0 +6.1
BAO *i* 22 49 27.0
BAO *i* 22 49 38.2
LRAL Lakeview Retre 89.42 311 PFAKE 22 49 10.0 +9.0
LRAL LR LR
comp=Z,2µm,19.0s,MS5.6
OXF Oxford 89.84 314 PFAKE 22 49 20.0 +17
OXF LR LR
comp=Z,2µm,20.0s,MS5.6
CBIJ Chichi jima 90.76 55 LR LR 23 33 16.2
comp=Z,2µm,21.2s,MS5.4,baz=292,slow=38
GCMT Greycliff 90.84 333 *e*P **P 22 49 06.7 -0.6**
CHMT Chamberlain Mo 91.14 336 *e*P **P 22 49 09.6 +0.9**
NEW Newport 91.17 339 *e*P **P 22 49 10.0 +1.2**
NEW pmax pmax
comp=Z,11nm,0.8s
NEW MLR MLR
comp=Z,2µm,20.0s
NEW Newport 91.17 339 *e*P **P 22 49 10.0 +1.2**
comp=Z,11nm,0.8s,mb5.2
NEW LR LR
comp=Z,2µm,20.0s,MS5.5
MSO Missoula 91.44 336 PFAKE 22 49 20.0 +10
MSO LR LR
comp=Z,1µm,20.0s,MS5.4

BOZ Bozeman (W) 91.67 334 PFAKE 22 49 20.0 +8.8
BOZ LR LR
comp=Z,3μm,20.0s,MS5.8
LKWY Lake 92.15 333 PFAKE 22 49 30.0 +17
LKWY LR LR
comp=Z,4μm,21.0s,MS5.8
QLMT Earthquake Lak 92.31 333 *e*P **P** **22 49 16.3 +2.2**
SDV Santo Domingo 93.10 283 P **P** **22 49 20.2 +1.8**
comp=Z,15nm,1.0s,mb5.4,baz=44,slow=2.7,SNR=14
BW06 Boulder Array 93.36 331 PFAKE 22 49 30.0 +11
BW06 LR LR
comp=Z,2μm,20.0s,MS5.7
PDAR Pinedale Array 93.36 331 P **P** **22 49 19.9 +0.9**
comp=Z,2.2nm,0.9s,mb4.6,baz=51,slow=3.7,SNR=14
PDAR LR LR 23 33 01.3
comp=Z,2μm,20.3s,MS5.5,baz=34,slow=37
OCWA Octopus Mounta 93.55 343 PFAKE 22 49 30.0 +10
OCWA LR LR
comp=Z,2μm,20.0s,MS5.6
AHID Auburn Hatcher 93.95 332 PFAKE 22 49 40.0 +18
AHID LR LR
comp=Z,2μm,19.0s,MS5.6
ISCO Idaho Springs 94.19 327 PFAKE 22 49 40.0 +17
ISCO LR LR
comp=Z,2μm,21.0s,MS5.6
BMO Blue Mountains 94.28 337 *e*P **P** **22 49 22.8 -0.3**
comp=Z,6.6nm,0.8s,mb5.1
BMO LR LR
comp=Z,2μm,21.0s,MS5.5
HLID Hailey 94.47 335 PFAKE 22 49 40.0 +16
HLID LR LR
comp=Z,3μm,21.0s,MS5.7
NATX Nacogdoches 94.87 315 PFAKE 22 49 40.0 +14
NATX LR LR
comp=Z,2μm,20.0s,MS5.6
WMOK Wichita Mounta 94.89 320 PFAKE 22 49 40.0 +14
WMOK LR LR
comp=Z,2μm,19.0s,MS5.5
HWUT Hardware Ranch 95.13 332 PFAKE 22 49 40.0 +13
HWUT LR LR
comp=Z,3μm,20.0s,MS5.7
SDCO Great Sand Dun 95.81 326 PFAKE 22 49 40.0 +10
SDCO LR LR
comp=Z,3μm,21.0s,MS5.7
COR Corvallis 96.27 341 PFAKE 22 49 50.0 +18
COR LR LR
comp=Z,330nm,19.0s,MS4.8
AMTX Amarillo 96.28 322 PFAKE 22 49 50.0 +18
AMTX LR LR
comp=Z,1μm,22.0s,MS5.4
PV10 Paradox Valley 96.85 329 P **P** **22 49 36.5 +1.5**
WVOR Wild Horse Val 96.88 337 PFAKE 22 49 50.0 +15
WVOR LR LR
comp=Z,2μm,22.0s,MS5.6
HKT Hockley 96.88 315 PFAKE 22 49 50.0 +15
HKT LR LR
comp=Z,417nm,22.0s,MS4.9
MOD Modoc 97.88 338 PFAKE 22 49 50.0 +10
MOD LR LR
comp=Z,1μm,19.0s,MS5.5
HUMO Hull Mountain 98.01 340 PFAKE 22 49 50.0 +10
HUMO LR LR
comp=Z,2μm,22.0s,MS5.5
MVU Marysvale 98.05 331 PFAKE 22 49 50.0 +10
MVU LR LR
comp=Z,2μm,20.0s,MS5.6
BMN Battle Mountai 98.21 335 PFAKE 22 49 50.0 +8.9
BMN LR LR
comp=Z,2μm,21.0s,MS5.5
ANMO Albuquerque 98.55 325 LR LR 23 32 42.9
comp=Z,2μm,20.7s,MS5.5,slow=34
ANMO Albuquerque 98.55 325 PFAKE 22 50 00.0 +17
ANMO LR LR
comp=Z,2μm,21.0s,MS5.6
JCT Junction City 98.72 318 PFAKE 22 50 00.0 +16
JCT LR LR
comp=Z,2μm,21.0s,MS5.5
YBH Yreka Blue Hor 98.75 339 PFAKE 22 50 00.0 +17
YBH LR LR
comp=Z,1μm,19.0s,MS5.4
TEIG Tepich 99.04 303 PFAKE 22 50 00.0 +15
TEIG LR LR
comp=Z,440nm,22.0s,MS4.9
WDC Whiskeytown Da 99.77 339 PFAKE 22 50 00.0 +12
WDC LR LR
comp=Z,1μm,21.0s,MS5.3
WUAZ Wupatki 100.26 329 PFAKE 22 50 00.0 +9.5
WUAZ LR LR
comp=Z,28μm,22.0s
TPH Tonopah 100.31 334 PFAKE 22 50 00.0 +9.3
TPH LR LR
comp=Z,2μm,20.0s,MS5.7
MNV Mina 100.32 335 PFAKE 22 50 00.0 +9.3
MNV LR LR
comp=Z,2μm,22.0s,MS5.7
NVAR Mina Array Bea 100.37 335 P P 22 49 51.9 +1.0
comp=Z,0.5nm,0.7s,baz=62,slow=3.9,SNR=4.5
NVAR PP PP 22 53 54.6 -5.6
comp=Z,0.9nm,0.9s,baz=54,slow=5.6,SNR=4.4
NVAR PKKP PKKP 23 06 09.4 +5.8
comp=Z,1.5nm,0.8s,baz=183,slow=4.4,SNR=7.9
MNTX Cornudas Mount 100.67 322 PFAKE 22 50 10.0 +18
MNTX LR LR
comp=Z,2μm,20.0s,MS5.5
HOPS Hopland 101.39 339 PFAKE 22 50 10.0 +15
HOPS LR LR
comp=Z,1μm,19.0s,MS5.5
CMB Columbia Colle 101.43 336 PFAKE 22 50 10.0 +14
CMB LR LR
comp=Z,2μm,20.0s,MS5.5
GUMO Guam 101.55 64 PFAKE 22 50 10.0 +13
GUMO LR LR
comp=Z,2μm,19.0s,MS5.6
TXAR Lajitas Array 101.69 320 P P 22 49 58.2 +1.2
comp=Z,1.9nm,1.1s,baz=90,slow=3.8,SNR=8.4
TXAR PP PP 22 54 06.5 -3.8
comp=Z,1.2nm,1.0s,baz=14,slow=3.7,SNR=3.4
TXAR PKKP PKKP 23 06 06.6 +5.2
comp=Z,0.7nm,0.8s,baz=207,slow=5.6,SNR=4.8
TXAR Lajitas Array 101.69 320 P P 22 49 58.2 +1.2
TXAR PP PP 22 54 06.5 -3.8
TXAR PKKP PKKP 23 06 06.6 +5.2
DAC Darwin (Calif) 102.05 333 PFAKE 22 50 10.0 +11
DAC LR LR
comp=Z,1μm,20.0s,MS5.4
MBWA Marble Bar 102.13 107 PFAKE 22 50 10.0 +11
MBWA LR LR
comp=Z,897nm,19.0s,MS5.3
TUC Tucson 102.73 326 PFAKE 22 50 10.0 +8.4
TUC LR LR
comp=Z,2μm,20.0s,MS5.6
SAO San Andreas Ge 102.93 337 PFAKE 22 50 20.0 +18
SAO LR LR
comp=Z,2μm,20.0s,MS5.5
PFO Pinyon Flat Ob 103.99 331 PFAKE 22 50 20.0 +13
PFO LR LR
comp=Z,510nm,21.0s,MS5.0
OTAV Otavalo 104.49 281 PFAKE 22 50 20.0 +10
OTAV LR LR
comp=Z,598nm,19.0s,MS5.2
SYO Syowa Base 104.80 176 ‖Pdiff Pdif 22 50 13.9 +4.0
LPAZ La Paz 105.56 261 PP PP 22 54 32.5 -7.2
comp=Z,1.8nm,0.9s,baz=26,slow=14,SNR=3.6
LPAZ La Paz 105.56 261 PFAKE 22 54 40.0
LPAZ LR LR
comp=Z,969nm,21.0s,MS5.3
MAW Mawson 106.14 167 PFAKE 22 54 40.0
MAW LR LR
comp=Z,2μm,22.0s,MS5.6
NWAO Narrogin (SRO) 106.64 119 PFAKE 22 54 40.0
NWAO LR LR
comp=Z,995nm,21.0s,MS5.3
NNA Nana 110.25 270 PFAKE 22 54 50.0 +15
NNA LR LR
comp=Z,341nm,21.0s,MS4.9
TRQA Tornquist 112.11 238 PFAKE 22 54 50.0 +12
TRQA LR LR
comp=Z,2μm,21.0s,MS5.6
WRA Warramunga Arr 113.03 99 *i* PKIKP PKPdf 22 54 42.6 +2.3
WRA 22 55 28.3
WRA pmax pmax
comp=Z,3.0nm,0.9s
WRA pmax pmax
comp=Z,7.0nm,1.3s
WRA Warramunga Arr 113.03 99 PKiKP 22 54 42.6
comp=Z,3.2nm,0.9s,baz=303,slow=2.0,SNR=10
WRA PP PP 22 55 28.3 -6.6
comp=Z,6.5nm,1.3s,baz=315,slow=6.0,SNR=4.8
WRA PKKPbc 23 05 31.6
comp=Z,2.8nm,1.1s,baz=116,slow=2.8,SNR=6.3
WRA PKKPab 23 05 36.9
comp=Z,1.8nm,1.0s,baz=120,slow=4.4,SNR=5.0
WRAB Tennant Creek 113.04 99 PFAKE 22 55 00.0 +20
WRAB LR LR
comp=Z,211nm,19.0s,MS4.8
WB2 Warramunga Arr 113.05 99 *e*P PKPdf 22 54 43.0 +2.7
PAYG Puerto Ayora 114.36 288 PFAKE 22 55 00.0 +17
PAYG LR LR
comp=Z,327nm,19.0s,MS5.0
ASAR Alice Springs 114.58 102 PKP PKPdf 22 54 45.5 +2.2
comp=Z,4.6nm,0.8s,baz=314,slow=1.6,SNR=31
ASAR PP PP 22 55 53.0 +7.4
comp=Z,2.1nm,0.8s,baz=314,slow=5.8,SNR=5.1
ASAR PKKPbc 23 05 25.8
comp=Z,1.4nm,0.7s,baz=118,slow=3.7,SNR=7.4
PMG Port Moresby 117.69 81 PFAKE 22 55 00.0 +11
PMG LR LR
comp=Z,432nm,20.0s,MS5.1
CASY Casey 118.75 153 PFAKE 22 55 00.0 +10
CASY LR LR
comp=Z,1μm,22.0s,MS5.5
PLCA Paso Flores 119.24 239 PKP PKPdf 22 54 56.2 +4.3
comp=Z,10.0nm,1.0s,baz=45,slow=2.1,SNR=9.3
PLCA Paso Flores 119.24 239 PKP PKPdf 22 54 56.2 +4.3
PLCA LR LR
comp=Z,1μm,20.0s,MS5.5
CTA Charters Tower 122.74 92 *e*P PKPdf 22 55 02.5 +3.3
comp=Z,10nm,0.7s
CTAO Charters Tower 122.74 92 PFAKE 22 55 10.0 +11
CTAO LR LR
comp=Z,927nm,22.0s,MS5.4
STKA Stephens Creek 124.37 107 *e*P PKPdf 22 55 05.1 +3.0
comp=Z,6.8nm,0.7s
STKA Stephens Creek 124.37 107 PKP PKPdf 22 55 04.5 +2.5
comp=Z,9.4nm,0.8s,baz=328,slow=3.6,SNR=17
QSPA South Pole Qui 125.70 180 ⇑*i*P PKPdf 22 55 07.1 +3.8
SBA Scott Base 134.10 168 PFAKE 22 55 30.0 +11
SBA LR LR
comp=Z,2μm,20.0s,MS5.7
MSZ Milford Sound 147.25 119 PKP PKPdf 22 55 50.0 +6.5
FOZ Fox Glacier 148.53 117 PKP PKPdf 22 55 53.1 +7.5
WVZ Waitaha Valley 149.30 116 PKP PKPdf 22 55 53.4 +6.6
RPZ Rata Peaks 149.52 117 PKPbc PKPdf 22 55 55.2 +8.0
comp=Z,69nm,0.7s,baz=225,slow=0.9,SNR=56
LTZ Lake Taylor 150.43 115 PKP PKPdf 22 55 56.9 +8.3
AFI Afiamalu 150.88 47 PKIKP PKPdf 22 55 59.7 +10
AFI Afiamalu 150.88 47 *e*PKPbc PKPdf 22 55 59.2 +9.2
URZ Urewera 153.98 105 PKPbc PKPdf 22 56 03.8 +10
comp=Z,17nm,0.7s,baz=314,slow=2.0,SNR=14
URZ PKPab PKPab 22 56 17.0 -0.7
comp=Z,22nm,0.8s,baz=226,slow=5.9,SNR=6.7
PPT Papeete 161.78 358 *e*SS SS 23 20 50.0 +1.5
PPT *e*LR LR 23 51 08.0
comp=Z,2μm,26.8s
TBI Tubuai 167.52 356 *e*SS SS 23 21 48.6 +1.6
TBI *e*LR LR 23 53 47.8
comp=Z,1μm,25.8s

IDC 23 22:39:44.9±11.0, 5.03N×94.88E, mb3.6/2, mb1 3.9/3, mb1mx3.6/18, mbtmp3.6/3, ML4.3/1, Error ellipse: s-maj=286.6km s-min=47.1km az=82.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.93**	**16**	Pn	P	22 43 03.9	-2.2
	0.5nm,0.3s,baz=206,slow=14,SNR=8.1						
WRA	**Warramunga Arr**	**46.05**	**124**	P	P	22 48 09.6	-2.9
	0.5nm,0.5s,baz=298,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**47.55**	**129**	P	P	22 48 23.6	-0.9
	0.3nm,0.4s,baz=300,slow=7.9,SNR=5.0						

*NEIC **23** 22:40:22.4±0.6, 35.83N×29.61E, h10km, Error ellipse: s-maj=11.7km s-min=8.2km az=174.0*
*IDC **23** 22:40:25.7±3.2, 35.83N×29.67E, h37km±35km, mb4.5/5, mb1 4.6/9, mb1mx4.3/18, mbtmp4.7/9, ML4.4/3, Error ellipse: s-maj=28.1km s-min=19.0km az=126.0*
ISC 23 22:40:22.4±0.8, 35.75N±0.06×29.73E±0.05, h33km±13km, n18, σ1§28/24, mb4.4/5, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSS	**Prodhromos**	**3.04**	**104**	*e*P	**P**	**22 41 12.9**	**+3.5**
SANT	**Santorini**	**3.52**	**281**	*e*P	**P**	**22 41 15.9**	**-0.1**
IDI	**Anoyia**	**3.98**	**265**	Pn	**P**	**22 41 24.0**	**+1.5**
	29nm,0.3s,baz=92,slow=15,SNR=15						
IDI				Sn	**S**	**22 42 07.6**	**-1.1**
	27nm,0.3s,baz=90,slow=20,SNR=3.6						
GVD	**Gavdhos**	**4.70**	**261**	P	**P**	**22 41 31.1**	**-1.8**
ANTO	**Ankara**	**4.77**	**30**	P	**P**	**22 41 34.5**	**+0.6**
BRTR	**Keskin Array B**	**5.03**	**37**	Pn	**P**	**22 41 37.4**	**-0.3**
	7.3nm,0.3s,baz=210,slow=13,SNR=33						
BRTR				Sn	**S**	**22 42 33.7**	**-1.7**
	13nm,0.3s,baz=213,slow=27,SNR=9.9						
BRTR	**Keskin Array B**	**5.03**	**37**	Pn	**P**	**22 41 37.4**	**-0.3**
BRTR				Sn	**S**	**22 42 33.7**	**-1.7**
BHL	**Bhannes**	**5.21**	**109**	*e*PN	**P**	**22 41 40.3**	**+0.3**
BHL				SN	**S**	**22 42 36.0**	**-3.8**
HWQ	**Hawqa**	**5.31**	**104**	*e*PN	**P**	**22 41 43.6**	**+2.1**
HWQ				SN	**S**	**22 42 41.2**	**-1.1**
MALT	**Malatya**	**7.41**	**67**	*e*P	**P**	**22 42 10.9**	**0.0**
EIL	**Elat**	**7.49**	**143**	Pn	**P**	**22 42 14.6**	**+2.6**
	6.1nm,0.3s,baz=342,slow=16,SNR=2.4						
EIL				Sn	**S**	**22 43 33.4**	**-3.3**
	18nm,0.3s,baz=307,slow=42,SNR=5.8						
GERES	**GERESS Array B**	**17.61**	**323**	P	**P**	**22 44 27.3**	**+0.6**
	baz=149,slow=11,SNR=3.9						
FINES	**FINESS Array B**	**25.82**	**356**	P	**P**	**22 45 51.7**	**-0.3**
	7.4nm,0.7s,mb4.3,baz=141,slow=8.9,SNR=4.0						
HFS	**Hagfors**	**26.51**	**342**	P	**P**	**22 45 58.4**	**-0.1**
	9.3nm,0.6s,mb4.5,baz=149,slow=8.6,SNR=6.6						
ESDC	**Sonseca Array**	**26.85**	**289**	P	**P**	**22 46 01.8**	**0.0**
	4.4nm,0.7s,mb4.1,baz=81,slow=9.0,SNR=11						
NOA	**NORSAR Array B**	**27.93**	**341**	P	**P**	**22 46 12.9**	**+1.5**
	3.6nm,0.8s,mb4.1,baz=150,slow=9.7,SNR=3.0						
DBIC	**Dimbokro**	**42.92**	**236**	P	**P**	**22 48 20.4**	**+0.5**
	44nm,1.2s,mb5.1,baz=19,slow=12,SNR=5.1						
DBIC	**Dimbokro**	**42.92**	**236**	*e*P	**P**	**22 48 18.8**	**-1.2**
	45nm,1.2s,mb5.1						

*CSEM **23** 23:11:50.4, 39.94N×40.76E, h5km, MD3.5, After ISK*
*ISK **23** 23:11:50.4, 39.94N×40.76E, h5km, MD3.5*
ISC 23 23:11:51.3±0.8, 39.96N±0.06×40.74E±0.08, h5km, n11, σ1§94/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.48**	**96**	*i* PG	**Pg**	**23 12 00.3**	**-0.6**
ERZM	**Erzurum**	**0.48**	**96**	*i* P	**Pg**	**23 12 00.4**	**-0.5**
ERZM				*i* S	**Sg**	**23 12 02.7**	**-4.7**
EZC	**Erzincan**	**0.74**	**254**	PN	**Pn**	**23 12 12.7**	**+4.5**
VRT	**Varto**	**1.03**	**143**	*i* PG	**Pg**	**23 12 10.7**	**-1.1**
VRT				*i* SG	**Sg**	**23 12 26.3**	**+0.8**
GUMT	**Gumushane**	**1.09**	**298**	*i* PN	**Pn**	**23 12 12.9**	**-0.2**
BINT	**Bingol**	**1.10**	**190**	*i* PN	**Pn**	**23 12 11.7**	**-1.6**
BCA	**Borcka**	**1.63**	**24**	PN	**Pn**	**23 12 21.7**	**+0.9**
BTMT	**Batman**	**1.86**	**162**	PN	**Pn**	**23 12 25.4**	**+1.3**
ELZG	**Elazig**	**2.00**	**224**	*i* P	**Pn**	**23 12 26.4**	**+0.3**
DIY	**Diyarbakir**	**2.10**	**191**	PN	**Pn**	**23 12 27.9**	**+0.3**
TVAN	**Van**	**2.51**	**124**	*i* P	**Pn**	**23 12 37.3**	**+3.8**

*IDC **23** 23:15:51.3±0.6, 42.72S×82.68W, mb3.6/2, mb1 3.9/3, mb1mx3.6/18, mbtmp3.6/3, ML4.3/1, Error ellipse: s-maj=286.6km s-min=47.1km az=82.0, Northern Sumatera*
*NEIC **23** 23:15:52.9±0.6, 42.72S×82.68W, h10km, mb4.9/8 Error ellipse: s-maj=13.2km s-min=9.1km az=116.0*
ISC 23 23:15:51.7±0.6, 42.62S±0.06×82.6W±0.1, h10km, n48, σ1§29/44, mb4.6/15, MS4.5/1, 9C, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COYC	**Coyhaique**	**8.12**	**115**	*e*P	**P**	**23 17 55.1**	**+2.5**
PLCA	**Paso Flores**	**9.21**	**82**	Pn	**P**	**23 18 08.9**	**+1.2**
	1.9nm,0.3s,baz=264,slow=11,SNR=20						
PLCA				LR	LR	23 21 14.9	
	comp=Z,2μm,18.7s,baz=256,slow=34						
PLCA	**Paso Flores**	**9.21**	**82**	*e*P	**P**	**23 18 08.5**	**+0.7**
PLCA				LR	LR	23 21 14.9	
SFDO	**San Fernando**	**12.08**	**52**	*e*P	**P**	**23 18 45.9**	**-1.0**
LCCH	**Las Cruces**	**12.60**	**47**	*e*P	**P**	**23 18 52.1**	**-1.7**
CICH	**Cipreses**	**12.63**	**53**	*e*P	**P**	**23 18 54.3**	**+0.1**
CHCH	**Chadas Angostu**	**12.77**	**51**	*e*P	**P**	**23 18 55.5**	**-0.7**
TACH	**Talagante**	**12.81**	**49**	*e*P	**P**	**23 18 55.5**	**-1.2**
PCH	**Pirque**	**13.08**	**51**	*e*P	**P**	**23 18 59.3**	**-0.9**
CLCH	**Cerro Calan**	**13.23**	**50**	*e*P	**P**	**23 19 02.2**	**0.0**
ROCH	**El Roble**	**13.28**	**47**	*e*P	**P**	**23 19 03.7**	**+0.8**
FCH	**Farellones**	**13.42**	**50**	*e*P	**P**	**23 19 03.8**	**-0.9**
JACH	**Jahuel**	**13.73**	**48**	*e*P	**P**	**23 19 08.8**	**0.0**
USHA	**Ushuaia**	**15.34**	**148**	Pn	**P**	**23 19 28.1**	**-1.7**
	0.2nm,0.3s,baz=302,slow=14,SNR=3.6						
USHA				LR	LR	23 24 46.4	
	comp=Z,2μm,18.5s,baz=294,slow=35						
TRQA	**Tornquist**	**16.36**	**81**	P	**P**	**23 19 44.1**	**+1.1**
	42nm,0.9s						
LVC	**Limon Verde**	**22.99**	**34**	P	**P**	**23 21 02.6**	**+5.0**
	35nm,0.9s,mb4.8,baz=256,slow=6.6,SNR=14						
LVC				LR	LR	23 27 59.3	
	comp=Z,2μm,20.6s,MS4.5,baz=6.0,slow=31						
LPAZ	**La Paz**	**29.02**	**30**	P	**P**	**23 21 57.2**	**+3.2**
	8.0nm,0.8s,mb4.5,baz=204,slow=11,SNR=3.4						
LPAZ	**La Paz**	**29.02**	**30**	*e*P	**P**	**23 21 57.0**	**+2.9**
	37nm,1.4s,mb4.9						
BAO	**Brasilia Array**	**40.00**	**58**	P	**P**	**23 23 30.1**	**+1.7**
OTAV	**Otavalo**	**42.83**	**6**	*e*P	**P**	**23 23 53.7**	**+2.0**
	24nm,1.4s,mb4.7						
VNA3	**Neumayer Olymp**	**44.89**	**154**	⇑*i*	**P**	**23 24 03.3**	**-4.3**
VNA3	**Neumayer Olymp**	**44.89**	**154**		**P**	**23 24 07.6**	**0.0**
VNA3	**Neumayer Olymp**	**44.89**	**154**	⇑*i*	**P**	**23 24 10.0**	**+2.4**
VNA2	**Neumayer--Watz**	**45.64**	**154**	⇑*i*	**P**	**23 24 13.8**	**+0.2**
VNA2	**Neumayer--Watz**	**45.64**	**154**	⇑*i*	**P**	**23 24 17.0**	**+3.4**
VNA2	**Neumayer--Watz**	**45.64**	**154**	⇑*i*	**P**	**23 24 29.1**	**+16**
SNAA	**Sanae**	**47.03**	**155**	⇑*i*	**P**	**23 24 17.2**	**-7.4**
SNAA	**Sanae**	**47.03**	**155**	⇑*i*	**P**	**23 24 24.4**	**-0.2**
SNAA	**Sanae**	**47.03**	**155**	⇑*i*	**P**	**23 24 34.8**	**+10**
SNAA	**Sanae**	**47.03**	**155**	P	**P**	**23 24 24.2**	**-0.4**
	2.0nm,0.8s,mb4.1,baz=248,slow=6.8,SNR=6.0						
SNAA	**Sanae**	**47.03**	**155**	⇑*i*P	**P**	**23 24 24.4**	**-0.2**
	3.2nm,0.8s,mb4.3						
QSPA	**South Pole Qui**	**47.62**	**180**	P	**P**	**23 24 26.0**	**-3.1**
	94nm,2.4s,mb5.4						
SDV	**Santo Domingo**	**52.41**	**15**	P	**P**	**23 25 07.4**	**+0.8**
	8.6nm,1.0s,mb4.6,baz=257,slow=6.8,SNR=4.4						
SJG	**San Juan**	**62.30**	**18**	P	**P**	**23 26 15.5**	**-1.0**
	14nm,0.9s,mb5.1,baz=15,slow=17,SNR=3.9						
SJG	**San Juan**	**62.30**	**18**	P	**P**	**23 26 15.5**	**-1.0**
MAW	**Mawson**	**67.03**	**166**	P	**P**	**23 26 46.1**	**-0.3**
	4.9nm,0.8s,mb4.6,baz=252,slow=14,SNR=2.0						
TXAR	**Lajitas Array**	**74.18**	**341**	P	**P**	**23 27 30.2**	**-0.1**
	0.9nm,0.8s,mb3.8,baz=165,slow=8.9,SNR=4.9						
ANMO	**Albuquerque**	**80.23**	**340**	P	**P**	**23 28 03.6**	**-0.2**
	2.5nm,0.9s,mb4.2,baz=149,slow=6.5,SNR=5.2						
ANMO	**Albuquerque**	**80.23**	**340**	*e*P	**P**	**23 28 03.1**	**-0.7**
	4.3nm,0.9s,mb4.4						
BOSA	**Boshof**	**82.97**	**123**	*e*P	**P**	**23 28 16.5**	**-1.8**
	52nm,1.6s,mb5.3						
DBIC	**Dimbokro**	**85.54**	**77**	P	**P**	**23 28 31.3**	**-0.3**
	6.1nm,0.9s,mb4.8,baz=206,slow=6.3,SNR=6.5						
NVAR	**Mina Array Bea**	**86.95**	**333**	P	**P**	**23 28 40.0**	**+2.0**
	1.6nm,0.8s,mb4.3,baz=157,slow=6.9,SNR=7.0						
PDAR	**Pinedale Array**	**88.39**	**340**	P	**P**	**23 28 43.4**	**-1.4**
	1.1nm,1.1s,mb4.0,baz=194,slow=3.7,SNR=5.7						
LSZ	**Lusaka**	**94.37**	**115**	*e*P	**P**	**23 29 14.7**	**+1.6**
	1.3nm,0.7s,mb4.5						
GERES	**GERESS Array B**	**124.06**	**52**	PKP	PKPdf	23 34 51.6	-1.5
	0.9nm,0.7s,baz=252,slow=6.2,SNR=5.0						
BRTR	**Keskin Array B**	**132.93**	**71**	PKP	PKPdf	23 35 09.6	-0.7
	1.0nm,0.9s,baz=90,slow=1.4,SNR=3.6						
AKASG	**Malin Array Be**	**134.04**	**55**	PKP	PKPdf	23 35 13.4	+1.6
	0.6nm,0.5s,baz=260,slow=2.8,SNR=6.2						
ZAL	**Zalesovo**	**165.94**	**32**	PKP	PKPdf	23 35 55.0	-3.9
	0.7nm,0.3s,baz=284,slow=24,SNR=2.8						

*IDC **23** 23:17:14.0±7.9, 4.97S×144.51E, h148km±83km, mb3.4/3, mb1 3.6/5, mb1mx3.4/14, mbtmp3.9/5, Error ellipse: s-maj=70.9km s-min=27.5km az=140.0*
ISC 23 23:17:07.1±4.1, 4.8S±0.2×144.2E±0.1, h87km±40km, n8, σ0§97/9, mb3.8/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.45**	**148**	P	**P**	**23 18 28.7**	**+1.3**
	1.4nm,0.3s,baz=337,slow=7.7,SNR=3.8						
PMG				S	**S**	**23 19 28.7**	**-0.7**
	2.6nm,0.3s,baz=299,slow=20,SNR=8.3						
KAKA	**Kakadu**	**14.07**	**235**	*e*P	**P**	**23 20 22.2**	**-1.6**
	6.6nm,0.5s						
WB2	**Warramunga Arr**	**17.89**	**212**	*e*P	**P**	**23 21 12.0**	**+0.1**
WRA	**Warramunga Arr**	**17.90**	**212**	P	**P**	**23 21 12.0**	**0.0**
	0.5nm,0.3s,baz=35,slow=12,SNR=13						
ASAR	**Alice Springs**	**21.27**	**207**	P	**P**	**23 21 48.1**	**0.0**
	1.3nm,0.6s,mb3.4,baz=38,slow=8.7,SNR=13						
FITZ	**Fitzroy Crossi**	**22.50**	**232**	*e*P	**P**	**23 22 01.8**	**+1.5**
	4.7nm,0.5s,mb4.1						
BVAR	**Borovoye Array**	**84.16**	**324**	P	**P**	**23 29 30.5**	**+0.6**
	0.5nm,0.5s,mb3.6,baz=122,slow=7.5,SNR=6.0						
ILAR	**Eielson Array**	**85.45**	**24**	P	**P**	**23 29 34.9**	**-1.1**
	1.0nm,0.7s,mb3.9,baz=250,slow=4.7,SNR=12						

*IDC **23** 23:17:40.8±4.4, 15.56S×73.83W, h69km±41km, mb3.9/10, mb1 4.1/12, mb1mx4.0/19, mbtmp4.2/12, ML4.0/1, Error ellipse: s-maj=52.8km s-min=14.1km az=82.0*
*NEIC **23** 23:17:40.1±1.1, 15.61S×73.88W, h67km±11km, mb3.9/3, Error ellipse: s-maj=18.4km s-min=7.9km az=70.0*
NEIC Felt [III] at Caraveli.
ISC 23 23:17:37.5±1.5, 15.61S±0.08×73.8W±0.2, h57km±15km, n26, σ0§94/24, mb4.1/12, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.63**	**321**	*e*P	**P**	**23 18 46.8**	**0.0**
LPAZ	**La Paz**	**5.53**	**98**	P	**P**	**23 19 06.0**	**+6.8**
	2.4nm,0.3s,baz=293,slow=9.4,SNR=43						
LPAZ	**La Paz**	**5.53**	**98**	*e*P	**P**	**23 19 06.6**	**+7.5**
LVC	**Limon Verde**	**8.38**	**147**	P	**P**	**23 19 40.5**	**+1.7**
	11nm,0.3s,baz=325,slow=8.8,SNR=78						
LVC				S	**S**	**23 21 09.2**	**-3.7**
	1.3nm,0.3s,baz=76,slow=19,SNR=8.1						
CPN1	**Cerro Paranal**	**9.53**	**161**	*e*P	**P**	**23 19 53.6**	**-1.2**
OTAV	**Otavalo**	**16.39**	**343**	P	**P**	**23 21 21.1**	**-4.2**
	4.3nm,0.8s						
SDV	**Santo Domingo**	**24.54**	**8**	P	**P**	**23 22 54.4**	**+1.1**
	3.8nm,0.6s,mb4.1,baz=267,slow=5.5,SNR=7.2						
TRQA	**Tornquist**	**24.69**	**157**	*e*P	**P**	**23 22 53.4**	**-1.3**
	0.5nm,0.4s,mb3.4						
PLCA	**Paso Flores**	**25.20**	**174**	P	**P**	**23 23 00.6**	**+1.2**
	4.0nm,0.7s,mb4.1,baz=344,slow=14,SNR=6.8						
PLCA	**Paso Flores**	**25.20**	**174**	*e*P	**P**	**23 22 58.5**	**-0.9**
	4.9nm,0.8s,mb4.1						
SJG	**San Juan**	**34.35**	**13**	P	**P**	**23 24 20.0**	**-1.1**
	3.7nm,0.4s,mb4.7,baz=6.9,slow=8.8,SNR=4.5						
SJG	**San Juan**	**34.35**	**13**	P	**P**	**23 24 20.0**	**-1.1**
RCBR	**Riachuelo**	**38.45**	**80**	P	**P**	**23 24 55.9**	**+0.1**
	0.9nm,0.5s,mb3.8						
USHA	**Ushuaia**	**39.37**	**175**	P	**P**	**23 25 02.9**	**0.0**
	9.0nm,0.9s,mb4.5,baz=323,slow=15,SNR=2.2						
TXAR	**Lajitas Array**	**53.16**	**327**	P	**P**	**23 26 51.5**	**-0.7**
	1.1nm,0.4s,mb4.1,baz=155,slow=8.6,SNR=36						
PDAR	**Pinedale Array**	**66.72**	**332**	P	**P**	**23 28 25.5**	**+0.6**
	0.2nm,0.5s,mb3.4,baz=126,slow=7.8,SNR=3.3						
SNAA	**Sanae**	**69.34**	**161**	P	**P**	**23 28 41.1**	**+0.5**
	1.3nm,0.5s,mb4.1,baz=273,slow=9.4,SNR=21						
SNAA	**Sanae**	**69.34**	**161**	*e*P	**P**	**23 28 40.7**	**0.0**
	37nm,0.5s,mb5.6						
SCHQ	**Schefferville**	**70.41**	**4**	P	**P**	**23 28 47.0**	**-0.4**

VNDA	Vanda	81.79 190	P		P		23 29 52.6	+1.4
	2.3nm,0.8s,mb4.1,baz=135,slow=4.3,SNR=3.7								
YKA	Yellowknife Ar	84.14 342	P		P		23 30 03.1	-0.2
	0.5nm,0.5s,mb3.9,baz=139,slow=5.6,SNR=17								
YKA	Yellowknife Ar	84.14 342	P		P		23 30 03.1	-0.2
ASAR	Alice Springs	132.48 215	PKP		PKPdf		23 36 47.4	+0.8
	0.5nm,0.5s,baz=117,slow=1.9,SNR=7.4								
WRA	Warramunga Arr	135.11 219	PKP		PKPdf		23 36 52.3	+0.8
	1.0nm,0.4s,baz=145,slow=2.0,SNR=7.3								
SONM	Songino Array	147.86 360	PKPbc		PKPdf		23 37 18.2	+5.0
	0.3nm,0.4s,baz=310,slow=0.9,SNR=6.3								

*IDC **23** 23:21:24.9±3.0,35.33S×179.46E,mb3.8/2,mb1 4.1/3, mb1mx3.7/13,mbtmp3.9/3,ML4.0/1,Error ellipse: s-maj=68.1km s-min=44.1km az=114.0*
*WEL **23** 23:21:32.8±0.3,35.64S×179.07E,h33km,ML4.1/8,Error ellipse: s-maj=5.6km s-min=2.7km az=90.0*
*NEIC **23** 23:21:40.5±2.3,36.60S×179.13E,h136km±18km,Error ellipse: s-maj=41.5km s-min=32.5km az=119.0*

ISC 23 23:21:34.4±1.2,35.80S±0.06×178.3E±0.2,h33km,n22, σ1§32/30,mb3.5/2,1C,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.76	180	P	P	23 22 04.5	+1.5
MXZ				S	S	23 22 28.7	+4.2
MXZ	Matakaoa Point	1.76	180	⇑P*	Pb	23 22 04.5	-1.5
MXZ				S*	Sb	23 22 27.3	-0.5
MXZ				S*	Sb	23 22 27.9	+0.1
PUZ	Puketiti	2.27	181	P	P	23 22 10.8	+0.5
PUZ	Puketiti	2.27	181	PN	Pn	23 22 10.8	+0.3
PUZ				SN	Sn	23 22 39.4	+1.8
PUZ				SN	Sn	23 22 39.5	+1.9
MWZ	Matawai	2.61	194	eP*	P	23 22 17.6	+2.5
MWZ				S	S	23 22 51.8	+5.8
MWZ	Matawai	2.61	194	P*	Pb	23 22 17.6	-2.8
MWZ				S*	Sb	23 22 51.8	-0.4
URZ	Urewera	2.64	201	Pn	Pn	23 22 19.4	+3.6
	14nm,0.3s,baz=16,slow=6.5,SNR=259						
URZ				Sn	Sn	23 22 55.4	+8.5
	20nm,0.3s,baz=206,slow=15,SNR=8.1						
URZ	Urewera	2.64	201	P*	Pb	23 22 19.3	-1.6
URZ				eS*	Sb	23 22 54.4	+1.3
KNZ	Kokohu	3.26	189	P	P	23 22 23.7	-0.7
KNZ	Kokohu	3.26	189	PN	Pn	23 22 23.7	-0.8
KNZ				SN	Sn	23 23 03.1	+0.5
BKZ	Black Stump Fm	3.66	203	P	P	23 22 32.9	+2.8
BKZ	Black Stump Fm	3.66	203	eP*	Pb	23 22 31.6	-6.7
WNVZ	Wahianoa	4.13	211	P	P	23 22 36.6	-0.2
TSZ	Takapari Road	4.64	203	P	P	23 22 44.0	0.0
TSZ	Takapari Road	4.64	203	ePN	Pn	23 22 43.3	-0.8
BFZ	Birch Farm	5.14	198	P	P	23 22 48.8	-2.2
MRZ	Mangatainoka R	5.31	203	eP	P	23 22 52.6	-0.8
KIW	Kapiti Island	5.72	207	P	P	23 22 57.8	-1.4
ASAR	Alice Springs	40.10	275	P	P	23 29 09.9	+1.4
	0.7nm,0.7s,mb3.5,baz=116,slow=7.6,SNR=5.2						
WRA	Warramunga Arr	41.60	280	P	P	23 29 21.3	+0.3
	0.7nm,0.5s,mb3.5,baz=118,slow=7.6,SNR=5.2						
FINES	FINESS Array B	148.91	334	PKPbc	PKPdf	23 41 13.3	-0.5
	3.4nm,1.1s,baz=37,slow=6.9,SNR=5.5						
FINES	FINESS Array B	148.91	334	PKPbc	PKPdf	23 41 13.3	-0.5

IGQ 23 23:40:18.7,1.50S×81.53W,h12km±23km,mb4.0,2C, Error ellipse: s-maj=22.9km s-min=10.9km az=161.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.88	90	P	Pn	23 41 06.5	+1.1
ARRY	Arrayan	3.07	90	P	Pn	23 41 08.9	+0.9
RUN2	Runtun	3.11	89	P	Pn	23 41 10.0	+1.4
RUN2				S	Sn	23 41 46.0	-0.1
ULBA	Ulba	3.12	89	P	Pn	23 41 09.9	+1.2
NAS1	Nasa	3.16	74	P	Pn	23 41 11.8	+2.4
PISA	Pisayambo	3.17	82	P	Pn	23 41 11.6	+2.2
JUA2	San Juan 2	3.18	66	P	Pn	23 41 10.1	+0.4
TERV	Terraza Guagua	3.20	66	P	Pn	23 41 11.9	+2.0
PINO	Pino	3.21	66	P	Pn	23 41 10.2	+0.2
VC1	Cotopaxi 1	3.23	75	P	Pn	23 41 13.6	+3.2
YANA	Yana	3.25	65	P	Pn	23 41 11.0	+0.4
ANTI	Antisana	3.52	73	P	Pn	23 41 16.5	+2.1
COTA	Cotacachi	3.67	60	P	Pn	23 41 17.5	+1.0
CAYR	Refugio Cayamb	3.82	67	⇑P	Pn	23 41 21.6	+2.9
CAYA	Cayambe	3.86	66	⇑P	Pn	23 41 21.7	+2.4

*IDC **23** 23:52:22.8±1.2,25.48N×125.17E,mb3.5/5,mb1 3.7/5, mb1mx3.6/20,mbtmp3.5/5,MS3.1/1,Ms1 3.1/1, ms1mx2.2/25,Error ellipse: s-maj=55.1km s-min=27.4km az=75.0*
*JMA **23** 23:52:33.3±0.1,25.35N×124.99E,h80km±3km,M3.4*

ISC 23 23:52:32.1±0.5,25.34N±0.09×125.05E±0.07,h91km±7km, n15,σ0§62/23,mb3.4/5,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	Miyako jima 2	0.56	157	P	P	23 52 48.0	+0.3
JMJ				S	S	23 52 58.7	-0.5
JOGS	Gusukube	0.66	150	P	P	23 52 49.0	+0.5
JOGS				S	S	23 53 00.5	-0.2
JTJ	Tarama	0.76	205	P	P	23 52 49.6	+0.1
JTJ				S	S	23 53 01.9	-0.5
JIJ	Ishigaki jima	1.27	221	P	P	23 52 55.4	-0.1
JIJ				S	S	23 53 11.7	-1.3
JKRS	Kuro-shima	1.45	221	P	P	23 52 57.9	+0.2
JKRS				S	S	23 53 16.5	-0.1
IRIF	Iriomote-Funau	1.56	231	P	P	23 52 59.3	+0.2
IRIF				S	S	23 53 19.2	+0.2
HATJ	Hateruma jima	1.70	222	P	P	23 53 01.1	+0.1
HATJ				S	S	23 53 22.3	+0.1
JKE	Kume jima 2	1.85	57	P	P	23 53 03.3	+0.4
JKE				eS	S	23 53 25.6	+0.1
YOJ	Yonaguni jima	2.05	245	P	P	23 53 07.1	+1.6
YOJ				eS	S	23 53 30.3	+0.2
JOW	Kunigami	3.26	62	LR	LR	23 54 29.2	
	comp=Z,301nm,21.0s,baz=277,slow=41						
SONM	Songino Array	26.86	332	P	P	23 58 05.3	-0.7
	0.3nm,0.4s,mb3.2,baz=153,slow=10,SNR=11						
ASAR	Alice Springs	49.46	169	P	P	00 01 15.9	+0.6
	0.4nm,0.6s,mb3.6,baz=356,slow=13,SNR=6.4						
ILAR	Eielson Array	66.57	28	P	P	00 03 12.9	-1.3
	0.3nm,0.9s,mb3.1,baz=276,slow=5.5,SNR=4.2						
FINES	FINESS Array B	72.22	330	P	P	00 03 48.1	-0.7
	2.1nm,1.1s,mb3.9,baz=76,slow=12,SNR=3.3						
YKA	Yellowknife Ar	80.52	24	P	P	00 04 36.1	+0.7
	0.3nm,0.6s,mb3.3,baz=303,slow=5.3,SNR=5.9						

IDC 23 23:58:57.0±4.3,5.62S×152.92E,mb4.0/3,mb1 4.2/4, mb1mx4.0/14,mbtmp4.1/4,ML2.9/1,Error ellipse: s-maj=116.8km s-min=31.6km az=110.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.84	236	Pn	Pn	00 00 38.3	-2.8
	1.2nm,0.3s,baz=30,slow=7.0,SNR=5.8						
PMG				Sn	Sn	00 01 51.8	-8.9
	1.1nm,0.3s,baz=9.1,slow=18,SNR=3.7						
WRA	Warramunga Arr	23.01	230	P	P	00 04 03.1	-1.7
	4.1nm,0.7s,baz=54,slow=9.9,SNR=23						
ASAR	Alice Springs	25.64	224	P	P	00 04 29.1	-1.0
	2.6nm,0.6s,baz=59,slow=8.8,SNR=34						
SONM	Songino Array	67.07	328	P	P	00 09 52.6	-1.9
	0.4nm,0.8s,baz=137,slow=4.9,SNR=4.1						

*BUC **24** 00:01:41.9±0.6,45.43N×26.38E,h129km±5km,MD3.5/3, Error ellipse: s-maj=4.3km s-min=3.3km az=338.0*
*CSEM **24** 00:01:41.9±0.6,45.43N×26.38E,h129km±5km,MD3.5/3, Error ellipse: s-maj=4.3km s-min=3.3km az=338.0,After BUC*
*NEIC **24** 00:01:43.7,45.36N×26.43E,h116km,After BUC.*

ISC 24 00:01:41.6±1.3,45.45N±0.06×26.44E±0.09,h132km±9km, n19,σ0§64/32,8C-8D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISR	Istrita	0.34	168	⇑P	P	00 02 00.8	+0.6
ISR	Istrita	0.34	168	⇑iP	P	00 02 00.9	+0.7
ISR				iS	S	00 02 15.1	+0.7
ISR	Istrita	0.34	168	⇑iP	P	00 02 00.9	+0.7
ISR				iS	S	00 02 15.6	+1.2
MLR	Muntele Rosu	0.35	276	⇓P	P	00 02 00.0	-0.2
MLR				S	S	00 02 13.8	-0.7
MLR	Muntele Rosu	0.35	276	⇑iP	P	00 02 00.1	-0.2
MLR				iS	S	00 02 14.0	-0.5
VRI	Vrincioaia	0.46	26	⇓P	P	00 02 01.2	+0.5
VRI				S	S	00 02 15.4	0.0
VRI	Vrincioaia	0.46	26	⇑iP	P	00 02 01.3	+0.5
VRI				S	S	00 02 15.6	+0.2
BUC	Bucharest	1.07	193	iS	S	00 02 24.4	+0.7
BUC1	Bucharest	1.14	195	⇓iP	P	00 02 06.0	-0.3
BUC1				iS	S	00 02 24.4	-0.7
BUC1	Bucharest	1.14	195	iS	S	00 02 24.4	+0.7
CFR	Carcaliu	1.23	102	⇑P	P	00 02 07.7	+0.5
CFR				S	S	00 02 26.4	-0.2
CFR	Carcaliu	1.23	102	⇑iP	P	00 02 07.6	+0.4
CFR				iS	S	00 02 26.3	-0.3
HARR	Harsova	1.30	125	⇓P	P	00 02 08.4	+0.4
HARR				S	S	00 02 26.8	-1.5
HARR	Harsova	1.30	125	⇓iP	P	00 02 08.4	+0.4
HARR				iS	S	00 02 28.0	-0.2
TLCR		1.69	98	⇓iP	P	00 02 13.1	+0.7
TIRR	Tirgusor	1.71	125	⇓P	P	00 02 13.0	+0.3
TIRR				S	S	00 02 34.9	-1.5
TIRR	Tirgusor	1.71	125	S	S	00 02 35.6	-0.8
TIRR	Tirgusor	1.71	125	⇓iP	P	00 02 13.0	+0.3
TIRR				S	S	00 02 35.6	-0.8
BURAR	Bucovina Array	2.32	339	⇑iP	P	00 02 19.3	-0.9

*CSEM **24** 00:02:27.0±0.1,35.79N×29.60E,h10km,MD3.5, Error ellipse: s-maj=4.1km s-min=2.1km az=92.0*
*ISK **24** 00:02:30.2,35.89N×29.56E,h32km,MD3.5*
*HLW **24** 00:02:30.1,35.91N×29.58E,h19km,Mb3.5*

ISC 24 00:02:27.3±0.4,35.78N±0.03×29.63E±0.07,h10km,n26, σ1§01/31,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.96	333	iPG	Pg	00 02 45.7	-0.9
FETY				iSG	Sg	00 02 57.4	-2.1
ELL	Elmali	1.00	13	iPG	Pg	00 02 46.3	-1.0
ANTB	Antalya	1.39	36	PN	Pn	00 02 52.8	-0.1
BCK	Bucak	1.85	24	PN	Pn	00 03 00.1	+0.7
DNZL	Cakiroluk	1.96	346	iP	Pn	00 03 02.5	+1.4
DNZL				iS	Sn	00 03 26.9	+0.9
DENT	Denizli	2.03	347	ePN	Pn	00 03 02.1	+0.1
MLSB	Milas	2.12	316	ePN	Pn	00 03 02.8	-0.6
BDRM	Kayabasi	2.18	307	iP	Pn	00 03 09.0	+4.9
BDRM				iS	Sn	00 03 35.1	+3.6
AYDN	Tasoluk	2.35	324	iP	Pn	00 03 07.9	+1.4
AYDN				iS	Sn	00 03 37.0	+1.3
KHL	Karahalli	2.54	358	ePN	Pn	00 03 09.5	+0.2
MANT	Manisa	2.84	343	iP	Pn	00 03 17.1	+3.5
KDAG	Bornova	3.23	325	iP	Pn	00 03 18.1	-1.0
KIZT	Kizilcal	3.58	29	ePN	Pn	00 03 24.5	+0.4
ESKT	Eskisehir	3.86	14	iP	Pn	00 03 26.2	-1.9
HMAT	Matruh	5.13	205	P	Pn	00 03 46.8	+0.7
HBRG	Burj al 'Arab	5.19	178	P	Pn	00 03 47.7	+0.8
SLUM		5.64	222	P	Pn	00 03 53.5	+0.3
SLUM				S	Sn	00 04 54.9	-4.0
HMYD	Mayadein	6.04	170	P	Pn	00 03 59.7	+0.7
HNAT	Natroun	6.18	172	P	Pn	00 04 01.1	+0.1
GLL	Jalalah	6.43	164	P	Pn	00 04 04.2	-0.1
GLL	Jalalah	6.43	164	P	Pn	00 04 04.2	-0.2
SWA1		7.29	208	P	Pn	00 04 15.9	-0.6
SWA2		7.41	210	P	Pn	00 04 17.4	-0.7
AWBH		7.46	185	P	Pn	00 04 17.6	-1.3
HKAT	Jabal Katrina	8.12	152	P	P	00 04 28.7	+0.6
ASUT		8.52	168	P	P	00 04 32.8	-0.8

*TAP **24** 00:06:52.8,23.07N×121.31E,h17km,ML3.7*
TAP Felt II J at Chenggung, I J at Lidau.
*JMA **24** 00:06:53.9±0.2,23.01N×121.51E,h83km,M3.0*

ISC 24 00:06:52.1±0.4,23.01N±0.02×121.45E±0.02,h19km±4km, n59,σ0§89/94,11C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	Chengkung	0.12	319	⇓iP	Pb	00 06 56.6	+0.5
CHKT				S	Sb	00 06 59.2	+0.4
TWF1	Yuli	0.37	338	⇑iP	Pb	00 06 59.4	-0.4
TWF1				S	Sb	00 07 04.2	-0.8
TTN	Taitung	0.38	227	eP	Pb	00 07 00.8	+0.9
TTN				S	Sb	00 07 06.7	+1.4
TWG	Pinlang	0.40	241	⇑iP	Pb	00 07 00.1	-0.1
TWG				S	Sb	00 07 05.5	-0.3
ELDTW	Lidau	0.43	294	⇑iP	Pb	00 06 59.7	-1.2
ELDTW				S	Sb	00 07 04.5	-2.5
EHY	Hungye	0.51	347	eP	Pb	00 07 01.7	-0.5
EHY				S	Sb	00 07 07.6	-1.4
ECL	Taimali	0.61	228	eP	Pb	00 07 03.2	-0.7
STYT	Tauyuan	0.65	283	⇑iP	Pb	00 07 03.6	-1.1
STYT				S	Sb	00 07 11.2	-2.1
YUS	Yu-Shan	0.66	316	⇑iP	Pb	00 07 04.1	-0.6
YUS				S	Sb	00 07 11.7	-1.7
ALS	Alishan	0.77	310	⇑iP	Pb	00 07 06.2	-0.4
SSD	Sandimen	0.80	251	eP	Pb	00 07 05.9	-1.2
ESL	Shilin	0.80	359	eP	Pb	00 07 08.1	+1.0
SGST	Jiashian	0.80	275	⇑iP	Pb	00 07 06.9	-0.3
SGST				S	Sb	00 07 16.9	-0.6
WTP	Ta-pu	0.80	287	⇑iP	Pb	00 07 06.6	-0.5
WTP				S	Sb	00 07 16.9	-0.6
EAST	Anshuo	0.84	222	eP	Pb	00 07 07.2	-0.6
CHN4	Tsaushan	0.86	293	⇑iP	Pb	00 07 07.8	-0.3
CHN4				S	Sb	00 07 19.3	+0.2
CHN1	Nanshi	0.86	282	⇑iP	Pb	00 07 08.2	-0.1
CHN1				S	Sb	00 07 19.8	+0.4
CHN5	Tsauling	0.92	310	eP	Pb	00 07 09.1	-0.1
CHN5				S	Sb	00 07 20.5	-0.4
TWK	Hsinying	0.92	286	⇑iP	Pb	00 07 08.8	-0.4
TWK				S	Sb	00 07 21.8	+0.9
SGLT	Jiouru	0.93	252	eP	Pb	00 07 11.8	+2.3
TWM1	Shoushan	0.96	259	eP	Pb	00 07 10.0	+0.1
HWA	Hwalien	0.97	8	eP	Pb	00 07 11.3	+1.2
LAY	Lan-yu	0.97	174	eP	Pb	00 07 09.8	-0.3
SCZT	Fangliau	0.99	230	eP	Pb	00 07 10.0	-0.5
SCZT				S	Sb	00 07 23.1	0.0
CHN3	Shinhua	1.00	274	eP	Pb	00 07 11.3	+0.8
SMLT	Sun Moon Lake	1.00	330	eP	Pb	00 07 10.4	-0.2
SMLT				S	Sb	00 07 22.6	-0.7
CHN2	Minshiung	1.03	300	eP	Pb	00 07 11.1	-0.1
CHN2				S	Sb	00 07 25.5	+1.2
TYC	Yuchr	1.04	329	eP	Pb	00 07 11.4	+0.1
TYC				S	Sb	00 07 25.0	+0.5
WGK	Gukeng	1.06	310	eP	Pb	00 07 11.8	+0.3
WGK				S	Sb	00 07 25.2	+0.3
CHY	Chiayi	1.06	297	eP	Pb	00 07 11.4	-0.1
CHY				S	Sb	00 07 25.4	+0.4
TWD	Chiawan	1.07	7	eP	Pb	00 07 11.9	+0.1
TWD				S	Sb	00 07 28.0	+2.7
WNT	Mingjian	1.11	321	eP	Pb	00 07 12.3	-0.1
WNT				S	Sb	00 07 27.4	+0.9
WHF	Hehuan Shan	1.14	352	eP	Pb	00 07 12.5	-0.5
SCLT	Jiali	1.17	278	eP	Pb	00 07 13.2	-0.2
SCLT				S	Sb	00 07 29.5	+1.5
CHN8	Yiju	1.19	287	eP	Pb	00 07 13.3	-0.4
CHN8				S	Sb	00 07 28.4	-0.3
HEN	Hengchun	1.20	213	eP	Pb	00 07 16.6	+2.6
TWP	Hsiaoliuchiu	1.20	237	eP	Pb	00 07 15.0	+1.0
TWK1	Hengchun	1.22	209	eP	Pn	00 07 14.2	0.0
TWT	Tachien	1.26	349	eP	Pn	00 07 14.6	-0.3
WTCT	Ta-ch'eng	1.37	309	eP	Pn	00 07 16.5	+0.1
WTCT				S	Sb	00 07 33.7	-0.2
ENA	Nanau	1.44	11	eP	Pn	00 07 18.8	+1.5
TWQ1	Liyutan	1.47	335	eP	Pn	00 07 19.0	+1.2
TWQ1				S	Sn	00 07 37.5	+0.9
NSY	Sanyi	1.53	336	eP	Pn	00 07 19.7	+0.9
NSY				S	Sn	00 07 39.6	+1.3
ENTT	Nioudou	1.62	4	eP	Pn	00 07 20.1	0.0
TWC	Suao	1.63	13	eP	Pn	00 07 21.6	+1.4
NSK	Sanguang	1.66	357	eP	Pn	00 07 20.7	+0.2
NSTT	Nanjuang	1.66	346	eP	Pn	00 07 21.6	+1.0
WDGT	Dungji	1.67	279	eP	Pn	00 07 20.4	-0.3
WDGT				S	Sn	00 07 39.5	-2.1
TWE	Neicheng	1.71	7	eP	Pn	00 07 21.9	+0.5
PNG	Penghu	1.83	288	eP	Pn	00 07 22.4	-0.6
TWA	Mucha	1.96	4	eP	Pn	00 07 25.3	+0.4
YOJ	Yonaguni jima	2.03	44	P	Pn	00 07 26.4	+0.5
YOJ				eS	Sn	00 07 50.7	-0.3
TWB1	Santiao Chiao	2.05	14	eP	Pn	00 07 27.4	+1.2
NWF	Wu-fen Shan	2.07	8	eP	Pn	00 07 27.0	+0.5
NWF				S	Sn	00 07 51.8	-0.2
HATJ	Hateruma jima	2.40	64	P	Pn	00 07 31.1	-0.1
HATJ				S	Sn	00 07 59.6	-0.7
IRIF	Iriomote-Funau	2.47	57	P	Pn	00 07 32.5	+0.3
IRIF				eS	Sn	00 08 01.8	-0.4
JKRS	Kuro-shima	2.65	62	P	Pn	00 07 34.8	+0.1
JKRS				eS	Sn	00 08 05.8	-0.8
JIJ	Ishigaki jima	2.81	61	P	Pn	00 07 36.9	-0.2
JIJ				S	Sn	00 08 08.9	-1.9
JTJ	Tarama	3.39	61	P	Pn	00 07 44.9	-0.4
JTJ				S	Sn	00 08 23.5	-2.0

*BJI **24** 00:22:18.0,1.10S×120.44E,h17km,mB5.0,mb4.5,Ms4.4, Msz4.1*
*IDC **24** 00:22:18.1±0.8,1.20S×119.87E,mb4.1/8,mb1 4.2/8, mb1mx4.0/16,mbtmp4.1/8,MS4.0/1,Ms1 3.9/1, ms1mx2.8/13,Error ellipse: s-maj=57.0km s-min=15.4km az=63.0*
*NEIC **24** 00:22:19.9±0.5,1.11S×120.03E,h10km,mb4.6/6,Error ellipse: s-maj=35.8km s-min=8.9km az=65.0*
NEIC Felt [V] at Palu.

ISC 24 00:22:21.5±0.5,1.1S±0.1×120.1E±0.2,h33km,n24, σ1§00/24,mb4.5/17,MS4.0/1,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	17.79	163	eP	P	00 26 30.3	+2.0
	6.7nm,0.8s						
WRAB	Tennant Creek	23.37	144	eP	P	00 27 27.3	-0.9
	59nm,1.5s,mb4.8						
WRA	Warramunga Arr	23.37	144	P	P	00 27 27.9	-0.3
	10nm,1.1s,mb4.2,baz=319,slow=10,SNR=12						
ASAR	Alice Springs	26.16	150	P	P	00 27 56.1	+1.2
	2.7nm,0.6s,mb3.9,baz=347,slow=15,SNR=13						
CMAR	Chiang Mai Arr	28.45	314	P	P	00 28 14.7	-1.0
	0.9nm,0.4s,mb3.8,baz=138,slow=7.1,SNR=6.2						
NWAO	Narrogin (SRO)	31.82	185	P	P	00 28 42.8	-2.8
	6.8nm,0.8s,mb4.5,baz=333,slow=11,SNR=2.8						
ENH	Enshi	32.75	343	eP	P	00 28 53.7	0.0
	7.1nm,0.6s,mb4.8						
XAN	Xi'an	36.45	344	P	P	00 29 24.5	-0.8
STKA	Stephens Creek	36.76	149	P	P	00 29 26.7	-1.2
	2.8nm,0.7s,mb4.2,baz=343,slow=11,SNR=8.2						
STKA				LR	LR	00 46 19.0	
	comp=Z,238nm,20.2s,MS4.0,baz=334,slow=39						
STKA	Stephens Creek	36.76	149	eP	P	00 29 27.9	0.0
STKA				LR	LR	00 46 19.0	
BJT	Baijiatuau	41.03	355	eP	P	00 30 03.8	+0.4
LSA	Lhasa	41.22	320	P	P	00 30 08.5	+3.4
LSA				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.4						
LSA	Lhasa	41.22	320	eP	P	00 30 07.0	+1.9
	comp=Z,4.4nm,0.7s,mb4.2						
JIRN	Jiri	43.32	314	eP	P	00 30 23.4	+1.0
	comp=Z,10nm,0.6s,mb4.7						
KKN	Kakani	44.06	313	eP	P	00 30 29.2	+0.9
DMN	Daman	44.08	313	eP	P	00 30 29.0	+0.5
	comp=Z,7.6nm,0.6s,mb4.6						
GKN	Gorkha	44.65	313	eP	P	00 30 33.3	+0.3
	comp=Z,11nm,0.5s,mb4.9						
KOLN	Koldanda	45.28	312	eP	P	00 30 37.1	-1.0
	comp=Z,35nm,0.9s,mb5.2						
ULN	Ulaanbaatar	50.03	349	eP	P	00 31 15.5	+0.6
	comp=Z,3.6nm,0.6s,mb4.6						
SONM	Songino Array	50.13	348	P	P	00 31 15.8	+0.2
	comp=Z,1.8nm,0.6s,mb4.3,baz=167,slow=8.7,SNR=24						
AAK	Ala-Archa	59.75	322	eP	P	00 32 25.1	-0.5
ZAL	Zalesovo	62.11	337	P	P	00 32 41.0	-0.4
	comp=Z,1.3nm,0.8s,mb4.1,baz=337,slow=3.8,SNR=13						
KURK	Kurchatov	62.48	332	eP	P	00 32 42.7	-1.2
	comp=Z,5.1nm,0.8s,mb4.7						
BRTR	Keskin Array B	87.95	310	P	P	00 35 09.8	+0.4
	comp=Z,0.9nm,0.9s,mb4.0,baz=96,slow=5.7,SNR=3.6						

*IDC **24** 00:22:41.9±0.6,1.13S×119.92E,mb4.5/13,mb1 4.6/13, mb1mx4.5/19,mbtmp4.5/13,MS4.1/1,Ms1 4.1/1, ms1mx2.9/14,Error ellipse: s-maj=42.6km s-min=13.1km az=61.0*
*BJI **24** 00:22:43.6,1.10S×120.00E,h10km,mB5.0,mb4.7,Ms4.5, Msz4.1*
*NEIC **24** 00:22:43.6±0.3,1.15S×119.96E,h10km,mb4.8/13,Error ellipse: s-maj=15.8km s-min=6.6km az=63.0*
NEIC Felt [V] at Palu.
*MOS **24** 00:22:45.7±1.5,0.96S×120.14E,h33km,mb4.9/18,Error ellipse: s-maj=19.4km s-min=9.6km az=109.8*

ISC 24 00:22:45.5±2.4,1.09S±0.07×120.02E±0.10,h37km±22km, n59,σ0§96/58,mb4.7/28,MS4.1/1,2C-2D,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	8.31	208	⇓iP	P	00 24 47.0	+0.6
KEDI				pmax	pmax		
	comp=Z,9.0nm,0.3s						
KEDI	Kedomdong	8.31	208	⇓iP	P	00 24 47.0	+0.6
	comp=Z,9.1nm,0.3s						
TGY	Tagaytay City	15.12	3	LR	LR	00 31 34.6	
	comp=Z,734nm,21.4s,baz=6.5,slow=35						
QIZ	Qiongzhong	22.36	334	P	P	00 27 43.3	+1.5
	comp=Z,12nm,1.0s,mb4.3						
WRAB	Tennant Creek	23.39	144	eP	P	00 27 51.9

comp=Z,17nm,0.8s,mb4.7
HYB Hyderabad 44.79 296 *i* P **P 00 30 57.5 -0.4**
MDJ Mudanjiang 46.30 9 P **P 00 31 09.1 -0.5**
MDJ AMB AMB
comp=Z,15nm,2.4s,mb4.5
MDJ AMB AMB
comp=Z,84nm,4.3s
ULN Ulaanbaatar 50.05 349 *e*P **P 00 31 38.3 -0.4**
ULN pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
ULN Ulaanbaatar 50.05 349 *e*P **P 00 31 38.3 -0.4**
comp=Z,10nm,0.8s,mb4.9
SONM Songino Array 50.16 348 P **P 00 31 38.1 -1.5**
comp=Z,8.0nm,0.9s,mb4.8,baz=165,slow=8.3,SNR=16
WMQ Urumqi 53.24 331⇑P **P 00 32 03.5 +0.7**
ZAK Zakamensk 53.24 347 *e*P **P 00 32 01.4 -1.3**
TLY Talaya 54.38 348 *e*P **P 00 32 11.9 +0.9**
TLY pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
TLY Talaya 54.38 348 *e*P **P 00 32 12.5 +1.4**
comp=Z,6.4nm,0.8s,mb4.6
AAK Ala-Archa 59.72 322⇑*e*P **P 00 32 48.5 -0.6**
AAK Ala-Archa 59.72 322 *e*P **P 00 32 48.1 -1.0**
comp=Z,5.0nm,0.8s,mb4.6
RPZ Rata Peaks 62.04 140 P **P 00 33 04.7 0.0**
comp=Z,9.7nm,0.7s,mb5.0,baz=0.8,slow=3.0,SNR=7.4
ZAL Zalesovo 62.12 337 P **P 00 33 06.1 +1.0**
ZAL pmax pmax
comp=Z,6.0nm,0.9s
ZAL Zalesovo 62.12 337 P **P 00 33 06.1 +1.0**
comp=Z,5.5nm,0.8s,mb4.7,baz=338,slow=4.8,SNR=19
ZAL Zalesovo 62.12 337 P **P 00 33 06.1 +1.0**
KURK Kurchatov 62.47 332 *e*P **P 00 33 07.0 -0.5**
YAK Yakutsk 63.39 5 *e*P **P 00 33 11.5 -2.0**
YAK pmax pmax
comp=Z,11nm,0.9s,mb5.0
NVS Novosibirsk 63.40 337 *e*P **P 00 33 12.5 -1.1**
BVAR Borovoye Array 67.91 330 P **P 00 33 42.8 +0.3**
comp=Z,3.5nm,0.8s,mb4.4,baz=135,slow=13,SNR=8.4
BRVK Borovoye 67.98 330 *e*P **P 00 33 42.2 -0.7**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BRVK Borovoye 67.98 330 *e*P **P 00 33 42.2 -0.7**
comp=Z,5.0nm,0.8s,mb4.6
ARU Arti 75.54 330 *e*P **P 00 34 24.2 -3.8**
VNDA Vanda 79.60 172 P **P 00 34 51.2 +1.0**
VNDA pmax pmax
comp=Z,2.0nm,0.7s
VNDA Vanda 79.60 172 P **P 00 34 51.1 +1.0**
comp=Z,2.4nm,0.7s,mb4.2,baz=166,slow=5.1,SNR=6.3
KMBO Kilima Mbogo 82.74 269 P **P 00 35 07.7 -0.1**
KMBO pmax pmax
comp=Z,2.0nm,1.0s
KMBO Kilima Mbogo 82.74 269 P **P 00 35 07.7 -0.2**
comp=Z,2.3nm,1.0s,mb4.2,baz=48,slow=12,SNR=6.3
KMBO Kilima Mbogo 82.74 269 *e*P **P 00 35 07.9 0.0**
comp=Z,2.2nm,0.9s,mb4.2
OBN Obninsk 87.13 325 *e*P **P 00 35 30.5 +1.7**
OBN pmax pmax
comp=Z,15nm,1.2s,mb5.1
BRTR Keskin Array B 87.90 310 P **P 00 35 32.4 -0.5**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 87.90 310 P **P 00 35 32.4 -0.5**
comp=Z,2.7nm,0.9s,mb4.5,baz=126,slow=5.8,SNR=9.9
AKASG Malin Array Be 91.34 321 P **P 00 35 48.3 -0.6**
AKASG pmax pmax
comp=Z,2.0nm,1.0s
AKASG Malin Array Be 91.34 321 P **P 00 35 48.3 -0.6**
comp=Z,2.0nm,1.0s,mb4.4,baz=79,slow=4.1,SNR=4.1
LPAZ La Paz 160.95 155 PKIKP PKPdf 00 42 46.2 +3.7
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 160.95 155 PKP PKPdf 00 42 46.1 +3.6
comp=Z,0.6nm,0.5s,baz=148,slow=4.2,SNR=3.0

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*IDC **24** 00:35:38.0±1.0, 10.86N×141.18E, mb3.9/8, mb1 4.1/8, mb1mx4.0/19, mbtmp3.9/8, Error ellipse: s-maj=46.2km s-min=20.9km az=92.0*
*NEIC **24** 00:35:41.2±0.6, 10.86N×141.65E, h30km, mb4.3/2, Error ellipse: s-maj=21.9km s-min=12.8km az=105.0*
ISC 24 00:35:39.1±0.7, 10.85N±0.10×141.6E±0.2, h30km, n11, σ0.84/11, mb3.9/10, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.18**	**49**	P	**Pn**	**00 36 41.9**	**-0.7**
WRAB	**Tennant Creek**	**31.41**	**193**	*e*P	**P**	**00 41 59.5**	**-0.6**
1.8nm,0.6s,mb4.1							
WRA	**Warramunga Arr**	**31.43**	**193**	P	**P**	**00 41 59.9**	**-0.3**
2.0nm,0.9s,mb4.0,baz=8.7,slow=9.4,SNR=6.1							
ASAR	**Alice Springs**	**35.12**	**192**	P	**P**	**00 42 33.1**	**+0.8**
1.1nm,0.8s,mb3.8,baz=18,slow=12,SNR=8.4							
SONM	**Songino Array**	**47.25**	**328**	P	**P**	**00 44 11.6**	**+0.1**
0.2nm,0.5s,mb3.3,baz=132,slow=6.1,SNR=3.7							
ZAL	**Zalesovo**	**62.05**	**326**	P	**P**	**00 45 59.6**	**+0.3**
0.5nm,0.3s,mb4.0,baz=329,slow=15,SNR=3.3							
KURK	**Kurchatov**	**64.67**	**321**	*e*P	**P**	**00 46 15.7**	**-0.8**
5.6nm,1.1s,mb4.5							
BVAR	**Borovoye Array**	**70.13**	**323**	P	**P**	**00 46 50.5**	**-0.2**
1.5nm,0.6s,mb4.1,baz=110,slow=8.4,SNR=12							
ILAR	**Eielson Array**	**72.39**	**25**	P	**P**	**00 47 06.3**	**+2.2**
0.3nm,0.5s,mb3.5,baz=259,slow=5.7,SNR=7.4							
YKA	**Yellowknife Ar**	**86.73**	**27**	P	**P**	**00 48 25.6**	**+4.4**
0.5nm,0.6s,mb4.0,baz=288,slow=5.5,SNR=8.3							
FINES	**FINESS Array B**	**92.27**	**334**	P	**P**	**00 48 46.9**	**-0.4**
0.7nm,0.6s,mb4.2,baz=76,slow=5.7,SNR=6.4							

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*MOS **24** 00:39:20.7±1.1, 4.78N×96.14E, h33km, mb5.2/52, MS4.9/23, Error ellipse: s-maj=9.3km s-min=4.8km az=122.0*
*BJI **24** 00:39:20.1, 4.86N×95.52E, h16km, mB5.4, mb5.0, Ms5.3, Msz5.1*
*IDC **24** 00:39:20.8±2.1, 4.82N×96.17E, h20km±12km, mb4.7/22, mb1 4.8/23, mb1mx4.8/23, mbtmp4.8/23, ML4.5/1, MS4.8/16, Ms1 4.8/16, ms1mx4.5/22, Error ellipse: s-maj=19.2km s-min=11.0km az=51.0*
*NEIC **24** 00:39:20.4±0.2, 4.70N×96.13E, mb5.2/59, MS4.7/7, Error ellipse: s-maj=7.1km s-min=4.5km az=47.0*
NEIC Felt [III] at Banda Aceh.
*HRVD **24** 00:39:20.4±0.2, 4.80N×96.21E, h20km±1km, MW5.3/67, Centroid moment Tensor Solution. LP body waves: s40,c60;Mantle waves: s67,c120; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.07±.03; $M_{\theta\theta}$-0.98±.02; $M_{\phi\phi}$ 1.05±.03; $M_{r\theta}$-0.29±.05; $M_{\theta\phi}$0.22±.02; $M_{\phi r}$0.01±.05; Best double couple: $M_0$1.081×10^{17} NP1: ϕ_s142°,δ78°,λ-170°. NP2:ϕ_s50°,δ80°,λ-12°. Principal axes: T 1.074, Plg1°, Azm96°; N .012, Plg74°, Azm190°; P -1.087, Plg16°, Azm6°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 24 00:39:18.6±0.2, 4.69N±0.03×96.12E±0.03, h21km, h21km±1.5km:pP-P, n309, σ1s22/308, mb5.0/98, MS4.9/49, 33C-25D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**5.11**	**61**	P	**Pn**	**00 40 35.0**	**-1.0**
2μm,1.0s							
NNT	**Nongplab**	**8.62**	**24**	P	**P**	**00 41 27.5**	**+2.2**
NST	**Nakhon Sawan**	**11.60**	**20**	P	**P**	**00 42 07.5**	**+1.2**
KKTK	**Khon Kaen**	**13.31**	**29**	P	**P**	**00 42 41.0**	**+12**
2μm,0.5s							
CM31	**Chiang Mai Arr**	**13.96**	**11**	*e*P	**P**	**00 42 37.5**	**-0.3**
168nm,1.5s							
CMAR	**Chiang Mai Arr**	**13.96**	**11**	Pn	**P**	**00 42 39.1**	**+1.4**
0.7nm,0.3s,baz=201,slow=13,SNR=56							
CMAR				LR	LR	00 47 57.9	
comp=Z,3μm,18.7s,baz=200,slow=37							
CMAR				ScP		00 51 31.9	
0.3nm,0.3s,baz=218,slow=3.5,SNR=7.0							
PALK	**Pallekele**	**15.55**	**280**	*e*P	**P**	**00 43 01.0**	**+2.4**
160nm,0.8s							
PALK				*e*		00 43 07.6	
COCO	**West Island**	**16.79**	**178**	*e*P	**P**	**00 43 13.2**	**-1.1**
280nm,1.1s							
VIS	**Vishakhapatnam**	**18.01**	**317**⇑	*e*P	**P**	**00 43 29.9**	**+0.2**
comp=Z,344nm,1.4s							
VIS				*e*S	**S**	**00 46 49.6**	**+2.4**
BWNR	**Bhubaneshwar**	**18.47**	**328**	*e*	**P**	**00 43 31.2**	**-4.1**
CAL	**Calcutta**	**19.28**	**338**	*e*	**P**	**00 43 52.2**	**+7.3**
CAL				*e*S	**S**	**00 47 21.2**	**+5.4**
KOD	**Kodaikanal**	**19.29**	**288**⇑	*e*P	**P**	**00 43 43.4**	**-1.7**
KOD			⇑	*i*P		00 43 48.0	
KOD				*e*		00 43 49.4	
comp=Z,73nm,1.0s							
KOD				*e*S	**S**	**00 47 23.5**	**+7.4**
QIZ	**Qiongzhong**	**19.56**	**42**	P	**P**	**00 43 50.0**	**+1.9**
QIZ				S	**S**	**00 47 22.3**	**+0.4**
QIZ				AMB	AMB		
comp=Z,62nm,1.4s							
QIZ				LR	LR		
comp=N,4μm,20.4s							
QIZ				LR	LR		
comp=E,5μm,21.4s							
QIZ				LR	LR		
comp=Z,2μm,14.2s							
QIZ	**Qiongzhong**	**19.56**	**42**	*e*P	**P**	**00 43 47.7**	**-0.4**
comp=Z,199nm,1.5s							
IMP	**Imphal**	**20.09**	**354**	*e*	**P**	**00 43 53.8**	**-0.1**
SHL	**Shillong**	**21.15**	**349**	*e*P	**P**	**00 44 03.1**	**-1.7**
SHL				*e*P		00 44 04.5	
SHL				*e*		00 44 15.6	
comp=Z,423nm,1.5s							
SHL				*e*S	**S**	**00 47 59.0**	**+4.8**
SHL				*e*S	**S**	**00 48 01.5**	**+7.3**
SHL				*e*S	**S**	**00 48 02.2**	**+8.0**
KMI	**Kunming**	**21.29**	**17**	P	**P**	**00 44 09.9**	**+3.7**
KMI				*SP		00 44 20.6	
KMI						00 44 39.5	
KMI				S	**S**	**00 48 09.4**	**+13**
KMI				pmax	pmax		
comp=Z,49nm,1.7s,mb4.6							
KMI				MLR	MLR		
comp=Z,5μm,15.0s,MS5.1							
KMI	**Kunming**	**21.29**	**17**	P	**P**	**00 44 09.9**	**+3.7**
comp=Z,49nm,1.7s,mb4.6							
KMI				pP		00 44 16.6	
KMI				sP		00 44 20.6	
KMI				PP	PP	00 44 39.5	+9.5
KMI				S	**S**	**00 48 09.4**	**+13**
KMI				sS		00 48 20.0	
KMI				SS	SS	00 48 51.5	+20
KMI				LR	LR		
comp=Z,5μm,15.0s,MS5.1							
HYB	**Hyderabad**	**21.35**	**308**⇑	*i*P	**P**	**00 44 08.5**	**+1.6**
comp=Z,162nm,0.8s,mb5.4							
HYB				*e*S	**S**	**00 48 01.0**	**+3.0**
HYB				*e*		00 48 10.0	
BLSP	**Bilaspur**	**22.00**	**323**⇑	*e*P	**P**	**00 44 13.0**	**-0.4**
BLSP				*e*		00 44 16.7	
comp=Z,142nm,1.1s							
BLSP				*e*S	**S**	**00 48 15.8**	**+5.7**
SRDI	**Scrawed**	**22.23**	**126**⇑	*e*P	**P**	**00 44 15.1**	**-0.7**
SRDI				pmax	pmax		
comp=Z,80nm,0.9s,mb5.2							
SRDI	**Scrawed**	**22.23**	**126**⇑	*e*P	**P**	**00 44 15.1**	**-0.7**
comp=Z,80nm,0.9s,mb5.2							
KELI	**Kelakatan**	**22.36**	**125**⇓	*i*P	**P**	**00 44 17.7**	**+0.6**
comp=Z,162nm,1.0s,mb5.4							
MNGI	**Mangalore**	**22.57**	**293**	*i* P	**P**	**00 44 22.6**	**+3.4**
MNGI				*i*		00 48 36.8	
RATI	**Rata**	**23.50**	**125**⇓	*e*P	**P**	**00 44 27.9**	**-0.4**
comp=Z,263nm,0.5s,mb5.9							
KEDI	**Kedomdong**	**23.85**	**123**	*e*P	**P**	**00 44 31.0**	**-0.7**
GOA	**Goa**	**24.40**	**298**⇑	*i*		00 44 47.1	
GOA				*e*		00 44 53.1	
comp=Z,131nm,1.2s							
TANI	**Tanete Lipujan**	**24.61**	**109**⇑	*e*P	**P**	**00 44 38.8**	**-0.3**
JIRN	**Jiri**	**24.72**	**339**	*e*P	**P**	**00 44 40.9**	**+0.8**
comp=Z,126nm,0.9s,mb5.5							
PKI	**Pulchoki**	**24.94**	**337**	*e*P	**P**	**00 44 42.6**	**+0.5**
comp=Z,13nm,0.6s,mb4.7							
DMN	**Daman**	**25.09**	**336**	*e*P	**P**	**00 44 43.5**	**-0.1**
comp=Z,82nm,0.8s,mb5.3							
KKN	**Kakani**	**25.18**	**337**	*e*P	**P**	**00 44 43.5**	**-0.9**
comp=Z,85nm,0.9s,mb5.3							
NINI	**Niniconang**	**25.29**	**111**⇑	*e*P	**P**	**00 44 45.5**	**-0.1**
NINI				pmax	pmax		
comp=Z,170nm,0.8s,mb5.6							
NINI	**Niniconang**	**25.29**	**111**⇑	*e*P	**P**	**00 44 45.5**	**-0.1**
comp=Z,170nm,0.8s,mb5.6							
LSA	**Lhasa**	**25.31**	**350**	P	**P**	**00 44 46.6**	**+0.9**
LSA				AP	pP	00 44 53.4	+1.6
LSA				AMB	AMB		
comp=Z,60nm,1.3s,mb5.0							
LSA				LR	LR		
comp=N,1μm,27.0s,MS4.5							
LSA				LR	LR		
comp=E,2μm,25.0s,MS4.5							
LSA				LR	LR		
comp=Z,2μm,21.9s,MS4.6							
LSA	**Lhasa**	**25.31**	**350**	*e*P	**P**	**00 44 46.5**	**+0.8**
LSA				pmax	pmax		
comp=Z,61nm,0.7s,mb5.2							
LSA	**Lhasa**	**25.31**	**350**	*e*P	**P**	**00 44 46.5**	**+0.8**
comp=Z,61nm,0.7s,mb5.2							
BUNI	**Buntu Taipa**	**25.56**	**109**⇑	*e*P	**P**	**00 44 48.2**	**0.0**
GKN	**Gorkha**	**25.63**	**336**	*e*P	**P**	**00 44 47.9**	**-0.7**
comp=Z,111nm,0.9s,mb5.4							
POO	**Poona**	**25.74**	**304**⇑	*e*P	**P**	**00 44 51.7**	**+2.0**
POO				*e*	pP	00 44 58.3	+2.4
comp=Z,89nm,1.0s							
BHPL	**Bhopal**	**25.80**	**317**⇑	*e*P	**P**	**00 44 50.3**	**0.0**
BHPL				*e*	pP	00 44 55.5	-1.0
comp=Z,74nm,0.9s							
BHPL				*e*S	**S**	**00 49 20.0**	**+3.9**
KOLN	**Koldanda**	**25.86**	**334**	*e*P	**P**	**00 44 49.5**	**-1.3**
comp=Z,128nm,0.7s,mb5.5							
BOM	**Bombay**	**26.77**	**304**	*e*P	**P**	**00 44 58.2**	**-1.1**
BOM				*e*		00 45 00.7	
comp=Z,69nm,1.8s							
BOM				*e*		00 49 28.5	
ENH	**Enshi**	**28.40**	**25**	*e*P	**P**	**00 45 15.9**	**+2.0**
comp=Z,50nm,1.2s,mb5.0							
ENH				LR	LR		
comp=Z,2μm,20.0s,MS4.7							
QZH	**Quanzhou**	**29.52**	**45**	*e*P	**P**	**00 45 31.0**	**+6.9**
QZH				S	**S**	**00 50 27.0**	**+11**
QZH				LR	LR		
comp=N,3μm,10.6s							
QZH				LR	LR		
comp=E,3μm,9.8s							
QZH				LR	LR		
comp=Z,6μm,14.0s,MS5.4							
AJM	**Ajmer**	**29.85**	**319**⇑	*e*P	**P**	**00 45 26.9**	**-0.1**
AJM				*e*		00 45 30.5	
comp=Z,45nm,1.7s							
NDI	**New Delhi**	**29.85**	**325**⇑	*e*P	**P**	**00 45 25.4**	**-1.6**
NDI				*e*		00 45 27.1	
comp=Z,58nm,1.1s							
NDI				*e*S	**S**	**00 50 21.0**	**-0.5**
WHN	**Wuhan**	**30.93**	**32**	*e*P	**P**	**00 45 40.5**	**+4.0**
WHN				S	**S**	**00 50 42.0**	**+3.5**
WHN				LR	LR		
comp=Z,5μm,15.6s,MS5.2							
XAN	**Xi'an**	**31.53**	**21**	P	**P**	**00 45 45.0**	**+3.2**
XAN				AP	pP	00 45 54.1	+6.1
XAN				S	**S**	**00 50 45.6**	**-2.2**
XAN				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.7							
XAN				LR	LR		
comp=N,2μm,13.5s,MS5.0							
XAN				LR	LR		
comp=E,1μm,12.4s,MS5.0							
XAN				LR	LR		
comp=Z,2μm,15.2s,MS4.8							
SMLA	**Simla**	**31.77**	**328**⇑	*e*	**P**	**00 45 56.9**	**+13**
LZH	**Lanzhou**	**32.04**	**12**	*e*P	**P**	**00 45 46.8**	**+0.6**
LZH				AP	pP	00 45 55.9	+3.5
LZH				XP	sP	00 46 01.3	+6.1
LZH				AMB	AMB		
comp=Z,20nm,1.0s,mb4.9							
LZH				LR	LR		
comp=N,3μm,12.0s							
LZH				LR	LR		
comp=Z,3μm,16.4s,MS5.1							
LZH	**Lanzhou**	**32.04**	**12**	*e*P	**P**	**00 45 46.8**	**+0.6**
comp=Z,20nm,1.0s,mb4.9							
LZH				pP	pP	00 45 55.9	+3.5
LZH				sP	sP	00 46 01.3	+6.1
LZH				LR	LR		
comp=Z,3μm,16.4s,MS5.1							
NJ2	**Nanjing**	**34.56**	**35**	*e*P	pP	00 46 14.1	-0.3
NJ2				AP	pP	00 46 24.1	+10
NJ2				PP	PP	00 47 29.0	+4.4
NJ2				S	**S**	**00 51 31.0**	**-3.9**
NJ2				AMB	AMB		
comp=Z,90nm,1.1s,mb5.6							
NJ2				AMB	AMB		
comp=Z,700nm,4.0s							
NJ2				LR	LR		
comp=N,5μm,20.6s,MS5.5							
NJ2				LR	LR		
comp=E,7μm,21.0s,MS5.5							
NJ2				LR	LR		
comp=Z,1μm,19.3s,MS4.7							
MBWA Marble Bar 34.59 139 P **P 00 46 05.3 -3.1**							
comp=Z,63nm,1.3s,mb5.4							
SSE Sheshan 35.29 39 *e*P **P 00 46 11.7 -2.7**							
comp=Z,19nm,0.7s,mb5.1							
SSE				pP	pP	00 46 20.1	-0.5
SSE				sP	sP	00 46 23.7	+0.4
SSE				S	**S**	**00 51 44.0**	**-2.3**
SSE				sS		00 51 59.5	
SSE				SS	SS	00 54 42.7	+39
SSE				LR	LR		
comp=Z,1μm,13.1s,MS4.9							
TIA Tai'an 36.84 29 P **P 00 46 31.8 +4.4**							
TIA				S	**S**	**00 52 20.8**	**+11**
TIA				LR	LR		
comp=N,1μm,13.2s,MS5.1							
TIA				LR	LR		
comp=E,2μm,15.2s,MS5.1							
FITZ Fitzroy Crossi 36.89 129⇓ *i*P **P 00 46 26.8 -1.1**							
comp=E,77nm,0.8s,mb5.6							
JOW Kunigami 37.77 51 P **P 00 46 36.8 +1.5**							
comp=E,55nm,0.6s,mb5.5,baz=224,slow=6.9,SNR=16							
JOW				LR	LR	01 01 14.0	
comp=E,989nm,20.7s,MS4.6,baz=258,slow=35							
BJT Baijiatuau 39.55 24 *e*P **P 00 46 51.0 +1.0**							
BJT				pmax	pmax		
comp=Z,51nm,0.9s							
BJT Baijiatuau 39.55 24 *e*P **P 00 46 51.0 +1.0**							
comp=Z,51nm,0.9s,mb5.2							
BJI Beijing 39.57 24 P **P 00 46 53.7 +3.5**							
BJI				pmax	pmax		
comp=Z,12nm,0.8s,mb4.7							
BJI				MLR	MLR		
comp=Z,2μm,17.0s,MS4.9							
BJI Beijing 39.57 24 P **P 00 46 53.7 +3.5**							
comp=Z,12nm,0.8s,mb4.7							
BJI				S	**S**	**00 52 59.6**	**+8.2**
BJI				LR	LR		
comp=Z,2μm,17.0s,MS4.9							
WMQ Urumqi 39.67 350 *e*P **P 00 46 48.8 -2.2**							
KAKA Kakadu 40.02 116⇑ *i*P **P 00 46 53.9 -0.2**							
comp=Z,33nm,0.7s,mb5.2							
JMDO Jabal Madar 40.75 299 P **P 00 47 03.1 +3.1**							
SNR=8.1							
SMDO Samad 41.03 300 P **P 00 47 05.7 +3.4**							
SNR=8.5							
BIDO Bidbid 41.13 301 P **P 00 47 06.6 +3.5**							
SNR=14							
MUN Mundaring 41.18 154 *e*P **P 00 47 05.4 +1.9**							
comp=Z,59nm,0.9s,mb5.2							
MUN Mundaring 41.18 154 *e*P **P 00 47 05.4 +1.9**							
MUN				pmax	pmax		
comp=Z,59nm,0.9s,mb5.2							
BSY Bisya 41.66 299 P **P 00 47 11.0 +3.4**							
SNR=16							
UCH Uchtor 42.04 336 P **P 00 47 10.5 0.0**							
SNR=15							
TKM2 Tokmak 2 42.20 337 P **P 00 47 12.0 +0.2**							
SNR=6.0							
KBK Karagaybulak 42.23 337 P **P 00 47 12.9 +0.9**							
SNR=22							
AML Almayashu 42.30 335 P **P 00 47 13.5 +0.9**							
SNR=22							
AAK Ala-Archa 42.39 336 P **P 00 47 14.6 +1.3**							
SNR=10.0							
AAK Ala-Archa 42.39 336 *e*P **P 00 47 13.0 -0.4**							
AAK				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.3							
AAK Ala-Archa 42.39 336 *e*P **P 00 47 13.0 -0.4**							
comp=Z,6.1nm,0.7s,mb4.3							
NWAO Narrogin (SRO) 42.44 153 *e*P **P 00 47 14.9 +1.0**							
NWAO				pmax	pmax		
comp=Z,136nm,1.1s							
NWAO Narrogin (SRO) 42.44 153 P **P 00 47 14.8 +0.8**							
comp=Z,86nm,0.8s,mb5.4,baz=329,slow=9.1,SNR=28							
NWAO Narrogin (SRO) 42.44 153 *e*P **P 00 47 14.9 +1.0**							
comp=Z,136nm,1.1s,mb5.5							
FRU Bishkek 42.51 336 *e*P **P 00 47 15.0 +0.7**							
FRU				pmax	pmax		
comp=Z,50nm,2.0s,mb4.9							
FRU				MLR	MLR		
comp=Z,2μm,20.0s,MS4.9							
EKS2 Erkin-Say 42.70 336 P **P 00 47 16.7 +0.8**							
SNR=9.5							
USP Ospenovka 42.92 337 P **P 00 47 17.8 +0.1**							
SNR=11							
MK02 Makanchi Array 43.59 346 P **P 00 47 22.4 -0.7**							
MK02				pmax	pmax		
comp=Z,31nm,1.0s,mb5.0							
KS15 Wonju Array Si 43.64 37 P **P 00 47 23.3 -0.3**							
ABTO Aybut 43.76 290 P **P 00 47 27.9 +3.1**							
SNR=12							
SONM Songino Array 43.88 10 P **P 00 47 26.1 +0.7**							
comp=Z,10nm,0.5s,mb4.8,baz=191,slow=8.9,SNR=30							
SONM				PcP	PcP	00 49 12.2	+0.2
comp=Z,4.2nm,0.6s,baz=206,slow=3.7,SNR=7.7							
SONM				ScP		00 53 00.9	
comp=Z,8.4nm,1.5s,baz=180,slow=2.5,SNR=4.5							
ULN Ulaanbaatar 44.03 11⇓ *e*P **P 00 47 26.0 -0.6**							
ULN Ulaanbaatar 44.03 11 *e*P **P 00 47 26.7 +0.1**							
comp=Z,7.2nm,0.5s,mb4.7							
ULN				LR	LR		
comp=Z,1μm,19.0s,MS4.9							
SNY Shenyang 44.36 30 ⇑P **P 00 47 32.8 +3.4**							
SNY				AP	pP	00 47 43.8	+8.1
SNY				XP	sP	00 47 47.5	+9.2
SNY				S	**S**	**00 54 09.3**	**+7.3**
SNY				XS		00 54 21.5	
SNY				AMB	AMB		
comp=Z,20nm,1.2s,mb4.7							
SNY				LR	LR		
comp=N,1μm,14.9s,MS5.2							
SNY				LR	LR		
comp=E,2μm,13.1s,MS5.2							
SNY				LR	LR		
comp=Z,1μm,13.1s,MS5.1							
WRA Warramunga Arr 44.84 124 P **P 00 47 33.0 -0.5**							
WRA				pmax	pmax		
comp=Z,24nm,0.5s							
WRA				pmax	pmax		
comp=N,5.0nm,0.8s							
WRA Warramunga Arr 44.84 124 P **P 00 47 33.0 -0.6**							
comp=N,24nm,0.5s,mb5.3,baz=303,slow=9.2,SNR=89							
WRA				ScP		00 53 06.4	
comp=N,5.2nm,0.8s,baz=313,slow=3.5,SNR=9.4							
WRAB Tennant Creek 44.84 124 *e*P **P 00 47 32.8 -0.8**							
WRAB				pmax	pmax		
comp=Z,100nm,0.9s,mb5.7							
WRAB				MLR	MLR		
comp=Z,460nm,20.0s,MS4.4							
WRAB Tennant Creek 44.84 124 *e*P **P 00 47 32.8 -0.8**							
comp=Z,100nm,0.9s,mb5.7							
WRAB				LR	LR		
comp=Z,460nm,20.0s,MS4.4							
ZAK Zakamensk 45.93 6⇓ *i*P **P 00 47 40.8 -1.0**							
ZAK				*e*		00 49 34.2	
ASPA Alice Springs 46.38 129⇓ *i*P **P 00 47 45.5 -0.2**							
ASPA				*e*S	**S**	**00 54 28.1**	**-3.2**
ASAR Alice Springs 46.38 129 P **P 00 47 45.6 -0.1**							
comp=Z,68nm,0.8s,mb5.6,baz=306,slow=7.5,SNR=362							
ASAR				PcP	PcP	00 49 21.8	+0.8
comp=Z,15nm,0.9s,baz=309,slow=4.4,SNR=5.0							
ASAR				ScP		00 53 13.8	
comp=Z,5.1nm,0.8s,baz=300,slow=4.0,SNR=9.5							
AS

HIA Hailar 48.73 20 *e*P **P 00 48 04.7 +0.9**
HIA pmax pmax
comp=Z,5.0nm,0.6s
HIA Hailar 48.73 20 *e*P **P 00 48 04.7 +1.0**
comp=Z,5.4nm,0.6s,mb4.8
MDJ Mudanjiang 49.41 31 P **P 00 48 13.3 +4.2**
MDJ AP pP 00 48 19.3 +3.8
MDJ PCP PcP 00 49 33.1 +1.5
MDJ PCS 00 53 30.1
MDJ S **S 00 55 22.3 +8.6**
MDJ AMB AMB
comp=Z,22nm,1.3s,mb5.0
MDJ AMB AMB
comp=Z,116nm,5.4s
MDJ LR LR
comp=N,978nm,21.5s,MS5.2
MDJ LR LR
comp=E,2μm,21.5s,MS5.2
MDJ LR LR
comp=Z,1μm,20.3s,MS4.9
MDJ Mudanjiang 49.41 31 P **P 00 48 10.0 +0.9**
comp=Z,40nm,1.3s,mb5.3
MAJO Matsushiro 49.92 45 *e*P **P 00 48 15.1 +2.0**
MAJO pmax pmax
comp=Z,14nm,0.7s,mb5.1
MAJO Matsushiro 49.92 45 *e*P **P 00 48 15.1 +2.0**
comp=Z,14nm,0.7s,mb5.1
MAT Matsushiro 49.92 45 P **P 00 48 17.0 +3.9**
MAT S **S 00 55 17.0 -3.9**
MAT pmax pmax
comp=Z,15nm,0.8s,mb5.1
MAT MLR MLR
comp=Z,1μm,20.0s,MS4.8
MAT Matsushiro 49.92 45 P **P 00 48 17.0 +3.9**
comp=Z,15nm,0.8s,mb5.1
MAT S **S 00 55 17.0 -3.9**
MAT LR LR
comp=Z,1μm,20.0s,MS4.8
MAT Matsushiro 49.92 45 P **P 00 48 17.0 +3.9**
MAT *e*S **S 00 55 17.0 -3.9**
ZAL Zalesovo 49.96 351 P **P 00 48 13.1 0.0**
comp=Z,3.5nm,0.6s,mb4.6,baz=310,slow=7.9,SNR=26
ZAL LR LR 01 15 11.6
comp=Z,811nm,18.1s,MS4.8,baz=294,slow=43
NVS Novosibirsk 51.08 350 *i* P **P 00 48 18.9 -2.7**
NVS *i* S **S 00 55 28.4 -8.2**
NVS pmax pmax
comp=N,5.0nm,0.9s
NVS pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
NVS pmax pmax
comp=E,4.0nm,0.5s
NVS smax
comp=N,21nm,1.9s
NVS smax
comp=E,10.0nm,1.9s
BVA0 Borovoye Array 52.62 341 P **P 00 48 30.9 -2.4**
BVA0 pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
BVAR Borovoye Array 52.62 341 P **P 00 48 31.2 -2.1**
comp=Z,4.6nm,0.8s,mb4.5,baz=135,slow=8.4,SNR=16
BRVK Borovoye 52.68 341 *e*P **P 00 48 31.6 -2.2**
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BRVK Borovoye 52.68 341 *e*P **P 00 48 31.6 -2.1**
comp=Z,4.8nm,0.6s,mb4.6
PMG Port Moresby 52.76 105 *e*P **P 00 48 32.2 -2.7**
PMG pmax pmax
comp=Z,43nm,0.7s
PMG MLR MLR
comp=Z,773nm,20.0s
PMG Port Moresby 52.76 105 P **P 00 48 33.5 -1.3**
comp=Z,28nm,0.8s,mb5.2,baz=272,slow=5.0,SNR=5.7
PMG Port Moresby 52.76 105 *e*P **P 00 48 32.2 -2.7**
comp=Z,43nm,0.7s,mb5.5
PMG LR LR
comp=Z,773nm,20.0s,MS4.8
CHKZ Chkalovo 53.09 341 *i* P **P 00 48 35.5 -1.3**
CHKZ pmax pmax
comp=Z,47nm,1.1s,mb5.3
KLR Kul'dur 53.67 28 *e*P **P 00 48 42.2 +1.1**
KLR *e* 00 50 38.0
KLR *e*S **S 00 56 10.0 -2.1**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,60nm,1.8s,mb5.2
KLR MLR MLR
comp=E,900nm,12.5s
KLR MLR MLR
comp=Z,2μm,12.5s,MS5.3
BOD Bodaibo 54.81 12 *e*P **P 00 48 47.8 -1.6**
CTA Charters Tower 55.06 118 *e*P **P 00 48 50.9 -0.8**
comp=Z,35nm,0.8s,mb5.4
CTA Charters Tower 55.06 118 *e*P **P 00 48 50.9 -0.8**
CTA pmax pmax
comp=Z,35nm,0.8s
CTA Charters Tower 55.06 118 LR LR 01 13 06.0
comp=Z,1μm,22.0s,MS5.0,baz=288,slow=37
CTAO Charters Tower 55.06 118 *e*P **P 00 48 50.0 -1.7**
CTAO pmax pmax
comp=Z,50nm,0.8s,mb5.6
CTAO Charters Tower 55.06 118 *e*P **P 00 48 50.0 -1.7**
comp=Z,50nm,0.8s,mb5.6
ADE Adelaide 56.20 138 *e*P **P 00 49 00.8 +1.1**
STKA Stephens Creek 56.50 133 P **P 00 49 01.6 -0.4**
comp=Z,59nm,0.8s,mb5.7,baz=309,slow=6.8,SNR=83
STKA LR LR 01 12 35.8
comp=Z,1μm,21.7s,MS4.9,baz=295,slow=35
STKA Stephens Creek 56.50 133 *e*P **P 00 49 01.3 -0.7**
CLNS Chul'man 56.77 18 *e*P **P 00 49 07.8 +4.3**
CLNS *e* 00 50 03.5
CLNS *e* 00 51 05.3
CLNS *e*PPP PPP 00 52 23.7 -6.3
CLNS *e*S **S 00 56 58.9 +5.5**
CLNS pmax pmax
comp=Z,11nm,1.1s,mb4.8
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,0.8s
CLNS pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS smax
comp=N,7.0nm,1.0s
CLNS smax
comp=E,3.0nm,0.9s
CLNS smax
comp=Z,4.0nm,0.9s
CLNS MLR MLR
comp=Z,3μm,15.0s,MS5.5
CLNS MLR MLR
comp=N,1μm,17.0s,MS5.2
CLNS MLR MLR
comp=E,500nm,13.0s,MS5.2
GNI Garni 58.06 315 P **P 00 49 13.1 +0.3**
GNI pmax pmax
comp=Z,15nm,0.9s
GNI Garni 58.06 315 P **P 00 49 13.1 +0.3**
comp=Z,15nm,0.9s,mb5.0,baz=18,slow=5.2,SNR=3.2
GNI Garni 58.06 315 *e*P **P 00 49 12.0 -0.8**
comp=Z,24nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 58.13 36 *e*P **P 00 49 17.8 +4.6**
YSS *e* 00 49 30.0
YSS *e* 00 57 20.0
YSS MLR MLR
comp=Z,600nm,14.0s,MS4.9
YSS Yuzh-Sakhalins 58.13 36 P **P 00 49 15.0 +1.8**
comp=Z,42nm,1.1s,mb5.4
SVE Sverdlovsk 59.07 338 *e*P **P 00 49 16.0 -3.6**
KMBO Kilima Mbogo 59.09 266 P **P 00 49 22.6 +2.2**
comp=Z,18nm,0.9s,mb5.1,baz=51,slow=9.0,SNR=52
KMBO LR LR 01 10 17.9
comp=Z,476nm,21.3s,MS4.6,baz=189,slow=31
KMBO Kilima Mbogo 59.09 266 *e*P **P 00 49 22.4 +2.0**
comp=Z,27nm,1.0s,mb5.2
ARU Arti 59.57 337 *e*P **P 00 49 16.1 -7.0**
ARU *e* 00 50 03.4
ARU *e*S **S 00 57 20.4 -10**
ARU MLR MLR
comp=Z,2μm,20.5s,MS5.2
ARU MLR MLR
comp=N,700nm,22.0s,MS5.1
ARU MLR MLR
comp=E,1μm,19.0s,MS5.1
ARU Arti 59.57 337 *e*P **P 00 49 15.3 -7.8**
comp=E,8.2nm,1.0s,mb4.7
ZEI Tsey 59.70 318 *e*P **P 00 49 23.2 -1.0**
ZEI *i* *PP pP 00 49 32.5 +1.8
ZEI *i* 00 51 35.2
ZEI pmax pmax
comp=Z,13nm,1.3s,mb4.8
KIV Kislovodsk 60.98 318 *e*P **P 00 49 31.6 -1.3**
KIV *e* 00 50 15.5
KIV *e*PPP PPP 00 53 11.7 -5.7
KIV *e*S **S 00 57 47.5 -0.9**
KIV pmax pmax
comp=Z,22nm,1.0s,mb5.2
KIV MLR MLR
comp=N,284nm,18.0s,MS4.8
KIV MLR MLR
comp=E,537nm,18.0s,MS4.8
KIV MLR MLR
comp=Z,452nm,18.0s,MS4.7
KIV Kislovodsk 60.98 318 *e*P **P 00 49 31.1 -1.8**
comp=Z,20nm,1.0s,mb5.2
KIV LR LR
comp=Z,140nm,21.0s,MS4.1
GOF Gofitskoye 61.21 320 *e*P **P 00 49 32.0 -2.4**
MALT Malatya 62.02 311 *e*P **P 00 49 39.2 -0.8**
MALT pmax pmax
comp=Z,13nm,1.2s,mb4.9
MALT Malatya 62.02 311 *e*P **P 00 49 39.2 -0.8**
comp=Z,13nm,1.2s,mb4.9
YAK Yakutsk 62.40 17 *e*P **P 00 49 42.6 +0.4**
YAK *i* *PP pP 00 49 54.4 +5.6
YAK *i* 00 50 18.7
YAK *e*S **S 00 58 23.1 +17**
YAK pmax pmax
comp=Z,14nm,0.9s,mb5.1
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK smax
comp=E,34nm,5.9s
YAK MLR MLR
comp=N,800nm,15.0s,MS5.2
YAK MLR MLR
comp=E,900nm,15.0s,MS5.2
YAK MLR MLR
comp=Z,1μm,15.0s,MS5.2
YAK Yakutsk 62.40 17 *e*P **P 00 49 42.4 +0.1**
comp=Z,46nm,0.8s,mb5.7
EIL Elat 62.72 301 *e*P **P 00 49 45.1 +0.3**
comp=Z,48nm,1.3s,mb5.5
SOC Sochi 62.83 317 *e*P **P 00 49 42.7 -2.6**
SOC *e* 00 50 20.9
SOC *e* 00 51 57.8
SOC *e*S **S 00 58 09.9 -1.9**
SOC *e* 00 59 24.7
SOC *e*SS SS 01 02 12.9 -6.1
SOC pmax pmax
comp=Z,46nm,0.6s,mb5.8
SOC pmax pmax
comp=N,19nm,0.8s
SOC pmax pmax
comp=E,17nm,0.7s
SOC MLR MLR
comp=Z,452nm,19.0s,MS4.7
SOC MLR MLR
comp=N,419nm,22.0s,MS4.7
SOC MLR MLR
comp=E,310nm,19.0s,MS4.7
CNB Canberra Magne 63.83 133⇑ *i*P **P 00 49 52.3 +0.2**
comp=E,599nm,1.1s
MBAR Mbarara 65.52 267⇓ *e*P **P 00 50 05.6 +2.2**
MBAR Mbarara 65.52 267 *e*P **P 00 50 05.3 +1.9**
comp=E,34nm,1.1s,mb5.3
BRTR Keskin Array B 65.99 312 P **P 00 50 05.0 -0.9**
BRTR pmax pmax
comp=Z,9.0nm,0.7s
BRTR Keskin Array B 65.99 312 P **P 00 50 05.0 -0.9**
comp=Z,8.5nm,0.7s,mb4.9,baz=141,slow=7.4,SNR=41
SIM Simferopol' 67.08 317 *e*P **P 00 50 12.0 -0.8**
SIM pmax pmax
comp=Z,14nm,0.7s,mb5.1
ESKT Eskisehir 68.04 311 *i* P **P 00 50 18.2 -0.8**
MA2 Magadan 68.69 26 *e*P **P 00 50 22.8 +0.2**
MA2 *e*S S 00 59 21.6 -1.4
MA2 *e* 01 00 15.6
MA2 pmax pmax
comp=Z,20nm,1.5s,mb4.8
MA2 MLR MLR
comp=Z,800nm,20.0s,MS5.0
MOS Moscow 68.80 329 *e*P **P 00 50 22.5 -0.9**
MOS *e* pP 00 50 28.8 -1.2
MOS *e* 00 50 41.6
MOS pmax pmax
comp=Z,36nm,1.0s,mb5.3
MOS MLR MLR
comp=Z,2μm,18.2s,MS5.3
OBN Obninsk 69.10 328 *e*P **P 00 50 21.4 -3.8**
OBN *e* 00 50 30.4
OBN *e* 00 50 48.4
OBN 00 53 05.0
OBN *e*S S 00 59 22.6 -5.4
OBN *e* 01 00 10.4
OBN SS SS 01 03 58.0 +2.0
OBN pmax pmax
comp=Z,16nm,1.0s,mb4.9
OBN MLR MLR
comp=Z,600nm,14.0s,MS5.0
ULDT Uludag 69.46 311 *i* P **P 00 50 27.5 -0.2**
TIXI Tiksi 69.96 11⇓ *e*P **P 00 50 28.3 -1.9**
TIXI pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
TIXI MLR MLR
comp=Z,1μm,20.0s,MS5.2
PET Petropavlovsk 69.97 35 *e*P **P 00 50 31.5 +0.9**
PET *e*S S 00 59 34.9 -3.4
PET pmax pmax
comp=Z,11nm,0.5s,mb5.0
PET MLR MLR
comp=Z,600nm,20.0s,MS4.8
LSZ Lusaka 70.11 252 *e*P **P 00 50 34.3 +2.2**
LSZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LSZ Lusaka 70.11 252 *e*P **P 00 50 34.3 +2.2**
comp=Z,9.3nm,0.8s,mb4.8
BTOK Tokmak 70.22 311 *i* P **P 00 50 31.5 -0.8**
KDAG Bornova 70.56 309 *i* P **P 00 50 34.5 0.0**
TIRR Tirgusor 70.89 315 ⇓ P **P 00 50 35.7 -0.6**
SEY Seymchan 71.00 24 *e*P **P 00 50 40.1 +3.4**
SEY pmax pmax
comp=Z,70nm,1.4s,mb5.4
SART Tekirdag 71.03 311 *i* P **P 00 50 33.4 -3.9**
CFR Carcaliu 71.23 316⇑ P **P 00 50 37.6 -0.8**
HARR Harsova 71.27 316⇓ P **P 00 50 38.0 -0.6**
PRD Provadia 71.34 314 *i* P **P 00 50 39.0 -0.1**
AKASG Malin Array Be 71.86 322 P **P 00 50 40.2 -1.8**
AKASG 00 53 22.5
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 71.86 322 P **P 00 50 40.1 -1.9**
comp=Z,4.3nm,0.7s,mb4.5,baz=85,slow=5.1,SNR=27
AKASG PP PP 00 53 22.5 -0.9
comp=Z,2.3nm,0.9s,baz=102,slow=7.5,SNR=4.0
IDI Anoyia 72.00 305 P **P 00 50 43.5 +0.4**
comp=Z,16nm,0.7s,mb5.1,baz=77,slow=9.7,SNR=11
ISR Istrita 72.32 316 ⇓ P **P 00 50 44.2 -0.7**
VRI Vrincioaia 72.35 317 ⇓ P **P 00 50 45.4 +0.4**
KDZ Kurdzhali 72.50 312 *i* P **P 00 50 45.0 -1.1**
MLR Muntele Rosu 72.81 316 ⇓ P **P 00 50 47.8 0.0**
RZN Rozhen 73.03 312 *i* P **P 00 50 49.0 -0.2**
BURAR Bucovina Array 73.71 318 ⇓ P **P 00 50 53.4 +0.4**
MMB Musomiste 73.75 312 *i* P **P 00 50 52.0 -1.3**
KKB Krupnik 74.26 312 *i* P **P 00 50 55.0 -1.3**
VTS Vitosha 74.27 313 *i* P **P 00 50 56.0 -0.3**
JOF Joensuu 74.55 335 *e*p **P 00 50 56.6 -0.9**
comp=Z,13nm,1.0s,mb4.8
LVV L'vov 74.90 320 *e*P **P 00 50 57.8 -2.0**
LVV *e* 00 53 45.4
LVV *e*S ScS 01 01 09.8 +2.6
LVV MLR MLR
comp=Z,370nm,21.0s,MS4.7
LVV MLR MLR
comp=N,180nm,20.8s,MS4.6
LVV MLR MLR
comp=E,250nm,20.8s,MS4.6
BOLS Boljevac 75.35 314⇓ *i*P **P 00 51 00.9 -1.6**
SKO Skopje 75.49 312 *e*P **P 00 51 00.5 -2.9**
BOSA Boshof 75.61 239 *e*P **P 00 51 06.3 +2.0**
BOSA pmax pmax
comp=Z,24nm,1.1s,mb5.0
BOSA Boshof 75.61 239 *e*P **P 00 51 06.3 +2.0**
comp=Z,24nm,1.1s,mb5.0
KWP Kalwaria 75.72 320 *e*P **P 00 51 04.6 +0.1**
BZS Buzias 75.83 316⇑ P **P 00 51 04.9 -0.3**
MAW Mawson 75.86 193 *e*P **P 00 51 07.1 +2.2**
MAW pmax pmax
comp=Z,43nm,1.6s
MAW Mawson 75.86 193 P **P 00 51 07.4 +2.4**
comp=Z,12nm,1.1s,mb4.7,baz=6.9,slow=9.7,SNR=7.0
MAW LR LR 01 19 36.2
comp=Z,224nm,21.4s,MS4.4,baz=55,slow=32
MAW Mawson 75.86 193 *e*P **P 00 51 07.1 +2.1**
comp=Z,43nm,1.6s,mb5.1
KOLS Kolonicke sedl 75.88 319 *e*P **P 00 51 05.7 +0.3**
SVIS Svilajnac 75.94 314 *e*P **P 00 51 03.5 -2.3**
SUW Suwalki 76.22 324 *e*P **P 00 51 06.3 -0.9**
SUW Suwalki 76.22 324 *e*P **P 00 51 06.3 -0.9**
CRVS Cervenica-Dubn 76.41 319 *e*P **P 00 51 10.4 +2.0**
FINES FINESS Array B 76.42 332 P **P 00 51 07.5 -0.8**
comp=Z,1.3nm,0.5s,mb4.1,baz=102,slow=6.1,SNR=13
FINES LR LR 01 30 56.9
comp=Z,499nm,19.4s,MS4.8,baz=148,slow=41
KAF Kangasniemi 76.50 333 *e*p **P 00 51 08.1 -0.6**
NIE Niedzica 77.22 320 *e*P **P 00 51 13.5 +0.6**
PSZ Piszkesteto 77.31 318⇑ *e*P **P 00 51 13.3 -0.1**
OJC Ojcow 77.66 320 *e*P **P 00 51 14.8 -0.5**
PKSM Moragy 77.96 316⇓ *e*P **P 00 51 17.1 0.0**
VYHS Vyhne 78.08 318 *e*P **P 00 51 17.5 -0.1**
SRO2 Moca 78.29 318 *e*P **P 00 51 19.8 +1.0**
BILL Bilibino 78.31 21⇑ *e*P **P 00 51 19.7 +1.2**
BILL pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BILL MLR MLR
comp=Z,2μm,16.0s,MS5.5
RHK1 Bakonya 78.35 316⇓ *e*P **P 00 51 19.1 -0.1**
SRO Srobarova 78.35 318 *e*P **P 00 51 19.7 +0.5**
SRO *e*pP pP 00 51 24.7 -1.1
OKC Ostrava-Krasne 78.67 320 *e*P **P 00 51 21.4 +0.5**
OKC *e*pP pP 00 51 26.8 -0.8
OKC AMS AMS 01 31 40.0
comp=Z,400nm,19.2s
ARCES ARCESS Array B 78.91 340 P **P 00 51 21.3 -0.5**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES MLR MLR
comp=Z,2μm,21.1s
ARCES ARCESS Array B 78.91 340 P **P 00 51 21.3 -0.5**
comp=Z,3.0nm,0.8s,mb4.3,baz=102,slow=6.4,SNR=13
ARCES LR LR 01 29 05.3
comp=Z,2μm,21.1s,MS5.4,baz=219,slow=38
ARCES ARCESS Array B 78.91 340 P **P 00 51 21.3 -0.5**
ARCES LR LR 01 29 05.3
SMOL Smolenice 79.01 318 *e*P **P 00 51 25.9 +3.1**
MORC Moravsky Berou 79.06 320 *e*P **P 00 51 22.6 -0.4**
MORC pmax pmax
comp=Z,18nm,1.3s,mb4.8
MORC Moravsky Berou 79.06 320 *e*P **P 00 51 22.6 -0.4**
comp=Z,18nm,1.3s,mb4.8
ZST Bratislava 79.20 318 *e*P **P 00 51 24.4 +0.6**
DPC Dobruska-Polom 79.89 320 *e*P **P 00 51 26.2 -1.3**
DPC *e*pP pP 00 51 33.5 -0.7
DPC AMS AMS 01 32 50.0
comp=Z,800nm,17.0s
KSP Ksiaz 79.95 321 *e*P **P 00 51 28.0 +0.2**
KSP *e**PP pP 00 51 33.0 -1.5
KSP *e* 00 51 42.8
KSP MLR MLR
comp=Z,1μm,17.6s,MS5.4
KSP Ksiaz 79.95 321 *e*P **P 00 51 28.1 +0.3**
UPC Upice 80.10 320 *e*P **P 00 51 34.8 +6.2**
SUR Sutherland 80.18 236 *e*P **P 00 51 32.5 +3.1**
comp=Z,33nm,1.0s,mb5.2
ARSA Arzberg 80.19 317⇑ *i*P **P 00 51 29.1 0.0**
comp=Z,16nm,1.1s,mb4.9
BOJS Bojanci 80.27 315 *e*P **P 00 51 29.4 -0.2**
PERS Pernice 80.43 316 *i* P **P 00 51 31.1 +0.7**
LJU Ljubljana 80.80 316 *e*P **P 00 51 32.8 +0.4**
PRU Pruhonice 81.01 320 *e*P **P 00 51 33.8 +0.4**
PRU *e*pP pP 00 51 39.2 -0.9
PRU AMS AMS 01 33 10.0
comp=Z,400nm,14.5s
PVCC Panska Ves 81.02 320 *e*P **P 00 51 34.0 +0.5**
PVCC AMS AMS 01 33 20.0
comp=Z,600nm,16.4s
VOY Vojsko 81.25 316 *e*P **P 00 51 34.8 +0.1**
VOY *e* 00 51 46.9
VOY *e* 00 52 07.8
BRG Berggiesshubel 81.44 321 *e*P **P 00 51 36.5 +0.8**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BRG Berggiesshubel 81.44 321 *e*P **P 00 51 36.5 +0.8**
comp=Z,3.6nm,0.9s,mb4.3
GEC2 GERESS Array S 81.50 319 *e*P **P 00 51 36.5 +0.5**
GEC2 pmax pmax
comp=Z,24nm,1.4s,mb4.9
GEC2 GERESS Array S 81.50 319 *e*P **P 00 51 36.5 +0.5**
comp=Z,24nm,1.4s,mb4.9
GERES GERESS Array B 81.50 319 P **P 00 51 36.5 +0.5**
GERES pmax pmax
comp=Z,44nm,1.4s
GERES GERESS Array B 81.50 319 P **P 00 51 36.5 +0.5**
comp=Z,44nm,1.4s,mb5.2,baz=90,slow=5.3,SNR=20
ROBS Robic 81.52 316 *e*P **P 00 51 36.3 +0.1**
KHC Kasperske Hory 81.59 319 *e*P **P 00 51 36.7 +0.2**
KHC *e*pP pP 00 51 42.1 -1.1
KHC *ex* x 00 51 52.9
KHC AMS AMS 01 34 00.0
comp=Z,400nm,16.0s
WET Wettzell 82.05 319 *e*P **P 00 51 39.1 +0.3**
WET pmax pmax
comp=Z,11nm,1.0s,mb4.7
WET Wettzell 82.05 319 *e*P **P 00 51 39.1 +0.3**
comp=Z,11nm,1.0s,mb4.7
CLL Collm 82.06 321 *e*P **P 00 51 38.0 -0.8**
CLL *e* 00 52 14.0
CLL Collm 82.06 321 P **P 00 51 38.0 -0.8**
CLL *e**SP sP 00 51 47.0 -0.8
CLL *e* 00 52 14.0
NKC Novy Kostel 82.37 320 *e*P **P 00 51 40.9 +0.4**
NKC *e*pP pP 00 51 46.5 -0.7
NKC AMS AMS 01 34 20.0
comp=Z,900nm,18.2s
RPZ Rata Peaks 82.42 135 LR LR 01 31 36.7
comp=Z,567nm,19.4s,MS5.0,baz=272,slow=38
WTTA Wattenberg 82.83 317⇑ *i*P **P 00 51 42.4 -0.6**
comp=Z,17nm,0.9s,mb5.1
WTTA Wattenberg 82.83 317⇑ *i*P **P 00 51 42.4 -0.6**
WTTA pmax pmax
comp=Z,17nm,0.9s,mb5.1
WATA Walderalm 82.88 317⇑ *i*P **P 00 51 42.5 -0.7**
comp=Z,30nm,1.8s,mb5.0
WATA Walderalm 82.88 317⇑ *i*P **P 00 51 42.5 -0.7**
WATA pmax pmax
comp=Z,30nm,1.8s,mb5.0
MOX Moxa 82.91 320 *e*P **P 00 51 43.5 +0.2**
MOX MLR MLR
comp=Z,400nm,18.0s,MS4.8
MOX Moxa 82.91 320 *i* P **P 00 51 43.5 +0.2**
MOX L 01 34 19.0
SYO Syowa Base 82.98 198⇑ P **P 00 51 46.1 +2.8**
SYO Syowa Base 82.98 198⇑ PcP PcP 00 51 50.8 +2.3
FUR Furstenfeldbru 83.09 318 *e*P **P 00 51 44.5 +0.2**
FUR pmax pmax
comp=Z,38nm,1.5s,mb5.2
FUR Furstenfeldbru 83.09 318 *e*P **P 00 51 44.5 +0.2**
comp=Z,38nm,1.5s,mb5.2
SQTA Sankt Quirin 83.12 317⇑ *i*P **P 00 51 44.2 -0.3**
comp=Z,35nm,1.8s,mb5.1
SQTA Sankt Quirin 83.12 317⇑ *i*P **P 00 51 44.2 -0.3**
SQTA pmax pmax
comp=Z,35nm,1.8s,mb5.1
GRA1 Grafenberg Arr 83.15 319 *e*P **P 00 51 45.4 +0.9**
comp=Z,14nm,0.9s,mb5.0
GRA1 *e*pP pP 00 51 50.8 -0.5

GRF	**Grafenberg Arr**	**83.15 319**	*e*P		**P**	**00 51 45.4**	**+0.9**
GRF			*e**PP		pP	00 51 50.8	-0.5
GRF			pmax		pmax		
comp=Z,14nm,0.9s,mb5.0							
GRF	**Grafenberg Arr**	**83.15 319**	*e*P		**P**	**00 51 45.4**	**+0.9**
GRF			*e**PP		pP	00 51 50.8	-0.5
GRF			pmax		pmax		
comp=Z,14nm,0.9s,mb5.0							
GRF	**Grafenberg Arr**	**83.15 319**	*e*P		**P**	**00 51 45.4**	**+0.9**
comp=Z,14nm,0.9s,mb5.0							
GRF			*e*pP		pP	00 51 50.8	-0.5
GRFO	**Grafenberg**	**83.15 319**	*e*P		**P**	**00 51 45.5**	**+1.0**
MOTA	**Moosalm**	**83.20 317**	⇓*i*P		**P**	**00 51 44.6**	**-0.2**
comp=Z,15nm,1.2s,mb4.9							
MOTA	**Moosalm**	**83.20 317**	⇓*i*P		**P**	**00 51 44.6**	**-0.2**
MOTA			pmax		pmax		
comp=Z,15nm,1.2s,mb4.9							
NB2	**NORSAR Subarra**	**83.45 331**	P		**P**	**00 51 44.9**	**-0.9**
comp=Z,3.8nm,0.7s,mb4.5,baz=91,slow=5.6							
NB2	**NORSAR Subarra**	**83.45 331**	P		**P**	**00 51 44.9**	**-0.9**
NB2			pmax		pmax		
comp=Z,4.0nm,0.7s,mb4.6							
NOA	**NORSAR Array B**	**83.45 331**	P		**P**	**00 51 45.6**	**-0.2**
NOA			pmax		pmax		
comp=Z,1.0nm,0.8s							
NOA			MLR		MLR		
comp=Z,638nm,20.3s							
NOA	**NORSAR Array B**	**83.45 331**	P		**P**	**00 51 45.6**	**-0.3**
comp=Z,0.9nm,0.8s,baz=261,slow=18,SNR=2.8							
NOA			LR		LR	01 33 36.5	
comp=Z,638nm,20.3s,baz=70,slow=39							
CLZ	**Clausthal**	**83.71 322**	*e*P		**P**	**00 51 47.9**	**+0.6**
comp=Z,13nm,0.9s,mb5.1							
BSEG	**Bad Segeberg**	**83.76 324**	*e*P		**P**	**00 51 47.8**	**+0.2**
URZ	**Urewera**	**85.83 129**	LR		LR	01 30 18.3	
comp=Z,409nm,19.0s,MS4.8,baz=293,slow=36							
LPG	**La Plagne**	**86.25 315**	*e*P		**P**	**00 52 00.0**	**-0.2**
comp=Z,19nm,0.7s,mb5.1							
LPG	**La Plagne**	**86.25 315**	*e*P		**P**	**00 52 00.0**	**-0.2**
LPG			pmax		pmax		
comp=Z,10.0nm,0.7s,mb5.2							
VNDA	**Vanda**	**89.44 169**	P		**P**	**00 52 16.6**	**+1.8**
comp=Z,4.1nm,0.8s,mb4.8,baz=296,slow=3.9,SNR=8.5							
VNDA			LR		LR	01 28 23.8	
comp=Z,287nm,19.6s,MS4.7,baz=314,slow=33							
QSPA	**South Pole Qui**	**94.61 180**	⇓*i*P		sP	00 52 50.9	+3.3
ESDC	**Sonseca Array**	**94.76 310**	P		**P**	**00 52 41.5**	**+1.3**
comp=Z,2.1nm,0.8s,mb4.7,baz=61,slow=4.4,SNR=12							
ILAR	**Eielson Array**	**96.92 23**	P		**P**	**00 52 50.5**	**+1.0**
comp=Z,0.4nm,0.7s,mb4.0,baz=284,slow=4.4,SNR=6.3							
ILAR			LR		LR	01 45 21.5	
comp=Z,388nm,18.7s,MS4.9,baz=133,slow=41							
SNAA	**Sanae**	**97.25 198**	⇓*i*P		**P**	**00 52 52.2**	**+1.4**
SNAA			*e*			00 53 02.1	
VNA2	**Neumayer--Watz**	**98.82 199**	*e*		pP	00 53 03.8	-0.9
VNA2	**Neumayer--Watz**	**98.82 199**	⇓*i*Pdif		**P**	**00 52 54.8**	**-3.1**
VNA2			*e*			00 53 03.8	
INK	**Inuvik**	**99.47 17**	LR		LR	01 40 34.0	
comp=Z,473nm,20.5s,MS5.0,baz=169,slow=37							
VNA3	**Neumayer Olymp**	**99.47 198**	*e*		pP	00 53 03.1	-4.6
VNA3	**Neumayer Olymp**	**99.47 198**	⇓*i*Pdif		**P**	**00 52 54.1**	**-6.8**
VNA3			*e*			00 53 03.1	
DBIC	**Dimbokro**	**100.32 278**	P		P	00 53 08.2	+2.2
DBIC			pmax		pmax		
comp=Z,3.0nm,0.8s							
DBIC	**Dimbokro**	**100.32 278**	P		P	00 53 08.2	+2.1
comp=Z,3.1nm,0.8s,baz=56,slow=3.6,SNR=4.2							
YKA	**Yellowknife Ar**	**109.02 15**	PKiKP			00 57 50.2	
comp=Z,0.3nm,0.6s,baz=319,slow=2.1,SNR=6.7							
YKA			PP		PP	00 58 15.7	-3.7
comp=Z,1.2nm,1.1s,baz=328,slow=7.3,SNR=6.2							
YKA			PKKPbc			01 08 55.5	
comp=Z,0.2nm,0.7s,baz=143,slow=3.1,SNR=3.6							
YKA	**Yellowknife Ar**	**109.02 15**	PKPdf			00 57 50.2	
YKA			PP		PP	00 58 15.7	-3.7
YKA			PKKPbc			01 08 55.5	
FFC	**Flin Flon**	**118.91 12**	*e*PKIKP		PKPdf	00 58 06.8	-3.2
SCHQ	**Schefferville**	**119.02 349**	PKP		PKPdf	00 58 10.4	+0.2
comp=Z,4.9nm,0.8s,baz=47,slow=1.4,SNR=7.5							
MSO	**Missoula**	**122.22 24**	*e*PKPdf		PKPdf	00 58 13.3	-3.2
QLMT	**Earthquake Lak**	**124.87 24**	*e*PKPdf		PKPdf	00 58 20.9	-0.9
NVAR	**Mina Array Bea**	**126.54 34**	PKP		PKPdf	00 58 24.0	-1.1
comp=Z,4.2nm,0.7s,baz=304,slow=0.5,SNR=31							
PDAR	**Pinedale Array**	**127.34 24**	PKP		PKPdf	00 58 24.3	-2.3
comp=Z,1.2nm,0.6s,baz=115,slow=2.1,SNR=11							
MSU	**Marysvale**	**129.65 29**	*e*PKIKP		PKPdf	00 58 30.3	-0.9
SADO	**Sadowa**	**130.58 356**	PKP		PKPdf	00 58 32.0	-0.7
comp=Z,3.3nm,0.6s,baz=1.0,slow=1.7,SNR=4.9							
PV10	**Paradox Valley**	**131.21 26**	*e*PKPdf		PKPdf	00 58 32.9	-1.2
TXAR	**Lajitas Array**	**141.20 28**	PKhKP			00 58 45.5	
comp=Z,0.7nm,0.6s,baz=16,slow=0.8,SNR=9.0							
TXAR			PKiKP			00 58 54.2	
comp=Z,2.9nm,0.7s,baz=234,slow=0.4,SNR=24							
TXAR			SKP			01 02 24.3	
comp=Z,8.6nm,1.3s,baz=315,slow=1.8,SNR=8.1							
JCT	**Junction City**	**141.85 23**	*e*PKIKP			00 58 48.4	
LRAL	**Lakeview Retre**	**142.36 4**	*e*Pn		PKPdf	00 58 56.5	+1.8
BAO	**Brasilia Array**	**143.11 250**	P		PKPbc	00 58 52.5	+2.3
BAO			*e*			00 58 55.5	
SJG	**San Juan**	**151.38 323**	PKIKP		PKPdf	00 59 14.7	+4.8
SJG			pmax		pmax		
comp=Z,17nm,0.5s							
SJG	**San Juan**	**151.38 323**	PKPbc		PKPdf	00 59 14.7	+4.8
comp=Z,17nm,0.5s,baz=54,slow=5.6,SNR=13							
LPAZ	**La Paz**	**160.72 232**	*e*PKIKP		PKPdf	00 59 21.6	-0.4
LPAZ	**La Paz**	**160.72 232**	PKP		PKPdf	00 59 22.0	0.0
comp=Z,3.8nm,1.0s,baz=67,slow=3.4,SNR=7.2							
SDV	**Santo Domingo**	**161.12 316**	PKPab		PKPab	01 00 03.5	-0.5
comp=Z,8.7nm,0.9s,baz=46,slow=1.8,SNR=6.7							
OTAV	**Otavalo**	**172.69 312**	*e*PKPdf		PKPdf	00 59 30.2	-1.2

IGQ 24 00:44:03.4, 0.99S×80.91W, h13km±4km, mb4.0, 2C-1D, Error ellipse: s-maj=13.9km s-min=6.2km az=153.7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.37**	**99**	⇑P	Pg	00 44 10.4	-0.8
IGUA	**Igualata**	**2.33**	**102**	P	Pn	00 44 43.1	+1.1
JUA2	**San Juan 2**	**2.43**	**72**	P	Pn	00 44 44.9	+1.4
TERV	**Terraza Guagua**	**2.45**	**71**	P	Pn	00 44 45.0	+1.2
PINO	**Pino**	**2.45**	**70**	P	Pn	00 44 44.9	+1.2
NAS1	**Nasa**	**2.46**	**82**	P	Pn	00 44 47.0	+3.1
YANA	**Yana**	**2.50**	**70**	P	Pn	00 44 45.4	+1.0
ARRY	**Arrayan**	**2.51**	**102**	P	Pn	00 44 46.3	+1.7
ARRY				S	Sn	00 45 16.6	+1.3
PISA	**Pisayambo**	**2.53**	**92**	P	Pn	00 44 47.1	+2.2
VC1	**Cotopaxi 1**	**2.53**	**82**	P	Pn	00 44 47.6	+2.6
RUN2	**Runtun**	**2.53**	**100**	P	Pn	00 44 46.8	+1.8
ULBA	**Ulba**	**2.54**	**100**	P	Pn	00 44 47.2	+2.1
ANTI	**Antisana**	**2.80**	**79**	⇑P	Pn	00 44 51.9	+3.1
COTA	**Cotacachi**	**2.89**	**63**	P	Pn	00 44 51.5	+1.4
CAYR	**Refugio Cayamb**	**3.07**	**71**	⇓P	Pn	00 44 55.9	+3.2
CAYA	**Cayambe**	**3.11**	**70**	P	Pn	00 44 56.0	+2.9

*IDC **24** 00:45:28.3±1.6, 8.03N×93.28E, mb4.1/7, mb1 4.3/7, mb1mx3.9/18, mbtmp4.1/7, Error ellipse: s-maj=100.3km s-min=27.4km az=53.0*

ISC 24 00:45:31.8±1.2, 8.1N±0.3×93.5E±0.4, h33km, n8, σ0§75/8, mb4.2/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**46.20**	**353**	P	**P**	**00 53 56.0**	**+0.7**
1.9nm,0.8s,mb4.1,baz=324,slow=7.2,SNR=5.0							
BVAR	**Borovoye Array**	**48.53**	**342**	P	**P**	**00 54 12.9**	**-0.6**
2.1nm,1.0s,mb4.1,baz=149,slow=8.4,SNR=2.7							
ASAR	**Alice Springs**	**50.60**	**130**	P	**P**	**00 54 29.9**	**0.0**
4.5nm,1.0s,mb4.3,baz=297,slow=12,SNR=6.2							
FINES	**FINESS Array B**	**72.17**	**332**	P	**P**	**00 56 54.9**	**+0.1**
3.7nm,1.0s,mb4.3,baz=76,slow=7.9,SNR=4.1							
ARCES	**ARCESS Array B**	**74.79**	**340**	P	**P**	**00 57 10.4**	**+0.3**
3.4nm,1.0s,mb4.2,baz=80,slow=7.4,SNR=4.9							
GERES	**GERESS Array B**	**77.19**	**318**	P	**P**	**00 57 25.1**	**+1.0**
1.2nm,0.8s,mb3.9,baz=79,slow=6.8,SNR=5.2							
NOA	**NORSAR Array B**	**79.17**	**331**	P	**P**	**00 57 33.1**	**-1.6**
1.5nm,0.8s,mb4.0,baz=90,slow=6.0,SNR=3.3							
LPG	**La Plagne**	**81.96**	**315**	*e*P	**P**	**00 57 50.0**	**+0.1**
13nm,1.0s,mb4.5							

IDC 24 00:45:38.4±9.8, 4.47N×94.98E, mb4.0/5, mb1 4.0/5, mb1mx3.8/18, mbtmp4.0/5, Error ellipse: s-maj=232.9km s-min=112.4km az=142.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVAR	**Borovoye Array**	**52.46**	**342**	P	P	00 54 52.9	-2.3
1.6nm,0.7s,baz=153,slow=6.4,SNR=4.0							
BRTR	**Keskin Array B**	**65.29**	**312**	P	P	00 56 22.8	-1.8
0.8nm,0.6s,baz=126,slow=5.0,SNR=5.5							
AKASG	**Malin Array Be**	**71.33**	**322**	P	P	00 56 59.6	-2.4
0.7nm,0.5s,baz=90,slow=4.7,SNR=5.2							
FINES	**FINESS Array B**	**76.10**	**332**	P	P	00 57 28.0	-1.5
1.0nm,0.6s,baz=109,slow=6.2,SNR=6.9							
ARCES	**ARCESS Array B**	**78.73**	**340**	P	P	00 57 42.6	-1.3
1.9nm,1.0s,baz=90,slow=6.1,SNR=5.1							

*IDC **24** 00:55:32.0±2.0, 18.58N×81.68W, mb3.6/6, mb1 4.0/6, mb1mx3.7/18, mbtmp3.7/6, Error ellipse: s-maj=48.9km s-min=31.5km az=3.0*

*NEIC **24** 00:55:33.0±1.7, 18.50N×81.79W, h10km, mb4.2/1, Error ellipse: s-maj=41.2km s-min=19.5km az=177.0*

ISC 24 00:55:29.9±3.3, 18.3N±0.5×81.9W±0.1, h10km, n11, σ1§04/11, mb3.6/6, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**6.35**	**288**	*e*P	**Pn**	**00 57 05.2**	**-0.6**
TEIG				*e*S	**Sn**	**00 58 13.0**	**-6.2**
TXAR	**Lajitas Array**	**22.72**	**303**	P	**P**	**01 00 36.6**	**+3.3**
1.5nm,0.8s,mb3.5,baz=114,slow=6.9,SNR=5.5							
PDAR	**Pinedale Array**	**33.82**	**322**	P	**P**	**01 02 16.3**	**+1.9**
0.7nm,0.8s,mb3.6,baz=126,slow=7.8,SNR=4.0							
PDAR	**Pinedale Array**	**33.82**	**322**	P	**P**	**01 02 16.3**	**+1.9**
SCHQ	**Schefferville**	**38.22**	**14**	P	**P**	**01 02 51.7**	**+0.1**
2.4nm,0.6s,mb4.1,baz=215,slow=8.7,SNR=8.4							
SCHQ	**Schefferville**	**38.22**	**14**	*e*P	**P**	**01 02 51.0**	**-0.5**
3.2nm,0.7s,mb4.2							
YKA	**Yellowknife Ar**	**49.63**	**341**	P	**P**	**01 04 22.3**	**-1.0**
0.3nm,0.7s,mb3.4,baz=130,slow=7.9,SNR=6.1							
YKA	**Yellowknife Ar**	**49.63**	**341**	P	**P**	**01 04 22.3**	**-1.0**
ILAR	**Eielson Array**	**62.99**	**334**	P	**P**	**01 05 58.5**	**-0.4**
0.2nm,0.6s,mb3.4,baz=129,slow=4.9,SNR=5.7							
ESDC	**Sonseca Array**	**69.37**	**54**	P	**P**	**01 06 40.2**	**+0.2**
0.9nm,0.7s,mb3.8,baz=278,slow=6.4,SNR=6.6							
WRA	**Warramunga Arr**	**145.80**	**261**	PKPbc	PKPbc	01 15 13.9	+3.5
0.5nm,0.7s,baz=88,slow=3.0,SNR=6.2							

*IDC **24** 01:09:11.9±1.2, 12.41S×166.40E, mb3.9/8, mb1 4.2/8, mb1mx4.1/14, mbtmp3.9/8, Error ellipse: s-maj=51.5km s-min=21.5km az=143.0*

*NEIC **24** 01:09:13.2±0.6, 12.37S×166.36E, h10km, mb4.2/2, Error ellipse: s-maj=25.2km s-min=14.6km az=158.0*

ISC 24 01:09:15.0±0.7, 12.5S±0.2×166.3E±0.1, h33km, n13, σ1§00/13, mb4.0/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.81**	**226**	P	**P**	**01 15 22.6**	**+1.4**
7.5nm,1.1s,mb4.3,baz=38,slow=11,SNR=8.6							
STKA	**Stephens Creek**	**29.81**	**226**	*e*P	**P**	**01 15 23.0**	**+1.9**
WRAB	**Tennant Creek**	**31.54**	**252**	*e*P	**P**	**01 15 35.1**	**-1.5**
5.3nm,1.1s,mb4.3							
WRA	**Warramunga Arr**	**31.55**	**252**	P	**P**	**01 15 36.4**	**-0.3**
0.4nm,0.5s,mb3.5,baz=81,slow=8.8,SNR=3.5							
WRA	**Warramunga Arr**	**31.55**	**252**	P	**P**	**01 15 36.4**	**-0.3**
ASAR	**Alice Springs**	**32.68**	**246**	P	**P**	**01 15 46.6**	**+0.1**
0.8nm,0.7s,mb3.8,baz=68,slow=9.7,SNR=6.2							
RAR	**Rarotonga**	**33.52**	**110**	P	**P**	**01 15 53.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**73.21**	**294**	P	**P**	**01 20 45.6**	**+0.6**
0.8nm,0.4s,mb4.0,baz=135,slow=3.8,SNR=3.0							
ULN	**Ulaanbaatar**	**79.80**	**324**	*e*P	**P**	**01 21 19.9**	**-1.7**
1.5nm,0.7s,mb4.0							
SONM	**Songino Array**	**80.16**	**324**	P	**P**	**01 21 24.0**	**+0.5**
0.5nm,0.6s,mb3.6,baz=124,slow=5.2,SNR=5.1							
ILAR	**Eielson Array**	**84.70**	**18**	P	**P**	**01 21 47.6**	**+1.1**
1.5nm,0.6s,mb4.3,baz=243,slow=5.1,SNR=36							
NVAR	**Mina Array Bea**	**86.53**	**50**	P	**P**	**01 21 55.7**	**-0.4**
0.4nm,0.7s,mb3.8,baz=219,slow=5.8,SNR=2.8							
TXAR	**Lajitas Array**	**96.03**	**61**	P	**P**	**01 22 41.3**	**+0.7**
0.4nm,0.8s,mb3.9,baz=231,slow=8.0,SNR=3.9							

*NNC **24** 01:18:10.9±1.5, 44.16N×85.92E, mpv2.2, Error ellipse: s-maj=20.4km s-min=14.7km az=47.0*

BJI 24 01:18:12.8, 44.06N×85.85E, h15km, ML2.5, 3C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.35**	**100**	*e*PG	Pg	01 18 37.0	-3.0
WMQ				SG	Sg	01 18 56.4	-1.7
WMQ				Smax			
comp=N,28nm,0.3s							
WMQ				Smax			
comp=E,37nm,0.3s							
MK05	**Makanchi Array**	**3.71**	**319**	⇑Pn	Pn	01 19 08.9	-1.9
comp=E,0.1nm,0.5s,baz=135,slow=14							
MK05				⇑Pg	Pg	01 19 17.7	-9.1
comp=E,1.2nm,0.6s,baz=138,slow=15							
MK05				⇑Lg		01 20 07.5	
comp=E,1.5nm,0.5s,baz=148,slow=28							

IDC 24 01:26:15.4±3.0, 33.91S×178.91W, mb4.0/2, mb1 4.3/3, mb1mx3.8/14, mbtmp4.1/3, ML4.2/1, Error ellipse: s-maj=70.3km s-min=36.0km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.41**	**215**	Pn	Pn	01 27 38.2	-1.0
8.5nm,0.3s,baz=70,slow=3.2,SNR=29							
URZ				Sn	Sn	01 28 39.8	-3.4
7.3nm,0.3s,baz=127,slow=21,SNR=9.1							
ASAR	**Alice Springs**	**42.28**	**271**	P	P	01 34 10.9	-1.4
0.9nm,0.4s,baz=113,slow=7.4,SNR=15							
WRA	**Warramunga Arr**	**43.58**	**276**	P	P	01 34 21.0	-2.0
1.0nm,0.5s,baz=120,slow=7.3,SNR=11							
FINES	**FINESS Array B**	**148.12**	**337**	PKPbc	PKPdf	01 46 01.5	+0.8
6.9nm,1.2s,baz=55,slow=4.5,SNR=6.4							

*CSEM **24** 01:27:23.5±0.4, 37.77N×19.90E, h5km, MD3.5, Error ellipse: s-maj=8.4km s-min=2.8km az=46.0*

*ATH **24** 01:27:25.5, 37.98N×19.98E, h5km, MD3.5/9*

*NEIC **24** 01:27:25.1, 37.98N×19.92E, h5km, MD3.5(ATH), After ATH.*

*THE **24** 01:27:27.4, 38.05N×20.10E, h10km, ML3.4*

ISC 24 01:27:24.8±1.9, 37.91N±0.07×20.1E±0.1, h5km, n18, σ1§17/23, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.47**	**55**	*e*PB	**Pb**	**01 27 34.0**	**-1.2**
ITM	**Ithomi**	**1.63**	**116**	*e*PG	**Pg**	**01 27 58.0**	**+0.8**
IGT	**Igoumenitsa**	**1.63**	**6**	*e*Pb	**Pb**	**01 27 54.1**	**-0.9**
IGT				*e*Sb	**Sb**	**01 28 16.1**	**+0.2**
IGT	**Igoumenitsa**	**1.63**	**6**	*e*Pb	**Pb**	**01 27 54.1**	**-0.9**
IGT				*e*Sb	**Sb**	**01 28 16.0**	**+0.1**
EVR	**Evrytania**	**1.68**	**53**	*e*Pg	**Pg**	**01 27 57.5**	**-0.8**
EVR				*e*Sn	**Sn**	**01 28 21.5**	**+4.3**
KEK	**Kerkira**	**1.82**	**353**	*e*PG	**Pg**	**01 27 57.0**	**-4.1**
JAN	**Janina**	**1.84**	**18**	*e*PN	**Pn**	**01 28 00.0**	**+2.6**
AGG	**Agios Georgios**	**2.08**	**57**	*e*Pn	**Pn**	**01 28 02.6**	**+1.9**
AGG				*e*Sn	**Sn**	**01 28 28.1**	**+0.8**
MGER	**Gerania Oros**	**2.50**	**87**	*e*PG	**Pg**	**01 28 13.0**	**-1.7**
NSAL	**Nisos Salamina**	**2.66**	**89**	*e*PN	**Pn**	**01 28 14.2**	**+5.1**
NAIG	**Nisos Aigina**	**2.69**	**92**	*e*PG	**Pg**	**01 28 16.0**	**-2.5**
LIT	**Litokhoron**	**2.88**	**40**	*e*Pn	**Pn**	**01 28 12.8**	**+0.6**
PTL	**Penteli**	**2.98**	**86**	*e*PN	**Pn**	**01 28 14.5**	**+0.9**
FNA	**Florina**	**3.04**	**19**	*e*Pn	**Pn**	**01 28 14.5**	**0.0**
FNA				*e*Sn	**Sn**	**01 28 51.3**	**-0.4**
GRG	**Griva**	**3.53**	**30**	*e*Pn	**Pn**	**01 28 21.0**	**-0.4**
SOH	**Sokhos**	**3.85**	**40**	*e*Pn	**Pn**	**01 28 26.4**	**+0.4**
OUR	**Ouranopolis**	**3.87**	**50**	*e*Pn	**Pn**	**01 28 26.5**	**+0.2**
KNT	**Kendrikon**	**3.91**	**33**	*e*Pn	**Pn**	**01 28 26.6**	**-0.2**

*IDC **24** 01:32:39.8±0.6, 2.58N×95.80E, mb4.4/15, mb1 4.5/16, mb1mx4.5/21, mbtmp4.4/16, ML4.6/1, MS3.5/1, Ms1 3.7/1, ms1mx2.5/20, Error ellipse: s-maj=28.7km s-min=13.4km az=45.0*

*MOS **24** 01:32:43.0±1.0, 2.57N×95.85E, h33km, mb4.8/27, Error ellipse: s-maj=14.2km s-min=8.1km az=103.4*

*BJI **24** 01:32:43.6, 2.81N×96.09E, h21km, mB5.2, mb4.8, Ms4.2, Msz3.9*

*NEIC **24** 01:32:43.1±0.3, 2.60N×95.85E, mb4.7/19, Error ellipse: s-maj=8.4km s-min=6.5km az=53.0*

ISC 24 01:32:40.9±2.6, 2.56N±0.06×95.88E±0.07, h19km±18km, h23km±2.0km: pP-P, n100, σ1§04/99, mb4.7/49, MS4.1/4, 1C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.82**	**288**	*e*P	**P**	**01 36 23.2**	**-1.4**
CM31	**Chiang Mai Arr**	**16.08**	**11**	P	**P**	**01 36 26.0**	**-1.9**
CMAR	**Chiang Mai Arr**	**16.08**	**11**	P	**P**	**01 36 28.0**	**+0.2**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
CMAR				MLR	MLR		
comp=Z,200nm,21.3s							
CMAR	**Chiang Mai Arr**	**16.08**	**11**	Pn	**P**	**01 36 27.9**	**+0.1**
comp=Z,0.8nm,0.3s,baz=194,slow=11,SNR=23							
CMAR				LR	LR	01 42 29.8	
comp=Z,200nm,21.3s,baz=200,slow=37							
HYB	**Hyderabad**	**22.52**	**312**	*e*P	**P**	**01 37 43.0**	**+1.7**
HYB	**Hyderabad**	**22.52**	**312**	*i* P	**P**	**01 37 43.0**	**+1.7**
JIRN	**Jiri**	**26.62**	**341**	*e*P	**P**	**01 38 21.4**	**+1.0**
comp=Z,79nm,0.7s,mb5.4							
PKI	**Pulchoki**	**26.81**	**339**	*e*P	**P**	**01 38 22.8**	**+0.7**
comp=Z,11nm,0.7s,mb4.5							
DMN	**Daman**	**26.95**	**339**	*e*P	**P**	**01 38 23.8**	**+0.4**
comp=Z,34nm,0.9s,mb4.9							
KKN	**Kakani**	**27.05**	**339**	*e*P	**P**	**01 38 24.7**	**+0.4**
comp=Z,46nm,0.8s,mb5.1							
LSA	**Lhasa**	**27.36**	**351**	P	**P**	**01 38 27.8**	**+0.7**
LSA	**Lhasa**	**27.36**	**351**	*e*P	**P**	**01 38 27.4**	**+0.3**
LSA				pmax	pmax		
comp=Z,9.0nm,0.6s,mb4.5							
LSA	**Lhasa**	**27.36**	**351**	*e*P	**P**	**01 38 27.4**	**+0.3**
comp=Z,8.9nm,0.6s,mb4.5							
GKN	**Gorkha**	**27.48**	**338**	*e*P	**P**	**01 38 28.8**	**+0.6**
comp=Z,81nm,1.0s,mb5.2							
KOLN	**Koldanda**	**27.68**	**336**	*e*P	**P**	**01 38 30.3**	**+0.3**
comp=Z,41nm,0.9s,mb5.1							
ENH	**Enshi**	**30.43**	**24**	*e*P	**P**	**01 38 52.8**	**-1.8**
comp=Z,6.5nm,0.5s,mb4.6							
XAN	**Xi'an**	**33.60**	**20**	P	**P**	**01 39 21.3**	**-1.1**
XAN				AP	pP	01 39 26.8	-1.1
XAN				AMB	AMB		
comp=Z,5.0nm,0.9s,mb4.4							
LZH	**Lanzhou**	**34.16**	**12**	⇓P	**P**	**01 39 32.5**	**+5.3**
LZH				AMB	AMB		
comp=Z,42nm,1.5s,mb5.2							
NJ2	**Nanjing**	**36.44**	**34**	*e*P	**P**	**01 39 47.8**	**+1.2**
NJ2				AP	pP	01 39 57.8	+5.6
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb5.0							
NJ2				AMB	AMB		
comp=Z,330nm,4.9s							
NJ2				LR	LR		
comp=N,340nm,17.2s,MS4.3							
NJ2				LR	LR		
comp=E,410nm,22.0s,MS4.3							
NJ2				LR	LR		
comp=Z,220nm,20.9s,MS3.9							
SSE	**Sheshan**	**37.10**	**37**	*e*P	**P**	**01 39 50.9**	**-1.3**
SSE				AMB	AMB		
comp=Z,15nm,0.8s,mb4.9							
SSE				AMB	AMB		
comp=Z,93nm,6.2s							
SSE				LR	LR		
comp=N,110nm,18.1s,MS3.8							
SSE				LR	LR		
comp=E,68nm,18.1s,MS3.8							
SSE				LR	LR		
comp=Z,140nm,20.4s,MS3.7							
SSE	**Sheshan**	**37.10**	**37**	*e*P	**P**	**01 39 50.9**	**-1.3**
comp=Z,15nm,0.8s,mb4.9							
SSE				S	**S**	**01 45 43.6**	**+6.7**
SSE				sS		01 46 00.9	
SSE				SS	tx	01 49 06.5	
SSE				LR	LR		
comp=Z,140nm,20.4s,MS3.7							
BJT	**Baijiatuau**	**41.58**	**24**	*e*P	**P**	**01 40 30.1**	**+0.8**
BJT				*e*	pP	01 40 36.3	+1.4
BJT				pmax	pmax		
comp=Z,45nm,0.9s							
BJT	**Baijiatuau**	**41.58**	**24**	*e*P	**P**	**01 40 30.1**	**+0.8**
comp=Z,45nm,0.9s,mb5.1							
BJT				*e*	pP	01 40 36.3	+1.4
BJI	**Beijing**	**41.60**	**24**	P	**P**	**01 40 30.5**	**+1.

comp=Z,7.7nm,1.1s,mb4.6,baz=180,slow=3.8,SNR=3.0
CTA Charters Tower 54.29 117 P P 01 42 09.0 +0.4
BVA0 Borovoye Array 54.54 341 P P 01 42 09.1 -0.9
BVA0 pmax pmax
comp=Z,1.0nm,1.2s,mb3.7
BVAR Borovoye Array 54.54 341 P P 01 42 09.0 -1.0
comp=Z,5.0nm,0.6s,mb4.7,baz=141,slow=9.5,SNR=25
BRVK Borovoye 54.60 341 *eP* **P 01 42 09.4 -1.1**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BRVK Borovoye 54.60 341 *eP* **P 01 42 09.4 -1.1**
comp=Z,3.5nm,0.6s,mb4.6
CHKZ Chkalovo 55.03 342 *eP* **P 01 42 12.4 -1.2**
CHKZ pmax pmax
comp=Z,13nm,0.9s,mb5.0
CHKZ Chkalovo 55.03 342 *eP* **P 01 42 12.4 -1.2**
comp=Z,13nm,0.9s,mb5.0
STKA Stephens Creek 55.24 132 P P 01 42 15.3 -0.2
comp=Z,5.2nm,0.7s,mb4.7,baz=317,slow=6.1,SNR=10
STKA Stephens Creek 55.24 132 P P 01 42 15.3 -0.2
KLR Kul'dur 55.65 28 *eP* **P 01 42 16.6 -1.6**
BOD Bodaibo 56.93 11 *eP* **P 01 42 25.9 -1.3**
KMBO Kilima Mbogo 58.73 267 *eP* **P 01 42 40.5 +0.1**
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 58.73 267 P P 01 42 40.8 +0.4
comp=Z,3.7nm,0.9s,mb4.4,baz=60,slow=6.6,SNR=13
KMBO Kilima Mbogo 58.73 267 *eP* **P 01 42 40.5 +0.1**
comp=Z,4.4nm,0.9s,mb4.5
CLNS Chul'man 58.85 18 *eP* **P 01 42 41.9 +1.2**
CLNS pmax pmax
comp=N,3.0nm,0.9s
CLNS pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
CLNS pmax pmax
comp=E,3.0nm,0.8s
CLNS MLR MLR
comp=Z,200nm,15.0s,MS4.4
CLNS MLR MLR
comp=N,200nm,14.0s,MS4.4
CLNS MLR MLR
comp=E,100nm,14.0s,MS4.4
ARU Arti 61.42 337 *iP* **P 01 42 51.0 -7.3**
ARU *eS* **S 01 51 17.1 +0.5**
ARU *e*SS SS 01 55 22.2 +3.1
ARU pmax pmax
comp=Z,11nm,1.2s,mb4.9
KIV Kislovodsk 62.42 319 *eP* **P 01 43 04.1 -1.1**
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
KIV Kislovodsk 62.42 319 *eP* **P 01 43 04.1 -1.1**
comp=Z,9.8nm,1.0s,mb4.9
SOC Sochi 64.23 318 *eP* **P 01 43 08.6 -8.5**
SOC *e* 01 43 46.5
SOC *e*PPP PPP 01 47 10.5 -2.3
SOC *eS* **S 01 51 48.6 -3.5**
SOC *e* 01 53 01.4
SOC *e*SS SS 01 56 05.3 +2.1
SOC pmax pmax
comp=Z,34nm,0.9s,mb5.4
SOC pmax pmax
comp=N,31nm,0.8s
SOC pmax pmax
comp=E,47nm,0.9s
YAK Yakutsk 64.50 17 P P 01 43 17.8 -0.8
YAK *e* pP 01 43 23.4 -1.0
YAK pmax pmax
comp=Z,52nm,1.4s,mb5.4
YAK Yakutsk 64.50 17 P P 01 43 17.8 -0.8
comp=Z,52nm,1.4s,mb5.4
YAK *e* pP 01 43 23.4 -1.0
ANN Anapa 66.21 318 *eP* **P 01 43 34.5 +4.6**
ANN pmax pmax
comp=Z,76nm,1.2s,mb5.6
BRTR Keskin Array B 67.22 312 P P 01 43 35.2 -1.2
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 67.22 312 P P 01 43 35.2 -1.2
comp=Z,1.5nm,0.9s,mb4.0,baz=130,slow=7.7,SNR=5.8
LSZ Lusaka 69.25 253 *eP* **P 01 43 47.6 -1.8**
LSZ pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
LSZ Lusaka 69.25 253 *eP* **P 01 43 47.6 -1.7**
comp=Z,1.9nm,0.9s,mb4.0
OBN Obninsk 70.77 328 *eP* **P 01 43 54.7 -3.3**
OBN *e* pP 01 44 02.5 -1.4
OBN *e* 01 44 08.5
OBN pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
TIXI Tiksi 72.09 10↑ *eP* **P 01 44 04.4 -1.3**
TIXI pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
TIXI MLR MLR
comp=Z,100nm,21.0s,MS4.1
AKASG Malin Array Be 73.38 322 P P 01 44 11.9 -1.7
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 73.38 322 P P 01 44 11.9 -1.7
comp=Z,1.8nm,0.6s,mb4.2,baz=87,slow=5.1,SNR=10
MAW Mawson 73.74 193 *eP* **P 01 44 15.6 +0.3**
MAW pmax pmax
comp=Z,9.0nm,1.1s
MAW Mawson 73.74 193 *eP* **P 01 44 15.6 +0.2**
comp=Z,9.0nm,1.1s,mb4.6
MLR Muntele Rosu 74.18 317 P P 01 44 18.5 +0.2
MLR pmax pmax
comp=Z,3.0nm,1.0s
MLR Muntele Rosu 74.18 317 P P 01 44 18.5 +0.2
comp=Z,3.4nm,1.0s,mb4.2,baz=30,slow=8.8,SNR=4.2
FINES FINESS Array B 78.19 333 P P 01 44 40.4 -0.2
comp=Z,3.3nm,0.7s,mb4.4,baz=108,slow=6.0,SNR=8.7
ARCES ARCESS Array B 80.82 340 P P 01 44 54.7 +0.1
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 80.82 340 P P 01 44 54.7 +0.1
comp=Z,1.7nm,0.6s,mb4.2,baz=94,slow=5.7,SNR=18
GERES GERESS Array B 82.92 319 P P 01 45 06.7 +0.7
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 82.92 319 P P 01 45 06.7 +0.7
comp=Z,2.4nm,0.8s,mb4.3,baz=90,slow=5.3,SNR=13
GRA1 Grafenberg Arr 84.59 319 *eP* **P 01 45 15.8 +1.3**
comp=Z,6.0nm,1.1s,mb4.6
GRF Grafenberg Arr 84.59 319 *eP* **P 01 45 15.8 +1.3**
GRF pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
GRF Grafenberg Arr 84.59 319 *eP* **P 01 45 15.8 +1.3**
GRF pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
GRF Grafenberg Arr 84.59 319 *eP* **P 01 45 15.8 +1.3**
comp=Z,6.0nm,1.1s,mb4.6
NVAR Mina Array Bea 128.43 34 PKP PKPdf 01 51 49.7 -1.6
comp=Z,0.8nm,0.9s,baz=185,SNR=4.7
NVAR Mina Array Bea 128.43 34 PKP PKPdf 01 51 49.7 -1.6
PDAR Pinedale Array 129.37 24 PKP PKPdf 01 51 50.2 -2.6
comp=Z,0.3nm,0.5s,baz=111,slow=1.9,SNR=5.2
TXAR Lajitas Array 143.17 29 PKhKP 01 52 13.0
comp=Z,0.4nm,0.8s,baz=264,slow=3.0,SNR=4.4

*IDC **24** 01:40:51.5±1.0,24.15N×122.67E,mb3.8/6,mb1 3.9/6, mb1mx3.7/20,mbtmp3.8/6,Error ellipse: s-maj=67.6km s-min=21.1km az=70.0*
*NEIC **24** 01:40:53.9±2.9,24.10N×122.56E,h16km±17km,mb3.9/2, Error ellipse: s-maj=41.5km s-min=11.5km az=71.0*
*TAP **24** 01:40:55.5,24.03N×122.42E,h7km±1km,ML3.9*
*JMA **24** 01:40:56.2±0.2,24.03N×122.51E,h27km,M3.2*
ISC 24 01:40:54.6±1.6,24.03N±0.09×122.42E±0.05,h31km±10km, n16,σ0°80/22,mb3.7/7,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.69**	**51**	P	**Pb**	**01 41 08.2**	**-0.1**
YOJ				S	**Sb**	01 41 16.8	-0.8
IRIF	**Iriomote-Funau**	**1.24**	**75**	P	**Pn**	**01 41 16.8**	**+0.7**
TATO	**Taipei**	**1.27**	**318**	*e*Pg	**Pn**	**01 41 19.1**	**+2.6**
TATO				*e*Sg	**Sn**	**01 41 36.1**	**+3.6**
HATJ	**Hateruma jima**	**1.27**	**88**	P	**Pn**	**01 41 17.1**	**+0.6**
HATJ				S	**Sn**	**01 41 31.9**	**-0.7**
JKRS	**Kuro-shima**	**1.47**	**81**	P	**Pn**	**01 41 19.9**	**+0.5**
JKRS				*e*S	**Sn**	**01 41 37.8**	**+0.1**
JIJ	**Ishigaki jima**	**1.61**	**78**	P	**Pn**	**01 41 21.6**	**+0.2**
JIJ				S	**Sn**	**01 41 41.1**	**-0.2**
JTJ	**Tarama**	**2.17**	**73**	P	**Pn**	**01 41 29.8**	**+0.3**
JTJ				*e*S	**Sn**	**01 41 56.5**	**+0.9**
BJT	**Baijiatuau**	**16.79**	**343**	P	**P**	**01 44 48.1**	**-1.0**
	7.0nm,0.6s						
SONM	**Songino Array**	**26.96**	**336**	P	**P**	**01 46 34.6**	**-0.7**
	0.3nm,0.5s,mb3.1,baz=149,slow=9.9,SNR=5.4						
WRA	**Warramunga Arr**	**45.22**	**164**	P	**P**	**01 49 10.4**	**-0.7**
	1.2nm,0.8s,mb3.8,baz=347,slow=8.2,SNR=5.3						
BVAR	**Borovoye Array**	**48.51**	**321**	P	**P**	**01 49 36.5**	**+0.1**
	0.7nm,0.5s,mb3.9,baz=108,slow=9.4,SNR=4.1						
CHKZ	**Chkalovo**	**48.56**	**321**	*e*P	**P**	**01 49 35.8**	**-1.0**
	0.6nm,0.6s,mb3.8						
ASAR	**Alice Springs**	**48.70**	**166**	P	**P**	**01 49 38.6**	**+0.3**
	0.7nm,0.7s,mb3.8,baz=353,slow=6.5,SNR=5.8						
FINES	**FINESS Array B**	**72.15**	**330**	P	**P**	**01 52 17.8**	**-0.2**
	0.8nm,0.6s,mb3.9,baz=72,slow=6.0,SNR=7.4						
YKA	**Yellowknife Ar**	**82.68**	**23**	P	**P**	**01 53 15.7**	**-0.4**
	0.4nm,0.6s,mb3.6,baz=312,slow=5.1,SNR=10						
YKA	**Yellowknife Ar**	**82.68**	**23**	P	**P**	**01 53 15.7**	**-0.4**

IDC 24 01:42:53.5±11.0,7.30N×94.41E,mb4.0/5,mb1 4.2/5, mb1mx3.8/17,mbtmp4.0/5,Error ellipse: s-maj=300.8km s-min=69.4km az=140.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**41.66**	**12**	P	P	01 50 43.8	-1.6
	0.3nm,0.7s,baz=207,slow=8.3,SNR=3.7						
ZAL	**Zalesovo**	**47.15**	**352**	P	P	01 51 27.6	-1.9
	1.9nm,0.3s,baz=292,slow=6.6,SNR=5.6						
FINES	**FINESS Array B**	**73.34**	**332**	P	P	01 54 26.4	-2.4
	1.3nm,0.8s,baz=90,slow=7.6,SNR=5.1						
ARCES	**ARCESS Array B**	**75.90**	**340**	P	P	01 54 41.9	-1.4
	3.1nm,0.9s,baz=96,slow=9.1,SNR=3.7						
GERES	**GERESS Array B**	**78.44**	**318**	P	P	01 54 56.8	-1.0
	0.8nm,0.8s,baz=90,slow=4.0,SNR=4.0						

IGQ 24 01:45:15.7,1.40S×81.75W,h12km±11km,mb4.0,1C, Error ellipse: s-maj=17.9km s-min=12.8km az=32.7,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOJA	**Cerro de Hojas**	**1.25**	**74**	↑P	Pb	01 45 35.9	-2.9
IGUA	**Igualata**	**3.11**	**92**	P	Pn	01 46 06.6	+0.9
ARRY	**Arrayan**	**3.29**	**92**	P	Pn	01 46 08.7	+0.4
PATA	**Patacocha**	**3.32**	**92**	P	Pn	01 46 10.4	+1.8
JUA2	**San Juan 2**	**3.36**	**69**	P	Pn	01 46 11.0	+1.9
NAS1	**Nasa**	**3.36**	**77**	P	Pn	01 46 12.1	+2.9
TERV	**Terraza Guagua**	**3.37**	**69**	P	Pn	01 46 09.9	+0.5
PINO	**Pino**	**3.38**	**69**	P	Pn	01 46 10.7	+1.3
PISA	**Pisayambo**	**3.38**	**84**	P	Pn	01 46 12.3	+2.8
YANA	**Yana**	**3.43**	**68**	P	Pn	01 46 11.0	+0.9
VC1	**Cotopaxi 1**	**3.43**	**77**	P	Pn	01 46 13.5	+3.3
TAMB	**Tambo**	**3.45**	**78**	P	Pn	01 46 13.2	+2.7
ANTI	**Antisana**	**3.71**	**75**	P	Pn	01 46 15.5	+1.4
COTA	**Cotacachi**	**3.82**	**63**	P	Pn	01 46 17.4	+1.7
CAYR	**Refugio Cayambo**	**4.00**	**69**	P	Pn	01 46 21.5	+3.3
CAYR				S	Sn	01 47 07.6	+2.0
CAYA	**Cayambe**	**4.04**	**69**	P	Pn	01 46 21.7	+2.9

IDC 24 01:46:12.4±7.4,3.49N×93.49E,mb3.4/2,mb1 3.9/3, mb1mx3.6/18,mbtmp3.6/3,ML4.6/1,Error ellipse: s-maj=212.7km s-min=36.8km az=72.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.80**	**19**	Pn	P	01 49 57.5	-0.6
	0.9nm,0.3s,baz=207,slow=8.1,SNR=6.1						
SONM	**Songino Array**	**45.55**	**12**	P	P	01 54 33.7	-2.1
	0.3nm,0.5s,baz=195,slow=7.8,SNR=3.5						
WRA	**Warramunga Arr**	**46.38**	**122**	P	P	01 54 40.9	-1.8
	0.6nm,0.8s,baz=300,slow=9.5,SNR=5.3						

IDC 24 01:57:09.8±4.5,18.61N×81.63W,mb3.5/5,mb1 3.9/5, mb1mx3.5/18,mbtmp3.6/5,Error ellipse: s-maj=105.0km s-min=32.3km az=7.0,North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**22.75**	**302**	P	P	02 02 13.8	-1.2
	1.1nm,0.9s,baz=114,slow=11,SNR=8.5						
PDAR	**Pinedale Array**	**33.73**	**322**	P	P	02 03 54.5	-0.6
	0.2nm,0.7s,baz=107,slow=9.4,SNR=2.5						
SCHQ	**Schefferville**	**37.89**	**14**	P	P	02 04 29.0	-1.2
	8.7nm,1.3s,baz=215,slow=12,SNR=4.6						
YKA	**Yellowknife Ar**	**49.43**	**341**	P	P	02 05 59.4	-3.9
	0.1nm,0.8s,baz=135,slow=8.1,SNR=5.4						
ESDC	**Sonseca Array**	**69.02**	**54**	P	P	02 08 17.7	-1.8
	0.7nm,0.8s,baz=282,slow=6.1,SNR=4.9						

GUC 24 02:00:26.7±1.3,22.91S×69.58W,h72km±44km,MD3.9, ML3.2,1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANCH	**Antofagasta**	**1.09**	**225**	↓*iP*	P	02 00 46.1	-0.6
ANCH				*e*		02 00 49.4	
	baz=45,slow=6.2						
ANCH				*i* S	S	02 01 02.1	+0.5
SPCH	**San Pedro de A**	**1.27**	**90**	*e*P	P	02 01 04.7	+16
SPCH				*i* S	S	02 01 32.2	+26
SPCH				AMP		02 01 39.5	
	comp=E,719nm,0.4s						
CPN1	**Cerro Paranal**	**1.87**	**204**	*e*P	P	02 00 58.6	+1.3
CPN1				*i* S	S	02 01 21.7	+1.9

ISC 24 02:16:08.6±0.8,37.05N±0.05×27.91E±0.05,h10km,n6, σ0°75/10,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.37**	**273**	*i* P	**Pg**	**02 16 15.6**	**-0.6**
BDRM				*i* S	**Sg**	**02 16 22.4**	**+1.1**
AYDN	**Tasoluk**	**0.61**	**358**	*i* P	**Pb**	**02 16 21.3**	**+0.3**
AYDN				*i* S	**Sg**	**02 16 29.8**	**+0.6**
FETY	**Fethiye**	**1.03**	**113**	PG	**Pg**	**02 16 29.2**	**0.0**
FETY				SG	**Sg**	**02 16 43.6**	**+0.6**
DNZL	**Cakiroluk**	**1.11**	**54**	*i* P	**Pb**	**02 16 29.2**	**-0.2**
DNZL				*i* S	**Sb**	**02 16 44.4**	**+0.6**
DENT	**Denizli**	**1.14**	**51**	PN	**Pn**	**02 16 29.5**	**-1.1**
IZM	**Izmir**	**1.44**	**339**	PN	**Pn**	**02 16 33.6**	**-1.3**

IDC 24 02:17:47.2±2.1,22.14S×175.23W,h51km±7km,mb3.6/5, mb1 4.0/5,mb1mx3.7/16,mbtmp3.9/5,Error ellipse: s-maj=144.5km s-min=18.1km az=158.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.93**	**266**	P	P	02 24 42.8	-2.0
	7.2nm,1.1s,baz=90,slow=9.1,SNR=3.3						
ASAR	**Alice Springs**	**46.68**	**258**	P	P	02 26 10.9	-2.0
	1.4nm,0.7s,baz=92,slow=7.8,SNR=14						
ASAR				pP	pP	02 26 25.2	-1.3
	1.8nm,0.7s,baz=93,slow=7.7,SNR=8.9						
WRA	**Warramunga Arr**	**46.95**	**263**	P	P	02 26 12.6	-2.4
	1.0nm,0.9s,baz=95,slow=8.3,SNR=4.9						
WRA				pP	pP	02 26 26.5	-2.2
	2.4nm,1.2s,baz=101,slow=7.9,SNR=4.1						
NVAR	**Mina Array Bea**	**80.47**	**42**	P	P	02 29 55.0	-0.4
	0.5nm,0.7s,baz=232,slow=12,SNR=5.5						
NVAR				pP	pP	02 30 09.2	-0.8
	0.4nm,0.8s,baz=219,slow=7.1,SNR=3.6						
TXAR	**Lajitas Array**	**85.78**	**56**	P	P	02 30 19.6	-3.0
	0.9nm,1.1s,baz=243,slow=8.4,SNR=4.0						
TXAR				pP	pP	02 30 35.4	-2.1
	0.3nm,0.7s,baz=211,slow=10,SNR=3.4						
AKASG	**Malin Array Be**	**145.67**	**332**	PKPbc	PKPbc	02 37 20.7	+0.2
	0.5nm,0.5s,baz=31,slow=3.7,SNR=4.7						

JMA 24 02:34:32.6±0.1,28.55N×129.81E,h53km±2km,M3.8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAM	**Amami Oshima**	**0.23**	**233**	P	P	02 34 41.3	-0.1
JAM				S	S	02 34 47.7	-0.1
JZK	**Kikaishima**	**0.28**	**149**	P	P	02 34 41.6	-0.2
JZK				S	S	02 34 49.0	+0.5
JTK	**Tokunoshima**	**1.07**	**225**	P	P	02 34 52.3	+0.6
JTK				*e*S	S	02 35 07.0	+1.2
JNN	**Nakanoshima**	**1.29**	**3**	P	P	02 34 54.9	+0.2
JKC	**Kuchinoerabu**	**1.94**	**10**	P	P	02 35 03.9	+0.2
JKC				*e*S	S	02 35 26.7	-0.1
JOW	**Kunigami**	**2.19**	**219**	P	P	02 35 06.6	-0.7
JIH	**Iheya**	**2.22**	**228**	P	P	02 35 07.6	-0.2
JIH				S	S	02 35 32.8	-1.3
JTN	**Tanegashima 3**	**2.33**	**26**	P	P	02 35 09.1	-0.3
JAGN	**Aguni-jima**	**3.00**	**230**	P	P	02 35 18.2	-0.7
JKE	**Kume jima 2**	**3.48**	**231**	P	P	02 35 24.6	-1.1

*IDC **24** 02:39:41.9±1.6,12.29N×86.81W,mb3.9/7,mb1 4.3/7, mb1mx3.9/18,mbtmp3.9/7,MS3.7/1,Ms1 3.7/1, ms1mx2.0/25,Error ellipse: s-maj=49.4km s-min=34.9km az=59.0*
*CASC **24** 02:39:53.0±2.5,12.47N×87.16W,h73km±16km,MD4.3, ML4.2,mb3.9(NEIC)*
*NEIC **24** 02:39:54.2±1.1,12.46N×86.90W,h92km±12km,mb3.9/3, Error ellipse: s-maj=25.3km s-min=9.6km az=58.0*
ISC 24 02:39:52.6±0.3,12.48N±0.07×87.12W±0.05,h81km±3km, n62,σ1°03/70,mb3.8/10,17C-7D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEON	**Leon**	**0.23**	**105**	↑*iP*	**P**	**02 40 03.4**	**-1.2**
CRIN	**San Cristobal**	**0.23**	**16**	↑*iP*	**P**	**02 40 05.0**	**+0.4**
CRIN				*e*S	**S**	**02 40 15.0**	**+1.4**
TEL3	**Telica 3**	**0.28**	**70**	↑*iP*	**P**	**02 40 04.9**	**-0.1**
TELN	**Telica**	**0.31**	**65**	↑*iP*	**P**	**02 40 05.2**	**+0.1**
MIRN	**Miramar**	**0.40**	**95**	↓*iP*	**P**	**02 40 05.3**	**-0.4**
CNGN	**Cerro Negro**	**0.41**	**87**	↑*eP*	**P**	**02 40 05.6**	**-0.1**
MOMJ	**Momotombo**	**0.57**	**97**	↑*eP*	**P**	**02 40 06.9**	**-0.2**
COPN	**Copaltepe**	**0.59**	**120**	↓*eP*	**P**	**02 40 06.0**	**-1.4**
APYN	**Apoyeque**	**0.79**	**108**	↓*iP*	**P**	**02 40 09.2**	**-0.3**
XAVN	**Gruta Xavier**	**0.84**	**113**	↑*eP*	**P**	**02 40 09.4**	**-0.6**
MGAN	**Managua**	**0.91**	**111**	↑*eP*	**P**	**02 40 10.4**	**-0.4**
MGAN				*e*S	**S**	**02 40 24.5**	**0.0**
	comp=E,9μm,0.2s						
WILN	**Americas 2**	**0.96**	**109**	↑*eP*	**P**	**02 40 11.0**	**-0.4**
TICN	**Ticuantepe**	**0.97**	**117**	↑*eP*	**P**	**02 40 10.8**	**-0.7**
PYTN	**Playitas**	**1.04**	**86**	↑*iP*	**P**	**02 40 13.3**	**+1.0**
CNCH	**Conchagua**	**1.06**	**319**	↑*eP*	**P**	**02 40 12.8**	**+0.2**
CNCH				*e*S	**S**	**02 40 29.5**	**+1.8**
MASN	**Masaya**	**1.06**	**117**	↓*eP*	**P**	**02 40 12.1**	**-0.5**
APON	**Apoyo**	**1.17**	**118**	↓*eP*	**P**	**02 40 13.1**	**-0.9**
BLLM	**Bellamira**	**1.46**	**311**	↑*eP*	**P**	**02 40 17.7**	**-0.2**
BLLM				*e*S	**S**	**02 40 36.9**	**+0.4**
CAHU	**Cacacuatique**	**1.67**	**320**	*eP*	**P**	**02 40 21.5**	**+0.8**
CAHU				*e*S	**S**	**02 40 41.7**	**+0.3**
CONN	**Concepcion**	**1.72**	**122**	*eP*	**P**	**02 40 19.6**	**-1.6**
MADN	**Villa Maderas**	**1.88**	**124**	*eP*	**P**	**02 40 21.0**	**-2.3**
SNVI	**San Vicente**	**2.02**	**304**	↓*eP*	**P**	**02 40 25.8**	**+0.4**
SNVI				*e*S	**S**	**02 40 50.9**	**+1.3**
LCBS	**La Ceiba**	**2.16**	**303**	↑*eP*	**P**	**02 40 26.5**	**-0.8**
LCBS				*e*S	**S**	**02 40 52.4**	**-0.6**
LFRS	**El Faro**	**2.21**	**301**	↑*eP*	**P**	**02 40 27.0**	**-1.0**
LFRS				*e*S	**S**	**02 40 53.1**	**-1.2**
LBRS	**Las Brisas**	**2.26**	**304**	*eS*	**S**	**02 40 55.7**	**+0.3**
LFU	**La Fuente**	**2.32**	**303**	↑*eP*	**P**	**02 40 29.5**	**0.0**
SNET	**Serv Nac Est T**	**2.39**	**301**	*eS*	**S**	**02 40 57.5**	**-1.2**
SNET				*i*		02 41 06.2	
	comp=Z,1μm,0.3s						
BOQS	**Boqueron**	**2.45**	**301**	↓*eP*	**P**	**02 40 31.6**	**+0.2**
BOQS				*e*S	**S**	**02 41 00.2**	**0.0**
VCR	**Vista de Mar**	**2.75**	**148**	*eP*	**P**	**02 40 37.3**	**+1.7**
SNJE	**San Jose**	**2.79**	**300**	*eP*	**P**	**02 40 36.5**	**+0.3**
SNJE				*e*S	**S**	**02 41 08.6**	**-0.2**
SBLS	**San Blas**	**2.79**	**299**	*eP*	**P**	**02 40 36.0**	**-0.2**
SBLS				*e*S	**S**	**02 41 09.1**	**+0.3**
RTR	**El Retiro**	**2.84**	**300**	*eP*	**P**	**02 40 36.8**	**0.0**
RBDL	**Robledal**	**2.98**	**303**	*eP*	**P**	**02 40 35.8**	**-3.0**
JTS	**JuntasAbangare**	**3.04**	**135**	*e*Pn	**P**	**02 40 38.1**	**-1.4**
JTS				*e*Pg	**P**	**02 40 42.8**	**+3.2**
JTS				*e*S	**S**	**02 41 15.9**	**+1.1**
JCR	**Jicaral**	**3.27**	**143**	↑*eP*	**P**	**02 40 41.4**	**-1.3**
CGA2	**Cerro Gallo 2**	**3.57**	**133**	*eP*	**P**	**02 40 48.9**	**+1.9**
PRS1	**Puriscal**	**3.70**	**132**	*eP*	**P**	**02 40 51.2**	**+2.4**
LAJ	**Bijagual**	**3.92**	**131**	*eP*	**P**	**02 40 50.0**	**-1.8**
SJS	**Escuela Geolog**	**3.92**	**130**	*eS*	**S**	**02 41 38.8**	**+1.9**
ICR	**Volcan Irazu**	**4.07**	**127**	*eP*	**P**	**02 40 54.9**	**+1.1**
LCR2	**La Lucha 2**	**4.09**	**131**	*eP*	**P**	**02 40 54.7**	**+0.6**
BUS	**Buena Vista**	**4.39**	**131**	*eP*	**P**	**02 41 00.1**	**+1.7**
TXAR	**Lajitas Array**	**22.76**	**320**	P	P	**02 44 50.0**	**+1.2**
	comp=Z,6.7nm,0.7s,mb4.1,baz=138,slow=9.7,SNR=73						
TXAR				PcP	PcP	02 48 39.1	-0.6
	comp=Z,0.3nm,0.6s,baz=161,slow=4.4,SNR=3.5						
GDL2	**Guadalupe Moun**	**25.23**	**324**	*eP*	**P**	**02 45 13.8**	**+1.3**
MNTX	**Cornudas Mount**	**25.47**	**322**	*eP*	**P**	**02 45 14.4**	**-0.4**
	comp=Z,1.8nm,0.6s,mb3.7						
CPRX	**Cap Rock**	**25.56**	**326**	*eP*	**P**	**02 45 16.4**	**+0.8**
ANMO	**Albuquerque**	**28.43**	**325**	P	**P**	**02 45 42.4**	**+0.6**
	comp=Z,0.3nm,0.4s,mb3.2,baz=158,slow=10.0,SNR=3.8						
PV10	**Paradox Valley**	**32.34**	**327**	*eP*	**P**	**02 46 16.4**	**+0.1**
PDAR	**Pinedale Array**	**35.91**	**331**	P	**P**	**02 46 46.8**	**-0.1**
	comp=Z,1.8nm,0.6s,mb4.2,baz=130,slow=9.8,SNR=18						
BW06	**Boulder Array**	**35.91**	**331**	*eP*	**P**	**02 46 46.7**	**-0.1**
	comp=Z,1.7nm,0.7s,mb4.1						
NVAR	**Mina Array Bea**	**37.90**	**319**	P	**P**	**02 47 04.6**	**+1.1**
	comp=Z,1.4nm,0.8s,mb3.8,baz=155,slow=6.2,SNR=9.9						
NVAR				PcP	PcP	02 49 18.4	-0.3
	comp=Z,1.2nm,0.8s,baz=125,slow=5.0,SNR=7.8						
HLID	**Hailey**	**38.89**	**328**	*eP*	**P**	**02 47 11.9**	**+0.2**
	comp=Z,1.6nm,0.8s,mb3.9						
SCHQ	**Schefferville**	**45.16**	**16**	*eP*	**P**	**02 48 01.9**	**-0.8**
	comp=Z,7.5nm,1.2s,mb4.3,baz=239,slow=12,SNR=3.5						
SCHQ	**Schefferville**	**45.16**	**16**	*eP*	**P**	**02 48 01.7**	**-1.1**
YKA	**Yellowknife Ar**	**53.67**	**345**	P	**P**	**02 49 06.2**	**-1.8**
	comp=Z,0.6nm,0.7s,mb3.7,baz=140,slow=7.3,SNR=14						
YKA				pP	pP	02 49 24.2	-4.1
	comp=Z,0.3nm,0.6s,baz=140,slow=7.8,SNR=6.8						
YKA	**Yellowknife Ar**	**53.67**	**345**	P	**P**	**02 49 06.2**	**-1.8**
YKA				pP	pP	02 49 24.2	-4.1
PLCA	**Paso Flores**	**55.12**	**165**	LR	LR	03 09 33.2	
	comp=Z,71nm,18.3s,baz=178,slow=33						
ILAR	**Eielson Array**	**66.13**	**336**	P	**P**	**02 50 31.1**	**-2.1**
	comp=Z,0.3nm,0.6s,mb3.3,baz=157,slow=4.2,SNR=9.2						
STKA	**Stephens Creek**	**131.38**	**238**	PKP	PKPdf	02 58 57.0	+0.7
	comp=Z,4.0nm,1.1s,baz=56,slow=3.6,SNR=3.

0.9nm,0.5s,baz=103,slow=4.0,SNR=5.4
ASAR S **S** **03 24 01.7 -2.0**
0.9nm,0.7s,baz=87,slow=14,SNR=6.0
ASPA Alice Springs 45.12 256 *e*P **P** **03 18 05.9 +0.7**
KAKA Kakadu 48.31 270⇑*i*P **P** **03 18 29.3 -0.2**
6.2nm,0.4s,mb4.5
FITZ Fitzroy Crossi 53.52 261⇑*i*P **P** **03 19 07.6 +0.3**
4.8nm,0.5s,mb4.1
TXAR Lajitas Array 86.18 57 P **P** **03 22 21.6 +1.6**
0.6nm,0.6s,mb3.4,baz=217,slow=6.9,SNR=8.5
ILAR Eielson Array 87.18 13 P **P** **03 22 22.9 -1.0**
0.3nm,0.5s,mb3.2,baz=227,slow=5.1,SNR=18
SNAA Sanae 89.08 178⇑*i* **P** **03 22 31.8 -0.9**
VNA2 Neumayer--Watz 89.65 177⇓*i* **P** **03 22 37.4 +2.1**
INK Inuvik 93.14 15 *e*P **P** **03 22 49.5 -1.8**
0.2nm,0.6s,mb3.3
BVAR Borovoye Array 118.47 320 PKP PKPdf 03 28 20.0 -0.2
0.7nm,0.3s,baz=129,slow=1.7,SNR=10
ARCES ARCESS Array B 127.92 350 PKP PKPdf 03 28 38.2 +0.2
2.5nm,0.9s,baz=45,slow=1.7,SNR=8.8
AKASG Malin Array Be 142.23 332 PKhKP 03 29 01.5
0.4nm,0.3s,baz=40,slow=4.1,SNR=7.1
EKA Eskdalemuir Ar 143.89 5 PKP PKPdf 03 29 07.5 +0.1
1.7nm,0.7s,baz=315,slow=2.4,SNR=3.5
BRTR Keskin Array B 146.35 314 PKPbc PKPbc 03 29 15.6 +1.5
2.9nm,1.1s,baz=128,slow=3.9,SNR=11
CLL Collm 147.08 348 *e*PKP1 PKPdf 03 29 18.0 +5.0
GERES GERESS Array B 149.25 345 PKPbc PKPdf 03 29 23.2 +6.7
0.7nm,0.5s,baz=45,slow=1.9,SNR=8.3
DAVOX Davos 152.01 349 PKPbc PKPdf 03 29 29.3 +8.6
2.6nm,0.4s,baz=262,slow=3.9,SNR=9.4

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*CSEM **24** 03:11:08.1±0.2,35.84N×29.54E,h18km±1km,MD3.3, Error ellipse: s-maj=4.5km s-min=2.1km az=91.0*
*ISK **24** 03:11:09.5,35.83N×29.54E,h32km,MD3.3*
*HLW **24** 03:11:18.6,35.39N×29.50E,h30km,Mb3.3*
ISC 24 03:11:07.4±1.0,35.80N±0.04×29.64E±0.09,h5km±7km, n16,σ1°06/22,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.94**	**332**	*i* PG	**Pg**	**03 11 26.0**	**-0.2**
FETY				*i* SG	**Sg**	**03 11 38.1**	**-0.7**
ELL	**Elmali**	**0.97**	**13**	PG	**Pg**	**03 11 26.9**	**+0.1**
BCK	**Bucak**	**1.82**	**25**	*e*PN	**Pn**	**03 11 39.7**	**-0.1**
DNZL	**Cakiroluk**	**1.94**	**346**	*i* P	**Pn**	**03 11 43.0**	**+1.5**
DNZL				*i* S	**Sn**	**03 12 06.7**	**+0.1**
DENT	**Denizli**	**2.01**	**346**	*e*PN	**Pn**	**03 11 41.5**	**-0.9**
BDRM	**Kayabasi**	**2.17**	**306**	*i* P	**Pn**	**03 11 45.8**	**+1.0**
BDRM				*i* S	**Sn**	**03 12 14.2**	**+1.9**
AYDN	**Tasoluk**	**2.33**	**323**	*i* P	**Pn**	**03 11 49.3**	**+2.3**
AYDN				*i* S	**Sn**	**03 12 14.2**	**-2.2**
KHL	**Karahalli**	**2.52**	**358**	*e*PN	**Pn**	**03 11 49.0**	**-0.7**
MANT	**Manisa**	**2.82**	**343**	*i* P	**Pn**	**03 11 55.1**	**+1.1**
MANT				*i* S	**Sn**	**03 12 27.6**	**-1.2**
HHAG	**Hagoal**	**6.19**	**160**	P	**Pn**	**03 12 42.0**	**+0.3**
HNAT	**Natroun**	**6.21**	**172**	P	**Pn**	**03 12 42.3**	**+0.3**
GLL	**Jalalah**	**6.45**	**164**	P	**Pn**	**03 12 45.9**	**+0.5**
GLL	**Jalalah**	**6.45**	**164**	P	**Pn**	**03 12 45.8**	**+0.4**
SWA1		**7.31**	**208**	P	**Pn**	**03 12 56.7**	**-0.8**
SWA2		**7.43**	**210**	P	**Pn**	**03 12 58.2**	**-1.0**
SWA2				S	**Sn**	**03 14 12.3**	**-12**
AWBH		**7.48**	**185**	P	**Pn**	**03 12 59.1**	**-0.9**

IGQ 24 03:36:10.7,1.58S×81.89W,h5km±11km,mb4.0,1C,Error ellipse: s-maj=19.2km s-min=13.4km az=39.2,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.44**	**69**	⇑P	Pn	03 36 35.0	-2.5
IGUA	**Igualata**	**3.25**	**89**	P	Pn	03 37 04.3	+1.0
ARRY	**Arrayan**	**3.43**	**89**	P	Pn	03 37 06.5	+0.5
NAS1	**Nasa**	**3.54**	**75**	P	Pn	03 37 09.2	+1.8
PISA	**Pisayambo**	**3.54**	**82**	P	Pn	03 37 09.2	+1.7
JUA2	**San Juan 2**	**3.55**	**68**	P	Pn	03 37 08.0	+0.4
TERV	**Terraza Guagua**	**3.57**	**67**	P	Pn	03 37 09.0	+1.2
PINO	**Pino**	**3.57**	**67**	P	Pn	03 37 08.8	+0.9
VC1	**Cotopaxi 1**	**3.60**	**75**	P	Pn	03 37 11.2	+2.8
YANA	**Yana**	**3.62**	**66**	P	Pn	03 37 09.0	+0.4
TAMB	**Tambo**	**3.63**	**76**	P	Pn	03 37 11.4	+2.7
ANTI	**Antisana**	**3.89**	**73**	P	Pn	03 37 14.7	+2.3
COTA	**Cotacachi**	**4.03**	**62**	P	Pn	03 37 15.4	+1.0
CAYR	**Refugio Cayambe**	**4.19**	**68**	P	Pn	03 37 19.7	+3.0
CAYR				S	Sn	03 38 08.0	+1.2
CAYA	**Cayambe**	**4.23**	**67**	P	Pn	03 37 20.2	+3.0

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*NEIC **24** 03:48:45.5±1.0,15.51S×71.43W,h153km±12km,mb4.1/1, Error ellipse: s-maj=20.9km s-min=12.3km az=50.0*
*IDC **24** 03:48:47.0±2.2,15.53S×71.32W,h168km±22km,mb3.5/6, mb1 3.9/8,mb1mx3.7/17,mbtmp4.1/8,Error ellipse: s-maj=26.7km s-min=19.2km az=82.0*
ISC 24 03:48:44.6±0.9,15.5S±0.1×71.50W±0.09,h162km±11km, n16,σ1°16/21,mb3.7/6,1C,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.33**	**104**	P	**P**	**03 49 38.3**	**+1.0**
	33nm,0.3s,baz=291,slow=12,SNR=1030						
LPAZ				S	**S**	**03 50 18.0**	**+0.2**
	0.9nm,0.3s,baz=32,slow=19,SNR=2.3						
LPAZ	**La Paz**	**3.33**	**104**	⇑*i*Pn	**P**	**03 49 38.2**	**+0.9**
LPAZ				Sn	**S**	**03 50 14.2**	**-3.6**
LPAZ				S	**S**	**03 50 18.0**	**+0.2**
NNA	**Nana**	**6.27**	**303**	Pn	**P**	**03 50 16.9**	**+1.0**
	584nm,0.5s,SNR=25						
NNA	**Nana**	**6.27**	**303**	*e*Pn	**P**	**03 50 16.2**	**+0.3**
NNA				*e*Sn	**S**	**03 51 23.8**	**-3.0**
LVC	**Limon Verde**	**7.46**	**161**	P	**P**	**03 50 30.8**	**-1.0**
	22nm,0.3s,baz=336,slow=10.0,SNR=184						
LVC				S	**S**	**03 51 49.2**	**-6.2**
	7.7nm,0.3s,baz=186,slow=21,SNR=9.4						
LVC	**Limon Verde**	**7.46**	**161**	P	**P**	**03 50 30.8**	**-1.0**
LVC				S	**S**	**03 51 49.2**	**-6.2**
SDV	**Santo Domingo**	**24.27**	**2**	P	**P**	**03 53 48.1**	**-0.2**
	10nm,0.8s,mb4.4,baz=195,slow=12,SNR=22						
PLCA	**Paso Flores**	**25.13**	**178**	P	**P**	**03 53 56.7**	**+0.5**
	3.0nm,0.8s,mb3.9,baz=322,slow=8.8,SNR=4.3						
PLCA	**Paso Flores**	**25.13**	**178**	*e*P	**P**	**03 53 57.4**	**+1.2**
	5.4nm,1.0s,mb4.0						
TXAR	**Lajitas Array**	**54.34**	**325**	P	**P**	**03 57 57.6**	**+0.8**
	0.4nm,0.6s,mb3.3,baz=154,slow=9.0,SNR=5.2						
PDAR	**Pinedale Array**	**67.73**	**331**	P	**P**	**03 59 26.3**	**-0.4**
	0.1nm,0.5s,mb2.8,baz=120,slow=7.3,SNR=4.7						
DBIC	**Dimbokro**	**69.58**	**77**	P	**P**	**03 59 36.2**	**-2.3**
	3.2nm,1.0s,mb4.0,baz=238,slow=9.0,SNR=7.4						
DBIC	**Dimbokro**	**69.58**	**77**	*e*P	**P**	**03 59 36.3**	**-2.2**
YKA	**Yellowknife Ar**	**84.77**	**341**	P	**P**	**04 01 02.6**	**+1.2**
	0.8nm,0.6s,mb3.6,baz=135,slow=5.1,SNR=20						
YKA	**Yellowknife Ar**	**84.77**	**341**	P	**P**	**04 01 02.6**	**+1.2**
SONM	**Songino Array**	**147.73**	**3**	PKPbc	PKPdf	04 08 13.1	+6.1
	1.0nm,0.5s,baz=330,slow=2.1,SNR=16						

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*NEIC **24** 03:49:01.0±1.1,2.59N×95.24E,mb4.4/4,Error ellipse: s-maj=29.9km s-min=17.8km az=73.0*
*IDC **24** 03:49:02.3±1.8,2.86N×95.60E,h20km±5km,mb4.2/4, mb1 4.3/5,mb1mx3.8/17,mbtmp4.3/5,ML4.3/1,MS3.2/2, Ms1 3.3/2,ms1mx2.7/22,Error ellipse: s-maj=75.0km s-min=19.8km az=59.0*
ISC 24 03:48:59.5±1.1,2.6N±0.1×95.4E±0.2,h21km, h21km±.7km:pP-P,n15,σ1°04/14,mb4.4/12,MS3.4/1,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**16.15**	**12**	P	**P**	**03 52 47.1**	**0.0**
CMAR	**Chiang Mai Arr**	**16.15**	**12**	Pn	**P**	**03 52 47.6**	**+0.5**
	0.5nm,0.3s,baz=200,slow=11,SNR=23						
CMAR				LR	LR	03 58 23.7	
	comp=Z,63nm,21.6s,baz=196,slow=35						
JIRN	**Jiri**	**26.44**	**341**	*e*P	**P**	**03 54 38.0**	**+1.0**
	31nm,0.7s,mb5.0						
DMN	**Daman**	**26.75**	**339**	*e*P	**P**	**03 54 40.7**	**+0.8**
	9.0nm,0.8s,mb4.4						
GKN	**Gorkha**	**27.28**	**339**	*e*P	**P**	**03 54 45.5**	**+0.8**
	18nm,0.8s,mb4.7						
KOLN	**Koldanda**	**27.46**	**337**	*e*P	**P**	**03 54 48.2**	**+1.8**
	24nm,1.0s,mb4.7						
JOW	**Kunigami**	**39.66**	**49**	LR	LR	04 12 21.0	
	comp=Z,55nm,18.9s,MS3.4,baz=271,slow=36						
AAK	**Ala-Archa**	**44.03**	**338**	P	**P**	**03 57 04.7**	**-2.8**
	1.3nm,0.7s,mb3.8						
ASAR	**Alice Springs**	**45.66**	**127**	P	**P**	**03 57 21.4**	**+0.5**
	4.0nm,0.6s,mb4.5,baz=322,slow=11,SNR=37						
ASAR				pP	pP	03 57 28.5	+1.2
	6.2nm,0.6s,baz=316,slow=12,SNR=10						
SONM	**Songino Array**	**46.06**	**10**	P	**P**	**03 57 22.6**	**-1.1**
	2.0nm,0.7s,mb4.1,baz=190,slow=8.3,SNR=19						
SONM				pP	pP	03 57 28.7	-1.3
	2.6nm,0.9s,baz=190,slow=8.3,SNR=11						
SONM				PcP	PcP	03 59 00.1	-0.4
	0.7nm,0.6s,baz=192,slow=3.4,SNR=4.5						
KURK	**Kurchatov**	**50.01**	**346**	*e*P	**P**	**03 57 54.1**	**-0.4**
	4.7nm,1.1s,mb4.4						
BVAR	**Borovoye Array**	**54.36**	**342**	P	**P**	**03 58 26.1**	**-0.9**
	2.3nm,0.6s,mb4.3,baz=142,slow=8.8,SNR=18						
BVAR				pP	pP	03 58 32.3	-1.2
	1.6nm,0.7s,baz=127,slow=7.4,SNR=6.9						
BRVK	**Borovoye**	**54.42**	**342**	*e*P	**P**	**03 58 26.2**	**-1.3**
	1.9nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**54.85**	**342**	*e*P	**P**	**03 58 30.0**	**-0.6**
	4.1nm,0.6s,mb4.6						
CHKZ				*e*pP	pP	03 58 36.2	-0.9
ARCES	**ARCESS Array B**	**80.63**	**340**	P	**P**	**04 01 12.4**	**+0.4**
	4.0nm,0.9s,mb4.3,baz=90,slow=3.6,SNR=7.2						

IGQ 24 03:51:03.5,1.12S×81.26W,h10km±27km,mb4.2,2C, Error ellipse: s-maj=26.9km s-min=9.1km az=170.4,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.65**	**98**	P	Pn	03 51 48.5	+1.5
JUA2	**San Juan 2**	**2.80**	**71**	P	Pn	03 51 50.6	+1.4
TERV	**Terraza Guagua**	**2.81**	**71**	P	Pn	03 51 50.7	+1.2
PINO	**Pino**	**2.82**	**70**	P	Pn	03 51 50.5	+1.0
NAS1	**Nasa**	**2.82**	**80**	P	Pn	03 51 52.0	+2.5
ARRY	**Arrayan**	**2.83**	**98**	P	Pn	03 51 50.7	+1.1
ARRY				S	Sn	03 52 24.7	+0.5
PATA	**Patacocha**	**2.85**	**98**	P	Pn	03 51 51.7	+1.7
YANA	**Yana**	**2.87**	**70**	P	Pn	03 51 51.2	+1.1
ULBA	**Ulba**	**2.87**	**97**	P	Pn	03 51 51.5	+1.2
PISA	**Pisayambo**	**2.87**	**89**	P	Pn	03 51 52.0	+1.7
VC1	**Cotopaxi 1**	**2.90**	**81**	P	Pn	03 51 53.4	+2.8
TAMB	**Tambo**	**2.92**	**82**	P	Pn	03 51 54.1	+3.1
ANTI	**Antisana**	**3.17**	**78**	⇑P	Pn	03 51 57.3	+2.8
COTA	**Cotacachi**	**3.26**	**64**	P	Pn	03 51 56.3	+0.6
CAYR	**Refugio Cayambe**	**3.44**	**71**	⇑P	Pn	03 52 01.6	+3.3

IDC 24 03:52:53.9±4.6,7.67S×120.59E,h179km±99km,mb3.5/2, mb1 3.7/3,mb1mx3.3/14,mbtmp4.1/3,MS3.0/1,Ms1 3.0/1, ms1mx2.2/20,Error ellipse: s-maj=129.8km s-min=64.3km az=29.0,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.07**	**134**	P	P	03 56 53.5	-1.0
	1.0nm,0.3s,baz=303,slow=13,SNR=16						
WRA				S	S	04 00 09.8	+2.7
	0.9nm,0.3s,baz=304,slow=20,SNR=8.4						
ASAR	**Alice Springs**	**20.40**	**143**	P	P	03 57 16.6	-1.9
	4.7nm,0.5s,baz=329,slow=14,SNR=26						
ASAR				S	S	04 00 57.8	+6.1
	2.7nm,1.1s,baz=324,slow=25,SNR=5.0						
ASAR				LR	LR	04 06 56.9	
	comp=Z,48nm,21.9s,baz=137,slow=41						
STKA	**Stephens Creek**	**31.03**	**144**	P	P	03 58 54.6	-2.4
	0.5nm,0.3s,baz=330,slow=9.3,SNR=3.7						

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*CSEM **24** 03:53:40.4±0.1,35.79N×29.50E,h15km,MD3.6,Error ellipse: s-maj=3.9km s-min=1.6km az=84.0*
*ATH **24** 03:53:42.0,35.92N×29.65E,h31km,MD3.5/4*
*HLW **24** 03:53:44.3,35.86N×29.55E,h22km,Mb3.4*
*ISK **24** 03:53:46.1,36.12N×29.44E,h32km,MD3.6*
ISC 24 03:53:41.7±0.8,35.80N±0.03×29.55E±0.07,h25km±9km, n34,σ1°07/41,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.35**	**5**	*e*PB	**Pb**	**03 53 49.0**	**-0.4**
FETY	**Fethiye**	**0.91**	**336**	PG	**Pb**	**03 53 58.7**	**0.0**
FETY				SG	**Sb**	**03 54 06.8**	**-3.7**
ELL	**Elmali**	**0.99**	**17**	PG	**Pb**	**03 53 59.4**	**-0.6**
ARG	**Arkhangelos**	**1.22**	**290**	*e*PN	**Pn**	**03 54 05.6**	**+2.2**
ANTB	**Antalya**	**1.42**	**39**	*e*PN	**Pn**	**03 54 06.9**	**+0.7**
BCK	**Bucak**	**1.86**	**27**	PN	**Pn**	**03 54 13.7**	**+1.2**
DNZL	**Cakiroluk**	**1.93**	**348**	*i* P	**Pn**	**03 54 15.3**	**+1.8**
DNZL				*i* S	**Sn**	**03 54 35.1**	**-2.1**
KARP	**Karpathos**	**1.96**	**263**	*e*PN	**Pn**	**03 54 16.5**	**+2.6**
DENT	**Denizli**	**1.99**	**348**	PN	**Pn**	**03 54 14.7**	**+0.3**
MLSB	**Milas**	**2.06**	**317**	*e*PN	**Pn**	**03 54 14.9**	**-0.5**
BDRM	**Kayabasi**	**2.11**	**307**	*i* P	**Pn**	**03 54 21.1**	**+5.0**
BDRM				*i* S	**Sn**	**03 54 42.8**	**+1.0**
AYDN	**Tasoluk**	**2.29**	**325**	*i* P	**Pn**	**03 54 24.5**	**+5.8**
AYDN				*i* S	**Sn**	**03 54 44.0**	**-2.3**
KHL	**Karahalli**	**2.52**	**360**	*e*PN	**Pn**	**03 54 22.3**	**+0.3**
MANT	**Manisa**	**2.80**	**344**	*i* P	**Pn**	**03 54 30.2**	**+4.2**
MANT				*i* S	**Sn**	**03 54 55.3**	**-4.0**
SMG	**Samos**	**2.89**	**312**	*e*PN	**Pn**	**03 54 28.0**	**+0.7**
IZM	**Izmir**	**3.17**	**326**	*e*PN	**Pn**	**03 54 31.0**	**-0.2**
BLCB	**Balcova**	**3.27**	**323**	*e*PN	**Pn**	**03 54 31.6**	**-1.0**
ALT	**Altintas**	**3.28**	**8**	*e*PN	**Pn**	**03 54 33.0**	**+0.2**
ESKT	**Eskisehir**	**3.85**	**15**	*e*PN	**Pn**	**03 54 40.6**	**-0.3**
HMAT	**Matruh**	**5.12**	**204**	P	**Pn**	**03 55 00.2**	**+1.4**
HMAT				S	**Sn**	**03 55 56.2**	**-1.8**
HMAT	**Matruh**	**5.12**	**204**	P	**Pn**	**03 55 00.2**	**+1.3**
HMAT				S	**Sn**	**03 55 56.2**	**-1.7**
HMYD	**Mayadein**	**6.08**	**170**	P	**Pn**	**03 55 13.4**	**+1.0**
HHAG	**Hagoal**	**6.21**	**159**	P	**Pn**	**03 55 14.9**	**+0.6**
HNAT	**Natroun**	**6.22**	**171**	P	**Pn**	**03 55 14.9**	**+0.6**
GLL	**Jalalah**	**6.47**	**163**	P	**Pn**	**03 55 17.8**	**-0.1**
SUZ		**6.55**	**154**	P	**Pn**	**03 55 19.2**	**+0.1**
SUZ		**6.55**	**154**	P	**Pn**	**03 55 19.2**	**+0.1**
SWA1		**7.28**	**207**	P	**Pn**	**03 55 29.0**	**-0.3**
SWA2		**7.39**	**209**	P	**Pn**	**03 55 30.4**	**-0.5**
AWBH		**7.48**	**184**	P	**Pn**	**03 55 31.2**	**-0.8**
HKAT	**Jabal Katrina**	**8.18**	**151**	P	**P**	**03 55 40.8**	**-0.9**
ASUT		**8.55**	**168**	P	**P**	**03 55 46.5**	**-0.5**
HFRF	**Wahat Farafira**	**8.69**	**187**	P	**P**	**03 55 48.6**	**-0.3**
HDK2	**Wahat Dakhilah**	**11.45**	**183**	P	**P**	**03 56 25.9**	**-0.9**

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*NIED **24** 03:58:00,35.20N×139.40E,h155km,Mw3.8 Best double couple: M0:5.8×10^14 NP1:φs69°,δ56°,λ-66°. NP2:φs210°, δ41°,λ-122°.*
*JMA **24** 03:58:52.3±0.1,35.16N×139.38E,h150km±1km,M3.8 Broadband fault plane solution: P waves. NP1:φs197°, δ60°,λ-149°. NP2:φs90°,δ63°,λ-34°. Principal axes: T Plg2°, Azm144°; N Plg48°, Azm236°; P Plg42°, Azm52°.*
*IDC **24** 03:58:52.1±1.3,35.05N×139.22E,h151km±13km,mb3.4/9, mb1 3.7/9,mb1mx3.5/21,mbtmp3.8/9 Error ellipse: s-maj=23.0km s-min=15.2km az=99.0*
*NEIC **24** 03:58:52.2±1.0,35.08N×139.17E,h152km±7km,mb4.1/7, Error ellipse: s-maj=12.9km s-min=11.5km az=158.0*
ISC 24 03:58:51.1±0.3,35.12N±0.04×139.32E±0.06,h155km±2km, n35,σ0°93/49,mb3.8/14,4C-5D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AJI	**Ajiro2**	**0.20**	**248**	⇓P	**P**	**03 59 12.6**	**+0.2**
AJI				S	**S**	**03 59 28.1**	**-0.6**
JOD2	**Odawara 2**	**0.24**	**306**	⇓P	**P**	**03 59 12.8**	**+0.3**
JOD2				S	**S**	**03 59 28.1**	**-0.8**
JIM2	**Oshima 3**	**0.41**	**167**	⇓P	**P**	**03 59 13.3**	**+0.1**
JIM2				*e*S	**S**	**03 59 29.5**	**-0.5**
JIZS	**Izushimoda**	**0.54**	**222**	⇓P	**P**	**03 59 14.4**	**+0.7**
JIZS				*e*S	**S**	**03 59 31.8**	**+0.7**
JYN	**Shimob**	**0.74**	**301**	⇓P	**P**	**03 59 15.5**	**+0.7**
JRY	**Ryogami san**	**0.96**	**339**	⇑P	**P**	**03 59 17.3**	**+1.1**
JRY				S	**S**	**03 59 35.8**	**+0.3**
JAG	**Ashikaga**	**1.30**	**5**	⇑P	**P**	**03 59 19.7**	**+0.3**
JAG				*e*S	**S**	**03 59 39.8**	**-1.5**
BSO1	**Boso 1**	**1.44**	**108**	⇑P	**P**	**03 59 20.9**	**+0.1**
BSO1				*e*S	**S**	**03 59 43.1**	**-0.6**
MAJO	**Matsushiro**	**1.68**	**328**	⇑*i*Pn	**P**	**03 59 23.6**	**+0.2**
MAJO				*e*Sn	**S**	**03 59 47.7**	**-0.5**
MAT	**Matsushiro**	**1.68**	**328**	*e*P	**P**	**03 59 24.0**	**+0.7**
MAT				*e*S	**S**	**03 59 47.0**	**-1.2**
MAT	**Matsushiro**	**1.68**	**328**	P	**P**	**03 59 23.7**	**+0.4**
MAT				S	**S**	**03 59 47.3**	**-0.9**
MAT	**Matsushiro**	**1.68**	**328**	P	**P**	**03 59 23.7**	**+0.4**
MAT				*e*S	**S**	**03 59 47.4**	**-0.8**
TK01	**Tokai 1**	**1.97**	**227**	P	**P**	**03 59 27.5**	**+1.0**
JHJ	**Hachijo jima 2**	**2.03**	**169**	P	**P**	**03 59 27.9**	**+0.6**
	72nm,0.3s,baz=72,slow=22,SNR=17						
JHJ				S	**S**	**03 59 54.5**	**-0.7**
	293nm,0.3s,baz=83,slow=22,SNR=18						
JHJ2	**Mitsune**	**2.05**	**168**	P	**P**	**03 59 28.4**	**+1.0**
JHJ2				*e*S	**S**	**03 59 54.5**	**-0.9**
JGM	**Miyama**	**2.20**	**286**	P	**P**	**03 59 30.6**	**+1.2**
JGM				*e*S	**S**	**03 59 59.7**	**+0.9**
JIE	**Ise**	**2.27**	**252**	*e*S	**S**	**04 00 00.4**	**+0.1**
HIA	**Hailar**	**20.17**	**320**	P	**P**	**04 03 12.1**	**-2.9**
	2.3nm,0.5s						
ENH	**Enshi**	**25.52**	**268**	*e*P	**P**	**04 04 05.3**	**-1.5**
	5.0nm,0.3s,mb4.6						
MA2	**Magadan**	**25.59**	**14**	*e*P	**P**	**04 04 07.2**	**0.0**
	6.4nm,0.6s,mb4.4						
ULN	**Ulaanbaatar**	**27.11**	**308**	*e*P	**P**	**04 04 20.5**	**-0.7**
	3.3nm,1.1s,mb3.9						
SONM	**Songino Array**	**27.52**	**308**	P	**P**	**04 04 23.4**	**-1.6**
	0.8nm,0.7s,mb3.5,baz=108,slow=8.6,SNR=6.1						
KURK	**Kurchatov**	**45.80**	**309**	*e*P	**P**	**04 06 58.3**	**-0.4**
	5.6nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**50.40**	**314**	*e*P	**P**	**04 07 34.1**	**-0.1**
	1.7nm,0.6s,mb3.9						
BVAR	**Borovoye Array**	**50.62**	**313**	P	**P**	**04 07 36.6**	**+0.7**
	0.3nm,0.3s,mb3.3,baz=63,slow=6.4,SNR=4.7						
ILAR	**Eielson Array**	**52.01**	**31**	P	**P**	**04 07 46.0**	**-0.1**
	0.7nm,0.7s,mb3.4,baz=277,slow=6.0,SNR=7.9						
WRA	**Warramunga Arr**	**54.96**	**186**	P	**P**	**04 08 06.8**	**-1.6**
	1.3nm,0.5s,mb3.9,baz=0.3,slow=7.6,SNR=14						
INK	**Inuvik**	**56.85**	**26**	P	**P**	**04 08 21.0**	**-0.2**
	1.6nm,1.0s,mb3.8,baz=309,slow=6.5,SNR=7.6						
INK	**Inuvik**	**56.85**	**26**	*e*P	**P**	**04 08 21.2**	**0.0**
	2.4nm,0.9s,mb4.0						
ASAR	**Alice Springs**	**58.69**	**186**	P	**P**	**04 08 33.2**	**-1.4**
	0.4nm,0.5s,mb3.5,baz=13,slow=12,SNR=3.1						
YKA	**Yellowknife Ar**	**66.31**	**29**	P	**P**	**04 09 24.0**	**-0.5**
	0.3nm,0.5s,mb3.4,baz=300,slow=6.5,SNR=9.7						
NVAR	**Mina Array Bea**	**77.50**	**52**	P	**P**	**04 10 32.6**	**+1.7**
	1.3nm,0.6s,mb3.7,baz=305,slow=4.2,SNR=11						
BW06	**Boulder Array**	**80.22**	**44**	*e*P	**P**	**04 10 46.3**	**+0.8**
PV10	**Paradox Valley**	**83.31**	**47**	*e*P	**P**	**04 11 03.8**	**+2.2**
TXAR	**Lajitas Array**	**92.63**	**51**	P	**P**	**04 11 47.7**	**+1.3**
	0.4nm,0.7s,mb3.6,baz=308,slow=2.6,SNR=3.9						

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*NEIC **24** 04:07:09.9,17.28N×94.61W,h149km,MD4.0(MEX),After MEX.*
MEX 24 04:07:09.9±1.2,17.28N×94.61W,h149km±11km,MD4.0, 1C-2D,Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.32**	**234**	⇓*i*P	P	04 07 29.1	-1.8
CMIG				*i* S	S	04 07 43.8	-3.0
TUIG	**Tuzandepetl**	**0.77**	**14**	⇓*i*P	P	04 07 30.9	-2.2
TUIG				*i* S	S	04 07 48.2	-2.7
OXX	**Oaxaca**	**2.03**	**265**	*i* P	P	04 07 44.0	-1.6
OXX				*i* S	S	04 08 13.0	0.0
VHO	**Vista Hermosa**	**2.04**	**264**	⇑*i*P	P	04 07 44.8	-1.0
VHO				*i* S	S	04 08 12.8	-0.4
HUIG	**Huatulco**	**2.08**	**224**	*i* P	P	04 07 43.1	-3.2
HUIG				*i* S	S	04 08 12.0	-2.2
CCIG	**Comitan**	**2.57**	**112**	*i* P	P	04 07 51.8	-0.7
CCIG				*i* S	S	04 08 22.9	-2.1
POHV	**Veracruz**	**3.10**	**305**	*e*P	P	04 08 06.5	+7.3
PPM	**Popocatepetl**	**4.21**	**296**	*i* P	P	04 08 14.3	+0.6
PPM				*i* S	S	04 09 00.8	-2.0

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*BJI **24** 04:16:45.1,7.25N×92.48E,h33km,mB6.1,mb5.7,Ms6.4, Msz6.1*
*MOS **24** 04:16:46.4±1.0,7.38N×92.46E,h33km,mb6.2/109, MS6.1/79,Error ellipse: s-maj=6.4km s-min=3.3km az=124.5*
*BGS **24** 04:16:47.5±1.6,7.33N×92.48E,h33km,mb5.9*
*DHMR **24** 04:16:47.6±2.8,7.26N×92.41E,h10km,mb6.0*
*NEIC **24** 04:16:47.4±0.1,7.33N×92.48E,h30km,mb6.1/173,ME6.5, MS6.2/116,MW6.3,Error ellipse: s-maj=4.2km s-min=2.4km az=215.0 Broadband fault plane solution: P waves. NP1:φs345°,δ75°,λ-20°. NP2:φs80°,δ71°,λ-164°. Princip

comp=Z,3μm,1.2s
TRD e S 04 22 57.0 -18
CAL Calcutta 15.65 345 e P 04 20 27.1 +0.8
CAL e S 04 23 37.2 +19
HYB Hyderabad 16.93 308⇓eP P 04 20 41.0 -1.5
HYB eS rx 04 23 38.0
HYB pmax pmax
comp=Z,810nm,1.0s
HYB Hyderabad 16.93 308⇓eP P 04 20 41.0 -1.5
comp=Z,810nm,1.0s
HYB eS rx 04 23 38.0
HYB Hyderabad 16.93 308⇓iP P 04 20 41.0 -1.5
comp=Z,810nm,1.0s
HYB e 04 23 38.0
HYB eS S 04 23 50.0 +2.0
HYB LR LR 04 27 30.0
comp=Z,86nm,20.0s
IMP Imphal 17.40 4⇑iP P 04 20 46.2 -2.2
BOK Bokaro 17.56 339 eP P 04 20 47.5 -3.0
BOK e 04 21 06.4
comp=Z,3μm,1.0s
BOK i S 04 23 52.8 -10
BLSP Bilaspur 17.80 327⇓eP P 04 20 52.9 -0.5
BLSP e 04 21 00.9
comp=Z,3μm,1.9s
BLSP e S 04 24 00.0 -7.9
SHL Shillong 18.14 358 eP P 04 20 54.0 -3.6
SHL e S 04 24 08.0 -7.5
MNGI Mangalore 18.30 289 eP P 04 20 59.8 +0.1
MNGI e S 04 24 11.7 -7.5
NGP Nagpur 18.93 318 eP P 04 21 07.5 +0.2
NGP e 04 21 13.8
NGP e S 04 24 29.1 -4.4
LATR Latur 19.05 307 eP P 04 21 00.0 -8.7
LATR eS S 04 24 30.5 -5.6
SLGI Shiliguri 19.65 349 e P 04 21 16.4 +1.2
COCO West Island 19.86 168 eP P 04 21 18.0 +0.4
comp=Z,3μm,1.1s
LKP Lekhapani 20.17 9 eP P 04 21 19.0 -1.7
LKP e 04 21 33.5
LKP e 04 24 48.5
LKP eS S 04 25 02.5 +2.5
KMI Kunming 20.20 28 P P 04 21 22.1 +1.0
KMI *SP 04 21 32.7
KMI 04 21 46.6
KMI S S 04 25 07.4 +6.8
KMI *SS 04 25 19.6
KMI SS SS 04 25 38.5 +8.0
KMI pmax pmax
comp=Z,490nm,1.0s
KMI MLR MLR
comp=Z,41μm,24.1s,MS5.7
KMI Kunming 20.20 28 P P 04 21 22.1 +1.0
comp=Z,490nm,1.0s
KMI pP 04 21 29.6
KMI sP 04 21 32.7
KMI PP PP 04 21 46.6 +5.1
KMI S S 04 25 07.4 +6.8
KMI sS 04 25 19.6
KMI SS SS 04 25 38.5 +8.0
KMI LR LR
comp=Z,41μm,24.1s,MS5.7
GTK Gangtok 20.23 350 eP P 04 21 19.0 -2.4
QIZ Qiongzhong 20.44 54 P P 04 21 23.8 +0.1
QIZ AP 04 21 32.1
QIZ XP 04 21 37.4
QIZ PP PP 04 21 43.9 -1.1
QIZ PPP PPP 04 21 53.9 -0.3
QIZ S S 04 25 07.1 +1.7
QIZ SS SS 04 25 36.8 +0.4
QIZ LR LR
comp=N,83μm,13.4s,MS6.3
QIZ LR LR
comp=E,58μm,16.2s,MS6.3
QIZ LR LR
comp=Z,108μm,13.5s,MS6.4
QIZ Qiongzhong 20.44 54 eP P 04 21 22.7 -1.0
comp=Z,2μm,1.1s
KAD Karad 20.47 301⇓eP P 04 21 22.8 -1.2
KAD e 04 21 39.5
comp=Z,3μm,1.6s
ALBI Allahabad 20.60 331 eP P 04 21 24.0 -1.3
JIRN Jiri 21.09 344 eP P 04 21 31.0 +0.7
PKI Pulchoki 21.23 342 eP P 04 21 32.1 +0.4
comp=Z,3μm,0.6s,mb6.8
PKI Pulchoki 21.23 342 eP P 04 21 32.2 +0.5
POO Poona 21.32 303⇓eP P 04 21 32.6 0.0
POO e 04 21 50.9
comp=Z,1μm,1.7s
DMN Daman 21.36 342 eP P 04 21 33.4 +0.5
DMN Daman 21.36 342 eP P 04 21 33.4 +0.5
comp=Z,4μm,0.8s,mb6.8
BHPL Bhopal 21.47 319⇓eP P 04 21 34.2 +0.1
BHPL e 04 21 50.0
comp=Z,2μm,1.6s
BHPL eS S 04 25 27.2 +2.3
KKN Kakani 21.47 342 eP P 04 21 34.4 +0.3
VLK Valmikinagar 21.51 339 iP P 04 21 34.0 -0.4
VLK i 04 21 47.0
VLK i S 04 25 23.0 -2.5
VLK i 04 26 48.0
GKN Gorkha 21.87 341 eP P 04 21 38.8 +0.7
comp=Z,2μm,0.5s,mb6.8
GKN Gorkha 21.87 341 eP P 04 21 38.8 +0.7
KOLN Koldanda 22.02 338 eP P 04 21 40.4 +0.9
KOLN Koldanda 22.02 338 eP P 04 21 40.5 +1.0
comp=Z,3μm,0.7s,mb6.8
LSA Lhasa 22.28 357 eP P 04 21 42.2 0.0
LSA eS S 04 25 39.7 -0.1
LSA pmax pmax
comp=Z,292nm,0.7s,mb5.8
LSA Lhasa 22.28 357 eP P 04 21 42.2 +0.1
comp=Z,292nm,0.7s,mb5.8
LSA eS S 04 25 39.6 -0.2
BOM Bombay 22.35 303 e P 04 21 51.7 +8.8
BOM e S 04 25 54.3 +13
JHNI Jhansi 22.44 325⇓iP P 04 21 42.0 -1.7
JHNI eS S 04 25 47.0 +4.3
BHV Bhavnagar 24.34 308 eP P 04 22 05.0 +2.6
DGAR Diego Garcia 24.82 234 eP P 04 22 07.3 +0.2
DGAR pmax pmax
comp=Z,5μm,1.6s,mb6.8
DGAR MLR MLR
comp=Z,9μm,22.0s,MS5.2
DGAR Diego Garcia 24.82 234 eP P 04 22 07.3 +0.3
comp=Z,5μm,1.6s,mb6.8
DGAR LR LR
comp=Z,9μm,22.0s,MS5.2
PTH Pithoragarh 24.95 334 eP P 04 22 10.0 +1.8
PTH e S 04 26 43.0 +17
BATP Bataraza 25.05 85 eP P 04 22 09.7 +0.4
AJM Ajmer 25.54 320⇓eP P 04 22 14.1 +0.3
AJM e 04 22 43.9
comp=Z,556nm,2.2s
HKC Hong Kong 25.61 52⇑iP P 04 22 18.0 +3.5
HKC i S S 04 26 50.0 +13
NDI New Delhi 25.69 328⇓iP P 04 22 14.0 -1.2
NDI e S 04 26 50.0 +11
PPR Puerto Princes 26.01 83 eP P 04 22 18.7 +0.4
DDI Dehra Dun 26.60 331 eP P 04 22 24.4 +0.8
DDI e 04 27 27.0
SRDI Scrawed 26.66 126⇓eP P 04 22 22.2 -2.1
SRDI pmax pmax
comp=Z,523nm,1.0s,mb6.0
SRDI Scrawed 26.66 126⇓eP P 04 22 22.2 -2.1
comp=Z,523nm,1.0s,mb6.0
KELI Kelakatan 26.79 125⇑eP P 04 22 24.6 -0.9
comp=Z,750nm,1.2s,mb6.1
ENPP El Nido 26.81 80 eP P 04 22 25.4 -0.3
BUSP Coron 27.65 78 eP P 04 22 32.9 -0.4
ENH Enshi 27.81 33⇑eP P 04 22 33.1 -1.6
comp=Z,198nm,0.8s,mb5.8
RATI Rata 27.93 124⇓eP P 04 22 33.3 -2.5
comp=Z,968nm,0.8s,mb6.5
LUBP Lubang 27.96 75 eP P 04 22 36.3 +0.2
SCZP Santa Cruz 28.07 70 eP P 04 22 32.6 -4.5
BOLP Bolinao 28.23 69 eP P 04 22 38.0 -0.5
KEDI Kedomdong 28.27 123 eP P 04 22 36.0 -3.0
KEDI pmax pmax
comp=Z,1μm,1.1s,mb6.4
KEDI Kedomdong 28.27 123 eP P 04 22 36.0 -3.0
comp=Z,1μm,1.1s,mb6.4
BHK Bhakra 28.30 330 e P 04 22 41.4 +2.4
BHK e 04 28 27.0
CUYO Cuyo Island 28.33 81 eP P 04 22 38.7 -0.7
SJMP San Jose 28.60 77 eP P 04 22 42.9 +1.0
TGY Tagaytay City 28.68 74⇑eP P 04 22 44.2 +1.6
TGY Tagaytay City 28.68 74 P P 04 22 42.9 +0.3
comp=Z,1μm,1.0s,mb6.6,baz=161,slow=5.4,SNR=12
TGY LR LR 04 35 22.2
comp=Z,31μm,18.7s,MS5.9,baz=227,slow=39
BCPH Baguio City Da 28.85 69⇓iP P 04 22 44.5 +0.5
TANI Tanete Lipujan 28.85 111 eP P 04 22 42.9 -1.2
TANI pmax pmax
comp=Z,311nm,0.9s,mb6.0
TANI Tanete Lipujan 28.85 111 eP P 04 22 42.9 -1.2
comp=Z,311nm,0.9s,mb6.0
PCPH Palayan 29.13 71⇓eP P 04 22 45.4 -1.2
AAP Anini-y 29.21 82 eP P 04 22 44.0 -3.3
LQP Lukban 29.26 74⇓eP P 04 22 48.1 +0.4
ABRA Dolores 29.31 67 eP P 04 22 48.9 +0.7
BOAC Boac 29.44 76 eP P 04 22 49.5 +0.2
OTRP Odiongan 29.46 78 eP P 04 22 49.3 -0.2
NINI Niniconang 29.57 112⇑eP P 04 22 48.9 -1.6
NINI pmax pmax
comp=Z,2μm,1.0s,mb6.8
NINI Niniconang 29.57 112⇑eP P 04 22 48.9 -1.6
comp=Z,2μm,1.0s,mb6.8
BALP Baler 29.62 71 eP P 04 22 51.3 +0.4
POLP Polilio Island 29.75 73 eP P 04 22 53.0 +0.9
IPIL Ipil 29.77 87 eP P 04 22 51.8 -0.5
BUNI Buntu Taipa 29.80 111⇑eP P 04 22 51.8 -0.8
comp=Z,133nm,0.5s,mb5.9
GUIM Jordan 29.86 81 eP P 04 22 54.1 +1.1
APYP Conner 29.86 67 eP P 04 22 53.0 0.0
RCP Roxas 30.08 80⇑eP P 04 22 55.6 +0.5
CAUP Cauayan 30.14 69 eP P 04 22 55.1 -0.4
CVP Callao Caves 30.34 67⇑eP P 04 22 58.0 +0.7
LZH Lanzhou 30.43 18 ⇓P P 04 22 57.5 -0.4
LZH AP pP 04 23 07.6 -1.3
LZH XP sP 04 23 11.0 -3.0
LZH PP PP 04 23 59.0 +0.7
LZH PPP PPP 04 24 18.0 +5.2
LZH S S 04 27 56.0 +1.2
LZH XS 04 28 11.1
LZH AMB AMB
comp=Z,360nm,1.2s,mb6.0
LZH AMB AMB
comp=Z,1μm,5.4s
LZH LR LR
comp=E,62μm,16.6s
LZH LR LR
comp=Z,115μm,18.8s,MS6.5
LZH Lanzhou 30.43 18 ⇓P P 04 22 57.5 -0.4
comp=Z,360nm,1.2s,mb6.0
LZH pP pP 04 23 07.6 -1.3
LZH sP sP 04 23 11.0 -3.0
LZH PP PP 04 23 59.0 +0.7
LZH PPP PPP 04 24 18.0 +5.2
LZH S S 04 27 56.0 +1.2
LZH sS 04 28 11.1
LZH SS tx 04 30 44.0
LZH LR LR
comp=Z,115μm,18.8s,MS6.5
QZH Quanzhou 30.44 52⇑iP P 04 22 58.1 0.0
QZH PP PP 04 23 54.0 -4.6
QZH S S 04 27 47.0 -8.1
QZH LR LR
comp=N,40μm,13.6s,MS6.7
QZH LR LR
comp=E,108μm,13.3s,MS6.7
QZH LR LR
comp=Z,127μm,14.3s,MS6.7
PAGZ Pagadian 30.58 87 eP P 04 22 58.9 -0.6
XAN Xi'an 30.58 27 P P 04 22 57.3 -2.0
XAN AP pP 04 23 06.8 -3.5
XAN PP PP 04 23 59.8 -0.5
XAN S S 04 27 52.6 -4.6
XAN AMB AMB
comp=Z,142nm,0.9s,mb5.8
XAN LR LR
comp=N,22μm,20.5s,MS5.9
XAN LR LR
comp=E,22μm,22.3s,MS5.9
XAN LR LR
comp=Z,45μm,21.4s,MS6.1
SGCP Mt. Cagua 30.70 66 eP P 04 22 59.9 -0.6
PALP Palanan 30.73 69 eP P 04 23 00.3 -0.5
WHN Wuhan 30.84 39⇑iP P 04 23 01.5 -0.1
WHN S S 04 28 03.9 +2.7
WHN AMB AMB
comp=Z,144nm,1.0s,mb5.8
WHN LR LR
comp=Z,56μm,13.6s,MS6.4
TBP Tagbilaran 31.06 83 eP P 04 23 03.7 -0.1
LLP Lapu-Lapu 31.19 82 eP P 04 23 04.2 -0.7
BBP Basco 31.32 62 eP P 04 23 05.6 -0.4
PVCP Virac 31.68 76 eP P 04 23 09.2 0.0
OCLP Ormoc 31.86 81 eP P 04 23 10.2 -0.6
CGP Cagayan de Oro 31.87 86 eP P 04 23 10.7 -0.1
MSLP Maasin 32.06 83 eP P 04 23 08.9 -3.6
PLP Palo 32.23 81 eP P 04 23 13.4 -0.6
KCP Kidapawan 32.30 88⇓eP P 04 23 15.8 +1.2
TATO Taipei 32.75 54 eP P 04 23 19.1 +0.6
comp=Z,199nm,1.0s,mb6.0
TATO LR LR
comp=Z,49μm,19.0s,MS6.2
DAV Davao City (W) 32.78 88 eP P 04 23 20.0 +1.2
BUTP Butuan 32.78 85 eP P 04 23 18.3 -0.5
MATI Mati 33.46 89 eP P 04 23 23.2 -1.4
BIPH Bislig 33.52 86⇑iP P 04 23 25.3 +0.1
NJ2 Nanjing 34.71 41 eP P 04 23 36.3 +1.0
NJ2 AP pP 04 23 45.1 -1.3
NJ2 XP sP 04 23 49.3 -2.2
NJ2 PP PP 04 24 54.5 +1.5
NJ2 S S 04 29 01.0 -0.6
NJ2 XS 04 29 20.0
NJ2 AMB AMB
comp=Z,840nm,1.0s,mb6.6
NJ2 AMB AMB
comp=Z,3μm,8.0s
NJ2 LR LR
comp=N,51μm,15.7s,MS6.6
NJ2 LR LR
comp=E,59μm,15.6s,MS6.6
NJ2 LR LR
comp=Z,52μm,15.0s,MS6.4
TIY Taiyuan 35.22 28 PR 04 23 35.0
TIY LR LR
comp=N,26μm,16.0s
TIY LR LR
comp=Z,7μm,12.0s,MS5.6
SSE Sheshan 35.72 45 ⇑P P 04 23 44.1 +0.3
SSE AP pP 04 23 52.8 -2.2
SSE XP sP 04 23 57.5 -2.6
SSE S S 04 29 18.3 +1.2
SSE XS 04 29 36.8
SSE SCS ScS 04 34 01.3 +4.5
SSE AMB AMB
comp=Z,126nm,0.9s,mb5.8
SSE AMB AMB
comp=Z,1μm,8.8s
SSE LR LR
comp=N,23μm,22.9s,MS5.9
SSE LR LR
comp=E,12μm,22.9s,MS5.9
SSE LR LR
comp=Z,23μm,14.3s
SSE Sheshan 35.72 45 ⇑P P 04 23 44.1 +0.3
comp=Z,126nm,0.9s,mb5.8
SSE pP pP 04 23 52.8 -2.2
SSE sP sP 04 23 57.5 -2.6
SSE PP PP 04 25 13.4 +8.1
SSE S S 04 29 18.3 +1.2
SSE sS 04 29 36.8
SSE SS SS 04 32 04.2 +25
SSE ScS ScS 04 34 01.2 +4.4
SSE LR LR
comp=Z,23μm,14.3s,MS6.1
JMDO Jabal Madar 36.36 298 P P 04 23 51.4 +2.0
SNR=16
TIA Tai'an 36.48 34 P P 04 23 50.3 +0.1
TIA AP pP 04 24 03.0 +1.6
TIA PP PP 04 25 12.0 -2.8
TIA S S 04 29 27.8 -1.0
TIA AMB AMB
comp=Z,99nm,1.3s,mb5.6
TIA AMB AMB
comp=Z,1μm,6.0s
TIA LR LR
comp=N,9μm,32.4s,MS5.5
TIA LR LR
comp=E,9μm,30.9s,MS5.5
WMQ Urumqi 36.59 354 P P 04 23 51.6 +0.6
WMQ AP pP 04 24 01.3 -0.9
WMQ XP sP 04 24 05.3 -2.0
WMQ PP PP 04 25 16.1 0.0
WMQ S S 04 29 30.9 +0.5
WMQ XS 04 29 47.0
WMQ AMB AMB
comp=Z,398nm,0.8s,mb6.3
WMQ AMB AMB
comp=Z,3μm,5.4s
WMQ LR LR
comp=N,24μm,16.2s,MS6.2
WMQ LR LR
comp=E,19μm,17.3s,MS6.2
WMQ LR LR
comp=Z,28μm,18.2s,MS6.1
BIDO Bidbid 36.73 300 P P 04 23 55.0 +2.6
SNR=9.4
BSY Bisya 37.27 298 P P 04 23 59.3 +2.3
SNR=36
HOQ Hoqain 37.45 300 P P 04 24 01.1 +2.6
SNR=16
ULHL Ulahol 37.63 340 P P 04 24 00.7 +0.8
SNR=49
KZA Kyzart 37.83 339 P P 04 24 02.8 +1.3
SNR=150
ARQ Araqi 38.05 299 P P 04 24 07.0 +3.4
SNR=21
UCH Uchtor 38.23 338 P P 04 24 06.3 +1.5
SNR=253
AAA Alma-Ata 38.33 342 eP P 04 24 06.0 +0.4
AAA e 04 25 40.0
AAA eS S 04 30 01.0 +4.1
AAA pmax pmax
comp=Z,4μm,4.0s
AAA smax
comp=E,12μm,4.0s
AAA MLR MLR
comp=Z,16μm,18.0s,MS5.9
KBK Karagaybulak 38.45 339 P P 04 24 08.2 +1.6
SNR=240
TKM2 Tokmak 2 38.45 340 P P 04 24 07.5 +0.8
SNR=117
AML Almayashu 38.45 337 P P 04 24 08.3 +1.6
SNR=699
AAK Ala-Archa 38.59 339 P P 04 24 09.2 +1.4
SNR=174
AAK Ala-Archa 38.59 339 eP P 04 24 07.6 -0.2
AAK pmax pmax
comp=Z,856nm,1.4s,mb6.3
AAK MLR MLR
comp=Z,13μm,22.0s,MS5.7
AAK Ala-Archa 38.59 339 eP P 04 24 07.6 -0.2
comp=Z,856nm,1.4s,mb6.3
AAK LR LR
comp=Z,13μm,22.0s,MS5.7
RBK Rabkut 38.70 289 P P 04 24 10.6 +1.7
SNR=14
FRU Bishkek 38.72 339⇓eP P 04 24 09.0 +0.1
FRU e 04 25 42.0
FRU e 04 30 08.0
FRU pmax pmax
comp=Z,760nm,1.8s,mb6.1
CHMS Chumysh 38.82 339 P P 04 24 10.5 +0.8
SNR=84
BJT Baijiatuau 38.82 29⇑eP P 04 24 10.2 +0.5
BJT pmax pmax
comp=Z,231nm,1.4s
BJT Baijiatuau 38.82 29⇑eP P 04 24 10.2 +0.4
comp=Z,231nm,1.4s,mb5.7
BJI Beijing 38.84 29 P P 04 24 10.6 +0.7
BJI *SP sP 04 24 23.3 -2.8
BJI 04 25 40.8
BJI S S 04 30 07.8 +3.1
BJI pmax pmax
comp=Z,63nm,1.3s,mb5.2
BJI MLR MLR
comp=Z,19μm,25.2s,MS5.8
BJI Beijing 38.84 29 P P 04 24 10.6 +0.7
comp=Z,63nm,1.3s,mb5.2
BJI sP sP 04 24 23.3 -2.8
BJI PP PP 04 25 40.8 -2.3
BJI S S 04 30 07.8 +3.1
BJI SS SS 04 33 05.7 +17
BJI LR LR
comp=Z,19μm,25.2s,MS5.8
EKS2 Erkin-Say 38.88 338 P P 04 24 11.8 +1.6
SNR=159
MBWA Marble Bar 38.92 137 eP P 04 24 10.1 -0.7
comp=Z,932nm,1.2s,mb6.4
MBWA LR LR
comp=Z,28μm,21.0s,MS6.1
JOW Kunigami 39.07 56 LR LR 04 42 40.2
comp=Z,29μm,20.0s,MS6.1,baz=248,slow=40
USP Ospenovka 39.14 339 P P 04 24 12.8 +0.5
SNR=86
ABTO Aybut 39.53 288 P P 04 24 17.4 +1.6
SNR=32
MKAR Makanchi Array 40.28 349 iP P 04 24 21.7 -0.1
MKAR pmax pmax
comp=Z,53nm,0.6s
MKAR Makanchi Array 40.28 349 iP P 04 24 21.8 0.0
FITZ Fitzroy Crossi 41.31 128⇑iP P 04 24 29.5 -1.1
FITZ iS S 04 30 41.0 -0.9
SONM Songino Array 42.05 14 P P 04 24 36.1 -0.2
comp=Z,22nm,0.6s,mb5.0,baz=196,slow=6.5,SNR=128
SONM pP pP 04 24 46.9 -0.7
comp=Z,65nm,0.8s,baz=197,slow=8.6,SNR=16
SONM PcP PcP 04 26 31.5 +0.1
comp=Z,102nm,1.1s,baz=210,slow=2.4,SNR=5.0
SONM ScP 04 30 20.5
comp=Z,8.7nm,1.0s,baz=207,slow=8.3,SNR=4.1
SONM PKP2ab 04 57 54.4
comp=Z,25nm,1.6s,slow=1.2,SNR=6.0
ULN Ulaanbaatar 42.23 15 eP P 04 24 37.5 -0.4
ULN pmax pmax
comp=Z,34nm,1.0s
ULN MLR MLR
comp=Z,29μm,19.0s,MS6.2
ULN Ulaanbaatar 42.23 15 eP P 04 24 37.5 -0.4
comp=Z,34nm,1.0s
ULN LR LR
comp=Z,29μm,19.0s,MS6.2
MUKL Al Mukalla 43.24 283⇑eP P 04 24 48.4 +1.8
ZAK Zakamensk 43.83 10 eP P 04 24 51.4 +0.5
ZAK e 04 26 38.2
KS15 Wonju Array Si 43.88 42 eP P 04 24 50.7 -0.8
SNY Shenyang 43.99 34 ⇑P P 04 24 52.0 -0.3
SNY AP pP 04 24 59.8 -3.8
SNY PP PP 04 26 32.8 -3.6
SNY S S 04 31 18.9 -2.0
SNY XS 04 31 38.8
SNY AMB AMB
comp=Z,80nm,1.6s,mb5.2
SNY LR LR
comp=N,18μm,16.1s
SNY LR LR
comp=Z,14μm,16.5s,MS6.0
KAKA Kakadu 44.37 116⇓iP P 04 24 53.7 -2.0
comp=Z,103nm,0.6s,mb5.7
KAKA iPCP PcP 04 26 40.3 +0.7
MOY Mondy 44.74 7 eP P 04 24 59.8 +1.7
KURK Kurchatov 44.76 347⇓eP P 04 24 58.2 -0.1
KURK pmax pmax
comp=Z,339nm,1.1s,mb6.1
KURK MLR MLR
comp=Z,10μm,22.0s,MS5.7
KURK Kurchatov 44.76 347⇓eP P 04 24 58.2 -0.2
comp=Z,339nm,1.1s,mb6.1
KURK LR LR
comp=Z,10μm,22.0s,MS5.7
TLY Talaya 45.15 10 P P 04 25 02.2 +0.8
comp=Z,669nm,1.1s,mb6.4,SNR=28
TLY Talaya 45.15 10 eP P 04 25 02.7 +1.3
TLY eS S 04 31 36.0 -1.4
TLY eSS SS 04 34 53.2 +1.7
TLY pmax pmax
comp=Z,130nm,1.1s,mb5.7
TLY MLR MLR
comp=Z,16μm,19.0s,MS6.0

TLY Talaya 45.15 10 *e*P **P 04 25 02.4 +1.0**
comp=Z,134nm,1.5s,mb5.5
MUN Mundaring 45.16 151⇑*i*P **P 04 25 01.7 0.0**
comp=Z,457nm,0.8s,mb6.4
MUN Mundaring 45.16 151⇑*i*P **P 04 25 01.7 0.0**
MUN pmax pmax
comp=Z,457nm,0.8s,mb6.4
IRK Irkutsk 45.80 10 *e*P **P 04 25 07.6 +1.1**
IRK *e* 04 26 51.8
IRK *e*S **S 04 31 47.2 +0.5**
IRK pmax pmax
comp=Z,330nm,2.2s,mb5.9
NWAO Narrogin (SRO) 46.43 151 P **P 04 25 12.0 +0.2**
NWAO Narrogin (SRO) 46.43 151 *e*P **P 04 25 11.3 -0.5**
NWAO pmax pmax
comp=Z,896nm,1.3s
NWAO MLR MLR
comp=Z,23μm,19.0s
NWAO Narrogin (SRO) 46.43 151 P **P 04 25 10.3 -1.5**
comp=Z,392nm,0.8s,mb6.4,baz=314,slow=9.0,SNR=110
NWAO pP pP 04 25 23.8 +0.7
comp=Z,336nm,1.2s,baz=312,slow=14,SNR=5.7
NWAO LR LR 04 46 26.4
comp=Z,180nm,18.3s,baz=347,slow=38
NWAO Narrogin (SRO) 46.43 151 *e*P **P 04 25 11.3 -0.5**
comp=Z,896nm,1.3s,mb6.5
NWAO LR LR
comp=Z,23μm,19.0s,MS6.2
LBOS 46.87 282⇑*e*P **P 04 25 17.8 +2.3**
LBOS AMb AMB 04 25 18.2
comp=Z,283nm,1.8s,mb5.9
HIA Hailar 47.64 24 *e*P **P 04 25 20.3 -0.8**
HIA pmax pmax
comp=Z,73nm,0.9s
HIA Hailar 47.64 24 *e*P **P 04 25 20.3 -0.8**
comp=Z,73nm,0.9s,mb5.7
DHBB Dhamar BB 47.74 283⇑*e*P **P 04 25 24.4 +2.1**
DHBB AMb AMB 04 25 27.2
comp=Z,702nm,1.5s,mb6.5
TRBA At Turbah 47.94 281⇓*e*P **P 04 25 25.8 +1.9**
NVS Novosibirsk 47.95 353 *i* P **P 04 25 22.2 -1.3**
NVS *i* 04 28 00.7
NVS *i* S **S 04 32 17.2 -0.1**
NVS *i* 04 35 09.3
NVS pmax pmax
comp=Z,395nm,2.0s,mb6.1
NVS pmax pmax
comp=N,209nm,1.7s
NVS pmax pmax
comp=E,87nm,1.4s
BVA0 Borovoye Array 49.00 342 P **P 04 25 30.9 -0.7**
BVA0 pmax pmax
comp=Z,30nm,1.0s,mb5.3
BRVK Borovoye 49.06 342 P **P 04 25 31.2 -0.8**
BRVK pmax pmax
comp=Z,79nm,0.8s,mb5.8
BRVK Borovoye 49.06 342 *e*P **P 04 25 30.9 -1.1**
comp=Z,79nm,0.8s,mb5.8
BRVK LR LR
comp=Z,6μm,21.0s,MS5.5
MDJ Mudanjiang 49.14 35 P **P 04 25 33.3 +0.5**
MDJ AP pP 04 25 40.5 -3.7
MDJ XP sP 04 25 43.5 -5.5
MDJ S **S 04 32 37.1 +3.0**
MDJ XS 04 32 57.0
MDJ AMB AMB
comp=Z,80nm,1.7s,mb5.5
MDJ AMB AMB
comp=Z,3μm,12.5s
MDJ LR LR
comp=N,22μm,16.6s,MS6.2
MDJ LR LR
comp=E,9μm,18.2s,MS6.2
MDJ LR LR
comp=Z,28μm,15.8s,MS6.3
MDJ Mudanjiang 49.14 35⇑*e*P **P 04 25 32.5 -0.3**
comp=Z,313nm,1.5s,mb6.1
WRA Warramunga Arr 49.26 124 P **P 04 25 32.0 -2.0**
comp=Z,1μm,0.8s,mb6.9,baz=304,slow=8.8,SNR=1210
WRA PcP PcP 04 26 57.1 +0.3
comp=Z,125nm,0.8s,baz=314,slow=3.4,SNR=5.3
WRA PP PP 04 27 27.8 -0.5
comp=Z,50nm,1.0s,baz=297,slow=9.2,SNR=2.3
WRA S **S 04 32 32.8 -3.3**
comp=Z,116nm,1.1s,baz=307,slow=15,SNR=17
WRAB Tennant Creek 49.27 124⇓*e*P **P 04 25 32.6 -1.5**
WRAB *e* 04 26 57.0
WRAB *e*S **S 04 32 33.5 -2.6**
WRAB pmax pmax
comp=Z,3μm,1.0s
WRAB MLR MLR
comp=Z,15μm,20.0s,MS6.0
WRAB Tennant Creek 49.27 124⇓*e*P **P 04 25 32.6 -1.4**
comp=Z,3μm,1.0s
WRAB *e*PcP PcP 04 26 57.0 +0.1
WRAB *e*S **S 04 32 33.5 -2.6**
WRAB LR LR
comp=Z,15μm,20.0s,MS6.0
CHKZ Chkalovo 49.50 343 *e*P **P 04 25 34.9 -0.5**
CHKZ pmax pmax
comp=Z,191nm,0.8s,mb6.2
CHKZ Chkalovo 49.50 343 *e*P **P 04 25 34.9 -0.5**
comp=Z,191nm,0.8s,mb6.2
VLA Vladivostok 49.61 38⇓*i*P **P 04 25 39.0 +2.6**
VLA *i* 04 25 55.0
VLA *i* S **S 04 32 43.0 +2.4**
VLA pmax pmax
comp=Z,2μm,10.0s
VLA pmax pmax
comp=E,1μm,13.0s
VLA pmax pmax
comp=Z,3μm,10.0s
VLA smax
comp=N,3μm,13.0s
JHJ Hachijo jima 2 50.65 53 LR LR 04 46 55.9
comp=N,12μm,21.6s,MS5.9,baz=248,slow=36
MAJO Matsushiro 50.70 48 *e*P **P 04 25 44.5 -0.3**
MAJO pmax pmax
comp=Z,172nm,1.7s,mb5.7
MAJO MLR MLR
comp=Z,12μm,21.0s,MS5.9
MAJO Matsushiro 50.70 48 *e*P **P 04 25 44.5 -0.3**
comp=Z,172nm,1.7s,mb5.7
MAJO LR LR
comp=Z,12μm,21.0s,MS5.9
MAT Matsushiro 50.70 48 *e*P **P 04 25 45.0 +0.2**
MAT *e*S **S 04 32 59.0 +3.3**
MAT pmax pmax
comp=Z,294nm,2.0s,mb5.9
MAT MLR MLR
comp=Z,12μm,20.0s,MS5.9
MAT Matsushiro 50.70 48 *e*P **P 04 25 45.0 +0.2**
comp=Z,294nm,2.0s,mb5.9
MAT *e*S **S 04 32 59.0 +3.3**
MAT LR LR
comp=Z,12μm,20.0s,MS5.9
MAT Matsushiro 50.70 48 P **P 04 25 45.4 +0.6**
MAT S **S 04 32 59.0 +3.3**
ASPA Alice Springs 50.81 129⇓*i*P **P 04 25 44.3 -1.5**
ASPA *i* PCP PcP 04 27 03.1 +0.7
ASPA *e*S **S 04 32 54.5 -2.9**
ASAR Alice Springs 50.81 129 P **P 04 25 44.4 -1.4**
comp=Z,760nm,0.9s,mb6.6,baz=304,slow=6.5,SNR=897
ASAR PcP PcP 04 27 02.7 +0.2
comp=Z,181nm,0.8s,baz=298,slow=3.5,SNR=9.2
ASAR S **S 04 32 56.2 -1.2**
comp=Z,6.8nm,0.9s,baz=297,slow=8.1,SNR=4.8
ASAR LR LR 04 49 27.9
comp=Z,17μm,19.9s,MS6.1,baz=300,slow=39
FORT Forrest 50.93 140⇓*i*P **P 04 25 46.2 -0.5**
comp=Z,3μm,0.8s
CBIJ Chichi jima 50.95 61 LR LR 04 46 52.5
comp=Z,6μm,21.7s,MS5.6,baz=66,slow=36
BHD Baghdad 51.42 307 *i* P **P 04 25 46.0 -4.3**
GUMO Guam 51.76 79 PFAKE 04 26 10.0 +17
GUMO LR LR
comp=Z,7μm,21.0s,MS5.7
BOD Bodaibo 53.05 14⇑*i*P **P 04 26 01.9 -0.2**
MAK Makhachkala 53.08 319 *e*P **P 04 25 59.0 -3.6**
MAK *i* 04 27 03.0
MAK *i* 04 28 04.0
MAK *e*PPP PPP 04 29 06.0 -4.6
MAK *i* S **S 04 33 26.0 -2.2**
MAK *i* PS PS 04 33 46.0 +1.9
MAK *i* 04 35 44.0
MAK pmax pmax
comp=Z,6μm,8.0s
MAK pmax pmax
comp=N,2μm,6.0s
MAK pmax pmax
comp=E,2μm,8.0s
MAK pmax pmax
comp=E,2μm,10.0s
MAK pmax pmax
comp=Z,4μm,10.0s
MAK smax
comp=N,2μm,6.0s
MAK smax
comp=E,2μm,6.0s
MAK MLR MLR
comp=Z,11μm,16.0s,MS6.0
MAK MLR MLR
comp=N,17μm,19.0s,MS6.3
MAK MLR MLR
comp=E,16μm,16.0s,MS6.3
KLR Kul'dur 53.16 31⇓*i*P **P 04 26 01.6 -1.5**
KLR *e*S **S 04 33 29.5 +0.2**
KLR pmax pmax
comp=E,1μm,11.5s
KLR pmax pmax
comp=Z,3μm,11.5s
KLR MLR MLR
comp=E,23μm,15.0s
MSL Mosul 53.43 310 *e*P **P 04 26 03.0 -2.3**
MSL *e*pP Px 04 27 25.5
MSL *e*S **S 04 33 50.0 +17**
MSL *e*ScS ScS 04 36 13.0 +25
GNI Garni 53.68 315 P **P 04 26 07.1 0.0**
GNI Garni 53.68 315 P **P 04 26 07.0 -0.1**
comp=E,81nm,0.9s,mb5.7,baz=164,slow=3.5,SNR=24
GNI Garni 53.68 315 P **P 04 26 07.2 +0.1**
VANB Van 54.04 313 P pP 04 26 20.2 -1.1
MTA Mtatsminda 54.30 317 P **P 04 26 10.9 -0.7**
MTA S **S 04 33 59.6 +15**
TI2 Plekhanov 54.34 317⇓*i*P **P 04 26 11.0 -0.9**
TI2 *i* pP 04 26 25.0 +1.5
TI2 *i* 04 27 18.6
TI2 *i* S **S 04 34 03.6 +18**
TI2 pmax pmax
comp=Z,500μm,1.0s
TI2 smax
comp=N,3μm,6.0s
TI2 MLR MLR
comp=N,5μm,20.0s,MS5.8
TI2 MLR MLR
comp=E,6μm,20.0s,MS5.8
TI2 MLR MLR
comp=Z,8μm,20.0s,MS5.8
DUS Dusheti 54.53 317 P **P 04 26 12.7 -0.6**
KARS Kars 55.02 315 P **P 04 26 17.2 +0.3**
KARS Kars 55.02 315 P **P 04 26 17.6 +0.7**
AKH Akhalkalaki 55.06 316 P **P 04 26 17.3 +0.1**
AKH S **S 04 33 57.5 +2.4**
BTMT Batman 55.29 312 P **P 04 26 17.8 -1.1**
SVE Sverdlovsk 55.32 339⇓*i*P **P 04 26 18.9 +0.1**
SVE *e*S **S 04 33 54.2 -4.1**
SVE pmax pmax
comp=Z,700μm,1.9s
SVE pmax pmax
comp=Z,900μm,1.9s
SVE MLR MLR
comp=Z,41μm,19.4s,MS6.5
BEST Besiri 55.34 311 *i* P **P 04 26 18.9 -0.3**
CLNS Chul'man 55.49 21 *e*P **P 04 26 21.7 +1.6**
CLNS *e**PP pP 04 26 26.7 -5.0
CLNS *e* 04 27 19.9
CLNS *e* 04 28 21.4
CLNS *e*S **S 04 34 04.4 +3.8**
CLNS *e*SSS SSS 04 39 57.7 +6.7
CLNS pmax pmax
comp=N,36nm,0.8s
CLNS pmax pmax
comp=Z,65nm,0.8s,mb5.7
CLNS pmax pmax
comp=E,30nm,0.9s
CLNS pmax pmax
comp=Z,43nm,1.0s,mb5.4
CLNS pmax pmax
comp=N,46nm,1.1s
CLNS pmax pmax
comp=E,29nm,0.9s
CLNS smax
comp=E,443nm,12.2s
CLNS smax
comp=Z,1μm,12.4s
CLNS smax
comp=N,2μm,12.2s
CLNS MLR MLR
comp=Z,13μm,14.0s,MS6.2
CLNS MLR MLR
comp=N,15μm,17.0s,MS6.2
CLNS MLR MLR
comp=E,3μm,15.0s,MS6.2
VRT Varto 55.59 313 P **P 04 26 21.0 0.0**
VRT Varto 55.59 313 P **P 04 26 21.0 0.0**
ARU Arti 55.77 338 P **P 04 26 21.5 -0.6**
comp=E,2μm,1.0s,SNR=87
ARU Arti 55.77 338 *e*P **P 04 26 15.4 -6.7**
ARU *i* 04 27 15.3
ARU *i* 04 28 21.6
ARU *e*S **S 04 33 57.4 -6.9**
ARU *e* 04 35 59.5
ARU *e*SS SS 04 37 42.5 -7.5
ARU *e*SSS SSS 04 39 51.8 -5.3
ARU MLR MLR
comp=Z,38μm,21.0s,MS6.5
ARU MLR MLR
comp=N,26μm,22.0s,MS6.4
ARU MLR MLR
comp=E,20μm,19.0s,MS6.4
KMBO Kilima Mbogo 55.78 264 P **P 04 26 23.4 +0.6**
KMBO pmax pmax
comp=Z,44nm,1.0s
KMBO Kilima Mbogo 55.78 264 P **P 04 26 24.3 +1.5**
comp=Z,38nm,1.0s,mb5.4,baz=60,slow=10,SNR=86
KMBO LR LR 04 45 42.0
comp=Z,10μm,21.4s,MS5.9,baz=77,slow=31
KMBO PKPPKP 04 56 18.9
comp=Z,1.1nm,0.8s,baz=32,slow=24,SNR=2.8
KMBO Kilima Mbogo 55.78 264 *e*P **P 04 26 23.2 +0.5**
comp=Z,44nm,1.0s,mb5.4
KMBO LR LR
comp=Z,11μm,22.0s,MS5.9
ERZM Erzurum 55.98 314 *i* P **P 04 26 23.4 -0.4**
EZM Erzurum 55.98 314 P **P 04 26 23.1 -0.7**
DIY Diyarbakir 56.12 311 P **P 04 26 25.1 +0.2**
DIY Diyarbakir 56.12 311 P **P 04 26 25.4 +0.5**
BINT Bingol 56.26 312 P **P 04 26 25.2 -0.6**
BINT Bingol 56.26 312 P **P 04 26 25.3 -0.5**
BCA Borcka 56.37 316 *e*P **P 04 26 26.2 -0.4**
BCA Borcka 56.37 316 P **P 04 26 26.9 +0.3**
KIV Kislovodsk 56.66 319 P **P 04 26 28.3 -0.3**
comp=Z,1μm,1.1s,mb6.8,SNR=21
KIV Kislovodsk 56.66 319*i*P **P 04 26 27.6 -1.0**
KIV *e* 04 27 23.7
KIV *e* 04 28 34.6
KIV *e*PPP PPP 04 29 49.4 -5.6
KIV *i* S **S 04 34 18.8 +2.6**
KIV pmax pmax
comp=N,137nm,1.1s
KIV pmax pmax
comp=Z,237nm,1.1s,mb6.1
KIV smax
comp=N,3μm,6.1s
KIV smax
comp=E,1μm,4.6s
KIV MLR MLR
comp=N,12μm,23.0s,MS6.0
KIV MLR MLR
comp=E,9μm,23.0s,MS6.0
KIV MLR MLR
comp=Z,12μm,23.0s,MS5.9
KIV Kislovodsk 56.66 319 *e*P **P 04 26 27.4 -1.2**
comp=Z,166nm,0.9s,mb6.1
KIV LR LR
comp=Z,2μm,19.0s,MS5.3
ASAJ Asahikawa 56.86 41 LR LR 04 53 27.1
comp=Z,10μm,18.6s,MS6.0,baz=70,slow=39
GOF Gofitskoye 56.90 320⇓*i*P **P 04 26 30.0 -0.4**
GOF *i* S **S 04 34 38.0 +19**
GOF pmax pmax
comp=Z,204nm,1.2s,mb6.0
GOF pmax pmax
comp=Z,4μm,12.0s
GOF smax
comp=N,6μm,8.0s
PMG Port Moresby 56.90 106 P **P 04 26 29.5 -1.3**
comp=N,464nm,0.8s,mb6.6,baz=314,slow=4.0,SNR=79
PMG ScP 04 31 24.9
comp=N,52nm,1.1s,baz=307,slow=3.3,SNR=5.6
PMG Port Moresby 56.90 106 P **P 04 26 29.5 -1.3**
PMG ScP 04 31 24.9
PMG LR LR
comp=Z,18μm,20.0s,MS6.2
URFA Urfa 57.04 310 *e*P **P 04 26 30.2 -1.3**
PTK Pertek 57.07 312 P **P 04 26 30.7 -0.9**
ELZG Elazig 57.24 311 *i* P **P 04 26 32.9 0.0**
GUMT Gumushane 57.53 314 P **P 04 26 34.7 -0.1**
GUMT Gumushane 57.53 314 P **P 04 26 34.7 -0.1**
MALT Malatya 57.60 311 *e*P **P 04 26 34.9 -0.5**
MALT pmax pmax
comp=Z,72nm,1.3s,mb5.5
MALT Malatya 57.60 311 *e*P **P 04 26 34.9 -0.6**
comp=Z,72nm,1.3s,mb5.5
MYA Malataya 57.61 311 *e*P **P 04 26 37.0 +1.6**
MYA Malataya 57.61 311 P **P 04 26 37.0 +1.5**
GZT Gaziantep 57.97 310 *i* P **P 04 26 38.4 +0.4**
YSS Yuzh-Sakhalins 58.18 38⇑*e*P **P 04 26 38.6 -0.7**
YSS *i* *PP pP 04 26 50.4 -0.6
YSS *e**SP sP 04 26 57.0 +1.3
YSS *e* 04 27 32.0
YSS *e* 04 28 56.0
YSS *e*S **S 04 34 38.0 +1.8**
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.8
YSS pmax pmax
comp=Z,330nm,1.3s,mb6.2
YSS pmax pmax
comp=N,30nm,0.8s
YSS pmax pmax
comp=E,60nm,1.1s
YSS smax
comp=N,4μm,9.0s
YSS smax
comp=E,2μm,10.0s
YSS MLR MLR
comp=Z,10μm,18.0s,MS6.0
YSS MLR MLR
comp=E,9μm,16.0s
YSS MLR MLR
comp=E,11μm,17.0s
YSS Yuzh-Sakhalins 58.18 38 *e*P **P 04 26 38.7 -0.6**
comp=E,123nm,1.1s,mb5.8
YSS LR LR
comp=Z,12μm,19.0s,MS6.0
GAZ Gaziantep 58.19 309 P **P 04 26 39.5 0.0**
GAZ Gaziantep 58.19 309 P **P 04 26 39.5 0.0**
EIL Elat 58.32 300 *e*P **P 04 26 40.9 +0.4**
comp=Z,115nm,1.1s,mb5.8
SOC Sochi 58.48 317 *e*P **P 04 26 38.6 -2.9**
SOC *e* 04 27 28.0
SOC *e* 04 28 47.6
SOC *e*S **S 04 34 40.9 +0.7**
SOC *e*SS SS 04 38 35.8 +1.2
SOC pmax pmax
comp=Z,182nm,1.0s,mb6.1
SOC pmax pmax
comp=N,76nm,0.8s
SOC pmax pmax
comp=E,184nm,1.4s
SOC MLR MLR
comp=Z,9μm,20.0s,MS5.9
SOC MLR MLR
comp=N,14μm,22.0s,MS6.1
SOC MLR MLR
comp=E,11μm,21.0s,MS6.1
SOC Sochi 58.48 317 *e*P **P 04 26 39.6 -1.9**
KAHT Ahir Dag 58.58 310 *i* P **P 04 26 42.9 +0.7**
HTY Hatay 58.74 308 *e*P **P 04 26 43.2 -0.1**
HTY Hatay 58.74 308 P **P 04 26 43.2 -0.1**
COBT Iskenderun 58.75 308 *i* P **P 04 26 43.8 +0.3**
YUK Yuzh-Kuril'sk 58.99 42 *e*P **P 04 26 41.0 -4.0**
YUK *i* 04 26 56.8
YUK *e* 04 27 32.5
YUK *i* S **S 04 34 51.0 +4.2**
YUK *i* PS PS 04 35 07.0 +0.3
YUK *e* 04 36 27.0
YUK pmax pmax
comp=Z,2μm,2.0s,mb6.8
YUK smax
comp=N,5μm,13.0s
YUK smax
comp=E,3μm,14.0s
CEYT Ceyhan 59.27 309 *e*P **P 04 26 47.3 +0.3**
CEYT Ceyhan 59.27 309 P **P 04 26 47.3 +0.3**
CTA Charters Tower 59.44 118⇓*i*P **P 04 26 47.9 -0.5**
comp=E,452nm,1.0s,mb6.5
CTA *e*S **S 04 34 52.6 -0.4**
CTA Charters Tower 59.44 118⇓*i*P **P 04 26 47.9 -0.5**
CTA *e*S **S 04 34 52.6 -0.4**
CTA pmax pmax
comp=Z,452nm,1.0s
CTA Charters Tower 59.44 118 P **P 04 26 47.5 -1.0**
comp=Z,491nm,1.0s,mb6.5,baz=290,slow=8.8,SNR=88
CTA LR LR 04 56 03.3
comp=Z,24μm,18.7s,MS6.3,baz=289,slow=40
CTAO Charters Tower 59.44 118 *e*P **P 04 26 46.3 -2.1**
CTAO pmax pmax
comp=Z,982nm,1.2s,mb6.7
CTAO MLR MLR
comp=Z,22μm,19.0s,MS6.3
CTAO Charters Tower 59.44 118 *e*P **P 04 26 46.3 -2.1**
comp=Z,982nm,1.2s,mb6.7
CTAO LR LR
comp=Z,22μm,19.0s,MS6.3
BNN Bunyan 59.70 311 P **P 04 26 49.5 -0.4**
BNN Bunyan 59.70 311 P **P 04 26 49.5 -0.4**
NIG Nigde 60.43 310 P **P 04 26 54.9 -0.1**
NIG Nigde 60.43 310 P **P 04 26 54.9 -0.1**
ANN Anapa 60.46 318⇑*i*P **P 04 26 53.1 -2.0**
ANN *i* *PP pP 04 27 03.8 -2.9
ANN *e*S **S 04 35 11.8 +6.1**
ANN pmax pmax
comp=Z,74nm,1.0s,mb5.7
ANN Anapa 60.46 318 *e*P **P 04 26 53.0 -2.1**
ADE Adelaide 60.54 137⇓*i*P **P 04 26 55.8 0.0**
CSS Prodhromos 60.70 306 *e*P **P 04 26 56.2 -0.6**
comp=Z,506nm,1.6s,mb6.4
STKA Stephens Creek 60.90 133 P **P 04 26 57.3 -1.0**
comp=Z,431nm,0.8s,mb6.7,baz=312,slow=6.4,SNR=418
STKA LR LR 04 55 39.7
comp=Z,16μm,18.9s,MS6.2,baz=302,slow=38
STKA Stephens Creek 60.90 133 *e*P **P 04 26 57.2 -1.1**
CTKT Corum 60.97 313 *i* P **P 04 26 58.3 -0.3**
YAK Yakutsk 61.01 19 *e*P **P 04 26 57.2 -1.4**
YAK pmax pmax
comp=Z,185nm,0.6s,mb6.4
YAK MLR MLR
comp=Z,22μm,19.0s,MS6.3
YAK Yakutsk 61.01 19 *e*P **P 04 26 57.2 -1.4**
comp=Z,185nm,0.6s,mb6.4
YAK LR LR
comp=Z,22μm,19.0s,MS6.3
LEF Lefka 61.08 306 P pP 04 27 12.4 +1.2
BOYT Boyabat 61.12 313 *i* P **P 04 26 58.7 -0.9**
BYBT Boyabat 61.23 314 *e*P **P 04 26 59.0 -1.4**
BYBT Boyabat 61.23 314 P **P 04 26 59.0 -1.4**
KAMT Kaman 61.43 311 P **P 04 26 59.7 -2.0**
KAMT Kaman 61.43 311 P **P 04 26 59.7 -2.0**
BR131 Keskin Array S 61.58 311 PFAKE 04 27 10.0 +7.3
BR131 LR LR
comp=Z,6μm,20.0s,MS5.8
BRTR Keskin Array B 61.58 311 P **P 04 27 01.0 -1.7**
comp=Z,30nm,0.7s,mb5.5,baz=130,slow=6.0,SNR=92
BRTR pP pP 04 27 14.2 -0.2
comp=Z,41nm,0.6s,baz=129,slow=7.1,SNR=11
BRTR PKPPKP 04 56 04.2
comp=Z,2.6nm,1.0s,baz=180,slow=1.2,SNR=5.5
BRTR PKP2bc 04 56 20.2
comp=Z,4.6nm,1.0s,baz=180,slow=2.5,SNR=7.4
BRTR Keskin Array B 61.58 311 P **P 04 27 01.0 -1.7**
BRTR pP pP 04 27 14.2 -0.2
BRTR P'P' 04 56 04.2
BRTR ⇑*e* 04 56 20.2
TOS Tosya 61.65 313 *e*P **P 04 27 02.1 -1.1**
TOS Tosya 61.65 313 P **P 04 27 02.1 -1.1**

HDMB	Hadim	61.80 308	eP	P	04 27 04.0	-0.2
HDMB	Hadim	61.80 308	P	P	04 27 04.0	-0.2
CANT	Cankiri	61.83 312	P	P	04 27 02.4	-2.0
CANT	Cankiri	61.83 312	P	P	04 27 02.4	-2.0
PECR	Pechory	61.84 332	eP	P	04 27 02.4	-1.8
PECR			eS	S	04 35 28.0	+4.8
PECR			pmax	pmax		
	comp=Z,3μm,11.0s					
PECR			smax			
	comp=N,3μm,13.0s					
PECR			MLR	MLR		
	comp=Z,33μm,22.0s,MS6.5					
PECR			MLR	MLR		
	comp=N,8μm,18.0s					
BZK	Bozkurt	61.92 314	eP	P	04 27 04.2	-0.7
BZK	Bozkurt	61.92 314	P	P	04 27 04.2	-0.7
ELDT	Eldivan	61.94 312	i P	P	04 27 03.6	-1.5
VOR	Voronezh	62.11 326	eP	P	04 27 05.0	-1.1
VOR			pmax	pmax		
	comp=Z,300nm,2.0s,mb6.1					
KONT	Konya--Tatoy	62.12 309	P	P	04 27 06.2	-0.1
KONT	Konya--Tatoy	62.12 309	P	P	04 27 06.2	-0.1
MBAR	Mbarara	62.13 265	PFAKE		04 27 20.0	+13
MBAR			LR	LR		
	comp=Z,3μm,20.0s,MS5.5					
ANTO	Ankara	62.25 311	eP	P	04 27 05.8	-1.4
ANTO	Ankara	62.25 311	P	P	04 27 05.8	-1.4
BALT	Daday	62.25 313	i P	P	04 27 06.7	-0.4
LOD	Lodumlu	62.27 311	P	P	04 27 05.7	-1.7
LOD	Lodumlu	62.27 311	P	P	04 27 05.7	-1.7
SAFT	Safranbolu	62.67 313	P	P	04 27 09.0	-1.1
SAFT	Safranbolu	62.67 313	P	P	04 27 09.0	-1.1
KIZT	Kizilcal	62.70 310	eP	P	04 27 08.8	-1.4
KIZT	Kizilcal	62.70 310	P	P	04 27 08.8	-1.4
SIM	Simferopol'	62.73 317	eP	P	04 27 10.0	-0.3
SIM			eS	S	04 35 45.0	+11
SIM			pmax	pmax		
	comp=Z,128nm,0.8s,mb6.1					
SIM	Simferopol'	62.73 317	P	P	04 27 10.8	+0.5
ANTB	Antalya	63.22 308	eP	P	04 27 19.8	+6.0
BCK	Bucak	63.38 308	eP	P	04 27 13.8	-1.0
BCK	Bucak	63.38 308	P	P	04 27 13.8	-1.0
MDU	Mudurnu	63.56 312	P	P	04 27 14.2	-1.7
MDU	Mudurnu	63.56 312	P	P	04 27 14.2	-1.7
ESKT	Eskisehir	63.62 311	P	P	04 27 15.0	-1.3
ESKT	Eskisehir	63.62 311	P	P	04 27 15.0	-1.3
ESKT	Eskisehir	63.62 311	i P	P	04 27 15.4	-0.9
ELL	Elmali	63.78 307	eP	P	04 27 15.6	-1.8
ELL	Elmali	63.78 307	P	P	04 27 15.6	-1.8
HENT	Hendek	63.88 312	i P	P	04 27 13.6	-4.4
ALT	Altintas	64.08 310	P	P	04 27 18.3	-1.0
ALT	Altintas	64.08 310	P	P	04 27 18.3	-1.0
KHL	Karahalli	64.38 309	P	P	04 27 19.7	-1.6
KHL	Karahalli	64.38 309	P	P	04 27 19.7	-1.6
FETY	Fethiye	64.41 307	eP	P	04 27 20.3	-1.2
DENT	Denizli	64.65 308	P	P	04 27 21.7	-1.4
DENT	Denizli	64.65 308	P	P	04 27 21.7	-1.4
MOS	Moscow	64.72 329⇑	iP	P	04 27 22.0	-1.1
MOS			e		04 27 30.0	
MOS			e		04 27 51.3	
MOS			eS	S	04 36 13.4	+14
MOS			pmax	pmax		
	comp=Z,700nm,1.7s,mb6.4					
MOS			pmax	pmax		
	comp=Z,400nm,1.6s,mb6.2					
MOS			MLR	MLR		
	comp=Z,28μm,20.5s,MS6.4					
MOS			MLR	MLR		
	comp=N,20μm,16.8s,MS6.5					
MOS			MLR	MLR		
	comp=E,19μm,16.8s,MS6.5					
HRT	Hereke	64.79 312	eP	P	04 27 21.3	-2.6
HRT	Hereke	64.79 312	P	P	04 27 22.3	-1.6
YLV	Yalova	64.96 311	P	P	04 27 23.1	-1.9
OBN	Obninsk	64.99 328κ	iP	P	04 27 20.8	-4.1
OBN			i		04 27 28.5	
OBN			i	pP	04 27 33.7	-3.1
OBN			i		04 28 04.7	
OBN			e		04 29 51.7	
OBN			i PPP	PPP	04 31 24.1	-0.1
OBN			i S	S	04 35 59.6	-2.8
OBN			i PPS	PPS	04 36 18.5	-20
OBN			eSS	SS	04 40 21.0	+4.5
OBN			pmax	pmax		
	comp=Z,500nm,1.7s,mb6.3					
OBN			pmax	pmax		
	comp=Z,284nm,1.5s,mb6.1					
OBN			MLR	MLR		
	comp=Z,29μm,19.0s,MS6.5					
OBN	Obninsk	64.99 328	eP	P	04 27 20.8	-4.1
	comp=Z,314nm,1.3s,mb6.2					
OBN			LR	LR		
	comp=Z,8μm,19.0s,MS5.9					
ULDT	Uludag	65.04 311	i P	P	04 27 24.6	-1.0
MANT	Manisa	65.16 309	i P	P	04 27 25.1	-1.2
ORLT	Orhaneli	65.20 311	eP	P	04 27 26.0	-0.6
ORLT	Orhaneli	65.20 311	P	P	04 27 26.0	-0.6
ISK	Istanbul-Kandi	65.30 312	P	P	04 27 26.3	-0.8
AYDN	Tasoluk	65.53 308	i P	P	04 27 28.8	0.0
MLSB	Milas	65.55 308	eP	P	04 27 28.2	-0.7
MLSB	Milas	65.55 308	P	P	04 27 28.2	-0.7
BDRM	Kayabasi	65.78 307	i P	P	04 27 29.2	-1.1
BTOK	Tokmak	65.80 310	i P	P	04 27 32.5	+2.0
AKS	Akhisar	65.80 309	P	P	04 27 29.9	-0.5
AKS	Akhisar	65.80 309	P	P	04 27 29.9	-0.5
BALB	Balikesir	65.89 310	P	P	04 27 29.4	-1.6
BALB	Balikesir	65.89 310	P	P	04 27 29.4	-1.6
BNT	Bandirma	66.00 311	P	P	04 27 30.5	-1.2
BNT	Bandirma	66.00 311	P	P	04 27 30.5	-1.2
KDAG	Bornova	66.14 309	i P	P	04 27 32.2	-0.4
IZM	Izmir	66.14 309	P	P	04 27 31.6	-1.0
IZM	Izmir	66.14 309	P	P	04 27 31.6	-1.0
MRMT	Marmara Adasi	66.29 311	P	P	04 27 32.1	-1.3
BLCB	Balcova	66.31 309	eP	P	04 27 34.4	+0.7
BLCB	Balcova	66.31 309	P	P	04 27 34.4	+0.7
PSN	Preselentsi	66.50 315	i P	P	04 27 33.7	-1.1
TIRR	Tirgusor	66.51 315	P	P	04 27 33.9	-0.9
MFT	Murefte	66.56 311	eP	P	04 27 33.2	-2.0
CANB	Canakkale	66.58 310	eP	P	04 27 42.2	+6.9
SART	Tekirdag	66.61 311	i P	P	04 27 36.9	+1.3
AYVA	Ayvalik	66.74 310	i P	P	04 27 36.0	-0.3
KIS	Kishinev	66.85 318	eP	P	04 27 34.0	-2.9
KIS			i		04 27 42.0	
KIS			i	pP	04 27 47.0	-1.8
KIS			e		04 30 04.0	
KIS			eS	S	04 36 22.0	-3.1
KIS			pmax	pmax		
	comp=E,192nm,1.4s					
KIS			pmax	pmax		
	comp=Z,350nm,1.4s,mb6.2					
CFR	Carcaliu	66.87 316	⇑P	P	04 27 36.2	-0.9
HARR	Harsova	66.90 316	P	P	04 27 36.5	-0.8
PRD	Provadia	66.95 314	i P	P	04 27 36.7	-0.9
EDRB	Edirne	67.16 312	P	P	04 27 39.3	+0.4
EDRB	Edirne	67.16 312	P	P	04 27 39.3	+0.4
SANT	Santorini	67.25 306	eP	P	04 27 38.2	-1.4
	comp=Z,215nm,1.1s,mb6.1					
APE	Apeiranthos	67.29 307	eP	P	04 27 40.4	+0.5
APE	Apeiranthos	67.29 307	P	P	04 27 39.5	-0.3
BOZC	Bozcaada	67.31 310	i P	P	04 27 39.7	-0.2
JMB	Yambol	67.39 313	i P	P	04 27 40.0	-0.4
ALN	Alexandroupoli	67.50 311	eP	P	04 27 40.6	-0.5
IDI	Anoyia	67.57 305	P	P	04 27 41.1	-0.5
	comp=Z,97nm,0.6s,mb6.0,baz=89,slow=6.9,SNR=108					
IDI			PKPPKP		04 56 03.6	
	comp=Z,35nm,1.3s,baz=246,slow=7.5,SNR=4.1					
AKASG	Malin Array Be	67.59 322	P	P	04 27 39.1	-2.4
	comp=Z,13nm,0.7s,mb5.1,baz=90,slow=4.6,SNR=81					
AKASG			pP	pP	04 27 52.0	-1.4
	comp=Z,26nm,0.7s,baz=85,slow=5.1,SNR=13					
AKASG			PP	PP	04 30 11.4	-1.2
	comp=Z,14nm,0.9s,baz=88,slow=7.7,SNR=4.1					
AKASG			PKPPKP		04 55 59.4	
	comp=Z,1.9nm,0.8s,baz=286,slow=3.3,SNR=6.8					
LSZ	Lusaka	67.59 250	eP	P	04 27 42.2	+0.1
LSZ			pmax	pmax		
	comp=Z,98nm,1.2s,mb5.7					
LSZ			MLR	MLR		
	comp=Z,6μm,22.0s,MS5.8					
LSZ	Lusaka	67.59 250	eP	P	04 27 42.2	+0.1
	comp=Z,98nm,1.2s,mb5.7					
LSZ			LR	LR		
	comp=Z,6μm,22.0s,MS5.8					
IAS	Iasi	67.73 318	P	P	04 27 41.7	-0.7
SKR	Severo-Kuril's	67.75 38	eP	P	04 27 39.7	-2.8
SKR			e		04 28 06.0	
SKR			ePPP	PPP	04 31 44.0	-7.1
SKR			eS	S	04 36 34.8	-1.1
SKR			e		04 37 14.0	
SKR			pmax	pmax		
	comp=Z,3μm,8.0s					
SKR			pmax	pmax		
	comp=Z,450nm,1.0s,mb6.5					
SKR			pmax	pmax		
	comp=N,640nm,1.4s					
SKR			pmax	pmax		
	comp=E,900nm,1.4s					
SKR			smax			
	comp=N,6μm,12.0s					
SKR			smax			
	comp=E,7μm,12.0s					
MA2	Magadan	67.98 28	ceP	P	04 27 43.5	-0.3
MA2			e	pP	04 27 56.3	+0.6
MA2			i S	S	04 36 38.4	0.0
MA2			ePS	PS	04 37 05.4	-3.0
MA2			pmax	pmax		
	comp=N,20nm,0.8s					
MA2			pmax	pmax		
	comp=E,30nm,0.8s					
MA2			pmax	pmax		
	comp=Z,100nm,0.8s,mb5.9					
MA2	Magadan	67.98 28	eP	P	04 27 43.2	-0.6
	comp=Z,169nm,0.8s,mb6.1					
MA2			LR	LR		
	comp=Z,8μm,19.0s,MS6.0					
VRI	Vrincioaia	67.99 317	⇑P	P	04 27 44.0	-0.1
VRI	Vrincioaia	67.99 317	P	P	04 27 43.9	-0.2
SZH	Strazhica	68.02 314	P	P	04 27 43.5	-0.8
KDZ	Kurdzhali	68.10 312	i P	P	04 27 44.5	-0.3
BUC1	Bucharest	68.16 315	P	P	04 27 45.5	+0.3
GVD	Gavdhos	68.17 304	eP	P	04 27 45.2	-0.2
	comp=Z,269nm,1.1s,mb6.2					
CNB	Canberra Magne	68.23 133	⇓iP	P	04 27 45.3	-0.5
	comp=Z,4μm,0.9s					
PVL	Pavlikeni	68.44 314	i P	P	04 27 47.5	+0.6
MLR	Muntele Rosu	68.45 316	P	P	04 27 46.7	-0.2
MLR	Muntele Rosu	68.45 316	P	P	04 27 46.6	-0.3
	comp=Z,187nm,1.1s,mb6.0,baz=90,slow=2.5,SNR=82					
RZN	Rozhen	68.62 312	i P	P	04 27 47.5	-0.6
PLD	Plovdiv	68.70 312	P	P	04 27 48.5	-0.1
OUR	Ouranopolis	68.96 310	eP	P	04 27 51.5	+1.3
MTUR	Matau	69.00 316	P	P	04 27 49.8	-0.6
PAIG	Paliouri	69.13 310	eP	P	04 27 50.8	-0.5
PGB	Panagyurishte	69.17 313	i P	P	04 27 51.0	-0.4
MMB	Musomiste	69.34 312	i P	P	04 27 51.0	-1.5
SRS	Serrai	69.37 311	eP	P	04 27 51.4	-1.3
BURAR	Bucovina Array	69.38 318	P	P	04 27 52.5	-0.2
XOR	Xorichti	69.43 309	eP	P	04 27 51.6	-1.5
MNK	Minsk	69.50 326	i P	P	04 27 47.0	-6.2
MNK			eS	S	04 37 06.0	+9.4
SOH	Sokhos	69.50 311	eP	P	04 27 52.3	-1.2
THE	Thessaloniki	69.77 311	eP	P	04 27 53.9	-1.2
KKB	Krupnik	69.86 312	i P	P	04 27 54.5	-1.2
VTS	Vitosha	69.87 313	P	P	04 27 55.3	-0.4
VTS	Vitosha	69.87 313	i P	P	04 27 55.0	-0.7
KNT	Kendrikon	69.89 311	eP	P	04 27 54.6	-1.3
PET	Petropavlovsk	69.90 36	eP	P	04 27 54.9	-0.8
PET			pmax	pmax		
	comp=Z,67nm,0.9s,mb5.6					
PET			MLR	MLR		
	comp=Z,9μm,20.0s,MS6.0					
PET	Petropavlovsk	69.90 36	eP	P	04 27 54.9	-0.8
	comp=Z,67nm,0.9s,mb5.6					
PET			LR	LR		
	comp=Z,9μm,20.0s,MS6.0					
PUL	Pulkovo	69.92 332	eP	P	04 27 53.9	-1.8
PUL			eS	S	04 36 57.9	-3.5
PUL			pmax	pmax		
	comp=N,59nm,0.6s					
PUL			pmax	pmax		
	comp=Z,106nm,0.6s,mb6.0					
PUL			pmax	pmax		
	comp=E,57nm,0.5s					
PUL			smax			
	comp=N,2μm,6.1s					
PUL			smax			
	comp=Z,1μm,4.9s					
PUL			smax			
	comp=E,3μm,6.6s					
PUL			MLR	MLR		
	comp=Z,17μm,19.0s,MS6.3					
PUL			MLR	MLR		
	comp=N,8μm,18.0s,MS6.2					
PUL			MLR	MLR		
	comp=E,8μm,18.0s,MS6.2					
AGG	Agios Georgios	70.05 309	eP	P	04 27 54.9	-2.0
LIT	Litokhoron	70.06 310	eP	P	04 27 55.4	-1.5
SEY	Seymchan	70.08 25	eP	P	04 27 56.1	-0.5
SEY					04 28 18.5	
SEY			e		04 30 27.2	
SEY			eS	S	04 37 03.8	+0.6
SEY					04 37 51.8	
SEY			SS	SS	04 41 35.1	+0.3
SEY			eSSS	SSS	04 44 42.2	+2.3
SEY			pmax	pmax		
	comp=N,100nm,1.1s					
SEY			pmax	pmax		
	comp=Z,500nm,1.1s,mb6.4					
SEY			pmax	pmax		
	comp=E,300nm,1.3s					
SEY			smax			
	comp=N,14μm,25.9s					
SEY			smax			
	comp=E,8μm,18.3s					
SEY			MLR	MLR		
	comp=Z,106μm,23.0s,MS7.0					
SEY			MLR	MLR		
	comp=N,56μm,27.0s					
SEY			MLR	MLR		
	comp=E,46μm,21.0s					
VAY	Valandovo	70.16 311	i P	P	04 27 56.3	-1.2
GRG	Griva	70.24 311	eP	P	04 27 56.5	-1.5
IDID	Didziasalis	70.33 326	eP	P	04 27 57.1	-1.2
IDID			AMPb	AMB	04 28 02.1	
	comp=Z,59nm,1.2s,mb5.4					
IDID			epP	pP	04 28 05.5	-4.8
TAU	Tasmania Unive	70.48 140	eP	P	04 28 00.1	+0.7
TAU			pmax	pmax		
	comp=Z,951nm,1.0s,mb6.7					
TAU			MLR	MLR		
	comp=Z,4μm,21.0s,MS5.7					
TAU	Tasmania Unive	70.48 140	eP	P	04 28 00.1	+0.7
	comp=Z,951nm,1.0s,mb6.7					
TAU			LR	LR		
	comp=Z,4μm,21.0s,MS5.7					
LVV	L'vov	70.61 320	eP	P	04 27 59.2	-0.9
LVV			e		04 30 32.0	
LVV			e		04 32 12.4	
LVV			eS	S	04 37 09.0	-0.6
IIGN	Ignalina	70.63 326	eP	P	04 27 58.9	-1.2
IIGN			AMPb	AMB	04 28 04.0	
	comp=Z,60nm,1.3s,mb5.4					
JOF	Joensuu	70.65 335	ep	P	04 27 57.5	-2.6
	comp=Z,133nm,1.0s,mb5.8					
IZAR	Zarasai	70.72 327	eP	P	04 27 59.4	-1.3
IZAR			AMPb	AMB	04 28 04.5	
	comp=Z,56nm,1.2s,mb5.4					
IZAR			epP	pP	04 28 07.8	-4.8
ISAL	Salakas	70.74 327	i P	P	04 27 59.6	-1.1
ISAL			AMPb	AMB	04 28 04.7	
	comp=Z,45nm,1.3s,mb5.2					
ISAL			epP	pP	04 28 07.8	-4.9
BARS	Barje	70.91 313	⇑iP	P	04 28 00.8	-1.3
BOLS	Boljevac	70.96 314	⇑iP	P	04 28 01.1	-1.2
FNA	Florina	70.99 311	eP	P	04 28 01.0	-1.5
SKO	Skopje	71.08 312	⇑iP	P	04 28 01.8	-1.3
SKO			i	pP	04 28 14.6	-0.5
SKO			i		04 30 48.0	
SKO			pmax	pmax		
	comp=Z,75nm,0.9s,mb5.6					
SKO	Skopje	71.08 312	⇑iP	P	04 28 01.8	-1.3
	comp=Z,0.1nm,0.9s					
SKO			i	pP	04 28 14.6	-0.5
	comp=Z,0.1nm,0.9s					
SKO			i PP	PP	04 30 48.0	+4.9
SKO	Skopje	71.08 312	eP		04 55 55.0	
KWP	Kalwaria	71.41 320	eP	P	04 28 04.3	-0.6
KWP			epP	pP	04 28 13.4	-3.5
KWP			ePcP	PcP	04 28 22.7	-1.9
KWP			eS	S	04 37 20.5	+1.6
KWP			eSS		04 37 35.9	
KWP	Kalwaria	71.41 320	eP	P	04 28 04.3	-0.6
KWP			epP	pP	04 28 13.4	-3.5
KWP			ePcP	PcP	04 28 22.7	-1.9
KWP			eS	S	04 37 20.5	+1.5
KWP			eS		04 37 35.9	
KWP			MLR	MLR	05 01 30.0	
	comp=Z,11μm,25.9s,MS6.0					
OHR	Ohrid	71.46 311	i P	P	04 28 03.5	-1.9
OHR			i	pP	04 28 16.9	-0.4
OHR	Ohrid	71.46 311	i P	P	04 28 03.5	-1.9
OHR			i		04 28 05.8	
OHR			i	pP	04 28 16.9	-0.4
BZS	Buzias	71.46 316	⇑P	P	04 28 04.8	-0.5
LVZ	Lovozero	71.52 340	eP	P	04 28 03.5	-1.8
LVZ			eS	S	04 37 17.7	-2.2
LVZ			pmax	pmax		
	comp=Z,43nm,0.7s,mb5.5					
LVZ			pmax	pmax		
	comp=N,13nm,0.9s					
LVZ			pmax	pmax		
	comp=E,26nm,0.9s					
LVZ			smax			
	comp=N,1μm,8.6s					
LVZ			smax			
	comp=Z,1μm,5.2s					
LVZ			smax			
	comp=E,2μm,6.4s					
LVZ			MLR	MLR		
	comp=Z,29μm,21.0s,MS6.5					
LVZ			MLR	MLR		
	comp=N,4μm,17.0s,MS6.5					
LVZ			MLR	MLR		
	comp=E,23μm,22.0s,MS6.5					
SVIS	Svilajnac	71.55 314	⇑iP	P	04 28 05.1	-0.7
KOLS	Kolonicke sedl	71.56 319	eP	P	04 28 05.9	+0.1
KOLS			esP	sP	04 28 18.4	-3.8
KOLS	Kolonicke sedl	71.56 319	ePKP		04 55 56.1	
IGT	Igoumenitsa	71.65 309	eP	P	04 28 05.1	-1.4
APA	Apatity	71.79 340	⇓iP	P	04 28 06.3	-0.6
APA			i	pP	04 28 18.8	0.0
APA			i		04 28 32.5	
APA			i S	S	04 37 24.0	+0.9
APA			e		04 37 56.0	
APA			pmax	pmax		
	comp=Z,105nm,1.1s,mb5.7					
APA			MLR	MLR		
	comp=Z,25μm,20.0s,MS6.5					
GRUS	Gruza	71.86 314	⇑iP	P	04 28 06.9	-0.8
SUW	Suwalki	72.01 325	eP	P	04 28 07.0	-1.4
SUW			epP	pP	04 28 15.3	-5.0
SUW			ePcP	PcP	04 28 24.0	-3.1
SUW			eS	S	04 37 25.3	-0.5
SUW			eSS		04 37 40.2	
SUW	Suwalki	72.01 325	eP	P	04 28 07.0	-1.4
SUW			epP	pP	04 28 15.3	-5.0
SUW			ePcP	PcP	04 28 24.0	-3.1
SUW			eS	S	04 37 25.4	-0.5
SUW			eS		04 37 40.2	
SUW			MLR	MLR	05 02 53.4	
	comp=Z,15μm,21.2s,MS6.2					
CRVS	Cervenica-Dubn	72.08 319	eP	P	04 28 10.1	+1.2
CRVS			epP	pP	04 28 17.9	-3.0
CRVS			e		04 28 25.9	
CRVS			epS		04 37 39.5	
CRVS	Cervenica-Dubn	72.08 319	ePKP		04 55 59.3	
QSH	Qafa e Shtames	72.17 311	i p	P	04 28 10.0	+0.4
TIR	Tirane	72.19 311	ep	P	04 28 09.5	-0.2
PUK	Puka	72.24 312	i p	P	04 28 08.8	-1.2
PVY	Plav	72.24 312	⇓iP	P	04 28 08.6	-1.4
IVA	Berane	72.33 313	⇓iP	P	04 28 09.9	-0.6
DIVS	Divcibare	72.40 314	⇑iP	P	04 28 09.9	-1.0
FINES	FINESS Array B	72.44 332	P	P	04 28 09.2	-1.6
	comp=Z,44nm,0.7s,mb5.5,baz=106,slow=6.4,SNR=89					
FINES			LR	LR	05 05 11.7	
	comp=Z,19μm,21.6s,MS6.3,baz=111,slow=40					
KAF	Kangasniemi	72.55 333	ep	P	04 28 10.0	-1.4
	baz=105,slow=5.7					
KECS	Kecovo	72.66 318	eP	P	04 28 12.0	-0.3
KECS	Kecovo	72.66 318	ePKP		04 55 53.3	
ULC	Ulcinj	72.71 312	⇓iP	P	04 28 11.5	-1.3
PLE	Pljevlja	72.74 313	⇓iP	P	04 28 12.8	-0.2
TTG	Podgorica	72.75 312	⇓iP	P	04 28 11.0	-2.0
PKSN	Nyarlorinc	72.84 317	eP	P	04 28 14.2	+0.7
NIE	Niedzica	72.91 319	eP	P	04 28 14.1	+0.2
WAR	Warsaw	72.94 322	eP	P	04 28 13.6	-0.3
WAR			epP	pP	04 28 20.9	-5.0
WAR			ePcP	PcP	04 28 27.1	-3.9
WAR			eS	S	04 37 42.9	+6.6
WAR			MLR	MLR	05 04 18.2	
	comp=Z,14μm,21.4s,MS6.2					
PSZ	Piszkesteto	72.97 318	P	P	04 28 13.5	-0.7
PSZ			pmax	pmax		
	comp=Z,180nm,1.4s,mb5.8					
PSZ	Piszkesteto	72.97 318	⇓eP	P	04 28 13.4	-0.8
NKY	Niksic	72.98 312	⇓iP	P	04 28 12.7	-1.7
BUM	Brajici-Budva	73.00 312	⇓iP	P	04 28 13.2	-1.4
UPM	Unac-Piva	73.08 313	⇓iP	P	04 28 14.3	-0.7
HCY	Herceg Novi	73.31 312	⇓iP	P	04 28 15.0	-1.3
BRY	Bratogost	73.32 312	⇓iP	P	04 28 15.4	-1.0
PKS7	Kunszentmiklos	73.34 317	⇓eP	P	04 28 16.4	0.0
OJC	Ojcow	73.36 320	eP	P	04 28 16.0	-0.5
OJC			i	pP	04 28 28.8	+0.3
OJC			MLR	MLR		
	comp=Z,7μm,22.7s,MS5.9					
OJC	Ojcow	73.36 320	eP	P	04 28 16.0	-0.5
OJC			i	pP	04 28 28.8	+0.3
OJC			eS	S	04 37 31.1	-10
OJC			LR	LR		
	comp=Z,7μm,22.7s,MS5.9					
OJC	Ojcow	73.36 320	eP	P	04 28 16.0	-0.5
OJC			e	pP	04 28 28.8	+0.3
OJC			eS	S	04 37 31.1	-10
OJC			MLR	MLR	05 08 17.1	
	comp=Z,7μm,22.7s,MS5.9					
MIR	Mirnyy	73.70 180κ	iP	P	04 28 18.0	-0.1
MIR			e		04 31 11.0	
MIR			ePPP	PPP	04 32 56.0	+7.0
MIR			eS	S	04 37 48.0	+3.3
MIR			ePS	PS	04 38 24.0	+0.6
MIR			pmax	pmax		
	comp=Z,420nm,1.3s,mb6.2					
MIR			pmax	pmax		
	comp=Z,3μm,6.6s					
MIR			smax			
	comp=E,1μm,14.0s					
MIR			smax			
	comp=N,1μm,14.0s					
MIR			MLR	MLR		
	comp=N,3μm,16.0s,MS5.8					
MIR			MLR	MLR		
	comp=E,1μm,16.0s,MS5.8					
MIR			MLR	MLR		
	comp=Z,10μm,16.0s,MS6.2					
VYHS	Vyhne	73.75 318	eP	P	04 28 18.0	-0.7
VYHS			epS		04 37 58.0	
VYHS	Vyhne	73.75 318	ePKP		04 55 42.0	
VYHS			e		04 55 48.0	
PKS9	Tamasi	73.89 316	⇓eP	P	04 28 19.5	-0.1
PKSG		73.91 317	⇓eP	P	04 28 19.5	-0.2
SRO2	Moca	73.95 318	eP	P	04 28 20.3	+0.4
BOSA	Boshof	73.96 238	⇓eP	P	04 28 20.8	+0.4
BOSA			pmax	pmax		
	comp=Z,247nm,1.2s,mb6.0					
BOSA			MLR	MLR		
	comp=Z,6μm,19.0s,MS5.9					
BOSA	Boshof	73.96 238	⇓eP	P	04 28 20.8	+0.4
	comp=Z,246nm,1.2s,mb6.0					
BOSA			LR	LR		
	comp=Z,6μm,19.0s,MS5.9					
RHK1	Bakonya	73.98 316	⇑eP	P	04 28 19.4	-0.8
SRO	Srobarova	74.01 318	eP	P	04 28 20.7	+0.4
SRO			esP	sP	04 28 33.6	-3.1
SRO			e	pP	04 28 35.3	+3.0
KOLL	Kolacno	74.04 318	eP	P	04 28 20.4	-0.1
KOLL			esP	sP	04 28 33.1	-3.7
SRO1	Iza	74.06 318	eP	P	04 28 21.5	+0.9
OKC	Ostrava-Krasne	74.36 320	eP	P	04 28 22.0	-0.3
OKC			epP	pP	04 28 35.0	+0.7

OKC ex x 04 31 31.4
OKC eS S 04 38 04.8 +12
OKC AMS AMS 05 05 40.0
comp=Z,4µm,20.4s
RAC Raciborz 74.37 320 eP **P 04 28 23.0 +0.7**
RAC MLR MLR
comp=Z,10µm,23.8s,MS6.0
RAC Raciborz 74.37 320 eP **P 04 28 23.0 +0.7**
RAC LMN 05 02 15.4
RAC MLR MLR 05 03 32.7
RAC LME 05 05 41.7
comp=Z,8µm,21.6s
TIP Timpagrande 74.38 309 eP **P 04 28 21.7 -0.9**
CASY Casey 74.60 173⇓iP **P 04 28 23.2 -0.1**
SMOL Smolenice 74.68 318 eP **P 04 28 24.6 +0.5**
SMOL esP sP 04 28 37.9 -2.6
MORC Moravsky Berou 74.75 320 P **P 04 28 24.2 -0.3**
MORC pmax pmax
comp=Z,360nm,1.7s,mb6.0
MORC Moravsky Berou 74.75 320⇓eP **P 04 28 23.8 -0.7**
comp=Z,357nm,1.7s,mb6.0
KEV Kevo 74.81 341 ep **P 04 28 24.1 -0.4**
comp=Z,121nm,1.3s,mb5.7
KEV Kevo 74.81 341 eP **P 04 28 24.1 -0.4**
KEV pmax pmax
comp=Z,121nm,1.3s,mb5.7
ZST Bratislava 74.86 318 eP **P 04 28 25.2 0.0**
ZST esP sP 04 28 37.8 -3.8
ZST esS 04 38 20.5
ZST Bratislava 74.86 318 ePKP 04 55 44.7
SOP Sopron 75.17 317⇑eP **P 04 28 27.1 +0.1**
ARCES ARCESS Array B 75.23 340 P **P 04 28 26.6 -0.4**
comp=Z,35nm,0.7s,mb5.4,baz=100,slow=4.0,SNR=46
ARCES LR LR 05 03 35.1
comp=Z,29µm,21.9s,MS6.5,baz=115,slow=37
ARE0 ARCESS Array S 75.23 340 eP **P 04 28 26.7 -0.2**
VRAC Vranov 75.31 319 P **P 04 28 28.0 +0.2**
GKP Gorka Klasztor 75.37 323 eP **P 04 28 28.0 0.0**
GKP epP pP 04 28 35.1 -4.8
GKP ePcP PcP 04 28 40.1 -1.3
GKP eS S 04 38 02.0 -1.5
GKP MLR MLR 05 05 07.6
comp=Z,20µm,22.6s,MS6.4
VKA Vienna 75.39 318⇓iP **P 04 28 27.8 -0.4**
comp=Z,2µm,2.5s,mb6.7
VKA MLRZ 05 07 00.0
comp=Z,6.0nm,20.0s
VKA Vienna 75.39 318⇓iP **P 04 28 27.8 -0.4**
VKA pmax pmax
comp=Z,2µm,2.5s,mb6.7
VKA MLR MLR
comp=Z,6µm,20.0s,MS5.9
DPC Dobruska-Polom 75.59 320 eP **P 04 28 29.6 +0.3**
DPC e pP 04 28 42.6 +1.3
DPC MLR MLR
comp=Z,9µm,18.7s,MS6.1
DPC Dobruska-Polom 75.59 320 eP **P 04 28 29.6 +0.3**
DPC epP pP 04 28 42.6 +1.3
DPC ex x 04 31 32.3
DPC eS S 04 38 15.9 +10
DPC AMS AMS 05 07 00.0
comp=Z,9µm,18.7s
KSP Ksiaz 75.66 321⇓eP **P 04 28 29.7 0.0**
KSP e*PP pP 04 28 37.5 -4.2
KSP e pP 04 28 42.4 +0.7
KSP e 04 31 23.0
KSP ePPP PPP 04 33 12.0 +4.1
KSP eS S 04 38 08.0 +1.2
KSP MLR MLR
comp=Z,27µm,19.5s,MS6.6
KSP Ksiaz 75.66 321 eP **P 04 28 29.9 +0.2**
KSP epP pP 04 28 37.2 -4.5
KSP ePcP PcP 04 28 42.7 -0.1
KSP eS S 04 38 12.2 +5.5
KSP esS 04 38 22.4
KSP MLR MLR 05 04 26.9
comp=Z,19µm,23.5s,MS6.3
UPC Upice 75.80 320 eP **P 04 28 30.7 +0.1**
UPC epP pP 04 28 44.3 +1.8
ARSA Arzberg 75.83 317⇑iP **P 04 28 30.2 -0.6**
comp=Z,2µm,2.1s,mb6.6
KTK1 Kautokeino 75.84 340 eP **P 04 28 30.6 +0.2**
comp=Z,356nm,1.9s,mb6.0
KTK1 Kautokeino 75.84 340 eP **P 04 28 30.6 +0.2**
KTK1 esP sP 04 28 43.9 -2.9
KTK1 AMb AMB 04 28 50.1
comp=Z,356nm,1.9s,mb6.0
BOJS Bojanci 75.89 315 eP **P 04 28 31.0 -0.2**
BOJS i pP 04 28 43.5 +0.4
BOJS eS S 04 38 23.7 +14
PERS Pernice 76.07 316 eP **P 04 28 31.9 -0.2**
PERS e pP 04 28 44.6 +0.5
NVLJ Novalja 76.10 314 iP **P 04 28 30.9 -1.5**
VAE Valguarnera 76.16 307 P **P 04 28 35.0 +2.1**
comp=Z,140nm,1.4s,mb5.7,baz=41,slow=7.9,SNR=6.1
CII Carovilli 76.38 311 eP **P 04 28 33.4 -0.6**
comp=Z,146nm,1.5s,mb5.7
LJU Ljubljana 76.43 316 eP **P 04 28 34.0 -0.3**
LJU e pP 04 28 47.2 +1.0
LJU eS S 04 38 30.6 +15
OBKA Obir 76.45 316⇓iP **P 04 28 34.4 +0.1**
comp=Z,1µm,2.0s,mb6.6
PRU Pruhonice 76.70 320 eP **P 04 28 35.5 -0.1**
PRU e pP 04 28 48.7 +1.1
PRU eS S 04 38 23.3 +5.2
PRU MLR MLR
comp=Z,10µm,18.9s,MS6.1
PRU Pruhonice 76.70 320 eP **P 04 28 35.5 -0.1**
PRU epP pP 04 28 48.7 +1.1
PRU ex x 04 31 40.5
PRU eS S 04 38 23.3 +5.2
PRU AMS AMS 05 07 50.0
comp=Z,10µm,18.9s
PVCC Panska Ves 76.72 320 eP **P 04 28 35.8 0.0**
PVCC e pP 04 28 48.8 +1.0
PVCC eS S 04 38 19.9 +1.5
PVCC MLR MLR
comp=Z,10µm,17.7s,MS6.2
PVCC Panska Ves 76.72 320 eP **P 04 28 35.8 0.0**
PVCC epP pP 04 28 48.8 +1.0
PVCC ex x 04 31 39.5
PVCC eS S 04 38 19.9 +1.5
PVCC AMS AMS 05 07 40.0
comp=Z,10µm,17.7s
MOA Molln 76.73 317⇑iP **P 04 28 35.0 -0.9**
comp=Z,1µm,2.8s,mb6.3
PRA Prague 76.78 320 P **P 04 28 38.0 +1.9**
PRA pP pP 04 28 50.0 +1.9
VOY Vojsko 76.87 315 eP **P 04 28 35.7 -1.0**
BSD Bornholm Skovb 76.94 325 eP **P 04 28 36.6 -0.3**
BSD e 04 28 43.9
BSD i 04 28 44.7
BSD iS S 04 38 34.4 +14
BSD pmax pmax
comp=Z,91nm,0.9s,mb5.7
BSD Bornholm Skovb 76.94 325 eP **P 04 28 36.6 -0.3**
comp=Z,91nm,0.9s,mb5.7
BSD e 04 28 43.9
BSD i 04 28 44.7
BSD iS S 04 38 34.4 +14
BSD Bornholm Skovb 76.94 325 iP **P 04 28 36.6 -0.3**
comp=Z,91nm,0.9s,mb5.7
BSD e 04 28 43.9
BSD i 04 28 44.7
BSD iS S 04 38 34.4 +14
comp=Z,15µm,19.0s
AQU L'Aquila 77.07 312 P **P 04 28 37.7 -0.2**
AQU pmax pmax
comp=Z,490nm,1.7s,mb6.2
AQU L'Aquila 77.07 312 eP **P 04 28 37.3 -0.6**
comp=Z,485nm,1.8s,mb6.1
BRG Berggiesshubel 77.15 320 iP **P 04 28 37.9 -0.3**
BRG i 04 28 45.3
BRG i*PP pP 04 28 53.4 +3.2
BRG i 04 31 35.9
BRG iS S 04 38 38.0 +15
BRG pmax pmax
comp=Z,137nm,1.1s,mb5.8
BRG MLR MLR
comp=Z,15µm,17.9s,MS6.3
BRG Berggiesshubel 77.15 320 iP **P 04 28 37.9 -0.3**
comp=Z,137nm,1.1s,mb5.8
BRG iPcP PcP 04 28 45.3 -3.9
BRG iPP pP 04 28 53.4 +3.2
BRG iPP PP 04 31 35.9 +2.3
BRG iS S 04 38 38.0 +15
BRG iSS SS 04 43 49.0 +25
BRG ePKKP PKKP 04 47 27.0 +4.0
BRG eP'P' 04 55 47.5
BRG LR LR
comp=Z,15µm,17.9s,MS6.3
ROBS Robic 77.15 316 eP **P 04 28 37.5 -0.8**
ROBS e pP 04 28 50.2 -0.1
GEC2 GERESS Array S 77.17 318 eP **P 04 28 38.4 +0.1**
GEC2 pmax pmax
comp=Z,696nm,1.6s,mb6.3
GEC2 GERESS Array S 77.17 318 eP **P 04 28 38.4 +0.1**
comp=Z,696nm,1.6s,mb6.3
GERES GERESS Array B 77.17 318 P **P 04 28 37.9 -0.4**
comp=Z,47nm,0.7s,mb5.5,baz=90,slow=6.7,SNR=128
GERES PKPPKP 04 55 41.1
comp=Z,1.0nm,0.9s,baz=162,slow=4.2,SNR=4.6
BILL Bilibino 77.17 22 eP **P 04 28 37.4 -0.6**
BILL pmax pmax
comp=Z,129nm,1.3s,mb5.7
BILL MLR MLR
comp=Z,16µm,19.0s,MS6.4
BILL Bilibino 77.17 22 eP **P 04 28 37.4 -0.5**
comp=Z,130nm,1.3s,mb5.7
BILL LR LR
comp=Z,16µm,19.0s,MS6.4
KHC Kasperske Hory 77.27 319 eP **P 04 28 38.6 -0.3**
KHC epP pP 04 28 51.5 +0.6
KHC ePP PP 04 31 37.7 +3.1
KHC eS S 04 38 27.2 +2.9
KHC AMS AMS 05 07 20.0
comp=Z,6µm,19.3s
KBA Koelnbreinsper 77.31 317⇓iP **P 04 28 38.5 -0.6**
comp=Z,904nm,2.6s,mb6.2
KBA Koelnbreinsper 77.31 317⇓iP **P 04 28 38.5 -0.6**
KBA pmax pmax
comp=Z,904nm,2.6s,mb6.2
RUE Ruedersdorf 77.37 322 eP **P 04 28 38.8 -0.5**
comp=Z,304nm,1.1s,mb6.1
TRO Tromso 77.48 340 eP **P 04 28 37.9 -1.8**
TRO LR LR
comp=Z,16243µm,21.4s
TRO Tromso 77.48 340 eP **P 04 28 37.9 -1.8**
TRO eS S 04 38 24.9 -1.3
TRO AMS AMS 05 05 17.1
comp=Z,16µm,21.4s,MS6.3
MAW Mawson 77.70 191⇑iP **P 04 28 42.1 +1.2**
comp=Z,264nm,0.9s,mb6.2
MAW eS S 04 38 32.0 +3.4
MAW Mawson 77.70 191⇑iP **P 04 28 42.1 +1.2**
MAW eS S 04 38 32.0 +3.4
MAW pmax pmax
comp=Z,264nm,0.9s
MAW Mawson 77.70 191 P **P 04 28 42.2 +1.3**
comp=Z,242nm,0.8s,mb6.2,baz=25,slow=7.1,SNR=138
MAW LR LR 04 56 21.5
comp=Z,6µm,20.8s,MS5.9,baz=24,slow=30
WET Wettzell 77.72 319 eP **P 04 28 41.4 0.0**
WET pmax pmax
comp=Z,405nm,1.6s,mb6.1
WET Wettzell 77.72 319 eP **P 04 28 41.4 0.0**
comp=Z,405nm,1.6s,mb6.1
CLL Collm 77.77 321⇑iP **P 04 28 41.4 -0.2**
CLL i pP 04 28 54.0 +0.4
CLL eS S 04 38 39.0 +9.3
CLL pmax pmax
comp=Z,104nm,1.2s,mb5.6
CLL MLR MLR
comp=Z,12µm,20.2s,MS6.2
CLL Collm 77.77 321⇑iP **P 04 28 41.4 -0.2**
comp=Z,104nm,1.2s,mb5.6
CLL i pP 04 28 54.0 +0.4
CLL eS S 04 38 39.0 +9.3
CLL LR LR
comp=Z,12µm,20.2s,MS6.2
CLL Collm 77.77 321 ⇑P **P 04 28 41.4 -0.2**
comp=Z,logA/T=1.9,mb5.6
CLL i*PP pP 04 28 49.1 -4.5
CLL i*SP sP 04 28 54.0 -4.0
CLL i 04 29 44.2
CLL ePP PP 04 31 41.0 +1.9
CLL eS S 04 38 39.0 +9.3
CLL ePS PS 04 39 08.0 -7.5
CLL ePPS PPS 04 39 28.0 -5.5
CLL eSS SS 04 43 52.0 +19
CLL e 04 47 45.0
NOUC Port Laguerre 77.89 114 eP **P 04 28 43.3 +0.4**
DZM Mont Dzumac 78.02 114 eP **P 04 28 42.1 -1.4**
DZM Mont Dzumac 78.02 114 eP **P 04 28 42.1 -1.4**
NKC Novy Kostel 78.06 320 eP **P 04 28 43.7 +0.5**
NKC epP pP 04 28 55.9 +0.7
NKC ePP PP 04 31 47.2 +5.5
NKC ex x 04 38 47.7
NKC AMS AMS 05 08 20.0
comp=Z,12µm,18.1s
COP Copenhagen 78.40 325⇓iP **P 04 28 47.7 +2.8**
COP iS S 04 38 45.4 +9.1
COP pmax pmax
comp=Z,86nm,1.0s,mb5.6
COP MLR MLR
comp=Z,7µm,20.0s,MS6.0
COP Copenhagen 78.40 325⇓iP **P 04 28 47.7 +2.8**
comp=Z,86nm,1.0s,mb5.6
COP i 04 33 19.5
COP iS S 04 38 45.4 +9.1
comp=Z,7µm,20.0s
WTTA Wattenberg 78.48 317⇓iP **P 04 28 44.8 -0.8**
comp=Z,1µm,2.7s,mb6.4
WTTA Wattenberg 78.48 317⇓iP **P 04 28 44.8 -0.8**
WTTA pmax pmax
comp=Z,1µm,2.7s,mb6.4
MOR8 Moi Rana 78.52 336⇑iP **P 04 28 44.2 -1.1**
comp=Z,291nm,1.9s,mb5.9
MOR8 Moi Rana 78.52 336⇑iP **P 04 28 44.2 -1.1**
MOR8 AMb AMB 04 29 03.7
comp=Z,291nm,1.9s,mb5.9
WATA Walderalm 78.52 317⇓iP **P 04 28 44.8 -1.0**
comp=Z,297nm,1.4s,mb6.0
WATA Walderalm 78.52 317⇓iP **P 04 28 44.8 -1.0**
WATA pmax pmax
comp=Z,297nm,1.4s,mb6.0
FX1 Attu Island--F 78.53 38 eP **P 04 28 46.0 +0.3**
BJO Bjornoya 78.54 345 eP **P 04 28 48.2 +2.8**
BJO eS S 04 38 39.2 +1.6
BJO AMS AMS 05 06 09.2
comp=Z,10µm,27.8s,MS6.0
BJO1 Bjornoya 78.59 345 eP **P 04 28 48.2 +2.5**
BJO1 LR LR
comp=Z,9554µm,27.8s
MOX Moxa 78.61 320 eP **P 04 28 46.3 +0.1**
MOX eS S 04 38 45.0 +6.3
MOX pmax pmax
comp=Z,628nm,2.0s,mb6.2
MOX MLR MLR
comp=Z,9µm,22.0s,MS6.0
MOX Moxa 78.61 320 eP **P 04 28 46.3 +0.1**
comp=Z,628nm,2.0s,mb6.2
MOX eS S 04 38 45.0 +6.3
MOX LR LR
comp=Z,9µm,22.0s,MS6.0
MOX Moxa 78.61 320 iP **P 04 28 46.3 +0.1**
comp=Z,logA/T=2.5,mb6.2
MOX PP PP 04 31 50.0 +3.9
MOX S S 04 38 45.0 +6.3
MOX L 05 10 51.0
SUR Sutherland 78.72 235 eP **P 04 28 48.8 +1.6**
comp=Z,420nm,1.3s,mb6.2
SUR LR LR
comp=Z,1µm,20.0s,MS5.3
FUR Furstenfeldbru 78.75 318 eP **P 04 28 47.1 +0.1**
FUR pmax pmax
comp=Z,608nm,1.6s,mb6.3
FUR Furstenfeldbru 78.75 318 eP **P 04 28 47.1 +0.1**
comp=Z,608nm,1.6s,mb6.3
SQTA Sankt Quirin 78.77 317⇑iP **P 04 28 46.5 -0.7**
comp=Z,251nm,1.2s,mb6.0
SQTA Sankt Quirin 78.77 317⇑iP **P 04 28 46.5 -0.7**
SQTA pmax pmax
comp=Z,251nm,1.2s,mb6.0
GRA1 Grafenberg Arr 78.83 319 eP **P 04 28 47.7 +0.3**
comp=Z,578nm,1.4s,mb6.3
GRA1 epP pP 04 29 01.6 +2.1
GRA1 ePP PP 04 31 53.5 +5.6
GRA1 eS S 04 39 00.9 +20
GRA1 eSS SS 04 44 19.0 +30
GRA1 LR LR
comp=Z,12µm,19.5s,MS6.2
GRF Grafenberg Arr 78.83 319 eP **P 04 28 47.7 +0.3**
GRF e*PP pP 04 29 01.6 +2.1
GRF e 04 31 53.5
GRF eS S 04 39 00.9 +20
GRF pmax pmax
comp=Z,578nm,1.4s,mb6.3
GRF MLR MLR
comp=Z,12µm,19.5s,MS6.2
GRF Grafenberg Arr 78.83 319 eP **P 04 28 47.7 +0.3**
comp=Z,578nm,1.4s,mb6.3
GRF epP pP 04 29 01.6 +2.1
GRF ePP PP 04 31 53.5 +5.6
GRF eS S 04 39 00.9 +20
GRF eSS SS 04 44 19.0 +30
GRF LR LR
comp=Z,12µm,19.5s,MS6.2
MOTA Moosalm 78.84 317⇓iP **P 04 28 46.8 -0.8**
comp=Z,158nm,1.1s,mb5.9
MOTA Moosalm 78.84 317⇓iP **P 04 28 46.8 -0.8**
MOTA pmax pmax
comp=Z,158nm,1.1s,mb5.9
SMY Shemya 79.09 38 eP **P 04 28 48.6 -0.2**
SMY e pP 04 29 00.1 -0.8
LOF Lofoten 79.13 338 eP **P 04 28 50.9 +2.2**
comp=Z,268nm,1.5s,mb6.0
LOF Lofoten 79.13 338 eP **P 04 28 50.9 +2.2**
LOF AMb AMB 04 29 07.2
comp=Z,268nm,1.5s,mb6.0
VLC Villacollemand 79.31 313 eP **P 04 28 49.0 -1.1**
comp=Z,24nm,0.8s,mb5.2
NSS Namsos 79.36 334 eP **P 04 28 48.1 -1.9**
NSS eS S 04 38 51.5 +5.2
NSS AMS AMS 05 09 16.4
comp=Z,14µm,21.5s,MS6.3
VALM 79.41 314 P **P 04 28 51.4 +0.7**
FUORN Ofenpass 79.41 316⇓iP **P 04 28 50.9 +0.3**
NB2 NORSAR Subarra 79.42 331 P **P 04 28 49.2 -1.2**
comp=Z,98nm,1.1s,mb5.7,baz=93,slow=5.8
NB2 NORSAR Subarra 79.42 331 PKPdf 04 47 40.1
comp=Z,11nm,1.4s,baz=289,slow=1.9
NB2 NORSAR Subarra 79.42 331 P **P 04 28 49.2 -1.2**
baz=93,slow=5.9
NB2 NORSAR Subarra 79.42 331 PKPd 04 47 40.1
baz=289,slow=1.9
NOA NORSAR Array B 79.42 331 P **P 04 28 49.2 -1.2**
comp=Z,17nm,0.7s,mb5.1,baz=94,slow=5.6,SNR=41
NOA PP PP 04 31 53.5 +1.2
comp=Z,4.2nm,0.8s,baz=99,slow=11,SNR=4.0
NOA PKKPbc 04 47 40.6
comp=Z,3.0nm,0.9s,baz=285,slow=2.2,SNR=4.6
NOA LR LR 05 08 03.8
comp=Z,16µm,20.6s,MS6.3,baz=90,slow=39
NOA NORSAR Array B 79.42 331 P **P 04 28 49.2 -1.2**
NOA PP PP 04 31 53.5 +1.1
NOA PKKPbc 04 47 40.6
NOA LR LR 05 08 03.8
CLZ Clausthal 79.43 321 eP **P 04 28 50.5 -0.2**
comp=Z,267nm,1.3s,mb6.0
HDH Heidenheim 79.47 318⇓eP **P 04 28 51.3 +0.4**
UBR Uberruh 79.52 317⇓eP **P 04 28 51.8 +0.5**
BSEG Bad Segeberg 79.53 323 eP **P 04 28 51.2 0.0**
GRAM 79.53 314 P **P 04 28 52.7 +1.3**
NAO01 NORSAR Array S 79.56 330 eP **P 04 28 50.0 -1.1**
comp=Z,40nm,0.9s,mb5.3
NAO01 LR LR
comp=Z,22µm,21.0s,MS6.5
BERNI Berninapass 79.57 316⇓iP **P 04 28 52.0 +0.5**
OSL Oslo 79.59 330 eP **P 04 28 51.4 0.0**
comp=Z,47nm,1.7s,mb5.1
OSL Oslo 79.59 330 eP **P 04 28 51.4 0.0**
OSL AMb AMB 04 28 56.5
comp=Z,47nm,1.7s,mb5.1
DAVOX Davos 79.67 316⇓iP **P 04 28 52.3 +0.2**
DAVA Damuels 79.67 317⇓iP **P 04 28 51.9 -0.2**
comp=Z,2µm,2.5s,mb6.5
SIND Sindeldorf 79.87 319⇓eP **P 04 28 54.2 +1.1**
LIENZ Alp Oberkamor 79.94 317⇓iP **P 04 28 53.6 +0.1**
VDL Val di Lei 79.95 316⇓iP **P 04 28 53.7 +0.1**
HSP Hornsund 79.97 347 eP **P 04 28 53.4 +0.2**
PLONS Plons 80.01 316⇓iP **P 04 28 53.9 0.0**
BUCH Bad Urach 80.03 318⇓eP **P 04 28 54.8 +0.8**
VSL Villasalto 80.11 309 eP **P 04 28 54.1 -0.5**
comp=Z,87nm,1.2s,mb5.6
KONO Kongsberg 80.14 329 PFAKE 04 29 10.0 +16
KONO LR LR
comp=Z,21µm,20.0s,MS6.5
STU Stuttgart 80.14 318 P **P 04 28 54.6 +0.1**
STU pmax pmax
comp=Z,200nm,1.3s,mb5.9
STU Stuttgart 80.14 318 eP **P 04 28 54.4 -0.2**
comp=Z,199nm,1.4s,mb5.8
GUT Gutenstein 80.19 317⇓eP **P 04 28 55.5 +0.7**
MUGIO Muggio 80.25 315⇓iP **P 04 28 54.2 -1.0**
MUD Monsted U'grnd 80.26 326⇑iP **P 04 29 03.4 +8.4**
MUD iS S 04 39 09.1 +13
MUD pmax pmax
comp=Z,130nm,1.0s,mb5.8
MUD Monsted U'grnd 80.26 326⇑iP **P 04 29 03.4 +8.4**
comp=Z,130nm,1.0s,mb5.8
MUD iS S 04 39 09.1 +13
MUD Monsted U'grnd 80.26 326⇑iP **P 04 29 03.4 +8.4**
comp=Z,130nm,1.0s,mb5.8
MUD Monsted U'grnd 80.26 326 iS S 04 39 09.1 +13
comp=Z,10µm,20.0s
LLS Linth-Limmern 80.27 316⇓iP **P 04 28 55.3 0.0**
WEIN Weingarten 80.28 317⇓iP **P 04 28 54.9 -0.4**
PGF Pioggiola 80.33 312 eP **P 04 28 55.2 -0.5**
comp=Z,598nm,1.4s,mb6.0
PGF Pioggiola 80.33 312 eP **P 04 28 55.2 -0.5**
PGF pmax pmax
comp=Z,299nm,1.4s,mb6.0
WILA Wila 80.34 317⇓iP **P 04 28 55.4 -0.2**
STEIN Stein am Rhein 80.36 317⇓iP **P 04 28 55.3 -0.4**
TOD Tromm 80.40 319 eP **P 04 28 56.2 +0.3**
TOD Tromm 80.40 319⇓eP **P 04 28 56.6 +0.7**
LBG Lerchenberg 80.41 318⇓eP **P 04 28 56.6 +0.6**
SPAK Spaichingen 80.41 317⇓eP **P 04 28 57.0 +1.0**
SWS Schriesheim 80.47 319⇓eP **P 04 28 57.2 +0.9**
TRULL Truellikon 80.49 317⇓iP **P 04 28 55.6 -0.8**
DOMB Dombas 80.50 332 eP **P 04 28 56.6 +0.4**
MUO Muotathal 80.52 316⇓iP **P 04 28 56.9 +0.3**
ZUR Zurich 80.56 317⇓iP **P 04 28 56.6 -0.2**
FLACH Flaach 80.56 317⇓iP **P 04 28 56.4 -0.4**
SLE Schleitheim 80.61 317⇓iP **P 04 28 56.5 -0.6**
PCP Pian Castagno 80.62 314 P **P 04 28 57.4 +0.2**
BNALP Bannalp 80.67 316⇓iP **P 04 28 57.5 +0.1**
BFO Black Forest 80.72 318 eP **P 04 28 57.4 -0.2**
BFO pmax pmax
comp=Z,223nm,1.4s,mb5.9
BFO Black Forest 80.72 318 eP **P 04 28 57.4 -0.2**
comp=Z,223nm,1.4s,mb5.9
HASLI Hasliberg 80.86 316⇓iP **P 04 28 58.3 -0.1**
KTD Kalmit 80.87 319 eP **P 04 28 59.4 +1.0**
KTD Kalmit 80.87 319 eP **P 04 28 59.3 +0.9**
FIN Finale Ligure 80.87 314 P **P 04 28 58.6 +0.1**
SULZ Sulz-Cheisache 80.87 317⇓iP **P 04 28 58.0 -0.4**
FELD Feldberg 80.94 317⇓eP **P 04 28 59.5 +0.7**
KIZ Kirchzarten 81.00 317⇓eP **P 04 28 59.7 +0.6**
ORX Oropa 81.00 315 P **P 04 28 58.6 -0.6**
MMK Mattmark 81.00 315⇓iP **P 04 28 59.1 -0.1**
LANF Langenberg 81.06 318 eP **P 04 28 59.6 +0.2**
IMI Imperia 81.11 313 P **P 04 29 00.0 +0.2**
ROB Roburent 81.11 314 P **P 04 28 59.8 0.0**
BALST Balsthal 81.16 317⇓iP **P 04 28 59.6 -0.4**
TRAV 81.17 315 P **P 04 28 59.3 -0.7**
MONE Monesi 81.20 313 P **P 04 29 01.0 +0.8**
LIBD Limburg 81.21 318 eP **P 04 29 00.5 +0.3**
LIBD Limburg 81.21 318⇓eP **P 04 29 01.3 +1.1**
ABH Alteburg 81.21 319 eP **P 04 29 00.5 +0.3**
ABH Alteburg 81.21 319⇓eP **P 04 29 01.5 +1.3**
WIMIS Wimmis 81.22 316⇓iP **P 04 29 00.3 0.0**

LKBD Leukerbad 81.23 316 ⇓iP P 04 29 00.5 +0.2
NEGI Negi 81.25 313 P P 04 29 00.6 +0.1
BBS Basel-Blauen 81.28 317 eP P 04 29 00.3 -0.3
BBS Basel-Blauen 81.28 317⇓eP P 04 29 01.2 +0.6
DRV Dumont d'Urvil 81.33 163 P P 04 29 02.0 +1.5
SAOF Saorge 81.35 313 eP P 04 29 01.4 +0.4
WLS Welschbruch 81.37 318 eP P 04 29 00.9 -0.1
DIX Grande Dixence 81.39 315⇓iP P 04 29 01.9 +0.7
DIX Grande Dixence 81.39 315⇓iP P 04 29 02.0 +0.8
CDF Champ du Feu 81.42 318 eP P 04 29 00.5 -0.8
comp=Z,427nm,1.6s,mb5.8
CDF Champ du Feu 81.42 318 eP P 04 29 00.5 -0.8
CDF pmax pmax
comp=Z,213nm,1.6s,mb5.8
ENR Entracque 81.44 314 P P 04 29 00.5 -1.0
SBF Sospel 81.44 313 eP P 04 29 00.8 -0.7
comp=Z,823nm,1.3s,mb6.2
SBF Sospel 81.44 313 eP P 04 29 00.8 -0.7
SBF pmax pmax
comp=Z,412nm,1.3s,mb6.2
AUTN L'Aution 81.44 313 eP P 04 29 02.3 +0.8
SENIN Lac Senin 81.46 316⇓iP P 04 29 01.8 +0.3
BOURR Bourrignon 81.47 317⇓iP P 04 29 01.2 -0.4
REVF Revere 81.49 313 eP P 04 29 01.8 0.0
ECH Echery 81.50 318 eP P 04 29 01.6 -0.1
STV Sta Anna Valdi 81.50 314 P P 04 29 01.4 -0.4
RSP Reno Superiore 81.52 315 P P 04 29 02.2 +0.3
BHB Bricherasio 81.53 314 P P 04 29 00.9 -1.0
MOF Molkenrain 81.53 317 eP P 04 29 01.6 -0.3
RUP Ruppelstein 81.53 319 eP P 04 29 02.2 +0.4
RUP Ruppelstein 81.53 319⇓eP P 04 29 03.1 +1.3
TOUF Mont Tournerai 81.57 313 eP P 04 29 03.3 +1.1
LSD Ceresole Reale 81.58 315 P P 04 29 02.7 +0.5
GRYON Gryon 81.59 316⇓iP P 04 29 02.5 +0.3
MVIF Mont Vial 81.64 313 eP P 04 29 03.1 +0.6
WTSB Winterswijk 81.65 321 eP P 04 29 02.8 +0.4
comp=Z,156nm,1.6s,mb5.7
WTSB ex x 04 29 10.9
ODD1 Odda 81.65 329 eP P 04 29 01.4 -0.8
comp=Z,145nm,2.1s,mb5.5
ODD1 Odda 81.65 329 eP P 04 29 01.4 -0.8
ODD1 AMb AMB 04 29 20.9
comp=Z,145nm,2.1s,mb5.5
PZZ Prazzo 81.66 314 P P 04 29 02.0 -0.6
FENE Fenestrelle 81.67 314 P P 04 29 03.2 +0.6
TORNY Torny 81.68 316⇓iP P 04 29 02.8 +0.1
SALAN Lac Salanfe 81.69 316⇓iP P 04 29 03.0 +0.3
AIGLE Aigle 81.70 316⇓iP P 04 29 02.9 +0.1
AIGLE Aigle 81.70 316⇓iP P 04 29 02.8 0.0
WIT Witteveen 81.71 322 eP P 04 29 04.6 +1.9
HINF Hinteralfeld 81.72 317 eP P 04 29 01.8 -1.1
comp=Z,397nm,1.9s,mb5.7
HINF Hinteralfeld 81.72 317 eP P 04 29 01.8 -1.1
HINF pmax pmax
comp=Z,198nm,1.9s,mb5.7
BLS5 Blasjo 81.74 329 eP P 04 29 03.7 +1.0
comp=Z,84nm,1.6s,mb5.4
BLS5 Blasjo 81.74 329 eP P 04 29 03.7 +1.0
BLS5 AMb AMB 04 29 07.7
comp=Z,84nm,1.6s,mb5.4
EMV Vieux Emosson 81.74 315⇓iP P 04 29 03.4 +0.4
LOMF Lomont 81.75 317 eP P 04 29 02.9 -0.1
HYA Hoyanger 81.86 331 eP P 04 29 05.5 +2.2
comp=Z,153nm,1.4s,mb5.7
HYA Hoyanger 81.86 331 eP P 04 29 05.5 +2.2
HYA AMb AMB 04 29 09.1
comp=Z,153nm,1.4s,mb5.7
SURF Saint Ours 81.86 314 eP P 04 29 04.5 +0.8
RRL Cesana Torines 81.87 314 P P 04 29 03.6 -0.1
LPG La Plagne 81.87 315 eP P 04 29 03.8 +0.1
comp=Z,294nm,0.9s,mb5.9
LPG La Plagne 81.87 315 eP P 04 29 03.8 +0.1
LPG pmax pmax
comp=Z,147nm,0.9s,mb5.9
LPL La Plagne 81.88 315 eP P 04 29 03.8 +0.1
comp=Z,1µm,1.2s,mb6.4
LPL La Plagne 81.88 315 eP P 04 29 03.8 +0.1
LPL pmax pmax
comp=Z,552nm,1.2s,mb6.4
MBDF Montbardon 81.88 314 eP P 04 29 02.8 -1.0
comp=Z,451nm,1.2s,mb6.0
MBDF Montbardon 81.88 314 eP P 04 29 02.8 -1.0
MBDF pmax pmax
comp=Z,226nm,1.2s,mb6.0
BNI Bardonecchia 81.94 314 P P 04 29 03.9 -0.1
BNI pmax pmax
comp=Z,150nm,1.0s,mb5.9
BNI Bardonecchia 81.94 314 eP P 04 29 03.7 -0.3
comp=Z,151nm,1.0s,mb5.9
BRANT Les Verrieres 82.01 316⇓iP P 04 29 04.4 0.0
FRF La Foret Royal 82.02 313 eP P 04 29 04.3 -0.2
comp=Z,2µm,1.8s,mb6.5
FRF La Foret Royal 82.02 313 eP P 04 29 04.3 -0.2
FRF pmax pmax
comp=Z,1µm,1.8s,mb6.5
HAU Haudompre 82.05 317 eP P 04 29 03.6 -1.0
comp=Z,334nm,1.2s,mb5.9
HAU eR
comp=Z,7µm,21.5s
HAU Haudompre 82.05 317 eP P 04 29 03.6 -1.0
HAU pmax pmax
comp=Z,167nm,1.2s,mb5.8
HAU MLR MLR
comp=Z,7µm,21.5s,MS6.0
WLF Walferdange 82.12 319 eP P 04 29 05.2 +0.3
WLF e pP 04 29 17.7 +0.7
WLF pmax pmax
comp=Z,169nm,1.2s,mb5.8
WLF Walferdange 82.12 319 eP P 04 29 05.2 +0.3
comp=Z,169nm,1.2s,mb5.8
WLF e pP 04 29 17.7 +0.7
LMR La Mourre 82.13 313 eP P 04 29 04.7 -0.4
comp=Z,1µm,1.8s,mb6.3
LMR La Mourre 82.13 313 eP P 04 29 04.7 -0.4
LMR pmax pmax
comp=Z,679nm,1.8s,mb6.3
GIMEL Gimel 82.17 316⇓iP P 04 29 05.4 +0.2
HGN Heimansgroeve 82.22 320 eP P 04 29 03.0 -2.4
comp=Z,87nm,1.9s,mb5.3
HGN ex x 04 29 14.2
HGN Heimansgroeve 82.22 320 eS S 04 39 25.6 +9.4
RUND Rundenannen 82.27 330 eP P 04 29 07.1 +1.7
CABF La Chapelle 82.28 316 eP P 04 29 05.8 0.0
comp=Z,1µm,1.9s,mb6.3
CABF La Chapelle 82.28 316 eP P 04 29 05.8 0.0
CABF pmax pmax
comp=Z,725nm,1.9s,mb6.3
THEF They Montfort 82.28 318 eP P 04 29 05.7 -0.1
BER Bergen 82.29 330 eP P 04 29 06.8 +1.3
BER LR LR
comp=Z,19935µm,20.2s
BER Bergen 82.29 330 eP P 04 29 06.8 +1.3
BER eP 04 29 08.8
BER eS S 04 39 19.9 +3.1
BER AMS AMS 05 10 34.2
comp=Z,20µm,20.2s,MS6.5
GDM Grand'Maison 82.33 315 eP P 04 29 06.5 +0.4
ASK Askoy 82.36 330 eP P 04 29 07.2 +1.4
comp=Z,257nm,2.1s,mb5.8
ASK Askoy 82.36 330 eP P 04 29 07.2 +1.4
ASK AMb AMB 04 29 21.5
comp=Z,257nm,2.1s,mb5.8
FOO Floro 82.41 331 eP P 04 29 07.4 +1.3
TAVF Tavernes 82.45 313 eP P 04 29 08.5 +1.8
ORIF Oris-en-Rattie 82.51 314 eP P 04 29 06.6 -0.4
comp=Z,332nm,1.2s,mb5.9
ORIF eR
comp=Z,4µm,21.0s
GRN Grenoble 82.59 315 eP P 04 29 08.1 +0.7
VILF Villemus 82.68 313 eP P 04 29 09.6 +1.7
PUYF Puyloubier 82.71 313 eP P 04 29 09.4 +1.4
BERF Bertagne 82.73 313 eP P 04 29 09.4 +1.3
SMRF Simiane la Rot 82.78 313 eP P 04 29 08.7 +0.3
comp=Z,2µm,1.7s,mb6.4
MEZF Maizieres J'vi 82.89 318 eP P 04 29 08.4 -0.5
comp=Z,327nm,1.2s,mb5.9
TREF Trevaresse 82.94 313 eP P 04 29 11.1 +1.9
GIVF Givet 82.96 320 eP P 04 29 08.7 -0.5
comp=Z,517nm,1.7s,mb6.0
GIVF Givet 82.96 320 eP P 04 29 08.7 -0.5
GIVF pmax pmax
comp=Z,258nm,1.7s,mb6.0
PRAF Pradon 83.08 313 eP P 04 29 11.8 +1.9
BAIF Baives 83.36 320 eP P 04 29 11.1 -0.1
comp=Z,531nm,1.5s,mb6.0
BAIF Baives 83.36 320 eP P 04 29 11.1 -0.1
BAIF pmax pmax
comp=Z,266nm,1.5s,mb6.0
VIVF Saint-Julien-l 83.37 314 eP P 04 29 11.2 -0.2
comp=Z,806nm,1.5s,mb6.2
VIVF Saint-Julien-l 83.37 314 eP P 04 29 11.2 -0.2
VIVF pmax pmax
comp=Z,403nm,1.5s,mb6.2
SMF Signal de Mont 83.83 316 eP P 04 29 13.1 -0.6
comp=Z,719nm,1.6s,mb6.2
SMF Signal de Mont 83.83 316 eP P 04 29 13.1 -0.6
SMF pmax pmax
comp=Z,360nm,1.6s,mb6.2
LASF Ste Croix 84.01 314 eP P 04 29 14.8 +0.1
comp=Z,1µm,1.8s,mb6.4
SSF Saint Saulge 84.03 317 eP P 04 29 14.3 -0.4
SSF pmax pmax
comp=Z,233nm,1.6s,mb6.1
SSF Saint Saulge 84.03 317 eP P 04 29 14.3 -0.4
comp=Z,233nm,1.6s,mb6.1
PLDF La Plantade 84.03 315 eP P 04 29 16.0 +1.3
AVF Avril sur Loir 84.15 316 eP P 04 29 14.7 -0.6
comp=Z,542nm,1.5s,mb6.2
AVF Avril sur Loir 84.15 316 eP P 04 29 14.7 -0.6
AVF pmax pmax
comp=Z,271nm,1.5s,mb6.2
LBL Lubilhac 84.35 315 eP P 04 29 18.1 +1.8
AGO Saint Agoulin 84.36 316 eP P 04 29 18.0 +1.6
SYO Syowa Base 84.43 197 ⇑iP P 04 29 17.3 +1.1
SYO Syowa Base 84.43 197 ⇓PcP PcP 04 29 18.8 -1.4
SYO Syowa Base 84.43 197 ⇑pP pP 04 29 28.0 -0.4
SYO Syowa Base 84.43 197 ⇑sP sP 04 29 30.7 -2.0
PYM Petit Puy Mans 84.47 315 eP P 04 29 18.7 +1.7
BGF Bois d'Agland 84.52 316 eP P 04 29 17.0 -0.2
comp=Z,417nm,1.3s,mb6.1
BGF Bois d'Agland 84.52 316 eP P 04 29 17.0 -0.2
BGF pmax pmax
comp=Z,208nm,1.3s,mb6.1
HYF Humbligny 84.60 317 eP P 04 29 17.6 +0.1
MENF Mencas 84.64 320 eP P 04 29 18.0 +0.4
EJON La Jonquera 84.85 312 P P 04 29 20.9 +2.0
comp=Z,335nm,2.3s,mb6.1
MSZ Milford Sound 84.86 136 P P 04 29 19.6 +0.7
TCF Toulx Ste Croi 84.98 316 eP P 04 29 19.3 -0.2
comp=Z,468nm,1.7s,mb6.0
TCF Toulx Ste Croi 84.98 316 eP P 04 29 19.3 -0.2
TCF pmax pmax
comp=Z,234nm,1.7s,mb6.0
LRDF Laroque-de-Fa 85.06 313 eP P 04 29 20.6 +0.7
FILF Fillols 85.08 312 eP P 04 29 21.4 +1.4
MLZ Mavora Lakes 85.21 137 P P 04 29 20.6 0.0
CAF Calviac 85.21 315 eP P 04 29 20.9 +0.3
comp=Z,647nm,1.7s,mb6.2
CAF Calviac 85.21 315 eP P 04 29 20.9 +0.3
CAF pmax pmax
comp=Z,324nm,1.7s,mb6.2
MTLF Montolieu 85.25 313 eP P 04 29 21.1 +0.2
comp=Z,550nm,1.4s,mb6.2
MTLF Montolieu 85.25 313 eP P 04 29 21.1 +0.2
MTLF pmax pmax
comp=Z,275nm,1.4s,mb6.2
JCZ Jackson Bay 85.28 135 P P 04 29 21.8 +0.8
LPEF Le Peyrat 85.52 313 eP P 04 29 23.0 +0.8
RJF Les Rejaudoux 85.56 315 eP P 04 29 22.7 +0.4
comp=Z,695nm,1.6s,mb6.3
RJF eR
comp=Z,4µm,19.8s
RJF Les Rejaudoux 85.56 315 eP P 04 29 22.7 +0.4
RJF pmax pmax
comp=Z,348nm,1.6s,mb6.3
RJF MLR MLR
comp=Z,4µm,19.8s,MS5.8
WKZ Wanaka 85.65 136 P P 04 29 23.2 +0.4
WAL1 Walls 85.75 330 eP P 04 29 23.1 +0.2
FOZ Fox Glacier 85.80 135 P P 04 29 24.2 +0.6
EMIR Miracle 85.91 312 P P 04 29 25.1 +1.0
comp=Z,194nm,1.0s,mb6.3
EAZ Earnscleugh 85.95 136 P P 04 29 25.4 +1.2
MLS Moulis 86.11 313 eP P 04 29 26.4 +1.3
LFF La Frestale 86.14 315 eP P 04 29 25.5 +0.3
comp=Z,539nm,1.5s,mb6.3
LFF La Frestale 86.14 315 eP P 04 29 25.5 +0.3
LFF pmax pmax
comp=Z,269nm,1.5s,mb6.2
EPOB Poblet 86.30 311 P P 04 29 26.1 +0.1
comp=Z,370nm,1.8s,mb6.3
LDF La Druitiere 86.31 318 eP P 04 29 25.6 -0.3
comp=Z,230nm,1.2s,mb6.0
LDF La Druitiere 86.31 318 eP P 04 29 25.6 -0.3
LDF pmax pmax
comp=Z,115nm,1.2s,mb6.0
LBZ Lake Benmore 86.35 135 P P 04 29 26.5 +0.3
LBZ Lake Benmore 86.35 135 eP P 04 29 26.3 +0.1
TUZ Tuapeka 86.35 137 P P 04 29 26.8 +0.6
comp=Z,853nm,0.8s,mb7.0
EIBI Ibiza 86.36 309 P P 04 29 28.7 +2.3
comp=Z,303nm,1.5s,mb6.3
LCP Cassop 86.38 325 eP P 04 29 25.9 -0.3
WVZ Waitaha Valley 86.43 134 eP P 04 29 27.2 +0.6
WVZ Waitaha Valley 86.43 134 eP P 04 29 26.7 +0.1
FLN La Foliniere 86.53 319 eP P 04 29 26.5 -0.5
comp=Z,583nm,1.6s,mb6.3
FLN eR
comp=Z,9µm,19.8s
FLN La Foliniere 86.53 319 eP P 04 29 26.5 -0.5
FLN pmax pmax
comp=Z,291nm,1.6s,mb6.3
FLN MLR MLR
comp=Z,9µm,19.8s,MS6.2
MFF Saint Martin d 86.57 316 eP P 04 29 27.0 -0.2
comp=Z,374nm,1.4s,mb6.1
MFF Saint Martin d 86.57 316 eP P 04 29 27.0 -0.2
MFF pmax pmax
comp=Z,187nm,1.4s,mb6.1
HPK Haverah Park 86.57 324 eP P 04 29 27.4 +0.3
KBI1 Birley Grange 86.61 323 eP P 04 29 27.2 0.0
EPF Esparros 86.65 313 eP P 04 29 27.2 -0.5
comp=Z,266nm,1.7s,mb5.9
EPF Esparros 86.65 313 eP P 04 29 27.2 -0.5
EPF pmax pmax
comp=Z,133nm,1.7s,mb5.9
RESF Ens 86.68 313 eP P 04 29 29.1 +1.2
JMIC Jan Mayen 86.70 341 LR LR 05 14 10.2
comp=Z,10µm,20.2s,MS6.2,baz=253,slow=40
JMIC Jan Mayen 86.70 341 eP P 04 29 30.2 +2.9
JMIC AMS AMS 05 09 42.4
comp=Z,7µm,19.0s,MS6.1
LHO Holmfirth 86.76 323 *i* P P 04 29 27.2 -0.8
LHO Holmfirth 86.76 323 eP P 04 29 28.5 +0.5
RPZ Rata Peaks 86.80 135 P P 04 29 29.0 +0.5
comp=Z,523nm,0.9s,mb6.8,baz=226,slow=0.7,SNR=223
RPZ LR LR 05 09 03.8
comp=Z,20µm,20.6s,MS6.5,baz=187,slow=36
EBR Ebro Roquetas 86.80 311 eP P 04 29 30.5 +2.0
GRR Gorron 86.82 318 eP P 04 29 28.1 -0.3
comp=Z,211nm,1.3s,mb5.9
GRR Gorron 86.82 318 eP P 04 29 28.1 -0.3
GRR pmax pmax
comp=Z,105nm,1.3s,mb5.9
KWE Weaver Farm 86.83 323 eP P 04 29 28.6 +0.2
EBIE Bielsa 86.84 312 P P 04 29 30.6 +1.9
comp=Z,24nm,0.8s,mb5.5
VIEF Viey 86.90 313 eP P 04 29 30.6 +1.6
ERTA Horta de San J 86.91 311 P P 04 29 30.1 +1.0
comp=Z,305nm,1.5s,mb6.3
BTA Talkin 87.05 325 eP P 04 29 29.8 +0.4
REYF Montagne du Re 87.18 313 eP P 04 29 32.4 +2.1
BDL Dobcross Hall 87.21 325 eP P 04 29 30.7 +0.6
QRZ Quartz Range 87.24 132 eP P 04 29 31.3 +0.6
QRZ Quartz Range 87.24 132 P P 04 29 31.3 +0.6
ESK Eskdalemuir 87.28 325 eP P 04 29 31.0 +0.5
ESK e pP 04 29 43.7 +0.9
ESK pmax pmax
comp=Z,140nm,1.2s,mb6.1
ESK MLR MLR
comp=Z,3µm,21.0s,MS5.6
ESK Eskdalemuir 87.28 325 eP P 04 29 31.0 +0.5
comp=Z,140nm,1.2s,mb6.1
ESK e pP 04 29 43.7 +0.9
ESK LR LR
comp=Z,3µm,21.0s,MS5.6
ESK Eskdalemuir 87.28 325 eP P 04 29 30.7 +0.2
ESK AMb AMB 04 29 33.4
comp=Z,164nm,1.2s,mb6.1
EBH Black Hill 87.31 326 eP P 04 29 31.5 +0.9
TNA Tin City 87.31 24 eP P 04 29 31.5 +1.1
ETSF Etsaut 87.32 313 eP P 04 29 31.4 +0.4
comp=Z,191nm,1.1s,mb6.0
ETSF Etsaut 87.32 313 eP P 04 29 31.4 +0.4
ETSF pmax pmax
comp=Z,96nm,1.1s,mb5.9
BHH Howats Hill 87.33 325 eP P 04 29 31.2 +0.4
EAU Auchinoon 87.34 326 eP P 04 29 31.0 +0.3
EAU AMb AMB 04 29 35.6
comp=Z,301nm,1.4s,mb6.3
HAE Alders End 87.39 322 eP P 04 29 31.4 +0.3
HAE AMb AMB 04 29 35.5
comp=Z,344nm,1.4s,mb6.4
ESAC San Caprasio 87.41 312 P P 04 29 33.2 +1.8
comp=Z,718nm,2.4s,mb6.5
LTZ Lake Taylor 87.46 134 eP P 04 29 31.6 -0.1
LTZ Lake Taylor 87.46 134 P P 04 29 31.6 -0.1
HLM1 Long Mynd 87.52 322 eP P 04 29 32.2 +0.5
HLM1 AMb AMB 04 29 35.5
comp=Z,221nm,1.7s,mb6.1
BWH Wardlaw 87.56 325 eP P 04 29 32.0 +0.2
EMOS Mosqueruela 87.59 310 P P 04 29 34.4 +2.0
comp=Z,486nm,1.5s,mb6.5
HGH Gray Hill 87.61 322 eP P 04 29 32.4 +0.3
HGH AMb AMB 04 29 35.5
comp=Z,332nm,1.7s,mb6.3
DAG Danmarks Havn 87.66 348⇑eP P 04 29 31.5 -0.4
DAG pmax pmax
comp=Z,61nm,0.5s,mb6.1
DAG MLR MLR
comp=Z,20µm,23.0s,MS6.5
DAG Danmarks Havn 87.66 348⇑eP P 04 29 31.5 -0.4
comp=Z,61nm,0.5s,mb6.1
DAG LR LR
comp=Z,20µm,23.0s,MS6.5
DAG Danmarks Havn 87.66 348⇑iP P 04 29 31.5 -0.4
comp=Z,61nm,0.5s,mb6.1
comp=Z,20µm,23.0s
WCZ Waipu Caves 87.67 126 P P 04 29 34.5 +1.6
SSP1 Stoney Pound 87.68 322 eP P 04 29 33.0 +0.5
SBD1 Bryn Du 87.69 323 eP P 04 29 33.1 +0.6
THZ Tophouse 87.71 132 eP P 04 29 32.7 -0.2
THZ Tophouse 87.71 132 P P 04 29 32.7 -0.2
comp=Z,461nm,0.7s,mb6.8
EAB Aberfoyle 87.78 326 eP P 04 29 32.6 -0.2
EAB AMb AMB 04 29 44.8
comp=Z,190nm,1.9s,mb6.0
SJPF Ste Jean 87.78 313 eP P 04 29 33.6 +0.4
comp=Z,275nm,1.4s,mb6.0
SJPF Ste Jean 87.78 313 eP P 04 29 33.6 +0.4
SJPF pmax pmax
comp=Z,138nm,1.4s,mb6.0
MQZ McQueen's Vall 87.93 134 eP P 04 29 34.8 +0.9
MQZ McQueen's Vall 87.93 134 P P 04 29 34.8 +0.9
SGMF Saint Gilles 87.97 318 eP P 04 29 33.7 -0.2
comp=Z,403nm,1.7s,mb6.1
SGMF Saint Gilles 87.97 318 eP P 04 29 33.7 -0.2
SGMF pmax pmax
comp=Z,202nm,1.7s,mb6.1
EALK Alkurruntz 87.97 313 P P 04 29 36.2 +2.1
comp=Z,426nm,3.2s
WME Myndd Eilian 88.23 323 eP P 04 29 35.9 +0.8
WME AMb AMB 04 29 39.9
comp=Z,147nm,1.5s,mb6.0
KHZ Kahutara 88.30 133 eP P 04 29 35.7 0.0
KHZ Kahutara 88.30 133 P P 04 29 35.7 0.0
WIM Isle of Man 88.32 324 eP P 04 29 35.6 +0.1
WIM AMb AMB 04 29 38.2
comp=Z,125nm,1.4s,mb5.9
CART Cartagena 88.37 308 eP P 04 29 37.3 +1.2
comp=Z,150nm,1.3s,mb6.1
YRE Yr Eifl 88.38 323 eP P 04 29 36.6 +0.8
YRE AMb AMB 04 29 40.6
comp=Z,203nm,2.0s,mb6.0
YRC Rhoscolyn 88.42 323 eP P 04 29 36.6 +0.6
QUIF Quistinic 88.42 318 eP P 04 29 35.5 -0.6
comp=Z,72nm,0.8s,mb5.6
QUIF Quistinic 88.42 318 eP P 04 29 35.5 -0.6
QUIF pmax pmax
comp=Z,36nm,0.8s,mb5.7
ROSF Rostrenen 88.42 318 eP P 04 29 35.7 -0.4
EMUR La Murta 88.52 308 P P 04 29 37.8 +0.9
comp=Z,158nm,1.6s,mb6.1
ANM Nome 88.58 25 eP P 04 29 39.4 +2.9
EVIA Vianos 89.39 309 ⇑P P 04 29 42.4 +1.4
EVIA pmax pmax
comp=Z,100nm,1.1s,mb6.1
EVIA Vianos 89.39 309 ⇑P P 04 29 42.4 +1.4
comp=Z,100nm,1.1s,mb6.1
ENIJ Nijar 89.41 307 ⇓P P 04 29 42.9 +1.8
ENIJ pmax pmax
comp=Z,36nm,0.8s,mb5.8
ENIJ Nijar 89.41 307 ⇓P P 04 29 42.9 +1.7
comp=Z,36nm,0.8s,mb5.8
DLF Lyons Farm 89.56 324 eP P 04 29 42.7 +1.3
EQES Quesada 89.96 308 P P 04 29 45.0 +1.3
comp=Z,390nm,2.3s,mb6.3
EBER Berja 89.96 307 P P 04 29 45.1 +1.4
comp=Z,538nm,1.5s,mb6.7
DCN Croghan 89.99 324 eP P 04 29 44.9 +1.5
URZ Urewera 90.25 128 P P 04 29 43.7 -1.4
comp=Z,80nm,0.8s,mb6.1,baz=288,slow=1.9,SNR=53
URZ PP PP 04 33 15.0 -6.5
comp=Z,25nm,0.9s,baz=56,slow=19,SNR=3.7
GUD Guadarrama 90.32 311 ⇑P P 04 29 46.8 +1.5
GUD pmax pmax
comp=Z,197nm,1.3s,mb6.3
GUD Guadarrama 90.32 311 ⇑P P 04 29 46.8 +1.5
comp=Z,197nm,1.3s,mb6.3
ESDC Sonseca Array 90.34 310 P P 04 29 45.9 +0.4
comp=Z,23nm,0.6s,mb5.7,baz=64,slow=4.0,SNR=105
ESDC pP pP 04 29 59.0 +1.2
comp=Z,23nm,0.6s,baz=63,slow=3.8,SNR=12
ESDC PKKPbc 04 47 15.1
comp=Z,2.3nm,0.9s,baz=282,slow=2.3,SNR=6.5
ESDC Sonseca Array 90.34 310 P P 04 29 46.3 +0.9
comp=Z,20nm,0.6s,mb5.6
ESLA Sonseca Array 90.34 310 eP P 04 29 46.2 +0.8
comp=Z,30nm,1.1s,mb5.5
ESLA *e* pP 04 29 59.3 +1.6
ESLA LR LR
comp=Z,25µm,20.0s,MS6.7
UNV Unalaska Valle 90.55 36 eP P 04 29 46.9 +0.8
ELOJ Sierra Loja 90.92 307 P P 04 29 49.3 +1.1
ELOJ pmax pmax
comp=Z,12nm,0.7s,mb5.3
ELOJ Sierra Loja 90.92 307 P P 04 29 49.3 +1.1
comp=Z,12nm,0.7s,mb5.3
ELUQ Luque 90.94 308 P P 04 29 49.3 +1.0
ELUQ pmax pmax
comp=Z,7.0nm,0.3s,mb5.5
ELUQ Luque 90.94 308 P P 04 29 49.3 +1.0
comp=Z,7.4nm,0.3s,mb5.5
SCO Scoresbysund 91.07 342 *i* P P 04 29 49.8 +1.7
SCO pmax pmax
comp=Z,18nm,1.1s,mb5.3
SCO Scoresbysund 91.07 342 *i* P P 04 29 49.8 +1.7
comp=Z,18nm,1.1s,mb5.3
EADA Adamuz 91.08 309 P P 04 29 49.9 +1.0
comp=Z,287nm,1.4s,mb6.4
EMIJ Mijas 91.51 307 P P 04 29 51.6 +0.7
comp=Z,78nm,0.9s,mb6.0
ECAL Calabor 91.99 313 P P 04 29 53.2 +0.1
comp=Z,295nm,1.6s,mb6.4
PBRG Braganca 92.02 312 eP P 04 29 53.7 +0.5
comp=Z,84nm,1.7s,mb5.8
VAL Valentia 92.08 323⇑iP P 04 29 54.8 +1.7
ERUA La Rua 92.20 313 P P 04 29 54.3 +0.3
ERUA pmax pmax
comp=Z,29nm,0.8s,mb5.7
ERUA La Rua 92.20 313 P P 04 29 54.3 +0.3
comp=Z,29nm,0.8s,mb5.7
EINC Incio 92.29 313 P P 04 29 54.5 +0.1
comp=Z,26nm,0.9s,mb5.6
ESPR Espera 92.31 307 P P 04 29 55.8 +1.2
comp=Z,164nm,1.3s,mb6.2
IMA Indian Mountai 92.71 22 eP P 04 29 57.5 +1.7
IMA pmax pmax
comp=Z,42nm,0.7s,mb6.0
IMA Indian Mountai 92.71 22 eP P 04 29 57.5 +1.7
comp=Z,42nm,0.7s,mb6.0
VNDA Vanda 92.73 168 P P 04 29 56.7 +1.1
comp=Z,36nm,1.1s,mb5.7,baz=297,slow=5.7,SNR=18
VNDA PP PP 04 33 38.0 -2.6
comp=Z,26nm,1.2s,baz=290,slow=9.6,SNR=3.7

VNDA				PKKPbc			04 47 08.8
	comp=Z,1.7nm,0.6s,baz=63,slow=3.3,SNR=6.2						
VNDA				LR	LR		05 06 04.0
	comp=Z,11μm,21.1s,MS6.3,baz=297,slow=32						
VNDA	**Vanda**	**92.73**	**168**	P	**P**		**04 29 56.7 +1.1**
VNDA				PP	PP		04 33 38.0 -2.6
VNDA				PKKPbc			04 47 08.8
VNDA				LR	LR		05 06 04.0
EMIN	**Mina Concepcio**	**92.78**	**308**	P	**P**		**04 29 58.2 +1.4**
	comp=Z,57nm,1.0s,mb6.0						
EBAD	**Badajoz**	**92.84**	**309**	P	**P**		**04 29 58.7 +1.7**
	comp=Z,175nm,2.0s,mb6.1						
PVRL	**Vila Real**	**92.85**	**312**	*e*P	**P**		**04 29 58.9 +1.9**
	comp=Z,16nm,1.1s,mb5.4						
MTE	**Manteigas**	**92.91**	**311**	*e*P	**P**		**04 29 59.4 +2.1**
	comp=Z,146nm,1.5s,mb6.2						
MTE				*e*PP	PP		04 33 45.5 +2.8
MTE				*e*S	S		04 41 15.4 +18
MTE				*i* -			04 47 36.4
MTE				*e*LQ			04 55 07.2
MTE				*e*LR	LR		05 02 15.1
	comp=Z,5μm,20.0s						
MTE	**Manteigas**	**92.91**	**311**	*e*P	**P**		**04 29 58.7 +1.4**
	comp=Z,167nm,1.6s,mb6.2						
PCBR	**Castelo Branco**	**92.97**	**311**	*e*P	**P**		**04 29 58.8 +1.2**
	comp=Z,26nm,1.1s,mb5.6						
PVIS	**Viseu**	**93.10**	**312**	*e*P	**P**		**04 30 00.5 +2.4**
	comp=Z,76nm,1.5s,mb5.9						
STS	**Santiago**	**93.11**	**314**	P	**P**		**04 29 59.8 +1.7**
STS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.7						
STS	**Santiago**	**93.11**	**314**	P	**P**		**04 29 59.8 +1.7**
	comp=Z,30nm,1.0s,mb5.7						
RAO	**Raoul Island**	**93.14**	**119**	PFAKE			04 30 10.0 +11
RAO				LR	LR		
	comp=Z,10μm,22.0s,MS6.2						
BORG	**Borgarnes**	**93.30**	**337**	LR	LR		05 13 39.8
	comp=Z,10μm,21.3s,MS6.2,baz=237,slow=37						
BORG	**Borgarnes**	**93.30**	**337**	PFAKE			04 30 10.0 +12
BORG				LR	LR		
	comp=Z,2μm,20.0s,MS5.6						
EGRO	**El Granado**	**93.45**	**308**	P	**P**		**04 30 01.0 +1.2**
	comp=Z,87nm,1.2s,mb6.1						
PALC	**Alcoutim**	**93.46**	**308**	*e*P	**P**		**04 30 01.6 +1.7**
	comp=Z,114nm,1.5s,mb6.1						
PBEJ	**Beja**	**93.65**	**309**	*e*P	**P**		**04 30 02.0 +1.3**
	comp=Z,54nm,1.7s,mb5.7						
EVO	**Evora**	**93.65**	**309**	*e*P	**P**		**04 30 02.4 +1.7**
	comp=Z,92nm,1.4s,mb5.7						
EVO				*e*R			
	comp=Z,5μm,21.5s						
NVL	**N'lazarevskaya**	**93.82**	**199**	||*e*P	**P**	**04 30 04.0 +3.3**
NVL				*e*S	SKS		04 40 38.0 +7.5
NVL				pmax	pmax		
	comp=Z,470nm,1.6s,mb6.7						
SBA	**Scott Base**	**93.83**	**168**	P	**P**		**04 30 03.5 +2.8**
SBA				pmax	pmax		
	comp=Z,450nm,1.8s,mb6.6						
SBA	**Scott Base**	**93.83**	**168**	*e*P	**P**		**04 30 02.3 +1.7**
	comp=Z,449nm,1.8s,mb6.6						
SBA				LR	LR		
	comp=Z,8μm,22.0s,MS6.2						
SVW2	**Sparrevohn**	**93.94**	**27**	*e*P	**P**		**04 30 03.1 +1.7**
SUMG	**Summit**	**94.30**	**347**	*e*P	**P**		**04 30 04.1 +1.3**
	comp=Z,216nm,1.6s,mb6.3						
PTEO	**Sao Teotonio**	**94.42**	**309**	*e*P	**P**		**04 30 06.1 +1.9**
	comp=Z,89nm,1.4s,mb6.0						
COLA	**College**	**95.42**	**22**	P	**P**		**04 30 09.3 +1.2**
COLA				pmax	pmax		
	comp=Z,35nm,1.4s,mb5.6						
COLA	**College**	**95.42**	**22**	*e*P	**P**		**04 30 09.0 +0.9**
	comp=Z,35nm,1.4s,mb5.6						
COLA				LR	LR		
	comp=Z,5μm,19.0s,MS6.0						
SPU	**Mount Spurr**	**95.47**	**26**	*e*P	**P**		**04 30 09.8 +1.5**
RSO	**Redoubt South**	**95.47**	**27**	*e*P	**P**		**04 30 09.4 +1.0**
MCK	**McKinley**	**95.58**	**23**	*e*P	**P**		**04 30 09.5 +0.7**
MCK				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.5						
MCK				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.8						
MCK	**McKinley**	**95.58**	**23**	*e*P	**P**		**04 30 09.4 +0.6**
	comp=Z,24nm,1.1s,mb5.5						
MCK				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
ILAR	**Eielson Array**	**95.83**	**22**	P	**P**		**04 30 09.7 -0.3**
	comp=Z,11nm,0.7s,mb5.4,baz=307,slow=7.1,SNR=61						
ILAR				PP	PP		04 33 58.5 -6.1
	comp=Z,4.1nm,0.9s,baz=294,slow=6.1,SNR=4.3						
ILAR				PKKPbc			04 46 59.5
	comp=Z,4.2nm,0.8s,baz=138,slow=1.2,SNR=19						
ILAR				PKPPKP			04 55 10.8
	comp=Z,2.5nm,1.2s,baz=188,slow=2.8,SNR=4.4						
ILAR				LR	LR		05 20 44.8
	comp=Z,6μm,18.9s,MS6.1,baz=148,slow=40						
FIB	**Fire Island**	**96.29**	**26**	*e*P	**P**		**04 30 13.3 +1.2**
FIB				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.7						
DBIC	**Dimbokro**	**96.44**	**278**	*e*P	**P**		**04 30 15.9 +2.0**
DBIC				pmax	pmax		
	comp=Z,92nm,1.4s						
DBIC				MLR	MLR		
	comp=Z,5μm,20.0s						
DBIC	**Dimbokro**	**96.44**	**278**	P	**P**		**04 30 15.5 +1.6**
	comp=Z,15nm,0.7s,mb5.5,baz=63,slow=6.4,SNR=23						
DBIC				PKKPbc			04 46 59.1
	comp=Z,13nm,1.0s,baz=304,slow=1.4,SNR=14						
DBIC				LR	LR		05 14 24.8
	comp=Z,4μm,19.0s,MS5.9,baz=65,slow=36						
DBIC	**Dimbokro**	**96.44**	**278**	*e*P	**P**		**04 30 15.9 +2.0**
	comp=Z,92nm,1.4s,mb6.0						
DBIC				LR	LR		
	comp=Z,5μm,20.0s,MS6.0						
SLKM	**Skilak Lake**	**96.57**	**26**	*e*P	**P**		**04 30 14.4 +1.0**
KDAK	**Kodiak Island**	**96.69**	**29**	*e*P	**P**		**04 30 15.5 +1.5**
	comp=Z,115nm,1.4s,mb6.1						
KDAK				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
SML	**Sawmill**	**96.76**	**25**	*e*P	**P**		**04 30 16.1 +1.9**
THY	**Trims Highway**	**96.97**	**23**	*e*P	**P**		**04 30 16.3 +1.1**
AFI	**Afiamalu**	**97.22**	**103**	PFAKE			04 30 30.0 +13
AFI				LR	LR		
	comp=Z,4μm,21.0s,MS5.8						
QSPA	**South Pole Qui**	**97.25**	**180**	P	**P**		**04 30 17.0 +0.9**
	comp=Z,25nm,1.1s,mb5.6						
INK	**Inuvik**	**97.94**	**16**	*e*P	**P**		**04 30 20.3 +0.8**
INK				*e*	pP		04 30 31.2 -0.6
INK				pmax	pmax		
	comp=Z,89nm,1.2s						
INK	**Inuvik**	**97.94**	**16**	PKKPbc			04 46 53.2
	comp=Z,6.8nm,1.0s,baz=141,slow=4.7,SNR=13						
INK				LR	LR		05 19 54.4
	comp=Z,8μm,21.9s,MS6.2,baz=87,slow=39						
INK	**Inuvik**	**97.94**	**16**	*e*P	**P**		**04 30 20.3 +0.8**
	comp=Z,89nm,1.2s,mb6.2						
INK				*e*	pP		04 30 31.2 -0.6
RES	**Resolute Bay**	**98.00**	**2**	*e*P	**P**		**04 30 20.5 +0.9**
RES				pmax	pmax		
	comp=Z,63nm,1.3s,mb6.0						
RES	**Resolute Bay**	**98.00**	**2**	*e*P	**P**		**04 30 20.5 +0.9**
	comp=Z,63nm,1.3s,mb6.0						
MENT	**Mentasta**	**98.00**	**23**	*e*P	**P**		**04 30 21.9 +2.1**
SNAA	**Sanae**	**98.61**	**199**	*e*	**P**		**04 30 31.7 +9.3**
SNAA	**Sanae**	**98.61**	**199**	*e*	pP		04 30 35.7 +0.9
SNAA	**Sanae**	**98.61**	**199**	||*i*/P	**P**	**04 30 24.0 +1.6**
SNAA				*e*	pP		04 30 35.7 +0.9
SNAA	**Sanae**	**98.61**	**199**	P	**P**		**04 30 23.9 +1.5**
	comp=Z,10nm,1.0s,mb5.3,baz=101,slow=3.1,SNR=20						
SNAA				PKKPbc			04 46 51.5
	comp=Z,1.3nm,0.8s,baz=291,slow=5.0,SNR=4.4						
SNAA				LR	LR		05 11 16.3
	comp=Z,4.2nm,19.0s,baz=98,slow=33						
SNAA	**Sanae**	**98.61**	**199**	||*i*/Pdif	**P**	**04 30 24.0 +1.6**
SNAA				*e*			04 30 31.7
SNAA				*e*	pP		04 30 35.7 +0.9
SNAA				*e*			04 33 43.3
DAWY	**Dawson**	**98.92**	**21**	*e*P	**P**		**04 30 24.6 +0.6**
VNA2	**Neumayer--Watz**	**100.14**	**199**	*e*	P		04 30 39.3 +10
VNA2	**Neumayer--Watz**	**100.14**	**199**	*e*			04 30 42.9
VNA2	**Neumayer--Watz**	**100.14**	**199**	*e*Pdif	P		04 30 31.9 +2.5
VNA2				*e*			04 30 39.3
VNA2				*e*			04 30 42.9
VNA2				*e*			04 33 50.8
VNA1	**Neumayer--Stat**	**100.46**	**199**	*e*	P		04 30 39.9 +9.0
VNA1	**Neumayer--Stat**	**100.46**	**199**	*e*			04 30 43.6
VNA1	**Neumayer--Stat**	**100.46**	**199**	||*i*/Pdif	P	04 30 32.2 +1.3
VNA1				*e*			04 30 39.9
VNA1				*e*			04 30 43.6
VNA1				*e*			04 33 50.9
VNA3	**Neumayer Olymp**	**100.83**	**199**	*e*	P		04 30 39.0 +6.5
VNA3	**Neumayer Olymp**	**100.83**	**199**	*e*			04 30 42.9
VNA3	**Neumayer Olymp**	**100.83**	**199**	||*i*/Pdif	P	04 30 31.6 -0.9
VNA3				*e*			04 30 39.0
VNA3				*e*			04 30 42.9
VNA3				*e*			04 33 50.0
SIT	**Sitka**	**104.91**	**25**	PFAKE			04 31 00.0 +9.1
SIT				LR	LR		
	comp=Z,7μm,20.0s,MS6.2						
KIP	**Kipapa**	**105.17**	**66**	PFAKE			04 35 20.0
KIP				LR	LR		
	comp=Z,4μm,22.0s,MS6.0						
TRIS	**Tristan da Cun**	**106.23**	**234**	PFAKE			04 35 20.0
TRIS				LR	LR		
	comp=Z,4μm,19.0s,MS6.0						
YKW3	**Yellowknife Ar**	**107.24**	**13**	*e*PKiKP			04 35 08.5
YKA	**Yellowknife Ar**	**107.31**	**13**	Pdiff	Pdif		04 31 01.6 +0.3
	comp=Z,0.9nm,0.7s,baz=336,slow=4.5,SNR=12						
YKA				PP	PP		04 35 22.8 -9.3
	comp=Z,3.1nm,0.7s,baz=340,slow=3.4,SNR=8.6						
YKA				PKKPbc			04 46 25.4
	comp=Z,4.3nm,0.7s,baz=154,slow=3.3,SNR=33						
YKA				PKKP	PKKP		04 46 40.0 +9.0
	comp=Z,15nm,0.8s,baz=148,slow=4.1,SNR=8.5						
YKA				SKKP			04 50 20.1
	comp=Z,1.8nm,1.2s,baz=144,slow=3.3,SNR=2.8						
YKA	**Yellowknife Ar**	**107.31**	**13**	Pdif	Pdif		04 31 01.6 +0.3
YKA				PP	PP		04 35 22.8 -9.3
YKA				PKKPbc			04 46 25.4
YKA				PKKP	PKKP		04 46 40.0 +9.0
YKA				SKKP			04 50 20.1
FRB	**Frobisher Bay**	**107.68**	**351**	PKKPbc			04 46 23.8
	comp=Z,6.3nm,0.8s,baz=205,slow=6.9,SNR=7.7						
FRB				PKKP	PKKP		04 46 38.5 +8.1
	comp=Z,3.5nm,0.7s,baz=149,slow=5.6,SNR=4.5						
RAR	**Rarotonga**	**109.08**	**110**	PFAKE			04 35 30.0
RAR				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
SCHQ	**Schefferville**	**115.70**	**347**	PKP	PKPdf		04 35 26.5 +1.5
	comp=Z,9.9nm,0.8s,baz=339,slow=3.7,SNR=15						
SCHQ				PP	PP		04 36 29.6 -3.4
	comp=Z,12nm,0.8s,baz=20,slow=7.5,SNR=5.2						
SCHQ				PKKPbc			04 45 58.2
	comp=Z,9.0nm,1.0s,baz=158,slow=1.8,SNR=4.8						
SCHQ	**Schefferville**	**115.70**	**347**	PKP	PKPdf		04 35 26.5 +1.5
SCHQ				PP	PP		04 36 29.6 -3.4
SCHQ				PKKPbc			04 45 58.2
SCHQ				LR	LR		
	comp=Z,16μm,22.0s,MS6.6						
EDM	**Edmonton**	**115.80**	**17**	*e*PKIKP	PKPdf		04 35 26.4 +1.2
OCWA	**Octopus Mounta**	**116.30**	**27**	*e*PKPdf	PKPdf		04 35 30.2 +3.9
OCWA				LR	LR		
	comp=Z,10μm,22.0s,MS6.4						
TBM	**Table Mountain**	**118.29**	**25**	P	PKPdf		04 35 32.9 +2.8
EBG	**Ellensburg**	**118.51**	**25**	P	PKPdf		04 35 33.8 +3.1
NAC	**Naches**	**118.54**	**26**	P	PKPdf		04 35 33.7 +3.0
TBI	**Tubuai**	**118.56**	**113**	*e*PP	PP		04 36 46.5 -7.3
TBI				*e*PS	PS		04 46 38.0 +2.0
TBI				*e*LQ			05 06 43.5
TBI				*e*LR	LR		05 11 42.9
	comp=Z,9μm,22.2s						
EPH	**Ephrata**	**118.56**	**24**	P	PKPdf		04 35 33.4 +2.7
PPT	**Papeete**	**118.73**	**106**	*e*PP	PP		04 36 39.8 -15
PPT				*e*PS	PS		04 46 44.4 +6.8
PPT				*e*SS	SS		04 53 17.5 +11
PPT				*e*LQ			05 07 06.2
PPT				*e*LR	LR		05 12 03.6
	comp=Z,8μm,22.5s						
NEW	**Newport**	**118.79**	**22**	*e*PKIKP	PKPdf		04 35 32.8 +1.7
NEW				MLR	MLR		
	comp=Z,10μm,20.0s						
OD2	**Odessa Site #2**	**118.89**	**24**	P	PKPdf		04 35 34.0 +2.6
VLMM	**Larch Mountain**	**118.93**	**27**	P	PKPdf		04 35 34.9 +3.4
COR	**Corvallis**	**119.07**	**29**	PFAKE			04 35 50.0 +18
COR				LR	LR		
	comp=Z,989nm,20.0s,MS5.4						
WRD	**Warden**	**119.19**	**24**	P	PKPdf		04 35 34.9 +2.9
VFP	**Flag Point**	**119.36**	**27**	P	PKPdf		04 35 35.4 +3.1
PMSA	**Palmer Station**	**120.31**	**191**	*e*PKPdf	PKPdf		04 35 34.1 +0.3
PMSA				LR	LR		
	comp=Z,5μm,19.0s,MS6.2						
HUMO	**Hull Mountain**	**120.71**	**30**	*e*PKPdf	PKPdf		04 35 37.1 +2.0
HUMO				*e*			04 35 50.6
HUMO				LR	LR		
	comp=Z,4μm,21.0s,MS6.0						
MSO	**Missoula**	**121.16**	**21**	*e*PKPdf	PKPdf		04 35 36.9 +1.1
MSO				*e*			04 35 49.6
MSO				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
CHMT	**Chamberlain Mo**	**121.33**	**20**	*e*PKPdf	PKPdf		04 35 37.4 +1.3
YBH	**Yreka Blue Hor**	**121.48**	**30**	PKKPbc			04 45 39.0
	comp=Z,12nm,0.8s,baz=119,slow=4.3,SNR=16						
YBH	**Yreka Blue Hor**	**121.48**	**30**	PFAKE			04 35 50.0 +13
YBH				LR	LR		
	comp=Z,4μm,22.0s,MS6.0						
BMO	**Blue Mountains**	**121.52**	**25**	*e*PKIKP	PKPdf		04 35 38.1 +1.6
BMO				MLR	MLR		
	comp=Z,7μm,20.0s,MS6.3						
WDC	**Whiskeytown Da**	**122.42**	**31**	*e*PKIKP	PKPdf		04 35 39.7 +1.3
WDC				MLR	MLR		
	comp=Z,8μm,22.0s,MS6.3						
DGMT	**Dagmar**	**122.51**	**13**	*e*PKPdf	PKPdf		04 35 40.3 +1.9
DGMT				*e*			04 35 53.0
DGMT				LR	LR		
	comp=Z,12μm,19.0s,MS6.6						
MOD	**Modoc**	**122.53**	**29**	*e*PKPdf	PKPdf		04 35 41.2 +2.6
MOD				*e*			04 35 51.0
MOD				LR	LR		
	comp=Z,5μm,21.0s,MS6.1						
WVOR	**Wild Horse Val**	**122.89**	**27**	*e*PKIKP	PKPdf		04 35 40.6 +1.3
WVOR				MLR	MLR		
	comp=Z,7μm,21.0s,MS6.3						
BOZ	**Bozeman (W)**	**122.98**	**20**	*e*PKIKP	PKPdf		04 35 41.3 +1.9
BOZ				*e*			04 35 54.0
BOZ				MLR	MLR		
	comp=Z,8μm,20.0s,MS6.4						
MCMT	**McKenzie Canyo**	**123.27**	**21**	*e*PKPdf	PKPdf		04 35 42.3 +2.3
MCMT				*e*PP	PP		04 37 16.4 -8.8
HOPS	**Hopland**	**123.30**	**33**	*e*PKPdf	PKPdf		04 35 42.9 +2.7
HOPS				LR	LR		
	comp=Z,5μm,21.0s,MS6.1						
LAO	**LASA Array**	**123.68**	**15**	*e*PKPdf	PKPdf		04 35 43.1 +2.4
LAO				*e*			04 35 56.2
LAO				LR	LR		
	comp=Z,10μm,20.0s,MS6.5						
HLID	**Hailey**	**123.75**	**23**	*e*PKPdf	PKPdf		04 35 43.4 +2.5
HLID				*e*			04 35 56.2
HLID				LR	LR		
	comp=Z,5μm,19.0s,MS6.2						
QLMT	**Earthquake Lak**	**123.77**	**20**	*e*PKPdf	PKPdf		04 35 44.4 +3.5
QLMT				*e*			04 35 56.5
OHCM	**Honcut**	**123.88**	**32**	*e*PKPdf	PKPdf		04 35 43.3 +2.0
NSHM	**Saint Helena R**	**123.89**	**33**	*e*PKPdf	PKPdf		04 35 44.0 +2.7
YMR	**Madison River**	**124.07**	**20**	*e*PKPdf	PKPdf		04 35 44.9 +3.5
YNR	**Norris Junctio**	**124.12**	**20**	*e*PKPdf	PKPdf		04 35 45.4 +3.8
YFT	**Old Faithful**	**124.30**	**20**	*e*PKPdf	PKPdf		04 35 46.4 +4.5
YFT				*e*			04 35 58.7
LKWY	**Lake**	**124.35**	**20**	*e*PKIKP	PKPdf		04 35 45.9 +3.9
LKWY				*e*			04 35 59.0
LKWY				MLR	MLR		
	comp=Z,15μm,19.0s,MS6.7						
WCN	**Washoe City**	**124.79**	**30**	*e*PKIKP	PKPdf		04 35 45.8 +2.8
MOOW	**Moose Ponds**	**124.95**	**20**	*e*PKPdf	PKPdf		04 35 45.6 +2.4
TPAW	**Teton Pass**	**125.11**	**21**	*e*PKPdf	PKPdf		04 35 46.1 +2.6
TPAW				*e*			04 35 59.0
LOHW	**Long Hollow**	**125.12**	**20**	*e*PKPdf	PKPdf		04 35 46.0 +2.5
BMN	**Battle Mountai**	**125.12**	**28**	*e*PKIKP	PKPdf		04 35 46.8 +3.2
BMN				*e*			04 35 59.4
BMN				MLR	MLR		
	comp=Z,6μm,21.0s,MS6.2						
WUWY	**Wally Ulrich**	**125.14**	**21**	*e*PKPdf	PKPdf		04 35 46.6 +3.0
SNOW	**Snow King Moun**	**125.20**	**21**	*e*PKPdf	PKPdf		04 35 46.3 +2.6
SNOW				*e*			04 35 58.8
CMB	**Columbia Colle**	**125.42**	**32**	*e*PKIKP	PKPdf		04 35 46.5 +2.2
CMB				*e*			04 35 59.0
CMB				MLR	MLR		
	comp=Z,5μm,22.0s,MS6.2						
SAO	**San Andreas Ge**	**125.80**	**34**	PFAKE			04 36 00.0 +15
SAO				LR	LR		
	comp=Z,5μm,20.0s,MS6.2						
HVU	**Hansel Valley**	**125.91**	**23**	*e*PKIKP	PKPdf		04 35 47.9 +2.8
NVAR	**Mina Array Bea**	**126.18**	**30**	PKP	PKPdf		04 35 48.3 +2.6
	comp=Z,33nm,0.8s,baz=208,slow=1.3,SNR=19						
NVAR				pPKP			04 36 01.6
	comp=Z,22nm,0.7s,baz=350,slow=2.1,SNR=11						
NVAR				PKKPbc			04 45 20.7
	comp=Z,5.1nm,1.2s,baz=144,slow=4.7,SNR=7.1						
NVAR				SKKPbc			04 49 15.1
	comp=Z,7.9nm,1.1s,baz=139,slow=5.5,SNR=6.6						
NVAR	**Mina Array Bea**	**126.18**	**30**	PKP	PKPdf		04 35 48.3 +2.6
NVAR				pPKP			04 36 01.6
NVAR				PKKPbc			04 45 20.7
NVAR				SKKPbc			04 49 15.1
BW06	**Boulder Array**	**126.23**	**20**	*e*PKPdf	PKPdf		04 35 47.6 +1.9
BW06				*e*			04 35 55.7
BW06				*e*			04 36 00.3
BW06				LR	LR		
	comp=Z,9μm,19.0s,MS6.5						
PDAR	**Pinedale Array**	**126.23**	**20**	PKhKP			04 35 41.6
	comp=Z,1.1nm,0.8s,baz=180,slow=1.5,SNR=4.4						
PDAR				PKP	PKPdf		04 35 47.5 +1.8
	comp=Z,66nm,1.1s,SNR=112						
PDAR				pPKP			04 36 00.6
	comp=Z,55nm,1.0s,baz=128,slow=0.5,SNR=15						
PDAR				PKKPbc			04 45 19.6
	comp=Z,7.9nm,0.8s,baz=136,slow=6.6,SNR=30						
PDAR				SKKPbc			04 48 59.8
	comp=Z,5.8nm,1.1s,baz=172,slow=4.3,SNR=3.7						
MNV	**Mina**	**126.25**	**30**	*e*PKIKP	PKPdf		04 35 48.5 +2.6
MNV				MLR	MLR		
	comp=Z,6μm,22.0s,MS6.2						
LRV	**Little Rabbit**	**126.28**	**34**	*e*PKPdf	PKPdf		04 35 49.8 +3.8
SPUT	**South Promonto**	**126.44**	**23**	*e*PKPdf	PKPdf		04 35 48.6 +2.5
OMM	**Old Mammoth Mi**	**126.46**	**31**	*e*PKPdf	PKPdf		04 35 49.4 +3.1
OMM				*e*			04 36 01.8
HWUT	**Hardware Ranch**	**126.52**	**22**	*e*PKPdf	PKPdf		04 35 48.5 +2.2
HWUT				*e*			04 36 01.3
HWUT				LR	LR		
	comp=Z,10μm,19.0s,MS6.5						
BGU	**Big Grassy Mou**	**126.53**	**24**	*e*PKPdf	PKPdf		04 35 48.9 +2.6
MSNY	**Massena**	**126.69**	**349**	*e*PKPdf	PKPdf		04 35 48.4 +1.8
TPH	**Tonopah**	**126.99**	**29**	*e*PKIKP	PKPdf		04 35 50.4 +3.1
TPH				*e*			04 36 02.4
TPH				MLR	MLR		
	comp=Z,4μm,20.0s,MS6.1						
TCUT	**Toone Canyon**	**127.00**	**23**	*e*PKPdf	PKPdf		04 35 49.9 +2.6
NOQ	**North Oquirrh**	**127.12**	**23**	*e*PKPdf	PKPdf		04 35 49.9 +2.4
MDV	**Middlebury**	**127.29**	**347**	*e*PKPdf	PKPdf		04 35 50.1 +2.4
MDV				*e*			04 36 00.7
MIV	**Mineville/With**	**127.30**	**347**	*e*PKPdf	PKPdf		04 35 49.6 +1.8
JLU	**Jordanelle**	**127.43**	**23**	*e*PKPdf	PKPdf		04 35 50.8 +2.7
NCB	**Newcomb**	**127.55**	**348**	PFAKE			04 36 00.0 +12
NCB				LR	LR		
	comp=Z,13μm,21.0s,MS6.6						
TRCR	**Troy Canyon**	**127.55**	**28**	*e*PKPdf	PKPdf		04 35 51.3 +2.9
TRCR				*e*			04 36 04.4
SADO	**Sadowa**	**127.59**	**353**	PKP	PKPdf		04 35 49.8 +1.4
	comp=Z,28nm,0.8s,baz=348,slow=3.4,SNR=13						
SADO				pPKP			04 36 02.5
	comp=Z,38nm,0.9s,baz=24,slow=1.2,SNR=9.0						
DAU	**Daniels Canyon**	**127.67**	**23**	*e*PKIKP	PKPdf		04 35 51.5 +2.9
NLU	**North Lily Min**	**127.74**	**24**	*e*PKPdf	PKPdf		04 35 51.1 +2.4
NLU				*e*			04 36 04.3
TAOE	**Nuku Hiva Isla**	**127.85**	**96**	*e*PP	PP		04 37 40.3 -16
TAOE				*e*SS	SS		04 55 04.8 +2.0
TAOE				*e*LR	LR		05 16 08.9
DAC	**Darwin (Calif)**	**128.21**	**31**	*e*PKIKP	PKPdf		04 35 53.1 +3.4
DAC				MLR	MLR		
	comp=Z,5μm,21.0s,MS6.1						
HRV	**Harvard--Oak R**	**128.32**	**345**	PFAKE			04 36 00.0 +10
HRV				LR	LR		
	comp=Z,8μm,22.0s,MS6.3						
TMUT	**Trail Mountain**	**128.65**	**24**	*e*PKPdf	PKPdf		04 35 53.8 +3.3
RCBR	**Riachuelo**	**128.78**	**268**	*e*PKPdf	PKPdf		04 35 53.8 +2.4
RCBR				*e*			04 36 04.8
RCBR				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
MVU	**Marysvale**	**128.91**	**25**	*e*PKPdf	PKPdf		04 35 54.0 +3.0
MVU				*e*			04 36 07.3
MVU				LR	LR		
	comp=Z,7μm,20.0s,MS6.3						
MSU	**Marysvale**	**128.92**	**25**	PKIKP	PKPdf		04 35 50.0 -1.0
MSU	**Marysvale**	**128.92**	**25**	*e*PKPdf	PKPdf		04 35 54.1 +3.1
ARUT	**Antelope Range**	**128.98**	**27**	*e*PKIKP	PKPdf		04 35 54.8 +3.6
ARUT				*e*			04 36 07.2
SRU	**San Rafael**	**129.07**	**23**	*e*PKIKP	PKPdf		04 35 54.1 +2.8
JFWS	**Jewell Farm**	**129.93**	**3**	PFAKE			04 36 10.0 +17
JFWS				LR	LR		
	comp=Z,12μm,20.0s,MS6.6						
NEN	**Nelson**	**130.07**	**29

UALR	University of	137.86	6	ePKPdf	PKPdf	04 36 09.6	+1.8
JSC	Jenkinsville	138.19	352	ePKIKP	PKPdf	04 36 10.4	+2.0
OXF	Oxford	138.34	2	ePKIKP	PKPdf	04 36 07.3	-1.4
OXF				MLR	MLR		
comp=Z,11μm,22.0s,MS6.6							
NHSC	New Hope	139.19	351	PFAKE		04 36 20.0	+10
NHSC				LR	LR		
comp=Z,11μm,21.0s,MS6.6							
GOGA	Godfrey	139.30	355	ePKIKP	PKPdf	04 36 13.3	+2.9
GOGA				MLR	MLR		
comp=Z,11μm,22.0s,MS6.5							
RGRS	Roger Stewart	139.39	351	ePKPdf	PKPdf	04 36 12.4	+1.8
LRAL	Lakeview Retre	139.85	359	PKPdf	PKPdf	04 36 13.3	+1.8
LRAL				LR	LR		
comp=Z,8μm,22.0s,MS6.5							
TXAR	Lajitas Array	140.34	22	PKhKP		04 36 06.3	
comp=Z,2.2nm,0.5s,baz=30,slow=2.2,SNR=18							
TXAR				PKP	PKPdf	04 36 14.4	+1.9
comp=Z,11nm,0.6s,baz=198,slow=1.1,SNR=29							
TXAR				PP	PP	04 39 11.8	-2.9
comp=Z,3.0nm,0.8s,slow=2.7,SNR=3.3							
NATX	Nacogdoches	140.52	10	ePKPdf	PKPdf	04 36 08.1	-4.7
NATX				LR	LR		
comp=Z,12μm,20.0s,MS6.6							
JCT	Junction City	140.58	17	ePKHKP		04 36 06.7	
JCT				e		04 36 15.5	
JCT				MLR	MLR		
comp=Z,7μm,20.0s,MS6.4							
LPA	La Plata	141.41	220	cePKP	PKPdf	04 36 15.0	+0.8
LPA				ePP	PP	04 39 18.0	-3.1
LPA				eSKP		04 39 48.0	
LPA				eSKKS		04 52 05.0	
comp=Z,4μm,18.0s							
LPIG	La Paz	141.61	35	i P	PKPdf	04 36 18.2	+3.3
TRQA	Tornquist	141.70	213	ePKPpre		04 36 08.3	
TRQA				ePKPdf	PKPdf	04 36 17.3	+2.7
TRQA				LR	LR		
comp=Z,5μm,19.0s,MS6.3							
HKT	Hockley	142.06	12	ePKHKP		04 36 11.3	
HKT				MLR	MLR		
comp=Z,2μm,19.0s,MS6.0							
PLCA	Paso Flores	143.48	202	ePKIKP	PKPdf	04 36 16.3	-1.3
PLCA				MLR	MLR		
comp=Z,3μm,20.0s							
PLCA	Paso Flores	143.48	202	PKhKP		04 36 16.6	
comp=Z,28nm,0.6s,baz=146,slow=4.4,SNR=37							
DWPF	Disney	144.28	351	PFAKE		04 36 30.0	+11
DWPF				LR	LR		
comp=Z,2μm,22.0s,MS5.8							
CPB	Codrington	144.54	315	eP	PKPbc	04 36 20.4	+0.6
DEG	La Desirade	144.86	312	eP	PKPdf	04 36 20.7	+0.1
BPA	Boggy Peak	144.96	314	eP	PKPdf	04 36 21.6	+0.8
SEG	Port Louis	145.12	313	eP	PKPdf	04 36 22.1	+1.0
STAT	Sint Eustatius	145.44	316	eP	PKPdf	04 36 24.2	+2.5
NVBH	Bath Hotel, Ne	145.45	315	eP	PKPdf	04 36 24.5	+2.8
BBL	Barber's Block	145.66	312	eP	PKPdf	04 36 24.3	+2.2
CRM	Caraveile	145.72	310⇓	eP	PKPdf	04 36 24.2	+2.0
MDN	Morne-Daniel	145.73	311	eP	PKPdf	04 36 26.0	+3.8
MVM	Montagne Vaucl	145.83	310⇓	eP	PKPdf	04 36 24.5	+2.2
FDF	Fort de France	145.92	310⇓	eP	PKPdf	04 36 25.3	+2.8
BIM	Bigot	145.99	310⇓	eP	PKPdf	04 36 25.9	+3.3
SJG	San Juan	147.10	320	PKPbc	PKPdf	04 36 26.5	+2.0
comp=Z,84nm,0.7s,baz=59,slow=4.0,SNR=28							
TPR	Prospect	147.69	304	eP	PKPdf	04 36 30.8	+5.3
CJM	Chamela	148.20	33⇓	i P	PKPdf	04 36 32.2	+6.1
TRN	Trinidad (W)	148.50	304	eP	PKPdf	04 36 31.9	+5.1
TPP	Pointe-a-Pierr	148.72	304	eP	PKPdf	04 36 32.4	+5.2
CGX	Ciudad Guzman	148.84	30	eP	PKPdf	04 36 34.0	+6.8
LMEL	Las Melosas	149.17	209⇓	i P	PKPdf	04 36 34.4	+7.0
MDZ	Mendoza	149.26	212	eP	PKPdf	04 36 30.6	+3.1
MDZ				i		04 36 34.8	
MDZ				i S	tx	04 37 09.4	
FCH	Farellones	149.63	209⇑	i P	PKPdf	04 36 32.0	+3.9
CLCH	Cerro Calan	149.70	209⇑	i P	PKPdf	04 36 32.8	+4.6
ZON	Zonda	150.21	214	eP	PKPdf	04 36 33.0	+3.9
PTVM	Pico Tres Padr	150.88	23	eP	PKPdf	04 36 33.0	+2.6
IIZ	Mezontepec	151.20	24	eP	PKPdf	04 36 33.5	+2.6
CHVM	Chichinautzin	151.33	24	eP	PKPdf	04 36 33.5	+2.4
CHVM				eP		04 36 34.2	
PPM	Popocatepetl	151.55	23	i P	PKPdf	04 36 33.6	+2.2
PPM				eP		04 36 35.0	
ZIIG	Zihuatanejo	151.62	29	i P	PKPdf	04 36 34.5	+3.0
ZIIG				i P		04 36 34.8	
PLIG	Platanillo	151.81	25	i P	PKPdf	04 36 35.3	+3.5
BBJ	Bamboo Saint A	152.53	339	eP	PKPdf	04 36 35.0	+2.2
TEIG	Tepich	152.60	2	ePKPdf	PKPdf	04 36 35.7	+2.8
TEIG				ePKPbc	PKPdf	04 36 42.5	+10
TEIG				LR	LR		
comp=Z,3μm,22.0s,MS6.1							
GWJ	Greenwich	152.62	337	eP	PKPdf	04 36 36.1	+3.1
STH	Stony Hill	152.65	337⇓	eP	PKPdf	04 36 36.1	+3.1
CAIG	El Cayaco	152.66	27	i P	PKPdf	04 36 36.8	+3.8
ACX	Acapulco	152.98	27	eP	PKPdf	04 36 36.2	+2.8
ACX				eP		04 36 36.5	
MCJ	Malvern	153.11	339⇑	eP	PKPdf	04 36 37.1	+3.4
OXX	Oaxaca	154.07	21	eP	PKPdf	04 36 39.0	+4.0
VHO	Vista Hermosa	154.07	21	i P	PKPdf	04 36 39.0	+4.0
CMIG	Matias Romero	154.64	17	eP	PKPdf	04 36 33.4	-2.4
CCIG	Comitan	156.08	11	i P	PKPdf	04 36 43.1	+5.5
LVC	Limon Verde	156.56	228	PKP	PKPdf	04 36 41.6	+3.5
comp=Z,23nm,1.0s,baz=103,slow=0.6,SNR=18							
LVC				PKPab	PKPab	04 37 09.9	+0.3
comp=Z,107nm,0.8s,baz=137,slow=4.1,SNR=17							
SDV	Santo Domingo	156.74	314	PKP	PKPdf	04 36 40.8	+2.2
comp=Z,54nm,1.0s,baz=137,slow=1.0,SNR=54							
SDV				PKPab	PKPab	04 37 10.1	-0.6
comp=Z,38nm,0.8s,baz=11,slow=4.6,SNR=7.1							
LPAZ	La Paz	159.11	243	PKPdf	PKPdf	04 36 44.5	+3.0
LPAZ				PKPab	PKPab	04 37 21.9	+1.1
LPAZ	La Paz	159.11	243	PKP	PKPdf	04 36 44.7	+3.2
comp=Z,65nm,1.2s,baz=50,slow=3.8,SNR=109							
LPAZ				pPKP		04 36 57.5	
comp=Z,32nm,1.1s,baz=0.7,slow=1.0,SNR=8.5							
LPAZ				PKPab	PKPab	04 37 21.2	+0.4
comp=Z,67nm,1.2s,baz=71,slow=6.6,SNR=6.1							
LPAZ	La Paz	159.11	243	ePKPdf	PKPdf	04 36 44.4	+2.9
LPAZ				LR	LR		
comp=Z,5μm,19.0s,MS6.4							
OTAV	Otavalo	168.28	310	ePKPdf	PKPdf	04 36 52.9	+2.9
OTAV				ePKPab	PKPab	04 38 01.6	+0.9
OTAV				LR	LR		
comp=Z,25μm,19.0s							
NNA	Nana	168.56	245	ePKPdf	PKPdf	04 36 52.5	+2.4
NNA				LR	LR		
comp=Z,2μm,19.0s							
PAYG	Puerto Ayora	172.81	23	PFAKE		04 37 10.0	+17
PAYG				LR	LR		
comp=Z,13μm,19.0s							

*CSEM **24** 04:17:15.6±0.1,35.83N×29.59E,h10km,MD3.6,Error ellipse: s-maj=2.5km s-min=1.1km az=88.0*
*ISK **24** 04:17:19.3,35.94N×29.60E,h32km,MD3.6*
*HLW **24** 04:17:20.2,35.78N×29.70E,h12km,Mb3.7*
ISC 24 04:17:16.3±0.3,35.80N±0.02×29.67E±0.05,h10km,n42,
σ1§06/50,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.96	330	PG	Pg	04 17 34.2	-1.3
FETY				SG	Sg	04 17 45.8	-2.6
ELL	Elmali	0.97	11	i PG	Pg	04 17 34.3	-1.3
ANTB	Antalya	1.35	35	PN	Pn	04 17 41.3	0.0
BCK	Bucak	1.81	24	PN	Pn	04 17 48.2	+0.3
DNZL	Cakiroluk	1.95	345	i P	Pn	04 17 51.2	+1.3
DNZL				i S	Sn	04 18 15.7	+1.1
DENT	Denizli	2.02	345	ePN	Pn	04 17 50.4	-0.4
BDRM	Kayabasi	2.20	306	i P	Pn	04 17 54.4	+1.0
BDRM				i S	Sn	04 18 22.6	+1.8
AYDN	Tasoluk	2.35	323	i P	Pn	04 17 56.3	+0.7
AYDN				i S	Sn	04 18 26.4	+1.6
KHL	Karahalli	2.52	357	ePN	Pn	04 17 57.6	-0.4
HDMB	Hadim	2.55	62	ePN	Pn	04 17 59.2	+0.8
MANT	Manisa	2.83	342	i P	Pn	04 18 04.9	+2.5
MANT				i S	Sn	04 18 42.4	+5.5
KONT	Konya--Tatoy	3.04	44	ePN	Pn	04 18 05.8	+0.4
IZM	Izmir	3.23	324	ePN	Pn	04 18 06.9	-1.2
KDAG	Bornova	3.23	324	i P	Pn	04 18 10.5	+2.3
KDAG				i S	Sn	04 18 44.3	-2.9
ALT	Altintas	3.27	6	ePN	Pn	04 18 07.9	-0.7
BLCB	Balcova	3.33	322	ePN	Pn	04 18 08.9	-0.6
AKS	Akhisar	3.41	335	ePN	Pn	04 18 09.6	-1.1
KIZT	Kizilcal	3.54	29	ePN	Pn	04 18 12.6	+0.1
ESKT	Eskisehir	3.83	14	ePN	Pn	04 18 16.4	-0.3
ESKT	Eskisehir	3.83	14	i P	Pn	04 18 17.3	+0.7
ESKT				i S	Sn	04 19 02.1	-0.1
HMAT	Matruh	5.16	205	P	Pn	04 18 36.8	+1.3
HBRG	Burj al 'Arab	5.21	178	P	Pn	04 18 37.0	+0.8
HMYD	Mayadein	6.06	171	P	Pn	04 18 48.4	+0.2
HMYD	Mayadein	6.06	171	P	Pn	04 18 48.3	+0.1
KOT	Kottamia	6.13	162	P	Pn	04 18 49.2	+0.1
HHAG	Hagoal	6.17	160	P	Pn	04 18 50.0	+0.3
HHAG				S	Sn	04 19 56.5	-4.8
HHAG	Hagoal	6.17	160	P	Pn	04 18 50.0	+0.2
FYM	Al Fayyum	6.20	169	P	Pn	04 18 51.1	+1.0
HNAT	Natroun	6.20	172	P	Pn	04 18 50.4	+0.3
HSAF	As Saff	6.36	165	P	Pn	04 18 52.5	+0.1
HSAF	As Saff	6.36	165	P	Pn	04 18 52.5	+0.1
GLL	Jalalah	6.44	164	P	Pn	04 18 53.9	+0.5
SUZ		6.51	155	P	Pn	04 18 54.4	-0.1
HBNS	Bani Suwayf	6.95	169	P	Pn	04 19 00.8	+0.1
SWA1		7.32	208	P	Pn	04 19 05.6	-0.4
SWA2		7.44	210	P	Pn	04 19 07.0	-0.6
AWBH		7.48	185	P	Pn	04 19 07.7	-0.5
GRB	Gharib	7.96	160	P	Pn	04 19 15.5	+0.7
HKAT	Jabal Katrina	8.12	152	P	P	04 19 16.1	-1.0
HFRF	Wahat Farafira	8.70	188	P	P	04 19 23.9	-1.2
GTR	Jabal at Tayr	10.28	176	P	P	04 19 45.3	-1.7
HDK2	Wahat Dakhilah	11.46	183	P	P	04 20 01.8	-1.3

IDC 24 04:36:02.8±18.0,7.13N×95.25E,mb3.6/2,mb1 3.9/3,
mb1mx3.5/17,mbtmp3.6/3,ML4.2/1,Error ellipse:
s-maj=487.6km s-min=41.6km az=84.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.82	17	Pn	P	04 38 52.4	-3.4
0.5nm,0.3s,baz=228,slow=13,SNR=7.9							
WRA	Warramunga Arr	46.94	126	P	P	04 44 35.3	-2.2
0.6nm,0.5s,baz=302,slow=9.6,SNR=7.0							
ASAR	Alice Springs	48.60	130	P	P	04 44 49.0	-1.5
0.5nm,0.8s,baz=310,slow=7.0,SNR=2.5							

*CSEM **24** 04:40:42.5±0.2,36.97N×27.72E,h10km,MD3.3,Error ellipse: s-maj=6.5km s-min=3.7km az=90.0*
*ATH **24** 04:40:43.1,36.96N×27.81E,h29km±7km,MD3.1/4*
*ISK **24** 04:40:43.6,37.01N×27.68E,h20km,MD3.3*
ISC 24 04:40:43.4±0.8,36.94N±0.03×27.74E±0.04,h13km±5km,
n19,σ0§94/28,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.27	299	i P	Pg	04 40 50.0	+0.7
BDRM				i S	Sg	04 40 54.7	+1.6
MLSB	Milas	0.36	5	PG	Pg	04 40 50.2	-0.8
MLSB				SG	Sg	04 40 55.7	-0.3
NISR	Nisiros	0.59	237	ePB	Pb	04 40 54.0	-1.0
NISR				eSN	Sn	04 41 06.5	0.0
AYDN	Tasoluk	0.73	9	i P	Pb	04 40 57.2	-0.3
AYDN				i S	Sb	04 41 07.2	0.0
ARG	Arkhangelos	0.78	156	ePN	Pn	04 40 57.5	-2.5
ARG				eSN	Sn	04 41 11.5	0.0
SMG	Samos	1.05	317	ePN	Pn	04 41 04.5	+0.6
FETY	Fethiye	1.12	105	ePN	Pn	04 41 05.4	+0.6
DNZL	Cakiroluk	1.29	54	i P	Pb	04 41 06.8	-0.2
DNZL				i S	Sb	04 41 24.8	+1.5
DENT	Denizli	1.32	51	PN	Pn	04 41 06.9	-0.7
KARP	Karpathos	1.46	199	ePN	Pn	04 41 10.0	+0.3
KARP				eSN	Sn	04 41 30.0	+1.2
IZM	Izmir	1.51	346	PN	Pn	04 41 09.3	-1.0
KDAG	Bornova	1.51	346	i P	Pn	04 41 09.9	-0.5
KDAG				i S	Sb	04 41 30.6	+0.7
BLCB	Balcova	1.55	339	PN	Pn	04 41 09.4	-1.5
MANT	Manisa	1.68	22	i P	Pn	04 41 12.6	-0.2
MANT				i S	Sn	04 41 37.6	+3.2
ELL	Elmali	1.75	95	PN	Pn	04 41 14.5	+0.7
AKS	Akhisar	1.94	2	ePN	Pn	04 41 15.6	-0.9
KHL	Karahalli	1.98	45	PN	Pn	04 41 16.8	-0.3
BCK	Bucak	2.34	76	ePN	Pn	04 41 23.2	+1.0
ALT	Altintas	2.83	41	ePN	Pn	04 41 28.9	-0.3

IDC 24 04:43:44.9±1.2,6.86N×92.97E,mb3.6/5,mb1 3.9/6,
mb1mx3.7/17,mbtmp3.6/6,ML3.9/1,Error ellipse:
s-maj=45.2km s-min=22.8km az=48.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.91	26	Pn	P	04 46 49.9	-2.6
0.2nm,0.3s,baz=222,slow=13,SNR=3.8							
SONM	Songino Array	42.41	13	P	P	04 51 41.2	-1.6
0.9nm,0.9s,baz=196,slow=9.0,SNR=5.0							
WRA	Warramunga Arr	48.64	124	P	P	04 52 30.7	-2.2
1.2nm,0.9s,baz=304,slow=8.9,SNR=5.3							
ASAR	Alice Springs	50.18	129	P	P	04 52 42.9	-1.8
0.4nm,0.4s,baz=306,slow=7.9,SNR=4.0							
BRTR	Keskin Array B	62.22	311	P	P	04 54 08.9	-1.9
0.3nm,0.6s,baz=124,slow=4.5,SNR=2.4							
GERES	GERESS Array B	77.81	318	P	P	04 55 44.1	-1.6
1.1nm,0.9s,baz=124,slow=4.8,SNR=4.5							

*IDC **24** 04:43:54.8±1.0,6.89N×93.25E,mb4.0/6,mb1 4.3/7,*
mb1mx4.1/17,mbtmp4.1/7,ML4.4/1,Error ellipse:
s-maj=45.4km s-min=20.7km az=50.0
*NEIC **24** 04:43:59.9±0.7,6.96N×93.39E,h30km,mb4.4/3,Error ellipse: s-maj=18.2km s-min=13.0km az=67.0*
ISC 24 04:43:58.5±0.7,6.96N±0.10×93.6E±0.1,h30km,n21,
σ1§49/21,mb4.3/12,2C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	12.58	24	eP	P	04 46 56.9	-1.5
14nm,0.7s							
CMAR	Chiang Mai Arr	12.58	24	Pn	P	04 46 57.5	-0.9
0.7nm,0.3s,baz=230,slow=14,SNR=32							
CMAR	Chiang Mai Arr	12.58	24	Pn	P	04 46 57.5	-0.9
JIRN	Jiri	21.75	342	eP	P	04 48 51.3	+1.7
34nm,0.8s,mb4.8							
KKN	Kakani	22.16	340	eP	P	04 48 56.0	+2.3
28nm,0.8s,mb4.7							
GKN	Gorkha	22.57	339	eP	P	04 48 59.5	+1.6
LSA	Lhasa	22.74	355	eP	P	04 49 02.4	+3.0
4.3nm,0.6s,mb4.1							
KOLN	Koldanda	22.75	337	eP	P	04 49 01.4	+1.8
24nm,0.8s,mb4.7							
SONM	Songino Array	42.18	13	P	P	04 51 50.5	+0.3
0.9nm,0.8s,mb3.5,baz=202,slow=6.7,SNR=4.2							
SONM	Songino Array	42.18	13	P	P	04 51 50.5	+0.3
WRA	Warramunga Arr	48.21	124	P	P	04 52 38.6	-0.1
3.6nm,0.7s,mb4.5,baz=304,slow=9.2,SNR=11							
WRA	Warramunga Arr	48.21	124	P	P	04 52 38.6	-0.1
WRAB	Tennant Creek	48.22	124	P	P	04 52 40.0	+1.2
19nm,1.2s,mb5.0							
ASAR	Alice Springs	49.78	129	P	P	04 52 51.5	+0.6
1.3nm,0.8s,mb4.0,baz=304,slow=7.6,SNR=7.0							
ASAR				PcP	PcP	04 54 11.7	0.0
0.5nm,0.4s,baz=314,slow=3.3,SNR=4.7							
ASAR	Alice Springs	49.78	129	P	P	04 52 51.5	+0.6
ASAR				PcP	PcP	04 54 11.7	0.0
CHKZ	Chkalovo	50.16	342	eP	P	04 52 50.7	-2.6
3.3nm,1.0s,mb4.3							
BRTR	Keskin Array B	62.59	311	P	P	04 54 19.6	-2.7
0.7nm,0.6s,mb4.0,baz=131,slow=7.2,SNR=3.8							
VRI	Vrincioaia	68.96	317	⇑P	P	04 55 02.4	-0.7
MLR	Muntele Rosu	69.42	316	⇑P	P	04 55 05.3	-0.6
FINES	FINESS Array B	73.25	332	P	P	04 55 27.2	-1.4
2.8nm,0.7s,mb4.3,baz=90,slow=9.7,SNR=6.4							
GERES	GERESS Array B	78.12	318	P	P	04 55 55.3	-1.1
2.1nm,0.9s,mb4.0,baz=90,slow=3.9,SNR=8.0							

*IDC **24** 04:47:03.2±1.4,7.12N×93.27E,mb3.8/5,mb1 4.1/6,*
mb1mx3.9/17,mbtmp3.8/6,ML4.3/1,Error ellipse:
s-maj=52.3km s-min=23.8km az=55.0
*NEIC **24** 04:47:08.0±0.7,7.13N×93.34E,h30km,mb4.6/3,Error ellipse: s-maj=22.1km s-min=11.7km az=66.0*
ISC 24 04:47:06.3±1.0,7.2N±0.1×93.4E±0.2,h30km,n9,σ0§27/9,
mb4.1/8,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.43	25	Pn	P	04 50 04.3	+0.1
0.5nm,0.3s,baz=230,slow=14,SNR=14							
SONM	Songino Array	41.99	13	P	P	04 54 56.3	-0.2
0.3nm,0.5s,mb3.1,baz=190,slow=8.8,SNR=2.8							
WRA	Warramunga Arr	48.46	125	P	P	04 55 47.9	-0.5
2.1nm,0.6s,mb4.4,baz=304,slow=9.0,SNR=8.8							
WRAB	Tennant Creek	48.46	125	eP	P	04 55 48.5	0.0
4.8nm,0.7s,mb4.6							
BRVK	Borovoye	49.47	342	eP	P	04 56 02.3	+6.5
4.5nm,1.0s,mb4.5							
CHKZ	Chkalovo	49.91	342	eP	P	04 55 59.3	+0.1
10nm,1.2s,mb4.7							
ASAR	Alice Springs	50.03	129	P	P	04 56 01.1	+0.5
1.3nm,0.7s,mb4.1,baz=303,slow=7.2,SNR=6.1							
FINES	FINESS Array B	72.98	332	P	P	04 58 34.6	-0.2
1.3nm,0.9s,mb3.9,baz=90,slow=9.5,SNR=4.8							
GERES	GERESS Array B	77.86	318	P	P	04 59 02.8	+0.1
0.8nm,0.7s,mb3.8,baz=100,slow=8.1,SNR=4.4							

IGQ 24 04:48:59.2,1.47S×80.89W,h12km±31km,mb4.5,2C-5D,
Error ellipse: s-maj=31.4km s-min=7.5km az=163.9,
Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.25	91	⇑P	Pn	04 49 38.5	+1.6
CUSU	Cusua	2.41	89	P	Pn	04 49 41.2	+2.1
JUIV	Juive	2.42	89	⇓P	Pn	04 49 41.4	+2.1
ARRY	Arrayan	2.43	91	⇓P	Pn	04 49 41.3	+1.8
ARRY				S	Sn	04 50 09.9	+0.5
PATA	Patacocha	2.45	91	⇓P	Pn	04 49 41.9	+2.1
PATA				S	Sn	04 50 13.1	+3.2
RUN2	Runtun	2.47	89	P	Pn	04 49 41.7	+1.6
ULBA	Ulba	2.48	90	P	Pn	04 49 41.8	+1.7
MARY	Rancho Maria	2.51	73	P	Pn	04 49 43.6	+3.0
PISA	Pisayambo	2.54	81	P	Pn	04 49 42.4	+1.5
NAS1	Nasa	2.55	71	P	Pn	04 49 42.2	+1.1
JUA2	San Juan 2	2.60	61	P	Pn	04 49 43.5	+1.7
VC1	Cotopaxi 1	2.62	72	⇑P	Pn	04 49 44.2	+2.1
TERV	Terraza Guagua	2.62	61	P	Pn	04 49 43.8	+1.6
PINO	Pino	2.62	60	P	Pn	04 49 43.2	+0.9
TAMB	Tambo	2.63	73	P	Pn	04 49 44.2	+1.8
YANA	Yana	2.68	60	⇓P	Pn	04 49 43.2	+0.2
JOR1	San Jorge 1	2.68	57	P	Pn	04 49 44.8	+1.8
ANTI	Antisana	2.91	70	P	Pn	04 49 48.6	+2.4
COTA	Cotacachi	3.12	55	P	Pn	04 49 50.7	+1.5
CAYR	Refugio Cayamb	3.24	63	P	Pn	04 49 54.5	+3.6
CAYA	Cayambe	3.28	62	⇓P	Pn	04 49 54.7	+3.2
CONE	Cono NE Rev Vo	3.53	67	P	Pn	04 50 00.1	+5.0

*CSEM **24** 05:03:55.2±0.1,36.93N×27.75E,h8km,MD3.3,Error ellipse: s-maj=4.1km s-min=2.5km az=80.0*
*ISK **24** 05:03:56.9,37.01N×27.73E,h18km,MD3.3*
*ATH **24** 05:03:57.1,36.92N×27.78E,h39km±3km,MD3.0/4*
ISC 24 05:03:56.7±0.7,36.95N±0.03×27.71E±0.04,h14km±4km,
n17,σ0§97/28,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.24	298	i P	Pg	05 04 02.7	+0.5
BDRM				i S	Sg	05 04 07.7	+1.8
MLSB	Milas	0.35	9	i PG	Pg	05 04 03.3	-0.8
MLSB				i SG	Sg	05 04 08.9	-0.1
NISR	Nisiros	0.58	234	ePN	Pn	05 04 09.5	-0.7
NISR				eSN	Sn	05 04 19.5	+0.1
AYDN	Tasoluk	0.72	11	i P	Pb	05 04 10.2	-0.3
AYDN				i S	Sb	05 04 19.9	-0.1
ARG	Arkhangelos	0.81	155	ePB	Pb	05 04 11.0	-1.0
ARG				eSB	Sb	05 04 24.0	+1.5
SMG	Samos	1.03	318	ePN	Pn	05 04 17.5	+0.9
SMG				eSN	Sn	05 04 32.5	+1.7
FETY	Fethiye	1.15	106	PN	Pn	05 04 17.7	-0.6
FETY				SN	Sn	05 04 34.7	+0.9
DNZL	Cakiroluk	1.29	55	i P	Pb	05 04 19.9	-0.5
DNZL				i S	Sb	05 04 38.4	+1.8
DENT	Denizli	1.32	52	PN	Pn	05 04 20.1	-0.7
KARP	Karpathos	1.47	198	ePB	Pb	05 04 22.5	-0.9
KARP				eSN	Sn	05 04 41.5	-0.5
IZM	Izmir	1.49	346	PN	Pn	05 04 23.1	-0.1
KDAG	Bornova	1.49	346	i P	Pn	05 04 22.8	-0.5
KDAG				i S	Sb	05 04 40.4	-1.9
BLCB	Balcova	1.53	340	ePN	Pn	05 04 23.4	-0.4
MANT	Manisa	1.68	23	i P	Pn	05 04 25.7	-0.2
MANT				i S	Sn	05 04 50.8	+3.6
ELL	Elmali	1.77	96	PN	Pn	05 04 28.1	+0.8
AKS	Akhisar	1.93	2	PN	Pn	05 04 28.7	-0.8
KHL	Karahalli	1.98	46	ePN	Pn	05 04 29.9	-0.4

IGQ 24 05:37:39.9,1.16S×81.40W,h8km±29km,mb4.1,6C,Error
ellipse: s-maj=28.4km s-min=10.1km az=170.1,Off
coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.78	97	⇑P	Pn

CMAR	**Chiang Mai Arr**	**12.40**	**24**	Pn	**P**	**05 52 16.0**	**-0.1**
	0.3nm,0.3s,baz=227,slow=14,SNR=7.8						
JIRN	**Jiri**	**21.66**	**342**	*e*P	**P**	**05 54 08.8**	**+0.1**
	14nm,0.7s,mb4.5						
DMN	**Daman**	**21.97**	**339**	*e*P	**P**	**05 54 13.0**	**+1.2**
	13nm,0.6s,mb4.5						
GKN	**Gorkha**	**22.50**	**339**	*e*P	**P**	**05 54 16.9**	**-0.3**
KOLN	**Koldanda**	**22.69**	**336**	*e*P	**P**	**05 54 18.1**	**-0.9**
	7.2nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**48.17**	**125**	P	**P**	**05 57 58.7**	**+0.2**
	2.4nm,0.6s,mb4.4,baz=304,slow=8.7,SNR=17						
ASAR	**Alice Springs**	**49.76**	**129**	P	**P**	**05 58 10.4**	**-0.2**
	2.7nm,1.1s,mb4.2,baz=300,slow=8.0,SNR=7.4						

*NEIC **24** 05:49:45.4, 28.35S×70.63W, h58km, MD3.5(GUC), After GUC.*

GUC 24 05:49:45.4±0.4, 28.35S×70.63W, h58km±3km, MD3.5, ML3.3, 2C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.26**	**207**	⇑*i*P	P	05 49 55.0	+0.1
VACH				*i*S	S	05 50 02.6	+0.6
CPCH	**Copiapo**	**1.01**	**14**	⇓*i*P	P	05 50 04.0	+0.2
CPCH				*i*S	S	05 50 17.9	+0.4
LSCH	**La Serena**	**1.65**	**199**	*i*P	P	05 50 12.5	-0.1
LSCH				*i*S	S	05 50 32.9	+0.1
LSCH				AMP		05 50 39.1	
	comp=E,484nm,0.6s						
TLL	**Tololo Astrono**	**1.82**	**185**	⇑*i*P	P	05 50 15.4	+0.4
TLL				*i*S	S	05 50 38.2	+1.3
TLL				AMP		05 50 44.5	
	comp=N,427nm,0.7s						
FCH	**Farellones**	**4.97**	**177**	*e*P	P	05 50 59.2	-0.2

IGQ 24 05:51:09.1, 1.52S×81.61W, h5km±24km, mb4.0, 3C, Error ellipse: s-maj=24.8km s-min=10.3km az=171.3, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.97**	**89**	⇑P	Pn	05 51 59.0	+1.3
JUIV	**Juive**	**3.14**	**88**	P	Pn	05 52 01.8	+1.5
ARRY	**Arrayan**	**3.15**	**90**	⇑P	Pn	05 52 01.7	+1.3
PATA	**Patacocha**	**3.17**	**90**	P	Pn	05 52 02.3	+1.7
RUN2	**Runtun**	**3.19**	**88**	P	Pn	05 52 03.2	+2.3
ULBA	**Ulba**	**3.20**	**89**	P	Pn	05 52 02.2	+1.2
NAS1	**Nasa**	**3.25**	**74**	P	Pn	05 52 02.5	+0.8
PISA	**Pisayambo**	**3.25**	**82**	P	Pn	05 52 03.7	+2.0
JUA2	**San Juan 2**	**3.27**	**67**	P	Pn	05 52 02.5	+0.5
TERV	**Terraza Guagua**	**3.29**	**66**	P	Pn	05 52 04.5	+2.3
PINO	**Pino**	**3.29**	**66**	P	Pn	05 52 02.4	+0.1
VC1	**Cotopaxi 1**	**3.32**	**75**	P	Pn	05 52 04.6	+1.9
YANA	**Yana**	**3.34**	**65**	P	Pn	05 52 03.3	+0.3
ANTI	**Antisana**	**3.61**	**73**	⇑P	Pn	05 52 07.7	+0.9
COTA	**Cotacachi**	**3.75**	**61**	P	Pn	05 52 11.1	+2.3
COTA				S	Sn	05 52 53.9	-0.1
CAYR	**Refugio Cayamb**	**3.91**	**67**	P	Pn	05 52 14.6	+3.5
CAYA	**Cayambe**	**3.95**	**66**	P	Pn	05 52 14.9	+3.3

*MDD **24** 05:53:09.6±1.0, 36.31N×6.03W, h54km±5km, mb3.0/7, Error ellipse: s-maj=10.5km s-min=5.9km az=3.0, PRXIMO*
*CSEM **24** 05:53:09.8±0.2, 36.47N×6.02W, h40km, mb3.1/4, Error ellipse: s-maj=5.3km s-min=4.3km az=179.0*
*SFS **24** 05:53:10.0, 36.37N×6.04W*

ISC 24 05:53:09.7±1.0, 36.46N±0.06×6.03W±0.04, h54km±7km, n27, σ0§95/46, 1C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNIL	**Conil**	**0.09**	**191**	*i*P	**P**	**05 53 16.5**	**-1.5**
CNIL				*e*S	**S**	**05 53 24.0**	**0.0**
SFS	**San Fernando**	**0.14**	**272**	P	**P**	**05 53 17.1**	**-1.1**
SFS				S	**S**	**05 53 25.5**	**+1.2**
SFS	**San Fernando**	**0.14**	**272**	*e*P	**P**	**05 53 17.0**	**-1.1**
SFS				*e*S	**S**	**05 53 25.5**	**+1.2**
ESPR	**Espera**	**0.43**	**19**	⇑P	**P**	**05 53 21.2**	**+0.6**
	2.7nm,0.1s,SNR=18						
ESPR				S	**S**	**05 53 29.2**	**+0.8**
	11nm,0.1s,SNR=7.9						
ESPR	**Espera**	**0.43**	**19**	P	**P**	**05 53 21.2**	**+0.7**
	2.8nm,0.3s,SNR=12						
ESPR				S	**S**	**05 53 29.1**	**+0.7**
	15nm,0.2s,SNR=7.9						
LIJA	**Lijar**	**0.67**	**48**	P	**P**	**05 53 24.0**	**+0.7**
LIJA				S	**S**	**05 53 31.0**	**-2.4**
LIJA	**Lijar**	**0.67**	**48**	*i*P	**P**	**05 53 24.0**	**+0.7**
EMIJ	**Mijas**	**1.02**	**84**	P	**P**	**05 53 27.8**	**-0.2**
	0.6nm,0.1s,SNR=4.0						
EMIJ				S	**S**	**05 53 40.8**	**-0.8**
	1.2nm,0.2s,SNR=4.0						
EMIJ	**Mijas**	**1.02**	**84**	P	**P**	**05 53 27.5**	**-0.5**
	0.7nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**1.40**	**339**	⇓P	**P**	**05 53 34.0**	**+0.6**
	1.0nm,0.1s,SNR=18						
EMIN				S	**S**	**05 53 53.0**	**+2.0**
	1.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.40**	**339**	P	**P**	**05 53 34.0**	**+0.5**
	1.0nm,0.1s,SNR=18						
EMIN				S	**S**	**05 53 51.3**	**+0.2**
	1.1nm,0.1s,SNR=7.9						
PALC	**Alcoutim**	**1.53**	**311**	*e*P	**P**	**05 53 35.8**	**+0.6**
PALC				*e*S	**S**	**05 53 53.9**	**-0.2**
	5.1nm,0.1s						
PALC	**Alcoutim**	**1.53**	**311**	P	**P**	**05 53 35.7**	**+0.5**
PALC				S	**S**	**05 53 53.5**	**-0.6**
EGRO	**El Granado**	**1.58**	**313**	⇓P	**P**	**05 53 36.5**	**+0.6**
	1.5nm,0.1s,SNR=18						
EGRO				S	**S**	**05 53 55.0**	**-0.4**
	5.7nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.58**	**313**	P	**P**	**05 53 36.5**	**+0.6**
	1.1nm,0.0s,SNR=7.9						
EGRO				S	**S**	**05 53 54.9**	**-0.4**
	5.7nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**1.79**	**52**	S	**S**	**05 54 01.9**	**+1.5**
	2.1nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.06**	**34**	P	**P**	**05 53 43.8**	**+1.1**
	0.1nm,0.1s,SNR=4.0						
EADA				S	**S**	**05 54 06.1**	**-1.0**
	1.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.06**	**34**	S	**S**	**05 54 06.1**	**-1.0**
	1.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.06**	**34**	P	**P**	**05 53 46.1**	**+3.5**
	0.1nm,0.1s,SNR=4.0						
PBEJ	**Beja**	**2.14**	**317**	*e*S	**S**	**05 54 08.2**	**-1.0**
	2.0nm,0.2s						
PBEJ	**Beja**	**2.14**	**317**	P	**P**	**05 53 44.3**	**+0.5**
PBEJ				S	**S**	**05 54 08.2**	**-1.0**
PTEO	**Sao Teotonio**	**2.41**	**297**	P	**P**	**05 53 48.1**	**+0.5**
PTEO				S	**S**	**05 54 15.1**	**-0.9**
EBAD	**Badajoz**	**2.42**	**342**	P	**P**	**05 53 48.2**	**+0.5**
	0.5nm,0.1s,SNR=7.9						
EBAD				S	**S**	**05 54 15.3**	**-1.0**
	1.3nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.42**	**342**	P	**P**	**05 53 48.2**	**+0.4**
	0.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.42**	**342**	S	**S**	**05 54 15.3**	**-0.9**
	1.3nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.72**	**60**	P	**P**	**05 53 52.9**	**+0.9**
	0.3nm,0.1s,SNR=7.9						
EQES				S	**S**	**05 54 23.3**	**-0.5**
	0.5nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.72**	**60**	P	**P**	**05 53 53.1**	**+1.1**
	0.2nm,0.1s,SNR=7.9						
EQES				S	**S**	**05 54 23.1**	**-0.7**
	0.4nm,0.0s,SNR=7.9						

*CSEM **24** 06:07:26.6±0.1, 36.91N×27.62E, h30km, MD3.5, Error ellipse: s-maj=2.2km s-min=1.4km az=79.0*
*ISK **24** 06:07:26.3, 36.95N×27.72E, h20km, MD3.5*
*HLW **24** 06:07:26.8, 37.03N×27.77E, h33km, Mb3.3*
*ATH **24** 06:07:27.1, 36.90N×27.66E, h24km±2km, MD3.7/9*
*NEIC **24** 06:07:27.1, 36.90N×27.66E, h24km, MD3.7(ATH), After ATH.*

ISC 24 06:07:26.5±0.5, 36.90N±0.02×27.72E±0.04, h20km±5km, n49, σ1§07/62, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.28**	**307**	*i*P	**Pb**	**06 07 33.2**	**+0.4**
BDRM				*i*S	**Sb**	**06 07 38.5**	**+1.5**
MLSB	**Milas**	**0.40**	**6**	*i*PG	**Pb**	**06 07 33.9**	**-0.9**
MLSB				*i*SG	**Sb**	**06 07 39.5**	**-0.9**
ARG	**Arkhangelos**	**0.76**	**154**	*e*PB	**Pb**	**06 07 41.2**	**+0.4**
ARG				*e*SN	**Sn**	**06 07 53.5**	**+0.6**
AYDN	**Tasoluk**	**0.77**	**9**	*i*P	**Pb**	**06 07 40.8**	**-0.3**
AYDN				*i*S	**Sb**	**06 07 50.2**	**-0.9**
SMG	**Samos**	**1.07**	**319**	*e*PN	**Pn**	**06 07 47.3**	**+0.7**
SMG				*e*SN	**Sn**	**06 08 02.0**	**+1.1**
FETY	**Fethiye**	**1.13**	**103**	*i*PN	**Pn**	**06 07 46.9**	**-0.4**
FETY				*i*SN	**Sn**	**06 08 02.9**	**+0.6**
DNZL	**Cakiroluk**	**1.32**	**53**	*i*P	**Pn**	**06 07 50.3**	**+0.2**
DNZL				*i*S	**Sb**	**06 08 09.1**	**+2.2**
DENT	**Denizli**	**1.35**	**50**	PN	**Pn**	**06 07 50.9**	**+0.4**
KARP	**Karpathos**	**1.42**	**199**	⇑*i*PB	**Pb**	**06 07 52.3**	**+0.1**
KARP				*e*SN	**Sn**	**06 08 11.9**	**+2.1**
IZM	**Izmir**	**1.54**	**346**	PN	**Pn**	**06 07 53.0**	**-0.2**
KDAG	**Bornova**	**1.54**	**347**	*i*P	**Pn**	**06 07 53.2**	**-0.1**
KDAG				*i*S	**Sn**	**06 08 15.3**	**+2.4**
BLCB	**Balcova**	**1.58**	**340**	PN	**Pn**	**06 07 53.1**	**-0.7**
KSL	**Kastellorizon**	**1.68**	**116**	*e*PN	**Pn**	**06 07 58.0**	**+2.8**
MANT	**Manisa**	**1.72**	**22**	*i*P	**Pn**	**06 07 55.9**	**+0.1**
MANT				*i*S	**Sn**	**06 08 14.4**	**-3.1**
APE	**Apeiranthos**	**1.76**	**276**	PN	**Pn**	**06 07 56.9**	**+0.5**
APE	**Apeiranthos**	**1.76**	**276**	*e*PN	**Pn**	**06 07 57.9**	**+1.5**
ELL	**Elmali**	**1.76**	**94**	PN	**Pn**	**06 07 57.3**	**+0.9**
SANT	**Santorini**	**1.89**	**255**	*e*Pn	**Pn**	**06 07 54.6**	**-3.6**
SANT				*e*		06 07 59.0	
SANT	**Santorini**	**1.89**	**255**	*e*Pn	**Pn**	**06 07 54.7**	**-3.6**
AKS	**Akhisar**	**1.98**	**2**	PN	**Pn**	**06 07 58.9**	**-0.6**
KHL	**Karahalli**	**2.02**	**45**	PN	**Pn**	**06 08 00.2**	**+0.1**
BCK	**Bucak**	**2.36**	**75**	PN	**Pn**	**06 08 05.5**	**+0.5**
NPS	**Neapolis**	**2.36**	**227**	*e*PN	**Pn**	**06 08 05.7**	**+0.7**
AYVA	**Ayvalik**	**2.54**	**342**	*i*P	**Pn**	**06 08 15.9**	**+8.4**
AYVA				*i*S	**Sn**	**06 08 42.5**	**+4.3**
XRY	**Khrisi**	**2.60**	**220**	*e*PB	**Pb**	**06 08 12.0**	**-0.3**
PRK	**Paraskevi**	**2.61**	**334**	*e*PN	**Pn**	**06 08 08.5**	**0.0**
BALB	**Balikesir**	**2.74**	**3**	*e*PN	**Pn**	**06 08 09.7**	**-0.7**
ALT	**Altintas**	**2.86**	**41**	PN	**Pn**	**06 08 12.3**	**+0.1**
BTOK	**Tokmak**	**2.87**	**5**	*i*P	**Pn**	**06 08 11.2**	**-1.0**
ORLT	**Orhaneli**	**3.28**	**16**	*e*PN	**Pn**	**06 08 17.9**	**-0.1**
KCT	**Karacabey**	**3.40**	**8**	PN	**Pn**	**06 08 18.4**	**-1.4**
ULDT	**Uludag**	**3.42**	**18**	*i*P	**Pn**	**06 08 20.6**	**+0.4**
ULDT				*i*S	**Sn**	**06 09 04.9**	**+4.3**
BNT	**Bandirma**	**3.46**	**3**	PN	**Pn**	**06 08 19.4**	**-1.2**
ESKT	**Eskisehir**	**3.59**	**42**	*i*P	**Pn**	**06 08 24.9**	**+2.3**
LIA	**Limnos Island**	**3.60**	**327**	*e*PN	**Pn**	**06 08 22.9**	**+0.3**
MRMT	**Marmara Adasi**	**3.70**	**359**	*e*PN	**Pn**	**06 08 23.1**	**-0.9**
HDMB	**Hadim**	**3.82**	**88**	*e*PN	**Pn**	**06 08 26.8**	**+1.1**
KONT	**Konya--Tatoy**	**3.84**	**73**	*e*PN	**Pn**	**06 08 26.5**	**+0.5**
KIZT	**Kizilcal**	**3.84**	**58**	PN	**Pn**	**06 08 26.2**	**+0.2**
VLI	**Velial**	**3.84**	**269**	*e*PN	**Pn**	**06 08 27.5**	**+1.4**
YLV	**Yalova**	**3.88**	**19**	*e*PN	**Pn**	**06 08 25.5**	**-1.1**
MFT	**Murefte**	**3.90**	**355**	*e*PN	**Pn**	**06 08 26.2**	**-0.6**
MDU	**Mudurnu**	**4.49**	**36**	*e*PN	**Pn**	**06 08 35.3**	**0.0**
HMAT	**Matruh**	**5.81**	**185**	P	**Pn**	**06 08 52.9**	**-1.0**
HBRG	**Burj al 'Arab**	**6.55**	**164**	P	**Pn**	**06 09 03.2**	**-1.1**
HNAT	**Natroun**	**7.64**	**161**	P	**Pn**	**06 09 17.5**	**-2.1**
SWA1		**7.80**	**193**	P	**Pn**	**06 09 20.8**	**-1.0**
SWA1				S	**Sn**	**06 10 43.6**	**-6.8**
SWA2		**7.87**	**195**	P	**Pn**	**06 09 21.0**	**-1.7**
GLL	**Jalalah**	**8.03**	**154**	P	**P**	**06 09 23.2**	**-1.8**

*IGQ **24** 06:11:48.0, 2.45S×80.87W, h16km±20km, mb5.2, Error ellipse: s-maj=18.0km s-min=8.0km az=150.0*
*BJI **24** 06:11:49.6, 3.22S×80.46W, h28km, mB5.6, Ms5.7, Msz5.3*
*HRVD **24** 06:11:52.3±0.2, 2.38S×80.84W, h27km±1km, MW5.6/65, Centroid moment Tensor Solution. LP body waves: s42,c61;Mantle waves: s65,c129; Half duration: 1§5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.42±.07; $M_{\theta\theta}$1.02±.05; $M_{\phi\phi}$-1.44±.07; $M_{r\theta}$-0.64±.13; $M_{\theta\phi}$-2.34±.05; $M_{\phi r}$0.10±.14; Best double couple: $M_0$2.736×10^{17} NP1:ϕ_s347°, δ76°, λ.8°; NP2:ϕ_s255°, δ82°, λ166°. Principal axes: T 2.599, Plg15°, Azm210°; N .274, Plg74°, Azm47°; P -2.873, Plg4°, Azm302°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **24** 06:11:52.3±0.2, 2.33S×80.65W, mb5.2/41, MS5.1/5, MD5.2(IGQ) Error ellipse: s-maj=6.3km s-min=4.1km az=50.0*
*IDC **24** 06:11:54.3±2.3, 2.21S×80.62W, h45km±21km, mb4.4/13, mb1 4.6/15, mb1mx4.4/21, mbtmp4.6/15, ML4.4/2, MS4.9/10, Ms1 4.9/10, ms1mx4.3/24, Error ellipse: s-maj=23.0km s-min=8.7km az=64.0*

ISC 24 06:11:52.3±0.7, 2.39S±0.04×80.80W±0.04, h43km±5km, h33km±3.1km: pP-P, n193, σ1§01/162, mb5.0/51, MS5.0/17, 9C-17D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.34**	**67**	⇓P	**P**	**06 12 28.8**	**-0.3**
CUSU	**Cusua**	**2.50**	**68**	⇓P	**P**	**06 12 31.6**	**0.0**
ARRY	**Arrayan**	**2.50**	**69**	⇓P	**P**	**06 12 30.8**	**-0.7**
JUIV	**Juive**	**2.52**	**68**	⇓P	**P**	**06 12 31.7**	**-0.1**
PATA	**Patacocha**	**2.52**	**70**	⇑P	**P**	**06 12 32.1**	**+0.3**
ULBA	**Ulba**	**2.57**	**69**	⇓P	**P**	**06 12 32.5**	**+0.1**
RUN2	**Runtun**	**2.57**	**68**	⇑P	**P**	**06 12 32.8**	**+0.3**
PISA	**Pisayambo**	**2.75**	**61**	⇓P	**P**	**06 12 35.8**	**+0.7**
MARY	**Rancho Maria**	**2.84**	**55**	P	**P**	**06 12 37.7**	**+1.4**
NAS1	**Nasa**	**2.91**	**53**	⇓P	**P**	**06 12 38.7**	**+1.4**
TAMB	**Tambo**	**2.96**	**55**	⇓P	**P**	**06 12 39.2**	**+1.2**
VC1	**Cotopaxi 1**	**2.96**	**54**	P	**P**	**06 12 39.2**	**+1.2**
JUA2	**San Juan 2**	**3.08**	**45**	P	**P**	**06 12 39.2**	**-0.5**
TERV	**Terraza Guagua**	**3.11**	**45**	⇓P	**P**	**06 12 39.8**	**-0.4**
GGP	**Refugio Guagua**	**3.12**	**45**	P	**P**	**06 12 40.6**	**+0.3**
GGP				S	**S**	**06 13 17.8**	**+1.2**
PINO	**Pino**	**3.12**	**45**	⇑P	**P**	**06 12 39.3**	**-1.0**
YANA	**Yana**	**3.17**	**45**	⇓P	**P**	**06 12 40.4**	**-0.6**
JOR1	**San Jorge 1**	**3.21**	**42**	P	**P**	**06 12 39.7**	**-1.9**
ANTI	**Antisana**	**3.27**	**54**	⇓P	**P**	**06 12 43.0**	**+0.6**
OTAV	**Otavalo**	**3.51**	**42**	⇑*e*P	**P**	**06 12 43.9**	**-1.9**
OTAV				*e*S	**S**	**06 13 26.3**	**-0.4**
COTA	**Cotacachi**	**3.66**	**42**	⇓P	**P**	**06 12 48.0**	**+0.1**
CAYR	**Refugio Cayamb**	**3.68**	**49**	⇑P	**P**	**06 12 49.3**	**+1.1**
CAYA	**Cayambe**	**3.73**	**49**	⇑P	**P**	**06 12 49.7**	**+0.9**
CONE	**Cono NE Rev Vo**	**3.91**	**54**	⇓P	**P**	**06 12 52.5**	**+1.0**
PAYG	**Puerto Ayora**	**9.64**	**280**	Pn	**P**	**06 14 10.8**	**-0.7**
PAYG	**Puerto Ayora**	**9.64**	**280**	*e*P	**P**	**06 14 10.9**	**-0.6**
	723nm,1.0s						
NNA	**Nana**	**10.30**	**158**	Pn	**P**	**06 14 18.5**	**-2.2**
	1μm,0.4s,SNR=27						
NNA	**Nana**	**10.30**	**158**	*e*P	**P**	**06 14 18.9**	**-1.8**
	67nm,0.5s						
NNA				*e*S	**S**	**06 16 10.3**	**-5.6**
SDV	**Santo Domingo**	**15.11**	**42**	P	**P**	**06 15 22.0**	**-2.6**
	1.0nm,0.3s,baz=231,slow=11,SNR=9.9						
SDV				S	**S**	**06 18 15.1**	**+3.9**
	0.3nm,0.3s,baz=35,slow=19,SNR=1.5						
ARE	**Arequipa**	**16.71**	**147**	*e*P	**P**	**06 15 58.0**	**+13**
ARE				*i*		06 16 08.3	
ARE				*i*		06 16 16.7	
LPAZ	**La Paz**	**18.60**	**139**	P	**P**	**06 16 08.1**	**-0.5**
	0.9nm,0.3s,baz=334,slow=10,SNR=26						
LPAZ				S	**S**	**06 19 38.0**	**+6.9**
	0.1nm,0.3s,baz=190,slow=23,SNR=1.6						
LPAZ	**La Paz**	**18.60**	**139**	*e*P	**P**	**06 16 06.8**	**-1.8**
	0.1nm,0.3s						
LPAZ				*e*S	**S**	**06 19 35.4**	**+4.3**
CCIG	**Comitan**	**21.68**	**329**	*i*P	**P**	**06 16 42.0**	**+0.6**
TPP	**Pointe-a-Pierr**	**23.03**	**56**	*e*P	**P**	**06 16 53.0**	**-1.9**
LVC	**Limon Verde**	**23.17**	**151**	P	**P**	**06 16 59.1**	**+2.9**
	13nm,0.6s,mb4.5,baz=318,slow=8.3,SNR=23						
LVC				S	**S**	**06 21 08.9**	**+8.1**
	1.1nm,0.4s,baz=353,slow=16,SNR=1.4						
LVC				LR	LR	06 27 10.7	
	comp=Z,4μm,20.6s,MS4.8,baz=317,slow=39						
TRN	**Trinidad (W)**	**23.25**	**56**	*e*P	**P**	**06 16 55.0**	**-2.0**
TEIG	**Tepich**	**23.65**	**342**	*e*P	**P**	**06 17 00.7**	**-0.1**
	32nm,1.1s,mb4.7						
TPR	**Prospect**	**24.05**	**56**	*e*P	**P**	**06 16 58.9**	**-5.9**
VHO	**Vista Hermosa**	**24.93**	**321**	*i*P	**P**	**06 17 15.0**	**+1.8**
SJG	**San Juan**	**24.97**	**35**	P	**P**	**06 17 12.9**	**-0.7**
	28nm,0.5s,mb5.1,baz=209,slow=6.8,SNR=30						
BAO	**Brasilia Array**	**34.89**	**114**	⇓*e*P	**P**	**06 18 41.0**	**-1.1**
LRAL	**Lakeview Retre**	**35.72**	**351**	*e*P	**P**	**06 18 47.1**	**-1.9**
	23nm,1.0s,mb5.1						
JSC	**Jenkinsville**	**36.48**	**359**	*e*P	**P**	**06 19 05.0**	**+10**
JCT	**Junction City**	**37.38**	**332**	*e*P	**P**	**06 19 03.1**	**+0.2**
	42nm,1.2s,mb5.1						
MYNC	**Murphy**	**37.40**	**356**	P	**P**	**06 19 01.9**	**-1.2**
	39nm,1.3s,mb5.1						
TXAR	**Lajitas Array**	**38.41**	**327**	P	**P**	**06 19 11.7**	**+0.2**
	2.6nm,0.9s,mb4.0,baz=147,slow=9.6,SNR=17						
TXAR				PcP	PcP	06 21 25.1	+0.2
	1.9nm,0.7s,baz=151,slow=6.7,SNR=10						
TXAR				LR	LR	06 35 23.8	
	comp=Z,883nm,18.2s,MS4.6,baz=65,slow=37						
UALR	**University of**	**38.53**	**345**	*e*P	**P**	**06 19 11.7**	**-0.8**
UALR				*e*		06 19 20.5	
HBAR	**Harrisburg**	**38.86**	**347**	*e*P	**P**	**06 19 15.4**	**+0.1**
PLCA	**Paso Flores**	**39.27**	**168**	P	**P**	**06 19 19.2**	**+0.6**
	14nm,1.1s,mb4.6,baz=334,slow=9.2,SNR=14						
PLCA				PcP	PcP	06 21 27.7	+0.2
	3.0nm,0.8s,baz=18,slow=10,SNR=3.1						
PLCA				LR	LR	06 32 42.7	
	comp=Z,2μm,21.3s,MS4.9,baz=348,slow=32						
PLCA	**Paso Flores**	**39.27**	**168**	*e*P	**P**	**06 19 18.9**	**+0.3**
	53nm,1.6s,mb5.0						
TRQA	**Tornquist**	**39.46**	**156**	*e*P	**P**	**06 19 17.5**	**-2.7**
	40nm,1.1s,mb5.1						
GDL2	**Guadalupe Moun**	**41.02**	**329**	*e*P	**P**	**06 19 34.0**	**+0.8**
FVM	**French Village**	**41.15**	**348**	*e*P	**P**	**06 19 32.5**	**-1.7**
	44nm,1.4s,mb4.9						
MNTX	**Cornudas Mount**	**41.17**	**327**	*e*P	**P**	**06 19 34.6**	**+0.2**
	23nm,1.3s,mb4.7						
CPRX	**Cap Rock**	**41.44**	**330**	*e*P	**P**	**06 19 37.6**	**+1.0**
ACSO	**Alum Creek Sta**	**42.47**	**358**	*e*P	**P**	**06 19 43.0**	**-2.1**
	127nm,1.5s,mb5.3						
ACSO				*e*	pP	06 19 52.7	-4.2
KSU1	**Kansas State U**	**43.78**	**342**	*e*P	**P**	**06 19 54.9**	**-0.9**
ANMO	**Albuquerque**	**44.26**	**329**	*e*P	**P**	**06 20 00.4**	**+0.7**
	26nm,0.9s,mb5.0						
ANMO				*e*		06 20 09.1	
RCBR	**Riachuelo**	**44.90**	**96**	*e*P	**P**	**06 20 03.2**	**-1.8**
	40nm,1.4s,mb5.1						
SDCO	**Great Sand Dun**	**46.03**	**333**	*e*P	**P**	**06 20 14.0**	**+0.2**
	20nm,1.2s,mb4.9						
WUAZ	**Wupatki**	**47.33**	**326**	*e*P	**P**	**06 20 24.7**	**+0.7**
	650nm,1.1s						
PV01	**Paradox Valley**	**47.81**	**330**	*e*P	**P**	**06 20 28.5**	**+0.8**
PV10	**Paradox Valley**	**48.23**	**330**	*e*P	**P**	**06 20 30.7**	**-0.2**
PFO	**Pinyon Flat Ob**	**49.11**	**320**	*e*P	**P**	**06 20 38.5**	**+0.7**
NEN	**Nelson**	**49.44**	**323**	*e*P	**P**	**06 20 40.9**	**+0.5**
SRU	**San Rafael**	**49.54**	**330**	*e*P	**P**	**06 20 40.9**	**-0.2**
MSU	**Marysvale**	**49.95**	**328**	*e*P	**P**	**06 20 44.9**	**+0.7**
ARUT	**Antelope Range**	**50.12**	**326**	*e*P	**P**	**06 20 46.4**	**+0.9**
DAU	**Daniels Canyon**	**50.89**	**330**	*e*P	**P**	**06 20 52.0**	**+0.7**
NOQ	**North Oquirrh**	**51.50**	**330**	*e*P	**P**	**06 20 57.2**	**+1.3**
PDAR	**Pinedale Array**	**51.91**	**333**	P	**P**	**06 20 57.9**	**-1.0**
	5.2nm,0.9s,mb4.4,baz=131,slow=8.7,SNR=24						
PDAR				LR	LR	06 43 15.8	
	comp=Z,1μm,18.8s,MS5.0,baz=329,slow=36						
SNOW	**Snow King Moun**	**53.00**	**333**	*e*P	**P**	**06 21 06.7**	**-0.4**
USHA	**Ushuaia**	**53.24**	**171**	P	**P**	**06 21 09.3**	**+0.6**
	8.5nm,0.6s,mb4.9,baz=301,slow=15,SNR=9.7						
MNV	**Mina**	**53.27**	**324**	*e*P	**P**	**06 21 09.4**	**+0.2**
	16nm,1.1s,mb4.9						
NVAR	**Mina Array Bea**	**53.36**	**323**	P	**P**	**06 21 10.5**	**+0.6**
	7.3nm,0.7s,mb4.7,baz=134,slow=7.9,SNR=70						
LRV	**Little Rabbit**	**53.79**	**320**	*e*P	**P**	**06 21 13.3**	**+0.2**
YNR	**Norris Junctio**	**53.95**	**334**	*e*P	**P**	**06 21 13.0**	**-1.1**
BMN	**Battle Mountai**	**54.06**	**326**	*e*P	**P**	**06 21 15.6**	**+0.6**
	43nm,1.5s,mb5.2						
QLMT	**Earthquake Lak**	**54.37**	**334**	*e*P	**P**	**06 21 17.9**	**+0.7**
GCMT	**Greycliff**	**54.37**	**335

81nm,1.3s,mb5.5
LFF La Frestale 85.69 45 *e*P **P 06 24 28.2 +0.1**
64nm,1.2s,mb5.4
DAG Danmarks Havn 86.15 12⇑ *e*P **P 06 24 30.0 +0.4**
30nm,1.2s,mb5.4
DAG Danmarks Havn 86.15 12⇑ *i*P **P 06 24 30.0 +0.4**
30nm,1.2s,mb5.4
RJF Les Reyndoux 86.28 44 *e*P **P 06 24 31.0 +0.1**
62nm,1.3s,mb5.4
TCF Toulx Ste Croi 86.88 44 *e*P **P 06 24 34.4 +0.5**
BGF Bois d'Agland 87.35 43 *e*P **P 06 24 36.3 +0.2**
QSPA South Pole Qui 87.67 180⇓ *i*P **P 06 24 38.9 +1.9**
49nm,1.4s,mb5.5
SSF Saint Saulge 87.85 43 *e*P **P 06 24 38.1 -0.4**
SMF Signal de Mont 88.04 43 *e*P **P 06 24 39.5 +0.1**
BAIF Baives 88.61 40 *e*P **P 06 24 43.7 +1.6**
GIVF Givet 89.00 40 *e*P **P 06 24 44.4 +0.4**
CABF La Chapelle 89.58 44 *e*P **P 06 24 46.9 +0.1**
65nm,1.4s,mb5.5
HAU Haudompre 89.85 42 *e*P **P 06 24 47.8 -0.2**
NOA NORSAR Array B 93.06 29 LR LR 07 02 12.0
comp=Z,347nm,21.2s,MS4.8,baz=280,slow=32
GRA1 Grafenberg Arr 93.12 41 *e*P **P 06 25 04.5 +1.4**
12nm,1.5s,mb5.1
GRF Grafenberg Arr 93.12 41 *e*P **P 06 25 04.5 +1.4**
12nm,1.5s,mb5.1
NKC Novy Kostel 93.91 40 *e*P **P 06 25 07.9 +1.3**
NKC AMS AMS 07 02 30.0
700nm,21.3s
CLL Collm 94.24 39 *e*P **P 06 25 09.0 +0.9**
CLL *e* 06 25 17.0
CLL Collm 94.24 39 P **P 06 25 09.0 +0.9**
CLL *e**PP pP 06 25 17.0 -4.2
KHC Kasperske Hory 94.67 41 *e*P **P 06 25 09.5 -0.6**
KHC AMS AMS 07 03 10.0
500nm,19.7s
GERES GERESS Array B 94.76 41 P **P 06 25 10.1 -0.5**
0.9nm,0.9s,mb4.2,baz=236,slow=4.8,SNR=4.7
BRG Berggiesshubel 94.84 39 *e*P **P 06 25 12.6 +1.7**
15nm,1.6s,mb5.2
BRG LR LR
comp=Z,640nm,21.0s,MS5.1
PVCC Panska Ves 95.25 40 *e*P **P 06 25 14.0 +1.2**
PVCC AMS AMS 07 03 10.0
comp=Z,600nm,21.3s
PRU Pruhonice 95.26 40 *e*P **P 06 25 14.0 +1.2**
PRU AMS AMS 07 03 30.0
comp=Z,600nm,16.5s
UPC Upice 96.18 40 *e*P **P 06 25 17.3 +0.4**
KSP Ksiaz 96.33 39 *e*P **P 06 25 18.9 +1.3**
KSP *e*pP pP 06 25 27.8 -2.9
KSP Ksiaz 96.33 39 *e*P **P 06 25 20.7 +3.1**
DPC Dobruska-Polom 96.38 40 *e*P **P 06 25 19.5 +1.6**
DPC AMS AMS 07 02 50.0
comp=Z,500nm,16.6s
OKC Ostrava-Krasne 97.60 40 AMS AMS 07 03 20.0
comp=Z,600nm,24.7s
ARCES ARCESS Array B 97.90 20 LR LR 07 06 29.5
comp=Z,407nm,19.9s,MS4.9,baz=283,slow=34
FINES FINESS Array B 100.12 28 LR LR 07 07 11.1
comp=Z,444nm,19.3s,MS5.0,baz=76,slow=33
BVAR Borovoye Array 124.19 21 PKP PKPdf 06 30 47.1 +0.5
comp=Z,0.6nm,0.7s,baz=153,slow=3.3,SNR=4.0
ZAL Zalesovo 127.28 11 PKP PKPdf 06 30 53.3 +0.8
comp=Z,3.8nm,0.9s,baz=190,slow=2.0,SNR=12
STKA Stephens Creek 127.30 226 PKP PKPdf 06 30 54.7 +1.5
comp=Z,3.4nm,0.8s,baz=219,slow=1.0,SNR=4.2
KURK Kurchatov 128.81 17 *e*PKPdf PKPdf 06 30 56.4 +0.9
SONM Songino Array 134.31 353 PKP PKPdf 06 31 06.5 +0.5
comp=Z,0.9nm,0.5s,baz=334,slow=1.1,SNR=9.5
ASAR Alice Springs 137.44 231 PKhKP 06 31 06.8
comp=Z,1.0nm,0.7s,baz=118,slow=3.5,SNR=9.5
ASAR PKP PKPdf 06 31 13.4 +1.0
comp=Z,3.3nm,0.9s,baz=122,slow=2.0,SNR=10
WMQ Urumqi 137.50 12 PKP PKPdf 06 31 13.0 +1.0
WMQ PP PP 06 34 02.4 +0.5
WMQ PP PP
comp=Z,134nm,11.0s
WMQ LR LR
comp=N,725nm,25.0s,MS5.4
WMQ LR LR
comp=E,611nm,27.2s,MS5.4
WMQ LR LR
comp=Z,1μm,28.9s,MS5.5
WRA Warramunga Arr 138.99 236 PKhKP 06 31 08.7
comp=Z,0.6nm,0.5s,baz=127,slow=2.5,SNR=5.1
WRA PKP PKPdf 06 31 16.6 +1.3
comp=Z,2.4nm,0.6s,baz=112,slow=2.1,SNR=12
BJI Beijing 139.49 340 PKP 06 31 32.2
BJI PP PP 06 34 31.0 +17
BJI LR LR
comp=Z,570nm,21.3s,MS5.3
SSE Sheshan 144.70 326 *e*PKP PKPdf 06 31 25.0 -0.1
SSE PP PP
comp=Z,60nm,12.0s
SSE LR LR
comp=N,170nm,25.3s,MS5.0
SSE LR LR
comp=E,285nm,25.2s,MS5.0
SSE LR LR
comp=Z,351nm,23.8s,MS5.1
SSE Sheshan 144.70 326 *e*PKP PKPdf 06 31 25.5 +0.4
SSE PP PP 06 34 41.7 -4.3
NJ2 Nanjing 145.18 330 *e*PKP PKPdf 06 31 25.5 -0.4
NJ2 APKP 06 31 36.8
NJ2 XPKP 06 31 40.3
NJ2 PP PP 06 34 50.0 +1.1
NJ2 PKS PKS 06 35 00.0 -0.4
NJ2 SKS SKS 06 38 31.0 +2.2
NJ2 SKKS 06 41 36.0
NJ2 PP PP
comp=Z,320nm,8.0s
NJ2 LR LR
comp=N,630nm,30.0s,MS5.5
NJ2 LR LR
comp=E,990nm,32.4s,MS5.5
NJ2 LR LR
comp=Z,620nm,27.1s
LZH Lanzhou 146.20 353 PKP PKPdf 06 31 29.6 +2.1
LZH APKP 06 31 39.0
LZH XPKP 06 31 44.8
LZH LR LR
comp=N,1μm,20.0s
LZH LR LR
comp=Z,970nm,21.0s,MS5.6
LZH Lanzhou 146.20 353 PKP PKPdf 06 31 29.6 +2.1
LZH pPKP 06 31 39.0
LZH sPKP 06 31 44.7
LZH LR LR
comp=Z,970nm,21.0s,MS5.6
FITZ Fitzroy Crossi 146.94 231 *e*P PKPdf 06 31 32.6 +3.3
comp=Z,32nm,1.3s
XAN Xi'an 147.24 345 PKP PKPdf 06 31 30.5 +1.2
XAN APKP 06 31 40.8
WHN Wuhan 148.54 334 *e*PKP PKPdf 06 31 33.0 +1.5
ENH Enshi 150.61 342 *e*PKPdf PKPdf 06 31 36.5 +1.7
ENH *e*PKPbc PKPdf 06 31 41.5 +6.7
KOLN Koldanda 150.69 29 *e*P PKPdf 06 31 35.8 +0.8
comp=Z,90nm,1.4s
GKN Gorkha 150.98 27 *e*P PKPdf 06 31 37.0 +1.6
comp=Z,163nm,1.3s
DMN Daman 151.53 27 *e*P PKPdf 06 31 39.3 +3.1
PKI Pulchoki 151.70 27 *e*P PKPdf 06 31 42.3 +5.8
LSA Lhasa 151.79 15 PKP PKPdf 06 31 39.8 +3.2
LSA Lhasa 151.79 15 *e*PKPdf PKPdf 06 31 39.7 +3.1
LSA *e*PKPbc PKPdf 06 31 45.2 +8.7
JIRN Jiri 151.96 25 *e*P PKPdf 06 31 44.7 +7.8
comp=Z,5.7nm,0.2s
KMI Kunming 157.15 352 PKP PKPdf 06 31 46.5 +2.5
KMI LR LR
comp=Z,300nm,25.6s,MS5.0
CMAR Chiang Mai Arr 164.03 1 PKP PKPdf 06 31 52.2 +0.7
comp=Z,0.6nm,0.4s,baz=294,slow=1.4,SNR=5.3

*BJI **24** 06:15:59.1,4.41N×94.63E,h45km,mB5.1,mb5.0,Ms4.7, Msz4.4*
*IDC **24** 06:16:01.1±0.8,5.20N×94.21E,mb4.3/13,mb1 4.4/14, mb1mx4.3/20,mbtmp4.2/14,ML4.9/1,MS2.1/1,Ms1 2.1/1, ms1mx2.1/23,Error ellipse: s-maj=39.7km s-min=16.5km az=52.0*
*MOS **24** 06:16:04.2±1.4,5.25N×94.35E,h33km,mb4.7/10,Error ellipse: s-maj=19.3km s-min=9.3km az=99.3*
*NEIC **24** 06:16:08.2±0.5,5.34N×94.46E,mb4.5/10,Error ellipse: s-maj=14.1km s-min=8.7km az=65.0*
ISC 24 06:16:05.8±0.6,**5.35N**±0.08×**94.55E**±0.09,**h43**km, **h43**km±3.2km:**pP-P,n60,**σ1§12/57,**mb4.5**/36,**MS4.6**/2, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**13.72**	**18**	P	**P**	**06 19 19.3**	**-0.6**
CM31				*e*		06 19 29.6	
CMAR	**Chiang Mai Arr**	**13.72**	**18**	Pn	**P**	**06 19 22.3**	**+2.4**
	1.7nm,0.3s,baz=207,slow=14,SNR=28						
PALK	**Pallekele**	**13.89**	**279**	*e*Sn	**S**	**06 21 38.7**	**-17**
JIRN	**Jiri**	**23.57**	**341**	*e*P	**P**	**06 21 15.2**	**+1.8**
	37nm,1.0s,mb4.8						
PKI	**Pulchoki**	**23.75**	**340**	*e*P	**P**	**06 21 16.0**	**+0.8**
	19nm,0.6s,mb4.7						
DMN	**Daman**	**23.89**	**339**	*e*P	**P**	**06 21 17.1**	**+0.5**
	38nm,0.8s,mb4.9						
GKN	**Gorkha**	**24.42**	**338**	*e*P	**P**	**06 21 22.2**	**+0.5**
	32nm,0.6s,mb4.9						
LSA	**Lhasa**	**24.43**	**353**	P	**P**	**06 21 24.5**	**+2.7**
LSA				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.3						
KOLN	**Koldanda**	**24.61**	**336**	*e*P	**P**	**06 21 24.2**	**+0.6**
	comp=Z,38nm,0.9s,mb4.9						
ENH	**Enshi**	**28.51**	**28**	*e*P	**P**	**06 21 59.4**	**-0.1**
	comp=Z,5.5nm,0.5s,mb4.5						
XAN	**Xi'an**	**31.51**	**23**	P	**P**	**06 22 25.9**	**-0.2**
XAN				AP	pP	06 22 34.9	-2.9
XAN				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.1						
NJ2	**Nanjing**	**34.97**	**38**	*e*P	**P**	**06 22 54.3**	**-1.7**
NJ2				AP	pP	06 23 04.8	-3.0
NJ2				XP	sP	06 23 08.4	-4.9
NJ2				PP	PP	06 24 16.8	+1.8
NJ2				S	**S**	**06 28 30.0**	**+6.1**
NJ2				XS		06 28 46.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,240nm,6.8s						
NJ2				LR	LR		
	comp=N,590nm,16.8s,MS4.6						
NJ2				LR	LR		
	comp=E,790nm,19.9s,MS4.6						
NJ2				LR	LR		
	comp=Z,560nm,16.0s,MS4.4						
SSE	**Sheshan**	**35.80**	**41**	*e*P	**P**	**06 23 00.5**	**-2.6**
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,100nm,7.1s						
SSE	**Sheshan**	**35.80**	**41**	*e*P	**P**	**06 23 00.5**	**-2.6**
	comp=Z,37nm,0.7s,mb5.4						
BJI	**Beijing**	**39.65**	**26**	P	**P**	**06 23 35.6**	**+0.4**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
BJI	**Beijing**	**39.65**	**26**	P	**P**	**06 23 35.6**	**+0.4**
	comp=Z,4.0nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**41.17**	**337**	*e*P	**P**	**06 23 50.3**	**+2.5**
AAK				*e**PP	pP	06 24 02.2	+2.5
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
AAK	**Ala-Archa**	**41.17**	**337**	*e*P	**P**	**06 23 50.3**	**+2.5**
	comp=Z,2.1nm,0.8s,mb3.8						
AAK				*e*pP	pP	06 24 02.2	+2.5
SONM	**Songino Array**	**43.53**	**12**	P	**P**	**06 24 07.6**	**+0.5**
	comp=Z,4.3nm,0.8s,mb4.2,baz=190,slow=8.1,SNR=35						
SONM				PcP	PcP	06 25 55.6	+0.8
	comp=Z,1.4nm,0.6s,baz=198,slow=3.1,SNR=5.1						
ULN	**Ulaanbaatar**	**43.69**	**12**	*e*P	**P**	**06 24 08.8**	**+0.4**
ULN				*e**PP	pP	06 24 20.2	-0.2
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
ULN	**Ulaanbaatar**	**43.69**	**12**	*e*P	**P**	**06 24 08.8**	**+0.4**
	comp=Z,1.3nm,0.6s,mb3.8						
ULN				*e*pP	pP	06 24 20.2	-0.2
NWAO	**Narrogin (SRO)**	**43.74**	**152**	LR	LR	06 42 01.1	
	comp=Z,2.7nm,21.2s,baz=57,slow=36						
ZAK	**Zakamensk**	**45.48**	**8**	*e*P	**P**	**06 24 21.1**	**-1.5**
WRA	**Warramunga Arr**	**46.50**	**124**	P	**P**	**06 24 31.9**	**+0.8**
	comp=Z,2.7nm,0.5s,mb4.4,baz=307,slow=8.4,SNR=20						
WRAB	**Tennant Creek**	**46.51**	**124**	*e*P	**P**	**06 24 31.8**	**+0.7**
WRAB				*e**PP	pP	06 24 44.6	+1.4
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**46.51**	**124**	*e*P	**P**	**06 24 31.8**	**+0.7**
	comp=Z,7.4nm,0.6s,mb4.8						
WRAB				*e*pP	pP	06 24 44.6	+1.4
KURK	**Kurchatov**	**47.14**	**346**	*i*P	**P**	**06 24 36.3**	**+0.6**
KURK	**Kurchatov**	**47.14**	**346**	*e*P	**P**	**06 24 36.1**	**+0.4**
	comp=Z,4.5nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**48.02**	**129**	P	**P**	**06 24 43.6**	**+0.7**
	comp=Z,1.4nm,0.7s,mb4.1,baz=299,slow=7.6,SNR=14						
ZAL	**Zalesovo**	**49.09**	**352**	P	**P**	**06 24 51.5**	**+0.7**
	comp=Z,5.3nm,0.5s,mb4.8,baz=296,slow=5.2,SNR=25						
NVS	**Novosibirsk**	**50.18**	**352**	*i*P	**P**	**06 24 58.2**	**-1.0**
BVAR	**Borovoye Array**	**51.49**	**342**	P	**P**	**06 25 08.9**	**-0.3**
	comp=Z,3.1nm,0.7s,mb4.4,baz=141,slow=9.5,SNR=20						
BRVK	**Borovoye**	**51.56**	**342**	*e*P	**P**	**06 25 09.0**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**51.56**	**342**	*e*P	**P**	**06 25 09.0**	**-0.7**
	comp=Z,2.7nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**51.98**	**342**	*e*P	**P**	**06 25 12.2**	**-0.6**
CHKZ				*e**PP	pP	06 25 26.3	+1.3
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
CHKZ	**Chkalovo**	**51.98**	**342**	*e*P	**P**	**06 25 12.2**	**-0.6**
	comp=Z,7.6nm,0.7s,mb4.7						
CHKZ				*e*pP	pP	06 25 26.3	+1.3
BOD	**Bodaibo**	**54.50**	**13**	*e*P	**P**	**06 25 30.2**	**-1.2**
STKA	**Stephens Creek**	**58.09**	**133**	P	**P**	**06 25 57.6**	**+0.2**
	comp=Z,1.4nm,0.9s,mb4.0,baz=194,slow=16,SNR=3.2						
ARU	**Arti**	**58.36**	**337**	*e*P	**P**	**06 25 52.2**	**-6.8**
KIV	**Kislovodsk**	**59.46**	**319**	*i*P	**P**	**06 26 05.6**	**-1.2**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
SOC	**Sochi**	**61.29**	**317**	*e*P	**P**	**06 26 15.3**	**-4.0**
SOC				*e*		06 27 00.3	
SOC				*e*		06 28 32.7	
SOC				*e*PPP	PPP	06 29 58.8	-6.2
SOC				*e*S	**S**	**06 34 39.9**	**+5.3**
SOC				*e*		06 36 00.7	
SOC				pmax	pmax		
	comp=N,15nm,0.6s						
SOC				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.5						
SOC				pmax	pmax		
	comp=E,6.0nm,0.5s						
YAK	**Yakutsk**	**62.25**	**18**	*i*P	**P**	**06 26 23.1**	**-2.4**
YAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
ANN	**Anapa**	**63.26**	**318**	*e*P	**P**	**06 26 39.2**	**+6.8**
BRTR	**Keskin Array B**	**64.39**	**112**	P	**P**	**06 26 37.8**	**-2.1**
	comp=Z,1.3nm,0.7s,mb4.1,baz=132,slow=8.7,SNR=5.5						
OBN	**Obninsk**	**67.72**	**328**	P	**P**	**06 27 00.0**	**-0.8**
OBN				*e*	pP	06 27 14.1	+0.6
TIXI	**Tiksi**	**69.61**	**11**	*i*P	**P**	**06 27 11.6**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
AKASG	**Malin Array Be**	**70.38**	**322**	P	**P**	**06 27 15.8**	**-1.5**
	comp=Z,1.3nm,0.6s,mb4.1,baz=82,slow=5.1,SNR=8.8						
FINES	**FINESS Array B**	**75.12**	**332**	P	**P**	**06 27 44.7**	**-0.3**
	comp=Z,2.0nm,0.8s,mb4.1,baz=153,slow=4.3,SNR=4.7						
OJC	**Ojcow**	**76.16**	**320**	*e*P	**P**	**06 27 51.6**	**+0.5**
ARCES	**ARCESS Array B**	**77.76**	**340**	P	**P**	**06 28 00.0**	**+0.3**
	comp=Z,2.1nm,0.9s,mb4.1,baz=100,slow=7.4,SNR=5.9						
BILL	**Bilibino**	**78.27**	**21**	*i*P	**P**	**06 28 02.7**	**+0.1**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.2						
BILL				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.8						
GERES	**GERESS Array B**	**79.97**	**319**	P	**P**	**06 28 12.5**	**+0.3**
	comp=Z,2.6nm,0.7s,mb4.3,baz=104,slow=5.5,SNR=20						
LPG	**La Plagne**	**84.68**	**315**	*e*P	**P**	**06 28 37.3**	**+0.8**
	comp=Z,9.8nm,0.8s,mb4.7						
LPG	**La Plagne**	**84.68**	**315**	*e*P	**P**	**06 28 37.3**	**+0.8**
	comp=Z,5.0nm,0.8s,mb4.7						
ILAR	**Eielson Array**	**96.91**	**22**	P	**P**	**06 29 33.3**	**-0.1**
	comp=Z,0.3nm,0.8s,mb3.8,baz=298,slow=3.3,SNR=5.4						
INK	**Inuvik**	**99.29**	**16**	P	**P**	**06 29 45.6**	**+1.5**
	comp=Z,1.2nm,0.8s,mb4.5,baz=359,slow=5.9,SNR=4.3						
YKA	**Yellowknife Ar**	**108.77**	**14**	PP	PP	06 34 53.9	-7.7
	comp=Z,0.2nm,0.8s,baz=335,slow=7.5,SNR=4.6						
NVAR	**Mina Array Bea**	**126.84**	**32**	PKP	PKPdf	06 35 09.1	+3.5
	comp=Z,0.2nm,0.5s,baz=62,slow=28,SNR=3.6						
PDAR	**Pinedale Array**	**127.35**	**22**	PKP	PKPdf	06 35 08.9	+2.5
	comp=Z,0.4nm,0.8s,baz=270,slow=3.0,SNR=3.6						
TXAR	**Lajitas Array**	**141.33**	**26**	PKhKP		06 35 28.0	
	comp=Z,0.4nm,0.7s,baz=305,slow=2.0,SNR=4.2						

*NEIC **24** 06:17:16.6,31.98S×69.37W,h157km,MD3.6(GUC),After GUC.*
GUC 24 06:17:16.6±0.7,**31.98S**×**69.37W,h157**km±8km,**MD3.6, ML3.9,11C-8D,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.25**	**235**	⇓*i*P	P	06 17 44.7	+0.2
JACH				*i* S	S	06 18 06.0	0.0
PTCH	**Petorca**	**1.35**	**257**	⇑*i*P	P	06 17 45.6	+0.1
PTCH				*i* S	S	06 18 07.4	-0.4
PTCH				AMP		06 18 08.8	
	comp=E,3μm,0.3s						
FCH	**Farellones**	**1.55**	**210**	⇑*i*P	P	06 17 48.1	+0.5
FCH				*i* S	S	06 18 11.9	+0.4
FCH				AMP		06 18 18.5	
	comp=E,866nm,0.2s						
ILCH	**Illapel**	**1.57**	**282**	⇑*i*P	P	06 17 48.1	+0.4
ILCH				*i* S	S	06 18 11.5	-0.2
ILCH				AMP		06 18 14.4	
	comp=E,1μm,0.2s						
ROCH	**El Roble**	**1.70**	**234**	⇓*i*P	P	06 17 49.5	+0.4
CLCH	**Cerro Calan**	**1.72**	**214**	⇑*i*P	P	06 17 49.7	+0.4
CLCH				*i* S	S	06 18 14.8	+0.2
CLCH				AMP		06 18 17.4	
	comp=N,1μm,0.7s						
CLCH				AMP		06 18 18.0	
	comp=N,1μm,0.4s						
DSCH	**Colegio Aleman**	**1.74**	**215**	⇓*i*P	P	06 17 49.9	+0.3
DSCH				*i* S	S	06 18 15.1	+0.2
DSCH				AMP		06 18 16.6	
	comp=E,1μm,0.3s						
STL	**Santa Lucia**	**1.81**	**216**	⇑*i*P	P	06 17 50.5	+0.3
STL				*i* S	S	06 18 16.2	-0.1
STL				AMP		06 18 17.7	
	comp=N,359nm,0.2s						
SAN	**Santiago**	**1.83**	**216**	*i* S	S	06 18 16.4	-0.3
SAN				AMP		06 18 17.2	
	comp=E,657nm,0.3s						
PACH	**Papudo**	**1.84**	**252**	⇑*i*P	P	06 17 50.6	0.0
SJCH	**San Jose de Ma**	**1.85**	**206**	⇑*i*P	P	06 17 51.1	+0.3
SJCH				AMP		06 18 23.7	
	comp=E,296nm,0.4s						
PUEX	**Pudahuel**	**1.87**	**218**	⇑*i*P	P	06 17 51.2	+0.2
PUEX				*i* S	S	06 18 17.1	-0.4
PUEX				AMP		06 18 18.6	
	comp=E,2μm,0.5s						
PCH	**Pirque**	**1.90**	**210**	⇑*i*P	P	06 17 51.9	+0.5
PCH				*i* S	S	06 18 18.5	+0.4
ANTU	**Antumapu**	**1.91**	**213**	*i* P	P	06 17 51.6	+0.2
ANTU				*i* S	S	06 18 18.2	-0.1
ANTU				AMP		06 18 19.7	
	comp=E,1μm,0.3s						
RCDM	**Rinconada Maip**	**1.93**	**218**	⇓*i*P	P	06 17 51.9	+0.3
RCDM				*i* S	S	06 18 18.6	-0.1
RCDM				AMP		06 18 19.4	
	comp=E,3μm,0.1s						
LMEL	**Las Melosas**	**1.99**	**200**	*e*P	P	06 17 52.6	+0.3
LMEL				AMP		06 18 24.3	
	comp=N,589nm,0.2s						
TACH	**Talagante**	**2.13**	**218**	⇓*i*P	P	06 17 53.9	-0.1
TACH				*i* S	S	06 18 22.5	-0.3
IHA	**Instituto Hidr**	**2.18**	**241**	⇑*i*P	P	06 17 54.2	-0.4
CHCH	**Chadas Angostu**	**2.23**	**209**	⇓*i*P	P	06 17 55.4	+0.1
CHCH				*i* S	S	06 18 24.9	0.0
CACH	**El Canelo**	**2.37**	**205**	⇓*i*P	P	06 17 57.8	+0.8
LCCH	**Las Cruces**	**2.38**	**230**	⇑*i*P	P	06 17 57.0	-0.1
SFDO	**San Fernando**	**2.97**	**207**	⇓*i*P	P	06 18 03.9	-0.6
SFDO				*i* S	S	06 18 40.9	-0.3

IDC 24 06:25:22.6±7.7,**17.48S**×**177.32W,mb4.0**/3,**mb1 4.3**/3, **mb1mx3.8**/14,**mbtmp4.0**/3,**Error ellipse: s-maj=337.6km s-min=37.1km az=142.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.73**	**259**	P	P	06 33 45.5	-2.1
	0.6nm,0.8s,baz=94,slow=7.1,SNR=5.2						
ASAR	**Alice Springs**	**45.91**	**254**	P	P	06 33 47.5	-1.5
	2.1nm,0.5s,baz=88,slow=8.0,SNR=28						
ILAR	**Eielson Array**	**85.24**	**13**	P	P	06 38 00.8	-1.2
	7.8nm,1.6s,baz=225,slow=6.4,SNR=5.6						

*IDC **24** 06:29:08.4±1.5,7.14N×92.35E,mb3.8/5,mb1 4.2/6, mb1mx3.9/18,mbtmp3.9/6,ML4.8/1,Error ellipse: s-maj=54.1km s-min=21.7km az=59.0*
*BJI **24** 06:29:12.6,7.20N×92.50E,h30km,mb4.4*
*NEIC **24** 06:29:13.7±0.9,7.19N×92.51E,h30km,mb4.6/1,Error ellipse: s-maj=22.8km s-min=10.7km az=73.0*
ISC 24 06:29:11.0±7.0,**7.2N**±0.2×**92.5E**±0.1,**h28**km±51km,**n20,** σ**1§02/23,mb4.3/8,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**12.89**	**29**	*e*P	**P**	**06 32 17.9**	**+2.7**
	36nm,0.8s						
CM31				*e*pP		06 32 27.6	
CMAR	**Chiang Mai Arr**	**12.89**	**29**	Pn	**P**	**06 32 13.9**	**-1.3**
	1.5nm,0.3s,baz=229,slow=14,SNR=53						
VIS	**Vishakhapatnam**	**13.77**	**321**	*e*P	**P**	**06 32 26.5**	**-0.5**
VIS				*e*		06 32 27.8	
	comp=Z,28nm,0.3s						
VIS				*e*S	**S**	**06 34 44.1**	**-16**
BWNR	**Bhubaneshwar**	**14.57**	**334**	*e*P	**P**	**06 32 29.9**	**-7.5**
BWNR				*e*		06 34 55.5	
BWNR				*e*S	**S**	**06 35 04.8**	**-14**
SHL	**Shillong**	**18.32**	**358**	*e*	**P**	**06 33 20.0**	**-5.1**
SHL				*e*	**S**	**06 36 35.0**	**-10**
QIZ	**Qiongzhong**	**20.61**	**53**	*e*P	**P**	**06 33 50.2**	**-0.7**
	comp=Z,36nm,1.1s						
JIRN	**Jiri**	**21.24**	**344**	*e*P	**P**	**06 34 01.8**	**+4.5**
	comp=Z,57nm,0.8s,mb5.0						
PKI	**Pulchoki**	**21.38**	**343**	*e*P	**P**	**06 34 04.6**	**+5.9**
	comp=Z,75nm,0.7s,mb5.1						
DMN	**Daman**	**21.51**	**342**	*e*P	**P**	**06 34 05.8**	**+5.8**
BHPL	**Bhopal**	**21.56**	**320**	*e*P	**P**	**06 34 01.2**	**+0.7**
BHPL				*e*		06 34 03.7	
	comp=Z,13nm,0.9s						
GKN	**Gorkha**	**22.02**	**341**	*e*P	**P**	**06 34 08.9**	**+3.8**
KOLN	**Koldanda**	**22.16**	**339**	*e*P	**P**	**06 34 11.9**	**+5.4**
LSA	**Lhasa**	**22.46**	**357**	P	**P**	**06 34 12.4**	**+2.9**
LSA	**Lhasa**	**22.46**	**357**	*e*P	**P**	**06 34 10.7**	**+1.2**
SONM	**Songino Array**	**42.24**	**14**	P	**P**	**06 37 03.5**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.4,baz=191,slow=9.1,SNR=6.9						
BVAR	**Borovoye Array**	**49.15**	**343**	P	**P**	**06 37 58.5**	**+0.1**
	comp=Z,1.3nm,0.9s,mb4.0,baz=141,slow=9.2,SNR=4.7						
WRA	**Warramunga Arr**	**49.22**	**124**	P	**P**	**06 37 59.3**	**0.0**
	comp=Z,4.9nm,0.7s,mb4.6,baz=305,slow=8.8,SNR=31						
WRAB	**Tennant Creek**	**49.23**	**124**	*e*P	**P**	**06 37 59.6**	**+0.3**
	comp=Z,7.2nm,0.6s,mb4.9						
ASAR	**Alice Springs**	**50.75**	**128**	P	**P**	**06 38 11.3**	**+0.3**
	comp=Z,3.3nm,0.8s,mb4.3,baz=299,slow=7.6,SNR=21						
AKASG	**Malin Array Be**	**67.69**	**322**	P	**P**	**06 40 06.5**	**-1.5**
	comp

SONM Songino Array 41.84 13 P **P 06 37 14.1 -0.8**
1.2nm,0.9s,mb3.5,baz=184,slow=9.3,SNR=4.9
WRA Warramunga Ar 48.77 125 P **P 06 38 10.6 0.0**
11nm,1.0s,mb4.8,baz=304,slow=8.9,SNR=13
WRAB Tennant Creek 48.78 125 P **P 06 38 11.4 +0.8**
15nm,0.8s,mb5.1
ASAR Alice Springs 50.35 129 P **P 06 38 22.6 -0.1**
9.0nm,0.9s,mb4.8,baz=300,slow=7.0,SNR=11
STKA Stephens Creek 60.48 133 P **P 06 39 35.1 -0.6**
12nm,1.1s,mb4.8,baz=316,slow=6.5,SNR=13
NVAR Mina Array Bea 125.81 30 PKP PKPdf 06 48 27.1 +1.7
1.5nm,0.7s,baz=335,slow=1.2,SNR=15
PDAR Pinedale Array 125.95 21 PKP PKPdf 06 48 25.9 +0.3
1.6nm,0.8s,baz=4.1,slow=1.3,SNR=13
ANMO Albuquerque 133.98 23 PKP PKPdf 06 48 43.2 +2.0
1.1nm,0.6s,baz=298,slow=0.8,SNR=7.6
TXAR Lajitas Array 140.04 23 PKP PKPdf 06 48 53.3 +0.9
0.7nm,0.6s,baz=358,slow=0.2,SNR=11
TXAR PKiKP 06 48 55.6
1.1nm,0.7s,baz=25,slow=0.6,SNR=11
JCT Junction City 140.34 18 *e*PKPpre 06 48 52.9
LPAZ La Paz 159.70 243 PKPab PKPab 06 50 00.3 -3.3
1.6nm,0.9s,baz=56,slow=2.3,SNR=5.3

*IDC **24** 06:35:13.3±9.8, 52.19N×172.03W, mb3.1/4, mb1 3.5/5, mb1mx3.3/20, mbtmp3.1/5, ML3.4/1, Error ellipse: s-maj=187.4km s-min=52.6km az=78.0*
*NEIC **24** 06:35:25.6±0.8, 52.22N×169.83W, h10km, ML3.2(AEIC), Error ellipse: s-maj=18.0km s-min=9.0km az=149.0*
ISC 24 06:35:24.7±0.9, 52.2N±0.1×169.8W±0.2, h10km, n15, σ1§00/18, mb3.2/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.96**	**35**	P	**Pb**	**06 35 43.5**	**+0.6**
NIKO				S	**Sb**	**06 35 54.5**	**-1.0**
OKCE	**Okmok Cone E**	**1.57**	**37**	P	**Pn**	**06 35 53.4**	**+0.6**
OKCD	**Okmok Cone D**	**1.60**	**38**	P	**Pn**	**06 35 54.2**	**+1.0**
OKFG	**Magazine Ridge**	**1.66**	**42**	P	**Pn**	**06 35 54.8**	**+0.7**
OKFG				S	**Sn**	**06 36 14.8**	**-0.8**
MSW	**Makushin Switc**	**2.49**	**45**	P	**Pn**	**06 36 06.9**	**+0.9**
UNV	**Unalaska Valle**	**2.58**	**49**	P	**Pn**	**06 36 07.9**	**+0.7**
UNV				S	**Sn**	**06 36 38.1**	**-0.8**
MTBL	**Makushin Table**	**2.58**	**45**	P	**Pn**	**06 36 08.5**	**+1.3**
ATKA	**Atka Island**	**2.73**	**272**	P	**Pn**	**06 36 09.1**	**-0.3**
AHB	**Akutan Harbor**	**3.06**	**49**	P	**Pn**	**06 36 15.6**	**+1.6**
ILAR	**Eielson Array**	**17.24**	**34**	P	**P**	**06 39 24.6**	**-2.1**
0.1nm,0.3s,baz=223,slow=11,SNR=7.9
INK Inuvik 23.63 33 P **P 06 40 31.6 -4.6**
0.3nm,0.5s,mb3.0,baz=230,slow=10,SNR=6.9
YKA Yellowknife Ar 30.54 49 P **P 06 41 39.1 -0.8**
0.1nm,0.5s,mb2.9,baz=272,slow=7.6,SNR=4.8
BW06 Boulder Array 40.67 79 P **P 06 43 06.6 +0.1**
PDAR Pinedale Array 40.67 79 P **P 06 43 06.0 -0.4**
2.2nm,1.3s,mb3.6,baz=316,slow=2.4,SNR=3.9
TXAR Lajitas Array 52.99 88 P **P 06 44 42.0 -1.5**
0.2nm,0.6s,mb3.2,baz=308,slow=7.2,SNR=5.1

IDC 24 06:37:33.6±28.0, 6.98N×92.46E, mb3.5/2, mb1 3.9/3, mb1mx3.5/17, mbtmp3.6/3, Error ellipse: s-maj=648.0km s-min=48.9km az=91.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.04**	**28**	Pn	P	06 40 40.1	-2.7
baz=230,slow=15,SNR=7.7
WRA Warramunga Ar 49.12 124 P P 06 46 22.9 -2.4
0.6nm,0.7s,baz=301,slow=8.7,SNR=3.3
ASAR Alice Springs 50.65 128 P P 06 46 35.4 -1.6
0.3nm,0.6s,baz=300,slow=7.3,SNR=3.1

IDC 24 06:58:33.1±1.3, 7.13N×92.26E, mb3.9/4, mb1 4.1/5, mb1mx3.8/18, mbtmp3.8/5, ML4.2/1, Error ellipse: s-maj=51.1km s-min=24.8km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.00**	**29**	Pn	P	07 01 40.9	-1.0
0.4nm,0.3s,baz=230,slow=14,SNR=14
SONM Songino Array 42.31 14 P P 07 06 27.7 -2.5
0.4nm,0.4s,baz=192,slow=11,SNR=5.1
WRA Warramunga Ar 49.38 124 P P 07 07 24.7 -2.1
3.1nm,0.9s,baz=304,slow=8.9,SNR=14
ASAR Alice Springs 50.90 128 P P 07 07 36.1 -2.2
1.3nm,0.8s,baz=312,slow=7.4,SNR=10
GERES GERESS Array B 77.14 318 P P 07 10 28.8 -1.5
0.6nm,0.8s,baz=68,slow=7.2,SNR=5.5
NVAR Mina Array Bea 126.50 30 PKP PKPdf 07 17 39.4 -1.1
0.5nm,0.8s,baz=325,slow=2.2,SNR=3.8
PDAR Pinedale Array 126.51 20 PKP PKPdf 07 17 38.8 -1.6
0.2nm,0.4s,baz=288,slow=2.9,SNR=3.4
TXAR Lajitas Array 140.64 22 PKiKP 07 18 08.4
0.2nm,0.5s,baz=325,slow=0.3,SNR=9.7

IDC 24 07:00:10.6±7.9, 18.69N×107.66W, mb3.1/4, mb1 3.6/5, mb1mx3.4/16, mbtmp3.1/5, ML3.9/1, Error ellipse: s-maj=139.5km s-min=72.0km az=146.0, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**11.20**	**18**	Pn	P	07 02 53.9	-1.3
0.2nm,0.3s,baz=198,slow=14,SNR=17
NVAR Mina Array Bea 21.74 337 P P 07 05 04.2 -1.5
0.3nm,0.6s,baz=155,slow=11,SNR=4.5
PDAR Pinedale Array 24.05 357 P P 07 05 27.5 -0.8
0.2nm,0.5s,baz=170,slow=10,SNR=2.7
YKA Yellowknife Ar 44.03 355 P P 07 08 19.2 -2.2
0.2nm,0.8s,baz=170,slow=7.9,SNR=7.5
ILAR Eielson Array 52.95 340 P P 07 09 28.8 -2.0
0.6nm,0.8s,baz=146,slow=7.0,SNR=12

*CSEM **24** 07:13:16.1±0.1, 35.77N×29.60E, h5km, ML3.6, Error ellipse: s-maj=3.4km s-min=1.5km az=91.0*
*ISK **24** 07:13:19.8, 35.88N×29.54E, h32km, ML3.4*
*HLW **24** 07:13:26.7, 35.43N×29.57E, h32km, Mb3.6*
ISC 24 07:13:16.7±0.4, 35.76N±0.03×29.69E±0.05, h5km, n27, σ1§21/35, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**1.00**	**331**	*i* PG	**Pg**	**07 13 35.2**	**-1.6**
FETY | | | | *i* SG | **Sg** | **07 13 47.5** | **-2.7**
ELL Elmali 1.01 10 PG **Pg 07 13 35.7 -1.1**
ELL SG **Sg 07 13 48.6 -1.7**
BCK Bucak 1.85 23 *e*PN **Pn 07 13 49.9 +0.5**
DNZL Cakiroluk 2.00 345 *i* P **Pn 07 13 52.8 +1.3**
DNZL *i* S **Sn 07 14 16.6 -0.6**
DENT Denizli 2.06 345 *e*PN **Pn 07 13 51.9 -0.5**
BDRM Kayabasi 2.23 307 *i* P **Pn 07 13 55.1 +0.2**
BDRM *i* S **Sn 07 14 28.6 +5.5**
AYDN Tasoluk 2.39 323 *i* P **Pn 07 13 58.2 +1.1**
AYDN *i* S **Sn 07 14 29.0 +1.8**
HDMB Hadim 2.56 61 *e*PN **Pn 07 14 00.7 +1.1**
MANT Manisa 2.88 342 *i* P **Pn 07 14 06.8 +2.8**
MANT *i* S **Sn 07 14 47.5 +8.0**
KONT Konya--Tatoy 3.06 44 PN **Pn 07 14 07.9 +1.2**
CSS Prodhromos 3.08 104 *i* P **Pn 07 14 08.2 +1.2**
CSS *i* S **Sn 07 14 43.5 -1.2**
KDAG Bornova 3.27 325 *i* P **Pn 07 14 12.8 +3.0**
AKS Akhisar 3.46 335 *e*PN **Pn 07 14 10.3 -2.0**
KIZT Kizilcal 3.58 29 *e*PN **Pn 07 14 13.7 -0.3**
ESKT Eskisehir 3.87 13 *e*PN **Pn 07 14 18.4 +0.2**
ESKT Eskisehir 3.87 13 *i* P **Pn 07 14 17.8 -0.4**
ULDT Uludag 4.40 355 *i* P **Pn 07 14 27.7 +2.0**
HMAT Matruh 5.13 206 P **Pn 07 14 36.0 0.0**
HMAT S **Sn 07 15 27.8 -8.6**
HBRG Burj al 'Arab 5.17 179 P **Pn 07 14 36.7 +0.2**
SLUM 5.66 223 P **Pn 07 14 43.7 +0.3**
HSAF As Saff 6.32 165 P **Pn 07 14 52.8 0.0**
GLL Jalalah 6.39 164 P **Pn 07 14 53.9 +0.1**
SWA1 7.29 209 P **Pn 07 15 05.6 -0.9**
SWA2 7.41 210 P **Pn 07 15 06.8 -1.3**
SWA2 7.41 210 P **Pn 07 15 06.8 -1.3**
HKAT Jabal Katrina 8.08 152 P **P 07 15 17.4 -0.2**
HHRG Al Ghardaqah 9.13 158 P **P 07 15 31.3 -0.8**

*IDC **24** 07:13:56.6±1.2, 10.41N×92.72E, mb4.0/6, mb1 4.2/7, mb1mx4.0/17, mbtmp4.0/7, ML4.4/1, MS3.3/1, Ms1 3.5/1, ms1mx2.9/22, Error ellipse: s-maj=45.1km s-min=21.3km az=64.0*
*NEIC **24** 07:14:01.6±0.9, 10.41N×92.81E, h30km, mb4.5/2, Error ellipse: s-maj=25.7km s-min=14.3km az=82.0*
ISC 24 07:13:59.6±1.1, 10.4N±0.1×92.9E±0.2, h30km, n12, σ0§29/10, mb4.1/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.93**	**36**	Pn	**P**	**07 16 23.6**	**+0.1**
0.9nm,0.3s,baz=230,slow=14,SNR=18
CMAR LR LR 07 20 18.7
comp=Z,156nm,20.5s,baz=340,slow=38
ENH Enshi 25.10 36 *e*P **P 07 19 23.3 -0.1**
11nm,0.8s,mb4.5
SONM Songino Array 39.00 15 P **P 07 21 25.4 +0.3**
0.6nm,0.6s,mb3.5,baz=196,slow=9.0,SNR=5.3
WRA Warramunga Ar 50.77 126 P **P 07 22 59.2 -0.2**
1.7nm,0.6s,mb4.1,baz=305,slow=8.7,SNR=12
WRA Warramunga Ar 50.77 126 P **P 07 22 59.2 -0.2**
WRAB Tennant Creek 50.77 126 *e*P **P 07 22 59.4 -0.1**
3.7nm,0.6s,mb4.5
ASAR Alice Springs 52.51 131 P **P 07 23 12.6 0.0**
1.2nm,0.7s,mb4.0,baz=305,slow=6.4,SNR=16
ASAR PcP PcP 07 24 23.2 +0.5
0.5nm,0.6s,baz=317,slow=3.6,SNR=4.1
STKA Stephens Creek 62.77 134 P **P 07 24 25.2 +0.5**
2.2nm,0.7s,mb4.4,baz=297,slow=5.7,SNR=6.7
GERES GERESS Array B 75.10 318 P **P 07 25 40.7 +0.1**
0.7nm,0.6s,mb3.8,baz=90,slow=6.7,SNR=7.0
ILAR Eielson Array 92.87 22 P **P 07 27 09.9 -0.6**
0.8nm,0.7s,mb4.2,baz=302,slow=4.3,SNR=11
TXAR Lajitas Array 137.39 22 PKiKP 07 33 24.9
0.1nm,0.5s,baz=234,slow=1.5,SNR=4.5
TXAR Lajitas Array 137.39 22 PKPdf PKPdf 07 33 24.9 -1.3

*IDC **24** 07:24:23.7±0.9, 32.06S×71.89W, mb4.0/5, mb1 4.2/8, mb1mx4.1/14, mbtmp4.0/8, ML4.4/3, MS3.8/3, Ms1 3.8/3, ms1mx3.5/17, Error ellipse: s-maj=39.4km s-min=19.3km az=79.0*
*GUC **24** 07:24:26.7±0.8, 32.02S×71.92W, h29km±2km, ML4.5*
*NEIC **24** 07:24:26.7, 32.02S×71.92W, h29km, mb4.4/2, ML4.5(GUC), After GUC.*
ISC 24 07:24:25.1±0.9, 31.99S±0.03×72.03W±0.06, h18km±6km, n40, σ0§86/54, mb3.9/6, MS4.4/1, 11C-7D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.74**	**137**	⇓*i* P	**Pb**	**07 24 39.1**	**0.0**
ILCH Illapel 0.82 64 ⇑*i* P **Pb 07 24 41.0 +0.6**
ILCH *i* S **Sb 07 24 51.2 +0.3**
ILCH AMP 07 24 51.9
comp=E,23μm,0.5s
PTCH Petorca 0.97 106 ⇑*i* P **Pb 07 24 42.8 -0.2**
PTCH *i* S **Sb 07 24 54.5 -1.0**
PTCH AMP 07 24 56.5
comp=N,47μm,0.2s
IHA Instituto Hidr 1.08 162 ⇑*i* P **Pb 07 24 45.3 +0.4**
IHA *i* S **Sb 07 24 58.6 0.0**
ROCH El Roble 1.30 139 ⇑*i* P **Pn 07 24 48.5 -0.1**
ROCH *i* S **Sb 07 25 04.2 -0.9**
JACH Jahuel 1.40 120 ⇑*i* P **Pn 07 24 49.7 -0.3**
JACH *i* S **Sb 07 25 06.5 -1.3**
LCCH Las Cruces 1.53 165 ⇓*i* P **Pn 07 24 52.0 +0.2**
LCCH *i* S **Sn 07 25 11.4 0.0**
RCDM Rinconada Maip 1.81 146 ⇓*i* P **Pn 07 24 56.1 +0.2**
RCDM *i* S **Sn 07 25 18.6 -0.1**
RCDM AMP 07 25 19.0
comp=E,10μm,0.2s
STL Santa Lucia 1.86 141 *e*P **Pn 07 24 56.7 +0.2**
STL *i* S **Sn 07 25 20.1 +0.4**
STL AMP 07 25 23.2
comp=N,3μm,0.4s
SAN Santiago 1.86 142 ⇑*i* P **Pn 07 24 57.2 +0.7**
SAN *i* S **Sn 07 25 20.1 +0.4**
SAN AMP 07 25 28.1
comp=E,8μm,0.4s
DSCH Colegio Aleman 1.87 139 ⇓*i* P **Pn 07 24 56.9 +0.3**
DSCH *i* S **Sn 07 25 20.3 +0.4**
DSCH AMP 07 25 31.1
comp=N,15μm,0.5s
CLCH Cerro Calan 1.88 138 ⇑*i* P **Pn 07 24 57.1 +0.2**
CLCH *i* S **Sn 07 25 20.4 +0.1**
CLCH AMP 07 25 32.8
comp=E,13μm,0.7s
CLCH AMP 07 25 33.4
comp=E,15μm,0.7s
TACH Talagante 1.90 151 ⇑*i* P **Pn 07 24 57.8 +0.7**
ANTU Antumapu 1.96 144 *i* P **Pn 07 24 58.3 +0.2**
ANTU *i* S **Sn 07 25 22.3 -0.1**
ANTU AMP 07 25 33.9
comp=N,8μm,0.5s
FCH Farellones 1.98 133 ⇑*i* P **Pn 07 24 58.7 +0.4**
FCH *i* S **Sn 07 25 23.7 +0.9**
FCH AMP 07 25 25.6
comp=E,6μm,0.3s
LNV Longovilo 2.03 165 *e*P **Pn 07 24 58.6 -0.3**
PCH Pirque 2.07 142 *e*P **Pn 07 24 60.0 +0.5**
SJCH San Jose de Ma 2.17 140 ⇑*i* P **Pn 07 25 01.0 0.0**
SJCH *i* S **Sn 07 25 27.4 -0.1**
SJCH AMP 07 25 35.9
comp=N,4μm,0.5s
LSCH La Serena 2.19 18 ⇓*i* P **Pn 07 25 02.2 +1.0**
LSCH AMP 07 25 44.8
comp=E,3μm,0.4s
CHCH Chadas Angostu 2.26 149 *e*P **Pn 07 25 02.7 +0.5**
CACH El Canelo 2.44 151 ⇓*i* P **Pn 07 25 06.3 +1.5**
SFDO San Fernando 2.75 162 *e*P **Pn 07 25 09.5 +0.3**
MDZ Mendoza 2.83 109 *e*P **Pn 07 25 14.8 +4.3**
MDZ *i* S **Sn 07 25 49.6 +5.1**
ZON Zonda 2.89 82 ⇓*i* P **Pn 07 25 14.0 +2.7**
ZON eS **Sn 07 25 58.0 +12**
TALC Talca 3.41 175 ⇑*i* P **Pn 07 25 18.2 -0.4**
PLCA Paso Flores 8.80 173 Pn **P 07 26 32.0 -2.6**
comp=E,1.8nm,0.3s,baz=336,slow=10,SNR=38
PLCA Lg 07 28 58.1
comp=E,0.2nm,0.3s,baz=300,slow=20,SNR=1.9
PLCA LR LR 07 29 54.7
comp=E,288nm,19.6s,baz=357,slow=38
LVC Limon Verde 9.75 17 Pn **P 07 26 42.7 -4.9**
comp=E,0.6nm,0.3s,baz=159,slow=8.6,SNR=4.4
LVC Sn **Sn 07 28 44.1 +6.4**
comp=E,1.2nm,0.3s,baz=165,slow=20,SNR=1.9
LVC LR LR 07 30 36.9
comp=E,324nm,18.9s,baz=207,slow=38
TRQA Tornquist 10.22 129 *e*P **P 07 26 51.1 -3.0**
LPAZ La Paz 16.03 14 Pn **P 07 28 11.7 +0.2**
comp=E,0.2nm,0.3s,baz=178,slow=9.1,SNR=13
BAO Brasilia Array 27.27 59 *e*P **P 07 30 08.2 -2.3**
BAO *i* 07 30 10.9
SDV Santo Domingo 40.67 2 P **P 07 32 05.5 -0.7**
comp=E,1.7nm,0.6s,mb3.9,baz=97,slow=19,SNR=4.0
SNAA Sanae 53.44 158 P **P 07 33 44.8 -1.1**
comp=E,0.9nm,0.8s,mb3.7,baz=256,slow=12,SNR=3.1
TXAR Lajitas Array 67.99 330 P **P 07 35 25.4 0.0**
comp=E,0.3nm,0.6s,mb3.5,baz=158,slow=8.0,SNR=9.5
TXAR LR LR 08 00 07.3
comp=E,238nm,20.4s,MS4.4,baz=20,slow=32
MNTX Cornudas Mount 70.77 330 *e*P **P 07 35 41.5 -1.0**
comp=E,0.7nm,0.6s,mb3.8
DBIC Dimbokro 74.54 72 P **P 07 36 03.8 -1.2**
comp=E,7.5nm,0.5s,mb4.9,baz=217,slow=7.2,SNR=29
DBIC Dimbokro 74.54 72 *e*P **P 07 36 03.6 -1.5**
comp=E,7.9nm,0.6s,mb4.8
NVAR Mina Array Bea 82.24 325 P **P 07 36 48.1 +1.4**
comp=E,0.9nm,0.9s,mb3.7,baz=186,slow=7.6,SNR=5.6
WRA Warramunga Arr 122.51 210 PKP PKPdf 07 43 20.5 -3.4
comp=E,0.6nm,0.4s,baz=165,slow=1.4,SNR=7.0
BVAR Borovoye Array 145.79 41 PKPbc PKPbc 07 44 04.5 +1.5
comp=E,1.7nm,0.3s,baz=299,slow=2.2,SNR=18
SONM Songino Array 164.13 4 PKPab PKPab 07 45 22.4 -0.2
comp=E,0.2nm,0.7s,baz=333,slow=2.8,SNR=3.5

IDC 24 07:30:31.4±2.6, 0.60S×136.24E, mb3.3/2, mb1 3.5/3, mb1mx3.5/12, mbtmp3.3/3, ML3.3/1, MS4.0/1, Ms1 4.0/1, ms1mx2.9/12, Error ellipse: s-maj=127.2km s-min=27.8km az=83.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.32**	**185**	P	P	07 34 57.8	-3.1
0.1nm,0.3s,baz=7.4,slow=12,SNR=3.3
ASAR Alice Springs 23.04 185 P P 07 35 39.0 -0.5
0.6nm,0.4s,baz=7.1,slow=12,SNR=15
JOW Kunigami 28.33 345 LR LR 07 47 37.8
comp=Z,283nm,19.0s,baz=348,slow=36
SONM Songino Array 54.78 336 P P 07 40 02.9 -2.4
0.3nm,0.9s,baz=153,slow=8.3,SNR=3.7

*IDC **24** 07:30:38.3±3.1, 22.35S×177.94W, h334km±30km, mb3.7/11, mb1 3.9/12, mb1mx3.7/18, mbtmp4.3/12, Error ellipse: s-maj=35.8km s-min=14.7km az=157.0*
*NEIC **24** 07:30:42.4±4.1, 22.56S×177.97W, h381km±45km, mb4.0/7, Error ellipse: s-maj=28.5km s-min=12.6km az=181.0*
ISC 24 07:30:36.1±5.2, 22.43S±0.10×178.0W±0.1, h325km±52km, n24, σ0§71/20, mb3.9/16, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.34**	**194**	P	**P**	**07 34 08.1**	**-0.6**
0.7nm,0.3s,baz=260,slow=3.3,SNR=4.3
URZ S **S 07 36 59.4 0.0**
0.9nm,0.3s,baz=117,slow=22,SNR=8.4
CTA Charters Tower 33.38 267 P **P 07 36 47.6 +1.1**
9.7nm,0.6s,mb4.2,baz=114,slow=11,SNR=14
CTAO Charters Tower 33.38 267 *e*P **P 07 36 47.3 +0.8**
8.0nm,0.6s,mb4.1
PMG Port Moresby 35.85 286 P **P 07 37 07.5 +0.2**
26nm,0.8s,mb4.5,baz=127,slow=2.1,SNR=6.3
PMG Port Moresby 35.85 286 *e*P **P 07 37 08.3 +0.9**
34nm,1.2s,mb4.5
STKA Stephens Creek 37.02 246 P **P 07 37 17.8 +0.9**
5.0nm,0.4s,mb4.1,baz=90,slow=12,SNR=30
ASAR Alice Springs 44.14 259 P **P 07 38 15.1 0.0**
3.5nm,0.8s,mb3.5,baz=94,slow=7.9,SNR=20
ASAR ScP 07 43 14.0
0.4nm,0.8s,baz=109,slow=1.4,SNR=4.3
WRAB Tennant Creek 44.39 264 *e*P **P 07 38 16.2 -0.8**
5.5nm,1.0s,mb3.6
WRA Warramunga Arr 44.40 264 P **P 07 38 16.5 -0.7**
1.6nm,0.8s,mb3.2,baz=97,slow=8.3,SNR=11
YBH Yreka Blue Hor 81.77 38 P **P 07 42 20.8 +0.6**
2.1nm,0.7s,mb4.1,baz=123,slow=3.2,SNR=5.9
NVAR Mina Array Bea 82.40 43 P **P 07 42 24.1 +0.5**
0.8nm,0.7s,mb3.7,baz=218,slow=6.4,SNR=8.0
HLID Hailey 87.76 41 *e*P **P 07 42 50.5 +0.8**
1.2nm,1.0s,mb3.7
TXAR Lajitas Array 88.06 57 P **P 07 42 52.5 +1.0**
0.6nm,0.8s,mb3.5,baz=217,slow=6.3,SNR=6.8
MCK McKinley 88.84 12 *e*P **P 07 42 53.5 -0.8**
2.7nm,1.1s,mb4.0
COLA College 90.08 12 *e*P **P 07 42 58.7 -1.2**
2.8nm,0.8s,mb4.2
ILAR Eielson Array 90.18 13 P **P 07 42 59.4 -1.1**
1.3nm,0.9s,mb3.8,baz=238,slow=5.1,SNR=6.7
BW06 Boulder Array 90.34 43 *e*P **P 07 43 01.7 0.0**
1.4nm,0.9s,mb3.9
PDAR Pinedale Array 90.34 43 P **P 07 43 01.4 -0.3**
1.4nm,1.0s,mb3.8,baz=201,slow=2.8,SNR=7.4
CMAR Chiang Mai Arr 90.79 290 P **P 07 43 04.5 +0.1**
1.2nm,0.4s,mb4.2,baz=140,slow=3.7,SNR=4.7
ARCES ARCESS Array B 130.81 349 PKP PKPdf 07 49 08.4 0.0
2.4nm,0.8s,baz=45,slow=1.7,SNR=6.0
HFS Hagfors 141.44 351 PKhKP 07 49 22.6
5.2nm,1.1s,baz=72,slow=4.7,SNR=7.5
AKASG Malin Array Be 144.70 330 PKP PKPdf 07 49 33.0 -0.9
1.0nm,0.5s,baz=41,slow=4.2,SNR=5.2
CLL Collm 149.94 346 ⇑PKP1 PKPdf 07 49 49.0 +6.6
GERES GERESS Array B 152.06 343 PKPbc PKPdf 07 49 53.0 +7.3
0.3nm,0.6s,baz=45,slow=1.9,SNR=5.6

IDC 24 07:47:08.8±4.4, 16.39S×178.49W, mb3.9/4, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, Error ellipse: s-maj=195.0km s-min=33.7km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.31**	**240**	P	P	07 54 40.0	-1.4
1.2nm,0.5s,baz=84,slow=9.1,SNR=5.6
WRA Warramunga Arr 44.85 258 P P 07 55 25.0 -2.0
0.3nm,0.2s,baz=86,slow=7.7,SNR=6.7
ASAR Alice Springs 45.15 253 P P 07 55 27.4 -1.9
3.8nm,0.5s,baz=89,slow=8.0,SNR=72
ILAR Eielson Array 84.44 13 P P 07 59 42.9 -1.3
0.1nm,0.4s,baz=223,slow=4.8,SNR=5.6

*HLW **24** 07:53:18.5, 34.49N×23.40E, h33km, Mb3.5*
*CSEM **24** 07:53:19.6±0.2, 34.37N×23.64E, h60km, MD3.7, Error ellipse: s-maj=10.0km s-min=3.0km az=77.0*
*NEIC **24** 07:53:26.2±2.2, 34.77N×24.00E, h30km, MD3.7(ATH), Error ellipse: s-maj=31.5km s-min=12.9km az=211.0*
*ATH **24** 07:53:28.7, 35.08N×24.22E, h60km±7km, MD3.7/6*
ISC 24 07:53:20.6±1.0, 34.35N±0.06×23.7E±0.1, h46km±44km, n14, σ1§16/15, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.58**	**33**	*e*Pn	**P**	**07 53 32.0**	**-0.8**
VAM Vamos 1.13 21 *e*P **P 07 53 40.0 -0.3**
XRY Khrisi 1.73 72 *e*P **P 07 53 50.2 +1.4**
NPS Neapolis 1.82 59 *e*P **P 07 53 49.0 -1.1**
KYTH Kithira 2.00 344 *e*P **P 07 53 55.0 +2.3**
VLI Veliai 2.44 346 *e*P **P 07 53 59.7 +0.7**
VLI Veliai 2.44 346 *e*P **P 07 53 58.1 -0.9**
KARP Karpathos 3.08 66 *e*P **P 07 54 10.0 +1.9**
APE Apeiranthos 3.10 28 *e*P **P 07 54 06.0 -2.3**
SLUM 3.12 156 P **P 07 54 09.4 +0.7**
SLUM S **S 07 54 45.2 +0.2**
HMAT Matruh 4.33 138 P **P 07 54 26.2 +0.5**
SWA2 5.31 163 P **P 07 54 38.5 -0.9**
SWA1 5.35 161 P **P 07 54 39.3 -0.7**
GLL Jalalah 8.30 123 P **P 07 55 20.8 -0.4**

*IDC **24** 07:56:18.9±1.1, 51.55N×177.04E, mb4.1/17, mb1 4.3/18, mb1mx4.2/24, mbtmp4.1/18, ML3.9/1, Error ellipse: s-maj=30.4km s-min=11.7km az=2.0*
*MOS **24** 07:56:21.8±1.1, 51.54N×176.95E, h33km, mb4.8/4, Error ellipse: s-maj=17.7km s-min=10.8km az=98.8*
*NEIC **24** 07:56:22.6±2.9, 51.49N×176.99E, h26km±19km, mb4.6/5, ML4.1(AEIC), Error ellipse: s-maj=17.5km s-min=6.1km az=185.0*
ISC 24 07:56:24.7±1.0, 51.6N±0.1×176.98E±0.06, h59km±7km, n49, σ1§06/54, mb4.2/21, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.12**	**304**	P	**P**	**07 56 57.0**	**-1.5**
SMY S **S 07 57 25.8 +2.1**
FX1 Attu Island--F 2.69 301 P **P 07 57 03.7 -2.9**
FX1 07 57 39.5
FX1 pmax pmax
comp=Z,74nm,0.3s
FX1 smax
comp=N,243nm,0.3s
FX1 Attu Island--F 2.69 301 Pn **P 07 57 03.7 -2.9**
comp=N,74nm,0.3s,baz=175,slow=6.0,SNR=45
FX1 Sn **S 07 57 39.5 +1.4**
comp=N,243nm,0.3s,baz=66,slow=23,SNR=12
FX1 Attu Island--F 2.69 301 P **P 07 57 05.4 -1.3**
FX1 S **S 07 57 40.3 +2.2**
KIMD Kanaga Island 3.61 85 P **P 07 57 19.2 -0.4**
KIMD S **S 07 58 02.5 +1.2**
KIWB Kanaga Island 3.66 83 P **P 07 57 16.3 -4.0**
GSMY Great Sitkin M 4.35 81 P **P 07 57 29.6 -0.4**
GSIG Igitkin Island 4.43 82 P **P 07 57 31.4 +0.4**
ATKA Atka Island 5.50 80 P **P 07 57 46.0 0.0**
ATKA S **S 07 58 47.4 -1.4**
UNV Unalaska Valle 10.28 71 *e*P **P 07 58 53.7 +1.9**
BILL Bilibino 17.33 346 *e*P **P 08 00 24.2 +0.6**
BILL Bilibino 17.33 346 *e*P **P 08 00 24.2 +0.5**
RSO Redoubt South 18.96 50 P **P 08 00 43.2 -0.1**
SPU Mount Spurr 19.48 48 P **P 08 00 46.7 -2.3**
SLKM Skilak Lake 20.19 51 P **P 08 00 55.8 -0.8**
IMA Indian Mountai 20.73 34 *e*P **P 08 01 03.2 +1.1**
comp=N,26nm,0.8s
ILAR Eielson Array 22.79 41 P **P 08 01 21.9 -0.6**

comp=N,1.6nm,0.6s,mb3.6,baz=251,slow=8.7,SNR=19
THY Trims Highway 22.90 44 P P 08 01 23.5 0.0
ASAJ Asahikawa 24.07 266 P P 08 01 36.2 +1.1
ASAJ pmax pmax
comp=Z,8.0nm,0.8s
ASAJ Asahikawa 24.07 266 P P 08 01 36.2 +1.1
comp=Z,7.5nm,0.8s,mb4.2,baz=47,slow=19,SNR=3.3
DAWY Dawson 25.80 44 eP P 08 01 51.6 +0.3
INK Inuvik 28.84 36 P P 08 02 18.8 -0.2
comp=Z,1.5nm,0.6s,mb3.9,baz=256,slow=9.1,SNR=15
BOD Bodaibo 35.73 305 eP P 08 03 17.8 -1.3
YKA Yellowknife Ar 37.01 46 P P 08 03 30.3 +0.5
comp=Z,1.4nm,0.5s,mb4.1,baz=286,slow=7.3,SNR=19
YKA PcP PcP 08 05 50.2 0.0
comp=Z,0.2nm,0.4s,baz=285,slow=3.2,SNR=8.2
SONM Songino Array 44.18 294 P P 08 04 29.2 +0.2
comp=Z,2.4nm,0.6s,mb4.1,baz=64,slow=6.8,SNR=20
HLID Hailey 45.41 72 P P 08 04 37.7 -1.1
NVAR Mina Array Bea 46.14 80 P P 08 04 46.1 +1.5
comp=Z,1.1nm,0.7s,mb3.9,baz=302,slow=6.1,SNR=11
FCC Fort Churchill 47.72 45 P P 08 04 57.6 +0.8
BW06 Boulder Array 48.75 70 eP P 08 05 06.2 +1.2
comp=Z,1.1nm,0.7s,mb4.0
PDAR Pinedale Array 48.75 70 P P 08 05 05.0 0.0
comp=Z,1.0nm,0.7s,mb4.0,baz=313,slow=3.5,SNR=9.4
ZAL Zalesovo 51.97 311 P P 08 05 28.8 -0.6
comp=Z,0.7nm,0.4s,mb3.9,baz=63,slow=4.5,SNR=2.7
NVS Novosibirsk 52.14 313 iP P 08 05 28.0 -2.6
KURK Kurchatov 56.95 311 eP P 08 06 04.8 -1.0
KURK pmax pmax
comp=Z,17nm,0.9s,mb5.1
KURK Kurchatov 56.95 311 eP P 08 06 04.8 -0.9
comp=Z,17nm,0.9s,mb5.1
ARCES ARCESS Array B 57.42 349 P P 08 06 08.1 -0.8
comp=Z,3.8nm,0.8s,mb4.5,baz=34,slow=8.7,SNR=4.4
MNTX Cornudas Mount 58.51 78 P P 08 06 17.3 +0.3
comp=Z,1.1nm,0.8s,mb3.9
BVAR Borovoye Array 59.00 318 P P 08 06 19.6 -0.5
comp=Z,12nm,0.5s,mb5.2,baz=53,slow=6.5,SNR=96
BRVK Borovoye 59.02 318 eP P 08 06 20.0 -0.2
BRVK pmax pmax
comp=Z,11nm,0.5s,mb5.1
BRVK Borovoye 59.02 318 eP P 08 06 20.0 -0.2
comp=Z,11nm,0.5s,mb5.2
WMOK Wichita Mounta 60.35 71 P P 08 06 30.7 +1.1
TXAR Lajitas Array 61.22 78 P P 08 06 35.0 -0.5
comp=Z,2.4nm,1.2s,mb4.2,baz=313,slow=5.3,SNR=16
SCHQ Schefferville 61.46 36 P P 08 06 37.0 +0.2
comp=Z,5.3nm,1.2s,mb4.5,baz=244,slow=11,SNR=6.8
SCHQ Schefferville 61.46 36 P P 08 06 37.0 +0.2
FINES FINESS Array B 64.97 345 P P 08 06 59.0 -0.7
comp=Z,1.0nm,0.6s,mb4.1,baz=37,slow=9.5,SNR=5.6
NOA NORSAR Array B 67.17 353 P P 08 07 13.7 0.0
comp=Z,0.4nm,0.4s,mb3.8,baz=9.8,slow=6.0,SNR=2.6
CMAR Chiang Mai Arr 68.36 273 P P 08 07 22.2 +0.4
comp=Z,1.0nm,0.5s,mb4.1,baz=23,slow=7.2,SNR=5.6
AKASG Malin Array Be 74.50 339 P P 08 07 58.2 +0.3
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 74.50 339 P P 08 07 58.2 +0.3
comp=Z,1.6nm,0.5s,mb4.2,baz=24,slow=5.6,SNR=7.3
BRTR Keskin Array B 83.62 332 P P 08 08 49.4 +2.0
comp=Z,2.0nm,0.8s,mb4.3,baz=68,slow=2.8,SNR=7.1

IDC 24 07:58:45.2±1.3, 7.27N×92.60E, h39km±6km, mb3.8/5, mb1 4.1/6, mb1mx3.8/18, mbtmp4.0/6, ML4.4/1, Error ellipse: s-maj=51.5km s-min=20.0km az=60.0

ISC 24 07:58:42.7±0.9, 7.3N±0.1×92.5E±0.2, h39km, (h40km±1.4km:pP-P), n14, σ0§55/7, mb4.0/5, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.74	29	Pn	P	08 01 43.9	-0.3
	0.7nm,0.3s,baz=220,slow=15,SNR=23						
CMAR				sP		08 01 57.5	
	0.7nm,0.3s,baz=230,slow=14,SNR=12						
VIS	Vishakhapatnam	13.73	320	⇑eP	P	08 01 56.5	-0.8
VIS				e		08 02 03.3	
	comp=Z,22nm,0.6s						
JIRN	Jiri	21.15	344	eP		08 03 35.9	
PKI	Pulchoki	21.29	342	eP		08 03 38.4	
DMN	Daman	21.42	342	eP		08 03 39.6	
KKN	Kakani	21.54	342	eP		08 03 39.8	
GKN	Gorkha	21.93	341	eP		08 03 43.4	
KOLN	Koldanda	22.08	339	eP		08 03 45.7	
SONM	Songino Array	42.11	14	P	P	08 06 33.4	+0.6
	comp=Z,0.2nm,0.5s,mb3.0,baz=198,slow=4.6,SNR=3.6						
WRA	Warramunga Arr	49.22	124	P	P	08 07 29.4	-0.3
	comp=Z,5.9nm,0.8s,mb4.7,baz=305,slow=8.8,SNR=34						
WRA				pP	pP	08 07 40.7	-0.1
	comp=Z,7.8nm,0.9s,baz=303,slow=8.8,SNR=17						
ASAR	Alice Springs	50.76	129	P	P	08 07 41.5	0.0
	comp=Z,3.5nm,0.8s,mb4.3,baz=308,slow=7.4,SNR=24						
ASAR				pP	pP	08 07 52.4	-0.2
	comp=Z,7.0nm,0.8s,baz=305,slow=6.3,SNR=26						
STKA	Stephens Creek	60.85	133	P	P	08 08 53.7	-0.2
	comp=Z,2.1nm,0.8s,mb4.3,baz=247,slow=13,SNR=4.9						
STKA				pP	pP	08 09 06.0	+0.7
	comp=Z,5.2nm,0.8s,baz=312,slow=5.6,SNR=8.5						
GERES	GERESS Array B	77.22	318	P	P	08 10 35.5	+0.9
	comp=Z,0.3nm,0.5s,mb3.5,baz=104,slow=5.5,SNR=3.6						
TXAR	Lajitas Array	140.40	22	PKiKP		08 18 14.2	
	comp=Z,0.3nm,0.7s,baz=270,slow=1.8,SNR=3.2						
TXAR				pPKiKP		08 18 25.7	
	comp=Z,0.3nm,0.7s,baz=342,slow=2.2,SNR=2.9						

IDC 24 07:59:36.5±9.2, 7.03N×91.37E, mb4.0/2, mb1 4.4/3, mb1mx3.8/18, mbtmp4.1/3, ML4.4/1, Error ellipse: s-maj=204.4km s-min=51.9km az=93.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.55	32	Pn	P	08 02 50.0	-2.6
	0.7nm,0.3s,baz=225,slow=14,SNR=5.8						
CMAR				sP		08 03 01.3	
	0.9nm,0.3s,baz=230,slow=14,SNR=5.4						
WRA	Warramunga Arr	50.05	123	P	P	08 08 33.0	-2.4
	1.2nm,0.5s,baz=301,slow=8.6,SNR=4.7						
WRA				pP	pP	08 08 44.2	+8.8
	5.4nm,0.9s,baz=304,slow=8.9,SNR=4.9						
ASAR	Alice Springs	51.53	128	P	P	08 08 44.9	-1.7
	1.3nm,0.8s,baz=300,slow=7.5,SNR=2.6						
ASAR				pP	pP	08 08 56.1	+10
	5.4nm,1.0s,baz=311,slow=7.2,SNR=5.8						
TXAR	Lajitas Array	141.06	21	pPKiKP		08 19 28.8	
	0.3nm,0.6s,baz=59,slow=1.6,SNR=2.9						

IDC 24 08:07:38.6±2.2, 1.58S×132.67E, mb4.0/2, mb1 4.4/3, mb1mx3.9/15, mbtmp4.1/3, ML4.1/1, Error ellipse: s-maj=116.5km s-min=29.9km az=95.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.32	175	P	P	08 11 54.6	-1.5
	0.6nm,0.3s,baz=355,slow=12,SNR=16						
ASAR	Alice Springs	21.98	177	P	P	08 12 34.5	-1.7
	9.5nm,0.8s,baz=353,slow=7.9,SNR=36						
ILAR	Eielson Array	87.34	25	P	P	08 20 27.2	-1.3
	0.4nm,0.7s,baz=251,slow=4.9,SNR=8.4						

IDC 24 08:08:11.2±3.9, 10.27N×90.86E, mb3.8/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, ML4.4/1, Error ellipse: s-maj=106.5km s-min=29.1km az=81.0

ISC 24 08:08:13.2±1.3, 10.4N±0.2×90.8E±0.1, h33km, n5, σ1§15/6, mb3.8/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	Vishakhapatnam	10.28	316	eP	P	08 10 48.0	+6.3
VIS				e		08 10 49.0	
	comp=Z,18nm,0.1s						
VIS				eS	S	08 12 36.5	-0.3
CMAR	Chiang Mai Arr	11.29	44	Pn	P	08 10 54.6	-0.8
	comp=Z,0.8nm,0.3s,baz=226,slow=14,SNR=4.3						
SONM	Songino Array	39.61	17	P	P	08 15 44.9	+1.6
	comp=Z,0.3nm,0.4s,mb3.3,baz=193,slow=11,SNR=3.4						
WRA	Warramunga Arr	52.40	125	P	P	08 17 24.5	-0.4
	comp=Z,0.7nm,0.4s,mb3.9,baz=307,slow=8.3,SNR=6.1						
ASAR	Alice Springs	54.05	129	P	P	08 17 37.1	0.0

2005 JAN

comp=Z,1.7nm,0.6s,mb4.1,baz=306,slow=7.3,SNR=12

NEIC 24 08:14:58.7±1.1, 18.02N×145.96E, h160km±9km, mb4.5/6, Error ellipse: s-maj=17.1km s-min=9.2km az=91.0
IDC 24 08:15:09.8±5.2, 17.98N×145.72E, h267km±53km, mb3.7/16, mb1 3.9/17, mb1mx3.8/24, mbtmp4.4/17, Error ellipse: s-maj=21.2km s-min=9.6km az=90.0

ISC 24 08:14:57.9±1.0, 18.00N±0.06×145.9E±0.1, h169km±9km, n31, σ0§90/31, mb4.3/23, 2D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	Sarigan	1.30	187	⇓iP	P	08 15 27.0	-0.4
GUMO	Guam	4.50	193	eP	P	08 16 06.0	0.0
JOW	Kunigami	18.52	301	P	P	08 19 05.6	+1.6
	3.1nm,0.3s,baz=132,slow=11,SNR=9.8						
ASAJ	Asahikawa	26.19	355	P	P	08 20 19.8	+1.2
	7.2nm,0.5s,mb4.6,baz=266,slow=9.2,SNR=7.1						
PMG	Port Moresby	27.26	177	eP	P	08 20 27.8	-0.8
	10nm,0.7s,mb4.6						
KAKA	Kakadu	33.30	205	eP	P	08 21 21.2	-0.5
	8.8nm,0.7s,mb4.6						
CTA	Charters Tower	37.85	180	P	P	08 22 01.1	+1.0
	9.2nm,1.1s,mb4.3,baz=41,slow=11,SNR=7.4						
CTAO	Charters Tower	37.85	180	eP	P	08 22 00.5	+0.3
	1.6nm,0.5s,mb3.9						
WRAB	Tennant Creek	39.38	197	eP	P	08 22 13.2	+0.5
	15nm,0.7s,mb4.7						
WRA	Warramunga Arr	39.39	197	P	P	08 22 12.9	+0.1
	12nm,1.0s,mb4.5,baz=11,slow=8.6,SNR=53						
FITZ	Fitzroy Crossi	41.05	210	⇓iP	P	08 22 27.2	+0.7
	26nm,0.8s,mb4.9						
ASAR	Alice Springs	43.05	196	P	P	08 22 43.0	+0.2
	4.6nm,0.5s,mb4.4,baz=18,slow=7.3,SNR=48						
ASPA	Alice Springs	43.05	196	eP	P	08 22 43.3	+0.5
SONM	Songino Array	43.82	322	P	P	08 22 47.8	-0.9
	0.6nm,0.7s,mb3.4,baz=126,slow=7.7,SNR=4.9						
CMAR	Chiang Mai Arr	44.53	278	P	P	08 22 55.4	+0.7
	1.5nm,0.5s,mb3.9,baz=69,slow=7.7,SNR=6.8						
MBWA	Marble Bar	46.62	215	eP	P	08 23 11.2	0.0
	9.4nm,0.5s,mb4.7						
STKA	Stephens Creek	49.77	185	P	P	08 23 35.1	-0.1
	3.8nm,0.5s,mb4.3,baz=1.0,slow=7.6,SNR=14						
FORT	Forrest	51.46	200	eP	P	08 23 48.6	+0.5
	35nm,0.5s,mb5.2						
NWAO	Narrogin (SRO)	57.60	209	P	P	08 24 31.5	-1.0
	10nm,0.7s,mb4.8,baz=39,slow=10,SNR=8.9						
KURK	Kurchatov	61.94	318	eP	P	08 25 00.7	-1.2
	2.5nm,0.3s,mb4.5						
HYB	Hyderabad	63.84	281	iP	P	08 25 15.0	+0.1
ILAR	Eielson Array	64.17	26	P	P	08 25 16.1	-0.1
	2.7nm,0.9s,mb4.1,baz=254,slow=6.0,SNR=44						
BVAR	Borovoye Array	67.15	321	P	P	08 25 34.0	-1.5
	4.7nm,0.5s,mb4.5,baz=96,slow=7.4,SNR=23						
INK	Inuvik	69.92	23	P	P	08 25 52.7	+0.4
	3.0nm,0.7s,mb4.1,baz=277,slow=6.0,SNR=24						
INK	Inuvik	69.92	23	eP	P	08 25 53.0	+0.8
	3.0nm,0.7s,mb4.1						
YKA	Yellowknife Ar	78.50	28	P	P	08 26 42.9	+1.5
	1.1nm,0.5s,mb3.8,baz=289,slow=5.4,SNR=52						
ARCES	ARCESS Array B	83.22	342	P	P	08 27 05.7	-0.4
	4.2nm,0.9s,mb4.2,baz=85,slow=8.0,SNR=8.9						
ARCES	ARCESS Array B	83.22	342	P	P	08 27 05.7	-0.4
NVAR	Mina Array Bea	83.39	52	P	P	08 27 06.5	-1.1
	0.2nm,0.4s,mb3.2,baz=306,slow=7.8,SNR=3.1						
FINES	FINESS Array B	87.61	335	P	P	08 27 25.9	-1.8
	0.9nm,0.7s,mb3.7,baz=56,slow=6.9,SNR=6.5						
PDAR	Pinedale Array	88.45	16	P	P	08 27 34.0	+3.3
	0.3nm,0.5s,mb3.4,baz=226,slow=1.1,SNR=5.7						

JMA 24 08:15:21.2±0.2, 27.41N×141.09E, h339km, M3.8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	1.24	128	S	S	08 16 42.8	-0.3
JHJ2	Mitsune	5.79	349	P	P	08 16 50.5	+0.7
BSO3	Boso 3	7.38	356	P	P	08 17 08.5	-0.1
BSO4	Boso 4	7.58	355	P	P	08 17 11.7	+0.7
BSO4				eS	S	08 18 37.6	+0.3
TATJ	Tateyama 2	7.67	353	P	P	08 17 12.5	+0.5
JOD2	Odawara 2	8.01	348	P	P	08 17 16.7	+0.6
JOD2				eS	S	08 18 46.5	-0.1
JWM	Minabe	8.10	324	P	P	08 17 16.5	-0.6
JNY	Yasuok	8.39	342	P	P	08 17 20.4	-0.2
JHU	Hanno	8.56	350	P	P	08 17 22.1	-0.5
JAG	Ashikaga	9.10	352	P	P	08 17 27.8	-1.3
JHO	Hitachi	9.18	357	P	P	08 17 29.6	-0.6
JHO				eS	S	08 19 09.0	-3.0
JFM	Mihama	9.19	333	P	P	08 17 30.6	+0.4
JNG	Nsakai	9.32	345	P	P	08 17 31.8	0.0
JMM	Marumori	10.43	359	P	P	08 17 46.1	+0.9

IDC 24 08:27:23.4±1.5, 5.47N×94.44E, mb3.9/7, mb1 4.1/8, mb1mx3.9/19, mbtmp3.9/8, ML4.3/1, Error ellipse: s-maj=70.6km s-min=20.5km az=55.0
NEIC 24 08:27:28.4±0.9, 5.53N×94.54E, h30km, mb4.4/4, Error ellipse: s-maj=47.5km s-min=11.4km az=55.0

ISC 24 08:27:25.2±0.9, 5.3N±0.1×94.2E±0.2, h30km, n13, σ0§87/12, mb4.1/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.93	19	Pn	P	08 30 44.5	+1.5
	0.5nm,0.3s,baz=211,slow=14,SNR=5.5						
SONM	Songino Array	43.71	12	P	P	08 35 27.7	-1.6
	0.7nm,0.7s,mb3.5,baz=190,slow=9.6,SNR=6.6						
WRA	Warramunga Arr	46.75	124	P	P	08 35 54.4	+0.4
	0.5nm,0.4s,mb3.8,baz=305,slow=9.3,SNR=15						
WRAB	Tennant Creek	46.76	124	eP	P	08 35 53.6	-0.4
	2.5nm,0.6s,mb4.3						
KURK	Kurchatov	47.15	347	eP	P	08 35 56.5	-0.3
	1.6nm,0.4s,mb4.3						
ASAR	Alice Springs	48.24	128	P	P	08 36 05.6	0.0
	0.5nm,0.5s,mb3.8,baz=300,slow=7.9,SNR=7.2						
ZAL	Zalesovo	49.14	353	P	P	08 36 12.1	0.0
	1.3nm,0.3s,mb4.4,baz=297,slow=6.1,SNR=4.8						
BVAR	Borovoye Array	51.48	342	P	P	08 36 29.5	-0.5
	1.0nm,0.4s,mb4.1,baz=137,slow=13,SNR=7.8						
BRVK	Borovoye	51.54	342	eP	P	08 36 29.8	-0.7
	2.5nm,0.5s,mb4.4						
CHKZ	Chkalovo	51.97	342	eP	P	08 36 33.4	-0.3
	3.1nm,0.4s,mb4.6						
ARCES	ARCESS Array B	77.73	340	P	P	08 39 21.0	+0.4
	3.3nm,0.9s,mb4.3,baz=108,slow=7.7,SNR=5.3						
GERES	GERESS Array B	79.80	319	P	P	08 39 34.0	+1.8
	0.6nm,0.5s,mb3.8,baz=104,slow=5.5,SNR=4.1						
TXAR	Lajitas Array	141.58	25	PKiKP		08 46 59.1	
	0.1nm,0.4s,baz=170,slow=0.6,SNR=4.9						

WEL 24 08:42:22.5±0.4, 45.13S×166.92E, h20km, ML4.5/12, Error ellipse: s-maj=4.2km s-min=1.5km az=90.0
IDC 24 08:42:24.2±3.5, 44.23S×166.89E, mb3.5/3, mb1 3.8/5, mb1mx3.7/11, mbtmp3.7/5, ML4.0/2, Error ellipse: s-maj=105.6km s-min=19.6km az=177.0

ISC 24 08:42:18.0±2.2, 45.01S±0.04×166.79E±0.07, h1km±17km, n32, σ1§25/37, mb3.4/3, 1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.54	151	P*	Pb	08 42 30.1	+0.3
DCZ				eS*	Sb	08 42 35.7	-2.0
MSZ	Milford Sound	0.88	68	P*	Pb	08 42 37.9	+2.3
MSZ				eS*	Sb	08 42 48.6	+1.0
MLZ	Mavora Lakes	1.03	110	⇓P*	Pb	08 42 38.8	+0.5
MLZ				S*	Sb	08 42 51.3	-0.9
WHZ	Wether Hill Ro	1.20	138	PN	Pn	08 42 41.5	-0.4
WKZ	Wanaka	1.59	84	PN	Pn	08 42 49.5	+2.1
JCZ	Jackson Bay	1.69	57	PN	Pn	08 42 50.7	+1.9
EAZ	Earnscleugh	1.80	98	ePN	Pn	08 42 51.5	+1.2
TUZ	Tuapeka	2.21	116	PN	Pn	08 42 56.4	+0.1
LBZ	Lake Benmore	2.50	77	PN	Pn	08 43 02.1	+1.8
FOZ	Fox Glacier	2.53	56	PN	Pn	08 43 02.6	+1.8
ODZ	Otahua Downs	2.73	92	PN	Pn	08 43 04.1	+0.4
RPZ	Rata Peaks	3.32	69	Pn	Pn	08 43 12.9	+0.8
	52nm,0.3s,baz=230,slow=5.6,SNR=158						
RPZ				Sn	Sn	08 43 53.4	+0.6
	43nm,0.3s,baz=186,slow=18,SNR=7.1						
RPZ	Rata Peaks	3.32	69	PN	Pn	08 43 12.8	+0.7
WVZ	Waitaha Valley	3.44	57	PN	Pn	08 43 13.7	-0.1
MQZ	McQueen's Vall	4.40	75	ePN	Pn	08 43 26.8	-0.6
LTZ	Lake Taylor	4.54	63	ePN	Pn	08 43 29.3	-0.2
DSZ	Denniston Nort	4.90	50	PN	Pn	08 43 33.5	-1.0
THZ	Tophouse	5.51	56	ePN	Pn	08 43 42.9	-0.2
QRZ	Quartz Range	5.93	47	PN	Pn	08 43 47.9	-1.2
NNZ	Nelson	6.13	54	PN	Pn	08 43 51.2	-0.7
TUWZ	Tuamarina	6.33	58	ePN	Pn	08 43 55.5	+0.8
PKE	Pukeiti	7.89	45	ePN	Pn	08 44 14.7	-1.9
WAZ	Wanganui	8.02	52	ePN	P	08 44 17.7	-0.7
NGZ	Ngauruhoe	8.76	51	ePN	P	08 44 27.9	-0.9
HIZ	Hauiti	8.85	46	PN	P	08 44 27.9	-2.1
MGZ	Maungaku	8.85	50	ePN	P	08 44 29.4	-0.6
URZ	Urewera	10.25	52	Pn	P	08 44 46.2	-3.0
	0.6nm,0.3s,baz=221,slow=15,SNR=6.3						
URZ				Sn	S	08 46 35.8	-10
	0.7nm,0.3s,baz=13,slow=19,SNR=3.5						
WCZ	Waipu Caves	10.72	35	PN	P	08 44 54.1	-1.6
OUZ	Omahuta	11.07	30	PN	P	08 44 58.8	-1.6
STKA	Stephens Creek	23.58	295	P	P	08 47 34.7	+4.0
	1.6nm,0.8s,mb3.6,baz=103,slow=6.0,SNR=3.6						
ASAR	Alice Springs	34.16	298	P	P	08 49 08.0	+1.3
	0.2nm,0.6s,mb3.2,baz=120,slow=7.3,SNR=4.1						
WRA	Warramunga Arr	36.67	302	P	P	08 49 29.4	+1.3
	0.8nm,0.9s,mb3.5,baz=136,slow=8.7,SNR=4.1						

IGQ 24 08:54:32.3, 2.17S×80.62W, h12km±23km, mb4.2, 1C-2D, Error ellipse: s-maj=23.5km s-min=7.2km az=148.2, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.09	71	P	Pn	08 55 08.8	+1.1
IGUA				S	Sn	08 55 36.2	+2.4
ARRY	Arrayan	2.26	73	P	Pn	08 55 11.0	+1.0
ARRY				S	Sn	08 55 40.1	+2.0
JUIV	Juive	2.28	71	P	Pn	08 55 13.2	+2.9
PATA	Patacocha	2.28	73	P	Pn	08 55 13.0	+2.6
ULBA	Ulba	2.32	72	P	Pn	08 55 12.9	+2.0
RUN2	Runtun	2.33	72	P	Pn	08 55 13.1	+2.1
NAS1	Nasa	2.63	55	⇓P	Pn	08 55 18.1	+2.8
TAMB	Tambo	2.69	57	P	Pn	08 55 18.8	+2.7
VC1	Cotopaxi 1	2.69	56	P	Pn	08 55 18.8	+2.7
JUA2	San Juan 2	2.80	46	P	Pn	08 55 19.1	+1.4
TERV	Terraza Guagua	2.83	46	P	Pn	08 55 19.4	+1.3
PINO	Pino	2.83	45	⇓P	Pn	08 55 19.2	+0.9
YANA	Yana	2.89	45	P	Pn	08 55 20.0	+1.0
YANA				S	Sn	08 55 56.1	+2.1
ANTI	Antisana	2.99	55	⇑P	Pn	08 55 23.1	+2.6
COTA	Cotacachi	3.37	43	P	Pn	08 55 27.4	+1.5
CAYR	Refugio Cayamb	3.40	50	P	Pn	08 55 29.1	+2.9
CAYA	Cayambe	3.44	50	P	Pn	08 55 30.0	+3.1

IDC 24 08:57:29.8±4.3, 6.95N×91.35E, mb3.6/3, mb1 3.9/4, mb1mx3.7/18, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=121.1km s-min=29.0km az=76.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.62	32	Pn	P	09 00 43.5	-3.4
	0.1nm,0.3s,baz=229,slow=15,SNR=14						
SONM	Songino Array	42.71	15	P	P	09 05 29.1	-1.1
	0.3nm,0.7s,baz=191,slow=7.3,SNR=2.6						
WRA	Warramunga Arr	50.03	123	P	P	09 06 25.8	-2.7
	1.2nm,0.5s,baz=304,slow=8.5,SNR=16						
WRA				pP	pP	09 06 37.9	+9.4
	2.4nm,1.0s,baz=306,slow=8.6,SNR=7.4						
ASAR	Alice Springs	51.50	128	P	P	09 06 38.0	-1.7
	1.5nm,1.1s,baz=312,slow=7.7,SNR=5.8						
ASAR				pP	pP	09 06 49.5	+10
	1.8nm,0.7s,baz=303,slow=7.5,SNR=12						

NEIC 24 08:59:21.7±1.4, 7.09N×91.41E, mb4.4/2, Error ellipse: s-maj=34.4km s-min=15.8km az=78.0
IDC 24 08:59:22.3±14.0, 6.98N×92.34E, mb3.8/2, mb1 4.2/3, mb1mx3.7/18, mbtmp3.9/3, ML4.5/1, Error ellipse: s-maj=329.0km s-min=48.5km az=91.0

ISC 24 08:59:18.8±1.7, 7.1N±0.1×91.4E±0.3, h33km, n5, σ0§42/5, mb4.2/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.49	32	Pn	P	09 02 30.4	0.0
	0.8nm,0.3s,baz=228,slow=15,SNR=3.7						
CMAR				sP		09 02 41.0	
	baz=230,slow=14,SNR=1.9						
CHKZ	Chkalovo	49.42	344	eP	P	09 08 07.4	0.0
	2.2nm,0.9s,mb4.2						
WRA	Warramunga Arr	50.07	123	P	P	09 08 12.6	-0.3
	1.4nm,0.6s,mb4.2,baz=305,slow=9.0,SNR=7.9						
WRA				pP	pP	09 08 23.9	+1.2
	1.5nm,1.0s,baz=306,slow=8.4,SNR=4.3						
WRAB	Tennant Creek	50.07	123	eP	P	09 08 12.7	-0.2
	4.9nm,0.7s,mb4.7						
ASAR	Alice Springs	51.55	128	P	P	09 08 24.6	+0.5
	1.8nm,1.1s,mb3.9,baz=307,slow=6.3,SNR=4.6						
ASAR				pP	pP	09 08 36.0	+2.0
	1.0nm,0.7s,baz=313,slow=7.2,SNR=6.1						

IDC 24 09:07:25.8±5.5, 4.08N×92.28E, mb3.5/3, mb1 3.8/4, mb1mx3.6/18, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=161.2km s-min=29.9km az=73.0

ISC 24 09:07:36.7±2.9, 4.3N±0.2×93.6E±0.5, h33km, n5, σ0§92/5, mb3.5/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.04	20	Pn	P	09 11 08.6	0.0
	0.1nm,0.3s,baz=214,slow=14,SNR=8.6						
SHL	Shillong	21.25	356	eP	P	09 12 22.5	+0.2
SONM	Songino Array	44.78	12	P	P	09 15 45.0	-4.0
	0.2nm,0.6s,mb3.1,baz=180,slow=5.8,SNR=2.6						

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.58**	**29**	Pn	P	09 12 30.4	+1.8
	0.2nm,0.3s,baz=228,slow=15,SNR=2.4						
JIRN	**Jiri**	**19.63**	**340**	*e*P	P	09 14 32.2	+6.6
	28nm,0.5s						
PKI	**Pulchoki**	**19.82**	**338**	*e*P	P	09 14 34.0	+6.2
	98nm,0.9s						
DMN	**Daman**	**19.96**	**338**	*e*P	P	09 14 36.3	+6.9
	56nm,0.7s						
KKN	**Kakani**	**20.06**	**338**	*e*P	P	09 14 37.8	+7.4
	31nm,0.7s						
GKN	**Gorkha**	**20.50**	**337**	*e*P	P	09 14 42.1	+7.1
	50nm,0.6s						
KOLN	**Koldanda**	**20.71**	**334**	*e*P	P	09 14 44.7	+7.5
	32nm,0.6s						
SONM	**Songino Array**	**40.00**	**13**	PcP	PcP	09 19 36.2	-0.4
	1.1nm,0.8s,baz=201,slow=4.0,SNR=5.2						
BVAR	**Borovoye Array**	**47.55**	**341**	P	P	09 18 29.7	-2.0
	0.5nm,0.6s,baz=141,slow=9.2,SNR=3.2						
CHKZ	**Chkalovo**	**48.03**	**342**	*e*	P	09 18 34.6	-0.8
NVAR	**Mina Array Bea**	**124.07**	**30**	PKP	PKPdf	09 28 53.9	-1.6
	0.9nm,0.8s,baz=350,slow=2.3,SNR=6.0						
PDAR	**Pinedale Array**	**124.14**	**20**	PKP	PKPdf	09 28 52.5	-3.0
	0.7nm,0.8s,baz=297,slow=2.0,SNR=6.9						
TXAR	**Lajitas Array**	**138.25**	**23**	PKiKP	PKPdf	09 29 22.0	-0.4
	0.4nm,0.6s,baz=106,slow=0.6,SNR=5.8						

*IDC **24** 09:22:38.7±36.0, 4.97N×123.40E, mb4.0/3, mb1 4.1/3, mb1mx3.7/18, mbtmp4.0/3, Error ellipse: s-maj=606.6km s-min=202.9km az=154.0*

ISC 24 09:22:48.8±0.6, 6.6N±0.1×125.9E±0.1, h170km±9km, n9, σ0§66/13, mb3.8/4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MATI	**Mati**	**0.53**	**49**	*e*P	**P**	**09 23 13.6**	**+0.6**
MATI				*e*S	**S**	**09 23 30.9**	**-0.7**
KCP	**Kidapawan**	**0.86**	**299**	‖*i*P	**P**	**09 23 15.1**	**+0.4**
KCP				*i* S	**S**	**09 23 35.0**	**+0.3**
BUKP	**Musuan**	**1.50**	**329**	*e*P	**P**	**09 23 20.9**	**+0.5**
BUKP				*e*S	**S**	**09 23 43.5**	**-1.1**
BIPH	**Bislig**	**1.66**	**18**	‖*i*P	**P**	**09 23 22.8**	**+0.9**
BIPH				*i* S	**S**	**09 23 47.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**24.54**	**180**	*e*P	**P**	**09 27 54.6**	**+0.3**
	4.6nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**27.66**	**163**	P	**P**	**09 28 22.2**	**-0.9**
	0.4nm,0.5s,mb3.4,baz=334,slow=11,SNR=12						
ASPA	**Alice Springs**	**31.08**	**166**	*e*P	**P**	**09 28 52.9**	**-0.5**
ASAR	**Alice Springs**	**31.08**	**166**	P	**P**	**09 28 52.9**	**-0.5**
	1.1nm,0.4s,mb4.0,baz=338,slow=7.4,SNR=25						
STKA	**Stephens Creek**	**41.10**	**159**	P	**P**	**09 30 18.6**	**+1.0**
	1.3nm,0.4s,mb4.0,baz=337,slow=7.9,SNR=8.5						

*CSEM **24** 09:33:30.1±0.2, 37.16N×28.18E, h10km, MD3.2, Error ellipse: s-maj=7.1km s-min=3.5km az=32.0*
*ISK **24** 09:33:30.1, 37.15N×28.18E, h11km, MD3.2*

ISC 24 09:33:28.7±1.1, 36.93N±0.06×27.99E±0.05, h2km±9km, n11, σ1§14/16, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.40**	**335**	*i* PG	**Pg**	**09 33 36.9**	**+0.2**
MLSB				*i* SG	**Sg**	**09 33 43.4**	**+1.4**
BDRM	**Kayabasi**	**0.45**	**287**	*i* P	**Pg**	**09 33 37.7**	**-0.1**
BDRM				*i* S	**Sg**	**09 33 44.0**	**+0.2**
AYDN	**Tasoluk**	**0.73**	**353**	*i* P	**Pg**	**09 33 42.9**	**-0.4**
AYDN				*i* S	**Sg**	**09 33 52.0**	**-1.1**
FETY	**Fethiye**	**0.93**	**108**	PG	**Pg**	**09 33 47.9**	**+0.6**
DNZL	**Cakiroluk**	**1.14**	**48**	*i* P	**Pb**	**09 33 51.4**	**+0.6**
DNZL				*i* S	**Sb**	**09 34 06.6**	**+0.8**
DENT	**Denizli**	**1.17**	**45**	PG	**Pg**	**09 33 48.0**	**-4.1**
IZM	**Izmir**	**1.57**	**339**	*e*PN	**Pn**	**09 33 56.4**	**-1.4**
KDAG	**Bornova**	**1.57**	**339**	*i* P	**Pn**	**09 33 56.5**	**-1.3**
KDAG				*i* S	**Sb**	**09 34 20.4**	**+1.8**
BLCB	**Balcova**	**1.63**	**333**	*e*PN	**Pn**	**09 33 58.0**	**-0.7**
AKS	**Akhisar**	**1.95**	**356**	*e*PN	**Pn**	**09 34 01.6**	**-1.6**
APE	**Apeiranthos**	**1.97**	**275**	*e*PN	**Pn**	**09 34 06.7**	**+3.2**

*TEH **24** 09:40:10.2, 32.73N×44.99E, h10km, Mn4.0*
*CSEM **24** 09:40:10.2, 32.73N×44.99E, h10km, ML4.0, After TEH*
*IDC **24** 09:40:21.7±2.9, 33.82N×45.98E, mb3.8/6, mb1 4.0/8, mb1mx3.8/18, mbtmp3.8/8, ML3.4/1, Error ellipse: s-maj=67.5km s-min=23.3km az=163.0*
*NEIC **24** 09:40:31.4±1.8, 34.20N×45.41E, h70km±12km, mb3.8/3, Error ellipse: s-maj=23.9km s-min=9.6km az=157.0*

ISC 24 09:40:14.8±1.7, 32.94N±0.09×45.54E±0.05, h8km±10km, n30, σ1§19/35, mb3.9/11, Iraq

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BHD	**Baghdad**	**1.03**	**289**	*i* Pb	**Sg**	**09 40 43.0**	**-6.2**
IGHG	**Ghaleghazi**	**1.63**	**31**	Pn	**Pn**	**09 40 43.6**	**-0.5**
IDHR	**Dehrash**	**1.89**	**22**	Pn	**Pn**	**09 40 48.0**	**+0.2**
IVIS	**Veys**	**1.92**	**34**	Pn	**Pn**	**09 40 48.4**	**+0.2**
IKOM	**Komasi**	**2.06**	**53**	Pn	**Pn**	**09 40 51.6**	**+1.4**
MSL	**Mosul**	**3.91**	**330**	*e*Pn	**Pn**	**09 41 20.5**	**+4.0**
MSL				*e*Pg	**Pg**	**09 41 34.0**	**+1.2**
MSL				*i* Sn	**Sn**	**09 42 02.5**	**-0.7**
MSL				*i* Sg	**Sg**	**09 42 19.5**	**-5.4**
IRAZ	**Razeghan**	**4.39**	**55**	Pn	**Pn**	**09 41 23.4**	**0.0**
IRAZ				Sn	**Sn**	**09 42 17.3**	**+1.9**
IGZV	**Gazvin**	**5.16**	**47**	Pn	**Pn**	**09 41 37.6**	**+3.3**
IGZV				Sn	**Sn**	**09 42 34.9**	**0.0**
IDMV	**Damavand**	**5.98**	**62**	Pn	**Pn**	**09 41 44.4**	**-1.5**
IFIR	**Firoozkooh**	**6.55**	**64**	Pn	**Pn**	**09 41 52.4**	**-1.5**
GNI	**Garni**	**7.23**	**355**	Pn	**Pn**	**09 42 07.9**	**+4.5**
	0.2nm,0.3s,baz=159,slow=18,SNR=3.1						
GNI	**Garni**	**7.23**	**355**	P	**Pn**	**09 41 57.9**	**-5.4**
ASF	**Jabal al Asfar**	**7.34**	**266**	Pn	**Pn**	**09 42 17.2**	**+12**
	0.5nm,0.3s,baz=51,slow=12,SNR=2.0						
ASF				Lg		09 44 31.6	
	1.7nm,0.3s,baz=281,slow=23,SNR=4.4						
MALT	**Malatya**	**7.89**	**315**	Pn	**Pn**	**09 42 10.4**	**-2.3**
AKASG	**Malin Array Be**	**21.43**	**331**	P	**P**	**09 45 04.3**	**-1.1**
	1.9nm,0.3s,mb3.8,baz=140,slow=9.6,SNR=21						
BRVK	**Borovoye**	**26.82**	**34**	P	**P**	**09 45 56.8**	**-0.4**
	2.3nm,0.8s,mb3.8						
BVAR	**Borovoye Array**	**26.85**	**34**	P	**P**	**09 45 55.8**	**-1.7**
	0.4nm,0.5s,mb3.2,baz=214,slow=10,SNR=4.1						
CHKZ	**Chkalovo**	**27.36**	**33**	*e*P	**P**	**09 45 60.0**	**-2.2**
	0.4nm,0.4s,mb3.3						
SBF	**Sospel**	**31.54**	**301**	*e*P	**P**	**09 46 40.1**	**+0.5**
MBDF	**Montbardon**	**32.13**	**303**	*e*P	**P**	**09 46 44.9**	**+0.1**
	14nm,0.7s,mb4.6						
LPG	**La Plagne**	**32.26**	**304**	*e*P	**P**	**09 46 46.6**	**+0.7**
LPL	**La Plagne**	**32.27**	**304**	*e*P	**P**	**09 46 46.3**	**+0.3**
CABF	**La Chapelle**	**32.90**	**306**	*e*P	**P**	**09 46 52.0**	**+0.5**
	22nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**34.43**	**306**	*e*P	**P**	**09 47 04.9**	**+0.1**
	16nm,0.9s,mb4.7						
ZAL	**Zalesovo**	**34.77**	**41**	P	**P**	**09 47 06.5**	**-1.1**
	1.0nm,0.3s,mb4.2,baz=220,slow=8.2,SNR=6.4						
ZAL	**Zalesovo**	**34.77**	**41**	P	**P**	**09 47 06.5**	**-1.1**
ARCES	**ARCESS Array B**	**38.33**	**349**	P	**P**	**09 47 38.0**	**+0.5**
	3.9nm,0.8s,mb4.2,baz=172,slow=6.4,SNR=4.0						
ILAR	**Eielson Array**	**82.13**	**5**	P	**P**	**09 52 38.5**	**+1.6**
	0.4nm,0.9s,mb3.4,baz=332,slow=3.8,SNR=6.6						
YKA	**Yellowknife Ar**	**83.57**	**351**	P	**P**	**09 52 46.3**	**+2.1**
	0.4nm,0.8s,mb3.6,baz=18,slow=5.6,SNR=8.6						
YKA	**Yellowknife Ar**	**83.57**	**351**	P	**P**	**09 52 46.3**	**+2.1**

*IDC **24** 09:42:39.1±5.1, 33.15N×45.77E, mb3.6/6, mb1 3.8/6, mb1mx3.6/16, mbtmp3.6/6, Error ellipse: s-maj=108.4km s-min=44.2km az=9.0*

ISC 24 09:42:41.9±0.9, 33.55N±0.07×45.94E±0.07, h10km, n9, σ1§06/11, mb3.5/6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BHD	**Baghdad**	**1.33**	**258**	*i* Pb	**Pb**	**09 43 05.0**	**-1.5**
BHD				*i* Sb	**Sb**	**09 43 24.5**	**+1.0**
MSL	**Mosul**	**3.59**	**320**	*e*Pn	**Pn**	**09 43 40.0**	**+1.1**
MSL				*i* Sn	**Sn**	**09 44 23.0**	**+1.1**
MSL				*i* Sg	**Sg**	**09 44 40.5**	**-1.1**
ASF	**Jabal al Asfar**	**7.73**	**262**	Lg		09 46 54.2	
	0.9nm,0.3s,baz=143,slow=22,SNR=2.5						
AKASG	**Malin Array Be**	**21.07**	**329**	P	**P**	**09 47 26.6**	**-1.8**
	1.7nm,0.3s,mb3.8,baz=140,slow=11,SNR=9.3						
BVAR	**Borovoye Array**	**26.16**	**35**	P	**P**	**09 48 18.5**	**+0.7**
	1.0nm,0.9s,mb3.3,baz=225,slow=10,SNR=2.1						
ZAL	**Zalesovo**	**34.09**	**41**	P	**P**	**09 49 28.2**	**-0.3**
	0.7nm,0.8s,mb3.7,baz=195,slow=9.3,SNR=3.6						
ARCES	**ARCESS Array B**	**37.80**	**348**	P	**P**	**09 50 01.0**	**+1.3**
	1.2nm,0.7s,mb3.7,baz=165,slow=10,SNR=2.7						
ILAR	**Eielson Array**	**81.49**	**6**	P	**P**	**09 54 60.0**	**-0.3**
	0.4nm,0.8s,mb3.4,baz=334,slow=4.9,SNR=5.7						
YKA	**Yellowknife Ar**	**83.01**	**351**	P	**P**	**09 55 07.8**	**-0.4**
	0.2nm,0.6s,mb3.3,baz=13,slow=5.9,SNR=5.0						

*NEIC **24** 09:43:57.0, 17.53S×122.59E, h10km, ML3.8(AUST), After AUST.*

AUST 24 09:43:58.0, 17.53S×122.59E, h10km, ML3.8, Western Australia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**2.96**	**102**	*e*P	Pn	09 44 43.7	-2.3
FITZ				*e*S	Sn	09 45 17.6	-4.4
	38nm,0.3s						
MBWA	**Marble Bar**	**4.51**	**216**	*e*Pn	Pn	09 44 58.5	-9.4
MBWA				*e*Sn	Sn	09 45 43.4	-18
KNA	**Kununurra**	**6.18**	**74**	*e*P	Pn	09 45 26.4	-5.2
KNA				*e*S	Sn	09 46 32.5	-11
KAKA	**Kakadu**	**10.65**	**65**	*e*P	P	09 46 30.5	-3.3
KAKA				*e*S	S	09 48 18.4	-16
	7.1nm,0.4s						
KAKA	**Kakadu**	**10.65**	**65**	*e*P	P	09 46 30.5	-3.3
	7.1nm,0.4s						
KAKA				*e*S	S	09 48 18.4	-16
NWAO	**Narrogin (SRO)**	**16.07**	**196**	P	P	09 47 41.4	-4.3

*IDC **24** 09:57:25.8±4.6, 31.37N×51.00E, mb3.8/8, mb1 4.0/9, mb1mx3.8/20, mbtmp3.8/9, ML2.9/1, MS3.0/2, Ms1 3.1/2, ms1mx2.7/22, Error ellipse: s-maj=102.6km s-min=28.5km az=6.0*
*THR **24** 09:57:28.3±0.8, 31.63N×51.11E, h14km±7km, ML3.7*
*CSEM **24** 09:57:29.4±0.1, 31.51N×51.03E, h20km, ML3.7, Error ellipse: s-maj=3.2km s-min=1.9km az=24.0*
*TEH **24** 09:57:32.8, 31.70N×51.13E, h5km, Mn3.6*
*NEIC **24** 09:57:33.5±6.0, 31.42N×50.92E, h55km±39km, mb3.9/3, Error ellipse: s-maj=67.1km s-min=15.8km az=176.0*

ISC 24 09:57:27.2±0.5, 31.53N±0.06×50.93E±0.05, h5km, n37, σ1§12/36, mb3.7/11, MS3.0/2, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
IBRJ	**Borojen**	**0.37**	**50**	Pg	**Pg**	**09 57 35.2**	**+0.5**
SHGO	**Shushtar**	**1.90**	**288**	*e*PG	**Pg**	**09 58 05.0**	**-0.2**
SHGR	**Shooshtar-Gavs**	**1.90**	**288**	*e*PG	**Pg**	**09 58 05.0**	**-0.2**
SHGR				AML	AML	09 58 45.7	
	comp=N,738nm,0.7s						
NASN	**Na'in**	**2.04**	**51**	*e*PG	**Pn**	**09 58 02.3**	**-0.3**
NASN				*e*SG	**Sn**	**09 58 27.0**	**-1.8**
NASN	**Na'in**	**2.04**	**51**	*e*Sg	**Sn**	**09 58 27.0**	**-1.7**
	SNR=90						
SHI	**Shiraz**	**2.32**	**144**	Pn	**Pn**	**09 58 12.0**	**+5.3**
ISAD	**Sadrabad**	**2.38**	**80**	Pn	**Pn**	**09 58 09.5**	**+2.0**
QAM	**Qamsar**	**2.48**	**17**	Pn	**Pn**	**09 58 09.0**	**+0.1**
IMOK	**Mook**	**2.92**	**148**	Pn	**Pn**	**09 58 20.5**	**+5.3**
ICHK	**Chekchek**	**3.04**	**76**	Pn	**Pn**	**09 58 17.8**	**+0.8**
IMEH	**Mehriz**	**3.15**	**92**	Pn	**Pn**	**09 58 21.0**	**+2.5**
GHIR	**Ghir-Karzin**	**3.69**	**151**	*e*PN	**Pn**	**09 58 27.4**	**+1.2**
GHIR				AML	AML	09 59 42.2	
	comp=N,110nm,0.5s						
IRAZ	**Razeghan**	**3.96**	**348**	Pn	**Pn**	**09 58 31.8**	**+1.8**
IRAZ	**Razeghan**	**3.96**	**348**	Lg		09 59 32.1	
IDMV	**Damavand**	**4.14**	**13**	Pn	**Pn**	**09 58 33.4**	**+0.8**
IMHD	**Mahdasht**	**4.15**	**357**	Pn	**Pn**	**09 58 34.1**	**+1.3**
DAMV	**Damavand**	**4.18**	**12**	*e*PN	**Pn**	**09 58 32.9**	**-0.3**
IFIR	**Firoozkooh**	**4.38**	**20**	Pn	**Pn**	**09 58 37.0**	**+1.0**
SNGE	**Sanandaj**	**4.65**	**321**	*e*PN	**Pn**	**09 58 40.6**	**+0.7**
SNGE				AML	AML	10 00 26.3	
	comp=N,55nm,0.7s						
IGZV	**Gazvin**	**4.88**	**353**	Pn	**Pb**	**09 58 59.9**	**+6.8**
KRBR	**Kerman**	**5.25**	**106**	*e*PN	**Pn**	**09 58 47.6**	**-0.7**
KRBR				AML	AML	10 00 26.1	
	comp=N,32nm,0.6s						
BNDS	**Bandar-Abbas**	**6.15**	**131**	*e*PN	**Pn**	**09 59 00.1**	**-0.9**
BNDS				AML	AML	10 00 25.5	
	comp=N,28nm,0.7s						
BRTR	**Keskin Array B**	**16.25**	**305**	Pn	**P**	**10 01 18.7**	**+0.9**
	comp=N,0.1nm,0.3s,baz=125,slow=18,SNR=8.2						
MLR	**Muntele Rosu**	**23.89**	**313**	P	**P**	**10 02 43.7**	**+1.2**
	comp=N,2.2nm,0.6s,mb3.7,baz=147,slow=5.1,SNR=7.3						
AKASG	**Malin Array Be**	**25.02**	**326**	P	**P**	**10 02 52.4**	**-1.1**
	comp=N,1.7nm,0.5s,mb3.9,baz=134,slow=9.0,SNR=20						
BRVK	**Borovoye**	**25.69**	**27**	*e*P	**P**	**10 02 59.4**	**-0.2**
	comp=N,7.7nm,1.4s,mb4.0						
BVAR	**Borovoye Array**	**25.70**	**28**	P	**P**	**10 02 58.5**	**-1.3**
	comp=N,1.4nm,0.7s,mb3.6,baz=207,slow=6.6,SNR=7.8						
CHKZ	**Chkalovo**	**26.29**	**27**	P	**P**	**10 03 05.3**	**+0.1**
	comp=N,0.7nm,0.7s,mb3.3						
KURK	**Kurchatov**	**28.07**	**39**	*e*P	**P**	**10 03 20.3**	**-1.2**
	comp=N,4.4nm,0.8s,mb4.1						
NOA	**NORSAR Array B**	**39.26**	**331**	P	**P**	**10 04 56.2**	**-2.1**
	comp=N,1.8nm,0.9s,mb3.8,baz=122,slow=8.3,SNR=3.5						
NOA				LR	LR	10 22 00.8	
	comp=N,32nm,18.9s,MS3.2,baz=90,slow=37						
NOA	**NORSAR Array B**	**39.26**	**331**	P	**P**	**10 04 56.2**	**-2.1**
NOA				LR	LR	10 22 00.8	
ARCES	**ARCESS Array B**	**40.68**	**347**	P	**P**	**10 05 09.5**	**-0.4**
	comp=N,1.5nm,0.7s,mb3.7,baz=142,slow=10,SNR=3.8						
SONM	**Songino Array**	**44.71**	**52**	P	**P**	**10 05 41.9**	**-1.1**
	comp=N,0.6nm,0.9s,mb3.4,baz=270,slow=9.9,SNR=4.6						
JNU	**Nakatsue**	**65.92**	**65**	LR	LR	10 38 31.7	
	comp=N,8.1nm,21.4s,MS2.9,baz=151,slow=37						
ILAR	**Eielson Array**	**83.01**	**8**	P	**P**	**10 09 52.5**	**-1.9**
	comp=N,0.4nm,1.0s,mb3.4,baz=330,slow=5.2,SNR=4.1						
YKA	**Yellowknife Ar**	**85.59**	**353**	P	**P**	**10 10 06.5**	**-0.8**
	comp=N,0.5nm,0.8s,mb3.8,baz=12,slow=5.4,SNR=8.7						
YKA	**Yellowknife Ar**	**85.59**	**353**	P	**P**	**10 10 06.5**	**-0.8**

*THE **24** 10:10:42.0, 38.81N×25.69E, h10km, ML3.5*
*ATH **24** 10:10:41.7, 38.88N×25.52E, h12km±4km, MD3.5/11, ML3.5*
*CSEM **24** 10:10:41.7±0.1, 38.77N×25.70E, h5km, ML3.5, Error ellipse: s-maj=2.0km s-min=1.5km az=167.0*
*NEIC **24** 10:10:41.7, 38.88N×25.52E, h12km, ML3.5(ATH), After ATH.*
*ISK **24** 10:10:42.6, 38.78N×25.47E, h34km, ML3.6*

ISC 24 10:10:41.5±0.3, 38.80N±0.03×25.59E±0.03, h5km, n42, σ0§93/54, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.70**	**50**	*e*PB	**Pb**	**10 10 55.0**	**-0.7**
AYVA	**Ayvalik**	**1.00**	**59**	*i* P	**Pb**	**10 11 00.7**	**-0.2**
AYVA				*i* S	**Sb**	**10 11 15.2**	**+1.1**
BOZC	**Bozcaada**	**1.10**	**19**	*i* P	**Pb**	**10 11 02.4**	**-0.3**
BOZC				*i* S	**Sb**	**10 11 16.5**	**-0.7**
EZN	**Ezine**	**1.18**	**29**	PN	**Pn**	**10 11 04.0**	**-0.5**
LOS	**Limnos**	**1.20**	**341**	*e*Pb	**Pb**	**10 11 05.1**	**+0.7**
LOS				*e*Sb	**Sb**	**10 11 22.0**	**+2.0**
BLCB	**Balcova**	**1.21**	**109**	PN	**Pn**	**10 11 04.3**	**-0.7**
BLCB				SN	**Sn**	**10 11 21.8**	**-0.2**
IZM	**Izmir**	**1.37**	**106**	PN	**Pn**	**10 11 07.1**	**-0.2**
KDAG	**Bornova**	**1.37**	**106**	*i* P	**Pb**	**10 11 07.3**	**0.0**
KDAG				*i* S	**Sb**	**10 11 28.2**	**+3.2**
AOS	**Alonnisos**	**1.38**	**286**	*e*Pb	**Pb**	**10 11 08.3**	**+0.8**
AOS				*e*Sb	**Sb**	**10 11 29.3**	**+4.0**
SMG	**Samos**	**1.47**	**137**	*e*PB	**Pb**	**10 11 11.0**	**+2.1**
PTL	**Penteli**	**1.55**	**242**	*e*PB	**Pb**	**10 11 10.0**	**-0.3**
MPAR	**Parnis Oros**	**1.59**	**247**	*e*PB	**Pb**	**10 11 12.0**	**+1.0**
CANB	**Canakkale**	**1.67**	**43**	PN	**Pn**	**10 11 12.3**	**+0.7**
ATH	**Athens Observa**	**1.69**	**241**	*e*PG	**Pg**	**10 11 14.5**	**-0.7**
APE	**Apeiranthos**	**1.73**	**182**	PN	**Pn**	**10 11 11.1**	**-1.3**
APE	**Apeiranthos**	**1.73**	**182**	*e*PN	**Pn**	**10 11 12.0**	**-0.4**
APE				*e*SN	**Sn**	**10 11 38.5**	**+3.4**
AKS	**Akhisar**	**1.74**	**87**	PN	**Pn**	**10 11 12.5**	**-0.1**
NSAL	**Nisos Salamina**	**1.89**	**243**	*e*PG	**Pg**	**10 11 17.5**	**-1.8**
NEO	**Neokhori**	**1.91**	**286**	*e*PN	**Pn**	**10 11 15.0**	**-0.1**
XOR	**Xorichti**	**1.95**	**288**	*e*Pn	**Pn**	**10 11 15.6**	**0.0**
NAIG	**Nisos Aigina**	**1.95**	**239**	*e*PG	**Pg**	**10 11 18.0**	**-2.5**
BALB	**Balikesir**	**1.97**	**64**	*e*PN	**Pn**	**10 11 15.5**	**-0.4**
OUR	**Ouranopolis**	**1.98**	**322**	*e*Pn	**Pn**	**10 11 15.7**	**-0.3**
MGER	**Gerania Oros**	**2.00**	**247**	*e*PN	**Pn**	**10 11 17.0**	**+0.7**
BTOK	**Tokmak**	**2.13**	**62**	*i* P	**Pn**	**10 11 23.1**	**+5.0**
BTOK				*i* S	**Sn**	**10 11 57.4**	**+12**
ALN	**Alexandroupoli**	**2.13**	**9**	*e*Pn	**Pn**	**10 11 17.3**	**-0.9**
AYDN	**Tasoluk**	**2.13**	**121**	*i* P	**Pn**	**10 11 17.4**	**-0.8**
AYDN				*i* S	**Sn**	**10 11 50.9**	**+5.6**
BDRM	**Kayabasi**	**2.27**	**139**	*i* P	**Pn**	**10 11 20.2**	**+0.1**
BDRM				*i* S	**Sn**	**10 11 54.6**	**+5.8**
EDC	**Edincik**	**2.34**	**48**	*e*PN	**Pn**	**10 11 20.4**	**-0.8**
MANT	**Manisa**	**2.34**	**97**	*i* P	**Pn**	**10 11 25.8**	**+4.5**
MANT				*i* S	**Sn**	**10 11 56.0**	**+5.2**
MFT	**Murefte**	**2.38**	**33**	*e*PN	**Pn**	**10 11 21.3**	**-0.4**
MRMT	**Marmara Adasi**	**2.38**	**40**	*e*PN	**Pn**	**10 11 22.2**	**+0.5**
BNT	**Bandirma**	**2.38**	**48**	PN	**Pn**	**10 11 20.9**	**-0.9**
AGG	**Agios Georgios**	**2.55**	**276**	*e*Pn	**Pn**	**10 11 25.0**	**+0.8**
KCT	**Karacabey**	**2.59**	**55**	PN	**Pn**	**10 11 24.6**	**-0.2**
LIT	**Litokhoron**	**2.73**	**299**	*e*Pn	**Pn**	**10 11 27.1**	**+0.3**
VLI	**Velial**	**2.95**	**226**	*e*PN	**Pn**	**10 11 30.0**	**0.0**
ULDT	**Uludag**	**3.06**	**63**	*i* P	**Pn**	**10 11 38.4**	**+6.9**
ULDT				*i* S	**Sn**	**10 12 20.9**	**+12**
KNT	**Kendrikon**	**3.14**	**320**	*e*Pn	**Pn**	**10 11 32.8**	**+0.2**
EDRB	**Edirne**	**3.17**	**16**	*e*PN	**Pn**	**10 11 32.6**	**-0.5**
GRG	**Griva**	**3.27**	**312**	*e*Pn	**Pn**	**10 11 35.0**	**+0.5**
YLV	**Yalova**	**3.41**	**58**	*e*PN	**Pn**	**10 11 36.6**	**+0.1**

*CASC **24** 10:14:18.4±2.3, 14.45N×91.70W, MD4.3, ML3.8, mb4.0(NEIC)*
*NEIC **24** 10:14:21.2±1.6, 14.49N×91.89W, h83km±9km, mb4.0/8, Error ellipse: s-maj=21.2km s-min=9.2km az=204.0*
*IDC **24** 10:14:23.1±7.8, 14.73N×91.68W, h90km±59km, mb3.6/6, mb1 3.9/7, mb1mx3.6/19, mbtmp3.9/7, ML3.9/1, MS3.4/2, Ms1 3.4/2, ms1mx2.6/23, Error ellipse: s-maj=104.1km s-min=22.7km az=37.0*

ISC 24 10:14:17.4±0.8, 14.31N±0.09×92.04W±0.07, h70km±7km, n49, σ0§88/58, mb3.9/13, 1C-2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.96**	**357**	*i* P	**P**	**10 14 50.9**	**+1.7**
CCIG				*i* S	**S**	**10 15 20.6**	**+8.0**
RBDL	**Robledal**	**2.29**	**95**	‖*e*P	**P**	**10 14 54.2**	**+0.3**
RBDL				*e*S	**S**	**10 15 21.7**	**+0.8**
RTR	**El Retiro**	**2.36**	**100**	‖*e*P	**P**	**10 14 55.0**	**+0.2**
RTR				*e*S	**S**	**10 15 22.9**	**+0.3**
SBLS	**San Blas**	**2.39**	**101**	*e*P	**P**	**10 14 54.3**	**-1.0**
SBLS				*e*S	**S**	**10 15 23.8**	**+0.4**
SNJE	**San Jose**	**2.40**	**100**	*e*P	**P**	**10 14 54.1**	**-1.3**
SNJE				*e*S	**S**	**10 15 22.9**	**-0.8**
BOQS	**Boqueron**	**2.74**	**102**	*e*P	**P**	**10 14 59.6**	**-0.6**
BOQS				*e*S	**S**	**10 15 31.9**	**-0.2**
LFRS	**El Faro**	**2.97**	**103**	*e*P	**P**	**10 15 02.2**	**-1.2**
LFRS				*e*S	**S**	**10 15 39.0**	**+1.0**
LCBS	**La Ceiba**	**3.04**	**102**	*e*P	**P**	**10 15 03.1**	**-1.3**
SNVI	**San Vicente**	**3.19**	**102**	‖*e*P	**P**	**10 15 06.5**	**0.0**
CMIG	**Matias Romero**	**3.89**	**316**	*e*P	**P**	**10 15 10.7**	**-5.5**
CMIG				*i* S	**S**	**10 15 59.0**	**-1.9**
EVV	**El Vigia**	**5.20**	**323**	*e*P	**P**	**10 15 35.0**	**+0.6**
EVV				*i* S	**S**	**10 16 35.0**	**+1.3**
OXX	**Oaxaca**	**5.28**	**302**	*i* P	**P**	**10 15 35.0**	**-0.5**
OXX				*i* S	**S**	**10 16 24.0**	**-12**
VHO	**Vista Hermosa**	**5.29**	**302**	*e*P	**P**	**10 15 28.4**	**-7.2**
VHO				*i* S	**S**	**10 16 29.4**	**-6.5**
TEL3	**Telica 3**	**5.34**	**108**	*e*P	**P**	**10 15 36.6**	**+0.2**
TEL3				*i*		10 17 04.5	
	comp=Z,184n

JIRN	Jiri	22.50	344	eP		P	10 20 00.9	+0.1
	comp=N,41nm,0.8s,mb4.9							
PKI	Pulchoki	22.64	343	eP		P	10 20 02.8	+0.6
DMN	Daman	22.77	342	eP		P	10 20 05.7	+2.3
	comp=N,62nm,0.8s,mb5.1							
GKN	Gorkha	23.28	341	eP		P	10 20 08.6	+0.2
	comp=N,48nm,0.6s,mb5.1							
KOLN	Koldanda	23.42	339	eP		P	10 20 10.6	+0.9
	comp=N,26nm,0.6s,mb4.8							
LSA	Lhasa	23.67	356	eP		P	10 20 10.8	-1.4
LSA	Lhasa	23.67	356	eP		P	10 20 12.3	+0.1
	comp=N,3.7nm,0.4s,mb4.2							
XAN	Xi'an	31.66	26	P		P	10 21 25.0	-0.2
XAN				AMB		AMB		
	comp=Z,8.0nm,0.8s,mb4.6							
JOW	Kunigami	39.58	54	LR		LR	10 40 23.2	
	comp=Z,55nm,20.1s,MS3.4,baz=3.0,slow=38							
BJT	Baijiatuau	39.86	28	eP		P	10 22 34.5	-0.3
	comp=Z,7.4nm,0.4s,mb4.8							
AAK	Ala-Archa	39.99	339	eP		P	10 22 35.8	-0.2
	comp=Z,7.6nm,1.2s,mb4.3							
SONM	Songino Array	43.30	13	P		P	10 23 04.0	+1.0
	comp=Z,0.7nm,0.9s,mb3.4,baz=194,slow=5.1,SNR=4.0							
KURK	Kurchatov	46.18	347	eP		P	10 23 25.4	-0.6
	comp=Z,5.9nm,1.3s,mb4.4							
WRA	Warramunga Arr	48.22	123	P		P	10 23 42.3	-0.2
	comp=Z,2.2nm,0.5s,mb4.4,baz=303,slow=9.0,SNR=21							
WRAB	Tennant Creek	48.22	123	eP		P	10 23 42.5	0.0
	comp=Z,5.7nm,0.5s,mb4.9							
ZAL	Zalesovo	48.29	354	P		P	10 23 42.4	-0.1
	comp=Z,3.1nm,0.5s,mb4.6,baz=306,slow=5.6,SNR=14							
ZAL				LR		LR	10 45 30.7	
	comp=Z,50nm,18.8s,MS3.5,baz=97,slow=38							
ASAR	Alice Springs	49.70	128	P		P	10 23 53.8	0.0
	comp=Z,1.8nm,0.4s,mb4.4,baz=301,slow=8.1,SNR=23							
BVAR	Borovoye Array	50.41	343	P		P	10 23 57.4	-1.4
	comp=Z,0.5nm,0.6s,mb3.7,baz=242,slow=38,SNR=4.1							
CHKZ	Chkalovo	50.91	343	eP		P	10 24 01.7	-0.9
	comp=Z,2.1nm,0.8s,mb4.1							
KMBO	Kilima Mbogo	55.98	265	LR		LR	10 44 09.2	
	comp=Z,57nm,19.1s,MS3.7,baz=99,slow=32							
EIL	Elat	59.30	301	LR		LR	10 49 07.8	
	comp=Z,32nm,19.1s,MS3.5,baz=294,slow=35							
BRTR	Keskin Array B	62.74	312	P		P	10 25 24.8	-2.2
	comp=Z,0.7nm,0.6s,mb4.0,baz=117,slow=3.2,SNR=3.0							
FINES	FINESS Array B	73.82	333	P		P	10 26 34.9	-0.6
	comp=Z,2.4nm,1.1s,mb4.1,baz=186,slow=36,SNR=2.4							
FINES				LR		LR	11 04 06.5	
	comp=Z,41nm,18.1s,MS3.8,baz=172,slow=40							
ARCES	ARCESS Array B	76.64	341	P		P	10 26 51.2	-0.3
	comp=Z,2.5nm,1.1s,mb4.1,baz=121,slow=38,SNR=2.4							
GERES	GERESS Array B	78.42	319	P		P	10 27 03.2	+1.5
	comp=Z,1.1nm,0.8s,mb3.9,baz=117,slow=6.0,SNR=3.9							
TXAR	Lajitas Array	141.48	24	PKiKP			10 34 36.5	
	comp=Z,0.2nm,0.6s,SNR=3.0							

*NEIC **24** 10:15:28.7, 38.88N×25.52E, h15km, MD3.4(ATH), After ATH.*
*ATH **24** 10:15:29.1, 38.90N×25.53E, h19km±6km, MD3.4/8, ML3.4*
*CSEM **24** 10:15:29.9±0.1, 38.84N×25.68E, h15km, ML3.4, Error ellipse: s-maj=3.5km s-min=2.2km az=142.0*
*ISK **24** 10:15:30.0, 38.84N×25.51E, h32km, MD3.4*

ISC 24 10:15:29.7±0.4, 38.92N±0.04×25.53E±0.04, h15km, n30, σ1°06/38, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.66	60	eP		Pb	10 15 42.2	-0.2
PRK	Paraskevi	0.66	60	ePn		Pb	10 15 42.0	-0.4
AYVA	Ayvalik	0.98	66	iP		Pb	10 15 48.0	+0.1
AYVA				iS		Sb	10 16 01.7	+1.2
EZN	Ezine	1.10	34	iPN		Pn	10 15 50.1	-0.4
BLCB	Balcova	1.29	114	PN		Pn	10 15 52.6	-0.7
BLCB				SN		Sn	10 16 08.3	-2.1
IZM	Izmir	1.45	110	iPN		Pn	10 15 54.3	-1.2
KDAG	Bornova	1.45	110	iP		Pn	10 15 55.0	-0.5
KDAG				iS		Sb	10 16 15.2	+1.2
PTL	Penteli	1.57	237	ePN		Pn	10 15 58.0	+0.8
SMG	Samos	1.58	139	ePN		Pn	10 15 59.0	+1.6
MPAR	Parnis Oros	1.60	242	ePN		Pn	10 15 58.0	+0.3
CANB	Canakkale	1.62	47	ePN		Pn	10 15 58.2	+0.3
ATH	Athens Observa	1.71	237	ePN		Pn	10 16 00.0	+0.8
AKS	Akhisar	1.78	90	ePN		Pn	10 15 59.2	-1.1
APE	Apeiranthos	1.84	180	ePN		Pn	10 15 59.1	-2.1
APE	Apeiranthos	1.84	180	ePb		Pb	10 16 00.5	-2.1
NSAL	Nisos Salamina	1.91	239	ePN		Pn	10 16 03.5	+1.3
BALB	Balikesir	1.96	68	ePN		Pn	10 16 03.4	+0.6
NAIG	Nisos Aigina	1.98	235	ePN		Pn	10 16 04.0	+0.9
BTOK	Tokmak	2.11	66	iP		Pn	10 16 04.6	-0.5
BTOK				iS		Sn	10 16 40.8	+10
SART	Tekirdag	2.18	35	iP		Pn	10 16 06.2	+0.3
SART				iS		Sn	10 16 38.9	+6.0
RDO	Rodhopi	2.23	0	ePB		Pb	10 16 07.5	-1.7
AYDN	Tasoluk	2.23	123	iP		Pn	10 16 07.5	+0.7
AYDN				iS		Sn	10 16 35.1	+0.9
MFT	Murefte	2.30	35	ePN		Pn	10 16 08.6	+0.8
MRMT	Marmara Adasi	2.32	43	ePN		Pn	10 16 08.7	+0.7
BNT	Bandirma	2.34	51	iPN		Pn	10 16 07.6	-0.7
BDRM	Kayabasi	2.39	140	iP		Pn	10 16 03.3	-5.7
BDRM				iS		Sn	10 16 41.4	+3.3
KCT	Karacabey	2.56	57	ePN		Pn	10 16 11.8	+0.3
VLI	Veliai	3.01	224	ePn		Pn	10 16 16.8	-1.0
ULDT	Uludag	3.04	65	iP		Pn	10 16 25.4	+7.1
ULDT				iS		Sn	10 17 00.7	+5.9
YLV	Yalova	3.39	60	ePN		Pn	10 16 23.0	-0.2

IDC 24 10:31:31.3±38.0, 46.10N×145.82E, h572km±352km, mb2.6/6, mb1 2.8/6, mb1mx2.6/22, mbtmp3.5/6, Error ellipse: s-maj=296.7km s-min=29.4km az=11.0, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	40.18	38	P		P	10 38 18.1	-1.5
	0.4nm,0.6s,baz=286,slow=9.5,SNR=6.2							
INK	Inuvik	44.87	31	P		P	10 38 54.9	-1.3
	1.1nm,1.1s,baz=305,slow=5.8,SNR=6.0							
YKA	Yellowknife Ar	54.38	34	P		P	10 40 04.4	-1.9
	0.1nm,0.6s,baz=306,slow=6.9,SNR=5.5							
FINES	FINESS Array B	62.35	332	P		P	10 40 58.1	-1.7
	0.9nm,0.5s,baz=56,slow=6.9,SNR=9.9							
HFS	Hagfors	67.16	336	P		P	10 41 28.6	-1.2
	0.6nm,0.4s,baz=37,slow=7.4,SNR=4.3							
TXAR	Lajitas Array	82.11	56	P		P	10 42 52.9	-0.5
	0.1nm,0.5s,baz=297,slow=2.0,SNR=3.2							

*CSEM **24** 10:39:51.9±0.1, 44.65N×35.14E, h30km, mb3.8/1, Error ellipse: s-maj=2.2km s-min=1.8km az=6.0*
*MOS **24** 10:39:52.6±0.7, 44.76N×35.07E, h34km, mb4.1/2, Error ellipse: s-maj=9.8km s-min=8.3km az=21.2*
MOS Felt (II-III) at Alushta.
*IDC **24** 10:39:53.8±4.0, 44.72N×35.12E, h28km±31km, mb3.5/8, mb1 3.7/11, mb1mx3.6/19, mbtmp3.7/11, ML3.8/4, Error ellipse: s-maj=18.3km s-min=12.3km az=13.0*
*NEIC **24** 10:39:54.0±0.5, 44.76N×35.11E, mb3.9/2, Error ellipse: s-maj=10.3km s-min=5.7km az=170.0*
NEIC Felt [III] at Alushta.

ISC 24 10:39:52.4±0.3, 44.66N±0.03×35.11E±0.03, h36km±5km, n63, σ0°92/79, mb3.7/9, 8C-4D, Crimea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SUDU	Sudak	0.24	340	iP		P	10 39 59.3	-0.4
SUDU				eSG		S	10 40 04.0	-0.9
FEO	Feodosiya	0.41	29	⇓iP		P	10 40 02.0	+0.2
FEO				eSG		S	10 40 08.8	+0.5
FEO	Feodosiya	0.41	29	iP		P	10 40 02.0	+0.2
	37nm,0.3s							
FEO				eS		S	10 40 08.8	+0.5
	122nm,0.3s							
ALU	Alushta	0.51	272	iP		P	10 40 03.3	+0.2
ALU				iS		S	10 40 10.9	+0.2
YAL	Yalta	0.71	256	⇑eP		P	10 40 06.4	+0.5
YAL				eSG		S	10 40 16.6	+0.8
YAL	Yalta	0.71	256	eP		P	10 40 06.4	+0.5
YAL				eS		S	10 40 16.6	+0.8
SIM	Simferopol'	0.77	292	diP		P	10 40 07.4	+0.6
SIM				i			10 40 19.0	
SIM					pmax	pmax		
	comp=Z,138nm,0.7s							
SIM					smax			
	comp=E,3μm,0.6s							
SIM	Simferopol'	0.77	292	iP		P	10 40 07.4	+0.6
	comp=E,69nm,0.7s							
SIM				iS		S	10 40 19.0	+1.7
SEV	Sevastopol'	1.04	264	⇑eP		P	10 40 11.2	+0.5
SEV				eSG		S	10 40 25.4	+1.2
SEV	Sevastopol'	1.04	264	eP		P	10 40 11.2	+0.5
SEV				eS		S	10 40 25.4	+1.2
ANN	Anapa	1.66	84	⇑iP		P	10 40 19.3	-0.3
ANN				i			10 40 39.5	
ANN					pmax	pmax		
	comp=Z,23nm,0.4s							
ANN					smax			
	comp=Z,105nm,0.7s							
ANN					smax			
	comp=N,149nm,0.8s							
ANN					smax			
	comp=E,148nm,0.3s							
ANN	Anapa	1.66	84	iP		P	10 40 19.3	-0.3
	comp=E,12nm,0.4s							
ANN				iS		S	10 40 39.5	-0.4
	comp=E,74nm,0.8s							
BZK	Bozkurt	2.82	197	ePN		P	10 40 36.0	-0.2
BYBT	Boyabat	3.20	185	iPN		P	10 40 41.5	-0.1
BOYT	Boyabat	3.25	183	iP		P	10 40 43.1	+0.9
BALT	Daday	3.37	203	iP		P	10 40 45.8	+1.8
SOC	Sochi	3.49	106	eP		P	10 40 33.9	-12
SOC				e			10 41 26.6	
SOC					pmax	pmax		
	comp=Z,63nm,0.5s							
SOC					pmax	pmax		
	comp=N,145nm,0.6s							
SOC					pmax	pmax		
	comp=E,16nm,0.5s							
SOC					smax			
	comp=E,54nm,0.6s							
SOC	Sochi	3.49	106	eS		S	10 41 26.6	+0.4
TOS	Tosya	3.71	193	ePN		P	10 40 48.7	-0.2
SAFT	Safranbolu	3.86	208	ePN		P	10 40 48.7	-2.2
CTKT	Corum	4.04	183	iP		P	10 40 54.5	+1.0
ELDT	Eldivan	4.35	197	iP		P	10 40 58.1	+0.2
CORM	Corum	4.50	185	ePN		P	10 40 59.1	-0.8
TLCR		4.50	279	⇓P		P	10 41 00.4	+0.3
TLCR		4.50	279	eP		P	10 41 00.4	+0.3
	comp=E,8.5nm,0.9s							
TIRR	Tirgusor	4.79	270	⇑P		P	10 41 03.8	-0.4
TIRR	Tirgusor	4.79	270	P		P	10 41 03.8	-0.4
HENT	Hendek	4.94	220	iP		P	10 41 06.4	+0.2
CFR	Carcaliu	4.98	278	⇑P		P	10 41 06.3	-0.5
CFR	Carcaliu	4.98	278	eP		P	10 41 06.3	-0.5
	comp=E,5.5nm,0.5s							
BRTR	Keskin Array B	5.05	193	Pn		P	10 41 08.2	+0.4
	comp=E,1.2nm,0.3s,baz=30,slow=10,SNR=30							
BRTR				Sn		S	10 42 04.7	-1.1
	comp=E,1.0nm,0.3s,baz=170,slow=20,SNR=4.5							
HARR	Harsova	5.12	273	⇓P		P	10 41 09.0	+0.2
HARR	Harsova	5.12	273	P		P	10 41 09.0	+0.2
GUMT	Gumushane	5.29	141	ePN		P	10 41 10.2	-1.0
KAMT	Kaman	5.39	192	ePN		P	10 41 12.4	-0.2
KIV	Kislovodsk	5.48	95	iP		P	10 41 14.6	+0.8
KIV					pmax	pmax		
	comp=Z,12nm,1.1s							
KIV	Kislovodsk	5.48	95	iP		P	10 41 14.6	+0.8
	comp=Z,6.0nm,1.1s							
HRT	Hereke	5.55	228	eP		P	10 41 13.8	-1.0
VRI	Vrincioaia	6.04	284	⇑P		P	10 41 21.1	-0.5
VRI	Vrincioaia	6.04	284	P		P	10 41 21.1	-0.5
	comp=Z,1.0nm,0.5s							
MLR	Muntele Rosu	6.54	280	P		P	10 41 29.2	+0.4
MLR							10 42 41.4	
MLR					pmax	pmax		
	comp=Z,2.0nm,0.3s							
MLR					smax			
	comp=N,4.0nm,0.3s							
MLR	Muntele Rosu	6.54	280	Pn		P	10 41 29.2	+0.4
	comp=N,2.1nm,0.3s,baz=71,slow=2.1,SNR=36							
MLR				Sn		S	10 42 41.4	-1.6
	comp=N,4.1nm,0.3s,baz=339,slow=22,SNR=8.6							
MLR	Muntele Rosu	6.54	280	⇑P		P	10 41 29.3	+0.5
AKASG	Malin Array Be	7.23	329	P		P	10 41 35.9	-2.4
AKASG							10 42 54.4	
AKASG					pmax	pmax		
	comp=Z,6.0nm,0.3s							
AKASG					smax			
	comp=N,13nm,0.3s							
AKASG	Malin Array Be	7.23	329	Pn		P	10 41 35.9	-2.4
	comp=N,6.0nm,0.3s,baz=142,slow=14,SNR=14							
AKASG				Sn		S	10 42 54.4	-5.7
	comp=N,13nm,0.3s,baz=138,slow=25,SNR=11							
AKASG				Lg			10 43 33.8	
	comp=N,11nm,0.3s,baz=142,slow=30,SNR=6.2							
BURAR	Bucovina Array	7.48	297	⇑P		P	10 41 40.0	-1.9
LVV	L'vov	9.13	308	eP		P	10 42 05.0	+0.3
LVV				eS		S	10 43 48.8	+1.4
FINES	FINESS Array B	17.63	346	Pn		P	10 43 51.3	-5.3
	comp=N,0.1nm,0.3s,baz=143,slow=14,SNR=5.0							
FINES				Sn		S	10 46 57.4	-12
	comp=N,0.4nm,0.3s,baz=157,slow=23,SNR=4.1							
HFS	Hagfors	20.12	328	P		P	10 44 23.5	-2.1
	comp=N,2.3nm,0.6s,baz=135,slow=10,SNR=10							
HFS				S		S	10 47 55.0	-10
	comp=N,5.2nm,1.0s,baz=173,slow=25,SNR=2.6							
NOA	NORSAR Array B	21.64	328	P		P	10 44 39.2	-2.0
NOA	NORSAR Array B	21.64	328	P		P	10 44 39.1	-2.0
	comp=N,1.7nm,1.0s,mb3.4,baz=136,slow=9.5,SNR=3.5							
BRVK	Borovoye	24.41	57	eP		P	10 45 08.8	+0.5
BRVK				e*PP			10 45 17.2	
BRVK					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9							
BRVK	Borovoye	24.41	57	eP		P	10 45 08.8	+0.6
	comp=Z,3.9nm,0.8s,mb3.9							
BRVK				epP			10 45 17.2	
BRVK	Borovoye	24.41	57	eP		P	10 45 08.8	+0.5
	comp=Z,2.0nm,0.8s,mb3.6							
BVAR	Borovoye Array	24.47	57	P		P	10 45 09.6	+0.7
	comp=Z,1.2nm,0.7s,mb3.4,baz=270,slow=5.9,SNR=6.6							
CHKZ	Chkalovo	24.67	56	eP		P	10 45 11.4	+0.5
CHKZ				e*PP			10 45 20.1	
CHKZ					pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8							
CHKZ	Chkalovo	24.67	56	eP		P	10 45 11.4	+0.5
	comp=Z,1.9nm,0.6s,mb3.8							
CHKZ				epP			10 45 20.1	
ARCES	ARCESS Array B	25.41	352	P		P	10 45 17.4	-0.4
	comp=Z,1.9nm,0.7s,mb3.8,baz=12,slow=11,SNR=6.2							
ZAL	Zalesovo	33.08	56	P		P	10 46 26.9	+0.4
	comp=Z,0.7nm,0.3s,mb4.0,baz=203,slow=3.7,SNR=3.8							
SONM	Songino Array	47.78	60	P		P	10 48 28.4	+0.6
	comp=Z,0.3nm,0.5s,mb3.6,baz=285,slow=11,SNR=4.1							
YKA	Yellowknife Ar	70.47	346	P		P	10 51 05.0	+0.6
YKA	Yellowknife Ar	70.47	346	P		P	10 51 04.9	+0.5
	comp=Z,0.9nm,0.5s,mb4.0,baz=21,slow=6.1,SNR=46							
ILAR	Eielson Array	70.90	1	P		P	10 51 07.8	+0.7
	comp=Z,0.2nm,0.7s,mb3.2,baz=351,slow=4.6,SNR=5.0							

*NEIC **24** 10:54:43.7±3.4, 36.19N×70.71E, h177km±26km, mb3.8/3, Error ellipse: s-maj=31.4km s-min=16.7km az=221.0*
*IDC **24** 10:54:45.8±10.0, 36.24N×70.78E, h195km±88km, mb3.3/6, mb1 3.4/7, mb1mx3.1/20, mbtmp3.8/7, Error ellipse: s-maj=56.3km s-min=24.3km az=32.0*

ISC 24 10:54:49.7±2.0, 36.64N±0.10×70.9E±0.2, h230km±19km, n25, σ0°95/26, mb3.4/5, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.89	20	P		P	10 56 16.6	-0.1
	SNR=257							
UCH	Uchtor	6.23	25	P		P	10 56 21.1	0.0
	SNR=78							
KZA	Kyzart	6.38	30	P		P	10 56 22.6	-0.3
	SNR=20							
EKS2	Erkin-Say	6.40	19	P		P	10 56 23.3	+0.1
	SNR=15							
AAK	Ala-Archa	6.59	24	P		P	10 56 25.9	+0.4
	SNR=24							
AAK	Ala-Archa	6.59	24	ePn		P	10 56 24.8	-0.8
	16nm,0.6s							
AAK				eSn		S	10 57 39.3	-1.2
KBK	Karagaybulak	6.76	26	P		P	10 56 28.4	+0.6
	SNR=16							
ULHL	Ulahol	6.94	35	P		P	10 56 30.5	+0.4
	SNR=15							
CHMS	Chumysh	7.00	24	P		P	10 56 31.1	+0.2
	SNR=7.7							
USP	Ospenovka	7.17	21	P		P	10 56 32.4	-0.5
	SNR=14							
TKM2	Tokmak 2	7.23	28	P		P	10 56 34.0	+0.2
	SNR=46							
KOLN	Koldanda	13.89	126	eP		P	10 58 00.7	+2.6
	2.2nm,0.3s							
GKN	Gorkha	14.42	123	eP		P	10 58 06.1	+1.3
	12nm,0.5s							
KURK	Kurchatov	15.12	19	Pn		P	10 58 14.2	+1.1
PKI	Pulchoki	15.22	122	eP		P	10 58 13.1	-1.5
	13nm,0.7s							
JIRN	Jiri	15.70	120	eP		P	10 58 18.7	-1.6
	8.0nm,0.3s							
BVAR	Borovoye Array	16.39	359	P		P	10 58 28.2	-0.1
	0.2nm,0.3s,baz=164,slow=10,SNR=4.2							
BRVK	Borovoye	16.43	359	eP		P	10 58 28.0	-0.6
	1.3nm,0.3s							
CHKZ	Chkalovo	17.04	359	eP		P	10 58 35.3	-0.2
	0.8nm,0.5s							
ZAL	Zalesovo	19.80	25	P		P	10 59 05.7	+1.8
	4.1nm,0.3s,baz=257,slow=7.7,SNR=9.8							
ARCES	ARCESS Array B	41.00	338	P		P	11 02 11.1	-0.3
	2.7nm,0.9s,mb3.7,baz=101,slow=6.2,SNR=4.1							
HFS	Hagfors	42.93	322	P		P	11 02 27.0	0.0
	15nm,1.3s,mb4.3,baz=90,slow=10,SNR=5.1							
NOA	NORSAR Array B	44.24	323	P		P	11 02 37.2	-0.3
	0.5nm,0.8s,mb2.9,baz=110,slow=8.4,SNR=3.0							
YKA	Yellowknife Ar	81.11	3	P		P	11 06 41.1	+1.1
	0.3nm,0.5s,mb3.2,baz=350,slow=5.4,SNR=11							
WRA	Warramunga Arr	82.11	122	P		P	11 06 44.2	-1.8
	0.2nm,0.5s,mb3.0,baz=325,slow=5.1,SNR=8.5							

*NEIC **24** 10:55:07.9, 31.53S×72.28W, h38km, MD3.5(GUC), After GUC.*

GUC 24 10:55:07.9±1.0, 31.53S×72.28W, h38km±4km, MD3.5, ML3.0, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ILCH	Illapel	0.96	97	⇑iP		P	10 55 25.9	+0.9
ILCH				iS		S	10 55 38.7	+1.1
ILCH					AMP		10 55 40.4	
	comp=N,337nm,0.4s							
PACH	Papudo	1.23	145	⇓iP		P	10 55 29.0	+0.1
PTCH	Petorca	1.36	123	⇑iP		P	10 55 31.5	+0.6
PTCH				iS		S	10 55 49.9	+1.9
PTCH					AMP		10 55 51.6	
	comp=E,882nm,0.2s							
TLL	Tololo Astrono	1.86	43	iP		P	10 55 39.3	+1.4
TLL				iS		S	10 56 02.5	+2.1
TLL					AMP		10 56 23.8	
	comp=N,190nm,0.6s							
RCDM	Rinconada Maip	2.32	148	iP		P	10 55 44.8	+0.4
RCDM					AMP		10 56 13.3	
	comp=E,135nm,0.1s							
FCH	Farellones	2.46	137	iP		P	10 55 47.5	+1.1
FCH				iS		S	10 56 17.4	+1.8
FCH					AMP		10 56 18.4	
	comp=E,67nm,0.2s							
CHCH	Chadas Angostu	2.76	151	eP		P	10 55 51.5	+0.7
CHCH				iS		S	10 56 24.0	+0.7

*BJI **24** 11:04:16.6, 11.35S×162.35E, h29km, mB5.2, mb4.8, Ms4.5, Msz4.3*
*IDC **24** 11:04:26.5±0.7, 10.54S×161.38E, h29km±4km, mb4.5/16, mb1 4.6/18, mb1mx4.6/20, mbtmp4.6/18, ML3.8/2, MS4.2/8, Ms1 4.2/8, ms1mx3.7/19, Error ellipse: s-maj=19.1km s-min=14.8km az=103.0*
*HRVD **24** 11:04:26.0±0.6, 10.48S×161.35E, h35km±1km, MW4.9/26, Centroid moment Tensor Solution. LP body waves: s22, c27; Mantle waves: s26, c35; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.34±.21; $M_{\theta\theta}$-0.06±.14; $M_{\phi\phi}$-2.28±.14; $M_{r\theta}$-0.35±.20; $M_{\theta\phi}$0.58±.13; $M_{\phi r}$-0.22±.15; Best double couple: $M_0$2.418×10^{16} NP1:ϕ_s337°, δ44°, λ76°. NP2:ϕ_s176°, δ47°, λ103°. Principal axes: T 2.409, Plg80°, Azm157°; N .018, Plg10°, Azm347°; P -2.427, Plg2°, Azm256°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **24** 11:04:26.0±0.3, 10.48S×161.38E, mb4.9/18 Error ellipse: s-maj=11.1km s-min=8.5km az=127.0*

ISC 24 11:04:24.5±0.3, 10.54S±0.06×161.29E±0.07, h29km, h29km±1.2km: pP-P, n53, σ0°81/51, mb4.7/36, MS4.2/9, 2C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	13.97	273	Pn		P	11 07 48.6	+5.6
	0.3nm,0.3s,baz=51,slow=0.2,SNR=8.2							
PMG	Port Moresby	13.97	273	ePn		P	11 07 44.4	+1.4
	65nm,1.4s							
CTA	Charters Tower	17.32	235	eP		P	11 08 31.8	+5.7
	45nm,1.0s							
CTA	Charters Tower	17.32	235	P		P	11 08 30.2	+4.2
	1.4nm,0.3s,baz=65,slow=14,SNR=19							
CTA				S		S	11 11 35.2	-0.9
	0.1nm,0.3s,baz=20,slow=8.2,SNR=1.9							
CTAO	Charters Tower	17.32	235	Pn		P	11 08 30.2	+4.1
	133nm,1.4s							
WRAB	Tennant Creek	27.59	247	eP		P	11 10 12.2	+0.7
	70nm,1.6s,mb5.0							
WRA	Warramunga Arr	27.60	247	P		P	11 10 12.6	+1.0
	5.6nm,0.7s,mb4.3,baz=76,slow=9.0,SNR=42							
WRA				ScP			11 17 08.1	
	0.5nm,0.7s,baz=74,slow=4.0,SNR=5.4							
STKA	Stephens Creek	27.98	218	P		P	11 10 15.2	+0.3
	4.5nm,0.9s,mb4.1,baz=43,slow=8.6,SNR=8.6							
STKA				LR		LR	11 21 32.6	
	comp=Z,862nm,18.5s,MS4.4,baz=34,slow=37							
STKA	Stephens Creek	27.98	218	eP		P	11 10 15.1	+0.2
ASAR

SONM Songino Array 75.71 325 P P 11 16 10.0 +0.8
comp=Z,10nm,0.6s,mb4.9,baz=142,slow=5.1,SNR=11
SONM pP pP 11 16 19.6 +1.3
comp=Z,9.0nm,0.7s,baz=138,slow=5.3,SNR=5.6
YAK Yakutsk 76.43 345 *eP* **P 11 16 12.4 -0.5**
comp=Z,16nm,0.4s,mb5.3
SHL Shillong 76.44 300 *eP* **P 11 16 14.0 +0.2**
BILL Biiibino 78.45 2 *eP* **P 11 16 23.9 -0.1**
comp=Z,11nm,0.9s,mb4.8
QSPA South Pole Qui 79.46 180⇑ *iP* **P 11 16 29.9 +0.6**
comp=Z,15nm,0.9s,mb4.9
KKN Kakani 82.74 300 *eP* **P 11 16 47.3 -0.3**
comp=Z,5.4nm,0.4s,mb4.9
DMN Daman 82.84 300 *eP* **P 11 16 48.3 +0.2**
comp=Z,16nm,0.9s,mb5.0
MCK McKinley 83.11 20 *eP* **P 11 16 48.2 -0.5**
comp=Z,9.7nm,1.0s,mb4.8
IMA Indian Mountai 83.24 17 *eP* **P 11 16 50.3 +1.0**
comp=Z,18nm,0.8s,mb5.1
GKN Gorkha 83.35 300 *eP* **P 11 16 50.2 -0.5**
comp=Z,15nm,0.9s,mb5.0
MAW Mawson 83.53 202 P **P 11 16 52.0 +1.2**
comp=Z,31nm,0.8s,mb5.5,baz=92,slow=7.4,SNR=18
MAW LR LR 11 50 54.6
comp=Z,97nm,18.7s,MS4.2,baz=244,slow=33
MAW Mawson 83.53 202 *eP* **P 11 16 51.4 +0.6**
comp=Z,75nm,1.2s,mb5.7
KOLN Koldanda 84.17 300 *eP* **P 11 16 53.8 -1.1**
comp=Z,9.6nm,0.8s,mb5.0
COLA College 84.22 19 *eP* **P 11 16 53.2 -1.1**
comp=Z,7.7nm,0.8s,mb4.9
ILAR Eielson Array 84.47 20 P **P 11 16 55.6 +0.1**
comp=Z,2.9nm,0.8s,mb4.5,baz=240,slow=5.5,SNR=40
ILAR pP pP 11 17 04.8 0.0
comp=Z,1.9nm,0.8s,baz=247,slow=4.8,SNR=6.3
ILAR LR LR 11 50 57.7
comp=Z,108nm,19.1s,MS4.2,baz=186,slow=33
WMQ Urumqi 85.66 316 *eP* **P 11 17 01.3 -0.7**
DAWY Dawson 86.70 22 *eP* **P 11 17 07.3 +0.7**
NVAR Mina Array Bea 89.07 51 P **P 11 17 19.6 +1.0**
comp=Z,2.4nm,0.7s,mb4.6,baz=228,slow=4.9,SNR=18
NVAR pP pP 11 17 28.4 +0.4
comp=Z,2.6nm,0.8s,baz=230,slow=4.3,SNR=6.9
ZAL Zalesovo 90.61 325 P **P 11 17 24.4 -1.0**
comp=Z,1.2nm,0.9s,mb4.2,baz=342,slow=8.7,SNR=2.4
SYO Syowa Base 90.96 198 ⇑P **P 11 17 26.7 0.0**
BMO Blue Mountains 91.32 45 *eP* **P 11 17 28.6 -0.3**
comp=Z,8.5nm,1.4s,mb4.9
KURK Kurchatov 93.47 321 *eP* **P 11 17 37.3 -1.3**
comp=Z,2.4nm,0.9s,mb4.6
TUC Tucson 93.81 58 *eP* **P 11 17 41.4 +0.8**
comp=Z,1.2nm,0.8s,mb4.4
PDAR Pinedale Array 96.44 48 P **P 11 17 54.3 +1.8**
comp=Z,0.8nm,0.9s,mb4.2,baz=223,slow=2.4,SNR=5.4
YKA Yellowknife Ar 96.54 28 P **P 11 17 51.8 -0.6**
comp=Z,1.3nm,0.6s,mb4.5,baz=261,slow=4.7,SNR=59
YKA LR LR 11 59 53.7
comp=Z,81nm,18.3s,MS4.2,baz=295,slow=34
CHKZ Chkalovo 98.80 323 P **P 11 18 01.3 -1.5**
comp=Z,1.4nm,0.8s,mb4.5
BVAR Borovoye Array 98.87 322 P **P 11 18 01.9 -1.3**
comp=Z,0.7nm,0.6s,mb4.3,baz=104,slow=6.1,SNR=5.1
TXAR Lajitas Array 99.44 62 LR LR 11 54 48.1
comp=Z,105nm,19.3s,MS4.3,baz=5.0,slow=30
AKASG Malin Array Be 124.00 325 PKP PKPdf 11 23 20.4 -4.9
comp=Z,0.1nm,0.3s,baz=36,slow=1.9,SNR=4.2
MORC Moravsky Berou 130.72 330 PKPdf PKPdf 11 23 31.9 -6.3

IDC 24 11:09:21.0±12.0, 9.51N×92.56E, mb3.4/2, mb1 3.7/3, mb1mx3.4/18, mbtmp3.4/3, ML3.8/1, MS3.7/1, Ms1 3.7/1, ms1mx2.6/16, Error ellipse: s-maj=270.4km s-min=46.0km az=96.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.84**	**34**	Pn	P	11 11 57.5	-3.1
	0.2nm,0.3s,baz=222,slow=15,SNR=5.6						
JOW	**Kunigami**	**37.88**	**58**	LR	LR	11 34 33.6	
	comp=Z,93nm,19.0s,baz=126,slow=40						
WRA	**Warramunga Arr**	**50.47**	**126**	P	P	11 18 20.4	-2.6
	0.1nm,0.3s,baz=304,slow=8.6,SNR=6.2						
ASAR	**Alice Springs**	**52.15**	**130**	P	P	11 18 34.2	-1.6
	0.3nm,0.8s,baz=306,slow=8.0,SNR=5.3						

*IDC **24** 11:31:27.2±0.9, 17.53N×95.78E, mb3.9/10, mb1 4.1/10, mb1mx3.9/18, mbtmp3.9/10, ML4.9/1, MS3.4/4, Ms1 3.5/4, ms1mx3.1/20, Error ellipse: s-maj=23.0km s-min=15.7km az=27.0*
*NEIC **24** 11:31:28.8±0.5, 17.59N×95.81E, h10km, mb4.4/7, Error ellipse: s-maj=11.3km s-min=7.9km az=214.0*
*BJI **24** 11:31:29.2, 17.41N×95.60E, h25km, mB4.3, mb4.4, Ms4.2, Msz4.0*
ISC 24 11:31:26.9±0.4, 17.67N±0.06×95.82E±0.03, h10km, n45, σ1°22/50, mb4.1/15, MS3.5/3, 2C-1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**3.08**	**75**	*e*Pn	**Pn**	**11 32 17.2**	**+0.6**
CM31				*e*Pg	**Pg**	**11 32 26.3**	**-2.1**
CM31				*e*Sn	**Sn**	**11 32 55.3**	**+1.5**
CM31				*e*Sg	**Sg**	**11 33 07.2**	**-2.1**
CMAR	**Chiang Mai Arr**	**3.08**	**75**	Pn	**Pn**	**11 32 17.1**	**+0.6**
	37nm,0.3s,baz=49,slow=15,SNR=2.0						
CMAR				Pg	**Pg**	**11 32 26.3**	**-2.0**
	46nm,0.3s,baz=249,slow=20,SNR=2.0						
CMAR				Lg		11 33 05.0	
	45nm,0.3s,baz=14,slow=37,SNR=3.2						
CMAR				LR	LR	11 33 47.6	
	comp=Z,429nm,19.9s,baz=234,slow=45						
CMAR	**Chiang Mai Arr**	**3.08**	**75**	Pn	**Pn**	**11 32 17.1**	**+0.6**
CMAR				Pg	**Pg**	**11 32 26.3**	**-2.0**
CMAR				Lg		11 33 05.0	
CMAR				LR	LR	11 33 47.6	
CHG	**Chiang Mai**	**3.18**	**68**	⇓P	**Pn**	**11 32 18.8**	**+0.7**
	150nm,0.7s						
NST	**Nakhon Sawan**	**4.59**	**115**	⇑P	**Pn**	**11 32 37.0**	**-1.0**
	83nm,0.5s						
NANT	**Nan**	**4.78**	**76**	⇑P	**Pn**	**11 32 40.0**	**-0.7**
	262nm,0.5s						
NNT	**Nongplab**	**6.30**	**143**	P	**Pn**	**11 33 04.0**	**+1.7**
IMP	**Imphal**	**7.30**	**346**	*e*	**Pn**	**11 33 20.6**	**+4.3**
SHL	**Shillong**	**8.67**	**336**	*e*	**P**	**11 33 34.5**	**-0.9**
SHL				*e*		11 35 08.0	
VIS	**Vishakhapatnam**	**11.90**	**272**	*e*P	**P**	**11 34 18.8**	**-1.1**
VIS				*e*		11 34 22.4	
	comp=Z,10nm,1.1s						
VIS				*e*S	**S**	**11 36 24.1**	**-10**
LSA	**Lhasa**	**12.72**	**341**	P	**P**	**11 34 33.0**	**+2.3**
LSA	**Lhasa**	**12.72**	**341**	*e*Pn	**P**	**11 34 29.9**	**-0.8**
	comp=Z,10nm,0.6s						
JIRN	**Jiri**	**13.33**	**320**	*e*P	**P**	**11 34 37.4**	**-1.5**
	comp=Z,59nm,0.7s						
PKI	**Pulchoki**	**13.76**	**318**	*e*P	**P**	**11 34 43.7**	**-0.9**
	comp=Z,40nm,0.6s						
DMN	**Daman**	**13.98**	**317**	*e*P	**P**	**11 34 46.6**	**-0.9**
	comp=Z,29nm,0.6s						
KKN	**Kakani**	**13.99**	**318**	*e*P	**P**	**11 34 46.8**	**-0.9**
	comp=Z,21nm,0.6s						
GKN	**Gorkha**	**14.55**	**317**	*e*P	**P**	**11 34 53.8**	**-1.2**
	comp=Z,56nm,0.4s						
KOLN	**Koldanda**	**15.09**	**314**	*e*P	**P**	**11 35 01.0**	**-1.1**
	comp=Z,56nm,0.6s						
HYB	**Hyderabad**	**16.47**	**272**	*e*P	**P**	**11 35 25.0**	**+5.2**
HYB	**Hyderabad**	**16.47**	**272**	*i* P	**P**	**11 35 25.0**	**+5.2**
HYB				*e*S	**S**	**11 38 23.0**	**+0.8**
ENH	**Enshi**	**17.68**	**42**	*e*P	**P**	**11 35 37.0**	**+1.9**
	comp=Z,22nm,1.0s						
LZH	**Lanzhou**	**19.68**	**20**	P	**P**	**11 36 04.5**	**+5.4**
LZH				AP		11 36 12.0	
LZH				XP		11 36 16.5	
LZH				AMB	AMB		
	comp=Z,140nm,1.5s						
LZH	**Lanzhou**	**19.68**	**20**	P	**P**	**11 36 04.5**	**+5.4**
	comp=Z,140nm,1.5s						
LZH				pP		11 36 12.0	
LZH				sP		11 36 16.5	
XAN	**Xi'an**	**20.09**	**33**	P	**P**	**11 36 07.0**	**+3.4**
XAN				AMB	AMB		
	comp=Z,20nm,1.1s						
WHN	**Wuhan**	**21.19**	**49**	P	**P**	**11 36 19.8**	**+4.9**
WMQ	**Urumqi**	**26.96**	**347**	*e*P	**P**	**11 37 16.5**	**+5.9**
AAK	**Ala-Archa**	**30.80**	**328**	*e*P	**P**	**11 37 45.0**	**0.0**
	comp=Z,3.2nm,0.9s,mb4.2						

SONM	**Songino Array**	**31.31**	**14**	P	**P**	**11 37 50.9**	**+1.4**
	comp=Z,0.6nm,0.5s,mb3.6,baz=203,slow=9.5,SNR=4.8						
JOW	**Kunigami**	**31.32**	**67**	LR	LR	11 52 15.0	
	comp=Z,92nm,20.3s,MS3.4,baz=312,slow=40						
KURK	**Kurchatov**	**35.73**	**341**	*e*P	**P**	**11 38 28.2**	**+0.5**
	comp=Z,2.9nm,0.4s,mb4.6						
ZAL	**Zalesovo**	**37.20**	**349**	P	**P**	**11 38 41.2**	**+1.2**
	comp=Z,2.2nm,0.5s,mb4.3,baz=301,slow=5.7,SNR=12						
ZAL	**Zalesovo**	**37.20**	**349**	P	**P**	**11 38 41.2**	**+1.2**
BVAR	**Borovoye Array**	**40.49**	**336**	P	**P**	**11 39 08.4**	**+0.9**
	comp=Z,0.4nm,0.4s,mb3.5,baz=140,slow=12,SNR=6.1						
CHKZ	**Chkalovo**	**40.92**	**337**	*e*P	**P**	**11 39 11.3**	**+0.4**
	comp=Z,2.9nm,0.6s,mb4.1						
JHJ	**Hachijo jima 2**	**42.28**	**60**	LR	LR	11 56 56.0	
	comp=Z,15nm,18.3s,MS2.9,baz=95,slow=36						
WRA	**Warramunga Arr**	**53.17**	**133**	P	**P**	**11 40 46.7**	**-1.0**
	comp=Z,1.4nm,0.7s,mb4.0,baz=318,slow=7.3,SNR=11						
WRAB	**Tennant Creek**	**53.17**	**133**	P	**P**	**11 40 47.1**	**-0.6**
	comp=Z,7.2nm,0.7s,mb4.7						
ASAR	**Alice Springs**	**55.41**	**137**	P	**P**	**11 41 03.1**	**-0.9**
	comp=Z,1.0nm,0.7s,mb3.9,baz=319,slow=7.4,SNR=11						
FINES	**FINESS Array B**	**64.97**	**330**	P	**P**	**11 42 09.1**	**+0.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=56,slow=6.9,SNR=4.7						
FINES				LR	LR	12 13 52.7	
	comp=Z,119nm,18.8s,MS4.1,baz=2.6,slow=39						
ARCES	**ARCESS Array B**	**66.72**	**339**	P	**P**	**11 42 20.3**	**+0.3**
	comp=Z,1.8nm,0.6s,mb4.3,baz=100,slow=7.4,SNR=8.0						
GERES	**GERESS Array B**	**71.77**	**316**	P	**P**	**11 42 51.1**	**-0.4**
	comp=Z,1.0nm,0.8s,mb3.8,baz=104,slow=5.5,SNR=3.7						
CLL	**Collm**	**71.96**	**319**	P	**P**	**11 42 55.0**	**+2.4**
NOA	**NORSAR Array B**	**72.11**	**329**	P	**P**	**11 42 53.5**	**+0.2**
	comp=Z,1.1nm,0.9s,mb3.8,baz=104,slow=5.6,SNR=2.6						
LSZ	**Lusaka**	**74.26**	**248**	*e*P	**P**	**11 43 07.1**	**+0.4**
	comp=Z,4.3nm,0.6s,mb4.6						
ILAR	**Eielson Array**	**85.12**	**22**	P	**P**	**11 44 07.0**	**+3.0**
	comp=Z,0.4nm,0.9s,mb3.5,baz=296,slow=4.4,SNR=3.4						

*IDC **24** 11:39:07.5±1.1, 5.45S×151.58E, h86km±7km, mb3.9/7, mb1 4.2/8, mb1mx4.1/13, mbtmp4.3/8, MS3.6/2, Ms1 3.6/2, ms1mx2.8/17, Error ellipse: s-maj=33.7km s-min=17.2km az=125.0*
*NEIC **24** 11:39:07.1±0.9, 5.41S×151.52E, mb4.7/5, Error ellipse: s-maj=32.1km s-min=11.0km az=122.0*
ISC 24 11:39:09.4±3.2, 5.4S±0.2×151.3E±0.2, h114km±27km, h85km±1.4km:pP-P, n17, σ0°73/19, mb4.3/12, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.70**	**225**	P	**P**	**11 40 33.8**	**+0.8**
	21nm,0.3s,baz=44,slow=8.0,SNR=79						
PMG				S	**S**	**11 41 36.8**	**-0.9**
	23nm,0.3s,baz=124,slow=22,SNR=29						
PMG				LR	LR	11 42 44.0	
	comp=Z,119nm,18.4s,baz=62,slow=37						
PMG	**Port Moresby**	**5.70**	**225**	*e*Pn	**P**	**11 40 33.2**	**+0.3**
PMG				S	**S**	**11 41 36.8**	**-0.9**
PMG				LR	LR	11 42 44.0	
WRAB	**Tennant Creek**	**21.90**	**227**	*e*P	**P**	**11 43 54.7**	**+0.3**
	42nm,0.6s,mb5.0						
WRA	**Warramunga Arr**	**21.92**	**227**	P	**P**	**11 43 55.0**	**+0.4**
	24nm,0.5s,mb4.8,baz=52,slow=10.0,SNR=130						
WRA				S	**S**	**11 47 51.7**	**+7.4**
	1.6nm,0.8s,baz=70,slow=15,SNR=3.6						
WRA				ScP		11 51 21.3	
	0.7nm,0.7s,baz=50,slow=2.5,SNR=7.2						
ASAR	**Alice Springs**	**24.70**	**221**	P	**P**	**11 44 21.8**	**+0.3**
	33nm,0.8s,mb4.8,baz=54,slow=8.9,SNR=158						
ASAR				ScP		11 51 28.6	
	0.7nm,0.8s,baz=63,slow=3.6,SNR=4.5						
ASPA	**Alice Springs**	**24.70**	**221**	*i*P	**P**	**11 44 21.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**28.04**	**241**	*e*P	**P**	**11 44 51.7**	**-0.6**
	35nm,0.6s,mb5.1						
MBWA	**Marble Bar**	**34.35**	**240**	P	**P**	**11 45 47.4**	**-0.2**
	8.8nm,0.5s,mb4.8						
CMAR	**Chiang Mai Arr**	**56.76**	**296**	P	**P**	**11 48 45.6**	**+1.3**
	1.0nm,0.6s,mb4.0,baz=119,slow=5.9,SNR=7.2						
SONM	**Songino Array**	**66.02**	**329**	P	**P**	**11 49 46.7**	**+0.6**
	0.7nm,0.6s,mb3.7,baz=143,slow=6.2,SNR=9.6						
SONM				pP	pP	11 50 09.4	-5.0
	0.8nm,0.7s,baz=148,slow=5.4,SNR=4.4						
ZAL	**Zalesovo**	**80.81**	**327**	P	**P**	**11 51 11.8**	**-0.2**
	0.8nm,0.7s,mb3.7,baz=319,slow=8.8,SNR=3.8						
ILAR	**Eielson Array**	**83.28**	**22**	P	**P**	**11 51 23.1**	**-1.4**
	0.3nm,0.5s,mb3.4,baz=248,slow=5.2,SNR=9.6						
ILAR				pP	pP	11 51 45.4	-8.5
	0.5nm,0.6s,baz=251,slow=4.9,SNR=3.7						
KURK	**Kurchatov**	**83.30**	**322**	*e*P	**P**	**11 51 24.7**	**-0.1**
	2.3nm,1.0s,mb4.0						
CHKZ	**Chkalovo**	**88.79**	**324**	*e*P	**P**	**11 51 50.3**	**-1.2**
	0.8nm,0.6s,mb3.9						
NVAR	**Mina Array Bea**	**93.65**	**52**	P	**P**	**11 52 15.1**	**+0.6**
	1.1nm,0.8s,mb4.2,baz=252,slow=4.8,SNR=8.1						
NVAR				pP	pP	11 52 38.3	-6.1
	0.6nm,0.8s,baz=287,slow=3.7,SNR=3.3						
NVAR	**Mina Array Bea**	**93.65**	**52**	P	**P**	**11 52 15.1**	**+0.6**
NVAR				pP	pP	11 52 38.3	-6.1
GERES	**GERESS Array B**	**123.75**	**328**	PKP	PKPdf	11 57 55.5	+1.4
	0.2nm,0.3s,baz=72,slow=4.2,SNR=3.7						

*IDC **24** 11:43:47.6±1.2, 28.61N×138.39E, mb3.5/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=68.7km s-min=27.3km az=100.0*
*JMA **24** 11:44:43.1±0.2, 28.58N×139.37E, h553km, M3.7*
ISC 24 11:44:43.0±1.1, 28.5N±0.1×139.2E±0.2, h547km±10km, n18, σ0°79/20, mb3.0/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**3.25**	**125**	P	**P**	**11 45 59.9**	**-0.1**
JWZ	**Kozaga**	**5.82**	**330**	P	**P**	**11 46 20.8**	**+0.2**
JNY	**Yasuok**	**6.92**	**351**	P	**P**	**11 46 31.4**	**+0.6**
JAO	**Obara**	**6.93**	**347**	P	**P**	**11 46 32.2**	**+1.2**
JHU	**Hanno**	**7.32**	**1**	P	**P**	**11 46 33.8**	**-0.9**
JNT	**Takato**	**7.39**	**353**	P	**P**	**11 46 35.5**	**0.0**
JRY	**Ryogami san**	**7.49**	**358**	P	**P**	**11 46 35.9**	**-0.5**
JYT	**Yasato**	**7.74**	**6**	P	**P**	**11 46 37.9**	**-1.0**
JGN	**Niukaw**	**7.85**	**349**	P	**P**	**11 46 40.0**	**0.0**
JAG	**Ashikaga**	**7.89**	**2**	P	**P**	**11 46 39.0**	**-1.4**
JAG				S	**S**	**11 48 12.4**	**-1.5**
JHO	**Hitachi**	**8.16**	**8**	P	**P**	**11 46 43.0**	**0.0**
JHO				S	**S**	**11 48 19.9**	**+1.2**
JFK	**Kawauchi**	**8.94**	**9**	P	**P**	**11 46 51.6**	**+0.7**
JFT	**Otama**	**9.03**	**6**	P	**P**	**11 46 52.2**	**+0.4**
JMK	**Ichinoseki**	**10.55**	**9**	P	**P**	**11 47 08.5**	**+1.3**
WRA	**Warramunga Arr**	**48.40**	**186**	P	**P**	**11 52 31.7**	**-5.7**
	0.3nm,0.3s,mb3.2,baz=0.4,slow=7.6,SNR=16						
ILAR	**Eielson Array**	**57.76**	**29**	P	**P**	**11 53 43.0**	**-0.3**
	0.3nm,0.8s,mb2.6,baz=248,slow=5.7,SNR=5.2						
YKA	**Yellowknife Ar**	**72.15**	**28**	P	**P**	**11 55 13.6**	**+0.3**
	0.2nm,0.6s,mb2.7,baz=297,slow=6.1,SNR=5.4						
FINES	**FINESS Array B**	**75.49**	**333**	P	**P**	**11 55 31.7**	**-0.3**
	1.6nm,0.9s,mb3.5,baz=72,slow=4.4,SNR=4.9						

IDC 24 11:59:15.9±13.0, 6.60N×91.49E, mb3.1/2, mb1 3.6/3, mb1mx3.3/18, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=304.6km s-min=52.0km az=93.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.84**	**31**	Pn	P	12 02 34.6	-1.4
	0.0nm,0.3s,baz=227,slow=16,SNR=11						
WRA	**Warramunga Arr**	**49.73**	**123**	P	P	12 08 09.4	-2.8
	0.3nm,0.9s,baz=307,slow=8.5,SNR=5.2						
ASAR	**Alice Springs**	**51.18**	**127**	P	P	12 08 22.0	-1.3
	0.4nm,1.1s,baz=314,slow=7.2,SNR=2.7						

*IDC **24** 12:19:06.2±0.6, 5.63N×77.56W, mb4.1/15, mb1 4.4/17, mb1mx4.2/21, mbtmp4.1/17, ML5.0/2, MS3.6/2, Ms1 3.6/2, ms1mx2.4/22, Error ellipse: s-maj=20.4km s-min=14.9km az=61.0*
*CASC **24** 12:19:08.1±0.3, 5.78N×77.66W, h113km±51km, MD4.9, mb4.2(NEIC)*
*NEIC **24** 12:19:11.8±1.0, 5.61N×77.52W, h40km±10km, mb4.2/6, Error ellipse: s-maj=9.8km s-min=6.7km az=84.0*
ISC 24 12:19:10.8±1.3, 5.60N±0.06×77.49W±0.05, h44km±12km, n33, σ0°98/34, mb4.2/18, MS3.3/1, 1D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZU2	**Pedas**	**3.17**	**307**	⇓*i*P	**P**	**12 20 03.7**	**+4.2**
AZU2				*e*S	**S**	**12 20 37.5**	**+1.1**
AZU	**Azuero**	**3.52**	**308**	*e*P	**P**	**12 19 58.4**	**-6.0**
UPA	**Univ. de Panam**	**3.92**	**329**	*e*P	**P**	**12 20 03.9**	**-6.2**
UPA				*e*S	**S**	**12 20 47.5**	**-8.0**
OTAV	**Otavalo**	**5.42**	**190**	*e*Pn	**P**	**12 20 30.0**	**-1.1**
	6.4nm,0.7s						
OTAV				*e*Pb	**P**	**12 20 41.7**	**+11**
SDV	**Santo Domingo**	**7.54**	**64**	Pn	**P**	**12 21 00.3**	**-0.6**
	4.7nm,0.3s,baz=271,slow=8.8,SNR=53						
SDV				Sn	**S**	**12 22 27.0**	**+1.1**
	2.6nm,0.3s,baz=24,slow=16,SNR=1.6						
SDV				LR	LR	12 24 07.2	
	comp=Z,697nm,19.4s,baz=222,slow=40						
SJG	**San Juan**	**16.65**	**41**	Pn	**P**	**12 23 01.9**	**-0.7**
	0.6nm,0.3s,baz=225,slow=20,SNR=2.4						
SJG	**San Juan**	**16.65**	**41**	Pn	**P**	**12 23 01.9**	**-0.7**
NNA	**Nana**	**17.49**	**178**	*e*P	**P**	**12 23 13.8**	**+0.6**
	24nm,1.3s						
SAML	**Samuel**	**20.31**	**135**	*e*P	**P**	**12 23 44.1**	**-1.7**
	22nm,0.5s						
ARE	**Arequipa**	**22.71**	**165**	*e*P	**P**	**12 24 15.0**	**+4.9**
LPAZ	**La Paz**	**23.64**	**157**	P	**P**	**12 24 19.8**	**+0.7**
	3.6nm,0.7s,mb3.9,baz=352,slow=11,SNR=16						
LPAZ	**La Paz**	**23.64**	**157**	*e*P	**P**	**12 24 19.9**	**+0.8**
	3.5nm,0.6s,mb4.0						
LVC	**Limon Verde**	**29.27**	**164**	P	**P**	**12 25 10.3**	**-0.9**
	3.0nm,0.8s,mb4.1,baz=352,slow=0.7,SNR=3.5						
WVT	**Waverly**	**31.83**	**344**	*e*P	**P**	**12 25 32.2**	**-1.6**
	2.2nm,0.6s,mb4.2						
TXAR	**Lajitas Array**	**34.19**	**317**	P	**P**	**12 25 54.8**	**+0.5**
	0.6nm,0.8s,mb3.5,baz=132,slow=9.7,SNR=5.3						
TXAR				PcP	PcP	12 28 31.3	+0.7
	0.6nm,0.8s,baz=148,slow=7.1,SNR=5.7						
TXAR				LR	LR	12 43 45.7	
	comp=Z,52nm,18.4s,MS3.3,baz=160,slow=43						
ANMO	**Albuquerque**	**39.59**	**321**	P	**P**	**12 26 39.0**	**-0.7**
	0.4nm,0.3s,mb3.6,baz=84,slow=5.0,SNR=4.4						
TUC	**Tucson**	**40.88**	**315**	*e*P	**P**	**12 26 50.8**	**+0.4**
	2.6nm,1.0s,mb3.8						
SDCO	**Great Sand Dun**	**40.91**	**325**	*e*P	**P**	**12 26 51.5**	**+0.9**
	26nm,2.0s,mb4.5						
DAU	**Daniels Canyon**	**46.02**	**324**	*e*P	**P**	**12 27 31.6**	**-0.4**
PLCA	**Paso Flores**	**46.55**	**173**	P	**P**	**12 27 37.5**	**+1.4**
	3.7nm,0.8s,mb4.4,baz=336,slow=8.6,SNR=6.3						
PDAR	**Pinedale Array**	**46.63**	**327**	P	**P**	**12 27 35.6**	**-1.1**
	1.7nm,1.2s,mb3.9,baz=113,slow=11,SNR=5.3						
NVAR	**Mina Array Bea**	**49.33**	**317**	P	**P**	**12 27 58.2**	**+0.3**
	1.1nm,0.7s,mb4.0,baz=121,slow=7.3,SNR=9.9						
SCHQ	**Schefferville**	**49.83**	**8**	P	**P**	**12 28 00.7**	**-0.7**
	6.8nm,1.0s,mb4.7,baz=210,slow=8.1,SNR=7.8						
YKA	**Yellowknife Ar**	**62.97**	**342**	P	**P**	**12 29 33.0**	**-2.1**
	6.7nm,1.1s,mb4.7,baz=132,slow=6.6,SNR=76						
DBIC	**Dimbokro**	**72.17**	**85**	P	**P**	**12 30 34.1**	**+0.7**
	9.5nm,0.7s,mb4.9,baz=259,slow=5.7,SNR=23						
ESDC	**Sonseca Array**	**73.77**	**50**	P	**P**	**12 30 43.2**	**+0.7**
	0.2nm,0.3s,mb3.5,baz=263,slow=4.1,SNR=5.3						
ILAR	**Eielson Array**	**76.25**	**336**	P	**P**	**12 30 55.7**	**-0.5**
	1.1nm,0.7s,mb3.9,baz=116,slow=4.4,SNR=22						
GERES	**GERESS Array B**	**86.61**	**41**	P	**P**	**12 31 52.0**	**+1.2**
	0.3nm,0.3s,mb3.9,baz=270,slow=3.9,SNR=6.9						
ARCES	**ARCESS Array B**	**89.31**	**20**	P	**P**	**12 32 04.0**	**+0.7**
	3.9nm,1.0s,mb4.7,baz=315,slow=1.7,SNR=9.1						
FINES	**FINESS Array B**	**91.55**	**28**	P	**P**	**12 32 14.6**	**+0.7**
	4.2nm,1.1s,mb4.7,baz=270,slow=4.2,SNR=2.5						
ASAR	**Alice Springs**	**144.85**	**236**	PKP	PKPdf	12 38 44.1	+0.3
	4.7nm,0.8s,baz=118,slow=3.7,SNR=51						
WRA	**Warramunga Arr**	**145.94**	**242**	PKPbc	PKPbc	12 38 47.6	+0.8
	2.8nm,1.0s,baz=103,slow=3.1,SNR=20						
CMAR	**Chiang Mai Arr**	**155.83**	**8**	PKPab	PKPab	12 39 28.3	-1.8
	1.0nm,0.9s,baz=337,slow=5.4,SNR=6.0						

*IDC **24** 12:22:45.1±0.8, 51.75N×122.51E, mb3.7/7, mb1 4.1/8, mb1mx3.9/18, mbtmp3.8/8, ML5.0/1, MS3.6/4, Ms1 3.7/4, ms1mx3.1/27, Error ellipse: s-maj=28.3km s-min=18.5km az=126.0*
*NEIC **24** 12:22:46.5±0.4, 51.76N×122.58E, h10km, mb4.5/4, Error ellipse: s-maj=9.3km s-min=7.3km az=147.0*
NEIC Felt [II] at Blagoveshchensk, Russia.
*MOS **24** 12:22:47.1±1.3, 51.76N×122.52E, h33km, mb4.4/5, Error ellipse: s-maj=10.3km s-min=8.2km az=103.7*
MOS Felt (II) at Blagoveshchensk.
*BJI **24** 12:22:51.2, 51.12N×122.72E, h10km, mB4.1, mb4.4, ML5.0, Ms4.1, Msz3.9*
ISC 24 12:22:43.9±0.4, 51.72N±0.04×122.59E±0.05, h10km, n49, σ1°17/57, mb3.8/9, MS3.5/6, 1C-1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIA	**Hailar**	**3.06**	**218**	*e*P	**Pn**	**12 23 35.2**

comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax
comp=N,14nm,1.0s
YAK smax
comp=E,12nm,1.0s
YAK smax
comp=Z,9.0nm,1.0s
YAK smax
comp=N,246nm,0.8s
YAK smax
comp=Z,231nm,1.0s
YAK smax
comp=E,344nm,1.1s
YAK MLR MLR
comp=Z,136nm,8.0s
SONM Songino Array 11.17 256 Pn **P 12 25 26.5 -0.1**
comp=Z,2.7nm,0.3s,baz=64,slow=13,SNR=86
SONM Sn **S 12 27 44.4 +12**
comp=Z,2.5nm,0.3s,baz=65,slow=21,SNR=3.8
SONM LG 12 28 35.6
comp=Z,6.7nm,0.3s,baz=54,slow=27,SNR=7.7
TLY Talaya 11.76 277 *e*P **P 12 25 36.4 +1.8**
TLY *e*S **S 12 27 42.5 -4.4**
TLY pmax pmax
comp=Z,5.0nm,1.1s
TLY smax
comp=N,132nm,0.8s
TLY Talaya 11.76 277 *e*Pn **P 12 25 33.5 -1.0**
ZAK Zakamensk 12.22 271 ⇑*i*P **P 12 25 39.0 -1.9**
ZAK *e* 12 27 52.5
BJI Beijing 12.50 203 P **P 12 25 45.1 +0.5**
BJI pmax pmax
comp=Z,4.0nm,0.6s
BJI Beijing 12.50 203 P **P 12 25 45.1 +0.5**
comp=Z,4.0nm,0.6s
MOY Mondy 13.39 278 *e*P **P 12 25 56.9 +0.5**
MOY pmax pmax
comp=Z,3.0nm,0.3s
NJ2 Nanjing 19.84 189 *e*P **P 12 27 14.6 -3.1**
NJ2 PP PP 12 27 32.6 -3.8
NJ2 S **S 12 30 52.0 -3.2**
NJ2 XS 12 30 59.0
NJ2 AMB AMB
comp=Z,20nm,0.6s
NJ2 LR LR
comp=N,460nm,12.0s
NJ2 LR LR
comp=E,530nm,12.6s
NJ2 LR LR
comp=Z,980nm,12.2s
TIXI Tiksi 20.20 6 *e*P **P 12 27 22.6 +1.4**
TIXI pmax pmax
comp=Z,8.0nm,0.7s
TIXI MLR MLR
comp=Z,68nm,15.0s,MS3.1
LZH Lanzhou 20.56 228 P **P 12 27 33.5 +8.3**
LZH AMB AMB
comp=Z,42nm,1.5s
LZH Lanzhou 20.56 228 P **P 12 27 33.5 +8.3**
comp=Z,42nm,1.5s
LZH pP 12 28 30.0
LZH sP 12 28 58.0
SSE Sheshan 20.63 183 *e*P **P 12 27 22.8 -3.2**
SSE AP 12 27 30.8
SSE XP 12 27 35.5
SSE S **S 12 31 12.8 +1.3**
SSE AMB AMB
comp=Z,27nm,0.7s
SSE LR LR
comp=N,68nm,14.9s,MS3.5
SSE LR LR
comp=E,159nm,14.9s,MS3.5
SSE LR LR
comp=Z,174nm,13.2s,MS3.6
SSE Sheshan 20.63 183 *e*P **P 12 27 22.7 -3.3**
comp=Z,27nm,0.7s
SSE pP 12 27 30.8
SSE sP 12 27 35.5
SSE S **S 12 31 12.7 +1.2**
SSE sS 12 31 26.0
SSE LR LR
comp=Z,170nm,13.2s,MS3.6
CMAR Chiang Mai Arr 38.07 218 P **P 12 30 06.5 +2.2**
comp=Z,0.5nm,0.7s,mb3.4,baz=23,slow=6.9,SNR=3.1
CMAR LR LR 12 45 43.9
comp=Z,117nm,20.9s,MS3.7,baz=200,slow=36
ARCES ARCESS Array B 45.09 330 LR LR 12 55 08.8
comp=Z,36nm,19.2s,MS3.3,baz=194,slow=43
ILAR Eielson Array 45.17 37 P **P 12 31 03.8 +1.9**
comp=Z,1.5nm,0.8s,mb3.9,baz=297,slow=7.4,SNR=20
ILAR Eielson Array 45.17 37 P **P 12 31 03.8 +1.9**
FINES FINESS Array B 49.25 321 pP pP 12 31 39.0 +2.0
comp=Z,2.0nm,0.7s,baz=53,slow=6.9,SNR=3.0
GNI Garni 52.90 290 LR LR 12 56 57.0
comp=Z,45nm,19.5s,MS3.5,baz=94,slow=39
AKASG Malin Array Be 54.48 309 P **P 12 32 13.0 -0.3**
AKASG *PP pP 12 32 19.2 +2.8
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 54.48 309 P **P 12 32 13.0 -0.3**
comp=Z,0.8nm,0.5s,mb3.9,baz=45,slow=6.6,SNR=3.7
AKASG pP pP 12 32 19.2 +2.8
comp=Z,1.8nm,0.6s,baz=43,slow=8.2,SNR=2.6
NOA NORSAR Array B 55.00 326 pP pP 12 32 20.8 +0.7
comp=Z,1.8nm,0.7s,baz=42,slow=6.6,SNR=3.8
YKA Yellowknife Ar 57.52 28 P **P 12 32 35.2 +0.1**
comp=Z,0.7nm,0.7s,mb3.8,baz=321,slow=7.0,SNR=14
YKA pP pP 12 32 39.5 +1.3
comp=Z,1.4nm,1.0s,baz=324,slow=6.7,SNR=13
YKA Yellowknife Ar 57.52 28 P **P 12 32 35.2 0.0**
YKA pP pP 12 32 39.5 +1.3
FCC Fort Churchill 65.91 20 P **P 12 33 31.0 -0.4**
FCC pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
FCC Fort Churchill 65.91 20 P **P 12 33 31.0 -0.3**
comp=Z,1.3nm,0.8s,mb4.0
WRAB Tennant Creek 72.08 168 P **P 12 34 10.2 0.0**
WRAB pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
WRAB Tennant Creek 72.08 168 P **P 12 34 10.2 0.0**
comp=Z,2.8nm,0.7s,mb4.3
WRA Warramunga Arr 72.09 168 P **P 12 34 10.7 +0.5**
comp=Z,1.3nm,0.6s,mb4.0,baz=354,slow=6.7,SNR=18
NVAR Mina Array Bea 75.70 45 P **P 12 34 32.2 +1.4**
comp=Z,0.7nm,0.8s,mb3.6,baz=295,slow=6.6,SNR=5.2
ASAR Alice Springs 75.71 169 P **P 12 34 32.5 +1.3**
comp=Z,0.7nm,0.8s,mb3.7,baz=352,slow=6.4,SNR=6.4
STKA Stephens Creek 84.90 164 LR LR 13 11 46.9
comp=Z,65nm,19.4s,MS4.0,baz=281,slow=35

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*IDC **24** 12:36:04.2±3.2, 6.19S×147.66E, h44km±26km, mb3.8/5, mb1 4.1/8, mb1mx3.9/15, mbtmp4.1/8, ML3.8/3, MS3.4/2, Ms1 3.4/2, ms1mx3.0/12, Error ellipse: s-maj=46.5km s-min=22.0km az=96.0*
*NEIC **24** 12:36:04.5±2.0, 6.11S×147.56E, h48km±17km, mb4.4/5, Error ellipse: s-maj=19.1km s-min=13.7km az=109.0*
ISC 24 12:36:03.3±2.5, 6.2S±0.1×147.6E±0.1, h51km±23km, n18, σ0§74/20, mb4.2/9, MS3.3/2, 2D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.24**	**187**	P	**P**	**12 36 54.3**	**+1.3**
	10nm,0.3s,baz=31,slow=5.7,SNR=38						
PMG				S	**S**	**12 37 29.8**	**-0.9**
	16nm,0.3s,baz=16,slow=4.0,SNR=5.5						
PMG	**Port Moresby**	**3.24**	**187**	*e*Pn	**P**	**12 36 53.9**	**+0.9**
PMG				S	**S**	**12 37 29.8**	**-0.9**
CTA	**Charters Tower**	**13.89**	**185**	P	**P**	**12 39 23.4**	**+4.0**
	0.4nm,0.3s,baz=4.8,slow=6.0,SNR=6.8						
WRAB	**Tennant Creek**	**18.76**	**222**	*e*P	**P**	**12 40 20.1**	**-0.7**
	20nm,1.0s						
WRA	**Warramunga Arr**	**18.77**	**222**	P	**P**	**12 40 19.8**	**-1.2**
	1.2nm,0.3s,baz=51,slow=11,SNR=33						
WRA				S	**S**	**12 43 45.4**	**+0.4**
	0.1nm,0.3s,baz=52,slow=22,SNR=3.0						
ASAR	**Alice Springs**	**21.80**	**216**	P	**P**	**12 40 53.0**	**+0.3**
	4.7nm,0.4s,mb4.2,baz=53,slow=8.7,SNR=69						
ASAR				ScP		12 48 25.0	
	1.0nm,1.0s,baz=33,slow=1.9,SNR=4.5						
ASAR				LR	LR	12 48 42.6	
	comp=Z,30nm,21.0s,MS2.7,baz=104,slow=35						
ASPA	**Alice Springs**	**21.80**	**216**	*e*P	**P**	**12 40 53.8**	**+1.0**
ASPA				*e*S	**S**	**12 44 51.7**	**+6.0**
FITZ	**Fitzroy Crossi**	**24.45**	**239**	⇓*i*P	**P**	**12 41 19.5**	**+0.6**
	16nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**26.18**	**192**	P	**P**	**12 41 34.1**	**-0.9**
	5.0nm,1.0s,mb4.0,baz=348,slow=11,SNR=6.4						
RAR	**Rarotonga**	**53.06**	**112**	LR	LR	13 02 14.0	
	comp=Z,108nm,20.7s,MS3.9,baz=113,slow=30						
VNDA	**Vanda**	**71.71**	**177**	P	**P**	**12 47 21.5**	**0.0**
	1.4nm,0.5s,mb4.1,baz=345,slow=7.8,SNR=12						
VNDA	**Vanda**	**71.71**	**177**	P	**P**	**12 47 21.5**	**0.0**
KURK	**Kurchatov**	**81.67**	**323**	*e*P	**P**	**12 48 17.4**	**-0.2**
	1.5nm,0.8s,mb4.0						
QSPA	**South Pole Qui**	**83.80**	**180**	⇓*i*P	**P**	**12 48 29.0**	**+1.1**
	6.4nm,0.6s,mb4.9						
ILAR	**Eielson Array**	**85.42**	**23**	P	**P**	**12 48 36.0**	**-0.3**
	0.3nm,0.6s,mb3.6,baz=256,slow=5.3,SNR=6.7						
BVAR	**Borovoye Array**	**87.23**	**324**	P	**P**	**12 48 45.4**	**0.0**
	0.7nm,0.7s,mb4.0,baz=104,slow=5.9,SNR=4.0						
CHKZ	**Chkalovo**	**87.25**	**325**	P	**P**	**12 48 45.1**	**-0.4**
	0.9nm,0.5s,mb4.3						
DBIC	**Dimbokro**	**152.58**	**273**	PKPbc	PKPdf	12 55 57.7	+10
	3.8nm,0.7s,baz=131,slow=2.1,SNR=7.6						
DBIC				PKPab	PKPab	12 56 08.7	+0.6
	1.3nm,0.5s,baz=60,slow=10,SNR=4.1						

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*BJI **24** 12:36:30.9, 2.68N×95.31E, h27km, mB5.1, mb4.6, Ms4.3, Msz4.1*
*NEIC **24** 12:36:32.8±0.5, 2.61N×95.47E, mb4.5/10, Error ellipse: s-maj=11.7km s-min=8.6km az=59.0*
*IDC **24** 12:36:33.2±0.7, 2.73N×95.60E, h24km±4km, mb4.0/9, mb1 4.2/10, mb1mx4.1/17, mbtmp4.2/10, ML4.5/1, MS3.5/1, Ms1 3.5/1, ms1mx3.2/12, Error ellipse: s-maj=26.6km s-min=14.3km az=54.0*
ISC 24 12:36:30.7±0.6, 2.61N±0.08×95.49E±0.09, h26km, h26km±.6km:pP-P, n34, σ0§96/34, mb4.5/24, MS3.8/2, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.44**	**288**	*e*Pn	**P**	**12 40 07.5**	**-1.3**
CM31	**Chiang Mai Arr**	**16.11**	**12**	*e*P	**P**	**12 40 19.6**	**+2.3**
	27nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.11**	**12**	Pn	**P**	**12 40 16.4**	**-0.9**
	0.7nm,0.3s,baz=201,slow=11,SNR=76						
HYB	**Hyderabad**	**22.20**	**313**	*i*P	**P**	**12 41 36.0**	**+9.1**
KMI	**Kunming**	**23.45**	**17**	P	**P**	**12 41 41.2**	**+2.0**
	9.0nm,1.1s,mb4.1						
KMI				pP		12 41 50.2	
KMI				sP		12 41 53.8	
KMI				S	**S**	**12 46 03.1**	**+16**
KMI				sS		12 46 23.6	
KMI				SS	tx	12 47 21.2	
KMI				LR	LR		
	comp=Z,490nm,12.6s,MS4.2						
JIRN	**Jiri**	**26.45**	**341**	*e*P	**P**	**12 42 09.1**	**+1.5**
	comp=Z,31nm,0.6s,mb5.0						
DMN	**Daman**	**26.77**	**339**	*e*P	**P**	**12 42 11.7**	**+1.1**
	comp=Z,16nm,0.7s,mb4.7						
KKN	**Kakani**	**26.87**	**340**	*e*P	**P**	**12 42 12.0**	**+0.5**
	comp=Z,23nm,0.8s,mb4.8						
LSA	**Lhasa**	**27.25**	**352**	P	**P**	**12 42 15.0**	**0.0**
LSA	**Lhasa**	**27.25**	**352**	*e*P	**P**	**12 42 15.6**	**+0.6**
	comp=Z,12nm,0.8s,mb4.5						
GKN	**Gorkha**	**27.29**	**339**	*e*P	**P**	**12 42 14.6**	**-0.8**
	comp=Z,40nm,1.0s,mb4.9						
KOLN	**Koldanda**	**27.48**	**337**	*e*P	**P**	**12 42 16.1**	**-1.0**
	comp=Z,21nm,0.7s,mb4.8						
ENH	**Enshi**	**30.54**	**24**	*e*P	**P**	**12 42 42.8**	**-1.7**
	comp=Z,6.7nm,0.6s,mb4.7						
XAN	**Xi'an**	**33.69**	**20**	P	**P**	**12 43 10.8**	**-1.2**
XAN				AP	pP	12 43 16.8	-2.9
XAN				AMB	AMB		
	comp=Z,33nm,0.8s,mb5.3						
WMQ	**Urumqi**	**41.61**	**352**	*e*P	**P**	**12 44 17.6**	**-0.8**
BJT	**Baijiatuau**	**41.69**	**24**	*e*P	**P**	**12 44 19.6**	**+0.5**
BJT				*e*pP	pP	12 44 27.2	+0.4
BJI	**Beijing**	**41.72**	**24**	P	**P**	**12 44 18.9**	**-0.4**
	comp=Z,5.0nm,0.7s,mb4.2						
AAK	**Ala-Archa**	**44.04**	**338**	*e*P	**P**	**12 44 39.2**	**+0.9**
	comp=Z,2.8nm,0.7s,mb4.1						
AAK				*e*pP	pP	12 44 47.5	+1.6
WRA	**Warramunga Arr**	**44.23**	**122**	P	**P**	**12 44 40.9**	**+0.9**
	comp=Z,3.2nm,0.7s,mb4.2,baz=299,slow=9.5,SNR=7.7						
WRA				pP	pP	12 44 48.6	+0.8
	comp=Z,3.9nm,0.7s,baz=301,slow=8.9,SNR=11						
WRAB	**Tennant Creek**	**44.24**	**122**	*e*P	**P**	**12 44 39.6**	**-0.5**
	comp=Z,10nm,0.9s,mb4.6						
WRAB				*e*pP	pP	12 44 48.7	+0.8
ASAR	**Alice Springs**	**45.61**	**127**	P	**P**	**12 44 50.6**	**-0.4**
	comp=Z,1.0nm,0.6s,mb3.9,baz=293,slow=7.9,SNR=8.9						
ASAR				LR	LR	13 06 42.1	
	comp=Z,46nm,18.4s,MS3.5,baz=316,slow=40						
SONM	**Songino Array**	**46.03**	**10**	P	**P**	**12 44 53.5**	**-0.5**
	comp=Z,4.0nm,0.8s,mb4.4,baz=192,slow=8.3,SNR=28						
SONM				pP	pP	12 45 01.1	-0.7
	comp=Z,2.6nm,0.8s,baz=191,slow=8.4,SNR=7.9						
SONM				PcP	PcP	12 46 31.1	+0.4
	comp=Z,1.2nm,0.7s,baz=200,slow=3.8,SNR=4.7						
SONM				pPcP		12 46 39.1	
	comp=Z,3.2nm,0.7s,baz=188,slow=3.6,SNR=12						
TLY	**Talaya**	**49.38**	**7**	*e*P	**P**	**12 45 20.4**	**+0.2**
KURK	**Kurchatov**	**50.01**	**346**	*e*P	**P**	**12 45 24.5**	**-0.4**
	comp=Z,3.3nm,0.7s,mb4.5						
KURK				*e*pP	pP	12 45 33.0	+0.1
ZAL	**Zalesovo**	**51.91**	**352**	P	**P**	**12 45 39.3**	**-0.1**
	comp=Z,5.4nm,0.6s,mb4.7,baz=309,slow=6.2,SNR=36						
ZAL				pP	pP	12 45 46.9	-0.4
	comp=Z,5.9nm,0.8s,baz=314,slow=6.2,SNR=11						
BVAR	**Borovoye Array**	**54.37**	**342**	P	**P**	**12 45 56.7**	**-0.9**
	comp=Z,4.7nm,0.6s,mb4.6,baz=144,slow=9.1,SNR=38						
BVAR				pP	pP	12 46 04.5	-1.0
	comp=Z,4.5nm,0.7s,baz=143,slow=7.4,SNR=12						
BRVK	**Borovoye**	**54.43**	**342**	*e*P	**P**	**12 45 57.3**	**-0.8**
	comp=Z,4.4nm,0.6s,mb4.6						
BRVK				*e*pP	pP	12 46 05.5	-0.5
CHKZ	**Chkalovo**	**54.86**	**342**	*e*P	**P**	**12 46 00.7**	**-0.5**
	comp=Z,9.6nm,0.7s,mb4.9						
CHKZ				*e*pP	pP	12 46 08.7	-0.5
STKA	**Stephens Creek**	**55.57**	**132**	P	**P**	**12 46 06.6**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.1,baz=267,slow=7.1,SNR=4.2						
STKA	**Stephens Creek**	**55.57**	**132**	P	**P**	**12 46 06.6**	**-0.1**
KMBO	**Kilima Mbogo**	**58.34**	**267**	P	**P**	**12 46 27.6**	**+1.1**
	comp=Z,1.0nm,0.8s,mb3.9,baz=62,slow=10,SNR=3.2						
KMBO				pP	pP	12 46 36.1	+1.5
	comp=Z,1.4nm,0.7s,baz=49,slow=19,SNR=3.4						
AKASG	**Malin Array Be**	**73.10**	**323**	P	**P**	**12 48 02.0**	**+1.2**
	comp=Z,3.1nm,0.7s,mb4.3,baz=89,slow=4.2,SNR=7.1						
FINES	**FINESS Array B**	**77.97**	**333**	P	**P**	**12 48 28.4**	**+0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=113,slow=11,SNR=3.2						
FINES				pP	pP	12 48 36.0	-0.4
	comp=Z,1.9nm,0.7s,baz=45,slow=5.4,SNR=3.5						
GERES	**GERESS Array B**	**82.63**	**319**	pP	pP	12 49 02.3	+0.8
	comp=Z,0.8nm,0.6s,baz=90,slow=5.3,SNR=4.5						

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*SSS **24** 12:48:53.7, 17.73N×85.93W, h36km, MD6.2*
*IDC **24** 12:49:03.5±1.9, 16.84N×85.97W, mb4.3/10, mb1 4.5/11, mb1mx4.2/20, mbtmp4.3/11, ML3.9/1, MS3.5/5, Ms1 3.5/5, ms1mx2.9/19, Error ellipse: s-maj=51.3km s-min=21.4km az=25.0*
*CASC **24** 12:49:04.7±2.0, 17.77N×87.63W, h25km, MD4.6, ML4.3*
*NEIC **24** 12:49:05.6±0.8, 16.58N×86.21W, h25km, mb4.4/13, Error ellipse: s-maj=13.4km s-min=8.8km az=175.0*
*INET **24** 12:49:17.6, 15.29N×90.08W, h15km, ML4.7*
ISC 24 12:49:12.6±0.7, 17.25N±0.04×86.17W±0.08, h58km±9km, h56km±1.8km:pP-P, n63, σ1§09/62, mb4.3/15, MS3.4/4, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**3.57**	**326**	*e*Pn	**P**	**12 50 06.2**	**-0.8**
TEIG				*e*Sn	**S**	**12 50 47.5**	**-0.7**
CAHU	**Cacacuatique**	**3.98**	**210**	*e*P	**P**	**12 50 05.9**	**-6.7**
CAHU				*e*S	**S**	**12 50 52.6**	**-5.8**
CNCH	**Conchagua**	**4.26**	**202**	*e*P	**P**	**12 50 10.9**	**-5.7**
BLLM	**Bellamira**	**4.28**	**208**	*e*P	**P**	**12 50 09.0**	**-7.8**
BLLM				*e*S	**S**	**12 50 60.0**	**-6.0**
CRIN	**San Cristobal**	**4.60**	**191**	*e*P	**P**	**12 50 19.4**	**-2.0**
TELN	**Telica**	**4.66**	**188**	*e*P	**P**	**12 50 21.9**	**-0.4**
PYTN	**Playitas**	**4.68**	**179**	*e*P	**P**	**12 50 23.8**	**+1.2**
PYTN				*i*		12 51 30.4	
	comp=N,618nm,0.7s						
TEL3	**Telica 3**	**4.69**	**188**	*e*P	**P**	**12 50 23.1**	**+0.4**
CNGN	**Cerro Negro**	**4.75**	**186**	*e*P	**P**	**12 50 23.4**	**-0.1**
MIRN	**Miramar**	**4.81**	**186**	*e*P	**P**	**12 50 21.7**	**-2.6**
MOMJ	**Momotombo**	**4.82**	**184**	*e*P	**P**	**12 50 25.2**	**+0.7**
LEON	**Leon**	**4.85**	**188**	*e*P	**P**	**12 50 24.7**	**-0.3**
APYN	**Apoyeque**	**4.99**	**182**	*e*P	**P**	**12 50 28.5**	**+1.7**
COPN	**Copaltepe**	**5.05**	**185**	*e*P	**P**	**12 50 27.4**	**-0.3**
WILN	**Americas 2**	**5.06**	**180**	*e*P	**P**	**12 50 30.8**	**+3.1**
XAVN	**Gruta Xavier**	**5.07**	**182**	*e*P	**P**	**12 50 26.4**	**-1.5**
TICN	**Ticuantepe**	**5.18**	**181**	*e*P	**P**	**12 50 29.6**	**+0.1**
APON	**Apoyo**	**5.30**	**179**	*e*P	**P**	**12 50 33.1**	**+2.0**
CONN	**Concepcion**	**5.67**	**175**	*e*P	**P**	**12 50 39.1**	**+2.9**
CMIG	**Matias Romero**	**8.33**	**270**	*i*P	**P**	**12 51 02.4**	**-11**
EVV	**El Vigia**	**8.82**	**279**	*e*P	**P**	**12 51 11.0**	**-8.9**
LVIG	**Laguna Verde**	**10.03**	**286**	*i*P	**P**	**12 51 28.6**	**-8.0**
OXX	**Oaxaca**	**10.09**	**271**	*i*P	**P**	**12 51 29.0**	**-8.4**
DWPF	**Disney**	**11.66**	**21**	Pn	**P**	**12 51 57.4**	**-1.2**
PPM	**Popocatepetl**	**11.98**	**281**	*e*P	**P**	**12 51 54.5**	**-8.4**
HKT	**Hockley**	**15.43**	**327**	*e*Pn	**P**	**12 52 49.3**	**+1.3**
	comp=N,10nm,0.6s						
LRAL	**Lakeview Retre**	**15.74**	**357**	*e*Pn	**P**	**12 52 53.1**	**+1.1**
NHSC	**New Hope**	**16.69**	**18**	P	**P**	**12 53 03.9**	**-0.1**
	comp=N,49nm,0.6s						
SDV	**Santo Domingo**	**17.26**	**117**	Pn	**P**	**12 53 01.2**	**-10**
	comp=N,0.4nm,0.3s,baz=312,slow=8.6,SNR=5.7						
JSC	**Jenkinsville**	**17.53**	**14**	*e*P	**P**	**12 53 15.5**	**+1.0**
JCT	**Junction City**	**18.11**	**319**	P	**P**	**12 53 20.2**	**-1.5**
	comp=N,16nm,0.4s						
WVT	**Waverly**	**18.87**	**356**	*e*P	**P**	**12 53 31.2**	**+0.5**
	comp=N,11nm,0.6s						
SJG	**San Juan**	**19.10**	**84**	LR	LR	13 00 29.5	
	comp=N,179nm,18.1s,baz=280,slow=36						
TXAR	**Lajitas Array**	**20.04**	**310**	P	**P**	**12 53 43.3**	**-0.2**
	comp=N,13nm,0.7s,baz=129,slow=11,SNR=157						
TXAR				LR	LR	13 02 08.4	
	comp=N,69nm,19.9s,MS3.0,baz=195,slow=38						
WMOK	**Wichita Mounta**	**20.75**	**330**	*e*P	**P**	**12 53 51.5**	**+0.7**
	comp=N,21nm,1.3s						
WCI	**Wyandotte Cave**	**20.90**	**360**	*e*P	**P**	**12 53 53.5**	**+1.1**
	comp=N,12nm,0.8s						
AMTX	**Amarillo**	**22.37**	**325**	*e*P	**P**	**12 54 07.8**	**+0.8**
	comp=N,16nm,0.8s,mb4.5						
AMTX				S	**S**	**12 58 19.4**	**+15**
MNTX	**Cornudas Mount**	**22.59**	**313**	*e*P	**P**	**12 54 08.8**	**-0.5**
	comp=N,18nm,1.1s,mb4.4						
MNTX				*e*		12 54 22.5	
ANMO	**Albuquerque**	**25.27**	**318**	P	**P**	**12 54 36.0**	**+0.9**
	comp=N,7.8nm,0.8s,mb4.3,baz=136,slow=9.3,SNR=32						
ANMO				LR	LR	13 07 57.6	
	comp=N,66nm,19.7s,MS3.1,slow=44						
ANMO	**Albuquerque**	**25.27**	**318**	*e*P	**P**	**12 54 35.8**	**+0.7**
	comp=N,7.9nm,0.8s,mb4.3						
ANMO				*e*	pP	12 54 49.0	-0.2
ANMO				LR	LR	13 07 57.6	
SDCO	**Great Sand Dun**	**26.56**	**324**	*e*P	**P**	**12 54 47.7**	**+0.6**
	comp=N,2.5nm,0.8s,mb3.8						
SDCO				*e*	pP	12 55 01.9	+0.6
TUC	**Tucson**	**26.82**	**309**	*e*P	**P**	**12 54 49.6**	**+0.1**
	comp=N,8.5nm,1.3s,mb4.1						
TUC				*e*	pP	12 55 04.8	+1.0
SADO	**Sadowa**	**28.07**	**11**	LR	LR	13 07 23.4	
	comp=N,100nm,18.2s,MS3.4,baz=256,slow=39						
WUAZ	**Wupatki**	**28.86**	**314**	*e*P	**P**	**12 55 08.0**	**+0.1**
	comp=N,47nm,0.8s,mb5.3						
ARUT	**Antelope Range**	**31.49**	**316**	*e*P	**P**	**12 55 31.7**	**+0.6**
ARUT				*e*	pP	12 55 45.6	-0.1
NLU	**North Lily Min**	**31.87**	**321**	*e*P	**P**	**12 55 34.5**	**0.0**
BW06	**Boulder Array**	**32.30**	**327**	*e*P	**P**	**12 55 38.0**	**-0.1**
	comp=N,0.7nm,0.6s,mb3.7						
PDAR	**Pinedale Array**	**32.30**	**327**	P	**P**	**12 55 36.9**	**-1.3**
	comp=N,1.0nm,0.8s,mb3.7,baz=121,slow=11,SNR=7.8						
TPAW	**Teton Pass**	**33.54**	**326**	*e*P	**P**	**12 55 49.5**	**+0.6**
TPAW				*e*	pP	12 56 03.0	-0.6
MOOW	**Moose Ponds**	**33.61**	**327**	*e*P	**P**	**12 55 49.4**	**-0.1**
NVAR	**Mina Array Bea**	**35.12**	**313**	P	**P**	**12 56 03.3**	**+0.9**
	comp=N,4.9nm,0.8s,mb4.5,baz=118,slow=9.6,SNR=29						
SCHQ	**Schefferville**	**40.36**	**17**	P	**P**	**12 56 46.1**	**+0.1**
	comp=N,6.6nm,0.9s,mb4.4,baz=248,slow=9.0,SNR=12						
SCHQ				LR	LR	13 14 02.8	
	comp=N,147nm,19.3s,MS3.9,baz=231,slow=37						
FRB	**Frobisher Bay**	**48.01**	**10**	P	**P**	**12 57 46.0**	**-1.6**
	comp=N,3.8nm,0.7s,mb4.5,baz=207,slow=7.7,SNR=6.4						
FRB	**Frobisher Bay**	**48.01**	**10**	P	**P**	**12 57 46.0**	**-1.6**
YKA	**Yellowknife Ar**	**49.37**	**343**	P	**P**	**12 57 57.5**	**-0.5**
	comp=N,0.6nm,0.5s,mb3.9,baz=138,slow=7.8,SNR=46						
YKA	**Yellowknife Ar**	**49.37**	**343**	P	**P**	**12 57 57.5**	**-0.5**
DBIC	**Dimbokro**	**79.79**	**86**	P	**P**	**13 01 13.7**	**-3.1**
	comp=N,1.6nm,0.6s,mb4.1,baz=261,slow=9.2,SNR=4.7						
ARCES	**ARCESS Array B**	**81.28**	**19**	P	**P**	**13 01 23.0**	**-0.6**
	comp=N,2.8nm,0.8s,mb4.2,baz=297,slow=2.7,SNR=8.9						
CLL	**Collm**	**82.31**	**39**	P	**P**	**13 01 28.0**	**-1.3**
FINES	**FINESS Array B**	**85.15**	**27**	P	**P**	**13 01 43.1**	**-0.2**
	comp=N,3.1nm,0.6s,mb4.6,baz=254,slow=2.0,SNR=13						
WRA	**Warramunga Arr**	**141.57**	**260**	PKhKP		13 08 29.8	
	comp=N,0.5nm,0.7s,baz=85,slow=3.0,SNR=5.7						
ASAR	**Alice Springs**	**142.00**	**254**	PKhKP		13 08 30.8	
	comp=N,0.5nm,0.6s,baz=102,slow=4.1,SNR=11						
CMAR	**Chiang Mai Arr**	**144.17**	**352**	PKP	PKPdf	13 08 41.0	-1.6
	comp=N,0.6nm,0.5s,baz=2.8,slow=4.1,SNR=5.4						

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*MOS **24** 12:54:45.6±2.1, 43.52N×45.07E, h10km, mb3.7/1, Error ellipse: s-maj=9.0km s-min=7.6km az=89.6*
MOS Felt (III) at Nazran.
*TIF **24** 12:54:46.1, 43.44N×44.97E, h10km±2km*
*IDC **24** 12:54:46.3±1.2, 43.60N×45.14E, mb3.4/5, mb1 3.6/7, mb1mx3.5/18, mbtmp3.5/7, ML2.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/13, Error ellipse: s-maj=36.9km s-min=12.3km az=87.0*
*NEIC **24** 12:54:48.5±0.7, 43.62N×44.97E, h10km, mb3.7/1, Error ellipse: s-maj=13.5km s-min=11.4km az=170.0*
NEIC Felt [III] at Nazran. Felt at Malgobek and Sunzha.
*CSEM **24** 12:54:51.4±0.3, 43.30N×44.63E, h10km, mb3.7, Error ellipse: s-maj=7.8km s-min=2.9km az=59.0*
ISC 24 12:54:44.7±1.1, 43.56N±0.03×45.14E±0.05, h2km±7km, n31, σ1§23/47, mb3.4/6, MS3.2/1, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**1.20**	**229**	*i*Pg	**Pn**	**12 55 05.7**	**-2.8**
ZEI				*i*Sg	**Sn**	**12 55 20

GNI	**Garni**	**3.42**	**185**	Pn	**Pn**	**12 55 43.1**	**+2.9**
GNI				Sn	**Sn**	**12 56 28.3**	**+6.5**
ANN	**Anapa**	**5.68**	**285**	*e*P	**Pn**	**12 56 07.8**	**-4.4**
ANN				*e*S	**Sn**	**12 57 10.5**	**-8.4**
ANN				pmax	pmax		
	comp=Z,22nm,0.9s						
ANN				smax			
	comp=N,57nm,1.5s						
ANN				smax			
	comp=E,34nm,1.5s						
ANN				smax			
	comp=Z,62nm,1.5s						
ANN	**Anapa**	**5.68**	**285**	*e*P	**Pn**	**12 56 07.8**	**-4.4**
	comp=Z,11nm,0.9s						
ANN				*e*S	**Sn**	**12 57 10.5**	**-8.4**
ARU	**Arti**	**15.47**	**29**	*e*P	**P**	**12 58 24.2**	**-1.1**
ARU				*e*S	**S**	**13 01 14.7**	**-3.3**
BVAR	**Borovoye Array**	**19.19**	**52**	P	**P**	**12 59 12.2**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=259,slow=7.3,SNR=3.1						
CHKZ	**Chkalovo**	**19.55**	**50**	*e*P	**P**	**12 59 16.9**	**+0.8**
FINES	**FINESS Array B**	**21.19**	**334**	P	**P**	**12 59 34.1**	**+0.5**
	comp=Z,1.6nm,0.8s,mb3.4,baz=135,slow=14,SNR=3.1						
GERES	**GERESS Array B**	**22.30**	**295**	P	**P**	**12 59 45.5**	**+0.9**
	comp=Z,0.2nm,0.3s,mb3.0,baz=101,slow=10.0,SNR=2.4						
CLL	**Collm**	**22.94**	**301**	*e**SP		12 59 57.0	
KURK	**Kurchatov**	**23.72**	**61**	P	**P**	**13 00 01.2**	**+2.7**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.4						
KURK	**Kurchatov**	**23.72**	**61**	P	**P**	**13 00 01.2**	**+2.7**
	comp=Z,1.5nm,0.7s,mb3.5						
HFS	**Hagfors**	**25.19**	**322**	P	**P**	**13 00 12.5**	**-0.2**
	comp=Z,2.0nm,0.7s,mb3.8,baz=124,slow=10,SNR=3.8						
ZAL	**Zalesovo**	**27.79**	**54**	P	**P**	**13 00 34.4**	**-2.2**
	comp=Z,0.6nm,0.4s,mb3.6,baz=126,slow=24,SNR=3.7						
ZAL				LR	LR	13 12 35.7	
	comp=Z,63nm,20.3s,MS3.2,baz=151,slow=38						
ZAL	**Zalesovo**	**27.79**	**54**	P	**P**	**13 00 34.4**	**-2.2**
ZAL				LR	LR	13 12 35.7	
YKA	**Yellowknife Ar**	**73.05**	**350**	P	**P**	**13 06 17.0**	**-0.3**
	comp=Z,0.2nm,0.9s,mb3.1,baz=20,slow=5.9,SNR=3.6						

IGQ 24 12:59:04.2, 1.03S×81.37W, h2^{km}±6^{km}, mb4.6, 4C-9D, Error ellipse: s-maj=14.8km s-min=6.3km az=170.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.83**	**91**	⇓P	Pg	12 59 19.6	-1.2
IGUA	**Igualata**	**2.77**	**100**	⇓P	Pn	12 59 51.9	+1.5
JUA2	**San Juan 2**	**2.88**	**74**	⇓P	Pn	12 59 53.5	+1.5
TERV	**Terraza Guagua**	**2.90**	**73**	⇑P	Pn	12 59 53.6	+1.4
PINO	**Pino**	**2.90**	**73**	⇓P	Pn	12 59 52.8	+0.6
CUSU	**Cusua**	**2.92**	**98**	P	Pn	12 59 54.9	+2.4
NAS1	**Nasa**	**2.92**	**82**	P	Pn	12 59 55.0	+2.4
JUIV	**Juive**	**2.93**	**98**	⇑P	Pn	12 59 54.0	+1.3
YANA	**Yana**	**2.94**	**72**	⇓P	Pn	12 59 53.5	+0.6
ARRY	**Arrayan**	**2.95**	**99**	⇓P	Pn	12 59 54.1	+1.0
ARRY				S	Sn	13 00 29.0	-0.5
RETU	**Refugio**	**2.96**	**98**	P	Pn	12 59 55.7	+2.7
PATA	**Patacocha**	**2.98**	**99**	P	Pn	12 59 56.1	+2.8
PATA				S	Sn	13 00 30.8	+0.7
RUN2	**Runtun**	**2.98**	**98**	P	Pn	12 59 55.4	+1.9
PISA	**Pisayambo**	**2.99**	**91**	⇓P	Pn	12 59 55.1	+1.6
ULBA	**Ulba**	**2.99**	**98**	P	Pn	12 59 55.2	+1.6
ULBA				S	Sn	13 00 31.3	+0.8
VC1	**Cotopaxi 1**	**2.99**	**83**	⇓P	Pn	12 59 55.4	+1.8
TAMB	**Tambo**	**3.02**	**84**	P	Pn	12 59 56.8	+2.9
ANTI	**Antisana**	**3.26**	**80**	P	Pn	12 59 59.6	+2.2
COTA	**Cotacachi**	**3.32**	**66**	⇓P	Pn	12 59 59.0	+0.8
CAYR	**Refugio Cayambe**	**3.52**	**73**	⇑P	Pn	13 00 03.8	+2.8
CAYR				S	Sn	13 00 45.7	+1.8
CAYA	**Cayambe**	**3.55**	**72**	⇑P	Pn	13 00 04.0	+2.5
CAYA				S	Sn	13 00 45.5	+0.8
CONE	**Cono NE Rev Vo**	**3.85**	**76**	P	Pn	13 00 09.0	+3.3

IDC 24 13:41:41.9±13.0, 4.57S×125.60E, mb3.9/2, mb1 4.2/3, mb1mx3.8/15, mbtmp4.0/3, ML4.1/1, Error ellipse: s-maj=324.9km s-min=189.2km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.49**	**152**	P	P	13 45 47.5	-1.5
	0.7nm,0.3s,baz=330,slow=12,SNR=63						
ASAR	**Alice Springs**	**20.61**	**158**	P	P	13 46 22.9	-2.6
	2.9nm,0.4s,baz=337,slow=11,SNR=65						
ASAR				pP		13 46 26.6	
	3.2nm,0.4s,baz=335,slow=12,SNR=21						
STKA	**Stephens Creek**	**31.04**	**153**	P	P	13 48 01.6	-2.2
	0.7nm,0.5s,baz=322,slow=12,SNR=3.1						

IDC 24 13:42:37.5±3.0, 32.09S×177.58W, mb3.9/3, mb1 4.0/4, mb1mx3.8/16, mbtmp3.8/4, ML2.9/1, Error ellipse: s-maj=64.4km s-min=36.3km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.54**	**214**	Pn	Pn	13 44 29.1	-2.2
	0.2nm,0.3s,baz=218,slow=21,SNR=4.2						
URZ				Sn	Sn	13 45 54.9	-3.6
	0.9nm,0.3s,baz=130,slow=24,SNR=7.2						
CTA	**Charters Tower**	**34.46**	**281**	P	P	13 49 28.0	-1.1
	3.7nm,0.9s,baz=96,slow=10,SNR=2.3						
ASAR	**Alice Springs**	**43.40**	**269**	P	P	13 50 41.5	-2.1
	0.7nm,0.6s,baz=109,slow=7.3,SNR=8.1						
WRA	**Warramunga Arr**	**44.55**	**274**	P	P	13 50 50.7	-2.3
	0.4nm,0.4s,baz=111,slow=8.1,SNR=6.3						
FINES	**FINESS Array B**	**146.85**	**339**	PKPbc	PKPbc	14 02 20.2	-0.4
	3.4nm,1.1s,baz=63,slow=4.3,SNR=7.0						

IDC 24 13:48:47.9±6.8, 5.49S×151.38E, h69^{km}±57^{km}, mb3.3/3, mb1 3.7/4, mb1mx3.4/13, mbtmp3.7/4, ML3.1/1, Error ellipse: s-maj=142.1km s-min=33.1km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.71**	**227**	P	P	13 50 10.3	-1.6
	3.2nm,0.3s,baz=52,slow=5.4,SNR=13						
PMG				S	S	13 51 14.8	-2.0
	2.2nm,0.3s,baz=116,slow=20,SNR=3.7						
WRA	**Warramunga Arr**	**21.93**	**228**	P	P	13 53 36.2	-0.9
	0.7nm,0.5s,baz=54,slow=9.8,SNR=13						
ASAR	**Alice Springs**	**24.69**	**221**	P	P	13 54 02.7	-1.3
	1.9nm,0.7s,baz=52,slow=9.7,SNR=14						
ILAR	**Eielson Array**	**83.33**	**22**	P	P	14 01 06.8	-1.5
	0.4nm,0.6s,baz=248,slow=5.1,SNR=8.3						

*JMA **24** 13:49:45.8±0.3, 24.94N×122.92E, h18^{km}, M2.3*
TAP 24 13:49:48.5, 24.74N×122.71E, h9^{km}±1^{km}, ML3.1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.39**	**135**	P	Pg	13 49 55.2	-1.2
YOJ				*e*S	Sg	13 50 01.8	+0.1
IRIF	**Iriomote-Funau**	**1.01**	**113**	P	Pb	13 50 03.0	-4.8
HATJ	**Hateruma jima**	**1.21**	**124**	P	Pb	13 50 07.5	-3.6
JKRS	**Kuro-shima**	**1.28**	**113**	P	Pb	13 50 07.7	-4.7
JIJ	**Ishigaki jima**	**1.36**	**106**	P	Pb	13 50 08.6	-5.1

IDC 24 13:53:23.7±1.4, 10.80N×141.00E, mb3.7/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.7/5, MS3.2/1, Ms1 3.2/1, ms1mx2.3/21, Error ellipse: s-maj=78.7km s-min=25.9km az=93.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**20.99**	**163**	LR	LR	14 05 20.4	
	comp=Z,63nm,19.1s,baz=269,slow=34						
WRA	**Warramunga Arr**	**31.25**	**192**	P	P	13 59 44.6	-3.0
	0.8nm,0.8s,baz=12,slow=9.8,SNR=5.5						
WRA				pP	pP	13 59 56.3	+8.8
	1.0nm,0.8s,baz=11,slow=9.9,SNR=5.2						
ASAR	**Alice Springs**	**34.95**	**191**	P	P	14 00 18.2	-1.5
	0.5nm,0.5s,baz=19,slow=12,SNR=7.6						
BVAR	**Borovoye Array**	**69.80**	**323**	P	P	14 04 35.9	-2.0
	0.4nm,0.6s,baz=90,slow=7.2,SNR=2.5						
BVAR				pP	pP	14 04 45.1	+7.2
	1.2nm,0.9s,baz=101,slow=7.6,SNR=3.4						
YKA	**Yellowknife Ar**	**87.05**	**27**	P	P	14 06 10.4	-1.7
	0.2nm,0.7s,baz=289,slow=5.0,SNR=4.3						
FINES	**FINESS Array B**	**92.05**	**334**	P	P	14 06 35.4	-0.3
	0.7nm,0.8s,baz=53,slow=6.9,SNR=2.3						

KRSC 24 13:59:38.7±0.3, 52.63N×156.34E, h289^{km}±5^{km}, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**0.58**	**59**	*e*P	P	14 00 16.0	-0.5
APC				*e*S	S	14 00 42.5	-3.6
GRL	**Gorelyy**	**1.06**	**94**	*i* P	P	14 00 19.2	+0.8
PAU	**Pauzhetka**	**1.20**	**166**	*i* P	P	14 00 19.5	+0.3
RUS	**Russkaya**	**1.34**	**98**	*i* P	P	14 00 19.6	-0.4
RUS				*i* S	S	14 00 49.3	-3.0
GNL	**Ganaly**	**1.44**	**41**	*e*P	P	14 00 20.6	-0.1
PET	**Petropavlovsk**	**1.46**	**73**	*i* P	P	14 00 20.7	-0.1
PET				*i* S	S	14 00 51.3	-2.3
KOK	**Koryaka**	**1.54**	**64**	*e*P	P	14 00 21.7	+0.4
KOK				*i* S	S	14 00 53.1	-1.5
AVH	**Avacha**	**1.58**	**65**	*i* P	P	14 00 22.0	+0.4
UGLR	**Uglovaya**	**1.61**	**68**	*i* P	P	14 00 22.5	+0.7
SMAR	**Somma**	**1.62**	**66**	*i* P	P	14 00 22.5	+0.6
NLC	**Nalytchevo**	**1.90**	**72**	*e*P	P	14 00 23.6	-0.3
NLC				*i* S	S	14 00 56.7	-2.5
SPN	**Mys Shipunski**	**2.28**	**77**	*i* P	P	14 00 26.2	-1.0
SPN				*i* S	S	14 01 01.1	-3.9

*JMA **24** 14:01:12.1±0.1, 24.40N×122.41E, h12^{km}, M2.3*
TAP 24 14:01:16.6, 24.66N×122.73E, h14^{km}±2^{km}, ML2.7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.32**	**128**	P	Pg	14 01 22.8	-0.7
YOJ				S	Sg	14 01 30.3	+2.1
IRIF	**Iriomote-Funau**	**0.97**	**109**	P	Pb	14 01 34.2	-0.4
JKRS	**Kuro-shima**	**1.24**	**110**	P	Pb	14 01 38.7	-0.6
JIJ	**Ishigaki jima**	**1.32**	**103**	P	Pb	14 01 40.3	-0.3

*IDC **24** 14:01:29.6±1.0, 7.25N×92.45E, h36^{km}±6^{km}, mb3.6/6, mb1 3.9/7, mb1mx3.7/18, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=44.5km s-min=16.1km az=54.0*
*NEIC **24** 14:01:29.6±0.6, 7.23N×92.45E, mb4.2/4, Error ellipse: s-maj=12.0km s-min=9.9km az=223.0*
ISC 24 14:01:27.8±0.6, 7.19N±0.08×92.47E±0.09, h37^{km}, h37^{km}±1.3^{km}: pP-P, n23, σ0^{s}76/23, mb4.2/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.67**	**271**	*e*Pn	**P**	**14 04 15.1**	**+0.2**
CM31	**Chiang Mai Arr**	**12.85**	**29**	*e*Pn	**P**	**14 04 31.2**	**+0.6**
	7.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**12.85**	**29**	Pn	**P**	**14 04 28.9**	**-1.8**
	0.1nm,0.3s,baz=225,slow=14,SNR=6.0						
HYB	**Hyderabad**	**16.96**	**308**	*e*P	**P**	**14 05 22.0**	**-1.9**
HYB	**Hyderabad**	**16.96**	**308**	*i* P	**P**	**14 05 22.0**	**-1.9**
HYB				*e*S	**S**	**14 08 15.0**	**-15**
SHL	**Shillong**	**18.28**	**358**	*e*P	**P**	**14 05 44.5**	**+4.1**
SHL				*e*		14 08 38.5	
JIRN	**Jiri**	**21.21**	**344**	*e*P	**P**	**14 06 12.6**	**0.0**
	30nm,0.8s,mb4.7						
PKI	**Pulchoki**	**21.34**	**343**	*e*P	**P**	**14 06 14.6**	**+0.7**
	76nm,1.1s,mb4.9						
DMN	**Daman**	**21.47**	**342**	*e*P	**P**	**14 06 15.1**	**-0.1**
	10nm,0.4s,mb4.5						
KKN	**Kakani**	**21.59**	**342**	*e*P	**P**	**14 06 17.3**	**+0.9**
KOLN	**Koldanda**	**22.12**	**339**	*e*P	**P**	**14 06 22.5**	**+0.8**
	10nm,0.5s,mb4.5						
LSA	**Lhasa**	**22.42**	**357**	*e*P	**P**	**14 06 25.2**	**+0.5**
	4.4nm,0.8s,mb3.9						
LSA				pP		14 06 33.9	
AAK	**Ala-Archa**	**38.70**	**339**	*e*P	**P**	**14 08 50.5**	**+0.7**
	2.5nm,0.9s,mb3.9						
SONM	**Songino Array**	**42.20**	**14**	P	**P**	**14 09 18.6**	**-0.2**
	0.4nm,0.6s,mb3.2,baz=194,slow=6.5,SNR=3.3						
ZAL	**Zalesovo**	**47.02**	**354**	pP	pP	14 10 08.4	+0.4
BVAR	**Borovoye Array**	**49.11**	**343**	P	**P**	**14 10 13.5**	**-0.1**
	0.4nm,0.5s,mb3.7,baz=162,slow=4.6,SNR=2.6						
WRA	**Warramunga Arr**	**49.24**	**124**	P	**P**	**14 10 15.0**	**-0.1**
	4.4nm,0.8s,mb4.6,baz=301,slow=9.0,SNR=41						
WRA				pP	pP	14 10 25.9	+0.1
	2.9nm,0.7s,baz=303,slow=8.9,SNR=9.9						
WRAB	**Tennant Creek**	**49.24**	**124**	*e*P	**P**	**14 10 14.8**	**-0.2**
	7.2nm,0.6s,mb4.9						
CHKZ	**Chkalovo**	**49.62**	**343**	*e*P	**P**	**14 10 16.7**	**-0.8**
	1.7nm,0.4s,mb4.4						
CHKZ				*e*pP	pP	14 10 27.6	-0.7
ASAR	**Alice Springs**	**50.77**	**128**	P	**P**	**14 10 26.6**	**-0.1**
	1.6nm,0.7s,mb4.1,baz=303,slow=7.0,SNR=17						
ASAR				pP	pP	14 10 37.8	+0.2
	2.4nm,0.6s,baz=303,slow=7.2,SNR=14						
STKA	**Stephens Creek**	**60.85**	**133**	P	**P**	**14 11 39.7**	**+0.5**
	1.2nm,0.7s,mb4.1,baz=323,slow=10,SNR=3.4						
STKA				pP	pP	14 11 49.8	-0.3
	2.0nm,0.6s,baz=320,slow=7.0,SNR=3.9						
STKA	**Stephens Creek**	**60.85**	**133**	P	**P**	**14 11 39.7**	**+0.5**
STKA				pP	pP	14 11 49.8	-0.3
GERES	**GERESS Array B**	**77.23**	**318**	P	**P**	**14 13 19.6**	**-0.2**
	0.4nm,0.6s,mb3.5,baz=127,slow=4.9,SNR=3.0						
GERES				pP	pP	14 13 31.2	0.0
	1.9nm,1.0s,baz=76,slow=4.0,SNR=3.4						

*TRN **24** 14:03:22.9, 10.54N×62.18W, h5^{km}, MD3.4*
*NEIC **24** 14:03:22.4, 10.49N×62.21W, h5^{km}, MD3.4(TRN), After TRN.*
*FUNV **24** 14:03:22.9, 10.33N×62.01W, h9^{km}, MW2.8*
ISC 24 14:03:22.6±0.9, 10.24N±0.03×62.18W±0.03, h10^{km}±6^{km}, n17, σ1^{s}21/31, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.41**	**354**	*e*P	**Pg**	**14 03 30.3**	**-0.6**
GUIV				*e*S	**Sg**	**14 03 35.4**	**-1.2**
TPP	**Pointe-a-Pierr**	**0.72**	**84**	*e*P	**Pb**	**14 03 37.3**	**+0.5**
TPP				*e*S	**Sb**	**14 03 48.3**	**+1.9**
GUNV	**Guanoco**	**0.75**	**264**	*e*P	**Pb**	**14 03 39.7**	**+2.4**
GUNV				*e*S	**Sb**	**14 03 52.5**	**+5.1**
TRN	**Trinidad (W)**	**0.87**	**62**	*e*P	**Pb**	**14 03 37.0**	**-2.2**
TRN				*e*S	**Sb**	**14 03 49.0**	**-1.7**
TBH	**Brigand Hill**	**1.12**	**77**	*e*P	**Pb**	**14 03 44.5**	**+0.9**
CRUV	**Carupano**	**1.13**	**293**	*e*P	**Pb**	**14 03 44.7**	**+1.0**
CRUV				*e*S	**Sb**	**14 03 59.8**	**+1.6**
ITEV	**Isla Los Testi**	**1.45**	**320**	*e*P	**Pn**	**14 03 49.0**	**0.0**
ITEV				*e*S	**Sb**	**14 04 08.5**	**+0.8**
TPR	**Prospect**	**1.67**	**55**	*e*P	**Pn**	**14 03 51.6**	**-0.5**
TPR				*e*S	**Sn**	**14 04 14.4**	**+0.6**
ORIV	**Oritupano**	**1.68**	**226**	*e*P	**Pn**	**14 03 54.5**	**+2.3**
ORIV				*e*S	**Sn**	**14 04 17.9**	**+4.0**
GRW	**Mount Saint Ca**	**1.98**	**15**	*e*P	**Pn**	**14 03 57.3**	**+0.7**
GRW				*e*S	**Sn**	**14 04 21.4**	**-0.1**
RIOV	**Rio Grande**	**2.18**	**170**	*e*P	**Pn**	**14 03 59.0**	**-0.5**
RIOV				*e*S	**Sn**	**14 04 26.4**	**-0.4**
GURV	**El Guri**	**2.62**	**200**	*e*P	**Pn**	**14 04 06.5**	**+0.8**
CUPV	**Cœpira**	**3.56**	**267**	*e*P	**Pn**	**14 04 19.4**	**+0.4**
CUPV				*e*S	**Sn**	**14 05 00.9**	**-0.7**
BIRV	**Birongo**	**4.03**	**274**	*e*P	**Pn**	**14 04 26.1**	**+0.4**
BIRV				*e*S	**Sn**	**14 05 11.8**	**-1.8**
CAOV	**Caicara del Or**	**5.01**	**235**	*e*P	**Pn**	**14 04 39.8**	**+0.1**
CAOV				*e*S	**Sn**	**14 05 36.2**	**-2.2**
BAUV	**El Baul**	**5.92**	**258**	*e*P	**Pn**	**14 04 51.8**	**-0.7**
BAUV				*e*S	**Sn**	**14 05 57.1**	**-4.1**
PAYV	**Puerto Ayacuch**	**7.23**	**229**	*e*P	**Pn**	**14 05 09.3**	**-1.7**

*IDC **24** 14:04:18.7±1.0, 7.25N×92.28E, h31^{km}±5^{km}, mb3.7/5, mb1 4.0/6, mb1mx3.7/17, mbtmp3.9/6, ML4.2/1, Error ellipse: s-maj=41.8km s-min=16.6km az=56.0*
*NEIC **24** 14:04:19.9±0.7, 7.18N×92.48E, mb4.4/4, Error ellipse: s-maj=22.3km s-min=9.9km az=67.0*
ISC 24 14:04:18.0±0.7, 7.1N±0.1×92.5E±0.1, h32^{km}, h32^{km}±1.4^{km}: pP-P, n21, σ1^{s}34/21, mb4.4/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.96**	**29**	Pn	**P**	**14 07 20.6**	**-2.3**
	0.4nm,0.3s,baz=228,slow=14,SNR=8.3						
VIS	**Vishakhapatnam**	**13.83**	**321**	*e*P	**P**	**14 07 31.3**	**-3.1**
VIS				*e*		14 07 33.3	
	comp=Z,73nm,0.4s						
VIS				*e*S	**S**	**14 09 51.4**	**-16**
HYB	**Hyderabad**	**17.03**	**308**	*i* P	**P**	**14 08 14.5**	**-1.0**
HYB				*e*S	**S**	**14 11 21.5**	**-0.8**
JIRN	**Jiri**	**21.33**	**345**	*e*P	**P**	**14 09 06.6**	**+2.0**
	comp=Z,29nm,0.6s,mb4.8						
POO	**Poona**	**21.40**	**304**	*e*P	**P**	**14 08 55.0**	**-10**
PKI	**Pulchoki**	**21.46**	**343**	*e*P	**P**	**14 09 07.3**	**+1.4**
	comp=Z,51nm,0.9s,mb4.8						
DMN	**Daman**	**21.59**	**342**	*e*P	**P**	**14 09 09.5**	**+2.3**
	comp=Z,22nm,0.6s,mb4.8						
KKN	**Kakani**	**21.70**	**343**	*e*P	**P**	**14 09 10.0**	**+1.6**
	comp=Z,27nm,0.8s,mb4.7						
GKN	**Gorkha**	**22.10**	**341**	*e*P	**P**	**14 09 13.8**	**+1.5**
	comp=Z,32nm,0.6s,mb4.9						
KOLN	**Koldanda**	**22.24**	**339**	*e*P	**P**	**14 09 15.3**	**+1.6**
	comp=Z,19nm,0.6s,mb4.7						
LSA	**Lhasa**	**22.55**	**357**	*e*P	**P**	**14 09 16.3**	**-0.5**
	comp=Z,3.8nm,0.6s,mb4.0						
SONM	**Songino Array**	**42.33**	**14**	P	**P**	**14 12 08.9**	**-1.7**
	comp=Z,0.5nm,0.6s,mb3.3,baz=202,slow=7.8,SNR=2.7						
SONM				pP	pP	14 12 17.2	-3.0
	comp=Z,0.7nm,0.8s,baz=197,slow=9.2,SNR=2.5						
KURK	**Kurchatov**	**45.01**	**348**	*e*P	**P**	**14 12 31.4**	**-0.9**
	comp=Z,4.7nm,1.0s,mb4.3						
KURK				*e*pP	pP	14 12 41.7	-0.2
ZAL	**Zalesovo**	**47.14**	**354**	sP	sP	14 12 57.9	-4.9
	comp=Z,0.8nm,0.3s,baz=296,slow=7.0,SNR=3.7						
WRA	**Warramunga Arr**	**49.18**	**124**	P	**P**	**14 13 05.3**	**-0.1**
	comp=Z,4.6nm,0.8s,mb4.6,baz=306,slow=8.7,SNR=20						
WRA				pP	pP	14 13 16.4	+1.2
	comp=Z,4.2nm,0.8s,baz=304,slow=8.9,SNR=11						
WRAB	**Tennant Creek**	**49.18**	**124**	*e*P	**P**	**14 13 05.5**	**+0.1**
	comp=Z,9.9nm,0.7s,mb5.0						
WRAB				*e*pP	pP	14 13 16.6	+1.4
BVAR	**Borovoye Array**	**49.23**	**343**	sP	sP	14 13 14.1	-4.9
	comp=Z,1.5nm,0.8s,baz=150,slow=12,SNR=6.2						
CHKZ	**Chkalovo**	**49.73**	**343**	P	**P**	**14 13 09.2**	**0.0**
	comp=Z,4.7nm,0.9s,mb4.5						
CHKZ				*e*pP	pP	14 13 18.2	-0.8
ASAR	**Alice Springs**	**50.70**	**128**	P	**P**	**14 13 16.9**	**-0.1**
	comp=Z,2.0nm,0.7s,mb4.2,baz=311,slow=7.4,SNR=12						
ASAR				pP	pP	14 13 27.8	+0.9
	comp=Z,4.1nm,0.6s,baz=303,slow=7.4,SNR=19						
STKA	**Stephens Creek**	**60.78**	**132**	P	**P**	**14 14 29.8**	**+0.3**
	comp=Z,0.6nm,0.5s,mb4.0,baz=326,slow=11,SNR=2.8						
STKA				pP	pP	14 14 39.3	-0.2
	comp=Z,2.8nm,0.8s,baz=310,slow=8.8,SNR=4.6						
GERES	**GERESS Array B**	**77.31**	**318**	P	**P**	**14 16 10.2**	**-0.9**
	comp=Z,0.2nm,0.4s,mb3.4,baz=108,slow=3.1,SNR=2.5						
GERES				pP	pP	14 16 18.8	-2.5
	comp=Z,1.0nm,0.7s,baz=108,slow=6.2,SNR=5.3						
GERES				sP	sP	14 16 22.2	-2.6
	comp=Z,0.2nm,0.3s,baz=108,slow=6.2,SNR=5.1						

BJI 24 14:35:43.2, 39.48N×77.06E, h13^{km}, ML3.7, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.83**	**348**	P	Pn	14 36 32.3	+3.2
	SNR=50						
KZA	**Kyzart**	**2.94**	**333**	P	Pn	14 36 31.6	+1.1
	SNR=39						
UCH	**Uchtor**	**3.36**	**326**	P	Pn	14 36 42.7	+6.2
	SNR=14						
KBK	**Karagaybulak**	**3.55**	**334**	P	Pn	14 36 46.4	+7.2
	SNR=7.2						
TKM2	**Tokmak 2**	**3.61**	**343**	P	Pn	14 36 41.3	+1.2
	SNR=16						
AML	**Almayashu**	**3.68**	**317**	P	Pn	14 36 41.1	0.0
	SNR=8.3						
AAK	**Ala-Archa**	**3.70**	**329**	P	Pn	14 36 44.7	+3.3
	SNR=9.3						
USP	**Ospenovka**	**4.25**	**334**	P	Pn	14 36 59.8	+11
	SNR=6.6						

WEL 24 14:37:51.1±0.6, 45.63S×167.05E, h9^{km}, ML3.5/7, 2C-2D, Error ellipse: s-maj=5.3km s-min=1.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.16**	**26**	⇑PG	Pg	14 37 55.1	+0.5
DCZ				SG	Sg	14 37 58.1	+1.0
DCZ				SG	Sg	14 37 58.3	+1.2
WHZ	**Wether Hill Ro**	**0.68**	**114**	⇓P*	Pb	14 38 04.2	-0.4
WHZ				S*	Sb	14 38 13.2	-0.7
MLZ	**Mavora Lakes**	**0.83**	**71**	⇑P*	Pb	14 38 06.6	-0.7
MLZ				S*	Sb	14 38 16.7	-1.7
MSZ	**Milford Sound**	**1.14**	**33**	P*	Pb	14 38 11.1	-1.3
MSZ				S*	Sb	14 38 26.6	-0.5
WKZ	**Wanaka**	**1.60**	**61**	PN	Pn	14 38 20.2

WRAB	**Tennant Creek**	46.56	123	*e*P	P	14 56 14.5	+0.1
	2.7nm,0.6s,mb4.3						
KURK	**Kurchatov**	47.60	347	*e*P	P	14 56 22.5	+0.2
	1.0nm,0.3s,mb4.3						
ASAR	**Alice Springs**	48.01	128	P	P	14 56 26.0	+0.2
	0.2nm,0.4s,mb3.5,baz=295,slow=7.9,SNR=5.4						
ZAL	**Zalesovo**	49.61	353	P	P	14 56 37.0	-0.7
	1.0nm,0.3s,mb4.3,baz=279,slow=3.9,SNR=6.4						
ZAL	**Zalesovo**	49.61	353	P	P	14 56 37.0	-0.7
BVAR	**Borovoye Array**	51.91	342	P	P	14 56 55.0	-0.2
	0.3nm,0.5s,mb3.5,baz=146,slow=11,SNR=3.6						
CHKZ	**Chkalovo**	52.40	343	*e*P	P	14 56 58.9	0.0
	1.1nm,0.6s,mb4.0						
ARCES	**ARCESS Array B**	78.16	340	P	P	14 59 46.4	+1.5
	4.5nm,1.0s,mb4.4,baz=104,slow=7.4,SNR=3.5						

IGQ 24 14:50:09.2,2.55S×80.48W,h12km±29km,mb4.1,1C,
Error ellipse: s-maj=28.0km s-min=9.3km az=155.6,
Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	1.49	357	⇑P	Pn	14 50 36.9	+0.9
IGUA	**Igualata**	2.12	60	P	Pn	14 50 46.5	+1.6
IGUA				S	Sn	14 51 14.5	+3.2
PISA	**Pisayambo**	2.56	55	P	Pn	14 50 54.2	+2.9
NAS1	**Nasa**	2.76	46	P	Pn	14 50 56.4	+2.3
TAMB	**Tambo**	2.80	49	P	Pn	14 50 57.4	+2.7
VC1	**Cotopaxi 1**	2.81	48	P	Pn	14 50 57.1	+2.4
TERV	**Terraza Guagua**	3.01	38	P	Pn	14 50 57.9	+0.3
PINO	**Pino**	3.02	38	P	Pn	14 50 56.9	-0.9
YANA	**Yana**	3.07	38	P	Pn	14 50 57.1	-1.5
ANTI	**Antisana**	3.11	48	P	Pn	14 51 01.7	+2.5
CAYR	**Refugio Cayamb**	3.55	44	P	Pn	14 51 08.1	+2.8
COTA	**Cotacachi**	3.57	37	P	Pn	14 51 06.5	+0.9

*MOS **24** 14:52:15.1±1.1,4.77N×95.18E,h33km,mb5.0/33,Error ellipse: s-maj=12.9km s-min=6.6km az=107.3*
*BJI **24** 14:52:16.2,4.36N×95.17E,h76km,mB4.9,mb4.9,Ms3.8,Ms2.3.6*
*IDC **24** 14:52:18.7±0.7,4.73N×95.09E,h50km±5km,mb4.4/18,mb1 4.5/19,mb1mx4.4/24,mbtmp4.7/19,MS3.4/3,Ms1 3.5/3,ms1mx2.9/27,Error ellipse: s-maj=28.0km s-min=11.7km az=48.0*
*NEIC **24** 14:52:18.9±0.3,4.69N×95.09E,mb4.9/22,Error ellipse: s-maj=9.4km s-min=5.5km az=54.0*
ISC 24 14:52:17.2±0.4,4.76N±0.06×95.24E±0.06,h50km,
h50km±2.6km:pP-P,n130,σ1°07/130,mb4.8/54,MS3.6/8,
4C-2D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	14.09	15	Pn	P	14 55 38.0	+2.1
	29nm,0.6s						
CMAR	**Chiang Mai Arr**	14.09	15	P	P	14 55 40.0	+4.2
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,68nm,18.1s						
CMAR	**Chiang Mai Arr**	14.09	15	P	P	14 55 40.0	+4.2
	comp=Z,2.6nm,0.3s,baz=205,slow=14,SNR=137						
CMAR				LR	LR	15 01 22.3	
	comp=Z,68nm,18.1s,baz=205,slow=38						
HYB	**Hyderabad**	20.62	309	*i* P	P	14 56 56.5	+1.5
SHL	**Shillong**	20.94	351	*e*P	P	14 56 54.5	-3.7
KMI	**Kunming**	21.49	19	P	P	14 57 05.4	+1.7
KMI				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb3.9						
KMI				MLR	MLR		
	comp=Z,200nm,24.6s,MS3.4						
KMI	**Kunming**	21.49	19	P	P	14 57 05.4	+1.7
	comp=Z,7.0nm,1.2s,mb3.9						
KMI				LR	LR		
	comp=Z,200nm,24.6s,MS3.4						
JIRN	**Jiri**	24.35	340	*e*P	P	14 57 31.9	+0.1
	comp=Z,19nm,0.3s,mb5.0						
DMN	**Daman**	24.69	338	*e*P	P	14 57 33.4	-1.7
	comp=Z,15nm,0.6s,mb4.7						
KKN	**Kakani**	24.79	339	*e*P	P	14 57 34.6	-1.5
	comp=Z,14nm,0.6s,mb4.6						
LSA	**Lhasa**	25.11	352	P	P	14 57 39.8	+0.7
LSA	**Lhasa**	25.11	352	*e*P	P	14 57 38.7	-0.4
LSA				pmax	pmax		
	comp=Z,19nm,0.6s,mb4.8						
LSA	**Lhasa**	25.11	352	*e*P	P	14 57 38.7	-0.3
	comp=Z,20nm,0.6s,mb4.8						
GKN	**Gorkha**	25.22	338	*e*P	P	14 57 39.6	-0.6
	comp=Z,19nm,0.3s,mb5.1						
KOLN	**Koldanda**	25.43	335	*e*P	P	14 57 42.5	+0.4
	comp=Z,67nm,0.6s,mb5.3						
ENH	**Enshi**	28.72	26	*e*P	P	14 58 11.2	-0.9
	comp=Z,4.7nm,0.5s,mb4.5						
WHN	**Wuhan**	31.34	33	*e*P	P	14 58 36.5	+1.1
XAN	**Xi'an**	31.79	22	P	P	14 58 37.8	-1.5
XAN				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.5						
NJ2	**Nanjing**	35.02	36	*e*P	P	14 59 06.0	-1.2
NJ2				PP	PP	15 00 23.6	-3.1
NJ2				S	S	15 04 34.0	-1.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				LR	LR		
	comp=N,410nm,19.5s,MS4.3						
NJ2				LR	LR		
	comp=E,310nm,19.5s,MS4.3						
NJ2				LR	LR		
	comp=Z,250nm,14.5s,MS4.1						
SSE	**Sheshan**	35.80	40	*e*P	P	14 59 08.9	-4.9
SSE				S	S	15 04 42.4	-4.5
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,46nm,3.5s						
SSE				LR	LR		
	comp=N,14nm,29.7s,MS3.1						
SSE				LR	LR		
	comp=E,46nm,29.9s,MS3.1						
SSE				LR	LR		
	comp=Z,49nm,20.8s						
SSE	**Sheshan**	35.80	40	*e*P	P	14 59 08.9	-4.9
	comp=Z,31nm,0.7s,mb5.3						
SSE				pP	pP	14 59 17.9	-9.1
SSE				sP	sP	14 59 22.1	-11
SSE				S	S	15 04 42.4	-4.5
SSE				sS		15 04 57.6	
SSE				SS	SS	15 07 22.9	+13
SSE				LR	LR		
	comp=Z,50nm,20.8s,MS3.3						
JOW	**Kunigami**	38.41	52	P	P	14 59 37.5	+1.7
	comp=Z,16nm,0.6s,mb4.9,baz=218,slow=6.3						
JOW				LR	LR	15 13 58.7	
	comp=Z,65nm,21.6s,MS3.4,baz=186,slow=34						
BJT	**Baijiatuau**	39.86	25	*e*P	P	14 59 49.9	+2.3
BJT				pmax	pmax		
	comp=Z,33nm,0.8s						
BJT	**Baijiatuau**	39.86	25	*e*P	P	14 59 49.9	+2.2
	comp=Z,32nm,0.8s,mb5.1						
BJI	**Beijing**	39.88	25	P	P	14 59 49.9	+2.1
BJI				pmax	pmax		
	comp=Z,42nm,0.7s,mb5.3						
BJI				MLR	MLR		
	comp=Z,90nm,26.7s,MS3.5						
BJI	**Beijing**	39.88	25	P	P	14 59 49.9	+2.1
	comp=Z,42nm,0.7s,mb5.3						
BJI				S	tx	15 06 42.6	
BJI				LR	LR		
	comp=Z,90nm,26.7s,MS3.5						
ULHL	**Ulahol**	40.98	338	P	P	14 59 58.0	+1.1
	SNR=39						
KZA	**Kyzart**	41.21	337	P	P	14 59 59.9	+1.1
	SNR=26						
UCH	**Uchtor**	41.63	337	P	P	15 00 03.8	+1.6
	SNR=47						
TKM2	**Tokmak 2**	41.81	338	P	P	15 00 04.6	+0.9
	SNR=32						
KBK	**Karagaybulak**	41.82	337	P	P	15 00 05.5	+1.7
	SNR=14						
AML	**Almayashu**	41.88	336	P	P	15 00 05.6	+1.4
	SNR=66						
AAK	**Ala-Archa**	41.98	337	P	P	15 00 06.5	+1.4
	SNR=30						
AAK	**Ala-Archa**	41.98	337	*i* P	P	15 00 06.4	+1.3
AAK				pmax	pmax		
	comp=Z,28nm,1.0s,mb4.8						
AAK	**Ala-Archa**	41.98	337	*e*P	P	15 00 05.5	+0.4
	comp=Z,17nm,0.7s,mb4.8						
CHMS	**Chumysh**	42.19	338	P	P	15 00 08.0	+1.2
	SNR=8.9						
EKS2	**Erkin-Say**	42.29	336	P	P	15 00 09.1	+1.4
	SNR=29						
USP	**Ospenovka**	42.52	337	P	P	15 00 10.6	+1.1
	SNR=15						
NWAO	**Narrogin (SRO)**	42.90	152	P	P	15 00 12.7	-0.1
NWAO				pmax	pmax		
	comp=Z,11nm,0.9s						
NWAO	**Narrogin (SRO)**	42.90	152	P	P	15 00 12.7	-0.1
	comp=Z,11nm,0.9s,mb4.6,baz=349,slow=5.2,SNR=3.5						
MKAR	**Makanchi Array**	43.35	347	*i* P	P	15 00 16.0	-0.3
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
SONM	**Songino Array**	43.97	11	P	P	15 00 20.8	-0.5
	comp=Z,2.5nm,0.8s,mb4.0,baz=186,slow=8.3,SNR=20						
SONM				PcP	PcP	15 02 06.8	-0.1
	comp=Z,2.8nm,0.5s,baz=192,slow=3.6,SNR=17						
SONM				pPcP		15 02 20.8	
	comp=Z,1.3nm,0.6s,baz=196,slow=4.1,SNR=3.8						
ULN	**Ulaanbaatar**	44.13	11	*i* P	P	15 00 18.2	-4.4
WRA	**Warramunga Arr**	45.60	124	P	P	15 00 34.9	+0.2
WRA				pmax	pmax		
	comp=Z,25nm,0.7s						
WRA	**Warramunga Arr**	45.60	124	P	P	15 00 34.9	+0.2
	comp=Z,25nm,0.7s,mb5.3,baz=302,slow=9.2,SNR=182						
WRAB	**Tennant Creek**	45.60	124	*c* *i* P	P	15 00 35.5	+0.8
WRAB	**Tennant Creek**	45.60	124	*e*P	P	15 00 35.4	+0.7
	comp=Z,58nm,0.9s,mb5.5						
ZAK	**Zakamensk**	45.97	7	*e*P	P	15 00 35.8	-1.4
ZAK				*e*		15 02 13.2	
ASPA	**Alice Springs**	47.11	129	⇑*i*P	P	15 00 47.1	+0.6
ASAR	**Alice Springs**	47.11	129	P	P	15 00 47.0	+0.4
	comp=Z,9.7nm,1.0s,mb4.7,baz=299,slow=7.9,SNR=73						
ASAR				PcP	PcP	15 02 18.2	+0.1
	comp=Z,1.9nm,0.7s,baz=306,slow=3.9,SNR=5.2						
ASAR				pPcP		15 02 34.5	
	comp=Z,1.7nm,0.9s,baz=307,slow=2.5,SNR=4.9						
TLY	**Talaya**	47.29	7	*i* P	P	15 00 47.6	0.0
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
KURK	**Kurchatov**	47.88	346	*i* P	P	15 00 52.0	-0.2
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
KURK	**Kurchatov**	47.88	346	*e*P	P	15 00 52.1	-0.1
	comp=Z,7.5nm,0.6s,mb4.9						
HIA	**Hailar**	48.98	21	*e*P	P	15 01 00.6	-0.1
HIA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HIA	**Hailar**	48.98	21	*e*P	P	15 01 00.6	-0.1
	comp=Z,6.4nm,0.5s,mb4.9						
ZAL	**Zalesovo**	49.76	352	P	P	15 01 06.4	-0.3
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ZAL	**Zalesovo**	49.76	352	P	P	15 01 06.4	-0.3
	comp=Z,6.4nm,0.5s,mb4.9,baz=305,slow=5.4,SNR=44						
MDJ	**Mudanjiang**	49.81	32	P	P	15 01 08.5	+1.3
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,135nm,4.2s						
MDJ				LR	LR		
	comp=N,28nm,23.3s,MS3.4						
MDJ				LR	LR		
	comp=E,35nm,23.8s,MS3.4						
MDJ				LR	LR		
	comp=Z,59nm,21.0s,MS3.6						
NVS	**Novosibirsk**	50.87	351	⇑*i*P	P	15 01 13.2	-1.9
BVA0	**Borovoye Array**	52.27	341	*i* P	P	15 01 24.9	-0.8
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	52.27	341	P	P	15 01 24.7	-0.9
	comp=Z,27nm,0.7s,mb5.3,baz=141,slow=9.5,SNR=212						
BRVK	**Borovoye**	52.33	341	*e*P	P	15 01 25.2	-0.9
BRVK				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.3						
BRVK	**Borovoye**	52.33	341	*e*P	P	15 01 25.2	-0.9
	comp=Z,24nm,0.6s,mb5.3						
CHKZ	**Chkalovo**	52.76	342	*e*P	P	15 01 28.9	-0.4
CHKZ				pmax	pmax		
	comp=Z,51nm,0.6s,mb5.6						
CHKZ	**Chkalovo**	52.76	342	*e*P	P	15 01 28.9	-0.4
	comp=Z,51nm,0.6s,mb5.6						
PMG	**Port Moresby**	53.62	105	P	P	15 01 36.0	-0.3
PMG				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PMG	**Port Moresby**	53.62	105	P	P	15 01 36.0	-0.3
	comp=Z,4.5nm,0.5s,mb4.6,baz=216,slow=8.7,SNR=3.5						
KLR	**Kul'dur**	54.03	29	*e*P	P	15 01 36.8	-2.0
BOD	**Bodaibo**	54.93	12	*e*P	P	15 01 43.3	-1.9
CTA	**Charters Tower**	55.86	118	P	P	15 01 51.9	-0.6
CTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CTA	**Charters Tower**	55.86	118	P	P	15 01 51.9	-0.5
	comp=Z,7.3nm,0.9s,mb4.7,baz=270,slow=10,SNR=3.0						
CTA	**Charters Tower**	55.86	118	P	P	15 01 51.9	-0.6
STKA	**Stephens Creek**	57.19	133	P	P	15 02 01.3	-0.5
	comp=Z,1.3nm,0.7s,mb4.1,baz=294,slow=10.0,SNR=3.7						
STKA	**Stephens Creek**	57.19	133	P	P	15 02 01.3	-0.5
GNI	**Garni**	57.39	315	P	P	15 02 02.7	-0.4
GNI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GNI	**Garni**	57.39	315	P	P	15 02 02.7	-0.5
	comp=Z,4.9nm,0.7s,mb4.7,baz=170,slow=9.6,SNR=2.5						
GNI	**Garni**	57.39	315	*e*P	P	15 02 02.3	-0.8
	comp=Z,9.0nm,0.8s,mb4.8						
KMBO	**Kilima Mbogo**	58.22	266	LR	LR	15 23 51.8	
	comp=Z,58nm,18.8s,MS3.7,baz=81,slow=33						
YSS	**Yuzh-Sakhalins**	58.59	36	P	P	15 02 11.3	-0.1
ARU	**Arti**	59.17	337	⇓*i*P	P	15 02 08.4	-6.8
ARU				*e*S	S	15 10 09.1	-8.2
ARU				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
ARU	**Arti**	59.17	337	*e*P	P	15 02 08.5	-6.7
	comp=Z,12nm,1.0s,mb4.9						
KIV	**Kislovodsk**	60.35	319	*i* P	P	15 02 23.9	+0.3
KIV				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
YAK	**Yakutsk**	62.60	17	*i* P	P	15 02 36.6	-1.9
YAK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
BRTR	**Keskin Array B**	65.29	312	P	P	15 02 54.9	-1.5
BRTR				*PP	pP	15 03 09.8	-0.6
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	65.29	312	P	P	15 02 54.9	-1.5
	comp=Z,4.1nm,0.5s,mb4.7,baz=132,slow=7.2,SNR=24						
BRTR				pP	pP	15 03 09.8	-0.6
	comp=Z,2.3nm,0.7s,baz=120,slow=7.1,SNR=6.7						
OBN	**Obninsk**	68.58	328	*e*P	P	15 03 13.1	-3.7
OBN				*e*	pP	15 03 27.7	-3.3
OBN				*e*PPP	PPP	15 07 29.1	+0.7
OBN				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
TIXI	**Tiksi**	70.06	11	⇓*i*P	P	15 03 24.4	-1.2
TIXI				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,74nm,18.0s,MS4.0						
AKASG	**Malin Array Be**	71.26	322	P	P	15 03 31.5	-1.7
AKASG				*PP	pP	15 03 46.1	-1.3
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.6s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	71.26	322	P	P	15 03 31.5	-1.7
	comp=Z,7.6nm,0.6s,mb4.8,baz=87,slow=5.2,SNR=38						
AKASG				pP	pP	15 03 46.1	-1.3
	comp=Z,1.4nm,0.6s,baz=94,slow=4.6,SNR=3.4						
JOF	**Joensuu**	74.11	335	*e*P	P	15 03 48.6	-1.2
	comp=Z,9.7nm,0.7s,mb4.8						
APA	**Apatity**	75.13	340	⇑*i*P	P	15 03 54.4	-1.1
APA				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
KOLS	**Kolonicke sedl**	75.26	319	*e*P	P	15 03 56.8	+0.2
CRVS	**Cervenica-Dubn**	75.78	319	*e*P	P	15 04 00.4	+0.8
FINES	**FINESS Array B**	75.96	332	P	P	15 03 59.5	-0.9
FINES				*PP	pP	15 04 13.4	-1.3
FINES				pmax	pmax		
	comp=Z,5.0nm,0.4s						
FINES				pmax	pmax		
	comp=Z,4.0nm,0.4s						
FINES	**FINESS Array B**	75.96	332	P	P	15 03 59.5	-0.9
	comp=Z,4.5nm,0.4s,mb4.8,baz=102,slow=6.2,SNR=82						
FINES				pP	pP	15 04 13.3	-1.3
	comp=Z,4.4nm,0.4s,baz=102,slow=6.1,SNR=7.8						
KAF	**Kangasniemi**	76.05	333	*e*p	P	15 03 59.8	-1.1
	comp=Z,5.6nm,0.6s,mb4.7,baz=107,slow=5.4						
KAF	**Kangasniemi**	76.05	333	*e*P	P	15 03 59.8	-1.1
KAF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
KECS	**Kecovo**	76.36	319	*e*P	P	15 04 02.8	-0.1
PSZ	**Piszkesteto**	76.67	318	*e*P	P	15 04 04.2	-0.5
PSZ				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
PSZ	**Piszkesteto**	76.67	318	*e*P	P	15 04 04.2	-0.5
	comp=Z,8.4nm,0.9s,mb4.7						
OJC	**Ojcow**	77.05	320	*e*P	P	15 04 07.1	+0.3
VYHS	**Vyhne**	77.44	319	*e*P	P	15 04 09.0	0.0
KEV	**Kevo**	78.12	341	*e*p	P	15 04 11.4	-0.9
	comp=Z,32nm,1.5s,mb5.0						
KEV	**Kevo**	78.12	341	*e*P	P	15 04 11.4	-0.9
KEV				pmax	pmax		
	comp=Z,32nm,1.5s,mb5.0						
MORC	**Moravsky Berou**	78.44	320	*e*P	P	15 04 14.5	+0.1
MORC				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MORC	**Moravsky Berou**	78.44	320	*e*P	P	15 04 14.5	+0.1
	comp=Z,2.8nm,0.8s,mb4.2						
ARCES	**ARCESS Array B**	78.55	340	P	P	15 04 14.6	-0.1
ARCES				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ARCES	**ARCESS Array B**	78.55	340	P	P	15 04 14.6	0.0
	comp=Z,9.0nm,0.6s,mb4.9,baz=94,slow=5.8,SNR=89						
ZST	**Bratislava**	78.56	318	*e*P	P	15 04 15.7	+0.6
BILL	**Bilibino**	78.57	21	*e*P	P	15 04 14.4	-0.4
BILL				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BILL	**Bilibino**	78.57	21	*e*P	P	15 04 14.4	-0.4
	comp=Z,1.6nm,0.5s,mb4.2						
DPC	**Dobruska-Polom**	79.28	320	*e*P	P	15 04 19.9	+0.9
PRU	**Pruhonice**	80.39	320	*e*P	P	15 04 25.9	+0.9
GERES	**GERESS Array B**	80.87	319	P	P	15 04 27.6	+0.1
GERES				*PP	pP	15 04 43.0	+1.1
GERES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
GERES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GERES	**GERESS Array B**	80.87	319	P	P	15 04 27.6	0.0
	comp=Z,3.7nm,0.5s,mb4.6,baz=116,slow=5.3,SNR=28						
GERES				pP	pP	15 04 43.0	+1.0
	comp=Z,2.5nm,0.6s,baz=102,slow=5.3,SNR=7.2						
KHC	**Kasperske Hory**	80.96	319	*e*P	P	15 04 28.6	+0.6
NB2	**NORSAR Subarra**	82.97	331	P	P	15 04 37.4	-0.7
	comp=Z,8.8nm,1.2s,mb4.7,baz=92,slow=5.6						
NB2	**NORSAR Subarra**	82.97	331	P	P	15 04 37.4	-0.7
NB2				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
NOA	**NORSAR Array B**	82.97	331	P	P	15 04 37.9	-0.2
NOA				*PP	pP	15 04 52.4	-0.2
NOA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	82.97	331	P	P	15 04 37.9	-0.2
	comp=Z,4.3nm,1.0s,mb4.4,baz=95,slow=4.9,SNR=4.2						
NOA				pP	pP	15 04 52.4	-0.2
	comp=Z,1.9nm,0.8s,baz=93,slow=5.4,SNR=4.0						
NOA	**NORSAR Array B**	82.97	331	P	P	15 04 37.9	-0.2
NOA				pP	pP	15 04 52.4	-0.2
LPG	**La Plagne**	85.58	315	*e*P	P	15 04 52.0	+0.4
	comp=Z,14nm,0.9s,mb4.9						
LPG	**La Plagne**	85.58	315	*e*P	P	15 04 52.0	+0.4
LPG				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.9						
IMA	**Indian Mountai**	94.07	22	*e*P	P	15 05 33.0	+2.0
ILAR	**Eielson Array**	97.20	22	P	P	15 05 45.5	+0.1
	comp=Z,0.2nm,0.5s,mb3.8,baz=297,slow=4.4,SNR=8.1						
INK	**Inuvik**	99.66	16	*e*P	P	15 05 57.1	+0.7
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	99.66	16	*e*P	P	15 05 57.0	+0.7
	comp=Z,0.7nm,0.5s,mb4.3						
NVAR	**Mina Array Bea**	126.97	33	PKP	PKPdf	15 11 19.1	+2.7
	comp=Z,1.3nm,0.8s,baz=331,slow=1.5,SNR=8.1						
TXAR	**Lajitas Array**	141.55	27	PKiKP		15 11 48.9	
	comp=Z,0.7nm,0.5s,baz=333,slow=2.0,SNR=4.0						
TXAR	**Lajitas Array**	141.55	27	PKPdf	PKPdf	15 11 48.9	+5.2

IDC 24 15:01:04.6±6.3,5.59N×94.41E,mb3.3/3,mb1 3.6/4,
mb1mx3.5/18,mbtmp3.4/4,ML3.6/1,Error ellipse:
s-maj=194.9km s-min=28.5km az=74.0,Northern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	13.53	19	Pn	P	15 04 18.1	-2.5
	0.1nm,0.3s,baz=220,slow=15,SNR=4.3						
SONM	**Songino Array**	43.33	12	P	P	15 09 08.3	-1.7
	0.5nm,1.0s,baz=180,slow=4.3,SNR=2.7						
WRA	**Warramunga Arr**	46.75	124	P	P	15 09 35.3	-2.4
	0.3nm,0.6s,baz=301,slow=9.2,SNR=3.7						
ASAR	**Alice Springs**	48.27	129	P	P	15 09 48.2	-1.5
	0.3nm,0.7s,baz=300,slow=7.4,SNR=3.5						

*IGQ **24** 15:01:50.4,3.75S×77.92W,h12km±37km,mb4.9,Error ellipse: s-maj=34.2km s-min=11.8km az=70.9*
*BJI **24** 15:01:56.3,3.40S×77.70W,h108km,mB4.6*
*IDC **24** 15:01:56.6±0.6,3.39S×77.74W,h108km±5km,mb4.1/14,mb1 4.3/16,mb1mx4.2/21,mbtmp4.5/16,MS3.2/1,Ms1 3.2/1,ms1mx1.8/26,Error ellipse: s-maj=19.6km s-min=12.5km az=64.0*
*NEIC **24** 15:01:56.4±0.7,3.44S×77.71W,h109km±6km,mb4.7/31,MD4.7(IGQ),Error ellipse: s-maj=7.3km s-min=4.3km az=58.0*
ISC 24 15:01:57.1±0.6,3.43S±0.06×77.77W±0.07,h128km±4km,
h109km±.9km:pP-P,n124,σ0°74/98,mb4.4/43,14C-6D,
Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	2.02

PLCA Paso Flores 37.70 171 P **P 15 09 01.6 -0.1**
1.2nm,0.6s,mb3.7,baz=326,slow=16,SNR=4.0
PLCA pP pP 15 09 26.4 -4.2
2.5nm,1.0s,baz=329,slow=8.0,SNR=1.6
PLCA PcP PcP 15 11 16.7 -0.1
1.2nm,0.5s,baz=339,slow=3.6,SNR=4.4
PLCA Paso Flores 37.70 171 P **P 15 09 01.6 -0.1**
PLCA pP pP 15 09 26.4 -4.2
PLCA PcP PcP 15 11 16.7 -0.1
JCT Junction City 39.75 330 *eP* **P 15 09 19.6 +0.8**
5.7nm,0.5s,mb4.5
WVT Waverly 40.46 347 *eP* **P 15 09 22.5 -2.1**
6.4nm,0.6s,mb4.4
TXAR Lajitas Array 40.96 324 P **P 15 09 29.6 +0.9**
2.1nm,0.6s,mb3.9,baz=147,slow=9.8,SNR=13
TXAR PcP PcP 15 11 28.0 +0.7
3.1nm,0.7s,baz=152,slow=6.1,SNR=12
RCBR Riachuelo 41.79 95 *eP* **P 15 09 35.9 0.0**
5.2nm,0.6s,mb4.3
WMOK Wichita Mounta 42.80 334 *eP* **P 15 09 43.8 -0.1**
14nm,0.7s,mb4.7
WMOK *e* 15 11 33.3
CCM Cathedral Cave 43.12 344 *eP* **P 15 09 44.2 -2.2**
10nm,0.7s,mb4.6
CCM *e* 15 11 33.9
AMTX Amarillo 44.24 331 *eP* **P 15 09 55.3 -0.1**
16nm,0.7s,mb4.8
ANMO Albuquerque 46.73 327 *eP* **P 15 10 15.9 +0.8**
12nm,0.9s,mb4.5
TUC Tucson 47.37 321 *eP* **P 15 10 20.4 +0.2**
2.3nm,0.7s,mb3.9
SDCO Great Sand Dun 48.38 330 *eP* **P 15 10 28.7 +0.8**
16nm,1.0s,mb4.6
RW3 Ridgway 49.86 329 *eP* **P 15 10 39.9 +0.6**
WUAZ Wupatki 49.91 324 *eP* **P 15 10 40.7 +0.9**
214nm,1.0s
WUAZ *e* 15 11 58.4
PV01 Paradox Valley 50.23 328 P **P 15 10 42.4 +0.3**
PV10 Paradox Valley 50.66 328 *eP* **P 15 10 44.8 -0.6**
NEN Nelson 52.10 322 *eP* **P 15 10 56.2 -0.1**
MSU Marysvale 52.46 326 *eP* **P 15 10 59.1 +0.2**
MSU *e* 15 12 08.4
DAU Daniels Canyon 53.32 328 *eP* **P 15 11 05.7 +0.5**
DAU *e* 15 12 11.5
PDAR Pinedale Array 54.22 331 P **P 15 11 11.5 -0.3**
3.4nm,0.8s,mb4.1,baz=124,slow=8.6,SNR=23
PDAR pP pP 15 11 37.4 -4.7
1.8nm,0.9s,baz=117,slow=3.3,SNR=2.7
PDAR PcP PcP 15 12 13.8 -0.5
1.7nm,0.9s,baz=127,slow=6.0,SNR=5.4
BW06 Boulder Array 54.22 331 *eP* **P 15 11 11.1 -0.6**
8.1nm,1.3s,mb4.3
BW06 *e*PcP PcP 15 12 13.8 -0.6
HWUT Hardware Ranch 54.35 329 *eP* **P 15 11 12.3 -0.4**
8.9nm,0.9s,mb4.5
HWUT *e*PcP PcP 15 12 14.7 -0.2
LOHW Long Hollow 55.36 331 *eP* **P 15 11 19.5 -0.6**
TPAW Teton Pass 55.43 331 *eP* **P 15 11 20.3 -0.3**
MOOW Moose Ponds 55.53 331 *eP* **P 15 11 20.6 -0.7**
NVAR Mina Array Bea 56.00 322 P **P 15 11 25.1 +0.4**
3.5nm,0.7s,mb4.3,baz=128,slow=7.4,SNR=27
NVAR PcP PcP 15 12 21.8 +0.4
2.0nm,0.8s,baz=130,slow=5.4,SNR=5.4
NVAR Mina Array Bea 56.00 322 P **P 15 11 25.1 +0.4**
NVAR PcP PcP 15 12 21.8 +0.4
BMN Battle Mountai 56.63 324 *eP* **P 15 11 29.2 0.0**
QLMT Earthquake Lak 56.67 332 *eP* **P 15 11 30.1 +0.7**
HLID Hailey 57.22 329 *eP* **P 15 11 33.0 -0.2**
7.1nm,1.1s,mb4.4
BOZ Bozeman (W) 57.37 332 *eP* **P 15 11 33.8 -0.5**
6.3nm,0.7s,mb4.5
WVOR Wild Horse Val 58.74 325 *eP* **P 15 11 43.5 -0.3**
10nm,1.1s,mb4.6
SCHQ Schefferville 58.76 7 P **P 15 11 42.4 -1.4**
3.0nm,0.6s,mb4.3,baz=186,slow=15,SNR=8.6
YBH Yreka Blue Hor 60.69 323 P **P 15 11 55.8 -1.4**
2.4nm,0.9s,mb4.0,baz=112,slow=7.8,SNR=4.7
NEW Newport 61.86 331 *eP* **P 15 12 04.2 -0.8**
5.5nm,0.8s,mb4.4
EDM Edmonton 63.85 337 *eP* **P 15 12 16.8 -1.3**
YKA Yellowknife Ar 71.44 343 P **P 15 13 04.2 -0.9**
2.5nm,0.5s,mb4.2,baz=139,slow=6.2,SNR=99
YKA PcP PcP 15 13 23.6 -0.4
0.5nm,0.6s,baz=133,slow=4.6,SNR=5.9
YKA Yellowknife Ar 71.44 343 P **P 15 13 04.2 -0.9**
YKA PcP PcP 15 13 23.6 -0.4
DBIC Dimbokro 73.47 82 P **P 15 13 17.6 -0.4**
8.6nm,0.6s,mb4.7,baz=234,slow=5.4,SNR=28
DBIC pP pP 15 13 45.4 -4.7
13nm,1.0s,baz=249,slow=6.5,SNR=3.8
DBIC Dimbokro 73.47 82 *eP* **P 15 13 17.5 -0.6**
8.1nm,0.5s,mb4.7
DBIC *e* pP 15 13 45.9 -4.3
EVO Evora 76.47 49 *eP* **P 15 13 33.7 -0.9**
5.1nm,0.6s,mb4.0
ESDC Sonseca Array 79.80 49 P **P 15 13 53.4 +0.6**
0.3nm,0.3s,mb3.4,baz=264,slow=4.6,SNR=5.7
INK Inuvik 81.16 342 *eP* **P 15 13 59.8 +0.3**
18nm,1.2s,mb4.6
SJPF Ste Jean 82.55 46 *eP* **P 15 14 07.6 +0.4**
14nm,0.7s,mb4.5
EPF Esparros 83.66 46 *eP* **P 15 14 13.4 +0.6**
GRR Gorron 83.89 41 *eP* **P 15 14 13.8 0.0**
49nm,0.9s,mb4.9
MFF Saint Martin d 84.00 43 *eP* **P 15 14 14.7 +0.3**
23nm,0.6s,mb4.8
FLN La Foliniere 84.21 40 *eP* **P 15 14 15.7 +0.3**
33nm,0.7s,mb4.9
LFF La Frestale 84.30 44 *eP* **P 15 14 16.2 +0.3**
ILAR Eielson Array 84.33 336 P **P 15 14 15.8 +0.2**
4.6nm,0.9s,mb4.2,baz=126,slow=3.6,SNR=42
ILAR pP pP 15 14 44.3 -4.1
0.9nm,0.7s,baz=121,slow=4.3,SNR=3.5
LDF La Drutiiere 84.41 41 *eP* **P 15 14 16.5 +0.1**
32nm,0.7s,mb4.9
COLA College 84.75 336 *eP* **P 15 14 17.4 -0.2**
4.3nm,0.7s,mb4.3
MCK McKinley 84.82 335 *eP* **P 15 14 18.5 +0.5**
4.7nm,1.0s,mb4.2
MTLF Montolieu 85.07 46 *eP* **P 15 14 20.0 +0.2**
TCF Toulx Ste Croi 85.55 43 *eP* **P 15 14 22.6 +0.5**
10nm,0.8s,mb4.3
AVF Avril sur Loir 86.41 43 *eP* **P 15 14 26.1 -0.1**
6.4nm,0.7s,mb4.2
QSPA South Pole Qui 86.65 180 *eP* **P 15 14 27.8 +1.1**
17nm,1.0s,mb4.8
IMA Indian Mountai 87.42 337 *eP* **P 15 14 31.8 +1.1**
58nm,1.4s,mb5.2
BAIF Baives 87.46 40 *eP* **P 15 14 31.1 -0.1**
ORIF Oris-en-Rattie 87.90 45 *eP* **P 15 14 34.0 +0.5**
38nm,1.1s,mb4.8
FRF La Foret Royal 88.29 46 *eP* **P 15 14 35.2 -0.2**
25nm,0.9s,mb4.8
LPG La Plagne 88.58 44 *eP* **P 15 14 37.5 +0.8**
CDF Champ du Feu 89.25 42 *eP* **P 15 14 39.5 -0.2**
GERES GERESS Array B 93.53 41 P **P 15 15 00.4 +0.9**
0.9nm,0.7s,mb4.0,baz=252,slow=4.2,SNR=5.7
ARCES ARCESS Array B 97.83 20 P **P 15 15 18.2 -0.4**
1.1nm,0.6s,mb4.5,baz=270,slow=8.5,SNR=5.3
CHKZ Chkalovo 123.61 22 *e*PKPdf PKPdf 15 20 40.9 +1.5
ZAL Zalesovo 127.66 13 PKP PKPdf 15 20 49.1 +1.8
3.8nm,0.7s,baz=168,slow=2.9,SNR=24
ZAL pPKP 15 21 18.5
1.1nm,0.8s,baz=193,slow=3.6,SNR=2.5
STKA Stephens Creek 128.71 224 PKP PKPdf 15 20 51.5 +1.5
2.7nm,0.7s,baz=83,slow=3.0,SNR=6.1
STKA pPKP 15 21 20.3
1.6nm,0.8s,baz=186,slow=10.0,SNR=2.6
KURK Kurchatov 128.85 19 *e*PKPdf PKPdf 15 20 51.6 +2.0
CTA Charters Tower 130.87 240 PKP PKPdf 15 20 55.7 +1.4
3.0nm,0.6s,baz=30,slow=11,SNR=6.8
ULN Ulaanbaatar 135.54 355 *e*PKPdf PKPdf 15 21 04.3 +2.0
SONM Songino Array 135.62 356 PKP PKPdf 15 21 04.7 +2.2
1.3nm,0.5s,baz=345,slow=2.5,SNR=8.0
WMQ Urumqi 137.77 16 *e*PKP PKPdf 15 21 09.1 +2.6
ASAR Alice Springs 139.04 227 PKP PKPdf 15 21 10.4 +1.1
3.1nm,0.6s,baz=111,slow=1.9,SNR=30
ASAR pPKP 15 21 39.6
1.1nm,0.7s,baz=114,slow=2.0,SNR=3.3
WRAB Tennant Creek 140.83 232 *e*PKPdf PKPdf 15 21 13.9 +1.1
WRA Warramunga Arr 140.83 232 PKP PKPdf 15 21 14.0 +1.2
3.2nm,0.6s,baz=116,slow=2.0,SNR=23
WRA pPKP 15 21 43.3
1.3nm,0.7s,baz=117,slow=1.7,SNR=2.2
NDI New Delhi 145.41 41 *i* PKPdf 15 21 21.5 +1.0
KAKA Kakadu 145.98 241 ⇓*iP* PKPdf 15 21 23.7 +1.9
13nm,0.6s
LZH Lanzhou 147.47 358 PKP PKPdf 15 21 28.5 +4.8
FITZ Fitzroy Crossi 148.53 226 ⇓*iP* PKPdf 15 21 31.2 +5.3
20nm,0.8s
XAN Xi'an 148.91 349 PKP PKPdf 15 21 27.8 +1.7
KOLN Koldanda 149.97 34 *eP* PKPdf 15 21 34.8 +6.9
30nm,1.0s
MBWA Marble Bar 150.15 214 *e*PKPbc PKPdf 15 21 34.9 +6.6
GKN Gorkha 150.36 33 *eP* PKPdf 15 21 36.1 +7.7
92nm,0.9s
KKN Kakani 150.87 32 *eP* PKPdf 15 21 37.1 +7.9
50nm,0.6s
DMN Daman 150.92 33 *eP* PKPdf 15 21 37.4 +8.1
37nm,0.6s
PKI Pulchoki 151.11 32 *eP* PKPdf 15 21 37.4 +7.8
18nm,0.6s
JIRN Jiri 151.45 31 *eP* PKPdf 15 21 38.5 +8.4
24nm,0.6s
LSA Lhasa 151.84 21 PKP PKPdf 15 21 33.4 +2.8
LSA Lhasa 151.84 21 *e*PKPdf PKPdf 15 21 34.2 +3.6
LSA *e*PKPbc PKPdf 15 21 40.4 +10
LSA *e*PKPab PKPab 15 21 50.9 +1.8
ENH Enshi 152.43 346 *e*PKPdf PKPdf 15 21 33.5 +2.0
ENH *e*PKPbc PKPdf 15 21 40.2 +8.8
ENH *e*PKPab PKPab 15 21 51.5 -0.1
HYB Hyderabad 152.94 57 *i* PKP PKPdf 15 21 34.0 +1.5
HYB *e* 15 21 53.0
CMAR Chiang Mai Arr 164.72 12 PKP PKPdf 15 21 48.4 +2.2
1.4nm,0.7s,baz=298,slow=2.0,SNR=10
CMAR PKPab PKPab 15 22 43.7 -1.0
1.9nm,0.9s,baz=331,slow=4.9,SNR=7.6

*BJI **24** 15:12:20.8, 3.10N×95.00E, h3km, mB5.0, mb4.3, Ms4.0, Msz3.9*
*IDC **24** 15:12:21.1±0.9, 3.05N×94.97E, mb4.1/10, mb1 4.3/11, mb1mx4.2/18, mbtmp4.2/11, ML4.4/1, MS3.2/1, Ms1 3.4/1, ms1mx2.3/15, Error ellipse: s-maj=44.8km s-min=16.8km az=50.0*
*NEIC **24** 15:12:21.8±3.2, 3.08N×95.05E, h3km±20km, mb4.4/11, Error ellipse: s-maj=7.8km s-min=7.2km az=209.0*
ISC 24 15:12:24.5±0.6, 3.09N±0.08×95.07E±0.08, h33km, n44, σ0 85/43, mb4.3/26, MS3.8/2, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.89**	**287**	*e*Pn	**P**	**15 15 53.0**	**-1.6**
CM31	**Chiang Mai Arr**	**15.74**	**14**	*e*Pn	**P**	**15 16 04.6**	**-0.9**
CM31	3.1nm,0.4s					15 16 08.4	
				*e*pPn			
CMAR	**Chiang Mai Arr**	**15.74**	**14**	Pn	**P**	**15 16 05.0**	**-0.5**
	0.5nm,0.3s,baz=208,slow=12,SNR=31						
CMAR				LR	LR	15 22 25.2	
	comp=Z,77nm,19.3s,baz=195,slow=38						
HYB	**Hyderabad**	**21.57**	**312**	*eP*	**P**	**15 17 13.0**	**-0.3**
HYB	**Hyderabad**	**21.57**	**312**	*i P*	**P**	**15 17 13.0**	**-0.3**
KMI	**Kunming**	**23.12**	**18**	P	**P**	**15 17 30.4**	**+1.7**
	7.0nm,1.2s,mb4.0						
KMI				LR	LR		
	comp=Z,180nm,12.7s,MS3.7						
JIRN	**Jiri**	**25.86**	**342**	*eP*	**P**	**15 17 53.9**	**-1.2**
	comp=Z,24nm,0.6s,mb4.9						
PKI	**Pulchoki**	**26.04**	**340**	*eP*	**P**	**15 17 56.0**	**-0.7**
DMN	**Daman**	**26.17**	**340**	*eP*	**P**	**15 17 57.8**	**-0.2**
	comp=Z,10nm,0.6s,mb4.6						
KKN	**Kakani**	**26.28**	**340**	*eP*	**P**	**15 17 58.6**	**-0.4**
	comp=Z,20nm,0.7s,mb4.7						
GKN	**Gorkha**	**26.70**	**339**	*eP*	**P**	**15 18 02.6**	**-0.2**
	comp=Z,37nm,0.7s,mb5.0						
LSA	**Lhasa**	**26.73**	**352**	P	**P**	**15 18 04.3**	**+1.3**
LSA				AMB	AMB		
	comp=Z,34nm,0.6s,mb5.0						
				AMB	AMB		
LSA	comp=Z,162nm,5.0s						
				LR	LR		
LSA	comp=N,276nm,18.0s,MS3.9						
				LR	LR		
LSA	comp=E,172nm,17.0s,MS3.9						
				LR	LR		
LSA	comp=Z,371nm,19.0s,MS4.0						
LSA	**Lhasa**	**26.73**	**352**	*eP*	**P**	**15 18 03.9**	**+0.9**
	comp=Z,31nm,0.6s,mb5.0						
KOLN	**Koldanda**	**26.88**	**337**	*eP*	**P**	**15 18 04.1**	**-0.3**
	comp=Z,12nm,0.6s,mb4.6						
XAN	**Xi'an**	**33.39**	**21**	P	**P**	**15 19 01.0**	**-1.2**
BJT	**Baijiatuau**	**41.43**	**25**	*eP*	**P**	**15 20 09.6**	**-0.1**
	comp=Z,6.7nm,0.6s,mb4.5						
BJI	**Beijing**	**41.45**	**25**	P	**P**	**15 20 09.7**	**-0.2**
	comp=Z,4.0nm,0.7s,mb4.2						
ULHL	**Ulahol**	**42.47**	**339**	P	**P**	**15 20 19.2**	**+1.0**
	SNR=6.2						
KZA	**Kyzart**	**42.68**	**338**	P	**P**	**15 20 21.4**	**+1.4**
	SNR=6.7						
UCH	**Uchtor**	**43.09**	**338**	P	**P**	**15 20 24.1**	**+0.9**
	SNR=14						
KBK	**Karagaybulak**	**43.30**	**338**	P	**P**	**15 20 25.9**	**+1.0**
	SNR=10						
AML	**Almayashu**	**43.32**	**337**	P	**P**	**15 20 26.2**	**+1.0**
	SNR=18						
AAK	**Ala-Archa**	**43.44**	**338**	P	**P**	**15 20 28.3**	**+2.2**
	SNR=5.5						
AAK	**Ala-Archa**	**43.44**	**338**	*eP*	**P**	**15 20 26.6**	**+0.4**
	comp=Z,6.2nm,1.0s,mb4.3						
EKS2	**Erkin-Say**	**43.74**	**337**	P	**P**	**15 20 29.8**	**+1.2**
	SNR=12						
USP	**Ospenovka**	**43.99**	**338**	P	**P**	**15 20 31.1**	**+0.6**
	SNR=11						
WRA	**Warramunga Arr**	**44.84**	**122**	P	**P**	**15 20 37.7**	**+0.1**
	comp=Z,1.7nm,0.7s,mb4.0,baz=300,slow=9.2,SNR=18						
SONM	**Songino Array**	**45.63**	**11**	P	**P**	**15 20 43.4**	**-0.2**
	comp=Z,3.2nm,0.8s,mb4.3,baz=191,slow=8.8,SNR=22						
SONM				PcP	PcP	15 22 22.0	0.0
	comp=Z,1.2nm,0.6s,baz=240,slow=2.5,SNR=4.7						
ASAR	**Alice Springs**	**46.23**	**127**	P	**P**	**15 20 49.1**	**+0.5**
	comp=Z,0.9nm,0.6s,mb3.9,baz=298,slow=7.8,SNR=16						
KURK	**Kurchatov**	**49.45**	**346**	*eP*	**P**	**15 21 12.8**	**-0.5**
	comp=Z,2.3nm,0.7s,mb4.3						
HIA	**Hailar**	**50.59**	**21**	*eP*	**P**	**15 21 21.8**	**-0.4**
	comp=Z,3.7nm,0.8s,mb4.4						
ZAL	**Zalesovo**	**51.38**	**352**	P	**P**	**15 21 27.8**	**-0.3**
	comp=Z,2.3nm,0.5s,mb4.4,baz=308,slow=7.9,SNR=5.5						
BRVK	**Borovoye**	**53.85**	**342**	*eP*	**P**	**15 21 45.2**	**-1.3**
	comp=Z,4.2nm,1.2s,mb4.2						
CHKZ	**Chkalovo**	**54.28**	**342**	*eP*	**P**	**15 21 48.9**	**-0.8**
	comp=Z,3.4nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**56.20**	**132**	P	**P**	**15 22 02.7**	**-1.1**
	comp=Z,1.1nm,0.5s,mb4.1,baz=9.4,slow=2.5,SNR=2.9						
STKA	**Stephens Creek**	**56.20**	**132**	P	**P**	**15 22 02.7**	**-1.1**
BRTR	**Keskin Array B**	**66.27**	**312**	P	**P**	**15 23 11.3**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.9,baz=121,slow=7.2,SNR=3.6						
AKASG	**Malin Array Be**	**72.47**	**323**	P	**P**	**15 23 48.5**	**-1.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=87,slow=4.9,SNR=11						
LBTB	**Lobatse**	**72.83**	**243**	*eP*	**P**	**15 23 52.9**	**+0.7**
	comp=Z,3.8nm,0.9s,mb4.3						
FINES	**FINESS Array B**	**77.35**	**333**	P	**P**	**15 24 17.6**	**+0.1**
	comp=Z,2.3nm,0.6s,mb4.3,baz=107,slow=6.2,SNR=14						
ARCES	**ARCESS Array B**	**80.05**	**340**	P	**P**	**15 24 33.0**	**+0.9**
	comp=Z,5.3nm,0.9s,mb4.5,baz=92,slow=5.0,SNR=20						
GERES	**GERESS Array B**	**82.00**	**319**	P	**P**	**15 24 43.6**	**+0.9**
	comp=Z,1.8nm,0.8s,mb4.1,baz=104,slow=5.5,SNR=11						
NB2	**NORSAR Subarra**	**84.33**	**331**	P	**P**	**15 24 54.2**	**-0.1**
	comp=Z,2.3nm,0.9s,mb4.3,baz=95,slow=5.6						
PDAR	**Pinedale Array**	**129.22**	**23**	PKP	PKPdf	15 31 32.5	+2.5
	comp=Z,0.2nm,0.5s,baz=180,slow=1.5,SNR=3.6						

WEL 24 15:19:13.9±0.3, 41.31S×172.72E, h146km±2km, ML3.6/11, 9C-4D, Error ellipse: s-maj=1.9km s-min=1.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.48**	**163**	⇓PN	P	15 19 34.9	-0.3
THZ				SN	S	15 19 50.1	-1.4
QRZ	**Quartz Range**	**0.50**	**343**	⇑PN	P	15 19 34.8	-0.5
QRZ				SN	S	15 19 49.4	-2.3
NNZ	**Nelson**	**0.51**	**80**	⇑PN	P	15 19 34.8	-0.5
NNZ				SN	S	15 19 50.7	-1.1
DSZ	**Denniston Nort**	**0.82**	**237**	⇓PN	P	15 19 36.5	-0.6
DSZ				SN	S	15 19 52.4	-2.6
TUWZ	**Tuamarina**	**0.93**	**98**	PN	P	15 19 37.7	-0.2
TUWZ				SN	S	15 19 55.3	-1.1
BSWZ	**Blackbirch Sta**	**0.96**	**115**	⇑PN	P	15 19 38.0	-0.1
BSWZ				*e*SN	S	15 19 56.1	-0.7
CMWZ	**Cape Campbell**	**1.21**	**112**	PN	P	15 19 40.7	+0.2
CMWZ				SN	S	15 20 01.0	+0.1
KHZ	**Kahutara**	**1.27**	**151**	⇓PN	P	15 19 40.9	-0.2
KHZ				SN	S	15 19 59.7	-2.3
KHZ				SN	S	15 19 59.8	-2.2
MRW	**Makara Radio**	**1.50**	**88**	⇑PN	P	15 19 42.7	-0.8
MRW				SN	S	15 20 04.1	-2.1
LTZ	**Lake Taylor**	**1.51**	**193**	⇓PN	P	15 19 43.2	-0.5
LTZ				SN	S	15 20 04.5	-2.0
WEL	**Wellington**	**1.54**	**90**	⇑PN	P	15 19 43.2	-0.8
BHW	**Baring Head**	**1.62**	**94**	⇑PN	P	15 19 43.8	-1.1
BHW				*e*SN	S	15 20 06.0	-2.7
KIW	**Kapiti Island**	**1.71**	**76**	⇑PN	P	15 19 45.0	-0.8
KIW				SN	S	15 20 08.6	-1.8
CAW	**Cannon Point**	**1.78**	**84**	⇑PN	P	15 19 45.5	-1.1
MSWZ	**Moikau Station**	**1.91**	**94**	PN	P	15 19 46.9	-1.1
MTW	**Mount Morrison**	**2.10**	**87**	PN	P	15 19 49.0	-1.4
MTW				SN	S	15 20 15.8	-2.6
MRZ	**Mangatainoka R**	**2.26**	**74**	⇑PN	P	15 19 50.7	-1.7
MRZ				SN	S	15 20 19.6	-2.2
CRLZ	**Canterbury Las**	**2.27**	**182**	PN	P	15 19 51.1	-1.4
CRLZ				SN	S	15 20 18.1	-3.9
CRLZ				SN	S	15 20 18.2	-3.8
NEZ	**North Egmont**	**2.29**	**28**	PN	P	15 19 52.9	+0.1
WVZ	**Waitaha Valley**	**2.30**	**219**	PN	P	15 19 51.2	-1.7
WAZ	**Wanganui**	**2.32**	**49**	PN	P	15 19 53.0	-0.2
PKE	**Pukeiti**	**2.32**	**25**	PN	P	15 19 52.5	-0.6
RAEZ	**Rainy Point**	**2.39**	**33**	PN	P	15 19 53.7	-0.3
MQZ	**McQueen's Vall**	**2.40**	**181**	PN	P	15 19 52.5	-1.6
MQZ				SN	S	15 20 20.5	-4.4
RPZ	**Rata Peaks**	**2.70**	**207**	PN	P	15 19 56.0	-2.0
BFZ	**Birch Farm**	**2.74**	**78**	PN	P	15 19 56.6	-1.9
BFZ				SN	S	15 20 29.6	-3.0
TSZ	**Takapari Road**	**2.76**	**64**	PN	P	15 19 56.7	-2.1
TSZ				SN	S	15 20 30.7	-2.3
MOVZ	**Moawhango**	**3.00**	**52**	*e*PN	P	15 19 59.9	-1.9
WPVZ	**Whakapapa**	**3.01**	**47**	*e*PN	P	15 20 00.4	-1.6
CNZ	**Chateau**	**3.02**	**47**	*e*PN	P	15 20 00.5	-1.6
TUVZ	**Tukino**	**3.03**	**49**	PN	P	15 20 00.6	-1.6
TWVZ	**Taurewa**	**3.05**	**44**	*e*PN	P	15 20 00.7	-1.8
NGZ	**Ngauruhoe**	**3.06**	**47**	*e*PN	P	15 20 01.8	-0.9
WTVZ	**West Tongariro**	**3.10**	**46**	*e*PN	P	15 20 01.2	-2.0
OTVZ	**Oturere**	**3.11**	**47**	*e*PN	P	15 20 01.6	-1.6
MGZ	**Maungaku**	**3.16**	**44**	*e*PN	P	15 20 02.4	-1.5
FOZ	**Fox Glacier**	**3.18**	**224**	PN	P	15 20 00.6	-3.5
FOZ				SN	S	15 20 33.8	-8.8
HIZ	**Hauiti**	**3.24**	**31**	*e*PN	P	15 20 03.1	-1.8
BKZ	**Black Stump Fm**	**3.59**	**55**	PN	P	15 20 06.9	-2.7

*NEIC **24** 15:25:15.3±0.7, 10.52N×86.03W, mb4.4/20, Error ellipse: s-maj=17.7km s-min=10.2km az=216.0*
NEIC Felt at Guanacaste.
*CASC **24** 15:25:16.8±2.6, 10.47N×86.24W, h25km, MD4.3, ML3.8, mb4.4(NEIC)*
*IDC **24** 15:25:17.4±0.7, 11.20N×85.68W, h19km±3km, mb4.1/9, mb1 4.4/10, mb1mx4.0/21, mbtmp4.2/10, ML3.8/1, MS3.9/2, Ms1 3.9/2, ms1mx2.9/18, Error ellipse: s-maj=46.3km s-min=9.6km az=53.0*
ISC 24 15:25:13.9±0.4, 10.34N±0.04×86.35W±0.03, h25km, h25km±.7km:pP-P, n84, σ1 07/84, mb4.3/29, MS3.8/2, 13C-11D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.74**	**107**	⇑*eP*	**Pb**	**15 25 27.9**	**-0.1**
CRZC	**La Cruz**	**0.96**	**51**	⇓*eP*	**Pb**	**15 25 32.2**	**+0.4**
CRZC				*e*S	**Sb**	15 25 43.5	-0.6
SSNN	**San Juan del S**	**1.06**	**28**	⇑*iP*	**Pn**	**15 25 33.0**	**-0.4**
SSNN				*e*S	**Sb**	15 25 46.1	-0.9
JCR	**Jicaral**	**1.32**	**112**	⇑*eP*	**Pn**	**15 25 36.3**	**-0.7**
MADN	**Villa Maderas**	**1.33**	**37**	⇑*iP*	**Pn**	**15 25 37.3**	**0.0**
JTS	**JuntasAbangare**	**1.38**	**92**	Pg	**Pn**	**15 25 38.6**	**+0.7**
	0.1nm,0.3s,baz=210,slow=22,SNR=5.2						
JTS				Lg		15 25 55.2	
	0.6nm,0.3s,baz=200,slow=20,SNR=12						
JTS	**JuntasAbangare**	**1.38**	**92**	⇑*eP*n	**Pn**	**15 25 36.4**	**-1.6**
JTS				Pg	**Pn**	**15 25 38.6**	**+0.7**
JTS				Lg		15 25 55.2	
CONN	**Concepcion**	**1.41**	**30**	⇑*iP*	**Pn**	**15 25 38.2**	**-0.1**
APON	**Apoyo**	**1.59**	**10**	⇓*eP*	**Pn**	**15 25 41.7**	**+0.7**
APON				*e*S	**Sn**	**15 26 00.4**	**-0.5**
MASN	**Masaya**	**1.65**	**7**	⇓*eP*	**Pn**	**15 25 42.3**	**+0.6**
FORC	**Fortuna**	**1.66**	**85**	*i P*	**Pn**	**15 25 41.0**	**-0.9**
FORC				*e*P		15 25 42.3	
TICN	**Ticuantepe**	**1.69**	**4**	⇑*eP*	**Pn**	**15 25 42.9**	**+0.6**
XAVN	**Gruta Xavier**	**1.80**	**1**	⇓*eP*	**Pn**	**15 25 44.8**	**+0.9**
MGAN	**Managua**	**1.80**	**3**	*eP*	**Pn**	**15 25 44.4**	**+0.5**
MGAN				*i*		15 26 11.5	
	comp=N,1μm,0.6s						
WILN	**Americas 2**	**1.82**	**5**	⇑*eP*	**Pn**	**15 25 44.6**	**+0.4**
COPN	**Copaltepe**	**1.84**	**353**	⇓*eP*	**Pn**	**15 25 45.2**	**+0.7**
APYN	**Apoyeque**	**1.88**	**0**	⇓*eP*	**Pn**	**15 25 45.8**	**+0.7**
CGA2	**Cerro Gallo 2**	**1.89**	**100**	*eP*	**Pn**	**15 25 47.6**	**+2.4**
PRS1	**Puriscal**	**2.04**	**100**	*eP*	**Pn**	**15 25 46.6**	**-0.8**
MOMJ	**Momotombo**	**2.06**	**355**	⇓*eP*	**Pn**	**15 25 48.4**	**+0.7**
VPS2	**Volcan Poas 2**	**2.09**	**94**	⇑*eP*	**Pn**	**15 25 48.7**	**+0.6**
MIRN	**Miramar**	**2.12**	**350**	⇑*eP*	**Pn**	**15 25 49.2**	**+0.7**
LEON	**Leon**	**2.13**	**346**	⇑*eP*	**Pn**	**15 25 49.5**	**+0.8**
CNGN	**Cerro Negro**	**2.17**	**351**	⇓*eP*	**Pn**	**15 25 49.9**	**+0.6**
PYTN	**Playitas**	**2.20**	**8**	*eP*	**Pn**	**15 25 49.7**	**0.0**
LAJ	**Bijagual**	**2.25**	**102**	*eP*	**Pn**	**15 25 46.6**	**-3.7**
LAJ				*e*S	**Sn**	**15 26 09.7**	**-7.9**
TEL3	**Telica 3**	**2.27**	**348**	⇑*eP*	**Pn**	**15 25 51.3**	**+0.6**
TELN	**Telica**	**2.30**	**348**	*eP*	**Pn**	**15 25 51.8**	**+0.8**
SJS	**Escuela Geolog**	**2.30**	**100**	⇓*eP*	**Pn**	**15 25 53.2**	**+2.2**
SJS				*e*S	**Sn**	**15 26 21.0**	**+2.1**
LCR2	**La Lucha 2**	**2.39**	**104**	*eP*	**Pn**	**15 25 52.3**	**-0.1**
CRIN	**San Cristobal**	**2.44**	**344**	*eP*	**Pn**	**15 25 55.4**	**+2.2**
ICR	**Volcan Irazu**	**2.51**	**98**	⇑*eP*	**Pn**	**15 25 58.4**	**+4.3**
TRTC	**Tortuguero**	**2.61**	**85**

PV10	Paradox Valley	34.53	328	*e*P	P	15 32 02.5	-0.1
SADO	Sadowa	34.86	9	LR	LR	15 47 08.3	
	comp=N,311nm,18.2s,MS4.1,baz=250,slow=39						
NEN	Nelson	36.12	319	*e*P	P	15 32 17.9	+1.9
NEN				*ep*P	pP	15 32 25.2	+1.8
MVU	Marysvale	36.36	325	*e*P	P	15 32 17.6	-0.5
	comp=N,1.6nm,0.8s,mb4.0						
BW06	Boulder Array	38.13	332	*e*P	P	15 32 32.2	-0.7
	comp=N,1.6nm,0.6s,mb3.9						
PDAR	Pinedale Array	38.13	332	P	P	15 32 32.0	-0.9
	comp=N,1.6nm,0.7s,mb3.9,baz=123,slow=10,SNR=15						
PDAR				PcP	PcP	15 34 48.6	+0.6
	comp=N,0.8nm,0.8s,baz=146,slow=5.3,SNR=5.2						
PDAR				pPcP		15 34 54.8	
	comp=N,0.9nm,0.9s,baz=124,slow=5.3,SNR=3.9						
HWUT	Hardware Ranch	38.23	329	*e*P	P	15 32 33.6	-0.1
	comp=N,4.5nm,0.6s,mb4.4						
HWUT				*ep*P	pP	15 32 40.9	-0.2
LOHW	Long Hollow	39.27	332	*e*P	P	15 32 41.9	-0.5
TPAW	Teton Pass	39.34	331	*e*P	P	15 32 42.7	-0.2
MNV	Mina	39.90	320	*e*P	P	15 32 50.4	+2.7
	comp=N,9.3nm,0.9s,mb4.5						
NVAR	Mina Array Bea	39.99	320	P	P	15 32 50.6	+2.2
	comp=N,8.4nm,0.8s,mb4.5,baz=129,slow=8.0,SNR=62						
NVAR				PcP	PcP	15 34 56.0	+2.1
	comp=N,2.7nm,0.7s,baz=128,slow=4.9,SNR=14						
NVAR				pPcP		15 35 02.7	
	comp=N,1.7nm,0.7s,baz=138,slow=5.2,SNR=7.0						
NVAR	Mina Array Bea	39.99	320	P	P	15 32 50.6	+2.2
NVAR				PcP	PcP	15 34 56.0	+2.1
NVAR				pPcP		15 35 02.7	
HLID	Hailey	41.09	329	*e*P	P	15 32 57.5	+0.1
	comp=N,2.2nm,0.7s,mb3.9						
MCMT	McKenzie Canyo	41.24	331	*e*P	P	15 32 58.5	-0.1
MCMT				*ep*P	pP	15 33 06.4	+0.3
BOZ	Bozeman (W)	41.30	333	*e*P	P	15 32 58.5	-0.6
	comp=N,4.0nm,0.9s,mb4.0						
BOZ				*ep*P	pP	15 33 05.7	-0.9
OHCM	Honcut	42.55	319	*e*P	P	15 33 09.5	0.0
OHCM				*ep*P	pP	15 33 17.8	+0.9
WVOR	Wild Horse Val	42.63	324	*e*P	P	15 33 10.4	+0.3
	comp=N,6.8nm,0.8s,mb4.4						
WVOR				*ep*P	pP	15 33 18.3	+0.8
CHMT	Chamberlain Mo	43.00	333	*e*P	P	15 33 12.5	-0.5
CHMT				*ep*P	pP	15 33 20.6	+0.1
BMO	Blue Mountains	43.48	328	*e*P	P	15 33 15.6	-1.4
	comp=N,2.7nm,0.8s,mb4.0						
YBH	Yreka Blue Hor	44.65	321	P	P	15 33 26.4	-0.1
	comp=N,1.6nm,0.8s,mb3.9,baz=24,slow=7.9,SNR=3.7						
SCHQ	Schefferville	47.00	15	P	P	15 33 40.8	-4.1
	comp=N,5.7nm,0.7s,mb4.6,baz=228,slow=7.4,SNR=10.0						
YKA	Yellowknife Ar	55.92	345	P	P	15 34 48.5	-3.5
	comp=N,1.9nm,0.9s,mb4.1,baz=139,slow=7.1,SNR=28						
YKA				*ep*P	pP	15 34 55.6	-4.1
	comp=N,0.6nm,0.5s,baz=141,slow=7.1,SNR=6.6						
YKA				PcP	PcP	15 35 49.2	-1.1
	comp=N,0.4nm,0.7s,baz=143,slow=3.7,SNR=6.1						
YKA				pPcP		15 35 56.7	
	comp=N,0.2nm,0.6s,baz=144,slow=4.3,SNR=5.1						
YKA	Yellowknife Ar	55.92	345	P	P	15 34 48.5	-3.5
YKA				pP	pP	15 34 55.6	-4.1
YKA				PcP	PcP	15 35 49.2	-1.1
YKA				pPcP		15 35 56.7	
INK	Inuvik	65.53	343	P	P	15 35 54.6	-2.6
	comp=N,2.2nm,0.8s,mb4.2,baz=137,slow=5.4,SNR=6.4						
ILAR	Eielson Array	68.37	336	P	P	15 36 13.6	-1.7
	comp=N,1.3nm,0.8s,mb4.0,baz=107,slow=5.2,SNR=15						
ILAR				pP	pP	15 36 20.1	-2.9
	comp=N,8.4nm,1.4s,baz=130,slow=4.5,SNR=5.9						
SONM	Songino Array	120.99	350	PKP	PKPdf	15 44 05.9	-3.3
	comp=N,0.6nm,0.8s,baz=45,slow=1.7,SNR=4.3						
ASAR	Alice Springs	139.44	246	PKhKP		15 44 40.5	
	comp=N,0.3nm,0.7s,baz=108,slow=2.9,SNR=5.4						
WRA	Warramunga Arr	139.67	251	PKhKP		15 44 42.3	
	comp=N,0.5nm,0.6s,baz=94,slow=2.6,SNR=6.2						
CMAR	Chiang Mai Arr	150.91	350	PKP	PKPdf	15 45 01.8	-2.4
	comp=N,1.3nm,1.0s,baz=322,slow=2.0,SNR=8.8						
CMAR				PKPbc	PKPdf	15 45 06.7	+2.4
	comp=N,3.0nm,0.8s,baz=330,slow=3.0,SNR=18						
CMAR				PKPab	PKPab	15 45 12.9	-2.0
	comp=N,2.1nm,0.8s,baz=333,slow=3.1,SNR=9.1						

*NEIC **24** 15:28:57.7±1.2, 51.92N×169.15W, h10km, ML3.5(AEIC), Error ellipse: s-maj=23.3km s-min=7.8km az=151.0*
*IDC **24** 15:29:10.4±9.3, 53.15N×169.48W, h56km±81km, mb3.5/8, mb1 3.6/9, mb1mx3.4/22, mbtmp3.7/9, ML3.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/24, Error ellipse: s-maj=76.5km s-min=33.8km az=158.0*

ISC 24 15:28:59.8±1.4, 52.0N±0.1×169.3W±0.1, h45km±10km, n21, σ0°77/26, mb3.8/8, MS3.2/1, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	Nikolski	1.06	13	P	P	15 29 17.0	-1.4
NIKO				S	S	15 29 31.2	-1.0
OKCE	Okmok Cone E	1.62	24	P	P	15 29 26.3	-0.2
OKCE				S	S	15 29 47.3	+0.9
OKCD	Okmok Cone D	1.64	24	P	P	15 29 27.1	+0.3
OKCD				S	S	15 29 48.3	+1.6
OKFG	Magazine Ridge	1.68	28	P	P	15 29 27.3	0.0
OKFG				S	S	15 29 48.1	+0.4
MSW	Makushin Switc	2.47	36	P	P	15 29 39.0	+0.4
MSW				S	S	15 30 07.5	-0.2
UNV	Unalaska Valle	2.53	40	P	P	15 29 39.4	+0.1
UNV				S	S	15 30 08.2	-0.9
MTBL	Makushin Table	2.55	36	P	P	15 29 40.4	+0.7
ATKA	Atka Island	3.06	277	P	P	15 29 47.2	+0.2
GSMY	Great Sitkin M	4.21	274	P	P	15 30 03.4	+0.3
KIWB	Kanaga Island	4.89	272	P	P	15 30 12.3	-0.5
SPIA	Saint Paul Isl	5.28	354	P	P	15 30 18.2	0.0
ILAR	Eielson Array	17.26	33	P	P	15 32 57.2	-1.5
	0.1nm,0.3s,baz=213,slow=10,SNR=8.3						
INK	Inuvik	23.66	33	P	P	15 34 06.8	-0.6
	1.2nm,0.4s,mb3.7,baz=246,slow=8.1,SNR=14						
BBB	Bella Bella	25.05	73	LR	LR	15 42 44.8	
	comp=Z,7.9nm,18.8s,MS3.2,baz=265,slow=33						
YKA	Yellowknife Ar	30.47	48	P	P	15 35 11.1	+1.1
	0.4nm,0.5s,mb3.4,baz=273,slow=8.0,SNR=13						
SONM	Songino Array	51.58	301	P	P	15 38 04.3	+1.1
	0.2nm,0.5s,mb3.3,baz=90,slow=5.8,SNR=3.6						
ARCES	ARCESS Array B	58.35	354	P	P	15 38 50.9	-1.1
	4.6nm,1.1s,mb4.4,baz=14,slow=10.0,SNR=3.9						
FINES	FINESS Array B	66.30	352	P	P	15 39 44.5	-0.3
	2.7nm,1.1s,mb4.2,baz=14,slow=5.7,SNR=7.1						
HFS	Hagfors	68.25	358	P	P	15 39 57.3	+0.2
	1.5nm,0.6s,mb4.2,baz=72,slow=4.7,SNR=4.4						
AKASG	Malin Array Be	76.54	348	P	P	15 40 46.5	+0.3
	1.1nm,0.6s,mb4.0,baz=16,slow=5.3,SNR=4.2						
CMAR	Chiang Mai Arr	76.78	283	P	P	15 40 54.1	+5.8
	0.4nm,0.7s,mb3.5,baz=22,slow=4.9,SNR=4.9						

WEL 24 15:38:01.1±0.3, 36.59S×177.38E, h178km±4km, ML3.5/6, Error ellipse: s-maj=5.2km s-min=3.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.22	143	PN	P	15 38 30.1	-0.5
MXZ				SN	S	15 38 52.6	-0.8
PUZ	Puketiti	1.63	155	PN	P	15 38 34.3	-0.2
PUZ				SN	S	15 38 59.2	-1.2
URZ	Urewera	1.68	187	PN	P	15 38 35.2	+0.2
URZ				SN	S	15 39 01.2	0.0
MWZ	Matawai	1.74	176	PN	P	15 38 35.6	0.0
MWZ				SN	S	15 39 01.7	-0.7
KNZ	Kokohu	2.43	175	PN	P	15 38 42.7	-0.7
KNZ				SN	S	15 39 14.4	-1.6
BKZ	Black Stump Fm	2.66	195	PN	P	15 38 45.7	-0.5
BKZ				SN	S	15 39 19.4	-1.5
PWZ	Pawanui	3.45	187	PN	P	15 38 54.3	-1.6
TSZ	Takapari Road	3.64	197	PN	P	15 38 56.3	-2.0
TSZ				*e*SN	S	15 39 37.7	-4.6
BFZ	Birch Farm	4.18	192	PN	P	15 39 02.6	-2.5
BFZ				SN	S	15 39 49.9	-4.6
MRZ	Mangatainoka R	4.30	199	PN	P	15 39 03.9	-2.8
MRZ				SN	S	15 39 52.6	-4.8
KIW	Kapiti Island	4.68	204	PN	P	15 39 08.4	-3.2
CAW	Cannon Point	4.86	201	PN	P	15 39 10.3	-3.6
TUWZ	Tuamarina	5.52	208	PN	P	15 39 18.2	-4.4
NNZ	Nelson	5.57	213	PN	P	15 39 19.6	-3.6
NNZ				*e*SN	S	15 40 22.0	-5.1
QRZ	Quartz Range	5.68	220	PN	P	15 39 20.2	-4.4
THZ	Tophouse	6.22	213	*e*PN	P	15 39 26.6	-5.2
THZ				*e*SN	S	15 40 38.8	-3.6
LTZ	Lake Taylor	7.33	211	*e*PN	P	15 39 41.1	-5.3

*NEIC **24** 15:38:56.5±6.9, 15.37N×90.19W, h10km±43km, mb3.7/2, Error ellipse: s-maj=29.4km s-min=14.7km az=199.0*
*CASC **24** 15:38:57.1±1.9, 15.19N×90.31W, h10km, MD4.1, ML4.9, mb3.7(NEIC)*
*IDC **24** 15:39:04.4±7.7, 15.49N×90.04W, h73km±69km, mb3.3/5, mb1 3.7/6, mb1mx3.4/18, mbtmp3.7/6, ML4.4/1, MS3.3/3, Ms1 3.3/3, ms1mx2.5/20, Error ellipse: s-maj=118.1km s-min=25.2km az=35.0*

ISC 24 15:38:54.7±0.4, 15.33N±0.03×90.28W±0.03, h10km, n37, σ1°12/46, mb3.6/6, MS3.1/3, 5C-12D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBG	Las Nubes	0.74	185	⇓*e*P	Pb	15 39 07.7	-1.6
NBG				*e*S	Sb	15 39 18.1	-1.0
NBG				AML	AML	15 39 20.1	
	comp=E,104μm,0.5s						
TP2	Tecpan 2	0.90	233	⇓*e*P	Pb	15 39 11.8	-0.1
TP2				*e*S	Sb	15 39 25.4	+1.6
PCG	Pacaya	0.98	199	*e*P	Pb	15 39 13.1	-0.3
FUG	Fuego 3	1.03	212	⇓*i*P	Pb	15 39 13.5	-0.7
IXG	Ixpaco	1.16	188	⇓*e*P	Pb	15 39 15.6	-0.8
IXG				*e*S	Sb	15 39 31.3	0.0
IXG				AML	AML	15 39 39.0	
	comp=E,72μm,0.5s						
MTO2	Montecristo 2	1.28	136	⇑*e*P	Pb	15 39 16.6	-1.9
RBDL	Robledal	1.34	154	⇓*i*P	Pb	15 39 18.4	-1.1
RTR	El Retiro	1.55	157	⇓*e*P	Pn	15 39 22.5	-0.1
RTR				*e*S	Sb	15 39 42.6	0.0
SNJE	San Jose	1.59	156	⇓*e*P	Pn	15 39 23.1	-0.1
SNJE				*e*S	Sb	15 39 43.3	-0.6
SBLS	San Blas	1.61	157	⇓*e*P	Pn	15 39 23.3	-0.2
SBLS				*e*S	Sn	15 39 44.2	-0.2
JAT	Jato	1.65	233	⇓*e*P	Pn	15 39 26.2	+2.2
JAT				*e*S	Sn	15 39 45.8	+0.4
JAT				AML	AML	15 39 54.7	
	comp=E,7μm,0.4s						
BOQS	Boqueron	1.86	148	⇑*e*P	Pn	15 39 27.1	+0.1
LFU	La Fuente	1.93	144	*e*P	Pn	15 39 28.1	0.0
LBRS	Las Brisas	1.98	143	⇑*e*P	Pn	15 39 28.9	+0.1
LBRS				*e*S	Sn	15 39 57.1	+3.2
CCIG	Comitan	2.02	298	*i*P	Pn	15 39 30.4	+1.0
CCIG				*i*S	Sn	15 40 00.7	+5.8
LFRS	El Faro	2.06	145	⇓*e*P	Pn	15 39 30.2	+0.2
LCBS	La Ceiba	2.09	143	⇑*e*P	Pn	15 39 30.4	+0.2
LCBS				*e*S	Sn	15 39 57.4	+0.8
SNVI	San Vicente	2.20	140	⇓*e*P	Pn	15 39 33.1	+1.1
CAHU	Cacacuatique	2.53	127	*e*S	Sn	15 40 12.0	+4.1
BLLM	Bellamira	2.73	133	⇓*e*P	Pn	15 39 41.0	+1.5
CNCH	Conchagua	3.13	130	⇓*e*P	Pn	15 39 47.8	+2.6
CMIG	Matias Romero	4.76	292	*i*P	Pn	15 40 06.0	-2.3
CMIG				*i*S	Sn	15 41 01.6	-2.6
TEIG	Tepich	5.23	21	*e*Pn	Pn	15 40 13.2	-1.8
	comp=E,117nm,0.8s						
OXX	Oaxaca	6.43	287	*e*P	Pn	15 40 43.0	+11
OXX				*i*S	Sn	15 41 42.0	-4.1
TXAR	Lajitas Array	18.62	321	P	P	15 43 15.9	+1.4
	comp=E,0.3nm,0.3s,baz=141,slow=12,SNR=14						
SDV	Santo Domingo	20.24	106	P	P	15 43 32.3	-0.8
	comp=E,1.7nm,0.4s,baz=328,slow=9.5,SNR=5.4						
SDV				LR	LR	15 51 29.6	
	comp=E,61nm,19.1s,MS3.0,baz=21,slow=37						
GDL2	Guadalupe Moun	21.13	325	P	P	15 43 42.1	-0.1
MNTX	Cornudas Mount	21.37	222	*e*P	P	15 43 44.0	-0.3
	comp=E,1.5nm,0.7s,mb3.4						
SJG	San Juan	23.47	80	LR	LR	15 51 01.9	
	comp=E,68nm,20.8s,MS3.1,baz=270,slow=31						
TUC	Tucson	25.17	316	*e*P	P	15 44 23.2	+1.3
	comp=E,1.3nm,0.5s,mb3.7						
PDAR	Pinedale Array	31.96	333	P	P	15 45 24.0	+0.9
	comp=E,0.4nm,0.7s,mb3.4,baz=131,slow=17,SNR=3.4						
NVAR	Mina Array Bea	33.74	318	P	P	15 45 39.4	+0.8
	comp=E,0.9nm,0.7s,mb3.8,baz=119,slow=9.3,SNR=7.6						
LPAZ	La Paz	38.28	144	LR	LR	16 01 43.7	
	comp=E,44nm,18.3s,MS3.3,baz=56,slow=36						
YKA	Yellowknife Ar	50.14	346	P	P	15 47 50.5	-1.6
	comp=E,0.6nm,0.5s,mb3.9,baz=144,slow=7.6,SNR=16						
YKA	Yellowknife Ar	50.14	346	P	P	15 47 50.5	-1.6
ILAR	Eielson Array	62.29	336	P	P	15 49 19.6	+0.4
	comp=E,0.4nm,0.8s,mb3.6,baz=145,slow=6.2,SNR=4.7						
CMAR	Chiang Mai Arr	145.22	345	PKPbc	PKPbc	15 58 32.5	-1.5
	comp=E,0.8nm,0.8s,baz=344,slow=2.9,SNR=7.3						

IDC 24 15:46:29.1±5.5, 6.18N×93.06E, mb3.4/3, mb1 3.6/4, mb1mx3.4/18, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=158.2km s-min=31.0km az=76.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.49	25	Pn	P	15 49 43.0	-1.3
	0.0nm,0.3s,baz=217,slow=14,SNR=5.9						
SONM	Songino Array	43.04	13	P	P	15 54 30.3	-2.0
	0.3nm,0.8s,baz=211,slow=8.4,SNR=3.1						
WRA	Warramunga Arr	48.19	124	P	P	15 55 10.7	-2.9
	0.6nm,0.8s,baz=300,slow=8.8,SNR=5.5						
ASAR	Alice Springs	49.68	128	P	P	15 55 23.9	-1.1
	0.3nm,0.5s,baz=310,slow=8.0,SNR=8.1						

*JMA **24** 15:47:49.0±0.3, 24.10N×122.53E, h20km*

TAP 24 15:47:53.2, 24.55N×122.73E, h8km±1km, ML2.5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.27	109	P	Pg	15 48 00.0	+1.2
YOJ				S	Sg	15 48 08.0	+5.5
IRIF	Iriomote-Funau	0.94	103	P	Pb	15 48 09.6	-1.7
IRIF				*e*S	Sb	15 48 22.3	-1.3
HATJ	Hateruma jima	1.10	116	P	Pb	15 48 10.1	-3.9
JKRS	Kuro-shima	1.21	105	P	Pb	15 48 12.7	-3.2
JKRS				*e*S	Sb	15 48 30.4	-1.1
JIJ	Ishigaki jima	1.30	98	P	Pb	15 48 15.4	-2.1
JIJ				*e*S	Sb	15 48 34.5	+0.3

IDC 24 16:01:37.2±16.0, 0.26S×124.63E, mb3.6/3, mb1 3.9/3, mb1mx3.6/15, mbtmp3.7/3, Error ellipse: s-maj=259.9km s-min=190.6km az=164.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.75	155	P	P	16 06 30.5	-1.9
	1.5nm,0.6s,baz=332,slow=11,SNR=9.2						
ASAR	Alice Springs	24.94	159	P	P	16 07 03.2	-0.6
	0.9nm,0.8s,baz=342,slow=8.6,SNR=6.5						
STKA	Stephens Creek	35.30	155	P	P	16 08 33.2	-2.9
	0.9nm,0.6s,baz=330,slow=8.1,SNR=4.0						

IDC 24 16:02:04.4±4.3, 5.79S×147.72E, h207km±45km, mb3.0/2, mb1 3.4/4, mb1mx3.1/13, mbtmp3.7/4, Error ellipse: s-maj=90.6km s-min=27.1km az=130.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.63	189	P	P	16 03 02.7	+0.1
	3.6nm,0.3s,baz=320,slow=7.7,SNR=18						
PMG				S	S	16 03 47.5	0.0
	10nm,0.3s,baz=175,slow=22,SNR=15						
WRA	Warramunga Arr	19.16	222	P	P	16 06 12.2	-2.0
	0.8nm,0.3s,baz=47,slow=12,SNR=62						
ASAR	Alice Springs	22.20	215	P	P	16 06 44.6	+0.3
	1.0nm,0.5s,baz=48,slow=9.2,SNR=30						
ILAR	Eielson Array	85.01	23	P	P	16 14 15.7	-1.7
	0.2nm,0.9s,baz=250,slow=5.8,SNR=4.7						

GUC 24 16:07:40.4±0.5, 29.48S×69.62W, h132km±12km, ML3.6, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	1.24	236	*i*P	P	16 08 06.8	+0.6
TLL				*i*S	S	16 08 26.9	+1.1
TLL				AMP		16 08 28.9	
	comp=N,838nm,0.5s						
VACH	Vallenar	1.35	312	⇓*i*P	P	16 08 07.5	+0.1
VACH				*i*S	S	16 08 27.5	-0.5
LSCH	La Serena	1.48	253	⇑*i*P	P	16 08 08.5	-0.3
LSCH				*i*S	S	16 08 30.2	-0.4
LSCH				AMP		16 08 32.2	
	comp=E,690nm,0.3s						
CPCH	Copiapo	2.21	343	*i*S	S	16 08 44.3	-1.7
PTCH	Petorca	2.99	202	*i*S	S	16 09 03.2	-0.8
PTCH				AMP		16 09 08.4	
	comp=N,210nm,0.2s						

*BJI **24** 16:10:28.8, 6.25N×92.37E, h32km, mb4.4*
*IDC **24** 16:10:34.8±1.3, 7.41N×92.55E, mb3.8/6, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, ML4.4/1, Error ellipse: s-maj=70.8km s-min=20.0km az=56.0*
*NEIC **24** 16:10:39.1±0.5, 7.22N×92.35E, mb4.2/4, Error ellipse: s-maj=10.5km s-min=8.9km az=65.0*

ISC 24 16:10:37.1±0.7, 7.21N±0.09×92.35E±0.10, h33km, n17, σ0°80/15, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	11.55	271	*e*Pn	P	16 13 22.1	-0.8
CM31	Chiang Mai Arr	12.89	29	*e*Pn	P	16 13 41.1	+0.3
	2.0nm,0.3s						
CMAR	Chiang Mai Arr	12.89	29	Pn	P	16 13 39.7	-1.1
	0.6nm,0.3s,baz=232,slow=14,SNR=90						
HYB	Hyderabad	16.85	308	*i*P	P	16 14 40.0	+7.8
LSA	Lhasa	22.40	357	*e*P	P	16 15 35.6	+1.4
LSA	Lhasa	22.40	357	*e*P	P	16 15 35.8	+1.6
	3.4nm,0.6s,mb4.0						
SONM	Songino Array	42.21	14	P	P	16 18 27.7	-0.9
	0.4nm,0.6s,mb3.2,baz=205,slow=6.4,SNR=4.3						
KURK	Kurchatov	44.85	348	*e*P	P	16 18 50.3	+0.4
	2.6nm,0.9s,mb4.1						
KURK				*ep*P	pP	16 18 59.5	-0.3
BVAR	Borovoye Array	49.06	343	P	P	16 19 22.5	-0.5
	0.6nm,0.7s,mb3.7,baz=229,slow=34,SNR=3.0						
WRA	Warramunga Arr	49.35	124	P	P	16 19 25.9	+0.2
	2.3nm,0.7s,mb4.3,baz=304,slow=8.7,SNR=17						
WRAB	Tennant Creek	49.35	124	*e*P	P	16 19 25.6	-0.1
	5.4nm,0.8s,mb4.6						
WRAB				*ep*P	pP	16 19 35.6	0.0
CHKZ	Chkalovo	49.57	343	*e*P	P	16 19 26.7	-0.1
	3.2nm,0.9s,mb4.3						
ASAR	Alice Springs	50.88	128	P	P	16 19 36.4	-0.9
	1.0nm,0.5s,mb4.0,baz=300,slow=7.9,SNR=18						
ASAR				PcP	PcP	16 20 54.9	+1.1
	0.5nm,0.5s,baz=296,slow=2.9,SNR=5.2						
STKA	Stephens Creek	60.95	133	P	P	16 20 50.6	+1.0
	1.2nm,0.5s,mb4.3,baz=290,slow=9.3,SNR=7.1						
GERES	GERESS Array B	77.13	318	P	P	16 22 30.3	+1.1
	0.2nm,0.4s,mb3.4,baz=90,slow=5.3,SNR=3.8						
NVAR	Mina Array Bea	126.39	30	PKP	PKPdf	16 29 39.9	+2.6
	0.4nm,0.6s,baz=276,slow=0.4,SNR=5.1						
PDAR	Pinedale Array	126.41	20	PKP	PKPdf	16 29 39.2	+2.0
	0.9nm,1.1s,baz=333,slow=3.3,SNR=3.7						

*NNC **24** 16:17:13.6±20.0, 39.91N×77.02E, h4km±67km, mpv3.6, Error ellipse: s-maj=153.1km s-min=34.4km az=34.0*
*NEIC **24** 16:17:18.1±0.7, 39.65N×77.66E, h10km, mb3.7/1, Error ellipse: s-maj=13.1km s-min=10.0km az=216.0*
*MOS **24** 16:17:19.6±1.7, 39.66N×77.66E, h33km, mb3.9/1, Error ellipse: s-maj=21.3km s-min=9.6km az=96.4*
*BJI **24** 16:17:19.0, 40.02N×77.73E, h10km, mB4.6, mb3.4, ML3.8*
*IDC **24** 16:17:24.6±6.4, 39.82N×77.79E, h60km±58km, mb3.5/9, mb1 3.7/11, mb1mx3.5/20, mbtmp3.7/11, ML3.2/2, Error ellipse: s-maj=35.1km s-min=18.2km az=26.0*

ISC 24 16:17:20.5±0.9, 39.75N±0.05×77.83E±0.08, h39km±10km, n37, σ1°05/34, mb3.8/10, 5C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	2.77	335	P	P	16 18 03.5	+0.1
	SNR=39						
KZA	Kyzart	3.04	321	P	P	16 18 08.6	+1.3
	SNR=74						
UCH	Uchtor	3.53	316	P	P	16 18 14.1	-0.1
	SNR=18						
AAA	Alma-Ata	3.58	350	*e*PN	P	16 18 18.0	+3.0
AAA				*e*S	S	16 19 04.0	+7.4
TKM2	Tokmak 2	3.59	333	P	P	16 18 14.9	-0.2
	SNR=20						
KBK	Karagaybulak	3.63	324	P	P	16 18 16.3	+0.6
	SNR=33						
AAK	Ala-Archa	3.83	320	P	P	16 18 18.5	0.0
	SNR=11						
AAK	Ala-Archa	3.83	320	*e*PN	P	16 18 17.0	-1.5
AML	Almayashu	3.93	309	P	P	16 18 20.2	+0.2
	SNR=50						
CHMS	Chumysh	3.99	325	P	P	16 18 20.3	-0.5
	SNR=13						
EKS2	Erkin-Say	4.22	315	P	P	16 18 24.5	+0.4
	SNR=21						
USP	Ospenovka	4.31	326	P	P	16 18 33.0	+7.6
	SNR=15						
MK31	Makanchi Array	7.75	23	⇑Pn	P	16 19 11.5	-2.1
	2.8nm,0.8s,baz=194,slow=14,SNR=9.2						
MK31				⇑Lg		16 21 19.7	
	4.8nm,0.6s,baz=214,slow=27,SNR=4.5						
WMQ	Urumqi	8.42	58	*e*P	P	16 19 22.0	-0.8
WMQ				Smax			
	comp=N,14nm,0.9s						
W

0.3nm,0.7s,baz=207,slow=6.2,SNR=3.4
WRA Warramunga Arr 50.99 125 P P 16 36 44.5 -1.6
0.4nm,1.0s,baz=303,slow=8.7,SNR=4.3
ASAR Alice Springs 52.59 129 P P 16 36 55.6 -2.6
0.2nm,0.7s,baz=306,slow=8.0,SNR=4.0

IGQ 24 16:42:50.0, 0.94S×81.23W, h12km±5km, mb4.1, 2C-3D, Error ellipse: s-maj=16.5km s-min=7.6km az=148.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.69**	**100**	⇓P	Pb	16 43 02.9	-0.6
JUA2	**San Juan 2**	**2.72**	**75**	P	Pn	16 43 35.6	+1.3
TERV	**Terraza Guagua**	**2.73**	**74**	⇓P	Pn	16 43 36.3	+1.8
PINO	**Pino**	**2.73**	**74**	⇑P	Pn	16 43 35.8	+1.3
YANA	**Yana**	**2.77**	**73**	P	Pn	16 43 36.2	+1.1
ARRY	**Arrayan**	**2.83**	**102**	P	Pn	16 43 37.3	+1.4
ARRY				S	Sn	16 44 11.1	+0.9
VC1	**Cotopaxi 1**	**2.84**	**84**	P	Pn	16 43 39.2	+3.2
PISA	**Pisayambo**	**2.84**	**92**	⇑P	Pn	16 43 38.1	+2.0
PATA	**Patacocha**	**2.85**	**101**	P	Pn	16 43 38.1	+1.9
ULBA	**Ulba**	**2.86**	**100**	P	Pn	16 43 38.2	+1.8
ULBA				S	Sn	16 44 15.3	+4.2
TAMB	**Tambo**	**2.87**	**85**	P	Pn	16 43 35.2	-1.2
COTA	**Cotacachi**	**3.15**	**66**	P	Pn	16 43 42.2	+1.7
CAYR	**Refugio Cayamb**	**3.35**	**74**	⇓P	Pn	16 43 46.7	+3.4
CAYA	**Cayambe**	**3.38**	**73**	P	Pn	16 43 46.7	+2.9

IDC 24 16:51:17.9±2.5, 10.49N×92.19E, mb3.5/4, mb1 3.6/5, mb1mx3.4/18, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=75.9km s-min=24.1km az=72.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.27**	**39**	Pn	P	16 53 44.9	-4.8
0.1nm,0.3s,baz=234,slow=16,SNR=3.0							
SONM	**Songino Array**	**39.10**	**15**	P	P	16 58 47.8	-0.9
0.6nm,1.0s,baz=219,slow=9.2,SNR=3.0							
ZAL	**Zalesovo**	**43.74**	**354**	P	P	16 59 24.3	-2.2
0.6nm,0.5s,baz=330,slow=13,SNR=3.6							
WRA	**Warramunga Arr**	**51.34**	**126**	P	P	17 00 24.4	-2.1
0.1nm,0.4s,baz=299,slow=10,SNR=7.8							
ASAR	**Alice Springs**	**53.06**	**130**	P	P	17 00 37.2	-2.2
0.4nm,0.6s,baz=306,slow=6.7,SNR=10							

*NEIC **24** 17:03:19.6, 32.70S×71.75W, h24km, ML2.6(GUC), After GUC.*
GUC 24 17:03:19.6±0.7, 32.70S×71.75W, h24km±6km, MD3.5, ML2.6, 9C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.31**	**58**	⇓iP	Pb	17 03 26.7	0.0
PACH				i S	Sb	17 03 32.2	+0.7
ROCH	**El Roble**	**0.68**	**114**	⇑iP	Pb	17 03 32.5	-0.1
ROCH				i S	Sb	17 03 42.5	+0.9
LCCH	**Las Cruces**	**0.79**	**169**	⇑iP	Pb	17 03 33.8	-0.8
LCCH				i S	Sb	17 03 44.3	-0.5
PTCH	**Petorca**	**0.82**	**58**	⇑iP	Pb	17 03 34.4	-0.6
PTCH				i S	Sb	17 03 46.0	+0.3
PTCH				AMP		17 03 46.3	
comp=E,520nm,0.2s							
JACH	**Jahuel**	**0.97**	**89**	⇓iP	Pb	17 03 36.9	-0.8
JACH				i S	Sb	17 03 50.4	+0.3
RCDM	**Rinconada Maip**	**1.11**	**135**	⇑iP	Pn	17 03 39.4	-0.5
RCDM				i S	Sb	17 03 54.1	-0.1
RCDM				AMP		17 03 57.5	
comp=E,247nm,0.1s							
TACH	**Talagante**	**1.17**	**145**	⇑iP	Pn	17 03 40.2	-0.4
TACH				i S	Sb	17 03 55.2	-0.6
CLCH	**Cerro Calan**	**1.23**	**125**	⇑iP	Pn	17 03 41.1	-0.4
CLCH				i S	Sn	17 03 57.9	+0.4
CLCH				AMP		17 04 04.3	
comp=E,182nm,0.6s							
LNV	**Longovilo**	**1.28**	**167**	⇑iP	Pn	17 03 41.9	-0.4
LNV				i S	Sn	17 03 58.4	-0.4
FCH	**Farellones**	**1.38**	**117**	⇓iP	Pn	17 03 43.6	0.0
FCH				i S	Sn	17 04 02.2	+1.0
FCH				AMP		17 04 03.2	
comp=N,206nm,0.2s							
PCH	**Pirque**	**1.38**	**132**	⇑iP	Pn	17 03 43.8	+0.1
CHCH	**Chadas Angostu**	**1.53**	**144**	eP	Pn	17 03 46.2	+0.3
CACH	**El Canelo**	**1.71**	**146**	⇑iP	Pn	17 03 49.6	+1.2
LMEL	**Las Melosas**	**1.73**	**132**	eP	Pn	17 03 49.5	+0.9
LMEL				AMP		17 04 15.2	
comp=N,166nm,0.2s							
SFDO	**San Fernando**	**2.00**	**162**	i P	Pn	17 03 53.1	+0.5

*NEIC **24** 17:17:09.5±0.7, 54.43N×162.81W, h57km±11km, ML3.7(AEIC), Error ellipse: s-maj=18.1km s-min=3.7km az=149.0*
*IDC **24** 17:17:32.9±9.2, 55.19N×158.22W, h74km±84km, mb3.3/2, mb1 3.5/4, mb1mx3.2/20, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=104.9km s-min=58.5km az=84.0*
ISC 24 17:17:08.5±0.7, 54.5N±0.1×162.8W±0.1, h75km±8km, n40, σ0°90/45, mb3.5/2, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.51**	**316**	P	**P**	**17 17 21.0**	**-0.9**
FALS				S	**S**	**17 17 31.4**	**-0.6**
DT1	**Dutton Round H**	**0.68**	**26**	P	**P**	**17 17 22.9**	**-0.8**
BALA	**Baldy Mountain**	**0.70**	**1**	P	**P**	**17 17 24.6**	**+0.7**
BALA				S	**S**	**17 17 35.6**	**+0.1**
DTNA	**Dutton South F**	**0.73**	**26**	P	**P**	**17 17 23.8**	**-0.5**
DTNA				S	**S**	**17 17 35.6**	**-0.5**
DOL	**Dolgoi Island**	**0.85**	**39**	P	**P**	**17 17 25.2**	**-0.5**
HAG	**Hague Volcano**	**0.97**	**32**	P	**P**	**17 17 27.6**	**+0.4**
WTUG	**Tugumak**	**0.99**	**292**	P	**P**	**17 17 27.8**	**+0.4**
WESN	**West Dahl Nort**	**1.04**	**275**	P	**P**	**17 17 28.2**	**+0.2**
WESN				S	**S**	**17 17 44.0**	**+1.3**
PN7A	**Pavlof North-7**	**1.05**	**26**	P	**P**	**17 17 29.0**	**+0.9**
PVV	**Pavlof Volcano**	**1.05**	**33**	P	**P**	**17 17 28.6**	**+0.5**
PN6	**Pavlof North-6**	**1.08**	**27**	P	**P**	**17 17 29.9**	**+1.3**
WESS	**West Dahl Sout**	**1.12**	**270**	P	**P**	**17 17 28.8**	**-0.3**
WESS				S	**S**	**17 17 45.1**	**+0.7**
WFAR	**Faris Peak**	**1.15**	**273**	P	**P**	**17 17 29.6**	**+0.2**
BLHA	**Black Hill**	**1.28**	**19**	P	**P**	**17 17 31.8**	**+0.6**
SDPT	**Sand Point**	**1.59**	**57**	P	**P**	**17 17 35.0**	**-0.3**
LVA	**Lava Point**	**1.92**	**261**	P	**P**	**17 17 39.7**	**-0.2**
UNV	**Unalaska Valle**	**2.27**	**255**	P	**P**	**17 17 43.6**	**-1.1**
MTBL	**Makushin Table**	**2.34**	**259**	P	**P**	**17 17 45.2**	**-0.4**
MSW	**Makushin Switc**	**2.41**	**258**	P	**P**	**17 17 45.7**	**-1.0**
OKCD	**Okmok Cone D**	**3.31**	**253**	P	**P**	**17 17 59.7**	**+0.4**
OKCE	**Okmok Cone E**	**3.35**	**254**	P	**P**	**17 17 59.8**	**0.0**
KAHC	**Katmai Hardscr**	**5.99**	**43**	P	**P**	**17 18 36.6**	**+0.3**
KDAK	**Kodiak Island**	**6.59**	**56**	P	**P**	**17 18 42.1**	**-2.6**
MCNL	**McNeil River**	**6.60**	**41**	P	**P**	**17 18 45.3**	**+0.4**
OPT	**Oil Point**	**7.34**	**41**	P	**P**	**17 18 55.8**	**+0.7**
ILW	**Iliamna West**	**7.64**	**39**	P	**P**	**17 18 59.5**	**+0.2**
SVW2	**Sparrevohn**	**7.66**	**27**	P	**P**	**17 18 58.5**	**-0.9**
INE	**Iliamna NE**	**7.67**	**39**	P	**P**	**17 19 00.2**	**+0.5**
ILIM	**Iliamna**	**7.72**	**40**	P	**P**	**17 19 01.3**	**+0.9**
RSO	**Redoubt South**	**8.06**	**38**	eP	**P**	**17 19 06.3**	**+1.4**
NCT	**North Crescent**	**8.07**	**37**	P	**P**	**17 19 04.7**	**-0.3**
CNPM	**China Poot**	**8.07**	**47**	P	**P**	**17 19 03.4**	**-1.7**
RDN	**Redoubt North**	**8.09**	**38**	P	**P**	**17 19 06.0**	**+0.6**
SPU	**Mount Spurr**	**8.81**	**36**	eP	**P**	**17 19 15.9**	**+0.7**
TT01	**Tatalina**	**9.14**	**20**	P	**P**	**17 19 18.3**	**-1.3**
PWA	**Palmer West**	**9.90**	**38**	eP	**P**	**17 19 30.8**	**+1.0**
1.7nm,0.3s							
ILAR	**Eielson Array**	**13.02**	**31**	P	**P**	**17 20 09.3**	**-2.3**
0.1nm,0.3s,baz=217,slow=13,SNR=10							
INK	**Inuvik**	**19.41**	**33**	P	**P**	**17 21 28.9**	**-1.8**
0.1nm,0.3s,baz=216,slow=8.7,SNR=3.9							
YKA	**Yellowknife Ar**	**25.85**	**53**	P	**P**	**17 22 34.8**	**+0.7**
0.7nm,0.5s,mb3.3,baz=271,slow=9.2,SNR=24							
NVAR	**Mina Array Bea**	**33.95**	**100**	P	**P**	**17 23 47.5**	**+1.3**
0.8nm,0.8s,mb3.6,baz=307,slow=7.2,SNR=5.6							

ISC 24 17:37:00.8±0.9, 46.38N±0.07×15.06E±0.08, n5, σ0°33/6, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PERS	**Pernice**	**0.26**	**9**	i Pg	**Pg**	**17 37 06.3**	**+0.3**
GROS	**Grobnik**	**0.32**	**75**	i Pg	**Pg**	**17 37 06.9**	**-0.3**
OBKA	**Obir**	**0.38**	**291**	⇑iPG	**Pg**	**17 37 08.1**	**-0.2**
OBKA				i SG	**Sg**	**17 37 13.4**	**+0.1**
3.7nm,0.4s							
LEGS	**Legarje**	**0.47**	**157**	i Pg	**Pg**	**17 37 10.4**	**+0.3**
VISS	**Visnje**	**0.59**	**195**	i Pg	**Pg**	**17 37 12.6**	**-0.1**

*NEIC **24** 17:43:36.3±0.8, 21.46S×178.96W, h557km±10km, mb4.6/16, Error ellipse: s-maj=8.8km s-min=6.7km az=112.0*
*IDC **24** 17:43:43.3±1.9, 21.35S×179.24W, h628km±23km, mb3.8/14, mb1 4.0/15, mb1mx3.9/20, mbtmp4.9/15, Error ellipse: s-maj=17.5km s-min=10.3km az=157.0*
ISC 24 17:43:38.0±1.3, 21.60S±0.07×179.10W±0.07, h587km±17km, n128, σ1°00/75, mb4.4/26, 1C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.35**	**44**	eP	**P**	**17 45 55.1**	**-5.2**
140nm,0.8s							
DZM	**Mont Dzumac**	**13.44**	**265**	eP	**P**	**17 46 32.1**	**+1.0**
URZ	**Urewera**	**16.92**	**190**	P	**P**	**17 47 03.2**	**-1.5**
6.5nm,0.3s,baz=2.0,slow=4.6,SNR=72							
URZ				S	**S**	**17 49 51.0**	**-0.2**
1.3nm,0.3s,baz=295,slow=19,SNR=5.9							
URZ	**Urewera**	**16.92**	**190**	eP	**P**	**17 47 04.0**	**-0.7**
URZ	**Urewera**	**16.92**	**190**	P	**P**	**17 47 04.0**	**-0.7**
MWZ	**Matawai**	**16.93**	**189**	P	**P**	**17 47 04.6**	**-0.2**
BKZ	**Black Stump Fm**	**17.91**	**191**	eP	**P**	**17 47 13.8**	**-0.3**
BKZ	**Black Stump Fm**	**17.91**	**191**	P	**P**	**17 47 13.3**	**-0.8**
MGZ	**Maungaku**	**17.94**	**194**	P	**P**	**17 47 15.7**	**+1.3**
NGZ	**Ngauruhoe**	**18.10**	**193**	P	**P**	**17 47 17.7**	**+1.9**
TUVZ	**Tukino**	**18.18**	**193**	P	**P**	**17 47 17.3**	**+0.7**
TSZ	**Takapari Road**	**18.88**	**192**	P	**P**	**17 47 23.2**	**+0.1**
BFZ	**Birch Farm**	**19.43**	**191**	eP	**P**	**17 47 27.8**	**-0.4**
BFZ	**Birch Farm**	**19.43**	**191**	P	**P**	**17 47 27.8**	**-0.4**
MRZ	**Mangatainoka R**	**19.53**	**192**	eP	**P**	**17 47 28.1**	**-1.1**
MRZ	**Mangatainoka R**	**19.53**	**192**	P	**P**	**17 47 27.8**	**-1.4**
KIW	**Kapiti Island**	**19.86**	**193**	P	**P**	**17 47 31.7**	**-0.5**
KIW	**Kapiti Island**	**19.86**	**193**	P	**P**	**17 47 31.8**	**-0.4**
CAW	**Cannon Point**	**20.07**	**193**	P	**P**	**17 47 33.4**	**-0.7**
CAW	**Cannon Point**	**20.07**	**193**	P	**P**	**17 47 33.5**	**-0.6**
QRZ	**Quartz Range**	**20.44**	**198**	P	**P**	**17 47 37.1**	**-0.4**
NNZ	**Nelson**	**20.57**	**196**	P	**P**	**17 47 38.7**	**0.0**
NNZ	**Nelson**	**20.57**	**196**	P	**P**	**17 47 38.4**	**-0.3**
THZ	**Tophouse**	**21.20**	**197**	eP	**P**	**17 47 44.2**	**-0.3**
THZ	**Tophouse**	**21.20**	**197**	P	**P**	**17 47 44.2**	**-0.3**
KHZ	**Kahutara**	**21.66**	**195**	eP	**P**	**17 47 47.8**	**-0.8**
KHZ	**Kahutara**	**21.66**	**195**	P	**P**	**17 47 47.7**	**-0.9**
LTZ	**Lake Taylor**	**22.32**	**197**	P	**P**	**17 47 53.4**	**-1.2**
WVZ	**Waitaha Valley**	**23.04**	**199**	eP	**P**	**17 48 00.7**	**-0.3**
WVZ	**Waitaha Valley**	**23.04**	**199**	P	**P**	**17 48 00.7**	**-0.3**
RPZ	**Rata Peaks**	**23.53**	**198**	P	**P**	**17 48 05.3**	**-0.1**
8.9nm,0.5s,mb4.7,baz=330,slow=3.5,SNR=14							
FOZ	**Fox Glacier**	**23.81**	**201**	eP	**P**	**17 48 06.4**	**-1.5**
LBZ	**Lake Benmore**	**24.39**	**199**	eP	**P**	**17 48 11.9**	**-1.2**
LBZ	**Lake Benmore**	**24.39**	**199**	eP	**P**	**17 48 11.6**	**-1.5**
JCZ	**Jackson Bay**	**24.57**	**201**	eP	**P**	**17 48 14.6**	**0.0**
JCZ	**Jackson Bay**	**24.57**	**201**	P	**P**	**17 48 14.6**	**0.0**
PPT	**Papeete**	**28.08**	**87**	eLR	LR	17 48 43.5	
242nm,28.8s							
CNB	**Canberra Magne**	**30.77**	**237**	⇓iP	**P**	**17 49 10.4**	**+2.1**
363nm,0.6s							
CTA	**Charters Tower**	**32.38**	**266**	⇑iP	**P**	**17 49 23.0**	**+0.9**
8.0nm,0.3s,mb4.8							
CTA	**Charters Tower**	**32.38**	**266**	P	**P**	**17 49 23.0**	**+0.9**
10nm,0.3s,mb4.9,baz=94,slow=10,SNR=56							
CTAO	**Charters Tower**	**32.38**	**266**	eP	**P**	**17 49 22.4**	**+0.3**
10nm,0.4s,mb4.8							
PMG	**Port Moresby**	**34.62**	**285**	P	**P**	**17 49 41.2**	**+0.4**
16nm,0.8s,mb4.7,baz=82,slow=4.6,SNR=11							
PMG	**Port Moresby**	**34.62**	**285**	eP	**P**	**17 49 40.5**	**-0.3**
14nm,0.7s,mb4.7							
STKA	**Stephens Creek**	**36.40**	**245**	P	**P**	**17 49 57.1**	**+1.8**
15nm,0.7s,mb4.7,baz=91,slow=9.2,SNR=46							
ASAR	**Alice Springs**	**43.28**	**258**	P	**P**	**17 50 51.1**	**+0.5**
14nm,0.5s,mb4.8,baz=93,slow=8.1,SNR=222							
ASAR				PcP	PcP	17 52 26.4	-0.1
3.5nm,0.6s,baz=100,slow=4.6,SNR=8.7							
ASAR				S	**S**	**17 56 35.8**	**-1.1**
5.3nm,0.8s,baz=93,slow=16,SNR=32							
ASPA	**Alice Springs**	**43.28**	**258**	eP	**P**	**17 50 51.1**	**+0.4**
ASPA				i S	**S**	**17 56 35.2**	**-1.7**
WRAB	**Tennant Creek**	**43.44**	**263**	eP	**P**	**17 50 51.1**	**-0.8**
15nm,0.9s,mb4.5							
WRA	**Warramunga Arr**	**43.45**	**263**	P	**P**	**17 50 51.8**	**-0.2**
5.8nm,0.3s,mb4.7,baz=95,slow=7.7,SNR=468							
WRA				S	**S**	**17 56 36.7**	**-2.5**
3.2nm,0.9s,baz=101,slow=15,SNR=14							
KAKA	**Kakadu**	**46.99**	**273**	⇓iP	**P**	**17 51 18.9**	**-0.3**
33nm,1.3s,mb4.7							
FORT	**Forrest**	**47.92**	**248**	eP	**P**	**17 51 25.9**	**-0.2**
70nm,0.5s,mb5.5							
FITZ	**Fitzroy Crossi**	**51.88**	**264**	⇓iP	**P**	**17 51 55.2**	**0.0**
7.4nm,0.3s,mb4.5							
MBWA	**Marble Bar**	**56.62**	**258**	eP	**P**	**17 52 27.8**	**-0.6**
15nm,0.3s,mb4.7							
VNDA	**Vanda**	**56.73**	**185**	P	**P**	**17 52 30.6**	**+2.3**
2.5nm,0.7s,mb3.6,baz=0.9,slow=8.7,SNR=20							
MUN	**Mundaring**	**57.93**	**245**	eP	**P**	**17 52 37.8**	**+0.7**
12nm,1.3s,mb3.9							
CASY	**Casey**	**62.53**	**205**	⇓iP	**P**	**17 53 07.8**	**+0.9**
QSPA	**South Pole Qui**	**68.47**	**180**	⇓iP	**P**	**17 53 45.6**	**+2.2**
13nm,0.5s,mb4.6							
ASAJ	**Asahikawa**	**74.21**	**332**	P	**P**	**17 54 17.9**	**+0.8**
17nm,0.9s,mb4.6,baz=103,slow=15,SNR=4.8							
MAW	**Mawson**	**80.19**	**200**	P	**P**	**17 54 50.4**	**+1.6**
7.4nm,0.9s,mb4.0,baz=112,slow=6.4,SNR=4.2							
YBH	**Yreka Blue Hor**	**81.78**	**39**	P	**P**	**17 54 58.7**	**+1.3**
8.7nm,0.7s,mb4.4,baz=213,slow=2.1,SNR=12							
NVAR	**Mina Array Bea**	**82.52**	**44**	P	**P**	**17 55 01.7**	**+0.5**
4.2nm,0.6s,mb4.2,baz=225,slow=7.7,SNR=9.9							
SPU	**Mount Spurr**	**85.33**	**13**	eP	**P**	**17 55 12.9**	**-1.6**
ENH	**Enshi**	**85.81**	**305**	eP	**P**	**17 55 18.2**	**+0.7**
9.0nm,0.8s,mb4.5							
HLID	**Hailey**	**87.82**	**41**	eP	**P**	**17 55 27.0**	**+0.3**
5.9nm,1.1s,mb4.2							
MCK	**McKinley**	**88.27**	**13**	eP	**P**	**17 55 26.6**	**-1.6**
5.1nm,0.8s,mb4.3							
TXAR	**Lajitas Array**	**88.51**	**58**	P	**P**	**17 55 31.3**	**+1.0**
1.6nm,0.7s,mb4.0,baz=214,slow=4.5,SNR=4.5							
THY	**Trims Highway**	**88.69**	**14**	eP	**P**	**17 55 29.2**	**-1.1**
ANMO	**Albuquerque**	**88.89**	**52**	eP	**P**	**17 55 31.4**	**-0.5**
4.2nm,0.9s,mb4.3							
MCMT	**McKenzie Canyo**	**89.45**	**41**	eP	**P**	**17 55 35.1**	**+0.8**
ILAR	**Eielson Array**	**89.61**	**13**	P	**P**	**17 55 33.3**	**-1.3**
2.7nm,0.5s,mb4.3,baz=217,slow=5.1,SNR=48							
BILL	**Bilibino**	**90.02**	**355**	eP	**P**	**17 55 35.7**	**-0.7**
5.1nm,0.8s,mb4.4							
PDAR	**Pinedale Array**	**90.46**	**44**	P	**P**	**17 55 38.9**	**-0.1**
2.9nm,0.7s,mb4.2,baz=185,slow=2.2,SNR=6.3							
DAWY	**Dawson**	**90.80**	**16**	eP	**P**	**17 55 39.3**	**-0.7**
ZAL	**Zalesovo**	**110.71**	**321**	PKiKP		18 01 04.0	
0.6nm,0.5s,baz=329,slow=13,SNR=3.9							
ARCES	**ARCESS Array B**	**129.81**	**349**	PKP	PKPdf	18 01 40.7	-0.1
2.9nm,0.5s,baz=3.5,slow=1.8,SNR=24							
ARCES	**ARCESS Array B**	**129.81**	**349**	PKP	PKPdf	18 01 40.7	-0.1
LSZ	**Lusaka**	**134.62**	**218**	PKPdf	PKPdf	18 01 53.9	+2.7
FINES	**FINESS Array B**	**136.53**	**343**	PKhKP		18 01 41.4	
0.9nm,0.7s,SNR=4.2							
FINES				PKP	PKPdf	18 01 53.4	0.0
1.8nm,0.5s,baz=46,slow=2.8,SNR=10							
FINES	**FINESS Array B**	**136.53**	**343**	PKP	PKPdf	18 01 53.4	0.0
NB2	**NORSAR Subarra**	**139.94**	**352**	PKP	PKPdf	18 01 53.3	-6.3
0.9nm,0.5s,baz=16,slow=3.3							
NOA	**NORSAR Array B**	**139.94**	**352**	PKhKP		18 01 53.3	
0.8nm,0.5s,baz=14,slow=5.8,SNR=4.1							
MBAR	**Mbarara**	**143.46**	**237**	ePKPdf	PKPdf	18 02 07.8	+0.6
AKASG	**Malin Array Be**	**143.46**	**330**	PKP	PKPdf	18 02 05.0	-1.0
9.0nm,0.5s,baz=40,slow=4.3,SNR=122							
SUW	**Suwalki**	**143.49**	**338**	eP	PKPbc	18 02 05.6	+0.5
SUW	**Suwalki**	**143.49**	**338**	ePKP	PKPdf	18 02 05.6	-0.3
MALT	**Malatya**	**143.76**	**306**	ePKPdf	PKPdf	18 02 08.0	+1.1
BRTR	**Keskin Array B**	**146.79**	**310**	PKPbc	PKPbc	18 02 15.9	+1.7
4.3nm,0.6s,baz=137,slow=4.4,SNR=18							
KWP	**Kalwaria**	**147.13**	**334**	eP	PKPdf	18 02 16.9	+4.7
KWP	**Kalwaria**	**147.13**	**334**	ePKP	PKPdf	18 02 16.9	+4.6
KOLS	**Kolonicke sedl**	**147.85**	**333**	ePKP	PKPdf	18 02 19.3	+5.9
KOLS				e		18 02 22.7	
KOLS	**Kolonicke sedl**	**147.85**	**333**	e	PKPdf	18 02 19.3	+5.9
KOLS				e		18 02 22.7	
EIL	**Elat**	**148.36**	**292**	ePKPbc	PKPdf	18 02 21.2	+6.4
KSP	**Ksiaz**	**148.42**	**341**	ePKP	PKPdf	18 02 20.3	+6.1
KSP				e		18 02 25.9	
KSP	**Ksiaz**	**148.42**	**341**	ePKP	PKPdf	18 02 20.9	+6.7
CSS	**Prodhromos**	**148.64**	**302**	ePKPbc	PKPdf	18 02 20.9	+5.9
CSS				ePKPab	PKPab	18 02 27.4	-0.9
OKC	**Ostrava-Krasne**	**148.69**	**338**	ePKPbc	PKPdf	18 02 20.9	+6.2
OKC				ePKPab	PKPab	18 02 29.6	+1.7
UPC	**Upice**	**148.80**	**341**	ePKPbc	PKPdf	18 02 21.3	+6.5
UPC				ePKPab	PKPab	18 02 28.0	-0.3
DPC	**Dobruska-Polom**	**148.84**	**341**	ePKPbc	PKPdf	18 02 21.6	+6.7
DPC				ePKPab	PKPab	18 02 28.1	-0.4
CLL	**Collm**	**148.88**	**345**	⇓iPKP1	PKPdf	18 02 20.9	+6.0
CLL				ePKP2	PKPab	18 02 27.0	-1.6
KECS	**Kecovo**	**148.94**	**334**	ePKP	PKPdf	18 02 22.4	+7.3
MORC	**Moravsky Berou**	**148.95**	**339**	ePKPbc	PKPdf	18 02 21.4	+6.4
MORC				ePKPab	PKPab	18 02 27.8	-1.2
PVCC	**Panska Ves**	**149.19**	**343**	ePKPbc	PKPdf	18 02 22.4	+7.0
PVCC				ePKPab	PKPab	18 02 31.3	+1.3
VYHS	**Vyhne**	**149.57**	**336**	ePKP	PKPdf	18 02 23.1	+7.0
VYHS				e		18 02 31.0	
VYHS	**Vyhne**	**149.57**	**336**	e	PKPdf	18 02 23.1	+7.0
VYHS				e	PKPab	18 02 31.0	-0.6
VYHS	**Vyhne**	**149.57**	**336**	e	PKPab	18 02 31.0	-0.6
PSZ	**Piszkesteto**	**149.63**	**334**	ePKPbc	PKPdf	18 02 22.3	+6.0
PRU	**Pruhonice**	**149.69**	**342**	ePKPbc	PKPdf	18 02 23.2	+6.9
PRU				ePKPab	PKPab	18 02 31.1	-0.9
MOX	**Moxa**	**149.82**	**346**	ePKP	PKPdf	18 02 22.0	+5.6
NKC	**Novy Kostel**	**150.01**	**345**	ePKPbc	PKPdf	18 02 24.1	+7.3
NKC				ePKPab	PKPab	18 02 32.4	-0.9
SMOL	**Smolenice**	**150.07**	**338**	ePKP	PKPdf	18 02 25.0	+8.1
SMOL				e		18 02 33.5	
SMOL	**Smolenice**	**150.07**	**338**	e	PKPdf	18 02 25.0	+8.1
SMOL				e	PKPab	18 02 33.5	-0.1
KHC	**Kasperske Hory**	**150.73**	**343**	ePKPbc	PKPdf	18 02 25.7	+7.8
KHC				ePKPab	PKPab	18 02 35.7	-0.7
GRA1	**Grafenberg Arr**	**150.80**	**346**	ePKP	PKPdf	18 02 25.8	+7.8
GRF	**Grafenberg Arr**	**150.80**	**346**	ePKP	PKPdf	18 02 25.8	+7.8
GERES	**GERESS Array B**	**150.96**	**342**	PKPbc	PKPdf	18 02 26.1	+7.9
5.4nm,0.7s,baz=31,slow=2.2,SNR=24							
GIVF	**Givet**	**151.39**	**355**	ePKIKP	PKPdf	18 02 26.6	+7.8
26nm,0.7s							
BAIF	**Baives**	**151.48**	**356**	ePKIKP	PKPdf	18 02 26.9	+8.0
21nm,0.8s							
STU	**Stuttgart**	**152.09**	**348**	ePKPbc	PKPdf	18 02 28.6	+8.8
CDF	**Champ du Feu**	**152.76**	**351**	ePKIKP	PKPdf	18 02 29.6	+8.8
19nm,1.0s							
FLN	**La Foliniere**	**152.88**	**2**	ePKIKP	PKPdf	18 02 29.5	+8.6
26nm,0.9s							
MEZF	**Maizieres J'vi**	**152.95**	**354**	ePKIKP	PKPdf	18 02 30.3	+9.3
16nm,0.8s							
LDF	**La Druitiere**	**153.06**	**2**	ePKIKP	PKPdf	18 02 29.6	+8.4
ROSF	**Rostrenen**	**153.12**	**6**	ePKIKP	PKPdf	18 02 29.6	+8.3
GRR	**Gorron**	**153.24**	**3**	ePKIKP	PKPdf	18 02 30.9	+9.5
SGMF	**Saint Gilles**	**153.26**	**5**	ePKIKP	PKPdf	18 02 30.1	+8.7
BGF	**Bois d'Agland**	**155.05**	**357**	ePKIKP	PKPdf	18 02 32.6	+8.7
16nm,0.8s							
ESDC	**Sonseca Array**	**161.51**	**12**	PKPab	PKPab	18 03 20.0	-2.7
1

LCBS La Ceiba 6.02 316 *eP* **P 17 47 10.5 +0.4**
LCBS *eS* **S 17 48 17.3 -1.5**
LFRS El Faro 6.05 315 *eP* **P 17 47 11.8 +1.2**
LFRS *eS* **S 17 48 17.1 -2.6**
SBLS San Blas 6.60 313 *eP* **P 17 47 19.8 +1.5**
SNJE San Jose 6.60 314 *eP* **P 17 47 19.2 +0.8**
CCIG Comitan 10.03 314 *i P* **P 17 48 06.8 +0.8**
OTAV Otavalo 10.96 145 *ePn* **P 17 48 21.3 +2.5**
comp=Z,70nm,1.3s
TEIG Tepich 11.38 343 Pn **P 17 48 21.8 -2.7**
CMIG Matias Romero 12.57 309 *i P* **P 17 48 39.1 -1.4**
LMGC Las Mercedes 13.00 34 *eP* **P 17 48 47.6 +1.4**
LMGC *eS* rx 17 52 01.7
comp=N,12μm,13.1s
comp=E,8μm,10.7s
SOR Soroa 13.48 7 *eP* **P 17 48 56.8 +4.2**
SOR *eS* **S 17 51 27.2 +5.0**
comp=N,3μm,4.0s
comp=E,2μm,4.2s
MGV Manicaragua 13.49 19 *eP* **P 17 48 55.1 +2.5**
baz=201
MGV *eS* **S 17 51 24.0 +1.7**
comp=N,2μm,5.8s
comp=E,3μm,5.8s
CCCC Cccc 13.55 29 *eP* **P 17 48 55.2 +1.6**
RCC Rio Carpintero 13.70 38 *eP* **P 17 48 59.7 +4.1**
RCC *eS* **S 17 51 32.0 +4.4**
comp=N,2μm,2.0s
comp=E,2μm,2.0s
SDV Santo Domingo 13.88 91 Pn **P 17 48 56.6 -1.3**
comp=E,0.6nm,0.3s,baz=256,slow=7.8,SNR=16
OXX Oaxaca 14.02 305 *eP* **P 17 49 00.0 +0.2**
VHO Vista Hermosa 14.03 305 *i P* **P 17 49 01.4 +1.6**
MASC Masc 14.77 42 *eP* **P 17 49 13.4 +3.8**
MASC *eS* rx 17 54 46.1
comp=N,6μm,12.8s
comp=E,3μm,4.6s
ACX Acapulco 16.61 298 *eP* **P 17 49 37.0 +3.8**
PPM Popocatepetl 16.61 307 *i P* **P 17 49 34.2 +1.0**
YAIG Yautepec 16.85 306 *i P* **P 17 49 37.0 +0.8**
PLIG Platanillo 16.96 304 *i P* **P 17 49 41.7 +4.1**
CAIG El Cayaco 16.99 298 *eP* **P 17 49 44.8 +6.8**
SJG San Juan 19.99 62 P **P 17 50 12.4 -1.4**
SJG pmax pmax
comp=Z,2.0nm,0.3s
SJG MLR MLR
comp=Z,3μm,18.0s
SJG San Juan 19.99 62 P **P 17 50 12.4 -1.4**
comp=Z,1.7nm,0.3s,baz=330,slow=16,SNR=5.1
SJG LR LR 17 57 14.9
comp=Z,3μm,18.0s,baz=242,slow=35
NNA Nana 22.57 160 *eP* **P 17 50 44.6 +4.5**
comp=Z,37nm,1.0s,mb4.8
HKT Hockley 23.02 335 *eP* **P 17 50 43.7 -0.6**
HKT pmax pmax
comp=Z,193nm,1.9s,mb5.2
HKT Hockley 23.02 335 *eP* **P 17 50 43.7 -0.6**
comp=Z,193nm,1.9s,mb5.2
LRAL Lakeview Retre 23.69 355 *eP* **P 17 50 51.5 +0.6**
comp=Z,104nm,0.9s,mb5.3
GOGA Godfrey 23.99 3 *eP* **P 17 50 54.1 +0.3**
GOGA pmax pmax
comp=Z,56nm,0.9s,mb5.0
GOGA Godfrey 23.99 3 *eP* **P 17 50 54.1 +0.3**
comp=Z,56nm,0.9s,mb5.0
NHSC New Hope 24.03 9 *eP* **P 17 50 54.1 0.0**
comp=Z,237nm,1.1s,mb5.5
NATX Nacogdoches 24.17 339 *eP* **P 17 50 55.9 +0.4**
comp=Z,38nm,0.8s,mb4.9
COW Cow Castle Cre 24.22 8 *eP* **P 17 50 56.7 +0.7**
JSC Jenkinsville 25.03 7 *eP* **P 17 51 03.3 -0.6**
JCT Junction City 25.34 328 *eP* **P 17 51 07.0 +0.2**
JCT pmax pmax
comp=Z,25nm,0.8s,mb4.8
JCT Junction City 25.34 328 *eP* **P 17 51 07.0 +0.2**
comp=Z,25nm,0.8s,mb4.8
OXF Oxford 25.44 351 *eP* **P 17 51 06.8 -0.9**
OXF pmax pmax
comp=Z,40nm,0.5s,mb5.2
OXF Oxford 25.44 351 *eP* **P 17 51 06.8 -0.9**
comp=Z,40nm,0.5s,mb5.2
MYNC Murphy 25.63 1 *eP* **P 17 51 08.8 -0.7**
MYNC pmax pmax
comp=Z,78nm,1.2s,mb5.1
MYNC Murphy 25.63 1 *eP* **P 17 51 08.8 -0.7**
comp=Z,78nm,1.2s,mb5.1
CPCT Cooper Cave 26.00 0 *eP* **P 17 51 12.5 -0.4**
UALR University of 26.28 346 *eP* **P 17 51 14.1 -1.5**
TXAR Lajitas Array 26.70 321 P **P 17 51 18.4 -1.0**
comp=Z,6.5nm,0.7s,mb4.2,baz=144,slow=10,SNR=20
WVT Waverly 26.83 354 *eP* **P 17 51 18.6 -2.0**
WVT pmax pmax
comp=Z,74nm,1.4s,mb5.0
WVT Waverly 26.83 354 *eP* **P 17 51 18.6 -2.0**
comp=Z,74nm,1.4s,mb5.0
WCI Wyandotte Cave 28.81 357 *eP* **P 17 51 36.3 -2.1**
WCI pmax pmax
comp=Z,61nm,1.1s,mb5.2
WCI Wyandotte Cave 28.81 357 *eP* **P 17 51 36.3 -2.1**
comp=Z,61nm,1.1s,mb5.2
FVM French Village 29.00 351 *eP* **P 17 51 37.4 -2.7**
GDL2 Guadalupe Moun 29.16 324 *eP* **P 17 51 41.1 -0.5**
CCM Cathedral Cave 29.21 349 *eP* **P 17 51 39.6 -2.4**
CCM pmax pmax
comp=Z,38nm,1.1s,mb5.0
CCM Cathedral Cave 29.21 349 *eP* **P 17 51 39.6 -2.3**
comp=Z,38nm,1.1s,mb5.0
MNTX Cornudas Mount 29.41 322 *eP* **P 17 51 42.3 -1.5**
comp=Z,54nm,1.8s,mb5.0
CPRX Cap Rock 29.49 326 P **P 17 51 43.6 -1.0**
LPAZ La Paz 30.27 147 *eP* **P 17 51 54.2 +2.6**
LPAZ pmax pmax
comp=Z,8.0nm,1.3s
LPAZ La Paz 30.27 147 P **P 17 51 54.1 +2.5**
comp=Z,2.4nm,0.8s,mb4.0,baz=332,slow=12,SNR=8.9
LPAZ LR LR 18 05 00.6
comp=Z,934nm,18.7s,MS4.5,baz=323,slow=38
LPAZ La Paz 30.27 147 *eP* **P 17 51 54.2 +2.6**
comp=Z,8.0nm,1.3s,mb4.3
LAZ Ladron 32.35 324 *eP* **P 17 52 09.0 -0.8**
ANMO Albuquerque 32.36 325 *eP* **P 17 52 08.6 -1.3**
ANMO pmax pmax
comp=Z,14nm,1.2s
ANMO Albuquerque 32.36 325 *eP* **P 17 52 08.6 -1.3**
comp=Z,14nm,1.2s,mb4.7
TUC Tucson 33.26 317 *eP* **P 17 52 17.8 +0.1**
TUC pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
TUC Tucson 33.26 317 *eP* **P 17 52 17.8 0.0**
comp=Z,9.1nm,1.0s,mb4.7
LVC Limon Verde 35.30 154 P **P 17 52 39.1 +3.7**
comp=Z,9.2nm,0.8s,mb4.7,baz=306,slow=6.4,SNR=11
SADO Sadowa 35.63 7 P **P 17 52 35.8 -2.2**
comp=Z,11nm,0.5s,mb5.1,baz=195,slow=8.1,SNR=13
WUAZ Wupatki 35.66 321 *eP* **P 17 52 38.5 +0.3**
comp=Z,647nm,1.4s
PV10 Paradox Valley 36.27 327 *eP* **P 17 52 42.4 -1.0**
SRU San Rafael 37.60 326 *eP* **P 17 52 54.1 -0.5**
PFO Pinyon Flat Ob 37.91 314 *eP* **P 17 52 57.4 +0.2**
PFO pmax pmax
comp=Z,15nm,1.0s,mb4.7
PFO Pinyon Flat Ob 37.91 314 *eP* **P 17 52 57.4 +0.2**
comp=Z,15nm,1.0s,mb4.7
NEN Nelson 37.96 318 *eP* **P 17 52 58.9 +1.3**
TMUT Trail Mountain 38.11 326 P **P 17 52 58.8 0.0**
MSU Marysvale 38.12 324 *eP* **P 17 52 58.9 0.0**
ARUT Antelope Range 38.39 322 *eP* **P 17 53 02.0 +0.8**
DAU Daniels Canyon 38.92 327 *eP* **P 17 53 07.1 +1.5**
PDAR Pinedale Array 39.80 331 P **P 17 53 10.7 -2.1**
comp=Z,0.6nm,0.7s,baz=100,slow=9.0,SNR=5.1
PDAR PcP PcP 17 55 20.1 +0.9
comp=Z,2.5nm,0.9s,baz=162,slow=4.7,SNR=6.2
BW06 Boulder Array 39.80 331 *eP* **P 17 53 12.5 -0.3**
comp=Z,7.0nm,1.3s,mb4.2
HWUT Hardware Ranch 39.94 328 *eP* **P 17 53 12.8 -1.2**
comp=Z,17nm,1.2s,mb4.7
TPH Tonopah 40.93 320 *eP* **P 17 53 22.9 +0.7**
TPH *e* 17 55 04.2
TPH pmax pmax
comp=Z,17nm,1.0s,mb4.6
TPH Tonopah 40.93 320 *eP* **P 17 53 22.9 +0.7**
comp=Z,17nm,1.0s,mb4.6
TPH *e* 17 55 04.2
LOHW Long Hollow 40.94 331 *eP* **P 17 53 21.2 -1.0**
TPAW Teton Pass 41.01 331 *eP* **P 17 53 23.0 +0.2**
MOOW Moose Ponds 41.11 331 *eP* **P 17 53 23.0 -0.6**

IMW Indian Meadow 41.31 331 *eP* **P 17 53 25.8 +0.5**
MNV Mina 41.73 319 *eP* **P 17 53 29.6 +0.7**
MNV pmax pmax
comp=Z,22nm,1.0s,mb4.7
MNV Mina 41.73 319 *eP* **P 17 53 29.6 +0.7**
comp=Z,22nm,1.0s,mb4.8
OMM Old Mammoth Mi 41.82 318 *eP* **P 17 53 31.2 +1.5**
NVAR Mina Array Bea 41.83 319 P **P 17 53 30.1 +0.4**
comp=Z,13nm,1.1s,mb4.5,baz=125,slow=7.9,SNR=32
NVAR LR LR 18 14 22.8
comp=Z,1μm,19.4s,MS4.8,baz=305,slow=41
LRV Little Rabbit 42.57 315 P **P 17 53 37.5 +1.8**
HLID Hailey 42.81 328 *eP* **P 17 53 37.6 0.0**
comp=Z,2.8nm,0.7s,mb4.1
MCMT McKenzie Canyo 42.92 330 *eP* **P 17 53 38.3 -0.2**
BOZ Bozeman (W) 42.95 332 *eP* **P 17 53 38.9 +0.1**
BOZ pmax pmax
comp=Z,15nm,1.5s,mb4.5
BOZ Bozeman (W) 42.95 332 *eP* **P 17 53 38.9 +0.2**
comp=Z,15nm,1.5s,mb4.5
CMB Columbia Colle 42.97 317 *eP* **P 17 53 39.2 +0.1**
CMB pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
CMB Columbia Colle 42.97 317 *eP* **P 17 53 39.2 +0.1**
comp=Z,10nm,1.2s,mb4.4
BAO Brasilia Array 44.00 124 *eP* **P 17 53 50.0 +2.4**
OHCM Honcut 44.39 318 P **P 17 53 51.2 +0.7**
WVOR Wild Horse Val 44.41 324 *eP* **P 17 53 49.6 -1.0**
WVOR pmax pmax
comp=Z,19nm,0.9s,mb4.8
WVOR Wild Horse Val 44.41 324 *eP* **P 17 53 49.6 -1.0**
comp=Z,19nm,0.9s,mb4.8
BMO Blue Mountains 45.22 327 *eP* **P 17 53 56.5 -0.5**
comp=Z,3.1nm,0.9s,mb4.1
YBH Yreka Blue Hor 46.47 321 P **P 17 54 07.6 +0.6**
YBH pmax pmax
comp=Z,3.0nm,0.6s
YBH Yreka Blue Hor 46.47 321 P **P 17 54 07.6 +0.6**
comp=Z,2.9nm,0.6s,mb4.4,baz=150,slow=6.3,SNR=7.7
FFC Flin Flon 47.33 346 *eP* **P 17 54 13.8 +0.3**
FFC pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
FFC Flin Flon 47.33 346 *eP* **P 17 54 13.8 +0.2**
comp=Z,7.2nm,1.0s,mb4.6
SCHQ Schefferville 47.55 14 P **P 17 54 12.7 -2.7**
comp=Z,7.8nm,0.8s,mb4.8,baz=194,slow=3.3,SNR=16
SCHQ LR LR 18 14 48.5
comp=Z,2μm,18.8s,MS5.2,baz=193,slow=37
EDM Edmonton 49.51 338 *eP* **P 17 54 30.1 -0.3**
FCC Fort Churchill 49.84 354 *eP* **P 17 54 31.1 -1.9**
FCC pmax pmax
comp=Z,24nm,1.1s,mb5.1
FCC Fort Churchill 49.84 354 *eP* **P 17 54 31.1 -1.9**
comp=Z,24nm,1.1s,mb5.1
PLCA Paso Flores 51.49 166 P **P 17 54 47.4 +1.7**
PLCA pmax pmax
comp=Z,9.0nm,0.9s
PLCA Paso Flores 51.49 166 P **P 17 54 47.4 +1.7**
comp=Z,9.3nm,0.9s,mb4.7,baz=347,slow=9.4,SNR=12
PLCA Paso Flores 51.49 166 *eP* **P 17 54 47.1 +1.3**
comp=Z,10nm,0.9s,mb4.8
YKA Yellowknife Ar 57.33 344 P **P 17 55 24.9 -3.3**
comp=Z,2.1nm,0.8s,mb4.2,baz=142,slow=6.7,SNR=18
YKA ScP 18 00 17.0
comp=Z,0.4nm,0.8s,baz=242,slow=7.6,SNR=4.4
YKW3 Yellowknife Ar 57.39 344 *eP* **P 17 55 25.8 -2.8**
TAOE Nuku Hiva Isla 58.11 254 *eLR* LR 18 12 33.8
CHIE El Hierro 65.15 64 P **P 17 56 22.2 +0.7**
comp=Z,55nm,1.2s,mb5.5
EGOM La Gomera 65.83 63 P **P 17 56 26.8 +1.0**
comp=Z,79nm,1.0s,mb5.7
CCAN Las Canadas 66.36 63 P **P 17 56 28.6 -0.6**
comp=Z,23nm,1.0s,mb5.2
INK Inuvik 66.98 342 *eP* **P 17 56 31.8 -0.6**
INK pmax pmax
comp=Z,4.0nm,0.7s
INK Inuvik 66.98 342 *eP* **P 17 56 31.8 -0.6**
comp=Z,3.5nm,0.7s,mb4.5
PPT Papeete 69.44 247 *eP* **P 17 56 45.5 -3.0**
PPT *eS* S 18 05 52.7 +0.5
PPT *eLR* LR 18 17 43.4
comp=Z,575nm,25.8s
ILAR Eielson Array 69.96 336 P **P 17 56 49.5 -1.4**
ILAR pmax pmax
comp=Z,3.0nm,1.0s
ILAR MLR MLR
comp=Z,437nm,18.4s
ILAR Eielson Array 69.96 336 P **P 17 56 49.5 -1.4**
comp=Z,2.7nm,1.0s,mb4.1,baz=117,slow=3.5,SNR=18
ILAR LR LR 18 32 05.8
comp=Z,437nm,18.4s,MS4.7,baz=12,slow=40
MCK McKinley 70.43 335 *eP* **P 17 56 53.9 +0.1**
MCK pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
MCK McKinley 70.43 335 *eP* **P 17 56 53.9 +0.1**
comp=Z,6.0nm,1.1s,mb4.4
SPU Mount Spurr 71.04 332 *eP* **P 17 56 58.1 +0.5**
TBI Tubuai 71.15 241 *eS* S 18 06 12.7 +0.7
TBI *eLR* LR 18 18 46.7
comp=Z,475nm,25.8s
EVO Evora 73.84 53 *eP* **P 17 57 12.7 -1.8**
comp=Z,28nm,0.8s,mb5.0
EVO *eR*
comp=Z,974nm,19.0s
PBEJ Beja 73.94 53 *eP* **P 17 57 16.1 +0.9**
PVIS Viseu 73.97 50 *eP* **P 17 57 16.2 +0.9**
MTE Manteigas 74.23 51 *eP* **P 17 57 21.0 +4.2**
MTE *eS* S 18 06 51.6 +4.8
comp=Z,580nm,20.0s
PALC Alcoutim 74.25 54 *eP* **P 17 57 18.1 +1.1**
comp=Z,51nm,1.3s,mb5.3
ECAL Calabor 74.87 49 P **P 17 57 21.7 +1.2**
comp=Z,90nm,1.4s,mb5.5
EMIN Mina Concepcio 74.89 53 P **P 17 57 22.2 +1.6**
comp=Z,94nm,1.8s,mb5.4
ESPR Espera 75.55 54 P **P 17 57 25.2 +0.8**
comp=Z,374nm,3.0s
EJIF Jimena Fronter 75.87 55 P **P 17 57 27.3 +1.0**
EMIJ Mijas 76.42 55 P **P 17 57 30.0 +0.6**
comp=Z,245nm,2.5s,mb5.7
EADA Adamuz 76.54 53 P **P 17 57 28.8 -1.3**
comp=Z,184nm,2.4s,mb5.6
GUD Guadarrama 76.82 50 P **P 17 57 31.0 -0.6**
GUD pmax pmax
comp=Z,177nm,2.3s,mb5.6
GUD Guadarrama 76.82 50 P **P 17 57 31.0 -0.5**
comp=Z,177nm,2.3s,mb5.6
ELOJ Sierra Loja 76.90 54 P **P 17 57 30.6 -1.6**
ELOJ pmax pmax
comp=Z,54nm,1.3s,mb5.3
ELOJ Sierra Loja 76.90 54 P **P 17 57 30.6 -1.6**
comp=Z,54nm,1.3s,mb5.3
ESDC Sonseca Array 76.98 51 P **P 17 57 32.5 -0.1**
comp=Z,20nm,1.1s,mb4.9,baz=280,slow=5.5,SNR=21
ESDC Sonseca Array 76.98 51 P **P 17 57 33.0 +0.5**
comp=Z,31nm,1.3s,mb5.1
ROSF Rostrenen 77.39 43 *eP* **P 17 57 33.1 -1.5**
comp=Z,172nm,1.5s,mb5.5
ROSF Rostrenen 77.39 43 *eP* **P 17 57 33.1 -1.5**
ROSF pmax pmax
comp=Z,86nm,1.5s,mb5.5
QUIF Quistinic 77.46 43 *eP* **P 17 57 32.4 -2.6**
comp=Z,67nm,1.2s,mb5.2
QUIF Quistinic 77.46 43 *eP* **P 17 57 32.4 -2.6**
QUIF pmax pmax
comp=Z,33nm,1.2s,mb5.1
EQES Quesada 77.74 53 P **P 17 57 35.4 -1.4**
comp=Z,659nm,2.7s,mb6.1
SGMF Saint Gilles 77.87 43 *eP* **P 17 57 35.4 -1.8**
comp=Z,79nm,1.2s,mb5.2
SGMF Saint Gilles 77.87 43 *eP* **P 17 57 35.4 -1.8**
SGMF pmax pmax
comp=Z,39nm,1.2s,mb5.2
EBER Berja 77.92 54 P **P 17 57 37.5 -0.3**
comp=Z,457nm,2.0s,mb6.1
SJPF Ste Jean 78.93 48 *eP* **P 17 57 41.4 -1.8**
comp=Z,68nm,1.2s,mb5.1
SJPF Ste Jean 78.93 48 *eP* **P 17 57 41.4 -1.8**
SJPF pmax pmax
comp=Z,34nm,1.2s,mb5.2
DBIC Dimbokro 78.94 85 P **P 17 57 44.9 +1.0**
DBIC pmax pmax
comp=Z,27nm,1.1s
DBIC MLR MLR
comp=Z,228nm,20.4s
DBIC Dimbokro 78.94 85 P **P 17 57 44.9 +1.0**

comp=Z,27nm,1.1s,mb5.1,baz=271,slow=5.6,SNR=18
DBIC LR LR 18 29 42.7
comp=Z,228nm,20.4s,MS4.5,baz=205,slow=34
DBIC Dimbokro 78.94 85 *eP* **P 17 57 44.7 +0.8**
comp=Z,34nm,1.1s,mb5.2
GRR Gorron 79.00 42 *eP* **P 17 57 41.9 -1.6**
comp=Z,85nm,1.0s,mb5.3
GRR Gorron 79.00 42 *eP* **P 17 57 41.9 -1.6**
GRR pmax pmax
comp=Z,43nm,1.0s,mb5.3
FLN La Foliniere 79.24 42 *eP* **P 17 57 43.2 -1.5**
comp=Z,90nm,1.2s,mb5.3
FLN *eR*
comp=Z,1μm,22.5s
FLN La Foliniere 79.24 42 *eP* **P 17 57 43.2 -1.5**
FLN pmax pmax
comp=Z,45nm,1.2s,mb5.3
FLN MLR MLR
comp=Z,1μm,22.5s,MS5.2
LDF La Druitiere 79.48 42 *eP* **P 17 57 43.3 -2.8**
comp=Z,97nm,1.2s,mb5.3
LDF La Druitiere 79.48 42 *eP* **P 17 57 43.3 -2.8**
LDF pmax pmax
comp=Z,48nm,1.2s,mb5.3
MFF Saint Martin d 79.55 44 *eP* **P 17 57 45.0 -1.5**
comp=Z,64nm,1.2s,mb5.1
MFF Saint Martin d 79.55 44 *eP* **P 17 57 45.0 -1.5**
MFF pmax pmax
comp=Z,32nm,1.2s,mb5.1
EPF Esparros 80.08 48 *eP* **P 17 57 47.8 -1.6**
comp=Z,60nm,1.1s,mb5.1
EPF Esparros 80.08 48 *eP* **P 17 57 47.8 -1.6**
EPF pmax pmax
comp=Z,30nm,1.1s,mb5.1
LFF La Frestale 80.25 46 *eP* **P 17 57 49.1 -1.2**
comp=Z,97nm,1.2s,mb5.3
LFF La Frestale 80.25 46 *eP* **P 17 57 49.1 -1.2**
LFF pmax pmax
comp=Z,48nm,1.2s,mb5.3
CAF Calviac 81.19 46 *eP* **P 17 57 54.0 -1.2**
comp=Z,73nm,1.2s,mb5.2
CAF Calviac 81.19 46 *eP* **P 17 57 54.0 -1.2**
CAF pmax pmax
comp=Z,37nm,1.2s,mb5.2
TCF Toulx Ste Croi 81.19 44 *eP* **P 17 57 52.8 -2.4**
HYF Humbligny 81.41 43 *eP* **P 17 57 55.1 -1.2**
MTLF Montolieu 81.43 47 *eP* **P 17 57 55.3 -1.2**
comp=Z,112nm,1.3s,mb5.3
MTLF Montolieu 81.43 47 *eP* **P 17 57 55.3 -1.2**
MTLF pmax pmax
comp=Z,56nm,1.3s,mb5.3
BGF Bois d'Agland 81.61 44 *eP* **P 17 57 55.0 -2.4**
comp=Z,29nm,0.9s,mb4.9
BGF Bois d'Agland 81.61 44 *eP* **P 17 57 55.0 -2.4**
BGF pmax pmax
comp=Z,15nm,0.9s,mb4.9
PYM Petit Puy Mans 81.79 45 *eP* **P 17 57 59.3 +1.0**
AVF Avril sur Loir 81.94 44 *eP* **P 17 57 57.1 -2.0**
comp=Z,43nm,1.2s,mb5.0
AVF Avril sur Loir 81.94 44 *eP* **P 17 57 57.1 -2.0**
AVF pmax pmax
comp=Z,22nm,1.2s,mb5.0
LBL Lubilhac 82.00 45 *eP* **P 17 58 00.6 +1.2**
SSF Saint Saulge 82.02 44 *eP* **P 17 57 57.6 -1.9**
SSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SSF Saint Saulge 82.02 44 *eP* **P 17 57 57.6 -1.9**
comp=Z,6.3nm,0.8s,mb4.6
SMF Signal de Mont 82.28 44 *eP* **P 17 58 00.1 -0.8**
LASF Ste Croix 82.54 47 *eP* **P 17 58 00.9 -1.3**
comp=Z,125nm,1.3s,mb5.5
GIVF Givet 82.61 40 *eP* **P 17 58 00.8 -1.6**
MEZF Maizieres J'vi 82.92 42 *eP* **P 17 58 02.7 -1.3**
comp=Z,91nm,1.2s,mb5.4
VIVF Saint-Julien-l 83.05 46 *eP* **P 17 58 03.5 -1.3**
comp=Z,113nm,1.4s,mb5.4
VIVF Saint-Julien-l 83.05 46 *eP* **P 17 58 03.5 -1.3**
VIVF pmax pmax
comp=Z,57nm,1.4s,mb5.4
WLF Walferdange 83.51 41 *eP* **P 17 58 07.3 +0.3**
WLF pmax pmax
comp=Z,32nm,1.0s,mb5.4
WLF Walferdange 83.51 41 *eP* **P 17 58 07.2 +0.2**
comp=Z,32nm,1.0s,mb5.4
THEF They Montfort 83.57 42 *eP* **P 17 58 07.6 +0.2**
CABF La Chapelle 83.83 44 *eP* **P 17 58 07.0 -1.7**
HAU Haudompre 83.83 42 *eP* **P 17 58 07.3 -1.4**
HAU *eR*
comp=Z,1μm,20.0s
RUP Ruppelstein 84.09 41 *eP* **P 17 58 10.7 +0.7**
HINF Hinteralfeld 84.19 43 *eP* **P 17 58 09.0 -1.6**
comp=Z,52nm,1.3s,mb5.2
HINF Hinteralfeld 84.19 43 *eP* **P 17 58 09.0 -1.6**
HINF pmax pmax
comp=Z,26nm,1.3s,mb5.2
LOMF Lomont 84.24 43 *eP* **P 17 58 11.3 +0.5**
ECH Echery 84.35 42 *eP* **P 17 58 10.4 -0.9**
ABH Alteburg 84.38 41 *eP* **P 17 58 12.0 +0.6**
MOF Molkenrain 84.38 43 *eP* **P 17 58 11.1 -0.4**
CDF Champ du Feu 84.40 42 *eP* **P 17 58 10.3 -1.3**
comp=Z,44nm,1.3s,mb5.1
CDF Champ du Feu 84.40 42 *eP* **P 17 58 10.3 -1.3**
CDF pmax pmax
comp=Z,22nm,1.3s,mb5.1
LPL La Plagne 84.41 45 *eP* **P 17 58 10.3 -1.4**
LPG La Plagne 84.43 45 *eP* **P 17 58 10.6 -1.2**
comp=Z,39nm,1.3s,mb5.1
LPG La Plagne 84.43 45 *eP* **P 17 58 10.6 -1.2**
LPG pmax pmax
comp=Z,19nm,1.3s,mb5.1
MBDF Montbardon 84.54 46 *eP* **P 17 58 11.0 -1.4**
comp=Z,19nm,1.1s,mb4.9
MBDF Montbardon 84.54 46 *eP* **P 17 58 11.0 -1.4**
MBDF pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
LANF Langenberg 84.67 41 *eP* **P 17 58 13.2 +0.3**
BBS Basel-Blauen 84.68 43 *eP* **P 17 58 13.0 0.0**
NB2 NORSAR Subarra 84.76 29 P **P 17 58 13.2 +0.1**
comp=Z,15nm,1.1s,mb5.0,baz=277,slow=5.0
NB2 NORSAR Subarra 84.76 29 P **P 17 58 13.2 +0.1**
baz=277,slow=5.1
NOA NORSAR Array B 84.76 29 P **P 17 58 13.2 +0.1**
NOA pmax pmax
comp=Z,6.0nm,0.9s
NOA MLR MLR
comp=Z,549nm,18.6s
NOA NORSAR Array B 84.76 29 P **P 17 58 13.2 +0.2**
comp=Z,6.0nm,0.9s,mb4.7,baz=278,slow=4.9,SNR=8.1
NOA LR LR 18 36 12.9
comp=Z,549nm,18.6s,MS5.0,baz=310,slow=36
FELD Feldberg 84.95 42 *eP* **P 17 58 14.6 +0.2**
BFO Black Forest 85.11 42 *eP* **P 17 58 14.5 -0.6**
BFO pmax pmax
comp=Z,20nm,1.1s,mb5.2
BFO Black Forest 85.11 42 *eP* **P 17 58 14.5 -0.6**
comp=Z,20nm,1.1s,mb5.2
SBF Sospel 85.14 47 *eP* **P 17 58 13.5 -1.9**
comp=Z,73nm,1.0s,mb5.5
SBF Sospel 85.14 47 *eP* **P 17 58 13.5 -1.9**
SBF pmax pmax
comp=Z,36nm,1.0s,mb5.5
BSEG Bad Segeberg 85.47 36 *eP* **P 17 58 17.3 +0.6**
CLZ Clausthal 85.85 38 *eP* **P 17 58 19.5 +0.8**
comp=Z,47nm,1.3s,mb5.6
DAVA Damuels 86.30 43 *i P* **P 17 58 21.7 +0.7**
comp=Z,54nm,1.1s,mb5.7
PGF Pioggiola 86.47 48 *eP* **P 17 58 20.1 -1.8**
comp=Z,44nm,0.9s,mb5.4
PGF Pioggiola 86.47 48 *eP* **P 17 58 20.1 -1.8**
PGF pmax pmax
comp=Z,22nm,0.9s,mb5.4
GRA1 Grafenberg Arr 86.76 40 *eP* **P 17 58 23.8 +0.6**
comp=Z,42nm,1.2s,mb5.5
GRA1 LR LR
comp=Z,1μm,18.2s,MS5.3
GRF Grafenberg Arr 86.76 40 *eP* **P 17 58 23.8 +0.6**
GRF pmax pmax
comp=Z,42nm,1.2s,mb5.5
GRF MLR MLR
comp=Z,1μm,18.2s,MS5.3
GRF Grafenberg Arr 86.76 40 *eP* **P 17 58 23.8 +0.6**
GRF pmax pmax
comp=Z,42nm,1.2s,mb5.5
GRF MLR MLR
comp=Z,1μm,18.2s,MS5.3
GRF Grafenberg Arr 86.76 40 *eP* **P 17 58 23.8 +0.6**

comp=Z,42nm,1.2s,mb5.5
GRF LR LR
comp=Z,1μm,18.2s,MS5.3
MOX Moxa 86.83 39 *e*P **P 17 58 24.0 +0.5**
MOX pmax pmax
comp=Z,31nm,1.3s,mb5.4
MOX MLR MLR
comp=Z,500nm,20.0s,MS4.9
MOX Moxa 86.83 39 *e*P **P 17 58 24.0 +0.5**
comp=Z,31nm,1.3s,mb5.4
MOX LR LR
comp=Z,500nm,20.0s,MS4.9
MOX Moxa 86.83 39 *i* P **P 17 58 24.0 +0.5**
comp=Z,logA/T=1.4,mb5.4
MOX L 18 37 21.0
MOTA Moosalm 87.11 43⇑*i*P **P 17 58 24.9 0.0**
comp=Z,13nm,1.2s,mb5.0
MOTA Moosalm 87.11 43⇑*i*P **P 17 58 24.9 0.0**
MOTA pmax pmax
comp=Z,13nm,1.2s,mb5.0
SQTA Sankt Quirin 87.20 43⇑*i*P **P 17 58 25.6 +0.2**
comp=Z,19nm,1.2s,mb5.2
SQTA Sankt Quirin 87.20 43⇑*i*P **P 17 58 25.6 +0.2**
SQTA pmax pmax
comp=Z,19nm,1.2s,mb5.2
NKC Novy Kostel 87.43 40 *e*P **P 17 58 27.3 +0.9**
NKC *e*S S 18 09 00.2 -2.9
NKC AMS AMS 18 37 10.0
comp=Z,900nm,18.7s
CLL Collm 87.56 39⇑*i*P **P 17 58 27.6 +0.6**
CLL pmax pmax
comp=Z,28nm,1.2s,mb5.4
CLL Collm 87.56 39⇑*i*P **P 17 58 27.6 +0.6**
comp=Z,28nm,1.2s,mb5.4
CLL Collm 87.56 39 ⇑P **P 17 58 27.6 +0.6**
comp=Z,logA/T=1.4,mb5.4
CLL *e* 17 58 49.0
CLL *e* 18 08 55.0
CLL *e*S S 18 09 13.0 +8.7
CLL *e*SP SP 18 10 06.0 -1.0
WET Wettzell 87.93 41 *e*P **P 17 58 29.0 +0.2**
WET pmax pmax
comp=Z,46nm,1.2s,mb5.6
WET Wettzell 87.93 41 *e*P **P 17 58 29.0 +0.2**
comp=Z,46nm,1.2s,mb5.6
ARCES ARCESS Array B 88.23 19 P **P 17 58 29.6 -0.2**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES MLR MLR
comp=Z,643nm,19.2s
ARCES ARCESS Array B 88.23 19 P **P 17 58 29.6 -0.2**
comp=Z,3.2nm,0.8s,mb4.6,baz=288,slow=3.8,SNR=7.3
ARCES LR LR 18 37 14.3
comp=Z,643nm,19.2s,MS5.0,baz=296,slow=35
BRG Berggiesshubel 88.23 39 *e*P **P 17 58 30.9 +0.7**
BRG *e*S S 18 08 58.0 -13
BRG pmax pmax
comp=Z,19nm,1.2s,mb5.2
BRG MLR MLR
comp=Z,590nm,22.6s,MS5.0
BRG Berggiesshubel 88.23 39 *e*P **P 17 58 30.9 +0.7**
comp=Z,19nm,1.2s,mb5.2
BRG *e*S S 18 08 58.0 -13
BRG *e*SS SS 18 15 09.0 +5.5
BRG LR LR
comp=Z,590nm,22.6s,MS5.0
KHC Kasperske Hory 88.38 41 *e*P **P 17 58 31.7 +0.7**
KHC *e*x x 17 58 47.5
KHC *e*S S 18 09 06.8 -5.2
KHC AMS AMS 18 34 50.0
comp=Z,900nm,19.5s
BILL Bilibino 88.39 339*d i*P **P 17 58 31.8 +1.2**
BILL pmax pmax
comp=Z,23nm,1.3s,mb5.2
BILL Bilibino 88.39 339 *e*P **P 17 58 31.0 +0.4**
comp=Z,18nm,1.1s,mb5.2
GEC2 GERESS Array S 88.52 41 *e*P **P 17 58 32.4 +0.7**
GEC2 pmax pmax
comp=Z,26nm,1.2s,mb5.4
GEC2 GERESS Array S 88.52 41 *e*P **P 17 58 32.4 +0.7**
comp=Z,26nm,1.2s,mb5.4
GERES GERESS Array B 88.52 41 P **P 17 58 32.3 +0.6**
GERES pmax pmax
comp=Z,13nm,1.1s
GERES GERESS Array B 88.52 41 P **P 17 58 32.3 +0.6**
comp=Z,13nm,1.1s,mb5.2,baz=243,slow=3.0,SNR=37
KBA Koelnbreinsper 88.66 43⇓*i*P **P 17 58 32.8 +0.4**
comp=Z,36nm,1.2s,mb5.6
KBA Koelnbreinsper 88.66 43⇓*i*P **P 17 58 32.8 +0.4**
KBA pmax pmax
comp=Z,37nm,1.2s,mb5.6
PVCC Panska Ves 88.70 39 *e*P **P 17 58 33.3 +0.8**
PVCC *e*S S 18 09 16.6 +1.7
PVCC AMS AMS 18 37 20.0
comp=Z,700nm,18.1s
PRU Pruhonice 88.80 40 *e*P **P 17 58 33.7 +0.7**
PRU *e*x x 17 58 49.5
PRU *e*SKS SKS 18 09 03.5 +5.9
PRU AMS AMS 18 38 30.0
comp=Z,900nm,17.8s
ROBS Robic 88.95 43 *e*P **P 17 58 34.5 +0.7**
MOA Molln 89.11 42⇑*i*P **P 17 58 34.9 +0.4**
comp=Z,17nm,1.2s,mb5.3
UPC Upice 89.60 39 *e*P **P 17 58 37.5 +0.8**
KSP Ksiaz 89.69 38 *e*P **P 17 58 37.5 +0.3**
KSP *e*S S 18 09 07.0 -17
KSP *e**SP SP 18 10 26.0 -5.8
KSP MLR MLR
comp=Z,1μm,18.1s,MS5.3
DPC Dobruska-Polom 89.83 39 *e*P **P 17 58 38.9 +1.1**
DPC MLR MLR
comp=Z,700nm,18.4s,MS5.1
DPC Dobruska-Polom 89.83 39 *e*P **P 17 58 38.9 +1.1**
DPC *e*x x 18 08 36.1
DPC AMS AMS 18 38 00.0
comp=Z,700nm,18.4s
PERS Pernice 89.94 43 *e*P **P 17 58 39.1 +0.7**
VISS Visnje 89.95 44 *e*P **P 17 58 39.5 +1.0**
MORC Moravsky Berou 90.74 39 *e*P **P 17 58 42.3 +0.2**
MORC pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
MORC Moravsky Berou 90.74 39 *e*P **P 17 58 42.3 +0.2**
comp=Z,6.8nm,1.0s,mb4.9
ZST Bratislava 90.87 41 *e*P **P 17 58 42.4 -0.4**
SMOL Smolenice 91.00 41 *e*P **P 17 58 44.9 +1.5**
OKC Ostrava-Krasne 91.10 39 *e*P **P 17 58 45.0 +1.2**
OKC *e*SKS SKS 18 09 14.7 +3.3
OKC AMS AMS 18 39 50.0
comp=Z,800nm,17.5s
FINES FINESS Array B 91.54 27 *i* P **P 17 58 52.8 +7.3**
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 91.54 27 P **P 17 58 45.1 -0.4**
comp=Z,1.8nm,0.9s,mb4.4,baz=297,slow=4.3,SNR=4.6
FINES LR LR 18 38 52.0
comp=Z,548nm,19.2s,MS5.0,baz=116,slow=35
SRO1 Iza 91.72 41 *e*P **P 17 58 48.4 +1.7**
VYHS Vyhne 91.90 40 *i* P **P 17 58 48.7 +1.2**
VYHS Vyhne 91.90 40 *i* P **P 17 58 48.7 +1.2**
OJC Ojcow 92.01 38 *e*P **P 17 58 49.4 +1.4**
NIE Niedzica 92.57 39 *e*P **P 17 58 52.6 +2.0**
PSZ Piszkesteto 92.75 41 *e*P **P 17 58 53.1 +1.7**
PSZ pmax pmax
comp=Z,19nm,1.1s,mb5.4
PSZ Piszkesteto 92.75 41 *e*P **P 17 58 53.1 +1.6**
comp=Z,19nm,1.1s,mb5.4
KOLS Kolonicke sedl 93.94 39 *e*P **P 17 58 58.0 +1.2**
KOLS *e* pP 17 59 07.4 0.0
TIXI Tiksi 96.19 350 *e*P **P 17 59 07.4 +0.9**
TIXI *e*S S 18 10 26.4 +6.2
TIXI pmax pmax
comp=Z,2.0nm,1.1s,mb4.5
TIXI Tiksi 96.19 350 *i* P **P 17 59 07.5 +1.0**
AKASG Malin Array Be 97.47 36 P **P 17 59 10.9 -1.9**
comp=Z,0.1nm,0.3s,baz=290,slow=3.9,SNR=5.3
ZAL Zalesovo 116.35 7 PKIKP PKPdf 18 04 22.3 +0.9
ZAL pmax pmax
comp=Z,1.0nm,0.6s
ZAL Zalesovo 116.35 7 PKP PKPdf 18 04 22.3 +0.9
comp=Z,0.5nm,0.6s,baz=162,slow=12,SNR=3.8
SONM Songino Array 122.25 351 PKP PKPdf 18 04 34.6 +1.6
comp=Z,1.1nm,1.0s,baz=315,slow=1.7,SNR=4.9
WMQ Urumqi 126.65 7 PKP PKPdf 18 04 43.9 +2.3
WMQ PP PP 18 06 43.6 +1.3
WMQ PP PP
comp=Z,21nm,11.0s
WMQ LR LR
comp=N,145nm,25.0s,MS4.7
WMQ LR LR
comp=E,134nm,27.2s,MS4.7
WMQ LR LR
comp=Z,261nm,28.9s,MS4.8
STKA Stephens Creek 131.68 235 PKP PKPdf 18 04 53.4 +1.8
comp=Z,1.7nm,0.8s,baz=344,slow=13,SNR=2.9
SSE Sheshan 132.77 329 *e*PKP PKPdf 18 04 54.0 +0.3
SSE PP PP
comp=Z,67nm,4.0s
SSE LR LR
comp=N,47nm,29.3s,MS4.6
SSE LR LR
comp=E,182nm,29.3s,MS4.6
SSE LR LR
comp=Z,152nm,17.3s
ASAR Alice Springs 140.50 244 PKhKP 18 05 03.9
comp=Z,0.8nm,0.7s,baz=115,slow=3.3,SNR=8.5
ASAR PKP PKPdf 18 05 10.7 +2.7
comp=Z,2.5nm,1.0s,baz=111,slow=2.8,SNR=13
WRA Warramunga Arr 140.89 250 PKHKP 18 05 05.4
WRA 18 05 12.6
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA pmax pmax
comp=Z,5.0nm,1.0s
WRA Warramunga Arr 140.89 250 PKhKP 18 05 05.4
comp=Z,1.0nm,0.8s,baz=322,slow=0.4,SNR=13
WRA PKP PKPdf 18 05 12.6 +3.8
comp=Z,5.2nm,1.0s,baz=97,slow=2.9,SNR=16
QIZ Qiongzhong 148.39 333 *e*PKP PKPdf 18 05 24.3 +2.7
HYB Hyderabad 148.68 32 *e*PKP2 PKPab 18 05 28.0 -3.7
HYB Hyderabad 148.68 32 *i* PKP PKPdf 18 05 28.0 +5.9
MUN Mundaring 150.28 218 *e*P PKPdf 18 05 32.2 +7.9
comp=Z,13nm,0.9s
CMAR Chiang Mai Arr 152.16 353 PKIKP PKPdf 18 05 36.7 +9.3
CMAR pmax pmax
comp=Z,8.0nm,1.1s
CMAR Chiang Mai Arr 152.16 353 PKPbc PKPdf 18 05 36.6 +9.2
comp=Z,7.5nm,1.1s,baz=323,slow=2.5,SNR=4.6

IDC 24 17:51:35.0±6.2, 3.16N×93.78E, mb3.6/3, mb1 3.9/4, mb1mx3.7/18, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=184.1km s-min=30.7km az=73.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.02**	**18**	Pn	P	17 55 21.1	-2.4
	0.2nm,0.3s,baz=212,slow=12,SNR=17						
SONM	**Songino Array**	**45.82**	**12**	P	P	17 59 58.9	-1.5
	0.6nm,0.9s,baz=180,slow=7.2,SNR=3.3						
WRA	**Warramunga Arr**	**45.97**	**122**	P	P	17 59 59.7	-2.2
	0.8nm,0.7s,baz=298,slow=9.0,SNR=5.9						
ASAR	**Alice Springs**	**47.30**	**126**	P	P	18 00 10.9	-1.6
	0.7nm,0.6s,baz=294,slow=7.8,SNR=8.7						

MOS ***24*** *17:59:20.3±0.9, 4.77N×94.80E, h33km, mb5.3/58, MS4.7/14, Error ellipse: s-maj=8.4km s-min=5.3km az=114.5*
BJI ***24*** *17:59:21.1, 4.70N×94.83E, h48km, mB5.0, mb5.3, Ms4.8, Msz4.6*
IDC ***24*** *17:59:23.4±0.5, 4.79N×94.74E, h45km±3km, mb4.6/21, mb1 4.7/22, mb1mx4.6/26, mbtmp4.8/22, MS4.3/6, Ms1 4.4/6, ms1mx3.8/22, Error ellipse: s-maj=17.9km s-min=9.8km az=44.0*
NEIC ***24*** *17:59:23.6±0.2, 4.75N×94.81E, mb5.1/58, Error ellipse: s-maj=4.9km s-min=3.6km az=32.0*
HRVD ***24*** *17:59:23.6±0.4, 4.54N×94.72E, h37km, MW5.0/40, Centroid moment Tensor Solution. LP body waves: s29,c44;Mantle waves: s40,c62; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.45±.22; Mθθ-1.34±.14; Mφφ-2.12±.15; Mrθ1.12±.16; Mθφ1.82±.10; Mφr-1.88±.17; Best double couple: Mo4.146×10^16 NP1:φs316°,δ29°,λ82°. NP2:φs145°,δ61°,λ94°. Principal axes: T 4.086, Plg74°, Azm67°; N .11, Plg4°, Azm323°; P -4.206, Plg16°, Azm232°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 24 17:59:22.4±1.2, 4.74N±0.04×94.84E±0.04, h53km±10km, h47km±1.2km: pP-P, n241, σ0s87/236, mb5.1/98, MS4.6/26, 32C-13D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**7.18**	**343**	*e*	Px	18 01 54.0	
PBA				*e*S	**S**	**18 02 37.8**	**+10**
CM31	**Chiang Mai Arr**	**14.21**	**16**	*e*Pn	**P**	**18 02 44.1**	**+1.6**
	90nm,0.8s						
CMAR	**Chiang Mai Arr**	**14.21**	**16**	P	**P**	**18 02 42.9**	**+0.4**
	1.3nm,0.3s,baz=202,slow=12,SNR=72						
CMAR				pP		18 02 49.1	
	3.6nm,0.3s,baz=207,slow=12,SNR=145						
CMAR				LR	LR	18 09 25.6	
	comp=Z,1μm,18.8s,baz=205,slow=42						
CMAR				ScP		18 11 28.4	
	0.1nm,0.3s,baz=230,slow=3.4,SNR=17						
PALK	**Pallekele**	**14.28**	**281**	*e*Pn	**P**	**18 02 42.3**	**-1.1**
	28nm,1.0s						
UBT	**Ubonrachathani**	**14.46**	**43**	P	**P**	**18 02 52.5**	**+6.7**
CHG	**Chiang Mai**	**14.55**	**16**	⇑P	**P**	**18 02 47.6**	**+0.7**
	82nm,0.8s						
NANT	**Nan**	**15.10**	**22**	⇑P	**P**	**18 02 53.0**	**-1.0**
	75nm,1.0s						
CHRT	**Chiangrai**	**15.79**	**17**	⇑P	**P**	**18 03 04.5**	**+1.6**
	303nm,1.1s						
KOD	**Kodaikanal**	**18.06**	**289**	*e*	**P**	**18 03 29.8**	**-1.6**
KOD				*e*		18 04 53.4	
	comp=Z,74nm,1.2s						
HYB	**Hyderabad**	**20.32**	**310**	*e*P	**P**	**18 04 00.0**	**+3.2**
HYB	**Hyderabad**	**20.32**	**310**	*i* P	**P**	**18 04 00.0**	**+3.2**
HYB				*e*		18 04 11.0	
HYB				*e*S	**S**	**18 07 34.0**	**-2.6**
QIZ	**Qiongzhong**	**20.40**	**45**	P	**P**	**18 03 53.4**	**-4.1**
QIZ				LR	LR		
	comp=E,757nm,17.7s						
QIZ				LR	LR		
	comp=Z,916nm,18.7s,MS4.2						
QIZ	**Qiongzhong**	**20.40**	**45**	*e*P	**P**	**18 03 57.0**	**-0.5**
	comp=Z,37nm,1.1s						
SHL	**Shillong**	**20.90**	**353**	*e*	**P**	**18 03 57.3**	**-5.4**
SHL				*e*		18 03 58.0	
KMI	**Kunming**	**21.64**	**20**	⇑P	**P**	**18 04 11.4**	**+1.3**
KMI				*SP		18 04 21.7	
KMI						18 04 37.8	
KMI				S	**S**	**18 08 07.6**	**+6.1**
KMI				*SS		18 08 19.0	
KMI				SS	SS	18 08 46.9	+6.3
KMI				pmax	pmax		
	comp=Z,58nm,1.1s,mb4.9						
KMI				MLR	MLR		
	comp=Z,2μm,17.1s,MS4.5						
KMI	**Kunming**	**21.64**	**20**	⇑P	**P**	**18 04 11.4**	**+1.3**
	comp=Z,58nm,1.1s,mb4.9						
KMI				sP		18 04 21.7	
KMI				PP	PP	18 04 37.8	+1.8
KMI				S	**S**	**18 08 07.6**	**+6.1**
KMI				sS		18 08 19.0	
KMI				SS	SS	18 08 46.9	+6.3
KMI				LR	LR		
	comp=Z,2μm,17.1s,MS4.5						
LATR	**Latur**	**22.44**	**309**	*e*P		18 04 37.4	
JIRN	**Jiri**	**24.24**	**341**	*e*P	**P**	**18 04 35.0**	**-0.5**
	comp=Z,110nm,0.7s,mb5.4						
PKI	**Pulchoki**	**24.42**	**339**	*e*P	**P**	**18 04 37.1**	**-0.2**
	comp=Z,68nm,0.6s,mb5.2						
DMN	**Daman**	**24.56**	**339**	*e*P	**P**	**18 04 38.4**	**-0.3**
	comp=Z,74nm,0.9s,mb5.2						
RATI	**Rata**	**24.59**	**123**⇓	*e*P	**P**	**18 04 40.0**	**+0.9**
	comp=Z,150nm,0.4s,mb5.9						
KKN	**Kakani**	**24.66**	**339**	*e*P	**P**	**18 04 39.2**	**-0.5**
	comp=Z,220nm,1.1s,mb5.6						
KEDI	**Kedomdong**	**24.96**	**122**	*e*P	**P**	**18 04 41.7**	**-0.9**
KEDI				pmax	pmax		
	comp=Z,87nm,0.8s,mb5.3						
KEDI	**Kedomdong**	**24.96**	**122**	*e*P	**P**	**18 04 41.7**	**-0.9**
	comp=Z,87nm,0.8s,mb5.3						
LSA	**Lhasa**	**25.07**	**352**	P	**P**	**18 04 44.1**	**+0.5**
LSA				LR	LR		
	comp=N,480nm,13.6s,MS4.5						
LSA				LR	LR		
	comp=E,870nm,13.7s,MS4.5						
LSA				LR	LR		
	comp=Z,840nm,17.0s,MS4.3						
LSA	**Lhasa**	**25.07**	**352**	*e*P	**P**	**18 04 43.9**	**+0.3**
LSA				pmax	pmax		
	comp=Z,37nm,0.5s,mb5.2						
LSA	**Lhasa**	**25.07**	**352**	*e*P	**P**	**18 04 43.9**	**+0.3**
	comp=Z,37nm,0.5s,mb5.2						
GKN	**Gorkha**	**25.09**	**338**	*e*P	**P**	**18 04 43.9**	**+0.1**
	comp=Z,115nm,0.7s,mb5.5						
KOLN	**Koldanda**	**25.28**	**336**	*e*P	**P**	**18 04 45.8**	**+0.2**
	comp=Z,173nm,0.8s,mb5.6						
BOM	**Bombay**	**25.69**	**305**⇓	*e*P	sP	18 05 07.7	-1.4
TANI	**Tanete Lipujan**	**25.83**	**108**⇑	*e*P	**P**	**18 04 50.5**	**-0.4**
TANI				pmax	pmax		
	comp=Z,68nm,0.7s,mb5.3						
TANI	**Tanete Lipujan**	**25.83**	**108**⇑	*e*P	**P**	**18 04 50.5**	**-0.4**
	comp=Z,68nm,0.7s,mb5.3						
NINI	**Niniconang**	**26.50**	**110**⇓	*e*P	**P**	**18 04 56.8**	**-0.3**
NINI				pmax	pmax		
	comp=Z,178nm,0.6s,mb5.8						
NINI	**Niniconang**	**26.50**	**110**⇓	*e*P	**P**	**18 04 56.8**	**-0.3**
	comp=Z,178nm,0.6s,mb5.8						
BUNI	**Buntu Taipa**	**26.79**	**108**⇓	*e*P	**P**	**18 04 59.4**	**-0.3**
	comp=Z,34nm,0.4s,mb5.2						
TGY	**Tagaytay City**	**27.35**	**68**	PKHKP	**P**	**18 05 06.3**	**+1.5**
TGY				pmax	pmax		
	comp=Z,87nm,0.3s						
TGY	**Tagaytay City**	**27.35**	**68**	P	**P**	**18 05 06.3**	**+1.5**
TGY				pmax	pmax		
	comp=Z,87nm,0.3s						
TGY	**Tagaytay City**	**27.35**	**68**	P	**P**	**18 05 06.3**	**+1.5**
	comp=Z,87nm,0.3s,mb5.8,baz=197,slow=20,SNR=1.1						
ENH	**Enshi**	**28.91**	**27**	*e*P	**P**	**18 05 17.4**	**-1.3**
	comp=Z,61nm,0.6s,mb5.5						
ENH				*e*pP	pP	18 05 30.2	-1.9
QZH	**Quanzhou**	**30.40**	**46**	P	**P**	**18 05 32.8**	**+0.8**
QZH				AMB	AMB		
	comp=Z,110nm,0.8s,mb5.6						
WHN	**Wuhan**	**31.57**	**33**	⇑P	**P**	**18 05 42.5**	**+0.2**
WHN				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.5						
WHN				LR	LR		
	comp=Z,4μm,14.7s,MS5.2						
XAN	**Xi'an**	**31.96**	**22**	P	**P**	**18 05 44.4**	**-1.2**
XAN				AP	pP	18 05 53.0	-6.2
XAN				AMB	AMB		
	comp=Z,145nm,0.9s,mb5.8						
XAN				LR	LR		
	comp=N,523nm,15.8s,MS4.6						
XAN				LR	LR		
	comp=E,934nm,15.8s,MS4.6						
XAN				LR	LR		
	comp=Z,1μm,18.3s,MS4.7						
LZH	**Lanzhou**	**32.28**	**14**	P	**P**	**18 05 47.0**	**-1.4**
LZH				AP	pP	18 05 57.8	-4.2
LZH				XP	sP	18 06 02.3	-6.4
LZH				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.3						
LZH				AMB	AMB		
	comp=Z,160nm,6.2s						
LZH				LR	LR		
	comp=N,980nm,13.4s						
LZH				LR	LR		
	comp=Z,2μm,21.4s						
LZH	**Lanzhou**	**32.28**	**14**	P	**P**	**18 05 47.0**	**-1.4**
	comp=Z,60nm,1.2s,mb5.3						
LZH				pP	pP	18 05 57.8	-4.2
LZH				sP	sP	18 06 02.3	-6.4
LZH				PP	PP	18 07 22.4	+25
LZH				S	tx	18 11 55.3	
LZH				sS		18 12 12.0	
LZH				SS	tx	18 14 52.0	
LZH				LR	LR		
	comp=Z,2μm,21.4s,MS4.7						
NJ2	**Nanjing**	**35.27**	**37**	*e*P	**P**	**18 06 14.8**	**+0.6**
NJ2				AP	pP	18 06 22.3	-5.7
NJ2				XP	sP	18 06 26.1	-8.6
NJ2				PP	PP	18 07 31.3	-3.3
NJ2				S	**S**	**18 11 42.0**	**-1.4**
NJ2				XS		18 12 08.0	
NJ2				AMB	AMB		
	comp=Z,160nm,0.9s,mb6.0						
NJ2				AMB	AMB		
	comp=Z,320nm,6.2s						
NJ2				LR	LR		
	comp=N,2μm,15.8s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,16.8s,MS5.0						
NJ2				LR	LR		
	comp=Z,2μm,18.2s,MS5.0						
SSE	**Sheshan**	**36.07**	**40**	*e*P	**P**	**18 06 19.6**	**-1.4**
SSE				S	**S**	**18 11 58.9**	**+3.3**
SSE				XS		18 12 17.1	
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,75nm,6.4s						
SSE				LR	LR		
	comp=N,445nm,14.8s,MS4.4						
SSE				LR	LR		
	comp=E,210nm,14.8s,MS4.4						
SSE				LR	LR		
	comp=Z,495nm,14.0s,MS4.4						
SSE	**Sheshan**	**36.07**	**40**	*e*P	**P**	**18 06 19.6**	**-1.4**
	comp=Z,31nm,0.7s,mb5.3						
SSE				S	**S**	**18 11 58.9**	**+3.3**
SSE				sS		18 12 17.1	
SSE				SS	SS	18 14 37.4	+16
SSE				LR	LR		
	comp=Z,500nm,14.0s,MS4.4						
TIA	**Tai'an**	**37.43**	**30**	P	**P**	**18 06 32.5**	**+0.2**
TIA				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.0						
FITZ	**Fitzroy Crossi**	**37.92**	**128**⇓	*i*P	**P**	**18 06 36.3**	**-0.3**
	comp=Z,27nm,0.8s,mb5.0						
JOW	**Kunigami**	**38.74**	**52**	P	**P**	**18 06 44.8**	**+1.5**
	comp=Z,55nm,0.5s,mb5.5,baz=242,slow=7.5						
JOW				LR	LR	18 21 34.5	
	comp=Z,361nm,22.0s,MS4.2,baz=102,slow=34						
BJT	**Baijiatuau**	**40.05**	**26**	*e*P	**P**	**18 06 55.3**	**+1.3**
BJT				*e**PP	pP	18 07 06.9	-1.1
BJT				pmax	pmax		
	comp=Z,68nm,0.7s						
BJT	**Baijiatuau**	**40.05**	**26**	*e*P	**P**	**18 06 55.3**	**+1.3**
	comp=Z,68nm,0.7s,mb5.5						
BJT				*e*pP	pP	18 07 06.9	-1.1
BJI	**Beijing**	**40.07**	**26**	P	**P**	**18 06 55.7**	**+1.5**
BJI				pmax	pmax		
	comp=Z,104nm,1.1s,mb5.5						
BJI				MLR	MLR		
	comp=Z,730nm,24.6s,MS4.4						
ULHL	**Ulahol**	**40.85**	**339**	P	**P**	**18 07 01.6**	**+0.9**
	SNR=16						
KZA	**Kyzart**	**41.08**	**338**	P	**P**	**18 07 03.9**	**+1.4**
	SNR=15						
TKM2	**Tokmak 2**	**41.68**	**339**	P	**P**	**18 07 08.5**	**+1.0**
	SNR=18						
KBK	**Karagaybulak**	**41.69**	**338**	P	**P**	**18 07 09.2**	**+1.6**
	SNR=47						
AML	**Almayashu**	**41.73**	**336**	P	**P**	**18 07 09.4**	**+1.5**
	SNR=39						
AAK	**Ala-Archa**	**41.84**	**337**	P	**P**	**18 07 10.1**	**+1.3**
	SNR=18						
AAK	**Ala-Archa**	**41.84**	**337**	*e*P	**P**	**18 07 08.7**	**-0.1**
AAK				*e**PP	pP	18 07 22.3	-0.5
AAK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.6						
AAK	**Ala-Archa**	**41.84**	**337**	*e*P	**P**	**18 07 08.7**	**-0.1**
	comp=Z,10nm,0.6s,mb4.6						
AAK				*e*pP	pP	18 07 22.3	-0.5
FRU	**Bishkek**	**41.97**	**338**	*e*P	pP	18 07 20.0	-3.8
FRU				*e*		18 07 27.0	
FRU				pmax	pmax		
	comp=Z,120nm,1.6s,mb5.3						
FRU				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.9						
CHMS	**Chumysh**	**42.06**	**338**	P	**P**	**18 07 11.1**	**+0.5**
	SNR=7.7						
EKS2	**Erkin-Say**	**42.14**	**337**	P	**P**	**18 07 12.6**	**+1.3**
	SNR=23						
USP	**Ospenovka**	**42.38**	**338**	P	**P**	**18 07 13.9**	**+0.7**
	SNR=56						
MKAR	**Makanchi Array**	**43.28**	**347**	*i* P	**P**	**18 07 20.7**	**+0.2**
MKAR				pmax	pmax		

comp=Z,27nm,0.5s
SONM Songino Array 44.07 11 P **P 18 07 26.5 -0.4**
comp=Z,14nm,0.8s,mb4.7,baz=189,slow=8.6,SNR=83
SONM PP PP 18 09 04.5 -7.1
comp=Z,6.1nm,0.7s,baz=203,slow=9.4,SNR=4.8
SONM PcP PcP 18 09 11.2 -0.8
comp=Z,6.4nm,0.6s,baz=198,slow=4.2,SNR=10
SONM ScP 18 12 59.1
comp=Z,0.3nm,0.3s,baz=198,slow=3.9,SNR=3.9
ULN Ulaanbaatar 44.23 12c *i*P **P 18 07 27.4 -0.8**
ULN Ulaanbaatar 44.23 12 *e*P **P 18 07 27.2 -1.0**
comp=Z,6.3nm,0.6s,mb4.5
KS15 Wonju Array Si 44.39 38 *e*P **P 18 07 29.2 -0.4**
SNY Shenyang 44.96 31 ⇑P **P 18 07 34.0 -0.1**
SNY AP pP 18 07 43.3 -4.9
SNY AMB AMB
comp=Z,40nm,1.0s,mb5.2
SNY LR LR
comp=N,590nm,19.6s
SNY LR LR
comp=Z,410nm,20.6s,MS4.3
WRA Warramunga Arr 45.92 124 P **P 18 07 42.5 +0.4**
WRA *PP pP 18 07 55.5 -0.7
WRA pmax pmax
comp=Z,70nm,0.6s
WRA pmax pmax
comp=Z,60nm,0.6s
WRA pmax pmax
comp=Z,38nm,0.7s
WRA Warramunga Arr 45.92 124 P **P 18 07 42.5 +0.5**
comp=Z,70nm,0.6s,mb5.8,baz=302,slow=9.1,SNR=139
WRA pP pP 18 07 55.5 -0.6
comp=Z,60nm,0.6s,baz=302,slow=9.3,SNR=18
WRA sP sP 18 08 01.6 -0.9
comp=Z,38nm,0.7s,baz=303,slow=9.1,SNR=5.9
WRAB Tennant Creek 45.93 124 *e*P **P 18 07 42.8 +0.7**
WRAB *e**PP pP 18 07 55.3 -0.9
WRAB pmax pmax
comp=Z,112nm,0.6s,mb6.0
WRAB Tennant Creek 45.93 124 *e*P **P 18 07 42.8 +0.7**
comp=Z,112nm,0.6s,mb6.0
WRAB *e*pP pP 18 07 55.3 -0.9
ZAK Zakamensk 46.04 8⇓*i*P **P 18 07 41.6 -1.0**
ZAK *e* 18 09 18.3
MOY Mondy 47.05 5 *e*P **P 18 07 50.2 -0.3**
TLY Talaya 47.36 7 *e*P **P 18 07 53.1 +0.2**
TLY pmax pmax
comp=Z,15nm,0.9s,mb4.9
TLY MLR MLR
comp=Z,479nm,19.0s,MS4.5
ASPA Alice Springs 47.41 128⇑*i*P **P 18 07 53.9 +0.2**
ASAR Alice Springs 47.41 128 P **P 18 07 54.0 +0.2**
comp=Z,19nm,0.7s,mb5.1,baz=299,slow=7.9,SNR=98
ASAR pP pP 18 08 07.6 -0.2
comp=Z,24nm,0.8s,baz=296,slow=8.0,SNR=13
ASAR LR LR 18 29 44.9
comp=Z,133nm,18.5s,MS3.9,baz=311,slow=38
KURK Kurchatov 47.80 346 *e*P **P 18 07 56.5 +0.1**
KURK *e**PP pP 18 08 07.7 -2.8
KURK pmax pmax
comp=Z,47nm,0.6s,mb5.7
KURK Kurchatov 47.80 346 *e*P **P 18 07 56.5 0.0**
comp=Z,47nm,0.6s,mb5.7
KURK *e*pP pP 18 08 07.7 -2.8
IRK Irkutsk 47.99 8 *e*P **P 18 07 56.6 -1.3**
IRK *e* pP 18 08 07.1 -4.9
IRK pmax pmax
comp=Z,26nm,2.0s,mb4.9
HIA Hailar 49.14 21 *e*P **P 18 08 06.4 -0.4**
HIA *e**PP pP 18 08 19.8 -1.2
HIA pmax pmax
comp=Z,28nm,0.7s
HIA Hailar 49.14 21 *e*P **P 18 08 06.4 -0.4**
comp=Z,28nm,0.7s,mb5.4
HIA *e*pP pP 18 08 19.8 -1.2
ZAL Zalesovo 49.73 352 P **P 18 08 11.3 +0.1**
ZAL pmax pmax
comp=Z,18nm,0.6s
ZAL MLR MLR
comp=Z,328nm,18.1s
ZAL Zalesovo 49.73 352 P **P 18 08 11.3 +0.1**
comp=Z,18nm,0.6s,mb5.3,baz=302,slow=5.7,SNR=100
ZAL LR LR 18 32 53.9
comp=Z,328nm,18.1s,MS4.4,baz=294,slow=40
MDJ Mudanjiang 50.04 32 P **P 18 08 13.6 -0.2**
MDJ PP PP 18 10 11.9 +1.9
MDJ AMB AMB
comp=Z,30nm,1.6s,mb5.1
MDJ AMB AMB
comp=Z,82nm,4.1s
MDJ LR LR
comp=N,144nm,20.4s,MS4.3
MDJ LR LR
comp=E,263nm,20.4s,MS4.3
MDJ LR LR
comp=Z,327nm,18.5s,MS4.4
MDJ Mudanjiang 50.04 32 *e*P **P 18 08 12.9 -0.8**
comp=Z,11nm,0.6s,mb5.1
BVA0 Borovoye Array 52.16 342 *i*P **P 18 08 29.0 -0.7**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BVAR Borovoye Array 52.16 342 P **P 18 08 29.0 -0.7**
comp=Z,9.1nm,0.5s,mb4.9,baz=141,slow=9.5,SNR=94
BVAR pP pP 18 08 42.4 -1.6
comp=Z,17nm,0.7s,baz=153,slow=9.9,SNR=13
BRVK Borovoye 52.22 341 *e*P **P 18 08 29.5 -0.6**
BRVK *e**PP pP 18 08 42.6 -1.8
BRVK pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
BRVK Borovoye 52.22 341 *e*P **P 18 08 29.5 -0.6**
comp=Z,7.8nm,0.6s,mb4.8
BRVK *e*pP pP 18 08 42.6 -1.9
CHKZ Chkalovo 52.65 342 *e*P **P 18 08 32.9 -0.4**
CHKZ *e**PP pP 18 08 46.2 -1.4
CHKZ pmax pmax
comp=Z,51nm,0.8s,mb5.5
CHKZ Chkalovo 52.65 342 *e*P **P 18 08 32.9 -0.4**
comp=Z,51nm,0.8s,mb5.5
CHKZ *e*pP pP 18 08 46.2 -1.4
PMG Port Moresby 54.00 105 P **P 18 08 43.7 -0.2**
PMG pmax pmax
comp=Z,15nm,0.7s
PMG Port Moresby 54.00 105 P **P 18 08 43.7 -0.1**
comp=Z,14nm,0.7s,mb5.0,baz=328,slow=7.1,SNR=9.4
KLR Kul'dur 54.24 29 *e*P **P 18 08 42.1 -3.0**
KLR pmax pmax
comp=E,42nm,1.8s
KLR pmax pmax
comp=Z,70nm,1.8s,mb5.3
KLR MLR MLR
comp=E,800nm,13.0s
KLR MLR MLR
comp=Z,900nm,13.0s,MS5.0
BOD Bodaibo 55.03 12 *e*P **P 18 08 48.7 -2.1**
CTA Charters Tower 56.21 118 *e*P **P 18 08 59.4 -0.4**
comp=Z,16nm,1.0s,mb5.0
CTA Charters Tower 56.21 118 *e*P **P 18 08 59.4 -0.4**
CTA pmax pmax
comp=Z,16nm,1.0s
CTAO Charters Tower 56.21 118 *e*P **P 18 08 59.0 -0.8**
CTAO pmax pmax
comp=Z,33nm,1.1s,mb5.3
CTAO Charters Tower 56.21 118 *e*P **P 18 08 59.0 -0.7**
comp=Z,33nm,1.1s,mb5.3
GNI Garni 57.13 316 P **P 18 09 04.8 -1.3**
GNI pmax pmax
comp=Z,4.0nm,0.7s
GNI Garni 57.13 316 P **P 18 09 04.8 -1.3**
comp=Z,3.9nm,0.7s,mb4.5,baz=267,slow=23,SNR=4.1
CLNS Chul'man 57.13 19 *e*P **P 18 09 04.4 -1.5**
CLNS *e* 18 09 54.8
CLNS *e*S **S 18 16 56.6 +1.4**
CLNS *e* 18 18 54.6
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=Z,14nm,0.9s,mb5.0
CLNS pmax pmax
comp=E,4.0nm,0.7s
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
CLNS smax
comp=N,51nm,11.8s
CLNS smax
comp=Z,31nm,13.2s
CLNS smax
comp=E,35nm,12.8s
CLNS MLR MLR
comp=Z,700nm,17.0s,MS4.8
CLNS MLR MLR
comp=N,400nm,16.0s,MS4.7
CLNS MLR MLR
comp=E,200nm,17.0s,MS4.7
ASAJ Asahikawa 57.35 39 P **P 18 09 07.6 0.0**
ASAJ pmax pmax
comp=Z,20nm,0.9s
ASAJ Asahikawa 57.35 39 P **P 18 09 07.6 0.0**
comp=Z,20nm,0.9s,mb5.2,baz=249,slow=14,SNR=9.8
STKA Stephens Creek 57.47 133 P **P 18 09 08.0 -0.6**
comp=Z,5.5nm,0.7s,mb4.7,baz=318,slow=8.3,SNR=10
STKA Stephens Creek 57.47 133 P **P 18 09 08.0 -0.6**
KMBO Kilima Mbogo 57.82 266 *e*P **P 18 09 12.0 +0.7**
KMBO *e**PP pP 18 09 26.6 +0.7
KMBO pmax pmax
comp=Z,12nm,1.0s
KMBO Kilima Mbogo 57.82 266 P **P 18 09 12.5 +1.2**
comp=Z,3.0nm,0.8s,mb4.4,baz=50,slow=9.8,SNR=11
KMBO LR LR 18 29 42.7
comp=Z,465nm,21.3s,MS4.6,baz=277,slow=32
KMBO Kilima Mbogo 57.82 266 *e*P **P 18 09 12.0 +0.7**
comp=Z,12nm,1.0s,mb4.9
KMBO *e*pP pP 18 09 26.6 +0.7
KMBO LR LR 18 29 42.6
ZEI Tsey 58.80 318 *e*P **P 18 09 17.3 -0.4**
ZEI pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
YSS Yuzh-Sakhalins 58.84 36 *e*P **P 18 09 18.0 +0.1**
YSS *e* pP 18 09 29.3 -3.2
YSS pmax pmax
comp=Z,50nm,0.9s,mb5.5
YSS MLR MLR
comp=Z,500nm,18.0s,MS4.7
YSS MLR MLR
comp=N,500nm,19.0s
YSS Yuzh-Sakhalins 58.84 36 *e*P **P 18 09 17.8 -0.1**
comp=N,58nm,0.9s,mb5.6
ARU Arti 59.03 337 P **P 18 09 18.8 -0.3**
comp=N,66nm,0.9s,mb5.7,SNR=7.4
ARU Arti 59.03 337 *e*P **P 18 09 12.6 -6.5**
ARU *e**PP pP 18 09 26.7 -7.0
ARU pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ARU Arti 59.03 337 *e*P **P 18 09 12.6 -6.5**
comp=Z,9.0nm,0.9s,mb4.8
ARU *e*pP pP 18 09 26.7 -7.0
KIV Kislovodsk 60.10 319 *i*P **P 18 09 25.9 -0.8**
KIV pmax pmax
comp=Z,14nm,0.8s,mb5.0
KIV Kislovodsk 60.10 319 *e*P **P 18 09 25.5 -1.2**
comp=Z,26nm,0.9s,mb5.3
MALT Malatya 61.02 311 *e*P **P 18 09 32.0 -1.0**
MALT pmax pmax
comp=Z,12nm,1.1s,mb4.9
MALT Malatya 61.02 311 *e*P **P 18 09 32.0 -1.1**
comp=Z,12nm,1.1s,mb4.9
EIL Elat 61.60 301 *e*P **P 18 09 36.9 -0.2**
comp=Z,8.4nm,0.8s,mb4.9
YAK Yakutsk 62.74 18*c i*P **P 18 09 42.5 -1.7**
YAK pmax pmax
comp=Z,59nm,1.0s,mb5.7
YAK Yakutsk 62.74 18 *e*P **P 18 09 42.4 -1.8**
comp=Z,60nm,0.9s,mb5.7
MBAR Mbarara 64.25 267 *e*P **P 18 09 54.5 -0.4**
MBAR *e**PP pP 18 10 07.8 -1.9
MBAR pmax pmax
comp=Z,22nm,1.3s,mb5.0
MBAR Mbarara 64.25 267 *e*P **P 18 09 54.5 -0.3**
comp=Z,22nm,1.3s,mb5.0
MBAR *e*pP pP 18 10 07.8 -1.9
BRTR Keskin Array B 65.00 312 P **P 18 09 58.4 -0.9**
BRTR pmax pmax
comp=Z,14nm,1.0s
BRTR Keskin Array B 65.00 312 P **P 18 09 58.4 -1.0**
comp=Z,14nm,1.0s,mb4.9,baz=128,slow=7.1,SNR=39
SIM Simferopol' 66.18 317 *e*P **P 18 10 08.0 +1.3**
SIM pmax pmax
comp=Z,14nm,1.0s,mb5.0
OBN Obninsk 68.39 328*c i*P **P 18 10 17.1 -3.3**
OBN *e* 18 10 26.9
OBN *e* pP 18 10 30.9 -4.4
OBN *e* 18 10 44.0
OBN *e* 18 20 04.9
OBN pmax pmax
comp=Z,45nm,1.4s,mb5.3
OBN MLR MLR
comp=Z,400nm,17.0s,MS4.7
OBN Obninsk 68.39 328 *e*P **P 18 10 16.8 -3.6**
comp=Z,14nm,0.6s,mb5.2
LSZ Lusaka 68.92 252 *e*P **P 18 10 25.0 +0.7**
LSZ *e**PP pP 18 10 39.4 +0.1
LSZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
LSZ Lusaka 68.92 252 *e*P **P 18 10 25.0 +0.7**
comp=Z,4.4nm,0.9s,mb4.4
LSZ *e*pP pP 18 10 39.4 +0.1
MA2 Magadan 69.22 27*c i*P **P 18 10 25.1 -0.4**
MA2 *e*PPP PPP 18 14 32.3 -7.3
MA2 *e*S S 18 19 27.2 +1.1
MA2 pmax pmax
comp=Z,20nm,0.7s,mb5.2
MA2 MLR MLR
comp=Z,1μm,25.0s,MS5.0
MA2 Magadan 69.22 27 *e*P **P 18 10 24.9 -0.5**
comp=Z,19nm,0.6s,mb5.2
TIRR Tirgusor 69.95 316 ⇑P **P 18 10 29.3 -0.9**
TIXI Tiksi 70.15 11*c i*P **P 18 10 29.7 -1.3**
TIXI pmax pmax
comp=Z,34nm,0.8s,mb5.3
CFR Carcaliu 70.31 316 ⇓P **P 18 10 32.0 -0.4**
PET Petropavlovsk 70.67 35 *e*P **P 18 10 33.6 -0.8**
PET *e*S S 18 19 49.3 +6.2
PET pmax pmax
comp=N,10.0nm,0.8s
PET pmax pmax
comp=Z,27nm,0.6s,mb5.3
PET MLR MLR
comp=Z,400nm,19.0s,MS4.7
PET Petropavlovsk 70.67 35 *e*P **P 18 10 33.2 -1.2**
comp=Z,19nm,0.6s,mb5.2
AKASG Malin Array Be 71.03 322 P **P 18 10 34.8 -1.8**
AKASG pmax pmax
comp=Z,9.0nm,0.6s
AKASG Malin Array Be 71.03 322 P **P 18 10 34.8 -1.8**
comp=Z,8.6nm,0.6s,mb4.9,baz=88,slow=5.0,SNR=56
VRI Vrincioaia 71.44 317 ⇑P **P 18 10 39.8 +0.7**
KDZ Kurdzhali 71.53 312 P **P 18 10 30.0 -10**
MLR Muntele Rosu 71.89 316 ⇑P **P 18 10 42.2 +0.4**
RZN Rozhen 72.05 312 P **P 18 10 43.0 +0.2**
MMB Musomiste 72.76 312 P **P 18 10 46.5 -0.6**
BURAR Bucovina Array 72.83 318 ⇑P **P 18 10 48.0 +0.7**
KKB Krupnik 73.28 312 *i*P **P 18 10 49.0 -1.2**
VTS Vitosha 73.30 313 *i*P **P 18 10 50.0 -0.3**
LBTB Lobatse 73.38 242 *e*P **P 18 10 51.7 +0.6**
LBTB *e**PP pP 18 11 06.8 +0.6
LBTB pmax pmax
comp=Z,19nm,1.3s,mb4.9
LBTB Lobatse 73.38 242 *e*P **P 18 10 51.7 +0.6**
comp=Z,19nm,1.3s,mb4.9
LBTB *e*pP pP 18 11 06.8 +0.6
JOF Joensuu 73.96 335 *e*p **P 18 10 52.6 -1.1**
comp=Z,21nm,1.0s,mb5.0
LVV L'vov 74.05 320 *e*P **P 18 10 54.4 -0.1**
LVV *e* 18 20 54.2
LVV MLR MLR
comp=N,200nm,17.0s,MS4.6
LVV MLR MLR
comp=Z,200nm,17.0s,MS4.5
LVV MLR MLR
comp=E,200nm,21.0s,MS4.6
BOSA Boshof 74.54 239 *e*P **P 18 10 57.7 0.0**
BOSA pmax pmax
comp=Z,24nm,1.1s,mb5.0
BOSA Boshof 74.54 239 *e*P **P 18 10 57.7 -0.1**
comp=Z,24nm,1.1s,mb5.0
KWP Kalwaria 74.86 320 *e*P **P 18 10 59.4 +0.3**
APA Apatity 75.01 340⇑*i*P **P 18 10 59.3 -0.3**
APA *i* pP 18 11 13.5 -1.2
APA pmax pmax
comp=Z,16nm,0.8s,mb5.0
KOLS Kolonicke sedl 75.01 319 *i*P **P 18 11 00.8 +0.8**
KOLS *e* 18 11 06.0
KOLS *e* pP 18 11 12.0 -3.1
SUW Suwalki 75.44 325⇑*e*P **P 18 11 01.6 -0.7**
SUW *e* pP 18 11 15.7 -1.8
CRVS Cervenica-Dubn 75.53 319 *e*P **P 18 11 04.0 +1.0**
CRVS *e* 18 11 09.7
CRVS *e* pP 18 11 22.1 +4.0
FINES FINESS Array B 75.79 332 P **P 18 11 03.8 -0.4**
FINES *PP pP 18 11 16.3 -3.0
FINES pmax pmax
comp=Z,7.0nm,0.5s
FINES pmax pmax
comp=Z,5.0nm,0.4s
FINES FINESS Array B 75.79 332 P **P 18 11 03.8 -0.4**
comp=Z,7.1nm,0.5s,mb4.8,baz=98,slow=6.3,SNR=67
FINES pP pP 18 11 16.3 -3.0
comp=Z,5.3nm,0.4s,baz=101,slow=9.7,SNR=7.7
KAF Kangasniemi 75.88 333 *e*p **P 18 11 03.8 -0.9**
comp=Z,8.1nm,0.6s,mb4.8,baz=119,slow=4.8
KAF Kangasniemi 75.88 333 *e*P **P 18 11 03.8 -0.9**
KAF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
NIE Niedzica 76.36 320 *e*P **P 18 11 08.9 +1.2**
PSZ Piszkesteto 76.41 318 *e*P **P 18 11 07.8 -0.2**
PSZ pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
PSZ Piszkesteto 76.41 318 *e*P **P 18 11 07.8 -0.3**
comp=Z,9.6nm,0.8s,mb4.8
PSZ Piszkesteto 76.41 318⇑*e*P **P 18 11 08.3 +0.3**
OJC Ojcow 76.81 320 *e*P **P 18 11 10.3 +0.1**
VYHS Vyhne 77.19 319 *i*P **P 18 11 12.7 +0.3**
OKC Ostrava-Krasne 77.81 320 *e*P **P 18 11 16.4 +0.6**
OKC *e*pP pP 18 11 31.1 +0.2
KEV Kevo 78.00 341 *e*p **P 18 11 15.2 -1.2**
comp=Z,36nm,1.3s,mb5.1
KEV Kevo 78.00 341 *e*P **P 18 11 15.2 -1.2**
KEV pmax pmax
comp=Z,36nm,1.3s,mb5.1
SMOL Smolenice 78.12 318 *e*P **P 18 11 17.9 +0.4**
MORC Moravsky Berou 78.19 320 *e*P **P 18 11 18.5 +0.6**
MORC pmax pmax
comp=Z,44nm,1.8s,mb5.1
MORC Moravsky Berou 78.19 320 *e*P **P 18 11 18.5 +0.6**
comp=Z,44nm,1.8s,mb5.1
ZST Bratislava 78.31 318 *e*P **P 18 11 19.3 +0.8**
ZST *e* pP 18 11 31.2 -2.5
ARCES ARCESS Array B 78.43 340 P **P 18 11 18.3 -0.5**
ARCES pmax pmax
comp=Z,5.0nm,0.5s
ARCES ARCESS Array B 78.43 340 P **P 18 11 18.3 -0.5**
comp=Z,5.1nm,0.5s,mb4.7,baz=90,slow=6.1,SNR=61
ARE0 ARCESS Array S 78.43 340 *e*P **P 18 11 18.5 -0.3**
BILL Bilibino 78.73 21*d i*P **P 18 11 20.4 -0.1**
BILL pmax pmax
comp=Z,15nm,1.3s,mb4.8
BILL MLR MLR
comp=Z,1μm,19.0s,MS5.2
BILL Bilibino 78.73 21 *e*P **P 18 11 20.2 -0.3**
comp=Z,6.0nm,0.8s,mb4.6
DPC Dobruska-Polom 79.04 320 *e*P **P 18 11 23.5 +1.0**
DPC *e*pP pP 18 11 36.6 -1.1
KSP Ksiaz 79.11 321⇑*e*P **P 18 11 23.7 +0.8**
KSP *e**PP pP 18 11 38.4 +0.3
KSP Ksiaz 79.11 321 *e*P **P 18 11 23.9 +1.0**
KSP *e* pP 18 11 38.8 +0.7
UPC Upice 79.25 320 *e*P **P 18 11 24.5 +0.8**
UPC *e*pP pP 18 11 39.9 +1.0
ARSA Arzberg 79.28 317⇓*i*P **P 18 11 24.1 +0.2**
comp=Z,23nm,1.8s,mb4.8
PRU Pruhonice 80.15 320 *e*P **P 18 11 29.1 +0.6**
PRU *e*pP pP 18 11 42.6 -1.1
PVCC Panska Ves 80.17 320 *e*P **P 18 11 29.7 +1.1**
PVCC *e*PCP PcP 18 11 38.9 +2.9
PVCC *e*pP pP 18 11 42.9 -0.9
BRG Berggiesshubel 80.59 321 *e*P **P 18 11 31.5 +0.7**
BRG *e* pP 18 11 45.1 -1.0
BRG pmax pmax
comp=Z,14nm,0.9s,mb4.9
BRG Berggiesshubel 80.59 321 *e*P **P 18 11 31.5 +0.7**
comp=Z,14nm,0.9s,mb4.9
BRG *e* pP 18 11 45.1 -1.0
GERES GERESS Array B 80.61 319 P **P 18 11 31.5 +0.5**
GERES *PP pP 18 11 43.4 -2.8
GERES pmax pmax
comp=Z,7.0nm,0.6s
GERES pmax pmax
comp=Z,16nm,0.9s
GERES GERESS Array B 80.61 319 P **P 18 11 31.5 +0.5**
comp=Z,6.9nm,0.6s,mb4.8,baz=104,slow=5.5,SNR=77
GERES pP pP 18 11 43.4 -2.8
comp=Z,16nm,0.9s,baz=104,slow=5.5,SNR=14
KHC Kasperske Hory 80.71 319 *e*P **P 18 11 32.2 +0.7**
KHC *e*PCP PcP 18 11 41.2 +2.8
KHC *e*pP pP 18 11 44.1 -2.7
KBA Koelnbreinsper 80.75 317⇑*i*P **P 18 11 31.9 +0.1**
comp=Z,12nm,1.0s,mb4.8
KBA Koelnbreinsper 80.75 317⇑*i*P **P 18 11 31.9 +0.1**
KBA pmax pmax
comp=Z,12nm,1.0s,mb4.8
RUE Ruedersdorf 80.81 322 *e*P **P 18 11 31.8 -0.2**
comp=Z,36nm,0.8s,mb5.3
RUE *e*pP pP 18 11 45.9 -1.3
CLL Collm 81.21 321 *i*P **P 18 11 33.9 -0.2**
CLL *i* pP 18 11 49.3 0.0
CLL pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
CLL Collm 81.21 321 *i*P **P 18 11 33.9 -0.2**
comp=Z,10.0nm,1.1s,mb4.7
CLL *i* pP 18 11 49.3 0.0
CLL Collm 81.21 321 P **P 18 11 33.9 -0.2**
comp=Z,logA/T=1.0,mb4.7
CLL *i* *SP pP 18 11 49.3 0.0
HFS Hagfors 81.50 330 P **P 18 11 34.6 -0.8**
HFS pmax pmax
comp=Z,11nm,1.0s
HFS Hagfors 81.50 330 P **P 18 11 34.6 -0.8**
comp=Z,10nm,0.9s,mb4.7,baz=104,slow=6.1,SNR=19
NKC Novy Kostel 81.51 320 *e*P **P 18 11 36.2 +0.6**
NKC *e*PCP PcP 18 11 45.2 +3.4
NKC *e*pP pP 18 11 50.1 -0.8
WTTA Wattenberg 81.92 317⇓*i*P **P 18 11 38.0 +0.1**
comp=Z,16nm,0.9s,mb4.9
WTTA Wattenberg 81.92 317⇓*i*P **P 18 11 38.0 +0.1**
WTTA pmax pmax
comp=Z,16nm,0.9s,mb5.0
WATA Walderalm 81.97 317⇑*i*P **P 18 11 37.8 -0.3**
comp=Z,5.1nm,0.9s,mb4.5
WATA Walderalm 81.97 317⇑*i*P **P 18 11 37.8 -0.3**
WATA pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MOX Moxa 82.06 320 *e*P pP 18 11 50.0 -3.8
SQTA Sankt Quirin 82.22 317⇑*i*P **P 18 11 39.5 +0.1**
comp=Z,5.2nm,0.7s,mb4.6
SQTA Sankt Quirin 82.22 317⇑*i*P **P 18 11 39.5 +0.1**
SQTA pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GRA1 Grafenberg Arr 82.28 319 *e*P **P 18 11 40.8 +1.2**
comp=Z,18nm,1.0s,mb5.0
GRA1 *e*pP pP 18 11 55.6 +0.7
GRF Grafenberg Arr 82.28 319 *e*P **P 18 11 40.8 +1.2**
GRF *e**PP pP 18 11 55.6 +0.7
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 82.28 319 *e*P **P 18 11 40.8 +1.2**
comp=Z,18nm,1.0s,mb5.0
GRF *e*pP pP 18 11 55.6 +0.7
MOTA Moosalm 82.29 317⇑*i*P **P 18 11 39.7 -0.1**
comp=Z,5.3nm,0.9s,mb4.5
MOTA Moosalm 82.29 317⇑*i*P **P 18 11 39.7 -0.1**
MOTA pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
NB2 NORSAR Subarra 82.78 331 P **P 18 11 41.8 -0.2**
comp=Z,2.1nm,0.7s,mb4.3,baz=98,slow=4.8
NB2 NORSAR Subarra 82.78 331 P **P 18 11 41.8 -0.2**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
NOA NORSAR Array B 82.78 331 P **P 18 11 41.5 -0.5**

NOA *PP pP 18 11 56.1 -1.2
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 82.78 331 P **P** **18 11 41.5 -0.5**
comp=Z,3.8nm,0.8s,mb4.5,baz=94,slow=5.6,SNR=10
NOA pP pP 18 11 56.0 -1.2
comp=Z,2.7nm,0.8s,baz=94,slow=5.5,SNR=4.8
DAVA Damuels 83.12 317 ⇓ *iP* **P** **18 11 45.0 +1.0**
comp=Z,36nm,1.8s,mb5.1
RPZ Rata Peaks 83.36 135 P **P** **18 11 45.5 +0.2**
comp=Z,9.6nm,1.1s,mb4.8,baz=222,slow=11,SNR=3.8
LPG La Plagne 85.31 315 *eP* **P** **18 11 55.9 +0.9**
comp=Z,24nm,0.7s,mb5.1
LPG La Plagne 85.31 315 *eP* **P** **18 11 55.9 +0.9**
LPG pmax pmax
comp=Z,12nm,0.7s,mb5.1
URZ Urewera 86.86 129 P **P** **18 12 02.8 0.0**
comp=Z,8.1nm,0.9s,mb5.0,baz=217,slow=10.0,SNR=3.4
IMA Indian Mountai 94.24 22 *eP* **P** **18 12 37.8 +1.2**
IMA *e*PP pP 18 12 51.8 -0.4
SPU Mount Spurr 96.76 27 *eP* **P** **18 12 52.5 +4.4**
MCK McKinley 97.03 24 *eP* **P** **18 12 49.6 +0.2**
MCK pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
MCK McKinley 97.03 24 *eP* **P** **18 12 49.6 +0.2**
comp=Z,2.5nm,0.9s,mb4.6
ILAR Eielson Array 97.36 22 P **P** **18 12 50.1 -0.8**
comp=Z,0.3nm,0.7s,mb3.8,baz=292,slow=4.9,SNR=5.3
DBIC Dimbokro 99.05 277 LR LR 18 55 54.8
comp=Z,196nm,18.6s,MS4.6,baz=25,slow=34
YKA Yellowknife Ar 109.28 14 PP PP 18 18 12.4 -8.6
comp=Z,0.4nm,0.7s,baz=336,slow=7.7,SNR=6.4
NVAR Mina Array Bea 127.20 33 PKP PKPdf 18 18 24.8 +3.3
comp=Z,1.6nm,0.6s,baz=324,slow=1.8,SNR=14
NVAR pPKP 18 18 38.2
comp=Z,2.1nm,0.7s,baz=297,slow=0.9,SNR=7.3
NVAR SKP 18 21 57.1
comp=Z,1.0nm,0.3s,baz=191,slow=6.8,SNR=26
PDAR Pinedale Array 127.80 23 PKP PKPdf 18 18 24.7 +2.1
comp=Z,1.8nm,0.6s,baz=115,slow=2.4,SNR=15
TXAR Lajitas Array 141.74 27 PKhKP 18 18 44.8
comp=Z,0.9nm,0.6s,baz=270,slow=2.5,SNR=5.8
TXAR PKP PKPdf 18 18 49.5 +0.7
comp=Z,1.3nm,0.6s,baz=143,slow=0.4,SNR=9.9
TXAR SKPbc 18 22 24.1
comp=Z,1.0nm,0.9s,baz=270,slow=3.8,SNR=3.6
TXAR Lajitas Array 141.74 27 PKP PKPdf 18 18 44.8 -4.0
TXAR PKP PKPdf 18 18 49.5 +0.7
TXAR SKPbc 18 22 24.1
LPAZ La Paz 159.72 234 PKIKP PKPdf 18 19 18.8 +2.8
LPAZ pmax pmax
comp=Z,1.0nm,0.4s
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ La Paz 159.72 234 PKP PKPdf 18 19 18.8 +2.8
comp=Z,0.5nm,0.4s,baz=47,slow=2.7,SNR=7.2
LPAZ PKPab PKPab 18 19 58.2 +0.9
comp=Z,1.6nm,0.9s,baz=213,slow=5.0,SNR=2.7

*IDC **24** 18:01:03.8±1.0, 3.47N×128.18E, mb4.1/6, mb1 4.3/6, mb1mx4.0/18, mbtmp4.1/6, Error ellipse: s-maj=65.4km s-min=19.8km az=77.0*
ISC 24 18:01:21.4±1.9, 3.2N±0.1×127.9E±0.4, h167km±22km, n10, σ0°74/11, mb3.9/6, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**4.08**	**337**	*eP*	**P**	**18 02 25.0**	**+1.2**
MATI				*eS*	**S**	**18 03 06.2**	**-5.8**
KCP	**Kidapawan**	**4.71**	**324**	⇑*eP*	**P**	**18 02 32.6**	**+0.5**
BUKP	**Musuan**	**5.45**	**329**	*eP*	**P**	**18 02 40.1**	**-1.7**
PAGZ	**Pagadian**	**6.45**	**316**	*eP*	**P**	**18 02 54.8**	**-0.2**
WRA	**Warramunga Arr**	**23.84**	**165**	P	**P**	**18 06 20.7**	**+0.1**
3.1nm,0.4s,mb4.2,baz=343,slow=10,SNR=44							
ASAR	**Alice Springs**	**27.32**	**168**	P	**P**	**18 06 52.8**	**0.0**
0.5nm,0.5s,mb3.4,baz=352,slow=7.2,SNR=10							
STKA	**Stephens Creek**	**37.22**	**161**	P	**P**	**18 08 18.3**	**-0.1**
1.9nm,0.3s,mb4.2,baz=352,slow=8.4,SNR=17							
BVAR	**Borovoye Array**	**68.41**	**327**	P	**P**	**18 12 07.6**	**+0.6**
2.3nm,0.5s,mb4.2,baz=102,slow=5.1,SNR=7.6							
ILAR	**Eielson Array**	**85.10**	**25**	P	**P**	**18 13 38.5**	**-0.8**
0.5nm,0.5s,mb3.5,baz=247,slow=5.1,SNR=8.7							
YKA	**Yellowknife Ar**	**99.52**	**25**	P	**P**	**18 14 46.7**	**+0.4**
0.2nm,0.5s,mb3.8,baz=298,slow=4.5,SNR=3.2							

IDC 24 18:01:36.9±1.4, 10.50N×92.86E, mb4.4/4, mb1 4.6/4, mb1mx4.1/17, mbtmp4.4/4, MS4.2/1, Ms1 4.2/1, ms1mx2.9/20, Error ellipse: s-maj=75.5km s-min=34.0km az=57.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.82**	**126**	P	P	18 10 39.7	-1.9
1.9nm,0.4s,baz=307,slow=8.2,SNR=5.7							
ASAR	**Alice Springs**	**52.57**	**131**	P	P	18 10 52.4	-2.4
6.0nm,0.7s,baz=311,slow=7.4,SNR=5.4							
ASF	**Jabal al Asfar**	**55.75**	**302**	LR	LR	18 38 03.6	
comp=Z,183nm,18.6s,baz=223,slow=39							
STKA	**Stephens Creek**	**62.83**	**134**	P	P	18 12 04.5	-2.4
4.3nm,0.9s,baz=300,slow=9.2,SNR=3.4							
ILAR	**Eielson Array**	**92.80**	**22**	P	P	18 14 50.8	-1.3
0.9nm,0.7s,baz=302,slow=4.9,SNR=6.9							
PDAR	**Pinedale Array**	**123.16**	**20**	PKP	PKPdf	18 20 35.5	-2.2
1.0nm,0.8s,baz=90,slow=1.5,SNR=4.5							
NVAR	**Mina Array Bea**	**123.29**	**29**	PKP	PKPdf	18 20 37.2	-0.8
1.6nm,0.7s,baz=297,slow=2.0,SNR=6.1							
PLCA	**Paso Flores**	**146.51**	**203**	PKPbc	PKPbc	18 21 19.7	-0.5
6.6nm,1.1s,baz=172,slow=5.4,SNR=6.7							

*BJI **24** 18:17:15.7, 5.29N×93.22E, h30km, mb4.5*
*NEIC **24** 18:17:17.7±0.4, 5.44N×93.22E, mb4.5/8, Error ellipse: s-maj=13.4km s-min=8.4km az=61.0*
*IDC **24** 18:17:18.2±0.8, 5.49N×93.27E, h26km±5km, mb4.3/13, mb1 4.4/14, mb1mx4.3/20, mbtmp4.4/14, ML3.8/1, MS4.2/1, Ms1 4.2/1, ms1mx3.5/22, Error ellipse: s-maj=27.1km s-min=12.6km az=52.0*
ISC 24 18:17:16.1±0.5, 5.43N±0.07×93.36E±0.08, h26km, h26km±.6km: pP-P, n53, σ1$05/47, mb4.5/31, MS4.2/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**14.05**	**22**	*e*Pn	**P**	**18 20 36.2**	**+0.3**
9.2nm,0.8s							
CMAR	**Chiang Mai Arr**	**14.05**	**22**	Pn	**P**	**18 20 36.1**	**+0.2**
0.1nm,0.3s,baz=216,slow=15,SNR=14							
SHL	**Shillong**	**20.07**	**356**	*eP*	**P**	**18 21 49.0**	**-1.7**
SHL				*eS*	**S**	**18 25 28.0**	**-1.5**
QIZ	**Qiongzhong**	**21.00**	**49**	P	**P**	**18 22 01.4**	**+1.2**
KMI	**Kunming**	**21.55**	**24**	P	**P**	**18 22 09.7**	**+3.9**
10.0nm,0.9s,mb4.2							
KMI				pP		18 22 17.5	
JIRN	**Jiri**	**23.14**	**344**	*eP*	**P**	**18 22 22.3**	**+0.7**
12nm,0.5s,mb4.5							
PKI	**Pulchoki**	**23.29**	**342**	*eP*	**P**	**18 22 24.3**	**+1.3**
11nm,0.5s,mb4.5							
DMN	**Daman**	**23.41**	**341**	*eP*	**P**	**18 22 25.8**	**+1.5**
14nm,0.8s,mb4.5							
KKN	**Kakani**	**23.53**	**342**	*eP*	**P**	**18 22 26.1**	**+0.7**
15nm,0.8s,mb4.5							
GKN	**Gorkha**	**23.93**	**341**	*eP*	**P**	**18 22 30.2**	**+0.9**
33nm,0.8s,mb4.8							
KOLN	**Koldanda**	**24.08**	**338**	*eP*	**P**	**18 22 31.8**	**+1.1**
29nm,0.8s,mb4.8							
LSA	**Lhasa**	**24.23**	**355**	*eP*	**P**	**18 22 33.1**	**+0.9**
11nm,0.8s,mb4.3							
TGY	**Tagaytay City**	**28.48**	**70**	P	**P**	**18 23 11.4**	**-0.3**
92nm,0.6s,mb5.6,baz=101,slow=14,SNR=3.1							
ENH	**Enshi**	**29.01**	**30**	*eP*	**P**	**18 23 14.8**	**-1.6**
2.8nm,0.5s,mb4.2							
XAN	**Xi'an**	**31.92**	**25**	P	**P**	**18 23 40.3**	**-1.7**
XAN				AP	pP	18 23 48.3	-1.4
XAN				AMB	AMB		
comp=Z,7.0nm,0.9s,mb4.5							
KZA	**Kyzart**	**39.90**	**339**	P	**P**	**18 24 50.6**	**+0.8**
SNR=5.7							
UCH	**Uchtor**	**40.30**	**338**	P	**P**	**18 24 54.0**	**+1.0**
SNR=13							
KBK	**Karagaybulak**	**40.51**	**339**	P	**P**	**18 24 55.9**	**+1.1**
SNR=16							
TKM2	**Tokmak 2**	**40.52**	**340**	P	**P**	**18 24 55.3**	**+0.5**
SNR=5.8							
AML	**Almayashu**	**40.52**	**337**	P	**P**	**18 24 55.9**	**+1.1**
SNR=22							
AAK	**Ala-Archa**	**40.65**	**339**	P	**P**	**18 24 57.8**	**+1.8**
SNR=6.7							
AAK	**Ala-Archa**	**40.65**	**339**	*e*P	**P**	**18 24 55.3**	**-0.6**
comp=Z,8.7nm,1.2s,mb4.3							
EKS2	**Erkin-Say**	**40.94**	**338**	P	**P**	**18 24 59.3**	**+1.0**
SNR=11							
USP	**Ospenovka**	**41.20**	**339**	P	**P**	**18 25 00.8**	**+0.3**
SNR=13							
SONM	**Songino Array**	**43.70**	**13**	P	**P**	**18 25 20.7**	**-0.1**
comp=Z,3.6nm,0.7s,mb4.2,baz=195,slow=8.4,SNR=36							
SONM				PcP	PcP	18 27 08.2	0.0
comp=Z,1.8nm,0.5s,baz=197,slow=4.1,SNR=12							
NWAO	**Narrogin (SRO)**	**44.37**	**151**	P	**P**	**18 25 27.3**	**+0.8**
comp=Z,2.9nm,0.8s,mb4.1,baz=322,slow=14,SNR=4.5							
KURK	**Kurchatov**	**46.79**	**347**	*eP*	**P**	**18 25 45.1**	**-0.4**
comp=Z,3.4nm,0.5s,mb4.5							
WRA	**Warramunga Arr**	**47.53**	**123**	P	**P**	**18 25 52.0**	**+0.3**
comp=Z,16nm,0.7s,mb5.2,baz=301,slow=9.1,SNR=117							
WRAB	**Tennant Creek**	**47.53**	**123**	*eP*	**P**	**18 25 51.8**	**+0.1**
comp=Z,23nm,0.8s,mb5.3							
ZAL	**Zalesovo**	**48.86**	**353**	P	**P**	**18 26 01.8**	**+0.2**
comp=Z,4.3nm,0.5s,mb4.7,baz=305,slow=6.3,SNR=25							
ZAL	**Zalesovo**	**48.86**	**353**	P	**P**	**18 26 01.8**	**+0.2**
ASAR	**Alice Springs**	**48.99**	**128**	P	**P**	**18 26 03.0**	**0.0**
comp=Z,5.0nm,0.7s,mb4.7,baz=299,slow=7.7,SNR=57							
ASAR				PcP	PcP	18 27 27.4	+0.4
comp=Z,2.4nm,0.6s,baz=305,slow=3.4,SNR=11							
BVAR	**Borovoye Array**	**51.05**	**342**	P	**P**	**18 26 17.1**	**-1.3**
comp=Z,4.7nm,0.7s,mb4.6,baz=135,slow=8.4,SNR=28							
BRVK	**Borovoye**	**51.12**	**342**	*eP*	**P**	**18 26 17.6**	**-1.2**
comp=Z,4.3nm,0.5s,mb4.6							
CHKZ	**Chkalovo**	**51.55**	**343**	*eP*	**P**	**18 26 21.1**	**-1.0**
comp=Z,16nm,0.7s,mb5.1							
CHKZ				*e*pP	pP	18 26 29.0	-1.0
CHKZ				*e*PcP	PcP	18 27 35.8	-0.3
STKA	**Stephens Creek**	**59.02**	**132**	P	**P**	**18 27 16.7**	**+0.2**
comp=Z,4.2nm,0.6s,mb4.6,baz=289,slow=5.1,SNR=11							
EIL	**Elat**	**59.99**	**301**	LR	LR	18 53 04.3	
comp=Z,197nm,20.1s,MS4.2,baz=288,slow=36							
BRTR	**Keskin Array B**	**63.45**	**312**	P	**P**	**18 27 44.9**	**-1.4**
comp=Z,1.1nm,0.7s,mb4.1,baz=114,slow=6.4,SNR=7.1							
AKASG	**Malin Array Be**	**69.59**	**322**	P	**P**	**18 28 22.9**	**-2.3**
comp=Z,0.9nm,0.7s,mb3.8,baz=89,slow=4.4,SNR=4.9							
JOF	**Jomusuu**	**72.71**	**335**	*ep*	**P**	**18 28 40.7**	**-3.0**
comp=Z,3.3nm,0.5s,mb4.5							
FINES	**FINESS Array B**	**74.50**	**333**	P	**P**	**18 28 53.3**	**-0.8**
comp=Z,3.4nm,0.7s,mb4.4,baz=103,slow=7.1,SNR=16							
KAF	**Kangasniemi**	**74.61**	**333**	*ep*	**P**	**18 28 53.5**	**-1.2**
ARCES	**ARCESS Array B**	**77.29**	**340**	P	**P**	**18 29 09.6**	**-0.1**
comp=Z,2.5nm,0.5s,mb4.4,baz=93,slow=5.9,SNR=37							
GERES	**GERESS Array B**	**79.13**	**319**	P	**P**	**18 29 20.4**	**+0.2**
comp=Z,2.9nm,0.7s,mb4.3,baz=90,slow=5.3,SNR=26							
GERES				pP	pP	18 29 28.3	-0.2
comp=Z,1.6nm,0.7s,baz=90,slow=5.3,SNR=7.1							
KHC	**Kasperske Hory**	**79.23**	**319**	*eP*	**P**	**18 29 17.5**	**-3.3**
NOA	**NORSAR Array B**	**81.47**	**331**	P	**P**	**18 29 31.9**	**-0.5**
comp=Z,0.6nm,0.6s,mb3.7,baz=103,slow=5.1,SNR=2.7							
DAVOX	**Davos**	**81.61**	**316**	P	**P**	**18 29 33.9**	**+0.5**
comp=Z,6.5nm,0.7s,mb4.7,baz=131,slow=6.7,SNR=8.2							
NVAR	**Mina Array Bea**	**127.40**	**31**	PKP	PKPdf	18 36 23.0	-1.0
comp=Z,1.3nm,0.7s,baz=323,slow=1.2,SNR=9.1							
NVAR				pPKP		18 36 31.1	
comp=Z,1.1nm,0.7s,baz=285,slow=1.2,SNR=5.5							
NVAR	**Mina Array Bea**	**127.40**	**31**	PKP	PKPdf	18 36 23.0	-1.0
NVAR				pPKP		18 36 31.1	
PDAR	**Pinedale Array**	**127.71**	**21**	PKP	PKPdf	18 36 22.2	-2.3
comp=Z,1.5nm,0.9s,baz=96,slow=0.9,SNR=9.7							
PDAR				pPKP		18 36 30.1	
comp=Z,0.8nm,0.8s,slow=1.5,SNR=4.9							
TXAR	**Lajitas Array**	**141.76**	**24**	PKiKP		18 36 51.5	
comp=Z,0.8nm,0.6s,baz=129,slow=1.5,SNR=7.7							
TXAR	**Lajitas Array**	**141.76**	**24**	PKPdf	PKPdf	18 36 51.5	+0.5
LPAZ	**La Paz**	**158.89**	**238**	PKPab	PKPab	18 37 52.3	+1.3
comp=Z,1.0nm,0.4s,baz=338,slow=2.2,SNR=4.1							

IGQ 24 18:21:11.1, 1.50S×81.46W, h12km±32km, mb4.5, 4C-2D, Error ellipse: s-maj=30.9km s-min=8.7km az=167.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.82**	**90**	⇑P	Pn	18 21 58.3	+1.4
IGUA				S	Sn	18 22 31.0	-0.1
JUIV	**Juive**	**3.00**	**89**	P	Pn	18 22 00.8	+1.4
ARRY	**Arrayan**	**3.00**	**90**	⇑P	Pn	18 22 00.9	+1.4
PATA	**Patacocha**	**3.02**	**90**	P	Pn	18 22 02.5	+2.7
RUN2	**Runtun**	**3.05**	**89**	P	Pn	18 22 01.7	+1.6
ULBA	**Ulba**	**3.05**	**89**	P	Pn	18 22 02.5	+2.3
MARY	**Rancho Maria**	**3.07**	**76**	P	Pn	18 22 02.1	+1.7
NAS1	**Nasa**	**3.10**	**74**	⇓P	Pn	18 22 03.0	+2.1
PISA	**Pisayambo**	**3.10**	**82**	P	Pn	18 22 02.1	+1.2
JUA2	**San Juan 2**	**3.12**	**66**	P	Pn	18 22 00.8	-0.4
TERV	**Terraza Guagua**	**3.14**	**65**	P	Pn	18 22 02.5	+1.1
TERV				S	Sn	18 22 41.0	+1.7
PINO	**Pino**	**3.15**	**65**	P	Pn	18 22 01.9	+0.4
PINO				S	Sn	18 22 39.9	+0.5
VC1	**Cotopaxi 1**	**3.17**	**75**	P	Pn	18 22 03.6	+1.8
YANA	**Yana**	**3.20**	**65**	P	Pn	18 22 03.0	+0.7
ANTI	**Antisana**	**3.46**	**73**	⇑P	Pn	18 22 07.5	+1.5
ANTI				S	Sn	18 22 48.9	+1.7
COTA	**Cotacachi**	**3.61**	**60**	⇑P	Pn	18 22 09.5	+1.4
CAYR	**Refugio Cayamb**	**3.77**	**67**	⇓P	Pn	18 22 13.8	+3.5
CAYR				S	Sn	18 22 55.1	+0.1
CAYA	**Cayambe**	**3.80**	**66**	P	Pn	18 22 14.0	+3.1
CAYA				S	Sn	18 22 56.1	+0.2
CONE	**Cono NE Rev Vo**	**4.07**	**70**	P	Pn	18 22 18.9	+4.2

*NEIC **24** 18:21:34.6, 41.47S×175.77E, h24km, ML3.7(WEL), After WEL.*
WEL 24 18:21:34.2±0.3, 41.46S×175.77E, h18km±1km, ML3.8/17, 8C-2D, Error ellipse: s-maj=1.8km s-min=1.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAWZ	**Paruwai Farm**	**0.27**	**287**	⇓P*	Pb	18 21 40.2	0.0
PAWZ				S*	Sb	18 21 44.1	-0.2
MTW	**Mount Morrison**	**0.36**	**327**	⇓P*	Pb	18 21 41.5	-0.3
MTW				S*	Sb	18 21 47.3	+0.4
MSWZ	**Moikau Station**	**0.39**	**276**	⇑P*	Pb	18 21 42.5	+0.2
MSWZ				S*	Sb	18 21 48.0	+0.2
CAW	**Cannon Point**	**0.63**	**304**	⇑P*	Pb	18 21 46.8	+0.4
CAW				S*	Sb	18 21 55.4	+0.7
BHW	**Baring Head**	**0.67**	**274**	P	Pb	18 21 47.8	+0.7
BHW				S	Sb	18 21 57.4	+1.4
BHW	**Baring Head**	**0.67**	**274**	⇑P*	Pb	18 21 47.8	+0.6
BHW				S*	Sb	18 21 57.4	+1.4
WEL	**Wellington**	**0.77**	**283**	P	Pb	18 21 49.3	+0.5
WEL	**Wellington**	**0.77**	**283**	⇑P*	Pb	18 21 49.3	+0.5
WEL				S*	Sb	18 22 00.3	+1.5
MRZ	**Mangatainoka R**	**0.81**	**350**	P	Pb	18 21 49.8	+0.4
MRZ	**Mangatainoka R**	**0.81**	**350**	⇑P*	Pb	18 21 49.8	+0.4
MRZ				S*	Sb	18 22 01.0	+1.1
MRW	**Makara Radio**	**0.83**	**286**	P	Pb	18 21 50.3	+0.4
MRW	**Makara Radio**	**0.83**	**286**	⇑P*	Pb	18 21 50.3	+0.4
MRW				S*	Sb	18 22 02.0	+1.4
BFZ	**Birch Farm**	**0.86**	**25**	P	Pb	18 21 50.9	+0.6
BFZ	**Birch Farm**	**0.86**	**25**	P*	Pb	18 21 50.8	+0.6
BFZ				S*	Sb	18 22 02.2	+0.9
KIW	**Kapiti Island**	**0.88**	**312**	⇑P*	Pb	18 21 51.0	+0.4
KIW				S*	Sb	18 22 02.8	+0.9
CMWZ	**Cape Campbell**	**1.20**	**256**	P	Pb	18 21 56.0	-0.1
CMWZ	**Cape Campbell**	**1.20**	**256**	P*	Pb	18 21 55.9	-0.2
TUWZ	**Tuamarina**	**1.37**	**271**	P*	Pb	18 21 57.6	-1.4
TSZ	**Takapari Road**	**1.41**	**6**	P	Pb	18 21 58.8	-0.4
TSZ	**Takapari Road**	**1.41**	**6**	⇑P*	Pb	18 21 58.7	-0.9
BSWZ	**Blackbirch Sta**	**1.44**	**259**	P	Pn	18 21 59.0	-0.7
BSWZ	**Blackbirch Sta**	**1.44**	**259**	P*	Pb	18 21 58.9	-1.3
PWZ	**Pawanui**	**1.65**	**31**	P	Pn	18 22 01.5	-1.2
PWZ	**Pawanui**	**1.65**	**31**	PN	Pn	18 22 01.3	-1.4
WAZ	**Wanganui**	**1.80**	**341**	P	Pn	18 22 06.9	+2.0
WAZ	**Wanganui**	**1.80**	**341**	*e*PN	Pn	18 22 06.2	+1.4
NNZ	**Nelson**	**1.81**	**277**	*eP*	Pn	18 22 04.9	-0.1
NNZ	**Nelson**	**1.81**	**277**	PN	Pn	18 22 04.6	-0.4
KHZ	**Kahutara**	**1.92**	**239**	*eP*	Pn	18 22 04.8	-1.7
KHZ	**Kahutara**	**1.92**	**239**	PN	Pn	18 22 04.8	-1.7
MOVZ	**Moawhango**	**2.05**	**360**	P	Pn	18 22 08.3	-0.1
MOVZ	**Moawhango**	**2.05**	**360**	PN	Pn	18 22 08.3	-0.1
WNVZ	**Wahianoa**	**2.13**	**357**	P	Pn	18 22 08.3	-1.3
THZ	**Tophouse**	**2.17**	**261**	P	Pn	18 22 08.6	-1.5
THZ	**Tophouse**	**2.17**	**261**	PN	Pn	18 22 08.4	-1.6
TUVZ	**Tukino**	**2.19**	**358**	P	Pn	18 22 10.7	+0.3
TUVZ	**Tukino**	**2.19**	**358**	PN	Pn	18 22 10.8	+0.4
FWVZ	**Far West T-bar**	**2.21**	**356**	P	Pn	18 22 11.1	+0.4
FWVZ	**Far West T-bar**	**2.21**	**356**	PN	Pn	18 22 11.1	+0.4
WPVZ	**Whakapapa**	**2.26**	**356**	P	Pn	18 22 11.8	+0.4
WPVZ	**Whakapapa**	**2.26**	**356**	PN	Pn	18 22 11.8	+0.4
CNZ	**Chateau**	**2.26**	**356**	P	Pn	18 22 11.8	+0.3
CNZ	**Chateau**	**2.26**	**356**	PN	Pn	18 22 11.8	+0.4
NGZ	**Ngauruhoe**	**2.28**	**357**	PN	Pn	18 22 12.1	+0.3
OTVZ	**Oturere**	**2.29**	**358**	PN	Pn	18 22 12.2	+0.3
WTVZ	**West Tongariro**	**2.34**	**357**	P	Pn	18 22 12.9	+0.3
WTVZ	**West Tongariro**	**2.34**	**357**	PN	Pn	18 22 12.8	+0.1
BKZ	**Black Stump Fm**	**2.36**	**14**	P	Pn	18 22 11.6	-1.2
BKZ	**Black Stump Fm**	**2.36**	**14**	PN	Pn	18 22 11.6	-1.2
KRVZ	**Karewarewa**	**2.36**	**358**	PN	Pn	18 22 13.4	+0.5
TWVZ	**Taurewa**	**2.40**	**354**	P	Pn	18 22 13.7	+0.3
TWVZ	**Taurewa**	**2.40**	**354**	*e*PN	Pn	18 22 13.5	+0.2
RAEZ	**Rainy Point**	**2.41**	**334**	P	Pn	18 22 17.2	+3.7
MGZ	**Maungaku**	**2.46**	**356**	*e*PN	Pn	18 22 14.2	-0.1
KATZ	**Kakaramea**	**2.48**	**359**	P	Pn	18 22 14.8	+0.2
KATZ	**Kakaramea**	**2.48**	**359**	PN	Pn	18 22 15.0	+0.4
QRZ	**Quartz Range**	**2.52**	**283**	P	Pn	18 22 14.8	-0.4
QRZ	**Quartz Range**	**2.52**	**283**	*e*PN	Pn	18 22 14.6	-0.6
NEZ	**North Egmont**	**2.53**	**329**	P	Pn	18 22 17.7	+2.4
LTZ	**Lake Taylor**	**2.92**	**242**	*eP*	Pn	18 22 19.0	-1.8
LTZ	**Lake Taylor**	**2.92**	**242**	*e*PN	Pn	18 22 18.2	-2.6
DSZ	**Denniston Nort**	**2.98**	**263**	P	Pn	18 22 20.1	-1.7
DSZ	**Denniston Nort**	**2.98**	**263**	PN	Pn	18 22 19.8	-1.9
HIZ	**Hauiti**	**3.02**	**346**	*eP*	Pn	18 22 22.9	+0.6
HIZ	**Hauiti**	**3.02**	**346**	*e*PN	Pn	18 22 21.6	-0.7
MQZ	**McQueen's Vall**	**3.21**	**225**	*eP*	Pn	18 22 21.9	-3.1
MQZ	**McQueen's Vall**	**3.21**	**225**	PN	Pn	18 22 21.5	-3.5
MQZ				SN	Sn	18 22 57.0	-6.2
URZ	**Urewera**	**3.36**	**18**	*eP*	Pn	18 22 24.8	-2.3
URZ	**Urewera**	**3.36**	**18**	*e*PN	Pn	18 22 21.7	-5.3
MWZ	**Matawai**	**3.40**	**24**	*eP*	Pn	18 22 24.4	-3.3
WVZ	**Waitaha Valley**	**4.07**	**245**	*e*SN	Sn	18 23 18.3	-6.6
ODZ	**Otahua Downs**	**5.18**	**225**	*eP*	Pn	18 22 49.4	-3.5

*JMA **24** 18:55:00.7±0.3, 24.91N×122.87E, h26km, M2.2*
TAP 24 18:55:06.7, 24.40N×122.54E, h5km±1km, ML2.8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.43**	**82**	P	Pg	18 55 10.1	-5.3
YOJ				*e*S	Sg	18 55 16.9	-4.3
IRIF	**Iriomote-Funau**	**1.09**	**93**	P	Pb	18 55 18.5	-9.1
IRIF				*e*S	Sb	18 55 31.6	-10
JKRS	**Kuro-shima**	**1.35**	**97**	P	Pb	18 55 22.7	-9.4
JKRS				*e*S	Sb	18 55 37.4	-12
JJI	**Ishigaki jima**	**1.46**	**91**	P	Pn	18 55 22.9	-11

*IDC **24** 19:02:49.9±1.2, 5.14N×94.60E, mb4.2/8, mb1 4.4/9, mb1mx4.1/19, mbtmp4.2/9, ML4.4/1, Error ellipse: s-maj=59.1km s-min=20.1km az=53.0*
*BJI **24** 19:02:52.6, 5.21N×94.81E, h23km, mb4.7*
*NEIC **24** 19:02:54.5±0.8, 5.11N×94.66E, h30km, mb4.4/5, Error ellipse: s-maj=39.1km s-min=9.9km az=55.0*
ISC 24 19:02:52.9±0.9, 5.2N±0.2×94.8E±0.2, h30km, n17, σ0°84/17, mb4.3/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.81**	**17**	Pn	**P**	**19 06 17.2**	**+8.0**
0.5nm,0.3s,baz=214,slow=12,SNR=9.7							
LSA	**Lhasa**	**24.62**	**352**	*eP*	**P**	**19 08 14.0**	**+1.8**
LSA	**Lhasa**	**24.62**	**352**	*eP*	**P**	**19 08 13.7**	**+1.5**
5.6nm,0.6s,mb4.3							
XAN	**Xi'an**	**31.58**	**23**	P	**P**	**19 09 14.6**	**-0.7**
XAN				AP	pP	19 09 23.9	-0.2
XAN				AMB

4.6nm,0.8s,mb4.4
CMAR Chiang Mai Arr 32.28 333 P **P 19 11 57.0 +0.4**
2.3nm,0.8s,mb4.1,baz=164,slow=8.3,SNR=14
STKA Stephens Creek 33.38 134 P **P 19 12 05.2 -0.8**
0.8nm,0.3s,mb4.1,baz=280,slow=9.8,SNR=7.0
ENH Enshi 40.75 354 *e*P **P 19 13 08.9 +0.8**
LSA Lhasa 45.52 332 P **P 19 13 47.5 +0.6**
2.7nm,0.7s,mb4.3
JIRN Jiri 46.40 325 *e*P **P 19 13 53.9 0.0**
16nm,1.0s,mb4.9
PKI Pulchoki 46.77 325 *e*P **P 19 13 56.6 -0.2**
DMN Daman 46.97 324 *e*P **P 19 13 57.9 -0.4**
16nm,0.9s,mb4.9
KKN Kakani 47.01 325 *e*P **P 19 13 58.1 -0.6**
GKN Gorkha 47.54 324 *e*P **P 19 14 02.8 -0.1**
19nm,1.1s,mb5.0
KOLN Koldanda 47.97 323 *e*P **P 19 14 05.7 -0.5**
5.5nm,0.5s,mb4.8
ULN Ulaanbaatar 58.42 355 *e*P **P 19 15 22.4 -0.7**
1.9nm,0.8s,mb4.2
SONM Songino Array 58.45 354 P **P 19 15 21.5 -2.0**
0.9nm,0.8s,mb3.9,baz=170,slow=7.5,SNR=4.9
ZAL Zalesovo 68.74 342 P **P 19 16 30.6 -0.2**
0.8nm,0.4s,mb4.0,baz=116,slow=7.9,SNR=3.4
BVAR Borovoye Array 73.30 334 P **P 19 16 59.3 +0.9**
0.8nm,0.8s,mb3.7,baz=169,slow=7.6,SNR=4.5
CHKZ Chkalovo 73.66 335 *e*P **P 19 17 00.7 +0.3**
1.7nm,0.8s,mb4.0
YKA Yellowknife Ar 117.64 23 PKP PKPdf 19 24 12.8 +1.9
0.1nm,0.4s,baz=314,slow=1.9,SNR=5.1

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*IDC **24** 19:06:52.5±2.2, 43.38N×105.19W, mb4.8/1, mb1 3.9/4, mb1mx3.4/19, mbtmp3.5/4, ML3.7/3, Error ellipse: s-maj=51.8km s-min=12.3km az=156.0*
*NEIC **24** 19:06:52.2±1.0, 43.86N×105.51W, ML3.2, Error ellipse: s-maj=10.3km s-min=7.3km az=126.0, Suspected Mining explosion.*
NEIC 50 km [30 miles] S of Gillette.
ISC 24 19:06:52.7±0.9,**43.90N**±0.04×**105.66W**±0.08,**n23,** σ1**9**04/35,**mb4.9/1,Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.60**	**177**	*e*Pn	**Pn**	**19 07 35.2**	**-1.5**
PHWY				*e*Sn	**Sn**	**19 08 04.5**	**-5.0**
LAO	**LASA Array**	**2.82**	**352**	*e*Pg	**Pg**	**19 07 48.5**	**-0.5**
LAO				*e*Sg	**Sg**	**19 08 26.4**	**-0.1**
PDAR	**Pinedale Array**	**3.06**	**250**	Pn	**Pn**	**19 07 48.3**	**+5.0**
2.4nm,0.3s,baz=73,slow=15,SNR=64							
PDAR				Pg	**Pg**	**19 07 54.2**	**+0.4**
8.7nm,0.3s,baz=72,slow=21,SNR=59							
PDAR				Lg		19 08 34.4	
10nm,0.3s,baz=67,slow=30,SNR=9.3							
LKWY	**Lake**	**3.47**	**283**	Pn	**Pn**	**19 07 49.7**	**+0.6**
LKWY				*e*Pb	**Pb**	**19 07 57.7**	**+2.8**
LKWY				*e*Pg	**Pg**	**19 08 02.5**	**+0.5**
LOHW	**Long Hollow**	**3.59**	**267**	*e*Pb	**Pb**	**19 07 57.9**	**+0.9**
LOHW				*e*Pg	**Pg**	**19 08 04.1**	**-0.4**
MOOW	**Moose Ponds**	**3.68**	**269**	*e*Pb	**Pb**	**19 07 59.3**	**+0.8**
MOOW				*e*Pg	**Pg**	**19 08 05.6**	**-0.6**
WUWY	**Wally Ulrich**	**3.70**	**266**	*e*Pg	**Pg**	**19 08 05.1**	**-1.5**
SNOW	**Snow King Moun**	**3.72**	**265**	*e*Pg	**Pg**	**19 08 06.2**	**-0.8**
YFT	**Old Faithful**	**3.76**	**280**	*e*Pb	**Pb**	**19 08 01.3**	**+1.5**
YFT				*e*Pg	**Pg**	**19 08 07.1**	**-0.7**
IMW	**Indian Meadow**	**3.81**	**272**	*e*Pb	**Pb**	**19 08 01.9**	**+1.1**
IMW				*e*Pg	**Pg**	**19 08 08.4**	**-0.5**
TPAW	**Teton Pass**	**3.86**	**266**	*e*Pb	**Pb**	**19 08 01.1**	**-0.3**
TPAW				*e*Pg	**Pg**	**19 08 08.6**	**-1.1**
YMR	**Madison River**	**3.89**	**283**	*e*Pg	**Pg**	**19 08 10.0**	**-0.3**
ISCO	**Idaho Springs**	**4.09**	**179**	*e*Pn	**Pn**	**19 07 58.7**	**+0.8**
ISCO				*e*Sg	**Sg**	**19 08 56.8**	**-12**
AHID	**Auburn Hatcher**	**4.13**	**256**	*e*Pg	**Pg**	**19 08 14.6**	**-0.5**
QLMT	**Earthquake Lak**	**4.24**	**285**	*e*Pg	**Pg**	**19 08 16.8**	**-0.6**
DGMT	**Dagmar**	**4.69**	**12**	*e*Pg	**Pg**	**19 08 21.6**	**-4.7**
HWUT	**Hardware Ranch**	**4.91**	**244**	*e*Pn	**Pn**	**19 08 12.9**	**+3.4**
TCUT	**Toone Canyon**	**5.08**	**239**	*e*Pn	**Pn**	**19 08 11.2**	**-0.6**
TCUT				*e*Pg	**Pg**	**19 08 29.7**	**-4.3**
MCMT	**McKenzie Canyo**	**5.24**	**283**	*e*Pg	**Pg**	**19 08 33.8**	**-3.4**
DAU	**Daniels Canyon**	**5.42**	**232**	*e*Pn	**Pn**	**19 08 22.3**	**+5.5**
NVAR	**Mina Array Bea**	**10.98**	**244**	Pn	**P**	**19 09 35.7**	**+1.6**
0.1nm,0.3s,baz=71,slow=16,SNR=3.0							
YKA	**Yellowknife Ar**	**19.35**	**347**	P	**P**	**19 11 26.0**	**+3.9**
0.1nm,0.3s,baz=157,slow=11,SNR=4.9							
ARCES	**ARCESS Array B**	**61.35**	**18**	P	**P**	**19 17 12.2**	**+0.2**
11nm,1.2s,mb4.9,baz=323,slow=6.1,SNR=7.4							

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*IDC **24** 19:07:09.5±0.5, 29.39S×71.64W, mb4.8/13, mb1 4.8/16, mb1mx4.8/18, mbtmp4.6/16, ML4.5/3, MS4.4/10, Ms1 4.4/10, ms1mx4.3/12, Error ellipse: s-maj=29.5km s-min=12.9km az=83.0*
*MOS **24** 19:07:13.8±1.2, 29.24S×71.73W, h33km, mb5.3/17, MS4.5/7, Error ellipse: s-maj=19.7km s-min=8.3km az=108.3*
*BJI **24** 19:07:13.0, 29.46S×71.51W, h31km, mB4.8, Ms5.2, Msz5.0*
*GUC **24** 19:07:15.2±0.7, 29.42S×71.65W, h46km±2km, ML4.9*
*NEIC **24** 19:07:15.7±0.5, 29.40S×71.72W, h43km±5km, mb5.2/20, Error ellipse: s-maj=9.6km s-min=4.4km az=84.0*
NEIC Felt [III] at Alto del Carmen, Coquimbo, Freirina, La Serena and Vallenar; [II] at Copiapo, Illapel and Paihuano.
*HRVD **24** 19:07:15.7±0.4, 29.54S×72.17W, h49km±2km, MW5.0/44, Centroid moment Tensor Solution. LP body waves: s24,c34;Mantle waves: s44,c68; Half duration: 0 Moment tensor: Scale 10^16Nm; M_rr3.45±.32; M_θθ0.64±.21; M_φφ-4.09±.23; M_rθ-0.55±.16; M_θφ-0.28±.19; M_φr-2.71±.24; Best double couple: M_0 4.685×10^16 NP1:φ_s356°, δ27°, λ79° NP2:φ_s189°, δ63°, λ96°. Principal axes: T 4.375, Plg71°, Azm111°; N .622, Plg5°, Azm6°; P -4.996, Plg18°, Azm275°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 24 19:07:14.1±0.7,**29.42S**±0.02×**71.80W**±0.07,**h41**km±6km, **h42**km±5.7km;**pP-P,n179,**σ0**90/**106,**mb5.0/**32,**MS4.6/12, 15C-8D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.69**	**135**	⇓*i*P	**P**	**19 07 27.7**	**+0.3**
LSCH				*i* S	**S**	**19 07 37.0**	**-0.2**
LSCH				AMP		19 07 38.6	
comp=E,68μm,0.5s							
TLL	**Tololo Astrono**	**1.14**	**131**	*e*P	**P**	**19 07 34.8**	**+1.0**
TLL				*i* S	**S**	**19 07 49.6**	**+1.0**
TLL				AMP		19 07 57.8	
comp=N,54μm,0.6s							
VACH	**Vallenar**	**1.24**	**48**	⇓*i*P	**P**	**19 07 35.4**	**+0.1**
VACH				*i* S	**S**	**19 07 50.7**	**-0.4**
OVCH	**Ovalle**	**1.30**	**156**	⇑*i*P	**P**	**19 07 36.6**	**+0.5**
OVCH				*i* S	**S**	**19 07 52.7**	**+0.2**
OVCH				AMP		19 07 53.4	
comp=E,14μm,0.2s							
ILCH	**Illapel**	**2.28**	**166**	⇑*i*P	**P**	**19 07 50.4**	**+0.3**
ILCH				*i* S	**S**	**19 08 17.2**	**+0.1**
ILCH				AMP		19 08 26.6	
comp=E,8μm,0.3s							
CPCH	**Copiapo**	**2.42**	**32**	⇑*i*P	**P**	**19 07 51.0**	**-1.1**
CPCH				*i* S	**S**	**19 08 19.7**	**-1.0**
PTCH	**Petorca**	**2.93**	**165**	⇓*i*P	**P**	**19 07 59.4**	**0.0**
PTCH				*i* S	**S**	**19 08 32.7**	**-1.1**
PTCH				AMP		19 08 38.6	
comp=N,14μm,0.3s							
JACH	**Jahuel**	**3.42**	**163**	*e*P	**P**	**19 08 06.5**	**+0.3**
ZON	**Zonda**	**3.43**	**129**	*e*P	**P**	**19 08 09.0**	**+2.5**
ZON				*e*S	**S**	**19 08 53.0**	**+6.6**
FCH	**Farellones**	**4.11**	**162**	*e*P	**P**	**19 08 16.4**	**+0.4**
CLCH	**Cerro Calan**	**4.11**	**165**	⇑*i*P	**P**	**19 08 16.0**	**-0.1**
CLCH				*i* S	**S**	**19 09 02.1**	**-1.5**
MDZ	**Mendoza**	**4.28**	**145**	*e*P	**P**	**19 08 21.3**	**+2.7**
MDZ				*i* S	**S**	**19 09 13.4**	**+5.5**
MDZ	**Mendoza**	**4.28**	**145**	*e*P	**P**	**19 08 21.3**	**+2.7**
MDZ				*i*		19 08 42.2	
MDZ				*i* S	**S**	**19 09 13.4**	**+5.5**
TACH	**Talagante**	**4.29**	**170**	⇑*i*P	**P**	**19 08 18.0**	**-0.6**
PCH	**Pirque**	**4.33**	**166**	*i* P	**P**	**19 08 19.1**	**-0.2**
CHCH	**Chadas Angostu**	**4.61**	**168**	⇑*i*P	**P**	**19 08 22.6**	**-0.5**
CACH	**El Canelo**	**4.80**	**168**	⇓*i*P	**P**	**19 08 25.7**	**-0.1**
CICH	**Cipreses**	**5.03**	**167**	⇓*i*P	**P**	**19 08 28.8**	**-0.2**
LVC	**Limon Verde**	**7.26**	**22**	Pn	**P**	**19 08 56.5**	**-3.8**
comp=N,3.1nm,0.3s,baz=184,slow=9.6,SNR=17							
LVC				Sn	**S**	**19 10 14.2**	**-8.1**
comp=N,12nm,0.3s,baz=200,slow=16,SNR=3.7							
LVC				Lg		19 10 57.7	
comp=N,20nm,0.3s,baz=286,slow=19,SNR=4.2							
LVC				LR	LR	19 11 42.6	
comp=N,3μm,21.6s,baz=205,slow=38							
LVC	**Limon Verde**	**7.26**	**22**	*e*Pn	**P**	**19 09 06.4**	**+6.1**
LVC				*e*Sn	**S**	**19 10 36.2**	**+14**
LVC				Lg		19 10 57.7	
LVC				LR	LR	19 11 42.6	
PLCA	**Paso Flores**	**11.34**	**175**	Pn	**P**	**19 09 53.9**	**-2.5**
comp=N,1.1nm,0.3s,baz=336,slow=11,SNR=12							
PLCA				Lg		19 13 13.4	
comp=N,0.2nm,0.3s,baz=335,slow=19,SNR=2.1							
PLCA				LR	LR	19 14 15.8	
comp=N,2μm,19.1s,baz=350,slow=38							
TRQA	**Tornquist**	**11.87**	**139**	*e*Pn	**P**	**19 09 58.1**	**-5.5**
comp=N,135nm,1.5s							
ARE	**Arequipa**	**12.90**	**1**	P	**P**	**19 10 18.0**	**+0.6**
LPAZ	**La Paz**	**13.50**	**15**	Pn	**P**	**19 10 21.1**	**-4.2**
comp=N,0.2nm,0.3s,baz=191,slow=8.2,SNR=5.5							
LPAZ				Sn	**S**	**19 12 57.3**	**+2.5**
comp=N,0.1nm,0.3s,baz=156,slow=14,SNR=1.4							
USHA	**Ushuaia**	**25.51**	**175**	P	**P**	**19 12 40.0**	**-0.2**
comp=N,49nm,1.0s,mb5.0,baz=326,slow=4.7,SNR=5.9							
USHA				LR	LR	19 23 17.8	
comp=N,941nm,19.3s,MS4.3,baz=15,slow=38							
BAO	**Brasilia Array**	**25.85**	**63**	⇑*i*P	**P**	**19 12 42.9**	**-0.8**
BAO				*i*	pP	19 12 51.6	-3.1
BAO				*e*		19 16 12.5	
PMSA	**Palmer Station**	**35.71**	**174**	*e*P	**P**	**19 14 10.7**	**+0.4**
comp=N,79nm,1.2s,mb5.5							
SDV	**Santo Domingo**	**38.10**	**2**	P	**P**	**19 14 30.1**	**-0.8**
comp=N,13nm,0.9s,mb4.7,baz=238,slow=5.4,SNR=17							
RCBR	**Riachuelo**	**41.20**	**62**	*e*P	**P**	**19 14 56.1**	**-0.6**
comp=N,39nm,1.3s,mb4.9							
SJG	**San Juan**	**47.56**	**7**	P	**P**	**19 15 45.4**	**-2.4**
SJG				pmax	pmax		
comp=Z,6.0nm,0.3s							
SJG	**San Juan**	**47.56**	**7**	P	**P**	**19 15 45.4**	**-2.4**
comp=Z,6.3nm,0.3s,mb5.1,baz=195,slow=8.2,SNR=6.7							
VNA3	**Neumayer Olymp**	**53.54**	**159**		**P**	**19 16 33.0**	**+0.5**
VNA1	**Neumayer--Stat**	**53.82**	**158**		**P**	**19 16 36.2**	**+1.6**
VNA2	**Neumayer--Watz**	**54.17**	**159**	⇑*i*	**P**	**19 16 37.4**	**+0.2**
VNA2	**Neumayer--Watz**	**54.17**	**159**	⇑*i*	sP	19 16 55.0	+1.1
SNAA	**Sanae**	**55.76**	**159**	⇑*i*	**P**	**19 16 47.4**	**-1.3**
SNAA	**Sanae**	**55.76**	**159**	⇑*i*	**P**	**19 16 53.6**	**+4.9**
SNAA	**Sanae**	**55.76**	**159**	P	**P**	**19 16 47.7**	**-1.0**
SNAA				pmax	pmax		
comp=Z,12nm,0.6s							
SNAA	**Sanae**	**55.76**	**159**	P	**P**	**19 16 47.7**	**-1.0**
comp=Z,12nm,0.6s,mb5.1,baz=286,slow=5.8,SNR=45							
QSPA	**South Pole Qui**	**60.81**	**180**	⇑*i*P	**P**	**19 17 23.7**	**-0.2**
comp=Z,39nm,1.1s,mb5.5							
JCT	**Junction City**	**65.27**	**333**	*e*P	**P**	**19 17 53.2**	**-0.8**
JCT				pmax	pmax		
comp=Z,25nm,1.2s,mb5.1							
JCT	**Junction City**	**65.27**	**333**	*e*P	**P**	**19 17 53.2**	**-0.7**
comp=Z,25nm,1.2s,mb5.1							
CPCT	**Cooper Cave**	**65.62**	**349**	*e*P	**P**	**19 17 54.9**	**-1.3**
TXAR	**Lajitas Array**	**65.87**	**330**	P	**P**	**19 17 58.2**	**+0.3**
comp=Z,4.6nm,1.1s,mb4.4,baz=146,slow=9.0,SNR=10.0							
TXAR				LR	LR	19 41 30.2	
comp=Z,267nm,19.2s,MS4.5,baz=60,slow=31							
TXAR	**Lajitas Array**	**65.87**	**330**	P	**P**	**19 17 58.2**	**+0.3**
TXAR				LR	LR	19 41 30.2	
WVT	**Waverly**	**66.92**	**346**	*e*P	**P**	**19 18 02.8**	**-1.6**
WVT				*e*		19 18 32.3	
WVT				pmax	pmax		
comp=Z,15nm,1.0s,mb5.0							
WVT	**Waverly**	**66.92**	**346**	*e*P	**P**	**19 18 02.8**	**-1.6**
comp=Z,15nm,1.0s,mb5.0							
WVT				*e*		19 18 32.3	
VNDA	**Vanda**	**68.62**	**191**	P	**P**	**19 18 15.2**	**+0.8**
VNDA				pmax	pmax		
comp=Z,7.0nm,1.1s							
VNDA	**Vanda**	**68.62**	**191**	P	**P**	**19 18 15.2**	**+0.8**
comp=Z,7.0nm,1.1s,mb4.5,baz=124,slow=3.2,SNR=7.8							
MNTX	**Cornudas Mount**	**68.65**	**330**	*e*P	**P**	**19 18 13.9**	**-1.4**
comp=Z,4.6nm,1.0s,mb4.4							
CPRX	**Cap Rock**	**69.14**	**331**	*e*P	**P**	**19 18 18.3**	**0.0**
FVM	**French Village**	**69.28**	**344**	*e*P	**P**	**19 18 18.4**	**-0.6**
CCM	**Cathedral Cave**	**69.54**	**344**	*e*P	**P**	**19 18 19.8**	**-0.9**
CCM				pmax	pmax		
comp=Z,37nm,1.2s,mb5.2							
CCM	**Cathedral Cave**	**69.54**	**344**	*e*P	**P**	**19 18 19.8**	**-0.9**
comp=Z,37nm,1.2s,mb5.2							
SYO	**Syowa Base**	**70.05**	**159**	⇓P	**P**	**19 18 21.8**	**-1.4**
SYO	**Syowa Base**	**70.05**	**159**	⇓PcP	sP	19 18 41.8	+1.8
SYO	**Syowa Base**	**70.05**	**159**	⇓pP	PcP	19 18 45.5	+0.1
ANMO	**Albuquerque**	**71.89**	**331**	P	**P**	**19 18 35.6**	**+0.8**
ANMO				pmax	pmax		
comp=Z,1.0nm,0.5s							
ANMO	**Albuquerque**	**71.89**	**331**	P	**P**	**19 18 35.6**	**+0.7**
comp=Z,0.8nm,0.5s,mb3.9,baz=156,slow=4.6,SNR=2.7							
DBIC	**Dimbokro**	**73.56**	**72**	P	**P**	**19 18 44.4**	**-0.8**
DBIC				pmax	pmax		
comp=Z,30nm,0.8s							
DBIC				MLR	MLR		
comp=Z,341nm,19.2s							
DBIC	**Dimbokro**	**73.56**	**72**	P	**P**	**19 18 44.4**	**-0.8**
comp=Z,30nm,0.8s,mb5.3,baz=214,slow=6.3,SNR=46							
DBIC				LR	LR	19 48 52.4	
comp=Z,341nm,19.2s,MS4.7,baz=214,slow=34							
DBIC	**Dimbokro**	**73.56**	**72**	*e*P	**P**	**19 18 44.2**	**-0.9**
comp=Z,55nm,1.0s,mb5.4							
SDCO	**Great Sand Dun**	**73.89**	**333**	*e*P	**P**	**19 18 46.4**	**-0.2**
comp=Z,11nm,1.3s,mb4.6							
WUAZ	**Wupatki**	**74.57**	**327**	*e*P	**P**	**19 18 52.3**	**+1.7**
comp=Z,112nm,1.3s,mb5.6							
RW3	**Ridgway**	**75.21**	**331**	*e*P	**P**	**19 18 55.3**	**+1.1**
SUR	**Sutherland**	**76.89**	**120**	*e*P	**P**	**19 19 04.3**	**+0.4**
comp=Z,37nm,1.2s,mb5.2							
MAW	**Mawson**	**77.51**	**164**	P	**P**	**19 19 06.5**	**-0.1**
MAW				pmax	pmax		
comp=Z,15nm,0.4s							
MAW				MLR	MLR		
comp=Z,263nm,19.4s							
MAW	**Mawson**	**77.51**	**164**	P	**P**	**19 19 06.5**	**-0.1**
comp=Z,15nm,0.4s,mb5.3,baz=230,slow=10.0,SNR=19							
MAW				LR	LR	19 54 08.3	
comp=Z,263nm,19.4s,MS4.6,baz=238,slow=36							
HWUT	**Hardware Ranch**	**79.65**	**331**	*e*P	**P**	**19 19 19.1**	**+0.3**
comp=Z,14nm,1.1s,mb4.8							
BGU	**Big Grassy Mou**	**79.73**	**330**	*e*P	**P**	**19 19 19.7**	**+0.4**
BW06	**Boulder Array**	**79.78**	**333**	*e*P	**P**	**19 19 19.5**	**0.0**
comp=Z,5.2nm,1.1s,mb4.4							
PDAR	**Pinedale Array**	**79.78**	**333**	P	**P**	**19 19 20.1**	**+0.5**
comp=Z,6.5nm,1.2s,mb4.4,baz=135,slow=6.3,SNR=12							
PDAR				LR	LR	19 51 21.4	
comp=Z,246nm,18.9s,MS4.6,baz=155,slow=33							
SPUT	**South Promonto**	**79.78**	**330**	*e*P	**P**	**19 19 20.1**	**+0.5**
NVAR	**Mina Array Bea**	**80.26**	**325**	P	**P**	**19 19 21.9**	**-0.3**
comp=Z,0.6nm,0.8s,mb3.6,baz=162,slow=5.7,SNR=6.7							
NVAR				LR	LR	19 48 40.2	
comp=Z,137nm,19.3s,MS4.3,baz=220,slow=31							
HVU	**Hansel Valley**	**80.31**	**330**	*e*P	**P**	**19 19 22.2**	**-0.2**
LOHW	**Long Hollow**	**80.91**	**333**	*e*P	**P**	**19 19 26.1**	**+0.6**
TPAW	**Teton Pass**	**80.95**	**332**	*e*P	**P**	**19 19 26.6**	**+0.9**
MOOW	**Moose Ponds**	**81.08**	**333**	*e*P	**P**	**19 19 26.4**	**0.0**
BOSA	**Boshof**	**82.04**	**118**	*e*P	**P**	**19 19 31.1**	**-0.6**
HLID	**Hailey**	**82.46**	**330**	*e*P	**P**	**19 19 34.7**	**+1.1**
comp=Z,18nm,1.4s,mb4.8							
DGMT	**Dagmar**	**82.79**	**339**	*e*P	**P**	**19 19 35.5**	**+0.4**
comp=Z,61nm,1.2s,mb5.5							
MCMT	**McKenzie Canyo**	**82.83**	**332**	*e*P	**P**	**19 19 36.4**	**+1.1**
SCHQ	**Schefferville**	**84.01**	**3**	P	**P**	**19 19 41.9**	**+0.8**
comp=Z,15nm,1.1s,mb5.0,baz=130,slow=4.4,SNR=6.1							
SCHQ				LR	LR	19 53 40.2	
comp=Z,180nm,18.4s,MS4.5,baz=178,slow=33							
SCHQ	**Schefferville**	**84.01**	**3**	P	**P**	**19 19 41.9**	**+0.8**
SCHQ				LR	LR	19 53 40.2	
LBTB	**Lobatse**	**84.06**	**115**	*e*P	**P**	**19 19 41.4**	**-0.7**
LBTB				*e*	pP	19 19 54.0	-0.6
LBTB				pmax	pmax		
comp=Z,28nm,1.0s,mb5.3							
LBTB	**Lobatse**	**84.06**	**115**	*e*P	**P**	**19 19 41.4**	**-0.7**
comp=Z,28nm,1.0s,mb5.3							
LBTB				*e*	pP	19 19 54.0	-0.6
CASY	**Casey**	**84.59**	**181**	*e*P	**P**	**19 19 44.4**	**+0.6**
comp=Z,41nm,0.9s,mb5.5							
CHMT	**Chamberlain Mo**	**84.69**	**333**	*e*P	**P**	**19 19 45.8**	**+1.1**
WALA	**Waterton Lakes**	**86.69**	**334**	*e*P	**P**	**19 19 54.6**	**+0.2**
comp=Z,15nm,1.1s,mb5.1							
FCC	**Fort Churchill**	**89.79**	**349**	*e*P	**P**	**19 20 09.1**	**0.0**
FCC				pmax	pmax		
comp=Z,35nm,1.3s,mb5.5							
FCC	**Fort Churchill**	**89.79**	**349**	*e*P	**P**	**19 20 09.1**	**0.0**
comp=Z,35nm,1.3s,mb5.5							
EDM	**Edmonton**	**89.88**	**336**	*e*P	**P**	**19 20 08.4**	**-1.2**
LSZ	**Lusaka**	**91.04**	**108**	*e*P	**P**	**19 20 16.9**	**+1.0**
LSZ				*e*	pP	19 20 31.7	+3.1
LSZ				pmax	pmax		
comp=Z,22nm,1.3s,mb5.3							
LSZ	**Lusaka**	**91.04**	**108**	*e*P	**P**	**19 20 16.9**	**+0.9**
comp=Z,22nm,1.3s,mb5.3							
LSZ				*e*	pP	19 20 31.7	+3.1
YKA	**Yellowknife Ar**	**97.79**	**341**	P	**P**	**19 20 45.2**	**-0.4**
comp=Z,1.6nm,0.9s,mb4.6,baz=141,slow=4.3,SNR=27							
YKA				PKKPbc		19 37 19.1	
comp=Z,0.2nm,0.8s,baz=312,slow=2.9,SNR=4.0							
YKA				LR	LR	20 02 40.1	
comp=Z,112nm,19.0s,MS4.4,baz=145,slow=34							
AKASG	**Malin Array Be**	**118.90**	**45**	PKIKP	PKPdf	19 25 57.9	-0.1
AKASG						19 27 15.6	
AKASG				pmax	pmax		
comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**118.90**	**45**	PKP	PKPdf	19 25 57.9	-0.1
comp=Z,2.0nm,0.7s,baz=262,slow=3.2,SNR=17							
AKASG				PP	PP	19 27 15.6	-6.6
comp=Z,0.3nm,0.5s,baz=278,slow=4.3,SNR=4.6							
BRTR	**Keskin Array B**	**119.35**	**59**	PKIKP	PKPdf	19 26 00.3	+1.1
BRTR				pmax	pmax		
comp=Z,3.0nm,0.9s							
BRTR	**Keskin Array B**	**119.35**	**59**	PKP	PKPdf	19 26 00.3	+1.1
comp=Z,3.1nm,0.9s,baz=180,slow=2.5,SNR=12							
ASAR	**Alice Springs**	**121.72**	**208**	PKP	PKPdf	19 26 04.3	+0.2
comp=Z,2.3nm,0.8s,baz=143,slow=1.9,SNR=20							
ASAR				PKKPbc		19 36 04.2	
comp=Z,1.5nm,0.8s,baz=344,slow=4.3,SNR=10							
MALT	**Malatya**	**122.62**	**61**	*e*PKIKP	PKPdf	19 26 06.9	+1.4
ANN	**Anapa**	**123.22**	**53**	*e*PKIKP	PKPdf	19 26 13.5	+7.0
OBN	**Obninsk**	**123.91**	**41**	*i* PKIKP	PKPdf	19 26 06.0	-1.6
OBN				pmax	pmax		
comp=Z,23nm,1.1s							
OBN				MLR	MLR		
comp=Z,200nm,19.0s,MS4.8							
WRA	**Warramunga Arr**	**124.83**	**210**	PKIKP	PKPdf	19 26 10.8	+0.5
WRA				pmax	pmax		
comp=Z,5.0nm,0.8s							
WRA				pmax	pmax		
comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**124.83**	**210**	PKP	PKPdf	19 26 10.8	+0.5
comp=Z,5.3nm,0.8s,baz=157,slow=1.8,SNR=68							
WRA				PKKPbc		19 35 52.7	
comp=Z,1.0nm,0.8s,baz=334,slow=4.2,SNR=5.9							
WRAB	**Tennant Creek**	**124.83**	**210**	*i* PKIKP	PKPdf	19 26 11.4	+1.1
WRAB	**Tennant Creek**	**124.83**	**210**	*e*PKPdf	PKPdf	19 26 10.7	+0.4
KIV	**Kislovodsk**	**126.81**	**55**	*i* PKIKP	PKPdf	19 26 15.1	+1.6
KIV				*e*		19 33 16.8	
KIV				pmax	pmax		
comp=E,7.0nm,1.2s							
KIV				pmax	pmax		
comp=Z,14nm,1.2s							
BILL	**Bilibino**	**128.78**	**336**	*i* PKIKP	PKPdf	19 26 17.9	+1.3
BILL				MLR	MLR		
comp=Z,100nm,19.0s,MS4.5							
BILL	**Bilibino**	**128.78**	**336**	*e*PKPdf	PKPdf	19 26 17.0	+0.4
ARU	**Arti**	**136.07**	**38**	*i* PKIKP	PKPdf	19 26 26.7	-3.8
TIXI	**Tiksi**	**136.23**	**351**	*i* PKIKP	PKPdf	19 26 30.3	-0.2
TIXI				MLR	MLR		
comp=Z,100nm,19.0s,MS4.6							
CHKZ	**Chkalovo**	**143.53**	**38**	*e*PKIKP	PKPdf	19 26 43.1	-0.7
BRVK	**Borovoye**	**143.62**	**39**	*e*PKIKP	PKPdf	19 26 43.1	-0.9
BVAR	**Borovoye Array**	**143.69**	**39**	PKP	PKPdf	19 26 43.5	-0.6
comp=Z,2.0nm,0.4s,baz=270,slow=1.5,SNR=28							
YAK	**Yakutsk**	**144.46**	**343**	*c* *i* PKIKP	PKPdf	19 26 45.2	0.0
YAK				pmax	pmax		
comp=Z,54nm,0.9s							
YAK				pmax	pmax		
comp=N,6.0nm,1.0s							
YAK				pmax	pmax		
comp=E,6.0nm,0.9s							
YAK				pmax	pmax		
comp=N,6.0nm,1.2s							
YAK				pmax	pmax		
comp=E,2.0nm,1.0s				

JOSI e 19 27 03.6
comp=Z,113nm,1.1s
MOY Mondy 157.13 12 *e*PKIKP PKPdf 19 27 08.0 +3.3
TLY Talaya 157.50 7 *i* PKIKP PKPdf 19 27 07.5 +2.4
TLY e 19 31 19.3
TLY pmax pmax
comp=Z,17nm,1.5s
TLY Talaya 157.50 7 *e*PKPdf PKPdf 19 27 07.1 +2.0
WMQ Urumqi 158.23 43 PKP PKPdf 19 27 08.1 +1.8
WMQ PP PP 19 31 25.5 +1.4
WMQ PP PP
comp=Z,70nm,10.2s
WMQ LR LR
comp=N,232nm,30.2s,MS5.0
WMQ LR LR
comp=E,211nm,29.0s,MS5.0
WMQ LR LR
comp=Z,437nm,31.2s,MS5.1
KOLN Koldanda 158.35 88 *e*P PKPdf 19 27 08.4 +1.4
comp=Z,50nm,1.7s
ZAK Zakamensk 158.73 9 *e*PKIKP PKPdf 19 27 08.8 +2.1
ZAK e 19 27 44.7
GKN Gorkha 159.29 88 *e*P PKPdf 19 27 09.7 +1.6
comp=Z,33nm,1.3s
DMN Daman 159.63 89 *e*P PKPdf 19 27 10.5 +2.0
KKN Kakani 159.81 89 *e*P PKPdf 19 27 09.8 +1.2
PKI Pulchoki 159.89 90 *e*P PKPdf 19 27 10.0 +1.3
JIRN Jiri 160.59 90 *e*P PKPdf 19 27 09.7 +0.3
comp=Z,31nm,1.4s
SONM Songino Array 161.56 4 PKP PKPdf 19 27 11.8 +2.1
comp=Z,2.4nm,1.0s,slow=1.2,SNR=10
SONM PKPab PKPab 19 27 57.5 +0.5
comp=Z,4.2nm,0.9s,baz=346,slow=5.1,SNR=14
SONM PP PP 19 31 40.1 -1.5
comp=Z,0.8nm,1.0s,baz=117,slow=2.8,SNR=3.6
ULN Ulaanbaatar 161.56 2 *e*PKIKP PKPdf 19 27 11.3 +1.5
SHL Shillong 165.02 101 *e* PKPab 19 28 12.0 -0.8
LSA Lhasa 165.16 85 PKP PKPdf 19 27 14.8 +0.9
CMAR Chiang Mai Arr 166.20 140 PKIKP PKPdf 19 27 16.9 +1.8
CMAR 19 28 16.1
CMAR pmax pmax
comp=Z,2.0nm,1.0s
CMAR Chiang Mai Arr 166.20 140 PKP PKPdf 19 27 16.9 +1.8
comp=Z,1.8nm,1.0s,baz=254,slow=2.1,SNR=13
CMAR PKPab PKPab 19 28 16.1 -2.0
comp=Z,0.4nm,0.8s,baz=235,slow=3.8,SNR=4.0
SSE Sheshan 168.65 282 *e*PKP PKPdf 19 27 16.6 +0.3
NJ2 Nanjing 170.46 289 *e*PKP PKPdf 19 27 17.8 +0.4
WHN Wuhan 174.55 283 *e*PKP PKPdf 19 27 21.5 +2.2
XAN Xi'an 175.35 353 PKP PKPdf 19 27 20.1 +0.6
ENH Enshi 178.59 308 *e*PKPdf PKPdf 19 27 21.5 +1.3

KRSC 24 19:08:54.6±0.4, 56.33N×162.90E, h18km±1km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.13**	**200**	*i* P	Pb	19 08 59.3	+0.7
KBG	**Krutoberegovo**	**0.13**	**235**	*e*P	Pb	19 08 59.5	+0.8
KBG				*e*S	Sb	19 09 02.5	+1.1
KBG				Smax			
	30μm,0.4s						
SVLR	**Shiveluch**	**0.96**	**286**	*i* P	Pb	19 09 13.4	+0.9
ZLN	**Zelenaya**	**1.21**	**256**	*e*P	Pb	19 09 16.8	+0.1
KLY	**Klyuchi**	**1.25**	**270**	*i* P	Pn	19 09 15.4	-2.0
KLY				*i* S	Sb	19 09 30.4	-2.7
KRSR	**Krestovskiy**	**1.31**	**266**	*e*P	Pn	19 09 17.6	-0.5
KPT	**Kopyto**	**1.54**	**257**	*e*P	Pn	19 09 21.7	+0.2
KPT				*e*S	Sn	19 09 41.6	+0.4
KMNR	**Kamenistaya**	**1.60**	**250**	*e*P	Pn	19 09 22.7	+0.3
KMNR				*e*S	Sn	19 09 43.1	+0.4
KOZ	**Kozyrevsk**	**1.71**	**262**	*i* P	Pn	19 09 24.8	+0.8
KOZ				*i* S	Sn	19 09 47.1	+1.6
SRDR	**Sredinnyy**	**1.77**	**271**	*i* P	Pn	19 09 25.9	+1.1
SRDR				*i* S	Sn	19 09 49.0	+2.0
TUMR	**Tumrok**	**1.88**	**237**	*i* P	Pn	19 09 26.5	+0.2
TUMR				*i* S	Sn	19 09 49.6	-0.1
ESO	**Esso**	**2.39**	**262**	*e*P	Pn	19 09 34.4	+0.8
ESO				*e*S	Sn	19 10 03.9	+1.3
ESO				Smax			
	40nm,0.6s						
KII	**Karymskiy**	**3.03**	**222**	*e*P	Pn	19 09 43.8	+1.0
KII				*e*S	Sn	19 10 19.4	+0.4
SPN	**Mys Shipunski**	**3.64**	**208**	*e*S	Sn	19 10 32.2	-2.3
NLC	**Nalytchevo**	**3.78**	**215**	*e*S	Sn	19 10 37.0	-0.8
SDLR	**Sedlovina**	**3.84**	**219**	*e*P	Pn	19 09 53.8	-0.5
SMAR	**Somma**	**3.88**	**219**	*e*P	Pn	19 09 54.5	-0.4
GNL	**Ganaly**	**3.89**	**229**	*e*P	Pn	19 09 55.9	+1.0
AVH	**Avacha**	**3.90**	**220**	*e*P	Pn	19 09 55.2	0.0
KOK	**Koryaka**	**3.92**	**221**	*e*P	Pn	19 09 55.5	+0.1
UGLR	**Uglovaya**	**3.92**	**219**	*e*P	Pn	19 09 56.1	+0.7

*IDC **24** 19:20:45.3±0.7, 32.94N×96.52E, mb3.6/10, mb1 3.9/12, mb1mx3.8/18, mbtmp3.7/12, ML3.7/2, MS3.4/1, Ms1 3.6/1, ms1mx3.0/20, Error ellipse: s-maj=35.2km s-min=15.7km az=57.0*
*BJI **24** 19:20:48.1, 33.07N×96.62E, h25km, mb4.3, ML4.0, Ms3.8, Msz3.4*
*NEIC **24** 19:20:51.5±0.9, 33.01N×96.68E, h42km±10km, mb3.7/3, Error ellipse: s-maj=10.0km s-min=7.4km az=84.0*
ISC 24 19:20:45.5±0.4, 33.00N±0.05×96.61E±0.05, h10km, n26, σ0§88/27, mb3.7/11, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.71**	**236**	*e*Pn	**Pn**	**19 22 16.5**	**+4.1**
	11nm,0.6s						
LSA				*e*Sg	**Sg**	**19 23 55.6**	**0.0**
LZH	**Lanzhou**	**6.72**	**61**	*e*P	**Pn**	**19 22 27.5**	**+0.8**
	40nm,1.0s						
LZH				pP		19 22 50.0	
LZH				sP		19 23 00.5	
LZH				PP	rx	19 24 21.0	
LZH				ScP		19 28 44.5	
KMI	**Kunming**	**9.50**	**144**	P	**P**	**19 23 05.5**	**0.0**
	7.0nm,0.8s						
XAN	**Xi'an**	**10.33**	**81**	P	**P**	**19 23 16.0**	**-0.9**
JIRN	**Jiri**	**10.45**	**242**	*e*P	**P**	**19 23 19.9**	**+1.3**
	16nm,0.7s						
KKN	**Kakani**	**11.07**	**245**	*e*P	**P**	**19 23 27.3**	**+0.3**
	19nm,0.9s						
PKI	**Pulchoki**	**11.09**	**244**	*e*P	**P**	**19 23 27.3**	**+0.1**
	10nm,0.5s						
DMN	**Daman**	**11.29**	**245**	*e*P	**P**	**19 23 30.3**	**+0.2**
	6.1nm,0.5s						
GKN	**Gorkha**	**11.46**	**247**	*e*P	**P**	**19 23 32.8**	**+0.5**
	14nm,0.9s						
KOLN	**Koldanda**	**12.38**	**249**	*e*P	**P**	**19 23 43.3**	**-1.4**
	7.5nm,0.7s						
CM31	**Chiang Mai Arr**	**14.63**	**171**	*e*P	**P**	**19 24 16.3**	**+1.7**
	3.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**14.63**	**171**	Pn	**P**	**19 24 14.2**	**-0.4**
	0.1nm,0.3s,baz=345,slow=12,SNR=18						
CMAR				LR	LR	19 30 08.6	
	comp=Z,142nm,18.7s,baz=335,slow=39						
SONM	**Songino Array**	**16.57**	**24**	Pn	**P**	**19 24 39.7**	**+0.3**
	0.1nm,0.3s,baz=203,slow=11,SNR=9.8						
ULN	**Ulaanbaatar**	**16.82**	**25**	*e*P	**P**	**19 24 43.3**	**+0.7**
	3.4nm,1.0s						
AAK	**Ala-Archa**	**19.89**	**305**	*e*P	**P**	**19 25 19.8**	**-0.2**
	4.3nm,1.1s						
KURK	**Kurchatov**	**22.10**	**329**	*e*P	**P**	**19 25 43.4**	**+0.9**
	4.5nm,0.8s,mb4.0						
ZAL	**Zalesovo**	**22.56**	**342**	P	**P**	**19 25 46.6**	**-0.3**
	0.7nm,0.7s,mb3.2,baz=299,slow=11,SNR=2.9						
BRTR	**Keskin Array B**	**50.24**	**297**	P	**P**	**19 29 44.0**	**+0.2**
	0.5nm,0.5s,mb3.8,baz=115,slow=7.5,SNR=3.5						
AKASG	**Malin Array Be**	**51.41**	**311**	P	**P**	**19 29 51.1**	**-1.3**
	0.4nm,0.5s,mb3.6,baz=67,slow=7.4,SNR=5.4						
NOA	**NORSAR Array B**	**59.58**	**326**	P	**P**	**19 30 50.0**	**-1.4**
	1.1nm,0.9s,mb3.9,baz=79,slow=5.8,SNR=3.1						
GERES	**GERESS Array B**	**61.61**	**312**	P	**P**	**19 31 04.3**	**-1.1**
	0.2nm,0.5s,mb3.5,baz=63,slow=6.0,SNR=4.3						
WRA	**Warramunga Arr**	**63.80**	**140**	P	**P**	**19 31 18.8**	**-1.6**
	2.5nm,0.9s,mb4.2,baz=334,slow=7.1,SNR=10						
ASAR	**Alice Springs**	**66.63**	**143**	P	**P**	**19 31 37.8**	**-0.8**
	1.1nm,0.6s,mb4.1,baz=324,slow=6.6,SNR=14						
ILAR	**Eielson Array**	**70.79**	**24**	P	**P**	**19 32 04.8**	**+1.2**
	0.5nm,1.1s,mb3.4,baz=295,slow=5.0,SNR=4.0						
STKA	**Stephens Creek**	**77.24**	**142**	P	**P**	**19 32 41.8**	**+0.1**
	1.9nm,0.8s,mb4.1,slow=6.1,SNR=4.3						
YKA	**Yellowknife Ar**	**81.58**	**14**	P	**P**	**19 33 05.2**	**+0.8**
	0.2nm,0.6s,mb3.3,baz=337,slow=5.0,SNR=4.6						

*JMA **24** 19:26:08.1±0.5, 23.40N×121.70E, h61km*
TAP 24 19:26:07.9, 23.51N×121.63E, h27km, ML2.9, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.58**	**53**	P	Pn	19 26 34.7	+0.2
YOJ				*e*S	Sn	19 26 54.0	-0.2
HATJ	**Hateruma jima**	**2.06**	**74**	P	Pn	19 26 40.7	-0.8
HATJ				*e*S	Sn	19 27 05.2	-1.4
IRIF	**Iriomote-Funau**	**2.09**	**66**	P	Pn	19 26 41.9	+0.1
IRIF				S	Sn	19 27 07.0	-0.2
JKRS	**Kuro-shima**	**2.29**	**71**	P	Pn	19 26 44.2	-0.6
JKRS				*e*S	Sn	19 27 11.7	-0.7
JIJ	**Ishigaki jima**	**2.45**	**69**	P	Pn	19 26 45.7	-1.3
JIJ				S	Sn	19 27 13.9	-2.5
JTJ	**Tarama**	**3.02**	**68**	P	Pn	19 26 54.3	-0.8
JTJ				*e*S	Sn	19 27 30.0	-0.9

IDC 24 19:26:10.1±5.7, 5.81S×146.46E, h117km±54km, mb3.0/3, mb1 3.2/5, mb1mx3.1/13, mbtmp3.4/5, Error ellipse: s-maj=61.1km s-min=31.4km az=126.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.64**	**169**	P	P	19 27 03.6	-2.3
	3.3nm,0.3s,baz=360,slow=8.7,SNR=14						
PMG				S		19 27 48.3	-0.1
	2.5nm,0.3s,baz=265,slow=17,SNR=2.8						
WRA	**Warramunga Arr**	**18.34**	**219**	P	P	19 30 15.6	-2.4
	0.1nm,0.3s,baz=40,slow=12,SNR=8.9						
ASAR	**Alice Springs**	**21.48**	**213**	P	P	19 30 50.0	-0.6
	0.5nm,0.8s,baz=51,slow=8.8,SNR=4.1						
STKA	**Stephens Creek**	**26.33**	**189**	P	P	19 31 34.3	-2.7
	1.0nm,0.7s,baz=18,slow=9.6,SNR=3.0						
ILAR	**Eielson Array**	**85.51**	**23**	P	P	19 38 35.0	-0.8
	0.3nm,0.6s,baz=257,slow=5.3,SNR=5.8						

*CSEM **24** 19:31:37.3±0.5, 38.85N×29.46W, h30km, ML2.8, Error ellipse: s-maj=13.5km s-min=9.9km az=1.0*
*PDA **24** 19:31:38.4±0.9, 38.89N×29.56W, MD3.4, ML2.8, Error ellipse: s-maj=8.5km s-min=7.5km az=37.0*
SVSA 24 19:31:38.4±0.9, 38.89N×29.56W, MD3.4, ML2.8, Error ellipse: s-maj=8.5km s-min=7.5km az=37.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.72**	**111**	*e*P	Pg	19 31 50.6	-2.1
PCED				*e*S	Sg	19 32 00.0	-2.3
CALA	**Caldeira**	**0.74**	**114**	*e*P	Pg	19 31 50.9	-2.2
CALA				*e*S	Sg	19 32 00.5	-2.4
HOR	**Horta**	**0.81**	**116**	*e*S	Sg	19 32 02.2	-3.2
PICO	**Pico**	**0.97**	**113**	*i* P	Pg	19 31 54.4	-3.3
PICO				*e*S	Sg	19 32 07.0	-3.6
ROSA	**Rosais**	**1.04**	**99**	*e*S	Sb	19 32 08.1	-4.9
STGR	**Santa Cruz**	**1.23**	**81**	*e*S	Sb	19 32 12.4	-6.0
	47nm,0.3s						
STGR	**Santa Cruz**	**1.23**	**81**	*e*S	Sb	19 32 12.4	-6.0
	47nm,0.3s						
PPAD	**Pico dos Padre**	**1.78**	**95**	*e*rx	Sn	19 32 28.8	-5.6
PFAV	**Pico das Favas**	**1.94**	**95**	*e*rx	Sn	19 32 32.7	-5.7
PFAV	**Pico das Favas**	**1.94**	**95**	*e*-	Sn	19 32 32.7	-5.7
SET4	**Mosteiros**	**3.12**	**108**	*e*P	Pn	19 32 24.3	-5.5
SET2	**Ginetes**	**3.13**	**108**	*e*P	Pn	19 32 24.6	-5.3
LFA	**Lagoa do Fogo**	**3.39**	**108**	*e*P	Pn	19 32 28.3	-5.4
MESC	**Monte Escuro**	**3.41**	**107**	*e*P	Pn	19 32 28.8	-5.2
VIF	**Vila Franca**	**3.43**	**108**	*e*rx	Pn	19 32 29.3	-5.0

*NEIC **24** 19:37:57.6±1.2, 8.45S×74.19W, h156km±14km, Error ellipse: s-maj=14.0km s-min=13.4km az=189.0*
*IDC **24** 19:37:59.6±3.4, 8.47S×74.10W, h175km±37km, mb3.1/4, mb1 3.5/7, mb1mx3.3/17, mbtmp3.8/7, Error ellipse: s-maj=37.3km s-min=19.0km az=39.0*
ISC 24 19:37:55.9±1.4, 8.37S±0.09×74.24W±0.08, h151km±18km, n18, σ0§92/18, mb3.6/5, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.41**	**215**	Pn	**P**	**19 39 03.5**	**+1.1**
	649nm,0.3s,SNR=12						
NNA	**Nana**	**4.41**	**215**	*e*Pn	**P**	**19 39 02.1**	**-0.3**
NNA				*e*Sn	**S**	**19 39 52.5**	**-1.1**
LPAZ	**La Paz**	**9.87**	**143**	P	**P**	**19 40 15.7**	**+0.6**
	0.4nm,0.3s,baz=332,slow=13,SNR=9.2						
LPAZ				S	**S**	**19 42 04.7**	**+0.6**
	0.3nm,0.3s,baz=167,slow=8.5,SNR=1.8						
LPAZ	**La Paz**	**9.87**	**143**	P	**P**	**19 40 15.7**	**+0.6**
LPAZ				S	**S**	**19 42 04.7**	**+0.6**
SAML	**Samuel**	**10.95**	**94**	*e*Pn	**P**	**19 40 28.2**	**-1.1**
	11nm,0.4s						
SAML				*e*Sn	**S**	**19 42 25.1**	**-4.4**
LVC	**Limon Verde**	**15.06**	**161**	P	**P**	**19 41 23.2**	**+1.1**
	0.2nm,0.3s,baz=308,slow=14,SNR=2.8						
SDV	**Santo Domingo**	**17.52**	**12**	P	**P**	**19 41 53.3**	**+0.9**
	2.6nm,0.3s,baz=158,slow=7.4,SNR=13						
TXAR	**Lajitas Array**	**47.00**	**324**	P	**P**	**19 46 14.3**	**+0.5**
	0.8nm,0.4s,mb3.7,baz=149,slow=8.6,SNR=7.1						
NVAR	**Mina Array Bea**	**62.04**	**322**	P	**P**	**19 48 03.3**	**+0.6**
	0.5nm,0.8s,mb3.4,baz=149,slow=5.3,SNR=2.8						
DBIC	**Dimbokro**	**70.77**	**80**	P	**P**	**19 48 56.7**	**-1.6**
	7.3nm,0.3s,mb4.8,baz=237,slow=5.1,SNR=52						
DBIC	**Dimbokro**	**70.77**	**80**	P	**P**	**19 48 56.7**	**-1.6**
YKA	**Yellowknife Ar**	**77.18**	**342**	P	**P**	**19 49 33.7**	**-0.6**
	0.1nm,0.5s,mb2.7,baz=140,slow=6.1,SNR=4.1						
YKA	**Yellowknife Ar**	**77.18**	**342**	P	**P**	**19 49 33.7**	**-0.6**
ESDC	**Sonseca Array**	**80.46**	**47**	P	**P**	**19 49 52.5**	**-0.1**
	0.3nm,0.4s,mb3.3,baz=259,slow=6.0,SNR=4.1						
ASAR	**Alice Springs**	**137.92**	**220**	PKhKP		19 56 55.5	
	0.3nm,0.7s,baz=108,slow=2.5,SNR=3.8						
ASAR				PKP	PKPdf	19 57 03.8	+0.4
	0.2nm,0.5s,baz=146,slow=2.7,SNR=4.3						
ASAR	**Alice Springs**	**137.92**	**220**	PKP	PKPdf	19 57 03.8	+0.4
WRA	**Warramunga Arr**	**140.21**	**225**	PKhKP		19 57 01.1	
	0.3nm,0.8s,baz=132,slow=2.7,SNR=7.5						
WRA				PKP	PKPdf	19 57 08.5	+0.9
	0.3nm,0.4s,baz=125,slow=2.1,SNR=8.4						
WRA	**Warramunga Arr**	**140.21**	**225**	PKP	PKPdf	19 57 08.5	+0.9

IDC 24 19:40:26.6±4.9, 4.36N×96.03E, mb3.5/4, mb1 3.8/5, mb1mx3.6/17, mbtmp3.5/5, ML3.9/1, Error ellipse: s-maj=184.1km s-min=25.9km az=64.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.30**	**11**	Pn	P	19 44 01.3	+8.6
	0.2nm,0.3s,baz=200,slow=11,SNR=7.9						
SONM	**Songino Array**	**44.22**	**10**	P	P	19 48 37.9	-1.5
	0.3nm,0.6s,baz=180,slow=8.6,SNR=2.8						
WRA	**Warramunga Arr**	**44.73**	**124**	P	P	19 48 41.5	-2.3
	1.2nm,0.5s,baz=302,slow=9.0,SNR=10						
ASAR	**Alice Springs**	**46.25**	**129**	P	P	19 48 54.7	-1.1
	0.3nm,0.7s,baz=306,slow=8.3,SNR=2.9						
ZAL	**Zalesovo**	**50.27**	**351**	P	P	19 49 24.2	-2.5
	0.5nm,0.5s,baz=158,slow=15,SNR=3.4						

*IDC **24** 19:52:45.3±0.9, 3.23N×93.85E, mb4.1/11, mb1 4.2/12, mb1mx4.1/19, mbtmp4.1/12, ML4.3/1, MS3.8/5, Ms1 3.9/5, ms1mx3.7/14, Error ellipse: s-maj=43.5km s-min=15.5km az=52.0*
*BJI **24** 19:52:50.2, 3.30N×94.00E, h29km, mB4.9, mb4.4, Ms4.3, Msz4.0*
*NEIC **24** 19:52:50.2±0.5, 3.27N×93.95E, mb4.6/6, Error ellipse: s-maj=16.6km s-min=8.3km az=63.0*
ISC 24 19:52:48.0±0.6, 3.26N±0.09×93.9E±0.1, h29km, h29km±1.3km: pP-P, n28, σ0§92/27, mb4.2/19, MS4.0/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**15.89**	**18**	*e*Pn	**P**	**19 56 30.8**	**-0.6**
	2.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**15.89**	**18**	Pn	**P**	**19 56 31.5**	**+0.1**
	0.4nm,0.3s,baz=208,slow=13,SNR=14						
CMAR				LR	LR	20 02 26.9	
	comp=Z,157nm,18.8s,baz=210,slow=36						
CAL	**Calcutta**	**19.92**	**345**	*e*P	**P**	**19 57 24.3**	**+3.7**
CAL				*e*	**S**	**20 01 10.7**	**+13**
CAL				*e*		20 01 14.3	
SHL	**Shillong**	**22.27**	**355**	*e*P	**P**	**19 57 46.0**	**+1.6**
LSA	**Lhasa**	**26.43**	**355**	P	**P**	**19 58 27.0**	**+2.7**
LSA				*e*S	**S**	**20 03 01.5**	**+7.5**
LSA				AMB	AMB		
	comp=Z,250nm,5.2s						
LSA				LR	LR		
	comp=N,170nm,17.0s,MS3.9						
LSA				LR	LR		
	comp=E,250nm,16.0s,MS3.9						
LSA				LR	LR		
	comp=Z,310nm,18.0s,MS3.9						
LSA	**Lhasa**	**26.43**	**355**	*e*P	**P**	**19 58 26.6**	**+2.3**
	comp=Z,15nm,0.6s,mb4.7						
LSA				*e*pP	pP	19 58 36.0	+3.2
KHET	**Khetri**	**30.13**	**327**	*e*P	**P**	**19 58 57.9**	**+0.2**
KHET				AMb	AMB	19 59 10.8	
	comp=Z,4.5nm,0.3s,mb4.6						
KLP	**Kalpa**	**31.77**	**334**	*e*P	**P**	**19 59 10.1**	**-2.0**
KLP				AMb	AMB	19 59 33.9	
	comp=Z,3.8nm,1.3s,mb4.1						
XAN	**Xi'an**	**33.67**	**23**	P	**P**	**19 59 27.5**	**-1.1**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
SONM	**Songino Array**	**45.69**	**12**	P	**P**	**20 01 08.2**	**+0.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=193,slow=8.3,SNR=10						
WRA	**Warramunga Arr**	**45.89**	**122**	P	**P**	**20 01 10.4**	**+0.3**
	comp=Z,9.0nm,1.4s,mb4.5,baz=300,slow=8.8,SNR=43						
WRAB	**Tennant Creek**	**45.90**	**122**	*e*P	**P**	**20 01 10.3**	**+0.2**
	comp=Z,8.6nm,0.7s,mb4.8						
ASAR	**Alice Springs**	**47.24**	**127**	P	**P**	**20 01 20.5**	**-0.2**
	comp=Z,2.1nm,0.6s,mb4.2,baz=293,slow=7.8,SNR=20						
ASAR				PcP	PcP	20 02 51.5	-0.5
	comp=Z,0.9nm,0.8s,baz=292,slow=3.6,SNR=4.1						
ASAR				LR	LR	20 24 27.3	
	comp=Z,81nm,18.1s,MS3.7,baz=260,slow=40						
KURK	**Kurchatov**	**49.02**	**347**	*e*P	**P**	**20 01 34.1**	**0.0**
	comp=Z,8.8nm,1.3s,mb4.6						
KURK				*e*pP	pP	20 01 43.6	+0.5
ZAL	**Zalesovo**	**51.07**	**353**	P	**P**	**20 01 49.7**	**-0.1**
	comp=Z,2.6nm,0.9s,mb4.2,baz=313,slow=5.2,SNR=9.1						
ZAL	**Zalesovo**	**51.07**	**353**	P	**P**	**20 01 49.7**	**-0.1**
BVAR	**Borovoye Array**	**53.28**	**342**	P	**P**	**20 02 05.0**	**-1.4**
	comp=Z,1.8nm,0.8s,mb4.0,baz=135,slow=8.4,SNR=10						
BRVK	**Borovoye**	**53.34**	**342**	*e*P	**P**	**20 02 06.9**	**+0.1**
	comp=Z,2.2nm,0.8s,mb4.1						
BRVK				*e*pP	pP	20 02 15.5	-0.3
CHKZ	**Chkalovo**	**53.78**	**343**	*e*P	**P**	**20 02 09.7**	**-0.3**
	comp=Z,7.1nm,1.1s,mb4.5						
CHKZ				*e*pP	pP	20 02 17.7	-1.3
KMBO	**Kilima Mbogo**	**56.82**	**267**	LR	LR	20 24 24.1	
	comp=Z,180nm,18.6s,MS4.2,baz=94,slow=34						
STKA	**Stephens Creek**	**57.16**	**132**	P	**P**	**20 02 34.8**	**-0.1**
	comp=Z,3.1nm,0.7s,mb4.4,baz=309,slow=7.7,SNR=8.4						
BRTR	**Keskin Array B**	**65.32**	**313**	P	**P**	**20 03 29.7**	**-0.1**
	comp=Z,1.1nm,0.7s,mb4.0,baz=121,slow=7.2,SNR=5.1						
AKASG	**Malin Array Be**	**71.65**	**323**	P	**P**	**20 04 08.3**	**-0.7**
	comp=Z,0.5nm,0.6s,mb3.7,baz=105,slow=3.8,SNR=5.2						
FINES	**FINESS Array B**	**76.68**	**333**	P	**P**	**20 04 37.6**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=90,slow=3.8,SNR=6.7						
ARCES	**ARCESS Array B**	**79.52**	**341**	P	**P**	**20 04 54.5**	**+1.3**
	comp=Z,4.0nm,1.0s,mb4.3,baz=79,slow=4.6,SNR=7.6						
GERES	**GERESS Array B**	**81.12**	**319**	P	**P**	**20 05 02.8**	**+0.7**
	comp=Z,2.2nm,0.9s,mb4.1,baz=90,slow=4.0,SNR=13						
NOA	**NORSAR Array B**	**83.63**	**331**	LR	LR	20 45 53.9	
	comp=Z,37nm,19.6s,MS3.8,baz=140,slow=38						
DBIC	**Dimbokro**	**98.33**	**277**	LR	LR	20 49 57.6	
	comp=Z,69nm,19.6s,MS4.2,baz=66,slow=35						

*CSEM **24** 19:53:23.1, 35.21N×25.80E, h48km, MD3.6/3, After ATH*
ATH 24 19:53:23.1, 35.21N×25.80E, h48km, MD3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.16**	**289**	*e*P	P	19 53 31.0	+0.1
VAM	**Vamos**	**1.32**	**279**	*e*P	P	19 53 46.5	+0.8
VLI	**Veliai**	**2.77**	**304**	*e*P	P	19 54 06.5	+0.4

*IDC **24** 20:34:58.4±2.5, 12.11N×92.17E, mb3.7/4, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=63.0km s-min=26.0km az=89.0*
*NEIC **24** 20:35:02.4±0.5, 12.16N×92.15E, h30km, mb3.7/1, Error ellipse: s-maj=10.5km s-min=8.7km az=114.0*
ISC 24 20:35:00.1±0.7, 12.11N±0.08×92.13E±0.09, h30km, n13, σ0§95/14, mb3.7/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**9.11**	**45**	P	**P**	**20 37 10.6**	**-2.1**
CMAR	**Chiang Mai Arr**	**9.11**	**45**	Pn	**P**	**20 37 10.5**	**-2.2**
	0.1nm,0.3s,baz=236,slow=15,SNR=9.3						
CMAR				Sn	**Sn**	**20 38 55.9**	**+0.6**
	0.1nm,0.3s,baz=210,slow=27,SNR=3.2						
PALK	**Pallekele**	**12.25**	**248**	P	**P**	**20 37 54.5**	**-1.0**
LSA	**Lhasa**	**17.52**	**357**	P	**P**	**20 39 04.6**	**+0.6**
ENH	**Enshi**	**24.20**	**39**	P	**P**	**20 40 15.9**	**+0.6**
SONM	**Songino Array**	**37.56**	**16**	P	**P**	**20 42 14.4**	**+0.8**
	0.5nm,0.7s,mb3.4,baz=200,slow=8.0,SNR=4.2						
KURK	**Kurchatov**	**40.05**	**347**	P	**P**	**20 42 34.5**	**+0.2**
CHKZ	**Chkalovo**	**44.85**	**342**	*e*P	**P**	**20 43 13.8**	**+0.3**
	0.5nm,0.5s,mb3.6						
WRA	**Warramunga Arr**	**52.35**	**127**	P	**P**	**20 44 11.8**	**-0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNKL	**Nakhl**	**6.90**	**147**	P	**P**	**20 37 00.3**	**-0.6**
HNKL				S	**S**	**20 38 13.3**	**-5.8**
SWA1		**7.28**	**208**	P	**P**	**20 37 05.9**	**-0.4**
SWA2		**7.40**	**209**	P	**P**	**20 37 07.5**	**-0.4**
AWBH		**7.46**	**185**	P	**P**	**20 37 07.6**	**-1.2**
TR2		**8.16**	**154**	P	**P**	**20 37 17.6**	**-0.9**

*FUNV **24** 20:45:29.1, 10.99N×62.31W, h88km, MW2.8*
*TRN **24** 20:45:31.0, 10.94N×62.35W, h76km, MD3.2*
*NEIC **24** 20:45:31.0, 10.97N×62.39W, h70km, MD3.2(TRN), After TRN.*

ISC 24 20:45:28.1±0.7, 10.92N±0.04×62.42W±0.03, h98km±6km, n17, σ1§13/33, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.33**	**145**	*e*P	**P**	**20 45 42.4**	**-0.2**
GUIV				*e*S	**S**	**20 45 52.1**	**-1.7**
ITEV	**Isla Los Testi**	**0.82**	**302**	*e*P	**P**	**20 45 46.8**	**0.0**
ITEV				*e*S	**S**	**20 45 59.7**	**-1.0**
CRUV	**Carupano**	**0.84**	**253**	*e*P	**P**	**20 45 47.9**	**+1.0**
CRUV				*e*S	**S**	**20 46 01.4**	**+0.4**
GUNV	**Guanoco**	**0.91**	**215**	*e*P	**P**	**20 45 49.1**	**+1.4**
GUNV				*e*S	**S**	**20 46 03.5**	**+1.1**
TRN	**Trinidad (W)**	**1.03**	**105⇑**	*i*P	**P**	**20 45 50.1**	**+1.2**
TRN				*e*S	**S**	**20 46 02.8**	**-1.9**
TBH	**Brigand Hill**	**1.40**	**108**	*e*P	**P**	**20 45 57.4**	**+4.0**
TBH				*e*S	**S**	**20 46 13.7**	**+1.6**
GRW	**Mount Saint Ca**	**1.44**	**31**	*e*P	**P**	**20 45 54.7**	**+0.8**
GRW				*e*S	**S**	**20 46 12.6**	**-0.5**
TPR	**Prospect**	**1.63**	**80**	*e*P	**P**	**20 45 56.8**	**+0.5**
TPR				*e*S	**S**	**20 46 16.5**	**-0.7**
ORIV	**Oritupano**	**2.08**	**208**	*e*P	**P**	**20 46 03.9**	**+1.7**
ORIV				*e*S	**S**	**20 46 28.8**	**+1.4**
PCRV	**Puerto La Cruz**	**2.30**	**252**	*e*P	**P**	**20 46 05.5**	**+0.3**
PCRV				*e*S	**S**	**20 46 32.4**	**-0.5**
RIOV	**Rio Grande**	**2.89**	**168**	*e*P	**P**	**20 46 12.9**	**-0.4**
RIOV				*e*S	**S**	**20 46 45.0**	**-2.3**
CUPV	**Cœpira**	**3.42**	**256**	*e*P	**P**	**20 46 21.4**	**+0.8**
CUPV				*e*S	**S**	**20 47 00.3**	**-0.1**
BIRV	**Birongo**	**3.81**	**264**	*e*P	**P**	**20 46 25.9**	**0.0**
MERV	**Las Mercedes**	**4.16**	**247**	*e*P	**P**	**20 46 31.5**	**+0.8**
MERV				*e*S	**S**	**20 47 16.5**	**-2.1**
CAOV	**Caicara del Or**	**5.25**	**228**	*e*P	**P**	**20 46 45.8**	**+0.3**
CAOV				*e*S	**S**	**20 47 41.7**	**-3.8**
BAUV	**El Baul**	**5.88**	**251**	*e*P	**P**	**20 46 53.3**	**-0.8**
BAUV				*e*S	**S**	**20 47 56.6**	**-4.1**
PAYV	**Puerto Ayacuch**	**7.53**	**224**	*e*P	**P**	**20 47 15.2**	**-1.6**
PAYV				*e*S	**S**	**20 48 33.0**	**-8.3**

*IDC **24** 20:57:26.4±1.6, 5.51N×92.84E, mb3.6/5, mb1 3.8/6, mb1mx3.6/18, mbtmp3.6/6, ML3.3/1, Error ellipse: s-maj=57.4km s-min=23.5km az=59.0*
*NEIC **24** 20:57:30.5±0.6, 5.49N×92.77E, h30km, mb3.9/4, Error ellipse: s-maj=13.2km s-min=10.3km az=58.0*

ISC 24 20:57:27.8±4.9, 5.5N±0.1×92.8E±0.1, h25km±36km, n14, σ0§83/14, mb3.8/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.13**	**279**	P	**P**	**21 00 22.1**	**-0.1**
CM31	**Chiang Mai Arr**	**14.26**	**24**	P	**P**	**21 00 51.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**14.26**	**24**	Pn	**P**	**21 00 50.5**	**-0.1**
	0.0nm,0.3s,baz=233,slow=14,SNR=7.6						
LSA	**Lhasa**	**24.16**	**357**	P	**P**	**21 02 43.6**	**+0.2**
	2.2nm,0.6s,mb3.8						
AAK	**Ala-Archa**	**40.42**	**339**	P	**P**	**21 05 04.0**	**-1.8**
	0.6nm,0.5s,mb3.6						
SONM	**Songino Array**	**43.81**	**13**	P	**P**	**21 05 32.7**	**-0.8**
	0.7nm,0.8s,mb3.4,baz=190,slow=7.5,SNR=5.2						
WRA	**Warramunga Arr**	**48.04**	**123**	P	**P**	**21 06 07.4**	**-0.1**
	1.3nm,1.2s,mb3.8,baz=302,slow=8.9,SNR=6.4						
WRAB	**Tennant Creek**	**48.04**	**123**	P	**P**	**21 06 07.0**	**-0.5**
ZAL	**Zalesovo**	**48.77**	**354**	P	**P**	**21 06 12.8**	**+0.1**
	1.0nm,0.9s,mb3.8,baz=145,slow=22,SNR=5.5						
ASAR	**Alice Springs**	**49.48**	**127**	P	**P**	**21 06 18.9**	**+0.4**
	0.4nm,0.7s,mb3.6,baz=294,slow=8.9,SNR=3.7						
CHKZ	**Chkalovo**	**51.36**	**343**	*e*P	**P**	**21 06 31.4**	**-1.0**
	0.9nm,0.5s,mb4.0						
ARU	**Arti**	**57.59**	**338**	P	**P**	**21 07 19.7**	**+1.7**
	7.4nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**59.47**	**132**	P	**P**	**21 07 31.5**	**+0.1**
GERES	**GERESS Array B**	**78.72**	**319**	P	**P**	**21 09 31.1**	**+1.3**
	0.5nm,0.7s,mb3.5,baz=90,slow=6.7,SNR=4.9						

*IDC **24** 21:02:32.9±2.7, 43.41N×105.19W, mb1 3.3/3, mb1mx3.1/19, mbtmp2.9/3, ML3.4/3, Error ellipse: s-maj=52.1km s-min=18.1km az=157.0*
*NEIC **24** 21:02:33.9±1.1, 43.48N×105.11W, ML3.2, Error ellipse: s-maj=14.1km s-min=8.4km az=68.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] NNE of Douglas.

ISC 24 21:02:32.6±0.9, 43.52N±0.05×105.1W±0.1, n33, σ1§03/34, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.23**	**187**	*e*Pn	**Pn**	**21 03 11.5**	**+0.2**
LAO	**LASA Array**	**3.26**	**347**	*e*Pn	**Pn**	**21 03 27.0**	**+1.0**
BW06	**Boulder Array**	**3.33**	**258**	*e*Pn	**Pn**	**21 03 27.4**	**+0.3**
PDAR	**Pinedale Array**	**3.33**	**258**	Pn	**Pn**	**21 03 27.7**	**+0.7**
	1.1nm,0.3s,baz=72,slow=16,SNR=42						
PDAR				Pg	**Pg**	**21 03 35.5**	**-3.7**
	4.9nm,0.3s,baz=70,slow=21,SNR=31						
PDAR				Lg		21 04 14.8	
	7.8nm,0.3s,baz=72,slow=33,SNR=15						
ISCO	**Idaho Springs**	**3.74**	**186**	*e*Pn	**Pn**	**21 03 32.5**	**-0.2**
LOHW	**Long Hollow**	**3.99**	**273**	*e*Pn	**Pn**	**21 03 35.9**	**-0.4**
WUWY	**Wally Ulrich**	**4.09**	**272**	Pn	**Pn**	**21 03 38.3**	**+0.6**
MOOW	**Moose Ponds**	**4.09**	**275**	*e*Pn	**Pn**	**21 03 38.3**	**+0.6**
SNOW	**Snow King Moun**	**4.10**	**271**	Pn	**Pn**	**21 03 37.2**	**-0.8**
YNR	**Norris Junctio**	**4.18**	**289**	Pn	**Pn**	**21 03 38.0**	**-1.0**
YFT	**Old Faithful**	**4.23**	**285**	Pn	**Pn**	**21 03 40.2**	**+0.4**
IMW	**Indian Meadow**	**4.24**	**277**	*e*Pn	**Pn**	**21 03 40.7**	**+0.8**
TPAW	**Teton Pass**	**4.24**	**272**	Pn	**Pn**	**21 03 40.0**	**+0.1**
YMR	**Madison River**	**4.36**	**287**	*e*Pn	**Pn**	**21 03 42.1**	**+0.5**
AHID	**Auburn Hatcher**	**4.44**	**262**	Pn	**Pn**	**21 03 42.7**	**0.0**
QLMT	**Earthquake Lak**	**4.72**	**288**	Pn	**Pn**	**21 03 45.8**	**-1.0**
DGMT	**Dagmar**	**4.99**	**7**	Pn	**Pn**	**21 03 49.9**	**-0.7**
BOZ	**Bozeman (W)**	**5.11**	**297**	*e*Pn	**Pn**	**21 04 00.2**	**+8.0**
HWUT	**Hardware Ranch**	**5.13**	**250**	*e*Pn	**Pn**	**21 03 52.1**	**-0.4**
TCUT	**Toone Canyon**	**5.24**	**245**	*e*Pn	**Pn**	**21 03 52.5**	**-1.6**
DAU	**Daniels Canyon**	**5.53**	**238**	Pn	**Pn**	**21 03 54.5**	**-3.6**
JLU	**Jordanelle**	**5.54**	**240**	Pn	**Pn**	**21 04 00.2**	**+1.9**
RW3	**Ridgway**	**5.61**	**201**	Pn	**Pn**	**21 04 02.9**	**+3.5**
MCMT	**McKenzie Canyo**	**5.71**	**286**	Pn	**Pn**	**21 04 01.7**	**+1.0**
SPUT	**South Promonto**	**5.86**	**250**	*e*Pn	**Pn**	**21 04 03.2**	**+0.4**
HVU	**Hansel Valley**	**5.91**	**255**	Pn	**Pn**	**21 04 04.0**	**+0.5**
PV10	**Paradox Valley**	**5.93**	**211**	Pn	**Pn**	**21 04 05.5**	**+1.7**
SRU	**San Rafael**	**6.00**	**225**	*e*Pn	**Pn**	**21 04 02.4**	**-2.3**
TMUT	**Trail Mountain**	**6.22**	**229**	Pn	**Pn**	**21 04 07.4**	**-0.5**
BGU	**Big Grassy Mou**	**6.42**	**249**	Pn	**Pn**	**21 04 07.8**	**-2.9**
NVAR	**Mina Array Bea**	**11.19**	**247**	Pn	**P**	**21 05 17.3**	**+0.5**
	0.0nm,0.3s,baz=39,slow=12,SNR=2.9						
YKA	**Yellowknife Ar**	**19.80**	**347**	P	**P**	**21 07 06.6**	**-0.5**
YKA	**Yellowknife Ar**	**19.80**	**347**	P	**P**	**21 07 06.6**	**-0.5**
	0.1nm,0.3s,baz=158,slow=12,SNR=5.7						

KRSC 24 21:09:21.3±0.9, 50.37N×156.85E, h1km±11km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.56**	**304**	*i*P	Pg	21 09 33.6	+1.1
SKR				*i*S	Sg	21 09 42.6	+2.5
ALID	**Alaid**	**0.97**	**302**	*i*P	Pb	21 09 41.6	+1.1
PAU	**Pauzhetka**	**1.10**	**359**	*i*P	Pb	21 09 44.4	+1.6
PAU				*e*S	Sb	21 09 59.4	+2.0
RUS	**Russkaya**	**2.31**	**26**	*e*P	Pn	21 10 00.7	-0.4
RUS				*e*S	Sn	21 10 29.5	-1.1
GRL	**Gorelyy**	**2.31**	**19**	*e*P	Pn	21 10 01.7	+0.6
GRL				*e*S	Sn	21 10 31.2	+0.6
APC	**Apacha**	**2.57**	**4**	*e*S	Sn	21 10 36.5	-0.5
KRMR	**Karymshinskiy**	**2.59**	**17**	*e*S	Sn	21 10 39.5	+1.9
PET	**Petropavlovsk**	**2.88**	**22**	*e*S	Sn	21 10 45.7	+0.6
UGLR	**Uglovaya**	**3.10**	**23**	*e*P	Pn	21 10 13.0	+0.7
AVH	**Avacha**	**3.13**	**21**	*e*P	Pn	21 10 14.2	+1.5
AVH				*e*S	Sn	21 10 53.3	+2.1
KOK	**Koryaka**	**3.13**	**20**	*e*P	Pn	21 10 14.4	+1.7
KOK				*e*S	Sn	21 10 53.2	+1.9
SMAR	**Somma**	**3.14**	**22**	*e*P	Pn	21 10 14.8	+1.9
SDLR	**Sedlovina**	**3.17**	**23**	*e*P	Pn	21 10 13.6	+0.2
SPN	**Mys Shipunski**	**3.37**	**35**	*e*P	Pn	21 10 15.7	-0.4
SPN				*i*S	Sn	21 10 55.8	-1.6
GNL	**Ganaly**	**3.40**	**11**	*e*P	Pn	21 10 17.6	+1.1

*BJI **24** 21:21:40.8, 53.25N×158.48E, h188km, mB4.9, mb4.9*
*MOS **24** 21:21:41.4±1.0, 53.31N×157.98E, h164km, mb4.8/59, Error ellipse: s-maj=8.8km s-min=4.7km az=94.5*
*KRSC **24** 21:21:41.8±1.1, 53.25N×158.25E, h167km±2km, ML4.8*
*IDC **24** 21:21:42.9±0.4, 53.45N×157.90E, h162km±3km, mb4.2/26, mb1 4.4/28, mb1mx4.4/29, mbtmp4.7/28, MS3.4/2, Ms1 3.5/2, ms1mx2.7/31, Error ellipse: s-maj=10.8km s-min=8.1km az=158.0*
*NEIC **24** 21:21:42.6±0.2, 53.40N×157.98E, mb4.8/64, Error ellipse: s-maj=5.5km s-min=3.4km az=161.0*

ISC 24 21:21:41.8±0.2, 53.29N±0.03×158.05E±0.05, h170km±1km, h163km±2km: pP-P, n289, σ1§03/319, mb4.6/102, 4C-9D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOK	**Koryaka**	**0.35**	**90**	*i*P	**P**	**21 22 05.4**	**+0.2**
GNL	**Ganaly**	**0.41**	**351**	*i*P	**P**	**21 22 06.0**	**+0.6**
GNL				*i*S	**S**	**21 22 23.4**	**-0.1**
AVH	**Avacha**	**0.41**	**94**	*i*P	**P**	**21 22 05.6**	**+0.2**
SMAR	**Somma**	**0.45**	**94**	*i*P	**P**	**21 22 05.6**	**0.0**
PET	**Petropavlovsk**	**0.45**	**126**	P	**P**	**21 22 05.2**	**-0.4**
PET	**Petropavlovsk**	**0.45**	**126⇓**	*i*PN	**P**	**21 22 04.8**	**-0.8**
PET				*i*S	**S**	**21 22 22.4**	**-1.5**
PET				pmax	pmax		
	comp=Z,17μm,1.7s						
PET				pmax	pmax		
	comp=Z,14μm,0.6s						
PET				pmax	pmax		
	comp=E,4μm,0.4s						
PET				pmax	pmax		
	comp=N,3μm,0.4s						
PET				smax			
	comp=E,35μm,2.8s						
PET				smax			
	comp=N,12μm,0.7s						
PET				smax			
	comp=E,14μm,7.7s						
PET				smax			
	comp=E,8μm,0.7s						
PET	**Petropavlovsk**	**0.45**	**126**	*e*P	**P**	**21 22 04.4**	**-1.2**
PET	**Petropavlovsk**	**0.45**	**126**	*i*P	**P**	**21 22 05.1**	**-0.5**
PET				*i*S	**S**	**21 22 21.9**	**-2.0**
KRMR	**Karymshinskiy**	**0.47**	**174**	*i*P	**P**	**21 22 05.5**	**-0.1**
KRMR				*i*S	**S**	**21 22 22.5**	**-1.5**
UGLR	**Uglovaya**	**0.47**	**100**	*i*P	**P**	**21 22 05.8**	**+0.1**
SDLR	**Sedlovina**	**0.50**	**91**	*i*P	**P**	**21 22 05.5**	**-0.3**
APC	**Apacha**	**0.65**	**236**	*i*P	**P**	**21 22 07.8**	**+1.3**
APC				*i*S	**S**	**21 22 26.5**	**+1.0**
APC				Smax			
	comp=E,12μm,1.1s						
GRL	**Gorelyy**	**0.74**	**179**	*i*P	**P**	**21 22 07.8**	**+0.8**
NLC	**Nalytchevo**	**0.79**	**98**	P	**P**	**21 22 06.4**	**-0.8**
NLC	**Nalytchevo**	**0.79**	**98**	*i*P	**P**	**21 22 06.3**	**-0.9**
RUS	**Russkaya**	**0.91**	**162**	*i*P	**P**	**21 22 07.4**	**-0.5**
KII	**Karymskiy**	**1.12**	**48**	*i*P	**P**	**21 22 09.8**	**+0.2**
SPN	**Mys Shipunski**	**1.20**	**99**	*i*P	**P**	**21 22 08.6**	**-1.8**
MIPR	**Malaya Ipel'ka**	**1.29**	**218**	*i*P	**P**	**21 22 12.5**	**+1.3**
PAU	**Pauzhetka**	**1.98**	**203**	*i*P	**P**	**21 22 19.7**	**+1.5**
PAU				*e*S	**S**	**21 22 45.7**	**-0.7**
PAU				Smax			
	comp=E,2μm,0.7s						
TUMR	**Tumrok**	**2.34**	**31**	*i*P	**P**	**21 22 23.6**	**+1.1**
TUMR				*i*S	**S**	**21 22 53.8**	**-0.1**
ESO	**Esso**	**2.66**	**8**	*i*P	**P**	**21 22 27.4**	**+1.0**
ESO				*e*S	**S**	**21 22 58.9**	**-1.8**
ESO				Smax			
	comp=E,1μm,1.5s						
KMNR	**Kamenistaya**	**2.78**	**26**	*e*P	**P**	**21 22 28.7**	**+0.9**
KMNR				*e*S	**S**	**21 23 03.2**	**0.0**
SKR	**Severo-Kuril's**	**2.88**	**205⇑**	*e*PN	**P**	**21 22 27.5**	**-1.5**
SKR				*i*S	**S**	**21 23 03.0**	**-2.3**
SKR				pmax	pmax		
	comp=N,250nm,0.6s						
SKR				pmax	pmax		
	comp=E,240nm,0.6s						
SKR				pmax	pmax		
	comp=Z,480nm,0.6s						
SKR				smax			
	comp=N,4μm,0.5s						
SKR				smax			
	comp=E,5μm,0.5s						
SKR				smax			
	comp=N,7μm,2.0s						
SKR				smax			
	comp=E,8μm,2.0s						
SKR	**Severo-Kuril's**	**2.88**	**205**	*i*P	**P**	**21 22 27.5**	**-1.5**
SKR				*i*S	**S**	**21 23 03.0**	**-2.3**
ALID	**Alaid**	**2.88**	**213**	*e*P	**P**	**21 22 30.0**	**+1.0**
KPT	**Kopyto**	**2.96**	**24**	*i*P	**P**	**21 22 30.9**	**+0.8**
KOZ	**Kozyrevsk**	**2.97**	**20**	P	**P**	**21 22 30.8**	**+0.7**
KOZ				S	**S**	**21 23 09.0**	**+1.7**
KOZ	**Kozyrevsk**	**2.97**	**20**	*i*P	**P**	**21 22 30.9**	**+0.8**
KOZ				*i*S	**S**	**21 23 07.0**	**-0.3**
KOZR	**Kozyr**	**2.98**	**20**	PN	**P**	**21 22 30.8**	**+0.5**
KOZR				S	**S**	**21 23 09.0**	**+1.4**
SRDR	**Sredinnyy**	**3.18**	**17**	*i*P	**P**	**21 22 33.8**	**+1.0**
SRDR				*i*S	**S**	**21 23 12.1**	**0.0**
KLY	**Klyuchi**	**3.38**	**25**	*e*P	**P**	**21 22 37.2**	**+1.8**
SVLR	**Shiveluch**	**3.76**	**28**	*i*P	**P**	**21 22 41.6**	**+1.3**
SVLR				*i*S	**S**	**21 23 25.1**	**-0.3**
KBG	**Krutoberegovo**	**4.01**	**40**	*e*P	**P**	**21 22 43.2**	**-0.2**
KBG				*e*S	**S**	**21 23 26.2**	**-4.8**
KBG				Smax			
	comp=E,1μm,0.7s						
KBTR	**Krutoberegovo**	**4.02**	**42**	P	**P**	**21 22 42.5**	**-1.1**
KBTR				S	**S**	**21 23 28.4**	**-2.8**
KBTR	**Krutoberegovo**	**4.02**	**42**	*e*P	**P**	**21 22 42.6**	**-1.0**
KBTR				*e*S	**S**	**21 23 27.5**	**-3.7**
BKI	**Bering**	**5.03**	**64**	*i*P	**P**	**21 22 54.5**	**-2.2**
BKI				*i*S	**S**	**21 23 46.4**	**-8.2**
MA2	**Magadan**	**7.47**	**330**	*ce*PN	**P**	**21 23 30.7**	**+1.6**
MA2				*e*S	**S**	**21 24 56.7**	**+4.0**
MA2				pmax	pmax		
	comp=Z,20nm,0.8s						
MA2	**Magadan**	**7.47**	**330**	*e*P	**P**	**21 23 29.2**	**+0.1**
	comp=Z,24nm,0.7s						
FX1	**Attu Island--F**	**9.11**	**87**	P	**P**	**21 23 50.7**	**+0.1**
	comp=Z,11nm,0.3s,baz=57,slow=13,SNR=25						
FX1				S	**S**	**21 25 25.2**	**-6.2**
	comp=Z,42nm,0.3s,baz=238,slow=22,SNR=9.7						
FX1	**Attu Island--F**	**9.11**	**87**	*e*P	**P**	**21 23 50.0**	**-0.6**
KAMR	**Kamenskoye**	**10.15**	**22**	*e*P	**P**	**21 24 06.0**	**+1.9**
YSS	**Yuzh-Sakhalins**	**11.68**	**243⇓**	*e*PN	**P**	**21 24 27.8**	**+3.9**
YSS				pmax	pmax		
	comp=N,60nm,1.0s						
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**11.68**	**243**	*e*P	**P**	**21 24 26.6**	**+2.7**
	comp=Z,26nm,0.6s						
ASAJ	**Asahikawa**	**13.70**	**234**	P	**P**	**21 24 52.5**	**+2.8**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
ASAJ	**Asahikawa**	**13.70**	**234**	P	**P**	**21 24 52.5**	**+2.7**
	comp=Z,12nm,0.3s,baz=86,slow=11,SNR=26						
BILL	**Bilibino**	**15.31**	**12**	*e*P	**P**	**21 25 09.2**	**-0.5**
BILL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BILL	**Bilibino**	**15.31**	**12**	*e*P	**P**	**21 25 09.2**	**-0.6**
	comp=Z,10nm,0.8s						
KLR	**Kul'dur**	**16.91**	**267⇑**	*i*P	**P**	**21 25 28.8**	**-0.7**
KLR				*e*S	**S**	**21 28 36.5**	**+5.9**
KLR				pmax	pmax		
	comp=N,64nm,1.8s						
KLR				pmax	pmax		
	comp=E,42nm,1.8s						
KLR				pmax	pmax		
	comp=Z,92nm,1.8s						
KLR				MLR	MLR		
	comp=Z,500nm,12.0s						
YAK	**Yakutsk**	**17.38**	**311**	*d i*P	**P**	**21 25 34.3**	**-0.6**
YAK				pmax	pmax		
	comp=Z,254nm,0.9s						
YAK				pmax	pmax		
	comp=N,37nm,1.1s						
YAK				pmax	pmax		
	comp=E,94nm,1.1s						
YAK	**Yakutsk**	**17.38**	**311**	*e*P	**P**	**21 25 34.1**	**-0.8**
	comp=E,478nm,0.9s						
CLNS	**Chul'man**	**19.20**	**294**	*e*P	**P**	**21 25 55.6**	**+1.2**
CLNS				*e*S	**S**	**21 29 24.5**	**+6.5**
CLNS				pmax	pmax		
	comp=N,42nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,74nm,0.9s						
CLNS				pmax	pmax		
	comp=E,64nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,38nm,0.8s						
CLNS				pmax	pmax		
	comp=N,40nm,1.1s						
CLNS				pmax	pmax		
	comp=E,54nm,1.0s						
CLNS				smax			
	comp=N,16nm,1.3s						
CLNS				smax			
	comp=Z,8.0nm,0.8s						
CLNS				smax			
	comp=E,13nm,1.0s						
CLNS				MLR	MLR		
	comp=Z,100nm,12.0s						
CLNS				MLR	MLR		
	comp=N,100nm,13.0s						
CLNS				MLR	MLR		
	comp=E,100nm,12.0s						
MDJ	**Mudanjiang**	**20.49**	**256**	P	**P**	**21 26 07.8**	**+0.2**
MDJ				XP		21 27 01.3	
MDJ				S	**S**	**21 29 48.9**	**+6.8**
MDJ				PCP	PcP	21 30 13.9	+0.8
MDJ				AMB	AMB		
	comp=Z,23nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,129nm,6.0s						
MDJ	**Mudanjiang**	**20.49**	**256**	*e*P	**P**	**21 26 07.3**	**-0.3**
TNA	**Tin City**	**20.89**	**41**	*e*P	**P**	**21 26 10.9**	**-0.6**
MAJO	**Matsushiro**	**21.74**	**228**	*e*P	**P**	**21 26 21.3**	**+1.3**
MAJO				pmax	pmax		
	comp=Z,38nm,0.5s,mb5.1						
MAJO	**Matsushiro**	**21.74**	**228**	*e*P	**P**	**21 26 21.3**	**+1.3**
	comp=Z,38nm,0.5s,mb5.1						
MAT	**Matsushiro**	**21.74**	**228**	*e*P	**P**	**21 26 22.0**	**+2.0**
MAT				*e*S	**S**	**21 30 05.0**	**+0.3**
MAT				pmax	pmax		
	comp=Z,37nm,0.8s,mb4.9						
MAT	**Matsushiro**	**21.74**	**228**	*e*P	**P**	**21 26 22.0**	**+2.0**
	comp=Z,37nm,0.8s,mb4.9						
MAT				*e*S	**S**	**21 30 05.0**	**+0.3**
MAT	**Matsushiro**	**21.74**	**228**	P	**P**	**21 26 21.7**	**+1.7**
MAT				S	**S**	**21 30 04.6**	**-0.1**
TIXI	**Tiksi**	**22.39**	**336⇑**	*i*P	**P**	**21 26 27.1**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,25nm,0.6s,mb4.8						
HIA	**Hailar**	**24.10**	**276**	*e*P	**P**	**21 26 42.6**	**+0.1**
HIA				pmax	pmax		
	comp=Z,55nm,0.6s						
HIA	**Hailar**	**24.10**	**276**	*e*P	**P**	**21 26 42.6**	**+0.1**
	comp=Z,55nm,0.6s,mb5.3						
BOD	**Bodaibo**	**24.97**	**298**	*e*P	**P**	**21 26 50.1**	**-0.5**
BOD				*e*		21 27 25.4	
KS15	**Wonju Array Si**	**26.20**	**245**	*e*P	**P**	**21 27 03.2**	**+1.1**
IMA	**Indian Mountai**	**26.72**	**43**	*e*P	**P**	**21 27 07.0**	**+0.3**
IMA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						
IMA	**Indian Mountai**	**26.72**	**43**	*e*P	**P**	**21 27 07.0**	**+0.3**
	comp=Z,7.1nm,0.6s,mb4.5						
MCK	**McKinley**	**28.73**	**48**	*e*P	**P**	**21 27 23.8**	**-1.0**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
MCK	**McKinley**	**28.73**	**48**	*e*P	**P**	**21 27 23.8**	**-0.9**
	comp=Z,2.5nm,0.5s,mb4.2						
COLA	**College**	**29.13**	**45**	*i*P	**P**	**21 27 28.1**	**-0.3**
COLA	**College**	**29.13**	**45**	*e*P	**P**	**21 27 27.8**	**-0.6**
	comp=Z,11nm,0.6s,mb4.8						
SML	**Sawmill**	**29.20**	**52**	*e*P	**P**	**21 27 28.1**	**-0.9**
ILAR	**Eielson Array**	**29.55**	**45**	P	**P**	**21 27 31.1**	**-1.0**
	comp=Z,12nm,0.7s,mb4.8,baz=264,slow=5.9,SNR=206						
ILAR				pP	pP	21 28 04.7	-2.6
	comp=Z,3.2nm,0.8s,baz=264,slow=8.5,SNR=3.6						
ILAR				PcP	PcP	21 30 30.9	-2.0
	comp=Z,0.8nm,0.6s,baz=281,slow=3.4,SNR=7.5						
ILAR				LR	LR	21 41 26.3	
	comp=Z,64nm,18.5s,baz=353,slow=40						
ILAR	**Eielson Array**	**29.55**	**45**	P	**P**	**21 27 31.1**	**-1.0**
ILAR				pP	pP	21 28 04.7	-2.6
ILAR				PcP	PcP	21 30 30.9	-2.0
ILAR				LR	LR	21 41 26.3	
THY	**Trims Highway**	**30.17**	**48**	*e*P	**P**	**21 27 36.2**	**-1.4**
DIV	**Divide**	**30.52**	**53**	*e*P	**P**	**21 27 39.7**	**-1.0**
BJI	**Beijing**	**31.17**	**262**	P	**P**	**21 27 45.8**	**-0.8**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.2						
BJI				MLR	MLR		
	comp=Z,70nm,24.6s						
BJI	**Beijing**	**31.17**	**262**	P	**P**	**21 27 45.8**	**-0.8**
	comp=Z,7.0nm,1.4s,mb4.2						
BJI				LR	LR		
	comp=Z,70nm,24.6s						
**

NJ2 AMB AMB
comp=Z,50nm,0.8s,mb5.2
NJ2 AMB AMB
comp=Z,310nm,4.6s
NJ2 LR LR
comp=N,440nm,17.6s
NJ2 LR LR
comp=E,440nm,14.8s
NJ2 LR LR
comp=Z,450nm,16.4s
WHN Wuhan 38.84 252 *e*P **P 21 28 52.3 +0.6**
LZH Lanzhou 41.11 268 ⇓P **P 21 29 11.0 +0.7**
LZH AMB AMB
comp=Z,70nm,1.5s,mb5.1
LZH Lanzhou 41.11 268 ⇓P **P 21 29 11.0 +0.7**
LZH *SP sP 21 29 48.5 -19
LZH pmax pmax
comp=Z,70nm,1.5s,mb5.1
LZH Lanzhou 41.11 268 ⇓P **P 21 29 11.0 +0.7**
comp=Z,70nm,1.5s,mb5.1
LZH pP pP 21 29 32.0 -15
LZH sP sP 21 29 48.5 -19
ZAL Zalesovo 41.64 302 P **P 21 29 13.9 -0.3**
comp=Z,2.4nm,0.7s,mb4.0,baz=52,slow=6.1,SNR=15
ZAL ScP 21 34 40.7
comp=Z,0.5nm,0.3s,baz=43,slow=7.6,SNR=3.5
ZAL Zalesovo 41.64 302 P **P 21 29 13.9 -0.3**
ZAL ScP 21 34 40.7
ENH Enshi 41.85 256 *e*P **P 21 29 15.4 -0.9**
comp=Z,18nm,0.7s,mb4.8
RES Resolute Bay 43.59 22 *e*P **P 21 29 29.7 -0.1**
RES pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
RES Resolute Bay 43.59 22 *e*P **P 21 29 29.7 -0.1**
comp=Z,8.0nm,0.6s,mb4.5
YKW3 Yellowknife Ar 43.80 42 *e*P **P 21 29 31.7 +0.1**
YKA Yellowknife Ar 43.84 42 P **P 21 29 31.8 -0.1**
comp=Z,2.6nm,0.4s,mb4.2,baz=299,slow=7.2,SNR=67
YKA pP pP 21 30 07.9 -1.4
comp=Z,2.7nm,0.8s,baz=300,slow=8.3,SNR=5.7
YKA PcP PcP 21 31 15.8 +0.1
comp=Z,1.1nm,0.7s,baz=317,slow=3.1,SNR=5.9
WMQ Urumqi 45.74 288 P **P 21 29 48.3 +1.0**
WMQ AP pP 21 30 24.0 -0.9
WMQ PP PP 21 31 37.8 +1.1
WMQ S **S 21 36 18.3 +1.6**
WMQ AMB AMB
comp=Z,12nm,1.1s,mb4.4
WMQ AMB AMB
comp=Z,63nm,4.5s
KURK Kurchatov 46.58 301 *i* P **P 21 29 52.8 -0.9**
KURK pmax pmax
comp=Z,15nm,0.7s,mb4.7
KURK Kurchatov 46.58 301 *e*P **P 21 29 52.5 -1.2**
comp=Z,33nm,0.6s,mb5.1
MKAR Makanchi Array 46.95 294 *i* P **P 21 29 56.0 -0.7**
MKAR pmax pmax
comp=Z,8.0nm,0.5s
CHKZ Chkalovo 48.79 308 *e*P **P 21 30 08.8 -2.0**
CHKZ *e**PP pP 21 30 47.9 -1.1
CHKZ pmax pmax
comp=Z,8.0nm,0.4s,mb4.7
CHKZ Chkalovo 48.79 308 *e*P **P 21 30 08.8 -2.1**
comp=Z,8.3nm,0.4s,mb4.7
CHKZ *e*pP pP 21 30 47.9 -1.0
BVA0 Borovoye Array 49.29 307 P **P 21 30 13.1 -1.6**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s,mb3.8
BVAR Borovoye Array 49.29 307 ScP 21 35 13.3
comp=Z,1.4nm,0.8s,baz=76,slow=6.1,SNR=4.3
BRVK Borovoye 49.32 307 *e*P **P 21 30 13.0 -1.9**
BRVK *e**PP pP 21 30 52.7 -0.4
BRVK pmax pmax
comp=Z,26nm,1.1s,mb4.8
BRVK Borovoye 49.32 307 *e*P **P 21 30 13.0 -1.9**
comp=Z,26nm,1.1s,mb4.8
BRVK *e*pP pP 21 30 52.7 -0.4
EDM Edmonton 49.62 52 *e*P **P 21 30 17.5 +0.3**
KMI Kunming 49.65 258 P **P 21 30 17.8 0.0**
KMI pmax pmax
comp=Z,10.0nm,1.1s,mb4.4
KMI Kunming 49.65 258 P **P 21 30 17.8 0.0**
comp=Z,10.0nm,1.1s,mb4.4
QIZ Qiongzhong 50.38 246 P **P 21 30 23.6 +0.2**
QIZ *e*S **S 21 37 24.4 +2.5**
QIZ AMB AMB
comp=Z,27nm,1.8s,mb4.6
YBH Yreka Blue Hor 52.10 69 P **P 21 30 37.7 +1.6**
comp=Z,3.4nm,0.6s,mb4.2,baz=1.2,slow=4.4,SNR=14
YBH pP pP 21 31 12.7 -2.0
comp=Z,3.9nm,0.9s,baz=314,slow=1.1,SNR=4.1
KEV Kevo 52.23 341 *e*p **P 21 30 34.3 -2.3**
ARU Arti 52.41 316 P **P 21 30 37.7 -0.4**
comp=Z,156nm,0.5s,mb5.9,SNR=13
ARU Arti 52.41 316 ⇓*i*P **P 21 30 31.2 -6.9**
ARU *i* 21 31 39.8
ARU *e*S **S 21 37 41.4 -7.7**
ARU *e* 21 40 01.9
ARU pmax pmax
comp=Z,15nm,0.7s,mb4.7
ARU Arti 52.41 316 *e*P **P 21 30 31.6 -6.5**
comp=Z,8.9nm,0.4s,mb4.8
ARCES ARCESS Array B 52.70 341 P **P 21 30 38.5 -1.6**
comp=Z,7.8nm,0.7s,mb4.6,baz=43,slow=7.8,SNR=34
ARCES sP sP 21 31 34.7 -2.8
comp=Z,1.8nm,0.8s,baz=63,slow=8.1,SNR=1.5
ARCES PcP PcP 21 31 46.1 -1.5
comp=Z,4.4nm,0.5s,baz=38,slow=4.5,SNR=12
ARCES LR LR 21 57 11.3
comp=Z,35nm,18.1s,baz=188,slow=40
ARCES ARCESS Array B 52.70 341 P **P 21 30 38.5 -1.6**
ARCES sP sP 21 31 34.7 -2.8
ARCES PcP PcP 21 31 46.1 -1.5
ARCES LR LR 21 57 11.3
TKM2 Tokmak 2 53.09 294 P **P 21 30 42.8 -0.5**
SNR=18
ULHL Ulahol 53.19 293 P **P 21 30 43.9 -0.2**
SNR=5.7
LSA Lhasa 53.19 272 *e*P **P 21 30 44.7 +0.5**
LSA pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
LSA Lhasa 53.19 272 *e*P **P 21 30 44.7 +0.5**
comp=Z,2.5nm,0.6s,mb4.1
USP Ospenovka 53.45 295 P **P 21 30 45.3 -0.7**
SNR=22
CHMS Chumysh 53.50 295 P **P 21 30 45.6 -0.7**
SNR=15
KTK1 Kautokeino 53.59 341 *e*P **P 21 30 45.0 -1.6**
comp=Z,48nm,1.5s,mb5.0
KTK1 Kautokeino 53.59 341 *e*P **P 21 30 45.0 -1.6**
KTK1 AMb AMB 21 30 48.0
comp=Z,48nm,1.5s,mb5.0
KBK Karagaybulak 53.62 295 P **P 21 30 46.9 -0.4**
SNR=18
FRU Bishkek 53.68 295 *e*P **P 21 30 45.0 -2.7**
FRU *e* pP 21 31 27.0 +0.6
FRU pmax pmax
comp=Z,40nm,1.4s,mb5.0
FFC Flin Flon 53.76 45 *e*P **P 21 30 48.3 +0.2**
FFC pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
FFC Flin Flon 53.76 45 *e*P **P 21 30 48.2 +0.2**
comp=Z,4.2nm,0.7s,mb4.3
TRO Tromso 53.83 344 *e*P **P 21 30 46.0 -2.3**
KZA Kyzart 53.84 294 P **P 21 30 48.3 -0.5**
SNR=7.5
AAK Ala-Archa 53.88 295 P **P 21 30 48.7 -0.4**
SNR=28
AAK Ala-Archa 53.88 295 *e*P **P 21 30 47.3 -1.8**
AAK *e**PP pP 21 31 27.3 -0.6
AAK pmax pmax
comp=Z,24nm,1.0s,mb4.9
AAK Ala-Archa 53.88 295 *e*P **P 21 30 47.2 -1.9**
comp=Z,24nm,1.0s,mb4.9
AAK *e*pP pP 21 31 27.3 -0.7
FCC Fort Churchill 54.08 38 *e*P **P 21 30 49.8 -0.6**
FCC pmax pmax
comp=Z,8.0nm,0.4s,mb4.8
FCC Fort Churchill 54.08 38 *e*P **P 21 30 49.8 -0.6**
comp=Z,8.4nm,0.4s,mb4.8
UCH Uchtor 54.15 294 P **P 21 30 51.0 -0.1**
SNR=6.8
EKS2 Erkin-Say 54.25 295 P **P 21 30 51.5 -0.3**
SNR=24
OHCM Honcut 54.41 70 *e*P **P 21 30 53.2 +0.2**
OHCM *e*pP pP 21 31 29.7 -2.2

AML Almayashu 54.66 295 P **P 21 30 54.6 -0.2**
SNR=11
QLMT Earthquake Lak 56.08 59 *e*P **P 21 31 05.9 +1.0**
CHG Chiang Mai 56.75 256 ⇓P **P 21 31 10.0 0.0**
comp=Z,15nm,0.9s,mb4.8
NVAR Mina Array Bea 56.83 69 P **P 21 31 11.0 +0.7**
comp=Z,6.9nm,0.5s,mb4.7,baz=313,slow=6.3,SNR=72
NVAR pP pP 21 31 46.9 -2.6
comp=Z,8.6nm,1.1s,baz=303,slow=5.6,SNR=5.1
NVAR Mina Array Bea 56.83 69 P **P 21 31 11.0 +0.7**
NVAR pP pP 21 31 46.9 -2.6
JOF Joensuu 56.86 334 *e*p **P 21 31 08.3 -1.9**
comp=Z,8.2nm,0.5s,mb4.8
MNV Mina 56.91 69 *e*P **P 21 31 11.3 +0.4**
MNV *e**PP pP 21 31 48.0 -2.1
MNV pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
MNV Mina 56.91 69 *e*P **P 21 31 11.3 +0.4**
comp=Z,3.0nm,0.6s,mb4.3
MNV *e*pP pP 21 31 48.0 -2.1
CM31 Chiang Mai Arr 57.03 256 *e*P **P 21 31 12.3 +0.3**
comp=Z,4.9nm,0.6s,mb4.5
CMAR Chiang Mai Arr 57.03 256 P **P 21 31 11.9 0.0**
comp=Z,10nm,1.1s,mb4.6,baz=23,slow=6.7,SNR=40
CMAR PcP PcP 21 32 05.2 +0.3
comp=Z,4.4nm,0.6s,baz=20,slow=2.8,SNR=9.1
CMAR Chiang Mai Arr 57.03 256 PcP PcP 21 32 05.2 +0.3
JIRN Jiri 57.65 274 *e*P **P 21 31 15.6 -0.6**
comp=Z,6.8nm,0.4s,mb4.9
MOR8 Moi Rana 57.69 343 *e*P **P 21 31 13.5 -2.5**
FRB Frobisher Bay 57.80 22 P **P 21 31 15.2 -1.6**
comp=Z,12nm,0.6s,mb4.8,baz=329,slow=7.6,SNR=24
FRB pP pP 21 31 53.9 -2.2
comp=Z,2.5nm,0.5s,baz=354,slow=7.0,SNR=2.4
KKN Kakani 58.10 275 *e*P **P 21 31 18.6 -0.8**
comp=Z,25nm,0.4s,mb5.4
PKI Pulchoki 58.18 274 *e*P **P 21 31 18.9 -1.0**
comp=Z,13nm,0.4s,mb5.1
GKN Gorkha 58.33 275 *e*P **P 21 31 19.9 -1.0**
comp=Z,12nm,0.3s,mb5.1
DMN Daman 58.34 275 *e*P **P 21 31 20.4 -0.6**
comp=Z,12nm,0.4s,mb5.1
BW06 Boulder Array 58.49 60 *e*P **P 21 31 22.5 +0.6**
comp=Z,19nm,1.3s,mb4.8
BW06 *e*pP pP 21 31 58.3 -3.0
PDAR Pinedale Array 58.49 60 P **P 21 31 22.9 +1.0**
comp=Z,5.7nm,0.6s,mb4.6,baz=314,slow=2.1,SNR=44
PDAR pP pP 21 31 59.2 -2.1
comp=Z,4.3nm,0.7s,baz=337,slow=3.0,SNR=6.7
KAF Kangasniemi 58.81 336 *e*p **P 21 31 22.0 -1.8**
comp=Z,14nm,1.0s,mb4.8,baz=34,slow=6.3
KAF Kangasniemi 58.81 336 *e*P **P 21 31 22.0 -1.8**
KAF pmax pmax
comp=Z,14nm,1.0s,mb4.8
KOLN Koldanda 59.12 276 *e*P **P 21 31 25.3 -1.2**
comp=Z,4.3nm,0.3s,mb4.7
FINES FINESS Array B 59.44 335 P **P 21 31 27.0 -1.2**
comp=Z,9.9nm,0.8s,mb4.7,baz=45,slow=8.3,SNR=43
FINES pP pP 21 32 03.8 -4.0
comp=Z,4.7nm,0.9s,baz=214,slow=6.9,SNR=3.3
FINES PcP PcP 21 32 12.7 -1.0
comp=Z,3.3nm,0.6s,baz=56,slow=4.2,SNR=6.0
NSS Namsos 59.62 344 *e*P **P 21 31 27.1 -2.2**
OBN Obninsk 61.67 326 ⇓*i*P **P 21 31 39.4 -4.0**
OBN *e* pP 21 32 19.3 -4.0
OBN S **S 21 39 42.0 -8.4**
OBN pmax pmax
comp=Z,21nm,1.2s,mb4.8
PV10 Paradox Valley 61.93 63 *e*P **P 21 31 45.4 +0.1**
RW3 Ridgway 62.75 62 *e*P **P 21 31 51.9 +1.2**
NB2 NORSAR Subarra 62.99 343 P **P 21 31 50.8 -1.2**
comp=Z,10.0nm,0.6s,mb4.8,baz=23,slow=6.5
NB2 NORSAR Subarra 62.99 343 P **P 21 31 50.8 -1.2**
baz=23,slow=6.9
NOA NORSAR Array B 62.99 343 P **P 21 31 51.1 -0.9**
comp=Z,10nm,0.7s,mb4.8,baz=21,slow=6.7,SNR=34
NOA pP pP 21 32 26.9 -5.1
comp=Z,1.2nm,0.6s,baz=25,slow=4.1,SNR=2.5
HFS Hagfors 63.37 341 P **P 21 31 52.9 -1.6**
comp=Z,8.0nm,0.4s,mb4.9,baz=39,slow=6.4,SNR=22
SDCO Great Sand Dun 64.28 61 *e*P **P 21 32 00.7 +0.1**
ANMO Albuquerque 65.86 64 P **P 21 32 12.0 +1.1**
comp=Z,2.4nm,0.7s,mb4.2,baz=7.0,slow=10,SNR=5.3
SCHQ Schefferville 66.03 27 P **P 21 32 10.4 -1.2**
comp=Z,5.9nm,0.6s,mb4.6,baz=352,slow=5.5,SNR=29
SUW Suwalki 66.69 333 *e*P **P 21 32 14.1 -1.7**
AKASG Malin Array Be 67.80 328 P **P 21 32 20.9 -1.8**
AKASG *PP pP 21 33 01.9 -1.4
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 67.80 328 P **P 21 32 20.9 -1.8**
comp=Z,3.2nm,0.6s,mb4.3,baz=30,slow=6.4,SNR=23
AKASG pP pP 21 33 01.9 -1.4
comp=Z,2.1nm,0.7s,baz=30,slow=6.2,SNR=2.4
KIV Kislovodsk 68.44 315 *e*P **P 21 32 26.1 -0.7**
KIV pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
CPRX Cap Rock 68.72 63 *e*P **P 21 32 29.4 +0.7**
GKP Gorka Klasztor 68.90 336 *e*P **P 21 32 29.6 +0.2**
MNTX Cornudas Mount 68.92 65 *e*P **P 21 32 30.6 +0.6**
comp=Z,2.7nm,0.6s,mb4.2
MNTX *e*pP pP 21 33 08.0 -2.6
WMOK Wichita Mounta 70.06 59 *e*P **P 21 32 35.8 -1.0**
WMOK *e**PP pP 21 33 14.7 -2.9
EKA Eskdalemuir Ar 70.63 349 P **P 21 32 39.7 -0.2**
comp=Z,7.8nm,0.6s,mb4.6,baz=19,slow=5.6,SNR=16
KWP Kalwaria 70.73 331 *e*P **P 21 32 40.7 +0.1**
OJC Ojcow 71.02 333 *e*P **P 21 32 42.1 -0.2**
KSP Ksiaz 71.36 336 *e*P **P 21 32 44.0 -0.3**
KOLS Kolonicke sedl 71.49 331 *e*P **P 21 32 44.8 -0.3**
TXAR Lajitas Array 71.68 66 P **P 21 32 47.3 +0.7**
comp=Z,5.2nm,0.7s,mb4.3,baz=297,slow=5.0,SNR=27
TXAR pP pP 21 33 25.7 -1.9
comp=Z,5.6nm,0.8s,baz=299,slow=4.5,SNR=7.3
CLL Collm 71.72 338 *i* P **P 21 32 46.1 -0.3**
CLL *i* pP 21 33 28.0 +0.6
CLL pmax pmax
comp=Z,28nm,1.5s,mb4.8
CLL Collm 71.72 338 *i* P **P 21 32 46.1 -0.3**
comp=Z,28nm,1.5s,mb4.8
CLL *i* pP 21 33 28.0 +0.6
CLL Collm 71.72 338 P **P 21 32 46.1 -0.3**
comp=Z,logA/T=1.3,mb4.8
CLL *i* *PP pP 21 33 28.0 +0.6
UPC Upice 71.74 336 *e*P **P 21 32 46.8 +0.2**
UPC *e*x x 21 32 54.5
DPC Dobruska-Polom 71.81 335 *e*P **P 21 32 47.2 +0.2**
DPC *e*pP pP 21 33 31.0 +3.0
OKC Ostrava-Krasne 71.81 334 *e*P **P 21 32 48.0 +1.0**
OKC *e*x x 21 32 53.7
MORC Moravsky Berou 72.03 334 *e*P **P 21 32 47.7 -0.6**
PVCC Panska Ves 72.08 336 *e*P **P 21 32 49.0 +0.5**
PRU Pruhonice 72.58 336 *e*P **P 21 32 51.6 +0.2**
MOX Moxa 72.65 338 *e*P **P 21 32 52.2 +0.4**
MOX pmax pmax
comp=Z,14nm,1.4s,mb4.5
MOX Moxa 72.65 338 *e*P **P 21 32 52.2 +0.4**
comp=Z,14nm,1.4s,mb4.5
MOX Moxa 72.65 338 *i* P **P 21 32 52.2 +0.4**
comp=Z,logA/T=1.0,mb4.5
VRAC Vranov 72.70 335 P **P 21 32 50.4 -1.7**
comp=Z,3.8nm,0.6s,mb4.3,baz=0.7,slow=7.8
NKC Novy Kostel 72.85 338 *e*P **P 21 32 53.5 +0.5**
VYHS Vyhne 72.85 333 *e*P **P 21 32 53.3 +0.2**
DLF Lyons Farm 73.01 350 *e*P **P 21 32 53.0 -0.8**
DCN Croghan 73.03 351 *e*P **P 21 32 53.0 -1.0**
SMOL Smolenice 73.21 334 *e*P **P 21 32 56.1 +0.9**
KHC Kasperske Hory 73.61 337 *e*P **P 21 32 58.2 +0.7**
KHC *e* 21 33 06.5
KHC *e* pP 21 33 42.0 +3.3
KHC Kasperske Hory 73.61 337 *e*P **P 21 32 58.2 +0.7**
KHC *e*x x 21 33 06.5
KHC *e*x x 21 33 28.3
KHC *e*x x 21 33 42.0
GRA1 Grafenberg Arr 73.63 338 *e*P **P 21 32 58.3 +0.7**
comp=Z,12nm,1.1s,mb4.5
GRF Grafenberg Arr 73.63 338 *e*P **P 21 32 58.3 +0.7**
GRF pmax pmax
comp=Z,12nm,1.1s,mb4.5
GRF Grafenberg Arr 73.63 338 *e*P **P 21 32 58.3 +0.7**
GRF pmax pmax
comp=Z,12nm,1.1s,mb4.5
GRF Grafenberg Arr 73.63 338 *e*P **P 21 32 58.3 +0.7**
comp=Z,12nm,1.1s,mb4.5
GERES GERESS Array B 73.85 336 P **P 21 32 58.4 -0.5**
comp=Z,2.6nm,0.7s,mb4.1,baz=35,slow=5.2,SNR=21
GIVF Givet 74.53 342 *e*P **P 21 33 02.9 +0.2**
comp=Z,73nm,1.2s,mb4.9
GIVF Givet 74.53 342 *e*P **P 21 33 02.9 +0.2**
GIVF pmax pmax
comp=Z,36nm,1.2s,mb4.9
BAIF Baives 74.68 343 *e*P **P 21 33 03.9 +0.3**
comp=Z,14nm,0.7s,mb4.4
BAIF Baives 74.68 343 *e*P **P 21 33 03.9 +0.3**
BAIF pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
BRTR Keskin Array B 75.67 319 P **P 21 33 09.6 +0.2**
comp=Z,1.4nm,0.7s,mb3.7,slow=2.5,SNR=8.3
BRTR pP pP 21 33 50.0 -0.8
comp=Z,1.2nm,0.8s,baz=56,slow=4.5,SNR=2.9
CDF Champ du Feu 75.68 340 *e*P **P 21 33 09.5 +0.3**
comp=Z,42nm,1.3s,mb4.6
CDF Champ du Feu 75.68 340 *e*P **P 21 33 09.5 +0.3**
CDF pmax pmax
comp=Z,21nm,1.3s,mb4.6
WRAB Tennant Creek 75.75 203 *i* P **P 21 33 10.1 -0.1**
WRA Warramunga Arr 75.76 203 P **P 21 33 10.2 0.0**
comp=Z,1.9nm,0.4s,mb4.0,baz=18,slow=6.0,SNR=52
WRA pP pP 21 33 49.4 -2.3
comp=Z,4.9nm,0.9s,baz=17,slow=6.1,SNR=5.9
MEZF Maizieres J'vi 76.03 342 *e*P **P 21 33 11.7 +0.5**
comp=Z,29nm,0.7s,mb4.7
HAU Haudompre 76.25 341 *e*P **P 21 33 12.6 +0.2**
comp=Z,9.5nm,0.6s,mb4.3
HAU Haudompre 76.25 341 *e*P **P 21 33 12.6 +0.2**
HAU pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
HINF Hinteralfeld 76.33 340 *e*P **P 21 33 12.7 -0.2**
FLN La Foliniere 76.70 346 *e*P **P 21 33 14.9 0.0**
comp=Z,47nm,1.0s,mb4.8
FLN La Foliniere 76.70 346 *e*P **P 21 33 14.9 0.0**
FLN pmax pmax
comp=Z,23nm,1.0s,mb4.8
LDF La Druitiere 76.81 345 *e*P **P 21 33 16.7 +1.1**
GRR Gorron 77.12 346 *e*P **P 21 33 17.6 +0.3**
comp=Z,71nm,1.1s,mb4.9
GRR Gorron 77.12 346 *e*P **P 21 33 17.6 +0.3**
GRR pmax pmax
comp=Z,36nm,1.1s,mb4.9
SGMF Saint Gilles 77.50 347 *e*P **P 21 33 19.7 +0.4**
comp=Z,30nm,0.8s,mb4.7
SGMF Saint Gilles 77.50 347 *e*P **P 21 33 19.7 +0.4**
SGMF pmax pmax
comp=Z,15nm,0.8s,mb4.7
ROSF Rostrenen 77.51 347 *e*P **P 21 33 19.8 +0.4**
comp=Z,40nm,0.9s,mb4.8
ROSF Rostrenen 77.51 347 *e*P **P 21 33 19.8 +0.4**
ROSF pmax pmax
comp=Z,20nm,0.9s,mb4.8
CABF La Chapelle 77.64 341 *e*P **P 21 33 20.8 +0.6**
comp=Z,122nm,1.4s,mb5.0
CABF La Chapelle 77.64 341 *e*P **P 21 33 20.8 +0.6**
CABF pmax pmax
comp=Z,61nm,1.4s,mb5.0
SSF Saint Saulge 77.70 342 *e*P **P 21 33 20.8 +0.3**
SSF pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
SSF Saint Saulge 77.70 342 *e*P **P 21 33 20.8 +0.3**
comp=Z,7.8nm,0.6s,mb4.5
QUIF Quistinic 77.91 347 *e*P **P 21 33 21.9 +0.3**
comp=Z,20nm,0.8s,mb4.5
QUIF Quistinic 77.91 347 *e*P **P 21 33 21.9 +0.3**
QUIF pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
AVF Avril sur Loir 77.98 343 *e*P **P 21 33 22.6 +0.5**
comp=Z,95nm,1.2s,mb5.0
AVF Avril sur Loir 77.98 343 *e*P **P 21 33 22.6 +0.5**
AVF pmax pmax
comp=Z,48nm,1.2s,mb5.0
SMF Signal de Mont 78.04 342 *e*P **P 21 33 22.8 +0.5**
comp=Z,22nm,0.9s,mb4.5
SMF Signal de Mont 78.04 342 *e*P **P 21 33 22.8 +0.5**
SMF pmax pmax
comp=Z,11nm,0.9s,mb4.5
BGF Bois d'Agland 78.30 343 *e*P **P 21 33 24.3 +0.5**
comp=Z,20nm,0.7s,mb4.6
BGF Bois d'Agland 78.30 343 *e*P **P 21 33 24.3 +0.5**
BGF pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
LPL La Plagne 78.56 340 *e*P **P 21 33 26.6 +1.4**
comp=Z,23nm,0.7s,mb4.6
LPL La Plagne 78.56 340 *e*P **P 21 33 26.6 +1.4**
LPL pmax pmax
comp=Z,11nm,0.7s,mb4.6
LPG La Plagne 78.57 340 *e*P **P 21 33 26.9 +1.6**
comp=Z,18nm,0.7s,mb4.5
LPG La Plagne 78.57 340 *e*P **P 21 33 26.9 +1.6**
LPG pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
TCF Toulx Ste Croi 78.67 343 *e*P **P 21 33 26.5 +0.7**
comp=Z,34nm,0.9s,mb4.7
TCF Toulx Ste Croi 78.67 343 *e*P **P 21 33 26.5 +0.7**
TCF pmax pmax
comp=Z,17nm,0.9s,mb4.7
MFF Saint Martin d 78.76 345 *e*P **P 21 33 27.1 +0.9**
comp=Z,20nm,0.6s,mb4.6
MFF Saint Martin d 78.76 345 *e*P **P 21 33 27.1 +0.9**
MFF pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
ORIF Oris-en-Rattie 79.30 340 *e*P **P 21 33 30.6 +1.4**
comp=Z,23nm,0.8s,mb4.5
ORIF Oris-en-Rattie 79.30 340 *e*P **P 21 33 30.6 +1.4**
ORIF pmax pmax
comp=Z,11nm,0.8s,mb4.5
ASAR Alice Springs 79.45 202 P **P 21 33 31.7 +1.2**
comp=Z,3.0nm,0.4s,mb4.3,baz=16,slow=5.1,SNR=60
ASAR pP pP 21 34 11.6 -0.6
comp=Z,3.5nm,0.8s,baz=13,slow=5.7,SNR=5.0
VIVF Saint-Julien-l 79.60 341 *e*P **P 21 33 32.0 +1.2**
comp=Z,33nm,1.0s,mb4.6
VIVF Saint-Julien-l 79.60 341 *e*P **P 21 33 32.0 +1.2**
VIVF pmax pmax
comp=Z,17nm,1.0s,mb4.6
RJF Les Rejaudoux 79.75 343 *e*P **P 21 33 32.4 +0.8**
comp=Z,50nm,1.1s,mb4.8
RJF Les Rejaudoux 79.75 343 *e*P **P 21 33 32.4 +0.8**
RJF pmax pmax
comp=Z,25nm,1.1s,mb4.8
SBF Sospel 79.98 339 *e*P **P 21 33 34.6 +1.7**
comp=Z,72nm,1.0s,mb5.0
SBF Sospel 79.98 339 *e*P **P 21 33 34.6 +1.7**
SBF pmax pmax
comp=Z,36nm,1.0s,mb5.0
CAF Calviac 80.02 343 *e*P **P 21 33 34.6 +1.5**
comp=Z,40nm,0.8s,mb4.8
CAF Calviac 80.02 343 *e*P **P 21 33 34.6 +1.5**
CAF pmax pmax
comp=Z,20nm,0.8s,mb4.8
LFF La Frestale 80.23 344 *e*P **P 21 33 35.5 +1.3**
comp=Z,40nm,0.9s,mb4.8
LFF La Frestale 80.23 344 *e*P **P 21 33 35.5 +1.3**
LFF pmax pmax
comp=Z,20nm,0.9s,mb4.8
MTLF Montolieu 81.53 342 *e*P **P 21 33 42.5 +1.5**
comp=Z,25nm,0.8s,mb4.6
MTLF Montolieu 81.53 342 *e*P **P 21 33 42.5 +1.5**
MTLF pmax pmax
comp=Z,13nm,0.8s,mb4.6
EPF Esparros 82.16 344 *e*P **P 21 33 45.2 +0.9**
comp=Z,26nm,0.6s,mb4.7
EPF Esparros 82.16 344 *e*P **P 21 33 45.2 +0.9**
EPF pmax pmax
comp=Z,13nm,0.6s,mb4.7
PMOR Pomariorio Ree 82.25 128 *e*P **P 21 33 43.3 -2.0**
comp=Z,122nm,1.2s,mb5.4
SJPF Ste Jean 82.33 345 *e*P **P 21 33 47.2 +2.0**
comp=Z,21nm,0.5s,mb4.7
SJPF Ste Jean 82.33 345 *e*P **P 21 33 47.2 +2.0**
SJPF pmax pmax
comp=Z,11nm,0.5s,mb4.7
ETSF Etsaut 82.43 344 *e*P **P 21 33 47.5 +1.8**
comp=Z,53nm,0.7s,mb5.0
ETSF Etsaut 82.43 344 *e*P **P 21 33 47.5 +1.8**
ETSF pmax pmax
comp=Z,26nm,0.7s,mb5.0
STKA Stephens Creek 86.01 194 P **P 21 34 05.9 +2.2**
comp=Z,0.9nm,0.5s,mb3.8,baz=17,slow=11,SNR=3.9
ESDC Sonseca Array 86.11 346 P **P 21 34 04.2 +0.2**
comp=Z,6.6nm,0.6s,mb4.5,baz=360,slow=4.8,SNR=28
DBIC Dimbokro 118.53 341 PKP PKPdf 21 40 10.3 +1.0

comp=Z,2.8nm,0.4s,baz=8.2,slow=3.5,SNR=12
LPAZ La Paz 128.47 62 PKP PKPdf 21 40 29.8 +1.4
comp=Z,1.1nm,0.7s,baz=33,slow=3.6,SNR=4.9
PLCA Paso Flores 145.24 89 PKPbc PKPbc 21 41 00.9 +2.2
comp=Z,5.3nm,0.8s,baz=333,slow=3.8,SNR=6.7

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*IDC **24** 21:28:00.2±0.7, 5.53N×93.28E, mb4.2/16, mb1 4.4/17, mb1mx4.3/22, mbtmp4.2/17, ML3.9/1, MS3.2/1, Ms1 3.4/1, ms1mx2.6/24, Error ellipse: s-maj=27.1km s-min=18.0km az=48.0*
*NEIC **24** 21:28:02.8±3.4, 5.49N×93.25E, h17km±20km, mb4.6/11, Error ellipse: s-maj=9.1km s-min=7.9km az=177.0*
*BJI **24** 21:28:03.0, 5.66N×93.18E, h9km, mB5.1, mb4.2, Ms3.8, Msz3.7*
ISC 24 21:28:00.0±4.7, 5.39N±0.08×93.32E±0.07, h12km±29km, n69, σ1§20/65, mb4.4/34, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.68**	**279**	*eP*	**P**	**21 31 00.8**	**-2.3**
CM31	**Chiang Mai Arr**	**14.10**	**22**	P	**P**	**21 31 19.8**	**-2.2**
CMAR	**Chiang Mai Arr**	**14.10**	**22**	Pn	**P**	**21 31 21.6**	**-0.4**
	0.2nm,0.3s,baz=219,slow=14,SNR=28						
CMAR				LR	LR	21 37 32.8	
	comp=Z,87nm,18.7s,baz=205,slow=41						
CMAR	**Chiang Mai Arr**	**14.10**	**22**	Pn	**P**	**21 31 21.6**	**-0.4**
CMAR				LR	LR	21 37 32.8	
KKTK	**Khon Kaen**	**14.32**	**40**	⇑P	**P**	**21 31 33.3**	**+8.4**
	556nm,0.7s						
NANT	**Nan**	**15.15**	**28**	P	**P**	**21 31 41.0**	**+5.3**
VIS	**Vishakhapatnam**	**15.67**	**322**	*eP*	**P**	**21 31 39.6**	**-3.0**
VIS				*e*		21 31 43.8	
	comp=Z,31nm,0.5s						
VIS				*e*		21 34 22.0	
BWNR	**Bhubaneshwar**	**16.52**	**334**	*eP*	**P**	**21 31 48.2**	**-5.2**
BWNR				*i*		21 31 49.7	
BWNR				*e*		21 31 50.6	
	comp=Z,7.2nm,0.2s						
BWNR				*e*		21 34 39.1	
HYB	**Hyderabad**	**18.75**	**311**	*i P*	**P**	**21 32 21.0**	**-0.2**
HYB				eS	**S**	**21 35 36.0**	**-11**
BLSP	**Bilaspur**	**19.85**	**328**	epP		21 32 38.4	
BLSP				*e*		21 32 40.3	
	comp=Z,24nm,0.8s						
BLSP				*e*		21 36 35.7	
SHL	**Shillong**	**20.11**	**356**	*eP*	**P**	**21 32 30.5**	**-6.2**
SHL				*e*		21 36 05.0	
QIZ	**Qiongzhong**	**21.05**	**48**	*eP*	**P**	**21 32 46.8**	**+0.3**
	comp=Z,16nm,0.8s,mb4.4						
KMI	**Kunming**	**21.60**	**24**	P	**P**	**21 32 55.8**	**+3.8**
	comp=Z,12nm,0.7s,mb4.4						
KMI				pP		21 33 02.8	
KMI				sP		21 33 07.2	
KMI				S	**S**	**21 36 54.9**	**+8.8**
KMI				sS		21 37 08.3	
KMI				LR	LR		
	comp=Z,180nm,13.6s						
KAD	**Karad**	**22.16**	**304**	*eP*	**P**	**21 32 58.9**	**+1.3**
KAD				*e*		21 32 59.8	
	comp=Z,19nm,0.7s						
JIRN	**Jiri**	**23.16**	**344**	*eP*	**P**	**21 33 08.6**	**+1.1**
PKI	**Pulchoki**	**23.31**	**342**	*eP*	**P**	**21 33 10.3**	**+1.3**
	comp=Z,15nm,0.9s,mb4.5						
DMN	**Daman**	**23.44**	**341**	*eP*	**P**	**21 33 12.0**	**+1.8**
	comp=Z,24nm,1.0s,mb4.6						
BHPL	**Bhopal**	**23.45**	**321**	*eP*	**P**	**21 33 12.1**	**+1.7**
BHPL				*e*		21 33 25.5	
	comp=Z,7.1nm,0.8s						
KKN	**Kakani**	**23.55**	**342**	*eP*	**P**	**21 33 12.5**	**+1.2**
	comp=Z,32nm,1.2s,mb4.6						
GKN	**Gorkha**	**23.95**	**341**	*eP*	**P**	**21 33 16.2**	**+1.0**
	comp=Z,28nm,0.7s,mb4.8						
KOLN	**Koldanda**	**24.10**	**339**	*eP*	**P**	**21 33 18.1**	**+1.4**
	comp=Z,36nm,0.8s,mb4.9						
LSA	**Lhasa**	**24.27**	**355**	*eP*	**P**	**21 33 20.1**	**+1.8**
LSA	**Lhasa**	**24.27**	**355**	*eP*	**P**	**21 33 19.2**	**+1.0**
	comp=Z,8.5nm,0.8s,mb4.2						
ENH	**Enshi**	**29.06**	**30**	*eP*	**P**	**21 34 01.4**	**-1.1**
	comp=Z,7.4nm,0.8s,mb4.5						
XAN	**Xi'an**	**31.97**	**25**	P	**P**	**21 34 26.6**	**-1.7**
XAN				AP	pP	21 34 33.9	+2.1
XAN				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.1						
UCH	**Uchtor**	**40.31**	**338**	P	**P**	**21 35 40.2**	**+1.2**
	SNR=10.0						
KBK	**Karagaybulak**	**40.53**	**339**	P	**P**	**21 35 42.3**	**+1.5**
	SNR=13						
AML	**Almayashu**	**40.54**	**337**	P	**P**	**21 35 42.2**	**+1.3**
	SNR=18						
AAK	**Ala-Archa**	**40.67**	**339**	P	**P**	**21 35 44.1**	**+2.1**
	SNR=5.3						
AAK	**Ala-Archa**	**40.67**	**339**	*eP*	**P**	**21 35 42.2**	**+0.2**
	comp=Z,10nm,1.4s,mb4.3						
EKS2	**Erkin-Say**	**40.96**	**338**	P	**P**	**21 35 45.5**	**+1.2**
	SNR=6.4						
USP	**Ospenovka**	**41.23**	**339**	P	**P**	**21 35 47.0**	**+0.6**
	SNR=9.0						
SONM	**Songino Array**	**43.75**	**13**	P	**P**	**21 36 06.9**	**-0.2**
	comp=Z,0.8nm,0.7s,mb3.6,baz=192,slow=7.4,SNR=6.0						
KURK	**Kurchatov**	**46.82**	**347**	*eP*	**P**	**21 36 31.4**	**-0.1**
	comp=Z,11nm,1.1s,mb4.7						
TLY	**Talaya**	**46.93**	**9**	P	**P**	**21 36 31.1**	**-1.3**
WRA	**Warramunga Arr**	**47.54**	**123**	P	**P**	**21 36 38.0**	**+0.3**
	comp=Z,1.8nm,0.5s,mb4.3,baz=302,slow=9.0,SNR=18						
WRAB	**Tennant Creek**	**47.55**	**123**	*eP*	**P**	**21 36 38.5**	**+0.9**
	comp=Z,15nm,1.0s,mb5.0						
ZAL	**Zalesovo**	**48.89**	**353**	P	**P**	**21 36 47.9**	**+0.2**
	comp=Z,3.0nm,0.8s,mb4.4,baz=301,slow=9.0,SNR=17						
ASAR	**Alice Springs**	**49.00**	**128**	P	**P**	**21 36 49.9**	**+1.0**
	comp=Z,1.0nm,0.9s,mb3.9,baz=312,slow=6.5,SNR=5.4						
BVAR	**Borovoye Array**	**51.08**	**342**	P	**P**	**21 37 03.4**	**-1.0**
	comp=Z,4.1nm,0.6s,mb4.5,baz=141,slow=9.5,SNR=27						
BVAR				PcP	PcP	21 38 19.5	-1.0
	comp=Z,1.2nm,0.8s,baz=180,slow=2.9,SNR=4.1						
CHKZ	**Chkalovo**	**51.58**	**343**	*eP*	**P**	**21 37 05.5**	**-0.6**
	comp=Z,14nm,0.7s,mb5.0						
KMBO	**Kilima Mbogo**	**56.37**	**265**	P	**P**	**21 37 45.4**	**+1.4**
	comp=Z,3.0nm,1.0s,mb4.3,baz=53,slow=19,SNR=5.0						
KMBO	**Kilima Mbogo**	**56.37**	**265**	P	**P**	**21 37 45.4**	**+1.4**
	comp=Z,0.2nm,0.9s,mb3.1						
MALT	**Malatya**	**59.47**	**312**	P	**P**	**21 38 03.0**	**-2.4**
BRTR	**Keskin Array B**	**63.45**	**312**	P	**P**	**21 38 30.8**	**-1.4**
	comp=Z,2.1nm,0.8s,mb4.3,baz=127,slow=7.8,SNR=9.2						
LSZ	**Lusaka**	**67.69**	**251**	P	**P**	**21 38 59.7**	**-0.2**
IDI	**Anoyia**	**69.32**	**306**	P	**P**	**21 39 09.8**	**0.0**
	comp=Z,8.8nm,0.9s,mb4.7,baz=69,slow=3.6,SNR=5.3						
AKASG	**Malin Array Be**	**69.60**	**322**	P	**P**	**21 39 08.8**	**-2.3**
	comp=Z,1.3nm,0.9s,mb3.9,baz=85,slow=5.4,SNR=6.7						
LBTB	**Lobatse**	**72.35**	**242**	*eP*	**P**	**21 39 28.5**	**+0.3**
	comp=Z,1.9nm,0.6s,mb4.2						
JOF	**Joensuu**	**72.73**	**335**	*ep*	**P**	**21 39 28.4**	**-1.4**
	comp=Z,3.6nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**74.52**	**333**	P	**P**	**21 39 39.2**	**-1.0**
	comp=Z,3.9nm,0.8s,mb4.4,baz=98,slow=5.9,SNR=12						
FINES	**FINESS Array B**	**74.52**	**333**	P	**P**	**21 39 39.2**	**-1.0**
KAF	**Kangasniemi**	**74.62**	**333**	*ep*	**P**	**21 39 38.8**	**-2.0**
MORC	**Moravsky Berou**	**76.72**	**320**	P	**P**	**21 39 51.2**	**-1.7**
KEV	**Kevo**	**76.90**	**341**	*ep*	**P**	**21 39 53.1**	**-0.4**
	comp=Z,22nm,1.4s,mb4.9						
ARCES	**ARCESS Array B**	**77.31**	**340**	P	**P**	**21 39 55.3**	**-0.5**
	comp=Z,2.2nm,0.4s,mb4.4,baz=94,slow=6.2,SNR=24						
GERES	**GERESS Array B**	**79.13**	**319**	P	**P**	**21 40 06.4**	**+0.2**
	comp=Z,3.1nm,0.7s,mb4.3,baz=90,slow=5.3,SNR=28						
KHC	**Kasperske Hory**	**79.23**	**319**	*eP*	**P**	**21 40 06.5**	**-0.3**
HFS	**Hagfors**	**80.18**	**330**	P	**P**	**21 40 11.0**	**-0.6**
	comp=Z,1.8nm,0.5s,mb4.2,baz=90,slow=4.4,SNR=10						
NOA	**NORSAR Array B**	**81.48**	**331**	P	**P**	**21 40 17.5**	**-0.9**
	comp=Z,5.0nm,1.2s,mb4.3,baz=94,slow=5.9,SNR=3.5						
NOA	**NORSAR Array B**	**81.48**	**331**	P	**P**	**21 40 17.5**	**-1.0**
LPG	**La Plagne**	**83.79**	**315**	*eP*	**P**	**21 40 31.2**	**+0.5**
	comp=Z,10nm,0.9s,mb4.6						
EKA	**Eskdalemuir Ar**	**89.29**	**325**	P	**P**	**21 40 57.8**	**+0.3**
	comp=Z,4.0nm,0.9s,mb4.7,baz=97,slow=5.4,SNR=7.8						
ESDC	**Sonseca Array**	**92.18**	**310**	P	**P**	**21 41 11.9**	**+0.8**
	comp=Z,0.6nm,0.6s,mb4.1,baz=111,slow=3.3,SNR=4.2						
NVAR	**Mina Array Bea**	**127.45**	**31**	PKP	PKPdf	21 47 08.6	-0.2
	comp=Z,1.0nm,0.8s,baz=135,slow=0.4,SNR=6.0						
PDAR	**Pinedale Array**	**127.76**	**21**	PKP	PKPdf	21 47 08.3	-1.0
	comp=Z,1.7nm,1.1s,baz=72,slow=4.7,SNR=5.7						
GDL2	**Guadalupe Moun**	**139.00**	**23**	*e*PKP	PKPdf	21 47 29.1	-1.5
JCT	**Junction City**	**142.18**	**19**	*e*PKP	PKPdf	21 47 33.2	-3.1
LPAZ	**La Paz**	**158.83**	**238**	PKPab	PKPab	21 48 37.8	+0.9
	comp=Z,1.6nm,0.8s,baz=70,slow=14,SNR=5.3						

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*IDC **24** 21:46:59.7±1.2, 5.96S×130.62E, mb4.1/5, mb1 4.5/7, mb1mx4.3/13, mbtmp4.3/7, ML4.7/2, Error ellipse: s-maj=90.5km s-min=19.7km az=67.0*
*NEIC **24** 21:47:05.0±0.7, 6.11S×130.33E, h35km, mb4.5/4, Error ellipse: s-maj=41.3km s-min=8.1km az=70.0*
ISC 24 21:47:09.1±3.5, 6.3S±0.1×130.3E±0.3, h98km±35km, n20, σ0§76/22, mb4.5/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**14.09**	**164**	*eP*	**P**	**21 50 24.5**	**-0.9**
	21nm,0.5s						
WRA	**Warramunga Arr**	**14.10**	**164**	Pn	**P**	**21 50 24.8**	**-0.6**
	4.9nm,0.3s,baz=347,slow=13,SNR=70						
WRA				Sn	**S**	**21 52 52.6**	**-7.1**
	3.6nm,0.3s,baz=352,slow=20,SNR=6.3						
ASAR	**Alice Springs**	**17.59**	**169**	P	**P**	**21 51 11.7**	**+2.3**
	4.1nm,0.3s,baz=350,slow=9.8,SNR=132						
ASAR				S	**S**	**21 54 18.4**	**-1.0**
	2.4nm,0.3s,baz=355,slow=27,SNR=6.3						
STKA	**Stephens Creek**	**27.53**	**159**	P	**P**	**21 52 49.8**	**+1.1**
	1.9nm,0.3s,mb4.0,baz=331,slow=8.3,SNR=7.0						
NWAO	**Narrogin (SRO)**	**29.12**	**203**	P	**P**	**21 53 03.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**39.52**	**309**	P	**P**	**21 54 33.2**	**+1.2**
	1.5nm,0.8s,mb3.9,baz=137,slow=7.2,SNR=10.0						
LSA	**Lhasa**	**51.91**	**316**	*eP*	**P**	**21 56 10.4**	**+0.3**
	2.5nm,0.4s,mb4.6						
JIRN	**Jiri**	**54.36**	**311**	*eP*	**P**	**21 56 28.1**	**-0.1**
	7.2nm,0.3s,mb5.2						
PKI	**Pulchoki**	**54.91**	**310**	*eP*	**P**	**21 56 31.8**	**-0.4**
	3.0nm,0.2s,mb4.9						
KKN	**Kakani**	**55.12**	**310**	*eP*	**P**	**21 56 33.4**	**-0.3**
	5.6nm,0.4s,mb5.0						
DMN	**Daman**	**55.16**	**310**	*eP*	**P**	**21 56 33.8**	**-0.2**
	13nm,0.8s,mb5.0						
GKN	**Gorkha**	**55.72**	**310**	*eP*	**P**	**21 56 37.5**	**-0.5**
	12nm,0.3s,mb5.4						
KOLN	**Koldanda**	**56.39**	**309**	*eP*	**P**	**21 56 42.2**	**-0.7**
	14nm,1.0s,mb5.0						
SONM	**Songino Array**	**57.90**	**341**	P	**P**	**21 56 53.7**	**+0.5**
	0.6nm,0.5s,mb3.9,baz=160,slow=6.5,SNR=8.3						
AAK	**Ala-Archa**	**70.21**	**320**	*eP*	**P**	**21 58 13.2**	**-0.2**
	1.4nm,0.6s,mb4.0						
ZAL	**Zalesovo**	**71.11**	**334**	P	**P**	**21 58 18.1**	**-0.5**
	1.4nm,0.6s,mb4.0,baz=324,slow=2.3,SNR=7.2						
KURK	**Kurchatov**	**72.09**	**328**	*eP*	**P**	**21 58 24.2**	**-0.5**
	1.7nm,0.4s,mb4.2						
BVAR	**Borovoye Array**	**77.65**	**328**	P	**P**	**21 58 56.3**	**0.0**
	0.9nm,0.4s,mb3.8,baz=113,slow=7.5,SNR=16						
CHKZ	**Chkalovo**	**77.84**	**328**	*eP*	**P**	**21 58 57.1**	**-0.3**
ARU	**Arti**	**85.29**	**328**	P	**P**	**21 59 36.8**	**+0.7**
	4.5nm,0.6s,mb4.6						

IGQ 24 21:50:07.1, 1.40S×81.01W, h12km±12km, mb4.0, 2C-1D, Error ellipse: s-maj=40.6km s-min=12.0km az=166.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.58**	**54**	⇑P	Pb	21 50 17.8	-0.9
ARRY	**Arrayan**	**2.56**	**92**	P	Pn	21 50 50.1	+0.9
ULBA	**Ulba**	**2.60**	**91**	P	Pn	21 50 51.6	+1.7
NAS1	**Nasa**	**2.65**	**73**	P	Pn	21 50 52.0	+1.5
PISA	**Pisayambo**	**2.65**	**83**	P	Pn	21 50 52.2	+1.8
PINO	**Pino**	**2.70**	**63**	P	Pn	21 50 51.3	+0.1
VC1	**Cotopaxi 1**	**2.71**	**74**	P	Pn	21 50 54.3	+2.9
YANA	**Yana**	**2.75**	**63**	⇓P	Pn	21 50 53.6	+1.7
ANTI	**Antisana**	**3.00**	**72**	⇑P	Pn	21 50 58.7	+3.2
COTA	**Cotacachi**	**3.18**	**57**	P	Pn	21 50 59.9	+1.8
CAYA	**Cayambe**	**3.35**	**64**	P	Pn	21 51 03.7	+3.2

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*BJI **24** 21:56:14.4, 5.30N×94.30E, h39km, mb4.3, Ms3.6*
*IDC **24** 21:56:14.6±0.6, 5.32N×94.30E, h37km±4km, mb3.9/14, mb1 4.1/15, mb1mx4.1/20, mbtmp4.2/15, ML4.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/20, Error ellipse: s-maj=31.1km s-min=12.1km az=46.0*
*NEIC **24** 21:56:14.5±0.4, 5.27N×94.35E, mb4.4/10, Error ellipse: s-maj=11.6km s-min=9.1km az=70.0*
ISC 24 21:56:12.6±0.5, 5.22N±0.07×94.35E±0.07, h39km, h39km±1.6km:pP-P, n51, σ1§06/44, mb4.4/30, MS3.3/2, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.53**	**72**	P	**P**	**21 57 49.0**	**+0.4**
CM31	**Chiang Mai Arr**	**13.90**	**18**	P	**P**	**21 59 27.4**	**-2.0**
	2.5nm,0.3s						
CMAR	**Chiang Mai Arr**	**13.90**	**18**	Pn	**P**	**21 59 30.8**	**+1.4**
	0.8nm,0.3s,baz=206,slow=14,SNR=21						
CHG	**Chiang Mai**	**14.24**	**18**	⇓P	**P**	**21 59 41.1**	**+7.3**
	10nm,0.6s						
HYB	**Hyderabad**	**19.65**	**309**	*eP*	**P**	**22 00 42.0**	**+0.9**
HYB	**Hyderabad**	**19.65**	**309**	*i P*	**P**	**22 00 42.0**	**+0.9**
KMI	**Kunming**	**21.37**	**21**	P	**P**	**22 01 01.5**	**+2.6**
	6.0nm,1.2s,mb3.8						
KMI				sP		22 01 15.0	
KMI				LR	LR		
	comp=Z,90nm,19.6s,MS3.2						
JIRN	**Jiri**	**23.63**	**342**	*eP*	**P**	**22 01 22.2**	**+0.9**
	comp=Z,17nm,0.6s,mb4.7						
PKI	**Pulchoki**	**23.80**	**340**	*eP*	**P**	**22 01 24.1**	**+1.2**
	comp=Z,16nm,0.6s,mb4.6						
DMN	**Daman**	**23.95**	**339**	*eP*	**P**	**22 01 25.3**	**+1.0**
	comp=Z,28nm,1.0s,mb4.7						
KKN	**Kakani**	**24.05**	**340**	*eP*	**P**	**22 01 26.1**	**+0.8**
	comp=Z,20nm,0.6s,mb4.7						
GKN	**Gorkha**	**24.47**	**339**	*eP*	**P**	**22 01 30.4**	**+1.0**
	comp=Z,35nm,0.6s,mb5.0						
LSA	**Lhasa**	**24.54**	**353**	*eP*	**P**	**22 01 30.9**	**+0.9**
	comp=Z,5.8nm,0.5s,mb4.4						
KOLN	**Koldanda**	**24.65**	**337**	*eP*	**P**	**22 01 31.9**	**+0.7**
	comp=Z,14nm,0.4s,mb4.8						
ENH	**Enshi**	**28.72**	**28**	*eP*	**P**	**22 02 07.5**	**-1.1**
	comp=Z,2.5nm,0.4s,mb4.3						
XAN	**Xi'an**	**31.71**	**23**	P	**P**	**22 02 34.3**	**-0.8**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.4						
AAK	**Ala-Archa**	**41.22**	**338**	*eP*	**P**	**22 03 54.9**	**-0.6**
SONM	**Songino Array**	**43.70**	**12**	P	**P**	**22 04 16.0**	**+0.3**
	comp=Z,1.6nm,0.7s,mb3.8,baz=188,slow=8.9,SNR=9.8						
WRA	**Warramunga Arr**	**46.59**	**124**	P	**P**	**22 04 39.4**	**+0.3**
	comp=Z,6.0nm,0.6s,mb4.7,baz=303,slow=9.2,SNR=46						
WRA				pP	pP	22 04 50.2	0.0
	comp=Z,15nm,0.8s,baz=303,slow=9.1,SNR=13						
WRAB	**Tennant Creek**	**46.59**	**124**	*eP*	**P**	**22 04 39.0**	**0.0**
	comp=Z,12nm,0.6s,mb5.0						
KURK	**Kurchatov**	**47.22**	**346**	*eP*	**P**	**22 04 42.9**	**-0.8**
	comp=Z,7.2nm,0.9s,mb4.6						
ASAR	**Alice Springs**	**48.09**	**128**	P	**P**	**22 04 51.6**	**+0.9**
	comp=Z,1.5nm,0.6s,mb4.2,baz=299,slow=7.7,SNR=16						
ASAR				pP	pP	22 05 03.0	+1.1
	comp=Z,6.5nm,0.5s,baz=308,slow=7.6,SNR=19						
ASAR				LR	LR	22 29 30.0	
	comp=Z,45nm,19.0s,MS3.5,baz=70,slow=41						
ZAL	**Zalesovo**	**49.19**	**353**	P	**P**	**22 04 58.7**	**-0.2**
	comp=Z,2.1nm,0.3s,mb4.6,baz=307,slow=7.9,SNR=10						
ZAL	**Zalesovo**	**49.19**	**353**	P	**P**	**22 04 58.7**	**-0.2**
BVAR	**Borovoye Array**	**51.56**	**342**	P	**P**	**22 05 16.1**	**-0.8**
	comp=Z,0.8nm,0.4s,mb4.0,baz=137,slow=10,SNR=12						
BRVK	**Borovoye**	**51.62**	**342**	*eP*	**P**	**22 05 15.0**	**-2.4**
	comp=Z,1.5nm,0.6s,mb4.1						
CHKZ	**Chkalovo**	**52.05**	**342**	*eP*	**P**	**22 05 20.0**	**-0.6**
	comp=Z,3.1nm,0.4s,mb4.6						
KMBO	**Kilima Mbogo**	**57.38**	**265**	P	**P**	**22 06 01.0**	**+1.0**
	comp=Z,0.5nm,0.2s,mb4.2,baz=227,slow=23,SNR=5.0						
STKA	**Stephens Creek**	**58.15**	**133**	P	**P**	**22 06 04.7**	**-0.4**
	comp=Z,0.5nm,0.3s,mb4.0,baz=326,slow=11,SNR=4.4						
STKA				pP	pP	22 06 18.0	+1.4
	comp=Z,1.5nm,0.5s,baz=331,slow=12,SNR=3.6						
ARU	**Arti**	**58.41**	**338**	*eP*	**P**	**22 06 03.9**	**-2.7**
	comp=Z,2.3nm,0.8s,mb4.3						
BRTR	**Keskin Array B**	**64.33**	**312**	P	**P**	**22 06 44.9**	**-1.9**
	comp=Z,1.5nm,0.7s,mb4.2,baz=128,slow=7.2,SNR=8.8						
LSZ	**Lusaka**	**68.61**	**251**	P	**P**	**22 07 14.5**	**+0.2**
AKASG	**Malin Array Be**	**70.36**	**322**	P	**P**	**22 07 22.4**	**-2.0**
	comp=Z,0.6nm,0.5s,mb3.8,baz=90,slow=4.8,SNR=4.8						
MLR	**Muntele Rosu**	**71.22**	**316**	P	**P**	**22 07 29.6**	**-0.1**
	comp=Z,10nm,1.3s,mb4.6,baz=290,slow=1.1,SNR=3.7						
LBTB	**Lobatse**	**73.18**	**242**	P	**P**	**22 07 41.9**	**+0.1**
	comp=Z,2.6nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**75.15**	**332**	P	**P**	**22 07 51.7**	**-0.8**
	comp=Z,1.9nm,0.9s,mb4.0,baz=90,slow=3.8,SNR=6.6						
FINES				pP	pP	22 08 02.8	-1.4
	comp=Z,2.3nm,0.5s,baz=104,slow=5.7,SNR=5.1						
FINES	**FINESS Array B**	**75.15**	**332**	P	**P**	**22 07 51.7**	**-0.8**
FINES				pP	pP	22 08 02.8	-1.3
MORC	**Moravsky Berou**	**77.52**	**320**	*eP*	**P**	**22 08 05.0**	**-1.2**
ARCES	**ARCESS Array B**	**77.82**	**340**	P	**P**	**22 08 07.2**	**-0.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=80,slow=7.4,SNR=4.9						
ARCES	**ARCESS Array B**	**77.82**	**340**	P	**P**	**22 08 07.2**	**-0.1**
PRU	**Pruhonice**	**79.47**	**320**	*eP*	**P**	**22 08 17.9**	**+1.1**
PVCC	**Panska Ves**	**79.50**	**320**	epP	pP	22 08 29.1	+0.4
GERES	**GERESS Array B**	**79.94**	**319**	P	**P**	**22 08 19.9**	**+0.6**
	comp=Z,1.8nm,0.7s,mb4.1,baz=108,slow=4.2,SNR=14						
GERES				pP	pP	22 08 30.8	-0.4
	comp=Z,2.7nm,0.6s,baz=90,slow=4.9,SNR=10						
KHC	**Kasperske Hory**	**80.04**	**319**	*eP*	**P**	**22 08 19.5**	**-0.3**
KHC				pP	pP	22 08 32.0	+0.3
NKC	**Novy Kostel**	**80.83**	**320**	*eP*	PcP	22 08 28.6	-2.3
NB2	**NORSAR Subarra**	**82.14**	**331**	P	pP	22 08 41.1	-1.4
	comp=Z,0.2nm,0.7s,baz=95,slow=5.8						
DAVOX	**Davos**	**82.44**	**316**	P	**P**	**22 08 33.4**	**+1.0**
	comp=Z,2.4nm,0.5s,mb4.4,baz=144,slow=17,SNR=5.3						
DAVOX				pP	pP	22 08 44.7	+0.3
	comp=Z,8.2nm,0.6s,baz=131,slow=5.6,SNR=7.1						
LPG	**La Plagne**	**84.63**	**315**	*eP*	PcP	22 08 49.5	+2.0
	comp=Z,25nm,1.1s						
EKA	**Eskdalemuir Ar**	**90.02**	**325**	pP	pP	22 09 21.9	+0.5
	comp=Z,1.8nm,0.6s,baz=106,slow=6.1,SNR=3.1						
ESDC	**Sonseca Array**	**93.08**	**310**	pP	pP	22 09 36.2	+0.2
	comp=Z,0.4nm,0.5s,baz=70,slow=4.0,SNR=3.7						
PDAR	**Pinedale Array**	**127.54**	**22**	PKP	PKPdf	22 15 16.8	+2.6
	comp=Z,0.3nm,0.5s,baz=90,slow=3.6,SNR=3.6						
PDAR				pPKP		22 15 27.8	
	comp=Z,0.9nm,0.7s,baz=91,slow=1.3,SNR=7.9						

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*IDC **24** 22:02:41.7±1.0, 14.46N×92.15E, mb3.9/10, mb1 4.0/11, mb1mx3.9/19, mbtmp3.8/11, ML3.6/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/21, Error ellipse: s-maj=45.6km s-min=19.9km az=52.0*
*NEIC **24** 22:02:46.1±0.7, 14.39N×91.87E, h30km, mb4.3/4, Error ellipse: s-maj=15.0km s-min=13.7km az=74.0*
ISC 24 22:02:43.7±0.6, 14.46N±0.08×92.0E±0.1, h30km, n25, σ1§22/25, mb4.0/13, MS3.4/2, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.79**	**58**	Pn	**Pn**	**22 04 42.9**	**+4.8**
	0.3nm,0.3s,baz=240,slow=14,SNR=3.3						
CMAR				LR	LR	22 08 21.3	
	comp=Z,43nm,18.5s,baz=59,slow=44						
PALK	**Pallekele**	**13.15**	**238**	P	**P**	**22 05 49.9**	**-1.4**
JIRN	**Jiri**	**14.19**	**339**	*eP*	**P**	**22 06 02.4**	**-2.5**
	11nm,0.5s						
PKI	**Pulchoki**	**14.40**	**336**	*eP*	**P**	**22 06 05.4**	**-2.2**
	14nm,0.6s						
DMN	**Daman**	**14.55**	**335**	*eP*	**P**	**22 06 08.0**	**-1.7**
	16nm,0.6s						
KKN	**Kakani**	**14.64**	**336**	*eP*	**P**	**22 06 08.4**	**-2.5**
	12nm,0.9s						
LSA	**Lhasa**	**15.18**	**357**	P	**P**	**22 06 17.8**	**-0.1**
	6.7nm,0.7s						
KOLN	**Koldanda**	**15.35**	**331**	*eP*	**P**	**22 06 20.2**	**+0.1**
	4.9nm,0.3s						
AAK	**Ala-Archa**	**31.85**	**335**	*eP*	**P**	**22 09 09.1**	**+0.8**
	1.2nm,0.7s

az=8.0
*NEIC **24** 22:32:07.6±0.5,0.74S×26.06E,h10km,mb4.2/1,Error ellipse: s-maj=12.7km s-min=10.0km az=74.0*
ISC 24 22:32:05.7±0.5,0.74S±0.07×26.06E±0.09,h10km,n19, σ1º05/19,mb3.9/11,Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	Mbarara	4.68	88	eP	Pn	22 33 18.0	0.0
KMBO	Kilima Mbogo	11.20	92	Pn	P	22 34 48.5	-0.4
	0.2nm,0.3s,baz=266,slow=18,SNR=6.7						
KMBO				Lg		22 37 52.6	
	0.4nm,0.3s,baz=336,slow=20,SNR=3.8						
KMBO				LR	LR	22 39 19.8	
	comp=Z,94nm,18.5s,baz=73,slow=39						
LSZ	Lusaka	14.60	172	eP	P	22 35 33.5	-0.9
	5.8nm,0.6s						
BOSA	Boshof	27.73	182	P	P	22 37 56.7	+0.2
	4.0nm,0.8s,mb4.1						
DBIC	Dimbokro	31.72	284	P	P	22 38 32.1	-0.1
	2.6nm,0.6s,mb4.3,baz=91,slow=9.7,SNR=8.1						
SUR	Sutherland	31.86	188	P	P	22 38 34.1	+0.8
BRTR	Keskin Array B	40.86	9	P	P	22 39 50.5	+1.0
	1.0nm,0.8s,mb3.5,baz=188,slow=10,SNR=3.0						
PSZ	Piszkesteto	48.76	354	P	P	22 40 52.9	+0.2
GERES	GERESS Array B	50.53	349	P	P	22 41 07.8	+1.5
	0.8nm,0.7s,mb3.8,baz=169,slow=6.8,SNR=6.1						
KHC	Kasperske Hory	50.83	349	eP	P	22 41 06.0	-2.5
KHC				e	pP	22 41 10.0	-1.6
KHC	Kasperske Hory	50.83	349	eP	P	22 41 06.0	-2.5
KHC				pP	pP	22 41 10.0	-1.6
MORC	Moravsky Berou	50.85	353	P	P	22 41 08.7	+0.1
AKASG	Malin Array Be	51.32	3	P	P	22 41 11.1	-1.0
	0.2nm,0.3s,mb3.5,baz=187,slow=6.4,SNR=2.7						
NOA	NORSAR Array B	62.66	352	P	P	22 42 31.8	-0.8
	1.0nm,0.7s,mb4.1,baz=136,slow=5.4,SNR=3.4						
BVAR	Borovoye Array	65.05	28	P	P	22 42 47.0	-1.4
	1.1nm,0.6s,mb4.1,baz=194,slow=5.9,SNR=3.7						
ARCES	ARCESS Array B	70.14	360	P	P	22 43 19.2	-0.9
	2.3nm,0.8s,mb4.2,baz=203,slow=6.9,SNR=5.2						
ZAL	Zalesovo	72.75	32	P	P	22 43 37.8	+1.8
	1.0nm,0.5s,mb4.0,baz=254,slow=3.8,SNR=4.8						
CMAR	Chiang Mai Arr	74.02	71	P	P	22 43 44.1	+0.1
	0.5nm,0.7s,mb3.5,baz=259,slow=6.9,SNR=4.5						
SONM	Songino Array	84.05	42	P	P	22 44 39.7	+1.8
	0.3nm,0.4s,mb3.8,baz=255,slow=2.3,SNR=2.8						

IGQ 24 22:37:14.8,1.15S×81.43W,h12km±27km,mb4.5,5C-6D, Error ellipse: s-maj=26.7km s-min=7.5km az=172.0,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.81	97	⇑P	Pn	22 38 01.1	+0.6
CUSU	Cusua	2.97	96	P	Pn	22 38 05.0	+2.4
MARY	Rancho Maria	2.98	82	P	Pn	22 38 05.8	+3.0
JUA2	San Juan 2	2.98	72	P	Pn	22 38 04.5	+1.8
JUIV	Juive	2.98	95	P	Pn	22 38 04.0	+1.1
TERV	Terraza Guagua	2.99	71	⇑P	Pn	22 38 04.1	+1.2
PINO	Pino	2.99	71	⇑P	Pn	22 38 04.0	+1.0
ARRY	Arrayan	3.00	97	⇑P	Pn	22 38 03.7	+0.6
ARRY				S	Sn	22 38 38.4	-1.0
NAS1	Nasa	3.00	80	P	Pn	22 38 05.0	+1.9
RETU	Refugio	3.00	96	P	Pn	22 38 05.7	+2.6
RETU				S	Sn	22 38 41.6	+2.2
PATA	Patacocha	3.02	97	⇑P	Pn	22 38 05.1	+1.7
RUN2	Runtun	3.03	95	P	Pn	22 38 05.7	+2.2
YANA	Yana	3.04	70	⇓P	Pn	22 38 04.3	+0.7
ULBA	Ulba	3.04	96	⇓P	Pn	22 38 05.1	+1.4
PISA	Pisayambo	3.05	88	P	Pn	22 38 05.1	+1.3
PISA				S	Sn	22 38 41.7	+1.1
VC1	Cotopaxi 1	3.07	81	P	Pn	22 38 06.8	+2.6
TAMB	Tambo	3.10	82	P	Pn	22 38 08.9	+4.4
ANTI	Antisana	3.34	78	⇓P	Pn	22 38 10.4	+2.4
COTA	Cotacachi	3.43	65	⇓P	Pn	22 38 10.2	+1.0
CAYR	Refugio Cayamb	3.62	71	⇓P	Pn	22 38 14.7	+2.8
CAYA	Cayambe	3.65	71	⇓P	Pn	22 38 14.9	+2.5

*IDC **24** 22:52:59.5±2.0,6.08N×93.70E,mb3.9/5,mb1 4.0/6, mb1mx3.8/18,mbtmp3.8/6,ML3.4/1,MS3.1/1,Ms1 3.3/1, ms1mx2.4/23,Error ellipse: s-maj=86.2km s-min=22.7km az=58.0*
*NEIC **24** 22:53:05.1±1.0,6.27N×94.09E,h30km,mb4.2/4,Error ellipse: s-maj=29.6km s-min=12.7km az=66.0*
ISC 24 22:53:06.4±1.0,6.4N±0.1×94.7E±0.2,h30km,n19, σ0º62/19,mb4.1/12,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	12.64	19	eP	P	22 56 07.7	+0.5
	2.4nm,0.4s						
CMAR	Chiang Mai Arr	12.64	19	Pn	P	22 56 14.9	+7.7
	0.1nm,0.3s,baz=206,slow=14,SNR=4.1						
CMAR				LR	LR	23 01 32.6	
	comp=Z,74nm,18.6s,baz=220,slow=38						
JIRN	Jiri	22.62	340	eP	P	22 58 06.5	+0.2
PKI	Pulchoki	22.81	338	eP	P	22 58 08.6	+0.4
	4.0nm,0.4s,mb4.2						
DMN	Daman	22.96	338	eP	P	22 58 09.6	0.0
KKN	Kakani	23.06	338	eP	P	22 58 10.7	+0.1
LSA	Lhasa	23.39	352	eP	P	22 58 14.3	+0.6
	2.1nm,0.5s,mb3.8						
GKN	Gorkha	23.49	337	eP	P	22 58 14.9	+0.1
	6.5nm,0.4s,mb4.5						
KOLN	Koldanda	23.71	335	eP	P	22 58 16.9	+0.1
	9.2nm,0.7s,mb4.3						
ENH	Enshi	27.48	29	eP	P	22 58 52.0	-0.2
SONM	Songino Array	42.45	12	P	P	23 00 59.8	-0.5
	0.8nm,0.7s,mb3.4,baz=195,slow=7.7,SNR=5.0						
KURK	Kurchatov	46.15	346	eP	P	23 01 26.3	-3.7
	1.6nm,0.6s,mb4.1						
WRA	Warramunga Arr	46.96	125	P	P	23 01 36.9	0.0
	3.1nm,0.8s,mb4.3,baz=302,slow=9.2,SNR=11						
WRAB	Tennant Creek	46.96	125	eP	P	23 01 36.5	-0.4
	3.1nm,0.5s,mb4.5						
ZAL	Zalesovo	48.05	352	P	P	23 01 43.7	-1.2
	0.9nm,0.7s,mb3.9,baz=319,slow=7.1,SNR=3.8						
ZAL	Zalesovo	48.05	352	P	P	23 01 43.7	-1.3
ASAR	Alice Springs	48.55	129	P	P	23 01 50.0	+0.8
	1.1nm,0.6s,mb4.0,baz=301,slow=7.8,SNR=10						
CHKZ	Chkalovo	51.02	342	eP	P	23 02 03.4	-4.3
	1.4nm,0.5s,mb4.2						
FINES	FINESS Array B	74.25	332	P	P	23 04 36.8	-5.5
	1.6nm,0.9s,mb4.0,baz=90,slow=3.8,SNR=7.2						

*IDC **24** 22:54:23.4±9.2,7.79N×93.91E,mb3.6/4,mb1 3.7/5, mb1mx3.6/18,mbtmp3.5/5,ML3.3/1,Error ellipse: s-maj=215.7km s-min=46.8km az=144.0*
*NEIC **24** 22:54:26.8±0.9,7.77N×94.13E,h30km,mb4.1/3,Error ellipse: s-maj=18.4km s-min=15.7km az=94.0*
ISC 24 22:54:25.2±1.1,7.8N±0.1×94.3E±0.1,h30km,n12, σ1º01/12,mb3.9/7,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.48	23	P	P	22 57 10.4	0.0
CMAR	Chiang Mai Arr	11.48	23	Pn	P	22 57 10.2	-0.2
	0.1nm,0.3s,baz=213,slow=15,SNR=2.5						
HYB	Hyderabad	18.10	303	i P	P	22 58 38.0	+1.6
LSA	Lhasa	21.97	353	eP	P	22 59 18.4	-0.1
	5.7nm,0.7s,mb4.1						
AAK	Ala-Archa	38.83	336	P	P	23 01 49.0	-0.3
SONM	Songino Array	41.17	12	P	P	23 02 11.3	+2.7
	2.0nm,1.2s,mb3.6,baz=198,slow=9.1,SNR=2.2						
KURK	Kurchatov	44.70	346	P	P	23 02 36.9	-0.5
	1.9nm,0.7s,mb4.0						
ZAL	Zalesovo	46.62	352	P	P	23 02 53.0	+0.5
	0.5nm,0.6s,mb3.6,baz=305,slow=12,SNR=1.8						
WRAB	Tennant Creek	48.08	126	P	P	23 03 04.7	+0.3
CHKZ	Chkalovo	49.58	342	eP	P	23 03 14.2	-1.4
	1.7nm,0.6s,mb4.2						
BRTR	Keskin Array B	62.61	311	P	P	23 04 47.6	-1.5
	0.5nm,0.7s,mb3.8,baz=117,slow=9.7,SNR=3.0						
GERES	GERESS Array B	77.99	318	P	P	23 06 22.4	0.0
	0.5nm,0.7s,mb3.5,baz=104,slow=5.5,SNR=4.0						

*BJI **24** 23:03:10.5,2.82N×93.86E,h33km,mB4.9,mb4.5*
*IDC **24** 23:03:13.3±0.7,3.71N×93.98E,mb4.4/15,mb1 4.5/16, mb1mx4.4/21,mbtmp4.3/16,ML4.4/1,MS3.0/1,Ms1 3.2/1, ms1mx2.5/21,Error ellipse: s-maj=28.7km s-min=16.3km az=44.0*
*NEIC **24** 23:03:18.5±0.4,3.75N×94.11E,mb4.8/10,Error ellipse: s-maj=10.7km s-min=9.1km az=50.0*
ISC 24 23:03:16.2±0.5,3.71N±0.08×94.12E±0.08,h31km, h31km±2.4km:pP-P,n58,σ1º06/56,mb4.6/31,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	15.40	17	eP	P	23 06 51.2	-2.0
	12nm,0.8s						
CMAR	Chiang Mai Arr	15.40	17	Pn	P	23 06 53.2	-0.1
	0.5nm,0.3s,baz=214,slow=11,SNR=44						
CMAR				LR	LR	23 13 02.8	
	comp=Z,57nm,19.2s,baz=206,slow=38						
VIS	Vishakhapatnam	17.49	324	e	P	23 07 17.0	-2.7
HYB	Hyderabad	20.46	313	eP	P	23 07 54.0	-0.2
HYB	Hyderabad	20.46	313	i P	P	23 07 54.0	-0.2
IMP	Imphal	20.96	360	e	P	23 07 58.8	-0.5
SHL	Shillong	21.84	355	eP	P	23 08 07.5	-0.7
SHL				eS	Sx	23 11 35.5	
JIRN	Jiri	25.00	343	eP	P	23 08 40.2	+1.2
	28nm,0.7s,mb4.9						
PKI	Pulchoki	25.15	342	eP	P	23 08 41.0	+0.5
	21nm,0.6s,mb4.8						
DMN	Daman	25.28	341	eP	P	23 08 42.3	+0.6
	17nm,0.7s,mb4.7						
KKN	Kakani	25.39	341	eP	P	23 08 43.2	+0.4
	17nm,0.7s,mb4.7						
GKN	Gorkha	25.80	340	eP	P	23 08 46.0	-0.6
	35nm,0.7s,mb5.0						
KOLN	Koldanda	25.95	338	eP	P	23 08 48.6	+0.6
	28nm,0.8s,mb4.8						
LSA	Lhasa	26.01	354	eP	P	23 08 51.4	+2.9
LSA	Lhasa	26.01	354	eP	P	23 08 50.3	+1.9
	57nm,0.6s,mb5.3						
LSA				epP	pP	23 09 00.5	+3.1
ENH	Enshi	30.16	27	eP	P	23 09 24.0	-2.0
	3.6nm,0.6s,mb4.3						
XAN	Xi'an	33.18	23	P	P	23 09 51.8	-0.7
XAN				AP	pP	23 09 58.8	-2.7
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
ULHL	Ulahol	41.56	340	P	P	23 11 04.3	+1.4
	SNR=6.0						
UCH	Uchtor	42.17	338	P	P	23 11 09.4	+1.6
	SNR=14						
KBK	Karagaybulak	42.38	339	P	P	23 11 11.3	+1.8
	SNR=17						
TKM2	Tokmak 2	42.38	340	P	P	23 11 10.8	+1.2
	SNR=11						
AML	Almayashu	42.39	337	P	P	23 11 11.3	+1.6
	SNR=22						
AAK	Ala-Archa	42.52	338	P	P	23 11 12.3	+1.5
	SNR=7.0						
AAK	Ala-Archa	42.52	338	eP	P	23 11 10.6	-0.2
	comp=Z,7.7nm,1.0s,mb4.4						
EKS2	Erkin-Say	42.81	338	P	P	23 11 14.3	+1.2
	SNR=11						
USP	Ospenovka	43.07	339	P	P	23 11 16.1	+0.9
	SNR=20						
SONM	Songino Array	45.22	12	P	P	23 11 32.3	-0.2
	comp=Z,3.1nm,0.6s,mb4.3,baz=192,slow=8.8,SNR=29						
SONM				PcP	PcP	23 13 13.2	+0.5
	comp=Z,1.0nm,0.6s,baz=198,slow=2.4,SNR=4.7						
ULN	Ulaanbaatar	45.38	12	eP	P	23 11 33.8	+0.1
	comp=Z,5.1nm,0.8s,mb4.4						
WRA	Warramunga Arr	45.96	122	P	P	23 11 39.2	+0.5
	comp=Z,3.4nm,0.8s,mb4.3,baz=299,slow=8.9,SNR=11						
WRAB	Tennant Creek	45.97	122	eP	P	23 11 38.9	+0.2
	comp=Z,31nm,1.1s,mb5.2						
ASAR	Alice Springs	47.35	127	P	P	23 11 50.0	+0.4
	comp=Z,1.4nm,0.6s,mb4.1,baz=296,slow=8.1,SNR=19						
ASAR				PcP	PcP	23 13 20.7	+0.2
	comp=Z,1.7nm,1.0s,baz=310,slow=3.2,SNR=3.5						
KURK	Kurchatov	48.63	347	eP	P	23 11 59.4	+0.2
	comp=Z,6.7nm,0.2s,mb5.3						
KURK				epP	pP	23 12 09.6	+1.0
HIA	Hailar	50.36	22	eP	P	23 12 13.4	+0.9
	comp=Z,3.6nm,0.6s,mb4.6						
ZAL	Zalesovo	50.65	353	P	P	23 12 15.0	+0.4
	comp=Z,5.8nm,0.5s,mb4.8,baz=293,slow=4.8,SNR=28						
ZAL	Zalesovo	50.65	353	P	P	23 12 15.0	+0.4
BVAR	Borovoye Array	52.92	342	P	P	23 12 31.2	-0.6
	comp=Z,4.6nm,0.5s,mb4.6,baz=138,slow=9.1,SNR=35						
CHKZ	Chkalovo	53.41	343	eP	P	23 12 34.8	-0.6
	comp=Z,18nm,0.8s,mb5.1						
KMBO	Kilima Mbogo	57.04	266	P	P	23 13 02.1	-0.2
	comp=Z,1.5nm,0.7s,mb4.1,baz=56,slow=12,SNR=6.4						
GNI	Garni	57.37	316	P	P	23 13 03.5	-0.7
	comp=Z,4.3nm,0.7s,mb4.6,baz=345,slow=7.8,SNR=3.8						
ASF	Jabal al Asfar	60.52	305	P	P	23 13 25.4	-0.8
	comp=Z,3.6nm,0.7s,mb4.6,baz=17,slow=2.4,SNR=5.7						
MALT	Malatya	61.18	312	eP	P	23 13 30.0	-0.5
MALT				epP	pP	23 13 37.9	-2.2
BRTR	Keskin Array B	65.16	312	P	P	23 13 54.9	-2.0
	comp=Z,4.5nm,0.9s,mb4.5,baz=128,slow=6.6,SNR=19						
AKASG	Malin Array Be	71.41	323	P	P	23 14 33.4	-2.1
	comp=Z,2.4nm,0.6s,mb4.3,baz=88,slow=5.1,SNR=11						
JOF	Jossulu	74.59	335	epkp	P	23 14 51.9	-2.0
FINES	FINESS Array B	76.37	333	P	P	23 15 03.4	-0.8
	comp=Z,16nm,1.1s,mb4.8,baz=98,slow=5.7,SNR=34						
KAF	Kangasniemi	76.48	333	epkp	P	23 15 03.3	-1.4
ARCES	ARCESS Array B	79.16	341	P	P	23 15 19.4	0.0
	comp=Z,2.3nm,0.5s,mb4.4,baz=95,slow=6.0,SNR=27						
PRU	Pruhonice	80.47	320	eP	P	23 15 27.3	+0.5
PRU				epP	pP	23 15 38.7	+2.2
GERES	GERESS Array B	80.91	319	P	P	23 15 29.4	+0.3
	comp=Z,4.4nm,0.7s,mb4.5,baz=103,slow=5.5,SNR=40						
KHC	Kasperske Hory	81.02	319	eP	P	23 15 28.5	-1.2
GRA1	Grafenberg Arr	82.59	319	eP	P	23 15 38.9	+1.1
GRF	Grafenberg Arr	82.59	319	eP	P	23 15 38.9	+1.1
NB2	NORSAR Subarra	83.33	331	P	P	23 15 40.3	-1.1
	comp=Z,4.1nm,1.0s,mb4.4,baz=95,slow=5.6						
NOA	NORSAR Array B	83.33	331	P	P	23 15 41.1	-0.3
	comp=Z,2.0nm,0.8s,mb4.2,baz=95,slow=4.9,SNR=5.0						
LPG	La Plagne	85.53	315	eP	P	23 15 53.5	+0.7
	comp=Z,12nm,0.8s,mb4.8						
ESDC	Sonseca Array	93.87	310	P	P	23 16 32.9	+0.7
	comp=Z,0.4nm,0.5s,mb4.1,baz=64,slow=4.7,SNR=5.9						
NVAR	Mina Array Bea	128.45	33	PKP	PKPdf	23 22 23.5	-2.4
	comp=Z,0.9nm,0.8s,baz=308,slow=0.9,SNR=3.6						
PDAR	Pinedale Array	129.02	22	PKP	PKPdf	23 22 23.7	-3.2
	comp=Z,0.4nm,0.6s,baz=90,slow=1.5,SNR=3.7						

*IDC **24** 23:15:36.5±0.9,6.44N×92.67E,mb4.0/11,mb1 4.2/12, mb1mx4.1/19,mbtmp4.0/12,ML4.3/1,MS3.4/1,Ms1 3.6/1, ms1mx3.4/23,Error ellipse: s-maj=40.8km s-min=18.3km az=50.0*
*BJI **24** 23:15:41.5,6.60N×92.80E,h30km,mb4.3,Ms3.8*
*NEIC **24** 23:15:41.6±0.6,6.59N×92.79E,h30km,mb4.3/6,Error ellipse: s-maj=16.1km s-min=10.7km az=61.0*
ISC 24 23:15:38.9±5.0,6.5N±0.1×92.8E±0.1,h23km±34km,n37, σ1º12/37,mb4.3/22,MS3.5/1,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	13.26	26	eP	P	23 18 46.5	-2.0
	3.1nm,0.5s						
CMAR	Chiang Mai Arr	13.26	26	Pn	P	23 18 50.1	+1.7
	0.5nm,0.3s,baz=232,slow=14,SNR=21						
CMAR				LR	LR	23 24 27.8	
	comp=Z,154nm,18.3s,baz=207,slow=40						
VIS	Vishakhapatnam	14.48	321	eP	P	23 19 02.2	-2.4
HYB	Hyderabad	17.65	309	eP	P	23 19 47.0	+1.9
HYB	Hyderabad	17.65	309	i P	P	23 19 46.5	+1.4
SHL	Shillong	18.94	357	eP	P	23 20 00.0	-1.0
KMI	Kunming	20.77	26	P	P	23 20 21.4	+0.4
	9.0nm,1.0s						
KMI				pP		23 20 31.1	
KMI				LR	LR		
	comp=Z,180nm,15.7s,MS3.5						
JIRN	Jiri	21.93	344	eP	P	23 20 33.2	+0.5
	comp=Z,40nm,0.9s,mb4.8						
PKI	Pulchoki	22.07	342	eP	P	23 20 33.7	-0.4
	comp=Z,20nm,0.6s,mb4.7						
DMN	Daman	22.20	342	eP	P	23 20 34.8	-0.6
	comp=Z,37nm,0.8s,mb4.8						
KKN	Kakani	22.32	342	eP	P	23 20 36.2	-0.3
	comp=Z,33nm,1.0s,mb4.7						
GKN	Gorkha	22.72	341	eP	P	23 20 40.7	+0.2
	comp=Z,67nm,1.2s,mb5.0						
KOLN	Koldanda	22.86	339	eP	P	23 20 42.7	+0.8
	comp=Z,18nm,0.7s,mb4.6						
LSA	Lhasa	23.09	356	P	P	23 20 46.0	+1.8
LSA	Lhasa	23.09	356	eP	P	23 20 44.9	+0.7
	comp=Z,2.0nm,0.6s,mb3.7						
LSA				e		23 20 54.8	
ENH	Enshi	28.33	32	eP	P	23 21 32.5	-0.7
	comp=Z,4.0nm,0.6s,mb4.2						
UCH	Uchtor	39.08	338	P	P	23 23 07.5	+1.5
	SNR=8.6						
KBK	Karagaybulak	39.29	339	P	P	23 23 09.2	+1.3
	SNR=10.0						
AML	Almayashu	39.30	337	P	P	23 23 09.0	+1.1
	SNR=23						
AAK	Ala-Archa	39.44	339	P	P	23 23 10.4	+1.5
	SNR=8.2						
AAK	Ala-Archa	39.44	339	eP	P	23 23 08.6	-0.4
	comp=Z,4.2nm,0.8s,mb4.2						
EKS2	Erkin-Say	39.73	338	P	P	23 23 12.6	+1.2
	SNR=7.8						
USP	Ospenovka	39.99	339	P	P	23 23 14.1	+0.6
	SNR=9.1						
SONM	Songino Array	42.75	13	P	P	23 23 35.7	-0.5
	comp=Z,0.3nm,0.6s,mb3.2,baz=194,slow=5.9,SNR=3.2						
SONM				PcP	PcP	23 25 27.7	-0.4
	comp=Z,0.6nm,0.6s,baz=225,slow=1.7,SNR=3.6						
ZAL	Zalesovo	47.71	354	P	P	23 24 16.1	+0.5
	comp=Z,1.6nm,0.5s,mb4.3,baz=304,slow=8.8,SNR=10						
WRA	Warramunga Arr	48.58	124	P	P	23 24 22.6	-0.3
	comp=Z,1.1nm,0.6s,mb4.0,baz=304,slow=9.0,SNR=5.8						
WRAB	Tennant Creek	48.58	124	eP	P	23 24 24.8	+1.9
	comp=Z,8.7nm,0.6s,mb5.0						
BVAR	Borovoye Array	49.84	342	P	P	23 24 30.6	-1.6
	comp=Z,2.2nm,0.9s,mb4.2,baz=135,slow=8.4,SNR=7.8						
ASAR	Alice Springs	50.09	128	P	P	23 24 33.5	-0.9
	comp=Z,1.2nm,0.7s,mb4.0,baz=305,slow=7.5,SNR=9.2						
ASAR				PcP	PcP	23 25 54.5	+0.3
	comp=Z,1.0nm,0.8s,baz=301,slow=2.9,SNR=4.3						
CHKZ	Chkalovo	50.35	343	eP	P	23 24 34.6	-1.4
	comp=Z,5.1nm,1.0s,mb4.5						
BRTR	Keskin Array B	62.33	312	P	P	23 26 00.8	-1.2
	comp=Z,2.4nm,0.9s,mb4.3,baz=124,slow=7.5,SNR=10						
AKASG	Malin Array Be	68.40	322	P	P	23 26 39.1	-1.8
	comp=Z,0.4nm,0.5s,mb3.8,baz=95,slow=4.7,SNR=5.9						
FINES	FINESS Array B	73.28	333	P	P	23 27 09.5	-0.6
	comp=Z,1.7nm,0.6s,mb4.1,baz=135,slow=8.1,SNR=7.2						
ARCES	ARCESS Array B	76.08	340	P	P	23 27 26.3	+0.2
	comp=Z,2.8nm,0.8s,mb4.2,baz=108,slow=3.8,SNR=3.9						
ARCES	ARCESS Array B	76.08	340	P	P	23 27 26.3	+0.2
GERES	GERESS Array B	77.95	318	P	P	23 27 37.5	+0.7
	comp=Z,1.8nm,0.7s,mb4.1,baz=104,slow=5.5,SNR=16						
NOA	NORSAR Array B	80.25	331	P	P	23 27 48.3	-0.8
	comp=Z,0.6nm,0.9s,mb3.5,baz=96,slow=5.4,SNR=3.3						

*NEIC **24** 23:18:25.7±0.7,1.43S×80.68W,h10km,mb3.9/4,Error ellipse: s-maj=21.4km s-min=11.6km az=64.0*
*IDC **24** 23:18:34.7±8.6,1.32S×80.15W,h69km±84km,mb3.8/9, mb1 4.0/11,mb1mx3.8/22,mbtmp4.1/11,ML4.0/2,Error ellipse: s-maj=43.2km s-min=22.9km az=54.0*
ISC 24 23:18:28.0±2.5,1.56S±0.09×80.7W±0.2,h41km±23km,n22, σ1º55/22,mb3.9/13,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	Otavalo	2.83	51	eP	P	23 19 11.8	0.0
NNA	Nana	11.02	160	eP	P	23 21 04.6	-1.6
	16nm,0.6s						
SDV	Santo Domingo	14.40	44	P	P	23 21 52.6	+1.4
	0.7nm,0.3s,baz=250,slow=12,SNR=2.5						
LPAZ	La Paz	19.13	141	P	P	23 22 51.6	+0.9
	0.2nm,0.3s,baz=328,slow=11,SNR=14						
LVC	Limon Verde	23.83	152	P	P	23 23 42.0	+3.6
	5.9nm,0.9s,mb4.0,baz=290,slow=9.0,SNR=3.3						
SJG	San Juan	24.20	35	P	P	23 23 40.3	-1.8
	7.7nm,0.3s,mb4.6,baz=225,slow=5.7,SNR=4.9						
SJG	San Juan	24.20	35	P	P	23 23 40.3	-1.8
WMOK	Wichita Mounta	39.91	336	P	P	23 26 00.2	+0.3
	2.1nm,0.5s,mb4.1						
MNTX	Cornudas Mount	40.56	327	eP	P	23 26 05.0	-0.3
	1.5nm,0.8s,mb3.7						
ANMO	Albuquerque	43.63	329	P	P	23 26 34.3	+3.8
	1.5nm,0.6s,mb3.9,baz=134,slow=9.5,SNR=3.7						
SDCO	Great Sand Dun	45.37	332	eP	P	23 26 42.5	-1.9
	1.6nm,0.8s,mb3.9						
BW06	Boulder Array	51.24	333	eP	P	23 27 27.5	-2.4
	0.9nm,0.7s,mb3.8						
PDAR	Pinedale Array	51.24	333	P	P	23 27 32.2	+2.4
	0.8nm,1.0s,mb3.6,baz=141,slow=5.8,SNR=4.8						
NVAR	Mina Array Bea	52.79	323	P	P	23 27 43.2	+1.7
	1.9nm,1.0s,mb4.0,baz=135,slow=6.4,SNR=6.4						
NVAR	Mina Array Bea	52.79	323	P	P	23 27 43.2	+1.7
FCC	Fort Churchill	61.08	352	eP	P	23 28 38.2	-1.9
YKA	Yellowknife Ar	68.84	344	P	P	23 29 30.8	+0.7
	0.7nm,0.6s,mb3.

YKA	Yellowknife Ar	60.48	31	P		P	23 30 01.1	-0.2
	0.8nm,0.8s,mb3.4,baz=306,slow=6.2,SNR=6.9							
JOF	Joensuu	61.04	330	ep		P	23 30 03.2	-1.8
WRA	Warramunga Arr	61.62	185	P		P	23 30 08.9	-0.6
	1.2nm,0.6s,mb3.7,baz=1.8,slow=6.6,SNR=7.8							
KAF	Kangasniemi	63.37	331	ep		P	23 30 15.0	-5.5
	5.4nm,1.4s,mb4.0							
FINES	FINESS Array B	63.88	331	P		P	23 30 22.6	-1.1
	1.6nm,0.8s,mb3.7,baz=45,slow=11,SNR=8.8							
ASAR	Alice Springs	65.35	186	P		P	23 30 33.1	-0.6
	0.9nm,0.7s,mb3.5,baz=11,slow=5.5,SNR=8.3							
AKASG	Malin Array Be	69.61	320	P		P	23 30 59.0	-0.8
	1.5nm,0.6s,mb3.8,baz=47,slow=6.0,SNR=7.5							
FCC	Fort Churchill	70.42	26	P		P	23 31 04.0	-0.5
FFC	Flin Flon	70.52	33	eP		P	23 31 05.5	+0.3
	1.8nm,0.6s,mb3.9							
NVAR	Mina Array Bea	73.36	53	P		P	23 31 22.9	+0.6
	0.5nm,0.8s,mb3.2,baz=291,slow=4.8,SNR=4.2							
BRTR	Keskin Array B	74.57	310	P		P	23 31 30.1	+0.8
	0.4nm,0.6s,mb3.2,baz=76,slow=5.9,SNR=2.8							
BW06	Boulder Array	75.41	45	eP		P	23 31 34.3	+0.3
	1.6nm,0.6s,mb3.8							
PDAR	Pinedale Array	75.41	45	P		P	23 31 35.0	+1.0
	2.9nm,1.0s,mb3.9,baz=307,slow=1.5,SNR=16							

NIED ***24*** *23:23:00,33.40N×136.90E,h8km,Mw4.1 Best double couple: M0 1.75×10^15 NP1:φs342°,δ88°,λ141°. NP2:φs73°, δ51°,λ°.*
JMA ***24*** *23:23:21.1,33.37N×136.88E,h40km±2km,M3.5*
NEIC ***24*** *23:23:21.6±0.7,33.48N×136.80E,h10km,mb3.8/3,Error ellipse: s-maj=15.6km s-min=9.6km az=111.0*
IDC ***24*** *23:23:23.3±10.0,33.06N×135.69E,mb3.5/3,mb1 3.7/3, mb1mx3.5/21,mbtmp3.5/3,MS3.2/1,Ms1 3.2/1, ms1mx2.2/31,Error ellipse: s-maj=462.1km s-min=31.8km az=64.0*

ISC 24 23:23:21.3±0.8,33.42N±0.04×136.86E±0.04,h24km±5km, n21,σ0°50/31,mb3.7/6,3C-3D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	Tokai 1	0.70	61	P	Pb	23 23 34.7	-0.1
TK02	Tokai 2	0.92	55	⇓P	Pb	23 23 37.8	-0.6
TK02				S	Sb	23 23 50.3	+0.1
JWZ	Kozaga	0.96	277	⇑P	Pb	23 23 38.7	-0.4
JWZ				S	Sb	23 23 51.3	-0.1
JIE	Ise	0.97	353	⇓P	Pb	23 23 39.9	+0.5
JIE				S	Sb	23 23 52.9	+1.1
TK03	Tokai 3	1.19	51	S	Sb	23 23 57.2	-0.7
JAA	Atsumi	1.23	11	⇓P	Pn	23 23 43.1	-0.1
JAA				S	Sn	23 23 59.1	-0.1
TK04	Tokai 4	1.28	41	P	Pn	23 23 43.6	-0.3
TK04				S	Sn	23 24 00.4	-0.1
JWY	Kouya	1.32	307	P	Pn	23 23 44.9	+0.4
JWY				S	Sn	23 24 01.6	+0.2
JWM	Minabe	1.32	289	⇑P	Pn	23 23 44.2	-0.3
JWM				S	Sn	23 24 00.8	-0.7
TSUJ	Tsu 2	1.33	344	P	Pn	23 23 45.0	+0.3
TSUJ				S	Sn	23 24 01.3	-0.5
JHE	Heguri	1.57	322	⇑P	Pn	23 23 48.1	+0.1
JHE				S	Sn	23 24 07.2	-0.5
MAJO	Matsushiro	3.31	19	eP	Pn	23 24 12.9	0.0
MAT	Matsushiro	3.31	19	P	Pn	23 24 13.0	+0.2
MAT				eS	Sn	23 25 08.0	+16
MAT	Matsushiro	3.31	19	P	Pn	23 24 13.2	+0.4
MAT				S	Sn	23 24 52.9	+1.1
ASAJ	Asahikawa	11.58	21	LR	LR	23 31 21.2	
	comp=Z,94nm,18.1s,baz=191,slow=39						
ENH	Enshi	23.43	270	eP	P	23 28 30.9	+1.3
	2.4nm,0.4s,mb4.0						
SONM	Songino Array	27.02	311	P	P	23 29 02.8	-0.5
	0.9nm,0.9s,mb3.3,baz=122,slow=8.7,SNR=4.3						
KURK	Kurchatov	45.33	311	P	P	23 31 38.9	-0.1
	0.8nm,0.7s,mb3.7						
CHKZ	Chkalovo	50.12	315	eP	P	23 32 16.0	-0.4
	0.5nm,0.5s,mb3.8						
WRA	Warramunga Arr	53.12	183	P	P	23 32 39.5	+0.1
	0.4nm,0.4s,mb3.7,baz=0.4,slow=7.8,SNR=4.6						
ASAR	Alice Springs	56.84	183	P	P	23 33 07.0	+0.6
	0.4nm,0.7s,mb3.6,baz=14,slow=11,SNR=3.6						

IGQ ***24*** *23:23:12.2,1.48S×81.71W,h5km±5km,mb6.0,Error ellipse: s-maj=8.1km s-min=6.7km az=5.0*
CSEM ***24*** *23:23:23.8,1.58S×80.89W,h10km,mb5.5*
MOS ***24*** *23:23:23.7±1.4,1.27S×80.89W,h10km,mb5.8/85, MS5.6/58,Error ellipse: s-maj=7.3km s-min=4.9km az=87.5*
BJI ***24*** *23:23:26.1,1.40S×80.80W,h16km,mB6.0,Ms6.1,Msz5.9*
NEIC ***24*** *23:23:26.1±2.4,1.36S×80.79W,h17km±14km,mb5.5/144, MS5.7/112,MW6.1,MD6.0(IGQ),Error ellipse: s-maj=6.4km s-min=4.1km az=219.0,Moment Tensor Solution. s19 Moment tensor: Scale 10^18Nm; Mrr0.35; Mθθ0.00; Mφφ-0.34; Mrθ0.35; Mφθ0.12; Mφr-1.29; Best double couple: M0 1.4×10^18 NP1:φs339°,δ8°,λ84°. NP2: φs165°,δ82°,λ91°. Principal axes: T 1.37, Plg53°, Azm76°; N .03, Plg1°, Azm345°; P -1.4, Plg37°, Azm254°;*
NEIC Some houses collapsed at Puerto Lopez. Some houses damaged and landslides occurred at Salango. Felt at Bahia de Caraquez, Guayaquil, Manta, Portoviejo, Puerto Cayo, Quito and Salinas. Felt lightly at Esmeraldas.
HRVD ***24*** *23:23:26.1±0.1,1.53S×80.95W,h16km,MW6.1/68, Centroid moment Tensor Solution. LP body waves: s67,c152;Mantle waves: s68,c246; Half duration: 2s7 Moment tensor: Scale 10^18Nm; Mrr0.85±.01; Mθθ0.05±.01; Mφφ-0.90±.01; Mrθ0.11±.02; Mφθ-0.02±.01; Mφr-1.52±.02; Best double couple: M0 1.761×10^18 NP1:φs6°,δ15°,λ100°. NP2:φs177°,δ75°,λ87°. Principal axes: T 1.737, Plg60°, Azm83°; N .046, Plg3°, Azm177°; P -1.784, Plg30°, Azm269°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
IDC ***24*** *23:23:29.2±3.9,1.28S×80.68W,h41km±34km,mb4.6/19, mb1 4.8/21,mb1mx4.6/24,mbtmp4.8/21,ML4.2/2,MS5.7/12, Ms1 5.7/12,ms1mx5.1/24 Error ellipse: s-maj=21.6km s-min=11.7km az=68.0*

ISC 24 23:23:23.7±0.2,1.37S±0.03×80.94W±0.02,h10km, (h11km±2.2km:pP-P),n619,σ1°31/494,mb5.4/169, MS5.7/135,28C-10D,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.51	51	P	Pg	23 23 33.8	-0.2
IGUA	Igualata	2.30	93	⇓P	Pn	23 24 03.2	+0.9
CUSU	Cusua	2.46	92	⇑P	Pn	23 24 06.7	+2.1
JUIV	Juive	2.47	91	P	Pn	23 24 05.2	+0.5
ARRY	Arrayan	2.49	93	⇓P	Pn	23 24 05.9	+0.9
RETU	Refugio	2.49	92	⇑P	Pn	23 24 07.5	+2.4
PATA	Patacocha	2.51	93	P	Pn	23 24 07.2	+1.9
PATA				S	Sn	23 24 44.6	+8.5
RUN2	Runtun	2.52	91	P	Pn	23 24 07.2	+1.7
ULBA	Ulba	2.53	92	P	Pn	23 24 06.9	+1.3
MARY	Rancho Maria	2.53	76	P	Pn	23 24 07.4	+1.8
NAS1	Nasa	2.57	73	⇑P	Pn	23 24 07.4	+1.3
PISA	Pisayambo	2.57	83	⇑P	Pn	23 24 07.8	+1.7
JUA2	San Juan 2	2.60	64	P	Pn	23 24 07.4	+0.8
TERV	Terraza Guagua	2.62	63	⇑P	Pn	23 24 07.7	+0.8
PINO	Pino	2.62	63	⇓P	Pn	23 24 07.4	+0.4
GGP	Refugio Guagua	2.63	63	P	Pn	23 24 09.7	+2.7
GGP				S	Sg	23 24 50.1	-1.1
VC1	Cotopaxi 1	2.64	74	⇑P	Pn	23 24 09.1	+2.0
TAMB	Tambo	2.66	75	P	Pn	23 24 09.3	+1.9
JOR1	San Jorge 1	2.67	59	⇑P	Pn	23 24 06.3	-1.3
YANA	Yana	2.67	62	P	Pn	23 24 07.7	0.0
ANTI	Antisana	2.92	72	⇑P	Pn	23 24 13.5	+2.3
OTAV	Otavalo	2.96	57	⇑ePn	Pn	23 24 11.5	-0.1
COTA	Cotacachi	3.10	57	⇓P	Pn	23 24 15.5	+1.7
CAYR	Refugio Cayamb	3.24	65	P	Pn	23 24 18.8	+3.1
CAYA	Cayambe	3.28	64	P	Pn	23 24 19.0	+2.7
CONE	Cono NE Rev Vo	3.54	69	P	Pn	23 24 22.8	+2.8
PAYG	Puerto Ayora	9.37	274	Pn	P	23 25 40.8	-1.1
PAYG				Pn	P	23 25 42.5	+0.6
PAYG	Puerto Ayora	9.37	274	ePn	P	23 25 40.9	-1.0
NNA	Nana	11.30	159	Pn	P	23 26 05.3	-3.2
	3μm,0.9s,SNR=48						
NNA	Nana	11.30	159	eP	P	23 26 05.0	-3.5
NNA				eS	S	23 28 10.3	-5.6
LCR2	La Lucha 2	11.45	345	eP	P	23 26 12.1	+1.5
ICR	Volcan Irazu	11.64	346	eP	P	23 26 12.8	-0.3
SJS	Escuela Geolog	11.66	345	eP	P	23 26 16.0	+2.7
JCR	Jicaral	11.90	340	eP	P	23 26 20.2	+3.7
JTS	JuntasAbangare	12.26	341	eP	P	23 26 22.4	+1.0
SDV	Santo Domingo	14.47	45	P	P	23 26 46.9	-3.9
	0.4nm,0.3s,baz=241,slow=13,SNR=3.4						
ARE	Arequipa	17.65	149	eP	P	23 27 33.0	+1.5
ARE				e		23 27 39.0	
ARE				e		23 30 58.0	
LPAZ	La Paz	19.47	140	eP	P	23 27 51.9	-1.7
LPAZ				pmax	pmax		
	comp=Z,307nm,1.3s						
LPAZ	La Paz	19.47	140	P	P	23 27 51.8	-1.8
	comp=Z,0.7nm,0.3s,baz=327,slow=12,SNR=33						
LPAZ	La Paz	19.47	140	eP	P	23 27 51.9	-1.7
	comp=Z,307nm,1.3s						
CCIG	Comitan	20.74	328	i P	P	23 28 08.1	+0.9
TPP	Pointe-a-Pierr	22.61	59	eP	P	23 28 26.4	+0.2
TEIG	Tepich	22.64	342	eP	P	23 28 26.9	+0.5
	comp=Z,109nm,1.2s,mb5.2						
TEIG				LR	LR		
	comp=Z,11μm,19.0s,MS5.3						
TRN	Trinidad (W)	22.81	58	eP	P	23 28 29.0	+0.8
CMIG	Matias Romero	22.93	324	i P	P	23 28 31.1	+1.8
TBH	Brigand Hill	23.02	59	eP	P	23 28 36.5	+6.3
GRW	Mount Saint Ca	23.39	54	eP	P	23 28 41.0	+7.2
TPR	Prospect	23.61	58	eP	P	23 28 36.1	+0.1
BOT	Bacolet	23.65	58	eP	P	23 28 37.5	+1.1
VHO	Vista Hermosa	24.05	320	eP	P	23 28 40.4	+0.1
VHO				eP		23 28 40.8	
OXX	Oaxaca	24.05	320	i P	P	23 28 45.0	+4.8
LVC	Limon Verde	24.13	152	P	P	23 28 42.1	+1.1
	comp=Z,42nm,0.8s,mb4.9,baz=317,slow=6.4,SNR=30						
LVC				LR	LR	23 39 24.7	
	comp=Z,23μm,19.8s,MS5.7,baz=323,slow=40						
LVC	Limon Verde	24.13	152	eP	P	23 28 42.0	+1.0
	comp=Z,286nm,1.3s,mb5.5						
LVC				LR	LR		
	comp=Z,26μm,19.0s,MS5.7						
SJG	San Juan	24.22	36	eP	P	23 28 41.5	-0.4
SJG				pmax	pmax		
	comp=Z,431nm,1.0s						
SJG				MLR	MLR		
	comp=Z,21μm,22.0s						
SJG	San Juan	24.22	36	P	P	23 28 40.9	-1.0
	comp=Z,126nm,0.8s,mb5.4,baz=215,slow=6.1,SNR=25						
SJG	San Juan	24.22	36	eP	P	23 28 41.5	-0.4
	comp=Z,431nm,1.0s,mb5.8						
SJG				LR	LR		
	comp=Z,21μm,22.0s,MS5.6						
PNIG	Pinotepa	24.48	317	i P	P	23 28 44.5	0.0
FDF	Fort de France	25.29	50	⇓eP	P	23 28 50.8	-1.4
CRM	Caraverle	25.48	50	⇓eP	P	23 28 51.9	-2.1
BBL	Barber's Block	25.54	48	eP	P	23 28 54.5	0.0
SABT	Saba	25.69	42	eP	Px	23 29 09.2	
ACX	Acapulco	26.06	315	eP	P	23 29 00.0	+0.7
BPA	Boggy Peak	26.25	45	eP	P	23 28 60.0	-1.1
DEG	La Desirade	26.34	47	eP	P	23 29 00.1	-1.9
CAIG	El Cayaco	26.43	315	i P	P	23 29 04.8	+2.0
PPM	Popocatepetl	26.73	320	i P	P	23 29 09.4	+3.9
PLIG	Platanillo	26.82	318	i P	P	23 29 08.6	+2.3
SFJM	Santa Fe	30.67	316	eP	P	23 29 40.0	-0.9
CPUP	Villa Florida	33.64	140	P	P	23 29 59.1	-7.7
NHSC	New Hope	34.30	1	eP	P	23 30 11.8	-0.7
	comp=Z,312nm,1.3s,mb6.1						
NHSC				LR	LR		
	comp=Z,15μm,20.0s,MS5.7						
COW	Cow Castle Cre	34.57	0	eP	P	23 30 14.9	+0.1
GOGA	Godfrey	34.68	356	eP	P	23 30 13.5	-2.3
GOGA				pmax	pmax		
	comp=Z,101nm,0.8s,mb5.8						
GOGA				MLR	MLR		
	comp=Z,13μm,20.0s,MS5.7						
GOGA	Godfrey	34.68	356	eP	P	23 30 13.5	-2.3
	comp=Z,101nm,0.8s,mb5.8						
GOGA				LR	LR		
	comp=Z,13μm,20.0s,MS5.7						
LRAL	Lakeview Retre	34.70	351	eP	P	23 30 14.1	-1.8
	comp=Z,53nm,1.0s,mb5.4						
LRAL				LR	LR		
	comp=Z,6μm,19.0s,MS5.4						
NATX	Nacogdoches	35.43	340	eP	P	23 30 22.9	+0.7
	comp=Z,124nm,1.1s,mb5.8						
NATX				LR	LR		
	comp=Z,5μm,20.0s,MS5.3						
BAO	Brasilia Array	35.45	115	eP	P	23 30 20.1	-2.4
BAO				i		23 30 31.5	
BAO				e		23 31 34.0	
JSC	Jenkinsville	35.47	360	eP	P	23 30 21.1	-1.4
MYNC	Murphy	36.38	356	eP	P	23 30 28.3	-1.9
MYNC				pmax	pmax		
	comp=Z,94nm,1.1s,mb5.6						
MYNC	Murphy	36.38	356	eP	P	23 30 28.3	-1.9
	comp=Z,94nm,1.1s,mb5.6						
JCT	Junction City	36.42	332	eP	P	23 30 31.2	+0.6
JCT				pmax	pmax		
	comp=Z,144nm,1.6s,mb5.7						
JCT				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.2						
JCT	Junction City	36.42	332	eP	P	23 30 31.2	+0.6
	comp=Z,144nm,1.6s,mb5.7						
JCT				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
OXF	Oxford	36.57	348	eP	P	23 30 32.2	+0.4
OXF				pmax	pmax		
	comp=Z,113nm,1.2s,mb5.6						
OXF				MLR	MLR		
	comp=Z,5μm,20.0s,MS5.3						
OXF	Oxford	36.57	348	eP	P	23 30 32.2	+0.4
	comp=Z,113nm,1.2s,mb5.6						
OXF				LR	LR		
	comp=Z,5μm,20.0s,MS5.3						
CPCT	Cooper Cave	36.78	355	eP	P	23 30 31.1	-2.4
MET	Memphis--Engin	37.27	348	eP	P	23 30 38.8	+1.2
TXAR	Lajitas Array	37.48	326	P	P	23 30 40.6	+1.1
	comp=Z,0.7nm,0.7s,baz=188,slow=18,SNR=5.2						
TXAR				PcP	PcP	23 32 55.5	-2.9
	comp=Z,7.3nm,0.9s,baz=135,slow=5.3,SNR=4.0						
TXAR	Lajitas Array	37.48	326	P	P	23 30 40.6	+1.1
TXAR				PcP	PcP	23 32 55.5	-2.9
UALR	University of	37.51	344	eP	P	23 30 40.2	+0.5
GNAR	Gosnell	38.10	348	P	P	23 30 43.5	-1.1
UTMT	University of	38.24	350	eP	P	23 30 46.0	+0.2
BLA	Blacksburg	38.39	1	PFAKE		23 31 00.0	+13
BLA				LR	LR		
	comp=Z,11μm,19.0s,MS5.7						
CBN	Corbin	39.52	4	PFAKE		23 31 10.0	+14
CBN				LR	LR		
	comp=Z,7μm,20.0s,MS5.5						
WMOK	Wichita Mounta	39.62	337	eP	P	23 30 58.1	+0.7
WMOK				pmax	pmax		
	comp=Z,77nm,2.0s,mb5.1						
WMOK				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.2						
WMOK	Wichita Mounta	39.62	337	eP	P	23 30 58.1	+0.7
	comp=Z,77nm,2.0s,mb5.1						
WMOK				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
USIN	University of	39.63	352	eP	P	23 30 56.0	-1.4
LPA	La Plata	39.66	150	ceP	P	23 30 56.0	-1.7
LPA				eS		23 37 03.0	
LPA				eSS	SS	23 40 10.0	+21
	comp=Z,25μm,18.0s						
GDL2	Guadalupe Moun	40.08	328	eP	P	23 31 00.6	-0.6
FVM	French Village	40.13	348	eP	P	23 30 59.9	-1.6
MNTX	Cornudas Mount	40.24	327	eP	P	23 31 02.3	-0.2
	comp=Z,125nm,1.8s,mb5.3						
MNTX				LR	LR		
	comp=Z,5μm,19.0s,MS5.4						
PLCA	Paso Flores	40.30	168	eP	P	23 31 02.2	-0.7
PLCA				pmax	pmax		
	comp=Z,69nm,1.1s						
PLCA				MLR	MLR		
	comp=Z,10μm,21.0s						
PLCA	Paso Flores	40.30	168	P	P	23 31 02.4	-0.5
	comp=Z,15nm,0.8s,mb4.8,baz=342,slow=10,SNR=16						
PLCA	Paso Flores	40.30	168	eP	P	23 31 02.2	-0.6
	comp=Z,69nm,1.1s,mb5.3						
PLCA				LR	LR		
	comp=Z,10μm,21.0s,MS5.7						
TRQA	Tornquist	40.45	157	eP	P	23 31 01.4	-2.8
	comp=Z,57nm,1.0s,mb5.3						
TRQA				LR	LR		
	comp=Z,11μm,19.0s,MS5.7						
CPRX	Cap Rock	40.49	330	eP	P	23 31 06.3	+1.9
BLO	Bloomington	40.67	353	eP	P	23 31 03.8	-2.1
BLO				pmax	pmax		
	comp=Z,114nm,1.3s,mb5.3						
BLO	Bloomington	40.67	353	eP	P	23 31 03.8	-2.1
	comp=Z,114nm,1.3s,mb5.3						
SLM	Saint Louis	40.72	349	eP	P	23 31 05.2	-1.2
SDMD	Soldier's Deli	40.76	5	eP	P	23 31 06.9	+0.2
AMTX	Amarillo	40.97	334	eP	P	23 31 09.9	+1.5
	comp=Z,48nm,1.2s,mb5.0						
AMTX				LR	LR		
	comp=Z,5μm,20.0s,MS5.4						
MVL	Millersville	41.38	5	eP	P	23 31 11.1	-0.7
ACSO	Alum Creek Sta	41.45	358	eP	P	23 31 09.7	-2.6
	comp=Z,106nm,1.0s,mb5.4						
ACSO				LR	LR		
	comp=Z,8μm,20.0s,MS5.6						
KSU1	Kansas State U	42.77	342	eP	P	23 31 22.2	-1.1
ALLY	Alegheny Colle	42.83	1	eP	P	23 31 22.0	-1.6
LPM	Los Pinos Moun	42.92	328	eP	P	23 31 26.6	+2.2
LENM	Lemitar	42.98	328	eP	P	23 31 25.9	+0.8
LAZ	Ladron	43.25	328	eP	P	23 31 26.5	-0.7
ERPA	Erie	43.30	1	eP	P	23 31 24.8	-2.7
	comp=Z,102nm,1.2s,mb5.4						
ERPA				LR	LR		
	comp=Z,10μm,19.0s,MS5.8						
ANMO	Albuquerque	43.32	329	eP	P	23 31 28.4	+0.6
ANMO				pmax	pmax		
	comp=Z,27nm,1.0s						
ANMO				MLR	MLR		
	comp=Z,5μm,20.0s						
ANMO	Albuquerque	43.32	329	P	P	23 31 28.9	+1.2
	comp=Z,20nm,0.9s,mb4.8,baz=158,slow=9.7,SNR=10						
ANMO	Albuquerque	43.32	329	eP	P	23 31 28.4	+0.7
	comp=Z,27nm,1.0s,mb4.9						
ANMO				LR	LR		
	comp=Z,5μm,20.0s,MS5.4						
TUC	Tucson	43.81	323	eP	P	23 31 32.1	+0.3
TUC				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
TUC				MLR	MLR		
	comp=Z,11μm,19.0s,MS5.8						
TUC	Tucson	43.81	323	eP	P	23 31 32.1	+0.4
	comp=Z,14nm,1.0s,mb4.6						
TUC				LR	LR		
	comp=Z,11μm,19.0s,MS5.8						
HRV	Harvard--Oak R	44.49	10	PFAKE		23 31 50.0	+13
HRV				LR	LR		
	comp=Z,8μm,19.0s,MS5.7						
JFWS	Jewell Farm	44.88	350	eP	P	23 31 36.9	-3.3
JFWS				pmax	pmax		
	comp=Z,99nm,1.3s,mb5.5						
JFWS				MLR	MLR		
	comp=Z,10μm,21.0s,MS5.7						
JFWS	Jewell Farm	44.88	350	eP	P	23 31 36.9	-3.3
	comp=Z,99nm,1.3s,mb5.5						
JFWS				LR	LR		
	comp=Z,10μm,21.0s,MS5.7						
ACCN	Adirondack Com	45.03	7	eP	P	23 31 39.6	-1.8
SDCO	Great Sand Dun	45.07	332	eP	P	23 31 42.3	+0.4
	comp=Z,25nm,0.9s,mb5.0						
SDCO				LR	LR		
	comp=Z,8μm,21.0s,MS5.6						
RCBR	Riachuelo	45.15	97	eP	P	23 31 39.5	-3.3
	comp=Z,41nm,0.9s,mb5.2						
RCBR				LR	LR		
	comp=Z,74μm,19.0s,MS6.6						
NCB	Newcomb	45.54	7	PFAKE		23 32 00.0	+15
NCB				LR	LR		
	comp=Z,5μm,19.0s,MS5.5						
MDV	Middlebury	45.70	8	eP	P	23 31 45.4	-1.4
SADO	Sadowa	45.97	2	P	P	23 31 47.1	-1.7
	comp=Z,24nm,1.1s,mb5.0,baz=219,slow=7.1,SNR=4.0						
MSNY	Massena	46.48	6	eP	P	23 31 52.3	-0.6
RW3	Ridgway	46.51	331	eP	P	23 31 53.8	+0.6
ISCO	Idaho Springs	46.79	334	eP	P	23 31 56.9	+1.5
ISCO				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
ISCO				MLR	MLR		
	comp=Z,3μm,21.0s,MS5.3						
ISCO	Idaho Springs	46.79	334	eP	P	23 31 56.9	+1.5
	comp=Z,12nm,0.9s,mb4.8						
ISCO				LR	LR		
	comp=Z,3μm,21.0s,MS5.3						
PV01	Paradox Valley	46.86	330	eP	P	23 31 56.6	+0.6
PV10	Paradox Valley	47.28	330	eP	P	23 32 00.8	+1.5
PHWY	Pilot Hill	47.96	335	eP	P	23 32 04.4	-0.2
PFO	Pinyon Flat Ob	48.24	319	eP	P	23 32 07.0	+0.1
PFO				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.3						
PFO				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.8						
PFO	Pinyon Flat Ob	48.24	319	eP	P	23 32 07.0	+0.1
	comp=Z,33nm,1.1s,mb5.3						
PFO				LR	LR		
	comp=Z,1μm,19.0s,MS4.8						
NEN	Nelson	48.55	323	eP	P	23 32 10.3	+1.1
SRU	San Rafael	48.59	329	eP	P	23 32 10.3	+0.8
MVU	Marysvale	49.03	327	eP	P	23 32 14.5	+1.6
	comp=Z,35nm,1.5s,mb5.2						
MVU				LR	LR		
	comp=Z,4μm,19.0s,MS5.5						
TMUT	Trail Mountain	49.08	329	eP	P	23 32 14.4	+1.1
MPU	Maple Canyon	49.84	329	eP	P	23 32 20.5	+1.4
DAU	Daniels Canyon	49.94	330	eP	P	23 32 21.5	+1.6
NLU	North Lily Min	50.02	329	eP	P	23 32 21.0	+0.5
JLU	Jordanelle	50.18	330	eP	P	23 32 22.6	+0.9
TCUT	Toone Canyon	50.55	330	eP	P	23 32 25.8	+1.3
NOQ	North Oquirrh	50.56	329	eP	P	23 32 23.5	-1.1
DAC	Darwin (Calif)	50.65	321	PFAKE		23 32 40.0	+15
DAC				LR	LR		
	comp=Z,6μm,19.0s,MS5.7						
TRCR	Troy Canyon	50.80	325	eP	P	23 32 27.4	+0.9
BW06	Boulder Array	50.94	333	eP	P	23 32 26.2	-1.3
	comp=Z,17nm,1.1s,mb4.9						
BW06				LR	LR		
	comp=Z,9μm,19.0s,MS5.8						
PDAR	Pinedale Array	50.94	333	P	P	23 32 27.9	+0.4
	comp=Z,3.7nm,0.9s,baz=149,slow=8.6,SNR=17						
PDAR				LR	LR	23 54 32.7	
	comp=Z,8μm,18.9s,MS5.7,baz=148,sl

comp=Z,9µm,21.0s,MS5.8
LRV Little Rabbit 52.92 319 *e*P **P 23 32 43.4 +0.8**
YNR Norris Junctio 52.97 334 *e*P **P 23 32 43.7 +1.0**
YMR Madison River 53.06 333 *e*P **P 23 32 44.5 +1.0**
BMN Battle Mountai 53.15 326 *e*P **P 23 32 44.1 0.0**
BMN pmax pmax
comp=Z,55nm,1.1s,mb5.4
BMN MLR MLR
comp=Z,8µm,20.0s,MS5.7
BMN Battle Mountai 53.15 326 *e*P **P 23 32 44.1 0.0**
comp=Z,55nm,1.1s,mb5.4
BMN LR LR
comp=Z,8µm,20.0s,MS5.7
GCMT Greycliff 53.39 335 *e*P **P 23 32 45.7 -0.1**
QLMT Earthquake Lak 53.40 333 *e*P **P 23 32 47.2 +1.3**
SAO San Andreas Ge 53.40 319 *e*P **P 23 32 44.7 -1.4**
SAO pmax pmax
comp=Z,93nm,1.8s,mb5.4
SAO MLR MLR
comp=Z,5µm,19.0s,MS5.5
SAO San Andreas Ge 53.40 319 *e*P **P 23 32 44.7 -1.3**
comp=Z,93nm,1.8s,mb5.4
SAO LR LR
comp=Z,5µm,19.0s,MS5.5
CMB Columbia Colle 53.49 321 *e*P **P 23 32 46.9 +0.2**
CMB pmax pmax
comp=Z,35nm,1.5s,mb5.1
CMB MLR MLR
comp=Z,5µm,21.0s,MS5.5
CMB Columbia Colle 53.49 321 *e*P **P 23 32 46.9 +0.3**
comp=Z,35nm,1.5s,mb5.1
CMB LR LR
comp=Z,5µm,21.0s,MS5.5
DGMT Dagmar 53.59 341 *e*P **P 23 32 47.2 0.0**
comp=Z,45nm,1.1s,mb5.3
DGMT LR LR
comp=Z,5µm,19.0s,MS5.6
HLID Hailey 53.85 330 *e*P **P 23 32 48.7 -0.6**
comp=Z,16nm,1.0s,mb4.9
HLID LR LR
comp=Z,7µm,21.0s,MS5.7
WCN Washoe City 53.89 323 *e*P **P 23 32 49.8 +0.2**
MCMT McKenzie Canyo 54.04 332 *e*P **P 23 32 48.9 -1.7**
BOZ Bozeman (W) 54.12 334 *e*P **P 23 32 50.1 -1.0**
BOZ pmax pmax
comp=Z,65nm,1.2s,mb5.4
BOZ MLR MLR
comp=Z,5µm,20.0s,MS5.6
BOZ Bozeman (W) 54.12 334 *e*P **P 23 32 50.1 -1.1**
comp=Z,65nm,1.2s,mb5.4
BOZ LR LR
comp=Z,5µm,20.0s,MS5.6
USHA Ushuaia 54.26 171 P **P 23 32 50.6 -1.5**
comp=Z,23nm,0.8s,mb5.2,baz=336,slow=6.1,SNR=5.8
OHCM Honcut 54.96 322 *e*P **P 23 32 57.4 0.0**
NSHM Saint Helena R 55.18 321 *e*P **P 23 32 58.9 -0.2**
WVOR Wild Horse Val 55.28 327 *e*P **P 23 32 59.1 -0.6**
WVOR pmax pmax
comp=Z,176nm,1.8s,mb5.8
WVOR MLR MLR
comp=Z,10µm,19.0s,MS5.9
WVOR Wild Horse Val 55.28 327 *e*P **P 23 32 59.1 -0.6**
comp=Z,176nm,1.8s,mb5.8
WVOR LR LR
comp=Z,10µm,19.0s,MS5.9
HOPS Hopland 55.75 321 PFAKE 23 33 20.0 +17
HOPS LR LR
comp=Z,4µm,21.0s,MS5.5
CHMT Chamberlain Mo 55.81 334 *e*P **P 23 33 03.3 -0.2**
MOD Modoc 55.86 325 *e*P **P 23 33 03.6 -0.3**
comp=Z,10nm,0.8s,mb4.9
MOD LR LR
comp=Z,5µm,22.0s,MS5.6
MSO Missoula 56.05 333 *e*P **P 23 33 05.2 -0.1**
comp=Z,50nm,1.4s,mb5.4
MSO LR LR
comp=Z,3µm,22.0s,MS5.4
BMO Blue Mountains 56.23 330 *e*P **P 23 33 05.3 -1.2**
comp=Z,25nm,1.3s,mb5.1
BMO LR LR
comp=Z,5µm,20.0s,MS5.6
WDC Whiskeytown Da 56.36 323 *e*P **P 23 33 05.9 -1.6**
WDC pmax pmax
comp=Z,17nm,1.0s,mb5.0
WDC MLR MLR
comp=Z,3µm,21.0s,MS5.4
WDC Whiskeytown Da 56.36 323 *e*P **P 23 33 05.9 -1.6**
comp=Z,18nm,1.0s,mb5.0
WDC LR LR
comp=Z,3µm,21.0s,MS5.4
RKT Rikitea 56.65 243 *e*P **P 23 33 12.8 +3.0**
comp=Z,188nm,1.1s,mb6.0
YBH Yreka Blue Hor 57.16 324 *e*P **P 23 33 10.8 -2.5**
YBH pmax pmax
comp=Z,25nm,1.1s
YBH MLR MLR
comp=Z,4µm,22.0s
YBH Yreka Blue Hor 57.16 324 P **P 23 33 12.1 -1.2**
comp=Z,6.5nm,0.7s,mb4.7,baz=106,slow=5.8,SNR=8.6
YBH Yreka Blue Hor 57.16 324 *e*P **P 23 33 10.8 -2.4**
comp=Z,25nm,1.1s,mb5.2
YBH LR LR
comp=Z,4µm,22.0s,MS5.5
SCHQ Schefferville 57.21 10 P **P 23 33 10.7 -2.7**
comp=Z,5.1nm,0.6s,mb4.7,baz=192,slow=4.7,SNR=7.4
SCHQ LR LR 23 57 15.0
comp=Z,4µm,21.4s,MS5.5,baz=195,slow=36
SCHQ Schefferville 57.21 10 *e*P **P 23 33 10.2 -3.2**
comp=Z,35nm,1.2s,mb5.3
SCHQ LR LR
comp=Z,7µm,19.0s,MS5.8
BUOR Burton Butte 57.22 324 P **P 23 33 14.3 +0.6**
KHMM Horse Mountain 57.26 322 *e*P **P 23 33 14.1 +0.1**
WALA Waterton Lakes 57.74 335 *e*P **P 23 33 16.7 -0.5**
comp=Z,42nm,1.0s,mb5.4
KRMB Red Mountain 57.75 323 *e*P **P 23 33 17.9 +0.5**
HUMO Hull Mountain 57.84 324 *e*P **P 23 33 18.1 +0.1**
comp=Z,28nm,1.7s,mb5.0
HUMO LR LR
comp=Z,5µm,21.0s,MS5.6
CROR Criterion Ridg 58.24 328 P **P 23 33 22.4 +1.6**
IRO Indian Ridge 58.31 326 P **P 23 33 21.8 +0.5**
FRIS Frissel Point 58.35 326 P **P 23 33 22.3 +0.7**
KBO Bosley Butte 58.35 323 *e*P **P 23 33 20.9 -0.7**
FFC Flin Flon 58.54 346 *e*P **P 23 33 20.0 -2.7**
comp=Z,106nm,1.4s,mb5.7
FFC LR LR
comp=Z,23810µm,22.0s
NEW Newport 58.57 332 *e*P **P 23 33 21.5 -1.5**
NEW pmax pmax
comp=Z,77nm,1.4s
NEW MLR MLR
comp=Z,5µm,21.0s
NEW Newport 58.57 332 *e*P **P 23 33 21.5 -1.5**
comp=Z,77nm,1.4s,mb5.5
NEW LR LR
comp=Z,5µm,21.0s,MS5.6
KEBM Edson Butte 58.81 324 *e*P **P 23 33 25.5 +0.7**
TAOE Nuku Hiva Isla 59.38 261 *e*P **P 23 33 31.6 +2.5**
TAOE eLR LR 23 51 06.5
EDM Edmonton 60.76 338 *e*P **P 23 33 35.2 -2.8**
FCC Fort Churchill 60.85 352 *e*P **P 23 33 35.7 -2.9**
FCC pmax pmax
comp=Z,33nm,0.9s,mb5.5
FCC Fort Churchill 60.85 352 *e*P **P 23 33 35.6 -2.9**
comp=Z,33nm,0.9s,mb5.5
OCWA Octopus Mounta 61.71 328 PFAKE 23 34 00.0 +15
OCWA LR LR
comp=Z,12µm,19.0s,MS6.1
PGC Sidney 61.91 329 *e*P **P 23 33 46.3 +0.4**
comp=Z,112nm,1.2s,mb5.9
PMSA Palmer Station 64.44 172 P **P 23 33 58.0 -4.4**
PMSA LR LR
comp=Z,5µm,22.0s,MS5.7
CHIE El Hierro 66.94 59 P **P 23 34 16.9 -2.2**
comp=Z,111nm,1.0s,mb5.8
EHIG Higuera 67.28 58 P **P 23 34 21.7 +0.6**
comp=Z,606nm,2.1s,mb6.3
PMOR Pomariorio Ree 67.40 254 *e*P **P 23 34 24.3 +2.2**
comp=Z,206nm,1.3s,mb6.2
EGOM La Gomera 67.69 59 P **P 23 34 22.6 -1.1**
comp=Z,494nm,2.0s,mb6.2
MEH Mehetia 67.83 251 *e*P **P 23 34 26.9 +2.1**
comp=Z,117nm,1.2s,mb5.8
CCAN Las Canadas 68.23 59 P **P 23 34 29.1 +2.0**
comp=Z,61nm,1.2s,mb5.5
EBAJ Bajamar 68.53 59 P **P 23 34 28.3 -0.6**
comp=Z,270nm,1.6s,mb5.9
YKA Yellowknife Ar 68.58 344 P **P 23 34 26.3 -2.4**
YKA Yellowknife Ar 68.58 344 P **P 23 34 26.2 -2.4**
comp=Z,15nm,1.0s,mb4.9,baz=137,slow=6.1,SNR=63
YKW3 Yellowknife Ar 68.63 344 *e*P **P 23 34 26.0 -3.0**
TVO Taravao 68.95 252 *e*P **P 23 34 34.0 +2.3**
comp=Z,58nm,0.8s,mb5.6
TIAR Tiarei 69.02 252 *e*P **P 23 34 34.1 +2.0**
comp=Z,212nm,1.0s,mb6.0
EOSO Osorio 69.09 59 P **P 23 34 32.5 0.0**
comp=Z,355nm,2.3s,mb5.9
PPT Papeete 69.24 252 *e*P **P 23 34 35.8 +2.3**
comp=Z,132nm,1.4s,mb5.7
PPT *e*LR LR 23 55 33.7
comp=Z,15µm,26.2s,baz=80
PAE Paea 69.25 252 *e*P **P 23 34 35.7 +2.2**
comp=Z,507nm,1.3s,mb6.3
TBI Tubuai 69.77 246 *e*LR LR 23 55 53.9
comp=Z,10µm,27.8s,baz=81
CFTV Fuerteventura 70.44 59 P **P 23 34 40.8 +0.2**
comp=Z,27nm,1.8s,mb4.9
EFAM Famara 71.06 59 P **P 23 34 44.5 0.0**
comp=Z,348nm,1.6s,mb6.0
TRIS Tristan da Cun 72.20 129 PFAKE 23 35 00.0 +8.9
TRIS LR LR
comp=Z,12µm,20.0s,MS6.2
SIT Sitka 72.65 332 PFAKE 23 35 00.0 +6.6
SIT LR LR
comp=Z,5µm,21.0s,MS5.8
POHA Pohakuloa 75.99 291 P **P 23 35 15.8 +2.4**
DBIC Dimbokro 76.34 83⇑ *e*P **P 23 35 13.2 -2.4**
DBIC pmax pmax
comp=Z,148nm,1.3s
DBIC MLR MLR
comp=Z,16µm,20.0s
DBIC Dimbokro 76.34 83 P **P 23 35 13.2 -2.3**
comp=Z,38nm,0.9s,mb5.3,baz=249,slow=4.8,SNR=21
DBIC LR LR 00 07 20.9
comp=Z,15µm,19.3s,MS6.3,baz=236,slow=35
DBIC Dimbokro 76.34 83⇑ *e*P **P 23 35 13.2 -2.4**
comp=Z,148nm,1.3s,mb5.8
DBIC LR LR
comp=Z,16µm,20.0s,MS6.3
RES Resolute Bay 76.41 356 *e*P **P 23 35 11.5 -3.3**
RES pmax pmax
comp=Z,13nm,0.8s,mb4.9
RES Resolute Bay 76.41 356 *e*P **P 23 35 11.5 -3.3**
comp=Z,13nm,0.8s,mb4.9
PTEO Sao Teotonio 76.80 51 *e*P **P 23 35 17.7 0.0**
comp=Z,57nm,1.8s,mb5.2
EVO Evora 77.56 50 *e*P **P 23 35 21.0 -0.8**
comp=Z,53nm,1.1s,mb5.1
EVO *e*R
comp=Z,9µm,22.2s
PBEJ Beja 77.57 51 *e*P **P 23 35 22.4 +0.5**
comp=Z,28nm,1.4s,mb5.0
EGRO El Granado 77.77 51 P **P 23 35 24.5 +1.5**
comp=Z,62nm,2.9s,mb5.0
DAWY Dawson 77.96 337 *e*P **P 23 35 21.6 -1.8**
PVIS Viseu 78.10 48 *e*P **P 23 35 24.6 -0.2**
comp=Z,52nm,1.4s,mb5.3
PCBR Castelo Branco 78.23 49 *e*P **P 23 35 25.4 -0.1**
comp=Z,48nm,1.4s,mb5.2
INK Inuvik 78.24 342 *e*P **P 23 35 23.4 -1.6**
INK pmax pmax
comp=Z,268nm,1.8s
INK Inuvik 78.24 342 P **P 23 35 23.2 -1.7**
comp=Z,7.1nm,0.9s,mb4.6,baz=132,slow=7.0,SNR=17
INK LR LR 00 14 48.8
comp=Z,7µm,19.0s,MS6.0,baz=186,slow=39
INK Inuvik 78.24 342 *e*P **P 23 35 23.4 -1.6**
comp=Z,268nm,1.8s,mb5.9
MTE Manteigas 78.30 48 *e*P **P 23 35 27.4 +1.6**
comp=Z,72nm,1.5s,mb5.4
MTE *e*S S 23 45 27.4 +7.7
MTE *e*- 23 57 24.8
MTE *i* - 00 01 18.8
comp=Z,4µm,23.2s
PVRL Vila Real 78.35 47 *e*P **P 23 35 25.8 -0.3**
comp=Z,64nm,1.5s,mb5.3
EMIN Mina Concepcio 78.44 51 P **P 23 35 27.8 +1.1**
comp=Z,26nm,1.3s,mb5.0
KIP Kipapa 78.48 292 P **P 23 35 31.4 +4.2**
KIP MLR MLR
comp=Z,7µm,19.0s,MS6.0
BORG Borgarnes 78.73 22 PFAKE 23 35 40.0 +12
BORG LR LR
comp=Z,1µm,19.0s,MS5.3
EINC Incio 78.91 46 P **P 23 35 30.7 +1.6**
comp=Z,51nm,0.9s,mb5.5
ESPR Espera 78.92 52 P **P 23 35 31.3 +2.0**
comp=Z,54nm,1.3s,mb5.3
ERUA La Rua 79.01 46 P **P 23 35 29.1 -0.6**
ERUA pmax pmax
comp=Z,69nm,1.6s,mb5.3
ERUA La Rua 79.01 46 P **P 23 35 29.1 -0.6**
comp=Z,69nm,1.6s,mb5.3
EYAK Cordova Ski Ar 79.07 333 P **P 23 35 31.1 +1.5**
RAR Rarotonga 79.09 249 LR LR 00 02 26.3
comp=Z,4µm,18.3s,MS5.8,baz=102,slow=29
PBRG Braganca 79.18 47 *e*P **P 23 35 30.6 0.0**
comp=Z,56nm,1.2s,mb5.4
ECAL Calabor 79.21 47 P **P 23 35 30.1 -0.7**
comp=Z,137nm,2.0s,mb5.5
VAL Valentia 79.28 36⇓ *i*P **P 23 35 34.8 +3.8**
VAL *e*S S 23 45 36.8 +6.9
DIV Divide 79.31 333 *e*P **P 23 35 32.8 +1.9**
EMIJ Mijas 79.73 53 P **P 23 35 33.5 -0.2**
comp=Z,108nm,1.4s,mb5.6
EADA Adamuz 80.14 51 P **P 23 35 37.2 +1.3**
comp=Z,44nm,1.9s,mb5.1
THY Trims Highway 80.20 336 *e*P **P 23 35 37.5 +1.8**
ELOJ Sierra Loja 80.31 52 P **P 23 35 39.8 +3.0**
ELOJ pmax pmax
comp=Z,36nm,1.4s,mb5.1
ELOJ Sierra Loja 80.31 52 P **P 23 35 39.8 +3.0**
comp=Z,36nm,1.4s,mb5.1
EARI Arriondas 80.58 46 P **P 23 35 37.3 -0.8**
comp=Z,3.7nm,0.7s,mb4.4
SML Sawmill 80.70 334 *e*P **P 23 35 36.6 -1.8**
ESDC Sonseca Array 80.86 50 P **P 23 35 38.3 -1.4**
comp=Z,15nm,1.0s,mb4.9,baz=269,slow=5.0,SNR=24
ESDC Sonseca Array 80.86 50 P **P 23 35 39.2 -0.5**
comp=Z,18nm,1.3s,mb4.8
ESDC pP pP 23 35 50.5 +7.6
ESLA Sonseca Array 80.86 50 *e*P **P 23 35 38.3 -1.4**
comp=Z,13nm,1.3s,mb4.7
ESLA LR LR
comp=Z,33µm,22.0s,MS6.6
GUD Guadarrama 80.88 49 P **P 23 35 40.2 +0.4**
GUD pmax pmax
comp=Z,23nm,0.8s,mb5.2
GUD Guadarrama 80.88 49 P **P 23 35 40.2 +0.5**
comp=Z,23nm,0.8s,mb5.2
PMR Palmer 80.98 333 *e*P **P 23 35 44.7 +4.9**
PMR pmax pmax
comp=Z,108nm,1.7s,mb5.5
PMR Palmer 80.98 333 *e*P **P 23 35 44.7 +4.9**
comp=Z,108nm,1.7s,mb5.5
SLKM Skilak Lake 81.12 332 *e*P **P 23 35 41.1 +0.5**
ILAR Eielson Array 81.19 337 P **P 23 35 39.5 -1.4**
comp=Z,3.3nm,1.0s,baz=148,slow=3.4,SNR=14
ILAR LR LR 00 13 53.7
comp=Z,3µm,19.2s,MS5.7,baz=126,slow=37
EQES Quesada 81.26 52 P **P 23 35 42.1 +0.3**
comp=Z,102nm,1.2s,mb5.6
FIB Fire Island 81.31 333 PFAKE 23 35 50.0 +8.4
FIB LR LR
comp=Z,2µm,22.0s,MS5.4
DCN Croghan 81.40 36 *e*P **P 23 35 40.5 -1.7**
KDAK Kodiak Island 81.46 329 PFAKE 23 35 50.0 +7.6
KDAK LR LR
comp=Z,748nm,20.0s,MS5.0
COLA College 81.61 337 *e*P **P 23 35 44.0 +0.9**
COLA *e* pP 23 35 47.2 +0.9
COLA pmax pmax
comp=Z,128nm,1.8s,mb5.5
COLA MLR MLR
comp=Z,4µm,21.0s,MS5.7
COLA College 81.61 337 *e*P **P 23 35 44.0 +0.9**
comp=Z,128nm,1.8s,mb5.5
COLA *e*P pP 23 35 47.2 +0.9
COLA LR LR
comp=Z,4µm,21.0s,MS5.7
MCK McKinley 81.64 335 *e*P **P 23 35 42.0 -1.2**
MCK pmax pmax
comp=Z,24nm,1.2s,mb5.0
MCK MLR MLR
comp=Z,2µm,20.0s,MS5.4
MCK McKinley 81.64 335 *e*P **P 23 35 42.0 -1.3**
comp=Z,24nm,1.2s,mb5.0
MCK LR LR
comp=Z,2µm,20.0s,MS5.4
DLF Lyons Farm 81.82 36 *e*P **P 23 35 42.6 -1.8**
ENIJ Nijar 81.82 53 P **P 23 35 48.3 +3.5**
ENIJ pmax pmax
comp=Z,54nm,1.4s,mb5.3
ENIJ Nijar 81.82 53 P **P 23 35 48.3 +3.5**
comp=Z,54nm,1.4s,mb5.3
EVIA Vianos 81.83 51 P **P 23 35 45.3 +0.6**
EVIA pmax pmax
comp=Z,84nm,1.6s,mb5.4
EVIA Vianos 81.83 51 P **P 23 35 45.3 +0.6**
comp=Z,84nm,1.6s,mb5.4
ELAN Lanestosa 81.84 46 P **P 23 35 46.4 +1.7**
comp=Z,3.0nm,0.7s
SPU Mount Spurr 82.19 332 *e*P **P 23 35 44.4 -1.7**
RSO Redoubt South 82.30 332 *e*P **P 23 35 44.8 -2.0**
EMUR La Murta 82.70 52 P **P 23 35 48.0 -1.4**
comp=Z,1.6nm,0.5s
VNA3 Neumayer Olymp 82.74 162⇑ *i* **P 23 35 50.6 +1.8**
VNA3 Neumayer Olymp 82.74 162⇑ *i* **P 23 35 55.3 +6.5**
VNA3 Neumayer Olymp 82.74 162⇑ *i* **P 23 35 59.4 +11**
QUIF Quistinic 82.83 42 *e*P **P 23 35 48.6 -1.1**
comp=Z,172nm,1.4s,mb5.6
QUIF Quistinic 82.83 42 *e*P **P 23 35 48.6 -1.1**
QUIF pmax pmax
comp=Z,86nm,1.4s,mb5.6
ROSF Rostrenen 82.83 41 *e*P **P 23 35 48.6 -1.1**
comp=Z,188nm,1.4s,mb5.6
ROSF Rostrenen 82.83 41 *e*P **P 23 35 48.6 -1.1**
ROSF pmax pmax
comp=Z,94nm,1.4s,mb5.6
EALK Alkurruntz 83.23 46 P **P 23 35 56.3 +4.4**
comp=Z,5.4nm,1.1s,mb4.5
SGMF Saint Gilles 83.29 41 *e*P **P 23 35 50.9 -1.2**
comp=Z,102nm,1.1s,mb5.5
SGMF Saint Gilles 83.29 41 *e*P **P 23 35 50.9 -1.2**
SGMF pmax pmax
comp=Z,51nm,1.1s,mb5.5
VNA2 Neumayer--Watz 83.36 161 **P 23 35 54.5 +2.5**
VNA2 Neumayer--Watz 83.36 161 **P 23 35 56.4 +4.4**
VNA2 Neumayer--Watz 83.36 161 P **P 23 35 50.6 -1.4**
VNA2 P pP 23 35 54.5 -0.8
VNA2 P 23 35 56.4
SJPF Ste Jean 83.42 46 *e*P **P 23 35 52.3 -0.6**
comp=Z,165nm,1.1s,mb5.7
SJPF Ste Jean 83.42 46 *e*P **P 23 35 52.3 -0.6**
SJPF pmax pmax
comp=Z,83nm,1.1s,mb5.7
LARF Larrau 83.58 47 *e*P **P 23 35 56.1 +2.3**
EBEN Beniarda 83.60 51 P **P 23 35 55.4 +1.4**
comp=Z,4.0nm,0.8s,mb4.6
EMOS Mosqueruela 83.62 49 P **P 23 35 57.3 +3.3**
comp=Z,196nm,2.2s,mb5.8
ESAC San Caprasio 83.79 48 P **P 23 35 56.3 +1.4**
comp=Z,274nm,1.3s,mb6.2
SVW2 Sparrevohn 83.81 332 *e*P **P 23 35 55.3 +0.8**
ETSF Etsaut 83.88 47 *e*P **P 23 35 54.7 -0.6**
comp=Z,72nm,0.8s,mb5.5
ETSF Etsaut 83.88 47 *e*P **P 23 35 54.7 -0.6**
ETSF pmax pmax
comp=Z,36nm,0.8s,mb5.5
REYF Montagne du Re 84.02 47 *e*P **P 23 35 56.6 +0.6**
ESK Eskdalemuir 84.15 34 *e*P **P 23 35 54.5 -1.8**
ESK MLR MLR
comp=Z,654nm,21.0s,MS5.0
LCHF La Chataignera 84.26 43 *e*P **P 23 35 57.9 +0.8**
ERTA Horta de San J 84.30 49 P **P 23 35 59.3 +1.9**
comp=Z,65nm,0.8s,mb5.8
VIEF Viey 84.30 47 *e*P **P 23 35 57.2 -0.2**
IMA Indian Mountai 84.30 337 *e*P **P 23 35 55.4 -1.4**
EBIE Bielsa 84.36 47 P **P 23 36 00.6 +2.9**
comp=Z,52nm,0.8s,mb5.7
EBR Ebro Roquetas 84.40 49 *e*P **P 23 35 59.0 +1.1**
GRR Gorron 84.43 41 *e*P **P 23 35 56.7 -1.2**
comp=Z,119nm,1.1s,mb5.7
GRR Gorron 84.43 41 *e*P **P 23 35 56.7 -1.2**
GRR pmax pmax
comp=Z,60nm,1.1s,mb5.6
RESF Ens 84.52 47 *e*P **P 23 35 58.8 +0.3**
EPF Esparros 84.55 47 *e*P **P 23 35 57.9 -0.7**
comp=Z,141nm,0.9s,mb5.8
EPF Esparros 84.55 47 *e*P **P 23 35 57.9 -0.7**
EPF pmax pmax
comp=Z,71nm,0.9s,mb5.8
MFF Saint Martin d 84.66 43 *e*P **P 23 35 58.0 -1.1**
comp=Z,113nm,0.8s,mb5.7
MFF Saint Martin d 84.66 43 *e*P **P 23 35 58.0 -1.1**
MFF pmax pmax
comp=Z,57nm,0.8s,mb5.8
FLN La Foliniere 84.73 41 *e*P **P 23 35 58.4 -1.0**
comp=Z,81nm,0.8s,mb5.6
FLN *e*R
comp=Z,6µm,23.0s
FLN La Foliniere 84.73 41 *e*P **P 23 35 58.4 -1.0**
FLN pmax pmax
comp=Z,40nm,0.8s,mb5.6
FLN MLR MLR
comp=Z,6µm,23.0s,MS5.9
LDF La Druitiere 84.94 41 *e*P **P 23 35 59.3 -1.1**
comp=Z,96nm,0.9s,mb5.6
LDF La Druitiere 84.94 41 *e*P **P 23 35 59.3 -1.1**
LDF pmax pmax
comp=Z,48nm,0.9s,mb5.6
SNAA Sanae 84.96 162⇑ *i* **P 23 35 58.8 -1.2**
SNAA Sanae 84.96 162 *e*P **P 23 35 58.3 -1.7**
SNAA pmax pmax
comp=Z,330nm,1.0s
LFF La Frestale 85.06 45 *e*P **P 23 36 00.0 -1.1**
comp=Z,142nm,0.8s,mb5.9
LFF La Frestale 85.06 45 *e*P **P 23 36 00.0 -1.1**
LFF pmax pmax
comp=Z,71nm,0.8s,mb5.8
MLS Moulis 85.09 47 *e*P **P 23 36 01.4 +0.1**
SALF Salau 85.14 47 *e*P **P 23 36 02.2 +0.6**
DAG Danmarks Havn 85.19 12 *e*P **P 23 35 59.0 -2.1**
DAG pmax pmax
comp=Z,58nm,1.2s,mb5.6
DAG MLR MLR
comp=Z,6µm,21.0s,MS6.0
DAG Danmarks Havn 85.19 12 *e*P **P 23 35 59.0 -2.1**
comp=Z,58nm,1.2s,mb5.6
DAG LR LR
comp=Z,6µm,21.0s,MS6.0
DAG Danmarks Havn 85.19 12 *i*P **P 23 35 59.0 -2.1**
comp=Z,58nm,1.2s,mb5.6
comp=Z,6µm,21.0s
RJF Les Rejaudoux 85.65 45 *e*P **P 23 36 02.8 -1.3**
comp=Z,85nm,0.8s,mb5.7
RJF *e*R
comp=Z,3µm,20.0s
RJF Les Rejaudoux 85.65 45 *e*P **P 23 36 02.8 -1.3**
RJF pmax pmax
comp=Z,42nm,0.8s,mb5.7
RJF MLR MLR
comp=Z,3µm,20.0s,MS5.7
MTLF Montolieu 85.95 47 *e*P **P 23 36 04.3 -1.3**
comp=Z,97nm,1.1s,mb5.6
MTLF Montolieu 85.95 47 *e*P **P 23 36 04.3 -1.3**
MTLF pmax pmax
comp=Z,49nm,1.1s,mb5.7
CAF Calviac 86.00 45 *e*P **P 23 36 04.6 -1.2**
comp=Z,83nm,1.1s,mb5.6
CAF Calviac 86.00 45 *e*P **P 23 36 04.6 -1.2**
CAF pmax pmax
comp=Z,41nm,1.1s,mb5.6
TCF Toulx Ste Croi 86.24 44 *e*P **P 23 36 05.5 -1.5**
comp=Z,80nm,0.9s,mb5.7
TCF Toulx Ste Croi 86.24 44 *e*P **P 23 36 05.5 -1.5**
TCF pmax pmax
comp=Z,40nm,0.9s,mb5.7
VERF Verneugheol 86.38 44 *e*P **P 23 36 06.5 -1.2**
HYF Humbligny 86.63 43 *e*P **P 23 36 07.9 -1.0**
BGF Bois d'Agland 86.70 43 *e*P **P 23 36 08.1 -1.1**
comp=Z,164nm,1.0s,mb5.9
BGF Bois d'Agland 86.70 43 *e*P **P 23 36 08.1 -1.1**
BGF pmax pmax
comp=Z,82nm,1.0s,mb5.9
PYM Petit Puy Mans 86.74 44 *e*P **P 23 36 11.3 +1.9**
AGO Saint Agoulin 86.85 44 *e*P **P 23 36 11.5 +1.5**
LBL Lubilhac 86.86 45 *e*P **P 23 36 11.5 +1.5**
AVF Avril sur Loir 87.07 43 *e*P **P 23 36 09.4 -1.6**

comp=Z,73nm,1.0s,mb5.6
AVF Avril sur Loir 87.07 43 *e*P **P 23 36 09.4 -1.6**
AVF pmax pmax
comp=Z,36nm,1.0s,mb5.6
PLDF La Plantade 87.19 44 *e*P **P 23 36 12.7 +1.1**
LASF Ste Croix 87.20 46 *e*P **P 23 36 10.8 -0.9**
comp=Z,66nm,1.2s,mb5.4
SSF Saint Saulge 87.20 43 *e*P **P 23 36 10.0 -1.6**
SSF pmax pmax
comp=Z,26nm,0.9s,mb5.5
SSF Saint Saulge 87.20 43 *e*P **P 23 36 10.0 -1.6**
comp=Z,26nm,0.9s,mb5.5
SMF Signal de Mont 87.40 43 *e*P **P 23 36 11.1 -1.5**
comp=Z,91nm,1.1s,mb5.6
SMF Signal de Mont 87.40 43 *e*P **P 23 36 11.1 -1.5**
SMF pmax pmax
comp=Z,45nm,1.1s,mb5.6
VIVF Saint-Julien-I 87.84 45 *e*P **P 23 36 14.0 -0.8**
comp=Z,59nm,1.1s,mb5.5
VIVF Saint-Julien-I 87.84 45 *e*P **P 23 36 14.0 -0.8**
VIVF pmax pmax
comp=Z,29nm,1.0s,mb5.5
BAIF Baives 87.92 40 *e*P **P 23 36 13.8 -1.2**
comp=Z,34nm,1.0s,mb5.2
BAIF Baives 87.92 40 *e*P **P 23 36 13.8 -1.2**
BAIF pmax pmax
comp=Z,17nm,1.0s,mb5.2
GIVF Givet 88.32 40 *e*P **P 23 36 16.1 -0.8**
comp=Z,277nm,1.5s,mb6.0
GIVF Givet 88.32 40 *e*P **P 23 36 16.1 -0.8**
GIVF pmax pmax
comp=Z,138nm,1.5s,mb6.0
MEZF Maizieres J'vi 88.35 42 *e*P **P 23 36 16.0 -1.1**
comp=Z,89nm,0.8s,mb5.8
SMRF Simiane la Rot 88.43 46 *e*P **P 23 36 16.8 -0.8**
comp=Z,313nm,1.7s,mb6.0
QSPA South Pole Qui 88.69 180⇑ *i*P **P 23 36 18.6 +0.5**
comp=Z,76nm,1.0s,mb6.0
ORIF Oris-en-Rattie 88.70 45 *e*P **P 23 36 17.5 -1.4**
ORIF comp=Z,45nm,0.9s,mb5.5 *e*R
comp=Z,5μm,22.2s
CABF La Chapelle 88.94 44 *e*P **P 23 36 18.9 -1.1**
comp=Z,94nm,1.1s,mb5.7
CABF La Chapelle 88.94 44 *e*P **P 23 36 18.9 -1.1**
CABF pmax pmax
comp=Z,47nm,1.1s,mb5.7
THEF They Montfort 88.96 42 *e*P **P 23 36 20.0 0.0**
HGN Heimansgroeve 89.07 39 *e*P **P 23 36 20.7 +0.2**
comp=Z,60nm,2.5s,mb5.5
HGN *e*P 23 39 45.9
comp=Z,63nm,2.2s
HGN *e*S S 23 46 59.7 -7.1
LMR La Mourre 89.07 47 *e*P **P 23 36 19.0 -1.7**
WLF Walferdange 89.15 40 *e*P **P 23 36 20.1 -0.8**
WLF pmax pmax
comp=Z,64nm,1.3s,mb5.8
WLF Walferdange 89.15 40 *e*P **P 23 36 20.1 -0.8**
comp=Z,64nm,1.3s,mb5.8
FRF La Foret Royal 89.18 47 *e*P **P 23 36 19.6 -1.6**
comp=Z,91nm,0.9s,mb5.8
FRF La Foret Royal 89.18 47 *e*P **P 23 36 19.6 -1.6**
FRF pmax pmax
comp=Z,46nm,0.9s,mb5.8
HAU Haudompre 89.19 42 *e*P **P 23 36 19.7 -1.4**
comp=Z,47nm,1.1s,mb5.4
HAU *e*R
comp=Z,3μm,20.2s
HAU Haudompre 89.19 42 *e*P **P 23 36 19.7 -1.4**
HAU pmax pmax
comp=Z,24nm,1.1s,mb5.4
HAU MLR MLR
comp=Z,3μm,20.3s,MS5.7
BNI Bardonecchia 89.27 45 *e*P **P 23 36 20.3 -1.3**
BNI pmax pmax
comp=Z,22nm,0.8s,mb5.5
BNI Bardonecchia 89.27 45 *e*P **P 23 36 20.3 -1.3**
comp=Z,22nm,0.8s,mb5.5
MBDF Montbardon 89.32 45 *e*P **P 23 36 21.0 -0.9**
comp=Z,100nm,1.3s,mb5.7
MBDF Montbardon 89.32 45 *e*P **P 23 36 21.0 -0.9**
MBDF pmax pmax
comp=Z,50nm,1.3s,mb5.7
LPL La Plagne 89.33 45 *e*P **P 23 36 21.4 -0.5**
comp=Z,28nm,1.0s,mb5.3
LPL La Plagne 89.33 45 *e*P **P 23 36 21.4 -0.5**
LPL pmax pmax
comp=Z,14nm,1.0s,mb5.2
LPG La Plagne 89.34 45 *e*P **P 23 36 21.7 -0.2**
comp=Z,122nm,1.5s,mb5.7
LPG La Plagne 89.34 45 *e*P **P 23 36 21.7 -0.2**
LPG pmax pmax
comp=Z,61nm,1.5s,mb5.7
LOMF Lomont 89.48 43 *e*P **P 23 36 21.9 -0.6**
HINF Hinteralfeld 89.52 42 *e*P **P 23 36 21.2 -1.5**
NVL N'lazarevskaya 89.63 161⇑ *e*P **P 23 36 25.0 +2.3**
NVL *e*S S 23 47 15.0 +3.4
NVL pmax pmax
comp=Z,604nm,5.3s
WTSB Winterswijk 89.67 38 *e*P **P 23 36 21.6 -1.7**
comp=Z,63nm,2.1s,mb5.6
WTSB *e*P 23 39 46.8
comp=Z,95nm,2.8s
RUP Ruppelstein 89.74 40 *e*P **P 23 36 24.1 +0.4**
ECH Echery 89.74 42 *e*P **P 23 36 22.8 -0.9**
SBF Sospel 89.77 46 *e*P **P 23 36 22.1 -1.8**
comp=Z,114nm,1.1s,mb5.8
SBF Sospel 89.77 46 *e*P **P 23 36 22.1 -1.8**
SBF pmax pmax
comp=Z,57nm,1.1s,mb5.8
CDF Champ du Feu 89.83 42 *e*P **P 23 36 22.8 -1.3**
comp=Z,47nm,1.0s,mb5.5
CDF Champ du Feu 89.83 42 *e*P **P 23 36 22.8 -1.3**
CDF pmax pmax
comp=Z,24nm,1.0s,mb5.5
WLS Welschbruch 89.88 42 *e*P **P 23 36 27.3 +2.9**
TNA Tin City 89.98 335 *e*P **P 23 36 24.9 +0.5**
ABH Alteburg 90.06 40 *e*P **P 23 36 25.8 +0.6**
LANF Langenberg 90.20 41 *e*P **P 23 36 25.6 -0.2**
AFI Afiamalu 90.49 256 PFAKE 23 36 40.0 +12
AFI LR LR
comp=Z,4μm,20.0s,MS5.8
BFO Black Forest 90.53 42 *e*P **P 23 36 28.6 +1.2**
BFO pmax pmax
comp=Z,20nm,1.3s,mb5.3
BFO Black Forest 90.53 42 *e*P **P 23 36 28.6 +1.2**
comp=Z,20nm,1.3s,mb5.3
MUD Monsted U'grnd 91.19 34 *e*P **P 23 36 31.9 +1.7**
MUD pmax pmax
comp=Z,14nm,0.9s,mb5.3
MUD Monsted U'grnd 91.19 34 *e*P **P 23 36 31.9 +1.7**
comp=Z,14nm,0.9s,mb5.3
MUD *i*S 23 47 05.1
MUD *i* 23 47 38.5
MUD Monsted U'grnd 91.19 34 *i*P **P 23 36 31.9 +1.7**
comp=Z,14nm,0.9s,mb5.3
MUD Monsted U'grnd 91.19 34 *i*S 23 47 05.1
MUD *i* 23 47 38.5
comp=Z,2μm,18.0s
KONO Kongsberg 91.45 31 P **P 23 36 32.2 +0.9**
KONO MLR MLR
comp=Z,2μm,20.0s,MS5.7
DAVA Damuels 91.56 43⇑ *i*P **P 23 36 32.8 +0.7**
comp=Z,27nm,1.1s,mb5.5
CLZ Clausthal 91.88 38 *e*P **P 23 36 35.0 +1.5**
comp=Z,76nm,2.3s,mb5.6
NAO01 NORSAR Array S 92.08 29 PFAKE 23 36 50.0 +16
NAO01 LR LR
comp=Z,2μm,19.0s,MS5.6
NB2 NORSAR Subarra 92.24 29 P **P 23 36 32.3 -2.6**
comp=Z,12nm,1.4s,mb5.0,baz=272,slow=4.5
NB2 NORSAR Subarra 92.24 29 P **P 23 36 32.3 -2.6**
baz=272,slow=4.6
NOA NORSAR Array B 92.24 29 P **P 23 36 32.8 -2.1**
comp=Z,0.7nm,0.9s,baz=345,slow=4.1,SNR=3.4
NOA LR LR 00 19 34.5
comp=Z,892nm,18.1s,MS5.2,baz=290,slow=37
MOTA Moosalm 92.39 43⇑ *i*P **P 23 36 33.6 -2.3**
comp=Z,9.7nm,1.1s,mb5.0
MOTA Moosalm 92.39 43⇑ *i*P **P 23 36 33.6 -2.3**
MOTA pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
GRA1 Grafenberg Arr 92.44 41 *e*P **P 23 36 37.1 +1.0**
comp=Z,40nm,1.4s,mb5.6
GRA1 *e*SKSac 23 47 16.7
GRA1 *e*S S 23 47 46.4 +9.3
GRF Grafenberg Arr 92.44 41 *e*P **P 23 36 37.1 +1.0**
GRF pmax pmax
comp=Z,40nm,1.4s,mb5.6
GRF MLR MLR
comp=Z,4μm,21.5s,MS5.8
GRF Grafenberg Arr 92.44 41 *e*P **P 23 36 37.1 +1.0**
GRF pmax pmax
comp=Z,40nm,1.4s,mb5.6
GRF Grafenberg Arr 92.44 41 *e*P **P 23 36 37.1 +1.0**
comp=Z,40nm,1.4s,mb5.6
GRF *e*SKS SKS 23 47 16.7 +3.8
GRF *e*S S 23 47 46.4 +9.3
GRF LR LR
comp=Z,4μm,21.5s,MS5.8
SQTA Sankt Quirin 92.46 43⇑ *i*P **P 23 36 34.1 -2.2**
comp=Z,17nm,1.1s,mb5.3
SQTA Sankt Quirin 92.46 43⇑ *i*P **P 23 36 34.1 -2.2**
SQTA pmax pmax
comp=Z,17nm,1.1s,mb5.3
FUR Furstenfeldbru 92.50 42 *e*P **P 23 36 38.1 +1.7**
FUR pmax pmax
comp=Z,41nm,1.2s,mb5.6
FUR Furstenfeldbru 92.50 42 *e*P **P 23 36 38.1 +1.7**
comp=Z,41nm,1.2s,mb5.6
MOX Moxa 92.68 40 *e*P **P 23 36 37.8 +0.6**
MOX pmax pmax
comp=Z,18nm,1.5s,mb5.3
MOX MLR MLR
comp=Z,2μm,20.0s,MS5.5
MOX Moxa 92.68 40 *e*P **P 23 36 37.8 +0.6**
comp=Z,18nm,1.5s,mb5.3
MOX *e*S S 23 47 22.0 -17
MOX LR LR
comp=Z,2μm,20.0s,MS5.5
MOX Moxa 92.68 40 *i*P **P 23 36 37.8 +0.6**
comp=Z,logA/T=1.1,mb5.3
MOX S S 23 47 22.0 -17
MOX L 00 20 11.0
WTTA Wattenberg 92.75 43⇑ *i*P **P 23 36 35.0 -2.6**
comp=Z,29nm,1.1s,mb5.6
WTTA Wattenberg 92.75 43⇑ *i*P **P 23 36 35.0 -2.6**
WTTA pmax pmax
comp=Z,29nm,1.1s,mb5.6
COP Copenhagen 93.03 34 *i*P **P 23 36 39.2 +0.5**
COP *e*S 23 47 09.7
COP *i* S 23 47 43.6 +1.5
COP pmax pmax
comp=Z,43nm,0.8s,mb5.9
COP MLR MLR
comp=Z,1μm,18.0s,MS5.4
COP Copenhagen 93.03 34 *i*P **P 23 36 39.2 +0.5**
comp=Z,43nm,0.8s,mb5.9
COP *i* 23 39 55.2
COP *e*S 23 47 09.7
COP *i* S 23 47 43.6 +1.5
comp=Z,1μm,18.0s
NKC Novy Kostel 93.22 40 *e*P **P 23 36 40.6 +0.9**
NKC *e*x x 23 47 22.7
NKC *e*x x 23 47 56.4
NKC AMS AMS 00 14 50.0
comp=Z,4μm,21.2s
WET Wettzell 93.53 41 *e*P **P 23 36 42.1 +0.9**
WET pmax pmax
comp=Z,89nm,1.9s,mb5.9
WET Wettzell 93.53 41 *e*P **P 23 36 42.1 +0.9**
comp=Z,89nm,1.9s,mb5.9
CLL Collm 93.53 39 *i*P **P 23 36 43.4 +2.3**
CLL *e* 23 47 17.0
CLL *e*S S 23 47 54.0 +7.4
CLL pmax pmax
comp=Z,52nm,1.9s,mb5.6
CLL MLR MLR
comp=Z,5μm,22.0s,MS5.9
CLL Collm 93.53 39 *i*P **P 23 36 43.4 +2.3**
comp=Z,52nm,1.9s,mb5.6
CLL *i* 23 36 53.3
CLL *e*SKS SKS 23 47 17.0 -2.0
CLL *e*S S 23 47 54.0 +7.4
CLL LR LR
comp=Z,5μm,22.0s,MS5.9
CLL Collm 93.53 39 P **P 23 36 43.4 +2.3**
comp=Z,logA/T=1.4,mb5.6
CLL *i* 23 36 53.3
CLL *e* 23 37 00.0
CLL *e* 23 40 01.0
CLL *e*PP PP 23 40 40.0 +11
CLL *e*PPP tx 23 44 04.0
CLL *e* 23 47 17.0
CLL *e*S S 23 47 54.0 +7.4
CLL *e*PS PS 23 49 02.0 -4.5
CLL *e* 23 51 16.0
CLL *e* 23 52 28.0
CLL *e*SS SS 23 54 36.0 +28
KBA Koelnbreinsper 93.92 43⇓ *i*P **P 23 36 42.8 -0.2**
comp=Z,14nm,1.1s,mb5.3
KBA Koelnbreinsper 93.92 43⇓ *i*P **P 23 36 42.8 -0.2**
KBA pmax pmax
comp=Z,14nm,1.1s,mb5.3
KHC Kasperske Hory 93.99 41 *e*P **P 23 36 42.6 -0.7**
KHC *e* 23 49 11.6
KHC MLR MLR
comp=Z,3μm,20.0s,MS5.8
KHC Kasperske Hory 93.99 41 *e*P **P 23 36 42.6 -0.7**
KHC *e* 23 36 53.0
KHC *e* 23 37 21.8
KHC *e*S S 23 47 26.6 -24
KHC *e* 23 48 02.7
KHC *e* 23 49 11.6
KHC LR LR
comp=Z,3μm,20.0s,MS5.8
KHC Kasperske Hory 93.99 41 *e*P **P 23 36 42.6 -0.7**
KHC pP pP 23 36 53.0 +6.5
KHC *e*x x 23 37 21.8
KHC *e*S S 23 47 26.6 -24
KHC *e*x x 23 48 02.7
KHC *e*PS PS 23 49 11.6 0.0
KHC AMS AMS 00 20 00.0
comp=Z,3μm,20.0s
ROBS Robic 94.07 44 *e*P **P 23 36 45.5 +1.8**
GERES GERESS Array B 94.09 41 P **P 23 36 42.9 -0.8**
comp=Z,2.7nm,0.8s,mb4.7,baz=243,slow=3.0,SNR=12
BRG Berggiesshubel 94.15 39 *e*P **P 23 36 42.3 -1.6**
BRG *e* pP 23 36 46.5 -0.6
BRG *e* 23 40 29.0
BRG *i* 23 47 20.0
BRG *i*S S 23 47 56.0 +4.1
BRG *i* 23 49 11.0
BRG pmax pmax
comp=Z,32nm,1.6s,mb5.5
BRG MLR MLR
comp=Z,4μm,23.7s,MS5.8
BRG Berggiesshubel 94.15 39 *e*P **P 23 36 42.3 -1.6**
comp=Z,32nm,1.6s,mb5.5
BRG *e* pP 23 36 46.5 -0.6
BRG *e* 23 37 02.4
BRG *e* 23 40 10.7
BRG *e*PP PP 23 40 29.0 -4.3
BRG *i*SKS SKS 23 47 20.0 -2.3
BRG *i*S S 23 47 56.0 +4.1
BRG *i* 23 49 11.0
BRG *e*P'P' 00 02 03.6
BRG LR LR
comp=Z,4μm,23.7s,MS5.8
VNDA Vanda 94.37 191 P **P 23 36 45.6 +1.2**
comp=Z,3.7nm,0.9s,mb4.8,baz=150,slow=8.9,SNR=5.4
VNDA LR LR 00 13 28.0
comp=Z,4μm,19.4s,MS5.9,baz=127,slow=32
BSD Bornholm Skovb 94.48 35 *i*P **P 23 36 41.6 -3.7**
BSD *e*S S 23 47 25.5 -29
BSD pmax pmax
comp=Z,49nm,1.1s,mb5.8
BSD Bornholm Skovb 94.48 35 *i*P **P 23 36 41.6 -3.7**
comp=Z,49nm,1.1s,mb5.8
BSD *i* 23 39 59.9
BSD *e*S S 23 47 25.5 -29
BSD *i* 23 48 06.7
comp=Z,2μm,22.0s
MOA Molln 94.51 42⇑ *i*P **P 23 36 46.0 +0.3**
comp=Z,29nm,1.2s,mb5.6
PVCC Panska Ves 94.56 40 *e*P **P 23 36 46.0 +0.1**
PVCC *e* 23 48 04.4
PVCC *e* 23 49 16.9
PVCC MLR MLR
comp=Z,3μm,21.9s,MS5.8
PVCC Panska Ves 94.56 40 *e*P **P 23 36 46.0 +0.1**
PVCC *e*S S 23 47 30.2 -25
PVCC *e*x x 23 48 04.4
PVCC *e*x x 23 49 16.9
PVCC AMS AMS 00 14 30.0
comp=Z,3μm,21.9s
PRU Pruhonice 94.58 40 *e*P **P 23 36 46.9 +1.0**
PRU *e* 23 49 16.6
PRU MLR MLR
comp=Z,4μm,20.9s,MS5.9
PRU Pruhonice 94.58 40 *e*P **P 23 36 46.9 +1.0**
PRU *e*S S 23 47 30.7 -25
PRU *e*x x 23 48 06.3
PRU *e*PS PS 23 49 16.6 -1.4
PRU AMS AMS 00 15 50.0
comp=Z,4μm,20.9s
LJU Ljubljana 94.78 44 *e*P **P 23 36 48.4 +1.5**
VISS Visnje 95.01 44 *e*P **P 23 36 52.3 +4.2**
VAE Valguarnera 95.08 53 LR LR 00 18 46.6
comp=Z,4μm,18.4s,MS5.9,baz=111,slow=35
UPC Upice 95.48 40 *e*P **P 23 36 50.9 +0.8**
KSP Ksiaz 95.63 39 *e*P **P 23 36 50.7 -0.1**
KSP *e*PP pP 23 36 53.1 -0.9
KSP *e* 23 40 50.0
KSP *e* 23 47 30.0
KSP *e*S S 23 48 08.0 +3.5
KSP *e*SP SP 23 49 22.0 -6.1
KSP MLR MLR
comp=Z,8μm,24.5s,MS6.1
KSP Ksiaz 95.63 39 *e*P **P 23 36 51.9 +1.2**
DPC Dobruska-Polom 95.69 40 *e*P **P 23 36 51.9 +0.8**
DPC *e* 23 48 14.7
DPC *e* 23 49 28.2
DPC MLR MLR
comp=Z,4μm,20.9s,MS5.9
DPC Dobruska-Polom 95.69 40 *e*P **P 23 36 51.9 +0.8**
DPC *e*x x 23 47 36.3
DPC *e*x x 23 48 14.7
DPC *e*SP SP 23 49 28.2 -0.5
DPC AMS AMS 00 16 30.0
comp=Z,4μm,20.9s
ZST Bratislava 96.39 42 *e*P **P 23 36 54.0 -0.3**
MORC Moravsky Berou 96.53 40 *e*P **P 23 36 53.5 -1.4**
MORC pmax pmax
comp=Z,43nm,1.6s,mb5.6
MORC Moravsky Berou 96.53 40 *e*P **P 23 36 53.5 -1.4**
comp=Z,43nm,1.6s,mb5.6
OKC Ostrava-Krasne 96.91 40 *e*P **P 23 36 57.4 +0.8**
OKC *e*S tx 23 47 38.6
OKC *e* 23 49 47.7
OKC Ostrava-Krasne 96.91 40 *e*P **P 23 36 57.4 +0.8**
OKC *e*x x 23 37 36.3
OKC *e*x x 23 47 38.6
OKC *e*x x 23 48 26.3
OKC *e*x x 23 49 47.7
OKC AMS AMS 00 17 00.0
comp=Z,3μm,20.8s
ARCES ARCESS Array B 97.00 20 LR LR 00 20 16.5
comp=Z,1μm,18.8s,MS5.4,baz=282,slow=35
VYHS Vyhne 97.51 41 *e*P **P 23 37 00.0 +0.7**
VYHS *e*S tx 23 47 36.8
VYHS Vyhne 97.51 41 *e*P **P 23 37 00.0 +0.7**
VYHS *e* 23 37 12.9
VYHS *e*S tx 23 47 36.8
VYHS Vyhne 97.51 41 *e*P **P 23 37 00.0 +0.7**
VYHS *e* 23 37 12.9
VYHS Vyhne 97.51 41⇑ *e*SKSp 23 47 36.8
OJC Ojcow 97.92 40 *e*P **P 23 37 00.6 -0.5**
OJC *e* 23 47 40.1
OJC MLR MLR
comp=Z,4μm,21.1s,MS5.8
OJC Ojcow 97.92 40 *e*P **P 23 37 00.6 -0.5**
OJC *e*SKS SKS 23 47 40.1 -2.4
OJC *e*S S 23 48 35.2 +11
OJC LR LR
comp=Z,4μm,21.1s,MS5.8
OJC Ojcow 97.92 40 *e*P **P 23 37 00.6 -0.5**
OJC *e* 23 37 00.6
OJC *e*SKS SKS 23 47 40.1 -2.4
OJC *e*S S 23 48 35.2 +11
OJC MLR MLR 00 17 38.8
comp=Z,4μm,21.1s,MS5.8
URZ Urewera 98.53 231 LR LR 00 12 35.8
comp=Z,4μm,19.4s,MS5.9,baz=130,slow=30
CRVS Cervenica-Dubn 99.18 41 *e*P **P 23 37 12.6 +5.8**
CRVS *e*S S 23 48 38.5 +4.0
CRVS Cervenica-Dubn 99.18 41 *e* **P 23 37 12.6 +5.8**
SUR Sutherland 99.18 123 PFAKE 23 37 20.0 +13
SUR LR LR
comp=Z,2μm,19.0s,MS5.7
SYO Syowa Base 99.25 162⇓ P **P 23 37 06.2 -0.5**
FINES FINESS Array B 99.29 28 P **P 23 37 04.6 -2.4**
comp=Z,4.2nm,0.8s,mb5.0,baz=18,slow=6.0,SNR=7.3
BILL Bilibino 99.65 339 *i*P **P 23 37 08.3 -0.3**
BILL pmax pmax
comp=Z,16nm,1.9s,mb5.1
BILL MLR MLR
comp=Z,2μm,24.0s,MS5.4
BILL Bilibino 99.65 339 P **P 23 37 07.8 -0.7**
comp=Z,8.3nm,0.9s,mb5.2
BILL LR LR
comp=Z,3μm,21.0s,MS5.7
KOLS Kolonicke sedl 99.70 41 *e* **P 23 37 24.0 +15**
KOLS *e*PP PP 23 40 44.0 -32
KWP Kalwaria 99.87 40 *e*P **P 23 37 11.4 +1.4**
SMY Shemya 100.13 323 PFAKE 23 37 20.0 +8.9
SMY LR LR
comp=Z,5μm,22.0s,MS6.0
APA Apatity 100.38 21 *e*P P 23 37 08.0 -3.9
APA *e* 23 41 22.0
APA *i* 23 47 52.0
APA *e*S S 23 48 40.0 -4.1
APA *e*PS tx 23 51 00.0
APA *i*SS SS 23 55 50.0 +6.7
APA MLR MLR
comp=Z,2μm,19.0s,MS5.5
LVV L'vov 100.68 40 *e*P P 23 37 05.8 -7.9
LVZ Lovozero 100.69 20 *e*P P 23 37 02.3 -11
PUL Pulkovo 101.77 29 *e*P P 23 37 08.6 -10
PUL *e* 23 48 52.3
BOSA Boshof 103.52 120 PFAKE 23 37 40.0 +13
BOSA LR LR
comp=Z,14μm,20.0s,MS6.5
KIS Kishinev 104.40 42 *e*P Pdif 23 37 30.0 -0.3
KIS *e* 23 41 50.0
KIS *e* 23 44 00.0
KIS *e* 23 48 10.0
KIS *e*S S 23 49 16.0 -2.1
KIS *e*PS PS 23 51 00.0 -1.4
KIS MLR MLR
comp=N,2μm,20.0s,MS5.7
KIS MLR MLR
comp=E,600nm,20.0s,MS5.7
KIS MLR MLR
comp=Z,2μm,20.0s,MS5.5
KIS MLR MLR
comp=Z,1μm,20.0s
DRV Dumont d'Urvil 106.20 196 SP SP 23 51 18.0 +0.3
OBN Obninsk 106.54 32 *e*P Pdif 23 37 36.7 -2.8
OBN *e* 23 42 07.9
OBN *e* 23 48 16.0
OBN *e*PS PS 23 51 18.5 -4.1
OBN *i*SS SS 23 57 12.8 +4.4
OBN MLR MLR
comp=Z,2μm,20.0s,MS5.7
OBN Obninsk 106.54 32 PFAKE 23 42 00.0
OBN LR LR
comp=Z,697nm,22.0s,MS5.2
MAW Mawson 106.69 166 PFAKE 23 42 00.0
MAW LR LR
comp=Z,6μm,20.0s,MS6.2
LSZ Lusaka 108.05 106 PFAKE 23 42 10.0
LSZ LR LR
comp=Z,15μm,19.0s,MS6.6
SIM Simferopol' 108.50 43 *e*P Pdif 23 37 56.0 +7.6
SIM *e* 23 42 26.0
SIM *e* 23 48 31.0
SIM pmax pmax
comp=Z,440nm,12.6s
SIM MLR MLR
comp=Z,2μm,18.7s,MS5.6
PET Petropavlovsk 108.94 327 PFAKE 23 42 10.0
PET LR LR

comp=Z,2μm,22.0s,MS5.6
MA2 Magadan 109.62 335 P Pdif 23 38 08.8 +16
MA2 *e* 23 42 32.8
MA2 *e*SS SS 23 58 02.4 +13
MA2 pmax pmax
comp=Z,280nm,17.5s
MA2 Magadan 109.62 335 PFAKE 23 42 10.0
MA2 LR LR
comp=Z,3μm,21.0s,MS5.8
MBAR Mbarara 111.65 91 PFAKE 23 42 10.0 +7.6
MBAR LR LR
comp=Z,3μm,22.0s,MS5.9
CASY Casey 112.00 185 PFAKE 23 42 10.0 +8.2
CASY LR LR
comp=Z,5μm,19.0s,MS6.2
SOC Sochi 112.75 43 *i* PKIKP PKPdf 23 42 04.8 +0.9
SOC *e* 23 42 46.1
SOC *e*PPP PPP 23 45 16.0 -0.3
SOC *e* 23 52 15.6
SOC pmax pmax
comp=Z,25nm,0.9s
SOC pmax pmax
comp=N,20nm,1.0s
SOC pmax pmax
comp=E,37nm,1.1s
KIV Kislovodsk 114.60 41 *i* PKIKP PKPdf 23 42 06.2 -1.3
KIV *e* 23 43 01.2
KIV *e* 23 48 49.4
KIV *e*SP SP 23 52 39.6 +0.3
KIV *e*SS SS 23 58 54.0 -2.4
KIV pmax pmax
comp=Z,11nm,1.3s
KIV MLR MLR
comp=N,813nm,20.0s,MS5.4
KIV MLR MLR
comp=E,645nm,20.0s,MS5.4
KIV MLR MLR
comp=Z,1μm,20.0s,MS5.5
KIV Kislovodsk 114.60 41 PKP PKPdf 23 42 06.8 -0.6
KIV LR LR
comp=Z,315nm,20.0s,MS4.9
YAK Yakutsk 115.25 345 *i* PKIKP PKPdf 23 42 06.2 -2.1
YAK MLR MLR
comp=Z,2μm,24.0s,MS5.7
YAK Yakutsk 115.25 345 PKP PKPdf 23 42 05.7 -2.6
YAK LR LR
comp=Z,2μm,19.0s,MS5.7
ARU Arti 116.24 24 *i* PKIKP PKPdf 23 42 04.3 -6.1
ARU *e* 23 48 55.9
ARU *i* PS PS 23 52 49.2 -6.1
ARU MLR MLR
comp=N,600nm,19.0s,MS5.6
ARU MLR MLR
comp=Z,2μm,19.0s,MS5.7
ARU MLR MLR
comp=E,1μm,20.0s,MS5.6
GNI Garni 117.53 45 *i* PKIKP PKPdf 23 42 10.9 -2.4
GNI MLR MLR
comp=Z,1μm,20.0s
KMBO Kilima Mbogo 118.15 92 PKIKP PKPdf 23 42 13.4 -1.7
KMBO MLR MLR
comp=Z,13μm,19.0s
KMBO Kilima Mbogo 118.15 92 PKP PKPdf 23 42 13.4 -1.8
comp=Z,1.9nm,1.1s,baz=243,slow=14,SNR=3.2
TAU Tasmania Unive 118.22 218 PFAKE 23 42 20.0 +5.4
TAU LR LR
comp=Z,890nm,19.0s,MS5.4
YSS Yuzh-Sakhalins 120.83 327 PFAKE 23 42 30.0 +10
YSS LR LR
comp=Z,2μm,21.0s,MS5.7
BRVK Borovoye 123.22 20 PKIKP PKPdf 23 42 21.3 -2.7
BRVK MLR MLR
comp=Z,438nm,22.0s,MS5.1
BVAR Borovoye Array 123.28 20 PKP PKPdf 23 42 21.2 -2.9
comp=Z,4.1nm,1.1s,slow=1.5,SNR=7.6
BVAR PKKPbc 23 52 12.3
comp=Z,1.5nm,1.1s,baz=153,slow=3.2,SNR=3.0
KLR Kul'dur 124.72 334 *e*PKIKP PKPdf 23 42 23.6 -3.5
KLR *e* 23 44 11.2
ZAL Zalesovo 126.30 10 PKP PKPdf 23 42 27.5 -2.4
comp=Z,14nm,1.1s,baz=174,slow=1.7,SNR=33
KURK Kurchatov 127.87 16 *e*PKIKP PKPdf 23 42 28.5 -4.6
KURK MLR MLR
comp=Z,510nm,21.0s,MS5.2
STKA Stephens Creek 127.90 227 PKP PKPdf 23 42 30.5 -3.2
comp=Z,8.3nm,1.1s,baz=311,slow=2.2,SNR=6.8
STKA Stephens Creek 127.90 227 *e*PKP PKPdf 23 42 31.2 -2.5
CTAO Charters Tower 129.08 243 PFAKE 23 42 50.0 +14
CTAO LR LR
comp=Z,4μm,22.0s,MS6.0
HIA Hailar 129.10 343 *e*PKIKP PKPdf 23 42 31.9 -3.6
MDJ Mudanjiang 129.17 332 PKP PKPdf 23 42 33.6 -2.2
MDJ PP PP 23 44 49.1 +3.6
MDJ LR LR
comp=N,2μm,25.0s,MS5.8
MDJ LR LR
comp=E,1μm,22.3s,MS5.8
MDJ LR LR
comp=Z,2μm,25.0s,MS5.7
MAJO Matsushiro 129.68 319 PFAKE 23 42 50.0 +13
MAJO LR LR
comp=Z,2μm,22.0s,MS5.6
TLY Talaya 129.72 356 *i* PKIKP PKPdf 23 42 35.7 -0.9
TLY pmax pmax
comp=Z,9.0nm,1.2s
TLY MLR MLR
comp=Z,1μm,21.0s,MS5.6
TLY Talaya 129.72 356 *i* P PKPdf 23 42 34.2 -2.4
TLY LR LR
comp=Z,389nm,20.0s,MS5.1
MOY Mondy 129.86 358 *e*PKIKP PKPdf 23 42 37.0 +0.1
PMG Port Moresby 130.92 256 PFAKE 23 42 50.0 +10
PMG LR LR
comp=Z,2μm,20.0s,MS5.9
ZAK Zakamensk 131.04 356⇑ *i*PKIKP PKPdf 23 42 36.9 -2.2
ZAK *e* 23 44 57.6
USP Ospenovka 132.88 24 P PKPdf 23 42 42.0 -0.8
SNR=8.3
EKS2 Erkin-Say 133.07 26 P PKPdf 23 42 44.1 +0.9
SNR=6.8
GUMO Guam 133.09 287 PFAKE 23 42 50.0 +6.1
GUMO LR LR
comp=Z,2μm,21.0s,MS5.7
ULN Ulaanbaatar 133.17 353 *e*PKIKP PKPdf 23 42 42.2 -1.0
ULN MLR MLR
comp=Z,3μm,20.0s,MS5.9
FRU Bishkek 133.28 25 *e*PKIKP PKPdf 23 42 43.0 -0.5
FRU pmax pmax
comp=Z,100nm,2.0s
SONM Songino Array 133.28 353 PKhKP 23 42 19.8
comp=Z,0.6nm,1.0s,baz=56,slow=4.5,SNR=4.0
SONM PKP PKPdf 23 42 42.6 -0.8
comp=Z,2.0nm,0.8s,baz=352,slow=1.9,SNR=11
SONM Songino Array 133.28 353 PKP PKPdf 23 42 42.6 -0.8
AAK Ala-Archa 133.40 25 P PKPdf 23 42 43.2 -0.6
SNR=6.5
AAK Ala-Archa 133.40 25 *e*PKP PKPdf 23 42 42.0 -1.7
AAK LR LR
comp=Z,437nm,21.0s,MS5.2
AML Almayashu 133.46 26 P PKPdf 23 42 45.0 +1.1
SNR=6.8
TKM2 Tokmak 2 133.61 24 P PKPdf 23 42 45.4 +1.3
SNR=7.5
UCH Uchtor 133.74 25 P PKPdf 23 42 44.1 -0.2
SNR=6.0
KS15 Wonju Array Si 135.36 327 *e*PKP PKPdf 23 42 44.0 -3.6
WMQ Urumqi 136.54 12 PKP PKPdf 23 42 44.5 -4.9
WMQ XPKP 23 42 58.9
WMQ PP PP 23 45 29.8 -2.0
WMQ PP PP
comp=Z,424nm,11.0s
WMQ LR LR
comp=N,2μm,25.0s,MS5.9
WMQ LR LR
comp=E,2μm,27.2s,MS5.9
WMQ LR LR
comp=Z,4μm,28.9s,MS6.0
ASAR Alice Springs 137.97 231 PKhKP 23 42 42.1
comp=Z,2.7nm,0.8s,baz=114,slow=4.1,SNR=5.8
ASPA Alice Springs 137.97 231 *e*P PKPdf 23 42 47.3 -5.5
ASPA *e*S 23 46 28.5
BJI Beijing 138.48 340 PKP PKPdf 23 42 52.9 -0.3
BJI PP PP 23 45 48.7 +4.2
BJI SKKS 23 52 28.3
BJT Baijiatuau 138.50 340 PKIKP PKPdf 23 42 52.0 -1.3
WRAB Tennant Creek 139.44 237 *e*PKIKP PKPdf 23 42 50.0 -5.5
WRAB MLR MLR
comp=Z,1μm,20.0s,MS5.6
WRA Warramunga Arr 139.44 237 PKhKP 23 42 44.6
comp=Z,0.4nm,0.4s,baz=7.1,slow=31,SNR=6.9
WRA PKP PKPdf 23 42 53.3 -2.1
comp=Z,7.1nm,1.0s,baz=123,slow=2.1,SNR=11
WRA Warramunga Arr 139.44 237 PKP PKPdf 23 42 53.3 -2.1
NWAO Narrogin (SRO) 141.81 205 PFAKE 23 43 10.0 +11
NWAO LR LR
comp=Z,1μm,20.0s,MS5.7
SSE Sheshan 143.77 327 PKP PKPdf 23 43 02.0 -0.8
SSE PP PP 23 46 18.6 +2.0
SSE PP PP
comp=Z,178nm,4.7s
SSE LR LR
comp=N,826nm,23.8s,MS5.7
SSE LR LR
comp=E,1μm,23.9s,MS5.7
SSE LR LR
comp=Z,2μm,24.3s,MS5.7
SSE Sheshan 143.77 327 PKP PKPdf 23 43 02.1 -0.7
SSE PP PP 23 46 18.6 +2.0
SSE SS SS 00 04 59.7 +2.7
SSE LR LR
comp=Z,2μm,24.3s,MS5.7
KAKA Kakadu 144.04 246 *e*P PKPbc 23 43 00.1 +0.2
comp=Z,43nm,1.0s
NJ2 Nanjing 144.23 331 *e*PKP PKPdf 23 42 58.8 -4.8
NJ2 APKP 23 43 08.0
NJ2 XPKP 23 43 12.0
NJ2 PP PP 23 46 17.0 -2.3
NJ2 PP PP
comp=Z,320nm,8.0s
NJ2 LR LR
comp=N,630nm,30.0s,MS5.5
NJ2 LR LR
comp=E,990nm,32.4s,MS5.5
NJ2 LR LR
comp=Z,620nm,27.1s
LZH Lanzhou 145.18 353 PKP PKPdf 23 43 01.8 -3.4
LZH APKP 23 43 10.0
LZH XPKP 23 43 13.0
LZH PP PP
comp=Z,3μm,8.0s
LZH LR LR
comp=E,4μm,20.0s
LZH LR LR
comp=Z,5μm,21.0s,MS6.3
LZH Lanzhou 145.18 353 PKIKP PKPdf 23 43 01.7 -3.5
LZH *PP 23 43 10.0
LZH 23 46 27.1
LZH MLR MLR
comp=Z,5μm,21.0s,MS6.3
LZH Lanzhou 145.18 353 PKP PKPdf 23 43 01.7 -3.5
LZH pPKP 23 43 10.0
LZH sPKP 23 43 13.0
LZH PP PP 23 46 27.1 +2.2
LZH SKKS 23 53 12.0
LZH SS SS 00 04 58.0 -15
LZH LR LR
comp=Z,5μm,21.0s,MS6.3
AJM Ajmer 145.73 41 *e*PKP PKPdf 23 43 04.7 -1.7
AJM *e* 23 43 07.5
comp=Z,127nm,0.8s
NDI New Delhi 145.76 36 *e*PKP PKPdf 23 43 03.0 -3.4
comp=Z,375nm,1.1s
KNA Kununurra 146.07 239 *e*P PKPbc 23 43 06.7 +1.5
comp=Z,53nm,1.2s
XAN Xi'an 146.22 345 PKP PKPdf 23 43 03.0 -4.0
XAN PP PP
comp=Z,1μm,8.7s
XAN LR LR
comp=N,1μm,23.3s,MS5.7
XAN LR LR
comp=E,1μm,21.6s,MS5.7
XAN LR LR
comp=Z,2μm,20.2s,MS5.8
WHN Wuhan 147.56 335 PKP PKPdf 23 43 08.6 -0.7
WHN LR LR
comp=Z,3μm,22.3s,MS6.0
TATO Taipei 148.07 319 PFAKE 23 43 20.0 +10
TATO LR LR
comp=Z,1μm,21.0s,MS5.8
ENH Enshi 149.60 342 *e*PKPdf PKPdf 23 43 10.6 -2.0
BHPL Bhopal 149.78 42 *e*PKP PKPdf 23 43 13.3 +0.2
BHPL *e* 23 43 19.6
comp=Z,69nm,1.3s
MBWA Marble Bar 149.83 221 *e*PKPdf PKPdf 23 43 12.2 -1.1
MBWA LR LR
comp=Z,3μm,20.0s,MS6.1
KOLN Koldanda 149.86 28 *e*P PKPdf 23 43 11.2 -1.9
comp=Z,724nm,1.5s
QZH Quanzhou 149.92 323 PKP PKPdf 23 43 11.3 -2.0
QZH PP PP 23 46 53.8 +1.1
QZH LR LR
comp=N,640nm,12.8s,MS6.1
QZH LR LR
comp=E,2μm,17.0s,MS6.1
QZH LR LR
comp=Z,5μm,19.8s,MS6.3
POO Poona 149.96 54 *e*PKP PKPdf 23 43 12.2 -1.2
POO *e* 23 43 22.2
comp=Z,95nm,1.1s
GKN Gorkha 150.14 26 *e*P PKPdf 23 43 11.2 -2.3
comp=Z,1μm,1.5s
KKN Kakani 150.60 25 *e*P PKPdf 23 43 11.7 -2.5
comp=Z,229nm,0.9s
DMN Daman 150.68 26 *e*P PKPdf 23 43 11.7 -2.6
comp=Z,229nm,1.1s
LSA Lhasa 150.84 14 PKP PKPdf 23 43 13.4 -1.1
LSA APKP 23 43 22.0
LSA LR LR
comp=N,152nm,13.0s,MS5.3
LSA LR LR
comp=E,351nm,15.0s,MS5.3
LSA LR LR
comp=Z,1μm,17.0s,MS5.8
LSA Lhasa 150.84 14 *e*PKP PKPdf 23 43 13.7 -0.8
PKI Pulchoki 150.85 25 *e*P PKPdf 23 43 12.2 -2.4
comp=Z,260nm,1.2s
KAD Karad 150.86 56 *e*PKP PKPdf 23 43 14.8 -0.1
KAD *e* 23 43 21.5
comp=Z,92nm,1.3s
JIRN Jiri 151.10 24 *e*P PKPdf 23 43 12.8 -2.2
comp=Z,241nm,1.0s
DGAR Diego Garcia 152.06 109 *e*PKIKP PKPdf 23 43 15.4 -1.4
DGAR MLR MLR
comp=Z,950nm,19.0s,MS5.6
DAV Davao City (W) 152.97 283 *e*P PKPab 23 43 31.0 -5.0
MNGI Mangalore 153.38 63 *e*PKP PKPdf 23 43 16.3 -2.3
HYB Hyderabad 154.29 50 *i* PKP PKPdf 23 43 19.0 -0.7
HYB *e*PP PP 23 47 10.0 -7.8
HYB *e*SKKS 23 54 00.0
HYB LR LR 23 54 40.0
comp=Z,6.6nm,22.0s
HYB *e* 23 57 38.0
KMI Kunming 156.12 352 PKIKP PKPdf 23 43 20.2 -1.7
KMI 23 47 25.8
KMI MLR MLR
comp=Z,1μm,31.0s,MS5.6
KMI Kunming 156.12 352 PKP PKPdf 23 43 20.2 -1.7
KMI pPKP 23 43 31.6
KMI PKS PKS 23 46 55.1 +3.2
KMI PP PP 23 47 25.8 -2.0
KMI SS SS 00 07 04.4 -10
KMI SSS SSS 00 12 59.7 -13
KMI LR LR
comp=Z,1μm,31.0s,MS5.6
CAL Calcutta 156.51 26 *e*PKP PKPdf 23 43 21.4 -1.1
PALK Pallekele 160.78 72 PFAKE 23 43 40.0 +12
PALK LR LR
comp=Z,2μm,22.0s
CM31 Chiang Mai Arr 163.02 0 PFAKE 23 43 40.0 +10
CM31 LR LR
comp=Z,3μm,20.0s
CMAR Chiang Mai Arr 163.02 0 PKP PKPdf 23 43 28.1 -1.9
comp=Z,2.6nm,1.0s,baz=306,slow=2.1,SNR=11
CMAR PKPab PKPab 23 44 18.2 -0.8
comp=Z,8.7nm,1.1s,baz=338,slow=5.4,SNR=9.6
COCO West Island 166.35 171 PFAKE 23 43 40.0 +6.8
COCO LR LR
comp=Z,762nm,19.0s

MOS ***24*** *23:26:48.8±0.9, 1.38S×81.00W, h10km, mb5.5/56, MS5.8/7, Error ellipse: s-maj=8.7km s-min=5.5km az=92.1*
BJI ***24*** *23:26:50.3, 1.40S×80.90W, h10km, mB5.7, Ms6.0, Msz5.8*
HRVD ***24*** *23:26:50.3±0.3, 1.65S×80.94W, h31km, MW5.8/65, Centroid moment Tensor Solution. LP body waves: s42,c65;Mantle waves: s65,c122; Half duration: 1±9 Moment tensor: Scale 10^{17}Nm; M_{rr}5.65±.24; $M_{\theta\theta}$-0.44±.14; $M_{\phi\phi}$-5.21±.17; $M_{r\theta}$0.57±.21; $M_{\theta\phi}$-0.22±.11; $M_{\phi r}$-3.09±.24; Best double couple: $M_0$6.274×10^{17} NP1: ϕ_s8°, δ31°, λ100°. NP2:ϕ_s177°, δ60°, λ84°. Principal axes: T 6.52, Plg74°, Azm71°; N -.491, Plg5°, Azm179°; P -6.029, Plg15°, Azm271°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***24*** *23:26:50.3±0.2, 1.40S×80.91W, h10km, mb5.4/104 Error ellipse: s-maj=6.8km s-min=3.8km az=37.0*
IDC ***24*** *23:26:55.9±5.4, 1.38S×80.79W, h51km±48km, mb4.6/18, mb1 4.7/19, mb1mx4.6/23, mbtmp4.8/19, ML5.0/2, Error ellipse: s-maj=24.6km s-min=13.5km az=68.0*
ISC 24 23:26:48.1±2.7, 1.36S±0.04×80.95W±0.03, h4km±16km, n393, σ1§01/342, mb5.3/127, MS5.8/6, 12C-7D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**2.96**	**58**	*e*Pn	**Pn**	**23 27 38.5**	**+1.8**
PAYG	**Puerto Ayora**	**9.36**	**274**	*e*P	**P**	**23 29 06.9**	**+0.2**
BUS	**Buena Vista**	**11.20**	**346**	*e*P	**P**	**23 29 35.8**	**+3.7**
ICR	**Volcan Irazu**	**11.62**	**346**	*e*P	**P**	**23 29 44.0**	**+6.1**
VPS2	**Volcan Poas 2**	**11.93**	**344**	*e*P	**P**	**23 29 44.0**	**+2.0**
JTS	**JuntasAbangare**	**12.24**	**341**	*e*P	**P**	**23 29 47.1**	**+0.9**
JTS				pmax	pmax		
	comp=Z,134nm,1.1s						
JTS	**JuntasAbangare**	**12.24**	**341**	*e*P	**P**	**23 29 47.1**	**+0.9**
	comp=Z,134nm,1.1s						
SDV	**Santo Domingo**	**14.47**	**45**	P	**P**	**23 30 20.2**	**+4.4**
	comp=Z,14nm,0.3s,baz=259,slow=8.3,SNR=27						
LPAZ	**La Paz**	**19.48**	**140**	P	**P**	**23 31 18.1**	**-0.8**
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LPAZ	**La Paz**	**19.48**	**140**	P	**P**	**23 31 18.1**	**-0.8**
	comp=Z,1.4nm,0.3s,baz=307,slow=12,SNR=5.5						
LPAZ	**La Paz**	**19.48**	**140**	*e*P	**P**	**23 31 17.4**	**-1.6**
	comp=Z,81nm,1.0s						
TPP	**Pointe-a-Pierr**	**22.61**	**59**	*e*S	**P**	**23 31 53.1**	**+1.7**
TEIG	**Tepich**	**22.62**	**342**	*e*P	**P**	**23 31 54.1**	**+2.6**
	comp=Z,87nm,1.1s,mb5.1						
TRN	**Trinidad (W)**	**22.81**	**58**	*e*S	**P**	**23 31 54.0**	**+0.5**
TPR	**Prospect**	**23.61**	**58**	*e*S	**P**	**23 32 02.0**	**+0.8**
LVC	**Limon Verde**	**24.15**	**152**	P	**P**	**23 32 07.4**	**+1.1**
	comp=Z,35nm,0.7s,mb4.9,baz=322,slow=8.1,SNR=9.5						
LVC	**Limon Verde**	**24.15**	**152**	*e*P	**P**	**23 32 07.4**	**+1.0**
SJG	**San Juan**	**24.22**	**36**	*e*P	**P**	**23 32 07.3**	**+0.2**
SJG				pmax	pmax		
	comp=Z,450nm,1.2s						
SJG	**San Juan**	**24.22**	**36**	P	**P**	**23 32 07.5**	**+0.4**
	comp=Z,186nm,0.8s,mb5.5,baz=218,slow=5.2,SNR=13						
SJG	**San Juan**	**24.22**	**36**	*e*P	**P**	**23 32 07.3**	**+0.2**
	comp=Z,450nm,1.2s,mb5.8						
BIM	**Bigot**	**25.22**	**51⇑**	*e*P	**P**	**23 32 14.4**	**-2.4**
FDF	**Fort de France**	**25.29**	**50⇑**	*e*P	**P**	**23 32 16.2**	**-1.2**
MVM	**Montagne Vaucl**	**25.38**	**51⇓**	*e*P	**P**	**23 32 17.5**	**-0.7**
CRM	**Caraverle**	**25.49**	**50⇑**	*e*P	**P**	**23 32 17.5**	**-1.7**
BBL	**Barber's Block**	**25.54**	**48**	*e*P	**P**	**23 32 20.1**	**+0.3**
DEG	**La Desirade**	**26.34**	**47**	*e*P	**P**	**23 32 26.0**	**-1.2**
FCH	**Farellones**	**33.34**	**164⇑**	*i*P	**P**	**23 33 28.3**	**-1.1**
CPUP	**Villa Florida**	**33.65**	**140**	P	**P**	**23 33 29.8**	**-2.4**
HBF	**Harts Bluff**	**34.11**	**1**	*e*P	**P**	**23 33 35.5**	**-0.6**
NHSC	**New Hope**	**34.29**	**1**	*e*P	**P**	**23 33 37.5**	**-0.2**
GOGA	**Godfrey**	**34.66**	**356**	*e*P	**P**	**23 33 40.3**	**-0.6**
GOGA				pmax	pmax		
	comp=Z,89nm,1.1s,mb5.6						
GOGA	**Godfrey**	**34.66**	**356**	*e*P	**P**	**23 33 40.3**	**-0.5**
	comp=Z,89nm,1.1s,mb5.6						
LRAL	**Lakeview Retre**	**34.68**	**351**	*e*P	**P**	**23 33 40.8**	**-0.2**
	comp=Z,52nm,1.0s,mb5.4						
NATX	**Nacogdoches**	**35.41**	**340**	P	**P**	**23 33 45.6**	**-1.7**
JSC	**Jenkinsville**	**35.45**	**360**	*e*P	**P**	**23 33 48.1**	**+0.5**
BAO	**Brasilia Array**	**35.46**	**115⇑**	*i*P	**P**	**23 33 47.0**	**-0.8**
JCT	**Junction City**	**36.40**	**332**	*e*P	**P**	**23 33 56.7**	**+1.0**
JCT				pmax	pmax		
	comp=Z,142nm,1.5s,mb5.7						
JCT	**Junction City**	**36.40**	**332**	*e*P	**P**	**23 33 56.7**	**+1.1**
	comp=Z,142nm,1.5s,mb5.7						
OXF	**Oxford**	**36.55**	**348**	*e*P	**P**	**23 33 56.0**	**-0.9**
CPCT	**Cooper Cave**	**36.77**	**355**	*e*P	**P**	**23 33 58.1**	**-0.6**
TXAR	**Lajitas Array**	**37.46**	**326**	PcP	PcP	23 36 22.6	-0.9
	comp=Z,7.1nm,0.8s,baz=153,slow=5.6,SNR=8.1						
UALR	**University of**	**37.50**	**345**	*e*P	**P**	**23 34 02.4**	**-2.4**
CBN	**Corbin**	**39.51**	**4**	*e*P	**P**	**23 34 21.3**	**-0.3**
USIN	**University of**	**39.62**	**352**	*e*P	**P**	**23 34 22.3**	**-0.3**
GDL2	**Guadalupe Moun**	**40.07**	**328**	P	**P**	**23 34 28.2**	**+1.9**
FVM	**French Village**	**40.12**	**348**	*e*P	**P**	**23 34 25.3**	**-1.3**
MNTX	**Cornudas Mount**	**40.22**	**327**	P	**P**	**23 34 28.5**	**+0.9**
PLCA	**Paso Flores**	**40.31**	**168**	P	**P**	**23 34 28.0**	**-0.2**
PLCA				pmax	pmax		
	comp=Z,18nm,0.8s						
PLCA	**Paso Flores**	**40.31**	**168**	P	**P**	**23 34 28.0**	**-0.2**
	comp=Z,18nm,0.8s,mb4.8,baz=346,slow=9.7,SNR=6.9						
PLCA	**Paso Flores**	**40.31**	**168**	*e*P	**P**	**23 34 27.9**	**-0.3**
	comp=Z,178nm,1.7s,mb5.5						
TRQA	**Tornquist**	**40.47**	**157**	*e*P	**P**	**23 34 28.7**	**-0.8**
	comp=Z,130nm,1.3s,mb5.5						
CPRX	**Cap Rock**	**40.47**	**330**	*e*P	**P**	**23 34 31.4**	**+1.8**
BLO	**Bloomington**	**40.66**	**353**	*e*P	**P**	**23 34 30.3**	**-0.8**
BLO				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.0						
BLO	**Bloomington**	**40.66**	**353**	*e*P	**P**	**23 34 30.3**	**-0.8**
	comp=Z,38nm,0.9s,mb5.0						
SLM	**Saint Louis**	**40.71**	**349**	*e*P	**P**	**23 34 29.0**	**-2.5**
AMTX	**Amarillo**	**40.95**	**334**	P	**P**	**23 34 32.9**	**-0.6**
	comp=Z,52nm,0.8s,mb5.2						
MVL	**Millersville**	**41.37**	**5**	*e*P	**P**	**23 34 36.3**	**-0.6**
ACSO	**Alum Creek Sta**	**41.43**	**358**	*e*P	**P**	**23 34 36.9**	**-0.6**
	comp=Z,54nm,0.8s,mb5.2						
KSU1	**Kansas State U**	**42.76**	**342**	*e*P	**P**	**23 34 49.3**	**+0.9**
LPM	**Los Pinos Moun**	**42.90**	**328**	*e*P	**P**	**23 34 55.8**	**+6.2**
LENM	**Lemitar**	**42.97**	**328**	P	**P**	**23 34 49.3**	**-0.8**
LAZ	**Ladron**	**43.24**	**328**	P	**P**	**23 34 53.3**	**+0.9**
ANMO	**Albuquerque**	**43.30**	**329**	P	**P**	**23 34 54.3**	**+1.4**
ANMO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ANMO	**Albuquerque**	**43.30**	**329**	P	**P**	**23 34 54.3**	**+1.5**
	comp=Z,7.1nm,0.7s,mb4.5,baz=158,slow=12,SNR=6.7						
ANMO	**Albuquerque**	**43.30**	**329**	*e*P	**P**	**23 34 53.6**	**+0.8**
	comp=Z,48nm,0.9s,mb5.2						
TUC	**Tucson**	**43.79**	**323**	*e*P	**P**	**23 34 57.1**	**+0.2**
TUC				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.8						
TUC	**Tucson**	**43.79**	**323**	*e*P	**P**	**23 34 57.1**	**+0.2**
	comp=Z,24nm,1.1s,mb4.8						
GENY	**Geneseo**	**44.02**	**3**	P	**P**	**23 34 58.9**	**+0.4**
JFWS	**Jewell Farm**	**44.86**	**350**	*e*P	**P**	**23 35 03.3**	**-2.1**
JFWS				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.1						
JFWS	**Jewell Farm**	**44.86**	**350**	*e*P	**P**	**23 35 03.3**	**-2.0**
	comp=Z,27nm,0.8s,mb5.1						
RCBR	**Riachuelo**	**45.16**	**97**	*e*P	**P**	**23 35 05.9**	**-2.3**
	comp=Z,24nm,0.8s,mb5.1						
MDV	**Middlebury**	**45.69**	**8**	*e*P	**P**	**23 35 11.3**	**-0.6**
SADO	**Sadowa**	**45.95**	**2**	P	**P**	**23 35 12.7**	**-1.3**
	comp=Z,19nm,0.9s,mb5.0,baz=223,slow=8.4,SNR=4.3						
MSNY	**Massena**	**46.47**	**6**	*e*P	**P**	**23 35 16.6**	**-1.5**
ISCO	**Idaho Springs**	**46.77**	**334**	*e*P	**P**	**23 35 21.0**	**+0.5**
ISCO				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
ISCO	**Idaho Springs**	**46.77**	**334**	*e*P	**P**	**23 35 21.0**	**+0.5**
	comp=Z,24nm,1.2s,mb5.0						
PV01	**Paradox Valley**	**46.84**	**330**	*e*P	**P**	**23 35 22.9**	**+1.8**
PV10	**Paradox Valley**	**47.26**	**330**	P	**P**	**23 35 25.4**	**+1.0**
PHWY	**Pilot Hill**	**47.94**	**335**	*e*P	**P**	**23 35 30.6**	**+0.8**
PFO	**Pinyon Flat Ob**	**48.23**	**319**	*e*P	**P**	**23 35 32.4**	**+0.4**
PFO				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.3						
PFO	**Pinyon Flat Ob**	**48.23**	**319**	*e*P	**P**	**23 35 32.4**	**+0.4**
	comp=Z,40nm,1.3s,mb5.3						
NEN	**Nelson**	**48.53**	**323**	*e*P	**P**	**23 35 34.2**	**-0.1**
SRU	**San Rafael**	**48.57**	**329**	*e*P	**P**	**23 35 35.2**	**+0.5**
MVU	**Marysvale**	**49.01**	**327**	*e*P	**P**	**23 35 38.8**	**+0.7**
	comp=Z,25nm,1.0s,mb5.2						
TMUT	**Trail Mountain**	**49.06**	**329**	*e*P	**P**	**23 35 37.7**	**-0.8**
ARUT	**Antelope Range**	**49.18**	**326**	P	**P**	**23 35 42.5**	**+3.2**
MPU	**Maple Canyon**	**49.82**	**329**	*e*P	**P**	**23 35 45.0**	**+0.7**

DAU Daniels Canyon 49.92 330 eP P 23 35 45.2 +0.2
JLU Jordanelle 50.16 330 eP P 23 35 48.0 +1.1
TCUT Toone Canyon 50.53 330 eP P 23 35 49.5 -0.2
NOQ North Oquirrh 50.54 329 eP P 23 35 48.4 -1.3
TRCR Troy Canyon 50.79 325 eP P 23 35 51.8 +0.1
BW06 Boulder Array 50.92 333 eP P 23 35 50.4 -2.2
comp=Z,15nm,1.0s,mb4.9
PDAR Pinedale Array 50.92 333 P P 23 35 53.0 +0.4
comp=Z,4.5nm,0.9s,mb4.4,baz=140,slow=7.0,SNR=5.6
HWUT Hardware Ranch 50.98 331 eP P 23 35 51.6 -1.4
comp=Z,52nm,1.1s,mb5.4
SPUT South Promonto 51.19 330 eP P 23 35 55.1 +0.4
BGU Big Grassy Mou 51.21 329 eP P 23 35 54.4 -0.3
TPH Tonopah 51.56 323 eP P 23 35 58.3 +0.8
TPH pmax pmax
comp=Z,82nm,1.6s,mb5.4
TPH Tonopah 51.56 323 eP P 23 35 58.3 +0.8
comp=Z,82nm,1.6s,mb5.4
AHID Auburn Hatcher 51.63 332 eP P 23 35 58.3 +0.3
comp=Z,118nm,1.6s,mb5.6
HVU Hansel Valley 51.71 330 eP P 23 35 58.7 +0.1
SNOW Snow King Moun 52.01 333 P P 23 35 59.7 -1.2
WUWY Wally Ulrich 52.07 333 eP P 23 35 59.8 -1.5
TPAW Teton Pass 52.12 333 eP P 23 36 01.2 -0.4
MOOW Moose Ponds 52.23 333 eP P 23 36 02.2 -0.3
OMM Old Mammoth Mi 52.35 322 eP P 23 36 04.1 +0.6
IMW Indian Meadow 52.43 333 eP P 23 36 03.6 -0.4
NVAR Mina Array Bea 52.44 323 P P 23 36 05.7 +1.5
comp=Z,4.0nm,0.8s,mb4.4,baz=144,slow=7.8,SNR=5.9
LAO LASA Array 52.75 338 eP P 23 36 06.4 0.0
YFT Old Faithful 52.82 333 P P 23 36 07.1 +0.2
LRV Little Rabbit 52.91 319 P P 23 36 06.7 -0.9
YNR Norris Junctio 52.95 334 P P 23 36 08.2 +0.3
YMR Madison River 53.05 333 P P 23 36 08.5 -0.1
BMN Battle Mountai 53.13 326 eP P 23 36 08.9 -0.4
BMN pmax pmax
comp=Z,91nm,1.4s,mb5.5
BMN Battle Mountai 53.13 326 eP P 23 36 08.9 -0.3
comp=Z,91nm,1.4s,mb5.5
GCMT Greycliff 53.37 335 eP P 23 36 12.5 +1.5
QLMT Earthquake Lak 53.38 333 P P 23 36 10.6 -0.5
SAO San Andreas Ge 53.38 319 P P 23 36 12.1 +0.9
CMB Columbia Colle 53.47 321 eP P 23 36 10.3 -1.5
CMB pmax pmax
comp=Z,21nm,1.2s,mb4.9
CMB Columbia Colle 53.47 321 eP P 23 36 10.3 -1.5
comp=Z,21nm,1.2s,mb4.9
DGMT Dagmar 53.58 341 P P 23 36 11.6 -0.8
comp=Z,51nm,1.0s,mb5.4
HLID Hailey 53.84 330 eP P 23 36 13.2 -1.2
comp=Z,36nm,1.0s,mb5.2
WCN Washoe City 53.87 323 eP P 23 36 14.4 -0.3
MCMT McKenzie Canyo 54.03 332 eP P 23 36 16.0 +0.3
BOZ Bozeman (W) 54.10 334 eP P 23 36 16.9 +0.6
BOZ pmax pmax
comp=Z,53nm,1.0s,mb5.4
BOZ Bozeman (W) 54.10 334 eP P 23 36 16.9 +0.6
comp=Z,53nm,1.0s,mb5.4
USHA Ushuaia 54.28 171 P P 23 36 15.5 -2.0
comp=Z,20nm,0.8s,mb5.1,baz=332,slow=8.3,SNR=5.1
OHCM Honcut 54.94 322 eP P 23 36 23.4 +0.8
NSHM Saint Helena R 55.16 321 P P 23 36 22.7 -1.5
WVOR Wild Horse Val 55.26 327 P P 23 36 22.7 -2.2
WVOR pmax pmax
comp=Z,270nm,1.8s,mb6.0
WVOR Wild Horse Val 55.26 327 P P 23 36 22.7 -2.2
comp=Z,270nm,1.8s,mb6.0
CHMT Chamberlain Mo 55.80 334 P P 23 36 27.3 -1.4
MOD Modoc 55.85 325 P P 23 36 28.5 -0.6
comp=Z,64nm,1.5s,mb5.4
MSO Missoula 56.04 333 eP P 23 36 30.1 -0.3
comp=Z,29nm,1.2s,mb5.2
BMO Blue Mountains 56.21 330 eP P 23 36 29.9 -1.7
comp=Z,19nm,1.1s,mb5.0
WDC Whiskeytown Da 56.34 323 eP P 23 36 29.9 -2.8
WDC pmax pmax
comp=Z,19nm,1.2s,mb5.0
WDC Whiskeytown Da 56.34 323 eP P 23 36 29.9 -2.8
comp=Z,19nm,1.2s,mb5.0
RKT Rikitea 56.64 243 eP P 23 36 35.0 0.0
comp=Z,120nm,1.2s,mb5.8
YBH Yreka Blue Hor 57.14 324 P P 23 36 36.7 -1.7
YBH pmax pmax
comp=Z,7.0nm,0.8s
YBH Yreka Blue Hor 57.14 324 P P 23 36 36.7 -1.7
comp=Z,6.8nm,0.8s,mb4.7,baz=91,slow=7.9,SNR=3.8
YBH Yreka Blue Hor 57.14 324 eP P 23 36 36.2 -2.2
comp=Z,25nm,1.0s,mb5.2
SCHQ Schefferville 57.20 10 P P 23 36 36.7 -1.9
comp=Z,9.6nm,0.9s,mb4.8,baz=207,slow=8.1,SNR=3.6
SCHQ Schefferville 57.20 10 eP P 23 36 34.4 -4.2
comp=Z,44nm,1.1s,mb5.4
BUOR Burton Butte 57.20 324 P P 23 36 42.4 +3.6
KHMM Horse Mountain 57.24 322 eP P 23 36 39.6 +0.4
VIPM Ingram Point 57.71 327 P P 23 36 45.0 +2.6
WALA Waterton Lakes 57.72 335 eP P 23 36 41.9 -0.5
comp=Z,50nm,0.9s,mb5.5
KRMB Red Mountain 57.73 323 eP P 23 36 42.0 -0.5
HUMO Hull Mountain 57.82 324 eP P 23 36 42.8 -0.4
comp=Z,18nm,1.4s,mb4.9
CROR Criterion Ridg 58.22 328 P P 23 36 49.6 +3.7
HBO Huckleberry Mo 58.23 326 P P 23 36 47.7 +1.7
KBO Bosley Butte 58.33 323 eP P 23 36 46.5 -0.2
FFC Flin Flon 58.52 346 eP P 23 36 47.6 -0.3
FFC pmax pmax
comp=Z,61nm,1.1s,mb5.5
FFC Flin Flon 58.52 346 eP P 23 36 47.6 -0.2
comp=Z,62nm,1.1s,mb5.5
NEW Newport 58.55 332 eP P 23 36 46.9 -1.3
NEW pmax pmax
comp=Z,52nm,1.2s
NEW Newport 58.55 332 eP P 23 36 46.9 -1.3
comp=Z,52nm,1.2s,mb5.4
KEBM Edson Butte 58.79 324 P P 23 36 51.0 +1.1
EBG Ellensburg 59.28 329 P P 23 36 57.3 +4.0
TAOE Nuku Hiva Isla 59.37 261 eP P 23 36 56.7 +2.4
EDM Edmonton 60.74 338 eP P 23 37 01.7 -1.5
FCC Fort Churchill 60.84 352 eP P 23 37 01.5 -2.2
PGC Sidney 61.89 329 eP P 23 37 09.8 -1.3
comp=Z,127nm,1.3s,mb5.9
CHIE El Hierro 66.95 59 P P 23 37 43.5 -0.9
comp=Z,151nm,0.8s,mb6.1
EHIG Higuera 67.29 58 P P 23 37 48.4 +1.9
comp=Z,84nm,0.8s,mb5.8
PMOR Pomariorio Ree 67.39 254 eP P 23 37 48.3 +1.0
comp=Z,139nm,1.1s,mb5.9
EGOM La Gomera 67.70 59 P P 23 37 48.9 -0.2
comp=Z,79nm,1.0s,mb5.7
MEH Mehetia 67.83 251 eP P 23 37 50.6 +0.6
comp=Z,74nm,1.1s,mb5.6
CCAN Las Canadas 68.23 59 P P 23 37 52.1 -0.3
comp=Z,27nm,1.6s,mb5.0
EBAJ Bajamar 68.53 59 P P 23 37 54.5 +0.3
comp=Z,143nm,1.8s,mb5.6
YKA Yellowknife Ar 68.56 344 P P 23 37 53.5 -0.3
YKA pmax pmax
comp=Z,8.0nm,0.9s
YKA Yellowknife Ar 68.56 344 P P 23 37 53.5 -0.3
comp=Z,8.1nm,0.9s,mb4.7,baz=137,slow=6.1,SNR=6.7
YKA Yellowknife Ar 68.56 344 P P 23 37 53.5 -0.4
YKW3 Yellowknife Ar 68.62 344 eP P 23 37 52.2 -2.0
TVO Taravao 68.94 252 eP P 23 37 57.8 +0.9
comp=Z,72nm,1.0s,mb5.5
TIAR Tiarei 69.01 252 eP P 23 37 58.3 +1.0
comp=Z,80nm,0.9s,mb5.6
EOSO Osorio 69.10 59 P P 23 37 58.7 +0.9
comp=Z,120nm,1.9s,mb5.5
PPT Papeete 69.23 252 eP P 23 37 59.8 +1.1
comp=Z,123nm,1.5s,mb5.6
PPT eLR LR 23 59 02.4
comp=Z,7μm,24.5s,baz=74
PAE Paea 69.24 252 eP P 23 37 59.7 +0.9
comp=Z,310nm,1.2s,mb6.1
TBI Tubuai 69.76 246 eLR LR 23 59 10.6
comp=Z,5μm,25.8s,baz=78
CFTV Fuerteventura 70.44 59 P P 23 38 05.4 -0.5
comp=Z,21nm,1.0s,mb5.0
EFAM Famara 71.07 59 P P 23 38 09.4 -0.3
comp=Z,172nm,1.9s,mb5.7
DBIC Dimbokro 76.35 83 P P 23 38 39.4 -1.5
DBIC pmax pmax
comp=Z,42nm,1.2s
DBIC Dimbokro 76.35 83 P P 23 38 39.4 -1.6
comp=Z,42nm,1.2s,mb5.2,baz=246,slow=5.6,SNR=12
DBIC Dimbokro 76.35 83 eP P 23 38 39.3 -1.6
comp=Z,58nm,1.0s,mb5.5
RES Resolute Bay 76.40 356 eP P 23 38 38.1 -1.9
RES pmax pmax
comp=Z,83nm,1.9s,mb5.3
RES Resolute Bay 76.40 356 eP P 23 38 38.1 -1.9
comp=Z,83nm,1.9s,mb5.3
PTEO Sao Teotonio 76.81 51 eP P 23 38 44.2 +1.2
EVO Evora 77.56 50 eP P 23 38 46.0 -1.1
comp=Z,24nm,0.8s,mb4.9
PBEJ Beja 77.57 51 eP P 23 38 48.0 +0.8
comp=Z,46nm,1.9s,mb5.1
PALC Alcoutim 77.76 51 eP P 23 38 49.5 +1.3
comp=Z,59nm,2.3s,mb5.1
DAWY Dawson 77.94 337 eP P 23 38 48.2 -0.5
PVIS Viseu 78.10 48 eP P 23 38 51.0 +1.0
comp=Z,81nm,2.0s,mb5.3
INK Inuvik 78.23 342 P P 23 38 51.1 +0.9
INK pmax pmax
comp=Z,26nm,1.0s
INK Inuvik 78.23 342 P P 23 38 51.1 +0.9
comp=Z,26nm,1.0s,mb5.1,baz=140,slow=6.7,SNR=7.4
INK Inuvik 78.23 342 eP P 23 38 50.4 +0.2
PCBR Castelo Branco 78.23 49 eP P 23 38 51.6 +0.8
comp=Z,48nm,1.9s,mb5.1
MTE Manteigas 78.30 48 eP P 23 38 51.5 +0.4
comp=Z,64nm,2.2s,mb5.2
EBAD Badajoz 78.37 50 P P 23 38 57.2 +5.7
comp=Z,1.0nm,0.5s
EINC Incio 78.91 46 P P 23 38 55.0 +0.5
comp=Z,24nm,1.0s,mb5.1
PBRG Braganca 79.18 47 eP P 23 38 56.4 +0.5
comp=Z,84nm,1.8s,mb5.4
EPON Pontenova 79.20 46 P P 23 38 56.0 0.0
comp=Z,24nm,1.1s,mb5.0
ECAL Calabor 79.21 47 P P 23 38 56.7 +0.6
comp=Z,44nm,1.1s,mb5.3
DIV Divide 79.29 333 eP P 23 38 55.4 -0.8
EADA Adamuz 80.14 51 P P 23 39 01.9 +0.7
comp=Z,36nm,2.2s,mb4.9
THY Trims Highway 80.19 336 eP P 23 39 01.1 +0.2
ELOJ Sierra Loja 80.31 52 P P 23 39 03.6 +1.5
ELOJ pmax pmax
comp=Z,14nm,1.0s,mb4.8
ELOJ Sierra Loja 80.31 52 P P 23 39 03.6 +1.5
comp=Z,14nm,1.0s,mb4.9
EARI Arriondas 80.58 46 P P 23 39 03.5 +0.1
comp=Z,3.6nm,0.6s,mb4.5
SML Sawmill 80.69 334 eP P 23 39 02.2 -1.4
ESDC Sonseca Array 80.87 50 P P 23 39 05.1 +0.1
comp=Z,6.6nm,0.8s,mb4.6,baz=278,slow=4.7,SNR=10.0
ESDC Sonseca Array 80.87 50 P P 23 39 05.4 +0.4
comp=Z,16nm,1.0s,mb4.9
ESDC pP pP 23 39 12.6 +6.2
ESLA Sonseca Array 80.87 50 eP P 23 39 05.2 +0.2
comp=Z,149nm,2.3s,mb5.5
GUD Guadarrama 80.88 49 P P 23 39 05.4 +0.3
GUD pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
GUD Guadarrama 80.88 49 P P 23 39 05.4 +0.3
comp=Z,10nm,0.8s,mb4.8
ILAR Eielson Array 81.17 337 P P 23 39 06.4 +0.3
ILAR 23 42 10.7
ILAR pmax pmax
comp=Z,5.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 81.17 337 P P 23 39 06.3 +0.3
comp=Z,4.5nm,0.8s,mb4.4,baz=142,slow=3.1,SNR=6.8
ILAR PP PP 23 42 10.7 -2.9
comp=Z,1.0nm,0.9s,baz=121,slow=5.3,SNR=3.1
EQES Quesada 81.26 52 P P 23 39 09.5 +2.4
comp=Z,31nm,1.3s,mb5.1
DCN Croghan 81.39 36 eP P 23 39 06.8 -0.7
COLA College 81.60 337 eP P 23 39 07.9 -0.4
COLA pmax pmax
comp=Z,17nm,1.1s,mb4.9
COLA College 81.60 337 eP P 23 39 07.9 -0.3
comp=Z,17nm,1.1s,mb4.9
MCK McKinley 81.62 335 eP P 23 39 08.1 -0.4
MCK pmax pmax
comp=Z,19nm,1.0s,mb5.0
MCK McKinley 81.62 335 eP P 23 39 08.1 -0.4
comp=Z,19nm,1.0s,mb5.0
DLF Lyons Farm 81.82 36 eP P 23 39 07.2 -2.5
ELAN Lanestosa 81.84 46 P P 23 39 10.9 +0.9
comp=Z,3.2nm,0.6s,mb4.4
SPU Mount Spurr 82.17 332 eP P 23 39 11.0 -0.3
RSO Redoubt South 82.29 332 eP P 23 39 11.9 0.0
VNA3 Neumayer Olymp 82.76 162⇑i P P 23 39 14.9 +0.7
QUIF Quistinic 82.83 42 eP P 23 39 14.9 -0.1
comp=Z,30nm,0.9s,mb5.0
QUIF Quistinic 82.83 42 eP P 23 39 14.9 -0.1
QUIF pmax pmax
comp=Z,15nm,0.9s,mb5.0
ROSF Rostrenen 82.83 41 eP P 23 39 14.8 -0.2
comp=Z,46nm,1.1s,mb5.1
ROSF Rostrenen 82.83 41 eP P 23 39 14.8 -0.2
ROSF pmax pmax
comp=Z,23nm,1.1s,mb5.1
SGMF Saint Gilles 83.29 41 eP P 23 39 16.3 -1.1
comp=Z,86nm,1.3s,mb5.3
SGMF Saint Gilles 83.29 41 eP P 23 39 16.3 -1.1
SGMF pmax pmax
comp=Z,43nm,1.3s,mb5.3
VNA2 Neumayer--Watz 83.38 161⇑i P 23 39 13.6 -3.8
VNA2 Neumayer--Watz 83.38 161⇑i P 23 39 16.8 -0.6
VNA2 Neumayer--Watz 83.38 161⇑iP P 23 39 16.8 -0.6
SJPF Ste Jean 83.42 46 eP P 23 39 18.6 +0.4
comp=Z,172nm,1.3s,mb5.6
SJPF Ste Jean 83.42 46 eP P 23 39 18.6 +0.4
SJPF pmax pmax
comp=Z,86nm,1.3s,mb5.6
EMOS Mosqueruela 83.62 49 P P 23 39 20.1 +0.8
comp=Z,2.5nm,0.6s,mb4.5
ESAC San Caprasio 83.79 48 P P 23 39 21.5 +1.3
comp=Z,137nm,1.1s,mb6.0
ETSF Etsaut 83.88 47 eP P 23 39 21.0 +0.4
comp=Z,73nm,1.0s,mb5.5
ETSF Etsaut 83.88 47 eP P 23 39 21.0 +0.4
ETSF pmax pmax
comp=Z,36nm,1.0s,mb5.5
IMA Indian Mountai 84.39 337 eP P 23 39 22.2 +0.1
ERTA Horta de San J 84.30 49 P P 23 39 24.9 +2.1
comp=Z,50nm,1.0s,mb5.6
EBIE Bielsa 84.36 47 P P 23 39 23.7 +0.7
comp=Z,35nm,1.1s,mb5.4
GRR Gorron 84.43 41 eP P 23 39 23.0 -0.2
comp=Z,113nm,1.1s,mb5.6
GRR Gorron 84.43 41 eP P 23 39 23.0 -0.2
GRR pmax pmax
comp=Z,56nm,1.1s,mb5.6
EPF Esparros 84.55 47 eP P 23 39 24.2 +0.3
comp=Z,102nm,1.0s,mb5.6
EPF Esparros 84.55 47 eP P 23 39 24.2 +0.3
EPF pmax pmax
comp=Z,51nm,1.0s,mb5.6
MFF Saint Martin d 84.66 43 eP P 23 39 24.3 -0.1
comp=Z,86nm,0.8s,mb5.6
MFF Saint Martin d 84.66 43 eP P 23 39 24.3 -0.1
MFF pmax pmax
comp=Z,43nm,0.8s,mb5.6
FLN La Foliniere 84.73 41 eP P 23 39 24.7 0.0
comp=Z,89nm,1.1s,mb5.5
FLN La Foliniere 84.73 41 eP P 23 39 24.7 0.0
FLN pmax pmax
comp=Z,45nm,1.1s,mb5.5
LDF La Druitiere 84.94 41 eP P 23 39 25.6 -0.1
comp=Z,70nm,1.0s,mb5.4
LDF La Druitiere 84.94 41 eP P 23 39 25.6 -0.1
LDF pmax pmax
comp=Z,35nm,1.0s,mb5.4
SNAA Sanae 84.98 162⇑i P 23 39 16.6 -8.8
SNAA Sanae 84.98 162 eP P 23 39 24.4 -1.0
SNAA pmax pmax
comp=Z,179nm,0.9s
SNAA Sanae 84.98 162 eP P 23 39 24.4 -1.0
comp=Z,179nm,0.9s,mb6.2
LFF La Frestale 85.06 45 eP P 23 39 26.3 -0.1
comp=Z,86nm,0.7s,mb5.7
LFF La Frestale 85.06 45 eP P 23 39 26.3 -0.1
LFF pmax pmax
comp=Z,43nm,0.7s,mb5.7
DAG Danmarks Havn 85.17 12⇓iP P 23 39 26.8 +0.5
DAG pmax pmax
comp=Z,26nm,0.8s,mb5.4
DAG Danmarks Havn 85.17 12⇓iP P 23 39 26.8 +0.5
comp=Z,26nm,0.8s,mb5.4
RJF Les Rejaudoux 85.65 45 eP P 23 39 29.1 -0.3
comp=Z,91nm,0.9s,mb5.7
RJF Les Rejaudoux 85.65 45 eP P 23 39 29.1 -0.3
RJF pmax pmax
comp=Z,46nm,0.9s,mb5.7
MTLF Montolieu 85.95 47 eP P 23 39 30.6 -0.3
comp=Z,36nm,0.8s,mb5.3
MTLF Montolieu 85.95 47 eP P 23 39 30.6 -0.3
MTLF pmax pmax
comp=Z,18nm,0.8s,mb5.3
CAF Calviac 86.00 45 eP P 23 39 30.9 -0.2
comp=Z,67nm,1.2s,mb5.5
CAF Calviac 86.00 45 eP P 23 39 30.9 -0.2
CAF pmax pmax
comp=Z,34nm,1.2s,mb5.5
TCF Toulx Ste Croi 86.24 44 eP P 23 39 31.9 -0.4
comp=Z,42nm,0.8s,mb5.4
TCF Toulx Ste Croi 86.24 44 eP P 23 39 31.9 -0.4
TCF pmax pmax
comp=Z,21nm,0.8s,mb5.4
HYF Humbligny 86.63 43 eP P 23 39 34.2 0.0
BGF Bois d'Agland 86.70 43 eP P 23 39 34.3 -0.2
comp=Z,109nm,1.1s,mb5.7
BGF Bois d'Agland 86.70 43 eP P 23 39 34.3 -0.2
BGF pmax pmax
comp=Z,54nm,1.1s,mb5.7
AVF Avril sur Loir 87.07 43 eP P 23 39 35.7 -0.6
comp=Z,36nm,0.9s,mb5.3
AVF Avril sur Loir 87.07 43 eP P 23 39 35.7 -0.6
AVF pmax pmax
comp=Z,18nm,0.9s,mb5.3
LASF Ste Croix 87.20 46 eP P 23 39 37.1 +0.1
SSF Saint Saulge 87.20 43 eP P 23 39 36.2 -0.7
SSF pmax pmax
comp=Z,20nm,1.0s,mb5.3
SSF Saint Saulge 87.20 43 eP P 23 39 36.2 -0.7
comp=Z,20nm,1.0s,mb5.3
SMF Signal de Mont 87.39 43 eP P 23 39 37.3 -0.6
comp=Z,62nm,1.1s,mb5.4
SMF Signal de Mont 87.39 43 eP P 23 39 37.3 -0.6
SMF pmax pmax
comp=Z,31nm,1.1s,mb5.5
VIVF Saint-Julien-l 87.84 45 eP P 23 39 40.2 +0.1
BAIF Baives 87.92 40 eP P 23 39 40.1 -0.2
comp=Z,26nm,1.0s,mb5.1
BAIF Baives 87.92 40 eP P 23 39 40.1 -0.2
BAIF pmax pmax
comp=Z,13nm,1.0s,mb5.1
GIVF Givet 88.31 40 eP P 23 39 42.4 +0.2
MEZF Maizieres J'vi 88.35 42 eP P 23 39 42.3 -0.1
comp=Z,87nm,1.0s,mb5.7
SMRF Simiane la Rot 88.43 46 eP P 23 39 43.1 +0.2
ORIF Oris-en-Rattie 88.70 45 eP P 23 39 44.5 +0.3
comp=Z,25nm,0.8s,mb5.3
ORIF Oris-en-Rattie 88.70 45 eP P 23 39 44.5 +0.3
ORIF pmax pmax
comp=Z,12nm,0.8s,mb5.3
CABF La Chapelle 88.94 44 eP P 23 39 45.2 -0.1
comp=Z,170nm,1.6s,mb5.8
CABF La Chapelle 88.94 44 eP P 23 39 45.2 -0.1
CABF pmax pmax
comp=Z,85nm,1.6s,mb5.8
LMR La Mourre 89.07 47 eP P 23 39 45.3 -0.7
WLF Walferdange 89.14 40 eP P 23 39 46.4 +0.2
WLF pmax pmax
comp=Z,127nm,1.6s,mb6.0
WLF Walferdange 89.14 40 eP P 23 39 46.4 +0.2
comp=Z,127nm,1.6s,mb6.0
FRF La Foret Royal 89.18 47 eP P 23 39 45.9 -0.6
comp=Z,81nm,1.1s,mb5.7
FRF La Foret Royal 89.18 47 eP P 23 39 45.9 -0.6
FRF pmax pmax
comp=Z,40nm,1.1s,mb5.7
HAU Haudompre 89.19 42 eP P 23 39 46.2 -0.2
comp=Z,60nm,1.3s,mb5.5
HAU Haudompre 89.19 42 eP P 23 39 46.2 -0.2
HAU pmax pmax
comp=Z,30nm,1.3s,mb5.5
MBDF Montbardon 89.32 45 eP P 23 39 47.3 +0.1
comp=Z,54nm,1.2s,mb5.5
MBDF Montbardon 89.32 45 eP P 23 39 47.3 +0.1
MBDF pmax pmax
comp=Z,27nm,1.2s,mb5.5
LPL La Plagne 89.33 45 eP P 23 39 47.6 +0.4
LPG La Plagne 89.34 45 eP P 23 39 48.0 +0.8
HINF Hinteralfeld 89.52 42 eP P 23 39 47.3 -0.7
SBF Sospel 89.77 46 eP P 23 39 48.6 -0.6
CDF Champ du Feu 89.83 42 eP P 23 39 49.2 -0.2
comp=Z,27nm,1.0s,mb5.2
CDF Champ du Feu 89.83 42 eP P 23 39 49.2 -0.2
CDF pmax pmax
comp=Z,13nm,1.0s,mb5.2
TNA Tin City 89.97 335 eP P 23 39 50.0 +0.3
DAVA Damuels 91.56 43⇑iP P 23 39 58.6 +1.2
comp=Z,47nm,1.8s,mb5.5
CLZ Clausthal 91.88 38 eP P 23 39 59.2 +0.4
NB2 NORSAR Subarra 92.23 29 P P 23 39 59.7 -0.5
comp=Z,1.0nm,0.8s,baz=270,slow=4.6
NOA NORSAR Array B 92.23 29 P P 23 39 59.5 -0.7
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 92.23 29 P P 23 39 59.5 -0.7
comp=Z,1.4nm,0.8s,mb4.3,baz=271,slow=4.7,SNR=4.2
GRA1 Grafenberg Arr 92.44 41 eP P 23 40 01.7 +0.3
comp=Z,133nm,2.3s,mb5.9
GRF Grafenberg Arr 92.44 41 eP P 23 40 01.7 +0.3
GRF pmax pmax
comp=Z,133nm,2.3s,mb5.9
GRF MLR MLR
comp=Z,4μm,18.7s,MS5.9
GRF Grafenberg Arr 92.44 41 eP P 23 40 01.7 +0.3
comp=Z,133nm,2.3s,mb5.9
GRF LR LR
comp=Z,4μm,18.7s,MS5.9
MOX Moxa 92.67 40 eP P 23 40 02.9 +0.4
MOX pmax pmax
comp=Z,15nm,1.3s,mb5.3
MOX Moxa 92.67 40 eP P 23 40 02.9 +0.4
comp=Z,15nm,1.3s,mb5.3
MOX Moxa 92.67 40 iP P 23 40 02.9 +0.4
comp=Z,logA/T=1.1,mb5.3
NKC Novy Kostel 93.22 40 eP P 23 40 06.1 +1.1
CLL Collm 93.53 39 P P 23 40 07.7 +1.3
CLL pmax pmax
comp=Z,96nm,2.3s,mb5.8
CLL Collm 93.53 39 P P 23 40 07.7 +1.3
comp=Z,96nm,2.3s,mb5.8
CLL Collm 93.53 39 P P 23 40 07.7 +1.3
comp=Z,logA/T=1.6,mb5.8
WET Wettzell 93.53 41 eP P 23 40 07.4 +0.9
WET pmax pmax
comp=Z,26nm,1.3s,mb5.5
WET Wettzell 93.53 41 eP P 23 40 07.4 +0.9
comp=Z,26nm,1.3s,mb5.5
KBA Koelnbreinsper 93.92 43⇓iP P 23 40 09.2 +0.9
comp=Z,19nm,1.6s,mb5.3
KBA Koelnbreinsper 93.92 43⇓iP P 23 40 09.2 +0.9
KBA pmax pmax
comp=Z,19nm,1.6s,mb5.3
KHC Kasperske Hory 93.99 41 eP P 23 40 09.5 +0.9
GERES GERESS Array B 94.09 41 P P 23 40 09.2 +0.2
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 94.09 41 P P 23 40 09.2 +0.2
comp=Z,3.1nm,0.8s,mb4.8,baz=252,slow=4.2,SNR=9.8
VNDA Vanda 94.38 191 P P 23 40 10.1 +0.3
PVCC Panska Ves 94.56 40 eP P 23 40 12.2 +1.1
PRU Pruhonice 94.58 40 eP P 23 40 12.2 +1.0
UPC Upice 95.48 40 eP P 23 40 16.7 +1.3
KSP Ksiaz 95.63 39 eP P 23 40 17.2 +1.1
KSP Ksiaz 95.63 39 eP P 23 40 17.3 +1.3
DPC Dobruska-Polom 95.69 40 eP P 23 40 17.2 +0.8
ZST Bratislava 96.39 42 eP P 23 40 20.9 +1.3
MORC Moravsky Berou 96.53 40 eP P 23 40 20.3 +0.1
MORC pmax pmax
comp=Z,74nm,1.9s,mb5.8
MORC Moravsky Berou 96.53 40 eP P 23 40 20.3 +0.1
comp=Z,74nm,1.9s,mb5.8
OKC Ostrava-Krasne 96.91 40 eP P 23 40 21.9 0.0
VYHS Vyhne 97.51 41 eP P 23 40 25.6 +1.0
VYHS e 23 43 42.6
OJC Ojcow 97.92 40 eP P 23 40 28.0 +1.6
SYO Syowa Base 99.27 162 ⇓Pdiff P 23 40 30.8 -1.3
SYO Syowa Base 99.27 162 ⇓sPdiff 23 40 35.8

FINES	**FINES Array B**	**99.28**	**28**	P	**P**	**23 40 31.3**	**-1.0**
FINES				pmax	pmax		
comp=Z,3.0nm,0.9s							
FINES	**FINES Array B**	**99.28**	**28**	P	**P**	**23 40 31.3**	**-1.0**
comp=Z,2.8nm,0.9s,mb4.8,baz=297,slow=4.3,SNR=5.4							
APA	**Apatity**	**100.37**	**21**	⇑*eP*	P	23 40 38.2	+1.1
APA				*e*		23 44 51.0	
APA				*e*		23 51 21.0	
APA				*e*S	S	23 52 18.0	+8.0
APA				*e*		23 53 40.0	
APA				MLR	MLR		
comp=Z,2μm,18.0s,MS5.7							
OBN	**Obninsk**	**106.54**	**32**	P	Pdif	23 41 15.6	+11
OBN				*e*		00 04 41.1	
OBN				MLR	MLR		
comp=Z,2μm,18.0s,MS5.6							
ARU	**Arti**	**116.23**	**24**	*i* PKIKP	PKPdf	23 45 30.0	-5.1
ARU				*e*		23 52 39.3	
ARU				*i* PS	PS	23 56 18.3	-2.2
BOD	**Bodaibo**	**122.47**	**351**	*eP*	Pdif	23 42 14.6	-0.2
BVAR	**Borovoye Array**	**123.28**	**20**	PKP	PKPdf	23 45 47.2	-1.5
comp=Z,3.0nm,1.0s,baz=333,slow=3.3,SNR=4.2							
BVAR				PP	PP	23 47 21.4	-10
comp=Z,2.0nm,0.8s,baz=315,slow=8.2,SNR=4.1							
ZAL	**Zalesovo**	**126.29**	**10**	PKIKP	PKPdf	23 45 52.2	-2.3
ZAL				pmax	pmax		
comp=Z,3.0nm,0.6s							
ZAL	**Zalesovo**	**126.29**	**10**	PKP	PKPdf	23 45 52.2	-2.3
comp=Z,2.8nm,0.6s,baz=163,slow=3.8,SNR=4.5							
KURK	**Kurchatov**	**127.86**	**16**	*i* P	Pdif	23 42 32.2	-6.5
STKA	**Stephens Creek**	**127.90**	**227**	PKP	PKPdf	23 45 56.5	-1.8
comp=Z,2.7nm,0.7s,baz=305,slow=6.4,SNR=6.3							
STKA	**Stephens Creek**	**127.90**	**227**	*e*PKP	PKPdf	23 45 56.0	-2.3
MDJ	**Mudanjiang**	**129.16**	**332**	PKP	PKPdf	23 45 58.5	-1.9
MAT	**Matsushiro**	**129.66**	**319**	*eP*	Pdif	23 42 41.0	-6.0
MAT	**Matsushiro**	**129.66**	**319**	PKP	PKPdf	23 45 56.0	-5.6
SONM	**Songino Array**	**133.27**	**353**	PP	PP	23 48 31.1	-5.4
comp=Z,1.8nm,0.9s,baz=358,slow=4.9,SNR=3.6							
AAK	**Ala-Archa**	**133.39**	**25**	*e*PKIKP	PKPdf	23 46 06.9	-1.4
WMQ	**Urumqi**	**136.53**	**12**	PKP	PKPdf	23 46 12.8	-1.2
WMQ				PP	PP	23 48 58.0	+1.1
WMQ				PP	PP		
comp=Z,67nm,11.0s							
WMQ				LR	LR		
comp=N,322nm,25.0s,MS5.1							
WMQ				LR	LR		
comp=E,311nm,27.2s,MS5.1							
WMQ				LR	LR		
comp=Z,649nm,28.9s,MS5.2							
ASAR	**Alice Springs**	**137.97**	**232**	PKP	PKPdf	23 46 15.3	-2.0
comp=Z,2.9nm,0.7s,baz=117,slow=2.3,SNR=6.9							
WRA	**Warramunga Arr**	**139.44**	**237**	PKIKP	PKPdf	23 46 17.9	-2.2
WRA				pmax	pmax		
comp=Z,4.0nm,0.9s							
WRA	**Warramunga Arr**	**139.44**	**237**	PKP	PKPdf	23 46 17.9	-2.2
comp=Z,4.2nm,0.9s,baz=118,slow=1.6,SNR=5.2							
KLP	**Kalpa**	**144.12**	**31**	*e*PKP	PKPdf	23 46 25.4	-2.6
NJ2	**Nanjing**	**144.21**	**331**	*e*PKP	PKPdf	23 46 24.6	-3.6
NJ2				APKP		23 46 35.3	
NJ2				PP	PP	23 49 43.4	-1.0
NJ2				PKS	PKS	23 49 59.0	-1.2
NJ2				SKS	SKS	23 53 29.0	-8.0
NJ2				SKKS		23 56 28.0	
NJ2				PP	PP		
comp=Z,360nm,6.3s							
NJ2				LR	LR		
comp=N,3μm,20.0s,MS6.1							
NJ2				LR	LR		
comp=E,2μm,22.4s,MS6.1							
NJ2				LR	LR		
comp=Z,2μm,21.1s,MS5.8							
KKR	**Kurukshetra**	**144.57**	**34**	*e*PKP	PKPdf	23 46 26.9	-2.0
RTK	**Rohtak**	**145.03**	**36**	*e*PKP	PKPdf	23 46 28.1	-1.6
LZH	**Lanzhou**	**145.16**	**353**	PKP	PKPdf	23 46 28.1	-1.7
LZH				APKP		23 46 34.0	
LZH				XPKP		23 46 36.3	
LZH				LR	LR		
comp=E,4μm,20.0s							
LZH				LR	LR		
comp=Z,5μm,21.0s,MS6.3							
LZH	**Lanzhou**	**145.16**	**353**	PKIKP	PKPdf	23 46 28.1	-1.7
LZH						23 46 34.0	
LZH				MLR	MLR		
comp=Z,5μm,21.0s,MS6.3							
LZH	**Lanzhou**	**145.16**	**353**	PKP	PKPdf	23 46 28.1	-1.7
LZH				pPKP		23 46 34.0	
LZH				sPKP		23 46 36.2	
LZH				LR	LR		
comp=Z,5μm,21.0s,MS6.3							
KHET	**Khetri**	**145.36**	**38**	*e*PKP	PKPdf	23 46 27.7	-2.6
JOSI	**Joshimath**	**145.58**	**31**	*e*PKP	PKPdf	23 46 25.4	-5.2
BHGR	**Bahadurgarh**	**145.59**	**36**	*e*PKP	PKPdf	23 46 30.1	-0.6
KUDL	**Kundal**	**145.72**	**37**	*e*PKP	PKPdf	23 46 30.6	-0.4
AJM	**Ajmer**	**145.73**	**41**	*i* p	PKPbc	23 46 29.0	-0.4
NDI	**New Delhi**	**145.76**	**35**	*e*PKP	PKPdf	23 46 29.5	-1.5
AYAN	**Aya Nagar**	**145.85**	**36**	*e*PKP	PKPdf	23 46 30.6	-0.6
SONA	**Sohna**	**146.00**	**36**	*e*PKP	PKPdf	23 46 30.0	-1.4
AGRA	**Agra**	**147.27**	**36**	*e*PKP	PKPdf	23 46 33.1	-0.5
ENH	**Enshi**	**149.59**	**342**	*e*PKPdf	PKPdf	23 46 36.6	-0.6
LSA	**Lhasa**	**150.83**	**14**	*e*PKP	PKPdf	23 46 39.8	+0.7
LSA	**Lhasa**	**150.83**	**14**	*e*PKIKP	PKPdf	23 46 39.0	-0.1
KAD	**Karad**	**150.86**	**56**	*e*PKP	PKPdf	23 46 43.8	+4.3
MNGI	**Mangalore**	**153.39**	**63**	*i* PKP	PKPdf	23 46 44.0	+0.8
BLSP	**Bilaspur**	**153.59**	**37**	*e*PKP	PKPdf	23 46 38.7	-4.6
HYB	**Hyderabad**	**154.30**	**50**	*i* PKP	PKPdf	23 46 43.5	-0.8
SHL	**Shillong**	**154.96**	**15**	*e*PKP	PKPdf	23 46 44.0	-1.0
SHL				*e*		23 47 08.0	
KMI	**Kunming**	**156.11**	**352**	PKIKP	PKPdf	23 46 45.2	-1.3
KMI						23 46 49.5	
CAL	**Calcutta**	**156.51**	**26**	*e*PKP	PKPdf	23 46 43.6	-3.5
TRD	**Trivandrum**	**156.89**	**71**	*i* PKP	PKPdf	23 46 47.4	-0.5
CMAR	**Chiang Mai Arr**	**163.01**	**0**	PKIKP	PKPdf	23 46 53.7	-0.8
CMAR						23 47 41.6	
CMAR				pmax	pmax		
comp=Z,2.0nm,0.9s							
CMAR				pmax	pmax		
comp=Z,5.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**163.01**	**0**	PKP	PKPdf	23 46 53.7	-0.8
comp=Z,1.7nm,0.9s,baz=295,slow=2.3,SNR=3.5							
CMAR				PKPab	PKPab	23 47 41.5	-2.7
comp=Z,4.9nm,0.9s,baz=342,slow=5.1,SNR=6.8							

*IGQ **24** 23:30:53.9, 1.55S×81.41W, h12km±28km, mb4.9, Error ellipse: s-maj=27.7km s-min=8.8km az=164.2*
ISC 24 23:30:56.0±2.9, 1.6S±0.2×81.4W±0.2, h12km, n23, σ1§06/24, 2C, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.74**	**88**	P	**Pn**	**23 31 39.9**	**-0.8**
CUSU	**Cusua**	**2.90**	**87**	P	**Pn**	**23 31 43.0**	**+0.1**
JUIV	**Juive**	**2.92**	**87**	P	**Pn**	**23 31 42.5**	**-0.7**
ARRY	**Arrayan**	**2.92**	**88**	P	**Pn**	**23 31 42.2**	**-1.1**
RETU	**Refugio**	**2.93**	**87**	P	**Pn**	**23 31 44.3**	**+0.9**
RETU				S	**Sn**	**23 32 18.8**	**-0.1**
PATA	**Patacocha**	**2.94**	**88**	P	**Pn**	**23 31 43.7**	**+0.1**
RUN2	**Runtun**	**2.97**	**87**	P	**Pn**	**23 31 43.9**	**0.0**
ULBA	**Ulba**	**2.97**	**87**	P	**Pn**	**23 31 44.1**	**+0.2**
MARY	**Rancho Maria**	**3.01**	**74**	P	**Pn**	**23 31 46.4**	**+1.8**
PISA	**Pisayambo**	**3.04**	**80**	⇑P	**Pn**	**23 31 44.6**	**-0.3**
NAS1	**Nasa**	**3.05**	**72**	P	**Pn**	**23 31 44.6**	**-0.5**
JUA2	**San Juan 2**	**3.09**	**64**	P	**Pn**	**23 31 44.3**	**-1.4**
TERV	**Terraza Guagua**	**3.11**	**63**	P	**Pn**	**23 31 45.8**	**-0.2**
PINO	**Pino**	**3.12**	**63**	P	**Pn**	**23 31 44.7**	**-1.3**
VC1	**Cotopaxi 1**	**3.12**	**72**	P	**Pn**	**23 31 46.4**	**+0.3**
TAMB	**Tambo**	**3.14**	**73**	P	**Pn**	**23 31 48.5**	**+2.1**
JOR1	**San Jorge 1**	**3.16**	**60**	P	**Pn**	**23 31 44.3**	**-2.4**
YANA	**Yana**	**3.17**	**62**	P	**Pn**	**23 31 45.4**	**-1.4**
ANTI	**Antisana**	**3.41**	**71**	P	**Pn**	**23 31 49.9**	**-0.3**
COTA	**Cotacachi**	**3.59**	**58**	P	**Pn**	**23 31 53.9**	**+1.1**
CAYR	**Refugio Cayamb**	**3.73**	**65**	⇑P	**Pn**	**23 31 56.2**	**+1.5**
CAYA	**Cayambe**	**3.77**	**64**	P	**Pn**	**23 31 56.0**	**+0.7**
CONE	**Cono NE Rev Vo**	**4.03**	**68**	P	**Pn**	**23 32 00.6**	**+1.6**

IGQ 24 23:33:09.2, 1.75S×82.13W, h12km, mb4.7, Error ellipse: s-maj=26.2km s-min=7.9km az=165.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**3.50**	**86**	P	Pn	23 34 05.5	+0.8
CUSU	**Cusua**	**3.66**	**85**	P	Pn	23 34 08.4	+1.4
JUIV	**Juive**	**3.68**	**85**	P	Pn	23 34 07.9	+0.7
ARRY	**Arrayan**	**3.68**	**86**	P	Pn	23 34 07.7	+0.5
RETU	**Refugio**	**3.70**	**86**	P	Pn	23 34 09.0	+1.6
PATA	**Patacocha**	**3.71**	**86**	P	Pn	23 34 09.1	+1.5
RUN2	**Runtun**	**3.73**	**85**	P	Pn	23 34 09.4	+1.5
ULBA	**Ulba**	**3.73**	**86**	P	Pn	23 34 09.3	+1.3
MARY	**Rancho Maria**	**3.78**	**75**	P	Pn	23 34 09.7	+1.0
PISA	**Pisayambo**	**3.81**	**80**	P	Pn	23 34 10.5	+1.4
NAS1	**Nasa**	**3.82**	**73**	P	Pn	23 34 10.0	+0.8
JUA2	**San Juan 2**	**3.84**	**67**	P	Pn	23 34 09.7	+0.2
TERV	**Terraza Guagua**	**3.86**	**66**	P	Pn	23 34 11.2	+1.4
PINO	**Pino**	**3.86**	**66**	P	Pn	23 34 09.9	+0.1
PINO	**Pino**	**3.86**	**66**	P	Pn	23 34 11.9	+2.1
GGP	**Refugio Guagua**	**3.87**	**66**	P	Pn	23 34 10.7	+0.8
VC1	**Cotopaxi 1**	**3.89**	**74**	P	Pn	23 34 11.6	+1.5
JOR1	**San Jorge 1**	**3.90**	**64**	P	Pn	23 34 10.3	-0.1
TAMB	**Tambo**	**3.91**	**75**	P	Pn	23 34 11.7	+1.3
YANA	**Yana**	**3.91**	**66**	P	Pn	23 34 10.4	-0.1
ANTI	**Antisana**	**4.17**	**72**	P	Pn	23 34 16.2	+2.0
COTA	**Cotacachi**	**4.32**	**61**	P	Pn	23 34 18.1	+1.8
CAYR	**Refugio Cayamb**	**4.48**	**67**	P	Pn	23 34 21.5	+2.9
CAYA	**Cayambe**	**4.52**	**66**	P	Pn	23 34 21.3	+2.2

*IGQ **24** 23:37:43.8, 1.62S×82.10W, h12km±16km, mb4.9, Error ellipse: s-maj=16.3km s-min=9.7km az=168.4*
*IDC **24** 23:37:58.1±15.0, 1.56S×80.58W, mb3.9/5, mb1 4.2/6, mb1mx3.8/19, mbtmp4.0/6, ML4.0/1, Error ellipse: s-maj=328.8km s-min=51.1km az=174.0*
*NEIC **24** 23:37:59.5±0.7, 1.56S×80.72W, h10km, mb3.7/3, Error ellipse: s-maj=15.9km s-min=12.6km az=214.0*
ISC 24 23:37:58.7±0.8, 1.6S±0.1×81.08W±0.05, h10km, n34, σ1§07/36, mb3.8/8, 3C-3D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.44**	**87**	P	**Pn**	**23 38 38.8**	**-0.6**
CUSU	**Cusua**	**2.61**	**86**	P	**Pn**	**23 38 42.3**	**+0.6**
JUIV	**Juive**	**2.62**	**86**	P	**Pn**	**23 38 42.6**	**+0.7**
JUIV				S	**Sn**	**23 39 25.4**	**+11**
ARRY	**Arrayan**	**2.63**	**87**	⇓P	**Pn**	**23 38 41.2**	**-0.8**
RETU	**Refugio**	**2.64**	**86**	⇑P	**Pn**	**23 38 43.1**	**+1.0**
PATA	**Patacocha**	**2.65**	**87**	P	**Pn**	**23 38 42.5**	**+0.3**
RUN2	**Runtun**	**2.67**	**86**	P	**Pn**	**23 38 42.4**	**-0.3**
ULBA	**Ulba**	**2.68**	**86**	⇓P	**Pn**	**23 38 43.0**	**+0.3**
MARY	**Rancho Maria**	**2.74**	**71**	P	**Pn**	**23 38 43.6**	**0.0**
PISA	**Pisayambo**	**2.75**	**78**	P	**Pn**	**23 38 44.0**	**+0.2**
NAS1	**Nasa**	**2.79**	**69**	P	**Pn**	**23 38 43.9**	**-0.3**
JUA2	**San Juan 2**	**2.85**	**60**	P	**Pn**	**23 38 43.3**	**-1.8**
VC1	**Cotopaxi 1**	**2.85**	**70**	P	**Pn**	**23 38 45.4**	**+0.3**
TAMB	**Tambo**	**2.87**	**71**	P	**Pn**	**23 38 46.5**	**+1.1**
TERV	**Terraza Guagua**	**2.87**	**60**	P	**Pn**	**23 38 44.4**	**-1.0**
PINO	**Pino**	**2.87**	**59**	⇑P	**Pn**	**23 38 44.3**	**-1.2**
YANA	**Yana**	**2.92**	**59**	P	**Pn**	**23 38 44.8**	**-1.4**
YANA				S	**Sn**	**23 39 26.7**	**+5.0**
ANTI	**Antisana**	**3.15**	**68**	P	**Pn**	**23 38 49.5**	**+0.2**
OTAV	**Otavalo**	**3.22**	**55**	P	**Pn**	**23 38 46.0**	**-4.3**
CAYR	**Refugio Cayamb**	**3.48**	**62**	⇓P	**Pn**	**23 38 54.8**	**+0.7**
CAYA	**Cayambe**	**3.52**	**61**	⇑P	**Pn**	**23 38 54.9**	**+0.2**
CONE	**Cono NE Rev Vo**	**3.77**	**66**	P	**Pn**	**23 39 01.2**	**+3.0**
SDV	**Santo Domingo**	**14.75**	**45**	Pn	**P**	**23 41 31.7**	**+2.3**
0.6nm,0.3s,baz=65,slow=11,SNR=3.6							
LVC	**Limon Verde**	**23.98**	**151**	P	**P**	**23 43 13.7**	**-0.8**
SJG	**San Juan**	**24.51**	**36**	P	**P**	**23 43 17.0**	**-2.7**
5.8nm,0.5s,mb4.4,baz=198,slow=19,SNR=2.9							
WMOK	**Wichita Mounta**	**39.80**	**337**	*eP*	**P**	**23 45 33.0**	**-0.8**
0.8nm,0.6s,mb3.6							
MNTX	**Cornudas Mount**	**40.38**	**327**	*eP*	**P**	**23 45 39.6**	**+1.0**
1.1nm,0.8s,mb3.6							
ANMO	**Albuquerque**	**43.47**	**329**	P	**P**	**23 46 04.9**	**+1.0**
1.3nm,0.8s,mb3.7,baz=132,slow=8.8,SNR=4.7							
SDCO	**Great Sand Dun**	**45.23**	**333**	*eP*	**P**	**23 46 18.3**	**+0.2**
1.7nm,0.7s,mb4.0							
BW06	**Boulder Array**	**51.10**	**333**	P	**P**	**23 47 02.6**	**-1.1**
PDAR	**Pinedale Array**	**51.10**	**333**	P	**P**	**23 47 03.6**	**-0.1**
0.4nm,0.7s,mb3.5,baz=143,slow=4.5,SNR=3.2							
NVAR	**Mina Array Bea**	**52.58**	**323**	P	**P**	**23 47 17.1**	**+2.1**
0.6nm,0.5s,mb3.8,baz=130,slow=7.0,SNR=3.2							
YKA	**Yellowknife Ar**	**68.78**	**344**	P	**P**	**23 49 03.7**	**-1.2**
1.3nm,0.9s,mb3.9,baz=136,slow=6.3,SNR=11							
YKA	**Yellowknife Ar**	**68.78**	**344**	P	**P**	**23 49 03.7**	**-1.2**

*IDC **24** 23:38:25.9±9.2, 3.66S×80.32W, mb4.2/5, mb1 4.5/6, mb1mx4.0/18, mbtmp4.3/6, ML4.2/1, Error ellipse: s-maj=209.0km s-min=52.0km az=170.0*
*NEIC **24** 23:38:30.1±2.3, 3.56S×79.89W, h36km±28km, mb3.7/2, Error ellipse: s-maj=44.5km s-min=12.8km az=79.0*
ISC 24 23:38:27.9±0.8, 3.66S±0.10×80.1W±0.2, h33km, n11, σ1§23/11, mb4.0/7, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**4.21**	**23**	*eP*	**P**	**23 39 30.2**	**-1.3**
NNA	**Nana**	**8.88**	**159**	P	**P**	**23 40 36.7**	**-0.1**
SDV	**Santo Domingo**	**15.64**	**37**	Pn	**P**	**23 42 13.9**	**+6.3**
0.9nm,0.3s,baz=298,slow=9.5,SNR=5.1							
LPAZ	**La Paz**	**17.20**	**138**	P	**P**	**23 42 26.9**	**-0.5**
SJG	**San Juan**	**25.64**	**32**	P	**P**	**23 43 59.0**	**+2.5**
8.0nm,0.3s,mb4.7,baz=320,slow=22,SNR=4.0							
WMOK	**Wichita Mounta**	**42.05**	**337**	*eP*	**P**	**23 46 17.4**	**-0.9**
1.0nm,0.6s,mb3.6							
MNTX	**Cornudas Mount**	**42.61**	**327**	*eP*	**P**	**23 46 21.8**	**-1.2**
0.8nm,0.6s,mb3.6							
ANMO	**Albuquerque**	**45.70**	**329**	P	**P**	**23 46 48.1**	**+0.2**
1.4nm,0.6s,mb4.0,baz=162,slow=6.5,SNR=4.0							
NVAR	**Mina Array Bea**	**54.79**	**324**	P	**P**	**23 47 57.8**	**+0.8**
1.0nm,0.8s,mb3.9,baz=130,slow=7.0,SNR=3.6							
YKA	**Yellowknife Ar**	**71.00**	**344**	P	**P**	**23 49 43.1**	**-1.0**
2.8nm,1.0s,mb4.2,baz=144,slow=5.9,SNR=3.7							
ILAR	**Eielson Array**	**83.61**	**337**	P	**P**	**23 50 56.2**	**+2.2**
0.8nm,1.0s,mb3.8,baz=127,slow=4.5,SNR=3.2							

IGQ 24 23:42:43.1, 1.52S×81.15W, h4km±10km, mb4.1, 1C-3D, Error ellipse: s-maj=22.7km s-min=6.8km az=173.3, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.76**	**52**	P	Pg	23 42 56.7	-1.5
IGUA	**Igualata**	**2.51**	**89**	⇓P	Pn	23 43 26.5	+1.2
IGUA				S	Sn	23 43 58.5	+1.8
JUIV	**Juive**	**2.68**	**88**	P	Pn	23 43 29.8	+1.9
ARRY	**Arrayan**	**2.69**	**90**	⇓P	Pn	23 43 29.3	+1.4
ARRY				S	Sn	23 44 02.0	+0.6
RUN2	**Runtun**	**2.73**	**88**	P	Pn	23 43 30.2	+1.6
ULBA	**Ulba**	**2.74**	**89**	P	Pn	23 43 30.3	+1.7
PISA	**Pisayambo**	**2.80**	**81**	P	Pn	23 43 31.1	+1.6
NAS1	**Nasa**	**2.81**	**72**	P	Pn	23 43 31.8	+2.1
JUA2	**San Juan 2**	**2.85**	**63**	P	Pn	23 43 31.0	+0.8
TERV	**Terraza Guagua**	**2.87**	**62**	P	Pn	23 43 32.3	+1.8
PINO	**Pino**	**2.88**	**62**	P	Pn	23 43 31.1	+0.5
PINO				S	Sn	23 44 08.2	+2.2
VC1	**Cotopaxi 1**	**2.88**	**72**	P	Pn	23 43 33.5	+2.9
YANA	**Yana**	**2.92**	**62**	P	Pn	23 43 31.7	+0.4
ANTI	**Antisana**	**3.17**	**71**	⇓P	Pn	23 43 37.2	+2.4
COTA	**Cotacachi**	**3.36**	**57**	P	Pn	23 43 38.4	+1.0
CAYR	**Refugio Cayamb**	**3.49**	**64**	⇑P	Pn	23 43 42.4	+3.1
CAYA	**Cayambe**	**3.53**	**63**	P	Pn	23 43 42.5	+2.6

*IDC **24** 23:42:57.0±1.4, 9.21N×92.88E, mb3.7/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, ML4.2/1, Error ellipse: s-maj=46.3km s-min=22.7km az=56.0*
*NEIC **24** 23:42:59.8±3.2, 9.18N×92.77E, h21km±24km, mb4.3/3, Error ellipse: s-maj=12.0km s-min=10.5km az=158.0*
ISC 24 23:42:59.2±0.7, 9.21N±0.10×92.77E±0.10, h33km, n12, σ0§78/12, mb3.9/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**10.97**	**32**	P	**P**	**23 45 36.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**10.97**	**32**	Pn	**P**	**23 45 36.5**	**-0.5**
0.6nm,0.3s,baz=207,slow=8.1,SNR=5.9							
PALK	**Pallekele**	**12.10**	**262**	P	**P**	**23 45 50.7**	**-1.6**
ENH	**Enshi**	**26.13**	**34**	P	**P**	**23 48 32.1**	**-0.2**
8.3nm,0.7s,mb4.4							
AAK	**Ala-Archa**	**36.95**	**337**	P	**P**	**23 50 06.9**	**-0.2**
SONM	**Songino Array**	**40.18**	**14**	P	**P**	**23 50 33.8**	**-0.1**
1.5nm,1.0s,mb3.7,baz=198,slow=5.6,SNR=4.1							
BVAR	**Borovoye Array**	**47.30**	**342**	P	**P**	**23 51 32.1**	**+0.8**
0.2nm,0.4s,mb3.4,baz=139,slow=15,SNR=2.4							
CHKZ	**Chkalovo**	**47.79**	**342**	*eP*	**P**	**23 51 35.9**	**+0.6**
1.4nm,0.5s,mb4.2							
WRA	**Warramunga Arr**	**50.13**	**126**	P	**P**	**23 51 54.0**	**+0.2**
1.1nm,0.8s,mb3.9,baz=303,slow=8.8,SNR=4.2							
WRAB	**Tennant Creek**	**50.14**	**126**	P	**P**	**23 51 54.0**	**+0.2**
2.4nm,0.7s,mb4.3							
ASAR	**Alice Springs**	**51.80**	**130**	P	**P**	**23 52 06.2**	**-0.1**
0.4nm,0.5s,mb3.6,baz=306,slow=7.0,SNR=4.8							
BRTR	**Keskin Array B**	**60.54**	**311**	P	**P**	**23 53 10.5**	**+1.7**
1.0nm,0.9s,mb4.0,baz=126,slow=5.5,SNR=4.5							

IGQ 24 23:46:42.3, 1.44S×81.32W, h12km±10km, mb4.1, 1C-2D, Error ellipse: s-maj=13.2km s-min=7.2km az=168.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.87**	**63**	P	Pb	23 46 57.7	-1.1
IGUA	**Igualata**	**2.68**	**91**	P	Pn	23 47 27.0	+0.8
IGUA				S	Sn	23 48 01.5	+2.6
CUSU	**Cusua**	**2.84**	**90**	P	Pn	23 47 30.7	+2.3
JUIV	**Juive**	**2.86**	**90**	P	Pn	23 47 30.2	+1.6
ARRY	**Arrayan**	**2.87**	**91**	⇑P	Pn	23 47 29.4	+0.6
ARRY				S	Sn	23 48 01.9	-1.6
RETU	**Refugio**	**2.88**	**90**	P	Pn	23 47 31.0	+2.1
PATA	**Patacocha**	**2.89**	**91**	P	Pn	23 47 30.9	+1.8
RUN2	**Runtun**	**2.91**	**90**	P	Pn	23 47 31.0	+1.6
ULBA	**Ulba**	**2.91**	**90**	P	Pn	23 47 30.7	+1.3
NAS1	**Nasa**	**2.96**	**74**	P	Pn	23 47 31.3	+1.3
PISA	**Pisayambo**	**2.96**	**83**	P	Pn	23 47 31.6	+1.5
JUA2	**San Juan 2**	**2.98**	**66**	P	Pn	23 47 31.5	+1.2
PINO	**Pino**	**3.00**	**65**	P	Pn	23 47 31.4	+0.8
VC1	**Cotopaxi 1**	**3.02**	**75**	P	Pn	23 47 33.2	+2.2
TAMB	**Tambo**	**3.04**	**76**	P	Pn	23 47 34.5	+3.2
YANA	**Yana**	**3.05**	**65**	⇓P	Pn	23 47 32.1	+0.8
ANTI	**Antisana**	**3.31**	**73**	P	Pn	23 47 37.4	+2.4
COTA	**Cotacachi**	**3.47**	**59**	P	Pn	23 47 38.7	+1.4
CAYR	**Refugio Cayamb**	**3.62**	**66**	P	Pn	23 47 42.8	+3.4
CAYA	**Cayambe**	**3.65**	**66**	⇓P	Pn	23 47 43.0	+3.0
CAYA				S	Sn	23 48 29.8	+6.3
CONE	**Cono NE Rev Vo**	**3.92**	**70**	P	Pn	23 47 49.2	+5.5

IGQ 24 23:49:40.8, 1.36S×81.12W, h12km±29km, mb4.2, 5D, Error ellipse: s-maj=29.3km s-min=6.7km az=167.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.48**	**93**	P	Pn	23 50 22.3	+0.6
CUSU	**Cusua**	**2.64**	**92**	P	Pn	23 50 26.3	+2.4
JUIV	**Juive**	**2.66**	**91**	P	Pn	23 50 25.3	+1.1
ARRY	**Arrayan**	**2.67**	**93**	P	Pn	23 50 25.5	+1.1
ARRY				S	Sn	23 50 57.8	+0.9
RETU	**Refugio**	**2.67**	**92**	P	Pn	23 50 26.6	+2.1
RETU				S	Sn	23 50 58.8	+1.8
PATA	**Patacocha**	**2.69**	**93**	P	Pn	23 50 26.7	+2.0
PATA				S	Sn	23 50 57.4	0.0
MARY	**Rancho Maria**	**2.71**	**77**	P	Pn	23 50 27.4	+2.5
RUN2	**Runtun**	**2.71**	**91**	P	Pn	23 50 26.4	+1.4
ULBA	**Ulba**	**2.71**	**92**	P	Pn	23 50 26.5	+1.5
NAS1	**Nasa**	**2.74**	**75**	P	Pn	23 50 27.7	+2.3
PISA	**Pisayambo**	**2.75**	**84**	P	Pn	23 50 28.1	+2.6
PISA				S	Sn	23 51 04.8	+5.8
JUA2	**San Juan 2**	**2.76**	**66**	P	Pn	23 50 26.9	+1.3
TERV	**Terraza Guagua**	**2.78**	**65**	P	Pn	23

CPRX	Cap Rock	40.48	330	*e*P		P	00 07 10.2 -0.4
AMTX	Amarillo	40.97	334	*e*P		P	00 07 14.5 -0.1
ACSO	Alum Creek Sta	41.51	358	*e*P		P	00 07 17.6 -1.5
	7.9nm,0.3s,mb4.8						
LAZ	Ladron	43.24	328	*e*P		P	00 07 33.1 -0.2
ANMO	Albuquerque	43.31	329	P		P	00 07 36.0 +2.1
	4.9nm,0.9s,mb4.2,baz=161,slow=8.2,SNR=4.2						
SDCO	Great Sand Dun	45.06	332	*e*P		P	00 07 49.7 +1.7
	9.2nm,0.9s,mb4.6						
RW3	Ridgway	46.50	331	*e*P		P	00 07 58.8 -0.5
PV10	Paradox Valley	47.27	330	*e*P		P	00 08 06.1 +0.6
MSU	Marysvale	49.00	328	*e*P		P	00 08 18.1 -0.7
ARUT	Antelope Range	49.17	326	*e*P		P	00 08 19.0 -1.2
DAU	Daniels Canyon	49.93	330	*e*P		P	00 08 28.3 +2.3
JLU	Jordanelle	50.17	330	*e*P		P	00 08 29.0 +1.2
TCUT	Toone Canyon	50.54	330	P		P	00 08 32.2 +1.5
BW06	Boulder Array	50.94	333	*e*P		P	00 08 34.1 +0.5
	10nm,1.7s,mb4.5						
PDAR	Pinedale Array	50.94	333	P		P	00 08 34.6 +1.0
	0.7nm,0.9s,mb3.6,baz=153,slow=10,SNR=3.8						
HWUT	Hardware Ranch	50.98	331	*e*P		P	00 08 35.0 +1.0
	14nm,1.3s,mb4.7						
MNV	Mina	52.34	323	P		P	00 08 44.1 -0.2
	4.8nm,0.9s,mb4.4						
NVAR	Mina Array Bea	52.43	323	P		P	00 08 47.2 +2.2
	2.8nm,0.9s,mb4.2,baz=130,slow=7.5,SNR=12						
NVAR	Mina Array Bea	52.43	323	P		P	00 08 47.2 +2.2
IMW	Indian Meadow	52.45	333	*e*P		P	00 08 45.5 +0.5
QLMT	Earthquake Lak	53.39	333	*e*P		P	00 08 51.0 -1.1
HLID	Hailey	53.84	330	*e*P		P	00 08 55.3 -0.1
	3.7nm,0.9s,mb4.3						
OHCM	Honcut	54.93	322	*e*P		P	00 09 03.8 +0.3
YBH	Yreka Blue Hor	57.13	324	P		P	00 09 19.3 0.0
	0.7nm,0.4s,mb4.0,baz=104,slow=6.5,SNR=3.5						
FFC	Flin Flon	58.57	346	*e*P		P	00 09 28.4 -0.7
	56nm,1.9s,mb5.3						
EDM	Edmonton	60.77	338	*e*P		P	00 09 43.3 -0.9
EDM				*e*pP		pP	00 09 47.7 -1.1
FCC	Fort Churchill	60.90	352	*e*P		P	00 09 43.2 -1.8
	10nm,1.1s,mb4.9						
FCC				*e*pP		pP	00 09 47.8 -1.9
YKA	Yellowknife Ar	68.60	344	P		P	00 10 34.2 -0.7
	1.9nm,0.9s,mb4.0,baz=136,slow=5.8,SNR=25						
YKA	Yellowknife Ar	68.60	344	P		P	00 10 34.2 -0.8
DBIC	Dimbokro	76.49	83	P		P	00 11 19.8 -2.7
	7.8nm,0.9s,mb4.6,baz=272,slow=7.3,SNR=9.5						
DAWY	Dawson	77.97	338	*e*P		P	00 11 29.7 0.0
DAWY				*e*pP		pP	00 11 34.6 +0.3
INK	Inuvik	78.27	342	P		P	00 11 31.6 +0.3
	2.8nm,1.0s,mb4.1,baz=161,slow=4.3,SNR=7.1						
ESDC	Sonseca Array	81.01	50	P		P	00 11 45.3 -1.3
	3.7nm,1.1s,mb4.2,baz=270,slow=4.8,SNR=6.2						
ILAR	Eielson Array	81.20	337	P		P	00 11 47.0 0.0
	1.2nm,1.1s,mb3.8,baz=152,slow=3.3,SNR=6.4						
SGMF	Saint Gilles	83.43	41	*e*P		P	00 11 57.6 -1.4
	26nm,0.8s,mb5.0						
SJPF	Ste Jean	83.57	47	*e*P		P	00 11 59.9 +0.1
	22nm,0.9s,mb5.0						
ETSF	Etsaut	84.02	47	*e*P		P	00 12 02.3 +0.1
IMA	Indian Mountai	84.31	337	*e*P		P	00 12 03.0 0.0
GRR	Gorron	84.57	41	*e*P		P	00 12 04.3 -0.4
	17nm,0.8s,mb5.0						
GRR	Gorron	84.57	41	*e*P		P	00 12 04.3 -0.4
EPF	Esparros	84.69	47	*e*P		P	00 12 05.6 +0.1
	42nm,1.2s,mb5.1						
MFF	Saint Martin d	84.80	43	*e*P		P	00 12 05.7 -0.3
	44nm,1.0s,mb5.2						
LDF	La Druitiere	85.08	41	*e*P		P	00 12 07.0 -0.3
	44nm,1.1s,mb5.2						
LFF	La Frestale	85.21	45	*e*P		P	00 12 07.7 -0.3
	33nm,0.8s,mb5.2						
DAG	Danmarks Havn	85.28	12⇑	*i*P		P	00 12 07.9 +0.2
	4.5nm,0.8s,mb4.7						
RJF	Les Rejaudoux	85.80	45	*e*P		P	00 12 10.6 -0.4
	13nm,0.7s,mb5.0						
MTLF	Montolieu	86.09	47	*e*P		P	00 12 12.1 -0.4
	15nm,0.9s,mb4.9						
CAF	Calviac	86.14	45	*e*P		P	00 12 12.2 -0.5
	30nm,1.1s,mb5.1						
TCF	Toulx Ste Croi	86.38	44	*e*P		P	00 12 13.3 -0.5
	10nm,0.9s,mb4.8						
BGF	Bois d'Agland	86.85	43	*e*P		P	00 12 15.6 -0.5
	89nm,1.4s,mb5.5						
AVF	Avril sur Loir	87.22	43	*e*P		P	00 12 17.1 -0.8
	24nm,1.0s,mb5.1						
SSF	Saint Saulge	87.34	43	*e*P		P	00 12 17.7 -0.8
SMF	Signal de Mont	87.54	43	*e*P		P	00 12 18.8 -0.6
	11nm,0.8s,mb4.8						
BAIF	Baives	88.06	40	*e*P		P	00 12 21.2 -0.6
GIVF	Givet	88.46	40	*e*P		P	00 12 23.7 0.0
MEZF	Maizieres J'vi	88.49	42	*e*P		P	00 12 23.7 -0.2
	17nm,0.9s,mb5.0						
QSPA	South Pole Qui	88.62	180⇓	*i*P		P	00 12 24.9 +1.0
	17nm,1.1s,mb5.3						
CABF	La Chapelle	89.08	44	*e*P		P	00 12 26.7 -0.1
HAU	Haudompre	89.33	42	*e*P		P	00 12 27.5 -0.4
HINF	Hinteralfeld	89.66	42	*e*P		P	00 12 28.8 -0.7
CDF	Champ du Feu	89.97	42	*e*P		P	00 12 30.6 -0.3
	5.2nm,0.8s,mb4.6						
GERES	GERESS Array B	94.23	41	P		P	00 12 50.0 -0.5
	1.1nm,0.9s,mb4.3,baz=90,slow=1.3,SNR=5.6						
STKA	Stephens Creek	127.75	227	PKP	PKPdf		00 18 37.0 -3.1
	4.1nm,1.1s,baz=130,slow=19,SNR=3.5						
STKA	Stephens Creek	127.75	227	PKP	PKPdf		00 18 37.0 -3.1
ASAR	Alice Springs	137.82	232	PKP	PKPdf		00 18 55.8 -3.4
	1.4nm,1.0s,baz=129,slow=2.7,SNR=5.6						
WRA	Warramunga Arr	139.29	237	PKP	PKPdf		00 18 59.0 -2.9
	0.9nm,1.0s,baz=118,slow=4.7,SNR=4.3						
DDI	Dehra Dun	145.11	33	*e*		PKPbc	00 19 09.2 +0.5
LZH	Lanzhou	145.23	353	⇑P		PKPbc	00 19 09.5 +0.7
LZH				pP			00 19 20.5
LZH				sP			00 19 26.0
NDI	New Delhi	145.89	35	*e*		PKPbc	00 19 10.5 -0.2
XAN	Xi'an	146.25	345	PKP		PKPdf	00 19 11.4 -2.3
XAN				APKP			00 19 17.8
ENH	Enshi	149.62	342	*e*PKPbc		PKPdf	00 19 20.5 +1.2
KOLN	Koldanda	149.99	28	*e*P		PKPdf	00 19 22.2 +2.2
	41nm,1.4s						
KOLN	Koldanda	149.99	28	*e*P		PKPdf	00 19 22.3 +2.3
GKN	Gorkha	150.26	26	*e*P		PKPdf	00 19 22.9 +2.5
	43nm,1.1s						
GKN	Gorkha	150.26	26	*e*P		PKPdf	00 19 23.0 +2.6
	43nm,1.1s						
KKN	Kakani	150.72	25	*e*P		PKPdf	00 19 23.7 +2.6
	20nm,0.8s						
KKN	Kakani	150.72	25	*e*P		PKPdf	00 19 24.2 +3.1
	20nm,0.8s						
DMN	Daman	150.80	26	*e*P		PKPdf	00 19 23.2 +2.0
	23nm,1.0s						
DMN	Daman	150.80	26	*e*P		PKPdf	00 19 24.5 +3.3
	23nm,1.0s						
LSA	Lhasa	150.94	14	PKPdf		PKPdf	00 19 20.0 -1.3
LSA				*e*PKPbc		PKPdf	00 19 25.3 +3.9
PKI	Pulchoki	150.97	25	*e*P		PKPdf	00 19 24.2 +2.7
	16nm,0.7s						
PKI	Pulchoki	150.97	25	*e*P		PKPdf	00 19 24.5 +3.0
	16nm,0.7s						
JIRN	Jiri	151.22	24	*e*P		PKPdf	00 19 25.2 +3.4
	32nm,0.9s						
JIRN	Jiri	151.22	24	*e*P		PKPdf	00 19 25.2 +3.4
	32nm,0.9s						
SHL	Shillong	155.07	15	*e*P		PKPab	00 19 49.0 -1.7
CMAR	Chiang Mai Arr	163.09	360	PKPab		PKPab	00 20 22.6 -2.9
	0.7nm,0.4s,baz=338,slow=4.9,SNR=6.7						

BJI ***25*** *00:03:51.9, 33.46N×45.23E, h76km, mB5.0, mb4.6, Ms5.1, Msz4.7*
CSEM ***25*** *00:03:52.7±0.0, 33.44N×45.89E, h60km, mb4.4/23, Error ellipse: s-maj=1.5km s-min=1.2km az=55.0*
IDC ***25*** *00:03:52.9±4.2, 33.50N×45.88E, h34km±34km, mb3.9/12, mb1 4.0/16, mb1mx3.9/23, mbtmp4.0/16, ML3.5/4, Error ellipse: s-maj=25.7km s-min=20.3km az=0.0*
MOS ***25*** *00:03:53.7±1.1, 33.53N×45.81E, h61km, mb4.7/20, Error ellipse: s-maj=12.2km s-min=5.7km az=119.7*
NEIC ***25*** *00:03:53.9±1.1, 33.37N×45.77E, h50km±9km, mb4.6/26, Error ellipse: s-maj=11.9km s-min=7.3km az=179.0*
TEH ***25*** *00:03:53.6, 33.49N×45.93E, h15km, Mn4.1*
THR ***25*** *00:03:56.2±0.8, 33.68N×46.26E, h37km±11km, ML4.1*
ISC 25 00:03:52.3±0.4, 33.43N±0.03×45.80E±0.03, h51km±4km, n136, σ1⇟09/141, mb4.4/45, 2C-3D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	Ghaleghazi	1.10	35	Pg	P	00 04 11.5	-0.2
BHD	Baghdad	1.20	263	*i* Pb	P	00 04 12.0	-0.9
BHD				*i* Sb	S	00 04 31.5	+3.1
BHD	Baghdad	1.20	263	*i* S	S	00 04 31.5	+3.1
IDHR	Dehrash	1.36	21	Pg	P	00 04 16.5	+1.1
IVIS	Veys	1.40	38	Pg	P	00 04 16.8	+0.8
IKOM	Komasi	1.61	62	Pg	P	00 04 20.1	+1.2
SNGE	Sanandaj	2.10	37	*e*PG	P	00 04 26.5	+0.8
SNGE				AML	AML	00 04 59.7	
	comp=N,3μm,0.8s						
SHGO	Shushtar	2.85	117	*e*PN	P	00 04 38.4	+2.0
SHGR	Shooshtar-Gavs	2.85	117	*e*PN	P	00 04 38.4	+2.0
SHGR				AML	AML	00 05 37.4	
	comp=N,544nm,0.8s						
MSL	Mosul	3.62	323	*e*Pn	P	00 04 48.5	+1.2
MSL				*e*Pb	P	00 04 57.5	+10
MSL				*i* Pg	P	00 05 04.0	+17
MSL				*i* Sn	S	00 05 30.0	+0.8
MSL				*i* Sg	S	00 05 45.5	+16
IRAZ	Razeghan	3.94	59	Pn	P	00 04 52.2	+0.4
RST	Umm Al-Ruwaisa	4.05	165	*e*P	P	00 04 53.8	+0.5
UMR	Umm Al-Rimmam	4.20	157	*e*P	P	00 04 55.8	+0.4
IAZR	Azarshahr	4.24	2	Pn	P	00 04 56.2	+0.1
NAY	Al-Naaiem	4.34	163	*e*P	P	00 04 57.7	+0.2
NAY				*e*S	S	00 05 47.1	-0.3
IQOM	Qom	4.59	71	Pn	P	00 04 59.9	-1.1
ISRB	Sarab	4.64	19	Pn	P	00 05 04.5	+2.8
RDF	Al-Radifah	4.73	161	*e*P	P	00 05 03.1	+0.2
RDF				*e*S	S	00 05 57.8	+0.6
ITBZ	Tabriz	4.80	3	Pn	P	00 05 03.2	-0.8
QRN	Al-Qurain	5.01	158	*e*P	P	00 05 06.7	-0.1
IAFJ	Afjeh	5.44	62	Pn	P	00 05 11.7	-1.1
DAMV	Damavand	5.55	65	*e*PN	P	00 05 12.8	-1.5
IDMV	Damavand	5.58	66	Pn	P	00 05 13.6	-1.1
GRMI	Germi	5.63	17	*e*PN	P	00 05 14.7	-0.8
NASN	Na'in	5.91	94	*e*PN	P	00 05 18.1	-1.3
IFIR	Firoozkooh	6.15	67	Pn	P	00 05 21.4	-1.3
GNI	Garni	6.76	353	P	P	00 05 31.7	+0.4
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GNI	Garni	6.76	353	Pn	P	00 05 31.7	+0.3
	comp=Z,0.9nm,0.3s,baz=332,slow=1.9,SNR=8.1						
GNI	Garni	6.76	353	*e*Pn	P	00 05 31.9	+0.6
IMOK	Mook	7.36	125	Pn	P	00 05 38.7	-0.9
ISRV	Sarvestan	7.44	121	Pn	P	00 05 38.9	-1.8
ASF	Jabal al Asfar	7.60	263	Pn	P	00 05 40.9	-2.1
	comp=Z,0.8nm,0.3s,baz=334,slow=14,SNR=9.8						
ASF				Lg		00 08 00.2	
	comp=Z,3.6nm,0.3s,baz=307,slow=22,SNR=6.3						
MALT	Malatya	7.72	311	*e*P	P	00 05 43.3	-1.3
ZEI	Tsey	9.45	351	*e*P	P	00 06 01.6	-6.8
MRSJ	Marsad	9.69	250	*e*P	Px	00 06 32.3	
	SNR=51						
EIL	Elat	9.98	251	Pn	P	00 06 13.4	-2.4
	comp=Z,0.5nm,0.3s,baz=88,slow=8.1,SNR=4.1						
EIL				Lg		00 09 15.6	
	comp=Z,0.5nm,0.3s,baz=45,slow=14,SNR=2.2						
EIL	Elat	9.98	251	P	P	00 06 13.3	-2.5
KIV	Kislovodsk	10.79	348	*e*P	P	00 06 28.2	+1.5
KIV	Kislovodsk	10.79	348	*e*P	P	00 06 28.2	+1.5
VOR	Voronezh	18.91	347	*e*P	P	00 08 10.5	-0.7
VOR				pmax	pmax		
	comp=Z,70nm,1.3s						
VOR				pmax	pmax		
	comp=N,100nm,1.4s						
VOR				pmax	pmax		
	comp=E,50nm,1.3s						
VOR	Voronezh	18.91	347	*e*P	P	00 08 10.5	-0.7
	comp=E,50nm,1.4s						
MLR	Muntele Rosu	19.44	314	P	P	00 08 16.6	-0.5
	comp=E,0.2nm,0.3s,baz=315,slow=20,SNR=2.7						
AKASG	Malin Array Be	21.11	330	P	P	00 08 33.5	-1.1
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.4s						
AKASG	Malin Array Be	21.11	330	P	P	00 08 33.5	-1.1
	comp=Z,5.3nm,0.3s,mb4.3,baz=139,slow=11,SNR=47						
OBN	Obninsk	22.63	346	*e*P	P	00 08 47.1	-2.4
OBN				*i* S	S	00 12 52.0	+2.7
OBN				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.4						
OBN	Obninsk	22.63	346	P	P	00 08 45.9	-3.6
	comp=Z,27nm,0.6s,mb4.9						
OBN	Obninsk	22.63	346	*e*P	P	00 08 47.1	-2.4
	comp=Z,6.5nm,0.8s,mb4.1						
KWP	Kalwaria	23.54	320	*e*P	P	00 09 00.1	+1.6
KWP				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.4						
KWP	Kalwaria	23.54	320	*e*P	P	00 09 00.1	+1.6
	comp=Z,14nm,0.8s,mb4.5						
KWP	Kalwaria	23.54	320	*e*P	P	00 09 00.1	+1.6
	comp=Z,7.0nm,0.8s,mb4.1						
TIP	Timpagrande	24.04	292	*e*P	P	00 09 06.6	+3.2
AAK	Ala-Archa	24.30	59	P	P	00 09 09.4	+3.4
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
AAK	Ala-Archa	24.30	59	P	P	00 09 09.4	+3.4
	comp=Z,1.9nm,0.6s,mb3.7						
ARU	Arti	24.63	17	*e*P	P	00 09 04.6	-4.4
SUW	Suwalki	26.07	329	*e*P	P	00 09 21.0	-1.6
SUW				pmax	pmax		
	comp=Z,24nm,0.8s,mb4.8						
SUW	Suwalki	26.07	329	*e*P	P	00 09 21.0	-1.6
	comp=Z,24nm,0.8s,mb4.8						
SUW	Suwalki	26.07	329	*e*P	P	00 09 21.0	-1.6
	comp=Z,12nm,0.8s,mb4.5						
CII	Carovilli	26.19	298	P	P	00 09 24.6	+0.8
	comp=Z,32nm,0.9s,mb4.9						
BRVK	Borovoye	26.29	34	*e*P	P	00 09 24.5	-0.2
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
BRVK	Borovoye	26.29	34	*e*P	P	00 09 24.5	-0.1
	comp=Z,6.8nm,0.8s,mb4.2						
BRVK	Borovoye	26.29	34	*e*P	P	00 09 24.5	-0.2
	comp=Z,3.5nm,0.8s,mb3.9						
BVAR	Borovoye Array	26.32	35	P	P	00 09 25.0	+0.1
	comp=Z,0.9nm,0.5s,mb3.6,baz=229,slow=9.5,SNR=16						
MORC	Moravsky Berou	26.49	317	*e*P	P	00 09 25.2	-1.3
MORC				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.1						
MORC	Moravsky Berou	26.49	317	*e*P	P	00 09 25.2	-1.3
	comp=Z,3.5nm,0.7s,mb4.0						
MORC	Moravsky Berou	26.49	317	*e*P	P	00 09 25.2	-1.3
	comp=Z,2.0nm,0.7s,mb3.8						
GERES	GERESS Array B	28.40	312	P	P	00 09 44.9	+1.0
	comp=Z,0.2nm,0.4s,mb3.1,baz=112,slow=7.2,SNR=4.8						
SQTA	Sankt Quirin	29.49	308⇑	*i*P	P	00 09 54.2	+0.6
	comp=Z,4.7nm,0.5s,mb4.5						
SQTA				*i*		00 10 54.0	
	comp=Z,3.9nm,0.5s						
SQTA	Sankt Quirin	29.49	308⇑	*i*P	P	00 09 54.2	+0.6
SQTA				*i*		00 10 54.0	
SQTA				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
KURK	Kurchatov	29.54	44	*e*P	P	00 09 54.4	+0.4
KURK				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
KURK	Kurchatov	29.54	44	*e*P	P	00 09 54.4	+0.4
	comp=Z,9.6nm,1.2s,mb4.4						
KURK	Kurchatov	29.54	44	*e*P	P	00 09 54.4	+0.4
	comp=Z,5.0nm,1.2s,mb4.1						
MOTA	Moosalm	29.59	308⇓	*i*P	P	00 09 54.8	+0.3
MOTA				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
MOTA	Moosalm	29.59	308⇓	*i*P	P	00 09 54.8	+0.3
	comp=Z,1.3nm,0.5s,mb3.9						
MOTA	Moosalm	29.59	308	*i* P	P	00 09 54.8	+0.3
	comp=Z,0.5nm,0.5s,mb3.5						
CLL	Collm	29.76	317	*e*P	pP	00 10 04.0	-5.0
CLL	Collm	29.76	317	*e*PP	pP	00 10 04.0	-5.0
DAVA	Damuels	30.38	308⇓	*i*P	P	00 10 02.0	+0.5
	comp=Z,6.3nm,0.5s,mb4.6						
FINES	FINESS Array B	30.78	342	P	P	00 10 04.0	-1.0
	comp=Z,0.7nm,0.5s,mb3.8,baz=166,slow=7.9,SNR=7.2						
JOF	Joensuu	30.90	347	*ep*	P	00 10 03.6	-2.3
	comp=Z,0.9nm,0.5s,mb3.9						
KAF	Kangasniemi	31.29	342	*ep*	P	00 10 15.1	+5.8
	comp=Z,2.3nm,0.7s,mb4.1,baz=298,slow=4.4						
KAF	Kangasniemi	31.29	342	*e*P	P	00 10 15.1	+5.8
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
SBF	Sospel	31.47	301	*e*P	P	00 10 11.7	+0.5
	comp=Z,108nm,1.2s,mb5.3						
SBF	Sospel	31.47	301	*e*P	P	00 10 11.7	+0.5
SBF				pmax	pmax		
	comp=Z,54nm,1.2s,mb5.2						
MBDF	Montbardon	32.04	302	*e*P	P	00 10 16.6	+0.4
	comp=Z,25nm,0.6s,mb4.9						
MBDF	Montbardon	32.04	302	*e*P	P	00 10 16.6	+0.4
MBDF				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.9						
BNI	Bardonecchia	32.15	303	*e*P	P	00 10 18.0	+0.9
BNI				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.1						
BNI	Bardonecchia	32.15	303	*e*P	P	00 10 17.9	+0.9
	comp=Z,26nm,0.8s,mb5.1						
BNI				*e*	pP	00 10 27.6	-2.7
BNI				*e*		00 11 17.3	
BNI	Bardonecchia	32.15	303	*e*P	P	00 10 18.0	+0.9
	comp=Z,13nm,0.8s,mb4.8						
LPG	La Plagne	32.16	304	*e*P	P	00 10 18.5	+1.3
LPL	La Plagne	32.18	304	*e*P	P	00 10 18.5	+1.2
CDF	Champ du Feu	32.35	309	*e*P	P	00 10 17.9	-0.9
	comp=Z,8.7nm,0.8s,mb4.3						
CDF	Champ du Feu	32.35	309	*e*P	P	00 10 17.9	-0.9
CDF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
HINF	Hinteralfeld	32.50	308	*e*P	P	00 10 19.7	-0.4
CABF	La Chapelle	32.79	306	*e*P	P	00 10 22.1	-0.5
	comp=Z,46nm,1.0s,mb5.1						
CABF	La Chapelle	32.79	306	*e*P	P	00 10 22.1	-0.5
CABF				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
HAU	Haudompre	32.87	308	*e*P	P	00 10 22.8	-0.5
KOLN	Koldanda	32.90	90	*e*P	P	00 10 22.9	-0.9
	comp=Z,5.2nm,0.7s,mb4.6						
HYB	Hyderabad	33.43	110	*e*P	P	00 10 29.0	+0.6
HYB	Hyderabad	33.43	110	*i* P	P	00 10 29.0	+0.6
GKN	Gorkha	33.69	89	*e*P	P	00 10 30.6	0.0
	comp=Z,16nm,0.8s,mb5.0						
MEZF	Maizieres J'vi	33.82	309	*e*P	P	00 10 28.5	-3.0
	comp=Z,25nm,0.9s,mb4.8						
HFS	Hagfors	33.98	332	P	P	00 10 33.0	+0.2
	comp=Z,4.7nm,0.5s,mb4.7,baz=135,slow=10,SNR=35						
WMQ	Urumqi	34.02	60	*e*P	P	00 10 35.3	+2.1
DMN	Daman	34.21	89	*e*P	P	00 10 35.2	+0.1
	comp=Z,13nm,0.8s,mb4.9						
KKN	Kakani	34.30	89	*e*P	P	00 10 36.2	+0.4
	comp=Z,8.5nm,0.5s,mb5.0						
SMF	Signal de Mont	34.32	305	*e*P	P	00 10 35.8	-0.1
	comp=Z,41nm,0.8s,mb5.1						
SMF	Signal de Mont	34.32	305	*e*P	P	00 10 35.8	-0.1
SMF				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
PKI	Pulchoki	34.48	89	*e*P	P	00 10 37.9	+0.5
	comp=Z,29nm,1.2s,mb5.1						
SSF	Saint Saulge	34.61	306	*e*P	P	00 10 38.3	0.0
SSF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
SSF	Saint Saulge	34.61	306	*e*P	P	00 10 38.3	0.0
	comp=Z,12nm,0.9s,mb4.8						
AVF	Avril sur Loir	34.68	305	*e*P	P	00 10 38.7	-0.2
	comp=Z,34nm,1.1s,mb4.9						
AVF	Avril sur Loir	34.68	305	*e*P	P	00 10 38.7	-0.2
AVF				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
BGF	Bois d'Agland	34.99	305	*e*P	P	00 10 41.6	0.0
	comp=Z,16nm,0.8s,mb4.7						
BGF	Bois d'Agland	34.99	305	*e*P	P	00 10 41.6	0.0
BGF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
JIRN	Jiri	35.10	88	*e*P	P	00 10 43.2	+0.5
	comp=Z,13nm,0.6s,mb5.0						
TCF	Toulx Ste Croi	35.40	304	*e*P	P	00 10 44.6	-0.5
	comp=Z,14nm,0.9s,mb4.6						
TCF	Toulx Ste Croi	35.40	304	*e*P	P	00 10 44.6	-0.5
TCF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
NB2	NORSAR Subarra	35.50	332	P	P	00 10 44.3	-1.5
	comp=Z,2.0nm,0.9s,mb4.0,baz=125,slow=8.6						
NB2	NORSAR Subarra	35.50	332	P	P	00 10 44.3	-1.5
NB2				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
NOA	NORSAR Array B	35.50	332	P	P	00 10 45.1	-0.7
	comp=Z,2.0nm,1.1s,mb4.0,baz=227,slow=12,SNR=3.2						
ARCES	ARCESS Array B	37.90	349	P	P	00 11 05.7	-0.2
	comp=Z,0.9nm,0.5s,mb3.8,baz=141,slow=7.8,SNR=14						
LSA	Lhasa	38.59	83	P	P	00 11 11.5	-0.5
LSA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
LSA	Lhasa	38.59	83	P	P	00 11 11.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	Elat	10.13	249	LR	LR	00 11 18.8	
	comp=Z,884nm,18.8s,baz=275,slow=38						
CSS	Prodhromos	10.41	280	P	P	00 07 21.4	+0.2
CSS	Prodhromos	10.41	280	P	P	00 07 21.4	+0.2
AKASG	Malin Array Be	20.84	329	P	P	00 09 33.0	+0.4
	6.5nm,0.6s,baz=139,slow=9.6,SNR=5.6						
OBN	Obninsk	22.31	346	P	P	00 09 45.8	-1.6
	32nm,0.7s,mb4.9						
OBN	Obninsk	22.31	346	P	P	00 09 45.8	-1.5
	32nm,0.7s,mb4.9						
AAK	Ala-Archa	24.11	60	P	P	00 10 06.0	+1.1
	2.5nm,0.7s,mb3.8						
AAK	Ala-Archa	24.11	60	P	P	00 10 06.0	+1.0
	2.5nm,0.7s,mb3.8						
BVAR	Borovoye Array	26.03	35	P	P	00 10 22.1	-1.0
	1.6nm,0.7s,mb3.7,baz=233,slow=7.2,SNR=2.3						
KURK	Kurchatov	29.28	45	P	P	00 10 54.0	+1.4
	9.0nm,1.0s,mb4.5						
KURK	Kurchatov	29.28	45	P	P	00 10 54.0	+1.4
	9.0nm,1.0s,mb4.5						
MOTA	Moosalm	29.41	308	⇑*i*	P	00 10 54.6	+0.8
	2.9nm,0.7s,mb4.1						
MOTA	Moosalm	29.41	308	*i*	P	00 10 54.6	+0.8
MOTA	Moosalm	29.41	308	*i*	P	00 10 54.6	+0.8
DAVA	Damuels	30.20	307	⇑*i*	P	00 10 52.8	-8.1
	5.6nm,0.6s,mb4.5						
DAVA	Damuels	30.20	307	*i*	P	00 10 52.8	-8.1
FINES	FINESS Array B	30.47	341	P	P	00 11 02.4	-0.8
	1.0nm,0.4s,mb3.9,baz=140,slow=13,SNR=3.9						
FINES	FINESS Array B	30.47	341	P	P	00 11 02.3	-0.8
SBF	Sospel	31.33	300	*eP*	P	00 11 10.4	-0.4
	109nm,1.0s,mb5.3						
MBDF	Montbardon	31.89	302	*eP*	P	00 11 15.9	+0.1
	31nm,0.9s,mb4.8						
LPG	La Plagne	32.00	303	*eP*	P	00 11 17.7	+1.0
	23nm,0.8s,mb4.7						
LPL	La Plagne	32.02	303	*eP*	P	00 11 17.1	+0.2
	34nm,0.9s,mb4.9						
CDF	Champ du Feu	32.16	309	*eP*	P	00 11 18.0	-0.1
	5.9nm,0.7s,mb4.2						
HINF	Hinteralfeld	32.32	308	*eP*	P	00 11 18.9	-0.5
CABF	La Chapelle	32.62	305	*eP*	P	00 11 22.3	+0.2
	25nm,0.8s,mb4.9						
HAU	Haudompre	32.69	308	*eP*	P	00 11 22.1	-0.5
HYB	Hyderabad	33.52	111	*i* P	P	00 11 29.0	-1.2
MEZF	Maizieres J'vi	33.63	308	*eP*	P	00 11 28.1	-2.8
	15nm,0.7s,mb4.7						
HFS	Hagfors	33.70	331	P	P	00 11 32.2	+0.8
	4.6nm,0.6s,mb4.6,baz=149,slow=8.4,SNR=2.8						
SMF	Signal de Mont	34.16	305	*eP*	P	00 11 35.2	-0.2
	33nm,0.8s,mb5.0						
SSF	Saint Saulge	34.44	305	*eP*	P	00 11 37.6	-0.2
	9.0nm,0.8s,mb4.7						
AVF	Avril sur Loir	34.51	305	*eP*	P	00 11 38.0	-0.5
	16nm,0.9s,mb4.6						
BGF	Bois d'Agland	34.83	305	*eP*	P	00 11 40.9	-0.3
	32nm,0.9s,mb5.0						
NOA	NORSAR Array B	35.22	331	P	P	00 11 44.9	+0.4
	0.5nm,0.7s,mb3.6,baz=117,slow=9.4,SNR=2.8						
TCF	Toulx Ste Croi	35.24	304	*eP*	P	00 11 44.4	-0.3
GRR	Gorron	37.51	307	*eP*	P	00 12 03.6	-0.2
	26nm,0.9s,mb4.7						
GRR	Gorron	37.51	307	*eP*	P	00 12 03.6	-0.2
	13nm,0.9s,mb4.7						
ARCES	ARCESS Array B	37.57	348	P	P	00 12 04.1	0.0
	6.7nm,1.2s,mb4.2,baz=158,slow=9.7,SNR=2.5						
LSA	Lhasa	38.52	83	*eP*	P	00 12 12.8	+0.3
	4.3nm,0.7s,mb4.3						
LSA	Lhasa	38.52	83	*eP*	P	00 12 12.8	+0.3
	4.3nm,0.7s,mb4.3						
ESDC	Sonseca Array	39.94	293	P	P	00 12 26.8	+2.6
	0.4nm,0.5s,mb3.4,baz=73,slow=8.6,SNR=2.8						
EKA	Eskdalemuir Ar	39.98	318	P	P	00 12 25.2	+0.8
	3.2nm,0.9s,mb4.0,baz=42,slow=26,SNR=3.8						
SONM	Songino Array	46.79	54	P	P	00 13 19.3	-0.2
	1.0nm,0.9s,mb3.7,baz=292,slow=6.7,SNR=5.6						
YKA	Yellowknife Ar	82.79	351	P	P	00 17 13.3	+0.2
	1.1nm,0.9s,mb3.9,baz=16,slow=5.5,SNR=6.3						
YKA	Yellowknife Ar	82.79	351	P	P	00 17 13.4	+0.2

IGQ 25 00:08:29.2, 1.36S×81.16W, h17km±7km, mb4.0, 2C-2D, Error ellipse: s-maj=12.7km s-min=8.7km az=148.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.68	64	⇑P	Pb	00 08 41.9	-0.4
IGUA	Igualata	2.52	93	P	Pn	00 09 11.9	+1.7
JUIV	Juive	2.69	91	P	Pn	00 09 14.8	+2.1
ARRY	Arrayan	2.71	93	⇑P	Pn	00 09 13.1	+0.2
ARRY				S	Sn	00 09 46.2	+0.7
ULBA	Ulba	2.75	92	P	Pn	00 09 14.5	+1.0
NAS1	Nasa	2.77	75	P	Pn	00 09 17.1	+3.3
PISA	Pisayambo	2.79	84	P	Pn	00 09 16.8	+2.8
JUA2	San Juan 2	2.79	66	P	Pn	00 09 15.1	+1.0
TERV	Terraza Guagua	2.81	65	P	Pn	00 09 15.6	+1.2
PINO	Pino	2.81	65	P	Pn	00 09 15.4	+1.1
VC1	Cotopaxi 1	2.84	76	P	Pn	00 09 17.8	+3.0
YANA	Yana	2.86	65	P	Pn	00 09 15.9	+0.8
TAMB	Tambo	2.87	77	P	Pn	00 09 18.7	+3.6
ANTI	Antisana	3.13	73	P	Pn	00 09 21.1	+2.3
COTA	Cotacachi	3.28	59	⇓P	Pn	00 09 22.9	+1.9
CAYR	Refugio Cayamb	3.43	67	⇓P	Pn	00 09 27.0	+3.9
CAYA	Cayambe	3.47	66	P	Pn	00 09 26.9	+3.3

IGQ 25 00:11:06.7, 1.53S×81.63W, h12km±8km, mb4.0, 3C-4D, Error ellipse: s-maj=14.0km s-min=7.1km az=23.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	1.18	66	⇑P	Pb	00 11 26.9	-1.7
IGUA	Igualata	2.99	89	P	Pn	00 11 55.7	+0.8
JUIV	Juive	3.16	88	P	Pn	00 11 58.9	+1.5
ARRY	Arrayan	3.17	90	⇑P	Pn	00 11 58.3	+0.8
ARRY				S	Sn	00 12 31.7	-3.9
PATA	Patacocha	3.19	90	⇑P	Pn	00 12 00.3	+2.5
ULBA	Ulba	3.22	89	P	Pn	00 11 59.6	+1.4
NAS1	Nasa	3.27	74	P	Pn	00 12 00.4	+1.5
NAS1				S	Sn	00 12 36.9	-1.3
PISA	Pisayambo	3.27	82	P	Pn	00 12 00.1	+1.2
JUA2	San Juan 2	3.29	67	P	Pn	00 11 59.7	+0.5
TERV	Terraza Guagua	3.31	66	P	Pn	00 11 59.2	-0.2
PINO	Pino	3.31	66	⇓P	Pn	00 11 59.6	+0.2
VC1	Cotopaxi 1	3.34	75	⇓P	Pn	00 12 02.7	+2.8
YANA	Yana	3.36	65	P	Pn	00 12 00.5	+0.4
TAMB	Tambo	3.36	76	P	Pn	00 12 02.9	+2.7
ANTI	Antisana	3.63	73	P	Pn	00 12 06.0	+2.0
COTA	Cotacachi	3.77	61	⇓P	Pn	00 12 08.1	+2.1
COTA				S	Sn	00 12 52.7	+1.9
CAYR	Refugio Cayamb	3.93	67	P	Pn	00 12 11.8	+3.6
CAYR				S	Sn	00 12 53.8	-1.0
CAYA	Cayambe	3.97	66	⇓P	Pn	00 12 12.1	+3.4

IGQ 25 00:19:46.3, 1.48S×81.23W, h6km±8km, mb4.1, 3D, Error ellipse: s-maj=12.3km s-min=9.8km az=147.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.81	58	P	Pb	00 20 01.3	-1.0
IGUA	Igualata	2.59	90	P	Pn	00 20 30.5	+1.1
IGUA				S	Sn	00 21 05.2	+3.6
ARRY	Arrayan	2.77	91	P	Pn	00 20 33.0	+1.0
ARRY				S	Sn	00 21 06.4	+0.1
RETU	Refugio	2.78	89	P	Pn	00 20 34.9	+2.6
PATA	Patacocha	2.80	90	P	Pn	00 20 34.5	+2.1
RUN2	Runtun	2.82	89	P	Pn	00 20 33.8	+1.1
ULBA	Ulba	2.82	89	P	Pn	00 20 34.8	+2.0
PISA	Pisayambo	2.88	82	P	Pn	00 20 35.2	+1.7
NAS1	Nasa	2.88	73	P	Pn	00 20 33.7	+0.1
JUA2	San Juan 2	2.91	64	P	Pn	00 20 34.4	+0.3
PINO	Pino	2.93	63	P	Pn	00 20 35.3	+1.0
VC1	Cotopaxi 1	2.95	74	P	Pn	00 20 38.2	+3.7
TAMB	Tambo	2.97	75	P	Pn	00 20 37.7	+2.9
YANA	Yana	2.98	63	P	Pn	00 20 35.4	+0.3
ANTI	Antisana	3.24	72	⇓P	Pn	00 20 41.4	+2.7
COTA	Cotacachi	3.41	58	P	Pn	00 20 42.8	+1.7
CAYR	Refugio Cayamb	3.55	65	⇓P	Pn	00 20 46.2	+3.1
CAYA	Cayambe	3.59	65	⇓P	Pn	00 20 46.2	+2.5

IGQ 25 00:22:58.0, 1.46S×81.06W, h6km±5km, mb4.2, 1C-8D, Error ellipse: s-maj=8.7km s-min=5.6km az=8.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.66	51	⇓P	Pg	00 23 10.2	-1.0
IGUA	Igualata	2.42	91	⇓P	Pn	00 23 39.7	+1.0
IGUA				S	Sn	00 24 11.2	+2.3
JUIV	Juive	2.60	89	P	Pn	00 23 43.4	+2.2
ARRY	Arrayan	2.60	91	⇓P	Pn	00 23 42.2	+0.9
ARRY				S	Sn	00 24 14.4	+0.8
RETU	Refugio	2.61	90	P	Pn	00 23 43.4	+1.9
PATA	Patacocha	2.63	91	P	Pn	00 23 43.8	+2.2
RUN2	Runtun	2.65	89	P	Pn	00 23 44.5	+2.6
ULBA	Ulba	2.65	90	P	Pn	00 23 43.8	+1.8
PISA	Pisayambo	2.71	81	P	Pn	00 23 44.5	+1.8
NAS1	Nasa	2.71	72	P	Pn	00 23 46.1	+3.3
JUA2	San Juan 2	2.75	63	⇓P	Pn	00 23 44.0	+0.6
PINO	Pino	2.77	62	P	Pn	00 23 44.9	+1.2
PINO				S	Sn	00 24 20.6	+2.7
VC1	Cotopaxi 1	2.78	73	P	Pn	00 23 46.5	+2.8
TAMB	Tambo	2.80	74	P	Pn	00 23 47.3	+3.2
YANA	Yana	2.83	62	⇓P	Pn	00 23 45.1	+0.6
YANA				S	Sn	00 24 20.5	+1.3
ANTI	Antisana	3.07	71	⇓P	Pn	00 23 50.4	+2.5
COTA	Cotacachi	3.26	57	⇓P	Pn	00 23 52.0	+1.4
CAYR	Refugio Cayamb	3.39	64	⇑P	Pn	00 23 55.4	+3.0
CAYA	Cayambe	3.43	64	⇓P	Pn	00 23 55.3	+2.3
CONE	Cono NE Rev Vo	3.69	68	P	Pn	00 24 02.9	+6.2

IGQ 25 00:31:46.8, 1.51S×81.28W, h5km±5km, mb4.3, 1C-1D, Error ellipse: s-maj=8.6km s-min=6.7km az=36.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.87	58	⇑P	Pb	00 32 03.0	-1.0
IGUA	Igualata	2.64	90	P	Pn	00 32 31.6	+0.7
CUSU	Cusua	2.80	89	P	Pn	00 32 36.9	+3.7
CUSU				S	Sn	00 33 10.6	+2.9
JUIV	Juive	2.82	88	P	Pn	00 32 34.0	+0.7
ARRY	Arrayan	2.83	90	⇓P	Pn	00 32 34.3	+0.9
ARRY				S	Sn	00 33 06.8	-1.5
RETU	Refugio	2.84	89	P	Pn	00 32 36.6	+3.0
PATA	Patacocha	2.85	90	P	Pn	00 32 35.9	+2.2
ULBA	Ulba	2.88	89	P	Pn	00 32 35.7	+1.5
ULBA				S	Sn	00 33 09.2	-0.3
PISA	Pisayambo	2.93	81	P	Pn	00 32 37.1	+2.1
PISA				S	Sn	00 33 12.2	+1.2
NAS1	Nasa	2.94	73	P	Pn	00 32 36.4	+1.3
JUA2	San Juan 2	2.97	64	P	Pn	00 32 37.6	+2.1
TERV	Terraza Guagua	2.99	64	P	Pn	00 32 38.0	+2.2
PINO	Pino	2.99	63	P	Pn	00 32 37.2	+1.3
VC1	Cotopaxi 1	3.01	73	P	Pn	00 32 38.5	+2.5
TAMB	Tambo	3.02	74	P	Pn	00 32 39.9	+3.6
YANA	Yana	3.04	63	P	Pn	00 32 37.5	+1.0
YANA				S	Sn	00 33 14.4	+0.6
ANTI	Antisana	3.29	71	P	Pn	00 32 42.5	+2.3
COTA	Cotacachi	3.47	58	P	Pn	00 32 46.9	+4.3
CAYR	Refugio Cayamb	3.61	65	P	Pn	00 32 48.1	+3.5
CAYA	Cayambe	3.65	65	P	Pn	00 32 48.4	+3.2

*TEH **25** 00:48:55.4, 32.77N×45.23E, h10km, Mn3.6*
*CSEM **25** 00:49:06.1±0.1, 33.45N×45.85E, h51km±3km, ML3.1,*
Error ellipse: s-maj=2.1km s-min=0.9km az=135.0
ISC 25 00:49:05.5±0.6, 33.45N±0.05×45.86E±0.06, h33km, n13, σ0°70/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHD	Baghdad	1.25	262	*i* Pb	Pb	00 49 36.0	+7.5
BHD				*i* Sb	Sb	00 49 44.0	-0.3
BHD	Baghdad	1.25	262	*i* S	Sb	00 49 44.0	-0.3
IRAZ	Razeghan	3.89	59	Pn	Pn	00 50 05.9	+1.3
RST	Umm Al-Ruwaisa	4.05	166	*eP*	P	00 50 07.6	+0.8
UMR	Umm Al-Rimmam	4.20	157	*eP*	P	00 50 09.4	+0.6
IAZR	Azarshahr	4.22	1	Pn	Pn	00 50 09.0	-0.3
IBST	Bostanabad	4.33	11	Pn	Pn	00 50 11.0	+0.2
NAY	Al-Naaiem	4.35	164	*eP*	P	00 50 11.6	+0.5
IQOM	Qom	4.54	71	Pn	Pn	00 50 13.6	-0.3
RDF	Al-Radifah	4.74	162	*eP*	P	00 50 17.0	+0.5
RDF				*e*S	S	00 51 09.5	-1.5
IAFJ	Afjeh	5.39	62	Pn	Pn	00 50 25.6	-0.2
IDMV	Damavand	5.52	66	Pn	Pn	00 50 27.2	-0.5
IFIR	Firoozkooh	6.10	67	Pn	Pn	00 50 35.1	-0.7

IGQ 25 00:59:02.1, 1.38S×81.44W, h12km±9km, mb4.4, 3C-2D, Error ellipse: s-maj=9.6km s-min=8.4km az=156.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.95	70	⇑P	Pb	00 59 18.4	-1.7
IGUA	Igualata	2.81	92	P	Pn	00 59 48.5	+0.9
IGUA				S	Sn	01 00 20.8	-0.9
CUSU	Cusua	2.96	91	P	Pn	00 59 51.6	+1.7
CUSU				S	Sn	01 00 28.3	+2.6
JUIV	Juive	2.98	91	P	Pn	00 59 51.7	+1.6
ARRY	Arrayan	2.99	92	⇑P	Pn	00 59 50.7	+0.4
RETU	Refugio	3.00	91	P	Pn	00 59 52.9	+2.5
PATA	Patacocha	3.01	92	P	Pn	00 59 51.9	+1.3
PATA				S	Sn	01 00 27.7	+0.7
MARY	Rancho Maria	3.02	78	P	Pn	00 59 53.8	+3.0
RUN2	Runtun	3.03	91	⇑P	Pn	00 59 51.4	+0.6
RUN2				S	Sn	01 00 26.8	-0.6
ULBA	Ulba	3.04	91	P	Pn	00 59 51.8	+0.9
NAS1	Nasa	3.06	76	P	Pn	00 59 53.0	+1.8
JUA2	San Juan 2	3.06	68	P	Pn	00 59 52.4	+1.0
PISA	Pisayambo	3.07	84	P	Pn	00 59 54.1	+2.6
PINO	Pino	3.08	67	P	Pn	00 59 52.5	+0.8
JOR1	San Jorge 1	3.12	64	P	Pn	00 59 51.7	-0.5
VC1	Cotopaxi 1	3.13	77	P	Pn	00 59 55.5	+3.3
YANA	Yana	3.13	66	P	Pn	00 59 53.4	+1.1
TAMB	Tambo	3.15	78	P	Pn	00 59 55.2	+2.6
ANTI	Antisana	3.41	74	P	Pn	00 59 58.1	+1.9
COTA	Cotacachi	3.54	61	P	Pn	01 00 00.2	+2.1
CAYR	Refugio Cayamb	3.71	68	⇓P	Pn	01 00 03.7	+3.3
CAYR	Refugio Cayamb	3.71	68	P	Pn	01 00 04.8	+4.3
CAYA	Cayambe	3.74	67	⇓P	Pn	01 00 03.9	+3.0
CONE	Cono NE Rev Vo	4.02	71	P	Pn	01 00 09.4	+4.5

CASC 25 01:18:20.5±1.9, 14.42N×89.97W, h219km±11km, MD3.9, 2C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBG	Las Nubes	0.41	295	⇑*eP*	P	01 18 51.0	+1.3
NBG				*e*S	S	01 19 12.4	0.0
IXG	Ixpaco	0.53	243	*eP*	P	01 18 50.4	+0.3
IXG				*e*S	S	01 19 13.3	+0.2
RTR	El Retiro	0.60	149	*eP*	P	01 18 49.8	-0.6
SBLS	San Blas	0.66	150	*eP*	P	01 18 50.6	0.0
FUG	Fuego 3	0.85	272	⇓*eP*	P	01 18 52.5	+1.0
BOQS	Boqueron	0.95	135	*eP*	P	01 18 52.2	+0.1
BOQS				*e*S	S	01 19 18.8	+2.3
LFU	La Fuente	1.06	129	*eP*	P	01 18 53.0	+0.3
TP2	Tecpan 2	1.09	290	⇑*eP*	P	01 18 55.0	+2.0
LBRS	Las Brisas	1.12	127	*eP*	P	01 18 53.0	-0.2
LFRS	El Faro	1.18	132	*eP*	P	01 18 53.3	-0.3
LFRS				*e*S	S	01 19 20.4	+1.1
LCBS	La Ceiba	1.22	128	*eP*	P	01 18 53.7	-0.3
LCBS				*e*S	S	01 19 22.0	+2.1
SNVI	San Vicente	1.35	126	*eP*	P	01 18 55.5	+0.5
JAT	Jato	1.62	267	⇓*eP*	P	01 18 58.0	+0.7
JAT				*e*S	S	01 19 25.8	+0.1
CNCH	Conchagua	2.36	118	*eP*	P	01 19 05.0	+0.5

*IGQ **25** 01:20:54.0, 1.53S×81.56W, h2km±7km, mb4.7, Error ellipse: s-maj=15.5km s-min=6.7km az=175.6*
*BJI **25** 01:21:04.6, 1.40S×80.90W, h10km, mB4.9, Ms4.8, Msz4.5*
*NEIC **25** 01:21:04.6±0.4, 1.43S×80.89W, h10km, mb4.2/6, Error ellipse: s-maj=13.4km s-min=8.5km az=57.0*
*IDC **25** 01:21:13.7±4.7, 1.42S×80.88W, h85km±44km, mb3.8/12, mb1 4.1/14, mb1mx3.9/22, mbtmp4.2/14, MS4.3/3, Ms1 4.3/3, ms1mx3.9/19, Error ellipse: s-maj=26.7km s-min=13.7km az=59.0*
ISC 25 01:21:03.1±0.4, 1.49S±0.06×81.10W±0.03, h10km, n70, σ1°30/66, mb4.1/15, MS4.5/3, 3C-4D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.70	52	P	Pb	01 21 15.0	-2.1
IGUA	Igualata	2.46	90	⇓P	Pn	01 21 43.5	-0.6
CUSU	Cusua	2.62	89	⇑P	Pn	01 21 46.7	+0.4
JUIV	Juive	2.64	89	P	Pn	01 21 46.5	0.0
ARRY	Arrayan	2.65	90	⇓P	Pn	01 21 46.0	-0.6
RETU	Refugio	2.66	89	P	Pn	01 21 47.3	+0.5
PATA	Patacocha	2.67	90	P	Pn	01 21 46.9	0.0
PATA				S	Sn	01 22 21.7	+2.0
RUN2	Runtun	2.69	89	P	Pn	01 21 47.6	+0.4
RUN2				S	Sn	01 22 24.6	+4.4
ULBA	Ulba	2.69	89	P	Pn	01 21 47.5	+0.1
MARY	Rancho Maria	2.72	74	⇓P	Pn	01 21 48.1	+0.3
PISA	Pisayambo	2.75	81	P	Pn	01 21 48.1	-0.1
NAS1	Nasa	2.76	72	P	Pn	01 21 48.7	+0.4
JUA2	San Juan 2	2.80	63	P	Pn	01 21 47.5	-1.4
PINO	Pino	2.82	62	P	Pn	01 21 48.1	-1.1
GGP	Refugio Guagua	2.83	63	P	Pn	01 21 48.7	-0.5
VC1	Cotopaxi 1	2.83	73	P	Pn	01 21 49.9	+0.7
TAMB	Tambo	2.84	74	P	Pn	01 21 50.5	+1.0
JOR1	San Jorge 1	2.87	59	P	Pn	01 21 46.2	-3.7
YANA	Yana	2.87	62	P	Pn	01 21 48.3	-1.6
ANTI	Antisana	3.12	71	P	Pn	01 21 53.7	+0.3
OTAV	Otavalo	3.16	57	*e*Pn	Pn	01 21 52.7	-1.2
COTA	Cotacachi	3.30	57	⇓P	Pn	01 21 56.3	+0.2
CAYR	Refugio Cayamb	3.44	64	P	Pn	01 21 59.0	+1.1
CAYA	Cayambe	3.48	64	P	Pn	01 22 00.3	+1.8
CAYA				S	Sn	01 22 44.5	+4.3
CONE	Cono NE Rev Vo	3.73	68	P	Pn	01 22 04.4	+2.3
PAYG	Puerto Ayora	9.22	275	*eP*	P	01 23 20.4	+1.2
NNA	Nana	11.26	158	*eP*	P	01 23 44.4	-2.9
NNA				*e*S	S	01 25 46.9	-7.3
SDV	Santo Domingo	14.66	45	P	P	01 24 35.6	+2.9
	2.9nm,0.3s,baz=234,slow=11,SNR=33						
SDV				LR	LR	01 30 06.6	
	comp=Z,887nm,20.0s,baz=239,slow=37						
SDV	Santo Domingo	14.66	45	*eP*	P	01 24 34.7	+1.9
LPAZ	La Paz	19.48	140	P	P	01 25 32.8	-0.4
	0.5nm,0.3s,baz=337,slow=9.6,SNR=21						
LPAZ	La Paz	19.48	140	*eP*	P	01 25 31.6	-1.7
	12nm,0.9s						
TEIG	Tepich	22.70	342	P	P	01 26 04.7	-1.7
	7.4nm,0.9s,mb4.1						
LVC	Limon Verde	24.11	151	P	P	01 26 22.7	+2.5
	14nm,1.1s,mb4.3,baz=323,slow=7.2,SNR=7.5						
LVC				LR	LR	01 36 51.3	
	comp=Z,431nm,20.1s,MS3.9,baz=332,slow=39						
LVC	Limon Verde	24.11	151	*eP*	P	01 26 22.6	+2.4
	13nm,0.9s,mb4.3						
SJG	San Juan	24.41	36	P	P	01 26 22.7	-0.5
	17nm,0.6s,mb4.6,baz=225,slow=9.8,SNR=6.9						
SJG	San Juan	24.41	36	P	P	01 26 22.7	-0.5
CPCT	Cooper Cave	36.88	355	*eP*	P	01 28 12.1	-1.7
TXAR	Lajitas Array	37.48	327	P	P	01 28 20.5	+1.6
	0.4nm,0.8s,mb3.3,baz=148,slow=12,SNR=4.9						
TXAR				PcP	PcP	01 30 37.1	-0.7
	1.0nm,0.8s,baz=151,slow=7.3,SNR=7.4						
TXAR	Lajitas Array	37.48	327	P	P	01 28 20.5	+1.6
TXAR				PcP	PcP	01 30 37.1	-0.7
WMOK	Wichita Mounta	39.66	337	*eP*	P	01 28 38.5	+1.3
	2.6nm,0.8s,mb4.0						
PLCA	Paso Flores	40.22	168	P	P	01 28 41.3	-0.3
	5.1nm,1.1s,mb4.2,baz=326,slow=14,SNR=2.4						
PLCA	Paso Flores	40.22	168	P	P	01 28 42.0	+0.3
	5.0nm,1.0s,mb4.2						
KSU1	Kansas State U	42.83	342	*eP*	P	01 29 02.2	-0.9
ANMO	Albuquerque	43.33	329	P	P	01 29 08.7	+1.4
	1.9nm,0.6s,mb4.0,baz=148,slow=11,SNR=8.6						
PV10	Paradox Valley	47.29	330	*eP*	P	01 29 43.6	+4.7
MSU	Marysvale	49.02	328	*eP*	P	01 29 52.1	-0.2
ARUT	Antelope Range	49.20	326	*eP*	P	01 29 57.3	+3.7
DAU	Daniels Canyon	49.96	330	P	P	01 29 60.0	+0.5
PDAR	Pinedale Array	50.97	333	P	P	01 30 06.0	-1.1
	1.6nm,1.1s,mb3.9,baz=117,slow=4.0,SNR=4.1						
NVAR	Mina Array Bea	52.45	323	P	P	01 30 19.5	+1.1
	6.4nm,1.1s,mb4.5,baz=140,slow=6.5,SNR=13						
QLMT	Earthquake Lak	53.42	333	*eP*	P	01 30 27.0	+1.4
OHCM	Honcut	54.95	322	*eP*	P	01 30 39.4	+2.5
YBH	Yreka Blue Hor	57.15	324	P	P	01 30 51.1	-1.5
	1.0nm,0.8s,mb3.9,baz=117,slow=4.5,SNR=3.3						

mb1mx3.5/18, mbtmp3.5/5, ML4.0/1, Error ellipse: s-maj=79.0km s-min=24.3km az=71.0
NEIC ***25*** *01:34:20.8±1.2, 10.45N×93.19E, h30km, mb4.3/2, Error ellipse: s-maj=32.8km s-min=14.9km az=73.0*
ISC 25 01:34:19.1±1.3, 10.5N±0.1×93.3E±0.2, h30km, n7, σ0§80/7, mb3.8/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.61**	**34**	Pn	**P**	**01 36 38.8**	**+0.1**
	0.4nm,0.3s,baz=228,slow=15,SNR=5.5						
SONM	**Songino Array**	**38.81**	**14**	P	**P**	**01 41 42.9**	**-0.2**
	0.5nm,0.9s,mb3.2,baz=191,slow=7.3,SNR=2.8						
ZAL	**Zalesovo**	**43.85**	**353**	P	**P**	**01 42 24.2**	**-0.2**
	1.0nm,0.5s,mb3.9,baz=149,slow=17,SNR=4.3						
CHKZ	**Chkalovo**	**46.74**	**342**	*e*P	**P**	**01 42 47.6**	**+0.3**
	1.7nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**50.47**	**127**	P	**P**	**01 43 15.8**	**-0.9**
	0.3nm,0.8s,mb3.4,baz=303,slow=9.1,SNR=4.7						
WRA				pP	pP	01 43 24.7	-1.1
	0.4nm,0.5s,baz=305,slow=8.7,SNR=4.9						
WRAB	**Tennant Creek**	**50.47**	**127**	P	**P**	**01 43 18.5**	**+1.8**
	4.1nm,0.9s,mb4.5						
ASAR	**Alice Springs**	**52.23**	**131**	P	**P**	**01 43 29.3**	**-0.7**
	0.2nm,0.3s,mb3.5,baz=298,slow=6.8,SNR=3.0						

IGQ 25 01:37:55.8, 1.52S×81.30W, h12km±10km, mb4.1, 1C-2D, Error ellipse: s-maj=12.6km s-min=8.8km az=6.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.89**	**58**	⇓P	Pb	01 38 11.1	-1.6
IGUA	**Igualata**	**2.66**	**89**	P	Pn	01 38 40.6	+1.3
ARRY	**Arrayan**	**2.85**	**90**	⇑P	Pn	01 38 41.9	-0.1
ARRY				S	Sn	01 39 16.4	-0.1
PATA	**Patacocha**	**2.87**	**90**	P	Pn	01 38 45.9	+3.6
RUN2	**Runtun**	**2.89**	**88**	P	Pn	01 38 43.5	+1.0
ULBA	**Ulba**	**2.90**	**89**	P	Pn	01 38 43.4	+0.8
PISA	**Pisayambo**	**2.95**	**81**	P	Pn	01 38 45.3	+1.9
PISA				S	Sn	01 39 21.1	+1.9
NAS1	**Nasa**	**2.96**	**73**	P	Pn	01 38 45.0	+1.5
JUA2	**San Juan 2**	**2.99**	**64**	P	Pn	01 38 45.4	+1.3
TERV	**Terraza Guagua**	**3.01**	**64**	P	Pn	01 38 46.0	+1.8
PINO	**Pino**	**3.02**	**63**	P	Pn	01 38 44.4	+0.1
VC1	**Cotopaxi 1**	**3.03**	**73**	P	Pn	01 38 47.2	+2.7
TAMB	**Tambo**	**3.05**	**74**	P	Pn	01 38 48.0	+3.2
YANA	**Yana**	**3.07**	**63**	P	Pn	01 38 44.5	-0.5
ANTI	**Antisana**	**3.32**	**71**	P	Pn	01 38 50.3	+1.7
COTA	**Cotacachi**	**3.49**	**58**	⇓P	Pn	01 38 52.4	+1.3
CAYR	**Refugio Cayamb**	**3.63**	**65**	P	Pn	01 38 56.0	+2.9
CAYA	**Cayambe**	**3.67**	**65**	P	Pn	01 38 56.5	+2.8

IDC ***25*** *01:38:39.2±0.9, 12.91N×92.37E, mb4.1/12, mb1 4.2/13, mb1mx4.1/20, mbtmp4.0/13, ML4.1/1, MS3.1/1, Ms1 3.3/1, ms1mx2.8/18, Error ellipse: s-maj=35.3km s-min=17.7km az=52.0*
BJI ***25*** *01:38:42.7, 12.80N×92.56E, h42km, mB4.3, mb4.5, Ms4.1, Msz4.0*
NEIC ***25*** *01:38:44.2±2.2, 12.98N×92.52E, h31km±15km, mb4.3/10, Error ellipse: s-maj=8.2km s-min=7.6km az=80.0*
ISC 25 01:38:41.0±2.8, 12.91N±0.07×92.42E±0.06, h25km±20km, n40, σ0§84/41, mb4.2/19, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.36**	**48**	Pn	**P**	**01 40 41.2**	**-2.5**
	0.7nm,0.3s,baz=239,slow=15,SNR=9.4						
CMAR				Sn	**Sn**	**01 42 09.8**	**-8.5**
	1.2nm,0.3s,baz=240,slow=27,SNR=4.6						
CMAR				LR	LR	01 44 07.0	
	comp=Z,105nm,18.6s,baz=205,slow=39						
VIS	**Vishakhapatnam**	**9.98**	**300**	*e*P	**P**	**01 41 04.4**	**-1.8**
VIS				*e*S	**Sn**	**01 42 45.8**	**-13**
VIS				*e*		01 42 51.5	
	comp=N,189nm,0.4s						
VIS				*e*		01 42 51.6	
	comp=E,163nm,0.4s						
PALK	**Pallekele**	**12.82**	**245**	P	**P**	**01 41 46.5**	**+1.9**
HYB	**Hyderabad**	**14.11**	**290**	*i* P	**P**	**01 42 08.5**	**+6.8**
HYB				*e*		01 44 26.0	
HYB				*e*S	**S**	**01 44 37.0**	**-1.4**
KMI	**Kunming**	**15.57**	**37**	P	**P**	**01 42 21.6**	**+0.8**
	comp=E,12nm,0.6s						
JIRN	**Jiri**	**15.79**	**339**	*e*P	**P**	**01 42 24.5**	**+1.0**
PKI	**Pulchoki**	**15.99**	**337**	*e*P	**P**	**01 42 25.0**	**-1.2**
	comp=E,20nm,0.6s						
DMN	**Daman**	**16.14**	**336**	*e*P	**P**	**01 42 28.1**	**0.0**
GKN	**Gorkha**	**16.68**	**335**	*e*P	**P**	**01 42 35.3**	**+0.4**
	comp=E,34nm,0.6s						
LSA	**Lhasa**	**16.75**	**356**	*e*P	**P**	**01 42 35.5**	**-0.2**
	comp=E,6.1nm,0.6s						
LSA				*e*		01 42 49.0	
KOLN	**Koldanda**	**16.92**	**332**	*e*P	**P**	**01 42 39.1**	**+1.1**
	comp=E,25nm,0.5s						
KAD	**Karad**	**18.13**	**286**	*e*	**P**	**01 42 46.4**	**-6.8**
POO	**Poona**	**18.72**	**290**	*e*	**P**	**01 43 13.0**	**+13**
POO				*i*		01 46 15.0	
ENH	**Enshi**	**23.41**	**40**	*e*P	**P**	**01 43 49.3**	**+0.2**
	comp=E,17nm,0.7s,mb4.6						
WMQ	**Urumqi**	**31.07**	**353**	*e*P	**P**	**01 44 59.6**	**+0.2**
AAK	**Ala-Archa**	**33.44**	**336**	*e*P	**P**	**01 45 20.0**	**-0.1**
	comp=E,2.6nm,0.7s,mb4.3						
SONM	**Songino Array**	**36.72**	**16**	P	**P**	**01 45 49.0**	**+0.9**
	comp=E,3.7nm,0.7s,mb4.3,baz=205,slow=7.5,SNR=30						
ULN	**Ulaanbaatar**	**36.93**	**16**	P	**P**	**01 45 49.8**	**0.0**
	comp=E,2.5nm,0.7s,mb4.2						
KURK	**Kurchatov**	**39.34**	**346**	*e*P	**P**	**01 46 10.3**	**+0.3**
	comp=E,8.0nm,1.0s,mb4.4						
ZAL	**Zalesovo**	**41.37**	**353**	P	**P**	**01 46 26.9**	**+0.3**
	comp=E,2.3nm,0.7s,mb3.9,baz=297,slow=7.1,SNR=16						
ZAL	**Zalesovo**	**41.37**	**353**	P	**P**	**01 46 26.9**	**+0.3**
BVAR	**Borovoye Array**	**43.70**	**341**	P	**P**	**01 46 45.8**	**+0.1**
	comp=E,0.8nm,0.6s,mb3.6,baz=140,slow=9.0,SNR=7.6						
BRVK	**Borovoye**	**43.77**	**341**	*e*P	**P**	**01 46 46.8**	**+0.5**
	comp=E,5.7nm,1.1s,mb4.2						
CHKZ	**Chkalovo**	**44.19**	**342**	*e*P	**P**	**01 46 50.1**	**+0.5**
	comp=E,7.5nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**52.61**	**128**	P	**P**	**01 47 55.3**	**-0.2**
	comp=E,2.3nm,0.8s,mb4.1,baz=305,slow=8.2,SNR=11						
WRAB	**Tennant Creek**	**52.62**	**128**	*e*P	**P**	**01 47 54.2**	**-1.3**
	comp=E,3.2nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**54.47**	**132**	P	**P**	**01 48 09.2**	**0.0**
	comp=E,1.0nm,0.4s,mb4.1,baz=308,slow=6.6,SNR=13						
AKASG	**Malin Array Be**	**63.19**	**321**	P	**P**	**01 49 08.4**	**-1.0**
	comp=E,1.0nm,0.7s,mb4.1,baz=90,slow=3.9,SNR=5.0						
STKA	**Stephens Creek**	**64.81**	**135**	P	**P**	**01 49 20.3**	**-0.1**
FINES	**FINESS Array B**	**67.50**	**332**	P	**P**	**01 49 36.7**	**-0.2**
	comp=E,1.3nm,0.6s,mb4.2,baz=90,slow=7.6,SNR=12						
FINES	**FINESS Array B**	**67.50**	**332**	P	**P**	**01 49 36.7**	**-0.2**
ARCES	**ARCESS Array B**	**69.98**	**340**	P	**P**	**01 49 52.2**	**+0.1**
	comp=E,2.3nm,0.8s,mb4.2,baz=76,slow=5.0,SNR=9.6						
GERES	**GERESS Array B**	**72.98**	**317**	P	**P**	**01 50 11.0**	**+0.5**
	comp=E,1.2nm,0.7s,mb3.9,baz=79,slow=6.8,SNR=9.1						
NB2	**NORSAR Subarra**	**74.54**	**330**	P	**P**	**01 50 19.1**	**-0.2**
	comp=E,0.8nm,0.6s,mb3.8,baz=90,slow=5.6						
NOA	**NORSAR Array B**	**74.54**	**330**	P	**P**	**01 50 19.1**	**-0.2**
	comp=E,0.9nm,0.6s,mb3.9,baz=91,slow=5.7,SNR=3.8						
ILAR	**Eielson Array**	**90.73**	**22**	P	**P**	**01 51 42.9**	**0.0**
	comp=E,1.0nm,0.9s,mb4.1,baz=305,slow=4.9,SNR=5.2						
INK	**Inuvik**	**92.64**	**16**	P	**P**	**01 51 52.1**	**+0.6**
	comp=E,0.4nm,0.4s,mb4.2,baz=332,slow=5.9,SNR=8.5						
INK	**Inuvik**	**92.64**	**16**	*e*P	**P**	**01 51 52.0**	**+0.5**
	comp=E,0.8nm,0.6s,mb4.3						
NVAR	**Mina Array Bea**	**121.39**	**28**	PKP	PKPdf	01 57 36.0	-1.4
	comp=E,0.4nm,0.5s,baz=309,slow=2.4,SNR=5.5						
TXAR	**Lajitas Array**	**135.22**	**20**	PKP	PKPdf	01 58 02.6	-1.4
	comp=E,0.3nm,0.5s,baz=59,slow=1.1,SNR=5.4						

IGQ 25 01:41:12.3, 1.73S×81.20W, h12km±25km, mb4.0, 1C-1D, Error ellipse: s-maj=24.8km s-min=10.8km az=159.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.57**	**85**	P	Pn	01 41 56.6	+2.2
ARRY	**Arrayan**	**2.75**	**85**	P	Pn	01 41 58.6	+1.6
ARRY				S	Sn	01 42 31.2	+0.7
PISA	**Pisayambo**	**2.89**	**77**	P	Pn	01 42 00.7	+1.7
NAS1	**Nasa**	**2.93**	**68**	P	Pn	01 42 01.8	+2.2
VC1	**Cotopaxi 1**	**2.99**	**69**	P	Pn	01 42 02.7	+2.2
JUA2	**San Juan 2**	**3.00**	**60**	P	Pn	01 42 00.3	-0.2
PINO	**Pino**	**3.02**	**59**	P	Pn	01 42 00.6	-0.3
YANA	**Yana**	**3.08**	**59**	P	Pn	01 42 01.8	+0.2
ANTI	**Antisana**	**3.29**	**67**	⇓P	Pn	01 42 06.9	+2.2
ANTI				S	Sn	01 42 45.3	+1.1
COTA	**Cotacachi**	**3.52**	**54**	P	Pn	01 42 10.9	+2.9
CAYR	**Refugio Cayamb**	**3.63**	**61**	⇑P	Pn	01 42 12.0	+2.4
CAYA	**Cayambe**	**3.67**	**61**	P	Pn	01 42 12.1	+2.0

IGQ 25 01:43:51.5, 1.38S×81.37W, h18km±6km, mb4.1, 6C-3D, Error ellipse: s-maj=9.8km s-min=7.4km az=140.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.89**	**69**	⇑P	Pb	01 44 07.8	-0.2
IGUA	**Igualata**	**2.74**	**92**	⇑P	Pn	01 44 36.3	+0.8
CUSU	**Cusua**	**2.89**	**91**	P	Pn	01 44 39.3	+1.6
JUIV	**Juive**	**2.91**	**91**	P	Pn	01 44 39.5	+1.6
ARRY	**Arrayan**	**2.92**	**93**	⇓P	Pn	01 44 38.7	+0.6
ARRY				S	Sn	01 45 13.2	+0.1
RETU	**Refugio**	**2.93**	**92**	P	Pn	01 44 40.1	+1.9
PATA	**Patacocha**	**2.94**	**93**	P	Pn	01 44 40.3	+1.9
PATA				S	Sn	01 45 14.8	+1.2
RUN2	**Runtun**	**2.96**	**91**	P	Pn	01 44 41.0	+2.4
ULBA	**Ulba**	**2.96**	**91**	P	Pn	01 44 40.0	+1.2
NAS1	**Nasa**	**2.99**	**76**	P	Pn	01 44 41.1	+2.1
JUA2	**San Juan 2**	**3.00**	**67**	P	Pn	01 44 40.0	+0.7
PISA	**Pisayambo**	**3.00**	**84**	P	Pn	01 44 40.8	+1.5
TERV	**Terraza Guagua**	**3.02**	**67**	P	Pn	01 44 40.1	+0.6
PINO	**Pino**	**3.02**	**66**	⇓P	Pn	01 44 40.5	+1.0
JOR1	**San Jorge 1**	**3.06**	**63**	P	Pn	01 44 39.8	-0.3
VC1	**Cotopaxi 1**	**3.06**	**76**	⇑P	Pn	01 44 43.8	+3.7
YANA	**Yana**	**3.07**	**66**	P	Pn	01 44 40.8	+0.6
ANTI	**Antisana**	**3.34**	**74**	⇑P	Pn	01 44 46.9	+2.8
COTA	**Cotacachi**	**3.48**	**61**	⇓P	Pn	01 44 48.8	+2.8
CAYR	**Refugio Cayamb**	**3.64**	**68**	⇑P	Pn	01 44 52.9	+4.6
CAYA	**Cayambe**	**3.67**	**67**	⇑P	Pn	01 44 52.8	+4.0
CONE	**Cono NE Rev Vo**	**3.95**	**71**	P	Pn	01 44 57.8	+5.1

IGQ 25 01:45:49.8, 1.47S×80.98W, h12km±8km, mb4.1, 1C, Error ellipse: s-maj=10.1km s-min=9.3km az=174.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.60**	**46**	P	Pb	01 46 00.2	-1.4
IGUA	**Igualata**	**2.34**	**91**	P	Pn	01 46 29.7	+1.1
IGUA				S	Sn	01 47 00.4	+2.9
ARRY	**Arrayan**	**2.52**	**91**	⇑P	Pn	01 46 32.2	+0.9
ARRY				S	Sn	01 47 03.6	+1.4
PATA	**Patacocha**	**2.54**	**91**	P	Pn	01 46 33.6	+2.0
RUN2	**Runtun**	**2.56**	**89**	P	Pn	01 46 33.9	+2.1
ULBA	**Ulba**	**2.57**	**90**	P	Pn	01 46 33.3	+1.4
PISA	**Pisayambo**	**2.62**	**81**	P	Pn	01 46 35.6	+2.9
VC1	**Cotopaxi 1**	**2.70**	**72**	P	Pn	01 46 37.3	+3.5
PINO	**Pino**	**2.70**	**61**	P	Pn	01 46 35.2	+1.4
YANA	**Yana**	**2.75**	**61**	P	Pn	01 46 35.9	+1.3
CAYR	**Refugio Cayamb**	**3.31**	**64**	P	Pn	01 46 45.8	+3.2
CAYA	**Cayambe**	**3.35**	**63**	P	Pn	01 46 45.5	+2.4

NEIC ***25*** *01:52:30.1, 31.07S×71.32W, h63km, MD3.9(GUC), After GUC.*
GUC 25 01:52:30.1±0.8, 31.07S×71.32W, h63km±4km, MD3.9, ML3.9, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.47**	**12**	*e*P	P	01 52 42.5	+0.4
OVCH				*i* S	S	01 52 51.6	+0.7
OVCH				AMP		01 52 52.4	
	comp=E,11μm,0.3s						
ILCH	**Illapel**	**0.58**	**167**	⇓*i*P	P	01 52 43.6	+0.3
ILCH				*i* S	S	01 52 53.4	+0.5
ILCH				AMP		01 52 54.9	
	comp=N,8μm,0.2s						
TLL	**Tololo Astrono**	**1.00**	**26**	⇑*i*P	P	01 52 49.1	+0.6
TLL				*i* S	S	01 53 03.3	+1.1
TLL				AMP		01 53 05.6	
	comp=N,11μm,0.5s						
LSCH	**La Serena**	**1.16**	**3**	*e*P	P	01 52 50.7	+0.1
LSCH				*i* S	S	01 53 06.1	+0.2
LSCH				AMP		01 53 06.9	
	comp=N,2μm,0.4s						
PTCH	**Petorca**	**1.24**	**165**	*e*P	P	01 52 51.7	0.0
PTCH				*i* S	S	01 53 07.8	+0.1
PTCH				AMP		01 53 12.9	
	comp=N,5μm,0.2s						
PACH	**Papudo**	**1.47**	**184**	*e*P	P	01 52 54.8	-0.2
JACH	**Jahuel**	**1.72**	**159**	*e*P	P	01 52 58.4	0.0
JACH				*i* S	S	01 53 20.2	+0.8
IHA	**Instituto Hidr**	**1.97**	**188**	*e*P	P	01 53 00.9	-0.9
ZON	**Zonda**	**2.31**	**103**	*e*P	P	01 53 09.0	+2.3
ZON				*e*S	S	01 53 39.0	+5.1
LCCH	**Las Cruces**	**2.41**	**185**	*e*P	P	01 53 07.2	-0.8
CLCH	**Cerro Calan**	**2.41**	**164**	*e*P	P	01 53 07.9	-0.2
CLCH				*i* S	S	01 53 37.3	+0.8
CLCH				AMP		01 53 51.0	
	comp=E,849nm,0.6s						
FCH	**Farellones**	**2.42**	**159**	*e*P	P	01 53 08.8	+0.7
FCH				*i* S	S	01 53 38.2	+1.7
RCDM	**Rinconada Maip**	**2.45**	**170**	*e*P	P	01 53 08.5	-0.2
VACH	**Vallenar**	**2.53**	**11**	*e*P	P	01 53 09.5	-0.3
TACH	**Talagante**	**2.60**	**173**	*e*P	P	01 53 10.3	-0.4
PCH	**Pirque**	**2.63**	**165**	*e*P	P	01 53 11.0	-0.2
MDZ	**Mendoza**	**2.77**	**131**	*e*P	P	01 53 14.9	+1.7
MDZ				*i* S	S	01 53 48.9	+3.4
CHCH	**Chadas Angostu**	**2.91**	**169**	*e*P	P	01 53 14.5	-0.7
LMEL	**Las Melosas**	**2.93**	**161**	*e*P	P	01 53 15.8	+0.4
LMEL				*e*S	S	01 53 49.6	+0.1
LMEL				AMP		01 53 56.7	
	comp=N,358nm,0.4s						

IGQ 25 01:58:09.7, 1.48S×81.07W, h9km±6km, mb4.0, 1C-2D, Error ellipse: s-maj=8.3km s-min=8.2km az=27.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.67**	**51**	⇑P	Pb	01 58 22.2	-1.0
IGUA	**Igualata**	**2.43**	**90**	⇓P	Pn	01 58 51.6	+1.4
IGUA				S	Sn	01 59 23.6	+3.2
ARRY	**Arrayan**	**2.61**	**91**	⇓P	Pn	01 58 54.3	+1.4
ARRY				S	Sn	01 59 24.7	-0.3
PATA	**Patacocha**	**2.63**	**91**	P	Pn	01 58 55.5	+2.3
RUN2	**Runtun**	**2.65**	**89**	P	Pn	01 58 55.7	+2.2
ULBA	**Ulba**	**2.66**	**89**	P	Pn	01 58 55.2	+1.7
PISA	**Pisayambo**	**2.71**	**81**	P	Pn	01 58 56.1	+1.8
PISA				S	Sn	01 59 30.0	+2.4
NAS1	**Nasa**	**2.72**	**72**	P	Pn	01 58 56.9	+2.4
JUA2	**San Juan 2**	**2.76**	**63**	P	Pn	01 58 55.5	+0.4
TERV	**Terraza Guagua**	**2.78**	**62**	P	Pn	01 58 56.8	+1.5
PINO	**Pino**	**2.79**	**62**	P	Pn	01 58 54.9	-0.5
VC1	**Cotopaxi 1**	**2.79**	**73**	P	Pn	01 58 58.5	+3.1
TAMB	**Tambo**	**2.81**	**74**	P	Pn	01 58 58.1	+2.5
YANA	**Yana**	**2.84**	**62**	P	Pn	01 58 56.1	0.0
ANTI	**Antisana**	**3.08**	**71**	P	Pn	01 59 01.8	+2.3
COTA	**Cotacachi**	**3.27**	**57**	P	Pn	01 59 04.3	+2.0
CAYR	**Refugio Cayamb**	**3.40**	**64**	P	Pn	01 59 07.0	+3.0
CAYA	**Cayambe**	**3.44**	**63**	P	Pn	01 59 07.3	+2.7

THE ***25*** *01:58:31.7, 39.54N×19.63E, h10km, ML3.1*
ATH ***25*** *01:58:31.7, 39.69N×19.70E, h5km±4km, MD3.3/5*
NEIC ***25*** *01:58:31.7, 39.69N×19.70E, h5km, MD3.3(ATH), After ATH.*
CSEM ***25*** *01:58:32.6±0.7, 39.66N×19.62E, h1km±4km, MD3.3/1, Error ellipse: s-maj=12.2km s-min=5.2km az=110.0*
ISC 25 01:58:31.6±1.4, 39.64N±0.06×19.6E±0.1, h5km, n13, σ1§23/18, 1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.17**	**65**	⇓*i*PG	**Pg**	**01 58 32.8**	**-2.4**
IGT	**Igoumenitsa**	**0.58**	**100**	*e*Pg	**Pg**	**01 58 41.8**	**-1.4**
IGT				*e*Sg	**Sg**	**01 58 50.5**	**-0.5**
LSK	**Leskovik**	**0.93**	**56**	*e*Pn	**Pn**	**01 58 46.9**	**-4.2**
LSK				*i* Sn	**Sn**	**01 59 01.1**	**-3.7**
JAN	**Janina**	**0.97**	**89**	*e*PB	**Pb**	**01 58 48.6**	**-1.9**
VLS	**Valsamata**	**1.65**	**152**	*e*PB	**Pb**	**01 59 03.5**	**+1.3**
FNA	**Florina**	**1.78**	**49**	*e*Pb	**Pb**	**01 59 04.2**	**-0.2**
FNA				*e*Sb	**Sb**	**01 59 28.9**	**+1.9**
KZN	**Kozani**	**1.80**	**68**	*e*PN	**Pn**	**01 59 05.0**	**+1.4**
EVR	**Evrytania**	**1.86**	**112**	*e*PN	**Pn**	**01 59 06.0**	**+1.5**
LIT	**Litokhoron**	**2.27**	**77**	*e*Pn	**Pn**	**01 59 10.2**	**-0.2**
LIT				*e*Sn	**Sn**	**01 59 39.9**	**+0.8**
GRG	**Griva**	**2.52**	**58**	*e*Pn	**Pn**	**01 59 14.1**	**+0.2**
GRG				*e*Sn	**Sn**	**01 59 46.3**	**+1.0**
SKO	**Skopje**	**2.72**	**30**	*e*Pn	**Pn**	**01 59 16.0**	**-0.7**
KNT	**Kendrikon**	**2.95**	**58**	*e*Pn	**Pn**	**01 59 19.4**	**-0.6**
SOH	**Sokhos**	**3.11**	**66**	*e*Pn	**Pn**	**01 59 22.1**	**-0.2**

IDC 25 02:03:18.2±25.0, 18.64S×173.96W, mb4.3/4, mb1 4.4/4, mb1mx3.9/16, mbtmp4.3/4, Error ellipse: s-maj=470.9km s-min=154.8km az=73.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.50**	**261**	P	P	02 10 35.1	-0.6
	5.3nm,0.8s,baz=124,slow=12,SNR=3.2						
STKA	**Stephens Creek**	**42.02**	**243**	P	P	02 11 11.3	-1.8
	1.2nm,0.5s,baz=87,slow=9.5,SNR=4.2						
WRA	**Warramunga Arr**	**48.65**	**260**	P	P	02 12 03.6	-2.6
	1.2nm,0.3s,baz=97,slow=7.7,SNR=23						
ASAR	**Alice Springs**	**48.66**	**255**	P	P	02 12 04.2	-2.1
	2.9nm,0.8s,baz=88,slow=8.5,SNR=22						

IDC 25 02:15:00.4±26.0, 18.84S×173.02W, mb4.3/4, mb1 4.5/4, mb1mx4.0/16, mbtmp4.3/4, MS4.2/1, Ms1 4.2/1, ms1mx3.0/24, Error ellipse: s-maj=480.2km s-min=161.8km az=74.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.35**	**261**	P	P	02 22 24.2	-0.8
	2.1nm,0.3s,baz=85,slow=12,SNR=6.2						
CTA				LR	LR	02 35 45.9	
	comp=Z,324nm,20.7s,baz=108,slow=32						
STKA	**Stephens Creek**	**42.73**	**243**	P	P	02 22 59.4	-1.8
	0.6nm,0.5s,baz=91,slow=14,SNR=3.5						
ASAR	**Alice Springs**	**49.48**	**255**	P	P	02 23 52.5	-2.2
	5.9nm,0.5s,baz=94,slow=7.5,SNR=73						
WRA	**Warramunga Arr**	**49.50**	**260**	P	P	02 23 52.7	-2.3
	1.6nm,0.3s,baz=96,slow=7.5,SNR=45						

IGQ 25 02:16:12.9, 1.40S×81.31W, h15km±9km, mb4.1, 2C-4D, Error ellipse: s-maj=9.2km s-min=8.2km az=168.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.84**	**65**	⇓P	Pb	02 16 28.3	-0.3
IGUA	**Igualata**	**2.67**	**92**	⇑P	Pn	02 16 57.1	+0.9
IGUA				S	Sn	02 17 29.4	+0.9
JUIV	**Juive**	**2.84**	**90**	P	Pn	02 17 00.2	+1.6
ARRY	**Arrayan**	**2.85**	**92**	⇑P	Pn	02 16 59.5	+0.7
ARRY				S	Sn	02 17 33.0	-0.2
PATA	**Patacocha**	**2.88**	**92**	P	Pn	02 17 01.6	+2.5
PATA				S	Sn	02 17 35.7	+2.0
RUN2	**Runtun**	**2.89**	**90**	P	Pn	02 17 00.9	+1.5
ULBA	**Ulba**	**2.90**	**91**	P	Pn	02 17 01.4	+1.9
ULBA				S	Sn	02 17 35.7	+1.4
NAS1	**Nasa**	**2.93**	**75**	P	Pn	02 17 02.9	+3.0
PISA	**Pisayambo**	**2.94**	**83**	P	Pn	02 17 02.4	+2.3
PISA				S	Sn	02 17 36.7	+1.3
JUA2	**San Juan 2**	**2.95**	**66**	P	Pn	02 17 00.9	+0.8
TERV	**Terraza Guagua**	**2.97**	**66**	P	Pn	02 17 02.4	+2.0
PINO	**Pino**	**2.97**	**65**	⇓P	Pn	02 17 01.3	+0.8
VC1	**Cotopaxi 1**	**3.00**	**75**	P	Pn	02 17 04.6	+3.7
JOR1	**San Jorge 1**	**3.01**	**62**	P	Pn	02 17 01.2	+0.1
YANA	**Yana**	**3.02**	**65**	P	Pn	02 17 01.9	+0.7
ANTI	**Antisana**	**3.29**	**73**	P	Pn	02 17 07.2	+2.3
COTA	**Cotacachi**	**3.44**	**60**	⇓P	Pn	02 17 09.4	+2.3
CAYR	**Refugio Cayamb**	**3.59**	**67**	P	Pn	02 17 13.6	+4.3
CAYA	**Cayambe**	**3.63**	**66**	⇓P	Pn	02 17 13.5	+3.8

IDC ***25*** *02:21:08.8±0.7, 3.97S×131.30E, mb4.3/7, mb1 4.7/10, mb1mx4.6/15, mbtmp4.5/10, ML4.3/3, MS3.8/2, Ms1 3.9/2, ms1mx3.2/16, Error ellipse: s-maj=42.8km s-min=15.7km az=63.0*
BJI ***25*** *02:21:09.2, 4.38S×130.99E, h28km, mb4.2*
NEIC ***25*** *02:21:10.5±5.8

2.5nm,0.7s,mb4.3,baz=316,slow=5.2,SNR=8.5
BVAR Borovoye Array 76.42 327 P P 02 32 59.1 +0.6
2.3nm,0.9s,mb4.1,baz=117,slow=6.6,SNR=7.2
BRVK Borovoye 76.49 327 P P 02 32 56.8 -2.2
8.3nm,0.9s,mb4.7
CHKZ Chkalovo 76.59 328 eP P 02 32 59.4 -0.1
7.9nm,1.1s,mb4.6
MCK McKinley 89.31 26 eP P 02 34 05.0 +0.5
1.5nm,0.8s,mb4.4
ILAR Eielson Array 90.38 25 P P 02 34 09.2 -0.3
0.6nm,0.7s,mb4.0,baz=262,slow=4.0,SNR=7.5
ILAR LR LR 03 09 36.7
comp=Z,59nm,19.7s,MS4.0,baz=350,slow=32
RES Resolute Bay 104.77 11 Pdif Pdif 02 35 15.3 +0.8
LVC Limon Verde 146.82 144 ePKPdf PKPdf 02 40 51.0 +2.5
LPAZ La Paz 152.02 137 PKPbc PKPdf 02 41 08.8 +12
1.2nm,0.6s,baz=48,slow=3.0,SNR=3.7

*BJI **25** 02:28:43.1, 2.65N×127.44E, h73km, mB4.9, mb4.8*
*IDC **25** 02:28:45.4±3.9, 2.75N×127.12E, h59km±34km, mb4.0/11, mb1 4.1/11, mb1mx4.0/17, mbtmp4.3/11, MS4.4/1, Ms1 4.4/1, ms1mx2.8/24, Error ellipse: s-maj=50.5km s-min=11.8km az=70.0*
*NEIC **25** 02:28:45.2±4.2, 2.79N×127.19E, h58km±40km, mb4.8/9, Error ellipse: s-maj=26.1km s-min=7.3km az=70.0*
ISC 25 02:28:38.3±4.2, 2.78N±0.08×126.9E±0.2, h15km±26km, n28, σ0°95/28, mb4.6/22, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	12.70	333	LR	LR	02 37 54.0	
	comp=Z,μm,21.5s,baz=268,slow=43						
FITZ	Fitzroy Crossi	20.79	183	eP	P	02 33 21.9	+0.2
	3.6nm,0.4s						
WRAB	Tennant Creek	23.73	162	eP	P	02 33 50.7	-0.3
	18nm,0.5s,mb4.8						
WRA	Warramunga Arr	23.73	162	P	P	02 33 50.8	-0.2
	9.5nm,0.4s,mb4.6,baz=336,slow=10,SNR=44						
WRA				S	S	02 38 02.6	+0.5
	2.3nm,0.7s,baz=336,slow=21,SNR=6.7						
WB2	Warramunga Arr	23.73	162	eP	P	02 33 50.7	-0.3
MBWA	Marble Bar	24.81	196	P	P	02 34 03.8	+2.4
	22nm,1.2s,mb4.6						
ASAR	Alice Springs	27.16	166	P	P	02 34 22.4	-0.9
	2.3nm,0.3s,mb4.2,baz=345,slow=11,SNR=15						
ASAR				PcP	PcP	02 37 43.9	-0.3
	0.5nm,0.5s,baz=333,slow=2.0,SNR=3.9						
ASPA	Alice Springs	27.16	166	eP	P	02 34 23.7	+0.5
CMAR	Chiang Mai Arr	31.51	302	P	P	02 35 04.3	+2.1
	1.0nm,0.5s,mb3.9,baz=111,slow=7.1,SNR=4.7						
ENH	Enshi	31.93	331	eP	P	02 35 05.2	-0.7
	5.0nm,0.4s,mb4.7						
STKA	Stephens Creek	37.18	159	P	P	02 35 50.4	-0.5
	14nm,0.6s,mb5.0,baz=330,slow=9.9,SNR=21						
STKA	Stephens Creek	37.18	159	eP	P	02 35 50.0	-0.8
BJT	Baijiatuau	38.33	347	eP	P	02 36 01.4	+1.0
	40nm,0.8s,mb5.2						
BJI	Beijing	38.34	347	P	P	02 36 01.6	+1.1
	42nm,0.8s,mb5.2						
PKI	Pulchoki	46.66	306	eP	P	02 37 05.9	-2.5
KKN	Kakani	46.86	306	eP	P	02 37 09.0	-1.0
	4.6nm,0.3s,mb4.9						
DMN	Daman	46.92	306	eP	P	02 37 09.2	-1.3
	16nm,0.9s,mb4.9						
ULN	Ulaanbaatar	48.07	342	eP	P	02 37 20.2	+1.0
	6.8nm,0.8s,mb4.7						
KOLN	Koldanda	48.21	305	eP	P	02 37 21.3	+0.7
	30nm,0.8s,mb5.4						
SONM	Songino Array	48.25	342	P	P	02 37 21.2	+0.6
	2.7nm,0.5s,mb4.5,baz=160,slow=8.9,SNR=20						
ZAL	Zalesovo	61.51	333	P	P	02 38 56.8	-0.1
	1.2nm,0.7s,mb4.1,baz=9.2,slow=7.2,SNR=7.6						
KURK	Kurchatov	62.63	328	eP	P	02 39 03.8	-0.7
	5.6nm,0.5s,mb5.0						
BVAR	Borovoye Array	68.21	327	P	P	02 39 40.2	-0.2
	2.5nm,0.7s,mb4.4,baz=127,slow=7.4,SNR=12						
CHKZ	Chkalovo	68.38	328	eP	P	02 39 41.1	-0.3
	3.8nm,0.9s,mb4.4						
VNDA	Vanda	82.47	173	P	P	02 41 01.3	+0.2
	3.3nm,1.1s,mb4.2,baz=316,slow=7.2,SNR=5.3						
ILAR	Eielson Array	85.88	25	P	P	02 41 18.6	+0.1
	0.2nm,0.7s,mb3.5,baz=233,slow=4.5,SNR=2.5						
ARCES	ARCESS Array B	91.39	340	P	P	02 41 43.5	-1.1
	1.8nm,1.0s,mb4.4,baz=56,slow=4.4,SNR=7.2						
FINES	FINESS Array B	92.75	332	P	P	02 41 51.6	+0.5
	3.2nm,1.1s,mb4.7,baz=68,slow=7.5,SNR=3.8						

IGQ 25 02:45:37.2, 1.42S×81.26W, h25km±6km, mb4.6, 4C-7D, Error ellipse: s-maj=10.1km s-min=7.5km az=143.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.80	63	↑P	Pb	02 45 52.1	-0.3
IGUA	Igualata	2.62	92	↓P	Pn	02 46 19.6	+0.7
CUSU	Cusua	2.77	91	P	Pn	02 46 22.8	+1.7
JUIV	Juive	2.79	90	P	Pn	02 46 22.7	+1.3
ARRY	Arrayan	2.80	92	↓P	Pn	02 46 22.3	+0.7
ARRY				S	Sn	02 46 52.5	-2.4
RETU	Refugio	2.81	91	P	Pn	02 46 23.5	+1.8
PATA	Patacocha	2.82	92	P	Pn	02 46 23.3	+1.5
PATA				S	Sn	02 46 58.8	+3.3
RUN2	Runtun	2.84	90	P	Pn	02 46 23.5	+1.4
ULBA	Ulba	2.85	91	P	Pn	02 46 23.5	+1.3
MARY	Rancho Maria	2.85	76	P	Pn	02 46 25.5	+3.3
NAS1	Nasa	2.88	74	P	Pn	02 46 25.0	+2.2
PISA	Pisayambo	2.89	83	↑P	Pn	02 46 25.0	+2.2
JUA2	San Juan 2	2.91	66	↑P	Pn	02 46 24.0	+1.0
TERV	Terraza Guagua	2.92	65	P	Pn	02 46 23.9	+0.6
PINO	Pino	2.93	65	↓P	Pn	02 46 24.3	+1.0
VC1	Cotopaxi 1	2.95	75	P	Pn	02 46 25.9	+2.2
JOR1	San Jorge 1	2.97	62	P	Pn	02 46 23.8	-0.1
TAMB	Tambo	2.97	76	↑P	Pn	02 46 26.6	+2.6
YANA	Yana	2.98	64	↓P	Pn	02 46 24.9	+0.8
ANTI	Antisana	3.24	73	↓P	Pn	02 46 30.0	+2.3
COTA	Cotacachi	3.40	59	P	Pn	02 46 32.4	+2.4
CAYR	Refugio Cayamb	3.54	66	↓P	Pn	02 46 35.4	+3.3
CAYR				S	Sn	02 47 18.2	+4.5
CAYA	Cayambe	3.58	66	↓P	Pn	02 46 35.8	+3.1
CAYA				S	Sn	02 47 24.4	+10
CONE	Cono NE Rev Vo	3.85	70	P	Pn	02 46 40.6	+4.2

*IDC **25** 02:46:20.2±4.0, 46.37N×146.05E, h60km±51km, mb3.5/5, mb1 3.7/6, mb1mx3.4/22, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=60.7km s-min=22.2km az=152.0*
*JMA **25** 02:46:21.4±0.4, 44.28N×146.97E, h143km±4km, M3.8*
ISC 25 02:46:19.2±0.9, 44.3N±0.1×146.9E±0.1, h171km±12km, n19, σ0°83/26, mb3.5/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.23	225	P	P	02 46 48.1	-0.2
NEM2				eS	S	02 47 08.4	-2.3
JRA	Rausu	1.34	257	P	P	02 46 49.1	-0.2
JNK	Nakash	1.73	248	P	P	02 46 53.8	+0.6
JAK	Akkeshi	2.05	233	P	P	02 46 57.2	+0.6
JAK				eS	S	02 47 25.2	-0.2
JTKR	Abashiri--Toko	2.20	264	P	P	02 46 58.8	+0.4
JTKR				eS	S	02 47 27.5	-1.0
JAR	Ashorobuto	2.48	249	P	P	02 47 03.2	+1.4
JMP	Maruseppu	2.59	266	P	P	02 47 03.2	+0.2
JOB	Onbets	2.62	240	P	P	02 47 04.7	+1.2
JOB				eS	S	02 47 37.2	-0.3
JKK2	Kamakawa 2	3.04	264	P	P	02 47 09.6	+1.0
JCH	Churui	3.07	239	P	P	02 47 09.7	+0.7
JCH				eS	S	02 47 46.5	-0.7
ASAJ	Asahikawa	3.12	269	P	P	02 47 10.0	+0.3
	3.8nm,0.3s,baz=74,slow=13,SNR=8.8						
ASAJ				S	S	02 47 48.3	-0.1
	0.6nm,0.3s,baz=240,slow=20,SNR=2.6						
JSE	Soyaes	3.19	284	P	P	02 47 09.8	-0.7
JNBK	Urakawa-nobuka	3.63	239	P	P	02 47 16.3	+0.2
JNBK				eS	S	02 47 55.0	-4.9
JWK2	Keihoku	3.74	288	P	P	02 47 18.2	+0.7
ILAR	Eielson Array	41.18	37	P	P	02 53 47.8	-0.1
	0.6nm,0.6s,mb3.4,baz=273,slow=8.6,SNR=9.7						
CMAR	Chiang Mai Arr	47.52	253	P	P	02 54 50.4	+11
	2.3nm,0.4s,mb4.2,baz=45,slow=6.4,SNR=5.1						
BVAR	Borovoye Array	49.07	309	P	P	02 54 45.3	-5.2
	0.2nm,0.6s,mb3.0,baz=80,slow=8.8,SNR=2.6						
YKA	Yellowknife Ar	55.48	34	P	P	02 55 37.5	-0.3
	0.3nm,0.4s,mb3.4,baz=304,slow=7.0,SNR=7.9						
FINES	FINESS Array B	64.36	333	P	P	02 56 36.5	-1.7
	1.0nm,0.7s,mb3.8,baz=59,slow=8.1,SNR=6.9						

*IDC **25** 02:48:33.5±0.8, 7.15N×125.67E, mb4.2/9, mb1 4.4/9, mb1mx4.2/20, mbtmp4.2/9, Error ellipse: s-maj=59.2km s-min=15.4km az=74.0*
*BJI **25** 02:48:35.6, 7.20N×125.80E, h10km, mb4.7*
*NEIC **25** 02:48:35.6±0.3, 7.15N×125.76E, h10km, mb4.7/12, Error ellipse: s-maj=23.6km s-min=5.9km az=73.0*
*MAN **25** 02:48:36.9, 7.11N×126.19E, h21km, mb4.5, ML3.4, MS3.4*
MAN TAGUM DAVAO INTENSITY III.
ISC 25 02:48:37.4±0.5, 7.19N±0.03×126.17E±0.06, h37km±5km, n34, σ1°28/39, mb4.3/20, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.25	161	eP	P	02 48 43.8	-1.2
MATI				eS	S	02 48 50.2	0.0
DAV	Davao City (W)	0.60	259	i P	P	02 48 47.0	-2.4
BIPH	Bislig	1.01	11	↓eP	P	02 48 53.8	-1.4
BIPH				eS	S	02 49 07.2	-1.3
KCP	Kidapawan	1.09	261	↓iP	P	02 48 56.3	-0.1
KCP				i S	S	02 49 11.3	+0.9
BUKP	Musuan	1.30	302	eP	P	02 48 58.6	-0.7
BUTP	Butuan	1.85	343	eP	P	02 49 08.4	+1.1
SCPH	Surigao	2.67	345	eP	P	02 49 20.7	+1.7
SCPH				eS	S	02 49 52.5	+2.2
PAGZ	Pagadian	2.84	284	eP	P	02 49 23.2	+1.7
MSLP	Maasin	3.20	336	eP	P	02 49 27.9	+1.4
PLP	Palo	4.12	344	eP	P	02 49 40.5	+0.8
PLP				eS	S	02 50 26.8	-0.6
KAKA	Kakadu	20.73	162	eP	P	02 53 17.5	+0.1
	35nm,0.6s						
FITZ	Fitzroy Crossi	25.13	181	eP	P	02 54 01.4	+0.6
	13nm,0.6s,mb4.6						
ENH	Enshi	27.80	328	P	P	02 54 23.7	-1.6
	21nm,1.3s,mb4.6						
WRAB	Tennant Creek	28.12	164	eP	P	02 54 29.4	+1.0
	19nm,0.8s,mb4.8						
WRA	Warramunga Arr	28.13	164	P	P	02 54 27.9	-0.5
	6.1nm,0.7s,mb4.3,baz=338,slow=10,SNR=20						
WB2	Warramunga Arr	28.13	164	eP	P	02 54 28.8	+0.4
ASPA	Alice Springs	31.58	166	eP	P	02 54 59.7	+0.7
ASAR	Alice Springs	31.58	166	P	P	02 54 58.4	-0.6
	3.7nm,0.6s,mb4.4,baz=341,slow=6.7,SNR=23						
LZH	Lanzhou	35.28	328	eP	P	02 55 31.0	+0.2
LZH				AP	pP	02 55 38.0	-3.5
LZH				XP	sP	02 55 43.5	-2.8
LZH				AMB	AMB		
	comp=Z,26nm,1.5s,mb4.9						
LZH	Lanzhou	35.28	328	eP	P	02 55 31.0	+0.2
	comp=Z,26nm,1.5s,mb4.9						
LZH				pP	pP	02 55 38.0	-3.5
LZH				sP	sP	02 55 43.5	-2.8
FORT	Forrest	37.79	177	eP	P	02 55 52.5	+0.5
	comp=Z,36nm,0.6s,mb5.3						
NWAO	Narrogin (SRO)	40.79	192	P	P	02 56 16.2	-0.7
	comp=Z,36nm,1.4s,mb4.8,baz=30,slow=8.1,SNR=3.3						
STKA	Stephens Creek	41.54	160	P	P	02 56 24.1	+0.9
	comp=Z,7.5nm,0.8s,mb4.3,baz=335,slow=8.1,SNR=12						
ULN	Ulaanbaatar	43.68	341	eP	P	02 56 40.1	-0.4
	comp=Z,2.6nm,0.7s,mb4.1						
SONM	Songino Array	43.87	341	P	P	02 56 40.2	-1.8
	comp=Z,1.3nm,1.1s,mb3.6,baz=153,slow=5.5,SNR=5.0						
ZAL	Zalesovo	57.28	332	P	P	02 58 21.6	-2.2
	comp=Z,0.8nm,0.5s,mb4.0,baz=340,slow=10,SNR=5.1						
KURK	Kurchatov	58.56	327	eP	P	02 58 32.0	-0.6
	comp=Z,4.8nm,0.7s,mb4.6						
BVAR	Borovoye Array	64.15	326	P	P	02 59 08.2	-2.1
	comp=Z,1.0nm,0.5s,mb4.1,baz=121,slow=8.6,SNR=9.3						
BRVK	Borovoye	64.22	326	eP	P	02 59 09.3	-1.5
	comp=Z,2.4nm,0.7s,mb4.3						
CHKZ	Chkalovo	64.29	327	eP	P	02 59 06.6	-4.6
	comp=Z,2.4nm,1.0s,mb4.2						
MCK	McKinley	81.34	27	P	P	03 00 53.8	+2.4
	comp=Z,0.5nm,0.5s,mb3.7						
ILAR	Eielson Array	82.24	26	P	P	03 00 58.5	+2.4
	comp=Z,0.3nm,0.7s,mb3.4,baz=260,slow=3.8,SNR=5.3						
INK	Inuvik	87.17	21	P	P	03 01 23.0	+2.5
	comp=Z,1.4nm,0.9s,mb4.2						
FINES	FINESS Array B	88.54	332	P	P	03 01 26.2	-1.0
	comp=Z,1.1nm,0.6s,mb4.4,baz=72,slow=6.0,SNR=7.8						

IGQ 25 02:51:12.8, 1.48S×81.34W, h20km±5km, mb4.5, 4C-5D, Error ellipse: s-maj=6.0km s-min=5.7km az=29.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.90	62	↑P	Pb	02 51 29.4	-0.2
IGUA	Igualata	2.70	90	↓P	Pn	02 51 57.0	+0.9
IGUA				S	Sn	02 52 30.3	+1.7
CUSU	Cusua	2.86	89	P	Pn	02 52 00.6	+2.2
JUIV	Juive	2.88	89	P	Pn	02 51 60.0	+1.4
ARRY	Arrayan	2.88	91	↓P	Pn	02 51 59.6	+1.0
ARRY				S	Sn	02 52 32.4	-0.7
RETU	Refugio	2.89	90	P	Pn	02 52 00.9	+2.1
PATA	Patacocha	2.91	91	P	Pn	02 52 00.5	+1.5
PATA				S	Sn	02 52 34.4	+0.7
RUN2	Runtun	2.93	89	P	Pn	02 52 01.1	+1.9
RUN2				S	Sn	02 52 34.6	+0.4
ULBA	Ulba	2.93	90	P	Pn	02 52 00.9	+1.6
MARY	Rancho Maria	2.95	76	P	Pn	02 52 01.9	+2.4
MARY				S	Sn	02 52 36.0	+1.2
NAS1	Nasa	2.98	74	P	Pn	02 52 01.5	+1.5
PISA	Pisayambo	2.98	82	P	Pn	02 52 01.7	+1.6
PISA				S	Sn	02 52 36.8	+1.2
JUA2	San Juan 2	3.01	65	↑P	Pn	02 52 01.4	+1.0
TERV	Terraza Guagua	3.03	65	P	Pn	02 52 01.5	+0.8
PINO	Pino	3.03	64	↓P	Pn	02 52 01.7	+0.9
VC1	Cotopaxi 1	3.05	74	↑P	Pn	02 52 03.4	+2.3
TAMB	Tambo	3.07	75	↑P	Pn	02 52 04.0	+2.6
JOR1	San Jorge 1	3.08	62	P	Pn	02 52 01.2	-0.1
YANA	Yana	3.08	64	↓P	Pn	02 52 02.0	+0.6
YANA				S	Sn	02 52 38.8	+0.7
ANTI	Antisana	3.34	72	P	Pn	02 52 07.0	+1.9
COTA	Cotacachi	3.50	59	↓P	Pn	02 52 10.5	+3.1
CAYR	Refugio Cayamb	3.65	66	P	Pn	02 52 12.4	+2.9
CAYA	Cayambe	3.69	65	P	Pn	02 52 13.1	+3.0
CONE	Cono NE Rev Vo	3.95	69	P	Pn	02 52 18.9	+5.0

IGQ 25 02:56:25.9, 1.49S×81.21W, h9km±7km, mb4.2, 2C-1D, Error ellipse: s-maj=17.2km s-min=9.6km az=16.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.80	57	↑P	Pb	02 56 40.7	-0.8
IGUA	Igualata	2.57	90	P	Pn	02 57 09.3	+0.8
ARRY	Arrayan	2.75	90	P	Pn	02 57 10.9	-0.1
ULBA	Ulba	2.80	89	P	Pn	02 57 13.9	+2.2
PISA	Pisayambo	2.86	81	P	Pn	02 57 15.0	+2.5
NAS1	Nasa	2.86	73	↓P	Pn	02 57 16.2	+3.6
JUA2	San Juan 2	2.90	64	P	Pn	02 57 13.8	+0.7
TERV	Terraza Guagua	2.92	63	P	Pn	02 57 15.5	+2.2
PINO	Pino	2.92	63	P	Pn	02 57 14.8	+1.4
PINO				S	Sn	02 57 50.5	+1.4
VC1	Cotopaxi 1	2.93	73	P	Pn	02 57 16.7	+3.1
TAMB	Tambo	2.95	74	P	Pn	02 57 16.8	+2.9
YANA	Yana	2.97	63	P	Pn	02 57 14.3	+0.2
ANTI	Antisana	3.22	71	↑P	Pn	02 57 20.0	+2.3
COTA	Cotacachi	3.40	58	P	Pn	02 57 21.6	+1.4
CAYR	Refugio Cayamb	3.54	65	P	Pn	02 57 25.4	+3.2
CAYA	Cayambe	3.58	64	P	Pn	02 57 25.3	+2.6

IGQ 25 03:07:06.9, 1.63S×81.24W, h5km±29km, mb4.6, Error ellipse: s-maj=28.2km s-min=7.2km az=163.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	2.60	87	P	Pn	03 07 51.3	+0.9
IGUA				S	Sn	03 08 23.6	+0.8
CUSU	Cusua	2.76	86	P	Pn	03 07 55.0	+2.3
JUIV	Juive	2.78	86	P	Pn	03 07 55.9	+3.0
ARRY	Arrayan	2.79	87	P	Pn	03 07 54.7	+1.7
ARRY				S	Sn	03 08 27.2	-0.2
RETU	Refugio	2.80	86	P	Pn	03 07 55.3	+2.2
PATA	Patacocha	2.81	87	P	Pn	03 07 54.6	+1.3
RUN2	Runtun	2.83	86	P	Pn	03 07 55.2	+1.6
ULBA	Ulba	2.84	86	P	Pn	03 07 55.4	+1.7
MARY	Rancho Maria	2.89	72	P	Pn	03 07 56.6	+2.1
PISA	Pisayambo	2.91	79	P	Pn	03 07 56.3	+1.5
NAS1	Nasa	2.93	70	P	Pn	03 07 57.5	+2.4
JUA2	San Juan 2	2.99	62	P	Pn	03 07 55.5	-0.3
VC1	Cotopaxi 1	3.00	71	P	Pn	03 07 58.7	+2.7
TERV	Terraza Guagua	3.01	61	P	Pn	03 07 57.4	+1.3
PINO	Pino	3.01	61	P	Pn	03 07 57.2	+1.0
TAMB	Tambo	3.02	72	P	Pn	03 07 59.2	+2.9
YANA	Yana	3.06	61	P	Pn	03 07 58.0	+1.0
JOR1	San Jorge 1	3.06	58	P	Pn	03 07 55.8	-1.2
ANTI	Antisana	3.29	69	P	Pn	03 08 02.7	+2.5
COTA	Cotacachi	3.50	56	P	Pn	03 08 03.2	+0.1
CAYR	Refugio Cayamb	3.62	63	P	Pn	03 08 07.3	+2.4
CAYR				S	Sn	03 08 51.2	+2.6
CAYA	Cayambe	3.66	62	P	Pn	03 08 07.4	+1.9
CONE	Cono NE Rev Vo	3.92	67	P	Pn	03 08 13.7	+4.7

*IDC **25** 03:10:36.6±0.8, 6.21S×131.51E, mb4.3/8, mb1 4.4/12, mb1mx4.3/17, mbtmp4.3/12, ML4.1/4, Error ellipse: s-maj=40.2km s-min=16.1km az=63.0*
*NEIC **25** 03:10:38.1±0.5, 6.22S×131.35E, h10km, mb4.5/10, Error ellipse: s-maj=16.1km s-min=8.4km az=75.0*
ISC 25 03:10:38.8±0.4, 6.39S±0.05×131.42E±0.10, h33km, n30, σ1°02/35, mb4.3/14, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.36	171	eP	P	03 12 16.1	+3.5
	25nm,0.2s						
KAKA				eS	S	03 13 25.1	+0.2
FITZ	Fitzroy Crossi	12.93	205	eP	P	03 13 43.0	0.0
	20nm,0.3s						
FITZ				eS	S	03 15 58.9	-7.8
WRAB	Tennant Creek	13.76	168	eP	P	03 13 53.0	-1.0
WRAB				eS	S	03 16 17.0	-10
WRA	Warramunga Arr	13.76	168	Pn	P	03 13 53.4	-0.7
	1.7nm,0.3s,baz=344,slow=14,SNR=38						
WRA				Sn	S	03 16 17.6	-9.1
	10nm,0.3s,baz=355,slow=23,SNR=12						
WB2	Warramunga Arr	13.77	168	eP	P	03 13 53.1	-1.0
WB2				eS	S	03 16 19.2	-7.6
PMG	Port Moresby	15.87	102	Pn	P	03 14 22.1	+0.6
	1.0nm,0.3s,baz=282,slow=20,SNR=2.7						
ASAR	Alice Springs	17.34	172	P	P	03 14 40.5	+0.6
	0.7nm,0.3s,baz=350,slow=11,SNR=22						
ASAR				S	S	03 17 43.6	-6.4
	2.0nm,0.3s,baz=3.6,slow=23,SNR=7.8						
ASPA	Alice Springs	17.34	172	eP	P	03 14 42.9	+2.9
ASPA				eS	S	03 17 45.2	-4.8
MBWA	Marble Bar	18.54	217	eP	P	03 14 55.7	+0.7
	9.8nm,0.7s						
CTA	Charters Tower	19.82	135	eP	P	03 15 13.1	+3.5
	14nm,0.8s						
CTA	Charters Tower	19.82	135	P	P	03 15 10.9	+1.3
	1.0nm,0.3s,baz=324,slow=11,SNR=11						
CTAO	Charters Tower	19.82	135	eP	P	03 15 12.9	+3.4
	22nm,0.8s						
FORT	Forrest	24.46	187	eP	P	03 16 01.1	+5.0
	40nm,0.7s,mb5.0						
STKA	Stephens Creek	27.08	161	eP	P	03 16 23.0	+2.4
	1.1nm,0.5s,mb3.6						
STKA	Stephens Creek	27.08	161	P	P	03 16 22.6	+2.1
	0.9nm,0.4s,mb3.7,baz=331,slow=8.8,SNR=5.0						
JOW	Kunigami	33.17	355	P	P	03 17 14.5	-0.1
	18nm,0.7s,mb5.1,baz=201,slow=8.6,SNR=4.1						
CMAR	Chiang Mai Arr	40.45	308	P	P	03 18 17.4	+1.3
	1.6nm,0.4s,mb4.1,baz=135,slow=7.0,SNR=8.1						
ULN	Ulaanbaatar	58.14	341	eP	P	03 20 31.3	-0.4
	3.4nm,0.8s,mb4.4						
SONM	Songino Array	58.33	340	P	P	03 20 32.7	-0.3
	1.5nm,0.7s,mb4.1,baz=168,slow=6.2,SNR=12						
AAK	Ala-Archa	71.00	319	P	P	03 21 53.1	-2.1
	1.9nm,0.5s,mb4.3						
ZAL	Zalesovo	71.68	333	P	P	03 21 59.5	+0.3
	1.0nm,0.7s,mb3.9,baz=341,slow=7.5,SNR=5.4						
KURK	Kurchatov	72.75	328	eP	P	03 22 05.9	+0.4
	2.5nm,0.3s,mb4.6						
BVAR	Borovoye Array	78.31	327	P	P	03 22 37.5	+0.3
	1.9nm,0.6s,mb4.2,baz=131,slow=9.7,SNR=11						
BRVK	Borovoye	78.38	327	eP	P	03 22 38.1	+0.5
	4.2nm,0.8s,mb4.4						
CHKZ	Chkalovo	78.49	328	eP	P	03 22 37.7	-0.5
	1.6nm,0.6s,mb4.1						
ILAR	Eielson Array	92.20	25	P	P	03 23 45.4	-0.8
	0.8nm,0.6s,mb4.2,baz=259,slow=4.5,SNR=18						
DAWY	Dawson	95.34	26	eP	P	03 24 00.6	0.0
INK	Inuvik	97.77	22	P	P	03 24 11.3	-0.1
	1.1nm,1.1s,mb4.3,baz=59,slow=9.1,SNR=3.7						
LVC	Limon Verde	144.97	146	PKPbc	PKPbc	03 30 17.2	+3.5
	2.0nm,0.7s,baz=237,slow=9.1,SNR=5.6						
LPAZ	La Paz	150.30	140	PKPbc	PKPdf	03 30 31.6	+9.3
	1.0nm,0.5s,baz=21,slow=2.1,SNR=4.1						

*MOS **25** 03:10:55.6±0.5, 33.58N×141.86E, h10km, mb4.7/9, Error ellipse: s-maj=23.5km s-min=10.7km az=121.4*
*NIED **

CHKZ	**Chkalovo**	**52.83**	**315**	*e*P	**P**	**03 20 13.8**	**-0.5**
CHKZ				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.3							
CHKZ	**Chkalovo**	**52.83**	**315**	*e*P	**P**	**03 20 13.8**	**-0.5**
comp=Z,3.0nm,0.7s,mb4.3							
BVAR	**Borovoye Array**	**53.06**	**314**	P	**P**	**03 20 14.8**	**-1.2**
comp=Z,3.4nm,0.9s,mb4.3,baz=71,slow=7.2,SNR=14							
BRVK	**Borovoye**	**53.12**	**314**	*e*P	**P**	**03 20 15.8**	**-0.6**
BRVK				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.5							
BRVK	**Borovoye**	**53.12**	**314**	*e*P	**P**	**03 20 15.8**	**-0.7**
comp=Z,3.5nm,0.7s,mb4.4							
CTAO	**Charters Tower**	**53.67**	**175**	P	**P**	**03 20 18.5**	**-2.4**
CTAO				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.6							
CTAO	**Charters Tower**	**53.67**	**175**	P	**P**	**03 20 18.5**	**-2.4**
comp=Z,5.4nm,0.6s,mb4.7							
INK	**Inuvik**	**57.22**	**26**	P	**P**	**03 20 45.6**	**-0.4**
comp=Z,0.8nm,0.8s,mb3.8,baz=286,slow=8.2,SNR=5.6							
HYB	**Hyderabad**	**58.47**	**271**	*i* P	**P**	**03 20 55.5**	**+0.1**
ARU	**Arti**	**59.06**	**320**	*e*P	**P**	**03 20 53.2**	**-5.8**
ARU				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.8							
ARU	**Arti**	**59.06**	**320**	*e*P	**P**	**03 20 53.2**	**-5.8**
comp=Z,6.3nm,0.6s,mb4.8							
STKA	**Stephens Creek**	**65.24**	**180**	*e*P	**P**	**03 21 38.5**	**-2.2**
RES	**Resolute Bay**	**65.74**	**14**	*e*P	**P**	**03 21 43.1**	**-0.1**
RES				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.2							
RES	**Resolute Bay**	**65.74**	**14**	*e*P	**P**	**03 21 43.1**	**0.0**
comp=Z,2.1nm,0.8s,mb4.2							
YKA	**Yellowknife Ar**	**66.54**	**29**	P	**P**	**03 21 46.9**	**-1.5**
comp=Z,0.2nm,0.7s,mb3.3,baz=300,slow=6.0,SNR=4.1							
YKA				pP	pP	03 22 03.9	+7.6
comp=Z,0.5nm,0.8s,baz=295,slow=6.1,SNR=6.1							
YKA	**Yellowknife Ar**	**66.54**	**29**	P	**P**	**03 21 46.9**	**-1.5**
YKA				pP	pP	03 22 03.9	+7.6
FINES	**FINESS Array B**	**71.89**	**333**	P	**P**	**03 22 21.4**	**0.0**
comp=Z,3.8nm,0.9s,mb4.3,baz=56,slow=6.9,SNR=7.4							
NVAR	**Mina Array Bea**	**76.76**	**53**	P	**P**	**03 22 51.5**	**+1.7**
comp=Z,0.7nm,0.8s,mb3.7,baz=281,slow=4.7,SNR=6.1							
NVAR				pP	pP	03 23 08.0	+10
comp=Z,0.8nm,0.6s,baz=287,slow=4.7,SNR=6.2							
AKASG	**Malin Array Be**	**77.11**	**323**	P	**P**	**03 22 51.8**	**+0.3**
AKASG				pmax	pmax		
comp=Z,2.0nm,0.5s							
AKASG	**Malin Array Be**	**77.11**	**323**	P	**P**	**03 22 51.8**	**+0.2**
comp=Z,1.8nm,0.5s,mb4.2,baz=45,slow=6.0,SNR=14							
NB2	**NORSAR Subarra**	**77.36**	**338**	P	**P**	**03 22 53.3**	**+0.6**
comp=Z,1.2nm,0.7s,mb3.9,baz=40,slow=5.6							
NB2	**NORSAR Subarra**	**77.36**	**338**	P	**P**	**03 22 53.3**	**+0.6**
NB2				pmax	pmax		
comp=Z,1.0nm,0.7s,mb3.9							
NOA	**NORSAR Array B**	**77.36**	**338**	P	**P**	**03 22 53.5**	**+0.8**
comp=Z,1.3nm,0.6s,mb4.0,baz=40,slow=5.6,SNR=8.7							
PDAR	**Pinedale Array**	**79.79**	**45**	P	**P**	**03 23 06.4**	**0.0**
comp=Z,1.0nm,0.9s,mb3.8,baz=300,slow=2.2,SNR=7.6							
PDAR				pP	pP	03 23 23.9	+9.5
comp=Z,0.6nm,0.8s,baz=243,slow=3.3,SNR=3.9							
BRTR	**Keskin Array B**	**81.28**	**312**	P	**P**	**03 23 15.1**	**+0.7**
comp=Z,2.3nm,1.0s,mb4.1,baz=101,slow=2.7,SNR=8.6							
PV10	**Paradox Valley**	**82.75**	**48**	*e*P	**P**	**03 23 25.4**	**+3.4**
PV10				*e*		03 23 40.2	
GERES	**GERESS Array B**	**85.69**	**329**	P	**P**	**03 23 37.4**	**+0.8**
comp=Z,0.8nm,0.6s,mb4.2,baz=42,slow=5.1,SNR=9.7							
TXAR	**Lajitas Array**	**91.91**	**53**	P	**P**	**03 24 08.8**	**+2.2**
comp=Z,0.2nm,0.6s,mb3.6,baz=292,slow=4.9,SNR=3.4							
TXAR				pP	pP	03 24 24.3	+10
comp=Z,0.4nm,0.8s,baz=297,slow=2.8,SNR=4.1							

*WAR **25** 03:15:20.9, 50.26N×18.89E, h0km, ML2.6, Mining Induced*
*IPEC **25** 03:15:21.3±0.3, 50.30N×18.86E, ML1.9/3, Error ellipse: s-maj=2.3km s-min=1.9km az=165.0*
*PRU **25** 03:15:22.4, 50.28N×18.77E*
*CSEM **25** 03:15:22.5±0.1, 50.26N×18.76E, h0km, ML2.9/4, Error ellipse: s-maj=2.4km s-min=1.0km az=15.0*
*NEIC **25** 03:15:26.2±1.0, 50.17N×18.35E, h5km, ML2.6(VIE), Error ellipse: s-maj=12.8km s-min=10.5km az=183.0*

ISC 25 03:15:19.9±0.5, 50.26N±0.03×18.79E±0.03, n29, σ1§41/47, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.42**	**246**	*e*PG	**Pg**	**03 15 31.0**	**+2.7**
RAC				*e*SG	**Sg**	**03 15 39.0**	**+5.0**
OKC	**Ostrava-Krasne**	**0.59**	**225**	*e*Pg	**Pg**	**03 15 33.9**	**+2.2**
OKC	**Ostrava-Krasne**	**0.59**	**225**	*e*Pg	**Pg**	**03 15 33.9**	**+2.2**
baz=44							
OJC	**Ojcow**	**0.65**	**93**	*e*PG	**Pg**	**03 15 33.0**	**+0.2**
OJC				*e*SG	**Sg**	**03 15 41.0**	**-0.5**
MORC	**Moravsky Berou**	**0.94**	**240**	*e*Pg	**Pg**	**03 15 39.6**	**+0.9**
MORC	**Moravsky Berou**	**0.94**	**240**	*e*Pg	**Pg**	**03 15 39.9**	**+1.2**
baz=58							
MORC				*e*Sg	**Sg**	**03 15 53.3**	**+2.1**
16nm,0.2s,baz=58							
LIKS	**Likavka**	**1.23**	**170**	*e*SN	**Sn**	**03 16 01.8**	**0.0**
NIE	**Niedzica**	**1.29**	**130**	*e*PG	**Pg**	**03 15 46.0**	**+0.2**
NIE				*e*SG	**Sg**	**03 16 03.0**	**0.0**
JAVC	**Velka Javorina**	**1.58**	**208**	*e*Pn	**Pn**	**03 15 51.9**	**+2.6**
baz=28							
DPC	**Dobruska-Polom**	**1.59**	**274**	*e*PG	**Pg**	**03 15 50.7**	**-0.9**
DPC				*e*SG	**Sg**	**03 16 12.7**	**0.0**
14nm,0.4s							
DPC	**Dobruska-Polom**	**1.59**	**274**	*e*Pn	**Pn**	**03 15 50.8**	**+1.4**
baz=91							
DPC				*e*Sg	**Sg**	**03 16 12.6**	**-0.1**
baz=91							
KSP	**Ksiaz**	**1.70**	**291**	*i* Pg	**Pg**	**03 15 54.2**	**+0.4**
KSP				*e*Sn	**Sn**	**03 16 14.4**	**+0.7**
KSP				*e*Sg	**Sg**	**03 16 17.6**	**+1.2**
KSP	**Ksiaz**	**1.70**	**291**	*e*Pn	**Pg**	**03 15 54.3**	**+0.5**
KSP				*e*Sn	**Sg**	**03 16 17.6**	**+1.2**
VRAC	**Vranov**	**1.71**	**237**	*e*Pn	**Pn**	**03 15 53.2**	**+2.0**
baz=55							
VRAC				*e*Sg	**Sg**	**03 16 16.5**	**-0.5**
12nm,0.2s,baz=55							
VYHS	**Vyhne**	**1.77**	**179**	*e*Pn	**Pn**	**03 15 52.5**	**+0.5**
VYHS				*e*Sn	**Sn**	**03 16 14.9**	**-0.6**
VYHS	**Vyhne**	**1.77**	**179**	*e*	**Pn**	**03 15 52.5**	**+0.5**
VYHS	**Vyhne**	**1.77**	**179**	*e*SN	**Sn**	**03 16 14.9**	**-0.6**
UPC	**Upice**	**1.80**	**279**	*e*PG	**Pg**	**03 15 55.3**	**-0.5**
KRUC	**Moravsky**	**1.96**	**233**	*e*Pn	**Pn**	**03 15 56.7**	**+1.9**
baz=51							
KRUC				*e*Sg	**Sg**	**03 16 24.4**	**-0.9**
7.9nm,0.3s,baz=51							
KECS	**Kecovo**	**2.09**	**147**	*e*PG	**Sn**	**03 16 21.9**	**-1.9**
CRVS	**Cervenica-Dubn**	**2.21**	**127**	*e*Pn	**Pn**	**03 16 02.0**	**+3.8**
CRVS				*e*Sn	**Sn**	**03 16 30.1**	**+3.5**
PSZ	**Piszkesteto**	**2.45**	**162**	*e*Pn	**Pn**	**03 16 02.0**	**+0.2**
KWP	**Kalwaria**	**2.61**	**102**	*e*PG	**Pg**	**03 16 12.0**	**+0.1**
KOLS	**Kolonicke sedl**	**2.62**	**119**	*e*PN	**Pg**	**03 16 11.7**	**-0.6**
KOLS				*e*PG	**Sn**	**03 16 35.3**	**-2.0**
PRU	**Pruhonice**	**2.75**	**266**	*e*PG	**Pg**	**03 16 13.0**	**-1.8**
PRU				*e*SG	**Sg**	**03 16 48.5**	**-2.9**
BRG	**Berggiesshubel**	**3.15**	**283**	*e*Pg	**Pg**	**03 16 20.3**	**-2.5**
BRG				*e*Sg	**Sg**	**03 17 02.1**	**-2.8**
KHC	**Kasperske Hory**	**3.57**	**254**	*e*PG	**Pg**	**03 16 27.3**	**-3.8**
KHC				*e*SG	**Sg**	**03 17 16.8**	**-1.9**
CLL	**Collm**	**3.82**	**288**	*e*SG	**Sg**	**03 17 27.0**	**-0.1**
MOA	**Molln**	**3.83**	**233**	⇑*i*PN	**Pn**	**03 16 21.2**	**-0.2**
MOA				*i* SG	**Sg**	**03 17 24.2**	**-3.2**
3.3nm,0.5s							

IDC 25 03:20:28.1±1.1, 17.96S×173.70W, mb3.9/6, mb1 4.2/6, mb1mx4.0/16, mbtmp3.9/6, Error ellipse: s-maj=52.9km s-min=22.3km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**21.77**	**200**	P	P	03 25 21.4	-2.0
3.6nm,0.4s,baz=315,slow=19,SNR=5.4							
WRA	**Warramunga Arr**	**49.02**	**259**	P	P	03 29 16.7	-2.3
0.6nm,0.6s,baz=95,slow=8.0,SNR=14							
ASAR	**Alice Springs**	**49.09**	**254**	P	P	03 29 17.9	-1.6
2.1nm,0.6s,baz=88,slow=8.6,SNR=15							
NVAR	**Mina Array Bea**	**76.42**	**42**	P	P	03 32 20.2	-1.2
1.8nm,1.2s,baz=225,slow=8.4,SNR=5.6							
PDAR	**Pinedale Array**	**84.35**	**42**	P	P	03 33 01.9	-1.7
0.6nm,0.9s,baz=270,slow=5.4,SNR=3.9							
ILAR	**Eielson Array**	**84.99**	**11**	P	P	03 33 05.2	-1.0
0.4nm,0.6s,baz=228,slow=6.1,SNR=9.7							

IDC 25 03:26:42.4±6.1, 5.60S×154.33E, h149km±53km, mb3.6/6, mb1 3.8/7, mb1mx3.7/14, mbtmp4.0/7, Error ellipse: s-maj=48.3km s-min=22.8km az=100.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.05**	**242**	P	P	03 28 37.3	-0.2
2.0nm,0.3s,baz=69,slow=8.6,SNR=4.3							
PMG				S	S	03 30 06.2	-1.0
1.4nm,0.3s,baz=139,slow=20,SNR=2.9							
WB2	**Warramunga Arr**	**24.09**	**232**	*e*P	P	03 31 44.8	-0.8
WRA	**Warramunga Arr**	**24.10**	**232**	P	P	03 31 44.7	-1.0
4.7nm,0.7s,baz=54,slow=9.6,SNR=56							
ASAR	**Alice Springs**	**26.63**	**226**	P	P	03 32 07.0	-2.2
1.3nm,0.4s,baz=56,slow=9.5,SNR=15							
STKA	**Stephens Creek**	**28.73**	**203**	P	P	03 32 25.6	-2.5
1.6nm,0.4s,baz=41,slow=13,SNR=7.7							
SONM	**Songino Array**	**67.81**	**327**	P	P	03 37 25.0	-1.5
0.2nm,0.4s,baz=140,slow=4.2,SNR=4.2							
VNDA	**Vanda**	**71.98**	**178**	P	P	03 37 50.0	-1.2
2.8nm,1.0s,baz=0.5,slow=7.3,SNR=4.0							
ILAR	**Eielson Array**	**82.33**	**22**	P	P	03 38 46.6	-1.9
0.3nm,0.7s,baz=250,slow=5.0,SNR=6.4							

*JMA **25** 03:28:24.7±0.2, 24.71N×122.19E, h71km, M3.0*
TAP 25 03:28:24.6, 24.48N×122.11E, h64km±1km, ML3.8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.82**	**91**	P	P	03 28 40.7	0.0
YOJ				S	S	03 28 52.6	-0.1
IRIF	**Iriomote-Funau**	**1.48**	**95**	P	P	03 28 49.1	-0.6
IRIF				S	S	03 29 07.2	-1.1
HATJ	**Hateruma jima**	**1.60**	**105**	P	P	03 28 51.7	+0.4
HATJ				S	S	03 29 11.6	+0.5
JKRS	**Kuro-shima**	**1.75**	**98**	P	P	03 28 53.2	-0.1
JKRS				S	S	03 29 14.5	0.0
JIJ	**Ishigaki jima**	**1.86**	**93**	P	P	03 28 54.1	-0.7
JIJ				S	S	03 29 16.2	-0.9
JTJ	**Tarama**	**2.37**	**86**	P	P	03 29 01.9	-0.1
JTJ				*e*S	S	03 29 29.0	-0.8

IGQ 25 03:31:19.6, 1.56S×81.75W, h12km±23km, mb4.2, 4C, Error ellipse: s-maj=22.7km s-min=9.8km az=170.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**3.11**	**89**	⇑P	Pn	03 32 10.4	+0.9
JUIV	**Juive**	**3.29**	**88**	P	Pn	03 32 13.4	+1.3
ARRY	**Arrayan**	**3.29**	**89**	⇑P	Pn	03 32 12.1	0.0
PATA	**Patacocha**	**3.31**	**89**	P	Pn	03 32 14.4	+1.9
RUN2	**Runtun**	**3.34**	**88**	P	Pn	03 32 14.4	+1.6
ULBA	**Ulba**	**3.34**	**88**	P	Pn	03 32 14.1	+1.2
NAS1	**Nasa**	**3.40**	**74**	P	Pn	03 32 16.9	+3.2
PISA	**Pisayambo**	**3.40**	**82**	P	Pn	03 32 15.7	+2.1
JUA2	**San Juan 2**	**3.42**	**67**	P	Pn	03 32 13.9	0.0
TERV	**Terraza Guagua**	**3.43**	**66**	P	Pn	03 32 15.5	+1.4
PINO	**Pino**	**3.44**	**66**	⇑P	Pn	03 32 15.0	+0.8
PINO				S	Sn	03 32 55.7	+0.5
VC1	**Cotopaxi 1**	**3.47**	**75**	P	Pn	03 32 17.4	+2.8
YANA	**Yana**	**3.48**	**66**	P	Pn	03 32 14.2	-0.7
TAMB	**Tambo**	**3.49**	**76**	P	Pn	03 32 17.4	+2.4
ANTI	**Antisana**	**3.75**	**73**	P	Pn	03 32 20.7	+2.1
COTA	**Cotacachi**	**3.90**	**61**	⇑P	Pn	03 32 22.2	+1.6
CAYR	**Refugio Cayamb**	**4.06**	**67**	P	Pn	03 32 26.3	+3.3
CAYA	**Cayambe**	**4.09**	**67**	P	Pn	03 32 26.4	+2.9

IDC 25 03:40:59.7±1.9, 50.93S×117.01E, mb3.8/3, mb1 4.1/3, mb1mx3.9/10, mbtmp3.8/3, MS3.9/5, Ms1 3.9/5, ms1mx3.6/9, Error ellipse: s-maj=58.9km s-min=49.8km az=100.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.30**	**53**	LR	LR	03 54 51.6	
comp=Z,228nm,19.9s,baz=206,slow=32							
ASAR	**Alice Springs**	**30.20**	**32**	P	P	03 47 12.2	-1.6
0.7nm,0.7s,baz=206,slow=7.5,SNR=7.2							
ASAR				LR	LR	03 57 33.5	
comp=Z,199nm,18.6s,baz=211,slow=33							
MAW	**Mawson**	**30.99**	**217**	LR	LR	03 58 53.8	
comp=Z,217nm,18.1s,baz=168,slow=35							
VNDA	**Vanda**	**31.42**	**163**	LR	LR	03 59 28.4	
comp=Z,159nm,18.8s,baz=353,slow=35							
WRA	**Warramunga Arr**	**33.81**	**30**	P	P	03 47 43.6	-1.9
0.7nm,0.6s,baz=199,slow=9.2,SNR=8.4							
CMAR	**Chiang Mai Arr**	**70.89**	**342**	P	P	03 52 18.6	-1.9
0.7nm,0.4s,baz=190,slow=5.5,SNR=2.6							
PLCA	**Paso Flores**	**88.48**	**174**	LR	LR	04 35 52.2	
comp=Z,107nm,19.1s,baz=98,slow=37							
ILAR	**Eielson Array**	**136.75**	**38**	PKhKP		04 00 10.8	
baz=245,slow=4.9,SNR=4.4							
PDAR	**Pinedale Array**	**147.59**	**86**	PKPbc	PKPdf	04 00 46.8	+2.5
0.2nm,0.7s,baz=225,slow=2.6,SNR=2.5							
YKA	**Yellowknife Ar**	**150.25**	**47**	PKPbc	PKPdf	04 00 48.9	+1.1
0.2nm,0.8s,baz=270,slow=2.5,SNR=4.5							
YKA				PKPab	PKPab	04 00 55.8	-3.7
1.0nm,0.9s,baz=274,slow=2.5,SNR=9.8							

IGQ 25 03:48:16.1, 1.78S×81.12W, h12km±29km, mb4.0, 1D, Error ellipse: s-maj=29.5km s-min=8.8km az=159.3, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.50**	**83**	P	Pn	03 48 58.5	+1.2
ARRY	**Arrayan**	**2.68**	**84**	P	Pn	03 49 01.2	+1.3
ARRY				S	Sn	03 49 32.7	+0.1
RUN2	**Runtun**	**2.73**	**83**	P	Pn	03 49 04.5	+3.8
ULBA	**Ulba**	**2.73**	**83**	P	Pn	03 49 03.5	+2.9
PISA	**Pisayambo**	**2.83**	**75**	P	Pn	03 49 04.5	+2.5
NAS1	**Nasa**	**2.88**	**67**	P	Pn	03 49 04.1	+1.4
VC1	**Cotopaxi 1**	**2.94**	**67**	⇓P	Pn	03 49 06.8	+3.1
TAMB	**Tambo**	**2.96**	**69**	P	Pn	03 49 06.6	+2.7
JUA2	**San Juan 2**	**2.96**	**58**	P	Pn	03 49 03.0	-0.8
TERV	**Terraza Guagua**	**2.98**	**58**	P	Pn	03 49 04.8	+0.6
PINO	**Pino**	**2.99**	**57**	P	Pn	03 49 03.0	-1.3
YANA	**Yana**	**3.04**	**57**	P	Pn	03 49 03.8	-1.2
ANTI	**Antisana**	**3.24**	**66**	P	Pn	03 49 09.4	+1.5
COTA	**Cotacachi**	**3.49**	**53**	P	Pn	03 49 11.4	0.0
COTA				S	Sn	03 49 54.3	+1.2
CAYR	**Refugio Cayamb**	**3.59**	**60**	P	Pn	03 49 15.4	+2.5
CAYA	**Cayambe**	**3.63**	**60**	P	Pn	03 49 15.3	+1.8

*IGQ **25** 03:54:12.8, 1.42S×81.43W, h12km±8km, mb4.6, Error ellipse: s-maj=8.3km s-min=6.7km az=160.4*
*NEIC **25** 03:54:21.4±0.6, 1.46S×80.77W, h10km, mb4.2/2, Error ellipse: s-maj=19.8km s-min=10.4km az=67.0*
*IDC **25** 03:54:35.1±8.8, 1.32S×80.38W, h138km±90km, mb3.4/6, mb1 3.7/8, mb1mx3.4/20, mbtmp3.9/8, MS3.2/1, Ms1 3.2/1, ms1mx2.1/12, Error ellipse: s-maj=65.6km s-min=16.7km az=71.0*

ISC 25 03:54:19.4±0.7, 1.47S±0.06×81.07W±0.05, h10km, n38, σ1§31/45, mb3.8/6, 7C-4D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.66**	**52**	⇑P	**Pb**	**03 54 30.2**	**-2.4**
IGUA	**Igualata**	**2.43**	**91**	⇓P	**Pn**	**03 54 58.9**	**-0.9**
CUSU	**Cusua**	**2.58**	**90**	P	**Pn**	**03 55 02.2**	**+0.2**
JUIV	**Juive**	**2.60**	**89**	P	**Pn**	**03 55 02.3**	**+0.1**
ARRY	**Arrayan**	**2.61**	**91**	⇓P	**Pn**	**03 55 01.6**	**-0.8**
ARRY				S	**Sn**	**03 55 35.7**	**+1.3**
RETU	**Refugio**	**2.62**	**90**	P	**Pn**	**03 55 03.1**	**+0.7**
RETU				S	**Sn**	**03 55 38.9**	**+4.2**
PATA	**Patacocha**	**2.63**	**91**	P	**Pn**	**03 55 02.9**	**+0.2**
PATA				S	**Sn**	**03 55 37.8**	**+2.9**
RUN2	**Runtun**	**2.65**	**89**	P	**Pn**	**03 55 03.1**	**+0.1**
ULBA	**Ulba**	**2.66**	**90**	⇑P	**Pn**	**03 55 02.9**	**-0.2**
ULBA				S	**Sn**	**03 55 37.9**	**+2.3**
MARY	**Rancho Maria**	**2.68**	**74**	P	**Pn**	**03 55 03.2**	**-0.1**
PISA	**Pisayambo**	**2.71**	**81**	⇑P	**Pn**	**03 55 03.5**	**-0.3**
NAS1	**Nasa**	**2.72**	**72**	⇓P	**Pn**	**03 55 03.5**	**-0.4**
JUA2	**San Juan 2**	**2.76**	**63**	P	**Pn**	**03 55 02.8**	**-1.7**
TERV	**Terraza Guagua**	**2.78**	**62**	P	**Pn**	**03 55 03.4**	**-1.4**
PINO	**Pino**	**2.78**	**62**	⇑P	**Pn**	**03 55 03.3**	**-1.5**
VC1	**Cotopaxi 1**	**2.79**	**73**	P	**Pn**	**03 55 05.1**	**+0.2**
TAMB	**Tambo**	**2.80**	**74**	P	**Pn**	**03 55 05.4**	**+0.2**
JOR1	**San Jorge 1**	**2.83**	**59**	P	**Pn**	**03 55 01.9**	**-3.6**
YANA	**Yana**	**2.83**	**62**	⇑P	**Pn**	**03 55 03.9**	**-1.6**
ANTI	**Antisana**	**3.08**	**71**	⇑P	**Pn**	**03 55 09.1**	**+0.1**
OTAV	**Otavalo**	**3.12**	**57**	*e*Pn	**Pn**	**03 55 07.8**	**-1.7**
OTAV				*e*Sn	**Sn**	**03 55 47.6**	**+0.4**
COTA	**Cotacachi**	**3.26**	**57**	⇓P	**Pn**	**03 55 11.3**	**-0.4**
CAYR	**Refugio Cayamb**	**3.40**	**64**	P	**Pn**	**03 55 14.3**	**+0.8**
CAYR				S	**Sn**	**03 56 01.7**	**+7.4**
CAYA	**Cayambe**	**3.43**	**64**	⇑P	**Pn**	**03 55 14.7**	**+0.6**
CONE	**Cono NE Rev Vo**	**3.69**	**68**	P	**Pn**	**03 55 21.1**	**+3.4**
NNA	**Nana**	**11.26**	**158**	Pn	**P**	**03 57 00.4**	**-3.2**
199nm,0.3s,SNR=12							
NNA	**Nana**	**11.26**	**158**	*e*P	**P**	**03 56 59.8**	**-3.8**
NNA				*e*S	**S**	**03 59 02.1**	**-8.4**
SDV	**Santo Domingo**	**14.62**	**45**	P	**P**	**03 57 49.7**	**+1.3**
1.0nm,0.3s,baz=251,slow=10,SNR=12							
SDV				LR	LR	04 03 46.9	
comp=Z,101nm,19.3s,baz=52,slow=39							
LPAZ	**La Paz**	**19.48**	**140**	P	**P**	**03 58 46.8**	**-2.5**
0.1nm,0.3s,baz=325,slow=10,SNR=11							
LPAZ	**La Paz**	**19.48**	**140**	*e*P	**P**	**03 58 47.3**	**-2.0**
14nm,1.2s							
LVC	**Limon Verde**	**24.11**	**152**	P	**P**	**03 59 37.8**	**+1.4**
3.2nm,0.8s,mb3.8,baz=232,slow=8.4,SNR=5.1							
LVC	**Limon Verde**	**24.11**	**152**	P	**P**	**03 59 37.5**	**+1.1**
8.8nm,1.0s,mb4.1							
TXAR	**Lajitas Array**	**37.49**	**327**	P	**P**	**04 01 37.6**	**+2.4**
0.4nm,0.9s,mb3.2,baz=140,slow=7.0,SNR=2.6							
PLCA	**Paso Flores**	**40.23**	**168**	P	**P**	**04 01 58.6**	**+0.6**
2.3nm,0.9s,mb3.9,baz=335,slow=8.6,SNR=3.2							
ANMO	**Albuquerque**	**43.34**	**329**	P	**P**	**04 02 25.1**	**+1.6**
1.4nm,0.8s,mb3.8,baz=124,slow=11,SNR=6.5							
NVAR	**Mina Array Bea**	**52.46**	**323**	P	**P**	**04 03 36.5**	**+1.8**
1.0nm,0.9s,mb3.7,baz=135,slow=7.7,SNR=5.6							
YKA	**Yellowknife Ar**	**68.63**	**344**	P	**P**	**04 05 23.2**	**-1.4**
1.8nm,0.9s,mb4.0,baz=137,slow=6.2,SNR=22							
YKA	**Yellowknife Ar**	**68.63**	**344**	P	**P**	**04 05 23.2**	**-1.4**

*CSEM **25** 04:31:44.8±0.1, 35.78N×29.57E, h5km, MD3.3, Error ellipse: s-maj=3.9km s-min=2.2km az=97.0*
*ISK **25** 04:31:46.6, 35.75N×29.48E, h32km, MD3.3*
*HLW **25** 04:31:52.8, 35.59N×29.64E, h28km, Mb3.3*

ISC 25 04:31:44.7±0.6, 35.76N±0.03×29.57E±0.08, h5km, n12, σ0§41/15, 1C, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.96**	**336**	PG	**Pg**	**04 32 03.9**	**0.0**
FETY				SG	**Sg**	**04 32 16.4**	**-0.3**
ELL	**Elmali**	**1.03**	**16**	PG	**Pg**	**04 32 05.1**	**-0.1**
ELL				SG	**Sg**	**04 32 18.7**	**-0.2**
ANTB	**Antalya**	**1.44**	**37**	*e*PN	**Pn**	**04 32 11.8**	**+0.3**
BCK	**Bucak**	**1.89**	**26**	PN	**Pn**	**04 32 18.0**	**+0.1**
ISP	**Isparta**	**2.21**	**20**	*e*PN	**Pn**	**04 32 22.8**	**+0.2**
LEF	**Lefka**	**2.79**	**102**	*e*PN	**Pn**	**04 32 30.4**	**-0.4**
KONT	**Konya--Tatoy**	**3.13**	**45**	*e*PN	**Pn**	**04 32 36.3**	**+0.6**
KOT	**Kottamia**	**6.12**	**161**	P	**Pn**	**04 33 18.6**	**+0.6**
HNKL	**Nakhl**	**6.90**	**146**	P	**Pn**	**04 33 28.4**	**-0.5**
SWA1		**7.25**	**208**	⇑P	**Pn**	**04 33 34.2**	**+0.3**
SWA1				S	**Sn**	**04 34 49.5**	**-8.0**
SWA2		**7.37**	**209**	P	**Pn**	**04 33 35.9**	**+0.4**
AWBH		**7.44**	**185**	P	**Pn**	**04 33 35.7**	**-0.8**

*IDC **25** 04:32:46.8±5.3, 4.70S×129.55E, h145km±50km, mb3.5/4, mb1 3.9/6, mb1mx3.6/14, mbtmp4.1/6, Error ellipse: s-maj=61.6km s-min=12.5km az=71.0*
*NEIC **25** 04:32:49.3±2.9, 4.82S×129.46E, h177km±32km, mb4.3/4, Error ellipse: s-maj=35.6km s-min=17.6km az=64.0*

**ISC 25 04:32:51.7±2.1, 5

ellipse: s-maj=7.8km s-min=5.6km az=157.0
*NEIC **25** 04:46:49.6±0.5, 51.54N×16.10E, h5km, ML3.0(VIE), ML2.5(BRG), ML2.5(CLL), Error ellipse: s-maj=6.8km s-min=5.4km az=91.0*
*PRU **25** 04:46:50.6, 51.46N×16.11E, Felt In Harrachov*
*CSEM **25** 04:46:50.6±0.1, 51.46N×16.17E, h1km, ML3.2/5, Error ellipse: s-maj=1.6km s-min=1.4km az=21.0*
*WAR **25** 04:46:50.7, 51.48N×16.10E, h1km, ML3.0, Mining Induced*
*IDC **25** 04:46:51.6±1.0, 51.44N×16.03E, mb1 3.4/5, mb1mx3.2/17, mbtmp3.2/5, ML3.1/5, Error ellipse: s-maj=15.6km s-min=9.2km az=121.0*

ISC 25 04:46:48.3±0.4, 51.42N±0.02×16.10E±0.02, n61, σ1§25/113, 3C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.59**	**168**	*i* PG	**Pg**	**04 47 02.5**	**+2.3**
KSP				*e*SG	**Sg**	**04 47 11.5**	**+3.4**
KSP	**Ksiaz**	**0.59**	**168**	⇓*i* Pg	**Pg**	**04 47 02.5**	**+2.3**
KSP				*e*Sg	**Sg**	**04 47 11.0**	**+2.9**
KSP				*e*		04 47 15.8	
KSP	**Ksiaz**	**0.59**	**168**	*e*Pg	**Pg**	**04 47 02.5**	**+2.4**
KSP				*e*Sg	**Sg**	**04 47 10.3**	**+2.2**
KSP				*e*Sg	**Sg**	**04 47 11.1**	**+3.0**
UPC	**Upice**	**0.92**	**184**	*e*PG	**Pg**	**04 47 08.3**	**+1.7**
UPC	**Upice**	**0.92**	**184**	*e*Pg	**Pg**	**04 47 08.5**	**+1.9**
DPC	**Dobruska-Polom**	**1.08**	**172**	*e*PG	**Pg**	**04 47 11.2**	**+1.3**
DPC				*e*SG	**Sg**	**04 47 25.9**	**+1.5**
	45nm,0.5s						
PVCC	**Panska Ves**	**1.32**	**228**	*e*Pg	**Pg**	**04 47 15.6**	**+1.0**
PVCC				*e*Sg	**Sg**	**04 47 34.1**	**+1.9**
BRG	**Berggiesshubel**	**1.47**	**249**	*e*Pg	**Pg**	**04 47 17.6**	**0.0**
BRG				*e*Sg	**Sg**	**04 47 38.6**	**+1.5**
BRG	**Berggiesshubel**	**1.47**	**249**	*e*Pn	**Pn**	**04 47 16.7**	**+0.6**
BRG				*i* Sg	**Pg**	**04 47 18.3**	**+0.7**
BRG				*i* Sg	**Sg**	**04 47 38.7**	**+1.6**
BRG	**Berggiesshubel**	**1.47**	**249**	Pg	**Pg**	**04 47 17.6**	**0.0**
BRG				Sg	**Sg**	**04 47 38.6**	**+1.5**
PRU	**Pruhonice**	**1.75**	**215**	*e*PG	**Pg**	**04 47 22.7**	**-0.5**
PRU				*e*SG	**Sg**	**04 47 46.5**	**+0.1**
PRU	**Pruhonice**	**1.75**	**215**	*e*Pn	**Pn**	**04 47 21.3**	**+1.2**
PRU	**Pruhonice**	**1.75**	**215**	*e*Pg	**Pg**	**04 47 22.7**	**-0.5**
PRU				Sg	**Sg**	**04 47 46.5**	**+0.1**
RUE	**Ruedersdorf**	**1.78**	**307**	*e*Pn	**Pn**	**04 47 20.2**	**-0.4**
MORC	**Moravsky Berou**	**1.89**	**150**	*e*Pn	**Pn**	**04 47 23.1**	**+1.0**
MORC	**Moravsky Berou**	**1.89**	**150**	*e*Pn	**Pn**	**04 47 23.1**	**+1.0**
MORC				*e*Sg	**Sg**	**04 47 49.8**	**-1.3**
	8.1nm,0.3s						
RAC	**Raciborz**	**1.89**	**134**	*e*P	**Pn**	**04 47 26.0**	**+3.9**
RAC				*e*S	**Sn**	**04 47 53.0**	**+6.0**
CLL	**Collm**	**1.94**	**268**	*e*Pn	**Pn**	**04 47 23.4**	**+0.5**
CLL				*e*Sg	**Sg**	**04 47 53.2**	**+0.1**
CLL	**Collm**	**1.94**	**268**	*i* Pn	**Pn**	**04 47 23.3**	**+0.4**
CLL				*e*Pg	**Pg**	**04 47 26.0**	**-1.2**
CLL				*i* Sg	**Sg**	**04 47 51.8**	**-1.3**
CLL	**Collm**	**1.94**	**268**	*i* PN	**Pn**	**04 47 23.3**	**+0.4**
CLL				*e*PG	**Pg**	**04 47 26.0**	**-1.2**
CLL				*i*		04 47 30.4	
CLL				*i*		04 47 41.2	
CLL				*i* SG	**Sg**	**04 47 51.8**	**-1.3**
CLL				*i*		04 48 01.7	
CLL	**Collm**	**1.94**	**268**	*e*Pg	**Pg**	**04 47 26.0**	**-1.2**
CLL				Sg	**Sg**	**04 47 53.2**	**+0.1**
GKP	**Gorka Klasztor**	**1.98**	**20**	*e*PN	**Pn**	**04 47 23.0**	**-0.4**
GKP				*e*PN	**Pn**	**04 47 25.0**	**+1.6**
GKP				*e*SN	**Sn**	**04 47 53.0**	**+3.8**
GKP	**Gorka Klasztor**	**1.98**	**20**	*e*Pn	**Pn**	**04 47 23.4**	**0.0**
GKP				*e*Pg	**Pg**	**04 47 25.2**	**-2.6**
GKP				*e*Sn	**Sn**	**04 47 53.4**	**+4.2**
GKP	**Gorka Klasztor**	**1.98**	**20**	*e*Pg	**Pg**	**04 47 25.2**	**-2.6**
OKC	**Ostrava-Krasne**	**2.05**	**140**	*e*Pg	**Pg**	**04 47 28.9**	**-0.4**
OKC				*e*SG	**Sg**	**04 47 55.1**	**-1.6**
VRAC	**Vranov**	**2.14**	**171**	Pn	**Pn**	**04 47 28.1**	**+2.3**
	4.4nm,0.3s,baz=353,slow=15,SNR=17						
VRAC				Lg		04 47 59.8	
	3.8nm,0.3s,baz=92,slow=19,SNR=9.9						
VRAC	**Vranov**	**2.14**	**171**	Pn	**Pn**	**04 47 28.1**	**+2.4**
VRAC				*e*Sg	**Sg**	**04 47 59.3**	**-0.3**
	12nm,0.4s						
KRUC	**Moravsky**	**2.37**	**175**	*e*Pg	**Pg**	**04 47 34.2**	**-1.5**
KRUC				*e*Sg	**Sg**	**04 48 06.6**	**-0.7**
	13nm,0.4s						
TANN	**Tannenbergstha**	**2.51**	**248**	*e*Pn	**Pn**	**04 47 33.0**	**+2.0**
TANN				*e*Sg	**Sg**	**04 48 10.3**	**-1.7**
TANN	**Tannenbergstha**	**2.51**	**248**	Pn	**Pn**	**04 47 33.0**	**+1.9**
TANN				Sg	**Sg**	**04 48 10.3**	**-1.7**
WERD	**Werda**	**2.59**	**249**	*e*Pn	**Pn**	**04 47 33.2**	**+1.0**
WERD				*e*Sg	**Sg**	**04 48 13.2**	**-1.4**
NKC	**Novy Kostel**	**2.60**	**244**	*e*PN	**Pn**	**04 47 33.2**	**+0.8**
NKC				*e*PG	**Pg**	**04 47 39.9**	**-0.4**
NKC				*e*SG	**Sg**	**04 48 14.3**	**-0.7**
	68nm,0.7s						
GUNZ	**Gunzen**	**2.61**	**248**	*e*Pn	**Pn**	**04 47 34.2**	**+1.7**
GUNZ				*e*Sg	**Sg**	**04 48 15.0**	**-0.2**
OJC	**Ojcow**	**2.64**	**116**	*e*PG	**Pg**	**04 47 40.0**	**-1.0**
OJC				*e*SG	**Sg**	**04 48 16.0**	**-0.1**
KHC	**Kasperske Hory**	**2.81**	**216**	*e*PN	**Pn**	**04 47 35.9**	**+0.6**
KHC				*e*PG	**Pg**	**04 47 42.3**	**-2.1**
KHC				*e*SN	**Sn**	**04 48 10.5**	**+0.2**
KHC				*e*SG	**Sg**	**04 48 21.1**	**-0.7**
MOX	**Moxa**	**2.94**	**256**	*e*Pn	**Pn**	**04 47 38.2**	**+1.1**
MOX				*e*Sg	**Sg**	**04 48 25.8**	**-0.3**
MOX	**Moxa**	**2.94**	**256**	Sg	**Sg**	**04 48 26.0**	**-0.1**
MOX	**Moxa**	**2.94**	**256**	*e*Pg	**Pg**	**04 47 46.0**	**-0.9**
MOX				*e*Sg	**Sg**	**04 48 25.5**	**-0.6**
NOTT	**Nottersdorf**	**3.00**	**239**	*e*Pn	**Pn**	**04 47 38.9**	**+0.8**
NOTT				*e*Sg	**Sg**	**04 48 25.8**	**-2.5**
GEC2	**GERESS Array S**	**3.01**	**212**	*e*Pn	**Pn**	**04 47 40.1**	**+2.0**
GEC2				*e*Sg	**Sg**	**04 48 27.8**	**-0.6**
GEC2	**GERESS Array S**	**3.01**	**212**	*e*Pn	**Pn**	**04 47 40.1**	**+2.0**
GEC2				*e*Sg	**Sg**	**04 48 27.8**	**-0.6**
GERES	**GERESS Array B**	**3.01**	**212**	Pn	**Pn**	**04 47 39.3**	**+1.1**
	1.0nm,0.3s,baz=29,slow=12,SNR=35						
GERES				Pg	**Pg**	**04 47 47.8**	**-0.6**
	3.6nm,0.3s,baz=32,slow=17,SNR=38						
GERES				Lg		04 48 25.3	
	2.4nm,0.3s,baz=33,slow=27,SNR=4.4						
GERES	**GERESS Array B**	**3.01**	**212**	Pg	**Pg**	**04 47 47.8**	**-0.5**
WET	**Wettzell**	**3.08**	**223**	*e*Pn	**Pn**	**04 47 40.1**	**+1.0**
WET				*e*Sg	**Sg**	**04 48 29.6**	**-1.1**
WET	**Wettzell**	**3.08**	**223**	*e*Pn	**Pn**	**04 47 40.1**	**+1.0**
WET				*e*Sg	**Sg**	**04 48 29.6**	**-1.2**
NIE	**Niedzica**	**3.36**	**125**	*e*P	**Pg**	**04 47 53.5**	**-1.9**
NIE				*e*S	**Sg**	**04 48 40.0**	**-0.1**
GRA1	**Grafenberg Arr**	**3.56**	**243**	*e*Pn	**Pn**	**04 47 46.8**	**+0.8**
GRA1				*e*Sg	**Sg**	**04 48 45.3**	**-1.6**
GRA1	**Grafenberg Arr**	**3.56**	**243**	Pn	**Pn**	**04 47 46.8**	**+0.8**
GRA1	**Grafenberg Arr**	**3.56**	**243**	Sg	**Sg**	**04 48 45.3**	**-1.6**
GRF	**Grafenberg Arr**	**3.56**	**243**	*e*Pn	**Pn**	**04 47 46.8**	**+0.9**
GRF				*e*Sg	**Sg**	**04 48 45.3**	**-1.6**
GRF	**Grafenberg Arr**	**3.56**	**243**	*e*Pn	**Pn**	**04 47 46.8**	**+0.8**
GRF				*e*Sg	**Sg**	**04 48 45.3**	**-1.6**
MOA	**Molln**	**3.77**	**199**	⇑*i* PN	**Pn**	**04 47 50.3**	**+1.3**
MOA				*i* SG	**Sg**	**04 48 54.3**	**+0.5**
	8.3nm,0.4s						
ARSA	**Arzberg**	**4.19**	**185**	⇑*i* PN	**Pn**	**04 47 55.9**	**+0.9**
ARSA				*i* SG	**Sg**	**04 49 06.6**	**-1.3**
	8.4nm,0.6s						
CRVS	**Cervenica-Dubn**	**4.27**	**124**	*e*PG	**Pg**	**04 48 12.2**	**-1.4**
KWP	**Kalwaria**	**4.58**	**110**	*e*Pn	**Pg**	**04 48 13.8**	**-6.0**
KWP				*e*		04 48 20.5	
KWP	**Kalwaria**	**4.58**	**110**	*e*Pn	**Pg**	**04 48 13.8**	**-5.9**
KWP				*e*		04 48 20.5	
KOLS	**Kolonicke sedl**	**4.68**	**120**	*e*	**Pg**	**04 48 22.3**	**+0.5**
KBA	**Koelnbreinsper**	**4.71**	**204**	⇑*i* PN	**Pn**	**04 48 03.4**	**+1.1**
KBA				*i* SG	**Sg**	**04 49 23.6**	**-1.4**
	11nm,0.7s						
AKASG	**Malin Array Be**	**8.30**	**90**	Pn	**P**	**04 48 51.4**	**-1.5**
	1.0nm,0.3s,baz=280,slow=12,SNR=5.2						
FINES	**FINESS Array B**	**11.45**	**25**	Pn	**P**	**04 49 29.9**	**-6.0**
	0.1nm,0.3s,baz=187,slow=11,SNR=3.5						
ARCES	**ARCESS Array B**	**18.71**	**10**	Pn	**P**	**04 51 07.5**	**-2.4**
	0.2nm,0.3s,baz=191,slow=12,SNR=6.5						

*CSEM **25** 04:47:53.7±0.2, 51.50N×16.14E, h2km, ML3.3/5, Error ellipse: s-maj=2.8km s-min=1.5km az=36.0*
*IPEC **25** 04:47:53.7±0.3, 51.50N×16.18E, ML2.4/3, Error ellipse: s-maj=1.9km s-min=1.1km az=18.0*
*NEIC **25** 04:47:53.1±0.6, 51.52N×16.20E, h5km, ML2.7(BRG), ML2.7(CLL), Error ellipse: s-maj=7.1km s-min=5.2km az=61.0*
*WAR **25** 04:47:54.9, 51.48N×16.11E, h1km, ML3.0, Mining Induced*
*PRU **25** 04:47:55.2, 51.42N×16.10E*
*IDC **25** 04:47:56.0±1.0, 51.53N×15.97E, mb3.2/1, mb1 3.7/5, mb1mx3.5/16, mbtmp3.5/5, ML3.1/4, Error ellipse: s-maj=17.7km s-min=9.5km az=114.0*

ISC 25 04:47:51.1±0.5, 51.49N±0.03×16.15E±0.03, n35, σ1§27/54, mb3.4/1, 2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**172**	⇓*i* Pg	**Pg**	**04 48 06.7**	**+2.6**
KSP				*e*Sg	**Sg**	**04 48 15.1**	**+2.4**
KSP				*e*		04 48 20.0	
KSP	**Ksiaz**	**0.65**	**172**	*e*Pg	**Pg**	**04 48 06.8**	**+2.7**
KSP				*e*Pn	**Pn**	**04 48 07.9**	**+0.7**
KSP				*e*Sg	**Sg**	**04 48 15.2**	**+2.4**
KSP	**Ksiaz**	**0.65**	**172**	⇓*i* Pg	**Pg**	**04 48 06.7**	**+2.6**
KSP				*e*Sg	**Sg**	**04 48 15.1**	**+2.4**
UPC	**Upice**	**0.98**	**185**	*e*PG	**Pg**	**04 48 12.8**	**+2.1**
DPC	**Dobruska-Polom**	**1.14**	**174**	*e*PG	**Pg**	**04 48 15.4**	**+1.5**
DPC				*e*SG	**Sg**	**04 48 30.0**	**+0.9**
	61nm,0.4s						
DPC	**Dobruska-Polom**	**1.14**	**174**	*e*Pg	**Pg**	**04 48 15.5**	**+1.6**
DPC				*e*Sg	**Sg**	**04 48 30.0**	**+0.9**
	61nm,0.4s						
PVCC	**Panska Ves**	**1.38**	**227**	*e*PG	**Pg**	**04 48 19.7**	**+1.0**
PVCC	**Panska Ves**	**1.38**	**227**	Pg	**Pg**	**04 48 19.7**	**+1.0**
PVCC				*e*Sg	**Sg**	**04 48 38.3**	**+1.2**
BRG	**Berggiesshubel**	**1.52**	**247**	*i* Pg	**Pg**	**04 48 22.3**	**+0.9**
BRG				*i* Sg	**Sg**	**04 48 42.7**	**+1.1**
RUE	**Ruedersdorf**	**1.77**	**305**	*e*Pn	**Pn**	**04 48 24.0**	**+0.8**
RUE	**Ruedersdorf**	**1.77**	**305**	*e*Pn	**Pn**	**04 48 24.0**	**+0.8**
PRU	**Pruhonice**	**1.81**	**215**	*e*PG	**Pg**	**04 48 27.0**	**-0.3**
PRU				*e*SG	**Sg**	**04 48 50.5**	**-0.9**
MORC	**Moravsky Berou**	**1.93**	**152**	*e*Pn	**Pn**	**04 48 27.6**	**+2.1**
MORC	**Moravsky Berou**	**1.93**	**152**	*e*Pn	**Pn**	**04 48 27.5**	**+2.0**
MORC				*e*Sg	**Sg**	**04 48 53.9**	**-1.4**
	23nm,0.4s						
CLL	**Collm**	**1.98**	**266**	*e*PG	**Pg**	**04 48 31.0**	**+0.4**
CLL				*i*		04 48 33.5	
CLL				*i*		04 48 45.4	
CLL				*i* SG	**Sg**	**04 48 56.2**	**-0.7**
CLL				*i*		04 49 06.1	
CLL	**Collm**	**1.98**	**266**	*e*Pg	**Pg**	**04 48 31.0**	**+0.4**
CLL				*i* Sg	**Sg**	**04 48 56.2**	**-0.7**
OKC	**Ostrava-Krasne**	**2.08**	**142**	*e*SG	**Sg**	**04 48 59.3**	**-1.2**
	74nm,0.9s						
VRAC	**Vranov**	**2.20**	**172**	Pn	**Pn**	**04 48 35.3**	**+5.9**
	0.7nm,0.3s,baz=352,slow=16,SNR=3.5						
VRAC				Lg		04 49 05.6	
	5.2nm,0.3s,baz=82,slow=16,SNR=5.3						
VRAC	**Vranov**	**2.20**	**172**	*e*Pn	**Pn**	**04 48 32.3**	**+2.9**
VRAC				*e*Sg	**Sg**	**04 49 02.8**	**-1.5**
	21nm,0.5s						
KRUC	**Moravsky**	**2.43**	**176**	*e*Sg	**Sg**	**04 49 10.7**	**-1.4**
	15nm,0.4s						
OJC	**Ojcow**	**2.64**	**117**	*e*PG	**Pg**	**04 48 45.0**	**+1.2**
OJC				*e*SG	**Sg**	**04 49 19.0**	**0.0**
OJC	**Ojcow**	**2.64**	**117**	*e*Sg	**Sg**	**04 49 18.7**	**-0.3**
NKC	**Novy Kostel**	**2.66**	**243**	*e*PG	**Pg**	**04 48 43.3**	**-0.9**
NKC				*e*SG	**Sg**	**04 49 17.9**	**-1.7**
	46nm,0.4s						
NKC	**Novy Kostel**	**2.66**	**243**	*e*Pg	**Pg**	**04 48 43.3**	**-0.9**
NKC				*e*Sg	**Sg**	**04 49 17.8**	**-1.8**
KHC	**Kasperske Hory**	**2.87**	**216**	*e*SG	**Sg**	**04 49 24.4**	**-2.4**
MOX	**Moxa**	**2.98**	**255**	Pg	**Pg**	**04 48 50.0**	**-0.6**
MOX				Sg	**Sg**	**04 49 30.0**	**-0.3**
MOX	**Moxa**	**2.98**	**255**	*e*Pg	**Pg**	**04 48 50.1**	**-0.5**
MOX				*e*Sg	**Sg**	**04 49 29.9**	**-0.4**
GERES	**GERESS Array B**	**3.07**	**212**	Pg	**Pg**	**04 48 51.8**	**-0.7**
	2.4nm,0.3s,baz=32,slow=18,SNR=7.6						
GERES				Lg		04 49 32.6	
	5.0nm,0.3s,baz=35,slow=29,SNR=8.3						
SMOL	**Smolenice**	**3.09**	**164**	*e*SG	**Sg**	**04 49 34.1**	**+0.2**
NIE	**Niedzica**	**3.37**	**126**	*e*P	**Pg**	**04 48 57.6**	**-0.8**
NIE				*e*S	**Sg**	**04 49 42.5**	**-0.9**
AKASG	**Malin Array Be**	**8.27**	**90**	Pn	**P**	**04 49 55.0**	**-0.3**
	0.7nm,0.3s,baz=281,slow=12,SNR=4.0						
FINES	**FINESS Array B**	**11.38**	**25**	Pn	**P**	**04 50 34.9**	**-3.0**
	0.1nm,0.3s,baz=210,slow=11,SNR=3.3						
ARCES	**ARCESS Array B**	**18.64**	**10**	Pn	**P**	**04 52 10.3**	**-1.7**
	0.2nm,0.3s,baz=201,slow=10,SNR=7.2						
ARCES	**ARCESS Array B**	**18.64**	**10**	Pn	**P**	**04 52 10.3**	**-1.7**
YKA	**Yellowknife Ar**	**59.89**	**336**	P	**P**	**04 58 01.1**	**+0.6**
	0.4nm,1.0s,mb3.4,baz=30,slow=6.4,SNR=3.8						

IGQ 25 05:05:23.1, 1.41S×81.22W, h12km±6km, mb4.4, 2C-4D, Error ellipse: s-maj=10.9km s-min=7.3km az=158.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.76**	**62**	⇑P	Pb	05 05 37.4	-0.4
IGUA	**Igualata**	**2.58**	**92**	P	Pn	05 06 06.3	+0.8
CUSU	**Cusua**	**2.74**	**91**	P	Pn	05 06 10.1	+2.3
JUIV	**Juive**	**2.75**	**90**	P	Pn	05 06 09.6	+1.7
ARRY	**Arrayan**	**2.76**	**92**	⇓P	Pn	05 06 08.9	+0.8
ARRY				S	Sn	05 06 42.5	+0.8
RETU	**Refugio**	**2.77**	**91**	P	Pn	05 06 10.3	+2.1
PATA	**Patacocha**	**2.79**	**92**	P	Pn	05 06 10.4	+2.0
RUN2	**Runtun**	**2.80**	**90**	P	Pn	05 06 10.7	+2.0
ULBA	**Ulba**	**2.81**	**91**	⇑P	Pn	05 06 10.4	+1.6
ULBA				S	Sn	05 06 44.3	+1.4
MARY	**Rancho Maria**	**2.81**	**76**	P	Pn	05 06 10.8	+2.0
NAS1	**Nasa**	**2.85**	**74**	P	Pn	05 06 10.9	+1.7
PISA	**Pisayambo**	**2.85**	**83**	P	Pn	05 06 10.8	+1.4
JUA2	**San Juan 2**	**2.87**	**66**	P	Pn	05 06 09.5	-0.1
TERV	**Terraza Guagua**	**2.89**	**65**	⇓P	Pn	05 06 10.7	+0.8
PINO	**Pino**	**2.89**	**65**	⇓P	Pn	05 06 10.2	+0.3
VC1	**Cotopaxi 1**	**2.92**	**75**	P	Pn	05 06 12.5	+2.2
JOR1	**San Jorge 1**	**2.93**	**62**	P	Pn	05 06 09.5	-1.0
TAMB	**Tambo**	**2.94**	**76**	P	Pn	05 06 14.4	+3.9
YANA	**Yana**	**2.94**	**64**	P	Pn	05 06 10.6	-0.1
ANTI	**Antisana**	**3.20**	**73**	P	Pn	05 06 15.9	+1.5
COTA	**Cotacachi**	**3.36**	**59**	⇓P	Pn	05 06 18.6	+2.1
COTA				S	Sn	05 07 06.6	+10
CAYR	**Refugio Cayamb**	**3.51**	**66**	P	Pn	05 06 21.9	+3.2
CAYA	**Cayambe**	**3.55**	**66**	P	Pn	05 06 22.4	+3.2
CONE	**Cono NE Rev Vo**	**3.81**	**70**	P	Pn	05 06 27.3	+4.2

IDC 25 05:07:24.9±9.7, 1.42S×80.85W, h164km±101km, mb3.1/3, mb1 3.5/5, mb1mx3.1/18, mbtmp3.7/5, MS3.2/1, Ms1 3.3/1, ms1mx2.2/6, Error ellipse: s-maj=75.2km s-min=29.1km az=68.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**14.44**	**45**	P	P	05 10 42.4	-0.5
	0.4nm,0.3s,baz=242,slow=13,SNR=5.2						
LPAZ	**La Paz**	**19.37**	**140**	P	P	05 11 38.8	-1.5
	0.1nm,0.3s,baz=350,slow=16,SNR=6.5						
LPAZ				LR	LR	05 20 29.0	
	comp=Z,69nm,19.1s,baz=101,slow=40						
TXAR	**Lajitas Array**	**37.57**	**326**	P	P	05 14 22.8	-2.4
	0.4nm,0.9s,baz=124,slow=9.8,SNR=3.4						
NVAR	**Mina Array Bea**	**52.55**	**323**	P	P	05 16 22.6	-1.1
	0.3nm,0.7s,baz=143,slow=6.0,SNR=3.8						
YKA	**Yellowknife Ar**	**68.65**	**344**	P	P	05 18 10.0	-2.2
	0.3nm,0.6s,baz=138,slow=6.1,SNR=9.1						

IGQ 25 05:51:16.1, 1.29S×81.10W, h18km±6km, mb4.1, 1C-1D, Error ellipse: s-maj=9.2km s-min=8.0km az=128.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.60**	**67**	⇑P	Pb	05 51 27.2	-0.7
HOJA				S	Sb	05 51 36.1	+0.2
IGUA	**Igualata**	**2.47**	**95**	P	Pn	05 51 56.6	+0.2
ARRY	**Arrayan**	**2.66**	**95**	P	Pn	05 52 00.0	+1.0
ARRY				S	Sn	05 52 31.6	+0.6
PATA	**Patacocha**	**2.68**	**95**	P	Pn	05 52 02.3	+3.0
RUN2	**Runtun**	**2.69**	**93**	P	Pn	05 52 01.3	+1.8
ULBA	**Ulba**	**2.70**	**93**	P	Pn	05 52 00.9	+1.3
NAS1	**Nasa**	**2.71**	**76**	P	Pn	05 52 01.5	+1.8
JUA2	**San Juan 2**	**2.72**	**67**	P	Pn	05 52 01.1	+1.2
PISA	**Pisayambo**	**2.73**	**85**	P	Pn	05 52 02.6	+2.6
TERV	**Terraza Guagua**	**2.73**	**66**	P	Pn	05 52 01.6	+1.5
PINO	**Pino**	**2.74**	**66**	P	Pn	05 52 01.1	+0.9
VC1	**Cotopaxi 1**	**2.77**	**77**	P	Pn	05 52 04.1	+3.4
YANA	**Yana**	**2.79**	**65**	P	Pn	05 52 02.2	+1.3
TAMB	**Tambo**	**2.80**	**78**	P	Pn	05 52 04.8	+3.8
ANTI	**Antisana**	**3.06**	**74**	P	Pn	05 52 07.0	+2.3
COTA	**Cotacachi**	**3.20**	**60**	P	Pn	05 52 08.8	+2.0
CAYR	**Refugio Cayamb**	**3.36**	**67**	P	Pn	05 52 12.3	+3.4
CAYA	**Cayambe**	**3.39**	**67**	⇓P	Pn	05 52 12.7	+3.2

*JMA **25** 06:03:43.8±0.2, 45.69N×142.59E, h332km±2km, M3.4*
*SKHL **25** 06:03:44.0±0.0, 45.80N×142.17E, h330km±19km, mb3.9/5, msh4.0/1*
*IDC **25** 06:03:44.0±1.4, 46.10N×142.48E, h305km±28km, mb3.1/7, mb1 3.4/7, mb1mx3.1/21, mbtmp3.7/7, Error ellipse: s-maj=53.3km s-min=19.4km az=174.0*
*NEIC **25** 06:03:46.5±1.3, 46.35N×142.39E, h323km±7km, mb3.6/3, Error ellipse: s-maj=44.2km s-min=10.8km az=174.0*

ISC 25 06:03:43.1±0.4, 45.65N±0.07×142.5E±0.1, h336km±5km, n30, σ1§08/37, mb3.3/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.54**	**232**	P	**P**	**06 04 26.6**	**+0.4**
JWK2				*e*S	**S**	**06 04 59.4**	**-0.5**
JSE	**Soyaes**	**0.70**	**175**	P	**P**	**06 04 26.6**	**0.0**
JSE				*e*S	**S**	**06 05 00.6**	**0.0**
JRR	**Rishiri**	**0.98**	**239**	P	**P**	**06 04 28.1**	**+0.6**
YSS	**Yuzh-Sakhalins**	**1.31**	**8**	*e*Pn	**P**	**06 04 28.0**	**-1.2**
JSS	**Shosan**	**1.33**	**200**	P	**P**	**06 04 30.1**	**+0.8**
JYG	**Yagishiri**	**1.44**	**212**	P	**P**	**06 04 30.5**	**+0.6**
ASAJ	**Asahikawa**	**1.54**	**177**	P	**P**	**06 04 31.2**	**+0.7**
	5.1nm,0.3s,baz=322,slow=3.2,SNR=27						
ASAJ	**Asahikawa**	**1.54**	**177**	P	**P**	**06 04 31.1**	**+0.6**
ASAJ				*e*S	**S**	**06 05 08.6**	**+1.1**
JMP	**Maruseppu**	**1.76**	**159**	P	**P**	**06 04 32.2**	**+0.4**
JMP				*e*S	**S**	**06 05 09.4**	**-0.5**
JKK2	**Kamakawa 2**	**1.79**	**174**	P	**P**	**06 04 32.9**	**+0.8**
JTKR	**Abashiri--Toko**	**1.96**	**149**	P	**P**	**06 04 33.7**	**+0.5**
JAR	**Ashorobuto**	**2.53**	**158**	P	**P**	**06 04 38.5**	**+0.8**
JAR				*e*S	**S**	**06 05 21.1**	**+0.7**
JAK	**Akkeshi**	**3.09**	**149**	*e*S	**S**	**06 05 27.1**	**-2.2**
JCH	**Churui**	**3.10**	**168**	P	**P**	**06 04 42.1**	**-0.7**
JCH				*e*S	**S**	**06 05 26.0**	**-3.6**
NEM2	**Nemuro 2**	**3.26**	**133**	*e*S	**S**	**06 05 27.9**	**-4.4**
JNBK	**Urakawa-nobuka**	**3.38**	**177**	*e*S	**S**	**06 05 32.9**	**-1.4**
JKB	**Kayabe**	**3.91**	**196**	P	**P**	**06 04 51.6**	**+0.7**
JKB				*e*S	**S**	**06 05 42.9**	**-1.1**
JOSM	**Okushiri--Mats**	**4.19**	**213**	P	**P**	**06 04 54.7**	**+0.9**
HIA	**Hailar**	**15.79**	**291**	P	**P**	**06 07 07.5**	**-1.6**
	6.3nm,0.5s						
SONM	**Songino Array**	**24.70**	**288**	P	**P**	**06 08 36.7**	**+0.8**
	1.1nm,0.4s,mb3.4,baz=79,slow=8.2,SNR=16						
ILAR	**Eielson Array**	**41.95**	**37**	P	**P**	**06 11 02.4**	**-0.4**
	0.6nm,0.7s,mb2.8,baz=278,slow=9.4,SNR=12						
CHKZ	**Chkalovo**	**45.36**	**307**	*e*P	**P**	**06 11 29.1**	**-1.0**
	0.9nm,0.7s,mb3.0						
INK	**Inuvik**	**46.45**	**31**	P	**P**	**06 11 37.1**	**-1.1**
	0.9nm,0.4s,mb3.3,baz=272,slow=3.2,SNR=4.6						
RES	**Resolute Bay**	**54.08**	**16**	*e*P	**P**	**06 12 32.8**	**-2.4**
	1.4nm,0.5s,mb3.

ULBA	**Ulba**	**2.82**	**90**	P	Pn	06 25 26.6	+1.6
PISA	**Pisayambo**	**2.88**	**82**	P	Pn	06 25 28.6	+2.8
NAS1	**Nasa**	**2.88**	**73**	P	Pn	06 25 27.6	+1.8
JUA2	**San Juan 2**	**2.91**	**65**	P	Pn	06 25 27.0	+0.7
TERV	**Terraza Guagua**	**2.93**	**64**	P	Pn	06 25 28.9	+2.3
PINO	**Pino**	**2.93**	**64**	P	Pn	06 25 27.1	+0.5
VC1	**Cotopaxi 1**	**2.95**	**74**	P	Pn	06 25 29.1	+2.3
TAMB	**Tambo**	**2.97**	**75**	P	Pn	06 25 29.3	+2.2
YANA	**Yana**	**2.98**	**63**	P	Pn	06 25 27.4	+0.1
ANTI	**Antisana**	**3.23**	**72**	⇑P	Pn	06 25 33.6	+2.7
COTA	**Cotacachi**	**3.41**	**58**	P	Pn	06 25 34.8	+1.5
CAYR	**Refugio Cayamb**	**3.55**	**65**	P	Pn	06 25 38.6	+3.3
CAYA	**Cayambe**	**3.59**	**65**	P	Pn	06 25 38.8	+2.9

MEX 25 06:31:18.8±0.6, 19.03N×100.86W, h15km, MD3.5, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**1.52**	**202**	*i* P	Pn	06 31 41.7	-4.0
ZIIG				*i* S	Sb	06 32 00.5	-4.7
CAIG	**El Cayaco**	**2.05**	**164**	*i* P	Pn	06 31 49.4	-3.7
CAIG				*i* S	Sn	06 32 13.1	-5.5
ACX	**Acapulco**	**2.33**	**157**	*i* P	Pn	06 31 54.0	-3.2
ACX				*i* S	Sn	06 32 20.0	-5.7

*IDC **25** 06:44:04.7±0.6, 14.62N×92.48E, mb4.3/15, mb1 4.4/16, mb1mx4.4/20, mbtmp4.3/16, ML4.0/1, MS4.0/7, Ms1 4.0/7, ms1mx3.7/20, Error ellipse: s-maj=25.1km s-min=13.4km az=54.0*

*MOS **25** 06:44:07.7±0.9, 14.58N×92.53E, h33km, mb4.9/34, Error ellipse: s-maj=12.5km s-min=6.9km az=106.7*

*BJI **25** 06:44:07.4, 14.20N×92.55E, h50km, mB4.7, mb4.6, Ms4.3, Msz3.9*

*NEIC **25** 06:44:08.8±0.2, 14.62N×92.52E, mb4.7/22, Error ellipse: s-maj=7.5km s-min=4.6km az=57.0*

ISC 25 06:44:07.0±0.3, 14.68N±0.04×92.51E±0.03, h27km, h27km±1.2km: pP-P, n132, σ1§26/145, mb4.6/47, MS4.1/17, 9C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.22**	**58**	P	**Pn**	**06 45 52.5**	**-1.2**
CMAR						06 47 14.7	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				smax			
	comp=N,2.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,203nm,19.5s						
CMAR	**Chiang Mai Arr**	**7.22**	**58**	Pn	**Pn**	**06 45 52.5**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=245,slow=15,SNR=3.5						
CMAR				Sn	**Sn**	**06 47 14.7**	**-1.0**
	comp=Z,1.6nm,0.3s,baz=246,slow=29,SNR=7.4						
CMAR				LR	LR	06 49 31.4	
	comp=Z,203nm,19.5s,baz=235,slow=45						
NNT	**Nongplab**	**7.33**	**106**	P	**Pn**	**06 45 55.0**	**-0.1**
CHG	**Chiang Mai**	**7.41**	**55**	⇑P	**Pn**	**06 46 06.2**	**+10**
	comp=Z,45nm,0.7s						
NST	**Nakhon Sawan**	**7.43**	**81**	P	**Pn**	**06 45 50.0**	**-6.5**
BWNR	**Bhubaneshwar**	**8.49**	**312**	*e*P	**P**	**06 46 05.3**	**-6.0**
BWNR				*e*S	**Sn**	**06 47 33.0**	**-14**
BWNR				*e*		06 47 37.2	
	comp=E,590nm,0.4s						
BWNR				*e*		06 47 37.5	
	comp=N,525nm,0.3s						
CHRT	**Chiangrai**	**8.66**	**52**	⇑P	**P**	**06 46 15.5**	**+1.9**
	comp=N,192nm,1.0s						
CAL	**Calcutta**	**8.76**	**334**	*e*P	**P**	**06 46 11.9**	**-3.2**
CAL				*e*		06 49 07.5	
VIS	**Vishakhapatnam**	**9.32**	**290**	*e*P	**P**	**06 46 18.5**	**-4.3**
VIS				*e*S	**Sn**	**06 47 54.5**	**-13**
VIS				*e*		06 48 00.3	
	comp=N,384nm,0.3s						
VIS				*e*		06 48 01.3	
	comp=E,295nm,0.3s						
SHL	**Shillong**	**10.85**	**357**	*e*P	**P**	**06 46 39.5**	**-4.3**
SHL				*e*S	**S**	**06 48 36.0**	**-9.3**
BLSP	**Bilaspur**	**12.32**	**308**	*e*P	**P**	**06 47 00.6**	**-3.2**
BLSP				*e*S	**S**	**06 49 07.5**	**-14**
BLSP				*e*		06 49 41.9	
	comp=N,241nm,0.9s						
BLSP				*e*		06 49 42.0	
	comp=E,130nm,0.8s						
HYB	**Hyderabad**	**13.69**	**283**	*e*P	**P**	**06 47 28.0**	**+6.0**
HYB				*e*S	**S**	**06 49 51.0**	**-3.0**
HYB	**Hyderabad**	**13.69**	**283**	*i* P	**P**	**06 47 25.0**	**+3.0**
HYB				*e*		06 49 39.0	
HYB				*e*S	**S**	**06 49 51.0**	**-3.0**
JIRN	**Jiri**	**14.19**	**337**	*e*P	**P**	**06 47 25.0**	**-3.5**
	comp=E,20nm,0.4s						
NGP	**Nagpur**	**14.33**	**299**	*e*	**P**	**06 47 38.2**	**+7.9**
NGP				*e*	**S**	**06 49 58.3**	**-11**
PKI	**Pulchoki**	**14.43**	**334**	*e*P	**P**	**06 47 28.6**	**-3.1**
	comp=E,51nm,0.6s						
ALBI	**Allahabad**	**14.58**	**318**	*e*	**S**	**06 50 11.5**	**-3.7**
DMN	**Daman**	**14.59**	**333**	*e*P	**P**	**06 47 31.1**	**-2.7**
	comp=E,121nm,0.8s						
KKN	**Kakani**	**14.68**	**334**	*e*P	**P**	**06 47 32.5**	**-2.4**
	comp=E,63nm,0.7s						
LSA	**Lhasa**	**15.00**	**355**	P	**P**	**06 47 47.0**	**+7.9**
LSA				AMB	AMB		
	comp=Z,21nm,1.1s						
LSA				LR	LR		
	comp=N,360nm,10.0s						
LSA				LR	LR		
	comp=E,530nm,11.0s						
LSA				LR	LR		
	comp=Z,540nm,18.0s						
LSA	**Lhasa**	**15.00**	**355**	*e*P	**P**	**06 47 39.4**	**+0.3**
LSA				pmax	pmax		
	comp=Z,48nm,0.9s						
LSA	**Lhasa**	**15.00**	**355**	*e*P	**P**	**06 47 39.4**	**+0.3**
	comp=Z,48nm,0.9s						
GKN	**Gorkha**	**15.14**	**332**	*e*P	**P**	**06 47 37.8**	**-3.2**
	comp=Z,68nm,0.5s						
KOLN	**Koldanda**	**15.44**	**329**	*e*P	**P**	**06 47 41.3**	**-3.5**
	comp=Z,101nm,0.7s						
TRD	**Trivandrum**	**16.41**	**250**	*e*		06 48 14.4	
TRD				*i* S	**S**	**06 50 59.4**	**+1.3**
BOM	**Bombay**	**19.31**	**285**	*e*P	**P**	**06 48 34.0**	**+0.9**
BOM				*e*	**S**	**06 52 04.9**	**+0.9**
SONA	**Sohna**	**19.68**	**316**	*e*P	**P**	**06 48 36.1**	**-1.0**
AYAN	**Aya Nagar**	**19.80**	**316**	*e*P	**P**	**06 48 38.8**	**+0.4**
NDI	**New Delhi**	**19.87**	**317**	*e*P	**P**	**06 48 39.5**	**+0.3**
NDI				*e*	**S**	**06 52 04.0**	**-12**
AJM	**Ajmer**	**20.40**	**308**	*e*P	**P**	**06 48 46.0**	**+1.2**
KHET	**Khetri**	**20.45**	**313**	*e*P	**P**	**06 48 44.8**	**-0.5**
DDI	**Dehra Dun**	**20.48**	**322**	*e*	**P**	**06 48 44.1**	**-1.4**
DDI				*e*	**S**	**06 52 24.0**	**-4.3**
KLP	**Kalpa**	**21.25**	**325**	*e*P	**P**	**06 48 54.7**	**+1.2**
ENH	**Enshi**	**22.02**	**42**	*e*P	**P**	**06 49 02.0**	**+0.8**
	comp=Z,51nm,0.8s,mb5.0						
BHK	**Bhakra**	**22.24**	**321**	*e*	**S**	**06 53 09.3**	**+7.7**
LZH	**Lanzhou**	**23.61**	**23**	⇑P	**P**	**06 49 17.0**	**+0.2**
LZH				PP	PP	06 49 57.0	+7.5
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,250nm,4.1s						
LZH				LR	LR		
	comp=N,1μm,14.8s						
LZH				LR	LR		
	comp=Z,1μm,15.4s,MS4.5						
LZH	**Lanzhou**	**23.61**	**23**	⇑P	**P**	**06 49 17.1**	**+0.3**
LZH				*PP		06 49 25.8	
LZH				*SP		06 49 30.8	
LZH						06 49 57.0	
LZH				pmax	pmax		
	comp=Z,42nm,1.5s,mb4.7						
LZH	**Lanzhou**	**23.61**	**23**	⇑P	**P**	**06 49 17.1**	**+0.3**
	comp=Z,42nm,1.5s,mb4.7						
LZH				pP		06 49 25.8	
LZH				sP		06 49 30.8	
LZH				PP	PP	06 49 57.0	+7.5
LZH				S	**S**	**06 53 39.2**	**+13**
LZH				sS		06 53 52.0	
LZH				SS	tx	06 54 47.1	
XAN	**Xi'an**	**24.33**	**35**	P	**P**	**06 49 24.0**	**+0.2**
XAN				S	**S**	**06 53 46.5**	**+8.2**
XAN				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.4						
XAN				LR	LR		
	comp=N,211nm,12.4s,MS4.0						
XAN				LR	LR		
	comp=E,281nm,13.0s,MS4.0						
XAN				LR	LR		
	comp=Z,254nm,13.4s,MS3.9						
WMQ	**Urumqi**	**29.34**	**353**	*e*P	**P**	**06 50 08.5**	**-1.3**
NJ2	**Nanjing**	**29.61**	**50**	*e*P	**P**	**06 50 11.3**	**-1.1**
NJ2				AP	pP	06 50 20.3	0.0
NJ2				PP	PP	06 51 07.8	-1.0
NJ2				S	**S**	**06 55 04.0**	**-0.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
NJ2				LR	LR		
	comp=N,1μm,20.0s,MS4.6						
NJ2				LR	LR		
	comp=E,290nm,16.0s,MS4.6						
NJ2				LR	LR		
	comp=Z,410nm,23.0s						
TIA	**Tai'an**	**30.72**	**41**	*e*P	**P**	**06 50 26.8**	**+4.6**
SSE	**Sheshan**	**30.93**	**53**	P	**P**	**06 50 21.3**	**-2.8**
SSE				S	**S**	**06 55 25.5**	**-0.1**
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,57nm,3.3s						
SSE				LR	LR		
	comp=N,282nm,19.1s,MS4.0						
SSE				LR	LR		
	comp=E,143nm,19.2s,MS4.0						
SSE				LR	LR		
	comp=Z,121nm,12.5s						
SSE	**Sheshan**	**30.93**	**53**	P	**P**	**06 50 20.2**	**-3.9**
	comp=Z,37nm,0.7s,mb5.3						
SSE				sP	sP	06 50 32.7	-2.8
SSE				S	**S**	**06 55 25.4**	**-0.2**
SSE				sS		06 55 40.9	
AAK	**Ala-Archa**	**31.89**	**334**	⇑*e*P	**P**	**06 50 33.2**	**+0.9**
AAK				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.2						
AAK	**Ala-Archa**	**31.89**	**334**	*e*P	**P**	**06 50 32.3**	**0.0**
	comp=Z,3.5nm,0.7s,mb4.3						
BJI	**Beijing**	**32.66**	**35**	P	**P**	**06 50 40.6**	**+1.5**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
BJI	**Beijing**	**32.66**	**35**	P	**P**	**06 50 40.6**	**+1.5**
	comp=Z,7.0nm,0.7s,mb4.7						
MKAR	**Makanchi Array**	**33.14**	**347**	*i* P	**P**	**06 50 44.2**	**+1.0**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SONM	**Songino Array**	**35.01**	**16**	P	**P**	**06 51 00.4**	**+1.1**
	comp=Z,4.5nm,1.0s,mb4.4,baz=203,slow=9.4,SNR=25						
ULN	**Ulaanbaatar**	**35.22**	**17**	*e*P	**P**	**06 51 02.1**	**+1.0**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
ULN	**Ulaanbaatar**	**35.22**	**17**	*e*P	**P**	**06 51 02.1**	**+1.0**
	comp=Z,6.8nm,0.8s,mb4.6						
ZAK	**Zakamensk**	**36.67**	**12**	*e*P	**P**	**06 51 15.0**	**+1.7**
KURK	**Kurchatov**	**37.66**	**346**	*e*P	**P**	**06 51 22.8**	**+1.2**
KURK				*e*	pP	06 51 30.3	+0.6
KURK				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.8						
KURK	**Kurchatov**	**37.66**	**346**	*e*P	**P**	**06 51 22.8**	**+1.2**
	comp=Z,17nm,0.9s,mb4.8						
KURK				*e*	pP	06 51 30.3	+0.6
TLY	**Talaya**	**37.98**	**11**	*e*P	**P**	**06 51 26.5**	**+2.2**
TLY				*e*		06 57 13.2	
TLY				*e*		07 01 26.3	
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
TLY				MLR	MLR		
	comp=Z,153nm,17.0s,MS3.9						
ZAL	**Zalesovo**	**39.64**	**353**	P	**P**	**06 51 39.1**	**+1.0**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAL				MLR	MLR		
	comp=Z,87nm,18.6s						
ZAL	**Zalesovo**	**39.64**	**353**	P	**P**	**06 51 39.1**	**+1.0**
	comp=Z,3.3nm,0.6s,mb4.3,baz=301,slow=5.6,SNR=20						
ZAL				LR	LR	07 11 42.2	
	comp=Z,87nm,18.6s,MS3.6,baz=37,slow=42						
NVS	**Novosibirsk**	**40.72**	**352**	*e*P	**P**	**06 51 41.9**	**-5.1**
BVA0	**Borovoye Array**	**42.08**	**340**	P	**P**	**06 51 58.7**	**+0.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.2s						
BVAR	**Borovoye Array**	**42.08**	**340**	P	**P**	**06 51 58.6**	**+0.4**
	comp=Z,1.8nm,0.7s,mb3.8,baz=135,slow=8.4,SNR=10						
BRVK	**Borovoye**	**42.14**	**340**	*e*P	**P**	**06 51 58.6**	**-0.1**
BRVK				*e*	pP	06 52 06.8	0.0
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**42.14**	**340**	*e*P	**P**	**06 51 58.6**	**-0.1**
	comp=Z,5.7nm,0.8s,mb4.2						
BRVK				*e*	pP	06 52 06.8	0.0
CHKZ	**Chkalovo**	**42.55**	**341**	*i* P	**P**	**06 52 03.3**	**+1.2**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
MBWA	**Marble Bar**	**44.53**	**142**	P	**P**	**06 52 17.6**	**-1.0**
	comp=Z,8.9nm,0.9s,mb4.6						
BOD	**Bodaibo**	**46.01**	**16**	*e*P	**P**	**06 52 30.2**	**+0.4**
BOD				*e*	pP	06 52 37.3	-0.6
FITZ	**Fitzroy Crossi**	**46.13**	**134**	⇑*i*P	**P**	**06 52 30.2**	**-1.1**
	comp=Z,15nm,0.4s,mb5.3						
GNI	**Garni**	**48.67**	**311**	*i* P	**P**	**06 52 53.5**	**+2.6**
GNI				pmax	pmax		
	comp=Z,34nm,1.5s						
GNI				MLR	MLR		
	comp=Z,100nm,17.0s						
CLNS	**Chul'man**	**48.74**	**23**	*e*P	**P**	**06 52 58.6**	**+7.4**
CLNS				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,9.0nm,0.8s						
CLNS				MLR	MLR		
	comp=N,200nm,13.0s,MS4.3						
CLNS				MLR	MLR		
	comp=Z,200nm,13.0s,MS4.3						
CLNS				MLR	MLR		
	comp=E,100nm,14.0s,MS4.3						
ARU	**Arti**	**49.05**	**336**	⇑*i*P	**P**	**06 52 49.0**	**-4.6**
ARU				*e*S	**S**	**06 59 50.1**	**-5.4**
ARU				*e*SS	SS	07 03 18.2	-4.1
ARU				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
ZEI	**Tsey**	**50.09**	**314**	*e*P	**P**	**06 53 03.2**	**+1.4**
ZEI				*i* *PP	pP	06 53 13.1	+3.0
ZEI				*i*		06 54 59.6	
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
KIV	**Kislovodsk**	**51.31**	**315**	*e*P	**P**	**06 53 11.7**	**+0.7**
KIV				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
KIV				MLR	MLR		
	comp=E,91nm,16.0s						
KIV				MLR	MLR		
	comp=Z,121nm,16.0s,MS4.0						
NWAO	**Narrogin (SRO)**	**52.91**	**154**	P	**P**	**06 53 22.5**	**-0.7**
NWAO				pmax	pmax		
	comp=Z,11nm,0.8s						
NWAO	**Narrogin (SRO)**	**52.91**	**154**	P	**P**	**06 53 22.5**	**-0.7**
	comp=Z,11nm,0.8s,mb4.9,baz=317,slow=8.3,SNR=7.8						
NWAO	**Narrogin (SRO)**	**52.91**	**154**	P	**P**	**06 53 22.5**	**-0.7**
SOC	**Sochi**	**53.25**	**314**	*e*P	**P**	**06 53 24.2**	**-1.4**
SOC				*e*		06 54 37.0	
SOC				*e*		06 55 27.9	
SOC				*e*PPP	PPP	06 56 32.4	-1.7
SOC				*e*S	**S**	**07 00 53.9**	**+0.4**
SOC				*e*		07 03 02.9	
SOC				*e*SS	SS	07 04 34.6	+2.0
SOC				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
SOC				pmax	pmax		
	comp=N,30nm,1.0s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.5s						
WRA	**Warramunga Arr**	**53.63**	**129**	P	**P**	**06 53 27.7**	**-1.0**
WRA				pmax	pmax		
	comp=Z,12nm,0.6s						
WRA	**Warramunga Arr**	**53.63**	**129**	P	**P**	**06 53 27.7**	**-1.0**
	comp=Z,12nm,0.6s,mb5.0,baz=311,slow=7.8,SNR=74						
WRAB	**Tennant Creek**	**53.63**	**129**	*e*P	**P**	**06 53 27.8**	**-0.9**
WRAB				*e*	pP	06 53 36.2	-0.7
WRAB				*e*		06 54 34.0	
WRAB				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.2						
WRAB	**Tennant Creek**	**53.63**	**129**	*e*P	**P**	**06 53 27.8**	**-0.9**
	comp=Z,23nm,0.7s,mb5.2						
WRAB				*e*	pP	06 53 36.2	-0.8
WRAB				*e*PcP	PcP	06 54 34.0	-0.9
WB2	**Warramunga Arr**	**53.64**	**129**	*e*P	**P**	**06 53 28.0**	**-0.7**
YAK	**Yakutsk**	**54.15**	**21**	*i* P	**P**	**06 53 32.3**	**+0.4**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
YAK				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.9						
ASPA	**Alice Springs**	**55.59**	**133**	*e*P	**P**	**06 53 42.0**	**-1.0**
ASAR	**Alice Springs**	**55.59**	**133**	P	**P**	**06 53 42.2**	**-0.8**
	comp=Z,6.7nm,0.5s,mb5.0,baz=309,slow=6.8,SNR=120						
FORT	**Forrest**	**56.67**	**143**	*e*P	**P**	**06 53 50.2**	**-0.5**
	comp=Z,45nm,0.7s,mb5.6						
BRTR	**Keskin Array B**	**56.90**	**308**	P	**P**	**06 53 51.7**	**-0.4**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRTR	**Keskin Array B**	**56.90**	**308**	P	**P**	**06 53 51.7**	**-0.4**
	comp=Z,2.9nm,0.7s,mb4.4,baz=115,slow=8.8,SNR=16						
OBN	**Obninsk**	**58.84**	**326**	⇓*e*P	**P**	**06 54 03.3**	**-2.2**
OBN				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.0						
MA2	**Magadan**	**61.59**	**29**	P	**P**	**06 54 24.7**	**+0.4**
MA2				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.0						
MA2	**Magadan**	**61.59**	**29**	P	**P**	**06 54 24.7**	**+0.4**
	comp=Z,11nm,0.8s,mb5.0						
AKASG	**Malin Array Be**	**61.90**	**320**	P	**P**	**06 54 25.4**	**-1.1**
	comp=Z,0.3nm,0.3s,mb3.8,baz=86,slow=4.6,SNR=6.1						
MLR	**Muntele Rosu**	**63.27**	**314**	⇑P	**P**	**06 54 36.6**	**+0.9**
BURAR	**Bucovina Array**	**64.01**	**316**	⇓P	**P**	**06 54 41.5**	**+1.0**
JOF	**Joensuu**	**64.07**	**334**	*e*p	**P**	**06 54 39.3**	**-1.3**
	comp=Z,3.5nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**65.99**	**135**	P	**P**	**06 54 53.2**	**-0.4**
	comp=Z,1.3nm,0.7s,mb4.1,baz=330,slow=6.2,SNR=4.9						
STKA	**Stephens Creek**	**65.99**	**135**	P	**P**	**06 54 53.2**	**-0.4**
FINES	**FINESS Array B**	**66.00**	**331**	P	**P**	**06 54 52.5**	**-0.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,141nm,20.5s						
FINES	**FINESS Array B**	**66.00**	**331**	P	**P**	**06 54 52.5**	**-0.5**
	comp=Z,2.6nm,0.7s,mb4.4,baz=99,slow=6.7,SNR=16						
FINES				LR	LR	07 25 34.8	
	comp=Z,141nm,20.5s,MS4.2,baz=269,slow=38						
KAF	**Kangasniemi**	**66.06**	**332**	*e*p	**P**	**06 54 56.7**	**+3.3**
ARCES	**ARCESS Array B**	**68.36**	**340**	P	**P**	**06 55 07.8**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARCES				MLR	MLR		
	comp=Z,289nm,18.1s						
ARCES	**ARCESS Array B**	**68.36**	**340**	P	**P**	**06 55 07.8**	**-0.2**
	comp=Z,6.8nm,0.9s,mb4.7,baz=72,slow=3.8,SNR=9.5						
ARCES				LR	LR	07 28 25.2	
	comp=Z,289nm,18.1s,MS4.5,baz=299,slow=39						
MORC	**Moravsky Berou**	**69.24**	**318**	*e*P	**P**	**06 55 14.0**	**+0.4**
MORC				*e*	pP	06 55 22.0	0.0
MORC				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
MORC	**Moravsky Berou**	**69.24**	**318**	*e*P	**P**	**06 55 14.0**	**+0.4**
	comp=Z,5.5nm,0.6s,mb4.7						
MORC				*e*	pP	06 55 22.0	0.0
BILL	**Bilibino**	**70.42**	**23**	*e*P	**P**	**06 55 21.0**	**+0.5**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.4						
BILL				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.1						
BRG	**Berggiesshubel**	**71.56**	**319**	*e*P	**P**	**06 55 28.5**	**+0.8**
BRG				*e*	pP	06 55 36.1	0.0
BRG				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.5						
BRG	**Berggiesshubel**	**71.56**	**319**	*e*P	**P**	**06 55 28.5**	**+0.8**
	comp=Z,9.6nm,1.7s,mb4.5						
BRG				*e*	pP	06 55 36.1	0.0
GERES	**GERESS Array B**	**71.75**	**317**	P	**P**	**06 55 29.6**	**+0.7**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GERES	**GERESS Array B**	**71.75**	**317**	P	**P**	**06 55 29.6**	**+0.8**
	comp=Z,1.7nm,0.6s,mb4.2,baz=82,slow=5.6,SNR=16						
KHC	**Kasperske Hory**	**71.83**	**317**	*e*P	**P**	**06 55 30.0**	**+0.7**
NB2	**NORSAR Subarra**	**73.07**	**330**	P	**P**	**06 55 36.0**	**-0.4**
	comp=Z,3.1nm,0.6s,mb4.4,baz=89,slow=5.8						
NB2	**NORSAR Subarra**	**73.07**	**330**	P	**P**	**06 55 36.0**	**-0.4**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
NOA	**NORSAR Array B**	**73.07**	**330**	P	**P**	**06 55 36.5**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,96nm,21.9s						
NOA	**NORSAR Array B**	**73.07**	**330**	P	**P**	**06 55 36.5**	**+0.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=96,slow=5.5,SNR=5.9						
NOA				LR	LR	07 29 33.2	
	comp=Z,96nm,21.9s,MS4.0,baz=95,slow=37						
GRA1	**Grafenberg Arr**	**73.34**	**318**	*e*P	**P**	**06 55 38.5**	**+0.3**
	comp=Z,8.0nm,1.3s,mb4.5						
GRF	**Grafenberg Arr**	**73.34**	**318**	*e*P	**P**	**06 55 38.5**	**+0.3**
GRF				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
GRF	**Grafenberg Arr**	**73.34**	**318**	*e*P	**P**	**06 55 38.5**	**+0.3**
GRF				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
GRF	**Grafenberg Arr**	**73.34**	**318**	*e*P	**P**	**06 55 38.5**	**+0.3**
	comp=Z,8.0nm,1.3s,mb4.5						
LPG	**La Plagne**	**76.74**	**314**	*e*P	**P**	**06 55 57.5**	**-0.3**
	comp=Z,18nm,0.7s,mb4.8						
LPG	**La Plagne**	**76.74**	**314**	*e*P	**P**	**06 55 57.5**	**-0.3**
LPG				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
ESDC	**Sonseca Array**	**85.64**	**310**	P	**P**	**06 56 46.1**	**+1.3**
	comp=Z,0.3nm,0.3s,mb4.0,baz=74,slow=5.0,SNR=4.2						
IMA	**Indian Mountai**	**85.96**	**22**	*e*P	**P**	**06 56 47.1**	**+1.4**
MCK	**McKinley**	**88.88**	**23**	P	**P**	**06 57 01.1**	**+1.3**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.2						
MCK	**McKinley**	**88.88**	**23**	P	**P**	**06 57 01.1**	**+1.2**
	comp=Z,1.4nm,0.7s,mb4.4						
ILAR	**Eielson Array**	**89.06**	**22**	P	**P**	**06 57 01.4**	**+

*CSEM **25** 06:59:28.9±0.1, 49.38N×6.91E, h2km, ML3.1/14, Error ellipse: s-maj=0.8km s-min=0.8km az=68.0*
*BGR **25** 06:59:28.8±0.3, 49.39N×6.90E, h1km, ML2.2/2, Error ellipse: s-maj=2.2km s-min=2.2km az=111.0*
*LDG **25** 06:59:29.0±0.1, 49.39N×6.89E, h1km, Md3.0/3, Ml3.1/15, Error ellipse: s-maj=1.3km s-min=1.0km az=93.0, Suspected Mining induced.*
*NEIC **25** 06:59:29.0, 49.39N×6.89E, h1km, ML3.1(LDG), ML2.7(STR), After LDG.*
*BNS **25** 06:59:30.8±1.6, 49.47N×6.90E, h1km, ML2.2*

ISC 25 06:59:26.7±0.2, 49.37N±0.01×6.87E±0.02, n68, σ1§10/126, 1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.35**	**20**	*e*Pg	**Pg**	**06 59 35.5**	**+1.7**
	SNR=17						
RUP	**Ruppelstein**	**0.35**	**20**	Pg	**Pg**	**06 59 35.6**	**+1.9**
RUP				Sg	**Sg**	**06 59 40.2**	**+1.8**
RUP	**Ruppelstein**	**0.35**	**20**	Pg	**Pg**	**06 59 35.5**	**+1.8**
	SNR=17						
RUP				Sg	**Sg**	**06 59 40.2**	**+1.8**
WLF	**Walferdange**	**0.55**	**302**	*e*Pg	**Pg**	**06 59 40.0**	**+2.3**
	SNR=6.4						
WLF				*e*Sg	**Sg**	**06 59 46.4**	**+1.3**
	SNR=4.7						
WLF	**Walferdange**	**0.55**	**302**	‖*e*Pg	**Pg**	**06 59 40.1**	**+2.4**
WLF	**Walferdange**	**0.55**	**302**	P	**Pg**	**06 59 40.2**	**+2.4**
WLF				Sg	**Sg**	**06 59 46.4**	**+1.3**
	SNR=4.7						
ABH	**Alteburg**	**0.67**	**41**	*e*Pg	**Pg**	**06 59 41.1**	**+0.9**
	SNR=11						
ABH	**Alteburg**	**0.67**	**41**	Pg	**Pg**	**06 59 40.9**	**+0.7**
ABH				Sg	**Sg**	**06 59 49.5**	**+0.4**
ABH	**Alteburg**	**0.67**	**41**	Pg	**Pg**	**06 59 41.1**	**+0.9**
	SNR=11						
ABH				Sg	**Sg**	**06 59 49.5**	**+0.4**
LANF	**Langenberg**	**0.73**	**122**	*e*Pg	**Pg**	**06 59 42.1**	**+0.9**
	SNR=10.0						
LANF	**Langenberg**	**0.73**	**122**	Pg	**Pg**	**06 59 42.2**	**+0.9**
KTD	**Kalmit**	**0.79**	**93**	*e*Pg	**Pg**	**06 59 43.3**	**+0.7**
	SNR=12						
KTD	**Kalmit**	**0.79**	**93**	Pg	**Pg**	**06 59 44.1**	**+1.5**
BGG	**Burgeitz**	**0.89**	**20**	*e*Pg	**Pg**	**06 59 45.0**	**+0.5**
BGG				*e*Sg	**Sg**	**06 59 57.0**	**+0.7**
	125nm,0.6s						
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pg	**Pg**	**06 59 47.1**	**+0.4**
CDF				*e*Pn	**Pn**	**06 59 48.2**	**+0.4**
CDF				*e*Sg	**Sg**	**07 00 01.1**	**+1.1**
CDF				*e*Sn	**Sn**	**07 00 02.6**	**-0.2**
	45nm,0.2s						
WLS	**Welschbruch**	**1.01**	**162**	*e*Pg	**Pg**	**06 59 48.0**	**+1.1**
	SNR=14						
WLS				*e*Sg	**Sg**	**07 00 01.8**	**+1.3**
	SNR=1.4						
WLS	**Welschbruch**	**1.01**	**162**	Pg	**Pg**	**06 59 48.4**	**+1.4**
WLS				Sg	**Sg**	**07 00 01.6**	**+1.1**
WLS	**Welschbruch**	**1.01**	**162**	Pg	**Pg**	**06 59 48.0**	**+1.0**
	SNR=14						
WLS				Sg	**Sg**	**07 00 01.6**	**+1.1**
ECH	**Echery**	**1.17**	**171**	Pg	**Pg**	**06 59 51.3**	**+1.1**
ECH				Sg	**Sg**	**07 00 06.3**	**+0.5**
RFYF	**Reffroy**	**1.19**	**232**	*e*Pg	**Pg**	**06 59 51.2**	**+0.8**
	baz=47						
RFYF				*e*Sg	**Sg**	**07 00 07.3**	**+1.1**
	74nm,0.3s,baz=48						
STB	**Steinbach**	**1.22**	**359**	*e*Pg	**Pg**	**06 59 52.4**	**+1.2**
STB				*e*Sg	**Sg**	**07 00 07.2**	**-0.2**
	45nm,1.3s						
TOD	**Tromm**	**1.28**	**79**	*e*Pg	**Pg**	**06 59 51.7**	**-0.7**
	SNR=16						
TOD				*e*Sg	**Sg**	**07 00 09.7**	**+0.3**
	SNR=3.9						
THEF	**They Montfort**	**1.29**	**207**	*e*Pg	**Pg**	**06 59 52.9**	**+0.4**
	SNR=12						
THEF	**They Montfort**	**1.29**	**207**	Pg	**Pg**	**06 59 53.0**	**+0.5**
THEF				Sg	**Sg**	**07 00 09.9**	**+0.2**
LIBD	**Limburg**	**1.32**	**158**	*e*Pg	**Pg**	**06 59 54.1**	**+1.1**
	SNR=5.2						
LIBD				*e*Sg	**Sg**	**07 00 11.2**	**+0.6**
	SNR=2.0						
LIBD	**Limburg**	**1.32**	**158**	Pg	**Pg**	**06 59 53.8**	**+0.8**
LIBD				Sg	**Sg**	**07 00 11.2**	**+0.6**
	SNR=2.0						
KLL	**Kalltalsperre**	**1.32**	**344**	*e*Pg	**Pg**	**06 59 53.6**	**+0.5**
KLL				*e*Sg	**Sg**	**07 00 09.4**	**-1.4**
	33nm,0.9s						
KLL	**Kalltalsperre**	**1.32**	**344**	Pg	**Pg**	**06 59 53.6**	**+0.4**
KLL				Sg	**Sg**	**07 00 09.4**	**-1.4**
	33nm,0.9s						
MEM	**Membach**	**1.36**	**336**	P	**Pb**	**06 59 53.8**	**+1.1**
HAU	**Haudompre**	**1.41**	**194**	*e*Pn	**Pn**	**06 59 54.4**	**+0.7**
HAU				*e*Pg	**Pg**	**06 59 55.7**	**+0.8**
HAU				*e*Sn	**Sn**	**07 00 12.5**	**-0.8**
HAU				*e*Sg	**Sg**	**07 00 13.9**	**+0.1**
	34nm,0.3s						
BFO	**Black Forest**	**1.42**	**137**	*e*Pg	**Pg**	**06 59 55.8**	**+0.7**
	SNR=8.1						
BFO				*e*Sg	**Sg**	**07 00 14.1**	**+0.1**
	SNR=6.4						
BFO	**Black Forest**	**1.42**	**137**	*e*Pg	**Pg**	**06 59 55.8**	**+0.7**
BFO				*e*Sg	**Sg**	**07 00 14.1**	**+0.1**
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pn	**Pn**	**06 59 55.3**	**+0.5**
MEZF				*e*Pg	**Pg**	**06 59 57.4**	**+1.0**
	baz=51						
MEZF				*e*Sn	**Sn**	**07 00 13.8**	**-1.3**
MEZF				*e*Sg	**Sg**	**07 00 16.7**	**+0.5**
	43nm,0.4s						
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pg	**Pg**	**06 59 57.4**	**+1.0**
MEZF				*e*Sn	**Sn**	**07 00 13.8**	**-1.3**
MEZF				*e*Sg	**Sg**	**07 00 16.7**	**+0.5**
	21nm,0.4s						
GIVF	**Givet**	**1.52**	**300**	*e*Pn	**Pn**	**06 59 56.4**	**+1.2**
GIVF				*e*Pg	**Pg**	**06 59 57.9**	**+0.9**
GIVF				*e*Sn	**Sn**	**07 00 14.6**	**-1.4**
GIVF				*e*Sg	**Sg**	**07 00 17.2**	**0.0**
	72nm,0.5s						
HGN	**Heimansgroeve**	**1.52**	**337**	*e*Pg	**Pg**	**06 59 57.3**	**+0.2**
	8.7nm,0.2s						
HGN				*e*Sg	**Sg**	**07 00 16.6**	**-0.7**
MOF	**Molkenrain**	**1.53**	**173**	Pg	**Pg**	**06 59 57.8**	**+0.4**
MOF				Sg	**Sg**	**07 00 17.7**	**-0.1**
HINF	**Hinteralfeld**	**1.56**	**180**	*e*Pn	**Pn**	**06 59 56.3**	**+0.5**
HINF				*e*Pg	**Pg**	**06 59 58.0**	**+0.1**
HINF				*e*Sn	**Sn**	**07 00 15.9**	**-1.1**
HINF				*e*Sg	**Sg**	**07 00 18.5**	**-0.1**
	67nm,0.3s						
BNS	**Bensberg**	**1.60**	**7**	*e*Sg	**Sg**	**07 00 17.5**	**-2.7**
DOU	**Dourbes**	**1.65**	**297**	P	**Pn**	**06 59 58.3**	**+1.2**
FELD	**Feldberg**	**1.68**	**153**	*e*Pg	**Pg**	**07 00 00.2**	**-0.1**
	SNR=3.0						
FELD				*e*Sg	**Sg**	**07 00 21.6**	**-0.9**
	SNR=7.0						
FELD	**Feldberg**	**1.68**	**153**	Pg	**Pg**	**06 59 59.7**	**-0.5**
FELD				Sg	**Sg**	**07 00 21.7**	**-0.9**
FELD	**Feldberg**	**1.68**	**153**	Pg	**Pg**	**07 00 00.2**	**0.0**
	SNR=3.0						
FELD				Sg	**Sg**	**07 00 21.7**	**-0.9**
BAIF	**Baives**	**1.86**	**293**	*e*Pn	**Pn**	**07 00 00.8**	**+0.6**
BAIF				*e*Pg	**Pg**	**07 00 04.0**	**+0.1**
BAIF				*e*Sg	**Sg**	**07 00 27.7**	**-1.0**
	23nm,0.4s						
LOMF	**Lomont**	**2.02**	**181**	*e*Sg	**Sg**	**07 00 33.6**	**-0.6**
	SNR=2.5						
LOMF	**Lomont**	**2.02**	**181**	Pg	**Pg**	**07 00 07.6**	**+0.4**
WTSB	**Winterswijk**	**2.60**	**359**	*e*Sg	**Sg**	**07 00 50.7**	**-2.5**
CABF	**La Chapelle**	**2.81**	**191**	*e*Pn	**Pn**	**07 00 13.6**	**-0.2**
CABF				*e*Sg	**Sg**	**07 00 57.7**	**-2.7**
	27nm,0.6s						
SSF	**Saint Saulge**	**3.23**	**225**	*e*Pn	**Pn**	**07 00 18.5**	**-1.2**
SSF				*e*Sg	**Sg**	**07 01 09.2**	**-5.0**
	5.3nm,0.4s						
MOX	**Moxa**	**3.31**	**66**	*e*Pg	**Pg**	**07 00 29.4**	**-3.5**
	SNR=2.4						
MOX				*e*Sg	**Sg**	**07 01 13.6**	**-3.5**
	SNR=1.3						
SMF	**Signal de Mont**	**3.41**	**218**	*e*Pn	**Pn**	**07 00 21.5**	**-0.7**
SMF				*e*Sn	**Sn**	**07 01 00.0**	**-3.9**
SMF				*e*Sg	**Sg**	**07 01 16.8**	**-3.3**
	15nm,0.6s						
AVF	**Avril sur Loir**	**3.50**	**224**	*e*Pn	**Pn**	**07 00 22.2**	**-1.3**
AVF				*e*Sn	**Sn**	**07 01 02.7**	**-3.6**
	5.5nm,0.3s						
AVF				*e*Sg	**Sg**	**07 01 19.1**	**-4.2**
HYF	**Humbligny**	**3.52**	**235**	*e*Pg	**Pg**	**07 00 35.6**	**-1.5**
GUNZ	**Gunzen**	**3.67**	**72**	*e*Sg	**Sg**	**07 01 24.7**	**-4.2**
	SNR=2.0						
WERD	**Werda**	**3.67**	**71**	*e*Pg	**Pg**	**07 00 36.9**	**-3.1**
	SNR=2.6						
WERD				*e*Sg	**Sg**	**07 01 24.6**	**-4.4**
	SNR=3.1						
NKC	**Novy Kostel**	**3.71**	**74**	*e*PG	**Pg**	**07 00 37.3**	**-3.6**
TANN	**Tannenbergstha**	**3.76**	**72**	*e*Pg	**Pg**	**07 00 39.3**	**-2.5**
	SNR=2.9						
TANN				*e*Sg	**Sg**	**07 01 27.2**	**-4.7**
	SNR=1.7						
LPL	**La Plagne**	**3.86**	**181**	*e*Pn	**Pn**	**07 00 27.7**	**-1.0**
LPG	**La Plagne**	**3.88**	**181**	*e*Pn	**Pn**	**07 00 27.9**	**-1.0**
BGF	**Bois d'Agland**	**3.91**	**225**	*e*Pn	**Pn**	**07 00 28.4**	**-0.9**
BGF				*e*Sn	**Sn**	**07 01 12.2**	**-4.4**
BGF				*e*Sg	**Sg**	**07 01 32.0**	**-4.8**
	45nm,0.5s						
WET	**Wettzell**	**3.94**	**91**	*e*Pn	**Pn**	**07 00 29.7**	**-0.1**
	SNR=4.3						
CLL	**Collm**	**4.38**	**61**	*e*SG	**Sg**	**07 02 00.0**	**+7.5**
KHC	**Kasperske Hory**	**4.40**	**91**	*e*PN	**Pn**	**07 00 35.7**	**-0.6**
KHC				*e*x	x	07 01 20.5	
KHC				*e*SG	**Sg**	**07 01 51.5**	**-1.7**
GEC2	**GERESS Array S**	**4.52**	**94**	*e*Pn	**Pn**	**07 00 37.8**	**-0.2**
	SNR=16						
BRG	**Berggiesshubel**	**4.79**	**69**	*e*Sg	**Sg**	**07 02 00.0**	**-6.2**
BRG	**Berggiesshubel**	**4.79**	**69**	*e*Sg	**Sg**	**07 02 00.0**	**-6.2**
FLN	**La Foliniere**	**4.87**	**266**	*e*Pn	**Pn**	**07 00 41.7**	**-1.4**
FLN				*e*Sn	**Sn**	**07 01 35.5**	**-5.6**
	3.9nm,0.3s						
GRR	**Gorron**	**5.20**	**262**	*e*Sn	**Sn**	**07 01 43.0**	**-6.2**
	3.2nm,0.3s						

*NEIC **25** 07:03:40.0, 16.55N×99.60W, h5km, MD3.8(MEX), After MEX.*

MEX 25 07:03:40.0±0.5, 16.55N×99.60W, h5km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.44**	**316**	*i* P	Pg	07 03 48.0	-0.8
ACX				*i* S	Sg	07 03 55.0	+0.3
CAIG	**El Cayaco**	**0.81**	**308**	*e*P	Pb	07 03 54.1	-2.2
CAIG				*i* S	Sg	07 04 05.2	-1.8
PNIG	**Pinotepa**	**1.42**	**96**	*e*P	Pn	07 04 03.1	-3.4
PNIG				*i* S	Sb	07 04 21.1	-3.7
PLIG	**Platanillo**	**1.83**	**3**	*i* P	Pn	07 04 09.3	-3.2
PLIG				*i* S	Sn	07 04 31.5	-4.8
ZIIG	**Zihuatanejo**	**2.07**	**301**	*i* P	Pn	07 04 11.6	-4.3
ZIIG				*i* S	Sn	07 04 36.9	-5.5
PPM	**Popocatepetl**	**2.67**	**20**	*e*P	Pn	07 04 22.2	-2.2
PPM				*i* S	Sn	07 04 52.6	-4.9
VHO	**Vista Hermosa**	**2.79**	**79**	*e*P	Pn	07 04 22.4	-3.7
VHO				*i* S	Sn	07 04 55.9	-4.7

*IDC **25** 07:08:58.4±1.0, 27.71S×175.09W, mb4.1/6, mb1 4.3/9, mb1mx4.2/18, mbtmp4.2/9, ML4.3/3, MS3.7/7, Ms1 3.7/7, ms1mx3.2/26, Error ellipse: s-maj=40.4km s-min=18.6km az=148.0*
*NEIC **25** 07:09:04.4±0.7, 27.92S×174.92W, h50km, mb4.7/2, Error ellipse: s-maj=26.3km s-min=13.0km az=149.0*

ISC 25 07:09:00.9±0.7, 27.9S±0.1×175.0W±0.1, h33km, n21, σ1§15/14, mb4.2/7, MS3.7/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.32**	**211**	Pn	**P**	**07 11 55.3**	**-1.6**
	0.7nm,0.3s,baz=253,slow=10,SNR=9.0						
URZ				Sn	**S**	**07 14 14.7**	**+0.7**
	1.9nm,0.3s,baz=143,slow=18,SNR=5.7						
AFI	**Afiamalu**	**14.18**	**13**	P	**P**	**07 12 16.1**	**-5.5**
RAR	**Rarotonga**	**15.32**	**68**	Pn	**P**	**07 12 35.0**	**-1.3**
	4.0nm,0.3s,baz=39,slow=4.1,SNR=5.3						
RAR				LR	LR	07 16 29.8	
	comp=Z,386nm,18.1s,baz=231,slow=29						
RAR	**Rarotonga**	**15.32**	**68**	Pn	**P**	**07 12 35.0**	**-1.3**
RPZ	**Rata Peaks**	**19.43**	**212**	P	**P**	**07 13 27.7**	**+0.4**
	0.6nm,0.3s,baz=192,slow=22,SNR=2.4						
CTA	**Charters Tower**	**36.15**	**274**	P	**P**	**07 16 02.4**	**+0.2**
	6.7nm,0.5s,mb4.8,baz=94,slow=12,SNR=13						
CTA				LR	LR	07 27 53.3	
	comp=Z,108nm,21.0s,MS3.6,baz=222,slow=32						
CTAO	**Charters Tower**	**36.15**	**274**	*e*P	**P**	**07 16 02.0**	**-0.2**
	8.8nm,0.5s,mb5.0						
STKA	**Stephens Creek**	**37.70**	**253**	P	**P**	**07 16 16.2**	**+1.1**
	1.5nm,0.6s,mb3.9,baz=116,slow=4.3,SNR=4.6						
STKA				LR	LR	07 29 27.8	
	comp=Z,120nm,21.7s,MS3.7,baz=147,slow=33						
ASAR	**Alice Springs**	**45.97**	**263**	P	**P**	**07 17 21.9**	**-1.0**
	1.1nm,0.8s,mb3.9,baz=100,slow=6.9,SNR=11						
ASAR				LR	LR	07 34 34.8	
	comp=Z,70nm,19.7s,MS3.6,baz=154,slow=34						
WRAB	**Tennant Creek**	**46.74**	**268**	P	**P**	**07 17 29.7**	**+0.7**
	4.5nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**46.75**	**268**	P	**P**	**07 17 27.2**	**-1.8**
	1.4nm,0.7s,mb4.0,baz=108,slow=7.8,SNR=13						
NVAR	**Mina Array Bea**	**84.57**	**41**	P	**P**	**07 21 33.8**	**+1.6**
	1.5nm,0.7s,mb4.3,baz=221,slow=7.5,SNR=14						
NVAR				LR	LR	07 50 14.4	
	comp=Z,35nm,20.7s,MS3.7,baz=120,slow=29						
TXAR	**Lajitas Array**	**88.77**	**56**	P	**P**	**07 21 54.0**	**+1.2**
	0.4nm,0.9s,mb3.8,baz=194,slow=5.2,SNR=3.7						
PDAR	**Pinedale Array**	**92.46**	**42**	LR	LR	07 57 31.5	
	comp=Z,84nm,19.7s,MS4.2,baz=94,slow=32						
JTS	**JuntasAbangare**	**94.74**	**81**	LR	LR	07 54 23.2	
	comp=Z,24nm,21.8s,MS3.6,baz=108,slow=29						
ARCES	**ARCESS Array B**	**136.61**	**350**	PKP	PKPdf	07 28 22.4	+3.2
	1.0nm,0.6s,baz=45,slow=1.7,SNR=5.8						
FINES	**FINESS Array B**	**143.57**	**343**	PKhKP		07 28 29.9	
	1.2nm,0.5s,baz=74,slow=3.4,SNR=18						
NB2	**NORSAR Subarra**	**146.55**	**355**	PKP	PKPdf	07 28 39.6	+2.8
	5.8nm,0.9s,baz=7.0,slow=2.9						
NOA	**NORSAR Array B**	**146.55**	**355**	PKPbc	PKPbc	07 28 40.0	+1.9
	1.9nm,0.7s,baz=16,slow=4.6,SNR=7.4						
NOA	**NORSAR Array B**	**146.55**	**355**	PKPbc	PKPbc	07 28 40.0	+1.9
AKASG	**Malin Array Be**	**150.72**	**328**	PKPbc	PKPdf	07 28 51.6	+7.9
	1.4nm,0.5s,baz=36,slow=2.5,SNR=11						

IGQ 25 07:09:12.5, 1.44S×81.22W, h19km±7km, mb4.3, 6C-1D, Error ellipse: s-maj=13.2km s-min=8.1km az=159.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.78**	**60**	⇑P	Pb	07 09 26.9	-0.3
IGUA	**Igualata**	**2.58**	**91**	⇑P	Pn	07 09 54.8	+0.6
IGUA				S	Sn	07 10 27.2	+1.7
CUSU	**Cusua**	**2.74**	**90**	P	Pn	07 09 59.0	+2.5
JUIV	**Juive**	**2.76**	**90**	P	Pn	07 09 57.1	+0.4
ARRY	**Arrayan**	**2.77**	**91**	⇑P	Pn	07 09 57.5	+0.7
RETU	**Refugio**	**2.78**	**90**	P	Pn	07 09 59.5	+2.5
PATA	**Patacocha**	**2.79**	**91**	P	Pn	07 10 00.1	+2.9
RUN2	**Runtun**	**2.81**	**90**	P	Pn	07 09 58.9	+1.5
ULBA	**Ulba**	**2.81**	**90**	⇑P	Pn	07 09 58.8	+1.3
NAS1	**Nasa**	**2.86**	**74**	P	Pn	07 10 00.4	+2.2
PISA	**Pisayambo**	**2.86**	**82**	⇑P	Pn	07 10 00.1	+1.9
JUA2	**San Juan 2**	**2.89**	**65**	P	Pn	07 09 59.1	+0.5
TERV	**Terraza Guagua**	**2.91**	**64**	P	Pn	07 09 59.8	+1.0
PINO	**Pino**	**2.91**	**64**	⇓P	Pn	07 09 59.8	+0.9
VC1	**Cotopaxi 1**	**2.93**	**74**	P	Pn	07 10 02.7	+3.5
TAMB	**Tambo**	**2.95**	**75**	P	Pn	07 10 02.2	+2.8
JOR1	**San Jorge 1**	**2.95**	**61**	P	Pn	07 09 58.7	-0.8
YANA	**Yana**	**2.96**	**64**	P	Pn	07 10 00.3	+0.7
ANTI	**Antisana**	**3.22**	**72**	⇑P	Pn	07 10 05.2	+2.0
COTA	**Cotacachi**	**3.38**	**59**	P	Pn	07 10 07.2	+1.6
CAYR	**Refugio Cayamb**	**3.53**	**66**	P	Pn	07 10 10.5	+2.9
CAYA	**Cayambe**	**3.56**	**65**	P	Pn	07 10 11.8	+3.6
CONE	**Cono NE Rev Vo**	**3.83**	**69**	P	Pn	07 10 18.0	+6.1

IDC 25 07:27:27.1±15.0, 14.27N×93.67E, mb3.8/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.8/3, Error ellipse: s-maj=519.6km s-min=32.7km az=76.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**35.10**	**15**	P	P	07 34 22.1	-1.9
	0.6nm,0.9s,baz=214,slow=8.2,SNR=4.1						
WRA	**Warramunga Arr**	**52.50**	**129**	P	P	07 36 42.2	-2.2
	1.1nm,0.6s,baz=315,slow=8.2,SNR=7.8						
ASAR	**Alice Springs**	**54.49**	**133**	P	P	07 36 56.8	-2.3
	1.0nm,0.5s,baz=310,slow=7.1,SNR=16						

*IDC **25** 07:33:47.7±1.2, 43.24N×56.08W, mb4.1/11, mb1 4.4/13, mb1mx4.0/26, mbtmp4.2/13, ML4.0/2, Error ellipse: s-maj=25.4km s-min=21.0km az=142.0*
*OTT **25** 07:33:51.2±0.7, 43.29N×56.31W, h18km, ML4.7/19, Laurentian Fan, offshore Nova Scotia 410km southeast from Louisbourg, Ns*
*NEIC **25** 07:33:51.0, 43.28N×56.30W, h18km, mb4.1/6, ML4.7(OTT), After OTT.*

ISC 25 07:33:53.9±0.5, 43.64N±0.04×57.12W±0.05, h10km, n78, σ1§12/109, mb4.1/16, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAL	**Halifax**	**4.76**	**284**	PN	**Pn**	**07 35 11.7**	**+4.2**
HAL				SN	**Sn**	**07 36 09.4**	**+5.9**
HAL				Trac		07 36 13.2	
	comp=Z,158nm,0.1s						
STJN	**Saint John's**	**4.98**	**36**	SN	Sx	07 35 56.5	
STJN				Trac		07 35 59.3	
	comp=Z,22nm,0.1s						
DRLN	**Deer Lake**	**5.62**	**357**	PN	**Pn**	**07 35 19.6**	**0.0**
DRLN				SN	**Sn**	**07 36 24.0**	**-1.0**
DRLN				Trac		07 36 26.9	
	comp=Z,177nm,0.1s						
LMN	**Caledonia Moun**	**5.90**	**295**	PN	**Pn**	**07 35 27.7**	**+4.1**
LMN				SN	**Sn**	**07 36 38.0**	**+5.8**
LMN				Trac		07 36 42.6	
	comp=Z,293nm,0.2s						
GGN	**Saint George**	**7.12**	**285**	PN	**Pn**	**07 35 42.3**	**+1.5**
GGN				SN	**Sn**	**07 37 04.1**	**+1.5**
GGN				Trac		07 37 09.1	
	comp=Z,104nm,0.1s						
EMMW	**East Machias**	**7.51**	**282**	*e*Lg		07 37 10.1	
GSQ	**Grosses Roches**	**8.69**	**311**	PN	**P**	**07 36 05.0**	**+2.3**
GSQ				SN	**Sn**	**07 37 44.9**	**+3.1**
GSQ				Trac		07 37 49.2	
	comp=Z,24nm,0.2s						
ICQ	**Pointe Anglais**	**9.13**	**314**	PN	**P**	**07 36 10.0**	**+1.2**
ICQ				SN	**Sn**	**07 37 52.9**	**+0.3**
ICQ				Trac		07 38 03.0	
	comp=Z,58nm,0.3s						
SMQ	**Clarke City**	**9.28**	**318**	PN	**P**	**07 36 11.2**	**+0.3**
SMQ				SN	**Sn**	**07 37 55.2**	**-1.2**
SMQ				Trac		07 38 05.0	
	comp=Z,25nm,0.2s						
CNQ	**Baie Comeau**	**9.44**	**311**	PN	**P**	**07 36 14.5**	**+1.5**
CNQ				SN	**Sn**	**07 38 01.9**	**+1.6**
CNQ				Trac		07 38 08.4	
	comp=Z,20nm,0.2s						
A21	**Saint Andre**	**9.69**	**299**	PN	**P**	**07 36 17.4**	**+1.0**
A21				SN	**Sn**	**07 38 06.2**	**-0.2**
A21				Trac		07 38 15.1	
	comp=Z,41nm,0.2s						
A16	**Riviere Ouelle**	**9.81**	**297**	PN	**P**	**07 36 19.8**	**+1.6**
A16				SN	**Sn**	**07 38 09.4**	**-0.1**
A16				Trac		07 38 15.8	
	comp=Z,25nm,0.2s						
A64	**Saint Simeon**	**9.86**	**300**	PN	**P**	**07 36 19.3**	**+0.5**
A64				SN	**Sn**	**07 38 11.1**	**+0.5**
A64				Trac		07 38 15.7	
	comp=Z,15nm,0.2s						
A11	**Saint Roch-des**	**9.87**	**296**	PN	**P**	**07 36 20.2**	**+1.3**
A11				SN	**Sn**	**07 38 11.9**	**+1.0**
A11				Trac		07 38 18.7	
	comp=Z,42nm,0.3s						
A61	**Sainte Mathild**	**9.94**	**299**	PN	**P**	**07 36 20.6**	**+0.8**
A61				SN	**Sn**	**07 38 13.8**	**+1.2**
A61				Trac		07 38 18.5	
	comp=Z,14nm,0.1s						
LMQ	**La Malbaie**	**10.04**	**297**	PN	**P**	**07 36 22.2**	**+0.9**
LMQ				SN	**S**	**07 38 14.9**	**-0.3**
LMQ				Trac		07 38 20.3	
	comp=Z,36nm,0.2s						
A54	**Misere**	**10.07**	**297**	PN	**P**	**07 36 22.7**	**+1.0**
A54				SN	**S**	**07 38 16.8**	**+1.0**
A54				Trac		07 38 21.1	
	comp=Z,30nm,0.2s						
QCQ	**Quebec**	**10.47**	**292**	PN	**P**	**07 36 28.4**	**+1.3**
QCQ				SN	**S**	**07 38 27.7**	**+2.2**
QCQ				Trac		07 38 28.4	
	comp=Z,11nm,0.1s						
WES	**Weston**	**10.48**	**268**	*e*Lg		07 38 08.8	
MNQ	**Manicouagan**	**10.51**	**315**	PN	**P**	**07 36 28.6**	**+0.9**
MNQ				SN	**S**	**07 38 25.4**	**-1.2**
MNQ				Trac		07 38 34.8	
	comp=Z,11nm,0.1s						
FFD	**Franklin Falls**	**10.55**	**274**	*e*P	**P**	**07 36 27.4**	**-0.9**
HRV	**Harvard--Oak R**	**10.63**	**269**	*e*P	**P**	**07 36 26.5**	**-2.8**
BRYW	**Bryant College**	**10.74**	**266**	*e*Lg		07 39 05.2	
DAQ	**Lac Daran**	**10.76**	**299**	PN	**P**	**07 36 31.6**	**+0.5**
DAQ				SN	**S**	**07 38 33.6**	**+0.9**
DAQ				Trac		07 38 38.9	
	comp=Z,50nm,0.3s						
MOQ	**Mont Orford**	**10.95**	**284**	PN	**P**	**07 36 33.9**	**+0.3**
MOQ				SN	**S**	**07 38 35.1**	**-2.1**
MOQ				Trac		07 38 41.3

1.5nm,0.3s,baz=70,slow=11,SNR=8.9
SADO Sn **S** 07 40 47.6 +14
0.6nm,0.3s,baz=5.8,slow=16,SNR=2.8
SADO Sadowa 15.83 282 PN **P** 07 37 46.3 +8.0
SADO SN **S** 07 40 36.5 +2.4
SADO Trac 07 42 03.1
comp=Z,5.8nm,0.5s
KUQ Kuujjuuaa 16.11 338 PN **P** 07 37 38.4 -3.4
KUQ SN **S** 07 40 32.8 -7.7
KUQ Trac 07 41 38.1
comp=Z,7.4nm,0.3s
MALO McAlpine Lake 16.72 300 PN **P** 07 37 48.9 -0.8
MALO SN **S** 07 40 51.1 -3.6
MALO Trac 07 42 07.7
comp=Z,6.7nm,0.3s
KAPO Kapuskasing 18.36 297 PN **P** 07 38 09.9 -0.3
KAPO SN **S** 07 41 30.9 -1.1
VIMO Victor Mine 19.87 307 PN **P** 07 38 28.3 +0.3
VIMO SN **S** 07 42 05.3 -0.5
VIMO Trac 07 42 10.7
comp=Z,5.5nm,0.4s
SILO Sutton Inlier 21.05 311 PN **P** 07 38 40.6 +0.4
SILO SN **S** 07 42 34.4 +4.7
SILO Trac 07 44 05.9
comp=Z,3.0nm,0.5s
FRB Frobisher Bay 21.18 346 P **P** 07 38 40.4 -1.1
2.0nm,0.4s,mb3.8,baz=164,slow=12,SNR=14
FRB S **S** 07 42 32.2 +0.1
1.6nm,0.5s,baz=211,slow=14,SNR=4.3
FRB Frobisher Bay 21.18 346 PN **P** 07 38 40.2 -1.3
FRB SN **S** 07 42 31.5 -0.6
FRB Trac 07 43 08.8
comp=Z,3.5nm,0.4s
WMOK Wichita Mounta 33.20 269 *eP* **P** 07 40 31.4 -1.4
7.7nm,0.5s,mb4.9
SDCO Great Sand Dun 36.73 278 *eP* **P** 07 41 03.4 +0.3
BW06 Boulder Array 37.70 287 *eP* **P** 07 41 10.9 -0.3
3.5nm,0.7s,mb4.2
PDAR Pinedale Array 37.70 287 P **P** 07 41 11.4 +0.3
5.0nm,0.9s,mb4.3,baz=82,slow=8.5,SNR=45
YKA Yellowknife Ar 37.79 320 P **P** 07 41 12.3 +0.7
3.3nm,0.9s,mb4.1,baz=94,slow=8.5,SNR=39
YKA PcP PcP 07 43 23.0 -5.8
0.4nm,0.6s,baz=88,slow=3.3,SNR=4.6
TPAW Teton Pass 38.42 289 *eP* **P** 07 41 17.6 +0.5
ANMO Albuquerque 38.67 274 P **P** 07 41 20.9 +1.5
1.1nm,0.7s,mb3.7,baz=91,slow=6.4,SNR=7.2
ANMO Albuquerque 38.67 274 *eP* **P** 07 41 19.6 +0.2
1.2nm,0.7s,mb3.7
LAZ Ladron 39.42 274 *eP* **P** 07 41 26.7 +1.0
MNTX Cornudas Mount 39.51 269 *eP* **P** 07 41 24.9 -1.4
1.0nm,0.6s,mb3.7
TXAR Lajitas Array 39.54 265 P **P** 07 41 25.6 -1.0
1.2nm,0.5s,mb3.9,baz=64,slow=9.0,SNR=32
TXAR PcP PcP 07 43 29.7 -5.0
0.5nm,0.6s,baz=74,slow=4.7,SNR=5.1
NEW Newport 41.05 298 P **P** 07 41 39.8 +0.9
2.7nm,1.0s,mb3.8,baz=59,slow=9.3,SNR=5.1
BMO Blue Mountains 42.26 293 *eP* **P** 07 41 48.0 -0.8
3.2nm,0.8s,mb4.0
INK Inuvik 45.42 330 P **P** 07 42 14.1 +0.1
3.1nm,0.6s,mb4.3,baz=74,slow=7.4,SNR=36
NVAR Mina Array Bea 45.53 285 P **P** 07 42 15.4 +0.1
1.5nm,0.6s,mb4.1,baz=62,slow=6.0,SNR=14
WCN Washoe City 46.15 287 *eP* **P** 07 42 19.8 -0.4
3.6nm,0.9s,mb4.3
ARCES ARCESS Array B 47.42 28 P **P** 07 42 21.9 -7.9
3.4nm,0.9s,mb4.3,baz=275,slow=11,SNR=4.4
ILAR Eielson Array 51.49 327 P **P** 07 43 00.7 -0.5
0.4nm,0.4s,mb3.7,baz=64,slow=7.4,SNR=14
ILAR PcP PcP 07 44 11.7 -4.0
0.3nm,0.7s,baz=325,slow=1.4,SNR=4.8
BVAR Borovoye Array 73.68 30 P **P** 07 45 23.3 -5.8
1.0nm,0.5s,mb4.0,baz=317,slow=6.2,SNR=9.4
WRA Warramunga Arr 154.49 334 PKPab PKPab 07 54 06.9 -4.6
0.7nm,0.8s,baz=25,slow=5.1,SNR=5.5
ASAR Alice Springs 158.10 332 PKPab PKPab 07 54 22.9 -4.0
0.5nm,0.8s,baz=29,slow=4.2,SNR=6.9

IGQ 25 07:35:55.3, 1.55S×81.48W, h12km±27km, mb4.3, 2C, Error ellipse: s-maj=25.8km s-min=8.5km az=166.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.84**	**89**	P	Pn	07 36 42.4	+1.1
IGUA				S	Sn	07 37 15.2	-0.7
ARRY	**Arrayan**	**3.02**	**89**	⇑P	Pn	07 36 44.8	+0.8
ARRY				S	Sn	07 37 19.9	-0.6
PATA	**Patacocha**	**3.05**	**89**	P	Pn	07 36 46.6	+2.3
RUN2	**Runtun**	**3.07**	**88**	P	Pn	07 36 47.4	+2.7
ULBA	**Ulba**	**3.07**	**88**	P	Pn	07 36 46.1	+1.4
PISA	**Pisayambo**	**3.13**	**81**	P	Pn	07 36 48.2	+2.7
PISA				S	Sn	07 37 24.2	+1.0
NAS1	**Nasa**	**3.14**	**73**	P	Pn	07 36 47.1	+1.5
JUA2	**San Juan 2**	**3.17**	**65**	P	Pn	07 36 46.9	+0.9
TERV	**Terraza Guagua**	**3.18**	**65**	P	Pn	07 36 47.9	+1.7
PINO	**Pino**	**3.19**	**64**	P	Pn	07 36 45.8	-0.5
VC1	**Cotopaxi 1**	**3.21**	**74**	P	Pn	07 36 48.7	+2.1
TAMB	**Tambo**	**3.23**	**75**	P	Pn	07 36 49.3	+2.4
JOR1	**San Jorge 1**	**3.23**	**62**	P	Pn	07 36 45.9	-1.0
YANA	**Yana**	**3.24**	**64**	P	Pn	07 36 47.6	+0.6
ANTI	**Antisana**	**3.49**	**72**	P	Pn	07 36 53.2	+2.5
ANTI				S	Sn	07 37 34.0	+1.6
COTA	**Cotacachi**	**3.66**	**59**	P	Pn	07 36 54.7	+1.7
CAYR	**Refugio Cayamb**	**3.81**	**66**	⇑P	Pn	07 36 58.5	+3.4
CAYA	**Cayambe**	**3.84**	**65**	P	Pn	07 36 58.3	+2.7

IGQ 25 07:58:48.0, 1.41S×81.43W, h12km±8km, mb4.1, 2C-1D, Error ellipse: s-maj=10.3km s-min=7.7km az=1.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.95**	**68**	⇑P	Pb	07 59 04.2	-1.7
IGUA	**Igualata**	**2.79**	**92**	P	Pn	07 59 34.2	+0.9
ARRY	**Arrayan**	**2.97**	**92**	⇓P	Pn	07 59 37.6	+1.7
ARRY				S	Sn	08 00 10.7	-1.2
RUN2	**Runtun**	**3.01**	**90**	P	Pn	07 59 39.0	+2.6
ULBA	**Ulba**	**3.02**	**91**	P	Pn	07 59 38.6	+2.0
ULBA				S	Sn	08 00 13.0	0.0
NAS1	**Nasa**	**3.05**	**75**	P	Pn	07 59 38.5	+1.5
PISA	**Pisayambo**	**3.06**	**83**	P	Pn	07 59 40.8	+3.6
PISA				S	Sn	08 00 11.2	-2.9
JUA2	**San Juan 2**	**3.06**	**67**	P	Pn	07 59 38.6	+1.4
TERV	**Terraza Guagua**	**3.08**	**66**	P	Pn	07 59 39.6	+2.2
PINO	**Pino**	**3.08**	**66**	P	Pn	07 59 38.7	+1.2
VC1	**Cotopaxi 1**	**3.12**	**76**	P	Pn	07 59 42.0	+4.0
JOR1	**San Jorge 1**	**3.12**	**63**	P	Pn	07 59 37.6	-0.4
YANA	**Yana**	**3.13**	**66**	P	Pn	07 59 38.9	+0.7
ANTI	**Antisana**	**3.40**	**74**	P	Pn	07 59 44.0	+2.0
COTA	**Cotacachi**	**3.54**	**61**	P	Pn	07 59 45.8	+1.7
COTA				S	Sn	08 00 29.1	+2.8
CAYR	**Refugio Cayamb**	**3.70**	**67**	⇑P	Pn	07 59 50.1	+3.8
CAYA	**Cayambe**	**3.74**	**67**	P	Pn	07 59 50.0	+3.2

CASC 25 07:59:22.1±2.6, 13.80N×91.44W, h40km±69km, MD4.0, ML4.3, 3C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.55**	**339**	⇑*eP*	P	07 59 32.8	-0.7
JAT				*eS*	S	07 59 42.7	+1.0
JAT				AML	AML	07 59 43.4
comp=E,15μm,0.3s							
PCG	**Pacaya**	**0.99**	**54**	*eP*	P	07 59 41.7	+2.0
IXG	**Ixpaco**	**1.02**	**69**	⇓*eP*	P	07 59 39.4	-0.8
IXG				AML	AML	08 00 00.1
comp=N,18μm,0.4s							
NBG	**Las Nubes**	**1.31**	**53**	*eP*	P	07 59 45.5	+1.1
NBG				*eS*	S	08 00 02.7	+1.7
NBG				AML	AML	08 00 04.5
comp=N,10μm,0.4s							
RBDL	**Robledal**	**1.73**	**80**	*eP*	P	07 59 50.2	0.0
RBDL				*eS*	S	08 00 12.2	+1.0
RTR	**El Retiro**	**1.74**	**87**	⇑*eP*	P	07 59 50.7	+0.3
RTR				*eS*	S	08 00 12.7	+1.2
SBLS	**San Blas**	**1.76**	**89**	*eP*	P	07 59 50.7	0.0
SBLS				*eS*	S	08 00 12.9	+0.9
SNJE	**San Jose**	**1.78**	**88**	⇑*eP*	P	07 59 51.3	+0.4
SNJE				*eS*	S	08 00 14.0	+1.5
BOQS	**Boqueron**	**2.10**	**92**	*eP*	P	07 59 55.4	0.0
BOQS				*eS*	S	08 00 20.6	+0.1
MTO2	**Montecristo 2**	**2.10**	**73**	*eP*	P	07 59 55.4	-0.1
MTO2				*eS*	S	08 00 20.2	-0.3
SNET	**Serv Nac Est T**	**2.14**	**93**	*eS*	S	08 00 21.6	-0.1
SNET				*i*		08 00 31.1
comp=Z,1μm,0.6s							
LFRS	**El Faro**	**2.31**	**94**	*eP*	P	07 59 58.9	+0.3
LFRS				*eS*	S	08 00 24.5	-1.5
LCBS	**La Ceiba**	**2.39**	**93**	*eP*	P	08 00 00.0	+0.3
LCBS				*eS*	S	08 00 26.5	-1.5
SNVI	**San Vicente**	**2.53**	**94**	*eP*	P	08 00 02.0	+0.3
SNVI				*eS*	S	08 00 31.3	-0.3

*CSEM **25** 08:01:46.0±0.6, 39.71N×29.40E, h5km, MD2.6, Error ellipse: s-maj=24.2km s-min=7.4km az=31.0*
ISK 25 08:01:46.6, 39.72N×29.40E, h15km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORLT	**Orhaneli**	**0.50**	**310**	PG	Pg	08 01 56.0	-1.0
YLV	**Yalova**	**0.84**	**359**	*e*PG	Pg	08 02 03.7	0.0
KCT	**Karacabey**	**0.97**	**304**	*i* PG	Pg	08 02 05.7	-0.4
KCT				*i* SG	Sg	08 02 19.6	+0.5
ESKT	**Eskisehir**	**1.14**	**100**	PN	Pn	08 02 07.9	-0.1
ESKT				SN	Sn	08 02 25.0	+1.7

*NEIC **25** 08:03:47.5±4.9, 20.83S×177.73W, h558km±61km, mb4.4/3, Error ellipse: s-maj=34.4km s-min=18.5km az=181.0*
*IDC **25** 08:03:49.0±7.0, 20.88S×177.73W, h576km±89km, mb3.0/6, mb1 3.3/7, mb1mx3.2/15, mbtmp4.0/7, Error ellipse: s-maj=48.6km s-min=26.0km az=176.0*
ISC 25 08:03:46.1±0.8, 20.8S±0.2×177.8W±0.2, h550km, n13, σ0 57/11, mb3.7/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.99**	**193**	P	**P**	**08 07 23.8**	**-0.3**
1.4nm,0.3s,baz=202,slow=13,SNR=12							
CTAO	**Charters Tower**	**33.65**	**265**	*eP*	**P**	**08 09 43.4**	**+0.5**
6.9nm,0.5s,mb4.4							
STKA	**Stephens Creek**	**37.84**	**244**	P	**P**	**08 10 18.1**	**+0.8**
0.9nm,0.6s,mb3.5,baz=246,slow=24,SNR=3.4							
ASAR	**Alice Springs**	**44.64**	**257**	P	**P**	**08 11 12.1**	**+0.4**
2.1nm,0.6s,mb3.8,baz=93,slow=7.3,SNR=39							
WRAB	**Tennant Creek**	**44.74**	**262**	*eP*	**P**	**08 11 12.1**	**-0.3**
18nm,1.2s,mb4.5							
WRA	**Warramunga Arr**	**44.75**	**262**	P	**P**	**08 11 11.9**	**-0.6**
1.3nm,0.4s,mb3.9,baz=97,slow=7.4,SNR=22							
MBWA	**Marble Bar**	**57.98**	**257**	P	**P**	**08 12 47.8**	**-0.5**
3.2nm,0.6s,mb3.7							
NVAR	**Mina Array Bea**	**81.09**	**43**	P	**P**	**08 15 05.9**	**+0.7**
0.3nm,0.7s,mb2.8,baz=209,slow=9.3,SNR=3.6							
ILAR	**Eielson Array**	**88.52**	**13**	P	**P**	**08 15 39.8**	**-1.0**
0.5nm,0.4s,mb3.7,baz=216,slow=5.3,SNR=15							
PDAR	**Pinedale Array**	**89.02**	**43**	P	**P**	**08 15 43.8**	**+0.1**
0.4nm,0.7s,mb3.4,baz=252,slow=2.9,SNR=3.8							
DAWY	**Dawson**	**89.66**	**16**	*eP*	**P**	**08 15 46.1**	**+0.1**
BVAR	**Borovoye Array**	**119.39**	**320**	PKP	PKPdf	08 21 33.8	+1.0
0.7nm,0.4s,baz=136,slow=3.5,SNR=6.4							
AKASG	**Malin Array Be**	**143.33**	**331**	PKP	PKPdf	08 22 16.7	-0.7
1.6nm,0.5s,baz=42,slow=4.2,SNR=7.4							

*CSEM **25** 08:07:16.2, 33.07N×45.83E, h10km, mb5.0*
*IDC **25** 08:07:18.9±0.9, 33.50N×45.91E, mb4.4/17, mb1 4.5/23, mb1mx4.5/25, mbtmp4.3/23, ML3.4/5, MS3.9/5, Ms1 3.9/5, ms1mx3.5/15, Error ellipse: s-maj=21.7km s-min=12.8km az=170.0*
*BJI **25** 08:07:20.2, 33.30N×45.90E, h15km, mB4.9, mb4.8, Ms4.5, Msz4.3*
*NEIC **25** 08:07:20.3±0.4, 33.29N×45.88E, mb4.8/45, Error ellipse: s-maj=9.1km s-min=4.5km az=183.0*
*ZUR_RM **25** 08:07:20, 33.29N×45.88E, h18km, Mw4.8/8, Moment Tensor Solution. s8 Moment tensor: Scale 10^{16}Nm; M_{rr}1.70; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$-1.63; $M_{r\theta}$0.36; $M_{r\phi}$1.02; $M_{\theta\phi}$-0.85; Best double couple: $M_0$2.13×10^{16} NP1:φs156°, δ58°, λ92°. NP2:φs331°, δ32°, λ86°. Principal axes: T 1.915, Plg77°, Azm73°; N .431, Plg2°, Azm334°; P -2.346, Plg13°, Azm244°;*
*MOS **25** 08:07:21.2±1.0, 33.36N×45.83E, h33km, mb5.0/43 Error ellipse: s-maj=7.4km s-min=3.8km az=119.4*
*TEH **25** 08:07:22.0, 33.59N×45.74E, h9km, Mn4.5*
*THR **25** 08:07:23.5±0.5, 33.58N×46.00E, h30km±8km, ML4.2*
*DHMR **25** 08:07:24.6±3.0, 33.35N×45.85E, h15km, mb4.7*
*OMAN **25** 08:07:44.9, 31.49N×46.64E, h20km, Error ellipse: s-maj=792.0km s-min=73.2km az=324.0*
ISC 25 08:07:19.5±0.2, 33.49N±0.02×45.86E±0.02, h15km, h15km±.7km: pP-P, n261, σ1 9 24/274, mb4.6/74, MS4.1/10, 29C-12D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**1.02**	**35**	Pn	**Pn**	**08 07 41.1**	**+1.8**
BHD	**Baghdad**	**1.26**	**260**	*i* Pb	**Pb**	**08 07 41.5**	**-1.0**
BHD				*i* Sb	**Sb**	**08 08 01.0**	**+2.7**
IVIS	**Veys**	**1.32**	**38**	Pn	**Pn**	**08 07 46.5**	**+3.0**
IKOM	**Komasi**	**1.54**	**63**	Pn	**Pn**	**08 07 50.0**	**+3.4**
SNGE	**Sanandaj**	**2.02**	**37**	*e*PG	**Pg**	**08 07 57.1**	**-2.7**
SNGE				AML	AML	08 08 29.3
comp=N,3μm,0.6s							
SHGO	**Shushtar**	**2.83**	**118**	*e*PN	**Pn**	**08 08 08.0**	**+2.9**
SHGO				AML	AML	08 09 25.9
comp=N,933nm,0.8s							
SHGR	**Shooshtar-Gavs**	**2.83**	**118**	*e*PN	**Pn**	**08 08 08.0**	**+2.9**
SHGR				AML	AML	08 09 25.9
comp=N,1μm,0.6s							
MSL	**Mosul**	**3.60**	**322**	*e*Pn	**Pn**	**08 08 19.0**	**+2.9**
MSL				*i* Sn	**Sn**	**08 09 05.0**	**+6.2**
MSL				*i* Sg	**Sg**	**08 09 16.5**	**-3.0**
IRAZ	**Razeghan**	**3.87**	**59**	Pn	**Pn**	**08 08 22.3**	**+2.5**
IRAZ				Sn	**Sn**	**08 09 05.8**	**+0.4**
UMR	**Umm Al-Rimmam**	**4.24**	**158**	*e*P	**Pn**	**08 08 27.2**	**+2.1**
UMR				*e*S	**Sn**	**08 09 15.6**	**+0.8**
NAY	**Al-Naaiem**	**4.39**	**164**	*e*S	**Sn**	**08 09 19.5**	**+0.8**
NAY	**Al-Naaiem**	**4.39**	**164**	*e*P	**Pn**	**08 08 29.6**	**+2.3**
RDF	**Al-Radifah**	**4.78**	**162**	*e*S	**Sn**	**08 09 28.9**	**+0.5**
RDF	**Al-Radifah**	**4.78**	**162**	*e*P	**Pn**	**08 08 34.7**	**+2.0**
IBRJ	**Borujen**	**4.87**	**109**	Pn	**Pn**	**08 08 36.4**	**+2.3**
QRN	**Al-Qurain**	**5.05**	**159**	*e*S	**Sn**	**08 09 35.4**	**+0.1**
QRN	**Al-Qurain**	**5.05**	**159**	*e*P	**Pn**	**08 08 38.6**	**+2.0**
TVAN	**Van**	**5.41**	**339**	*i* P	**Pn**	**08 08 43.8**	**+2.2**
VANB	**Van**	**5.47**	**339**	*e*P	**Pn**	**08 08 43.6**	**+1.0**
DAMV	**Damavand**	**5.47**	**65**	*e*PN	**Pn**	**08 08 43.4**	**+0.8**
DAMV				AML	AML	08 10 24.0
comp=N,77nm,0.8s							
IDMV	**Damavand**	**5.50**	**66**	Pn	**Pn**	**08 08 44.0**	**+1.0**
GRMI	**Germi**	**5.56**	**17**	*e*PN	**Pn**	**08 08 45.2**	**+1.5**
BEST	**Besiri**	**5.76**	**321**	*i* P	**Pn**	**08 08 51.5**	**+4.8**
NASN	**Na'in**	**5.87**	**95**	*e*PN	**Pn**	**08 08 49.5**	**+1.4**
MAKU	**Maku**	**5.93**	**351**	*e*PN	**Pn**	**08 08 50.6**	**+1.6**
IFIR	**Firoozkooh**	**6.08**	**67**	Pn	**Pn**	**08 08 51.9**	**+0.8**
IFIR				Sn	**Sn**	**08 09 58.6**	**-2.5**
GNI	**Garni**	**6.70**	**353**	P	**Pn**	**08 09 01.8**	**+1.9**
GNI				pmax	pmax	
comp=Z,1.0nm,0.3s							
GNI	**Garni**	**6.70**	**353**	Pn	**Pn**	**08 09 01.8**	**+1.9**
comp=Z,1.0nm,0.3s,baz=320,slow=2.5,SNR=8.1							
GNI				Lg		08 10 57.9
baz=195,slow=19,SNR=1.4							
GNI	**Garni**	**6.70**	**353**	*e*Pn	**Pn**	**08 09 03.0**	**+3.0**
BINT	**Bingol**	**6.91**	**323**	*e*P	**Pn**	**08 09 02.7**	**-0.1**
URFA	**Urfa**	**6.96**	**306**	*e*P	**Pn**	**08 09 06.5**	**+2.9**
ERZM	**Erzurum**	**7.35**	**332**	*i* P	**Pn**	**08 09 16.7**	**+7.8**
EZM	**Erzurum**	**7.35**	**332**	*e*P	**Pn**	**08 09 07.4**	**-1.6**
ELZG	**Elazig**	**7.48**	**314**	*i* P	**Pn**	**08 09 10.9**	**0.0**
PTK	**Pertek**	**7.51**	**318**	*e*P	**Pn**	**08 09 10.6**	**-0.6**
ASF	**Jabal al Asfar**	**7.66**	**263**	Pn	**Pn**	**08 09 11.8**	**-1.5**
comp=Z,1.8nm,0.3s,baz=328,slow=11,SNR=13							
ASF				Lg		08 11 24.2
comp=Z,2.7nm,0.3s,baz=321,slow=16,SNR=2.3							
MALT	**Malatya**	**7.71**	**311**	*e*P	**Pn**	**08 09 15.0**	**+0.9**
MYA	**Malataya**	**7.72**	**311**	*e*P	**Pn**	**08 09 12.4**	**-1.8**
GZT	**Gaziantep**	**7.79**	**302**	*i* P	**Pn**	**08 09 18.3**	**+3.1**
EZC	**Erzincan**	**7.91**	**324**	*e*P	**Pn**	**08 09 25.0**	**+8.2**
GAZ	**Gaziantep**	**7.96**	**300**	*e*P	**Pn**	**08 09 21.7**	**+4.1**
TI2	**Plekhanov**	**8.27**	**354**	*i* P	**P**	**08 09 25.6**	**+3.7**
HWQ	**Hawqa**	**8.28**	**278**	*e*P	**P**	**08 09 24.3**	**+2.3**
BHL	**Bhannes**	**8.52**	**276**	*e*P	**P**	**08 09 25.7**	**+0.4**
ZEI	**Tsey**	**9.39**	**351**	*e*P	**P**	**08 09 39.4**	**+2.0**
ZEI				pmax	pmax	
comp=Z,21nm,1.0s							
ZEI	**Tsey**	**9.39**	**351**	*e*P	**P**	**08 09 39.4**	**+2.0**
comp=Z,10nm,1.0s							
EIL	**Elat**	**10.05**	**251**	Pn	**P**	**08 09 44.9**	**-1.7**
comp=Z,1.2nm,0.3s,baz=9.7,slow=22,SNR=3.7							
EIL				Lg		08 12 38.5
comp=Z,1.7nm,0.3s,baz=164,slow=37,SNR=2.9							
EIL				LR	LR	08 14 30.3
comp=Z,892nm,20.1s,baz=88,slow=43							
EIL	**Elat**	**10.05**	**251**	*e*P	**P**	**08 09 43.7**	**-2.8**
KIV	**Kislovodsk**	**10.74**	**348**	*c i*P	**P**	**08 09 59.1**	**+3.3**
KIV				*e*S	**S**	**08 12 03.3**	**+6.6**
KIV				pmax	pmax	
comp=Z,32nm,1.1s							
KIV				MLR	MLR	
comp=N,295nm,18.0s							
KIV				MLR	MLR	
comp=E,343nm,18.0s							
KIV				MLR	MLR	
comp=Z,445nm,18.0s							
KIV	**Kislovodsk**	**10.74**	**348**	⇑*e*P	**P**	**08 09 59.0**	**+3.1**
KIV	**Kislovodsk**	**10.74**	**348**	⇑*e*P	**P**	**08 09 59.0**	**+3.2**
SOC	**Sochi**	**11.16**	**336**	*e*P	**P**	**08 10 01.4**	**-0.2**
SOC				*e*		08 12 05.5
SOC				pmax	pmax	
comp=Z,48nm,1.3s							
SOC				pmax	pmax	
comp=N,39nm,1.4s							
SOC				pmax	pmax	
comp=E,35nm,1.5s							
SOC				MLR	MLR	
comp=Z,627nm,16.0s							
SOC				MLR	MLR	
comp=N,900nm,15.0s							
SOC				MLR	MLR	
comp=E,555nm,15.0s							
SOC	**Sochi**	**11.16**	**336**	*e*P	**P**	**08 10 01.4**	**-0.2**
comp=E,20nm,1.4s							
SOC				*e*S	**S**	**08 12 05.5**	**-1.6**
comp=E,314nm,16.0s							
BRTR	**Keskin Array B**	**11.62**	**306**	Pn	**P**	**08 10 10.6**	**+2.7**
comp=E,0.1nm,0.3s,baz=139,slow=11,SNR=8.3							
BRTR				Lg		08 13 33.4
comp=E,0.0nm,0.3s,baz=144,slow=20,SNR=2.1							
GOF	**Gofitskoye**	**11.76**	**350**	⇑*i*P	**P**	**08 10 12.5**	**+2.8**
GOF				pmax	pmax	
comp=Z,60nm,1.8s							
GOF				MLR	MLR	
comp=Z,2μm,12.0s							
GOF	**Gofitskoye**	**11.76**	**350**	*i* P	**P**	**08 10 12.5**	**+2.8**
comp=Z,1μm,12.0s							
ANN	**Anapa**	**13.04**	**332**	*e*P	**P**	**08 10 25.6**	**-1.3**
ANN				*e*S	**S**	**08 12 49.1**	**-3.5**
ANN				pmax	pmax	
comp=Z,73nm,1.3s							
ANN	**Anapa**	**13.04**	**332**	*e*P	**P**	**08 10 25.6**	**-1.3**
comp=Z,36nm,1.3s							
ISP	**Isparta**	**13.21**	**294**	⇑*e*P	**P**	**08 10 35.3**	**+6.1**
ARQ	**Araqi**	**13.79**	**134**	⇑P	**P**	**08 10 34.1**	**-2.8**
SNR=5.5							
BSY	**Bisya**	**14.64**	**134**	⇑P	**P**	**08 10 46.3**	**-1.7**
SNR=11							
BIDO	**Bidbid**	**14.65**	**130**	⇑P	**P**	**08 10 47.4**	**-0.8**
BSYO	**Bisya**	**14.68**	**134**	P	**P**	**08 10 46.3**	**-2.2**
SNR=11							
WBK	**Wadi Bani Khal**	**15.84**	**130**	⇓P	**P**	**08 11 01.9**	**-1.8**
APE	**Apeiranthos**	**16.98**	**288**	*i* P	**P**	**08 11 15.4**	**-2.6**
IDI	**Anoyia**	**17.40**	**282**	P	**P**	**08 11 25.4**	**+2.0**
comp=Z,0.9nm,0.3s,baz=70,slow=15,SNR=3.9							
IDI	**Anoyia**	**17.40**	**282**	P	**P**	**08 11 25.4**	**+2.0**
ABTO	**Aybut**	**17.41**	**156**	⇓P	**P**	**08 11 20.5**	**-3.0**
SNR=19							
RBK	**Rabkut**	**17.60**	**153**	⇑P	**P**	**08 11 23.5**	**-2.4**
SNR=28							
VOR	**Voronezh**	**18.86**	**347**	*e*P	**P**	**08 11 41.0**	**-0.3**
VOR				pmax	pmax	
comp=Z,120nm,1.5s							
VOR	**Voronezh**	**18.86**	**347**	*e*P	**P**	**08 11 41.0**	**-0.3**
comp=Z,60nm,1.5s							
MUKL	**Al Mukalla**	**19.15**	**171**	⇑*e*P	**P**	**08 11 45.9**	**+1.0**
MUKL				AMb	AMB	08 11 49.0
comp=E,72nm,1.7s							
MLR	**Muntele Rosu**	**19.43**	**314**	P	**P**	**08 11 48.8**	**+0.8**
baz=83,slow=17,SNR=4.2							
BDHA	**Al Bayda'**	**19.43**	**181**	⇓*e*P	**P**	**08 11 49.2**	**+1.0**
BDHA				AMb	AMB	08 11 52.3
comp=Z,55nm,1.7s							
BDHA	**Al Bayda'**	**19.43**	**181**	⇓*e*P	**P**	**08 11 49.2**	**+1.0**
comp=Z,28nm,1.7s							
LBOS		**19.54**	**182**	⇑*e*P	**P**	**08 11 50.5**	**+1.0**
LBOS				AMb	AMB	08 11 53.7
comp=Z,97nm,2.3s							
DRP	**Derazinda**	**20.57**	**88**	P	**P**	**08 12 00.4**	**0.0**
SBDP	**Sheikh Budin**	**20.97**	**86**	P	**P**	**08 12 02.9**	**-1.6**
AKASG	**Malin Array Be**	**21.09**	**330**	P	**P**	**08 12 04.0**	**-1.5**
AKASG				pmax	pmax	
comp=Z,8.0nm,0.5s							
AKASG	**Malin Array Be**	**21.09**	**330**	P	**P**	**08 12 04.0**	**-1.5**
comp=Z,8.3nm,0.5s,mb4.4,baz=139,slow=9.6,SNR=63							
THW	**Thamme Wali**	**21.67**	**85**	⇓P	**P**	**08 12 11.3**	**-0.3**
CEP	**Cherat**	**21.67**	**82**	P	**P**	**08 12 11.5**	**-0.1**
OBN	**Obninsk**	**22.58**	**346**	⇑*i*P	**P**	**08 12 19.8**	**-0.6**
OBN				*i*		08 12 25.9
OBN				*i*		08 12 34.8
OBN				*i* S	**S**	**08 16 31.2**	**+8.8**
OBN				pmax	pmax	
comp=Z,51nm,1.4s,mb4.8							
OBN				MLR	MLR	
comp=Z,200nm,10.0s,MS3.9							
OBN	**Obninsk**	**22.58**	**346**	*i* P	**P**	**08 12 19.8**	**-0.6**
comp=Z,26nm,1.4

comp=Z,16nm,1.1s,mb4.5
CHKZ Chkalovo 26.75 34 *i* P **P 08 12 59.6 -0.6**
CHKZ pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
VRAC Vranov 26.83 315 P **P 08 13 01.5 +0.5**
comp=Z,5.3nm,0.7s,mb4.2,baz=106,slow=11,SNR=6.3
AYAN Aya Nagar 27.21 92 *e*P **P 08 13 04.1 -0.5**
SONA Sohna 27.24 93 *e*P **P 08 13 03.6 -1.4**
SONA *e* pP 08 13 07.0 -2.4
comp=Z,7.5nm,0.3s
KLP Kalpa 27.33 85 *e*P **P 08 13 05.9 +0.2**
DPC Dobruska-Polom 27.44 317 *e*P **P 08 13 06.4 -0.1**
DDI Dehra Dun 27.45 88 *e* **P 08 13 09.6 +2.7**
KSP Ksiaz 27.68 318 *e*P **P 08 13 08.5 -0.2**
UPC Upice 27.69 317 *e*P **P 08 13 09.0 +0.2**
MOA Molln 27.70 311⇓ *i*P **P 08 13 09.6 +0.7**
comp=Z,17nm,1.4s,mb4.5
KBA Koelnbreinsper 28.05 309⇑ *i*P **P 08 13 12.9 +0.8**
comp=Z,11nm,1.1s,mb4.4
KBA Koelnbreinsper 28.05 309⇑ *i*P **P 08 13 12.9 +0.8**
KBA pmax pmax
comp=Z,11nm,1.1s,mb4.4
PRU Pruhonice 28.32 315 *e*P **P 08 13 16.5 +2.0**
GEC2 GERESS Array S 28.40 312 *e*P **P 08 13 14.8 -0.4**
GEC2 pmax pmax
comp=Z,3.0nm,1.0s,mb3.9
GEC2 GERESS Array S 28.40 312 *e*P **P 08 13 14.8 -0.4**
comp=Z,3.0nm,1.0s,mb3.9
GERES GERESS Array B 28.40 312 P **P 08 13 14.3 -0.9**
comp=Z,0.9nm,0.7s,mb3.5,baz=112,slow=7.2,SNR=6.9
GERES PcP PcP 08 16 27.8 0.0
comp=Z,0.6nm,0.8s,baz=72,slow=3.1,SNR=3.2
PVCC Panska Ves 28.53 316 *e*P **P 08 13 16.8 +0.4**
KHC Kasperske Hory 28.57 313⇑ *e*P **P 08 13 13.2 -3.6**
KHC Kasperske Hory 28.57 313 *e*P **P 08 13 17.9 +1.1**
JOSI Joshimath 28.65 87 *e*P **P 08 13 16.7 -1.0**
JOSI *e* 08 18 17.2
WET Wettzell 29.01 313 *e*P **P 08 13 21.0 +0.3**
WET pmax pmax
comp=Z,8.0nm,1.4s,mb4.3
WET Wettzell 29.01 313 *e*P **P 08 13 21.0 +0.3**
comp=Z,8.0nm,1.4s,mb4.3
BRG Berggiesshubel 29.03 316 *i*P **P 08 13 21.0 +0.1**
BRG pmax pmax
comp=Z,18nm,1.5s,mb4.6
BRG Berggiesshubel 29.03 316 *i*P **P 08 13 21.0 +0.1**
comp=Z,18nm,1.5s,mb4.6
BRG Berggiesshubel 29.03 316 *e*P **P 08 13 21.0 +0.1**
comp=Z,16nm,1.5s,mb4.5
POO Poona 29.12 114 *e* **S 08 18 00.0 -12**
WTTA Wattenberg 29.22 308⇓ *i*P **P 08 13 22.6 -0.1**
comp=Z,7.3nm,0.7s,mb4.5
WTTA Wattenberg 29.22 308⇓ *i*P **P 08 13 22.6 -0.1**
WTTA pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
WATA Walderalm 29.28 308⇑ *i*P **P 08 13 23.1 -0.1**
comp=Z,14nm,1.3s,mb4.5
WATA Walderalm 29.28 308⇑ *i*P **P 08 13 23.1 -0.1**
WATA pmax pmax
comp=Z,15nm,1.3s,mb4.6
KURK Kurchatov 29.46 44⇑ *e*P **P 08 13 25.1 +0.3**
KURK pmax pmax
comp=Z,23nm,0.9s,mb4.9
KURK Kurchatov 29.46 44⇑ *e*P **P 08 13 25.1 +0.3**
comp=Z,23nm,0.9s,mb4.9
KURK *e* pP 08 13 29.7 +0.5
SQTA Sankt Quirin 29.49 308⇑ *i*P **P 08 13 24.7 -0.4**
comp=Z,3.5nm,0.7s,mb4.2
SQTA Sankt Quirin 29.49 308⇑ *i*P **P 08 13 24.7 -0.4**
SQTA pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
MOTA Moosalm 29.59 308⇓ *i*P **P 08 13 25.0 -1.0**
comp=Z,3.3nm,0.9s,mb4.1
MOTA Moosalm 29.59 308⇓ *i*P **P 08 13 25.0 -1.0**
MOTA pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
NKC Novy Kostel 29.66 314 *e*P **P 08 13 26.8 +0.2**
NOTT Nottersdorf 29.70 313 *e*P **P 08 13 27.0 0.0**
comp=Z,18nm,1.3s,mb4.6
CLL Collm 29.75 317 *i*P **P 08 13 26.9 -0.5**
CLL *e* 08 13 37.0
CLL pmax pmax
comp=Z,11nm,1.2s,mb4.5
CLL Collm 29.75 317 *i*P **P 08 13 26.9 -0.5**
comp=Z,11nm,1.2s,mb4.5
CLL *e* 08 13 37.0
CLL Collm 29.75 317 P **P 08 13 26.9 -0.5**
comp=Z,logA/T=1.0,mb4.5
CLL Collm 29.75 317 *e*P **P 08 13 26.6 -0.8**
comp=Z,11nm,1.2s,mb4.5
GUNZ Gunzen 29.78 315 *e*P **P 08 13 27.7 +0.1**
comp=Z,12nm,1.4s,mb4.4
GRA1 Grafenberg Arr 30.21 313 *e*P **P 08 13 31.5 0.0**
comp=Z,29nm,1.2s,mb4.9
GRF Grafenberg Arr 30.21 313 *e*P **P 08 13 31.5 0.0**
GRF pmax pmax
comp=Z,29nm,1.2s,mb4.9
GRF Grafenberg Arr 30.21 313 *e*P **P 08 13 31.5 0.0**
GRF pmax pmax
comp=Z,29nm,1.2s,mb4.9
GRF Grafenberg Arr 30.21 313 *e*P **P 08 13 31.5 0.0**
comp=Z,29nm,1.2s,mb4.9
DAVOX Davos 30.26 307 P **P 08 13 32.2 +0.2**
comp=Z,4.6nm,0.7s,mb4.3,baz=72,slow=9.6,SNR=3.7
DAVA Damuels 30.38 308⇑ *i*P **P 08 13 32.5 -0.5**
comp=Z,11nm,0.5s,mb4.8
MKAR Makanchi Array 30.57 53 *i*P **P 08 13 34.8 +0.2**
MKAR pmax pmax
comp=Z,11nm,0.8s
MKAR Makanchi Array 30.57 53 *i*P **P 08 13 34.8 +0.2**
comp=Z,5.5nm,0.8s,mb4.4
FINES FINESS Array B 30.74 341 P **P 08 13 35.2 -0.8**
comp=Z,4.0nm,1.0s,mb4.2,baz=135,slow=11,SNR=8.0
FINES LR LR 08 27 29.2
comp=Z,127nm,18.9s,MS3.6,baz=350,slow=39
JOF Joensuu 30.85 347 *e*pkp **P 08 13 36.0 -0.9**
comp=Z,13nm,0.9s,mb4.8
JOF Joensuu 30.85 347 *e*P **P 08 13 36.0 -0.9**
JOF pmax pmax
comp=Z,13nm,0.9s,mb4.8
KAF Kangasniemi 31.24 342 *e*pkp **P 08 13 45.0 +4.6**
comp=Z,3.6nm,0.8s,mb4.2,baz=295,slow=3.7
KAF Kangasniemi 31.24 342 *e*P **P 08 13 45.0 +4.6**
KAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
CLZ Clausthal 31.47 316 *e*P **P 08 13 42.6 0.0**
comp=Z,13nm,0.9s,mb4.8
SBF Sospel 31.48 301 *e*P **P 08 13 42.5 -0.2**
comp=Z,109nm,1.0s,mb5.3
SBF Sospel 31.48 301 *e*P **P 08 13 42.5 -0.2**
SBF pmax pmax
comp=Z,55nm,1.0s,mb5.3
BFO Black Forest 31.65 309 *e*P **P 08 13 44.0 -0.1**
BFO pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
BFO Black Forest 31.65 309 *e*P **P 08 13 44.0 -0.1**
comp=Z,6.0nm,0.9s,mb4.4
NRDL Niedersach Rie 31.87 317 *e*P **P 08 13 46.4 +0.4**
comp=Z,8.0nm,1.2s,mb4.4
FRF La Foret Royal 32.02 300 *e*P **P 08 13 48.0 +0.5**
comp=Z,49nm,1.1s,mb5.0
FRF La Foret Royal 32.02 300 *e*P **P 08 13 48.0 +0.5**
FRF pmax pmax
comp=Z,24nm,1.1s,mb4.9
MBDF Montbardon 32.05 302 *e*P **P 08 13 47.5 -0.2**
comp=Z,33nm,0.7s,mb5.0
MBDF Montbardon 32.05 302 *e*P **P 08 13 47.5 -0.2**
MBDF pmax pmax
comp=Z,16nm,0.7s,mb5.0
LMR La Mourre 32.10 299 *e*P **P 08 13 48.0 -0.2**
BNI Bardonecchia 32.16 303 *e*P **P 08 13 48.3 -0.3**
BNI pmax pmax
comp=Z,49nm,1.1s,mb5.2
BNI Bardonecchia 32.16 303 *e*P **P 08 13 48.3 -0.4**
comp=Z,49nm,1.1s,mb5.2
LPG La Plagne 32.17 304 *e*P **P 08 13 48.5 -0.2**
comp=Z,41nm,0.8s,mb5.0
LPG La Plagne 32.17 304 *e*P **P 08 13 48.5 -0.2**
LPG pmax pmax
comp=Z,21nm,0.8s,mb5.0
LPL La Plagne 32.18 304 *e*P **P 08 13 48.5 -0.4**
comp=Z,60nm,0.8s,mb5.2
LPL La Plagne 32.18 304 *e*P **P 08 13 48.5 -0.4**
LPL pmax pmax
comp=Z,30nm,0.8s,mb5.2
BSEG Bad Segeberg 32.33 320 *e*P **P 08 13 50.2 +0.2**
comp=Z,24nm,1.1s,mb4.9
HINF Hinteralfeld 32.50 308 *e*P **P 08 13 50.7 -0.9**
ORIF Oris-en-Rattie 32.71 302 *e*P **P 08 13 53.0 -0.4**
comp=Z,56nm,1.2s,mb5.1
ORIF *e*R
comp=Z,98nm,19.8s
HAU Haudompre 32.87 308 *e*P **P 08 13 53.6 -1.2**
comp=Z,28nm,0.9s,mb4.9
HAU *e*R
comp=Z,158nm,22.5s
HYB Hyderabad 33.40 110 *e*P **P 08 13 59.5 -0.2**
HYB Hyderabad 33.40 110 *i*P **P 08 13 59.5 -0.2**
HYB *e* 08 14 46.0
VIVF Saint-Julien-I 33.55 302 *e*P **P 08 14 00.7 -0.1**
comp=Z,25nm,1.0s,mb4.8
VIVF Saint-Julien-I 33.55 302 *e*P **P 08 14 00.7 -0.1**
VIVF pmax pmax
comp=Z,12nm,1.0s,mb4.8
NVS Novosibirsk 33.68 39⇑ *i*P **P 08 14 01.0 -0.8**
NVS *e* 08 15 18.1
NVS *i* S **S 08 19 25.1 +2.0**
NVS pmax pmax
comp=Z,21nm,1.1s,mb5.0
NVS pmax pmax
comp=N,13nm,1.3s
NVS pmax pmax
comp=E,9.0nm,1.0s
NVS pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
NVS pmax pmax
comp=N,9.0nm,1.4s
NVS pmax pmax
comp=E,5.0nm,1.0s
NVS smax
comp=N,9.0nm,1.3s
MEZF Maizieres J'vi 33.82 309 *e*P **P 08 14 02.3 -0.7**
WMQ Urumqi 33.94 60 P **P 08 14 04.5 +0.4**
WMQ AP pP 08 14 09.0 +0.4
WMQ XP sP 08 14 11.5 +1.0
WMQ PP PP 08 15 18.5 +0.6
WMQ S **S 08 19 28.3 +1.1**
WMQ AMB AMB
comp=Z,3.0nm,0.8s,mb4.3
WMQ AMB AMB
comp=Z,30nm,4.2s
WMQ LR LR
comp=N,857nm,18.0s,MS4.6
WMQ LR LR
comp=E,721nm,20.0s,MS4.6
WMQ LR LR
comp=Z,1μm,20.6s,MS4.5
ZAL Zalesovo 34.18 41 P **P 08 14 06.2 +0.1**
comp=Z,4.8nm,0.6s,mb4.6,baz=215,slow=9.0,SNR=30
SMF Signal de Mont 34.33 305 *e*P **P 08 14 06.7 -0.8**
comp=Z,56nm,0.8s,mb5.3
SMF Signal de Mont 34.33 305 *e*P **P 08 14 06.7 -0.8**
SMF pmax pmax
comp=Z,28nm,0.8s,mb5.2
SSF Saint Saulge 34.61 306 *e*P **P 08 14 09.1 -0.8**
SSF pmax pmax
comp=Z,17nm,0.8s,mb5.0
SSF Saint Saulge 34.61 306 *e*P **P 08 14 09.1 -0.8**
comp=Z,17nm,0.8s,mb5.0
BAIF Baives 34.68 311 *e*P **P 08 14 10.1 -0.3**
AVF Avril sur Loir 34.68 305 *e*P **P 08 14 09.5 -1.0**
comp=Z,48nm,1.0s,mb5.1
AVF Avril sur Loir 34.68 305 *e*P **P 08 14 09.5 -1.0**
AVF pmax pmax
comp=Z,24nm,1.0s,mb5.1
BGF Bois d'Agland 35.00 305 *e*P **P 08 14 12.4 -0.8**
TCF Toulx Ste Croi 35.41 304 *e*P **P 08 14 16.2 -0.5**
comp=Z,18nm,0.8s,mb4.7
TCF Toulx Ste Croi 35.41 304 *e*P **P 08 14 16.2 -0.5**
TCF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
NB2 NORSAR Subarra 35.47 332 P **P 08 14 15.6 -1.5**
comp=Z,3.6nm,0.8s,mb4.3,baz=125,slow=8.6
NB2 NORSAR Subarra 35.47 332 P **P 08 14 15.6 -1.5**
NB2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
NOA NORSAR Array B 35.47 332 P **P 08 14 16.2 -0.9**
comp=Z,5.6nm,1.0s,mb4.4,baz=125,slow=8.6,SNR=10
RJF Les Rejaudoux 35.82 303 *e*P **P 08 14 19.8 -0.4**
RJF *e*R
comp=Z,105nm,22.5s
MFF Saint Martin d 37.06 305 *e*P **P 08 14 29.5 -1.1**
comp=Z,20nm,0.9s,mb4.6
MFF Saint Martin d 37.06 305 *e*P **P 08 14 29.5 -1.1**
MFF pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
LDF La Druitiere 37.23 308 *e*P **P 08 14 30.7 -1.3**
comp=Z,87nm,1.3s,mb5.1
LDF La Druitiere 37.23 308 *e*P **P 08 14 30.7 -1.3**
LDF pmax pmax
comp=Z,44nm,1.3s,mb5.1
FLN La Foliniere 37.48 308 *e*P **P 08 14 33.0 -1.2**
FLN *e*R
comp=Z,83nm,20.8s
GRR Gorron 37.69 307 *e*P **P 08 14 35.0 -0.9**
comp=Z,41nm,0.9s,mb4.9
GRR Gorron 37.69 307 *e*P **P 08 14 35.0 -0.9**
GRR pmax pmax
comp=Z,21nm,0.9s,mb4.9
KEV Kevo 37.80 349 *e*pkp **P 08 14 36.0 -0.6**
ARCES ARCESS Array B 37.84 348 P **P 08 14 36.5 -0.5**
comp=Z,5.5nm,0.7s,mb4.4,baz=141,slow=7.8,SNR=17
ARCES LR LR 08 31 47.2
comp=Z,187nm,20.7s,MS3.9,baz=13,slow=39
LSA Lhasa 38.53 83 *e*P **P 08 14 41.7 -1.5**
LSA pmax pmax
comp=Z,16nm,1.0s,mb4.7
LSA Lhasa 38.53 83 *e*P **P 08 14 41.7 -1.5**
comp=Z,16nm,1.0s,mb4.7
SGMF Saint Gilles 38.81 307 *e*P **P 08 14 44.4 -0.9**
comp=Z,24nm,0.7s,mb4.7
SGMF Saint Gilles 38.81 307 *e*P **P 08 14 44.4 -0.9**
SGMF pmax pmax
comp=Z,12nm,0.7s,mb4.7
QUIF Quistinic 39.20 307 *e*P **P 08 14 47.3 -1.2**
ROSF Rostrenen 39.29 307 *e*P **P 08 14 48.3 -1.0**
ESDC Sonseca Array 40.06 294 P **P 08 14 57.5 +1.7**
comp=Z,1.7nm,0.6s,mb3.9,baz=65,slow=9.4,SNR=4.9
SHL Shillong 40.55 89 *e*P **P 08 14 59.0 -0.9**
SHL *e* 08 17 18.0
MOY Mondy 43.34 48 *e*P **P 08 15 24.2 +1.7**
ZAK Zakamensk 44.76 50 *e*P **P 08 15 34.6 +0.6**
ZAK *e* 08 17 15.6
TLY Talaya 44.99 48 *e*P **P 08 15 36.4 +0.6**
TLY pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
TLY MLR MLR
comp=Z,142nm,15.0s,MS4.0
SONM Songino Array 46.94 53 P **P 08 15 51.6 +0.4**
comp=Z,2.2nm,0.9s,mb4.1,baz=279,slow=9.4,SNR=14
LZH Lanzhou 47.08 70 *e*P **P 08 15 53.5 +0.9**
LZH AP pP 08 15 57.5 +0.4
LZH XP sP 08 16 02.0 +3.1
LZH AMB AMB
comp=Z,28nm,1.2s,mb5.1
LZH Lanzhou 47.08 70 *e*P **P 08 15 53.5 +0.9**
LZH *SP sP 08 16 02.0 +3.1
LZH pmax pmax
comp=Z,28nm,1.2s,mb5.1
LZH Lanzhou 47.08 70 *e*P **P 08 15 53.5 +0.9**
comp=Z,28nm,1.2s,mb5.1
LZH pP pP 08 15 57.5 +0.4
LZH sP sP 08 16 02.0 +3.1
ULN Ulaanbaatar 47.37 53⇑ *e*P **P 08 15 54.8 +0.1**
ULN *e* pP 08 16 00.4 +1.2
ULN pmax pmax
comp=Z,13nm,0.8s,mb4.9
ULN Ulaanbaatar 47.37 53⇑ *e*P **P 08 15 54.8 +0.1**
comp=Z,13nm,0.8s,mb4.9
ULN *e* pP 08 16 00.4 +1.2
CHG Chiang Mai 49.34 93 ⇑P **P 08 16 09.1 -1.3**
comp=Z,11nm,0.8s,mb4.9
CMAR Chiang Mai Arr 49.51 94 P **P 08 16 10.3 -1.3**
comp=Z,4.2nm,0.5s,mb4.7,baz=291,slow=8.3,SNR=20
CMAR LR LR 08 40 11.4
comp=Z,62nm,19.2s,MS3.6,baz=290,slow=40
NANT Nan 50.82 92 P **P 08 16 19.0 -2.6**
BOD Bodaibo 50.92 40 *e*P **P 08 16 20.2 -1.6**
XAN Xi'an 51.65 71 P **P 08 16 27.0 -0.8**
XAN AP pP 08 16 31.3 -1.1
XAN AMB AMB
comp=Z,12nm,0.9s,mb4.8
ENH Enshi 53.37 75 P **P 08 16 38.8 -1.9**
comp=Z,11nm,0.9s,mb4.8
DBIC Dimbokro 53.92 252 *e*P **P 08 16 43.4 -1.5**
DBIC pmax pmax
comp=Z,6.0nm,0.8s
DBIC Dimbokro 53.92 252 P **P 08 16 44.3 -0.5**
comp=Z,3.9nm,0.7s,mb4.5,baz=44,slow=7.3,SNR=7.2
DBIC LR LR 08 41 53.0
comp=Z,171nm,18.7s,MS4.1,baz=33,slow=38
DBIC Dimbokro 53.92 252 *e*P **P 08 16 43.4 -1.4**
comp=Z,5.6nm,0.8s,mb4.5
TIA Tai'an 57.31 66 *e*P **P 08 17 08.8 -0.3**
NJ2 Nanjing 60.16 69 *e*P **P 08 17 28.5 -0.5**
NJ2 AP pP 08 17 33.0 -0.7
NJ2 XP sP 08 17 35.5 +0.2
NJ2 PP PP 08 19 43.5 -0.2
NJ2 S **S 08 25 40.0 -0.1**
NJ2 LR LR
comp=Z,1μm,23.8s,MS5.0
SSE Sheshan 62.36 70 P **P 08 17 43.5 -0.4**
SSE PP PP 08 19 59.5 -3.8
SSE S **S 08 26 06.9 -1.2**
SSE sS 08 26 17.6
SCHQ Schefferville 74.84 326 P **P 08 19 00.8 0.0**
comp=Z,4.4nm,0.8s,mb4.4,baz=347,slow=7.0,SNR=4.1
SCHQ Schefferville 74.84 326 P **P 08 19 00.8 0.0**
INK Inuvik 78.51 360 *e*P **P 08 19 20.6 -0.4**
INK pmax pmax
comp=Z,5.0nm,1.1s
INK Inuvik 78.51 360 P **P 08 19 21.0 -0.1**
comp=Z,9.0nm,1.2s,mb4.6,baz=4.1,slow=4.0
INK Inuvik 78.51 360 *e*P **P 08 19 20.6 -0.5**
comp=Z,5.3nm,1.1s,mb4.4
IMA Indian Mountai 79.62 8 *e*P **P 08 19 28.4 +1.3**
IMA *e* pP 08 19 33.3 +1.4
COLA College 81.37 6 *e*P **P 08 19 37.6 +1.2**
COLA pmax pmax
comp=Z,14nm,0.8s,mb4.9
COLA College 81.37 6 *e*P **P 08 19 37.5 +1.1**
comp=Z,14nm,0.8s,mb4.9
COLA *e* pP 08 19 42.4 +1.2
ILAR Eielson Array 81.55 5 P **P 08 19 37.9 +0.5**
comp=Z,3.9nm,0.8s,mb4.4,baz=327,slow=4.0,SNR=40
DAWY Dawson 82.68 2 *e*P **P 08 19 44.2 +1.0**
DAWY *e* pP 08 19 49.4 +1.3
YKA Yellowknife Ar 83.06 351 P **P 08 19 45.7 +0.5**
comp=Z,5.9nm,1.0s,mb4.5,baz=16,slow=5.5,SNR=53
SNAA Sanae 110.27 195⇑ *i*P Pdif 08 21 39.5 -11
SNAA Sanae 110.27 195 *e* PKPdf 08 25 56.2 +2.7
SNAA Sanae 110.27 195 *e* PKPdf 08 25 57.6 +4.1
VNA1 Neumayer--Stat 110.77 197⇑ *i*Pdif Pdif 08 21 49.1 -3.2
VNA1 *e* 08 26 10.2
VNA1 *e* 08 26 12.6

IGQ 25 08:08:00.3, 1.49S×80.91W, h7km±6km, mb4.0, 1C, Error ellipse: s-maj=9.2km s-min=7.0km az=162.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.56**	**40**	⇑P	Pg	08 08 10.8	-0.9
IGUA	**Igualata**	**2.27**	**90**	P	Pn	08 08 40.6	+1.9
ARRY	**Arrayan**	**2.45**	**91**	P	Pn	08 08 42.5	+1.2
ARRY				S	Sn	08 09 13.4	+1.5
RUN2	**Runtun**	**2.50**	**89**	P	Pn	08 08 44.3	+2.3
PISA	**Pisayambo**	**2.56**	**80**	P	Pn	08 08 45.0	+2.1
NAS1	**Nasa**	**2.57**	**71**	P	Pn	08 08 44.8	+1.7
JUA2	**San Juan 2**	**2.63**	**61**	P	Pn	08 08 43.3	-0.6
VC1	**Cotopaxi 1**	**2.64**	**72**	P	Pn	08 08 46.4	+2.4
TERV	**Terraza Guagua**	**2.65**	**61**	P	Pn	08 08 46.4	+2.3
PINO	**Pino**	**2.65**	**60**	P	Pn	08 08 42.9	-1.3
YANA	**Yana**	**2.70**	**60**	P	Pn	08 08 43.6	-1.3
ANTI	**Antisana**	**2.93**	**69**	P	Pn	08 08 50.8	+2.6
COTA	**Cotacachi**	**3.14**	**55**	P	Pn	08 08 51.5	+0.3
CAYR	**Refugio Cayamb**	**3.26**	**63**	P	Pn	08 08 55.7	+2.8
CAYA	**Cayambe**	**3.30**	**62**	P	Pn	08 08 55.9	+2.4

*CSEM **25** 08:12:41.4±0.1, 33.37N×45.89E, h2km, mb3.9/1, Error ellipse: s-maj=4.1km s-min=1.7km az=169.0*
*IDC **25** 08:12:42.9±2.5, 33.38N×45.84E, mb4.2/8, mb1 4.4/8, mb1mx4.1/17, mbtmp4.2/8, Error ellipse: s-maj=58.9km s-min=24.9km az=23.0*
*NEIC **25** 08:12:44.6±1.4, 33.43N×45.89E, h10km, mb4.1/2, Error ellipse: s-maj=33.8km s-min=14.6km az=193.0*
ISC 25 08:12:42.7±0.8, 33.40N±0.08×45.97E±0.06, h10km, n16, σ0§92/20, mb4.0/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHD	**Baghdad**	**1.33**	**265**	*i* Pb	**Pb**	**08 13 06.0**	**-1.3**
BHD				*i* Sb	**Sb**	**08 13 25.5**	**+1.2**
MSL	**Mosul**	**3.73**	**321**	*e*Pn	**Pn**	**08 13 49.5**	**+7.9**
MSL				*e*Pg	**Pg**	**08 14 05.5**	**+8.3**
MSL				*i* Sn	**Sn**	**08 14 32.5**	**+6.4**
MSL				*i* Sg	**Sg**	**08 14 47.5**	**+0.5**
AKASG	**Malin Array Be**	**21.21**	**330**	P	**P**	**08 17 28.9**	**-1.8**
	6.8nm,0.7s,mb4.1,baz=140,slow=9.6,SNR=19						
BRVK	**Borovoye**	**26.24**	**34**	*e*P	**P**	**08 18 18.7**	**-0.7**
	4.9nm,0.8s,mb4.1						
BRVK				*e*		08 18 27.8	
BRVK	**Borovoye**	**26.24**	**34**	*e*P	**P**	**08 18 18.7**	**-0.7**
BVAR	**Borovoye Array**	**26.27**	**34**	P	**P**	**08 18 20.3**	**+0.6**
	2.1nm,1.1s,mb3.6,baz=225,slow=8.2,SNR=3.6						
MORC	**Moravsky Berou**	**26.61**	**316**	P	**P**	**08 18 21.8**	**-1.0**
	1.9nm,0.7s,mb3.7						
MORC	**Moravsky Berou**	**26.61**	**316**	P	**P**	**08 18 21.8**	**-1.0**
	1.9nm,0.7s,mb3.7						
VRAC	**Vranov**	**26.96**	**315**	P	**P**	**08 18 26.0**	**-0.1**
	3.4nm,0.6s,mb4.0,baz=84,slow=9.0,SNR=3.7						
FINES	**FINESS Array B**	**30.86**	**341**	P	**P**	**08 19 00.4**	**-0.6**
	2.9nm,1.0s,mb4.1,baz=191,slow=19,SNR=4.1						
ZAL	**Zalesovo**	**34.20**	**41**	P	**P**	**08 19 30.9**	**+0.8**
	10nm,0.3s,mb5.2,baz=16,slow=12,SNR=23						
ZAL	**Zalesovo**	**34.20**	**41**	P	**P**	**08 19 30.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**49.42**	**94**	P	**P**	**08 21 35.2**	**+0.4**
	4.1nm,1.0s,mb4.4,baz=293,slow=8.3,SNR=7.3						
CMAR	**Chiang Mai Arr**	**49.42**	**94**	P	**P**	**08 21 35.2**	**+0.4**
ILAR	**Eielson Array**	**81.64**	**6**	P	**P**	**08 25 02.8**	**+1.0**
	0.7nm,0.8s,mb3.6,baz=326,slow=4.2,SNR=6.3						
YKA	**Yellowknife Ar**	**83.17**	**351**	P	**P**	**08 25 10.5**	**+0.8**
	0.5nm,0.7s,mb3.6,baz=17,slow=5.4,SNR=7.8						

*IDC **25** 08:15:58.0±0.8, 2.11S×138.71E, mb4.3/8, mb1 4.5/11, mb1mx4.5/15, mbtmp4.4/11, ML4.0/3, MS4.0/5, Ms1 4.0/5, ms1mx3.5/16, Error ellipse: s-maj=27.4km s-min=10.4km az=91.0*
*MOS **25** 08:16:00.6±0.9, 2.14S×138.88E, h33km, mb4.6/7, Error ellipse: s-maj=18.9km s-min=9.8km az=106.6*
*BJI **25** 08:16:02.4, 2.00S×138.90E, h34km, mb4.6*
*NEIC **25** 08:16:02.4±4.5, 2.04S×138.88E, h34km±32km, mb4.6/11, Error ellipse: s-maj=13.5km s-min=10.9km az=69.0*
ISC 25 08:16:00.4±0.4, 2.065±0.04×138.91E±0.09, h33km, n50, σ1§05/50, mb4.5/14, MS4.0/5, 1C-1D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.98**	**132**	Pn	**P**	**08 18 37.8**	**-0.6**
	0.3nm,0.3s,baz=161,slow=20,SNR=2.3						
KAKA	**Kakadu**	**12.37**	**211**	*e*P	**P**	**08 18 55.9**	**-1.3**
	36nm,0.5s						
KAKA				*e*S	**S**	**08 21 13.3**	**-1.6**
WRAB	**Tennant Creek**	**18.32**	**194**	*e*P	**P**	**08 20 13.1**	**-0.8**
WRAB				*e*S	**S**	**08 23 36.3**	**+2.5**
WRAB				pmax	pmax		
	comp=Z,49nm,0.6s						

WRAB	**Tennant Creek**	**18.32**	**194**	*eP*	**P**	**08 20 13.1**	**-0.8**
	comp=Z,49nm,0.6s						
WRAB				*eS*	**S**	**08 23 36.3**	**+2.5**
WB2	**Warramunga Arr**	**18.33**	**194**	⇑*i*P	**P**	**08 20 13.5**	**-0.5**
WB2				*eS*	**S**	**08 23 30.6**	**-3.4**
WRA	**Warramunga Arr**	**18.33**	**194**	P	**P**	**08 20 13.3**	**-0.8**
WRA				S	**S**	**08 23 36.1**	**+2.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
WRA				smax			
	comp=N,1.0nm,0.3s						
WRA	**Warramunga Arr**	**18.33**	**194**	P	**P**	**08 20 13.3**	**-0.7**
	comp=N,2.2nm,0.3s,baz=16,slow=12,SNR=81						
WRA				S	**S**	**08 23 36.1**	**+2.0**
	comp=N,0.8nm,0.3s,baz=10.0,slow=21,SNR=4.6						
CTA	**Charters Tower**	**19.30**	**159**	*eP*	**P**	**08 20 25.4**	**-0.2**
	comp=N,13nm,1.2s						
CTA	**Charters Tower**	**19.30**	**159**	*eP*	**P**	**08 20 25.4**	**-0.2**
CTA				pmax	pmax		
	comp=Z,13nm,1.2s						
CTA	**Charters Tower**	**19.30**	**159**	P	**P**	**08 20 25.0**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=351,slow=10,SNR=6.9						
CTAO	**Charters Tower**	**19.30**	**159**	*eP*	**P**	**08 20 24.6**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,29nm,1.2s						
CTAO	**Charters Tower**	**19.30**	**159**	*eP*	**P**	**08 20 24.6**	**-1.0**
	comp=Z,29nm,1.2s						
FITZ	**Fitzroy Crossi**	**20.59**	**218**	*eP*	**P**	**08 20 40.2**	**+0.9**
	comp=Z,15nm,0.4s						
ASAR	**Alice Springs**	**22.02**	**192**	P	**P**	**08 20 54.4**	**+0.6**
	comp=Z,19nm,0.8s,mb4.6,baz=24,slow=10,SNR=143						
ASAR				S	**S**	**08 24 58.7**	**+8.9**
	comp=Z,4.4nm,0.9s,baz=9.1,slow=23,SNR=5.8						
ASAR				LR	LR	08 29 24.3	
	comp=Z,120nm,21.9s,MS3.3,baz=13,slow=37						
ASPA	**Alice Springs**	**22.02**	**192**	*eP*	**P**	**08 20 54.3**	**+0.5**
ASPA				*eS*	**S**	**08 24 53.9**	**+4.1**
MBWA	**Marble Bar**	**26.64**	**223**	*eP*	**P**	**08 21 39.0**	**+0.7**
	comp=Z,20nm,0.8s,mb4.7						
CBIJ	**Chichi jima**	**29.15**	**6**	LR	LR	08 31 58.7	
	comp=Z,154nm,20.2s,MS3.6,baz=164,slow=33						
STKA	**Stephens Creek**	**29.77**	**175**	*eP*	**P**	**08 22 06.1**	**-0.2**
	comp=Z,3.8nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**29.77**	**175**	P	**P**	**08 22 07.4**	**+1.1**
	comp=Z,4.2nm,0.6s,mb4.3,baz=355,slow=9.4,SNR=11						
FORT	**Forrest**	**30.36**	**199**	*eP*	**P**	**08 22 12.6**	**+1.0**
	comp=Z,66nm,0.6s,mb5.5						
NWAO	**Narrogin (SRO)**	**36.84**	**211**	P	**P**	**08 23 05.3**	**-2.2**
NWAO				pmax	pmax		
	comp=Z,8.0nm,1.2s						
NWAO	**Narrogin (SRO)**	**36.84**	**211**	P	**P**	**08 23 05.3**	**-2.2**
	comp=Z,8.4nm,1.1s,mb4.5,baz=80,slow=18,SNR=2.4						
ENH	**Enshi**	**42.68**	**321**	P	**P**	**08 23 54.4**	**-1.6**
	comp=Z,5.0nm,0.4s,mb4.6						
CMAR	**Chiang Mai Arr**	**44.29**	**299**	P	**P**	**08 24 09.5**	**+0.3**
CMAR						08 25 55.4	
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**44.29**	**299**	P	**P**	**08 24 09.5**	**+0.3**
	comp=Z,2.4nm,0.5s,mb4.2,baz=115,slow=6.5,SNR=20						
CMAR				PcP	PcP	08 25 55.4	+1.7
	comp=Z,1.0nm,0.3s,baz=126,slow=1.8,SNR=4.9						
LSA	**Lhasa**	**55.46**	**309**	P	**P**	**08 25 33.9**	**-0.6**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb5.1						
LSA	**Lhasa**	**55.46**	**309**	P	**P**	**08 25 33.9**	**-0.6**
	comp=Z,5.9nm,0.3s,mb5.1						
ULN	**Ulaanbaatar**	**56.96**	**335**	*eP*	**P**	**08 25 45.3**	**+0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
ULN	**Ulaanbaatar**	**56.96**	**335**	*eP*	**P**	**08 25 45.3**	**+0.2**
	comp=Z,2.3nm,0.5s,mb4.5						
SONM	**Songino Array**	**57.22**	**334**	P	**P**	**08 25 46.4**	**-0.5**
	comp=Z,1.1nm,0.8s,mb3.9,baz=158,slow=6.6,SNR=7.7						
ZAK	**Zakamensk**	**60.48**	**335**	*eP*	**P**	**08 26 09.2**	**-0.3**
TLY	**Talaya**	**61.30**	**336**	⇓*i*P	**P**	**08 26 15.5**	**+0.5**
MOY	**Mondy**	**62.41**	**334**	*eP*	**P**	**08 26 23.0**	**+0.6**
HYB	**Hyderabad**	**62.53**	**291**	*eP*	**P**	**08 26 24.0**	**+0.3**
HYB	**Hyderabad**	**62.53**	**291**	*i* P	**P**	**08 26 24.0**	**+0.3**
NVS	**Novosibirsk**	**72.73**	**330**	*eP*	**P**	**08 27 29.8**	**+2.8**
KURK	**Kurchatov**	**73.30**	**325**	*eP*	**P**	**08 27 30.7**	**+0.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
KURK	**Kurchatov**	**73.30**	**325**	*eP*	**P**	**08 27 30.7**	**+0.2**
	comp=Z,6.2nm,0.8s,mb4.6						
VNDA	**Vanda**	**76.41**	**175**	P	**P**	**08 27 47.6**	**-0.3**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VNDA	**Vanda**	**76.41**	**175**	P	**P**	**08 27 47.6**	**-0.3**
	comp=Z,1.8nm,0.8s,mb4.1,baz=25,slow=5.1,SNR=3.7						
BVAR	**Borovoye Array**	**78.89**	**325**	P	**P**	**08 28 02.4**	**+0.4**
	comp=Z,10.0nm,1.1s,mb4.7,baz=135,slow=4.2,SNR=6.3						
MAW	**Mawson**	**82.80**	**202**	LR	LR	09 03 34.0	
	comp=Z,324nm,18.1s,MS4.7,baz=176,slow=34						
ILAR	**Eielson Array**	**85.16**	**24**	P	**P**	**08 28 34.7**	**+0.4**
	comp=Z,1.4nm,1.1s,mb4.0,baz=286,slow=4.7,SNR=5.2						
ILAR				LR	LR	09 04 57.5	
	comp=Z,80nm,18.3s,MS4.1,baz=358,slow=34						
DAWY	**Dawson**	**88.20**	**26**	P	**P**	**08 28 48.6**	**-0.5**
YKA	**Yellowknife Ar**	**99.40**	**27**	LR	LR	09 12 37.7	
	comp=Z,79nm,19.4s,MS4.2,baz=315,slow=34						
DBIC	**Dimbokro**	**143.59**	**278**	PKIKP	PKPdf	08 35 32.7	-0.3
DBIC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
DBIC	**Dimbokro**	**143.59**	**278**	PKP	PKPdf	08 35 32.7	-0.3
	comp=Z,8.7nm,0.8s,baz=73,slow=1.2,SNR=8.8						
DBIC	**Dimbokro**	**143.59**	**278**	PKP	PKPdf	08 35 32.7	-0.3
LPAZ	**La Paz**	**147.66**	**125**	PKP2	PKPab	08 35 47.5	+0.5
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LPAZ	**La Paz**	**147.66**	**125**	PKPbc	PKPdf	08 35 47.5	+7.6
	comp=Z,1.8nm,0.8s,baz=83,slow=2.0,SNR=8.4						

IGQ 25 08:20:07.8, 1.38S×81.56W, h12km±8km, mb4.1, 4C-2D, Error ellipse: s-maj=13.4km s-min=7.4km az=16.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.06**	**72**	⇑P	Pb	08 20 25.6	-1.9
IGUA	**Igualata**	**2.92**	**92**	P	Pn	08 20 55.6	+0.7
ARRY	**Arrayan**	**3.10**	**92**	⇑P	Pn	08 20 58.2	+0.7
ARRY				S	Sn	08 21 29.1	-5.7
PATA	**Patacocha**	**3.12**	**92**	P	Pn	08 20 59.8	+2.0
RUN2	**Runtun**	**3.14**	**91**	P	Pn	08 20 59.9	+1.8
ULBA	**Ulba**	**3.15**	**91**	P	Pn	08 20 59.5	+1.3
NAS1	**Nasa**	**3.16**	**77**	P	Pn	08 21 00.4	+2.0
JUA2	**San Juan 2**	**3.17**	**69**	P	Pn	08 20 59.4	+1.0
TERV	**Terraza Guagua**	**3.18**	**68**	P	Pn	08 20 59.9	+1.2
PISA	**Pisayambo**	**3.19**	**84**	⇑P	Pn	08 21 01.9	+3.2
PINO	**Pino**	**3.19**	**68**	P	Pn	08 20 59.8	+1.1
VC1	**Cotopaxi 1**	**3.23**	**77**	P	Pn	08 21 01.9	+2.4
YANA	**Yana**	**3.23**	**67**	P	Pn	08 21 00.9	+1.5
TAMB	**Tambo**	**3.26**	**78**	P	Pn	08 21 02.7	+3.0
ANTI	**Antisana**	**3.52**	**75**	P	Pn	08 21 05.0	+1.6
COTA	**Cotacachi**	**3.64**	**62**	⇓P	Pn	08 21 07.0	+1.8
COTA				S	Sn	08 21 49.9	+1.5
CAYR	**Refugio Cayamb**	**3.81**	**69**	⇑P	Pn	08 21 11.1	+3.5
CAYA	**Cayambe**	**3.84**	**68**	⇓P	Pn	08 21 11.2	+3.1

TEH ***25*** *08:21:29.8, 31.79N×45.10E, h10km, Mn4.6*
IDC ***25*** *08:21:44.3±1.2, 33.50N×45.87E, mb4.0/12, mb1 4.1/17, mb1mx4.1/22, mbtmp4.0/17, ML3.0/4, MS3.1/1, Ms1 3.1/1, ms1mx2.6/16, Error ellipse: s-maj=26.5km s-min=16.7km az=176.0*
MOS ***25*** *08:21:46.7±0.9, 33.30N×45.80E, h33km, mb4.9/18, Error ellipse: s-maj=12.9km s-min=5.2km az=123.5*
THR ***25*** *08:21:46.7±0.6, 33.48N×45.92E, h14km±8km, ML4.2*
BJI ***25*** *08:21:47.5, 33.40N×45.90E, h24km, mB5.3, mb4.5*
NEIC ***25*** *08:21:47.5±0.5, 33.37N×45.87E, mb4.9/18, Error ellipse: s-maj=10.6km s-min=6.0km az=182.0*
ZUR_RM ***25*** *08:21:47, 33.37N×45.87E, h18km, Mw4.5/7, Moment Tensor Solution. s7 Moment tensor: Scale 10^15^Nm; M_{rr}6.28; $M_{\theta\theta}$-2.19; $M_{\phi\phi}$-4.09; $M_{r\theta}$3.20; $M_{\theta\phi}$3.16; $M_{\phi r}$-2.67; Best double couple: $M_0$7.6×10^15^ NP1:ϕ_s136°, δ62°, λ83°. NP2:ϕ_s331°, δ29°, λ103°. Principal axes: T 7.578, Plg72°, Azm29°; N .049, Plg6°, Azm139°; P -7.627, Plg16°, Azm231°;*

CSEM ***25*** *08:21:47.9±0.1, 33.46N×45.79E, h40km, mb4.5/17, ML4.9/2, Ms3.8 Error ellipse: s-maj=2.9km s-min=1.4km az=50.0*

ISC 25 08:21:44.6±0.2, 33.43N±0.02×45.74E±0.03, h10km, n121, σ1§14/133, mb4.5/39, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHD	**Baghdad**	**1.15**	**263**	*i* Pb	**Pb**	**08 22 07.0**	**+0.8**
BHD				*i* Sb	**Sb**	**08 22 26.5**	**+5.5**
SNGE	**Sanandaj**	**2.13**	**38**	*e*PG	**Pb**	**08 22 23.1**	**+0.2**
SNGE				*e*SG	**Sb**	**08 22 50.1**	**+0.8**
SNGE				AML	AML	08 22 59.1	
	comp=N,1μm,0.6s						
SNGE	**Sanandaj**	**2.13**	**38**	*e*Pg	**Pb**	**08 22 23.1**	**+0.2**
	SNR=90						
SNGE				*e*Sg	**Sb**	**08 22 50.1**	**+0.8**
	comp=N,1μm,0.6s,SNR=90						
SHGO	**Shushtar**	**2.89**	**116**	*e*PN	**Pn**	**08 22 33.0**	**+1.4**
SHGR	**Shooshtar-Gavs**	**2.89**	**116**	*e*PN	**Pn**	**08 22 33.0**	**+1.4**
SHGR				*e*SG	**Sb**	**08 23 13.5**	**+2.0**
SHGR				AML	AML	08 23 32.7	
	comp=N,1μm,0.5s						
MSL	**Mosul**	**3.59**	**323**	*e*Pn	**Pn**	**08 22 44.0**	**+2.4**
MSL				*i* Sn	**Sn**	**08 23 27.5**	**+2.9**
MSL				*i* Sg	**Sg**	**08 23 41.5**	**-2.9**
IRAZ	**Razeghan**	**3.98**	**59**	Pn	**Pn**	**08 22 49.0**	**+1.8**
UMR	**Umm Al-Rimmam**	**4.21**	**156**	*e*P	**Pn**	**08 22 52.3**	**+1.9**
UMR				*e*S	**Sn**	**08 23 40.5**	**+0.2**
NAY	**Al-Naaiem**	**4.36**	**162**	*e*P	**Pn**	**08 22 54.0**	**+1.5**
NAY				*e*S	**Sn**	**08 23 43.6**	**-0.3**
RDF	**Al-Radifah**	**4.75**	**160**	*e*P	**Pn**	**08 22 59.4**	**+1.4**
RDF				*e*S	**Sn**	**08 23 53.6**	**-0.1**
QRN	**Al-Qurain**	**5.03**	**158**	*e*P	**Pn**	**08 23 03.5**	**+1.6**
QRN				*e*S	**Sn**	**08 24 00.6**	**-0.2**
TVAN	**Van**	**5.43**	**340**	*i* P	**Pn**	**08 23 09.3**	**+1.6**
IAFJ	**Afjeh**	**5.49**	**62**	Pn	**Pn**	**08 23 09.0**	**+0.6**
DAMV	**Damavand**	**5.59**	**65**	*e*PN	**Pn**	**08 23 09.3**	**-0.6**
IDMV	**Damavand**	**5.62**	**66**	Pn	**Pn**	**08 23 09.9**	**-0.4**
GRMI	**Germi**	**5.65**	**17**	*e*PN	**Pn**	**08 23 11.2**	**+0.4**
BEST	**Besiri**	**5.75**	**322**	*e*P	**Pn**	**08 23 19.6**	**+7.4**
MAKU	**Maku**	**5.98**	**352**	*e*PN	**Pn**	**08 23 16.7**	**+1.4**
IFIR	**Firoozkooh**	**6.19**	**67**	Pn	**Pn**	**08 23 17.3**	**-1.1**
IFIR	**Firoozkooh**	**6.19**	**67**	Sn	**Sn**	**08 24 37.1**	**+7.0**
GNI	**Garni**	**6.76**	**353**	Pn	**Pn**	**08 23 26.7**	**+0.3**
	comp=N,0.8nm,0.3s,baz=55,slow=2.9,SNR=2.6						
GNI				Lg		08 25 23.9	
	comp=N,0.3nm,0.3s,baz=189,slow=22,SNR=2.3						
ASF	**Jabal al Asfar**	**7.55**	**263**	Pn	**Pn**	**08 23 37.1**	**-0.4**
	comp=N,0.5nm,0.3s,baz=330,slow=13,SNR=4.1						
ASF				Pg	**Pg**	**08 24 05.1**	**-10**
	comp=N,1.1nm,0.3s,baz=329,slow=20,SNR=3.8						
ASF				Sn	**Sn**	**08 25 01.3**	**-2.7**
	comp=N,2.7nm,0.3s,baz=16,slow=8.6,SNR=3.3						
ASF				Lg		08 25 49.4	
	comp=N,2.4nm,0.3s,baz=126,slow=23,SNR=3.5						
ASF				LR	LR	08 26 32.2	
	comp=N,142nm,18.9s,baz=120,slow=38						
MALT	**Malatya**	**7.68**	**311**	*e*P	**Pn**	**08 23 40.4**	**+1.1**
	comp=N,24nm,0.6s						
GZT	**Gaziantep**	**7.74**	**303**	*i* P	**Pb**	**08 23 55.1**	**-3.9**
ZEI	**Tsey**	**9.44**	**352**	*i* P	**P**	**08 24 05.4**	**+1.6**
ZEI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ZEI	**Tsey**	**9.44**	**352**	*i* P	**P**	**08 24 05.4**	**+1.6**
	comp=Z,4.5nm,1.2s						
EIL	**Elat**	**9.94**	**251**	Pn	**P**	**08 24 10.7**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=338,slow=18,SNR=2.2						
EIL				Lg		08 27 08.6	
	comp=Z,1.1nm,0.3s,baz=46,slow=36,SNR=2.3						
KIV	**Kislovodsk**	**10.78**	**348**	*e*P	**P**	**08 24 25.5**	**+3.4**
KIV				pmax	pmax		
	comp=N,15nm,1.3s						
KIV				pmax	pmax		
	comp=E,15nm,1.3s						
KIV				pmax	pmax		
	comp=Z,20nm,1.3s						
KIV				MLR	MLR		
	comp=E,110nm,18.0s						
KIV				MLR	MLR		
	comp=Z,141nm,18.0s						
KIV	**Kislovodsk**	**10.78**	**348**	*e*P	**P**	**08 24 25.5**	**+3.4**
	comp=Z,1.0nm,0.3s						
BRTR	**Keskin Array B**	**11.58**	**306**	Pn	**P**	**08 24 35.3**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=124,slow=8.9,SNR=4.2						
BRTR				Lg		08 27 53.8	
	comp=Z,0.0nm,0.3s,baz=119,slow=30,SNR=2.0						
GOF	**Gofitskoye**	**11.80**	**351**	*e*P	**P**	**08 24 38.0**	**+2.0**
GOF				pmax	pmax		
	comp=Z,30nm,1.6s						
GOF	**Gofitskoye**	**11.80**	**351**	*e*P	**P**	**08 24 38.0**	**+2.0**
	comp=Z,15nm,1.6s						
MLR	**Muntele Rosu**	**19.41**	**314**	P	**P**	**08 26 16.9**	**+3.4**
	baz=142,slow=11,SNR=3.8						
MLR	**Muntele Rosu**	**19.41**	**314**	*e*P	**P**	**08 26 16.9**	**+3.4**
AKASG	**Malin Array Be**	**21.09**	**330**	P	**P**	**08 26 30.1**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,10.0nm,0.6s						
AKASG	**Malin Array Be**	**21.09**	**330**	P	**P**	**08 26 30.1**	**-1.4**
	comp=Z,10nm,0.6s,mb4.3,baz=140,slow=9.7,SNR=57						
OBN	**Obninsk**	**22.62**	**346**	*e*P	**P**	**08 26 42.2**	**-4.4**
OBN				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.5						
KOLS	**Kolonicke sedl**	**23.36**	**319**	*i* P	**P**	**08 26 57.5**	**+3.6**
	comp=Z,1.0nm,0.5s,mb3.5						
CRVS	**Cervenica-Dubn**	**23.80**	**318**	*i* P	**P**	**08 27 00.0**	**+1.8**
	comp=Z,0.5nm,0.3s						
ARU	**Arti**	**24.65**	**17**	P	**P**	**08 27 01.5**	**-4.8**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb4.6						
ARU	**Arti**	**24.65**	**17**	P	**P**	**08 27 01.5**	**-4.8**
	comp=Z,6.4nm,0.3s,mb4.6						
VYHS	**Vyhne**	**25.11**	**315**	*e*P	**P**	**08 27 12.6**	**+1.7**
	comp=Z,1.0nm,0.5s,mb3.6						
OJC	**Ojcow**	**25.41**	**319**	*e*P	**P**	**08 27 14.9**	**+1.2**
ZST	**Bratislava**	**26.03**	**313**	*i* P	**P**	**08 27 19.1**	**-0.4**
ZST				*e*		08 33 08.4	
OKC	**Ostrava-Krasne**	**26.14**	**317**	*e*P	**P**	**08 27 21.4**	**+0.9**
BRVK	**Borovoye**	**26.32**	**34**	*e*P	**P**	**08 27 21.3**	**-0.8**
BRVK				*e*		08 27 28.9	
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
BRVK	**Borovoye**	**26.32**	**34**	*e*P	**P**	**08 27 21.3**	**-0.8**
	comp=Z,7.0nm,0.8s,mb4.2						
BRVK				*e*		08 27 28.9	
BRVK	**Borovoye**	**26.32**	**34**	*e*P	**P**	**08 27 21.3**	**-0.8**
	comp=Z,3.5nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**26.35**	**35**	P	**P**	**08 27 22.1**	**-0.3**
	comp=Z,1.2nm,0.6s,mb3.6,baz=229,slow=11,SNR=8.3						
BVAR				PcP	PcP	08 30 48.4	-0.5
	comp=Z,1.6nm,0.8s,baz=270,slow=1.5,SNR=3.6						
MORC	**Moravsky Berou**	**26.46**	**317**	*e*P	**P**	**08 27 22.9**	**-0.5**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
MORC	**Moravsky Berou**	**26.46**	**317**	*e*P	**P**	**08 27 22.9**	**-0.5**
	comp=Z,2.0nm,0.8s,mb3.7						
VRAC	**Vranov**	**26.80**	**315**	P	**P**	**08 27 26.6**	**0.0**
	comp=Z,1.6nm,0.4s,mb3.9,baz=102,slow=11,SNR=3.4						
DPC	**Dobruska-Polom**	**27.42**	**317**	*e*P	**P**	**08 27 32.4**	**+0.2**
UPC	**Upice**	**27.67**	**317**	*e*P	**P**	**08 27 34.2**	**-0.3**
PRU	**Pruhonice**	**28.30**	**315**	*e*P	**P**	**08 27 41.7**	**+1.5**
GERES	**GERESS Array B**	**28.37**	**312**	P	**P**	**08 27 40.0**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=135,slow=11,SNR=3.9						
KHC	**Kasperske Hory**	**28.55**	**313**	*e*P	**P**	**08 27 43.4**	**+1.0**
CLL	**Collm**	**29.73**	**317**	P	**P**	**08 27 53.0**	**-0.1**
FINES	**FINESS Array B**	**30.77**	**342**	P	**P**	**08 28 00.5**	**-1.6**
	comp=Z,0.8nm,0.7s,mb3.7,baz=153,slow=8.5,SNR=3.7						
SBF	**Sospel**	**31.43**	**301**	*e*P	**P**	**08 28 08.4**	**+0.2**
	comp=Z,82nm,1.0s,mb5.2						
SBF	**Sospel**	**31.43**	**301**	*e*P	**P**	**08 28 08.4**	**+0.2**
SBF				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.2						
MBDF	**Montbardon**	**32.01**	**302**	*e*P	**P**	**08 28 13.2**	**0.0**
	comp=Z,33nm,0.8s,mb4.9						
MBDF	**Montbardon**	**32.01**	**302**	*e*P	**P**	**08 28 13.2**	**0.0**
MBDF				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.9						
LMR	**La Mourre**	**32.05**	**300**	*e*P	**P**	**08 28 14.2**	**+0.6**
LPG	**La Plagne**	**32.12**	**304**	*e*P	**P**	**08 28 14.3**	**+0.1**
	comp=Z,33nm,0.9s,mb4.8						
LPG	**La Plagne**	**32.12**	**304**	*e*P	**P**	**08 28 14.3**	**+0.1**
LPG				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.9						
LPL	**La Plagne**	**32.14**	**304**	*e*P	**P**	**08 28 14.4**	**+0.1**
	comp=Z,44nm,1.0s,mb5.0						
LPL	**La Plagne**	**32.14**	**304**	*e*P	**P**	**08 28 14.4**	**+0.1**
LPL				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.9						
HINF	**Hinteralfeld**	**32.46**	**308**	*e*P	**P**	**08 28 16.4**	**-0.7**
ORIF	**Oris-en-Rattie**	**32.66**	**302**	*e*P	**P**	**08 28 18.4**	**-0.5**
	comp=Z,47nm,1.2s,mb5.0						
ORIF	**Oris-en-Rattie**	**32.66**	**302**	*e*P	**P**	**08 28 18.4**	**-0.5**
ORIF				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
HAU	**Haudompre**	**32.83**	**308**	*e*P	**P**	**08 28 19.5**	**-0.8**
	comp=Z,18nm,0.9s,mb4.7						
HAU	**Haudompre**	**32.83**	**308**	*e*P	**P**	**08 28 19.5**	**-0.8**
HAU				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
KOLN	**Koldanda**	**32.94**	**90**	*e*P	**P**	**08 28 20.5**	**-1.0**
HYB	**Hyderabad**	**33.47**	**110**	*e*P	**P**	**08 28 25.0**	**-1.2**
HYB	**Hyderabad**	**33.47**	**110**	*i* P	**P**	**08 28 25.0**	**-1.2**
GKN	**Gorkha**	**33.73**	**89**	*e*P	**P**	**08 28 26.9**	**-1.5**
	comp=Z,28nm,0.6s,mb5.4						
MEZF	**Maizieres J'vi**	**33.78**	**309**	*e*P	**P**	**08 28 28.1**	**-0.5**
WMQ	**Urumqi**	**34.06**	**60**	*e*P	**P**	**08 28 31.5**	**+0.5**
DMN	**Daman**	**34.26**	**89**	*e*P	**P**	**08 28 31.0**	**-1.9**
	comp=Z,24nm,0.7s,mb5.2						
SMF	**Signal de Mont**	**34.29**	**305**	*e*P	**P**	**08 28 32.5**	**-0.5**
	comp=Z,38nm,0.9s,mb5.0						
SMF	**Signal de Mont**	**34.29**	**305**	*e*P	**P**	**08 28 32.5**	**-0.5**
SMF				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
KKN	**Kakani**	**34.34**	**89**	*e*P	**P**	**08 28 32.9**	**-0.7**
	comp=Z,27nm,0.6s,mb5.3						
PKI	**Pulchoki**	**34.52**	**89**	*e*P	**P**	**08 28 34.4**	**-0.8**
	comp=Z,15nm,0.6s,mb5.1						
SSF	**Saint Saulge**	**34.57**	**306**	*e*P	**P**	**08 28 34.9**	**-0.5**
SSF				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
SSF	**Saint Saulge**	**34.57**	**306**	*e*P	**P**	**08 28 34.9**	**-0.5**
	comp=Z,19nm,1.1s,mb5.0						
AVF	**Avril sur Loir**	**34.64**	**305**	*e*P	**P**	**08 28 35.4**	**-0.6**
	comp=Z,22nm,0.9s,mb4.8						
AVF	**Avril sur Loir**	**34.64**	**305**	*e*P	**P**	**08 28 35.4**	**-0.6**
AVF				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
GUN	**Gumba**	**34.80**	**88**	*e*P	**P**	**08 28 36.6**	**-1.0**
	comp=Z,28nm,0.7s,mb5.3						
BGF	**Bois d'Agland**	**34.96**	**305**	*e*P	**P**	**08 28 38.1**	**-0.6**
JIRN	**Jiri**	**35.15**	**88**	*e*P	**P**	**08 28 39.6**	**-0.9**
	comp=Z,24nm,0.5s,mb5.4						
TCF	**Toulx Ste Croi**	**35.37**	**304**	*e*P	**P**	**08 28 42.0**	**-0.2**
	comp=Z,36nm,1.3s,mb4.8						
TCF	**Toulx Ste Croi**	**35.37**	**304**	*e*P	**P**	**08 28 42.0**	**-0.2**
TCF				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
NB2	**NORSAR Subarra**	**35.48**	**332**	P	**P**	**08 28 41.5**	**-1.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=124,slow=8.6						
NB2	**NORSAR Subarra**	**35.48**	**332**	P	**P**	**08 28 41.5**	**-1.6**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**35.48**	**332**	P	**P**	**08 28 41.9**	**-1.2**
	comp=Z,1.9nm,0.9s,mb4.0,baz=125,slow=8.7,SNR=4.9						
RJF	**Les Rejaudoux**	**35.77**	**303**	*e*P	**P**	**08 28 45.6**	**-0.1**
FLN	**La Foliniere**	**37.45**	**308**	*e*P	**P**	**08 28 58.7**	**-1.0**
GRR	**Gorron**	**37.66**	**308**	*e*P	**P**	**08 29 00.8**	**-0.7**
	comp=Z,37nm,1.0s,mb4.8						
GRR	**Gorron**	**37.66**	**308**	*e*P	**P**	**08 29 00.8**	**-0.7**
GRR				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
ARCES	**ARCESS Array B**	**37.89**	**349**	P	**P**	**08 29 01.3**	**-1.9**
ARCES	**ARCESS Array B**	**37.

ellipse: s-maj=28.2km s-min=10.4km az=70.0

ISC 25 08:38:40.1±1.3, 5.3N±0.1×93.2E±0.3, h30km, n8, σ0°20/8, mb4.1/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.22	23	Pn	P	08 42 01.7	-0.1
	0.7nm,0.3s,baz=222,slow=13,SNR=5.2						
SONM	Songino Array	43.85	13	P	P	08 46 45.5	+0.1
	1.2nm,0.8s,mb3.7,baz=186,slow=7.4,SNR=9.3						
WRA	Warramunga Arr	47.59	123	P	P	08 47 15.9	+0.3
	4.6nm,0.7s,mb4.6,baz=301,slow=9.1,SNR=25						
WRAB	Tennant Creek	47.60	123	eP	P	08 47 15.4	-0.2
	12nm,0.7s,mb5.0						
ASAR	Alice Springs	49.04	128	P	P	08 47 26.8	0.0
	0.7nm,0.5s,mb4.0,baz=295,slow=7.6,SNR=6.3						
BVAR	Borovoye Array	51.12	342	P	P	08 47 41.9	-0.3
	0.3nm,0.6s,mb3.4,baz=135,slow=6.3,SNR=4.2						
CHKZ	Chkalovo	51.62	343	eP	P	08 47 46.3	+0.3
	1.9nm,0.4s,mb4.4						
CHKZ				e	pP	08 47 53.6	-1.6
STKA	Stephens Creek	59.05	132	P	P	08 48 39.9	-0.2
	1.0nm,0.8s,mb3.9,baz=322,slow=9.9,SNR=5.0						

*IDC **25** 08:54:09.3±1.0, 1.10N×98.65E, mb3.9/7, mb1 4.1/8, mb1mx4.0/17, mbtmp3.9/8, ML4.2/1, MS3.7/7, Ms1 3.7/7, ms1mx3.4/19, Error ellipse: s-maj=55.8km s-min=17.6km az=54.0*

*NEIC **25** 08:54:13.4±1.0, 1.07N×98.76E, h30km, mb4.5/1, Error ellipse: s-maj=42.2km s-min=12.8km az=61.0*

NEIC Felt [II] at Padangsidempuan.

ISC 25 08:54:11.6±0.9, 1.1N±0.2×98.7E±0.2, h30km, n17, σ0°78/12, mb4.0/8, MS3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.28	1	P	P	08 58 12.6	-0.1
	0.3nm,0.3s,baz=191,slow=12,SNR=32						
CMAR				LR	LR	09 04 53.9	
	comp=Z,188nm,19.3s,baz=190,slow=37						
SHL	Shillong	25.24	345	e	P	08 59 37.5	+0.7
HYB	Hyderabad	25.64	310	iP	P	08 59 45.5	+4.8
WRA	Warramunga Arr	40.67	123	P	P	09 01 51.9	+0.6
	2.6nm,0.8s,mb3.9,baz=301,slow=9.2,SNR=16						
WRA				PcP	PcP	09 03 54.7	+1.5
	1.0nm,0.9s,baz=311,slow=2.5,SNR=6.8						
WRAB	Tennant Creek	40.68	123	eP	P	09 01 49.9	-1.4
	7.3nm,0.8s,mb4.4						
ASAR	Alice Springs	42.10	128	P	P	09 02 03.9	+0.9
	0.7nm,0.6s,mb3.5,baz=300,slow=7.8,SNR=6.0						
ASAR				PcP	PcP	09 03 59.9	+1.9
	0.6nm,0.7s,baz=308,slow=2.6,SNR=5.0						
ASAR				LR	LR	09 19 21.8	
	comp=Z,55nm,19.3s,MS3.5,baz=264,slow=36						
SONM	Songino Array	47.06	7	P	P	09 02 42.9	+0.4
	0.6nm,0.5s,mb3.8,baz=183,slow=9.0,SNR=3.6						
SONM				PcP	PcP	09 04 15.7	+1.1
	1.9nm,0.6s,baz=194,slow=3.3,SNR=9.4						
STKA	Stephens Creek	52.14	133	P	P	09 03 21.8	0.0
	1.7nm,0.8s,mb4.1,baz=337,slow=6.5,SNR=6.3						
STKA				LR	LR	09 27 24.4	
	comp=Z,96nm,20.2s,MS3.8,baz=27,slow=38						
STKA	Stephens Creek	52.14	133	eP	P	09 03 21.6	-0.1
ZAL	Zalesovo	53.94	350	P	P	09 03 33.6	-1.0
	1.5nm,0.4s,mb4.3,baz=325,slow=6.3,SNR=4.0						
GNI	Garni	62.45	316	LR	LR	09 31 51.6	
	comp=Z,36nm,18.6s,MS3.6,baz=284,slow=36						
EIL	Elat	66.82	302	LR	LR	09 35 45.0	
	comp=Z,34nm,18.2s,MS3.6,baz=117,slow=37						
BRTR	Keskin Array B	70.33	312	P	P	09 05 25.4	+0.7
	1.1nm,0.7s,mb3.9,baz=124,slow=6.3,SNR=4.5						
AKASG	Malin Array Be	76.30	322	P	P	09 05 58.5	-0.9
	1.0nm,0.5s,mb4.0,baz=84,slow=4.8,SNR=4.8						
URZ	Urewera	81.54	129	LR	LR	09 41 05.6	
	comp=Z,102nm,20.3s,MS4.2,baz=230,slow=34						
ARCES	ARCESS Array B	83.18	340	LR	LR	09 45 29.1	
	comp=Z,56nm,18.0s,MS4.0,baz=17,slow=37						
TXAR	Lajitas Array	142.96	34	PKP	PKPdf	09 13 43.5	-4.8
	0.3nm,0.9s,baz=125,slow=2.1,SNR=3.7						

*BJI **25** 08:55:55.0, 36.97N×71.51E, h105km, mb4.5*

*MOS **25** 08:55:56.3±1.4, 36.84N×71.63E, h122km, mb4.0/7, Error ellipse: s-maj=13.7km s-min=6.9km az=88.8*

*NEIC **25** 08:55:56.3±1.9, 36.84N×71.65E, h105km±17km, mb4.0/8, Error ellipse: s-maj=14.4km s-min=11.9km az=215.0*

*IDC **25** 08:56:01.4±5.6, 36.80N×71.60E, h154km±51km, mb3.7/12, mb1 3.9/14, mb1mx3.8/22, mbtmp4.2/14, Error ellipse: s-maj=27.1km s-min=16.0km az=2.0*

*NNC **25** 08:56:22.6±5.6, 39.44N×70.98E, mpv4.7, Error ellipse: s-maj=74.7km s-min=45.5km az=156.0*

ISC 25 08:55:55.7±0.4, 36.66N±0.02×71.92E±0.05, h130km±6km, n88, σ1°35/106, mb4.0/18, 9C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.83	180	⇓P	P	08 56 42.8	+1.9
CHCP	Chirah Chowk	3.19	159	⇓P	P	08 56 49.5	+3.9
THW	Thamme Wali	3.86	182	⇓P	P	08 56 55.4	+0.9
SBDP	Sheikh Budin	4.45	192	⇑P	P	08 57 02.1	-0.3
SARP	Sargodha	4.77	172	P	P	08 57 07.5	+0.8
SARP				S	S	08 58 00.0	-1.3
DRP	Derazinda	5.11	197	P	P	08 57 11.3	+0.1
DRP				S	S	08 58 06.0	-3.5
AML	Almayashu	5.63	14	P	P	08 57 18.0	-0.3
	SNR=592						
UCH	Uchtor	5.91	19	P	P	08 57 22.2	+0.2
	SNR=88						
KZA	Kyzart	5.99	24	P	P	08 57 23.3	+0.2
	SNR=32						
EKS2	Erkin-Say	6.16	13	P	P	08 57 25.1	-0.3
	SNR=36						
AAK	Ala-Archa	6.29	18	⇑Pn	P	08 57 27.3	+0.1
	62nm,0.4s						
AAK				⇑Lg		08 58 34.6	
	80nm,0.8s						
AAK	Ala-Archa	6.29	18	P	P	08 57 26.9	-0.2
	SNR=190						
AAK	Ala-Archa	6.29	18	PN	P	08 57 27.2	0.0
AAK				pmax	pmax		
	comp=Z,25nm,0.4s						
AAK	Ala-Archa	6.29	18	ePn	P	08 57 25.8	-1.4
BHK	Bhakra	6.42	143	eP	P	08 57 33.4	+4.4
BHK				eS	S	08 58 40.8	-0.6
KBK	Karagaybulak	6.43	20	P	P	08 57 29.7	+0.6
	SNR=10						
ULHL	Ulahol	6.50	30	P	P	08 57 30.8	+0.7
	SNR=36						
FRU	Bishkek	6.51	18	⇑iPN	P	08 57 29.0	-1.2
FRU				pmax	pmax		
	comp=Z,100nm,1.0s						
CHMS	Chumysh	6.70	18	P	P	08 57 32.4	-0.3
	SNR=26						
TKM2	Tokmak 2	6.86	23	P	P	08 57 35.0	0.0
	SNR=129						
USP	Ospenovka	6.89	16	P	P	08 57 34.3	-1.1
	SNR=69						
KLP	Kalpa	7.33	132	eP	P	08 57 44.4	+3.1
KLP				eS	S	08 59 02.4	-0.9
DDI	Dehra Dun	8.13	139	eP	P	08 57 54.4	+2.3
DDI				eS	S	08 59 21.4	-1.4
BHGR	Bahadurgarh	9.00	151	eP	P	08 58 04.2	+0.5
NDI	New Delhi	9.12	149	eP	P	08 58 10.0	+4.8
NDI				eS	S	08 59 42.0	-4.4
KHET	Khetri	9.17	158	eP	P	08 58 04.8	-1.1
KHET				eS	S	08 59 42.4	-5.2
KHET				e		08 59 45.8	
	comp=E,160nm,0.4s						
KHET				e		08 59 48.3	
	comp=N,171nm,0.4s						
AYAN	Aya Nagar	9.26	150	eP	P	08 58 07.0	0.0
JASL	Jaisalmer	9.74	185	e	P	08 58 10.9	-2.6
AJM	Ajmer	10.41	166	e	P	08 58 12.0	-10
AJM				e		09 00 09.5	
AJM				e		09 00 33.2	
	comp=E,137nm,0.5s						
AJM				e		09 00 33.3	
	comp=N,81nm,0.4s						
AGRA	Agra	10.70	150	eP	P	08 58 27.3	+1.1
AGRA				eS	S	09 00 20.9	-3.2
MK31	Makanchi Array	12.73	34	⇑P	P	08 59 01.7	+8.8
	comp=N,5.8nm,0.5s,slow=0.1,SNR=53						
MKAR	Makanchi Array	12.73	34	P	P	08 58 53.3	+0.4
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KOLN	Koldanda	13.27	129	eP	P	08 59 01.3	+1.5
	comp=Z,42nm,0.4s						
KOLN				eS	S	09 01 22.8	-1.8
GKN	Gorkha	13.77	125	eP	P	08 59 07.0	+0.7
	comp=Z,74nm,0.6s						
GKN				eS	S	09 01 32.7	-3.7
WMQ	Urumqi	14.00	54	P	P	08 59 10.0	+9.4
BHPL	Bhopal	14.19	159	e	P	08 59 12.9	+1.2
BHPL				e	S	09 01 41.7	-4.5
KKN	Kakani	14.34	124	eP	P	08 59 15.0	+1.4
	comp=Z,22nm,0.4s						
KKN				eS	S	09 01 46.8	-2.8
DMN	Daman	14.35	125	eP	P	08 59 15.4	+1.7
	comp=Z,24nm,0.3s						
DMN				eS	S	09 01 47.6	-2.1
PKI	Pulchoki	14.57	125	eP	P	08 59 17.4	+0.9
	comp=Z,16nm,0.2s						
PKI				eS	S	09 01 52.1	-2.8
GUN	Gumba	14.66	123	eP	P	08 59 18.6	+0.9
	comp=Z,53nm,0.4s						
KURK	Kurchatov	14.85	17	⇑P	P	08 59 22.6	+2.7
	comp=Z,2.8nm,0.7s						
KURK	Kurchatov	14.85	17	ciP	P	08 59 22.7	+2.7
KURK	Kurchatov	14.85	17	eP	P	08 59 21.0	+1.1
	comp=Z,6.2nm,0.7s						
JIRN	Jiri	15.04	123	eP	P	08 59 23.5	+1.1
	comp=Z,55nm,0.3s						
JIRN				eS	S	09 02 02.4	-3.2
BVA0	Borovoye Array	16.40	357	⇓P	P	08 59 37.8	-1.6
	comp=Z,0.5nm,0.5s,baz=161,slow=11,SNR=25						
BVA0	Borovoye Array	16.40	357	iP	P	08 59 37.7	-1.6
BVAR	Borovoye Array	16.40	357	P	P	08 59 36.7	-2.6
	comp=Z,1.2nm,0.3s,baz=163,slow=14,SNR=20						
BVAR				S	S	09 02 28.1	-8.3
	comp=Z,0.5nm,0.3s,baz=163,slow=25,SNR=5.9						
BRVK	Borovoye	16.44	356	eP	P	08 59 36.1	-3.7
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRVK	Borovoye	16.44	356	eP	P	08 59 36.1	-3.7
	comp=Z,4.0nm,0.8s						
BLSP	Bilaspur	16.97	146	eP	P	08 59 50.7	+4.1
BLSP				e		09 02 43.0	
CHKZ	Chkalovo	17.04	357	⇑P	P	08 59 43.4	-3.8
	comp=Z,1.7nm,0.7s						
CHKZ	Chkalovo	17.04	357	P	P	08 59 43.4	-3.8
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CHKZ	Chkalovo	17.04	357	eP	P	08 59 43.2	-4.0
	comp=Z,3.2nm,0.4s						
POO	Poona	18.14	174	e	P	09 00 04.0	+3.6
ZAL	Zalesovo	19.45	23	P	P	09 00 14.3	+0.1
	comp=Z,5.3nm,0.3s,baz=254,slow=7.5,SNR=52						
NVS	Novosibirsk	19.78	20	⇑iP	P	09 00 16.3	-1.3
NVS				e		09 03 50.8	
NVS				pmax	pmax		
	comp=Z,11nm,0.7s						
NVS				pmax	pmax		
	comp=N,8.0nm,0.7s						
HYB	Hyderabad	20.04	161	eP	P	09 00 23.5	+3.0
HYB	Hyderabad	20.04	161	iP	P	09 00 23.5	+3.0
	comp=N,54nm,0.8s						
HYB				epP		09 00 40.0	
HYB				eS	S	09 03 57.0	+3.6
HYB				e		09 04 03.0	
GNI	Garni	21.55	288	P	P	09 00 35.6	+0.1
GNI	Garni	21.55	288	P	P	09 00 35.5	+0.1
	comp=N,3.2nm,0.4s,mb4.1,baz=49,slow=9.3,SNR=3.2						
ZEI	Tsey	22.35	294	iP	P	09 00 43.1	-0.1
ZEI				iS	S	09 04 34.2	-1.1
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.9						
SONM	Songino Array	27.64	55	P	P	09 01 36.7	+3.8
	comp=Z,3.8nm,0.4s,mb4.5,baz=266,slow=9.1,SNR=52						
ULN	Ulaanbaatar	28.08	55	eP	P	09 01 40.2	+3.3
ULN				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.6						
ULN	Ulaanbaatar	28.08	55	eP	P	09 01 40.2	+3.4
	comp=Z,6.1nm,0.5s,mb4.6						
BRTR	Keskin Array B	30.09	288	P	P	09 01 53.9	-1.0
	comp=Z,1.2nm,0.6s,mb3.8,baz=101,slow=8.5,SNR=5.9						
AKASG	Malin Array Be	33.43	308	P	P	09 02 21.8	-2.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	33.43	308	P	P	09 02 21.8	-2.0
	comp=Z,1.3nm,0.6s,mb3.9,baz=78,slow=6.9,SNR=4.6						
BOD	Bodaibo	34.76	39	eP	P	09 02 34.7	-0.3
MLR	Muntele Rosu	35.35	299	P	P	09 02 41.0	+0.8
	comp=Z,1.8nm,0.6s,mb3.9,baz=139,slow=8.6,SNR=2.5						
JOF	Joensuu	36.10	330	ep	P	09 02 45.3	-1.0
	comp=Z,6.3nm,0.3s,mb4.7						
FINES	FINESS Array B	37.77	326	P	P	09 02 59.8	-0.6
	comp=Z,2.0nm,0.3s,mb4.2,baz=118,slow=9.4,SNR=30						
KAF	Kangasniemi	37.90	327	ep	P	09 03 00.6	-0.8
	comp=Z,0.6nm,0.3s,mb3.7,baz=111,slow=8.6						
KAF	Kangasniemi	37.90	327	eP	P	09 03 00.6	-0.8
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.9						
ARCES	ARCESS Array B	41.28	337	P	P	09 03 29.4	+0.2
	comp=Z,3.2nm,0.8s,mb4.0,baz=120,slow=9.3,SNR=16						
NB2	NORSAR Subarra	44.70	323	P	P	09 03 55.7	-1.2
	comp=Z,2.1nm,0.5s,mb4.0,baz=93,slow=7.9						
NOA	NORSAR Array B	44.70	323	P	P	09 03 56.0	-0.9
	comp=Z,2.5nm,0.6s,mb4.0,baz=95,slow=7.7,SNR=11						
INK	Inuvik	73.63	10	P	P	09 07 17.1	+1.3
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	73.63	10	P	P	09 07 17.1	+1.2
	comp=Z,1.4nm,0.5s,mb3.9,baz=7.5,slow=5.7,SNR=25						
INK	Inuvik	73.63	10	eP	P	09 07 16.9	+1.1
	comp=Z,1.8nm,0.6s,mb4.0						
COLA	College	74.12	16	P	P	09 07 19.5	+0.8
COLA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
COLA	College	74.12	16	P	P	09 07 19.4	+0.7
	comp=Z,4.1nm,0.7s,mb4.3						
ILAR	Eielson Array	74.42	16	P	P	09 07 21.1	+0.7
	comp=Z,1.5nm,1.0s,mb3.7,baz=322,slow=5.0,SNR=12						
YKA	Yellowknife Ar	81.05	3	P	P	09 07 58.2	+1.2
YKA	Yellowknife Ar	81.05	3	P	P	09 07 58.1	+1.2
	comp=Z,0.9nm,0.5s,mb3.7,baz=351,slow=5.5,SNR=39						
WRA	Warramunga Arr	81.45	123	iP	P	09 08 02.8	+2.9
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	81.45	123	P	P	09 08 02.5	+2.6
	comp=Z,0.7nm,0.6s,mb3.5,baz=324,slow=4.8,SNR=10.0						
WRAB	Tennant Creek	81.45	123	eP	P	09 08 02.0	+2.1
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
WRAB	Tennant Creek	81.45	123	eP	P	09 08 02.0	+2.1
	comp=Z,1.5nm,0.5s,mb3.9						

*CSEM **25** 09:13:53.3, 37.34N×20.91E, h10km, MD3.5/7, After ATH*

*NEIC **25** 09:13:53.3, 37.34N×20.91E, h10km, MD3.5(ATH), After ATH.*

ATH 25 09:13:51.7, 37.29N×20.80E, h6km, MD3.5/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.90	349	ePG	Pg	09 14 08.6	-1.1
VLS				eSB	Sb	09 14 21.8	+0.4
ITM	Ithomi	0.91	97	ePN	Pn	09 14 09.7	-1.1
RLS	Riolos of Patr	0.93	34	ePG	Pg	09 14 08.9	-1.4
EVR	Evrytania	1.81	26	ePN	Pn	09 14 25.8	+2.1
KYTH	Kithira	2.06	119	ePN	Pn	09 14 28.0	+0.7
MGER	Gerania Oros	2.07	70	ePG	Pg	09 14 31.0	-2.1
LKR	Lokris	2.21	51	ePB	Pb	09 14 29.7	-2.0
KEK	Kerkira	2.54	342	ePG	Pg	09 14 40.5	-2.0
NEO	Neokhori	2.77	43	ePB	Pb	09 14 37.2	-4.2
KZN	Kozani	3.11	14	ePg	Pg	09 14 52.7	-1.0

*ATH **25** 09:19:22.4, 36.13N×26.92E, h19km±8km, MD3.4/3*

*NEIC **25** 09:19:22.4, 36.13N×26.92E, h19km, MD3.4(ATH), After ATH.*

*CSEM **25** 09:19:24.6±0.1, 35.95N×27.04E, h30km, MD3.4, Error ellipse: s-maj=3.0km s-min=2.8km az=102.0*

*HLW **25** 09:19:30.8, 35.76N×27.09E, h31km, Mb3.1*

ISC 25 09:19:24.3±1.2, 35.97N±0.06×26.99E±0.06, h28km±13km, n15, σ0°94/18, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.44	162	ePB	Pb	09 19 34.1	+0.4
ARG	Arkhangelos	0.95	75	ePN	Pn	09 19 41.2	-0.7
ARG				eSN	Sn	09 19 55.4	+0.8
SANT	Santorini	1.30	288	ePn	Pn	09 19 46.3	-0.6
SANT	Santorini	1.30	288	ePn	Pn	09 19 46.3	-0.6
NPS	Neapolis	1.32	238	ePN	Pn	09 19 47.8	+0.6
NPS				eSN	Sn	09 20 07.2	+3.2
APE	Apeiranthos	1.61	313	ePN	Pn	09 19 50.0	-1.2
FETY	Fethiye	1.82	68	PN	Pn	09 19 54.5	+0.3
DENT	Denizli	2.42	42	ePN	Pn	09 20 05.3	+2.4
IZM	Izmir	2.43	5	ePN	Pn	09 20 03.4	+0.3
ELL	Elmali	2.48	71	ePN	Pn	09 20 02.5	-1.2
VLI	Veliai	3.36	284	ePN	Pn	09 20 16.1	-0.1
SWA1		6.77	190	P	Pn	09 21 04.4	-0.1
SWA2		6.83	191	P	Pn	09 21 05.4	+0.1
SWA2				S	Sn	09 22 15.5	-7.3
GLL	Jalalah	7.51	147	P	Pn	09 21 14.3	-0.5
HNKL	Nakhl	8.41	134	P	P	09 21 26.4	-0.9

IDC 25 09:20:52.4±1.4, 7.21N×93.48E, mb3.8/6, mb1 4.1/7, mb1mx3.9/19, mbtmp3.9/7, ML4.5/1, MS2.9/1, Ms1 3.1/1, ms1mx2.4/25, Error ellipse: s-maj=60.5km s-min=21.6km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.38	25	Pn	P	09 23 51.4	-1.6
	0.8nm,0.3s,baz=228,slow=14,SNR=25						
CMAR				LR	LR	09 28 05.0	
	comp=Z,59nm,20.5s,baz=200,slow=35						
SONM	Songino Array	41.95	13	P	P	09 28 39.7	-6.9
	0.5nm,0.8s,baz=188,slow=8.7,SNR=4.4						
ZAL	Zalesovo	47.12	353	P	P	09 29 25.1	-2.9
	0.5nm,0.3s,baz=203,slow=7.7,SNR=2.2						
WRA	Warramunga Arr	48.41	125	P	P	09 29 36.6	-2.0
	2.2nm,0.7s,baz=305,slow=8.8,SNR=22						
BVAR	Borovoye Array	49.41	342	P	P	09 29 44.0	-1.8
	0.9nm,0.6s,baz=135,slow=8.4,SNR=5.8						
ASAR	Alice Springs	50.00	129	P	P	09 29 48.8	-2.0
	1.7nm,0.9s,baz=308,slow=8.1,SNR=11						
GERES	GERESS Array B	77.89	318	P	P	09 32 52.5	-1.2
	0.5nm,0.8s,baz=79,slow=6.8,SNR=4.1						
TXAR	Lajitas Array	140.09	24	PKhKP		09 40 19.1	
	0.3nm,0.9s,baz=214,slow=3.3,SNR=3.6						

IGQ 25 09:28:55.0, 1.42S×81.48W, h6km±5km, mb4.3, 1C-4D, Error ellipse: s-maj=8.3km s-min=6.5km az=133.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	1.00	68	P	Pb	09 29 13.7	-0.7
IGUA	Igualata	2.84	91	P	Pn	09 29 42.4	+0.7
CUSU	Cusua	3.00	90	P	Pn	09 29 46.6	+2.7
JUIV	Juive	3.01	90	P	Pn	09 29 45.3	+1.2
ARRY	Arrayan	3.02	92	⇑P	Pn	09 29 45.1	+0.8
ARRY				S	Sn	09 30 20.4	-0.9
PATA	Patacocha	3.05	92	P	Pn	09 29 46.1	+1.5
PATA				S	Sn	09 30 23.9	+2.1
RUN2	Runtun	3.07	90	P	Pn	09 29 46.5	+1.6
ULBA	Ulba	3.07	91	P	Pn	09 29 46.3	+1.3
NAS1	Nasa	3.10	75	P	Pn	09 29 47.3	+1.9
PISA	Pisayambo	3.12	83	P	Pn	09 29 47.9	+2.3
JUA2	San Juan 2	3.12	67	P	Pn	09 29 46.7	+1.1
TERV	Terraza Guagua	3.13	67	P	Pn	09 29 47.1	+1.3
PINO	Pino	3.13	66	⇓P	Pn	09 29 47.1	+1.3
JOR1	San Jorge 1	3.17	64	P	Pn	09 29 46.1	-0.3
VC1	Cotopaxi 1	3.17	76	P	Pn	09 29 49.2	+2.8
YANA	Yana	3.18	66	⇓P	Pn	09 29 47.7	+1.1
TAMB	Tambo	3.19	77	P	Pn	09 29 48.9	+2.2
ANTI	Antisana	3.46	74	P	Pn	09 29 53.2	+2.8
COTA	Cotacachi	3.59	61	⇓P	Pn	09 29 54.8	+2.4
COTA				S	Sn	09 30 44.1	+8.4
CAYR	Refugio Cayamb	3.76	68	P	Pn	09 29 58.2	+3.5
CAYA	Cayambe	3.79	67	⇓P	Pn	09 29 59.0	+3.8

IGQ 25 09:33:35.1, 1.43S×81.03W, h20km±7km, mb4.0, 3C, Error ellipse: s-maj=13.1km s-min=8.6km az=158.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.62	52	⇑P	Pb	09 33 46.7	-0.4
IGUA	Igualata	2.40	91	P	Pn	09 34 15.0	+0.9
JUIV	Juive	2.57	90	P	Pn	09 34 17.5	+0.9
ARRY	Arrayan	2.58	92	P	Pn	09 34 18.3	+1.6
ARRY				S	Sn	09 34 48.6	+0.8
PATA	Patacocha	2.60	92	P	Pn	09 34 18.9	+1.9
RUN2	Runtun	2.62	90	P	Pn	09 34 18.1	+0.8
ULBA	Ulba	2.63	90	P	Pn	09 34 19.1	+1.7
PISA	Pisayambo	2.67	82	P	Pn	09 34 20.5	+2.4
NAS1	Nasa	2.68	73	P	Pn	09 34 20.9	+2.7
JUA2	San Juan 2	2.71	64	P	Pn	09 34 19.4	+0.7
TERV	Terraza Guagua	2.73	63	P	Pn	09 34 21.1	+2.2
PINO	Pino	2.74	62	P	Pn	09 34 19.5	+0.5
VC1	Cotopaxi 1	2.75	73	⇑P	Pn	09 34 22.6	+3.5
TAMB	Tambo	2.77	75	⇑P	Pn	09 34 23.0	+3.6
YANA	Yana	2.79	62	P	Pn	09 34 20.4	+0.7
ANTI	Antisana	3.03	71	P	Pn	09 34 25.4	+2.2
COTA	Cotacachi	3.22	57	P	Pn	09 34 27.6	+1.8
CAYR	Refugio Cayamb	3.35	65	P	Pn	09 34 30.9	+3.2
CAYA	Cayambe	3.39	64	P	Pn	09 34 31.6	+3.3

IGQ 25 09:46:17.8, 1.49S×81.31W, h12km±11km, mb4.3, 1C, Error ellipse: s-maj=12.4km s-min=8.5km az=8.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.88	60	P	Pb	09 46 33.1	-1.4
IGUA	Igualata	2.67	90	P	Pn	09 47 02.5	+1.1
JUIV	Juive	2.84	89	P	Pn	09 47

7C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.13**	**245**	*e*P	**P**	**09 47 08.0**	**-0.4**
SARN	**Sarigan**	**2.41**	**335⇑**	*e*P	**P**	**09 47 12.4**	**+0.1**
JOW	**Kunigami**	**21.23**	**308**	P	**P**	**09 51 18.4**	**+0.6**
	26nm,0.5s,mb4.8						
JOW				LR	LR	09 58 28.6	
	comp=Z,342nm,19.4s,MS3.8,baz=252,slow=34						
MAJO	**Matsushiro**	**23.25**	**342**	*e*P	**P**	**09 51 37.4**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.6						
MAJO	**Matsushiro**	**23.25**	**342**	*e*P	**P**	**09 51 37.4**	**-0.4**
	comp=Z,22nm,0.8s,mb4.6						
MAT	**Matsushiro**	**23.25**	**342**	P	**P**	**09 51 35.0**	**-2.8**
MAT				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
MAT	**Matsushiro**	**23.25**	**342**	P	**P**	**09 51 35.0**	**-2.8**
	comp=Z,6.0nm,1.0s,mb4.0						
MAT	**Matsushiro**	**23.25**	**342**	P	**P**	**09 51 36.4**	**-1.4**
PMG	**Port Moresby**	**23.77**	**179**	P	**P**	**09 51 42.3**	**-0.7**
PMG				*e*		09 51 59.0	
PMG				pmax	pmax		
	comp=Z,77nm,0.9s						
PMG	**Port Moresby**	**23.77**	**179**	P	**P**	**09 51 42.8**	**-0.1**
	comp=Z,38nm,0.9s,mb4.8,baz=355,slow=4.7,SNR=5.7						
PMG				LR	LR	10 00 39.6	
	comp=Z,234nm,19.7s,MS3.7,baz=230,slow=36						
PMG	**Port Moresby**	**23.77**	**179**	P	**P**	**09 51 42.3**	**-0.7**
	comp=Z,77nm,0.9s,mb5.1						
PMG				*e*		09 51 59.0	
SSE	**Sheshan**	**28.73**	**309**	P	**P**	**09 52 30.3**	**+1.3**
SSE				S	**S**	**09 57 18.5**	**+5.6**
SSE				AMB	AMB		
	comp=Z,26nm,1.0s,mb4.9						
SSE				AMB	AMB		
	comp=Z,128nm,3.4s						
SSE				LR	LR		
	comp=N,219nm,24.0s,MS3.8						
SSE				LR	LR		
	comp=E,178nm,23.7s,MS3.8						
SSE				LR	LR		
	comp=Z,183nm,23.2s,MS3.6						
SSE	**Sheshan**	**28.73**	**309**	P	**P**	**09 52 30.2**	**+1.2**
	comp=Z,26nm,1.0s,mb4.9						
SSE				sP	pP	09 52 34.6	-8.1
SSE				S	**S**	**09 57 18.6**	**+5.7**
SSE				sS		09 57 24.1	
ASAJ	**Asahikawa**	**29.72**	**354**	P	**P**	**09 52 36.8**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ASAJ				MLR	MLR		
	comp=Z,238nm,21.3s						
ASAJ	**Asahikawa**	**29.72**	**354**	P	**P**	**09 52 36.8**	**-0.9**
	comp=Z,6.9nm,0.8s,mb4.4,baz=127,slow=34,SNR=3.4						
ASAJ				LR	LR	10 03 40.4	
	comp=Z,238nm,21.3s,MS3.8,baz=183,slow=35						
NJ2	**Nanjing**	**30.94**	**309**	*e*P	**P**	**09 52 49.0**	**+0.5**
NJ2				PP	PP	09 53 51.0	-0.6
NJ2				S	**S**	**09 57 52.0**	**+4.3**
NJ2				AMB	AMB		
	comp=Z,120nm,1.0s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,260nm,9.3s						
NJ2				LR	LR		
	comp=N,1μm,17.0s,MS4.9						
NJ2				LR	LR		
	comp=E,2μm,17.7s,MS4.9						
NJ2				LR	LR		
	comp=Z,1μm,14.0s,MS4.8						
YSS	**Yuzh-Sakhalins**	**32.52**	**355⇑**	*e*P	**P**	**09 53 03.2**	**+1.0**
MDJ	**Mudanjiang**	**33.40**	**337**	P	**P**	**09 53 09.3**	**-0.5**
MDJ				PP	PP	09 54 25.5	+2.6
MDJ				PCP	PcP	09 55 47.3	-3.2
MDJ				S	**S**	**09 58 31.8**	**+5.9**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.5s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,62nm,5.0s						
MDJ				LR	LR		
	comp=N,123nm,7.6s						
MDJ				LR	LR		
	comp=E,197nm,10.3s						
MDJ				LR	LR		
	comp=Z,236nm,9.6s						
WRAB	**Tennant Creek**	**36.37**	**200**	*e*P	**P**	**09 53 34.9**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.2						
WRAB	**Tennant Creek**	**36.37**	**200**	*e*P	**P**	**09 53 34.9**	**-0.5**
	comp=Z,31nm,0.9s,mb5.2						
WB2	**Warramunga Arr**	**36.38**	**200**	*e*P	**P**	**09 53 35.1**	**-0.5**
WRA	**Warramunga Arr**	**36.39**	**200**	P	**P**	**09 53 35.3**	**-0.3**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**36.39**	**200**	P	**P**	**09 53 35.3**	**-0.3**
	comp=Z,4.4nm,0.8s,mb4.4,baz=22,slow=9.3,SNR=20						
KLR	**Kul'dur**	**36.77**	**343**	*e*P	**P**	**09 53 39.3**	**+0.8**
BJT	**Baijiatuau**	**36.95**	**319**	*e*P	**P**	**09 53 39.3**	**-0.8**
BJT				pmax	pmax		
	comp=Z,19nm,1.1s						
BJT	**Baijiatuau**	**36.95**	**319**	*e*P	**P**	**09 53 39.3**	**-0.8**
	comp=Z,19nm,1.1s,mb4.8						
BJI	**Beijing**	**36.95**	**319**	P	**P**	**09 53 39.7**	**-0.5**
BJI				S	**S**	**09 59 13.7**	**-7.1**
BJI				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.6						
BJI	**Beijing**	**36.95**	**319**	P	**P**	**09 53 39.7**	**-0.5**
	comp=Z,12nm,1.1s,mb4.6						
BJI				S	**S**	**09 59 13.7**	**-7.1**
ENH	**Enshi**	**37.73**	**301**	*e*P	**P**	**09 53 47.2**	**+0.4**
	comp=Z,44nm,1.1s,mb5.1						
FITZ	**Fitzroy Crossi**	**38.57**	**213**	*e*P	**P**	**09 53 54.6**	**+0.8**
	comp=Z,27nm,2.0s,mb4.6						
XAN	**Xi'an**	**39.36**	**306**	P	**P**	**09 54 00.8**	**+0.5**
XAN				AP	pP	09 54 08.5	-6.1
XAN				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.4						
ASAR	**Alice Springs**	**40.00**	**199**	P	**P**	**09 54 05.5**	**-0.1**
	comp=Z,2.4nm,1.0s,mb3.9,baz=24,slow=7.2,SNR=16						
ASAR				LR	LR	10 09 27.5	
	comp=Z,174nm,22.0s,MS3.9,baz=311,slow=34						
ASPA	**Alice Springs**	**40.01**	**199**	*e*P	**P**	**09 54 06.1**	**+0.4**
KMI	**Kunming**	**42.65**	**291**	P	**P**	**09 54 26.0**	**-1.5**
KMI				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.5						
KMI	**Kunming**	**42.65**	**291**	P	**P**	**09 54 26.0**	**-1.5**
	comp=Z,14nm,1.3s,mb4.5						
LZH	**Lanzhou**	**43.97**	**307**	*e*P	**P**	**09 54 39.0**	**+0.9**
LZH				AP	pP	09 54 46.5	-6.0
LZH				XP	sP	09 54 51.5	-7.5
LZH				AMB	AMB		
	comp=Z,58nm,1.0s,mb5.3						
LZH	**Lanzhou**	**43.97**	**307**	*e*P	**P**	**09 54 39.0**	**+0.9**
LZH				*SP	sP	09 54 51.5	-7.5
LZH				pmax	pmax		
	comp=Z,58nm,1.0s,mb5.3						
LZH	**Lanzhou**	**43.97**	**307**	*e*P	**P**	**09 54 39.0**	**+0.9**
	comp=Z,58nm,1.0s,mb5.3						
LZH				pP	pP	09 54 46.5	-6.0
LZH				sP	sP	09 54 51.5	-7.5
MBWA	**Marble Bar**	**44.34**	**217**	*e*P	**P**	**09 54 42.3**	**+1.1**
	comp=Z,7.4nm,0.6s,mb4.6						
MA2	**Magadan**	**45.08**	**3**	*e*P	**P**	**09 54 48.1**	**+1.5**
MA2				*e*S	**S**	**10 01 19.7**	**-1.3**
MA2				*e*SSS	ScS	10 04 37.0	+1.0
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
MA2	**Magadan**	**45.08**	**3**	*e*P	**P**	**09 54 46.8**	**+0.2**
	comp=Z,14nm,0.7s,mb4.9						
CMAR	**Chiang Mai Arr**	**46.00**	**282**	P	**P**	**09 54 55.8**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,11nm,1.1s						
CMAR				MLR	MLR		
	comp=Z,138nm,19.5s						
CMAR	**Chiang Mai Arr**	**46.00**	**282**	P	**P**	**09 54 55.8**	**+1.2**
	comp=Z,11nm,1.1s,mb4.7,baz=80,slow=6.2,SNR=32						
CMAR				LR	LR	10 13 23.7	
	comp=Z,138nm,19.5s,MS3.9,baz=120,slow=35						
STKA	**Stephens Creek**	**46.40**	**186**	P	**P**	**09 54 56.8**	**-0.8**
	comp=Z,1.7nm,0.7s,mb4.1,baz=16,slow=9.7,SNR=5.4						
STKA				LR	LR	10 14 52.0	
	comp=Z,214nm,18.6s,MS4.1,baz=8.5,slow=37						
STKA	**Stephens Creek**	**46.40**	**186**	*e*P	**P**	**09 54 56.7**	**-0.9**
ULN	**Ulaanbaatar**	**46.75**	**324**	*e*P	**P**	**09 55 00.1**	**+0.1**
ULN				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
ULN	**Ulaanbaatar**	**46.75**	**324**	*e*P	**P**	**09 55 00.1**	**+0.1**
	comp=Z,15nm,0.8s,mb5.0						
SONM	**Songino Array**	**47.11**	**323**	P	**P**	**09 55 03.1**	**+0.2**
	comp=Z,5.4nm,0.8s,mb4.6,baz=144,slow=7.0,SNR=31						
SEY	**Seymchan**	**48.51**	**3**	*e*P	**P**	**09 55 13.9**	**+0.3**
SEY						09 57 09.8	
SEY				PPP	PPP	09 57 53.9	-5.6
SEY				*e*S	**S**	**10 02 06.6**	**-3.0**
SEY				SS	SS	10 05 34.6	-0.7
SEY				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
SEY				pmax	pmax		
	comp=N,10.0nm,0.9s						
SEY				pmax	pmax		
	comp=E,20nm,0.9s						
SEY				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.6						
SEY				MLR	MLR		
	comp=N,300nm,16.0s,MS4.5						
SEY				MLR	MLR		
	comp=E,300nm,19.0s,MS4.5						
YAK	**Yakutsk**	**49.01**	**349⇑**	*e*P	**P**	**09 55 16.5**	**-0.9**
YAK				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.2						
YAK				MLR	MLR		
	comp=Z,200nm,24.0s,MS4.0						
BOD	**Bodaibo**	**49.77**	**338**	*e*P	**P**	**09 55 21.7**	**-1.7**
ZAK	**Zakamensk**	**50.16**	**325**	*e*P	**P**	**09 55 26.2**	**-0.3**
TLY	**Talaya**	**50.62**	**327**	*e*P	**P**	**09 55 29.6**	**-0.3**
TLY				*e*		09 55 51.7	
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
TLY	**Talaya**	**50.62**	**327**	*e*P	**P**	**09 55 28.7**	**-1.3**
	comp=Z,5.9nm,0.6s,mb4.7						
LSA	**Lhasa**	**53.30**	**296**	P	**P**	**09 55 52.8**	**+2.5**
LSA				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.2						
LSA	**Lhasa**	**53.30**	**296⇑**	*e*P	**P**	**09 55 51.9**	**+1.6**
LSA				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.3						
LSA	**Lhasa**	**53.30**	**296⇑**	*e*P	**P**	**09 55 51.9**	**+1.5**
	comp=Z,25nm,0.6s,mb5.3						
BILL	**Bilibino**	**54.95**	**9**	*e*P	**P**	**09 56 02.1**	**+0.2**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
BILL				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.9						
BILL	**Bilibino**	**54.95**	**9**	*e*P	**P**	**09 56 00.5**	**-1.4**
	comp=Z,16nm,1.0s,mb5.0						
NWAO	**Narrogin (SRO)**	**55.01**	**210**	LR	LR	10 16 34.9	
	comp=Z,2.8nm,21.7s,baz=205,slow=33						
JIRN	**Jiri**	**57.59**	**294**	*e*P	**P**	**09 56 22.0**	**+0.7**
	comp=Z,55nm,0.7s,mb5.7						
GUN	**Gumba**	**57.87**	**294**	*e*P	**P**	**09 56 23.9**	**+0.7**
	comp=Z,91nm,0.9s,mb5.8						
WMQ	**Urumqi**	**57.91**	**313**	P	**P**	**09 56 24.3**	**+1.0**
WMQ				PP	PP	09 58 34.3	+0.7
WMQ				AMB	AMB		
	comp=Z,27nm,1.7s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,124nm,5.2s						
WMQ				LR	LR		
	comp=N,358nm,17.8s,MS4.7						
WMQ				LR	LR		
	comp=E,324nm,18.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,521nm,18.2s,MS4.7						
PKI	**Pulchoki**	**58.28**	**294**	*e*P	**P**	**09 56 26.3**	**+0.1**
KKN	**Kakani**	**58.40**	**294**	*e*P	**P**	**09 56 27.0**	**+0.1**
DMN	**Daman**	**58.55**	**294**	*e*P	**P**	**09 56 28.2**	**+0.2**
	comp=Z,46nm,0.8s,mb5.6						
GKN	**Gorkha**	**58.96**	**294**	*e*P	**P**	**09 56 31.0**	**+0.1**
URZ	**Urewera**	**59.67**	**153**	P	**P**	**09 56 34.7**	**-1.0**
	comp=Z,5.6nm,0.9s,mb4.6,baz=225,slow=7.1,SNR=3.1						
KOLN	**Koldanda**	**59.88**	**294**	*e*P	**P**	**09 56 37.1**	**-0.1**
	comp=Z,36nm,0.9s,mb5.4						
ZAL	**Zalesovo**	**62.01**	**324**	*i* P	**P**	**09 56 52.2**	**+0.9**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZAL	**Zalesovo**	**62.01**	**324**	P	**P**	**09 56 50.3**	**-1.0**
	comp=Z,3.5nm,0.6s,mb4.7,baz=1.7,slow=8.5,SNR=8.2						
RPZ	**Rata Peaks**	**62.03**	**160**	P	**P**	**09 56 48.6**	**-3.0**
	comp=Z,13nm,1.1s,mb5.0,baz=26,slow=20,SNR=2.2						
MKAR	**Makanchi Array**	**62.17**	**315**	*i* P	**P**	**09 56 52.6**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.4s						
NVS	**Novosibirsk**	**63.12**	**324**	*e*P	**P**	**09 56 56.6**	**-2.0**
NVS				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.1						
NVS				pmax	pmax		
	comp=N,5.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,12nm,0.8s						
KURK	**Kurchatov**	**65.12**	**319⇑**	*e*P	**P**	**09 57 11.2**	**-0.5**
KURK				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.5						
KURK	**Kurchatov**	**65.12**	**319⇑**	*e*P	**P**	**09 57 11.2**	**-0.5**
	comp=Z,39nm,0.8s,mb5.5						
HYB	**Hyderabad**	**65.41**	**283**	*e*P	**P**	**09 57 14.0**	**-0.1**
HYB	**Hyderabad**	**65.41**	**283**	*i* P	**P**	**09 57 14.0**	**-0.1**
COLA	**College**	**66.55**	**25**	*i* P	**P**	**09 57 22.1**	**+1.6**
ILAR	**Eielson Array**	**66.91**	**25**	P	**P**	**09 57 20.9**	**-2.0**
	comp=Z,1.6nm,0.5s,mb4.3,baz=254,slow=5.6,SNR=27						
ILAR				LR	LR	10 21 14.8	
	comp=Z,157nm,21.7s,MS4.2,baz=98,slow=31						
DAWY	**Dawson**	**69.95**	**27**	*e*P	**P**	**09 57 41.3**	**-0.4**
CHKZ	**Chkalovo**	**70.29**	**322**	*i* P	**P**	**09 57 43.0**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
CHKZ	**Chkalovo**	**70.29**	**322**	*e*P	**P**	**09 57 42.8**	**-1.1**
	comp=Z,4.0nm,0.6s,mb4.5						
BVA0	**Borovoye Array**	**70.40**	**321**	P	**P**	**09 57 44.4**	**-0.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
BVAR	**Borovoye Array**	**70.40**	**321**	P	**P**	**09 57 44.7**	**+0.1**
	comp=Z,12nm,0.7s,mb4.9,baz=101,slow=7.6,SNR=40						
BRVK	**Borovoye**	**70.46**	**321**	P	**P**	**09 57 45.0**	**0.0**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**70.46**	**321**	*e*P	**P**	**09 57 44.8**	**-0.1**
	comp=Z,14nm,1.0s,mb4.8						
INK	**Inuvik**	**72.78**	**23**	P	**P**	**09 57 57.8**	**-0.7**
	comp=Z,4.8nm,0.9s,mb4.4,baz=244,slow=7.7,SNR=14						
INK				LR	LR	10 24 37.4	
	comp=Z,127nm,21.9s,MS4.2,baz=318,slow=32						
INK	**Inuvik**	**72.78**	**23**	*e*P	**P**	**09 57 57.5**	**-1.0**
	comp=Z,5.6nm,0.8s,mb4.5						
ARU	**Arti**	**77.10**	**325⇓**	*i* P	**P**	**09 58 18.5**	**-5.0**
ARU				*e*		09 58 29.0	
ARU				*e*S	S	10 07 58.0	-8.8
ARU				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
YBH	**Yreka Blue Hor**	**80.82**	**49**	P	**P**	**09 58 44.4**	**+0.4**
YBH				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YBH	**Yreka Blue Hor**	**80.82**	**49**	P	**P**	**09 58 44.4**	**+0.4**
	comp=Z,0.8nm,0.6s,mb3.9,baz=101,slow=12,SNR=2.1						
YKA	**Yellowknife Ar**	**81.15**	**28**	P	**P**	**09 58 45.1**	**-0.3**
	comp=Z,1.2nm,0.5s,mb4.1,baz=282,slow=5.3,SNR=56						
YKA				LR	LR	10 31 48.5	
	comp=Z,124nm,19.7s,MS4.3,baz=300,slow=34						
WVOR	**Wild Horse Val**	**83.63**	**48**	*e*P	**P**	**09 58 59.0**	**+0.5**
WVOR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
WVOR	**Wild Horse Val**	**83.63**	**48**	*e*P	**P**	**09 58 59.0**	**+0.5**
	comp=Z,4.8nm,0.8s,mb4.7						
BMO	**Blue Mountains**	**83.98**	**45**	*e*P	**P**	**09 59 00.1**	**-0.1**
BMO				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.6						
BMO	**Blue Mountains**	**83.98**	**45**	*e*P	**P**	**09 59 00.1**	**-0.1**
	comp=Z,7.3nm,1.3s,mb4.7						
NVAR	**Mina Array Bea**	**84.84**	**52**	P	**P**	**09 59 05.8**	**+1.2**
	comp=Z,1.6nm,0.7s,mb4.3,baz=265,slow=5.6,SNR=9.4						
ARCES	**ARCESS Array B**	**86.79**	**342**	P	**P**	**09 59 14.1**	**+0.6**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES	**ARCESS Array B**	**86.79**	**342**	P	**P**	**09 59 14.1**	**+0.6**
	comp=Z,2.7nm,0.7s,mb4.6,baz=74,slow=4.9,SNR=7.7						
MCMT	**McKenzie Canyo**	**87.03**	**45**	*e*P	**P**	**09 59 16.1**	**+0.8**
QLMT	**Earthquake Lak**	**87.99**	**44**	*e*P	**P**	**09 59 21.3**	**+1.4**
LDFC	**Landfair**	**88.20**	**54**	*e*P	**P**	**09 59 22.2**	**+1.1**
NEN	**Nelson**	**88.25**	**54**	P	**P**	**09 59 21.0**	**-0.4**
AHID	**Auburn Hatcher**	**88.88**	**46**	*e*P	**P**	**09 59 27.2**	**+3.1**
	comp=Z,12nm,1.1s,mb5.1						
NLU	**North Lily Min**	**89.07**	**49**	*e*P	**P**	**09 59 25.7**	**+0.6**
GNI	**Garni**	**89.75**	**311**	P	**P**	**09 59 28.6**	**+0.3**
GNI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GNI	**Garni**	**89.75**	**311**	P	**P**	**09 59 28.6**	**+0.3**
	comp=Z,2.6nm,0.5s,mb4.8,baz=118,slow=18,SNR=1.9						
PDAR	**Pinedale Array**	**89.95**	**46**	P	**P**	**09 59 28.9**	**-0.2**
	comp=Z,1.7nm,1.2s,mb4.2,baz=195,slow=3.4,SNR=4.1						
FINES	**FINESS Array B**	**91.12**	**336**	P	**P**	**09 59 34.0**	**-0.2**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	**91.12**	**336**	P	**P**	**09 59 34.0**	**-0.2**
	comp=Z,2.6nm,0.7s,mb4.7,baz=73,slow=5.3,SNR=12						
PV10	**Paradox Valley**	**91.81**	**50**	P	**P**	**09 59 39.0**	**+1.0**
SOC	**Sochi**	**92.07**	**316**	*e*P	**P**	**09 59 36.7**	**-2.3**
SOC				*e*S		10 10 02.1	
SOC				*e*SSS	SSS	10 20 25.1	-0.9
SOC				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.6						
SOC				pmax	pmax		
	comp=N,13nm,0.7s						
SOC				pmax	pmax		
	comp=E,24nm,0.9s						
TXAR	**Lajitas Array**	**99.25**	**57**	P	**P**	**10 00 12.3**	**+0.3**
	comp=E,0.3nm,1.0s,mb3.8,baz=225,slow=3.8,SNR=3.1						
SDV	**Santo Domingo**	**136.16**	**60**	PKP	PKPdf	10 05 54.8	+4.0
	comp=E,3.7nm,0.8s,baz=150,slow=4.0,SNR=5.1						
DBIC	**Dimbokro**	**144.92**	**305**	PKIKP	PKPdf	10 06 08.2	+1.7
DBIC				pmax	pmax		
	comp=Z,15nm,0.7s						
DBIC	**Dimbokro**	**144.92**	**305**	PKP	PKPdf	10 06 08.2	+1.8
	comp=Z,15nm,0.7s,baz=32,slow=3.5,SNR=45						
DBIC	**Dimbokro**	**144.92**	**305**	*e*PKPdf	PKPdf	10 06 08.1	+1.6
LVC	**Limon Verde**	**145.23**	**109**	PKPbc	PKPbc	10 06 10.1	+2.9
	comp=Z,6.8nm,0.7s,baz=270,slow=4.2,SNR=10						
LVC	**Limon Verde**	**145.23**	**109**	*e*PKPdf	PKPdf	10 06 09.9	+3.1
LPAZ	**La Paz**	**146.25**	**98**	PKP2	PKPab	10 06 13.5	+0.8
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.5s						
LPAZ	**La Paz**	**146.25**	**98**	PKPbc	PKPbc	10 06 13.4	+3.6
	comp=Z,2.6nm,0.5s,baz=256,slow=2.5,SNR=8.6						
LPAZ	**La Paz**	**146.25**	**98**	*e*PKPdf	PKPdf	10 06 13.2	+4.6

IDC ***25*** *09:52:57.0±1.5, 18.23S×67.55W, h268km±6km, mb3.2/6, mb1 3.6/8, mb1mx3.5/15, mbtmp3.8/8, Error ellipse: s-maj=62.1km s-min=9.4km az=88.0*

NEIC ***25*** *09:52:56.4±1.4, 18.23S×67.16W, h272km±9km, mb3.9/2, Error ellipse: s-maj=57.0km s-min=10.9km az=80.0*

ISC 25 09:52:56.2±1.3, 18.24S±0.06×67.3W±0.3, h280km±8km, n12, σ0°65/14, mb3.5/6, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.08**	**338**	P	**P**	**09 53 43.0**	**+0.8**
	19nm,0.3s,baz=131,slow=6.9,SNR=411						
LPAZ				S	**S**	**09 54 17.4**	**-0.6**
	baz=339,slow=18,SNR=2.2						
LVC	**Limon Verde**	**4.60**	**199**	P	**P**	**09 54 09.1**	**+0.4**
	4.1nm,0.3s,baz=25,slow=9.4,SNR=47						
LVC				S	**S**	**09 55 05.4**	**-0.1**
	5.4nm,0.3s,baz=242,slow=18,SNR=20						
TRQA	**Tornquist**	**20.29**	**168**	P	**P**	**09 57 11.0**	**-0.8**
	3.5nm,0.5s						
PLCA	**Paso Flores**	**22.59**	**186**	P	**P**	**09 57 34.1**	**0.0**
	1.5nm,0.9s,mb3.3,baz=64,slow=15,SNR=4.1						
PLCA	**Paso Flores**	**22.59**	**186**	P	**P**	**09 57 34.7**	**+0.6**
	1.9nm,0.7s,mb3.5						
USHA	**Ushuaia**	**36.54**	**181**	P	**P**	**09 59 36.9**	**+0.1**
	16nm,1.2s,mb4.3,baz=18,slow=9.6,SNR=2.3						
TXAR	**Lajitas Array**	**58.88**	**323**	P	**P**	**10 02 27.9**	**-0.1**
	0.2nm,0.5s,mb2.8,baz=146,slow=7.8,SNR=6.4						
TXAR	**Lajitas Array**	**58.88**	**323**	P	**P**	**10 02 27.9**	**-0.1**
PDAR	**Pinedale Array**	**72.07**	**329**	P	**P**	**10 03 52.5**	**+0.8**
	0.4nm,0.4s,mb3.4,baz=122,slow=9.5,SNR=7.9						
NVAR	**Mina Array Bea**	**73.89**	**321**	P	**P**	**10 04 01.2**	**-1.3**
	0.2nm,0.3s,mb3.2,baz=270,slow=2.7,SNR=3.2						
YKA	**Yellowknife Ar**	**88.63**	**340**	P	**P**	**10 05 18.9**	**+0.6**
	0.8nm,0.6s,mb3.8,baz=129,slow=4.7,SNR=35						
YKA	**Yellowknife Ar**	**88.63**	**340**	P	**P**	**10 05 18.9**	**+0.6**

BJI ***25*** *09:54:20.5, 5.21N×94.59E, h41km, mB5.2, mb5.2, Ms4.7, Msz4.4*

CSEM ***25*** *09:54:21.7, 5.48N×94.71E, h33km, mb5.5*

MOS ***25*** *09:54:21.1±0.9, 5.47N×94.67E, h33km, mb5.3/51, Error ellipse: s-maj=9.9km s-min=5.6km az=115.8*

HRVD ***25*** *09:54:22.4±0.3, 5.15N×94.60E, h59km±1km, MW5.0/50, Centroid moment Tensor Solution. LP body waves: s34,c48;Mantle waves: s50,c80; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.25±.18; $M_{\theta\theta}$-1.77±.14; $M_{\phi\phi}$-1.47±.17; $M_{r\theta}$1.48±.09; $M_{\theta\phi}$2.54±.12; $M_{\phi r}$-1.33±.12; Best double couple: $M_0$4.208×10^{16} NP1:φ≅314°, δ31°, λ92°. NP2:φ≅132°, δ59°, λ89°. Principal axes: T 3.751, Plg76°, Azm39°; N .924, Plg1°, Azm133°; P -4.664, Plg14°, Azm223°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***25*** *09:54:22.4±0.2, 5.45N×94.67E, h30km, mb5.1/44, MS4.3/22 Error ellipse: s-maj=6.6km s-min=3.8km az=220.0*

NEIC Felt [IV] at Banda Aceh.

IDC ***25*** *09:54:25.4±2.6, 5.43N×94.64E, h56km±22km, mb4.7/23, mb1 4.7/24, mb1mx4.7/

comp=Z,136nm,1.5s
BLSP eS **S** **10 02 47.0 +4.7**
KMI Kunming 21.10 21 P **P** **09 59 07.8 +2.2**
KMI *PP 09 59 19.2
KMI 09 59 31.8
KMI PPP PPP 09 59 41.3 +1.7
KMI S **S** **10 02 54.0 +1.7**
KMI *SS 10 03 12.9
KMI SS SS 10 03 28.7 +0.7
KMI SSS SSS 10 03 43.3 -0.3
JIRN Jiri 23.56 341 eP **P** **09 59 29.2 -0.6**
comp=Z,67nm,0.5s,mb5.4
PKI Pulchoki 23.74 339 eP **P** **09 59 32.3 +0.7**
comp=Z,42nm,0.5s,mb5.1
SRDI Scrawed 23.84 125⇑iP **P** **09 59 34.4 +1.7**
DMN Daman 23.88 339 eP **P** **09 59 33.7 +0.7**
comp=Z,45nm,0.6s,mb5.1
GUN Gumba 23.89 341 eP **P** **09 59 32.2 -0.9**
comp=Z,45nm,0.3s,mb5.3
KELI Kelakatan 23.98 124⇑iP **P** **09 59 36.2 +2.2**
KKN Kakani 23.98 339 eP **P** **09 59 33.7 -0.3**
BHPL Bhopal 24.30 319⇑eP **P** **09 59 38.9 +1.8**
BHPL e 09 59 40.6
comp=Z,26nm,0.8s
LSA Lhasa 24.40 353 P **P** **09 59 39.5 +1.5**
LSA eS **S** **10 03 49.5 -1.6**
LSA LR LR
comp=N,250nm,24.0s,MS3.9
LSA LR LR
comp=E,340nm,24.0s,MS3.9
LSA LR LR
comp=Z,510nm,28.0s,MS3.9
LSA Lhasa 24.40 353 eP **P** **09 59 37.8 -0.2**
LSA pmax pmax
comp=Z,38nm,0.6s,mb5.0
LSA MLR MLR
comp=Z,363nm,22.0s,MS3.8
LSA Lhasa 24.40 353 eP **P** **09 59 37.8 -0.2**
comp=Z,38nm,0.6s,mb5.0
LSA LR LR
comp=Z,363nm,22.0s,MS3.8
GKN Gorkha 24.41 338 eP **P** **09 59 38.4 +0.2**
comp=Z,60nm,0.3s,mb5.5
KOLN Koldanda 24.61 336 eP **P** **09 59 40.7 +0.6**
comp=Z,64nm,0.3s,mb5.6
RATI Rata 25.11 124⇑iP **P** **09 59 46.4 +1.4**
TANI Tanete Lipujan 26.23 109⇑iP **P** **09 59 54.2 -1.2**
TANI pmax pmax
comp=Z,37nm,0.5s,mb5.2
TANI Tanete Lipujan 26.23 109⇑iP **P** **09 59 54.2 -1.2**
comp=Z,37nm,0.5s,mb5.2
NINI Niniconang 26.91 111⇑iP **P** **10 00 01.2 -0.6**
NINI pmax pmax
comp=Z,124nm,0.6s,mb5.6
NINI Niniconang 26.91 111⇑iP **P** **10 00 01.2 -0.6**
comp=Z,124nm,0.6s,mb5.6
BUNI Buntu Taipa 27.18 109⇑iP **P** **10 00 04.6 +0.3**
AJM Ajmer 28.36 320 eP **P** **10 00 12.8 -1.9**
AJM e 10 00 16.5
comp=Z,13nm,0.7s
ENH Enshi 28.43 28⇑eP **P** **10 00 13.7 -1.6**
comp=Z,22nm,0.6s,mb5.0
ENH LR LR
comp=Z,1μm,22.0s,MS4.5
SMLA Simla 30.41 329 eP **P** **10 00 33.0 +0.1**
SMLA e pP 10 00 47.1 +0.5
comp=Z,18nm,0.5s
WHN Wuhan 31.14 34⇑P **P** **10 00 39.0 -0.4**
WHN LR LR
comp=Z,2μm,15.0s,MS4.9
LZH Lanzhou 31.69 14 P **P** **10 00 42.0 -2.2**
LZH AP pP 10 00 57.5 -0.5
LZH XP sP 10 01 01.8 -2.9
LZH PP PP 10 01 50.0 -0.3
LZH eS **S** **10 05 45.0 -3.7**
LZH SS SS 10 07 40.0 -1.3
LZH AMB AMB
comp=Z,60nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,150nm,4.0s
LZH LR LR
comp=N,780nm,17.0s
LZH LR LR
comp=Z,980nm,17.5s,MS4.5
LZH Lanzhou 31.69 14 P **P** **10 00 42.1 -2.1**
LZH *PP pP 10 00 57.5 -0.5
LZH 10 01 50.0
LZH eS **S** **10 05 45.0 -3.7**
LZH SS SS 10 07 40.0 -1.3
LZH pmax pmax
comp=Z,60nm,1.0s,mb5.4
LZH Lanzhou 31.69 14 P **P** **10 00 42.1 -2.1**
comp=Z,60nm,1.0s,mb5.4
LZH pP pP 10 00 57.5 -0.5
LZH sP sP 10 01 01.8 -2.9
LZH PP PP 10 01 50.0 -0.3
LZH eS **S** **10 05 45.0 -3.7**
LZH sS 10 06 17.0
LZH SS SS 10 07 40.0 -1.3
NJ2 Nanjing 34.87 38 eP **P** **10 01 11.5 -0.2**
NJ2 PP PP 10 02 31.8 +1.1
NJ2 S **S** **10 06 36.0 -2.1**
NJ2 AMB AMB
comp=Z,40nm,0.7s,mb5.5
NJ2 AMB AMB
comp=Z,1μm,5.1s
NJ2 LR LR
comp=N,1μm,17.0s,MS4.8
NJ2 LR LR
comp=E,500nm,16.0s,MS4.8
NJ2 LR LR
comp=Z,1μm,19.2s,MS4.8
SSE Sheshan 35.70 41 P **P** **10 01 22.0 +3.2**
SSE S **S** **10 06 51.5 +0.6**
SSE AMB AMB
comp=Z,45nm,0.6s,mb5.6
SSE AMB AMB
comp=Z,146μm,3.0s
SSE LR LR
comp=N,314nm,21.2s,MS4.1
SSE LR LR
comp=E,179nm,21.2s,MS4.1
SSE LR LR
comp=Z,410nm,22.6s,MS4.1
SSE Sheshan 35.70 41 P **P** **10 01 22.0 +3.2**
comp=Z,45nm,0.6s,mb5.6
SSE sP sP 10 01 47.4 +7.9
SSE S **S** **10 06 51.6 +0.7**
SSE PcS 10 07 38.1
MBWA Marble Bar 36.09 138 eP **P** **10 01 22.1 -0.1**
comp=Z,5.7nm,0.6s,mb4.7
TIA Tai'an 36.97 31 eP **P** **10 01 29.5 +0.1**
FITZ Fitzroy Crossi 38.48 128⇑iP **P** **10 01 41.6 -0.5**
comp=Z,33nm,0.6s,mb5.2
JOW Kunigami 38.50 53 P **P** **10 01 43.5 +1.3**
comp=Z,14nm,0.4s,mb5.1,baz=305,slow=20,SNR=8.5
JOW LR LR 10 16 51.1
comp=Z,515nm,21.3s,MS4.3,baz=330,slow=35
WMQ Urumqi 38.76 352 P **P** **10 01 45.0 +0.8**
WMQ PP PP 10 03 19.0 +1.7
WMQ S **S** **10 07 35.0 -2.3**
WMQ AMB AMB
comp=Z,38nm,1.1s,mb5.0
WMQ AMB AMB
comp=Z,206nm,4.3s
WMQ LR LR
comp=N,2μm,17.5s,MS5.0
WMQ LR LR
comp=E,1μm,18.2s,MS5.0
WMQ LR LR
comp=Z,2μm,17.6s,MS5.0
BJT Baijiatuau 39.55 26 eP **P** **10 01 51.8 +1.0**
BJT pmax pmax
comp=Z,39nm,0.7s
BJT MLR MLR
comp=Z,553nm,20.0s
BJT Baijiatuau 39.55 26 eP **P** **10 01 51.8 +0.9**
comp=Z,39nm,0.7s,mb5.2
BJT LR LR
comp=Z,553nm,20.0s,MS4.4
BJI Beijing 39.57 26 P **P** **10 01 51.6 +0.6**
BJI S **S** **10 07 46.0 -3.6**
BJI pmax pmax
comp=Z,71nm,1.2s,mb5.3
BJI Beijing 39.57 26 P **P** **10 01 51.6 +0.6**
comp=Z,71nm,1.2s,mb5.3
BJI S **S** **10 07 46.0 -3.6**
ULHL Ulahol 40.18 339 P **P** **10 01 57.0 +1.0**
SNR=13
KZA Kyzart 40.40 338 P **P** **10 01 59.3 +1.4**
SNR=9.6
UCH Uchtor 40.81 337 P **P** **10 02 02.6 +1.4**
SNR=47
TKM2 Tokmak 2 41.00 339 P **P** **10 02 03.7 +0.9**
SNR=32
KBK Karagaybulak 41.01 338 P **P** **10 02 04.6 +1.7**
SNR=48
AML Almayashu 41.05 336 P **P** **10 02 04.7 +1.5**
SNR=96
AAK Ala-Archa 41.16 337 P **P** **10 02 05.4 +1.3**
SNR=33
AAK Ala-Archa 41.16 337⇑iP **P** **10 02 04.2 +0.1**
AAK pmax pmax
comp=Z,46nm,0.9s,mb5.1
AAK MLR MLR
comp=Z,40nm,22.0s,MS3.2
AAK Ala-Archa 41.16 337⇑iP **P** **10 02 04.2 +0.1**
comp=Z,46nm,0.9s,mb5.1
AAK LR LR
comp=Z,40nm,22.0s,MS3.2
FRU Bishkek 41.29 338 eP **P** **10 02 06.5 +1.4**
FRU pmax pmax
comp=Z,140nm,2.0s,mb5.2
CHMS Chumysh 41.38 338 P **P** **10 02 06.6 +0.7**
SNR=14
EKS2 Erkin-Say 41.47 337 P **P** **10 02 07.9 +1.3**
SNR=27
KAKA Kakadu 41.65 116 eP **P** **10 02 07.7 -0.8**
comp=Z,18nm,0.6s,mb4.9
USP Ospenovka 41.70 338 P **P** **10 02 09.3 +0.7**
SNR=66
MKAR Makanchi Array 42.60 347 iP **P** **10 02 15.7 -0.2**
SONM Songino Array 43.47 12 P **P** **10 02 22.4 -0.6**
comp=Z,10.0nm,0.5s,mb4.8,baz=186,slow=8.2,SNR=100
SONM PcP PcP 10 04 10.9 +0.1
comp=Z,5.9nm,0.4s,baz=195,slow=3.8,SNR=24
SONM ScP 10 07 56.5
comp=Z,1.5nm,1.0s,baz=225,slow=3.5,SNR=5.4
ULN Ulaanbaatar 43.63 12 eP **P** **10 02 23.3 -1.0**
ULN pmax pmax
comp=Z,17nm,0.6s,mb5.0
ULN MLR MLR
comp=Z,394nm,19.0s,MS4.3
ULN Ulaanbaatar 43.63 12 eP **P** **10 02 23.3 -1.0**
comp=Z,17nm,0.6s,mb5.0
ULN LR LR
comp=Z,394nm,19.0s,MS4.3
SNY Shenyang 44.50 31⇑P **P** **10 02 30.8 -0.6**
SNY S **S** **10 08 57.0 -5.1**
SNY AMB AMB
comp=Z,50nm,0.4s,mb5.6
SNY LR LR
comp=N,450nm,16.9s
SNY LR LR
comp=Z,440nm,19.6s,MS4.4
ZAK Zakamensk 45.42 8⇓iP **P** **10 02 37.6 -1.0**
ZAK e 10 04 17.3
WRA Warramunga Arr 46.45 124 P **P** **10 02 47.0 -0.1**
WRA pmax pmax
comp=Z,30nm,0.5s
WRA pmax pmax
comp=N,1.0nm,0.7s
WRA Warramunga Arr 46.45 124 P **P** **10 02 47.0 -0.1**
comp=N,30nm,0.5s,mb5.5,baz=302,slow=9.9,SNR=544
WRA ScP 10 08 09.7
comp=N,1.4nm,0.7s,baz=315,slow=3.7,SNR=7.3
WRAB Tennant Creek 46.45 124c iP **P** **10 02 47.3 +0.1**
WRAB Tennant Creek 46.45 124⇑eP **P** **10 02 47.2 +0.1**
comp=N,51nm,0.6s,mb5.6
WRAB LR LR
comp=Z,127nm,22.0s,MS3.8
WB2 Warramunga Arr 46.46 124⇑iP **P** **10 02 47.2 0.0**
TLY Talaya 46.74 8 P **P** **10 02 49.3 +0.3**
comp=Z,48nm,1.0s,mb5.4,SNR=7.8
TLY Talaya 46.74 8 eP **P** **10 02 48.1 -0.9**
TLY pmax pmax
comp=Z,12nm,1.2s,mb4.7
TLY MLR MLR
comp=Z,353nm,21.0s,MS4.3
TLY Talaya 46.74 8 eP **P** **10 02 48.7 -0.3**
comp=Z,10nm,1.0s,mb4.7
TLY LR LR
comp=Z,94nm,22.0s,MS3.7
KURK Kurchatov 47.12 346⇑iP **P** **10 02 52.1 +0.1**
KURK pmax pmax
comp=Z,57nm,0.4s,mb5.8
KURK MLR MLR
comp=Z,63nm,19.0s,MS3.6
KURK Kurchatov 47.12 346⇑iP **P** **10 02 52.1 +0.1**
comp=Z,57nm,0.4s,mb5.8
KURK LR LR
comp=Z,63nm,19.0s,MS3.6
ASPA Alice Springs 47.97 129⇑iP **P** **10 02 58.9 -0.1**
ASAR Alice Springs 47.97 129 P **P** **10 02 58.5 -0.5**
comp=Z,17nm,0.5s,mb5.3,baz=300,slow=7.5,SNR=348
ASAR LR LR 10 22 17.1
comp=Z,139nm,21.1s,MS3.9,baz=296,slow=35
FORT Forrest 48.11 140 eP **P** **10 03 00.8 +0.7**
comp=Z,36nm,0.6s,mb5.6
HIA Hailar 48.61 22 eP **P** **10 03 02.9 -0.7**
HIA pmax pmax
comp=Z,22nm,0.5s
HIA MLR MLR
comp=Z,951nm,20.0s
HIA Hailar 48.61 22 eP **P** **10 03 02.9 -0.7**
comp=Z,22nm,0.5s,mb5.4
HIA LR LR
comp=Z,951nm,20.0s,MS4.8
ZAL Zalesovo 49.05 352 P **P** **10 03 06.8 -0.2**
ZAL pmax pmax
comp=Z,29nm,0.4s
ZAL Zalesovo 49.05 352 P **P** **10 03 06.8 -0.1**
comp=Z,29nm,0.4s,mb5.7,baz=307,slow=5.8,SNR=28
ZAL Zalesovo 49.05 352 P **P** **10 03 06.8 -0.1**
MDJ Mudanjiang 49.59 33 P **P** **10 03 11.5 +0.2**
MDJ PCP PcP 10 04 31.0 -1.5
MDJ PP PP 10 05 05.3 -1.2
MDJ SCP 10 08 26.5
MDJ S **S** **10 10 15.5 +1.3**
MDJ SS SS 10 13 49.5 +6.5
MDJ AMB AMB
comp=Z,28nm,0.7s,mb5.4
MDJ AMB AMB
comp=Z,97nm,4.8s
MDJ LR LR
comp=N,200nm,14.8s
MDJ LR LR
comp=E,294nm,21.3s
MDJ LR LR
comp=Z,311nm,20.7s
MDJ Mudanjiang 49.59 33 eP **P** **10 03 11.3 0.0**
comp=Z,20nm,0.5s,mb5.4
MDJ LR LR
comp=Z,392nm,20.0s,MS4.4
CBIJ Chichi jima 50.10 59 P **P** **10 03 13.4 -2.0**
comp=Z,72nm,0.5s,mb6.0,baz=289,slow=15,SNR=5.1
CBIJ LR LR 10 20 50.3
comp=Z,164nm,21.6s,MS4.0,baz=241,slow=32
NVS Novosibirsk 50.15 351⇑iP **P** **10 03 13.6 -1.8**
NVS iS **S** **10 10 23.0 +1.2**
NVS iPS PS 10 10 44.1 +5.6
NVS pmax pmax
comp=Z,42nm,1.1s,mb5.4
NVS pmax pmax
comp=N,38nm,1.2s
NVS smax
comp=N,20nm,1.7s
NVS smax
comp=E,36nm,1.8s
JHJ Hachijo jima 2 50.20 51 LR LR 10 23 51.8
comp=E,182nm,21.9s,MS4.0,baz=291,slow=35
MAJO Matsushiro 50.48 46 PFAKE 10 03 30.0 +12
MAJO LR LR
comp=Z,519nm,22.0s,MS4.5
MAT Matsushiro 50.48 46 eP **P** **10 03 18.0 -0.2**
MAT pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
MAT Matsushiro 50.48 46 eP **P** **10 03 18.0 -0.2**
comp=Z,9.0nm,1.0s,mb4.8
MAT Matsushiro 50.48 46 P **P** **10 03 18.0 -0.2**
BVA0 Borovoye Array 51.48 342 iP **P** **10 03 24.9 -0.6**
BVA0 pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
BVAR Borovoye Array 51.48 342 P **P** **10 03 24.9 -0.6**
comp=Z,26nm,0.7s,mb5.3,baz=149,slow=8.6,SNR=53
BRVK Borovoye 51.54 341⇑iP **P** **10 03 25.3 -0.7**
BRVK pmax pmax
comp=Z,36nm,0.6s,mb5.5
BRVK MLR MLR
comp=Z,66nm,22.0s,MS3.6
BRVK Borovoye 51.54 341⇑iP **P** **10 03 25.2 -0.7**
comp=Z,36nm,0.6s,mb5.5
BRVK LR LR
comp=Z,66nm,22.0s,MS3.6
CHKZ Chkalovo 51.97 342⇑iP **P** **10 03 28.8 -0.3**
CHKZ pmax pmax
comp=Z,80nm,0.5s,mb5.9
CHKZ Chkalovo 51.97 342⇑iP **P** **10 03 28.8 -0.4**
comp=Z,80nm,0.5s,mb5.9
KLR Kul'dur 53.77 29 eP **P** **10 03 39.2 -3.4**
PMG Port Moresby 54.36 106 P **P** **10 03 47.1 -0.3**
PMG pmax pmax
comp=Z,23nm,0.6s
PMG Port Moresby 54.36 106 P **P** **10 03 47.1 -0.3**
comp=Z,23nm,0.6s,mb5.3,baz=63,slow=3.1,SNR=17
PMG Port Moresby 54.36 106 eP **P** **10 03 46.6 -0.9**
comp=Z,25nm,0.5s,mb5.4
PMG LR LR
comp=Z,210nm,21.0s,MS4.2
BOD Bodaibo 54.44 13 eP **P** **10 03 44.5 -2.9**
GNI Garni 56.52 315 P **P** **10 04 02.5 -0.2**
comp=Z,3.2nm,0.4s,mb4.7,baz=357,slow=21,SNR=3.7
GNI Garni 56.52 315 P **P** **10 04 02.5 -0.2**
GNI LR LR
comp=Z,87nm,19.0s,MS3.9
CTA Charters Tower 56.69 118 eP **P** **10 04 03.2 -0.9**
comp=Z,5.7nm,0.6s,mb4.8
CTA Charters Tower 56.69 118 eP **P** **10 04 03.2 -0.9**
CTA pmax pmax
comp=Z,6.0nm,0.6s
CTA Charters Tower 56.69 118 LR LR 10 29 33.4
comp=Z,167nm,18.1s,MS4.2,baz=51,slow=37
ASAJ Asahikawa 56.97 40 P **P** **10 04 06.0 +0.2**
ASAJ pmax pmax
comp=Z,8.0nm,0.6s
ASAJ MLR MLR
comp=Z,248nm,18.6s
ASAJ Asahikawa 56.97 40 P **P** **10 04 06.0 +0.2**
comp=Z,8.2nm,0.6s,mb5.0,baz=216,slow=11,SNR=7.2
ASAJ LR LR 10 29 36.3
comp=Z,248nm,18.6s,MS4.3,baz=185,slow=37
KMBO Kilima Mbogo 57.68 265 P **P** **10 04 11.2 0.0**
comp=Z,1.5nm,0.9s,mb4.0,baz=225,slow=20,SNR=3.1
KMBO LR LR 10 24 55.8
comp=Z,308nm,21.3s,MS4.4,baz=94,slow=32
KMBO Kilima Mbogo 57.68 265 P **P** **10 04 11.8 +0.6**
comp=Z,6.2nm,0.8s,mb4.7
KMBO LR LR
comp=Z,389nm,22.0s,MS4.5
SVE Sverdlovsk 57.87 339⇑eP **P** **10 04 10.7 -1.3**
SVE pmax pmax
comp=Z,120nm,2.0s,mb5.6
STKA Stephens Creek 58.06 133 eP **P** **10 04 12.9 -0.7**
comp=Z,7.5nm,0.6s,mb4.9
STKA Stephens Creek 58.06 133 P **P** **10 04 13.2 -0.4**
comp=Z,6.1nm,0.5s,mb4.9,baz=304,slow=5.9,SNR=27
STKA LR LR 10 28 50.0
comp=Z,181nm,21.0s,MS4.2,baz=217,slow=36
ZEI Tsey 58.19 318 eP **P** **10 04 13.7 -0.7**
ZEI pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ARU Arti 58.35 337 P **P** **10 04 14.3 -1.0**
comp=Z,104nm,0.5s,mb6.1,SNR=8.9
ARU Arti 58.35 337⇓iP **P** **10 04 08.6 -6.7**
ARU e 10 05 00.0
ARU eS **S** **10 12 06.2 -5.8**
ARU pmax pmax
comp=Z,22nm,1.1s,mb5.1
YSS Yuzh-Sakhalins 58.44 37⇑eP **P** **10 04 15.3 -0.8**
YSS pmax pmax
comp=Z,39nm,1.4s,mb5.2
YSS Yuzh-Sakhalins 58.44 37 P **P** **10 04 14.6 -1.5**
comp=Z,27nm,0.8s,mb5.3
KIV Kislovodsk 59.48 319 eP **P** **10 04 22.3 -1.0**
KIV eS **S** **10 12 30.3 +3.3**
KIV eSS SS 10 16 24.6 +0.4
KIV pmax pmax
comp=Z,19nm,1.0s,mb5.1
KIV Kislovodsk 59.48 319 eP **P** **10 04 22.0 -1.3**
comp=Z,14nm,0.5s,mb5.2
ASF Jabal al Asfar 59.99 304 P **P** **10 04 28.0 +1.0**
comp=Z,4.4nm,0.6s,mb4.7,baz=310,slow=5.0,SNR=5.0
SOC Sochi 61.32 317 eP **P** **10 04 31.0 -4.8**
SOC e 10 05 11.6
SOC e 10 06 47.0
SOC eS **S** **10 12 46.3 -4.1**
SOC e 10 14 13.6
SOC eSS SS 10 16 50.2 -2.8
SOC eSSS SSS 10 19 32.8 0.0
SOC pmax pmax
comp=Z,24nm,0.8s,mb5.4
SOC pmax pmax
comp=N,19nm,0.9s
SOC pmax pmax
comp=E,24nm,0.9s
YAK Yakutsk 62.18 18⇓eP **P** **10 04 38.7 -2.6**
YAK MLR MLR
comp=Z,305nm,22.0s,MS4.4
MBAR Mbarara 64.09 267 PFAKE 10 05 10.0 +15
MBAR LR LR
comp=Z,96nm,21.0s,MS4.0
BRTR Keskin Array B 64.42 312 P **P** **10 04 55.3 -1.2**
BRTR pmax pmax
comp=Z,4.0nm,0.5s
BRTR Keskin Array B 64.42 312 P **P** **10 04 55.3 -1.2**
comp=Z,3.8nm,0.5s,mb4.7,baz=131,slow=7.3,SNR=17
MOS Moscow 67.44 329 eP **P** **10 05 14.6 -0.8**
MOS pmax pmax
comp=Z,60nm,0.6s,mb5.8
OBN Obninsk 67.73 328⇓iP **P** **10 05 13.4 -3.8**
OBN pmax pmax
comp=Z,25nm,0.6s,mb5.4
OBN Obninsk 67.73 328⇑iP **P** **10 05 13.5 -3.7**
MA2 Magadan 68.73 27 eP **P** **10 05 22.3 -1.0**
MA2 pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
MA2 Magadan 68.73 27⇑eP **P** **10 05 21.9 -1.4**
comp=Z,10nm,0.4s,mb5.1
LSZ Lusaka 68.93 251 PFAKE 10 05 40.0 +15
LSZ LR LR
comp=Z,457nm,21.0s,MS4.7
TIXI Tiksi 69.55 11⇑iP **P** **10 05 26.3 -1.9**
TIXI pmax pmax
comp=Z,27nm,0.7s,mb5.3
IDI Anoyia 70.39 305 P **P** **10 05 34.4 +0.5**
comp=Z,23nm,0.5s,mb5.4,baz=88,slow=8.1,SNR=28
AKASG Malin Array Be 70.40 322 P **P** **10 05 32.1 -1.6**
AKASG pmax pmax
comp=Z,5.0nm,0.4s
AKASG Malin Array Be 70.40 322 P **P** **10 05 32.1 -1.6**
comp=Z,5.3nm,0.4s,mb4.8,baz=79,slow=4.5,SNR=52
VRI Vrincioaia 70.83 317⇓iP **P** **10 05 36.8 +0.4**
MLR Muntele Rosu 71.29 316⇑iP **P** **10 05 39.5 +0.3**
BURAR Bucovina Array 72.21 318⇑iP **P** **10 05 45.2 +0.6**
JOF Joensuu 73.29 335 ep **P** **10 05 49.8 -0.8**
comp=Z,4.8nm,0.4s,mb4.8
KWP Kalwaria 74.23 320 eP **P** **10 05 56.5 +0.1**
APA Apatity 74.33 340⇑iP **P** **10 05 55.8 -0.8**
APA pmax pmax
comp=Z,20nm,0.6s,mb5.2
KOLS Kolonicke sedl 74.39 319 iP **P** **10 05 58.0 +0.6**
BOSA Boshof 74.71 239 eP **P** **10 06 01.3 +1.7**
BOSA pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
BOSA Boshof 74.71 239 eP **P** **10 06 01.3 +1.6**
comp=Z,6.2nm,0.7s,mb4.7
SUW Suwalki 74.80 325 eP **P** **10 05 59.1 -0.5**
CRVS Cervenica-Dubn 74.91 319 iP **P** **10 06 00.9 +0.5**
CRVS e pP 10 06 15.2 -0.5
FINES FINESS Array B 75.12 332 P **P** **10 06 00.9 -0.4**
FINES pmax pmax
comp=Z,7.0nm,0.5s
FINES FINESS Array B 75.12 332 P **P** **10 06 00.9 -0.4**
comp=Z,7.0nm,0.5s,mb4.9,baz=98,slow=6.3,SNR=64
KAF Kangasniemi 75.21 333 ep **P** **10 06 01.4 -0.4**
comp=Z,6.1nm,0.5s,mb4.8,baz=125,slow=6.2
KAF Kangasniemi 75.21 333 eP **P** **10 06 01.4 -0.4**
KAF pmax pmax

comp=Z,6.0nm,0.5s,mb4.8
KECS Kecovo 75.49 319 *e*P **P 10 06 04.2 +0.5**
KECS Kecovo 75.49 319 *e*P **P 10 06 04.5 +0.8**
NIE Niedzica 75.74 320 *e*P **P 10 06 05.7 +0.6**
PSZ Piszkesteto 75.80 318 *e*P **P 10 06 05.4 -0.1**
PSZ pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
PSZ Piszkesteto 75.80 318 *e*P **P 10 06 05.4 -0.1**
comp=Z,5.9nm,0.5s,mb4.8
OJC Ojcow 76.18 320 *e*P **P 10 06 07.8 +0.2**
MAW Mawson 76.23 192 LR LR 10 34 39.9
comp=Z,161nm,18.0s,MS4.4,baz=173,slow=32
PKSM Moragy 76.44 316⇑*i*P **P 10 06 08.8 -0.3**
VYHS Vyhne 76.58 318 *i*P **P 10 06 09.9 +0.1**
KEV Kevo 77.32 341 *e*p **P 10 06 13.4 -0.2**
comp=Z,4.5nm,0.4s,mb4.8
KEV Kevo 77.32 341 *e*P **P 10 06 13.4 -0.2**
KEV pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
ZST Bratislava 77.69 318 *e*P **P 10 06 15.3 -0.8**
ZST Bratislava 77.69 318 *i*P **P 10 06 16.7 +0.6**
ARCES ARCESS Array B 77.75 340 P **P 10 06 16.1 +0.1**
comp=Z,9.1nm,0.4s,mb5.1,baz=94,slow=5.7,SNR=146
ARCES LR LR 10 46 45.9
comp=Z,135nm,18.8s,MS4.3,baz=280,slow=40
BILL Bilibino 78.20 21 *e*P **P 10 06 17.6 -0.8**
BILL pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
BILL MLR MLR
comp=Z,400nm,18.0s,MS4.8
BILL Bilibino 78.20 21 *e*P **P 10 06 17.5 -0.9**
comp=Z,6.2nm,0.4s,mb4.9
KSP Ksiaz 78.48 321 *e*P **P 10 06 20.8 +0.5**
KSP *e**PP pP 10 06 34.1 -1.6
FX1 Attu Island--F 78.79 37 *e*P **P 10 06 21.0 -1.0**
PERS Pernice 78.91 316 *i*P **P 10 06 23.3 +0.5**
PDKS Podkum 78.95 316 *e*P **P 10 06 23.8 +0.7**
OBKA Obir 79.29 316⇑*i*P **P 10 06 25.5 +0.6**
comp=Z,5.9nm,0.4s,mb4.9
BRG Berggiesshubel 79.97 321 *e*P **P 10 06 29.9 +1.5**
BRG *e* pP 10 06 41.6 -2.2
BRG pmax pmax
comp=Z,26nm,1.6s,mb4.9
BRG Berggiesshubel 79.97 321 *e*P **P 10 06 29.9 +1.5**
comp=Z,26nm,1.6s,mb4.9
BRG *e* pP 10 06 41.6 -2.2
GERES GERESS Array B 80.00 319 P **P 10 06 27.9 -0.7**
GERES pmax pmax
comp=Z,7.0nm,0.5s
GERES GERESS Array B 80.00 319 P **P 10 06 27.9 -0.7**
comp=Z,7.3nm,0.5s,mb4.9,baz=108,slow=6.1,SNR=33
KBA Koelnbreinsper 80.14 317⇑*i*P **P 10 06 29.3 -0.2**
comp=Z,5.2nm,0.4s,mb4.8
CLL Collm 80.58 321 *e*P **P 10 06 32.0 +0.3**
CLL *e* pP 10 06 48.0 +0.9
CLL Collm 80.58 321 P **P 10 06 32.0 +0.3**
CLL *e* pP 10 06 48.0 +0.9
WTTA Wattenberg 81.32 317⇑*i*P **P 10 06 35.4 -0.2**
comp=Z,8.5nm,0.5s,mb4.9
WTTA Wattenberg 81.32 317⇑*i*P **P 10 06 35.4 -0.2**
WTTA pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
WATA Walderalm 81.36 317⇓*i*P **P 10 06 35.3 -0.6**
comp=Z,8.7nm,0.5s,mb4.9
WATA Walderalm 81.36 317⇓*i*P **P 10 06 35.3 -0.6**
WATA pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
MOX Moxa 81.43 320 *e*P **P 10 06 36.0 -0.2**
SQTA Sankt Quirin 81.61 317⇑*i*P **P 10 06 37.1 0.0**
comp=Z,13nm,0.6s,mb5.0
SQTA Sankt Quirin 81.61 317⇑*i*P **P 10 06 37.1 0.0**
SQTA pmax pmax
comp=Z,13nm,0.6s,mb5.0
GRA1 Grafenberg Arr 81.66 319 *e*P **P 10 06 38.2 +0.9**
GRA1 *e*pP pP 10 06 54.8 +2.0
GRF Grafenberg Arr 81.66 319 *e*P **P 10 06 38.2 +0.9**
GRF *e**PP pP 10 06 54.8 +2.0
GRF pmax pmax
comp=Z,33nm,1.7s,mb5.0
GRF Grafenberg Arr 81.66 319 *e*P **P 10 06 38.2 +0.9**
GRF *e**PP pP 10 06 54.8 +2.0
GRF pmax pmax
comp=Z,33nm,1.7s,mb5.0
GRF Grafenberg Arr 81.66 319 *e*P **P 10 06 38.2 +0.9**
comp=Z,33nm,1.7s,mb5.0
GRF *e*pP pP 10 06 54.8 +2.0
MOTA Moosalm 81.68 317⇑*i*P **P 10 06 37.3 -0.2**
comp=Z,5.0nm,0.5s,mb4.7
MOTA Moosalm 81.68 317⇑*i*P **P 10 06 37.3 -0.2**
MOTA pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
NB2 NORSAR Subarra 82.12 331 P **P 10 06 39.6 +0.1**
comp=Z,0.5nm,0.5s,baz=97,slow=5.0
NB2 NORSAR Subarra 82.12 331 P **P 10 06 39.6 +0.1**
NB2 pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 82.12 331 P **P 10 06 38.8 -0.7**
NOA pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 82.12 331 P **P 10 06 38.8 -0.7**
comp=Z,0.6nm,0.4s,baz=99,slow=4.9,SNR=3.5
DAVA Damuels 82.51 317⇑*i*P **P 10 06 43.3 +1.5**
comp=Z,7.4nm,0.5s,mb5.0
SYO Syowa Base 83.20 197⇑P **P 10 06 34.8 -10**
LPG La Plagne 84.71 315 *e*P **P 10 06 53.8 +0.8**
comp=Z,13nm,0.6s,mb5.0
LPG La Plagne 84.71 315 *e*P **P 10 06 53.8 +0.8**
LPG pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
URZ Urewera 87.41 129 P **P 10 07 06.6 +0.2**
comp=Z,7.7nm,0.8s,mb5.0,baz=252,slow=4.7,SNR=11
TNA Tin City 88.20 24 *e*P **P 10 07 09.3 -0.2**
ANM Nome 89.45 25 *e*P **P 10 07 16.3 +0.9**
VNDA Vanda 90.42 168 P **P 10 07 19.1 -0.6**
comp=Z,0.8nm,0.7s,mb4.2,baz=280,slow=15,SNR=2.8
VNDA LR LR 10 43 48.9
comp=Z,179nm,18.4s,MS4.5,baz=333,slow=33
IMA Indian Mountai 93.71 22 *e*P **P 10 07 36.1 +1.0**
RSO Redoubt South 96.23 27 *e*P **P 10 07 44.5 -2.1**
MCK McKinley 96.52 24 PFAKE 10 08 00.0 +12
MCK LR LR
comp=Z,121nm,19.0s,MS4.4
ILAR Eielson Array 96.84 22 P **P 10 07 49.1 -0.2**
ILAR pmax pmax
comp=Z,1.0nm,0.5s
ILAR Eielson Array 96.84 22 P **P 10 07 49.1 -0.2**
comp=Z,1.3nm,0.5s,mb4.6,baz=294,slow=4.2,SNR=45
DBIC Dimbokro 98.77 278 PFAKE 10 08 10.0 +11
DBIC LR LR
comp=Z,281nm,19.0s,MS4.8
INK Inuvik 99.22 16 P **P 10 08 00.0 -0.1**
INK pmax pmax
comp=Z,2.0nm,0.4s
INK Inuvik 99.22 16 P **P 10 08 00.0 -0.1**
comp=Z,1.6nm,0.4s,mb4.9,baz=307,slow=4.4,SNR=20
INK Inuvik 99.22 16 *e*P **P 10 07 59.6 -0.4**
comp=Z,3.5nm,0.8s,mb4.9
YKA Yellowknife Ar 108.70 14 Pdiff Pdif 10 08 44.2 +2.0
comp=Z,0.1nm,0.4s,baz=334,slow=6.0,SNR=6.9
SCHQ Schefferville 118.03 348 PKP PKPdf 10 13 05.7 +1.6
comp=Z,2.4nm,0.4s,baz=9.1,slow=1.4,SNR=21
SCHQ Schefferville 118.03 348 PKP PKPdf 10 13 05.7 +1.6
FFC Flin Flon 118.51 11 *e*PKIKP PKIKPdf 10 13 06.0 +0.9
MSO Missoula 122.17 23 *e*PKP PKPdf 10 13 13.3 +0.9
CHMT Chamberlain Mo 122.36 22 *e*PKP PKPdf 10 13 13.9 +1.1
BMO Blue Mountains 122.36 26 *e*PKIKP PKPdf 10 13 13.8 +0.9
WVOR Wild Horse Val 123.60 29 PFAKE 10 13 30.0 +15
WVOR LR LR
comp=Z,711nm,19.0s,MS5.3
BOZ Bozeman (W) 124.04 22 *e*PKIKP PKPdf 10 13 17.7 +1.6
MCMT McKenzie Canyo 124.25 23 *e*PKP PKPdf 10 13 19.0 +2.4
HLID Hailey 124.65 25 *e*PKP PKPdf 10 13 19.5 +2.1
HLID LR LR
comp=Z,374nm,20.0s,MS5.0
IMW Indian Meadow 125.78 23 *e*PKP PKPdf 10 13 22.2 +2.7
TPAW Teton Pass 126.12 23 *e*PKP PKPdf 10 13 22.6 +2.5
LOHW Long Hollow 126.15 23 *e*PKP PKPdf 10 13 22.1 +1.9
WUWY Wally Ulrich 126.16 23 *e*PKP PKPdf 10 13 21.9 +1.7
SNOW Snow King Moun 126.22 23 *e*PKP PKPdf 10 13 23.5 +3.1
NVAR Mina Array Bea 126.76 32 PKP PKPdf 10 13 24.6 +3.0
comp=Z,2.5nm,0.5s,baz=295,slow=3.1,SNR=31
PDAR Pinedale Array 127.27 22 PKP PKPdf 10 13 24.1 +1.7
comp=Z,3.2nm,0.5s,baz=105,slow=2.6,SNR=64
HWUT Hardware Ranch 127.45 25 *e*PKP PKPdf 10 13 24.2 +1.3
DAU Daniels Canyon 128.58 25 *e*PKIKP PKPdf 10 13 27.4 +2.4
NLU North Lily Min 128.60 26 *e*PKP PKPdf 10 13 26.8 +1.8
TMUT Trail Mountain 129.52 26 *e*PKP PKPdf 10 13 29.6 +2.7
MVU Marysvale 129.72 27 *e*PKP PKPdf 10 13 29.3 +2.0
MSU Marysvale 129.73 27 *e*PKIKP PKPdf 10 13 30.3 +3.0
SRU San Rafael 129.97 26 *e*PKIKP PKPdf 10 13 27.8 +0.1
NEN Nelson 130.67 32 *e*PKP PKPdf 10 13 32.1 +3.0
PV10 Paradox Valley 131.22 25 *e*PKP PKPdf 10 13 31.4 +1.3
ISCO Idaho Springs 131.30 21 PFAKE 10 13 40.0 +10
ISCO LR LR
comp=Z,339nm,19.0s,MS5.1
ANMO Albuquerque 135.22 25 *e*PKIKP PKPdf 10 13 40.0 +2.3
GDL2 Guadalupe Moun 138.47 25 PKP PKPdf 10 13 46.7 +3.0
TXAR Lajitas Array 141.25 26 PKhKP 10 13 44.1
comp=Z,0.8nm,0.5s,baz=355,slow=0.2,SNR=33
TXAR PKP PKPdf 10 13 51.5 +2.6
comp=Z,2.5nm,0.4s,baz=210,slow=0.4,SNR=27
TXAR Lajitas Array 141.25 26 PKP PKPdf 10 13 51.5 +2.6
PLCA Paso Flores 142.39 199 PKIKP PKPdf 10 13 48.6 -1.8
PLCA pmax pmax
comp=Z,1.0nm,0.8s
PLCA Paso Flores 142.39 199 PKhKP 10 13 48.6
comp=Z,1.3nm,0.8s,baz=83,slow=9.8,SNR=5.8
HKT Hockley 143.45 15 PFAKE 10 14 10.0 +19
HKT LR LR
comp=Z,244nm,21.0s,MS5.0
LPAZ La Paz 159.94 236 PKIKP PKPdf 10 14 20.9 +3.8
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
LPAZ La Paz 159.94 236 PKP PKPdf 10 14 20.9 +3.7
comp=Z,0.8nm,0.7s,baz=320,slow=5.6,SNR=3.5
LPAZ PKPab PKPab 10 15 00.5 +1.4
comp=Z,0.9nm,0.6s,baz=90,slow=2.0,SNR=2.9

PRU ***25*** *09:59:28.2, 51.37N×16.22E*
WAR 25 09:59:27.8, 51.41N×16.24E, h1km, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.56**	**177**	*e*PG	Pg	09 59 38.0	-1.1
KSP				*e*SG	Sg	09 59 46.0	-0.6
UPC	**Upice**	**0.91**	**189**	*e*PG	Pg	09 59 44.5	-1.5
DPC	**Dobruska-Polom**	**1.06**	**177**	*e*PG	Pg	09 59 47.0	-1.9
DPC				*e*SG	Sg	10 00 01.9	-1.1
PVCC	**Panska Ves**	**1.37**	**231**	*e*PG	Pg	09 59 53.3	-1.9
PRU	**Pruhonice**	**1.78**	**218**	*e*PG	Pg	10 00 00.2	-3.2
PRU				*e*SG	Sg	10 00 24.3	-2.9
OKC	**Ostrava-Krasne**	**1.98**	**142**	*e*SG	Sg	10 00 29.1	-4.8
CLL	**Collm**	**2.03**	**268**	*e*PG	Pg	10 00 05.0	-3.4
CLL				*e*SG	Sg	10 00 32.0	-3.5
OJC	**Ojcow**	**2.55**	**116**	*e*PG	Pg	10 00 17.0	-1.7
OJC				*e*SG	Sg	10 00 50.0	-2.7
NKC	**Novy Kostel**	**2.68**	**245**	*e*SG	Sg	10 00 53.3	-3.6
KHC	**Kasperske Hory**	**2.85**	**218**	*e*SG	Sg	10 00 58.2	-4.4

CASC 25 10:10:16.0±2.8, 8.97N×82.26W, MD4.2, MW4.8, 4C-7D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.46**	**247**	⇓*i*P	Pg	10 10 26.6	+1.4
BRU2				*e*S	Sg	10 10 32.9	+1.5
CNI	**Changuinola**	**0.51**	**330**	⇓*e*P	Pg	10 10 25.6	-0.6
DVD	**David**	**0.56**	**199**	⇑*e*P	Pg	10 10 28.2	+1.0
PTP1	**Petroterminal**	**0.78**	**192**	*e*P	Pg	10 10 35.1	+3.5
ACR	**Cerro Adams**	**0.95**	**251**	⇓*e*P	Pg	10 10 34.9	-0.1
ACR				*e*S	Sg	10 10 49.3	+1.7
BUS	**Buena Vista**	**1.59**	**292**	⇓*e*P	Pn	10 10 44.5	-1.0
BUS				*e*S	Sb	10 11 08.2	+1.7
ICR	**Volcan Irazu**	**1.84**	**303**	⇑*e*P	Pn	10 10 48.6	-0.5
ICR				*e*S	Sn	10 11 16.9	+3.3
LCR2	**La Lucha 2**	**1.88**	**294**	⇓*e*P	Pn	10 10 49.7	0.0
LCR2				*e*S	Sn	10 11 16.0	+1.5
SJS	**Escuela Geolog**	**2.01**	**299**	⇑*e*P	Pn	10 10 50.3	-1.3
SJS				*e*S	Sn	10 11 18.8	+1.0
LAJ	**Bijagual**	**2.04**	**296**	*e*P	Pn	10 10 58.4	+6.4
LAJ				*e*S	Sn	10 11 29.1	+11
TRTC	**Tortuguero**	**2.14**	**318**	*e*P	Pn	10 10 52.9	-0.5
PRS1	**Puriscal**	**2.26**	**297**	⇓*e*P	Pn	10 10 56.1	+1.0
PRS1				*e*S	Sn	10 11 25.2	+1.1
AZU	**Azuero**	**2.29**	**121**	*e*P	Pn	10 10 54.1	-1.4
VPS2	**Volcan Poas 2**	**2.29**	**302**	⇓*e*P	Pn	10 10 55.5	-0.1
VPS2				*e*S	Sn	10 11 26.3	+1.4
CGA2	**Cerro Gallo 2**	**2.41**	**296**	*e*P	Pn	10 10 58.1	+0.9
CGA2				*e*S	Sn	10 11 31.3	+3.4
UPA	**Univ. de Panam**	**2.69**	**90**	*e*P	Pn	10 11 00.3	-1.1
JCR	**Jicaral**	**2.94**	**287**	⇑*e*P	Pn	10 11 05.3	+0.4
JCR				*e*S	Sn	10 11 44.3	+2.8

IGQ 25 10:14:23.6, 1.55S×81.46W, h12km±8km, mb4.1, 1C-4D, Error ellipse: s-maj=9.9km s-min=7.3km az=16.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.03**	**61**	⇑P	Pb	10 14 42.0	-0.9
IGUA	**Igualata**	**2.82**	**89**	P	Pn	10 15 09.9	+0.6
CUSU	**Cusua**	**2.98**	**88**	P	Pn	10 15 13.8	+2.3
JUIV	**Juive**	**2.99**	**88**	P	Pn	10 15 12.9	+1.1
ARRY	**Arrayan**	**3.00**	**89**	⇓P	Pn	10 15 12.9	+0.9
ARRY				S	Sn	10 15 47.7	-0.4
PATA	**Patacocha**	**3.02**	**89**	P	Pn	10 15 13.9	+1.7
RUN2	**Runtun**	**3.04**	**88**	P	Pn	10 15 14.0	+1.4
ULBA	**Ulba**	**3.05**	**88**	P	Pn	10 15 13.8	+1.2
PISA	**Pisayambo**	**3.11**	**81**	P	Pn	10 15 15.9	+2.4
NAS1	**Nasa**	**3.11**	**73**	P	Pn	10 15 16.2	+2.7
TERV	**Terraza Guagua**	**3.16**	**64**	P	Pn	10 15 16.4	+2.2
PINO	**Pino**	**3.17**	**64**	P	Pn	10 15 15.2	+0.9
VC1	**Cotopaxi 1**	**3.18**	**74**	P	Pn	10 15 16.9	+2.4
TAMB	**Tambo**	**3.20**	**75**	P	Pn	10 15 17.7	+2.9
TAMB				S	Sn	10 15 55.3	+2.0
YANA	**Yana**	**3.21**	**64**	P	Pn	10 15 15.3	+0.3
ANTI	**Antisana**	**3.47**	**72**	⇓P	Pn	10 15 20.4	+1.8
COTA	**Cotacachi**	**3.64**	**59**	P	Pn	10 15 22.8	+1.8
CAYR	**Refugio Cayamb**	**3.78**	**66**	⇓P	Pn	10 15 26.4	+3.4
CAYA	**Cayambe**	**3.82**	**65**	⇓P	Pn	10 15 26.9	+3.4

IGQ ***25*** *10:28:01.6, 1.59S×81.51W, h12km±9km, mb4.8, Error ellipse: s-maj=11.7km s-min=7.2km az=5.6*
IDC ***25*** *10:28:07.8±0.9, 1.32S×80.85W, mb3.8/7, mb1 4.1/9, mb1mx3.9/19, mbtmp3.8/9, ML3.4/2, MS4.3/5, Ms1 4.3/5, ms1mx3.6/19, Error ellipse: s-maj=35.9km s-min=17.1km az=65.0*
NEIC ***25*** *10:28:09.2±3.6, 1.43S×80.93W, h10km±23km, mb4.4/5, MD4.8(IGQ), Error ellipse: s-maj=11.0km s-min=8.3km az=70.0*
ISC 25 10:28:07.9±0.5, 1.49S±0.07×81.18W±0.04, h10km, n57, σ1§21/49, mb4.0/13, MS4.4/5, 2C-1D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.77**	**56**	P	**Pb**	**10 28 20.7**	**-2.2**
IGUA	**Igualata**	**2.54**	**90**	P	**Pn**	**10 28 49.5**	**-0.4**
CUSU	**Cusua**	**2.70**	**89**	P	**Pn**	**10 28 51.4**	**-0.8**
JUIV	**Juive**	**2.72**	**89**	P	**Pn**	**10 28 51.3**	**-1.1**
ARRY	**Arrayan**	**2.73**	**90**	P	**Pn**	**10 28 52.1**	**-0.4**
RETU	**Refugio**	**2.74**	**89**	P	**Pn**	**10 28 52.9**	**+0.3**
PATA	**Patacocha**	**2.75**	**90**	P	**Pn**	**10 28 52.2**	**-0.6**
RUN2	**Runtun**	**2.77**	**89**	P	**Pn**	**10 28 52.6**	**-0.5**
ULBA	**Ulba**	**2.78**	**89**	⇑P	**Pn**	**10 28 52.5**	**-0.7**
MARY	**Rancho Maria**	**2.80**	**74**	P	**Pn**	**10 28 55.0**	**+1.5**
MARY				S	**Sn**	**10 29 30.9**	**+3.3**
PISA	**Pisayambo**	**2.83**	**81**	P	**Pn**	**10 28 53.8**	**-0.2**
NAS1	**Nasa**	**2.84**	**73**	P	**Pn**	**10 28 55.3**	**+1.2**
TERV	**Terraza Guagua**	**2.89**	**63**	P	**Pn**	**10 28 53.9**	**-0.9**
PINO	**Pino**	**2.90**	**63**	P	**Pn**	**10 28 53.5**	**-1.4**
GGP	**Refugio Guagua**	**2.90**	**63**	P	**Pn**	**10 28 56.4**	**+1.4**
VC1	**Cotopaxi 1**	**2.91**	**73**	P	**Pn**	**10 28 56.0**	**+1.0**
TAMB	**Tambo**	**2.92**	**74**	P	**Pn**	**10 28 56.8**	**+1.5**
YANA	**Yana**	**2.95**	**62**	P	**Pn**	**10 28 55.2**	**-0.5**
ANTI	**Antisana**	**3.19**	**71**	P	**Pn**	**10 29 00.0**	**+0.9**
OTAV	**Otavalo**	**3.23**	**58**	⇑*i*Pn	**Pn**	**10 28 58.1**	**-1.5**
COTA	**Cotacachi**	**3.38**	**58**	⇓P	**Pn**	**10 29 01.6**	**-0.1**
CAYR	**Refugio Cayamb**	**3.51**	**65**	P	**Pn**	**10 29 05.6**	**+1.9**
CAYR				S	**Sn**	**10 29 50.5**	**+4.8**
CAYA	**Cayambe**	**3.55**	**64**	P	**Pn**	**10 29 05.3**	**+1.1**
CAYA				S	**Sn**	**10 29 50.4**	**+3.7**
PAYG	**Puerto Ayora**	**9.14**	**275**	*e*P	**P**	**10 30 24.7**	**+2.0**
NNA	**Nana**	**11.28**	**158**	*e*P	**P**	**10 30 48.1**	**-4.2**
SDV	**Santo Domingo**	**14.72**	**45**	Pn	**P**	**10 31 34.5**	**-3.8**
	0.0nm,0.3s,baz=283,slow=18,SNR=2.4						
LPAZ	**La Paz**	**19.53**	**140**	P	**P**	**10 32 37.4**	**-1.1**
	0.2nm,0.3s,baz=332,slow=12,SNR=14						
LVC	**Limon Verde**	**24.15**	**151**	P	**P**	**10 33 26.6**	**+1.4**
	8.1nm,1.0s,mb4.1,baz=331,slow=9.4,SNR=7.0						
LVC				LR	LR	10 44 06.0	
	comp=Z,1μm,18.8s,MS4.3,baz=323,slow=40						
LVC	**Limon Verde**	**24.15**	**151**	P	**P**	**10 33 26.6**	**+1.4**
SJG	**San Juan**	**24.46**	**37**	P	**P**	**10 33 25.5**	**-2.9**
	13nm,0.2s,mb4.9,baz=338,slow=18,SNR=2.3						
LRAL	**Lakeview Retre**	**34.78**	**351**	*e*P	**P**	**10 34 58.9**	**-1.8**
	4.8nm,0.7s,mb4.5						
TXAR	**Lajitas Array**	**37.44**	**327**	P	**P**	**10 35 23.8**	**+0.6**
	0.1nm,0.5s,mb2.9,baz=100,slow=5.5,SNR=3.0						
WMOK	**Wichita Mounta**	**39.64**	**337**	*e*P	**P**	**10 35 43.2**	**+1.6**
	2.5nm,0.9s,mb3.9						
PLCA	**Paso Flores**	**40.23**	**167**	P	**P**	**10 35 46.2**	**-0.2**
	3.2nm,0.9s,mb4.0,baz=317,slow=9.0,SNR=3.8						
PLCA	**Paso Flores**	**40.23**	**167**	P	**P**	**10 35 46.2**	**-0.2**
CPRX	**Cap Rock**	**40.47**	**330**	*e*P	**P**	**10 35 54.7**	**+6.3**
SDCO	**Great Sand Dun**	**45.06**	**333**	*e*P	**P**	**10 36 26.1**	**+0.3**
	7.4nm,1.0s,mb4.5						
JLU	**Jordanelle**	**50.16**	**330**	P	**P**	**10 37 06.5**	**+0.9**
PDAR	**Pinedale Array**	**50.93**	**333**	P	**P**	**10 37 10.4**	**-1.1**
	0.5nm,0.9s,mb3.5,baz=141,slow=9.5,SNR=3.8						
NVAR	**Mina Array Bea**	**52.41**	**323**	P	**P**	**10 37 24.1**	**+1.4**
	1.8nm,0.8s,mb4.0,baz=147,slow=6.8,SNR=11						
HLID	**Hailey**	**53.84**	**330**	*e*P	**P**	**10 37 32.8**	**-0.4**
	1.7nm,0.7s,mb4.1						
WVOR	**Wild Horse Val**	**55.24**	**327**	P	**P**	**10 37 43.3**	**-0.3**
	12nm,1.1s,mb4.8						
SCHQ	**Schefferville**	**57.37**	**10**	LR	LR	11 01 07.8	
	comp=Z,230nm,19.8s,MS4.3,baz=297,slow=35						
EDM	**Edmonton**	**60.78**	**338**	*e*P	**P**	**10 38 21.0**	**-1.2**
YKA	**Yellowknife Ar**	**68.62**	**344**	P	**P**	**10 39 11.5**	**-1.5**
	0.8nm,0.9s,mb3.6,baz=144,slow=6.5,SNR=11						
YKA	**Yellowknife Ar**	**68.62**	**344**	P	**P**	**10 39 11.5**	**-1.5**
PPT	**Papeete**	**68.97**	**252**	*e*S	S	10 48 45.1	+26
PPT				*e*LR	LR	11 00 13.6	
	522nm,26.0s,baz=87						
TBI	**Tubuai**	**69.50**	**246**	*e*S	S	10 48 52.0	+27
TBI				*e*LR	LR	11 00 31.9	
	360nm,27.8s,baz=90						
DBIC	**Dimbokro**	**76.60**	**83**	LR	LR	11 13 36.2	
	comp=Z,431nm,18.3s,MS4.8,baz=352,slow=36						
ILAR	**Eielson Array**	**81.20**	**337**	P	**P**	**10 40 24.7**	**-0.3**
	0.4nm,0.7s,mb3.5,baz=156,slow=4.4,SNR=4.8						
NOA	**NORSAR Array B**	**92.46**	**29**	LR	LR	11 18 28.9	
	comp=Z,49nm,20.3s,MS4.0,baz=70,slow=33						
VNDA	**Vanda**	**94.21**	**191**	LR	LR	11 19 27.8	
	comp=Z,166nm,19.0s,MS4.5,baz=114,slow=33						
ASAR	**Alice Springs**	**137.71**	**232**	PKP	PKPdf	10 47 36.3	0.0
	0.4nm,0.7s,baz=90,slow=2.7,SNR=4.8						
WRA	**Warramunga Arr**	**139.17**	**237**	PKP	PKPdf	10 47 38.1	-1.0
	0.5nm,0.6s,baz=113,slow=2.3,SNR=5.1						
DDI	**Dehra Dun**	**145.21**	**32**	*e*	PKPbc	10 47 46.2	-0.6
LZH	**Lanzhou**	**145.26**	**353**	*e*P	PKPbc	10 47 46.5	-0.3
LZH				pP		10 47 52.5	
LZH				sP		10 47 57.5	
ENH	**Enshi**	**149.64**	**342**	*e*PKPbc	PKPdf	10 47 58.8	+2.0

IGQ 25 10:34:17.2, 1.44S×81.15W, h18km±7km, mb4.3, 4C-4D, Error ellipse: s-maj=10.3km s-min=8.5km az=148.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.72**	**57**	⇑P	Pb	10 34 30.5	-0.4
IGUA	**Igualata**	**2.51**	**91**	⇑P	Pn	10 34 58.5	+0.6
IGUA				S	Sn	10 35 31.0	+2.6
CUSU	**Cusua**	**2.67**	**90**	⇓P	Pn	10 35 02.4	+2.2
JUIV	**Juive**	**2.68**	**90**	P	Pn	10 35 01.4	+0.9
ARRY	**Arrayan**	**2.69**	**91**	⇑P	Pn	10 35 01.2	+0.7
ARRY				S	Sn	10 35 33.2	+0.2
PATA	**Patacocha**	**2.71**	**91**	P	Pn	10 35 03.2	+2.3
RUN2	**Runtun**	**2.73**	**90**	P	Pn	10 35 02.7	+1.6
ULBA	**Ulba**	**2.74**	**90**	P	Pn	10 35 03.2	+1.9
NAS1	**Nasa**	**2.79**	**73**	P	Pn	10 35 05.5	+3.6
PISA	**Pisayambo**	**2.79**	**82**	P	Pn	10 35 04.0	+2.1
TERV	**Terraza Guagua**	**2.84**	**64**	P	Pn	10 35 03.5	+0.8
PINO	**Pino**	**2.84**	**63**	⇓P	Pn	10 35 03.5	+0.8
VC1	**Cotopaxi 1**	**2.86**	**74**	P	Pn	10 35 06.1	+3.2
TAMB	**Tambo**	**2.88**	**75**	⇑P	Pn	10 35 06.2	+3.0
YANA	**Yana**	**2.89**	**63**	P	Pn	10 35 04.1	+0.7
ANTI	**Antisana**	**3.15**	**72**	P	Pn	10 35 09.3	+2.3
COTA	**Cotacachi**	**3.32**	**58**	⇓P	Pn	10 35 11.5	+2.1
CAYR	**Refugio Cayamb**	**3.46**	**65**	P	Pn	10 35 14.7	+3.2
CAYA	**Cayambe**	**3.50**	**65**	⇓P	Pn	10 35 15.4	+3.4

MOS ***25*** *10:57:07.6±2.1, 56.69N×117.95E, h14km, mb4.1/1, Error ellipse: s-maj=19.2km s-min=11.8km az=51.5*
BYKL 25 10:57:07.5±0.3, 56.68N×117.99E, h17km±5km, 12C-4D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**0.27**	**35**	*e*PG	Pb	10 57 12.9	-0.6
CRS				*e*		10 57 18.0	
CRS				pmax	pmax		
	comp=Z,1μm,0.3s						
CRS				smax			
	comp=N,4μm,0.5s						
CRS	**Chara**	**0.27**	**35**	⇓*i*Pg	Pb	10 57 13.8	+0.3
	comp=N,548nm,0.5s						
CRS				⇓*i*Pg	Pb	10 57 13.8	+0.3
	comp=N,448nm,0.5s						
CRS				⇓*i*Pg	Pb	10 57 13.8	+0.3
	comp=N,1μm,0.5s						
CRS				Pmax		10 57 14.2	
	comp=N,1μm,0.5s						
CRS				*e*Sg	Sb	10 57 18.0	+0.4
CRS				Smax		10 57 22.0	
	comp=N,5μm,0.9s						
**NL

SVKR			*e*		10 58 26.1		
SVKR			pmax	pmax			
	comp=Z,218nm,0.4s						
SVKR			smax				
	comp=E,868nm,0.3s						
SVKR	**Severomuysk**	**2.53 259**	*e*Pn	Pn	10 57 48.3	-0.3	
SVKR			*e*Pg	Pn	10 57 52.4	+3.8	
SVKR			Pmax		10 57 57.1		
	comp=E,221nm,0.3s						
SVKR			*e*Sg	Sn	10 58 24.8	+5.6	
SVKR			Smax		10 58 26.0		
	comp=E,2μm,0.7s						
UKT	**Uakit**	**2.72 246**	*e*PN	Pn	10 57 55.5	+4.1	
UKT			*e*		10 58 30.9		
UKT			pmax	pmax			
	comp=Z,55nm,0.5s						
UKT			smax				
	comp=E,655nm,0.3s						
UKT	**Uakit**	**2.72 246**	⇑*i*Pn	Pn	10 57 51.2	-0.2	
UKT			⇑*i*Pg	Pn	10 57 55.5	+4.1	
UKT			Pmax		10 58 06.8		
	comp=E,72nm,0.6s						
UKT			*i* Sg	Sn	10 58 30.2	+6.0	
UKT			Smax		10 58 31.5		
	comp=E,855nm,0.5s						
YOA	**Uoyan**	**3.52 264**	⇑*i*PN	Pn	10 58 11.4	+8.6	
YOA			*e*		10 58 57.7		
YOA			pmax	pmax			
	comp=Z,164nm,0.3s						
YOA			smax				
	comp=N,2μm,0.6s						
YOA	**Uoyan**	**3.52 264**	*e*Pg	Pn	10 58 11.8	+9.0	
YOA			Pmax		10 58 19.8		
	comp=N,197nm,0.9s						
YOA			*e*Sg	Sn	10 58 57.3	+13	
YOA			*e*		10 59 00.2		
YOA			max		10 59 02.7		
	comp=N,2μm,0.6s						
CLNS	**Chul'man**	**3.80 85**	*e*PN	Pn	10 58 08.2	+1.5	
CLNS			*e*		10 58 17.9		
CLNS			*e*S	Sn	10 58 49.1	-2.4	
CLNS			*e*		10 59 02.3		
CLNS			pmax	pmax			
	comp=Z,37nm,0.6s						
CLNS			pmax	pmax			
	comp=N,15nm,0.7s						
CLNS			pmax	pmax			
	comp=E,34nm,0.8s						
CLNS			smax				
	comp=Z,19nm,0.5s						
CLNS			smax				
	comp=N,41nm,0.8s						
CLNS			smax				
	comp=E,31nm,0.7s						
CLNS			smax				
	comp=N,485nm,0.8s						
CLNS			smax				
	comp=Z,127nm,0.8s						
CLNS			smax				
	comp=E,122nm,0.7s						
CLNS			MLR	MLR			
	comp=Z,200nm,12.0s						
KMO	**Kumora**	**3.87 261**	⇑*i*PN	Pn	10 58 07.2	-0.4	
KMO			*e*		10 58 16.2		
KMO			*e*S	Sn	10 58 51.7	-1.5	
KMO			*e*		10 59 05.9		
KMO			pmax	pmax			
	comp=Z,73nm,0.7s						
KMO			smax				
	comp=E,716nm,0.9s						
KMO	**Kumora**	**3.87 261**	⇑*i*Pn	Pn	10 58 07.1	-0.5	
KMO			*e*Pg	Pn	10 58 17.3	+10	
KMO			Pmax		10 58 19.7		
	comp=E,73nm,0.7s						
KMO			*e*		10 58 50.3		
KMO			*e*Sg	Sn	10 59 06.8	+14	
KMO			Smax		10 59 08.5		
	comp=E,721nm,0.9s						
TNDR	**Tynda**	**4.09 109**	*e*	Pn	10 58 11.0	+0.2	
TNDR			*e*Pg	Pn	10 58 21.3	+11	
TNDR			*e*		10 58 57.3		
TNDR			*e*Sg	Sn	10 59 12.7	+14	
YLYR	**Ulyunkhan**	**4.26 248**	⇑*i*PN	Pn	10 58 12.4	-0.8	
YLYR			*e*		10 58 21.3		
YLYR			*e*S	Sn	10 58 57.1	-6.0	
YLYR	**Ulyunkhan**	**4.26 248**	⇑*i*Pn	Pn	10 58 12.3	-0.9	
YLYR			*e*Pg	Pn	10 58 23.6	+10	
YLYR			Pmax		10 58 26.5		
	comp=E,24nm,0.5s						
YLYR			*e*Sg	Sn	10 59 17.5	+14	
YLYR			Smax		10 59 25.7		
	comp=E,192nm,0.7s						
NIZ	**Nizh Angarsk**	**4.80 263**	*e*PN	Pn	10 58 34.8	+14	
NIZ			*e*		10 59 37.2		
NIZ			pmax	pmax			
	comp=Z,38nm,0.9s						
NIZ			smax				
	comp=N,202nm,0.7s						
NIZ	**Nizh Angarsk**	**4.80 263**	*e*	Pn	10 58 28.9	+8.0	
NIZ			*e*Pg	Pn	10 58 33.7	+13	
NIZ			Pmax		10 58 40.8		
	comp=N,36nm,0.6s						
NIZ			*e*Sg	Sn	10 59 35.0	+18	
NIZ			Smax		10 59 44.6		
	comp=N,222nm,0.7s						
CIT	**Chita**	**5.34 211**	*e*PN	Pn	10 58 45.0	+16	
CIT			*e*		10 59 54.3		
CIT			pmax	pmax			
	comp=Z,20nm,0.4s						
CIT			smax				
	comp=E,344nm,0.8s						
CIT	**Chita**	**5.34 211**	*e*Pg	Pn	10 58 44.5	+16	
CIT			Pmax		10 58 47.1		
	comp=E,14nm,0.7s						
CIT			*e*		10 59 49.6		
CIT			*e*Sg	Sn	10 59 54.3	+24	
CIT			Smax		10 59 55.9		
	comp=E,343nm,0.7s						
SYVR	**Suvo**	**5.49 240**	*e*PN	Pn	10 58 46.0	+15	
SYVR			*e*		10 59 56.0		
SYVR			pmax	pmax			
	comp=Z,13nm,0.5s						
SYVR			smax				
	comp=E,186nm,0.7s						
SYVR	**Suvo**	**5.49 240**	*e*Pn	Pn	10 58 28.9	-1.7	
SYVR			*e*Pg	Pn	10 58 45.9	+15	
SYVR			Pmax		10 58 59.5		
	comp=E,12nm,0.4s						
SYVR			*e*		10 59 29.6		
SYVR			*e*Sg	Sn	10 59 56.1	+22	
SYVR			Smax		10 59 59.3		
	comp=E,233nm,1.0s						
KROS	**Kirovskiy**	**5.57 110**	⇓*i*Pg	Pn	10 58 47.0	+15	
KROS			*i* Sg	Sn	10 59 56.6	+20	
ZEA	**Zeya**	**6.07 115**	*e*	Pn	10 58 35.8	-2.9	
ZEA			*e*		10 58 55.6		
ZEA			*e*Sg	Sn	11 00 13.6	+25	
OGRR	**Ongureny**	**6.69 247**	*e*Pn	Pn	10 58 46.4	-1.1	
OGRR			*e*Pg	Pn	10 59 07.8	+20	
OGRR			Pmax		10 59 18.5		
	comp=E,48nm,0.4s						
OGRR			*e*Sg	Sn	11 00 33.4	+29	
OGRR			Smax		11 00 42.5		
	comp=E,63nm,1.7s						
TRTB	**Turuntaevo**	**7.50 238**	*e*Pn	Pn	10 58 59.8	+0.9	
TRTB			*e*Pg	Pn	10 59 22.4	+23	
TRTB			Pmax		10 59 48.6		
	comp=E,4.0nm,0.9s						
TRTB			*e*		11 00 14.8		
TRTB			*e*Sg	Sn	11 00 59.0	+35	
TRTB			Smax		11 01 14.5		
	comp=E,109nm,1.2s						
ZRHB	**Zarechye**	**7.53 241**	*e*	Pn	10 59 48.6	+49	
ZRHB			*e*Sg	Sn	11 01 01.8	+37	
ZRHB			Smax		11 01 35.8		
	comp=E,327nm,1.4s						
KPC	**Khapcheranga**	**7.76 208**	*e*PG	Pn	10 59 27.1	+25	
KPC			*e*		11 01 07.1		
KPC			pmax	pmax			
	comp=Z,29nm,2.0s						
KPC			smax				
	comp=N,129nm,0.9s						
KPC	**Khapcheranga**	**7.76 208**	⇑*i*Pn	Pn	10 58 59.0	-3.5	
KPC			*e*Pg	Pn	10 59 27.2	+25	
KPC			Pmax		10 59 35.2		
	comp=N,4.0nm,0.5s						
KPC			*e*Sg	Sn	11 01 07.3	+37	
KPC			Smax		11 01 14.7		
	comp=N,127nm,0.9s						
TRG	**Tyrgan**	**7.80 245**	*e*PG	Pn	10 59 27.5	+24	
TRG			*e*		11 01 08.0		
TRG			pmax	pmax			
	comp=Z,3.0nm,0.4s						
TRG			smax				
	comp=E,58nm,1.0s						
TRG	**Tyrgan**	**7.80 245**	*e*	Pn	10 59 09.6	+6.5	
TRG			*e*Pg	Pn	10 59 28.3	+25	
TRG			Pmax		10 59 45.2		
	comp=E,3.0nm,0.4s						
TRG			*e*Sg	Sn	11 01 08.9	+37	
TRG			Smax		11 01 18.9		
	comp=E,59nm,1.6s						
HRMR	**Khuramsha**	**8.21 237**	*e*Pg	P	10 59 36.1	+27	
HRMR			Pmax		10 59 51.6		
	comp=E,7.0nm,0.4s						
HRMR			*e*Sg	Sn	11 01 22.1	+40	
HRMR			Smax		11 01 39.1		
	comp=E,252nm,0.9s						
LSTR	**Listvyanka**	**9.08 243**	*e*	P	11 00 07.4	+47	
LSTR			*e*Sg	Sn	11 01 49.8	+46	
LSTR			Smax		11 02 12.9		
	comp=E,43nm,1.9s						
TLY	**Talaya**	**9.78 245**	*e*Sg	Sn	11 02 09.8	+49	
TLY			Smax		11 02 46.6		
	comp=E,28nm,0.7s						
ARS	**Arshan**	**10.26 249**	*e*Pg	P	11 00 14.4	+37	
ARS			Pmax		11 00 20.3		
	comp=E,4.0nm,0.5s						
ARS			*e*Sg	S	11 02 26.8	+54	
ARS			Smax		11 02 38.0		
	comp=E,83nm,1.0s						
ORL	**Orlik**	**11.32 256**	*e*	P	10 59 58.0	+6.6	
ORL			*e*		11 02 21.9		
ORL			*e*Sg	S	11 02 57.6	+59	
ORL			Smax		11 03 11.4		
	comp=E,48nm,2.0s						

BJI ***25*** *11:00:16.4, 52.28N×173.37E, h14km, mB5.2, mb4.9, Ms4.7, Msz4.5*
MOS ***25*** *11:00:17.0±1.1, 52.11N×173.26E, h10km, mb5.1/42, MS4.5/10, Error ellipse: s-maj=9.2km s-min=5.1km az=90.3*
IDC ***25*** *11:00:17.2±0.6, 52.19N×173.28E, mb4.6/21, mb1 4.8/21, mb1mx4.7/23, mbtmp4.6/21, MS4.4/14, Ms1 4.4/14, ms1mx4.1/28, Error ellipse: s-maj=18.0km s-min=12.5km az=149.0*
HRVD ***25*** *11:00:19.4±0.4, 52.30N×173.20E, h16km±1km, MW5.1/57, Centroid moment Tensor Solution. LP body waves: s30,c40;Mantle waves: s57,c95; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.13±.18; $M_{\theta\theta}$-3.01±.15; $M_{\phi\phi}$0.88±.10; $M_{r\theta}$3.82±.37; $M_{\theta\phi}$-0.27±.07; $M_{\phi r}$3.18±.46; Best double couple: $M_0$5.653×10^{16} NP1:ϕ_s294°, δ22°, λ148°. NP2:ϕ_s55°, δ79°, λ72°. Principal axes: T 5.734, Plg53°, Azm303°; N -.158, Plg18°, Azm59°; P -5.571, Plg31°, Azm160°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***25*** *11:00:19.4±0.9, 52.12N×173.29E, h14km±5km, mb4.9/56, MS4.3/3, ML4.8(PMR) Error ellipse: s-maj=5.4km s-min=2.8km az=179.0*
ISC 25 11:00:17.4±1.5, 52.06N±0.05×173.29E±0.04, h13km±9km, h25km±4.4km:pP-P, n260, σ0.99/271, mb4.8/90, MS4.4/29, 15C-15D, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**0.82**	**355**	*e*P	**Pb**	**11 00 33.5**	**+0.5**
SMY	**Shemya**	**0.83**	**36**	*e*P	**Pb**	**11 00 34.6**	**+1.4**
KIWB	**Kanaga Island**	**5.92**	**88**	*e*P	**Pn**	**11 01 46.9**	**-0.1**
PET	**Petropavlovsk**	**8.97**	**282**	*e*P	**P**	**11 02 29.1**	**-0.6**
PET				*e*S	**Sn**	**11 04 03.1**	**-8.5**
PET				pmax	pmax		
	comp=Z,69nm,0.8s						
PET				pmax	pmax		
	comp=Z,200nm,15.8s						
PET				smax			
	comp=N,106nm,0.8s						
PET				smax			
	comp=E,112nm,0.6s						
PET				MLR	MLR		
	comp=Z,2μm,21.0s						
PET				MLR	MLR		
	comp=Z,3μm,21.0s						
PET	**Petropavlovsk**	**8.97**	**282**	*e*P	**P**	**11 02 27.4**	**-2.3**
	comp=Z,154nm,1.3s						
MA2	**Magadan**	**14.67**	**310**	*e*P	**P**	**11 03 53.4**	**+7.3**
MA2				pmax	pmax		
	comp=Z,40nm,0.7s						
MA2				MLR	MLR		
	comp=Z,5μm,14.0s						
MA2	**Magadan**	**14.67**	**310**	*e*P	**P**	**11 03 46.8**	**+0.7**
	comp=Z,73nm,0.8s						
SEY	**Seymchan**	**15.56**	**323**	*e*P	**P**	**11 04 02.1**	**+4.4**
SEY				*e*S	**S**	**11 06 56.4**	**+6.1**
SEY				pmax	pmax		
	comp=Z,50nm,1.0s						
SEY				pmax	pmax		
	comp=N,30nm,0.9s						
SEY				pmax	pmax		
	comp=E,30nm,0.9s						
SEY				MLR	MLR		
	comp=Z,2μm,14.0s						
BILL	**Bilibino**	**16.39**	**351**	⇓*i*P	**P**	**11 04 08.8**	**+0.5**
BILL				pmax	pmax		
	comp=Z,22nm,1.3s						
BILL	**Bilibino**	**16.39**	**351**	*e*P	**P**	**11 04 08.5**	**+0.2**
	comp=Z,50nm,1.4s						
TNA	**Tin City**	**16.56**	**28**	*e*P	**P**	**11 04 11.8**	**+1.2**
	comp=Z,77nm,1.7s						
ANM	**Nome**	**16.69**	**33**	*e*P	**P**	**11 04 14.0**	**+1.8**
SVW2	**Sparrevohn**	**19.21**	**50**	*e*P	**P**	**11 04 43.9**	**+0.6**
KDAK	**Kodiak Island**	**20.28**	**60**	*e*P	**P**	**11 04 56.0**	**+0.9**
KDAK				LR	LR		
	comp=Z,700nm,20.0s,MS4.0						
YSS	**Yuzh-Sakhalins**	**20.38**	**268**	⇑*e*P	**P**	**11 04 57.0**	**+0.7**
YSS				*e*S	**S**	**11 08 40.0**	**+0.8**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				smax			
	comp=N,500nm,9.0s						
YSS				MLR	MLR		
	comp=Z,400nm,20.0s,MS3.8						
YSS	**Yuzh-Sakhalins**	**20.38**	**268**	*e*P	**P**	**11 04 57.1**	**+0.7**
	comp=Z,32nm,1.1s						
RSO	**Redoubt South**	**20.44**	**52**	*e*P	**P**	**11 04 56.8**	**0.0**
IMA	**Indian Mountai**	**21.66**	**37**	*e*P	**P**	**11 05 09.1**	**-0.2**
FIB	**Fire Island**	**21.80**	**51**	*e*P	**P**	**11 05 10.5**	**-0.1**
ASAJ	**Asahikawa**	**21.86**	**261**	P	**P**	**11 05 13.0**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,19nm,0.7s						
ASAJ				MLR	MLR		
	comp=Z,421nm,18.4s						
ASAJ	**Asahikawa**	**21.86**	**261**	P	**P**	**11 05 13.0**	**+1.6**
	comp=Z,19nm,0.7s,mb4.6,baz=29,slow=7.4,SNR=11						
ASAJ				LR	LR	11 13 09.4	
	comp=Z,421nm,18.4s,MS3.9,baz=191,slow=35						
COLA	**College**	**23.57**	**42**	*c i*P	**P**	**11 05 27.9**	**0.0**
COLA	**College**	**23.57**	**42**	*e*P	**P**	**11 05 28.6**	**+0.7**
COLA				LR	LR		
	comp=Z,700nm,17.0s,MS4.2						
ILAR	**Eielson Array**	**23.94**	**43**	P	**P**	**11 05 30.7**	**-0.8**
	comp=Z,12nm,0.5s,mb4.6,baz=249,slow=7.7,SNR=215						
YAK	**Yakutsk**	**25.24**	**310**	*e*P	**P**	**11 05 42.6**	**-1.5**
YAK				*e*		11 06 20.2	
YAK				*e*PPP	PPP	11 06 30.0	-3.7
YAK				*e*S	**S**	**11 10 11.7**	**+5.2**
YAK				*e*SS	SS	11 11 13.3	+5.9
YAK				*e*SSS	SSS	11 11 28.0	+4.2
YAK				pmax	pmax		
	comp=Z,100nm,1.1s,mb5.3						
YAK				pmax	pmax		
	comp=N,12nm,1.0s						
YAK				pmax	pmax		
	comp=E,70nm,1.2s						
YAK				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.7						
YAK				smax			
	comp=N,6.0nm,1.2s						
YAK				smax			
	comp=E,6.0nm,1.2s						
YAK				MLR	MLR		
	comp=Z,620nm,15.0s,MS4.2						
YAK				MLR	MLR		
	comp=N,93nm,10.0s						
YAK				MLR	MLR		
	comp=E,542nm,17.0s						
YAK	**Yakutsk**	**25.24**	**310**	*e*P	**P**	**11 05 42.9**	**-1.2**
	comp=E,127nm,0.8s,mb5.5						
DAWY	**Dawson**	**27.06**	**45**	*e*P	**P**	**11 06 00.2**	**-0.6**
TIXI	**Tiksi**	**27.65**	**331**	⇑*i*P	**P**	**11 06 05.9**	**-0.3**
TIXI				*e*S	**S**	**11 10 47.1**	**+1.2**
TIXI				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.8						
TIXI				smax			
	comp=N,306nm,18.1s						
TIXI				smax			
	comp=E,583nm,18.0s						
TIXI				MLR	MLR		
	comp=Z,745nm,15.0s,MS4.4						
MAJO	**Matsushiro**	**29.16**	**252**	*e*P	**P**	**11 06 20.7**	**+0.5**
MAT	**Matsushiro**	**29.16**	**252**	P	**P**	**11 06 20.0**	**-0.2**
MAT				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
MAT	**Matsushiro**	**29.16**	**252**	P	**P**	**11 06 20.0**	**-0.2**
	comp=Z,5.0nm,0.9s,mb4.2						
MAT	**Matsushiro**	**29.16**	**252**	P	**P**	**11 06 20.2**	**0.0**
MDJ	**Mudanjiang**	**29.61**	**273**	P	**P**	**11 06 23.5**	**-0.6**
MDJ				AP	pP	11 06 29.8	+1.9
MDJ				XP	sP	11 06 32.3	+2.7
MDJ				PCP	PcP	11 09 28.3	-0.6
MDJ				S	**S**	**11 11 17.8**	**+0.2**
MDJ				XS		11 11 28.3	
MDJ				PCS		11 13 11.5	
MDJ				SCS	ScS	11 17 03.8	+1.1
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,132nm,7.0s						
MDJ				LR	LR		
	comp=N,421nm,14.3s,MS4.3						
MDJ				LR	LR		
	comp=E,415nm,16.3s,MS4.3						
MDJ				LR	LR		
	comp=Z,456nm,20.2s,MS4.1						
INK	**Inuvik**	**29.80**	**37**	*e*P	**P**	**11 06 23.9**	**-1.7**
INK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
INK	**Inuvik**	**29.80**	**37**	P	**P**	**11 06 24.5**	**-1.1**
	comp=Z,1.7nm,0.5s,mb4.1,baz=302,slow=8.1,SNR=16						
INK	**Inuvik**	**29.80**	**37**	*e*P	**P**	**11 06 23.9**	**-1.6**
	comp=Z,9.9nm,1.2s,mb4.4						
HIA	**Hailar**	**33.42**	**287**	*e*P	**P**	**11 06 56.1**	**-1.4**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HIA	**Hailar**	**33.42**	**287**	*e*P	**P**	**11 06 56.1**	**-1.4**
	comp=Z,6.1nm,0.7s,mb4.6						
BOD	**Bodaibo**	**33.56**	**304**	*e*P	**P**	**11 06 51.2**	**-7.5**
BOD				*e*	pP	11 06 56.0	-6.5
YKW3	**Yellowknife Ar**	**38.27**	**45**	*e*P	**P**	**11 07 38.3**	**-0.3**
YKA	**Yellowknife Ar**	**38.30**	**45**	P	**P**	**11 07 38.5**	**-0.3**
YKA						11 13 39.2	
YKA	**Yellowknife Ar**	**38.30**	**45**	P	**P**	**11 07 38.5**	**-0.3**
	comp=Z,5.3nm,0.6s,mb4.5,baz=287,slow=7.8,SNR=57						
YKA				ScP		11 13 39.1	
	comp=Z,1.4nm,1.2s,baz=290,slow=4.7,SNR=5.2						
PGC	**Sidney**	**39.38**	**69**	*e*P	**P**	**11 07 48.0**	**0.0**
	comp=Z,14nm,0.8s,mb4.8						
BJI	**Beijing**	**40.41**	**276**	P	**P**	**11 07 57.9**	**+1.3**
BJI				S	**S**	**11 14 07.3**	**+3.0**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.4						
BJI				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.3						
BJI	**Beijing**	**40.41**	**276**	P	**P**	**11 07 57.9**	**+1.3**
	comp=Z,9.0nm,1.2s,mb4.4						
BJI				S	**S**	**11 14 07.3**	**+3.0**
BJI				SS	SS	11 17 15.4	+18
BJI				LR	LR		
	comp=Z,400nm,20.0s,MS4.3						
RPW	**Rockport**	**40.59**	**68**	P	**P**	**11 07 58.1**	**+0.1**
RES	**Resolute Bay**	**41.13**	**24**	*e*P	**P**	**11 08 01.2**	**-1.0**
RES				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
RES	**Resolute Bay**	**41.13**	**24**	*e*P	**P**	**11 08 01.2**	**-1.0**
	comp=Z,6.4nm,1.0s,mb4.2						
TBM	**Table Mountain**	**41.78**	**69**	P	**P**	**11 08 09.1**	**+1.4**
SONM	**Songino Array**	**41.88**	**292**	P	**P**	**11 08 09.4**	**+1.0**
	comp=Z,3.7nm,0.7s,mb4.1,baz=62,slow=8.0,SNR=21						
SONM				ScP		11 13 52.7	
	comp=Z,0.4nm,0.9s,baz=90,slow=1.2,SNR=4.2						
EBG	**Ellensburg**	**41.94**	**70**	P	**P**	**11 08 10.1**	**+1.1**
TIA	**Tai'an**	**42.21**	**271**	*e*P	**P**	**11 08 12.0**	**+0.7**
VFP	**Flag Point**	**42.28**	**72**	P	**P**	**11 08 12.9**	**+1.1**
ZAK	**Zakamensk**	**42.31**	**297**	*e*P	**P**	**11 08 11.9**	**-0.1**
MDW	**Midway**	**42.57**	**70**	P	**P**	**11 08 15.2**	**+1.1**
EDM	**Edmonton**	**42.71**	**58**	*e*P	**P**	**11 08 15.0**	**-0.2**
SSE	**Sheshan**	**43.15**	**262**	P	**P**	**11 08 16.5**	**-2.6**
SSE				XP	sP	11 08 29.5	+4.9
SSE				PP	PP	11 09 57.8	-3.9
SSE				S	**S**	**11 14 42.5**	**-2.2**
SSE				XS		11 14 58.0	
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,81nm,3.2s						
SSE				LR	LR		
	comp=N,99nm,21.6s,MS4.1						
SSE				LR	LR		
	comp=E,229nm,21.8s,MS4.1						
SSE				LR	LR		
	comp=Z,203nm,27.1s						
SSE	**Sheshan**	**43.15**	**262**	P	**P**	**11 08 16.6**	**-2.5**
	comp=Z,40nm,0.7s,mb5.3						
SSE				sP	sP	11 08 29.4	+4.8
SSE				PP	PP	11 09 57.7	-4.0
SSE				S	**S**	**11 14 42.4**	**-2.3**
SSE				sS		11 14 58.1	
SSE				SS	SS	11 17 57.8	+6.8
SSE				LR	LR		
	comp=Z,200nm,27.1s,MS3.9						
NEW	**Newport**	**43.19**	**66**	*e*P	**P**	**11 08 18.6**	**-0.6**
NEW				pmax	pmax		
	comp=Z,11nm,1.0s						
NEW	**Newport**	**43.19**	**66**	*e*P	**P**	**11 08 18.6**	**-0.6**
	comp=Z,11nm,1.0s,mb4.5						
YBH	**Yreka Blue Hor**	**43.60**	**77**	*e*P	**P**	**11 08 23.9**	**+1.3**
YBH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YBH	**Yreka Blue Hor**	**43.60**	**77**	*e*P	**P**	**11 08 23.9**	**+1.4**
	comp=Z,4.0nm,0.9s,mb4.2						
NJ2	**Nanjing**	**43.91**	**265**	*e*P	**P**	**11 08 26.3**	**+1.0**
NJ2				AP	pP	11 08 34.5	+5.3
NJ2				XP	sP	11 08 36.8	+6.0
NJ2				PP	PP	11 10 10.3	+0.9
NJ2				S	**S**	**11 14 55.0**	**-0.8**
NJ2				XS		11 15 07.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,140nm,3.9s						
NJ2				LR	LR		
	comp=N,1μm,14.6s						
NJ2				LR	LR		
	comp=E,2μm,19.7s						
NJ2				LR	LR		
	comp=Z,2μm,14.6s,MS5.1						
WALA	**Waterton Lakes**	**44.55**	**64**	*e*P	**P**	**11 08 30.2**	**-0.1**
	comp=Z,22nm,0.7s,mb5.1						
MOD	**Modoc**	**44.94**	**76**	*e*P	**P**	**11 08 33.2**	**-0.3**
	comp=Z,2.9nm,0.6s,mb4.3						
BMO	**Blue Mountains**	**44.98**	**70**	*e*P	**P**	**11 08 33.5**	**-0.2**
	comp=Z,2.9nm,0.8s,mb4.2						
MSO	**Missoula**	**45.78**	**66**	*e*P	**P**	**11 08 39.0**	**-1.0**
	comp=Z,4.1nm,1.0s,mb4.3						
CHMT	**Chamberlain Mo**	**46.12**	**66**	*e*P	**P**	**11 08 42.1**	**-0.6**
MCMT	**McKenzie Canyo**	**47.56**	**68**	*e*P	**P**	**11 08 53.5**	**-0.6**
FFC	**Flin Flon**	**47.65**	**51**	*e*P	**P**	**11 08 53.8**	**-0.9**
FFC				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
FFC	**Flin Flon**	**47.65**	**51**	*e*P	**P**	**11 08 53.8**	**-0.9**
	comp=Z,3.6nm,0.7s,mb4.5						

WHN	Wuhan	47.73	267	⇓P	P	11 08 56.0	+0.3
BOZ	Bozeman (W)	47.77	66	eP	P	11 08 55.5	-0.3
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
BOZ	Bozeman (W)	47.77	66	eP	P	11 08 55.5	-0.2
	comp=Z,5.1nm,0.7s,mb4.7						
NVAR	Mina Array Bea	48.29	78	P	P	11 09 00.5	+0.6
	comp=Z,1.4nm,0.6s,mb4.2,baz=301,slow=7.9,SNR=14						
NVAR				LR	LR	11 25 55.3	
	comp=Z,340nm,20.6s,MS4.3,baz=315,slow=32						
QLMT	Earthquake Lak	48.37	67	eP	P	11 09 00.2	-0.2
XAN	Xi'an	48.69	275	P	P	11 09 03.0	-0.1
XAN				AMB	AMB		
	comp=Z,11nm,1.6s,mb4.6						
GCMT	Greycliff	48.79	65	eP	P	11 09 03.9	+0.3
YFT	Old Faithful	48.94	67	eP	P	11 09 04.5	-0.3
FCC	Fort Churchill	48.96	44	eP	P	11 09 03.8	-0.9
FCC				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
FCC	Fort Churchill	48.96	44	eP	P	11 09 03.8	-1.0
	comp=Z,17nm,0.9s,mb5.1						
IMW	Indian Meadow	49.22	68	eP	P	11 09 07.0	+0.1
ZAL	Zalesovo	49.91	309	P	P	11 09 10.6	-1.6
	comp=Z,0.9nm,0.3s,mb4.3,baz=267,slow=5.4,SNR=1.8						
ZAL				LR	LR	11 32 47.8	
	comp=Z,470nm,18.2s,MS4.5,baz=54,slow=39						
NVS	Novosibirsk	50.11	311	eP	P	11 09 11.4	-2.2
NVS				pmax	pmax		
	comp=Z,32nm,1.7s,mb5.1						
NVS				pmax	pmax		
	comp=N,13nm,1.6s						
NVS				pmax	pmax		
	comp=E,26nm,1.7s						
LAO	LASA Array	50.15	62	eP	P	11 09 13.9	-0.2
	comp=E,14nm,0.6s,mb5.2						
DGMT	Dagmar	50.16	59	eP	P	11 09 13.1	-1.1
	comp=E,19nm,0.9s,mb5.1						
LZH	Lanzhou	50.44	280	⇑P	P	11 09 17.8	+1.4
LZH				AP	pP	11 09 28.3	+7.9
LZH				PP	PP	11 11 15.0	+1.9
LZH				S	S	11 16 32.3	+4.1
LZH				AMB	AMB		
	comp=Z,110nm,1.4s,mb5.7						
LZH				AMB	AMB		
	comp=Z,290nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,17.1s						
LZH				LR	LR		
	comp=Z,1μm,18.6s,MS4.9						
LZH	Lanzhou	50.44	280	⇑P	P	11 09 17.7	+1.3
LZH						11 11 15.0	
LZH				S	S	11 16 32.3	+4.1
LZH				PS	PS	11 16 45.0	+6.9
LZH				SS	SS	11 20 05.0	+5.6
LZH				pmax	pmax		
	comp=Z,110nm,1.4s,mb5.7						
LZH				MLR	MLR		
	comp=Z,1μm,18.6s,MS4.9						
LZH	Lanzhou	50.44	280	⇑P	P	11 09 17.7	+1.3
	comp=Z,110nm,1.4s,mb5.7						
LZH				pP	pP	11 09 28.3	+7.9
LZH				sP	sP	11 09 32.0	+10
LZH				PP	PP	11 11 15.0	+1.9
LZH				S	S	11 16 32.3	+4.1
LZH				PS	PS	11 16 45.0	+6.9
LZH				sS		11 16 48.0	
LZH				SS	SS	11 20 05.0	+5.6
LZH				LR	LR		
	comp=Z,1μm,18.6s,MS4.9						
NOQ	North Oquirrh	50.56	72	P	P	11 09 17.5	+0.2
BW06	Boulder Array	50.71	68	eP	P	11 09 17.8	-0.6
	comp=Z,4.5nm,0.8s,mb4.5						
PDAR	Pinedale Array	50.71	68	P	P	11 09 18.4	0.0
	comp=Z,4.4nm,0.7s,mb4.5,baz=310,slow=4.0,SNR=19						
ENH	Enshi	50.92	271	eP	P	11 09 19.4	-0.7
MWC	Mount Wilson	51.20	82	eP	P	11 09 22.1	-0.1
DAU	Daniels Canyon	51.22	71	eP	P	11 09 22.5	+0.2
MVU	Marysvale	51.89	74	eP	P	11 09 27.4	-0.1
	comp=Z,3.8nm,1.0s,mb4.3						
MSU	Marysvale	51.91	74	eP	P	11 09 27.7	+0.2
TMUT	Trail Mountain	51.97	73	eP	P	11 09 28.0	0.0
NEN	Nelson	52.20	78	eP	P	11 09 29.5	-0.3
LDFC	Landfair	52.42	79	eP	P	11 09 30.7	-0.8
SRU	San Rafael	52.49	72	eP	P	11 09 31.7	-0.2
BAR	Barrett	53.10	82	eP	P	11 09 35.2	-1.3
PV10	Paradox Valley	53.85	72	eP	P	11 09 41.6	-0.3
PV01	Paradox Valley	54.28	72	eP	P	11 09 44.9	-0.2
WMQ	Urumqi	54.75	298	eP	P	11 09 50.5	+2.0
KURK	Kurchatov	54.88	309	eP	P	11 09 47.6	-1.8
KURK				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.5						
KURK	Kurchatov	54.88	309	eP	P	11 09 47.6	-1.8
	comp=Z,49nm,1.0s,mb5.5						
MKAR	Makanchi Array	55.65	304	i P	P	11 09 53.0	-2.0
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KEV	Kevo	56.03	347	ep	P	11 09 55.9	-1.6
SDCO	Great Sand Dun	56.34	70	eP	P	11 10 00.3	+0.2
	comp=Z,6.8nm,1.0s,mb4.6						
LVZ	Lovozero	56.44	343	eP	P	11 09 56.8	-3.6
LVZ				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.3						
LVZ				pmax	pmax		
	comp=N,13nm,1.0s						
LVZ				pmax	pmax		
	comp=E,1.0nm,0.7s						
ARCES	ARCESS Array B	56.45	347	P	P	11 09 59.0	-1.5
	comp=E,4.4nm,0.7s,mb4.6,baz=35,slow=7.8,SNR=18						
ARCES				LR	LR	11 35 14.9	
	comp=E,352nm,19.1s,MS4.5,baz=276,slow=37						
ARCES	ARCESS Array B	56.45	347	P	P	11 09 59.0	-1.5
ARCES				LR	LR	11 35 14.9	
CHKZ	Chkalovo	56.51	316	eP	P	11 09 59.0	-2.1
CHKZ				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.3						
CHKZ	Chkalovo	56.51	316	eP	P	11 09 59.0	-2.1
	comp=Z,37nm,1.1s,mb5.3						
TUC	Tucson	56.94	79	eP	P	11 10 04.2	-0.3
TUC				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.6						
TUC	Tucson	56.94	79	eP	P	11 10 04.2	-0.3
	comp=Z,9.2nm,1.4s,mb4.6						
APA	Apatity	56.96	343	⇑i P	P	11 10 05.7	+1.6
APA				pmax	pmax		
	comp=Z,69nm,1.6s,mb5.4						
APA				MLR	MLR		
	comp=Z,600nm,17.0s,MS4.8						
BVA0	Borovoye Array	57.06	315	i P	P	11 10 03.4	-1.7
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
BRVK	Borovoye	57.09	316	eP	P	11 10 03.3	-1.9
BRVK				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.2						
BRVK	Borovoye	57.09	316	eP	P	11 10 03.3	-1.9
	comp=Z,19nm,0.7s,mb5.2						
LAZ	Ladron	57.67	74	eP	P	11 10 10.0	+0.4
ANMO	Albuquerque	57.69	73	eP	P	11 10 09.5	-0.2
ANMO				pmax	pmax		
	comp=Z,15nm,1.7s						
ANMO	Albuquerque	57.69	73	eP	P	11 10 09.5	-0.2
	comp=Z,15nm,1.7s,mb4.8						
KMI	Kunming	58.77	272	P	P	11 10 17.8	+0.4
KMI				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
KMI	Kunming	58.77	272	P	P	11 10 17.8	+0.4
	comp=Z,12nm,1.2s,mb4.8						
ARU	Arti	59.29	324	P	P	11 10 19.3	-1.3
	comp=Z,262nm,0.4s,mb6.6,SNR=8.7						
ARU	Arti	59.29	324	eP	P	11 10 14.0	-6.6
ARU				e		11 11 02.9	
ARU				eS	S	11 18 16.3	-10
ARU				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.6						
ARU				MLR	MLR		
	comp=N,300nm,16.0s,MS4.6						
ARU				MLR	MLR		
	comp=E,200nm,19.0s,MS4.6						
ARU	Arti	59.29	324	eP	P	11 10 13.8	-6.8
	comp=E,25nm,0.6s,mb5.4						
KSU1	Kansas State U	60.45	63	eP	P	11 10 27.4	-1.3
CPRX	Cap Rock	60.57	73	eP	P	11 10 29.1	-0.6
MNTX	Cornudas Mount	60.62	75	eP	P	11 10 29.8	-0.3
	comp=E,14nm,0.8s,mb5.1						
GDL2	Guadalupe Moun	60.87	74	eP	P	11 10 31.4	-0.3
JOF	Joensuu	61.52	341	ep	P	11 10 34.5	-1.2
	comp=E,15nm,0.7s,mb5.2						
TKM2	Tokmak 2	61.77	304	P	P	11 10 36.9	-0.8
	SNR=7.6						
USP	Ospenovka	62.07	305	P	P	11 10 39.4	-0.3
	SNR=5.9						
KBK	Karagaybulak	62.29	304	P	P	11 10 40.2	-0.9
	SNR=8.5						
WMOK	Wichita Mounta	62.32	68	eP	P	11 10 40.9	-0.6
WMOK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.9						
WMOK	Wichita Mounta	62.32	68	eP	P	11 10 40.9	-0.6
	comp=Z,6.4nm,0.6s,mb4.9						
FRU	Bishkek	62.33	305	eP	P	11 10 40.0	-1.4
FRU				e		11 10 46.5	
SCHQ	Schefferville	62.38	34	P	P	11 10 40.7	-0.9
	comp=Z,17nm,0.5s,mb5.4,baz=341,slow=7.0,SNR=27						
SCHQ				LR	LR	11 39 15.4	
	comp=Z,234nm,18.1s,MS4.4,baz=130,slow=38						
SCHQ	Schefferville	62.38	34	eP	P	11 10 40.0	-1.6
	comp=Z,22nm,0.6s,mb5.5						
LSA	Lhasa	62.53	284	eP	P	11 10 40.5	-2.5
AAK	Ala-Archa	62.53	305	P	P	11 10 42.3	-0.5
	SNR=7.8						
AAK	Ala-Archa	62.53	305	⇑eP	P	11 10 41.1	-1.7
AAK				pmax	pmax		
	comp=Z,20nm,1.6s,mb5.0						
AAK				MLR	MLR		
	comp=Z,500nm,19.0s,MS4.7						
AAK	Ala-Archa	62.53	305	eP	P	11 10 40.6	-2.2
	comp=Z,12nm,1.0s,mb5.0						
EKS2	Erkin-Say	62.88	305	P	P	11 10 45.1	+0.1
	SNR=5.7						
KAF	Kangasniemi	63.20	343	ep	P	11 10 45.5	-1.4
	comp=Z,14nm,0.7s,mb5.2,baz=18,slow=6.0						
KAF	Kangasniemi	63.20	343	eP	P	11 10 45.5	-1.4
KAF				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.2						
AML	Almayashu	63.31	305	P	P	11 10 47.9	+0.1
	SNR=7.3						
TXAR	Lajitas Array	63.34	76	P	P	11 10 48.4	+0.1
	comp=Z,6.8nm,0.5s,mb5.1,baz=307,slow=5.0,SNR=220						
TXAR				LR	LR	11 35 26.0	
	comp=Z,232nm,19.6s,MS4.4,baz=305,slow=33						
TXAR	Lajitas Array	63.34	76	P	P	11 10 48.4	+0.1
TXAR				LR	LR	11 35 26.0	
FINES	FINESS Array B	63.86	343	P	P	11 10 50.1	-1.0
	comp=Z,11nm,0.8s,mb5.0,baz=27,slow=8.5,SNR=23						
FINES				LR	LR	11 42 49.9	
	comp=Z,178nm,18.8s,MS4.3,baz=51,slow=40						
FVM	French Village	64.62	60	eP	P	11 10 53.9	-2.6
FVM				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
FVM	French Village	64.62	60	eP	P	11 10 53.9	-2.6
	comp=Z,5.6nm,0.6s,mb4.8						
PMG	Port Moresby	65.22	209	LR	LR	11 34 07.5	
	comp=Z,209nm,20.2s,MS4.3,baz=310,slow=31						
CM31	Chiang Mai Arr	66.06	270	eP	P	11 11 06.1	+0.1
	comp=Z,4.3nm,0.6s,mb4.7						
CMAR	Chiang Mai Arr	66.06	270	P	P	11 11 06.3	+0.2
	comp=Z,3.3nm,0.7s,mb4.5,baz=27,slow=7.4,SNR=21						
CMAR				LR	LR	11 43 43.8	
	comp=Z,121nm,18.4s,MS4.1,baz=55,slow=40						
USIN	University of	66.10	59	P	P	11 11 05.7	-0.3
NB2	NORSAR Subarra	66.34	351	P	P	11 11 05.7	-1.4
	comp=Z,19nm,1.0s,mb5.1,baz=12,slow=6.5						
NB2	NORSAR Subarra	66.34	351	P	P	11 11 05.7	-1.4
	baz=12,slow=6.5						
NOA	NORSAR Array B	66.34	351	P	P	11 11 06.1	-1.0
	comp=Z,17nm,1.0s,mb5.0,baz=12,slow=6.4,SNR=19						
NOA				LR	LR	11 39 36.8	
	comp=Z,104nm,19.3s,MS4.0,baz=90,slow=36						
NOA	NORSAR Array B	66.34	351	P	P	11 11 06.1	-1.0
NOA				LR	LR	11 39 36.8	
MOS	Moscow	66.48	334	eP	P	11 11 07.5	-0.6
MOS				pmax	pmax		
	comp=Z,46nm,1.1s,mb5.4						
JIRN	Jiri	66.98	286	eP	P	11 11 12.1	+0.3
	comp=Z,45nm,0.7s,mb5.6						
ALLY	Alegheny Colle	67.11	51	eP	P	11 11 11.7	-0.7
OBN	Obninsk	67.32	335	⇑eP	P	11 11 10.8	-2.6
OBN				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.2						
OBN				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.7						
KKN	Kakani	67.43	286	eP	P	11 11 14.6	0.0
	comp=Z,35nm,0.7s,mb5.5						
PKI	Pulchoki	67.51	286	eP	P	11 11 15.1	-0.1
	comp=Z,32nm,0.8s,mb5.4						
GKN	Gorkha	67.65	287	eP	P	11 11 15.7	-0.3
	comp=Z,61nm,1.1s,mb5.5						
DMN	Daman	67.66	286	eP	P	11 11 16.1	0.0
OXF	Oxford	67.74	62	eP	P	11 11 15.6	-0.9
OXF				pmax	pmax		
	comp=Z,81nm,1.1s,mb5.7						
OXF	Oxford	67.74	62	eP	P	11 11 15.6	-0.8
	comp=Z,81nm,1.1s,mb5.7						
KOLN	Koldanda	68.43	288	eP	P	11 11 20.6	-0.3
MNK	Minsk	69.98	339	⇓eP	P	11 11 27.0	-2.9
SUW	Suwalki	71.39	342	eP	P	11 11 37.3	-1.2
AKASG	Malin Array Be	73.19	337	P	P	11 11 48.4	-0.7
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AKASG	Malin Array Be	73.19	337	P	P	11 11 48.4	-0.7
	comp=Z,6.0nm,0.7s,mb4.7,baz=24,slow=5.8,SNR=19						
GOF	Gofitskoye	74.20	326	⇑i P	P	11 11 55.5	+0.4
GOF				pmax	pmax		
	comp=Z,70nm,1.3s,mb5.4						
LVV	L'vov	75.19	340	eP	P	11 12 01.0	+0.3
LVV				e		11 16 30.2	
LVV				e		11 21 27.6	
KIV	Kislovodsk	75.29	325	eP	P	11 12 01.3	-0.1
KIV				e		11 14 49.0	
KIV				eS	S	11 21 36.1	-2.9
KIV				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
KIV				MLR	MLR		
	comp=N,688nm,23.0s,MS5.1						
KIV				MLR	MLR		
	comp=E,914nm,23.0s,MS5.1						
KIV				MLR	MLR		
	comp=Z,1μm,23.0s,MS5.2						
CTA	Charters Tower	75.62	206	P	P	11 12 04.0	+0.2
	comp=Z,3.3nm,0.7s,mb4.4,baz=264,slow=9.9,SNR=5.2						
CTA				LR	LR	11 43 13.2	
	comp=Z,197nm,19.1s,MS4.4,baz=47,slow=34						
CTA	Charters Tower	75.62	206	P	P	11 12 04.0	+0.2
CTA				LR	LR	11 43 13.2	
KSP	Ksiaz	75.64	345	eP	P	11 12 04.2	+1.0
KSP	Ksiaz	75.64	345	eP	P	11 12 03.5	+0.3
KWP	Kalwaria	75.64	341	eP	P	11 12 04.0	+0.7
KWP	Kalwaria	75.64	341	eP	P	11 12 04.0	+0.7
OJC	Ojcow	75.64	343	eP	P	11 12 03.8	+0.6
CLL	Collm	75.67	347	i P	P	11 12 02.9	-0.5
CLL				i	sP	11 12 08.9	0.0
CLL				pmax	pmax		
	comp=Z,21nm,1.5s,mb4.8						
CLL	Collm	75.67	347	P	P	11 12 02.9	-0.5
	comp=Z,logA/T=1.1,mb4.8						
CLL				i *SP	sP	11 12 08.9	0.0
ZEI	Tsey	75.89	324	eP	P	11 12 02.1	-2.7
ZEI				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
BRG	Berggiesshubel	75.96	347	eP	P	11 12 04.9	-0.1
BRG				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.8						
BRG	Berggiesshubel	75.96	347	eP	P	11 12 04.9	-0.1
	comp=Z,20nm,1.5s,mb4.8						
UPC	Upice	76.01	345	eP	P	11 12 05.8	+0.5
DPC	Dobruska-Polom	76.11	345	eP	P	11 12 06.6	+0.7
OKC	Ostrava-Krasne	76.30	344	eP	P	11 12 07.2	+0.2
NIE	Niedzica	76.31	342	eP	P	11 12 08.2	+1.1
KOLS	Kolonicke sedl	76.39	341	i P	P	11 12 08.8	+1.3
MOX	Moxa	76.50	348	eP	P	11 12 08.0	-0.1
CRVS	Cervenica-Dubn	76.59	341	i P	P	11 12 09.8	+1.2
SOC	Sochi	76.63	327	eP	P	11 12 07.1	-1.9
SOC				e		11 14 59.1	
SOC				ePPP	PPP	11 16 53.4	+2.8
SOC				eS	S	11 21 48.9	-4.8
SOC				e		11 22 32.2	
SOC				eSSS	SSS	11 30 11.2	+3.4
SOC				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.2						
SOC				pmax	pmax		
	comp=N,28nm,1.0s						
SOC				pmax	pmax		
	comp=E,17nm,1.1s						
RAR	Rarotonga	76.67	154	LR	LR	11 37 30.4	
	comp=E,2μm,21.7s,MS5.3,baz=356,slow=29						
PRU	Pruhonice	76.74	346	eP	P	11 12 09.0	-0.4
BURAR	Bucovina Array	77.01	338	⇑P	P	11 12 12.0	+1.0
VRAC	Vranov	77.08	345	⇓P	P	11 12 12.3	+1.0
VYHS	Vyhne	77.48	343	i P	P	11 12 14.5	+1.0
VYHS				e		11 12 23.2	
GRA1	Grafenberg Arr	77.48	348	eP	P	11 12 14.7	+1.2
	comp=E,13nm,1.3s,mb4.7						
GRF	Grafenberg Arr	77.48	348	eP	P	11 12 14.7	+1.2
GRF				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
GRF	Grafenberg Arr	77.48	348	eP	P	11 12 14.7	+1.2
GRF				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
GRF	Grafenberg Arr	77.48	348	eP	P	11 12 14.7	+1.2
	comp=Z,13nm,1.3s,mb4.7						
KHC	Kasperske Hory	77.71	347	eP	P	11 12 15.3	+0.5
PSZ	Piszkesteto	77.83	342	eP	P	11 12 16.8	+1.3
GERES	GERESS Array B	77.97	346	P	P	11 12 16.9	+0.6
	comp=Z,2.3nm,0.5s,mb4.3,baz=34,slow=4.8,SNR=20						
ZST	Bratislava	78.07	344	eP	P	11 12 19.7	+2.9
MLR	Muntele Rosu	78.84	337	⇓P	P	11 12 23.2	+2.1
CDF	Champ du Feu	79.19	351	eP	P	11 12 23.1	+0.1
HYB	Hyderabad	79.32	284	⇓eP	P	11 12 24.5	+0.3
HYB	Hyderabad	79.32	284	⇓i P	P	11 12 24.5	+0.3
WRAB	Tennant Creek	79.33	217	eP	P	11 12 24.2	0.0
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
WRAB	Tennant Creek	79.33	217	eP	P	11 12 24.1	-0.1
	comp=Z,10nm,0.9s,mb4.8						
WB2	Warramunga Arr	79.33	217	⇓i P	P	11 12 24.6	+0.3
WRA	Warramunga Arr	79.34	217	P	P	11 12 25.2	+0.9
	comp=Z,4.2nm,0.7s,mb4.5,baz=31,slow=6.4,SNR=31						
LDF	La Druitiere	79.56	356	eP	P	11 12 24.8	-0.2
WATA	Walderalm	79.75	347	⇓i P	P	11 12 27.1	+1.1
	comp=Z,20nm,1.3s,mb4.9						
WATA	Walderalm	79.75	347	⇓i P	P	11 12 27.1	+1.1
WATA				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
KBA	Koelnbreinsper	79.75	346	⇑i P	P	11 12 27.4	+1.4
	comp=Z,88nm,1.6s,mb5.4						
KBA	Koelnbreinsper	79.75	346	⇑i P	P	11 12 27.4	+1.4
KBA				pmax	pmax		
	comp=Z,88nm,1.6s,mb5.4						
MOTA	Moosalm	79.80	348	⇑i P	P	11 12 27.2	+0.9
	comp=Z,14nm,1.3s,mb4.7						
MOTA	Moosalm	79.80	348	⇑i P	P	11 12 27.2	+0.9
MOTA				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
GRR	Gorron	79.80	356	eP	P	11 12 26.0	-0.2
WTTA	Wattenberg	79.81	347	⇓i P	P	11 12 27.8	+1.5
	comp=Z,19nm,0.7s,mb5.1						
WTTA	Wattenberg	79.81	347	⇓i P	P	11 12 27.8	+1.5
WTTA				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.1						
PERS	Pernice	79.91	345	eP	P	11 12 27.4	+0.5
SQTA	Sankt Quirin	79.91	348	⇓i P	P	11 12 28.0	+1.2
	comp=Z,12nm,0.9s,mb4.8						
SQTA	Sankt Quirin	79.91	348	⇓i P	P	11 12 28.0	+1.2
SQTA				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
SGMF	Saint Gilles	80.00	357	eP	P	11 12 27.4	+0.1
	comp=Z,70nm,1.2s,mb5.2						
SGMF	Saint Gilles	80.00	357	eP	P	11 12 27.4	+0.1
SGMF				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.2						
GROS	Grobnik	80.02	345	eP	P	11 12 28.1	+0.7
OBKA	Obir	80.12	345	⇓i P	P	11 12 29.5	+1.5
	comp=Z,27nm,1.0s,mb5.1						
SSF	Saint Saulge	80.87	353	eP	P	11 12 32.2	+0.3
CABF	La Chapelle	81.09	351	eP	P	11 12 33.7	+0.6
AVF	Avril sur Loir	81.15	353	eP	P	11 12 33.6	+0.2
	comp=Z,24nm,1.1s,mb4.7						
AVF	Avril sur Loir	81.15	353	eP	P	11 12 33.6	+0.2
AVF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
FITZ	Fitzroy Crossi	81.22	225	eP	P	11 12 35.4	+1.1
SMF	Signal de Mont	81.26	353	eP	P	11 12 34.2	+0.2
MFF	Saint Martin d	81.55	355	eP	P	11 12 35.5	0.0
BRTR	Keskin Array B	82.07	330	P	P	11 12 39.0	+0.6
	comp=Z,2.1nm,0.7s,mb4.2,baz=55,slow=3.6,SNR=9.7						
LPL	La Plagne	82.11	350	eP	P	11 12 40.1	+1.6
LPG	La Plagne	82.13	350	eP	P	11 12 40.2	+1.7
ORIF	Oris-en-Rattie	82.79	351	eP	P	11 12 43.2	+1.2
	comp=Z,22nm,0.7s,mb5.0						
ORIF				eR			
	comp=Z,253nm,21.5s						
MBDF	Montbardon	82.89	350	eP	P	11 12 43.6	+1.1
ASAR	Alice Springs	82.90	216	P	P	11 12 44.0	+1.0
	comp=Z,1.8nm,0.6s,mb4.3,baz=21,slow=5.0,SNR=24						
CAF	Calviac	83.10	354	eP	P	11 12 44.4	+0.8
LFF	La Frestale	83.17	355	eP	P	11 12 44.4	+0.5
ETSF	Etsaut	85.27	355	eP	P	11 12 56.1	+1.6
	comp=Z,25nm,0.8s,mb5.1						
ETSF	Etsaut	85.27	355	eP	P	11 12 56.1	+1.6
ETSF				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.1						
STKA	Stephens Creek	88.08	207	P	P	11 13 09.1	+0.6
	comp=Z,2.3nm,0.7s,mb4.5,baz=345,slow=5.7,SNR=8.3						
STKA				LR	LR	11 48 51.5	
	comp=Z,152nm,19.2s,MS4.4,baz=205,slow=33						
STKA	Stephens Creek	88.08	207	eP	P	11 13 09.6	+1.1
VAE	Valguarnera	88.94	343	LR	LR	11 58 58.0	
	comp=Z,319nm,18.4s,MS4.8,baz=133,slow=40						
BOSA	Boshof	146.64	302	ePKIKP	PKPdf	11 19 57.7	-2.5

IGQ 25 11:02:44.4, 1.56S×81.06W, h12km±9km, mb4.3, 2C, Error ellipse: s-maj=36.9km s-min=8.1km az=164.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.72	45	⇑P	Pb	11 02 57.5	-0.8
IGUA	Igualata	2.42	88	P	Pn	11 03 25.3	+0.9
ARRY	Arrayan	2.60	89	P	Pn	11 03 28.0	+1.0
PATA	Patacocha	2.62

ASPA	**Alice Springs**	**45.28**	**253**	*e*P	**P**	**11 23 27.4**	**-0.8**
KAKA	**Kakadu**	**47.82**	**268**	*e*P	**P**	**11 23 47.8**	**-0.5**
	5.5nm,0.2s,mb5.2						
NVAR	**Mina Array Bea**	**78.54**	**44**	P	**P**	**11 27 13.3**	**+1.9**
	0.9nm,0.8s,mb3.7,baz=230,slow=8.3,SNR=5.7						
NEW	**Newport**	**84.56**	**36**	P	**P**	**11 27 40.8**	**-1.9**
	0.8nm,0.4s,mb4.2,baz=48,slow=12,SNR=2.3						
ILAR	**Eielson Array**	**84.84**	**13**	P	**P**	**11 27 42.4**	**-1.4**
	0.3nm,0.4s,mb3.8,baz=222,slow=5.3,SNR=9.5						
TXAR	**Lajitas Array**	**85.27**	**58**	P	**P**	**11 27 48.5**	**+1.8**
	0.7nm,0.7s,mb3.9,baz=222,slow=5.5,SNR=12						
PDAR	**Pinedale Array**	**86.47**	**43**	P	**P**	**11 27 52.7**	**+0.5**
	0.5nm,0.5s,mb4.0,baz=197,slow=2.4,SNR=6.5						

WEL 25 11:16:25.7±0.6, 45.15S×166.62E, h12km, ML4.0/7, 1D, Error ellipse: s-maj=5.3km s-min=2.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.50**	**132**	P*	Pb	11 16 35.5	-0.5
DCZ				S*	Sb	11 16 42.3	-0.6
MSZ	**Milford Sound**	**1.04**	**63**	P*	Pb	11 16 43.8	-1.3
MSZ				S*	Sb	11 16 57.9	-0.7
MSZ				S*	Sb	11 16 58.8	+0.3
MLZ	**Mavora Lakes**	**1.11**	**101**	P*	Pb	11 16 45.1	-1.2
WHZ	**Wether Hill Ro**	**1.20**	**129**	⇓P*	Pb	11 16 47.0	-0.7
WKZ	**Wanaka**	**1.73**	**80**	PN	Pn	11 16 55.8	0.0
JCZ	**Jackson Bay**	**1.86**	**56**	PN	Pn	11 16 56.1	-1.7
EAZ	**Earnscleugh**	**1.90**	**94**	PN	Pn	11 16 58.3	0.0
TUZ	**Tuapeka**	**2.27**	**112**	*e*PN	Pn	11 17 02.9	-0.7
LBZ	**Lake Benmore**	**2.65**	**75**	*e*PN	Pn	11 17 08.5	-0.5
FOZ	**Fox Glacier**	**2.71**	**55**	PN	Pn	11 17 08.3	-1.6
ODZ	**Otahua Downs**	**2.85**	**89**	PN	Pn	11 17 10.5	-1.4
RPZ	**Rata Peaks**	**3.48**	**67**	*e*PN	Pn	11 17 18.5	-2.3
WVZ	**Waitaha Valley**	**3.61**	**57**	*e*PN	Pn	11 17 19.1	-3.6
MQZ	**McQueen's Vall**	**4.55**	**74**	PN	Pn	11 17 33.7	-2.4
LTZ	**Lake Taylor**	**4.71**	**62**	*e*PN	Pn	11 17 36.6	-1.8
DSZ	**Denniston Nort**	**5.08**	**50**	*e*PN	Pn	11 17 38.9	-4.6
THZ	**Tophouse**	**5.69**	**56**	*e*PN	Pn	11 17 48.5	-3.6
QRZ	**Quartz Range**	**6.11**	**47**	*e*PN	Pn	11 17 53.5	-4.6
NNZ	**Nelson**	**6.31**	**54**	*e*PN	Pn	11 17 56.7	-4.1

IDC 25 11:37:13.6±5.6, 7.06S×113.44E, mb3.5/3, mb1 3.7/3, mb1mx3.4/14, mbtmp3.5/3, Error ellipse: s-maj=158.9km s-min=82.6km az=30.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.98**	**124**	P	P	11 42 29.8	-1.1
	0.4nm,0.4s,baz=300,slow=9.7,SNR=16						
ASAR	**Alice Springs**	**25.67**	**132**	P	P	11 42 44.5	-2.6
	0.4nm,0.4s,baz=309,slow=6.9,SNR=15						
STKA	**Stephens Creek**	**36.04**	**137**	P	P	11 44 18.6	-0.1
	0.4nm,0.3s,baz=302,slow=9.5,SNR=4.1						

OMAN ***25*** *11:39:11.9, 33.52N×45.44E, h20km, Error ellipse: s-maj=271.0km s-min=35.1km az=330.0*
IDC ***25*** *11:39:15.0±0.8, 33.46N×45.97E, mb4.6/19, mb1 4.7/24, mb1mx4.6/26, mbtmp4.6/24, ML4.1/6, MS4.2/12, Ms1 4.2/12, ms1mx4.1/18, Error ellipse: s-maj=20.7km s-min=12.1km az=4.0*
CSEM ***25*** *11:39:18.1, 33.70N×45.76E, h20km, mb5.1*
TEH ***25*** *11:39:19.6, 33.46N×45.85E, h12km, Mn4.6*
MOS ***25*** *11:39:20.3±1.1, 33.43N×45.86E, h55km, mb5.0/48, Error ellipse: s-maj=6.8km s-min=3.2km az=124.9*
NEIC ***25*** *11:39:20.9±0.6, 33.39N×45.87E, h45km±5km, mb4.9/57, Error ellipse: s-maj=6.5km s-min=3.2km az=184.0*
ZUR_RM ***25*** *11:39:20, 33.39N×45.87E, h24km, Mw5.1/9, Moment Tensor Solution. s9 Moment tensor: Scale 10^16Nm; Mrr3.85; Mθθ-0.43; Mφφ-3.42; Mrθ1.10; Mφr-2.34; Best double couple: M0 5.1×10^16 NP1:φs153°, δ60°, λ94°. NP2:φs325°, δ30°, λ83°. Principal axes: T 4.561, Plg74°, Azm73°; N 1.082, Plg3°, Azm331°; P -5.643, Plg15°, Azm240°;*
BJI ***25*** *11:39:20.0, 33.40N×45.90E, h45km, mB5.1, mb4.8, Ms4.9, Msz4.5*
HRVD ***25*** *11:39:20.9±0.4, 33.40N×45.69E, h12km, MW4.9/49, Centroid moment Tensor Solution. LP body waves: s19,c29;Mantle waves: s49,c77; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.58±.10; Mθθ-0.25±.09; Mφφ-1.33±.09; Mrθ1.71±.31; Mφθ1.58±.09; Mφr-1.26±.27; Best double couple: M0 2.97×10^16 NP1:φs350°, δ27°, λ129°. NP2:φs127°, δ70°, λ72°. Principal axes: T 2.629, Plg61°, Azm11°; N .683, Plg16°, Azm134°; P -3.311, Plg23°, Azm231°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
THR ***25*** *11:39:21.0±0.8, 33.59N×46.10E, h35km±12km, ML4.6*

ISC 25 11:39:19.6±0.3, 33.44N±0.02×45.86E±0.02, h49km±3km, n342, σ1$04/353, mb4.8/100, MS4.3/16, 58C-12D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**1.07**	**33**	Pg	**P**	**11 39 38.7**	**+0.2**
BHD	**Baghdad**	**1.25**	**263**	*i* Pb	Px	11 39 38.5	
BHD				*i* Sb	Sx	11 39 57.0	
IDHR	**Dehrash**	**1.33**	**19**	Pn	**P**	**11 39 43.8**	**+1.5**
IVIS	**Veys**	**1.36**	**37**	Pn	**P**	**11 39 43.9**	**+1.2**
IKOM	**Komasi**	**1.56**	**61**	Pn	**P**	**11 39 46.9**	**+1.4**
SNGE	**Sanandaj**	**2.06**	**36**	*e*PG	**P**	**11 39 53.7**	**+1.2**
SNGE				AML	AML	11 40 32.3	
	comp=N,5μm,0.6s						
SNGE	**Sanandaj**	**2.06**	**36**	*e*Pg	**P**	**11 39 53.7**	**+1.2**
	SNR=96						
SNGE				Sg	**S**	**11 40 20.6**	**+3.6**
SHGO	**Shushtar**	**2.81**	**117**	*e*PN	**P**	**11 40 04.2**	**+1.0**
SHGO				AML	AML	11 41 08.0	
	comp=N,2μm,0.5s						
SHGR	**Shooshtar-Gavs**	**2.81**	**117**	*e*PN	**P**	**11 40 04.2**	**+1.0**
SHGR				AML	AML	11 41 11.2	
	comp=N,2μm,0.5s						
MSL	**Mosul**	**3.65**	**322**	*e*Pn	Px	11 40 15.5	
MSL				*i* Pb	Px	11 40 26.5	
MSL				*i* Pg	Px	11 40 37.5	
MSL				*i* Sg	**S**	**11 41 13.5**	**+16**
MSL				*i* Sn	Sx	11 41 57.0	
IRAZ	**Razeghan**	**3.89**	**59**	Lg		11 41 21.0	
IRAZ	**Razeghan**	**3.89**	**59**	Pn	**P**	**11 40 18.8**	**+0.3**
RST	**Umm Al-Ruwaisa**	**4.04**	**166**	*e*P	**P**	**11 40 21.3**	**+0.7**
RST				*e*S	**S**	**11 41 08.9**	**+1.7**
UMR	**Umm Al-Rimmam**	**4.18**	**157**	*e*P	**P**	**11 40 23.1**	**+0.5**
UMR				*e*S	**S**	**11 41 10.7**	**-0.1**
NAY	**Al-Naaiem**	**4.34**	**164**	*e*P	**P**	**11 40 25.5**	**+0.7**
NAY				*e*S	**S**	**11 41 15.7**	**+1.0**
RDF	**Al-Radifah**	**4.72**	**162**	*e*P	**P**	**11 40 30.8**	**+0.6**
RDF				*e*S	**S**	**11 41 25.3**	**+0.9**
IBRJ	**Borojen**	**4.85**	**109**	Pn	**P**	**11 40 32.0**	**-0.1**
QRN	**Al-Qurain**	**5.00**	**159**	*e*P	**P**	**11 40 34.1**	**0.0**
QRN				*e*S	**S**	**11 41 31.2**	**-0.1**
VANT	**Van**	**5.38**	**339**	P	**P**	**11 40 38.7**	**-0.7**
DAMV	**Damavand**	**5.50**	**65**	*e*PN	**P**	**11 40 39.6**	**-1.4**
IDMV	**Damavand**	**5.52**	**66**	Pn	**P**	**11 40 40.3**	**-1.0**
VANB	**Van**	**5.52**	**339**	*e*P	**P**	**11 40 38.8**	**-2.6**
GRMI	**Germi**	**5.61**	**16**	*e*PN	**P**	**11 40 41.9**	**-0.6**
NASN	**Na'in**	**5.86**	**94**	*e*PN	**P**	**11 40 44.8**	**-1.3**
NASN	**Na'in**	**5.86**	**94**	Pn	**P**	**11 40 45.5**	**-0.6**
BTMT	**Batman**	**5.93**	**324**	*e*P	**P**	**11 40 45.6**	**-1.4**
MAKU	**Maku**	**5.98**	**351**	*e*PN	**P**	**11 40 47.6**	**-0.2**
IFIR	**Firoozkooh**	**6.10**	**67**	Pn	**P**	**11 40 48.6**	**-0.8**
GNI	**Garni**	**6.76**	**353**	P	**P**	**11 40 59.0**	**+0.3**
GNI				pmax	pmax		
	comp=Z,4.0nm,0.3s						
GNI				MLR	MLR		
	comp=Z,718nm,18.5s						
GNI	**Garni**	**6.76**	**353**	Pn	**P**	**11 40 59.0**	**+0.3**
	comp=Z,3.7nm,0.3s,baz=37,slow=1.7,SNR=12						
GNI				Lg		11 42 54.1	
	baz=170,slow=22,SNR=1.7						
GNI				LR	LR	11 43 36.0	
	comp=Z,718nm,18.5s,baz=342,slow=39						
GNI	**Garni**	**6.76**	**353**	*e*Pn	**P**	**11 40 59.1**	**+0.4**
SHI	**Shiraz**	**6.82**	**122**	Pn	**P**	**11 40 55.3**	**-4.3**
URFA	**Urfa**	**7.00**	**307**	*e*P		11 41 18.4	
PTK	**Pertek**	**7.55**	**318**	*e*P	**P**	**11 41 07.8**	**-1.9**
ASF	**Jabal al Asfar**	**7.65**	**263**	Pn	**P**	**11 41 09.2**	**-1.9**
	comp=Z,4.3nm,0.3s,baz=329,slow=12,SNR=24						
ASF				Pg	P	11 41 40.5	+29
	comp=Z,10nm,0.3s,baz=329,slow=20,SNR=6.0						
ASF				Sn	**S**	**11 42 33.9**	**-3.4**
	comp=Z,16nm,0.3s,baz=182,slow=11,SNR=3.1						
ASF				Lg		11 43 22.4	
	comp=Z,15nm,0.3s,baz=146,slow=23,SNR=5.9						
ASF				LR	LR	11 44 57.8	
	comp=Z,2μm,18.6s,baz=146,slow=44						
MALT	**Malatya**	**7.75**	**311**	*e*P	**P**	**11 41 18.5**	**+6.1**
MALT	**Malatya**	**7.75**	**311**	*e*Pn	**P**	**11 41 09.8**	**-2.7**
MALT	**Malatya**	**7.75**	**311**	*e*P	**P**	**11 41 09.8**	**-2.6**
HWQ	**Hawqa**	**8.29**	**279**	*e*P	**P**	**11 41 18.7**	**-1.2**
TI2	**Plekhanov**	**8.33**	**354**	*i* P	**P**	**11 41 20.8**	**+0.4**
TI2				MLR	MLR		
	comp=N,2μm,8.0s						
TI2				MLR	MLR		
	comp=E,2μm,8.0s						
TI2				MLR	MLR		
	comp=Z,3μm,8.0s						
BHL	**Bhannes**	**8.52**	**276**	*e*P	**P**	**11 41 23.0**	**-0.1**
ZEI	**Tsey**	**9.45**	**351**	*e*P	**P**	**11 41 35.8**	**0.0**
ZEI				pmax	pmax		
	comp=Z,12nm,0.9s						
ZEI	**Tsey**	**9.45**	**351**	*e*P	**P**	**11 41 35.8**	**0.0**
	comp=Z,6.0nm,0.9s						
BNN	**Bunyan**	**9.73**	**307**	*e*P	**P**	**11 41 45.8**	**+6.0**
EIL	**Elat**	**10.04**	**251**	Pn	**P**	**11 41 41.7**	**-2.2**
	comp=Z,1.7nm,0.3s,baz=108,slow=12,SNR=6.3						
EIL				Lg		11 44 38.8	
	comp=Z,8.2nm,0.3s,baz=339,slow=21,SNR=5.1						
EIL				LR	LR	11 46 27.1	
	comp=Z,2μm,19.9s,baz=69,slow=43						
EIL	**Elat**	**10.04**	**251**	*e*P	**P**	**11 41 41.1**	**-2.9**
EIL	**Elat**	**10.04**	**251**	*e*P	**P**	**11 41 41.1**	**-2.8**
KIV	**Kislovodsk**	**10.79**	**348**	Pn	**P**	**11 41 56.8**	**+2.6**
	comp=Z,183nm,1.7s,SNR=14						
KIV	**Kislovodsk**	**10.79**	**348**	*e*P	**P**	**11 41 55.8**	**+1.6**
KIV				*e*S	**S**	**11 43 51.4**	**-3.1**
KIV				pmax	pmax		
	comp=N,49nm,1.4s						
KIV				pmax	pmax		
	comp=E,30nm,1.4s						
KIV				pmax	pmax		
	comp=Z,47nm,1.4s						
KIV	**Kislovodsk**	**10.79**	**348**	*e*P	**P**	**11 41 55.3**	**+1.1**
KIV	**Kislovodsk**	**10.79**	**348**	*e*P	**P**	**11 41 55.3**	**+1.1**
SOC	**Sochi**	**11.21**	**336**	*e*P	**P**	**11 41 58.5**	**-1.4**
SOC				*e*		11 43 59.6	
SOC				pmax	pmax		
	comp=Z,88nm,1.3s						
SOC				pmax	pmax		
	comp=N,54nm,0.9s						
SOC				pmax	pmax		
	comp=E,67nm,1.2s						
SOC				MLR	MLR		
	comp=Z,1μm,14.0s						
SOC				MLR	MLR		
	comp=N,2μm,18.0s						
SOC				MLR	MLR		
	comp=E,1μm,15.0s						
SOC	**Sochi**	**11.21**	**336**	*e*P	**P**	**11 41 58.5**	**-1.4**
	comp=E,27nm,0.9s						
CORM	**Corum**	**11.23**	**310**	*e*P	**P**	**11 42 00.5**	**+0.3**
BRTR	**Keskin Array B**	**11.65**	**306**	Pn	**P**	**11 42 05.5**	**-0.3**
	comp=E,0.0nm,0.3s,baz=124,slow=13,SNR=9.9						
BRTR				Pg	Px	11 42 56.3	
	comp=E,0.0nm,0.3s,baz=91,slow=13,SNR=2.0						
GOF	**Gofitskoye**	**11.81**	**350**	⇓*i* P	**P**	**11 42 08.5**	**+0.6**
GOF				pmax	pmax		
	comp=Z,70nm,1.5s						
GOF				MLR	MLR		
	comp=Z,2μm,10.0s						
GOF	**Gofitskoye**	**11.81**	**350**	*i* P	**P**	**11 42 08.5**	**+0.6**
	comp=Z,1μm,10.0s						
ANTO	**Ankara**	**12.30**	**305**	*e*P	**P**	**11 42 18.7**	**+4.2**
ANN	**Anapa**	**13.09**	**333**	*e*P	**P**	**11 42 17.5**	**-7.5**
ANN				pmax	pmax		
	comp=Z,75nm,1.2s						
ISP	**Isparta**	**13.24**	**294**	⇑*e*P	**P**	**11 42 29.4**	**+2.4**
ARQ	**Araqi**	**13.75**	**134**	P	**P**	**11 42 30.3**	**-3.4**
	SNR=27						
HOQ	**Hoqain**	**14.05**	**131**	⇓P	**P**	**11 42 34.1**	**-3.5**
SIM	**Simferopol'**	**14.65**	**325**	*e*P	**P**	**11 42 32.5**	**-13**
SIM				*e*S	**S**	**11 45 29.0**	**+2.1**
SMDO	**Samad**	**14.89**	**131**	⇑P	**P**	**11 42 45.8**	**-2.9**
	SNR=13						
JMDO	**Jabal Madar**	**15.43**	**132**	P	**P**	**11 42 52.7**	**-3.0**
	SNR=9.5						
WBK	**Wadi Bani Khal**	**15.80**	**130**	P	**P**	**11 42 57.7**	**-2.7**
	SNR=7.9						
ABTO	**Aybut**	**17.36**	**156**	P	**P**	**11 43 16.3**	**-3.6**
	SNR=22						
IDI	**Anoyia**	**17.41**	**282**	P	**P**	**11 43 23.3**	**+2.7**
	comp=Z,3.5nm,0.3s,baz=101,slow=10,SNR=12						
TIRR	**Tirgusor**	**17.44**	**314**	⇓P	**P**	**11 43 22.0**	**+1.2**
TIRR	**Tirgusor**	**17.44**	**314**	P	**P**	**11 43 22.0**	**+1.2**
RBK	**Rabkut**	**17.55**	**153**	P	**P**	**11 43 19.2**	**-3.2**
	SNR=39						
HARR	**Harsova**	**17.85**	**314**	⇓P	**P**	**11 43 27.3**	**+1.3**
HARR	**Harsova**	**17.85**	**314**	P	**P**	**11 43 27.3**	**+1.3**
VOR	**Voronezh**	**18.91**	**347**	*e*P	**P**	**11 43 37.5**	**-1.3**
VOR				pmax	pmax		
	comp=N,340nm,1.8s						
VOR				pmax	pmax		
	comp=Z,170nm,1.8s						
VOR				pmax	pmax		
	comp=E,130nm,1.5s						
MUKL	**Al Mukalla**	**19.09**	**171**	⇓*e*P	**P**	**11 43 38.8**	**-2.2**
VRI	**Vrincioaia**	**19.21**	**316**	⇑P	**P**	**11 43 42.5**	**+0.4**
VRI	**Vrincioaia**	**19.21**	**316**	P	**P**	**11 43 42.5**	**+0.4**
MMB	**Musomiste**	**19.32**	**301**	*i* P	**P**	**11 43 43.0**	**-0.4**
PGB	**Panagyurishte**	**19.33**	**304**	*i* P	**P**	**11 43 44.0**	**+0.5**
MLR	**Muntele Rosu**	**19.47**	**314**	P	**P**	**11 43 45.2**	**+0.2**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MLR	**Muntele Rosu**	**19.47**	**314**	P	**P**	**11 43 45.2**	**+0.3**
	comp=Z,1.8nm,0.3s,baz=352,slow=11,SNR=14						
MLR	**Muntele Rosu**	**19.47**	**314**	⇑P	**P**	**11 43 45.3**	**+0.3**
LBOS		**19.49**	**182**	⇓*e*P	**P**	**11 43 45.9**	**+0.5**
KKB	**Krupnik**	**19.86**	**302**	*i* P	**P**	**11 43 48.0**	**-1.3**
VTS	**Vitosha**	**20.00**	**304**	P	**P**	**11 43 51.5**	**+0.7**
DRP	**Derazinda**	**20.57**	**88**	P	**P**	**11 43 56.0**	**-0.8**
KMPD	**K-Podol'skiy**	**20.95**	**322**	P	**P**	**11 43 59.0**	**-1.6**
SBDP	**Sheikh Budin**	**20.97**	**86**	P	**P**	**11 43 58.9**	**-2.0**
BURAR	**Bucovina Array**	**21.05**	**318**	⇑P	**P**	**11 44 01.4**	**-0.1**
BURAR	**Bucovina Array**	**21.05**	**318**	⇑P	**P**	**11 44 01.4**	**-0.1**
SKO	**Skopje**	**21.07**	**301**	*e*P	**P**	**11 44 04.0**	**+2.2**
AKASG	**Malin Array Be**	**21.13**	**330**	P	**P**	**11 44 00.5**	**-1.9**
AKASG				pmax	pmax		
	comp=Z,30nm,0.4s						
AKASG	**Malin Array Be**	**21.13**	**330**	P	**P**	**11 44 00.5**	**-1.8**
	comp=Z,30nm,0.4s,mb5.0,baz=138,slow=11,SNR=85						
BOLS	**Boljevac**	**21.29**	**306**	⇓*i* P	**P**	**11 44 04.1**	**+0.1**
THW	**Thamme Wali**	**21.67**	**85**	⇑P	**P**	**11 44 07.3**	**-0.6**
CEP	**Cherat**	**21.68**	**82**	P	**P**	**11 44 07.7**	**-0.2**
BZS	**Buzias**	**22.21**	**310**	⇑P	**P**	**11 44 14.4**	**+1.2**
BZS	**Buzias**	**22.21**	**310**	P	**P**	**11 44 14.4**	**+1.2**
OBN	**Obninsk**	**22.63**	**346**	⇑*e*P	**P**	**11 44 13.9**	**-3.2**
OBN				*i* S	**S**	**11 48 15.1**	**-1.9**
OBN				pmax	pmax		
	comp=Z,17nm,0.5s,mb4.7						
OBN				MLR	MLR		
	comp=Z,600nm,15.0s,MS4.2						
CHCP	**Chirah Chowk**	**22.82**	**82**	P	**P**	**11 44 20.3**	**+1.1**
LVV	**L'vov**	**22.98**	**322**	*e*P	**P**	**11 44 21.4**	**+0.8**
LVV				*e*		11 44 48.6	
LVV				*e*S	**S**	**11 48 04.8**	**-19**
LVV				*e*		11 48 31.6	
LVV				MLR	MLR		
	comp=Z,160nm,14.0s,MS3.6						
MOS	**Moscow**	**23.02**	**348**	*e*P	**P**	**11 44 16.1**	**-4.9**
MOS				*e*		11 44 40.7	
MOS				*e*S	**S**	**11 48 09.7**	**-14**
MOS				pmax	pmax		
	comp=Z,57nm,0.7s,mb5.1						
MOS	**Moscow**	**23.02**	**348**	*e*P	**P**	**11 44 19.8**	**-1.2**
KOLS	**Kolonicke sedl**	**23.42**	**318**	*i* P	**P**	**11 44 27.5**	**+2.7**
KWP	**Kalwaria**	**23.57**	**320**	*e*P	**P**	**11 44 28.0**	**+1.7**
CRVS	**Cervenica-Dubn**	**23.86**	**318**	*i* P	**P**	**11 44 31.5**	**+2.4**
TIP	**Timpagrande**	**24.09**	**292**	*e*P	**P**	**11 44 31.8**	**+0.4**
TIP	**Timpagrande**	**24.09**	**292**	*e*P	**P**	**11 44 31.8**	**+0.4**
KECS	**Kecovo**	**24.20**	**316**	*i* P	**P**	**11 44 35.1**	**+2.6**
AAK	**Ala-Archa**	**24.25**	**59**	*i* P	**P**	**11 44 36.6**	**+3.5**
AAK				MLR	MLR		
	comp=Z,1μm,12.0s,MS4.5						
AAK	**Ala-Archa**	**24.25**	**59**	*e*P	**P**	**11 44 34.0**	**+1.0**
	comp=Z,6.3nm,0.6s,mb4.2						
AAK	**Ala-Archa**	**24.25**	**59**	*e*P	**P**	**11 44 34.0**	**+0.9**
	comp=Z,6.3nm,0.6s,mb4.2						
PSZ	**Piszkesteto**	**24.29**	**314**	⇑*e*P	**P**	**11 44 34.5**	**+1.2**
PSZ				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.3						
PSZ	**Piszkesteto**	**24.29**	**314**	⇑*e*P	**P**	**11 44 34.5**	**+1.2**
	comp=Z,7.9nm,0.7s,mb4.2						
PSZ	**Piszkesteto**	**24.29**	**314**	*e*P	**P**	**11 44 34.5**	**+1.2**
	comp=Z,4.0nm,0.7s,mb4.0						
PKSM	**Moragy**	**24.36**	**310**	⇑*e*P	**P**	**11 44 35.3**	**+1.3**
PKSM	**Moragy**	**24.36**	**310**	*e*P	**P**	**11 44 35.3**	**+1.3**
FRU	**Bishkek**	**24.39**	**59**	*e*P		11 44 48.0	
FRU				*e*		11 44 57.5	
MNK	**Minsk**	**24.59**	**334**	⇓*e*P	**P**	**11 44 31.0**	**-5.2**
ARU	**Arti**	**24.61**	**17**	P	**P**	**11 44 37.8**	**+1.5**
	comp=Z,191nm,0.6s,mb5.8,SNR=13						
ARU	**Arti**	**24.61**	**17**	⇑*i*P	**P**	**11 44 31.7**	**-4.6**
ARU				*e*		11 45 10.5	
ARU				*e*S	**S**	**11 48 41.6**	**-10**
ARU				*e*SS	tx	11 49 04.2	
ARU				pmax	pmax		
	comp=Z,59nm,1.7s,mb4.8						
BUD	**Budapest**	**24.62**	**313**	P	**P**	**11 44 38.7**	**+2.1**
RHK1	**Bakonya**	**24.68**	**309**	⇓*e*P	**P**	**11 44 38.2**	**+1.0**
VYHS	**Vyhne**	**25.18**	**315**	P	**P**	**11 44 44.6**	**+2.7**
VYHS	**Vyhne**	**25.18**	**315**	*i* P	**P**	**11 44 44.5**	**+2.6**
OJC	**Ojcow**	**25.47**	**319**	*e*P	**P**	**11 44 45.2**	**+0.6**
SVE	**Sverdlovsk**	**25.50**	**19**	*e*P	**P**	**11 44 43.9**	**-0.9**
SVE				pmax	pmax		
	comp=Z,100nm,1.6s,mb5.1						
VAE	**Valguarnera**	**25.87**	**288**	P	**P**	**11 44 50.3**	**+1.8**
	comp=Z,7.9nm,0.3s,mb4.7,baz=0.7,slow=4.4,SNR=2.3						
SUW	**Suwalki**	**26.09**	**329**	*e*P	**P**	**11 44 52.3**	**+1.9**
ZST	**Bratislava**	**26.10**	**313**	*i* P	**P**	**11 44 51.2**	**+0.7**
OKC	**Ostrava-Krasne**	**26.20**	**317**	*e*P	**P**	**11 44 51.9**	**+0.5**
BRVK	**Borovoye**	**26.26**	**34**	*e*P	**P**	**11 44 51.5**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.5						
BRVK	**Borovoye**	**26.26**	**34**	*e*P	**P**	**11 44 51.5**	**-0.4**
	comp=Z,13nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**26.29**	**34**	P	**P**	**11 44 52.0**	**-0.1**
	comp=Z,6.4nm,0.9s,mb4.1,baz=217,slow=10.0,SNR=16						
GROS	**Grobnik**	**26.48**	**308**	*e*P	**P**	**11 44 55.0**	**+1.0**
CHKZ	**Chkalovo**	**26.80**	**34**	*i* P	**P**	**11 44 56.3**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
CHKZ	**Chkalovo**	**26.80**	**34**	*e*P	**P**	**11 44 56.2**	**-0.7**
	comp=Z,4.5nm,0.6s,mb4.2						
VRAC	**Vranov**	**26.86**	**315**	⇑P	**P**	**11 44 57.9**	**+0.4**
VRAC	**Vranov**	**26.86**	**315**	P	**P**	**11 44 57.6**	**+0.1**
	comp=Z,12nm,1.0s,mb4.4,baz=94,slow=9.2,SNR=11						
VRAC	**Vranov**	**26.86**	**315**	*e*P	**P**	**11 44 58.1**	**+0.6**
NDI	**New Delhi**	**27.22**	**92**	*e*	**P**	**11 44 56.0**	**-5.0**
DDI	**Dehra Dun**	**27.46**	**88**	*e*	**P**	**11 45 03.6**	**+0.5**
DPC	**Dobruska-Polom**	**27.48**	**317**	*e*P	**P**	**11 45 03.2**	**+0.1**
KSP	**Ksiaz**	**27.72**	**318**	*e*P	**P**	**11 45 05.4**	**+0.1**
KSP	**Ksiaz**	**27.72**	**318**	*e*P	**P**	**11 45 05.2**	**-0.2**
UPC	**Upice**	**27.73**	**317**	*e*P	**P**	**11 45 05.3**	**-0.1**
MOA	**Molln**	**27.74**	**311**	⇑*i*P	**P**	**11 45 05.9**	**+0.4**
	comp=Z,15nm,0.6s,mb4.8						
KBA	**Koelnbreinsper**	**28.08**	**309**	⇑*i*P	**P**	**11 45 09.1**	**+0.5**
	comp=Z,21nm,1.1s,mb4.7						
KBA	**Koelnbreinsper**	**28.08**	**309**	⇑*i*P	**P**	**11 45 09.1**	**+0.5**
KBA				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.7						
PRU	**Pruhonice**	**28.36**	**315**	*e*P	**P**	**11 45 11.1**	**0.0**
GERES	**GERESS Array B**	**28.43**	**312**	P	**P**	**11 45 11.6**	**-0.2**
	comp=Z,1.3nm,0.5s,mb3.9,baz=120,slow=7.9,SNR=10						
KHC	**Kasperske Hory**	**28.61**	**313**	*i* P	**P**	**11 45 13.4**	**+0.1**
KHC	**Kasperske Hory**	**28.61**	**313**	*e*P	**P**	**11 45 13.0**	**-0.3**
BRG	**Berggiesshubel**	**29.07**	**316**	*e*P	**P**	**11 45 17.0**	**-0.4**
BRG				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
BRG	**Berggiesshubel**	**29.07**	**316**	*e*P	**P**	**11 45 17.0**	**-0.4**
	comp=Z,6.0nm,0.9s,mb4.3						
WTTA	**

comp=Z,51nm,0.8s,mb5.4
ENR Entracque 31.56 301 P **P 11 45 38.0 -1.5**
STV Sta Anna Valdi 31.63 301 P **P 11 45 39.6 -0.6**
BFO Black Forest 31.68 309 P **P 11 45 42.0 +1.5**
BHB Bricherasio 31.75 302 P **P 11 45 40.0 -1.2**
FELD Feldberg 31.79 308 *eP* **P 11 45 44.9 +3.4**
RSP Reno Superiore 31.80 303 P **P 11 45 40.7 -0.9**
PZZ Prazzo 31.82 302 P **P 11 45 40.9 -0.9**
NRDL Niedersach Rie 31.91 317 *eP* **P 11 45 42.9 +0.4**
comp=Z,11nm,0.9s,mb4.7
LSD Ceresole Reale 31.91 304 P **P 11 45 42.6 0.0**
FENE Fenestrelle 31.92 303 P **P 11 45 41.3 -1.3**
BBS Basel-Blauen 32.03 307 *eP* **P 11 45 43.2 -0.3**
MBDF Montbardon 32.08 302 *eP* **P 11 45 44.2 +0.1**
comp=Z,59nm,0.6s,mb5.3
MBDF Montbardon 32.08 302 *eP* **P 11 45 44.2 +0.1**
MBDF pmax pmax
comp=Z,30nm,0.6s,mb5.3
RRL Cesana Torines 32.10 303 P **P 11 45 44.3 +0.1**
BNI Bardonecchia 32.19 303 *eP* **P 11 45 45.0 0.0**
BNI pmax pmax
comp=Z,43nm,0.6s,mb5.5
BNI Bardonecchia 32.19 303 *eP* **P 11 45 45.0 0.0**
comp=Z,43nm,0.6s,mb5.5
LPG La Plagne 32.20 304 *eP* **P 11 45 45.1 0.0**
comp=Z,61nm,0.8s,mb5.2
LPG La Plagne 32.20 304 *eP* **P 11 45 45.1 0.0**
LPG pmax pmax
comp=Z,30nm,0.8s,mb5.2
LPL La Plagne 32.22 304 *eP* **P 11 45 45.2 0.0**
comp=Z,71nm,0.8s,mb5.2
LPL La Plagne 32.22 304 *eP* **P 11 45 45.2 0.0**
LPL pmax pmax
comp=Z,35nm,0.8s,mb5.2
RSL Roselend 32.31 304 *eP* **P 11 45 45.6 -0.5**
MOF Molkenrain 32.36 308 *eP* **P 11 45 45.6 -0.8**
BSEG Bad Segeberg 32.37 320 *eP* **P 11 45 47.2 +0.7**
comp=Z,20nm,1.1s,mb4.9
CDF Champ du Feu 32.38 309⇑ *iP* **P 11 45 46.9 +0.2**
comp=Z,8.9nm,0.6s,mb4.5
CDF Champ du Feu 32.38 309⇑ *iP* **P 11 45 46.9 +0.2**
CDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
ECH Echery 32.42 309 *eP* **P 11 45 46.2 -0.8**
LOMF Lomont 32.46 307 *eP* **P 11 45 47.5 +0.2**
HINF Hinteralfeld 32.53 308⇑ *iP* **P 11 45 47.2 -0.8**
comp=Z,12nm,0.6s,mb4.7
HINF Hinteralfeld 32.53 308⇑ *iP* **P 11 45 47.2 -0.8**
HINF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
GDM Grand'Maison 32.60 303 *eP* **P 11 45 49.0 +0.4**
ORIF Oris-en-Rattie 32.74 302 *eP* **P 11 45 48.5 -1.3**
comp=Z,26nm,0.8s,mb4.9
ORIF *eR*
comp=Z,229nm,20.0s
CABF La Chapelle 32.83 306⇑ *iP* **P 11 45 50.5 0.0**
comp=Z,99nm,0.8s,mb5.5
CABF La Chapelle 32.83 306⇑ *iP* **P 11 45 50.5 0.0**
CABF pmax pmax
comp=Z,50nm,0.8s,mb5.5
KOLN Koldanda 32.84 90 *eP* **P 11 45 50.7 -0.2**
comp=Z,6.7nm,0.3s,mb5.0
GRN Grenoble 32.87 303 *eP* **P 11 45 49.9 -1.0**
HAU Haudompre 32.90 308⇑ *iP* **P 11 45 50.3 -0.9**
comp=Z,16nm,0.5s,mb4.9
HAU *eR*
comp=Z,356nm,22.0s
OG05 Jujurieux 33.17 304 *eP* **P 11 45 52.9 -0.6**
IBBN Ibbenburen 33.19 316 *eP* **P 11 45 54.5 +0.9**
comp=Z,132nm,2.0s,mb5.5
BUG Bochum--Univer 33.20 315 *eP* **P 11 45 53.9 +0.2**
comp=Z,19nm,0.8s,mb5.1
HYB Hyderabad 33.38 110⇑ *eP* **P 11 45 56.0 +0.4**
HYB Hyderabad 33.38 110⇑ *iP* **P 11 45 56.0 +0.4**
comp=Z,40nm,1.0s,mb5.3
WLF Walferdange 33.40 311 *eP* **P 11 45 54.0 -1.4**
WLF pmax pmax
comp=Z,18nm,0.6s,mb5.2
WLF Walferdange 33.40 311 *eP* **P 11 45 54.0 -1.4**
comp=Z,18nm,0.6s,mb5.2
WLF Walferdange 33.40 311 *eP* **P 11 45 54.6 -0.8**
comp=Z,26nm,0.9s,mb5.2
VIVF Saint-Julien-l 33.58 302 *eP* **P 11 45 56.2 -0.9**
GKN Gorkha 33.63 89 *eP* **P 11 45 57.7 0.0**
comp=Z,33nm,0.4s,mb5.6
NVS Novosibirsk 33.72 39 *eP* **P 11 45 57.3 -0.9**
NVS pmax pmax
comp=Z,23nm,1.6s,mb4.9
NVS pmax pmax
comp=N,18nm,1.5s
MEZF Maizieres J'vi 33.85 309⇑ *iP* **P 11 45 59.0 -0.4**
comp=N,67nm,0.7s,mb5.4
WMQ Urumqi 33.97 60 *eP* **P 11 46 01.5 +1.1**
HFS Hagfors 34.00 332 P **P 11 46 00.2 -0.2**
comp=N,21nm,0.5s,mb5.4,baz=129,slow=9.5,SNR=82
LASF Ste Croix 34.10 301 *eP* **P 11 46 01.0 -0.6**
comp=N,29nm,0.6s,mb5.1
DMN Daman 34.16 89 *eP* **P 11 46 02.5 +0.3**
comp=N,46nm,0.7s,mb5.5
ZAL Zalesovo 34.22 41 P **P 11 46 02.4 -0.1**
comp=N,8.2nm,0.2s,mb5.2,baz=214,slow=7.7,SNR=30
ZAL LR LR 12 03 53.0
comp=N,597nm,18.3s,MS4.4,baz=226,slow=43
KKN Kakani 34.24 89 *eP* **P 11 46 02.9 0.0**
GIVF Givet 34.34 311⇑ *iP* **P 11 46 03.3 -0.2**
comp=N,23nm,0.7s,mb4.9
GIVF Givet 34.34 311⇑ *iP* **P 11 46 03.3 -0.2**
GIVF pmax pmax
comp=Z,12nm,0.7s,mb4.9
SMF Signal de Mont 34.36 305⇑ *iP* **P 11 46 03.4 -0.4**
comp=Z,98nm,0.7s,mb5.6
SMF Signal de Mont 34.36 305⇑ *iP* **P 11 46 03.4 -0.4**
SMF pmax pmax
comp=Z,49nm,0.7s,mb5.5
PKI Pulchoki 34.42 89 *eP* **P 11 46 04.0 -0.5**
PLDF La Plantade 34.43 304 *eP* **P 11 46 04.1 -0.3**
SSF Saint Saulge 34.64 306⇑ *iP* **P 11 46 05.7 -0.5**
SSF pmax pmax
comp=Z,25nm,0.8s,mb5.2
SSF Saint Saulge 34.64 306⇑ *iP* **P 11 46 05.7 -0.5**
comp=Z,24nm,0.8s,mb5.2
AVF Avril sur Loir 34.71 305⇑ *iP* **P 11 46 06.2 -0.6**
comp=Z,58nm,1.1s,mb5.1
AVF Avril sur Loir 34.71 305⇑ *iP* **P 11 46 06.2 -0.6**
AVF pmax pmax
comp=Z,29nm,1.1s,mb5.1
BAIF Baives 34.71 311⇑ *iP* **P 11 46 06.8 +0.1**
comp=Z,25nm,0.8s,mb4.9
BAIF Baives 34.71 311⇑ *iP* **P 11 46 06.8 +0.1**
BAIF pmax pmax
comp=Z,12nm,0.8s,mb4.9
AGO Saint Agoulin 34.78 304 *eP* **P 11 46 08.0 +0.6**
PYM Petit Puy Mans 34.84 304 *eP* **P 11 46 07.2 -0.6**
APA Apatity 34.94 352⇓ *iP* **P 11 46 07.9 -0.6**
APA *i* pP 11 46 22.5 +1.2
APA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
APA MLR MLR
comp=Z,600nm,17.0s,MS4.4
BGF Bois d'Agland 35.03 305⇑ *iP* **P 11 46 09.0 -0.5**
comp=Z,44nm,0.8s,mb5.2
BGF Bois d'Agland 35.03 305⇑ *iP* **P 11 46 09.0 -0.5**
BGF pmax pmax
comp=Z,22nm,0.8s,mb5.1
JIRN Jiri 35.05 88 *eP* **P 11 46 09.7 -0.1**
comp=Z,39nm,0.5s,mb5.6
HYF Humbligny 35.26 306 *eP* **P 11 46 11.5 +0.1**
KMBO Kiiima Mbogo 35.32 195 LR LR 12 01 07.2
comp=Z,424nm,18.1s,MS4.2,baz=108,slow=37
CAF Calviac 35.44 302 *eP* **P 11 46 13.7 +0.7**
TCF Toulx Ste Croi 35.44 304⇑ *iP* **P 11 46 12.9 -0.1**
comp=Z,29nm,0.8s,mb5.0
TCF Toulx Ste Croi 35.44 304⇑ *iP* **P 11 46 12.9 -0.1**
TCF pmax pmax
comp=Z,14nm,0.8s,mb4.9
NB2 NORSAR Subarra 35.52 332 P **P 11 46 12.4 -1.1**
comp=Z,3.2nm,0.6s,mb4.4,baz=124,slow=8.6
NB2 NORSAR Subarra 35.52 332 P **P 11 46 12.4 -1.1**
NB2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
NOA NORSAR Array B 35.52 332 P **P 11 46 12.7 -0.8**
comp=Z,2.6nm,0.5s,mb4.4,baz=125,slow=8.7,SNR=19
RJF Les Rejaudoux 35.85 303 *eP* **P 11 46 16.5 0.0**
RJF *eR*
comp=Z,251nm,20.0s
LFF La Frestale 36.38 302⇑ *iP* **P 11 46 21.4 +0.5**

MFF Saint Martin d 37.09 305 *eP* **P 11 46 25.4 -1.5**
comp=Z,38nm,1.1s,mb4.8
MFF Saint Martin d 37.09 305 *eP* **P 11 46 25.4 -1.5**
MFF pmax pmax
comp=Z,19nm,1.0s,mb4.9
LDF La Druitiere 37.26 308 *eP* **P 11 46 27.5 -0.8**
comp=Z,16nm,0.5s,mb4.8
LDF La Druitiere 37.26 308 *eP* **P 11 46 27.5 -0.8**
LDF pmax pmax
comp=Z,8.0nm,0.5s,mb4.8
FLN La Foliniere 37.52 308 *eP* **P 11 46 29.7 -0.7**
comp=Z,16nm,0.4s,mb4.8
FLN *eR*
comp=Z,274nm,21.5s
GRR Gorron 37.73 308 *eP* **P 11 46 31.7 -0.5**
comp=Z,71nm,0.7s,mb5.2
GRR Gorron 37.73 308 *eP* **P 11 46 31.7 -0.5**
GRR pmax pmax
comp=Z,36nm,0.7s,mb5.2
SJPF Ste Jean 37.78 299 *eP* **P 11 46 32.7 0.0**
comp=Z,20nm,0.8s,mb4.6
SJPF Ste Jean 37.78 299 *eP* **P 11 46 32.7 0.0**
SJPF pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
KEV Kevo 37.85 349 *ep* **P 11 46 32.3 -0.7**
comp=Z,5.6nm,0.4s,mb4.7
KEV Kevo 37.85 349 *eP* **P 11 46 32.3 -0.7**
KEV pmax pmax
comp=Z,6.0nm,0.4s,mb4.7
ARCES ARCESS Array B 37.90 349 P **P 11 46 33.3 -0.1**
comp=Z,4.3nm,0.5s,mb4.4,baz=145,slow=8.4,SNR=47
ARCES LR LR 12 03 44.5
comp=Z,338nm,21.9s,MS4.1,baz=24,slow=39
LSA Lhasa 38.54 83 *eP* **P 11 46 40.0 +0.9**
LSA pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
LSA Lhasa 38.54 83 *eP* **P 11 46 40.0 +0.9**
comp=Z,8.2nm,0.5s,mb4.7
SGMF Saint Gilles 38.84 307⇑ *iP* **P 11 46 41.7 +0.2**
comp=Z,56nm,0.7s,mb5.1
SGMF Saint Gilles 38.84 307⇑ *iP* **P 11 46 41.7 +0.2**
SGMF pmax pmax
comp=Z,28nm,0.7s,mb5.1
QUIF Quistinic 39.23 307⇑ *iP* **P 11 46 44.6 -0.1**
comp=Z,20nm,0.4s,mb4.8
ROSF Rostrenen 39.33 307 *eP* **P 11 46 45.1 -0.4**
comp=Z,42nm,0.8s,mb4.9
ROSF Rostrenen 39.33 307 *eP* **P 11 46 45.1 -0.4**
ROSF pmax pmax
comp=Z,21nm,0.8s,mb4.9
ESDC Sonseca Array 40.09 294 P **P 11 46 53.4 +1.5**
comp=Z,0.7nm,0.4s,mb3.7,baz=76,slow=9.7,SNR=7.6
SHL Shillong 40.55 89 *eP* **P 11 46 55.5 -0.4**
MOY Mondy 43.38 48 *eP* **P 11 47 20.5 +1.7**
ZAK Zakamensk 44.80 50 *eP* **P 11 47 31.0 +0.8**
ZAK *e* 11 49 11.7
TLY Talaya 45.03 48 *eP* **P 11 47 32.4 +0.4**
TLY pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
TLY MLR MLR
comp=Z,300nm,15.0s,MS4.3
TLY Talaya 45.03 48 *i* P **P 11 47 31.6 -0.4**
SONM Songino Array 46.97 53 P **P 11 47 47.7 +0.4**
comp=Z,0.9nm,0.5s,mb4.0,baz=280,slow=9.1,SNR=14
SONM PcP PcP 11 49 18.6 -1.0
comp=Z,0.6nm,0.6s,baz=272,slow=3.6,SNR=4.2
ULN Ulaanbaatar 47.41 53 *eP* **P 11 47 51.5 +0.7**
ULN pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
ULN Ulaanbaatar 47.41 53 *eP* **P 11 47 51.5 +0.7**
comp=Z,5.7nm,0.6s,mb4.7
CM31 Chiang Mai Arr 49.51 94 *eP* **P 11 48 03.8 -3.8**
comp=Z,12nm,0.6s,mb5.1
CMAR Chiang Mai Arr 49.51 94 P **P 11 48 06.8 -0.7**
comp=Z,7.3nm,0.6s,mb4.9,baz=292,slow=8.2,SNR=45
CMAR PcP PcP 11 49 29.6 +0.4
comp=Z,1.8nm,0.7s,baz=290,slow=4.6,SNR=5.8
CMAR LR LR 12 09 21.4
comp=Z,144nm,19.5s,MS4.0,baz=205,slow=37
KMI Kunming 49.78 84 P **P 11 48 08.3 -1.2**
KMI pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
KMI Kunming 49.78 84 P **P 11 48 08.3 -1.2**
comp=Z,10.0nm,1.3s,mb4.7
BOD Bodaibo 50.96 40 *eP* **P 11 48 16.5 -1.5**
XAN Xi'an 51.67 71 P **P 11 48 23.0 -0.8**
XAN AMB AMB
comp=Z,20nm,0.6s,mb5.2
ENH Enshi 53.38 75 *eP* **P 11 48 37.1 +0.5**
comp=Z,5.5nm,0.5s,mb4.7
DBIC Dimbokro 53.90 252 *eP* **P 11 48 39.1 -1.5**
DBIC pmax pmax
comp=Z,11nm,0.9s
DBIC Dimbokro 53.90 252 LR LR 12 14 09.9
comp=Z,329nm,19.4s,MS4.4,baz=30,slow=39
DBIC Dimbokro 53.90 252 *eP* **P 11 48 39.1 -1.5**
comp=Z,11nm,0.9s,mb4.8
BJI Beijing 55.41 61 P **P 11 48 51.1 -0.2**
BJI S **S 11 56 29.9 -0.6**
BJI pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
BJI Beijing 55.41 61 P **P 11 48 51.1 -0.2**
comp=Z,7.0nm,1.0s,mb4.7
BJI S **S 11 56 29.9 -0.6**
HIA Hailar 55.50 50 P **P 11 48 49.8 -1.9**
HIA pmax pmax
comp=Z,5.0nm,0.4s
HIA Hailar 55.50 50 P **P 11 48 49.8 -1.9**
comp=Z,4.8nm,0.4s,mb4.9
TIXI Tiksi 56.47 22⇑ *eP* **P 11 48 57.6 -0.8**
NJ2 Nanjing 60.18 69 *eP* **P 11 49 25.0 +0.1**
NJ2 AP pP 11 49 37.8 -0.7
NJ2 XP sP 11 49 42.8 -1.3
NJ2 PP PP 11 51 39.3 -0.5
NJ2 S **S 11 57 33.0 -0.1**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
NJ2 AMB AMB
comp=Z,30nm,5.6s
NJ2 LR LR
comp=N,2μm,24.2s
NJ2 LR LR
comp=E,1μm,11.0s
NJ2 LR LR
comp=Z,3μm,23.5s,MS5.3
SSE Sheshan 62.38 69 P **P 11 49 38.5 -1.2**
SSE XP sP 11 49 55.0 -4.0
SSE S **S 11 58 04.0 +2.9**
SSE XS 11 58 24.5
SSE AMB AMB
comp=Z,29nm,0.6s,mb5.6
SSE AMB AMB
comp=Z,87nm,3.8s
SSE LR LR
comp=N,244nm,18.8s,MS4.4
SSE LR LR
comp=E,79nm,19.1s,MS4.4
SSE LR LR
comp=Z,117nm,20.2s,MS4.0
SSE Sheshan 62.38 69 P **P 11 49 38.4 -1.3**
comp=Z,29nm,0.6s,mb5.6
SSE sP sP 11 49 55.0 -4.0
SSE S **S 11 58 04.1 +3.0**
SSE sS 11 58 24.6
BOSA Boshof 64.73 200 *eP* **P 11 49 56.0 +0.8**
BOSA pmax pmax
comp=Z,13nm,0.8s,mb5.0
BOSA Boshof 64.73 200 *eP* **P 11 49 56.0 +0.8**
comp=Z,13nm,0.8s,mb5.0
SCHQ Schefferville 74.89 326 P **P 11 50 57.3 +0.7**
comp=Z,2.3nm,0.6s,mb4.3,baz=183,slow=17,SNR=6.8
SCHQ LR LR 12 24 10.6
comp=Z,157nm,18.2s,MS4.3,baz=13,slow=36
INK Inuvik 78.57 360 P **P 11 51 18.0 +1.0**
INK pmax pmax
comp=Z,4.0nm,1.0s
INK Inuvik 78.57 360 P **P 11 51 18.0 +1.0**
comp=Z,4.1nm,1.0s,mb4.3,baz=16,slow=4.5,SNR=23
INK Inuvik 78.57 360 *eP* **P 11 51 17.4 +0.5**
comp=Z,3.5nm,0.7s,mb4.4
IMA Indian Mountai 79.67 8 *eP* **P 11 51 25.0 +2.0**
COLA College 81.43 6⇑ *eP* **P 11 51 34.0 +1.7**
COLA College 81.43 6 *eP* **P 11 51 33.9 +1.5**
comp=Z,9.8nm,0.7s,mb4.8
ILAR Eielson Array 81.61 5 P **P 11 51 34.3 +1.0**
comp=Z,2.7nm,0.7s,mb4.3,baz=316,slow=3.6,SNR=53

ILAR LR LR 12 30 56.9
comp=Z,101nm,18.9s,MS4.2,baz=180,slow=38
MCK McKinley 82.45 7 *eP* **P 11 51 38.6 +1.0**
MCK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MCK McKinley 82.45 7 *eP* **P 11 51 38.6 +0.9**
comp=Z,3.1nm,0.9s,mb4.2
DAWY Dawson 82.74 2 *eP* **P 11 51 39.4 +0.3**
THY Trims Highway 83.03 5 P **P 11 51 42.1 +1.5**
YKA Yellowknife Ar 83.12 351 P **P 11 51 42.2 +1.2**
comp=Z,2.6nm,0.8s,mb4.3,baz=75,slow=24,SNR=88
YKA LR LR 12 31 51.7
comp=Z,102nm,18.3s,MS4.2,baz=75,slow=38
SML Sawmill 84.40 7 *eP* **P 11 51 49.1 +1.7**
DIV Divide 85.30 6 *eP* **P 11 51 54.1 +2.2**
comp=Z,31nm,0.5s,mb5.7
WRA Warramunga Arr 99.50 108 P **P 11 52 58.6 -0.3**
comp=Z,1.0nm,1.0s,mb4.3,baz=318,slow=4.0,SNR=7.5
ASAR Alice Springs 101.11 111 P P 11 53 05.6 -0.5
comp=Z,0.4nm,0.9s,baz=310,slow=4.8,SNR=3.3

IGQ 25 11:40:08.5, 1.63S×81.18W, h14km±13km, mb4.1, 5C-1D,
Error ellipse: s-maj=14.6km s-min=9.8km az=3.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.85**	**47**	⇑P	Pb	11 40 22.9	-1.7
IGUA	**Igualata**	**2.54**	**87**	⇑P	Pn	11 40 50.9	+0.9
ARRY	**Arrayan**	**2.72**	**87**	P	Pn	11 40 53.2	+0.5
ARRY				S	Sn	11 41 27.4	+1.8
PATA	**Patacocha**	**2.74**	**87**	P	Pn	11 40 54.9	+1.9
ULBA	**Ulba**	**2.77**	**86**	P	Pn	11 40 54.7	+1.3
PISA	**Pisayambo**	**2.85**	**78**	⇑P	Pn	11 40 56.6	+2.2
NAS1	**Nasa**	**2.87**	**70**	P	Pn	11 40 56.2	+1.4
VC1	**Cotopaxi 1**	**2.94**	**70**	⇑P	Pn	11 40 58.2	+2.4
TERV	**Terraza Guagua**	**2.95**	**61**	P	Pn	11 40 56.1	+0.2
PINO	**Pino**	**2.96**	**60**	P	Pn	11 40 55.9	-0.1
TAMB	**Tambo**	**2.96**	**72**	P	Pn	11 40 57.8	+1.8
YANA	**Yana**	**3.01**	**60**	P	Pn	11 40 55.9	-0.8
ANTI	**Antisana**	**3.23**	**69**	P	Pn	11 41 01.7	+1.7
COTA	**Cotacachi**	**3.45**	**55**	P	Pn	11 41 04.3	+1.4
CAYR	**Refugio Cayamb**	**3.57**	**63**	⇑P	Pn	11 41 07.9	+3.3
CAYA	**Cayambe**	**3.61**	**62**	⇓P	Pn	11 41 08.4	+3.2

IGQ 25 11:42:28.8, 1.58S×81.04W, h12km±12km, mb4.2, 1C,
Error ellipse: s-maj=39.3km s-min=12.4km az=165.8,
Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.72**	**43**	P	Pb	11 42 41.7	-1.0
IGUA	**Igualata**	**2.40**	**88**	P	Pn	11 43 09.5	+1.0
ARRY	**Arrayan**	**2.58**	**88**	⇑P	Pn	11 43 12.2	+1.1
ULBA	**Ulba**	**2.63**	**87**	P	Pn	11 43 13.8	+1.9
PISA	**Pisayambo**	**2.70**	**79**	P	Pn	11 43 15.1	+2.3
NAS1	**Nasa**	**2.72**	**70**	P	Pn	11 43 15.9	+2.7
VC1	**Cotopaxi 1**	**2.79**	**71**	P	Pn	11 43 17.4	+3.3
TERV	**Terraza Guagua**	**2.80**	**60**	P	Pn	11 43 15.8	+1.5
TAMB	**Tambo**	**2.81**	**72**	P	Pn	11 43 17.1	+2.7
YANA	**Yana**	**2.86**	**60**	P	Pn	11 43 16.2	+1.0
ANTI	**Antisana**	**3.08**	**69**	P	Pn	11 43 21.0	+2.7
CAYR	**Refugio Cayamb**	**3.42**	**62**	P	Pn	11 43 26.9	+3.9
CAYA	**Cayambe**	**3.46**	**62**	P	Pn	11 43 26.5	+2.9

IGQ 25 11:46:11.6, 1.74S×81.46W, h12km±18km, mb4.4, 2C-2D,
Error ellipse: s-maj=18.4km s-min=9.2km az=156.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.83**	**85**	P	Pn	11 46 58.5	+1.1
ARRY	**Arrayan**	**3.01**	**86**	⇑P	Pn	11 47 00.8	+0.8
ARRY				S	Sn	11 47 36.6	+0.3
ULBA	**Ulba**	**3.06**	**85**	P	Pn	11 47 02.9	+2.1
PISA	**Pisayambo**	**3.14**	**78**	⇓P	Pn	11 47 04.4	+2.4
NAS1	**Nasa**	**3.17**	**70**	P	Pn	11 47 03.6	+1.3
VC1	**Cotopaxi 1**	**3.24**	**70**	P	Pn	11 47 05.4	+2.1
TERV	**Terraza Guagua**	**3.25**	**61**	P	Pn	11 47 02.8	-0.7
TAMB	**Tambo**	**3.26**	**71**	P	Pn	11 47 06.0	+2.4
YANA	**Yana**	**3.30**	**61**	P	Pn	11 47 04.0	-0.2
ANTI	**Antisana**	**3.53**	**69**	⇓P	Pn	11 47 09.2	+1.7
COTA	**Cotacachi**	**3.74**	**57**	⇑P	Pn	11 47 10.9	+0.5
CAYR	**Refugio Cayamb**	**3.86**	**63**	P	Pn	11 47 14.4	+2.3
CAYA	**Cayambe**	**3.90**	**63**	P	Pn	11 47 14.5	+1.8

IGQ 25 11:52:54.2, 1.62S×81.53W, h3km±7km, mb4.6, 2C-4D,
Error ellipse: s-maj=15.5km s-min=7.0km az=179.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.13**	**60**	⇑P	Pb	11 53 15.3	-0.7
IGUA	**Igualata**	**2.89**	**87**	P	Pn	11 53 43.1	+1.1
CUSU	**Cusua**	**3.05**	**87**	P	Pn	11 53 46.1	+1.9
JUIV	**Juive**	**3.07**	**86**	P	Pn	11 53 46.1	+1.7
ARRY	**Arrayan**	**3.07**	**88**	⇓P	Pn	11 53 45.8	+1.2
RETU	**Refugio**	**3.08**	**87**	P	Pn	11 53 46.7	+2.0
PATA	**Patacocha**	**3.09**	**88**	P	Pn	11 53 46.8	+2.0
PATA				S	Sn	11 54 21.9	-1.0
RUN2	**Runtun**	**3.12**	**86**	P	Pn	11 53 47.1	+1.8
ULBA	**Ulba**	**3.12**	**87**	⇑P	Pn	11 53 47.3	+2.0
ULBA				S	Sn	11 54 24.6	+0.9
MARY	**Rancho Maria**	**3.16**	**74**	P	Pn	11 53 49.7	+3.9
MARY				S	Sn	11 54 26.6	+2.0
PISA	**Pisayambo**	**3.19**	**80**	P	Pn	11 53 47.9	+1.6
NAS1	**Nasa**	**3.20**	**72**	⇓P	Pn	11 53 48.5	+2.1
TERV	**Terraza Guagua**	**3.25**	**64**	P	Pn	11 53 47.6	+0.4
PINO	**Pino**	**3.26**	**64**	P	Pn	11 53 47.7	+0.5
VC1	**Cotopaxi 1**	**3.27**	**73**	P	Pn	11 53 49.4	+2.0
TAMB	**Tambo**	**3.29**	**74**	P	Pn	11 53 49.0	+1.4
YANA	**Yana**	**3.31**	**63**	P	Pn	11 53 48.3	+0.3
ANTI	**Antisana**	**3.56**	**71**	P	Pn	11 53 52.9	+1.4
COTA	**Cotacachi**	**3.73**	**59**	⇓P	Pn	11 53 56.4	+2.4
CAYR	**Refugio Cayamb**	**3.88**	**65**	⇓P	Pn	11 53 58.8	+2.8
CAYA	**Cayambe**	**3.91**	**65**	P	Pn	11 53 58.9	+2.3
CONE	**Cono NE Rev Vo**	**4.18**	**68**	P	Pn	11 54 04.6	+4.3

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*BJI **25** 11:55:07.5, 2.22N×96.09E, h43km, mB4.9, mb4.9, Ms4.4, Msz4.3*
*IDC **25** 11:55:07.0±1.5, 2.66N×96.22E, mb4.0/7, mb1 4.3/8, mb1mx4.0/18, mbtmp4.1/8, ML4.1/1, MS4.2/2, Ms1 4.2/2, ms1mx3.6/15, Error ellipse: s-maj=73.9km s-min=18.3km az=57.0*
*NEIC **25** 11:55:10.4±0.8, 2.52N×96.07E, h30km, mb4.6/11, Error ellipse: s-maj=25.2km s-min=10.4km az=64.0*
ISC 25 11:55:09.5±0.8, 2.6N±0.1×96.3E±0.2, h30km, n32, σ0=91/28, mb4.5/22, MS4.3/2, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.95**	**9**	P	Pn	**11 58 56.6**	**+3.0**
	0.3nm,0.3s,baz=197,slow=11,SNR=39						
SHL	**Shillong**	**23.19**	**350**	*eP*	**P**	**12 00 13.0**	**-2.0**
JIRN	**Jiri**	**26.69**	**340**	*eP*	**P**	**12 00 48.7**	**+0.6**
	36nm,0.9s,mb4.9						
PKI	**Pulchoki**	**26.88**	**338**	*eP*	**P**	**12 00 50.9**	**+1.0**
DMN	**Daman**	**27.03**	**338**	*eP*	**P**	**12 00 52.8**	**+1.5**
KKN	**Kakani**	**27.13**	**338**	*eP*	**P**	**12 00 52.4**	**+0.2**
	27nm,0.9s,mb4.8						
LSA	**Lhasa**	**27.36**	**350**	*eP*	**P**	**12 00 53.7**	**-0.5**
	6.9nm,0.6s,mb4.4						
GKN	**Gorkha**	**27.56**	**337**	*eP*	**P**	**12 00 56.2**	**+0.1**
	33nm,0.8s,mb5.0						
KOLN	**Koldanda**	**27.77**	**335**	*eP*	**P**	**12 00 58.6**	**+0.6**
	38nm,0.8s,mb5.0						
ENH	**Enshi**	**30.21**	**23**	*eP*	**P**	**12 01 18.1**	**-1.9**
	9.8nm,1.0s,mb4.5						
BJT	**Baijiatuau**	**41.37**	**23⇑**	*eP*	**P**	**12 02 55.5**	**+0.8**
	39nm,0.9s,mb5.0						
BJI	**Beijing**	**41.39**	**23**	P	**P**	**12 02 55.6**	**+0.8**
	32nm,1.0s,mb4.9						
WMQ	**Urumqi**	**41.71**	**351**	*eP*	**P**	**12 02 58.3**	**+0.8**
WRA	**Warramunga Arr**	**43.59**	**123**	P	**P**	**12 03 13.3**	**+0.2**
	4.7nm,1.1s,mb4.1,baz=301,slow=9.2,SNR=28						
WRAB	**Tennant Creek**	**43.60**	**123**	*eP*	**P**	**12 03 13.3**	**+0.2**
	8.4nm,0.7s,mb4.6						
AAK	**Ala-Archa**	**44.32**	**337**	*eP*	**P**	**12 03 18.5**	**-0.3**

3.5nm,1.0s,mb4.0
ASAR Alice Springs 45.01 128 P **P 12 03 24.6 +0.1**
0.5nm,0.5s,mb3.6,baz=301,slow=7.7,SNR=8.5
SONM Songino Array 45.87 10 P **P 12 03 30.9 -0.1**
6.2nm,0.9s,mb4.5,baz=191,slow=8.3,SNR=49
SONM PcP PcP 12 05 08.8 +0.4
2.0nm,0.7s,baz=185,slow=4.0,SNR=7.1
ULN Ulaanbaatar 46.02 10 *e*P **P 12 03 32.0 -0.2**
4.6nm,0.8s,mb4.5
TLY Talaya 49.27 6 P **P 12 03 51.4 -6.1**
5.1nm,0.7s,mb4.7
KURK Kurchatov 50.18 345 *e*P **P 12 04 04.0 -0.5**
4.2nm,0.9s,mb4.5
HIA Hailar 50.61 20 *e*P **P 12 04 07.4 -0.4**
7.2nm,0.8s,mb4.7
ZAL Zalesovo 52.00 351 P **P 12 04 17.8 -0.5**
4.2nm,0.5s,mb4.6,baz=310,slow=5.3,SNR=24
BVAR Borovoye Array 54.60 341 P **P 12 04 36.4 -1.1**
0.9nm,0.6s,mb4.0,baz=135,slow=8.4,SNR=6.7
STKA Stephens Creek 55.01 132 P **P 12 04 41.1 +0.2**
1.9nm,0.8s,mb4.2,baz=301,slow=7.9,SNR=5.0
STKA Stephens Creek 55.01 132 *e*P **P 12 04 40.5 -0.3**
CHKZ Chkalovo 55.08 342 *e*P **P 12 04 39.6 -1.5**
4.7nm,0.8s,mb4.6
KMBO Kilima Mbogo 59.11 267 LR LR 12 28 13.3
comp=Z,106nm,18.9s,MS4.0,baz=92,slow=34
MAW Mawson 73.89 193 LR LR 12 34 43.2
comp=Z,251nm,18.4s,MS4.5,baz=108,slow=32
GERES GERESS Array B 83.12 319 P **P 12 07 34.5 +0.5**
0.3nm,0.5s,mb3.6,baz=68,slow=7.2,SNR=3.8
TXAR Lajitas Array 142.93 30 PKhKP 12 14 39.9
0.4nm,0.8s,baz=30,slow=0.2,SNR=5.4
TXAR PKP PKPdf 12 14 45.4 -0.7
0.4nm,0.8s,baz=214,slow=4.5,SNR=4.4
TXAR Lajitas Array 142.93 30 PKP PKPdf 12 14 39.9 -6.3
TXAR PKP PKPdf 12 14 45.4 -0.7

CASC 25 11:56:10.4±2.2, 13.54N×90.43W, h34km±7km, MD3.5, 3C-7D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.64**	**358**	⇓*e*P	P	11 56 23.2	+0.3
IXG				*e*S	S	11 56 33.8	+1.9
SBLS	**San Blas**	**0.84**	**69**	⇓*e*P	P	11 56 25.9	+0.2
SBLS				*e*S	S	11 56 38.4	+1.3
RTR	**El Retiro**	**0.84**	**65**	⇓*e*P	P	11 56 26.1	+0.4
RTR				*e*S	S	11 56 38.8	+1.7
SNJE	**San Jose**	**0.87**	**67**	⇓*e*P	P	11 56 26.2	+0.1
SNJE				*e*S	S	11 56 38.5	+0.7
RBDL	**Robledal**	**0.92**	**51**	⇑*e*P	P	11 56 26.7	-0.3
RBDL				*e*S	S	11 56 40.2	+1.0
FUG	**Fuego 3**	**0.99**	**336**	*e*P	P	11 56 31.0	+3.1
FUG				*e*S	S	11 56 40.5	-0.5
NBG	**Las Nubes**	**1.05**	**4**	⇑*e*P	P	11 56 29.0	+0.2
NBG				*e*S	S	11 56 44.6	+2.2
BOQS	**Boqueron**	**1.13**	**80**	⇓*e*P	P	11 56 29.8	-0.2
BOQS				*e*S	S	11 56 46.7	+2.1
LFU	**La Fuente**	**1.30**	**80**	⇑*e*P	P	11 56 31.7	-0.5
LFRS	**El Faro**	**1.33**	**86**	*e*P	P	11 56 32.1	-0.8
LFRS				*e*S	S	11 56 50.5	+0.9
MTO2	**Montecristo 2**	**1.35**	**50**	⇓*e*P	P	11 56 31.9	-1.2
JAT	**Jato**	**1.41**	**304**	*e*P	P	11 56 34.5	+0.6
JAT				*e*S	S	11 56 51.8	+0.3
LCBS	**La Ceiba**	**1.42**	**85**	*e*P	P	11 56 33.5	-0.6
LCBS				*e*S	S	11 56 52.4	+0.7
SNVI	**San Vicente**	**1.55**	**87**	⇓*e*P	P	11 56 36.0	+0.1
SNVI				*e*S	S	11 56 56.5	+1.4
CNCH	**Conchagua**	**2.54**	**96**	*e*P	P	11 56 49.2	-0.9
CNCH				*e*S	S	11 57 21.1	+0.9

CSEM ***25*** *12:00:57.7±0.1, 35.84N×29.51E, h40km, ML3.7, Error ellipse: s-maj=2.7km s-min=1.7km az=71.0*
ISK ***25*** *12:00:57.0, 35.80N×29.48E, h32km, ML3.7*
NIC ***25*** *12:01:02.6±0.3, 36.06N×29.95E, h25km, mb4.0, ML3.7, MW3.1*
NEIC ***25*** *12:01:02.6±6.0, 36.12N×30.30E, h10km, ML3.7(NIC), Error ellipse: s-maj=118.0km s-min=10.8km az=63.0*
HLW ***25*** *12:01:04.6, 35.57N×29.63E, h33km, Mb3.9*
ISC 25 12:00:56.6±1.0, 35.79N±0.03×29.63E±0.04, h17km±10km, n52, σ0s94/65, 3C-1D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.95**	**332**	*i* PG	**Pb**	**12 01 14.3**	**0.0**
FETY				*i* SG	**Sb**	**12 01 25.1**	**-1.3**
ELL	**Elmali**	**0.98**	**13**	*i* PG	**Pb**	**12 01 14.4**	**-0.4**
ANTB	**Antalya**	**1.38**	**36**	*e*PN	**Pn**	**12 01 21.7**	**+0.4**
BCK	**Bucak**	**1.83**	**25**	*e*PN	**Pn**	**12 01 28.5**	**+0.6**
DNZL	**Cakiroluk**	**1.95**	**346**	*i* P	**Pn**	**12 01 31.8**	**+2.3**
DNZL				*i* S	**Sn**	**12 01 54.8**	**+1.0**
DENT	**Denizli**	**2.02**	**346**	*e*PN	**Pn**	**12 01 29.7**	**-0.7**
MLSB	**Milas**	**2.12**	**316**	*e*PN	**Pn**	**12 01 29.0**	**-2.9**
ISP	**Isparta**	**2.17**	**19**	*e*PN	**Pn**	**12 01 32.9**	**+0.3**
ISP	**Isparta**	**2.17**	**19**	*e*Pn	**Pn**	**12 01 32.8**	**+0.2**
BDRM	**Kayabasi**	**2.17**	**306**	*i* P	**Pn**	**12 01 32.5**	**-0.1**
BDRM				*i* S	**Sn**	**12 01 58.2**	**-1.2**
AKMC	**Akamas**	**2.33**	**108**	P	**Pn**	**12 01 36.4**	**+1.4**
AYDN	**Tasoluk**	**2.34**	**323**	*i* P	**Pn**	**12 01 35.8**	**+0.8**
AYDN				*i* S	**Sn**	**12 02 05.5**	**+2.0**
PPCY	**Paphos**	**2.40**	**111**	P	**Pn**	**12 01 37.4**	**+1.5**
ALFC	**Alevga**	**2.50**	**104**	⇑P	**Pn**	**12 01 37.8**	**+0.4**
28nm,0.2s
ALFC S **Sn** **12 02 06.0 -1.8**
ALFC Alevga 2.50 104 ⇑*e*P **Pn 12 01 37.8 +0.4**
ALFC S **Sn** **12 02 06.0 -1.8**
ALFC Alevga 2.50 104 ⇑*e*P **Pn 12 01 37.8 +0.4**
28nm,0.2s
KHL Karahalli 2.53 358 *e*PN **Pn 12 01 37.4 -0.4**
HDMB Hadim 2.58 62 *e*PN **Pn 12 01 39.0 +0.4**
LEF Lefka 2.75 103 *e*PN **Pn 12 01 41.0 +0.1**
SZAC Souni-Zanaja 2.85 110 ⇓*i* P **Pn 12 01 43.6 +1.2**
18nm,0.3s
SZAC S **Sn** **12 02 15.2 -1.5**
KONT Konya--Tatoy 3.07 45 *e*PN **Pn 12 01 46.6 +1.1**
CSS Prodhromos 3.13 104 P **Pn 12 01 46.8 +0.4**
5.4nm,0.2s
CSS S **Sn** **12 02 21.9 -1.9**
CSS Prodhromos 3.13 104 *e*Pn **Pn 12 01 46.6 +0.2**
CSS P 12 01 46.8
CSS S **Sn** **12 02 21.9 -1.9**
CSS Prodhromos 3.13 104 *e*Pn **Pn 12 01 46.6 +0.2**
CSS Prodhromos 3.13 104 P **Pn 12 01 46.8 +0.4**
5.4nm,0.2s
CSS S **Sn** **12 02 21.9 -1.9**
IZM Izmir 3.22 325 *e*PN **Pn 12 01 46.0 -1.6**
AKS Akhisar 3.41 335 *e*PN **Pn 12 01 49.2 -1.0**
KIZT Kizilcal 3.57 30 *e*PN **Pn 12 01 52.3 -0.2**
ESKT Eskisehir 3.84 14 *e*PN **Pn 12 01 56.8 +0.3**
ESKT Eskisehir 3.84 14 *i* P **Pn 12 01 55.7 -0.8**
DABA Dabaa 4.90 194 P **Pn 12 02 12.2 +0.7**
HBRG Burj al 'Arab 5.21 178 P **Pn 12 02 16.2 +0.5**
HBRG Burj al 'Arab 5.21 178 P **Pn 12 02 16.2 +0.4**
HNTI Hanita 5.32 119 Pn **Pn 12 02 17.1 -0.3**
HNTI Sn **Sn** **12 03 14.1 -4.9**
HWQ Hawqa 5.40 104 *e*PN **Pn 12 02 17.8 -0.6**
COBT Iskenderun 5.41 80 *i* P **Pn 12 02 18.0 -0.7**
OFRI 'Ofer 5.45 124 Pn **Pn 12 02 19.8 +0.6**
KSDI Kefar Szold 5.61 116 Pn **Pn 12 02 21.2 -0.3**
SLUM 5.65 222 P **Pn 12 02 22.8 +0.7**
MMLI Mount Malkishu 5.85 123 Pn **Pn 12 02 25.2 +0.3**
GLH Golan-Tel Qazi 5.85 120 Pn **Pn 12 02 25.5 +0.6**
HMDT Nahal Hemdat 6.04 124 Pn **Pn 12 02 28.3 +0.8**
KOT Kottamia 6.13 162 P **Pn 12 02 29.1 +0.3**
KOT S **Sn** **12 03 31.5 -7.9**
KOT Kottamia 6.13 162 P **Pn 12 02 29.1 +0.2**
HHAG Hagoal 6.18 160 P **Pn 12 02 29.8 +0.3**
KZIT Kziot 6.30 139 Pn **Pn 12 02 31.8 +0.6**
KZIT Sn **Sn** **12 03 37.8 -5.6**
HNKL Nakhl 6.90 147 P **Pn 12 02 39.5 -0.1**
SWA1 7.30 208 P **Pn 12 02 44.7 -0.6**
SWA2 7.42 210 P **Pn 12 02 46.6 -0.4**
AWBH 7.47 185 P **Pn 12 02 47.1 -0.6**
HKAT Jabal Katrina 8.13 152 P **P 12 02 56.4 -0.5**
HHRG Al Ghardaqah 9.18 157 P **P 12 03 10.6 -0.9**

IDC ***25*** *12:03:13.1±1.3, 18.89N×81.14W, mb3.6/8, mb1 3.9/8, mb1mx3.7/18, mbtmp3.6/8, ML4.8/1, MS3.4/2, Ms1 3.4/2, ms1mx2.3/17, Error ellipse: s-maj=34.2km s-min=27.8km az=26.0*
NEIC ***25*** *12:03:13.8±0.7, 18.73N×81.32W, h10km, mb3.9/2, Error ellipse: s-maj=20.8km s-min=11.4km az=214.0*
JSN ***25*** *12:03:14.6±0.8, 19.35N×81.19W, h16km±999km, MD4.6*
ISC 25 12:03:11.8±3.0, 18.7N±0.2×81.33W±0.08, h11km±22km, n23, σ0s97/21, mb3.7/10, MS3.3/1, 2C-3D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCJ	**Malvern**	**3.54**	**101**	⇑*e*P	**Pn**	**12 04 08.5**	**+0.7**
MCJ *e*S **Sn** **12 04 50.4 +0.3**
BBJ Bamboo Saint A 3.86 93 ⇓*e*P **Pn 12 04 12.3 -0.2**
STH Stony Hill 4.33 97 ⇓*e*P **Pn 12 04 19.0 -0.2**
STH *e*S **Sn** **12 05 06.6 -3.6**
HOJ Hope 4.40 98 ⇓*e*P **Pn 12 04 20.6 +0.5**
GWJ Greenwich 4.41 97 ⇓*e*P **Pn 12 04 20.1 -0.1**
TEIG Tepich 6.74 285 *e*Pn **Pn 12 04 51.1 -2.1**
SDV Santo Domingo 14.21 132 Pn **P 12 06 35.3 -0.1**
4.6nm,0.3s,baz=338,slow=5.9,SNR=26
SJG San Juan 14.42 90 LR LR 12 11 34.0
comp=Z,151nm,19.3s,baz=107,slow=35
WMOK Wichita Mounta 22.30 319 P **P 12 08 11.1 +0.4**
7.4nm,1.2s,mb4.0
TXAR Lajitas Array 22.97 302 P **P 12 08 18.7 +1.2**
0.3nm,0.6s,mb2.9,baz=108,slow=9.5,SNR=5.6
ANMO Albuquerque 27.57 311 LR LR 12 23 07.3
comp=Z,68nm,18.5s,MS3.3,slow=43
PDAR Pinedale Array 33.87 321 P **P 12 09 56.6 0.0**
0.7nm,0.8s,mb3.6,baz=121,slow=8.6,SNR=3.8
MOOW Moose Ponds 35.15 322 P **P 12 10 06.4 -1.2**
HLID Hailey 37.27 319 P **P 12 10 30.3 +4.9**
1.2nm,0.7s,mb3.8
NVAR Mina Array Bea 37.65 309 P **P 12 10 30.7 +2.0**
0.3nm,0.7s,mb3.1,baz=104,slow=3.7,SNR=3.2
SCHQ Schefferville 37.77 14 P **P 12 10 29.7 +0.2**
3.6nm,0.9s,mb4.1,baz=226,slow=14,SNR=4.2
YKA Yellowknife Ar 49.48 340 P **P 12 12 02.7 -1.2**
0.2nm,0.7s,mb3.3,baz=133,slow=8.2,SNR=8.0
YKA Yellowknife Ar 49.48 340 P **P 12 12 02.7 -1.2**
ILAR Eielson Array 62.91 334 P **P 12 13 40.7 +0.6**
0.4nm,0.8s,mb3.6,baz=112,slow=3.9,SNR=6.3
ARCES ARCESS Array B 78.40 20 P **P 12 15 12.7 -0.9**
10nm,1.2s,mb4.6,baz=288,slow=3.8,SNR=9.0
FINES FINESS Array B 81.80 28 P **P 12 15 32.6 +0.7**
3.1nm,1.1s,mb4.2,baz=288,slow=8.8,SNR=3.6
WRA Warramunga Arr 146.35 262 PKPbc PKPbc 12 22 56.6 +3.0
1.0nm,0.8s,baz=84,slow=3.4,SNR=8.2
ASAR Alice Springs 146.82 255 PKPbc PKPbc 12 22 58.5 +4.0
1.0nm,0.9s,baz=86,slow=4.2,SNR=7.0

IGQ 25 12:23:35.0, 1.54S×81.26W, h9km±7km, mb4.1, 1C, Error ellipse: s-maj=12.9km s-min=10.1km az=111.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.86**	**56**	⇑P	Pb	12 23 51.0	-0.7
ARRY Arrayan 2.80 89 P Pn 12 24 21.3 +0.5
ARRY S Sn 12 24 55.9 +0.7
ULBA Ulba 2.85 88 P Pn 12 24 22.6 +1.0
PISA Pisayambo 2.91 81 P Pn 12 24 24.7 +2.3
NAS1 Nasa 2.92 72 P Pn 12 24 25.5 +3.0
JUA2 San Juan 2 2.96 64 P Pn 12 24 24.2 +1.1
TERV Terraza Guagua 2.98 63 P Pn 12 24 26.1 +2.7
PINO Pino 2.98 63 P Pn 12 24 23.9 +0.5
VC1 Cotopaxi 1 2.99 73 P Pn 12 24 26.4 +2.8
TAMB Tambo 3.01 74 P Pn 12 24 26.6 +2.8
YANA Yana 3.03 62 P Pn 12 24 25.0 +0.9
ANTI Antisana 3.28 71 P Pn 12 24 30.1 +2.4
COTA Cotacachi 3.46 57 P Pn 12 24 30.8 +0.6
CAYR Refugio Cayamb 3.60 65 P Pn 12 24 35.4 +3.3
CAYA Cayambe 3.64 64 P Pn 12 24 36.0 +3.3

FUNV ***25*** *12:34:17.3, 10.32N×61.97W, h17km, MW2.8*
TRN ***25*** *12:34:19.6, 10.29N×62.01W, h5km, MD3.7*
NEIC ***25*** *12:34:19.6, 10.29N×62.01W, h4km, MD3.7(TRN), After TRN.*
ISC 25 12:34:16.8±0.9, 10.21N±0.03×62.12W±0.03, h5km±6km, n14, σ1s09/22, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.45**	**346**	*e*P	**Pg**	**12 34 25.1**	**-0.6**
GUIV *e*S **Sg** **12 34 30.9 -0.8**
TPP Pointe-a-Pierr 0.66 81 ⇑*i*P **Pg 12 34 31.5 +1.4**
GUNV Guanoco 0.81 267 *e*P **Pg 12 34 35.1 +2.0**
GUNV *e*S **Sg** **12 34 48.6 +4.6**
TRN Trinidad (W) 0.83 58 *e*P **Pb 12 34 32.4 -0.9**
TRN *e*S **Sg** **12 34 43.2 -1.1**
TBH Brigand Hill 1.07 75 *e*P **Pb 12 34 38.2 +0.7**
CRUV Carupano 1.19 293 *e*P **Pb 12 34 39.7 +0.1**
CRUV *e*S **Sb** **12 34 56.0 +0.8**
ITEV Isla Los Testi 1.51 319 *e*P **Pn 12 34 43.6 -1.1**
ITEV *e*S **Sb** **12 35 03.1 -1.4**
TPR Prospect 1.64 54 *e*P **Pn 12 34 46.9 +0.4**
TPR *e*S **Sb** **12 35 08.3 +0.3**
BOT Bacolet 1.67 55 *e*P **Pn 12 34 47.6 +0.6**
ORIV Oritupano 1.71 228 *e*S **Sn 12 35 11.3 +1.4**
GRW Mount Saint Ca 1.99 13 *e*P **Pn 12 34 53.4 +1.9**
GRW *e*S **Sn** **12 35 17.8 +0.6**
RIOV Rio Grande 2.15 172 *e*P **Pn 12 34 53.0 -0.8**
RIOV *e*S **Sn** **12 35 19.8 -1.4**
GURV El Guri 2.62 202 *e*P **Pn 12 35 00.2 -0.3**
CAOV Caicara del Or 5.05 236 *e*P **Pn 12 35 33.3 -1.8**

IGQ 25 12:34:37.8, 1.51S×81.40W, h12km±12km, mb4.2, 1D, Error ellipse: s-maj=13.8km s-min=11.7km az=153.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.97**	**62**	P	Pb	12 34 55.1	-0.9
IGUA Igualata 2.76 90 P Pn 12 35 23.4 +0.7
ARRY Arrayan 2.95 90 P Pn 12 35 25.7 +0.3
ARRY S Sn 12 36 01.7 +0.7
ULBA Ulba 3.00 89 P Pn 12 35 27.7 +1.7
PISA Pisayambo 3.05 82 P Pn 12 35 28.8 +2.0
NAS1 Nasa 3.05 73 ⇓P Pn 12 35 30.2 +3.4
JUA2 San Juan 2 3.08 65 P Pn 12 35 29.4 +2.2
TERV Terraza Guagua 3.10 65 P Pn 12 35 29.8 +2.3
PINO Pino 3.10 64 P Pn 12 35 28.1 +0.6
VC1 Cotopaxi 1 3.12 74 P Pn 12 35 31.1 +3.3
TAMB Tambo 3.14 75 P Pn 12 35 30.5 +2.4
YANA Yana 3.15 64 P Pn 12 35 29.1 +0.8
COTA Cotacachi 3.57 59 P Pn 12 35 35.3 +1.1
CAYR Refugio Cayamb 3.72 66 P Pn 12 35 39.5 +3.2
CAYA Cayambe 3.76 65 P Pn 12 35 40.0 +3.2

IGQ 25 12:39:52.9, 1.43S×81.31W, h9km±6km, mb4.1, 5C-1D, Error ellipse: s-maj=9.2km s-min=6.9km az=80.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.85**	**64**	⇑P	Pb	12 40 08.8	-0.6
HOJA S Sb 12 40 20.1 -0.6
IGUA Igualata 2.67 91 P Pn 12 40 38.1 +1.2
ARRY Arrayan 2.85 91 ⇑P Pn 12 40 39.9 +0.5
ARRY S Sn 12 41 14.9 +0.6
PATA Patacocha 2.88 91 P Pn 12 40 41.5 +1.8
ULBA Ulba 2.90 90 P Pn 12 40 41.7 +1.5
NAS1 Nasa 2.94 74 P Pn 12 40 43.1 +2.4
PISA Pisayambo 2.95 83 P Pn 12 40 43.5 +2.7
JUA2 San Juan 2 2.96 66 P Pn 12 40 41.8 +0.8
TERV Terraza Guagua 2.98 65 P Pn 12 40 43.6 +2.4
PINO Pino 2.98 65 P Pn 12 40 42.1 +0.8
VC1 Cotopaxi 1 3.01 75 ⇑P Pn 12 40 44.7 +3.0
TAMB Tambo 3.03 76 ⇑P Pn 12 40 45.5 +3.5
YANA Yana 3.04 65 P Pn 12 40 42.6 +0.6
ANTI Antisana 3.30 73 P Pn 12 40 47.6 +1.8
COTA Cotacachi 3.45 59 P Pn 12 40 49.7 +1.7
CAYR Refugio Cayamb 3.60 66 ⇑P Pn 12 40 54.0 +4.0
CAYA Cayambe 3.64 66 ⇓P Pn 12 40 53.9 +3.2

IDC 25 12:52:29.1±1.4, 14.11N×144.89E, mb3.4/4, mb1 3.6/4, mb1mx3.5/18, mbtmp3.4/4, MS3.7/1, Ms1 3.7/1, ms1mx3.0/10, Error ellipse: s-maj=64.8km s-min=24.2km az=97.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**19.48**	**347**	LR	LR	13 03 11.6	
comp=Z,238nm,20.2s,baz=312,slow=33
WRA Warramunga Arr 35.39 197 P P 12 59 26.8 -2.1
0.4nm,0.7s,baz=18,slow=8.8,SNR=7.8
ASAR Alice Springs 39.05 196 P P 12 59 57.9 -1.8
0.3nm,0.8s,baz=9.5,slow=5.5,SNR=4.1
SONM Songino Array 46.32 325 P P 13 00 57.1 -1.4
0.4nm,0.6s,baz=139,slow=6.6,SNR=5.5
ILAR Eielson Array 68.09 25 P P 13 03 30.4 -2.2
0.4nm,1.0s,baz=258,slow=5.6,SNR=4.2

NAO ***25*** *13:12:47.5±3.2, 60.94N×29.17E, ML2.5*
BER ***25*** *13:12:48.4±2.4, 60.93N×29.22E, ML2.5(NAO), Suspected explosion*
HEL 25 13:12:47.5±0.3, 60.89N×29.21E, ML1.9, ML2.5(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIA0	**FINESS Array S**	**1.62**	**292**	Pn	Pn	13 13 15.8	-1.6
baz=114,slow=16
FIA0 Lg 13 13 38.0
baz=101,slow=37
FIA0 Rg 13 13 46.8
baz=117,slow=37
FIA0 FINESS Array S 1.62 292 *e*P Pn 13 13 15.9 -1.6
FIA0 *e*S Sb 13 13 37.2 -1.7
PVF Pernaja 1.68 260 *e*P Pn 13 13 16.9 -1.5
PVF *e*S Sb 13 13 39.1 -1.7
KAF Kangasniemi 1.86 313 *e*P Pn 13 13 20.7 -0.2
KAF *e*S Sn 13 13 41.5 -3.9
JOF Joensuu 2.27 25 *e*P Pn 13 13 25.8 -1.0
JOF *e*S Sn 13 13 53.6 -2.2
SUF Sumiainen 2.34 323 *e*PB Pb 13 13 28.4 -1.9
SUF *e*SG Sg 13 13 59.1 -6.4
SUF MSG 13 14 00.2
comp=Z,4.7nm,0.2s
KEF Keuruu 2.44 304 *e*P Pn 13 13 29.1 -0.2
KEF *e*SG Sg 13 14 02.4 -6.5
KEF MSG 13 14 03.5
comp=Z,3.4nm,0.3s
KJN Kajaani 3.29 348 *e*P Pn 13 13 40.9 -0.3
KJN *e*S Sn 13 14 21.4 -0.2
HFS Hagfors 7.70 271 Pn Pn 13 14 39.9 -3.6
baz=79,slow=16
HFS Sn Sn 13 16 03.8 -8.8
baz=83,slow=28
HFS Lg 13 16 46.2
baz=86,slow=37
HFS Hagfors 7.70 271 *e*P Pn 13 14 39.9 -3.6
HFS *e*S Sn 13 16 03.8 -8.8
HFS *e*SG 13 16 46.2
ARA0 ARCESS Array S 8.82 351 Pn P 13 14 54.5 -4.8
baz=171,slow=14
ARA0 ARCESS Array S 8.82 351 *e*P P 13 14 54.5 -4.8

CSEM ***25*** *13:19:13.8±0.1, 46.34N×7.49E, h5km, ML2.7/15, Error ellipse: s-maj=1.2km s-min=0.8km az=75.0*
ZUR ***25*** *13:19:13.9, 46.37N×7.44E, h5km, ML2.1/8*
LDG ***25*** *13:19:14.0±0.1, 46.36N×7.50E, h2km, Md2.5/3, Ml2.8/17, Error ellipse: s-maj=2.1km s-min=1.4km az=109.0*
NEIC ***25*** *13:19:14.0, 46.36N×7.50E, h2km, ML2.8(LDG), ML2.5(STR), ML2.5(GEN), ML2.1(ZUR), After LDG.*
GEN ***25*** *13:19:15.7, 46.29N×7.51E, h0km, ML2.5*
ISC 25 13:19:13.3±0.2, 46.40N±0.01×7.36E±0.02, h10km±2km, n81, σ1s18/132, 6C-4D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENIN	**Lac Senin**	**0.05**	**231**	⇓*i*P	**Pg**	**13 19 16.4**	**+1.0**
SENIN Lac Senin 0.05 231 ⇓*i*Pg **Pg 13 19 16.4 +1.0**
SENIN *i* Sg **Sg** **13 19 18.1 +1.3**
LKBD Leukerbad 0.19 92 ⇑*i*P **Pg 13 19 16.9 -0.6**
LKBD Leukerbad 0.19 92 ⇑*i*Pg **Pg 13 19 16.9 -0.6**
LKBD *i* Sg **Sg** **13 19 19.0 -1.3**
GRYON Gryon 0.22 230 ⇑*i*P **Pg 13 19 19.2 +1.1**
GRYON Gryon 0.22 230 ⇑*i*Pg **Pg 13 19 19.2 +1.1**
GRYON *i* Sg **Sg** **13 19 23.1 +1.8**
AIGLE Aigle 0.28 259 *e*P **Pg 13 19 20.7 +1.5**
AIGLE Aigle 0.28 259 *e*Pg **Pg 13 19 20.7 +1.5**
DIX Grande Dixence 0.32 173 ⇑*i*P **Pg 13 19 20.2 +0.3**
DIX Grande Dixence 0.32 173 ⇑*i*Pg **Pg 13 19 20.2 +0.3**
DIX *i* Sg **Sg** **13 19 24.2 -0.1**
WIMIS Wimmis 0.33 34 ⇓*i*P **Pg 13 19 20.4 +0.3**
WIMIS Wimmis 0.33 34 ⇓*i*Pg **Pg 13 19 20.4 +0.3**
WIMIS *e*Sg **Sg** **13 19 25.1 +0.5**
SALAN Lac Salanfe 0.37 227 *e*P **Pg 13 19 22.0 +1.2**
SALAN Lac Salanfe 0.37 227 *e*Pg **Pg 13 19 22.0 +1.2**
SALAN *i* Sg **Sg** **13 19 27.4 +1.6**
EMV Vieux Emosson 0.46 224 *e*P **Pg 13 19 23.5 +0.9**
EMV Vieux Emosson 0.46 224 *e*Pg **Pg 13 19 23.5 +0.9**
OG01 Vacheresse 0.47 262 Pg **Pg 13 19 21.7 -1.1**
OG01 Sg **Sg** **13 19 29.3 +0.1**
MMK Mattmark 0.55 129 *e*P **Pg 13 19 23.5 -0.8**
MMK Mattmark 0.55 129 *e*Pg **Pg 13 19 23.4 -0.9**
RSL Roselend 0.87 216 Pg **Pg 13 19 31.3 +0.6**
ORX Oropa 0.88 150 P **Pb 13 19 29.9 -0.2**
ORX S **Sb** **13 19 39.7 -1.9**
ORX Oropa 0.88 150 S **Sb 13 19 39.7 -1.9**
ORX Oropa 0.88 150 P **Pb 13 19 29.9 -0.2**
CABF La Chapelle 0.90 284 *e*Pg **Pg 13 19 32.8 +1.4**
CABF *e*Pn **Pn** **13 19 33.7 +1.9**
CABF *e*Sg **Sg** **13 19 45.6 +2.1**
CABF *e*Sn **Sn** **13 19 47.4 +2.6**
44nm,0.3s
TRAV 0.92 163 P **Pb 13 19 30.9 0.0**
TRAV S **Sb** **13 19 41.3 -1.6**
TRAV 0.92 163 S **Sb 13 19 41.3 -1.6**
TRAV 0.92 163 P **Pb 13 19 30.9 0.0**
LSD Ceresole Reale 0.95 189 P **Pb 13 19 32.6 +1.4**
LSD S **Sb** **13 19 44.0 +0.4**
LSD Ceresole Reale 0.95 189 P **Pb 13 19 32.6 +1.3**
LSD S **Sb** **13 19 44.0 +0.4**
LPL La Plagne 0.98 207 *e*Pg **Pg 13 19 33.0 +0.1**
LPL *e*Sg **Sg** **13 19 46.4 +0.3**
17nm,0.3s
LPG La Plagne 0.99 205 *e*Pg **Pg 13 19 33.3 +0.2**
LPG *e*Sg **Sg** **13 19 45.9 -0.5**
18nm,0.2s
LPG *e*Sn **Sn** **13 19 47.4 +0.3**
LOMF Lomont 1.02 339 Pg **Pg 13 19 35.6 +1.9**
LOMF Sg **Sg** **13 19 49.5 +2.1**
BBS Basel-Blauen 1.07 6 Pg **Pg 13 19 36.0 +1.2**
RSP Reno Superiore 1.25 183 P **Pb 13 19 37.3 +0.9**
RSP S **Sb** **13 19 52.1 -0.2**
RSP Reno Superiore 1.25 183 P **Pb 13 19 37.3 +0.9**
RSP S **Sb** **13 19 52.1 -0.2**
OG05 Jujurieux 1.36 256 Pg **Pg 13 19 41.5 +0.9**
FENE Fenestrelle 1.38 189 P **Pn 13 19 39.6 +1.0**
FENE Fenestrelle 1.38 189 P **Pn 13 19 39.7 +1.1**
HINF Hinteralfeld 1.46 347 *e*Pn **Pn 13 19 41.0 +1.2**
HINF *e*Pg **Pg** **13 19 42.6 +0.1**
HINF *e*Sn **Sn** **13 19 59.6 +0.5**
HINF *e*Sg **Sg** **13 20 01.9 -0.2**
15nm,0.2s
MOF Molkenrain 1.47 354 Pg **Pg 13 19 42.6 0.0**
MOF Sg **Sg** **13 20 02.3 +0.2**
RRL Cesana Torines 1.53 195 P **Pn 13 19 42.9 +2.1**
RRL S **Sb** **13 20 01.6 +1.1**
RRL Cesana Torines 1.53 195 P **Pn 13 19 42.9 +2.2**
RRL S **Sb** **13 20 01.5 +1.0**
FELD Feldberg 1.55 16 Pg **Pg 13 19 43.8 -0.4**
BHB Bricherasio 1.56 182 P **Pn 13 19 41.8 +0.7**
BHB S **Sb** **13 19 59.8 -1.5**
BHB Bricherasio 1.56 182 P **Pn 13 19 41.8 +0.7**
BHB S **Sb** **13 19 59.8 -1.5**
MBDF Montbardon 1.72 194 *e*Pg **Pg 13 19 46.3 -1.3**
MBDF *e*Sg **Sg** **13 20 08.5 -2.0**
6.7nm,0.3s
HAU Haudompre 1.75 337 *e*Pn **Pn 13 19 45.3 +1.4**
HAU *e*Sn **Sn** **13 20 06.3 -0.1**
HAU *e*Sg **Sg** **13 20 10.8 -0.8**
27nm,0.2s

ORIF Oris-en-Rattie 1.80 216 *e*Pg **Pg 13 19 48.4 -0.9**
ORIF *e*Sg **Sg 13 20 12.0 -1.4**
8.0nm,0.3s
ECH Echery 1.83 356 Pg **Pg 13 19 51.4 +1.6**
PZZ Prazzo 1.90 186 P **Pn 13 19 46.8 +0.7**
PZZ Prazzo 1.90 186 P **Pn 13 19 46.8 +0.8**
DAVA Damuels 1.95 62 *i* SG **Sg 13 20 16.8 -1.4**
CDF Champ du Feu 2.02 358 *e*Pn **Pn 13 19 48.3 +0.6**
CDF *e*Pg **Pg 13 19 52.1 -1.5**
CDF *e*Sg **Sg 13 20 18.4 -2.1**
7.5nm,0.3s
PCP Pian Castagno 2.03 155 P **Pn 13 19 48.2 +0.2**
PCP Pian Castagno 2.03 155 P **Pn 13 19 48.2 +0.2**
ROB Roburent 2.13 170 P **Pn 13 19 49.7 +0.3**
ROB Roburent 2.13 170 P **Pn 13 19 49.7 +0.3**
STV Sta Anna Valdi 2.15 181 P **Pn 13 19 50.5 +0.8**
STV Sta Anna Valdi 2.15 181 P **Pn 13 19 50.5 +0.9**
ENR Entracque 2.17 179 P **Pn 13 19 50.3 +0.4**
ENR Entracque 2.17 179 P **Pn 13 19 50.3 +0.4**
FIN Finale Ligure 2.27 164 P **Pn 13 19 50.6 -0.7**
FIN Finale Ligure 2.27 164 P **Pn 13 19 50.6 -0.7**
VIVF Saint-Julien-l 2.43 232 *e*Pn **Pn 13 19 53.7 0.0**
VIVF *e*Pg **Pg 13 20 00.2 -1.6**
VIVF *e*Sg **Sg 13 20 31.6 -2.7**
7.2nm,0.3s
SMF Signal de Mont 2.44 277 *e*Pn **Pn 13 19 55.4 +1.6**
SMF *e*Sn **Sn 13 20 23.9 0.0**
SMF *e*Sg **Sg 13 20 33.1 -1.4**
6.5nm,0.2s
IMI Imperia 2.51 171 P **Pn 13 19 54.4 -0.5**
IMI Imperia 2.51 171 P **Pn 13 19 54.4 -0.4**
RFYF Reffroy 2.57 331 *e*Pn **Pn 13 19 55.7 0.0**
RFYF *e*Sn **Sn 13 20 26.5 -0.8**
RFYF *e*Sg **Sg 13 20 36.9 -2.1**
12nm,0.3s
MEZF Maizieres J'vi 2.62 324 *e*Sg **Sg 13 20 38.7 -2.0**
7.3nm,0.3s
GRAM 2.69 134 P **Pn 13 19 57.3 -0.1**
GRAM 2.69 134 P **Pn 13 19 57.3 -0.1**
SSF Saint Saulge 2.73 286 *e*Pn **Pn 13 19 59.2 +1.3**
SSF *e*Pg **Pg 13 20 06.3 -1.5**
SSF *e*Sn **Sn 13 20 30.5 -0.8**
SSF *e*Sg **Sg 13 20 41.7 -2.5**
5.5nm,0.3s
SSF Saint Saulge 2.73 286 *e*Pg **Pg 13 20 06.3 -1.5**
SSF *e*Sn **Sn 13 20 30.5 -0.8**
SSF *e*Sg **Sg 13 20 41.7 -2.5**
2.8nm,0.3s
AVF Avril sur Loir 2.79 280 *e*Pn **Pn 13 20 00.0 +1.2**
AVF *e*Sn **Sn 13 20 32.1 -0.7**
AVF *e*Sg **Sg 13 20 44.1 -2.0**
2.4nm,0.2s
BGF Bois d'Agland 3.12 275 *e*Pn **Pn 13 20 04.4 +0.9**
BGF *e*Sn **Sn 13 20 40.3 -0.8**
BGF *e*Sg **Sg 13 20 54.7 -2.5**
6.7nm,0.3s
LASF Ste Croix 3.39 228 *e*Pn **Pn 13 20 06.9 -0.4**
LASF *e*Pg **Pg 13 20 17.8 -3.1**
CAF Calviac 3.99 250 *e*Pn **Pn 13 20 15.8 0.0**
RJF Les Rejaudoux 4.22 257 *e*Pn **Pn 13 20 18.7 -0.4**
MTLF Montolieu 4.76 232 *e*Pn **Pn 13 20 25.5 -1.3**
MTLF *e*Pg **Pg 13 20 42.7 -5.6**
MFF Saint Martin d 5.18 275 *e*Pn **Pn 13 20 32.5 -0.2**
SGMF Saint Gilles 6.99 289 *e*Pn **Pn 13 20 56.5 -1.7**

IDC 25 13:23:20.2±3.3, 3.74S×100.22E, h26km±5km, mb3.7/5, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, Error ellipse: s-maj=125.7km s-min=16.4km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.09**	**357**	P	P	13 28 13.5	-1.8
8.0nm,0.5s,baz=181,slow=8.2,SNR=6.9							
WRA	**Warramunga Arr**	**36.95**	**119**	P	P	13 30 27.1	-2.3
0.5nm,0.4s,baz=304,slow=8.5,SNR=16							
WRA				pP	pP	13 30 35.5	-1.6
0.6nm,0.7s,baz=301,slow=8.3,SNR=3.4							
ASAR	**Alice Springs**	**38.08**	**124**	P	P	13 30 36.6	-2.1
0.8nm,0.4s,baz=302,slow=7.8,SNR=4.8							
ASAR				pP	pP	13 30 44.3	-2.3
0.5nm,0.6s,baz=300,slow=7.5,SNR=3.6							
SONM	**Songino Array**	**51.64**	**5**	P	P	13 32 24.7	-2.2
2.4nm,0.7s,baz=188,slow=9.4,SNR=23							
SONM				pP	pP	13 32 32.7	-2.2
1.2nm,0.5s,baz=190,slow=9.5,SNR=8.5							
ZAL	**Zalesovo**	**58.90**	**349**	P	P	13 33 15.9	-3.5
0.7nm,0.5s,baz=321,slow=9.5,SNR=5.2							
ZAL				pP	pP	13 33 24.1	-3.3
0.9nm,0.5s,baz=298,slow=4.4,SNR=2.8							
TXAR	**Lajitas Array**	**145.92**	**39**	PKPbc	PKPbc	13 42 58.9	+0.5
1.2nm,0.7s,baz=290,slow=1.2,SNR=6.8							
TXAR				pPKPbc		13 43 07.0	
0.8nm,0.6s,baz=315,slow=33,SNR=3.9							

IGQ 25 13:42:56.8, 1.75S×81.21W, h12km±21km, mb4.2, 2C-2D, Error ellipse: s-maj=22.0km s-min=6.2km az=160.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.58**	**84**	⇑P	Pn	13 43 40.3	+1.1
JUIV	**Juive**	**2.76**	**83**	P	Pn	13 43 44.4	+2.6
ARRY	**Arrayan**	**2.76**	**85**	⇑P	Pn	13 43 43.0	+1.2
ARRY				S	Sn	13 44 15.6	+0.2
PATA	**Patacocha**	**2.79**	**85**	P	Pn	13 43 44.9	+2.8
RUN2	**Runtun**	**2.81**	**83**	P	Pn	13 43 44.7	+2.2
ULBA	**Ulba**	**2.82**	**84**	P	Pn	13 43 44.3	+1.7
PISA	**Pisayambo**	**2.91**	**76**	P	Pn	13 43 45.4	+1.6
NAS1	**Nasa**	**2.95**	**68**	P	Pn	13 43 46.2	+1.8
VC1	**Cotopaxi 1**	**3.01**	**69**	P	Pn	13 43 47.1	+1.7
JUA2	**San Juan 2**	**3.02**	**60**	P	Pn	13 43 45.2	-0.2
TAMB	**Tambo**	**3.03**	**70**	P	Pn	13 43 47.6	+2.0
TERV	**Terraza Guagua**	**3.04**	**59**	P	Pn	13 43 47.4	+1.7
PINO	**Pino**	**3.04**	**59**	P	Pn	13 43 44.9	-0.9
YANA	**Yana**	**3.10**	**58**	P	Pn	13 43 45.4	-1.1
ANTI	**Antisana**	**3.31**	**67**	P	Pn	13 43 50.8	+1.2
COTA	**Cotacachi**	**3.54**	**54**	⇓P	Pn	13 43 53.3	+0.5
COTA				S	Sn	13 44 36.1	+1.1
CAYR	**Refugio Cayamb**	**3.65**	**61**	P	Pn	13 43 56.7	+2.3
CAYA	**Cayambe**	**3.69**	**61**	⇓P	Pn	13 43 57.3	+2.3

IDC 25 13:51:47.2±12.0, 7.08N×91.07E, mb3.8/2, mb1 4.1/3, mb1mx3.6/18, mbtmp3.8/3, ML3.8/1, MS2.8/1, Ms1 3.0/1, ms1mx2.3/21, Error ellipse: s-maj=274.6km s-min=51.4km az=95.0, Low Confidence Location, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.66**	**33**	Pn	P	13 55 03.5	-1.3
0.1nm,0.3s,baz=228,slow=14,SNR=18							
CMAR				LR	LR	14 01 33.7	
comp=Z,38nm,19.1s,baz=205,slow=43							
WRA	**Warramunga Arr**	**50.34**	**123**	P	P	14 00 45.5	-2.7
1.2nm,0.5s,baz=307,slow=8.7,SNR=11							
ASAR	**Alice Springs**	**51.80**	**128**	P	P	14 00 57.8	-1.5
0.6nm,0.7s,baz=299,slow=7.7,SNR=3.9							

NEIC ***25*** *13:53:51.5±6.9, 0.74S×122.18E, h39km±73km, mb4.3/3, Error ellipse: s-maj=75.3km s-min=14.0km az=54.0*
IDC ***25*** *13:54:03.7±7.3, 1.06S×122.64E, h121km±72km, mb3.6/5, mb1 3.8/5, mb1mx3.6/15, mbtmp3.9/5, Error ellipse: s-maj=80.5km s-min=17.6km az=59.0*
ISC 25 13:53:51.4±3.1, 0.8S±0.1×122.1E±0.2, h57km±32km, n11, σ0°92/14, mb4.0/8, 3C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUNI	**Buntu Taipa**	**3.35**	**211**	⇑iPn	P	13 54 40.8	-1.8
BUNI				*i* Sn	S	13 55 19.9	-1.5
TANI	**Tanete Lipujan**	**3.76**	**225**	⇑iPn	P	13 54 49.5	+1.1
TANI				*i* Sg	S	13 55 37.9	+6.1
NINI	**Niniconang**	**4.29**	**212**	⇑iPn	P	13 54 56.7	+0.8
NINI				*i* Sn	S	13 55 46.4	+1.2
WRAB	**Tennant Creek**	**22.52**	**148**	*e*P	P	13 58 47.7	0.0
18nm,0.9s,mb4.5							
WRA	**Warramunga Arr**	**22.52**	**149**	P	P	13 58 48.2	+0.5
9.5nm,0.9s,mb4.2,baz=331,slow=10.0,SNR=34							

ASAR	**Alice Springs**	**25.49**	**154**	P	P	13 59 16.2	-0.1
1.8nm,0.6s,mb3.8,baz=335,slow=8.9,SNR=24							
ASAR				PcP	PcP	14 02 47.9	+0.4
0.3nm,0.5s,baz=349,slow=2.1,SNR=9.0							
CMAR	**Chiang Mai Arr**	**29.69**	**311**	P	P	14 00 03.2	+8.8
1.0nm,0.9s,mb3.5,baz=134,slow=6.4,SNR=5.0							
STKA	**Stephens Creek**	**36.02**	**151**	P	P	14 00 49.0	-0.2
1.1nm,0.6s,mb3.9,baz=340,slow=9.8,SNR=6.9							
ULN	**Ulaanbaatar**	**50.18**	**347**	P	P	14 02 43.7	+0.2
1.6nm,0.8s,mb4.1							
SONM	**Songino Array**	**50.30**	**346**	P	P	14 02 52.1	+7.7
0.8nm,0.9s,mb3.8,baz=157,slow=8.6,SNR=5.4							
KURK	**Kurchatov**	**63.18**	**331**	*e*P	P	14 04 15.4	-0.6
1.7nm,0.7s,mb4.3							

IDC ***25*** *14:01:39.2±0.8, 22.71S×176.28W, mb4.2/12, mb1 4.4/14, mb1mx4.3/20, mbtmp4.2/14, ML4.3/2, MS3.6/1, Ms1 3.5/1, ms1mx2.8/22, Error ellipse: s-maj=35.8km s-min=16.5km az=148.0*
NEIC ***25*** *14:01:43.4±0.5, 22.76S×176.24W, h30km, mb4.8/4, Error ellipse: s-maj=16.7km s-min=9.3km az=155.0*
ISC 25 14:01:43.0±0.6, 22.7S±0.1×176.4W±0.1, h33km, n24, σ0°75/23, mb4.2/15, MS3.6/1, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**15.53**	**88**	Pn	P	14 05 16.1	-5.2
2.7nm,0.3s,baz=230,slow=13,SNR=5.1							
URZ	**Urewera**	**16.50**	**198**	Pn	P	14 05 33.2	-0.2
0.6nm,0.3s,baz=192,slow=1.4,SNR=5.1							
URZ				Sn	S	14 08 27.4	-7.4
0.4nm,0.3s,baz=114,slow=20,SNR=4.5							
RPZ	**Rata Peaks**	**23.40**	**203**	P	P	14 06 50.2	+0.5
29nm,1.4s,mb4.5,baz=174,slow=23,SNR=2.1							
CTA	**Charters Tower**	**34.78**	**267**	P	P	14 08 34.0	+1.4
5.0nm,0.5s,mb4.7,baz=96,slow=12,SNR=9.5							
CTAO	**Charters Tower**	**34.78**	**267**	*e*P	P	14 08 33.9	+1.3
6.7nm,0.6s,mb4.8							
STKA	**Stephens Creek**	**38.22**	**247**	P	P	14 09 01.6	+0.1
1.5nm,0.6s,mb3.9,baz=109,slow=9.8,SNR=8.1							
STKA				LR	LR	14 21 45.8	
comp=Z,80nm,18.3s,MS3.6,baz=161,slow=32							
STKA	**Stephens Creek**	**38.22**	**247**	P	P	14 09 01.1	-0.4
ASAR	**Alice Springs**	**45.48**	**259**	P	P	14 10 00.8	-0.4
2.6nm,0.9s,mb4.1,baz=93,slow=7.4,SNR=33							
ASPA	**Alice Springs**	**45.48**	**259**	*e*P	P	14 10 00.4	-0.7
WB2	**Warramunga Arr**	**45.77**	**264**	*e*P	P	14 10 02.9	-0.5
WRAB	**Tennant Creek**	**45.77**	**264**	*e*P	P	14 10 02.9	-0.6
7.3nm,0.7s,mb4.7							
WRA	**Warramunga Arr**	**45.78**	**264**	P	P	14 10 03.0	-0.5
3.4nm,0.8s,mb4.3,baz=96,slow=8.3,SNR=51							
KAKA	**Kakadu**	**49.50**	**272**	*e*P	P	14 10 32.3	-0.3
25nm,1.5s,mb5.0							
FITZ	**Fitzroy Crossi**	**54.20**	**264**	*e*P	P	14 11 08.6	+0.7
13nm,1.1s,mb4.8							
YBH	**Yreka Blue Hor**	**81.09**	**38**	P	P	14 13 56.3	-0.1
2.2nm,0.8s,mb4.1,baz=248,slow=5.4,SNR=3.6							
NVAR	**Mina Array Bea**	**81.62**	**42**	P	P	14 13 59.5	+0.3
0.6nm,0.8s,mb3.5,baz=218,slow=9.2,SNR=4.3							
TXAR	**Lajitas Array**	**87.01**	**57**	P	P	14 14 26.5	0.0
0.4nm,0.3s,mb4.1,baz=214,slow=6.5,SNR=4.4							
PDAR	**Pinedale Array**	**89.55**	**43**	P	P	14 14 38.1	-0.2
0.6nm,0.9s,mb3.9,baz=243,slow=3.3,SNR=4.8							
ILAR	**Eielson Array**	**90.11**	**12**	P	P	14 14 39.1	-1.2
0.4nm,0.7s,mb3.9,baz=215,slow=3.7,SNR=4.0							
CMAR	**Chiang Mai Arr**	**92.20**	**289**	P	P	14 14 53.4	+2.2
0.5nm,0.3s,mb4.3,baz=108,slow=2.4,SNR=5.1							
YKA	**Yellowknife Ar**	**97.87**	**24**	P	P	14 15 16.6	+0.6
0.3nm,0.9s,mb3.8,baz=250,slow=4.8,SNR=4.4							
YKA	**Yellowknife Ar**	**97.87**	**24**	P	P	14 15 16.6	+0.6
AKASG	**Malin Array Be**	**145.60**	**331**	PKPbc	PKPbc	14 21 19.8	+1.4
1.0nm,0.4s,baz=41,slow=4.3,SNR=8.2							
CLL	**Collm**	**150.49**	**348**	*e**PPKP		14 21 51.0	

IGQ 25 14:03:09.2, 1.40S×81.19W, h7km±6km, mb4.0, 2C-3D, Error ellipse: s-maj=10.7km s-min=7.9km az=152.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.73**	**62**	⇑P	Pb	14 03 22.7	-1.0
IGUA	**Igualata**	**2.55**	**92**	⇑P	Pn	14 03 53.2	+1.6
ARRY	**Arrayan**	**2.73**	**92**	⇓P	Pn	14 03 55.1	+0.9
ARRY				S	Sn	14 04 28.8	+0.9
PATA	**Patacocha**	**2.75**	**92**	P	Pn	14 03 56.7	+2.1
RUN2	**Runtun**	**2.77**	**91**	P	Pn	14 03 57.0	+2.2
ULBA	**Ulba**	**2.78**	**91**	P	Pn	14 03 56.5	+1.6
NAS1	**Nasa**	**2.81**	**74**	P	Pn	14 03 56.7	+1.3
PISA	**Pisayambo**	**2.82**	**83**	P	Pn	14 03 57.7	+2.2
JUA2	**San Juan 2**	**2.83**	**66**	P	Pn	14 03 57.2	+1.5
TERV	**Terraza Guagua**	**2.85**	**65**	P	Pn	14 03 57.4	+1.5
PINO	**Pino**	**2.86**	**64**	P	Pn	14 03 56.1	+0.1
VC1	**Cotopaxi 1**	**2.88**	**75**	P	Pn	14 03 58.8	+2.4
TAMB	**Tambo**	**2.90**	**76**	P	Pn	14 03 59.4	+2.7
ANTI	**Antisana**	**3.17**	**73**	⇓P	Pn	14 04 03.2	+2.8
COTA	**Cotacachi**	**3.33**	**59**	P	Pn	14 04 04.4	+1.7
CAYR	**Refugio Cayamb**	**3.48**	**66**	⇓P	Pn	14 04 07.9	+3.1

BJI ***25*** *14:34:22.2, 38.45N×77.25E, h15km, mb4.4, ML4.1*
NEIC ***25*** *14:34:22.8±3.1, 38.10N×76.80E, h39km±27km, mb3.5/3, Error ellipse: s-maj=29.6km s-min=15.8km az=211.0*
IDC ***25*** *14:34:26.8±9.6, 38.26N×76.95E, h77km±95km, mb3.2/5, mb1 3.4/7, mb1mx3.2/20, mbtmp3.5/7, ML3.3/2, MS3.2/1, Ms1 3.3/1, ms1mx2.6/12, Error ellipse: s-maj=50.6km s-min=20.1km az=37.0*
ISC 25 14:34:20.1±0.9, 38.01N±0.07×76.9E±0.2, h37km±12km, n29, σ0°93/28, mb3.5/6, MS3.2/1, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**4.25**	**344**	P	P	14 35 24.8	+0.7
SNR=7.7							
ULHL	**Ulahol**	**4.26**	**354**	P	P	14 35 24.6	+0.3
SNR=16							
UCH	**Uchtor**	**4.58**	**338**	P	P	14 35 36.2	+7.3
SNR=6.3							
AML	**Almayashu**	**4.78**	**331**	P	P	14 35 31.0	-0.6
SNR=9.3							
KBK	**Karagaybulak**	**4.87**	**343**	P	P	14 35 33.6	+0.7
SNR=7.5							
AAK	**Ala-Archa**	**4.96**	**339**	P	P	14 35 33.9	-0.3
SNR=6.5							
AAK	**Ala-Archa**	**4.96**	**339**	*e*Pn	P	14 35 32.3	-1.9
TKM2	**Tokmak 2**	**5.00**	**349**	P	P	14 35 34.8	0.0
SNR=8.2							
USP	**Ospenovka**	**5.55**	**342**	P	P	14 35 42.0	-0.4
SNR=5.8							
DDI	**Dehra Dun**	**7.73**	**172**	*e*	P	14 36 16.4	+3.4
KOLN	**Koldanda**	**11.67**	**149**	*e*P	P	14 37 07.0	-0.2
13nm,0.3s							
GKN	**Gorkha**	**11.92**	**145**	*e*P	P	14 37 10.0	-0.5
19nm,0.3s							
KKN	**Kakani**	**12.40**	**143**	*e*P	P	14 37 16.7	-0.3
15nm,0.5s							
DMN	**Daman**	**12.47**	**144**	*e*P	P	14 37 17.0	-0.9
8.7nm,0.3s							
PKI	**Pulchoki**	**12.65**	**143**	*e*P	P	14 37 20.0	-0.3
15nm,0.4s							
JIRN	**Jiri**	**12.96**	**140**	*e*P	P	14 37 24.8	+0.4
79nm,0.4s							
BVAR	**Borovoye Array**	**15.68**	**345**	P	P	14 37 60.0	+0.3
0.4nm,0.3s,baz=144,slow=11,SNR=16							
BRVK	**Borovoye**	**15.73**	**345**	*e*P	P	14 38 00.1	-0.3
3.5nm,0.8s							
CHKZ	**Chkalovo**	**16.25**	**347**	*e*P	P	14 38 08.3	+1.3
1.9nm,0.8s							
ZAL	**Zalesovo**	**16.84**	**16**	P	P	14 38 14.5	0.0
0.1nm,0.3s,baz=270,slow=11,SNR=3.6							
SONM	**Songino Array**	**23.63**	**56**	P	P	14 39 29.5	+1.0
0.8nm,0.5s,mb3.4,baz=254,slow=10,SNR=12							
ULN	**Ulaanbaatar**	**24.07**	**56**	P	P	14 39 29.8	-3.0
0.8nm,0.5s,mb3.4							
CMAR	**Chiang Mai Arr**	**27.41**	**129**	P	P	14 40 06.0	+1.6
0.3nm,0.7s,mb2.9,baz=340,slow=11,SNR=3.1							
FINES	**FINESS Array B**	**38.94**	**324**	P	P	14 41 42.9	-0.9
0.9nm,0.6s,mb3.6,baz=117,slow=8.5,SNR=7.3							
FINES	**FINESS Array B**	**38.94**	**324**	P	P	14 41 42.9	-0.9
ARCES	**ARCESS Array B**	**41.62**	**336**	LR	LR	15 00 04.0	
comp=Z,34nm,20.2s,MS3.2,baz=187,slow=37							
GERES	**GERESS Array B**	**45.89**	**305**	P	P	14 42 41.5	+0.9
0.3nm,0.6s,mb3.4,baz=333,slow=30,SNR=2.4							
NB2	**NORSAR Subarra**	**46.03**	**322**	P	P	14 42 40.3	-1.2
0.7nm,0.5s,mb3.9,baz=89,slow=7.9							
NOA	**NORSAR Array B**	**46.03**	**322**	P	P	14 42 40.6	-0.9
1.2nm,0.6s,mb4.0,baz=90,slow=7.7,SNR=3.7							

IDC ***25*** *14:35:33.3±6.0, 21.31S×179.13W, h548km±71km, mb3.3/8, mb1 3.6/9, mb1mx3.4/16, mbtmp4.3/9, Error ellipse: s-maj=30.1km s-min=20.0km az=46.0*
NEIC ***25*** *14:35:37.7±3.4, 21.47S×179.24W, h609km±40km, mb4.5/7, Error ellipse: s-maj=22.9km s-min=15.6km az=219.0*
ISC 25 14:35:34.3±3.6, 21.5S±0.2×179.2W±0.1, h576km±46km, n23, σ0°72/22, mb4.1/14, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.03**	**190**	P	P	14 39 02.3	+0.1
2.6nm,0.3s,baz=278,slow=3.4,SNR=22							
URZ	**Urewera**	**17.03**	**190**	*e*P	P	14 39 01.8	-0.4
NNZ	**Nelson**	**20.66**	**196**	*e*P	P	14 39 36.0	-0.2
KHZ	**Kahutara**	**21.75**	**195**	P	P	14 39 45.5	-0.7
CTA	**Charters Tower**	**32.27**	**266**	*e*P	P	14 41 19.0	+1.1
8.1nm,0.4s,mb4.7							
CTAO	**Charters Tower**	**32.27**	**266**	*e*P	P	14 41 18.8	+0.8
13nm,0.5s,mb4.8							
PMG	**Port Moresby**	**34.46**	**285**	P	P	14 41 37.1	+0.8
13nm,0.8s,mb4.6,baz=101,slow=10,SNR=4.1							
STKA	**Stephens Creek**	**36.34**	**245**	P	P	14 41 53.4	+1.7
0.8nm,0.4s,mb3.6,baz=83,slow=11,SNR=5.2							
ASAR	**Alice Springs**	**43.19**	**258**	P	P	14 42 47.0	+0.3
4.3nm,0.5s,mb4.3,baz=90,slow=7.9,SNR=149							
ASAR				PcP	PcP	14 44 22.6	-0.8
1.0nm,0.9s,baz=95,slow=3.5,SNR=5.0							
ASPA	**Alice Springs**	**43.19**	**258**	*e*P	P	14 42 46.6	-0.2
WB2	**Warramunga Arr**	**43.33**	**263**	⇓*i*P	P	14 42 47.3	-0.6
WRAB	**Tennant Creek**	**43.33**	**263**	*e*P	P	14 42 47.4	-0.6
8.1nm,0.7s,mb4.4							
WRA	**Warramunga Arr**	**43.34**	**263**	P	P	14 42 47.6	-0.4
2.9nm,0.3s,mb4.3,baz=96,slow=7.5,SNR=245							
KAKA	**Kakadu**	**46.86**	**273**	*e*P	P	14 43 14.6	-0.5
4.9nm,0.4s,mb4.4							
FITZ	**Fitzroy Crossi**	**51.77**	**263**	*e*P	P	14 43 51.1	-0.3
13nm,1.9s,mb3.9							
MBWA	**Marble Bar**	**56.53**	**258**	*e*P	P	14 44 23.9	-0.7
3.8nm,0.6s,mb3.8							
VNDA	**Vanda**	**56.85**	**185**	P	P	14 44 27.4	+1.2
1.2nm,0.5s,mb3.4,baz=3.1,slow=8.3,SNR=10.0							
NVAR	**Mina Array Bea**	**82.51**	**44**	P	P	14 46 58.1	-0.2
0.5nm,0.5s,mb3.3,baz=230,slow=8.2,SNR=4.1							
SNAA	**Sanae**	**87.07**	**179**	P	P	14 47 18.8	-0.9
20nm,0.6s,mb5.0							
PLCA	**Paso Flores**	**89.44**	**134**	P	P	14 47 32.2	+0.8
0.8nm,0.6s,mb3.7,baz=242,slow=6.0,SNR=3.6							
PLCA	**Paso Flores**	**89.44**	**134**	P	P	14 47 32.2	+0.8
PDAR	**Pinedale Array**	**90.45**	**44**	P	P	14 47 36.0	-0.1
2.5nm,1.2s,mb3.9,baz=207,slow=3.3,SNR=4.6							
MBAR	**Mbarara**	**143.43**	**237**	*e*PKP	PKPdf	14 54 02.9	-1.5

NIED ***25*** *14:37:00, 33.90N×142.00E, h5km, Mw4.0 Best double couple: M0 1.16×10^15 NP1:φs 121°, δ78°, λ-94°. NP2: φs 322°, δ12°, λ-70°.*
JMA ***25*** *14:37:11.8±0.3, 33.92N×142.01E, h53km, M3.7*
MOS ***25*** *14:37:12.3±0.8, 33.91N×142.00E, h33km, mb4.5/2, Error ellipse: s-maj=25.0km s-min=13.2km az=118.8*
IDC ***25*** *14:37:17.4±0.7, 33.92N×141.77E, h56km±5km, mb3.5/14, mb1 3.7/15, mb1mx3.7/21, mbtmp3.8/15, Error ellipse: s-maj=16.8km s-min=7.1km az=146.0*
NEIC ***25*** *14:37:17.3±0.5, 33.93N×141.76E, mb4.3/2, Error ellipse: s-maj=12.6km s-min=10.7km az=208.0*
ISC 25 14:37:15.3±0.5, 33.96N±0.04×141.77E±0.04, h55km, h55km±1.3km: pP-P, n42, σ1°12/53, mb3.8/16, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.95**	**317**	P	P	14 37 31.3	-1.4
BSO1				S	S	14 37 46.6	+0.9
BSO2	**Boso 2**	**1.16**	**313**	S	S	14 37 52.8	+2.3
BSO3	**Boso 3**	**1.34**	**309**	P	P	14 37 37.5	-0.7
BSO4	**Boso 4**	**1.57**	**311**	P	P	14 37 41.2	-0.1
BSO4				*e*S	S	14 38 02.7	+2.0
KTR	**Katsuura**	**1.69**	**315**	S	S	14 38 04.6	+1.1
JHJ2	**Mitsune**	**1.84**	**243**	P	P	14 37 44.7	-0.4
JHJ2				S	S	14 38 08.6	+1.4
JHJ	**Hachijo jima 2**	**1.86**	**244**	P	P	14 37 44.6	-0.8
155nm,0.3s,baz=162,slow=3.4,SNR=35							
JHJ				S	S	14 38 08.3	+0.6
229nm,0.3s,baz=251,slow=22,SNR=15							
CHOJ	**Chosi**	**1.90**	**337**	P	P	14 37 44.2	-1.7
CHOJ				S	S	14 38 07.6	-0.9
JIM2	**Oshima 3**	**2.08**	**292**	P	P	14 37 47.2	-1.3
JIM2				S	S	14 38 10.6	-2.5
JIZS	**Izushimoda**	**2.51**	**288**	P	P	14 37 53.9	-0.7
JIZS				S	S	14 38 23.5	-0.6
JOD2	**Odawara 2**	**2.57**	**301**	P	P	14 37 54.0	-1.4
JOD2				*e*S	S	14 38 24.0	-1.5
JYN	**Shimob**	**3.07**	**301**	P	P	14 38 01.6	-0.9
JYN				S	S	14 38 39.8	+1.6
JAG	**Ashikaga**	**3.11**	**323**	P	P	14 38 01.3	-1.8
JAG	

comp=Z,1.8nm,0.9s,mb4.0,baz=35,slow=5.2,SNR=4.3
PDAR Pinedale Array 79.62 45 P **P** **14 49 19.9 +1.8**
comp=Z,0.5nm,0.7s,mb3.5,baz=270,slow=1.5,SNR=4.3
PDAR pP pP 14 49 35.7 +1.9
comp=Z,0.4nm,0.7s,baz=288,slow=4.7,SNR=3.4
BRTR Keskin Array B 81.12 312 P **P** **14 49 28.0 +1.9**
comp=Z,1.0nm,0.9s,mb3.7,baz=79,slow=6.3,SNR=4.0

IGQ 25 14:48:24.2, 1.51S×81.38W, h12km±9km, mb4.4, 4C-2D, Error ellipse: s-maj=11.6km s-min=6.9km az=0.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.95**	**61**	⇑P	Pb	14 48 41.7	-0.5
IGUA	**Igualata**	**2.74**	**90**	P	Pn	14 49 09.5	+0.6
CUSU	**Cusua**	**2.90**	**89**	P	Pn	14 49 13.0	+1.9
JUIV	**Juive**	**2.92**	**88**	P	Pn	14 49 12.9	+1.5
ARRY	**Arrayan**	**2.92**	**90**	⇑P	Pn	14 49 12.1	+0.6
ARRY				S	Sn	14 49 46.4	-0.5
RETU	**Refugio**	**2.93**	**89**	P	Pn	14 49 14.3	+2.7
PATA	**Patacocha**	**2.94**	**90**	P	Pn	14 49 14.3	+2.5
ULBA	**Ulba**	**2.97**	**89**	P	Pn	14 49 13.4	+1.2
PISA	**Pisayambo**	**3.03**	**81**	⇑P	Pn	14 49 14.7	+1.7
NAS1	**Nasa**	**3.03**	**73**	P	Pn	14 49 15.1	+2.1
JUA2	**San Juan 2**	**3.06**	**65**	P	Pn	14 49 14.6	+1.2
TERV	**Terraza Guagua**	**3.08**	**64**	P	Pn	14 49 14.8	+1.2
PINO	**Pino**	**3.08**	**64**	⇑P	Pn	14 49 14.2	+0.5
VC1	**Cotopaxi 1**	**3.10**	**74**	P	Pn	14 49 17.2	+3.2
TAMB	**Tambo**	**3.12**	**75**	P	Pn	14 49 17.8	+3.5
YANA	**Yana**	**3.13**	**64**	P	Pn	14 49 14.9	+0.5
YANA				S	Sn	14 49 54.1	+2.0
ANTI	**Antisana**	**3.39**	**72**	P	Pn	14 49 19.8	+1.7
ANTI				S	Sn	14 50 03.2	+4.6
COTA	**Cotacachi**	**3.55**	**59**	⇓P	Pn	14 49 22.7	+2.3
COTA				S	Sn	14 50 07.9	+5.2
CAYR	**Refugio Cayamb**	**3.70**	**66**	P	Pn	14 49 25.3	+2.8
CAYR				S	Sn	14 50 11.0	+4.6
CAYA	**Cayambe**	**3.74**	**65**	⇓P	Pn	14 49 26.8	+3.8
CAYA				S	Sn	14 50 11.3	+3.8
CONE	**Cono NE Rev Vo**	**4.00**	**69**	P	Pn	14 49 32.8	+6.0

*CSEM **25** 14:53:07.2±0.1, 35.84N×29.59E, h15km, MD3.5, Error ellipse: s-maj=2.4km s-min=1.4km az=72.0*
*ISK **25** 14:53:08.0, 35.81N×29.51E, h32km, MD3.5*
*NIC **25** 14:53:14.2±0.2, 36.39N×30.44E, h55km, mb4.0, ML3.6, MW3.0*
*HLW **25** 14:53:19.0, 35.28N×29.47E, h30km, Mb3.9*
ISC 25 14:53:06.7±0.8, 35.80N±0.05×29.63E±0.06, h10km, n45, σ1§02/33, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.94**	**332**	*i* PG	**Pg**	**14 53 25.0**	**-0.6**
FETY				*i* SG	**Sg**	**14 53 36.4**	**-1.8**
ELL	**Elmali**	**0.97**	**14**	*i* PG	**Pg**	**14 53 25.1**	**-1.1**
ELL				*i* SG	**Sg**	**14 53 38.8**	**-0.5**
ANTB	**Antalya**	**1.38**	**37**	PN	**Pn**	**14 53 32.8**	**+0.7**
BCK	**Bucak**	**1.83**	**25**	*e*PN	**Pn**	**14 53 39.3**	**+0.7**
DNZL	**Cakiroluk**	**1.94**	**346**	*i* P	**Pn**	**14 53 41.9**	**+1.7**
DNZL				*i* S	**Sn**	**14 54 06.3**	**+1.5**
DENT	**Denizli**	**2.01**	**346**	*e*PN	**Pn**	**14 53 40.6**	**-0.5**
ISP	**Isparta**	**2.16**	**19**	*e*PN	**Pn**	**14 53 43.4**	**+0.1**
ISP	**Isparta**	**2.16**	**19**	*i* P	**Pn**	**14 53 45.1**	**+1.8**
ISP				*i* S	**Sn**	**14 54 13.1**	**+2.7**
BDRM	**Kayabasi**	**2.17**	**306**	*i* P	**Pn**	**14 53 43.5**	**+0.1**
BDRM				*i* S	**Sn**	**14 54 15.4**	**+4.9**
AKMC	**Akamas**	**2.34**	**108**	P	**Pn**	**14 53 46.7**	**+0.8**
PPCY	**Paphos**	**2.40**	**112**	P	**Pn**	**14 53 47.9**	**+1.1**
ALFC	**Alevga**	**2.51**	**104**	P	**Pn**	**14 53 47.8**	**-0.5**
	13nm,0.1s						
ALFC				S	**Sn**	**14 54 14.7**	**-4.5**
KHL	**Karahalli**	**2.52**	**358**	*e*PN	**Pn**	**14 53 48.4**	**0.0**
HDMB	**Hadim**	**2.58**	**62**	*e*PN	**Pn**	**14 53 49.9**	**+0.5**
LEF	**Lefka**	**2.75**	**103**	*e*PN	**Pn**	**14 53 51.4**	**-0.3**
SZAC	**Souni-Zanaja**	**2.86**	**110**	P	**Pn**	**14 53 54.0**	**+0.7**
KONT	**Konya--Tatoy**	**3.07**	**45**	*e*PN	**Pn**	**14 53 56.7**	**+0.5**
CSS	**Prodhromos**	**3.14**	**104**	P	**Pn**	**14 53 56.4**	**-0.9**
	2.3nm,0.1s						
CSS				S	**Sn**	**14 54 28.9**	**-6.3**
CSS	**Prodhromos**	**3.14**	**104**	*i* P	**Pn**	**14 53 57.4**	**+0.1**
CSS				*i* S	**Sn**	**14 54 34.0**	**-1.3**
KIZT	**Kizilcal**	**3.56**	**30**	*e*PN	**Pn**	**14 54 02.5**	**-0.8**
PHNC	**Paralimni**	**3.69**	**101**	P	**Pn**	**14 54 03.1**	**-1.9**
MEST	**Erdemli**	**3.74**	**77**	*i* P	**Pn**	**14 54 05.8**	**0.0**
MEST				*i* S	**Sn**	**14 54 49.7**	**-0.6**
ESKT	**Eskisehir**	**3.84**	**14**	*i* P	**Pn**	**14 54 06.0**	**-1.2**
ESKT				*i* S	**Sn**	**14 54 44.7**	**-8.2**
DABA	**Dabaa**	**4.91**	**194**	P	Px	14 54 23.2	
HBRG	**Burj al 'Arab**	**5.21**	**178**	P	Px	14 54 27.4	
HNTI	**Hanita**	**5.33**	**119**	Sn	Sx	14 55 24.8	
HWQ	**Hawqa**	**5.40**	**104**	*e*PN	Px	14 54 28.3	
OFRI	**'Ofer**	**5.46**	**124**	Sn	Sx	14 55 28.8	
KSDI	**Kefar Szold**	**5.62**	**116**	Pn	Px	14 54 31.7	
KSDI				Sn	Sx	14 55 32.7	
SLUM		**5.66**	**222**	P	Px	14 54 33.7	
SLTI	**Sal'it**	**5.73**	**127**	Sn	Sx	14 55 35.7	
MMLI	**Mount Malkishu**	**5.86**	**123**	Pn	Px	14 54 35.9	
MMLI				Sn	Sx	14 55 38.8	
HMYD	**Mayadein**	**6.07**	**170**	P	Px	14 54 39.4	
KOT	**Kottamia**	**6.14**	**162**	P	Px	14 54 40.5	
FYM	**Al Fayyum**	**6.21**	**169**	P	Px	14 54 41.2	
KZIT	**Kziot**	**6.30**	**139**	Sn	Sx	14 55 48.4	
DRGI	**Dragot**	**6.38**	**129**	Sn	Sx	14 55 52.0	
MASH	**Mash'abbe Sade**	**6.45**	**137**	Sn	Sx	14 55 52.6	
GLL	**Jalalah**	**6.45**	**164**	P	Px	14 54 44.7	
MZDA	**Masada**	**6.55**	**131**	Sn	Sx	14 55 56.0	
SWA1		**7.31**	**208**	P	Px	14 54 55.5	
SWA1				S	Sx	14 56 07.3	
HRFI	**Mount Harif**	**7.33**	**140**	Pn	Px	14 54 56.2	
HRFI				Sn	Sx	14 56 14.6	
SWA2		**7.42**	**209**	P	Px	14 54 57.2	
MBH	**Mount Berech**	**7.46**	**142**	Pn	Px	14 54 57.1	
MBH				Sn	Sx	14 56 17.1	
EIL	**Elat**	**7.58**	**142**	Pn	Px	14 54 58.6	
EIL				Sn	Sx	14 56 20.1	

*NIED **25** 14:54:00, 33.90N×142.00E, h5km, Mw3.9 Best double couple: M0 6.69×10^14 NP1:φs128°, δ73°, λ-105°. NP2: φs351°, δ22°, λ-49°.*
*MOS **25** 14:54:27.9±0.7, 33.85N×141.89E, h33km, mb4.6/7, Error ellipse: s-maj=24.4km s-min=11.4km az=116.4*
*JMA **25** 14:54:27.4±0.3, 33.93N×141.97E, h60km±5km, M3.8*
*IDC **25** 14:54:33.4±0.6, 33.91N×141.74E, h58km±4km, mb3.6/13, mb1 3.8/14, mb1mx3.7/21, mbtmp3.9/14, Error ellipse: s-maj=15.9km s-min=6.5km az=147.0*
*NEIC **25** 14:54:33.4±0.4, 33.93N×141.69E, mb4.5/6, MW3.9(NIED), Error ellipse: s-maj=11.8km s-min=9.0km az=52.0*
ISC 25 14:54:31.1±0.5, 33.97N±0.04×141.72E±0.04, h58km, h58km±.9km: pP-P, n53, σ1§11/60, mb4.0/19, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.92**	**318**	P	**P**	**14 54 46.7**	**-1.5**
BSO1				S	**S**	**14 55 01.3**	**+0.4**
BSO2	**Boso 2**	**1.12**	**314**	S	**S**	**14 55 07.8**	**+2.2**
BSO3	**Boso 3**	**1.30**	**310**	P	**P**	**14 54 52.6**	**-1.0**
BSO4	**Boso 4**	**1.53**	**312**	P	**P**	**14 54 56.4**	**-0.3**
KTR	**Katsuura**	**1.65**	**316**	P	**P**	**14 54 57.7**	**-0.7**
KTR				S	**S**	**14 55 19.8**	**+1.3**
JHJ2	**Mitsune**	**1.81**	**242**	P	**P**	**14 54 59.9**	**-0.7**
JHJ2				S	**S**	**14 55 23.6**	**+1.2**
JHJ	**Hachijo jima 2**	**1.83**	**243**	P	**P**	**14 55 00.7**	**-0.2**
	168nm,0.3s,baz=173,slow=2.9,SNR=44						
JHJ				S	**S**	**14 55 23.6**	**+0.8**
	301nm,0.3s,baz=261,slow=22,SNR=16						
JMY	**Miyakejima3**	**1.84**	**274**	P	**P**	**14 54 59.6**	**-1.4**
CHOJ	**Chosi**	**1.87**	**338**	P	**P**	**14 54 59.4**	**-2.0**
JIM2	**Oshima 3**	**2.04**	**292**	P	**P**	**14 55 02.5**	**-1.3**
JIM2				S	**S**	**14 55 29.9**	**+1.9**
JIZS	**Izushimoda**	**2.47**	**288**	P	**P**	**14 55 08.9**	**-1.0**
JIZS				*e*S	**S**	**14 55 38.9**	**0.0**
JOD2	**Odawara 2**	**2.53**	**301**	P	**P**	**14 55 08.9**	**-1.8**
JYN	**Shimob**	**3.03**	**301**	P	**P**	**14 55 16.3**	**-1.5**
JYN				*e*S	**S**	**14 55 53.9**	**+0.8**
JAG	**Ashikaga**	**3.07**	**323**	P	**P**	**14 55 16.9**	**-1.5**
JAG				S	**S**	**14 55 53.0**	**-1.2**
JRY	**Ryogami san**	**3.09**	**312**	P	**P**	**14 55 17.4**	**-1.2**
SHZ3	**Shizuoka 3**	**3.10**	**292**	P	**P**	**14 55 18.7**	**-0.1**
MAJO	**Matsushiro**	**3.85**	**313**	*e*P	**P**	**14 55 29.5**	**+0.1**
MAT	**Matsushiro**	**3.85**	**313**	*e*P	**P**	**14 55 29.0**	**-0.4**
MAT				*e*S	**S**	**14 56 14.0**	**+0.2**
MAT	**Matsushiro**	**3.85**	**313**	P	**P**	**14 55 29.1**	**-0.3**
MAT				S	**S**	**14 56 14.2**	**+0.4**
ASAJ	**Asahikawa**	**10.15**	**4**	P	Px	14 57 05.2	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.15**	**4**	P	Px	14 57 05.2	
	comp=Z,1.0nm,0.3s,baz=189,slow=16,SNR=4.1						
YSS	**Yuzh-Sakhalins**	**12.99**	**3**	*e*P	**P**	**14 57 28.2**	**-6.6**
YSS	**Yuzh-Sakhalins**	**12.99**	**3**	*e*P	**P**	**14 57 28.7**	**-6.0**
SONM	**Songino Array**	**29.79**	**308**	P	**P**	**15 00 35.8**	**+1.3**
	comp=Z,0.5nm,0.7s,mb3.4,baz=113,slow=9.4,SNR=5.1						
SONM				pP	pP	15 00 50.9	+2.0
	comp=Z,0.4nm,0.7s,baz=98,slow=8.7,SNR=2.7						
ZAK	**Zakamensk**	**32.44**	**312**	*e*P	**P**	**15 00 58.5**	**+0.9**
ZAK				*e*		15 03 42.0	
ZAL	**Zalesovo**	**44.22**	**315**	P	**P**	**15 02 37.5**	**+1.6**
	comp=Z,0.5nm,0.5s,mb3.5,baz=157,slow=6.9,SNR=3.2						
KURK	**Kurchatov**	**48.06**	**310**	*e*P	**P**	**15 03 06.9**	**+0.5**
KURK				*e*	pP	15 03 21.6	0.0
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
KURK	**Kurchatov**	**48.06**	**310**	*e*P	**P**	**15 03 06.9**	**+0.5**
	comp=Z,5.0nm,0.7s,mb4.7						
KURK				*e*	pP	15 03 21.6	0.0
ILAR	**Eielson Array**	**51.96**	**31**	P	**P**	**15 03 35.6**	**-0.3**
	comp=Z,2.0nm,0.7s,mb4.1,baz=263,slow=6.1,SNR=26						
ILAR				pP	pP	15 03 51.9	+0.5
	comp=Z,0.7nm,0.7s,baz=264,slow=5.8,SNR=3.7						
CHKZ	**Chkalovo**	**52.62**	**315**	*e*P	**P**	**15 03 40.4**	**-0.6**
CHKZ				*e*	pP	15 03 56.3	-0.1
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**52.62**	**315**	*e*P	**P**	**15 03 40.4**	**-0.6**
	comp=Z,2.4nm,0.7s,mb4.2						
CHKZ				*e*	pP	15 03 56.3	-0.1
BRVK	**Borovoye**	**52.91**	**314**	*e*P	**P**	**15 03 43.7**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BRVK	**Borovoye**	**52.91**	**314**	*e*P	**P**	**15 03 43.7**	**+0.5**
	comp=Z,3.8nm,0.9s,mb4.3						
WRAB	**Tennant Creek**	**54.06**	**189**	P	**P**	**15 03 50.8**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
WRAB	**Tennant Creek**	**54.06**	**189**	P	**P**	**15 03 50.8**	**-1.4**
	comp=Z,12nm,1.2s,mb4.7						
WRA	**Warramunga Arr**	**54.07**	**189**	P	**P**	**15 03 51.4**	**-0.8**
	comp=Z,0.8nm,0.5s,mb4.0,baz=4.4,slow=7.5,SNR=27						
WRA				pP	pP	15 04 07.3	-0.4
	comp=Z,1.0nm,0.5s,baz=2.9,slow=7.7,SNR=4.5						
INK	**Inuvik**	**57.00**	**26**	*e*P	**P**	**15 04 12.1**	**-0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**57.00**	**26**	*e*P	**P**	**15 04 12.1**	**-0.6**
	comp=Z,1.1nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**57.80**	**188**	P	**P**	**15 04 18.4**	**-0.6**
	comp=Z,0.2nm,0.4s,mb3.5,baz=2.4,slow=7.0,SNR=11						
ASAR				pP	pP	15 04 34.2	-0.4
	comp=Z,0.8nm,0.9s,baz=356,slow=5.4,SNR=4.7						
RES	**Resolute Bay**	**65.50**	**14**	*e*P	**P**	**15 05 10.1**	**+0.3**
RES				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
RES	**Resolute Bay**	**65.50**	**14**	*e*P	**P**	**15 05 10.1**	**+0.2**
	comp=Z,4.7nm,0.9s,mb4.5						
YKA	**Yellowknife Ar**	**66.33**	**30**	P	**P**	**15 05 15.1**	**-0.2**
YKA				*PP	pP	15 05 30.9	-0.4
YKA	**Yellowknife Ar**	**66.33**	**30**	P	**P**	**15 05 15.0**	**-0.2**
	comp=Z,0.4nm,0.6s,mb3.6,baz=298,slow=6.4,SNR=3.8						
YKA				pP	pP	15 05 30.9	-0.4
	comp=Z,0.4nm,0.8s,baz=293,slow=6.6,SNR=4.6						
FINES	**FINESS Array B**	**71.64**	**333**	P	**P**	**15 05 48.6**	**+0.7**
	comp=Z,1.6nm,0.7s,mb4.1,baz=45,slow=8.1,SNR=4.7						
NVAR	**Mina Array Bea**	**76.63**	**53**	P	**P**	**15 06 19.2**	**+2.0**
	comp=Z,0.3nm,0.4s,mb3.6,baz=291,slow=6.0,SNR=5.3						
NVAR				pP	pP	15 06 35.0	+1.4
	comp=Z,0.3nm,0.4s,baz=35,slow=2.6,SNR=2.7						
AKASG	**Malin Array Be**	**76.88**	**323**	P	**P**	**15 06 19.3**	**+0.9**
AKASG				*PP	pP	15 06 35.2	+0.5
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**76.88**	**323**	P	**P**	**15 06 19.2**	**+0.9**
	comp=Z,0.7nm,0.4s,mb3.9,baz=45,slow=5.6,SNR=7.4						
AKASG				pP	pP	15 06 35.2	+0.5
	comp=Z,0.6nm,0.3s,baz=80,slow=35,SNR=4.0						
NB2	**NORSAR Subarra**	**77.11**	**338**	P	**P**	**15 06 20.2**	**+0.8**
	comp=Z,0.9nm,0.7s,mb3.8,baz=41,slow=5.8						
NOA	**NORSAR Array B**	**77.11**	**338**	P	**P**	**15 06 20.5**	**+1.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=41,slow=5.7,SNR=5.1						
PDAR	**Pinedale Array**	**79.64**	**45**	P	**P**	**15 06 35.5**	**+1.8**
	comp=Z,0.7nm,0.8s,mb3.7,baz=278,slow=2.8,SNR=6.3						
PDAR				pP	pP	15 06 51.0	+1.0
	comp=Z,0.5nm,0.7s,baz=223,slow=1.5,SNR=4.0						
FRB	**Frobisher Bay**	**79.69**	**13**	P	**P**	**15 06 34.3**	**+0.8**
	comp=Z,2.2nm,0.9s,mb4.1,baz=88,slow=10.0,SNR=3.3						
GERES	**GERESS Array B**	**85.45**	**329**	P	**P**	**15 07 05.7**	**+2.4**
	comp=Z,0.4nm,0.6s,mb3.8,baz=27,slow=6.0,SNR=3.7						
LPAZ	**La Paz**	**147.91**	**64**	PKPbc	PKPdf	15 14 13.7	+6.6
	comp=Z,0.8nm,0.7s,baz=15,slow=7.5,SNR=3.8						

*NIED **25** 14:57:00, 33.90N×142.00E, h5km, Mw3.9 Best double couple: M0 7.67×10^14 NP1:φs133°, δ70°, λ-99°. NP2: φs337°, δ22°, λ-67°.*
*JMA **25** 14:57:10.0±0.3, 33.90N×142.04E, h37km, M4.0*
*IDC **25** 14:57:15.9±0.7, 33.76N×141.87E, h56km±5km, mb3.6/15, mb1 3.8/15, mb1mx3.8/21, mbtmp3.9/15, Error ellipse: s-maj=18.5km s-min=6.6km az=151.0*
*NEIC **25** 14:57:15.9±0.5, 33.79N×141.71E, mb4.3/4, Error ellipse: s-maj=12.8km s-min=9.9km az=53.0*
ISC 25 14:57:13.9±0.5, 33.91N±0.04×141.80E±0.04, h56km, h56km±1.4km: pP-P, n43, σ1§29/57, mb3.9/19, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.01**	**318**	P	**P**	**14 57 30.2**	**-1.9**
BSO1				S	**S**	**14 57 45.3**	**-0.3**
BSO2	**Boso 2**	**1.21**	**315**	S	**S**	**14 57 51.2**	**+0.8**
BSO3	**Boso 3**	**1.39**	**310**	P	**P**	**14 57 36.4**	**-1.1**
BSO3				S	**S**	**14 57 56.5**	**+1.5**
BSO4	**Boso 4**	**1.62**	**312**	P	**P**	**14 57 40.0**	**-0.7**
BSO4				S	**S**	**14 58 02.1**	**+1.6**
KTR	**Katsuura**	**1.74**	**316**	P	**P**	**14 57 41.6**	**-0.8**
KTR				S	**S**	**14 58 03.4**	**0.0**
JHJ2	**Mitsune**	**1.83**	**245**	P	**P**	**14 57 43.4**	**-0.2**
JHJ2				S	**S**	**14 58 07.4**	**+1.7**
JHJ	**Hachijo jima 2**	**1.85**	**246**	P	**P**	**14 57 43.6**	**-0.3**
	126nm,0.3s,baz=183,slow=3.7,SNR=12						
JHJ				S	**S**	**14 58 07.5**	**+1.3**
	346nm,0.3s,baz=237,slow=24,SNR=14						
JIM2	**Oshima 3**	**2.12**	**293**	P	**P**	**14 57 46.1**	**-1.5**
JIM2				S	**S**	**14 58 13.6**	**+0.9**
JIZS	**Izushimoda**	**2.55**	**289**	P	**P**	**14 57 52.3**	**-1.5**
JIZS				S	**S**	**14 58 22.4**	**-1.2**
JOD2	**Odawara 2**	**2.61**	**302**	P	**P**	**14 57 52.4**	**-2.3**
JOD2				S	**S**	**14 58 26.7**	**+1.4**
JYN	**Shimob**	**3.11**	**302**	P	**P**	**14 58 00.0**	**-1.8**
JYN				S	**S**	**14 58 38.0**	**0.0**
JAG	**Ashikaga**	**3.16**	**323**	P	**P**	**14 58 00.3**	**-2.2**
JRY	**Ryogami san**	**3.17**	**312**	P	**P**	**14 58 00.9**	**-1.7**
JRY				S	**S**	**14 58 39.3**	**-0.2**
SHZ3	**Shizuoka 3**	**3.18**	**292**	S	**S**	**14 58 41.5**	**+1.9**
MAJO	**Matsushiro**	**3.94**	**313**	*e*Pn	**P**	**14 58 12.9**	**-0.6**
MAT	**Matsushiro**	**3.94**	**313**	*e*P	**P**	**14 58 13.0**	**-0.4**
MAT				*e*S	**S**	**14 58 57.0**	**-1.9**
MAT	**Matsushiro**	**3.94**	**313**	P	**P**	**14 58 12.7**	**-0.7**
MAT				S	**S**	**14 58 57.0**	**-1.9**
MAT	**Matsushiro**	**3.94**	**313**	P	**P**	**14 58 13.1**	**-0.3**
MAT				S	**S**	**14 58 58.0**	**-0.9**
JMM	**Marumori**	**4.03**	**349**	P	**P**	**14 58 10.5**	**-4.2**
SONM	**Songino Array**	**29.88**	**308**	P	**P**	**15 03 19.1**	**+1.0**
	0.6nm,0.7s,mb3.4,baz=104,slow=8.9,SNR=4.4						
ZAL	**Zalesovo**	**44.30**	**315**	P	**P**	**15 05 21.3**	**+1.7**
	0.5nm,0.6s,mb3.4,baz=344,slow=10,SNR=3.1						
ZAL	**Zalesovo**	**44.30**	**315**	P	**P**	**15 05 21.3**	**+1.7**
KURK	**Kurchatov**	**48.15**	**310**	*e*P	**P**	**15 05 50.1**	**0.0**
	4.9nm,0.8s,mb4.6						
KURK				*e*pP	pP	15 06 05.3	+0.4
ILAR	**Eielson Array**	**51.99**	**31**	P	**P**	**15 06 19.2**	**+0.1**
	2.0nm,0.8s,mb4.1,baz=261,slow=5.9,SNR=17						
ILAR				pP	pP	15 06 33.1	-1.0
	0.7nm,0.8s,baz=264,slow=5.8,SNR=4.0						
CHKZ	**Chkalovo**	**52.70**	**315**	*e*P	**P**	**15 06 24.0**	**-0.6**
	2.4nm,0.7s,mb4.2						
CHKZ				*e*pP	pP	15 06 39.9	+0.2
BVAR	**Borovoye Array**	**52.94**	**314**	P	**P**	**15 06 27.0**	**+0.6**
	1.1nm,0.6s,mb4.0,baz=108,slow=10,SNR=9.6						
BVAR				pP	pP	15 06 42.1	+0.7
	0.5nm,0.4s,baz=106,slow=9.5,SNR=4.0						
BRVK	**Borovoye**	**52.99**	**314**	*e*P	**P**	**15 06 26.8**	**0.0**
	2.8nm,0.8s,mb4.2						
WRAB	**Tennant Creek**	**54.01**	**189**	P	**P**	**15 06 33.1**	**-1.6**
	1.4nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**54.02**	**189**	P	**P**	**15 06 33.0**	**-1.8**
	0.6nm,0.4s,mb3.9,baz=5.5,slow=7.5,SNR=12						
DAWY	**Dawson**	**55.27**	**32**	P	**P**	**15 06 43.1**	**-0.3**
INK	**Inuvik**	**57.04**	**26**	P	**P**	**15 06 56.6**	**+0.6**
	0.8nm,0.6s,mb3.9,baz=280,slow=6.0,SNR=7.0						
INK				pP	pP	15 07 11.4	+0.2
	0.3nm,0.6s,baz=292,slow=15,SNR=1.3						
ASAR	**Alice Springs**	**57.74**	**189**	P	**P**	**15 06 59.6**	**-1.9**
	0.3nm,0.5s,mb3.6,baz=6.7,slow=6.9,SNR=5.4						
YKA	**Yellowknife Ar**	**66.36**	**30**	P	**P**	**15 07 58.5**	**+0.1**
	0.2nm,0.5s,mb3.4,baz=302,slow=6.1,SNR=6.3						
YKA				pP	pP	15 08 15.3	+1.3
	0.1nm,0.4s,baz=115,slow=40,SNR=3.4						
YKA	**Yellowknife Ar**	**66.36**	**30**	P	**P**	**15 07 58.5**	**+0.1**
YKA				pP	pP	15 08 15.3	+1.3
FINES	**FINESS Array B**	**71.73**	**333**	P	**P**	**15 08 32.7**	**+1.3**
	3.0nm,0.9s,mb4.2,baz=76,slow=7.9,SNR=5.4						
FINES	**FINESS Array B**	**71.73**	**333**	P	**P**	**15 08 32.7**	**+1.3**
NVAR	**Mina Array Bea**	**76.62**	**53**	P	**P**	**15 09 02.2**	**+2.1**
	0.2nm,0.4s,mb3.4,baz=288,slow=6.3,SNR=4.9						
NVAR				pP	pP	15 09 17.4	+1.3
	0.2nm,0.4s,baz=86,slow=26,SNR=2.6						
AKASG	**Malin Array Be**	**76.97**	**323**	P	**P**	**15 09 02.8**	**+0.9**
	0.2nm,0.3s,mb3.5,baz=46,slow=5.8,SNR=7.1						
AKASG				pP	pP	15 09 17.8	0.0
	0.3nm,0.3s,baz=47,slow=5.8,SNR=3.0						
NB2	**NORSAR Subarra**	**77.19**	**338**	P	**P**	**15 09 04.0**	**+1.1**
	0.7nm,0.6s,mb3.8,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**77.19**	**338**	P	**P**	**15 09 04.1**	**+1.3**
	2.9nm,1.1s,mb4.1,baz=39,slow=5.6,SNR=4.4						
PDAR	**Pinedale Array**	**79.64**	**45**	P	**P**	**15 09 18.6**	**+1.9**
	0.8nm,0.9s,mb3.7,baz=270,slow=1.5,SNR=5.7						
PDAR				pP	pP	15 09 35.1	+2.5
	0.3nm,0.5s,baz=315,slow=10,SNR=2.7						
BRTR	**Keskin Array B**	**81.17**	**312**	P	**P**	**15 09 27.4**	**+2.5**
	1.1nm,0.9s,mb3.8,baz=117,slow=2.8,SNR=3.0						
GERES	**GERESS Array B**	**85.53**	**329**	P	**P**	**15 09 48.8**	**+2.1**
	0.6nm,0.6s,mb4.0,baz=34,slow=4.8,SNR=4.9						

*NIED **25** 15:00:00, 33.90N×141.90E, h29km, Mw3.9 Best double couple: M0 8.1×10^14 NP1:φs312°, δ87°, λ156°. NP2:φs43°, δ66°, λ3°.*
*MOS **25** 15:00:28.9±0.8, 33.89N×141.87E, h33km, mb4.7/7, Error ellipse: s-maj=18.7km s-min=8.8km az=115.7*
*JMA **25** 15:00:28.3±0.2, 33.95N×141.93E, h71km±4km, M3.8*
*IDC **25** 15:00:32.5±2.6, 33.93N×141.81E, h44km±25km, mb3.7/18, mb1 4.0/20, mb1mx4.0/24, mbtmp4.0/20, ML4.1/2, Error ellipse: s-maj=19.2km s-min=16.3km az=113.0*
*NEIC **25** 15:00:33.8±0.3, 33.91N×141.67E, mb4.5/8, MW3.9(NIED), Error ellipse: s-maj=7.8km s-min=6.6km az=54.0*
**ISC 25 15:00:31.4±0.4, 33.96N±0.03×141.74E±0.04, h54km, h54km±1.7km

comp=Z,6.0nm,1.0s,mb4.5
BRVK Borovoye 52.93 314 *e*P **P 15 09 44.5 +0.3**
comp=Z,5.9nm,1.0s,mb4.5
BRVK *e* pP 15 09 59.5 +0.9
WRAB Tennant Creek 54.05 189 *e*P **P 15 09 51.6 -1.3**
WRAB pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
WRAB Tennant Creek 54.05 189 *e*P **P 15 09 51.6 -1.3**
comp=Z,5.7nm,0.5s,mb4.8
WB2 Warramunga Arr 54.06 189 *e*P **P 15 09 51.8 -1.2**
WRA Warramunga Arr 54.06 189 P **P 15 09 51.9 -1.1**
comp=Z,1.3nm,0.4s,mb4.2,baz=4.2,slow=7.5,SNR=18
DAWY Dawson 55.26 32 *e*P **P 15 10 00.6 -0.5**
INK Inuvik 57.01 26 P **P 15 10 13.2 -0.4**
comp=Z,1.4nm,0.6s,mb4.2,baz=288,slow=8.4,SNR=12
ASAR Alice Springs 57.79 188 P **P 15 10 18.8 -0.9**
comp=Z,0.6nm,0.6s,mb3.8,baz=1.3,slow=6.8,SNR=11
ASPA Alice Springs 57.79 189 *e*P **P 15 10 19.5 -0.2**
HYB Hyderabad 58.44 271 *i*P **P 15 10 25.0 +0.7**
HYB *e* pP 15 10 39.0 0.0
YKA Yellowknife Ar 66.34 30 P **P 15 11 15.6 -0.5**
YKA Yellowknife Ar 66.34 30 P **P 15 11 15.5 -0.6**
comp=Z,0.6nm,0.6s,mb3.8,baz=298,slow=6.0,SNR=10.0
FINES FINESS Array B 71.66 333 P **P 15 11 49.4 +0.5**
comp=Z,7.2nm,1.2s,mb4.5,baz=63,slow=13,SNR=5.3
NVAR Mina Array Bea 76.63 53 P **P 15 12 19.5 +1.4**
comp=Z,1.3nm,0.8s,mb3.9,baz=286,slow=5.9,SNR=8.8
BOZ Bozeman (W) 76.74 44 *e*P **P 15 12 20.2 +1.6**
BOZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BOZ Bozeman (W) 76.74 44 *e*P **P 15 12 20.1 +1.6**
comp=Z,5.0nm,1.0s,mb4.4
AKASG Malin Array Be 76.90 323 P **P 15 12 19.7 +0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 76.90 323 P **P 15 12 19.7 +0.4**
comp=Z,3.0nm,0.8s,mb4.2,baz=46,slow=5.9,SNR=9.4
NB2 NORSAR Subarra 77.12 338 P **P 15 12 20.9 +0.5**
comp=Z,0.1nm,0.6s,baz=48,slow=5.8
NOA NORSAR Array B 77.12 338 P **P 15 12 21.2 +0.8**
comp=Z,1.0nm,0.7s,mb3.8,baz=37,slow=6.0,SNR=3.4
PDAR Pinedale Array 79.64 45 P **P 15 12 35.8 +1.3**
comp=Z,0.8nm,0.7s,mb3.8,baz=282,slow=2.8,SNR=7.5
FRB Frobisher Bay 79.70 13 P **P 15 12 34.9 +0.5**
comp=Z,1.5nm,0.8s,mb4.0,baz=215,slow=16,SNR=3.5
BRTR Keskin Array B 81.10 312 P **P 15 12 44.6 +2.2**
comp=Z,0.5nm,0.5s,mb3.7,baz=222,slow=43,SNR=3.3
PV10 Paradox Valley 82.61 48 *e*P **P 15 12 52.5 +2.3**
PV10 *e* pP 15 13 06.6 +1.0
GERES GERESS Array B 85.47 329 P **P 15 13 05.5 +1.2**
comp=Z,0.7nm,0.6s,mb4.0,baz=14,slow=5.5,SNR=6.2
TXAR Lajitas Array 91.78 53 P **P 15 13 36.8 +2.0**
comp=Z,0.4nm,0.8s,mb3.8,baz=180,slow=3.8,SNR=4.0
LPAZ La Paz 147.90 64 PKPbc PKPdf 15 20 14.8 +6.8
comp=Z,2.1nm,1.1s,baz=27,slow=7.5,SNR=4.7

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*IDC **25** 15:09:01.4±0.9, 10.26N×91.40E, mb3.9/9, mb1 4.0/10, mb1mx3.9/19, mbtmp3.9/10, ML3.9/1, MS4.0/3, Ms1 3.9/3, ms1mx3.2/28, Error ellipse: s-maj=35.2km s-min=16.3km az=57.0*
*BJI **25** 15:09:04.7, 10.20N×91.68E, h32km, mB4.9, mb4.2*
*NEIC **25** 15:09:05.8±0.5, 10.28N×91.41E, h30km, mb4.4/9, Error ellipse: s-maj=11.5km s-min=8.1km az=70.0*
ISC 25 15:09:03.8±0.6, 10.25N±0.07×91.49E±0.07, h30km, n36, σ0§97/37, mb4.2/16, MS4.0/3, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**10.86**	**314**	*i* P	**P**	**15 11 36.0**	**-4.6**
VIS				*i* S	**S**	**15 13 29.0**	**-13**
CM31	**Chiang Mai Arr**	**10.89**	**41**	P	**P**	**15 11 42.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**10.89**	**41**	Pn	**P**	**15 11 40.0**	**-1.0**
	0.2nm,0.3s,baz=231,slow=14,SNR=9.9						
HYB	**Hyderabad**	**14.44**	**301**	*e*P	**P**	**15 12 36.0**	**+7.6**
HYB				*e*S	**S**	**15 15 08.0**	**-0.3**
HYB	**Hyderabad**	**14.44**	**301**	*i* P	**P**	**15 12 36.0**	**+7.6**
HYB				*e*S	**S**	**15 15 08.0**	**-0.3**
SHL	**Shillong**	**15.24**	**1**	*e*	**P**	**15 12 41.0**	**+2.1**
SHL				*e*		15 15 10.0	
JIRN	**Jiri**	**18.03**	**345**	*e*P	**P**	**15 13 13.0**	**-1.1**
PKI	**Pulchoki**	**18.16**	**342**	*e*P	**P**	**15 13 15.7**	**-0.1**
	12nm,0.6s						
KMI	**Kunming**	**18.25**	**34**	P	**P**	**15 13 16.9**	**0.0**
	11nm,0.9s						
KMI				pP		15 13 23.5	
DMN	**Daman**	**18.29**	**342**	*e*P	**P**	**15 13 18.4**	**+1.1**
	20nm,0.7s						
KKN	**Kakani**	**18.41**	**342**	*e*P	**P**	**15 13 18.6**	**-0.2**
GKN	**Gorkha**	**18.80**	**341**	*e*P	**P**	**15 13 24.1**	**+0.6**
	11nm,0.3s						
KOLN	**Koldanda**	**18.95**	**338**	*e*P	**P**	**15 13 27.3**	**+2.0**
	12nm,0.6s						
LSA	**Lhasa**	**19.36**	**359**	*e*P	**P**	**15 13 28.7**	**-1.3**
	15nm,0.8s						
NDI	**New Delhi**	**22.71**	**326**	*e*	**P**	**15 14 05.0**	**+0.5**
DDI	**Dehra Dun**	**23.57**	**330**	*e*	**P**	**15 14 16.3**	**+3.4**
ENH	**Enshi**	**26.04**	**38**	*e*P	**P**	**15 14 35.0**	**-1.5**
	17nm,0.6s,mb4.8						
XAN	**Xi'an**	**28.57**	**31**	P	**P**	**15 14 56.5**	**-2.9**
AAK	**Ala-Archa**	**35.52**	**338**	*e*P	**P**	**15 15 58.7**	**-1.5**
	3.6nm,0.9s,mb4.3						
BJI	**Beijing**	**36.89**	**32**	P	**P**	**15 16 12.5**	**+0.8**
	9.0nm,0.7s,mb4.7						
SONM	**Songino Array**	**39.52**	**16**	P	**P**	**15 16 34.0**	**+0.3**
	1.7nm,0.5s,mb4.0,baz=204,slow=8.9,SNR=38						
ULN	**Ulaanbaatar**	**39.73**	**16**	*e*P	**P**	**15 16 35.4**	**0.0**
	3.6nm,0.8s,mb4.2						
KURK	**Kurchatov**	**41.72**	**348**	P	**P**	**15 16 51.2**	**-0.5**
	5.6nm,1.1s,mb4.1						
ZAL	**Zalesovo**	**43.90**	**354**	P	**P**	**15 17 10.4**	**+0.9**
	0.8nm,0.5s,mb3.7,baz=324,slow=7.0,SNR=5.3						
BVAR	**Borovoye Array**	**45.93**	**342**	P	**P**	**15 17 25.7**	**0.0**
	0.2nm,0.6s,mb3.3,baz=205,slow=31,SNR=3.2						
CHKZ	**Chkalovo**	**46.44**	**343**	*e*P	**P**	**15 17 29.8**	**+0.1**
	3.5nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**51.76**	**125**	P	**P**	**15 18 11.1**	**-0.1**
	2.0nm,0.6s,mb4.2,baz=305,slow=8.5,SNR=28						
WRAB	**Tennant Creek**	**51.76**	**125**	*e*P	**P**	**15 18 11.4**	**+0.1**
	13nm,0.8s,mb4.9						
WB2	**Warramunga Arr**	**51.77**	**125**	||*i*P	**P**	**15 18 11.6**	**+0.3**
ASAR	**Alice Springs**	**53.43**	**130**	P	**P**	**15 18 23.9**	**+0.2**
	1.6nm,0.9s,mb4.0,baz=305,slow=7.3,SNR=16						
ASAR				LR	LR	15 45 01.2	
	comp=Z,48nm,19.5s,MS3.6,baz=123,slow=40						
BRTR	**Keskin Array B**	**58.91**	**310**	P	**P**	**15 19 01.8**	**-0.9**
	0.6nm,0.8s,mb3.7,baz=143,slow=6.2,SNR=3.4						
STKA	**Stephens Creek**	**63.62**	**133**	P	**P**	**15 19 35.3**	**+0.6**
	2.2nm,1.1s,mb4.1,baz=312,slow=16,SNR=5.9						
STKA				LR	LR	15 48 11.2	
	comp=Z,73nm,18.1s,MS3.9,baz=256,slow=37						
FINES	**FINESS Array B**	**69.41**	**332**	P	**P**	**15 20 10.2**	**-0.7**
	1.8nm,0.9s,mb4.0,baz=180,slow=19,SNR=3.9						
ARCES	**ARCESS Array B**	**72.17**	**340**	P	**P**	**15 20 27.0**	**-0.4**
	3.0nm,0.8s,mb4.3,slow=13,SNR=3.3						
INK	**Inuvik**	**95.43**	**15**	LR	LR	16 15 20.3	
	comp=Z,204nm,18.7s,MS4.6,baz=258,slow=42						
PLCA	**Paso Flores**	**145.73**	**205**	PKPbc	PKPbc	15 28 43.5	+2.9
	2.2nm,0.9s,baz=242,slow=9.6,SNR=3.1						

IDC 25 15:11:05.8±0.8, 27.59N×140.20E, h460km±13km, mb3.0/5, mb1 3.2/5, mb1mx2.9/20, mbtmp3.8/5, Error ellipse: s-maj=38.5km s-min=16.6km az=86.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.83**	**105**	P		15 12 07.8	+1.0
	9.5nm,0.3s,baz=300,slow=21,SNR=15						
CBIJ				S	S	15 12 55.4	+0.3
	31nm,0.3s,baz=97,slow=22,SNR=8.1						
WRA	**Warramunga Arr**	**47.59**	**187**	P	P	15 18 58.2	-2.1
	0.4nm,0.3s,baz=6.9,slow=7.8,SNR=6.6						
ASAR	**Alice Springs**	**51.32**	**187**	P	P	15 19 26.1	-2.0
	0.4nm,0.7s,slow=5.4,SNR=4.9						
BVAR	**Borovoye Array**	**56.48**	**317**	P	P	15 20 02.8	-1.7
	2.3nm,0.4s,baz=92,slow=7.1,SNR=29						
YKA	**Yellowknife Ar**	**72.54**	**28**	P	P	15 21 45.4	-0.3
	0.5nm,0.8s,baz=294,slow=5.5,SNR=5.0						
FINES	**FINESS Array B**	**76.72**	**333**	P	P	15 22 07.7	-1.5
	1.3nm,0.6s,baz=70,slow=5.1,SNR=12						

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*JMA **25** 15:18:27.0±0.4, 23.73N×122.09E, h18km*
TAP 25 15:18:26.7, 23.75N×121.99E, h13km, ML2.8, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.17**	**53**	P	Pb	15 18 47.2	-1.1
YOJ				S	Sb	15 19 02.0	-1.2
HATJ	**Hateruma jima**	**1.69**	**79**	S	Sn	15 19 14.6	-3.2
IRIF	**Iriomote-Funau**	**1.69**	**70**	P	Pn	15 18 54.8	-1.5
IRIF				S	Sn	15 19 15.4	-2.5
JKRS	**Kuro-shima**	**1.91**	**75**	P	Pn	15 18 58.8	-0.6
JKRS				S	Sn	15 19 21.1	-2.3
JIJ	**Ishigaki jima**	**2.06**	**72**	S	Sn	15 19 24.2	-3.1

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*ISK **25** 15:24:21.2, 37.80N×44.13E, h20km, MD4.9*
*IDC **25** 15:24:23.9±0.8, 37.66N×43.72E, mb4.1/17, mb1 4.3/24, mb1mx4.3/26, mbtmp4.1/24, ML3.6/6, MS4.2/13, Ms1 4.3/13, ms1mx4.1/20, Error ellipse: s-maj=14.7km s-min=10.5km az=144.0*
*TIF **25** 15:24:24.0, 37.75N×43.71E, h10km±5km*
*THR **25** 15:24:24.3±0.5, 37.77N×43.65E, h16km±5km, ML4.3*
*CSEM **25** 15:24:25.6±0.1, 37.50N×43.85E, h21km, mb4.7/32, Ms4.1, Error ellipse: s-maj=2.4km s-min=1.8km az=35.0*
*MOS **25** 15:24:26.0±1.9, 37.73N×43.77E, h10km, mb5.0/30, MS4.2/12, Error ellipse: s-maj=7.0km s-min=4.1km az=115.6*
*BJI **25** 15:24:27.5, 37.60N×43.80E, h19km, mB5.0, mb4.4, Ms4.8, Msz4.4*
*ZUR_RM **25** 15:24:27, 37.56N×43.78E, h27km, Mw5.2/12, Moment Tensor Solution. s12 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.29; $M_{\theta\theta}$-4.26; $M_{\phi\phi}$5.56; $M_{r\theta}$-1.26; $M_{\theta\phi}$-4.29; $M_{\phi r}$0.47; Best double couple: $M_0$6.67×10^{16} NP1:ϕ_s115°, δ86°, λ-167°. NP2:ϕ_s24°, δ77°, λ-4°. Principal axes: T 7.257, Plg6°, Azm249°; N -1.168, Plg77°, Azm133°; P -6.089, Plg12°, Azm340°;*
*NEIC **25** 15:24:27.6±4.2, 37.56N×43.78E, h19km±27km, mb4.8/33 Error ellipse: s-maj=10.8km s-min=7.5km az=183.0*
NEIC Felt in Van, Turkey.
ISC 25 15:24:25.2±0.2, 37.46N±0.02×43.76E±0.02, h17km, h17km±2.3km: pP-P, n251, σ1§40/283, mb4.7/59, MS4.3/20, 8C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.12**	**351**	*i* PG	**Pb**	**15 24 28.8**	**-0.1**
VANT	**Van**	**1.02**	**343**	*i* PG	**Pb**	**15 24 39.5**	**-4.6**
VANT				*i* SG	**Sb**	**15 24 53.1**	**-4.0**
TVAN	**Van**	**1.10**	**345**	*i* P	**Pb**	**15 24 40.5**	**-4.9**
TVAN				*i* S	**Sb**	**15 25 00.2**	**+1.0**
VANB	**Van**	**1.17**	**345**	*i* PG	**Pb**	**15 24 40.3**	**-6.2**
VANB				*i* SG	**Sb**	**15 24 53.6**	**-7.6**
MSL	**Mosul**	**1.29**	**205**	*i* Pn	Px	15 24 53.0	
MSL				*i* Pg	x	15 24 54.5	
MSL				*i* Sb	**Sb**	**15 25 13.2**	**+8.5**
MSL				*i* Sg	**Sb**	**15 25 14.8**	**+10**
BTMT	**Batman**	**1.94**	**293**	*i* PN	**Pn**	**15 24 58.3**	**+0.4**
MAKU	**Maku**	**2.02**	**21**	*e*PG	**Pn**	**15 24 56.9**	**-2.2**
MAKU				*e*SG	**Sn**	**15 25 20.5**	**-3.6**
MAKU				AML	AML	15 25 26.6	
	comp=N,4μm,0.6s						
MAKU	**Maku**	**2.02**	**21**	*e*Pg	**Pn**	**15 24 56.9**	**-2.2**
	SNR=91						
MAKU				*e*Sg	**Sn**	**15 25 20.5**	**-3.6**
	comp=N,4μm,0.6s,SNR=91						
BEST	**Besiri**	**2.02**	**283**	*i* P	**Pn**	**15 25 00.0**	**+0.9**
BEST				*i* S	**Sn**	**15 25 29.8**	**+5.7**
VRT	**Varto**	**2.42**	**314**	*i* PN	**Pn**	**15 25 04.0**	**-0.8**
GNI	**Garni**	**2.79**	**16**	Pn	**Pn**	**15 25 08.6**	**-1.5**
	comp=N,32nm,0.3s,baz=313,slow=2.5,SNR=39						
GNI				Lg		15 25 47.2	
	comp=N,56nm,0.3s,baz=191,slow=19,SNR=7.8						
GNI				LR	LR	15 26 07.3	
	comp=N,3μm,19.4s,baz=192,slow=40						
GNI	**Garni**	**2.79**	**16**	*e*Pn	**Pn**	**15 25 08.6**	**-1.4**
DIY	**Diyarbakir**	**2.84**	**280**	*i* PN	**Pn**	**15 25 10.9**	**+0.1**
BINT	**Bingol**	**2.94**	**300**	*i* PN	**Pn**	**15 25 11.0**	**-1.2**
ERZM	**Erzurum**	**3.08**	**323**	*i* P	**Pn**	**15 25 12.6**	**-1.5**
ERZM				*i* S	**Sn**	**15 25 51.7**	**+0.8**
EZM	**Erzurum**	**3.08**	**323**	*i* PN	**Pn**	**15 25 09.0**	**-5.1**
GRMI	**Germi**	**3.52**	**66**	*e*PN	**Pn**	**15 25 20.2**	**-0.2**
GRMI				AML	AML	15 26 39.1	
	comp=N,295nm,0.7s						
PTK	**Pertek**	**3.73**	**294**	*i* PN	**Pn**	**15 25 22.4**	**-1.0**
SNGE	**Sanandaj**	**3.74**	**128**	*e*PN	**Pn**	**15 25 27.5**	**+4.0**
SNGE				*e*SG	Sn	15 26 28.7	+21
SNGE				AML	AML	15 26 48.1	
	comp=N,798nm,0.7s						
SNGE	**Sanandaj**	**3.74**	**128**	*e*Pn	**Pn**	**15 25 27.5**	**+4.0**
	SNR=52						
SNGE				*e*Sg	Sn	15 26 28.7	+21
	comp=N,798nm,0.7s,SNR=90						
EZC	**Erzincan**	**3.84**	**308**	*e*PN	**Pn**	**15 25 27.4**	**+2.4**
ELZG	**Elazig**	**3.91**	**287**	*i* P	**Pn**	**15 25 25.6**	**-0.4**
ELZG				*i* S	**Sn**	**15 26 28.2**	**+16**
URFA	**Urfa**	**3.93**	**271**	PN	**Pn**	**15 25 26.8**	**+0.5**
AKH	**Akhalkalaki**	**3.95**	**357**	P	**Pn**	**15 25 24.7**	**-1.8**
AKH				S	**Sn**	**15 26 31.5**	**+19**
BHD	**Baghdad**	**4.21**	**173**	*i* Pn	Px	15 25 33.0	
BHD				*i* Sn	x	15 26 23.0	
BHD				*i* Sg	Sx	15 26 53.0	
MTA	**Mtatsminda**	**4.30**	**10**	P	**Pn**	**15 25 30.0**	**-1.5**
MTA				S	**Sb**	**15 26 33.5**	**+1.6**
MALT	**Malatya**	**4.30**	**283**	*e*PN	**Pn**	**15 25 30.8**	**-0.8**
MALT	**Malatya**	**4.30**	**283**	||*e*Pn	**Pn**	**15 25 30.7**	**-0.9**
BCA	**Borcka**	**4.31**	**338**	*e*PN	**Pn**	**15 25 25.5**	**-6.1**
MYA	**Malataya**	**4.31**	**283**	*e*PN	**Pn**	**15 25 30.7**	**-0.9**
TI2	**Plekhanov**	**4.33**	**10**	*i* P	**Pn**	**15 25 30.6**	**-1.4**
TI2				pmax	pmax		
	comp=Z,60nm,0.4s						
TI2				pmax	pmax		
	comp=Z,210nm,0.8s						
TI2				MLR	MLR		
	comp=N,11μm,8.0s						
TI2				MLR	MLR		
	comp=E,17μm,8.0s						
TI2				MLR	MLR		
	comp=Z,10μm,8.0s						
TI2	**Plekhanov**	**4.33**	**10**	*i* P	**Pn**	**15 25 30.6**	**-1.4**
	comp=Z,60nm,0.4s						
GUMT	**Gumushane**	**4.48**	**313**	*e*PN	**Pn**	**15 25 31.0**	**-3.1**
DUS	**Dusheti**	**4.68**	**9**	P	**Pn**	**15 25 38.3**	**+1.4**
GZT	**Gaziantep**	**4.94**	**271**	*i* P	**Pn**	**15 25 39.7**	**-0.9**
GZT				*i* S	Sn	15 27 08.7	+31
GAZ	**Gaziantep**	**5.23**	**269**	*e*PN	**Pn**	**15 25 44.0**	**-0.7**
ZEI	**Tsey**	**5.30**	**1**	*e*P	**Pn**	**15 25 43.6**	**-2.1**
ZEI				pmax	pmax		
	comp=Z,14nm,0.7s						
KAHT	**Ahir Dag**	**5.48**	**274**	*i* P	**Pn**	**15 25 47.2**	**-1.0**
KAHT				*i* S	Sn	15 27 13.1	+22
COBT	**Iskenderun**	**6.08**	**263**	*i* P	**Pn**	**15 25 56.5**	**-0.1**
COBT				*i* S	**Sn**	**15 27 24.4**	**+18**
MAK	**Makhachkala**	**6.19**	**26**	*e*P	**Pn**	**15 25 59.0**	**+0.7**
MAK				pmax	pmax		
	comp=Z,2μm,6.0s						
MAK				MLR	MLR		
	comp=N,8μm,8.0s						
MAK				MLR	MLR		
	comp=E,3μm,8.0s						
MAK				MLR	MLR		
	comp=Z,12μm,8.0s						
KIV	**Kislovodsk**	**6.54**	**353**	Pn	**Pn**	**15 26 03.0**	**-0.1**
	comp=Z,359nm,0.9s,SNR=12						
KIV	**Kislovodsk**	**6.54**	**353**	*e*P	**Pn**	**15 26 02.8**	**-0.3**
SHGR	**Shooshtar-Gavs**	**6.76**	**141**	*e*PN	**Pn**	**15 26 08.8**	**+2.5**
FKH	**Fakeheh**	**6.79**	**244**	*e*P	**Pn**	**15 26 07.9**	**+1.2**
SOC	**Sochi**	**6.84**	**335**	*i* P	**Pn**	**15 26 04.9**	**-2.5**
SOC				*e*		15 27 13.9	
SOC				pmax	pmax		
	comp=N,75nm,0.8s						
SOC				pmax	pmax		
	comp=Z,85nm,0.8s						
SOC				pmax	pmax		
	comp=E,37nm,0.7s						
SOC				MLR	MLR		
	comp=Z,1μm,15.0s						
SOC				MLR	MLR		
	comp=N,2μm,14.0s						
SOC				MLR	MLR		
	comp=E,917nm,14.0s						
DAMV	**Damavand**	**6.86**	**103**	*e*PN	**Pn**	**15 26 09.1**	**+1.5**
HWQ	**Hawqa**	**7.10**	**246**	*e*P	**Pn**	**15 26 12.3**	**+1.4**
BHL	**Bhannes**	**7.49**	**244**	*e*P	**Pn**	**15 26 17.7**	**+1.1**
GOF	**Gofitskoye**	**7.61**	**356**	||*i*P	**Pn**	**15 26 19.0**	**+0.9**
GOF				*i* S	**Sn**	**15 27 49.0**	**+4.2**
GOF				pmax	pmax		
	comp=Z,120nm,1.3s						
GOF				smax			
	comp=E,1μm,4.0s						
GOF				MLR	MLR		
	comp=Z,6μm,10.0s						
GOF	**Gofitskoye**	**7.61**	**356**	*i* P	**Pn**	**15 26 19.0**	**+0.9**
	comp=Z,60nm,1.3s						
ASF	**Jabal al Asfar**	**7.73**	**229**	Pn	**Pn**	**15 26 20.0**	**+0.2**
	comp=Z,2.7nm,0.3s,baz=280,slow=7.0,SNR=15						
ASF				Pg	Pn	15 26 47.6	+28
	comp=Z,4.1nm,0.3s,baz=86,slow=21,SNR=6.5						
ASF				Lg		15 28 31.8	
	comp=Z,4.1nm,0.3s,baz=265,slow=15,SNR=2.4						
BRTR	**Keskin Array B**	**8.24**	**289**	Pn	**P**	**15 26 24.7**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=119,slow=13,SNR=12						
BRTR				Lg		15 28 44.6	
	comp=Z,0.1nm,0.3s,baz=90,slow=26,SNR=2.3						
NAY	**Al-Naaiem**	**8.69**	**159**	*e*P	**P**	**15 26 32.7**	**-0.5**
NAY				*e*S	**Sn**	**15 28 09.9**	**-1.9**
NASN	**Na'in**	**8.75**	**119**	*e*PN	**P**	**15 26 35.8**	**+1.8**
RDF	**Al-Radifah**	**9.09**	**158**	*e*P	**P**	**15 26 38.7**	**0.0**
RDF				*e*S	**Sn**	**15 28 18.9**	**-2.7**
QRN	**Al-Qurain**	**9.37**	**157**	*e*S	**Sn**	**15 28 25.2**	**-3.3**
QRN	**Al-Qurain**	**9.37**	**157**	*e*P	**P**	**15 26 42.8**	**+0.3**
SIM	**Simferopol'**	**10.42**	**319**	P	**P**	**15 26 58.5**	**+1.5**
SIM				S	**S**	**15 29 00.0**	**+5.6**
SIM	**Simferopol'**	**10.42**	**319**	*e*P	**P**	**15 26 58.5**	**+1.5**
EIL	**Elat**	**10.69**	**226**	Pn	**P**	**15 27 01.0**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=63,slow=27,SNR=2.4						
EIL				Pg	Px	15 27 43.8	
	comp=Z,0.8nm,0.3s,baz=29,slow=9.5,SNR=4.9						
EIL				Lg		15 30 04.5	
	comp=Z,0.9nm,0.3s,baz=28,slow=25,SNR=3.0						
EIL	**Elat**	**10.69**	**226**	Pn	**P**	**15 27 01.0**	**+0.3**
EIL				P		15 27 05.0	
EIL				Pg	Px	15 27 43.8	
EIL				Lg		15 30 04.5	
KIS	**Kishinev**	**14.58**	**315**	*e*P	**P**	**15 27 57.0**	**+4.4**
KIS				MLR	MLR		
	comp=Z,600nm,13.0s						
KIS				MLR	MLR		
	comp=Z,600nm,14.0s						
VOR	**Voronezh**	**14.63**	**349**	*e*P	**P**	**15 27 51.0**	**-2.1**
VOR				pmax	pmax		
	comp=N,180nm,1.4s						
VOR				pmax	pmax		
	comp=Z,70nm,1.4s						
VOR				pmax	pmax		
	comp=N,130nm,1.6s						
VOR				pmax	pmax		
	comp=Z,110nm,1.6s						
IDI	**Anoyia**	**15.36**	**268**	Pn	**P**	**15 28 07.4**	**+4.6**
	comp=Z,1.3nm,0.3s,baz=41,slow=9.3,SNR=10.0						
MLR	**Muntele Rosu**	**15.56**	**307**	Pn	**P**	**15 28 05.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=98,slow=13,SNR=3.3						
MLR				LR	LR	15 35 49.8	
	comp=Z,1μm,18.4s,baz=307,slow=44						
MLR	**Muntele Rosu**	**15.56**	**307**	Pn	**P**	**15 28 05.3**	**0.0**
MLR				||P	15 28 08.6	
MLR	**Muntele Rosu**	**15.56**	**307**	||P	**P**	**15 28 08.6**	**+3.3**
AKASG	**Malin Array Be**	**16.82**	**327**	Pn	**P**	**15 28 18.1**	**-3.3**
	baz=136,slow=11,SNR=6.5						
BURAR	**Bucovina Array**	**16.98**	**313**	||P	**P**	**15 28 25.0**	**+1.5**
BURAR	**Bucovina Array**	**16.98**	**313**	||P	**P**	**15 28 25.0**	**+1.6**
ARQ	**Araqi**	**17.84**	**139**	P	**P**	**15 28 32.8**	**-1.6**
	SNR=14						
OBN	**Obninsk**	**18.32**	**347**	||*e*P	**P**	**15 28 34.2**	**-6.0**
OBN				*i* S	**S**	**15 32 02.7**	**+1.6**
OBN				pmax	pmax		
	comp=Z,85nm,1.8s						
OBN				MLR	MLR		
	comp=Z,2μm,16.0s						
OBN	**Obninsk**	**18.32**	**347**	*e*P	**P**	**15 28 32.4**	**-7.8**
	comp=Z,32nm,0.6s						
OBN	**Obninsk**	**18.32**	**347**	*i* S	**S**	**15 32 02.7**	**+1.6**
	comp=Z,950nm,16.0s						
BIDO	**Bidbid**	**18.58**	**134**	P	**P**	**15 28 42.6**	**-0.9**
	SNR=13						
BSY	**Bisya**	**18.68**	**138**	P	**P**	**15 28 44.0**	**-0.8**
	SNR=20						
BSYO	**Bisya**	**18.72**	**138**	P	**P**	**15 28 44.0**	**-1.2**
	SNR=20						
MOS	**Moscow**	**18.75**	**349**	*e*P	**P**	**15 28 43.0**	**-2.3**
MOS				*e*S	**S**	**15 32 09.8**	**-0.9**
MOS				pmax	pmax		
	comp=Z,35nm,0.6s						
MOS				MLR	MLR		
	comp=Z,2μm,16.0s						
MOS	**Moscow**	**18.75**	**349**	*e*S	**S**	**15 32 09.8**	**-0.9**
	comp=Z,750nm,16.0s						
LVV	**L'vov**	**18.81**	**317**	*e*P	**P**	**15 28 49.2**	**+3.1**
LVV				*e*S	**S**	**15 32 14.8**	**+2.7**
LVV				MLR	MLR		
	comp=Z,280nm,12.0s						
LVV				MLR	MLR		
	comp=N,500nm,13.0s						
LVV				MLR	MLR		
	comp=E,150nm,12.0s						
LVV	**L'vov**	**18.81**	**317**	*e*P	**P**	**15 28 49.2**	**+3.1**
	comp=E,140nm,12.0s						
LVV				*e*S	**S**	**15 32 14.8**	**+2.7**
	comp=E,250nm,13.0s						
SMDO	**Samad**	**18.90**	**135**	P	**P**	**15 28 46.6**	**-0.8**
	SNR=19						
DIVS	**Divcibare**	**19.15**	**298**	||*i*P	**P**	**15 28 49.8**	**-0.4**
KOLS	**Kolonicke sedl**	**19.34**	**313**	*e*P	**

MORC Moravsky Berou 22.49 312 *eP* **P 15 29 25.5 +0.5**
comp=Z,24nm,1.2s,mb4.5
MORC Moravsky Berou 22.49 312 *eP* **P 15 29 25.5 +0.4**
comp=Z,12nm,1.2s,mb4.2
VRAC Vranov 22.89 310 P **P 15 29 28.6 -0.4**
comp=Z,15nm,0.9s,mb4.4,baz=101,slow=11,SNR=11
VAE Valguarnera 23.26 279 LR LR 15 39 05.6
comp=Z,675nm,18.3s,MS4.1,baz=342,slow=38
DPC Dobruska-Polom 23.44 312 *eP* **P 15 29 35.2 +0.9**
DPC AMS AMS 15 41 00.0
comp=Z,1µm,12.4s
KSP Ksiaz 23.65 313 *eP* **P 15 29 37.5 +1.2**
KSP *e**PP 15 29 43.3
KSP *eS* **S 15 33 52.0 +5.3**
KSP Ksiaz 23.65 313 *eP* **P 15 29 37.5 +1.2**
KSP *eP* 15 29 43.3
KSP *eS*P 15 29 46.0
KSP *eS* **S 15 33 52.0 +5.3**
KSP Ksiaz 23.65 313 *eP* **P 15 29 37.0 +0.7**
KSP Ksiaz 23.65 313 *eP* **P 15 29 37.5 +1.2**
KSP *eP*P 15 29 43.3
UPC Upice 23.68 312 *eP* **P 15 29 37.8 +1.2**
AQU L'Aquila 23.73 291 P **P 15 29 42.9 +5.8**
AQU pmax pmax
comp=Z,90nm,1.1s,mb5.1
AQU L'Aquila 23.73 291 P **P 15 29 42.9 +5.7**
comp=Z,90nm,1.1s,mb5.1
CADS Cadrg 23.91 301 *i* P **P 15 29 40.5 +1.7**
AAK Ala-Archa 24.01 68 *ceP* **P 15 29 28.5 -11**
AAK pmax pmax
comp=Z,2.0nm,0.6s,mb3.7
AAK MLR MLR
comp=Z,400nm,14.0s,MS4.0
FRU Bishkek 24.11 67 *eP* **P 15 29 40.0 -0.8**
FRU *i* 15 29 45.5
FRU pmax pmax
comp=Z,380nm,2.6s,mb5.4
FRU Bishkek 24.11 67 *eP* **P 15 29 40.0 -0.8**
comp=Z,190nm,2.6s,mb5.1
BRVK Borovoye 24.13 41 *eP* **P 15 29 42.4 +1.5**
BRVK pmax pmax
comp=Z,86nm,1.1s,mb5.1
BRVK Borovoye 24.13 41 *eP* **P 15 29 42.4 +1.5**
comp=Z,86nm,1.1s,mb5.1
BRVK Borovoye 24.13 41 *eP* **P 15 29 42.4 +1.5**
comp=Z,43nm,1.1s,mb4.8
BVAR Borovoye Array 24.16 41 P **P 15 29 41.1 -0.2**
comp=Z,6.4nm,0.8s,mb4.1,baz=236,slow=11,SNR=17
PRU Pruhonice 24.38 310 *eP* **P 15 29 43.7 +0.3**
PRU AMS AMS 15 41 10.0
comp=Z,1µm,17.3s
GEC2 GERESS Array S 24.54 307 *eP* **P 15 29 44.1 -0.9**
GEC2 pmax pmax
comp=Z,26nm,1.1s,mb4.7
GEC2 GERESS Array S 24.54 307 *eP* **P 15 29 44.1 -0.9**
comp=Z,13nm,1.1s,mb4.4
GERES GERESS Array B 24.54 307 P **P 15 29 44.7 -0.3**
comp=Z,5.2nm,0.6s,mb4.2,baz=111,slow=7.7,SNR=28
PVCC Panska Ves 24.55 311 *eP* **P 15 29 43.7 -1.3**
PVCC AMS AMS 15 41 30.0
comp=Z,1µm,16.3s
CHKZ Chkalovo 24.61 40 *eP* **P 15 29 43.7 -1.9**
CHKZ pmax pmax
comp=Z,47nm,0.9s,mb5.0
CHKZ Chkalovo 24.61 40 *eP* **P 15 29 43.7 -1.9**
comp=Z,24nm,0.9s,mb4.7
KHC Kasperske Hory 24.70 308 *eP* **P 15 29 46.3 -0.2**
KHC *e* 15 29 52.5
KHC Kasperske Hory 24.70 308 *eP* **P 15 29 46.3 -0.2**
KHC pP 15 29 52.5
KHC AMS AMS 15 40 20.0
comp=Z,800nm,16.3s
BRG Berggiesshubel 25.04 312 *eP* **P 15 29 49.5 -0.3**
BRG *e* 15 29 57.5
BRG pmax pmax
comp=Z,24nm,1.5s,mb4.5
BRG Berggiesshubel 25.04 312 *eP* **P 15 29 49.5 -0.3**
comp=Z,24nm,1.5s,mb4.5
BRG *e* 15 29 57.5
BRG *e*SS **S 15 34 25.0 +15**
WET Wettzell 25.15 308 *eP* **P 15 29 50.6 -0.2**
WET pmax pmax
comp=Z,16nm,1.1s,mb4.5
WET Wettzell 25.15 308 *eP* **P 15 29 50.6 -0.2**
comp=Z,8.0nm,1.1s,mb4.2
JASL Jaisalmer 25.18 107 *eP* **P 15 29 53.2 +1.9**
JASL *e* pP 15 29 58.1 +2.0
comp=Z,120nm,0.2s
NKC Novy Kostel 25.73 310 *eP* **P 15 29 56.1 -0.2**
NKC AMS AMS 15 41 30.0
comp=Z,1µm,17.6s
RUE Ruedersdorf 25.75 315 *eP* **P 15 29 57.5 +1.1**
comp=Z,66nm,1.3s,mb5.0
CLL Collm 25.75 312 ⇑ *i* P **P 15 29 56.0 -0.4**
CLL *i* pP 15 30 01.5 +0.3
CLL pmax pmax
comp=Z,16nm,1.0s,mb4.5
CLL Collm 25.75 312 ⇑ *i* P **P 15 29 56.0 -0.4**
comp=Z,16nm,1.0s,mb4.5
CLL *i* pP 15 30 01.5 +0.3
CLL *e*S **S 15 34 36.0 +14**
CLL Collm 25.75 312 ⇑ P **P 15 29 56.0 -0.4**
comp=Z,logA/T=1.2,mb4.5
CLL *i* *SP sP 15 30 01.5 -1.9
CLL *i* 15 30 12.4
CLL *e*PP PP 15 30 36.0 -0.7
CLL *e*S **S 15 34 36.0 +14**
CLL *e*SS SS 15 35 30.0 +3.0
CLL Collm 25.75 312 *i* P **P 15 29 56.0 -0.4**
comp=Z,8.0nm,1.0s,mb4.2
NOTT Nottersdorf 25.81 309 *eP* **P 15 29 56.9 -0.1**
comp=Z,18nm,0.9s,mb4.6
GUNZ Gunzen 25.84 310 *eP* **P 15 29 58.3 +1.0**
comp=Z,64nm,1.8s,mb4.8
GRA1 Grafenberg Arr 26.34 308 *eP* **P 15 30 01.9 0.0**
comp=Z,33nm,1.3s,mb4.7
GRF Grafenberg Arr 26.34 308 *eP* **P 15 30 01.9 0.0**
GRF pmax pmax
comp=Z,66nm,1.3s,mb5.0
GRF Grafenberg Arr 26.34 308 *eP* **P 15 30 01.9 0.0**
GRF pmax pmax
comp=Z,66nm,1.3s,mb5.0
GRF Grafenberg Arr 26.34 308 *eP* **P 15 30 01.9 0.0**
comp=Z,33nm,1.3s,mb4.7
MOX Moxa 26.36 310 *eP* **P 15 30 10.6 +8.5**
MOX MLR MLR
comp=Z,800nm,19.0s,MS4.3
MOX Moxa 26.36 310 *i* P **P 15 30 10.6 +8.5**
MOX S S 15 34 55.0 +23
MOX L 15 41 43.0
FINES FINESS Array B 26.43 341 P **P 15 29 59.7 -2.9**
comp=Z,15nm,1.2s,mb4.4,baz=144,slow=10,SNR=10
FINES LR LR 15 41 32.6
comp=Z,425nm,20.5s,MS4.0,baz=299,slow=39
JOF Joensuu 26.60 347 *ep* **P 15 30 01.1 -3.1**
comp=Z,11nm,0.9s,mb4.4
DAVOX Davos 26.62 301 P **P 15 30 03.1 -1.4**
comp=Z,8.2nm,0.8s,mb4.3,baz=137,slow=12,SNR=4.4
KAF Kangasniemi 26.94 342 *ep* **P 15 30 11.6 +4.3**
PGF Pioggiola 26.99 292 *eP* **P 15 30 11.6 +3.7**
comp=Z,190nm,1.4s,mb5.1
PGF Pioggiola 26.99 292 *eP* **P 15 30 11.6 +3.7**
PGF pmax pmax
comp=Z,95nm,1.4s,mb5.1
CLZ Clausthal 27.48 312 *eP* **P 15 30 12.8 +0.5**
comp=Z,18nm,1.1s,mb4.5
NRDL Niedersach Rie 27.84 313 *eP* **P 15 30 16.1 +0.5**
comp=Z,113nm,2.9s,mb5.0
KURK Kurchatov 28.04 51 *c i P* **P 15 30 20.2 +2.8**
KURK Kurchatov 28.04 51 *eP* **P 15 30 16.6 -0.8**
comp=Z,16nm,1.1s,mb4.6
KURK Kurchatov 28.04 51 *eP* **P 15 30 16.6 -0.8**
comp=Z,16nm,1.1s,mb4.6
TNS Taunus Mts 28.20 308 *eP* **P 15 30 19.0 +0.1**
TNS pmax pmax
comp=Z,38nm,1.5s,mb4.8
TNS Taunus Mts 28.20 308 *eP* **P 15 30 19.0 +0.1**
comp=Z,19nm,1.5s,mb4.5
CDF Champ du Feu 28.61 304 *eP* **P 15 30 24.3 +1.8**
MBDF Montbardon 28.62 296 *eP* **P 15 30 26.3 +3.6**
comp=Z,69nm,1.5s,mb4.9
MBDF Montbardon 28.62 296 *eP* **P 15 30 26.3 +3.6**
MBDF pmax pmax
comp=Z,35nm,1.5s,mb4.9
LPG La Plagne 28.66 298 *eP* **P 15 30 27.0 +3.9**
comp=Z,13nm,0.8s,mb4.4
LPG La Plagne 28.66 298 *eP* **P 15 30 27.0 +3.9**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
LPL La Plagne 28.68 298 *eP* **P 15 30 26.7 +3.5**
KUDL Kundal 28.92 99 *eP* **P 15 30 25.9 +0.4**
KUDL *e* 15 30 36.3
comp=Z,16nm,1.4s
KLP Kalpa 28.92 91 *eP* **P 15 30 27.4 +1.8**
KLP *e* 15 30 37.4
comp=Z,20nm,1.0s
CABF La Chapelle 29.20 300 *eP* **P 15 30 30.2 +2.3**
comp=Z,57nm,1.1s,mb4.9
CABF La Chapelle 29.20 300 *eP* **P 15 30 30.2 +2.3**
CABF pmax pmax
comp=Z,29nm,1.1s,mb4.9
AYAN Aya Nagar 29.27 98 *eP* **P 15 30 26.8 -1.9**
AYAN *e* 15 30 37.6
comp=Z,16nm,1.0s
HFS Hagfors 29.66 330 P **P 15 30 29.0 -2.8**
comp=Z,9.6nm,0.7s,mb4.6,baz=141,slow=9.5,SNR=6.2
JOSI Joshimath 30.33 92 *eP* **P 15 30 34.2 -4.0**
JOSI *e* pP 15 30 40.4 -2.6
comp=Z,210nm,1.0s
SMF Signal de Mont 30.75 300 *eP* **P 15 30 43.4 +1.8**
comp=Z,44nm,1.1s,mb4.9
SMF Signal de Mont 30.75 300 *eP* **P 15 30 43.4 +1.8**
SMF pmax pmax
comp=Z,22nm,1.1s,mb4.9
SSF Saint Saulge 31.00 301 *eP* **P 15 30 45.6 +1.8**
AVF Avril sur Loir 31.09 300 *eP* **P 15 30 46.1 +1.4**
comp=Z,28nm,1.0s,mb4.7
AVF Avril sur Loir 31.09 300 *eP* **P 15 30 46.1 +1.4**
AVF pmax pmax
comp=Z,14nm,1.0s,mb4.8
NB2 NORSAR Subarra 31.18 330 P **P 15 30 45.9 +0.6**
comp=Z,2.1nm,0.8s,mb4.0,baz=127,slow=8.6
NB2 NORSAR Subarra 31.18 330 P **P 15 30 45.9 +0.6**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
NOA NORSAR Array B 31.18 330 P **P 15 30 42.6 -2.6**
comp=Z,1.8nm,0.7s,mb4.0,baz=126,slow=8.9,SNR=2.9
NOA LR LR 15 45 56.3
comp=Z,269nm,18.6s,MS3.9,baz=130,slow=42
NVS Novosibirsk 31.86 44 *eP* **P 15 30 50.8 -0.5**
NVS *e* 15 31 52.2
NVS pmax pmax
comp=Z,26nm,1.3s,mb4.9
NVS pmax pmax
comp=E,16nm,1.0s
NVS Novosibirsk 31.86 44 *eP* **P 15 30 50.8 -0.5**
comp=E,13nm,1.3s,mb4.6
TCF Toulx Ste Croi 31.86 299 *eP* **P 15 30 53.4 +1.9**
BHPL Bhopal 32.13 107 *eP* **P 15 30 55.6 +1.6**
BHPL *e* pP 15 31 00.5 +1.6
comp=Z,38nm,1.1s
ZAL Zalesovo 32.51 46 P **P 15 30 55.4 -1.6**
comp=Z,1.5nm,0.5s,mb4.2,baz=201,slow=11,SNR=4.0
ZAL LR LR 15 46 00.5
comp=Z,565nm,19.3s,MS4.3,baz=216,slow=40
ZAL Zalesovo 32.51 46 P **P 15 30 55.3 -1.7**
ARCES ARCESS Array B 33.62 349 P **P 15 31 04.6 -1.9**
comp=Z,4.6nm,0.9s,mb4.4,baz=64,slow=34,SNR=2.9
ARCES LR LR 15 45 36.1
comp=Z,758nm,21.4s,MS4.4,baz=17,slow=38
WMQ Urumqi 33.62 65 *eP* **P 15 31 08.5 +1.7**
WMQ AP pP 15 31 11.0 -0.7
WMQ XP sP 15 31 15.0 +1.2
WMQ PP PP 15 32 21.0 +1.4
WMQ S **S 15 36 29.5 +1.9**
WMQ XS 15 36 37.0
WMQ AMB AMB
comp=Z,4.0nm,0.8s,mb4.4
WMQ AMB AMB
comp=Z,38nm,4.2s
WMQ LR LR
comp=N,1µm,18.0s,MS4.8
WMQ LR LR
comp=E,1µm,20.0s,MS4.8
WMQ LR LR
comp=Z,1µm,20.6s,MS4.6
ETSF Etsaut 33.99 293 *eP* **P 15 31 14.3 +4.3**
comp=Z,30nm,1.1s,mb4.8
ETSF Etsaut 33.99 293 *eP* **P 15 31 14.3 +4.3**
ETSF pmax pmax
comp=Z,15nm,1.1s,mb4.8
KOLN Koldanda 34.70 94 *eP* **P 15 31 17.0 +0.7**
comp=Z,39nm,1.1s,mb5.2
SGMF Saint Gilles 35.13 303 *eP* **P 15 31 20.5 +0.7**
GKN Gorkha 35.42 93 *eP* **P 15 31 23.8 +1.4**
ROSF Rostrenen 35.61 303 *eP* **P 15 31 25.2 +1.4**
DMN Daman 35.97 94 *eP* **P 15 31 28.0 +0.9**
comp=Z,93nm,1.1s,mb5.6
KKN Kakani 36.03 93 *eP* **P 15 31 28.5 +1.0**
comp=Z,28nm,0.9s,mb5.2
EKA Eskdalemuir Ar 36.14 315 P **P 15 31 25.9 -2.3**
comp=Z,2.4nm,0.6s,mb4.3,baz=108,slow=8.9,SNR=5.6
HYB Hyderabad 36.48 114 *i* P **P 15 31 31.0 -0.4**
HYB Hyderabad 36.48 114 *eP* **P 15 31 31.0 -0.4**
JIRN Jiri 36.81 93 *eP* **P 15 31 34.3 +0.2**
ESDC Sonseca Array 37.04 289 P **P 15 31 33.6 -2.3**
comp=Z,0.5nm,0.4s,baz=63,slow=9.9,SNR=4.1
LSA Lhasa 39.89 87 *eP* **P 15 32 02.0 +2.1**
LSA pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
LSA Lhasa 39.89 87 *eP* **P 15 32 02.0 +2.1**
comp=Z,6.8nm,0.8s,mb4.4
LSA Lhasa 39.89 87 *eP* **P 15 32 02.0 +2.1**
comp=Z,3.5nm,0.8s,mb4.1
SHL Shillong 42.29 92 *eP* **P 15 32 23.0 +3.3**
ZAK Zakamensk 43.64 53 *eP* **P 15 32 34.1 +3.8**
ZAK *e* 15 34 16.2
SONM Songino Array 46.05 56 P **P 15 32 50.2 +0.6**
comp=Z,0.3nm,0.6s,baz=257,slow=8.1,SNR=4.1
SONM PcP PcP 15 34 26.4 -0.1
comp=Z,0.7nm,0.8s,baz=271,slow=5.5,SNR=5.1
ULN Ulaanbaatar 46.48 56 *eP* **P 15 32 55.6 +2.6**
ULN pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
ULN Ulaanbaatar 46.48 56 *eP* **P 15 32 55.6 +2.5**
comp=Z,8.0nm,0.9s,mb4.7
ULN Ulaanbaatar 46.48 56 *eP* **P 15 32 55.6 +2.6**
comp=Z,4.0nm,0.9s,mb4.3
LZH Lanzhou 47.42 72 *eP* **P 15 33 05.5 +4.9**
LZH pmax pmax
comp=Z,15nm,1.5s,mb4.7
LZH Lanzhou 47.42 72 *eP* **P 15 33 05.5 +4.9**
comp=Z,15nm,1.5s,mb4.7
LZH pP pP 15 33 16.0 +10
LZH sP sP 15 33 19.5 +12
BOD Bodaibo 49.03 42 *eP* **P 15 33 09.6 -3.2**
KMI Kunming 51.14 86 P **P 15 33 34.6 +5.2**
KMI S **S 15 40 52.0 +6.9**
KMI SS SS 15 44 19.7 +1.3
KMI SSS SSS 15 45 57.7 +3.4
KMI pmax pmax
comp=Z,11nm,1.2s,mb4.7
KMI Kunming 51.14 86 P **P 15 33 34.6 +5.2**
comp=Z,11nm,1.2s,mb4.7
KMI S **S 15 40 52.0 +6.9**
KMI SS SS 15 44 19.7 +1.3
KMI SSS SSS 15 45 57.7 +3.4
CM31 Chiang Mai Arr 51.55 96 *eP* **P 15 33 32.7 +0.1**
comp=Z,13nm,1.0s,mb4.8
CMAR Chiang Mai Arr 51.55 96 P **P 15 33 32.1 -0.4**
comp=Z,13nm,1.1s,mb4.7,baz=298,slow=8.3,SNR=12
CMAR LR LR 15 57 50.2
comp=Z,208nm,18.2s,MS4.2,baz=295,slow=39
TIXI Tiksi 53.42 23 ⇑ *eP* **P 15 33 47.2 +1.4**
TIXI pmax pmax
comp=Z,11nm,1.8s,mb4.5
TIXI MLR MLR
comp=Z,300nm,19.0s,MS4.4
TIXI Tiksi 53.42 23 *eP* **P 15 33 47.2 +1.4**
comp=Z,150nm,19.0s
DBIC Dimbokro 53.67 248 *eP* **P 15 33 46.9 -1.6**
DBIC pmax pmax
comp=Z,7.0nm,0.7s
DBIC Dimbokro 53.67 248 P **P 15 33 46.1 -2.4**
comp=Z,1.6nm,0.6s,mb4.2,baz=33,slow=9.9,SNR=3.9
DBIC LR LR 15 58 55.2
comp=Z,172nm,18.3s,MS4.1,baz=38,slow=39
DBIC Dimbokro 53.67 248 *eP* **P 15 33 46.9 -1.6**
comp=Z,7.1nm,0.7s,mb4.7
DBIC Dimbokro 53.67 248 *eP* **P 15 33 46.9 -1.6**
comp=Z,3.5nm,0.7s,mb4.4
BJI Beijing 55.06 63 P **P 15 33 58.8 +0.5**
BJI S **S 15 41 51.0 +13**
BJI pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
BJI Beijing 55.06 63 P **P 15 33 58.8 +0.5**
comp=Z,3.0nm,0.7s,mb4.4
BJI S **S 15 41 51.0 +13**
BJI Beijing 55.06 63 P **P 15 33 58.8 +0.5**
comp=Z,1.5nm,0.7s,mb4.1
YAK Yakutsk 55.89 35 *i* P **P 15 34 04.8 +0.8**
YAK pmax pmax
comp=Z,11nm,1.1s,mb4.8
YAK Yakutsk 55.89 35 P **P 15 34 04.5 +0.6**
comp=Z,10nm,0.7s,mb5.0
YAK Yakutsk 55.89 35 *i* P **P 15 34 04.8 +0.8**
comp=Z,5.5nm,1.1s,mb4.5
NJ2 Nanjing 60.41 71 *eP* **P 15 34 36.3 +0.2**
NJ2 AP pP 15 34 40.5 -0.8
NJ2 PP PP 15 36 51.0 -0.4
NJ2 S **S 15 42 48.0 -0.6**
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
NJ2 LR LR
comp=N,480nm,24.5s,MS4.7
NJ2 LR LR
comp=E,380nm,24.8s,MS4.7
NJ2 LR LR
comp=Z,540nm,24.8s,MS4.6
MDJ Mudanjiang 62.27 54 P **P 15 34 47.0 -1.5**
MDJ PCP PcP 15 35 26.5 -1.6
MDJ S **S 15 43 12.5 +0.5**
MDJ SCS ScS 15 44 38.8 +2.6
MDJ SS SS 15 47 17.0 -0.4
MDJ AMB AMB
comp=Z,4.0nm,0.8s,mb4.6
MDJ AMB AMB
comp=Z,119nm,5.5s
MDJ LR LR
comp=N,402nm,21.1s,MS4.6
MDJ LR LR
comp=E,219nm,20.3s,MS4.6
MDJ LR LR
comp=Z,132nm,12.4s
SSE Sheshan 62.62 71 P **P 15 34 49.5 -1.5**
SSE S **S 15 43 18.3 +1.7**
SSE AMB AMB
comp=Z,28nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,97nm,4.5s
SSE LR LR
comp=N,85nm,32.2s,MS3.9
SSE LR LR
comp=E,93nm,32.2s,MS3.9
SSE LR LR
comp=Z,56nm,25.5s
SSE Sheshan 62.62 71 P **P 15 34 49.5 -1.5**
comp=Z,28nm,0.8s,mb5.4
SSE sP sP 15 34 53.7 -4.3
SSE S **S 15 43 18.3 +1.7**
SSE sS 15 43 23.4
SEY Seymchan 65.02 29 *eP* **P 15 35 05.4 -0.7**
SEY *e* 15 37 35.6
SEY pmax pmax
comp=N,20nm,0.9s
SEY pmax pmax
comp=E,20nm,0.9s
SEY pmax pmax
comp=Z,50nm,0.9s,mb5.5
BILL Bilibino 66.40 20 *eP* **P 15 35 16.7 +1.8**
BILL pmax pmax
comp=Z,12nm,1.1s,mb4.8
BILL Bilibino 66.40 20 *eP* **P 15 35 16.7 +1.8**
comp=Z,12nm,1.1s,mb4.8
BILL Bilibino 66.40 20 *eP* **P 15 35 16.7 +1.8**
comp=Z,6.0nm,1.1s,mb4.5
SCHQ Schefferville 70.61 325 LR LR 16 04 44.6
comp=Z,193nm,20.9s,MS4.3,baz=241,slow=34
COLA College 77.59 5 *i* P **P 15 36 20.0 -1.4**
ILAR Eielson Array 77.76 5 P **P 15 36 19.4 -2.9**
comp=Z,0.3nm,0.9s,baz=180,slow=7.1,SNR=3.6
ILAR PP PP 15 39 17.6 -2.3
comp=Z,0.9nm,1.0s,baz=360,slow=5.4,SNR=6.2
ILAR LR LR 16 11 33.5
comp=Z,155nm,19.9s,MS4.3,baz=153,slow=36
YKA Yellowknife Ar 78.87 350 P **P 15 36 26.8 -1.6**
comp=Z,1.2nm,0.9s,mb3.8,baz=19,slow=6.3,SNR=18
YKA LR LR 16 17 15.8
comp=Z,209nm,19.1s,MS4.5,baz=15,slow=40
PDAR Pinedale Array 96.54 341 P **P 15 37 55.1 +0.1**
comp=Z,0.1nm,0.3s,mb3.7,baz=45,slow=5.1,SNR=2.5
PDAR LR LR 16 22 51.4
comp=Z,191nm,19.8s,MS4.6,baz=215,slow=36
URZ Urewera 143.46 106 PKP PKPdf 15 43 59.6 -2.9
comp=Z,8.5nm,0.7s,baz=307,slow=2.0,SNR=7.9

NNC ***25*** *15:28:43.2±8.1, 40.11N×76.15E, mpv3.4, Error ellipse: s-maj=78.9km s-min=17.9km az=155.0*
BJI 25 15:28:49.3, 39.95N×74.51E, h15^{km}, ML2.5, 2C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa** 2.6nm,0.5s,baz=152	**2.68**	**360**	⇑Pn	Pn	15 29 29.7	-3.1
AAK	13nm,0.6s,baz=154			⇑Lg		15 30 12.5	
MK31	**Makanchi Array** 3.8nm,0.7s,baz=268,slow=3.6,SNR=36	**8.88**	**37**	⇓P	P	15 30 40.8	-19

IDC ***25*** *15:30:25.1±1.6, 12.08N×91.38E, mb3.6/5, mb1 3.7/6, mb1mx3.6/18, mbtmp3.5/6, ML3.5/1, Error ellipse: s-maj=51.4km s-min=24.4km az=63.0*
NEIC ***25*** *15:30:29.5±1.0, 12.11N×91.37E, h30^{km}, mb4.0/2, Error ellipse: s-maj=24.8km s-min=16.7km az=64.0*
ISC 25 15:30:28.6±3.0, 12.1N±0.2×91.5E±0.1, h36^{km}±28^{km}, n9, σ0§91/9, mb3.6/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=238,slow=14,SNR=4.7	**9.54**	**48**	Pn	P	**15 32 46.4**	**-0.2**
HYB	**Hyderabad**	**13.58**	**294**	*i* P	P	**15 33 41.5**	**+0.3**
SONM	**Songino Array** 0.4nm,0.5s,mb3.4,baz=200,slow=7.2,SNR=6.1	**37.71**	**16**	P	P	**15 37 42.0**	**-0.5**
ULN	**Ulaanbaatar** 1.4nm,0.5s,mb4.0	**37.92**	**17**	P	P	**15 37 45.2**	**+0.9**
ZAL	**Zalesovo** 0.4nm,0.4s,mb3.4,baz=360,slow=0.8,SNR=3.1	**42.03**	**354**	P	P	**15 38 19.9**	**+1.7**
CHKZ	**Chkalovo** 1.2nm,0.6s,mb3.9	**44.64**	**342**	*eP*	P	**15 38 37.6**	**-1.9**
WRA	**Warramunga Arr** 0.5nm,1.1s,mb3.4,baz=301,slow=9.8,SNR=4.8	**52.86**	**127**	P	P	**15 39 43.6**	**+0.3**
ASAR	**Alice Springs** 0.2nm,0.5s,mb3.4,baz=310,slow=6.8,SNR=4.6	**54.64**	**131**	P	P	**15 39 56.2**	**-0.2**
FINES	**FINESS Array B** 1.9nm,0.9s,mb4.1,baz=90,slow=13,SNR=4.7	**67.75**	**332**	P	P	**15 41 24.0**	**-0.4**

IDC 25 15:36:28.1±4.3, 6.90N×91.86E, mb3.8/2, mb1 4.0/3, mb1mx3.5/18, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=108.2km s-min=48.8km az=89.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.0nm,0.3s,baz=228,slow=14,SNR=10	**13.40**	**30**	Pn	P	15 39 40.1	-2.1
WRA	**Warramunga Arr** 1.5nm,0.6s,baz=304,slow=9.0,SNR=16	**49.57**	**123**	P	P	15 45 20.5	-2.8
ASAR	**Alice Springs** 1.4nm,1.1s,baz=303,slow=8.0,SNR=7.3	**51.06**	**128**	P	P	15 45 32.4	-2.3
ASAR	0.3nm,0.6s,baz=307,slow=2.7,SNR=4.3			PcP	PcP	15 46 49.9	-0.9

IDC ***25*** *15:40:07.4±1.3, 5.31N×93.13E, mb3.8/8, mb1 4.0/9, mb1mx3.9/19, mbtmp3.8/9, ML3.8/1, Error ellipse: s-maj=53.3km s-min=21.5km az=55.0*
NEIC ***25*** *15:40:12.2±0.6, 5.34N×93.23E, h30^{km}, mb4.4/3, Error ellipse: s-maj=20.4km s-min=10.1km az=61.0*
ISC 25 15:40:10.3±0.9, 5.4N±0.1×93.3E±0.2, h30^{km}, n12, σ0§49/12, mb4.0/11, Off west coast of northern

Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.14**	**23**	Pn	**P**	**15 43 30.9**	**0.0**
	0.1nm,0.3s,baz=215,slow=14,SNR=5.3						
LSA	**Lhasa**	**24.28**	**356**	P	**P**	**15 45 32.1**	**+5.8**
	2.8nm,0.6s,mb3.9						
SONM	**Songino Array**	**43.78**	**13**	P	**P**	**15 48 15.5**	**+0.4**
	0.2nm,0.6s,mb3.0,baz=166,slow=5.1,SNR=2.5						
WRA	**Warramunga Arr**	**47.58**	**123**	P	**P**	**15 48 45.8**	**+0.2**
	1.4nm,0.6s,mb4.1,baz=301,slow=9.1,SNR=8.1						
WRAB	**Tennant Creek**	**47.58**	**123**	*eP*	**P**	**15 48 45.3**	**-0.4**
	4.1nm,0.6s,mb4.6						
ZAL	**Zalesovo**	**48.91**	**353**	P	**P**	**15 48 56.1**	**+0.6**
	0.7nm,0.3s,mb4.2,baz=207,slow=3.1,SNR=3.6						
ASAR	**Alice Springs**	**49.03**	**128**	P	**P**	**15 48 57.0**	**+0.1**
	0.4nm,0.6s,mb3.6,baz=301,slow=8.0,SNR=4.5						
BVAR	**Borovoye Array**	**51.08**	**342**	P	**P**	**15 49 11.5**	**-0.6**
	0.9nm,0.7s,mb3.8,baz=141,slow=9.5,SNR=4.8						
CHKZ	**Chkalovo**	**51.58**	**343**	*eP*	**P**	**15 49 15.5**	**-0.4**
	2.5nm,0.5s,mb4.4						
FINES	**FINESS Array B**	**74.51**	**333**	P	**P**	**15 51 47.2**	**-0.5**
	1.2nm,0.7s,mb3.9,baz=124,slow=5.0,SNR=3.8						
ARCES	**ARCESS Array B**	**77.31**	**341**	P	**P**	**15 52 03.0**	**-0.5**
	5.2nm,1.0s,mb4.4,baz=90,slow=3.6,SNR=5.4						
GERES	**GERESS Array B**	**79.11**	**319**	P	**P**	**15 52 14.7**	**+1.0**
	0.7nm,0.8s,mb3.7,baz=79,slow=6.8,SNR=4.0						

MAN 25 15:40:57.3, 7.99N×127.33E, h16km, mb4.5, ML3.4, MS3.3, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.98**	**282**	⇑*i*P	Pb	15 41 15.5	+0.1
BIPH				*i* S	Sb	15 41 30.3	+2.4
MATI	**Mati**	**1.49**	**226**	*e*P	Pn	15 41 21.9	-1.7
MATI				*e*S	Sb	15 41 40.0	-2.6
BUTP	**Butuan**	**1.95**	**300**	*e*P	Pn	15 41 30.6	+0.4
BUKP	**Musuan**	**2.25**	**267**	*e*P	Pn	15 41 35.9	+1.4
KCP	**Kidapawan**	**2.43**	**247**	⇓*e*P	Pn	15 41 37.4	+0.3
KCP				*i* S	Sn	15 42 06.9	+0.3
SCPH	**Surigao**	**2.55**	**315**	⇑*i*P	Pn	15 41 38.2	-0.5
SCPH				*e*S	Sn	15 42 09.9	+0.2
CGP	**Cagayan de Oro**	**2.65**	**280**	*e*P	Pn	15 41 41.2	+0.9
CGP				*e*S	Sn	15 42 16.0	+3.7
MSLP	**Maasin**	**3.24**	**311**	*e*P	Pn	15 41 48.0	-0.6
PAGZ	**Pagadian**	**3.92**	**268**	*e*P	Pn	15 41 58.9	+0.7
GUIM	**Jordan**	**5.37**	**300**	*e*P	Pn	15 42 16.4	-2.3

IDC 25 15:45:32.2±1.5, 20.94S×67.69W, h162km±18km, mb3.5/2, mb1 3.5/4, mb1mx3.4/12, mbtmp3.8/4, Error ellipse: s-maj=49.0km s-min=11.2km az=99.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.01**	**214**	P	P	15 46 09.5	+0.9
	4.0nm,0.3s,baz=22,slow=9.2,SNR=48						
LVC				S	S	15 46 36.8	+0.2
	16nm,0.3s,baz=238,slow=21,SNR=106						
LPAZ	**La Paz**	**4.65**	**355**	P	P	15 46 42.8	+0.8
	2.3nm,0.3s,baz=169,slow=8.0,SNR=53						
LPAZ				S	S	15 47 36.1	+0.2
	0.0nm,0.3s,baz=316,slow=24,SNR=1.8						
DBIC	**Dimbokro**	**67.48**	**73**	P	P	15 56 10.8	-2.4
	1.8nm,0.8s,baz=201,slow=9.4,SNR=3.3						
YKA	**Yellowknife Ar**	**91.04**	**340**	P	P	15 58 17.6	-1.2
	0.3nm,0.7s,baz=135,slow=4.4,SNR=9.4						

MAN 25 15:46:27.3, 11.49N×125.42E, h50km, mb3.7, ML2.5, MS2.0, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.11**	**12**	*e*P	P	15 46 36.0	+1.0
BESP				*e*S	S	15 46 42.5	+1.7
PLP	**Palo**	**0.54**	**233**	*e*P	P	15 46 41.6	+2.6
PLP				*e*S	S	15 46 50.1	+2.7
MSLP	**Maasin**	**1.46**	**202**	*e*P	P	15 46 50.1	-1.6
MSLP				*e*S	S	15 47 16.0	+6.2
SCPH	**Surigao**	**1.70**	**178**	*e*P	P	15 46 55.1	0.0
SCPH				*e*S	S	15 47 16.6	+0.8

NIED ***25*** *15:51:00, 33.90N×142.00E, h5km, Mw3.9 Best double couple: M0 7.65×10^14 NP1:φs135°, δ68°, λ-93°. NP2: φs322°, δ23°, λ-83°.*
JMA ***25*** *15:51:01.0±0.3, 33.91N×142.05E, h38km, M3.9*
MOS ***25*** *15:51:04.6±0.8, 33.92N×141.79E, h54km, mb4.6/5, Error ellipse: s-maj=26.4km s-min=12.3km az=121.4*
IDC ***25*** *15:51:07.6±0.7, 33.93N×141.72E, h57km±5km, mb3.5/12, mb1 3.7/12, mb1mx3.6/20, mbtmp3.8/12, Error ellipse: s-maj=19.5km s-min=7.1km az=144.0*
NEIC ***25*** *15:51:07.5±0.5, 33.93N×141.67E, mb4.5/5, MW3.9(NIED), Error ellipse: s-maj=12.1km s-min=9.7km az=57.0*
ISC 25 15:51:03.5±1.1, 33.92N±0.04×141.88E±0.07, h43km±8km, h57km±1.2km: pP-P, n42, σ0s99/53, mb3.9/17, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.05**	**314**	P	**P**	**15 51 21.2**	**-0.7**
BSO1				S	**S**	**15 51 36.3**	**+0.8**
BSO2	**Boso 2**	**1.25**	**312**	S	**S**	**15 51 42.2**	**+1.5**
BSO3	**Boso 3**	**1.44**	**308**	P	**P**	**15 51 27.2**	**-0.3**
BSO3				S	**S**	**15 51 46.8**	**+1.4**
BSO4	**Boso 4**	**1.66**	**310**	P	**P**	**15 51 31.0**	**+0.3**
BSO4				S	**S**	**15 51 53.2**	**+2.2**
KTR	**Katsuura**	**1.78**	**314**	P	**P**	**15 51 32.7**	**+0.3**
KTR				S	**S**	**15 51 54.4**	**+0.5**
JHJ2	**Mitsune**	**1.91**	**245**	P	**P**	**15 51 34.4**	**+0.2**
JHJ2				S	**S**	**15 51 58.5**	**+1.4**
JHJ	**Hachijo jima 2**	**1.93**	**246**	P	**P**	**15 51 34.6**	**+0.1**
	131nm,0.3s,baz=66,slow=21,SNR=39						
JHJ				S	**S**	**15 51 57.8**	**+0.2**
	157nm,0.3s,baz=68,slow=22,SNR=12						
JIM2	**Oshima 3**	**2.18**	**292**	P	**P**	**15 51 37.0**	**-1.0**
JIM2				S	**S**	**15 52 03.5**	**-0.5**
JIZS	**Izushimoda**	**2.61**	**289**	P	**P**	**15 51 43.6**	**-0.6**
JIZS				S	**S**	**15 52 13.9**	**-1.0**
JOD2	**Odawara 2**	**2.67**	**301**	P	**P**	**15 51 43.6**	**-1.4**
JYN	**Shimob**	**3.17**	**301**	P	**P**	**15 51 51.6**	**-0.5**
JAG	**Ashikaga**	**3.19**	**322**	P	**P**	**15 51 51.4**	**-1.1**
JAG				S	**S**	**15 52 28.1**	**-1.6**
JRY	**Ryogami san**	**3.22**	**311**	P	**P**	**15 51 52.0**	**-0.9**
SHZ3	**Shizuoka 3**	**3.24**	**292**	S	**S**	**15 52 32.0**	**+1.1**
MAJO	**Matsushiro**	**3.99**	**312**	*e*P	**P**	**15 52 04.1**	**+0.4**
MAT	**Matsushiro**	**3.99**	**312**	*e*P	**P**	**15 52 04.0**	**+0.3**
MAT				*e*S	**S**	**15 52 49.0**	**-0.8**
MAT	**Matsushiro**	**3.99**	**312**	P	**P**	**15 52 03.8**	**+0.1**
MAT				S	**S**	**15 52 48.8**	**-1.0**
YSS	**Yuzh-Sakhalins**	**13.03**	**3**	⇑*e*P	**P**	**15 54 17.1**	**+8.7**
ENH	**Enshi**	**27.62**	**271**	*e*P	**P**	**15 56 47.3**	**-1.8**
	4.6nm,0.7s,mb4.2						
SONM	**Songino Array**	**29.93**	**308**	P	**P**	**15 57 10.1**	**+0.7**
	0.5nm,0.9s,mb3.2,baz=121,slow=7.2,SNR=4.0						
BOD	**Bodaibo**	**30.39**	**330**	*e*P	**P**	**15 57 12.4**	**-1.1**
BOD				*e*		15 57 30.7	
ZAK	**Zakamensk**	**32.57**	**312**	*e*P	**P**	**15 57 33.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**41.18**	**259**	P	**P**	**15 58 45.4**	**-0.3**
	0.8nm,0.7s,mb3.5,baz=48,slow=7.9,SNR=10						
CMAR				pP	pP	15 59 01.1	+3.6
	0.9nm,0.7s,baz=46,slow=7.7,SNR=7.3						
KURK	**Kurchatov**	**48.19**	**310**	*e*P	**P**	**15 59 41.2**	**-0.2**
KURK				*e*		15 59 56.4	
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
KURK	**Kurchatov**	**48.19**	**310**	*e*P	**P**	**15 59 41.2**	**-0.2**
	comp=Z,5.9nm,0.9s,mb4.6						
KURK				*e*		15 59 56.4	
ILAR	**Eielson Array**	**51.94**	**31**	P	**P**	**16 00 10.3**	**+0.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=262,slow=5.7,SNR=20						
ILAR				pP	pP	16 00 25.4	+3.6
	comp=Z,0.8nm,0.7s,baz=262,slow=5.5,SNR=4.4						
CHKZ	**Chkalovo**	**52.75**	**315**	*e*P	**P**	**16 00 14.6**	**-1.4**
CHKZ				*e*		16 00 30.9	
CHKZ				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
CHKZ	**Chkalovo**	**52.75**	**315**	*e*P	**P**	**16 00 14.6**	**-1.4**
	comp=Z,4.3nm,1.0s,mb4.3						
CHKZ				*e*		16 00 30.9	
BVAR	**Borovoye Array**	**52.98**	**314**	P	**P**	**16 00 17.9**	**+0.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=111,slow=9.0,SNR=4.6						
BVAR				pP	pP	16 00 33.1	+3.2
	comp=Z,0.4nm,0.4s,baz=102,slow=9.5,SNR=4.7						
BRVK	**Borovoye**	**53.04**	**314**	P	**P**	**16 00 15.9**	**-2.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BRVK	**Borovoye**	**53.04**	**314**	P	**P**	**16 00 15.9**	**-2.3**
	comp=Z,2.2nm,0.5s,mb4.3						
WRAB	**Tennant Creek**	**54.03**	**189**	*e*P	**P**	**16 00 25.7**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**54.03**	**189**	*e*P	**P**	**16 00 25.7**	**-0.3**
	comp=Z,4.3nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**54.04**	**189**	P	**P**	**16 00 25.9**	**-0.1**
	comp=Z,0.7nm,0.3s,mb4.0,baz=5.3,slow=7.5,SNR=32						
ASAR	**Alice Springs**	**57.77**	**189**	P	**P**	**16 00 52.8**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.5,baz=8.5,slow=7.1,SNR=8.3						
YKA	**Yellowknife Ar**	**66.31**	**30**	P	**P**	**16 01 49.4**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.4,baz=298,slow=6.4,SNR=6.1						
FINES	**FINESS Array B**	**71.75**	**333**	P	**P**	**16 02 23.2**	**+0.5**
	comp=Z,2.8nm,1.0s,mb4.1,baz=100,slow=8.5,SNR=3.4						
FINES				pP	pP	16 02 38.3	+3.0
	comp=Z,3.2nm,0.8s,baz=45,slow=11,SNR=4.7						
NVAR	**Mina Array Bea**	**76.56**	**53**	P	**P**	**16 02 53.8**	**+2.8**
	comp=Z,0.9nm,0.8s,mb3.8,baz=289,slow=5.7,SNR=5.3						
NVAR				pP	pP	16 03 10.1	+6.5
	comp=Z,0.7nm,0.9s,baz=315,slow=4.8,SNR=2.8						
AKASG	**Malin Array Be**	**77.00**	**323**	P	**P**	**16 02 53.2**	**0.0**
AKASG				*PP	pP	16 03 08.6	+2.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**77.00**	**323**	P	**P**	**16 02 53.2**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.9,baz=43,slow=5.8,SNR=5.2						
AKASG				pP	pP	16 03 08.6	+2.7
	comp=Z,1.2nm,0.5s,baz=46,slow=6.2,SNR=4.3						
NOA	**NORSAR Array B**	**77.20**	**338**	P	**P**	**16 02 55.1**	**+1.0**
	comp=Z,0.6nm,0.7s,mb3.7,baz=39,slow=5.7,SNR=3.4						
PDAR	**Pinedale Array**	**79.58**	**45**	P	**P**	**16 03 08.9**	**+1.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=270,slow=1.5,SNR=6.1						

CSEM ***25*** *16:05:53.0±0.1, 36.74N×35.24E, h60km, Mw3.6, Error ellipse: s-maj=2.4km s-min=1.9km az=92.0*
ISK ***25*** *16:05:53.0, 36.65N×35.23E, h25km, MD3.8, ML4.0*
NEIC ***25*** *16:05:54.0, 36.77N×35.24E, h25km, ML4.1(ISK), ML4.1(NIC), After ISK.*
GRAL ***25*** *16:05:54.5±0.7, 34.29N×38.82E, MD4.0*
IDC ***25*** *16:05:55.9±1.9, 36.64N×34.79E, h62km±32km, mb3.7/2, mb1 3.7/8, mb1mx3.4/19, mbtmp3.7/8, ML3.5/6, MS2.5/1, Ms1 2.6/1, ms1mx2.1/23, Error ellipse: s-maj=25.7km s-min=13.7km az=61.0*
NIC ***25*** *16:05:59.4±0.3, 36.41N×34.70E, h55km, mb4.3, ML4.1, MW3.5*
ISC 25 16:05:53.7±0.2, 36.66N±0.02×35.20E±0.03, h33km, n75, σ0s98/102, mb3.8/2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.56**	**51**	*i* PG	**P**	**16 06 04.6**	**-0.5**
CEYT				*i* SG	**Sb**	**16 06 13.4**	**+0.2**
CEYT	**Ceyhan**	**0.56**	**51**	Pg	**P**	**16 06 04.7**	**-0.4**
CEYT	**Ceyhan**	**0.56**	**51**	Pg	**P**	**16 06 04.7**	**-0.4**
MEST	**Erdemli**	**0.85**	**265**	*i* P	**P**	**16 06 09.1**	**-0.2**
MEST				*i* S	**S**	**16 06 20.9**	**+0.2**
COBT	**Iskenderun**	**0.86**	**99**	*i* P	**P**	**16 06 09.2**	**-0.1**
COBT				*i* S	**S**	**16 06 24.1**	**+3.2**
HTY	**Hatay**	**0.93**	**125**	*i* PG	**P**	**16 06 10.5**	**+0.1**
HTY	**Hatay**	**0.93**	**125**	Pg	**P**	**16 06 12.0**	**+1.6**
HTY				Sg	**S**	**16 06 26.0**	**+3.3**
NIG	**Nigde**	**1.52**	**342**	*i* PN	**Pn**	**16 06 19.6**	**+0.5**
KAHT	**Ahir Dag**	**1.65**	**54**	*i* P	**P**	**16 06 21.2**	**+0.5**
KAHT				*i* S	**S**	**16 06 41.3**	**+0.4**
GAZ	**Gaziantep**	**1.69**	**72**	*i* PN	**Pn**	**16 06 21.9**	**+0.4**
GAZ				*i* SN	**Sn**	**16 06 42.4**	**+0.2**
GAZ	**Gaziantep**	**1.69**	**72**	Pn	**Pn**	**16 06 22.1**	**+0.6**
PHNC	**Paralimni**	**1.91**	**210**	P	**P**	**16 06 24.3**	**-0.1**
PHNC				S	**S**	**16 06 48.3**	**+0.8**
GZT	**Gaziantep**	**2.02**	**69**	*i* P	**P**	**16 06 25.9**	**0.0**
GZT				*i* S	**S**	**16 06 49.1**	**-1.1**
AVNT	**Avonos**	**2.13**	**353**	*i* P	**P**	**16 06 27.5**	**-0.1**
AVNT				*i* S	**S**	**16 06 52.6**	**-0.5**
MAMC	**Mammari**	**2.19**	**228**	P	**P**	**16 06 27.6**	**-0.9**
HDMB	**Hadim**	**2.20**	**279**	PN	**Pn**	**16 06 29.9**	**+1.1**
HDMB	**Hadim**	**2.20**	**279**	Pn	**Pn**	**16 06 29.9**	**+1.2**
BNN	**Bunyan**	**2.25**	**13**	PN	**Pn**	**16 06 29.7**	**+0.3**
BNN	**Bunyan**	**2.25**	**13**	Pn	**Pn**	**16 06 29.8**	**+0.3**
CSS	**Prodhromos**	**2.28**	**222**	P	**P**	**16 06 29.0**	**-0.7**
	7.1nm,0.5s						
CSS				S	**S**	**16 06 51.3**	**-5.6**
CSS	**Prodhromos**	**2.28**	**222**	*i* P	**P**	**16 06 26.9**	**-2.8**
CSS				*i* S	**S**	**16 06 52.6**	**-4.2**
LEF	**Lefka**	**2.43**	**231**	*e*PN	**Pn**	**16 06 32.0**	**0.0**
HWQ	**Hawqa**	**2.46**	**165**	*e*PN	**Pn**	**16 06 33.2**	**+0.7**
HWQ				SN	**Sn**	**16 07 02.7**	**+1.1**
ALFC	**Alevga**	**2.59**	**235**	P	**P**	**16 06 32.3**	**-1.9**
	17nm,0.4s						
ALFC				S	**S**	**16 06 59.2**	**-5.7**
KONT	**Konya--Tatoy**	**2.60**	**300**	*e*PN	**Pn**	**16 06 35.5**	**+1.0**
SZAC	**Souni-Zanaja**	**2.68**	**225**	P	**P**	**16 06 35.4**	**0.0**
SZAC				S	**S**	**16 07 08.6**	**+1.5**
BHL	**Bhannes**	**2.78**	**172**	*e*PN	**Pn**	**16 06 37.5**	**+0.5**
BHL				SN	**Sn**	**16 07 08.7**	**-1.0**
AKMC	**Akamas**	**2.85**	**236**	P	**P**	**16 06 36.6**	**-1.2**
PPCY	**Paphos**	**2.92**	**233**	P	**P**	**16 06 40.1**	**+1.2**
KAMT	**Kaman**	**2.95**	**337**	*e*PN	**Pn**	**16 06 40.0**	**+0.6**
YOZ	**Yozgat**	**2.98**	**2**	*e*PN	**Pn**	**16 06 39.3**	**-0.5**
YOZ	**Yozgat**	**2.98**	**2**	Pn	**Pn**	**16 06 38.7**	**-1.2**
URFA	**Urfa**	**3.00**	**74**	*e*PN	**Pn**	**16 06 39.8**	**-0.4**
MALT	**Malatya**	**3.05**	**56**	*i* P	**P**	**16 06 40.8**	**+0.1**
MALT				*i* S	**S**	**16 06 58.9**	**-1.8**
MALT	**Malatya**	**3.05**	**56**	*e*Pn	**Pn**	**16 06 40.0**	**-0.9**
MYA	**Malataya**	**3.06**	**56**	*e*PN	**Pn**	**16 06 40.8**	**-0.2**
MYA	**Malataya**	**3.06**	**56**	Pn	**Pn**	**16 06 39.6**	**-1.4**
MATL	**Matirih**	**3.17**	**178**	*e*PN	**Pn**	**16 06 42.3**	**-0.3**
BRTR	**Keskin Array B**	**3.30**	**339**	P	**P**	**16 06 43.7**	**-0.6**
	1.2nm,0.3s,baz=171,slow=15,SNR=17						
BRTR				Lg		16 07 36.3	
	10nm,0.3s,baz=160,slow=34,SNR=12						
KIZT	**Kizilcal**	**3.44**	**311**	*e*PN	**Pn**	**16 06 46.4**	**0.0**
KIZT	**Kizilcal**	**3.44**	**311**	Pn	**Pn**	**16 06 45.5**	**-0.9**
KSDI	**Kefar Szold**	**3.48**	**174**	Pn	**Pn**	**16 06 47.6**	**+0.6**
KSDI				Sn	**Sn**	**16 07 26.4**	**-1.2**
ELZG	**Elazig**	**3.52**	**57**	*i* P	**P**	**16 06 47.4**	**0.0**
CORM	**Corum**	**3.54**	**353**	*e*PN	**Pn**	**16 06 48.9**	**+1.1**
HNTI	**Hanita**	**3.57**	**180**	Pn	**Pn**	**16 06 48.0**	**-0.3**
HNTI				Sn	**Sn**	**16 07 26.8**	**-3.0**
ANTO	**Ankara**	**3.72**	**330**	*e*PN	**Pn**	**16 06 51.7**	**+1.3**
BCK	**Bucak**	**3.77**	**284**	*e*PN	**Pn**	**16 06 51.0**	**-0.2**
BCK	**Bucak**	**3.77**	**284**	Pn	**Pn**	**16 06 54.1**	**+2.9**
ISP	**Isparta**	**3.92**	**289**	*e*Pn	**Pn**	**16 06 53.2**	**-0.1**
CTKT	**Corum**	**3.97**	**355**	*i* P	**P**	**16 06 54.1**	**+0.3**
PTK	**Pertek**	**4.00**	**55**	*e*PN	**Pn**	**16 06 53.6**	**-0.7**
OFRI	**'Ofer**	**4.04**	**183**	Pn	**Pn**	**16 06 54.9**	**0.0**
OFRI				Sn	**Sn**	**16 07 38.4**	**-3.2**
ELDT	**Eldivan**	**4.07**	**341**	*i* P	**P**	**16 06 54.3**	**-0.9**
MMLI	**Mount Malkishu**	**4.22**	**177**	Pn	**Pn**	**16 06 57.8**	**+0.3**
MMLI				Sn	**Sn**	**16 07 44.1**	**-2.1**
ELL	**Elmali**	**4.25**	**273**	*e*PN	**Pn**	**16 06 58.6**	**+0.6**
ELL	**Elmali**	**4.25**	**273**	Pn	**Pn**	**16 06 58.6**	**+0.6**
SLTI	**Sal'it**	**4.41**	**182**	Pn	**Pn**	**16 07 00.7**	**+0.5**
SLTI				Sn	**Sn**	**16 07 47.7**	**-3.4**
TOS	**Tosya**	**4.46**	**348**	*e*PN	**Pn**	**16 07 01.6**	**+0.6**
ALT	**Altintas**	**4.68**	**302**	*e*PN	**Pn**	**16 07 04.0**	**-0.1**
ASF	**Jabal al Asfar**	**4.69**	**162**	P	**P**	**16 07 05.4**	**+1.3**
	1.5nm,0.3s,baz=270,slow=3.0,SNR=18						
ASF				S	**S**	**16 07 58.7**	**+0.6**
	3.9nm,0.3s,baz=26,slow=17,SNR=6.0						
ASF				Lg		16 08 13.0	
	5.9nm,0.3s,baz=197,slow=19,SNR=9.0						
DRGI	**Dragot**	**5.06**	**178**	Pn	**Pn**	**16 07 09.8**	**+0.4**
KZIT	**Kziot**	**5.78**	**187**	Sn	**Sn**	**16 08 21.1**	**-4.4**
KMTI	**Karmit**	**6.55**	**184**	Pn	**Pn**	**16 07 30.4**	**0.0**
KMTI				Sn	**Sn**	**16 08 39.8**	**-4.9**
MBH	**Mount Berech**	**6.85**	**182**	Pn	**Pn**	**16 07 34.9**	**+0.2**
EIL	**Elat**	**6.98**	**182**	P	**P**	**16 07 37.0**	**+0.8**
	0.3nm,0.3s,baz=302,slow=19,SNR=3.6						
EIL				S	**S**	**16 08 55.8**	**+0.5**
	1.6nm,0.3s,baz=38,slow=18,SNR=2.4						
EIL	**Elat**	**6.98**	**182**	*e*Pn	**Pn**	**16 07 36.8**	**+0.5**
EIL				P		16 07 37.0	
EIL				S	**S**	**16 08 55.8**	**+0.5**
EIL	**Elat**	**6.98**	**182**	*e*Pn	**Pn**	**16 07 36.8**	**+0.4**
EIL	**Elat**	**6.98**	**182**	P	**P**	**16 07 37.0**	**+0.8**
IDI	**Anoyia**	**8.47**	**264**	P	**P**	**16 07 51.8**	**-5.2**
	1.4nm,0.3s,baz=22,slow=23,SNR=5.8						
IDI				S	**S**	**16 09 21.7**	**-11**
	0.8nm,0.3s,baz=148,slow=15,SNR=1.9						
IDI	**Anoyia**	**8.47**	**264**	P	**P**	**16 07 51.8**	**-5.2**
IDI				S	**S**	**16 09 21.7**	**-11**
AKASG	**Malin Array Be**	**14.68**	**345**	P	**P**	**16 09 20.4**	**-0.2**
	1.5nm,0.3s,baz=165,slow=7.9,SNR=11						
AKASG				S	**S**	**16 11 53.9**	**-9.0**
	0.6nm,0.3s,baz=150,slow=24,SNR=8.6						
GERES	**GERESS Array B**	**19.86**	**315**	P	**P**	**16 10 19.5**	**-5.1**
	0.2nm,0.3s,baz=119,slow=12,SNR=6.5						
FINES	**FINESS Array B**	**25.46**	**350**	P	**P**	**16 11 17.1**	**-3.0**
	0.7nm,0.4s,mb3.5,baz=157,slow=11,SNR=7.4						
NOA	**NORSAR Array B**	**28.73**	**336**	LR	LR	16 25 16.9	
	comp=Z,10nm,21.6s,baz=355,slow=41						
ARCES	**ARCESS Array B**	**33.35**	**354**	P	**P**	**16 12 27.9**	**-2.7**
	2.6nm,0.9s,mb4.2,baz=175,slow=10.0,SNR=4.8						

IDC ***25*** *16:07:26.9±1.2, 11.67N×92.25E, mb4.0/7, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, ML3.1/1, Error ellipse: s-maj=38.5km s-min=19.4km az=62.0*
BJI ***25*** *16:07:28.8, 11.42N×92.24E, h43km, mb4.6*
NEIC ***25*** *16:07:31.7±0.5, 11.72N×92.33E, h30km, mb4.3/6, Error ellipse: s-maj=12.4km s-min=7.8km az=65.0*
ISC 25 16:07:29.8±0.6, 11.73N±0.07×92.37E±0.07, h30km, n24, σ0s63/26, mb4.2/13, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**9.21**	**43**	P	**P**	**16 09 43.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**9.21**	**43**	Pn	**P**	**16 09 43.3**	**-0.6**
	0.1nm,0.3s,baz=236,slow=14,SNR=4.3						
CMAR				Sn	**Sn**	**16 11 27.6**	**+0.1**
	0.1nm,0.3s,baz=236,slow=16,SNR=2.6						
HYB	**Hyderabad**	**14.52**	**295**	*i* P	**P**	**16 11 01.5**	**+6.1**
HYB				*e*		16 13 22.0	
HYB				*e*S	**S**	**16 13 31.5**	**-4.6**
PKI	**Pulchoki**	**17.06**	**338**	*e*P	**P**	**16 11 27.6**	**-0.3**
DMN	**Daman**	**17.20**	**338**	*e*P	**P**	**16 11 28.6**	**-1.1**
	14nm,0.6s						
KKN	**Kakani**	**17.30**	**338**	*e*P	**P**	**16 11 31.1**	**+0.1**
GKN	**Gorkha**	**17.73**	**337**	*e*P	**P**	**16 11 36.2**	**-0.2**
	11nm,0.3s						
LSA	**Lhasa**	**17.91**	**357**	*e*P	**P**	**16 11 38.3**	**-0.3**
	3.6nm,0.6s						
KOLN	**Koldanda**	**17.95**	**334**	*e*P	**P**	**16 11 39.5**	**+0.5**
	10nm,0.4s						
ENH	**Enshi**	**24.34**	**38**	*e*P	**P**	**16 12 46.9**	**+0.5**
	7.3nm,0.4s,mb4.5						
ENH				*e*		16 12 54.2	
SONM	**Songino Array**	**37.86**	**15**	P	**P**	**16 14 46.8**	**+1.0**
	1.6nm,0.6s,mb3.9,baz=207,slow=7.7,SNR=16						
KURK	**Kurchatov**	**40.47**	**347**	*e*P	**P**	**16 15 08.0**	**+0.5**
	2.1nm,0.8s,mb3.9						
ZAL	**Zalesovo**	**42.52**	**353**	P	**P**	**16 15 24.4**	**+0.2**
	1.4nm,0.4s,mb4.0,baz=300,slow=6.4,SNR=8.0						
ZAL	**Zalesovo**	**42.52**	**353**	P	**P**	**16 15 24.4**	**+0.2**
BVAR	**Borovoye Array**	**44.80**	**341**	P	**P**	**16 15 42.8**	**+0.1**
	3.0nm,1.2s,mb4.0,baz=146,slow=5.3,SNR=3.9						
CHKZ	**Chkalovo**	**45.29**	**342**	*e*P	**P**	**16 15 46.6**	**0.0**
	3.

IMP	**Imphal**	**6.65**	**292**	*e*P	**Pn**	**16 32 17.9**	**+1.8**
NST	**Nakhon Sawan**	**6.77**	**185**	PN	**Pn**	**16 32 20.5**	**+2.7**
NST				PG	**Pg**	**16 32 47.0**	**-4.0**
NST				SG	**Sg**	**16 34 15.0**	**-6.2**
UBT	**Ubonrachathani**	**8.24**	**150**	P	**P**	**16 32 41.0**	**+2.7**
SHL	**Shillong**	**8.66**	**293**	*e*P	**P**	**16 32 43.0**	**-1.2**
	20nm,0.8s						
SHL				*e*		16 34 28.0	
AGT	**Agartala**	**8.84**	**281**	*e*P	**P**	**16 32 47.0**	**+0.3**
QIZ	**Qiongzhong**	**9.18**	**110**	P	**P**	**16 32 50.8**	**-0.6**
QIZ				S	**Sn**	**16 34 36.8**	**+0.9**
QIZ				LR	LR		
	comp=N,3μm,10.1s						
QIZ				LR	LR		
	comp=E,6μm,10.4s						
QIZ				LR	LR		
	comp=Z,7μm,11.2s						
QIZ	**Qiongzhong**	**9.18**	**110**	*e*P	**P**	**16 32 50.5**	**-0.9**
ENH	**Enshi**	**11.05**	**43**	*e*P	**P**	**16 33 14.9**	**-2.3**
LSA	**Lhasa**	**11.23**	**312**	P	**P**	**16 33 20.5**	**+0.9**
LSA				AMB	AMB		
	comp=Z,40nm,0.8s						
LSA	**Lhasa**	**11.23**	**312**	*e*P	**P**	**16 33 19.3**	**-0.3**
XAN	**Xi'an**	**13.61**	**30**	P	**P**	**16 33 47.3**	**-4.2**
XAN				AP		16 33 55.8	
XAN				AMB	AMB		
	comp=Z,7.0nm,0.8s						
XAN				LR	LR		
	comp=N,3μm,8.9s						
XAN				LR	LR		
	comp=E,3μm,9.1s						
XAN				LR	LR		
	comp=Z,3μm,10.2s						
LZH	**Lanzhou**	**13.86**	**11**	*e*P	**P**	**16 33 55.5**	**+0.8**
LZH				*e*S	**S**	**16 36 30.0**	**+0.4**
LZH				SS	SS	16 36 46.0	+0.3
LZH				LG		16 38 09.0	
LZH				AMB	AMB		
	comp=Z,40nm,1.1s						
LZH				AMB	AMB		
	comp=Z,200nm,4.0s						
LZH				LR	LR		
	comp=E,7μm,8.4s						
LZH				LR	LR		
	comp=Z,8μm,9.4s						
LZH	**Lanzhou**	**13.86**	**11**	*e*P	**P**	**16 33 55.6**	**+0.9**
	comp=Z,40nm,1.1s						
LZH				pP		16 34 04.0	
LZH				sP		16 34 08.3	
LZH				*e*S	**S**	**16 36 30.0**	**+0.4**
LZH				sS		16 36 42.0	
LZH				SS	SS	16 36 46.0	+0.3
LZH				Lg		16 38 09.0	
JIRN	**Jiri**	**14.16**	**294**	*e*P	**P**	**16 33 57.3**	**-1.5**
	comp=Z,150nm,1.5s						
WHN	**Wuhan**	**14.61**	**54**	*e*P	**P**	**16 34 04.3**	**-0.3**
WHN				LR	LR		
	comp=Z,6μm,5.2s						
PKI	**Pulchoki**	**14.79**	**293**	*e*P	**P**	**16 34 05.2**	**-1.9**
	comp=Z,85nm,1.2s						
KKN	**Kakani**	**14.97**	**294**	*e*P	**P**	**16 34 06.8**	**-2.5**
	comp=Z,90nm,1.1s						
DMN	**Daman**	**15.06**	**293**	*e*P	**P**	**16 34 09.0**	**-1.6**
	comp=Z,74nm,0.9s						
GKN	**Gorkha**	**15.57**	**294**	*e*P	**P**	**16 34 14.7**	**-2.6**
	comp=Z,103nm,1.1s						
KOLN	**Koldanda**	**16.39**	**292**	*e*P	**P**	**16 34 26.1**	**-1.6**
	comp=Z,202nm,1.7s						
NJ2	**Nanjing**	**18.71**	**55**	*e*P	**P**	**16 34 57.5**	**+0.7**
NJ2				AP		16 35 01.0	
NJ2				XP		16 35 04.5	
NJ2				PP	PP	16 35 13.5	+0.7
NJ2				S	**S**	**16 38 21.0**	**-1.3**
NJ2				XS		16 38 27.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,60nm,5.6s						
NJ2				LR	LR		
	comp=N,23μm,11.8s						
NJ2				LR	LR		
	comp=E,14μm,11.9s						
NJ2				LR	LR		
	comp=Z,7μm,8.2s						
TIA	**Tai'an**	**19.77**	**42**	P	**P**	**16 35 09.0**	**0.0**
TIA				LR	LR		
	comp=N,6μm,15.0s						
TIA				LR	LR		
	comp=E,6μm,17.0s						
TIA				LR	LR		
	comp=Z,3μm,9.4s						
SSE	**Sheshan**	**20.17**	**60**	P	**P**	**16 35 18.8**	**+5.4**
SSE				XP		16 35 25.8	
SSE				S	**S**	**16 39 02.5**	**+8.2**
SSE				AMB	AMB		
	comp=Z,46nm,0.8s						
SSE				AMB	AMB		
	comp=Z,111nm,3.3s						
SSE				LR	LR		
	comp=N,9μm,10.5s,MS5.4						
SSE				LR	LR		
	comp=E,3μm,10.6s,MS5.4						
SSE				LR	LR		
	comp=Z,2μm,6.6s						
SSE	**Sheshan**	**20.17**	**60**	P	**P**	**16 35 18.8**	**+5.4**
	comp=Z,46nm,0.8s						
SSE				sP		16 35 25.8	
SSE				S	**S**	**16 39 02.6**	**+8.3**
SSE				sS		16 39 11.1	
TGY	**Tagaytay City**	**20.89**	**110**	P	**P**	**16 35 20.7**	**-0.2**
	comp=Z,41nm,0.4s,baz=83,slow=15,SNR=2.5						
TGY				LR	LR	16 43 24.9	
	comp=Z,948nm,21.9s,MS4.1,baz=92,slow=37						
HYB	**Hyderabad**	**21.43**	**260**	*e*P	**P**	**16 35 27.0**	**+0.6**
HYB	**Hyderabad**	**21.43**	**260**	*i* P	**P**	**16 35 27.0**	**+0.6**
DDI	**Dehra Dun**	**21.75**	**296**	*e*P	**P**	**16 35 35.5**	**+6.0**
BJT	**Baijiatuau**	**21.87**	**33**	*e*P	**P**	**16 35 31.6**	**+0.9**
	comp=Z,50nm,1.1s,mb4.9						
BJI	**Beijing**	**21.89**	**33**	P	**P**	**16 35 32.4**	**+1.5**
	comp=Z,39nm,1.4s,mb4.6						
BJI				S	**S**	**16 39 37.4**	**+10**
WMQ	**Urumqi**	**23.89**	**336**	*e*P	**P**	**16 35 51.5**	**+1.0**
WMQ				AP		16 35 55.8	
WMQ				XP		16 35 58.0	
WMQ				PP	PP	16 36 25.0	+0.9
WMQ				S	**S**	**16 40 03.5**	**+0.2**
WMQ				XS		16 40 10.3	
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb3.9						
WMQ				AMB	AMB		
	comp=Z,38nm,4.2s						
WMQ				LR	LR		
	comp=N,952nm,18.0s,MS4.4						
WMQ				LR	LR		
	comp=E,866nm,20.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,1μm,20.6s,MS4.4						
AJM	**Ajmer**	**24.07**	**285**	*e*	**P**	**16 35 46.0**	**-6.4**
SONM	**Songino Array**	**25.73**	**9**	P	**P**	**16 36 09.1**	**+1.0**
	comp=Z,10nm,1.0s,mb4.3,baz=192,slow=9.8,SNR=39						
ULN	**Ulaanbaatar**	**25.86**	**10**	*e*P	**P**	**16 36 10.4**	**+1.1**
	comp=Z,17nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**29.70**	**319**	*e*P	**P**	**16 36 45.8**	**+1.6**
	comp=Z,51nm,1.8s,mb5.0						
HIA	**Hailar**	**30.70**	**25**	*e*P	**P**	**16 36 53.4**	**+0.3**
	comp=Z,18nm,1.0s,mb4.9						
KURK	**Kurchatov**	**33.07**	**334**	*e*P	**P**	**16 37 13.2**	**-0.6**
	comp=Z,16nm,0.9s,mb5.0						
ZAL	**Zalesovo**	**33.67**	**343**	P	**P**	**16 37 19.6**	**+0.6**
	comp=Z,1.8nm,0.8s,mb4.0,baz=305,slow=9.7,SNR=10						
CBIJ	**Chichi jima**	**37.80**	**74**	LR	LR	16 52 49.9	
	comp=Z,318nm,18.7s,MS4.2,baz=152,slow=35						
BVAR	**Borovoye Array**	**38.29**	**330**	P	**P**	**16 37 58.2**	**0.0**
	comp=Z,6.7nm,0.7s,mb4.5,baz=127,slow=10,SNR=19						
BRVK	**Borovoye**	**38.36**	**330**	*e*P	**P**	**16 37 58.3**	**-0.4**
	comp=Z,16nm,1.0s,mb4.7						
CHKZ	**Chkalovo**	**38.62**	**331**	*e*P	**P**	**16 38 00.7**	**-0.2**
	comp=Z,9.4nm,0.6s,mb4.7						
ASAJ	**Asahikawa**	**40.57**	**48**	P	**P**	**16 38 22.2**	**+5.0**
	comp=Z,8.7nm,0.9s,mb4.4,baz=263,slow=8.1,SNR=3.4						
MBWA	**Marble Bar**	**47.14**	**156**	*e*P	**P**	**16 39 11.2**	**+0.7**
	comp=Z,29nm,0.9s,mb5.2						
KIV	**Kislovodsk**	**51.96**	**309**	P	**P**	**16 39 46.2**	**-1.0**
	comp=Z,12nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**53.41**	**140**	P	**P**	**16 39 59.4**	**+1.0**
	comp=Z,9.4nm,1.0s,mb4.7,baz=328,slow=7.8,SNR=17						
WRAB	**Tennant Creek**	**53.41**	**140**	*e*P	**P**	**16 40 00.1**	**+1.7**
	comp=Z,34nm,1.1s,mb5.2						
WB2	**Warramunga Arr**	**53.42**	**140**	*e*P	**P**	**16 40 01.7**	**+3.3**
ASPA	**Alice Springs**	**56.05**	**143**	*e*P	**P**	**16 40 22.5**	**+4.9**
ASAR	**Alice Springs**	**56.05**	**143**	P	**P**	**16 40 18.1**	**+0.5**
	comp=Z,4.6nm,0.9s,mb4.5,baz=323,slow=5.9,SNR=18						
ASAR				PcP	PcP	16 41 16.1	+0.4
	comp=Z,2.4nm,1.0s,baz=322,slow=3.4,SNR=6.0						
NWAO	**Narrogin (SRO)**	**57.28**	**164**	P	**P**	**16 40 27.5**	**+1.3**
	comp=Z,9.7nm,0.6s,mb5.0,baz=349,slow=9.7,SNR=8.2						
NWAO	**Narrogin (SRO)**	**57.28**	**164**	P	**P**	**16 40 27.5**	**+1.3**
BRTR	**Keskin Array B**	**58.71**	**304**	P	**P**	**16 40 35.7**	**-0.5**
	comp=Z,1.3nm,0.8s,mb4.0,baz=82,slow=10,SNR=3.1						
AKASG	**Malin Array Be**	**61.34**	**317**	P	**P**	**16 40 52.2**	**-1.8**
	comp=Z,6.4nm,1.0s,mb4.7,baz=77,slow=6.1,SNR=11						
FINES	**FINESS Array B**	**63.22**	**329**	P	**P**	**16 41 04.7**	**-1.8**
	comp=Z,2.1nm,0.9s,mb4.3,baz=120,slow=19,SNR=3.3						
KWP	**Kalwaria**	**65.59**	**316**	*e*P	**P**	**16 41 22.1**	**0.0**
	comp=Z,55nm,1.2s,mb5.5						
KMBO	**Kilima Mbogo**	**66.07**	**258**	P	**P**	**16 41 26.3**	**+0.6**
	comp=Z,1.5nm,0.8s,mb4.1,baz=52,slow=19,SNR=2.9						
STKA	**Stephens Creek**	**66.69**	**143**	P	**P**	**16 41 31.8**	**+2.4**
	comp=Z,2.6nm,0.7s,mb4.4,baz=330,slow=6.2,SNR=7.8						
STKA				LR	LR	17 13 07.2	
	comp=Z,375nm,19.2s,MS4.6,baz=139,slow=38						
MORC	**Moravsky Berou**	**68.89**	**316**	*e*P	**P**	**16 41 42.7**	**-0.2**
	comp=Z,5.9nm,1.1s,mb4.4						
HFS	**Hagfors**	**69.35**	**328**	P	**P**	**16 41 47.2**	**+1.8**
	comp=Z,2.3nm,0.7s,mb4.2,baz=90,slow=2.9,SNR=6.3						
VRAC	**Vranov**	**69.58**	**316**	P	**P**	**16 41 49.1**	**+2.1**
	comp=Z,5.4nm,0.9s,mb4.5,baz=90,slow=2.0,SNR=5.4						
NB2	**NORSAR Subarra**	**70.40**	**329**	P	**P**	**16 41 51.0**	**-0.8**
	comp=Z,6.2nm,0.9s,mb4.5,baz=79,slow=6.2						
NOA	**NORSAR Array B**	**70.40**	**329**	P	**P**	**16 41 51.6**	**-0.2**
	comp=Z,2.9nm,0.8s,mb4.3,baz=79,slow=6.2,SNR=7.5						
GERES	**GERESS Array B**	**71.53**	**316**	P	**P**	**16 41 46.7**	**-12**
	comp=Z,1.3nm,0.7s,mb4.0,baz=114,slow=9.7,SNR=7.2						
DAVOX	**Davos**	**74.55**	**315**	P	**P**	**16 42 18.2**	**+1.6**
	comp=Z,2.9nm,0.6s,mb4.4,baz=94,slow=15						
MCK	**McKinley**	**78.64**	**25**	P	**P**	**16 42 43.4**	**+4.2**
	comp=Z,1.6nm,0.7s,mb4.1						
ILAR	**Eielson Array**	**78.93**	**24**	P	**P**	**16 42 41.2**	**+0.4**
	comp=Z,0.4nm,0.7s,mb3.5,baz=290,slow=4.2,SNR=5.2						
EKA	**Eskdalemuir Ar**	**79.36**	**326**	P	**P**	**16 42 43.2**	**-0.1**
	comp=Z,1.9nm,0.7s,mb4.1,baz=66,slow=5.5,SNR=4.9						
INK	**Inuvik**	**81.28**	**18**	P	**P**	**16 42 54.0**	**+0.7**
	comp=Z,3.3nm,0.9s,mb4.2,baz=351,slow=5.4,SNR=5.1						
YKA	**Yellowknife Ar**	**90.81**	**16**	P	**P**	**16 43 41.3**	**+1.0**
	comp=Z,0.9nm,0.8s,mb4.2,baz=328,slow=4.5,SNR=15						
YKA	**Yellowknife Ar**	**90.81**	**16**	P	**P**	**16 43 41.3**	**+1.0**
FRB	**Frobisher Bay**	**93.68**	**355**	LR	LR	17 28 51.9	
	comp=Z,4μm,19.9s,MS5.8,baz=58,slow=37						
SDV	**Santo Domingo**	**147.73**	**344**	*e*PKPbc	PKPdf	16 50 23.8	+1.9

MOS ***25*** *16:32:47.0±1.1, 37.37N×43.76E, h10km, mb4.9/19, Error ellipse: s-maj=9.8km s-min=4.8km az=120.3*
IDC ***25*** *16:32:48.1±1.1, 37.63N×43.74E, mb4.2/13, mb1 4.4/19, mb1mx4.3/24, mbtmp4.3/19, ML3.5/7, MS3.7/2, Ms1 3.7/2, ms1mx3.3/26, Error ellipse: s-maj=20.2km s-min=12.8km az=131.0*
CSEM ***25*** *16:32:49.5±0.1, 37.48N×43.62E, h20km, mb4.7/12, Error ellipse: s-maj=3.4km s-min=1.4km az=50.0*
ZUR_RM ***25*** *16:32:54, 37.70N×43.73E, h24km, Mw4.8/12, Moment Tensor Solution. s12 Moment tensor: Scale 10^16^Nm; Mrr=1.46; Mθθ=0.69; Mφφ=2.15; Mrθ=0.31; Mφφ=0.31; Mφ=0.39; Best double couple: M0=1.91×10^16^ NP1:φs=201°, δ54°, λ-69°. NP2:φs=349°, δ41°, λ-116°. Principal axes: T 2.233, Plg7°, Azm277°; N -.641, Plg17°, Azm9°; P -1.591, Plg72°, Azm166°;*
NEIC ***25*** *16:32:54.2±2.8, 37.70N×43.73E, h35km±21km, mb4.6/19 Error ellipse: s-maj=11.2km s-min=8.9km az=135.0*
ISK ***25*** *16:33:45.0, 37.74N×44.16E, h26km, MD4.5*
TIF ***25*** *16:33:47.9, 37.66N×43.53E, h8km±5km*

ISC 25 16:32:48.1±0.3, 37.60N±0.03×43.80E±0.04, h10km, n157, σ1§24/145, mb4.4/33, 4C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.05**	**250**	*i* PG	Px	16 33 53.2	
VANT	**Van**	**0.91**	**339**	*i* PG	Px	16 34 03.4	
VANT				SG	Sx	16 34 17.1	
TVAN	**Van**	**0.98**	**342**	*i* P	**Pb**	**16 33 04.2**	**-2.6**
TVAN				*i* S	**Sb**	**16 33 14.2**	**-5.4**
VANB	**Van**	**1.05**	**342**	*i* PG	Px	16 34 03.9	
VANB				SG	Sx	16 34 17.6	
MSL	**Mosul**	**1.42**	**204**	*i* Pn	Px	16 33 18.0	
MSL				*i* Sb	Sx	16 33 38.0	
MSL				*i* Sg	Sx	16 33 39.5	
BTMT	**Batman**	**1.92**	**289**	*i* PN	Px	16 34 21.4	
BEST	**Besiri**	**2.03**	**279**	*i* P	**Pn**	**16 33 24.5**	**+1.7**
BEST				*i* S	**Sn**	**16 33 50.2**	**+1.9**
VRT	**Varto**	**2.35**	**311**	*i* PN	Px	16 34 27.8	
GNI	**Garni**	**2.66**	**16**	Pn	**Pn**	**16 33 33.4**	**+1.7**
	1.1nm,0.3s,baz=260,slow=2.2,SNR=6.5						
GNI				Lg		16 34 11.8	
	24nm,0.3s,baz=170,slow=22,SNR=4.4						
GNI				LR	LR	16 34 48.4	
	comp=Z,1μm,18.9s,baz=193,slow=46						
GNI	**Garni**	**2.66**	**16**	*e*P	**Pn**	**16 33 33.4**	**+1.6**
DIY	**Diyarbakir**	**2.85**	**277**	*i* PN	Px	16 34 34.6	
BINT	**Bingol**	**2.90**	**297**	*i* PN	Px	16 34 34.5	
EZM	**Erzurum**	**2.99**	**321**	*e*PN	Px	16 34 33.8	
ERZ	**Erzurum**	**3.04**	**320**	*i* P	**Pn**	**16 33 37.7**	**+0.4**
KARS	**Kars**	**3.06**	**350**	*e*PN	Px	16 34 32.1	
PTK	**Pertek**	**3.70**	**292**	*e*PN	Px	16 34 45.9	
AKH	**Akhalkalaki**	**3.82**	**357**	P	Px	16 34 57.0	
AKH				S	Sx	16 35 55.5	
ELZG	**Elazig**	**3.91**	**285**	*i* P	**Pn**	**16 33 49.0**	**-0.6**
URFA	**Urfa**	**3.96**	**269**	*e*PN	Px	16 34 50.4	
MTA	**Mtatsminda**	**4.17**	**10**	P	**Pg**	**16 34 01.8**	**-9.4**
MTA				S	**Sg**	**16 35 00.3**	**-6.5**
TI2	**Plekhanov**	**4.20**	**10**	*e*P	**Pn**	**16 33 56.0**	**+2.3**
MALT	**Malatya**	**4.31**	**281**	*e*PN	Px	16 34 54.1	
MALT	**Malatya**	**4.31**	**281**	*e*Pn	**Pn**	**16 33 53.8**	**-1.4**
MALT				*e*Pg	**Pg**	**16 34 10.1**	**-4.0**
MALT				*e*S	**Sg**	**16 35 07.0**	**-4.5**
MALT	**Malatya**	**4.31**	**281**	*e*P	**Pn**	**16 33 53.8**	**-1.4**
MALT	**Malatya**	**4.31**	**281**	*e*Pg	**Pg**	**16 34 10.1**	**-4.0**
MYA	**Malataya**	**4.31**	**281**	*e*PN	Px	16 34 55.0	
BHD	**Baghdad**	**4.34**	**174**	*i* Pn	Px	16 33 56.0	
BHD				*i* Sn	Sx	16 34 46.0	
GUMT	**Gumushane**	**4.42**	**312**	*e*PN	Px	16 34 53.8	
GZT	**Gaziantep**	**4.96**	**269**	*i* P	**Pn**	**16 34 03.2**	**-1.4**
ONI	**Oni**	**4.99**	**357**	P	**Pn**	**16 34 09.2**	**+4.3**
ONI				S	**Sg**	**16 35 32.2**	**-2.0**
ZEI	**Tsey**	**5.17**	**1**	*e*P	**Pn**	**16 34 11.4**	**+3.9**
ZEI				pmax	pmax		
	comp=Z,14nm,1.3s						
ZEI				pmax	pmax		
	comp=Z,16nm,0.9s						
ZEI	**Tsey**	**5.17**	**1**	*e*P	**Pn**	**16 34 11.4**	**+3.9**
	comp=Z,8.0nm,0.9s						
GAZ	**Gaziantep**	**5.26**	**267**	*e*PN	Px	16 35 07.4	
KAHT	**Ahir Dag**	**5.50**	**272**	*i* P	**Pn**	**16 34 10.8**	**-1.3**
COBT	**Iskenderun**	**6.13**	**262**	*i* P	**Pn**	**16 34 21.4**	**+0.4**
KIV	**Kislovodsk**	**6.41**	**353**	Pn	**Pn**	**16 34 28.5**	**+3.5**
	comp=Z,177nm,1.2s,SNR=8.3						
KIV	**Kislovodsk**	**6.41**	**353**	*e*P	**Pn**	**16 34 27.8**	**+2.8**
KIV				pmax	pmax		
	comp=Z,39nm,1.1s						
KIV				MLR	MLR		
	comp=N,712nm,17.0s						
KIV				MLR	MLR		
	comp=E,228nm,17.0s						
KIV				MLR	MLR		
	comp=Z,997nm,17.0s						
KIV	**Kislovodsk**	**6.41**	**353**	*e*Pn	**Pn**	**16 34 22.7**	**-2.2**
KIV	**Kislovodsk**	**6.41**	**353**	*e*Pn	**Pn**	**16 34 22.7**	**-2.3**
KIV	**Kislovodsk**	**6.41**	**353**	*e*P	**Pn**	**16 34 27.8**	**+2.8**
	comp=Z,20nm,1.1s						
SOC	**Sochi**	**6.74**	**334**	*e*P	**Pn**	**16 34 38.1**	**+8.5**
SOC				pmax	pmax		
	comp=N,40nm,1.0s						
SOC				pmax	pmax		
	comp=Z,40nm,1.0s						
SOC				pmax	pmax		
	comp=E,14nm,0.8s						
SOC				MLR	MLR		
	comp=Z,550nm,12.0s						
SOC				MLR	MLR		
	comp=N,858nm,14.0s						
SOC				MLR	MLR		
	comp=E,1μm,17.0s						
AVNT	**Avonos**	**7.14**	**282**	*i* P	**Pn**	**16 34 44.2**	**+9.0**
HWQ	**Hawqa**	**7.18**	**245**	*e*P	**Pn**	**16 34 36.5**	**+0.7**
GOF	**Gofitskoye**	**7.48**	**356**	*i* P	**Pn**	**16 34 42.0**	**+2.0**
GOF				pmax	pmax		
	comp=Z,40nm,1.2s						
GOF				MLR	MLR		
	comp=Z,2μm,9.0s						
GOF	**Gofitskoye**	**7.48**	**356**	*i* P	**Pn**	**16 34 42.0**	**+2.0**
	comp=Z,750nm,9.0s						
BHL	**Bhannes**	**7.58**	**243**	*e*P	**Pn**	**16 34 48.6**	**+7.3**
ASF	**Jabal al Asfar**	**7.83**	**228**	Pn	**Pn**	**16 34 44.6**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=276,slow=12,SNR=9.5						
ASF				Pg	**Pg**	**16 35 12.3**	**-12**
	comp=Z,2.9nm,0.3s,baz=303,slow=8.0,SNR=8.3						
ASF				Lg		16 36 57.1	
	comp=Z,5.1nm,0.3s,baz=107,slow=19,SNR=3.4						
ASF				LR	LR	16 38 10.3	
	comp=Z,539nm,18.1s,baz=272,slow=41						
BRTR	**Keskin Array B**	**8.23**	**288**	Pn	**P**	**16 34 50.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=101,slow=15,SNR=4.1						
BRTR				Pg	P	16 35 19.1	+29
	comp=Z,0.3nm,0.3s,baz=107,slow=13,SNR=3.8						
RST	**Umm Al-Ruwaisa**	**8.50**	**161**	*e*P	**P**	**16 34 53.6**	**-0.6**
NAY	**Al-Naaiem**	**8.81**	**160**	*e*P	**P**	**16 34 58.2**	**-0.3**
RDF	**Al-Radifah**	**9.20**	**159**	*e*P	**P**	**16 35 03.8**	**-0.1**
QRN	**Al-Qurain**	**9.48**	**157**	*e*P	**P**	**16 35 07.3**	**-0.4**
EIL	**Elat**	**10.80**	**226**	Pn	**P**	**16 35 28.4**	**+2.4**
	comp=Z,1.0nm,0.3s,baz=63,slow=4.5,SNR=2.9						
IDI	**Anqvia**	**15.39**	**267**	Pn	**P**	**16 36 31.1**	**+4.0**
	comp=Z,0.8nm,0.3s,baz=64,slow=12,SNR=5.4						
MLR	**Muntele Rosu**	**15.50**	**306**	Pn	**P**	**16 36 32.3**	**+3.9**
	comp=Z,0.1nm,0.3s,baz=351,slow=12,SNR=3.4						
AKASG	**Malin Array Be**	**16.72**	**326**	Pn	**P**	**16 36 43.3**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=136,slow=11,SNR=7.0						
ARQ	**Araqi**	**17.92**	**139**	⇓*e*P	**P**	**16 36 57.9**	**-1.2**
OBN	**Obninsk**	**18.20**	**347**	⇓*e*P	**P**	**16 36 57.5**	**-4.9**
OBN				pmax	pmax		
	comp=Z,48μm,1.1s						
MOS	**Moscow**	**18.62**	**349**	*e*P	**P**	**16 37 07.6**	**0.0**
MOS				pmax	pmax		
	comp=Z,50nm,0.6s						
MOS	**Moscow**	**18.62**	**349**	*e*P	**P**	**16 37 07.6**	**0.0**
	comp=Z,25nm,0.6s						
BSY	**Bisya**	**18.76**	**138**	P	**P**	**16 37 09.7**	**+0.2**
	SNR=10.0						
BSYO	**Bisya**	**18.80**	**138**	P	**P**	**16 37 09.7**	**-0.2**
	SNR=10.0						
SMDO	**Samad**	**18.97**	**136**	P	**P**	**16 37 12.4**	**+0.4**
	SNR=15						
KOLS	**Kolonicke sedl**	**19.27**	**313**	*i* P	**P**	**16 37 17.0**	**+1.6**
KWP	**Kalwaria**	**19.36**	**315**	*e*P	**P**	**16 37 17.5**	**+1.0**
KWP				*e*		16 37 20.5	
KWP	**Kalwaria**	**19.36**	**315**	*e*P	**P**	**16 37 17.5**	**+1.0**
KWP				*e*		16 37 20.5	
KWP	**Kalwaria**	**19.36**	**315**	*e*P	**P**	**16 37 17.5**	**+1.0**
	comp=Z,1.0nm,0.5s						
JMDO	**Jabal Madar**	**19.55**	**137**	P	**P**	**16 37 19.1**	**+0.3**
	SNR=6.4						
CRVS	**Cervenica-Dubn**	**19.73**	**312**	*i* P	**P**	**16 37 23.3**	**+2.6**
	comp=Z,2.0nm,0.8s						
PSZ	**Piszkesteto**	**20.28**	**308**	*e*P	**P**	**16 37 21.8**	**-4.7**
PSZ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PSZ	**Piszkesteto**	**20.28**	**308**	*e*P	**P**	**16 37 21.8**	**-4.7**
	comp=Z,9.8nm,0.8s						
PKSM	**Moragy**	**20.54**	**303**	⇑*e*P	**P**	**16 37 28.7**	**-0.6**
PKSM	**Moragy**	**20.54**	**303**	*e*P	**P**	**16 37 28.7**	**-0.6**
NIE	**Niedzica**	**20.64**	**312**	*e*P	**P**	**16 37 31.0**	**+0.8**
VYHS	**Vyhne**	**21.15**	**309**	*e*P	**P**	**16 37 35.8**	**+0.3**
IDID	**Didziasalis**	**21.16**	**332**	*e*P	**P**	**16 37 33.8**	**-1.8**
TIP	**Timpagrande**	**21.23**	**283**	*e*P	**P**	**16 37 35.4**	**-0.9**
TIP	**Timpagrande**	**21.23**	**283**	*e*P	**P**	**16 37 35.4**	**-1.0**
ARU	**Arti**	**21.28**	**23**	P	**P**	**16 37 35.3**	**-1.4**
	comp=Z,180nm,0.9s,mb5.4,SNR=8.7						
ARU	**Arti**	**21.28**	**23**	⇑*i* P	**P**	**16 37 30.4**	**-6.3**
ARU				*e*		16 38 09.7	
ARU				pmax	pmax		
	comp=Z,51nm,1.5s,mb4.6						
IIGN	**Ignalina**	**21.38**	**332**	*e*P	**P**	**16 37 39.0**	**+1.2**
IZAR	**Zarasai**	**21.68**	**333**	*e*P	**P**	**16 37 39.2**	**-1.6**
SUW	**Suwalki**	**21.69**	**326**	*e*P	**P**	**16 37 43.9**	**+3.0**
SUW				*e*		16 37 46.7	
SUW	**Suwalki**	**21.69**	**326**	*e*P	**P**	**16 37 43.9**	**+3.0**
	comp=Z,0.5nm,0.5s,mb3.2						
ABTO	**Aybut**	**21.83**	**155**	P	**P**	**16 37 42.5**	**-0.1**
	SNR=23						
RBK	**Rabkut**	**22.01**	**153**	P	**P**	**16 37 44.4**	**+0.1**
	SNR=23						
OKC	**Ostrava-Krasne**	**22.09**	**312**	*e*P	**P**	**16 37 49.2**	**+4.2**
SVE	**Sverdlovsk**	**22.27**	**25**	*e*P	**P**	**16 37 49.8**	**+3.1**
SVE				pmax	pmax		
	com

comp=Z,6.0nm,0.8s,mb4.4
LPL La Plagne 28.64 298 *e*P **P 16 38 46.1 -0.7**
comp=Z,21nm,1.0s,mb4.5
LPL La Plagne 28.64 298 *e*P **P 16 38 46.1 -0.7**
LPL pmax pmax
comp=Z,11nm,1.0s,mb4.5
CABF La Chapelle 29.16 300 *e*P **P 16 38 51.2 -0.2**
comp=Z,22nm,0.8s,mb4.6
CABF La Chapelle 29.16 300 *e*P **P 16 38 51.2 -0.2**
CABF pmax pmax
comp=Z,11nm,0.8s,mb4.6
ORIF Oris-en-Rattie 29.23 297 *e*P **P 16 38 50.2 -1.8**
comp=Z,24nm,1.0s,mb4.6
ORIF Oris-en-Rattie 29.23 297 *e*P **P 16 38 50.2 -1.8**
ORIF pmax pmax
comp=Z,12nm,1.0s,mb4.6
HFS Hagfors 29.56 329 P **P 16 38 52.9 -1.9**
comp=Z,13nm,0.9s,mb4.7,baz=135,slow=10,SNR=13
SMF Signal de Mont 30.71 300 *e*P **P 16 39 04.3 -0.9**
comp=Z,19nm,0.9s,mb4.6
SMF Signal de Mont 30.71 300 *e*P **P 16 39 04.3 -0.9**
SMF pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
AVF Avril sur Loir 31.05 300 *e*P **P 16 39 07.1 -1.1**
comp=Z,18nm,0.9s,mb4.6
AVF Avril sur Loir 31.05 300 *e*P **P 16 39 07.1 -1.1**
AVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
NB2 NORSAR Subarra 31.08 329 P **P 16 39 08.5 +0.2**
comp=Z,1.8nm,0.6s,mb4.1,baz=124,slow=8.6
NOA NORSAR Array B 31.08 329 P **P 16 39 08.4 +0.1**
comp=Z,1.5nm,0.6s,mb4.0,baz=126,slow=8.8,SNR=8.2
NOA NORSAR Array B 31.08 329 P **P 16 39 08.4 +0.1**
RJF Les Rejaudoux 32.31 297 *e*P **P 16 39 19.6 +0.3**
ZAL Zalesovo 32.39 46 P **P 16 39 20.3 +0.4**
comp=Z,2.7nm,0.9s,mb4.1,baz=301,slow=5.3,SNR=3.6
ARCES ARCESS Array B 33.49 348 P **P 16 39 30.0 +0.6**
comp=Z,4.7nm,0.9s,mb4.4,baz=153,slow=10,SNR=4.9
SJPF Ste Jean 34.43 294 *e*P **P 16 39 36.8 -0.9**
comp=Z,49nm,1.3s,mb5.0
SJPF Ste Jean 34.43 294 *e*P **P 16 39 36.8 -0.9**
SJPF pmax pmax
comp=Z,25nm,1.3s,mb5.0
SGMF Saint Gilles 35.09 303 *e*P **P 16 39 42.3 -1.0**
comp=Z,110nm,1.4s,mb5.3
SGMF Saint Gilles 35.09 303 *e*P **P 16 39 42.3 -1.0**
SGMF pmax pmax
comp=Z,55nm,1.4s,mb5.3
EKA Eskdalemuir Ar 36.07 315 P **P 16 39 49.9 -1.6**
comp=Z,4.8nm,0.6s,mb4.6,baz=107,slow=8.6,SNR=17
HYB Hyderabad 36.51 114 *e*P **P 16 40 02.0 +6.4**
HYB Hyderabad 36.51 114 *i*P **P 16 40 02.0 +6.4**
ULN Ulaanbaatar 46.38 56 *e*P **P 16 41 15.5 -0.7**
ULN pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
ULN Ulaanbaatar 46.38 56 *e*P **P 16 41 15.5 -0.6**
comp=Z,4.8nm,1.1s,mb4.3
BOD Bodaibo 48.92 42 *e*P **P 16 41 34.5 -1.4**
CMAR Chiang Mai Arr 51.53 96 P **P 16 41 57.4 +1.0**
comp=Z,2.3nm,0.7s,mb4.2,baz=303,slow=8.2,SNR=4.1
DBIC Dimbokro 53.75 248 P **P 16 42 10.7 -2.3**
comp=Z,3.4nm,0.9s,mb4.3,baz=66,slow=3.4,SNR=5.1
LSZ Lusaka 54.60 199 *e*P **P 16 42 21.1 +1.9**
LSZ pmax pmax
comp=Z,12nm,1.5s,mb4.7
LSZ Lusaka 54.60 199 *e*P **P 16 42 21.1 +1.9**
comp=Z,12nm,1.5s,mb4.7
ILAR Eielson Array 77.62 5 P **P 16 44 48.9 +3.3**
comp=Z,0.9nm,1.1s,mb3.6,baz=304,slow=3.3,SNR=4.6
YKA Yellowknife Ar 78.75 350 P **P 16 44 50.7 -1.1**
YKA Yellowknife Ar 78.75 350 P **P 16 44 50.6 -1.1**
comp=Z,0.7nm,0.7s,mb3.7,baz=46,slow=8.1,SNR=9.6
EDM Edmonton 87.41 346 P **P 16 45 38.3 +2.0**

IGQ 25 16:36:04.6,1.46S×81.34W,h12^{km}±9^{km},mb4.1,2C-1D, Error ellipse: s-maj=10.1km s-min=6.8km az=37.9,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.89**	**63**	P	Pb	16 36 20.3	-1.2
HOJA				S	Sb	16 36 30.9	-2.2
IGUA	**Igualata**	**2.70**	**91**	⇑P	Pn	16 36 49.5	+0.7
IGUA				S	Sn	16 37 22.6	+1.0
ARRY	**Arrayan**	**2.88**	**91**	⇑P	Pn	16 36 52.3	+1.0
ARRY				S	Sn	16 37 25.3	-1.0
PATA	**Patacocha**	**2.91**	**91**	P	Pn	16 36 54.4	+2.8
PATA				S	Sn	16 37 27.9	+1.1
RUN2	**Runtun**	**2.93**	**89**	P	Pn	16 36 53.2	+1.3
ULBA	**Ulba**	**2.93**	**90**	P	Pn	16 36 53.1	+1.1
NAS1	**Nasa**	**2.98**	**74**	P	Pn	16 36 56.6	+3.9
NAS1				S	Sn	16 37 31.4	+2.8
PISA	**Pisayambo**	**2.98**	**82**	P	Pn	16 36 55.5	+2.8
PISA				S	Sn	16 37 28.7	0.0
TERV	**Terraza Guagua**	**3.02**	**65**	P	Pn	16 36 56.0	+2.8
PINO	**Pino**	**3.02**	**65**	P	Pn	16 36 53.9	+0.6
VC1	**Cotopaxi 1**	**3.04**	**75**	P	Pn	16 36 57.0	+3.4
TAMB	**Tambo**	**3.07**	**76**	P	Pn	16 36 55.8	+1.9
YANA	**Yana**	**3.07**	**64**	P	Pn	16 36 54.6	+0.6
ANTI	**Antisana**	**3.33**	**73**	⇓P	Pn	16 37 00.7	+3.0
ANTI				S	Sn	16 37 39.8	+2.2
COTA	**Cotacachi**	**3.49**	**59**	P	Pn	16 37 01.1	+1.2
CAYR	**Refugio Cayamb**	**3.64**	**66**	P	Pn	16 37 05.3	+3.3
CAYA	**Cayambe**	**3.68**	**66**	P	Pn	16 37 05.5	+3.0

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*CSEM **25** 16:36:23.9,37.75N×43.97E,h29^{km}, MD3.5, After ISK*
ISK 25 16:36:23.9,37.75N×43.97E,h29^{km},MD3.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.25**	**227**	*i*PG	Pb	16 36 30.6	0.0
VANT	**Van**	**0.83**	**327**	*i*PG	Pb	16 36 40.5	+0.8
VANT				*i*SG	Sb	16 36 53.0	+2.4
VANB	**Van**	**0.96**	**332**	PG	Pn	16 36 41.4	-0.2
VANB				SG	Sb	16 36 54.0	-0.2
BTMT	**Batman**	**2.01**	**283**	PN	Pn	16 36 59.6	+3.0
BTMT				SN	Sn	16 37 23.5	+2.5
BINT	**Bingol**	**2.96**	**293**	*e*PN	Pn	16 37 11.0	+0.9
EZM	**Erzurum**	**2.96**	**317**	*e*PN	Pn	16 37 11.0	+0.8
DIY	**Diyarbakir**	**2.97**	**274**	*e*PN	Pn	16 37 11.3	+1.1

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*HEL **25** 16:38:51.9±0.1,67.09N×20.91E,ML2.0,ML2.3(UPP), Explosion*
*IDC **25** 16:38:51.7±0.9,67.10N×21.06E,mb1 3.0/4, mb1mx2.9/17,mbtmp3.0/4,ML2.4/4,Error ellipse: s-maj=18.3km s-min=8.3km az=116.0*
ISC 25 16:38:50.0±0.4,**67.02N**±0.03×**20.87E**±0.09,**n22**,σ1§**34**/33, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.16**	**311**	*i*P	**Pg**	**16 38 54.3**	**+1.3**
MASU	**Masugnsbyn**	**0.62**	**44**	*i*P	**Pg**	**16 39 01.9**	**-0.4**
PAJU	**Pajala**	**0.88**	**89**	*i*P	**Pg**	**16 39 07.1**	**-0.4**
KUA	**Kurravaara**	**0.96**	**348**	*e*P	**Pg**	**16 39 07.9**	**-1.3**
NIKU	**Nikkaluokta**	**1.11**	**321**	*e*P	**Pb**	**16 39 11.0**	**-0.7**
SJUU	**Sjulsmark**	**1.55**	**169**	*e*P	**Pn**	**16 39 20.3**	**+1.4**
KTK1	**Kautokeino**	**2.19**	**23**	*e*P	**Pn**	**16 39 28.8**	**+0.7**
SGF	**Sodankyl**	**2.24**	**76**	*e*P	**Pn**	**16 39 29.8**	**+1.0**
SGF				*e*S	**Sn**	**16 40 00.3**	**+2.7**
SGF				*e*SG	**Sg**	**16 40 03.7**	**-0.8**
SGF				MSG		16 40 05.4	
	comp=Z,8.0nm,0.2s						
BURU	**Burvik**	**2.46**	**175**	*e*P	**Pn**	**16 39 33.9**	**+2.1**
MOR8	**Moi Rana**	**2.70**	**255**	*e*P	**Pn**	**16 39 36.5**	**+1.0**
OUL	**Oulu**	**2.82**	**131**	*e*P	**Pn**	**16 39 38.8**	**+1.7**
ARCES	**ARCESS Array B**	**3.06**	**32**	Pn	**Pn**	**16 39 40.1**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=210,slow=14,SNR=49						
ARCES				Sn	**Sn**	**16 40 16.2**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=207,slow=22,SNR=8.8						
VAF	**Ylistaro**	**4.07**	**168**	*e*P	**Pn**	**16 39 56.3**	**+1.5**
VAF				*e*S	**Sn**	**16 40 43.2**	**-0.6**
KJN	**Kajaani**	**4.09**	**133**	*e*P	**Pn**	**16 39 56.7**	**+1.5**
SUF	**Sumiainen**	**4.87**	**150**	*e*P	**Pn**	**16 40 07.5**	**+1.4**
SUF				*e*S	**Sn**	**16 41 03.5**	**-0.6**
KEF	**Keuruu**	**5.17**	**159**	*e*P	**Pn**	**16 40 11.4**	**+1.0**
KEF				*e*S	**Sn**	**16 41 10.8**	**-0.8**
KAF	**Kangasniemi**	**5.45**	**152**	*e*P	**Pn**	**16 40 14.9**	**+0.5**
KAF				*e*S	**Sn**	**16 41 15.9**	**-3.0**
FIA0	**FINESS Array S**	**6.04**	**156**	*e*P	**Pn**	**16 40 23.7**	**+1.0**
FIA0				*e*S	**Sn**	**16 41 31.2**	**-2.3**

2005 JAN

FINES	**FINESS Array B**	**6.04**	**156**	Pn	**Pn**	**16 40 22.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=344,slow=12,SNR=7.8						
FINES				Sn	**Sn**	**16 41 32.5**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=348,slow=23,SNR=6.6						
JOF	**Joensuu**	**6.04**	**128**	*e*P	**Pn**	**16 40 22.4**	**-0.4**
JOF				*e*S	**Sn**	**16 41 30.5**	**-3.2**
NOA	**NORSAR Array B**	**7.34**	**220**	Pn	**Pn**	**16 40 39.4**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=17,slow=22,SNR=2.3						
NOA				Sn	**Sn**	**16 42 03.5**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=79,slow=6.1,SNR=3.7						
HFS	**Hagfors**	**7.61**	**208**	Pn	**Pn**	**16 40 43.6**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=31,slow=13,SNR=4.5						

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*ISK **25** 16:41:08.1,37.80N×44.15E,h14^{km},MD4.0*
*MOS **25** 16:41:10.8±1.0,37.41N×43.72E,h10^{km},mb4.1/9,Error ellipse: s-maj=12.3km s-min=7.7km az=110.7*
*IDC **25** 16:41:11.6±1.1,37.65N×43.81E,mb3.9/12,mb1 4.1/17, mb1mx4.0/24,mbtmp4.0/17,ML2.9/5,Error ellipse: s-maj=20.7km s-min=14.4km az=143.0*
*CSEM **25** 16:41:12.2±0.1,37.52N×43.65E,h18^{km}±1^{km},mb3.9/6, Error ellipse: s-maj=3.9km s-min=2.1km az=40.0*
*NEIC **25** 16:41:15.5±2.9,37.56N×43.77E,h25^{km}±21^{km},mb4.0/8, Error ellipse: s-maj=12.0km s-min=8.0km az=162.0*
ISC 25 16:41:12.6±0.3,**37.57N**±0.03×**43.72E**±0.05,**h18^{km},n80,** σ1§**09**/83,**mb3.8**/19,**2D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.02**	**60**	*i*PG	**Pb**	**16 41 16.4**	**+0.5**
VANT	**Van**	**0.91**	**344**	*i*PG	**Pb**	**16 41 26.6**	**-3.1**
VANT				*i*SG	**Sb**	**16 41 40.0**	**-1.3**
TVAN	**Van**	**0.99**	**346**	*i*P	**Pb**	**16 41 27.5**	**-3.5**
TVAN				*i*S	**Sb**	**16 41 39.4**	**-4.2**
VANB	**Van**	**1.06**	**346**	*i*PG	**Pb**	**16 41 27.2**	**-4.9**
BTMT	**Batman**	**1.87**	**290**	*e*PN	**Pn**	**16 41 46.0**	**+1.8**
BEST	**Besiri**	**1.97**	**280**	*i*P	**Pn**	**16 41 47.0**	**+1.4**
BEST				*i*S	**Sn**	**16 42 15.9**	**+6.0**
VRT	**Varto**	**2.32**	**313**	PN	**Pn**	**16 41 49.0**	**-1.7**
GNI	**Garni**	**2.70**	**17**	Pn	**Pn**	**16 41 56.1**	**+0.1**
	13nm,0.3s,baz=299,slow=2.9,SNR=29						
GNI				Lg		16 42 39.9	
	17nm,0.3s,baz=165,slow=17,SNR=5.2						
DIY	**Diyarbakir**	**2.79**	**278**	*i*PN	**Pn**	**16 41 57.8**	**+0.5**
BINT	**Bingol**	**2.86**	**298**	*e*PN	**Pn**	**16 41 58.0**	**-0.3**
EZM	**Erzurum**	**2.97**	**322**	*i*PN	**Pn**	**16 41 57.6**	**-2.4**
ERZ	**Erzurum**	**3.02**	**322**	*i*P	**Pn**	**16 41 59.9**	**-0.8**
PTK	**Pertek**	**3.65**	**293**	PN	**Pn**	**16 42 09.6**	**0.0**
ELZG	**Elazig**	**3.85**	**285**	*i*P	**Pn**	**16 42 11.7**	**-0.8**
TI2	**Plekhanov**	**4.24**	**11**	*i*P	**Pn**	**16 42 19.0**	**+1.1**
TI2				pmax	pmax		
	comp=Z,30nm,0.6s						
TI2	**Plekhanov**	**4.24**	**11**	*i*P	**Pn**	**16 42 19.0**	**+1.1**
	comp=Z,15nm,0.6s						
MALT	**Malatya**	**4.25**	**282**	*e*Pn	**Pn**	**16 42 17.3**	**-0.8**
GZT	**Gaziantep**	**4.90**	**269**	*i*P	**Pn**	**16 42 26.4**	**-0.9**
KAHT	**Ahir Dag**	**5.43**	**273**	*i*P	**Pn**	**16 42 41.9**	**+7.1**
KIV	**Kislovodsk**	**6.43**	**353**	*e*P	**Pn**	**16 42 50.7**	**+1.8**
KIV				pmax	pmax		
	comp=Z,17nm,1.1s						
KIV	**Kislovodsk**	**6.43**	**353**	P	**Pn**	**16 42 50.4**	**+1.4**
KIV	**Kislovodsk**	**6.43**	**353**	P	**Pn**	**16 42 50.2**	**+1.3**
GOF	**Gofitskoye**	**7.50**	**356**	⇓*i*P	**Pn**	**16 43 07.0**	**+3.1**
GOF				pmax	pmax		
	comp=Z,30nm,1.2s						
ASF	**Jabal al Asfar**	**7.77**	**228**	Pn	**Pn**	**16 43 07.5**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=333,slow=2.3,SNR=3.5						
ASF				Lg		16 45 20.6	
	comp=Z,3.4nm,0.3s,baz=128,slow=22,SNR=8.2						
BRTR	**Keskin Array B**	**8.18**	**288**	Pn	**P**	**16 43 13.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=114,slow=12,SNR=9.3						
RST	**Umm Al-Ruwaisa**	**8.50**	**160**	*e*P	**P**	**16 43 17.1**	**-0.7**
NAY	**Al-Naaiem**	**8.80**	**159**	*e*P	**P**	**16 43 20.9**	**-1.1**
RDF	**Al-Radifah**	**9.19**	**158**	*e*P	**P**	**16 43 26.9**	**-0.6**
QRN	**Al-Qurain**	**9.47**	**157**	*e*P	**P**	**16 43 31.2**	**-0.1**
IDI	**Anoyia**	**15.33**	**267**	Pn	**P**	**16 44 51.5**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=96,slow=9.2,SNR=2.2						
AKASG	**Malin Array Be**	**16.71**	**326**	Pn	**P**	**16 45 06.6**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=134,slow=12,SNR=9.1						
OBN	**Obninsk**	**18.21**	**347**	*e*P	**P**	**16 45 21.0**	**-5.1**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SMDO	**Samad**	**19.00**	**136**	P	**P**	**16 45 35.5**	**-0.3**
	SNR=6.9						
SMDO				P		16 45 35.5	
	SNR=6.9						
JMDO	**Jabal Madar**	**19.58**	**137**	⇓P	**P**	**16 45 42.0**	**-0.5**
PSZ	**Piszkesteto**	**20.25**	**308**	*e*P	**P**	**16 45 48.9**	**-0.7**
PSZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PSZ	**Piszkesteto**	**20.25**	**308**	*e*P	**P**	**16 45 48.9**	**-0.7**
	comp=Z,6.8nm,0.9s						
PSZ	**Piszkesteto**	**20.25**	**308**	*e*P	**P**	**16 45 48.9**	**-0.7**
	comp=Z,3.5nm,0.9s						
ARU	**Arti**	**21.33**	**23**	*e*P	**P**	**16 45 56.9**	**-3.7**
ABTO	**Aybut**	**21.83**	**155**	P	**P**	**16 46 06.2**	**+0.3**
ABTO				P		16 46 06.2	
	SNR=9.3						
RBK	**Rabkut**	**22.01**	**152**	P	**P**	**16 46 08.1**	**+0.4**
	SNR=13						
RBK				P		16 46 08.1	
	SNR=13						
MORC	**Moravsky Berou**	**22.40**	**311**	*e*P	**P**	**16 46 13.3**	**+1.9**
MORC				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.2						
MORC	**Moravsky Berou**	**22.40**	**311**	*e*P	**P**	**16 46 13.3**	**+2.0**
	comp=Z,12nm,1.2s,mb4.2						
MORC	**Moravsky Berou**	**22.40**	**311**	*e*P	**P**	**16 46 13.3**	**+1.9**
	comp=Z,6.0nm,1.2s,mb3.9						
VRAC	**Vranov**	**22.80**	**310**	P	**P**	**16 46 16.8**	**+1.6**
	comp=Z,4.1nm,0.7s,mb4.0,baz=100,slow=11,SNR=5.2						
AAK	**Ala-Archa**	**24.00**	**68**	P	**P**	**16 46 32.4**	**+5.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
AAK	**Ala-Archa**	**24.00**	**68**	P	**P**	**16 46 32.4**	**+5.3**
	comp=Z,4.2nm,0.9s,mb3.9						
BRVK	**Borovoye**	**24.07**	**41**	*e*P	**P**	**16 46 29.3**	**+1.7**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
BRVK	**Borovoye**	**24.07**	**41**	*e*P	**P**	**16 46 29.2**	**+1.6**
	comp=Z,6.3nm,0.8s,mb4.1						
BRVK	**Borovoye**	**24.07**	**41**	*e*P	**P**	**16 46 29.2**	**+1.6**
	comp=Z,6.3nm,0.8s,mb4.1						
BVAR	**Borovoye Array**	**24.11**	**42**	P	**P**	**16 46 28.9**	**+0.9**
	comp=Z,1.4nm,0.7s,mb3.5,baz=225,slow=6.3,SNR=7.8						
PRU	**Pruhonice**	**24.28**	**310**	*e*P	**P**	**16 46 33.6**	**+3.9**
GERES	**GERESS Array B**	**24.45**	**307**	P	**P**	**16 46 32.1**	**+0.8**
	comp=Z,3.9nm,0.8s,mb3.9,baz=117,slow=9.0,SNR=20						
CHKZ	**Chkalovo**	**24.55**	**40**	*e*P	**P**	**16 46 32.1**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
CHKZ	**Chkalovo**	**24.55**	**40**	*e*P	**P**	**16 46 32.1**	**-0.2**
	comp=Z,2.8nm,0.7s,mb3.9						
CHKZ	**Chkalovo**	**24.55**	**40**	*e*P	**P**	**16 46 32.1**	**-0.2**
	comp=Z,1.5nm,0.7s,mb3.6						
KHC	**Kasperske Hory**	**24.61**	**308**	*e*P	**P**	**16 46 32.0**	**-0.9**
BRG	**Berggiesshubel**	**24.95**	**312**	*e*P	**P**	**16 46 37.2**	**+1.1**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.0						
BRG	**Berggiesshubel**	**24.95**	**312**	*e*P	**P**	**16 46 37.2**	**+1.1**
	comp=Z,3.0nm,1.3s,mb3.7						
CLL	**Collm**	**25.65**	**312**	P	**P**	**16 46 43.0**	**+0.3**
GRA1	**Grafenberg Arr**	**26.25**	**308**	*e*P	**P**	**16 46 49.9**	**+1.7**
GRF	**Grafenberg Arr**	**26.25**	**308**	*e*P	**P**	**16 46 49.9**	**+1.7**
FINES	**FINESS Array B**	**26.32**	**341**	P	**P**	**16 46 47.8**	**-1.0**
	comp=Z,2.0nm,0.7s,mb3.8,baz=135,slow=11,SNR=4.0						
DAVOX	**Davos**	**26.54**	**301**	P	**P**	**16 46 51.0**	**+0.1**
	comp=Z,6.5nm,1.0s,mb4.1,baz=77,slow=6.2,SNR=3.8						
DAVOX	**Davos**	**26.54**	**301**	P	**P**	**16 46 51.0**	**0.0**
KURK	**Kurchatov**	**28.00**	**51**	*e*P	**P**	**16 47 03.8**	**-0.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
KURK	**Kurchatov**	**28.00**	**51**	*e*P	**P**	**16 47 03.8**	**-0.5**
	comp=Z,2.5nm,0.8s,mb3.9						
KURK	**Kurchatov**	**28.00**	**51**	*e*P	**P**	**16 47 03.8**	**-0.5**
	comp=Z,1.0nm,0.8s,mb3.5						
HFS	**Hagfors**	**29.55**	**329**	P	**P**	**16 47 17.4**	**-0.7**
	comp=Z,2.3nm,0.7s,mb4.0,baz=140,slow=12,SNR=4.4						
NOA	**NORSAR Array B**	**31.07**	**330**	P	**P**	**16 47 31.7**	**+0.1**
	comp=Z,0.4nm,0.7s,mb3.4,baz=180,slow=14,SNR=2.6						
EKA	**Eskdalemuir Ar**	**36.04**	**315**	P	**P**	**16 48 14.7**	**+0.1**
	comp=Z,2.3nm,0.7s,mb4.2,baz=101,slow=8.5,SNR=5.2						
EKA	**Eskdalemuir Ar**	**36.04**	**315**	P	**P**	**16 48 14.6**	**0.0**
LSA	**Lhasa**	**39.92**	**87**	*e*P	**P**	**16 48 47.5**	**+0.2**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
LSA	**Lhasa**	**39.92**	**87**	*e*P	**P**	**16 48 47.5**	**+0.1**
	comp=Z,1.7nm,0.6s,mb4.0						
LSA	**Lhasa**	**39.92**	**87**	*e*P	**P**	**16 48 47.5**	**+0.2**
	comp=Z,1.0nm,0.6s,mb3.7						
CMAR	**Chiang Mai Arr**	**51.59**	**96**	P	**P**	**16 50 20.1**	**0.0**
	comp=Z,1.0nm,0.6s,mb3.9,baz=298,slow=8.2,SNR=7.9						
DBIC	**Dimbokro**	**53.68**	**248**	P	**P**	**16 50 34.8**	**-1.0**
	comp=Z,2.8nm,0.8s,mb4.2,baz=17,slow=8.4,SNR=4.3						
ILAR	**Eielson Array**	**77.66**	**5**	P	**P**	**16 53 05.6**	**-3.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**77.66**	**5**	P	**P**	**16 53 05.5**	**-3.4**
	comp=Z,0.5nm,0.9s,mb3.5,baz=246,slow=6.0,SNR=5.4						
DAWY	**Dawson**	**78.68**	**1**	*e*P	**P**	**16 53 15.6**	**+1.1**
YKA	**Yellowknife Ar**	**78.77**	**350**	P	**P**	**16 53 14.7**	**-0.4**
	comp=Z,0.2nm,0.6s,mb3.2,baz=16,slow=5.8,SNR=5.7						

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*IDC **25** 16:41:51.7±1.1,12.22N×143.79E,mb3.7/5,mb1 3.9/5, mb1mx3.8/19,mbtmp3.7/5,Error ellipse: s-maj=64.0km s-min=22.8km az=101.0*
*NEIC **25** 16:41:57.5±1.9,12.18N×143.74E,h43^{km}±19^{km},mb4.6/2, Error ellipse: s-maj=36.7km s-min=11.2km az=107.0*
ISC 25 16:41:55.4±2.9,**12.2N**±0.1×**143.6E**±0.3,**h37^{km}**±28^{km},**n8,** σ0§**52**/9,**mb3.9**/7,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.87**	**40**	*e*Pn	**P**	**16 42 25.9**	**+0.4**
GUMO				*e*Sn	**S**	**16 42 47.7**	**-0.4**
WRAB	**Tennant Creek**	**33.17**	**196**	P	**P**	**16 48 29.9**	**-0.9**
	7.1nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**33.19**	**196**	P	**P**	**16 48 30.7**	**-0.3**
	1.0nm,0.7s,mb3.9,baz=20,slow=9.9,SNR=11						
ASAR	**Alice Springs**	**36.85**	**195**	P	**P**	**16 49 03.3**	**+1.0**
	0.3nm,0.7s,mb3.2,baz=22,slow=11,SNR=3.2						
SONM	**Songino Array**	**47.21**	**326**	P	**P**	**16 50 26.3**	**-0.2**
	0.5nm,0.8s,mb3.5,baz=145,slow=7.4,SNR=3.8						
INK	**Inuvik**	**76.14**	**22**	P	**P**	**16 53 41.0**	**+0.1**
	1.9nm,1.1s,mb4.0,baz=201,slow=8.7,SNR=3.3						
YKA	**Yellowknife Ar**	**84.68**	**27**	P	**P**	**16 54 26.5**	**+0.1**
	0.1nm,0.3s,mb3.4,baz=287,slow=5.1,SNR=5.9						
RES	**Resolute Bay**	**86.21**	**13**	P	**P**	**16 54 33.8**	**+0.2**
	6.2nm,1.3s,mb4.7						

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*IGIL **25** 16:44:08.6,37.50N×43.80E,h0^{km},MS5.2*
*THR **25** 16:44:08.4±1.3,37.73N×43.35E,h14^{km}±14^{km},ML5.1*
*TIF **25** 16:44:09.3,37.72N×43.62E,h16^{km}±4^{km}*
*ISK **25** 16:44:09.4,37.75N×43.80E,h16^{km},MD5.5*
*MOS **25** 16:44:10.3±1.3,37.62N×43.71E,h10^{km},mb5.5/81, MS5.5/46,Error ellipse: s-maj=4.9km s-min=2.6km az=129.7*
*TEH **25** 16:44:10.8,38.00N×43.22E,h26^{km},Mn5.5*
*CSEM **25** 16:44:11.7,37.66N×43.80E,Ms5.7,After STR*
*DHMR **25** 16:44:11.2±3.4,37.76N×43.73E,h10^{km}±999^{km},mb5.3*
*BJI **25** 16:44:13.8,37.47N×43.48E,h55^{km},mB5.6,mb5.2,Ms6.0, Msz5.7*
*IDC **25** 16:44:14.5±2.4,37.81N×43.74E,h23^{km}±14^{km},mb4.7/20, mb1 4.9/27,mb1mx4.9/27,mbtmp4.9/27,ML4.2/7,MS5.5/21, Ms1 5.5/21,ms1mx5.4/25,Error ellipse: s-maj=13.7km s-min=10.1km az=140.0*
*BGS **25** 16:44:15.6±2.3,37.62N×43.70E,h41^{km},mb5.5*
*NIC **25** 16:44:17.0±0.3,37.83N×43.43E,h25^{km},mb5.9,ML5.5, MW4.3,Earthquake Turkey 4 km SE Hakkari.*
*ZUR_RM **25** 16:44:16,37.62N×43.70E,h24^{km},Mw6.0/13,Moment Tensor Solution. s13 Moment tensor: Scale 10^{18}Nm; M_{rr}0.03; $M_{\theta\theta}$-1.22; $M_{\phi\phi}$1.19; $M_{r\theta}$-0.08; $M_{\theta\phi}$-0.48; $M_{\phi r}$0.10; Best double couple: $M_0$1.3×10^{18} NP1:ϕ_s304°,δ88°,λ175°. NP2:ϕ_s34°,δ85°,λ2°. Principal axes: T 1.292, Plg5°, Azm259°; N .026, Plg84°, Azm107°; P -1.317, Plg3°, Azm349°;*
*NEIC **25** 16:44:16.1±0.5,37.62N×43.70E,h41^{km}±4^{km},mb5.3/132, MS5.6/30,MW5.8 Error ellipse: s-maj=5.0km s-min=3.5km az=174.0,Moment Tensor Solution. s12 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.46; $M_{\theta\theta}$-4.84; $M_{\phi\phi}$5.30; $M_{r\theta}$1.07; $M_{\theta\phi}$-1.34; $M_{\phi r}$-2.01; Best double couple: $M_

MALT	Malatya	4.22 282	PN	Px	16 45 16.3	
MALT	Malatya	4.22 282	Pn	Pn	16 45 16.8	-0.1
MYA	Malataya	4.22 282	PN	Px	16 45 16.6	
MYA	Malataya	4.22 282	Pn	Pn	16 45 16.7	-0.3
TI2	Plekhanov	4.24 11	*i* P	Pn	16 45 17.2	+0.1
TI2			*i* S	Sn	16 46 13.0	+6.5
TI2			pmax	pmax		
	comp=Z,250nm,0.4s					
TI2			smax			
	comp=E,28μm,4.0s					
TI2			MLR	MLR		
	comp=N,50μm,10.0s					
TI2			MLR	MLR		
	comp=E,45μm,10.0s					
TI2			MLR	MLR		
	comp=Z,52μm,10.0s					
BHD	Baghdad	4.33 172	*i* Pn	Px	16 45 30.0	
BHD			*i* Sn	Sx	16 46 20.0	
GUMT	Gumushane	4.36 313	*e*PN	Px	16 45 16.9	
GUMT	Gumushane	4.36 313	Pn	Pn	16 45 21.6	+2.7
ONI	Oni	5.00 358	P	Pn	16 45 30.4	+2.4
ONI			S	Sn	16 46 49.5	+24
GAZ	Gaziantep	5.17 268	*e*PN	Px	16 45 29.9	
GAZ	Gaziantep	5.17 268	Pn	Pn	16 45 30.5	+0.2
ZEI	Tsey	5.19 2	*e*P	Pn	16 45 32.1	+1.4
ZEI			pmax	pmax		
	comp=Z,178nm,0.9s					
KAHT	Ahir Dag	5.41 273	*i* P	Pn	16 45 34.3	+0.6
IRAZ	Razeghan	5.48 111	Pn	Pn	16 45 36.7	+2.0
SVST	Sivas	5.71 295	*i* P	Pn	16 45 42.0	+4.1
COBT	Iskenderun	6.03 262	*i* P	Pn	16 45 41.2	-1.4
MAK	Makhachkala	6.12 27	P	Pn	16 45 47.0	+3.2
MAK			*i* S	Sn	16 46 50.0	-4.0
MAK			pmax	pmax		
	comp=N,2μm,1.7s					
MAK			pmax	pmax		
	comp=E,765nm,1.7s					
MAK			pmax	pmax		
	comp=Z,2μm,1.7s					
MAK			pmax	pmax		
	comp=Z,3μm,3.9s					
MAK			smax			
	comp=N,14μm,4.0s					
HTY	Hatay	6.22 259	Pn	Pn	16 45 45.9	+0.7
BNN	Bunyan	6.30 284	Pn	Pn	16 45 46.5	+0.2
CEYT	Ceyhan	6.35 267	Pn	Pn	16 45 45.2	-1.8
KIV	Kislovodsk	6.42 354	Pn	Pn	16 45 48.5	+0.5
	comp=N,3μm,1.0s,SNR=87					
KIV	Kislovodsk	6.42 354	*d i*P	Pn	16 45 48.5	+0.5
KIV			pmax	pmax		
	comp=E,243nm,1.1s					
KIV			pmax	pmax		
	comp=Z,718nm,1.1s					
KIV			MLR	MLR		
	comp=N,48μm,15.0s					
KIV			MLR	MLR		
	comp=Z,64μm,15.0s					
KIV	Kislovodsk	6.42 354	*e*Pn	Pn	16 45 48.7	+0.7
IQOM	Qom	6.56 112	Pn	Pn	16 45 51.6	+1.6
IAFJ	Afjeh	6.67 102	Pn	Pn	16 45 52.2	+0.6
IAFJ	Afjeh	6.67 102	Lg		16 47 53.1	
SOC	Sochi	6.72 335	*i* P	Pn	16 45 51.6	-0.6
SOC			*e*		16 47 07.4	
SOC			pmax	pmax		
	comp=Z,879nm,1.2s					
SOC			pmax	pmax		
	comp=N,988nm,1.4s					
SOC			pmax	pmax		
	comp=E,190nm,1.1s					
SOC			MLR	MLR		
	comp=Z,42μm,15.0s					
SOC			MLR	MLR		
	comp=N,40μm,14.0s					
SOC			MLR	MLR		
	comp=E,68μm,20.0s					
SOC	Sochi	6.72 335	*e*P	Pn	16 45 51.7	-0.5
YOZ	Yozgat	6.87 290	Pn	Pn	16 45 51.1	-3.1
SHGO	Shushtar	6.89 141	*e*PN	Pn	16 45 54.9	+0.4
SHGR	Shooshtar-Gavs	6.89 141	*e*PN	Pn	16 45 54.9	+0.4
DAMV	Damavand	6.94 104	*e*PN	Pn	16 45 56.8	+1.4
IDMV	Damavand	7.01 104	Pn	Pn	16 45 56.8	+0.6
AVNT	Avonos	7.06 283	*i* P	Pn	16 45 55.9	-1.1
HWQ	Hawqa	7.08 245	*e*PN	Pn	16 45 59.0	+1.6
HWQ			SN	Sn	16 47 59.4	+41
NIG	Nigde	7.20 277	Pn	Pn	16 46 04.9	+6.0
BHL	Bhannes	7.49 243	*e*PN	Pn	16 46 04.1	+1.2
BHL			SN	Sn	16 48 00.1	+32
GOF	Gofitskoye	7.49 356	⇓*i*P	Pn	16 46 03.0	-0.1
GOF			pmax	pmax		
	comp=Z,60nm,1.0s					
GOF			MLR	MLR		
	comp=N,80μm,15.0s					
GOF			MLR	MLR		
	comp=E,80μm,15.0s					
GOF			MLR	MLR		
	comp=Z,70μm,15.0s					
IFIR	Firoozkooh	7.55 102	Pn	Pn	16 46 04.5	+0.7
CTKT	Corum	7.56 297	*i* P	Pn	16 46 09.5	+5.6
MEST	Erdemli	7.69 266	*i* P	Pn	16 46 05.6	-0.2
ASF	Jabal al Asfar	7.75 228	Pn	Pn	16 46 08.5	+1.8
	comp=Z,15nm,0.3s,baz=255,slow=11,SNR=22					
ASF			Lg		16 48 19.7	
	comp=Z,18nm,0.3s,baz=115,slow=22,SNR=7.2					
ASF			LR	LR	16 49 41.7	
	comp=Z,28μm,18.5s,baz=95,slow=41					
BYBT	Boyabat	7.91 302	Pn	Pn	16 46 12.1	+3.2
KAMT	Kaman	8.02 286	Pn	P	16 46 08.2	-2.3
BRTR	Keskin Array B	8.15 288	Pn	P	16 46 11.5	-0.7
	comp=Z,1.0nm,0.3s,baz=312,slow=28,SNR=22					
BRTR			Lg		16 48 42.5	
	baz=142,slow=16,SNR=2.0					
PHNC	Paralimni	8.20 255	P	P	16 46 13.3	+0.4
PHNC			S	Sn	16 47 44.4	-1.6
TOS	Tosya	8.25 298	Pn	P	16 46 13.4	-0.1
CANT	Cankiri	8.39 294	Pn	P	16 46 17.4	+1.8
ELDT	Eldivan	8.50 293	*i* P	P	16 46 14.2	-2.8
ANN	Anapa	8.62 329	*e*P	P	16 46 21.2	+2.5
ANN			*i* S	Sn	16 48 02.4	+6.1
ANN			pmax	pmax		
	comp=Z,199nm,1.1s					
ANN			MLR	MLR		
	comp=Z,3μm,8.0s					
ANN			MLR	MLR		
	comp=N,33μm,15.0s					
ANN			MLR	MLR		
	comp=E,25μm,16.0s					
CSS	Prodhromos	8.76 256	P	P	16 46 20.0	-0.6
	comp=E,9.8nm,1.0s					
CSS			S	Sn	16 47 58.1	-1.6
ANTO	Ankara	8.81 288	⇑P	P	16 46 23.1	+1.7
ANTO	Ankara	8.81 288	⇑P	P	16 46 16.5	-4.9
ANTO			⇑P		16 46 23.1	
NASN	Na'in	8.86 120	*e*PN	P	16 46 23.0	+1.0
BALT	Daday	8.88 300	*i* P	P	16 46 25.0	+2.7
KONT	Konya--Tatoy	8.98 276	Pn	P	16 46 27.1	+3.4
LEF	Lefka	9.04 258	Pn	P	16 46 22.0	-2.7
SZAC	Souni-Zanaja	9.17 255	P	P	16 46 25.9	-0.5
	comp=E,29nm,1.4s					
SZAC			S	Sn	16 48 07.3	-2.7
ALFC	Alevga	9.26 258	P	P	16 46 27.0	-0.6
	comp=E,8.4nm,0.8s					
ALFC			S	Sn	16 48 10.1	-2.0
KIZT	Kizilcal	9.38 282	Pn	P	16 46 27.2	-2.0
AKMC	Akamas	9.51 258	P	P	16 46 30.3	-0.7
PPCY	Paphos	9.54 257	P	P	16 46 31.6	+0.1
ESKT	Eskisehir	10.24 285	Pn	P	16 46 42.9	+1.9
SIM	Simferopol'	10.30 319	*d i*P	P	16 46 44.6	+2.8
SIM			pmax	pmax		
	comp=Z,147nm,1.0s					
ISP	Isparta	10.44 275	P	P	16 46 46.4	+2.6
EIL	Elat	10.72 225	Pn	P	16 46 49.9	+2.2
	comp=Z,2.8nm,0.3s,baz=62,slow=20,SNR=5.6					
EIL			Lg		16 50 02.0	
	comp=Z,12nm,0.3s,baz=77,slow=33,SNR=4.1					
ASH	Ashkhabad	11.62 84	P	P	16 46 59.0	-0.8
KRBR	Kerman	13.24 121	*e*PN	P	16 47 21.1	-0.5
TIRR	Tirgusor	13.41 306	⇓P	P	16 47 26.5	+2.7
TLCR		13.49 309	⇑P	P	16 47 24.5	-0.4
PRD	Provadia	13.62 299	*e*P	P	16 47 32.0	+5.6
HARR	Harsova	13.83 306	⇑P	P	16 47 30.4	+1.3
HARR	Harsova	13.83 306	⇑*i*P	P	16 47 29.8	+0.6
APE	Apeiranthos	14.46 274	*i* P	P	16 47 40.9	+3.4
APE	Apeiranthos	14.46 274	⇑P	P	16 47 41.5	+4.0
KIS	Kishinev	14.46 315	*e*P	P	16 47 34.0	-3.5
KIS			*i* S	S	16 50 22.0	+4.0
KIS			pmax	pmax		
	comp=Z,900nm,1.8s					
KIS			MLR	MLR		
	comp=N,11μm,14.0s					
KIS			MLR	MLR		
	comp=Z,10μm,14.0s					
KIS			MLR	MLR		
	comp=E,11μm,19.0s					
KIS			MLR	MLR		
	comp=Z,7μm,14.0s					
VOR	Voronezh	14.51 349	*e*P	P	16 47 36.5	-1.5
VOR			pmax	pmax		
	comp=N,120nm,1.3s					
VOR			pmax	pmax		
	comp=E,800nm,1.3s					
VOR			pmax	pmax		
	comp=Z,900nm,1.3s					
SANT	Santorini	14.62 271	P	P	16 47 42.9	+3.2
KDZ	Kurdzhali	14.65 292	*e*P	P	16 47 42.0	+2.0
VRI	Vrincioaia	15.11 309	P	P	16 47 49.6	+3.6
RZN	Rozhen	15.18 292	*e*P	P	16 47 48.0	+1.1
PLD	Plovdiv	15.26 293	*e*P	P	16 47 43.0	-5.0
IAS	Iasi	15.28 314	P	P	16 47 51.8	+3.6
IDI	Anoyia	15.30 267	Pn	P	16 47 51.1	+2.6
	comp=Z,2.6nm,0.3s,baz=63,slow=10,SNR=28					
MLR	Muntele Rosu	15.44 306	Pn	P	16 47 50.8	+0.6
	comp=Z,0.3nm,0.3s,baz=108,slow=8.5,SNR=18					
MLR	Muntele Rosu	15.44 306	Pn	P	16 47 50.8	+0.6
MLR			P		16 47 54.5	
MLR	Muntele Rosu	15.44 306	⇓*i*P	P	16 47 51.1	+0.8
OUR	Ouranopolis	15.57 286	*e*P	P	16 47 53.2	+1.2
SNX	Sinaia	15.66 305	P		16 48 07.1	
PGB	Panagyurishte	15.74 294	*e*P	P	16 47 56.0	+1.8
MMB	Musomiste	15.89 291	*e*P	P	16 47 57.0	+0.8
MTUR	Matau	15.90 305	⇓*i*P	P	16 48 00.8	+4.5
SRS	Serrai	15.94 289	*e*P	P	16 47 57.8	+1.1
GVD	Gavdhos	16.05 266	*e*P	P	16 47 59.5	+1.3
	comp=Z,808nm,1.0s					
SOH	Sokhos	16.09 288	*e*P	P	16 47 59.7	+1.1
XOR	Xorichti	16.15 283	*e*P	P	16 48 03.8	+4.4
THE	Thessaloniki	16.37 287	*e*P	P	16 48 03.5	+1.3
KKB	Krupnik	16.41 292	*i* P	P	16 48 04.0	+1.3
VTS	Vitosha	16.44 294	P	P	16 48 04.9	+1.8
VTS	Vitosha	16.44 294	*i* P	P	16 48 04.0	+0.9
KNT	Kendrikon	16.46 289	*e*P	P	16 48 05.5	+2.1
AKASG	Malin Array Be	16.69 326	P	P	16 48 04.4	-1.8
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.3s					
AKASG	Malin Array Be	16.69 326	Pn	P	16 48 04.4	-1.8
	comp=Z,1.3nm,0.3s,baz=133,slow=13,SNR=55					
LIT	Litokhoron	16.70 285	*e*P	P	16 48 08.6	+2.2
VAY	Valandovo	16.73 289	*i* P	P	16 48 10.6	+3.9
VAY			*i*		16 53 05.5	
GRG	Griva	16.82 288	*e*P	P	16 48 11.0	+3.1
AGG	Agios Georgios	16.82 282	*e*P	P	16 48 12.2	+4.2
BURAR	Bucovina Array	16.86 312	P	P	16 48 11.9	+3.6
BARS	Barje	17.49 294	⇑*i*P	P	16 48 18.1	+1.8
FNA	Florina	17.58 287	*e*P	P	16 48 18.4	+1.0
BOLS	Boljevac	17.59 298	⇑*i*P	P	16 48 19.3	+1.7
BIA	Bitola	17.64 288	*i* P	P	16 48 21.8	+3.7
SKO	Skopje	17.64 291	*i* P	P	16 48 20.9	+2.7
SKO			pmax	pmax		
	comp=Z,103nm,1.0s					
SKO	Skopje	17.64 291	*i* P	P	16 48 20.9	+2.7
	comp=Z,103nm,1.0s					
SKO			*i*		16 48 24.0	
SKO			*i*		16 48 32.5	
SKO			*i*		16 48 36.2	
SKO	Skopje	17.64 291	*i* P	P	16 48 20.8	+2.6
SKO			*i*		16 48 24.1	
	comp=Z,0.1nm,1.0s					
SKO			*i*		16 48 32.5	
	comp=Z,0.1nm,1.2s					
SKO			*i* S	S	16 51 50.1	+18
SKO			*i*		16 53 27.6	
SKO			*i*		16 53 42.1	
SKO			*i*		16 53 57.3	
ARQ	Araqi	17.97 139	⇑P	P	16 48 19.1	-3.2
	SNR=66					
OHR	Ohrid	18.04 288	*e*P	P	16 48 22.5	-0.7
OHR			*i*		16 48 28.8	
OHR	Ohrid	18.04 288	*i* P	P	16 48 22.5	-0.7
OHR			*i*		16 48 28.8	
OHR			⇑*i*S	S	16 51 54.0	+13
OHR			*i*		16 53 01.2	
OHR			*i*		16 54 04.0	
HOQ	Hoqain	18.20 136	⇓P	P	16 48 23.0	-2.3
	SNR=35					
OBN	Obninsk	18.20 347	⇓*e*P	P	16 48 19.4	-5.7
OBN			*i* S	S	16 51 46.0	+1.5
OBN			pmax	pmax		
	comp=Z,295nm,1.5s					
OBN			MLR	MLR		
	comp=Z,29μm,14.0s					
OBN	Obninsk	18.20 347	*e*P	P	16 48 18.9	-6.2
	comp=Z,339nm,1.1s					
SVIS	Svilajnac	18.22 299	⇑*i*P	P	16 48 22.2	-3.2
BZS	Buzias	18.32 303	⇑P	P	16 48 27.2	+0.6
IGT	Igoumenitsa	18.36 283	*e*P	P	16 48 27.7	+0.5
GRUS	Gruza	18.49 297	⇑*i*P	P	16 48 29.3	+0.7
MOS	Moscow	18.63 349	*e*P	P	16 48 28.3	-2.0
MOS			*e*S	S	16 51 52.5	-1.6
MOS			pmax	pmax		
	comp=Z,232nm,1.0s					
MOS			MLR	MLR		
	comp=Z,35μm,15.1s					
MOS			MLR	MLR		
	comp=N,25μm,14.6s					
LVV	L'vov	18.69 317	*e*P	P	16 48 30.6	-0.5
LVV			*e*S	S	16 51 58.2	+2.7
LVV			MLR	MLR		
	comp=E,2μm,14.0s					
LVV			MLR	MLR		
	comp=Z,2μm,14.0s					
LVV			MLR	MLR		
	comp=N,4μm,13.0s					
LVV	L'vov	18.69 317	*e*P	P	16 48 31.0	-0.1
BIDO	Bidbid	18.70 134	P	P	16 48 28.7	-2.7
	SNR=70					
PECR	Pechory	18.75 1	⇓*i*P	P	16 48 28.0	-3.8
PECR			*e*S	S	16 51 59.0	+2.1
PECR			pmax	pmax		
	comp=N,4μm,7.0s					
PECR			pmax	pmax		
	comp=Z,4μm,7.0s					
PECR			smax			
	comp=N,4μm,13.0s					
PECR			MLR	MLR		
	comp=Z,32μm,16.0s					
PECR			MLR	MLR		
	comp=N,19μm,15.0s					
PVY	Plav	18.80 293	⇑*i*P	P	16 48 32.4	-0.1
BSY	Bisya	18.81 138	P	P	16 48 29.5	-3.2
	SNR=151					
BEO	Belgrade	18.88 300	⇓*i*P	P	16 48 33.9	+0.5
IVA	Berane	18.89 294	⇑*i*P	P	16 48 33.6	0.0
SMDO	Samad	19.02 135	P	P	16 48 33.2	-2.0
	SNR=99					
DIVS	Divcibare	19.04 297	⇓*i*P	P	16 48 34.7	-0.6
UZH	Uzhgorod	19.07 312	*e*P	P	16 48 38.0	+2.4
KOLS	Kolonicke sedl	19.22 313	*i* P	P	16 48 38.2	+0.8
ULC	Ulcinj	19.27 291	⇑*i*P	P	16 48 37.6	-0.4
TTG	Podgorica	19.30 292	⇑*i*P	P	16 48 37.6	-0.8
KWP	Kalwaria	19.32 315	*e*P	P	16 48 38.1	-0.4
KWP			*e*S	S	16 52 18.6	+8.9
KWP			pmax	pmax		
	comp=Z,495nm,1.1s					
KWP	Kalwaria	19.32 315	*e*P	P	16 48 38.1	-0.4
	comp=Z,496nm,1.1s					
KWP			*e*P		16 48 38.4	
KWP			*e*pP		16 48 41.9	
KWP			*e*S	S	16 52 18.6	+8.9
KWP	Kalwaria	19.32 315	*e*P	P	16 48 38.4	-0.1
KWP			*e*pP		16 48 41.9	
KWP			*e*S	S	16 52 18.6	+8.9
KWP			MLR	MLR	16 59 36.9	
	comp=Z,24μm,16.1s					
PLE	Pljevlja	19.33 295	⇑*i*P	P	16 48 39.3	+0.6
NKY	Niksic	19.54 293	⇑*i*P	P	16 48 40.6	-0.5
BUM	Brajici-Budva	19.56 292	⇑*i*P	P	16 48 40.6	-0.7
JMDO	Jabal Madar	19.60 137	⇑P	P	16 48 40.4	-1.5
	SNR=162					
UPM	Unac-Piva	19.66 294	⇑*i*P	P	16 48 42.3	-0.1
CRVS	Cervenica-Dubn	19.68 312	*e*P	P	16 48 42.6	0.0
CRVS			*i* S	S	16 52 32.2	+15
HCY	Herceg Novi	19.87 292	⇑*i*P	P	16 48 44.3	-0.5
PKSN	Nyarlorinc	19.88 305	*e*P	P	16 48 46.3	+1.5
BRY	Bratogost	19.88 293	⇑*i*P	P	16 48 44.7	-0.2
WBK	Wadi Bani Khal	19.89 134	⇑P	P	16 48 44.5	-0.6
	SNR=32					
KECS	Kecovo	20.08 310	*e*P	P	16 48 50.6	+3.7
MNK	Minsk	20.11 332	⇓*e*P	P	16 48 43.0	-4.2
PSZ	Piszkesteto	20.22 308	P	P	16 48 48.9	+0.5
PSZ	Piszkesteto	20.22 308	⇑*e*P	P	16 48 48.2	-0.2
PKSM	Moragy	20.48 303	⇑P	P	16 48 50.7	-0.4
NIE	Niedzica	20.59 313	*e*P	P	16 48 52.2	0.0
BUD	Budapest	20.62 307	*e*P	P	16 48 56.0	+3.5
PKS9	Tamasi	20.82 304	⇑*e*P	P	16 48 54.5	-0.1
RHK1	Bakonya	20.83 302	*e*P	P	16 48 54.0	-0.7
PKSG		20.99 306	*e*P	P	16 48 56.9	+0.5
VYHS	Vyhne	21.09 309	*i* P	P	16 48 57.6	+0.2
VYHS			*i* S	S	16 52 59.7	+13
IDID	Didziasalis	21.14 332	*e*P	P	16 48 57.0	-0.8
IDID			AMPb	AMB	16 49 05.5	
	comp=Z,122nm,1.3s,mb5.1					
TIP	Timpagrande	21.15 283	*e*P	P	16 48 57.1	-0.9
SRO	Srobarova	21.18 307	*e*P	P	16 49 01.5	+3.2
SRO1	Iza	21.21 307	*i* P	P	16 49 01.5	+2.9
OJC	Ojcow	21.24 314	*e*P	P	16 48 58.0	-0.9
OJC			*e*S	S	16 52 53.4	+4.4
OJC			MLR	MLR	16 59 03.6	
	comp=Z,18μm,17.4s,MS5.5					
ARU	Arti	21.33 23	P	P	16 48 57.3	-2.5
	comp=Z,3μm,1.9s,mb6.2					
ARU	Arti	21.33 23	⇓*i*P	P	16 48 51.8	-8.0
ARU			*i* S	S	16 52 42.2	-8.4
ARU			*i* SS	SS	16 53 00.2	-25
ARU			pmax	pmax		
	comp=Z,779nm,1.5s,mb5.8					
ARU			MLR	MLR		
	comp=E,10μm,16.0s,MS5.3					
ARU			MLR	MLR		
	comp=Z,11μm,16.0s,MS5.4					
ARU			MLR	MLR		
	comp=N,2μm,15.0s,MS5.3					
ORI	Oriolo Calabro	21.34 285	P	P	16 49 00.6	+0.7
IIGN	Ignalina	21.36 332	*e*P	P	16 48 59.4	-0.6
IIGN			AMPb	AMB	16 49 07.5	
	comp=Z,101nm,1.4s,mb5.0					
KOLL	Kolacno	21.39 309	*e*P	P	16 49 01.3	+0.9
ISAL	Salakas	21.56 332	*e*P	P	16 49 01.0	-1.0
ISAL			AMPb	AMB	16 49 08.4	
	comp=Z,95nm,1.1s,mb5.1					
WAR	Warsaw	21.61 320	*e*P	P	16 49 01.9	-0.7
WAR			*e*pP		16 49 06.1	
WAR			*e*S	S	16 53 08.6	+13
WAR			MLR	MLR	16 58 27.0	
	comp=Z,21μm,20.6s,MS5.5					
IZAR	Zarasai	21.66 333	*e*P	P	16 49 02.0	-1.0
IZAR			AMPb	AMB	16 49 09.6	
	comp=Z,160nm,1.4s,mb5.2					
SUW	Suwalki	21.66 326	*e*P	P	16 49 03.0	0.0
SUW			*e*pP		16 49 07.0	
SUW			*e*S	S	16 53 01.0	+4.3
SUW	Suwalki	21.66 326	*e*P	P	16 49 03.0	-0.1
SUW			*e*pP		16 49 07.0	
SUW			*e*S	S	16 53 01.0	+4.3
SUW			MLR	MLR	16 59 51.2	
	comp=Z,9μm,19.3s,MS5.2					
ABTO	Aybut	21.85 155	⇓P	P	16 49 03.8	-1.3
	SNR=11					
JAVC	Velka Javorina	21.95 309	P	P	16 49 07.8	+1.8
SLCN	Sala Consilina	21.95 286	P	P	16 49 08.1	+2.0
SMOL	Smolenice	21.98 308	*e*P	P	16 49 08.8	+2.5
MGR	Morigerati	22.02 285	P	P	16 49 07.0	+0.2
FG4	Candela	22.03 288	P	P	16 49 08.1	+1.3
RBK	Rabkut	22.03 152	⇓P	P	16 49 06.1	-0.9
	SNR=36					
OKC	Ostrava-Krasne	22.04 312	*e*P	P	16 49 06.6	-0.3
OKC	Ostrava-Krasne	22.04 312	*e*P	P	16 49 06.6	-0.3
OKC			AMS	AMS	16 59 50.0	
	comp=Z,13μm,14.4s					
ZST	Bratislava	22.07 307	*i* P	P	16 49 08.8	+1.5
ZST			*e*S	S	16 53 19.6	+15
RAC	Raciborz	22.11 313	*e*P	P	16 49 06.0	-1.6
RAC			*e*		16 49 28.9	
RAC			*e*S	S	16 53 14.7	+10
RAC			MLR	MLR		
	comp=Z,14μm,20.2s,MS5.4					
RAC	Raciborz	22.11 313	*e*P	P	16 49 06.0	-1.6
RAC			*e*PP	PP	16 49 28.9	-5.1
RAC			*e*S	S	16 53 14.7	+10
RAC			LME		16 58 27.0	
RAC			LMN		16 58 35.0	
RAC			MLR	MLR	16 58 46.1	
	comp=Z,14μm,20.2s,MS5.4					
SOP	Sopron	22.27 306	⇓*e*P	P	16 49 10.5	+1.4
SVE	Sverdlovsk	22.33 25	*e*P	P	16 49 08.6	-1.1
SVE			*e*		16 49 34.8	
SVE			*e*S	S	16 53 10.0	+0.9
SVE			pmax	pmax		
	comp=Z,1μm,1.6s,mb6.1					
MORC	Moravsky Berou	22.37 311	*e*P	P	16 49 10.9	+0.7
MORC			pmax	pmax		
	comp=Z,198nm,1.2s,mb5.4					
MORC	Moravsky Berou	22.37 311	*e*P	P	16 49 10.9	+0.7
	comp=Z,198nm,1.2s,mb5.4					
CRES	Cresnjev	22.54 300	*e*P	P	16 49 13.0	+1.2
CRES			*e*S	S	16 53 29.9	+17
VKA	Vienna	22.59 307	⇑*i*P	P	16 49 13.7	+1.4
	comp=Z,373nm,2.0s,mb5.5					
VKA			MLRZ		16 59 00.0	
	comp=Z,13nm,17.0s					
VRAC	Vranov	22.77 310	P	P	16 49 14.4	+0.3
VRAC			pmax	pmax		
	comp=Z,164nm,1.2s					
VRAC			MLR	MLR		
	comp=Z,16μm,18.6s					
VRAC	Vranov	22.77 310	P	P	16 49 14.4	+0.4
	comp=Z,164nm,1.2s,mb5.3,baz=98,slow=10,SNR=22					
VRAC			LR	LR	17 00 11.8	
	comp=Z,16μm,18.6s,MS5.5,baz=107,slow=42					
VRAC	Vranov	22.77 310	P	P	16 49 15.4	+1.3
KRUC	Moravsky	22.81 309	P	P	16 49 15.6	+1.2
ARSA	Arzberg	22.82 304	⇑*i*P	P	16 49 15.7	+1.1
DHBB	Dhamar BB	22.92 178	⇓*e*P	P	16 49 18.9	+3.1
CII	Carovilli	22.94 290	*e*P	P	16 49 15.4	-0.5
	comp=Z,166nm,1.0s,mb5.4					
CII			*e*		16 49 27.1	
VAE	Valguarnera	23.18 279	P	P	16 49 20.6	+2.5
	comp=Z,41nm,1.1s,mb4.8,baz=214,slow=23,SNR=5.1					
LJU	Ljubljana	23.22 301	*e*P	P	16 49 19.4	+0.9
LJU			*e*		16 49 24.5	
LJU			*e*S	S	16 53 37.0	+12
SDI	San Donato	23.31 290	P	P	16 49 20.2	+0.8
DPC	Dobruska-Polom	23.32 312	*e*P	P	16 49 19.5	+0.1
DPC			AMS	AMS	17 00 10.0	
	comp=Z,11μm,17.7s					
AML	Almayashu	23.42 69	P	P	16 49 22.4	+1.9
	SNR=56					
MUKL	Al Mukalla	23.49 167	⇑*e*P	P	16 49 24.4	+3.0
MUKL			AMb	AMB	16 49 24.7	
	comp=Z,96nm,1.1s,mb5.1					
EKS2	Erkin-Say	23.50 68	P	P	16 49 24.0	+2.8
	SNR=38					
KSP	Ksiaz	23.53 313	*e*P	P	16 49 22.5	+1.1
KSP			*e*PP		16 49 26.5	
KSP			*e*S	S	16 53 35.5	+5.0
KSP			MLR	MLR		
	comp=Z,27μm,19.0s,MS5.7					
KSP	Ksiaz	23.53 313	*e*P	P	16 49 22.5	+1.1
KSP			*e*pP		16 49 26.5	
KSP			*e*		16 49 35.1	
KSP			*e*S	S	16 53 35.5	+5.0
KSP			LR	LR		
	comp=Z,27μm,19.0s,MS5.7					
KSP	Ksiaz	23.53 313	*e*P	P	16 49 22.6	+1

AQU pmax pmax
comp=Z,203nm,1.1s,mb5.5
AQU L'Aquila 23.63 291 *eP* **P 16 49 22.2 -0.3**
comp=Z,203nm,1.1s,mb5.5
VSU Vasula 23.64 338 *eP* **P 16 49 22.3 -0.2**
LBOS 23.65 176⇓*eP* **P 16 49 26.1 +3.2**
LBOS AMb AMB 16 49 27.9
comp=Z,131nm,1.2s,mb5.2
VOY Vojsko 23.65 300 *eP* **P 16 49 19.5 -3.2**
VOY *e* 16 49 27.7
MOA Molln 23.80 305⇑*iP* **P 16 49 24.6 +0.5**
PUL Pulkovo 23.81 343*ceP* **P 16 49 25.2 +1.2**
PUL *eS* **S 16 53 34.6 -0.6**
PUL pmax pmax
comp=Z,3μm,3.5s
PUL pmax pmax
comp=Z,332nm,0.9s,mb5.8
PUL pmax pmax
comp=N,857nm,1.2s
PUL pmax pmax
comp=E,432nm,1.2s
PUL smax
comp=Z,9μm,15.1s
PUL smax
comp=N,6μm,14.3s
PUL smax
comp=E,8μm,13.3s
PUL MLR MLR
comp=Z,14μm,14.0s,MS5.6
PUL MLR MLR
comp=N,9μm,12.0s,MS5.6
PUL MLR MLR
comp=E,12μm,17.0s,MS5.6
PUL Pulkovo 23.81 343⇑*eP* **P 16 49 24.4 +0.4**
FIAM Fiamignano 23.84 291 P **P 16 49 26.0 +1.5**
NRCA Norcia 23.86 292 P **P 16 49 26.2 +1.5**
LSR Lussari 23.98 301⇓*eP* **P 16 49 28.0 +2.1**
COLI Coloredo 24.02 300⇓*iP* **P 16 49 27.0 +0.7**
AAK Ala-Archa 24.03 68 P **P 16 49 27.1 +0.7**
SNR=50
AAK Ala-Archa 24.03 68⇓*eP* **P 16 49 27.1 +0.7**
AAK pmax pmax
comp=Z,87nm,0.9s,mb5.2
AAK MLR MLR
comp=Z,14μm,21.0s,MS5.4
AAK Ala-Archa 24.03 68 *eP* **P 16 49 26.3 -0.1**
comp=Z,163nm,1.3s,mb5.3
UCH Uchtor 24.03 69 P **P 16 49 28.2 +1.8**
SNR=26
USP Ospenovka 24.06 67 P **P 16 49 29.7 +3.0**
SNR=32
BRVK Borovoye 24.09 41 *eP* **P 16 49 25.7 -1.1**
BRVK pmax pmax
comp=Z,555nm,1.1s,mb5.9
BRVK Borovoye 24.09 41 *eP* **P 16 49 25.7 -1.1**
comp=Z,555nm,1.1s,mb5.9
BRVK *e* 16 49 37.8
GKP Gorka Klasztor 24.11 319 *eP* **P 16 49 28.3 +1.2**
GKP MLR MLR
comp=Z,16μm,22.1s,MS5.5
GKP Gorka Klasztor 24.11 319 *eP* **P 16 49 28.3 +1.2**
GKP *eS* S 16 54 00.6 +20
GKP LR LR
comp=Z,16μm,22.1s,MS5.5
GKP Gorka Klasztor 24.11 319 *eP* **P 16 49 28.3 +1.2**
GKP *eS* S 16 54 00.6 +20
GKP MLR MLR 17 00 07.8
comp=Z,16μm,22.1s,MS5.5
FRU Bishkek 24.12 68⇑*eP* **P 16 49 27.0 -0.3**
FRU *i* S **S 16 53 32.0 -8.8**
FRU pmax pmax
comp=Z,3μm,3.1s
FRU smax
comp=E,25μm,14.0s
BVA0 Borovoye Array 24.12 42 P **P 16 49 26.7 -0.5**
BVA0 pmax pmax
comp=Z,60nm,1.3s,mb4.9
BVAR Borovoye Array 24.12 42 P **P 16 49 26.8 -0.4**
comp=Z,73nm,1.0s,mb5.1,baz=236,slow=5.3,SNR=69
BVAR ScP 16 56 45.5
comp=Z,3.3nm,0.8s,baz=207,slow=6.4,SNR=3.2
BAD Bernadia 24.13 301⇓*eP* **P 16 49 28.0 +0.6**
GMNA Gemona 24.14 301 P **P 16 49 28.7 +1.2**
TLI Talmassons 24.18 300⇓*eP* **P 16 49 29.0 +1.2**
KBA Koelnbreinsper 24.23 303⇑*iP* **P 16 49 29.1 +0.8**
CHMS Chumysh 24.23 67 P **P 16 49 28.6 +0.2**
SNR=39
PRU Pruhonice 24.26 310 *eP* **P 16 49 28.9 +0.4**
PRU AMS AMS 17 00 50.0
comp=Z,21μm,17.1s
MPRI Monte Prat 24.31 301⇓*eP* **P 16 49 30.0 +0.9**
PRA Prague 24.35 310 P **P 16 49 32.0 +2.6**
PRA AMS AMS 17 01 00.0
KBK Karagaybulak 24.36 68 P **P 16 49 30.6 +1.0**
SNR=41
GEC2 GERESS Array S 24.43 307 *eP* **P 16 49 28.6 -1.6**
GEC2 pmax pmax
comp=Z,242nm,1.5s,mb5.4
GEC2 GERESS Array S 24.43 307 *eP* **P 16 49 28.6 -1.6**
comp=Z,242nm,1.5s,mb5.4
GERES GERESS Array B 24.43 307 P **P 16 49 30.0 -0.2**
comp=Z,25nm,0.7s,mb4.8,baz=113,slow=8.2,SNR=91
GERES ScP 16 56 46.3
comp=Z,0.7nm,0.6s,baz=127,slow=4.9,SNR=3.2
PVCC Panska Ves 24.43 311 *eP* **P 16 49 30.0 -0.2**
FVI Forni Avoltri 24.51 301 P **P 16 49 31.8 +0.7**
MLNI Malnisio 24.55 300⇑*eP* **P 16 49 32.0 +0.6**
CHKZ Chkalovo 24.57 40 *iP* **P 16 49 30.9 -0.6**
CHKZ pmax pmax
comp=Z,231nm,1.4s,mb5.5
CHKZ Chkalovo 24.57 40 *eP* **P 16 49 30.6 -0.9**
comp=Z,543nm,1.3s,mb5.9
KZA Kyzart 24.58 70 P **P 16 49 32.9 +1.2**
SNR=25
KHC Kasperske Hory 24.59 308 *eP* **P 16 49 31.3 -0.4**
KHC *e* 16 49 36.0
KHC *e* 16 50 11.5
KHC MLR MLR
comp=Z,17μm,20.1s,MS5.5
KHC Kasperske Hory 24.59 308 *eP* **P 16 49 31.3 -0.4**
KHC *e* 16 49 36.0
KHC *e* 16 49 53.5
KHC *e* 16 50 11.5
KHC LR LR
comp=Z,17μm,20.1s,MS5.5
KHC Kasperske Hory 24.59 308 *eP* **P 16 49 31.3 -0.4**
KHC pP 16 49 36.0
KHC x x 16 49 53.5
KHC x x 16 50 11.5
KHC AMS AMS 17 00 00.0
comp=Z,17μm,20.1s
CRE Caprese Michel 24.74 294 P **P 16 49 34.8 +1.5**
CSO Casso 24.77 301⇑*iP* **P 16 49 33.0 -0.5**
TKM2 Tokmak 2 24.85 68 P **P 16 49 35.6 +1.3**
SNR=32
BRG Berggiesshubel 24.92 312 *eP* **P 16 49 34.4 -0.5**
BRG *i* 16 49 39.4
BRG pmax pmax
comp=Z,105nm,1.2s,mb5.2
BRG MLR MLR
comp=Z,12μm,19.5s,MS5.4
BRG Berggiesshubel 24.92 312 *eP* **P 16 49 34.4 -0.5**
comp=Z,105nm,1.2s,mb5.2
BRG *i* 16 49 39.4
BRG *i* 16 49 44.0
BRG LR LR
comp=Z,12μm,19.5s,MS5.4
SEST Monte Rota 24.92 302 P **P 16 49 35.1 +0.1**
WET Wettzell 25.03 307 *eP* **P 16 49 35.2 -0.8**
WET pmax pmax
comp=Z,65nm,1.1s,mb5.1
WET Wettzell 25.03 307 *eP* **P 16 49 35.2 -0.8**
comp=Z,65nm,1.1s,mb5.1
VMG Vicchio 25.06 295 P **P 16 49 38.2 +1.9**
CTI Castel Tesino 25.20 300 P **P 16 49 38.0 +0.4**
CSNT Castellina Chi 25.22 294 P **P 16 49 38.9 +1.1**
BRES Bressanone 25.24 301 P **P 16 49 38.5 +0.5**
JASL Jaisalmer 25.27 107 *eP* **P 16 49 40.3 +1.8**
ULHL Ulahol 25.32 69 P **P 16 49 40.8 +2.0**
SNR=24
WTTA Wattenberg 25.41 303⇑*iP* **P 16 49 39.1 -0.4**
WATA Walderalm 25.46 303⇑*iP* **P 16 49 39.7 -0.3**
BERN Bernov 25.57 310⇓*iP* **P 16 49 49.0 +7.9**
NKC Novy Kostel 25.61 310 *eP* **P 16 49 40.6 -0.8**
NKC Novy Kostel 25.61 310 *eP* **P 16 49 40.6 -0.8**

NKC AMS AMS 17 01 30.0
comp=Z,20μm,18.0s
RUE Ruedersdorf 25.62 315 *eP* **P 16 49 40.0 -1.6**
comp=Z,579nm,1.3s,mb6.0
CLL Collm 25.63 312⇑*iP* **P 16 49 40.9 -0.7**
CLL pmax pmax
comp=Z,131nm,1.1s,mb5.4
CLL MLR MLR
comp=Z,18μm,17.8s,MS5.7
CLL Collm 25.63 312⇑*iP* **P 16 49 40.9 -0.7**
comp=Z,131nm,1.1s,mb5.4
CLL *i* sP 16 49 53.0 +2.1
CLL LR LR
comp=Z,18μm,17.8s,MS5.7
CLL Collm 25.63 312 ⇑P **P 16 49 40.9 -0.7**
comp=Z,logA/T=1.2,mb4.5
CLL *i* 16 49 44.4
CLL *i* *SP sP 16 49 53.0 +2.1
CLL *e* 16 51 02.0
CLL *eS* **S 16 54 11.0 +5.0**
CLL *eSS* SS 16 55 19.0 +8.9
SQTA Sankt Quirin 25.68 302⇑*iP* **P 16 49 41.5 -0.7**
BDI Bagni Di Lucca 25.75 295 P **P 16 49 44.2 +1.4**
MOTA Moosalm 25.78 303⇑*iP* **P 16 49 42.3 -0.7**
FUR Furstenfeldbru 25.82 305 *eP* **P 16 49 42.4 -1.0**
FUR pmax pmax
comp=Z,333nm,1.2s,mb5.7
FUR Furstenfeldbru 25.82 305 *eP* **P 16 49 42.4 -1.0**
comp=Z,333nm,1.2s,mb5.7
AAA Alma-Ata 25.84 67 *eP* **P 16 49 49.0 +5.3**
AAA pmax pmax
comp=Z,1μm,6.0s
AAA MLR MLR
comp=Z,10μm,10.0s,MS5.6
VLC Villacollemand 25.90 295 *eP* **P 16 49 47.3 +3.1**
comp=Z,109nm,0.8s,MS5.4
MABI Malga Bissina 25.98 300 P **P 16 49 44.9 0.0**
VALM 26.01 296 P **P 16 49 46.1 +0.8**
VINC Vinca 26.07 295 P **P 16 49 45.1 -0.7**
BRMO Bormio 26.14 301 P **P 16 49 46.8 +0.5**
GRAM 26.15 296 P **P 16 49 47.7 +1.2**
BSD Bornholm Skovb 26.22 321⇓*iP* **P 16 49 49.5 +2.5**
BSD pmax pmax
comp=Z,42nm,0.7s,mb5.1
BSD Bornholm Skovb 26.22 321⇓*iP* **P 16 49 49.5 +2.5**
comp=Z,42nm,0.7s,mb5.1
BSD *i* S **S 16 54 33.6 +18**
comp=Z,5μm,19.0s
GRA1 Grafenberg Arr 26.22 308 *eP* **P 16 49 46.8 -0.3**
comp=Z,807nm,1.5s,mb6.0
GRA1 LR LR
comp=Z,13μm,21.0s,MS5.5
GRF Grafenberg Arr 26.22 308 *eP* **P 16 49 46.8 -0.3**
GRF pmax pmax
comp=Z,807nm,1.5s,mb6.0
GRF MLR MLR
comp=Z,13μm,21.0s,MS5.5
GRF Grafenberg Arr 26.22 308 *eP* **P 16 49 46.8 -0.3**
GRF pmax pmax
comp=Z,807nm,1.5s,mb6.0
GRF MLR MLR
comp=Z,13μm,21.0s,MS5.5
GRF Grafenberg Arr 26.22 308 *eP* **P 16 49 46.8 -0.3**
comp=Z,807nm,1.5s,mb6.0
GRF LR LR
comp=Z,13μm,21.0s,MS5.5
MOX Moxa 26.24 310 *eP* **P 16 49 47.2 -0.1**
MOX pmax pmax
comp=Z,160nm,1.8s,mb5.2
MOX MLR MLR
comp=Z,16μm,20.0s,MS5.6
MOX Moxa 26.24 310 *eP* **P 16 49 47.2 -0.1**
comp=Z,160nm,1.8s,mb5.2
MOX LR LR
comp=Z,16μm,20.0s,MS5.6
MOX Moxa 26.24 310 *iP* **P 16 49 47.2 -0.1**
comp=Z,logA/T=1.9,mb5.2
MOX L 17 01 35.0
CODM 26.30 296 P **P 16 49 47.9 0.0**
FINES FINESS Array B 26.31 341 *iP* **P 16 49 49.2 +1.4**
FINES pmax pmax
comp=Z,18nm,0.6s
FINES FINESS Array B 26.31 341 P **P 16 49 46.7 -1.1**
comp=Z,18nm,0.6s,mb4.8,baz=140,slow=9.5,SNR=24
FINES LR LR 17 01 03.1
comp=Z,9μm,20.1s,MS5.3,baz=16,slow=39
BHJ Bhuj 26.45 115 *e* **P 16 49 54.8 +5.4**
BHJ *e* pP 16 50 00.5 +4.6
comp=Z,267nm,1.6s
JOF Joensuu 26.48 347 *ep* **P 16 49 47.2 -2.1**
comp=Z,94nm,1.1s,mb5.2
DAVOX Davos 26.51 301 P **P 16 49 49.3 -0.5**
comp=Z,28nm,0.8s,mb4.9,baz=111,slow=7.9,SNR=25
DAVA Damuels 26.59 302⇑*iP* **P 16 49 49.6 -0.9**
VDL Val di Lei 26.75 300⇑P **P 16 49 51.9 -0.1**
VSL Villasalto 26.81 285 *eP* **P 16 49 51.5 -1.2**
comp=Z,79nm,0.9s,mb5.2
KAF Kangasniemi 26.82 342 *ep* **P 16 49 51.9 -0.6**
comp=Z,23nm,0.9s,mb4.7,baz=146,slow=9.4
KAF Kangasniemi 26.82 342 *eP* **P 16 49 51.9 -0.6**
KAF pmax pmax
comp=Z,23nm,0.9s,mb4.7
PGF Pioggiola 26.89 292 *eP* **P 16 49 52.5 -0.8**
comp=Z,429nm,1.1s,mb5.6
PGF Pioggiola 26.89 292 *eP* **P 16 49 52.5 -0.8**
PGF pmax pmax
comp=Z,215nm,1.1s,mb5.6
PCP Pian Castagno 27.24 296 P **P 16 49 54.2 -2.3**
STU Stuttgart 27.30 305 *eP* **P 16 49 56.4 -0.6**
STU pmax pmax
comp=Z,89nm,1.0s,mb5.2
STU Stuttgart 27.30 305 *eP* **P 16 49 56.4 -0.6**
comp=Z,89nm,1.0s,mb5.2
CLZ Clausthal 27.36 312 *eP* **P 16 49 54.6 -2.9**
FIN Finale Ligure 27.47 295 P **P 16 49 54.1 -4.5**
ZUR Zurich 27.48 302⇑P **P 16 49 57.8 -0.8**
BHK Bhakra 27.58 93 *e* **P 16 50 09.5 +10**
BHK *e* 16 53 11.9
SLE Schleitheim 27.59 303⇓P **P 16 49 59.3 -0.3**
IMI Imperia 27.69 295 P **P 16 49 53.8 -6.8**
ORX Oropa 27.70 298 P **P 16 50 00.9 +0.2**
ROB Roburent 27.72 295 P **P 16 49 55.6 -5.2**
TOD Tromm 27.73 307 *eP* **P 16 50 00.9 +0.1**
COP Copenhagen 27.73 321 *iP* **P 16 50 06.4 +5.6**
COP pmax pmax
comp=Z,102nm,1.3s,mb5.3
COP MLR MLR
comp=Z,4μm,16.0s,MS5.0
COP Copenhagen 27.73 321 *iP* **P 16 50 06.4 +5.6**
comp=Z,102nm,1.3s,mb5.3
COP *i* S **S 16 54 52.2 +12**
COP *i* 16 55 04.1
comp=Z,4μm,16.0s
MMK Mattmark 27.75 299⇓P **P 16 50 02.7 +1.6**
MONE Monesi 27.79 295 P **P 16 49 55.5 -6.0**
SULZ Sulz-Cheisache 27.81 302⇓P **P 16 50 01.4 -0.2**
NEGI Negi 27.83 294 P **P 16 49 54.3 -7.6**
TRAV 27.86 298 P **P 16 50 01.6 -0.5**
FELD Feldberg 27.93 303 *eP* **P 16 50 04.8 +2.1**
SAOF Saorge 27.94 295 *eP* **P 16 50 03.2 +0.4**
LKBD Leukerbad 28.01 300⇓P **P 16 50 02.8 -0.7**
KURK Kurchatov 28.02 51 *eP* **P 16 50 02.7 -0.8**
KURK pmax pmax
comp=Z,237nm,1.2s,mb5.7
KURK Kurchatov 28.02 51 *eP* **P 16 50 02.7 -0.8**
comp=Z,236nm,1.2s,mb5.7
SBF Sospel 28.02 294 *eP* **P 16 50 03.0 -0.6**
comp=Z,262nm,1.0s,mb5.5
SBF Sospel 28.02 294 *eP* **P 16 50 03.0 -0.6**
SBF pmax pmax
comp=Z,131nm,1.0s,mb5.5
AUTN L'Aution 28.03 295 *eP* **P 16 50 07.7 +4.1**
ENR Entracque 28.04 295 P **P 16 49 57.4 -6.3**
TNS Taunus Mts 28.09 308 *eP* **P 16 50 03.6 -0.5**
TNS pmax pmax
comp=Z,246nm,1.5s,mb5.6
TNS Taunus Mts 28.09 308 *eP* **P 16 50 03.6 -0.5**
comp=Z,246nm,1.5s,mb5.6
STV Sta Anna Valdi 28.11 295 P **P 16 49 57.6 -6.7**
KTD Kalmit 28.13 306 *eP* **P 16 50 05.1 +0.6**
TOUF Mont Tournerai 28.16 295 *eP* **P 16 50 09.0 +4.2**
BHB Bricherasio 28.17 297 P **P 16 49 59.5 -5.4**
RSP Reno Superiore 28.18 297 P **P 16 50 02.3 -2.7**
BBS Basel-Blauen 28.21 302 *eP* **P 16 50 05.5 +0.3**
LANF Langenberg 28.24 305 *eP* **P 16 50 07.2 +1.7**

LSD Ceresole Reale 28.27 298 P **P 16 50 04.4 -1.4**
PZZ Prazzo 28.27 296 P **P 16 49 59.3 -6.5**
FENE Fenestrelle 28.32 297 P **P 16 50 03.1 -3.1**
AJM Ajmer 28.36 104 *eP* **P 16 50 07.6 +0.8**
AJM *e* pP 16 50 14.2 +0.9
comp=Z,162nm,1.3s
AJM *eS* **S 16 54 54.8 +4.0**
WLS Welschbruch 28.45 304 *eP* **P 16 50 09.2 +1.9**
SURF Saint Ours 28.48 296 *eP* **P 16 50 11.8 +4.1**
KHET Khetri 28.49 100 *eP* **P 16 50 09.8 +1.8**
CDF Champ du Feu 28.50 304 *eP* **P 16 50 07.3 -0.5**
comp=Z,38nm,1.1s,mb4.6
CDF Champ du Feu 28.50 304 *eP* **P 16 50 07.3 -0.5**
CDF pmax pmax
comp=Z,19nm,1.1s,mb4.6
RRL Cesana Torines 28.51 297 P **P 16 50 03.1 -4.9**
MBDF Montbardon 28.51 296 *eP* **P 16 50 07.1 -0.9**
comp=Z,96nm,0.9s,mb5.2
MBDF Montbardon 28.51 296 *eP* **P 16 50 07.1 -0.9**
MBDF pmax pmax
comp=Z,48nm,0.9s,mb5.2
ECH Echery 28.54 304 *eP* **P 16 50 09.4 +1.2**
LPG La Plagne 28.56 298 *eP* **P 16 50 08.0 -0.4**
comp=Z,222nm,1.3s,mb5.4
LPG La Plagne 28.56 298 *eP* **P 16 50 08.0 -0.4**
LPG pmax pmax
comp=Z,111nm,1.3s,mb5.4
LPL La Plagne 28.57 298 *eP* **P 16 50 07.5 -1.0**
ABH Alteburg 28.58 307 *eP* **P 16 50 08.9 +0.4**
BNI Bardonecchia 28.59 297 *eP* **P 16 50 06.9 -1.8**
BNI pmax pmax
comp=Z,154nm,1.2s,mb5.6
BNI Bardonecchia 28.59 297 *eP* **P 16 50 06.9 -1.8**
comp=Z,154nm,1.2s,mb5.6
FRF La Foret Royal 28.59 294 *eP* **P 16 50 06.8 -1.9**
comp=Z,141nm,1.2s,mb5.3
FRF La Foret Royal 28.59 294 *eP* **P 16 50 06.8 -1.9**
FRF pmax pmax
comp=Z,71nm,1.2s,mb5.3
LOMF Lomont 28.66 302 *eP* **P 16 50 07.6 -1.6**
RSL Roselend 28.66 298 *eP* **P 16 50 07.8 -1.5**
OG01 Vacheresse 28.66 300 *eP* **P 16 50 08.9 -0.4**
HINF Hinteralfeld 28.69 303 *eP* **P 16 50 09.4 -0.2**
comp=Z,137nm,1.6s,mb5.1
HINF Hinteralfeld 28.69 303 *eP* **P 16 50 09.4 -0.2**
HINF pmax pmax
comp=Z,69nm,1.6s,mb5.1
LMR La Mourre 28.70 293 *eP* **P 16 50 07.6 -2.1**
KLP Kalpa 28.99 92 *eP* **P 16 50 13.9 +1.4**
KUDL Kundal 29.00 99 *eP* **P 16 50 14.2 +1.6**
HAU Haudompre 29.05 303 *eP* **P 16 50 11.4 -1.4**
comp=Z,58nm,1.0s,mb4.9
HAU *eR*
comp=Z,14μm,20.8s
HAU Haudompre 29.05 303 *eP* **P 16 50 11.4 -1.4**
HAU pmax pmax
comp=Z,29nm,1.0s,mb5.0
HAU MLR MLR
comp=Z,14μm,20.8s,MS5.5
CABF La Chapelle 29.09 300 *eP* **P 16 50 12.4 -0.8**
ORIF Oris-en-Rattie 29.15 297 *eP* **P 16 50 11.6 -2.2**
comp=Z,95nm,1.1s,mb5.1
ORIF *eR*
comp=Z,15μm,21.2s
DDI Dehra Dun 29.30 94 *eP* **P 16 50 15.3 +0.1**
DDI *e* 16 55 47.4
NDI New Delhi 29.32 98 *eP* **P 16 50 15.0 -0.5**
NDI *e* 16 55 14.0
SMRF Simiane la Rot 29.37 295 *eP* **P 16 50 14.2 -1.5**
comp=Z,163nm,1.4s,mb5.3
SONA Sohna 29.41 99 *eP* **P 16 50 18.0 +1.7**
WLF Walferdange 29.43 306 *eP* **P 16 50 13.0 -3.2**
WLF pmax pmax
comp=Z,24nm,0.9s,mb4.9
WLF Walferdange 29.43 306 *eP* **P 16 50 13.0 -3.2**
comp=Z,24nm,0.9s,mb4.9
OG05 Jujurieux 29.49 299 *eP* **P 16 50 15.4 -1.4**
WTSB Winterswijk 29.52 311 *eP* **P 16 50 20.1 +3.2**
comp=Z,20nm,0.9s,mb4.8
HFS Hagfors 29.53 329 P **P 16 50 14.8 -2.2**
HFS pmax pmax
comp=Z,16nm,0.6s
HFS Hagfors 29.53 329 P **P 16 50 14.8 -2.1**
comp=Z,16nm,0.6s,mb5.0,baz=124,slow=5.3,SNR=40
MUD Monsted U'grnd 29.71 321 *iP* **P 16 50 22.4 +3.7**
comp=Z,53nm,0.9s,mb5.3
MUD *i* S tx 16 56 02.8
MUD *i* S tx 16 56 04.9
comp=Z,6μm,18.0s
HGN Heimansgroeve 29.77 308 *eP* **P 16 50 23.1 +3.8**
comp=Z,83nm,1.8s,mb5.2
HGN *eS* **S 16 55 22.2 +9.1**
MKAR Makanchi Array 29.80 60 *iP* **P 16 50 18.1 -1.4**
WIT Witteveen 29.81 313 *eP* **P 16 50 25.3 +5.7**
comp=Z,234nm,1.2s,mb5.8
MEZF Maizieres J'vi 29.98 304 *eP* **P 16 50 20.2 -0.9**
comp=Z,166nm,1.3s,mb5.3
VIVF Saint-Julien-l 30.01 296 *eP* **P 16 50 19.7 -1.7**
comp=Z,50nm,0.9s,mb5.0
VIVF Saint-Julien-l 30.01 296 *eP* **P 16 50 19.7 -1.7**
VIVF pmax pmax
comp=Z,25nm,0.9s,mb4.9
GIVF Givet 30.35 307 *eP* **P 16 50 23.3 -1.1**
comp=Z,153nm,1.6s,mb5.2
GIVF Givet 30.35 307 *eP* **P 16 50 23.3 -1.1**
GIVF pmax pmax
comp=Z,77nm,1.6s,mb5.2
APA Apatity 30.60 352⇑*iP* **P 16 50 27.5 +1.1**
APA *i* S **S 16 55 24.0 -2.0**
APA pmax pmax
comp=Z,26nm,1.0s,mb5.0
APA MLR MLR
comp=Z,23μm,16.0s,MS5.9
LASF Ste Croix 30.60 295 *eP* **P 16 50 25.3 -1.4**
comp=Z,291nm,1.6s,mb5.5
SMF Signal de Mont 30.64 300 *eP* **P 16 50 25.4 -1.5**
comp=Z,114nm,1.1s,mb5.3
SMF Signal de Mont 30.64 300 *eP* **P 16 50 25.4 -1.5**
SMF pmax pmax
comp=Z,57nm,1.1s,mb5.3
OSL Oslo 30.65 328 *eP* **P 16 50 26.2 -0.7**
BAIF Baives 30.73 307 *eP* **P 16 50 26.9 -0.9**
PLDF La Plantade 30.77 299 *eP* **P 16 50 27.1 -1.0**
LVZ Lovozero 30.80 353 *eP* **P 16 50 25.3 -2.8**
LVZ *eS* **S 16 55 23.2 -5.9**
LVZ pmax pmax
comp=Z,863nm,3.4s
LVZ pmax pmax
comp=N,538nm,2.7s
LVZ pmax pmax
comp=E,473nm,4.4s
LVZ pmax pmax
comp=N,16nm,0.9s
LVZ pmax pmax
comp=E,6.0nm,0.9s
LVZ pmax pmax
comp=Z,31nm,0.9s,mb5.1
LVZ smax
comp=Z,531nm,3.1s
LVZ smax
comp=N,1μm,5.5s
LVZ smax
comp=E,323nm,2.7s
LVZ MLR MLR
comp=N,9μm,14.0s,MS5.6
LVZ MLR MLR
comp=E,7μm,19.0s,MS5.6
LVZ MLR MLR
comp=Z,12μm,19.0s,MS5.6
SSF Saint Saulge 30.89 301 *eP* **P 16 50 27.5 -1.6**
SSF pmax pmax
comp=Z,37nm,1.2s,mb5.1
SSF Saint Saulge 30.89 301 *eP* **P 16 50 27.5 -1.6**
comp=Z,37nm,1.2s,mb5.1
AVF Avril sur Loir 30.98 300 *eP* **P 16 50 28.3 -1.7**
comp=Z,84nm,1.0s,mb5.2
AVF Avril sur Loir 30.98 300 *eP* **P 16 50 28.3 -1.7**
AVF pmax pmax
comp=Z,42nm,1.0s,mb5.2
NB2 NORSAR Subarra 31.05 330 P **P 16 50 27.6 -2.9**
comp=Z,180nm,2.0s,mb5.5,baz=124,slow=8.6
NB2 NORSAR Subarra 31.05 330 P **P 16 50 27.6 -2.9**
NB2 P pP 16 50 32.4 -4.5
NB2 NORSAR Subarra 31.05 330 P **P 16 50 27.6 -2.9**
baz=124,slow=9.3

NOA	**NORSAR Array B**	**31.05**	**330**	P	**P**	**16 50 27.7**	**-2.7**
	comp=Z,6.4nm,0.8s,mb4.5,baz=125,slow=8.8,SNR=13						
NOA				LR	LR	17 04 28.8	
	comp=Z,6μm,19.2s,MS5.3,baz=125,slow=39						
NAO01	**NORSAR Array S**	**31.08**	**329**	*e*P	**P**	**16 50 28.7**	**-1.9**
	comp=Z,19nm,0.7s,mb5.0						
AGO	**Saint Agoulin**	**31.11**	**299**	*e*P	**P**	**16 50 29.6**	**-1.5**
PYM	**Petit Puy Mans**	**31.19**	**298**	*e*P	**P**	**16 50 31.2**	**-0.6**
BGF	**Bois d'Agland**	**31.32**	**300**	*e*P	**P**	**16 50 31.2**	**-1.8**
TCF	**Toulx Ste Croi**	**31.75**	**299**	*e*P	**P**	**16 50 35.6**	**-1.2**
	comp=Z,175nm,1.5s,mb5.4						
TCF	**Toulx Ste Croi**	**31.75**	**299**	*e*P	**P**	**16 50 35.6**	**-1.2**
TCF				pmax	pmax		
	comp=Z,87nm,1.5s,mb5.4						
NVS	**Novosibirsk**	**31.82**	**44**	*e*P	**P**	**16 50 35.2**	**-2.1**
NVS				*e*		16 53 29.8	
NVS				*e*		16 55 48.6	
NVS				pmax	pmax		
	comp=E,81nm,1.5s						
NVS				pmax	pmax		
	comp=Z,184nm,1.5s,mb5.7						
NVS				pmax	pmax		
	comp=N,160nm,1.6s						
MTLF	**Montolieu**	**31.83**	**294**	*e*P	**P**	**16 50 35.9**	**-1.5**
	comp=N,39nm,1.1s,mb4.9						
MTLF	**Montolieu**	**31.83**	**294**	*e*P	**P**	**16 50 35.9**	**-1.5**
MTLF				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.9						
CAF	**Calviac**	**31.86**	**297**	*e*P	**P**	**16 50 36.5**	**-1.2**
	comp=Z,66nm,1.2s,mb5.0						
CAF	**Calviac**	**31.86**	**297**	*e*P	**P**	**16 50 36.5**	**-1.2**
CAF				pmax	pmax		
	comp=Z,33nm,1.2s,mb5.0						
BHPL	**Bhopal**	**32.22**	**107**	*e*P	**P**	**16 50 42.1**	**+1.0**
BHPL				*e*		16 55 58.3	
RJF	**Les Rejaudoux**	**32.24**	**297**	*e*P	**P**	**16 50 40.3**	**-0.7**
	comp=Z,155nm,1.3s,mb5.4						
RJF				*e*R			
	comp=Z,14μm,22.0s						
RJF	**Les Rejaudoux**	**32.24**	**297**	*e*P	**P**	**16 50 40.3**	**-0.7**
RJF				pmax	pmax		
	comp=Z,78nm,1.3s,mb5.4						
RJF				MLR	MLR		
	comp=Z,14μm,22.0s,MS5.6						
BLS5	**Blasjo**	**32.30**	**325**	*e*P	**P**	**16 50 39.8**	**-1.6**
	comp=Z,65nm,1.4s,mb5.3						
BLS5	**Blasjo**	**32.30**	**325**	*e*P	**P**	**16 50 39.8**	**-1.6**
BLS5				AMb	AMB	16 50 54.0	
	comp=Z,65nm,1.4s,mb5.3						
ZAL	**Zalesovo**	**32.48**	**46**	P	**P**	**16 50 41.1**	**-1.9**
	comp=Z,4.8nm,0.6s,mb4.5,baz=213,slow=7.0,SNR=13						
ZAL				LR	LR	17 05 58.3	
	comp=Z,14μm,20.8s,MS5.6,baz=215,slow=40						
POO	**Poona**	**32.48**	**117**	*e*P	**P**	**16 50 45.3**	**+1.9**
POO				*e*	pP	16 50 50.5	+0.7
	comp=Z,155nm,1.8s						
MLS	**Moulis**	**32.68**	**293**	*e*P	**P**	**16 50 43.0**	**-1.8**
LFF	**La Frestale**	**32.80**	**297**	*e*P	**P**	**16 50 44.9**	**-1.0**
	comp=Z,72nm,0.8s,mb5.4						
LFF	**La Frestale**	**32.80**	**297**	*e*P	**P**	**16 50 44.9**	**-1.0**
LFF				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.3						
NSS	**Namsos**	**32.89**	**335**	*e*P	**P**	**16 50 44.8**	**-1.7**
	comp=Z,171nm,1.2s,mb5.8						
NSS	**Namsos**	**32.89**	**335**	*e*P	**P**	**16 50 44.8**	**-1.7**
NSS				AMb	AMB	16 50 50.2	
	comp=Z,171nm,1.2s,mb5.8						
HYA	**Hoyanger**	**33.21**	**327**	*e*P	**P**	**16 50 51.7**	**+2.4**
EPF	**Esparros**	**33.22**	**293**	*e*P	**P**	**16 50 47.6**	**-2.0**
	comp=Z,67nm,1.2s,mb5.2						
EPF	**Esparros**	**33.22**	**293**	*e*P	**P**	**16 50 47.6**	**-2.0**
EPF				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.2						
MOR8	**Moi Rana**	**33.23**	**339**	*e*P	**P**	**16 50 49.2**	**-0.2**
	comp=Z,145nm,1.3s,mb5.8						
MOR8	**Moi Rana**	**33.23**	**339**	*e*P	**P**	**16 50 49.2**	**-0.2**
MOR8				AMb	AMB	16 51 11.2	
	comp=Z,145nm,1.3s,mb5.8						
RESF	**Ens**	**33.24**	**293**	*e*P	**P**	**16 50 48.4**	**-1.4**
MFF	**Saint Martin d**	**33.38**	**300**	*e*P	**P**	**16 50 49.2**	**-1.8**
	comp=Z,198nm,1.5s,mb5.5						
MFF	**Saint Martin d**	**33.38**	**300**	*e*P	**P**	**16 50 49.2**	**-1.8**
MFF				pmax	pmax		
	comp=Z,99nm,1.5s,mb5.5						
EBIE	**Bielsa**	**33.40**	**293**	P	**P**	**16 50 49.8**	**-1.4**
	comp=Z,20nm,0.7s,mb5.2						
LDF	**La Druitiere**	**33.41**	**303**	*e*P	**P**	**16 50 50.4**	**-0.8**
KTK1	**Kautokeino**	**33.42**	**347**	*e*P	**P**	**16 50 52.6**	**+1.5**
KTK1				AMb	AMB	16 50 57.3	
	comp=Z,164nm,1.8s,mb5.7						
KEV	**Kevo**	**33.47**	**350**	*e*p	**P**	**16 50 54.0**	**+2.5**
ARCES	**ARCESS Array B**	**33.50**	**349**	P	**P**	**16 50 50.5**	**-1.2**
	comp=Z,18nm,0.9s,mb5.0,baz=146,slow=8.7,SNR=28						
ARCES				LR	LR	17 05 10.0	
	comp=Z,24μm,18.0s,MS6.0,baz=160,slow=38						
KAD	**Karad**	**33.54**	**119**	*e*P	**P**	**16 50 53.3**	**+0.7**
KAD				*e*P		16 50 53.9	
KAD				*e*	pP	16 50 59.7	+0.6
	comp=Z,174nm,1.6s						
WMQ	**Urumqi**	**33.64**	**65**	P	**P**	**16 50 53.5**	**+0.3**
WMQ				PP	PP	16 52 06.0	0.0
WMQ				S	**S**	**16 56 14.5**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,44nm,0.8s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,382nm,4.2s						
WMQ				LR	LR		
	comp=N,9μm,18.0s,MS5.7						
WMQ				LR	LR		
	comp=E,9μm,20.0s,MS5.7						
WMQ				LR	LR		
	comp=Z,13μm,20.6s,MS5.7						
FLN	**La Foliniere**	**33.65**	**304**	*e*P	**P**	**16 50 52.0**	**-1.3**
	comp=Z,67nm,0.9s,mb5.3						
FLN				*e*R			
	comp=Z,10μm,22.8s						
FLN	**La Foliniere**	**33.65**	**304**	*e*P	**P**	**16 50 52.0**	**-1.3**
FLN				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.3						
FLN				MLR	MLR		
	comp=Z,10μm,22.8s,MS5.5						
GRR	**Gorron**	**33.89**	**303**	*e*P	**P**	**16 50 53.4**	**-1.9**
	comp=Z,365nm,1.4s,mb5.8						
GRR	**Gorron**	**33.89**	**303**	*e*P	**P**	**16 50 53.4**	**-1.9**
GRR				pmax	pmax		
	comp=Z,182nm,1.4s,mb5.8						
ETSF	**Etsaut**	**33.89**	**293**	*e*P	**P**	**16 50 53.9**	**-1.5**
	comp=Z,72nm,1.1s,mb5.2						
ETSF	**Etsaut**	**33.89**	**293**	*e*P	**P**	**16 50 53.9**	**-1.5**
ETSF				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.2						
FOO	**Floro**	**33.90**	**328**	*e*P	**P**	**16 50 55.4**	**+0.1**
EMOS	**Mosqueruela**	**34.18**	**289**	P	**P**	**16 50 56.0**	**-2.0**
	comp=Z,57nm,1.1s,mb5.4						
EBEN	**Beniarda**	**34.31**	**286**	P	**P**	**16 50 56.8**	**-2.3**
	comp=Z,27nm,1.0s,mb5.1						
SJPF	**Ste Jean**	**34.35**	**294**	*e*P	**P**	**16 50 58.0**	**-1.4**
	comp=Z,116nm,1.3s,mb5.3						
SJPF	**Ste Jean**	**34.35**	**294**	*e*P	**P**	**16 50 58.0**	**-1.4**
SJPF				pmax	pmax		
	comp=Z,58nm,1.3s,mb5.3						
LATR	**Latur**	**34.49**	**114**	*e*P	**P**	**16 51 00.0**	**-0.8**
ALBI	**Allahabad**	**34.52**	**100**	*e*P	**P**	**16 51 00.0**	**-1.0**
EALK	**Alkurruntz**	**34.55**	**294**	P	**P**	**16 50 59.3**	**-1.8**
	comp=Z,9.6nm,0.7s,mb4.8						
GOA	**Goa**	**34.55**	**121**	*e*	**S**	**16 56 39.4**	**+11**
KOLN	**Koldanda**	**34.77**	**94**	*e*P	**P**	**16 51 02.6**	**-0.6**
	comp=Z,273nm,1.2s,mb6.0						
TRO	**Tromso**	**34.78**	**345**	*e*P	**P**	**16 51 00.6**	**-2.1**
SGMF	**Saint Gilles**	**35.02**	**303**	*e*P	**P**	**16 51 03.5**	**-1.6**
	comp=Z,406nm,1.3s,mb5.9						
SGMF	**Saint Gilles**	**35.02**	**303**	*e*P	**P**	**16 51 03.5**	**-1.6**
SGMF				pmax	pmax		
	comp=Z,203nm,1.3s,mb5.9						
HAE	**Alders End**	**35.21**	**309**	*e*P	**P**	**16 51 06.0**	**-0.7**
HAE				AMb	AMB	16 51 10.1	
	comp=Z,186nm,1.7s,mb5.7						
EMUR	**La Murta**	**35.28**	**285**	P	**P**	**16 51 07.9**	**+0.5**
	comp=Z,63nm,1.6s,mb5.3						
HGH	**Gray Hill**	**35.34**	**309**	*e*P	**P**	**16 51 05.9**	**-1.8**
QUIF	**Quistinic**	**35.43**	**302**	*e*P	**P**	**16 51 06.9**	**-1.6**
	comp=Z,72nm,0.7s,mb5.4						
QUIF	**Quistinic**	**35.43**	**302**	*e*P	**P**	**16 51 06.9**	**-1.6**
QUIF				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.4						
HLM1	**Long Mynd**	**35.47**	**310⇑**	*e*P	**P**	**16 51 07.4**	**-1.4**
HLM1				AMb	AMB	16 51 13.2	
	comp=Z,136nm,1.4s,mb5.7						
MCH1	**Michaelchurch**	**35.49**	**309⇑**	*e*P	**P**	**16 51 07.5**	**-1.5**
MCH1				AMb	AMB	16 51 14.9	
	comp=Z,131nm,1.4s,mb5.7						
GKN	**Gorkha**	**35.49**	**93**	*e*P	**P**	**16 51 08.8**	**-0.5**
	comp=Z,189nm,0.8s,mb6.1						
ROSF	**Rostrenen**	**35.50**	**303**	*e*P	**P**	**16 51 07.5**	**-1.6**
	comp=Z,120nm,1.2s,mb5.4						
ROSF	**Rostrenen**	**35.50**	**303**	*e*P	**P**	**16 51 07.5**	**-1.6**
ROSF				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.4						
SSP1	**Stoney Pound**	**35.60**	**310⇑**	*e*P	**P**	**16 51 08.8**	**-1.1**
SSP1				AMb	AMB	16 51 14.6	
	comp=Z,147nm,1.2s,mb5.8						
BTA	**Talkin**	**35.67**	**314**	*e*P	**P**	**16 51 08.9**	**-1.7**
SBD1	**Bryn Du**	**35.74**	**311**	*e*P	**P**	**16 51 10.1**	**-1.0**
BBH	**Bruntsheil**	**35.85**	**315**	*e*P	**P**	**16 51 11.5**	**-0.6**
ELAN	**Lanestosa**	**35.94**	**294**	P	**P**	**16 51 12.3**	**-0.7**
	comp=Z,89nm,2.0s,mb5.3						
BBO1	**Bothel**	**35.97**	**314**	*e*P	**P**	**16 51 12.3**	**-0.8**
BHH	**Howats Hill**	**36.01**	**314**	*e*P	**P**	**16 51 11.8**	**-1.6**
EKA	**Eskdalemuir Ar**	**36.02**	**315**	P	**P**	**16 51 11.9**	**-1.5**
	comp=Z,28nm,0.7s,mb5.3,baz=106,slow=8.5,SNR=24						
DMN	**Daman**	**36.04**	**94**	*e*P	**P**	**16 51 13.7**	**-0.2**
	comp=Z,392nm,1.0s,mb6.3						
ESK	**Eskdalemuir**	**36.04**	**315**	*e*P	**P**	**16 51 11.8**	**-1.8**
ESK				pmax	pmax		
	comp=Z,35nm,0.6s,mb5.5						
ESK	**Eskdalemuir**	**36.04**	**315**	*e*P	**P**	**16 51 11.8**	**-1.9**
	comp=Z,35nm,0.6s,mb5.5						
EVIA	**Vianos**	**36.06**	**286**	P	**P**	**16 51 14.0**	**0.0**
EVIA				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.1						
EVIA	**Vianos**	**36.06**	**286**	P	**P**	**16 51 14.0**	**0.0**
	comp=Z,16nm,0.6s,mb5.1						
KKN	**Kakani**	**36.10**	**93**	*e*P	**P**	**16 51 13.7**	**-0.7**
	comp=Z,171nm,0.9s,mb6.0						
ENIJ	**Nijar**	**36.24**	**283**	P	**P**	**16 51 16.0**	**+0.5**
ENIJ				pmax	pmax		
	comp=Z,14nm,0.3s,mb5.4						
ENIJ	**Nijar**	**36.24**	**283**	P	**P**	**16 51 16.0**	**+0.5**
	comp=Z,14nm,0.3s,mb5.4						
PKI	**Pulchoki**	**36.30**	**94**	*e*P	**P**	**16 51 15.7**	**-0.4**
	comp=Z,259nm,1.1s,mb6.1						
BLSP	**Bilaspur**	**36.45**	**104**	*e*P	**P**	**16 51 18.0**	**+0.6**
HYB	**Hyderabad**	**36.58**	**114**	*i* P	**P**	**16 51 19.0**	**+0.4**
	comp=Z,92nm,0.8s,mb5.7						
HYB				*e*		16 51 31.0	
HYB				*e*PP	PP	16 52 44.0	+0.8
HYB				*e*S	**S**	**16 56 55.0**	**-4.3**
EQES	**Quesada**	**36.70**	**285**	P	**P**	**16 51 19.9**	**+0.5**
	comp=Z,85nm,1.3s,mb5.4						
EBER	**Berja**	**36.79**	**284**	P	**P**	**16 51 21.5**	**+1.4**
	comp=Z,128nm,1.6s,mb5.5						
JIRN	**Jiri**	**36.88**	**93**	*e*P	**P**	**16 51 20.8**	**-0.1**
	comp=Z,203nm,0.9s,mb6.0						
GUD	**Guadarrama**	**36.89**	**290**	P	**P**	**16 51 19.7**	**-1.2**
GUD				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
GUD	**Guadarrama**	**36.89**	**290**	P	**P**	**16 51 19.7**	**-1.3**
	comp=Z,7.9nm,0.8s,mb4.6						
ESDC	**Sonseca Array**	**36.94**	**288**	P	**P**	**16 51 20.0**	**-1.3**
	comp=Z,7.0nm,0.6s,mb4.7,baz=65,slow=8.5,SNR=16						
ESDC				PcP	PcP	16 53 44.1	+1.2
	comp=Z,2.8nm,0.8s,baz=80,slow=5.1,SNR=2.7						
ESDC	**Sonseca Array**	**36.94**	**288**	P	**P**	**16 51 19.8**	**-1.6**
	comp=Z,6.4nm,0.9s,mb4.5						
ESLA	**Sonseca Array**	**36.94**	**288**	*e*P	**P**	**16 51 18.6**	**-2.7**
	comp=Z,9.2nm,1.0s,mb4.6						
MNGI	**Mangalore**	**37.05**	**123**	*i* S	**S**	**16 57 09.6**	**+3.0**
EARI	**Arriondas**	**37.22**	**295**	P	**P**	**16 51 23.8**	**+0.1**
	comp=Z,106nm,1.6s,mb5.4						
DSB	**Dublin**	**37.64**	**311**	*e*P	**P**	**16 51 26.9**	**-0.2**
	comp=Z,38nm,0.8s,mb5.2						
DLF	**Lyons Farm**	**37.74**	**311⇑**	*i*P	**P**	**16 51 27.9**	**0.0**
EADA	**Adamuz**	**37.76**	**286**	P	**P**	**16 51 28.4**	**+0.2**
	comp=Z,142nm,2.3s,mb5.3						
DCN	**Croghan**	**38.19**	**311⇑**	*i*P	**P**	**16 51 31.9**	**+0.2**
EMIJ	**Mijas**	**38.34**	**284**	P	**P**	**16 51 31.6**	**-1.5**
	comp=Z,47nm,1.1s,mb5.1						
ECAL	**Calabor**	**38.55**	**293**	P	**P**	**16 51 35.0**	**+0.1**
	comp=Z,21nm,0.8s,mb4.9						
EINC	**Incio**	**38.87**	**294**	P	**P**	**16 51 39.1**	**+1.5**
	comp=Z,49nm,1.2s,mb5.1						
KMBO	**Kilima Mbogo**	**38.96**	**190**	*e*P	**P**	**16 51 42.2**	**+3.6**
KMBO				pmax	pmax		
	comp=Z,28nm,1.3s						
KMBO	**Kilima Mbogo**	**38.96**	**190**	P	**P**	**16 51 42.5**	**+3.9**
	comp=Z,7.1nm,1.0s,mb4.3,baz=9.6,slow=11,SNR=8.5						
KMBO	**Kilima Mbogo**	**38.96**	**190**	*e*P	**P**	**16 51 42.2**	**+3.6**
	comp=Z,28nm,1.3s,mb4.8						
ESPR	**Espera**	**39.08**	**285**	P	**P**	**16 51 41.4**	**+2.0**
	comp=Z,108nm,1.8s,mb5.3						
PVRL	**Vila Real**	**39.41**	**292**	*e*P	**P**	**16 51 41.4**	**-0.6**
EMIN	**Mina Concepcio**	**39.46**	**286**	P	**P**	**16 51 44.0**	**+1.5**
	comp=Z,42nm,1.2s,mb5.0						
EBAD	**Badajoz**	**39.46**	**288**	P	**P**	**16 51 43.1**	**+0.6**
	comp=Z,37nm,1.5s,mb4.9						
MTE	**Manteigas**	**39.47**	**290**	*e*P	**P**	**16 51 41.4**	**-1.1**
MTE				*e*LR	LR	17 00 55.4	
	comp=Z,7μm,18.2s						
MTE	**Manteigas**	**39.47**	**290**	*e*P	**P**	**16 51 40.5**	**-2.1**
	comp=Z,83nm,1.1s,mb5.4						
ELOB	**Lobios**	**39.54**	**293**	P	**P**	**16 51 43.7**	**+0.6**
	comp=Z,87nm,1.8s,mb5.2						
PCBR	**Castelo Branco**	**39.55**	**290**	*e*P	**P**	**16 51 42.6**	**-0.6**
PVIS	**Viseu**	**39.66**	**291**	*e*P	**P**	**16 51 43.9**	**-0.2**
MBAR	**Mbarara**	**39.83**	**200**	*e*P	**P**	**16 51 47.3**	**+1.5**
MBAR				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.9						
MBAR	**Mbarara**	**39.83**	**200**	*e*P	**P**	**16 51 47.3**	**+1.5**
	comp=Z,26nm,1.0s,mb4.9						
VIS	**Vishakhapatnam**	**39.93**	**109**	*e*P	**P**	**16 51 48.1**	**+1.5**
VIS				*e*	pP	16 51 53.6	+0.5
	comp=Z,117nm,1.1s						
LSA	**Lhasa**	**39.95**	**87**	P	**P**	**16 51 47.0**	**+0.4**
LSA				AP	pP	16 51 55.5	+2.3
LSA				S	**S**	**16 57 45.8**	**-4.5**
LSA				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.7						
LSA				AMB	AMB		
	comp=Z,1μm,8.0s						
LSA				LR	LR		
	comp=N,8μm,17.0s,MS5.9						
LSA				LR	LR		
	comp=E,13μm,15.0s,MS5.9						
LSA				LR	LR		
	comp=Z,16μm,15.0s,MS6.0						
LSA	**Lhasa**	**39.95**	**87**	*e*P	**P**	**16 51 47.0**	**+0.4**
LSA				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.1						
LSA				MLR	MLR		
	comp=Z,8μm,21.0s,MS5.5						
LSA	**Lhasa**	**39.95**	**87**	*e*P	**P**	**16 51 47.0**	**+0.3**
	comp=Z,30nm,0.8s,mb5.1						
LSA				LR	LR		
	comp=Z,8μm,21.0s,MS5.5						
VAL	**Valentia**	**39.96**	**309⇑**	*i*P	**P**	**16 51 48.8**	**+2.3**
EMAZ	**Mazaricos**	**40.00**	**295**	P	**P**	**16 51 47.9**	**+1.0**
	comp=Z,149nm,1.7s,mb5.4						
EVO	**Evora**	**40.27**	**288**	*e*P	**P**	**16 51 52.0**	**+2.8**
	comp=Z,51nm,1.3s,mb4.8						
EVO				*e*R			
	comp=Z,7μm,22.8s						
PBEJ	**Beja**	**40.30**	**287**	*e*P	**P**	**16 51 51.8**	**+2.4**
PBEJ	**Beja**	**40.30**	**287**	*e*P	**P**	**16 51 49.7**	**+0.3**
MDRS	**Chennai**	**40.69**	**117**	*e*P	**P**	**16 51 54.0**	**+1.2**
KOD	**Kodaikanal**	**40.78**	**123⇑**	*i*P	**P**	**16 51 54.0**	**+0.4**
LIS	**Lisbon**	**41.08**	**288**	*e*P	**P**	**16 51 54.7**	**-1.1**
LIS				*e*S	**S**	**16 58 10.4**	**+3.2**
LIS				*e*S	**S**	**16 58 11.4**	**+4.2**
LIS				AMS	AMS	17 10 59.9	
	comp=E,3μm,20.9s						
MOY	**Mondy**	**42.07**	**51**	*e*P	**P**	**16 52 06.6**	**+2.9**
MOY				*e*S	PP	16 53 45.6	+1.3
MOY				pmax	pmax		
	comp=Z,80nm,1.4s,mb5.2						
SHL	**Shillong**	**42.36**	**92**	*e*P	**P**	**16 52 05.0**	**-1.5**
SHL				*e*		16 58 20.0	
AGT	**Agartala**	**42.68**	**95⇑**	*i*P	**P**	**16 52 12.0**	**+2.9**
AGT				*i*		16 53 02.0	
JMIC	**Jan Mayen**	**42.84**	**338**	LR	LR	17 10 49.1	
	comp=Z,5μm,19.4s,MS5.4,baz=105,slow=37						
ZAK	**Zakamensk**	**43.62**	**53**	*e*P	**P**	**16 52 16.5**	**+0.1**
ZAK				*e*		16 54 03.3	
TLY	**Talaya**	**43.72**	**51**	P	**P**	**16 52 20.2**	**+3.1**
	comp=Z,109nm,1.0s,mb5.5,SNR=9.3						
TLY	**Talaya**	**43.72**	**51**	*e*P	**P**	**16 52 20.0**	**+2.9**
TLY				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.8						
TLY				MLR	MLR		
	comp=Z,7μm,17.0s,MS5.7						
TLY	**Talaya**	**43.72**	**51**	*e*P	**P**	**16 52 19.7**	**+2.6**
	comp=Z,33nm,1.2s,mb4.9						
IRK	**Irkutsk**	**44.05**	**50**	*e*P	**P**	**16 52 19.7**	**-0.1**
IRK				*e*		16 54 01.2	
IRK				*e*		17 02 21.7	
IRK				pmax	pmax		
	comp=Z,90nm,1.4s,mb5.3						
IMP	**Imphal**	**44.36**	**92**	*e*P	**P**	**16 52 23.1**	**+0.3**
PALK	**Pallekele**	**45.11**	**123**	*e*P	**P**	**16 52 29.9**	**+1.0**
	comp=Z,74nm,1.2s,mb5.4						
SONM	**Songino Array**	**46.04**	**56**	P	**P**	**16 52 34.9**	**-0.9**
	comp=Z,2.2nm,0.6s,mb4.2,baz=276,slow=8.5,SNR=9.4						
SONM				PcP	PcP	16 54 11.7	-0.9
	comp=Z,5.5nm,0.9s,baz=270,slow=2.5,SNR=4.8						
BORG	**Borgarnes**	**46.17**	**327**	LR	LR	17 14 06.2	
	comp=Z,3μm,21.9s,MS5.2,baz=99,slow=39						
ULN	**Ulaanbaatar**	**46.47**	**56**	*e*P	**P**	**16 52 38.1**	**-1.1**
ULN				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.2						
ULN	**Ulaanbaatar**	**46.47**	**56**	*e*P	**P**	**16 52 38.1**	**-1.1**
	comp=Z,31nm,1.0s,mb5.2						
SCO	**Scoresbysund**	**47.00**	**335**	*i* P	**P**	**16 52 44.8**	**+1.8**
SCO				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
SCO	**Scoresbysund**	**47.00**	**335**	*i* P	**P**	**16 52 44.8**	**+1.8**
	comp=Z,15nm,1.0s,mb4.9						
LZH	**Lanzhou**	**47.45**	**73**	P	**P**	**16 52 47.3**	**+0.2**
LZH				AP	pP	16 52 56.5	+2.7
LZH				XP	sP	16 53 03.3	+6.9
LZH				S	**S**	**16 59 44.3**	**+5.1**
LZH				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.3						
LZH				AMB	AMB		
	comp=Z,700nm,5.3s						
LZH				LR	LR		
	comp=E,16μm,14.0s						
LZH				LR	LR		
	comp=Z,16μm,17.0s,MS6.1						
LZH	**Lanzhou**	**47.45**	**73**	P	**P**	**16 52 47.3**	**+0.2**
LZH				*PP	pP	16 52 56.5	+2.7
LZH				S	**S**	**16 59 44.2**	**+5.0**
LZH				*SS		16 59 55.0	
LZH				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.3						
LZH				MLR	MLR		
	comp=Z,16μm,17.0s,MS6.1						
LZH	**Lanzhou**	**47.45**	**73**	P	**P**	**16 52 47.3**	**+0.2**
	comp=Z,50nm,1.2s,mb5.3						
LZH				pP	pP	16 52 56.5	+2.7
LZH				sP	sP	16 53 03.2	+6.8
LZH				PP	Px	16 55 14.2	
LZH				S	**S**	**16 59 44.2**	**+5.0**
LZH				sS		16 59 55.0	
LZH				SS	SS	17 02 52.0	-8.8
LZH				LR	LR		
	comp=Z,16μm,17.0s,MS6.1						
DAG	**Danmarks Havn**	**47.48**	**344**	*e*P	**P**	**16 52 44.0**	**-2.9**
DAG				pmax	pmax		
	comp=Z,53nm,1.0s,mb5.4						
DAG				MLR	MLR		
	comp=Z,5μm,20.0s,MS5.5						
DAG	**Danmarks Havn**	**47.48**	**344**	*e*P	**P**	**16 52 44.0**	**-2.9**
	comp=Z,53nm,1.0s,mb5.4						
DAG				LR	LR		
	comp=Z,5μm,20.0s,MS5.5						
DAG	**Danmarks Havn**	**47.48**	**344**	*i* P	**P**	**16 52 44.0**	**-2.9**
	comp=Z,53nm,1.0s,mb5.4						
	comp=Z,5μm,20.0s						
EFAM	**Famara**	**47.90**	**278**	P	**P**	**16 52 42.8**	**-7.9**
	comp=Z,100nm,1.4s,mb5.7						
BOD	**Bodaibo**	**49.00**	**42**	*e*P	**P**	**16 52 56.8**	**-2.0**
EOSO	**Osorio**	**49.96**	**277**	P	**P**	**16 53 07.7**	**+1.1**
	comp=Z,170nm,1.4s,mb5.9						
EBAJ	**Bajamar**	**50.37**	**278**	P	**P**	**16 53 07.3**	**-2.5**
	comp=Z,48nm,0.9s,mb5.5						
CCAN	**Las Canadas**	**50.72**	**278**	P	**P**	**16 53 13.5**	**+1.1**
	comp=Z,10nm,0.8s,mb4.8						
KMI	**Kunming**	**51.19**	**86**	P	**P**	**16 53 15.5**	**-0.5**
KMI				*PP	pP	16 53 17.6	-5.2
KMI				*SP	sP	16 53 18.7	-6.7
KMI						16 55 12.8	
KMI				S	**S**	**17 00 31.6**	**0.0**
KMI				PS	PS	17 00 39.8	-3.4
KMI				SS	SS	17 04 03.8	-1.2
KMI				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.3						
KMI				MLR	MLR		
	comp=Z,7μm,24.2s,MS5.6		

CLNS	**Chul'man**	**54.97**	**42**	*e*P	**P**	**16 53 45.9**	**+2.2**
CLNS				*e*		16 55 46.2	
CLNS				*e*PPP	PPP	16 56 53.8	-7.0
CLNS				*e*S	**S**	**17 01 29.9**	**+7.4**
CLNS				*e*		17 03 36.3	
CLNS				*e*SS	SS	17 05 04.3	-1.7
CLNS				pmax	pmax		
	comp=Z,33nm,1.6s,mb5.1						
CLNS				pmax	pmax		
	comp=N,11nm,1.4s						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.1s						
CLNS				pmax	pmax		
	comp=N,23nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.3						
CLNS				pmax	pmax		
	comp=E,23nm,0.9s						
CLNS				smax			
	comp=N,301nm,10.9s						
CLNS				smax			
	comp=Z,288nm,11.3s						
CLNS				smax			
	comp=E,87nm,12.3s						
CLNS				MLR	MLR		
	comp=Z,5μm,12.0s,MS5.8						
CLNS				MLR	MLR		
	comp=N,8μm,17.0s,MS5.9						
CLNS				MLR	MLR		
	comp=E,1μm,14.0s,MS5.9						
BJI	**Beijing**	**55.07**	**63**	P	**P**	**16 53 43.3**	**-1.3**
BJI				S	**S**	**17 01 18.9**	**-5.2**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
BJI				MLR	MLR		
	comp=Z,5μm,22.0s,MS5.6						
BJI	**Beijing**	**55.07**	**63**	P	**P**	**16 53 43.3**	**-1.3**
	comp=Z,6.0nm,0.8s,mb4.7						
BJI				S	**S**	**17 01 18.9**	**-5.2**
BJI				SS	SS	17 05 18.4	+11
BJI				LR	LR		
	comp=Z,5μm,22.0s,MS5.6						
BJT	**Baijiatuau**	**55.07**	**63**	PFAKE		16 54 00.0	+15
BJT				LR	LR		
	comp=Z,6μm,22.0s,MS5.7						
NNT	**Nongplab**	**55.62**	**101**	P	**P**	**16 53 48.0**	**-0.9**
YAK	**Yakutsk**	**55.83**	**35**	*e*P	**P**	**16 53 51.3**	**+1.5**
YAK				*e*		16 54 51.6	
YAK				*e*		16 55 55.2	
YAK				*e*PPP	PPP	16 57 07.4	-3.7
YAK				*e*S	**S**	**17 01 32.4**	**-1.6**
YAK				*e*		17 03 37.8	
YAK				*e*SS	SS	17 05 19.6	-0.1
YAK				*e*SSS	SSS	17 07 29.2	+3.1
YAK				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.2						
YAK				pmax	pmax		
	comp=N,12nm,1.2s						
YAK				pmax	pmax		
	comp=E,19nm,1.3s						
YAK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
YAK				pmax	pmax		
	comp=N,9.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,13nm,1.2s						
YAK				smax			
	comp=N,3.0nm,1.2s						
YAK				smax			
	comp=E,2.0nm,0.9s						
YAK				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.5						
YAK				MLR	MLR		
	comp=N,3μm,16.0s,MS5.7						
YAK				MLR	MLR		
	comp=E,5μm,16.0s,MS5.7						
YAK	**Yakutsk**	**55.83**	**35**	*e*P	**P**	**16 53 46.3**	**-3.5**
	comp=E,47nm,0.8s,mb5.6						
WHN	**Wuhan**	**57.73**	**74**	*e*P	**P**	**16 54 02.5**	**-1.2**
WHN				LR	LR		
	comp=Z,13μm,18.2s,MS6.1						
SNG	**Songkhla**	**59.63**	**105**	P	**P**	**16 54 14.0**	**-3.2**
	comp=Z,214nm,0.9s,mb6.2						
QIZ	**Qiongzhong**	**59.96**	**88**	P	**P**	**16 54 18.5**	**-0.9**
QIZ				S	**S**	**17 02 30.5**	**+1.9**
QIZ				LR	LR		
	comp=N,5μm,21.8s						
QIZ				LR	LR		
	comp=Z,4μm,23.0s,MS5.5						
QIZ	**Qiongzhong**	**59.96**	**88**	*e*P	**P**	**16 54 17.7**	**-1.7**
	comp=Z,39nm,1.0s,mb5.4						
QIZ				LR	LR		
	comp=Z,4μm,22.0s,MS5.5						
NJ2	**Nanjing**	**60.44**	**71**	*e*P	**P**	**16 54 21.3**	**-1.2**
NJ2				PP	PP	16 56 36.5	-1.3
NJ2				S	**S**	**17 02 32.0**	**-2.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,1μm,6.1s						
NJ2				LR	LR		
	comp=N,750nm,15.6s,MS5.1						
NJ2				LR	LR		
	comp=E,990nm,20.3s,MS5.1						
NJ2				LR	LR		
	comp=Z,760nm,16.6s,MS4.9						
KLR	**Kul'dur**	**61.57**	**48**	*e*P	**P**	**16 54 27.2**	**-2.7**
MDJ	**Mudanjiang**	**62.26**	**54**	P	**P**	**16 54 32.8**	**-1.8**
MDJ				PCP	PcP	16 55 11.8	-2.3
MDJ				PP	PP	16 56 51.3	-2.4
MDJ				S	**S**	**17 02 59.0**	**+1.4**
MDJ				SS	SS	17 07 00.0	-2.8
MDJ				AMB	AMB		
	comp=Z,14nm,2.3s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,282nm,6.6s						
MDJ				LR	LR		
	comp=N,8μm,20.4s						
MDJ				LR	LR		
	comp=E,4μm,15.3s						
MDJ				LR	LR		
	comp=Z,7μm,20.4s,MS5.8						
MDJ	**Mudanjiang**	**62.26**	**54**	PFAKE		16 54 50.0	+15
MDJ				LR	LR		
	comp=Z,8μm,19.0s,MS5.9						
SSE	**Sheshan**	**62.64**	**71**	P	**P**	**16 54 36.0**	**-1.4**
SSE				S	**S**	**17 03 01.8**	**-0.8**
SSE				AMB	AMB		
	comp=Z,45nm,0.7s,mb5.7						
SSE				AMB	AMB		
	comp=Z,249nm,5.9s						
SSE				LR	LR		
	comp=N,9μm,17.4s,MS6.1						
SSE				LR	LR		
	comp=E,9μm,17.4s,MS6.1						
SSE				LR	LR		
	comp=Z,4μm,16.6s,MS5.6						
SSE	**Sheshan**	**62.64**	**71**	P	**P**	**16 54 35.9**	**-1.5**
	comp=Z,45nm,0.7s,mb5.7						
SSE				sP	sP	16 54 40.7	-6.0
SSE				S	**S**	**17 03 01.7**	**-0.9**
SSE				sS		17 03 07.3	
SSE				LR	LR		
	comp=Z,4μm,16.6s,MS5.6						
KS15	**Wonju Array Si**	**64.44**	**61**	P	**P**	**16 54 46.8**	**-2.2**
RES	**Resolute Bay**	**64.72**	**349**	*e*P	**P**	**16 54 49.3**	**-1.0**
RES				pmax	pmax		
	comp=Z,47nm,1.6s,mb5.3						
RES	**Resolute Bay**	**64.72**	**349**	*e*P	**P**	**16 54 49.3**	**-1.0**
	comp=Z,47nm,1.6s,mb5.3						
SEY	**Seymchan**	**64.95**	**29**	*e*P	**P**	**16 54 51.6**	**-0.3**
SEY						16 55 24.5	
SEY				*e*S	**S**	**17 03 27.4**	**-3.3**
SEY						17 04 39.5	
SEY				*e*SS	SS	17 07 41.4	-3.1
SEY				*e*SSS	SSS	17 10 31.4	-4.3
SEY				pmax	pmax		
	comp=Z,200nm,1.4s,mb6.0						
SEY				pmax	pmax		
	comp=N,80nm,1.2s						
SEY				pmax	pmax		
	comp=E,90nm,1.2s						
SEY				smax			
	comp=N,2μm,9.4s						
SEY				smax			
	comp=E,2μm,9.4s						
SEY				MLR	MLR		
	comp=N,12μm,16.0s,MS6.5						
SEY				MLR	MLR		
	comp=E,18μm,15.0s,MS6.5						
MA2	**Magadan**	**66.18**	**32**	*e*P	**P**	**16 54 59.4**	**-0.4**
MA2				*e*S	S	17 03 44.7	-1.1
MA2				pmax	pmax		
	comp=Z,70nm,1.3s,mb5.5						
MA2				MLR	MLR		
	comp=Z,13μm,23.0s,MS6.1						
MA2	**Magadan**	**66.18**	**32**	*e*P	**P**	**16 54 59.0**	**-0.8**
	comp=Z,76nm,1.3s,mb5.6						
BILL	**Bilibino**	**66.32**	**20**	⇓*e*P	**P**	**16 54 59.6**	**-1.0**
BILL				*i* S	S	17 03 44.9	-2.5
BILL				pmax	pmax		
	comp=Z,56nm,1.5s,mb5.4						
BILL				MLR	MLR		
	comp=Z,6μm,19.0s,MS5.9						
BILL	**Bilibino**	**66.32**	**20**	*e*P	**P**	**16 55 00.1**	**-0.5**
	comp=Z,25nm,1.1s,mb5.2						
BOSA	**Boshof**	**68.07**	**197**	*e*P	**P**	**16 55 12.4**	**0.0**
BOSA				pmax	pmax		
	comp=Z,85nm,1.1s,mb5.7						
BOSA	**Boshof**	**68.07**	**197**	*e*P	**P**	**16 55 12.4**	**+0.1**
	comp=Z,85nm,1.1s,mb5.7						
YSS	**Yuzh-Sakhalins**	**69.11**	**46**	*e*P	**P**	**16 55 20.0**	**+1.5**
YSS				*i*		16 55 44.1	
YSS				S	S	17 04 24.0	+2.8
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
YSS				MLR	MLR		
	comp=Z,6μm,20.0s,MS5.9						
YSS				MLR	MLR		
	comp=N,5μm,19.0s						
YSS	**Yuzh-Sakhalins**	**69.11**	**46**	*i* P	**P**	**16 55 18.5**	**0.0**
JOW	**Kunigami**	**70.15**	**71**	LR	LR	17 32 34.2	
	comp=N,3μm,18.7s,MS5.6,baz=271,slow=41						
SCHQ	**Schefferville**	**70.48**	**325**	P	**P**	**16 55 26.2**	**-0.5**
	comp=N,8.6nm,0.7s,mb4.8,baz=54,slow=6.7,SNR=19						
SCHQ				LR	LR	17 28 06.3	
	comp=N,2μm,19.6s,MS5.4,baz=61,slow=37						
SCHQ	**Schefferville**	**70.48**	**325**	*e*P	**P**	**16 55 26.1**	**-0.6**
	comp=N,22nm,0.7s,mb5.2						
TGY	**Tagaytay City**	**71.51**	**86**	LR	LR	17 33 57.6	
	comp=N,3μm,21.3s,MS5.5,baz=78,slow=42						
MAT	**Matsushiro**	**71.97**	**58**	*e*P	**P**	**16 55 33.0**	**-3.0**
MAT				*e*S	S	17 05 02.0	+7.3
MAT				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.0						
MAT				MLR	MLR		
	comp=Z,3μm,21.0s,MS5.6						
MAT	**Matsushiro**	**71.97**	**58**	*e*P	**P**	**16 55 33.0**	**-3.0**
	comp=Z,27nm,1.3s,mb5.0						
MAT				*e*S	S	17 05 02.0	+7.3
MAT				LR	LR		
	comp=Z,3μm,21.0s,MS5.6						
MAT	**Matsushiro**	**71.97**	**58**	P	**P**	**16 55 33.3**	**-2.7**
MAT				S	S	17 05 01.0	+6.3
TNA	**Tin City**	**74.30**	**13**	*e*P	**P**	**16 55 49.8**	**+0.9**
INK	**Inuvik**	**74.42**	**359**	*e*P	**P**	**16 55 47.8**	**-1.8**
INK				pmax	pmax		
	comp=Z,12nm,1.2s						
INK	**Inuvik**	**74.42**	**359**	P	**P**	**16 55 47.6**	**-2.0**
	comp=Z,8.5nm,1.2s,mb4.5,baz=13,slow=6.8,SNR=9.8						
INK				LR	LR	17 33 36.0	
	comp=Z,2μm,20.3s,MS5.5,baz=172,slow=40						
INK	**Inuvik**	**74.42**	**359**	*e*P	**P**	**16 55 47.8**	**-1.8**
	comp=Z,12nm,1.2s,mb4.7						
JHJ	**Hachijo jima 2**	**74.97**	**60**	LR	LR	17 33 16.1	
	comp=Z,3μm,19.7s,MS5.6,baz=128,slow=39						
ANM	**Nome**	**75.66**	**13**	*e*P	**P**	**16 55 59.0**	**+2.2**
IMA	**Indian Mountai**	**75.82**	**7**	*e*P	**P**	**16 55 57.5**	**-0.2**
IMA				*e*		16 55 57.9	
COLA	**College**	**77.49**	**5**	*e*P	**P**	**16 56 07.5**	**+0.5**
COLA				MLR	MLR		
	comp=Z,3μm,22.0s,MS5.6						
ILAR	**Eielson Array**	**77.65**	**5**	P	**P**	**16 56 07.5**	**-0.4**
	comp=Z,5.7nm,1.0s,mb4.5,baz=328,slow=3.9,SNR=28						
ILAR				LR	LR	17 33 49.7	
	comp=Z,2μm,20.9s,MS5.5,baz=330,slow=38						
FCC	**Fort Churchill**	**77.78**	**339**	*e*P	**P**	**16 56 09.4**	**+0.6**
FCC				pmax	pmax		
	comp=Z,47nm,1.1s,mb5.3						
FCC	**Fort Churchill**	**77.78**	**339**	*e*P	**P**	**16 56 09.4**	**+0.6**
	comp=Z,47nm,1.1s,mb5.3						
MCK	**McKinley**	**78.54**	**6**	*e*P	**P**	**16 56 12.4**	**-0.4**
MCK				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.0						
MCK	**McKinley**	**78.54**	**6**	*e*P	**P**	**16 56 12.4**	**-0.4**
	comp=Z,26nm,1.2s,mb5.0						
DAWY	**Dawson**	**78.67**	**1**	*e*P	**P**	**16 56 13.6**	**0.0**
YKW3	**Yellowknife Ar**	**78.69**	**350**	*e*P	**P**	**16 56 12.3**	**-1.4**
YKA	**Yellowknife Ar**	**78.75**	**350**	*i* P	**P**	**16 56 13.7**	**-0.3**
YKA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
YKA	**Yellowknife Ar**	**78.75**	**350**	P	**P**	**16 56 13.2**	**-0.8**
	comp=Z,7.9nm,1.0s,mb4.6,baz=19,slow=6.0,SNR=38						
YKA				LR	LR	17 35 56.2	
	comp=Z,3μm,19.2s,MS5.7,baz=10.0,slow=40						
YKA	**Yellowknife Ar**	**78.75**	**350**	P	**P**	**16 56 13.2**	**-0.8**
YKA				LR	LR	17 35 56.2	
THY	**Trims Highway**	**79.07**	**4**	*e*P	**P**	**16 56 15.2**	**-0.6**
MENT	**Mentasta**	**79.66**	**3**	*e*P	**P**	**16 56 19.8**	**+0.9**
CBIJ	**Chichi jima**	**80.19**	**63**	LR	LR	17 36 30.5	
	comp=Z,3μm,21.5s,MS5.5,baz=322,slow=39						
SMY	**Shemya**	**80.29**	**28**	PFAKE		16 56 30.0	+7.5
SMY				LR	LR		
	comp=Z,10μm,21.0s,MS6.1						
SML	**Sawmill**	**80.49**	**6**	*e*P	**P**	**16 56 23.5**	**+0.1**
PWA	**Palmer West**	**80.51**	**7**	*e*P	**P**	**16 56 23.6**	**+0.1**
MIV	**Mineville/With**	**80.85**	**320**	*e*P	**P**	**16 56 26.1**	**+0.4**
NCB	**Newcomb**	**81.28**	**320**	PFAKE		16 56 40.0	+12
NCB				LR	LR		
	comp=Z,3μm,22.0s,MS5.6						
DIV	**Divide**	**81.34**	**5**	*e*P	**P**	**16 56 28.6**	**+0.7**
	comp=Z,262nm,1.3s,mb6.0						
SADO	**Sadowa**	**83.14**	**323**	LR	LR	17 33 23.8	
	comp=Z,4μm,21.4s,MS5.8,baz=63,slow=36						
FFC	**Flin Flon**	**83.45**	**341**	P	**P**	**16 56 39.3**	**+0.4**
	comp=Z,180nm,0.9s,mb6.1,SNR=20						
FFC	**Flin Flon**	**83.45**	**341**	*e*P	**P**	**16 56 38.8**	**-0.1**
FFC				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.2						
FFC	**Flin Flon**	**83.45**	**341**	*e*P	**P**	**16 56 38.8**	**-0.1**
	comp=Z,21nm,0.8s,mb5.2						
GENY	**Geneseo**	**83.97**	**321**	*e*P	**P**	**16 56 41.7**	**-0.1**
ERPA	**Erie**	**85.53**	**322**	*e*P	**P**	**16 56 49.9**	**+0.3**
	comp=Z,36nm,0.9s,mb5.6						
SSPA	**Standing Stone**	**85.57**	**319**	PFAKE		16 57 00.0	+10
SSPA				LR	LR		
	comp=Z,4μm,20.0s,MS5.8						
AAM	**Ann Arbor**	**87.16**	**324**	PFAKE		16 57 10.0	+12
AAM				LR	LR		
	comp=Z,5μm,19.0s,MS5.9						
EDM	**Edmonton**	**87.41**	**346**	*e*P	**P**	**16 56 59.1**	**+0.6**
DGMT	**Dagmar**	**89.69**	**339**	*e*P	**P**	**16 57 10.2**	**+0.7**
	comp=Z,58nm,1.2s,mb5.8						
WCI	**Wyandotte Cave**	**91.60**	**323**	PFAKE		16 57 30.0	+11
WCI				LR	LR		
	comp=Z,4μm,20.0s,MS5.9						
LAO	**LASA Array**	**91.88**	**340**	*e*P	**P**	**16 57 21.8**	**+2.2**
	comp=Z,91nm,1.1s,mb6.0						
NEW	**Newport**	**92.85**	**347**	*e*P	**P**	**16 57 27.0**	**+2.9**
NEW				pmax	pmax		
	comp=Z,18nm,0.9s						
NEW	**Newport**	**92.85**	**347**	*e*P	**P**	**16 57 27.0**	**+3.0**
	comp=Z,18nm,0.9s,mb5.5						
CPCT	**Cooper Cave**	**92.90**	**320**	*e*P	**P**	**16 57 28.3**	**+3.6**
CHMT	**Chamberlain Mo**	**93.39**	**344**	*e*P	**P**	**16 57 28.1**	**+1.5**
FVM	**French Village**	**93.72**	**325**	P	**P**	**16 57 33.4**	**+5.1**
WVT	**Waverly**	**94.01**	**323**	PFAKE		16 57 40.0	+10
WVT				LR	LR		
	comp=Z,5μm,22.0s,MS5.9						
CCM	**Cathedral Cave**	**94.03**	**326**	PFAKE		16 57 40.0	+10
CCM				LR	LR		
	comp=Z,3μm,21.0s,MS5.8						
FITZ	**Fitzroy Crossi**	**94.69**	**109**	*e*P	**P**	**16 57 33.5**	**+0.3**
	comp=Z,20nm,1.6s,mb5.3						
LKWY	**Lake**	**94.95**	**342**	PFAKE		16 57 50.0	+16
LKWY				LR	LR		
	comp=Z,4μm,20.0s,MS5.9						
LRAL	**Lakeview Retre**	**96.06**	**320**	*e*P	**P**	**16 57 40.6**	**+1.4**
	comp=Z,21nm,1.0s,mb5.5						
TPAW	**Teton Pass**	**96.09**	**342**	*e*P	**P**	**16 57 39.8**	**+0.7**
BMO	**Blue Mountains**	**96.17**	**347**	*e*P	**P**	**16 57 41.4**	**+1.9**
	comp=Z,2.7nm,0.8s,mb4.7						
PDAR	**Pinedale Array**	**96.41**	**341**	P	**P**	**16 57 42.7**	**+2.1**
	comp=Z,1.7nm,0.9s,mb4.5,baz=333,slow=3.3,SNR=10						
PDAR				PKKP	PKKP	17 14 25.4	+5.0
	comp=Z,0.3nm,0.6s,baz=248,slow=4.9,SNR=2.7						
PDAR				LR	LR	17 45 02.0	
	comp=Z,3μm,21.3s,MS5.7,baz=22,slow=38						
DAU	**Daniels Canyon**	**99.06**	**341**	*e*P	**P**	**16 57 53.2**	**+0.7**
MSU	**Marysvale**	**101.09**	**341**	*e*P	P	16 58 03.5	+1.7
WRA	**Warramunga Arr**	**102.38**	**106**	PKKP	PKKP	17 14 12.2	+2.0
	comp=Z,1.3nm,1.1s,baz=122,slow=2.7,SNR=5.6						
HKT	**Hockley**	**102.88**	**325**	PFAKE		16 58 20.0	+10
HKT				LR	LR		
	comp=Z,4μm,20.0s,MS5.9						
ISA	**Isabella**	**105.28**	**345**	PFAKE		17 02 50.0	
ISA				LR	LR		
	comp=Z,133nm,20.0s,MS4.5						
SYO	**Syowa Base**	**106.31**	**182**	⇓PP	PP	17 02 54.9	+3.4
OTAV	**Otavalo**	**114.84**	**291**	*e*PKPdf	PKPdf	17 02 54.2	-1.7
LPAZ	**La Paz**	**116.92**	**270**	PKP	PKPdf	17 02 58.8	-1.1
	comp=Z,6.9nm,1.3s,baz=352,slow=2.4,SNR=4.0						
LVC	**Limon Verde**	**120.94**	**264**	*e*PKP	PKPdf	17 03 08.0	+0.3
QSPA	**South Pole Qui**	**127.40**	**180**	*e*P	PKPdf	17 03 15.3	-3.3
PLCA	**Paso Flores**	**129.98**	**245**	PKP	PKPdf	17 03 22.1	-2.5
	comp=Z,6.3nm,1.2s,baz=45,slow=5.2,SNR=2.4						
URZ	**Urewera**	**143.55**	**106**	PKhKP		17 03 41.0	
	comp=Z,15nm,0.8s,baz=18,slow=1.9,SNR=8.4						
URZ				PKP	PKPdf	17 03 47.4	-1.9
	comp=Z,38nm,1.0s,baz=270,slow=4.0,SNR=9.2						
TAOE	**Nuku Hiva Isla**	**151.20**	**8**	*e*LR	LR	17 54 14.3	
PPT	**Papeete**	**156.91**	**34**	*e*SS	SS	17 28 00.8	-5.9
PPT				*e*LR	LR	17 57 02.7	
	comp=Z,3μm,24.8s						
TBI	**Tubuai**	**161.88**	**42**	*e*SS	SS	17 28 56.5	-2.6
TBI				*e*LR	LR	17 59 38.0	
	comp=Z,3μm,26.5s						

*IDC **25** 16:45:54.8±3.0, 31.45S×70.26W, h84km±27km, mb4.1/1, mb1 3.5/4, mb1mx3.5/13, mbtmp3.7/4, Error ellipse: s-maj=178.7km s-min=22.6km az=95.0*
*GUC **25** 16:45:57.0±0.8, 31.44S×69.72W, h150km±6km, ML4.3*
*NEIC **25** 16:45:57.0, 31.44S×69.72W, h150km, After GUC.*

ISC 25 16:45:56.8±0.5, 31.43S±0.03×69.49W±0.07, h130km±7km, n34, σ0.96/50, mb4.1/1, 10C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.71**	**100**	⇑*i* P	**P**	**16 46 16.0**	**-1.3**
ZON				*e*S	**S**	**16 46 28.0**	**-5.0**
ILCH	**Illapel**	**1.45**	**261**	⇓*i* P	**P**	**16 46 24.8**	**+0.1**
ILCH				*i* S	**S**	**16 46 45.5**	**-0.4**
ILCH				AMP		16 46 46.1	
	comp=N,7μm,0.2s						
PTCH	**Petorca**	**1.48**	**235**	⇑*i* P	**P**	**16 46 24.9**	**-0.2**
PTCH				*i* S	**S**	**16 46 46.0**	**-0.6**
PTCH				AMP		16 46 47.8	
	comp=E,7μm,0.1s						
MDZ	**Mendoza**	**1.55**	**160**	*e*P	**P**	**16 46 24.8**	**-1.1**
MDZ				*i* S	**S**	**16 46 48.6**	**+0.6**
JACH	**Jahuel**	**1.56**	**216**	*i* P	**P**	**16 46 26.2**	**+0.3**
JACH				*i* S	**S**	**16 46 48.9**	**+0.7**
TLL	**Tololo Astrono**	**1.69**	**318**	⇑*i* P	**P**	**16 46 28.5**	**+1.1**
TLL				*i* S	**S**	**16 46 51.8**	**+1.1**
TLL				AMP		16 46 54.6	
	comp=N,2μm,0.4s						
PACH	**Papudo**	**1.99**	**236**	⇑*i* P	**P**	**16 46 30.4**	**-0.6**
PACH				*i* S	**S**	**16 46 55.9**	**-1.1**
ROCH	**El Roble**	**2.01**	**219**	⇑*i* P	**P**	**16 46 31.2**	**0.0**
FCH	**Farellones**	**2.01**	**199**	⇑*i* P	**P**	**16 46 32.3**	**+1.0**
FCH				*i* S	**S**	**16 46 59.4**	**+1.9**
FCH				AMP		16 47 04.5	
	comp=E,1μm,0.2s						
LSCH	**La Serena**	**2.14**	**315**	⇓*i* P	**P**	**16 46 33.3**	**+0.4**
LSCH				*i* S	**S**	**16 47 00.1**	**-0.2**
LSCH				AMP		16 47 00.2	
	comp=N,3μm,0.5s						
CLCH	**Cerro Calan**	**2.15**	**204**	⇑*i* P	**P**	**16 46 33.6**	**+0.5**
CLCH				*i* S	**S**	**16 47 01.1**	**+0.3**
CLCH				AMP		16 47 03.2	
	comp=E,896nm,0.4s						
CLCH				AMP		16 47 03.8	
	comp=E,1μm,0.5s						
DSCH	**Colegio Aleman**	**2.17**	**205**	⇑*i* P	**P**	**16 46 33.7**	**+0.4**
DSCH				*i* S	**S**	**16 47 01.4**	**+0.3**
DSCH				AMP		16 47 03.6	
	comp=E,2μm,0.3s						
FSR	**Penalolen**	**2.23**	**203**	AMP		16 47 05.0	
	comp=N,1μm,0.3s						
STL	**Santa Lucia**	**2.23**	**206**	⇑*i* P	**P**	**16 46 34.5**	**+0.4**
STL				*i* S	**S**	**16 47 02.9**	**+0.5**
RCDM	**Rinconada Maip**	**2.34**	**208**	⇓*i* P	**P**	**16 46 35.4**	**-0.1**
RCDM				*i* S	**S**	**16 47 04.7**	**-0.2**
RCDM				AMP		16 47 08.2	
	comp=N,2μm,0.2s						
PCH	**Pirque**	**2.35**	**201**	*i* P	**P**	**16 46 36.3**	**+0.6**
PCH				*i* S	**S**	**16 47 05.9**	**+0.6**
LMEL	**Las Melosas**	**2.49**	**194**	*i* P	**P**	**16 46 38.3**	**+0.8**
LMEL				*i* S	**S**	**16 47 09.6**	**+1.2**
LMEL				AMP		16 47 15.0	
	comp=N,1μm,0.2s						
TACH	**Talagante**	**2.53**	**208**	⇑*i* P	**P**	**16 46 37.6**	**-0.5**
TACH				*i* S	**S**	**16 47 08.6**	**-0.8**
CHCH	**Chadas Angostu**	**2.68**	**201**	⇓*i* P	**P**	**16 46 39.7**	**-0.4**
CHCH				*i* S	**S**	**16 47 12.7**	**-0.2**
LCCH	**Las Cruces**	**2.69**	**220**	*i* P	**P**	**16 46 39.5**	**-0.7**
LCCH				*i* S	**S**	**16 47 11.5**	**-1.6**
CICH	**Cipreses**	**2.99**	**195**	⇓*i* P	**P**	**16 46 44.8**	**+0.7**
CICH				*i* S	**S**	**16 47 20.7**	**+0.7**
VACH	**Vallenar**	**3.04**	**339**	*i* P	**P**	**16 46 44.9**	**+0.1**
VACH				*i* S	**S**	**16 47 21.0**	**-0.4**
VACH				AMP		16 47 25.4	
	comp=N,2μm,0.1s						
SFDO	**San Fernando**	**3.43**	**201**	*i* P	**P**	**16 46 48.6**	**-1.3**
SFDO				*i* S	**S**	**16 47 28.4**	**-2.0**
LVC	**Limon Verde**	**8.79**	**4**	P	**P**	**16 48 00.2**	**-1.8**
	comp=N,0.4nm,0.3s,baz=220,slow=7.9,SNR=6.5						
LVC	**Limon Verde**	**8.79**	**4**	P	**P**	**16 48 00.2**	**-1.8**
TRQA	**Tornquist**	**9.05**	**139**	*e*P	**P**	**16 48 03.0**	**-2.5**
PLCA	**Paso Flores**	**9.33**	**185**	P	**P**	**16 48 05.7**	**-3.4**
	comp=N,0.1nm,0.3s,baz=5.9,slow=18,SNR=2.3						
PLCA	**Paso Flores**	**9.33**	**185**	P	**P**	**16 48 05.7**	**-3.4**
LPAZ	**La Paz**	**15.12**	**5**	P	**P**	**16 49 26.7**	**+2.0**
	comp=N,0.1nm,0.3s,baz=197,slow=6.1,SNR=4.5						
USHA	**Ushuaia**	**23.41**	**178**	P	**P**	**16 50 56.1**	**+1.6**
	comp=N,5.8nm,0.8s,mb4.1,baz=5.7,slow=10,SNR=3.6					

*CSEM **25** 16:51:19.0, 37.71N×44.30E, h13km, MD4.0, After ISK*
*NEIC **25** 16:51:33.1, 38.39N×43.33E, h45km, MD4.0(ISK), After ISK.*

ISK 25 16:51:19.0, 37.71N×44.30E, h13km, MD4.0, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.46**	**254**	*i* PG			Pg	16 51 27.7	-0.7
VANT	**Van**	**1.03**	**316**	*i* PN			Pn	16 51 40.9	+1.9
VANB	**Van**	**1.14**	**321**	PN			Pn	16 51 40.7	+0.1
VANB				SN			Sn	16 51 57.2	+1.1
BTMT	**Batman**	**2.27**	**283**	*i* PN			Pn	16 51 59.9	+3.1
VRT	**Varto**	**2.60**	**304**	*i* PN			Pn	16 52 01.6	+0.1
VRT	**Varto**	**2.60**	**304**	Pn			Pn	16 51 59.8	-1.7
KARS	**Kars**	**3.05**	**343**	*e*Pn			Pn	16 52 08.5	+0.6
KARS	**Kars**	**3.05**	**343**	Pn			Pn	16 52 10.1	+2.2
BINT	**Bingol**	**3.21**	**292**	*e*Pn			Pn	16 52 11.4	+1.1
BINT	**Bingol**	**3.21**	**292**	Pn			Pn	16 52 10.1	-0.1
DIY	**Diyarbakir**	**3.23**	**275**	*e*Pn			Pn	16 52 11.4	+0.9
DIY	**Diyarbakir**	**3.23**	**275**	Pn			Pn	16 52 11.7	+1.2
MYA	**Malataya**	**4.68**	**279**	*e*Pn			Pn	16 52 31.3	+0.3
MYA	**Malataya**	**4.68**	**279**	Pn			Pn	16 52 30.8	-0.2
GAZ	**Gaziantep**	**5.66**	**267**	*e*Pn			Pn	16 52 46.6	+1.7
GAZ	**Gaziantep**	**5.66**	**267**	Pn			Pn	16 52 48.9	+3.9
CANT	**Cankiri**	**8.78**	**293**	P			P	16 53 13.4	-15

*PRU **25** 16:53:40.5, 51.37N×16.17E*

WAR 25 16:53:40, 51.45N×16.17E, h1km, ML2.7, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**173**	*e*PG			Pg	16 53 51.0	-1.2
KSP				*e*SG			Sg	16 54 00.0	-0.4
UPC	**Upice**	**0.95**	**186**	*e*PG			Pg	16 53 57.2	-1.7
DPC	**Dobruska-Polom**	**1.11**	**175**	*e*PG			Pg	16 53 59.7	-2.4
DPC				*e*SG			Sg	16 54 14.2	-2.6
PVCC	**Panska Ves**	**1.37**	**228**	*e*PG			Pg	16 54 05.0	-2.3
PRU	**Pruhonice**	**1.79**	**216**	*e*PG			Pg	16 54 12.2	-3.6
PRU				*e*SG			Sg	16 54 35.7	-4.0
CLL	**Collm**	**1.99**	**267**	*e*PG			Pg	16 54 17.0	-2.7
CLL				*e*SG			Sg	16 54 43.0	-3.3
OKC	**Ostrava-Krasne**	**2.05**	**141**	*e*SG			Sg	16 54 43.0	-5.2
OKC	**Ostrava-Krasne**	**2.05**	**141**	*e*Sg			Sg	16 54 43.0	-5.2
NKC	**Novy Kostel**	**2.66**	**244**	*e*SG			Sg	16 55 03.6	-4.8
NKC	**Novy Kostel**	**2.66**	**244**	*e*Sg			Sg	16 55 03.6	-4.8
KHC	**Kasperske Hory**	**2.85**	**217**	*e*PN			Pn	16 54 26.5	-1.0
KHC				*e*PG			Pg	16 54 31.8	-5.2
KHC				*e*SG			Sg	16 55 08.6	-6.5

*NEIC **25** 16:57:14.1, 45.28S×167.08E, h12km, ML3.8(WEL), After WEL.*

WEL 25 16:57:08.2±0.4, 45.11S×166.63E, h12km, ML3.9/6, Error ellipse: s-maj=3.7km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.52**	**135**	P*			Pb	16 57 18.3	-0.5
DCZ				S*			Sb	16 57 24.9	-1.1
DCZ				S*			Sb	16 57 25.0	-1.0
MSZ	**Milford Sound**	**1.02**	**65**	P*			Pb	16 57 26.6	-0.8
MSZ				S*			Sb	16 57 39.8	-0.8
MSZ				S*			Sb	16 57 40.8	+0.3
MLZ	**Mavora Lakes**	**1.12**	**103**	P			Pb	16 57 28.0	-1.0
MLZ				S			Sb	16 57 39.0	-4.3
MLZ	**Mavora Lakes**	**1.12**	**103**	P*			Pb	16 57 28.0	-1.0
MLZ				S*			Sb	16 57 43.1	-0.2
WHZ	**Wether Hill Ro**	**1.22**	**131**	P			Pb	16 57 29.9	-0.7
WHZ	**Wether Hill Ro**	**1.22**	**131**	P*			Pb	16 57 29.9	-0.8
WKZ	**Wanaka**	**1.72**	**81**	*e*P			Pn	16 57 39.4	+1.2
WKZ	**Wanaka**	**1.72**	**81**	PN			Pn	16 57 38.7	+0.5
WKZ				SN			Sn	16 57 59.9	-0.3
JCZ	**Jackson Bay**	**1.84**	**57**	*e*P			Pn	16 57 38.9	-1.1
JCZ	**Jackson Bay**	**1.84**	**57**	PN			Pn	16 57 38.7	-1.2
EAZ	**Earnscleugh**	**1.90**	**95**	P			Pn	16 57 41.6	+0.8
EAZ	**Earnscleugh**	**1.90**	**95**	PN			Pn	16 57 41.2	+0.4
TUZ	**Tuapeka**	**2.27**	**113**	*e*P			Pn	16 57 46.3	+0.1
TUZ	**Tuapeka**	**2.27**	**113**	PN			Pn	16 57 46.1	-0.1
LBZ	**Lake Benmore**	**2.64**	**75**	*e*P			Pn	16 57 51.5	+0.1
LBZ	**Lake Benmore**	**2.64**	**75**	PN			Pn	16 57 51.3	0.0
FOZ	**Fox Glacier**	**2.69**	**56**	PN			Pn	16 57 50.5	-1.6
ODZ	**Otahua Downs**	**2.85**	**90**	P			Pn	16 57 53.5	-0.9
ODZ	**Otahua Downs**	**2.85**	**90**	PN			Pn	16 57 53.3	-1.0
RPZ	**Rata Peaks**	**3.47**	**68**	*e*P			Pn	16 58 01.8	-1.3
RPZ	**Rata Peaks**	**3.47**	**68**	PN			Pn	16 58 01.6	-1.5
WVZ	**Waitaha Valley**	**3.59**	**57**	*e*P			Pn	16 58 02.1	-2.8
WVZ	**Waitaha Valley**	**3.59**	**57**	PN			Pn	16 58 01.7	-3.2
MQZ	**McQueen's Vall**	**4.54**	**74**	*e*P			Pn	16 58 15.4	-3.0
MQZ	**McQueen's Vall**	**4.54**	**74**	*e*PN			Pn	16 58 16.5	-1.9
MQZ				SN			Sn	16 59 06.1	-5.7
CRLZ	**Canterbury Las**	**4.57**	**72**	*e*PN			Pn	16 58 18.0	-0.8
LTZ	**Lake Taylor**	**4.69**	**62**	*e*P			Pn	16 58 19.5	-1.1
LTZ	**Lake Taylor**	**4.69**	**62**	*e*PN			Pn	16 58 18.5	-2.1
LTZ				SN			Sn	16 59 12.8	-2.8
DSZ	**Denniston Nort**	**5.05**	**50**	*e*P			Pn	16 58 22.0	-3.6
DSZ	**Denniston Nort**	**5.05**	**50**	*e*PN			Pn	16 58 21.7	-4.0
DSZ				SN			Sn	16 59 17.3	-7.4
THZ	**Tophouse**	**5.66**	**56**	*e*P			Pn	16 58 31.7	-2.6
THZ	**Tophouse**	**5.66**	**56**	*e*PN			Pn	16 58 31.4	-2.9
QRZ	**Quartz Range**	**6.09**	**47**	*e*P			Pn	16 58 36.3	-4.0
QRZ	**Quartz Range**	**6.09**	**47**	*e*PN			Pn	16 58 36.0	-4.3
QRZ				SN			Sn	16 59 40.7	-10

*CSEM **25** 16:58:00.1±0.4, 38.05N×44.27E, h30km, MD3.6, Error ellipse: s-maj=9.6km s-min=4.3km az=75.0*

ISK 25 16:57:58.7, 37.87N×44.38E, h33km, MD3.6, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VANT	**Van**	**0.97**	**307**	*i* PG			P	16 58 17.3	+1.3
VANT				*i* SG			S	16 58 31.1	+2.3
VANB	**Van**	**1.07**	**313**	PG			P	16 58 17.9	+0.6
VANB				SG			S	16 58 31.6	+0.4
MSL	**Mosul**	**1.88**	**214**	*i* Pn			Pn	16 58 30.5	+1.3
MSL				*i* Sb			Sb	16 58 50.5	-5.0
BTMT	**Batman**	**2.31**	**279**	PN			Pn	16 58 37.5	+2.2
VRT	**Varto**	**2.57**	**300**	*e*PN			Pn	16 58 39.0	0.0
EZM	**Erzurum**	**3.11**	**312**	*e*PN			Pn	16 58 47.4	+0.7
BINT	**Bingol**	**3.22**	**289**	*e*PN			Pn	16 58 48.1	-0.2
DIY	**Diyarbakir**	**3.29**	**272**	*e*PN			Pn	16 58 50.2	+1.0

IGQ 25 17:04:10.6, 1.51S×81.43W, h12km±8km, mb4.2, 5C-2D, Error ellipse: s-maj=11.2km s-min=6.1km az=35.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.00**	**63**	⇑P			Pb	17 04 28.8	-0.5
HOJA				S			Sb	17 04 40.5	-1.6
IGUA	**Igualata**	**2.79**	**90**	P			Pn	17 04 56.5	+0.5
IGUA				S			Sn	17 05 27.1	-2.8
JUIV	**Juive**	**2.97**	**88**	P			Pn	17 05 00.4	+1.9
ARRY	**Arrayan**	**2.98**	**90**	⇑P			Pn	17 04 59.2	+0.5
PATA	**Patacocha**	**3.00**	**90**	P			Pn	17 05 01.2	+2.3
ULBA	**Ulba**	**3.03**	**89**	P			Pn	17 05 00.8	+1.5
PISA	**Pisayambo**	**3.08**	**82**	⇑P			Pn	17 05 02.6	+2.5
PISA				S			Sn	17 05 36.3	-0.8
NAS1	**Nasa**	**3.08**	**74**	⇓P			Pn	17 05 02.7	+2.6
JUA2	**San Juan 2**	**3.11**	**66**	P			Pn	17 05 01.8	+1.3
TERV	**Terraza Guagua**	**3.12**	**65**	P			Pn	17 05 01.7	+1.0
PINO	**Pino**	**3.13**	**65**	⇑P			Pn	17 05 01.9	+1.2
VC1	**Cotopaxi 1**	**3.15**	**74**	P			Pn	17 05 03.9	+2.8
TAMB	**Tambo**	**3.17**	**75**	P			Pn	17 05 03.6	+2.3
YANA	**Yana**	**3.18**	**64**	P			Pn	17 05 02.1	+0.6
YANA				S			Sn	17 05 42.7	+3.0
ANTI	**Antisana**	**3.44**	**72**	⇓P			Pn	17 05 07.7	+2.6
ANTI				S			Sn	17 05 53.3	+7.0
CAYR	**Refugio Cayamb**	**3.75**	**66**	⇑P			Pn	17 05 13.8	+4.3
CAYA	**Cayambe**	**3.78**	**66**	P			Pn	17 05 12.5	+2.5

*CSEM **25** 17:06:05.5, 37.88N×44.07E, h40km, MD4.3, After ISK*

ISK 25 17:06:05.5, 37.88N×44.07E, h40km, MD4.3, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VANT	**Van**	**0.78**	**316**	*i* PG			P	17 06 21.6	+1.5
VANB	**Van**	**0.89**	**323**	*i* PG			P	17 06 22.2	+0.5
VANB				*i* SG			S	17 06 34.4	+0.8
MSL	**Mosul**	**1.77**	**207**	*e*P			P	17 06 46.5	+12
MSL				*e*S			S	17 07 06.5	+11
BTMT	**Batman**	**2.06**	**279**	*e*PN			P	17 06 40.7	+2.3
VRT	**Varto**	**2.35**	**303**	*e*PN			P	17 06 44.5	+1.9
EZM	**Erzurum**	**2.93**	**315**	*e*PN			P	17 06 50.7	0.0
BINT	**Bingol**	**2.99**	**291**	*e*PN			P	17 06 52.8	+1.2
DIY	**Diyarbakir**	**3.04**	**271**	PN			P	17 06 52.9	+0.5
EZC	**Erzincan**	**3.81**	**301**	*e*PN			P	17 07 07.8	+4.5
MALT	**Malatya**	**4.47**	**277**	*e*PN			P	17 07 12.8	+0.1

MAN 25 17:06:49.5, 16.39N×120.24E, h2km, mb3.9, ML2.7, MS2.4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.31**	**268**	*e*P			Pg	17 06 55.5	-0.2
BOLP				*e*S			Sg	17 07 01.7	+1.8
BCPH	**Baguio City Da**	**0.33**	**92**	⇓*i*P			Pg	17 06 56.6	+0.6
BCPH				*i* S			Sg	17 07 03.2	+2.8
SCZP	**Santa Cruz**	**0.69**	**207**	*e*P			Pg	17 07 03.4	+0.2
ABRA	**Dolores**	**1.33**	**20**	*e*P			Pb	17 07 11.6	-3.2
BALP	**Baler**	**1.44**	**117**	*e*P			Pn	17 07 15.7	-1.0
CAUP	**Cauayan**	**1.61**	**70**	*e*P			Pn	17 07 18.6	-0.6
APYP	**Conner**	**1.75**	**33**	*e*P			Pn	17 07 21.1	+0.1

BJI 25 17:08:34.0, 22.53N×100.68E, h31km, ML3.6, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHG	**Chiang Mai**	**4.04**	**204**	PG			Pn	17 09 51.0	+16
CHG				SG			Sn	17 09 57.0	-25

*NEIC **25** 17:08:36.1, 16.46N×99.60W, h2km, MD3.9(MEX), After MEX.*

MEX 25 17:08:36.1±1.1, 16.46N×99.60W, h2km±8km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.51**	**323**	*i* P			Pg	17 08 45.0	-1.2
ACX				*i* S			Sg	17 08 53.0	+0.1
CAIG	**El Cayaco**	**0.87**	**312**	*i* P			Pg	17 08 51.8	-1.6
CAIG				*i* S			Sg	17 09 02.7	-2.2
PNIG	**Pinotepa**	**1.41**	**93**	*i* P			Pb	17 09 00.6	-2.3
PNIG				*i* S			Sb	17 09 16.2	-5.2
PLIG	**Platanillo**	**1.92**	**3**	*i* P			Pn	17 09 07.3	-2.9
PLIG				*i* S			Sn	17 09 31.1	-4.2
ZIIG	**Zihuatanejo**	**2.12**	**303**	*e*P			Pn	17 09 09.1	-3.9
ZIIG				*i* S			Sn	17 09 34.2	-6.1
YAIG	**Yautepec**	**2.44**	**12**	*i* P			Pn	17 09 15.1	-2.5
YAIG				*i* S			Sn	17 09 43.4	-5.1
PPM	**Popocatepetl**	**2.75**	**20**	*e*P			Pn	17 09 19.3	-2.8
PPM				*e*P				17 09 23.0	
PPM				*i* S			Sn	17 09 50.8	-5.6
VHO	**Vista Hermosa**	**2.81**	**77**	*e*P			Pn	17 09 21.2	-1.7
VHO				*i* S			Sn	17 09 51.9	-6.0
OXX	**Oaxaca**	**2.82**	**77**	*e*P			Pn	17 09 23.0	-0.1
IISM	**Ciudad Serdan**	**3.29**	**40**	*e*P			Pn	17 09 22.0	-7.7
POHV	**Veracruz**	**3.41**	**40**	*e*P			Pn	17 09 36.0	+4.6
HUIG	**Huatulco**	**3.42**	**101**	*e*P			Pn	17 09 29.8	-1.8

*ISK **25** 17:11:04.3, 37.80N×43.93E, h14km, MD4.1*
*CSEM **25** 17:11:05.5±0.1, 37.75N×43.71E, h5km, MD4.1, Error ellipse: s-maj=3.5km s-min=3.3km az=54.0*
*IDC **25** 17:11:07.6±1.4, 37.76N×43.99E, mb3.7/5, mb1 3.8/9, mb1mx3.7/19, mbtmp3.7/9, ML2.7/3, Error ellipse: s-maj=25.4km s-min=20.6km az=141.0*
*NEIC **25** 17:11:09.1, 37.70N×43.80E, h32km, MD4.2(ISK), After ISK.*

ISC 25 17:11:07.3±0.7, 37.72N±0.05×43.81E±0.08, h10km, n40, σ1§51/44, mb3.5/5, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.15**	**202**	PG			**Pg**	**17 11 09.7**	**-1.2**
HKR	**Hakkari**	**0.15**	**202**	Pg			**Pg**	**17 11 09.6**	**-1.3**
VANT	**Van**	**0.80**	**335**	*i* PG			**Pg**	**17 11 21.6**	**-1.7**
VANT	**Van**	**0.80**	**335**	Pg			**Pg**	**17 11 22.5**	**-0.7**
TVAN	**Van**	**0.87**	**338**	*i* P			**Pb**	**17 11 22.2**	**-1.7**
TVAN				*i* S			**Sb**	**17 11 34.4**	**-1.0**
VANB	**Van**	**0.93**	**339**	*i* PG			**Pg**	**17 11 22.2**	**-3.8**
VANB				*i* SG			**Sg**	**17 11 34.4**	**-4.1**
BTMT	**Batman**	**1.90**	**285**	*e*PN			**Pn**	**17 11 40.7**	**+0.6**
BEST	**Besiri**	**2.02**	**276**	*i* P			**Pn**	**17 11 41.8**	**0.0**
BEST				*i* S			**Sn**	**17 12 12.3**	**+4.9**
VRT	**Varto**	**2.28**	**309**	*e*PN			**Pn**	**17 11 43.9**	**-1.7**
VRT	**Varto**	**2.28**	**309**	Pn			**Pn**	**17 11 46.9**	**+1.4**
GNI	**Garni**	**2.53**	**16**	Pn			**Pn**	**17 11 50.7**	**+1.5**
	8.0nm,0.3s,baz=249,slow=2.4,SNR=20								
GNI				Lg				17 12 32.9	
	8.3nm,0.3s,baz=3.8,slow=21,SNR=8.5								
GNI	**Garni**	**2.53**	**16**	Pn			**Pn**	**17 11 50.7**	**+1.5**
GNI				Pn			**Pn**	**17 11 54.2**	**+5.1**
GNI				Lg				17 12 32.9	
DIY	**Diyarbakir**	**2.85**	**275**	PN			**Pn**	**17 11 51.9**	**-1.8**
DIY	**Diyarbakir**	**2.85**	**275**	Pn			**Pn**	**17 11 50.1**	**-3.6**
BINT	**Bingol**	**2.86**	**295**	*e*PN			**Pn**	**17 11 51.9**	**-1.9**
BINT	**Bingol**	**2.86**	**295**	Pn			**Pn**	**17 11 54.8**	**+0.9**
ERZM	**Erzurum**	**2.90**	**319**	*i* P			**Pn**	**17 11 56.5**	**+2.1**
EZM	**Erzurum**	**2.90**	**319**	*e*PN			**Pn**	**17 11 50.7**	**-3.7**
KARS	**Kars**	**2.94**	**349**	Pn			**Pn**	**17 11 60.0**	**+5.0**
EZC	**Erzincan**	**3.72**	**304**	*e*PN			**Pn**	**17 12 07.8**	**+1.7**
EZC	**Erzincan**	**3.72**	**304**	Pn			**Pn**	**17 12 10.9**	**+4.8**
BCA	**Borcka**	**4.08**	**336**	Pn			**Pn**	**17 12 20.3**	**+9.1**
MALT	**Malatya**	**4.29**	**280**	*e*PN			**Pn**	**17 12 12.8**	**-1.4**
MALT	**Malatya**	**4.29**	**280**	Pn			**Pn**	**17 12 12.5**	**-1.7**
MALT	**Malatya**	**4.29**	**280**	Pn			**Pn**	**17 12 12.5**	**-1.7**
GUMT	**Gumushane**	**4.34**	**310**	Pn			**Pn**	**17 12 22.9**	**+8.1**
GZT	**Gaziantep**	**4.98**	**268**	*i* P			**Pn**	**17 12 15.9**	**-8.0**
GAZ	**Gaziantep**	**5.28**	**266**	Pn			**Pn**	**17 12 31.8**	**+3.6**
KAHT	**Ahir Dag**	**5.51**	**271**	*i* P			**Pn**	**17 12 34.3**	**+2.9**
COBT	**Iskenderun**	**6.16**	**261**	*i* P			**Pn**	**17 12 41.2**	**+0.6**
ASF	**Jabal al Asfar**	**7.93**	**228**	Pn			**Pn**	**17 13 04.9**	**-0.5**
	0.9nm,0.3s,baz=31,slow=16,SNR=5.7								
ASF				Lg				17 15 15.5	
	1.4nm,0.3s,baz=87,slow=19,SNR=3.6								
BRTR	**Keskin Array B**	**8.20**	**287**	Pn			**P**	**17 13 08.1**	**-1.1**
	baz=104,slow=12,SNR=2.9								
AKASG	**Malin Array Be**	**16.62**	**326**	Pn			**P**	**17 15 08.0**	**+6.1**
	0.1nm,0.3s,baz=140,slow=12,SNR=5.5								
BVAR	**Borovoye Array**	**23.95**	**42**	P			**P**	**17 16 22.2**	**+0.1**
	1.3nm,0.8s,mb3.4,baz=191,slow=7.3,SNR=5.3								
GERES	**GERESS Array B**	**24.42**	**307**	P			**P**	**17 16 28.7**	**+1.9**
	2.0nm,0.7s,mb3.6,baz=108,slow=8.4,SNR=12								
KHC	**Kasperske Hory**	**24.58**	**307**	*e*P			**P**	**17 16 32.0**	**+3.6**
FINES	**FINESS Array B**	**26.20**	**341**	P			**P**	**17 16 43.9**	**+0.3**
	1.7nm,0.9s,mb3.6,baz=131,slow=15,SNR=3.2								
CMAR	**Chiang Mai Arr**	**51.53**	**96**	P			**P**	**17 20 13.9**	**-1.6**
	0.6nm,0.6s,mb3.7,baz=301,slow=10,SNR=6.3								
YKA	**Yellowknife Ar**	**78.62**	**350**	P			**P**	**17 23 12.4**	**+2.2**
	0.1nm,0.5s,mb3.0,baz=19,slow=6.0,SNR=5.2								
YKA	**Yellowknife Ar**	**78.62**	**350**	P			**P**	**17 23 12.4**	**+2.2**

*ISK **25** 17:15:05.8, 37.78N×43.90E, h4km, MD4.2*
*IDC **25** 17:15:07.5±1.5, 37.55N×43.84E, mb3.6/5, mb1 3.8/7, mb1mx3.6/18, mbtmp3.6/7, ML2.1/2, Error ellipse: s-maj=22.4km s-min=19.5km az=133.0*
*CSEM **25** 17:15:09.5±0.1, 37.84N×43.62E, h10km, mb3.8/2, Error ellipse: s-maj=3.2km s-min=2.2km az=157.0*
*NEIC **25** 17:15:12.4±1.9, 37.47N×43.71E, h42km±14km, mb3.7/2, Error ellipse: s-maj=23.6km s-min=11.1km az=169.0*

ISC 25 17:15:08.4±0.7, 37.75N±0.04×43.71E±0.06, h4km, n34, σ1§33/36, mb3.5/7, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.17**	**171**	*i* PG			**Pg**	**17 15 10.8**	**-1.1**
VANT	**Van**	**0.74**	**340**	*i* PG			**Pg**	**17 15 23.0**	**-0.1**
TVAN	**Van**	**0.81**	**343**	*i* P			**Pg**	**17 15 23.5**	**-1.2**
TVAN				*i* S			**Sg**	**17 15 36.8**	**+1.3**
VANB	**Van**	**0.88**	**344**	*i* PG			**Pg**	**17 15 23.4**	**-2.6**
VANB				*i* SG			**Sg**	**17 15 36.4**	**-1.3**
MSL	**Mosul**	**1.54**	**199**	*e*Pn			Px	17 15 35.5	
MSL				*i* Sb			Sx	17 15 55.5	
BTMT	**Batman**	**1.81**	**285**	*i* PN			**Pn**	**17 15 42.6**	**+2.0**
BEST	**Besiri**	**1.94**	**275**	*i* P			**Pn**	**17 15 43.8**	**+1.4**
BEST				*i* S			**Sn**	**17 16 12.1**	**+4.6**
VRT	**Varto**	**2.20**	**310**	*i* PN			**Pn**	**17 15 48.4**	**+2.2**
GNI	**Garni**	**2.53**	**18**	Pn			**Pn**	**17 15 54.5**	**+3.6**
	18nm,0.3s,baz=290,slow=2.8,SNR=14								
GNI				Lg				17 16 32.2	
	14nm,0.3s,baz=188,slow=14,SNR=8.7								
DIY	**Diyarbakir**	**2.76**	**274**	PN			**Pn**	**17 15 54.5**	**+0.3**
BINT	**Bingol**	**2.77**	**295**	*e*PN			**Pn**	**17 15 53.5**	**-0.9**
ERZM	**Erzurum**	**2.82**	**320**	*i* P			**Pn**	**17 15 59.1**	**+4.0**
PTK	**Pertek**	**3.58**	**290**	*e*PN			**Pn**	**17 16 05.5**	**-0.4**
EZC	**Erzincan**	**3.64**	**304**	*e*PN			**Pn**	**17 16 10.7**	**+4.0**
ELZG	**Elazig**	**3.80**	**283**	*i* P			**Pn**	**17 16 09.6**	**+0.6**
MALT	**Malatya**	**4.21**	**279**	*e*Pn			**Pn**	**17 16 13.8**	**-1.0**
MALT				*e*S			**Sg**	**17 17 26.8**	**-1.6**
MALT	**Malatya**	**4.21**	**279**	*e*Pn			**Pn**	**17 16 13.8**	**-1.0**
MYA	**Malataya**	**4.21**	**279**	*e*PN			**Pn**	**17 16 14.8**	**0.0**
GUMT	**Gumushane**	**4.26**	**311**	*e*PN			**Pn**	**17 16 15.1**	**-0.4**
GZT	**Gaziantep**	**4.90**	**267**	*i* P			**Pg**	**17 16 40.1**	**-6.0**
KAHT	**Ahir Dag**	**5.42**	**271**	*i* P			**Pn**	**17 16 35.3**	**+3.3**
KIV	**Kislovodsk**	**6.25**	**353**	*e*P			**Pn**	**17 16 46.2**	**+2.6**
ASF	**Jabal al Asfar**	**7.88**	**227**	Lg				17 19 15.5	
	1.9nm,0.3s,baz=108,slow=23,SNR=4.5								
BRTR	**Keskin Array B**	**8.11**	**287**	Pn			**P**	**17 17 10.3**	**+0.5**
	0.1nm,0.3s,baz=113,slow=11,SNR=2.8								
MORC	**Moravsky Berou**	**22.27**	**311**	P			**P**	**17 20 05.9**	**-2.0**
	2.7nm,0.8s,mb3.7								
VRAC	**Vranov**	**22.67**	**309**	P			**P**	**17 20 12.3**	**+0.4**
	1.4nm,0.4s,mb3.8,baz=90,slow=14,SNR=2.4								
BVAR	**Borovoye Array**	**23.98**	**42**	P			**P**	**17 20 25.0**	**+0.5**
	0.3nm,0.4s,mb3.1,baz=203,slow=11,SNR=3.3								
GERES	**GERESS Array B**	**24.34**	**307**	P			**P**	**17 20 28.9**	**+0.8**
	0.9nm,0.5s,mb3.4,baz=111,slow=8.5,SNR=6.2								
CHKZ	**Chkalovo**	**24.42**	**41**	*e*P			**P**	**17 20 29.0**	**+0.2**
	2.3nm,0.8s,mb3.7								
CHKZ	**Chkalovo**	**24.42**	**41**	*e*P			**P**	**17 20 29.0**	**+0.2**
	2.3nm,0.8s,mb3.7								
KHC	**Kasperske Hory**	**24.49**	**307**	*e*P			**P**	**17 20 23.0**	**-6.6**
KHC				*e*				17 20 33.0	
FINES	**FINESS Array B**	**26.15**	**341**	P			**P**	**17 20 44.2**	**-0.9**
	2.7nm,1.0s,mb3.7,baz=225,slow=5.9,SNR=3.1								
FINES	**FINESS Array B**	**26.15**	**341**	P			**P**	**17 20 44.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**51.62**	**96**	P			**P**	**17 24 14.6**	**-3.7**
	0.6nm,1.0s,mb3.5,baz=312,slow=7.9,SNR=4.1								

WEL 25 17:22:45.9±0.5, 37.09S×177.37E, h124km±5km, ML3.5/7, Error ellipse: s-maj=6.5km s-min=6.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.89**	**123**	PN			P	17 23 07.0	-0.4
MXZ				SN			S	17 23 24.1	+0.4
URZ	**Urewera**	**1.19**	**190**	PN			P	17 23 10.5	0.0
URZ				SN			S	17 23 28.4	-0.7
PUZ	**Puketiti**	**1.21**	**145**	PN			P	17 23 10.4	-0.3
MWZ	**Matawai**	**1.25**	**174**	*e*PN			P	17

NB2 NORSAR Subarra 144.69 353 PKP PKPdf 17 53 59.3 -3.0
0.2nm,0.8s,baz=11,slow=3.8
NOA NORSAR Array B 144.69 353 PKP PKPdf 17 53 59.3 -0.3
2.6nm,0.9s,baz=6.0,slow=2.5,SNR=5.5
HFS Hagfors 145.27 351 PKPbc PKPbc 17 54 00.8 -1.1
0.5nm,0.4s,slow=3.0,SNR=5.0
AKASG Malin Array Be 148.44 328 PKPbc PKPdf 17 54 10.0 +1.1
1.7nm,0.7s,baz=36,slow=3.4,SNR=9.5

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*BJI **25** 17:50:03.0, 3.49S×129.59E, h20km, mb4.3*
*NEIC **25** 17:50:11.0±0.3, 3.14S×128.78E, h20km, mb4.6/16, Error ellipse: s-maj=15.2km s-min=5.3km az=71.0*
*IDC **25** 17:50:13.3±4.6, 3.20S×128.82E, h36km±38km, mb4.1/11, mb1 4.3/12, mb1mx4.2/19, mbtmp4.3/12, ML4.7/1, MS4.1/1, Ms1 4.1/1, ms1mx3.2/18, Error ellipse: s-maj=34.4km s-min=10.7km az=69.0*
ISC 25 17:50:10.7±0.3, 3.14S±0.05×128.8E±0.1, h33km, n42, σ1§19/46, mb4.5/21, MS4.0/1, 1D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.16**	**160**	*e*P	**P**	**17 52 36.3**	**-1.2**
	31nm,0.6s						
KAKA				*e*S	**S**	**17 54 32.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**15.20**	**192**	*e*P	**P**	**17 53 45.8**	**+1.1**
	16nm,0.6s						
WRAB	**Tennant Creek**	**17.55**	**163**	*e*P	**P**	**17 54 13.1**	**-1.3**
	40nm,0.8s						
WRA	**Warramunga Arr**	**17.55**	**163**	P	**P**	**17 54 13.7**	**-0.9**
	2.7nm,0.3s,baz=339,slow=11,SNR=53						
WRA				S	**S**	**17 57 33.7**	**+7.0**
	0.2nm,0.3s,baz=341,slow=25,SNR=4.0						
WB2	**Warramunga Arr**	**17.55**	**163**	*e*P	**P**	**17 54 13.3**	**-1.3**
WB2				*e*S	Sx	17 57 50.2	
TGY	**Tagaytay City**	**18.83**	**336**	P	**P**	**17 54 29.7**	**-0.7**
	baz=273,slow=21,SNR=4.0						
MBWA	**Marble Bar**	**19.98**	**206**	*e*P	**P**	**17 54 41.8**	**-1.4**
	39nm,0.9s						
ASPA	**Alice Springs**	**20.99**	**167**	||*i*P	**P**	**17 54 53.6**	**-0.2**
ASPA				*e*S	**S**	**17 58 42.5**	**+1.7**
ASAR	**Alice Springs**	**20.99**	**167**	P	**P**	**17 54 53.4**	**-0.4**
	32nm,0.6s,baz=352,slow=12,SNR=629						
ASAR				S	**S**	**17 58 44.6**	**+3.8**
	3.0nm,0.8s,baz=353,slow=23,SNR=3.3						
ASAR	**Alice Springs**	**20.99**	**167**	P	**P**	**17 54 53.4**	**-0.4**
ASAR				S	**S**	**17 58 44.6**	**+3.8**
CTA	**Charters Tower**	**23.94**	**136**	*e*P	**P**	**17 55 24.8**	**+1.8**
	11nm,0.9s,mb4.3						
CTA	**Charters Tower**	**23.94**	**136**	P	**P**	**17 55 23.4**	**+0.4**
	8.6nm,1.0s,mb4.1,baz=343,slow=14,SNR=2.9						
CTAO	**Charters Tower**	**23.94**	**136**	*e*P	**P**	**17 55 24.8**	**+1.8**
	15nm,0.8s,mb4.5						
JOW	**Kunigami**	**29.80**	**359**	LR	LR	18 07 53.8	
	comp=Z,364nm,19.9s,MS4.0,baz=289,slow=36						
STKA	**Stephens Creek**	**31.01**	**159**	*e*P	**P**	**17 56 27.1**	**-0.6**
	3.7nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**31.01**	**159**	P	**P**	**17 56 26.7**	**-1.0**
	12nm,1.2s,mb4.6,baz=341,slow=9.8,SNR=7.8						
NWAO	**Narrogin (SRO)**	**31.56**	**199**	P	**P**	**17 56 31.9**	**-0.6**
	13nm,1.1s,mb4.7,baz=33,slow=9.7,SNR=3.2						
NWAO	**Narrogin (SRO)**	**31.56**	**199**	P	**P**	**17 56 31.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**36.42**	**307**	P	**P**	**17 57 15.8**	**+1.5**
	8.6nm,1.3s,mb4.5,baz=137,slow=6.3,SNR=9.2						
KMI	**Kunming**	**37.81**	**319**	P	**P**	**17 57 24.8**	**-1.2**
	7.0nm,1.1s,mb4.3						
ENH	**Enshi**	**38.01**	**332**	*e*P	**P**	**17 57 26.1**	**-1.6**
	11nm,1.0s,mb4.5						
MAJO	**Matsushiro**	**40.43**	**12**	*e*P	**P**	**17 57 44.6**	**-3.1**
	7.0nm,0.9s,mb4.4						
XAN	**Xi'an**	**41.46**	**335**	P	**P**	**17 57 54.5**	**-1.7**
XAN				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.1						
SHL	**Shillong**	**45.77**	**311**	*e*P	**P**	**17 58 32.0**	**+0.7**
LSA	**Lhasa**	**48.63**	**315**	P	**P**	**17 58 55.3**	**+1.7**
LSA	**Lhasa**	**48.63**	**315**	*e*P	**P**	**17 58 54.6**	**+1.0**
	comp=Z,7.3nm,0.7s,mb4.8						
HYB	**Hyderabad**	**53.62**	**294**	*i*P	**P**	**17 59 33.0**	**+1.5**
ULN	**Ulaanbaatar**	**54.25**	**342**	*e*P	**P**	**17 59 34.9**	**-0.9**
	comp=Z,8.3nm,0.9s,mb4.7						
SONM	**Songino Array**	**54.43**	**342**	P	**P**	**17 59 36.5**	**-0.6**
	comp=Z,3.3nm,1.0s,mb4.2,baz=158,slow=6.7,SNR=12						
URZ	**Urewera**	**56.18**	**135**	P	**P**	**17 59 50.6**	**+0.7**
	comp=Z,2.2nm,0.4s,mb4.5,baz=243,slow=9.0,SNR=3.1						
WMQ	**Urumqi**	**59.54**	**326**	*e*P	**P**	**18 00 14.0**	**+0.6**
YAK	**Yakutsk**	**64.99**	**0**	*e*P	**P**	**18 00 48.8**	**-0.6**
	comp=Z,25nm,0.7s,mb5.4						
ZAL	**Zalesovo**	**67.62**	**334**	P	**P**	**18 01 05.4**	**-0.8**
	comp=Z,3.0nm,1.1s,mb4.2,baz=26,slow=3.7,SNR=3.8						
KURK	**Kurchatov**	**68.63**	**328**	*e*P	**P**	**18 01 11.5**	**-1.1**
	comp=Z,15nm,0.8s,mb5.0						
BVAR	**Borovoye Array**	**74.19**	**328**	P	**P**	**18 01 47.1**	**+1.3**
	comp=Z,5.0nm,1.0s,mb4.4,baz=135,slow=7.8,SNR=12						
BRVK	**Borovoye**	**74.26**	**328**	*e*P	**P**	**18 01 47.2**	**+0.9**
	comp=Z,5.1nm,1.0s,mb4.4						
CHKZ	**Chkalovo**	**74.38**	**328**	*e*P	**P**	**18 01 47.9**	**+1.0**
	comp=Z,4.5nm,0.7s,mb4.5						
VNDA	**Vanda**	**76.40**	**173**	P	**P**	**18 01 59.2**	**+1.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=307,slow=5.6,SNR=4.4						
VNDA	**Vanda**	**76.40**	**173**	P	**P**	**18 01 59.2**	**+1.1**
ILAR	**Eielson Array**	**90.37**	**25**	P	**P**	**18 03 11.2**	**+1.6**
	comp=Z,0.6nm,0.8s,mb4.0,baz=231,slow=5.8,SNR=6.3						
DAWY	**Dawson**	**93.58**	**26**	P	**P**	**18 03 27.3**	**+2.8**
INK	**Inuvik**	**95.73**	**22**	*e*P	**P**	**18 03 34.9**	**+0.8**
	comp=Z,5.1nm,1.1s,mb4.9						

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*ISK **25** 17:52:05.3, 37.71N×44.21E, h25km, MD4.6*
*TIF **25** 17:52:06.7, 37.79N×44.05E, h10km±3km*
*MOS **25** 17:52:10.7±1.4, 37.58N×43.50E, h10km, mb4.7/16, Error ellipse: s-maj=7.9km s-min=4.5km az=118.1*
*CSEM **25** 17:52:10.1±0.2, 37.54N×43.70E, h19km±1km, mb4.8/8, Error ellipse: s-maj=3.9km s-min=2.4km az=62.0*
*IDC **25** 17:52:11.7±1.1, 37.84N×43.67E, mb4.2/13, mb1 4.3/19, mb1mx4.2/24, mbtmp4.2/19, ML3.2/6, MS3.1/1, Ms1 3.1/1, ms1mx3.1/15, Error ellipse: s-maj=22.1km s-min=13.6km az=147.0*
*BJI **25** 17:52:12.5, 38.71N×42.66E, h36km, mB5.0, mb4.6, Ms4.7, Msz4.2*
*ZUR_RM **25** 17:52:13, 37.79N×43.61E, h12km, Mw4.6/11, Moment Tensor Solution. s11 Moment tensor: Scale 10^15^Nm; Mrr0.46; Mθθ-7.75; Mφφ7.29; Mrθ0.39; Mrφ-4.10; Mθφ1.75; Best double couple: M0=8.76×10^15^ NP1:φs=31°, δ86°, λ11°. NP2:φs=300°, δ79°, λ176°. Principal axes: T 8.649, Plg11°, Azm256°; N .221, Plg78°, Azm51°; P -8.87, Plg5°, Azm165°;*
*NEIC **25** 17:52:13.2±3.6, 37.79N×43.61E, h11km±23km, mb4.6/19 Error ellipse: s-maj=11.4km s-min=8.2km az=160.0*
ISC 25 17:52:10.8±0.7, 37.51N±0.02×43.65E±0.04, h15km±5km, n158, σ1§33/167, mb4.3/35, MS4.5/2, 6C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.10**	**49**	*i*PG	**Pg**	**17 52 14.1**	**0.0**
HKR	**Hakkari**	**0.10**	**49**	Pg	**Pg**	**17 52 14.0**	**-0.1**
VANT	**Van**	**0.95**	**348**	PG	**Pg**	**17 52 24.3**	**-5.7**
VANT	**Van**	**0.95**	**348**	Pg	**Pg**	**17 52 24.4**	**-5.6**
TVAN	**Van**	**1.03**	**350**	*i*P	**Pb**	**17 52 24.8**	**-5.0**
TVAN				*i*S	**Sb**	**17 52 33.1**	**-10**
VANB	**Van**	**1.10**	**349**	PN	**Pn**	**17 52 24.8**	**-6.8**
VANB				SN	**Sn**	**17 52 40.2**	**-6.3**
MSL	**Mosul**	**1.30**	**200**	*i*Pn	Px	17 52 38.5	
MSL				*i*Sb	Sx	17 52 58.5	
MSL				*i*Sg	Sx	17 53 00.0	
BEST	**Besiri**	**1.92**	**282**	*i*P	**Pn**	**17 52 44.6**	**+1.2**
BEST				*i*S	**Sn**	**17 53 14.6**	**+7.2**
VRT	**Varto**	**2.32**	**315**	PN	**Pn**	**17 52 49.8**	**+0.7**
VRT	**Varto**	**2.32**	**315**	Pn	**Pn**	**17 52 50.1**	**+1.0**
VRT	**Varto**	**2.32**	**315**	Pn	**Pn**	**17 52 50.1**	**+1.0**
GNI	**Garni**	**2.77**	**18**	P	**Pn**	**17 52 54.6**	**-0.9**
GNI						17 53 33.7	
GNI				pmax	pmax		
	comp=Z,7.0nm,0.3s						
GNI				MLR	MLR		
	comp=Z,355nm,19.0s						
GNI	**Garni**	**2.77**	**18**	Pn	**Pn**	**17 52 54.6**	**-0.9**
	comp=Z,6.7nm,0.3s,baz=268,slow=2.5,SNR=33						
GNI				Lg		17 53 33.7	
	comp=Z,21nm,0.3s,baz=0.5,slow=15,SNR=5.6						
GNI				LR	LR	17 53 44.1	
	comp=Z,355nm,19.0s,baz=107,slow=38						
GNI	**Garni**	**2.77**	**18**	Pn	**Pn**	**17 52 57.0**	**+1.5**
GNI	**Garni**	**2.77**	**18**	Pn	**Pn**	**17 52 57.0**	**+1.5**
ERZM	**Erzurum**	**2.98**	**324**	*i*P	**Pn**	**17 52 59.3**	**+0.8**
KARS	**Kars**	**3.12**	**352**	P	**Pn**	**17 52 55.3**	**-5.3**
EZC	**Erzincan**	**3.74**	**308**	*e*PN	**Pn**	**17 53 11.5**	**+2.2**
EZC	**Erzincan**	**3.74**	**308**	Pn	**Pn**	**17 53 08.9**	**-0.4**
ELZG	**Elazig**	**3.81**	**286**	*i*P	**Pn**	**17 53 10.5**	**+0.2**
URFA	**Urfa**	**3.84**	**270**	*e*PN	**Pn**	**17 53 11.1**	**+0.4**
AKH	**Akhalkalaki**	**3.89**	**358**	P	**Pb**	**17 53 17.3**	**-1.5**
AKH				S	**Sg**	**17 54 15.2**	**-5.2**
MALT	**Malatya**	**4.20**	**283**	*e*PN	**Pn**	**17 53 15.4**	**-0.5**
MALT	**Malatya**	**4.20**	**283**	Pn	**Pn**	**17 53 14.6**	**-1.3**
MALT	**Malatya**	**4.20**	**283**	P	**Pn**	**17 53 14.6**	**-1.3**
MALT	**Malatya**	**4.20**	**283**	*e*Pn	**Pn**	**17 53 15.4**	**-0.5**
MYA	**Malataya**	**4.21**	**283**	*e*PN	**Pn**	**17 53 15.8**	**-0.1**
MYA	**Malataya**	**4.21**	**283**	Pn	**Pn**	**17 53 16.2**	**+0.2**
MYA	**Malataya**	**4.21**	**283**	P	**Pn**	**17 53 16.2**	**+0.3**
MTA	**Mtatsminda**	**4.27**	**12**	P	**Pb**	**17 53 22.7**	**-2.4**
MTA				S	**Sb**	**17 54 19.7**	**+2.8**
BHD	**Baghdad**	**4.28**	**172**	*e*P	**Pn**	**17 53 16.0**	**-0.9**
TI2	**Plekhanov**	**4.30**	**11**	*i*P	**Pn**	**17 53 20.0**	**+2.7**
TI2				pmax	pmax		
	comp=Z,90nm,0.8s						
DUS	**Dusheti**	**4.64**	**10**	P	**Pb**	**17 53 31.8**	**+0.2**
GZT	**Gaziantep**	**4.84**	**270**	*i*P	**Pn**	**17 53 24.9**	**0.0**
ONI	**Oni**	**5.06**	**358**	P	**Pb**	**17 53 34.8**	**-3.9**
ONI				S	**Sg**	**17 54 57.8**	**-1.6**
ZEI	**Tsey**	**5.25**	**2**	*e*P	**Pn**	**17 53 31.0**	**+0.2**
KAHT	**Ahir Dag**	**5.38**	**273**	*i*P	**Pn**	**17 53 33.0**	**+0.5**
COBT	**Iskenderun**	**6.00**	**263**	*i*P	**Pn**	**17 53 42.6**	**+1.4**
HTY	**Hatay**	**6.18**	**259**	Pn	**Pn**	**17 53 47.5**	**+3.6**
HTY	**Hatay**	**6.18**	**259**	Pn	**Pn**	**17 53 47.5**	**+3.7**
KIV	**Kislovodsk**	**6.48**	**354**	*e*P	**Pn**	**17 53 46.5**	**-1.5**
KIV				pmax	pmax		
	comp=Z,31nm,1.0s						
KIV				MLR	MLR		
	comp=N,460nm,17.0s						
KIV				MLR	MLR		
	comp=Z,735nm,17.0s						
KIV	**Kislovodsk**	**6.48**	**354**	*e*P	**Pn**	**17 53 46.9**	**-1.1**
KIV	**Kislovodsk**	**6.48**	**354**	*e*P	**Pn**	**17 53 46.9**	**-1.1**
SOC	**Sochi**	**6.76**	**335**	*e*P	**Pn**	**17 53 47.0**	**-5.0**
SOC				pmax	pmax		
	comp=Z,32nm,1.0s						
SOC				pmax	pmax		
	comp=N,39nm,1.1s						
SOC				pmax	pmax		
	comp=E,40nm,1.0s						
SOC				MLR	MLR		
	comp=Z,677nm,14.0s						
SOC				MLR	MLR		
	comp=N,487nm,16.0s						
SOC				MLR	MLR		
	comp=E,613nm,16.0s						
BHL	**Bhannes**	**7.43**	**243**	*e*P	**Pn**	**17 54 03.4**	**+2.0**
GOF	**Gofitskoye**	**7.55**	**357**	||*i*P	**Pn**	**17 54 05.5**	**+2.4**
GOF				pmax	pmax		
	comp=Z,30nm,1.2s						
GOF				MLR	MLR		
	comp=Z,2μm,8.0s						
ASF	**Jabal al Asfar**	**7.69**	**228**	Pn	**Pn**	**17 54 06.0**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=263,slow=12,SNR=7.1						
ASF				Lg		17 56 16.2	
	comp=Z,1.7nm,0.3s,baz=104,slow=22,SNR=7.6						
BRTR	**Keskin Array B**	**8.14**	**289**	Pn	**P**	**17 54 08.8**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=72,slow=9.1,SNR=2.8						
RST	**Umm Al-Ruwaisa**	**8.47**	**160**	*e*P	**P**	**17 54 14.8**	**-1.0**
NAY	**Al-Naaiem**	**8.77**	**159**	*e*P	**P**	**17 54 19.2**	**-0.9**
NAY				*e*S	**Sn**	**17 55 57.1**	**-2.5**
RDF	**Al-Radifah**	**9.16**	**158**	*e*P	**P**	**17 54 25.1**	**-0.4**
RDF				*e*S	**Sn**	**17 56 07.9**	**-1.5**
QRN	**Al-Qurain**	**9.45**	**157**	*e*P	**P**	**17 54 29.7**	**+0.3**
QRN				*e*S	**Sn**	**17 56 15.7**	**-0.7**
EIL	**Elat**	**10.66**	**225**	Pn	**P**	**17 54 50.0**	**+4.0**
	comp=Z,0.2nm,0.3s,baz=54,slow=17,SNR=2.1						
VOR	**Voronezh**	**14.56**	**349**	P	**P**	**17 55 37.0**	**-1.0**
VOR				pmax	pmax		
	comp=Z,80nm,2.0s						
VOR				pmax	pmax		
	comp=N,60nm,1.8s						
VOR				pmax	pmax		
	comp=Z,80nm,1.8s						
IDI	**Anoyia**	**15.27**	**267**	Pn	**P**	**17 55 51.0**	**+3.5**
	comp=Z,0.6nm,0.3s,baz=67,slow=12,SNR=3.2						
AKASG	**Malin Array Be**	**16.72**	**327**	Pn	**P**	**17 56 06.2**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=134,slow=12,SNR=9.9						
OBN	**Obninsk**	**18.25**	**347**	*e*P	**P**	**17 56 20.0**	**-5.1**
OBN				pmax	pmax		
	comp=Z,38nm,1.5s						
OBN	**Obninsk**	**18.25**	**347**	P	**P**	**17 56 21.3**	**-3.8**
	comp=Z,27nm,0.9s						
OBN	**Obninsk**	**18.25**	**347**	P	**P**	**17 56 21.3**	**-3.8**
	comp=Z,27nm,0.9s						
MOS	**Moscow**	**18.68**	**349**	*e*P	**P**	**17 56 37.3**	**+7.0**
SMDO	**Samad**	**19.00**	**135**	P	**P**	**17 56 35.4**	**+1.1**
	SNR=7.7						
KOLS	**Kolonicke sedl**	**19.24**	**313**	*e*P	**P**	**17 56 37.1**	**+0.1**
KWP	**Kalwaria**	**19.34**	**315**	*e*P	**P**	**17 56 37.1**	**-1.0**
KWP				pmax	pmax		
	comp=Z,34nm,1.0s						
KWP	**Kalwaria**	**19.34**	**315**	*e*P	**P**	**17 56 37.1**	**-1.0**
	comp=Z,34nm,1.0s						
JMDO	**Jabal Madar**	**19.58**	**136**	P	**P**	**17 56 40.3**	**-0.7**
	SNR=7.5						
CRVS	**Cervenica-Dubn**	**19.70**	**312**	*i*P	**P**	**17 56 45.3**	**+3.0**
NIE	**Niedzica**	**20.60**	**313**	*e*P	**P**	**17 56 52.0**	**+0.2**
VYHS	**Vyhne**	**21.11**	**309**	*e*P	**P**	**17 56 56.6**	**-0.4**
TIP	**Timpagrande**	**21.13**	**283**	*e*P	**P**	**17 56 57.2**	**-0.1**
TIP	**Timpagrande**	**21.13**	**283**	*e*P	**P**	**17 56 57.2**	**-0.1**
IDID	**Didziasalis**	**21.18**	**333**	*e*P	**P**	**17 56 57.5**	**-0.2**
IDID				AMPb	AMB	17 57 02.0	
	comp=Z,5.8nm,1.6s,mb3.7						
SRO1	**Iza**	**21.23**	**307**	*e*P	**P**	**17 57 01.2**	**+3.0**
OJC	**Ojcow**	**21.27**	**314**	*e*P	**P**	**17 56 58.9**	**+0.3**
IIGN	**Ignalina**	**21.40**	**332**	*e*P	**P**	**17 56 58.4**	**-1.5**
IIGN				AMPb	AMB	17 57 04.4	
	comp=Z,5.3nm,0.8s,mb3.9						
ARU	**Arti**	**21.40**	**23**	||*i*P	**P**	**17 56 53.7**	**-6.2**
ARU				*e*SS	**S**	**18 00 43.8**	**-8.1**
ARU				*e*SSS	SSS	18 01 23.9	-17
ARU				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.3						
ISAL	**Salakas**	**21.60**	**332**	*e*P	**P**	**17 57 00.1**	**-1.8**
IZAR	**Zarasai**	**21.70**	**333**	*e*P	**P**	**17 57 00.8**	**-2.1**
ABTO	**Aybut**	**21.80**	**154**	P	**P**	**17 57 04.3**	**0.0**
	SNR=11						
RBK	**Rabkut**	**21.99**	**152**	P	**P**	**17 57 06.2**	**+0.1**
	SNR=24						
OKC	**Ostrava-Krasne**	**22.06**	**312**	*e*P	**P**	**17 57 07.6**	**+1.1**
MORC	**Moravsky Berou**	**22.39**	**312**	*e*P	**P**	**17 57 11.2**	**+1.3**
MORC				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.2						
MORC	**Moravsky Berou**	**22.39**	**312**	*e*P	**P**	**17 57 11.2**	**+1.4**
	comp=Z,11nm,1.1s,mb4.2						
MORC	**Moravsky Berou**	**22.39**	**312**	*e*P	**P**	**17 57 11.3**	**+1.4**
SVE	**Sverdlovsk**	**22.39**	**25**	*e*P	**P**	**17 57 12.8**	**+2.9**
VRAC	**Vranov**	**22.79**	**310**	P	**P**	**17 57 15.6**	**+1.9**
	comp=Z,8.9nm,0.8s,mb4.2,baz=103,slow=7.7,SNR=7.7						
ARSA	**Arzberg**	**22.83**	**304**	||*i*P	**P**	**17 57 15.8**	**+1.6**
DPC	**Dobruska-Polom**	**23.34**	**312**	*e*P	**P**	**17 57 19.0**	**-0.1**
KSP	**Ksiaz**	**23.55**	**313**	*e*P	**P**	**17 57 22.5**	**+1.4**
UPC	**Upice**	**23.58**	**312**	*e*P	**P**	**17 57 21.9**	**+0.5**
MOA	**Molln**	**23.81**	**305**	||*i*P	**P**	**17 57 24.4**	**+0.7**
AAK	**Ala-Archa**	**24.08**	**68**	*i*P	**P**	**17 57 28.3**	**+1.9**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.8s,mb3.9						
AAK	**Ala-Archa**	**24.08**	**68**	*e*P	**P**	**17 57 28.4**	**+2.1**
	comp=Z,5.0nm,0.9s,mb3.9						
BRVK	**Borovoye**	**24.15**	**41**	*e*P	**P**	**17 57 28.1**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
BRVK	**Borovoye**	**24.15**	**41**	*e*P	**P**	**17 57 28.1**	**+1.1**
	comp=Z,5.2nm,0.7s,mb4.1						
FRU	**Bishkek**	**24.18**	**68**	*e*P	**P**	**17 57 30.0**	**+2.7**
BVAR	**Borovoye Array**	**24.19**	**42**	P	**P**	**17 57 28.3**	**+1.0**
	comp=Z,3.0nm,0.6s,mb3.9,baz=252,slow=8.8,SNR=28						
KBA	**Koelnbreinsper**	**24.23**	**303**	||*i*P	**P**	**17 57 29.1**	**+1.2**
PRU	**Pruhonice**	**24.27**	**310**	*e*P	**P**	**17 57 29.8**	**+1.6**
GERES	**GERESS Array B**	**24.44**	**307**	P	**P**	**17 57 30.4**	**+0.6**
	comp=Z,5.0nm,0.7s,mb4.1,baz=117,slow=9.0,SNR=28						
PVCC	**Panska Ves**	**24.45**	**311**	*e*P	**P**	**17 57 30.1**	**+0.2**
KHC	**Kasperske Hory**	**24.60**	**308**	*e*P	**P**	**17 57 31.1**	**-0.3**
CHKZ	**Chkalovo**	**24.63**	**40**	*e*P	**P**	**17 57 30.6**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**24.63**	**40**	*e*P	**P**	**17 57 30.6**	**-1.0**
	comp=Z,4.8nm,0.6s,mb4.2						
BRG	**Berggiesshubel**	**24.94**	**312**	*e*P	**P**	**17 57 34.2**	**-0.4**
BRG				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.4						
BRG	**Berggiesshubel**	**24.94**	**312**	*e*P	**P**	**17 57 34.2**	**-0.4**
	comp=Z,15nm,1.2s,mb4.4						
NKC	**Novy Kostel**	**25.63**	**310**	*e*P	**P**	**17 57 41.0**	**-0.1**
CLL	**Collm**	**25.65**	**312**	*i*P	**P**	**17 57 40.7**	**-0.6**
CLL				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.5						
CLL	**Collm**	**25.65**	**312**	*i*P	**P**	**17 57 40.7**	**-0.6**
	comp=Z,15nm,1.0s,mb4.5						
CLL				*i*		17 58 06.2	
CLL	**Collm**	**25.65**	**312**	P	**P**	**17 57 40.7**	**-0.6**
	comp=Z,logA/T=1.2,mb4.5						
CLL				*i* *SP	Px	17 58 06.2	
SQTA	**Sankt Quirin**	**25.69**	**303**	||*i*P	**P**	**17 57 41.4**	**-0.3**
MOTA	**Moosalm**	**25.79**	**303**	||*i*P	**P**	**17 57 42.1**	**-0.5**
GRA1	**Grafenberg Arr**	**26.23**	**308**	*e*P	**P**	**17 57 46.5**	**-0.2**
	comp=Z,20nm,1.0s,mb4.6						
GRF	**Grafenberg Arr**	**26.23**	**308**	*e*P	**P**	**17 57 46.5**	**-0.2**
GRF				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.6						
GRF	**Grafenberg Arr**	**26.23**	**308**	*e*P	**P**	**17 57 46.5**	**-0.2**
GRF				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.6						
GRF	**Grafenberg Arr**	**26.23**	**308**	*e*P	**P**	**17 57 46.5**	**-0.2**
	comp=Z,20nm,1.0s,mb4.6						
MOX	**Moxa**	**26.26**	**310**	*e*P	**P**	**17 57 46.0**	**-1.0**
FINES	**FINESS Array B**	**26.36**	**341**	*i*P	**P**	**17 57 46.5**	**-1.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**26.36**	**341**	P	**P**	**17 57 46.0**	**-1.8**
	comp=Z,2.0nm,0.6s,mb3.9,baz=141,slow=12,SNR=11						
DAVOX	**Davos**	**26.52**	**301**	P	**P**	**17 57 48.5**	**-0.9**
	comp=Z,9.2nm,0.7s,mb4.4,baz=124,slow=11,SNR=7.3						
DAVA	**Damuels**	**26.60**	**302**	||*i*P	**P**	**17 57 50.2**	**+0.1**
SBF	**Sospel**	**28.02**	**295**	*e*P	**P**	**17 58 01.7**	**-1.4**
	comp=Z,68nm,0.9s,mb5.0						
SBF	**Sospel**	**28.02**	**295**	*e*P	**P**	**17 58 01.7**	**-1.4**
SBF				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.0						
KURK	**Kurchatov**	**28.08**	**51**	*e*P	**P**	**17 58 04.5**	**+0.9**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.1						
KURK	**Kurchatov**	**28.08**	**51**	*e*P	**P**	**17 58 04.5**	**+1.0**
	comp=Z,5.5nm,1.1s,mb4.1						
MBDF	**Montbardon**	**28.51**	**296**	*e*P	**P**	**17 58 06.3**	**-1.2**
	comp=Z,15nm,0.8s,mb4.5						
MBDF	**Montbardon**	**28.51**	**296**	*e*P	**P**	**17 58 06.3**	**-1.2**
MBDF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
LPG	**La Plagne**	**28.56**	**298**	*e*P	**P**	**17 58 07.3**	**-0.6**
	comp=Z,17nm,1.0s,mb4.5						
LPG	**La Plagne**	**28.56**	**298**	*e*P	**P**	**17 58 07.3**	**-0.6**
LPG				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
CABF	**La Chapelle**	**29.09**	**300**	*e*P	**P**	**17 58 11.3**	**-1.5**
	comp=Z,35nm,1.0s,mb4.8						
CABF	**La Chapelle**	**29.09**	**300**	*e*P	**P**	**17 58 11.3**	**-1.5**
CABF				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
ORIF	**Oris-en-Rattie**	**29.15**	**297**	*e*P	**P**	**17 58 10.8**	**-2.5**
	comp=Z,39nm,1.2s,mb4.7						
ORIF	**Oris-en-Rattie**	**29.15**	**297**	*e*P	**P**	**17 58 10.8**	**-2.5**
ORIF				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.7						
HFS	**Hagfors**	**29.57**	**330**	P	**P**	**17 58 15.1**	**-1.8**
	comp=Z,6.2nm,0.8s,mb4.4,baz=135,slow=10,SNR=7.3						
SMF	**Signal de Mont**	**30.64**	**300**	*e*P

IDC 25 17:56:59.3±2.6, 13.03N×92.80E, mb3.6/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=63.6km s-min=26.1km az=88.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.00**	**47**	Pn	P	17 58 58.2	-1.4
	0.1nm,0.3s,baz=237,slow=15,SNR=2.7						
CMAR				Sn	Sn	18 00 27.4	-4.6
	0.6nm,0.3s,baz=240,slow=33,SNR=7.0						
SONM	**Songino Array**	**36.51**	**15**	P	P	18 04 06.2	-2.0
	0.5nm,0.8s,baz=207,slow=6.4,SNR=3.8						
WRA	**Warramunga Arr**	**52.39**	**128**	P	P	18 06 14.0	-2.0
	0.4nm,0.4s,baz=306,slow=9.4,SNR=13						
ASAR	**Alice Springs**	**54.28**	**132**	P	P	18 06 27.4	-2.4
	0.3nm,0.4s,baz=310,slow=7.0,SNR=14						

*PRE **25** 18:10:34.1±0.6, 26.92S×26.72E, h2km, ML4.2*
*IDC **25** 18:10:34.7±0.9, 26.89S×26.56E, mb4.0/9, mb1 4.1/9, mb1mx4.0/19, mbtmp4.0/9, Error ellipse: s-maj=42.2km s-min=25.2km az=91.0*
*BJI **25** 18:10:35.2, 26.90S×26.60E, h5km, mB5.1, Ms5.1, Msz4.7*
*NEIC **25** 18:10:35.2±0.5, 26.86S×26.59E, h5km, mb4.5/3, Error ellipse: s-maj=22.0km s-min=9.2km az=111.0*
ISC 25 18:10:33.2±0.4, 26.88S±0.04×26.64E±0.05, h5km, n26, σ1§02/28, mb4.0/10, 1C-1D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEK	**Senekal**	**1.68**	**149**	*e*P	**Pn**	**18 11 03.2**	**-0.3**
SEK				*e*S	**Sn**	**18 11 24.6**	**-1.0**
SEK				*e*		18 11 26.4	
	comp=Z,2μm,0.1s						
SLR	**Silverton**	**1.87**	**53**	*e*P	**Pn**	**18 11 06.4**	**+0.2**
SLR				*e*S	**Sn**	**18 11 29.8**	**-0.6**
SLR				*e*		18 11 32.5	
	comp=Z,3μm,0.5s						
BOSA	**Boshof**	**2.12**	**215**	⇓*i*Pn	**Pn**	**18 11 11.1**	**+1.4**
BOSA				*e*S	**Sn**	**18 11 35.9**	**-0.8**
BOSA	**Boshof**	**2.12**	**215**	*e*P	**Pn**	**18 11 10.2**	**+0.5**
BOSA				*e*S	**Sn**	**18 11 36.4**	**-0.3**
NWL	**Newcastle**	**3.06**	**107**	*e*P	**Pn**	**18 11 21.3**	**-2.0**
NWL				*e*S	**Sn**	**18 12 02.5**	**+1.7**
NWL				*e*		18 12 08.9	
	comp=Z,4μm,0.5s						
MSNA	**Messina**	**5.47**	**35**	*e*S	**Pn**	**18 11 56.2**	**-1.2**
MSNA				*e*		18 12 10.5	
	comp=Z,30nm,0.2s						
SUR	**Sutherland**	**7.46**	**221**	*e*Pn	**Pn**	**18 12 24.4**	**-1.0**
LSZ	**Lusaka**	**11.64**	**7**	*e*P	**P**	**18 13 20.2**	**-2.9**
LSZ				*e*S	**S**	**18 15 24.5**	**-10**
SYO	**Syowa Base**	**42.85**	**173**	⇑P	**P**	**18 18 34.0**	**+0.4**
DBIC	**Dimbokro**	**45.20**	**313**	P	**P**	**18 18 52.1**	**-1.3**
	comp=Z,4.1nm,1.0s,mb4.2,baz=139,slow=9.3,SNR=3.7						
DBIC	**Dimbokro**	**45.20**	**313**	*e*P	**P**	**18 18 52.5**	**-0.9**
	comp=Z,7.9nm,1.0s,mb4.5						
SNAA	**Sanae**	**47.73**	**192**	P	**P**	**18 19 12.4**	**-0.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=93,slow=11,SNR=3.9						
BRTR	**Keskin Array B**	**66.58**	**6**	P	**P**	**18 21 27.3**	**+0.7**
	comp=Z,1.2nm,1.0s,mb3.9,baz=170,slow=8.8,SNR=3.1						
ESDC	**Sonseca Array**	**72.10**	**336**	P	**P**	**18 22 00.3**	**-0.3**
	comp=Z,1.0nm,0.5s,mb4.0,baz=151,slow=6.3,SNR=5.2						
GERES	**GERESS Array B**	**76.27**	**351**	P	**P**	**18 22 25.6**	**+1.1**
	comp=Z,0.1nm,0.3s,mb3.2,baz=180,slow=5.9,SNR=3.9						
AKASG	**Malin Array Be**	**77.27**	**2**	P	**P**	**18 22 29.9**	**-0.2**
	comp=Z,0.5nm,0.3s,mb3.9,baz=185,slow=5.1,SNR=9.1						
LSA	**Lhasa**	**83.53**	**52**	P	**P**	**18 23 04.6**	**+0.8**
	comp=Z,1.8nm,0.6s,mb4.4						
LPAZ	**La Paz**	**86.90**	**253**	P	**P**	**18 23 22.1**	**+1.2**
	comp=Z,1.9nm,0.9s,mb4.3,baz=99,slow=6.8,SNR=6.5						
LPAZ	**La Paz**	**86.90**	**253**	P	**P**	**18 23 21.7**	**+0.8**
	comp=Z,2.8nm,0.9s,mb4.5						
FINES	**FINESS Array B**	**88.01**	**360**	P	**P**	**18 23 26.4**	**+1.2**
	comp=Z,0.8nm,0.6s,mb4.2,baz=180,slow=5.7,SNR=7.4						
WMQ	**Urumqi**	**89.85**	**39**	*e*P	**P**	**18 23 35.3**	**+0.9**
ASAR	**Alice Springs**	**93.64**	**119**	P	**P**	**18 23 53.1**	**+0.8**
	comp=Z,0.3nm,0.6s,mb3.9,baz=234,slow=4.9,SNR=7.1						
YKA	**Yellowknife Ar**	**136.20**	**335**	PKP	PKPdf	18 29 57.4	-0.4
	comp=Z,0.1nm,0.7s,baz=34,slow=2.0,SNR=4.5						
ILAR	**Eielson Array**	**141.88**	**356**	PKhKP		18 30 02.8	
	comp=Z,0.4nm,1.0s,slow=1.8,SNR=4.2						
BMO	**Blue Mountains**	**146.07**	**311**	*e*PKPbc	PKPbc	18 30 16.8	+2.4
NVAR	**Mina Array Bea**	**148.50**	**300**	PKPbc	PKPdf	18 30 25.3	+5.4
	comp=Z,2.4nm,0.7s,baz=88,slow=3.0,SNR=17						

*CSEM **25** 18:17:09.6±1.1, 37.81N×43.95E, h8km, MD3.8, Error ellipse: s-maj=26.1km s-min=5.7km az=90.0*
*ISK **25** 18:17:09.8, 37.81N×43.94E, h9km, MD3.8*
ISC 25 18:17:09.5±1.4, 37.78N±0.03×44.0E±0.1, h9km, n13, σ0§95/21, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.30**	**229**	*i*PG	**Pg**	**18 17 16.2**	**+0.5**
HKR				SG	**Sg**	**18 17 19.4**	**-0.5**
VANT	**Van**	**0.84**	**323**	*i*PG	**Pg**	**18 17 26.5**	**+0.2**
VANT				*i*SG	**Sg**	**18 17 37.9**	**+0.4**
TVAN	**Van**	**0.90**	**327**	*i*P	**Pb**	**18 17 26.8**	**0.0**
TVAN				*i*S	**Sb**	**18 17 39.8**	**+1.1**
VANB	**Van**	**0.96**	**329**	*i*PG	**Pg**	**18 17 26.9**	**-1.8**
VANB				*i*SG	**Sg**	**18 17 39.4**	**-2.2**
MSL	**Mosul**	**1.66**	**207**	*i*Pn	**Pn**	**18 17 40.0**	**+1.0**
MSL				*i*Sb	**Sb**	**18 18 00.0**	**-0.8**
MSL				*i*Sg	**Sg**	**18 18 01.5**	**-3.4**
BTMT	**Batman**	**2.05**	**282**	*e*PN	**Pn**	**18 17 45.7**	**+1.1**
BEST	**Besiri**	**2.19**	**274**	*i*P	**Pn**	**18 17 46.9**	**+0.4**
BEST				*i*S	**Sn**	**18 18 14.3**	**+0.3**
VRT	**Varto**	**2.38**	**305**	PN	**Pn**	**18 17 49.0**	**-0.3**
EZM	**Erzurum**	**2.98**	**316**	*e*PN	**Pn**	**18 17 56.9**	**-0.9**
BINT	**Bingol**	**2.99**	**293**	*e*PN	**Pn**	**18 17 58.4**	**+0.4**
DIY	**Diyarbakir**	**3.01**	**273**	*e*PN	**Pn**	**18 17 59.0**	**+0.7**
PTK	**Pertek**	**3.81**	**288**	*e*PN	**Pn**	**18 18 10.2**	**+0.5**
ELZG	**Elazig**	**4.04**	**282**	*i*P	**Pn**	**18 18 02.9**	**-10**
ELZG				*i*S	**Sn**	**18 18 50.7**	**-10**

IDC 25 18:26:53.5±2.0, 19.47S×68.83W, h81km±20km, mb3.7/3, mb1 3.9/5, mb1mx3.7/14, mbtmp4.0/5, Error ellipse: s-maj=55.0km s-min=15.3km az=95.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.13**	**181**	P	P	18 27 39.0	-2.8
	69nm,0.3s,baz=340,slow=10,SNR=146						
LVC				S	S	18 28 18.2	0.0
	223nm,0.3s,baz=75,slow=20,SNR=40						
LPAZ	**La Paz**	**3.23**	**12**	P	P	18 27 43.6	+0.4
	1.2nm,0.3s,baz=179,slow=8.3,SNR=19						
LPAZ				S	S	18 28 25.6	+4.8
	0.7nm,0.3s,slow=20,SNR=1.9						
PLCA	**Paso Flores**	**21.25**	**184**	P	P	18 31 34.0	-0.7
	2.3nm,0.9s,baz=1.5,slow=5.0,SNR=3.6						
DBIC	**Dimbokro**	**68.10**	**74**	P	P	18 37 44.7	-2.5
	2.9nm,0.9s,baz=206,slow=7.9,SNR=3.4						
YKA	**Yellowknife Ar**	**89.31**	**341**	P	P	18 39 39.2	-2.3
	0.6nm,0.6s,baz=133,slow=4.7,SNR=13						
SONM	**Songino Array**	**151.44**	**7**	PKPbc	PKPdf	18 46 39.2	+7.6
	0.4nm,0.4s,baz=252,slow=1.6,SNR=6.4						

*PRU **25** 18:31:02.5, 50.10N×18.37E*
WAR 25 18:31:01.5, 50.07N×18.46E, h0km, ML2.5, 3D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.17**	**276**	⇓*i*PG	Pg	18 31 06.0	+1.1
RAC				⇓*e*SG	Sg	18 31 09.0	+1.8
RAC	**Raciborz**	**0.17**	**276**	⇓*i*Pg	Pg	18 31 06.0	+1.1
RAC				*e*Sg	Sg	18 31 09.4	+2.2
OKC	**Ostrava-Krasne**	**0.30**	**222**	*e*PG	Pg	18 31 08.0	+0.4
OKC				*e*SG	Sg	18 31 12.9	+1.2
	160nm,0.5s						
OJC	**Ojcow**	**0.88**	**79**	*e*PG	Pg	18 31 18.0	-1.0
OJC				*e*SG	Sg	18 31 30.0	-0.6
LIKS	**Likavka**	**1.10**	**157**	*i*SG	Sg	18 31 40.7	+2.6
NIE	**Niedzica**	**1.37**	**118**	*e*PG	Pg	18 31 28.0	-0.8
NIE				*e*SG	Sg	18 31 47.0	0.0
DPC	**Dobruska-Polom**	**1.40**	**283**	*e*PG	Pg	18 31 27.6	-1.9
DPC				*e*SG	Sg	18 31 46.0	-2.2
	52nm,0.3s						
KOLL	**Kolacno**	**1.49**	**181**	*e*PG	Pg	18 31 28.9	-2.3
KOLL				*e*SG	Sg	18 31 50.5	-0.6
KSP	**Ksiaz**	**1.59**	**300**	*e*Pn	Pn	18 31 29.9	-1.1
KSP				*e*Pg	Pg	18 31 32.6	-0.6
KSP				*e*Sg	Sg	18 31 52.1	-2.3
VYHS	**Vyhne**	**1.59**	**171**	*i*PG	Pg	18 31 30.3	-3.0
VYHS				*i*SG	Sg	18 31 53.5	-1.0
UPC	**Upice**	**1.63**	**287**	*e*PG	Pg	18 31 30.3	-3.8
UPC				*e*SG	Sg	18 31 52.9	-2.9
SMOL	**Smolenice**	**1.69**	**204**	*e*PG	Pg	18 31 31.7	-3.6
SMOL				*e*SG	Sg	18 31 55.6	-2.3
CRVS	**Cervenica-Dubn**	**2.28**	**120**	*i*PN	Pn	18 31 44.0	+3.2
CRVS				*e*SN	Sn	18 32 15.3	+5.3
PRU	**Pruhonice**	**2.53**	**270**	*e*PG	Pg	18 31 46.8	-5.2
PVCC	**Panska Ves**	**2.54**	**282**	*e*PG	Pg	18 31 49.0	-3.2
KOLS	**Kolonicke sedl**	**2.73**	**113**	*e*PG	Pg	18 31 54.1	-1.9
KOLS				*e*SG	Sg	18 32 33.3	+0.8
KHC	**Kasperske Hory**	**3.31**	**255**	*e*PN	Pn	18 31 53.8	-1.8
KHC				*e*PG	Pg	18 32 01.9	-5.7
KHC				*e*SG	Sg	18 32 45.8	-5.9
CLL	**Collm**	**3.69**	**292**	*e*SG	Sg	18 32 58.0	-6.2
EZM	**Erzurum**	**19.05**	**113**	*e*PN	P	18 35 29.0	+1.6
BINT	**Bingol**	**19.22**	**117**	*e*PN	P	18 35 27.6	-1.8

*ISK **25** 18:34:41.4, 37.74N×43.94E, h26km, MD3.9*
*TIF **25** 18:34:42.3, 37.72N×43.66E, h18km±4km*
*CSEM **25** 18:34:42.4±0.1, 37.74N×43.60E, h5km, mb4.0/2, Error ellipse: s-maj=3.0km s-min=2.6km az=64.0*
*IDC **25** 18:34:43.7±1.4, 37.62N×44.02E, mb3.4/2, mb1 3.6/6, mb1mx3.5/18, mbtmp3.5/6, ML2.8/4, MS3.1/1, Ms1 3.1/1, ms1mx2.5/25, Error ellipse: s-maj=24.1km s-min=16.9km az=130.0*
*NEIC **25** 18:34:45.6±0.8, 37.56N×43.85E, h10km, mb4.0/2, Error ellipse: s-maj=17.0km s-min=10.3km az=158.0*
ISC 25 18:34:44.3±0.8, 37.64N±0.04×43.74E±0.06, h10km±5km, n30, σ1§55/36, mb3.9/5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.06**	**175**	PG	**Pg**	**18 34 47.2**	**+0.7**
VANT	**Van**	**0.85**	**341**	PG	**Pg**	**18 34 58.5**	**-3.0**
TVAN	**Van**	**0.93**	**344**	*i*P	**Pb**	**18 34 59.7**	**-2.4**
TVAN				*i*S	**Sb**	**18 35 12.8**	**-1.4**
VANB	**Van**	**0.99**	**344**	PG	**Pg**	**18 34 59.8**	**-4.5**
VANB				SG	**Sg**	**18 35 11.8**	**-5.8**
BTMT	**Batman**	**1.86**	**288**	PN	**Pn**	**18 35 16.6**	**0.0**
BEST	**Besiri**	**1.97**	**278**	*i*P	**Pn**	**18 35 19.6**	**+1.4**
BEST				*i*S	**Sn**	**18 35 45.3**	**+2.2**
VRT	**Varto**	**2.29**	**311**	*e*PN	**Pn**	**18 35 19.9**	**-2.9**
GNI	**Garni**	**2.63**	**17**	Pn	**Pn**	**18 35 28.6**	**+1.0**
	18nm,0.3s,baz=301,slow=3.3,SNR=26						
GNI				Lg		18 36 07.4	
	9.5nm,0.3s,baz=189,slow=22,SNR=5.5						
GNI				LR	LR	18 36 42.4	
	comp=Z,317nm,18.6s,baz=16,slow=46						
DIY	**Diyarbakir**	**2.79**	**276**	*e*PN	**Pn**	**18 35 28.7**	**-1.3**
ERZM	**Erzurum**	**2.93**	**321**	*i*P	**Pg**	**18 35 44.6**	**+1.9**
ERZM				*i*S	**Sg**	**18 36 42.6**	**+21**
AKH	**Akhalkalaki**	**3.77**	**357**	P	**Pn**	**18 35 51.9**	**+8.0**
URFA	**Urfa**	**3.91**	**269**	*e*PN	**Pn**	**18 35 43.9**	**-1.9**
MTA	**Mtatsminda**	**4.13**	**11**	P	**Pn**	**18 35 48.3**	**-0.7**
MTA				S	**Sg**	**18 37 03.0**	**+1.0**
MALT	**Malatya**	**4.25**	**281**	*e*PN	**Pn**	**18 35 48.5**	**-2.2**
MALT	**Malatya**	**4.25**	**281**	*e*Pn	**Pn**	**18 35 50.2**	**-0.4**
MALT				*e*Pg	**Pg**	**18 36 09.1**	**-0.1**
MALT				*e*S	**Sg**	**18 37 02.6**	**-3.1**
BHD	**Baghdad**	**4.39**	**173**	*e*Pn	Px	18 36 05.0	
BHD				*e*Sn	Sx	18 37 09.0	
ONI	**Oni**	**4.94**	**358**	P	**Pn**	**18 36 03.7**	**+3.2**
ONI				S	Sx	18 37 33.5	
GAZ	**Gaziantep**	**5.21**	**267**	*e*PN	**Pn**	**18 36 02.1**	**-2.2**
KIV	**Kislovodsk**	**6.36**	**353**	P	**Pn**	**18 36 24.3**	**+3.8**
ASF	**Jabal al Asfar**	**7.83**	**228**	Pn	**Pn**	**18 36 40.2**	**-0.8**
	0.6nm,0.3s,baz=319,slow=19,SNR=4.1						
ASF				Sn	**Sn**	**18 38 12.4**	**+1.8**
	0.7nm,0.3s,baz=253,slow=20,SNR=1.9						
ASF				Lg		18 38 57.9	
	1.4nm,0.3s,baz=115,slow=23,SNR=5.9						
BRTR	**Keskin Array B**	**8.17**	**288**	Pn	**P**	**18 36 46.6**	**+0.8**
	0.1nm,0.3s,baz=107,slow=13,SNR=3.3						
EIL	**Elat**	**10.80**	**225**	Lg		18 40 33.0	
	0.4nm,0.3s,baz=300,slow=20,SNR=3.8						
AKASG	**Malin Array Be**	**16.66**	**326**	Pn	**P**	**18 38 39.8**	**+0.5**
	0.3nm,0.3s,baz=135,slow=11,SNR=4.0						
BRVK	**Borovoye**	**24.01**	**42**	*e*P	**P**	**18 40 01.3**	**+1.4**
	4.0nm,0.8s,mb3.9						
BRVK	**Borovoye**	**24.01**	**42**	*e*P	**P**	**18 40 01.3**	**+1.4**
	4.0nm,0.8s,mb3.9						
GERES	**GERESS Array B**	**24.42**	**307**	P	**P**	**18 40 05.1**	**+1.2**
	0.3nm,0.5s,mb3.0,baz=117,slow=6.0,SNR=3.5						
KURK	**Kurchatov**	**27.95**	**51**	*e*P	**P**	**18 40 35.7**	**-1.0**
	2.1nm,0.8s,mb3.8						
KURK	**Kurchatov**	**27.95**	**51**	*e*P	**P**	**18 40 35.7**	**-1.0**
	2.1nm,0.8s,mb3.8						
HFS	**Hagfors**	**29.50**	**329**	P	**P**	**18 40 51.4**	**+0.9**
	51nm,1.6s,mb5.0,baz=106,slow=10,SNR=2.9						
CMAR	**Chiang Mai Arr**	**51.59**	**96**	P	**P**	**18 43 50.5**	**-2.5**
	0.8nm,0.7s,mb3.8,baz=297,slow=8.3,SNR=7.3						

*TRN **25** 18:37:06.0, 11.21N×58.21W, h10km, MD4.7, Md4.8(FDF)*
*IDC **25** 18:37:09.2±0.5, 11.14N×58.47W, mb4.2/16, mb1 4.5/18, mb1mx4.4/22, mbtmp4.3/18, ML5.8/2, MS4.3/1, Ms1 4.4/1, ms1mx3.2/18, Error ellipse: s-maj=17.1km s-min=14.1km az=102.0*
*BJI **25** 18:37:11.1, 11.10N×58.50W, h10km, mB5.3, Msz5.5*
*NEIC **25** 18:37:11.1±0.4, 11.14N×58.48W, h10km, mb4.8/15, MD4.6(TRN), Error ellipse: s-maj=9.0km s-min=7.3km az=190.0*
ISC 25 18:37:11.2±0.9, 11.39N±0.03×58.52W±0.03, h13km±5km, n90, σ1§01/104, mb4.5/27, MS5.0/2, 9C-4D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.94**	**332**	*e*P	**Pg**	**18 37 50.3**	**+0.4**
BBSP				*e*S	**Sg**	**18 38 14.0**	**-1.8**
BOT	**Bacolet**	**2.17**	**264**	⇑*e*P	**Pn**	**18 37 48.4**	**+0.8**
BOT				*e*S	**Sn**	**18 38 05.8**	**-8.6**
TPR	**Prospect**	**2.22**	**265**	⇑*i*P	**Pn**	**18 37 49.2**	**+0.9**
TPR				*e*S	**Sn**	**18 38 07.2**	**-8.7**
TBH	**Brigand Hill**	**2.66**	**250**	⇓*i*P	**Pn**	**18 37 55.9**	**+1.4**
TBH				*e*S	**Sn**	**18 38 26.9**	**0.0**
TRN	**Trinidad (W)**	**2.92**	**256**	⇑*i*P	**Pn**	**18 37 58.6**	**+0.2**
TRN				*e*S	**Sn**	**18 38 29.4**	**-4.3**
TPP	**Pointe-a-Pierr**	**3.07**	**250**	⇑*i*P	**Pn**	**18 38 01.2**	**+0.8**
TPP				*e*S	**Sn**	**18 38 35.1**	**-2.2**
GRIC	**Isle de Caille**	**3.13**	**287**	⇑*e*P	**Pn**	**18 38 00.8**	**-0.4**
GRIC				*e*S	**Sn**	**18 38 38.7**	**-0.2**
GRSS	**Sisters**	**3.16**	**287**	⇓*e*P	**Pn**	**18 38 01.2**	**-0.5**
GRSS				*e*S	**Sn**	**18 38 37.4**	**-2.2**
GRHS	**Sauteurs**	**3.17**	**286**	*e*P	**Pn**	**18 38 01.3**	**-0.5**
GRHS				*e*S	**Sn**	**18 38 39.1**	**-0.7**
GRHS	**Sauteurs**	**3.17**	**286**	*e*P	**Pn**	**18 38 01.4**	**-0.4**
GRHS				*e*S	**Sn**	**18 38 39.1**	**-0.7**
GRW	**Mount Saint Ca**	**3.17**	**284**	*e*P	**Pn**	**18 38 02.0**	**+0.2**
SVV	**Soufriere Volc**	**3.26**	**306**	*e*P	**Pn**	**18 38 03.2**	**+0.1**
SVB	**Belmont**	**3.26**	**305**	*e*P	**Pn**	**18 38 03.0**	**-0.1**
SVB				*e*S	**Sn**	**18 38 45.1**	**+2.9**
MVM	**Montagne Vaucl**	**3.91**	**324**	⇑*e*P	**Pn**	**18 38 12.1**	**-0.2**
BIM	**Bigot**	**3.98**	**322**	⇑*e*P	**Pn**	**18 38 13.4**	**0.0**
BIM				*e*S	**Sn**	**18 39 00.1**	**-0.2**
CRM	**Caravelle**	**4.08**	**325**	⇑*e*P	**Pn**	**18 38 14.6**	**-0.2**
CRM				*e*S	**Sn**	**18 39 01.9**	**-0.9**
FDF	**Fort de France**	**4.20**	**323**	⇑*e*P	**Pn**	**18 38 16.4**	**0.0**
FDF				*e*S	**Sn**	**18 39 05.4**	**-0.5**
DSTT	**Stowe**	**4.69**	**325**	*e*P	**Pn**	**18 38 25.0**	**+1.5**
DSTT				*e*S	**Sn**	**18 39 19.4**	**+1.0**
DSHT	**Scott's Head**	**4.71**	**324**	*e*P	**Pn**	**18 38 24.6**	**+0.9**
DSHT				*e*S	**Sn**	**18 39 19.6**	**+0.8**
DWS	**Wesley**	**4.96**	**327**	*e*P	**Pn**	**18 38 28.2**	**+1.0**
DWS				*e*S	**Sn**	**18 39 25.4**	**+0.1**
BBL	**Barber's Block**	**5.01**	**325**	*e*P	**Pn**	**18 38 28.6**	**+0.6**
BBL				*e*S	**Sn**	**18 39 27.4**	**+0.9**
BBL	**Barber's Block**	**5.01**	**325**	⇓*e*P	**Pn**	**18 38 28.0**	**0.0**
BBL	**Barber's Block**	**5.01**	**325**	*e*P	**Pn**	**18 38 28.6**	**+0.6**
BBL				*e*S	**Sn**	**18 39 26.4**	**-0.2**
BBL				*e*S	**Sn**	**18 39 27.4**	**+0.9**
MGG	**Marie-Galante**	**5.26**	**329**	*e*P	**Pn**	**18 38 30.9**	**-0.5**
DEG	**La Desirade**	**5.48**	**334**	⇓*e*P	**Pn**	**18 38 33.3**	**-1.3**
SCG	**Saint Claude**	**5.54**	**327**	*e*P	**Pn**	**18 38 35.2**	**-0.2**
BCG	**Bois Riant Cap**	**5.55**	**328**	*e*P	**Pn**	**18 38 34.7**	**-0.9**
SEG	**Port Louis**	**5.76**	**330**	*e*P	**Pn**	**18 38 37.9**	**-0.7**
SEG				*e*S	**Sn**	**18 39 43.9**	**-1.5**
SJG	**San Juan**	**9.95**	**313**	Pn	**P**	**18 39 34.5**	**-2.7**
	19nm,0.3s,baz=328,slow=22,SNR=9.5						
SJG				Sn	**Sn**	**18 41 22.0**	**-7.7**
	10nm,0.3s,baz=267,slow=22,SNR=3.6						
SJG	**San Juan**	**9.95**	**313**	Pn	**P**	**18 39 33.3**	**-3.8**
SDV	**Santo Domingo**	**12.18**	**259**	Pn	**P**	**18 40 03.6**	**-3.9**
	4.0nm,0.3s,baz=103,slow=8.6,SNR=41						
SDV				Sn	**S**	**18 42 07.1**	**-17**
	23nm,0.3s,baz=54,slow=12,SNR=18						
OTAV	**Otavalo**	**22.68**	**242**	*e*P	**P**	**18 42 12.4**	**-1.6**
	131nm,1.2s,mb5.2						
LPAZ	**La Paz**	**29.10**	**199**	P	**P**	**18 43 10.7**	**-3.3**
	3.7nm,0.8s,mb4.2,baz=13,slow=11,SNR=12						
LPAZ				LR	LR	18 56 57.7	
	comp=Z,528nm,18.1s,MS4.2,baz=77,slow=41						
LVC	**Limon Verde**	**35.29**	**197**	P	**P**	**18 44 03.9**	**-4.2**
	14nm,0.8s,mb5.0,baz=18,slow=7.4,SNR=17						
LVC	**Limon Verde**	**35.29**	**197**	*e*P	**P**	**18 44 03.5**	**-4.7**
	23nm,1.0s,mb5.1						
MIAR	**Mount Ida**	**39.34**	**312**	*e*P	**P**	**18 44 40.3**	**-1.8**
	34nm,1.3s,mb4.9						
TXAR	**Lajitas Array**	**45.61**	**300**	P	**P**	**18 45 33.6**	**+0.4**
	0.4nm,0.4s,mb3.7,baz=117,slow=8.4,SNR=4.4						
GDL2	**Guadalupe Moun**	**46.91**	**304**	*e*P	**P**	**18 45 45.3**	**+1.8**
LPM	**Los Pinos Moun**	**49.31**	**306**	*e*P	**P**	**18 46 02.4**	**+0.3**
ANMO	**Albuquerque**	**49.34**	**306**	*e*P	**P**	**18 46 02.7**	**+0.3**
	7.9nm,1.0s,mb4.7						
SDCO	**Great Sand Dun**	**49.46**	**310**	*e*P	**P**	**18 46 04.1**	**+0.8**
	5.3nm,0.6s,mb4.8						
LAZ	**Ladron**	**49.73**	**306**	*e*P	**P**	**18 46 06.3**	**+0.9**
ISCO	**Idaho Springs**	**50.25**	**313**	*e*P	**P**	**18 46 10.9**	**+1.6**
	8.5nm,0.9s,mb4.8						
ISCO				*e*		18 46 22.6	
PV01	**Paradox Valley**	**51.89**	**310**	*e*P	**P**	**18 46 23.1**	**+1.3**
PV10	**Paradox Valley**	**52.31**	**310**	*e*P	**P**	**18 46 24.9**	**-0.1**
PLCA	**Paso Flores**	**53.04**	**191**	P	**P**	**18 46 26.1**	**-4.2**
	6.0nm,1.0s,mb4.5,baz=30,slow=10,SNR=7.6						
DBIC	**Dimbokro**	**53.15**	**90**	P	**P**	**18 46 28.7**	**-2.8**
	2.4nm,0.7s,mb4.2,baz=245,slow=11,SNR=5.1						
DBIC	**Dimbokro**	**53.15**	**90**	*e*P	**P**	**18 46 28.8**	**-2.7**
	4.6nm,0.8s,mb4.5						
WUAZ	**Wupatki**	**53.38**	**306**	*e*P	**P**	**18 46 33.1**	**+0.2**
	218nm,1.0s						
SRU	**San Rafael**	**53.64**	**310**	*e*P	**P**	**18 46 35.6**	**+0.8**
SRU				*e*		18 46 47.8	
PDAR	**Pinedale Array**	**54.07**	**315**	P	**P**	**18 46 37.9**	**+0.1**
	3.0nm,0.6s,mb4.4,baz=108,slow=9.4,SNR=10						
TMUT	**Trail Mountain**	**54.20**	**310**	*e*P	**P**	**18 46 39.5**	**+0.7**
DAU	**Daniels Canyon**	**54.55**	**312**	*e*P	**P**	**18 46 44.4**	**+3.0**
MSU	**Marysvale**	**54.72**	**309**	*e*P	**P**	**18 46 43.7**	**+1.0**
MVU	**Marysvale**	**54.75**	**309**	*e*P	**P**	**18 46 43.6**	**+0.7**
	3.5nm,1.0s,mb4.3						
HWUT	**Hardware Ranch**	**55.12**	**313**	*e*P	**P**	**18 46 45.9**	**+0.3**
	15nm,1.0s,mb5.0						
AHID	**Auburn Hatcher**	**55.14**	**315**	*e*P	**P**	**18 46 46.2**	**+0.5**
	15nm,0.9s,mb5.0						
TPAW	**Teton Pass**	**55.27**	**315**	*e*P	**P**	**18 46 47.3**	**+0.6**
ESDC	**Sonseca Array**	**55.69**	**50**	P	**P**	**18 46 48.4**	**-1.4**
	0.5nm,0.4s,mb3.9,baz=

GUIM	**Jordan**	**0.91**	**26**	*e*P	Pb	18 41 07.2	-0.3
GUIM				*e*S	Sb	18 41 20.2	+0.9
CUYO	**Cuyo Island**	**1.55**	**312**	*e*P	Pn	18 41 17.0	0.0
PAGZ	**Pagadian**	**2.28**	**148**	*e*P	Pn	18 41 26.8	-0.7
OTRP	**Odiongan**	**2.55**	**357**	*e*P	Pn	18 41 31.6	+0.2
MSLP	**Maasin**	**2.66**	**83**	*e*P	Pn	18 41 33.8	+0.9
SJMP	**San Jose**	**2.84**	**339**	*e*P	Pn	18 41 35.4	-0.1
ENPP	**El Nido**	**3.05**	**297**	*e*P	Pn	18 41 37.7	-0.8

IDC 25 18:43:54.3±3.1, 7.22N×91.60E, mb3.7/3, mb1 3.9/4, mb1mx3.7/18, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=94.7km s-min=28.4km az=77.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.26**	**32**	Pn	P	18 47 04.7	-1.8
	0.1nm,0.3s,baz=231,slow=14,SNR=14						
SONM	**Songino Array**	**42.38**	**15**	P	P	18 51 50.2	-1.9
	0.7nm,0.8s,baz=190,slow=7.5,SNR=6.7						
WRA	**Warramunga Arr**	**49.97**	**124**	P	P	18 52 49.6	-2.9
	0.9nm,0.5s,baz=302,slow=6.9,SNR=20						
ASAR	**Alice Springs**	**51.47**	**128**	P	P	18 53 01.4	-2.5
	0.7nm,0.7s,baz=302,slow=7.5,SNR=10						
ASAR				PcP	PcP	18 54 18.1	-0.3
	0.2nm,0.5s,baz=308,slow=3.1,SNR=4.9						

LDG ***25*** *18:45:14.7±0.2, 51.72N×7.86E, h1km, Ml2.6/7, Error ellipse: s-maj=3.9km s-min=3.7km az=132.0, Suspected Mining induced.*
BNS ***25*** *18:45:14.9±1.1, 51.74N×7.88E, h1km, ML2.5*
NEIC ***25*** *18:45:14.7, 51.72N×7.86E, h1km, ML2.6(LDG), After LDG.*
CSEM ***25*** *18:45:16.6±0.1, 51.65N×7.71E, h2km, ML2.6/6, Error ellipse: s-maj=2.3km s-min=1.7km az=131.0*
BUG ***25*** *18:45:16.0, 51.67N×7.74E, h1km, ML2.3*
BGR ***25*** *18:45:17.5±0.3, 51.58N×7.73E, h1km, ML2.2/3, Error ellipse: s-maj=3.3km s-min=2.2km az=153.0*

ISC 25 18:45:15.2±0.3, 51.54N±0.02×7.77E±0.03, n33, σ1§24/60, 1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAHL	**Ahlen**	**0.20**	**9**	Pg	**Pg**	**18 45 18.9**	**-0.3**
BAHL				Sg	**Sg**	**18 45 20.9**	**-1.0**
BUG	**Bochum--Univer**	**0.33**	**253**	⇓*e*Pg	**Pg**	**18 45 24.0**	**+2.2**
BUG				Sg	**Sg**	**18 45 29.9**	**+3.8**
BUG	**Bochum--Univer**	**0.33**	**253**	*e*Pg	**Pg**	**18 45 24.0**	**+2.2**
BUG				*e*Sg	**Sg**	**18 45 28.3**	**+2.2**
BNS	**Bensberg**	**0.69**	**213**	*e*Pg	**Pg**	**18 45 32.4**	**+3.5**
BNS				*e*Sg	**Sg**	**18 45 44.9**	**+6.8**
	129nm,0.3s						
WTSB	**Winterswijk**	**0.74**	**306**	*e*Pg	**Pg**	**18 45 30.0**	**0.0**
	11nm,0.2s						
WTSB				*e*Sg	**Sg**	**18 45 39.4**	**-0.5**
IBBN	**Ibbenburen**	**0.77**	**359**	*e*Pg	**Pg**	**18 45 30.9**	**+0.3**
	SNR=2.4						
IBBN				*e*Sg	**Sg**	**18 45 40.3**	**-0.6**
	SNR=2.5						
STB	**Steinbach**	**1.11**	**212**	*e*Pg	**Pg**	**18 45 38.6**	**+1.1**
STB				*e*Sg	**Sg**	**18 45 55.5**	**+3.3**
KLL	**Kalltalsperre**	**1.28**	**226**	*e*Pg	**Pg**	**18 45 41.3**	**+0.5**
KLL				*e*Sg	**Sg**	**18 45 59.5**	**+1.6**
BGG	**Burgeitz**	**1.36**	**192**	*e*Sg	**Sg**	**18 46 01.6**	**+1.0**
	32nm,0.8s						
TNS	**Taunus Mts**	**1.39**	**162**	*e*Pg	**Pg**	**18 45 44.8**	**+2.0**
	SNR=4.5						
TNS				*e*Sg	**Sg**	**18 46 03.2**	**+1.9**
	SNR=4.0						
HGN	**Heimansgroeve**	**1.39**	**237**	*e*Pg	**Pg**	**18 45 43.5**	**+0.4**
HGN				*e*Sg	**Sg**	**18 46 02.2**	**+0.6**
CLZ	**Clausthal**	**1.65**	**78**	*e*Pn	**Pn**	**18 45 45.9**	**+0.3**
	SNR=12						
CLZ				*e*Sg	**Sg**	**18 46 10.2**	**+0.1**
	SNR=2.3						
NRDL	**Niedersach Rie**	**1.73**	**56**	*e*Pg	**Pg**	**18 45 50.1**	**+0.3**
	SNR=1.8						
WLF	**Walferdange**	**2.14**	**209**	*e*Pg	**Pg**	**18 45 57.9**	**0.0**
	SNR=4.3						
WLF				*e*Sg	**Sg**	**18 46 24.7**	**-1.8**
	SNR=3.6						
WLF	**Walferdange**	**2.14**	**209**	Pn	**Pg**	**18 45 57.8**	**-0.2**
GIVF	**Givet**	**2.36**	**234**	*e*Pn	**Pn**	**18 45 54.7**	**-1.0**
GIVF				*e*Pg	**Pg**	**18 46 01.5**	**-0.8**
GIVF				*e*Sg	**Sg**	**18 46 33.8**	**+0.1**
	9.4nm,0.2s						
DOU	**Dourbes**	**2.48**	**236**	P	**Pn**	**18 45 57.8**	**+0.3**
MOX	**Moxa**	**2.58**	**109**	*e*Pn	**Pn**	**18 46 00.0**	**+1.0**
	SNR=2.0						
MOX				*e*Pg	**Pg**	**18 46 07.4**	**+0.6**
MOX				*e*Sg	**Sg**	**18 46 40.5**	**-0.8**
	SNR=2.7						
MOX	**Moxa**	**2.58**	**109**	*e*Pn	**Pn**	**18 46 00.7**	**+1.7**
MOX				*e*Pg	**Pg**	**18 46 07.4**	**+0.6**
MOX				*e*Sg	**Sg**	**18 46 40.7**	**-0.5**
MOX	**Moxa**	**2.58**	**109**	*i* P	**Pn**	**18 46 00.7**	**+1.7**
MOX				Pg	**Pg**	**18 46 07.0**	**+0.2**
MOX				Sg	**Sg**	**18 46 41.0**	**-0.2**
BAIF	**Baives**	**2.70**	**238**	*e*P	**Pn**	**18 46 02.1**	**+1.4**
BAIF				*e*Sg	**Sg**	**18 46 43.9**	**-1.3**
	6.2nm,0.3s						
WERD	**Werda**	**3.07**	**109**	*e*Pn	**Pn**	**18 46 06.9**	**+1.0**
	SNR=2.4						
WERD				*e*Pg	**Pg**	**18 46 15.9**	**-0.6**
	SNR=2.2						
GUNZ	**Gunzen**	**3.12**	**110**	*e*Pn	**Pn**	**18 46 07.8**	**+1.3**
	SNR=2.1						
GUNZ				*e*Sg	**Sg**	**18 46 57.6**	**-1.3**
	SNR=1.6						
CDF	**Champ du Feu**	**3.15**	**186**	*e*Pn	**Pn**	**18 46 06.1**	**-0.9**
CDF				*e*Sg	**Sg**	**18 46 59.3**	**-0.6**
	2.7nm,0.3s						
TANN	**Tannenbergstha**	**3.17**	**109**	*e*Pn	**Pn**	**18 46 09.2**	**+1.8**
	SNR=1.5						
TANN				*e*Sg	**Sg**	**18 46 59.5**	**-1.3**
	SNR=2.2						
BFO	**Black Forest**	**3.23**	**173**	*e*Pn	**Pn**	**18 46 09.1**	**+0.9**
	SNR=1.7						
CLL	**Collm**	**3.28**	**92**	*e*SG	**Sg**	**18 47 05.0**	**+0.5**
HAU	**Haudompre**	**3.65**	**195**	*e*Pn	**Pn**	**18 46 12.7**	**-1.5**
HAU				*e*Sg	**Sg**	**18 47 14.6**	**-2.3**
	4.2nm,0.3s						
HINF	**Hinteralfeld**	**3.77**	**189**	*e*Sg	**Sg**	**18 47 18.8**	**-2.0**
	0.9nm,0.2s						
CABF	**La Chapelle**	**5.05**	**193**	*e*Pn	**Pn**	**18 46 32.5**	**-1.6**
SSF	**Saint Saulge**	**5.28**	**214**	*e*Pn	**Pn**	**18 46 36.1**	**-1.1**
SSF				*e*Sg	**Sg**	**18 48 05.4**	**-5.5**
	0.6nm,0.3s						
SMF	**Signal de Mont**	**5.54**	**209**	*e*Pn	**Pn**	**18 46 38.5**	**-2.4**
AVF	**Avril sur Loir**	**5.56**	**213**	*e*Pn	**Pn**	**18 46 39.2**	**-2.1**

KRSC ***25*** *18:54:24.5±0.9, 48.98N×155.02E, h119km±7km, ML5.7*
MOS ***25*** *18:54:25.7±0.9, 49.30N×154.38E, h134km, mb5.4/88, Error ellipse: s-maj=6.1km s-min=3.4km az=92.4*
SKHL ***25*** *18:54:25.3±0.2, 49.21N×154.33E, h37km±4km, mb5.7/5, mbh5.7/1, Ms4.3/6, msh5.5/8*
BJI ***25*** *18:54:25.5, 49.53N×154.65E, h150km, mB5.0, mb4.8*
BGS ***25*** *18:54:26.2±1.3, 49.40N×156.08E, h134km, mb5.5*
IDC ***25*** *18:54:27.8±0.5, 49.34N×154.32E, h141km±4km, mb5.0/23, mb1 5.2/25, mb1mx5.2/26, mbtmp5.4/25, MS4.0/7, Ms1 4.1/7, ms1mx3.6/32, Error ellipse: s-maj=11.1km s-min=8.5km az=144.0*
HRVD ***25*** *18:54:27.0±0.2, 49.26N×154.76E, h136km±2km, MW5.3/69, Centroid moment Tensor Solution. LP body waves: s40,c52; Mantle waves: s69,c124; Half duration: 1§1 Moment tensor: Scale 10^17^Nm; Mr0.31±.03; Mθθ-0.28±.04; Mφφ-0.02±.03; Mrθ0.80±.03; Mθφ-0.57±.03; Mφr-0.20±.02; Best double couple: M0 1.038×10^17^ NP1: φs196°, δ37°, λ18°. NP2: φs91°, δ79°, λ125°. Principal axes: T 1.092, Plg44°, Azm36°; N -.107, Plg34°, Azm264°; P -.985, Plg26°, Azm154°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***25*** *18:54:27.0±0.1, 49.31N×154.36E, mb5.4/143 Error ellipse: s-maj=3.4km s-min=2.0km az=176.0*

ISC 25 18:54:25.2±0.3, 49.27N±0.02×154.42E±0.02, h132km±2km, h139km±2.0km: pP-P, n794, σ0§89/849, mb5.2/201,

296C-34D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.76**	**24**	*e*P	**P**	**18 54 59.0**	**+2.1**
SKR	**Severo-Kuril's**	**1.79**	**37**	⇓*i*PN	**P**	**18 54 56.5**	**-0.8**
SKR				*i* S	**S**	**18 55 20.0**	**-1.7**
SKR				pmax	pmax		
	comp=N,3μm,0.5s						
SKR				pmax	pmax		
	comp=E,2μm,0.5s						
SKR				pmax	pmax		
	comp=Z,7μm,0.5s						
SKR				pmax	pmax		
	comp=N,15μm,2.0s						
SKR				pmax	pmax		
	comp=Z,30μm,2.0s						
SKR				smax			
	comp=N,56μm,3.0s						
SKR				smax			
	comp=E,81μm,4.0s						
SKR	**Severo-Kuril's**	**1.79**	**37**	⇓*i*P	**P**	**18 54 56.5**	**-0.8**
SKR				⇓*i*P		18 54 56.5	
SKR				AMB	AMB	18 54 58.0	
	comp=E,3μm,0.6s						
SKR				AMB	AMB	18 54 58.0	
	comp=E,3μm,0.6s						
SKR				AMB	AMB	18 54 58.0	
	comp=E,7μm,0.6s						
SKR				AMB	AMB	18 54 58.0	
	comp=E,12μm,2.0s						
SKR				AMB	AMB	18 54 58.0	
	comp=E,20μm,2.0s						
SKR				AMB	AMB	18 54 58.0	
	comp=E,14μm,2.0s						
SKR				AMB	AMB	18 54 58.0	
	comp=E,15μm,2.0s						
SKR				AMB	AMB	18 54 58.0	
	comp=E,30μm,2.0s						
SKR				*i* S	**S**	**18 55 20.0**	**-1.7**
SKR				A		18 55 24.0	
	comp=E,56μm,4.0s						
SKR				A		18 55 24.0	
	comp=E,8μm,4.0s						
SKR				A		18 55 24.0	
	comp=E,44μm,4.0s						
SKR				A		18 55 24.0	
	comp=E,50μm,4.0s						
SKR				A		18 55 24.0	
	comp=E,80μm,4.0s						
SKR	**Severo-Kuril's**	**1.79**	**37**	*i* P	**P**	**18 54 56.5**	**-0.8**
SKR				*i* S	**S**	**18 55 20.0**	**-1.7**
PAU	**Pauzhetka**	**2.68**	**34**	⇓*i*P	**P**	**18 55 09.5**	**+0.9**
PAU				⇓*i*S	**S**	**18 55 42.5**	**+0.9**
PAU	**Pauzhetka**	**2.68**	**34**	*i* P	**P**	**18 55 09.5**	**+0.9**
PAU				*e*S	**S**	**18 55 41.5**	**-0.1**
PAU				Smax			
	comp=E,10μm,1.0s						
GRL	**Gorelyy**	**4.02**	**34**	*i* P	**P**	**18 55 27.5**	**+1.2**
GRL				*e*S	**S**	**18 56 12.8**	**-0.4**
APC	**Apacha**	**4.05**	**24**	*i* P	**P**	**18 55 27.2**	**+0.5**
APC				*e*S	**S**	**18 56 16.5**	**+2.6**
APC				Smax			
	comp=E,2μm,1.0s						
RUS	**Russkaya**	**4.10**	**38**	P	**P**	**18 55 26.8**	**-0.5**
RUS				S	**S**	**18 56 11.5**	**-3.5**
RUS	**Russkaya**	**4.10**	**38**	*i* P	**P**	**18 55 26.6**	**-0.7**
RUS				*e*S	**S**	**18 56 12.4**	**-2.6**
KRMR	**Karymshinskiy**	**4.27**	**32**	*i* P	**P**	**18 55 30.4**	**+0.8**
KRMR				*i* S	**S**	**18 56 18.3**	**-0.7**
PET	**Petropavlovsk**	**4.61**	**34**	P	**P**	**18 55 34.6**	**+0.4**
PET				S	**S**	**18 56 24.9**	**-2.4**
PET	**Petropavlovsk**	**4.61**	**34**	*e*Pn	**P**	**18 55 34.1**	**-0.1**
PET	**Petropavlovsk**	**4.61**	**34**	⇑*i*P	**P**	**18 55 34.2**	**0.0**
PET				AMB	AMB	18 55 35.2	
	comp=E,2μm,4.0s						
PET				AMB	AMB	18 55 36.0	
	comp=E,1μm,7.0s						
PET				AMB	AMB	18 55 36.0	
	comp=E,300nm,1.1s						
PET				A		18 56 26.4	
	comp=E,9μm,3.0s						
PET				A		18 56 27.3	
	comp=E,6μm,6.0s						
PET				A		18 56 27.9	
	comp=E,10μm,2.0s						
PET				A		18 56 29.0	
	comp=E,4μm,1.2s						
PET				A		18 56 29.0	
	comp=E,2μm,1.2s						
PET				AMS	AMS	18 56 44.2	
	comp=E,6μm,9.9s						
PET				AMS	AMS	18 57 27.3	
	comp=E,3μm,15.0s						
PET				AMS	AMS	18 57 27.4	
	comp=E,1μm,20.0s						
PET				AMS	AMS	18 57 31.3	
	comp=E,2μm,18.0s						
PET	**Petropavlovsk**	**4.61**	**34**	*e*P	**P**	**18 55 34.5**	**+0.3**
PET				*e*S	**S**	**18 56 25.5**	**-1.8**
UGLR	**Uglovaya**	**4.82**	**33**	*i* P	**P**	**18 55 37.8**	**+0.8**
KOK	**Koryaka**	**4.82**	**32**	*i* P	**P**	**18 55 38.4**	**+1.4**
AVH	**Avacha**	**4.84**	**32**	*i* P	**P**	**18 55 38.5**	**+1.3**
SMAR	**Somma**	**4.86**	**33**	*i* P	**P**	**18 55 38.2**	**+0.7**
SDLR	**Sedlovina**	**4.90**	**33**	*i* P	**P**	**18 55 38.4**	**+0.3**
SDLR				*i* S	**S**	**18 56 32.5**	**-1.7**
GNL	**Ganaly**	**4.95**	**25**	*i* P	**P**	**18 55 40.0**	**+1.2**
NLC	**Nalytchevo**	**4.99**	**36**	*e*P	**P**	**18 55 37.9**	**-1.3**
NLC				*e*S	**S**	**18 56 31.4**	**-4.9**
SPN	**Mys Shipunski**	**5.21**	**40**	P	**P**	**18 55 41.6**	**-0.6**
SPN				S	**S**	**18 56 35.4**	**-6.3**
SPN	**Mys Shipunski**	**5.21**	**40**	*e*P	**P**	**18 55 41.3**	**-0.9**
SPN				*e*S	**S**	**18 56 37.5**	**-4.2**
KII	**Karymskiy**	**5.71**	**31**	P	**P**	**18 55 49.6**	**+0.7**
KII				S	**S**	**18 56 52.0**	**-1.8**
KII	**Karymskiy**	**5.71**	**31**	*e*P	**P**	**18 55 49.3**	**+0.4**
KII				*e*S	**S**	**18 56 50.6**	**-3.2**
KUR	**Kuril'sk**	**6.01**	**230**	⇓*i*PN	**P**	**18 55 53.0**	**0.0**
KUR				*i* S	**S**	**18 57 00.5**	**-0.6**
KUR				pmax	pmax		
	comp=N,4μm,1.4s						
KUR				pmax	pmax		
	comp=E,5μm,1.4s						
KUR				pmax	pmax		
	comp=Z,7μm,1.4s						
KUR				pmax	pmax		
	comp=N,650nm,0.8s						
KUR				pmax	pmax		
	comp=E,520nm,0.8s						
KUR				pmax	pmax		
	comp=Z,2μm,0.8s						
KUR				smax			
	comp=N,21μm,1.6s						
KUR				smax			
	comp=E,14μm,1.6s						
KUR				smax			
	comp=N,5μm,0.8s						
KUR				smax			
	comp=E,3μm,0.8s						
KUR	**Kuril'sk**	**6.01**	**230**	*i* P	**P**	**18 55 53.0**	**0.0**
KUR				AMB	AMB	18 56 11.0	
	comp=E,4μm,1.0s						
KUR				AMB	AMB	18 56 11.0	
	comp=E,5μm,1.0s						
KUR				AMB	AMB	18 56 11.0	
	comp=E,7μm,1.0s						
KUR				AMB	AMB	18 56 12.0	
	comp=E,650nm,0.8s						
KUR				AMB	AMB	18 56 12.0	
	comp=E,520nm,0.8s						
KUR				AMB	AMB	18 56 12.0	
	comp=E,2μm,0.8s						
KUR				*i* S	**S**	**18 57 00.5**	**-0.6**
KUR				A		18 57 06.0	
	comp=E,21μm,2.0s						
KUR				A		18 57 06.0	
	comp=E,14μm,2.0s						
KUR				A		18 57 11.0	
	comp=E,5μm,0.8s						
KUR				A		18 57 11.0	
	comp=E,3μm,0.8s						
TUMR	**Tumrok**	**6.97**	**28**	*i* P	**P**	**18 56 06.2**	**+0.1**
TUMR				*i* S	**S**	**18 57 20.0**	**-4.4**
ESO	**Esso**	**7.16**	**20**	*i* P	**P**	**18 56 09.5**	**+0.9**
ESO				Smax			
	comp=E,380nm,1.5s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	**Kamenistaya**	**7.41**	**26**	*e*P	**P**	**18 56 13.5**	**+1.6**
KMNR				*i* S	**S**	**18 57 32.9**	**-1.9**
KOZ	**Kozyrevsk**	**7.57**	**24**	P	**P**	**18 56 15.8**	**+1.7**
KOZ	**Kozyrevsk**	**7.57**	**24**	*e*P	**P**	**18 56 16.0**	**+1.9**
KOZR	**Kozyr**	**7.58**	**24**	PN	**P**	**18 56 15.8**	**+1.6**
KPT	**Kopyto**	**7.58**	**26**	*e*P	**P**	**18 56 14.6**	**+0.3**
TYV	**Tymovskoe**	**7.74**	**286**	⇓*i*PN	**P**	**18 56 17.5**	**+1.1**
TYV				pmax	pmax		
	comp=Z,1μm,4.0s						
TYV				pmax	pmax		
	comp=Z,96nm,0.8s						
TYV				MLR	MLR		
	comp=N,1μm,13.0s						
TYV				MLR	MLR		
	comp=E,1μm,13.0s						
TYV				MLR	MLR		
	comp=Z,2μm,13.0s						
TYV	**Tymovskoe**	**7.74**	**286**	*e*P	**P**	**18 56 17.5**	**+1.1**
TYV				⇓*i*P		18 56 17.5	
TYV				AMB	AMB	18 56 20.0	
	comp=Z,1μm,4.0s						
TYV				AMB	AMB	18 56 21.4	
	comp=Z,96nm,0.8s						
TYV				A		18 58 26.0	
	comp=Z,3μm,8.0s						
TYV				AMS	AMS	19 02 10.0	
	comp=Z,1μm,13.0s						
TYV				AMS	AMS	19 02 10.0	
	comp=Z,1μm,13.0s						
TYV				AMS	AMS	19 02 10.0	
	comp=Z,2μm,13.0s						
SRDR	**Sredinnyy**	**7.76**	**22**	*e*P	**P**	**18 56 19.0**	**+2.4**
YUK	**Yuzh-Kuril'sk**	**7.87**	**232**	*e*PN	**P**	**18 56 17.0**	**-1.2**
YUK				*i* S	**S**	**18 57 41.9**	**-4.2**
YUK				pmax	pmax		
	comp=E,1μm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				pmax	pmax		
	comp=Z,3μm,0.5s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
YUK				smax			
	comp=N,4μm,0.8s						
YUK				smax			
	comp=E,6μm,0.8s						
YUK				MLR	MLR		
	comp=Z,3μm,16.0s						
YUK	**Yuzh-Kuril'sk**	**7.87**	**232**	*e*P	**P**	**18 56 17.0**	**-1.2**
YUK				AMB	AMB	18 56 18.9	
	comp=Z,3μm,1.0s						
YUK				AMB	AMB	18 56 18.9	
	comp=Z,1μm,0.5s						
YUK				AMB	AMB	18 56 18.9	
	comp=Z,2μm,0.5s						
YUK				pP		18 56 27.3	
YUK				*i* S	**S**	**18 57 41.9**	**-4.2**
YUK				A		18 57 51.8	
	comp=Z,2μm,0.5s						
YUK				A		18 57 51.8	
	comp=Z,2μm,0.5s						
YUK				A		18 57 52.3	
	comp=Z,4μm,1.0s						
YUK				A		18 57 52.3	
	comp=Z,6μm,1.0s						
YUK				AMS	AMS	18 59 04.0	
	comp=Z,3μm,16.0s						
KLY	**Klyuchi**	**8.00**	**26**	P	**P**	**18 56 21.3**	**+1.4**
KLY	**Klyuchi**	**8.00**	**26**	*e*P	**P**	**18 56 21.1**	**+1.2**
UGL	**Uglegorsk**	**8.10**	**273**	*e*PN	**P**	**18 56 22.4**	**+1.2**
UGL				*i* S	**S**	**18 57 53.5**	**+1.9**
UGL				pmax	pmax		
	comp=Z,100nm,0.7s						
UGL				smax			
	comp=N,2μm,9.0s						
UGL				MLR	MLR		
	comp=Z,1μm,16.0s						
UGL				MLR	MLR		
	comp=N,950nm,15.0s						
UGL				MLR	MLR		
	comp=E,1μm,15.0s						
UGL	**Uglegorsk**	**8.10**	**273**	*e*P	**P**	**18 56 22.4**	**+1.2**
UGL				AMB	AMB	18 56 28.0	
	comp=E,100nm,0.7s						
UGL				pP		18 56 33.4	
UGL				*i* S	**S**	**18 57 53.5**	**+1.9**
UGL				A		18 57 57.0	
	comp=E,2μm,9.0s						
UGL				AMS	AMS	19 01 34.0	
	comp=E,950nm,16.0s						
UGL				AMS	AMS	19 01 34.0	
	comp=E,1μm,16.0s						
UGL				AMS	AMS	19 01 34.0	
	comp=E,1μm,16.0s						
YSS	**Yuzh-Sakhalins**	**8.14**	**258**	α *i*PN	**P**	**18 56 25.0**	**+3.2**
YSS				*e*S	**S**	**18 57 56.0**	**+3.4**
YSS				pmax	pmax		
	comp=N,190nm,1.0s						
YSS				pmax	pmax		
	comp=E,340nm,1.0s						
YSS				pmax	pmax		
	comp=Z,250nm,1.0s						
YSS				pmax	pmax		
	comp=Z,600nm,4.0s						
YSS				smax			
	comp=N,90nm,0.9s						
YSS				smax			
	comp=E,170nm,1.0s						
YSS				smax			
	comp=E,500nm,7.0s						
YSS				MLR	MLR		
	comp=E,600nm,13.0s						
YSS				MLR	MLR		
	comp=Z,1μm,13.0s						
YSS				MLR	MLR		
	comp=N,700nm,12.0s						
YSS	**Yuzh-Sakhalins**	**8.14**	**258**	⇑*i*Pn	**P**	**18 56 25.2**	**+3.5**
YSS	**Yuzh-Sakhalins**	**8.14**	**258**	*e*P	**P**	**18 56 25.0**	**+3.2**
YSS				AMB	AMB	18 56 27.1	
	comp=N,190nm,1.0s						
YSS				AMB	AMB	18 56 27.1	
	comp=N,340nm,1.0s						
YSS				AMB	AMB	18 56 27.1	
	comp=N,250nm,1.0s						
YSS				AMB	AMB	18 56 28.0	
	comp=N,600nm,4.0s						
YSS				sP		18 56 38.8	
YSS				*i* pP		18 56 56.0	
YSS				*i* sP		18 57 02.2	
YSS				*e*S	**S**	**18 57 56.0**	**+3.4**
YSS				A		18 58 03.8	
	comp=N,90nm,1.0s						
YSS				A		18 58 03.8	
	comp=N,170nm,1.0s						
YSS				A		18 58 04.0	
	comp=N,500nm,7.0s						
YSS				*e*rx	rx	18 58 21.0	
YSS				AMS	AMS	19 00 27.0	
	comp=N,700nm,13.0s						
YSS				AMS	AMS	19 00 27.0	
	comp=N,600nm,13.0s						
YSS				AMS	AMS	19 00 27.0	
	comp=N,1μm,13.0s						
OKH	**Okha**	**8.36**	**305**	*i* PN	**P**	**18 56 25.0**	**+0.3**
OKH				*e*S	**S**	**18 57 58.2**	**+0.3**
OKH				pmax	pmax		
	comp=Z,2μm,4.0s						
OKH				smax			
	comp=N,2μm,8.0s						
OKH	**Okha**	**8.36**	**305**	⇓*i*P	**P**	**18 56 25.0**	**+0.3**
OKH				AMB	AMB	18 56 26.0	
	comp=N,1μm,5.0s						
OKH				AMB	AMB	18 56 26.0	
	comp=N,2μm,5.0s						
OKH				AMB	AMB	18 56 26.0	
	comp=N,2μm,5.0s						
OKH				AMB	AMB	18 56 28.9	
	comp=N,600nm,0.8s						
OKH				*e*S	**S**	**18 57 58.2**	**+0.3**
OKH				A		18 58 00.0	
	comp=N,2μm,9.0s						
OKH				A		18 58 00.0	
	comp=N,2μm,9.0s						
OKH				AMS	AMS	19 01 42.4	

comp=N,2µm,11.0s
OKH AMS AMS 19 01 42.4
comp=N,2µm,11.0s
OKH AMS AMS 19 01 42.4
comp=N,1µm,11.0s
SVLR Shiveluch 8.39 27 *e*P **P 18 56 26.2 +1.1**
SVLR *e*S **S 18 57 55.1 -3.5**
KBG Krutoberegovo 8.61 32 *i* P **P 18 56 27.2 -0.8**
KBG Smax
comp=N,4µm,0.9s
KBTR Krutoberegovo 8.62 33 P **P 18 56 26.3 -1.8**
KBTR S **S 18 57 54.9 -9.1**
KBTR Krutoberegovo 8.62 33 *e*P **P 18 56 27.8 -0.3**
KBTR *e*S **S 18 57 57.4 -6.6**
JWK2 Keihoku 9.38 250 P **P 18 56 42.6 +4.4**
NKL Nikolayevsk 9.46 299⇓*i*P **P 18 56 38.0 -1.3**
NKL AMB AMB 18 56 39.5
comp=N,70nm,1.0s
NKL AMB AMB 18 56 39.5
comp=N,110nm,1.0s
NKL AMB AMB 18 56 39.5
comp=N,220nm,1.0s
NKL AMB AMB 18 56 39.5
comp=N,1µm,4.0s
NKL *e*S **S 18 58 20.0 -4.1**
NKL A 18 58 26.0
comp=N,1µm,5.0s
NKL AMS AMS 19 02 17.0
comp=N,800nm,14.0s
ASAJ Asahikawa 9.61 242 PN **P 18 56 44.3 +3.0**
ASAJ S **S 18 58 29.7 +2.0**
ASAJ pmax pmax
comp=Z,52nm,0.3s
ASAJ smax
comp=E,3.0nm,0.3s
ASAJ MLR MLR
comp=Z,501nm,20.8s
ASAJ Asahikawa 9.61 242 P **P 18 56 44.2 +3.0**
comp=Z,52nm,0.3s,baz=73,slow=11,SNR=179
ASAJ S **S 18 58 29.6 +1.9**
comp=Z,3.3nm,0.3s,baz=338,slow=19,SNR=2.3
ASAJ LR LR 18 59 35.4
comp=Z,501nm,20.8s,baz=86,slow=32
ASAJ Asahikawa 9.61 242 P **P 18 56 44.1 +2.8**
MA2 Magadan 10.55 350*ce*PN **P 18 56 54.4 +0.8**
MA2 *i* S **S 18 58 54.2 +4.4**
MA2 pmax pmax
comp=Z,140nm,0.7s
MA2 pmax pmax
comp=N,80nm,0.8s
MA2 pmax pmax
comp=E,30nm,0.8s
MA2 Magadan 10.55 350 *e*P **P 18 56 54.5 +1.0**
JEM Erimo 10.70 232 P **P 18 56 54.4 -1.3**
JEM *e*S **S 18 58 43.9 -10**
JEW Eniwo 11.06 239 P **P 18 57 00.3 -0.1**
GRNR Gornyy 11.68 284 *e*P **P 18 57 12.2 +3.7**
GRNR AMB AMB 18 57 13.2
comp=E,40nm,0.9s
GRNR A 18 59 42.2
comp=E,60nm,1.0s
GRNR A 18 59 42.2
comp=E,50nm,1.0s
JSH Shimam 11.99 242 P **P 18 57 12.6 0.0**
JSH *e*S **S 18 59 22.8 -1.1**
JOT Ohata 12.26 235 P **P 18 57 12.1 -4.1**
JOT *e*S **S 18 59 17.5 -13**
FX1 Attu Island--F 12.33 66 S **S 18 59 24.5 -7.4**
comp=E,67nm,0.3s,baz=216,slow=19,SNR=6.9
FX1 Attu Island--F 12.33 66 *e*P **P 18 57 17.2 +0.2**
JTM Tenmabayashi 12.68 233 P **P 18 57 16.7 -4.9**
JTM *e*S **S 18 59 27.2 -13**
SMY Shemya 12.87 67 PN **P 18 57 26.5 +2.5**
SMY pmax pmax
comp=Z,500nm,1.0s
SMY Shemya 12.87 67 *e*P **P 18 57 25.1 +1.1**
SEY Seymchan 13.75 356 *e*P **P 18 57 35.0 -0.1**
SEY *e*S **S 19 00 03.0 -1.9**
SEY pmax pmax
comp=N,130nm,1.2s
SEY pmax pmax
comp=Z,320nm,1.2s
SEY pmax pmax
comp=E,10.0nm,1.6s
SEY smax
comp=N,800nm,4.5s
SEY smax
comp=E,2µm,7.8s
SEY MLR MLR
comp=Z,2µm,18.0s
SEY MLR MLR
comp=N,1µm,16.0s
SEY MLR MLR
comp=E,900nm,15.0s
EKMR Ekimchan 13.98 294 *e*P **P 18 57 39.0 +0.8**
EKMR AMB AMB 18 57 47.6
comp=E,40nm,0.6s
EKMR AMB AMB 18 57 47.6
comp=E,60nm,0.6s
EKMR AMB AMB 18 57 47.6
comp=E,110nm,0.6s
KAMR Kamenskoye 14.75 22 *e*P **P 18 57 48.8 +0.9**
KLR Kul'dur 14.80 278⇑*i*P **P 18 57 52.7 +4.0**
KLR pmax pmax
comp=E,28nm,1.2s
KLR pmax pmax
comp=Z,43nm,1.2s
KLR MLR MLR
comp=E,900nm,12.0s
KLR MLR MLR
comp=Z,1µm,12.0s
KLR Kul'dur 14.80 278 *e*P **P 18 57 52.5 +3.8**
KLR ⇑*i*P 18 57 52.7
KLR AMB AMB 18 57 53.9
comp=Z,30nm,1.2s
KLR AMB AMB 18 57 53.9
comp=Z,40nm,1.2s
JYA Atsumi 15.01 230 P **P 18 57 48.6 -2.8**
JYA *e*S **S 19 00 24.7 -9.4**
JMM Marumori 15.05 226 P **P 18 57 48.5 -3.4**
JMM *e*S **S 19 00 23.8 -11**
JSD Sado 16.17 232 P **P 18 58 08.8 +2.9**
BMKR Bomnak 16.62 299 *i* P **P 18 58 10.8 -0.5**
BMKR AMB AMB 18 58 11.9
comp=Z,48nm,0.8s
BMKR AMB AMB 18 58 11.9
comp=Z,30nm,0.8s
BMKR AMB AMB 18 58 11.9
comp=Z,42nm,0.8s
JYT Yasato 16.66 224 P **P 18 58 10.2 -1.8**
JYT *e*S **S 19 01 05.1 -6.6**
MAJO Matsushiro 17.35 229 *e*P **P 18 58 19.2 -1.3**
MAJO pmax pmax
comp=Z,295nm,0.9s
MAJO Matsushiro 17.35 229 *e*P **P 18 58 19.2 -1.2**
comp=Z,295nm,0.9s
MAJO *e* 18 58 28.2
MAT Matsushiro 17.35 229 *e*P **P 18 58 19.0 -1.5**
MAT *e*S **S 19 01 31.0 +3.9**
MAT pmax pmax
comp=Z,83nm,0.6s
MAT Matsushiro 17.35 229 *e*P **P 18 58 19.0 -1.5**
comp=Z,83nm,0.6s
MAT *e*S **S 19 01 31.0 +3.9**
MAT Matsushiro 17.35 229 P **P 18 58 19.4 -1.1**
MAT S **S 19 01 32.2 +5.1**
MAT Matsushiro 17.35 229 P **P 18 58 19.5 -1.0**
JRY Ryogami san 17.43 226 P **P 18 58 20.5 -1.0**
JRY *e*S **S 19 01 25.2 -3.8**
ZEA Zeya 17.44 295 *e*P **P 18 58 19.1 -2.4**
ZEA AMB AMB 18 58 23.0
comp=Z,40nm,0.5s
ZEA AMB AMB 18 58 23.0
comp=Z,90nm,0.5s
ZEA *e*S **S 19 01 33.0 +3.9**
ZEA A 19 01 42.0
comp=Z,800nm,9.0s
MDJ Mudanjiang 17.55 264 P **P 18 58 21.8 -0.9**
MDJ XP 18 59 06.8
MDJ S **S 19 01 32.8 +1.4**
MDJ XS 19 01 35.3
MDJ PCP PcP 19 02 54.5 -1.5
MDJ SCS ScS 19 09 55.0 -1.3
MDJ AMB AMB
comp=Z,42nm,1.2s
MDJ AMB AMB
comp=Z,411nm,4.6s
MDJ LR LR
comp=N,366nm,12.1s
MDJ LR LR
comp=E,356nm,11.8s
MDJ LR LR
comp=Z,682nm,15.3s
MDJ Mudanjiang 17.55 264 *e*P **P 18 58 21.4 -1.3**
comp=Z,84nm,1.0s
MDJ *e* 18 58 49.0
KROS Kirovskiy 17.67 297 *e*P **P 18 58 21.5 -2.6**
KROS AMB AMB 18 58 29.1
comp=Z,7.0nm,0.6s
KROS AMB AMB 18 58 29.1
comp=Z,22nm,0.6s
KROS sP 18 58 37.0
JOD2 Odawara 2 17.96 225 P **P 18 58 26.7 -1.0**
KIWB Kanaga Island 18.20 71 *e*P **P 18 58 28.2 -1.9**
KIWB *e* 18 58 37.2
JGF Kuroka 18.52 229 P **P 18 58 33.7 0.0**
YAK Yakutsk 18.77 322 *e*P **P 18 58 34.7 -1.5**
YAK *e*S **S 19 01 59.3 +1.7**
YAK pmax pmax
comp=Z,118nm,0.9s
YAK pmax pmax
comp=N,25nm,1.2s
YAK pmax pmax
comp=E,74nm,1.1s
YAK smax
comp=N,183nm,1.2s
YAK smax
comp=E,72nm,0.9s
YAK Yakutsk 18.77 322⇑*e*P **P 18 58 35.1 -1.1**
comp=E,272nm,0.7s
GSTR Great Sitkin T 18.86 70 *e*P **P 18 58 35.1 -2.1**
JSG Sagara 18.87 225 P **P 18 58 38.1 +0.6**
CLNS Chul'man 19.18 304 *e*P **P 18 58 41.9 +1.3**
CLNS *e*S **S 19 02 11.2 +5.4**
CLNS pmax pmax
comp=N,25nm,0.7s
CLNS pmax pmax
comp=Z,86nm,0.7s
CLNS pmax pmax
comp=E,44nm,0.8s
CLNS smax
comp=N,98nm,2.1s
CLNS smax
comp=Z,25nm,1.5s
CLNS smax
comp=E,62nm,1.1s
CLNS MLR MLR
comp=E,100nm,12.0s
CLNS MLR MLR
comp=Z,400nm,12.0s
CLNS MLR MLR
comp=N,200nm,13.0s
JHJ2 Mitsune 19.47 219 P **P 18 58 44.1 +0.3**
JHJ Hachijo jima 2 19.48 219 P **P 18 58 44.2 +0.4**
comp=N,37nm,0.3s,baz=180,slow=5.5,SNR=25
JHJ S **S 19 02 11.6 -0.1**
comp=N,18nm,0.3s,baz=73,slow=19,SNR=3.2
BILL Bilibino 19.74 13*c i*P **P 18 58 44.0 -2.4**
BILL *i* S **S 19 02 17.6 +1.1**
BILL pmax pmax
comp=Z,101nm,0.9s
BILL Bilibino 19.74 13⇑*e*P **P 18 58 43.8 -2.6**
comp=Z,103nm,0.8s
JWT Wachi 19.75 232 P **P 18 58 46.2 -0.5**
JIE Ise 19.80 228 P **P 18 58 47.6 +0.3**
JAD Aida 20.66 234 P **P 18 58 56.0 0.0**
JWZ Kozaga 20.98 228 P **P 18 59 00.2 +1.0**
JHS Saijyo 21.18 236 P **P 18 59 02.2 +1.1**
KS15 Wonju Array Si 22.50 248 *e*P **P 18 59 15.7 +1.7**
HIA Hailar 22.52 283 *e*P **P 18 59 14.1 +0.1**
HIA pmax pmax
comp=Z,36nm,1.0s
HIA Hailar 22.52 283 *e*P **P 18 59 14.1 +0.1**
comp=Z,36nm,1.0s,mb4.8
SNY Shenyang 22.73 263⇑P **P 18 59 20.5 +4.4**
SNY AMB AMB
comp=Z,20nm,2.1s,mb4.2
SNY LR LR
comp=N,480nm,13.3s
SNY LR LR
comp=Z,370nm,14.2s
JNU Nakatsue 23.81 236 P **P 18 59 28.3 +1.6**
UNV Unalaska Valle 24.50 64 *e*P **P 18 59 33.1 0.0**
BOD Bodaibo 25.15 305 *e*P **P 18 59 36.9 -2.3**
BOD *e* pP 19 00 08.2 +1.4
BOD *e* 19 10 19.6
TIXI Tiksi 25.33 341⇑*i*P **P 18 59 38.9 -1.8**
TIXI *e**PP pP 19 00 11.4 +3.1
TIXI *e*S **S 19 03 54.8 +0.1**
TIXI *e*SS SS 19 05 07.1 -1.0
TIXI pmax pmax
comp=Z,102nm,0.7s,mb5.5
TIXI MLR MLR
comp=Z,177nm,16.0s
TNA Tin City 25.47 36⇑*i*P **P 18 59 41.7 -0.3**
ANM Nome 26.17 39 *e*P **P 18 59 48.9 +0.4**
SVW2 Sparrevohn 30.12 48 *e*P **P 19 00 22.8 -1.3**
SSE Sheshan 30.87 246 P **P 19 00 32.0 +1.0**
SSE S **S 19 05 24.0 +0.2**
SSE XS 19 06 23.5
SSE AMB AMB
comp=Z,33nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,128nm,4.7s
SSE LR LR
comp=N,181nm,22.5s
SSE LR LR
comp=E,88nm,23.0s
SSE LR LR
comp=Z,189nm,20.0s
SSE Sheshan 30.87 246 P **P 19 00 32.0 +1.0**
comp=Z,33nm,0.7s,mb5.2
SSE sP sP 19 01 03.3 -12
SSE S **S 19 05 23.9 +0.1**
SSE sS 19 06 23.5
ULN Ulaanbaatar 30.98 286 P **P 19 00 30.0 -1.8**
ULN Ulaanbaatar 30.98 286 *e*P **P 19 00 29.6 -2.3**
comp=Z,11nm,1.0s,mb4.5
IMA Indian Mountai 31.27 38 *e*P **P 19 00 33.8 -0.4**
IRK Irkutsk 31.35 295 *e*P **P 19 00 33.5 -1.6**
IRK *e* pP 19 01 06.9 +3.1
IRK *e* 19 03 25.5
IRK pmax pmax
comp=Z,20nm,2.2s,mb4.5
SONM Songino Array 31.40 286 P **P 19 00 34.4 -1.1**
comp=Z,1.3nm,0.4s,baz=76,slow=8.2,SNR=28
SONM PcP PcP 19 03 24.1 -1.8
comp=Z,2.7nm,0.6s,baz=105,slow=2.2,SNR=4.3
RSO Redoubt South 31.53 49 *e*P **P 19 00 36.1 -0.4**
NJ2 Nanjing 31.62 250 *e*P **P 19 00 37.5 -0.1**
NJ2 PP PP 19 01 48.5 +1.8
NJ2 S **S 19 05 33.0 -2.6**
NJ2 XS 19 06 33.0
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb4.8
NJ2 LR LR
comp=N,740nm,15.6s
NJ2 LR LR
comp=E,770nm,19.0s
NJ2 LR LR
comp=Z,6µm,12.4s
SPU Mount Spurr 31.83 48 *e*P **P 19 00 38.9 -0.2**
KDAK Kodiak Island 31.88 54 *e*P **P 19 00 38.1 -1.4**
TLY Talaya 31.88 294 P **P 19 00 39.0 -0.6**
comp=Z,117nm,0.6s,mb5.8,SNR=18
TLY Talaya 31.88 294⇑*e*P **P 19 00 38.9 -0.7**
TLY *e* 19 01 13.0
TLY pmax pmax
comp=Z,63nm,0.8s,mb5.4
TLY Talaya 31.88 294⇑*e*P **P 19 00 38.9 -0.7**
comp=Z,63nm,0.8s,mb5.4
TLY *e* 19 01 13.0
ZAK Zakamensk 32.48 292⇑*e*P **P 19 00 44.4 -0.5**
ZAK *e* 19 01 18.5
SLKM Skilak Lake 32.77 49 P **P 19 00 46.3 -1.0**
SLKM Skilak Lake 32.77 49 *e*P **P 19 00 45.0 -2.3**
MCK McKinley 33.19 43 P **P 19 00 50.0 -0.8**
MCK pmax pmax
comp=Z,110nm,0.9s,mb5.6
MCK McKinley 33.19 43⇑*i*P **P 19 00 49.9 -0.9**
comp=Z,88nm,0.8s,mb5.5
PMR Palmer 33.21 47 *e*P **P 19 00 50.1 -0.9**
MOY Mondy 33.46 295 *e*P **P 19 00 53.8 +0.5**
MOY *e* pP 19 01 27.3 +5.0
SML Sawmill 33.57 46 *e*P **P 19 00 53.3 -0.8**
COLA College 33.64 41⇑*i*P **P 19 00 54.5 -0.1**
COLA pmax pmax
comp=Z,500nm,0.8s,mb6.3
COLA College 33.64 41 *e*P **P 19 00 54.7 +0.1**
ILAR Eielson Array 34.05 41 P **P 19 00 58.0 -0.2**
comp=Z,115nm,0.8s,mb5.7,baz=262,slow=6.8,SNR=521
THY Trims Highway 34.62 43 *e*P **P 19 01 01.8 -1.2**
DIV Divide 34.87 47⇑*i*P **P 19 01 04.7 -0.5**
EYAK Cordova Ski Ar 34.96 48 *e*P **P 19 01 05.3 -0.6**
WHN Wuhan 35.46 253 *e*P **P 19 01 10.0 -0.4**
MENT Mentasta 35.59 44 *e*P **P 19 01 11.4 +0.2**
XAN Xi'an 36.65 263 P **P 19 01 23.0 +2.6**
XAN AMB AMB
comp=Z,8.0nm,1.6s
DAWY Dawson 37.36 42 *e*P **P 19 01 25.8 -0.3**
ENH Enshi 38.72 258 *e*P **P 19 01 38.4 +0.6**
comp=Z,7.9nm,0.7s,mb4.5
LZH Lanzhou 38.73 270 P **P 19 01 39.3 +1.5**
LZH AP pP 19 02 09.5 +2.0
LZH XP sP 19 02 26.0 +2.8
LZH PP PP 19 03 15.0 +3.1
LZH PCP PcP 19 03 48.0 +0.6
LZH SCP 19 07 22.0
LZH S **S 19 07 25.3 +0.7**
LZH PCS 19 07 36.0
LZH XS 19 08 24.0
LZH SCS ScS 19 11 33.0 +1.5
LZH AMB AMB
comp=Z,40nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,250nm,4.4s
LZH LR LR
comp=E,510nm,14.1s
LZH LR LR
comp=Z,530nm,18.8s
LZH Lanzhou 38.73 270 P **P 19 01 39.3 +1.5**
LZH *PP pP 19 02 09.5 +2.0
LZH *SP sP 19 02 26.1 +2.9
LZH 19 03 15.0
LZH 19 03 48.0
LZH S **S 19 07 25.2 +0.6**
LZH SS SS 19 10 20.1 +6.2
LZH 19 11 33.0
LZH pmax pmax
comp=Z,40nm,1.0s,mb5.0
LZH Lanzhou 38.73 270 P **P 19 01 39.3 +1.5**
comp=Z,40nm,1.0s,mb5.0
LZH pP pP 19 02 09.5 +2.0
LZH sP sP 19 02 26.1 +2.9
LZH PP PP 19 03 15.0 +3.1
LZH PcP PcP 19 03 48.0 +0.6
LZH ScP 19 07 22.0
LZH S **S 19 07 25.2 +0.6**
LZH PcS 19 07 36.0
LZH sS 19 08 24.0
LZH SS SS 19 10 20.1 +6.2
LZH ScS ScS 19 11 33.0 +1.5
INK Inuvik 39.07 34 P **P 19 01 41.0 +0.8**
INK S **S 19 07 30.8 +1.5**
INK pmax pmax
comp=Z,251nm,0.6s
INK smax
comp=E,9.0nm,1.3s
INK MLR MLR
comp=Z,327nm,19.5s
INK Inuvik 39.07 34 P **P 19 01 41.0 +0.7**
comp=Z,251nm,0.6s,mb6.0,baz=297,slow=6.9,SNR=1611
INK S **S 19 07 30.8 +1.5**
comp=Z,8.8nm,1.3s,baz=256,slow=19,SNR=4.8
INK LR LR 19 19 43.7
comp=Z,327nm,19.5s,baz=356,slow=39
INK Inuvik 39.07 34⇑*i*P **P 19 01 40.8 +0.5**
comp=Z,286nm,0.6s,mb6.1
SIT Sitka 41.09 51 P **P 19 01 58.6 +1.7**
SIT pmax pmax
comp=Z,270nm,1.4s,mb5.7
SIT Sitka 41.09 51 *e*P **P 19 01 58.3 +1.4**
ZAL Zalesovo 41.91 304 *i* P **P 19 02 02.8 -0.8**
ZAL pmax pmax
comp=Z,6.0nm,0.6s
ZAL Zalesovo 41.91 304 P **P 19 02 02.5 -1.0**
comp=Z,6.3nm,0.6s,mb4.4,baz=50,slow=7.2,SNR=36
ZAL PcP PcP 19 03 56.9 -0.4
comp=Z,14nm,0.9s,baz=40,slow=4.1,SNR=13
ZAL ScP 19 07 34.5
comp=Z,6.4nm,1.2s,baz=309,slow=2.4,SNR=3.4
NVS Novosibirsk 42.39 306 *e*P **P 19 02 05.3 -2.2**
NVS *e**PP pP 19 02 40.6 +3.1
NVS *e* 19 03 57.1
NVS *i* S **S 19 08 14.2 -4.3**
NVS *i* 19 11 51.6
NVS pmax pmax
comp=Z,40nm,1.6s,mb4.8
NVS pmax pmax
comp=N,18nm,1.5s
NVS pmax pmax
comp=E,27nm,1.5s
NVS smax
comp=E,33nm,1.7s
NVS smax
comp=N,31nm,1.8s
WMQ Urumqi 44.87 290 P **P 19 02 28.0 +0.4**
WMQ AP pP 19 03 03.5 +5.7
WMQ XP sP 19 03 22.0 +9.0
WMQ PP PP 19 04 15.5 +0.3
WMQ S **S 19 08 52.3 -2.2**
WMQ XS 19 09 55.0
WMQ AMB AMB
comp=Z,77nm,1.1s,mb5.2
WMQ AMB AMB
comp=Z,458nm,5.2s
KMI Kunming 46.59 258 P **P 19 02 43.1 +1.6**
KMI *PP pP 19 03 12.0 +0.2
KMI S **S 19 09 18.2 -1.0**
KMI *SS 19 10 09.6
KMI SS SS 19 12 40.3 -0.7
KMI pmax pmax
comp=Z,16nm,1.4s,mb4.5
KMI Kunming 46.59 258 P **P 19 02 43.1 +1.6**
comp=Z,16nm,1.4s,mb4.5
KMI pP pP 19 03 12.0 +0.2
KMI S **S 19 09 18.2 -1.0**
KMI sS 19 10 09.6
KMI SS SS 19 12 40.3 -0.7
MKAR Makanchi Array 46.60 296 *i* P **P 19 02 40.1 -1.1**
MKAR pmax pmax
comp=Z,6.0nm,0.5s
QIZ Qiongzhong 46.66 246 P **P 19 02 43.8 +1.7**
QIZ AP pP 19 03 15.0 +2.6
QIZ S **S 19 09 20.8 +0.5**
QIZ AMB AMB
comp=Z,31nm,0.9s,mb4.9
KURK Kurchatov 46.73 302⇑*i*P **P 19 02 40.9 -1.3**
KURK *e* 19 03 16.4
KURK pmax pmax
comp=Z,68nm,0.9s,mb5.3
KURK Kurchatov 46.73 302⇑*i*P **P 19 02 40.9 -1.3**
comp=Z,68nm,0.9s,mb5.3
KURK *e* 19 03 16.4
RES Resolute Bay 48.17 19 P **P 19 02 53.0 -0.2**
RES pmax pmax
comp=Z,110nm,1.0s,mb5.4
RES Resolute Bay 48.17 19⇑*i*P **P 19 02 52.9 -0.3**
comp=Z,74nm,0.7s,mb5.4
YKW3 Yellowknife Ar 48.36 38 *e*P **P 19 02 54.7 -0.1**
YKA Yellowknife Ar 48.40 38 P **P 19 02 55.0 0.0**
comp=Z,84nm,0.8s,mb5.5,baz=298,slow=7.4,SNR=881
YKA pP pP 19 03 26.9 +1.4
comp=Z,4.1nm,0.6s,baz=297,slow=7.5,SNR=1.1
YKA PcP PcP 19 04 19.3 -0.5
comp=Z,6.6nm,0.8s,baz=311,slow=3.2,SNR=6.2
CHKZ Chkalovo 49.51 309⇑*i*P **P 19 03 01.7 -1.9**
CHKZ *e* pP 19 03 37.3 +3.0
CHKZ pmax pmax
comp=Z,43nm,0.7s,mb5.2
CHKZ Chkalovo 49.51 309⇑*i*P **P 19 03 01.7 -1.9**
comp=Z,43nm,0.7s,mb5.2
CHKZ *e* pP 19 03 37.3 +3.0
BVA0 Borovoye Array 49.96 308 *i* P **P 19 03 05.6 -1.5**

BVAR Borovoye Array 49.96 308 P **P 19 03 05.8 -1.3**
comp=Z,14nm,0.5s,mb4.8,baz=59,slow=7.8,SNR=124
BVAR pP pP 19 03 39.2 +1.3
comp=Z,14nm,0.5s,baz=59,slow=8.6,SNR=6.4
BVAR PcP PcP 19 04 24.9 -0.6
comp=Z,13nm,0.4s,baz=84,slow=2.7,SNR=10
BVAR ScP 19 08 06.4
comp=Z,0.7nm,0.6s,baz=79,slow=7.3,SNR=2.0
BRVK Borovoye 50.00 308⇑ *iP* **P 19 03 06.0 -1.4**
BRVK *e* pP 19 03 41.6 +3.5
BRVK pmax pmax
comp=Z,29nm,0.8s,mb5.0
BRVK Borovoye 50.00 308⇑ *iP* **P 19 03 06.0 -1.4**
comp=Z,29nm,0.8s,mb5.0
BRVK *e* pP 19 03 41.6 +3.5
LSA Lhasa 51.04 272 P **P 19 03 17.3 +1.6**
LSA Lhasa 51.04 272 *eP* **P 19 03 17.6 +1.9**
LSA pmax pmax
comp=Z,13nm,0.7s,mb4.7
LSA Lhasa 51.04 272 *eP* **P 19 03 17.6 +1.9**
comp=Z,12nm,0.7s,mb4.7
PGC Sidney 51.32 57 *eP* **P 19 03 16.9 -0.6**
comp=Z,45nm,0.7s,mb5.2
OCWA Octopus Mounta 51.42 59 *eP* **P 19 03 18.4 +0.1**
comp=Z,61nm,1.2s,mb5.1
SVE Sverdlovsk 52.60 316 *eP* **P 19 03 25.7 -1.3**
SVE pmax pmax
comp=Z,100nm,1.2s,mb5.4
TKM2 Tokmak 2 52.70 295 P **P 19 03 27.3 -0.6**
SNR=6.7
TTW Tolt Reservoir 52.83 57 P **P 19 03 28.6 -0.2**
USP Ospenovka 53.15 296 P **P 19 03 30.3 -0.9**
SNR=18
CHMS Chumysh 53.16 296 P **P 19 03 30.7 -0.6**
SNR=6.4
WRW Wenatchee Ridg 53.18 57 P **P 19 03 31.2 -0.2**
KBK Karagaybulak 53.24 295 P **P 19 03 31.6 -0.3**
SNR=8.6
FRU Bishkek 53.34 296 *eP* **P 19 03 31.5 -1.1**
AAK Ala-Archa 53.53 295 P **P 19 03 33.3 -0.7**
SNR=7.1
AAK Ala-Archa 53.53 295*c iP* **P 19 03 32.1 -1.9**
AAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
AAK Ala-Archa 53.53 295⇑ *eP* **P 19 03 32.0 -2.0**
comp=Z,32nm,0.8s,mb5.1
COR Corvallis 53.74 61⇑ *eP* **P 19 03 37.6 +2.1**
COR pmax pmax
comp=Z,88nm,0.9s,mb5.5
COR Corvallis 53.74 61⇑ *eP* **P 19 03 37.6 +2.1**
comp=Z,88nm,0.9s,mb5.5
TBM Table Mountain 53.74 57 P **P 19 03 35.3 -0.2**
ARU Arti 53.76 317 P **P 19 03 33.3 -2.2**
comp=Z,1000nm,0.5s,SNR=75
ARU Arti 53.76 317⇑ *iP* **P 19 03 28.3 -7.2**
ARU *i* 19 04 04.6
ARU *e* 19 04 33.2
ARU *e*S **S 19 10 46.8 -11**
ARU *e*SSS SSS 19 16 39.1 -1.9
ARU pmax pmax
comp=Z,110nm,0.8s,mb5.6
CM31 Chiang Mai Arr 53.83 256 *eP* **P 19 03 37.3 +0.8**
comp=Z,9.2nm,0.5s,mb4.8
CMAR Chiang Mai Arr 53.83 256 P **P 19 03 37.3 +0.8**
comp=Z,13nm,0.8s,mb4.7,baz=32,slow=7.2,SNR=72
CMAR pP pP 19 04 09.5 +1.9
comp=Z,31nm,1.2s,baz=30,slow=7.8,SNR=5.2
CMAR ScP 19 08 23.6
comp=Z,5.0nm,0.9s,baz=20,slow=4.0,SNR=12
CMAR LR LR 19 29 50.2
comp=Z,107nm,19.1s,baz=95,slow=40
EKS2 Erkin-Say 53.93 296 P **P 19 03 36.1 -0.8**
SNR=7.0
EDM Edmonton 53.96 48 P **P 19 03 36.7 -0.3**
EDM Edmonton 53.96 48 *eP* **P 19 03 36.3 -0.7**
DAG Danmarks Havn 54.16 358 *eP* **P 19 03 35.0 -3.2**
DAG pmax pmax
comp=Z,5.0nm,0.4s,mb4.6
DAG Danmarks Havn 54.16 358 *i* P **P 19 03 35.0 -3.2**
comp=Z,5.1nm,0.4s,mb4.6
EPH Ephrata 54.18 57 P **P 19 03 38.0 -0.7**
AML Almayashu 54.30 295 P **P 19 03 38.8 -0.8**
SNR=5.3
VFP Flag Point 54.35 60 P **P 19 03 40.2 +0.2**
OD2 Odessa Site #2 54.64 56 P **P 19 03 41.3 -0.8**
HBO Huckleberry Mo 54.75 62 P **P 19 03 43.4 +0.5**
CROR Criterion Rdg 54.82 60 P **P 19 03 43.6 +0.1**
WIFE Three Sisters- 54.91 61 P **P 19 03 44.7 +0.7**
NEW Newport 54.98 55 P **P 19 03 43.7 -0.8**
NEW pmax pmax
comp=Z,64nm,1.1s
NEW Newport 54.98 55⇑ *eP* **P 19 03 43.8 -0.7**
comp=Z,77nm,1.1s,mb5.3
BBOR Butler Butte 55.12 63 P **P 19 03 46.5 +0.8**
HUMO Hull Mountain 55.13 63⇑ *eP* **P 19 03 46.4 +0.7**
comp=Z,110nm,1.2s,mb5.5
KEV Kevo 55.27 340 *ep* **P 19 03 43.5 -2.8**
comp=Z,5.8nm,0.6s,mb4.5
KEV Kevo 55.27 340 *eP* **P 19 03 43.5 -2.8**
KEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
VIPM Ingram Point 55.32 60 P **P 19 03 47.3 +0.3**
APA Apatity 55.38 336⇑ *iP* **P 19 03 44.0 -3.1**
APA pmax pmax
comp=Z,12nm,0.8s,mb4.7
JIRN Jiri 55.64 274 *eP* **P 19 03 49.4 -0.2**
comp=Z,36nm,0.7s,mb5.3
KHMM Horse Mountain 55.74 65 *eP* **P 19 03 50.9 +0.8**
ARCES ARCESS Array B 55.77 341 P **P 19 03 47.5 -2.4**
comp=Z,18nm,0.9s,mb4.9,baz=35,slow=7.2,SNR=44
ARCES LR LR 19 30 39.0
comp=Z,312nm,19.6s,baz=201,slow=39
YBH Yreka Blue Hor 55.81 64⇑ *eP* **P 19 03 51.3 +0.7**
YBH pmax pmax
comp=Z,90nm,1.1s
YBH Yreka Blue Hor 55.81 64⇑ *eP* **P 19 03 51.3 +0.7**
comp=Z,90nm,1.1s,mb5.5
KKN Kakani 56.15 275 *eP* **P 19 03 52.9 -0.3**
comp=Z,28nm,0.6s,mb5.3
WALA Waterton Lakes 56.19 52⇑ *eP* **P 19 03 52.8 -0.4**
comp=Z,106nm,1.1s,mb5.6
WALA *e* pP 19 04 24.5 0.0
PKI Pulchoki 56.21 274 *eP* **P 19 03 53.4 -0.2**
comp=Z,20nm,0.5s,mb5.2
DMN Daman 56.38 274 *eP* **P 19 03 54.8 -0.1**
comp=Z,42nm,0.7s,mb5.3
GKN Gorkha 56.42 275 *eP* **P 19 03 54.6 -0.5**
comp=Z,26nm,0.4s,mb5.5
WDC Whiskeytown Da 56.63 65⇑ *eP* **P 19 03 55.7 -0.7**
WDC pmax pmax
comp=Z,37nm,1.0s,mb5.2
WDC Whiskeytown Da 56.63 65⇑ *eP* **P 19 03 55.7 -0.8**
comp=Z,37nm,1.0s,mb5.2
KTK1 Kautokeino 56.67 341 *eP* **P 19 03 54.4 -2.0**
comp=Z,106nm,1.8s,mb5.4
KTK1 Kautokeino 56.67 341 *eP* **P 19 03 54.4 -2.0**
KTK1 AMb AMB 19 04 10.8
comp=Z,106nm,1.8s,mb5.4
BMO Blue Mountains 56.97 58⇑ *iP* **P 19 03 58.7 0.0**
comp=Z,50nm,0.9s,mb5.3
TRO Tromso 57.03 343 *eP* **P 19 03 55.7 -3.1**
MOD Modoc 57.11 62⇑ *iP* **P 19 04 00.1 +0.3**
comp=Z,100nm,0.9s,mb5.7
KOLN Koldanda 57.26 276 *eP* **P 19 04 00.3 -0.7**
comp=Z,16nm,0.5s,mb5.1
MSO Missoula 57.56 54⇑ *eP* **P 19 04 02.3 -0.5**
comp=Z,58nm,1.4s,mb5.2
MSO *e* pP 19 04 33.9 -0.5
WVOR Wild Horse Val 57.74 61 *eP* **P 19 04 04.4 +0.2**
WVOR pmax pmax
comp=Z,86nm,0.8s,mb5.6
WVOR Wild Horse Val 57.74 61 *eP* **P 19 04 04.4 +0.2**
comp=Z,86nm,0.8s,mb5.6
CHMT Chamberlain Mo 57.87 54 *eP* **P 19 04 04.7 -0.4**
CHMT *e* pP 19 04 37.0 +0.4
OHCM Honcut 58.05 65 *eP* **P 19 04 05.6 -0.8**
OHCM *e* pP 19 04 38.2 +0.4
FFC Flin Flon 58.26 42 P **P 19 04 07.3 -0.3**
comp=Z,850nm,0.8s,SNR=76
FFC Flin Flon 58.26 42⇑ *iP* **P 19 04 07.3 -0.3**
FFC *e* pP 19 04 39.0 -0.2
FFC pmax pmax
comp=Z,102nm,0.8s,mb5.7
FFC Flin Flon 58.26 42⇑ *iP* **P 19 04 07.3 -0.4**
comp=Z,102nm,0.8s,mb5.7
FFC *e* pP 19 04 39.0 -0.2

FCC Fort Churchill 58.69 35⇑ *iP* **P 19 04 09.5 -1.0**
FCC *e* pP 19 04 41.6 -0.5
FCC pmax pmax
comp=Z,145nm,0.9s,mb5.8
FCC Fort Churchill 58.69 35⇑ *iP* **P 19 04 09.5 -1.0**
comp=Z,145nm,0.9s,mb5.8
FCC *e* pP 19 04 41.6 -0.6
HRY Holter Researc 58.75 53 *eP* **P 19 04 10.0 -1.2**
WCN Washoe City 59.09 64⇑ *iP* **P 19 04 13.7 0.0**
WCN pmax pmax
comp=Z,56nm,0.9s,mb5.4
WCN Washoe City 59.09 64⇑ *iP* **P 19 04 13.7 +0.1**
comp=Z,56nm,0.9s,mb5.4
HLID Hailey 59.39 58⇑ *iP* **P 19 04 15.8 +0.2**
comp=Z,68nm,1.1s,mb5.4
MCMT McKenzie Canyo 59.43 56 *eP* **P 19 04 15.5 -0.4**
JOF Joensuu 59.47 334 *ep* **P 19 04 13.7 -2.2**
comp=Z,16nm,0.6s,mb5.0
CMB Columbia Colle 59.54 66⇑ *eP* **P 19 04 16.4 -0.4**
CMB pmax pmax
comp=Z,51nm,0.9s,mb5.3
CMB Columbia Colle 59.54 66⇑ *eP* **P 19 04 16.4 -0.3**
comp=Z,51nm,0.9s,mb5.3
SAO San Andreas Ge 59.73 68 *eP* **P 19 04 15.3 -2.8**
SAO pmax pmax
comp=Z,30nm,1.0s,mb5.1
SAO San Andreas Ge 59.73 68 *eP* **P 19 04 15.3 -2.7**
comp=Z,30nm,1.0s,mb5.1
BMN Battle Mountai 59.84 62⇑ *iP* **P 19 04 19.1 +0.4**
BMN pmax pmax
comp=Z,120nm,1.0s,mb5.7
BMN Battle Mountai 59.84 62⇑ *iP* **P 19 04 19.1 +0.3**
comp=Z,120nm,1.0s,mb5.7
QLMT Earthquake Lak 60.19 55 *eP* **P 19 04 21.4 +0.4**
QLMT *e* pP 19 04 54.2 +1.4
NVAR Mina Array Bea 60.52 64 P **P 19 04 23.7 +0.3**
comp=Z,40nm,0.8s,mb5.3,baz=289,slow=7.5,SNR=184
NVAR pP pP 19 04 56.2 +1.0
comp=Z,5.7nm,0.7s,baz=295,slow=7.7,SNR=2.3
SCO Scoresbysund 60.53 359 *i* P **P 19 04 21.7 -1.4**
SCO *i* 19 05 06.2
SCO pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SCO Scoresbysund 60.53 359 *i* P **P 19 04 21.7 -1.4**
comp=Z,4.6nm,0.7s,mb4.4
SCO *i* 19 05 06.2
YMR Madison River 60.55 55⇑ *iP* **P 19 04 23.9 +0.5**
MNV Mina 60.61 64⇑ *iP* **P 19 04 24.0 0.0**
MNV pmax pmax
comp=Z,64nm,1.1s,mb5.4
MNV Mina 60.61 64⇑ *iP* **P 19 04 24.0 0.0**
comp=Z,64nm,1.1s,mb5.4
OMM Old Mammoth Mi 60.65 65 *eP* **P 19 04 24.4 +0.2**
YNR Norris Junctio 60.67 55 *eP* **P 19 04 25.4 +1.0**
YFT Old Faithful 60.76 55 *eP* **P 19 04 26.6 +1.6**
YFT *e* pP 19 04 58.4 +1.7
MOR8 Moi Rana 60.88 343 *eP* **P 19 04 22.2 -3.3**
MOR8 AMb AMB 19 04 25.6
comp=Z,103nm,1.7s,mb5.4
IMW Indian Meadow 61.07 55 *eP* **P 19 04 27.9 +0.8**
MOOW Moose Ponds 61.28 55 *eP* **P 19 04 29.1 +0.7**
TPAW Teton Pass 61.34 56 *eP* **P 19 04 29.6 +0.7**
TPH Tonopah 61.39 64⇑ *iP* **P 19 04 29.4 +0.1**
TPH pmax pmax
comp=Z,98nm,1.0s,mb5.6
TPH Tonopah 61.39 64⇑ *iP* **P 19 04 29.4 0.0**
comp=Z,98nm,1.0s,mb5.6
WUWY Wally Ulrich 61.42 56 *eP* **P 19 04 30.0 +0.6**
LOHW Long Hollow 61.44 55 *eP* **P 19 04 30.0 +0.5**
DGMT Dagmar 61.45 48⇑ *iP* **P 19 04 29.2 -0.4**
comp=Z,237nm,1.0s,mb6.0
SNOW Snow King Moun 61.46 56 *eP* **P 19 04 30.6 +0.9**
HVU Hansel Valley 61.48 58⇑ *eP* **P 19 04 30.0 +0.2**
KAF Kangasniemi 61.53 335 *ep* **P 19 04 28.0 -1.9**
comp=Z,12nm,0.7s,mb4.8,baz=35,slow=6.3
KAF Kangasniemi 61.53 335 *eP* **P 19 04 28.0 -1.9**
KAF pmax pmax
comp=Z,12nm,0.7s,mb4.8
LAO LASA Array 61.66 51⇑ *iP* **P 19 04 31.1 +0.2**
comp=Z,205nm,1.0s,mb5.9
LAO *e* pP 19 05 03.2 +0.3
AHID Auburn Hatcher 61.74 56⇑ *eP* **P 19 04 31.8 +0.3**
comp=Z,101nm,1.3s,mb5.5
BGU Big Grassy Mou 61.91 59 *eP* **P 19 04 32.7 0.0**
SPUT South Promonto 61.97 58 *eP* **P 19 04 33.4 +0.2**
FINES FINESS Array B 62.14 335 P **P 19 04 32.0 -1.9**
comp=Z,14nm,0.4s,mb5.1,baz=41,slow=8.0,SNR=157
FINES pP pP 19 05 07.7 +1.8
comp=Z,10nm,0.6s,baz=63,slow=4.3,SNR=5.1
TRCR Troy Canyon 62.17 63 *eP* **P 19 04 34.4 -0.1**
HWUT Hardware Ranch 62.26 58⇑ *iP* **P 19 04 35.5 +0.4**
comp=Z,146nm,1.1s,mb5.7
BW06 Boulder Array 62.58 56⇑ *iP* **P 19 04 37.0 -0.2**
comp=Z,133nm,0.8s,mb5.8
PDAR Pinedale Array 62.58 56 P **P 19 04 37.2 +0.1**
comp=Z,100nm,0.9s,mb5.7,baz=310,slow=1.9,SNR=642
PDAR pP pP 19 05 10.2 +1.1
comp=Z,18nm,0.9s,baz=299,slow=2.0,SNR=3.4
NOQ North Oquirrh 62.60 59⇑ *iP* **P 19 04 37.6 +0.3**
TCUT Toone Canyon 62.68 58 *eP* **P 19 04 37.9 +0.1**
MOS Moscow 62.86 325 *eP* **P 19 04 34.1 -4.7**
MOS *e* 19 05 13.9
JLU Jordanelle 63.01 58 *eP* **P 19 04 40.1 +0.1**
NLU North Lily Min 63.10 59 *eP* **P 19 04 40.5 -0.1**
DAU Daniels Canyon 63.24 59 *eP* **P 19 04 42.3 +0.7**
MPU Maple Canyon 63.30 59⇑ *iP* **P 19 04 42.3 +0.3**
MWC Mount Wilson 63.48 68 *eP* **P 19 04 42.5 -0.7**
OBN Obninsk 63.73 325*c iP* **P 19 04 39.9 -4.5**
OBN *i* *PP pP 19 05 17.7 +1.2
OBN pmax pmax
comp=Z,75nm,1.5s,mb5.3
OBN Obninsk 63.73 325 P **P 19 04 39.7 -4.7**
comp=Z,51nm,1.0s,mb5.3
MVU Marysvale 64.01 61⇑ *eP* **P 19 04 47.1 +0.6**
comp=Z,41nm,1.1s,mb5.2
MSU Marysvale 64.02 61 *eP* **P 19 04 47.2 +0.6**
TMUT Trail Mountain 64.03 59 *eP* **P 19 04 46.9 +0.3**
VSU Vasula 64.39 333*c iP* **P 19 04 47.1 -1.5**
NEN Nelson 64.44 65 *eP* **P 19 04 49.2 -0.1**
SRU San Rafael 64.55 59⇑ *iP* **P 19 04 50.1 +0.1**
LDFC Landfair 64.67 65 *eP* **P 19 04 50.3 -0.6**
KAKA Kakadu 64.69 204⇓ *iP* **P 19 04 49.8 -1.5**
comp=Z,44nm,0.6s,mb5.5
PFO Pinyon Flat Ob 64.88 67 *eP* **P 19 04 51.4 -0.8**
PFO pmax pmax
comp=Z,105nm,1.9s,mb5.3
PFO Pinyon Flat Ob 64.88 67 *eP* **P 19 04 51.4 -0.8**
comp=Z,105nm,1.9s,mb5.3
BAR Barrett 65.39 68 *eP* **P 19 04 54.6 -0.9**
PHWY Pilot Hill 65.79 54 *eP* **P 19 04 57.4 -0.6**
PHWY *e* pP 19 05 27.5 -2.7
PV10 Paradox Valley 65.89 59 *eP* **P 19 04 59.1 +0.4**
NB2 NORSAR Subarra 66.13 341 P **P 19 04 57.9 -1.8**
comp=Z,22nm,0.7s,mb5.1,baz=26,slow=6.5
NB2 NORSAR Subarra 66.13 341 P **P 19 04 57.9 -1.8**
baz=26,slow=6.9
NOA NORSAR Array B 66.13 341 P **P 19 04 58.0 -1.8**
comp=Z,26nm,0.7s,mb5.2,baz=25,slow=6.4,SNR=104
NOA pP pP 19 05 33.4 +1.4
comp=Z,8.6nm,0.8s,baz=25,slow=6.7,SNR=3.4
NOA LR LR 19 39 21.3
comp=Z,78nm,20.4s,baz=25,slow=41
PV01 Paradox Valley 66.33 59 *eP* **P 19 05 01.4 0.0**
NAO01 NORSAR Array S 66.37 341 *eP* **P 19 04 58.9 -2.4**
comp=Z,7.1nm,0.6s,mb4.7
WUAZ Wupatki 66.56 62⇑ *iP* **P 19 05 03.3 +0.4**
comp=Z,1μm,1.2s
RW3 Ridgway 66.74 58 *eP* **P 19 05 04.4 +0.4**
ISCO Idaho Springs 66.78 56⇑ *iP* **P 19 05 04.8 +0.6**
ISCO pmax pmax
comp=Z,100nm,1.0s,mb5.6
ISCO Idaho Springs 66.78 56⇑ *iP* **P 19 05 04.8 +0.6**
comp=Z,100nm,1.0s,mb5.6
IZAR Zarasai 66.78 331 *eP* **P 19 05 02.7 -1.2**
IZAR AMPb AMB 19 05 05.2
comp=Z,16nm,0.8s,mb4.9
ISAL Salakas 66.97 331 *eP* **P 19 05 03.4 -1.7**
ISAL AMPb AMB 19 05 06.1
comp=Z,16nm,1.1s,mb4.8
IDID Didziasalis 66.98 331 *i* P **P 19 05 04.0 -1.3**
IDID AMPb AMB 19 05 06.1
comp=Z,19nm,0.9s,mb4.9
IIGN Ignalina 67.12 331 *eP* **P 19 05 04.5 -1.6**
IIGN AMPb AMB 19 05 07.6
comp=Z,27nm,0.6s,mb5.2

MNK Minsk 67.30 329⇓ *eP* **P 19 05 03.0 -4.2**
HYB Hyderabad 67.82 271 *eP* **P 19 05 11.0 -0.1**
HYB Hyderabad 67.82 271 *i* P **P 19 05 11.0 -0.1**
SDCO Great Sand Dun 68.31 57⇓ *eP* **P 19 05 14.1 +0.3**
comp=Z,90nm,1.3s,mb5.3
GOF Gofitskoye 68.67 315⇓ *iP* **P 19 05 15.0 -0.9**
GOF *e*S Px 19 05 52.0
GOF pmax pmax
comp=Z,50nm,1.0s,mb5.2
TUC Tucson 69.18 65⇑ *eP* **P 19 05 19.2 0.0**
TUC pmax pmax
comp=Z,29nm,1.0s,mb5.0
TUC Tucson 69.18 65⇑ *eP* **P 19 05 19.2 0.0**
comp=Z,29nm,1.0s,mb5.0
SUW Suwalki 69.20 332 *eP* **P 19 05 17.6 -1.3**
CTA Charters Tower 69.42 188 *eP* **P 19 05 19.5 -1.3**
comp=Z,32nm,1.0s,mb5.0
CTA Charters Tower 69.42 188 *eP* **P 19 05 19.5 -1.3**
CTA pmax pmax
comp=Z,32nm,1.0s
KIV Kislovodsk 69.67 314 P **P 19 05 22.3 +0.3**
comp=Z,204nm,0.9s,mb5.8,SNR=7.4
KIV Kislovodsk 69.67 314 P **P 19 05 22.2 +0.2**
KIV pmax pmax
comp=Z,28nm,0.9s,mb5.0
KIV Kislovodsk 69.67 314 *eP* **P 19 05 21.6 -0.3**
comp=Z,33nm,0.8s,mb5.1
ANMO Albuquerque 69.78 60⇑ *iP* **P 19 05 23.2 +0.4**
ANMO pmax pmax
comp=Z,45nm,0.9s
ANMO Albuquerque 69.78 60 LR LR 19 37 54.9
comp=Z,118nm,18.8s,slow=37
ANMO Albuquerque 69.78 60⇑ *iP* **P 19 05 23.2 +0.4**
comp=Z,45nm,0.9s,mb5.2
LAZ Ladron 69.79 61 *eP* **P 19 05 23.8 +0.9**
AKASG Malin Array Be 69.94 326 P **P 19 05 21.8 -1.7**
AKASG pmax pmax
comp=Z,37nm,0.7s
AKASG Malin Array Be 69.94 326 P **P 19 05 21.8 -1.7**
comp=Z,37nm,0.7s,mb5.2,baz=32,slow=6.2,SNR=137
ZEI Tsey 69.99 313 *eP* **P 19 05 22.6 -1.4**
ZEI pmax pmax
comp=Z,14nm,1.1s,mb4.6
LENM Lemitar 70.06 61 *eP* **P 19 05 25.2 +0.7**
LPM Los Pinos Moun 70.15 60 *eP* **P 19 05 25.5 +0.4**
BSD Bornholm Skovb 70.60 337⇑ *iP* **P 19 05 26.4 -1.0**
BSD pmax pmax
comp=Z,31nm,0.6s,mb5.2
BSD Bornholm Skovb 70.60 337⇑ *iP* **P 19 05 26.4 -1.0**
comp=Z,31nm,0.6s,mb5.2
SCHQ Schefferville 70.65 24 P **P 19 05 27.4 -0.3**
comp=Z,100nm,0.8s,mb5.6,baz=355,slow=6.4,SNR=165
SCHQ Schefferville 70.65 24⇑ *iP* **P 19 05 27.3 -0.4**
comp=Z,143nm,0.7s,mb5.8
WRAB Tennant Creek 71.17 200⇓ *eP* **P 19 05 30.2 -1.2**
WRAB *e* pP 19 06 01.0 -3.1
WRAB pmax pmax
comp=Z,63nm,0.9s,mb5.3
WRAB Tennant Creek 71.17 200⇓ *eP* **P 19 05 30.2 -1.1**
comp=Z,63nm,0.9s,mb5.3
WRAB *e* pP 19 06 01.0 -3.1
WB2 Warramunga Arr 71.17 200⇓ *iP* **P 19 05 30.2 -1.2**
WB2 *e*pP pP 19 06 01.5 -2.6
WRA Warramunga Arr 71.18 200 P **P 19 05 30.4 -1.0**
comp=Z,30nm,0.9s,mb5.0,baz=18,slow=6.7,SNR=230
WRA pP pP 19 06 02.8 -1.3
comp=Z,28nm,1.0s,baz=17,slow=6.6,SNR=7.7
GKP Gorka Klasztor 71.61 335 *eP* **P 19 05 33.1 -0.3**
FITZ Fitzroy Crossi 71.77 209 *eP* **P 19 05 34.8 -0.2**
comp=Z,59nm,0.9s,mb5.3
DZM Mont Dzumac 71.82 168 *eP* **P 19 05 35.9 +0.7**
DZM Mont Dzumac 71.82 168 *eP* **P 19 05 35.9 +0.7**
NOUC Port Laguerre 71.83 168 *eP* **P 19 05 35.8 +0.5**
KSU1 Kansas State U 72.01 51 *eP* **P 19 05 34.3 -1.7**
AMTX Amarillo 72.50 57⇑ *iP* **P 19 05 39.0 0.0**
comp=Z,233nm,1.2s,mb5.8
LVV L'vov 72.50 329 *eP* **P 19 05 38.8 +0.2**
LVV *e* 19 08 31.4
CPRX Cap Rock 72.65 60 *eP* **P 19 05 40.0 +0.1**
KMPD K-Podol'skiy 72.72 327 P **P 19 05 40.0 +0.1**
MNTX Cornudas Mount 72.77 61⇑ *eP* **P 19 05 40.6 0.0**
comp=Z,41nm,1.2s,mb5.0
BSEG Bad Segeberg 72.81 339 *eP* **P 19 05 40.8 +0.5**
GDL2 Guadalupe Moun 72.98 60 *eP* **P 19 05 41.9 +0.1**
KWP Kalwaria 73.11 330 *eP* **P 19 05 42.4 +0.2**
KWP Kalwaria 73.11 330 *eP* **P 19 05 42.5 +0.3**
OJC Ojcow 73.53 332 *eP* **P 19 05 44.4 -0.3**
KOLS Kolonicke sedl 73.85 329 *i* P **P 19 05 46.1 -0.4**
BURAR Bucovina Array 73.97 327 P **P 19 05 47.8 +0.5**
KSP Ksiaz 74.04 334 *eP* **P 19 05 47.2 -0.4**
KSP *e*PP pP 19 06 31.4 +11
KSP Ksiaz 74.04 334 *eP* **P 19 05 48.0 +0.4**
NIE Niedzica 74.07 331 *eP* **P 19 05 48.2 +0.4**
UZH Uzhgorod 74.11 329 *eP* **P 19 05 48.0 0.0**
ESK Eskdalemuir 74.12 347 P **P 19 05 48.0 +0.1**
ESK pmax pmax
comp=Z,26nm,0.7s,mb5.1
ESK Eskdalemuir 74.12 347⇑ *eP* **P 19 05 47.2 -0.7**
comp=Z,48nm,0.7s,mb5.3
CRVS Cervenica-Dubn 74.15 330 *i* P **P 19 05 48.7 +0.4**
CRVS *e* 19 06 02.4
WMOK Wichita Mounta 74.18 55⇑ *iP* **P 19 05 48.6 -0.1**
WMOK pmax pmax
comp=Z,113nm,0.9s,mb5.6
WMOK Wichita Mounta 74.18 55⇑ *iP* **P 19 05 48.6 -0.2**
comp=Z,113nm,0.9s,mb5.6
BBH Bruntsheil 74.25 347⇑ *eP* **P 19 05 48.6 -0.1**
BWH Wardlaw 74.32 347⇑ *eP* **P 19 05 48.8 -0.3**
BHH Howats Hill 74.33 347⇑ *eP* **P 19 05 48.9 -0.3**
OKC Ostrava-Krasne 74.38 332 *eP* **P 19 05 49.9 +0.3**
LCP Cassop 74.41 346⇑ *eP* **P 19 05 49.4 -0.3**
UPC Upice 74.42 334 *eP* **P 19 05 49.7 -0.1**
BTA Talkin 74.44 347⇑ *eP* **P 19 05 49.7 -0.1**
DPC Dobruska-Polom 74.47 334 *eP* **P 19 05 49.8 -0.2**
CLL Collm 74.53 336⇓ *iP* **P 19 05 50.1 -0.3**
CLL pmax pmax
comp=Z,83nm,1.0s,mb5.3
CLL Collm 74.53 336⇓ *iP* **P 19 05 50.1 -0.3**
comp=Z,83nm,1.0s,mb5.3
CLL *e* 19 06 29.0
CLL Collm 74.53 336 ⇓P **P 19 05 50.1 -0.3**
comp=Z,logA/T=1.9,mb5.3
CLL *e*PP pP 19 06 29.0 +5.6
CLL *e* 19 06 58.0
CLL *e* 19 07 08.0
BDL Dobcross Hall 74.57 347⇑ *eP* **P 19 05 50.3 -0.2**
MORC Moravsky Berou 74.61 333 P **P 19 05 51.3 +0.4**
MORC pmax pmax
comp=Z,25nm,0.7s,mb5.0
MORC Moravsky Berou 74.61 333 *eP* **P 19 05 50.6 -0.3**
comp=Z,35nm,0.7s,mb5.1
TLCR 74.66 323 ⇑P **P 19 05 50.6 -0.7**
BRG Berggiesshubel 74.67 335 *i* P **P 19 05 51.1 -0.1**
BRG pmax pmax
comp=Z,30nm,1.5s,mb4.7
BRG Berggiesshubel 74.67 335 *i* P **P 19 05 51.1 -0.1**
comp=Z,30nm,1.5s,mb4.7
BRG *e* 19 09 13.1
BBO1 Bothel 74.69 347⇑ *eP* **P 19 05 51.1 -0.1**
CLZ Clausthal 74.72 338 *eP* **P 19 05 52.0 +0.6**
comp=Z,94nm,1.1s,mb5.3
GCL Cushendall 74.76 349⇑ *eP* **P 19 05 51.5 -0.1**
GAL1 Galloway 74.77 348⇑ *eP* **P 19 05 50.9 -0.8**
PVCC Panska Ves 74.81 335 *eP* **P 19 05 52.1 +0.1**
KECS Kecovo 74.83 330 *i* P **P 19 05 52.1 -0.1**
ASAR Alice Springs 74.87 199 P **P 19 05 53.0 +0.1**
comp=Z,27nm,0.6s,mb5.0,baz=11,slow=5.3,SNR=435
ASAR pP pP 19 06 25.9 -0.1
comp=Z,12nm,0.8s,baz=13,slow=5.9,SNR=4.9
ASAR LR LR 19 36 40.5
comp=Z,93nm,19.2s,baz=23,slow=34
ASPA Alice Springs 74.87 199⇓ *iP* **P 19 05 53.0 +0.1**
ASPA *e*pP pP 19 06 25.6 -0.4
VRI Vrincioaia 74.89 325 ⇑P **P 19 05 53.1 +0.5**
HPK Haverah Park 75.18 346⇑ *eP* **P 19 05 54.2 +0.2**
PRU Pruhonice 75.30 335 *eP* **P 19 05 54.4 -0.4**
VRAC Vranov 75.32 333 ⇓P **P 19 05 55.6 +0.7**
VRAC Vranov 75.32 333 P **P 19 05 55.5 +0.6**
VYHS Vyhne 75.35 331 *i* P **P 19 05 55.4 +0.3**
JAVC Velka Javorina 75.39 332 P **P 19 05 56.9 +1.6**
KOLL Kolacno 75.41 332 *i* P **P 19 05 56.3 +0.9**
HARR Harsova 75.42 324 ⇓P **P 19 05 56.0 +0.4**
TIRR Tirgusor 75.43 323 ⇓P **P 19 05 56.0 +0.4**
WTSB Winterswijk 75.44 340⇑ *iP* **P 19 05 55.4 -0.1**

comp=Z,66nm,0.9s,mb5.3
CCM Cathedral Cave 75.48 48⇑iP P 19 05 55.4 -0.7
CCM pmax pmax
comp=Z,74nm,0.9s,mb5.3
CCM Cathedral Cave 75.48 48⇑iP P 19 05 55.4 -0.7
comp=Z,74nm,0.9s,mb5.3
MOX Moxa 75.50 337 eP P 19 05 56.3 +0.4
comp=Z,153nm,2.1s,mb5.3
MOX Moxa 75.50 337 iP P 19 05 56.3 +0.4
comp=Z,logA/T=1.9,mb5.3
MLR Muntele Rosu 75.50 325 P P 19 05 56.6 +0.6
MLR Muntele Rosu 75.50 325 P P 19 05 56.4 +0.4
comp=Z,19nm,0.5s,mb5.0,baz=22,slow=2.4,SNR=24
SLM Saint Louis 75.51 47 eP P 19 05 56.0 -0.2
SLM pmax pmax
comp=Z,37nm,0.4s,mb5.4
SLM Saint Louis 75.51 47 eP P 19 05 56.0 -0.3
comp=Z,38nm,0.4s,mb5.4
TXAR Lajitas Array 75.51 62 P P 19 05 56.9 +0.5
comp=Z,37nm,0.7s,mb5.1,baz=288,slow=4.0,SNR=180
TXAR pP pP 19 06 30.8 +1.2
comp=Z,16nm,0.9s,baz=298,slow=4.0,SNR=3.7
TXAR Lajitas Array 75.51 62 P P 19 05 56.9 +0.5
TXAR pP pP 19 06 30.8 +1.2
PSZ Piszkesteto 75.52 330 eP P 19 05 56.1 +0.1
PSZ Piszkesteto 75.52 330 e P 19 05 56.1 +0.1
GMM Mts of Mourne 75.55 348⇑eP P 19 05 55.3 -0.8
LHO Holmfirth 75.62 346 iP P 19 05 56.3 -0.2
LHO Holmfirth 75.62 346⇑eP P 19 05 56.4 -0.1
NKC Novy Kostel 75.65 336 eP P 19 05 57.1 +0.3
SMOL Smolenice 75.77 332 iP P 19 05 58.7 +1.2
FVM French Village 75.94 48 P P 19 05 58.4 -0.2
FVM pmax pmax
comp=Z,78nm,0.8s,mb5.4
FVM French Village 75.94 48⇑iP P 19 05 58.1 -0.5
DMUB Kingscourt 76.01 349⇑iP P 19 05 58.8 +0.1
MALT Malatya 76.08 313 P P 19 06 00.8 +1.4
WME Myndd Eilian 76.14 347⇑eP P 19 05 59.1 -0.4
WME AMb AMB 19 05 59.7
comp=Z,43nm,0.6s,mb5.2
ZST Bratislava 76.15 332 iP P 19 06 00.4 +0.8
SRO1 Iza 76.19 331 iP P 19 06 01.0 +1.2
WCB1 Church Bay 76.19 347⇑eP P 19 05 59.2 -0.5
WCB1 AMb AMB 19 06 02.2
comp=Z,94nm,1.7s,mb5.1
KHC Kasperske Hory 76.35 335 eP P 19 06 00.8 +0.1
KHC e 19 06 05.0
KHC Kasperske Hory 76.35 335 eP P 19 06 00.8 +0.1
KHC x x 19 06 05.0
YLL Llanberis 76.37 347⇑eP P 19 06 00.4 -0.3
YLL AMb AMB 19 06 02.6
comp=Z,124nm,1.4s,mb5.3
SBD1 Bryn Du 76.46 346⇑eP P 19 06 01.4 +0.1
GRA1 Grafenberg Arr 76.47 336 eP P 19 06 02.0 +0.6
comp=Z,92nm,1.0s,mb5.4
GRF Grafenberg Arr 76.47 336 eP P 19 06 02.0 +0.6
GRF pmax pmax
comp=Z,92nm,1.0s,mb5.4
GRF Grafenberg Arr 76.47 336 eP P 19 06 02.0 +0.6
GRF pmax pmax
comp=Z,92nm,1.0s,mb5.4
GRF Grafenberg Arr 76.47 336 eP P 19 06 02.0 +0.6
comp=Z,92nm,1.0s,mb5.4
PKS7 Kunszentmiklos 76.52 330⇓eP P 19 06 02.7 +1.0
WET Wettzell 76.53 335 eP P 19 06 02.5 +0.8
WET Wettzell 76.53 335 eP P 19 06 02.0 +0.3
WET eP 19 06 02.5
DLF Lyons Farm 76.55 348⇑iP P 19 06 01.9 +0.2
YRE Yr Eifl 76.56 347⇑eP P 19 06 01.6 -0.2
YRE AMb AMB 19 06 04.6
comp=Z,144nm,2.0s,mb5.3
GEC2 GERESS Array S 76.57 335 eP P 19 06 02.5 +0.6
GEC2 pmax pmax
comp=Z,29nm,1.0s,mb4.9
GEC2 GERESS Array S 76.57 335 eP P 19 06 02.5 +0.6
comp=Z,29nm,1.0s,mb4.9
GERES GERESS Array B 76.57 335 P P 19 06 02.0 +0.1
comp=Z,14nm,0.5s,mb4.9,baz=32,slow=5.4,SNR=120
DSB Dublin 76.58 348⇑iP P 19 06 01.7 -0.2
comp=Z,100nm,0.8s,mb5.5
DCN Croghan 76.60 349⇑iP P 19 06 02.1 +0.1
MBWA Marble Bar 76.61 213 eP P 19 06 02.1 -0.6
comp=Z,28nm,0.9s,mb4.9
TNS Taunus Mts 76.68 338 eP P 19 06 02.5 0.0
TNS pmax pmax
comp=Z,63nm,0.7s,mb5.3
TNS Taunus Mts 76.68 338 eP P 19 06 02.5 0.0
comp=Z,63nm,0.7s,mb5.3
MSNY Massena 76.75 34 eP P 19 06 02.0 -1.0
HGN Heimansgroeve 76.76 340⇑iP P 19 06 02.6 -0.4
comp=Z,103nm,1.2s,mb5.3
HLM1 Long Mynd 76.78 346⇑eP P 19 06 02.9 -0.1
HLM1 AMb AMB 19 06 05.2
comp=Z,111nm,1.6s,mb5.2
SOP Sopron 76.78 332 P P 19 06 04.4 +1.3
JCT Junction City 76.85 59 P P 19 06 04.0 +0.1
JCT pmax pmax
comp=Z,7.0nm,1.1s,mb4.2
JCT Junction City 76.85 59⇑iP P 19 06 03.7 -0.2
comp=Z,82nm,0.8s,mb5.4
SSP1 Stoney Pound 76.91 346⇑eP P 19 06 03.8 0.0
SSP1 AMb AMB 19 06 05.9
comp=Z,75nm,1.5s,mb5.1
BZS Buzias 76.95 328 ⇓P P 19 06 04.1 0.0
BHD Baghdad 77.03 306 iP P 19 06 00.0 -4.8
MIAR Mount Ida 77.06 52 P P 19 06 05.0 0.0
MIAR pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
MIAR Mount Ida 77.06 52⇑iP P 19 06 04.9 -0.1
comp=Z,79nm,0.7s,mb5.5
BRTR Keskin Array B 77.15 317 P P 19 06 05.8 +0.5
comp=Z,19nm,1.0s,mb4.7,baz=63,slow=2.8,SNR=44
TOD Tromm 77.17 338⇑eP P 19 06 05.2 -0.1
TOD Tromm 77.17 338 eP P 19 06 05.5 +0.2
HAE Alders End 77.19 346⇑eP P 19 06 05.3 0.0
HAE AMb AMB 19 06 06.7
comp=Z,216nm,1.0s,mb5.7
SIND Sindeldorf 77.20 337 P P 19 06 05.9 +0.4
SIND Sindeldorf 77.20 337 eP P 19 06 05.6 +0.1
PKS9 Tamasi 77.21 331⇓eP P 19 06 05.6 0.0
ABH Alteburg 77.22 339⇑eP P 19 06 05.5 0.0
ABH Alteburg 77.22 339⇑eP P 19 06 05.6 +0.1
ERPA Erie 77.22 38⇑eP P 19 06 05.5 -0.2
comp=Z,187nm,1.0s,mb5.7
HTR Trewern Hill 77.26 346⇑eP P 19 06 05.8 +0.1
USIN University of 77.27 46⇑eP P 19 06 05.9 -0.2
MCH1 Michaelchurch 77.30 346⇑eP P 19 06 05.9 0.0
SWS Schriesheim 77.31 338 P P 19 06 06.4 +0.4
SWS Schriesheim 77.31 338 eP P 19 06 06.1 +0.1
MOA Molln 77.31 334⇑iP P 19 06 06.7 +0.6
PKSM Moragy 77.43 330 P P 19 06 06.3 -0.5
ARSA Arzberg 77.48 333⇑iP P 19 06 08.0 +1.0
RUP Ruppelstein 77.50 339⇑eP P 19 06 07.0 -0.1
RUP Ruppelstein 77.50 339⇑eP P 19 06 07.2 +0.1
ACSO Alum Creek Sta 77.53 41 eP P 19 06 07.2 -0.3
comp=Z,110nm,1.2s,mb5.4
GENY Geneseo 77.54 37 eP P 19 06 06.3 -1.1
ALLY Alegheny Colle 77.55 39 eP P 19 06 07.4 -0.2
HGH Gray Hill 77.61 346⇑eP P 19 06 07.6 -0.1
HGH AMb AMB 19 06 09.1
comp=Z,325nm,1.0s,mb5.9
GIVF Givet 77.63 341⇑iP P 19 06 07.7 -0.1
comp=Z,139nm,1.1s,mb5.2
GIVF Givet 77.63 341⇑iP P 19 06 07.7 -0.1
GIVF pmax pmax
comp=Z,70nm,1.1s,mb5.2
WCI Wyandotte Cave 77.69 45 eP P 19 06 18.4 +10
RHK1 Bakonya 77.72 331⇓iP P 19 06 08.3 -0.1
GNAR Gosnell 77.73 48 eP P 19 06 09.2 +0.5
HBAR Harrisburg 77.74 49 eP P 19 06 09.0 +0.3
WLF Walferdange 77.74 340 P P 19 06 09.2 +0.8
WLF pmax pmax
comp=Z,42nm,1.1s,mb5.0
WLF Walferdange 77.74 340 eP P 19 06 08.7 +0.3
comp=Z,27nm,0.8s,mb4.9
HDH Heidenheim 77.75 337 P P 19 06 09.0 +0.5
HDH Heidenheim 77.75 337 eP P 19 06 08.6 +0.1
MENF Mencas 77.76 342⇑eP P 19 06 08.5 0.0
BAIF Baives 77.80 341⇑iP P 19 06 08.8 0.0
comp=Z,110nm,0.9s,mb5.2
BAIF Baives 77.80 341⇑iP P 19 06 08.8 0.0
BAIF pmax pmax
comp=Z,55nm,0.9s,mb5.2
STU Stuttgart 77.84 337 P P 19 06 09.7 +0.7
STU pmax pmax
comp=Z,19nm,0.6s,mb4.9
STU Stuttgart 77.84 337 eP P 19 06 08.1 -0.9
comp=Z,19nm,0.6s,mb4.9
GLAT Glass 77.85 48 eP P 19 06 09.8 +0.5
FUR Furstenfeldbru 77.86 336 eP P 19 06 09.6 +0.5
FUR pmax pmax
comp=Z,101nm,1.2s,mb5.3
FUR Furstenfeldbru 77.86 336 eP P 19 06 09.6 +0.5
comp=Z,101nm,1.2s,mb5.3
LANF Langenberg 77.99 338⇑eP P 19 06 09.8 0.0
LBG Lerchenberg 78.04 338 P P 19 06 10.6 +0.5
LBG Lerchenberg 78.04 338 eP P 19 06 10.4 +0.3
BUCH Bad Urach 78.10 337 P P 19 06 11.3 +0.9
BUCH Bad Urach 78.10 337⇑eP P 19 06 11.0 +0.6
PERS Pernice 78.15 333 eP P 19 06 11.0 +0.3
GROS Grobnik 78.19 332 eP P 19 06 11.1 +0.2
MDV Middlebury 78.22 33 eP P 19 06 10.5 -0.7
KBA Koelnbreinsper 78.27 334⇑iP P 19 06 12.9 +1.5
VAL Valentia 78.33 350 eP P 19 06 11.2 -0.4
OBKA Obir 78.44 333⇑iP P 19 06 13.0 +0.7
BFO Black Forest 78.47 338 eP P 19 06 12.2 -0.2
BFO pmax pmax
comp=Z,45nm,0.8s,mb5.2
BFO Black Forest 78.47 338 eP P 19 06 12.2 -0.2
comp=Z,45nm,0.8s,mb5.2
GUT Gutenstein 78.51 337⇑eP P 19 06 13.1 +0.5
WATA Walderalm 78.53 335⇑iP P 19 06 13.8 +1.0
SPAK Spaichingen 78.57 337⇑eP P 19 06 13.2 +0.3
SPAK Spaichingen 78.57 337 eP P 19 06 13.5 +0.6
ACCN Adirondack Com 78.58 34 eP P 19 06 12.2 -0.9
WTTA Wattenberg 78.58 335⇑iP P 19 06 14.2 +1.1
UBR Uberruh 78.61 336⇑eP P 19 06 13.6 +0.4
WLS Welschbruch 78.63 338⇑eP P 19 06 13.0 -0.3
CDF Champ du Feu 78.65 338⇑iP P 19 06 13.6 +0.2
comp=Z,128nm,0.9s,mb5.3
CDF Champ du Feu 78.65 338⇑iP P 19 06 13.6 +0.2
CDF pmax pmax
comp=Z,64nm,0.9s,mb5.2
MOTA Moosalm 78.66 336⇑iP P 19 06 14.3 +0.8
WVT Waverly 78.66 47 P P 19 06 13.9 +0.2
WVT pmax pmax
comp=Z,26nm,0.7s,mb5.0
WVT Waverly 78.66 47⇑iP P 19 06 13.5 -0.2
comp=Z,26nm,0.7s,mb5.0
NATX Nacogdoches 78.67 54⇑iP P 19 06 14.5 +0.7
comp=Z,258nm,1.0s,mb5.8
LEGS Legarje 78.71 332 eP P 19 06 13.9 +0.1
SQTA Sankt Quirin 78.74 335⇑iP P 19 06 15.1 +1.2
LIBD Limburg 78.81 338⇑eP P 19 06 14.3 0.0
LIBD Limburg 78.81 338 eP P 19 06 14.8 +0.5
DIVS Divcibare 78.84 328⇓iP P 19 06 13.7 -0.9
ECH Echery 78.86 338⇑eP P 19 06 14.6 +0.1
SISB Singen-Sch Ber 78.91 337 P P 19 06 15.5 +0.7
KIZ Kirchzarten 78.92 338 P P 19 06 15.1 +0.2
KIZ Kirchzarten 78.92 338⇑eP P 19 06 14.9 0.0
STEIN Stein am Rhein 78.94 337⇑iP P 19 06 15.2 +0.2
SLE Schleitheim 78.95 337⇑iP P 19 06 14.8 -0.2
FELD Feldberg 78.97 338⇑eP P 19 06 15.4 +0.3
VTS Vitosha 79.00 326 P P 19 06 15.8 +0.4
VTS Vitosha 79.00 326 iP P 19 06 15.5 +0.1
TRULL Truellikon 79.01 337⇑iP P 19 06 15.1 -0.3
DAVA Damuels 79.04 336⇑iP P 19 06 16.2 +0.7
WEIN Weingarten 79.05 337⇑iP P 19 06 15.7 +0.1
WEIN Weingarten 79.05 337⇑iP P 19 06 15.8 +0.2
MEZF Maizieres J'vi 79.09 340⇑iP P 19 06 16.2 +0.4
comp=Z,158nm,0.8s,mb5.4
FLACH Flaach 79.11 337⇑iP P 19 06 15.9 0.0
THEF They Montfort 79.13 339⇑eP P 19 06 16.3 +0.3
WILA Wila 79.17 337⇑iP P 19 06 16.5 +0.3
CSA1 St Austell 79.19 347⇑eP P 19 06 15.7 -0.6
OXF Oxford 79.19 49 P P 19 06 16.8 +0.2
OXF pmax pmax
comp=Z,210nm,1.2s,mb5.6
OXF Oxford 79.19 49⇑iP P 19 06 16.4 -0.3
comp=Z,81nm,0.7s,mb5.5
MOF Molkenrain 79.21 338⇑eP P 19 06 16.5 +0.1
HAU Haudompre 79.25 339⇑iP P 19 06 16.7 0.0
comp=Z,90nm,0.8s,mb5.1
HAU eR
comp=Z,326nm,22.2s
SULZ Sulz-Cheisache 79.27 338⇑iP P 19 06 16.8 0.0
ZUR Zurich 79.30 337⇑iP P 19 06 17.2 +0.3
HINF Hinteralfeld 79.31 338⇑iP P 19 06 16.8 -0.2
comp=Z,79nm,1.1s,mb5.0
HINF Hinteralfeld 79.31 338⇑iP P 19 06 16.8 -0.2
HINF pmax pmax
comp=Z,40nm,1.1s,mb5.0
PLONS Plons 79.39 337⇑iP P 19 06 17.8 +0.4
CCA1 Carnmenellis 79.40 347 eP P 19 06 17.5 +0.1
CRQ2 Rosemanowes 2 79.41 347⇑eP P 19 06 17.6 +0.2
CRQ2 AMb AMB 19 06 18.4
comp=Z,153nm,1.0s,mb5.6
BBS Basel-Blauen 79.48 338⇑eP P 19 06 18.0 +0.1
BBS Basel-Blauen 79.48 338⇑eP P 19 06 18.4 +0.5
CGW Gweek 79.48 347⇑eP P 19 06 18.0 +0.1
CPZ Penzance 79.48 347⇑eP P 19 06 17.8 -0.1
CPZ AMb AMB 19 06 18.8
comp=Z,150nm,0.8s,mb5.7
CMA1 Manaccan 79.49 347⇑eP P 19 06 18.0 +0.1
DAVOX Davos 79.50 336⇑iP P 19 06 18.9 +0.8
CGH1 Goonhilly 79.52 347⇑eP P 19 06 17.7 -0.4
FUORN Ofenpass 79.55 336⇑iP P 19 06 19.4 +1.1
BALST Balsthal 79.55 338⇑iP P 19 06 18.6 +0.3
BOURR Bourrignon 79.61 338⇑iP P 19 06 18.9 +0.3
MUO Muotathal 79.66 337⇑iP P 19 06 19.3 +0.4
LLS Linth-Limmern 79.67 337⇑iP P 19 06 19.4 +0.5
MMB Musomiste 79.67 325 iP P 19 06 19.0 -0.1
KKB Krupnik 79.68 325 iP P 19 06 19.0 -0.1
PLE Pljevlja 79.72 328⇑iP P 19 06 19.9 +0.5
LOMF Lomont 79.75 338⇑eP P 19 06 19.7 +0.3
BNALP Bannalp 79.80 337⇑iP P 19 06 20.1 +0.5
BERNI Berninapass 79.80 336⇑iP P 19 06 20.5 +0.8
JLP Les Platons 79.81 345⇑eP P 19 06 19.7 +0.1
JQE Queens East 79.84 345⇑eP P 19 06 20.0 +0.1
JVM Valle D.L. Mar 79.85 345⇑eP P 19 06 19.9 +0.1
JRS Jersey 79.86 345 eP P 19 06 19.6 -0.4
VDL Val di Lei 79.88 336⇑iP P 19 06 21.0 +0.9
IVA Berane 79.95 328⇑iP P 19 06 19.9 -0.7
HASLI Hasliberg 79.97 337⇑iP P 19 06 20.9 +0.3
FLN La Foliniere 79.98 343⇑iP P 19 06 20.7 +0.1
comp=Z,295nm,0.9s,mb5.6
FLN eR
comp=Z,259nm,22.0s
UPM Unac-Piva 80.00 329⇑iP P 19 06 21.0 +0.2
LDF La Druitiere 80.08 343⇑iP P 19 06 21.1 0.0
comp=Z,185nm,1.0s,mb5.3
LDF La Druitiere 80.08 343⇑iP P 19 06 21.1 0.0
LDF pmax pmax
comp=Z,92nm,1.0s,mb5.4
FUSIO Fusio 80.12 337⇑iP P 19 06 22.2 +0.8
SRS Serrai 80.13 325 eP P 19 06 19.9 -1.7
PVY Plav 80.17 328⇑iP P 19 06 20.8 -0.9
SKO Skopje 80.19 326 iP P 19 06 22.4 +0.5
SKO pmax pmax
comp=Z,38nm,0.9s,mb5.0
SKO Skopje 80.19 326 iP P 19 06 22.4 +0.5
comp=Z,0.0nm,0.9s
WIMIS Wimmis 80.19 337⇑iP P 19 06 21.9 +0.1
BRANT Les Verrieres 80.22 338⇑iP P 19 06 22.3 +0.4
TORNY Torny 80.26 338⇑iP P 19 06 22.5 +0.4
NKY Niksic 80.31 328 eP P 19 06 21.2 -1.3
KNT Kendrikon 80.36 325 eP P 19 06 22.6 -0.2
BRY Bratogost 80.39 329 eP P 19 06 22.4 -0.5
GRR Gorron 80.41 344⇑iP P 19 06 23.2 +0.3
comp=Z,428nm,0.9s,mb5.8
GRR Gorron 80.41 344⇑iP P 19 06 23.2 +0.3
GRR pmax pmax
comp=Z,214nm,0.9s,mb5.8
LKBD Leukerbad 80.45 337⇑iP P 19 06 23.6 +0.4
MVL Millersville 80.48 37 eP P 19 06 22.9 -0.5
SOH Sokhos 80.48 325 eP P 19 06 23.1 -0.3
MUGIO Muggio 80.52 336⇑iP P 19 06 23.4 -0.1
PAL Palisades 80.55 35 eP P 19 06 23.2 -0.6
PAL pmax pmax
comp=Z,48nm,0.9s,mb5.1
PAL Palisades 80.55 35 eP P 19 06 23.2 -0.6
comp=Z,48nm,0.9s,mb5.1
TTG Podgorica 80.56 328⇑iP P 19 06 22.7 -1.1
CABF La Chapelle 80.62 338⇑iP P 19 06 24.5 +0.5
comp=Z,107nm,0.9s,mb5.2
CABF La Chapelle 80.62 338⇑iP P 19 06 24.5 +0.5
CABF pmax pmax
comp=Z,54nm,0.9s,mb5.2
OUR Ouranopolis 80.66 324 eP P 19 06 23.8 -0.6
MMK Mattmark 80.68 337⇑iP P 19 06 25.4 +1.0
GRYON Gryon 80.71 338⇑iP P 19 06 25.1 +0.6
GRG Griva 80.72 325 eP P 19 06 24.7 0.0
OG01 Vacheresse 80.74 338⇑eP P 19 06 22.3 -2.4
CPCT Cooper Cave 80.78 45 eP P 19 06 24.7 -0.4
PWV Princeton 80.78 42 eP P 19 06 25.1 0.0
HYF Humbligny 80.78 341⇑iP P 19 06 25.5 +0.6
SDMD Soldier's Deli 80.78 38 eP P 19 06 25.1 0.0
THE Thessaloniki 80.79 325 eP P 19 06 24.0 -1.0
DIX Grande Dixence 80.79 337⇑iP P 19 06 26.0 +1.0
SSF Saint Saulge 80.79 340⇑iP P 19 06 25.1 +0.2
SSF pmax pmax
comp=Z,59nm,0.9s,mb5.2
SSF Saint Saulge 80.79 340⇑iP P 19 06 25.1 +0.2
comp=Z,58nm,0.9s,mb5.2
BUM Brajici-Budva 80.80 328⇑iP P 19 06 24.3 -0.8
HCY Herceg Novi 80.81 329⇑iP P 19 06 24.3 -0.9
SGMF Saint Gilles 80.84 345⇑iP P 19 06 25.6 +0.4
comp=Z,337nm,0.8s,mb5.7
SGMF Saint Gilles 80.84 345⇑iP P 19 06 25.6 +0.4
SGMF pmax pmax
comp=Z,169nm,0.8s,mb5.7
ROSF Rostrenen 80.89 345⇑iP P 19 06 25.9 +0.5
comp=Z,400nm,0.9s,mb5.8
ROSF Rostrenen 80.89 345⇑iP P 19 06 25.9 +0.5
ROSF pmax pmax
comp=Z,200nm,0.9s,mb5.8
EMV Vieux Emosson 80.94 338⇑iP P 19 06 26.4 +0.7
ULC Ulcinj 80.98 328⇑iP P 19 06 25.2 -0.8
ELN Prospectdale 81.00 42 eP P 19 06 25.9 -0.4
ORX Oropa 81.00 37 P P 19 06 26.6 +0.2
AVF Avril sur Loir 81.08 340⇑iP P 19 06 26.8 +0.3
comp=Z,217nm,0.9s,mb5.5
AVF Avril sur Loir 81.08 340⇑iP P 19 06 26.8 +0.3
AVF pmax pmax
comp=Z,108nm,0.9s,mb5.5
SMF Signal de Mont 81.11 340⇑iP P 19 06 26.9 +0.3
comp=Z,313nm,1.1s,mb5.6
SMF Signal de Mont 81.11 340⇑iP P 19 06 26.9 +0.3
SMF pmax pmax
comp=Z,157nm,1.1s,mb5.5
BLA Blacksburg 81.15 41 P P 19 06 27.1 0.0
BLA pmax pmax
comp=Z,71nm,1.1s,mb5.2
BLA Blacksburg 81.15 41 eP P 19 06 26.7 -0.3
comp=Z,77nm,1.0s,mb5.3
CSS Prodhromos 81.19 315⇑iP P 19 06 27.2 0.0
comp=Z,36nm,0.7s,mb5.1
TRAV 81.24 337 P P 19 06 27.4 +0.1
FNA Florina 81.25 326 eP P 19 06 27.0 -0.5
QUIF Quistinic 81.28 345⇑iP P 19 06 27.8 +0.3
comp=Z,123nm,1.0s,mb5.2
QUIF Quistinic 81.28 345⇑iP P 19 06 27.8 +0.3
QUIF pmax pmax
comp=Z,62nm,1.0s,mb5.2
OG05 Jujurieux 81.31 339⇑eP P 19 06 28.0 +0.3
RSL Roselend 81.35 338⇑eP P 19 06 28.8 +0.9
SALA Sala 81.39 311 ⇑P P 19 06 26.1 -2.3
BGF Bois d'Agland 81.41 341⇑iP P 19 06 28.6 +0.4
comp=Z,63nm,0.9s,mb5.0
BGF Bois d'Agland 81.41 341⇑iP P 19 06 28.6 +0.4
BGF pmax pmax
comp=Z,32nm,0.9s,mb5.0
LIT Litokhoron 81.43 325 eP P 19 06 27.2 -1.2
LSD Ceresole Reale 81.44 337 P P 19 06 29.8 +1.4
LPL La Plagne 81.49 338⇑iP P 19 06 29.9 +1.3
comp=Z,237nm,0.8s,mb5.6
LPL La Plagne 81.49 338⇑iP P 19 06 29.9 +1.3
LPL pmax pmax
comp=Z,119nm,0.8s,mb5.6
LPG La Plagne 81.50 338⇑iP P 19 06 30.1 +1.4
comp=Z,199nm,0.7s,mb5.5
LPG La Plagne 81.50 338⇑iP P 19 06 30.1 +1.4
LPG pmax pmax
comp=Z,99nm,0.7s,mb5.5
GRAM 81.56 335 P P 19 06 29.4 +0.4
LRAL Lakeview Retre 81.57 48 eP P 19 06 28.5 -0.8
comp=Z,34nm,0.7s,mb5.1
STKA Stephens Creek 81.58 191 eP P 19 06 29.3 -0.1
comp=Z,15nm,1.1s,mb4.5
STKA epP pP 19 07 03.5 +0.6
STKA Stephens Creek 81.58 191 P P 19 06 29.3 -0.1
comp=Z,16nm,0.9s,mb4.6,baz=342,slow=6.2,SNR=32
VALM 81.65 335 P P 19 06 30.4 +0.9
RSP Reno Superiore 81.70 337 P P 19 06 29.4 -0.3
CODM 81.72 335 P P 19 06 30.5 +0.6
ASF Jabal al Asfar 81.74 311 P P 19 06 31.1 +0.9
comp=Z,40nm,0.9s,mb5.0,baz=274,slow=4.1,SNR=49
VLC Villacollemand 81.78 335 eP P 19 06 30.0 -0.2
comp=Z,106nm,1.0s,mb5.4
PLDF La Plantade 81.80 340⇑eP P 19 06 31.0 +0.8
XOR Xorichti 81.80 324 eP P 19 06 29.6 -0.8
TCF Toulx Ste Croi 81.81 341⇑iP P 19 06 30.8 +0.5
comp=Z,133nm,0.9s,mb5.2
TCF Toulx Ste Croi 81.81 341⇑iP P 19 06 30.8 +0.5
TCF pmax pmax
comp=Z,66nm,0.9s,mb5.3
AGO Saint Agoulin 81.83 340⇑eP P 19 06 31.3 +0.9
FENE Fenestrelle 81.86 337 P P 19 06 31.3 +0.7
VINC Vinca 81.86 335 P P 19 06 30.6 0.0
PCP Pian Castagno 81.93 336 P P 19 06 30.7 -0.2
GDM Grand'Maison 81.93 338⇑eP P 19 06 32.2 +1.3
BNI Bardonecchia 81.94 338⇑eP P 19 06 32.1 +1.1
BNI pmax pmax
comp=Z,62nm,0.7s,mb5.3
BNI Bardonecchia 81.94 338⇑eP P 19 06 32.1 +1.2
comp=Z,62nm,0.7s,mb5.3
GENL Genova Univers 81.94 336 P P 19 06 30.3 -0.7
BHB Bricherasio 81.98 337 P P 19 06 30.2 -1.0
GRN Grenoble 81.99 338⇑eP P 19 06 32.6 +1.4
MFF Saint Martin d 81.99 343⇑iP P 19 06 31.8 +0.6
comp=Z,123nm,0.8s,mb5.3
MFF Saint Martin d 81.99 343⇑iP P 19 06 31.8 +0.6
MFF pmax pmax
comp=Z,61nm,0.8s,mb5.3
RRL Cesana Torines 82.03 337 P P 19 06 32.1 +0.6
LCHF La Chataignera 82.04 343⇑eP P 19 06 32.6 +1.1
OG22 Abries 82.08 337⇑eP P 19 06 32.4 +0.7
PYM Petit Puy Mans 82.14 340⇑eP P 19 06 32.9 +0.9
COLF Collangettes 82.21 340⇑eP P 19 06 33.2 +0.8
MBDF Montbardon 82.22 337⇑iP P 19 06 33.1 +0.7
comp=Z,97nm,0.8s,mb5.2
MBDF Montbardon 82.22 337⇑iP P 19 06 33.1 +0.7
MBDF pmax pmax
comp=Z,49nm,0.8s,mb5.2
ORIF Oris-en-Rattie 82.26 338⇑iP P 19 06 33.8 +1.2
comp=Z,136nm,0.8s,mb5.3
ORIF eR
comp=Z,234nm,21.2s
LRYF La Roche-sur-Y 82.28 344⇑eP P 19 06 33.4 +0.7
FIN Finale Ligure 82.33 336 P P 19 06 32.5 -0.5
ROB Roburent 82.34 336 P P 19 06 32.7 -0.3
PZZ Prazzo 82.34 337 P P 19 06 32.2 -0.8
AGG Agios Georgios 82.43 324 eP P 19 06 32.0 -1.6
SURF Saint Ours 82.44 337⇑eP P 19 06 34.7 +1.2
ENR Entracque 82.52 337 P P 19 06 32.7 -1.3
STV Sta Anna Valdi 82.53 337 P P 19 06 32.5 -1.5
AQU L'Aquila 82.55 332 P P 19 06 35.1 +0.9
AQU pmax pmax
comp=Z,86nm,1.1s,mb5.4
AQU L'Aquila 82.55 332 eP P 19 06 34.6 +0.5
comp=Z,47nm,0.7s,mb5.3
MONE Monesi 82.57 336 P P 19 06 34.1 -0.1
LBL Lubilhac 82.58 340⇑eP P 19 06 35.4 +1.1
FRNF Fournols 82.59 340⇑eP P 19 06 35.4 +1.1
VIVF Saint-Julien-l 82.61 339⇑iP P 19 06 35.3 +0.9
comp=Z,205nm,1.0s,mb5.5
VIVF Saint-Julien-l 82.61 339⇑iP P 19 06 35.3 +0.9
VIVF pmax pmax
comp=Z,102nm,1.0s,mb5.5
IMI Imperia 82.69 336 P P 19 06 34.7 -0.1
SAOF Saorge 82.71 337⇑eP P 19 06 35.1 +0.2
OG25 Le Caire 82.73 338⇑eP P 19 06 36.1 +1.1
IGT Igoumenitsa 82.73 326 eP P 19 06 35.4 +0.2
AUTN L'Aution 82.73 337⇑eP P 19 06 35.4 +0.4
TOUF Mont Tournerai 82.76 337⇑eP P 19 06 35.8 +0.6
NEGI Negi 82.80 336 P P 19 06 34.4 -1.0
SBF Sospel 82.85 337⇑iP P 19 06 35.9 +0.2
comp=Z,311nm,1.1s,mb5.7
SBF Sospel 82.85 337⇑iP P 19 06 35.9 +0.2
SBF pmax pmax
comp=Z,155nm,1.1s,mb5.7

RJF	**Les Rejaudoux**	**82.89**	**341**⇑	*i* P	**P**	**19 06 36.5**	**+0.7**
	comp=Z,269nm,1.1s,mb5.6						
RJF				*e* R			
	comp=Z,264nm,21.8s						
MVIF	**Mont Vial**	**82.90**	**337**⇑	*e* P	**P**	**19 06 36.2**	**+0.3**
GOGA	**Godfrey**	**82.95**	**46**	P	**P**	**19 06 36.6**	**+0.2**
GOGA	**Godfrey**	**82.95**	**46**	*e* P	**P**	**19 06 36.3**	**0.0**
	comp=Z,76nm,1.4s,mb5.2						
REVF	**Revere**	**82.99**	**337**⇑	*e* P	**P**	**19 06 36.7**	**+0.4**
CAF	**Calviac**	**83.14**	**341**⇑	*i* P	**P**	**19 06 38.2**	**+1.1**
	comp=Z,339nm,1.1s,mb5.7						
CAF	**Calviac**	**83.14**	**341**⇑	*i* P	**P**	**19 06 38.2**	**+1.1**
CAF				pmax	pmax		
	comp=Z,170nm,1.1s,mb5.7						
SMRF	**Simiane la Rot**	**83.22**	**338**	*e* P	**P**	**19 06 38.9**	**+1.4**
	comp=Z,212nm,1.1s,mb5.5						
JSC	**Jenkinsville**	**83.24**	**44**	P	**P**	**19 06 38.0**	**+0.2**
JSC	**Jenkinsville**	**83.24**	**44**	*e* P	**P**	**19 06 37.7**	**-0.1**
FRF	**La Foret Royal**	**83.34**	**337**⇑	*i* P	**P**	**19 06 38.4**	**+0.3**
	comp=Z,228nm,1.2s,mb5.5						
FRF	**La Foret Royal**	**83.34**	**337**⇑	*i* P	**P**	**19 06 38.4**	**+0.3**
FRF				pmax	pmax		
	comp=Z,114nm,1.2s,mb5.5						
LFF	**La Frestale**	**83.40**	**342**	*e* P	**P**	**19 06 39.3**	**+0.9**
	comp=Z,344nm,1.0s,mb5.7						
LFF	**La Frestale**	**83.40**	**342**	*e* P	**P**	**19 06 39.3**	**+0.9**
LFF				pmax	pmax		
	comp=Z,172nm,1.0s,mb5.7						
LASF	**Ste Croix**	**83.54**	**339**	*e* P	**P**	**19 06 40.3**	**+1.3**
	comp=Z,133nm,1.1s,mb5.3						
LMR	**La Mourre**	**83.59**	**337**⇑	*i* P	**P**	**19 06 40.0**	**+0.7**
	comp=Z,427nm,1.1s,mb5.8						
LMR	**La Mourre**	**83.59**	**337**⇑	*i* P	**P**	**19 06 40.0**	**+0.7**
LMR				pmax	pmax		
	comp=Z,213nm,1.1s,mb5.8						
PGF	**Pioggiola**	**83.66**	**335**⇑	*i* P	**P**	**19 06 40.1**	**+0.5**
	comp=Z,101nm,0.9s,mb5.3						
PGF	**Pioggiola**	**83.66**	**335**⇑	*i* P	**P**	**19 06 40.1**	**+0.5**
PGF				pmax	pmax		
	comp=Z,51nm,0.9s,mb5.2						
COW	**Cow Castle Cre**	**84.24**	**44**	*e* P	**P**	**19 06 43.0**	**+0.2**
CNB	**Canberra Magne**	**84.33**	**184**	*e* P	**P**	**19 06 44.0**	**+0.8**
	comp=Z,95nm,0.7s,mb5.6						
MTLF	**Montolieu**	**84.61**	**340**⇑	*i* P	**P**	**19 06 45.5**	**+1.1**
	comp=Z,28nm,0.6s,mb4.9						
MTLF	**Montolieu**	**84.61**	**340**⇑	*i* P	**P**	**19 06 45.5**	**+1.1**
MTLF				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.9						
IDI	**Anoyia**	**84.64**	**321**	P	**P**	**19 06 43.3**	**-1.5**
	comp=Z,27nm,0.7s,mb5.1,baz=30,slow=10,SNR=13						
EIL	**Elat**	**84.74**	**310**⇑	*i* P	**P**	**19 06 46.0**	**+0.6**
	comp=Z,99nm,1.0s,mb5.5						
EIL				*e*		19 07 27.9	
MLS	**Moulis**	**85.22**	**341**⇑	*e* P	**P**	**19 06 47.8**	**+0.4**
EPF	**Esparros**	**85.31**	**341**	*e* P	**P**	**19 06 48.4**	**+0.5**
	comp=Z,51nm,0.9s,mb5.0						
EPF	**Esparros**	**85.31**	**341**	*e* P	**P**	**19 06 48.4**	**+0.5**
EPF				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.0						
RESF	**Ens**	**85.53**	**341**⇑	*e* P	**P**	**19 06 49.8**	**+0.9**
SJPF	**Ste Jean**	**85.56**	**342**⇑	*i* P	**P**	**19 06 50.4**	**+1.3**
	comp=Z,35nm,1.0s,mb4.8						
SJPF	**Ste Jean**	**85.56**	**342**⇑	*i* P	**P**	**19 06 50.4**	**+1.3**
SJPF				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
ETSF	**Etsaut**	**85.63**	**342**⇑	*i* P	**P**	**19 06 50.7**	**+1.3**
	comp=Z,59nm,1.0s,mb5.0						
ETSF	**Etsaut**	**85.63**	**342**⇑	*i* P	**P**	**19 06 50.7**	**+1.3**
ETSF				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.0						
TOO	**Toolangi**	**86.82**	**187**⇓	*i* P	**P**	**19 06 56.6**	**+1.2**
	comp=Z,1.2nm,0.8s						
KLBR	**Kellerberrin**	**86.87**	**211**	*e* P	**P**	**19 06 55.5**	**-0.2**
	comp=Z,264nm,0.6s,mb6.2						
KLBR				*i* pP	pP	19 07 30.3	+0.6
MUN	**Mundaring**	**87.75**	**212**	*e* P	**P**	**19 07 00.1**	**+0.1**
	comp=Z,15nm,0.8s,mb4.9						
MUN				*e*pP	pP	19 07 34.8	+0.8
MUN	**Mundaring**	**87.75**	**212**	*e* P	**P**	**19 07 00.1**	**+0.1**
MUN				*e**PP	pP	19 07 34.8	+0.8
MUN				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
PVRL	**Vila Real**	**88.48**	**347**	*e* P	**P**	**19 07 02.9**	**-0.3**
	comp=Z,40nm,1.2s,mb5.1						
PVIS	**Viseu**	**89.05**	**347**	*e* P	**P**	**19 07 05.9**	**0.0**
	comp=Z,64nm,1.8s,mb5.2						
MTE	**Manteigas**	**89.31**	**346**	*e* P	**P**	**19 07 07.2**	**+0.1**
ESDC	**Sonseca Array**	**89.40**	**343**	P	**P**	**19 07 07.5**	**0.0**
	comp=Z,6.9nm,0.7s,mb4.7,baz=12,slow=4.1,SNR=29						
PCBR	**Castelo Branco**	**89.84**	**346**	*e* P	**P**	**19 07 09.2**	**-0.4**
	comp=Z,37nm,1.6s,mb5.1						
PBEJ	**Beja**	**91.68**	**346**	*e* P	**P**	**19 07 17.7**	**-0.6**
DBIC	**Dimbokro**	**121.43**	**336**	PKP	PKPdf	19 13 03.6	+0.6
	comp=Z,3.7nm,0.5s,baz=14,slow=3.4,SNR=11						
DBIC				pPKP		19 13 41.4	
	comp=Z,4.5nm,0.9s,baz=329,slow=6.7,SNR=3.2						
VNDA	**Vanda**	**126.59**	**178**	PKP	PKPdf	19 13 12.2	+0.9
	comp=Z,0.7nm,0.6s,baz=307,slow=5.1,SNR=4.9						
LPAZ	**La Paz**	**132.38**	**62**	PKP	PKPdf	19 13 25.7	+1.7
	comp=Z,4.7nm,1.2s,baz=360,slow=5.7,SNR=9.5						
QSPA	**South Pole Qui**	**139.00**	**180**	P	PKPdf	19 13 35.0	+0.4
SYO	**Syowa Base**	**143.50**	**213**	⇓PKPdf	PKPdf	19 13 41.3	-1.2
CPUP	**Villa Florida**	**146.43**	**59**	PKPdf	PKPdf	19 13 51.4	+2.6
CPUP				PKPdf	PKPdf	19 13 51.4	+2.6
PLCA	**Paso Flores**	**147.49**	**92**	PKPbc	PKPdf	19 13 54.7	+4.6
	comp=Z,20nm,0.7s,baz=284,slow=3.0,SNR=42						
PLCA	**Paso Flores**	**147.49**	**92**	*e* PKPbc	PKPdf	19 13 54.5	+4.3
SNAA	**Sanae**	**155.22**	**197**⇑	*i* P		19 15 03.3	
VNA2	**Neumayer--Watz**	**156.66**	**195**⇓	*i* P	PKPab	19 14 34.7	-0.2
VNA2	**Neumayer--Watz**	**156.66**	**195**			19 14 43.4	
VNA2	**Neumayer--Watz**	**156.66**	**195**⇓	*i*		19 15 08.8	
VNA3	**Neumayer Olymp**	**156.74**	**193**⇓	*i* P		19 15 09.9	
VNA1	**Neumayer--Stat**	**157.04**	**195**⇑	*i* P		19 15 10.5	

*NDI **25** 19:05:00.3±2.1,23.26N×70.21E,h25km,ML3.8*
ISC 25 19:04:57.1±0.6,23.26N±0.05×70.39E±0.04,h25km,n19,σ1§47/25,1D,Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**0.68**	**270**	*i* P	**Pb**	**19 05 10.3**	**0.0**
BHJ				*e*S	**Sb**	**19 05 18.7**	**-0.6**
BHJ				AML	AML	19 05 21.8	
	comp=N,7μm,0.3s						
BHJ				AML	AML	19 05 22.1	
	comp=E,3μm,0.4s						
BHV	**Bhavnagar**	**2.21**	**132**	*e* P	**Pn**	**19 05 37.5**	**+4.5**
BHV				*e*		19 06 10.0	
JASL	**Jaisalmer**	**3.68**	**7**	*e* P	**Pn**	**19 05 55.9**	**+1.9**
BOM	**Bombay**	**4.89**	**152**	*e*	**Pn**	**19 06 17.4**	**+6.3**
BOM				*e*		19 07 14.9	
AJM	**Ajmer**	**5.02**	**49**	*e* P	**Pn**	**19 06 15.4**	**+2.5**
AJM				*e*S	**Sn**	**19 07 11.5**	**+0.6**
AJM				*e*		19 07 44.0	
	comp=N,242nm,0.5s						
AJM				*e*		19 07 44.7	
	comp=E,518nm,0.6s						
POO	**Poona**	**5.71**	**145**	*e* P	**Pn**	**19 06 25.1**	**+2.5**
POO				*e*S	**Sn**	**19 07 26.7**	**-1.4**
BHPL	**Bhopal**	**6.47**	**89**⇓	*i* P	**Pn**	**19 06 34.7**	**+1.4**
BHPL				*e*S	**Sn**	**19 07 45.8**	**-1.4**
LATR	**Latur**	**7.51**	**129**	*e* P	**Pn**	**19 06 49.0**	**+1.0**
NDI	**New Delhi**	**8.18**	**47**	*e*	**P**	**19 07 09.0**	**+12**
NDI				*e*	**Sn**	**19 08 30.0**	**+0.1**
NDI				*e*		19 09 14.0	
HYB	**Hyderabad**	**9.61**	**126**	*e* P	**P**	**19 07 18.0**	**+0.8**
HYB				*e*S	**Sn**	**19 08 59.0**	**-6.4**
BHK	**Bhakra**	**9.73**	**32**	*e*	**Sn**	**19 09 04.9**	**-3.5**
ALBI	**Allahabad**	**10.61**	**77**	*e*	**S**	**19 09 32.0**	**+2.0**
KOLN	**Koldanda**	**12.74**	**67**	*e* P	**P**	**19 07 58.8**	**-0.9**
	comp=E,19nm,0.4s						
GKN	**Gorkha**	**13.69**	**67**	*e* P	**P**	**19 08 12.1**	**-0.1**
	comp=E,17nm,0.3s						
DMN	**Daman**	**13.98**	**69**	*e* P	**P**	**19 08 14.5**	**-1.6**
	comp=E,18nm,0.5s						
KKN	**Kakani**	**14.18**	**68**	*e* P	**P**	**19 08 17.0**	**-1.7**
	comp=E,40nm,0.6s						
PKI	**Pulchoki**	**14.23**	**69**	*e* P	**P**	**19 08 17.3**	**-2.1**
	comp=E,29nm,0.6s						
JIRN	**Jiri**	**14.93**	**70**	*e* P	**P**	**19 08 26.8**	**-1.6**
	comp=E,20nm,0.5s						
SHL	**Shillong**	**19.71**	**79**	*e*	**P**	**19 09 35.0**	**+7.2**

MAN 25 19:16:56.5,7.47N×126.48E,h5km,mb4.1,ML2.9,MS2.7, 2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.56**	**203**	*e* P	Pg	19 17 07.5	-0.3
MATI				*e*S	Sg	19 17 15.9	+0.6
BIPH	**Bislig**	**0.72**	**351**⇓	*e* P	Pg	19 17 12.2	+1.2
BIPH				*i* S	Sg	19 17 25.1	+4.5
KCP	**Kidapawan**	**1.45**	**252**⇓	*e* P	Pn	19 17 22.9	-0.6
KCP				*i* S	Sb	19 17 42.8	+0.4
BUKP	**Musuan**	**1.47**	**286**	*e* P	Pn	19 17 24.8	+1.1

IDC 25 19:24:44.4±1.2,12.48N×141.05E,mb3.5/5,mb1 3.7/5, mb1mx3.5/18,mbtmp3.5/5,Error ellipse: s-maj=40.0km s-min=28.0km az=106.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**36.60**	**191**	P	P	19 31 52.5	-1.8
	0.2nm,0.5s,baz=20,slow=12,SNR=3.4						
CMAR	**Chiang Mai Arr**	**40.94**	**284**	P	P	19 32 28.6	-1.9
	0.3nm,0.5s,baz=91,slow=6.0,SNR=4.2						
BVAR	**Borovoye Array**	**68.50**	**322**	P	P	19 35 48.8	-1.7
	0.3nm,0.5s,baz=114,slow=5.3,SNR=3.8						
ILAR	**Eielson Array**	**71.16**	**26**	P	P	19 36 04.7	-1.9
	0.4nm,0.5s,baz=246,slow=6.0,SNR=7.6						
YKA	**Yellowknife Ar**	**85.53**	**27**	P	P	19 37 24.0	-1.2
	0.2nm,0.4s,baz=291,slow=5.4,SNR=4.9						

IDC 25 19:42:19.5±9.0,2.20N×127.04E,mb3.9/3,mb1 4.1/3, mb1mx3.7/15,mbtmp3.9/3,Error ellipse: s-maj=162.2km s-min=139.9km az=81.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.14**	**162**	P	P	19 47 27.9	-0.7
	2.4nm,0.5s,baz=342,slow=11,SNR=41						
ASAR	**Alice Springs**	**26.56**	**166**	P	P	19 47 59.5	-1.7
	0.3nm,0.4s,baz=340,slow=7.8,SNR=7.9						
STKA	**Stephens Creek**	**36.60**	**159**	P	P	19 49 27.1	-2.2
	1.5nm,0.4s,baz=333,slow=8.6,SNR=10						

IGQ 25 19:44:32.8,1.19S×81.39W,h4km±5km,mb4.3,5C-2D, Error ellipse: s-maj=9.6km s-min=8.7km az=136.9,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.85**	**80**	⇓P	Pb	19 44 48.6	-1.2
IGUA	**Igualata**	**2.76**	**96**	P	Pn	19 45 19.0	+0.3
IGUA				S	Sn	19 45 54.0	+1.0
JUIV	**Juive**	**2.93**	**94**	P	Pn	19 45 23.6	+2.5
ARRY	**Arrayan**	**2.95**	**96**	P	Pn	19 45 22.3	+1.0
ARRY				S	Sn	19 45 56.2	-1.4
JUA2	**San Juan 2**	**2.95**	**71**	P	Pn	19 45 22.2	+0.9
JUA2				S	Sn	19 45 59.5	+1.8
TERV	**Terraza Guagua**	**2.96**	**70**	P	Pn	19 45 22.9	+1.3
NAS1	**Nasa**	**2.96**	**79**⇓	P	Pn	19 45 24.7	+3.1
PINO	**Pino**	**2.96**	**70**⇑	P	Pn	19 45 21.8	+0.2
ULBA	**Ulba**	**2.99**	**95**	P	Pn	19 45 24.4	+2.4
PISA	**Pisayambo**	**3.00**	**87**	P	Pn	19 45 23.6	+1.5
YANA	**Yana**	**3.01**	**69**	P	Pn	19 45 21.8	-0.4
VC1	**Cotopaxi 1**	**3.03**	**80**	P	Pn	19 45 25.6	+3.0
TAMB	**Tambo**	**3.06**	**81**	⇑P	Pn	19 45 25.4	+2.5
ANTI	**Antisana**	**3.31**	**77**	⇑P	Pn	19 45 28.3	+1.8
COTA	**Cotacachi**	**3.41**	**64**	P	Pn	19 45 29.4	+1.5
CAYR	**Refugio Cayambo**	**3.59**	**70**	⇑P	Pn	19 45 32.6	+2.2
CAYA	**Cayambe**	**3.62**	**70**	⇑P	Pn	19 45 32.8	+1.8

*BJI **25** 20:05:51.3,4.67S×127.81E,h40km,mB5.1,mb4.9,Ms4.8, Msz4.4*
*MOS **25** 20:05:58.3±1.3,3.67S×127.26E,h33km,mb4.9/18,Error ellipse: s-maj=20.8km s-min=8.0km az=116.8*
*NEIC **25** 20:06:01.1±1.7,3.69S×127.29E,h41km±17km,mb4.8/22, Error ellipse: s-maj=15.1km s-min=7.3km az=68.0*
*IDC **25** 20:06:05.6±4.7,3.66S×127.38E,h84km±42km,mb4.3/14, mb1 4.4/15,mb1mx4.3/21,mbtmp4.6/15,MS3.6/4, Ms1 3.6/4,ms1mx3.1/23,Error ellipse: s-maj=28.1km s-min=12.1km az=60.0*

ISC 25 20:05:59.3±1.9,3.70S±0.06×127.36E±0.09,h43km±18km, n92,σ0§94/87,mb4.8/37,MS3.8/6,12C-2D,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.27**	**151**	*e* P	**P**	**20 08 25.4**	**-1.7**
	56nm,0.7s						
FITZ	**Fitzroy Crossi**	**14.41**	**187**	*e* P	**P**	**20 09 31.5**	**+9.0**
	34nm,1.8s						
WRAB	**Tennant Creek**	**17.52**	**158**	*e* P	**P**	**20 10 01.4**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,31nm,0.6s						
WRAB	**Tennant Creek**	**17.52**	**158**	*e* P	**P**	**20 10 01.4**	**-0.7**
	comp=Z,31nm,0.6s						
WRA	**Warramunga Arr**	**17.52**	**158**	P	**P**	**20 10 00.8**	**-1.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRA	**Warramunga Arr**	**17.52**	**158**	P	**P**	**20 10 00.8**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=340,slow=12,SNR=24						
WB2	**Warramunga Arr**	**17.53**	**158**	*e* P	**P**	**20 10 01.2**	**-1.0**
MBWA	**Marble Bar**	**18.88**	**203**	*e* P	**P**	**20 10 20.1**	**+1.4**
	comp=Z,21nm,0.8s						
PMG	**Port Moresby**	**20.46**	**107**	P	**P**	**20 10 36.5**	**+0.5**
PMG				pmax	pmax		
	comp=Z,37nm,0.9s						
PMG	**Port Moresby**	**20.46**	**107**	P	**P**	**20 10 36.5**	**+0.5**
	comp=Z,37nm,0.9s,baz=317,slow=1.7,SNR=8.3						
PMG	**Port Moresby**	**20.46**	**107**	*e* P	**P**	**20 10 38.7**	**+2.7**
	comp=Z,55nm,0.9s						
ASPA	**Alice Springs**	**20.84**	**163**⇑	*i* P	**P**	**20 10 41.3**	**+1.5**
ASAR	**Alice Springs**	**20.84**	**163**	P	**P**	**20 10 41.1**	**+1.3**
	comp=Z,114nm,0.8s,baz=343,slow=11,SNR=504						
ASAR				PcP	PcP	20 14 45.4	-2.0
	comp=Z,1.0nm,0.4s,baz=11,slow=1.6,SNR=7.4						
CTA	**Charters Tower**	**24.59**	**133**	*e* P	**P**	**20 11 19.3**	**+2.4**
	comp=Z,12nm,1.1s,mb4.3						
CTA	**Charters Tower**	**24.59**	**133**	*e* P	**P**	**20 11 19.3**	**+2.4**
CTA				pmax	pmax		
	comp=Z,12nm,1.1s						
CTA	**Charters Tower**	**24.59**	**133**	P	**P**	**20 11 18.3**	**+1.4**
	comp=Z,11nm,0.8s,mb4.4,baz=305,slow=11,SNR=7.0						
CTA				LR	LR	20 21 57.0	
	comp=Z,181nm,18.3s,MS3.6,baz=235,slow=39						
CTAO	**Charters Tower**	**24.59**	**133**	*e* P	**P**	**20 11 19.4**	**+2.5**
CTAO				pmax	pmax		
	comp=Z,36nm,1.2s,mb4.8						
CTAO	**Charters Tower**	**24.59**	**133**	*e* P	**P**	**20 11 19.4**	**+2.5**
	comp=Z,36nm,1.2s,mb4.8						
KLBR	**Kellerberrin**	**29.18**	**197**	*e* P	**P**	**20 11 59.1**	**+0.1**
	comp=Z,256nm,1.3s,mb5.8						
JOW	**Kunigami**	**30.36**	**2**	LR	LR	20 22 14.7	
	comp=Z,140nm,20.4s,MS3.6,baz=211,slow=32						
NWAO	**Narrogin (SRO)**	**30.58**	**197**	P	**P**	**20 12 11.4**	**0.0**
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**30.58**	**197**	P	**P**	**20 12 11.3**	**-0.1**
	comp=Z,7.8nm,0.6s,mb4.7,baz=38,slow=9.2,SNR=7.4						
STKA	**Stephens Creek**	**31.06**	**156**	*e* P	**P**	**20 12 15.5**	**-0.1**
	comp=Z,5.8nm,2.0s,mb4.1						
STKA	**Stephens Creek**	**31.06**	**156**	P	**P**	**20 12 15.6**	**0.0**
	comp=Z,2.5nm,0.7s,mb4.2,baz=302,slow=6.0,SNR=10						
STKA				PcP	PcP	20 15 08.8	-1.8
	comp=Z,2.0nm,0.7s,baz=244,slow=7.6,SNR=2.9						
STKA				LR	LR	20 26 05.3	
	comp=Z,98nm,19.4s,MS3.5,baz=199,slow=39						
SSE	**Sheshan**	**35.09**	**351**	P	**P**	**20 12 52.0**	**+1.4**
SSE				AMB	AMB		
	comp=Z,28nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,74nm,3.4s						
SSE	**Sheshan**	**35.09**	**351**	P	**P**	**20 12 52.0**	**+1.4**
	comp=Z,28nm,0.8s,mb5.2						
CMAR	**Chiang Mai Arr**	**35.61**	**309**	P	**P**	**20 12 55.8**	**+0.7**
CMAR						20 15 23.6	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,69nm,21.5s						
CMAR	**Chiang Mai Arr**	**35.61**	**309**	P	**P**	**20 12 55.8**	**+0.7**
	comp=Z,1.3nm,0.8s,mb3.9,baz=138,slow=7.3,SNR=10						
CMAR				PcP	PcP	20 15 23.6	+0.1
	comp=Z,1.2nm,0.8s,baz=162,slow=2.3,SNR=8.7						
CMAR				LR	LR	20 28 03.5	
	comp=Z,69nm,21.5s,MS3.4,baz=105,slow=37						
WHN	**Wuhan**	**36.25**	**341**	*e* P	**P**	**20 13 02.5**	**+2.1**
NJ2	**Nanjing**	**36.46**	**348**	*e* P	**P**	**20 13 06.3**	**+4.2**
NJ2				PP	PP	20 14 37.0	+10
NJ2				S	**S**	**20 18 41.0**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
NJ2				LR	LR		
	comp=N,500nm,16.4s						
NJ2				LR	LR		
	comp=E,1μm,24.1s						
NJ2				LR	LR		
	comp=Z,210nm,17.8s,MS4.0						
ENH	**Enshi**	**37.85**	**334**	*e* P	**P**	**20 13 13.9**	**0.0**
	comp=Z,21nm,1.1s,mb4.8						
KS15	**Wonju Array Si**	**40.93**	**1**	*e* P	**P**	**20 13 40.3**	**+1.0**
XAN	**Xi'an**	**41.37**	**337**	P	**P**	**20 13 42.8**	**-0.1**
XAN				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.6						
BJT	**Baijiatuau**	**44.70**	**348**	*e* P	**P**	**20 14 09.6**	**-0.4**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJT	**Baijiatuau**	**44.70**	**348**	*e* P	**P**	**20 14 09.6**	**-0.4**
	comp=Z,10nm,0.6s,mb4.8						
BJI	**Beijing**	**44.72**	**348**	P	**P**	**20 14 09.7**	**-0.5**
BJI				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
BJI	**Beijing**	**44.72**	**348**	P	**P**	**20 14 09.7**	**-0.5**
	comp=Z,15nm,0.8s,mb4.9						
LZH	**Lanzhou**	**45.28**	**333**	⇑P	**P**	**20 14 15.5**	**+0.8**
LZH				AP	pP	20 14 26.5	-0.2
LZH				XP	sP	20 14 31.0	-0.9
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb4.9						
LZH	**Lanzhou**	**45.28**	**333**	⇑P	**P**	**20 14 15.5**	**+0.8**
	comp=Z,29nm,1.5s,mb4.9						
LZH				pP	pP	20 14 26.5	-0.2
LZH				sP	sP	20 14 31.0	-0.9
LSA	**Lhasa**	**48.01**	**316**	P	**P**	**20 14 38.0**	**+1.7**
LSA				AMB	AMB		
	comp=Z,14nm,0.7s,mb5.1						
LSA	**Lhasa**	**48.01**	**316**⇑	*e* P	**P**	**20 14 38.2**	**+1.9**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
LSA	**Lhasa**	**48.01**	**316**⇑	*e* P	**P**	**20 14 38.2**	**+1.9**
	comp=Z,10nm,0.6s,mb5.0						
MDJ	**Mudanjiang**	**48.14**	**2**	P	**P**	**20 14 37.0**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,16nm,1.1s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,105nm,5.4s						
MDJ	**Mudanjiang**	**48.14**	**2**	*e* P	**P**	**20 14 37.4**	**+0.3**
	comp=Z,11nm,0.7s,mb5.0						
JIRN	**Jiri**	**50.45**	**311**	*e* P	**P**	**20 14 55.4**	**+0.3**
PKI	**Pulchoki**	**50.99**	**310**	*e* P	**P**	**20 14 59.3**	**+0.1**
	comp=Z,12nm,0.7s,mb4.9						
KKN	**Kakani**	**51.20**	**310**	*e* P	**P**	**20 15 00.8**	**0.0**
	comp=Z,20nm,0.8s,mb5.1						
DMN	**Daman**	**51.25**	**310**	*e* P	**P**	**20 15 01.3**	**+0.2**
	comp=Z,53nm,1.2s,mb5.4						
GKN	**Gorkha**	**51.80**	**310**	*e* P	**P**	**20 15 05.6**	**+0.3**
	comp=Z,35nm,0.8s,mb5.3						
KOLN	**Koldanda**	**52.48**	**309**	*e* P	**P**	**20 15 10.8**	**+0.4**
	comp=Z,42nm,0.8s,mb5.4						
HYB	**Hyderabad**	**52.52**	**295**	*e* P	**P**	**20 15 10.0**	**-0.8**
HYB	**Hyderabad**	**52.52**	**295**	*i* P	**P**	**20 15 10.0**	**-0.8**
ULN	**Ulaanbaatar**	**54.35**	**343**⇑	*e* P	**P**	**20 15 23.8**	**-0.1**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**54.35**	**343**⇑	*e* P	**P**	**20 15 23.8**	**-0.1**
	comp=Z,8.5nm,0.8s,mb4.7						
SONM	**Songino Array**	**54.51**	**343**	P	**P**	**20 15 25.0**	**-0.1**
	comp=Z,4.9nm,0.9s,mb4.5,baz=158,slow=7.3,SNR=38						
RPZ	**Rata Peaks**	**55.44**	**143**	P	**P**	**20 15 32.0**	**+0.1**
	comp=Z,5.5nm,0.7s,mb4.7,baz=94,slow=6.3,SNR=3.7						
URZ	**Urewera**	**56.83**	**134**	P	**P**	**20 15 41.5**	**-0.5**
	comp=Z,8.7nm,0.5s,mb5.0,baz=325,slow=19,SNR=3.7						
WMQ	**Urumqi**	**59.21**	**327**	P	**P**	**20 15 59.0**	**+0.5**
WMQ				AP	pP	20 16 14.0	+3.1
WMQ				PP	PP	20 18 12.0	+0.6
WMQ				S	**S**	**20 23 59.8**	**-1.7**
WMQ				XS		20 24 27.3	
WMQ				AMB	AMB		
	comp=Z,23nm,1.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,118nm,6.3s						

PLCA	**Paso Flores**	**132.84 161**	PKP	PKPdf	20 25 13.4	+3.1
	comp=Z,0.8nm,0.7s,baz=71,slow=3.1,SNR=3.4					
LVC	**Limon Verde**	**149.40 149**	*e*PKPbc	PKPdf	20 25 47.5	+7.5
LPAZ	**La Paz**	**154.92 143**	PKP2	PKPab	20 26 14.6	-0.2
LPAZ			pmax	pmax		
	comp=Z,2.0nm,0.8s					
LPAZ	**La Paz**	**154.92 143**	PKPbc	PKPdf	20 26 00.0	+12
	comp=Z,2.6nm,1.1s,baz=120,slow=3.5,SNR=6.3					
LPAZ			PKPab	PKPab	20 26 14.6	-0.1
	comp=Z,2.0nm,0.8s,baz=182,slow=11,SNR=7.3					
LPAZ	**La Paz**	**154.92 143**	*e*PKPbc	PKPdf	20 26 00.1	+12

IDC 25 20:10:53.1±10.0, 6.56N×94.79E, mb3.5/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.5/3, MS3.9/1, Ms1 3.9/1, ms1mx2.8/24, Error ellipse: s-maj=355.5km s-min=30.3km az=71.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**42.31**	**12**	P	P	20 18 48.5	-1.8
	0.2nm,0.4s,baz=195,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**46.98**	**125**	P	P	20 19 27.1	-1.1
	0.6nm,0.5s,baz=304,slow=10.0,SNR=7.7						
ASAR	**Alice Springs**	**48.59**	**130**	P	P	20 19 38.2	-2.5
	0.8nm,0.5s,baz=298,slow=8.0,SNR=12						
JHJ	**Hachijo jima 2**	**49.36**	**51**	LR	LR	20 43 06.2	
	comp=Z,106nm,18.9s,baz=205,slow=39						

WEL 25 20:15:45.2±0.4, 36.25S×177.72E, h219km±5km, ML3.7/5, Error ellipse: s-maj=7.4km s-min=5.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.39**	**160**	PN	P	20 16 19.9	-0.2
MXZ				SN	S	20 16 46.1	-0.9
PUZ	**Puketiti**	**1.87**	**167**	PN	P	20 16 23.9	-0.4
PUZ				SN	S	20 16 53.5	-0.8
URZ	**Urewera**	**2.06**	**193**	PN	P	20 16 26.0	-0.1
URZ				SN	S	20 16 57.6	-0.1
MWZ	**Matawai**	**2.09**	**184**	PN	P	20 16 26.6	+0.2
MWZ				SN	S	20 16 57.6	-0.5
KNZ	**Kokohu**	**2.77**	**181**	*e*PN	P	20 16 32.9	-0.7
BKZ	**Black Stump Fm**	**3.07**	**198**	*e*PN	P	20 16 35.6	-1.5
BKZ				SN	S	20 17 16.3	-1.0
NGZ	**Ngauruhoe**	**3.37**	**209**	PN	P	20 16 39.9	-0.7
TUVZ	**Tukino**	**3.43**	**208**	*e*PN	P	20 16 40.0	-1.4
PWZ	**Pawanui**	**3.83**	**190**	*e*PN	P	20 16 43.2	-3.0
TSZ	**Takapari Road**	**4.05**	**200**	PN	P	20 16 45.9	-2.9
BFZ	**Birch Farm**	**4.57**	**194**	PN	P	20 16 52.1	-3.3
BFZ				SN	S	20 17 47.6	-2.2
MRZ	**Mangatainoka R**	**4.71**	**200**	PN	P	20 16 53.3	-3.8
MRZ				SN	S	20 17 49.1	-3.9
KIW	**Kapiti Island**	**5.11**	**205**	PN	P	20 16 58.0	-4.0
MQZ	**McQueen's Vall**	**8.40**	**206**	SN	S	20 19 08.3	-9.4

IDC 25 20:27:54.1±3.0, 12.47N×87.84W, mb3.8/4, mb1 4.1/4, mb1mx3.9/15, mbtmp3.8/4, Error ellipse: s-maj=75.7km s-min=55.1km az=27.0
CASC 25 20:27:57.2±2.0, 12.02N×88.28W, h33km±16km, MD4.3, ML3.5, mb4.4(NEIC)
NEIC 25 20:28:00.3±1.9, 12.37N×87.90W, h47km±21km, mb4.4/3, Error ellipse: s-maj=43.0km s-min=15.3km az=46.0
ISC 25 20:27:56.8±0.7, 11.99N±0.05×88.28W±0.05, h49km±8km, n41, σ0°79/48, mb4.0/7, 7C-11D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.35**	**19**⇑	*e*P	P	20 28 19.3	-0.5
CNCH				*e*S	S	20 28 36.8	0.0
CRIN	**San Cristobal**	**1.40**	**60**⇓	*e*P	P	20 28 21.0	+0.6
LEON	**Leon**	**1.43**	**73**	*e*P	P	20 28 20.4	-0.4
BLLM	**Bellamira**	**1.45**	**2**⇓	*e*P	P	20 28 20.9	-0.2
BLLM				*e*S	S	20 28 39.5	+0.4
TEL3	**Telica 3**	**1.52**	**67**⇑	*e*P	P	20 28 21.6	-0.5
TELN	**Telica**	**1.55**	**67**	*e*P	P	20 28 22.1	-0.3
MIRN	**Miramar**	**1.60**	**74**⇑	*e*P	P	20 28 23.1	-0.1
CNGN	**Cerro Negro**	**1.63**	**72**	*e*P	P	20 28 23.8	+0.1
COPN	**Copaltepe**	**1.67**	**83**	*i* P	P	20 28 24.0	-0.1
COPN				⇓	*e*P	20 28 24.1	
MOMJ	**Momotombo**	**1.75**	**76**⇓	*e*P	P	20 28 25.1	-0.3
LCBS	**La Ceiba**	**1.79**	**338**⇑	*e*P	P	20 28 25.1	-0.7
LCBS				*e*S	S	20 28 47.5	+0.1
LFRS	**El Faro**	**1.79**	**335**⇓	*e*P	P	20 28 25.3	-0.6
LFRS				*e*S	S	20 28 48.0	+0.5
APYN	**Apoyeque**	**1.91**	**82**⇓	*e*P	P	20 28 28.2	+0.7
BOQS	**Boqueron**	**1.99**	**331**	*e*P	P	20 28 27.7	-0.9
MGAN	**Managua**	**2.00**	**85**⇑	*e*P	P	20 28 29.1	+0.3
MGAN				*e*S	S	20 28 52.9	+0.3
MGAN				*i*		20 28 53.6	
	comp=N,452nm,0.4s						
TICN	**Ticuantepe**	**2.01**	**89**⇓	*e*P	P	20 28 29.2	+0.3
WILN	**Americas 2**	**2.06**	**85**⇓	*e*P	P	20 28 29.6	-0.1
WILN				*e*S	S	20 28 54.6	+0.5
SBLS	**San Blas**	**2.25**	**325**⇓	*e*P	P	20 28 32.4	-0.1
SBLS				*e*S	S	20 29 00.9	+1.7
SNJE	**San Jose**	**2.27**	**326**⇑	*e*P	P	20 28 32.3	-0.3
RTR	**El Retiro**	**2.31**	**325**	*e*P	P	20 28 32.8	-0.5
RBDL	**Robledal**	**2.51**	**327**⇓	*e*P	P	20 28 36.1	-0.1
MTO2	**Montecristo 2**	**2.62**	**336**	*e*P	P	20 28 37.1	-0.5
JTS	**JuntasAbangare**	**3.68**	**117**	*e*Pn	P	20 28 53.0	+0.3
JCR	**Jicaral**	**3.77**	**124**	*e*P	P	20 28 53.7	-0.3
PRS1	**Puriscal**	**4.38**	**117**	*e*P	P	20 29 04.2	+1.7
LAJ	**Bijagual**	**4.60**	**117**	*e*P	P	20 29 01.7	-3.9
TRTC	**Tortuguero**	**4.70**	**107**	*e*P	P	20 29 06.2	-0.8
LCR2	**La Lucha 2**	**4.76**	**118**⇓	*e*P	P	20 29 08.6	+0.7
LCR2				*e*S	S	20 30 01.5	-1.0
ICR	**Volcan Irazu**	**4.81**	**114**	*e*P	P	20 29 04.7	-3.9
BUS	**Buena Vista**	**5.06**	**118**⇑	*e*P	P	20 29 12.8	+0.7
ACR	**Cerro Adams**	**5.03**	**123**	*e*P	P	20 29 25.9	+0.3
JCT	**Junction City**	**21.27**	**332**	P	P	20 32 40.6	-0.5
	comp=N,6.9nm,0.3s,mb4.5						
TXAR	**Lajitas Array**	**22.43**	**323**	P	P	20 32 54.6	+2.0
	comp=N,2.5nm,0.8s,mb3.7,baz=145,slow=11,SNR=10						
MIAR	**Mount Ida**	**22.96**	**349**	*e*P	P	20 32 58.4	+0.5
	comp=N,12nm,0.7s,mb4.4						
WMOK	**Wichita Mounta**	**24.57**	**339**	*e*P	P	20 33 13.6	0.0
	comp=N,5.8nm,1.0s,mb4.1						
MCMT	**McKenzie Canyo**	**38.90**	**332**	*e*P	P	20 35 21.1	+1.9
SCHQ	**Schefferville**	**45.95**	**17**	P	P	20 36 14.6	-2.0
	comp=N,1.9nm,0.6s,mb4.2,baz=221,slow=12,SNR=5.7						
YKA	**Yellowknife Ar**	**53.84**	**345**	P	P	20 37 15.7	-1.1
	comp=N,0.7nm,0.8s,mb3.7,baz=140,slow=7.8,SNR=17						
YKA				PcP	PcP	20 38 22.7	+0.7
	comp=N,0.4nm,0.6s,baz=146,slow=3.8,SNR=8.2						
YKA	**Yellowknife Ar**	**53.84**	**345**	P	P	20 37 15.7	-1.1
YKA				PcP	PcP	20 38 22.7	+0.7
ILAR	**Eielson Array**	**66.11**	**336**	P	P	20 38 40.0	-0.7
	comp=N,0.4nm,0.9s,mb3.4,baz=158,slow=4.9,SNR=3.6						
CMAR	**Chiang Mai Arr**	**148.92**	**347**	PKPbc	PKPdf	20 47 43.9	+7.8
	comp=N,1.2nm,0.8s,baz=347,slow=3.9,SNR=7.9						

NEIC 25 20:28:02.8, 10.36N×62.16W, h5km, MD4.0(TRN), After TRN.
TRN 25 20:28:02.9, 10.31N×62.12W, h7km, MD4.0, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**0.66**	**89**⇑	*i*P	Pg	20 28 15.8	-0.3
TPP				*e*S	Sg	20 28 27.7	+2.7
TRN	**Trinidad (W)**	**0.79**	**64**⇑	*i*P	Pb	20 28 16.8	-1.6
TRN				*e*S	Sb	20 28 29.9	+0.8
TBH	**Brigand Hill**	**1.05**	**80**	*e*P	Pb	20 28 23.0	-0.1
TBH				*e*S	Sb	20 28 40.9	+4.0
TPR	**Prospect**	**1.58**	**56**	*e*P	Pn	20 28 31.2	-0.4
TPR				*e*S	Sb	20 28 52.6	+0.3
BOT	**Bacolet**	**1.62**	**58**	*e*P	Pn	20 28 31.9	-0.2
BOT				*e*S	Sb	20 28 54.8	+1.4
GRW	**Mount Saint Ca**	**1.90**	**14**	*e*P	Pn	20 28 36.3	+0.3
GRW				*e*S	Sn	20 29 00.0	-0.4
GRHS	**Sauteurs**	**1.96**	**14**	*e*P	Pn	20 28 37.8	+0.9
GRHS				*e*S	Sn	20 28 59.7	-2.4
GRSS	**Sisters**	**2.04**	**14**	*e*P	Pn	20 28 39.1	+0.9
SVV	**Soufriere Volc**	**3.12**	**16**	*e*P	Pn	20 28 53.6	0.0
SVV				*e*S	Sn	20 29 33.3	+1.8
SDV	**Santo Domingo**	**8.51**	**261**	*e*P	P	20 30 03.8	-5.7

2005 JAN

NIED 25 20:30:00, 33.30N×137.10E, h8km, Mw3.8 Best double couple: M0 5.66×10^14 NP1:φs293°, δ76°, λ126°. NP2:φs42°, δ38°, λ24°.
IDC 25 20:30:00.6±2.9, 33.43N×137.24E, mb3.4/3, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=71.6km s-min=24.1km az=179.0
JMA 25 20:30:04.1±0.1, 33.26N×137.14E, h42km±2km, M4.1
JMA Felt I J1.
ISC 25 20:30:04.3±0.6, 33.27N±0.04×137.13E±0.03, h36km±12km, n21, σ0°57/36, mb3.5/3, 3C-7D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.62**	**38**	P	P	20 30 16.6	0.0
TK01				*e*S	S	20 30 25.6	+0.1
TK02	**Tokai 2**	**0.85**	**38**	⇓P	P	20 30 19.8	0.0
TK02				*e*S	S	20 30 31.6	+0.4
TK03	**Tokai 3**	**1.13**	**38**	P	P	20 30 23.9	+0.1
TK03				*e*S	S	20 30 38.5	+0.2
JIE	**Ise**	**1.17**	**342**	⇓P	P	20 30 25.2	+0.8
JIE				*e*S	S	20 30 39.7	+0.3
JWZ	**Kozaga**	**1.22**	**283**	⇑P	P	20 30 25.0	0.0
JWZ				*e*S	S	20 30 39.6	-0.9
TK04	**Tokai 4**	**1.27**	**29**	⇓P	P	20 30 26.1	+0.3
TK04				*e*S	S	20 30 42.1	+0.2
TSUJ	**Tsu 2**	**1.55**	**338**	⇓P	P	20 30 30.4	+0.5
TSUJ				S	S	20 30 48.8	-0.2
JWM	**Minabe**	**1.59**	**292**	⇑P	P	20 30 30.7	+0.2
JWM				*e*S	S	20 30 49.5	-0.6
JWY	**Kouya**	**1.59**	**307**	P	P	20 30 31.3	+0.8
JWY				*e*S	S	20 30 49.9	-0.2
JHE	**Heguri**	**1.83**	**319**	⇓P	P	20 30 34.4	+0.6
JHE				*e*S	S	20 30 55.9	-0.1
SHZ3	**Shizuoka 3**	**2.00**	**26**	⇓P	P	20 30 36.0	-0.3
SHZ3				*e*S	S	20 30 59.3	-1.0
JIZS	**Izushimoda**	**2.04**	**45**	*e*S	S	20 31 01.4	0.0
JMY	**Miyakejima3**	**2.14**	**67**	P	P	20 30 38.7	+0.5
JAJ2	**Tsuna**	**2.19**	**302**	P	P	20 30 40.0	+1.0
JAJ2				*e*S	S	20 31 05.3	+0.1
JHJ	**Hachijo jima 2**	**2.23**	**93**	Pn	P	20 30 38.7	-0.8
	53nm,0.3s,baz=83,slow=18,SNR=8.3						
JHJ				Sn	S	20 31 05.1	-1.0
	77nm,0.3s,baz=257,slow=22,SNR=5.7						
JHJ2	**Mitsune**	**2.25**	**93**	⇓P	P	20 30 39.6	-0.3
JAI	**Aioi**	**2.30**	**284**	⇑P	P	20 30 40.7	+0.1
JAI				*e*S	S	20 31 06.3	-1.6
MAT	**Matsushiro**	**3.38**	**15**	P	P	20 30 56.3	+0.3
MAT				S	S	20 31 34.6	-0.8
CMAR	**Chiang Mai Arr**	**37.17**	**256**	P	P	20 37 14.2	+0.5
	0.5nm,0.6s,mb3.5,baz=52,slow=7.2,SNR=4.8						
WRA	**Warramunga Arr**	**52.98**	**183**	P	P	20 39 19.4	-0.3
	0.5nm,0.8s,mb3.5,baz=359,slow=7.5,SNR=5.7						
ASAR	**Alice Springs**	**56.70**	**184**	P	P	20 39 47.7	+0.9
	0.3nm,0.8s,mb3.4,baz=14,slow=11,SNR=3.9						

MAN 25 20:31:20.3, 13.62N×120.61E, h100km, mb3.7, ML2.5, MS2.0, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.37**	**288**	*e*P	P	20 31 36.6	+1.2
LUBP				*e*S	S	20 31 49.3	+2.6
LQP	**Lukban**	**1.02**	**62**⇑	*e*P	P	20 31 41.4	+0.2
SJMP	**San Jose**	**1.26**	**157**	*e*P	P	20 31 44.4	+0.3
SJMP				*e*S	S	20 32 02.1	+0.3
BUSP	**Coron**	**1.66**	**194**	*e*P	P	20 31 49.1	+0.1
ENPP	**El Nido**	**2.67**	**206**	*e*P	P	20 32 02.6	+0.2

IDC 25 20:32:53.6±0.5, 21.99N×144.89E, mb4.1/17, mb1 4.3/18, mb1mx4.3/24, mbtmp4.1/18, ML3.7/1, MS3.5/4, Ms1 3.6/4, ms1mx3.2/28, Error ellipse: s-maj=21.2km s-min=13.6km az=92.0
BJI 25 20:32:54.0, 22.09N×144.72E, h3km, mb4.8
NEIC 25 20:32:55.3±0.2, 21.98N×144.93E, h10km, mb4.6/9, Error ellipse: s-maj=9.2km s-min=5.8km az=92.0
ISC 25 20:32:57.0±0.4, 21.98N±0.05×144.89E±0.09, h33km, n45, σ0°92/43, mb4.3/31, MS3.5/4, 2C-1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.66**	**335**	Pn	Pn	20 34 19.8	-1.4
	5.8nm,0.3s,baz=276,slow=19,SNR=1.9						
CBIJ				Sn	Sn	20 35 24.6	-1.2
	10nm,0.3s,baz=128,slow=20,SNR=3.2						
ENH	**Enshi**	**32.74**	**292**	P	P	20 39 28.7	-0.3
	2.3nm,0.6s,mb4.3						
SONM	**Songino Array**	**40.14**	**319**	P	P	20 40 32.0	+0.6
	0.6nm,0.5s,mb3.6,baz=130,slow=7.4,SNR=9.2						
WRAB	**Tennant Creek**	**42.91**	**195**	*e*P	P	20 40 54.5	-0.1
	11nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	**42.92**	**195**⇑	*i*P	P	20 40 54.8	+0.2
WRA	**Warramunga Arr**	**42.92**	**195**	P	P	20 40 54.9	+0.2
	3.5nm,0.5s,mb4.3,baz=18,slow=8.7,SNR=39						
CMAR	**Chiang Mai Arr**	**43.14**	**274**	P	P	20 40 56.8	+0.3
	1.2nm,1.0s,mb3.6,baz=49,slow=6.8,SNR=3.8						
CMAR				LR	LR	20 57 58.5	
	comp=Z,40nm,18.9s,MS3.3,baz=55,slow=35						
FITZ	**Fitzroy Crossi**	**44.07**	**207**⇑	*i*P	P	20 41 04.3	+0.3
	23nm,0.6s,mb5.1						
ASAR	**Alice Springs**	**46.61**	**194**	P	P	20 41 23.9	-0.2
	4.0nm,0.6s,mb4.5,baz=17,slow=9.1,SNR=62						
ASAR				LR	LR	20 59 07.3	
	comp=Z,41nm,18.2s,MS3.4,baz=330,slow=34						
ASPA	**Alice Springs**	**46.62**	**194**⇓	*i*P	P	20 41 24.3	+0.2
LSA	**Lhasa**	**48.62**	**291**	*e*P	P	20 41 40.8	+1.0
	3.9nm,0.6s,mb4.6						
MBWA	**Marble Bar**	**49.41**	**212**	*e*P	P	20 41 45.9	-0.1
	6.4nm,0.7s,mb4.8						
WMQ	**Urumqi**	**51.63**	**309**	P	P	20 42 03.3	+0.8
STKA	**Stephens Creek**	**53.64**	**183**	P	P	20 42 16.4	-1.3
	1.7nm,0.8s,mb4.1,baz=9.1,slow=12,SNR=5.1						
PKI	**Pulchoki**	**53.86**	**289**	*e*P	P	20 42 18.8	-0.6
	5.2nm,0.6s,mb4.7						
KKN	**Kakani**	**53.95**	**289**	*e*P	P	20 42 21.4	+1.4
	5.5nm,0.6s,mb4.7						
DMN	**Daman**	**54.12**	**289**	*e*P	P	20 42 20.0	-1.3
	4.5nm,0.6s,mb4.6						
GKN	**Gorkha**	**54.48**	**289**	*e*P	P	20 42 23.5	-0.4
	9.3nm,0.7s,mb4.8						
ZAL	**Zalesovo**	**54.99**	**321**	P	P	20 42 26.7	-0.6
	0.8nm,0.4s,mb4.1,baz=0.3,slow=11,SNR=4.9						
ZAL				LR	LR	21 07 19.0	
	comp=Z,66nm,18.7s,MS3.7,baz=23,slow=38						
ZAL	**Zalesovo**	**54.99**	**321**	P	P	20 42 26.7	-0.6
KOLN	**Koldanda**	**55.42**	**289**	*e*P	P	20 42 30.3	-0.5
	9.3nm,0.9s,mb4.8						
KURK	**Kurchatov**	**58.35**	**317**	*e*P	P	20 42 50.5	-0.8
	2.1nm,0.5s,mb4.4						
TKM2	**Tokmak 2**	**60.42**	**308**	P	P	20 43 06.8	+1.1
	SNR=7.8						
NWAO	**Narrogin (SRO)**	**60.65**	**207**	P	P	20 43 05.8	-1.6
	2.1nm,0.6s,mb4.5,baz=6.7,slow=17,SNR=3.4						
KZA	**Kyzart**	**60.74**	**307**	P	P	20 43 09.4	+1.6
	SNR=6.0						
KBK	**Karagaybulak**	**60.92**	**308**	P	P	20 43 09.8	+0.7
	SNR=6.0						
ILAR	**Eielson Array**	**61.07**	**27**	P	P	20 43 08.2	-1.5
	1.1nm,0.7s,mb4.1,baz=258,slow=5.1,SNR=23						
ILAR				LR	LR	21 11 02.8	
	comp=Z,41nm,18.3s,MS3.6,baz=178,slow=38						
UCH	**Uchtor**	**61.27**	**307**	P	P	20 43 13.1	+1.6
	SNR=6.4						
AML	**Almayashu**	**61.88**	**307**	P	P	20 43 16.9	+1.4
	SNR=5.1						
CHKZ	**Chkalovo**	**63.34**	**320**	*e*P	P	20 43 24.7	-0.4
	1.8nm,0.5s,mb4.5						
BRVK	**Borovoye**	**63.55**	**319**	*e*P	P	20 43 25.7	-0.7
	4.5nm,0.7s,mb4.6						
INK	**Inuvik**	**66.68**	**24**	P	P	20 43 45.8	-0.5
	1.0nm,0.7s,mb4.0,baz=122,slow=26,SNR=3.6						
URZ	**Urewera**	**67.12**	**153**	P	P	20 43 48.2	-1.4
	4.2nm,0.8s,mb4.5,baz=336,slow=3.9,SNR=3.7						
YKA	**Yellowknife Ar**	**75.46**	**28**	P	P	20 44 39.4	+0.3
	1.0nm,0.7s,mb3.8,baz=291,slow=5.5,SNR=20						
YKA	**Yellowknife Ar**	**75.46**	**28**	P	P	20 44 39.4	+0.3
RES	**Resolute Bay**	**76.43**	**14**	*e*P	P	20 44 45.0	+0.5
	1.0nm,0.6s,mb3.9						
ARCES	**ARCESS Array B**	**79.16**	**342**	P	P	20 45 00.9	+1.2
	5.4nm,0.9s,mb4.5,baz=27,slow=2.7,SNR=4.6						

NVAR	**Mina Array Bea**	**81.72**	**52**	P	P	20 45 15.4	+1.5
	1.8nm,0.8s,mb4.1,baz=270,slow=4.5					
FINES	**FINESS Array B**	**83.61**	**335**	P	P	20 45 22.9	-0.1
	1.0nm,0.5s,mb4.2,baz=69,slow=5.6,SNR=15					
PDAR	**Pinedale Array**	**86.07**	**45**	P	P	20 45 36.9	+1.1
	0.4nm,0.7s,mb3.7,baz=270,slow=5.9,SNR=4.1					
AKASG	**Malin Array Be**	**88.19**	**325**	P	P	20 45 44.9	-0.8
	0.6nm,0.6s,mb4.0,baz=50,slow=5.3,SNR=4.2					
NOA	**NORSAR Array B**	**89.25**	**339**	P	P	20 45 50.4	-0.2
	0.9nm,0.7s,mb4.2,baz=40,slow=4.9,SNR=3.0					
PLCA	**Paso Flores**	**144.74**	**130**	PKP	PKPdf	20 52 31.7	+1.1
	2.1nm,0.7s,baz=188,slow=13,SNR=5.3					
LPAZ	**La Paz**	**148.33**	**86**	PKPbc	PKPdf	20 52 44.5	+7.3
	4.0nm,0.6s,baz=265,slow=2.6,SNR=23					
LVC	**Limon Verde**	**148.75**	**98**	PKPbc	PKPdf	20 52 44.0	+6.2
	1.9nm,0.8s,baz=248,slow=9.0,SNR=3.6					

IDC 25 20:36:07.3±0.8, 22.00N×144.92E, mb3.9/9, mb1 4.1/10, mb1mx4.0/21, mbtmp4.0/10, ML4.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/28, Error ellipse: s-maj=29.3km s-min=16.6km az=90.0
NEIC 25 20:36:08.7±0.4, 21.98N×144.93E, h10km, mb4.3/6, Error ellipse: s-maj=15.9km s-min=8.1km az=87.0
ISC 25 20:36:08.3±5.7, 22.00N±0.06×144.9E±0.2, h20km±40km, n22, σ0°77/21, mb4.1/15, 1C, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.63**	**335**	Pn	Pn	20 37 33.2	+0.1
	11nm,0.3s,baz=279,slow=19,SNR=3.1						
CBIJ				Sn	Sn	20 38 37.5	-0.6
	12nm,0.3s,baz=287,slow=19,SNR=3.0						
CBIJ				LR	LR	20 38 42.9	
	comp=Z,165nm,20.1s,baz=166,slow=28						
POLP	**Polillo Island**	**22.92**	**256**	*e*P	P	20 41 11.1	-1.3
SONM	**Songino Array**	**40.12**	**319**	P	P	20 43 45.8	+1.4
	0.5nm,0.5s,mb3.5,baz=135,slow=8.6,SNR=5.7						
WRAB	**Tennant Creek**	**42.93**	**195**	*e*P	P	20 44 07.9	+0.2
	4.7nm,0.5s,mb4.5						
WB2	**Warramunga Arr**	**42.94**	**195**⇑	*i*P	P	20 44 08.2	+0.4
WRA	**Warramunga Arr**	**42.94**	**195**	P	P	20 44 08.4	+0.6
	1.5nm,0.4s,mb4.0,baz=14,slow=8.6,SNR=17						
CMAR	**Chiang Mai Arr**	**43.12**	**274**	P	P	20 44 10.0	+0.6
	0.5nm,0.7s,mb3.3,baz=52,slow=7.4,SNR=4.1						
FITZ	**Fitzroy Crossi**	**44.08**	**207**	*e*P	P	20 44 16.0	-1.1
	8.1nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**46.63**	**194**	P	P	20 44 37.4	0.0
	1.0nm,0.5s,mb4.0,baz=15,slow=9.4,SNR=11						
ASPA	**Alice Springs**	**46.63**	**194**	*e*P	P	20 44 37.7	+0.3
LSA	**Lhasa**	**48.60**	**291**	*e*P	P	20 44 54.5	+1.8
	1.2nm,0.6s,mb4.1						
ZAL	**Zalesovo**	**54.96**	**321**	P	P	20 45 40.6	+0.4
	0.7nm,0.4s,mb4.1,baz=340,slow=13,SNR=3.8						
KURK	**Kurchatov**	**58.33**	**317**	*e*P	P	20 46 03.8	-0.4
	1.3nm,0.5s,mb4.2						
NWAO	**Narrogin (SRO)**	**60.66**	**207**	P	P	20 46 19.6	-1.0
	14nm,1.2s,mb5.0,baz=90,slow=5.1,SNR=3.8						
ILAR	**Eielson Array**	**61.05**	**27**	P	P	20 46 22.2	-0.6
	0.6nm,0.8s,mb3.8,baz=254,slow=5.2,SNR=6.0						
CHKZ	**Chkalovo**	**63.31**	**320**	*e*P	P	20 46 37.0	-1.1
	1.1nm,0.6s,mb4.2						
BRVK	**Borovoye**	**63.53**	**319**	*e*P	P	20 46 39.5	+0.1
	1.8nm,0.7s,mb4.2						
YKA	**Yellowknife Ar**	**75.45**	**28**	P	P	20 47 52.5	+0.1
	0.3nm,0.7s,mb3.3,baz=291,slow=5.3,SNR=5.3						
YKA	**Yellowknife Ar**	**75.45**	**28**	P	P	20 47 52.5	+0.1
FINES	**FINESS Array B**	**83.58**	**335**	P	P	20 48 36.2	+0.2
	1.0nm,0.6s,mb4.2,baz=68,slow=5.7,SNR=11						
LPAZ	**La Paz**	**148.35**	**85**	PKPbc	PKPdf	20 55 57.7	+3.0
	1.7nm,0.6s,baz=291,slow=1.3,SNR=7.2						
LPAZ	**La Paz**	**148.35**	**85**	PKPbc	PKPdf	20 55 57.7	+3.0

OTT 25 20:38:10.0±0.4, 52.78N×67.28W, MN2.7/5, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**2.08**	**7**	PN	Pn	20 38 45.5	-0.9
SCHQ				SG	Sg	20 39 13.5	-5.5
SCHQ			

ellipse: s-maj=17.2km s-min=3.8km az=88.0

ISK 25 20:56:17.1, 37.81N×44.07E, h22km, MD3.9, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	Hakkari	0.35	228	*i* PG	Pb	20 56 24.9	+0.2
VANT	Van	0.83	320	*i* PG	Pb	20 56 34.5	+1.8
TVAN	Van	0.89	324	*i* P	Pb	20 56 35.5	+1.9
TVAN				*i* S	Sb	20 56 48.6	+3.6
VANB	Van	0.95	326	*i* PG	Pb	20 56 35.3	+0.6
VANB				*i* SG	Sb	20 56 48.6	+1.7
MSL	Mosul	1.71	208	*i* Pn	Pn	20 56 49.0	+2.9
MSL				*i* Pg	Pn	20 56 50.5	+4.4
MSL				*i* Sb	Sb	20 57 09.0	+0.1
MSL				*i* Sg	Sn	20 57 10.5	+3.0
BTMT	Batman	2.08	281	*i* PN	Pn	20 56 53.8	+2.5
BEST	Besiri	2.22	273	*i* P	Pn	20 56 55.2	+1.8
BEST				*i* S	Sn	20 57 24.2	+3.8
VRT	Varto	2.39	304	PN	Pn	20 56 57.8	+2.0
ERZM	Erzurum	2.97	315	*i* P	Pn	20 57 10.5	+6.4
ERZM				*i* S	Sn	20 57 48.7	+9.3
EZM	Erzurum	2.97	315	*e*PN	Pn	20 57 06.1	+2.0
DIY	Diyarbakir	3.05	273	*e*PN	Pn	20 57 05.1	-0.1
ELZG	Elazig	4.07	281	*i* P	Pn	20 57 22.5	+2.8
ELZG				*i* S	Sn	20 58 25.6	+18
MYA	Malataya	4.49	278	*e*PN	Pn	20 57 26.2	+0.6
BHD	Baghdad	4.54	177	*e*Pn	Pn	20 57 46.0	+20
BHD				*e*Sn	Sn	20 58 42.0	+23
GZT	Gaziantep	5.19	267	*i* P	Pn	20 57 53.0	+17
GZT				*i* S	Sn	20 59 10.5	+35

IDC 25 20:58:40.2±20.0, 19.25S×179.14W, h655km±195km, mb2.7/3, mb1 3.0/3, mb1mx2.8/13, mbtmp3.7/3, Error ellipse: s-maj=276.1km s-min=61.9km az=134.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.73	261	P	P	21 05 50.9	-1.5
	0.3nm,0.3s,baz=97,slow=7.5,SNR=29						
ASAR	Alice Springs	43.78	256	P	P	21 05 50.9	-1.9
	0.7nm,0.5s,baz=90,slow=7.5,SNR=18						
ILAR	Eielson Array	87.35	13	P	P	21 10 19.1	-1.3
	0.3nm,0.5s,baz=202,slow=5.9,SNR=5.7						
BVAR	Borovoye Array	117.44	320	PKP	PKPdf	21 16 13.4	+0.2
	0.3nm,0.4s,baz=104,slow=2.1,SNR=5.1						
AKASG	Malin Array Be	141.41	331	PKP	PKPdf	21 16 55.5	-2.8
	0.4nm,0.4s,baz=41,slow=4.0,SNR=5.5						

IDC 25 21:10:51.2±5.8, 4.42N×93.16E, mb3.2/2, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=168.2km s-min=34.2km az=72.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.06	22	Pn	P	21 14 26.1	-1.2
	0.1nm,0.3s,baz=214,slow=12,SNR=4.8						
SONM	Songino Array	44.73	13	P	P	21 19 06.2	-1.9
	0.5nm,1.1s,baz=198,slow=4.6,SNR=2.2						
WRA	Warramunga Arr	47.16	122	P	P	21 19 25.8	-1.9
	0.7nm,0.6s,baz=301,slow=9.3,SNR=7.8						

*IDC **25** 21:17:27.6±7.7, 1.26S×119.86E, h44km±77km, mb3.7/8, mb1 3.8/8, mb1mx3.7/16, mbtmp3.9/8, Error ellipse: s-maj=86.9km s-min=17.7km az=59.0*
*NEIC **25** 21:17:28.4±2.2, 1.23S×119.90E, h53km±22km, mb4.3/7, Error ellipse: s-maj=37.1km s-min=8.9km az=55.0*

ISC 25 21:17:23.3±4.0, 1.01S±0.06×120.1E±0.1, h23km±30km, n18, σ0°81/21, mb4.1/15, 2C-1D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TANI	Tanete Lipujan	2.51	196	⇑*i* Pn	Pn	21 18 02.5	-1.1
TANI				*i* Sn	Sn	21 18 33.5	-0.3
BUNI	Buntu Taipa	2.65	175	⇓*i* Pn	Pn	21 18 05.0	-0.6
BUNI				*i* Sn	Sn	21 18 38.6	+1.3
NINI	Niniconang	3.41	185	⇑*i* Pn	Pn	21 18 17.6	+1.2
NINI				*i* Sn	Sn	21 19 02.4	+5.8
WRAB	Tennant Creek	23.43	144	*e*P	P	21 22 32.7	+0.6
	10nm,0.8s,mb4.3						
WRA	Warramunga Arr	23.43	144	P	P	21 22 31.1	-1.0
	3.2nm,0.8s,mb3.8,baz=310,slow=13,SNR=15						
ASAR	Alice Springs	26.22	150	P	P	21 22 58.6	+0.1
	1.6nm,0.7s,mb3.6,baz=347,slow=17,SNR=8.5						
ASAR				PcP	PcP	21 26 24.0	-1.6
	0.4nm,0.6s,baz=335,slow=1.9,SNR=6.7						
CMAR	Chiang Mai Arr	28.39	314	P	P	21 23 18.4	+0.1
	0.6nm,0.7s,mb3.3,baz=145,slow=7.2,SNR=4.1						
ENH	Enshi	32.70	343	P	P	21 23 57.1	+0.8
	3.9nm,0.7s,mb4.5						
STKA	Stephens Creek	36.82	149	P	P	21 24 30.7	-0.9
	1.8nm,0.6s,mb4.1,baz=323,slow=12,SNR=7.3						
LSA	Lhasa	41.16	320	*e*P	P	21 25 08.9	+1.2
	3.0nm,0.7s,mb4.0						
SONM	Songino Array	50.08	348	P	P	21 26 19.8	+1.2
	1.1nm,0.7s,mb4.0,baz=165,slow=8.8,SNR=8.1						
AAK	Ala-Archa	59.69	322	*e*P	P	21 27 27.9	-0.6
	2.1nm,0.7s,mb4.3						
ZAL	Zalesovo	62.06	337	P	P	21 27 44.3	-0.1
	1.7nm,0.3s,mb4.7,baz=92,slow=2.4,SNR=3.8						
KURK	Kurchatov	62.42	332	*e*P	P	21 27 45.9	-1.0
	4.2nm,0.8s,mb4.6						
BVAR	Borovoye Array	67.86	330	P	P	21 28 22.6	+0.7
	0.5nm,0.7s,mb3.7,baz=117,slow=6.6,SNR=3.8						
BRVK	Borovoye	67.93	330	*e*P	P	21 28 22.2	-0.2
	0.9nm,0.5s,mb4.1						
CHKZ	Chkalovo	68.12	331	*e*P	P	21 28 22.7	-0.9
	0.7nm,0.6s,mb3.9						
BRTR	Keskin Array B	87.89	310	P	P	21 30 12.2	-0.5
	1.2nm,0.8s,mb4.2,baz=117,slow=5.5,SNR=5.8						

IGQ 25 21:33:41.0, 1.29S×81.21W, h9km±5km, mb4.0, 2C-2D, Error ellipse: s-maj=9.6km s-min=6.7km az=143.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.70	70	⇑P	Pb	21 33 54.0	-0.9
IGUA	Igualata	2.58	95	⇑P	Pn	21 34 24.7	+1.1
ARRY	Arrayan	2.76	95	P	Pn	21 34 26.9	+0.6
ARRY				S	Sn	21 35 01.1	+0.9
PATA	Patacocha	2.78	94	P	Pn	21 34 29.6	+3.0
ULBA	Ulba	2.80	93	P	Pn	21 34 29.4	+2.4
NAS1	Nasa	2.81	77	P	Pn	21 34 30.3	+3.3
JUA2	San Juan 2	2.81	68	P	Pn	21 34 28.1	+1.1
TERV	Terraza Guagua	2.83	67	P	Pn	21 34 29.4	+2.2
PISA	Pisayambo	2.83	85	P	Pn	21 34 31.2	+3.9
PINO	Pino	2.83	67	P	Pn	21 34 28.9	+1.6
VC1	Cotopaxi 1	2.88	77	P	Pn	21 34 31.8	+3.9
YANA	Yana	2.88	66	P	Pn	21 34 29.5	+1.5
TAMB	Tambo	2.90	78	P	Pn	21 34 32.4	+4.2
ANTI	Antisana	3.16	75	P	Pn	21 34 34.2	+2.3
COTA	Cotacachi	3.29	61	P	Pn	21 34 35.8	+2.0
CAYR	Refugio Cayamb	3.45	68	⇓P	Pn	21 34 39.9	+3.8
CAYA	Cayambe	3.49	67	⇓P	Pn	21 34 39.9	+3.2

*IDC **25** 21:52:55.9±1.4, 5.60N×94.53E, mb3.7/7, mb1 3.9/8, mb1mx3.7/19, mbtmp3.7/8, ML4.3/1, Error ellipse: s-maj=68.8km s-min=20.1km az=53.0*
*NEIC **25** 21:52:59.0±1.0, 5.25N×94.10E, h30km, mb4.3/5, Error ellipse: s-maj=33.1km s-min=14.6km az=61.0*

ISC 25 21:52:57.3±0.9, 5.3N±0.1×94.2E±0.2, h30km, n13, σ1°06/13, mb3.9/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.89	19	Pn	P	21 56 17.1	+2.4
	0.5nm,0.3s,baz=208,slow=14,SNR=13						
LSA	Lhasa	24.44	354	P	P	21 58 14.3	-0.6
	1.7nm,0.6s,mb3.6						
SONM	Songino Array	43.66	12	P	P	22 00 58.5	-2.6
	0.2nm,0.3s,mb3.4,baz=190,slow=8.8,SNR=2.9						
WRA	Warramunga Arr	46.79	124	P	P	22 01 26.6	+0.2
	0.5nm,0.4s,mb3.8,baz=302,slow=9.0,SNR=14						
WRAB	Tennant Creek	46.79	124	P	P	22 01 25.8	-0.7
	3.2nm,0.6s,mb4.4						
KURK	Kurchatov	47.10	347	*e*P	P	22 01 28.5	0.0
	1.8nm,0.6s,mb4.2						
ASAR	Alice Springs	48.28	128	P	P	22 01 38.5	+0.4
	0.3nm,0.4s,mb3.7,baz=299,slow=7.9,SNR=8.5						
ZAL	Zalesovo	49.09	353	P	P	22 01 43.8	-0.1
	1.6nm,0.4s,mb4.5,baz=300,slow=4.0,SNR=6.4						
BVAR	Borovoye Array	51.42	342	P	P	22 02 01.3	-0.4
	0.6nm,0.4s,mb3.9,baz=146,slow=11,SNR=7.0						
BRVK	Borovoye	51.49	342	*e*P	P	22 02 01.6	-0.6
	1.7nm,0.5s,mb4.2						
CHKZ	Chkalovo	51.92	342	*e*P	P	22 02 05.0	-0.5
	2.9nm,0.5s,mb4.5						
FINES	FINESS Array B	74.99	333	P	P	22 04 38.3	+0.8
	0.6nm,0.7s,mb3.6,baz=108,slow=8.8,SNR=3.2						
GERES	GERESS Array B	79.76	319	P	P	22 05 06.0	+1.8
	0.2nm,0.3s,mb3.5,baz=90,slow=8.8,SNR=2.9						

*CSEM **25** 21:54:24.4±1.2, 37.73N×44.05E, h10km, MD3.9, Error ellipse: s-maj=28.7km s-min=5.9km az=98.0*

ISK 25 21:54:22.8, 37.68N×44.20E, h14km, MD3.9, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	Hakkari	0.38	254	*i* PG	Pg	21 54 30.8	+0.1
VANT	Van	0.99	320	*i* PN	Pn	21 54 43.8	+1.6
VANT				SN	Sn	21 54 57.6	+1.5
TVAN	Van	1.05	324	*i* P	Pb	21 54 43.8	+1.5
TVAN				*i* S	Sb	21 54 53.3	-2.4
VANB	Van	1.11	325	*i* PN	Pn	21 54 43.6	-0.3
VANB				*i* SN	Sn	21 55 00.8	+1.7
MSL	Mosul	1.65	213	*e*Pn	Pn	21 54 55.5	+3.9
MSL				*i* Sb	Sb	21 55 15.5	+2.5
MSL				*i* Sg	Sg	21 55 17.0	-0.8
BTMT	Batman	2.20	284	*i* PN	Pn	21 55 02.1	+2.6
BEST	Besiri	2.33	276	*i* P	Pn	21 55 04.0	+2.7
BEST				*i* S	Sn	21 55 34.9	+4.9
VRT	Varto	2.55	305	*e*PN	Pn	21 55 07.7	+3.2
ERZM	Erzurum	3.13	316	*i* P	Pn	21 55 21.7	+8.9
ERZM				*i* S	Sn	21 55 47.2	-3.1
BINT	Bingol	3.15	293	*e*PN	Pn	21 55 14.3	+1.2
DIY	Diyarbakir	3.15	275	*e*PN	Pn	21 55 14.2	+1.1
ELZG	Elazig	4.19	283	*i* P	Pn	21 55 27.7	-0.2
ELZG				*i* S	Sn	21 56 14.2	-2.9
BHD	Baghdad	4.40	178	*e*P	Pn	21 55 45.0	+14
BHD				*e*S	Sn	21 56 58.0	+35
MYA	Malataya	4.61	280	*e*PN	Pn	21 55 33.5	-0.2

*CSEM **25** 21:58:09.5, 37.69N×43.78E, h31km, MD3.5, After ISK*

ISK 25 21:58:09.5, 37.69N×43.78E, h31km, MD3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	Hakkari	0.12	194	*i* PG	Pn	21 58 16.2	+1.2
HKR				*i* SG	Sn	21 58 19.1	+0.8
VANT	Van	0.81	338	PG	Pn	21 58 26.0	+1.2
TVAN	Van	0.88	341	*i* P	Pn	21 58 27.7	+1.8
TVAN				*i* S	Sn	21 58 40.5	+2.9
VANB	Van	0.95	341	PG	Pn	21 58 27.1	+0.3
VANB				SG	Sn	21 58 38.8	-0.6
MSL	Mosul	1.50	202	*e*Pn	Pn	21 58 40.5	+5.7
MSL				*i* Sg	Sn	21 59 02.0	+8.5
MSL				*i* Sb	Sb	21 59 05.0	+9.5
BTMT	Batman	1.88	286	*e*PN	Pn	21 58 43.0	+2.9
BEST	Besiri	2.00	276	*i* P	Pn	21 58 47.2	+5.5
BEST				*i* S	Sn	21 59 17.9	+12

IGQ 25 22:00:32.6, 1.54S×81.19W, h16km±6km, mb4.5, 4C-5D, Error ellipse: s-maj=8.3km s-min=6.2km az=161.3, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.80	53	⇑P	Pb	22 00 47.5	-0.2
MAGD	Magdalena	2.03	44	P	Pn	22 01 09.4	+2.7
IGUA	Igualata	2.55	89	⇓P	Pn	22 01 15.2	+1.1
CUSU	Cusua	2.71	88	P	Pn	22 01 18.3	+1.9
JUIV	Juive	2.72	88	P	Pn	22 01 18.0	+1.4
ARRY	Arrayan	2.73	89	⇓P	Pn	22 01 17.8	+1.1
ARRY				S	Sn	22 01 50.1	+0.4
RETU	Refugio	2.74	88	P	Pn	22 01 18.7	+1.8
PATA	Patacocha	2.75	89	P	Pn	22 01 20.1	+3.1
ULBA	Ulba	2.78	88	⇑P	Pn	22 01 19.3	+1.9
MARY	Rancho Maria	2.81	74	P	Pn	22 01 21.0	+3.1
PISA	Pisayambo	2.84	80	⇑P	Pn	22 01 20.5	+2.3
PISA				S	Sn	22 01 54.5	+2.0
NAS1	Nasa	2.85	72	P	Pn	22 01 20.5	+2.0
JUA2	San Juan 2	2.90	63	P	Pn	22 01 19.8	+0.7
TERV	Terraza Guagua	2.92	62	P	Pn	22 01 20.1	+0.8
PINO	Pino	2.92	62	P	Pn	22 01 19.9	+0.5
VC1	Cotopaxi 1	2.92	72	P	Pn	22 01 21.7	+2.3
TAMB	Tambo	2.94	74	P	Pn	22 01 21.8	+2.1
YANA	Yana	2.97	62	⇓P	Pn	22 01 20.8	+0.7
ANTI	Antisana	3.21	70	⇓P	Pn	22 01 25.5	+2.0
COTA	Cotacachi	3.40	57	⇓P	Pn	22 01 28.6	+2.4
CAYR	Refugio Cayamb	3.53	64	P	Pn	22 01 31.4	+3.3
CAYA	Cayambe	3.57	63	⇑P	Pn	22 01 31.5	+2.8
CAYA				S	Sn	22 02 19.6	+8.6
CONE	Cono NE Rev Vo	3.83	68	P	Pn	22 01 38.1	+5.7

*IDC **25** 22:05:22.9±1.1, 18.12N×79.61W, mb3.9/10, mb1 4.2/11, mb1mx4.1/18, mbtmp4.0/11, ML4.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/16, Error ellipse: s-maj=30.4km s-min=23.2km az=12.0*
*NEIC **25** 22:05:24.0±0.4, 18.01N×79.62W, h10km, mb4.2/5, Error ellipse: s-maj=12.2km s-min=7.3km az=219.0*
*JSN **25** 22:05:26.5±0.4, 18.08N×79.59W, h29km±749km, MD4.6*

ISC 25 22:05:24.1±2.3, 18.0N±0.1×79.60W±0.05, h24km±19km, n30, σ0°87/28, mb4.0/14, MS3.1/1, 6C, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEJ	Negril	1.24	78	⇑*e*P	Pn	22 05 46.5	+0.3
MCJ	Malvern	1.82	92	⇑*e*P	Pn	22 05 55.2	+0.7
MCJ				*e*S	Sn	22 06 16.4	-0.8
BBJ	Bamboo Saint A	2.26	80	⇑*e*P	Pn	22 06 00.9	+0.2
STH	Stony Hill	2.66	88	⇑*e*P	Pn	22 06 06.7	+0.3
STH				*e*S	Sn	22 06 37.1	-1.2
HOJ	Hope	2.72	89	⇑*e*P	Pn	22 06 07.8	+0.5
GWJ	Greenwich	2.74	88	⇑*e*P	Pn	22 06 08.0	+0.4
TEIG	Teteich	8.50	287	*e*P	P	22 07 26.8	-1.9
SDV	Santo Domingo	12.56	135	Pn	P	22 08 24.2	-0.2
	1.4nm,0.3s,baz=357,slow=10,SNR=7.2						
MIAR	Mount Ida	20.67	326	*e*P	P	22 10 03.4	-1.6
	13nm,0.7s						
JCT	Junction City	22.18	308	*e*P	P	22 10 21.4	+1.2
	51nm,1.3s,mb4.8						
WMOK	Wichita Mounta	23.88	318	*e*P	P	22 10 37.8	+0.9
	3.1nm,0.8s,mb3.8						
TXAR	Lajitas Array	24.71	302	P	P	22 10 46.3	+1.3
	3.2nm,0.8s,mb3.9,baz=122,slow=8.4,SNR=17						
ANMO	Albuquerque	29.25	311	LR	LR	22 24 46.0	
	comp=Z,48nm,18.4s,MS3.1,slow=40						
PDAR	Pinedale Array	35.42	321	P	P	22 12 19.4	-1.0
	0.8nm,0.6s,mb3.8,baz=130,slow=12,SNR=4.5						
SCHQ	Schefferville	38.06	12	P	P	22 12 42.0	-0.4
	2.8nm,0.9s,mb4.0,baz=264,slow=6.4,SNR=6.2						
HLID	Hailey	38.85	319	P	P	22 12 49.6	+0.5
	1.1nm,0.7s,mb3.7						
LVC	Limon Verde	41.68	165	P	P	22 13 12.4	-0.4
	2.7nm,0.6s,mb4.0						
YKA	Yellowknife Ar	50.67	340	P	P	22 14 22.2	-1.2
	0.4nm,0.6s,mb3.5,baz=131,slow=8.4,SNR=11						
YKA	Yellowknife Ar	50.67	340	P	P	22 14 22.2	-1.2
ILAR	Eielson Array	64.22	334	P	P	22 15 59.1	0.0
	0.2nm,0.5s,mb3.4,baz=117,slow=4.0,SNR=3.5						
EKA	Eskdalemuir Ar	67.71	37	P	P	22 16 20.9	-0.7
	2.1nm,1.0s,mb4.1,baz=270,slow=6.7,SNR=4.6						
ESDC	Sonseca Array	67.83	54	P	P	22 16 23.8	+1.2
	1.7nm,0.8s,mb4.1,baz=285,slow=6.1,SNR=5.1						
ARCES	ARCESS Array B	78.46	20	P	P	22 17 24.3	0.0
	3.7nm,0.8s,mb4.3,baz=301,slow=7.1,SNR=4.5						
ARCES	ARCESS Array B	78.46	20	P	P	22 17 24.3	0.0
GERES	GERESS Array B	78.80	42	P	P	22 17 27.5	+0.9
	0.8nm,0.8s,mb3.7,baz=281,slow=6.8,SNR=5.0						
FINES	FINESS Array B	81.63	28	P	P	22 17 42.2	+0.8
	0.8nm,0.4s,mb4.0,baz=267,slow=2.2,SNR=14						
FINES	FINESS Array B	81.63	28	P	P	22 17 42.2	+0.8
WRAB	Tennant Creek	147.86	261	*e*PKPbc	PKPdf	22 25 10.2	+0.7
WRA	Warramunga Arr	147.87	261	PKPbc	PKPdf	22 25 10.0	+0.5
	0.8nm,0.6s,baz=87,slow=3.7,SNR=12						
ASAR	Alice Springs	148.22	254	PKPbc	PKPdf	22 25 10.9	+0.9
	1.6nm,0.8s,baz=103,slow=2.6,SNR=15						

IGQ 25 22:07:31.2, 1.60S×81.27W, h12km±7km, mb4.3, 2C-3D, Error ellipse: s-maj=7.4km s-min=5.5km az=173.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.91	53	⇑P	Pb	22 07 48.0	-0.4
MAGD	Magdalena	2.14	45	P	Pn	22 08 09.2	+2.0
IGUA	Igualata	2.64	88	P	Pn	22 08 15.5	+1.2
IGUA				S	Sn	22 08 49.0	+2.4
CUSU	Cusua	2.80	87	P	Pn	22 08 18.1	+1.4
JUIV	Juive	2.81	86	P	Pn	22 08 18.4	+1.6
JUIV				S	Sn	22 08 53.0	+2.0
ARRY	Arrayan	2.82	88	⇓P	Pn	22 08 18.1	+1.2
ARRY				S	Sn	22 08 50.5	-0.6
RETU	Refugio	2.83	87	P	Pn	22 08 19.2	+2.1
PATA	Patacocha	2.84	88	P	Pn	22 08 19.3	+2.0
ULBA	Ulba	2.87	87	⇑P	Pn	22 08 19.6	+2.0
MARY	Rancho Maria	2.92	73	P	Pn	22 08 22.3	+3.9
PISA	Pisayambo	2.94	79	P	Pn	22 08 20.8	+2.2
NAS1	Nasa	2.96	71	P	Pn	22 08 20.1	+1.2
JUA2	San Juan 2	3.00	63	P	Pn	22 08 20.1	+0.5
TERV	Terraza Guagua	3.02	62	P	Pn	22 08 20.1	+0.3
VC1	Cotopaxi 1	3.02	72	P	Pn	22 08 22.9	+3.0
PINO	Pino	3.03	62	⇓P	Pn	22 08 20.2	+0.3
TAMB	Tambo	3.04	73	P	Pn	22 08 22.1	+2.0
YANA	Yana	3.08	61	P	Pn	22 08 21.1	+0.5
ANTI	Antisana	3.32	70	P	Pn	22 08 26.1	+2.0
COTA	Cotacachi	3.51	57	⇓P	Pn	22 08 29.0	+2.3
COTA				S	Sn	22 09 18.5	+10
CAYR	Refugio Cayamb	3.64	64	P	Pn	22 08 31.7	+3.1
CAYR				S	Sn	22 09 16.2	+4.3
CAYA	Cayambe	3.68	63	P	Pn	22 08 31.7	+2.5
CAYA				S	Sn	22 09 20.0	+7.1
CONE	Cono NE Rev Vo	3.94	67	P	Pn	22 08 38.4	+5.6

*IDC **25** 22:21:22.3±6.2, 20.60N×93.71E, mb3.7/2, mb1 4.1/3, mb1mx3.6/18, mbtmp3.8/3, ML4.3/1, Error ellipse: s-maj=126.3km s-min=80.8km az=164.0*

ISC 25 22:21:27.5±1.0, 20.3N±0.3×93.9E±0.2, h33km, n10, σ0°38/12, mb3.8/2, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHG	Chiang Mai	4.99	106	PG	P	22 22 42.0	-0.1
CHG				SG	S	22 23 31.8	-7.6
CMAR	Chiang Mai Arr	5.11	110	Pn	Pn	22 22 44.0	+0.2
	2.7nm,0.3s,baz=292,slow=14,SNR=99						
CMAR				Sn	Sn	22 23 58.3	+16
	2.7nm,0.3s,baz=298,slow=21,SNR=5.3						
JIRN	Jiri	10.18	318	*e*P	P	22 23 54.6	+0.1
	12nm,0.2s						
PKI	Pulchoki	10.63	315	*e*P	P	22 24 00.8	+0.2
	11nm,0.3s						
DMN	Daman	10.86	314	*e*P	P	22 24 03.4	-0.3
	4.2nm,0.2s						
KKN	Kakani	10.86	315	*e*P	P	22 24 04.0	+0.3
	5.2nm,0.2s						
GKN	Gorkha	11.43	314	*e*P	P	22 24 11.0	-0.4
	15nm,0.3s						
KOLN	Koldanda	12.00	311	*e*P	P	22 24 19.3	+0.1
	8.3nm,0.3s						
WRA	Warramunga Arr	56.26	133	P	P	22 31 06.6	-0.7
	0.8nm,0.6s,mb3.9,baz=319,slow=7.6,SNR=11						
ASAR	Alice Springs	58.54	136	P	P	22 31 24.1	+0.7
	0.4nm,0.6s,mb3.6,baz=317,slow=6.7,SNR=8.1						

*NEIC **25** 22:21:27.3, 16.32N×99.57W, h18km, MD3.9(MEX), After MEX.*

MEX 25 22:21:27.4±1.0, 16.33N×99.57W, h18km±8km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.63	328	*i* P	Pb	22 21 37.0	-2.6
ACX				*i* S	Sb	22 21 44.0	-4.0
CAIG	El Cayaco	0.98	317	*i* P	Pb	22 21 43.2	-2.3
CAIG				*i* S	Sb	22 21 54.7	-3.3
PNIG	Pinotepa	1.38	87	*i* P	Pn	22 21 48.3	-3.7
PNIG				*i* S	Sb	22 22 04.7	-5.0
PLIG	Platanillo	2.05	2	*i* P	Pn	22 21 59.0	-2.6
PLIG				*i* S	Sn	22 22 22.5	-4.5
ZIIG	Zihuatanejo	2.22	305	*e*P	Pn	22 22 00.7	-3.2
ZIIG				*i* S	Sn	22 22 26.0	-5.1
YAIG	Yautepec	2.56	11	*e*P	Pn	22 22 06.5	-2.4
YAIG				*i* S	Sn	22 22 36.8	-3.1
VHO	Vista Hermosa	2.81	74	*e*P	Pn	22 22 09.6	-2.9
VHO				*i* S	Sn	22 22 43.0	-3.2
OXX	Oaxaca	2.82	74	*e*P	Pn	22 22 10.0	-2.6
PPM	Popocatepetl	2.87	18	*e*P	Pn	22 22 10.0	-3.2
PPM				*e*P		22 22 10.8	
PPM				*i* S	Sn	22 22 42.0	-5.6
IISM	Ciudad Serdan	3.37	38	*e*P	Pn	22 22 20.0	-0.3
POHV	Veracruz	3.49	38	*e*P	Pn	22 22 31.0	+9.0
CMIG	Matias Romero	4.55	80	*i* S	Sn	22 23 20.9	-9.3

*NERS **25** 22:21:46.4, 70.20N×137.85E*
*MOS **25** 22:21:56.9±1.2, 69.71N×138.76E, h10km, mb5.1/62, MS4.5/20, Error ellipse: s-

comp=E,90nm,8.0s
SEY Seymchan 8.68 135 *e*P **P 22 24 02.3 -3.2**
SEY *e* 22 24 19.4
SEY *e*S **Sn 22 25 52.6 +8.4**
SEY *e*Sg **Sg 22 26 36.8 -10**
SEY Sgmax 22 26 43.1
comp=E,2μm,0.8s
SEY Sgmax 22 26 43.1
comp=E,260nm,0.7s
OCHR Omchak 8.87 151⇓ *i*P **P 22 24 06.9 -1.2**
OCHR Pmax 22 24 11.3
comp=E,20nm,0.6s
OCHR *e*S Sn 22 25 20.5 -28
OCHR *e*Sg **Sg 22 26 37.1 -15**
OCHR Sgmax 22 26 57.3
comp=E,790nm,0.8s
OCHR Sgmax 22 26 57.3
comp=E,2μm,0.8s
OMS Omsukchan 9.91 128 *e*P **P 22 24 17.5 -4.8**
OMS Pmax 22 24 19.1
comp=E,70nm,1.0s
OMS Pmax 22 24 19.1
comp=E,30nm,1.0s
OMS Pmax 22 24 19.1
comp=E,100nm,1.0s
OMS *e* 22 24 49.0
OMS *e* 22 26 10.0
OMS *e*Sg **Sg 22 27 17.5 -10**
OMS Sgmax 22 27 44.9
comp=E,1μm,1.2s
OMS Sgmax 22 27 44.9
comp=E,770nm,1.5s
BILL Bilibino 9.99 87*d i*P **P 22 24 25.4 +2.0**
BILL *i* S **Sn 22 26 21.3 +4.9**
BILL pmax pmax
comp=Z,86nm,1.1s
BILL Bilibino 9.99 87⇓ *e*P **P 22 24 24.9 +1.5**
TLAR Talaya 10.25 140 *e*P **P 22 24 28.7 +1.8**
TLAR Pmax 22 24 36.3
comp=Z,10.0nm,0.6s
TLAR *e* 22 25 18.0
TLAR *e*S **S 22 26 11.9 -11**
TLAR *e*Sg Sx 22 27 27.5
TLAR Sgmax 22 28 01.0
comp=Z,450nm,0.9s
TLAR Sgmax 22 28 01.0
comp=Z,540nm,0.9s
GOLD Kubaka 10.26 116⇓ *i*P **P 22 24 26.6 -0.5**
GOLD Pmax 22 24 27.0
comp=Z,40nm,0.8s
GOLD Pmax 22 24 27.0
comp=Z,20nm,0.8s
GOLD Pmax 22 24 27.0
comp=Z,30nm,0.8s
GOLD *e*S **S 22 26 24.0 +1.0**
GOLD *e*Sg Sx 22 27 19.4
GOLD Sgmax 22 27 35.2
comp=Z,1μm,1.6s
GOLD Sgmax 22 27 35.2
comp=Z,960nm,1.8s
MA2 Magadan 11.34 148*c e*P **P 22 24 41.3 -0.5**
MA2 *i* S **S 22 26 48.6 -0.7**
MA2 pmax pmax
comp=N,40nm,1.3s
MA2 pmax pmax
comp=Z,50nm,1.3s
MA2 Magadan 11.34 148 *e*P **P 22 24 42.1 +0.3**
MA2 Magadan 11.34 148⇑ *i*P **P 22 24 42.6 +0.8**
MA2 Pmax 22 24 47.5
comp=Z,30nm,0.9s
MA2 *e*S **S 22 26 33.4 -16**
MA2 *e*Sg Sx 22 27 57.8
MA2 Sgmax 22 28 19.8
comp=Z,150nm,0.8s
MA2 Sgmax 22 28 19.8
comp=Z,590nm,1.1s
CGD Chagda 11.54 202 *e*P **P 22 24 40.1 -4.5**
CLNS Chul'man 14.29 212 *e*P **P 22 25 15.9 -5.0**
CLNS *e*S **S 22 27 51.6 -8.5**
CLNS pmax pmax
comp=Z,65nm,1.1s
CLNS pmax pmax
comp=N,63nm,1.2s
CLNS pmax pmax
comp=E,48nm,1.2s
CLNS smax
comp=N,125nm,0.8s
CLNS smax
comp=E,141nm,0.9s
CLNS smax
comp=Z,66nm,0.9s
BOD Bodaibo 16.03 235 *e*P **P 22 25 36.6 -6.9**
BOD *e* 22 28 40.9
OKH Okha 16.31 171 *e*P **P 22 25 48.0 +0.8**
OKH *e*S **S 22 28 50.2 +2.6**
PET Petropavlovsk 19.06 141⇓ *e*P **P 22 26 23.2 +1.9**
PET pmax pmax
comp=Z,196nm,1.4s
PET MLR MLR
comp=Z,1μm,19.0s
PET Petropavlovsk 19.06 141 *e*P **P 22 26 23.1 +1.8**
comp=Z,223nm,1.3s
TNA Tin City 20.10 76⇑ *e*P **P 22 26 33.2 +0.2**
TNA LR LR
comp=Z,1μm,21.0s,MS4.2
KLR Kul'dur 20.82 193 *e*P **P 22 26 36.3 -4.2**
KLR *e* 22 27 12.5
KLR *e* 22 30 29.5
KLR MLR MLR
comp=Z,5μm,11.0s,MS5.1
ANM Nome 21.57 76 *e*P **P 22 26 49.5 +1.5**
HIA Hailar 22.46 214 *e*P **P 22 26 56.4 -0.7**
HIA pmax pmax
comp=Z,30nm,1.0s
HIA MLR MLR
comp=Z,692nm,21.0s
HIA Hailar 22.46 214 *e*P **P 22 26 56.4 -0.7**
comp=Z,30nm,1.0s,mb4.7
HIA LR LR
comp=Z,692nm,21.0s,MS4.1
YSS Yuzh-Sakhalins 22.89 173⇓ *i*P **P 22 27 03.0 +1.8**
YSS *i* *SP 22 27 07.0
YSS *e* 22 27 32.3
YSS *e*PPP PPP 22 27 47.0 +6.4
YSS *e*S **S 22 31 10.0 +4.2**
YSS *e*SS SS 22 31 54.0 +4.3
YSS pmax pmax
comp=Z,30nm,1.0s,mb4.7
YSS smax
comp=E,600nm,9.0s
YSS MLR MLR
comp=N,2μm,13.0s
YSS MLR MLR
comp=Z,2μm,13.0s,MS4.6
YSS Yuzh-Sakhalins 22.89 173 *e*P **P 22 27 02.6 +1.5**
comp=Z,90nm,1.2s,mb5.1
FX1 Attu Island--F 23.05 119 P **P 22 27 03.8 +1.1**
FX1 pmax pmax
comp=Z,16nm,0.5s
FX1 MLR MLR
comp=Z,23nm,21.8s
FX1 Attu Island--F 23.05 119 P **P 22 27 03.8 +1.2**
comp=Z,16nm,0.5s,mb4.7,baz=95,slow=21,SNR=2.8
FX1 LR LR 22 35 24.6
comp=Z,23nm,21.8s,baz=331,slow=35
IRK Irkutsk 23.69 240 *e*P **P 22 27 07.4 -1.5**
IRK *e*S **S 22 31 22.6 +2.8**
IRK pmax pmax
comp=Z,80nm,3.5s
TLY Talaya 24.37 240 *e*P **P 22 27 15.0 -0.5**
TLY *e*S **S 22 31 26.5 -5.0**
TLY pmax pmax
comp=Z,12nm,0.7s,mb4.4
TLY MLR MLR
comp=Z,2μm,14.0s,MS4.7
TLY Talaya 24.37 240 *e*P **P 22 27 15.6 +0.1**
comp=Z,24nm,0.6s,mb4.8
TLY LR LR
comp=Z,598nm,19.0s,MS4.1
IMA Indian Mountai 24.48 65 *e*P **P 22 27 17.8 +1.4**
MOY Mondy 25.20 244 *e*P **P 22 27 23.1 -0.4**
MDJ Mudanjiang 25.58 195 P **P 22 27 27.0 -0.1**
MDJ AP pP 22 27 30.0 -1.1
MDJ S **S 22 31 54.0 +2.1**
MDJ XS 22 31 59.5
MDJ AMB AMB
comp=Z,82nm,1.0s,mb5.2
MDJ AMB AMB
comp=Z,220nm,6.8s
MDJ LR LR
comp=N,647nm,7.0s
MDJ LR LR
comp=E,5μm,13.8s
MDJ LR LR
comp=Z,3μm,10.0s,MS5.0
MDJ Mudanjiang 25.58 195 *e*P **P 22 27 27.2 +0.1**
comp=Z,97nm,0.9s,mb5.3
ZAK Zakamensk 25.62 239 *e*P **P 22 27 26.7 -0.7**
ZAK *e* 22 32 56.8
ASAJ Asahikawa 25.72 174 P **P 22 27 28.4 0.0**
ASAJ pmax pmax
comp=Z,37nm,1.0s
ASAJ MLR MLR
comp=Z,1μm,20.2s
ASAJ Asahikawa 25.72 174 P **P 22 27 28.4 0.0**
comp=Z,37nm,1.0s,mb4.9,baz=322,slow=7.8,SNR=8.5
ASAJ LR LR 22 37 36.1
comp=Z,1μm,20.2s,MS4.5,baz=188,slow=36
ULN Ulaanbaatar 26.80 232 *i* P **P 22 27 38.0 -0.3**
ULN Ulaanbaatar 26.80 232 *e*P **P 22 27 36.5 -1.8**
comp=Z,23nm,1.2s,mb4.6
ULN LR LR
comp=Z,1μm,20.0s,MS4.4
SONM Songino Array 27.01 233 P **P 22 27 40.5 +0.2**
comp=Z,6.4nm,0.8s,mb4.2,baz=23,slow=9.4,SNR=27
COLA College 27.10 64*d i*P **P 22 27 44.5 +3.6**
COLA College 27.10 64 *e*P **P 22 27 41.8 +0.9**
COLA LR LR
comp=Z,1μm,20.0s,MS4.4
ILAR Eielson Array 27.47 63 P **P 22 27 44.5 +0.2**
comp=Z,26nm,1.0s,mb4.7,baz=305,slow=7.5,SNR=61
ILAR LR LR 22 39 47.7
comp=Z,873nm,18.7s,MS4.4,baz=324,slow=39
MCK McKinley 27.55 66 *e*P **P 22 27 45.3 +0.3**
MCK pmax pmax
comp=Z,32nm,1.1s,mb4.9
MCK MLR MLR
comp=Z,278nm,20.0s,MS3.8
MCK McKinley 27.55 66 *e*P **P 22 27 45.3 +0.4**
comp=Z,32nm,1.1s,mb4.9
MCK LR LR
comp=Z,278nm,20.0s,MS3.8
SPU Mount Spurr 28.35 72 P **P 22 27 53.4 +1.2**
NVS Novosibirsk 28.55 267 *e*P **P 22 27 51.6 -2.5**
NVS pmax pmax
comp=Z,37nm,1.5s,mb4.9
NVS pmax pmax
comp=N,32nm,1.6s
NVS pmax pmax
comp=E,20nm,1.4s
RSO Redoubt South 28.64 74 *e*P **P 22 27 56.5 +1.6**
ZAL Zalesovo 28.73 265 P **P 22 27 55.8 0.0**
comp=E,3.1nm,0.5s,mb4.3,baz=73,slow=9.2,SNR=18
ZAL LR LR 22 40 09.7
comp=E,853nm,18.0s,MS4.4,baz=77,slow=38
THY Trims Highway 28.78 65 *e*P **P 22 27 59.0 +2.9**
INK Inuvik 28.92 50 P **P 22 27 58.9 +1.5**
INK pmax pmax
comp=Z,5.0nm,0.6s
INK Inuvik 28.92 50 P **P 22 27 58.9 +1.5**
comp=Z,4.9nm,0.6s,mb4.5,baz=334,slow=8.2,SNR=12
INK Inuvik 28.92 50 *e*P **P 22 27 58.5 +1.2**
comp=Z,25nm,1.0s,mb4.9
SNY Shenyang 29.04 204⇑ P **P 22 27 57.8 -0.9**
SNY S **S 22 32 48.8 +0.6**
SNY LR LR
comp=N,2μm,7.5s
SNY LR LR
comp=E,2μm,15.5s
SNY LR LR
comp=Z,2μm,11.6s,MS5.0
SML Sawmill 29.11 69 *e*P **P 22 27 58.2 -1.0**
MENT Mentasta 29.77 64 *e*P **P 22 28 04.3 -0.7**
DAWY Dawson 30.27 60 *e*P **P 22 28 09.4 -0.1**
RES Resolute Bay 31.95 24 *e*P **P 22 28 23.3 -0.8**
RES pmax pmax
comp=Z,15nm,0.8s,mb4.9
RES Resolute Bay 31.95 24 *e*P **P 22 28 23.3 -0.9**
comp=Z,15nm,0.8s,mb4.9
BJI Beijing 32.03 214 P **P 22 28 25.3 +0.1**
BJI S **S 22 33 43.6 +8.2**
BJI pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
BJI Beijing 32.03 214 P **P 22 28 25.3 +0.1**
comp=Z,8.0nm,1.0s,mb4.5
BJI S **S 22 33 43.6 +8.2**
BJT Baijiatuau 32.05 214 PFAKE 22 28 40.0 +15
BJT LR LR
comp=Z,2μm,20.0s,MS4.7
DAG Danmarks Havn 33.11 351 *e*P **P 22 28 33.0 -1.3**
DAG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
DAG Danmarks Havn 33.11 351 *e*P **P 22 28 33.0 -1.3**
comp=Z,6.7nm,0.9s,mb4.6
DAG Danmarks Havn 33.11 351 *i* P **P 22 28 33.0 -1.3**
comp=Z,6.7nm,0.9s,mb4.6
MAJO Matsushiro 33.21 181 PFAKE 22 28 50.0 +14
MAJO LR LR
comp=Z,532nm,20.0s,MS4.2
KURK Kurchatov 33.53 267*d i*P **P 22 28 38.1 -0.1**
KURK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KURK Kurchatov 33.53 267 *e*P **P 22 28 36.7 -1.5**
comp=Z,22nm,0.8s,mb5.2
KURK LR LR
comp=Z,271nm,20.0s,MS4.0
KEV Kevo 33.56 324 *e*p **P 22 28 33.0 -5.2**
CHKZ Chkalovo 33.88 278 *i* P **P 22 28 38.8 -2.3**
CHKZ pmax pmax
comp=Z,46nm,2.1s,mb5.0
ARCES ARCESS Array B 34.05 325 P **P 22 28 40.4 -2.1**
comp=Z,5.2nm,0.8s,mb4.5,baz=45,slow=10,SNR=8.1
ARCES PcP PcP 22 31 20.7 +0.5
comp=Z,3.3nm,0.6s,baz=34,slow=4.4,SNR=6.5
ARCES LR LR 22 46 19.5
comp=Z,961nm,18.4s,MS4.6,baz=23,slow=43
BVAR Borovoye Array 34.49 277 P **P 22 28 44.6 -1.8**
comp=Z,4.0nm,0.6s,mb4.5,baz=56,slow=5.3,SNR=25
BVAR PcP PcP 22 31 23.3 +1.6
comp=Z,4.2nm,0.6s,baz=27,slow=3.3,SNR=3.9
BRVK Borovoye 34.50 277 P **P 22 28 45.2 -1.3**
BRVK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BRVK Borovoye 34.50 277 *e*P **P 22 28 44.9 -1.6**
comp=Z,17nm,0.9s,mb5.0
BRVK LR LR
comp=Z,215nm,21.0s,MS3.9
SVE Sverdlovsk 34.72 289 *e*P **P 22 28 47.1 -1.2**
SVE *e*S **S 22 34 13.0 -3.9**
SVE pmax pmax
comp=Z,120nm,2.0s,mb5.5
SVE MLR MLR
comp=Z,1μm,14.0s,MS4.8
MKAR Makanchi Array 35.60 260 *i* P **P 22 28 53.6 -2.4**
MKAR pmax pmax
comp=Z,28nm,0.7s
ARU Arti 35.72 290 P **P 22 28 56.0 -0.9**
comp=Z,190nm,0.7s,SNR=12
ARU Arti 35.72 290⇓ *i*P **P 22 28 51.4 -5.5**
ARU *e*PPP PPP 22 30 19.8 -17
ARU *e* 22 31 20.8
ARU *e*S **S 22 34 25.4 -7.1**
ARU *e*SSS SSS 22 36 56.0 -24
ARU *e* 22 39 09.3
ARU pmax pmax
comp=Z,22nm,0.8s,mb5.1
ARU MLR MLR
comp=Z,400nm,16.0s,MS4.3
ARU MLR MLR
comp=N,200nm,21.0s
ARU MLR MLR
comp=E,200nm,14.0s
WMQ Urumqi 36.38 252 P **P 22 29 02.5 -0.1**
JOF Joensuu 38.28 315 *e*p **P 22 29 18.3 0.0**
comp=E,8.3nm,0.5s,mb4.7
YKA Yellowknife Ar 38.39 46 P **P 22 29 18.5 -0.8**
comp=E,7.7nm,0.5s,mb4.7,baz=333,slow=8.0,SNR=32
YKA PP PP 22 30 47.2 -3.4
comp=E,5.8nm,0.9s,baz=324,slow=9.6,SNR=5.3
YKA LR LR 22 45 52.9
comp=E,255nm,20.4s,MS4.0,baz=265,slow=37
LZH Lanzhou 38.64 228 P **P 22 29 22.5 +0.9**
LZH AP pP 22 29 28.0 +2.3
LZH XP sP 22 29 30.5 +3.1
LZH PP PP 22 30 54.0 +0.2
LZH S **S 22 35 17.3 +0.1**
LZH AMB AMB
comp=Z,100nm,1.3s,mb5.4
LZH AMB AMB
comp=Z,220nm,4.0s
LZH LR LR
comp=E,3μm,15.2s
LZH LR LR
comp=Z,2μm,16.3s,MS5.1
LZH Lanzhou 38.64 228 P **P 22 29 22.4 +0.8**
LZH *PP pP 22 29 28.0 +2.3
LZH 22 30 54.0
LZH S **S 22 35 17.3 +0.1**
LZH SS SS 22 37 58.0 -0.5
LZH pmax pmax
comp=Z,100nm,1.3s,mb5.4
LZH Lanzhou 38.64 228 P **P 22 29 22.4 +0.8**
comp=Z,100nm,1.3s,mb5.4
LZH pP pP 22 29 28.0 +2.3
LZH sP sP 22 29 30.5 +3.1
LZH PP PP 22 30 54.0 +0.2
LZH S **S 22 35 17.3 +0.1**
LZH sS 22 35 28.0
LZH SS SS 22 37 58.0 -0.5
NJ2 Nanjing 39.34 207 *e*P **P 22 29 27.8 +0.3**
NJ2 AP pP 22 29 32.3 +0.8
NJ2 XP sP 22 29 34.8 +1.6
NJ2 PP PP 22 31 03.0 +1.2
NJ2 S **S 22 35 26.0 -1.8**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb4.8
NJ2 LR LR
comp=N,1μm,12.8s,MS5.3
NJ2 LR LR
comp=E,2μm,13.1s,MS5.3
NJ2 LR LR
comp=Z,920nm,15.0s,MS4.7
SSE Sheshan 39.92 204 P **P 22 29 30.5 -1.9**
SSE AP pP 22 29 35.5 -0.9
SSE S **S 22 35 33.3 -3.4**
SSE AMB AMB
comp=Z,31nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,98nm,3.7s
SSE LR LR
comp=N,324nm,15.5s,MS4.5
SSE LR LR
comp=E,460nm,15.3s,MS4.5
SSE LR LR
comp=Z,499nm,13.6s,MS4.5
SSE Sheshan 39.92 204 P **P 22 29 30.4 -2.0**
comp=Z,31nm,0.7s,mb5.2
SSE pP pP 22 29 35.5 -0.9
SSE PP PP 22 31 02.6 -5.5
SSE S **S 22 35 33.2 -3.5**
SSE sS 22 35 40.2
KAF Kangasniemi 40.17 318 *e*p **P 22 29 31.7 -2.4**
comp=Z,8.0nm,0.5s,mb4.7,baz=42,slow=7.7
KAF Kangasniemi 40.17 318 *e*P **P 22 29 31.7 -2.4**
KAF pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
FINES FINESS Array B 40.81 317 P **P 22 29 38.0 -1.3**
comp=Z,8.6nm,0.6s,mb4.5,baz=33,slow=9.5,SNR=32
PUL Pulkovo 41.23 313⇑ *e*P **P 22 29 43.7 +0.9**
PUL pmax pmax
comp=Z,42nm,0.5s,mb5.3
PUL pmax pmax
comp=N,99nm,0.7s
PUL pmax pmax
comp=E,57nm,0.7s
PUL MLR MLR
comp=Z,518nm,14.0s,MS4.5
PUL MLR MLR
comp=N,429nm,17.0s
TKM2 Tokmak 2 41.30 264 P **P 22 29 42.4 -1.1**
SNR=16
USP Ospenovka 41.38 265 P **P 22 29 46.3 +2.1**
SNR=17
CHMS Chumysh 41.53 265 P **P 22 29 47.7 +2.4**
SNR=17
FRU Bishkek 41.72 265⇓ *i*P **P 22 29 49.0 +2.2**
FRU pmax pmax
comp=Z,200nm,2.4s,mb5.3
KBK Karagaybulak 41.76 264 P **P 22 29 49.5 +2.4**
SNR=12
AAK Ala-Archa 41.94 265 P **P 22 29 51.3 +2.7**
SNR=21
AAK Ala-Archa 41.94 265⇓ *e*P **P 22 29 48.0 -0.6**
AAK pmax pmax
comp=Z,36nm,1.1s,mb4.9
AAK MLR MLR
comp=Z,1μm,16.0s,MS4.9
AAK Ala-Archa 41.94 265 *e*P **P 22 29 47.5 -1.1**
comp=Z,21nm,0.8s,mb4.8
AAK LR LR
comp=Z,262nm,19.0s,MS4.1
EKS2 Erkin-Say 42.16 265 P **P 22 29 53.1 +2.6**
SNR=11
KZA Kyzart 42.17 263 P **P 22 29 53.2 +2.7**
SNR=8.2
UCH Uchtor 42.29 264 P **P 22 29 55.0 +3.5**
SNR=6.0
AML Almayashu 42.66 265 P **P 22 29 57.7 +3.2**
SNR=21
MOS Moscow 42.74 305 *e*P **P 22 29 56.0 +0.9**
MOS *e* 22 31 34.8
MOS *e*PPP PPP 22 32 09.1 -1.5
MOS *e*S **S 22 36 11.2 -6.8**
MOS pmax pmax
comp=Z,34nm,0.7s,mb5.2
MOS MLR MLR
comp=Z,800nm,19.4s,MS4.6
MOS MLR MLR
comp=N,500nm,18.8s,MS4.7
MOS MLR MLR
comp=E,700nm,16.5s,MS4.7
ENH Enshi 42.84 219 PFAKE 22 30 10.0 +14
ENH LR LR
comp=Z,793nm,22.0s,MS4.6
VSU Vasula 43.27 315*d i*P **P 22 30 01.0 +1.7**
JOW Kunigami 43.34 194 LR LR 22 47 44.2
comp=Z,537nm,18.2s,MS4.5,baz=93,slow=36
OBN Obninsk 43.59 305⇑ *i*P **P 22 30 08.8 -1.1**
OBN *e*S **S 22 36 33.5 +3.2**
OBN pmax pmax
comp=Z,42nm,0.8s,mb5.2
OBN MLR MLR
comp=Z,300nm,16.0s,MS4.3
OBN Obninsk 43.59 305 *e*P **P 22 30 00.2 -1.7**
comp=Z,28nm,0.8s,mb5.0
NB2 NORSAR Subarra 44.37 327 P **P 22 30 06.4 -1.8**
comp=Z,28nm,1.1s,mb4.9,baz=23,slow=7.9
NB2 NORSAR Subarra 44.37 327 P **P 22 30 06.4 -1.8**
baz=23,slow=7.9
NOA NORSAR Array B 44.37 327 P **P 22 30 06.8 -1.3**
comp=Z,9.2nm,0.8s,mb4.6,baz=24,slow=7.9,SNR=18
NOA PcP PcP 22 31 53.6 +1.0
comp=Z,4.0nm,0.8s,baz=30,slow=2.7,SNR=4.7
NOA LR LR 22 51 18.8
comp=Z,309nm,19.1s,MS4.2,baz=30,slow=40
HFS Hagfors 44.71 324 P **P 22 30 09.3 -1.7**
comp=Z,8.1nm,0.5s,mb4.8,baz=37,slow=7.4,SNR=20
BORG Borgarnes 45.12 348 LR LR 22 50 06.4
comp=Z,255nm,19.0s,MS4.2,baz=19,slow=38
FRB Frobisher Bay 45.45 17 P **P 22 30 15.1 -1.7**
comp=Z,20nm,0.8s,mb5.0,baz=352,slow=7.9,SNR=5.3
FCC Fort Churchill 46.36 35 *e*P **P 22 30 22.6 -1.4**
FCC pmax pmax
comp=Z,46nm,0.8s,mb5.5
FCC Fort Churchill 46.36 35 *e*P **P 22 30 22.6 -1.4**
comp=Z,46nm,0.8s,mb5.5
EDM Edmonton 46.80 52 *e*P **P 22 30 26.7 -0.9**
EDM *e* pP 22 30 31.4 -0.3
SUW Suwalki 48.15 314 *e*P **P 22 30 38.4 +0.2**
LSA Lhasa 48.22 240 PFAKE 22 30 50.0 +11
LSA LR LR
comp=Z,363nm,19.0s,MS4.4
FFC Flin Flon 48.35 43 P **P 22 30 38.9 -0.8**
comp=Z,224nm,0.7s,SNR=12
FFC Flin Flon 48.35 43 *e*P **P 22 30 38.2 -1.5**
FFC pmax pmax
comp=Z,33nm,0.9s,mb5.4

FFC **Flin Flon** 48.35 43 *e*P P 22 30 38.2 -1.5
comp=Z,33nm,0.9s,mb5.4
OCWA **Octopus Mounta** 48.48 63 PFAKE 22 30 50.0 +9.2
OCWA LR LR
comp=Z,476nm,20.0s,MS4.5
MUD **Monsted U'grnd** 49.03 326 *e*P P 22 30 46.5 +1.6
MUD pmax pmax
comp=Z,16nm,0.6s,mb5.2
MUD **Monsted U'grnd** 49.03 326 *e*P P 22 30 46.5 +1.6
comp=Z,16nm,0.6s,mb5.2
MUD **Monsted U'grnd** 49.03 326 *i* P P 22 30 46.5 +1.6
comp=Z,16nm,0.6s,mb5.2
BSD **Bornholm Skovb** 49.08 321 *i* P P 22 30 46.3 +1.0
BSD pmax pmax
comp=Z,51nm,0.9s,mb5.5
BSD **Bornholm Skovb** 49.08 321 *i* P P 22 30 46.3 +1.0
comp=Z,51nm,0.9s,mb5.6
BSD *i* 22 31 09.0
comp=Z,320nm,17.0s
KMI **Kunming** 49.36 225 P P 22 30 47.1 -0.8
KMI S S 22 37 54.3 +1.3
KMI SS SS 22 41 18.9 -1.9
KMI pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
KMI **Kunming** 49.36 225 P P 22 30 47.1 -0.8
comp=Z,8.0nm,1.2s,mb4.6
KMI S S 22 37 54.3 +1.3
KMI SS SS 22 41 18.9 -1.9
AKASG **Malin Array Be** 49.56 308 P P 22 30 46.6 -2.5
AKASG 22 32 11.7
AKASG 22 32 47.7
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKASG **Malin Array Be** 49.56 308 P P 22 30 46.6 -2.5
comp=Z,3.8nm,0.5s,mb4.7,baz=25,slow=8.1,SNR=16
AKASG PcP PcP 22 32 11.7 +0.6
comp=Z,3.1nm,0.6s,baz=31,slow=4.2,SNR=9.5
AKASG PP PP 22 32 47.6 +3.5
comp=Z,3.3nm,0.9s,baz=20,slow=7.7,SNR=4.0
RCM **Mount Rainier-** 50.05 62 P P 22 30 55.0 +2.1
LON **Longmire** 50.10 62 P P 22 30 53.4 +0.1
WPW **White Pass** 50.23 62 P P 22 30 54.9 +0.6
EBG **Ellensburg** 50.34 61 P P 22 30 57.8 +2.7
WALA **Waterton Lakes** 50.38 55 *e*P P 22 30 54.6 -0.8
comp=Z,21nm,0.9s,mb5.2
GOF **Gofitskoye** 50.51 294 ⇓*i*P P 22 30 58.0 +1.6
GOF pmax pmax
comp=Z,40nm,1.5s,mb5.1
BSEG **Bad Segeberg** 51.16 324 *e*P P 22 31 03.0 +1.7
VFP **Flag Point** 51.49 63 P P 22 31 04.6 +0.7
COR **Corvallis** 51.57 65 *e*P P 22 31 06.9 +2.4
COR pmax pmax
comp=Z,79nm,0.8s,mb5.7
COR **Corvallis** 51.57 65 *e*P P 22 31 06.9 +2.3
comp=Z,79nm,0.8s,mb5.7
KIV **Kislovodsk** 51.60 294 *i* P P 22 31 05.0 +0.2
KIV *e* 22 33 03.0
KIV *e*S S 22 38 25.5 +1.8
KIV *e*SS SS 22 41 55.9 -2.2
KIV pmax pmax
comp=Z,15nm,0.7s,mb5.0
KIV MLR MLR
comp=E,478nm,20.0s
KIV MLR MLR
comp=Z,394nm,20.0s,MS4.4
KIV MLR MLR
comp=N,215nm,14.0s
KIV **Kislovodsk** 51.60 294 *e*P P 22 31 04.2 -0.6
comp=N,25nm,0.7s,mb5.2
KIV LR LR
comp=Z,74nm,22.0s,MS3.7
JIRN **Jiri** 51.65 244 *e*P P 22 31 04.9 -0.4
comp=Z,54nm,0.6s,mb5.6
LVV **L'vov** 51.76 312 *e*P P 22 30 59.2 -6.6
LVV MLR MLR
comp=N,210nm,14.0s,MS4.6
LVV MLR MLR
comp=Z,160nm,14.0s,MS4.2
LVV MLR MLR
comp=E,380nm,15.0s,MS4.6
KKN **Kakani** 51.81 245 *e*P P 22 31 06.0 -0.6
comp=E,69nm,0.8s,mb5.6
GKN **Gorkha** 51.82 246 *e*P P 22 31 06.1 -0.5
comp=E,125nm,1.0s,mb5.8
PKI **Pulchoki** 51.97 245 *e*P P 22 31 07.8 0.0
DMN **Daman** 52.03 245 *e*P P 22 31 08.2 -0.1
comp=E,98nm,1.3s,mb5.6
KWP **Kalwaria** 52.27 312 *e*P P 22 31 10.8 +1.1
EKA **Eskdalemuir Ar** 52.28 334 P P 22 31 08.6 -1.1
comp=E,7.0nm,0.7s,mb4.7,baz=11,slow=8.0,SNR=22
ZEI **Tsey** 52.28 292 *i* P P 22 31 05.5 -4.4
ZEI *e*PP pP 22 31 10.0 -4.0
ZEI *e* 22 33 07.4
ZEI pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
KOLN **Koldanda** 52.37 247 *e*P P 22 31 09.7 -1.1
MSO **Missoula** 52.38 56 *e*P P 22 31 09.8 -0.8
comp=Z,6.9nm,0.8s,mb4.6
OJC **Ojcow** 52.46 315 *e*P P 22 31 12.3 +1.1
CHMT **Chamberlain Mo** 52.51 55 *e*P P 22 31 11.2 -0.3
KSP **Ksiaz** 52.73 318 *e*P P 22 31 13.4 +0.2
KOLS **Kolonicke sedl** 53.02 312 *i* P P 22 31 16.3 +0.9
CLL **Collm** 53.05 320 ⇑*i*P P 22 31 13.3 -2.2
CLL *i* pP 22 31 16.3 -3.4
CLL pmax pmax
comp=Z,11nm,0.5s,mb5.0
CLL **Collm** 53.05 320 ⇑*i*P P 22 31 13.3 -2.2
comp=Z,11nm,0.5s,mb5.0
CLL *i* pP 22 31 16.3 -3.4
CLL **Collm** 53.05 320 ⇑P P 22 31 13.3 -2.2
comp=Z,logA/T=1.3,mb5.0
CLL *i* *PP pP 22 31 16.3 -3.4
CLL *e*SP sP 22 31 17.6 -3.7
CLL *e* 22 32 03.0
NIE **Niedzica** 53.08 314 *e*P P 22 31 15.5 -0.2
UPC **Upice** 53.11 318 *e*P P 22 31 16.8 +0.8
CLZ **Clausthal** 53.12 323 *e*P P 22 31 17.6 +1.6
comp=Z,106nm,2.0s,mb5.4
DPC **Dobruska-Polom** 53.18 318 *e*P P 22 31 14.5 -2.0
BMO **Blue Mountains** 53.18 60 *e*P P 22 31 15.9 -0.7
comp=Z,4.1nm,1.0s,mb4.3
OKC **Ostrava-Krasne** 53.22 316 *e*P P 22 31 17.7 +0.9
BRG **Berggiesshubel** 53.24 320 *i* P P 22 31 17.7 +0.7
BRG pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BRG **Berggiesshubel** 53.24 320 *i* P P 22 31 17.7 +0.7
comp=Z,10.0nm,0.8s,mb4.8
CRVS **Cervenica-Dubn** 53.26 313 *i* P P 22 31 18.6 +1.5
PVCC **Panska Ves** 53.42 319 *e*P P 22 31 19.1 +0.8
MORC **Moravsky Berou** 53.42 316 *e*P P 22 31 16.4 -1.9
MORC pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
MORC **Moravsky Berou** 53.42 316 *e*P P 22 31 16.4 -1.9
comp=Z,7.6nm,0.6s,mb4.8
DGMT **Dagmar** 53.55 48 P P 22 31 18.5 -0.7
comp=Z,19nm,0.5s,mb5.3
DGMT LR LR
comp=Z,264nm,20.0s,MS4.3
PRU **Pruhonice** 53.93 319 *e*P P 22 31 22.6 +0.6
MOX **Moxa** 53.98 321 *e*P P 22 31 20.6 -1.7
MOX pmax pmax
comp=Z,27nm,0.7s,mb5.3
MOX **Moxa** 53.98 321 *e*P P 22 31 20.6 -1.7
comp=Z,27nm,0.7s,mb5.3
MOX **Moxa** 53.98 321 *i* P P 22 31 20.6 -1.7
comp=Z,logA/T=1.6,mb5.3
MOX QM 22 54 54.0
MOX RM 23 00 06.0
VRAC **Vranov** 54.09 317 P P 22 31 22.5 -0.6
comp=Z,4.9nm,0.5s,mb4.7,baz=24,slow=9.6,SNR=12
BOZ **Bozeman (W)** 54.12 55 *e*P P 22 31 23.0 -0.5
BOZ pmax pmax
comp=Z,24nm,1.1s,mb5.0
BOZ MLR MLR
comp=Z,1μm,22.0s,MS4.9
BOZ **Bozeman (W)** 54.12 55 *e*P P 22 31 23.0 -0.5
comp=Z,24nm,1.1s,mb5.0
BOZ LR LR
comp=Z,1μm,22.0s,MS4.9
VYHS **Vyhne** 54.30 315 *e*P P 22 31 24.0 -0.7
GNI **Garni** 54.36 290 P P 22 31 25.6 +0.3
comp=Z,4.7nm,0.8s,mb4.5,baz=52,slow=5.2,SNR=3.6
GNI LR LR 22 57 54.8
comp=Z,485nm,18.6s,MS4.6,baz=34,slow=40
SCHQ **Schefferville** 54.39 18 P P 22 31 23.0 -2.2
comp=Z,30nm,0.6s,mb5.4,baz=353,slow=7.5,SNR=48
SCHQ LR LR 22 53 39.4
comp=Z,560nm,21.6s,MS4.6,baz=329,slow=35
SCHQ **Schefferville** 54.39 18 *e*P P 22 31 22.6 -2.6
comp=Z,44nm,0.7s,mb5.5
MCMT **McKenzie Canyo** 54.52 56 *e*P P 22 31 27.0 +0.5
GCMT **Greycliff** 54.55 53 *e*P P 22 31 26.3 -0.3
PSZ **Piszkesteto** 54.57 314 ⇓*e*P P 22 31 28.3 +1.6
LHEM **Herd Peak** 54.58 65 P P 22 31 27.6 +0.7
DLF **Lyons Farm** 54.76 335 *e*P P 22 31 29.0 +1.0
DCN **Croghan** 54.82 336 *e*P P 22 31 30.0 +1.5
QLMT **Earthquake Lak** 54.93 55 *e*P P 22 31 29.2 -0.3
MOD **Modoc** 54.94 64 *e*P P 22 31 28.9 -0.6
comp=Z,19nm,1.1s,mb5.0
GRA1 **Grafenberg Arr** 54.96 321 *e*P P 22 31 31.2 +1.6
comp=Z,14nm,0.7s,mb5.1
GRF **Grafenberg Arr** 54.96 321 *e*P P 22 31 31.2 +1.6
GRF pmax pmax
comp=Z,14nm,0.7s,mb5.1
GRF **Grafenberg Arr** 54.96 321 *e*P P 22 31 31.2 +1.6
GRF pmax pmax
comp=Z,14nm,0.7s,mb5.1
GRF **Grafenberg Arr** 54.96 321 *e*P P 22 31 31.2 +1.6
comp=Z,14nm,0.7s,mb5.1
KHC **Kasperske Hory** 54.96 319 *e*P P 22 31 27.7 -1.9
KHC *e* pP 22 31 30.5 -3.2
KHC **Kasperske Hory** 54.96 319 *e*P P 22 31 27.7 -1.9
KHC pP pP 22 31 30.5 -3.2
WVOR **Wild Horse Val** 54.97 62 *e*P P 22 31 30.4 +0.6
WVOR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
WVOR MLR MLR
comp=Z,895nm,20.0s,MS4.8
WVOR **Wild Horse Val** 54.97 62 *e*P P 22 31 30.4 +0.6
comp=Z,9.7nm,0.7s,mb4.9
WVOR LR LR
comp=Z,895nm,20.0s,MS4.8
ZST **Bratislava** 55.00 316 *e*P P 22 31 32.2 +2.3
TNS **Taunus Mts** 55.05 323 *e*P P 22 31 31.7 +1.5
TNS pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
TNS **Taunus Mts** 55.05 323 *e*P P 22 31 31.7 +1.5
comp=Z,9.0nm,0.7s,mb4.9
WET **Wettzell** 55.10 320 *e*P P 22 31 31.6 +0.9
WET pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
WET **Wettzell** 55.10 320 *e*P P 22 31 31.6 +0.9
comp=Z,7.0nm,1.0s,mb4.7
GEC2 **GERESS Array S** 55.20 319 *e*P P 22 31 32.2 +0.9
GEC2 pmax pmax
comp=Z,12nm,1.1s,mb4.8
GEC2 **GERESS Array S** 55.20 319 *e*P P 22 31 32.2 +0.9
comp=Z,12nm,1.1s,mb4.8
GERES **GERESS Array B** 55.20 319 P P 22 31 30.5 -0.9
comp=Z,5.4nm,0.8s,mb4.6,baz=27,slow=6.0,SNR=26
YMR **Madison River** 55.21 55 *e*P P 22 31 31.5 0.0
MLR **Muntele Rosu** 55.22 308 P P 22 31 31.3 -0.3
comp=Z,5.2nm,0.6s,mb4.8,baz=206,slow=13,SNR=9.7
HLID **Hailey** 55.22 58 *e*P P 22 31 31.0 -0.5
comp=Z,4.7nm,0.8s,mb4.6
HLID *e*PcP PcP 22 32 32.6 +0.3
HLID LR LR
comp=Z,627nm,19.0s,MS4.7
WDC **Whiskeytown Da** 55.43 66 *e*P P 22 31 32.7 -0.4
WDC pmax pmax
comp=Z,12nm,0.9s,mb4.9
WDC **Whiskeytown Da** 55.43 66 *e*P P 22 31 32.7 -0.4
comp=Z,12nm,0.9s,mb4.9
YFT **Old Faithful** 55.45 55 *e*P P 22 31 34.6 +1.4
LKWY **Lake** 55.47 54 *e*P P 22 31 34.3 +1.0
LKWY pmax pmax
comp=Z,24nm,0.9s,mb5.2
LKWY **Lake** 55.47 54 *e*P P 22 31 34.3 +0.9
comp=Z,24nm,0.9s,mb5.2
LBCM **Butte Creek Ri** 55.58 65 P P 22 31 34.2 0.0
GIVF **Givet** 55.90 326 *e*P P 22 31 36.8 +0.5
comp=Z,14nm,0.6s,mb4.8
GIVF **Givet** 55.90 326 *e*P P 22 31 36.8 +0.5
GIVF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
IMW **Indian Meadow** 55.92 55 *e*P P 22 31 36.5 -0.2
BAIF **Baives** 56.06 326 *e*P P 22 31 38.3 +0.8
comp=Z,17nm,0.7s,mb4.9
BAIF **Baives** 56.06 326 *e*P P 22 31 38.3 +0.8
BAIF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
LOHW **Long Hollow** 56.28 55 *e*P P 22 31 38.9 -0.3
TPAW **Teton Pass** 56.30 55 *e*P P 22 31 39.9 +0.6
CMAR **Chiang Mai Arr** 56.70 227 P P 22 31 41.6 -0.9
comp=Z,1.3nm,0.7s,mb4.0,baz=10,slow=8.4,SNR=8.4
CMAR LR LR 22 55 22.3
comp=Z,380nm,18.4s,MS4.5,baz=25,slow=35
AHID **Auburn Hatcher** 56.92 56 PFAKE 22 32 00.0 +16
AHID LR LR
comp=Z,965nm,19.0s,MS4.9
CDF **Champ du Feu** 57.01 324 *e*P P 22 31 45.0 +0.6
comp=Z,16nm,0.8s,mb4.8
CDF **Champ du Feu** 57.01 324 *e*P P 22 31 45.0 +0.6
CDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
HVU **Hansel Valley** 57.34 57 *e*P P 22 31 46.8 0.0
PDAR **Pinedale Array** 57.36 54 P P 22 31 46.2 -0.7
comp=Z,4.8nm,0.8s,mb4.6,slow=3.0,SNR=17
PDAR LR LR 22 59 54.9
comp=Z,696nm,18.3s,MS4.8,baz=344,slow=40
MEZF **Maizieres J'vi** 57.38 325 *e*P P 22 31 47.8 +0.8
comp=Z,33nm,0.8s,mb5.1
HAU **Haudompre** 57.59 324 *e*P P 22 31 48.8 +0.4
comp=Z,8.2nm,0.7s,mb4.6
HAU *e*R
comp=Z,547nm,18.8s
HINF **Hinteralfeld** 57.67 324 *e*P P 22 31 49.1 +0.1
comp=Z,10.0nm,0.7s,mb4.6
HINF **Hinteralfeld** 57.67 324 *e*P P 22 31 49.1 +0.1
HINF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
DAVOX **Davos** 58.01 321 P P 22 31 50.1 -1.3
comp=Z,7.1nm,0.8s,mb4.8,baz=2.8,slow=4.1,SNR=8.0
BGU **Big Grassy Mou** 58.05 58 *e*P P 22 31 49.1 -2.6
MALT **Malatya** 58.07 294 *e*P P 22 31 51.6 -0.3
MALT pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
MALT **Malatya** 58.07 294 *e*P P 22 31 51.6 -0.3
comp=Z,8.7nm,0.9s,mb4.8
FLN **La Foliniere** 58.17 330 *e*P P 22 31 52.5 0.0
FLN *e*R
comp=Z,320nm,21.5s
LDF **La Druitiere** 58.27 329 *e*P P 22 31 53.2 0.0
comp=Z,21nm,0.8s,mb4.9
LDF **La Druitiere** 58.27 329 *e*P P 22 31 53.2 0.0
LDF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BRTR **Keskin Array B** 58.27 299 P P 22 31 52.9 -0.4
comp=Z,1.8nm,0.6s,mb4.3,baz=42,slow=3.9,SNR=8.0
GRR **Gorron** 58.60 330 *e*P P 22 31 55.5 0.0
JLU **Jordanelle** 58.81 57 *e*P P 22 31 56.5 -0.6
CABF **La Chapelle** 58.97 324 *e*P P 22 31 58.5 +0.4
comp=Z,38nm,1.1s,mb5.0
CABF **La Chapelle** 58.97 324 *e*P P 22 31 58.5 +0.4
CABF pmax pmax
comp=Z,19nm,1.1s,mb5.0
DAU **Daniels Canyon** 59.04 57 *e*P P 22 31 58.8 +0.1
SSF **Saint Saulge** 59.06 326 *e*P P 22 31 58.8 +0.1
SSF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
SSF **Saint Saulge** 59.06 326 *e*P P 22 31 58.8 +0.1
comp=Z,8.6nm,0.7s,mb4.9
NLU **North Lily Min** 59.22 58 *e*P P 22 31 59.3 -0.7
AVF **Avril sur Loir** 59.35 326 *e*P P 22 32 00.8 +0.1
comp=Z,13nm,0.7s,mb4.8
AVF **Avril sur Loir** 59.35 326 *e*P P 22 32 00.8 +0.1
AVF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
TPH **Tonopah** 59.39 63 P P 22 32 01.3 +0.2
TPH pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
TPH **Tonopah** 59.39 63 P P 22 32 01.3 +0.1
comp=Z,5.1nm,0.6s,mb4.7
SMF **Signal de Mont** 59.40 326 *e*P P 22 32 01.2 +0.2
QUIF **Quistinic** 59.45 331 *e*P P 22 32 01.3 -0.1
comp=Z,23nm,0.8s,mb5.0
QUIF **Quistinic** 59.45 331 *e*P P 22 32 01.3 -0.1
QUIF pmax pmax
comp=Z,12nm,0.8s,mb5.0
TRCR **Troy Canyon** 59.65 61 *e*P P 22 32 02.7 -0.2
BGF **Bois d'Agland** 59.67 326 *e*P P 22 32 03.6 +0.6
comp=Z,18nm,0.8s,mb4.9
BGF **Bois d'Agland** 59.67 326 *e*P P 22 32 03.6 +0.6
BGF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LPL **La Plagne** 59.88 323 *e*P P 22 32 05.4 +1.0
LPG **La Plagne** 59.90 323 *e*P P 22 32 04.7 +0.2
comp=Z,21nm,0.9s,mb4.9
LPG **La Plagne** 59.90 323 *e*P P 22 32 04.7 +0.2
LPG pmax pmax
comp=Z,11nm,0.9s,mb4.9
TCF **Toulx Ste Croi** 60.05 327 *e*P P 22 32 05.8 +0.2
comp=Z,10nm,0.7s,mb4.7
TCF **Toulx Ste Croi** 60.05 327 *e*P P 22 32 05.8 +0.2
TCF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
MFF **Saint Martin d** 60.19 329 *e*P P 22 32 07.2 +0.7
comp=Z,30nm,1.0s,mb5.0
MFF **Saint Martin d** 60.19 329 *e*P P 22 32 07.2 +0.7
MFF pmax pmax
comp=Z,15nm,1.0s,mb5.0
SRU **San Rafael** 60.46 57 P P 22 32 05.6 -2.8
MBDF **Montbardon** 60.63 323 *e*P P 22 32 09.7 +0.2
comp=Z,20nm,0.9s,mb4.9
MBDF **Montbardon** 60.63 323 *e*P P 22 32 09.7 +0.2
MBDF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
ORIF **Oris-en-Rattie** 60.63 323 *e*P P 22 32 10.3 +0.8
comp=Z,24nm,0.9s,mb5.0
ORIF *e*R
comp=Z,416nm,18.2s
VIVF **Saint-Julien-l** 60.94 324 *e*P P 22 32 12.5 +0.9
RJF **Les Rejaudoux** 61.13 327 *e*P P 22 32 13.6 +0.7
RJF *e*R
comp=Z,506nm,22.5s
ISCO **Idaho Springs** 61.22 52 PFAKE 22 32 30.0 +16
ISCO LR LR
comp=Z,667nm,22.0s,MS4.8
SBF **Sospel** 61.31 322 *e*P P 22 32 14.7 +0.5
CAF **Calviac** 61.39 326 *e*P P 22 32 15.5 +0.8
comp=Z,32nm,1.1s,mb5.1
CAF **Calviac** 61.39 326 *e*P P 22 32 15.5 +0.8
CAF pmax pmax
comp=Z,16nm,1.1s,mb5.1
SMRF **Simiane la Rot** 61.60 323 *e*P P 22 32 16.7 +0.6
LFF **La Frestale** 61.63 327 *e*P P 22 32 17.1 +0.8
FRF **La Foret Royal** 61.77 322 *e*P P 22 32 18.2 +0.9
NEN **Nelson** 62.36 62 *e*P P 22 32 21.5 +0.1
SADO **Sadowa** 62.50 30 P P 22 32 23.2 +1.0
comp=Z,18nm,0.6s,mb5.4,baz=359,slow=5.6,SNR=12
LDFC **Landfair** 62.81 62 *e*P P 22 32 23.6 -0.8
LDFC *e* pP 22 32 27.4 -1.2
MTLF **Montolieu** 62.89 326 *e*P P 22 32 25.7 +1.0
comp=Z,26nm,1.0s,mb5.0
MTLF **Montolieu** 62.89 326 *e*P P 22 32 25.7 +1.0
MTLF pmax pmax
comp=Z,13nm,1.0s,mb5.0
SDCO **Great Sand Dun** 63.16 53 *e*P P 22 32 25.1 -1.5
comp=Z,25nm,1.3s,mb5.2
EPF **Esparros** 63.55 327 *e*P P 22 32 29.3 +0.4
comp=Z,22nm,0.9s,mb4.9
EPF **Esparros** 63.55 327 *e*P P 22 32 29.3 +0.4
EPF pmax pmax
comp=Z,11nm,0.9s,mb4.9
HYB **Hyderabad** 63.65 248 *e*P P 22 32 30.0 0.0
HYB **Hyderabad** 63.65 248 *i* P P 22 32 30.0 0.0
NCB **Newcomb** 64.08 26 *e*P P 22 32 30.6 -1.8
comp=Z,22nm,0.6s,mb5.4
MIV **Mineville/With** 64.08 25 *e*P P 22 32 31.4 -1.0
ASF **Jabal al Asfar** 64.20 293 P P 22 32 34.4 +1.0
comp=Z,7.1nm,0.8s,mb4.7,baz=266,slow=3.8,SNR=12
ASF LR LR 23 03 09.1
comp=Z,242nm,18.9s,MS4.4,baz=264,slow=38
MDV **Middlebury** 64.21 25 P P 22 32 32.1 -1.1
KSU1 **Kansas State U** 64.24 45 *e*P P 22 32 30.6 -2.9
GENY **Geneseo** 64.67 29 *e*P P 22 32 34.7 -1.6
ERPA **Erie** 64.92 31 P P 22 32 39.2 +1.3
comp=Z,24nm,0.7s,mb5.3
HOQ **Hoqain** 65.17 271 P P 22 32 40.3 +0.5
SNR=5.4
HOQ P 22 32 40.3
SNR=5.4
ANMO **Albuquerque** 65.50 55 PFAKE 22 32 50.0 +8.2
ANMO LR LR
comp=Z,452nm,19.0s,MS4.7
ARQ **Araqi** 65.67 271 P P 22 32 43.8 +0.8
SNR=8.3
ARQ P 22 32 43.8
SNR=8.3
JMDO **Jabal Madar** 66.01 270 P P 22 32 46.1 +0.9
SNR=7.4
JMDO P 22 32 46.1
SNR=7.4
SSPA **Standing Stone** 66.73 30 PFAKE 22 33 00.0 +10
SSPA LR LR
comp=Z,406nm,21.0s,MS4.6
EIL **Elat** 67.14 294 *e*P P 22 32 50.3 -2.0
comp=Z,11nm,0.8s,mb5.0
ESDC **Sonseca Array** 67.59 330 P P 22 32 56.3 +1.3
comp=Z,2.4nm,0.5s,mb4.5,baz=5.8,slow=7.1,SNR=13
WMOK **Wichita Mounta** 67.81 49 *e*P P 22 32 54.0 -2.5
WMOK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
WMOK MLR MLR
comp=Z,505nm,19.0s,MS4.8
WMOK **Wichita Mounta** 67.81 49 *e*P P 22 32 54.0 -2.5
comp=Z,9.6nm,1.0s,mb4.8
WMOK LR LR
comp=Z,505nm,19.0s,MS4.8
SDMD **Soldier's Deli** 68.11 29 P P 22 32 59.2 +1.0
MNTX **Cornudas Mount** 68.86 55 *e*P P 22 33 01.6 -1.4
comp=Z,4.0nm,0.6s,mb4.5
HBAR **Harrisburg** 69.05 42 *e*P P 22 33 02.2 -1.9
OXF **Oxford** 70.33 41 *e*P P 22 33 10.3 -1.7
OXF pmax pmax
comp=Z,56nm,0.9s,mb5.5
OXF **Oxford** 70.33 41 *e*P P 22 33 10.3 -1.7
comp=Z,56nm,0.9s,mb5.5
JCT **Junction City** 71.57 51 *e*P P 22 33 17.4 -2.1
JCT pmax pmax
comp=Z,17nm,1.0s,mb4.9
JCT MLR MLR
comp=Z,485nm,19.0s,MS4.8
JCT **Junction City** 71.57 51 *e*P P 22 33 17.4 -2.1
comp=Z,17nm,1.0s,mb4.9
JCT LR LR
comp=Z,485nm,19.0s,MS4.8
TXAR **Lajitas Array** 71.58 55 P P 22 33 19.1 -0.5
comp=Z,2.7nm,0.6s,mb4.3,baz=14,slow=5.2,SNR=13
TXAR LR LR 23 08 09.4
comp=Z,293nm,19.4s,MS4.6,baz=195,slow=39
LRAL **Lakeview Retre** 72.29 39 PFAKE 22 33 40.0 +16
LRAL LR LR
comp=Z,444nm,21.0s,MS4.7
ABTO **Aybut** 72.32 272 P P 22 33 24.6 +0.4
SNR=11
ABTO P 22 33 24.6
SNR=11
HKT **Hockley** 73.12 48 PFAKE 22 33 40.0 +11
HKT LR LR
comp=Z,734nm,19.0s,MS5.0
WRA **Warramunga Arr** 89.45 184 P P 22 34 54.2 -0.4
comp=Z,1.8nm,0.8s,mb4.5,baz=357,slow=5.5,SNR=12
ASAR **Alice Springs** 93.16 185 P P 22 35 10.9 -0.8
comp=Z,1.1nm,0.6s,mb4.4,baz=1.3,slow=4.7,SNR=9.5
ASAR LR LR 23 17 30.6
comp=Z,93nm,19.7s,MS4.2,baz=352,slow=36
MAW **Mawson** 146.42 222 PKPbc PKPbc 22 41 37.0 +1.2
comp=Z,16nm,0.9s,baz=25,slow=3.2,SNR=4.6
PLCA **Paso Flores** 147.16 43 *e*PKP2 PKPab 22 41 39.9 -2.7
PLCA **Paso Flores** 147.16 43 PKPbc PKPdf 22 41 39.8 -0.3
comp=Z,15nm,1.0s,baz=351,slow=7.1,SNR=13
VNDA **Vanda** 147.65 171 PKPbc PKPdf 22 41 39.9 +0.1
comp=Z,1.5nm,0.7s,baz=323,slow=5.8,SNR=8.5
SYO **Syowa Base** 153.43 233 ⇓PKiKP 22 41 56.8

IGQ 25 22:22:49.4, 1.50S-81.12W, h17km-9km, mb4.1, 4C-1D,
Error ellipse: s-maj=14.0km s-min=9.5km az=158.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
HOJA	**Cerro de Hojas**	**0.73**	**52**	⇑P	Pb	22 23 03.0		-0.4
IGUA	**Igualata**	**2.48**	**90**	⇑P	Pn	22 23 30.6		+0.8

JUIV	**Juive**	**2.66**	**88**	P	Pn	22 23 33.4	+1.1
ARRY	**Arrayan**	**2.67**	**90**	⇑P	Pn	22 23 33.3	+0.8
ARRY				S	Sn	22 24 05.4	+0.8
PATA	**Patacocha**	**2.69**	**90**	P	Pn	22 23 36.0	+3.2
ULBA	**Ulba**	**2.71**	**89**	P	Pn	22 23 34.3	+1.1
PISA	**Pisayambo**	**2.77**	**81**	P	Pn	22 23 36.8	+2.8
NAS1	**Nasa**	**2.78**	**72**	P	Pn	22 23 37.3	+3.2
JUA2	**San Juan 2**	**2.82**	**63**	⇑P	Pn	22 23 36.0	+1.3
TERV	**Terraza Guagua**	**2.84**	**62**	P	Pn	22 23 36.7	+1.7
PINO	**Pino**	**2.85**	**62**	P	Pn	22 23 35.5	+0.4
VC1	**Cotopaxi 1**	**2.85**	**73**	P	Pn	22 23 38.0	+3.0
TAMB	**Tambo**	**2.87**	**74**	P	Pn	22 23 38.8	+3.5
YANA	**Yana**	**2.90**	**62**	P	Pn	22 23 36.2	+0.4
ANTI	**Antisana**	**3.14**	**71**	P	Pn	22 23 42.0	+2.8
COTA	**Cotacachi**	**3.33**	**57**	⇓P	Pn	22 23 44.0	+2.2
CAYR	**Refugio Cayamb**	**3.46**	**64**	P	Pn	22 23 46.7	+2.9
CAYA	**Cayambe**	**3.50**	**63**	P	Pn	22 23 47.5	+3.2

*PLV **25** 22:23:05.6±1.2,23.15N×104.06E,MD3.8*

BJI 25 22:23:03.8,23.29N×104.07E,h10km,ML3.8,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHV	**Doan Hung**	**1.95**	**148**	*e*Pn	Pn	22 23 38.5	+1.1
DHV				*e*Pg	Pg	22 23 40.8	-2.0
DHV				*e*Sg	Sg	22 24 04.6	-4.2
BVV	**Ba Vi**	**2.49**	**151**	*e*Pn	Pn	22 23 46.4	+1.4
BVV				*e*Pg	Pg	22 23 51.0	-2.5
BVV				*e*Sg	Sg	22 24 23.8	-2.9
MTZV	**Met**	**2.73**	**129**	*e*Pn	Pn	22 23 49.7	+1.2
MTZV				*e*Pg	Pg	22 23 56.2	-2.0
MTZV				*e*Sg	Sg	22 24 30.8	-3.8
HNV	**Hanoi**	**2.75**	**144**	*e*Pn	Pn	22 23 49.3	+0.5
HNV				*e*Pg	Pg	22 23 56.0	-2.6
HNV				*e*Sg	Sg	22 24 32.0	-3.3
BGV	**Bac-Giang**	**2.82**	**134**	*e*Pn	Pn	22 23 50.7	+0.9
BGV				*e*Pg	Pg	22 23 57.5	-2.6
BGV				*e*Sg	Sg	22 24 33.4	-4.2
DSV	**Doi Son**	**3.22**	**146**	*e*Pn	Pn	22 23 55.8	+0.3
DSV				*e*Pg	Pg	22 24 04.3	-3.8
DSV				*e*Sg	Sg	22 24 45.5	-5.5
YTV	**Yen Tu**	**3.24**	**130**	*e*Pn	Pn	22 23 56.6	+0.8
YTV				*e*Pg	Pg	22 24 06.5	-2.0
YTV				*e*Sg	Sg	22 24 47.9	-3.9
PLV	**Phu-Lien**	**3.43**	**136**	*e*Pn	Pn	22 23 59.2	+0.7
PLV				*e*Pg	Pg	22 24 09.4	-2.9
PLV				*e*Sg	Sg	22 24 52.0	-6.0

*IDC **25** 22:24:32.0±1.1,9.54N×93.56E,mb4.1/6,mb1 4.4/7, mb1mx4.0/18,mbtmp4.1/7,MS3.4/1,Ms1 3.6/1, ms1mx2.8/20,Error ellipse: s-maj=53.0km s-min=22.0km az=47.0*

*BJI **25** 22:24:33.7,9.71N×93.56E,h21km,mb4.1,Ms4.5,Msz4.4*

*NEIC **25** 22:24:36.1±0.8,9.62N×93.54E,h30km,mb4.5/5,Error ellipse: s-maj=19.3km s-min=15.4km az=70.0*

ISC 25 22:24:34.1±0.6,9.67N±0.08×93.59E±0.09,h30km,n33, σ1ŝ49/35,mb4.3/9,MS4.3/1,1C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.16**	**30**	Pn	**P**	**22 27 01.4**	**0.0**
	baz=220,slow=14,SNR=7.9						
CMAR				LR	LR	22 30 50.3	
	comp=Z,202nm,20.6s,baz=75,slow=37						
VIS	**Vishakhapatnam**	**12.78**	**310**	*e*P	**P**	**22 27 32.8**	**-4.0**
VIS				*i* S	**S**	**22 29 45.0**	**-14**
BWNR	**Bhubaneshwar**	**12.96**	**325**	*e*P	**P**	**22 27 38.2**	**-1.0**
SHL	**Shillong**	**15.90**	**354**	⇑*i*P	**P**	**22 28 19.0**	**+1.4**
SHL				*e*		22 31 07.0	
HYB	**Hyderabad**	**16.52**	**299**	*i* P	**P**	**22 28 29.0**	**+3.5**
HYB				*e*		22 31 22.0	
HYB				*e*S	**S**	**22 31 31.0**	**+3.9**
KMI	**Kunming**	**17.66**	**28**	P	**P**	**22 28 41.3**	**+1.4**
	10.0nm,1.2s						
JIRN	**Jiri**	**19.21**	**340**	*e*P	**P**	**22 28 58.0**	**-0.7**
	30nm,0.7s						
PKI	**Pulchoki**	**19.41**	**338**	*e*P	**P**	**22 29 02.0**	**+1.1**
	40nm,1.1s						
DMN	**Daman**	**19.56**	**337**	*e*P	**P**	**22 29 01.2**	**-1.4**
KKN	**Kakani**	**19.66**	**338**	*e*P	**P**	**22 29 02.8**	**-0.9**
	25nm,1.0s						
LSA	**Lhasa**	**20.06**	**354**	P	**P**	**22 29 06.0**	**-2.0**
LSA				LR	LR		
	comp=N,420nm,17.0s,MS4.3						
LSA				LR	LR		
	comp=E,1μm,17.0s,MS4.3						
LSA				LR	LR		
	comp=Z,720nm,10.0s						
LSA	**Lhasa**	**20.06**	**354**	*e*P	**P**	**22 29 05.6**	**-2.4**
	comp=Z,9.1nm,0.6s						
GKN	**Gorkha**	**20.09**	**336**	*e*P	**P**	**22 29 07.6**	**-0.8**
KOLN	**Koldanda**	**20.32**	**334**	*e*P	**P**	**22 29 10.1**	**-0.6**
	comp=Z,36nm,1.0s						
KAD	**Karad**	**20.33**	**294**	*e*P	**P**	**22 29 13.5**	**+2.6**
KAD				*i*		22 32 40.5	
POO	**Poona**	**21.06**	**297**	*e*	**S**	**22 33 13.0**	**+6.8**
AGRA	**Agra**	**22.88**	**322**	*e*P	**P**	**22 29 39.7**	**+3.2**
KALG	**Kalgarh**	**24.14**	**327**	*e*	**P**	**22 29 40.0**	**-8.8**
SONA	**Sohna**	**24.14**	**322**	*e*	**P**	**22 29 45.3**	**-3.5**
SONA				*e*		22 29 57.3	
	comp=Z,11nm,0.8s						
AYAN	**Aya Nagar**	**24.28**	**323**	*e*P	**P**	**22 29 48.3**	**-1.9**
AYAN				*e*		22 29 53.2	
	comp=Z,4.1nm,0.5s						
NDI	**New Delhi**	**24.38**	**323**	*e*P	**P**	**22 29 53.0**	**+1.9**
NDI				*e*		22 31 20.0	
JOSI	**Joshimath**	**24.56**	**330**	*e*	**P**	**22 29 49.2**	**-3.6**
JOSI				*e*		22 29 57.1	
	comp=Z,100nm,0.9s						
KHET	**Khetri**	**24.81**	**320**	*e*P	**P**	**22 29 58.1**	**+2.9**
KLP	**Kalpa**	**26.01**	**329**	*e*	**P**	**22 30 12.1**	**+5.7**
KLP				*e*	pP	22 30 20.1	+4.9
	comp=Z,9.2nm,1.0s						
CHKZ	**Chkalovo**	**47.61**	**342**	*e*P	**P**	**22 33 07.8**	**-1.5**
	comp=Z,6.6nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**49.75**	**126**	P	**P**	**22 33 26.4**	**+0.2**
	comp=Z,12nm,1.4s,mb4.7,baz=306,slow=8.5,SNR=6.8						
WRAB	**Tennant Creek**	**49.75**	**126**	P	**P**	**22 33 25.8**	**-0.5**
	comp=Z,4.6nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**51.48**	**131**	P	**P**	**22 33 39.0**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=311,slow=7.0,SNR=4.9						
KMBO	**Kilima Mbogo**	**57.10**	**262**	P	**P**	**22 34 19.0**	**-1.7**
	comp=Z,2.3nm,0.5s,mb4.5						
BRTR	**Keskin Array B**	**60.86**	**310**	P	**P**	**22 34 48.2**	**+1.8**
	comp=Z,1.5nm,0.7s,mb4.2,baz=90,slow=8.6,SNR=3.7						
FINES	**FINESS Array B**	**70.88**	**332**	P	**P**	**22 35 52.1**	**+1.9**
	comp=Z,0.8nm,0.6s,mb3.9,baz=101,slow=7.1,SNR=3.1						
ARCES	**ARCESS Array B**	**73.41**	**340**	P	**P**	**22 36 05.8**	**+0.9**
	comp=Z,11nm,1.1s,mb4.7,baz=82,slow=6.4,SNR=3.5						
GERES	**GERESS Array B**	**76.14**	**318**	P	**P**	**22 36 21.2**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=80,slow=6.0,SNR=3.9						

PLV 25 22:32:25.2±3.7,22.76N×104.26E,h17km±17km,MD3.8, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHV	**Doan Hung**	**1.41**	**143**	*e*Pn	Pn	22 32 48.2	-2.2
DHV				*e*Pg	Pn	22 32 52.4	+2.1
DHV				*e*Sg	Sb	22 33 11.4	+3.0
BVV	**Ba Vi**	**1.94**	**148**	*e*Pn	Pn	22 32 55.2	-2.7
BVV				*e*Pg	Pn	22 33 03.4	+5.5
BVV				*e*Sg	Sn	22 33 31.2	+9.2
HNV	**Hanoi**	**2.22**	**140**	*e*Pn	Pn	22 32 59.7	-2.2
HNV				*e*Pg	Pn	22 33 07.8	+5.9
HNV				*e*Sg	Sn	22 33 37.0	+7.9
MTZV	**Met**	**2.27**	**122**	*e*Pn	Pn	22 33 03.0	+0.3
MTZV				*e*Pg	Pn	22 33 08.4	+5.8
MTZV				*e*Sg	Sn	22 33 37.5	+7.0
BGV	**Bac-Giang**	**2.33**	**128**	*e*Pn	Pn	22 33 03.2	-0.3
BGV				*e*Pg	Pn	22 33 10.9	+7.4
BGV				*e*Sg	Sn	22 33 42.5	+10
DSV	**Doi Son**	**2.68**	**143**	*e*Pn	Pn	22 33 07.5	-1.0
DSV				*e*Pg	Pn	22 33 16.8	+8.3
DSV				*e*Sg	Sn	22 33 52.4	+12
YTV	**Yen Tu**	**2.78**	**124**	*e*Pn	Pn	22 33 11.5	+1.6
YTV				*e*Pg	Pn	22 33 20.3	+10
YTV				*e*Sg	Sn	22 33 53.3	+10
PLV	**Phu-Lien**	**2.94**	**131**	*e*Pn	Pn	22 33 12.8	+0.8
PLV				*e*Pg	Pn	22 33 20.4	+8.3
PLV				*e*Sg	Sn	22 33 58.6	+11

*NEIC **25** 22:35:54.7±1.0,4.88N×93.35E,mb4.4/3,Error ellipse: s-maj=30.1km s-min=17.0km az=61.0*

*IDC **25** 22:36:12.6±11.0,4.67N×93.15E,h200km±107km,mb3.4/7, mb1 3.5/8,mb1mx3.4/19,mbtmp3.9/8,MS3.0/1,Ms1 3.2/1, ms1mx2.7/7,Error ellipse: s-maj=60.5km s-min=15.6km az=55.0*

ISC 25 22:35:52.7±1.1,4.5N±0.2×92.9E±0.2,h33km,n18, σ0ŝ71/18,mb4.3/15,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**15.11**	**23**	*e*P	**P**	**22 39 17.4**	**-8.0**
CMAR	**Chiang Mai Arr**	**15.11**	**23**	P	**P**	**22 39 33.6**	**+8.1**
	0.2nm,0.3s,baz=220,slow=14,SNR=6.9						
CMAR				LR	LR	22 45 27.0	
	comp=Z,56nm,18.9s,baz=260,slow=37						
JIRN	**Jiri**	**23.93**	**345**	*e*P	**P**	**22 41 05.5**	**+0.7**
	17nm,0.8s,mb4.5						
PKI	**Pulchoki**	**24.06**	**344**	*e*P	**P**	**22 41 07.0**	**+1.0**
DMN	**Daman**	**24.18**	**343**	*e*P	**P**	**22 41 08.2**	**+1.0**
	45nm,0.6s,mb5.0						
KKN	**Kakani**	**24.30**	**343**	*e*P	**P**	**22 41 08.8**	**+0.4**
	16nm,0.6s,mb4.7						
GKN	**Gorkha**	**24.69**	**342**	*e*P	**P**	**22 41 12.5**	**+0.3**
	34nm,0.6s,mb5.1						
KOLN	**Koldanda**	**24.81**	**340**	*e*P	**P**	**22 41 12.6**	**-0.7**
	19nm,0.6s,mb4.8						
LSA	**Lhasa**	**25.15**	**356**	*e*P	**P**	**22 41 17.2**	**+0.6**
	5.6nm,0.6s,mb4.3						
LSA				*e*	pP	22 41 25.2	-0.7
SONM	**Songino Array**	**44.73**	**13**	P	**P**	**22 44 04.1**	**-0.5**
	1.4nm,0.8s,mb3.9,baz=195,slow=6.9,SNR=5.6						
WRA	**Warramunga Arr**	**47.40**	**122**	P	**P**	**22 44 25.8**	**-0.3**
	1.4nm,0.8s,mb3.9,baz=300,slow=8.9,SNR=6.3						
KURK	**Kurchatov**	**47.63**	**348**	*e*P	**P**	**22 44 26.7**	**-0.7**
	2.0nm,0.6s,mb4.3						
KURK				*e*		22 44 34.6	
ASAR	**Alice Springs**	**48.78**	**127**	P	**P**	**22 44 37.5**	**+0.7**
	0.4nm,0.7s,mb3.5,baz=300,slow=7.3,SNR=3.5						
ZAL	**Zalesovo**	**49.76**	**354**	P	**P**	**22 44 43.3**	**-0.6**
	1.9nm,0.5s,mb4.4,baz=289,slow=4.4,SNR=11						
BVAR	**Borovoye Array**	**51.83**	**343**	P	**P**	**22 44 58.5**	**-1.1**
	1.2nm,0.7s,mb3.9,baz=149,slow=8.6,SNR=6.4						
CHKZ	**Chkalovo**	**52.34**	**343**	*e*P	**P**	**22 45 02.3**	**-1.1**
	2.6nm,0.5s,mb4.4						
CHKZ				*e*		22 45 09.6	
BRTR	**Keskin Array B**	**63.75**	**312**	P	**P**	**22 46 23.4**	**-0.3**
	0.7nm,0.6s,mb3.9,baz=90,slow=9.9,SNR=4.2						
GERES	**GERESS Array B**	**79.54**	**319**	P	**P**	**22 47 58.6**	**+0.7**
	1.1nm,0.8s,mb3.9,baz=112,slow=7.2,SNR=4.2						

PLV 25 22:37:13.5±2.3,23.08N×104.05E,MD3.8,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHV	**Doan Hung**	**1.79**	**144**	*e*Pn	Pn	22 37 43.7	-2.1
DHV				*e*Pg	Pg	22 37 47.7	-1.5
DHV				*e*Sg	Sg	22 38 13.5	+0.5
BVV	**Ba Vi**	**2.32**	**148**	*e*Pn	Pn	22 37 54.0	+0.6
BVV				*e*Pg	Pg	22 37 58.1	-1.7
BVV				*e*Sg	Sg	22 38 30.1	-0.6
HNV	**Hanoi**	**2.59**	**141**	*e*Pn	Pn	22 37 56.7	-0.7
HNV				*e*Pg	Pg	22 38 02.9	-2.3
HNV				*e*Sg	Sg	22 38 38.0	-1.8
MTZV	**Met**	**2.61**	**125**	*e*Pn	Pn	22 37 57.8	+0.1
MTZV				*e*Pg	Pg	22 38 03.7	-2.0
MTZV				*e*Sg	Sg	22 38 38.0	-2.5
BGV	**Bac-Giang**	**2.69**	**131**	*e*Pn	Pn	22 37 58.1	-0.7
BGV				*e*Pg	Pg	22 38 05.4	-1.8
BGV				*e*Sg	Sg	22 38 39.9	-3.2
DSV	**Doi Son**	**3.06**	**144**	*e*Pn	Pn	22 38 02.9	-1.1
DSV				*e*Pg	Pg	22 38 11.3	-3.3
DSV				*e*Sg	Sg	22 38 51.1	-4.2
YTV	**Yen Tu**	**3.13**	**127**	*e*Pn	Pn	22 38 05.2	+0.2
YTV				*e*Pg	Pg	22 38 13.2	-2.8
YTV				*e*Sg	Sg	22 38 54.2	-3.4
PLV	**Phu-Lien**	**3.29**	**133**	*e*Pn	Pn	22 38 07.3	0.0
PLV				*e*Pg	Pg	22 38 17.2	-2.1
PLV				*e*Sg	Sg	22 38 59.0	-4.2

IDC 25 22:43:08.2±13.0,4.69N×94.15E,mb3.4/2,mb1 3.7/3, mb1mx3.4/18,mbtmp3.4/3,ML3.8/1,MS4.0/1,Ms1 3.9/1, ms1mx3.4/6,Error ellipse: s-maj=335.0km s-min=49.2km az=84.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.46**	**19**	Pn	P	22 46 34.2	-2.1
	0.2nm,0.3s,baz=216,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**46.47**	**123**	P	P	22 51 37.5	-1.6
	0.3nm,0.6s,baz=302,slow=9.6,SNR=3.5						
ASAR	**Alice Springs**	**47.92**	**128**	P	P	22 51 48.4	-2.2
	0.6nm,0.9s,baz=315,slow=5.1,SNR=3.0						
STKA	**Stephens Creek**	**57.94**	**132**	LR	LR	23 15 39.5	
	comp=Z,140nm,21.8s,baz=22,slow=34						

IDC 25 22:47:47.0±5.3,13.60N×92.77E,mb3.5/2,mb1 3.6/3, mb1mx3.4/18,mbtmp3.3/3,MS4.2/1,Ms1 4.2/1, ms1mx3.4/9,Error ellipse: s-maj=104.4km s-min=37.5km az=113.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.66**	**50**	Pn	Pn	22 49 40.5	-1.9
	baz=242,slow=16,SNR=3.3						
CMAR				Sn	Sn	22 51 06.3	-4.6
	0.1nm,0.3s,baz=234,slow=29,SNR=4.0						
WRA	**Warramunga Arr**	**52.77**	**128**	P	P	22 57 03.6	-2.7
	0.2nm,0.3s,baz=305,slow=9.9,SNR=4.8						
ASAR	**Alice Springs**	**54.68**	**132**	P	P	22 57 18.5	-1.9
	0.4nm,0.6s,baz=309,slow=7.0,SNR=7.0						
KMBO	**Kilima Mbogo**	**56.91**	**260**	LR	LR	23 20 24.9	
	comp=Z,186nm,19.4s,baz=54,slow=34						

*CSEM **25** 23:26:05.7,37.72N×43.91E,h27km,MD3.6,After ISK*

ISK 25 23:26:05.7,37.72N×43.91E,h27km,MD3.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.20**	**222**	*i* PG	Pb	23 26 11.9	+0.4
HKR				*i* SG	Sb	23 26 16.0	+0.6
VANT	**Van**	**0.83**	**331**	*i* PG	Pb	23 26 22.8	+1.4
TVAN	**Van**	**0.90**	**334**	*i* P	Pb	23 26 23.0	+0.4
TVAN				*i* S	Sb	23 26 30.8	-3.3
VANB	**Van**	**0.96**	**335**	*e*PG	Pn	23 26 23.0	-0.6
VANB				*e*SG	Sb	23 26 36.1	+0.1
BTMT	**Batman**	**1.97**	**285**	*e*PN	Pn	23 26 40.7	+2.8
BEST	**Besiri**	**2.10**	**275**	*i* P	Pn	23 26 42.3	+2.6
BEST				*i* S	Sn	23 27 08.6	+3.4
VRT	**Varto**	**2.34**	**308**	*e*PN	Pn	23 26 44.1	+0.9

*CSEM **25** 23:38:26.0,37.66N×43.77E,h30km,MD3.7,After ISK*

ISK 25 23:38:26.0,37.66N×43.77E,h30km,MD3.7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.08**	**195**	*i* PG	Pn	23 38 32.1	+1.1
HKR				*i* SG	Sn	23 38 35.2	+1.2
VANT	**Van**	**0.84**	**339**	*i* PG	Pn	23 38 43.0	+1.2
TVAN	**Van**	**0.91**	**342**	*i* P	Pn	23 38 44.0	+1.1
TVAN				*i* S	Sb	23 38 56.9	+1.9
VANB	**Van**	**0.98**	**342**	*i* PG	Pn	23 38 43.7	-0.2
VANB				SG	Sn	23 38 56.6	-0.2
MSL	**Mosul**	**1.47**	**202**	*e*Pn	Pn	23 38 57.5	+6.6
MSL				*e*Sb	Sb	23 39 18.0	+7.0
MSL				*i* Sn	Sn	23 39 18.5	+9.3
BTMT	**Batman**	**1.88**	**287**	*e*PN	Pn	23 38 58.0	+1.3
BEST	**Besiri**	**1.99**	**277**	*i* P	Pn	23 39 04.7	+6.3
BEST				*i* S	Sn	23 39 33.2	+11
VRT	**Varto**	**2.29**	**311**	*e*PN	Pn	23 39 03.0	+0.4
BINT	**Bingol**	**2.85**	**296**	*e*PN	Pn	23 39 11.3	+0.7

IDC 25 23:58:57.7±1.1,10.58N×140.93E,mb3.6/6,mb1 3.9/6, mb1mx3.8/18,mbtmp3.6/6,MS3.4/1,Ms1 3.4/1, ms1mx2.5/21,Error ellipse: s-maj=38.0km s-min=22.1km az=95.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.01**	**192**	P	P	00 05 16.8	-2.6
	1.2nm,0.9s,baz=9.2,slow=9.9,SNR=3.4						
ASAR	**Alice Springs**	**34.72**	**191**	P	P	00 05 49.9	-1.8
	0.4nm,0.6s,baz=23,slow=12,SNR=3.5						
ASAR				LR	LR	00 19 28.4	
	comp=Z,56nm,19.9s,baz=68,slow=35						
CMAR	**Chiang Mai Arr**	**41.31**	**286**	P	P	00 06 45.5	-1.4
	0.6nm,0.5s,baz=82,slow=6.4,SNR=3.1						
SONM	**Songino Array**	**47.11**	**329**	P	P	00 07 31.4	-2.0
	0.6nm,0.8s,baz=136,slow=7.5,SNR=4.4						
ILAR	**Eielson Array**	**72.92**	**25**	P	P	00 10 27.8	-2.6
	0.6nm,0.7s,baz=252,slow=6.0,SNR=5.4						
YKA	**Yellowknife Ar**	**87.28**	**27**	P	P	00 11 47.1	0.0
	0.2nm,0.6s,baz=288,slow=5.0,SNR=4.1						

IGQ 26 00:00:01.8,1.67S×81.70W,h12km±9km,mb4.3,4C-4D, Error ellipse: s-maj=11.7km s-min=8.8km az=3.1,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.31**	**62**	⇑P	Pb	00 00 24.2	-1.6
MAGD	**Magdalena**	**2.50**	**51**	P	Pn	00 00 45.8	+2.9
IGUA	**Igualata**	**3.07**	**87**	⇑P	Pn	00 00 52.0	+0.9
JUIV	**Juive**	**3.25**	**86**	P	Pn	00 00 55.1	+1.5
ARRY	**Arrayan**	**3.25**	**87**	P	Pn	00 00 54.6	+1.0
ARRY				S	Sn	00 01 26.3	-6.3
RETU	**Refugio**	**3.26**	**86**	P	Pn	00 00 55.6	+1.8
ULBA	**Ulba**	**3.30**	**86**	P	Pn	00 00 56.3	+2.0
MARY	**Rancho Maria**	**3.34**	**74**	P	Pn	00 00 57.4	+2.4
PISA	**Pisayambo**	**3.37**	**80**	P	Pn	00 00 57.1	+1.8
NAS1	**Nasa**	**3.38**	**72**	⇓P	Pn	00 00 57.6	+2.1
NAS1				S	Sn	00 01 37.8	+1.8
JUA2	**San Juan 2**	**3.42**	**65**	⇓P	Pn	00 00 56.4	+0.4
JUA2				S	Sn	00 01 35.5	-1.3
TERV	**Terraza Guagua**	**3.43**	**64**	⇓P	Pn	00 00 56.4	+0.1
PINO	**Pino**	**3.44**	**64**	P	Pn	00 00 56.9	+0.5
PINO				S	Sn	00 01 37.1	-0.2
VC1	**Cotopaxi 1**	**3.45**	**73**	P	Pn	00 00 58.9	+2.4
VC1				S	Sn	00 01 43.2	+5.5
TAMB	**Tambo**	**3.47**	**74**	⇑P	Pn	00 00 58.6	+1.9
YANA	**Yana**	**3.49**	**64**	P	Pn	00 00 57.0	0.0
ANTI	**Antisana**	**3.74**	**71**	⇑P	Pn	00 01 02.4	+1.7
COTA	**Cotacachi**	**3.91**	**59**	⇓P	Pn	00 01 05.2	+2.3
CAYR	**Refugio Cayamb**	**4.05**	**66**	P	Pn	00 01 08.0	+2.9
CAYA	**Cayambe**	**4.09**	**65**	P	Pn	00 01 07.6	+2.0
CAYA				S	Sn	00 01 57.0	+3.0

*ISK **26** 00:03:46.2,37.73N×44.22E,h33km,MD4.1*

*THR **26** 00:04:46.9±0.9,37.67N×43.47E,h14km±12km,ML3.8*

*MOS **26** 00:04:47.7±1.0,37.34N×43.82E,h10km,mb4.3/2,Error ellipse: s-maj=16.8km s-min=9.8km az=93.2*

*IDC **26** 00:04:48.5±1.3,37.62N×43.92E,mb3.6/5,mb1 3.8/8, mb1mx3.6/18,mbtmp3.6/8,ML2.5/1,Error ellipse: s-maj=24.9km s-min=15.1km az=123.0*

*NEIC **26** 00:04:51.8±4.8,37.68N×43.85E,h18km±32km,mb4.1/2, Error ellipse: s-maj=13.1km s-min=9.3km az=141.0*

*CSEM **26** 00:04:52.8±0.1,37.80N×43.73E,h40km,mb4.1/2,ML4.3/2, Error ellipse: s-maj=3.9km s-min=3.1km az=171.0*

ISC 26 00:04:49.1±0.5,37.68N±0.05×43.79E±0.07,h10km,n48, σ1ŝ25/41,mb3.6/7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANT	**Van**	**0.82**	**338**	*i* PG	Px	00 06 04.6	
VANB	**Van**	**0.96**	**341**	*i* PN	Px	00 06 05.4	
VANB				*i* SN	Sx	00 06 19.6	
MSL	**Mosul**	**1.50**	**202**	*i* Pn	Px	00 05 17.0	
MSL				*i* Sb	Sx	00 05 37.0	
MAKU	**Maku**	**1.81**	**23**	*e*PG	**Pg**	**00 05 21.7**	**-3.7**
MAKU				*e*SG	**Sg**	**00 05 48.1**	**-1.4**
MAKU				AML	AML	00 05 51.4	
	comp=N,267nm,0.6s						
MAKU	**Maku**	**1.81**	**23**	*e*Pg	**Pg**	**00 05 21.7**	**-3.6**
	SNR=90						
MAKU				*e*Sg	**Sg**	**00 05 48.1**	**-1.4**
	comp=N,267nm,0.6s,SNR=90						
BTMT	**Batman**	**1.89**	**286**	*i* PN	Px	00 06 23.6	
VRT	**Varto**	**2.29**	**310**	*e*PN	Px	00 06 27.0	
GNI	**Garni**	**2.57**	**17**	Pn	**Pn**	**00 05 33.4**	**+1.8**
	comp=N,8.8nm,0.3s,baz=294,slow=2.2,SNR=66						
GNI				Lg		00 06 13.6	
	comp=N,4.7nm,0.3s,baz=165,slow=23,SNR=3.3						
DIY	**Diyarbakir**	**2.83**	**275**	*e*PN	Px	00 06 35.2	
BINT	**Bingol**	**2.86**	**296**	*e*PN	Px	00 06 35.3	
EZM	**Erzurum**	**2.92**	**320**	*e*PN	Px	00 06 35.0	
GRMI	**Germi**	**3.42**	**70**	*e*PN	**Pn**	**00 05 45.2**	**+1.5**
PTK	**Pertek**	**3.66**	**291**	*e*PN	Px	00 06 46.3	
AKH	**Akhalkalaki**	**3.73**	**357**	P	**Pg**	**00 05 58.5**	**-5.1**
AKH				S	**Sg**	**00 06 48.1**	**-5.2**
SNGE	**Sanandaj**	**3.86**	**131**	*e*PN	**Pn**

KURK	Kurchatov	27.89	51	P	P	00 10 41.0	+0.1
	comp=Z,2.1nm,0.9s,mb3.8						
LSA	Lhasa	39.86	87	P	P	00 12 24.7	+0.2
CMAR	Chiang Mai Arr	51.55	96	P	P	00 13 56.0	-1.5
	comp=Z,1.6nm,0.8s,mb4.0,baz=307,slow=8.7,SNR=5.3						
YKA	Yellowknife Ar	78.66	350	P	P	00 16 51.7	-0.6
	comp=Z,0.1nm,0.6s,mb3.0,baz=18,slow=5.9,SNR=4.1						

IDC 26 00:23:11.7±2.5, 10.49N×92.01E, mb3.9/4, mb1 4.1/5, mb1mx3.7/18, mbtmp3.8/5, Error ellipse: s-maj=77.8km s-min=24.2km az=72.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.38	39	Pn	P	00 25 43.6	-1.5
	baz=232,slow=14,SNR=5.1						
SONM	Songino Array	39.15	15	P	P	00 30 39.8	-3.1
	0.6nm,0.8s,baz=194,slow=5.1,SNR=4.6						
ZAL	Zalesovo	43.72	354	P	P	00 31 19.4	-0.8
	0.4nm,0.3s,baz=325,slow=21,SNR=3.2						
WRA	Warramunga Arr	51.49	126	P	P	00 32 19.3	-2.2
	1.9nm,0.5s,baz=306,slow=8.3,SNR=20						
ASAR	Alice Springs	53.20	130	P	P	00 32 32.2	-2.1
	2.2nm,0.6s,baz=305,slow=7.0,SNR=33						

IGQ 26 00:25:45.6, 1.68S×81.42W, h12km±12km, mb4.1, 2C-4D, Error ellipse: s-maj=16.9km s-min=10.6km az=17.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	1.07	54	⇑P	Pb	00 26 03.5	-2.1
IGUA	Igualata	2.79	86	P	Pn	00 26 31.2	+0.4
ARRY	Arrayan	2.97	87	P	Pn	00 26 33.9	+0.5
ULBA	Ulba	3.02	86	⇑P	Pn	00 26 35.6	+1.4
PISA	Pisayambo	3.10	78	P	Pn	00 26 36.2	+1.0
NAS1	Nasa	3.12	70	⇓P	Pn	00 26 38.0	+2.4
JUA2	San Juan 2	3.17	63	P	Pn	00 26 37.5	+1.2
VC1	Cotopaxi 1	3.19	71	⇓P	Pn	00 26 39.0	+2.4
TERV	Terraza Guagua	3.19	62	P	Pn	00 26 39.8	+3.2
PINO	Pino	3.19	62	⇓P	Pn	00 26 37.3	+0.7
TAMB	Tambo	3.20	72	⇓P	Pn	00 26 39.0	+2.2
YANA	Yana	3.24	61	P	Pn	00 26 38.1	+0.7
ANTI	Antisana	3.48	69	P	Pn	00 26 42.7	+2.0
ANTI				S	Sn	00 27 24.0	+1.7
COTA	Cotacachi	3.67	57	P	Pn	00 26 45.6	+2.1
CAYR	Refugio Cayamb	3.81	64	P	Pn	00 26 48.1	+2.7
CAYR				S	Sn	00 27 37.0	+6.5
CAYA	Cayambe	3.85	63	P	Pn	00 26 49.0	+3.0

*BJI **26** 00:29:41.2, 10.29N×92.35E, h20km, mB4.8, mb4.6, Ms4.1, Msz3.8*
*IDC **26** 00:29:42.1±0.7, 10.54N×92.18E, mb4.4/12, mb1 4.5/13, mb1mx4.3/20, mbtmp4.4/13, ML4.4/1, MS3.8/4, Ms1 3.9/4, ms1mx3.6/17, Error ellipse: s-maj=36.8km s-min=14.3km az=63.0*
*NEIC **26** 00:29:43.6±3.8, 10.51N×92.19E, h10km±23km, mb4.5/13, MS4.0/1, Error ellipse: s-maj=10.7km s-min=7.3km az=55.0*

ISC 26 00:29:42.3±2.1, 10.50N±0.06×92.24E±0.05, h13km±13km, n60, σ0°99/61, mb4.4/25, MS3.9/5, 3C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	10.23	39	P	P	00 32 11.4	-0.6
CMAR	Chiang Mai Arr	10.23	39	Pn	P	00 32 10.9	-1.1
	0.9nm,0.3s,baz=229,slow=14,SNR=28						
CMAR				LR	LR	00 37 04.6	
	comp=Z,467nm,18.1s,baz=345,slow=43						
VIS	Vishakhapatnam	11.23	311	eP	P	00 32 23.1	-2.5
VIS				e		00 32 25.2	
	comp=Z,78nm,1.1s						
VIS				eS	S	00 34 15.1	-17
BWNR	Bhubaneshwar	11.54	328	eP	P	00 32 25.0	-4.9
BWNR				e		00 32 25.5	
	comp=Z,12nm,0.3s						
BWNR				eS	S	00 34 20.5	-19
MDRS	Chennai	12.01	283	eP	P	00 32 35.9	-0.4
MDRS				e		00 32 36.5	
	comp=Z,175nm,0.5s						
HYB	Hyderabad	14.95	299	eP	P	00 33 14.0	-1.2
HYB				eS	S	00 35 59.5	-1.9
HYB	Hyderabad	14.95	299	iP	P	00 33 14.0	-1.2
HYB				e		00 33 22.0	
HYB				eS	S	00 35 59.5	-1.9
SHL	Shillong	14.98	359	eP	P	00 33 21.0	+5.3
SHL				e		00 35 46.0	
KMI	Kunming	17.63	33	P	P	00 33 50.7	+1.3
	comp=Z,15nm,1.3s						
JIRN	Jiri	17.99	342	eP	P	00 33 54.5	+0.6
	comp=Z,22nm,0.7s						
PKI	Pulchoki	18.15	340	eP	P	00 33 56.1	+0.1
	comp=Z,14nm,0.5s						
DMN	Daman	18.29	339	eP	P	00 33 57.6	-0.1
KKN	Kakani	18.40	340	eP	P	00 33 59.0	0.0
KAD	Karad	18.78	293	eP	P	00 34 04.5	+0.9
KAD				i		00 37 17.5	
GKN	Gorkha	18.82	339	eP	P	00 34 04.7	+0.6
	comp=Z,34nm,0.6s						
BHPL	Bhopal	18.99	314	eP	P	00 34 07.6	+1.5
BHPL				e		00 34 09.3	
	comp=Z,17nm,1.2s						
KOLN	Koldanda	19.00	336	eP	P	00 34 06.7	+0.4
	comp=Z,22nm,0.7s						
QIZ	Qiongzhong	19.00	61	P	P	00 34 06.5	+0.2
QIZ				S	S	00 37 29.5	-5.1
QIZ				LR	LR		
	comp=N,330nm,16.6s						
QIZ				LR	LR		
	comp=Z,284nm,17.2s						
LSA	Lhasa	19.13	357	P	P	00 34 10.0	+2.3
LSA				AMB	AMB		
	comp=Z,20nm,0.7s						
LSA	Lhasa	19.13	357	eP	P	00 34 07.8	+0.1
	comp=Z,13nm,0.7s						
POO	Poona	19.50	296	eP	P	00 34 13.0	+0.9
DDI	Dehra Dun	23.73	328	eP	P	00 34 56.7	+1.6
ENH	Enshi	25.39	37	eP	P	00 35 09.9	-1.2
	comp=Z,20nm,0.6s,mb4.8						
LZH	Lanzhou	27.56	21	eP	P	00 35 30.5	-0.5
LZH				AP	pP	00 35 42.5	+7.6
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,79nm,4.0s						
LZH	Lanzhou	27.56	21	eP	P	00 35 30.6	-0.4
	comp=Z,27nm,1.3s,mb4.7						
LZH				pP	pP	00 35 42.4	+7.5
LZH				sP	sP	00 35 47.3	+11
XAN	Xi'an	27.97	31	P	P	00 35 32.5	-2.3
XAN				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.2						
BJT	Baijiatuau	36.26	32	eP	P	00 36 44.9	-2.3
	comp=Z,5.2nm,0.6s,mb4.6						
BJI	Beijing	36.28	32	eP	P	00 36 47.6	+0.2
	comp=Z,10.0nm,0.8s,mb4.8						
BJI				S	S	00 42 33.1	+6.2
BJI				LR	LR		
	comp=Z,220nm,18.7s,MS4.0						
SONM	Songino Array	39.07	15	P	P	00 37 11.1	+0.3
	comp=Z,3.2nm,0.7s,mb4.2,baz=204,slow=9.2,SNR=28						
SONM				PcP	PcP	00 39 21.2	0.0
	comp=Z,1.1nm,0.8s,baz=194,slow=5.0,SNR=4.5						
ULN	Ulaanbaatar	39.27	16	eP	P	00 37 12.6	+0.1
	comp=Z,4.5nm,1.0s,mb4.2						
KURK	Kurchatov	41.63	347	eP	P	00 37 31.9	+0.1
	comp=Z,6.3nm,1.3s,mb4.1						
TLY	Talaya	42.10	11	eP	P	00 37 37.2	+1.6
	comp=Z,3.5nm,0.8s,mb4.0						
FITZ	Fitzroy Crossi	43.53	131	⇓iP	P	00 37 47.6	-0.2
	comp=Z,28nm,0.9s,mb5.0						
ZAL	Zalesovo	43.73	354	P	P	00 37 49.3	+0.4
	comp=Z,2.3nm,0.8s,mb4.0,baz=296,slow=9.1,SNR=20						
BVAR	Borovoye Array	45.91	342	P	P	00 38 06.3	-0.1
	comp=Z,6.6nm,1.2s,mb4.4,baz=146,slow=11,SNR=11						
BRVK	Borovoye	45.98	342	P	P	00 38 06.2	-0.7
	comp=Z,2.4nm,0.8s,mb4.2						
MDJ	Mudanjiang	46.76	37	P	P	00 38 12.5	-0.7
MDJ				AP	pP	00 38 20.5	+3.3
MDJ				XP	sP	00 38 25.5	+6.7
MDJ				PCP	PcP	00 39 44.0	-3.0
MDJ				PP	PP	00 40 02.0	-1.0
MDJ				SCP		00 43 35.0	
MDJ				PCS		00 43 39.5	
MDJ				S	S	00 45 03.0	+1.1
MDJ				XS		00 45 19.3	
MDJ				SCS	ScS	00 48 05.5	+0.3
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,71nm,3.4s						
MDJ				LR	LR		
	comp=N,72nm,18.8s,MS3.6						
MDJ				LR	LR		
	comp=E,30nm,22.8s,MS3.6						
MDJ				LR	LR		
	comp=Z,75nm,19.4s,MS3.7						
NWAO	Narrogin (SRO)	49.33	152	P	P	00 38 34.2	+0.8
	comp=Z,6.0nm,0.7s,mb4.7,baz=336,slow=12,SNR=5.4						
WRA	Warramunga Arr	51.31	126	P	P	00 38 48.1	-0.6
	comp=Z,8.9nm,0.3s,mb5.1,baz=306,slow=8.3,SNR=39						
WB2	Warramunga Arr	51.32	126	⇑iP	P	00 38 48.5	-0.2
ASPA	Alice Springs	53.03	130	⇑iP	P	00 39 01.3	-0.3
ASAR	Alice Springs	53.03	130	P	P	00 39 01.4	-0.2
	comp=Z,24nm,1.0s,mb5.1,baz=305,slow=7.0,SNR=160						
ASAR				PcP	PcP	00 40 10.3	+0.2
	comp=Z,1.9nm,0.8s,baz=314,slow=3.8,SNR=3.8						
ASAR				LR	LR	01 02 16.4	
	comp=Z,50nm,19.1s,MS3.6,baz=289,slow=37						
KMBO	Kilima Mbogo	55.90	261	LR	LR	01 02 37.8	
	comp=Z,125nm,19.3s,MS4.0,baz=93,slow=35						
STKA	Stephens Creek	63.27	134	⇑iP	P	00 40 13.7	+0.5
	comp=Z,6.9nm,0.9s,mb4.8						
STKA	Stephens Creek	63.27	134	P	P	00 40 13.9	+0.7
	comp=Z,3.7nm,0.4s,mb4.9,baz=297,slow=7.3,SNR=21						
AKASG	Malin Array Be	64.94	321	P	P	00 40 25.9	+2.0
	comp=Z,0.9nm,0.6s,mb4.0,baz=84,slow=5.1,SNR=3.3						
FINES	FINESS Array B	69.52	332	P	P	00 40 52.3	-0.3
	comp=Z,1.0nm,0.7s,mb3.8,baz=135,slow=11,SNR=3.6						
FINES				LR	LR	01 15 50.4	
	comp=Z,110nm,19.7s,MS4.1,baz=206,slow=40						
ARCES	ARCESS Array B	72.17	340	P	P	00 41 08.3	-0.1
	comp=Z,3.7nm,0.8s,mb4.4,baz=45,slow=3.4,SNR=4.7						
HFS	Hagfors	75.25	330	P	P	00 41 26.2	-0.2
	comp=Z,0.5nm,0.4s,mb3.8,baz=180,slow=40,SNR=3.6						
BOSA	Boshof	75.42	237	P	P	00 41 32.8	+4.8
	comp=Z,4.5nm,1.0s,mb4.3						
NB2	NORSAR Subarra	76.53	330	P	P	00 41 33.1	-0.6
	comp=Z,1.4nm,0.8s,mb3.9,baz=93,slow=5.6						
NOA	NORSAR Array B	76.53	330	P	P	00 41 32.5	-1.2
	comp=Z,1.0nm,0.8s,mb3.8,baz=126,slow=8.7,SNR=3.8						
NOA	NORSAR Array B	76.53	330	P	P	00 41 32.5	-1.2
IMA	Indian Mountai	89.91	22	eP	P	00 42 43.7	+1.7
ILAR	Eielson Array	93.02	22	P	P	00 42 56.2	-0.2
	comp=Z,1.5nm,1.0s,mb4.4,baz=298,slow=4.5,SNR=14						
PDAR	Pinedale Array	123.36	19	PKP	PKPdf	00 48 41.0	-2.0
	comp=Z,0.7nm,0.9s,baz=90,slow=1.5,SNR=3.5						
NVAR	Mina Array Bea	123.58	29	PKP	PKPdf	00 48 42.9	-0.6
	comp=Z,1.0nm,0.9s,baz=263,slow=1.1,SNR=5.7						
NVAR	Mina Array Bea	123.58	29	PKP	PKPdf	00 48 42.9	-0.6
MSU	Marysvale	126.17	24	eP	PKPdf	00 48 48.7	+0.2
PLCA	Paso Flores	146.27	204	PKPbc	PKPbc	00 49 24.9	+1.9
	comp=Z,1.4nm,0.7s,baz=68,slow=1.3,SNR=4.4						

*CSEM **26** 00:34:08.8±0.9, 37.76N×44.33E, h5km, MD3.8, Error ellipse: s-maj=20.0km s-min=5.0km az=107.0*

ISK 26 00:34:08.8, 37.72N×44.39E, h11km, MD3.8, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	Hakkari	0.53	255	iPG	Pg	00 34 19.3	-0.3
VANT	Van	1.07	313	iPN	Pn	00 34 30.9	+1.2
VANB	Van	1.18	318	iPN	Pn	00 34 31.8	+0.6
VANB				iSN	Sn	00 34 48.4	+1.1
MSL	Mosul	1.76	217	iPn	Pn	00 34 44.0	+4.4
MSL				iSb	Sb	00 35 04.0	+1.2
MSL				iSg	Sg	00 35 05.5	-2.1
BTMT	Batman	2.34	283	ePN	Pn	00 34 51.0	+3.2
VRT	Varto	2.65	303	ePN	Pn	00 34 55.4	+3.1
EZM	Erzurum	3.22	314	ePN	Pn	00 34 59.9	-0.5
BINT	Bingol	3.28	292	ePN	Pn	00 35 02.1	+0.9
DIY	Diyarbakir	3.30	274	ePN	Pn	00 35 02.3	+0.8
BHD	Baghdad	4.44	180	eP	Pg	00 35 40.0	+2.6
MALT	Malatya	4.75	279	ePN	Pn	00 35 22.2	+0.2
MYA	Malataya	4.75	279	ePN	Pn	00 35 22.9	+0.8

*IDC **26** 00:37:01.0±1.3, 7.02N×92.22E, mb3.6/7, mb1 3.8/8, mb1mx3.7/19, mbtmp3.7/8, Error ellipse: s-maj=50.6km s-min=19.9km az=58.0*

ISC 26 00:37:05.8±1.0, 7.1N±0.1×92.7E±0.2, h33km, n16, σ1°20/18, mb3.7/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.83	28	Pn	P	00 40 09.6	+1.0
	baz=229,slow=14,SNR=17						
HYB	Hyderabad	17.16	308	eP	P	00 41 15.5	+11
HYB				eS	S	00 44 06.0	-7.0
SHL	Shillong	18.37	358	eP	P	00 41 19.0	-0.9
SHL				eS	S	00 44 33.0	-7.3
JIRN	Jiri	21.34	344	eP	P	00 41 53.2	+0.9
DMN	Daman	21.61	342	eP	P	00 41 57.8	+2.8
GUN	Gumba	21.66	344	eP	P	00 41 54.8	-0.7
KKN	Kakani	21.73	342	eP	P	00 41 56.9	+0.8
GKN	Gorkha	22.13	341	eP	P	00 42 01.1	+1.0
KOLN	Koldanda	22.27	338	eP	P	00 42 07.3	+5.7
SONM	Songino Array	42.23	14	P	P	00 44 56.4	-1.1
	0.3nm,1.0s,mb2.9,baz=211,slow=8.4,SNR=2.6						
SONM				PcP	PcP	00 46 51.2	-0.5
	0.2nm,0.6s,baz=217,slow=2.3,SNR=3.9						
ZAL	Zalesovo	47.12	354	P	P	00 45 35.5	-1.1
	0.5nm,0.7s,mb3.6,baz=331,slow=24,SNR=2.8						
WRA	Warramunga Arr	49.03	124	P	P	00 45 52.4	+0.5
	1.1nm,0.7s,mb4.0,baz=303,slow=8.9,SNR=6.2						
BVAR	Borovoye Array	49.25	342	P	P	00 45 50.9	-2.3
	1.4nm,1.0s,mb4.0,baz=146,slow=5.3,SNR=6.3						
ASAR	Alice Springs	50.57	129	P	P	00 46 04.1	+0.4
	0.7nm,0.9s,mb3.6,baz=307,slow=7.2,SNR=6.0						
STKA	Stephens Creek	60.66	133	P	P	00 47 15.8	-0.5
	0.5nm,0.3s,mb4.0,baz=309,slow=6.5,SNR=4.1						
BRTR	Keskin Array B	61.82	311	P	P	00 47 20.1	-3.9
	0.5nm,0.8s,mb3.7,baz=105,slow=6.9,SNR=3.4						

MAN 26 00:43:59.4, 14.92N×121.46E, h31km, mb3.9, ML2.6, MS2.2, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	Polilio Island	0.50	113	eP	Pb	00 44 10.9	+1.1
POLP				eS	Sb	00 44 19.3	+2.3
PCPH	Palayan	0.73	331	⇓eP	Pb	00 44 13.5	0.0
PCPH				eS	Sb	00 44 24.3	+1.0
BALP	Baler	0.82	8	eP	Pn	00 44 15.2	+0.4
BALP				eS	Sb	00 44 27.9	+2.0
LUBP	Lubang	1.67	225	eP	Pn	00 44 27.0	0.0

IGQ 26 00:47:00.4, 1.38S×81.23W, h12km±5km, mb4.1, 1C-1D, Error ellipse: s-maj=16.4km s-min=8.6km az=38.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.76	64	⇓P	Pb	00 47 12.9	-2.1
IGUA	Igualata	2.60	92	P	Pn	00 47 43.7	+0.8
IGUA				S	Sn	00 48 15.7	+1.0
ULBA	Ulba	2.83	91	P	Pn	00 47 47.9	+1.6
NAS1	Nasa	2.85	75	P	Pn	00 47 50.0	+3.3
PISA	Pisayambo	2.87	84	P	Pn	00 47 48.3	+1.5
JUA2	San Juan 2	2.87	66	P	Pn	00 47 47.1	+0.2
TERV	Terraza Guagua	2.89	66	P	Pn	00 47 50.8	+3.7
PINO	Pino	2.89	65	P	Pn	00 47 50.9	+3.7
VC1	Cotopaxi 1	2.92	75	P	Pn	00 47 51.2	+3.6
YANA	Yana	2.94	65	P	Pn	00 47 50.0	+2.1
TAMB	Tambo	2.95	77	P	Pn	00 47 49.8	+1.9
ANTI	Antisana	3.21	73	P	Pn	00 47 52.9	+1.2
COTA	Cotacachi	3.36	60	P	Pn	00 47 55.6	+1.7
COTA				S	Sn	00 48 35.1	+1.0
CAYR	Refugio Cayamb	3.51	67	⇑P	Pn	00 47 57.4	+1.4
CAYR				S	Sn	00 48 39.7	+1.8
CAYA	Cayambe	3.55	66	P	Pn	00 47 57.4	+0.9

*CSEM **26** 00:52:05.0, 38.43N×38.80E, h34km, MD3.6, After ISK*

ISK 26 00:52:05.0, 38.43N×38.80E, h34km, MD3.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYA	Malataya	0.32	250	iPG	P	00 52 13.9	+0.9
MYA				iSG	S	00 52 20.4	+1.8
MALT	Malatya	0.32	248	iPG	P	00 52 12.9	-0.1
MALT				iSG	S	00 52 19.1	+0.4
PTK	Pertek	0.65	45	PG	P	00 52 17.6	-0.1
PTK				SG	S	00 52 27.4	+0.5
URFA	Urfa	0.99	179	iPG	P	00 52 23.1	+0.5
DIY	Diyarbakir	1.25	115	PN	P	00 52 26.9	+0.8
DIY				SN	S	00 52 41.6	-0.4
BINT	Bingol	1.39	71	ePN	P	00 52 29.6	+1.3
EZC	Erzincan	1.53	31	ePN	P	00 52 29.1	-1.2
GAZ	Gaziantep	1.78	225	ePN	P	00 52 33.7	-0.2
BTMT	Batman	2.13	96	ePN	P	00 52 37.4	-1.4
VRT	Varto	2.24	71	ePN	P	00 52 41.8	+1.3
BNN	Bunyan	2.35	281	ePN	P	00 52 42.3	+0.3
EZM	Erzurum	2.47	53	ePN	P	00 52 45.1	+1.3

IGQ 26 01:20:48.5, 1.42S×81.42W, h12km±31km, mb4.1, 4C-3D, Error ellipse: s-maj=29.2km s-min=7.0km az=165.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGD	Magdalena	2.12	51	P	Pn	01 21 26.6	+2.3
IGUA	Igualata	2.78	91	⇓P	Pn	01 21 35.3	+1.6
IGUA				S	Sn	01 22 08.8	+1.4
JUIV	Juive	2.95	90	P	Pn	01 21 38.0	+1.8
ARRY	Arrayan	2.96	92	⇑P	Pn	01 21 37.9	+1.6
ARRY				S	Sn	01 22 09.3	-2.9
ULBA	Ulba	3.01	91	P	Pn	01 21 38.6	+1.7
NAS1	Nasa	3.04	75	P	Pn	01 21 38.8	+1.4
PISA	Pisayambo	3.05	83	P	Pn	01 21 39.9	+2.3
PISA				S	Sn	01 22 15.7	+1.3
JUA2	San Juan 2	3.06	67	P	Pn	01 21 39.3	+1.6
TERV	Terraza Guagua	3.07	66	P	Pn	01 21 39.6	+1.7
PINO	Pino	3.08	66	P	Pn	01 21 38.8	+0.9
PINO				S	Sn	01 22 14.3	-0.7
VC1	Cotopaxi 1	3.11	76	⇑P	Pn	01 21 40.2	+1.8
YANA	Yana	3.12	66	⇓P	Pn	01 21 39.3	+0.6
TAMB	Tambo	3.13	77	P	Pn	01 21 40.5	+1.8
ANTI	Antisana	3.40	74	P	Pn	01 21 44.6	+2.1
COTA	Cotacachi	3.54	61	⇑P	Pn	01 21 46.8	+2.3
COTA				S	Sn	01 22 31.7	+5.0
CAYR	Refugio Cayamb	3.70	67	⇑P	Pn	01 21 50.8	+4.1
CAYR				S	Sn	01 22 33.2	+2.5
CAYA	Cayambe	3.73	67	⇓P	Pn	01 21 51.0	+3.7

IGQ 26 01:29:36.1, 1.74S×81.71W, h12km±17km, mb4.0, 4C-2D, Error ellipse: s-maj=17.4km s-min=14.2km az=4.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	Arrayan	3.26	86	P	Pn	01 30 27.2	-1.0
ULBA	Ulba	3.31	85	⇓P	Pn	01 30 30.4	+1.5
ULBA				S	Sn	01 31 07.5	-1.1
PISA	Pisayambo	3.39	79	⇑P	Pn	01 30 32.3	+2.3
JUA2	San Juan 2	3.45	64	⇑P	Pn	01 30 31.5	+0.6
JUA2				S	Sn	01 31 11.2	-0.9
TERV	Terraza Guagua	3.47	64	⇑P	Pn	01 30 32.7	+1.6
PINO	Pino	3.47	63	P	Pn	01 30 31.2	0.0
VC1	Cotopaxi 1	3.48	72	P	Pn	01 30 33.5	+2.2
TAMB	Tambo	3.50	73	⇓P	Pn	01 30 33.5	+2.0
YANA	Yana	3.52	63	P	Pn	01 30 32.6	+0.7
ANTI	Antisana	3.77	70	P	Pn	01 30 36.9	+1.5
CAYR	Refugio Cayamb	4.09	65	P	Pn	01 30 42.5	+2.6
CAYR				S	Sn	01 31 27.7	-0.6
CAYA	Cayambe	4.13	64	⇑P	Pn	01 30 42.8	+2.3

*NEIC **26** 01:36:15.6, 31.79S×72.15W, h19km, ML3.6(GUC), After GUC.*

GUC 26 01:36:15.6±0.8, 31.79S×72.15W, h19km±5km, MD4.1, ML3.6, 2C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	Illapel	0.85	80	eP	Pb	01 36 31.4	-0.1
ILCH				iS	Sb	01 36 42.5	+0.1
ILCH				AMP		01 36 43.7	
	comp=N,2μm,0.2s						
PACH	Papudo	0.96	141	⇓iP	Pb	01 36 32.9	-0.5
PACH				iS	Sb	01 36 45.6	0.0
PTCH	Petorca	1.14	115	eP	Pb	01 36 35.8	-0.6
PTCH				iS	Sb	01 36 50.4	-0.3
ROCH	El Roble	1.52	141	iP	Pn	01 36 41.9	-0.2
JACH	Jahuel	1.59	124	⇓iP	Pn	01 36 43.1	0.0
JACH				iS	Sn	01 37 03.8	+0.6
LCCH	Las Cruces	1.75	164	⇑iP	Pn	01 36 44.6	-0.8
TLL	Tololo Astrono	1.99	36	eP	Pn	01 36 49.4	+0.6
TLL				iS	Sn	01 37 15.6	+2.2
TLL				AMP		01 37 23.8	
	comp=N,674nm,0.4s						
DSCH	Colegio Aleman	2.08	141	eP	Pn	01 36 49.7	-0.5
DSCH				AMP		01 37 24.7	
	comp=N,1μm,1.0s						
CLCH	Cerro Calan	2.10	140	eP	Pn	01 36 50.7	+0.3
CLCH				iS	Sn	01 37 18.2	+1.9
CLCH				AMP		01 37 25.8	
	comp=E,832nm,0.5s						
TACH	Talagante	2.12	152	⇓iP	Pn	01 36 51.0	+0.3
FCH	Farellones	2.19	135	eP	Pn	01 36 51.7	0.0
FCH				iS	Sn	01 37 21.4	+2.8
FCH				AMP		01 37 25.1	
	comp=N,323nm,0.3s						
PCH	Pirque	2.29	143	⇑iP	Pn	01 36 53.4	+0.3
CHCH	Chadas Angostu	2.48	150	iP	Pn	01 36 56.2	+0.4

*NEIC **26** 01:36:55.4, 16.46N×99.67W, h3km, MD3.7(MEX), After MEX.*

MEX 26 01:36:55.4±0.9, 16.46N×99.67W, h3km±7km, MD3.7, Near coast of Guerrero

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

ANTI	**Antisana**	**3.43**	**76**	P	Pn	01 42 25.1	+1.4
ANTI				S	Sn	01 43 05.3	+1.0
COTA	**Cotacachi**	**3.54**	**63**	⇓P	Pn	01 42 27.7	+2.5
COTA				S	Sn	01 43 12.9	+5.8
CAYR	**Refugio Cayamb**	**3.71**	**70**	⇓P	Pn	01 42 31.8	+4.1
CAYR				S	Sn	01 43 15.2	+3.6
CAYA	**Cayambe**	**3.75**	**69**	⇓P	Pn	01 42 32.0	+3.8

*NEIC **26** 01:42:30.3, 31.81S×72.10W, h27km, ML3.6(GUC), After GUC.*

GUC 26 01:42:30.3±0.6, 31.81S×72.10W, h27km±3km, MD4.1, ML3.6, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.81**	**78**	*e*P	Pb	01 42 45.4	-0.3
ILCH				*i* S	Sb	01 42 56.4	+0.1
ILCH				AMP		01 42 57.6	
	comp=N,3μm,0.2s						
PACH	**Papudo**	**0.92**	**142**	*e*P	Pb	01 42 46.8	-0.6
PACH				*i* S	Sb	01 42 59.3	0.0
PTCH	**Petorca**	**1.09**	**115**	*e*P	Pn	01 42 49.6	-0.4
PTCH				*i* S	Sb	01 43 04.3	+0.1
PTCH				AMP		01 43 06.4	
	comp=N,3μm,0.1s						
ROCH	**El Roble**	**1.48**	**142**	*i* P	Pn	01 42 55.5	0.0
ROCH				*i* S	Sn	01 43 16.1	+2.0
JACH	**Jahuel**	**1.54**	**125**	*e*P	Pn	01 42 56.9	+0.4
JACH				*i* S	Sn	01 43 17.0	+1.2
TLL	**Tololo Astrono**	**1.98**	**35**	⇓*i*P	Pn	01 43 04.2	+1.4
TLL				*i* S	Sn	01 43 31.1	+4.2
TLL				AMP		01 43 37.4	
	comp=N,672nm,0.7s						
DSCH	**Colegio Aleman**	**2.04**	**141**	*e*P	Pn	01 43 03.6	0.0
CLCH	**Cerro Calan**	**2.06**	**141**	⇑*i*P	Pn	01 43 04.5	+0.6
CLCH				*i* S	Sn	01 43 30.4	+1.5
CLCH				AMP		01 43 39.9	
	comp=E,890nm,0.5s						
TACH	**Talagante**	**2.08**	**152**	*e*P	Pn	01 43 04.6	+0.4
FCH	**Farellones**	**2.15**	**135**	*e*P	Pn	01 43 05.5	+0.4
FCH				*i* S	Sn	01 43 33.3	+2.1
FCH				AMP		01 43 39.0	
	comp=N,441nm,0.3s						
PCH	**Pirque**	**2.25**	**144**	*i* P	Pn	01 43 07.2	+0.6
CHCH	**Chadas Angostu**	**2.44**	**150**	*e*P	Pn	01 43 09.8	+0.5
LMEL	**Las Melosas**	**2.58**	**142**	*i* P	Pn	01 43 12.0	+0.6
LMEL				*i* S	Sn	01 43 43.8	+1.6
LMEL				AMP		01 43 55.6	
	comp=N,404nm,0.5s						
SFDO	**San Fernando**	**2.94**	**162**	*e*P	Pn	01 43 16.6	+0.2

*BJI **26** 01:54:41.9, 5.80N×123.93E, h580km, mB4.7, mb4.4*
*IDC **26** 01:54:43.0±1.4, 5.92N×124.02E, h566km±17km, mb3.5/15, mb1 3.6/15, mb1mx3.5/22, mbtmp4.5/15, Error ellipse: s-maj=23.6km s-min=7.6km az=68.0*
*NEIC **26** 01:54:42.7±1.5, 5.91N×123.97E, h566km±21km, mb4.5/11, Error ellipse: s-maj=18.3km s-min=6.0km az=59.0*

ISC 26 01:54:40.4±0.4, 5.91N±0.06×124.0E±0.1, h553km±6km, n52, σ0=86/55, mb4.3/27, 7C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.51**	**44**	⇓*i*P	**P**	**01 55 49.2**	**+0.5**
BUKP	**Musuan**	**2.20**	**27**	*e*P	**P**	**01 55 51.6**	**0.0**
BUKP				*e*S	**S**	**01 56 47.5**	**-0.8**
MATI	**Mati**	**2.43**	**65**	*e*P	**P**	**01 55 50.3**	**-2.6**
MATI				*e*S	**S**	**01 56 51.4**	**+1.0**
KAKA	**Kakadu**	**20.30**	**156**	⇑*i*P	**P**	**01 58 39.8**	**-0.3**
	22nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.91**	**176**	⇑*i*P	**P**	**01 59 12.8**	**-0.2**
	8.8nm,0.4s,mb4.7						
MBWA	**Marble Bar**	**27.23**	**189**	*e*P	**P**	**01 59 41.4**	**-0.9**
	5.5nm,0.5s,mb4.4						
CM31	**Chiang Mai Arr**	**27.47**	**299**	P	**P**	**01 59 43.3**	**-1.2**
	7.9nm,0.4s,mb4.7						
CMAR	**Chiang Mai Arr**	**27.47**	**299**	P	**P**	**01 59 44.6**	**+0.2**
	4.0nm,0.6s,mb4.2,baz=110,slow=6.9,SNR=12						
WRAB	**Tennant Creek**	**27.61**	**159**	*e*P	**P**	**01 59 45.4**	**-0.2**
	28nm,0.5s,mb5.1						
WRA	**Warramunga Arr**	**27.61**	**159**	P	**P**	**01 59 45.5**	**-0.2**
	15nm,0.5s,mb4.9,baz=340,slow=9.3,SNR=73						
WRA				S	**S**	**02 03 46.9**	**-2.5**
	1.0nm,0.6s,baz=333,slow=15,SNR=4.6						
WRA				ScP		02 05 34.1	
	1.6nm,0.5s,baz=340,slow=3.1,SNR=14						
WB2	**Warramunga Arr**	**27.62**	**159**	⇑*i*P	**P**	**01 59 45.4**	**-0.3**
WB2				*e*S	**S**	**02 03 45.0**	**-4.6**
ENH	**Enshi**	**27.84**	**332**	*e*P	**P**	**01 59 47.9**	**+0.4**
	10nm,0.4s,mb4.8						
KMI	**Kunming**	**27.96**	**315**	P	**P**	**01 59 46.3**	**-2.3**
	6.0nm,1.0s,mb4.2						
ASAR	**Alice Springs**	**30.93**	**162**	P	**P**	**02 00 14.9**	**+0.8**
	13nm,0.4s,mb4.8,baz=343,slow=7.0,SNR=228						
ASAR				PcP	PcP	02 02 53.9	0.0
	0.9nm,0.5s,baz=339,slow=2.4,SNR=4.3						
ASAR				S	**S**	**02 04 39.4**	**-1.5**
	2.9nm,0.8s,baz=336,slow=11,SNR=12						
ASAR				ScP		02 05 44.6	
	0.9nm,0.4s,baz=340,slow=3.1,SNR=12						
ASPA	**Alice Springs**	**30.93**	**162**	⇑*i*P	**P**	**02 00 14.8**	**+0.7**
ASPA				*e*S	**S**	**02 04 39.2**	**-1.7**
CTA	**Charters Tower**	**33.83**	**140**	P	**P**	**02 00 40.0**	**+1.4**
	5.4nm,0.7s,mb4.2,baz=321,slow=10,SNR=8.3						
CTAO	**Charters Tower**	**33.83**	**140**	*e*P	**P**	**02 00 40.2**	**+1.7**
KLBR	**Kellerberrin**	**37.77**	**189**	*e*P	**P**	**02 01 11.4**	**+0.5**
	52nm,0.3s						
MDJ	**Mudanjiang**	**38.86**	**6**	P	**P**	**02 01 19.8**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,71nm,4.3s						
LSA	**Lhasa**	**39.00**	**311**	*e*P	**P**	**02 01 23.4**	**+2.5**
	comp=Z,5.2nm,0.8s,mb4.1						
NWAO	**Narrogin (SRO)**	**39.16**	**189**	P	**P**	**02 01 23.3**	**+1.1**
	comp=Z,7.5nm,0.5s,mb4.5,baz=336,slow=7.5,SNR=10						
NWAO	**Narrogin (SRO)**	**39.16**	**189**	*e*P	**P**	**02 01 23.2**	**+1.1**
	comp=Z,8.3nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**41.13**	**157**	⇑*i*P	**P**	**02 01 39.5**	**+1.4**
	comp=Z,8.1nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**41.13**	**157**	P	**P**	**02 01 39.6**	**+1.5**
	comp=Z,12nm,0.7s,mb4.5,baz=325,slow=5.3,SNR=24						
ASAJ	**Asahikawa**	**41.39**	**20**	P	**P**	**02 01 40.5**	**+0.5**
	comp=Z,4.3nm,0.4s,mb4.3,baz=185,slow=11,SNR=5.0						
JIRN	**Jiri**	**41.93**	**305**	*e*P	**P**	**02 01 45.6**	**+1.0**
PKI	**Pulchoki**	**42.53**	**305**	*e*P	**P**	**02 01 49.4**	**+0.1**
KKN	**Kakani**	**42.72**	**305**	*e*P	**P**	**02 01 51.2**	**+0.4**
	comp=Z,21nm,0.7s,mb4.8						
DMN	**Daman**	**42.80**	**305**	*e*P	**P**	**02 01 51.6**	**+0.2**
	comp=Z,32nm,0.9s,mb4.9						
GKN	**Gorkha**	**43.33**	**305**	*e*P	**P**	**02 01 55.9**	**+0.4**
KOLN	**Koldanda**	**44.09**	**304**	*e*P	**P**	**02 02 02.3**	**+0.8**
	comp=Z,56nm,0.6s,mb5.3						
SONM	**Songino Array**	**44.42**	**343**	P	**P**	**02 02 03.7**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.5,baz=164,slow=7.8,SNR=6.0						
SONM				PcP	PcP	02 03 34.9	-0.8
	comp=Z,0.4nm,0.4s,baz=154,slow=2.0,SNR=3.7						
HYB	**Hyderabad**	**45.88**	**288**	*e*P	**P**	**02 02 15.0**	**-0.4**
HYB	**Hyderabad**	**45.88**	**288**	*i* P	**P**	**02 02 15.0**	**-0.4**
ZAL	**Zalesovo**	**57.45**	**334**	P	**P**	**02 03 37.6**	**-0.9**
	comp=Z,0.8nm,0.4s,mb3.3,baz=350,slow=4.9,SNR=3.7						
KURK	**Kurchatov**	**58.48**	**328**	*e*P	**P**	**02 03 45.3**	**-0.2**
	comp=Z,15nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	**64.05**	**327**	P	**P**	**02 04 21.4**	**-0.3**
	comp=Z,2.1nm,0.6s,mb3.7,baz=137,slow=8.8,SNR=16						
BRVK	**Borovoye**	**64.12**	**327**	*e*P	**P**	**02 04 22.0**	**-0.2**
	comp=Z,2.0nm,0.4s,mb3.9						
CHKZ	**Chkalovo**	**64.22**	**328**	*e*P	**P**	**02 04 22.4**	**-0.5**
ILAR	**Eielson Array**	**64.30**	**26**	P	**P**	**02 06 15.0**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=235,slow=5.3,SNR=10						
VNDA	**Vanda**	**85.92**	**172**	P	**P**	**02 06 23.0**	**+0.5**
	comp=Z,1.7nm,0.9s,mb3.7,baz=333,slow=9.0,SNR=4.4						
VNDA	**Vanda**	**85.92**	**172**	P	**P**	**02 06 23.0**	**+0.5**
JOF	**Joensuu**	**86.03**	**333**	*e*p	**P**	**02 06 22.6**	**-0.6**
BRTR	**Keskin Array B**	**86.58**	**309**	P	**P**	**02 06 26.3**	**-0.1**
	comp=Z,1.0nm,0.5s,mb3.7,baz=120,slow=5.2,SNR=6.4						
ARCES	**ARCESS Array B**	**87.49**	**340**	P	**P**	**02 06 30.0**	**+0.1**
	comp=Z,1.4nm,0.5s,mb3.9,baz=68,slow=6.5,SNR=4.9						
ARCES	**ARCESS Array B**	**87.49**	**340**	P	**P**	**02 06 30.0**	**0.0**
KAF	**Kangasniemi**	**88.44**	**332**	*e*p	**P**	**02 06 33.9**	**-0.7**
FINES	**FINESS Array B**	**88.66**	**332**	P	**P**	**02 06 35.3**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.7,baz=63,slow=4.3,SNR=9.2						
SYO	**Syowa Base**	**93.48**	**201**	⇓P	**P**	**02 06 57.6**	**-0.1**
SYO	**Syowa Base**	**93.48**	**201**	⇑PcP	PcP	02 07 01.2	+3.2
SYO	**Syowa Base**	**93.48**	**201**	⇓pP	pP	02 08 59.6	-0.4
SYO	**Syowa Base**	**93.48**	**201**	⇑sP	sP	02 09 54.9	+0.6

*TRN **26** 02:00:30.9, 10.96N×61.61W, h42km, MD3.0*
*NEIC **26** 02:00:30.9, 10.96N×61.61W, h41km, MD3.0(TRN), After TRN.*
*FUNV **26** 02:00:30.1, 10.89N×61.84W, h51km, MW2.3*

ISC 26 02:00:27.5±0.8, 10.85N±0.04×61.81W±0.04, h67km±10km, n15, σ0=06/23, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.45**	**116**	*e*P	**P**	**02 00 39.7**	**0.0**
TRN				*i* S	**S**	**02 00 47.2**	**-1.4**
GUIV	**Guiria**	**0.45**	**244**	*e*P	**P**	**02 00 40.5**	**+0.9**
GUIV				*e*S	**S**	**02 00 48.4**	**-0.2**
TPP	**Pointe-a-Pierr**	**0.63**	**146**	*e*P	**P**	**02 00 44.3**	**+2.7**
TBH	**Brigand Hill**	**0.81**	**116**	*e*P	**P**	**02 00 45.8**	**+2.1**
TPR	**Prospect**	**1.07**	**72**	*e*P	**P**	**02 00 46.6**	**-0.5**
TPR				*e*S	**S**	**02 00 57.9**	**-3.6**
BOT	**Bacolet**	**1.12**	**73**	*e*P	**P**	**02 00 47.3**	**-0.4**
GUNV	**Guanoco**	**1.30**	**239**	*e*P	**P**	**02 00 51.9**	**+1.5**
GRW	**Mount Saint Ca**	**1.31**	**6**	*e*P	**P**	**02 00 50.2**	**-0.3**
GRW				*e*S	**S**	**02 01 07.9**	**+0.5**
GRHS	**Sauteurs**	**1.38**	**7**	*e*P	**P**	**02 00 51.5**	**+0.2**
GRHS				*e*S	**S**	**02 01 08.1**	**-0.8**
ITEV	**Isla Los Testi**	**1.39**	**291**	*e*P	**P**	**02 00 52.2**	**+0.7**
ITEV				*e*S	**S**	**02 01 08.6**	**-0.6**
CRUV	**Carupano**	**1.41**	**263**	*e*P	**P**	**02 00 52.4**	**+0.7**
CRUV				*e*S	**S**	**02 01 08.9**	**-0.7**
ORIV	**Oritupano**	**2.37**	**222**	*e*S	**S**	**02 01 32.9**	**+0.1**
GURV	**El Guri**	**3.31**	**202**	*e*S	**S**	**02 01 54.8**	**-1.8**
MERV	**Las Mercedes**	**4.69**	**251**	*e*S	**S**	**02 02 26.1**	**-5.2**
CAOV	**Caicara del Or**	**5.66**	**232**	*e*P	**P**	**02 01 50.1**	**-0.8**
CAOV				*e*S	**S**	**02 02 49.1**	**-6.3**

*CSEM **26** 02:03:03.3±1.5, 37.84N×43.99E, h25km, MD3.8, Error ellipse: s-maj=39.0km s-min=6.7km az=88.0*

ISK 26 02:03:04.4, 37.77N×43.87E, h30km, MD3.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.22**	**209**	*i* PG	Pb	02 03 10.8	0.0
VANT	**Van**	**0.78**	**331**	*i* PG	Pb	02 03 20.8	+1.5
VANB	**Van**	**0.91**	**335**	*i* PG	Pn	02 03 21.6	+0.3
VANB				*i* SG	Sb	02 03 33.1	-0.2
MSL	**Mosul**	**1.60**	**203**	*e*Pn	Pn	02 03 35.5	+4.4
MSL				*i* Sb	Sb	02 03 55.5	+2.3
MSL				*i* Sg	Sn	02 03 56.0	+5.0
BTMT	**Batman**	**1.93**	**283**	*e*PN	Pn	02 03 38.4	+2.5
VRT	**Varto**	**2.29**	**307**	*e*PN	Pn	02 03 41.2	+0.2
BINT	**Bingol**	**2.88**	**294**	*e*PN	Pn	02 03 49.8	+0.3
DIY	**Diyarbakir**	**2.89**	**274**	*e*PN	Pn	02 03 50.6	+1.0
EZM	**Erzurum**	**2.90**	**318**	*e*PN	Pn	02 03 49.1	-0.6

*LDG **26** 02:38:51.8±0.1, 43.08N×0.28W, h3km, Md2.8/3, Ml2.9/12, Error ellipse: s-maj=1.0km s-min=0.8km az=175.0*
*NEIC **26** 02:38:51.8, 43.08N×0.28W, h3km, ML2.9(LDG), ML2.7(STR), MN2.1(MDD), After LDG.*
*CSEM **26** 02:38:52.2±0.1, 43.08N×0.27W, h8km, ML2.8/13, Error ellipse: s-maj=1.2km s-min=0.9km az=179.0*

MDD 26 02:38:52.1±0.2, 43.09N×0.28W, h9km±2km, mbLg2.2/20, Error ellipse: s-maj=2.9km s-min=1.4km az=3.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.09**	**257**	Pg	Pg	02 38 54.5	0.0
REYF				Lg		02 38 56.4	
REYF	**Montagne du Re**	**0.09**	**257**	Pg	Pg	02 38 54.5	0.0
REYF				Sg	Sg	02 38 56.2	+0.1
LABF	**Labassere**	**0.26**	**99**	Pg	Pg	02 38 57.3	-0.2
LABF				Sg	Sg	02 39 01.2	0.0
LABF				Sg	Sg	02 39 01.3	+0.1
LABF	**Labassere**	**0.26**	**99**	Pg	Pg	02 38 57.0	-0.6
LABF				Lg		02 39 01.1	
ETSF	**Etsaut**	**0.28**	**228**	*e*Pg	Pg	02 38 57.5	-0.5
ETSF				*e*Sg	Sg	02 39 00.6	-1.3
	503nm,0.3s						
ATE	**Arette**	**0.31**	**270**	Pg	Pg	02 38 58.0	-0.5
ATE				Lg		02 39 02.5	
FDAF	**Les Forges d'A**	**0.34**	**218**	Pg	Pg	02 38 55.7	-3.5
FDAF	**Les Forges d'A**	**0.34**	**218**	Pg	Pg	02 38 55.7	-3.5
FDAF				Lg		02 39 00.5	
EPF	**Esparros**	**0.46**	**97**	*e*Pg	Pg	02 39 00.4	-1.0
EPF				*e*Pn	Pn	02 39 01.2	-3.2
EPF				*e*Sg	Sg	02 39 06.8	-0.7
	45nm,0.2s						
LARF	**Larrau**	**0.52**	**265**	Pg	Pg	02 39 02.0	-0.7
LARF				Lg		02 39 09.7	
LARF	**Larrau**	**0.52**	**265**	Pg	Pg	02 39 02.2	-0.5
LARF				Sg	Sg	02 39 09.6	-0.2
RESF	**Ens**	**0.53**	**122**	Pg	Pg	02 39 01.9	-0.9
RESF				Lg		02 39 09.2	
RESF	**Ens**	**0.53**	**122**	Pg	Pg	02 39 01.9	-1.0
RESF				Sg	Sg	02 39 09.4	-0.6
SJPF	**Ste Jean**	**0.69**	**272**	*e*Pg	Pg	02 39 04.3	-1.8
SJPF				*e*Pn	Pn	02 39 06.7	-1.2
SJPF				*e*Sg	Sg	02 39 13.7	-1.7
	37nm,0.3s						
OSSF	**Osses**	**0.74**	**283**	Pg	Pg	02 39 05.5	-1.5
OSSF				Lg		02 39 16.0	
OSSF	**Osses**	**0.74**	**283**	Pg	Pg	02 39 06.1	-0.9
OSSF				Sg	Sg	02 39 16.8	-0.1
MELF	**Melles**	**0.79**	**106**	Pg	Pg	02 39 06.4	-1.6
MELF				Lg		02 39 17.3	
MELF	**Melles**	**0.79**	**106**	Pg	Pg	02 39 06.6	-1.4
MELF				Sg	Sg	02 39 17.5	-1.1
EALK	**Alkurruntz**	**0.91**	**279**	Pg	Pg	02 39 08.8	-1.5
EALK				Lg		02 39 20.8	
EALK	**Alkurruntz**	**0.91**	**279**	Pg	Pg	02 39 08.5	-1.8
	2.0nm,0.1s,SNR=16						
EALK				Lg		02 39 21.2	
	28nm,0.3s,SNR=15						
EALK	**Alkurruntz**	**0.91**	**279**	Pg	Pg	02 39 08.8	-1.6
	1.5nm,0.1s,SNR=16						
SALF	**Salau**	**1.13**	**106**	Pg	Pg	02 39 12.9	-1.7
SALF				Lg		02 39 27.9	
SALF	**Salau**	**1.13**	**106**	Pg	Pg	02 39 12.9	-1.7
SALF				Sg	Sg	02 39 27.9	-1.8
GRBF	**Gourbit**	**1.35**	**100**	Pg	Pg	02 39 17.3	-1.8
ESAC	**San Caprasio**	**1.37**	**186**	Pg	Pg	02 39 18.2	-1.3
ESAC				Lg		02 39 36.9	
ESAC	**San Caprasio**	**1.37**	**186**	Pg	Pg	02 39 18.2	-1.3
	46nm,0.1s,SNR=28						
ESAC				Lg		02 39 36.7	
	106nm,0.3s,SNR=11						
ESAC	**San Caprasio**	**1.37**	**186**	Pg	Pg	02 39 18.2	-1.4
	50nm,0.3s,SNR=28						
PAND	**Andorre**	**1.46**	**112**	Lg		02 39 38.7	
EMIR	**Miracle**	**1.78**	**131**	Pn	Pn	02 39 25.6	+2.3
EMIR				Sn	Sn	02 39 49.0	+2.8
EMIR	**Miracle**	**1.78**	**131**	Pg	Pg	02 39 25.4	-2.2
	5.4nm,0.1s,SNR=29						
EMIR				Lg		02 39 49.0	
	22nm,0.2s,SNR=12						
EMIR	**Miracle**	**1.78**	**131**	Pn	Pn	02 39 25.6	+2.3
	4.9nm,0.1s,SNR=29						
CARF	**Carcanieres**	**1.79**	**101**	Lg		02 39 49.7	
MTLF	**Montolieu**	**1.84**	**81**	*e*Pn	Pn	02 39 22.5	-1.7
MTLF				*e*Pg	Pg	02 39 26.9	-2.0
MTLF				*e*Sn	Sn	02 39 44.9	-2.9
MTLF				*e*Sg	Sg	02 39 50.3	-3.1
	7.3nm,0.2s						
LFF	**La Frestale**	**1.99**	**21**	*e*Pn	Pn	02 39 24.4	-2.0
LFF				*e*Pg	Pg	02 39 29.0	-2.9
LFF				*e*Sn	Sn	02 39 48.5	-3.1
LFF				*e*Sg	Sg	02 39 54.6	-3.8
	34nm,0.3s						
EPOB	**Poblet**	**2.01**	**149**	Pn	Pn	02 39 28.9	+2.3
EPOB				Sn	Sn	02 39 54.8	+2.8
EPOB	**Poblet**	**2.01**	**149**	Pg	Pg	02 39 28.8	-3.4
	6.2nm,0.2s,SNR=31						
EPOB				Lg		02 39 55.2	
	5.6nm,0.1s,SNR=9.4						
EPOB	**Poblet**	**2.01**	**149**	Pn	Pn	02 39 28.9	+2.3
	3.6nm,0.1s,SNR=31						
ERTA	**Horta de San J**	**2.18**	**168**	Pn	Pn	02 39 32.2	+3.1
ERTA				Sn	Sn	02 39 59.3	+2.8
ERTA	**Horta de San J**	**2.18**	**168**	Pg	Pg	02 39 31.6	-4.0
	2.9nm,0.2s,SNR=30						
ERTA				Lg		02 40 00.3	
	5.8nm,0.2s,SNR=4.0						
ELAN	**Lanestosa**	**2.31**	**275**	Pg	Pg	02 39 33.6	-4.7
ELAN				Sn	Sn	02 40 00.3	+0.4
ELAN	**Lanestosa**	**2.31**	**275**	Pg	Pg	02 39 32.0	-6.3
	0.5nm,0.2s,SNR=7.9						
ELAN				Lg		02 40 01.6	
	2.3nm,0.2s,SNR=4.0						
ELAN	**Lanestosa**	**2.31**	**275**	Sn	Sn	02 40 00.3	+0.4
	2.1nm,0.3s,SNR=4.0						
ELAN	**Lanestosa**	**2.31**	**275**	Pg	Pg	02 39 33.7	-4.7
	0.6nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.42**	**104**	Pn	Pn	02 39 37.2	+4.8
EJON				Sn	Sn	02 40 07.2	+4.7
EJON				Lg		02 40 10.3	
EJON	**La Jonquera**	**2.42**	**104**	Pg	Pg	02 39 37.0	-3.4
	1.6nm,0.3s,SNR=7.9						
EJON				Lg		02 40 10.1	
	2.7nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.50**	**42**	*e*Pn	Pn	02 39 31.8	-1.8
CAF				*e*Pg	Pg	02 39 38.3	-3.6
CAF				*e*Sn	Sn	02 40 00.9	-3.5
CAF				*e*Sg	Sg	02 40 10.6	-4.6
	12nm,0.2s						
RJF	**Les Rejaudoux**	**2.56**	**30**	*e*Pn	Pn	02 39 32.3	-2.3
RJF				*e*Pg	Pg	02 39 39.6	-3.7
RJF				*e*Sn	Sn	02 40 02.6	-3.6
RJF				*e*Sg	Sg	02 40 12.7	-4.8
	17nm,0.3s						
EMOS	**Mosqueruela**	**2.73**	**183**	Pn	Pn	02 39 38.6	+1.7
EMOS				Pg	Pg	02 39 42.6	-3.9
EMOS				Sn	Sn	02 40 11.9	+1.5
EMOS				Lg		02 40 17.9	
EMOS	**Mosqueruela**	**2.73**	**183**	Pn	Pn	02 39 36.8	-0.1
	0.4nm,0.2s,SNR=15						
EMOS				Pg	Pg	02 39 42.7	-3.9
	4.1nm,0.3s,SNR=7.9						
EMOS				Sn	Sn	02 40 06.8	-3.5
	0.9nm,0.1s,SNR=4.0						
EMOS				Lg		02 40 17.4	
	2.2nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.73**	**183**	Pg	Pg	02 39 42.7	-3.9
	0.7nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.73**	**183**	Pn	Pn	02 39 38.6	+1.7
	0.2nm,0.1s,SNR=15						
LASF	**Ste Croix**	**3.16**	**70**	*e*Pn	Pn	02 39 40.5	-2.6
LASF				*e*Pg	Pg	02 39 50.6	-4.6
LASF				*e*Sn	Sn	02 40 17.3	-4.0
LASF				*e*Sg	Sg	02 40 31.0	-6.4
	3.3nm,0.2s						
MFF	**Saint Martin d**	**3.51**	**1**	*e*Pn	Pn	02 39 45.4	-2.7
MFF				*e*Pg	Pg	02 39 56.5	-5.8
MFF				*e*Sg	Sg	02 40 41.3	-7.8
	11nm,0.6s						
EARI	**Arriondas**	**3.61**	**275**	Pg	Pg	02 39 53.6	-11
EARI				Sn	Sn	02 40 30.5	-2.3
EARI	**Arriondas**	**3.61**	**275**	Pn	Pn	02 39 50.1	+0.6
	0.3nm,0.1s,SNR=4.0						
EARI				Sn	Sn	02 40 29.7	-3.1
	0.4nm,0.2s,SNR=4.0						
EARI	**Arriondas**	**3.61**	**275**	Sn	Sn	02 40 30.5	-2.3
	0.3nm,0.2s,SNR=4.0						
TCF	**Toulx Ste Croi**	**3.66**	**28**	*e*Pn	Pn	02 39 47.4	-2.7
TCF				*e*Sn	Sn	02 40 29.0	-4.9
TCF				*e*Sg	Sg	02 40 47.3	-6.6
	6.6nm,0.3s						
GUD	**Guadarrama**	**3.79**	**231**	Pn	Pn	02 39 52.3	+0.3
GUD				Sn	Sn	02 40 35.1	-2.1
GUD				Lg		02 40 53.3	
GUD	**Guadarrama**	**3.79**	**231**	Pn	Pn	02 39 51.8	-0.2
	0.3nm,0.2s,SNR=7.9						
GUD				Sn	Sn	02 40 33.5	-3.7
	0.6nm,0.2s,SNR=5.0						
GUD				Lg		02 40 51.7	
	1.2nm,0.3s,SNR=4.0						
GUD	**Guadarrama**	**3.79**	**231**	Pn	Pn	02 39 52.3	+0.3
	0.2nm,0.2s,SNR=7.9						
GUD				Sn	Sn	02 40 35.1	-2.1
	1.5nm,0.5s,SNR=5.0						
VIVF	**Saint-Julien-l**	**3.98**	**62**	*e*Pn	Pn	02 39 51.5	-3.3
VIVF				*e*Sn	Sn	02 40 36.8	-5.4
VIVF				*e*Sg	Sg	02 40 56.2	-8.6
	2.7nm,0.2s						
BGF	**Bois d'Agland**	**4.12**	**32**	*e*Pn	Pn	02 39 53.8	-2

KHZ **Kahutara** 18.02 195 P **P** 03 03 41.9 -0.6
KHZ S **S** 03 06 40.3 -1.0
LTZ Lake Taylor 18.69 197 P **P** 03 03 49.3 +0.3
RPZ Rata Peaks 19.89 199 P **P** 03 03 59.8 -0.6
4.1nm,0.3s,baz=321,slow=1.0,SNR=24
RPZ S **S** 03 07 13.4 +0.1
0.7nm,0.3s,baz=72,slow=3.0,SNR=3.2
PAE Paea 29.48 82 *e*P **P** 03 05 26.1 -0.8
133nm,1.1s,mb5.3
PPT Papeete 29.51 81 *e*P **P** 03 05 26.5 -0.7
106nm,1.3s,mb5.1
PPT Papeete 29.51 81 P **P** 03 05 27.4 +0.1
67nm,0.9s,mb5.1,baz=72,slow=3.0,SNR=4.4
TIAR Tiarei 29.72 82 *e*P **P** 03 05 28.4 -0.6
283nm,1.1s,mb5.6
TVO Taravao 29.73 82 *e*P **P** 03 05 28.3 -0.8
68nm,0.8s,mb5.1
CTA Charters Tower 31.25 272⇓*i*P **P** 03 05 43.0 +0.9
60nm,0.6s,mb5.2
CTA *e*S **S** 03 10 13.4 -1.3
CTA Charters Tower 31.25 272 P **P** 03 05 43.2 +1.1
98nm,0.7s,mb5.4,baz=99,slow=11,SNR=106
CTAO Charters Tower 31.25 272 *e*P **P** 03 05 42.8 +0.7
111nm,0.8s,mb5.3
STKA Stephens Creek 34.06 250⇓*i*P **P** 03 06 06.6 +0.9
5.8nm,0.8s,mb4.1
STKA Stephens Creek 34.06 250 P **P** 03 06 06.0 +0.3
14nm,1.1s,mb4.3,baz=112,slow=8.8,SNR=28
STKA pP 03 07 33.0
3.9nm,0.8s,baz=92,slow=14,SNR=2.1
STKA PcP PcP 03 08 26.2 -4.5
2.2nm,0.5s,baz=90,slow=5.1,SNR=2.4
STKA ScP 03 11 27.0
4.0nm,0.9s,baz=78,slow=4.0,SNR=3.1
PMG Port Moresby 34.66 291 P **P** 03 06 11.0 +0.1
69nm,0.9s,mb5.1,baz=79,slow=7.4,SNR=11
PMG Port Moresby 34.66 291 P **P** 03 06 11.0 +0.1
TAOE Nuku Hiva Isla 41.44 74 *e*P **P** 03 07 05.5 -1.0
ASAR Alice Springs 41.60 262 P **P** 03 07 07.8 0.0
52nm,1.1s,mb4.9,baz=99,slow=8.3,SNR=122
ASAR pP pP 03 08 38.0 +0.8
3.3nm,0.8s,baz=100,slow=7.2,SNR=1.7
ASAR ScP 03 11 55.4
2.5nm,0.7s,baz=112,slow=3.9,SNR=6.9
ASAR S **S** 03 12 45.8 -3.7
5.0nm,0.7s,baz=106,slow=13,SNR=9.9
ASPA Alice Springs 41.61 262⇓*i*P **P** 03 07 07.7 -0.1
ASPA *e*SCP 03 11 59.8
ASPA *e*S **S** 03 12 45.9 -3.6
WB2 Warramunga Arr 42.08 268⇓*i*P **P** 03 07 10.9 -0.7
WB2 *e*SCP 03 11 59.7
WB2 *e*S **S** 03 12 50.5 -5.7
WRAB Tennant Creek 42.08 268 *e*P **P** 03 07 10.6 -1.0
51nm,0.7s,mb5.1
WRA Warramunga Arr 42.09 268 P **P** 03 07 11.1 -0.6
42nm,0.7s,mb5.0,baz=103,slow=8.1,SNR=153
WRA ScP 03 11 57.4
11nm,0.9s,baz=103,slow=3.9,SNR=17
WRA S **S** 03 12 51.3 -5.1
16nm,0.9s,baz=100,slow=14,SNR=14
KAKA Kakadu 46.17 276⇓*i*P **P** 03 07 42.6 -1.1
30nm,0.7s,mb4.8
FITZ Fitzroy Crossi 50.49 267⇓*i*P **P** 03 08 15.5 -0.8
70nm,0.9s,mb5.0
FITZ *e*S **S** 03 14 51.8 -1.5
VNDA Vanda 53.18 185 P **P** 03 08 35.8 +0.7
2.5nm,0.6s,mb3.8,baz=356,slow=7.1,SNR=14
KLBR Kellerberrin 54.30 248 *e*P **P** 03 08 42.3 -1.3
128nm,0.8s,mb5.3
QSPA South Pole Qui 65.00 180 *e*P **P** 03 09 55.0 +0.8
17nm,0.7s,mb4.8
MAJO Matsushiro 72.73 326 *e*P **P** 03 10 40.3 -1.1
13nm,0.8s,mb4.5
MAT Matsushiro 72.73 326 *e*P **P** 03 10 40.0 -1.4
25nm,1.0s,mb4.7
MAT Matsushiro 72.73 326 P **P** 03 10 39.8 -1.6
MAW Mawson 76.56 201 P **P** 03 11 02.8 +0.7
8.2nm,0.6s,mb4.4,baz=152,slow=7.5,SNR=4.5
SSE Sheshan 79.09 312 P **P** 03 11 16.3 -0.2
SSE AMB AMB
comp=Z,30nm,0.6s,mb5.0
SSE AMB AMB
comp=Z,121nm,4.0s
SSE Sheshan 79.09 312 P **P** 03 11 16.3 -0.2
comp=Z,30nm,0.6s,mb5.0
YSS Yuzh-Sakhalins 79.10 335 *e*P **P** 03 11 16.8 +0.7
comp=Z,22nm,0.9s,mb4.7
NJ2 Nanjing 81.25 311 *e*P **P** 03 11 27.5 -0.2
NJ2 PP PP 03 14 44.5 +2.2
NJ2 SKS SKS 03 20 55.0 -2.7
NJ2 AMB AMB
comp=Z,60nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,462nm,5.8s
SYO Syowa Base 81.80 193 ⇑P **P** 03 11 29.5 -0.2
SYO Syowa Base 81.80 193 ⇑PcP PcP 03 11 40.0 +5.5
MDJ Mudanjiang 83.11 326 P **P** 03 11 37.3 +0.5
MDJ S S 03 21 17.8 +2.0
MDJ SS SS 03 26 51.3 -5.7
MDJ AMB AMB
comp=Z,16nm,1.0s,mb4.5
MDJ AMB AMB
comp=Z,103nm,5.1s
SNAA Sanae 83.49 179 *e* **P** 03 11 40.6 +2.4
SNAA Sanae 83.49 179⇓*i*P **P** 03 11 38.3 +0.1
SNAA *e* 03 11 40.6
BAR Barrett 83.49 49 *e*P **P** 03 11 38.5 -0.4
WHN Wuhan 83.52 308 P **P** 03 11 39.0 -0.2
VNA3 Neumayer Olymp 83.71 177 *e* **P** 03 11 42.4 +3.2
VNA3 Neumayer Olymp 83.71 177⇓*i*P **P** 03 11 39.4 +0.2
VNA3 *e* 03 11 42.4
VNA2 Neumayer--Watz 84.12 178 *e* **P** 03 11 44.7 +3.5
VNA2 Neumayer--Watz 84.12 178⇓*i*P **P** 03 11 41.6 +0.4
VNA2 *e* 03 11 44.7
PFO Pinyon Flat Ob 84.17 49 *e*P **P** 03 11 42.5 +0.1
comp=Z,16nm,1.2s,mb4.4
CMB Columbia Colle 84.23 43 *e*P **P** 03 11 42.2 -0.4
comp=Z,27nm,1.2s,mb4.7
OHCM Honcut 84.37 42 *e*P **P** 03 11 43.2 +0.1
YBH Yreka Blue Hor 85.16 39 P **P** 03 11 47.4 +0.4
comp=Z,12nm,1.2s,mb4.4,baz=313,slow=7.0,SNR=7.7
HUMO Hull Mountain 85.58 39 *e*P **P** 03 11 49.7 +0.7
NVAR Mina Array Bea 85.78 44 P **P** 03 11 50.5 +0.5
comp=Z,7.3nm,0.8s,mb4.4,baz=216,slow=7.4,SNR=40
MNV Mina 85.87 44 *e*P **P** 03 11 50.2 -0.3
comp=Z,13nm,1.1s,mb4.5
LDFC Landfair 85.92 48 *e*P **P** 03 11 50.9 +0.1
TPH Tonopah 86.25 45 *e*P **P** 03 11 52.7 +0.4
comp=Z,20nm,1.0s,mb4.7
NEN Nelson 86.42 48 *e*P **P** 03 11 53.3 +0.1
MOD Modoc 86.67 40 *e*P **P** 03 11 54.1 -0.1
comp=Z,23nm,1.2s,mb4.8
ENH Enshi 86.92 305 *e*P **P** 03 11 55.7 0.0
comp=Z,27nm,0.9s,mb5.0
TUC Tucson 87.44 53 *e*P **P** 03 11 58.7 +0.6
comp=Z,18nm,0.9s,mb4.8
PLCA Paso Flores 87.62 134 P **P** 03 11 59.8 +1.1
comp=Z,4.6nm,0.8s,mb4.2,baz=228,slow=5.1,SNR=8.9
BJI Beijing 87.71 317 *e*P **P** 03 11 59.0 -0.2
comp=Z,11nm,1.3s,mb4.4
WVOR Wild Horse Val 87.97 41 *e*P **P** 03 12 00.2 -0.1
comp=Z,24nm,1.1s,mb4.8
ARUT Antelope Range 88.55 47 *e*P **P** 03 12 03.6 +0.4
WUAZ Wupatki 88.72 50 *e*P **P** 03 12 04.5 +0.4
comp=Z,397nm,1.4s
PGC Sidney 89.23 34 *e*P **P** 03 12 05.4 -0.7
XAN Xi'an 89.27 308 P **P** 03 12 07.0 +0.3
XAN AMB AMB
comp=Z,24nm,1.1s,mb4.9
KMI Kunming 89.59 298 P **P** 03 12 09.6 +1.3
comp=Z,14nm,1.1s,mb4.7
KMI LR LR
comp=Z,30nm,23.5s
CM31 Chiang Mai Arr 89.70 290 P **P** 03 12 09.8 +0.8
comp=Z,9.3nm,0.4s,mb5.0
CMAR Chiang Mai Arr 89.70 290 P **P** 03 12 09.9 +1.0
comp=Z,8.5nm,0.9s,mb4.6,baz=138,slow=3.5,SNR=26
MVU Marysvale 89.75 47 *e*P **P** 03 12 09.5 +0.7
comp=Z,13nm,1.2s,mb4.6
MSU Marysvale 89.78 47 *e*P **P** 03 12 09.7 +0.8
BMO Blue Mountains 90.19 39 *e*P **P** 03 12 10.0 -0.5
comp=Z,12nm,1.5s,mb4.5
NLU North Lily Min 90.62 46 *e*P **P** 03 12 13.1 +0.4
TMUT Trail Mountain 90.84 46 *e*P **P** 03 12 14.6 +0.8
MPU Maple Canyon 90.94 46 *e*P **P** 03 12 14.4 +0.2
MNTX Cornudas Mount 91.09 55 *e*P **P** 03 12 15.1 0.0
comp=Z,4.9nm,0.9s,mb4.4
SRU San Rafael 91.19 47 *e*P **P** 03 12 15.5 +0.2
TXAR Lajitas Array 91.27 58 P **P** 03 12 15.9 -0.1
comp=Z,8.2nm,0.8s,mb4.7,baz=213,slow=6.6,SNR=112
TXAR PP PP 03 16 05.8 +3.2
comp=Z,1.1nm,1.0s,baz=219,slow=8.0,SNR=4.5
TXAR Lajitas Array 91.27 58 P **P** 03 12 15.9 -0.1
TXAR PP PP 03 16 05.8 +3.2
JLU Jordanelle 91.38 45 *e*P **P** 03 12 15.6 -0.6
DAU Daniels Canyon 91.40 45 *e*P **P** 03 12 16.5 +0.2
LPM Los Pinos Moun 91.45 53 *e*P **P** 03 12 16.8 +0.1
TCUT Toone Canyon 91.68 45 *e*P **P** 03 12 17.7 +0.2
PV10 Paradox Valley 91.80 48 *e*P **P** 03 12 17.7 -0.5
ANMO Albuquerque 91.88 52 P **P** 03 12 17.9 -0.7
comp=Z,4.5nm,0.9s,mb4.4,baz=214,slow=5.8,SNR=16
ANMO Albuquerque 91.88 52 P **P** 03 12 17.9 -0.7
PV01 Paradox Valley 92.00 49 *e*P **P** 03 12 18.6 -0.5
GDL2 Guadalupe Moun 92.09 55 *e*P **P** 03 12 19.8 +0.1
MCMT McKenzie Canyo 92.78 41 *e*P **P** 03 12 22.6 +0.1
ILAR Eielson Array 93.24 14 P **P** 03 12 22.5 -1.6
comp=Z,0.8nm,0.7s,mb3.9,baz=224,slow=4.9,SNR=11
PDAR Pinedale Array 93.72 44 P **P** 03 12 26.4 -0.4
comp=Z,1.6nm,0.9s,mb4.0,baz=207,slow=3.3,SNR=10
PDAR PP PP 03 16 18.2 -3.3
comp=Z,1.2nm,1.1s,baz=231,slow=9.5,SNR=5.2
LZH Lanzhou 93.90 308 *e*P **P** 03 12 28.8 +0.9
LZH PP PP 03 16 28.5 +5.3
LZH AMB AMB
comp=Z,27nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,83nm,5.4s
LZH Lanzhou 93.90 308 *e*P **P** 03 12 28.7 +0.8
comp=Z,27nm,1.3s,mb5.1
LZH pP pP 03 14 14.0 -2.4
LZH sP sP 03 15 00.7 -3.5
LZH pP pP 03 16 28.5 +5.3
SONM Songino Array 97.83 319 P **P** 03 12 46.1 +0.7
comp=Z,0.7nm,0.8s,mb4.0,baz=127,slow=3.3,SNR=4.4
SONM PP PP 03 16 47.3 -5.7
comp=Z,1.3nm,1.0s,baz=121,slow=7.2,SNR=4.6
YKA Yellowknife Ar 101.54 26 PP PP 03 17 14.3 -6.0
comp=Z,0.1nm,0.4s,baz=239,slow=7.4,SNR=4.7
YKA PKKPbc 03 29 06.4
comp=Z,0.1nm,0.5s,baz=35,slow=2.6,SNR=3.9
ARCES ARCESS Array B 132.99 348 PKP PKPdf 03 18 20.6 -0.2
comp=Z,4.6nm,0.7s,slow=1.2,SNR=7.5
ARCES SKPbc 03 21 02.1
comp=Z,12nm,0.7s,baz=16,slow=2.9,SNR=14
KMBO Kilima Mbogo 135.29 240 PKP PKPdf 03 18 26.1 -0.5
comp=Z,0.7nm,0.6s,baz=97,slow=8.1,SNR=2.6
KMBO SKPbc 03 21 13.2
comp=Z,1.0nm,0.5s,baz=37,slow=5.1,SNR=5.7
FINES FINESS Array B 139.48 341 PKhKP 03 18 23.5
comp=Z,2.0nm,0.8s,baz=27,slow=4.3,SNR=9.3
FINES PKP PKPdf 03 18 30.7 -2.1
comp=Z,2.1nm,0.8s,baz=69,slow=2.8,SNR=5.7
FINES SKPbc 03 21 21.3
comp=Z,13nm,0.8s,baz=72,slow=6.0,SNR=25
FINES FINESS Array B 139.48 341 PKP PKPdf 03 18 23.5 -9.3
FINES PKP PKPdf 03 18 30.7 -2.1
FINES SKPbc 03 21 21.3
NB2 NORSAR Subarra143.21 351 PKP PKPdf 03 18 36.7 -2.5
comp=Z,4.7nm,0.8s,baz=16,slow=3.1
NOA NORSAR Array B 143.21 351 PKP PKPdf 03 18 37.3 -2.0
comp=Z,7.5nm,0.7s,baz=15,slow=4.9,SNR=26
NOA SKPbc 03 21 30.9
comp=Z,2.7nm,0.7s,baz=15,slow=4.2,SNR=9.0
MALT Malatya 144.78 301 *e*PKPdf PKPdf 03 18 43.6 +0.8
AKASG Malin Array Be 145.82 326 PKPbc PKPbc 03 18 44.2 -1.2
comp=Z,5.4nm,0.5s,baz=43,slow=4.3,SNR=37
AKASG SKPbc 03 21 37.2
comp=Z,2.3nm,0.5s,baz=44,slow=2.7,SNR=8.5
SUW Suwalki 146.23 335 *e*PKP PKPdf 03 18 46.7 +2.0
SUW Suwalki 146.23 335 *e*PKP PKPdf 03 18 46.7 +2.0
BRTR Keskin Array B 148.07 306 PKPbc PKPdf 03 18 52.5 +4.4
comp=Z,3.2nm,0.7s,baz=141,slow=3.0,SNR=16
BRTR pPKPbc 03 20 49.6
comp=Z,1.0nm,1.0s,baz=133,slow=4.4,SNR=1.9
EIL Elat 148.46 286 *e*PKPbc PKPdf 03 18 54.6 +5.6
GKP Gorka Klasztor 148.93 339 *e*PKP PKPdf 03 18 54.5 +5.5
GKP Gorka Klasztor 148.93 339 *e*PKP PKPdf 03 18 54.5 +5.4
KWP Kalwaria 149.67 330 *e*PKP PKPdf 03 18 56.3 +6.0
KWP Kalwaria 149.67 330 *e*PKP PKPdf 03 18 56.3 +5.9
OJC Ojcow 150.49 333 *e*PKP PKPdf 03 18 57.9 +6.3
NIE Niedzica 150.88 332 *e*PKP PKPdf 03 19 00.0 +7.8
KSP Ksiaz 151.29 338 *e*PKP PKPdf 03 19 00.2 +7.5
KSP Ksiaz 151.29 338 *e*PKP PKPdf 03 19 00.3 +7.6
DPC Dobruska-Polom 151.70 337 *e*PKPbc PKPdf 03 19 01.2 +7.9
DPC *e*PKPab PKPab 03 19 12.7 -0.8
CLL Collm 151.91 342⇓*i*PKP1 PKPdf 03 19 01.4 +7.8
CLL *i* PKP2 PKPab 03 19 12.6 -1.7
CLL *e**PPKP2 03 21 04.0
BRG Berggieshubel 152.02 341 *i* P PKPdf 03 19 01.6 +7.9
BRG *i* 03 19 13.6
MOX Moxa 152.88 343 *e*PKP PKPab 03 19 16.7 -1.7
KHC Kasperske Hory 153.66 339 *e*PKP PKPdf 03 19 05.0 +9.0
KHC *e* 03 19 20.6
KHC Kasperske Hory 153.66 339 *e*PKPbc PKPdf 03 19 05.0 +9.0
KHC PKPab PKPab 03 19 20.6 -1.2
GRA1 Grafenberg Arr 153.85 343 *e*PKP PKPab 03 19 20.3 -2.3
GRF Grafenberg Arr 153.85 343 *e*PKP PKPab 03 19 20.3 -2.3
GERES GERESS Array B 153.87 339 PKPbc PKPdf 03 19 05.9 +10
comp=Z,1.4nm,0.9s,baz=180,slow=1.3,SNR=3.6
GERES PKPab PKPab 03 19 21.4 -1.2
comp=Z,1.5nm,0.7s,baz=27,slow=3.0,SNR=5.8
CDF Champ du Feu 155.97 348 *e*PKP2 PKPab 03 19 29.0 -2.6
comp=Z,6.3nm,0.7s
MEZF Maizieres J'vi 156.25 351 *e*PKP2 PKPab 03 19 30.4 -2.4
HAU Haudompre 156.53 349 *e*PKP2 PKPab 03 19 31.4 -2.6
comp=Z,14nm,0.8s
SSF Saint Saulge 157.86 353 *e*PKP2 PKPab 03 19 37.2 -2.6
comp=Z,20nm,0.9s
AVF Avril sur Loir 158.15 353 *e*PKP2 PKPab 03 19 38.4 -2.6
SMF Signal de Mont 158.24 352 *e*PKP2 PKPab 03 19 38.9 -2.5
comp=Z,22nm,0.8s
TCF Toulx Ste Croi 158.75 355 *e*PKP2 PKPab 03 19 41.1 -2.5
LPL La Plagne 158.84 346 *e*PKP2 PKPab 03 19 42.4 -1.6
ORIF Oris-en-Rattie 159.59 347 *e*PKP2 PKPab 03 19 45.4 -1.9
DBIC Dimbokro 161.17 166 PKPab PKPab 03 19 54.2 -0.8
comp=Z,2.3nm,0.8s,baz=168,slow=3.3,SNR=5.1
ESDC Sonseca Array 165.13 11 PKPab PKPab 03 20 10.0 -1.5
comp=Z,3.1nm,1.0s,baz=331,slow=3.0,SNR=6.1

IDC 26 03:01:14.4±18.0, 24.50S×179.22E, h604km±245km, mb3.7/6, mb1 3.9/6, mb1mx3.6/14, mbtmp4.7/6, Error ellipse: s-maj=103.8km s-min=78.7km az=131.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**30.77**	**272**	P	P	03 06 43.5	-0.5
	40nm,0.6s,baz=96,slow=11,SNR=10.0						
STKA	**Stephens Creek**	**33.84**	**249**	P	P	03 07 07.2	-2.5
	3.0nm,0.4s,baz=86,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**41.24**	**261**	P	P	03 08 08.6	-1.4
	17nm,1.0s,baz=98,slow=8.6,SNR=6.7						
WRA	**Warramunga Arr**	**41.66**	**267**	P	P	03 08 11.8	-1.5
	6.2nm,0.4s,baz=98,slow=6.7,SNR=5.7						
NVAR	**Mina Array Bea**	**85.67**	**44**	P	P	03 12 51.0	-0.6
	1.0nm,0.8s,baz=220,slow=7.0,SNR=2.3						
TXAR	**Lajitas Array**	**91.35**	**58**	P	P	03 13 17.1	-1.1
	1.1nm,0.8s,baz=231,slow=8.0,SNR=4.0						

IDC 26 03:26:55.5±7.2, 12.78N×92.43E, mb3.4/2, mb1 3.7/3, mb1mx3.4/18, mbtmp3.4/3, ML4.0/1, MS2.5/1, Ms1 2.7/1, ms1mx2.4/12, Error ellipse: s-maj=151.6km s-min=47.5km az=104.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.44**	**47**	Pn	P	03 28 59.1	-2.9
	0.5nm,0.3s,baz=238,slow=14,SNR=6.3						
CMAR				LR	LR	03 32 53.9	
	comp=Z,28nm,18.4s,baz=43,slow=42						
WRA	**Warramunga Arr**	**52.52**	**128**	P	P	03 36 12.0	-1.0
	0.2nm,0.3s,baz=311,slow=7.8,SNR=5.8						
ASAR	**Alice Springs**	**54.38**	**132**	P	P	03 36 23.2	-3.4
	0.2nm,0.5s,baz=310,slow=6.7,SNR=5.1						

*NEIC **26** 03:35:10.6, 30.96S×71.59W, h18km, ML2.9(GUC), After GUC.*

GUC 26 03:35:10.6±0.8, 30.96S×71.59W, h18km±7km, MD4.0, ML2.9, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.77**	**152**	*e*P	Pb	03 35 24.3	-0.7
ILCH				*i* S	Sb	03 35 35.0	-0.1
ILCH				AMP		03 35 35.7	
	comp=N,515nm,0.5s						
TLL	**Tololo Astrono**	**1.04**	**41**	*i* P	Pb	03 35 29.5	-0.2
TLL				*i* S	Sb	03 35 43.8	+0.9
TLL				AMP		03 35 46.9	
	comp=E,382nm,0.4s						
LSCH	**La Serena**	**1.09**	**16**	*i* P	Pb	03 35 29.6	-1.0
LSCH				*i* S	Sb	03 35 43.7	-0.6
LSCH				AMP		03 35 47.4	
	comp=N,224nm,0.3s						
PTCH	**Petorca**	**1.42**	**157**	⇑*i*P	Pn	03 35 34.8	-0.9
PTCH				*i* S	Sb	03 35 53.6	-0.3
PTCH				AMP		03 35 58.0	
	comp=N,700nm,0.3s						
CLCH	**Cerro Calan**	**2.59**	**160**	*e*P	Pn	03 35 53.2	+0.7
CLCH				AMP		03 36 33.6	
	comp=N,109nm,0.6s						
FCH	**Farellones**	**2.61**	**155**	*e*P	Pn	03 35 53.4	+0.7
FCH				*e*S	Sn	03 36 26.1	+1.9
FCH				AMP		03 36 39.1	
	comp=E,64nm,0.2s						

*MEX **26** 03:36:33.3±1.3, 15.57N×93.65W, h5km±31km, MD3.9*
*NEIC **26** 03:36:33.3, 15.57N×93.65W, h5km, mb3.9/1, MD3.9(MEX), After MEX.*

ISC 26 03:36:33.7±1.1, 16.0N±0.2×93.57W±0.06, h115km±16km, n6, σ1§03/10, mb3.8/1, 1C, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**1.16**	**51**	*i* P	**P**	**03 36 58.0**	**+0.7**
SCX				*i* S	**S**	**03 37 16.0**	**+1.1**
CCIG	**Comitan**	**1.40**	**78**	*i* P	**P**	**03 36 58.3**	**-1.8**
CCIG				*i* S	**S**	**03 37 19.9**	**-0.1**
CMIG	**Matias Romero**	**1.66**	**311**	⇑*i*P	**P**	**03 37 03.9**	**+0.7**
CMIG				*i* S	**S**	**03 37 25.5**	**+0.1**
OXX	**Oaxaca**	**3.21**	**290**	*e*P	**P**	**03 37 22.0**	**-1.6**
OXX				*i* S	**S**	**03 38 02.0**	**+0.5**
TEIG	**Tepich**	**6.55**	**49**	*e*P	**P**	**03 38 07.9**	**-1.0**
	17nm,0.3s						
OTAV	**Otavalo**	**21.63**	**135**	*e*P	**P**	**03 41 17.2**	**+1.3**
	2.5nm,0.5s,mb3.8						

*IDC **26** 03:38:09.8±0.6, 7.85N×93.96E, mb4.4/14, mb1 4.6/15, mb1mx4.5/18, mbtmp4.4/15, ML4.0/1, MS4.2/11, Ms1 4.3/11, ms1mx4.0/22, Error ellipse: s-maj=32.8km s-min=14.5km az=55.0*
*BJI **26** 03:38:11.7, 7.63N×93.87E, h37km, mB4.9, mb4.6, Ms4.8, Msz4.6*
*NEIC **26** 03:38:13.0±0.3, 7.87N×94.08E, mb4.8/30, Error ellipse: s-maj=8.7km s-min=8.3km az=215.0*
*MOS **26** 03:38:14.0±1.2, 7.96N×94.04E, h35km, mb4.9/40, MS4.2/10, Error ellipse: s-maj=11.0km s-min=6.0km az=111.2*

ISC 26 03:38:11.6±0.3, 7.89N±0.04×94.07E±0.04, h20km, h20km±1.6km: pP-P, n159, σ1§18/163, mb4.8/59, MS4.4/21, 6C-7D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.53**	**96**	P	**Pn**	**03 39 48.0**	**-1.1**
	284nm,0.9s						
NNT	**Nongplab**	**7.27**	**50**	P	**Pn**	**03 39 58.4**	**-1.1**
CM31	**Chiang Mai Arr**	**11.52**	**24**	*e*P	**P**	**03 40 58.5**	**+0.2**
	18nm,0.9s						
CMAR	**Chiang Mai Arr**	**11.52**	**24**	Pn	**P**	**03 40 58.7**	**+0.5**
	0.3nm,0.3s,baz=211,slow=14,SNR=37						
CMAR				LR	LR	03 45 25.5	
	comp=Z,1μm,18.6s,baz=208,slow=38						
CHG	**Chiang Mai**	**11.84**	**23**	⇓P	**P**	**03 41 03.7**	**+1.1**
	16nm,1.0s						
PALK	**Pallekele**	**13.26**	**268**	P	**P**	**03 41 26.5**	**+4.9**
VIS	**Vishakhapatnam**	**14.31**	**314**	*e*P	**P**	**03 41 33.1**	**-2.3**
VIS				*e*		03 41 41.8	
	comp=Z,80nm,1.1s						
VIS				*e*S	**S**	**03 44 04.7**	**-10**
MDRS	**Chennai**	**14.53**	**292**	*e*P	**P**	**03 41 37.8**	**-0.5**
MDRS				*e*		03 44 55.0	
BWNR	**Bhubaneshwar**	**14.70**	**328**	*e*P	**P**	**03 41 39.1**	**-1.3**
BWNR				*e*		03 41 45.3	
	comp=Z,30nm,1.2s						
SHL	**Shillong**	**17.70**	**353**	⇑*i*	**P**	**03 42 16.5**	**-2.2**
	comp=Z,179nm,1.5s						
SHL				*i* S	**S**	**03 45 35.0**	**+1.9**
HYB	**Hyderabad**	**17.84**	**304**	*i* P	**P**	**03 42 19.0**	**-1.5**
HYB				*e*		03 45 28.0	
HYB				*e*S	**S**	**03 45 41.5**	**+5.2**
BLSP	**Bilaspur**	**18.23**	**322**	*e*P	**P**	**03 42 26.3**	**+0.8**
BLSP				*e*		03 42 41.0	
	comp=Z,67nm,1.7s						
QIZ	**Qiongzhong**	**18.90**	**53**	P	**P**	**03 42 37.0**	**+3.5**
QIZ				S	**S**	**03 46 02.8**	**+2.6**
QIZ				XS		03 46 15.8	
QIZ				AMB	AMB		
	comp=Z,286nm,7.1s						
QIZ				LR	LR		
	comp=N,3μm,11.7s						
QIZ				LR	LR		
	comp=E,2μm,12.1s						
KMI	**Kunming**	**19.03**	**25**	P	**P**	**03 42 38.0**	**+2.9**
KMI				pmax	pmax		
	comp=Z,27nm,1.2s						
KMI	**Kunming**	**19.03**	**25**	P	**P**	**03 42 38.0**	**+2.9**
	comp=Z,27nm,1.2s						
KMI				S	**S**	**03 46 13.7**	**+10**
JIRN	**Jiri**	**21.03**	**340**	*e*P	**P**	**03 42 55.9**	**-0.7**
	comp=Z,73nm,0.8s,mb5.1						
PKI	**Pulchoki**	**21.22**	**338**	*e*P	**P**	**03 42 58.8**	**+0.2**
	comp=Z,90nm,1.0s,mb5.0						
GUN	**Gumba**	**21.36**	**340**	*e*P	**P**	**03 42 59.4**	**-0.6**
DMN	**Daman**	**21.37**	**338**	*e*P	**P**	**03 42 59.5**	**-0.6**
	comp=Z,94nm,0.9s,mb5.1						
KKN	**Kakani**	**21.46**	**338**	*e*P	**P**	**03 43 01.5**	**+0.4**
	comp=Z,55nm,0.9s,mb4.9						
KAD	**Karad**	**21.52**	**298**	*e*P	**P**	**03 43 03.9**	**+2.2**
KAD				*e*		03 43 08.7	
	comp=Z,35nm,1.0s						
LSA	**Lhasa**	**21.86**	**353**	P	**P**	**03 43 04.8**	**-0.3**
LSA				XP		03 43 16.5	
LSA				S	**S**	**03 47 01.8**	**+1.2**
LSA				XS		03 47 24.0	
LSA				PCS		03 50 36.8	
LSA				LR	LR		
	comp=N,2μm,21.9s,MS5.0						
LSA				LR	LR		
	comp=E,6μm,20.7s,MS5.0						
LSA				LR	LR		
	comp=Z,7μm,20.7s,MS5.0						
LSA	**Lhasa**	**21.86**	**353**	*e*P	**P**	**03 43 04.7**	**-0.4**
LSA				pmax	pmax		
	comp=Z,30nm,0.8s,mb4.8						
LSA	**Lhasa**	**21.86**	**353**	*e*P	**P**	**03 43 04.7**	**-0.4**
	comp=Z,30nm,0.8s,mb4.8						
GKN	**Gorkha**	**21.90**	**337**	*e*P	**P**	**03 43 05.2**	**-0.2**
	comp=Z,57nm,0.6s,mb5.2						
BHPL	**Bhopal**	**22.09**	**316**	*e*P	**P**	**03 43 09.2**	**+1.8**
BHPL				*e*		03 43 13.8	
	comp=Z,48nm,1.3s						
KOLN	**Koldanda**	**22.11**	**335**	*e*P	**P**	**03 43 07.7**	**+0.2**
	comp=Z,109nm,0.9s,mb5.3						
POO	**Poona**	**22.32**	**300**	*e*P	**P**	**03 43 11.5**	**+1.9**
NDI	**New Delhi**	**26.08**	**325**	*e*P	**P**	**03 43 46.0**	**+0.2**
ENH	**Enshi**	**26.54**	**31**	*e*P	**P**	**03 43 50.2**	**+0.1**
	comp=Z,14nm,0.9s,mb4.5						
XAN	**Xi'an**	**29.41**	**26**	P	**P**	**03 44 16.0**	**0.0**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
LZH	**Lanzhou**	**29.45**	**16**	*e*P	**P**	**03 44 16.5**	**+0.1**
LZH				XP	sP	03 44 28.5	+3.5
LZH				PP	PP	03 45 09.0	-3.2
LZH				*e*S	**S**	**03 49 04.5**	**-3.6**
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,120nm,7.2s						

LZH LR LR
comp=E,730nm,12.2s
LZH LR LR
comp=Z,1μm,14.0s,MS4.6
LZH Lanzhou 29.45 16 *e*P **P 03 44 16.4 0.0**
LZH *SP sP 03 44 28.5 +3.5
LZH 03 45 09.0
LZH *e*S **S 03 49 04.4 -3.7**
LZH pmax pmax
comp=Z,18nm,1.0s,mb4.8
LZH MLR MLR
comp=Z,1μm,14.0s,MS4.6
LZH Lanzhou 29.45 16 *e*P **P 03 44 16.4 0.0**
comp=Z,18nm,1.0s,mb4.8
LZH pP pP 03 44 22.2 -0.2
LZH sP sP 03 44 28.5 +3.5
LZH PP PP 03 45 09.0 -3.2
LZH *e*S **S 03 49 04.4 -3.7**
LZH sS 03 49 13.5
LZH SS SS 03 50 18.5 -22
LZH LR LR
comp=Z,1μm,14.0s,MS4.6
WHN Wuhan 29.46 37 *e*P **P 03 44 17.0 +0.4**
NJ2 Nanjing 33.30 40 *e*P **P 03 44 50.8 +0.5**
NJ2 AP pP 03 45 00.0 +3.7
NJ2 XP sP 03 45 04.0 +5.1
NJ2 PP PP 03 46 02.0 0.0
NJ2 S **S 03 50 07.0 -1.5**
NJ2 XS 03 50 24.0
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
NJ2 AMB AMB
comp=Z,262nm,5.2s
NJ2 LR LR
comp=N,2μm,15.3s,MS5.0
NJ2 LR LR
comp=E,2μm,15.5s,MS5.0
NJ2 LR LR
comp=Z,1μm,14.7s,MS4.8
WMQ Urumqi 36.22 352 *e*P **P 03 45 14.8 -0.3**
WMQ AP pP 03 45 24.5 +3.3
WMQ XP sP 03 45 28.5 +4.8
WMQ PP PP 03 46 37.0 -1.1
WMQ PCP PcP 03 47 41.3 +0.7
WMQ S **S 03 50 50.5 -3.1**
WMQ AMB AMB
comp=Z,27nm,0.8s,mb5.2
WMQ AMB AMB
comp=Z,215nm,5.1s
WMQ LR LR
comp=N,611nm,16.0s,MS4.6
WMQ LR LR
comp=E,432nm,15.7s,MS4.6
WMQ LR LR
comp=Z,825nm,16.1s,MS4.6
BJT Baijiatuau 37.60 28 P **P 03 45 25.2 -1.6**
BJT pmax pmax
comp=Z,7.0nm,0.9s
BJT Baijiatuau 37.60 28 P **P 03 45 25.2 -1.6**
comp=Z,6.5nm,0.9s,mb4.4
BJI Beijing 37.62 28 *e*P **P 03 45 30.6 +3.7**
BJI pmax pmax
comp=Z,9.0nm,1.9s,mb4.2
BJI MLR MLR
comp=Z,180nm,27.8s,MS3.7
BJI Beijing 37.62 28 *e*P **P 03 45 30.6 +3.7**
comp=Z,9.0nm,1.9s,mb4.2
BJI S **S 03 51 33.3 +18**
BJI LR LR
comp=Z,180nm,27.8s,MS3.7
AAK Ala-Archa 38.66 337⇑ *e*P **P 03 45 35.5 -0.1**
AAK pmax pmax
comp=Z,17nm,1.9s,mb4.5
AAK MLR MLR
comp=Z,400nm,24.0s,MS4.2
AAK Ala-Archa 38.66 337 *e*P **P 03 45 34.7 -0.9**
comp=Z,23nm,1.4s,mb4.7
FRU Bishkek 38.78 337 *e*P **P 03 45 40.0 +3.4**
FRU pmax pmax
comp=Z,70nm,2.0s,mb5.0
MKAR Makanchi Array 40.05 347 *i* P **P 03 45 45.8 -1.4**
MKAR pmax pmax
comp=Z,11nm,1.0s
SONM Songino Array 41.16 13 P **P 03 45 56.6 +0.4**
comp=Z,5.0nm,1.1s,mb4.1,baz=196,slow=7.7,SNR=17
SONM PcP PcP 03 47 55.8 -0.3
comp=Z,1.2nm,0.6s,baz=200,slow=3.4,SNR=5.6
ULN Ulaanbaatar 41.33 13⇑ *e*P **P 03 45 56.8 -0.8**
ULN Ulaanbaatar 41.33 13 *e*P **P 03 45 57.8 +0.1**
comp=Z,1.8nm,0.7s,mb3.8
ZAK Zakamensk 43.04 9 *e*P **P 03 46 14.9 +3.3**
KURK Kurchatov 44.57 346⇑ *e*P **P 03 46 23.9 -0.2**
KURK Kurchatov 44.57 346 *e*P **P 03 46 23.5 -0.5**
comp=Z,43nm,1.4s,mb5.1
NWAO Narrogin (SRO) 46.20 153 P **P 03 46 38.2 +1.0**
NWAO pmax pmax
comp=Z,10.0nm,0.8s
NWAO Narrogin (SRO) 46.20 153 P **P 03 46 38.2 +1.0**
comp=Z,9.6nm,0.8s,mb4.8,baz=278,slow=8.6,SNR=5.0
NWAO Narrogin (SRO) 46.20 153 *e*P **P 03 46 40.5 +3.4**
comp=Z,4.8nm,0.6s,mb4.6
ZAL Zalesovo 46.52 352 P **P 03 46 39.3 -0.1**
ZAL pmax pmax
comp=Z,236nm,1.6s
ZAL Zalesovo 46.52 352 P **P 03 46 39.2 -0.2**
comp=Z,236nm,1.6s,mb5.9,baz=292,slow=8.5,SNR=37
HIA Hailar 46.53 23 *e*P **P 03 46 40.6 +1.0**
HIA pmax pmax
comp=Z,20nm,1.2s
HIA Hailar 46.53 23 *e*P **P 03 46 40.6 +1.0**
comp=Z,20nm,1.2s,mb4.9
NVS Novosibirsk 47.61 352 *i* P **P 03 46 46.2 -1.9**
NVS *e*S **S 03 53 40.5 -0.9**
NVS pmax pmax
comp=Z,17nm,0.9s,mb5.1
NVS pmax pmax
comp=N,21nm,1.8s
NVS pmax pmax
comp=E,12nm,1.5s
NVS smax
comp=E,18nm,1.7s
MDJ Mudanjiang 47.83 34 P **P 03 46 46.5 -3.4**
MDJ PCP PcP 03 48 16.0 -3.0
MDJ PP PP 03 48 41.8 +0.7
MDJ SCP 03 52 06.0
MDJ PCS 03 52 11.5
MDJ S **S 03 53 46.5 +1.9**
MDJ SCS ScS 03 56 37.5 -2.0
MDJ SS SS 03 57 14.5 +6.7
MDJ AMB AMB
comp=Z,7.0nm,1.8s,mb4.4
MDJ AMB AMB
comp=Z,73nm,5.5s
MDJ LR LR
comp=N,106nm,14.6s,MS4.3
MDJ LR LR
comp=E,246nm,17.4s,MS4.3
MDJ LR LR
comp=Z,131nm,17.4s,MS4.0
WRA Warramunga Arr 48.33 126 P **P 03 46 53.1 -1.0**
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA Warramunga Arr 48.33 126 P **P 03 46 53.1 -1.0**
comp=Z,2.2nm,0.5s,mb4.4,baz=305,slow=8.2,SNR=6.6
WRAB Tennant Creek 48.34 125 *e*P **P 03 46 52.8 -1.3**
WRAB pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
WRAB Tennant Creek 48.34 125 *e*P **P 03 46 52.8 -1.3**
comp=Z,6.1nm,0.8s,mb4.7
BRVK Borovoye 49.01 341 P **P 03 46 58.1 -0.8**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
BRVK Borovoye 49.01 341 P **P 03 46 58.1 -0.8**
comp=Z,4.5nm,0.8s,mb4.5
CHKZ Chkalovo 49.43 342 P **P 03 47 00.8 -1.3**
CHKZ pmax pmax
comp=Z,16nm,1.1s,mb5.0
CHKZ Chkalovo 49.43 342 *e*P **P 03 47 00.5 -1.7**
comp=Z,17nm,1.0s,mb5.0
ASAR Alice Springs 49.98 130 P **P 03 47 04.8 -2.0**
comp=Z,3.0nm,0.9s,mb4.3,baz=311,slow=7.3,SNR=9.5
ASAR PcP PcP 03 48 27.8 +0.8
comp=Z,1.3nm,0.7s,baz=308,slow=3.9,SNR=5.1
ASAR LR LR 04 10 06.9
comp=Z,119nm,19.4s,MS3.9,baz=185,slow=38
BOD Bodaibo 52.15 13 *e*P **P 03 47 21.8 -0.9**

GNI Garni 54.37 314⇑ *e*P **P 03 47 40.3 +0.9**
GNI pmax pmax
comp=Z,12nm,1.1s
GNI MLR MLR
comp=Z,100nm,16.0s
GNI Garni 54.37 314 *e*P **P 03 47 40.2 +0.8**
comp=Z,17nm,1.3s,mb4.8
CLNS Chul'man 54.44 20 *e*P **P 03 47 43.4 +3.7**
CLNS *e* 03 48 47.4
CLNS *e* 03 49 37.9
CLNS *e*PPP PPP 03 50 47.7 -6.7
CLNS *e*S **S 03 55 19.4 +3.9**
CLNS *e*SS SS 03 58 56.8 -0.9
CLNS pmax pmax
comp=Z,21nm,1.3s,mb4.9
CLNS pmax pmax
comp=N,12nm,1.1s
CLNS pmax pmax
comp=E,13nm,1.5s
CLNS pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
CLNS pmax pmax
comp=N,3.0nm,0.6s
CLNS pmax pmax
comp=E,5.0nm,1.0s
CLNS smax
comp=N,4.0nm,1.0s
CLNS smax
comp=Z,4.0nm,0.9s
CLNS smax
comp=E,5.0nm,1.1s
CLNS MLR MLR
comp=N,400nm,15.0s,MS4.7
CLNS MLR MLR
comp=Z,500nm,15.0s,MS4.7
CLNS MLR MLR
comp=E,100nm,12.0s,MS4.7
SVE Sverdlovsk 55.36 338 *e*P **P 03 47 44.9 -1.5**
ARU Arti 55.84 337⇓ *i*P **P 03 47 43.4 -6.5**
ARU *e* 03 48 43.8
ARU *e*S **S 03 55 24.5 -10**
ARU pmax pmax
comp=Z,16nm,1.5s,mb4.8
KIV Kislovodsk 57.25 318 *e*P **P 03 47 59.9 -0.3**
KIV pmax pmax
comp=Z,25nm,1.4s,mb5.0
KIV Kislovodsk 57.25 318 *e*P **P 03 47 59.9 -0.3**
comp=Z,25nm,1.4s,mb5.0
KMBO Kilima Mbogo 57.35 264 *e*P **P 03 48 03.6 +2.3**
KMBO pmax pmax
comp=Z,12nm,1.1s
KMBO Kilima Mbogo 57.35 264 P **P 03 48 03.5 +2.1**
comp=Z,20nm,1.3s,mb5.0,baz=57,slow=11,SNR=14
KMBO LR LR 04 09 51.5
comp=Z,223nm,19.4s,MS4.3,baz=96,slow=33
KMBO Kilima Mbogo 57.35 264 *e*P **P 03 48 03.6 +2.3**
comp=Z,12nm,1.1s,mb4.8
ASF Jabal al Asfar 58.15 303 LR LR 04 15 40.7
comp=Z,116nm,18.8s,MS4.0,baz=110,slow=39
MALT Malatya 58.40 310 *e*P **P 03 48 07.4 -0.8**
MALT pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
MALT Malatya 58.40 310 *e*P **P 03 48 07.4 -0.9**
comp=Z,6.7nm,1.1s,mb4.6
SOC Sochi 59.12 317 *e*P **P 03 48 10.4 -2.8**
SOC *e* 03 48 57.6
SOC *e* 03 50 23.1
SOC *e*S **S 03 56 14.0 -3.6**
SOC *e* 03 57 54.4
SOC *e*SS SS 04 00 07.1 -6.5
SOC pmax pmax
comp=Z,51nm,1.5s,mb5.3
SOC pmax pmax
comp=N,31nm,1.0s
SOC pmax pmax
comp=E,25nm,0.9s
YAK Yakutsk 60.00 18⇑ *e*P **P 03 48 18.1 -0.9**
YAK pmax pmax
comp=Z,14nm,0.6s,mb5.2
YAK MLR MLR
comp=Z,300nm,19.0s,MS4.5
STKA Stephens Creek 60.17 134 P **P 03 48 20.3 -0.3**
comp=Z,5.6nm,1.1s,mb4.5,baz=289,slow=4.4,SNR=3.5
STKA LR LR 04 14 46.2
comp=Z,278nm,21.2s,MS4.4,baz=199,slow=36
ANN Anapa 61.07 317 *e*P pP 03 48 34.0 +1.1
ANN pmax pmax
comp=Z,147nm,1.6s,mb5.9
BRTR Keskin Array B 62.36 311 P **P 03 48 33.7 -1.6**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 62.36 311 P **P 03 48 33.6 -1.7**
comp=Z,4.7nm,1.0s,mb4.6,baz=133,slow=7.5,SNR=11
MBAR Mbarara 63.69 265 *e*P **P 03 48 45.7 +1.1**
MBAR pmax pmax
comp=Z,13nm,1.3s,mb4.8
MBAR Mbarara 63.69 265 *e*P **P 03 48 45.7 +1.1**
comp=Z,13nm,1.3s,mb4.8
MOS Moscow 65.03 329 *e*P **P 03 48 52.8 +0.3**
MOS pmax pmax
comp=Z,48nm,1.0s,mb5.5
OBN Obninsk 65.32 328⇓ *i*P **P 03 48 51.7 -2.8**
OBN *e* pP 03 48 57.5 -3.3
OBN *e* 03 49 09.8
OBN 03 51 18.0
OBN pmax pmax
comp=Z,26nm,0.7s,mb5.4
OBN MLR MLR
comp=Z,200nm,15.0s,MS4.4
OBN Obninsk 65.32 328 *e*P **P 03 48 51.8 -2.7**
comp=Z,53nm,1.3s,mb5.4
MA2 Magadan 66.78 28⇓ *e*P **P 03 49 03.9 +0.2**
MA2 pmax pmax
comp=Z,14nm,0.9s,mb5.0
MA2 MLR MLR
comp=Z,100nm,19.0s,MS4.0
AKASG Malin Array Be 68.09 322 P **P 03 49 10.5 -1.6**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 68.09 322 P **P 03 49 10.5 -1.6**
comp=Z,2.2nm,0.7s,mb4.3,baz=90,slow=4.7,SNR=9.9
JOF Joensuu 70.80 334 *e*p **P 03 49 24.7 -3.8**
VSU Vasula 71.53 329⇓ *e*P **P 03 49 32.5 -0.5**
KWP Kalwaria 71.97 320 *e*P **P 03 49 34.1 -1.7**
KOLS Kolonicke sedl 72.14 319 *e*P **P 03 49 36.8 0.0**
FINES FINESS Array B 72.66 333 P **P 03 49 38.9 -0.7**
comp=Z,9.6nm,1.0s,mb4.7,baz=103,slow=7.5,SNR=14
FINES LR LR 04 27 50.7
comp=Z,190nm,19.3s,MS4.4,baz=288,slow=41
CRVS Cervenica-Dubn 72.67 319 *i* P **P 03 49 41.0 +1.1**
KAF Kangasniemi 72.74 333 *e*p **P 03 49 39.1 -1.0**
KECS Kecovo 73.25 318 *i* P **P 03 49 44.4 +1.0**
NIE Niedzica 73.48 319 *e*P **P 03 49 46.0 +1.3**
OJC Ojcow 73.91 320 *e*P **P 03 49 47.3 +0.2**
VYHS Vyhne 74.34 318 *i* P **P 03 49 50.8 +1.1**
OKC Ostrava-Krasne 74.93 319 *e*P **P 03 49 53.2 +0.2**
OKC *e*pP pP 03 49 58.9 -0.5
ARCES ARCESS Array B 75.22 340 P **P 03 49 54.4 +0.1**
comp=Z,3.5nm,0.8s,mb4.4,baz=90,slow=1.2,SNR=6.3
ARCES LR LR 04 29 56.2
comp=Z,313nm,18.6s,MS4.6,baz=320,slow=41
MORC Moravsky Berou 75.31 319 *e*P **P 03 49 55.9 +0.7**
MORC pmax pmax
comp=Z,19nm,1.3s,mb4.9
MORC Moravsky Berou 75.31 319 *e*P **P 03 49 55.9 +0.7**
comp=Z,19nm,1.3s,mb4.9
ZST Bratislava 75.47 318 *i* P **P 03 49 56.8 +0.6**
BOSA Boshof 75.53 238 *e*P **P 03 49 58.0 +1.0**
BOSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BOSA Boshof 75.53 238 *e*P **P 03 49 58.0 +1.1**
comp=Z,5.0nm,0.6s,mb4.6
BILL Bilibino 76.09 22 P **P 03 50 01.4 +2.1**
BILL pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
BILL Bilibino 76.09 22 P **P 03 50 01.4 +2.0**
comp=Z,8.2nm,1.1s,mb4.6
DPC Dobruska-Polom 76.14 320 *e*P **P 03 49 59.1 -0.8**
DPC *e*pP pP 03 50 05.0 -1.4
KSP Ksiaz 76.20 320 *e*P **P 03 50 00.8 +0.5**
UPC Upice 76.35 320 *e*P **P 03 50 01.8 +0.7**
PRU Pruhonice 77.26 319 *e*P **P 03 50 06.5 +0.3**
PRU *e*pP pP 03 50 11.8 -0.8
PVCC Panska Ves 77.28 320 *e*P **P 03 50 06.3 +0.1**
PVCC *e*pP pP 03 50 13.0 +0.3

BRG Berggiesshubel 77.69 320 *e*P **P 03 50 09.2 +0.7**
BRG *i* pP 03 50 15.4 +0.4
BRG pmax pmax
comp=Z,24nm,1.5s,mb4.9
BRG Berggiesshubel 77.69 320 *e*P **P 03 50 09.2 +0.7**
comp=Z,24nm,1.5s,mb4.9
BRG *i* pP 03 50 15.4 +0.4
GERES GERESS Array B 77.76 318 P **P 03 50 09.5 +0.5**
GERES pmax pmax
comp=Z,6.0nm,1.0s
GERES GERESS Array B 77.76 318 P **P 03 50 09.5 +0.5**
comp=Z,5.9nm,1.0s,mb4.5,baz=90,slow=5.3,SNR=15
KHC Kasperske Hory 77.86 318 *e*P **P 03 50 09.5 0.0**
KHC *e*pP pP 03 50 14.4 -1.5
CLL Collm 78.30 321 *e*P **P 03 50 12.0 +0.1**
CLL *e* pP 03 50 18.0 -0.3
CLL Collm 78.30 321 P **P 03 50 12.0 +0.1**
CLL *e**SP sP 03 50 18.0 -2.5
NKC Novy Kostel 78.62 320 *e*P **P 03 50 14.6 +1.0**
GRA1 Grafenberg Arr 79.41 319 *e*P **P 03 50 19.0 +1.1**
comp=Z,4.0nm,1.1s,mb4.3
GRF Grafenberg Arr 79.41 319 *e*P **P 03 50 19.0 +1.1**
GRF pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
GRF Grafenberg Arr 79.41 319 *e*P **P 03 50 19.0 +1.1**
GRF pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
GRF Grafenberg Arr 79.41 319 *e*P **P 03 50 19.0 +1.1**
comp=Z,4.0nm,1.1s,mb4.3
NB2 NORSAR Subarra 79.68 331 P **P 03 50 18.3 -0.9**
comp=Z,2.1nm,0.6s,mb4.2,baz=97,slow=5.0
NB2 NORSAR Subarra 79.68 331 P **P 03 50 18.3 -0.9**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
NOA NORSAR Array B 79.68 331 P **P 03 50 18.7 -0.5**
NOA pmax pmax
comp=Z,5.0nm,0.9s
NOA MLR MLR
comp=Z,116nm,18.2s
NOA NORSAR Array B 79.68 331 P **P 03 50 18.7 -0.5**
comp=Z,4.8nm,0.8s,mb4.5,baz=92,slow=5.6,SNR=10
NOA LR LR 04 30 28.9
comp=Z,116nm,18.2s,MS4.3,slow=39
LPG La Plagne 82.55 315 *e*P **P 03 50 35.0 +0.4**
comp=Z,34nm,1.1s,mb5.0
LPG La Plagne 82.55 315 *e*P **P 03 50 35.0 +0.4**
LPG pmax pmax
comp=Z,17nm,1.1s,mb5.0
SYO Syowa Base 85.40 197 ⇓P **P 03 50 50.9 +2.4**
SYO Syowa Base 85.40 197 ⇓pP pP 03 51 01.6 +6.6
ESDC Sonseca Array 91.15 310 P **P 03 51 17.4 +0.7**
comp=Z,1.0nm,0.6s,mb4.3,baz=89,slow=4.0,SNR=5.4
IMA Indian Mountai 91.63 22 *e*P **P 03 51 19.4 +1.2**
VNDA Vanda 92.96 168 LR LR 04 27 35.7
comp=Z,111nm,18.3s,MS4.3,baz=87,slow=32
ILAR Eielson Array 94.75 22 P **P 03 51 32.2 -0.4**
comp=Z,0.5nm,0.8s,mb4.0,baz=285,slow=5.0,SNR=7.9
ILAR LR LR 04 38 14.4
comp=Z,90nm,20.0s,MS4.2,baz=175,slow=38
INK Inuvik 96.99 16 P **P 03 51 42.4 -0.3**
INK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 96.99 16 P **P 03 51 42.4 -0.4**
comp=Z,4.3nm,1.1s,mb4.8
RES Resolute Bay 97.38 2 *e*P **P 03 51 44.5 +0.1**
RES pmax pmax
comp=Z,5.0nm,1.1s,mb4.9
RES Resolute Bay 97.38 2 *e*P **P 03 51 44.5 +0.1**
comp=Z,4.9nm,1.1s,mb4.8
DBIC Dimbokro 97.87 278 LR LR 04 37 01.0
comp=Z,149nm,18.1s,MS4.5,baz=60,slow=36
YKA Yellowknife Ar 106.42 13 PP PP 03 56 49.8 -2.8
comp=Z,0.2nm,0.8s,baz=320,slow=8.1,SNR=5.3
YKA PKKPbc 04 07 55.6
comp=Z,0.2nm,0.7s,baz=146,slow=3.7,SNR=5.4
NVAR Mina Array Bea 124.94 31 PKP PKPdf 03 57 13.2 -1.9
comp=Z,1.2nm,0.7s,baz=244,slow=0.2,SNR=9.3
PDAR Pinedale Array 125.17 21 PKP PKPdf 03 57 12.2 -3.2
comp=Z,3.1nm,1.1s,baz=45,slow=2.1,SNR=11
TXAR Lajitas Array 139.24 24 PKhKP 03 57 34.5
comp=Z,0.1nm,0.5s,baz=170,slow=1.3,SNR=5.5
TXAR PKP PKPdf 03 57 40.9 -1.3
comp=Z,0.5nm,0.6s,baz=157,slow=0.7,SNR=7.8
TXAR PP PP 04 00 36.6 +1.0
comp=Z,0.4nm,0.9s,baz=349,slow=6.4,SNR=3.4
JCT Junction City 139.59 19 PKIKP PKPdf 03 57 41.0 -1.8
PLCA Paso Flores 144.54 200 PKIKP PKPdf 03 57 48.1 -3.1
PLCA pmax pmax
comp=Z,8.0nm,0.9s
PLCA Paso Flores 144.54 200 PKP PKPdf 03 57 48.1 -3.1
comp=Z,8.3nm,0.9s,baz=152,slow=4.5,SNR=14
PLCA Paso Flores 144.54 200 *e*PKPdf PKPdf 03 57 48.0 -3.2

IDC ***26*** *03:58:48.8±0.9, 10.85N×91.78E, h24km±4km, mb3.7/7, mb1 3.9/8, mb1mx3.7/18, mbtmp3.8/8, ML3.9/1, Error ellipse: s-maj=34.6km s-min=14.8km az=55.0*
NEIC ***26*** *03:58:49.2±0.6, 10.97N×91.94E, mb4.5/5, Error ellipse: s-maj=17.1km s-min=10.7km az=49.0*
ISC 26 03:58:45.6±0.6, 10.4N±0.1×91.4E±0.1, h25km, h25km±.6km:pP-P, n25, σ1§19/25, mb4.1/11, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**10.62**	**314**	*e*P	**P**	**04 01 19.6**	**+0.1**
VIS				*e*S	**S**	**04 03 08.7**	**-10**
VIS				AML	AML	04 03 13.4	
	comp=N,62nm,0.2s						
VIS				AML	AML	04 03 14.6	
	comp=E,54nm,0.3s						
CMAR	**Chiang Mai Arr**	**10.84**	**42**	Pn	**P**	**04 01 13.1**	**-9.5**
	comp=E,0.3nm,0.3s,baz=234,slow=14,SNR=3.6						
HYB	**Hyderabad**	**14.22**	**301**	*i* P	**P**	**04 02 13.0**	**+5.3**
HYB				*e*		04 04 35.5	
HYB				*e*S	**S**	**04 04 44.5**	**-1.0**
BLSP	**Bilaspur**	**14.60**	**324**	*e*S	**S**	**04 04 45.2**	**-9.2**
SHL	**Shillong**	**15.05**	**2**	*e*P	**P**	**04 02 20.0**	**+1.4**
JIRN	**Jiri**	**17.80**	**345**	*e*P	**P**	**04 02 53.7**	**+0.2**
	comp=E,6.3nm,0.4s						
PKI	**Pulchoki**	**17.93**	**343**	*e*P	**P**	**04 02 57.5**	**+2.4**
	comp=E,8.8nm,0.5s						
BHPL	**Bhopal**	**18.41**	**315**	*e*S	**S**	**04 06 10.9**	**-11**
GKN	**Gorkha**	**18.57**	**341**	*e*P	**P**	**04 03 04.8**	**+1.7**
	comp=E,5.9nm,0.2s						
KOLN	**Koldanda**	**18.71**	**338**	*e*P	**P**	**04 03 06.6**	**+1.8**
	comp=E,7.1nm,0.4s						
LSA	**Lhasa**	**19.16**	**359**	P	**P**	**04 03 02.8**	**-7.3**
	comp=E,6.6nm,0.7s						
ENH	**Enshi**	**25.97**	**38**	*e*P	**P**	**04 04 11.9**	**-6.3**
	comp=E,8.8nm,0.3s,mb4.8						
ENH				*e*pP	pP	04 04 19.0	-6.6
SONM	**Songino Array**	**39.37**	**16**	P	**P**	**04 06 12.6**	**-2.2**
	comp=E,0.3nm,0.5s,mb3.3,baz=207,slow=9.2,SNR=5.0						
SONM				pP	pP	04 06 19.7	-2.7
	comp=E,0.9nm,0.8s,baz=207,slow=5.5,SNR=5.7						
ZAL	**Zalesovo**	**43.70**	**354**	pP	pP	04 06 56.5	-1.3
	comp=E,1.1nm,0.3s,baz=340,slow=5.6,SNR=2.4						
FITZ	**Fitzroy Crossi**	**44.16**	**130**	*e*P	**P**	**04 06 55.0**	**+0.5**
	comp=E,11nm,0.7s,mb4.7						
BVAR	**Borovoye Array**	**45.70**	**342**	P	**P**	**04 07 06.0**	**-0.3**
	comp=E,0.3nm,0.4s,mb3.5,baz=144,slow=12,SNR=3.1						
BVAR				pP	pP	04 07 14.6	+0.6
	comp=E,1.1nm,0.6s,baz=180,slow=4.4,SNR=4.4						
CHKZ	**Chkalovo**	**46.21**	**343**	*e*P	**P**	**04 07 10.3**	**0.0**
	comp=E,1.4nm,0.7s,mb4.0						
CHKZ				*e*pP	pP	04 07 18.8	+0.9
WRA	**Warramunga Arr**	**51.99**	**125**	P	**P**	**04 07 55.4**	**0.0**
	comp=E,3.2nm,0.6s,mb4.4,baz=306,slow=8.5,SNR=26						
WRA				pP	pP	04 08 02.9	-0.2
	comp=E,3.2nm,0.5s,baz=300,slow=10,SNR=14						
WRAB	**Tennant Creek**	**51.99**	**125**	*e*P	**P**	**04 07 55.1**	**-0.3**
	comp=E,5.4nm,0.5s,mb4.7						
WRAB				*e*pP	pP	04 08 02.6	-0.6
WB2	**Warramunga Arr**	**52.00**	**125**	⇑ *i*P	**P**	**04 07 55.4**	**-0.1**
ASAR	**Alice Springs**	**53.67**	**130**	P	**P**	**04 08 08.3**	**+0.5**
	comp=E,0.9nm,0.4s,mb4.0,baz=304,slow=7.3,SNR=18						
ASAR				pP	pP	04 08 16.2	+0.7
	comp=E,2.0nm,0.5s,baz=304,slow=6.8,SNR=11						
BRTR	**Keskin Array B**	**58.67**	**310**	P	**P**	**04 08 44.6**	**+1.2**
	comp=E,0.4nm,0.5s,mb3.7,baz=90,slow=6.2,SNR=3.6						
BRTR				pP	pP	04 08 52.0	+0.7
	comp=E,1.2nm,0.9s,baz=100,slow=7.5,SNR=3.6						
FINES	**FINESS Array B**	**69.17**	**332**	P	**P**	**04 09 51.6**	**-0.3**
	comp=E,2.1nm,1.0s,mb4.0,baz=90,slow=5.7,SNR=4.2						

ILAR	**Eielson Array**	**93.40**	**21**	P	**P**		**04 11 58.4**	**-1.3**
	comp=E,0.3nm,0.7s,mb3.8,baz=308,slow=4.2,SNR=6.4							
ILAR				pP	pP		04 12 06.2	-1.5
	comp=E,0.2nm,0.7s,baz=296,slow=4.8,SNR=2.9							
NVAR	**Mina Array Bea**	**124.05**	**28**	PKP	PKPdf		04 17 46.1	-1.0
	comp=E,0.1nm,0.3s,baz=270,slow=1.8,SNR=3.7							

*CSEM **26** 03:59:21.5±0.5, 35.13N×2.60W, h12km, MD3.4, Error ellipse: s-maj=16.4km s-min=8.9km az=10.0*
*CNRM **26** 03:59:25.0, 35.05N×2.73W, h14km, MD3.4*
*MDD **26** 03:59:26.5±0.5, 34.95N×2.85W, h8km±3km, mb3.6/11, Error ellipse: s-maj=4.7km s-min=4.4km az=152.0, PRXIMO*
*NEIC **26** 03:59:27.0, 34.97N×3.04W, MG3.4(MDD), After MDD.*

ISC 26 03:59:25.6±0.4, 34.99N±0.03×2.89W±0.03, h10km, n50, σ1⁹35/84, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.12**	**99**	P	**Pg**	**03 59 28.0**	**-0.6**
ZAI				S	**Sg**	**03 59 30.5**	**-0.1**
ZAI	**Zaio**	**0.12**	**99**	*i* P	**Pg**	**03 59 28.0**	**-0.6**
EMLI	**Melilla**	**0.31**	**351**	S	**Sg**	**03 59 37.8**	**+1.4**
	390nm,0.3s						
EMEL	**Melilla**	**0.31**	**350**	P	**Pg**	**03 59 33.2**	**+1.1**
	140nm,0.1s,SNR=14						
EMEL				S	**Sg**	**03 59 37.6**	**+1.1**
	1μm,0.2s						
TAF	**Taforalt**	**0.43**	**114**	P	**Pg**	**03 59 29.0**	**-5.4**
TAF				S	**Sg**	**03 59 41.0**	**+0.8**
TOU	**Touzarine**	**0.71**	**268**	P	**Pb**	**03 59 40.5**	**+0.9**
TOU				S	**Sb**	**03 59 51.0**	**+1.9**
TOU	**Touzarine**	**0.71**	**268**	*i* P	**Pb**	**03 59 40.5**	**+0.9**
MPAL	**Palemas**	**0.89**	**286**	*i* P	**Pb**	**03 59 43.5**	**+0.8**
MPAL				*i* S	**Sb**	**03 59 56.5**	**+2.1**
EALB	**Alboran**	**0.95**	**353**	P	**Pb**	**03 59 45.8**	**+2.0**
EALB				S	**Sb**	**03 59 56.9**	**+0.6**
EALB	**Alboran**	**0.95**	**353**	P	**Pb**	**03 59 45.3**	**+1.5**
	55nm,0.3s,SNR=7.9						
EALB				S	**Sb**	**03 59 57.0**	**+0.8**
	226nm,0.2s						
EALB	**Alboran**	**0.95**	**353**	S	**Sb**	**03 59 56.9**	**+0.6**
	302nm,0.3s						
OLHC	**Oulhaca**	**1.23**	**77**	P	**Pb**	**03 59 51.0**	**+2.4**
TZK	**Tazeka**	**1.40**	**230**	*i* P	**Pn**	**03 59 51.0**	**-0.2**
EBER	**Berja**	**1.90**	**0**	P	**Pn**	**03 59 59.2**	**+0.7**
EBER				S	**Sn**	**04 00 21.3**	**-1.4**
EBER	**Berja**	**1.90**	**0**	P	**Pn**	**03 59 58.7**	**+0.2**
	0.7nm,0.1s,SNR=6.9						
EBER				S	**Sn**	**04 00 21.3**	**-1.4**
	59nm,0.5s						
ENIJ	**Nijar**	**2.05**	**15**	P	**Pn**	**04 00 00.4**	**-0.3**
ENIJ				S	**Sn**	**04 00 25.2**	**-1.3**
ENIJ	**Nijar**	**2.05**	**15**	P	**Pn**	**04 00 00.3**	**-0.4**
	3.3nm,0.2s,SNR=6.6						
ENIJ				S	**Sn**	**04 00 24.9**	**-1.6**
	8.6nm,0.3s						
EMIJ	**Mijas**	**2.19**	**316**	P	**Pn**	**04 00 01.4**	**-1.2**
EMIJ				S	**Sn**	**04 00 26.3**	**-3.8**
EMIJ	**Mijas**	**2.19**	**316**	P	**Pn**	**04 00 01.6**	**-1.0**
	3.1nm,0.2s,SNR=9.6						
EMIJ				S	**Sn**	**04 00 26.4**	**-3.7**
	46nm,0.4s,SNR=7.2						
EMIJ	**Mijas**	**2.19**	**316**	P	**Pn**	**04 00 01.4**	**-1.2**
	2.5nm,0.3s,SNR=9.6						
EMIJ				S	**Sn**	**04 00 26.3**	**-3.8**
	27nm,0.4s,SNR=7.2						
ELOJ	**Sierra Loja**	**2.38**	**335**	P	**Pn**	**04 00 08.1**	**+2.7**
ELOJ				S	**Sn**	**04 00 33.2**	**-1.7**
ELOJ	**Sierra Loja**	**2.38**	**335**	P	**Pn**	**04 00 06.0**	**+0.6**
	3.3nm,0.3s,SNR=4.0						
ELOJ				S	**Sn**	**04 00 34.4**	**-0.5**
	7.8nm,0.4s,SNR=7.0						
ELOJ	**Sierra Loja**	**2.38**	**335**	S	**Sn**	**04 00 33.2**	**-1.7**
	7.8nm,0.4s,SNR=7.0						
MIF	**Mishlifen**	**2.50**	**232**	P	**Pn**	**04 00 05.5**	**-1.5**
MIF				S	**Sn**	**04 00 36.0**	**-1.8**
ELUQ	**Luque**	**2.80**	**337**	S	**Sn**	**04 00 44.6**	**-0.7**
	9.5nm,0.3s,SNR=7.9						
ELUQ	**Luque**	**2.80**	**337**	S	**Sn**	**04 00 43.1**	**-2.3**
	9.1nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.81**	**357**	P	**Pn**	**04 00 12.7**	**+1.2**
EQES				S	**Sn**	**04 00 46.9**	**+1.1**
EQES	**Quesada**	**2.81**	**357**	P	**Pn**	**04 00 12.7**	**+1.2**
	2.8nm,0.2s,SNR=17						
EQES				S	**Sn**	**04 00 46.8**	**+1.0**
	50nm,0.5s,SNR=8.5						
ESPR	**Espera**	**3.05**	**309**	P	**Pn**	**04 00 15.6**	**+0.7**
ESPR				S	**Sn**	**04 00 53.2**	**+1.4**
ESPR	**Espera**	**3.05**	**309**	P	**Pn**	**04 00 15.5**	**+0.6**
	1.0nm,0.3s,SNR=8.6						
ESPR				S	**Sn**	**04 00 52.9**	**+1.1**
	8.6nm,0.3s						
ESPR	**Espera**	**3.05**	**309**	S	**Sn**	**04 00 53.2**	**+1.4**
	5.8nm,0.3s						
EMUR	**La Murta**	**3.14**	**25**	P	**Pn**	**04 00 16.0**	**-0.2**
EMUR				S	**Sn**	**04 00 52.1**	**-2.0**
EMUR	**La Murta**	**3.14**	**25**	P	**Pn**	**04 00 15.9**	**-0.3**
	12nm,0.3s,SNR=16						
EMUR				S	**Sn**	**04 00 50.5**	**-3.6**
	8.1nm,0.4s						
EADA	**Adamuz**	**3.45**	**337**	P	**Pn**	**04 00 20.8**	**+0.2**
EADA				S	**Sn**	**04 00 58.8**	**-3.1**
EADA	**Adamuz**	**3.45**	**337**	P	**Pn**	**04 00 20.7**	**+0.1**
	1.5nm,0.3s,SNR=6.0						
EADA				S	**Sn**	**04 00 58.8**	**-3.1**
	16nm,0.5s						
EADA	**Adamuz**	**3.45**	**337**	S	**Sn**	**04 00 58.8**	**-3.1**
	7.5nm,0.3s						
EVIA	**Vianos**	**3.66**	**5**	S	**Sn**	**04 01 02.4**	**-4.7**
	7.5nm,0.4s,SNR=4.0						
EMIN	**Mina Concepcio**	**4.12**	**313**	P	**Pn**	**04 00 28.8**	**-1.3**
EMIN				S	**Sn**	**04 01 14.4**	**-4.6**
EMIN	**Mina Concepcio**	**4.12**	**313**	P	**Pn**	**04 00 28.7**	**-1.4**
	7.5nm,0.4s,SNR=25						
EMIN				S	**Sn**	**04 01 14.0**	**-5.0**
	3.7nm,0.3s						
EMIN	**Mina Concepcio**	**4.12**	**313**	S	**Sn**	**04 01 14.4**	**-4.5**
	6.3nm,0.9s						
EBEN	**Beniarda**	**4.28**	**29**	P	**Pn**	**04 00 33.5**	**+1.2**
EBEN	**Beniarda**	**4.28**	**29**	P	**Pn**	**04 00 32.8**	**+0.5**
	0.9nm,0.2s,SNR=4.0						
EGRO	**El Granado**	**4.50**	**306**	P	**Pn**	**04 00 34.1**	**-1.3**
EGRO				S	**Sn**	**04 01 23.1**	**-5.3**
EGRO	**El Granado**	**4.50**	**306**	P	**Pn**	**04 00 33.7**	**-1.7**
	19nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**04 01 22.6**	**-5.8**
	3.3nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**4.75**	**350**	P	**Pn**	**04 00 39.6**	**+0.5**
	0.5nm,0.3s,baz=173,slow=12,SNR=6.0						
ESDC				S	**Sn**	**04 01 31.4**	**-3.5**
	0.8nm,0.5s,baz=175,slow=23,SNR=4.4						
ESDC	**Sonseca Array**	**4.75**	**350**	S	**Sn**	**04 01 31.4**	**-3.5**
EBAD	**Badajoz**	**5.00**	**320**	P	**Pn**	**04 00 40.8**	**-1.8**
EBAD				S	**Sn**	**04 01 35.9**	**-5.4**
EBAD	**Badajoz**	**5.00**	**320**	P	**Pn**	**04 00 41.0**	**-1.6**
	1.0nm,0.2s,SNR=9.1						
EBAD				S	**Sn**	**04 01 35.7**	**-5.5**
	9.6nm,0.3s						
GUD	**Guadarrama**	**5.73**	**350**	P	**Pn**	**04 00 52.9**	**0.0**
GUD				S	**Sn**	**04 01 55.4**	**-4.1**
GUD	**Guadarrama**	**5.73**	**350**	P	**Pn**	**04 00 52.7**	**-0.2**
	0.6nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**04 01 54.1**	**-5.4**
	2.6nm,0.5s,SNR=5.5						

*CSEM **26** 04:02:05.5, 37.70N×43.94E, h30km, MD3.6, After ISK*

ISK 26 04:02:05.5, 37.70N×43.94E, h30km, MD3.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.20**	**232**	*i* PG	Pb	04 02 12.6	+0.9
HKR				*i* SG	Sb	04 02 15.9	0.0
VANT	**Van**	**0.86**	**330**	*i* PG	Pn	04 02 22.9	+1.2
TVAN	**Van**	**0.93**	**333**	*i* P	Pn	04 02 23.7	+1.1
TVAN				*i* S	Sb	04 02 36.1	+1.1
VANB	**Van**	**0.99**	**334**	*i* PG	Pn	04 02 22.9	-0.6
VANB				SG	Sn	04 02 36.5	-0.1
BTMT	**Batman**	**2.00**	**285**	PN	Pn	04 02 40.9	+3.0
BEST	**Besiri**	**2.12**	**276**	*i* P	Pn	04 02 43.4	+3.7
BEST				*i* S	Sn	04 03 10.2	+4.9
VRT	**Varto**	**2.37**	**308**	*e*PN	Pn	04 02 44.0	+0.7
BINT	**Bingol**	**2.96**	**294**	*e*PN	Pn	04 02 52.5	+0.9

IDC 26 04:05:55.2±3.1, 14.64N×93.90E, mb3.5/2, mb1 3.6/3, mb1mx3.4/19, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=77.6km s-min=32.1km az=81.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.15**	**51**	Pn	Pn	04 07 28.7	-0.8
	0.4nm,0.3s,baz=238,slow=15,SNR=7.5						
CMAR				Sn	Sn	04 08 34.8	-6.8
	baz=240,slow=18,SNR=3.4						
SONM	**Songino Array**	**34.69**	**15**	P	P	04 12 45.9	-2.8
	0.7nm,0.9s,baz=203,slow=9.4,SNR=5.4						
ASAR	**Alice Springs**	**54.58**	**134**	P	P	04 15 25.9	-2.0
	0.4nm,0.6s,baz=314,slow=6.7,SNR=8.2						

*BJI **26** 04:18:57.7, 2.74N×95.57E, h22km, mB5.0, mb4.8, Ms4.4, Msz4.2*
*IDC **26** 04:19:00.5±0.8, 2.75N×95.32E, h26km±3km, mb4.2/11, mb1 4.3/12, mb1mx4.2/20, mbtmp4.3/12, ML4.6/1, MS3.9/2, Ms1 4.0/2, ms1mx3.6/14, Error ellipse: s-maj=35.2km s-min=12.7km az=51.0*
*NEIC **26** 04:19:00.2±0.6, 2.70N×95.34E, mb4.7/12, Error ellipse: s-maj=17.4km s-min=10.5km az=64.0*

ISC 26 04:18:58.6±0.7, 2.72N±0.09×95.3E±0.1, h27km, h27km±.4km: pP-P, n36, σ0⁸84/34, mb4.6/28, MS4.0/2, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**16.04**	**13**	*e*P	**P**	**04 22 44.5**	**+0.3**
	38nm,1.0s						
CMAR	**Chiang Mai Arr**	**16.04**	**13**	Pn	**P**	**04 22 45.6**	**+1.3**
	0.9nm,0.3s,baz=202,slow=11,SNR=65						
CMAR				LR	LR	04 29 10.5	
	comp=Z,264nm,18.7s,baz=200,slow=38						
HYB	**Hyderabad**	**22.01**	**313**	*e*P	**P**	**04 24 01.5**	**+8.7**
HYB	**Hyderabad**	**22.01**	**313**	*i* P	**P**	**04 24 01.5**	**+8.7**
JIRN	**Jiri**	**26.30**	**341**	*e*P	**P**	**04 24 34.3**	**+0.3**
	81nm,1.1s,mb5.2						
DMN	**Daman**	**26.61**	**339**	*e*P	**P**	**04 24 37.7**	**+0.8**
	21nm,0.7s,mb4.8						
GUN	**Gumba**	**26.63**	**341**	*e*P	**P**	**04 24 38.0**	**+0.9**
	43nm,0.7s,mb5.1						
KKN	**Kakani**	**26.72**	**340**	*e*P	**P**	**04 24 37.0**	**-0.9**
	50nm,1.0s,mb5.0						
LSA	**Lhasa**	**27.13**	**352**	P	**P**	**04 24 41.5**	**-0.1**
LSA	**Lhasa**	**27.13**	**352**	*e*P	**P**	**04 24 41.8**	**+0.2**
	22nm,0.7s,mb4.8						
GKN	**Gorkha**	**27.14**	**339**	*e*P	**P**	**04 24 42.2**	**+0.4**
	34nm,0.6s,mb5.0						
KOLN	**Koldanda**	**27.32**	**337**	*e*P	**P**	**04 24 43.0**	**-0.4**
	22nm,0.6s,mb4.8						
ENH	**Enshi**	**30.52**	**25**	*e*P	**P**	**04 25 09.3**	**-2.8**
	6.9nm,0.9s,mb4.5						
LZH	**Lanzhou**	**34.13**	**12**	*e*P	**P**	**04 25 42.5**	**-1.1**
LZH				AP	pP	04 25 50.0	-1.5
LZH				XP	sP	04 25 53.5	-1.4
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.1						
LZH	**Lanzhou**	**34.13**	**12**	*e*P	**P**	**04 25 42.5**	**-1.1**
	comp=Z,25nm,1.0s,mb5.1						
LZH				pP	pP	04 25 50.0	-1.5
LZH				sP	sP	04 25 53.5	-1.4
BJT	**Baijiatuau**	**41.66**	**24**	*e*P	**P**	**04 26 48.1**	**+1.4**
	2.3nm,0.8s,mb4.8						
BJT				*e*pP	pP	04 26 55.5	+0.9
BJI	**Beijing**	**41.69**	**24**	P	**P**	**04 26 47.6**	**+0.8**
	comp=Z,15nm,0.8s,mb4.7						
BJI				*e*	pP	04 26 55.4	+0.6
BJI				S	S	04 33 25.9	+24
BJI				LR	LR		
	comp=Z,130nm,17.3s,MS3.9						
AAK	**Ala-Archa**	**43.88**	**338**	*e*P	**P**	**04 27 05.6**	**+0.9**
	comp=Z,4.1nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**44.42**	**122**	P	**P**	**04 27 09.2**	**-0.2**
	comp=Z,3.0nm,0.7s,mb4.1,baz=300,slow=9.2,SNR=16						
WRA				pP	pP	04 27 17.6	+0.2
	comp=Z,4.9nm,0.6s,baz=301,slow=9.1,SNR=18						
WRAB	**Tennant Creek**	**44.43**	**122**	*e*P	**P**	**04 27 09.6**	**+0.1**
	comp=Z,7.3nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**45.80**	**127**	P	**P**	**04 27 20.6**	**+0.3**
	comp=Z,4.7nm,1.2s,mb4.3,baz=298,slow=7.9,SNR=14						
ASAR				pP	pP	04 27 28.9	+0.5
	comp=Z,1.6nm,0.6s,baz=302,slow=8.2,SNR=9.3						
ASAR				PcP	PcP	04 28 58.2	+0.2
	comp=Z,1.3nm,1.0s,baz=310,slow=4.5,SNR=3.9						
SONM	**Songino Array**	**45.95**	**10**	P	**P**	**04 27 20.5**	**-0.7**
	comp=Z,8.0nm,0.7s,mb4.8,baz=190,slow=8.9,SNR=76						
SONM				pP	pP	04 27 28.5	-0.7
	comp=Z,4.4nm,0.7s,baz=189,slow=8.8,SNR=11						
SONM				PcP	PcP	04 28 58.5	+0.3
	comp=Z,2.0nm,0.5s,baz=186,slow=4.2,SNR=8.5						
SONM				pPcP		04 29 06.5	
	comp=Z,1.9nm,0.8s,baz=199,slow=4.2,SNR=4.1						
ULN	**Ulaanbaatar**	**46.10**	**11**	*e*P	**P**	**04 27 21.1**	**-1.2**
	comp=Z,4.5nm,0.8s,mb4.5						
KURK	**Kurchatov**	**49.87**	**346**	*e*P	**P**	**04 27 51.3**	**-0.4**
	comp=Z,8.1nm,0.8s,mb4.8						
ZAL	**Zalesovo**	**51.78**	**352**	P	**P**	**04 28 05.9**	**-0.3**
	comp=Z,12nm,0.7s,mb5.0,baz=302,slow=4.9,SNR=56						
ZAL				pP	pP	04 28 14.1	-0.3
	comp=Z,8.1nm,0.9s,baz=310,slow=8.1,SNR=10						
BVAR	**Borovoye Array**	**54.22**	**342**	P	**P**	**04 28 23.7**	**-0.5**
	comp=Z,4.4nm,0.7s,mb4.5,baz=143,slow=7.4,SNR=27						
BVAR				pP	pP	04 28 32.0	-0.4
	comp=Z,3.3nm,0.8s,baz=141,slow=9.5,SNR=7.7						
BRVK	**Borovoye**	**54.28**	**342**	*e*P	**P**	**04 28 23.5**	**-1.2**
	comp=Z,6.0nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**54.71**	**342**	*e*P	**P**	**04 28 27.1**	**-0.8**
	comp=Z,10nm,0.8s,mb4.9						
CHKZ				*e*pP	pP	04 28 36.0	0.0
KMBO	**Kilima Mbogo**	**58.18**	**267**	LR	LR	04 51 02.6	
	comp=Z,172nm,18.1s,MS4.2,baz=276,slow=33						
BRTR	**Keskin Array B**	**66.71**	**312**	P	**P**	**04 29 49.7**	**0.0**
	comp=Z,0.7nm,0.8s,mb3.7,baz=129,slow=9.2,SNR=3.0						
AKASG	**Malin Array Be**	**72.92**	**323**	P	**P**	**04 30 26.6**	**-0.9**
	comp=Z,1.6nm,0.7s,mb4.0,baz=87,slow=4.8,SNR=5.9						
AKASG				pP	pP	04 30 35.1	-0.8
	comp=Z,0.4nm,0.5s,baz=100,slow=3.9,SNR=2.5						
FINES	**FINESS Array B**	**77.80**	**333**	P	**P**	**04 30 55.0**	**+0.1**
	comp=Z,4.7nm,1.0s,mb4.4,baz=95,slow=6.2,SNR=15						
FINES				pP	pP	04 31 03.3	-0.1
	comp=Z,1.5nm,0.7s,baz=90,slow=5.7,SNR=2.0						
ARCES	**ARCESS Array B**	**80.49**	**340**	P	**P**	**04 31 09.9**	**+0.5**
	comp=Z,5.5nm,1.0s,mb4.4,baz=108,slow=3.8,SNR=6.2						
GERES	**GERESS Array B**	**82.44**	**319**	P	**P**	**04 31 21.1**	**+1.0**
	comp=Z,0.8nm,0.6s,mb3.8,baz=90,slow=6.9,SNR=2.8						
GERES				pP	pP	04 31 29.3	+0.7
	comp=Z,5.1nm,1.2s,baz=127,slow=4.9,SNR=2.7						
HFS	**Hagfors**	**83.48**	**330**	P	**P**	**04 31 26.1**	**+0.9**
	comp=Z,5.5nm,1.0s,mb4.5,baz=124,slow=5.3,SNR=10						
TXAR	**Lajitas Array**	**143.30**	**28**	PKP	PKPdf	04 38 30.6	-5.4
	comp=Z,0.4nm,0.7s,baz=274,slow=1.7,SNR=6.1						

*CSEM **26** 04:21:42.0, 37.72N×43.87E, h5km, MD3.7, After ISK*

ISK 26 04:21:42.0, 37.72N×43.87E, h5km, MD3.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.17**	**217**	*i* PG	Pg	04 21 46.5	+0.9
HKR				*i* SG	Sg	04 21 48.7	+0.7
VANT	**Van**	**0.82**	**332**	PG	Pg	04 21 58.3	0.0
TVAN	**Van**	**0.89**	**336**	*i* P	Pb	04 22 00.2	+0.7
TVAN				*i* S	Sb	04 22 13.9	+2.4
VANB	**Van**	**0.95**	**337**	*e*PG	Pg	04 21 59.9	-1.2
VANB				*e*SG	Sg	04 22 14.9	+1.2
BTMT	**Batman**	**1.94**	**285**	PN	Pn	04 22 19.1	+3.1
BEST	**Besiri**	**2.07**	**276**	*i* P	Pn	04 22 12.3	-5.5
BEST				*i* S	Sn	04 22 50.1	+5.9
VRT	**Varto**	**2.32**	**308**	*e*PN	Pn	04 22 21.7	+0.3
BINT	**Bingol**	**2.90**	**294**	*e*PN	Pn	04 22 30.0	+0.3

IGQ 26 04:33:25.1, 1.66S×81.81W, h16km±8km, mb4.4, 6C-2D, Error ellipse: s-maj=16.8km s-min=10.7km az=15.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.40**	**65**	⇑P	Pn	04 33 48.3	-1.8
IGUA	**Igualata**	**3.17**	**87**	P	Pn	04 34 16.0	+0.5
CUSU	**Cusua**	**3.33**	**86**	⇓P	Pn	04 34 19.7	+1.9
JUIV	**Juive**	**3.35**	**86**	P	Pn	04 34 19.8	+1.7
ARRY	**Arrayan**	**3.36**	**88**	⇑P	Pn	04 34 18.4	+0.3
RETU	**Refugio**	**3.37**	**87**	⇑P	Pn	04 34 20.1	+1.8
ULBA	**Ulba**	**3.41**	**87**	P	Pn	04 34 19.7	+0.9
PISA	**Pisayambo**	**3.47**	**80**	P	Pn	04 34 21.1	+1.4
NAS1	**Nasa**	**3.48**	**73**	P	Pn	04 34 21.4	+1.5
JUA2	**San Juan 2**	**3.51**	**66**	P	Pn	04 34 20.9	+0.6
TERV	**Terraza Guagua**	**3.53**	**65**	P	Pn	04 34 20.9	+0.3
PINO	**Pino**	**3.53**	**65**	P	Pn	04 34 20.8	+0.2
PINO				S	Sn	04 34 59.5	-2.9
VC1	**Cotopaxi 1**	**3.55**	**74**	⇑P	Pn	04 34 23.5	+2.6
TAMB	**Tambo**	**3.57**	**75**	P	Pn	04 34 23.1	+2.0
YANA	**Yana**	**3.58**	**65**	P	Pn	04 34 21.2	-0.1
ANTI	**Antisana**	**3.84**	**72**	P	Pn	04 34 26.6	+1.6
COTA	**Cotacachi**	**4.00**	**60**	⇑P	Pn	04 34 29.3	+2.1
CAYR	**Refugio Cayamb**	**4.15**	**66**	⇑P	Pn	04 34 32.3	+3.0
CAYA	**Cayambe**	**4.19**	**66**	⇓P	Pn	04 34 33.1	+3.2
CAYA				S	Sn	04 35 19.8	+0.7
CONE	**Cono NE Rev Vo**	**4.45**	**69**	P	Pn	04 34 38.9	+5.2

IGQ 26 04:40:49.4, 1.71S×81.75W, h16km±8km, mb4.2, 4C, Error ellipse: s-maj=14.5km s-min=10.0km az=20.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.37**	**62**	⇑P	Pn	04 41 11.5	-2.5
MAGD	**Magdalena**	**2.56**	**51**	P	Pn	04 41 33.1	+2.1
IGUA	**Igualata**	**3.12**	**86**	P	Pn	04 41 39.8	+0.8
ARRY	**Arrayan**	**3.30**	**87**	⇑P	Pn	04 41 42.1	+0.5
ARRY				S	Sn	04 42 17.4	-3.4
ULBA	**Ulba**	**3.35**	**86**	P	Pn	04 41 44.1	+1.8
PISA	**Pisayambo**	**3.42**	**79**	P	Pn	04 41 45.3	+2.0
NAS1	**Nasa**	**3.44**	**72**	⇑P	Pn	04 41 46.3	+2.8
JUA2	**San Juan 2**	**3.48**	**65**	⇑P	Pn	04 41 44.6	+0.5
TERV	**Terraza Guagua**	**3.49**	**64**	P	Pn	04 41 45.7	+1.4
PINO	**Pino**	**3.50**	**64**	P	Pn	04 41 45.1	+0.8
PINO				S	Sn	04 42 25.1	-0.8
VC1	**Cotopaxi 1**	**3.51**	**73**	P	Pn	04 41 47.0	+2.5
VC1				S	Sn	04 42 32.4	+6.3
TAMB	**Tambo**	**3.53**	**73**	P	Pn	04 41 47.4	+2.7
YANA	**Yana**	**3.55**	**64**	P	Pn	04 41 45.6	+0.5
ANTI	**Antisana**	**3.80**	**71**	P	Pn	04 41 50.9	+2.3
COTA	**Cotacachi**	**3.97**	**59**	P	Pn	04 41 53.5	+2.4
CAYR	**Refugio Cayamb**	**4.11**	**65**	P	Pn	04 41 56.6	+3.4
CAYA	**Cayambe**	**4.15**	**65**	P	Pn	04 41 56.6	+2.9
CAYA				S	Sn	04 42 43.1	+0.7

IGQ 26 05:07:08.5, 1.47S×81.51W, h16km±6km, mb4.2, 2C-7D, Error ellipse: s-maj=11.5km s-min=9.2km az=19.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.05**	**67**	⇑P	Pb	05 07 26.7	-1.1
IGUA	**Igualata**	**2.87**	**90**	P	Pn	05 07 55.1	+0.5
JUIV	**Juive**	**3.05**	**89**	P	Pn	05 07 59.2	+2.2
ARRY	**Arrayan**	**3.06**	**91**	⇑P	Pn	05 07 57.2	+0.1
ARRY				S	Sn	05 08 32.4	-1.3
RETU	**Refugio**	**3.07**	**90**	P	Pn	05 07 59.4	+2.1
ULBA	**Ulba**	**3.10**	**90**	⇓P	Pn	05 07 59.1	+1.3
NAS1	**Nasa**	**3.15**	**75**	P	Pn	05 08 00.7	+2.3
NAS1				S	Sn	05 08 37.4	+1.4
PISA	**Pisayambo**	**3.15**	**83**	P	Pn	05 08 00.5	+1.9
PISA				S	Sn	05 08 35.5	-0.7
JUA2	**San Juan 2**	**3.16**	**67**	⇓P	Pn	05 07 59.6	+0.9
TERV	**Terraza Guagua**	**3.18**	**66**	⇓P	Pn	05 08 01.6	+2.6
PINO	**Pino**	**3.18**	**66**	⇓P	Pn	05 07 59.8	+0.8
VC1	**Cotopaxi 1**	**3.22**	**75**	⇓P	Pn	05 08 02.0	+2.5
YANA	**Yana**	**3.23**	**66**	⇓P	Pn	05 08 00.4	+0.7
TAMB	**Tambo**	**3.24**	**76**	P	Pn	05 08 02.8	+3.0
ANTI	**Antisana**	**3.50**	**73**	⇓P	Pn	05 08 06.7	+3.2
COTA	**Cotacachi**	**3.65**	**61**	P	Pn	05 08 07.7	+2.1
COTA				S	Sn	05 08 51.1	+2.5
CAYR	**Refugio Cayamb**	**3.80**	**67**	P	Pn	05 08 11.4	+3.6
CAYA	**Cayambe**	**3.84**	**67**	P	Pn	05 08 11.8	+3.5

*BJI **26** 05:14:27.3, 12.94N×92.21E, h30km, mB5.0, mb4.2, Ms4.1, Msz3.9*
*IDC **26** 05:14:31.3±0.7, 13.57N×92.62E, mb4.0/14, mb1 4.2/15, mb1mx4.1/20, mbtmp4.0/15, ML3.9/1, MS3.

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WB2	Warramunga Arr	52.89	128	eP	P	05 23 49.0	-0.4
ASPA	Alice Springs	54.78	132	eP	P	05 24 03.4	+0.1
ASAR	Alice Springs	54.78	132	P	P	05 24 03.0	-0.2
	comp=Z,2.1nm,0.4s,mb4.5,baz=308,slow=6.8,SNR=86						
BRTR	Keskin Array B	57.64	309	P	P	05 24 24.0	+0.4
	comp=Z,3.2nm,1.1s,mb4.3,baz=127,slow=7.9,SNR=6.7						
AKASG	Malin Array Be	62.81	320	P	P	05 24 59.1	+0.4
	comp=Z,0.1nm,0.3s,mb3.4,baz=76,slow=6.4,SNR=4.2						
JOF	Joensuu	65.12	334	ep	P	05 25 11.9	-1.7
STKA	Stephens Creek	65.14	135	P	P	05 25 14.5	+0.2
	comp=Z,0.7nm,0.3s,mb4.1,baz=304,slow=13,SNR=3.7						
KWP	Kalwaria	66.77	318	eP	P	05 25 22.6	-1.8
FINES	FINESS Array B	67.03	331	P	P	05 25 25.9	+0.1
	comp=Z,1.6nm,0.4s,mb4.4,baz=92,slow=6.5,SNR=19						
FINES	FINESS Array B	67.03	331	P	P	05 25 25.9	+0.1
KAF	Kangasniemi	67.09	332	ep	P	05 25 25.7	-0.5
ARCES	ARCESS Array B	69.46	340	P	P	05 25 40.9	0.0
	comp=Z,2.2nm,0.7s,mb4.2,baz=90,slow=7.3,SNR=6.8						
GERES	GERESS Array B	72.62	317	P	P	05 26 01.4	+1.2
	comp=Z,2.2nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=8.1						
NB2	NORSAR Subarra	74.08	330	P	P	05 26 08.4	0.0
	comp=Z,1.0nm,0.6s,mb3.9,baz=88,slow=5.8						
NOA	NORSAR Array B	74.08	330	P	P	05 26 08.8	+0.3
	comp=Z,2.5nm,0.9s,mb4.2,baz=90,slow=5.8,SNR=5.6						
BOSA	Boshof	77.33	236	eP	P	05 26 30.3	+2.8
LPG	La Plagne	77.57	314	eP	P	05 26 30.5	+2.0
	comp=Z,15nm,0.8s,mb4.7						
ILAR	Eielson Array	90.11	22	P	P	05 27 31.9	+0.2
	comp=Z,0.3nm,0.6s,mb3.8,baz=311,slow=5.1,SNR=6.2						
SYO	Syowa Base	90.32	197	⇑P	P	05 27 31.5	-1.2
SYO	Syowa Base	90.32	197	⇓PP	PP	05 31 12.4	+3.2
RES	Resolute Bay	91.85	2	eP	P	05 27 41.4	+1.8
	comp=Z,1.8nm,1.0s,mb4.4						
INK	Inuvik	92.02	16	P	P	05 27 41.0	+0.6
	comp=Z,0.6nm,0.5s,mb4.2,baz=304,slow=3.8,SNR=5.2						
TXAR	Lajitas Array	134.61	20	PKP	PKPdf	05 33 53.9	-1.2
	comp=Z,0.2nm,0.5s,baz=26,slow=0.3,SNR=5.3						
SDV	Santo Domingo	152.18	322	PKPbc	PKPdf	05 34 29.5	+4.0
	comp=Z,1.0nm,0.4s,baz=157,slow=2.0,SNR=3.9						

*NEIC **26** 05:15:12.7, 17.14N×95.44W, h105^{km}, mb4.3/1, MD4.1(MEX), After MEX.*

MEX 26 05:15:12.7±1.2**, 17.14N×95.44W, h105**^{km}±10^{km}**, MD4.1, 1C-1D, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.53	95	⇓iP	P	05 15 28.1	-1.3
CMIG				iS	S	05 15 39.8	-2.2
OXX	Oaxaca	1.23	268	iP	P	05 15 35.5	-1.0
OXX				iS	S	05 15 53.0	-1.4
VHO	Vista Hermosa	1.24	267	iP	P	05 15 35.5	-1.1
VHO				eS	S	05 15 53.9	-0.7
EVV	El Vigia	1.32	4	iP	P	05 15 35.0	-2.5
EVV				iS	S	05 15 54.0	-2.1
HUIG	Huatulco	1.50	205	iP	P	05 15 37.0	-2.7
HUIG				eS	S	05 15 57.1	-2.8
POHV	Veracruz	2.60	318	iP	P	05 15 52.5	-1.7
IISM	Ciudad Serdan	2.61	315	iP	P	05 15 52.0	-2.2
IISM				iS	S	05 16 24.0	-1.4
PNIG	Pinotepa	2.68	254	⇑iP	P	05 15 51.5	-3.8
PNIG				eS	S	05 16 22.9	-4.3
SCX	San Cristobal	2.71	98	eP	P	05 15 55.0	-0.6
SCX				iS	S	05 16 27.0	-0.9
PPM	Popocatepetl	3.59	303	iP	P	05 16 08.0	+0.4
PLIG	Platanillo	4.07	288	iP	P	05 16 12.7	-1.4
PLIG				iS	S	05 16 58.3	-2.8
ACX	Acapulco	4.30	267	eP	P	05 16 12.0	-5.2
CAIG	El Cayaco	4.62	270	eP	P	05 16 18.0	-3.7
CAIG				iS	S	05 17 07.8	-6.8
TEIG	Tepich	7.45	65	P	P	05 16 57.0	-3.3
	2.7nm,0.3s						

*IDC **26** 05:15:30.2±0.7, 11.06N×141.11E, mb4.2/12, mb1 4.4/12, mb1mx4.3/20, mbtmp4.2/12, MS3.7/3, Ms1 3.7/3, ms1mx3.0/25, Error ellipse: s-maj=27.0km s-min=19.9km az=94.0*

*NEIC **26** 05:15:31.2±0.5, 10.98N×141.15E, h10^{km}, mb4.6/5, Error ellipse: s-maj=20.5km s-min=12.8km az=86.0*

ISC 26 05:15:33.2±0.6**, 10.93N**±0.09×**140.9E**±0.2**, h33**^{km}**, n25, σ0^{s}97**/19**, mb4.3**/16**, MS3.6**/3**, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	21.14	163	LR	LR	05 27 49.3	
	comp=Z,31nm,18.6s,MS2.7,baz=0.7,slow=35						
JHJ	Hachijo jima 2	22.11	357	LR	LR	05 27 13.0	
	comp=Z,523nm,20.4s,MS3.9,baz=72,slow=32						
WRAB	Tennant Creek	31.34	192	P	P	05 21 51.5	-1.6
	5.0nm,0.9s,mb4.3						
WRA	Warramunga Arr	31.35	192	P	P	05 21 54.0	+0.7
	0.8nm,0.7s,mb3.7,baz=13,slow=10.0,SNR=4.0						
ASAJ	Asahikawa	33.10	2	LR	LR	05 34 09.6	
	comp=Z,317nm,18.8s,MS4.0,baz=352,slow=34						
ASAR	Alice Springs	35.06	191	P	P	05 22 25.5	+0.2
	0.4nm,0.6s,mb3.5,baz=18,slow=12,SNR=5.2						
CMAR	Chiang Mai Arr	41.20	286	P	P	05 23 20.1	+3.4
	0.8nm,0.4s,mb3.7,baz=92,slow=7.1,SNR=6.5						
SONM	Songino Array	46.81	328	P	P	05 24 01.6	+0.1
	1.3nm,0.8s,mb3.9,baz=148,slow=6.8,SNR=7.4						
SONM				PcP	PcP	05 25 34.7	0.0
	0.6nm,0.6s,baz=150,slow=4.6,SNR=5.2						
ZAL	Zalesovo	61.59	326	P	P	05 25 49.0	-0.7
	1.3nm,0.4s,mb4.5,baz=344,slow=9.8,SNR=5.2						
ZAL	Zalesovo	61.59	326	P	P	05 25 49.0	-0.7
KURK	Kurchatov	64.17	321	eP	P	05 26 06.3	-0.4
	5.3nm,0.6s,mb4.8						
CHKZ	Chkalovo	69.61	323	eP	P	05 26 40.3	-0.7
	2.5nm,0.6s,mb4.3						
BVAR	Borovoye Array	69.64	323	P	P	05 26 41.5	+0.3
	4.5nm,0.5s,mb4.6,baz=106,slow=8.1,SNR=21						
BRVK	Borovoye	69.70	323	eP	P	05 26 42.1	+0.6
	6.0nm,0.7s,mb4.6						
ILAR	Eielson Array	72.61	25	P	P	05 26 57.0	-1.7
	1.6nm,0.6s,mb4.2,baz=248,slow=6.1,SNR=40						
INK	Inuvik	78.28	22	P	P	05 27 30.8	-0.3
	1.3nm,0.7s,mb4.0,baz=288,slow=6.3,SNR=9.2						
INK	Inuvik	78.28	22	eP	P	05 27 30.6	-0.5
	1.8nm,0.9s,mb4.0						
YKA	Yellowknife Ar	86.97	27	P	P	05 28 16.7	+0.8
	2.0nm,0.4s,mb4.7,baz=289,slow=5.1,SNR=39						
YKA	Yellowknife Ar	86.97	27	P	P	05 28 16.7	+0.8
ARCES	ARCESS Array B	88.39	341	P	P	05 28 23.0	+0.5
	4.0nm,0.8s,mb4.7,baz=74,slow=8.8,SNR=5.1						
NVAR	Mina Array Bea	91.59	51	P	P	05 28 40.1	+1.8
	0.6nm,0.5s,mb4.2,baz=276,slow=3.9,SNR=6.6						
FINES	FINESS Array B	91.89	334	P	P	05 28 38.6	-0.5
	7.8nm,1.3s,mb4.9,baz=72,slow=4.4,SNR=11						
OTAV	Otavalo	139.34	77	ePKPdf	PKPdf	05 34 59.7	+1.6
LPAZ	La Paz	151.29	104	PKPbc	PKPdf	05 35 28.1	+10
	1.8nm,0.7s,baz=230,slow=7.9,SNR=6.2						
LPAZ	La Paz	151.29	104	ePKPbc	PKPdf	05 35 27.1	+8.9

*NIED **26** 05:25:00, 34.00N×141.80E, h8^{km}, Mw4.0 Best double couple: $M_0$1.11×10^{15} NP1:ϕ_s177°, δ48°, λ108°. NP2: ϕ_s331°, δ45°, λ71°.*

*JMA **26** 05:25:15.7±0.4, 34.02N×141.82E, h46^{km}, M3.5*

*NEIC **26** 05:25:20.0±0.6, 33.97N×141.62E, Error ellipse: s-maj=15.1km s-min=11.5km az=46.0*

*IDC **26** 05:25:20.0±0.8, 33.92N×141.70E, h56^{km}±6^{km}, mb3.5/13, mb1 3.7/13, mb1mx3.6/21, mbtmp3.8/13, Error ellipse: s-maj=21.5km s-min=16.0km az=125.0*

ISC 26 05:25:18.0±0.5**, 34.00N**±0.06×**141.62E**±0.06**, h54**^{km}**, h54**^{km}±.3^{km}**:pP-P, n30, σ0^{s}97**/33**, mb3.8**/13**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.84	321	P	P	05 25 32.8	-1.0
BSO1				S	S	05 25 45.3	-0.3
BSO3	Boso 3	1.22	311	P	P	05 25 38.8	-0.2
BSO4	Boso 4	1.45	313	P	P	05 25 42.5	+0.2
KTR	Katsuura	1.57	317	P	P	05 25 44.3	+0.3
JHJ2	Mitsune	1.75	240	P	P	05 25 46.8	+0.3
JHJ	Hachijo jima 2	1.77	241	P	P	05 25 46.8	-0.1
	60nm,0.3s,baz=252,slow=20,SNR=5.3						
CHOJ	Chosi	1.81	340	P	P	05 25 45.5	-1.8
JIZS	Izushimoda	2.38	288	P	P	05 25 54.8	-0.6
JOD2	Odawara 2	2.44	302	P	P	05 25 55.2	-1.1
JYN	Shimob	2.94	301	P	P	05 26 02.6	-0.8
JAG	Ashikaga	3.00	324	P	P	05 26 03.1	-1.1
JRY	Ryogami san	3.00	313	P	P	05 26 03.4	-0.9
JRY				S	S	05 26 41.1	+1.9
SHZ3	Shizuoka 3	3.01	292	S	S	05 26 40.7	+1.3
MAJO	Matsushiro	3.77	313	eP	P	05 26 15.2	+0.1
MAT	Matsushiro	3.77	313	eP	P	05 26 15.0	-0.1
MAT	Matsushiro	3.77	313	P	P	05 26 14.8	-0.3
MAT				eS	S	05 26 58.1	-0.5
SONM	Songino Array	29.71	308	P	P	05 31 22.9	+2.0
	0.4nm,0.8s,mb3.2,baz=100,slow=8.8,SNR=2.8						
SONM				pP	pP	05 31 36.8	+2.2
	0.5nm,0.8s,baz=117,slow=6.4,SNR=3.3						
ILAR	Eielson Array	51.98	31	P	P	05 34 22.8	-0.6
	0.8nm,0.8s,mb3.7,baz=266,slow=6.5,SNR=9.0						
WRA	Warramunga Arr	54.09	188	P	P	05 34 38.3	-1.3
	0.7nm,0.4s,mb3.9,baz=2.5,slow=7.7,SNR=6.2						
INK	Inuvik	57.01	26	P	P	05 34 59.8	-0.3
	0.6nm,0.9s,mb3.6,baz=81,slow=3.6,SNR=5.0						
ASAR	Alice Springs	57.82	188	P	P	05 35 05.5	-0.9
	0.3nm,0.5s,mb3.6,baz=359,slow=6.5,SNR=8.6						
YKA	Yellowknife Ar	66.35	29	P	P	05 36 02.2	-0.4
	0.4nm,1.0s,mb3.4,baz=302,slow=6.7,SNR=4.1						
YKA				pP	pP	05 36 17.4	-0.3
	0.3nm,0.9s,baz=299,slow=6.5,SNR=2.4						
YKA	Yellowknife Ar	66.35	29	P	P	05 36 02.2	-0.4
YKA				pP	pP	05 36 17.4	-0.4
FINES	FINESS Array B	71.58	333	P	P	05 36 34.9	+0.1
	3.1nm,0.9s,mb4.2,baz=30,slow=11,SNR=3.6						
NVAR	Mina Array Bea	76.68	53	P	P	05 37 06.4	+1.6
	0.3nm,0.7s,mb3.3,baz=315,slow=12,SNR=3.0						
NVAR				pP	pP	05 37 21.7	+1.5
	0.6nm,0.6s,baz=287,slow=7.4,SNR=2.8						
AKASG	Malin Array Be	76.80	323	P	P	05 37 05.7	+0.5
	0.7nm,0.4s,mb3.9,baz=45,slow=5.5,SNR=6.7						
HFS	Hagfors	76.92	336	P	P	05 37 06.3	+0.7
	4.4nm,1.1s,mb4.3,baz=18,slow=4.6,SNR=3.3						
NOA	NORSAR Array B	77.04	338	P	P	05 37 07.3	+0.9
	3.4nm,1.3s,mb4.1,baz=66,slow=4.2,SNR=2.5						
PDAR	Pinedale Array	79.67	45	P	P	05 37 22.3	+1.1
	0.4nm,0.5s,mb3.6,baz=270,slow=1.5,SNR=3.7						
PDAR				pP	pP	05 37 37.6	+0.9
	0.4nm,0.6s,baz=281,slow=3.0,SNR=3.1						
BRTR	Keskin Array B	80.99	312	P	P	05 37 30.2	+2.0
	8.1nm,1.4s,mb4.5,baz=34,slow=10,SNR=3.7						

*BJI **26** 05:25:33.4, 33.26N×142.22E, h53^{km}, mB4.7, mb3.9*

*JMA **26** 05:25:35.5±0.5, 34.02N×141.78E, h9^{km}±3^{km}, M4.2*

*MOS **26** 05:25:37.0±0.8, 33.99N×141.81E, h33^{km}, mb4.6/5, Error ellipse: s-maj=18.6km s-min=9.0km az=114.1*

*IDC **26** 05:25:41.5±0.5, 33.98N×141.66E, h53^{km}±4^{km}, mb3.8/19, mb1 4.0/20, mb1mx4.0/24, mbtmp4.1/20, Error ellipse: s-maj=16.3km s-min=6.5km az=143.0*

*NEIC **26** 05:25:41.5±0.3, 33.99N×141.62E, mb4.3/4, Error ellipse: s-maj=8.4km s-min=7.0km az=212.0*

ISC 26 05:25:38.0±0.9**, 34.00N**±0.04×**141.77E**±0.06**, h39**^{km}±7^{km}**, h53**^{km}±.8^{km}**:pP-P, n68, σ0^{s}97**/76**, mb4.3**/26**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.93	315	P	P	05 25 53.0	-1.7
BSO1				S	S	05 26 05.8	-1.2
BSO3	Boso 3	1.32	308	P	P	05 25 58.7	-1.6
BSO4	Boso 4	1.55	310	P	P	05 26 04.5	+0.9
KTR	Katsuura	1.66	314	P	P	05 26 05.9	+0.7
KTR				S	S	05 26 27.9	+2.4
JHJ2	Mitsune	1.85	242	P	P	05 26 09.0	+1.1
JHJ2				S	S	05 26 31.5	+1.2
CHOJ	Chosi	1.86	336	P	P	05 26 06.6	-1.4
CHOJ				S	S	05 26 30.6	+0.1
JHJ	Hachijo jima 2	1.88	243	P	P	05 26 08.2	0.0
	272nm,0.3s,baz=74,slow=19,SNR=9.5						
JHJ				S	S	05 26 31.2	+0.4
	157nm,0.3s,baz=73,slow=21,SNR=10						
JIM2	Oshima 3	2.07	291	P	P	05 26 10.3	-0.6
JIM2				S	S	05 26 36.1	+0.4
JIZS	Izushimoda	2.50	288	P	P	05 26 16.6	-0.6
JIZS				S	S	05 26 46.4	-0.3
JAG	Ashikaga	3.08	323	P	P	05 26 25.9	+0.5
JAG				S	S	05 27 01.9	+0.5
JRY	Ryogami san	3.10	311	P	P	05 26 26.0	+0.3
JRY				S	S	05 27 03.9	+1.9
SHZ3	Shizuoka 3	3.13	291	P	P	05 26 27.2	+1.1
MAJO	Matsushiro	3.87	312	eP	P	05 26 36.8	+0.2
MAT	Matsushiro	3.87	312	eP	P	05 26 37.0	+0.4
MAT	Matsushiro	3.87	312	P	P	05 26 36.7	+0.1
MAT				S	S	05 27 20.9	-0.5
MAT	Matsushiro	3.87	312	eS	S	05 27 21.0	-0.4
ASAJ	Asahikawa	10.13	3	P	P	05 28 02.2	-1.7
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	Asahikawa	10.13	3	P	P	05 28 02.2	-1.7
	comp=Z,1.7nm,0.3s,baz=187,slow=17,SNR=3.4						
YSS	Yuzh-Sakhalins	12.97	3	eP	P	05 28 37.0	-5.2
WHN	Wuhan	23.41	269	eP	P	05 30 43.3	-1.0
ULN	Ulaanbaatar	29.39	309	P	P	05 31 38.8	-0.7
SONM	Songino Array	29.81	308	P	P	05 31 44.0	+0.7
	comp=Z,1.4nm,0.7s,mb3.8,baz=108,slow=7.8,SNR=9.7						
BOD	Bodaibo	30.28	330	eP	P	05 31 45.5	-1.9
ZAK	Zakamensk	32.45	312	eP	P	05 32 06.6	+0.1
CMAR	Chiang Mai Arr	41.11	259	P	P	05 33 18.8	-1.1
	comp=Z,2.6nm,0.9s,mb3.9,baz=51,slow=7.5,SNR=10						
CMAR				pP	pP	05 33 33.6	+2.6
	comp=Z,1.5nm,0.7s,baz=47,slow=7.9,SNR=2.6						
JIRN	Jiri	47.66	278	eP	P	05 34 12.2	-0.3
	comp=Z,12nm,0.5s,mb5.2						
GUN	Gumba	47.82	279	eP	P	05 34 13.3	-0.4
	comp=Z,9.1nm,0.5s,mb5.1						
KURK	Kurchatov	48.08	310	eP	P	05 34 15.0	-0.4
KKN	Kakani	48.36	279	eP	P	05 34 17.4	-0.5
	comp=Z,6.1nm,0.4s,mb5.0						
DMN	Daman	48.57	279	eP	P	05 34 18.7	-0.8
GKN	Gorkha	48.81	279	eP	P	05 34 20.7	-0.6
KOLN	Koldanda	49.74	279	eP	P	05 34 27.7	-0.9
	comp=Z,19nm,1.2s,mb5.0						
ILAR	Eielson Array	51.92	31	P	P	05 34 44.5	0.0
	comp=Z,1.6nm,0.8s,mb4.0,baz=255,slow=6.3,SNR=12						
CHKZ	Chkalovo	52.63	315	eP	P	05 34 49.2	-0.8
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
CHKZ	Chkalovo	52.63	315	eP	P	05 34 49.2	-0.8
	comp=Z,9.0nm,1.3s,mb4.5						
BRVK	Borovoye	52.92	314	eP	P	05 34 52.0	-0.2
WRAB	Tennant Creek	54.09	189	P	P	05 34 53.8	-7.5
WRA	Warramunga Arr	54.10	189	P	P	05 35 00.1	-1.3
	comp=Z,3.1nm,0.6s,mb4.5,baz=3.0,slow=7.6,SNR=11						
INK	Inuvik	56.97	26	P	P	05 35 21.2	-0.2
	comp=Z,1.0nm,0.7s,mb4.0,baz=302,slow=5.4,SNR=12						
ASAR	Alice Springs	57.83	189	P	P	05 35 27.7	-0.4
	comp=Z,1.0nm,0.5s,mb4.1,baz=5.0,slow=6.8,SNR=13						
ASAR				PcP	PcP	05 36 19.4	-0.7
	comp=Z,1.2nm,0.7s,baz=355,slow=4.1,SNR=4.1						
ASAR				pPcP		05 36 35.1	
	comp=Z,1.7nm,0.8s,baz=9.4,slow=4.6,SNR=5.1						
ARU	Arti	58.85	320	eP	P	05 35 28.7	-6.0
RES	Resolute Bay	65.47	14	eP	P	05 36 18.6	0.0
RES				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
RES	Resolute Bay	65.47	14	eP	P	05 36 18.6	0.0
	comp=Z,2.1nm,0.7s,mb4.3						
YKA	Yellowknife Ar	66.29	30	P	P	05 36 23.8	-0.2
YKA				*PP	pP	05 36 38.7	+2.9
YKA	Yellowknife Ar	66.29	30	P	P	05 36 23.8	-0.2
	comp=Z,0.4nm,0.7s,mb3.6,baz=294,slow=5.8,SNR=6.0						
YKA				pP	pP	05 36 38.6	+2.9
	comp=Z,0.5nm,0.8s,baz=294,slow=6.4,SNR=4.7						
JOF	Joensuu	68.78	333	ep	P	05 36 38.5	-1.1
NWAO	Narrogin (SRO)	70.45	202	P	P	05 36 49.8	-0.5
	comp=Z,5.1nm,0.8s,mb4.5,baz=310,slow=5.8,SNR=5.0						
KAF	Kangasniemi	71.14	333	ep	P	05 36 52.6	-1.4
	comp=Z,2.0nm,0.5s,mb4.3,baz=50,slow=5.7						
KAF	Kangasniemi	71.14	333	eP	P	05 36 52.6	-1.4
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
EDM	Edmonton	71.56	38	eP	P	05 36 56.5	-0.1
FINES	FINESS Array B	71.64	333	P	P	05 36 57.0	0.0
	comp=Z,2.0nm,0.6s,mb4.2,baz=63,slow=8.5,SNR=7.4						
NVAR	Mina Array Bea	76.58	53	P	P	05 37 27.9	+1.9
	comp=Z,0.8nm,0.7s,mb3.7,baz=286,slow=6.6,SNR=4.3						
NVAR				pP	pP	05 37 43.0	+5.0
	comp=Z,1.6nm,0.7s,baz=292,slow=6.9,SNR=6.5						
AKASG	Malin Array Be	76.89	323	P	P	05 37 27.3	-0.2
AKASG				*PP	pP	05 37 42.4	+3.0
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	76.89	323	P	P	05 37 27.3	-0.1
	comp=Z,2.3nm,0.5s,mb4.4,baz=46,slow=5.9,SNR=14						
AKASG				pP	pP	05 37 42.4	+3.0
	comp=Z,1.1nm,0.4s,baz=44,slow=5.7,SNR=5.6						
HFS	Hagfors	76.98	336	P	P	05 37 28.0	+0.2
	comp=Z,1.6nm,0.5s,mb4.2,slow=1.5,SNR=8.7						
NB2	NORSAR Subarra	77.10	338	P	P	05 37 28.6	+0.1
	comp=Z,1.1nm,0.6s,mb4.0,baz=41,slow=5.3						
NB2	NORSAR Subarra	77.10	338	P	P	05 37 28.6	+0.1
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	NORSAR Array B	77.10	338	P	P	05 37 28.9	+0.4
	comp=Z,1.4nm,0.6s,mb4.1,baz=42,slow=5.4,SNR=6.0						
NOA				pP	pP	05 37 43.8	+3.4
	comp=Z,0.5nm,0.7s,baz=46,slow=9.1,SNR=1.6						
PDAR	Pinedale Array	79.59	45	P	P	05 37 43.8	+1.3
	comp=Z,1.2nm,0.6s,mb4.0,baz=298,slow=2.1,SNR=9.6						
PDAR				pP	pP	05 37 59.2	+4.8
	comp=Z,1.7nm,0.7s,baz=282,slow=3.2,SNR=8.2						
BRTR	Keskin Array B	81.09	312	P	P	05 37 51.8	+1.2
	comp=Z,1.2nm,0.7s,mb3.9,baz=112,slow=3.0,SNR=5.2						
BRTR				pP	pP	05 38 06.8	+4.2
	comp=Z,2.4nm,0.9s,baz=130,slow=1.7,SNR=5.0						
PV10	Paradox Valley	82.56	48	eP	P	05 38 00.7	+2.5
KHC	Kasperske Hory	85.29	329	eP	P	05 38 12.5	+0.9
GERES	GERESS Array B	85.45	329	P	P	05 38 13.3	+0.9
	comp=Z,1.0nm,0.6s,mb4.2,baz=34,slow=4.8,SNR=4.7						
GERES				pP	pP	05 38 27.3	+2.8
	comp=Z,0.6nm,0.6s,baz=45,slow=5.7,SNR=3.9						
EKA	Eskdalemuir Ar	86.09	341	P	P	05 38 16.7	+1.3
	comp=Z,1.2nm,0.8s,mb4.2,baz=45,slow=4.7,SNR=4.0						
SCHQ	Schefferville	88.17	16	P	P	05 38 26.8	+1.3
	comp=Z,1.7nm,0.8s,mb4.4,baz=256,slow=4.2,SNR=3.5						
TXAR	Lajitas Array	91.74	53	P	P	05 38 44.2	+1.4
	comp=Z,0.4nm,0.6s,mb3.9,baz=276,slow=1.7,SNR=6.2						
TXAR				pP	pP	05 38 59.5	+4.4
	comp=Z,0.2nm,0.6s,baz=298,slow=4.4,SNR=2.8						
SDV	Santo Domingo	127.43	42	PKP	PKPdf	05 44 41.3	+1.8
	comp=Z,2.1nm,0.9s,baz=7.1,slow=8.1,SNR=2.9						
LPAZ	La Paz	147.87	64	PKPbc	PKPdf	05 45 23.2	+7.0
	comp=Z,1.8nm,0.9s,baz=256,slow=3.9,SNR=4.6						

IDC 26 05:30:21.6±2.8**, 2.79N×94.73E, mb3.7**/4**, mb1 4.0**/5**, mb1mx3.7**/18**, mbtmp3.8**/5**, ML4.3**/1**, Error ellipse: s-maj=96.3km s-min=25.6km az=63.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.11	15	Pn	P	05 34 09.7	-1.6
	0.4nm,0.3s,baz=208,slow=12,SNR=21						
WRA	Warramunga Arr	44.96	122	P	P	05 38 38.8	-1.9
	0.5nm,0.6s,baz=298,slow=9.2,SNR=3.8						
SONM	Songino Array	45.99	11	P	P	05 38 46.4	-2.0
	1.6nm,0.8s,baz=189,slow=8.7,SNR=11						
ASAR	Alice Springs	46.31	127	P	P	05 38 49.5	-1.8
	0.3nm,0.9s,baz=295,slow=8.0,SNR=3.8						
BVAR	Borovoye Array	53.97	342	P	P	05 39 47.4	-2.0
	0.9nm,0.7s,baz=153,slow=6.4,SNR=3.7						

*CSEM **26** 05:32:22.5±2.3, 37.77N×43.96E, h8^{km}, MD3.6, Error ellipse: s-maj=63.1km s-min=9.6km az=98.0*

ISK 26 05:32:23.2, 37.76N×43.88E, h5^{km}**, MD3.6, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HKR	Hakkari	0.21	210	iPG	Pg	05 32 28.3	+0.8
HKR				iSG	Sg	05 32 31.0	+0.5
VANT	Van	0.78	331	PG	Pg	05 32 39.2	+0.4
TVAN	Van	0.85	334	iP	Pb	05 32 40.6	+0.6
TVAN				iS	Sg	05 32 53.7	+2.2
VANB	Van	0.92	335	PG	Pg	05 32 40.6	-0.9
MSL	Mosul	1.60	203	ePn	Pn	05 32 53.5	+1.2
MSL				iSb	Sb	05 33 13.5	+0.2
MSL				iSg	Sg	05 33 15.0	-1.4
BTMT	Batman	1.93	284	PN	Pn	05 33 00.3	+3.2
BEST	Besiri	2.07	274	iP	Pn	05 33 00.5	+1.5
BEST				iS	Sn	05 33 30.7	+5.2
VRT	Varto	2.29	307	ePN	Pn	05 33 03.0	+0.7
ELZG	Elazig	3.92	282	iP	Pn	05 33 32.8	+7.3
ELZG				iS	Sn	05 34 27.4	+15
GZT	Gaziantep	5.03	267	iP	Pn	05 33 56.2	+15
GZT				iS	Sn	05 35 05.8	+25

IDC 26 05:33:11.5±1.1**, 7.14N×92.28E, h25**^{km}±5^{km}**, mb3.7**/5**, mb1 4.0**/6**, mb1mx3.7**/18**, mbtmp3.9**/6**, ML4.3**/1**, MS3.5**/1**, Ms1 3.5**/1**, ms1mx2.5**/22**, Error ellipse: s-maj=43.7km s-min=16.4km az=57.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.99	29	Pn	P	05 36 16.0	-1.3
	0.5nm,0.3s,baz=231,slow=14,SNR=11						
SONM	Songino Array	42.30	14	P	P	05 41 03.3	-1.6
	0.8nm,1.0s,baz=194,slow=5.9,SNR=3.4						
SONM				pP	pP	05 41 10.8	-1.5
	0.6nm,0.6s,baz=196,slow=8.3,SNR=5.5						
BVAR	Borovoye Array	49.12	343	P	P	05 41 56.0	-2.9
	0.8nm,0.8s,baz=153,slow=3.2,SNR=3.2						
BVAR				pP	pP	05 42 03.6	-2.9
	4.4nm,1.1s,baz=149,slow=8.6,SNR=7.5						
WRA	Warramunga Arr	49.36	124	P	P	05 41 59.1	-2.2
	4.1nm,0.8s,baz=303,slow=8.8,SNR=22						
WRA				pP	pP	05 42 06.5	-2.4
	1.2nm,0.5s,baz=305,slow=8.8,SNR=5.6						
ASAR	Alice Springs	50.88	128	P	P	05 42 10.9	-2.0
	2.5nm,0.8s,baz=311,slow=7.5,SNR=18						
ASAR				pP	pP	05 42 18.4	-2.1
	1.1nm,0.7s,baz=304,slow=6.8,SNR=5.5						
GNI	Garni	53.65	315	LR	LR	06 06 17.1	
	comp=Z,43nm,18.8s,baz=344,slow=37						
GERES	GERESS Array B	77.15	318	P	P	05 45 03.4	-1.4
	1.6nm,1.1s,baz=162,slow=3.1,SNR=2.6						
GERES				pP	pP	05 45 12.6	-0.1
	0.7nm,0.5s,baz=79,slow=6.8,SNR=3.1						
PDAR	Pinedale Array	126.50	20	PKP	PKPdf	05 52 12.5	-5.0
	0.2nm,0.6s,baz=63,slow=3.3,SNR=3.5						
TXAR	Lajitas Array	140.63	22	PKP	PKPdf	05 52 41.8	-2.6
	0.2nm,0.7s,SNR=2.8						

*IDC **26** 05:38:14.2±3.1, 33.23N×45.68E, mb3.7/5, mb1 3.9/5, mb1mx3.6/16, mbtmp3.7/5, Error ellipse: s-maj=80.5km s-min=29.6km az=31.0*

*TEH **26** 05:38:20.8, 33.59N×45.81E, h16^{km}, Mn3.6*

*CSEM **26** 05:38:29.3±0.5, 33.84N×46.72E, h20^{km}, ML4.2/1, Error ellipse: s-maj=12.0km s-min=3.6km az=84.0*

*THR **26** 05:38:31.6±0.7, 33.90N×47.15E, h15^{km}±6^{km}, ML3.4*

ISC 26 05:38:18.8±0.5**, 33.38N**±0.03×**46.08E**±0.05**, h15**^{km}**, n29, σ1^{s}22**/33**, mb3.7**/5**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGHG	Ghaleghazi	1.04	23	Pg	Pg	05 38 38.4	-1.3
IVIS	Veys	1.32	29	Pn	Pn	05 38 43.8	+1.1
IDHR	Dehrash	1.35	11	Pn	Pn	05 38 43.2	0.0
BHD	Baghdad	1.42	266	iPb	Px	05 38 38.0	
BHD				iSb	Sx	05 38 57.0	
IKOM	Komasi	1.44	56	Pn	Pn	05 38 47.7	+3.2
SNGE	Sanandaj	2.01	31	ePG	Pn	05 38 54.1	+1.4
SNGE				AML	AML	05 39 30.5	
	comp=N,414nm,0.6s						
SHGR	Shooshtar-Gavs	2.62	118	ePN	Pg	05 39 10.5	-0.7
SHGR				eSG	Sg	05 39 42.6	-3.6
SHGR				AML	AML	05 39 59.3	
	comp=N,356nm,0.9s						
SHGR	Shooshtar-Gavs	2.62	118	ePn	Pg	05 39 10.5	-0.7
	SNR=52						
SHGR				eSg	Sg	05 39 42.6	-3.6
	comp=N,356nm,0.9s,SNR=90						
IRAZ	Razeghan	3.77	56	Pn	Pn	05 39 19.0	+1.2
IRAZ				Sn	Sn	05 40 02.2	-0.2
MSL	Mosul	3.81	321	ePn	Px	05 39 26.0	
MSL				ePb	Px	05 39 34.0	
MSL				eSn	Sx	05 40 20.5	
RST	Umm Al-Ruwaisa	3.94	168	eP	Pn	05 39 21.5	+1.3
RST				eS	Sn	05 40 07.3	+0.7
NAY	Al-Naaiem	4.23	166	eP	Pn	05 39 25.5	+1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NAY				eS	Sn	05 40 13.2	-0.8
RDF	Al-Radifah	4.61	164	eP	Pn	05 39 30.7	+1.0
RDF				eS	Sn	05 40 22.9	-0.7
IBRJ	Borojen	4.67	109	Pn	Pn	05 39 27.8	-2.6
QAM	Qamsar	4.80	82	Pn	Pn	05 39 31.0	-1.4
IVRN	Varamin	4.96	69	Sn	Sn	05 40 31.7	-0.5
IVRN	Varamin	4.96	69	Pn	Pn	05 39 35.8	+1.2
IAFJ	Afjeh	5.27	60	Pn	Pn	05 39 39.3	+0.4
DAMV	Damavand	5.36	64	ePN	Pn	05 39 39.7	-0.6
IDMV	Damavand	5.39	64	Pn	Pn	05 39 41.5	+0.9
NASN	Na'in	5.68	94	ePN	Pn	05 39 46.2	+1.5
IFIR	Firoozkooh	5.96	66	Pn	Pn	05 39 49.2	+0.5
ASF	Jabal al Asfar	7.82	264	Pg	Pg	05 40 41.4	-14
	comp=N,0.3nm,0.3s,baz=329,slow=5.9,SNR=5.6						
ASF				Sn	Sn	05 41 43.7	-0.3
	comp=N,0.5nm,0.3s,baz=32,slow=18,SNR=3.2						
ASF				Lg		05 42 20.0	
	comp=N,0.5nm,0.3s,baz=294,slow=19,SNR=3.6						
EIL	Elat	10.19	252	Lg		05 43 33.4	
	comp=N,0.3nm,0.3s,baz=79,slow=18,SNR=2.8						
AKASG	Malin Array Be	21.28	329	P	P	05 43 01.4	-5.3
	comp=N,1.2nm,0.5s,mb3.5,baz=140,slow=9.6,SNR=14						
BVAR	Borovoye Array	26.23	34	P	P	05 43 53.5	-1.2
	comp=N,0.4nm,0.6s,mb3.1,baz=180,slow=5.8,SNR=2.6						
HFS	Hagfors	34.14	331	P	P	05 45 00.3	-4.6
	comp=N,2.7nm,0.8s,mb4.2,baz=129,slow=9.2,SNR=2.6						
CMAR	Chiang Mai Arr	49.32	94	P	P	05 47 07.7	-1.8
	comp=N,1.3nm,0.6s,mb4.2,baz=292,slow=7.8,SNR=6.1						
YKA	Yellowknife Ar	83.21	351	P	P	05 50 42.6	-2.6
	comp=N,0.5nm,1.0s,mb3.5,baz=20,slow=5.6,SNR=5.8						

IGQ 26 05:43:40.8, 1.08S×81.99W, $h16^{km}\pm9^{km}$, mb4.1, 3C-1D, Error ellipse: s-maj=26.5km s-min=9.3km az=72.3, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUA2	San Juan 2	3.49	76	P	Pn	05 44 36.6	+0.9
JUA2				S	Sn	05 45 14.1	-3.0
PINO	Pino	3.50	75	P	Pn	05 44 36.5	+0.6
PINO				S	Sn	05 45 12.5	-4.8
TERV	Terraza Guagua	3.50	75	P	Pn	05 44 39.5	+3.7
TERV				S	Sn	05 45 17.5	+0.2
NAS1	Nasa	3.54	83	⇓P	Pn	05 44 37.5	+1.2
YANA	Yana	3.55	74	P	Pn	05 44 36.8	+0.3
PISA	Pisayambo	3.60	90	P	Pn	05 44 37.2	0.0
VC1	Cotopaxi 1	3.61	83	⇑P	Pn	05 44 39.5	+2.1
TAMB	Tambo	3.64	84	P	Pn	05 44 39.8	+1.9
ANTI	Antisana	3.88	81	⇑P	Pn	05 44 43.4	+2.2
CAYR	Refugio Cayamb	4.13	75	⇑P	Pn	05 44 48.5	+3.7
CAYA	Cayambe	4.16	74	P	Pn	05 44 48.6	+3.4

*BJI **26** 05:46:28.5, 4.05N×93.11E, $h51^{km}$, mB4.9, mb4.7, Ms4.9, Msz4.5*

*MOS **26** 05:46:30.5±1.4, 4.63N×93.23E, $h33^{km}$, mb4.9/23, MS4.5/5, Error ellipse: s-maj=15.9km s-min=8.1km az=90.4*

*IDC **26** 05:46:30.8±0.7, 4.66N×93.19E, $h20^{km}\pm3^{km}$, mb4.2/11, mb1 4.3/12, mb1mx4.2/18, mbtmp4.3/12, ML4.2/1, MS4.4/13, Ms1 4.4/13, ms1mx4.3/20, Error ellipse: s-maj=32.6km s-min=13.6km az=46.0*

*NEIC **26** 05:46:30.9±0.4, 4.62N×93.19E, mb4.7/19, Error ellipse: s-maj=10.0km s-min=8.9km az=217.0*

ISC 26 05:46:29.4±0.5**, 4.59N**±0.06×**93.24E**±0.04**, $h27^{km}$, $h28^{km}\pm3.2^{km}$:pP-P, n123, σ1ș20**/122**, mb4.7**/45**, MS4.5**/24**, 1C-4D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	Songkhla	7.77	70	P	Pn	05 48 24.0	+0.3
	364nm,0.9s						
PALK	Pallekele	12.76	283	eP	P	05 49 30.2	-1.8
	40nm,1.0s						
CM31	Chiang Mai Arr	14.87	22	eP	P	05 49 59.5	-0.4
	28nm,0.9s						
CMAR	Chiang Mai Arr	14.87	22	Pn	P	05 49 58.5	-1.4
	0.3nm,0.3s,baz=218,slow=13,SNR=44						
KKTK	Khon Kaen	14.99	38	P	P	05 50 02.0	+0.5
CHG	Chiang Mai	15.20	21	P	P	05 50 02.8	-1.4
	19nm,0.9s						
NANT	Nan	15.89	27	P	P	05 50 14.0	+0.8
VIS	Vishakhapatnam	16.27	324	eP	P	05 50 13.8	-4.1
VIS				e		05 50 17.5	
	comp=Z,81nm,0.6s						
VIS				eS	S	05 53 01.1	-16
CHRT	Chiangrai	16.48	22	⇓P	P	05 50 20.5	0.0
	comp=Z,110nm,1.3s						
TRD	Trivandrum	16.64	284	eP	Px	05 50 42.4	
TRD				iS	S	05 53 35.4	+10
CAL	Calcutta	18.47	346	eP	P	05 50 53.7	+8.2
	comp=Z,1μm,0.3s						
CAL				eS	S	05 53 50.8	-17
CAL				eS	S	05 53 50.8	-17
HYB	Hyderabad	19.23	313	iP	P	05 50 53.0	-1.5
HYB				e		05 54 04.0	
HYB				eS	S	05 54 26.5	+2.0
AGT	Agartala	19.28	354	⇓iP	P	05 50 51.0	-4.1
AGT				iS	rx	05 51 40.0	
MNGI	Mangalore	20.00	296	eP	P	05 51 03.9	+0.8
MNGI				eS	S	05 54 28.5	-13
IMP	Imphal	20.09	2	eP	P	05 51 01.1	-2.9
BLSP	Bilaspur	20.50	329	eP	P	05 51 07.3	-0.9
BLSP				e		05 51 10.5	
	comp=Z,46nm,1.5s						
BLSP				eS	S	05 54 46.3	-4.8
BLSP				eS	S	05 54 46.4	-4.7
SHL	Shillong	20.90	357	eP	P	05 51 08.0	-4.3
	comp=Z,67nm,0.8s						
SHL				eS	S	05 54 53.0	-6.1
NGP	Nagpur	21.47	321	eP	P	05 51 19.1	+0.9
NGP				eS	S	05 55 23.4	+14
QIZ	Qiongzhong	21.65	47	P	P	05 51 25.0	+5.1
QIZ				S	S	05 55 14.8	+1.7
QIZ				LR	LR		
	comp=N,4μm,17.1s,MS4.9						
QIZ				LR	LR		
	comp=E,2μm,18.0s,MS4.9						
QIZ				LR	LR		
	comp=Z,1μm,16.4s,MS4.4						
QIZ	Qiongzhong	21.65	47	P	P	05 51 24.2	+4.3
	comp=Z,60nm,1.3s,mb4.9						
KMI	Kunming	22.37	23	P	P	05 51 28.2	+1.2
KMI				*SP		05 51 37.1	
KMI				S	S	05 55 26.1	-0.2
KMI				pmax	pmax		
	comp=Z,27nm,1.5s,mb4.5						
KMI				MLR	MLR		
	comp=Z,1μm,14.6s,MS4.4						
KMI	Kunming	22.37	23	P	P	05 51 28.2	+1.2
	comp=Z,27nm,1.5s,mb4.5						
KMI				sP		05 51 37.1	
KMI				S	S	05 55 26.1	-0.2
KMI				LR	LR		
	comp=Z,1μm,14.6s,MS4.4						
KAD	Karad	22.55	306	eP	P	05 51 29.0	0.0
KAD				eS	S	05 55 32.0	+2.2
POO	Poona	23.48	308	e	P	05 51 32.4	-5.7
	comp=Z,9.3nm,0.2s,mb4.9						
POO				eS	S	05 55 44.2	-2.0
JIRN	Jiri	23.91	344	eP	P	05 51 43.2	+1.0
	comp=Z,53nm,0.7s,mb5.1						
BHPL	Bhopal	24.03	322	eP	P	05 51 42.4	-1.0
BHPL				e		05 51 48.0	
	comp=Z,12nm,0.9s						
PKI	Pulchoki	24.05	343	eP	P	05 51 44.7	+1.2
	comp=Z,68nm,0.5s,mb5.3						
DMN	Daman	24.17	342	eP	P	05 51 45.7	+0.9
GUN	Gumba	24.23	344	eP	P	05 51 46.0	+0.7
	comp=Z,70nm,0.7s,mb5.2						
KKN	Kakani	24.29	343	eP	P	05 51 46.2	+0.3
GKN	Gorkha	24.69	342	eP	P	05 51 50.1	+0.4
	comp=Z,228nm,1.2s,mb5.6						
KOLN	Koldanda	24.82	339	eP	P	05 51 51.3	+0.3
	comp=Z,59nm,0.9s,mb5.1						
LSA	Lhasa	25.06	356	P	P	05 51 55.3	+2.1
LSA				AP	pP	05 52 05.0	+3.8
LSA				XP	sP	05 52 09.5	+4.6
LSA				S	S	05 56 15.3	+2.3
LSA				XS		05 56 37.5	
LSA				PCS		05 59 06.5	
LSA	Lhasa	25.06	356	eP	P	05 51 55.1	+1.9
LSA				pmax	pmax		
	comp=Z,19nm,0.7s,mb4.7						
LSA	Lhasa	25.06	356	eP	P	05 51 55.1	+1.9
	comp=Z,20nm,0.7s,mb4.7						
NDI	New Delhi	28.39	329	eP	P	05 52 22.0	-1.8
DDI	Dehra Dun	29.34	332	e	P	05 52 32.1	-0.3
ENH	Enshi	29.80	29	P	P	05 52 37.9	+1.4
	comp=Z,10nm,1.0s,mb4.5						
WHN	Wuhan	32.60	35	P	P	05 53 01.5	+0.4
WHN				S	S	05 58 15.0	+1.1
WHN				LR	LR		
	comp=Z,2μm,17.0s,MS4.9						
XAN	Xi'an	32.73	25	P	P	05 53 00.3	-1.9
XAN				AMB	AMB		
	comp=Z,16nm,0.8s,mb5.0						
LZH	Lanzhou	32.84	16	eP	P	05 53 02.0	-1.1
LZH				AMB	AMB		
	comp=Z,53nm,1.7s,mb5.2						
LZH				AMB	AMB		
	comp=Z,199nm,5.5s						
LZH				LR	LR		
	comp=E,1μm,15.4s						
LZH				LR	LR		
	comp=Z,2μm,16.9s,MS4.9						
LZH	Lanzhou	32.84	16	eP	P	05 53 02.1	-1.0
	comp=Z,53nm,1.7s,mb5.2						
LZH				pP	pP	05 53 09.5	-1.7
LZH				sP	sP	05 53 12.5	-2.2
LZH				LR	LR		
	comp=Z,2μm,16.9s,MS4.9						
NJ2	Nanjing	36.36	38	eP	P	05 53 32.5	-0.9
NJ2				AP	pP	05 53 42.3	+0.8
NJ2				S	S	05 59 05.0	-7.2
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,52nm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,15.0s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,15.1s,MS4.9						
NJ2				LR	LR		
	comp=Z,1μm,14.4s,MS4.8						
SSE	Sheshan	37.23	42	P	P	05 53 37.8	-2.8
SSE				S	S	05 59 18.5	-6.9
SSE				AMB	AMB		
	comp=Z,24nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,79nm,6.3s						
SSE				LR	LR		
	comp=N,830nm,19.0s,MS4.7						
SSE				LR	LR		
	comp=E,777nm,19.5s,MS4.7						
SSE				LR	LR		
	comp=Z,421nm,17.3s,MS4.3						
SSE	Sheshan	37.23	42	P	P	05 53 37.7	-2.9
	comp=Z,24nm,0.7s,mb5.1						
SSE				sP	sP	05 53 50.3	-2.0
SSE				S	S	05 59 18.6	-6.8
SSE				sS		05 59 33.2	
SSE				LR	LR		
	comp=Z,420nm,17.3s,MS4.3						
WMQ	Urumqi	39.38	354	P	P	05 54 00.0	+1.5
WMQ				AP	pP	05 54 12.3	+5.5
WMQ				XP	sP	05 54 17.5	+7.3
WMQ				PP	PP	05 55 32.8	0.0
WMQ				S	S	05 59 52.0	-5.9
WMQ				AMB	AMB		
	comp=Z,34nm,1.5s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,163nm,5.6s						
WMQ				LR	LR		
	comp=N,311nm,18.4s,MS4.4						
WMQ				LR	LR		
	comp=E,441nm,18.6s,MS4.4						
WMQ				LR	LR		
	comp=Z,580nm,18.8s,MS4.4						
JOW	Kunigami	40.09	53	LR	LR	06 10 05.1	
	comp=Z,433nm,20.6s,MS4.3,baz=165,slow=35						
BJT	Baijiatuau	40.89	27	eP	P	05 54 11.9	+0.9
BJT				pmax	pmax		
	comp=Z,18nm,1.2s						
BJT	Baijiatuau	40.89	27	eP	P	05 54 11.8	+0.8
	comp=Z,18nm,1.2s,mb4.6						
BJI	Beijing	40.91	27	P	P	05 54 12.6	+1.4
BJI						05 55 47.2	
BJI				S	S	06 00 19.3	-1.6
BJI				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.3						
BJI				MLR	MLR		
	comp=Z,560nm,16.9s,MS4.5						
BJI	Beijing	40.91	27	P	P	05 54 12.6	+1.4
	comp=Z,12nm,1.5s,mb4.3						
BJI				PP	PP	05 55 47.2	-1.4
BJI				S	S	06 00 19.3	-1.6
BJI				SS	SS	06 03 30.2	+12
BJI				LR	LR		
	comp=Z,560nm,16.9s,MS4.5						
AAK	Ala-Archa	41.39	339	eP	P	05 54 15.3	+0.2
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
AAK	Ala-Archa	41.39	339	eP	P	05 54 15.3	+0.2
	comp=Z,7.3nm,1.0s,mb4.3						
SONM	Songino Array	44.55	13	P	P	05 54 41.1	+0.3
	comp=Z,5.2nm,0.9s,mb4.4,baz=195,slow=7.5,SNR=32						
ULN	Ulaanbaatar	44.72	13	eP	P	05 54 41.6	-0.6
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
ULN	Ulaanbaatar	44.72	13	eP	P	05 54 41.6	-0.6
	comp=Z,2.6nm,0.8s,mb4.1						
ZAK	Zakamensk	46.41	9	eP	P	05 54 56.0	+0.5
ZAK				e		05 55 14.5	
WRA	Warramunga Arr	47.17	123	P	P	05 55 02.2	+0.3
WRA				*PP	pP	05 55 09.4	-0.9
WRA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WRA				pmax	pmax		
	comp=Z,13nm,0.9s						
WRA	Warramunga Arr	47.17	123	P	P	05 55 02.2	+0.3
	comp=Z,5.5nm,0.8s,mb4.5,baz=301,slow=8.9,SNR=26						
WRA				pP	pP	05 55 09.4	-0.9
	comp=Z,13nm,0.9s,baz=300,slow=8.9,SNR=20						
WRAB	Tennant Creek	47.18	123	eP	P	05 55 01.8	-0.2
WRAB				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.1						
WRAB	Tennant Creek	47.18	123	eP	P	05 55 01.8	-0.2
	comp=Z,25nm,1.0s,mb5.1						
KURK	Kurchatov	47.59	347	eP	P	05 55 04.1	-0.7
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
KURK	Kurchatov	47.59	347	eP	P	05 55 04.1	-0.7
	comp=Z,4.5nm,0.7s,mb4.6						
TLY	Talaya	47.73	9	iP	P	05 55 05.6	-0.3
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
TLY	Talaya	47.73	9	P	P	05 55 07.6	+1.7
ASAR	Alice Springs	48.57	127	P	P	05 55 13.3	+0.5
	comp=Z,1.7nm,0.9s,mb4.1,baz=309,slow=7.8,SNR=10						
ASAR				pP	pP	05 55 20.4	-0.8
	comp=Z,4.2nm,1.0s,baz=304,slow=7.6,SNR=11						
ASAR				pPcP		05 56 46.3	
	comp=Z,1.2nm,0.6s,baz=307,slow=3.5,SNR=4.5						
ASAR				LR	LR	06 18 52.9	
	comp=Z,183nm,18.1s,MS4.1,baz=306,slow=40						
ZAL	Zalesovo	49.68	353	LR	LR	06 20 09.9	
	comp=Z,377nm,19.1s,MS4.4,baz=295,slow=41						
HIA	Hailar	49.88	22	eP	P	05 55 22.1	-0.4
HIA				pmax	pmax		
	comp=Z,15nm,1.0s						
HIA	Hailar	49.88	22	eP	P	05 55 22.1	-0.5
	comp=Z,15nm,1.0s,mb5.0						
NVS	Novosibirsk	50.76	353	eP	P	05 55 26.6	-2.5
NVS				eS	S	06 02 40.0	-1.5
NVS				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
NVS				smax			
	comp=N,24nm,2.0s						
MDJ	Mudanjiang	51.02	33	P	P	05 55 32.0	+0.7
MDJ				PP	PP	05 57 30.5	+1.9
MDJ				S	S	06 02 46.5	+1.2
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,77nm,5.9s						
MDJ				LR	LR		
	comp=N,319nm,22.1s,MS4.4						
MDJ				LR	LR		
	comp=E,146nm,17.7s,MS4.4						
MDJ				LR	LR		
	comp=Z,348nm,18.6s,MS4.4						
MDJ	Mudanjiang	51.02	33	P	P	05 55 32.5	+1.2
	comp=Z,3.0nm,0.5s,mb4.5						
BVAR	Borovoye Array	51.82	343	P	P	05 55 35.9	-1.3
	comp=Z,4.2nm,0.7s,mb4.5,baz=143,slow=7.4,SNR=28						
BRVK	Borovoye	51.88	343	eP	P	05 55 35.9	-1.8
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
BRVK	Borovoye	51.88	343	eP	P	05 55 35.9	-1.8
	comp=Z,6.5nm,0.7s,mb4.7						
CHKZ	Chkalovo	52.32	343	eP	P	05 55 39.7	-1.3
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
CHKZ	Chkalovo	52.32	343	eP	P	05 55 39.7	-1.3
	comp=Z,8.9nm,0.6s,mb4.9						
KLR	Kul'dur	55.16	30	eP	P	05 56 03.6	+1.7
BOD	Bodaibo	55.53	13	eP	P	05 56 03.2	-1.3
GNI	Garni	56.13	316	pP	pP	05 56 14.7	-2.8
	comp=Z,10.0nm,1.0s,baz=36,slow=8.7,SNR=1.7						
KMBO	Kilima Mbogo	56.23	266	eP	pP	05 56 16.1	-2.5
KMBO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KMBO	Kilima Mbogo	56.23	266	pP	pP	05 56 16.9	-1.7
	comp=Z,1.9nm,0.7s,baz=46,slow=9.5,SNR=4.7						
KMBO				LR	LR	06 15 31.0	
	comp=Z,454nm,21.3s,MS4.5,baz=97,slow=31						
KMBO	Kilima Mbogo	56.23	266	eP	pP	05 56 16.1	-2.4
	comp=Z,4.4nm,1.0s						
CTA	Charters Tower	57.55	117	pP	pP	05 56 26.3	-1.6
	comp=Z,12nm,1.0s,baz=314,slow=6.9,SNR=6.0						
CTA				LR	LR	06 21 57.2	
	comp=Z,350nm,21.6s,MS4.4,baz=280,slow=37						
CTAO	Charters Tower	57.55	117	eP	sP	05 56 28.9	-2.2
CTAO				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
CTAO	Charters Tower	57.55	117	eP	sP	05 56 28.9	-2.2
	comp=Z,17nm,1.0s						
CLNS	Chul'man	57.81	20	eP	P	05 56 18.4	-2.3
CLNS				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
CLNS				pmax	pmax		
	comp=N,11nm,1.3s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.8s						
STKA	Stephens Creek	58.54	132	P	P	05 56 26.4	+0.2
	comp=E,3.2nm,0.8s,mb4.4,baz=310,slow=6.6,SNR=5.0						
STKA				LR	LR	06 21 45.7	
	comp=E,438nm,20.1s,MS4.6,baz=123,slow=36						
ARU	Arti	58.57	338	⇓iP	P	05 56 18.0	-8.1
ARU				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
YSS	Yuzh-Sakhalins	59.92	37	eP	pP	05 56 44.0	-0.1
YSS				MLR	MLR		
	comp=N,600nm,17.0s,MS4.9						
YSS				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.7						
YSS				MLR	MLR		
	comp=E,500nm,18.0s,MS4.9						
EIL	Elat	60.32	302	pP	pP	05 56 44.2	-2.9
	comp=E,4.5nm,0.8s,baz=146,slow=3.6,SNR=3.5						
SOC	Sochi	60.98	318	eP	P	05 56 45.0	+2.2
SOC				e		05 57 26.8	
SOC				e		05 58 58.8	
SOC				ePPP	PPP	06 00 25.4	-1.8
SOC				eS	S	06 04 58.8	+1.2
SOC				e		06 06 32.2	
SOC				eSS	SS	06 09 03.7	+5.1
SOC				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.3						
SOC				pmax	pmax		
	comp=N,59nm,1.4s						
SOC				pmax	pmax		
	comp=E,16nm,0.9s						
YAK	Yakutsk	63.38	18	eP	P	05 56 57.3	-1.2
YAK				pmax	pmax		
	comp=Z,42nm,1.4s,mb5.4						
YAK	Yakutsk	63.38	18	eP	P	05 56 57.3	-1.3
	comp=Z,42nm,1.4s,mb5.4						
BRTR	Keskin Array B	63.93	312	P	P	05 57 01.9	-0.6
BRTR				*PP	pP	05 57 07.6	-3.5
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRTR	Keskin Array B	63.93	312	P	P	05 57 01.9	-0.7
	comp=Z,1.4nm,0.9s,mb4.0,baz=123,slow=7.0,SNR=4.9						
BRTR				pP	pP	05 57 07.6	-3.5
	comp=Z,1.8nm,0.5s,baz=121,slow=7.2,SNR=8.3						
OBN	Obninsk	67.69	329	eP	pP	05 57 32.1	-2.8
OBN				pmax	pmax		
	comp=Z,31nm,1.3s,mb5.2						
OBN				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.7						
VRI	Vrincioaia	70.47	317	⇓P	P	05 57 35.3	-8.3
TIXI	Tiksi	70.61	11	eP	P	05 57 43.3	-0.8
TIXI				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
MLR	Muntele Rosu	70.91	317	P	P	05 57 46.9	+0.6
MLR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MLR	Muntele Rosu	70.91	317	P	P	05 57 46.9	+0.6
	comp=Z,5.8nm,0.8s,mb4.5,baz=193,slow=4.6,SNR=6.2						
MLR	Muntele Rosu	70.91	317	⇑P	P	05 57 47.2	+0.9
BOSA	Boshof	73.10	238	P	pP	05 58 09.2	+0.8
MAW	Mawson	75.15	192	LR	LR	06 21 28.5	
	comp=Z,125nm,21.6s,MS4.2,baz=246,slow=28						
FINES	FINESS Array B	75.20	333	P	P	05 58 10.9	-0.3
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES				MLR	MLR		
	comp=Z,280nm,19.3s						
FINES	FINESS Array B	75.20	333	P	P	05 58 10.9	-0.3
	comp=Z,2.6nm,0.9s,mb4.2,baz=82,slow=9.8,SNR=4.4						
FINES				LR	LR	06 34 42.5	
	comp=Z,280nm,19.3s,MS4.6,baz=289,slow=38						
ARCES	ARCESS Array B	78.04	341	pP	pP	05 58 34.7	-0.9
	comp=Z,5.8nm,0.9s,baz=79,slow=6.2,SNR=1.8						
ARCES				LR	LR	06 36 16.5	
	comp=Z,421nm,18.4s,MS4.8,baz=36,slow=38						
GERES	GERESS Array B	79.68	319	P	P	05 58 37.3	+1.0
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	GERESS Array B	79.68	319	P	P	05 58 37.3	+1.0
	comp=Z,1.8nm,0.7s,mb4.1,baz=100,slow=8.1,SNR=7.8						
KHC	Kasperske Hory	79.78	319	eP	P	05 58 37.0	+0.2
DAVOX	Davos	82.13	316	P	P	05 58 49.8	+0.6
	comp=Z,4.3nm,0.7s,mb4.5,baz=156,slow=9.2,SNR=7.6						
NOA	NORSAR Array B	82.15	331	LR	LR	06 37 48.2	
	comp=Z,169nm,20.4s,MS4.4,baz=105,slow=38						
RPZ	Rata Peaks	84.38	135	LR	LR	06 33 28.8	
	comp=Z,288nm,19.7s,MS4.7,baz=190,slow=33						
VNDA	Vanda	89.91	168	LR	LR	06 35 05.8	
	comp=Z,306nm,18.1s,MS4.8,baz=330,slow=32						
ESDC	Sonseca Array	92.64	310	P	P	05 59 42.2	+1.9
	comp=Z,0.4nm,0.5s,mb4.1,baz=45,slow=3.6,SNR=3.1						
DBIC	Dimbokro	97.49	277	LR	LR	06 40 08.7	
	comp=Z,154nm,21.1s,MS4.5,baz=71,slow=33						
RES	Resolute Bay	100.70	2	P	P	06 00 18.2	+2.0
YKA	Yellowknife Ar	109.81	13	PP	PP	06 05 28.0	-6.7
	comp=Z,0.2nm,0.8s,baz=331,slow=7.5,SNR=4.2						
NVAR	Mina Array Bea	128.18	32	PKP	PKPdf	06 05 37.8	-1.0
	comp=Z,0.3nm,0.6s,baz=315,slow=2.6,SNR=2.8						
NVAR				pPKP		06 05 43.9	
	comp=Z,1.3nm,0.8s,baz=326,slow=0.7,SNR=6.7						
PDAR	Pinedale Array	128.53	21	PKP	PKPdf	06 05 37.5	-1.8
	comp=Z,0.6nm,1.0s,baz=333,slow=4.0,SNR=3.4						
PDAR				pPKP		06 05 45.2	
	comp=Z,2.6nm,1.1s,baz=24,slow=2.5,SNR=7.5						
TXAR	Lajitas Array	142.57	25	PKP	PKPdf	06 06 00.6	-5.0
	comp=Z,0.4nm,0.9s,slow=5.4,SNR=2.8						
TXAR				pPKP		06 06 08.2	
	comp=Z,0.3nm,0.6s,baz=298,slow=0.1,SNR=4.7						
LPAZ	La Paz	158.33	236	PKP2	PKPab	06 07 02.4	+0.7
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPAZ	La Paz	158.33	236	PKPab	PKPab	06 07 02.4	+0.7
	comp=Z,0.9nm,0.6s,baz=130,slow=7.9,SNR=2.4						

*CSEM **26** 05:46:52.2, 37.65N×22.01E, $h20^{km}$, MD3.6/9, After ATH*

*NEIC **26** 05:46:52.2, 37.65N×22.01E, $h20^{km}$, ML3.5(ATH), After ATH.*

ATH 26 05:46:52.2, 37.65N×22.01E, $h20^{km}\pm1^{km}$, MD3.6/9**, ML3.5,**

1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.47**	**188**	*e*PB	Pb	05 47 01.7	0.0
ITM				*e*SB	Sb	05 47 08.9	+0.6
RLS	**Riolos of Patr**	**0.59**	**314**	‖*e*PN	Pn	05 47 03.9	-1.5
VLI	**Veliai**	**1.19**	**141**	*e*PN	Pn	05 47 15.5	+1.6
VLS	**Valsamata**	**1.24**	**296**	*e*PN	Pn	05 47 16.0	+1.4
LKR	**Lokris**	**1.27**	**38**	*e*PN	Pn	05 47 15.7	+0.7
EVR	**Evrytania**	**1.27**	**353**	*e*PN	Pn	05 47 16.5	+1.4
ATH	**Athens Observa**	**1.39**	**76**	*e*PN	Pn	05 47 18.4	+1.6
PTL	**Penteli**	**1.52**	**74**	*e*PN	Pn	05 47 20.1	+1.5
KYTH	**Kithira**	**1.59**	**149**	*e*PN	Pn	05 47 22.5	+2.8
NEO	**Neokhori**	**1.91**	**30**	*e*PN	Pn	05 47 25.7	+1.5
APE	**Apeiranthos**	**2.86**	**101**	*e*PN	Pn	05 47 39.2	+1.4
NB2	**NORSAR Subarra**	**24.38**	**347**	P	P	05 52 11.8	+1.9
	1.7nm,0.7s,baz=150,slow=9.3						

*CSEM **26** 05:49:59.3,39.60N×33.19E,h4km,MD3.6,After ISK*
*ISK **26** 05:49:59.3,39.60N×33.19E,h4km,MD3.6*
ISC 26 05:50:00.1±0.4,39.59N±0.03×33.18E±0.03,h4km,n24,
σ0§69/33,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.41**	**313**	*i* PG	**Pg**	**05 50 07.5**	**-0.8**
ANTO				*i* SG	**Sg**	**05 50 14.1**	**+0.3**
LOD	**Lodumlu**	**0.44**	**313**	*i* PG	**Pg**	**05 50 08.7**	**-0.2**
LOD				*i* SG	**Sg**	**05 50 15.1**	**+0.3**
KAMT	**Kaman**	**0.47**	**118**	*i* PG	**Pg**	**05 50 08.9**	**-0.5**
KAMT				*i* SG	**Sg**	**05 50 16.1**	**+0.4**
ELDT	**Eldivan**	**0.92**	**12**	*i* P	**Pb**	**05 50 17.1**	**-1.1**
ELDT				*i* S	**Sb**	**05 50 29.9**	**-0.6**
CANT	**Cankiri**	**1.07**	**18**	*e*PG	**Pg**	**05 50 20.7**	**-0.7**
KIZT	**Kizilcal**	**1.24**	**235**	*i* PN	**Pn**	**05 50 23.5**	**-0.7**
CORM	**Corum**	**1.26**	**62**	PN	**Pn**	**05 50 23.4**	**-1.0**
AVNT	**Avonos**	**1.53**	**122**	*i* P	**Pn**	**05 50 28.4**	**+0.1**
AVNT				*i* S	**Sb**	**05 50 48.8**	**+0.4**
TOS	**Tosya**	**1.58**	**24**	*i* PN	**Pn**	**05 50 28.8**	**-0.3**
CTKT	**Corum**	**1.60**	**50**	*i* P	**Pn**	**05 50 29.3**	**-0.1**
CTKT				*i* S	**Sb**	**05 50 52.1**	**+1.6**
YOZ	**Yozgat**	**1.65**	**88**	*i* PN	**Pn**	**05 50 30.5**	**+0.4**
SAFT	**Safranbolu**	**1.69**	**347**	*i* PN	**Pn**	**05 50 30.3**	**-0.3**
MDU	**Mudurnu**	**1.75**	**301**	*i* PN	**Pn**	**05 50 31.8**	**+0.4**
KONT	**Konya--Tatoy**	**1.77**	**202**	*e*PN	**Pn**	**05 50 31.8**	**+0.1**
ESKT	**Eskisehir**	**1.81**	**268**	*e*PN	**Pn**	**05 50 31.8**	**-0.5**
ESKT	**Eskisehir**	**1.81**	**268**	*i* P	**Pn**	**05 50 33.2**	**+0.9**
ESKT				*i* S	**Sn**	**05 50 59.6**	**+3.7**
NIG	**Nigde**	**1.85**	**143**	*i* PN	**Pn**	**05 50 32.8**	**-0.2**
BALT	**Daday**	**1.94**	**4**	*i* P	**Pn**	**05 50 35.8**	**+1.6**
BALT				*i* S	**Sn**	**05 51 00.5**	**+1.0**
BNN	**Bunyan**	**2.20**	**109**	*e*PN	**Pn**	**05 50 37.8**	**0.0**
BYBT	**Boyabat**	**2.23**	**32**	*e*PN	**Pn**	**05 50 37.3**	**-1.0**
GPA	**Golpazari**	**2.32**	**288**	*e*PN	**Pn**	**05 50 39.9**	**+0.3**
ALT	**Altintas**	**2.44**	**258**	*e*PN	**Pn**	**05 50 41.9**	**+0.5**
BZK	**Bozkurt**	**2.44**	**14**	*e*PN	**Pn**	**05 50 41.4**	**0.0**
SVST	**Sivas**	**2.91**	**85**	*i* P	**Pn**	**05 50 48.0**	**-0.1**
SVST				*i* S	**Sn**	**05 51 29.7**	**+5.7**

*MDD **26** 06:30:04.9±1.0,34.62N×9.73W,h33km,mb4.3/11,Error ellipse: s-maj=13.3km s-min=6.3km az=93.0,PRXIMO PROFUNDIDAD POBRE*
*CSEM **26** 06:30:04.3±0.2,34.52N×9.62W,h35km,ML2.9/7,Error ellipse: s-maj=5.7km s-min=2.9km az=98.0*
*CNRM **26** 06:30:04.0,34.62N×9.71W,h30km,MD3.1*
*NEIC **26** 06:30:06.1,34.80N×9.75W,h20km,MG3.9(MDD),After MDD.*
*INMG **26** 06:30:07.0±0.8,34.87N×9.64W,h5km,ML2.6,Error ellipse: s-maj=4.7km s-min=3.0km az=61.0*
ISC 26 06:30:01.3±0.8,34.79N±0.03×9.50W±0.06,h10km,n73,
σ1§81/124,1C,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVE	**Averroes**	**2.28**	**130**	P	**Pn**	**06 30 40.5**	**+0.9**
AVE				S	**Sn**	**06 31 07.0**	**-1.0**
PTEO	**Sao Teotonio**	**2.82**	**13**	*e*Pn	**Pn**	**06 30 50.0**	**+2.8**
PTEO				*e*Sn	**Sn**	**06 31 22.2**	**+0.6**
	27nm,0.2s						
PTEO	**Sao Teotonio**	**2.82**	**13**	Pn	**Pn**	**06 30 50.0**	**+2.8**
PTEO				Sn	**Sn**	**06 31 21.9**	**+0.3**
PALC	**Alcoutim**	**3.13**	**31**	*e*Pn	**Pn**	**06 30 55.0**	**+3.4**
PALC				*e*Sn	**Sn**	**06 31 31.3**	**+1.9**
	8.4nm,0.2s						
PALC	**Alcoutim**	**3.13**	**31**	Pn	**Pn**	**06 30 55.1**	**+3.5**
PALC				Sn	**Sn**	**06 31 30.7**	**+1.3**
PALC	**Alcoutim**	**3.13**	**31**	*e*Pn	**Pn**	**06 30 55.0**	**+3.4**
PALC				*e*Sn	**Sn**	**06 31 31.3**	**+1.9**
	8.4nm,0.2s						
EGRO	**El Granado**	**3.18**	**30**	Pn	**Pn**	**06 30 55.3**	**+2.8**
EGRO				Sn	**Sn**	**06 31 31.7**	**+0.9**
EGRO	**El Granado**	**3.18**	**30**	Pn	**Pn**	**06 30 55.7**	**+3.3**
	4.9nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**06 31 32.0**	**+1.1**
	12nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.18**	**30**	Pn	**Pn**	**06 30 55.3**	**+2.9**
	2.4nm,0.2s,SNR=7.9						
EGRO				Sn	**Sn**	**06 31 31.7**	**+0.8**
CIA	**Chichaoua**	**3.28**	**169**	*i* P	**Pn**	**06 30 51.5**	**-2.3**
CIA				*i* S	**Sn**	**06 31 26.0**	**-7.2**
PBEJ	**Beja**	**3.48**	**22**	*e*Pn	**Pn**	**06 30 59.4**	**+2.7**
PBEJ				*e*Sn	**Sn**	**06 31 38.7**	**+0.2**
	8.0nm,0.1s						
PBEJ	**Beja**	**3.48**	**22**	Pn	**Pn**	**06 30 59.4**	**+2.7**
PBEJ				Sn	**Sn**	**06 31 38.7**	**+0.2**
	4.0nm,0.1s						
ESPR	**Espera**	**3.61**	**54**	Pn	**Pn**	**06 31 01.7**	**+3.2**
ESPR				Sn	**Sn**	**06 31 42.2**	**+0.6**
ESPR	**Espera**	**3.61**	**54**	Pn	**Pn**	**06 31 01.6**	**+3.2**
	7.7nm,0.2s,SNR=10						
ESPR				Sn	**Sn**	**06 31 42.4**	**+0.8**
	12nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.61**	**54**	Pn	**Pn**	**06 31 01.7**	**+3.2**
	5.3nm,0.2s,SNR=10						
ESPR				Sn	**Sn**	**06 31 42.4**	**+0.7**
	2.8nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.74**	**37**	Pn	**Pn**	**06 31 03.1**	**+2.7**
EMIN				Sn	**Sn**	**06 31 45.7**	**+0.7**
EMIN	**Mina Concepcio**	**3.74**	**37**	Pn	**Pn**	**06 31 03.0**	**+2.6**
	1.4nm,0.1s,SNR=15						
EMIN				Sn	**Sn**	**06 31 45.1**	**+0.1**
	7.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.74**	**37**	Pn	**Pn**	**06 31 03.1**	**+2.7**
	0.8nm,0.2s,SNR=15						
EMIN				Sn	**Sn**	**06 31 44.2**	**-0.8**
	2.7nm,0.2s,SNR=7.9						
OUK	**Oukaimeden**	**3.83**	**159**	*i* P	**Pn**	**06 30 59.5**	**-2.1**
OUK				*i* S	**Sn**	**06 31 40.5**	**-6.6**
MOE	**Montemor**	**3.83**	**14**	*e*Pn	**Pn**	**06 31 05.0**	**+3.3**
MOE				*e*Sn	**Sn**	**06 31 46.7**	**-0.6**
MOE	**Montemor**	**3.83**	**14**	Pn	**Pn**	**06 31 04.9**	**+3.2**
MOE				Sn	**Sn**	**06 31 45.5**	**-1.8**
MOE	**Montemor**	**3.83**	**14**	Pn	**Pn**	**06 31 04.9**	**+3.2**
MOE				*e*Sn	**Sn**	**06 31 46.7**	**-0.6**
PLOU	**Loures**	**4.09**	**4**	*e*Pn	**Pn**	**06 31 07.5**	**+2.1**
PLOU				*e*Sn	**Sn**	**06 31 52.1**	**-1.8**
	15nm,0.2s						
PLOU	**Loures**	**4.09**	**4**	Pn	**Pn**	**06 31 07.5**	**+2.1**
PLOU				Sn	**Sn**	**06 31 52.1**	**-1.8**
	7.4nm,0.2s						
PLOU	**Loures**	**4.09**	**4**	Pn	**Pn**	**06 31 07.3**	**+1.9**
PLOU				Sn	**Sn**	**06 31 52.2**	**-1.7**
EMIJ	**Mijas**	**4.23**	**64**	Pn	**Pn**	**06 31 11.1**	**+3.8**
EMIJ				Sn	**Sn**	**06 31 58.8**	**+1.4**
EMIJ	**Mijas**	**4.23**	**64**	Pn	**Pn**	**06 31 09.9**	**+2.5**
	1.5nm,0.2s,SNR=7.9						
EMIJ				Sn	**Sn**	**06 31 58.5**	**+1.1**
	2.7nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.23**	**64**	Pn	**Pn**	**06 31 11.1**	**+3.8**
	SNR=7.9						
EMIJ				Sn	**Sn**	**06 31 58.8**	**+1.4**
	2.0nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.43**	**26**	Pn	**Pn**	**06 31 12.3**	**+2.2**
EBAD				Sn	**Sn**	**06 32 01.5**	**-0.9**
EBAD	**Badajoz**	**4.43**	**26**	Pn	**Pn**	**06 31 12.1**	**+2.0**
	2.4nm,0.1s,SNR=15						
EBAD				Sn	**Sn**	**06 32 01.6**	**-0.8**
	5.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.43**	**26**	Sn	**Sn**	**06 32 01.5**	**-0.9**
	1.3nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.43**	**26**	Pn	**Pn**	**06 31 12.3**	**+2.2**
	1.1nm,0.2s,SNR=15						
TZK	**Tazeka**	**4.45**	**98**	*i* P	**Pn**	**06 31 12.0**	**+1.6**
TZK				*i* S	**Sn**	**06 32 01.0**	**-1.8**
ELUQ	**Luque**	**5.05**	**55**	Sn	**Sn**	**06 32 17.5**	**-0.6**
	5.5nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**5.05**	**55**	Sn	**Sn**	**06 32 18.0**	**-0.1**
	SNR=7.9						
EADA	**Adamuz**	**5.20**	**48**	Pn	**Pn**	**06 31 23.5**	**+2.4**
EADA				Sn	**Sn**	**06 32 20.7**	**-1.1**
EADA	**Adamuz**	**5.20**	**48**	⇑Pn	**Pn**	**06 31 23.4**	**+2.3**
	3.5nm,0.1s,SNR=18						
EADA				Sn	**Sn**	**06 32 19.8**	**-2.0**
	9.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.20**	**48**	Pn	**Pn**	**06 31 23.5**	**+2.5**
	4.2nm,0.2s,SNR=42						
EADA				Sn	**Sn**	**06 32 20.7**	**-1.1**
	0.3nm,0.3s,SNR=7.9						
PCBR	**Castelo Branco**	**5.29**	**17**	*e*Pn	**Pn**	**06 31 24.8**	**+2.5**
PCBR				*e*Sn	**Sn**	**06 32 22.0**	**-2.1**
	9.5nm,0.4s						
PCBR	**Castelo Branco**	**5.29**	**17**	Pn	**Pn**	**06 31 24.7**	**+2.4**
PCBR				Sn	**Sn**	**06 32 21.1**	**-3.0**
PCBR	**Castelo Branco**	**5.29**	**17**	Pn	**Pn**	**06 31 24.8**	**+2.5**
PCBR				Sn	**Sn**	**06 32 22.0**	**-2.1**
	4.8nm,0.4s						
PCBR	**Castelo Branco**	**5.29**	**17**	Sn	**Sn**	**06 32 21.1**	**-3.0**
EBER	**Berja**	**5.76**	**67**	Pn	**Pn**	**06 31 32.3**	**+3.4**
EBER				Sn	**Sn**	**06 32 36.0**	**0.0**
EBER	**Berja**	**5.76**	**67**	Pn	**Pn**	**06 31 31.9**	**+2.9**
	0.4nm,0.2s,SNR=7.9						
EBER				Sn	**Sn**	**06 32 33.3**	**-2.6**
	0.7nm,0.2s,SNR=4.0						
EBER	**Berja**	**5.76**	**67**	Sn	**Sn**	**06 32 35.9**	**0.0**
	1.0nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**5.81**	**15**	*e*Sn	**Sn**	**06 32 33.0**	**-4.1**
	6.4nm,0.7s						
MTE	**Manteigas**	**5.81**	**15**	Sn	**Sn**	**06 32 33.0**	**-4.1**
	3.2nm,0.7s						
EQES	**Quesada**	**6.00**	**58**	Pn	**Pn**	**06 31 34.7**	**+2.5**
EQES				Sn	**Sn**	**06 32 41.3**	**-0.5**
EQES	**Quesada**	**6.00**	**58**	Pn	**Pn**	**06 31 34.2**	**+2.0**
	0.3nm,0.1s,SNR=7.9						
EQES				Sn	**Sn**	**06 32 39.7**	**-2.1**
	1.0nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.00**	**58**	Pn	**Pn**	**06 31 34.7**	**+2.5**
	0.2nm,0.2s,SNR=7.9						
EQES				Sn	**Sn**	**06 32 40.5**	**-1.3**
	0.8nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**6.05**	**12**	*e*Sn	**Sn**	**06 32 39.4**	**-3.7**
PVIS	**Viseu**	**6.05**	**12**	Sn	**Sn**	**06 32 39.9**	**-3.2**
ESDC	**Sonseca Array**	**6.57**	**41**	Pn	**Pn**	**06 31 42.3**	**+1.8**
ESDC				Sn	**Sn**	**06 32 52.6**	**-3.6**
ESDC	**Sonseca Array**	**6.57**	**41**	Pn	**Pn**	**06 31 42.3**	**+1.9**
	0.9nm,0.1s,baz=229,slow=13,SNR=3.8						
ESDC				Sn	**Sn**	**06 32 53.3**	**-2.9**
	baz=228,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**6.57**	**41**	Pn	**Pn**	**06 31 42.3**	**+1.9**
	0.9nm,0.1s,SNR=3.8						
ESDC				Sn	**Sn**	**06 32 53.3**	**-2.9**
	SNR=7.9						
EFAM	**Famara**	**6.61**	**212**	Pn	**Pn**	**06 31 33.3**	**-7.6**
EFAM				Sn	**Sn**	**06 32 39.7**	**-17**
EFAM	**Famara**	**6.61**	**212**	Pn	**Pn**	**06 31 33.1**	**-7.8**
	4.6nm,0.2s,SNR=4.0						
EFAM				Sn	**Sn**	**06 32 37.5**	**-19**
	1.7nm,0.1s,SNR=4.0						
EFAM	**Famara**	**6.61**	**212**	Pn	**Pn**	**06 31 34.0**	**-6.9**
	3.4nm,0.2s,SNR=4.0						
PVRL	**Vila Real**	**6.62**	**12**	*e*Sn	**Sn**	**06 32 53.7**	**-3.8**
	3.8nm,0.1s						
PVRL	**Vila Real**	**6.62**	**12**	Sn	**Sn**	**06 32 53.7**	**-3.8**
	1.9nm,0.1s						
PVRL	**Vila Real**	**6.62**	**12**	Sn	**Sn**	**06 32 52.6**	**-4.9**
EVIA	**Vianos**	**6.80**	**54**	Sn	**Sn**	**06 32 58.7**	**-3.2**
	0.9nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**6.80**	**54**	Sn	**Sn**	**06 33 00.7**	**-1.2**
	0.3nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**7.15**	**9**	Pn	**Pn**	**06 31 47.6**	**-1.0**
ELOB				Sn	**Sn**	**06 33 02.1**	**-8.6**
ELOB	**Lobios**	**7.15**	**9**	Pn	**Pn**	**06 31 49.2**	**+0.7**
	1.5nm,0.2s,SNR=7.9						
ELOB				Sn	**Sn**	**06 33 05.2**	**-5.5**
	3.1nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**7.15**	**9**	Pn	**Pn**	**06 31 49.2**	**+0.6**
	0.5nm,0.2s,SNR=7.9						
CFUE	**Fuerteventura**	**7.20**	**213**	Sn	**Sn**	**06 32 54.9**	**-17**
	4.0nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**7.37**	**5**	Sn	**Sn**	**06 33 12.7**	**-3.5**
	5.4nm,0.4s,SNR=4.0						
ECAL	**Calabor**	**7.46**	**16**	Pn	**Pn**	**06 31 53.9**	**+1.0**
ECAL				Sn	**Sn**	**06 33 13.8**	**-4.6**
ECAL	**Calabor**	**7.46**	**16**	Pn	**Pn**	**06 31 53.6**	**+0.8**
	0.7nm,0.1s,SNR=4.0						
ECAL				Sn	**Sn**	**06 33 13.4**	**-5.0**
	2.1nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**7.46**	**16**	Pn	**Pn**	**06 31 53.8**	**+1.0**
	SNR=4.0						
EINC	**Incio**	**8.03**	**11**	Sn	**Sn**	**06 33 28.4**	**-4.3**
	SNR=4.0						
STS	**Santiago**	**8.12**	**5**	Sn	**Sn**	**06 33 29.6**	**-5.1**
	SNR=4.0						

*CSEM **26** 06:44:48.8,37.58N×43.74E,h27km,MD3.9,After ISK*
ISK 26 06:44:48.8,37.58N×43.74E,h27km,MD3.9,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.00**	**221**	*i* PG	Pn	06 44 54.4	+1.5
HKR				*i* SG	Sn	06 44 56.6	+1.5
VANT	**Van**	**0.91**	**342**	PN	Pn	06 45 06.8	+0.9
TVAN	**Van**	**0.98**	**344**	*i* P	Pn	06 45 07.0	0.0
TVAN				*i* S	Sb	06 45 19.0	-0.7
VANB	**Van**	**1.05**	**345**	PN	Pn	06 45 06.7	-1.2
VANB				SN	Sn	06 45 23.0	+1.2
MSL	**Mosul**	**1.39**	**202**	*e*Pn	Pn	06 45 19.5	+6.7
MSL				*i* Sb	Sb	06 45 39.5	+8.1
BTMT	**Batman**	**1.89**	**290**	PN	Pn	06 45 22.0	+2.1
BEST	**Besiri**	**1.98**	**280**	*i* P	Pn	06 45 27.2	+5.9
BEST				*i* S	Sn	06 45 55.8	+10
VRT	**Varto**	**2.33**	**312**	*e*PN	Pn	06 45 25.6	-0.6
GZT	**Gaziantep**	**4.92**	**269**	*i* P	Pn	06 46 09.1	+6.1

*NEIC **26** 06:52:53.2,61.45N×151.51W,h72km,mb3.9/5,After AEIC.*
*IDC **26** 06:52:55.2±3.0,61.71N×151.38W,h99km±24km,mb3.7/8,mb1 3.9/11,mb1mx3.7/20,mbtmp4.0/11,Error ellipse: s-maj=25.3km s-min=14.5km az=44.0*
ISC 26 06:52:51.1±0.2,61.48N±0.02×151.51W±0.05,h87km±3km,
n93,σ0§91/104,mb4.0/13,1D,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	**Strandline Lak**	**0.15**	**276**	P	**P**	**06 53 03.5**	**0.0**
SPU	**Mount Spurr**	**0.40**	**221**	‖*i*P	**P**	**06 53 04.7**	**-0.1**
CKN	**Chakachatna No**	**0.41**	**232**	P	**P**	**06 53 05.0**	**+0.1**
VOGL	**Vogel Lake**	**0.71**	**133**	P	**P**	**06 53 09.1**	**+1.4**
FIB	**Fire Island**	**0.72**	**116**	P	**P**	**06 53 09.0**	**+1.2**
NKA	**Nikishka**	**0.75**	**170**	P	**P**	**06 53 09.8**	**+1.6**
PWA	**Palmer West**	**0.80**	**77**	P	**P**	**06 53 09.9**	**+1.3**
RC01	**Rabbit Creek A**	**0.94**	**114**	P	**P**	**06 53 10.5**	**+0.4**
RC01				S	**S**	**06 53 25.2**	**+0.8**
DFR	**Drift River**	**1.06**	**213**	P	**P**	**06 53 11.5**	**-0.1**
CUT	**Chulitna**	**1.10**	**32**	P	**P**	**06 53 13.1**	**+1.1**
PMR	**Palmer**	**1.15**	**83**	P	**P**	**06 53 13.0**	**+0.4**
PMR				S	**S**	**06 53 29.0**	**+0.3**
RDN	**Redoubt North**	**1.15**	**213**	P	**P**	**06 53 12.4**	**-0.2**
NCT	**North Crescent**	**1.15**	**217**	P	**P**	**06 53 12.8**	**0.0**
NCT				S	**S**	**06 53 28.4**	**-0.5**
SLKM	**Skilak Lake**	**1.16**	**147**	*e*P	**P**	**06 53 12.7**	**-0.2**
RSO	**Redoubt South**	**1.19**	**211**	*e*P	**P**	**06 53 13.2**	**0.0**
GHO	**Glory Hole Cre**	**1.27**	**76**	P	**P**	**06 53 15.0**	**+0.8**
MPA	**Moose Pass**	**1.45**	**133**	P	**P**	**06 53 16.5**	**0.0**
SML	**Sawmill**	**1.55**	**76**	P	**P**	**06 53 18.2**	**+0.4**
SML				S	**S**	**06 53 38.3**	**+0.7**
ILIM	**Iliamna**	**1.58**	**207**	P	**P**	**06 53 17.8**	**-0.3**
INE	**Iliamna NE**	**1.62**	**209**	P	**P**	**06 53 18.3**	**-0.4**
ILW	**Iliamna West**	**1.63**	**210**	P	**P**	**06 53 18.6**	**-0.4**
PWL	**Port Wells**	**1.66**	**111**	P	**P**	**06 53 19.1**	**-0.2**
SEW	**Seward**	**1.71**	**143**	P	**P**	**06 53 19.8**	**-0.1**
SEW				S	**S**	**06 53 40.1**	**-1.1**
HUR	**Hurricane**	**1.74**	**29**	P	**P**	**06 53 21.1**	**+0.8**
BRLK	**Bradley Lake**	**1.75**	**170**	P	**P**	**06 53 20.5**	**+0.1**
HOM	**Homer**	**1.83**	**182**	P	**P**	**06 53 22.3**	**+0.8**
CNPM	**China Poot**	**1.97**	**176**	P	**P**	**06 53 23.0**	**-0.3**
SVW2	**Sparrevohn**	**2.00**	**261**	P	**P**	**06 53 23.5**	**-0.3**
OPT	**Oil Point**	**2.02**	**206**	P	**P**	**06 53 24.3**	**+0.3**
SCM	**Sheep Creek Mo**	**2.03**	**78**	P	**P**	**06 53 24.3**	**+0.2**
XLV	**Seldovia**	**2.04**	**183**	P	**P**	**06 53 24.9**	**+0.6**
TRF	**Thorofare Moun**	**2.06**	**16**	P	**P**	**06 53 25.6**	**+1.0**
TRF				S	**S**	**06 53 51.0**	**+1.8**
KTH	**Kantishna Hill**	**2.10**	**7**	P	**P**	**06 53 26.2**	**+1.1**
KTH				S	**S**	**06 53 50.9**	**+0.6**
RND	**Reindeer**	**2.29**	**31**	P	**P**	**06 53 28.9**	**+1.0**
AUW	**Augustine West**	**2.33**	**206**	P	**P**	**06 53 28.4**	**+0.1**
AUI	**Augustine Isla**	**2.35**	**205**	P	**P**	**06 53 28.6**	**0.0**
TT01	**Tatalina**	**2.55**	**306**	P	**P**	**06 53 31.2**	**-0.2**
MCK	**McKinley**	**2.55**	**27**	P	**P**	**06 53 32.2**	**+0.7**
HIN	**Hinchinbrook I**	**2.68**	**112**	P	**P**	**06 53 31.4**	**-1.8**
MCNL	**McNeil River**	**2.70**	**213**	P	**P**	**06 53 32.8**	**-0.7**
DIV	**Divide**	**2.79**	**95**	P	**P**	**06 53 33.8**	**-1.0**
DIV				S	**S**	**06 54 05.9**	**-1.5**
BWN	**Browne**	**2.86**	**18**	P	**P**	**06 53 35.8**	**+0.1**
EYAK	**Cordova Ski Ar**	**2.96**	**106**	P	**P**	**06 53 35.5**	**-1.6**
PAX	**Paxson**	**3.20**	**60**	P	**P**	**06 53 41.0**	**+0.5**
KAPH	**Katmai Pasha**	**3.23**	**207**	P	**P**	**06 53 40.6**	**-0.1**
NEA	**Nenana**	**3.30**	**19**	P	**P**	**06 53 41.2**	**-0.6**
THY	**Trims Highway**	**3.31**	**52**	P	**P**	**06 53 43.4**	**+1.5**
KAHC	**Katmai Hardscr**	**3.34**	**213**	P	**P**	**06 53 41.5**	**-0.9**
KAWH	**Katmai**	**3.52**	**209**	P	**P**	**06 53 44.7**	**-0.2**
MLY	**Manley**	**3.58**	**5**	P	**P**	**06 53 46.0**	**+0.3**
CCB	**Clear Creek Bu**	**3.60**	**26**	P	**P**	**06 53 45.4**	**-0.5**
HDA	**Harding Lake**	**3.60**	**33**	P	**P**	**06 53 45.8**	**-0.1**
GLB	**Gilahina Butte**	**3.70**	**87**	P	**P**	**06 53 46.0**	**-1.3**
KDAK	**Kodiak Island**	**3.75**	**189**	P	**P**	**06 53 46.2**	**-1.9**
COLA	**College**	**3.79**	**24**	P	**P**	**06 53 48.2**	**-0.4**
MDM	**Murphy Dome**	**3.79**	**22**	P	**P**	**06 53 48.0**	**-0.6**
IL1	**Eielson Array**	**3.91**	**30**	P	**P**	**06 53 49.6**	**-0.6**
ILAR	**Eielson Array**	**3.91**	**30**	P	**P**	**06 53 49.7**	**-0.6**
	8.2nm,0.3s,baz=219,slow=14,SNR=237						
ILAR				S	**S**	**06 54 32.9**	**-2.3**
	12nm,0.3s,baz=219,slow=23,SNR=6.8						
CAHL	**Cahill**	**3.94**	**211**	P	**P**	**06 53 50.8**	**+0.2**
DOT	**Dot Lake**	**4.08**	**55**	P	**P**	**06 53 52.6**	**+0.1**
GCSA	**Galena City Sc**	**4.08**	**326**	P	**P**	**06 53 52.4**	**-0.2**
TGL	**Tana Glacier**	**4.27**	**96**	P	**P**	**06 53 53.8**	**-1.5**
BALM	**Baldy**	**4.45**	**92**	P	**P**	**06 53 56.0**	**-1.6**
IMA	**Indian Mountai**	**4.71**	**349**	*e*P	**P**	**06 54 00.5**	**-0.7**
BCA3	**Beaver Creek A**	**4.81**	**66**	P	**P**	**06 54 02.5**	**-0.1**
CTGM	**Chitina Glacie**	**4.95**	**92**	P	**P**	**06 54 03.9**	**-0.6**
COLD	**Coldfoot**	**5.80**	**5**	P	**P**	**06 54 16.9**	**+0.7**
COLD				S	**S**	**06 55 19.3**	**-2.7**
DAWY	**Dawson**	**6.14**	**60**	P	**P**	**06 54 20.6**	**-0.2**
BM3	**Burnt Mountain**	**6.66**	**24**	P	**P**	**06 54 27.7**	**-0.5**
ANM	**Nome**	**7.02**	**302**	*e*P	**P**	**06 54 33.2**	**+0.1**
WHY	**Whitehorse**	**8.11**	**89**	P	**P**	**06 54 46.6**	**-1.3**
TNA	**Tin City**	**8.38**	**306**	P	**P**	**06 54 51.7**	**-0.1**
INK	**Inuvik**	**10.22**	**40**	P	**P**	**06 55 15.6**	**-0.8**
	0.9nm,0.3s,baz=242,slow=12,SNR=60						
INK				S	**S**	**06 57 08.3**	**-1.6**
	0.1nm,0.3s,baz=292,slow=13,SNR=2.5						
INK	**Inuvik**	**10.22**	**40**	*e*P	**P**	**06 55 15.2**	**-1.2**
YKA	**Yellowknife Ar**	**17.22**	**70**	P	**P**	**06 56

VRT	**Varto**	**2.42 306**	*e*PN	Pn	07 05 40.2	+0.8
ERZM	**Erzurum**	**3.01 317**	*i* P	Pn	07 05 59.5	+12

WEL 26 07:11:25.3±0.8, 35.34S×178.98E, h214km±16km, ML3.9/7, Error ellipse: s-maj=18.8km s-min=14.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.28**	**194**	PN	P	07 12 07.5	-0.7
MXZ				SN	S	07 12 41.0	-0.3
PUZ	**Puketiti**	**2.79**	**192**	PN	P	07 12 13.2	-0.5
PUZ				SN	S	07 12 50.9	-0.3
MWZ	**Matawai**	**3.21**	**201**	PN	P	07 12 18.7	+0.1
MWZ				SN	S	07 12 58.5	-1.4
URZ	**Urewera**	**3.27**	**207**	PN	P	07 12 19.2	-0.3
URZ				SN	S	07 13 00.4	-0.9
KNZ	**Kokohu**	**3.82**	**195**	PN	P	07 12 24.9	-1.0
BKZ	**Black Stump Fm**	**4.30**	**207**	PN	P	07 12 31.6	-0.4
BFZ	**Birch Farm**	**5.75**	**201**	PN	P	07 12 48.4	-1.9
MRZ	**Mangatainoka R**	**5.95**	**206**	PN	P	07 12 50.5	-2.4
KIW	**Kapiti Island**	**6.38**	**209**	PN	P	07 12 56.1	-2.3
MTW	**Mount Morrison**	**6.42**	**204**	PN	P	07 12 56.3	-2.6
CAW	**Cannon Point**	**6.53**	**207**	PN	P	07 12 57.8	-2.5
TUWZ	**Tuamarina**	**7.25**	**212**	*e*PN	P	07 13 06.4	-3.2
NNZ	**Nelson**	**7.33**	**215**	PN	P	07 13 07.9	-2.9
QRZ	**Quartz Range**	**7.47**	**221**	PN	P	07 13 09.8	-2.7
THZ	**Tophouse**	**7.98**	**215**	PN	P	07 13 17.2	-1.9
KHZ	**Kahutara**	**8.24**	**209**	PN	P	07 13 19.9	-2.5
LTZ	**Lake Taylor**	**9.07**	**213**	PN	P	07 13 29.9	-3.4

IGQ 26 07:13:46.3, 0.92S×81.54W, h16km±7km, mb4.0, 5C-2D, Error ellipse: s-maj=10.5km s-min=9.0km az=94.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.00**	**97**	⇑P	Pb	07 14 03.0	-1.8
IGUA	**Igualata**	**2.96**	**101**	P	Pn	07 14 35.7	+2.1
JUA2	**San Juan 2**	**3.02**	**77**	⇑P	Pn	07 14 35.5	+1.0
JUA2				S	Sn	07 15 09.8	-0.9
TERV	**Terraza Guagua**	**3.03**	**76**	P	Pn	07 14 35.9	+1.3
PINO	**Pino**	**3.03**	**76**	P	Pn	07 14 34.8	+0.1
YANA	**Yana**	**3.08**	**75**	⇓P	Pn	07 14 35.5	+0.2
NAS1	**Nasa**	**3.08**	**85**	⇑P	Pn	07 14 37.6	+2.3
ARRY	**Arrayan**	**3.14**	**101**	⇓P	Pn	07 14 37.9	+1.6
ARRY				S	Sn	07 15 13.4	-0.3
VC1	**Cotopaxi 1**	**3.15**	**85**	P	Pn	07 14 38.8	+2.4
PISA	**Pisayambo**	**3.16**	**93**	P	Pn	07 14 38.4	+1.9
ULBA	**Ulba**	**3.18**	**100**	P	Pn	07 14 39.3	+2.6
TAMB	**Tambo**	**3.18**	**86**	⇑P	Pn	07 14 39.1	+2.3
ANTI	**Antisana**	**3.41**	**82**	⇑P	Pn	07 14 42.2	+2.2
ANTI				S	Sn	07 15 21.6	+1.0
COTA	**Cotacachi**	**3.44**	**69**	P	Pn	07 14 43.0	+2.5
CAYR	**Refugio Cayamb**	**3.66**	**75**	P	Pn	07 14 46.1	+2.5
CAYR				S	Sn	07 15 27.8	+1.1
CAYA	**Cayambe**	**3.69**	**75**	P	Pn	07 14 46.0	+2.1

*NEIC **26** 07:14:11.8, 31.36S×68.40W, h150km, MD3.7(GUC), After GUC.*

GUC 26 07:14:11.8±0.7, 31.36S×68.40W, h150km, MD3.7, ML3.8, 11C-8D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.30**	**232**	⇓*i*P	P	07 14 28.0	-4.8
ZON				*e*S	S	07 14 40.0	-8.9
MDZ	**Mendoza**	**1.57**	**194**	*e*P	P	07 14 40.3	-2.1
MDZ				*i* S	S	07 15 01.2	-4.8
JACH	**Jahuel**	**2.28**	**234**	⇑*i*P	P	07 14 50.8	0.0
JACH				*i* S	S	07 15 20.8	+0.1
PTCH	**Petorca**	**2.34**	**247**	⇑*i*P	P	07 14 51.2	-0.2
PTCH				*i* S	S	07 15 21.3	-0.5
PTCH				AMP		07 15 23.3	
	comp=N,2μm,0.2s						
ILCH	**Illapel**	**2.38**	**263**	⇑*i*P	P	07 14 51.9	-0.1
ILCH				*i* S	S	07 15 22.2	-0.6
ILCH				AMP		07 15 24.8	
	comp=N,579nm,0.1s						
TLL	**Tololo Astrono**	**2.39**	**299**	⇑*i*P	P	07 14 52.6	+0.5
TLL				*i* S	S	07 15 24.0	+1.1
TLL				AMP		07 15 25.0	
	comp=N,647nm,0.7s						
FCH	**Farellones**	**2.53**	**219**	⇓*i*P	P	07 14 54.5	+0.6
FCH				AMP		07 15 32.9	
	comp=N,140nm,0.3s						
CLCH	**Cerro Calan**	**2.72**	**221**	⇓*i*P	P	07 14 56.3	+0.1
CLCH				AMP		07 15 38.1	
	comp=E,150nm,0.4s						
ROCH	**El Roble**	**2.74**	**233**	⇓*i*P	P	07 14 56.6	0.0
DSCH	**Colegio Aleman**	**2.74**	**222**	⇓*i*P	P	07 14 56.8	+0.3
DSCH				*i* S	S	07 15 30.8	0.0
DSCH				AMP		07 15 36.9	
	comp=E,218nm,0.3s						
FSR	**Penalolen**	**2.78**	**220**	AMP		07 15 38.3	
	comp=N,145nm,0.3s						
LSCH	**La Serena**	**2.85**	**300**	⇑*i*P	P	07 14 57.5	-0.5
LSCH				AMP		07 15 31.0	
	comp=N,328nm,0.2s						
PCH	**Pirque**	**2.88**	**218**	⇑*i*P	P	07 14 58.7	+0.4
ANTU	**Antumapu**	**2.90**	**220**	⇑*i*P	P	07 14 58.7	+0.1
LMEL	**Las Melosas**	**2.91**	**211**	⇑*i*P	P	07 14 59.0	+0.2
LMEL				AMP		07 15 55.4	
	comp=N,101nm,0.2s						
RCDM	**Rinconada Maip**	**2.94**	**223**	⇑*i*P	P	07 14 58.9	-0.3
RCDM				AMP		07 15 40.9	
	comp=E,214nm,0.2s						
TACH	**Talagante**	**3.14**	**222**	⇓*i*P	P	07 15 01.1	-0.5
CHCH	**Chadas Angostu**	**3.19**	**216**	⇓*i*P	P	07 15 02.4	0.0
CACH	**El Canelo**	**3.32**	**213**	⇑*i*P	P	07 15 04.7	+0.8
VACH	**Vallenar**	**3.45**	**323**	⇑*i*P	P	07 15 05.8	+0.2
CPCH	**Copiapo**	**4.34**	**336**	⇓*i*P	P	07 15 17.1	-0.2
TRQA	**Tornquist**	**8.52**	**143**	*e*P	P	07 16 11.0	-2.0
	comp=E,11nm,0.6s						

IGQ 26 07:27:01.6, 1.43S×81.48W, h16km±6km, mb4.0, 3C, Error ellipse: s-maj=14.6km s-min=8.6km az=34.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.00**	**68**	P	Pb	07 27 18.1	-2.0
IGUA	**Igualata**	**2.84**	**91**	P	Pn	07 27 48.3	+1.1
ARRY	**Arrayan**	**3.02**	**92**	P	Pn	07 27 50.3	+0.4
ARRY				S	Sn	07 28 23.3	-2.7
ULBA	**Ulba**	**3.07**	**90**	P	Pn	07 27 51.6	+1.1
NAS1	**Nasa**	**3.10**	**75**	P	Pn	07 27 53.4	+2.4
PISA	**Pisayambo**	**3.11**	**83**	P	Pn	07 27 53.6	+2.5
JUA2	**San Juan 2**	**3.12**	**67**	P	Pn	07 27 53.7	+2.6
TERV	**Terraza Guagua**	**3.13**	**67**	P	Pn	07 27 53.3	+2.0
PINO	**Pino**	**3.13**	**66**	⇑P	Pn	07 27 52.6	+1.2
PINO				S	Sn	07 28 31.1	+2.3
VC1	**Cotopaxi 1**	**3.17**	**76**	⇑P	Pn	07 27 54.1	+2.2
YANA	**Yana**	**3.19**	**66**	P	Pn	07 27 52.7	+0.6
TAMB	**Tambo**	**3.19**	**77**	P	Pn	07 27 55.4	+3.1
TAMB				S	Sn	07 28 33.6	+3.3
ANTI	**Antisana**	**3.46**	**74**	P	Pn	07 27 58.7	+2.8
COTA	**Cotacachi**	**3.59**	**61**	P	Pn	07 28 02.0	+4.0
CAYR	**Refugio Cayamb**	**3.76**	**68**	⇑P	Pn	07 28 03.8	+3.5

*IDC **26** 07:32:18.4±1.2, 8.74N×93.59E, h29km±5km, mb3.5/5, mb1 3.8/6, mb1mx3.5/18, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=50.7km s-min=30.5km az=89.0*

ISC 26 07:32:14.8±2.5, 8.4N±0.3×93.8E±0.2, h33km, n13, σ0°69/11, mb3.9/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.24**	**26**	Pn	**P**	**07 34 56.9**	**+0.6**
	0.1nm,0.3s,baz=208,slow=15,SNR=11						
JIRN	**Jiri**	**20.49**	**341**	*e*P	**P**	**07 36 52.3**	**-0.3**
	27nm,1.1s						
PKI	**Pulchoki**	**20.68**	**339**	*e*P	**P**	**07 36 55.9**	**+1.3**
GUN	**Gumba**	**20.83**	**340**	*e*P	**P**	**07 36 55.2**	**-0.9**
	25nm,0.9s						
GKN	**Gorkha**	**21.36**	**337**	*e*P	**P**	**07 37 01.3**	**-0.2**
	27nm,0.8s,mb4.6						
KOLN	**Koldanda**	**21.57**	**335**	*e*P	**P**	**07 37 03.9**	**+0.4**
	12nm,0.7s,mb4.4						
SONM	**Songino Array**	**40.79**	**13**	P	**P**	**07 39 53.8**	**-0.7**
	0.1nm,0.3s,mb2.9,baz=214,slow=5.2,SNR=3.6						
ZAL	**Zalesovo**	**46.03**	**353**	P	**P**	**07 40 36.2**	**-0.8**
	0.8nm,0.6s,mb3.8,baz=305,slow=6.0,SNR=3.9						
ZAL				pP	pP	07 40 46.0	-0.9
	1.5nm,0.8s,baz=296,slow=7.6,SNR=3.2						
BRTR	**Keskin Array B**	**61.83**	**311**	P	**P**	**07 42 32.5**	**-0.5**
	1.0nm,0.8s,mb4.0,baz=116,slow=9.4,SNR=3.6						
BRTR				pP	pP	07 42 40.5	-2.7
	1.1nm,0.9s,baz=162,slow=7.8,SNR=3.0						
GERES	**GERESS Array B**	**77.21**	**318**	P	**P**	**07 44 07.8**	**+0.5**
	0.3nm,0.5s,mb3.5,baz=104,slow=4.0,SNR=3.2						
NOA	**NORSAR Array B**	**79.13**	**331**	P	**P**	**07 44 18.2**	**+0.7**
	1.4nm,0.8s,mb3.9,baz=91,slow=5.7,SNR=3.6						
PDAR	**Pinedale Array**	**124.86**	**21**	PKP	PKPdf	07 51 14.4	+2.6
	0.4nm,1.0s,SNR=3.2						
PDAR				pPKP		07 51 24.1	
	0.6nm,0.9s,baz=90,slow=3.0,SNR=3.5						
PLCA	**Paso Flores**	**144.85**	**201**	PKPbc	PKPbc	07 51 52.9	+4.1
	1.9nm,0.9s,baz=262,slow=4.8,SNR=3.4						
PLCA				pPKPbc		07 52 02.1	
	3.3nm,1.0s,baz=172,slow=6.0,SNR=4.2						

*WAR **26** 07:52:32.4, 50.26N×18.89E, h0km, ML2.5, Mining Induced*
*PRU **26** 07:52:33.7, 50.28N×18.79E*
*NEIC **26** 07:52:33.2±1.4, 50.34N×18.81E, h5km, MG2.5(WAR), Error ellipse: s-maj=17.7km s-min=8.4km az=179.0*

ISC 26 07:52:31.6±0.6, 50.30N±0.04×18.82E±0.04, n12, σ1°12/19, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.63**	**97**	*e*PG	**Pg**	**07 52 44.0**	**-0.2**
OJC				*e*SG	**Sg**	**07 52 53.0**	**+0.4**
OKC	**Ostrava-Krasne**	**0.63**	**224**	*e*PG	**Pg**	**07 52 45.1**	**+0.9**
OKC				*e*SG	**Sg**	**07 52 55.0**	**+2.3**
MORC	**Moravsky Berou**	**0.98**	**238**	*e*P	**Pg**	**07 52 51.7**	**+0.7**
NIE	**Niedzica**	**1.31**	**132**	*e*PG	**Pg**	**07 52 56.0**	**-1.6**
NIE				*e*SG	**Sg**	**07 53 14.0**	**-1.1**
DPC	**Dobruska-Polom**	**1.60**	**273**	*e*PG	**Pg**	**07 53 03.0**	**-0.6**
DPC				*e*SG	**Sg**	**07 53 24.2**	**-0.7**
	28nm,0.6s						
KSP	**Ksiaz**	**1.70**	**290**	*e*PG	**Pg**	**07 53 06.0**	**+0.5**
KSP				*e*SN	**Sn**	**07 53 26.0**	**+0.5**
KSP				*e*SG	**Sg**	**07 53 29.0**	**+0.8**
VYHS	**Vyhne**	**1.81**	**180**	*e*PG	**Pg**	**07 53 08.7**	**+1.1**
VYHS				*e*SG	**Sg**	**07 53 30.4**	**-1.3**
UPC	**Upice**	**1.81**	**278**	*e*SG	**Sg**	**07 53 31.6**	**-0.2**
CRVS	**Cervenica-Dubn**	**2.21**	**128**	*e*PG	**Pg**	**07 53 17.4**	**+1.6**
PRU	**Pruhonice**	**2.77**	**265**	*e*SG	**Sg**	**07 54 00.7**	**-3.1**
KHC	**Kasperske Hory**	**3.60**	**253**	*e*x	x	07 53 53.5	
KHC				*e*SG	**Sg**	**07 54 26.5**	**-4.8**
CLL	**Collm**	**3.83**	**288**	*e*SG	**Sg**	**07 54 38.0**	**-1.0**

IDC 26 08:20:35.8±2.0, 3.75N×93.42E, mb3.9/5, mb1 4.1/6, mb1mx3.9/18, mbtmp3.9/6, ML4.5/1, MS2.8/1, Ms1 3.0/1, ms1mx2.5/18, Error ellipse: s-maj=74.2km s-min=22.7km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.58**	**20**	Pn	P	08 24 15.8	-2.8
	0.6nm,0.3s,baz=212,slow=12,SNR=3.4						
CMAR				LR	LR	08 30 12.7	
	comp=Z,34nm,18.8s,baz=212,slow=37						
SONM	**Songino Array**	**45.32**	**12**	P	P	08 28 56.5	-0.8
	0.5nm,0.8s,baz=197,slow=8.1,SNR=4.8						
WRA	**Warramunga Arr**	**46.58**	**122**	P	P	08 29 05.8	-1.8
	2.3nm,0.8s,baz=299,slow=9.1,SNR=13						
ASAR	**Alice Springs**	**47.94**	**127**	P	P	08 29 16.2	-2.1
	0.9nm,0.7s,baz=297,slow=7.9,SNR=8.1						
ZAL	**Zalesovo**	**50.52**	**353**	P	P	08 29 34.7	-3.1
	1.5nm,0.4s,baz=353,slow=6.3,SNR=4.9						
FINES	**FINESS Array B**	**76.01**	**333**	P	P	08 32 25.0	-1.5
	1.3nm,0.8s,baz=108,slow=8.8,SNR=4.5						

IGQ 26 08:21:44.0, 1.31S×81.68W, h16km±8km, mb4.4, 1C-2D, Error ellipse: s-maj=13.4km s-min=10.1km az=34.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.16**	**77**	P	Pb	08 22 03.2	-2.1
IGUA	**Igualata**	**3.05**	**93**	P	Pn	08 22 34.0	+1.4
ARRY	**Arrayan**	**3.23**	**94**	P	Pn	08 22 35.6	+0.4
JUA2	**San Juan 2**	**3.26**	**71**	P	Pn	08 22 36.4	+0.8
NAS1	**Nasa**	**3.27**	**78**	P	Pn	08 22 38.1	+2.3
ULBA	**Ulba**	**3.28**	**93**	P	Pn	08 22 38.5	+2.7
PINO	**Pino**	**3.28**	**70**	⇓P	Pn	08 22 36.6	+0.7
PINO				S	Sn	08 23 16.7	+1.8
PISA	**Pisayambo**	**3.31**	**86**	P	Pn	08 22 38.0	+1.7
YANA	**Yana**	**3.33**	**69**	P	Pn	08 22 36.9	+0.4
VC1	**Cotopaxi 1**	**3.34**	**79**	P	Pn	08 22 39.5	+2.7
TAMB	**Tambo**	**3.37**	**80**	P	Pn	08 22 39.3	+2.1
ANTI	**Antisana**	**3.62**	**76**	⇑P	Pn	08 22 42.5	+1.8
COTA	**Cotacachi**	**3.72**	**64**	P	Pn	08 22 44.5	+2.3
COTA				S	Sn	08 23 29.5	+3.5
CAYR	**Refugio Cayamb**	**3.90**	**70**	⇓P	Pn	08 22 47.1	+2.3
CAYA	**Cayambe**	**3.94**	**70**	P	Pn	08 22 47.1	+1.9

IGQ 26 08:33:26.9, 1.52S×81.82W, h12km±8km, mb4.3, 1C-1D, Error ellipse: s-maj=10.5km s-min=8.8km az=39.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.36**	**70**	⇑P	Pn	08 33 50.5	-1.3
IGUA	**Igualata**	**3.18**	**89**	P	Pn	08 34 18.0	+0.2
JUIV	**Juive**	**3.36**	**88**	P	Pn	08 34 21.8	+1.5
JUIV				S	Sn	08 35 00.6	+0.1
ARRY	**Arrayan**	**3.37**	**90**	P	Pn	08 34 20.5	0.0
ULBA	**Ulba**	**3.42**	**89**	P	Pn	08 34 23.0	+1.9
NAS1	**Nasa**	**3.46**	**75**	P	Pn	08 34 24.0	+2.3
PISA	**Pisayambo**	**3.47**	**82**	P	Pn	08 34 23.2	+1.4
JUA2	**San Juan 2**	**3.47**	**68**	P	Pn	08 34 23.0	+1.1
JUA2				S	Sn	08 35 05.0	+1.7
TERV	**Terraza Guagua**	**3.48**	**67**	P	Pn	08 34 23.4	+1.3
PINO	**Pino**	**3.49**	**67**	P	Pn	08 34 23.0	+0.9
PINO				S	Sn	08 35 04.2	+0.4
JOR1	**San Jorge 1**	**3.52**	**65**	P	Pn	08 34 22.3	-0.4
VC1	**Cotopaxi 1**	**3.53**	**76**	P	Pn	08 34 25.8	+3.0
YANA	**Yana**	**3.54**	**67**	P	Pn	08 34 23.1	+0.3
TAMB	**Tambo**	**3.55**	**77**	P	Pn	08 34 25.0	+2.0
ANTI	**Antisana**	**3.81**	**74**	P	Pn	08 34 29.1	+2.4
ANTI				S	Sn	08 35 12.4	+0.5
COTA	**Cotacachi**	**3.94**	**62**	P	Pn	08 34 31.7	+3.1
CAYR	**Refugio Cayamb**	**4.11**	**68**	P	Pn	08 34 35.0	+4.1
CAYR				S	Sn	08 35 20.8	+1.2
CAYA	**Cayambe**	**4.15**	**68**	⇓P	Pn	08 34 35.3	+3.9

*MOS **26** 08:34:02.8±0.8, 4.65N×93.24E, h33km, mb4.8/22, Error ellipse: s-maj=18.5km s-min=10.3km az=97.7*
*BJI **26** 08:34:02.0, 4.18N×93.21E, h49km, mB5.1, mb4.6, Ms4.7, Msz4.4*
*IDC **26** 08:34:04.0±0.6, 4.70N×93.26E, h27km±3km, mb4.0/12, mb1 4.1/13, mb1mx4.0/19, mbtmp4.1/13, ML4.1/1, MS3.8/4, Ms1 3.8/4, ms1mx3.4/17, Error ellipse: s-maj=26.9km s-min=13.4km az=48.0*
*NEIC **26** 08:34:04.1±0.4, 4.64N×93.28E, mb4.8/13, Error ellipse: s-maj=9.7km s-min=8.9km az=51.0*

ISC 26 08:34:02.0±0.5, 4.61N±0.06×93.23E±0.05, h27km, h27km±1.2km: pP-P, n94, σ1°00/91, mb4.7/38, MS4.1/5, 1C-4D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.78**	**70**	P	**Pn**	**08 35 58.0**	**+1.6**
PALK	**Pallekele**	**12.74**	**283**	P	**P**	**08 37 05.1**	**+0.8**
	28nm,1.1s						
CM31	**Chiang Mai Arr**	**14.86**	**22**	*e*P	**P**	**08 37 31.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**14.86**	**22**	Pn	**P**	**08 37 31.1**	**-1.2**
	0.3nm,0.3s,baz=218,slow=13,SNR=30						
CMAR				LR	LR	08 44 37.3	
	comp=Z,179nm,18.5s,baz=208,slow=43						
CHG	**Chiang Mai**	**15.18**	**21**	⇓P	**P**	**08 37 35.9**	**-0.7**
	13nm,0.8s						
NANT	**Nan**	**15.88**	**27**	P	**P**	**08 37 47.5**	**+1.9**
VIS	**Vishakhapatnam**	**16.24**	**324**	*e*P	**P**	**08 37 48.1**	**-2.1**
VIS				*e*		08 37 58.4	
	comp=Z,90nm,1.1s						
VIS				*e*S	**S**	**08 40 31.3**	**-18**
BWNR	**Bhubaneshwar**	**17.19**	**336**	*e*P	**P**	**08 37 57.4**	**-4.7**
BWNR				*e*		08 37 59.5	
	comp=Z,29nm,0.5s						
BWNR				*e*S	**S**	**08 40 53.1**	**-18**
HYB	**Hyderabad**	**19.20**	**313**	*e*P	**P**	**08 38 32.0**	**+5.2**
HYB				*e*S	**S**	**08 41 52.0**	**-4.5**
HYB	**Hyderabad**	**19.20**	**313**	*i* P	**P**	**08 38 32.0**	**+5.2**
HYB				*e*		08 41 52.0	
HYB				*e*S	**S**	**08 42 04.0**	**+7.5**
BLSP	**Bilaspur**	**20.47**	**329**	*e*P	**P**	**08 38 41.0**	**+0.5**
BLSP				*e*		08 38 46.1	
	comp=Z,19nm,0.5s						
SHL	**Shillong**	**20.88**	**357**	*e*P	**P**	**08 38 41.5**	**-3.2**
SHL				*e*S	**S**	**08 42 31.5**	**+0.2**
QIZ	**Qiongzhong**	**21.64**	**47**	P	**P**	**08 38 53.0**	**+0.5**
QIZ				*e*S	**S**	**08 42 44.0**	**-1.7**
QIZ				LR	LR		
	comp=N,595nm,12.7s,MS4.3						
QIZ				LR	LR		
	comp=E,358nm,12.2s,MS4.3						
QIZ				LR	LR		
	comp=Z,598nm,12.7s,MS4.2						
KMI	**Kunming**	**22.35**	**23**	P	**P**	**08 39 00.7**	**+1.2**
KMI				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.5						
KMI	**Kunming**	**22.35**	**23**	P	**P**	**08 39 00.7**	**+1.2**
	comp=Z,21nm,1.0s,mb4.5						
KMI				S	**S**	**08 43 14.1**	**+15**
KAD	**Karad**	**22.52**	**306**	*e*P	**P**	**08 39 08.0**	**+6.6**
JIRN	**Jiri**	**23.89**	**344**	*e*P	**P**	**08 39 15.1**	**+0.5**
	comp=Z,146nm,1.1s,mb5.3						
BHPL	**Bhopal**	**24.00**	**322**	*e*P	**P**	**08 39 19.0**	**+3.3**
PKI	**Pulchoki**	**24.02**	**343**	*e*P	**P**	**08 39 17.2**	**+1.3**
	comp=Z,344nm,1.4s,mb5.6						
DMN	**Daman**	**24.15**	**342**	*e*P	**P**	**08 39 18.4**	**+1.3**
	comp=Z,92nm,0.7s,mb5.3						
GUN	**Gumba**	**24.21**	**344**	*e*P	**P**	**08 39 18.2**	**+0.5**
	comp=Z,266nm,1.3s,mb5.5						
KKN	**Kakani**	**24.27**	**343**	*e*P	**P**	**08 39 18.5**	**+0.2**
	comp=Z,235nm,1.4s,mb5.4						
GKN	**Gorkha**	**24.66**	**342**	*e*P	**P**	**08 39 22.2**	**+0.1**
	comp=Z,133nm,1.1s,mb5.4						
KOLN	**Koldanda**	**24.79**	**339**	*e*P	**P**	**08 39 23.8**	**+0.4**
	comp=Z,91nm,0.8s,mb5.3						
LSA	**Lhasa**	**25.04**	**356**	P	**P**	**08 39 27.5**	**+1.9**
LSA	**Lhasa**	**25.04**	**356**	*e*P	**P**	**08 39 28.2**	**+2.6**
LSA				pmax	pmax		
	comp=Z,26nm,0.9s,mb4.8						
LSA	**Lhasa**	**25.04**	**356**	*e*P	**P**	**08 39 28.2**	**+2.5**
	comp=Z,26nm,0.9s,mb4.8						
SONA	**Sohna**	**28.08**	**329**	*e*P	**P**	**08 39 53.4**	**-0.3**
AYAN	**Aya Nagar**	**28.25**	**329**	*e*P	**P**	**08 39 55.6**	**+0.4**
AYAN				*e*		08 40 01.0	
	comp=Z,14nm,0.8s						
KUDL	**Kundal**	**28.31**	**328**	*e*P	**P**	**08 39 54.7**	**-1.0**
KUDL				*e*		08 40 05.8	
	comp=Z,8.1nm,1.1s						
KHET	**Khetri**	**28.62**	**326**	*e*P	**P**	**08 39 57.8**	**-0.7**
KHET				*e*		08 40 09.9	
	comp=Z,17nm,1.1s						
DDI	**Dehra Dun**	**29.31**	**332**	*e*	**P**	**08 40 09.1**	**+4.3**
KLP	**Kalpa**	**30.26**	**334**	*e*P	**P**	**08 40 15.7**	**+2.6**
XAN	**Xi'an**	**32.72**	**25**	P	**P**	**08 40 33.3**	**-1.4**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
LZH	**Lanzhou**	**32.82**	**16**	⇓P	**P**	**08 40 35.3**	**-0.2**
LZH				AMB	AMB		
	comp=Z,46nm,1.8s,mb5.1						
LZH				AMB	AMB		
	comp=Z,231nm,5.0s						
LZH				LR	LR		
	comp=E,354nm,12.3s						
LZH				LR	LR		
	comp=Z,489nm,14.6s,MS4.3						
LZH	**Lanzhou**	**32.82**	**16**	⇓P	**P**	**08 40 35.3**	**-0.2**
	comp=Z,46nm,1.8s,mb5.1						
LZH				pP	pP	08 40 42.5	-1.1
LZH				sP	sP	08 40 45.8	-1.2
LZH				LR	LR		
	comp=Z,490nm,14.6s,MS4.3						
WMQ	**Urumqi**	**39.36**	**354**	*e*P	**P**	**08 41 31.0**	**0.0**
AAK	**Ala-Archa**	**41.37**	**339**	*e*P	**P**	**08 41 48.2**	**+0.7**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3						
AAK	**Ala-Archa**	**41.37**	**339**	*e*P	**P**	**08 41 48.2**	**+0.7**
	comp=Z,8.2nm,1.0s,mb4.3						
NWAO	**Narrogin (SRO)**	**43.73**	**150**	pP	pP	08 42 17.3	+2.2
	comp=Z,8.5nm,1.0s,baz=23,slow=1.4,SNR=2.6						
SONM	**Songino Array**	**44.53**	**13**	P	**P**	**08 42 13.4**	**+0.2**
	comp=Z,3.0nm,0.9s,mb4.1,baz=189,slow=7.8,SNR=17						
ULN	**Ulaanbaatar**	**44.70**	**13**	*e*P	**P**	**08 42 15.0**	**+0.3**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
ULN	**Ulaanbaatar**	**44.70**	**13**	*e*P	**P**	**08 42 15.0**	**+0.3**
	comp=Z,3.5nm,0.9s,mb4.2						
ZAK	**Zakamensk**	**46.40**	**9**	*e*P	**P**	**08 42 26.9

comp=Z,3.0nm,1.0s
KMBO Kilima Mbogo 56.21 266 P **P** **08 43 42.9 +0.3**
comp=Z,1.2nm,0.8s,mb4.0,baz=86,slow=23,SNR=3.4
KMBO pP pP 08 43 52.6 +1.6
comp=Z,2.8nm,0.9s,baz=51,slow=12,SNR=4.8
KMBO LR LR 09 03 11.9
comp=Z,101nm,19.5s,MS3.9,baz=92,slow=31
KMBO Kilima Mbogo 56.21 266 *e*P **P** **08 43 42.9 +0.2**
comp=Z,1.7nm,1.0s,mb4.0
CTA Charters Tower 57.57 117 LR LR 09 12 28.7
comp=Z,81nm,18.3s,MS3.9,baz=51,slow=40
STKA Stephens Creek 58.57 132 P **P** **08 43 59.1 +0.1**
comp=Z,1.8nm,0.5s,mb4.3,baz=176,slow=22,SNR=7.7
MALT Malatya 59.92 312 P **P** **08 44 08.7 +0.4**
BRTR Keskin Array B 63.90 312 P **P** **08 44 34.3 -0.7**
BRTR *PP pP 08 44 42.6 -0.9
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 63.90 312 P **P** **08 44 34.3 -0.7**
comp=Z,1.6nm,0.8s,mb4.1,baz=135,slow=3.5,SNR=4.0
BRTR pP pP 08 44 42.6 -0.9
comp=Z,3.3nm,0.8s,baz=133,slow=5.3,SNR=11
OBN Obninsk 67.66 329 *e*P **P** **08 45 04.0 +5.2**
OBN pmax pmax
comp=Z,32nm,1.9s,mb5.0
TIXI Tiksi 70.59 11⇑*i*P **P** **08 45 16.1 -0.5**
TIXI pmax pmax
comp=Z,11nm,0.9s,mb4.8
FINES FINESS Array B 75.17 333 P **P** **08 45 43.1 -0.5**
FINES *PP pP 08 45 51.3 -0.9
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 75.17 333 P **P** **08 45 43.1 -0.6**
comp=Z,1.1nm,0.8s,mb3.9,baz=90,slow=9.7,SNR=2.3
FINES pP pP 08 45 51.3 -0.9
comp=Z,2.7nm,0.8s,baz=83,slow=15,SNR=3.2
ARCES ARCESS Array B 78.02 341 P **P** **08 46 00.4 +1.0**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 78.02 341 P **P** **08 46 00.4 +1.0**
comp=Z,5.6nm,0.9s,mb4.5,baz=49,slow=9.6,SNR=2.5
AQU L'Aquila 79.39 312 *e*P **P** **08 46 07.2 -0.3**
AQU pmax pmax
comp=Z,42nm,1.0s,mb5.3
AQU L'Aquila 79.39 312 *e*P **P** **08 46 07.2 -0.3**
comp=Z,42nm,1.0s,mb5.3
GERES GERESS Array B 79.65 319 P **P** **08 46 08.7 0.0**
GERES *PP pP 08 46 17.7 +0.3
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES pmax pmax
comp=Z,5.0nm,0.7s
GERES GERESS Array B 79.65 319 P **P** **08 46 08.7 -0.1**
comp=Z,1.4nm,0.8s,mb3.9,baz=124,slow=4.8,SNR=6.1
GERES pP pP 08 46 17.7 +0.3
comp=Z,4.7nm,0.7s,baz=90,slow=5.3,SNR=12
BRG Berggiesshubel 79.68 321 *e*P pP 08 46 17.7 +0.2
BRG pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
HFS Hagfors 80.81 330 P **P** **08 46 15.1 +0.4**
HFS *PP pP 08 46 22.7 -0.6
HFS pmax pmax
comp=Z,2.0nm,0.9s
HFS pmax pmax
comp=Z,28nm,1.3s
HFS Hagfors 80.81 330 P **P** **08 46 15.1 +0.4**
comp=Z,1.7nm,0.9s,mb4.0,baz=79,slow=15,SNR=2.8
HFS pP pP 08 46 22.7 -0.6
comp=Z,28nm,1.3s,baz=90,slow=5.9,SNR=3.8
GRF Grafenberg Arr 81.33 319 *e*P pP 08 46 27.5 +1.2
GRF pmax pmax
comp=Z,11nm,1.4s,mb4.6
SYO Syowa Base 82.04 197 ⇓P **P** **08 46 20.3 -0.6**
DAVOX Davos 82.11 316 pP pP 08 46 31.5 +1.2
comp=Z,9.6nm,0.7s,baz=136,slow=8.9,SNR=8.2
LPG La Plagne 84.27 315 *e*P **P** **08 46 36.5 +3.6**
comp=Z,22nm,0.9s,mb5.0
LPG La Plagne 84.27 315 *e*P **P** **08 46 36.5 +3.6**
LPG pmax pmax
comp=Z,11nm,0.9s,mb5.0
ESDC Sonseca Array 92.61 310 pP pP 08 47 22.5 +1.0
comp=Z,1.6nm,0.7s,baz=71,slow=4.7,SNR=3.2
DBIC Dimbokro 97.47 277 LR LR 09 30 02.2
comp=Z,57nm,18.3s,MS4.1,baz=74,slow=34
NVAR Mina Array Bea 128.16 31 PKP PKPdf 08 53 07.6 -3.8
comp=Z,0.3nm,0.3s,baz=202,slow=4.9,SNR=2.8
NVAR pPKP 08 53 18.0
comp=Z,1.2nm,0.9s,baz=307,slow=0.6,SNR=2.5
PDAR Pinedale Array 128.52 21 PKP PKPdf 08 53 07.5 -4.4
comp=Z,0.8nm,1.0s,baz=297,slow=3.3,SNR=4.6
TXAR Lajitas Array 142.56 25 PKP PKPdf 08 53 35.6 -2.5
comp=Z,1.6nm,1.2s,slow=3.8,SNR=4.3
TXAR pPKP 08 53 45.3
comp=Z,0.9nm,0.9s,SNR=5.2

*NEIC **26** 08:44:27.7, 15.80N×61.47W, h30km, MD3.7(TRN), After TRN.*
TRN 26 08:44:29.1, 15.88N×61.61W, h3km, MD3.6, M3.0(FDF), Md2.9(FDF), 7C-7D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOG	**Dongo Capester**	**0.15**	**358**	⇑*i*P	Pg	08 44 32.5	+0.2
SCG	**Saint Claude**	**0.17**	**336**	⇑*i*P	Pg	08 44 32.6	+0.1
BCG	**Bois Riant Cap**	**0.21**	**358**	*e*P	Pg	08 44 33.3	0.0
MGG	**Marie-Galante**	**0.29**	**82**	⇑*e*P	Pg	08 44 34.3	-0.6
BBL	**Barber's Block**	**0.37**	**159**	⇓*i*P	Pg	08 44 36.6	0.0
BBL				*e*S	Sg	08 44 41.6	0.0
BBL	**Barber's Block**	**0.37**	**159**	⇓*e*P	Pg	08 44 34.6	-2.1
BBL	**Barber's Block**	**0.37**	**159**	⇓*i*P	Pg	08 44 36.6	0.0
BBL				*e*S	Sg	08 44 39.4	-2.3
BBL				*e*S	Sg	08 44 41.6	0.0
DWS	**Wesley**	**0.42**	**137**	⇑*e*P	Pg	08 44 36.5	-1.0
DWS				*e*S	Sg	08 44 42.2	-1.0
SEG	**Port Louis**	**0.53**	**11**	⇑*i*P	Pg	08 44 39.1	-0.7
MDN	**Morne-Daniel**	**0.59**	**159**	⇓*i*P	Pg	08 44 40.4	-0.6
MDN				*e*S	Sg	08 44 47.8	-1.1
DBCT	**Belle View Cho**	**0.66**	**157**	*e*P	Pg	08 44 41.6	-0.6
DBCT				*e*S	Sg	08 44 49.5	-1.5
DEG	**La Desirade**	**0.69**	**51**	⇑*i*P	Pg	08 44 40.8	-2.0
DSTT	**Stowe**	**0.69**	**155**	*e*P	Pg	08 44 41.9	-1.1
DSTT				*e*S	Sg	08 44 50.8	-1.5
DSHT	**Scott's Head**	**0.70**	**161**	*e*P	Pg	08 44 42.2	-0.9
DSHT				*e*S	Sg	08 44 50.5	-1.9
BPA	**Boggy Peak**	**1.19**	**349**	*e*P	Pb	08 44 50.9	-1.1
BPA				*e*S	Sb	08 45 07.4	-0.2
FDF	**Fort de France**	**1.22**	**159**	⇓*e*P	Pb	08 44 48.1	-4.4
FDF				*e*S	Sb	08 45 03.9	-4.6
CRM	**Caravelle**	**1.30**	**149**	⇑*i*P	Pb	08 44 49.8	-4.2
CRM				*e*S	Sb	08 45 06.0	-4.9
BIM	**Bigot**	**1.45**	**159**	⇓*e*P	Pn	08 44 51.6	-4.7
MVM	**Montagne Vaucl**	**1.48**	**152**	⇓*i*P	Pn	08 44 52.4	-4.4
NVBH	**Bath Hotel, Ne**	**1.57**	**322**	*e*P	Pn	08 44 57.0	-1.0
NVBH				*e*S	Sb	08 45 18.0	-0.6
CPB	**Codrington**	**1.77**	**353**	*e*P	Pn	08 44 59.0	-1.8
CPB				*e*S	Sn	08 45 22.6	-1.5
BSK	**Brimstone Hill**	**1.88**	**321**	*e*S	Sn	08 45 27.2	+0.3

*CSEM **26** 08:46:55.7±1.0, 37.86N×43.78E, h15km, MD3.5, Error ellipse: s-maj=35.6km s-min=7.7km az=82.0*
ISK 26 08:46:55.0, 37.73N×43.83E, h30km, MD3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.17**	**205**	*i*PG	Pb	08 47 01.8	+0.9
HKR				*i*SG	Sb	08 47 05.3	+0.3
TVAN	**Van**	**0.86**	**337**	*i*P	Pn	08 47 11.6	+0.5
TVAN				*i*S	Sb	08 47 24.4	+1.8
VANB	**Van**	**0.93**	**338**	*i*PG	Pn	08 47 12.4	+0.3
VANB				*i*SG	Sb	08 47 24.1	-0.3
MSL	**Mosul**	**1.56**	**203**	*i*Pn	Pn	08 47 25.5	+4.4
MSL				*i*Sb	Sb	08 47 45.5	+3.0
MSL				*i*Sn	Sn	08 47 46.0	+5.5
MSL				*i*Sg	Sn	08 47 47.0	+6.5
BTMT	**Batman**	**1.91**	**285**	PN	Pn	08 47 29.0	+2.9
BEST	**Besiri**	**2.04**	**275**	*i*P	Pn	08 47 32.2	+4.2
BEST				*i*S	Sn	08 47 57.9	+5.3
VRT	**Varto**	**2.29**	**308**	*e*PN	Pn	08 47 32.5	+0.9
ELZG	**Elazig**	**3.90**	**283**	*i*P	Pn	08 48 05.6	+11
ELZG				*i*S	Sn	08 48 56.8	+17

*NEIC **26** 09:03:50.7, 38.09S×176.08E, h170km, After WEL.*
WEL 26 09:03:50.6±0.3, 38.12S×176.10E, h172km±2km, ML4.2/12, 4C-2D, Error ellipse: s-maj=1.8km s-min=1.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UTU	**Utuhina**	**0.09**	**130**	*e*PN	P	09 04 13.4	-0.3
LIRZ	**Lichensteins R**	**0.25**	**63**	P	P	09 04 13.6	-0.4
LIRZ	**Lichensteins R**	**0.25**	**63**	PN	P	09 04 13.6	-0.5
PATZ	**Paeroa**	**0.29**	**155**	P	P	09 04 14.2	+0.1
PATZ	**Paeroa**	**0.29**	**155**	PN	P	09 04 14.2	+0.1
TAZ	**Tarawera**	**0.34**	**110**	P	P	09 04 14.6	+0.3
TAZ	**Tarawera**	**0.34**	**110**	PN	P	09 04 14.6	+0.3
MARZ	**Manawahe**	**0.47**	**74**	P	P	09 04 14.5	-0.3
MARZ	**Manawahe**	**0.47**	**74**	PN	P	09 04 14.5	-0.2
EDRZ	**Edgecumbe**	**0.50**	**89**	P	P	09 04 14.6	-0.3
EDRZ	**Edgecumbe**	**0.50**	**89**	PN	P	09 04 14.6	-0.3
URZ	**Urewera**	**0.81**	**100**	P	P	09 04 15.9	-0.5
URZ	**Urewera**	**0.81**	**100**	PN	P	09 04 15.9	-0.6
URZ				SN	S	09 04 35.2	-1.1
RITZ	**Rihia Road**	**0.88**	**192**	P	P	09 04 17.2	+0.3
RITZ	**Rihia Road**	**0.88**	**192**	⇓PN	P	09 04 17.2	+0.4
KATZ	**Kakaramea**	**0.91**	**200**	P	P	09 04 17.2	+0.1
KATZ	**Kakaramea**	**0.91**	**200**	PN	P	09 04 17.2	+0.1
MGZ	**Maungaku**	**0.99**	**206**	P	P	09 04 17.7	+0.1
MGZ	**Maungaku**	**0.99**	**206**	PN	P	09 04 17.7	+0.2
KRVZ	**Karewarewa**	**1.04**	**200**	PN	P	09 04 17.9	-0.1
HIZ	**Hauiti**	**1.06**	**248**	P	P	09 04 17.5	-0.7
HIZ	**Hauiti**	**1.06**	**248**	⇑PN	P	09 04 17.5	-0.6
HIZ				SN	S	09 04 39.1	-0.3
WTVZ	**West Tongariro**	**1.07**	**202**	PN	P	09 04 18.2	-0.1
TWVZ	**Taurewa**	**1.08**	**208**	P	P	09 04 18.2	-0.2
TWVZ	**Taurewa**	**1.08**	**208**	PN	P	09 04 18.2	-0.2
BKZ	**Black Stump Fm**	**1.09**	**164**	P	P	09 04 18.4	-0.1
BKZ				S	S	09 04 39.1	-0.8
BKZ	**Black Stump Fm**	**1.09**	**164**	⇑PN	P	09 04 18.4	-0.1
BKZ				SN	S	09 04 39.1	-0.8
OTVZ	**Oturere**	**1.10**	**198**	PN	P	09 04 18.7	+0.1
NGZ	**Ngauruhoe**	**1.13**	**200**	P	P	09 04 18.8	0.0
NGZ	**Ngauruhoe**	**1.13**	**200**	PN	P	09 04 18.8	0.0
MWZ	**Matawai**	**1.14**	**101**	P	P	09 04 18.8	-0.1
MWZ	**Matawai**	**1.14**	**101**	PN	P	09 04 18.8	-0.1
MWZ				SN	S	09 04 40.2	-0.6
CNZ	**Chateau**	**1.16**	**202**	P	P	09 04 19.0	-0.1
CNZ	**Chateau**	**1.16**	**202**	PN	P	09 04 19.0	-0.1
WPVZ	**Whakapapa**	**1.17**	**202**	P	P	09 04 19.1	-0.1
WPVZ	**Whakapapa**	**1.17**	**202**	PN	P	09 04 19.1	-0.1
TUVZ	**Tukino**	**1.20**	**197**	P	P	09 04 19.3	-0.2
TUVZ	**Tukino**	**1.20**	**197**	PN	P	09 04 19.4	-0.1
TUVZ				SN	S	09 04 42.2	+0.5
FWVZ	**Far West T-bar**	**1.22**	**201**	P	P	09 04 19.6	0.0
FWVZ	**Far West T-bar**	**1.22**	**201**	PN	P	09 04 19.6	+0.1
DRZ	**Dome Shelter**	**1.23**	**200**	P	P	09 04 20.2	+0.5
DRZ	**Dome Shelter**	**1.23**	**200**	PN	P	09 04 20.1	+0.4
WNVZ	**Wahianoa**	**1.27**	**198**	P	P	09 04 18.3	-1.8
MOVZ	**Moawhango**	**1.32**	**192**	P	P	09 04 19.8	-0.7
MOVZ	**Moawhango**	**1.32**	**192**	⇑PN	P	09 04 19.8	-0.7
MOVZ				SN	S	09 04 42.1	-1.5
KNZ	**Kokohu**	**1.53**	**127**	P	P	09 04 22.5	0.0
KNZ	**Kokohu**	**1.53**	**127**	PN	P	09 04 22.5	-0.1
KNZ				SN	S	09 04 46.3	-0.9
MTAZ	**Motutapu**	**1.63**	**324**	P	P	09 04 22.1	-1.5
MTAZ	**Motutapu**	**1.63**	**324**	PN	P	09 04 22.1	-1.5
PUZ	**Puketiti**	**1.70**	**89**	PN	P	09 04 23.7	-0.6
PUZ				SN	S	09 04 49.1	-1.2
RAEZ	**Rainy Point**	**1.77**	**228**	P	P	09 04 24.9	-0.2
RAEZ	**Rainy Point**	**1.77**	**228**	PN	P	09 04 24.9	-0.1
MXZ	**Matakaoa Point**	**1.83**	**73**	P	P	09 04 25.5	-0.2
MXZ	**Matakaoa Point**	**1.83**	**73**	PN	P	09 04 25.5	-0.1
MXZ				SN	S	09 04 51.4	-1.3
WAZ	**Wanganui**	**1.85**	**208**	P	P	09 04 25.0	-0.9
WAZ	**Wanganui**	**1.85**	**208**	PN	P	09 04 25.0	-0.9
WAZ				SN	S	09 04 52.9	-0.2
TSZ	**Takapari Road**	**1.94**	**183**	P	P	09 04 25.9	-0.9
TSZ	**Takapari Road**	**1.94**	**183**	PN	P	09 04 25.9	-1.0
NEZ	**North Egmont**	**1.95**	**233**	P	P	09 04 26.9	0.0
NEZ	**North Egmont**	**1.95**	**233**	PN	P	09 04 26.9	0.0
PKE	**Pukeiti**	**1.97**	**236**	P	P	09 04 26.7	-0.5
PKE	**Pukeiti**	**1.97**	**236**	PN	P	09 04 26.7	-0.5
PWZ	**Pawanui**	**2.00**	**163**	PN	P	09 04 26.7	-0.7
PWZ				SN	S	09 04 54.1	-1.8
NWEZ	**Newall Road**	**2.10**	**236**	P	P	09 04 28.1	-0.5
NWEZ	**Newall Road**	**2.10**	**236**	PN	P	09 04 28.1	-0.5
BFZ	**Birch Farm**	**2.56**	**178**	PN	P	09 04 32.1	-2.0
BFZ				SN	S	09 05 00.6	-7.0
MRZ	**Mangatainoka R**	**2.57**	**189**	P	P	09 04 32.0	-2.3
MRZ	**Mangatainoka R**	**2.57**	**189**	⇑PN	P	09 04 32.0	-2.3
MRZ				SN	S	09 05 03.6	-4.3
KIW	**Kapiti Island**	**2.89**	**198**	P	P	09 04 35.0	-3.2
KIW				S	S	09 05 09.6	-5.1
KIW	**Kapiti Island**	**2.89**	**198**	PN	P	09 04 35.0	-3.1
KIW				SN	S	09 05 09.6	-5.1
MTW	**Mount Morrison**	**3.07**	**188**	P	P	09 04 37.1	-3.3
MTW	**Mount Morrison**	**3.07**	**188**	PN	P	09 04 37.1	-3.3
CAW	**Cannon Point**	**3.09**	**195**	PN	P	09 04 37.7	-3.0
CAW				SN	S	09 05 13.0	-6.1
MRW	**Makara Radio**	**3.29**	**199**	P	P	09 04 39.6	-3.6
MRW	**Makara Radio**	**3.29**	**199**	PN	P	09 04 39.6	-3.6
MRW				SN	S	09 05 17.8	-5.8
PAWZ	**Paruwai Farm**	**3.30**	**189**	PN	P	09 04 39.9	-3.4
WEL	**Wellington**	**3.33**	**198**	P	P	09 04 40.0	-3.6
WEL	**Wellington**	**3.33**	**198**	PN	P	09 04 40.0	-3.6
MSWZ	**Moikau Station**	**3.36**	**191**	P	P	09 04 40.5	-3.5
MSWZ	**Moikau Station**	**3.36**	**191**	PN	P	09 04 40.5	-3.6
MSWZ				SN	S	09 05 19.0	-6.1
BHW	**Baring Head**	**3.42**	**196**	PN	P	09 04 40.9	-3.9
BHW				SN	S	09 05 19.5	-7.1
TUWZ	**Tuamarina**	**3.70**	**206**	PN	P	09 04 43.9	-4.5
TUWZ				SN	S	09 05 26.9	-6.1
NNZ	**Nelson**	**3.74**	**213**	PN	P	09 04 44.7	-4.3
NNZ				SN	S	09 05 28.6	-5.2
QRZ	**Quartz Range**	**3.87**	**225**	PN	P	09 04 46.1	-4.5
CMWZ	**Cape Campbell**	**3.91**	**201**	*e*PN	P	09 04 47.5	-3.6
BSWZ	**Blackbirch Sta**	**3.98**	**205**	*e*PN	P	09 04 48.1	-3.9
THZ	**Tophouse**	**4.39**	**213**	PN	P	09 04 52.7	-4.6
THZ				SN	S	09 05 43.3	-5.5
KHZ	**Kahutara**	**4.72**	**204**	⇓PN	P	09 04 57.0	-4.5
DSZ	**Denniston Nort**	**4.90**	**221**	PN	P	09 04 58.0	-6.0
DSZ				SN	S	09 05 53.1	-7.6
LTZ	**Lake Taylor**	**5.50**	**211**	PN	P	09 05 06.1	-5.7
MQZ	**McQueen's Vall**	**6.16**	**204**	PN	P	09 05 13.9	-6.6
FOZ	**Fox Glacier**	**7.29**	**220**	PN	P	09 05 27.9	-7.6

IGQ 26 09:07:01.3, 1.17S×81.41W, h12km±7km, mb4.6, 5C-2D, Error ellipse: s-maj=8.2km s-min=5.0km az=165.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.88**	**82**	⇑P	Pb	09 07 16.4	-1.5
MAGD	**Magdalena**	**1.97**	**56**	P	Pn	09 07 37.1	+2.1
MAGD				S	Sn	09 08 01.1	+1.4
IGUA	**Igualata**	**2.79**	**97**	P	Pn	09 07 47.7	+1.0
CUSU	**Cusua**	**2.94**	**95**	⇑P	Pn	09 07 51.1	+2.3
JUIV	**Juive**	**2.96**	**95**	P	Pn	09 07 50.7	+1.6
JUA2	**San Juan 2**	**2.96**	**71**	P	Pn	09 07 50.1	+1.0
ARRY	**Arrayan**	**2.98**	**96**	⇑P	Pn	09 07 50.1	+0.8
ARRY				S	Sn	09 08 24.4	-0.9
TERV	**Terraza Guagua**	**2.98**	**71**	P	Pn	09 07 50.6	+1.3
PINO	**Pino**	**2.98**	**70**	P	Pn	09 07 50.2	+0.8
RETU	**Refugio**	**2.98**	**95**	P	Pn	09 07 51.3	+2.0
RETU				S	Sn	09 08 26.8	+1.5
NAS1	**Nasa**	**2.98**	**80**	P	Pn	09 07 51.1	+1.7
PATA	**Patacocha**	**3.00**	**96**	P	Pn	09 07 51.8	+2.2
JOR1	**San Jorge 1**	**3.01**	**67**	P	Pn	09 07 49.2	-0.5
RUN2	**Runtun**	**3.01**	**95**	P	Pn	09 07 51.2	+1.5
ULBA	**Ulba**	**3.02**	**95**	P	Pn	09 07 51.7	+1.8
ULBA				S	Sn	09 08 28.1	+1.8
YANA	**Yana**	**3.03**	**70**	⇓P	Pn	09 07 50.8	+0.8
PISA	**Pisayambo**	**3.03**	**88**	P	Pn	09 07 51.4	+1.4
VC1	**Cotopaxi 1**	**3.06**	**80**	⇓P	Pn	09 07 53.0	+2.6
TAMB	**Tambo**	**3.08**	**81**	P	Pn	09 07 52.4	+1.6
ANTI	**Antisana**	**3.33**	**78**	⇑P	Pn	09 07 56.8	+2.5
COTA	**Cotacachi**	**3.42**	**64**	P	Pn	09 07 57.0	+1.4
CAYR	**Refugio Cayamb**	**3.60**	**71**	⇑P	Pn	09 08 01.2	+3.0
CAYR				S	Sn	09 08 42.6	+1.5
CAYA	**Cayambe**	**3.64**	**70**	P	Pn	09 08 01.4	+2.7
CONE	**Cono NE Rev Vo**	**3.93**	**74**	P	Pn	09 08 07.8	+5.1

IDC 26 09:22:24.3±9.0, 14.52S×173.92W, mb3.4/3, mb1 3.7/3, mb1mx3.5/14, mbtmp3.4/3, Error ellipse: s-maj=400.8km s-min=37.3km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.56**	**256**	P	P	09 31 17.2	-2.1
	0.1nm,0.3s,baz=90,slow=7.0,SNR=3.3						
ASAR	**Alice Springs**	**49.91**	**251**	P	P	09 31 20.1	-1.8
	0.5nm,0.7s,baz=89,slow=8.1,SNR=7.3						
ILAR	**Eielson Array**	**81.68**	**11**	P	P	09 34 44.1	-1.4
	0.3nm,0.8s,baz=226,slow=6.3,SNR=4.8						

*IDC **26** 09:31:49.7±3.5, 31.36N×72.02E, mb3.5/5, mb1 3.8/5, mb1mx3.5/20, mbtmp3.5/5, Error ellipse: s-maj=143.8km s-min=28.0km az=73.0*
*NDI **26** 09:31:57.8±3.3, 30.78N×70.85E, h15km, ML3.5*
ISC 26 09:31:47.6±0.9, 30.96N±0.08×70.77E±0.08, h15km, n22, σ1§13/34, mb3.5/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHET	**Khetri**	**5.25**	**122**	*e*P	**Pn**	**09 33 14.3**	**+6.8**
KHET				*e*S	**Sn**	**09 34 08.7**	**+0.3**
AJM	**Ajmer**	**5.61**	**142**	*e*P	**Pn**	**09 33 18.4**	**+5.8**
AJM				*e*S	**Sn**	**09 34 16.0**	**-1.6**
AJM				*e*		09 34 52.8	
	comp=E,96nm,0.2s						
AJM				*e*		09 34 52.9	
	comp=N,67nm,0.1s						
KUDL	**Kundal**	**5.72**	**118**	*e*P	**Pn**	**09 33 21.3**	**+7.2**
KUDL				*e*S	**Sn**	**09 34 21.0**	**+0.8**
NDI	**New Delhi**	**6.04**	**110**	*e*PN	**Pb**	**09 33 34.0**	**+1.6**
NDI				*e*SN	**Sn**	**09 34 29.0**	**+0.7**
NDI				*e*SG	**Sg**	**09 35 10.0**	**+1.1**
AYAN	**Aya Nagar**	**6.06**	**112**	*e*P	**Pn**	**09 33 24.0**	**+5.1**
AYAN				*e*S	**Sn**	**09 34 28.1**	**-0.6**
	comp=Z,42nm,0.5s						
AYAN				*e*		09 35 23.4	
	comp=Z,42nm,0.5s						
SONA	**Sohna**	**6.12**	**115**	*e*P	**Pn**	**09 33 24.1**	**+4.2**
SONA				*e*S	**Sn**	**09 34 27.4**	**-3.0**
SONA				*e*		09 35 23.6	
	comp=E,64nm,0.8s						
SONA				*e*		09 35 23.6	
	comp=N,38nm,0.5s						
DDI	**Dehra Dun**	**6.31**	**94**	*e*P	**Pg**	**09 33 53.9**	**+0.3**
DDI				*e*S	**Sg**	**09 35 23.0**	**+5.2**
KLP	**Kalpa**	**6.43**	**83**	*e*P	**Pn**	**09 33 32.2**	**+8.1**
JOSI	**Joshimath**	**7.58**	**91**	*e*P	**Pn**	**09 33 43.2**	**+3.0**
JOSI				*e*S	**Sn**	**09 35 05.3**	**-1.3**
BHPL	**Bhopal**	**9.71**	**141**	*e*P	**P**	**09 34 11.7**	**+1.8**
BHPL				*e*S	**Sn**	**09 35 53.8**	**-5.8**
BHPL				*e*		09 37 12.8	
	comp=N,20nm,0.8s						
BHPL				*e*		09 37 13.1	
	comp=E,40nm,0.8s						
KOLN	**Koldanda**	**11.63**	**103**	*e*P	**P**	**09 34 36.6**	**+0.4**
	comp=E,11nm,0.5s						
KOLN				*e*S	**S**	**09 36 43.4**	**-3.4**
GKN	**Gorkha**	**12.44**	**100**	*e*P	**P**	**09 34 46.6**	**-0.4**
	comp=E,13nm,0.3s						
GKN				*e*S	**S**	**09 37 00.9**	**-5.4**
POO	**Poona**	**12.69**	**167**	*e*P	**P**	**09 34 44.5**	**-5.9**
KKN	**Kakani**	**13.04**	**100**	*e*P	**P**	**09 34 54.3**	**-0.8**
	comp=E,8.3nm,0.4s						
PKI	**Pulchoki**	**13.22**	**101**	*e*S	**S**	**09 37 19.9**	**-5.2**
GUN	**Gumba**	**13.52**	**99**	*e*P	**P**	**09 35 00.8**	**-0.6**
	comp=E,23nm,0.3s						
JIRN	**Jiri**	**13.85**	**100**	*e*P	**P**	**09 35 04.9**	**-0.9**
	comp=E,12nm,0.4s						
BVAR	**Borovoye Array**	**22.05**	**359**	P	**P**	**09 36 43.7**	**+0.4**
	comp=E,0.9nm,0.6s,mb3.4,baz=160,slow=7.7,SNR=5.5						
ZAL	**Zalesovo**	**25.09**	**20**	P	**P**	**09 37 09.0**	**-3.9**
	comp=E,1.4nm,0.5s,mb3.7,baz=311,slow=8.8,SNR=4.4						
WRA	**Warramunga Arr**	**79.27**	**121**	P	**P**	**09 43 54.1**	**-0.2**
	comp=E,0.5nm,0.7s,mb3.6,baz=322,slow=5.6,SNR=4.7						
ASAR	**Alice Springs**	**81.28**	**124**	P	**P**	**09 44 04.3**	**-0.6**
	comp=E,0.3nm,0.6s,mb3.4,baz=308,slow=5.4,SNR=5.9						
YKA	**Yellowknife Ar**	**86.77**	**2**	P	**P**	**09 44 31.8**	**-0.1**
	comp=E,0.3nm,1.0s,mb3.5,baz=345,slow=5.6,SNR=4.2						

*CSEM **26** 09:43:06.4±0.3, 59.96N×4.50E, h2km, ML2.1, Error ellipse: s-maj=6.0km s-min=2.3km az=60.0*
*NAO **26** 09:43:08.1±6.5, 59.73N×4.92E, h2km±35km, ML2.9*
BER 26 09:43:10.6±3.1, 60.00N×4.75E, MD2.0, ML2.1, ML2.9(NAO), 2C, Explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGD	**Espegrend**	**0.36**	**41**	⇑*i*P	Pg	09 43 16.6	-1.3
EGD	**Espegrend**	**0.36**	**41**	⇑*i*P	Pg	09 43 16.5	-1.4
	SNR=90						
BER	**Bergen**	**0.49**	**37**	*e*P	Pg	09 43 18.9	-1.4
BER				*e*P		09 43 19.3	
BER	**Bergen**	**0.49**	**37**	*e*P	Pg	09 43 19.3	-1.0
	SNR=90						
RUND	**Rundenannen**	**0.52**	**36

SNR=2.7

*NEIC **26** 09:47:05.9, 38.51S×175.93E, h176km, After WEL.*
WEL 26 09:47:05.4±0.3, 38.49S×175.91E, h180km±2km, ML3.8/13, 7D, Error ellipse: s-maj=2.2km s-min=1.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UTU	**Utuhina**	**0.39**	**35**	P	P	09 47 29.9	-0.3
UTU	**Utuhina**	**0.39**	**35**	PN	P	09 47 29.9	-0.2
KATZ	**Kakaramea**	**0.51**	**199**	P	P	09 47 30.3	-0.3
KATZ	**Kakaramea**	**0.51**	**199**	PN	P	09 47 30.3	-0.3
TAZ	**Tarawera**	**0.54**	**61**	P	P	09 47 30.5	-0.2
TAZ	**Tarawera**	**0.54**	**61**	PN	P	09 47 30.5	-0.2
MGZ	**Maungaku**	**0.58**	**210**	P	P	09 47 30.7	-0.2
MGZ	**Maungaku**	**0.58**	**210**	PN	P	09 47 30.7	-0.2
LIRZ	**Lichensteins R**	**0.61**	**38**	P	P	09 47 30.7	-0.4
LIRZ	**Lichensteins R**	**0.61**	**38**	PN	P	09 47 30.7	-0.4
WTVZ	**West Tongariro**	**0.67**	**202**	P	P	09 47 31.0	-0.3
WTVZ	**West Tongariro**	**0.67**	**202**	PN	P	09 47 31.0	-0.3
WTVZ				SN	S	09 47 50.7	-0.6
TWVZ	**Taurewa**	**0.69**	**212**	P	P	09 47 30.9	-0.5
TWVZ	**Taurewa**	**0.69**	**212**	PN	P	09 47 30.9	-0.5
OTVZ	**Oturere**	**0.70**	**196**	PN	P	09 47 31.3	-0.2
NGZ	**Ngauruhoe**	**0.72**	**199**	P	P	09 47 31.3	-0.3
NGZ	**Ngauruhoe**	**0.72**	**199**	PN	P	09 47 31.3	-0.3
EDRZ	**Edgecumbe**	**0.76**	**60**	P	P	09 47 31.3	-0.5
EDRZ	**Edgecumbe**	**0.76**	**60**	PN	P	09 47 31.3	-0.5
CNZ	**Chateau**	**0.76**	**202**	P	P	09 47 31.6	-0.2
CNZ	**Chateau**	**0.76**	**202**	PN	P	09 47 31.6	-0.2
WPVZ	**Whakapapa**	**0.77**	**202**	P	P	09 47 31.6	-0.2
WPVZ	**Whakapapa**	**0.77**	**202**	PN	P	09 47 31.6	-0.2
MARZ	**Manawahe**	**0.79**	**50**	P	P	09 47 31.8	-0.1
MARZ	**Manawahe**	**0.79**	**50**	PN	P	09 47 31.8	-0.1
TUVZ	**Tukino**	**0.80**	**194**	P	P	09 47 31.9	-0.1
TUVZ	**Tukino**	**0.80**	**194**	⇓PN	P	09 47 31.9	-0.1
TUVZ				SN	S	09 47 52.6	0.0
BKZ	**Black Stump Fm**	**0.81**	**146**	P	P	09 47 32.0	-0.1
BKZ	**Black Stump Fm**	**0.81**	**146**	⇓PN	P	09 47 32.0	0.0
BKZ				SN	S	09 47 51.7	-1.0
WNVZ	**Wahianoa**	**0.87**	**196**	P	P	09 47 30.8	-1.6
WNVZ	**Wahianoa**	**0.87**	**196**	PN	P	09 47 30.8	-1.6
WNVZ				SN	S	09 47 51.3	-2.0
MOVZ	**Moawhango**	**0.92**	**188**	⇓PN	P	09 47 32.3	-0.4
MOVZ				SN	S	09 47 52.1	-1.7
URZ	**Urewera**	**0.97**	**76**	P	P	09 47 32.5	-0.6
URZ	**Urewera**	**0.97**	**76**	⇓PN	P	09 47 32.5	-0.6
URZ				SN	S	09 47 53.6	-0.8
MWZ	**Matawai**	**1.28**	**83**	P	P	09 47 35.4	-0.3
MWZ				S	S	09 47 58.0	-1.1
MWZ	**Matawai**	**1.28**	**83**	⇓PN	P	09 47 35.4	-0.3
MWZ				SN	S	09 47 58.0	-1.1
WAZ	**Wanganui**	**1.45**	**209**	P	P	09 47 36.4	-0.9
WAZ				S	S	09 48 01.1	-0.8
WAZ	**Wanganui**	**1.45**	**209**	PN	P	09 47 36.4	-0.9
WAZ				SN	S	09 48 01.1	-0.8
KNZ	**Kokohu**	**1.48**	**111**	*e*P	P	09 47 37.6	+0.1
KNZ	**Kokohu**	**1.48**	**111**	⇓PN	P	09 47 37.6	0.0
KNZ				SN	S	09 48 02.1	-0.2
TSZ	**Takapari Road**	**1.56**	**179**	P	P	09 47 37.7	-0.7
TSZ	**Takapari Road**	**1.56**	**179**	⇓PN	P	09 47 37.7	-0.6
TSZ				SN	S	09 48 02.3	-1.5
PWZ	**Pawanui**	**1.70**	**155**	*e*P	P	09 47 39.5	-0.2
PWZ	**Pawanui**	**1.70**	**155**	PN	P	09 47 39.5	-0.3
PUZ	**Puketiti**	**1.89**	**78**	P	P	09 47 40.9	-0.8
PUZ				S	S	09 48 08.0	-1.7
PUZ	**Puketiti**	**1.89**	**78**	PN	P	09 47 40.9	-0.8
PUZ				SN	S	09 48 08.0	-1.7
MXZ	**Matakaoa Point**	**2.11**	**65**	P	P	09 47 43.4	-0.6
MXZ	**Matakaoa Point**	**2.11**	**65**	PN	P	09 47 43.4	-0.7
MRZ	**Mangatainoka R**	**2.18**	**187**	P	P	09 47 43.1	-1.8
MRZ	**Mangatainoka R**	**2.18**	**187**	PN	P	09 47 43.1	-1.8
MRZ				SN	S	09 48 11.9	-3.5
BFZ	**Birch Farm**	**2.20**	**173**	*e*P	P	09 47 43.7	-1.4
BFZ	**Birch Farm**	**2.20**	**173**	PN	P	09 47 43.7	-1.4
BFZ				SN	S	09 48 12.6	-3.1
KIW	**Kapiti Island**	**2.49**	**198**	P	P	09 47 46.1	-2.4
KIW	**Kapiti Island**	**2.49**	**198**	PN	P	09 47 46.1	-2.4
KIW				*e*SN	S	09 48 17.2	-4.4
MTW	**Mount Morrison**	**2.68**	**187**	P	P	09 47 48.1	-2.7
MTW	**Mount Morrison**	**2.68**	**187**	PN	P	09 47 48.1	-2.7
MTW				*e*SN	S	09 48 21.2	-4.5
CAW	**Cannon Point**	**2.69**	**194**	P	P	09 47 48.1	-2.8
CAW	**Cannon Point**	**2.69**	**194**	PN	P	09 47 48.1	-2.7
CAW				*e*SN	S	09 48 21.8	-4.1
MRW	**Makara Radio**	**2.89**	**198**	P	P	09 47 49.7	-3.5
MRW	**Makara Radio**	**2.89**	**198**	*e*PN	P	09 47 50.5	-2.8
PAWZ	**Paruwai Farm**	**2.91**	**187**	PN	P	09 47 50.6	-2.9
WEL	**Wellington**	**2.92**	**197**	P	P	09 47 51.0	-2.7
WEL	**Wellington**	**2.92**	**197**	PN	P	09 47 51.0	-2.7
MSWZ	**Moikau Station**	**2.96**	**190**	P	P	09 47 51.2	-3.0
MSWZ	**Moikau Station**	**2.96**	**190**	PN	P	09 47 51.2	-3.0
BHW	**Baring Head**	**3.02**	**195**	P	P	09 47 51.8	-3.1
BHW	**Baring Head**	**3.02**	**195**	PN	P	09 47 51.8	-3.1
TUWZ	**Tuamarina**	**3.30**	**207**	PN	P	09 47 55.0	-3.3
NNZ	**Nelson**	**3.35**	**215**	PN	P	09 47 55.6	-3.4
QRZ	**Quartz Range**	**3.50**	**227**	PN	P	09 47 57.1	-3.8
BSWZ	**Blackbirch Sta**	**3.58**	**205**	*e*PN	P	09 47 59.2	-2.7
THZ	**Tophouse**	**4.00**	**214**	PN	P	09 48 03.7	-3.5
KHZ	**Kahutara**	**4.32**	**204**	*e*P	P	09 48 07.6	-3.7
KHZ	**Kahutara**	**4.32**	**204**	PN	P	09 48 07.6	-3.6
DSZ	**Denniston Nort**	**4.52**	**223**	PN	P	09 48 08.8	-5.2
LTZ	**Lake Taylor**	**5.10**	**212**	PN	P	09 48 16.4	-5.0
MQZ	**McQueen's Vall**	**5.76**	**204**	*e*PN	P	09 48 24.8	-5.2
FOZ	**Fox Glacier**	**6.91**	**221**	*e*PN	P	09 48 38.2	-7.0

*NAO **26** 09:56:13.7±3.6, 60.05N×4.82E, ML3.3*
*CSEM **26** 09:56:16.1±0.5, 60.14N×4.95E, h12km, ML2.0, Error ellipse: s-maj=10.4km s-min=2.8km az=48.0*
BER 26 09:56:16.0±4.7, 60.05N×4.75E, MD1.9, ML2.0, ML3.3(NAO), 1C, Explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGD	**Espegrend**	**0.33**	**46**	⇑*i*P	Pg	09 56 21.8	-0.8
EGD				*e*S	Sg	09 56 28.5	+1.5
BER	**Bergen**	**0.45**	**40**	*e*P	Pg	09 56 23.9	-1.0
RUND	**Rundenannen**	**0.48**	**40**	*e*P	Pg	09 56 24.7	-0.9
ASK	**Askoy**	**0.49**	**27**	*e*P	Pg	09 56 24.5	-1.3
ASK				*e*S	Sg	09 56 32.6	+0.3
ODD1	**Odda**	**0.95**	**97**	*e*P	Pg	09 56 31.8	-3.3
ODD1				*e*S	Sg	09 56 47.8	0.0
ODD1				AML	AML	09 56 49.6	
	comp=Z,75nm,0.6s						
ODD1	**Odda**	**0.95**	**97**	*e*P	Pg	09 56 31.8	-3.3
	SNR=90						
ODD1				*e*S	Sg	09 56 47.8	0.0
	comp=Z,75nm,0.6s,SNR=90						
SUE	**Sulen**	**1.01**	**0**	*e*P	Pb	09 56 33.3	-2.8
SUE				*e*S	Sg	09 56 48.2	-1.6
SUE				AML	AML	09 56 51.2	
	comp=Z,42nm,0.4s						
SUE	**Sulen**	**1.01**	**0**	*e*P	Pb	09 56 33.3	-2.8
	SNR=90						
SUE				*e*S	Sg	09 56 48.2	-1.6
	comp=Z,42nm,0.4s,SNR=90						
BLS5	**Blasjo**	**1.07**	**125**	*e*P	Pb	09 56 35.0	-2.1
BLS5				*e*S	Sb	09 56 51.2	-0.2
BLS5				AML	AML	09 56 59.7	
	comp=Z,54nm,0.6s						
BLS5	**Blasjo**	**1.07**	**125**	*e*P	Pb	09 56 35.0	-2.0
	SNR=90						
BLS5				*e*S	Sb	09 56 51.2	-0.2
	comp=Z,54nm,0.6s,SNR=90						
HYA	**Hoyanger**	**1.33**	**32**	*e*P	Pb	09 56 40.0	-1.5
HYA				*e*S	Sb	09 57 00.3	+1.4
HYA				AML	AML	09 57 02.4	
	comp=Z,32nm,0.5s						
FOO	**Floro**	**1.56**	**5**	*e*P	Pn	09 56 42.7	-2.5
SNART	**Snartemo**	**2.13**	**142**	*e*P	Pn	09 56 51.6	-1.6
SNART				*e*S	Sn	09 57 19.9	-0.9
NB2	**NORSAR Subarra**	**3.35**	**70**	Pn	Pn	09 57 06.8	-3.8
NB2				Pg	Pg	09 57 13.4	-9.4
NB2				Lg		09 57 58.2	
NC6	**NORSAR Subarra**	**3.40**	**75**	Pn	Pn	09 57 07.3	-4.1
NC6				Pg	Pg	09 57 14.7	-9.3
NC6				Lg		09 58 00.5	
HFS	**Hagfors**	**4.48**	**85**	Pn	Pn	09 57 21.9	-4.8
	baz=257,slow=12						
HFS				Pg	Pg	09 57 34.7	-11
	baz=274,slow=14						
HFS				Lg		09 58 31.7	
	baz=295,slow=22						
HFS	**Hagfors**	**4.48**	**85**	Pg	Pg	09 57 34.7	-11

OTT 26 10:00:28.5±0.2, 78.12N×103.86W, h18km, ML3.5/9, Sverdrup Seismic Zone, Nu 75km south from Isachsen, Nu, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	**Eureka**	**3.83**	**51**	PN	Pn	10 01 27.4	-0.6
EUNU				SN	Sn	10 02 08.2	-5.0
RES	**Resolute Bay**	**4.04**	**144**	PN	Pn	10 01 29.4	-1.6
RES				SN	Sn	10 02 13.3	-5.1
RES				Trac		10 02 40.1	
	comp=Z,12nm,0.3s						
RES	**Resolute Bay**	**4.04**	**144**	PN	Pn	10 01 29.4	-1.6
RES				SN	Sn	10 02 13.3	-5.1
RES				Trac		10 02 40.1	
	comp=Z,12nm,0.3s						
IGL	**Igloolik**	**10.62**	**134**	PN	P	10 02 57.6	-5.1
IGL				SN	S	10 04 49.3	-13
IGL				Trac		10 05 24.9	
	comp=Z,1.2nm,0.3s						
IGL	**Igloolik**	**10.62**	**134**	PN	P	10 02 57.6	-5.1
IGL				SN	S	10 04 49.3	-13
IGL				Trac		10 05 24.9	
	comp=Z,1.2nm,0.3s						
IGLN	**Igloolik**	**10.62**	**134**	PN	P	10 02 57.2	-5.5
IGLN				SN	S	10 04 49.0	-13
IGLN				Trac		10 06 10.6	
	comp=Z,1.3nm,0.4s						
IGLN	**Igloolik**	**10.62**	**134**	PN	P	10 02 57.2	-5.5
IGLN				SN	S	10 04 49.0	-13
IGLN				Trac		10 06 10.6	
	comp=Z,1.3nm,0.4s						
LUPN	**Lupin Mine**	**12.63**	**194**	PN	P	10 03 25.4	-4.6
LUPN				SN	S	10 05 37.0	-14
LUPN				Trac		10 06 27.9	
	comp=Z,1.4nm,0.2s						
LUPN	**Lupin Mine**	**12.63**	**194**	PN	P	10 03 25.4	-4.6
LUPN				SN	S	10 05 37.0	-14
LUPN				Trac		10 06 27.9	
	comp=Z,1.4nm,0.2s						
INK	**Inuvik**	**12.81**	**236**	PN	P	10 03 27.4	-4.9
INK				SN	S	10 05 38.5	-17
INK				SN	S	10 05 40.7	-15
INK				Trac		10 05 47.1	
	comp=Z,1.0nm,0.2s						
INK	**Inuvik**	**12.81**	**236**	PN	P	10 03 27.4	-4.9
INK				SN	S	10 05 38.5	-17
INK				SN	S	10 05 40.7	-15
INK				Trac		10 05 47.1	
	comp=Z,1.0nm,0.2s						
YRTN	**Rankin Inlet**	**15.81**	**160**	PN	P	10 04 08.6	-2.8
YRTN				SN	S	10 06 51.7	-15
YRTN				Trac		10 08 54.6	
	comp=Z,0.7nm,0.5s						
YRTN	**Rankin Inlet**	**15.81**	**160**	PN	P	10 04 08.6	-2.8
YRTN				SN	S	10 06 51.7	-15
YRTN				Trac		10 08 54.6	
	comp=Z,0.7nm,0.5s						
YKW3	**Yellowknife Ar**	**15.99**	**198**	PN	P	10 04 08.0	-5.6
YKW3				PN	P	10 04 09.0	-4.7
YKW3				SN	S	10 06 55.8	-15
YKW3				SN	S	10 06 56.6	-14
YKW3				Trac		10 07 00.6	
	comp=Z,1.5nm,0.5s						
YKW3	**Yellowknife Ar**	**15.99**	**198**	PN	P	10 04 08.0	-5.6
YKW3				PN	P	10 04 09.0	-4.7
YKW3				SN	S	10 06 55.8	-15
YKW3				SN	S	10 06 56.6	-14
YKW3				Trac		10 07 00.6	
	comp=Z,1.5nm,0.5s						
DAWY	**Dawson**	**17.67**	**237**	PN	P	10 04 30.9	-4.0
DAWY				SN	S	10 07 35.9	-13
DAWY				Trac		10 07 45.4	
	comp=Z,0.4nm,0.3s						
DAWY	**Dawson**	**17.67**	**237**	PN	P	10 04 30.9	-4.0
DAWY				SN	S	10 07 35.9	-13
DAWY				Trac		10 07 45.4	
	comp=Z,0.4nm,0.3s						
FRB	**Frobisher Bay**	**17.93**	**123**	PN	P	10 04 36.2	-1.9
FRB				Trac		10 07 46.4	
	comp=Z,0.4nm,0.1s						
FRB	**Frobisher Bay**	**17.93**	**123**	PN	P	10 04 36.2	-1.9
FRB				Trac		10 07 46.4	
	comp=Z,0.4nm,0.1s						
FCC	**Fort Churchill**	**19.71**	**165**	PN	P	10 04 55.7	-3.7
FCC				Trac		10 05 45.4	
	comp=Z,8.0nm,0.5s						
FCC	**Fort Churchill**	**19.71**	**165**	PN	P	10 04 55.7	-3.7
FCC				Trac		10 05 45.4	
	comp=Z,8.0nm,0.5s						
KUQ	**Kuujjuuaa**	**23.27**	**129**	PN	P	10 05 35.5	+0.2
KUQ	**Kuujjuuaa**	**23.27**	**129**	PN	P	10 05 35.5	+0.2
SILO	**Sutton Inlier**	**24.66**	**153**	PN	P	10 05 50.0	+1.2
SILO	**Sutton Inlier**	**24.66**	**153**	PN	P	10 05 50.0	+1.2
SCHQ	**Schefferville**	**26.66**	**129**	PN	P	10 06 05.2	-2.3
SCHQ	**Schefferville**	**26.66**	**129**	PN	P	10 06 05.2	-2.3

IDC 26 10:10:39.2±1.4, 2.29S×139.10E, mb3.8/3, mb1 4.0/4, mb1mx3.8/12, mbtmp3.8/4, ML3.6/1, MS3.1/1, Ms1 3.3/1, ms1mx2.8/13, Error ellipse: s-maj=78.2km s-min=26.3km az=98.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.15**	**195**	P	P	10 14 52.4	-2.1
	0.2nm,0.3s,baz=14,slow=11,SNR=13						
ASAR	**Alice Springs**	**21.84**	**193**	P	P	10 15 33.6	-1.7
	0.5nm,0.5s,baz=21,slow=11,SNR=5.1						
CMAR	**Chiang Mai Arr**	**44.57**	**299**	LR	LR	10 38 46.0	
	comp=Z,22nm,20.3s,baz=135,slow=38						
BVAR	**Borovoye Array**	**79.19**	**325**	P	P	10 22 46.3	-1.3
	1.4nm,0.5s,baz=104,slow=5.9,SNR=8.4						
ILAR	**Eielson Array**	**85.29**	**24**	P	P	10 23 17.6	-1.3
	1.2nm,0.9s,baz=271,slow=4.5,SNR=11						

IDC 26 10:16:59.2±1.7, 7.74N×94.05E, mb3.7/5, mb1 3.8/6, mb1mx3.7/19, mbtmp3.7/6, ML4.1/1, MS3.0/1, Ms1 3.2/1, ms1mx3.0/18, Error ellipse: s-maj=60.6km s-min=23.6km az=64.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.66**	**24**	Pn	P	10 19 47.0	-3.0
	0.3nm,0.3s,baz=205,slow=14,SNR=5.0						
CMAR				LR	LR	10 24 19.1	
	comp=Z,73nm,18.4s,baz=210,slow=38						
SHL	**Shillong**	**17.84**	**354**	*e*P	P	10 21 21.5	+11
SONM	**Songino Array**	**41.31**	**13**	P	P	10 24 47.0	-1.1
	0.3nm,0.6s,baz=202,slow=7.8,SNR=2.4						
ZAL	**Zalesovo**	**46.66**	**352**	P	P	10 25 28.9	-2.4
	1.0nm,0.4s,baz=283,slow=13,SNR=4.7						
WRA	**Warramunga Arr**	**48.26**	**125**	P	P	10 25 42.0	-2.3
	0.8nm,1.0s,baz=305,slow=8.5,SNR=6.3						
ASAR	**Alice Springs**	**49.90**	**130**	P	P	10 25 55.2	-1.6
	0.5nm,0.8s,baz=309,slow=7.9,SNR=4.1						
HFS	**Hagfors**	**78.52**	**330**	P	P	10 29 02.2	-1.5
	23nm,1.4s,baz=90,slow=5.8,SNR=5.0						

IGQ 26 10:39:23.7, 1.63S×81.46W, h16km±8km, mb4.1, 1C-1D, Error ellipse: s-maj=14.8km s-min=11.2km az=30.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.07**	**58**	⇑P	Pb	10 39 42.0	-1.4
IGUA	**Igualata**	**2.82**	**87**	P	Pn	10 40 09.4	+0.4
ARRY	**Arrayan**	**3.00**	**88**	P	Pn	10 40 12.2	+0.6
ULBA	**Ulba**	**3.05**	**87**	P	Pn	10 40 13.6	+1.3
PISA	**Pisayambo**	**3.12**	**80**	P	Pn	10 40 14.5	+1.2
NAS1	**Nasa**	**3.14**	**72**	⇓P	Pn	10 40 16.1	+2.6
NAS1				S	Sn	10 40 52.7	+1.7
TERV	**Terraza Guagua**	**3.20**	**63**	P	Pn	10 40 15.0	+0.7
PINO	**Pino**	**3.20**	**63**	P	Pn	10 40 15.4	+1.0
PINO				S	Sn	10 40 56.7	+4.1
VC1	**Cotopaxi 1**	**3.21**	**72**	P	Pn	10 40 17.2	+2.7
YANA	**Yana**	**3.25**	**63**	P	Pn	10 40 15.8	+0.7
ANTI	**Antisana**	**3.50**	**71**	P	Pn	10 40 21.7	+3.1
COTA	**Cotacachi**	**3.68**	**58**	P	Pn	10 40 23.0	+1.8
CAYR	**Refugio Cayamb**	**3.82**	**65**	P	Pn	10 40 26.4	+3.2
CAYA	**Cayambe**	**3.85**	**64**	P	Pn	10 40 26.8	+3.0

IGQ 26 10:50:10.7, 1.18S×81.19W, h16km±5km, mb4.2, 2D, Error ellipse: s-maj=11.4km s-min=6.5km az=139.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.66**	**79**	⇓P	Pb	10 50 22.6	-0.7
MAGD	**Magdalena**	**1.80**	**52**	P	Pn	10 50 42.6	+1.2
IGUA	**Igualata**	**2.57**	**97**	P	Pn	10 50 53.6	+1.1
ARRY	**Arrayan**	**2.76**	**97**	P	Pn	10 50 56.1	+1.0
ARRY				S	Sn	10 51 29.4	+1.1
NAS1	**Nasa**	**2.77**	**79**	P	Pn	10 50 57.7	+2.4
ULBA	**Ulba**	**2.80**	**96**	P	Pn	10 50 58.8	+3.0
PISA	**Pisayambo**	**2.81**	**88**	P	Pn	10 50 57.5	+1.6
VC1	**Cotopaxi 1**	**2.84**	**79**	P	Pn	10 50 58.6	+2.3
TAMB	**Tambo**	**2.86**	**80**	P	Pn	10 50 58.7	+2.0
ANTI	**Antisana**	**3.12**	**77**	P	Pn	10 51 02.6	+2.3
COTA	**Cotacachi**	**3.23**	**62**	P	Pn	10 51 02.5	+0.6
CAYR	**Refugio Cayamb**	**3.40**	**70**	⇓P	Pn	10 51 07.0	+2.7

*NIED **26** 10:52:00, 45.90N×151.80E, h32km, Mw4.1 Best double couple: M0 1.47×10^15 NP1:φ=43°, δ=65°, λ=45°. NP2:φ=290°, δ=50°, λ=146°.*
*SKHL **26** 10:52:51.1±0.6, 45.74N×152.15E, h55km±24km, mb4.8/4*
*MOS **26** 10:52:52.2±1.2, 45.90N×151.95E, h52km, mb4.6/14, Error ellipse: s-maj=11.1km s-min=8.4km az=73.1*
*BJI **26** 10:52:55.7, 46.02N×151.97E, h89km, mB4.7, mb4.4, Ms4.2, Msz4.0*
*IDC **26** 10:52:55.8±3.5, 45.95N×151.83E, h68km±31km, mb4.0/20, mb1 4.2/22, mb1mx4.2/26, mbtmp4.3/22, ML3.8/2, MS3.5/3, Ms1 3.5/3, ms1mx2.9/25, Error ellipse: s-maj=20.7km s-min=13.0km az=165.0*
*NEIC **26** 10:52:57.6±1.4, 45.96N×151.88E, h85km±10km, mb4.3/14, Error ellipse: s-maj=14.2km s-min=6.6km az=160.0*
ISC 26 10:52:51.1±0.9, 45.90N±0.06×151.93E±0.06, h40km±7km, n103, σ1§14/104, mb4.5/41, MS3.7/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.93**	**258**	*e*PN	**P**	**10 53 36.8**	**+0.4**
KUR				*e*S	**S**	**10 54 10.6**	**-0.2**
KUR				pmax	pmax		
	comp=N,160nm,0.5s						
KUR				pmax	pmax		
	comp=Z,530nm,0.5s						
KUR				smax			
	comp=N,680nm,0.6s						
KUR				smax			
	comp=E,380nm,0.6s						
KUR	**Kuril'sk**	**2.93**	**258**	*e*P	**P**	**10 53 36.8**	**+0.4**
KUR				AMB	AMB	10 53 37.2	
	comp=E,160nm,0.5s						
KUR				AMB	AMB	10 53 37.2	
	comp=E,530nm,0.5s						
KUR				*e*S	**S**	**10 54 10.6**	**-0.2**
KUR				A		10 54 14.6	
	comp=E,680nm,0.6s						
KUR				A		10 54 14.6	
	comp=E,380nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.70**	**249**	*e*P	**P**	**10 54 00.5**	**-0.9**
YUK				*e*S	**S**	**10 54 53.0**	**-2.3**
YUK				A		10 54 58.6	
	comp=E,2μm,1.0s						
YUK				A		10 54 58.6	
	comp=E,380nm,0.6s						
YUK				A		10 54 58.6	
	comp=E,1μm,0.6s						
SKR	**Severo-Kuril's**	**5.54**	**29**	*e*P	**P**	**10 54 11.0**	**-2.2**
SKR				AMB	AMB	10 54 12.5	
	comp=E,80nm,0.5s						
SKR				AMB	AMB	10 54 12.5	
	comp=E,150nm,0.5s						
SKR				*e*S	**S**	**10 55 10.5**	**-6.0**
SKR				A		10 55 17.0	
	comp=E,150nm,0.5s						
SKR				A		10 55 17.0	
	comp=E,230nm,0.5s						
SKR				A		10 55 17.0	
	comp=E,90nm,0.5s						
YSS	**Yuzh-Sakhalins**	**6.43**	**283**	*e*PN	**P**	**10 54 29.5**	**+3.8**
PAU	**Pauzhetka**	**6.44**	**28**	*e*P	**P**	**10 54 22.5**	**-3.3**
PAU				*e*S	**S**	**10 55 32.0**	**-6.9**
ASAJ	**Asahikawa**	**6.86**	**258**	PN	**P**	**10 54 33.5**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,112nm,19.3s						
ASAJ	**Asahikawa**	**6.86**	**258**	P	**P**	**10 54 33.5**	**+1.8**
	comp=Z,1.0nm,0.3s,baz=105,slow=16,SNR=5.1						
ASAJ				LR	LR	10 56 44.9	
	comp=Z,112nm,19.3s,baz=340,slow=34						
TYV	**Tymovskoe**	**7.92**	**312**	*e*P	**P**	**10 54 47.2**	**+0.7**
TYV				AMB	AMB	10 54 48.2	
	comp=Z,10.0nm,0.7s						
TYV				*e*S	**S**	**10 56 17.2**	**+1.4**
TYV				A		10 56 19.2	
	comp=Z,10.0nm,0.6s						
PET	**Petropavlovsk**	**8.36**	**29**	PN	**P**	**10 54 54.5**	**+1.9**
PET	**Petropavlovsk**	**8.36**	**29**	*e*rx	rx	10 54 55.2	
PET				*e*S	**S**	**10 56 21.1**	**-5.7**
PET				A		10 56 22.3	
	comp=Z,50nm,0.6s						
PET				AMS	AMS	10 56 23.2	
	comp=Z,50nm,0.6s						
PET				A		10 57 54.7	
	comp=Z,100nm,22.0s						
NKL	**Nikolayevsk**	**10.29**	**319**	*e*rx	rx	10 55 19.0	
MA2	**Magadan**	**13.72**	**357**	*e*P	**P**	**10 56 07.6**	**+2.7**
MA2				pmax	pmax		
	comp=Z,20nm,0.6s						
MA2	**Magadan**	**13.72**	**357**	*e*P	**P**	**10 56 07.5**	**+2.7**
	comp=Z,20nm,0.6s						
EKMR	**Ekimchan**	**14.25**

BJI pmax pmax
comp=Z,9.0nm,0.8s,mb4.3
BJI Beiping 26.66 270 *e*P **P 10 58 30.1 +2.2**
comp=Z,9.0nm,0.8s,mb4.3
BJT Baijiatuau 26.67 270 *e*P **P 10 58 30.1 +2.1**
BJT pmax pmax
comp=Z,4.0nm,0.6s
BJT Baijiatuau 26.67 270 *e*P **P 10 58 30.1 +2.1**
comp=Z,4.2nm,0.6s,mb4.2
ULN Ulaanbaatar 30.42 290 *e*P **P 10 58 59.1 -2.5**
ULN pmax pmax
comp=Z,4.0nm,1.4s,mb4.0
ULN Ulaanbaatar 30.42 290 *e*P **P 10 58 59.1 -2.5**
comp=Z,4.3nm,1.4s,mb4.0
SONM Songino Array 30.85 290 P **P 10 59 03.8 -1.6**
comp=Z,0.5nm,0.5s,mb3.6,baz=80,slow=8.7,SNR=7.2
ZAK Zakamensk 32.31 296 *e*P **P 10 59 16.8 -1.4**
IMA Indian Mountai 34.98 35 *e*P **P 10 59 41.1 +0.1**
COLA College 37.31 38 *e*P **P 11 00 01.3 +0.6**
COLA pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
COLA College 37.31 38 *e*P **P 11 00 01.3 +0.5**
comp=Z,3.5nm,0.8s,mb4.2
ILAR Eielson Array 37.72 38 P **P 11 00 04.2 0.0**
comp=Z,0.6nm,0.6s,mb3.5,baz=259,slow=7.5,SNR=18
ZAL Zalesovo 42.47 306 PcP PcP 11 02 35.9 -0.5
comp=Z,2.9nm,1.0s,baz=66,slow=2.4,SNR=3.9
ZAL LR LR 11 20 26.1
comp=Z,94nm,18.9s,MS3.7,baz=247,slow=39
INK Inuvik 42.81 32 P **P 11 00 46.9 +0.8**
INK pmax pmax
comp=Z,3.0nm,0.5s
INK Inuvik 42.81 32 P **P 11 00 46.9 +0.8**
comp=Z,2.5nm,0.5s,mb4.2,baz=298,slow=6.9,SNR=30
INK Inuvik 42.81 32 *e*P **P 11 00 46.7 +0.7**
comp=Z,2.6nm,0.6s,mb4.1
NVS Novosibirsk 43.06 308 *e*P **P 11 00 42.4 -5.9**
WMQ Urumqi 44.48 291 *e*P **P 11 01 00.5 +0.6**
KURK Kurchatov 47.16 304 *e*P **P 11 01 18.5 -2.5**
KURK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KURK Kurchatov 47.16 304 *e*P **P 11 01 18.5 -2.5**
comp=Z,5.3nm,1.0s,mb4.4
LSA Lhasa 49.50 273 *e*P **P 11 01 40.0 +0.4**
LSA pmax pmax
comp=Z,3.0nm,0.3s,mb4.8
LSA Lhasa 49.50 273 *e*P **P 11 01 40.0 +0.4**
comp=Z,2.8nm,0.3s,mb4.8
BVAR Borovoye Array 50.77 310 P **P 11 01 47.4 -1.5**
comp=Z,1.3nm,0.5s,mb4.1,baz=72,slow=9.4,SNR=7.6
BVAR PcP PcP 11 03 04.6 -1.1
comp=Z,0.7nm,0.3s,baz=124,slow=5.3,SNR=4.9
CMAR Chiang Mai Arr 51.37 256 P **P 11 01 54.0 +0.1**
comp=Z,2.5nm,0.8s,mb4.2,baz=35,slow=8.3,SNR=12
YKA Yellowknife Ar 52.09 36 P **P 11 01 58.7 0.0**
YKA 11 03 09.2
YKA Yellowknife Ar 52.09 36 P **P 11 01 58.7 0.0**
comp=Z,1.8nm,0.6s,mb4.2,baz=298,slow=7.1,SNR=39
YKA PcP PcP 11 03 09.1 -1.3
comp=Z,3.4nm,1.4s,baz=298,slow=4.6,SNR=4.2
AAK Ala-Archa 53.48 296 *e*P **P 11 02 08.2 -1.1**
AAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
AAK Ala-Archa 53.48 296 *e*P **P 11 02 08.2 -1.1**
comp=Z,7.4nm,0.9s,mb4.6
JIRN Jiri 54.20 274 *e*P **P 11 02 15.2 +0.4**
comp=Z,20nm,0.5s,mb5.3
GUN Gumba 54.26 275 *e*P **P 11 02 15.2 -0.1**
KKN Kakani 54.75 275 *e*P **P 11 02 19.2 +0.3**
comp=Z,23nm,0.8s,mb5.3
DMN Daman 54.98 275 *e*P **P 11 02 21.1 +0.5**
comp=Z,9.3nm,0.3s,mb5.3
GKN Gorkha 55.07 276 *e*P **P 11 02 21.2 0.0**
comp=Z,18nm,0.5s,mb5.4
PMG Port Moresby 55.22 186 LR LR 11 23 07.9
comp=Z,66nm,18.5s,MS3.8,baz=173,slow=33
KOLN Koldanda 55.93 276 *e*P **P 11 02 27.3 -0.1**
comp=Z,15nm,0.6s,mb5.2
ARCES ARCESS Array B 58.38 341 P **P 11 02 43.7 -0.5**
comp=Z,2.7nm,0.7s,mb4.4,baz=45,slow=5.1,SNR=6.7
NVAR Mina Array Bea 63.55 61 P **P 11 03 20.1 +0.5**
comp=Z,2.4nm,0.8s,mb4.3,baz=300,slow=7.3,SNR=12
KAF Kangasniemi 63.87 335 *e*p **P 11 03 19.0 -2.2**
comp=Z,7.1nm,0.7s,mb4.8
KAF Kangasniemi 63.87 335 *e*P **P 11 03 19.0 -2.2**
KAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
FINES FINESS Array B 64.46 334 P **P 11 03 23.4 -1.6**
comp=Z,8.6nm,0.7s,mb4.9,baz=41,slow=8.5,SNR=24
FINES FINESS Array B 64.46 334 P **P 11 03 23.4 -1.6**
PDAR Pinedale Array 65.91 53 P **P 11 03 35.0 +0.2**
comp=Z,1.3nm,0.8s,mb4.0,baz=256,slow=1.2,SNR=10
MSU Marysvale 67.19 58 *e*P **P 11 03 43.1 +0.2**
NB2 NORSAR Subarra 68.76 341 P **P 11 03 51.7 -0.6**
comp=Z,2.7nm,0.5s,mb4.4,baz=28,slow=6.5
NB2 NORSAR Subarra 68.76 341 P **P 11 03 51.7 -0.6**
NB2 pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
NOA NORSAR Array B 68.76 341 P **P 11 03 51.6 -0.7**
comp=Z,4.5nm,0.7s,mb4.5,baz=28,slow=6.4,SNR=14
HFS Hagfors 68.96 339 P **P 11 03 52.5 -1.0**
comp=Z,8.1nm,0.4s,mb5.0,baz=45,slow=4.2,SNR=25
PV10 Paradox Valley 69.12 56 *e*P **P 11 03 55.6 +0.7**
PV01 Paradox Valley 69.56 56 *e*P **P 11 03 56.1 -1.5**
ISCO Idaho Springs 70.10 53 *e*P **P 11 04 01.7 +0.9**
ISCO pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ISCO Idaho Springs 70.10 53 *e*P **P 11 04 01.7 +0.9**
comp=Z,1.8nm,0.8s,mb4.0
KIV Kislovodsk 70.80 314 *e*P **P 11 04 05.7 +0.7**
KIV pmax pmax
comp=Z,18nm,0.9s,mb5.0
KIV Kislovodsk 70.80 314 *e*P **P 11 04 05.7 +0.7**
comp=Z,18nm,0.9s,mb5.0
ASAR Alice Springs 71.15 197 P **P 11 04 06.5 -1.0**
comp=Z,0.5nm,0.7s,mb3.5,baz=14,slow=5.2,SNR=6.0
SDCO Great Sand Dun 71.58 55 *e*P **P 11 04 10.3 +0.5**
comp=Z,0.7nm,0.8s,mb3.6
AKASG Malin Array Be 71.79 326 P **P 11 04 09.7 -1.1**
AKASG pmax pmax
comp=Z,6.0nm,0.4s
AKASG Malin Array Be 71.79 326 P **P 11 04 09.7 -1.1**
comp=Z,5.7nm,0.4s,mb4.9,baz=33,slow=6.1,SNR=23
SCHQ Schefferville 74.41 22 P **P 11 04 26.1 +0.1**
comp=Z,3.6nm,0.8s,mb4.4,baz=352,slow=4.0,SNR=6.1
KWP Kalwaria 75.13 329 *e*P **P 11 04 29.8 -0.5**
CLL Collm 76.89 335 P **P 11 04 39.8 -0.5**
comp=Z,logA/T=0.9,mb4.6
LIKS Likavka 76.89 330 *e*P **P 11 04 44.3 +4.0**
MLR Muntele Rosu 77.28 324 P **P 11 04 42.5 -0.1**
comp=Z,2.0nm,0.4s,mb4.4,baz=190,slow=6.5,SNR=5.2
VYHS Vyhne 77.46 330 *e*P **P 11 04 44.0 +0.5**
BRTR Keskin Array B 78.44 316 P **P 11 04 49.3 +0.2**
comp=Z,1.1nm,0.5s,mb4.0,baz=90,slow=3.7,SNR=4.8
TXAR Lajitas Array 78.62 60 P **P 11 04 50.4 +0.1**
comp=Z,2.2nm,0.5s,mb4.3,baz=300,slow=4.3,SNR=49
TXAR Lajitas Array 78.62 60 P **P 11 04 50.4 +0.1**
GERES GERESS Array B 78.86 333 P **P 11 04 51.3 +0.1**
comp=Z,1.4nm,0.5s,mb4.2,baz=39,slow=6.6,SNR=5.9
GIVF Givet 80.21 339 *e*P **P 11 04 58.8 +0.4**
CDF Champ du Feu 81.13 337 *e*P **P 11 05 03.0 -0.3**
comp=Z,11nm,0.8s,mb4.5
SSF Saint Saulge 83.36 339 *e*P **P 11 05 15.8 +1.0**
comp=Z,7.4nm,0.6s,mb4.6
AVF Avril sur Loir 83.65 339 *e*P **P 11 05 16.3 +0.1**
comp=Z,6.0nm,0.7s,mb4.6
SMF Signal de Mont 83.66 339 *e*P **P 11 05 16.0 -0.3**
LPL La Plagne 83.93 336 *e*P **P 11 05 18.5 +0.8**
LPG La Plagne 83.94 336 *e*P **P 11 05 18.6 +0.9**
ORIF Oris-en-Rattie 84.71 337 *e*P **P 11 05 22.9 +1.3**
comp=Z,6.4nm,0.6s,mb4.7
EIL Elat 85.60 309 P **P 11 05 27.6 +1.2**
comp=Z,7.4nm,0.9s,mb4.9,baz=285,slow=7.0,SNR=5.2
SUR Sutherland 140.36 272 PKPdf PKPdf 11 12 15.0 -0.7
PLCA Paso Flores 148.94 96 PKP2 PKPab 11 12 34.8 -5.5
PLCA pmax pmax
comp=Z,2.0nm,0.7s
PLCA Paso Flores 148.94 96 PKPbc PKPdf 11 12 34.8 +4.8
comp=Z,1.7nm,0.7s,baz=244,slow=3.8,SNR=7.7
PLCA Paso Flores 148.94 96 *e*PKPbc PKPdf 11 12 34.3 +4.4
PMSA Palmer Station 152.73 147 *e*PKPdf PKPdf 11 12 35.5 +0.5

CSEM ***26*** *11:01:38.4±0.6, 54.83N×19.41E, h2km, ML2.9, Error ellipse: s-maj=23.9km s-min=9.3km az=133.0*
IDC ***26*** *11:01:40.4±1.2, 54.67N×19.37E, mb3.3/1, mb1 3.6/7, mb1mx3.4/18, mbtmp3.5/7, ML3.6/6, Error ellipse: s-maj=17.3km s-min=9.2km az=49.0, Putative timing error at GERES*
HEL ***26*** *11:01:42.7±0.4, 54.61N×20.13E, ML2.9, Explosion*
PRU ***26*** *11:01:59.2, 53.06N×18.64E*
ISC 26 11:01:38.4±0.7,**54.91N**±0.05×**19.49E**±0.09,**n27**,σ1§**40**/45,
mb3.2/1,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSD	**Bornholm Skovb**	**2.64**	**276**	*i* P	**Pn**	**11 02 21.6**	**-1.3**
BSD				*i* S	**Sn**	**11 02 57.0**	**+0.9**
DPC	**Dobruska-Polom**	**4.96**	**204**	*e*PN	**Pn**	**11 02 49.3**	**-6.5**
DPC				*e*SG	**Sn**	**11 03 37.1**	**-18**
PVCC	**Panska Ves**	**5.31**	**216**	*e*PN	**Pn**	**11 02 54.4**	**-6.4**
PVCC				*e*SG	**Sn**	**11 03 53.6**	**-10**
HFS	**Hagfors**	**6.10**	**332**	Pn	**Pn**	**11 03 12.6**	**+0.6**
	0.3nm,0.3s,baz=144,slow=14,SNR=33						
HFS				Sn	**Sn**	**11 04 23.2**	**-0.2**
	0.3nm,0.3s,baz=144,slow=26,SNR=5.6						
HFS				Lg		11 04 53.0	
	0.3nm,0.3s,baz=151,slow=30,SNR=3.9						
PVF	**Pernaja**	**6.60**	**29**	*e*P	**Pn**	**11 03 20.9**	**+1.9**
PVF				*e*S	**Sn**	**11 04 36.1**	**+0.1**
PVF				MSN		11 04 41.0	
	comp=Z,3.1nm,0.3s						
PVF	**Pernaja**	**6.60**	**29**	P	**Pn**	**11 03 20.9**	**+1.8**
PVF				S	**Sn**	**11 04 36.1**	**+0.1**
	comp=Z,3.1nm,0.3s						
KHC	**Kasperske Hory**	**6.84**	**215**	*e*SG	**Sn**	**11 04 40.8**	**-1.1**
KHC				*ex*	x	11 04 50.5	
GERES	**GERESS Array B**	**7.05**	**213**	Pn	**Pn**	**11 03 26.2**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=32,slow=13,SNR=4.8						
VJF	**Virojoki**	**7.11**	**34**	*e*P	**Pn**	**11 03 27.1**	**+1.0**
VJF				*e*S	**Sn**	**11 04 46.6**	**-2.0**
VJF	**Virojoki**	**7.11**	**34**	P	**Pn**	**11 03 27.1**	**+0.9**
AKASG	**Malin Array Be**	**7.25**	**122**	Pn	**Pn**	**11 03 23.8**	**-4.4**
	comp=Z,3.7nm,0.3s,baz=311,slow=12,SNR=12						
FIA0	**FINESS Array S**	**7.42**	**25**	*e*P	**Pn**	**11 03 32.6**	**+2.1**
FIA0				*e*S	**Sn**	**11 04 55.6**	**-0.9**
FIA0				MSN		11 04 59.3	
	comp=Z,2.7nm,0.3s						
FIA0	**FINESS Array S**	**7.42**	**25**	P	**Pn**	**11 03 32.6**	**+2.0**
FIA0				S	**Sn**	**11 04 55.5**	**-1.0**
	comp=Z,2.7nm,0.3s						
FINES	**FINESS Array B**	**7.42**	**25**	P	**Pn**	**11 03 32.3**	**+1.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B**	**7.42**	**25**	Pn	**Pn**	**11 03 32.3**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=204,slow=12,SNR=21						
FINES				Sn	**Sn**	**11 04 56.3**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=194,slow=22,SNR=7.0						
FINES				Lg		11 05 40.8	
	comp=Z,0.7nm,0.3s,baz=223,slow=25,SNR=2.7						
NOA	**NORSAR Array B**	**7.55**	**328**	Pn	**Pn**	**11 03 29.8**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=141,slow=11,SNR=3.5						
NOA				Sn	**Sn**	**11 04 56.1**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=151,slow=18,SNR=2.3						
NOA				Lg		11 05 42.0	
	comp=Z,1.0nm,0.3s,baz=135,slow=32,SNR=3.9						
KEF	**Keuruu**	**7.80**	**19**	*e*P	**Pn**	**11 03 38.3**	**+2.4**
KEF				*e*S	**Sn**	**11 05 06.2**	**+0.2**
KEF				MSN		11 05 10.8	
	comp=Z,2.0nm,0.4s						
KEF	**Keuruu**	**7.80**	**19**	P	**Pn**	**11 03 38.3**	**+2.4**
KEF				S	**Sn**	**11 05 06.2**	**+0.1**
	comp=Z,2.0nm,0.4s						
KAF	**Kangasniemi**	**8.05**	**23**	*e*P	**P**	**11 03 40.8**	**+1.4**
KAF				*e*S	**Sn**	**11 05 10.7**	**-1.7**
KAF				MSN		11 05 14.3	
	comp=Z,1.2nm,0.3s						
KAF	**Kangasniemi**	**8.05**	**23**	P	**P**	**11 03 40.7**	**+1.3**
VAF	**Ylistaro**	**8.32**	**10**	*e*P	**P**	**11 03 46.4**	**+3.2**
VAF				*e*S	**Sn**	**11 05 19.1**	**+0.1**
VAF	**Ylistaro**	**8.32**	**10**	P	**P**	**11 03 46.3**	**+3.1**
VAF				S	**Sn**	**11 05 19.1**	**+0.1**
SUF	**Sumiainen**	**8.56**	**21**	*e*P	**P**	**11 03 47.7**	**+1.2**
SUF				*e*S	**Sn**	**11 05 24.5**	**-0.4**
JOF	**Joensuu**	**10.08**	**32**	*e*P	**P**	**11 04 06.8**	**-0.4**
JOF				*e*S	**S**	**11 05 57.7**	**-4.6**
GRR	**Gorron**	**14.19**	**251**	*e*P	**P**	**11 05 15.6**	**+13**
ARCES	**ARCESS Array B**	**14.93**	**8**	Pn	**P**	**11 05 09.2**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=190,slow=11,SNR=7.5						
YKA	**Yellowknife Ar**	**57.55**	**337**	P	**P**	**11 11 31.1**	**-0.3**
	comp=Z,0.1nm,0.4s,mb3.2,baz=25,slow=7.2,SNR=4.9						

IDC ***26*** *11:10:13.8±0.9, 7.94N×94.36E, mb3.9/7, mb1 4.0/8, mb1mx3.9/19, mbtmp3.8/8, ML3.5/1, MS2.9/1, Ms1 3.2/1, ms1mx3.0/19, Error ellipse: s-maj=26.0km s-min=20.7km az=56.0*
NEIC ***26*** *11:10:17.5±6.5, 7.92N×94.38E, h25km±44km, mb4.3/3, Error ellipse: s-maj=23.3km s-min=12.2km az=53.0*
ISC 26 11:10:17.0±0.7,**7.95N**±0.10×**94.5E**±0.1,**h33**km,**n22**,
σ0§**89**/19,**mb4.2**/14,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.32**	**22**	Pn	**P**	**11 12 58.1**	**-1.4**
	0.1nm,0.3s,baz=211,slow=14,SNR=2.6						
CMAR				LR	LR	11 17 19.2	
	comp=Z,63nm,18.8s,baz=205,slow=37						
JIRN	**Jiri**	**21.11**	**339**	*e*P	**P**	**11 15 02.2**	**+1.1**
	16nm,0.7s,mb4.5						
PKI	**Pulchoki**	**21.32**	**337**	*e*P	**P**	**11 15 04.2**	**+1.0**
GUN	**Gumba**	**21.45**	**339**	*e*P	**P**	**11 15 03.9**	**-0.6**
	23nm,0.7s,mb4.6						
DMN	**Daman**	**21.47**	**337**	*e*P	**P**	**11 15 06.0**	**+1.3**
KKN	**Kakani**	**21.56**	**337**	*e*P	**P**	**11 15 05.7**	**0.0**
LSA	**Lhasa**	**21.86**	**352**	*e*P	**P**	**11 15 09.4**	**+0.8**
	7.2nm,0.6s,mb4.3						
GKN	**Gorkha**	**22.00**	**336**	*e*P	**P**	**11 15 09.6**	**-0.5**
KOLN	**Koldanda**	**22.23**	**334**	*e*P	**P**	**11 15 11.7**	**-0.7**
	16nm,0.7s,mb4.6						
JOW	**Kunigami**	**37.15**	**55**	P	**P**	**11 17 26.6**	**-0.1**
	16nm,0.6s,mb5.0,baz=241,slow=19,SNR=3.6						
SONM	**Songino Array**	**41.02**	**12**	P	**P**	**11 18 00.1**	**+1.4**
	0.3nm,0.4s,mb3.3,baz=198,slow=7.8,SNR=4.9						
SONM				PcP	PcP	11 19 59.4	+0.5
	0.3nm,0.5s,baz=196,slow=3.7,SNR=2.9						
KURK	**Kurchatov**	**44.62**	**346**	*e*P	**P**	**11 18 27.3**	**-0.7**
	2.4nm,0.8s,mb4.1						
ZAL	**Zalesovo**	**46.52**	**352**	P	**P**	**11 18 43.8**	**+0.8**
	1.5nm,0.8s,mb4.0,baz=307,slow=6.8,SNR=9.6						
WRA	**Warramunga Arr**	**48.05**	**126**	P	**P**	**11 18 56.6**	**+1.1**
	1.2nm,0.9s,mb3.9,baz=304,slow=8.5,SNR=9.8						
WRAB	**Tennant Creek**	**48.05**	**126**	P	**P**	**11 18 54.8**	**-0.7**
	4.6nm,1.0s,mb4.5						
BVAR	**Borovoye Array**	**49.02**	**341**	P	**P**	**11 19 01.2**	**-1.3**
	0.8nm,0.7s,mb3.9,baz=153,slow=6.6,SNR=3.9						
ASAR	**Alice Springs**	**49.72**	**130**	P	**P**	**11 19 08.3**	**0.0**
	1.0nm,0.9s,mb3.8,baz=308,slow=7.1,SNR=5.3						
KMBO	**Kilima Mbogo**	**57.75**	**264**	P	**P**	**11 20 07.2**	**-0.3**
	0.7nm,0.4s,mb4.0,baz=52,slow=13,SNR=8.7						
FINES	**FINESS Array B**	**72.79**	**332**	P	**P**	**11 21 42.6**	**-1.2**
	0.9nm,0.6s,mb3.9,baz=108,slow=6.0,SNR=5.4						
PDAR	**Pinedale Array**	**124.98**	**21**	PKP	PKPdf	11 29 16.6	+2.3
	0.8nm,1.2s,baz=27,slow=3.3,SNR=3.5						
TXAR	**Lajitas Array**	**139.03**	**24**	PKP	PKPdf	11 29 43.5	+2.5
	0.1nm,0.4s,baz=242,slow=1.2,SNR=4.8						
PLCA	**Paso Flores**	**144.73**	**200**	PKP	PKPdf	11 29 51.0	+0.3
	1.7nm,0.8s,baz=316,slow=0.6,SNR=6.0						

IDC 26 11:14:32.9±4.0,**11.18N**×**91.98E**,**mb3.3**/2,**mb1 3.5**/3,
mb1mx3.3/18,**mbtmp3.2**/3,**ML3.6**/1,**MS3.5**/2,**Ms1 3.5**/2,
ms1mx3.0/8,**Error ellipse: s-maj=102.8km**
s-min=35.4km az=80.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.88**	**42**	Pn	P	11 16 56.4	-3.0
	0.1nm,0.3s,baz=231,slow=13,SNR=2.8						
SONM	**Songino Array**	**38.50**	**16**	P	P	11 21 56.9	-1.6
	0.3nm,0.5s,baz=198,slow=9.1,SNR=3.4						
WRA	**Warramunga Arr**	**51.91**	**126**	P	P	11 23 43.7	-2.2
	0.1nm,0.4s,baz=308,slow=8.3,SNR=4.9						
ASF	**Jabal al Asfar**	**54.66**	**302**	LR	LR	11 51 05.8	
	comp=Z,49nm,18.9s,baz=94,slow=40						
EIL	**Elat**	**55.97**	**298**	LR	LR	11 51 33.9	
	comp=Z,32nm,18.7s,baz=280,slow=40						

THR ***26*** *11:16:11.0±1.3, 37.64N×42.99E, h18km±18km, ML3.4*
ISK ***26*** *11:16:15.4, 37.80N×44.09E, h11km, MD4.0*
CSEM ***26*** *11:16:22.3±0.2, 38.01N×43.70E, h30km, MD4.0, Error ellipse: s-maj=5.4km s-min=4.6km az=176.0*
ISC 26 11:16:18.1±0.5,**37.73N**±0.03×**43.89E**±0.04,**h10**km,**n23**,
σ1§**30**/32,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.19**	**219**	*i* PG	**Pg**	**11 16 22.8**	**+0.4**
VANT	**Van**	**0.82**	**331**	*i* PG	**Pg**	**11 16 33.5**	**-1.1**
TVAN	**Van**	**0.89**	**334**	*i* P	**Pb**	**11 16 34.4**	**-0.7**
TVAN				*i* S	**Sb**	**11 16 47.8**	**+1.0**
VANB	**Van**	**0.95**	**335**	*i* PG	**Pg**	**11 16 34.1**	**-3.1**
VANB				*i* SG	**Sg**	**11 16 48.1**	**-1.9**
MSL	**Mosul**	**1.57**	**204**	*e*Pn	Px	11 16 47.5	
MSL				*i* Pg	Px	11 16 49.0	
MSL				*e*Sb	Sx	11 17 07.5	
MSL				*i* Sn	**Sn**	**11 17 08.0**	**+1.1**
MSL				*i* Sg	**Sg**	**11 17 09.0**	**-1.6**
MAKU	**Maku**	**1.74**	**21**	*e*PG	**Pg**	**11 16 51.0**	**-1.9**
MAKU				*e*SG	**Sg**	**11 17 18.7**	**+2.7**
MAKU				AML	AML	11 17 21.8	
	comp=E,256nm,0.6s						
MAKU				AML	AML	11 17 22.0	
	comp=N,218nm,0.6s						
BTMT	**Batman**	**1.96**	**284**	*i* PN	**Pn**	**11 16 53.5**	**+1.7**
BEST	**Besiri**	**2.08**	**275**	*i* P	**Pn**	**11 16 55.0**	**+1.4**
BEST				*i* S	**Sn**	**11 17 23.5**	**+3.7**
VRT	**Varto**	**2.33**	**308**	*e*PN	**Pn**	**11 16 56.6**	**-0.5**
DIY	**Diyarbakir**	**2.91**	**274**	*e*PN	**Pn**	**11 17 05.0**	**-0.4**
BINT	**Bingol**	**2.91**	**294**	*e*PN	**Pn**	**11 17 04.9**	**-0.6**
ERZM	**Erzurum**	**2.94**	**319**	*i* P	**Pn**	**11 17 11.7**	**+5.9**
ERZM				*i* S	**Sg**	**11 17 57.8**	**+1.9**
EZM	**Erzurum**	**2.94**	**318**	*e*PN	**Pn**	**11 17 03.9**	**-1.9**
GRMI	**Germi**	**3.33**	**70**	*e*P	**Pn**	**11 17 14.4**	**+3.0**
PTK	**Pertek**	**3.73**	**290**	*e*PN	**Pn**	**11 17 17.1**	**+0.1**
SNGE	**Sanandaj**	**3.83**	**132**	*e*PN	**Pn**	**11 17 17.8**	**-0.7**
SNGE				*e*SG	**Sg**	**11 18 26.0**	**+0.3**
SNGE	**Sanandaj**	**3.83**	**132**	*e*Sg	**Sg**	**11 18 26.0**	**+0.3**
	SNR=91						
ELZG	**Elazig**	**3.95**	**283**	*i* P	**Pn**	**11 17 20.8**	**+0.6**
ELZG				*i* S	**Sb**	**11 18 24.6**	**+9.0**
MALT	**Malatya**	**4.36**	**279**	*e*PN	**Pn**	**11 17 25.3**	**-0.7**
MYA	**Malataya**	**4.36**	**280**	PN	**Pn**	**11 17 25.6**	**-0.4**
BHD	**Baghdad**	**4.47**	**175**	*e*Pn	Px	11 17 46.0	
BHD				*e*Sn	Sx	11 18 37.0	
GZT	**Gaziantep**	**5.04**	**268**	*i* P	**Pn**	**11 17 42.6**	**+6.9**
GZT				*i* S	**Sg**	**11 19 06.0**	**-0.1**
KAHT	**Ahir Dag**	**5.57**	**271**	*i* P	**Pn**	**11 17 44.2**	**+1.1**
KAHT				*i* S	**Sg**	**11 19 19.4**	**-4.2**

IDC ***26*** *11:39:15.2±1.4, 3.35N×94.26E, h25km±4km, mb4.1/7, mb1 4.2/8, mb1mx4.0/19, mbtmp4.2/8, ML4.8/1, Error ellipse: s-maj=58.0km s-min=14.0km az=60.0*
NEIC ***26*** *11:39:17.2±0.8, 3.46N×94.70E, mb4.3/7, Error ellipse: s-maj=18.8km s-min=12.3km az=59.0*
BJI ***26*** *11:39:24.3, 4.17N×95.46E, h26km, mB4.8, mb4.5, Ms4.5, Msz4.1*
ISC 26 11:39:13.4±0.6,**3.26N**±0.08×**94.3E**±0.1,**h26**km,
h26km±1.6km:**pP-P**,**n32**,σ1§**22**/32,**mb4.5**/21,**MS3.8**/1,
2C-1D,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**14.14**	**287**	P	**P**	**11 42 42.1**	**+7.6**
CM31	**Chiang Mai Arr**	**15.77**	**16**	P	**P**	**11 42 54.4**	**-1.3**
	5.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**15.77**	**16**	Pn	**P**	**11 42 54.2**	**-1.5**
	1.3nm,0.3s,baz=212,slow=11,SNR=18						
CHG	**Chiang Mai**	**16.11**	**16**	⇑P	**P**	**11 43 02.2**	**+2.2**
	14nm,0.8s						
HYB	**Hyderabad**	**20.92**	**313**	*i* P	**P**	**11 44 04.0**	**+7.3**
KMI	**Kunming**	**23.20**	**20**	P	**P**	**11 44 22.0**	**+2.5**
	12nm,1.2s,mb4.2						
KMI				pP		11 44 28.5	
KMI				S	**S**	**11 48 29.9**	**+4.3**
KMI				LR	LR		
	comp=Z,280nm,17.5s,MS3.8						
JIRN	**Jiri**	**25.48**	**343**	*e*P	**P**	**11 44 41.7**	**+0.3**
	comp=Z,23nm,0.7s,mb4.8						
PKI	**Pulchoki**	**25.63**	**341**	*e*P	**P**	**11 44 44.1**	**+1.2**
	comp=Z,25nm,0.9s,mb4.7						
DMN	**Daman**	**25.77**	**341**	*e*P	**P**	**11 44 45.6**	**+1.5**
	comp=Z,20nm,0.8s,mb4.7						
KKN	**Kakani**	**25.88**	**341**	*e*P	**P**	**11 44 45.7**	**+0.6**
	comp=Z,32nm,1.0s,mb4.8						
GKN	**Gorkha**	**26.29**	**340**	*e*P	**P**	**11 44 48.7**	**-0.2**
	comp=Z,28nm,0.9s,mb4.8						
KOLN	**Koldanda**	**26.44**	**338**	*e*P	**P**	**11 44 50.2**	**-0.1**
	comp=Z,15nm,0.7s,mb4.6						
LSA	**Lhasa**	**26.47**	**354**	P	**P**	**11 44 52.8**	**+2.2**
LSA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
LSA	**Lhasa**	**26.47**	**354**	*e*P	**P**	**11 44 52.0**	**+1.4**
	comp=Z,16nm,0.8s,mb4.6						
XAN	**Xi'an**	**33.51**	**22**	P	**P**	**11 45 54.5**	**+1.3**
XAN				AP	pP	11 45 57.3	-3.5
XAN				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
AAK	**Ala-Archa**	**43.01**	**338**	*e*P	**P**	**11 47 15.4**	**+2.8**
	comp=Z,6.1nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**45.55**	**122**	P	**P**	**11 47 33.7**	**+0.3**
	comp=Z,5.1nm,0.8s,mb4.5,baz=301,slow=8.9,SNR=24						
WRA				pP	pP	11 47 42.1	+1.1
	comp=Z,1.9nm,0.6s,baz=300,slow=8.8,SNR=6.4						
WRAB	**Tennant Creek**	**45.56**	**122**	*e*P	**P**	**11 47 34.4**	**+1.0**
	comp=Z,15nm,1.1s,mb4.8			

MWZ	**Matawai**	**2.67**	**198**	PN	P	11 40 39.8	-0.1
MWZ				SN	S	11 41 16.7	-0.8
URZ	**Urewera**	**2.72**	**205**	P	P	11 40 39.6	-0.9
URZ	**Urewera**	**2.72**	**205**	PN	P	11 40 39.6	-0.9
URZ				SN	S	11 41 18.8	+0.3
KNZ	**Kokohu**	**3.30**	**192**	*e*P	P	11 40 46.4	-0.5
KNZ	**Kokohu**	**3.30**	**192**	PN	P	11 40 46.4	-0.5
KNZ				SN	S	11 41 27.3	-2.7
BKZ	**Black Stump Fm**	**3.75**	**205**	*e*P	P	11 40 51.1	-1.1
BKZ	**Black Stump Fm**	**3.75**	**205**	PN	P	11 40 51.1	-1.1
BKZ				SN	S	11 41 36.2	-3.1
PWZ	**Pawanui**	**4.44**	**197**	*e*P	P	11 40 59.0	-1.5
PWZ	**Pawanui**	**4.44**	**197**	PN	P	11 40 58.8	-1.7
TSZ	**Takapari Road**	**4.73**	**205**	P	P	11 41 01.3	-2.7
TSZ	**Takapari Road**	**4.73**	**205**	PN	P	11 41 01.3	-2.8
TSZ				SN	S	11 41 59.0	-1.6
BFZ	**Birch Farm**	**5.21**	**200**	*e*P	P	11 41 08.0	-2.0
BFZ	**Birch Farm**	**5.21**	**200**	PN	P	11 41 07.8	-2.2
MRZ	**Mangatainoka R**	**5.40**	**205**	P	P	11 41 09.2	-3.2
MRZ	**Mangatainoka R**	**5.40**	**205**	PN	P	11 41 09.2	-3.1
MRZ				SN	S	11 42 11.4	-4.0
KIW	**Kapiti Island**	**5.82**	**208**	*e*PN	P	11 41 14.9	-2.7
MTW	**Mount Morrison**	**5.87**	**203**	P	P	11 41 15.0	-3.3
MTW	**Mount Morrison**	**5.87**	**203**	PN	P	11 41 15.0	-3.3
CAW	**Cannon Point**	**5.97**	**206**	P	P	11 41 16.1	-3.5
CAW	**Cannon Point**	**5.97**	**206**	PN	P	11 41 16.1	-3.5
MRW	**Makara Radio**	**6.22**	**208**	*e*PN	P	11 41 18.6	-4.0
TUWZ	**Tuamarina**	**6.69**	**211**	*e*PN	P	11 41 24.1	-4.6
NNZ	**Nelson**	**6.77**	**215**	*e*PN	P	11 41 25.0	-4.7
NNZ				SN	S	11 42 42.8	-3.8
QRZ	**Quartz Range**	**6.91**	**222**	PN	P	11 41 26.4	-5.1
THZ	**Tophouse**	**7.42**	**215**	PN	P	11 41 34.2	-3.8
THZ				SN	S	11 42 58.8	-2.6
KHZ	**Kahutara**	**7.68**	**209**	PN	P	11 41 37.2	-4.2
DSZ	**Denniston Nort**	**7.95**	**220**	*e*PN	P	11 41 40.8	-4.0
LTZ	**Lake Taylor**	**8.52**	**213**	PN	P	11 41 47.7	-4.4

*IDC **26** 11:42:20.2±0.6, 7.79N×93.81E, mb4.4/16, mb1 4.5/17, mb1mx4.4/22, mbtmp4.4/17, ML4.2/1, MS4.0/10, Ms1 4.0/10, ms1mx3.8/18, Error ellipse: s-maj=30.4km s-min=13.9km az=54.0*

*MOS **26** 11:42:24.0±1.3, 7.78N×93.66E, h33km, mb4.9/25, Error ellipse: s-maj=13.1km s-min=7.7km az=101.7*

*BJI **26** 11:42:25.8, 7.49N×93.54E, h69km, mB5.0, mb4.7, Ms4.5, Msz4.1*

*NEIC **26** 11:42:26.5±1.4, 7.77N×93.70E, h41km±13km, mb4.7/20, Error ellipse: s-maj=10.1km s-min=7.5km az=56.0*

ISC 26 11:42:23.8±0.3, 7.72N±0.04×93.61E±0.04, h33km, n122, σ1§30/129, mb4.7/50, MS4.2/15, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.72**	**51**	P	**P**	**11 44 16.9**	**+0.3**
CM31	**Chiang Mai Arr** 19nm,0.8s	**11.86**	**25**	*e*P	**P**	**11 45 15.5**	**+1.9**
CMAR	**Chiang Mai Arr**	**11.86**	**25**	P	**P**	**11 45 13.6**	**0.0**
CMAR	comp=Z,1.0nm,0.3s			pmax	pmax		
CMAR	comp=Z,265nm,20.3s			MLR	MLR		
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.3s,baz=211,slow=14,SNR=13	**11.86**	**25**	Pn	**P**	**11 45 13.6**	**-0.1**
CMAR	comp=Z,265nm,20.3s,baz=215,slow=36			LR	LR	11 49 17.2	
CMAR	baz=297,slow=3.2,SNR=5.7			ScP		11 54 30.6	
PALK	**Pallekele**	**12.81**	**269**	*e*P	**P**	**11 45 26.4**	**0.0**
VIS	**Vishakhapatnam**	**14.11**	**316**	*e*P	**P**	**11 45 41.8**	**-1.8**
VIS	comp=Z,16nm,0.5s			*e*		11 45 43.4	
VIS				*e*S	**S**	**11 48 10.5**	**-9.4**
BWNR	**Bhubaneshwar**	**14.61**	**330**	*e*P	**P**	**11 45 48.3**	**-1.7**
BWNR	comp=Z,23nm,0.2s			*e*		11 45 49.6	
BWNR				*e*S	**S**	**11 48 21.8**	**-10**
IMP	**Imphal**	**16.97**	**1**	*e*P	**P**	**11 46 17.9**	**-2.3**
HYB	**Hyderabad**	**17.56**	**305**	*e*P	**P**	**11 46 28.0**	**+0.3**
HYB				*e*S	**S**	**11 49 42.0**	**+1.9**
HYB	**Hyderabad**	**17.56**	**305**	*i* P	**P**	**11 46 28.0**	**+0.3**
HYB				*e*S	**S**	**11 49 42.0**	**+1.9**
SHL	**Shillong**	**17.82**	**355**	*e*P	**P**	**11 46 29.5**	**-1.4**
SHL				*e*S	**S**	**11 49 40.5**	**-5.4**
BLSP	**Bilaspur**	**18.10**	**324**	*e*P	**P**	**11 46 33.1**	**-1.3**
BLSP	comp=Z,20nm,0.7s			*e*		11 46 38.2	
BLSP				*e*S	**S**	**11 49 49.6**	**-2.6**
QIZ	**Qiongzhong**	**19.36**	**53**	P	**P**	**11 46 50.0**	**+0.5**
QIZ				S	**S**	**11 50 21.0**	**+0.3**
QIZ	comp=N,1μm,15.3s			LR	LR		
QIZ	comp=Z,422nm,11.1s			LR	LR		
KMI	**Kunming**	**19.37**	**26**	P	**P**	**11 46 54.0**	**+4.4**
KMI				S	**S**	**11 50 22.5**	**+1.5**
KMI	comp=Z,19nm,0.9s			pmax	pmax		
KMI	**Kunming** comp=Z,19nm,0.9s	**19.37**	**26**	P	**P**	**11 46 54.0**	**+4.4**
KMI				S	**S**	**11 50 22.5**	**+1.5**
JIRN	**Jiri** comp=Z,169nm,0.8s,mb5.4	**21.04**	**341**	*e*P	**P**	**11 47 06.8**	**-0.4**
PKI	**Pulchoki** comp=Z,117nm,0.9s,mb5.2	**21.21**	**340**	*e*P	**P**	**11 47 08.5**	**-0.5**
DMN	**Daman** comp=Z,91nm,0.8s,mb5.2	**21.36**	**339**	*e*P	**P**	**11 47 10.2**	**-0.2**
GUN	**Gumba** comp=Z,131nm,0.7s,mb5.4	**21.37**	**341**	*e*P	**P**	**11 47 10.1**	**-0.5**
KKN	**Kakani** comp=Z,136nm,0.7s,mb5.4	**21.46**	**339**	*e*P	**P**	**11 47 11.3**	**-0.2**
GKN	**Gorkha** comp=Z,172nm,0.8s,mb5.5	**21.88**	**338**	*e*P	**P**	**11 47 15.7**	**0.0**
BHPL	**Bhopal**	**21.90**	**317**	*e*P	**P**	**11 47 17.0**	**+1.1**
BHPL	comp=Z,9.2nm,0.5s			*e*		11 47 18.7	
LSA	**Lhasa**	**21.98**	**354**	P	**P**	**11 47 16.3**	**-0.4**
LSA				S	**S**	**11 51 18.8**	**+6.5**
LSA				XS		11 51 40.3	
LSA				SCP		11 54 39.0	
LSA				SCS	ScS	11 58 26.3	-5.7
LSA	comp=N,4μm,15.1s,MS5.2			LR	LR		
LSA	comp=E,5μm,16.1s,MS5.2			LR	LR		
LSA	**Lhasa**	**21.98**	**354**	*e*P	**P**	**11 47 16.2**	**-0.5**
LSA	comp=Z,30nm,0.8s,mb4.8			pmax	pmax		
LSA	**Lhasa** comp=Z,30nm,0.8s,mb4.8	**21.98**	**354**	*e*P	**P**	**11 47 16.2**	**-0.4**
POO	**Poona**	**22.02**	**301**	*e*P	**P**	**11 47 17.5**	**+0.5**
POO				*i* S	**S**	**11 51 17.0**	**+4.0**
KOLN	**Koldanda** comp=Z,114nm,1.0s,mb5.3	**22.08**	**336**	*e*P	**P**	**11 47 17.8**	**+0.2**
NDI	**New Delhi**	**25.96**	**325**	*e*P	**P**	**11 47 54.5**	**-0.7**
ENH	**Enshi** comp=Z,3.9nm,0.6s,mb4.1	**26.92**	**32**	*e*P	**P**	**11 48 04.9**	**+0.8**
LZH	**Lanzhou**	**29.74**	**17**	*e*P	**P**	**11 48 34.5**	**+5.2**
LZH				AP	pP	11 48 47.8	+8.9
LZH				XP	sP	11 48 52.5	+9.2
LZH	comp=Z,42nm,1.5s,mb5.0			AMB	AMB		
LZH	comp=Z,123nm,4.0s			AMB	AMB		
LZH	comp=E,745nm,14.2s			LR	LR		
LZH	comp=Z,906nm,15.1s,MS4.5			LR	LR		
NJ2	**Nanjing**	**33.72**	**41**	*e*P	**P**	**11 49 04.8**	**+0.5**
NJ2				PP	PP	11 50 21.8	+4.1
NJ2				S	**S**	**11 54 29.0**	**+4.6**
NJ2	comp=Z,30nm,0.5s,mb5.5			AMB	AMB		
NJ2	comp=Z,1μm,5.2s			AMB	AMB		
NJ2	comp=N,268nm,15.3s,MS4.8			LR	LR		
NJ2	comp=E,2μm,15.5s,MS4.8			LR	LR		
NJ2	comp=Z,2μm,14.7s,MS4.9			LR	LR		
SSE	**Sheshan**	**34.69**	**44**	P	**P**	**11 49 12.8**	**+0.1**
SSE				XS		11 55 06.0	
SSE	comp=Z,16nm,0.8s,mb5.0			AMB	AMB		
SSE	comp=Z,118nm,3.8s			AMB	AMB		
SSE	comp=N,144nm,23.5s,MS3.7			LR	LR		
SSE	comp=E,105nm,23.8s,MS3.7			LR	LR		
SSE	comp=Z,35nm,16.6s			LR	LR		
SSE	**Sheshan** comp=Z,16nm,0.8s,mb5.0	**34.69**	**44**	P	**P**	**11 49 12.8**	**+0.1**
SSE				sP	sP	11 49 25.5	-1.2
SSE				S	**S**	**11 54 50.7**	**+11**
SSE				sS		11 55 05.9	
SSE	comp=Z,40nm,16.6s,MS3.2			LR	LR		
WMQ	**Urumqi**	**36.33**	**353**	*e*P	**P**	**11 49 27.5**	**+1.1**
WMQ				PP	PP	11 50 50.3	+0.2
WMQ				PCP	PcP	11 51 53.0	+2.0
WMQ				S	**S**	**11 55 06.0**	**+1.5**
KZA	**Kyzart** SNR=6.2	**37.87**	**338**	P	**P**	**11 49 43.6**	**+4.2**
BJT	**Baijiatuau**	**37.96**	**29**	*e*P	**P**	**11 49 40.6**	**+0.4**
BJT	comp=Z,11nm,1.0s			pmax	pmax		
BJT	**Baijiatuau** comp=Z,10nm,1.0s,mb4.5	**37.96**	**29**	*e*P	**P**	**11 49 40.6**	**+0.4**
BJI	**Beijing**	**37.98**	**29**	*e*P	**P**	**11 49 42.6**	**+2.2**
BJI	comp=Z,10.0nm,0.7s,mb4.7			pmax	pmax		
BJI	comp=Z,250nm,30.0s,MS3.8			MLR	MLR		
BJI	**Beijing** comp=Z,10.0nm,0.7s,mb4.7	**37.98**	**29**	*e*P	**P**	**11 49 42.6**	**+2.2**
BJI				S	S	11 55 52.7	+23
BJI	comp=Z,250nm,30.0s,MS3.8			LR	LR		
UCH	**Uchtor** SNR=8.0	**38.28**	**337**	P	**P**	**11 49 46.8**	**+3.9**
KBK	**Karagaybulak** SNR=15	**38.48**	**338**	P	**P**	**11 49 48.5**	**+4.0**
AML	**Almayashu** SNR=36	**38.53**	**336**	P	**P**	**11 49 46.0**	**+1.1**
AAK	**Ala-Archa** SNR=13	**38.64**	**337**	P	**P**	**11 49 47.0**	**+1.3**
AAK	**Ala-Archa**	**38.64**	**337**	*i* P	**P**	**11 49 46.0**	**+0.2**
AAK	comp=Z,16nm,0.9s,mb4.8			pmax	pmax		
AAK	**Ala-Archa** comp=Z,18nm,1.0s,mb4.8	**38.64**	**337**	*e*P	**P**	**11 49 45.1**	**-0.6**
CHMS	**Chumysh** SNR=5.5	**38.85**	**338**	P	**P**	**11 49 50.7**	**+3.1**
EKS2	**Erkin-Say** SNR=7.9	**38.94**	**337**	P	**P**	**11 49 52.3**	**+4.0**
USP	**Ospenovka** SNR=15	**39.18**	**338**	P	**P**	**11 49 53.5**	**+3.3**
FITZ	**Fitzroy Crossi** comp=Z,11nm,0.9s,mb4.5	**40.72**	**129**	*e*P	**P**	**11 50 01.9**	**-1.4**
SONM	**Songino Array** comp=Z,2.0nm,0.6s,mb4.0,baz=194,slow=8.1,SNR=15	**41.42**	**13**	P	**P**	**11 50 08.7**	**-0.1**
SONM	comp=Z,0.7nm,0.5s,baz=199,slow=3.5,SNR=4.5			PcP	PcP	11 52 06.5	-0.5
ULN	**Ulaanbaatar**	**41.60**	**14**	*e*P	**P**	**11 50 08.0**	**-2.3**
ULN	comp=Z,2.0nm,0.6s,mb3.9			pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,1.8nm,0.6s,mb3.9	**41.60**	**14**	*e*P	**P**	**11 50 08.0**	**-2.3**
ZAK	**Zakamensk**	**43.28**	**9**	*e*P	**P**	**11 50 26.4**	**+2.4**
ZAK				*e*		11 52 08.6	
TLY	**Talaya**	**44.59**	**9**	*i* P	**P**	**11 50 37.7**	**+3.2**
TLY	comp=Z,4.0nm,1.2s,mb4.1			pmax	pmax		
KURK	**Kurchatov**	**44.63**	**346**	*i* P	**P**	**11 50 35.1**	**+0.3**
KURK	**Kurchatov** comp=Z,9.9nm,1.0s,mb4.6	**44.63**	**346**	*e*P	**P**	**11 50 35.0**	**+0.2**
MUN	**Mundaring** comp=Z,12nm,0.8s,mb4.8	**44.99**	**152**	*e*P	**P**	**11 50 40.1**	**+2.1**
MUN	**Mundaring**	**44.99**	**152**	*e*P	**P**	**11 50 40.1**	**+2.1**
MUN	comp=Z,12nm,0.8s,mb4.8			pmax	pmax		
KLBR	**Kellerberrin** comp=Z,240nm,1.5s,mb5.8	**45.40**	**151**	*e*P	**P**	**11 50 42.3**	**+1.0**
NWAO	**Narrogin (SRO)**	**46.26**	**152**	*e*P	**P**	**11 50 48.9**	**+0.8**
NWAO	comp=Z,19nm,1.2s			pmax	pmax		
NWAO	**Narrogin (SRO)** comp=Z,8.9nm,0.9s,mb4.7,baz=352,slow=9.3,SNR=6.4	**46.26**	**152**	P	**P**	**11 50 48.3**	**+0.2**
NWAO	**Narrogin (SRO)** comp=Z,19nm,1.2s,mb4.9	**46.26**	**152**	*e*P	**P**	**11 50 48.9**	**+0.9**
ZAL	**Zalesovo**	**46.63**	**353**	P	**P**	**11 50 50.4**	**-0.2**
ZAL	comp=Z,6.0nm,0.5s			pmax	pmax		
ZAL	**Zalesovo** comp=Z,6.3nm,0.5s,mb4.8,baz=298,slow=7.9,SNR=34	**46.63**	**353**	P	**P**	**11 50 50.4**	**-0.3**
HIA	**Hailar**	**46.86**	**23**	*e*P	**P**	**11 50 53.5**	**+0.9**
HIA	comp=Z,8.0nm,0.7s			pmax	pmax		
HIA	**Hailar** comp=Z,7.8nm,0.7s,mb4.8	**46.86**	**23**	*e*P	**P**	**11 50 53.5**	**+0.9**
NVS	**Novosibirsk**	**47.72**	**352**	*e*P	**P**	**11 50 57.5**	**-1.7**
NVS	comp=N,9.0nm,0.9s			pmax	pmax		
NVS	comp=E,8.0nm,0.9s			pmax	pmax		
NVS	comp=Z,22nm,0.9s,mb5.2			pmax	pmax		
MDJ	**Mudanjiang**	**48.22**	**34**	P	**P**	**11 51 02.0**	**-1.3**
MDJ				PCP	PcP	11 52 30.0	-0.5
MDJ				PP	PP	11 52 52.8	-2.3
MDJ				S	**S**	**11 58 00.5**	**+1.1**
MDJ	comp=Z,5.0nm,1.3s,mb4.4			AMB	AMB		
MDJ	comp=Z,47nm,5.7s			AMB	AMB		
MDJ	comp=N,65nm,17.9s,MS3.8			LR	LR		
MDJ	comp=E,77nm,20.7s,MS3.8			LR	LR		
MDJ	comp=Z,64nm,19.3s,MS3.6			LR	LR		
WRA	**Warramunga Arr**	**48.60**	**125**	P	**P**	**11 51 04.4**	**-2.1**
WRA	comp=Z,3.0nm,0.4s			pmax	pmax		
WRA	**Warramunga Arr** comp=Z,2.8nm,0.4s,mb4.6,baz=301,slow=9.7,SNR=52	**48.60**	**125**	P	**P**	**11 51 04.4**	**-2.1**
WRAB	**Tennant Creek**	**48.60**	**125**	*e*P	**P**	**11 51 05.4**	**-1.2**
WRAB	comp=Z,11nm,0.8s,mb4.9			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,11nm,0.8s,mb5.0	**48.60**	**125**	*e*P	**P**	**11 51 05.4**	**-1.2**
WB2	**Warramunga Arr**	**48.61**	**125**	*e*P	**P**	**11 51 05.3**	**-1.3**
BVAR	**Borovoye Array** comp=Z,4.5nm,0.8s,mb4.6,baz=143,slow=7.4,SNR=13	**48.96**	**342**	P	**P**	**11 51 07.5**	**-1.4**
BRVK	**Borovoye**	**49.02**	**342**	*e*P	**P**	**11 51 07.9**	**-1.5**
BRVK	comp=Z,5.0nm,0.8s,mb4.6			pmax	pmax		
BRVK	**Borovoye** comp=Z,5.2nm,0.8s,mb4.6	**49.02**	**342**	*e*P	**P**	**11 51 07.9**	**-1.5**
CHKZ	**Chkalovo**	**49.45**	**342**	*e*P	**P**	**11 51 11.8**	**-0.9**
CHKZ	comp=Z,82nm,1.5s,mb5.5			pmax	pmax		
CHKZ	**Chkalovo** comp=Z,82nm,1.5s,mb5.5	**49.45**	**342**	*e*P	**P**	**11 51 11.8**	**-0.8**
ASPA	**Alice Springs**	**50.22**	**130**	*e*P	**P**	**11 51 17.9**	**-1.1**
ASAR	**Alice Springs** comp=Z,2.7nm,0.7s,mb4.4,baz=300,slow=7.3,SNR=26	**50.22**	**130**	P	**P**	**11 51 17.2**	**-1.7**
ASAR				PcP	PcP	11 52 37.0	-1.0
ASAR	comp=Z,1.2nm,0.6s,baz=315,slow=4.4,SNR=5.2			LR	LR	12 13 27.7	
ASAR	comp=Z,111nm,21.2s,MS3.8,baz=296,slow=37						
BOD	**Bodaibo**	**52.41**	**14**	*e*P	**P**	**11 51 33.2**	**-1.8**
ARU	**Arti**	**55.82**	**337**	⇑*i*P	**P**	**11 51 53.4**	**-6.7**
ARU				*e*S	**S**	**11 59 39.0**	**-4.3**
ARU				*e*SS	SS	12 03 25.9	-3.0
ARU	comp=Z,12nm,1.4s,mb4.7			pmax	pmax		
KMBO	**Kilima Mbogo** comp=Z,2.1nm,0.8s,mb4.2,baz=69,slow=12,SNR=5.5	**56.89**	**264**	P	**P**	**11 52 10.4**	**+2.1**
KMBO	comp=Z,106nm,19.2s,MS4.0,baz=80,slow=35			LR	LR	12 15 38.4	
CTA	**Charters Tower** comp=Z,127nm,19.6s,MS4.0,baz=48,slow=37	**58.69**	**119**	LR	LR	12 18 47.1	
SOC	**Sochi**	**58.93**	**317**	*e*P	**P**	**11 52 17.1**	**-5.1**
SOC				*e*		11 53 04.2	
SOC				*e*S	**S**	**12 00 23.8**	**-0.5**
SOC				*e*		12 01 59.7	
SOC				*e*SS	SS	12 04 15.3	-4.5
SOC	comp=Z,29nm,0.9s,mb5.3			pmax	pmax		
SOC	comp=N,36nm,0.8s			pmax	pmax		
SOC	comp=E,36nm,0.9s			pmax	pmax		
YAK	**Yakutsk**	**60.30**	**19**	*i* P	**P**	**11 52 32.6**	**+1.2**
YAK	comp=Z,17nm,1.2s,mb5.0			pmax	pmax		
STKA	**Stephens Creek** comp=Z,3.4nm,1.0s,mb4.3,baz=320,slow=15,SNR=4.5	**60.38**	**133**	P	**P**	**11 52 30.2**	**-2.2**
STKA	comp=Z,138nm,20.2s,MS4.1,baz=207,slow=36			LR	LR	12 18 23.0	
STKA	**Stephens Creek**	**60.38**	**133**	P	**P**	**11 52 30.2**	**-2.2**
STKA				LR	LR	12 18 23.0	
BRTR	**Keskin Array B**	**62.13**	**311**	P	**P**	**11 52 43.0**	**-1.0**
BRTR	comp=Z,1.0nm,0.5s			pmax	pmax		
BRTR	**Keskin Array B** comp=Z,0.9nm,0.5s,mb4.1,baz=119,slow=7.4,SNR=4.8	**62.13**	**311**	P	**P**	**11 52 43.0**	**-1.1**
OBN	**Obninsk**	**65.23**	**328**	P	**P**	**11 53 02.0**	**-2.1**
TIXI	**Tiksi**	**67.48**	**11**	*i* P	**P**	**11 53 18.1**	**0.0**
TIXI	comp=Z,10.0nm,1.3s,mb4.7			pmax	pmax		
LSZ	**Lusaka**	**68.73**	**250**	*e*P	**P**	**11 53 29.0**	**+2.2**
LSZ	comp=Z,3.0nm,0.7s,mb4.3			pmax	pmax		
LSZ	**Lusaka** comp=Z,2.6nm,0.7s,mb4.3	**68.73**	**250**	*e*P	**P**	**11 53 29.0**	**+2.2**
FINES	**FINESS Array B**	**72.60**	**332**	P	**P**	**11 53 49.8**	**+0.4**
FINES	comp=Z,2.0nm,0.6s			pmax	pmax		
FINES	**FINESS Array B** comp=Z,2.3nm,0.6s,mb4.3,baz=101,slow=9.7,SNR=6.4	**72.60**	**332**	P	**P**	**11 53 49.8**	**+0.4**
KAF	**Kangasniemi**	**72.69**	**333**	*e*p	**P**	**11 53 50.5**	**+0.6**
BOSA	**Boshof**	**75.06**	**238**	*e*P	**P**	**11 54 06.8**	**+2.3**
BOSA	comp=Z,10.0nm,0.8s,mb4.8			pmax	pmax		
BOSA	**Boshof** comp=Z,10nm,0.8s,mb4.8	**75.06**	**238**	*e*P	**P**	**11 54 06.8**	**+2.3**
ARCES	**ARCESS Array B**	**75.23**	**340**	P	**P**	**11 54 04.7**	**+0.1**
ARCES	comp=Z,8.0nm,0.9s			pmax	pmax		
ARCES	**ARCESS Array B** comp=Z,7.7nm,0.9s,mb4.6,baz=106,slow=5.0,SNR=17	**75.23**	**340**	P	**P**	**11 54 04.7**	**+0.1**
GERES	**GERESS Array B**	**77.59**	**318**	P	**P**	**11 54 18.1**	**-0.2**
GERES	comp=Z,1.0nm,0.5s			pmax	pmax		
GERES	**GERESS Array B** comp=Z,1.0nm,0.5s,mb4.0,baz=72,slow=8.4,SNR=4.9	**77.59**	**318**	P	**P**	**11 54 18.1**	**-0.2**
MAW	**Mawson** comp=Z,142nm,19.4s,MS4.3,baz=65,slow=32	**78.28**	**192**	LR	LR	12 24 45.2	
NB2	**NORSAR Subarra** comp=Z,2.8nm,0.7s,mb4.3,baz=92,slow=5.8	**79.61**	**331**	P	**P**	**11 54 28.3**	**-0.8**
NB2	**NORSAR Subarra**	**79.61**	**331**	P	**P**	**11 54 28.3**	**-0.8**
NB2	comp=Z,3.0nm,0.7s,mb4.3			pmax	pmax		
NOA	**NORSAR Array B** comp=Z,1.8nm,0.6s,mb4.2,baz=94,slow=5.6,SNR=8.7	**79.61**	**331**	P	**P**	**11 54 28.4**	**-0.7**
NOA	comp=Z,93nm,21.1s,MS4.1,baz=25,slow=40			LR	LR	12 35 03.6	
DAVOX	**Davos** comp=Z,4.2nm,0.7s,mb4.5,baz=129,slow=2.6,SNR=6.5	**80.14**	**316**	P	**P**	**11 54 32.3**	**+0.1**
LPG	**La Plagne** comp=Z,16nm,0.8s,mb4.7	**82.35**	**315**	*e*P	**P**	**11 54 44.6**	**+0.7**
LPG	**La Plagne**	**82.35**	**315**	*e*P	**P**	**11 54 44.6**	**+0.7**
LPG	comp=Z,8.0nm,0.8s,mb4.7			pmax	pmax		
EKA	**Eskdalemuir Ar**	**87.55**	**325**	P	**P**	**11 55 10.5**	**+1.0**
EKA	comp=Z,2.0nm,0.7s			pmax	pmax		
EKA	**Eskdalemuir Ar** comp=Z,2.3nm,0.7s,mb4.5,baz=98,slow=5.9,SNR=5.7	**87.55**	**325**	P	**P**	**11 55 10.5**	**+1.0**
ESDC	**Sonseca Array** comp=Z,0.4nm,0.3s,mb4.2,baz=90,slow=1.5,SNR=4.3	**90.91**	**310**	P	**P**	**11 55 28.2**	**+2.3**
IMA	**Indian Mountai**	**91.96**	**22**	*e*P	**P**	**11 55 29.8**	**-0.2**
VNDA	**Vanda** comp=Z,111nm,21.0s,MS4.3,baz=103,slow=33	**92.89**	**168**	LR	LR	12 33 37.7	
ILAR	**Eielson Arrray** comp=Z,88nm,20.9s,MS4.2,baz=176,slow=38	**95.08**	**22**	LR	LR	12 41 41.3	
DBIC	**Dimbokro** comp=Z,78nm,18.2s,MS4.2,baz=88,slow=35	**97.45**	**278**	LR	LR	12 39 06.4	
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.4s,baz=278,slow=2.9,SNR=3.7	**125.31**	**31**	PKP	PKPdf	12 01 22.7	+0.9
PDAR	**Pinedale Array** comp=Z,0.5nm,0.7s,slow=1.5,SNR=4.7	**125.49**	**21**	PKP	PKPdf	12 01 23.8	+1.8
TXAR	**Lajitas Array** comp=Z,0.1nm,0.6s,baz=27,slow=2.8,SNR=3.8	**139.57**	**24**	PKhKP		12 01 42.2	
TXAR	comp=Z,0.2nm,0.5s,baz=312,slow=0.8,SNR=5.7			PKP	PKPdf	12 01 50.2	+1.5
PLCA	**Paso Flores**	**144.23**	**201**	PKIKP	PKPdf	12 01 57.8	+1.2
PLCA	comp=Z,2.0nm,1.0s			pmax	pmax		
PLCA	**Paso Flores** comp=Z,2.2nm,1.0s,baz=228,slow=5.9,SNR=4.2	**144.23**	**201**	PKP	PKPdf	12 01 57.8	+1.2

*IDC **26** 12:03:20.5±0.7, 9.47N×93.15E, mb4.2/10, mb1 4.3/11, mb1mx4.2/20, mbtmp4.2/11, ML4.4/1, MS3.2/2, Ms1 3.3/2, ms1mx2.9/16, Error ellipse: s-maj=38.7km s-min=15.3km az=60.0*

*BJI **26** 12:03:22.1, 9.16N×92.89E, h43km, mb4.7*

*NEIC **26** 12:03:24.9±0.5, 9.49N×93.25E, h30km, mb4.3/8, Error ellipse: s-maj=18.1km s-min=7.8km az=63.0*

ISC 26 12:03:22.7±0.6, 9.39N±0.10×93.2E±0.1, h30km, n34, σ0§71/31, mb4.3/17, MS3.6/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=221,slow=14,SNR=22	**10.59**	**31**	Pn	**P**	**12 06 00.9**	**+5.2**
CMAR	comp=Z,56nm,19.3s,baz=235,slow=38			LR	LR	12 10 01.4	
JIRN	**Jiri** 18nm,0.7s	**19.34**	**341**	*e*P	**P**	**12 07 49.1**	**+0.4**
PKI	**Pulchoki** 7.1nm,0.3s	**19.52**	**339**	*e*P	**P**	**12 07 51.7**	**+0.9**
DMN	**Daman** 7.4nm,0.3s	**19.67**	**338**	*e*P	**P**	**12 07 53.4**	**+1.0**
KKN	**Kakani** 10nm,0.5s	**19.77**	**339**	*e*P	**P**	**12 07 54.5**	**+1.0**
GKN	**Gorkha** 12nm,0.4s	**20.20**	**338**	*e*P	**P**	**12 07 58.1**	**+0.1**
LSA	**Lhasa**	**20.30**	**355**	P	**P**	**12 07 59.5**	**+0.5**
LSA	**Lhasa** 7.7nm,0.4s	**20.30**	**355**	*e*P	**P**	**12 07 58.0**	**-1.0**
KOLN	**Koldanda** 15nm,0.8s	**20.40**	**335**	*e*P	**P**	**12 08 00.2**	**+0.1**
ENH	**Enshi** 3.8nm,0.5s,mb4.2	**25.74**	**34**	*e*P	**P**	**12 08 50.8**	**-1.7**
SONM	**Songino Array** 4.1nm,0.9s,mb4.2,baz=199,slow=6.9,SNR=29	**39.91**	**14**	P	**P**	**12 10 56.3**	**+0.6**
SONM	0.9nm,0.5s,baz=209,slow=3.1,SNR=7.4			PcP	PcP	12 13 02.1	+0.6
ULN	**Ulaanbaatar** 3.3nm,0.9s,mb4.1	**40.09**	**14**	*e*P	**P**	**12 10 57.6**	**+0.3**
KURK	**Kurchatov** 4.4nm,1.4s,mb4.0	**42.92**	**346**	*e*P	**P**	**12 11 19.8**	**-0.6**
ZAL	**Zalesovo** 0.9nm,0.5s,mb3.9,baz=285,slow=7.5,SNR=5.1	**44.93**	**353**	P	**P**	**12 11 36.7**	**0.0**
ZAL	**Zalesovo**	**44.93**	**353**	P	**P**	**12 11 36.7**	**0.0**
HIA	**Hailar** 1.7nm,0.6s,mb4.2	**45.51**	**24**	*e*P	**

1.2nm,0.6s,baz=308,slow=3.3,SNR=10
ASAR LR LR 12 35 43.9
comp=Z,52nm,19.5s,MS3.6,baz=144,slow=38
ASAR Alice Springs 51.59 130 P **P 12 12 28.9 +0.1**
ASAR PcP PcP 12 13 43.5 +1.0
ASAR LR LR 12 35 43.9
BRTR Keskin Array B 60.74 310 P **P 12 13 32.7 -1.4**
1.6nm,0.8s,mb4.2,baz=124,slow=7.5,SNR=5.8
FINES FINESS Array B 70.94 332 P **P 12 14 38.5 -0.6**
2.9nm,1.1s,mb4.1,baz=108,slow=6.0,SNR=6.5
GERES GERESS Array B 76.09 318 P **P 12 15 09.6 +0.2**
1.1nm,0.6s,mb4.0,baz=90,slow=4.0,SNR=5.2
ILAR Eielson Array 93.69 22 P **P 12 16 37.5 +0.1**
0.8nm,0.6s,mb4.3,baz=300,slow=4.6,SNR=14
INK Inuvik 95.80 16 *e*P **P 12 16 47.4 +0.4**
1.6nm,0.6s,mb4.6
TXAR Lajitas Array 138.20 22 PKP PKPdf 12 22 50.0 -0.9
0.2nm,0.4s,baz=230,slow=1.0,SNR=6.2
PLCA Paso Flores 145.62 202 PKPbc PKPbc 12 23 02.7 +3.6
2.6nm,0.8s,baz=102,slow=4.3,SNR=6.2
PLCA Paso Flores 145.62 202 PKPbc PKPbc 12 23 02.7 +3.6

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*TEH **26** 12:05:05.2, 32.27N×49.65E, h17km, Mn3.8*
*CSEM **26** 12:05:06.4±0.3, 32.37N×49.75E, h14km, ML3.8, Error ellipse: s-maj=8.2km s-min=5.6km az=149.0*
*THR **26** 12:05:06.3±1.0, 32.40N×49.81E, h15km±10km, ML3.4*
ISC 26 12:05:07.0±0.4, 32.37N±0.03×49.79E±0.05, h10km, n24, σ1§17/31, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGO	**Shushtar**	**0.88**	**253**	*e*PG	**Pg**	**12 05 23.4**	**-1.2**
SHGR	**Shooshtar-Gavs**	**0.88**	**253**	*e*PG	**Pg**	**12 05 23.4**	**-1.2**
SHGR				AML	AML	12 05 43.7	
	comp=N,2μm,0.5s						
IBRJ	**Borojen**	**1.39**	**115**	Pn	**Pn**	**12 05 32.7**	**+0.1**
NASN	**Na'in**	**2.59**	**80**	*e*PN	**Pn**	**12 05 50.0**	**+0.3**
NASN				*e*SG	**Sg**	**12 06 26.6**	**-6.5**
IKOM	**Komasi**	**2.62**	**314**	Pn	**Pn**	**12 05 50.1**	**0.0**
IQOM	**Qom**	**2.69**	**23**	Pn	**Pn**	**12 05 47.6**	**-3.5**
IRAZ	**Razeghan**	**3.03**	**2**	Pn	**Pn**	**12 05 56.6**	**+0.7**
IRAZ				Sn	**Sn**	**12 06 34.0**	**+1.4**
IVIS	**Veys**	**3.26**	**312**	Pn	**Pn**	**12 05 57.9**	**-1.3**
IGHG	**Ghaleghazi**	**3.33**	**307**	Pn	**Pn**	**12 05 58.8**	**-1.4**
IMHD	**Mahdasht**	**3.38**	**12**	Pn	**Pn**	**12 06 01.7**	**+0.7**
IMHD				Sn	**Sn**	**12 06 42.9**	**+1.2**
SNGE	**Sanandaj**	**3.39**	**324**	*e*PN	**Pn**	**12 06 00.3**	**-0.8**
SNGE				AML	AML	12 07 01.2	
	comp=N,120nm,0.6s						
IDHR	**Dehrash**	**3.67**	**310**	Pn	**Pn**	**12 06 03.4**	**-1.6**
IDMV	**Damavand**	**3.70**	**30**	Pn	**Pn**	**12 06 06.2**	**+0.7**
DAMV	**Damavand**	**3.72**	**29**	*e*PN	**Pn**	**12 06 05.5**	**-0.3**
DAMV				AML	AML	12 07 20.6	
	comp=N,43nm,0.6s						
RST	**Umm Al-Ruwaisa**	**3.73**	**221**	*e*P	**Pn**	**12 06 07.1**	**+1.1**
RST				*e*S	**Sn**	**12 06 51.4**	**+0.9**
NAY	**Al-Naaiem**	**3.81**	**216**	*e*P	**Pn**	**12 06 08.2**	**+1.2**
NAY				*e*S	**Sn**	**12 06 52.2**	**-0.1**
RDF	**Al-Radifah**	**3.94**	**210**	*e*P	**Pn**	**12 06 10.4**	**+1.5**
RDF				*e*S	**Sn**	**12 06 57.6**	**+1.9**
QRN	**Al-Qurain**	**3.96**	**204**	*e*P	**Pn**	**12 06 10.2**	**+1.0**
QRN				*e*S	**Sn**	**12 06 45.7**	**-11**
IGZV	**Gazvin**	**4.02**	**5**	Pn	**Pn**	**12 06 17.3**	**+7.2**
IFIR	**Firoozkooh**	**4.09**	**36**	Sn	**Sn**	**12 07 00.2**	**+0.7**
IFIR	**Firoozkooh**	**4.09**	**36**	Pn	**Pn**	**12 06 11.5**	**+0.5**
ISRV	**Sarvestan**	**4.13**	**135**	Pn	**Pn**	**12 06 09.5**	**-2.1**
IMOK	**Mook**	**4.17**	**142**	Pn	**Pn**	**12 06 10.6**	**-1.5**
KRBR	**Kerman**	**6.43**	**110**	*e*PN	**Pn**	**12 06 42.3**	**-1.9**

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*CSEM **26** 12:22:29.8, 37.59N×44.08E, h29km, MD4.0, After ISK*
*ISK **26** 12:22:29.8, 37.59N×44.08E, h29km, MD4.0*
ISC 26 12:22:26.7±2.1, 37.68N±0.05×44.4E±0.2, h6km±9km, n15, σ1§25/22, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.51**	**259**	*i* PG	**Pg**	**12 22 37.1**	**+0.1**
VANT	**Van**	**1.09**	**315**	PG	**Pg**	**12 22 49.8**	**+1.3**
TVAN	**Van**	**1.14**	**318**	*i* P	**Pb**	**12 22 50.1**	**+1.6**
TVAN				*i* S	**Sb**	**12 23 02.9**	**-0.6**
VANB	**Van**	**1.20**	**320**	*i* PN	**Pn**	**12 22 49.8**	**-0.2**
VANB				*i* SN	**Sn**	**12 23 05.0**	**-1.8**
MSL	**Mosul**	**1.73**	**217**	*e*Pn	**Pn**	**12 23 02.0**	**+4.5**
MSL				*e*Sb	**Sb**	**12 23 21.5**	**+1.2**
MSL				*i* Sg	**Sg**	**12 23 22.5**	**-1.6**
BTMT	**Batman**	**2.34**	**284**	PN	**Pn**	**12 23 06.2**	**-0.1**
BEST	**Besiri**	**2.47**	**276**	*i* P	**Pn**	**12 23 10.1**	**+2.0**
BEST				*i* S	**Sn**	**12 23 40.6**	**+1.6**
VRT	**Varto**	**2.67**	**304**	*e*PN	**Pn**	**12 23 10.9**	**-0.1**
ERZM	**Erzurum**	**3.24**	**314**	*i* P	**Pn**	**12 23 10.9**	**+0.9**
ERZM				*i* S	**Sn**	**12 24 03.8**	**+5.3**
EZM	**Erzurum**	**3.24**	**314**	*e*PN	**Pn**	**12 23 19.1**	**0.0**
BINT	**Bingol**	**3.29**	**293**	*e*PN	**Pn**	**12 23 18.4**	**-1.4**
PTK	**Pertek**	**4.11**	**289**	*e*PN	**Pn**	**12 23 30.2**	**-1.2**
ELZG	**Elazig**	**4.33**	**283**	*i* P	**Pn**	**12 23 35.2**	**+0.5**
ELZG				*i* S	**Sn**	**12 24 35.9**	**+10**
URFA	**Urfa**	**4.42**	**269**	*e*PN	**Pn**	**12 23 32.4**	**-3.5**
MYA	**Malataya**	**4.75**	**280**	*e*PN	**Pn**	**12 23 38.3**	**-2.2**

IGQ 26 12:26:49.1, 1.54S×81.78W, h16km±7km, mb4.2, 1C, Error ellipse: s-maj=14.0km s-min=10.6km az=73.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.33**	**68**	⇑P	Pn	12 27 11.9	-1.2
IGUA	**Igualata**	**3.15**	**89**	P	Pn	12 27 39.7	+0.6
ARRY	**Arrayan**	**3.33**	**89**	P	Pn	12 27 42.0	+0.3
ULBA	**Ulba**	**3.38**	**88**	P	Pn	12 27 43.5	+1.2
NAS1	**Nasa**	**3.43**	**75**	P	Pn	12 27 45.6	+2.5
PISA	**Pisayambo**	**3.43**	**82**	P	Pn	12 27 45.0	+1.9
PISA				S	Sn	12 28 25.1	+1.2
JUA2	**San Juan 2**	**3.44**	**67**	P	Pn	12 27 45.8	+2.5
PINO	**Pino**	**3.46**	**67**	P	Pn	12 27 44.4	+0.8
VC1	**Cotopaxi 1**	**3.50**	**75**	P	Pn	12 27 46.9	+2.8
YANA	**Yana**	**3.51**	**66**	P	Pn	12 27 45.2	+0.9
TAMB	**Tambo**	**3.52**	**76**	P	Pn	12 27 47.0	+2.6
COTA	**Cotacachi**	**3.92**	**62**	P	Pn	12 27 54.0	+3.9
CAYR	**Refugio Cayamb**	**4.08**	**68**	P	Pn	12 27 56.7	+4.3
CAYR				S	Sn	12 28 45.4	+5.0
CAYA	**Cayambe**	**4.12**	**67**	P	Pn	12 27 58.9	+5.9

IDC 26 12:28:31.3±1.4, 7.04N×76.76W, mb3.2/2, mb1 3.7/3, mb1mx3.4/17, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=43.5km s-min=20.8km az=169.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**6.34**	**73**	Pn	Pn	12 30 08.2	-0.1
	1.4nm,0.3s,baz=272,slow=9.7,SNR=13						
SDV				Pg	Pg	12 30 28.4	-9.5
	2.3nm,0.3s,baz=252,slow=19,SNR=8.6						
SDV				Sn	Sn	12 31 19.1	-3.3
	4.9nm,0.3s,baz=28,slow=16,SNR=3.6						
SDV				Lg		12 31 50.3	
	1.8nm,0.3s,baz=41,slow=19,SNR=3.0						
PDAR	**Pinedale Array**	**45.83**	**326**	P	P	12 36 56.6	-0.3
	0.2nm,0.4s,baz=135,slow=12,SNR=2.3						
YKA	**Yellowknife Ar**	**61.85**	**341**	P	P	12 38 51.2	-3.2
	0.5nm,0.9s,baz=131,slow=6.8,SNR=8.5						
YKA				pP	pP	12 38 58.6	+4.2
	0.5nm,0.6s,baz=131,slow=6.9,SNR=18						
ASAR	**Alice Springs**	**146.24**	**237**	PKPbc	PKPbc	12 48 13.5	-1.1
	0.9nm,0.7s,baz=113,slow=4.1,SNR=7.3						
WRA	**Warramunga Arr**	**147.23**	**244**	PKPbc	PKPdf	12 48 16.9	-0.2
	0.8nm,1.1s,baz=100,slow=3.0,SNR=3.6						

IDC 26 12:35:09.9±3.4, 7.61N×94.38E, mb3.5/2, mb1 3.8/3, mb1mx3.5/17, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=107.5km s-min=31.2km az=78.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.66**	**22**	Pn	P	12 37 55.9	-4.8
	0.1nm,0.3s,baz=212,slow=15,SNR=9.3						
SONM	**Songino Array**	**41.37**	**12**	P	P	12 42 58.7	-0.6
	0.3nm,0.6s,baz=195,slow=8.7,SNR=4.5						
WRA	**Warramunga Arr**	**47.91**	**126**	P	P	12 43 50.9	-1.3
	0.6nm,0.7s,baz=306,slow=8.6,SNR=9.0						
WRA				PcP	PcP	12 45 17.3	-3.8
	0.3nm,0.8s,baz=313,slow=2.9,SNR=4.8						

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*IDC **26** 12:45:17.3±1.1, 7.68N×93.79E, mb4.1/7, mb1 4.3/8, mb1mx4.1/18, mbtmp4.1/8, ML3.7/1, MS3.8/4, Ms1 3.8/4, ms1mx3.5/19, Error ellipse: s-maj=39.9km s-min=26.1km az=54.0*
*BJI **26** 12:45:19.1, 7.80N×93.90E, h30km, mB5.5, mb4.5, Ms4.8, Msz4.8*
*MOS **26** 12:45:20.7±1.0, 7.82N×93.97E, h33km, mb4.6/12, Error ellipse: s-maj=26.8km s-min=11.4km az=95.0*
*NEIC **26** 12:45:22.1±0.5, 7.78N×93.86E, h30km, mb4.4/3, Error ellipse: s-maj=15.5km s-min=11.2km az=96.0*
ISC 26 12:45:24.3±2.0, 8.0N±0.1×94.25E±0.07, h58km±16km, n50, σ1§22/45, mb4.5/22, MS4.1/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.33**	**23**	*e*P	**P**	**12 48 07.5**	**+1.7**
CMAR	**Chiang Mai Arr**	**11.33**	**23**	Pn	**P**	**12 48 07.2**	**+1.4**
	0.2nm,0.3s,baz=222,slow=15,SNR=10						
CMAR				LR	LR	12 52 42.5	
	comp=Z,293nm,18.1s,baz=206,slow=38						
PALK	**Pallekele**	**13.45**	**268**	P	**P**	**12 48 34.3**	**+0.3**
SHL	**Shillong**	**17.58**	**353**	*e*P	**P**	**12 49 25.0**	**-2.0**
HYB	**Hyderabad**	**17.91**	**303**	*i* P	**P**	**12 49 31.5**	**+0.5**
QIZ	**Qiongzhong**	**18.68**	**53**	P	**P**	**12 49 40.0**	**-0.2**
QIZ				S	**S**	**12 53 02.5**	**-0.5**
QIZ				LR	LR		
	comp=N,886nm,11.2s						
QIZ				LR	LR		
	comp=E,579nm,12.2s						
JIRN	**Jiri**	**20.96**	**340**	*e*P	**P**	**12 50 04.3**	**-0.4**
	comp=E,36nm,1.0s						
PKI	**Pulchoki**	**21.16**	**338**	*e*P	**P**	**12 50 05.3**	**-1.4**
	comp=E,25nm,0.8s,mb4.6						
DMN	**Daman**	**21.31**	**337**	*e*P	**P**	**12 50 06.7**	**-1.5**
	comp=E,36nm,0.9s,mb4.7						
KKN	**Kakani**	**21.41**	**338**	*e*P	**P**	**12 50 08.3**	**-0.8**
	comp=E,16nm,0.7s,mb4.5						
LSA	**Lhasa**	**21.75**	**353**	P	**P**	**12 50 16.3**	**+3.7**
LSA	**Lhasa**	**21.75**	**353**	*e*P	**P**	**12 50 12.8**	**+0.2**
LSA				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.3						
LSA	**Lhasa**	**21.75**	**353**	*e*P	**P**	**12 50 12.8**	**+0.2**
	comp=Z,13nm,1.0s,mb4.3						
GKN	**Gorkha**	**21.84**	**337**	*e*P	**P**	**12 50 13.0**	**-0.5**
	comp=Z,25nm,0.8s,mb4.7						
KOLN	**Koldanda**	**22.07**	**334**	*e*P	**P**	**12 50 16.6**	**+0.9**
	comp=Z,26nm,0.9s,mb4.7						
NJ2	**Nanjing**	**33.08**	**40**	*e*P	**P**	**12 51 54.3**	**-2.5**
NJ2				AP	pP	12 52 03.8	-7.7
NJ2				XP	sP	12 52 07.8	-11
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,842nm,5.2s						
NJ2				LR	LR		
	comp=N,1μm,15.3s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,15.5s,MS4.9						
NJ2				LR	LR		
	comp=Z,1μm,14.7s,MS4.7						
AAK	**Ala-Archa**	**38.60**	**336**	*i* P	**P**	**12 52 44.7**	**+1.4**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.8s,mb4.0						
SONM	**Songino Array**	**40.99**	**12**	P	**P**	**12 53 05.3**	**+2.2**
	comp=Z,0.7nm,0.5s,mb3.6,baz=194,slow=7.8,SNR=6.7						
SONM				PcP	PcP	12 55 04.5	+1.6
	comp=Z,1.2nm,1.0s,baz=172,slow=3.9,SNR=5.0						
ULN	**Ulaanbaatar**	**41.16**	**13**	*i* P	**P**	**12 53 02.0**	**-2.5**
KURK	**Kurchatov**	**44.48**	**346**	*e*P	**P**	**12 53 31.6**	**+0.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
KURK	**Kurchatov**	**44.48**	**346**	*e*P	**P**	**12 53 31.6**	**0.0**
	comp=Z,5.6nm,1.0s,mb4.2						
ZAL	**Zalesovo**	**46.41**	**352**	P	**P**	**12 53 48.0**	**+1.3**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZAL	**Zalesovo**	**46.41**	**352**	P	**P**	**12 53 48.0**	**+1.3**
	comp=Z,3.4nm,0.8s,mb4.3,baz=112,slow=14,SNR=16						
NVS	**Novosibirsk**	**47.51**	**351**	*e*P	**P**	**12 53 54.9**	**-0.5**
NVS				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
NVS				pmax	pmax		
	comp=N,3.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.1s						
WRA	**Warramunga Arr**	**48.27**	**126**	P	**P**	**12 54 01.4**	**-0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**48.27**	**126**	P	**P**	**12 54 01.4**	**-0.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=305,slow=8.5,SNR=6.5						
CHKZ	**Chkalovo**	**49.36**	**342**	*e*P	**P**	**12 54 09.9**	**+0.2**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**49.36**	**342**	*e*P	**P**	**12 54 09.9**	**+0.1**
	comp=Z,4.1nm,0.9s,mb4.5						
ASAR	**Alice Springs**	**49.94**	**130**	LR	LR	13 16 21.0	
	comp=Z,60nm,18.5s,MS3.6,baz=300,slow=37						
ARU	**Arti**	**55.79**	**337**	*e*P	**P**	**12 54 52.3**	**-5.3**
KMBO	**Kilima Mbogo**	**57.54**	**264**	LR	LR	13 15 34.6	
	comp=Z,107nm,19.2s,MS4.0,baz=87,slow=32						
SOC	**Sochi**	**59.14**	**316**	*e*P	**P**	**12 55 26.1**	**+4.8**
SOC				*e*		12 56 14.6	
SOC				*e*		12 57 34.7	
SOC				*e*PPP	PPP	12 58 53.2	-6.0
SOC				*e*S	**S**	**13 03 26.0**	**+3.5**
SOC				*e*SS	SS	13 07 20.6	+1.5
SOC				*e*SSS	SSS	13 09 50.7	+3.8
SOC				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.3						
SOC				pmax	pmax		
	comp=N,24nm,0.8s						
SOC				pmax	pmax		
	comp=E,21nm,1.0s						
YAK	**Yakutsk**	**59.81**	**18**	*i* P	**P**	**12 55 26.3**	**+0.6**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**60.14**	**134**	LR	LR	13 22 06.8	
	comp=Z,104nm,19.5s,MS4.0,baz=24,slow=37						
BRTR	**Keskin Array B**	**62.41**	**311**	P	**P**	**12 55 41.1**	**-2.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**62.41**	**311**	P	**P**	**12 55 41.1**	**-2.5**
	comp=Z,1.1nm,0.6s,mb4.1,baz=111,slow=6.5,SNR=4.7						
TIXI	**Tiksi**	**67.06**	**11**	*e*P	**P**	**12 56 13.8**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**72.62**	**332**	P	**P**	**12 56 46.7**	**-0.4**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	**72.62**	**332**	P	**P**	**12 56 46.7**	**-0.5**
	comp=Z,2.8nm,0.7s,mb4.3,baz=108,slow=6.0,SNR=5.9						
BILL	**Bilibino**	**75.90**	**22**	*i* P	**P**	**12 57 09.3**	**+3.3**
BILL				pmax	pmax		
	comp=Z,12nm,2.4s,mb4.4						
GERES	**GERESS Array B**	**77.78**	**318**	P	**P**	**12 57 17.1**	**+0.2**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES	**GERESS Array B**	**77.78**	**318**	P	**P**	**12 57 17.1**	**+0.2**
	comp=Z,1.8nm,0.8s,mb4.0,baz=90,slow=5.3,SNR=4.7						
NB2	**NORSAR Subarra**	**79.65**	**331**	P	**P**	**12 57 26.7**	**-0.2**
	comp=Z,1.9nm,0.7s,mb4.1,baz=95,slow=5.0						
NOA	**NORSAR Array B**	**79.65**	**331**	P	**P**	**12 57 26.7**	**-0.2**
NOA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
NOA	**NORSAR Array B**	**79.65**	**331**	P	**P**	**12 57 26.7**	**-0.1**
	comp=Z,5.0nm,1.1s,mb4.4,baz=93,slow=5.5,SNR=8.4						
RES	**Resolute Bay**	**97.24**	**2**	*e*P	**P**	**12 58 52.5**	**+1.1**
PDAR	**Pinedale Array**	**124.98**	**21**	PKP	PKPdf	13 04 20.4	+2.1
	comp=Z,0.6nm,0.9s,baz=16,slow=1.2,SNR=4.4						
TXAR	**Lajitas Array**	**139.04**	**24**	PKP	PKPdf	13 04 48.6	+3.5
	comp=Z,0.2nm,0.5s,baz=322,slow=1.0,SNR=3.9						
PLCA	**Paso Flores**	**144.73**	**200**	PKP	PKPdf	13 04 55.4	+0.6
	comp=Z,2.5nm,0.8s,baz=167,slow=3.6,SNR=6.5						
PLCA	**Paso Flores**	**144.73**	**200**	*e*PKPdf	PKPdf	13 04 56.2	+1.4

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*IDC **26** 13:05:08.6±0.7, 7.81N×94.09E, mb3.9/12, mb1 4.1/13, mb1mx4.1/19, mbtmp3.9/13, ML3.6/1, Error ellipse: s-maj=33.4km s-min=16.8km az=51.0*
ISC 26 13:05:11.8±0.7, 7.73N±0.10×94.1E±0.1, h33km, n22, σ0§96/20, mb4.1/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.67**	**23**	Pn	**P**	**13 07 59.3**	**+0.3**
	0.1nm,0.3s,baz=209,slow=15,SNR=6.6						
JIRN	**Jiri**	**21.18**	**340**	*e*P	**P**	**13 09 56.0**	**-0.7**
	14nm,0.8s,mb4.3						
PKI	**Pulchoki**	**21.37**	**338**	*e*P	**P**	**13 09 59.9**	**+1.3**
	19nm,0.9s,mb4.4						
DMN	**Daman**	**21.52**	**338**	*e*P	**P**	**13 10 01.7**	**+1.7**
	23nm,1.0s,mb4.6						
KKN	**Kakani**	**21.62**	**338**	*e*P	**P**	**13 10 00.3**	**-0.7**
	9.2nm,0.7s,mb4.3						
GKN	**Gorkha**	**22.05**	**337**	*e*P	**P**	**13 10 05.1**	**-0.2**
	10.0nm,0.6s,mb4.4						
KOLN	**Koldanda**	**22.26**	**335**	*e*P	**P**	**13 10 07.9**	**+0.5**
	18nm,1.0s,mb4.5						
SONM	**Songino Array**	**41.32**	**13**	P	**P**	**13 12 56.1**	**+0.1**
	1.2nm,0.9s,mb3.5,baz=190,slow=7.5,SNR=8.0						
ZAL	**Zalesovo**	**46.68**	**352**	P	**P**	**13 13 39.3**	**+0.2**
	2.6nm,0.8s,mb4.2,baz=286,slow=8.3,SNR=18						
WRA	**Warramunga Arr**	**48.23**	**125**	P	**P**	**13 13 51.9**	**+0.2**
	0.4nm,0.6s,mb3.7,baz=304,slow=8.6,SNR=5.0						
BVAR	**Borovoye Array**	**49.10**	**341**	P	**P**	**13 13 57.3**	**-0.7**
	0.8nm,0.8s,mb3.8,baz=143,slow=7.4,SNR=4.9						
ASAR	**Alice Springs**	**49.88**	**130**	P	**P**	**13 14 05.5**	**+1.2**
	0.9nm,0.8s,mb3.8,baz=321,slow=8.5,SNR=5.8						
KMBO	**Kilima Mbogo**	**57.34**	**264**	P	**P**	**13 15 01.4**	**+1.8**
	1.2nm,0.6s,mb4.1,baz=68,slow=18,SNR=5.2						
STKA	**Stephens Creek**	**60.06**	**134**	P	**P**	**13 15 16.7**	**-1.5**
	1.9nm,0.8s,mb4.2,baz=275,slow=16,SNR=2.8						
BRTR	**Keskin Array B**	**62.47**	**311**	P	**P**	**13 15 32.5**	**-1.8**
	0.6nm,0.6s,mb3.9,baz=152,slow=8.3,SNR=3.7						
AKASG	**Malin Array Be**	**68.22**	**322**	P	**P**	**13 16 10.0**	**-1.1**
	0.6nm,0.5s,mb3.9,baz=92,slow=5.3,SNR=3.9						
FINES	**FINESS Array B**	**72.81**	**332**	P	**P**	**13 16 38.0**	**-0.7**
	4.6nm,1.1s,mb4.3,baz=117,slow=8.5,SNR=6.8						
GERES	**GERESS Array B**	**77.89**	**318**	P	**P**	**13 17 07.9**	**0.0**
	0.8nm,0.7s,mb3.8,baz=153,slow=3.0,SNR=4.4						
NB2	**NORSAR Subarra**	**79.82**	**331**	P	**P**	**13 17 18.3**	**0.0**
	1.4nm,0.8s,mb3.9,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**79.82**	**331**	P	**P**	**13 17 18.6**	**+0.4**
	4.2nm,1.1s,mb4.3,baz=92,slow=5.7,SNR=4.5						
PDAR	**Pinedale Array**	**125.33**	**21**	PKP	PKPdf	13 24 11.3	+1.6
	0.8nm,0.9s,slow=1.5,SNR=5.1						
PLCA	**Paso Flores**	**144.39**	**200**	PKP	PKPdf	13 24 47.0	+2.1
	3.1nm,1.1s,baz=134,slow=4.5,SNR=4.9						

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*IDC **26** 13:16:45.4±16.0, 18.50S×168.98E, h237km±174km, mb3.4/6, mb1 3.6/6, mb1mx3.5/15, mbtmp4.0/6, MS3.2/1, Ms1 3.2/1, ms1mx2.6/11, Error ellipse: s-maj=83.4km s-min=20.2km az=14.0*
ISC 26 13:16:43.7±3.0, 18.7S±0.2×168.8E±0.2, h219km±26km, n8, σ1§26/10, mb3.6/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.05**	**212**	⇑*e*P	**P**	**13 17 48.5**	**+1.1**
DZM				*e*S	**S**	**13 18 35.1**	**-1.7**
NOUC	**Port Laguerre**	**4.15**	**214**	*e*P	**P**	**13 17 49.4**	**+0.8**
NOUC				*e*S	**S**	**13 18 38.6**	**-0.4**
URZ	**Urewera**	**20.85**	**161**	P	**P**	**13 21 10.2**	**+0.7**
	5.9nm,0.8s,baz=111,slow=8.6,SNR=4.8						
CTA	**Charters Tower**	**21.30**	**262**	P	**P**	**13 21 16.2**	**+2.2**
	2.8nm,0.7s,mb3.9,baz=94,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**32.51**	**262**	P	**P**	**13 22 55.5**	**-0.6**
	0.6nm,0.3s,mb3.6,baz=96,slow=8.3,SNR=31						
ASAR	**Alice Springs**	**32.86**	**255**	P	**P**	**13 22 59.1**	**0.0**
	4.1nm,0.4s,mb4.3,baz=82,slow=8.6,SNR=125						
ASAR				LR	LR	13 37 15.7	
	comp=Z,42nm,18.9s,baz=320,slow=37						
SONM	**Songino Array**	**86.49**	**323**	P	**P**	**13 29 02.7**	**-0.3**
	0.3nm,0.7s,mb3.1,baz=146,slow=5.2,SNR=5.4						
ILAR	**Eielson Array**	**89.80**	**17**	P	**P**	**13 29 14.8**	**-3.3**
	0.2nm,0.4s,mb3.3,baz=239,slow=5.0,SNR=10.0						

WEL 26 13:26:02.1±0.8, 37.40S×179.92W, h33km, ML3.7/3, 1C, Error ellipse: s-maj=7.4km s-min=6.8km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.42**	**263**	PN	Pn	13 26 24.6	-1.4
MXZ				SN	Sn	13 26 42.4	-1.3
PUZ	**Puketiti**	**1.60**	**244**	⇑PN	Pn	13 26 27.6	-0.9
PUZ				SN	Sn	13 26 46.2	-2.0
MWZ	**Matawai**	**2.23**	**244**	PN	Pn	13 26 36.2	-1.4
MWZ				SN	Sn	13 27 01.6	-2.6
KNZ	**Kokohu**	**2.50**	**229**	PN	Pn	13 26 39.7	-1.7
URZ	**Urewera**	**2

VC1	**Cotopaxi 1**	**2.81**	**79**	P	Pn	13 51 01.1 +1.9
TAMB	**Tambo**	**2.84**	**80**	P	Pn	13 51 01.4 +1.9
ANTI	**Antisana**	**3.09**	**76**	P	Pn	13 51 05.0 +1.9

IGQ 26 13:53:52.0, 1.66S×81.54W, h16km±8km, mb4.4, 3C-1D, Error ellipse: s-maj=15.3km s-min=10.4km az=13.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.16**	**59**	⇑P	Pb	13 54 11.4	-1.8
IGUA	**Igualata**	**2.90**	**87**	⇑P	Pn	13 54 39.1	+0.6
IGUA				S	Sn	13 55 09.7	-3.7
CUSU	**Cusua**	**3.06**	**86**	P	Pn	13 54 42.7	+1.9
JUIV	**Juive**	**3.08**	**86**	P	Pn	13 54 42.1	+1.1
ARRY	**Arrayan**	**3.08**	**87**	P	Pn	13 54 41.6	+0.5
ARRY				S	Sn	13 55 14.5	-3.5
RETU	**Refugio**	**3.10**	**86**	P	Pn	13 54 42.7	+1.4
ULBA	**Ulba**	**3.13**	**86**	P	Pn	13 54 43.1	+1.2
PISA	**Pisayambo**	**3.21**	**79**	P	Pn	13 54 44.3	+1.5
NAS1	**Nasa**	**3.22**	**72**	P	Pn	13 54 45.7	+2.6
JUA2	**San Juan 2**	**3.26**	**64**	P	Pn	13 54 44.2	+0.6
PINO	**Pino**	**3.29**	**63**	P	Pn	13 54 44.0	0.0
VC1	**Cotopaxi 1**	**3.29**	**72**	P	Pn	13 54 47.3	+3.2
TAMB	**Tambo**	**3.31**	**73**	P	Pn	13 54 46.1	+1.8
YANA	**Yana**	**3.34**	**63**	P	Pn	13 54 44.7	0.0
ANTI	**Antisana**	**3.58**	**70**	⇓P	Pn	13 54 50.9	+2.7
ANTI				S	Sn	13 55 32.0	+1.4
COTA	**Cotacachi**	**3.76**	**58**	P	Pn	13 54 52.5	+1.8
CAYR	**Refugio Cayamb**	**3.90**	**65**	P	Pn	13 54 55.6	+2.9
CAYR				S	Sn	13 55 40.5	+1.8
CAYA	**Cayambe**	**3.94**	**64**	⇑P	Pn	13 54 56.9	+3.6
CAYA				S	Sn	13 55 44.5	+4.8
CONE	**Cono NE Rev Vo**	**4.20**	**68**	P	Pn	13 55 02.3	+5.3

IDC 26 13:54:21.8±2.4, 14.15S×174.69W, mb4.0/5, mb1 4.3/5, mb1mx4.0/14, mbtmp4.0/5, MS3.8/5, Ms1 3.8/5, ms1mx3.4/22, Error ellipse: s-maj=143.4km s-min=24.7km az=143.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**15.85**	**118**	LR	LR	14 01 54.1	
	comp=Z,206nm,18.8s,baz=46,slow=28						
URZ	**Urewera**	**25.09**	**195**	LR	LR	14 07 40.0	
	comp=Z,259nm,20.1s,baz=188,slow=32						
CTA	**Charters Tower**	**37.72**	**255**	LR	LR	14 14 20.8	
	comp=Z,111nm,18.2s,baz=222,slow=32						
STKA	**Stephens Creek**	**43.59**	**238**	P	P	14 02 28.3	-1.2
	3.2nm,0.8s,baz=161,slow=3.6,SNR=3.0						
WRA	**Warramunga Arr**	**48.92**	**256**	P	P	14 03 09.6	-2.3
	0.8nm,1.0s,baz=86,slow=6.6,SNR=4.7						
ASAR	**Alice Springs**	**49.32**	**251**	P	P	14 03 12.4	-2.5
	8.6nm,0.8s,baz=85,slow=7.5,SNR=44						
ASAR				LR	LR	14 22 21.0	
	comp=Z,74nm,19.7s,baz=182,slow=34						
NVAR	**Mina Array Bea**	**74.26**	**43**	P	P	14 06 00.1	-2.6
	1.8nm,1.1s,baz=210,slow=8.9,SNR=3.7						
ILAR	**Eielson Array**	**81.48**	**12**	P	P	14 06 40.8	-1.2
	3.1nm,1.3s,baz=228,slow=6.4,SNR=7.7						
USHA	**Ushuaia**	**87.65**	**146**	LR	LR	14 37 05.6	
	comp=Z,106nm,19.8s,baz=120,slow=29						
MLR	**Muntele Rosu**	**144.22**	**335**	PKP	PKPdf	14 14 01.8	+0.3
	3.3nm,0.9s,baz=123,slow=9.7,SNR=3.1						
BRTR	**Keskin Array B**	**144.41**	**321**	PKP	PKPdf	14 14 01.5	-0.6
	3.1nm,0.9s,baz=108,slow=3.9,SNR=7.6						

MAN 26 13:57:51.1, 8.38N×125.96E, h118km, mb3.8, ML2.5, MS2.1, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.45**	**116**	⇓*i*P	P	13 59 10.1	+1.5
BIPH				*i* S	S	13 58 22.6	+0.7
BUTP	**Butuan**	**0.67**	**330**	*e*P	P	13 58 12.7	+2.6
BUTP				*e*S	S	13 58 26.8	+2.2
BUKP	**Musuan**	**1.02**	**241**	*e*P	P	13 58 13.4	0.0
SCPH	**Surigao**	**1.47**	**342**	*e*P	P	13 58 17.7	-0.7
SCPH				*e*S	S	13 58 40.1	+0.9

*JMA **26** 13:58:49.9±0.2, 24.13N×122.56E, h40km, M2.5*
TAP 26 13:58:49.0, 23.95N×122.55E, h13km±1km, ML3.4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.66**	**39**	P	Pb	13 59 01.0	-0.8
YOJ				S	Sb	13 59 08.8	-1.8
IRIF	**Iriomote-Funau**	**1.14**	**70**	P	Pb	13 59 08.8	-1.3
IRIF				S	Sb	13 59 23.2	-1.4
HATJ	**Hateruma jima**	**1.15**	**84**	P	Pb	13 59 10.0	-0.2
HATJ				S	Sb	13 59 24.7	-0.2
JKRS	**Kuro-shima**	**1.36**	**78**	P	Pn	13 59 12.8	-1.0
JKRS				S	Sb	13 59 30.2	-0.8
JIJ	**Ishigaki jima**	**1.51**	**74**	P	Pn	13 59 13.9	-2.0
JIJ				S	Sb	13 59 32.6	-2.7
JTJ	**Tarama**	**2.08**	**70**	*e*S	Sn	13 59 48.4	-1.5

*JMA **26** 14:06:57.7±0.3, 34.00N×141.80E, h29km±4km, M3.5*
*IDC **26** 14:06:57.5±0.9, 34.10N×141.66E, mb3.5/6, mb1 3.7/6, mb1mx3.6/20, mbtmp3.5/6, MS3.5/2, Ms1 3.6/2, ms1mx2.7/26, Error ellipse: s-maj=31.6km s-min=17.0km az=123.0*
ISC 26 14:06:59.3±1.3, 34.11N±0.05×141.77E±0.06, h27km±9km, n17, σ0⅊76/25, mb3.6/6, MS3.8/1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.85**	**310**	P	**Pb**	**14 07 14.8**	**-0.6**
BSO1				*e*S	**Sb**	**14 07 27.3**	**+0.8**
BSO3	**Boso 3**	**1.25**	**304**	P	**Pn**	**14 07 21.1**	**-0.2**
BSO3				*e*S	**Sn**	**14 07 38.7**	**+1.3**
BSO4	**Boso 4**	**1.48**	**307**	P	**Pn**	**14 07 25.4**	**+0.9**
CHOJ	**Chosi**	**1.76**	**335**	P	**Pn**	**14 07 28.7**	**+0.1**
CHOJ				*e*S	**Sn**	**14 07 50.2**	**-0.1**
JHJ2	**Mitsune**	**1.91**	**239**	P	**Pn**	**14 07 31.2**	**+0.4**
JHJ2				*e*S	**Sn**	**14 07 56.4**	**+2.2**
JHJ	**Hachijo jima 2**	**1.93**	**240**	Pn	**Pn**	**14 07 31.3**	**+0.2**
	107nm,0.3s,baz=71,slow=23,SNR=11						
JHJ				Sn	**Sn**	**14 07 54.2**	**-0.5**
	81nm,0.3s,baz=84,slow=21,SNR=5.8						
JIM2	**Oshima 3**	**2.03**	**288**	P	**Pn**	**14 07 31.1**	**-1.4**
JIM2				*e*S	**Sn**	**14 07 57.1**	**-0.1**
JIZS	**Izushimoda**	**2.47**	**285**	P	**Pn**	**14 07 38.2**	**-0.6**
JIZS				*e*S	**Sn**	**14 08 07.3**	**-1.1**
JOD2	**Odawara 2**	**2.49**	**298**	P	**Pn**	**14 07 38.5**	**-0.6**
JOD2				*e*S	**Sn**	**14 08 09.0**	**0.0**
MAT	**Matsushiro**	**3.79**	**311**	P	**Pn**	**14 07 57.7**	**+0.1**
MAT				S	**Sn**	**14 08 41.5**	**-0.4**
CBIJ	**Chichi jima**	**7.00**	**177**	LR	LR	14 11 11.4	
	comp=Z,201nm,18.7s,baz=111,slow=36						
SONM	**Songino Array**	**29.74**	**308**	P	**P**	**14 13 04.7**	**-0.9**
	0.5nm,0.5s,mb3.5,baz=110,slow=9.6,SNR=6.6						
ILAR	**Eielson Array**	**51.82**	**31**	P	**P**	**14 16 07.3**	**+0.5**
	0.4nm,0.6s,mb3.5,baz=263,slow=6.3,SNR=9.3						
ILAR				LR	LR	14 39 44.5	
	comp=Z,81nm,19.1s,MS3.8,baz=1.1,slow=38						
WRA	**Warramunga Arr**	**54.22**	**189**	P	**P**	**14 16 24.1**	**-1.0**
	0.6nm,0.5s,mb3.8,baz=3.4,slow=7.5,SNR=21						
INK	**Inuvik**	**56.86**	**26**	P	**P**	**14 16 44.2**	**+0.6**
	0.3nm,0.4s,mb3.7,baz=337,slow=7.7,SNR=2.7						
ASAR	**Alice Springs**	**57.94**	**189**	P	**P**	**14 16 51.7**	**-0.1**
	0.3nm,0.5s,mb3.6,baz=0.2,slow=7.0,SNR=6.7						
YKA	**Yellowknife Ar**	**66.19**	**30**	P	**P**	**14 17 47.0**	**+0.6**
	0.1nm,0.3s,mb3.3,baz=295,slow=5.9,SNR=4.3						

*IDC **26** 14:14:56.3±1.1, 9.75N×93.64E, mb4.0/10, mb1 4.2/11, mb1mx4.1/19, mbtmp4.0/11, ML3.9/1, MS3.9/5, Ms1 4.0/5, ms1mx3.6/24, Error ellipse: s-maj=48.4km s-min=19.3km az=51.0*
*BJI **26** 14:14:57.4, 9.19N×93.38E, h59km, mB4.7, mb4.5, Ms4.3, Msz3.8*
*MOS **26** 14:14:58.9±1.2, 9.60N×93.59E, h33km, mb4.6/12, Error ellipse: s-maj=17.4km s-min=10.2km az=102.2*
*NEIC **26** 14:15:00.2±0.6, 9.58N×93.40E, h30km, mb4.2/7, Error ellipse: s-maj=12.6km s-min=11.4km az=70.0*
ISC 26 14:15:00.7±1.4, 9.70N±0.08×93.66E±0.06, h47km±11km, n68, σ1⅊14/72, mb4.3/20, MS4.0/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**6.61**	**64**	P	**P**	**14 16 36.0**	**-1.8**
SNG	**Songkhla**	**7.32**	**109**	P	**P**	**14 16 47.0**	**-0.6**
NST	**Nakhon Sawan**	**8.66**	**46**	P	**P**	**14 17 05.0**	**-1.2**
CM31	**Chiang Mai Arr**	**10.10**	**30**	*e*P	**P**	**14 17 27.1**	**+1.1**
	36nm,1.0s						
CMAR	**Chiang Mai Arr**	**10.10**	**30**	Pn	**P**	**14 17 27.1**	**+1.1**
	0.3nm,0.3s,baz=218,slow=14,SNR=40						
CMAR				LR	LR	14 21 51.1	
	comp=Z,458nm,19.4s,baz=215,slow=41						
NANT	**Nan**	**11.33**	**36**	P	**P**	**14 17 45.7**	**+3.0**
VIS	**Vishakhapatnam**	**12.82**	**310**	*e*P	**P**	**14 18 00.5**	**-2.3**
VIS				*e*		14 18 02.8	
	comp=Z,52nm,1.1s						
VIS				*e*S	**S**	**14 20 07.8**	**-17**
VIS				*e*		14 20 15.3	
	comp=N,93nm,0.6s						
VIS				*e*		14 20 15.3	
	comp=E,33nm,0.4s						
BWNR	**Bhubaneshwar**	**12.98**	**325**	*e*P	**P**	**14 18 04.3**	**-0.6**
	comp=Z,37nm,0.6s						
BWNR				AMb	AMB	14 18 04.8	
	comp=Z,35nm,0.5s						
BWNR				*e*S	**S**	**14 20 17.2**	**-11**
IMP	**Imphal**	**15.00**	**1**	*e*P	**P**	**14 18 30.9**	**-0.5**
SHL	**Shillong**	**15.87**	**354**	*e*P	**P**	**14 18 43.0**	**+0.5**
SHL				*e*S	**S**	**14 21 33.5**	**-3.4**
HYB	**Hyderabad**	**16.56**	**299**	*e*P	**P**	**14 18 52.0**	**+0.7**
HYB				*e*S	**S**	**14 21 57.0**	**+4.1**
HYB	**Hyderabad**	**16.56**	**299**	*i* P	**P**	**14 18 52.0**	**+0.7**
HYB				*e*S	**S**	**14 21 57.0**	**+4.1**
BLSP	**Bilaspur**	**16.59**	**320**	*e*P	**P**	**14 18 52.9**	**+1.3**
BLSP				*e*		14 18 54.7	
	comp=Z,11nm,0.6s						
BLSP				*e*S	**S**	**14 21 54.9**	**+1.4**
KMI	**Kunming**	**17.60**	**28**	P	**P**	**14 19 06.9**	**+2.6**
KMI				pmax	pmax		
	comp=Z,16nm,1.0s						
KMI	**Kunming**	**17.60**	**28**	P	**P**	**14 19 06.9**	**+2.6**
	comp=Z,16nm,1.0s						
JIRN	**Jiri**	**19.20**	**339**	*e*P	**P**	**14 19 23.3**	**-0.3**
	comp=Z,92nm,0.9s						
PKI	**Pulchoki**	**19.41**	**337**	*e*P	**P**	**14 19 25.8**	**0.0**
	comp=Z,84nm,1.2s						
DMN	**Daman**	**19.56**	**337**	*e*P	**P**	**14 19 27.6**	**+0.2**
	comp=Z,73nm,1.0s						
KKN	**Kakani**	**19.65**	**337**	*e*P	**P**	**14 19 27.7**	**-0.8**
	comp=Z,118nm,1.5s						
LSA	**Lhasa**	**20.04**	**354**	P	**P**	**14 19 34.5**	**+1.9**
LSA	**Lhasa**	**20.04**	**354**	*e*P	**P**	**14 19 32.6**	**0.0**
LSA				pmax	pmax		
	comp=Z,15nm,0.8s						
LSA	**Lhasa**	**20.04**	**354**	*e*P	**P**	**14 19 32.6**	**0.0**
	comp=Z,15nm,0.8s						
GKN	**Gorkha**	**20.09**	**336**	*e*P	**P**	**14 19 31.0**	**-2.2**
	comp=Z,38nm,0.5s						
KOLN	**Koldanda**	**20.32**	**334**	*e*P	**P**	**14 19 35.2**	**-0.4**
	comp=Z,158nm,1.4s						
KAD	**Karad**	**20.38**	**294**	*e*P	**P**	**14 19 40.0**	**+3.8**
BHPL	**Bhopal**	**20.56**	**313**	*e*P	**P**	**14 19 37.8**	**-0.2**
BHPL				*e*		14 19 40.2	
	comp=Z,13nm,0.5s						
BHPL				*e*		14 23 15.6	
BHPL				*e*S	**S**	**14 23 19.1**	**-1.2**
POO	**Poona**	**21.11**	**297**	*e*P	**P**	**14 19 38.1**	**-5.6**
POO				*e*P		14 19 46.0	
DDI	**Dehra Dun**	**25.16**	**327**	*e*	**P**	**14 20 24.3**	**+1.0**
ENH	**Enshi**	**25.24**	**34**	*e*P	**P**	**14 20 26.0**	**+1.9**
	comp=Z,3.1nm,0.6s,mb4.0						
KBK	**Karagaybulak**	**36.69**	**337**	P	**P**	**14 22 05.8**	**+0.7**
	SNR=6.9						
AML	**Almayashu**	**36.76**	**335**	P	**P**	**14 22 06.8**	**+1.2**
	SNR=14						
AAK	**Ala-Archa**	**36.85**	**336**	P	**P**	**14 22 07.2**	**+0.8**
	SNR=5.5						
AAK	**Ala-Archa**	**36.85**	**336**	*i* P	**P**	**14 22 06.1**	**-0.3**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
AAK	**Ala-Archa**	**36.85**	**336**	*e*P	**P**	**14 22 06.0**	**-0.4**
	comp=Z,7.3nm,0.9s,mb4.5						
EKS2	**Erkin-Say**	**37.17**	**335**	P	**P**	**14 22 10.2**	**+1.2**
	SNR=6.8						
USP	**Ospenovka**	**37.38**	**337**	P	**P**	**14 22 10.9**	**+0.1**
	SNR=8.7						
SONM	**Songino Array**	**39.50**	**13**	P	**P**	**14 22 27.8**	**-0.6**
	comp=Z,1.6nm,1.0s,mb3.7,baz=191,slow=6.3,SNR=7.3						
KURK	**Kurchatov**	**42.74**	**346**	*e*P	**P**	**14 22 54.7**	**-0.3**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
KURK	**Kurchatov**	**42.74**	**346**	*e*P	**P**	**14 22 54.7**	**-0.3**
	comp=Z,3.3nm,0.9s,mb4.1						
ZAL	**Zalesovo**	**44.69**	**353**	P	**P**	**14 23 10.5**	**-0.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**44.69**	**353**	P	**P**	**14 23 10.5**	**-0.2**
	comp=Z,1.0nm,0.4s,mb4.0,baz=284,slow=5.0,SNR=5.7						
BVAR	**Borovoye Array**	**47.12**	**341**	P	**P**	**14 23 29.0**	**-1.0**
	comp=Z,1.2nm,0.8s,mb3.9,baz=135,slow=8.4,SNR=5.9						
BRVK	**Borovoye**	**47.18**	**341**	*e*P	**P**	**14 23 29.5**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**47.18**	**341**	*e*P	**P**	**14 23 29.5**	**-1.0**
	comp=Z,1.4nm,0.6s,mb4.1						
CHKZ	**Chkalovo**	**47.60**	**342**	*e*P	**P**	**14 23 32.9**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
CHKZ	**Chkalovo**	**47.60**	**342**	*e*P	**P**	**14 23 32.9**	**-0.9**
	comp=Z,28nm,1.0s,mb5.2						
WRA	**Warramunga Arr**	**49.71**	**126**	P	**P**	**14 23 50.6**	**+0.1**
WRA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WRA	**Warramunga Arr**	**49.71**	**126**	P	**P**	**14 23 50.6**	**0.0**
	comp=Z,2.5nm,1.0s,mb4.2,baz=305,slow=8.6,SNR=9.9						
ASAR	**Alice Springs**	**51.45**	**131**	P	**P**	**14 24 04.2**	**+0.4**
	comp=Z,0.9nm,0.6s,mb3.9,baz=305,slow=7.1,SNR=8.1						
GNI	**Garni**	**52.84**	**314**	*i* P	**P**	**14 24 13.7**	**-0.2**
GNI				pmax	pmax		
	comp=Z,9.0nm,1.4s						
KIV	**Kislovodsk**	**55.66**	**317**	*i* P	**P**	**14 24 34.5**	**0.0**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
ASF	**Jabal al Asfar**	**56.84**	**302**	LR	LR	14 52 35.1	
	comp=Z,131nm,20.5s,MS4.0,baz=104,slow=40						
KMBO	**Kilima Mbogo**	**57.18**	**262**	LR	LR	14 49 05.2	
	comp=Z,116nm,18.0s,MS4.0,baz=98,slow=36						
SOC	**Sochi**	**57.55**	**316**	*e*P	**P**	**14 24 43.7**	**-4.3**
SOC				*e*		14 25 37.1	
SOC				*e*		14 26 52.2	
SOC				*e*S	**S**	**14 32 37.1**	**-3.3**
SOC				*e*SS	SS	14 36 31.7	-0.5
SOC				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.2						
SOC				pmax	pmax		
	comp=N,17nm,0.8s						
SOC				pmax	pmax		
	comp=E,17nm,0.8s						
EIL	**Elat**	**58.13**	**299**	LR	LR	14 49 25.7	
	comp=E,78nm,19.4s,MS3.8,baz=302,slow=36						
YAK	**Yakutsk**	**58.43**	**19**	*i* P	**P**	**14 24 52.6**	**-1.2**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
CTA	**Charters Tower**	**59.62**	**120**	LR	LR	14 51 16.5	
	comp=Z,131nm,18.7s,MS4.1,baz=43,slow=36						
BRTR	**Keskin Array B**	**60.89**	**310**	P	**P**	**14 25 10.5**	**-0.6**
BRTR	**Keskin Array B**	**60.89**	**310**	P	**P**	**14 25 10.4**	**-0.7**
	comp=Z,2.7nm,1.0s,mb4.3,baz=121,slow=7.2,SNR=5.5						
OBN	**Obninsk**	**63.59**	**327**	*e*P	**P**	**14 25 33.1**	**+4.2**
OBN				*e*	pP	14 25 43.3	+1.1
OBN				*e*		14 26 04.1	
OBN						14 27 55.0	
OBN				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
TIXI	**Tiksi**	**65.55**	**12**	*i* P	**P**	**14 25 39.6**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
FINES	**FINESS Array B**	**70.89**	**332**	P	**P**	**14 26 14.4**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**70.89**	**332**	P	**P**	**14 26 14.4**	**-0.2**
	comp=Z,0.8nm,0.8s,mb3.7,baz=98,slow=9.8,SNR=3.6						
ARCES	**ARCESS Array B**	**73.40**	**340**	P	**P**	**14 26 30.7**	**+1.4**
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ARCES	**ARCESS Array B**	**73.40**	**340**	P	**P**	**14 26 30.7**	**+1.3**
	comp=Z,5.8nm,0.9s,mb4.5,baz=90,slow=3.6,SNR=4.0						
GERES	**GERESS Array B**	**76.16**	**318**	P	**P**	**14 26 46.3**	**+0.7**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**76.16**	**318**	P	**P**	**14 26 46.3**	**+0.6**
	comp=Z,0.6nm,0.5s,mb3.8,baz=90,slow=7.8,SNR=2.8						
ILAR	**Eielson Array**	**93.24**	**22**	P	**P**	**14 28 12.9**	**+1.8**
	comp=Z,0.3nm,0.9s,mb3.7,baz=320,slow=4.6,SNR=4.7						

*JMA **26** 14:20:50.3±0.3, 24.80N×122.00E, h80km, M2.8*
TAP 26 14:20:49.8, 24.81N×121.98E, h84km, ML3.9, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.00**	**110**	P	P	14 21 09.2	-0.1
YOJ				S	S	14 21 23.2	-0.8
IRIF	**Iriomote-Funau**	**1.66**	**106**	P	P	14 21 17.5	-0.4
IRIF				S	S	14 21 38.1	-0.5
HATJ	**Hateruma jima**	**1.82**	**114**	P	P	14 21 20.2	+0.2
JKRS	**Kuro-shima**	**1.93**	**107**	P	P	14 21 21.5	0.0
JKRS				S	S	14 21 45.1	+0.3
JIJ	**Ishigaki jima**	**2.02**	**102**	P	P	14 21 22.3	-0.3
JIJ				S	S	14 21 46.6	-0.2
JTJ	**Tarama**	**2.48**	**93**	P	P	14 21 29.9	+0.8
JTJ				*e*S	S	14 21 59.8	+1.5

IDC 26 14:25:42.9±3.1, 7.83N×94.08E, mb3.3/2, mb1 3.6/2, mb1mx3.5/15, mbtmp3.3/2, Error ellipse: s-maj=108.4km s-min=38.1km az=71.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**14.36**	**314**	*e*P	P	14 29 09.0	-0.7
VIS				*e*		14 29 09.2	
	comp=Z,9.4nm,0.7s						
VIS				*e*S	S	14 31 42.4	-8.5
BWNR	**Bhubaneshwar**	**14.76**	**328**	*e*P	P	14 29 14.1	-0.8
BLSP	**Bilaspur**	**18.29**	**322**	*e*P	P	14 29 59.9	0.0
JIRN	**Jiri**	**21.09**	**340**	*e*P	P	14 30 30.0	-1.4
	comp=Z,32nm,0.8s						
PKI	**Pulchoki**	**21.28**	**338**	*e*P	P	14 30 31.1	-2.2
	comp=Z,26nm,0.7s						
DMN	**Daman**	**21.43**	**338**	*e*P	P	14 30 32.6	-2.2
	comp=Z,39nm,0.8s						
KKN	**Kakani**	**21.53**	**338**	*e*P	P	14 30 34.3	-1.5
GKN	**Gorkha**	**21.96**	**337**	*e*P	P	14 30 38.7	-1.5
	comp=Z,32nm,0.7s						
KOLN	**Koldanda**	**22.17**	**335**	*e*P	P	14 30 40.4	-1.9
	comp=Z,38nm,0.8s						
SONM	**Songino Array**	**41.22**	**13**	P	P	14 33 29.5	-1.5
	comp=Z,1.4nm,0.8s,baz=190,slow=7.5,SNR=3.8						
WRA	**Warramunga Arr**	**48.29**	**125**	P	P	14 34 26.1	-2.0
	comp=Z,0.3nm,0.5s,baz=305,slow=8.5,SNR=8.6						
PLCA	**Paso Flores**	**144.48**	**200**	PKP	PKPdf	14 45 21.2	-2.1
	comp=Z,1.3nm,0.9s,baz=135,slow=1.4,SNR=3.5						

*BJI **26** 14:25:42.3, 7.25N×93.84E, h13km, mB4.7, mb4.2, Ms4.3, Msz4.1*
*IDC **26** 14:25:48.8±0.8, 7.95N×94.17E, mb4.1/10, mb1 4.2/11, mb1mx4.2/18, mbtmp4.1/11, ML3.9/1, Error ellipse: s-maj=38.0km s-min=17.4km az=58.0*
*NEIC **26** 14:25:51.1±4.1, 8.02N×94.29E, h14km±26km, mb4.3/6, Error ellipse: s-maj=10.5km s-min=8.9km az=59.0*
ISC 26 14:25:52.1±0.5, 8.05N±0.07×94.31E±0.07, h33km, n40, σ1⅊02/35, mb4.2/17, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.28**	**23**	*e*P	**P**	**14 28 32.7**	**-1.4**
CMAR	**Chiang Mai Arr**	**11.28**	**23**	Pn	**P**	**14 28 32.5**	**-1.6**
	0.2nm,0.3s,baz=215,slow=15,SNR=8.4						
PALK	**Pallekele**	**13.51**	**268**	*e*P	**P**	**14 29 03.3**	**-0.8**
BWNR	**Bhubaneshwar**	**14.69**	**327**	*e*	**P**	**14 29 20.1**	**+0.6**
	comp=Z,8.8nm,0.2s						
SHL	**Shillong**	**17.57**	**353**	*e*P	**P**	**14 29 54.0**	**-2.2**
HYB	**Hyderabad**	**17.96**	**303**	*e*P	**P**	**14 30 00.0**	**-1.0**
HYB	**Hyderabad**	**17.96**	**303**	*i* P	**P**	**14 30 00.0**	**-1.0**
BLSP	**Bilaspur**	**18.26**	**321**	*e*	**P**	**14 30 07.0**	**+2.1**
	comp=Z,8.3nm,0.7s						
BLSP				*e*		14 32 24.3	
LSA	**Lhasa**	**21.74**	**353**	*e*P	**P**	**14 30 41.2**	**-1.4**
	comp=Z,6.5nm,0.6s,mb4.2						
NDI	**New Delhi**	**26.09**	**324**	*e*P	**P**	**14 31 25.0**	**+0.2**
NDI	**New Delhi**	**26.09**	**324**	*e*P	**P**	**14 31 25.0**	**+0.2**
ENH	**Enshi**	**26.28**	**31**	*e*P	**P**	**14 31 26.5**	**-0.1**
	comp=Z,3.5nm,0.5s,mb4.2						
WMQ	**Urumqi**	**36.10**	**352**	*e*P	**P**	**14 32 53.5**	**+0.7**
SONM	**Songino Array**	**40.95**	**12**	P	**P**	**14 33 34.4**	**+1.1**
	comp=Z,1.4nm,0.8s,mb3.6,baz=190,slow=7.6,SNR=12						
SONM				PcP	PcP	14 35 35.0	+1.2
	comp=Z,0.6nm,0.7s,baz=178,slow=4.1,SNR=4.5						
SONM	**Songino Array**	**40.95**	**12**	P	**P**	**14 33 34.4**	**+1.1**
SONM				PcP	PcP	14 35 35.0	+1.2
ULN	**Ulaanbaatar**	**41.12**	**13**	P	**P**	**14 33 34

SDV S **S** **14 31 22.9 +2.9**
30nm,0.3s,baz=303,slow=17,SNR=24
VIRV Villa del Rosa 3.49 6 ǁ*iP* **P** **14 30 49.7 -1.4**
CURV Curarigua 4.09 43 *eP* **P** **14 30 59.3 +0.6**
CURV *eS* **S** **14 31 47.8 +0.3**
DABV Dabajuro 4.43 29 ǁ*iP* **P** **14 31 03.6 +0.6**
DABV *eS* **S** **14 31 55.7 +0.4**
TEPV Terepaima 4.61 50 ǁ*iP* **P** **14 31 06.3 +1.0**
SIQV Siquisique 4.66 39 ǁ*iP* **P** **14 31 06.4 +0.4**
BAUV El Baul 5.08 68 *eP* **P** **14 31 10.8 -0.6**
BAUV *eS* **S** **14 32 10.3 +0.1**
IMOV Isla Los Monje 5.63 19 *eP* **P** **14 31 17.4 -1.0**
IMOV *eS* **S** **14 32 21.6 -1.4**
MONV Montecano 5.64 29 *eP* **P** **14 31 18.6 0.0**
MONV *eS* **S** **14 32 21.9 -1.4**
CAOV Caicara del Or 6.43 87 *eP* **P** **14 31 27.9 -0.9**
CAOV *eS* **S** **14 32 39.2 -2.4**
SCHQ Schefferville 47.92 5 P **P** **14 38 18.2 +2.1**
4.2nm,0.6s,mb4.0,baz=198,slow=5.5,SNR=18
YKA Yellowknife Ar 63.20 340 P **P** **14 40 04.9 -0.1**
1.3nm,0.6s,mb3.7,baz=132,slow=6.8,SNR=34
DBIC Dimbokro 67.40 86 P **P** **14 40 32.7 0.0**
1.5nm,0.7s,mb3.8,baz=257,slow=8.7,SNR=4.2
ASAR Alice Springs 149.49 234 PKPbc PKPdf 14 49 23.1 +5.3
0.4nm,0.5s,baz=124,slow=4.1,SNR=4.9
WRA Warramunga Arr 150.71 241 PKPbc PKPdf 14 49 26.0 +6.2
0.4nm,0.3s,baz=107,slow=3.0,SNR=22
WRA PKPab PKPab 14 49 32.6 -2.9
0.2nm,0.3s,baz=108,slow=3.1,SNR=5.0
WRA pPKPbc 14 50 08.0
0.3nm,0.4s,baz=107,slow=2.8,SNR=6.2

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*IDC **26** 14:35:56.1±0.7, 8.06N×94.22E, mb4.2/13, mb1 4.3/14, mb1mx4.2/21, mbtmp4.2/14, ML3.7/1, Error ellipse: s-maj=29.9km s-min=18.2km az=53.0*
*NEIC **26** 14:36:00.6±0.5, 7.82N×93.95E, h30km, mb4.5/6, Error ellipse: s-maj=16.3km s-min=11.4km az=90.0*
ISC 26 14:36:03.6±3.2, 8.0N±0.1×94.2E±0.1, h70km±28km, n36, σ0§99/31, mb4.2/23, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr** 3.6nm,0.8s	**11.38**	**24**	*eP*	**P**	**14 38 45.4**	**0.0**
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=211,slow=14,SNR=8.9	**11.38**	**24**	Pn	**P**	**14 38 45.8**	**+0.3**
JIRN	**Jiri** 16nm,0.8s	**20.95**	**340**	*eP*	**P**	**14 40 42.0**	**-1.0**
PKI	**Pulchoki** 9.9nm,0.5s,mb4.4	**21.15**	**338**	*eP*	**P**	**14 40 45.7**	**+0.8**
DMN	**Daman** 23nm,0.8s,mb4.5	**21.30**	**337**	*eP*	**P**	**14 40 47.5**	**+1.1**
KKN	**Kakani** 20nm,1.0s,mb4.4	**21.40**	**338**	*eP*	**P**	**14 40 46.5**	**-0.9**
LSA	**Lhasa** 18nm,0.8s,mb4.5	**21.77**	**353**	*eP*	**P**	**14 40 54.2**	**+3.2**
GKN	**Gorkha** 21nm,0.8s,mb4.5	**21.83**	**337**	*eP*	**P**	**14 40 51.1**	**-0.6**
KOLN	**Koldanda** 22nm,0.9s,mb4.5	**22.05**	**334**	*eP*	**P**	**14 40 54.0**	**+0.1**
SONM	**Songino Array** 1.4nm,0.8s,mb3.8,baz=190,slow=7.3,SNR=12	**41.03**	**13**	P	**P**	**14 43 42.7**	**+1.1**
SONM				PcP	PcP	14 45 40.7	-0.3
	1.2nm,0.7s,baz=202,slow=3.3,SNR=5.7						
KURK	**Kurchatov** 13nm,1.3s,mb4.5	**44.49**	**346**	*eP*	**P**	**14 44 09.5**	**-0.2**
NWAO	**Narrogin (SRO)** 12nm,1.2s,mb4.5,baz=305,slow=12,SNR=2.3	**46.25**	**153**	P	**P**	**14 44 24.1**	**+0.1**
WRA	**Warramunga Arr** 0.6nm,0.5s,mb3.7,baz=304,slow=8.5,SNR=14	**48.32**	**126**	P	**P**	**14 44 38.8**	**-1.5**
BVAR	**Borovoye Array** 0.8nm,0.6s,mb3.8,baz=153,slow=6.6,SNR=6.3	**48.87**	**341**	P	**P**	**14 44 43.7**	**-0.5**
BVAR				PcP	PcP	14 46 07.4	-0.6
	0.7nm,0.7s,baz=27,slow=3.3,SNR=4.0						
BRVK	**Borovoye**	**48.93**	**341**	P	**P**	**14 44 44.2**	**-0.4**
CHKZ	**Chkalovo** 7.2nm,1.0s,mb4.6	**49.35**	**342**	*eP*	**P**	**14 44 47.4**	**-0.5**
KMBO	**Kilima Mbogo** 3.4nm,0.8s,mb4.5,baz=48,slow=11,SNR=11	**57.46**	**264**	P	**P**	**14 45 49.9**	**+1.7**
KMBO	**Kilima Mbogo**	**57.46**	**264**	*eP*	**P**	**14 45 50.2**	**+2.0**
BRTR	**Keskin Array B** 1.1nm,0.6s,mb4.1,baz=117,slow=8.3,SNR=3.6	**62.36**	**311**	P	**P**	**14 46 19.7**	**-1.6**
AKASG	**Malin Array Be** 0.4nm,0.3s,mb3.7,baz=90,slow=4.7,SNR=4.7	**68.06**	**322**	P	**P**	**14 46 55.7**	**-2.1**
JOF	**Joensuu**	**70.74**	**334**	*ep*	**P**	**14 47 12.7**	**-1.3**
FINES	**FINESS Array B** 4.8nm,0.8s,mb4.4,baz=90,slow=7.6,SNR=13	**72.61**	**332**	P	**P**	**14 47 25.1**	**0.0**
KAF	**Kangasniemi** 3.3nm,0.9s,mb4.2,baz=104,slow=5.7	**72.68**	**333**	*ep*	**P**	**14 47 25.2**	**-0.3**
BOSA	**Boshof** 5.8nm,1.0s,mb4.3	**75.67**	**238**	*eP*	**P**	**14 47 44.1**	**+0.5**
GERES	**GERESS Array B** 2.5nm,0.8s,mb4.0,baz=90,slow=2.7,SNR=6.7	**77.74**	**318**	P	**P**	**14 47 55.8**	**+1.1**
HFS	**Hagfors** 4.6nm,0.8s,mb4.3,baz=90,slow=5.9,SNR=6.7	**78.35**	**330**	P	**P**	**14 47 58.4**	**+0.6**
NB2	**NORSAR Subarra** 2.3nm,0.8s,mb4.1,baz=95,slow=5.0	**79.63**	**331**	P	**P**	**14 48 04.6**	**-0.2**
NOA	**NORSAR Array B** 3.3nm,0.8s,mb4.2,baz=91,slow=5.7,SNR=9.7	**79.63**	**331**	P	**P**	**14 48 04.8**	**+0.1**
DAVOX	**Davos** 5.8nm,0.9s,mb4.4,baz=311,slow=23,SNR=4.8	**80.31**	**316**	P	**P**	**14 48 09.1**	**+0.4**
IMA	**Indian Mountai**	**91.49**	**22**	*eP*	**P**	**14 49 05.2**	**+1.9**
ILAR	**Eielson Array** 0.2nm,0.8s,mb3.6,baz=311,slow=4.5,SNR=5.9	**94.61**	**22**	P	**P**	**14 49 17.6**	**+0.1**
NVAR	**Mina Array Bea** 1.1nm,0.9s,baz=271,slow=1.1,SNR=4.7	**124.80**	**31**	PKP	PKPdf	14 54 58.8	+2.7
PDAR	**Pinedale Array** 1.5nm,1.1s,baz=45,slow=2.1,SNR=5.6	**125.04**	**21**	PKP	PKPdf	14 54 59.2	+2.9
CLNB	**Carlsbad**	**136.41**	**22**	*e*PKPdf	PKPdf	14 55 21.7	+3.6
PLCA	**Paso Flores** 2.7nm,0.8s,baz=157,slow=1.2,SNR=9.5	**144.68**	**200**	PKP	PKPdf	14 55 33.5	+0.9
PLCA	**Paso Flores**	**144.68**	**200**	*e*PKPdf	PKPdf	14 55 34.0	+1.4

IDC 26 14:36:42.2±8.9, 3.15N×95.36E, mb3.5/2, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=292.9km s-min=33.4km az=72.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=217,slow=14,SNR=5.8	**15.61**	**13**	Pn	P	14 40 25.2	-0.3
SONM	**Songino Array** 0.5nm,0.9s,baz=194,slow=5.7,SNR=3.1	**45.52**	**10**	P	P	14 45 03.3	-2.0
ASAR	**Alice Springs** 0.5nm,0.6s,baz=312,slow=7.1,SNR=5.3	**46.03**	**127**	P	P	14 45 07.9	-1.8

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*BJI **26** 14:41:57.8, 4.90N×92.50E, h30km, mB5.1, mb4.7, Ms4.4, Msz4.2*
*IDC **26** 14:41:57.9±3.1, 5.43N×93.56E, mb3.6/4, mb1 3.9/5, mb1mx3.7/18, mbtmp3.7/5, ML3.9/1, MS4.0/10, Ms1 4.0/10, ms1mx3.9/21, Error ellipse: s-maj=120.2km s-min=26.1km az=61.0*
*NEIC **26** 14:41:57.9±0.9, 4.94N×92.50E, h30km, mb4.1/2, Error ellipse: s-maj=20.6km s-min=13.7km az=66.0*
ISC 26 14:41:56.7±1.0, 4.9N±0.1×92.6E±0.1, h30km, n26, σ1§09/19, mb4.2/10, MS4.1/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr** 5.8nm,0.6s	**14.81**	**24**	*eP*	**P**	**14 45 25.9**	**-0.2**
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=218,slow=14,SNR=21	**14.81**	**24**	Pn	**P**	**14 45 26.0**	**-0.1**
CMAR				LR	LR	14 52 08.1	
	comp=Z,317nm,18.2s,baz=200,slow=44						
VIS	**Vishakhapatnam**	**15.62**	**325**	*eP*	**P**	**14 45 35.0**	**-1.7**
HYB	**Hyderabad**	**18.53**	**313**	*i P*	**P**	**14 46 11.0**	**-2.1**
HYB				*e*		14 49 28.0	
HYB				*eS*	**S**	**14 49 40.0**	**+4.5**
POO	**Poona**	**22.77**	**308**	*eP*	**P**	**14 47 03.0**	**+5.0**
JIRN	**Jiri** 32nm,0.6s,mb4.9	**23.42**	**346**	*eP*	**P**	**14 47 04.8**	**+0.5**
PKI	**Pulchoki** 29nm,0.5s,mb4.9	**23.54**	**344**	*eP*	**P**	**14 47 06.6**	**+1.1**
DMN	**Daman**	**23.67**	**343**	*eP*	**P**	**14 47 07.6**	**+0.9**
KKN	**Kakani** 30nm,0.7s,mb4.8	**23.79**	**344**	*eP*	**P**	**14 47 08.2**	**+0.3**
GKN	**Gorkha**	**24.17**	**343**	*eP*	**P**	**14 47 11.6**	**0.0**
KOLN	**Koldanda** 27nm,0.5s,mb4.9	**24.29**	**340**	*eP*	**P**	**14 47 12.6**	**-0.1**
LSA	**Lhasa**	**24.68**	**357**	P	**P**	**14 47 17.0**	**+0.4**
LSA	**Lhasa** 4.7nm,0.7s,mb4.1	**24.68**	**357**	*eP*	**P**	**14 47 12.7**	**-3.9**
SONM	**Songino Array** 0.5nm,0.5s,mb3.5,baz=193,slow=7.9,SNR=6.8	**44.37**	**13**	P	**P**	**14 50 04.4**	**-1.7**
KURK	**Kurchatov** 1.3nm,0.7s,mb4.0	**47.12**	**348**	*eP*	**P**	**14 50 27.9**	**-0.2**
WRA	**Warramunga Arr** 0.6nm,0.6s,mb3.8,baz=301,slow=9.0,SNR=5.9	**47.89**	**122**	P	**P**	**14 50 33.9**	**-0.6**
ASAR	**Alice Springs** 0.4nm,0.8s,mb3.5,baz=300,slow=7.9,SNR=3.8	**49.29**	**127**	P	**P**	**14 50 45.8**	**+0.6**
ASAR				LR	LR	15 15 08.3	
	comp=Z,82nm,18.6s,MS3.8,baz=147,slow=41						
BVAR	**Borovoye Array** 0.7nm,0.6s,mb3.8,baz=153,slow=6.6,SNR=5.4	**51.31**	**343**	P	**P**	**14 51 02.2**	**+2.0**
GNI	**Garni** comp=Z,83nm,18.1s,MS3.9,baz=86,slow=38	**55.45**	**316**	LR	LR	15 17 37.8	
KMBO	**Kilima Mbogo** comp=Z,88nm,18.3s,MS3.9,baz=96,slow=33	**55.61**	**265**	LR	LR	15 12 50.3	
ASF	**Jabal al Asfar** comp=Z,150nm,19.7s,MS4.1,baz=184,slow=36	**58.58**	**305**	LR	LR	15 17 54.7	
STKA	**Stephens Creek** comp=Z,152nm,18.8s,MS4.2,baz=290,slow=40	**59.24**	**132**	LR	LR	15 21 02.4	
EIL	**Elat** comp=Z,91nm,19.5s,MS3.9,baz=312,slow=37	**59.60**	**302**	LR	LR	15 18 53.4	
MLR	**Muntele Rosu** comp=Z,190nm,19.1s,MS4.4,baz=356,slow=41	**70.23**	**317**	LR	LR	15 29 40.7	
NOA	**NORSAR Array B** comp=Z,122nm,18.3s,MS4.3,baz=355,slow=38	**81.54**	**331**	LR	LR	15 34 19.0	
VNDA	**Vanda** comp=Z,157nm,18.8s,MS4.5,baz=107,slow=32	**90.36**	**168**	LR	LR	15 30 36.3	

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*HLW **26** 14:43:25.1, 37.10N×20.08E, h20km, Mb3.6*
*IDC **26** 14:43:26.4±1.0, 37.73N×22.13E, mb3.8/11, mb1 4.0/15, mb1mx3.9/22, mbtmp3.8/15, ML3.6/4, MS3.1/1, Ms1 3.1/1, ms1mx2.6/23, Error ellipse: s-maj=25.1km s-min=17.2km az=31.0*
*ATH **26** 14:43:27.0, 37.63N×21.99E, h24km±2km, MD3.8/13, ML3.8*
*NEIC **26** 14:43:27.0, 37.63N×21.99E, h24km, ML3.8(ATH), ML3.6(THE), After ATH.*
*CSEM **26** 14:43:28.0±0.1, 37.60N×21.97E, h26km±1km, ML3.8, Error ellipse: s-maj=3.3km s-min=2.2km az=63.0*
ISC 26 14:43:27.9±0.3, 37.60N±0.02×21.98E±0.04, h24km, n64, σ1§23/79, mb3.7/10, 1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.42**	**185**	ǁ*iPB*	**Pb**	**14 43 36.3**	**-0.4**
ITM				*eSB*	**Sb**	**14 43 43.3**	**+0.6**
RLS	**Riolos of Patr**	**0.61**	**319**	*ePN*	**Pn**	**14 43 38.5**	**-2.5**
RLS				*eSN*	**Sn**	**14 43 48.3**	**-1.8**
MGER	**Gerania Oros**	**1.09**	**69**	*ePB*	**Pb**	**14 43 46.5**	**-1.5**
MGER				*eSN*	**Sn**	**14 44 02.5**	**+0.2**
VLI	**Veliai**	**1.17**	**138**	*ePB*	**Pb**	**14 43 48.7**	**-0.6**
VLI				*eSN*	**Sn**	**14 44 07.4**	**+3.2**
NAIG	**Nisos Aigina**	**1.21**	**82**	*ePN*	**Pn**	**14 43 49.0**	**-0.6**
NAIG				*eSN*	**Sn**	**14 44 07.5**	**+2.1**
VLS	**Valsamata**	**1.24**	**298**	*ePN*	**Pn**	**14 43 50.6**	**+0.6**
EVR	**Evrytania**	**1.32**	**354**	*ePN*	**Pn**	**14 43 51.1**	**-0.1**
EVR				*eSN*	**Sn**	**14 44 11.3**	**+3.0**
LKR	**Lokris**	**1.33**	**37**	*ePB*	**Pb**	**14 43 50.6**	**-1.4**
LKR				*eSN*	**Sn**	**14 44 09.7**	**+1.4**
ATH	**Athens Observa**	**1.43**	**74**	ǁ*iPN*	**Pn**	**14 43 53.0**	**+0.3**
AGG	**Agios Georgios**	**1.45**	**11**	*eP*	**Pn**	**14 43 54.8**	**+1.7**
AGG	**Agios Georgios**	**1.45**	**11**	P	**Pn**	**14 43 54.8**	**+1.7**
AGG				S	**Sn**	**14 44 16.3**	**+4.8**
PTL	**Penteli**	**1.56**	**73**	*ePN*	**Pn**	**14 43 54.6**	**0.0**
KYTH	**Kithira**	**1.56**	**147**	*ePN*	**Pn**	**14 43 57.5**	**+2.9**
NEO	**Neokhori**	**1.97**	**29**	*ePN*	**Pn**	**14 44 00.5**	**+0.1**
XOR	**Xorichti**	**2.01**	**28**	*eP*	**Pn**	**14 44 01.0**	**0.0**
XOR	**Xorichti**	**2.01**	**28**	P	**Pn**	**14 44 01.0**	**0.0**
XOR				S	**Sn**	**14 44 27.2**	**+1.6**
XOR	**Xorichti**	**2.01**	**28**	P	**Pn**	**14 44 01.0**	**0.0**
XOR				S	**Sn**	**14 44 27.2**	**+1.6**
AOS	**Alonnisos**	**2.17**	**43**	*eP*	**Pn**	**14 44 01.8**	**-1.6**
AOS	**Alonnisos**	**2.17**	**43**	P	**Pn**	**14 44 01.8**	**-1.6**
AOS				S	**Sn**	**14 44 29.1**	**-0.7**
AOS	**Alonnisos**	**2.17**	**43**	P	**Pn**	**14 44 01.8**	**-1.5**
AOS				S	**Sn**	**14 44 29.1**	**-0.6**
IGT	**Igoumenitsa**	**2.32**	**327**	*eP*	**Pn**	**14 44 08.4**	**+2.9**
LIT	**Litokhoron**	**2.53**	**9**	*eP*	**Pn**	**14 44 09.6**	**+1.1**
KZN	**Kozani**	**2.71**	**357**	*e*PB	**Pb**	**14 44 14.0**	**-1.6**
APE	**Apeiranthos**	**2.88**	**99**	*e*PN	**Pn**	**14 44 13.6**	**+0.1**
PLG	**Polygyros**	**3.00**	**22**	*e*PN	**Pn**	**14 44 14.3**	**-0.9**
THE	**Thessaloniki**	**3.13**	**41**	*eP*	**Pn**	**14 44 17.1**	**+0.1**
OUR	**Ouranopolis**	**3.15**	**29**	*eP*	**Pn**	**14 44 16.7**	**-0.6**
FNA	**Florina**	**3.22**	**352**	*eP*	**Pn**	**14 44 20.6**	**+2.3**
IDI	**Anoyia** 9.1nm,0.3s,baz=320,slow=10,SNR=16	**3.29**	**134**	Pn	**Pn**	**14 44 20.0**	**+0.7**
IDI				Sn	**Sn**	**14 45 01.4**	**+3.3**
	19nm,0.3s,baz=93,slow=23,SNR=6.6						
IDI	**Anoyia**	**3.29**	**134**	Pn	**Pn**	**14 44 20.0**	**+0.7**
IDI				Sn	**Sn**	**14 45 01.4**	**+3.3**
GRG	**Griva**	**3.37**	**5**	*eP*	**Pn**	**14 44 20.5**	**0.0**
SOH	**Sokhos**	**3.40**	**18**	*eP*	**Pn**	**14 44 21.2**	**+0.4**
KNT	**Kendrikon**	**3.63**	**11**	*eP*	**Pn**	**14 44 24.2**	**0.0**
SRS	**Serrai**	**3.73**	**19**	*eP*	**Pn**	**14 44 25.3**	**-0.2**
MMB	**Musomiste**	**4.21**	**18**	P	**Pn**	**14 44 31.0**	**-1.4**
KKB	**Krupnik**	**4.35**	**11**	P	**Pn**	**14 44 34.0**	**-0.3**
SKO	**Skopje**	**4.39**	**355**	*e*Pn	**Pn**	**14 44 37.0**	**+2.1**
RZN	**Rozhen**	**4.60**	**27**	P	**Pn**	**14 44 36.9**	**-1.0**
VTS	**Vitosha**	**5.08**	**10**	*eP*	**Pn**	**14 44 46.0**	**+1.4**
VAE	**Valguarnera** 3.6nm,0.3s,baz=82,slow=7.1,SNR=2.7	**6.01**	**271**	Pn	**Pn**	**14 44 59.8**	**+2.0**
VAE				Sn	**Sn**	**14 46 10.3**	**+3.6**
	2.6nm,0.3s,baz=20,slow=8.4,SNR=1.9						
SLUM		**6.65**	**155**	P	**Pn**	**14 45 06.3**	**-0.5**
MLR	**Muntele Rosu** 0.1nm,0.3s,baz=131,slow=18,SNR=2.4	**8.43**	**19**	Pn	**P**	**14 45 26.4**	**-5.2**
SWA2		**8.82**	**160**	P	**P**	**14 45 34.5**	**-2.6**
SWA2				S	**Sn**	**14 47 08.7**	**-8.1**
SWA1		**8.88**	**158**	P	**P**	**14 45 35.6**	**-2.2**
SWA1				S	**Sn**	**14 47 11.4**	**-6.7**
BOJS	**Bojanci**	**9.37**	**330**	*e*Pn	**P**	**14 45 44.5**	**-0.2**
BOJS				*e*Sn	**Sn**	**14 47 25.5**	**-4.8**
BRTR	**Keskin Array B** 0.6nm,0.3s,baz=257,slow=14,SNR=10	**9.37**	**73**	Pn	**P**	**14 45 44.6**	**0.0**
CEY	**Cerknica**	**9.90**	**328**	*e*Pn	**P**	**14 45 51.5**	**-0.4**
PERS	**Pernice**	**10.37**	**333**	*e*Pn	**P**	**14 45 57.4**	**-0.9**
CLL	**Collm**	**15.11**	**338**	*e**PP		14 47 05.0	
GNI	**Garni** comp=Z,56nm,18.7s,baz=327,slow=43	**17.91**	**75**	LR	LR	14 56 03.1	
ESDC	**Sonseca Array** 3.8nm,0.8s,baz=79,slow=11,SNR=7.0	**20.35**	**284**	P	**P**	**14 48 07.3**	**+2.0**
HFS	**Hagfors** 12nm,1.0s,mb4.3,baz=162,slow=9.4,SNR=16	**23.17**	**349**	P	**P**	**14 48 32.6**	**-0.7**
FINES	**FINESS Array B** 1.3nm,0.7s,mb3.5,baz=153,slow=12,SNR=10	**24.01**	**5**	P	**P**	**14 48 41.8**	**+0.3**
NB2	**NORSAR Subarra** 0.5nm,0.5s,mb3.2,baz=149,slow=10	**24.43**	**347**	P	**P**	**14 48 45.7**	**+0.1**
NOA	**NORSAR Array B** 3.5nm,0.7s,mb3.9,baz=160,slow=10,SNR=15	**24.43**	**347**	P	**P**	**14 48 45.8**	**+0.3**
EKA	**Eskdalemuir Ar** 1.8nm,0.6s,mb3.8,baz=132,slow=8.5,SNR=5.5	**24.57**	**324**	P	**P**	**14 48 47.1**	**+0.1**
KAF	**Kangasniemi**	**24.69**	**5**	*ep*	**P**	**14 48 47.8**	**-0.3**
ARCES	**ARCESS Array B** 2.2nm,0.6s,mb4.2,baz=188,slow=8.6,SNR=8.7	**32.06**	**2**	P	**P**	**14 49 53.1**	**-1.5**
BVAR	**Borovoye Array** 0.6nm,0.6s,mb3.6,baz=270,slow=7.4,SNR=5.0	**36.62**	**49**	P	**P**	**14 50 33.2**	**-0.8**
SCHQ	**Schefferville** 3.5nm,1.1s,mb4.3,baz=63,slow=6.8,SNR=3.4	**59.66**	**318**	P	**P**	**14 53 30.8**	**-1.6**
CMAR	**Chiang Mai Arr** 0.4nm,0.4s,mb3.7,baz=300,slow=7.3,SNR=4.2	**68.83**	**83**	P	**P**	**14 54 31.9**	**-0.7**
YKA	**Yellowknife Ar** 0.2nm,0.4s,mb3.4,baz=34,slow=5.3,SNR=4.1	**74.33**	**341**	P	**P**	**14 55 05.0**	**+0.4**
ILAR	**Eielson Array** 0.2nm,0.8s,mb3.1,baz=351,slow=3.4,SNR=4.3	**77.59**	**355**	P	**P**	**14 55 24.1**	**+1.1**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=298,slow=1.9,SNR=4.1	**120.96**	**97**	PKP	PKPdf	15 02 19.3	-4.0

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*INMG **26** 14:53:53.6±0.7, 36.63N×9.70W, h5km, ML2.1, Error ellipse: s-maj=5.3km s-min=3.1km az=59.0*
*CSEM **26** 14:53:53.5±0.8, 36.61N×9.72W, h15km, ML3.0/7, Error ellipse: s-maj=15.2km s-min=9.1km az=48.0*
MDD 26 14:53:52.4±1.9, 36.64N×9.72W, mbLg2.4/9, Error ellipse: s-maj=15.6km s-min=12.9km az=53.0, PRXIMO, West of Gibraltar

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*ATH **26** 14:56:43.4, 37.61N×21.98E, h22km±1km, ML4.0*
*CSEM **26** 14:56:43.4±0.1, 37.62N×22.00E, h5km, ML4.0, Error ellipse: s-maj=2.1km s-min=1.9km az=47.0*
*NEIC **26** 14:56:43.4, 37.61N×21.98E, h23km, ML4.0(ATH), ML3.6(THE), After ATH.*
*IDC **26** 14:56:49.7±2.5, 37.73N×22.14E, h50km±29km, mb3.7/6, mb1 3.8/10, mb1mx3.6/21, mbtmp3.8/10, ML3.5/4, Error ellipse: s-maj=31.3km s-min=14.4km az=65.0*
ISC 26 14:56:42.5±1.4, 37.62N±0.03×21.97E±0.04, h1km±10km, n43, σ1§01/52, mb3.9/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.45**	**185**	*ePB*	**Pb**	**14 56 52.7**	**-0.1**
ITM				*eSB*	**Sb**	**14 56 59.0**	**-0.6**
RLS	**Riolos of Patr**	**0.59**	**317**	*ePN*	**Pn**	**14 56 55.2**	**-2.4**
RLS				*eSN*	**Sn**	**14 57 04.4**	**-3.5**
MGER	**Gerania Oros**	**1.08**	**70**	*ePB*	**Pb**	**14 57 03.1**	**-0.5**
MGER				*eSN*	**Sn**	**14 57 19.1**	**-1.3**
VLI	**Veliai**	**1.19**	**139**	*ePN*	**Pn**	**14 57 05.8**	**-0.3**
VLI				*eSN*	**Sn**	**14 57 23.5**	**+0.4**
NAIG	**Nisos Aigina**	**1.21**	**83**	*ePN*	**Pn**	**14 57 05.8**	**-0.6**
NAIG				*eSN*	**Sn**	**14 57 24.5**	**+0.8**
VLS	**Valsamata**	**1.23**	**297**	*ePN*	**Pn**	**14 57 07.4**	**+0.7**
EVR	**Evrytania**	**1.30**	**354**	*ePN*	**Pn**	**14 57 08.7**	**+1.0**
LKR	**Lokris**	**1.31**	**38**	*ePN*	**Pn**	**14 57 07.7**	**-0.1**
LKR				*eSN*	**Sn**	**14 57 26.7**	**+0.6**
AGG	**Agios Georgios**	**1.42**	**11**	*eP*	**Pb**	**14 57 11.3**	**+1.9**
AGG	**Agios Georgios**	**1.42**	**11**	P	**Pb**	**14 57 11.3**	**+1.9**
AGG				S	**Sb**	**14 57 29.9**	**+1.9**
AGG	**Agios Georgios**	**1.42**	**11**	P	**Pb**	**14 57 11.3**	**+1.8**
AGG				S	**Sb**	**14 57 29.9**	**+1.9**
ATH	**Athens Observa**	**1.42**	**75**	*e*PN	**Pn**	**14 57 09.5**	**0.0**
ATH				*eSN*	**Sn**	**14 57 29.9**	**+0.8**
MPAR	**Parnis Oros**	**1.49**	**69**	*ePN*	**Pn**	**14 57 10.5**	**0.0**
PTL	**Penteli**	**1.56**	**74**	*ePN*	**Pn**	**14 57 11.5**	**+0.1**
KYTH	**Kithira**	**1.59**	**147**	*ePN*	**Pn**	**14 57 13.2**	**+1.3**
KYTH	**Kithira**	**1.59**	**147**	*ePn*	**Pn**	**14 57 14.0**	**+2.1**
NEO	**Neokhori**	**1.95**	**30**	*ePB*	**Pb**	**14 57 16.9**	**-1.5**
XOR	**Xorichti**	**1.98**	**28**	*eP*	**Pn**	**14 57 17.4**	**-0.1**
AOS	**Alonnisos**	**2.15**	**44**	*eP*	**Pn**	**14 57 19.4**	**-0.5**
IGT	**Igoumenitsa**	**2.30**	**326**	*eP*	**Pn**	**14 57 27.7**	**+5.6**
LIT	**Litokhoron**	**2.51**	**9**	*eP*	**Pn**	**14 57 26.1**	**+1.1**
APE	**Apeiranthos**	**2.89**	**100**	*e*PN	**Pn**	**14 57 30.0**	**-0.4**
PLG	**Polygyros**	**2.98**	**22**	*e*PN	**Pn**	**14 57 31.3**	**-0.4**
OUR	**Ouranopolis**	**3.13**	**29**	*eP*	**Pn**	**14 57 33.4**	**-0.4**
FNA	**Florina**	**3.19**	**352**	*eP*	**Pn**	**14 57 37.7**	**+3.0**
IDI	**Anoyia** 6.8nm,0.3s,baz=331,slow=13,SNR=16	**3.31**	**134**	P	**Pn**	**14 57 37.6**	**+1.2**
IDI				S	**Sn**	**14 58 17.4**	**+0.3**
	11nm,0.3s,baz=268,slow=23,SNR=6.6						
KNT	**Kendrikon**	**3.60**	**11**	*eP*	**Pn**	**14 57 41.1**	**+0.4**
MMB	**Musomiste**	**4.18**	**18**	P	**Pn**	**14 57 48.0**	**-0.9**
KKB	**Krupnik**	**4.32**	**11**	P	**Pn**	**14 57 50.0**	**-0.8**
SKO	**Skopje**	**4.36**	**355**	*e*Pn	**Pn**	**14 57 53.0**	**+1.6**
TIP	**Timpagrande**	**4.38**	**292**	*eP*	**Pn**	**14 57 52.5**	**+0.9**
RZN	**Rozhen**	**4.58**	**27**	P	**Pn**	**14 57 54.0**	**-0.4**
MLR	**Muntele Rosu** 0.1nm,0.3s,baz=155,slow=18,SNR=2.7	**8.40**	**19**	P	**P**	**14 58 47.7**	**-0.5**
BRTR	**Keskin Array B** 0.4nm,0.3s,baz=259,slow=13,SNR=11	**9.36**	**73**	P	**P**	**14 59 01.0**	**-0.5**
AKASG	**Malin Array Be** 0.5nm,0.3s,baz=215,slow=15,SNR=4.3	**14.06**	**19**	P	**P**	**15 00 04.7**	**-0.2**
ESDC	**Sonseca Array** 2.4nm,0.6s,baz=77,slow=11,SNR=6.6	**20.34**	**284**	P	**P**	**15 01 23.6**	**+0.8**
HFS	**Hagfors** 10nm,1.1s,mb4.3,baz=158,slow=8.0,SNR=8.9	**23.14**	**349**	P	**P**	**15 01 49.2**	**-1.6**
FINES	**FINESS Array B** 0.4nm,0.5s,mb3.2,baz=158,slow=10,SNR=4.5	**23.98**	**5**	P	**P**	**15 01 58.2**	**-0.7**
NB2	**NORSAR Subarra** 1.4nm,0.6s,mb3.7,baz=159,slow=9.3	**24.40**	**347**	P	**P**	**15 02 01.3**	**-1.7**
NOA	**NORSAR Array B** 2.0nm,0.6s,mb3.8,baz=138,slow=10.0,SNR=9.2	**24.40**	**347**	P	**P**	**15 02 02.8**	**-0.2**
EKA	**Eskdalemuir Ar** 2.5nm,0.8s,mb4.0,baz=122,slow=8.3,SNR=5.5	**24.55**	**324**	P	**P**	**15

ATH.

ISC 26 15:02:36.3±0.7, 37.66N±0.03×21.93E±0.03, h17km±6km, n52, σ1§21/61, mb3.6/13, 2D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.48	181	⇓iPB	Pb	15 02 45.4	-0.5
ITM				eSB	Sb	15 02 52.3	-0.1
RLS	Riolos of Patr	0.54	317	⇓iPB	Pb	15 02 47.6	+0.6
RLS				eSN	Sn	15 02 57.2	-0.4
MGER	Gerania Oros	1.10	72	ePN	Pn	15 02 57.0	0.0
MGER				eSN	Sn	15 03 12.0	+0.2
VLS	Valsamata	1.18	296	ePN	Pn	15 03 00.3	+2.2
VLI	Veliai	1.23	139	ePN	Pn	15 02 58.5	-0.4
NAIG	Nisos Aigina	1.24	85	ePN	Pn	15 02 58.6	-0.3
NAIG				eSN	Sn	15 03 17.0	+1.7
EVR	Evrytania	1.26	356	ePN	Pn	15 03 00.6	+1.4
EVR				eSN	Sn	15 03 20.4	+4.6
LKR	Lokris	1.30	40	ePB	Pb	15 02 59.4	-0.5
AGG	Agios Georgios	1.40	13	eP	Pn	15 03 04.5	+3.3
AGG	Agios Georgios	1.40	13	P	Pn	15 03 04.5	+3.3
AGG				S	Sb	15 03 24.3	+5.3
ATH	Athens Observa	1.45	77	ePN	Pn	15 03 01.9	0.0
ATH				eSN	Sn	15 03 21.2	+0.6
KYTH	Kithira	1.63	147	ePN	Pn	15 03 06.1	+1.5
KYTH	Kithira	1.63	147	ePn	Pn	15 03 06.5	+1.9
NEO	Neokhori	1.93	31	ePB	Pb	15 03 09.5	-1.2
XOR	Xorichti	1.97	30	eP	Pn	15 03 10.1	+0.7
AOS	Alonnisos	2.15	45	eP	Pn	15 03 12.1	+0.1
IGT	Igoumenitsa	2.25	327	eP	Pn	15 03 19.4	+6.0
APE	Apeiranthos	2.93	100	ePN	Pn	15 03 22.6	-0.5
PLG	Polygyros	2.96	23	ePN	Pn	15 03 24.0	+0.5
OUR	Ouranopolis	3.11	30	eP	Pn	15 03 25.5	-0.2
IDI	Anoyia	3.36	134	Pn	Pn	15 03 27.5	-1.7
IDI				Sn	Sn	15 04 10.3	+1.3
MMB	Musomiste	4.16	19	P	Pn	15 03 41.0	+0.4
KKB	Krupnik	4.30	12	eP	Pn	15 03 50.0	+7.5
SKO	Skopje	4.33	355	ePn	Pn	15 03 40.0	-2.9
TIP	Timpagrande	4.34	292	eP	Pn	15 03 45.3	+2.1
TIP	Timpagrande	4.34	292	eP	Pn	15 03 45.3	+2.2
RZN	Rozhen	4.56	27	eP	Pn	15 03 48.0	+1.7
VAE	Valguarnera	5.98	271	Pn	Pn	15 04 03.0	-3.2
VAE				Sn	Sn	15 05 15.5	+0.5
VAE	Valguarnera	5.98	271	Sn	Sn	15 05 15.5	+0.5
MLR	Muntele Rosu	8.38	20	Pn	P	15 04 36.8	-3.2
BOJS	Bojanci	9.30	330	ePn	P	15 04 53.1	+0.5
BOJS				i Sn	Sn	15 06 35.8	-2.0
BRTR	Keskin Array B	9.38	74	Pn	P	15 04 48.5	-5.3
CEY	Cerknica	9.83	328	ePn	P	15 05 00.7	+0.8
VRAC	Vranov	12.27	343	Pn	P	15 05 28.3	-4.8
GERES	GERESS Array B	12.68	334	Pn	P	15 05 35.6	-3.0
EIL	Elat	13.45	123	Pn	P	15 05 46.5	-2.4
ESDC	Sonseca Array	20.30	284	P	P	15 07 13.4	-0.6
HFS	Hagfors	23.10	349	P	P	15 07 41.7	-0.2
FINES	FINESS Array B	23.95	5	P	P	15 07 49.9	-0.2
NB2	NORSAR Subarra	24.36	347	P	P	15 07 54.6	+0.5
NOA	NORSAR Array B	24.39	347	P	P	15 07 54.4	+0.2
EKA	Eskdalemuir Ar	24.50	324	P	P	15 07 56.8	+1.2
ARCES	ARCESS Array B	32.00	2	P	P	15 09 01.9	-1.5
BVAR	Borovoye Array	36.60	49	P	P	15 09 42.2	-0.9
DBIC	Dimbokro	39.29	225	P	P	15 10 06.6	+0.5
SCHQ	Schefferville	59.60	318	P	P	15 12 39.5	-1.6
SONM	Songino Array	59.92	51	P	P	15 12 42.1	-1.4
CMAR	Chiang Mai Arr	68.85	83	P	P	15 13 39.0	-3.1
YKA	Yellowknife Ar	74.26	341	P	P	15 14 13.8	+0.2
ILAR	Eielson Array	77.53	355	P	P	15 14 32.7	+0.6
PDAR	Pinedale Array	88.60	327	P	P	15 15 30.0	+0.7
ASAR	Alice Springs	121.00	97	PKP	PKPdf	15 21 29.2	-2.9

*IDC **26** 15:04:54.6±0.8, 37.64N×22.03E, mb3.9/13, mb1 4.0/19, mb1mx4.0/24, mbtmp3.9/19, ML3.7/6, Error ellipse: s-maj=17.7km s-min=15.2km az=28.0*
*ATH **26** 15:04:55.8, 37.62N×22.02E, h15km±2km, MD3.8/16, ML4.0*
*CSEM **26** 15:04:55.5±0.1, 37.58N×22.06E, h2km, ML4.0, Error ellipse: s-maj=3.1km s-min=2.2km az=3.0*
*NEIC **26** 15:04:55.8, 37.62N×22.02E, h15km, ML4.0(ATH), After ATH.*
*THE **26** 15:04:58.8, 37.71N×22.29E, h5km, ML4.1*

ISC 26 15:04:55.5±1.2, 37.63N±0.02×21.95E±0.03, h11km±8km, n56, σ1§35/68, mb3.8/12, 1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.45	182	⇓iPB	Pb	15 05 04.9	0.0
ITM				eSB	Sb	15 05 11.3	0.0
RLS	Riolos of Patr	0.57	319	ePB	Pb	15 05 07.3	+0.2
RLS				eSN	Sn	15 05 16.6	-2.0
MGER	Gerania Oros	1.10	71	ePB	Pb	15 05 15.0	-1.1
VLI	Veliai	1.20	139	ePN	Pn	15 05 17.9	-0.4
VLI				eSB	Sb	15 05 36.4	+3.1
VLS	Valsamata	1.21	297	ePN	Pn	15 05 20.0	+1.7
NAIG	Nisos Aigina	1.23	83	ePN	Pn	15 05 18.0	-0.7
EVR	Evrytania	1.29	355	ePN	Pn	15 05 20.1	+0.6
EVR				eSB	Sb	15 05 39.8	+4.0
LKR	Lokris	1.32	39	ePN	Pn	15 05 19.4	-0.5
LKR				eSB	Sb	15 05 38.7	+2.2
AGG	Agios Georgios	1.43	12	ePb	Pb	15 05 23.6	+2.0
AGG				eSb	Sb	15 05 42.5	+2.8
ATH	Athens Observa	1.44	76	ePN	Pn	15 05 21.2	-0.5
ATH				eSB	Sb	15 05 41.6	+1.4
MPAR	Parnis Oros	1.51	69	ePB	Pb	15 05 21.5	-1.6
MPAR				eSB	Sb	15 05 44.0	+1.9
PTL	Penteli	1.58	74	ePN	Pn	15 05 23.5	-0.1
PTL				eSB	Sb	15 05 45.5	+1.5
KYTH	Kithira	1.60	147	ePN	Pn	15 05 26.0	+2.0
NEO	Neokhori	1.95	30	ePB	Pb	15 05 29.0	-1.7
XOR	Xorichti	1.99	29	ePb	Pb	15 05 29.9	-1.4
AOS	Alonnisos	2.16	44	ePb	Pb	15 05 31.7	-2.6
JAN	Janina	2.20	337	ePN	Pn	15 05 35.1	+2.6
IGT	Igoumenitsa	2.28	327	ePn	Pn	15 05 38.0	+4.2
LIT	Litokhoron	2.51	10	ePn	Pn	15 05 37.8	+0.9
PAIG	Paliouri	2.67	30	ePn	Pn	15 05 39.0	-0.2
KZN	Kozani	2.68	357	ePB	Pb	15 05 42.1	-1.0
VAM	Vamos	2.87	140	ePN	Pn	15 05 43.2	+1.2
APE	Apeiranthos	2.91	100	ePN	Pn	15 05 42.4	-0.3
PLG	Polygyros	2.98	23	ePN	Pn	15 05 44.0	+0.3
OUR	Ouranopolis	3.13	30	ePn	Pn	15 05 45.8	-0.1
FNA	Florina	3.18	352	ePn	Pn	15 05 48.2	+1.7
IDI	Anoyia	3.33	134	Pn	Pn	15 05 47.1	-1.5
IDI				Sn	Sn	15 06 29.6	+1.0
SOH	Sokhos	3.37	18	ePn	Pn	15 05 50.2	+1.0
SOH				eSn	Sn	15 06 28.9	-0.8
KNT	Kendrikon	3.61	12	ePn	Pn	15 05 53.2	+0.7
KNT				eSn	Sn	15 06 35.8	+0.2
SRS	Serrai	3.71	20	ePn	Pn	15 05 54.2	+0.1
NVR	Nevrokopi	4.00	21	ePN	Pn	15 05 58.2	0.0
SKO	Skopje	4.36	355	ePn	Pn	15 06 06.5	+3.3
TIP	Timpagrande	4.36	292	eP	Pn	15 06 05.6	+2.4
TIP	Timpagrande	4.36	292	eP	Pn	15 06 05.6	+2.3
VAE	Valguarnera	5.99	271	Pn	Pn	15 06 26.8	+0.6
VAE				Sn	Sn	15 07 37.4	+1.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	Muntele Rosu	8.41	20	Pn	P	15 07 00.9	+0.7
BRTR	Keskin Array B	9.38	74	Pn	P	15 07 11.1	-2.6
GERES	GERESS Array B	12.71	334	Pn	P	15 07 58.6	-0.4
EIL	Elat	13.42	122	Pn	P	15 08 04.3	-4.1
ESDC	Sonseca Array	20.32	284	P	P	15 09 32.8	-1.5
HFS	Hagfors	23.13	349	P	P	15 10 01.1	-1.2
FINES	FINESS Array B	23.98	5	P	P	15 10 09.8	-0.7
NB2	NORSAR Subarra	24.39	347	P	P	15 10 13.6	-0.9
NOA	NORSAR Array B	24.39	347	P	P	15 10 13.8	-0.8
EKA	Eskdalemuir Ar	24.53	324	P	P	15 10 16.6	+0.6
KAF	Kangasniemi	24.66	5	ep	P	15 10 14.8	-2.3
JOF	Joensuu	25.96	10	ep	P	15 10 25.8	-3.6
ARCES	ARCESS Array B	32.02	2	P	P	15 11 21.9	-1.9
BVAR	Borovoye Array	36.62	49	P	P	15 12 02.2	-1.2
DBIC	Dimbokro	39.28	225	P	P	15 12 26.0	-0.1
SCHQ	Schefferville	59.63	318	P	P	15 14 60.0	-1.6
SONM	Songino Array	59.93	51	P	P	15 15 01.4	-2.4
YKA	Yellowknife Ar	74.29	341	P	P	15 16 32.2	-1.7
ILAR	Eielson Array	77.56	355	P	P	15 16 52.8	+0.3
PDAR	Pinedale Array	88.63	327	P	P	15 17 50.9	+1.2
ASAR	Alice Springs	120.99	97	PKP	PKPdf	15 23 48.5	-3.1

*NEIC **26** 15:08:43.8, 31.76S×72.06W, h26km, ML4.1(GUC), After GUC.*

GUC 26 15:08:43.8±0.6, 31.76S×72.06W, h26km±2km, ML4.1, 4C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	Illapel	0.77	81	⇑iP	Pb	15 08 58.3	-0.1
ILCH				i S	Sb	15 09 08.8	+0.3
ILCH				AMP		15 09 10.2	
	comp=N,10μm,0.2s						
PACH	Papudo	0.94	146	eP	Pb	15 09 00.5	-0.8
PTCH	Petorca	1.08	118	⇑iP	Pn	15 09 03.0	-0.4
PTCH				i S	Sb	15 09 17.3	-0.2
PTCH				AMP		15 09 19.4	
	comp=E,8μm,0.3s						
JACH	Jahuel	1.55	127	eP	Pn	15 09 10.6	+0.6
PEL	Peldehue	1.80	140	eP	Pn	15 09 14.3	+0.6
TLL	Tololo Astrono	1.92	35	eP	Pn	15 09 16.3	+1.0
TLL				i S	Sn	15 09 41.6	+2.8
TLL				AMP		15 09 48.1	
	comp=N,3μm,0.5s						
LSCH	La Serena	1.97	21	AMP		15 09 50.3	
	comp=N,2μm,0.5s						
RCDM	Rinconada Maip	2.02	149	i P	Pn	15 09 17.7	+0.8
RCDM				AMP		15 09 52.8	
	comp=N,959nm,0.6s						
DSCH	Colegio Aleman	2.06	143	eP	Pn	15 09 18.0	+0.5
DSCH				AMP		15 09 52.4	
	comp=N,4μm,0.6s						
CLCH	Cerro Calan	2.08	142	AMP		15 09 50.7	
	comp=N,3μm,0.6s						
FSR	Penalolen	2.15	143	eP	Pn	15 09 19.8	+1.2
FSR				i S	Sn	15 09 46.3	+1.6
FSR				AMP		15 09 52.7	
	comp=E,2μm,0.5s						
FCH	Farellones	2.16	137	⇑iP	Pn	15 09 19.2	+0.3
FCH				i S	Sn	15 09 46.7	+1.6
FCH				AMP		15 09 59.5	
	comp=E,1μm,0.5s						
ANTU	Antumapu	2.17	147	AMP		15 10 01.8	
	comp=E,1μm,0.8s						
CHCH	Chadas Angostu	2.47	152	eP	Pn	15 09 23.6	+0.3
LMEL	Las Melosas	2.60	144	⇑iP	Pn	15 09 25.6	+0.5
LMEL				AMP		15 10 06.2	
	comp=N,831nm,0.4s						
CACH	El Canelo	2.65	153	eP	Pn	15 09 27.1	+1.2
ZON	Zonda	2.89	87	eP	Pn	15 09 33.0	+3.7
ZON				eS	Sn	15 10 13.0	+9.5
CICH	Cipreses	2.90	152	eP	Pn	15 09 29.8	+0.4

*CSEM **26** 15:11:48.8, 37.78N×44.11E, h23km, MD4.0, After ISK*

ISK 26 15:11:48.8, 37.78N×44.11E, h23km, MD4.0, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	Hakkari	0.36	235	i PG	Pb	15 11 56.8	+0.2
VANT	Van	0.87	319	PG	Pb	15 12 07.3	+2.1
VANT				SG	Sb	15 12 20.1	+3.7
TVAN	Van	0.93	323	i P	Pb	15 12 07.5	+1.4
TVAN				i S	Sb	15 12 16.7	-1.3
VANB	Van	0.99	325	i PG	Pb	15 12 07.4	+0.3
VANB				i SG	Sb	15 12 21.1	+1.3
BTMT	Batman	2.11	282	i PN	Pn	15 12 26.0	+2.5
BEST	Besiri	2.25	274	i P	Pn	15 12 26.2	+0.7
BEST				i S	Sn	15 12 52.9	+0.1
VRT	Varto	2.43	304	ePN	Pn	15 12 31.2	+3.2
ERZM	Erzurum	3.01	315	i P	Pn	15 12 37.8	+1.5
ERZM				i S	Sn	15 13 15.9	+3.8
EZM	Erzurum	3.02	315	ePN	Pn	15 12 37.4	+1.1
BINT	Bingol	3.05	292	ePN	Pn	15 12 37.4	+0.6
DIY	Diyarbakir	3.08	273	ePN	Pn	15 12 37.4	+0.2
PTK	Pertek	3.87	288	ePN	Pn	15 12 48.6	+0.1
ELZG	Elazig	4.11	282	i P	Pn	15 12 51.2	-0.6
ELZG				i S	Sn	15 13 47.4	+7.6
BHD	Baghdad	4.51	177	eP	Pn	15 13 19.0	+21
MALT	Malatya	4.52	278	ePN	Pn	15 12 57.8	+0.1
MYA	Malataya	4.52	279	ePN	Pn	15 12 57.8	+0.1
GZT	Gaziantep	5.22	267	i P	Pn	15 13 05.2	-2.4
GZT				i S	Sn	15 14 14.7	+6.9
KAHT	Ahir Dag	5.74	271	i P	Pn	15 13 12.5	-2.4

IDC 26 15:11:48.9±6.2, 1.01S×90.33W, mb3.6/6, mb1 3.9/6, mb1mx3.8/17, mbtmp3.6/6, MS3.6/1, Ms1 3.6/1, ms1mx2.4/19, Error ellipse: s-maj=144.0km s-min=36.5km az=11.0, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	21.95	63	P	P	15 16 44.7	-1.4
	1.3nm,0.5s,baz=286,slow=15,SNR=2.2						
TXAR	Lajitas Array	32.76	338	P	P	15 18 23.1	-2.8
	0.2nm,0.4s,baz=135,slow=8.9,SNR=3.1						
ANMO	Albuquerque	38.83	339	P	P	15 19 16.1	-1.3
	1.2nm,0.6s,baz=180,slow=13,SNR=2.8						
ANMO				LR	LR	15 34 33.3	
	comp=Z,69nm,18.1s,slow=35						
NVAR	Mina Array Bea	46.95	330	P	P	15 20 22.5	-0.9
	0.7nm,0.7s,baz=164,slow=6.6,SNR=3.6						
YKA	Yellowknife Ar	65.94	348	P	P	15 22 36.7	-2.1
	0.2nm,0.6s,baz=147,slow=6.1,SNR=5.7						
ILAR	Eielson Array	77.28	338	P	P	15 23 44.6	-1.9
	0.8nm,0.7s,baz=138,slow=4.2,SNR=12						

IDC 26 15:13:26.6±2.6, 10.05N×94.05E, mb3.2/3, mb1 3.3/4, mb1mx3.2/18, mbtmp3.1/4, ML3.1/1, Error ellipse: s-maj=73.9km s-min=33.7km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	9.60	29	Pn	P	15 15 45.1	-4.1
	0.1nm,0.3s,baz=216,slow=13,SNR=1.5						
SONM	Songino Array	39.07	13	P	P	15 20 56.5	-0.6
	0.2nm,0.7s,baz=217,slow=7.2,SNR=2.0						
BVAR	Borovoye Array	46.91	341	P	P	15 21 57.9	-2.7
	0.2nm,0.5s,baz=135,slow=10,SNR=1.9						
WRA	Warramunga Arr	49.61	127	P	P	15 22 20.1	-1.9
	0.3nm,0.7s,baz=306,slow=8.5,SNR=1.5						

*IDC **26** 15:34:15.2±0.9, 8.00N×94.03E, mb3.7/8, mb1 3.9/9, mb1mx3.8/17, mbtmp3.6/9, ML3.6/1, MS3.0/1, Ms1 3.2/1, ms1mx2.6/20, Error ellipse: s-maj=40.2km s-min=20.4km az=48.0*
*NEIC **26** 15:34:20.0±0.8, 7.96N×94.09E, h30km, mb4.2/2, Error ellipse: s-maj=22.9km s-min=15.4km az=64.0*

ISC 26 15:34:18.2±0.9, 7.8N±0.2×94.0E±0.2, h30km, n15, σ1§38/15, mb4.0/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.65	24	Pn	P	15 37 00.9	-4.8
	0.1nm,0.3s,baz=208,slow=15,SNR=2.7						
CMAR				LR	LR	15 41 32.9	
	comp=Z,71nm,20.1s,baz=210,slow=38						
JIRN	Jiri	21.14	340	eP	P	15 39 03.8	+0.6
	10nm,0.6s,mb4.3						
KKN	Kakani	21.58	338	eP	P	15 39 08.0	+0.4
LSA	Lhasa	21.99	353	eP	P	15 39 11.6	-0.2
	5.9nm,0.7s,mb4.1						
GKN	Gorkha	22.01	337	eP	P	15 39 14.1	+2.2
	14nm,0.8s,mb4.5						
KOLN	Koldanda	22.22	335	eP	P	15 39 16.2	+2.2
	14nm,0.8s,mb4.4						
SONM	Songino Array	41.29	13	P	P	15 42 00.2	-2.4
	0.2nm,0.4s,mb3.1,baz=207,slow=6.4,SNR=3.3						
WRA	Warramunga Arr	48.28	125	P	P	15 42 59.2	+0.3
	0.5nm,0.6s,mb3.7,baz=304,slow=8.5,SNR=8.7						
CHKZ	Chkalovo	49.55	342	eP	P	15 43 07.4	-0.9
	3.5nm,1.0s,mb4.3						
ASAR	Alice Springs	49.92	130	P	P	15 43 12.4	+0.9
	0.9nm,0.9s,mb3.8,baz=310,slow=7.0,SNR=5.1						
BRTR	Keskin Array B	62.43	311	P	P	15 44 38.0	-3.0
	0.7nm,1.0s,mb3.8,baz=108,slow=9.1,SNR=2.7						
FINES	FINESS Array B	72.76	332	P	P	15 45 44.3	-1.1
	2.0nm,0.8s,mb4.1,baz=225,slow=5.4,SNR=5.0						
GERES	GERESS Array B	77.84	318	P	P	15 46 15.5	+0.9
	0.5nm,0.5s,mb3.7,baz=45,slow=2.8,SNR=2.4						
NOA	NORSAR Array B	79.78	331	P	P	15 46 23.1	-1.8
	0.5nm,0.5s,mb3.7,baz=97,slow=5.0,SNR=2.7						
ESDC	Sonseca Array	91.21	310	P	P	15 47 22.8	+0.6
	0.3nm,0.3s,mb4.0,baz=59,slow=7.5,SNR=3.0						

*NEIC **26** 15:37:43.9, 34.70S×71.83W, h40km, MD4.3(GUC), After GUC.*
NEIC Felt [IV] at Licanten; [III] at Curico and San Fernando; [II] Rancagua, Santiago and Talca.

GUC 26 15:37:43.9±0.8, 34.70S×71.83W, h40km±2km, MD4.3, ML4.5, 8C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.58	122	⇓iP	P	15 37 56.1	+0.4
NICH				i S	S	15 38 04.6	+0.5
SFDO	San Fernando	0.68	83	⇑iP	P	15 37 57.5	+0.5
LNV	Longovilo	0.81	25	⇓iP	P	15 37 59.3	+0.3
LNCH	Linares	1.16	171	eP	P	15 38 04.7	+0.8
LNCH				i S	S	15 38 19.8	+0.9
LNCH				AMP		15 38 21.4	
	comp=N,10μm,0.8s						
CACH	El Canelo	1.17	61	⇓iP	P	15 38 05.0	+1.1
CICH	Cipreses	1.22	72	⇑iP	P	15 38 05.4	+0.7
CICH				i S	S	15 38 18.2	-2.2
CHCH	Chadas Angostu	1.23	52	⇑iP	P	15 38 05.9	+0.9
LCCH	Las Cruces	1.24	10	eP	P	15 38 05.5	+0.5
TACH	Talagante	1.27	36	⇑iP	P	15 38 06.4	+0.9
TACH				i S	S	15 38 23.7	+1.9
RCDM	Rinconada Maip	1.47	35	eP	P	15 38 08.9	+0.5
RCDM				i S	S	15 38 27.8	+1.1
RCDM				AMP		15 38 34.4	
	comp=E,12μm,0.1s						
ANTU	Antumapu	1.50	42	eP	P	15 38 09.7	+0.9
ANTU				i S	S	15 38 29.3	+2.0
ANTU				AMP		15 38 31.9	
	comp=N,14μm,0.3s						
PCH	Pirque	1.53	46	⇑iP	P	15 38 10.0	+0.8
SAN	Santiago	1.57	38	⇑iP	P	15 38 10.7	+0.9
SAN				i S	S	15 38 30.9	+1.7
LMEL	Las Melosas	1.59	58	⇓iP	P	15 38 11.0	+0.9
LMEL				i S	S	15 38 31.6	+2.0
LMEL				AMP		15 38 34.2	
	comp=N,16μm,0.2s						
CLCH	Cerro Calan	1.68	40	⇑iP	P	15 38 12.2	+0.8
CLCH				i S	S	15 38 33.2	+1.3
CLCH				AMP		15 38 37.4	
	comp=N,10μm,0.4s						
ROCH	El Roble	1.85	22	eP	P	15 38 14.5	+0.8
ROCH				i S	S	15 38 38.4	+2.3
FCH	Farellones	1.87	43	⇑iP	P	15 38 15.0	+1.0
FCH				i S	S	15 38 39.0	+2.4
FCH				AMP		15 38 44.0	
	comp=N,10μm,0.4s						
CCHI	Chillan	1.91	186	eP	P	15 38 14.4	-0.2
CCHI				i S	S	15 38 37.1	-0.5
PACH	Papudo	2.18	9	i P	P	15 38 18.1	-0.4
JACH	Jahuel	2.26	27	eP	P	15 38 19.9	+0.3
ZON	Zonda	4.11	41	eP	P	15 38 46.0	+0.2
ZON				eS	S	15 39 42.0	+8.7
PLCA	Paso Flores	6.11	171	eP	P	15 39 13.7	-0.3
	comp=N,6.3nm,0.5s						
TRQA	Tornquist	8.62	116	eP	P	15 39 47.5	-1.4
	comp=N,13nm,0.6s						
LPAZ	La Paz	18.63	11	eP	P	15 42 00.3	-0.3
	comp=N,3.2nm,0.8s						

MEX 26 15:38:07.5±1.4, 16.03N×97.58W, h16km±999km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.64	305	i P	Pb	15 38 17.7	-2.1
PNIG				i S	Sb	15 38 25.7	-2.5
VHO	Vista Hermosa	1.32	38	i P	Pn	15 38 27.8	-3.5
VHO				i S	Sb	15 38 42.9	-4.9

*IDC **26** 15:46:49.6±0.8, 8.02N×94.24E, mb3.8/9, mb1 3.9/10, mb1mx3.8/19, mbtmp3.7/10, ML3.4/1, Error ellipse: s-maj=30.5km s-min=19.9km az=50.0*
*BJI **26** 15:46:53.7, 7.92N×94.54E, h41km, mB4.3, mb4.3, Ms4.4, Msz4.3*
*NEIC **26** 15:46:55.1±2.7, 8.04N×94.32E, h37km±23km, mb4.3/8, Error ellipse: s-maj=17.0km s-min=12.9km az=52.0*

ISC 26 15:46:52.9±0.6, 8.02N±0.09×94.46E±0.10, h33km, n34, σ1§21/32, mb4.2/23, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.25	22	Pn	P	15 49 33.3	-1.2
	0.1nm,0.3s,baz=218,slow=22,SNR=2.4						
KMI	Kunming	18.75	24	P	P	15 51 11.1	-0.6
	10.0nm,1.2s						
JIRN	Jiri	21.04	339	eP	P	15 51 37.7	+1.3
	13nm,0.8s,mb4.3						
PKI	Pulchoki	21.25	337	eP	P	15 51 40.8	+2.3
	11nm,0.6s,mb4.3						
DMN	Daman	21.40	337	eP	P	15 51 42.4	+2.4
	17nm,0.7s,mb4.5						
KKN	Kakani	21.50	337	eP	P	15 51 41.7	+0.7
	5.8nm,0.6s,mb4.1						
LSA	Lhasa	21.79	352	P	P	15 51 48.5	+4.6
LSA	Lhasa	21.79	352	eP	P	15 51 46.1	+2.2
	13nm,0.8s,mb4.4						
GKN	Gorkha	21.94	336	eP	P	15 51 44.7	-0.7
	20nm,0.8s,mb4.6						
KOLN	Koldanda	22.17	334	eP	P	15 51 48.1	+0.4
	13nm,0.7s,mb4.5						
WMQ	Urumqi	36.15	352	eP	P	15 53 55.5	+1.4
SONM	Songino Array	40.95	12	P	P	15 54 35.5	+1.4
	0.4nm,0.6s,mb3.2,baz=195,slow=6.0,SNR=5.8						
SONM				PcP	PcP	15 56 35.8	+1.2
	0.2nm,0.5s,baz=198,slow=2.8,SNR=3.0						
KURK	Kurchatov	44.55	346	eP	P	15 55 01.6	-1.7
	1.5nm,0.7s,mb3.9						
MDJ	Mudanjiang	47.51	34	P	P	15 55 25.0	-1.9
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.4

MAJO Matsushiro 48.83 48 *eP* **P 15 55 38.1 +0.9**
comp=Z,5.8nm,0.4s,mb5.0
MAT Matsushiro 48.83 48 *eP* **P 15 55 38.0 +0.8**
MAT *eS* Px 15 56 18.0
MAT Matsushiro 48.83 48 P **P 15 55 37.6 +0.4**
MAT S Px 15 56 18.2
BVAR Borovoye Array 48.95 341 P **P 15 55 37.6 -0.4**
comp=Z,0.4nm,0.6s,mb3.6,baz=124,slow=5.2,SNR=3.7
BRVK Borovoye 49.02 341 P **P 15 55 37.2 -1.3**
comp=Z,1.4nm,0.8s,mb4.0
CHKZ Chkalovo 49.44 342 *eP* **P 15 55 41.1 -0.6**
comp=Z,2.2nm,0.8s,mb4.2
ASAR Alice Springs 49.77 130 P **P 15 55 45.0 +0.4**
comp=Z,0.4nm,0.8s,mb3.5,baz=301,slow=7.8,SNR=4.7
KMBO Kilima Mbogo 57.76 264 P **P 15 56 43.6 0.0**
comp=Z,1.9nm,0.9s,mb4.1,baz=48,slow=12,SNR=6.2
YAK Yakutsk 59.76 18 P **P 15 56 56.3 -0.5**
comp=Z,3.8nm,0.6s,mb4.6
BRTR Keskin Array B 62.58 311 P **P 15 57 13.1 -3.1**
comp=Z,0.6nm,0.5s,mb4.0,baz=108,slow=4.6,SNR=3.3
FINES FINESS Array B 72.73 332 P **P 15 58 17.3 -2.1**
comp=Z,1.7nm,0.7s,mb4.1,baz=101,slow=9.7,SNR=5.9
FINES FINESS Array B 72.73 332 P **P 15 58 17.3 -2.1**
BOSA Boshof 75.93 238 *eP* **P 15 58 38.4 -0.2**
comp=Z,3.5nm,0.8s,mb4.3
HFS Hagfors 78.49 330 P **P 15 58 51.9 -0.2**
comp=Z,1.3nm,0.5s,mb4.2,baz=90,slow=4.4,SNR=7.2
NB2 NORSAR Subarra 79.76 331 P **P 15 58 59.9 -0.2**
comp=Z,1.8nm,0.8s,mb4.0,baz=90,slow=5.3
NOA NORSAR Array B 79.76 331 P **P 15 58 58.4 -0.6**
comp=Z,1.3nm,0.8s,mb3.9,baz=90,slow=5.8,SNR=3.6
NOA NORSAR Array B 79.76 331 P **P 15 58 58.4 -0.7**
PLCA Paso Flores 144.79 200 PKP PKPdf 16 06 27.8 +1.0
comp=Z,0.9nm,0.5s,baz=184,slow=3.4,SNR=5.7
PLCA Paso Flores 144.79 200 *eP* PKPbc 16 06 28.4 +1.6

IDC ***26*** *15:54:39.5±4.3, 35.00N×139.87E, mb3.5/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=369.8km s-min=30.4km az=109.0*
JMA ***26*** *15:54:42.2±0.4, 34.57N×141.95E, h33km±4km, M3.2*
ISC 26 15:54:42.7±2.3, 34.53N±0.09×141.9E±0.1, h23km±16km, n11, σ0°71/13, mb3.6/3, Off east of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.75**	**279**	P	**Pb**	**15 54 57.2**	**+0.3**
BSO3	**Boso 3**	**1.15**	**284**	P	**Pn**	**15 55 03.9**	**+0.2**
BSO4	**Boso 4**	**1.34**	**290**	P	**Pn**	**15 55 06.8**	**+0.4**
BSO4				*eS*	**Sn**	**15 55 24.7**	**+1.1**
KTR	**Katsuura**	**1.42**	**296**	P	**Pn**	**15 55 07.6**	**+0.1**
CHOJ	**Chosi**	**1.43**	**325**	P	**Pn**	**15 55 06.9**	**-0.8**
CHOJ				*eS*	**Sn**	**15 55 24.9**	**-1.0**
JCN	**Nagara**	**1.63**	**303**	P	**Pn**	**15 55 11.0**	**+0.5**
JIM2	**Oshima 3**	**2.02**	**276**	P	**Pn**	**15 55 15.4**	**-0.7**
JOD2	**Odawara 2**	**2.40**	**288**	P	**Pn**	**15 55 21.0**	**-0.5**
ILAR	**Eielson Array**	**51.42**	**31**	P	**P**	**16 03 49.2**	**+1.5**
0.6nm,1.0s,mb3.5,baz=259,slow=7.3,SNR=4.4
WRA Warramunga Arr 54.65 189 P **P 16 04 11.7 -0.6**
0.3nm,0.4s,mb3.7,baz=4.8,slow=7.5,SNR=10
ASAR Alice Springs 58.37 189 P **P 16 04 38.5 -0.4**
0.5nm,0.9s,mb3.5,slow=5.4,SNR=4.0

IGQ 26 15:57:03.6, 2.44S×81.13W, h16km±11km, mb4.1, 2D, Error ellipse: s-maj=20.0km s-min=7.2km az=178.2, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.49**	**23**	⇓P	Pn	15 57 31.3	+1.3
IGUA	**Igualata**	**2.66**	**69**	P	Pn	15 57 47.3	+0.6
ARRY	**Arrayan**	**2.83**	**71**	P	Pn	15 57 50.1	+1.0
ARRY				S	Sn	15 58 22.2	-0.9
RETU	**Refugio**	**2.85**	**70**	P	Pn	15 57 53.8	+4.4
ULBA	**Ulba**	**2.89**	**70**	P	Pn	15 57 51.4	+1.4
PISA	**Pisayambo**	**3.06**	**64**	P	Pn	15 57 54.2	+1.7
NAS1	**Nasa**	**3.20**	**56**	⇓P	Pn	15 57 56.7	+2.4
VC1	**Cotopaxi 1**	**3.25**	**57**	P	Pn	15 57 57.8	+2.7
TAMB	**Tambo**	**3.25**	**58**	P	Pn	15 57 57.0	+1.9
TAMB				S	Sn	15 58 37.6	+3.7
JUA2	**San Juan 2**	**3.35**	**49**	P	Pn	15 57 58.0	+1.5
TERV	**Terraza Guagua**	**3.38**	**48**	P	Pn	15 57 58.1	+1.2
PINO	**Pino**	**3.38**	**48**	P	Pn	15 57 57.7	+0.7
YANA	**Yana**	**3.44**	**48**	P	Pn	15 57 58.8	+1.0
YANA				S	Sn	15 58 38.8	+0.2
ANTI	**Antisana**	**3.56**	**56**	P	Pn	15 58 02.1	+2.6
COTA	**Cotacachi**	**3.92**	**45**	P	Pn	15 58 06.7	+2.2
CAYR	**Refugio Cayamb**	**3.96**	**52**	P	Pn	15 58 08.6	+3.5
CAYA	**Cayambe**	**4.00**	**52**	P	Pn	15 58 09.0	+3.2

NAO ***26*** *16:00:42.4±2.5, 67.63N×33.96E, ML2.5*
HEL 26 16:00:43.5±0.4, 67.67N×33.87E, ML2.2, ML2.0(BER), ML2.5(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.34**	**259**	Pg	Pg	16 00 49.1	-1.2
baz=90,slow=16
APA0 Lg 16 00 54.8
baz=91,slow=37
APA0 Rg 16 00 56.2
baz=91,slow=37
APA0 Apatity Array 0.34 259 *i* P Pg 16 00 49.1 -1.2
APA0 *i* S Sg 16 00 54.8 -0.1
APA0 *e*RG 16 00 56.2
KU4 Oulanka 2.13 234 *eP* Pn 16 01 20.6 -0.2
KU4 *eS* Sn 16 01 48.2 -0.2
MSF Maaselka 2.60 229 *eP* Pn 16 01 27.7 +0.1
MSF *e*SB Sb 16 02 01.8 -1.7
MSF MSG 16 02 05.3
comp=Z,9.6nm,0.2s
SGF Sodankyl 2.83 269 *eP* Pn 16 01 29.4 -1.4
SGF *eS* Sn 16 02 03.2 -2.8
SGF *e*SG Sg 16 02 09.6 -8.0
SGF MSG 16 02 13.8
comp=Z,9.5nm,0.3s
KEV Kevo 3.26 313 *eP* Pn 16 01 35.9 -1.0
KEV *eS* Sn 16 02 14.2 -2.9
KEV *e*SG Sg 16 02 23.6 -8.5
ARA0 ARCESS Array S 3.59 305 Pn Pn 16 01 40.0 -1.6
baz=122,slow=16
ARA0 Sn Sn 16 02 22.4 -2.9
baz=120,slow=28
ARA0 Lg 16 02 34.1
baz=112,slow=37
ARA0 ARCESS Array S 3.59 305 *eP* Pn 16 01 40.0 -1.6
ARA0 *eS* Sn 16 02 22.4 -2.9
ARA0 *e*SG 16 02 34.1
KTK1 Kautokeino 4.16 294 *eP* Pn 16 01 49.4 -0.3
KTK1 AML AML 16 03 07.7
comp=Z,7.7nm,0.3s
JOF Joensuu 4.89 194 *e*SG Sg 16 03 13.5 -13
KIF Kilpisjarvi 5.02 291 *e*SG Sg 16 03 16.9 -14
FIA0 FINESS Array S 7.09 212 Sn Sn 16 03 45.4 -8.0
baz=35,slow=22
FIA0 Lg 16 04 20.4
baz=30,slow=28
FIA0 FINESS Array S 7.09 212 *eS* Sn 16 03 45.4 -8.0
FIA0 *e*SG 16 04 20.4
SPA0 Spitsbergen Ar 11.65 342 Pn P 16 03 28.9 -4.9
baz=135,slow=18
SPA0 Spitsbergen Ar 11.65 342 *eP* P 16 03 28.9 -4.9

IDC ***26*** *16:01:55.2±2.3, 2.72N×95.76E, mb3.7/5, mb1 3.8/6, mb1mx3.7/18, mbtmp3.7/6, Error ellipse: s-maj=91.0km s-min=22.5km az=60.0*
NEIC ***26*** *16:01:58.8±1.0, 2.68N×95.60E, h30km, mb4.1/2, Error ellipse: s-maj=31.8km s-min=15.7km az=61.0*
ISC 26 16:01:58.7±1.1, 2.9N±0.2×96.0E±0.2, h30km, n14, σ0°97/14, mb4.0/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.77**	**10**	Pn	**P**	**16 05 40.6**	**+0.1**
baz=210,slow=12,SNR=3.1
JIRN Jiri 26.39 340 *eP* **P 16 07 34.0 -0.6**
11nm,0.8s,mb4.5
PKI Pulchoki 26.59 339 *eP* **P 16 07 37.9 +1.5**
DMN Daman 26.73 338 *eP* **P 16 07 38.5 +0.7**
3.3nm,0.4s,mb4.2

KKN Kakani 26.84 339 *eP* **P 16 07 39.4 +0.7**
8.0nm,0.9s,mb4.2
LSA Lhasa 27.10 351 P **P 16 07 37.8 -3.3**
2.6nm,0.7s,mb3.9
KOLN Koldanda 27.47 336 *eP* **P 16 07 45.3 +0.8**
8.5nm,0.9s,mb4.3
WRA Warramunga Arr 43.91 123 P **P 16 10 05.0 +0.1**
0.7nm,0.8s,mb3.5,baz=299,slow=9.2,SNR=4.9
ASAR Alice Springs 45.33 128 P **P 16 10 16.4 +0.2**
0.3nm,0.7s,mb3.3,baz=300,slow=7.8,SNR=4.7
SONM Songino Array 45.70 10 P **P 16 10 19.4 +0.6**
0.8nm,0.6s,mb3.8,baz=189,slow=9.2,SNR=9.3
SONM PcP PcP 16 11 56.3 -0.7
0.3nm,0.7s,baz=198,slow=4.4,SNR=3.0
ZAL Zalesovo 51.75 352 P **P 16 11 05.2 -0.3**
1.1nm,0.5s,mb4.1,baz=325,slow=2.3,SNR=6.6
ZAL Zalesovo 51.75 352 P **P 16 11 05.2 -0.3**
BVAR Borovoye Array 54.31 341 P **P 16 11 23.2 -1.4**
0.9nm,0.6s,mb3.9,baz=149,slow=8.6,SNR=6.8
CHKZ Chkalovo 54.79 342 *eP* **P 16 11 26.7 -1.4**
1.4nm,0.6s,mb4.2

NEIC ***26*** *16:07:20.9±0.7, 6.94S×129.28E, h30km, mb4.2/3, Error ellipse: s-maj=19.8km s-min=10.1km az=67.0*
IDC ***26*** *16:07:23.8±10.0, 7.23S×129.30E, h71km±109km, mb3.6/5, mb1 4.0/7, mb1mx3.8/14, mbtmp4.1/7, ML4.0/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/16, Error ellipse: s-maj=61.9km s-min=33.9km az=34.0*
ISC 26 16:07:20.9±2.2, 7.08S±0.07×129.6E±0.1, h61km±22km, n16, σ1°29/21, mb3.9/5, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.28**	**153**	*eP*	**P**	**16 08 55.3**	**+2.4**
21nm,0.3s
FITZ Fitzroy Crossi 11.60 199 *eP* **P 16 10 06.4 +0.4**
10nm,0.6s
FITZ *e*S **S 16 12 14.8 +0.1**
WRAB Tennant Creek 13.60 160 *eP* **P 16 10 29.9 -2.7**
50nm,1.0s
WRA Warramunga Arr 13.60 161 P **P 16 10 31.0 -1.6**
1.3nm,0.3s,baz=338,slow=14,SNR=59
WRA S **S 16 13 01.5 -1.2**
0.4nm,0.3s,baz=336,slow=22,SNR=5.7
WRA Warramunga Arr 13.60 161 P **P 16 10 31.0 -1.6**
WRA S **S 16 13 01.5 -1.2**
WB2 Warramunga Arr 13.61 160 ⇓*i*P **P 16 10 30.8 -1.9**
WB2 *e*S **S 16 13 02.1 -0.7**
MBWA Marble Bar 16.92 213 P **P 16 11 14.6 -0.5**
5.2nm,0.9s
ASPA Alice Springs 17.01 166 *eP* **P 16 11 19.5 +3.3**
ASAR Alice Springs 17.01 166 P **P 16 11 17.4 +1.2**
0.6nm,0.3s,baz=337,slow=9.4,SNR=42
ASAR S **S 16 14 24.0 +2.0**
0.1nm,0.3s,baz=348,slow=25,SNR=3.8
CTA Charters Tower 20.73 130 P **P 16 12 00.7 +2.0**
4.0nm,0.8s,baz=318,slow=15,SNR=2.5
CTA LR LR 16 20 23.6
comp=Z,78nm,21.2s,baz=54,slow=38
CTAO Charters Tower 20.73 130 *eP* **P 16 12 04.5 +5.8**
24nm,1.1s
CMAR Chiang Mai Arr 39.44 310 P **P 16 14 47.1 +0.3**
1.7nm,0.8s,mb3.8,baz=140,slow=7.4,SNR=8.8
SONM Songino Array 58.38 342 P **P 16 17 12.1 -0.2**
1.9nm,0.9s,mb4.1,baz=170,slow=7.5,SNR=12
ZAL Zalesovo 71.46 334 P **P 16 18 36.4 -0.3**
1.7nm,0.8s,mb4.1,baz=3.8,slow=8.7,SNR=5.8
KURK Kurchatov 72.35 329 *eP* **P 16 18 42.4 +0.3**
4.0nm,1.2s,mb4.2
BVAR Borovoye Array 77.89 328 P **P 16 19 13.4 -0.3**
0.3nm,0.7s,mb3.3,baz=135,slow=2.0,SNR=2.3

IDC ***26*** *16:09:14.7±1.0, 37.57N×21.85E, mb3.6/13, mb1 3.8/19, mb1mx3.8/25, mbtmp3.7/19, ML3.6/6, MS3.2/1, Ms1 3.2/1, ms1mx2.4/22, Error ellipse: s-maj=21.8km s-min=15.7km az=29.0*
ATH ***26*** *16:09:16.8, 37.63N×22.02E, h18km±2km, MD3.7/13, ML3.8*
CSEM ***26*** *16:09:17.3±0.1, 37.58N×21.89E, h30km, ML3.8, Error ellipse: s-maj=2.1km s-min=1.7km az=161.0*
NEIC ***26*** *16:09:17.1, 37.62N×22.03E, h11km, mb3.8/1, ML3.8(ATH), After ATH.*
HLW ***26*** *16:09:18.1, 37.03N×20.56E, h20km, Mb3.7*
ISC 26 16:09:17.2±0.6, 37.55N±0.03×21.90E±0.04, h29km±5km, n67, σ1°09/73, mb3.6/12, 3D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.37**	**176**	⇓*i*PB	**Pb**	**16 09 25.8**	**+0.3**
ITM *e*SB **Sb 16 09 32.5 +1.3**
RLS Riolos of Patr 0.61 326 *e*PB **Pb 16 09 28.4 -0.9**
RLS *e*SN **Sn 16 09 38.0 -0.7**
MGER Gerania Oros 1.17 68 *e*PN **Pn 16 09 36.2 -1.5**
MGER *e*SN **Sn 16 09 52.0 -0.8**
VLI Veliai 1.18 135 *e*PN **Pn 16 09 39.1 +1.2**
VLS Valsamata 1.21 302 *e*PN **Pn 16 09 41.3 +2.9**
NAIG Nisos Aigina 1.28 80 *e*PN **Pn 16 09 38.5 -0.9**
NAIG *e*SN **Sn 16 09 55.8 +0.1**
EVR Evrytania 1.37 357 *e*PN **Pn 16 09 41.5 +0.9**
EVR *e*SN **Sn 16 10 01.2 +3.3**
LKR Lokris 1.40 38 *e*PN **Pn 16 09 40.3 -0.8**
ATH Athens Observa 1.50 73 *e*PN **Pn 16 09 43.1 +0.5**
ATH *e*SN **Sn 16 10 01.9 +0.5**
AGG Agios Georgios 1.51 13 *eP* **Pn 16 09 45.2 +2.5**
KYTH Kithira 1.56 144 *e*Pb **Pn 16 09 48.0 +4.6**
KYTH Kithira 1.56 144 *e*PN **Pn 16 09 47.0 +3.6**
MPAR Parnis Oros 1.57 67 *e*PN **Pn 16 09 44.5 +0.9**
MPAR *e*SN **Sn 16 10 05.0 +1.8**
PTL Penteli 1.64 72 *e*PN **Pn 16 09 44.5 0.0**
NEO Neokhori 2.04 30 *e*PN **Pn 16 09 50.4 +0.1**
XOR Xorichti 2.08 29 *eP* **Pn 16 09 50.6 -0.2**
AOS Alonnisos 2.25 43 *eP* **Pn 16 09 49.8 -3.4**
JAN Janina 2.26 339 *e*Pg **Pn 16 10 00.5 +7.1**
IGT Igoumenitsa 2.33 329 *eP* **Pn 16 10 02.8 +8.4**
LIT Litokhoron 2.59 10 *eP* **Pn 16 09 59.0 +0.8**
PAIG Paliouri 2.75 30 *eP* **Pn 16 09 59.4 -1.1**
KZN Kozani 2.75 358 *e*Pg **Pn 16 10 05.1 +4.6**
VAM Vamos 2.83 138 *e*Pn **Pn 16 10 06.6 +5.0**
VAM Vamos 2.83 138 *e*PB **Pb 16 10 05.2 -1.7**
APE Apeiranthos 2.94 98 *e*PN **Pn 16 10 03.5 +0.4**
PLG Polygyros 3.07 23 *e*PN **Pn 16 10 04.7 -0.2**
OUR Ouranopolis 3.22 30 *eP* **Pn 16 10 05.9 -1.2**
FNA Florina 3.25 353 *eP* **Pn 16 10 11.1 +3.5**
IDI Anoyia 3.31 132 Pn **Pn 16 10 08.6 +0.3**
1.9nm,0.3s,baz=314,slow=14,SNR=6.7
IDI Sn **Sn 16 10 48.3 +1.2**
9.8nm,0.3s,baz=302,slow=15,SNR=4.7
SOH Sokhos 3.46 19 *eP* **Pn 16 10 10.6 +0.1**
KNT Kendrikon 3.69 12 *eP* **Pn 16 10 14.8 +1.0**
NPS Neapolis 3.77 126 *e*PB **Pb 16 10 18.5 -4.3**
SRS Serrai 3.80 20 *eP* **Pn 16 10 15.0 -0.3**
NVR Nevrokopi 4.09 21 *e*PN **Pn 16 10 19.5 +0.1**
MMB Musomiste 4.27 19 P **Pn 16 10 21.0 -1.1**
KKB Krupnik 4.41 12 P **Pn 16 10 24.5 +0.6**
SKO Skopje 4.43 356 *e*Pn **Pn 16 10 31.5 +7.2**
SKO *i* 16 10 36.1
RZN Rozhen 4.67 27 P **Pn 16 10 26.0 -1.7**
VTS Vitosha 5.13 11 *eP* **Pn 16 10 35.0 +0.8**
VAE Valguarnera 5.95 272 Pn **Pn 16 10 42.5 -3.2**
2.2nm,0.3s,baz=326,slow=15,SNR=2.1
SLUM 6.63 155 P **Pn 16 10 55.5 +0.1**
MLR Muntele Rosu 8.49 20 Pn **P 16 11 20.5 -0.9**
0.1nm,0.3s,baz=102,slow=22,SNR=3.3
MLR LR LR 16 14 48.9
comp=Z,156nm,20.4s,baz=186,slow=39
SWA2 8.80 159 ⇓P **P 16 11 24.0 -1.6**
SWA1 8.86 158 ⇓P **P 16 11 25.1 -1.3**
SWA1 S **Sn 16 12 58.0 -8.2**
BRTR Keskin Array B 9.44 73 Pn **P 16 11 34.6 +0.2**
0.6nm,0.3s,baz=255,slow=13,SNR=13
GERES GERESS Array B 12.76 335 Pn **P 16 12 19.5 0.0**
0.5nm,0.3s,baz=147,slow=16,SNR=4.0
EIL Elat 13.41 122 Pn **P 16 12 23.9 -4.2**
0.2nm,0.3s,baz=350,slow=16,SNR=3.0
CLL Collm 15.13 338 *e* 16 13 07.0
ESDC Sonseca Array 20.30 284 P **P 16 13 53.4 0.0**
0.4nm,0.4s,baz=79,slow=9.6,SNR=2.6
HFS Hagfors 23.20 350 P **P 16 14 21.6 -0.7**
1.9nm,0.6s,mb3.7,baz=157,slow=11,SNR=7.5
FINES FINESS Array B 24.06 5 P **P 16 14 29.4 -1.2**
0.8nm,0.5s,mb3.4,baz=141,slow=12,SNR=4.8
NB2 NORSAR Subarra 24.46 347 P **P 16 14 35.7 +1.2**
1.8nm,0.7s,mb3.6,baz=149,slow=10
NOA NORSAR Array B 24.46 347 P **P 16 14 35.0 +0.5**
2.2nm,0.7s,mb3.7,baz=152,slow=9.4,SNR=8.5
EKA Eskdalemuir Ar 24.57 324 P **P 16 14 37.2 +1.6**
3.1nm,0.8s,mb3.9,baz=123,slow=8.3,SNR=3.9
EKA Eskdalemuir Ar 24.57 324 P **P 16 14 37.2 +1.6**
ARCES ARCESS Array B 32.10 2 P **P 16 15 43.0 -0.6**
5.6nm,1.1s,mb4.3,baz=180,slow=8.5,SNR=4.2
ARCES ARCESS Array B 32.10 2 P **P 16 15 43.0 -0.7**
BVAR Borovoye Array 36.70 49 P **P 16 16 23.9 +0.7**
0.6nm,0.6s,mb3.6,baz=259,slow=7.6,SNR=5.6
ZAL Zalesovo 45.29 48 P **P 16 17 34.0 +0.2**
1.3nm,0.6s,mb3.9,baz=213,slow=7.2,SNR=5.7
ZAL Zalesovo 45.29 48 P **P 16 17 34.0 +0.2**
SCHQ Schefferville 59.66 318 P **P 16 19 21.0 +0.2**
1.6nm,0.7s,mb4.1,baz=70,slow=15,SNR=2.5
SONM Songino Array 60.01 51 P **P 16 19 23.9 +0.5**
0.2nm,0.6s,mb3.4,baz=279,slow=6.9,SNR=3.6
CMAR Chiang Mai Arr 68.89 83 P **P 16 20 18.6 -3.0**
0.6nm,0.7s,mb3.6,baz=297,slow=8.7,SNR=5.2
YKA Yellowknife Ar 74.35 341 P **P 16 20 52.7 -0.6**
0.1nm,0.4s,mb3.1,baz=38,slow=3.8,SNR=4.0
ILAR Eielson Array 77.63 355 P **P 16 21 11.5 -0.3**
0.1nm,0.8s,mb2.8,baz=334,slow=3.5,SNR=2.8
WRA Warramunga Arr 119.42 93 PKP PKPdf 16 28 05.7 -3.6
0.3nm,0.5s,baz=317,slow=2.0,SNR=5.1
ASAR Alice Springs 121.02 97 PKP PKPdf 16 28 09.1 -3.3
0.6nm,0.7s,baz=304,slow=1.5,SNR=15

IDC ***26*** *16:12:58.8±1.4, 37.59N×21.99E, mb3.8/8, mb1 3.8/11, mb1mx3.7/22, mbtmp3.7/11, ML3.0/2, Error ellipse: s-maj=29.8km s-min=20.9km az=27.0*
ATH ***26*** *16:13:00.3, 37.63N×22.05E, h13km±5km, ML3.5*
CSEM ***26*** *16:13:00.5±0.1, 37.64N×22.04E, h10km, ML3.5, Error ellipse: s-maj=2.3km s-min=2.0km az=84.0*
NEIC ***26*** *16:13:00.3, 37.63N×22.05E, h13km, ML3.5(ATH), After ATH.*
ISC 26 16:12:59.5±1.1, 37.63N±0.03×22.03E±0.05, h6km±8km, n42, σ1°10/43, mb3.7/8, 1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.46**	**190**	⇓*i*PB	**Pb**	**16 13 09.1**	**-0.4**
ITM *e*SB **Sb 16 13 15.7 -0.5**
RLS Riolos of Patr 0.62 314 *e*PB **Pb 16 13 11.8 -0.5**
RLS *e*SB **Sb 16 13 21.3 +0.4**
MGER Gerania Oros 1.04 70 *e*PG **Pg 16 13 19.5 -0.7**
VLI Veliai 1.16 141 *e*PB **Pb 16 13 22.5 +0.9**
NAIG Nisos Aigina 1.17 83 *e*PB **Pb 16 13 22.4 +0.8**
VLS Valsamata 1.26 296 *e*PB **Pb 16 13 25.5 +2.2**
LKR Lokris 1.28 37 *e*PG **Pg 16 13 24.0 -1.0**
EVR Evrytania 1.30 352 *e*PB **Pb 16 13 24.9 +1.0**
ATH Athens Observa 1.38 75 *e*PB **Pb 16 13 26.7 +1.4**
AGG Agios Georgios 1.41 10 *eP* **Pn 16 13 26.6 +0.8**
PTL Penteli 1.51 73 *e*PB **Pb 16 13 27.9 +0.3**
KYTH Kithira 1.57 149 *e*PB **Pb 16 13 31.0 +2.5**
NEO Neokhori 1.92 29 *e*PN **Pn 16 13 32.5 -0.6**
XOR Xorichti 1.96 27 *eP* **Pn 16 13 34.0 +0.4**
AOS Alonnisos 2.12 43 *eP* **Pn 16 13 36.4 +0.5**
IGT Igoumenitsa 2.32 326 *eP* **Pn 16 13 46.0 +7.2**
LIT Litokhoron 2.50 8 *eP* **Pn 16 13 42.8 +1.5**
APE Apeiranthos 2.85 102 *e*PN **Pn 16 13 46.8 +0.5**
PLG Polygyros 2.96 22 *e*PB **Pb 16 13 49.8 -2.5**
FNA Florina 3.19 351 *eP* **Pn 16 13 53.8 +2.6**
IDI Anoyia 3.28 134 Pn **Pn 16 13 51.7 -0.8**
0.5nm,0.3s,baz=324,slow=8.7,SNR=2.5
IDI Anoyia 3.28 134 Pn **Pn 16 13 51.7 -0.8**
SOH Sokhos 3.35 17 *eP* **Pn 16 13 53.6 +0.1**
KNT Kendrikon 3.59 11 *eP* **Pn 16 13 57.3 +0.4**
SRS Serrai 3.69 19 *eP* **Pn 16 13 58.5 +0.2**
MMB Musomiste 4.17 18 P **Pn 16 14 05.0 -0.1**
KKB Krupnik 4.31 11 P **Pn 16 14 09.0 +1.9**
SKO Skopje 4.36 354 *e*Pn **Pg 16 14 26.0 -0.5**
RZN Rozhen 4.55 26 P **Pn 16 14 10.0 -0.6**
VTS Vitosha 5.04 10 *eP* **Pb 16 14 27.0 -0.9**
VAE Valguarnera 6.05 271 Pn **Pn 16 14 30.4 -1.3**
1.3nm,0.3s,baz=82,slow=14,SNR=2.2
BRTR Keskin Array B 9.32 73 Pn **P 16 15 14.8 -2.6**
baz=256,slow=12,SNR=1.9
HFS Hagfors 23.14 349 P **P 16 18 05.8 -1.3**
2.1nm,0.7s,mb3.7,baz=162,slow=9.4,SNR=6.3
FINES FINESS Array B 23.97 5 P **P 16 18 15.5 +0.4**
2.9nm,1.0s,mb3.7,baz=188,slow=9.8,SNR=3.1
NB2 NORSAR Subarra 24.40 347 P **P 16 18 19.1 -0.3**
1.0nm,0.6s,mb3.4,baz=149,slow=10
NOA NORSAR Array B 24.40 347 P **P 16 18 18.7 -0.7**
1.1nm,0.6s,mb3.5,baz=154,slow=12,SNR=4.8
EKA Eskdalemuir Ar 24.57 324 P **P 16 18 20.1 -0.9**
2.1nm,0.9s,mb3.7,baz=122,slow=9.3,SNR=3.8
ARCES ARCESS Array B 32.02 2 P **P 16 19 27.1 -1.4**
5.7nm,1.1s,mb4.3,baz=180,slow=9.0,SNR=4.0
BVAR Borovoye Array 36.57 49 P **P 16 20 07.4 -0.3**
0.4nm,0.6s,mb3.4,baz=243,slow=6.4,SNR=3.0
ZAL Zalesovo 45.16 48 P **P 16 21 16.9 -1.5**
0.6nm,0.3s,mb3.8,baz=203,slow=7.8,SNR=3.2
PDAR Pinedale Array 88.67 327 P **P 16 25 55.4 +0.7**
0.4nm,1.0s,mb3.7,baz=58,slow=8.5,SNR=2.0
ASAR Alice Springs 120.92 97 PKP PKPdf 16 31 52.0 -3.7
0.2nm,0.6s,baz=314,slow=1.6,SNR=4.7

IDC 26 16:13:13.1±1.8, 37.60N×21.76E, mb3.8/7, mb1 3.9/9, mb1mx3.7/21, mbtmp3.8/9, ML3.2/2, Error ellipse: s-maj=42.5km s-min=20.0km az=46.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**3.42**	**132**	Pn	Pn	16 14 08.6	-0.1
4.4nm,0.3s,baz=321,slow=17,SNR=8.6
IDI Sn Sn 16 14 49.0 -1.6
9.6nm,0.3s,baz=205,slow=23,SNR=4.9
IDI Anoyia 3.42 132 Sn Sn 16 14 49.0 -1.6
BRTR Keskin Array B 9.53 73 Pn P 16 15 31.7 -2.9
0.1nm,0.3s,baz=245,slow=14,SNR=2.8
HFS Hagfors 23.13 350 P P 16 18 19.9 -1.6
1.8nm,0.5s,baz=170,slow=9.0,SNR=6.2
FINES FINESS Array B 24.02 5 P P 16 18 29.0 -1.1
1.1nm,0.7s,baz=169,slow=9.7,SNR=5.1
NOA NORSAR Array B 24.38 348 P P 16 18 33.1 -0.6
1.2nm,0.5s,baz=152,slow=9.1,SNR=5.2
EKA Eskdalemuir Ar 24.47 324 P P 16 18 33.6 -0.9
1.4nm,0.8s,baz=128,slow=8.1,SNR=2.9
ARCES ARCESS Array B 32.06 2 P P 16 19 42.2 -1.1
4.6nm,1.0s,baz=192,slow=9.1,SNR=5.4
BVAR Borovoye Array 36.74 49 P P 16 20 22.2 -1.6
0.3nm,0.4s,baz=260,slow=6.5,SNR=4.4
ZAL Zalesovo 45.34 48 P P 16 21 32.0 -2.4
1.0nm,0.3s,baz=176,slow=9.6,SNR=3.0
ASAR Alice Springs 121.13 97 PKP PKPdf 16 32 07.6 -2.5
0.2nm,0.4s,baz=305,slow=1.6,SNR=5.6

BJI ***26*** *16:19:52.4, 8.00N×94.20E, h30km*
NEIC ***26*** *16:19:52.5±0.4, 7.96N×94.24E, h30km, mb4.3/4, Error ellipse: s-maj=13.4km s-min=9.1km az=79.0*
IDC ***26*** *16:19:55.5±4.9, 8.03N×94.35E, h53km±45km, mb3.8/12, mb1 3.9/13, mb1mx3.8/22, mbtmp4.1/13, ML3.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/28, Error ellipse: s-maj=29.2km s-min=14.9km az=58.0*
ISC 26 16:19:51.2±0.5, 7.99N±0.07×94.3E±0.1, h33km, n29, σ0°67/27, mb4.2/22, MS3.6/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.33**	**23**	P	**P**	**16 22 33.8**	**-0.1**
CMAR Chiang Mai Arr 11.33 23 P **P 16 22 33.8 -0.1**
0.2nm,0.3s,baz=213,slow=14,SNR=14
JIRN Jiri 21.02 340 *eP* **P 16 24 34.7 +0.2**
17nm,0.7s,mb4.5
PKI Pulchoki 21.22 338 *eP* **P 16 24 37.5 +1.0**
11nm,0.6s,mb4.4
DMN Daman 21.37 337 *eP* **P 16 24 38.1 +0.1**
17nm,0.6s,mb4.5
KKN Kakani 21.47 338 *eP* **P 16 24 39.2 +0.2**
12nm,0.7s,mb4.3
LSA Lhasa 21.80 353 P **P 16 24 46.3 +4.1**
LSA Lhasa 21.80 353 *eP* **P 16 24 41.7 -0.6**
9.4nm,0.6s,mb4.4
GKN Gorkha 21.91 337 *eP* **P 16 24 43.1 -0.2**
21nm,0.8s,mb4.6
KOLN Koldanda 22.13 334 *eP* **P 16 24 45.5 -0.1**

19nm,0.7s,mb4.6
SONM Songino Array 41.01 12 P **P 16 27 34.4 +1.6**
0.9nm,0.8s,mb3.4,baz=195,slow=7.0,SNR=8.1
SONM PcP PcP 16 29 34.0 +0.9
0.2nm,0.5s,baz=185,slow=3.8,SNR=3.8
NWAO Narrogin (SRO) 46.17 153 P **P 16 28 15.5 +0.7**
12nm,0.9s,mb4.8,baz=328,slow=13,SNR=2.5
ZAL Zalesovo 46.45 352 P **P 16 28 16.9 +0.1**
5.9nm,1.1s,mb4.4,baz=314,slow=7.2,SNR=15
WRA Warramunga Arr 48.18 126 P **P 16 28 30.5 -0.2**
1.2nm,0.9s,mb3.9,baz=304,slow=8.5,SNR=15
WRAB Tennant Creek 48.19 126 P **P 16 28 31.1 +0.3**
2.3nm,0.8s,mb4.3
BVAR Borovoye Array 48.94 341 P **P 16 28 34.6 -1.5**
0.7nm,0.7s,mb3.8,baz=141,slow=9.5,SNR=6.9
BVAR PcP PcP 16 30 00.5 +0.2
0.8nm,0.9s,baz=135,slow=4.1,SNR=3.0
CHKZ Chkalovo 49.42 342 *eP* **P 16 28 39.3 -0.5**
2.1nm,0.5s,mb4.4
ASAR Alice Springs 49.85 130 P **P 16 28 43.0 -0.6**
0.4nm,0.7s,mb3.6,baz=300,slow=7.6,SNR=5.0
GNI Garni 54.48 314 P **P 16 29 18.9 +0.9**
4.2nm,0.6s,mb4.5,baz=72,slow=9.6,SNR=3.0
ASAJ Asahikawa 55.21 41 LR LR 16 57 09.9
comp=Z,49nm,18.7s,MS3.6,baz=175,slow=40
KMBO Kilima Mbogo 57.61 264 P **P 16 29 41.8 +0.9**
3.4nm,0.8s,mb4.4,baz=59,slow=10,SNR=11
FINES FINESS Array B 72.69 332 P **P 16 31 16.6 -0.7**
1.9nm,0.7s,mb4.2,baz=124,slow=6.9,SNR=6.4
BOSA Boshof 75.80 238 *eP* **P 16 31 35.5 -0.5**
2.1nm,0.6s,mb4.2
GERES GERESS Array B 77.86 318 P **P 16 31 46.6 -0.6**
0.4nm,0.5s,mb3.6,baz=108,slow=4.2,SNR=3.7
HFS Hagfors 78.44 330 P **P 16 31 49.6 -0.6**
1.9nm,0.5s,mb4.3,baz=90,slow=7.4,SNR=10.0
NB2 NORSAR Subarra 79.72 331 P **P 16 31 56.8 -0.3**
0.2nm,0.7s,mb3.2,baz=96,slow=5.8
NOA NORSAR Array B 79.72 331 P **P 16 31 56.9 -0.2**
1.9nm,0.8s,mb4.1,baz=93,slow=5.5,SNR=5.9
NOA NORSAR Array B 79.72 331 P **P 16 31 56.9 -0.2**
PLCA Paso Flores 144.72 200 PKP PKPdf 16 39 25.9 +0.9
3.1nm,0.8s,baz=183,slow=1.5,SNR=8.9

*BJI **26** 16:32:54.3, 13.93N×92.68E, h18km, mB4.9, mb4.1, Ms4.0, Msz3.7*
*IDC **26** 16:32:54.4±0.9, 13.70N×92.86E, h34km±6km, mb3.8/12, mb1 4.0/13, mb1mx3.9/20, mbtmp4.0/13, ML3.8/1, MS3.8/2, Ms1 3.9/2, ms1mx3.1/28, Error ellipse: s-maj=26.8km s-min=14.1km az=57.0*
*NEIC **26** 16:32:54.0±0.4, 13.70N×92.95E, h30km, mb4.4/11, Error ellipse: s-maj=10.5km s-min=7.4km az=69.0*
ISC 26 16:32:51.8±0.4, 13.77N±0.05×92.94E±0.05, h30km, (h33km±1.5km:pP-P), n48, σ1§23/53, mb4.2/22, MS3.9/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**7.42**	**50**	P		**Pn**	**16 34 40.8**	**0.0**
13nm,0.5s								
CMAR	**Chiang Mai Arr**	**7.42**	**50**	Pn		**Pn**	**16 34 40.8**	**0.0**
0.4nm,0.3s,baz=241,slow=15,SNR=14								
CMAR				Sn		**Sn**	**16 36 00.1**	**-4.7**
baz=241,slow=18,SNR=5.2								
CMAR				LR		LR	16 38 23.9	
comp=Z,404nm,19.3s,baz=235,slow=44								
BWNR	**Bhubaneshwar**	**9.41**	**315**	*eP*		**P**	**16 35 06.5**	**-2.0**
VIS	**Vishakhapatnam**	**10.05**	**294**	*eP*		**P**	**16 35 16.4**	**-1.0**
VIS				*e*			16 35 18.4	
comp=Z,45nm,0.9s								
VIS				*eS*		**S**	**16 36 56.2**	**-14**
IMP	**Imphal**	**11.00**	**5**	*eP*		**P**	**16 35 29.4**	**-0.9**
SHL	**Shillong**	**11.78**	**355**	*eP*		**P**	**16 35 36.3**	**-4.6**
SHL				*e*			16 37 39.5	
BLSP	**Bilaspur**	**13.22**	**310**	*eP*		**P**	**16 35 59.6**	**-0.5**
BLSP				*eS*		**S**	**16 38 33.7**	**+6.7**
HYB	**Hyderabad**	**14.32**	**287**	*i P*		**P**	**16 36 14.0**	**-0.8**
HYB				*e*			16 36 24.0	
HYB				*eS*		**S**	**16 38 42.0**	**-11**
JIRN	**Jiri**	**15.19**	**337**	*eP*		**P**	**16 36 25.4**	**-0.6**
comp=Z,46nm,0.9s								
PKI	**Pulchoki**	**15.43**	**334**	*eP*		**P**	**16 36 26.7**	**-2.4**
comp=Z,30nm,0.7s								
DMN	**Daman**	**15.59**	**333**	*eP*		**P**	**16 36 28.6**	**-2.6**
comp=Z,42nm,0.9s								
KKN	**Kakani**	**15.67**	**334**	*eP*		**P**	**16 36 29.3**	**-3.0**
LSA	**Lhasa**	**15.94**	**354**	P		**P**	**16 36 41.8**	**+6.1**
LSA	**Lhasa**	**15.94**	**354**	*eP*		**P**	**16 36 36.6**	**+0.9**
comp=Z,0.8nm,0.3s								
GKN	**Gorkha**	**16.14**	**333**	*eP*		**P**	**16 36 36.4**	**-1.8**
comp=Z,14nm,0.3s								
KOLN	**Koldanda**	**16.43**	**329**	*eP*		**P**	**16 36 42.1**	**+0.2**
comp=Z,13nm,0.7s								
BHPL	**Bhopal**	**17.46**	**305**	*eP*		**P**	**16 36 56.2**	**+1.4**
BHPL				AMb		AMB	16 36 59.8	
comp=Z,5.8nm,0.5s								
BHPL				*e*			16 37 04.3	
comp=Z,3.5nm,0.3s								
BHPL				*eS*		**S**	**16 40 01.3**	**-4.9**
KAD	**Karad**	**18.41**	**283**	*eP*		**P**	**16 37 08.9**	**+2.1**
KAD				*eP*			16 37 11.0	
KAD				*e*			16 37 11.8	
comp=Z,11nm,1.2s								
KAD				*eS*		**S**	**16 40 28.5**	**+0.7**
DDI	**Dehra Dun**	**21.45**	**323**	*e*		**P**	**16 37 31.8**	**-8.0**
DDI				*e*		**S**	**16 41 32.5**	**+1.4**
ENH	**Enshi**	**22.42**	**40**	*eP*		**P**	**16 37 49.4**	**-0.2**
comp=Z,14nm,0.9s,mb4.4								
LZH	**Lanzhou**	**24.29**	**22**	*eP*		**P**	**16 38 10.8**	**+3.1**
LZH				AP			16 38 15.5	
LZH				XP			16 38 18.5	
LZH				AMB		AMB		
comp=Z,42nm,1.5s,mb4.7								
LZH				AMB		AMB		
comp=Z,155nm,5.5s								
LZH	**Lanzhou**	**24.29**	**22**	*eP*		**P**	**16 38 10.8**	**+3.1**
comp=Z,42nm,1.5s,mb4.7								
LZH				pP			16 38 15.6	
LZH				sP			16 38 18.4	
XAN	**Xi'an**	**24.85**	**33**	P		**P**	**16 38 14.0**	**+0.8**
XAN				AMB		AMB		
comp=Z,5.0nm,0.8s,mb4.1								
SONM	**Songino Array**	**35.76**	**16**	P		**P**	**16 39 51.2**	**+1.1**
comp=Z,2.8nm,1.1s,mb4.1,baz=207,slow=8.3,SNR=8.3								
SONM				pP		pP	16 40 02.0	+3.0
comp=Z,3.7nm,1.0s,baz=213,slow=8.5,SNR=12								
ULN	**Ulaanbaatar**	**35.97**	**16**	P		**P**	**16 39 52.5**	**+0.7**
comp=Z,1.9nm,0.9s,mb4.0								
KURK	**Kurchatov**	**38.64**	**345**	*eP*		**P**	**16 40 16.5**	**+2.2**
comp=Z,5.8nm,1.0s,mb4.3								
ZAL	**Zalesovo**	**40.59**	**353**	P		**P**	**16 40 29.6**	**-0.7**
comp=Z,0.8nm,0.6s,mb3.5,baz=323,slow=10								
ZAL				LR		LR	17 00 12.2	
comp=Z,170nm,19.4s,MS3.9,baz=73,slow=40								
BVAR	**Borovoye Array**	**43.07**	**340**	P		**P**	**16 40 51.5**	**+0.9**
comp=Z,0.6nm,0.7s,mb3.5,baz=146,slow=5.3,SNR=4.4								
CHKZ	**Chkalovo**	**43.55**	**341**	*eP*		**P**	**16 40 56.1**	**+1.7**
comp=Z,3.0nm,0.8s,mb4.1								
FITZ	**Fitzroy Crossi**	**45.20**	**134**	*eP*		**P**	**16 41 08.2**	**-0.1**
comp=Z,9.2nm,1.0s,mb4.6								
NWAO	**Narrogin (SRO)**	**51.91**	**154**	P		**P**	**16 41 59.5**	**-0.7**
comp=Z,1.8nm,0.4s,mb4.4,baz=216,slow=17,SNR=3.4								
WRA	**Warramunga Arr**	**52.74**	**129**	P		**P**	**16 42 05.6**	**-0.9**
comp=Z,1.4nm,0.3s,mb4.3,baz=302,slow=9.4,SNR=41								
WRA				PcP		PcP	16 43 16.5	+0.7
comp=Z,0.5nm,0.4s,baz=325,slow=3.3,SNR=6.6								
WRAB	**Tennant Creek**	**52.74**	**129**	*eP*		**P**	**16 42 05.2**	**-1.3**
comp=Z,8.0nm,0.7s,mb4.8								
WB2	**Warramunga Arr**	**52.75**	**129**	*eP*		**P**	**16 42 06.3**	**-0.2**
ASPA	**Alice Springs**	**54.67**	**133**	*eP*		**P**	**16 42 20.3**	**-0.3**
ASAR	**Alice Springs**	**54.67**	**133**	P		**P**	**16 42 20.1**	**-0.5**
comp=Z,2.3nm,0.3s,mb4.6,baz=311,slow=7.1,SNR=137								
BRTR	**Keskin Array B**	**57.78**	**308**	P		**P**	**16 42 42.9**	**+0.1**
comp=Z,1.7nm,0.8s,mb4.1,baz=116,slow=7.7,SNR=6.7								
STKA	**Stephens Creek**	**65.05**	**135**	P		**P**	**16 43 31.9**	**0.0**
comp=Z,1.3nm,0.6s,mb4.2,baz=330,slow=5.6,SNR=4.9								
FINES	**FINESS Array B**	**66.99**	**331**	P		**P**	**16 43 43.0**	**-0.7**
comp=Z,1.0nm,0.6s,mb4.0,baz=90,slow=9.5,SNR=5.9								
GERES	**GERESS Array B**	**72.70**	**317**	P		**P**	**16 44 20.1**	**+1.2**
comp=Z,1.2nm,0.8s,mb3.9,baz=53,slow=6.7,SNR=5.7								
GERES				pP		pP	16 44 29.6	+1.4
comp=Z,2.1nm,0.7s,baz=90,slow=4.0,SNR=7.5								
NB2	**NORSAR Subarra**	**74.06**	**330**	P		**P**	**16 44 27.3**	**+0.8**
comp=Z,0.8nm,0.5s,mb3.9,baz=91,slow=4.8								
NOA	**NORSAR Array B**	**74.06**	**330**	P		**P**	**16 44 25.7**	**-0.8**
comp=Z,0.5nm,0.6s,mb3.6,baz=95,slow=5.6,SNR=2.7								
NOA				pP		pP	16 44 36.3	+0.4
comp=Z,1.0nm,0.7s,baz=89,slow=5.8,SNR=2.8								
LPG	**La Plagne**	**77.67**	**314**	*eP*		**P**	**16 44 49.6**	**+2.4**
comp=Z,34nm,1.2s,mb4.8								
BOSA	**Boshof**	**77.78**	**236**	*eP*		**P**	**16 44 48.4**	**+0.2**
comp=Z,3.0nm,0.8s,mb4.3								
IMA	**Indian Mountai**	**86.64**	**22**	P		**P**	**16 45 37.3**	**+3.9**
ILAR	**Eielson Array**	**89.75**	**22**	P		**P**	**16 45 49.9**	**+1.6**
comp=Z,0.3nm,0.7s,mb3.7,baz=300,slow=4.2,SNR=4.2								
NVAR	**Mina Array Bea**	**120.40**	**28**	PKP		PKPdf	16 51 44.7	-1.1
comp=Z,0.6nm,0.8s,baz=297,slow=4.0,SNR=2.7								
PLCA	**Paso Flores**	**149.50**	**205**	PKPbc		PKPdf	16 52 40.2	+1.3
comp=Z,0.5nm,0.5s,baz=216,slow=8.7,SNR=2.0								

IDC 26 16:39:57.2±6.8, 30.87S×177.59W, mb3.6/2, mb1 3.9/2, mb1mx3.7/13, mbtmp3.6/2, Error ellipse: s-maj=284.7km s-min=55.7km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.44**	**267**	P		P	16 48 01.4	-2.2
0.4nm,0.8s,baz=106,slow=7.3,SNR=6.8								
WRA	**Warramunga Arr**	**44.47**	**272**	P		P	16 48 10.6	-1.4
0.6nm,0.4s,baz=111,slow=8.1,SNR=20								
FINES	**FINESS Array B**	**145.70**	**340**	PKPbc		PKPbc	16 59 36.4	-1.1
2.6nm,1.1s,baz=27,slow=6.2,SNR=2.7								

*IDC **26** 16:43:05.6±4.6, 33.75N×89.11E, mb3.4/4, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, ML4.2/1, Error ellipse: s-maj=91.8km s-min=49.2km az=18.0*
*NEIC **26** 16:43:12.1±0.9, 34.33N×89.20E, h10km, mb3.7/2, Error ellipse: s-maj=29.5km s-min=13.8km az=67.0*
ISC 26 16:43:13.7±0.9, 34.3N±0.1×89.4E±0.2, h33km, n9, σ0§91/9, mb3.4/5, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.87**	**161**	*eP*		**P**	**16 44 26.9**	**+0.2**
AAK	**Ala-Archa**	**14.27**	**310**	*eP*		**P**	**16 46 41.1**	**+5.8**
2.1nm,0.8s								
SONM	**Songino Array**	**18.56**	**38**	P		**P**	**16 47 31.2**	**+1.3**
0.2nm,0.3s,baz=225,slow=12,SNR=6.6								
ZAL	**Zalesovo**	**19.85**	**352**	P		**P**	**16 47 43.4**	**-1.1**
1.2nm,0.6s,baz=302,slow=12,SNR=6.8								
BVAR	**Borovoye Array**	**23.04**	**330**	P		**P**	**16 48 17.1**	**+0.4**
0.6nm,0.5s,mb3.3,baz=140,slow=11,SNR=9.0								
BRVK	**Borovoye**	**23.11**	**330**	P		**P**	**16 48 18.3**	**+0.9**
1.7nm,0.8s,mb3.5								
CHKZ	**Chkalovo**	**23.43**	**331**	*eP*		**P**	**16 48 21.0**	**+0.5**
1.6nm,0.7s,mb3.6								
ILAR	**Eielson Array**	**71.92**	**22**	P		**P**	**16 54 34.2**	**-0.7**
0.6nm,0.8s,mb3.6,baz=305,slow=5.2,SNR=7.6								
YKA	**Yellowknife Ar**	**81.59**	**11**	P		**P**	**16 55 27.9**	**-1.3**
0.3nm,0.8s,mb3.3,baz=336,slow=5.4,SNR=4.4								

*IDC **26** 16:43:20.8±6.6, 7.25N×94.16E, mb4.0/5, mb1 4.0/6, mb1mx3.7/19, mbtmp3.9/6, Error ellipse: s-maj=163.6km s-min=50.7km az=141.0*
*NEIC **26** 16:43:27.7±1.1, 7.59N×93.98E, h30km, mb4.0/1, Error ellipse: s-maj=27.2km s-min=20.1km az=77.0*
ISC 26 16:43:25.5±4.5, 7.6N±0.6×94.2E±0.6, h30km, n9, σ0§63/9, mb3.8/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.77**	**22**	Pn		**P**	**16 46 14.4**	**-0.3**
baz=213,slow=15,SNR=4.6								
CMAR	**Chiang Mai Arr**	**11.77**	**22**	Pn		**P**	**16 46 14.3**	**-0.3**
LSA	**Lhasa**	**22.23**	**353**	*eP*		**P**	**16 48 21.7**	**+0.3**
4.3nm,0.7s,mb4.0								
SONM	**Songino Array**	**41.46**	**12**	P		**P**	**16 51 12.0**	**+0.7**
0.4nm,0.8s,mb3.1,baz=180,slow=5.8,SNR=3.5								
ZAL	**Zalesovo**	**46.88**	**352**	P		**P**	**16 51 54.5**	**-0.4**
0.8nm,0.4s,mb4.0,baz=312,slow=5.7,SNR=5.4								
FINES	**FINESS Array B**	**73.04**	**332**	P		**P**	**16 54 55.0**	**+0.6**
2.0nm,0.8s,mb4.1,baz=90,slow=9.7,SNR=3.6								
HFS	**Hagfors**	**78.78**	**330**	P		**P**	**16 55 26.8**	**-0.1**
1.1nm,0.7s,mb3.9,baz=121,slow=8.6,SNR=4.0								
NB2	**NORSAR Subarra**	**80.06**	**331**	P		**P**	**16 55 34.1**	**+0.4**
3.0nm,1.0s,mb4.2,baz=91,slow=5.6								
NOA	**NORSAR Array B**	**80.06**	**331**	P		**P**	**16 55 31.8**	**-1.9**
0.8nm,0.8s,mb3.7,baz=91,slow=5.7,SNR=4.1								

*IDC **26** 16:48:58.8±1.4, 2.72S×138.51E, mb4.4/5, mb1 4.6/8, mb1mx4.4/13, mbtmp4.5/8, ML4.0/3, MS4.0/3, Ms1 4.0/3, ms1mx3.6/16, Error ellipse: s-maj=45.8km s-min=16.8km az=104.0*
*NEIC **26** 16:49:03.5±0.7, 2.68S×138.66E, h30km, mb4.4/7, Error ellipse: s-maj=15.3km s-min=11.5km az=123.0*
ISC 26 16:49:03.7±1.0, 2.86S±0.09×138.99E±0.07, h33km, n22, σ1§01/26, mb4.5/8, MS3.9/2, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.41**	**129**	Pn		**P**	**16 51 35.6**	**+1.8**
2.2nm,0.3s,baz=332,slow=9.8,SNR=12								
PMG				Sn		**S**	**16 53 29.3**	**-1.1**
0.7nm,0.3s,baz=94,slow=20,SNR=2.4								
PMG	**Port Moresby**	**10.41**	**129**	Pn		**P**	**16 51 35.6**	**+1.8**
PMG				Sn		**S**	**16 53 29.3**	**-1.1**
KAKA	**Kakadu**	**11.74**	**213**	*eP*		**P**	**16 51 52.4**	**+0.5**
55nm,0.8s								
KAKA				*eS*		**S**	**16 54 03.1**	**+0.3**
KAKA	**Kakadu**	**11.74**	**213**	*eP*		**P**	**16 51 48.4**	**-3.5**
9.3nm,0.9s								
KAKA				*eP*			16 51 52.4	
KAKA				*eS*		**S**	**16 54 03.1**	**+0.3**
WRAB	**Tennant Creek**	**17.57**	**195**	*eP*		**P**	**16 53 08.0**	**+0.3**
16nm,0.6s								
WB2	**Warramunga Arr**	**17.57**	**195**	*eP*		**P**	**16 53 07.6**	**-0.2**
WB2				*e*			16 53 24.6	
WRA	**Warramunga Arr**	**17.58**	**195**	P		**P**	**16 53 06.0**	**-1.9**
0.8nm,0.3s,baz=16,slow=12,SNR=43								
WRA				S		**S**	**16 56 13.1**	**-7.2**
0.4nm,0.3s,baz=11,slow=22,SNR=4.7								
CTA	**Charters Tower**	**18.54**	**158**	P		**P**	**16 53 20.4**	**+0.5**
0.3nm,0.3s,baz=337,slow=11,SNR=4.4								
CTA				LR		LR	17 00 47.7	
comp=Z,477nm,20.6s,baz=323,slow=38								
CTAO	**Charters Tower**	**18.54**	**158**	*eP*		**P**	**16 53 20.2**	**+0.3**
11nm,1.0s								
FITZ	**Fitzroy Crossi**	**20.02**	**220**	*eP*		**P**	**16 53 37.3**	**+0.7**
27nm,1.4s								
ASAR	**Alice Springs**	**21.26**	**193**	P		**P**	**16 53 48.7**	**-0.7**
5.5nm,0.5s,mb4.2,baz=18,slow=10.0,SNR=64								
ASAR				S		**S**	**16 57 44.9**	**+6.0**
2.1nm,0.8s,baz=14,slow=27,SNR=3.0								
ASAR				LR		LR	17 02 48.4	
comp=Z,313nm,19.9s,MS3.7,baz=331,slow=39								
ASPA	**Alice Springs**	**21.27**	**193**	*eP*		**P**	**16 53 49.7**	**+0.3**
ASPA				*e*			16 54 03.6	
MBWA	**Marble Bar**	**26.12**	**224**	*eP*		**P**	**16 54 33.4**	**-3.3**
9.3nm,0.9s,mb4.3								
STKA	**Stephens Creek**	**28.97**	**175**	*eP*		**P**	**16 55 01.7**	**-0.8**
4.1nm,1.8s,mb3.9								
STKA	**Stephens Creek**	**28.97**	**175**	P		**P**	**16 55 01.6**	**-0.8**
1.3nm,0.5s,mb3.9,baz=332,slow=8.8,SNR=6.8								
STKA				LR		LR	17 07 44.7	
comp=Z,429nm,19.6s,MS4.1,baz=16,slow=39								
RPZ	**Rata Peaks**	**49.62**	**150**	P		**P**	**16 57 54.6**	**+0.5**
20nm,1.0s,mb5.1,baz=350,slow=5.0,SNR=6.4								
CASY	**Casey**	**66.39**	**192**	*eP*		**P**	**16 59 51.7**	**+0.4**
20nm,1.3s,mb5.0								
VNDA	**Vanda**	**75.61**	**175**	P		**P**	**17 00 47.2**	**+0.7**
5.8nm,0.9s,mb4.5,baz=338,slow=6.7,SNR=7.4								
ILAR	**Eielson Array**	**85.85**	**24**	P		**P**	**17 01 39.6**	**-1.3**
1.4nm,0.7s,mb4.3,baz=265,slow=5.0,SNR=15								
QSPA	**South Pole Qui**	**87.09**	**180**	P		**P**	**17 01 48.0**	**+1.3**
11nm,1.1s,mb5.0								
DBIC	**Dimbokro**	**143.78**	**277**	PKP		PKPdf	17 08 35.5	-1.0
2.0nm,0.8s,baz=74,slow=9.7,SNR=3.6								
LPAZ	**La Paz**	**147.14**	**126**	PKPbc		PKPdf	17 08 46.5	+4.3
1.6nm,0.6s,baz=198,slow=0.9,SNR=6.1								

*MOS **26** 16:50:06.6±1.1, 3.21N×96.27E, h33km, mb5.3/48, Error ellipse: s-maj=10.3km s-min=5.6km az=108.2*
*BJI **26** 16:50:06.2, 3.06N×96.30E, h45km, mB5.1, mb5.1, Ms4.6, Msz4.4*
*NEIC **26** 16:50:09.0±0.2, 3.24N×96.28E, mb5.1/39, Error ellipse: s-maj=6.6km s-min=5.7km az=47.0*
*IDC **26** 16:50:09.2±0.5, 3.31N×96.22E, h39km±3km, mb4.4/26, mb1 4.5/27, mb1mx4.5/29, mbtmp4.6/27, ML5.0/1, MS4.2/9, Ms1 4.2/9, ms1mx3.9/25, Error ellipse: s-maj=19.3km s-min=8.8km az=55.0*
*HRVD **26** 16:50:09.0±0.8, 2.69N×96.21E, h60km±3km, MW4.8/35, Centroid moment Tensor Solution. LP body waves: s15,c23;Mantle waves: s35,c53; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}0.82±.17; $M_{\theta\theta}$-1.68±.15; $M_{\phi\phi}$0.85±.22; $M_{r\theta}$0.80±.08; $M_{\theta\phi}$0.94±.09; $M_{\phi r}$-0.71±.10; Best double couple: $M_0$1.931×10^16 NP1:ϕ_s246°, δ47°, λ20°. NP2:ϕ_s142°, δ75°, λ135°. Principal axes: T 1.555, Plg42°, Azm94°; N .748, Plg43°, Azm308°; P -2.307, Plg18°, Azm201°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 26 16:50:07.1±0.3, 3.24N±0.04×96.27E±0.05, h36km, h36km±2.5km:pP-P, n228, σ1§04/225, mb5.0/78, MS4.3/20, 10C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**5.84**	**48**	P		**P**	**16 51 36.0**	**+2.6**
240nm,0.8s								
PBA	**Port Blair**	**9.06**	**338**	*eP*		**P**	**16 52 12.3**	**-6.1**
PBA				*eS*		rx	16 53 38.2	
NNT	**Nongplab**	**9.90**	**20**	P		**P**	**16 52 33.8**	**+3.6**
CM31	**Chiang Mai Arr**	**15.35**	**10**	*eP*		**P**	**16 53 43.7**	**+0.8**
20nm,0.6s								
CMAR	**Chiang Mai Arr**	**15.35**	**10**	Pn		**P**	**16 53 43.5**	**+0.5**
2.4nm,0.3s,baz=200,slow=11,SNR=70								
CMAR				Lg			16 58 13.2	
0.1nm,0.3s,baz=163,slow=28,SNR=5.8								
CMAR				LR		LR	17 00 06.3	
comp=Z,1μm,18.2s,baz=195,slow=39								
CMAR				ScP			17 02 19.0	
0.1nm,0.3s,baz=236,slow=3.5,SNR=4.3								
PALK	**Pallekele**	**16.00**	**285**	*eP*		**P**	**16 53 55.7**	**+4.3**
32nm,1.0s								
VIS	**Vishakhapatnam**	**19.18**	**320**	*i P*		**P**	**16 54 29.4**	**-1.2**
VIS				*i*			16 57 53.5	
KOD	**Kodaikanal**	**19.91**	**291**	*eP*		**P**	**16 54 33.9**	**-4.8**
KOD				*e*			16 54 52.0	
comp=Z,43nm,1.3s								
QIZ	**Qiongzhong**	**20.55**	**39**	P		**P**	**16 54 46.0**	**+0.6**
QIZ				AP			16 54 55.0	
QIZ				PP		PP	16 55 07.8	+0.8
QIZ				S		**S**	**16 58 30.5**	**+2.1**
QIZ				AMB		AMB		
comp=Z,45nm,0.9s								
QIZ				LR		LR		
comp=N,477nm,18.0s,MS4.2								
QIZ				LR		LR		
comp=E,803nm,16.6s,MS4.2								
QIZ				LR		LR		
comp=Z,896nm,19.0s,MS4.2								
QIZ	**Qiongzhong**	**20.55**	**39**	*eP*		**P**	**16 54 45.5**	**0.0**
comp=Z,62nm,0.9s								
IMP	**Imphal**	**21.54**	**354**	*e*		**P**	**16 54 52.5**	**-2.8**
HYB	**Hyderabad**	**22.37**	**310**	*eP*		**P**	**16 55 05.5**	**+1.8**
HYB	**Hyderabad**	**22.37**	**310**	*i P*		**P**	**16 55 05.5**	**+1.8**
HYB				*eS*		**S**	**16 59 09.0**	**+6.6**
SHL	**Shillong**	**22.59**	**350**	*i P*		**P**	**16 55 04.2**	**-1.8**
SHL				*eS*		**S**	**16 59 07.0**	**+0.5**
KMI	**Kunming**	**22.63**	**15**	P		**P**	**16 55 08.4**	**+2.1**
KMI				*SP			16 55 21.2	
KMI							16 55 37.6	
KMI				PPP		PPP	16 55 47.5	+2.3
KMI				S		**S**	**16 59 09.6**	**+2.4**
KMI				*SS			16 59 24.6	
KMI				SS		SS	16 59 52.6	+2.2
KMI				pmax		pmax		
comp=Z,38nm,0.9s,mb4.8								
KMI	**Kunming**	**22.63**	**15**	P		**P**	**16 55 08.4**	**+2.1**
comp=Z,38nm,0.9s,mb4.8								
KMI				sP			16 55 21.2	
KMI				PP		PP	16 55 37.6	+2.5
KMI				PPP		PPP	16 55 47.5	+2.3
KMI				S		**S**	**16 59 09.6**	**+2.4**
KMI				sS			16 59 24.6	
KMI				SS		SS	16 59 52.6	+2.2
GOA	**Goa**	**25.23**	**300**	*e*		sP	16 55 42.5	-3.0
GOA				*e*			16 56 16.5	
comp=Z,15nm,1.5s								
GOA				*e*			16 56 48.0	
GOA				*e*			16 56 48.8	
comp=N,21nm,1.0s								
ALBI	**Allahabad**	**25.98**	**329**	*eP*		**P**	**16 55 37.5**	**-1.1**
JIRN	**Jiri**	**26.12**	**339**	*eP*		**P**	**16 55 39.8**	**0.0**
comp=N,189nm,0.6s,mb5.8								
PKI	**Pulchoki**	**26.32**	**338**	*eP*		**P**	**16 55 41.3**	**-0.4**
comp=N,56nm,0.6s,mb5.2								
DMN	**Daman**	**26.47**	**337**	*eP*		**P**	**16 55 42.8**	**-0.3**
comp=N,76nm,0.7s,mb5.3						

SSE				LR	LR		
	comp=N,485nm,16.2s,MS4.4						
SSE				LR	LR		
	comp=E,282nm,16.2s,MS4.4						
SSE				LR	LR		
	comp=Z,541nm,19.6s,MS4.3						
SSE	**Sheshan**	**36.33**	**38**	P	**P**	**16 57 05.3**	**-4.4**
	comp=Z,22nm,0.7s,mb5.2						
SSE				sP	sP	16 57 17.8	-6.7
SSE				S	**S**	**17 02 44.9**	**-2.7**
SSE				sS		17 02 59.4	
SSE				LR	LR		
	comp=Z,540nm,19.6s,MS4.3						
BJT	**Baijiatuau**	**40.80**	**24**	*e*P	**P**	**16 57 48.2**	**+1.3**
BJT				pmax	pmax		
	comp=Z,48nm,0.8s						
BJT	**Baijiatuau**	**40.80**	**24**	*e*P	**P**	**16 57 48.1**	**+1.3**
	comp=Z,48nm,0.8s,mb5.2						
BJI	**Beijing**	**40.83**	**24**	P	**P**	**16 57 48.3**	**+1.2**
BJI				*SP	sP	16 58 01.4	-0.4
BJI				S	**S**	**17 03 58.0**	**+2.5**
BJI				SS	ScS	17 07 44.5	-2.6
BJI				pmax	pmax		
	comp=Z,56nm,0.7s,mb5.3						
BJI				MLR	MLR		
	comp=Z,180nm,30.0s,MS3.8						
BJI	**Beijing**	**40.83**	**24**	P	**P**	**16 57 48.3**	**+1.2**
	comp=Z,56nm,0.7s,mb5.3						
BJI				sP	sP	16 58 01.4	-0.4
BJI				S	**S**	**17 03 58.0**	**+2.5**
BJI				SS	ScS	17 07 44.5	-2.6
BJI				LR	LR		
	comp=Z,180nm,30.0s,MS3.8						
NWAO	**Narrogin (SRO)**	**41.09**	**153**	P	**P**	**16 57 48.6**	**-0.7**
NWAO				*PP	pP	16 58 01.0	+1.4
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NWAO				pmax	pmax		
	comp=Z,23nm,0.8s						
NWAO	**Narrogin (SRO)**	**41.09**	**153**	P	**P**	**16 57 48.6**	**-0.7**
	comp=Z,7.8nm,0.8s,mb4.4,baz=341,slow=10,SNR=4.0						
NWAO				pP	pP	16 58 01.0	+1.4
	comp=Z,23nm,0.8s,baz=318,slow=10.0,SNR=7.3						
NWAO	**Narrogin (SRO)**	**41.09**	**153**	*e*P	**P**	**16 57 48.3**	**-1.0**
	comp=Z,14nm,1.1s,mb4.5						
NWAO				*e*		16 58 01.9	
WMQ	**Urumqi**	**41.12**	**351**	*e*P	**P**	**16 57 49.8**	**+0.4**
WMQ				AP	pP	16 57 59.5	-0.3
WMQ				XP	sP	16 58 03.5	-0.7
WMQ				PP	PP	16 59 28.3	+1.0
WMQ				PCP	PcP	16 59 49.5	+0.4
WMQ				S	**S**	**17 04 00.3**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,133nm,5.6s						
WMQ				LR	LR		
	comp=N,1μm,20.0s,MS5.0						
WMQ				LR	LR		
	comp=E,2μm,24.2s,MS5.0						
WMQ				LR	LR		
	comp=Z,2μm,18.8s						
ULHL	**Ulaho**l	**42.76**	**338**	P	**P**	**16 58 04.1**	**+1.1**
	SNR=6.1						
KZA	**Kyzart**	**43.00**	**337**	P	**P**	**16 58 06.1**	**+1.2**
	SNR=18						
UCH	**Uchtor**	**43.42**	**336**	P	**P**	**16 58 09.5**	**+1.2**
	SNR=75						
TKM2	**Tokmak 2**	**43.59**	**338**	P	**P**	**16 58 10.5**	**+0.8**
	SNR=48						
KBK	**Karagaybulak**	**43.61**	**337**	P	**P**	**16 58 11.2**	**+1.4**
	SNR=80						
AML	**Almayashu**	**43.67**	**336**	P	**P**	**16 58 11.6**	**+1.3**
	SNR=81						
AAK	**Ala-Archa**	**43.77**	**337**	P	**P**	**16 58 12.3**	**+1.1**
	SNR=40						
AAK	**Ala-Archa**	**43.77**	**337**	*d i*P	**P**	**16 58 11.8**	**+0.7**
AAK				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.0						
AAK				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.9						
AAK	**Ala-Archa**	**43.77**	**337**	*e*P	**P**	**16 58 11.1**	**-0.1**
	comp=Z,36nm,0.8s,mb5.2						
WRA	**Warramunga Arr**	**43.91**	**123**	P	**P**	**16 58 12.2**	**-0.4**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WRA	**Warramunga Arr**	**43.91**	**123**	P	**P**	**16 58 12.2**	**-0.4**
	comp=Z,5.5nm,0.6s,mb4.5,baz=301,slow=9.1,SNR=5.0						
CHMS	**Chumysh**	**43.98**	**337**	P	**P**	**16 58 13.2**	**+0.4**
	SNR=28						
EKS2	**Erkin-Say**	**44.08**	**336**	P	**P**	**16 58 14.8**	**+1.2**
	SNR=73						
USP	**Ospenovka**	**44.30**	**337**	P	**P**	**16 58 16.0**	**+0.6**
	SNR=146						
KS15	**Wonju Array Si**	**44.71**	**36**	*e*P	**P**	**16 58 16.3**	**-2.4**
SONM	**Songino Array**	**45.27**	**10**	P	**P**	**16 58 23.1**	**0.0**
	comp=Z,50nm,0.7s,mb5.5,baz=190,slow=8.5,SNR=442						
SONM				PcP	PcP	17 00 02.0	-1.0
	comp=Z,5.8nm,0.7s,baz=197,slow=4.1,SNR=5.3						
ASAR	**Alice Springs**	**45.37**	**128**	P	**P**	**16 58 24.2**	**-0.1**
	comp=Z,3.0nm,0.8s,mb4.2,baz=296,slow=8.0,SNR=5.8						
ASAR				pP	pP	16 58 35.0	+0.4
	comp=Z,5.2nm,0.7s,baz=308,slow=8.5,SNR=6.3						
ASAR				PcP	PcP	17 00 03.0	-0.7
	comp=Z,2.7nm,0.8s,baz=292,slow=4.9,SNR=3.0						
ASAR				pPcP		17 00 16.6	
	comp=Z,2.6nm,0.7s,baz=284,slow=2.7,SNR=4.2						
ASAR				LR	LR	17 19 53.6	
	comp=Z,90nm,19.0s,MS3.7,baz=294,slow=39						
ULN	**Ulaanbaatar**	**45.42**	**10**	*e*P	**P**	**16 58 24.2**	**-0.1**
ULN				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.2						
ULN	**Ulaanbaatar**	**45.42**	**10**	*e*P	**P**	**16 58 24.2**	**-0.1**
	comp=Z,33nm,0.9s,mb5.2						
SNY	**Shenyang**	**45.55**	**29**	⇑P	**P**	**16 58 24.0**	**-1.4**
SNY				LR	LR		
	comp=N,400nm,17.4s						
SNY				LR	LR		
	comp=Z,400nm,18.0s,MS4.4						
ZAK	**Zakamensk**	**47.35**	**6**	*i* P	**P**	**16 58 39.2**	**-0.2**
MOY	**Mondy**	**48.42**	**4**	*e*P	**P**	**16 58 47.9**	**+0.1**
TLY	**Talaya**	**48.67**	**6**	P	**P**	**16 58 50.5**	**+0.8**
	comp=Z,233nm,0.7s,mb6.3,SNR=42						
TLY	**Talaya**	**48.67**	**6**	*e*P	**P**	**16 58 50.2**	**+0.5**
TLY				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.4						
TLY	**Talaya**	**48.67**	**6**	*e*P	**P**	**16 58 50.2**	**+0.5**
	comp=Z,31nm,0.8s,mb5.4						
IRK	**Irkutsk**	**49.29**	**6**	*e*P	**P**	**16 58 54.2**	**-0.3**
IRK				*e*		17 00 48.2	
IRK				pmax	pmax		
	comp=Z,46nm,1.6s,mb5.3						
KURK	**Kurchatov**	**49.59**	**345**	*c i*P	**P**	**16 58 56.7**	**-0.2**
KURK	**Kurchatov**	**49.59**	**345**	*e*P	**P**	**16 58 56.5**	**-0.4**
	comp=Z,66nm,0.8s,mb5.7						
HIA	**Hailar**	**50.03**	**20**	*e*P	**P**	**16 59 00.2**	**-0.1**
HIA				pmax	pmax		
	comp=Z,40nm,1.0s						
HIA	**Hailar**	**50.03**	**20**	*e*P	**P**	**16 59 00.2**	**-0.1**
	comp=Z,40nm,1.0s,mb5.4						
MDJ	**Mudanjiang**	**50.57**	**31**	P	**P**	**16 59 03.8**	**-0.6**
MDJ				AP	pP	16 59 12.8	-2.1
MDJ				XP	sP	16 59 16.5	-2.7
MDJ				PP	PP	17 00 58.8	-2.3
MDJ				SCP		17 04 11.0	
MDJ				PCS		17 04 15.0	
MDJ				S	**S**	**17 06 18.8**	**+3.8**
MDJ				SCS	ScS	17 08 48.8	-0.5
MDJ				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,95nm,4.8s						
MDJ				LR	LR		
	comp=N,79nm,19.0s,MS4.1						
MDJ				LR	LR		
	comp=E,190nm,20.9s,MS4.1						
MDJ				LR	LR		
	comp=Z,220nm,20.6s,MS4.2						
MDJ	**Mudanjiang**	**50.57**	**31**	*e*P	**P**	**16 59 04.8**	**+0.4**
	comp=Z,25nm,1.1s,mb5.1						
MAT	**Matsushiro**	**50.85**	**44**	P	**P**	**16 59 06.0**	**-0.6**
MAT	**Matsushiro**	**50.85**	**44**	P	**P**	**16 59 06.2**	**-0.4**
ZAL	**Zalesovo**	**51.40**	**351**	P	**P**	**16 59 10.2**	**-0.4**
ZAL				*SP	sP	16 59 25.5	+0.1
ZAL				S	**S**	**17 06 24.9**	**-1.4**
ZAL				pmax	pmax		
	comp=Z,20nm,0.6s						
ZAL				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ZAL				smax			
	comp=E,1.0nm,0.3s						
ZAL				MLR	MLR		
	comp=Z,183nm,20.4s						
ZAL	**Zalesovo**	**51.40**	**351**	P	**P**	**16 59 10.2**	**-0.4**
	comp=Z,20nm,0.6s,mb5.2,baz=308,slow=6.0,SNR=113						
ZAL				sP	sP	16 59 25.5	+0.1
	comp=Z,7.5nm,0.6s,baz=300,slow=9.1,SNR=5.5						
ZAL				S	**S**	**17 06 24.9**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=199,slow=20,SNR=4.0						
ZAL				LR	LR	17 24 04.5	
	comp=Z,183nm,20.4s,MS4.1,baz=180,slow=40						
PMG	**Port Moresby**	**52.24**	**104**	P	**P**	**16 59 17.2**	**-0.2**
PMG				pmax	pmax		
	comp=Z,13nm,0.8s						
PMG	**Port Moresby**	**52.24**	**104**	P	**P**	**16 59 17.2**	**-0.2**
	comp=Z,13nm,0.8s,mb5.0,baz=272,slow=7.1,SNR=5.8						
NVS	**Novosibirsk**	**52.52**	**351**	*e*P	**P**	**16 59 15.8**	**-3.1**
NVS				pmax	pmax		
	comp=N,24nm,1.1s						
NVS				pmax	pmax		
	comp=E,21nm,1.1s						
NVS				pmax	pmax		
	comp=Z,57nm,1.1s,mb5.4						
BVAR	**Borovoye Array**	**54.03**	**341**	P	**P**	**16 59 29.0**	**-1.1**
	comp=Z,18nm,0.6s,mb5.2,baz=143,slow=8.7,SNR=145						
BVAR				sP	sP	16 59 44.4	-0.5
	comp=Z,11nm,0.6s,baz=146,slow=11,SNR=7.2						
BVAR				S	**S**	**17 07 02.0**	**-0.1**
	comp=Z,1.1nm,1.1s,baz=124,slow=10,SNR=3.5						
BRVK	**Borovoye**	**54.09**	**341**	*e*P	**P**	**16 59 28.9**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.2						
BRVK	**Borovoye**	**54.09**	**341**	*e*P	**P**	**16 59 28.9**	**-1.8**
	comp=Z,23nm,0.7s,mb5.2						
CTA	**Charters Tower**	**54.26**	**118**	P	**P**	**16 59 32.6**	**+0.3**
CTA				pmax	pmax		
	comp=Z,16nm,1.0s						
CTA				MLR	MLR		
	comp=Z,174nm,19.9s						
CTA	**Charters Tower**	**54.26**	**118**	P	**P**	**16 59 32.6**	**+0.4**
	comp=Z,16nm,1.0s,mb4.9,baz=322,slow=6.8,SNR=4.6						
CTA				LR	LR	17 25 23.1	
	comp=Z,174nm,19.9s,MS4.1,baz=24,slow=39						
CHKZ	**Chkalovo**	**54.51**	**342**	*e*P	**P**	**16 59 32.6**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,46nm,0.7s,mb5.6						
CHKZ	**Chkalovo**	**54.51**	**342**	*e*P	**P**	**16 59 32.6**	**-1.1**
	comp=Z,46nm,0.7s,mb5.6						
KLR	**Kul'dur**	**54.88**	**28**	⇓*i*P	**P**	**16 59 33.0**	**-3.4**
KLR				pmax	pmax		
	comp=N,24nm,1.0s						
KLR				pmax	pmax		
	comp=E,40nm,1.0s						
KLR				pmax	pmax		
	comp=Z,52nm,1.0s,mb5.5						
KLR				MLR	MLR		
	comp=Z,600nm,13.0s,MS4.8						
STKA	**Stephens Creek**	**55.41**	**133**	P	**P**	**16 59 40.3**	**-0.2**
	comp=Z,2.8nm,0.8s,mb4.3,baz=350,slow=9.8,SNR=3.6						
STKA				LR	LR	17 22 15.3	
	comp=Z,141nm,20.9s,MS4.0,baz=301,slow=35						
STKA	**Stephens Creek**	**55.41**	**133**	*e*P	**P**	**16 59 39.8**	**-0.7**
BOD	**Bodaibo**	**56.20**	**11**	*e*	**P**	**16 59 45.4**	**-0.4**
ASAJ	**Asahikawa**	**57.62**	**38**	P	**P**	**16 59 55.3**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ASAJ				MLR	MLR		
	comp=Z,236nm,19.1s						
ASAJ	**Asahikawa**	**57.62**	**38**	P	**P**	**16 59 55.3**	**-0.8**
	comp=Z,7.4nm,0.7s,mb4.8,baz=294,slow=12,SNR=6.6						
ASAJ				LR	LR	17 24 48.5	
	comp=Z,236nm,19.1s,MS4.3,baz=340,slow=36						
CLNS	**Chul'man**	**58.09**	**18**	*e*P	**P**	**16 59 59.4**	**+0.2**
CLNS				pmax	pmax		
	comp=Z,37nm,0.8s,mb5.5						
CLNS				pmax	pmax		
	comp=N,21nm,0.8s						
CLNS				pmax	pmax		
	comp=E,12nm,0.9s						
KMBO	**Kilima Mbogo**	**59.15**	**267**	P	**P**	**17 00 06.7**	**-0.5**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KMBO				MLR	MLR		
	comp=Z,253nm,18.8s						
KMBO	**Kilima Mbogo**	**59.15**	**267**	P	**P**	**17 00 06.7**	**-0.5**
	comp=Z,0.7nm,0.5s,mb3.9,baz=124,slow=12,SNR=3.4						
KMBO				LR	LR	17 23 16.4	
	comp=Z,253nm,18.8s,MS4.4,baz=95,slow=34						
GNI	**Garni**	**59.19**	**316**	P	**P**	**17 00 07.1**	**0.0**
GNI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GNI	**Garni**	**59.19**	**316**	P	**P**	**17 00 07.1**	**-0.1**
	comp=Z,2.0nm,0.5s,mb4.5,baz=166,slow=11,SNR=7.3						
YSS	**Yuzh-Sakhalins**	**59.22**	**35**	*e*P	**P**	**17 00 05.0**	**-2.2**
YSS				*e*		17 00 21.3	
YSS				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.5						
YSS	**Yuzh-Sakhalins**	**59.22**	**35**	*e*P	**P**	**17 00 05.1**	**-2.1**
	comp=Z,15nm,0.8s,mb5.1						
TI2	**Plekhanov**	**59.85**	**317**	⇓*i*P	**P**	**17 00 12.0**	**+0.3**
TI2				*i*		17 00 27.0	
TI2				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.5						
TI2				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.6						
SVE	**Sverdlovsk**	**60.46**	**338**	*e*P	**P**	**17 00 14.0**	**-1.6**
ZEI	**Tsey**	**60.86**	**318**	*e*P	**P**	**17 00 18.1**	**-0.5**
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
ARU	**Arti**	**60.95**	**337**	P	**P**	**17 00 17.3**	**-1.7**
	comp=Z,121nm,0.8s,mb6.1,SNR=12						
ARU	**Arti**	**60.95**	**337**	⇑*i*P	**P**	**17 00 11.8**	**-7.2**
ARU				*e*S	**S**	**17 08 30.6**	**-2.4**
ARU				*e*SS	SS	17 12 27.6	-6.3
ARU				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.2						
KIV	**Kislovodsk**	**62.16**	**319**	*e*P	**P**	**17 00 25.8**	**-1.5**
KIV				pmax	pmax		
	comp=N,15nm,1.0s						
KIV				pmax	pmax		
	comp=E,15nm,1.0s						
KIV				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.3						
KIV	**Kislovodsk**	**62.16**	**319**	*e*P	**P**	**17 00 25.2**	**-2.0**
	comp=Z,20nm,0.9s,mb5.2						
ASF	**Jabal al Asfar**	**62.54**	**305**	P	**P**	**17 00 29.9**	**0.0**
	comp=Z,1.2nm,0.4s,mb4.4,baz=208,slow=12,SNR=2.0						
MALT	**Malatya**	**63.08**	**312**	*e*P	**P**	**17 00 33.1**	**-0.4**
MALT				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
MALT	**Malatya**	**63.08**	**312**	*e*P	**P**	**17 00 33.1**	**-0.4**
	comp=Z,8.9nm,0.9s,mb4.9						
EIL	**Elat**	**63.59**	**302**	LR	LR	17 28 31.2	
	comp=Z,128nm,18.9s,MS4.1,baz=288,slow=36						
EIL	**Elat**	**63.59**	**302**	*e*P	**P**	**17 00 37.2**	**+0.2**
	comp=Z,9.8nm,1.0s,mb4.8						
YAK	**Yakutsk**	**63.74**	**17**	*e*P	**P**	**17 00 35.9**	**-1.5**
YAK				*e*PP	pP	17 00 46.1	-2.1
YAK				*e*SP	sP	17 00 49.7	-2.6
YAK				pmax	pmax		
	comp=Z,87nm,0.9s,mb5.8						
YAK	**Yakutsk**	**63.74**	**17**	*e*P	**P**	**17 00 35.9**	**-1.5**
	comp=Z,87nm,0.9s,mb5.8						
YAK				*e*pP	pP	17 00 46.0	-2.2
YAK				*e*sP	sP	17 00 49.7	-2.5
SOC	**Sochi**	**63.99**	**318**	*e*P	**P**	**17 00 34.6**	**-4.8**
SOC				*e*		17 01 06.6	
SOC				*e*		17 02 54.9	
SOC				*e*PPP	PPP	17 04 27.7	-6.3
SOC				*e*S	**S**	**17 09 12.8**	**+1.4**
SOC				*e*		17 10 29.1	
SOC				*e*SS	SS	17 13 25.9	+4.2
SOC				pmax	pmax		
	comp=Z,53nm,1.5s,mb5.3						
SOC				pmax	pmax		
	comp=N,35nm,1.3s						
SOC				pmax	pmax		
	comp=E,17nm,0.9s						
BRTR	**Keskin Array B**	**67.06**	**312**	P	**P**	**17 00 57.6**	**-1.5**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRTR	**Keskin Array B**	**67.06**	**312**	P	**P**	**17 00 57.6**	**-1.5**
	comp=Z,4.3nm,0.8s,mb4.5,baz=131,slow=6.3,SNR=15						
SIM	**Simferopol'**	**68.24**	**317**	*e*P	**P**	**17 01 03.0**	**-3.4**
SIM				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
MA2	**Magadan**	**69.92**	**26**	*e*P	**P**	**17 01 16.0**	**-0.4**
MA2				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
MA2	**Magadan**	**69.92**	**26**	*e*P	**P**	**17 01 16.0**	**-0.4**
	comp=Z,27nm,1.0s,mb5.1						
MOS	**Moscow**	**70.11**	**329**	*e*P	**P**	**17 01 16.0**	**-1.7**
MOS				pmax	pmax		
	comp=Z,74nm,1.2s,mb5.5						
OBN	**Obninsk**	**70.40**	**328**	⇓*e*P	**P**	**17 01 16.1**	**-3.4**
OBN				*e*	pP	17 01 28.5	-1.8
OBN				*e*		17 01 38.1	
OBN				S	S	17 10 33.0	+4.7
OBN				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.4						
OBN	**Obninsk**	**70.40**	**328**	*e*P	**P**	**17 01 16.1**	**-3.4**
	comp=Z,14nm,0.8s,mb4.9						
TIXI	**Tiksi**	**71.36**	**10**	*i* P	**P**	**17 01 24.1**	**-0.9**
TIRR	**Tirgusor**	**72.02**	**316**	⇑P	**P**	**17 01 29.4**	**+0.1**
SEY	**Seymchan**	**72.27**	**23**	*e*P	**P**	**17 01 31.5**	**+1.0**
SEY				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2						
AKASG	**Malin Array Be**	**73.08**	**322**	P	**P**	**17 01 33.2**	**-2.4**
AKASG				*PP	pP	17 01 46.4	-0.1
AKASG				pmax	pmax		
	comp=Z,10.0nm,0.6s						
AKASG				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AKASG	**Malin Array Be**	**73.08**	**322**	P	**P**	**17 01 33.2**	**-2.3**
	comp=Z,10nm,0.6s,mb4.9,baz=90,slow=4.6,SNR=30						
AKASG				pP	pP	17 01 46.4	0.0
	comp=Z,9.8nm,0.9s,baz=84,slow=4.9,SNR=5.5						
VRI	**Vrincioaia**	**73.50**	**317**	⇓P	**P**	**17 01 38.7**	**+0.6**
MLR	**Muntele Rosu**	**73.95**	**316**	P	**P**	**17 01 39.8**	**-0.9**
	comp=Z,6.9nm,0.8s,mb4.7,baz=351,slow=6.2,SNR=9.7						
MLR	**Muntele Rosu**	**73.95**	**316**	⇑P	**P**	**17 01 41.7**	**+1.0**
BURAR	**Bucovina Array**	**74.89**	**318**	⇑P	**P**	**17 01 46.9**	**+0.8**
BOSA	**Boshof**	**75.00**	**239**	P	**P**	**17 01 47.1**	**0.0**
BOSA				*e**PP	pP	17 01 57.2	-0.8
BOSA				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BOSA	**Boshof**	**75.00**	**239**	P	**P**	**17 01 47.1**	**-0.1**
	comp=Z,6.2nm,0.9s,mb4.5						
BOSA				*e*pP	pP	17 01 57.2	-0.8
JOF	**Joensuu**	**75.91**	**335**	*e*p	**P**	**17 01 51.0**	**-0.6**
LVV	**L'vov**	**76.11**	**321**	*e*P	**P**	**17 01 52.9**	**-0.1**
LVV				*e*	pP	17 02 01.5	-2.4
APA	**Apatity**	**76.90**	**339**	⇑*i*P	**P**	**17 01 56.5**	**-0.7**
APA				*i*		17 02 10.5	
APA				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.2						
KWP	**Kalwaria**	**76.91**	**320**	*e*P	**P**	**17 01 57.9**	**+0.3**
KOLS	**Kolonicke sedl**	**77.07**	**319**	*i* P	**P**	**17 01 59.5**	**+1.0**
KOLS				*e*pP	pP	17 02 08.1	-1.3
CRVS	**Cervenica-Dubn**	**77.59**	**319**	*i* P	**P**	**17 02 03.3**	**+1.9**
CRVS				*e*pP	pP	17 02 14.8	+2.5
FINES	**FINESS Array B**	**77.77**	**332**	P	**P**	**17 02 01.2**	**-0.9**
FINES				*PP	pP	17 02 14.2	+1.1
FINES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FINES				pmax	pmax		
	comp=Z,8.0nm,0.8s						
FINES	**FINESS Array B**	**77.77**	**332**	P	**P**	**17 02 01.1**	**-1.0**
	comp=Z,5.3nm,0.7s,mb4.6,baz=104,slow=7.9,SNR=16						
FINES				pP	pP	17 02 14.2	+1.2
	comp=Z,7.8nm,0.8s,baz=101,slow=7.1,SNR=8.5						
KAF	**Kangasniemi**	**77.85**	**333**	*e*p	**P**	**17 02 01.9**	**-0.6**
	comp=Z,6.7nm,0.8s,mb4.6,baz=103,slow=5.2						
KAF	**Kangasniemi**	**77.85**	**333**	*e*P	**P**	**17 02 01.9**	**-0.6**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
KECS	**Kecovo**	**78.16**	**319**	*e*P	**P**	**17 02 04.8**	**+0.3**
NIE	**Niedzica**	**78.42**	**320**	*e*P	**P**	**17 02 07.3**	**+1.4**
PSZ	**Piszkesteto**	**78.47**	**318**	*e*P	**P**	**17 02 06.6**	**+0.3**
PSZ				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
PSZ	**Piszkesteto**	**78.47**	**318**	*e*P	**P**	**17 02 06.6**	**+0.3**
	comp=Z,8.6nm,0.8s,mb4.7						
OJC	**Ojcow**	**78.86**	**320**	*e*P	**P**	**17 02 08.6**	**+0.2**
VYHS	**Vyhne**	**79.25**	**319**	*i* P	**P**	**17 02 11.0**	**+0.5**
BILL	**Bilibino**	**79.60**	**21**	*e*P	**P**	**17 02 12.2**	**+0.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BILL	**Bilibino**	**79.60**	**21**	*e*P	**P**	**17 02 12.2**	**+0.2**
	comp=Z,2.5nm,0.7s,mb4.2						
OKC	**Ostrava-Krasne**	**79.87**	**320**	*e*P	**P**	**17 02 13.2**	**-0.6**
MORC	**Moravsky Berou**	**80.25**	**320**	*e*P	**P**	**17 02 15.8**	**0.0**
MORC				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
MORC	**Moravsky Berou**	**80.25**	**320**	*e*P	**P**	**17 02 15.8**	**-0.1**
	comp=Z,13nm,1.3s,mb4.7						
ARCES	**ARCESS Array B**	**80.31**	**340**	P	**P**	**17 02 15.9**	**+0.1**
ARCES				*SP	sP	17 02 31.6	+0.9
ARCES				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ARCES				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ARCES	**ARCESS Array B**	**80.31**	**340**	P	**P**	**17 02 15.8**	**+0.1**
	comp=Z,8.6nm,0.8s,mb4.7,baz=93,slow=4.9,SNR=17						
ARCES				sP	sP	17 02 31.6	+0.9
	comp=Z,8.1nm,0.8s,baz=90,slow=5.4,SNR=3.0						
ZST	**Bratislava**	**80.37**	**318**	*i* P	**P**	**17 02 17.3**	**+0.8**
DPC	**Dobruska-Polom**	**81.09**	**320**	*e*P	**P**	**17 02 21.2**	**+0.9**
KSP	**Ksiaz**	**81.16**	**321**	*e*P	**P**	**17 02 21.4**	**+0.8**
RPZ	**Rata Peaks**	**81.30**	**135**	P	**P**	**17 02 22.5**	**+1.0**
	comp=Z,6.0nm,1.1s,mb4.4,baz=311,slow=11,SNR=2.2						
RPZ				LR	LR	17 38 16.6	
	comp=Z,256nm,19.0s,MS4.6,baz=88,slow=36						
UPC	**Upice**	**81.31**	**320**	*e*P	**P**	**17 02 22.5**	**+1.1**
BOJS	**Bojanci**	**81.40**	**315**	*e*P	**P**	**17 02 21.8**	**-0

comp=Z,3.0nm,0.7s,mb4.5
NOA NORSAR Array B 84.78 331 P P 17 02 38.9 0.0
NOA NORSAR Array B 84.78 331 P P 17 02 38.8 0.0
comp=Z,4.8nm,0.8s,mb4.7,baz=94,slow=5.2,SNR=14
DAVOX Davos 85.18 317 P P 17 02 41.7 +0.5
comp=Z,11nm,0.6s,mb5.2,baz=128,slow=6.8,SNR=22
DAVOX Davos 85.18 317 P P 17 02 41.7 +0.5
MUD Monsted U'grnd 85.71 326 *i* P **P 17 02 44.1 +0.6**
MUD pmax pmax
comp=Z,15nm,0.7s,mb5.3
MUD Monsted U'grnd 85.71 326 *i* P **P 17 02 44.1 +0.6**
comp=Z,15nm,0.7s,mb5.3
LPG La Plagne 87.37 315 *e*P **P 17 02 51.2 -0.7**
comp=Z,18nm,0.7s,mb5.1
LPG La Plagne 87.37 315 *e*P **P 17 02 51.2 -0.7**
LPG pmax pmax
comp=Z,9.0nm,0.7s,mb5.1
VNDA Vanda 88.00 169 P **P 17 02 55.7 +1.5**
VNDA pmax pmax
comp=Z,1.0nm,0.4s
VNDA Vanda 88.00 169 P **P 17 02 55.7 +1.5**
comp=Z,0.8nm,0.4s,mb4.3,baz=288,slow=3.2,SNR=11
EKA Eskdalemuir Ar 92.71 326 P **P 17 03 17.1 +0.3**
EKA pmax pmax
comp=Z,3.0nm,0.7s
EKA Eskdalemuir Ar 92.71 326 P **P 17 03 17.1 +0.3**
comp=Z,2.6nm,0.7s,mb4.8,baz=98,slow=5.9,SNR=4.8
IMA Indian Mountai 95.07 23 *e*P **P 17 03 28.6 +1.3**
IMA pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
IMA Indian Mountai 95.07 23 *e*P **P 17 03 28.6 +1.3**
comp=Z,5.7nm,0.8s,mb5.0
ILAR Eielson Array 98.19 23 P **P 17 03 40.5 -1.0**
comp=Z,0.2nm,0.8s,mb3.7,baz=299,slow=4.0,SNR=4.2
ILAR sP sP 17 04 00.0 +3.7
comp=Z,3.1nm,0.7s,baz=314,slow=3.9,SNR=20
INK Inuvik 100.81 17 P P 17 03 53.2 0.0
INK pmax pmax
comp=Z,5.0nm,1.1s
INK Inuvik 100.81 17 P P 17 03 53.1 -0.1
comp=Z,4.8nm,1.1s,baz=33,slow=4.4,SNR=5.3
INK Inuvik 100.81 17 *e*Pdif P 17 03 53.1 -0.1
RES Resolute Bay 101.90 3 *e*P P 17 03 59.1 +1.1
YKA Yellowknife Ar 110.38 15 Pdiff Pdif 17 04 37.9 +2.3
comp=Z,0.2nm,0.7s,baz=321,slow=4.6,SNR=4.6
YKA PKiKP 17 08 38.7
comp=Z,0.1nm,0.3s,baz=328,slow=1.1,SNR=3.3
YKA PP PP 17 09 02.1 -13
comp=Z,0.5nm,0.8s,baz=336,slow=7.6,SNR=4.1
YKA Yellowknife Ar 110.38 15 Pdif Pdif 17 04 37.9 +2.3
YKA PKPdf PKPdf 17 08 38.7 +3.5
YKA PP PP 17 09 02.1 -13
SCHQ Schefferville 120.46 349 PKP PKPdf 17 08 56.2 +1.1
comp=Z,1.5nm,0.8s,baz=251,slow=4.2,SNR=4.1
SCHQ pPKP 17 09 10.9
comp=Z,1.7nm,0.7s,baz=143,slow=0.9,SNR=2.2
SCHQ Schefferville 120.46 349 PKP PKPdf 17 08 56.2 +1.1
SCHQ pPKP 17 09 10.9
MCMT McKenzie Canyo 125.54 25 PKPdf PKPdf 17 09 08.0 +2.9
NVAR Mina Array Bea 127.66 34 PKP PKPdf 17 09 11.8 +2.4
comp=Z,2.1nm,0.8s,baz=339,slow=0.3,SNR=11
NVAR pPKP 17 09 24.9
comp=Z,5.0nm,0.9s,baz=332,slow=0.7,SNR=10
PDAR Pinedale Array 128.60 24 PKP PKPdf 17 09 12.3 +1.2
comp=Z,0.9nm,0.7s,baz=122,slow=1.5,SNR=6.9
PDAR pPKP 17 09 24.4
comp=Z,2.0nm,1.0s,baz=315,slow=2.6,SNR=6.5
MVU Marysvale 130.83 30 *e*PKPdf PKPdf 17 09 17.6 +2.2
MSU Marysvale 130.84 30 *e*PKIKP PKPdf 17 09 19.7 +4.3
PV10 Paradox Valley 132.43 27 *e*PKPdf PKPdf 17 09 20.6 +2.1
MNTX Cornudas Mount 139.61 29 *e*PKPdf PKPdf 17 09 32.0 +0.1
MIAR Mount Ida 141.29 13 *e*PKIKP PKPdf 17 09 33.2 -1.6
TXAR Lajitas Array 142.39 29 PKhKP 17 09 35.8
comp=Z,2.2nm,0.8s,baz=331,slow=1.7,SNR=6.4
TXAR PKP PKPdf 17 09 38.6 +1.7
comp=Z,1.2nm,0.6s,baz=327,slow=0.3,SNR=5.3
JCT Junction City 143.12 23 *e*PKIKP PKPdf 17 09 35.7 -2.4
LVC Limon Verde 155.97 215 PKPab PKPab 17 10 23.6 -4.3
comp=Z,2.0nm,0.6s,baz=236,slow=7.3,SNR=3.7
LVC sPKPab 17 10 42.0
comp=Z,4.7nm,0.8s,baz=180,slow=1.9,SNR=4.5

*IDC **26** 17:07:40.8±5.5, 19.32S×176.27W, mb4.2/4, mb1 4.4/4, mb1mx4.0/15, mbtmp4.2/4, Error ellipse: s-maj=238.3km s-min=32.9km az=146.0*

ISC 26 17:07:36.4±7.0, 20 S±2 ×17 6W± , n7, σ0§57/6, mb4.3/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.61**	**263**	P	**P**	**17 14 38.5**	**+0.5**
	4.6nm,0.6s,mb4.5,baz=93,slow=11,SNR=9.8						
ASAR	**Alice Springs**	**46.63**	**256**	P	**P**	**17 16 08.5**	**0.0**
	3.2nm,0.8s,mb4.5,baz=91,slow=8.2,SNR=43						
ASPA	**Alice Springs**	**46.63**	**256**	*e*P	**P**	**17 16 09.0**	**+0.5**
WB2	**Warramunga Arr**	**46.71**	**261**	*e*P	**P**	**17 16 08.6**	**-0.6**
WRA	**Warramunga Arr**	**46.72**	**261**	P	**P**	**17 16 09.0**	**-0.3**
	1.1nm,0.3s,mb4.4,baz=95,slow=7.4,SNR=73						
ILAR	**Eielson Array**	**87.59**	**12**	P	**P**	**17 20 27.3**	**0.0**
	0.4nm,0.9s,mb3.8,baz=209,slow=5.4,SNR=7.0						
BRTR	**Keskin Array B**	**148.19**	**314**	PKPbc	PKPdf	17 27 24.4	+1.5
	1.0nm,0.6s,baz=88,slow=2.0,SNR=4.2						

IDC 26 17:10:53.2±50.0, 15.93S×174.18W, mb4.2/3, mb1 4.4/3, mb1mx3.8/14, mbtmp4.2/3, Error ellipse: s-maj=946.2km s-min=178.7km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.12**	**240**	P	P	17 18 55.7	-1.5
	2.4nm,0.8s,baz=90,slow=9.1,SNR=4.2						
WRA	**Warramunga Arr**	**48.99**	**257**	P	P	17 19 41.8	-2.1
	0.7nm,0.6s,baz=94,slow=7.2,SNR=15						
ASAR	**Alice Springs**	**49.23**	**252**	P	P	17 19 43.7	-2.0
	5.1nm,0.5s,baz=89,slow=8.2,SNR=139						

*NEIC **26** 17:15:10.4±1.4, 51.59N×16.16E, h5km, ML2.7(VIE), ML2.1(BRG), Error ellipse: s-maj=16.8km s-min=7.0km az=212.0*
*PRU **26** 17:15:12.0, 51.52N×16.06E*
*WAR **26** 17:15:12.1, 51.54N×16.06E, h1km, ML2.6, Mining Induced*

ISC 26 17:15:09.9±0.8, 51.51N±0.04×16.05E±0.04, n15, σ1§02/36, 1C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**167**	*e*PG	**Pg**	**17 15 25.0**	**+1.5**
KSP				*e*SG	**Sg**	**17 15 34.0**	**+1.4**
KSP	**Ksiaz**	**0.68**	**167**	⇓*i*Pg	**Pg**	**17 15 25.1**	**+1.6**
KSP				*e*Sg	**Sg**	**17 15 34.3**	**+1.7**
KSP				*e*		17 15 38.3	
UPC	**Upice**	**1.00**	**181**	*e*PG	**Pg**	**17 15 31.1**	**+1.2**
UPC				*e*SG	**Sg**	**17 15 44.5**	**+1.3**
DPC	**Dobruska-Polom**	**1.17**	**171**	*e*PG	**Pg**	**17 15 33.8**	**+0.6**
DPC				*e*SG	**Sg**	**17 15 49.3**	**+0.4**
	13nm,0.2s						
PVCC	**Panska Ves**	**1.35**	**224**	*e*PG	**Pg**	**17 15 37.7**	**+0.8**
BRG	**Berggiesshubel**	**1.47**	**245**	*e*Pn	**Pn**	**17 15 39.2**	**+1.5**
BRG				*i* Pg	**Pg**	**17 15 39.6**	**+0.4**
BRG				*i* Sg	**Sg**	**17 15 59.7**	**+0.9**
PRU	**Pruhonice**	**1.80**	**213**	*e*PN	**Pn**	**17 15 43.2**	**+0.8**
PRU				*e*PG	**Pg**	**17 15 44.8**	**-0.9**
PRU				*ex*	x	17 15 48.7	
PRU				*ex*	x	17 16 02.1	
PRU				*e*SG	**Sg**	**17 16 09.4**	**-0.3**
	13nm,0.2s						
CLL	**Collm**	**1.92**	**265**	*i* Pn	**Pn**	**17 15 44.1**	**0.0**
CLL				*i* Pg	**Pg**	**17 15 47.7**	**-0.5**
CLL				*e*Sg	**Sg**	**17 16 13.0**	**-0.7**
CLL	**Collm**	**1.92**	**265**	*i* PN	**Pn**	**17 15 44.1**	**0.0**
CLL				*i* PG	**Pg**	**17 15 47.7**	**-0.5**
CLL				*i*		17 15 50.1	
CLL				*e*SG	**Sg**	**17 16 13.0**	**-0.7**
MORC	**Moravsky Berou**	**1.98**	**151**	*e*P	**Pn**	**17 15 44.5**	**-0.5**
OKC	**Ostrava-Krasne**	**2.14**	**141**	*e*PN	**Pn**	**17 15 47.6**	**+0.3**
OKC				*e*PG	**Pg**	**17 15 51.7**	**-0.9**
OKC				*e*SG	**Sg**	**17 16 19.7**	**-1.4**
NKC	**Novy Kostel**	**2.61**	**242**	*e*PN	**Pn**	**17 15 55.0**	**+0.9**
NKC				*e*PG	**Pg**	**17 16 01.1**	**-0.9**
NKC				*e*SG	**Sg**	**17 16 35.9**	**-1.0**
	18nm,0.3s						
OJC	**Ojcow**	**2.70**	**117**	*e*PG	**Pg**	**17 16 03.0**	**-0.8**
OJC				*e*SG	**Sg**	**17 16 39.0**	**-0.9**
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	**Pn**	**17 15 58.1**	**+0.6**
KHC				*e*PG	**Pg**	**17 16 04.1**	**-2.8**
KHC				*e*SN	**Sn**	**17 16 32.8**	**-0.3**
KHC				*e*SG	**Sg**	**17 16 43.9**	**-1.1**
MOA	**Molln**	**3.84**	**198**	⇑*i*PN	**Pn**	**17 16 12.1**	**+0.6**
MOA				*i* SG	**Sg**	**17 17 15.7**	**-2.0**
	4.7nm,0.6s						

IDC 26 17:21:09.7±2.5, 26.55N×141.72E, h47km±27km, mb3.4/3, mb1 3.6/3, mb1mx3.2/19, mbtmp3.6/3, Error ellipse: s-maj=75.7km s-min=24.9km az=103.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.68**	**37**	P	P	17 21 24.2	+1.1
	82nm,0.3s,baz=280,slow=22,SNR=60						
CBIJ				S	S	17 21 34.2	+1.3
	308nm,0.3s,baz=270,slow=20,SNR=45						
WRA	**Warramunga Arr**	**46.77**	**190**	P	P	17 29 34.2	-2.3
	0.5nm,0.3s,baz=9.1,slow=8.5,SNR=16						
YKA	**Yellowknife Ar**	**72.81**	**28**	P	P	17 32 33.3	-1.4
	0.1nm,0.4s,baz=293,slow=5.9,SNR=3.7						
FINES	**FINESS Array B**	**78.25**	**334**	P	P	17 33 04.1	-1.6
	1.4nm,0.9s,baz=56,slow=6.9,SNR=4.6						

*BGS **26** 17:30:22.9, 6.42N×94.26E, h33km, mb5.9*
*BJI **26** 17:30:27.2, 7.90N×93.90E, h46km, mB5.7, mb5.2, Ms5.7, Msz5.4*
*MOS **26** 17:30:28.4±0.9, 8.29N×94.15E, h33km, mb5.8/73, MS5.1/53, Error ellipse: s-maj=8.0km s-min=4.1km az=118.1*
*IDC **26** 17:30:28.3±0.3, 8.30N×94.23E, h21km±2km, mb4.7/26, mb1 4.8/27, mb1mx4.8/27, mbtmp4.8/27, ML4.7/1, MS5.1/25, Ms1 5.1/25, ms1mx5.0/31, Error ellipse: s-maj=17.4km s-min=7.8km az=48.0*
*NEIC **26** 17:30:28.8±0.2, 8.25N×94.04E, mb5.6/82, MS5.2/84, MW5.5, Error ellipse: s-maj=6.0km s-min=4.6km az=220.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.77; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$0.82; $M_{r\theta}$-0.87; $M_{\theta\phi}$1.28; $M_{\phi r}$0.28; Best double couple: $M_0$1.8×10^{17} NP1:ϕ_s179°, δ56°, λ-152°. NP2:ϕ_s72°, δ67°, λ-37°. Principal axes: T 1.77, Plg7°, Azm128°; N -.02, Plg47°, Azm225°; P -1.75, Plg42°, Azm32°;*
*HRVD **26** 17:30:28.8±0.1, 8.20N×94.14E, h12km, MW5.5/64, Centroid moment Tensor Solution. LP body waves: s51,c102;Mantle waves: s64,c163; Half duration: 1§5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.64±.03; $M_{\theta\theta}$-1.01±.04; $M_{\phi\phi}$1.66±.04; $M_{r\theta}$-0.83±.10; $M_{\theta\phi}$1.86±.03; $M_{\phi r}$0.38±.10; Best double couple: $M_0$2.523×10^{17} NP1: ϕ_s165°, δ71°, λ-161°. NP2:ϕ_s69°, δ72°, λ-20°. Principal axes: T 2.615, Plg1°, Azm117°; N -.176, Plg63°, Azm209°; P -2.431, Plg27°, Azm27°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*CSEM **26** 17:30:31.3, 8.07N×93.38E, h33km, mb5.6*

ISC 26 17:30:26.9±0.2, 8.23N±0.03×94.08E±0.03, h23km, h23km±.5km: pP-P, n541, σ1§14/468, mb5.4/137, MS5.2/134, 34C-23D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.66**	**339**	⇑*i*P	**Pn**	**17 31 26.2**	**+2.7**
PBA				*e*S	**Sn**	**17 32 10.7**	**+4.2**
SNG	**Songkhla**	**6.56**	**99**	P	**Pn**	**17 32 03.0**	**-1.6**
	644nm,1.0s						
NNT	**Nongplab**	**7.05**	**52**	⇓P	**Pn**	**17 32 09.5**	**-2.0**
	4μm,1.2s						
NST	**Nakhon Sawan**	**9.47**	**38**	P	**P**	**17 32 44.0**	**-1.2**
CM31	**Chiang Mai Arr**	**11.21**	**24**	*e*P	**P**	**17 33 09.4**	**+0.3**
	122nm,0.9s						
CMAR	**Chiang Mai Arr**	**11.21**	**24**	Pn	**P**	**17 33 08.8**	**-0.3**
	1.7nm,0.3s,baz=213,slow=14,SNR=313						
CMAR				LR	LR	17 37 43.3	
	comp=Z,10μm,19.3s,baz=205,slow=39						
KKTK	**Khon Kaen**	**11.74**	**46**	P	**P**	**17 33 16.0**	**-0.3**
	741nm,0.8s						
NANT	**Nan**	**12.32**	**31**	⇓P	**P**	**17 33 26.7**	**+2.7**
	131nm,1.2s						
UBT	**Ubonrachathani**	**12.77**	**56**	P	**P**	**17 33 32.0**	**+1.9**
CHRT	**Chiangrai**	**12.82**	**25**	⇓P	**P**	**17 33 33.0**	**+2.2**
	824nm,1.2s						
PALK	**Pallekele**	**13.29**	**267**	*e*P	**P**	**17 33 35.5**	**-1.5**
	43nm,0.9s						
VIS	**Vishakhapatnam**	**14.10**	**313**	⇓*e*P	**P**	**17 33 46.1**	**-1.6**
VIS				*e*		17 34 00.4	
	comp=Z,682nm,1.7s						
VIS				*e*S	**S**	**17 36 08.7**	**-16**
MDRS	**Chennai**	**14.42**	**291**	*e*P	**P**	**17 33 53.3**	**+1.3**
MDRS				*e*		17 34 03.6	
	comp=Z,785nm,1.6s						
KOD	**Kodaikanal**	**16.52**	**278**	⇑*e*P	**P**	**17 34 19.0**	**-0.1**
KOD				⇑*i*P		17 34 21.0	
KOD				*e*		17 34 28.3	
	comp=Z,268nm,1.9s						
KOD				*e*		17 37 34.6	
TRD	**Trivandrum**	**16.95**	**272**	⇓*e*P	**P**	**17 34 20.7**	**-3.7**
TRD				⇑*e*P		17 34 26.3	
TRD				*e*		17 34 32.9	
	comp=Z,125nm,1.4s						
TRD				*e*		17 34 33.1	
	comp=E,108nm,1.0s						
TRD				*e*S	**S**	**17 37 35.5**	**+4.6**
SHL	**Shillong**	**17.37**	**353**	*e*P	**P**	**17 34 29.0**	**-0.7**
SHL				*e*		17 37 45.0	
HYB	**Hyderabad**	**17.67**	**303**	*e*P	**P**	**17 34 31.0**	**-2.5**
HYB				*e*S	**S**	**17 37 56.0**	**+8.6**
HYB	**Hyderabad**	**17.67**	**303**	*e*P	**P**	**17 34 31.0**	**-2.5**
HYB				*e*		17 34 35.0	
HYB				*e*S	**S**	**17 37 56.0**	**+8.6**
HYB	**Hyderabad**	**17.67**	**303**	*i* P	**P**	**17 34 31.0**	**-2.5**
	comp=E,243nm,1.2s						
HYB				*e*		17 34 35.0	
HYB				*e*S	**S**	**17 37 49.0**	**+1.6**
HYB				LR	LR	17 44 24.0	
	comp=E,6.7nm,16.0s						
BLSP	**Bilaspur**	**17.98**	**322**	⇑*e*P	**P**	**17 34 37.0**	**-0.3**
BLSP				*e*		17 34 53.2	
	comp=Z,402nm,1.2s						
BLSP				*e*S	**S**	**17 38 01.6**	**+7.1**
BLSP				*e*S	**S**	**17 38 04.2**	**+10**
QIZ	**Qiongzhong**	**18.68**	**53**	P	**P**	**17 34 47.5**	**+1.5**
QIZ				AP		17 34 53.5	
QIZ				S	**S**	**17 38 12.3**	**+1.9**
QIZ				AMB	AMB		
	comp=Z,2μm,7.6s						
QIZ				LR	LR		
	comp=N,37μm,13.8s						
QIZ				LR	LR		
	comp=E,9μm,13.7s						
QIZ				LR	LR		
	comp=Z,14μm,11.7s						
QIZ	**Qiongzhong**	**18.68**	**53**	*e*P	**P**	**17 34 47.9**	**+1.9**
	comp=Z,283nm,1.4s						
KMI	**Kunming**	**18.72**	**25**	P	**P**	**17 34 49.5**	**+3.1**
KMI				pmax	pmax		
	comp=Z,155nm,1.4s						
KMI	**Kunming**	**18.72**	**25**	P	**P**	**17 34 49.5**	**+3.1**
	comp=Z,155nm,1.4s						
KMI				pP		17 34 55.1	
KMI				PP	PP	17 35 07.8	+5.3
KMI				S	**S**	**17 38 23.0**	**+12**
KMI				SS	SS	17 38 49.9	+14
KMI				SSS	SSS	17 39 03.3	+14
MNGI	**Mangalore**	**19.50**	**286**	*i* S	**S**	**17 38 33.4**	**+4.7**
LATR	**Latur**	**19.81**	**302**	*e*	PcP	17 39 11.8	-4.3
LATR				*e*		17 46 57.6	
COCO	**West Island**	**20.47**	**172**	*e*P	**P**	**17 35 07.5**	**+1.6**
	comp=Z,366nm,1.0s						
COCO				LR	LR		
	comp=Z,975nm,21.0s						
JIRN	**Jiri**	**20.72**	**340**	*e*P	**P**	**17 35 07.8**	**-0.7**
	comp=Z,1μm,1.1s						
PKI	**Pulchoki**	**20.92**	**338**	*e*P	**P**	**17 35 10.0**	**-0.5**
	comp=Z,1μm,1.3s						
DMN	**Daman**	**21.07**	**337**	*e*P	**P**	**17 35 11.3**	**-0.7**
	comp=Z,800nm,0.9s,mb6.0						
GOA	**Goa**	**21.09**	**292**	⇑*e*	**P**	**17 35 19.7**	**+7.4**
GOA				*e*		17 35 34.8	
	comp=Z,323nm,2.0s						
GOA				*e*		17 39 22.4	
KKN	**Kakani**	**21.16**	**338**	*e*P	**P**	**17 35 12.2**	**-0.8**
	comp=Z,763nm,1.2s,mb5.9						
LSA	**Lhasa**	**21.54**	**353**	P	**P**	**17 35 16.3**	**-0.5**
LSA				S	**S**	**17 39 06.0**	**-3.4**
LSA				XS		17 39 29.5	
LSA				PCS		17 42 53.5	
LSA				LR	LR		
	comp=N,11μm,17.5s,MS5.5						
LSA				LR	LR		
	comp=E,15μm,17.5s,MS5.5						
LSA				LR	LR		
	comp=Z,64μm,15.8s,MS6.1						
LSA	**Lhasa**	**21.54**	**353**	*e*P	**P**	**17 35 16.4**	**-0.4**
LSA				pmax	pmax		
	comp=Z,87nm,0.7s,mb5.3						
LSA				MLR	MLR		
	comp=Z,4μm,20.0s,MS4.8						
LSA	**Lhasa**	**21.54**	**353**	*e*P	**P**	**17 35 16.4**	**-0.4**
	comp=Z,87nm,0.7s,mb5.3						
LSA				LR	LR		
	comp=Z,4μm,20.0s,MS4.8						
GKN	**Gorkha**	**21.60**	**337**	*e*P	**P**	**17 35 16.0**	**-1.4**
	comp=Z,1μm,1.2s,mb6.2						
KOLN	**Koldanda**	**21.82**	**334**	*e*P	**P**	**17 35 19.8**	**+0.2**
	comp=Z,3μm,1.6s,mb6.4						
BHPL	**Bhopal**	**21.87**	**315**	⇑*e*P	**P**	**17 35 21.1**	**+0.9**
BHPL				*e*		17 35 40.3	
	comp=Z,226nm,1.5s						
BHPL				*e*S	**S**	**17 39 23.4**	**+7.8**
BHPL				*e*S	**S**	**17 39 23.6**	**+8.0**
BOM	**Bombay**	**23.21**	**299**	*e*P	**P**	**17 35 35.5**	**+2.0**
BOM				*e*P		17 35 37.1	
BOM				*e*S	**S**	**17 39 46.4**	**+6.5**
HKC	**Hong Kong**	**23.86**	**52**	⇓*i*P	**P**	**17 35 42.0**	**+2.3**
HKC				*i* S	**S**	**17 40 08.0**	**+17**
PTH	**Pithoragarh**	**24.89**	**330**	*e*	**P**	**17 35 50.0**	**+0.3**
PTH				*e*S	**S**	**17 40 21.0**	**+12**
NDI	**New Delhi**	**25.82**	**324**	⇓*e*P	**P**	**17 35 58.4**	**0.0**
NDI				*e*		17 35 58.5	
NDI				*e*		17 36 07.9	
	comp=Z,416nm,1.3s						
NDI				*e*	**S**	**17 40 23.0**	**-1.1**
NDI				*e*		17 40 31.0	
ENH	**Enshi**	**26.25**	**31**	*e*P	**P**	**17 36 02.0**	**-0.4**
	comp=Z,113nm,1.1s,mb5.3						
ENH				LR	LR		
	comp=Z,7μm,19.0s,MS5.2						
DGAR	**Diego Garcia**	**26.58**	**235**	PFAKE		17 36 20.0	+14
DGAR				LR	LR		
	comp=Z,530nm,19.0s						
TGY	**Tagaytay City**	**26.97**	**75**	LR	LR	17 46 09.8	
	comp=Z,3μm,19.2s,MS4.8,baz=31,slow=35						
SMLA	**Simla**	**27.72**	**328**	*e*	**P**	**17 36 27.0**	**+11**
SMLA				*e*		17 36 36.4	
	comp=Z,177nm,1.5s						
QZH	**Quanzhou**	**28.69**	**52**	*i* PR	**P**	**17 36 25.3**	**+0.7**
QZH				S	**S**	**17 41 17.0**	**+6.2**
QZH				AMB	AMB		
	comp=Z,110nm,1.2s,mb5.5						
QZH				AMB	AMB		
	comp=Z,1μm,3.2s						
QZH				LR	LR		
	comp=N,11μm,13.0s,MS5.8						
QZH				LR	LR		
	comp=E,11μm,12.0s,MS5.8						
QZH				LR	LR		
	comp=Z,26μm,13.3s,MS6.0						
XAN	**Xi'an**	**29.10**	**26**	P	**P**	**17 36 27.3**	**-1.0**
XAN				S	**S**	**17 41 12.5**	**-4.9**
XAN				AMB	AMB		
	comp=Z,37nm,1.8s,mb4.8						
XAN				LR	LR		
	comp=N,7μm,14.1s,MS5.5						
XAN				LR	LR		
	comp=E,5μm,14.4s,MS5.5						
XAN				LR	LR		
	comp=Z,10μm,14.6s,MS5.6						
LZH	**Lanzhou**	**29.13**	**16**	⇓P	**P**	**17 36 28.5**	**0.0**
LZH				PP	PP	17 37 23.0	0.0
LZH				S	**S**	**17 41 18.3**	**+0.6**
LZH				SS	SS	17 42 49.0	+1.0
LZH				AMB	AMB		
	comp=Z,146nm,1.8s,mb5.4						
LZH				AMB	AMB		
	comp=Z,580nm,4.0s						
LZH				LR	LR		
	comp=E,4μm,11.8s						
LZH				LR	LR		
	comp=Z,5μm,14.3s,MS5.3						
LZH	**Lanzhou**	**29.13**	**16**	⇓P	**P**	**17 36 28.6**	**+0.1**
LZH				*SP	sP	17 36 38.6	+0.4
LZH						17 37 23.0	
LZH				S	**S**	**17 41 18.3**	**+0.6**
LZH				*SS		17 41 30.0	
LZH				SS	SS	17 42 49.0	+1.0
LZH				pmax	pmax		
	comp=Z,146nm,1.8s,mb5.4						
LZH				MLR	MLR		
	comp=Z,5μm,14.3s,MS5.3						
LZH	**Lanzhou**	**29.13**	**16**	⇓P	**P**	**17 36 28.6**	**+0.1**
	comp=Z,146nm,1.8s,mb5.4						
LZH				pP	pP	17 36 35.6	+0.4
LZH				sP	sP	17 36 38.6	+0.4
LZH				PP	PP	17 37 23.0	0.0
LZH				S	**S**	**17 41 18.3**	**+0.6**
LZH				sS		17 41 30.0	
LZH				SS	SS	17 42 49.0	+1.0
LZH				LR	LR		
	comp=Z,5μm,14.3s,MS5.3						
WHN	**Wuhan**	**29.19**	**38**	⇓P	**P**	**17 36 29.5**	**+0.4**
WHN				S	**S**	**17 41 24.0**	**+5.2**
WHN				LR	LR		
	comp=Z,14μm,13.1s,MS5.8						
DAV	**Davao City (W)**	**31.23**	**90**	*e*P	pP	17 36 56.5	+2.4
NJ2	**Nanjing**	**33.04**	**41**	*e*P	**P**	**17 37 02.3**	**-0.7**
NJ2				AP	pP	17 37 11.0	+1.2
NJ2				XP	sP	17 37 16.0	+3.3
NJ2				PP	PP	17 38 14.5	+0.6
NJ2				S	**S**	**17 42 18.0**	**-1.2**
NJ2				AMB	AMB		
	comp=Z,140nm,1.0s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,540nm,3.9s						
NJ2				LR	LR		
	comp=N,9μm,10.3s,MS6.0						
NJ2				LR	LR		
	comp=E,11μm,11.0s,MS6.0						
NJ2				LR	LR		
	comp=Z,19μm,11.5s,MS6.0						
SSE	**Sheshan**	**34.01**	**44**	P	**P**	**17 37 12.0**	**+0.6**
SSE				XP	sP	17 37 24.3	+3.1
SSE				PP	PP	17 38 30.5	+5.0
SSE				S	**S**	**17 42 38.5**	**+4.2**
SSE				XS		17 42 53.5	
SSE				AMB	AMB		
	comp=Z,22nm,0.6s,mb5.3						
SSE				AMB	AMB		
	comp=Z,326nm,4.9s						
SSE				LR	LR		
	comp=N,5μm,14.7s,MS5.4						
SSE				LR	LR		
	comp=E,3μm,14.8s,MS5.4						
SSE				LR	LR		
	comp=Z,5μm,14.1s,MS5.4						
SSE	**Sheshan**	**34.01**	**44**	P	**P**	**17 37 11.9**	**+0.5**
	comp=Z,22nm,0.6s,mb5.3						
SSE				sP	sP	17 37 24.2	+3.0
SSE				PP	PP	17 38 30.6	+5.1
SSE				S	**S**	**17 42 38.4**	**+4.1**
SSE				sS		17 42 53.6	
SSE				SS	SS	17 45 08.5	+26
SSE				LR	LR		
	comp=Z,5μm,14.1s,MS5.4						
TIA	**Tai'an**	**34.89**	**34**	P	**P**	**17 37 19.3**	**+0.4**
TI

TIA LR LR
comp=E,4μm,12.3s,MS5.3
WMQ Urumqi 35.89 352 *e*P **P 17 37 28.0 +0.6**
WMQ AP pP 17 37 35.3 +1.1
WMQ PP PP 17 38 49.3 +0.3
WMQ PCP PcP 17 39 55.5 +1.0
WMQ S **S 17 43 03.3 0.0**
WMQ AMB AMB
comp=Z,79nm,0.8s,mb5.7
WMQ AMB AMB
comp=Z,686nm,5.4s
WMQ LR LR
comp=N,5μm,16.3s,MS5.4
WMQ LR LR
comp=E,3μm,17.4s,MS5.4
WMQ LR LR
comp=Z,6μm,18.2s,MS5.4
BJT Baijiatuau 37.30 28 *e*P **P 17 37 39.8 +0.6**
BJT pmax pmax
comp=Z,65nm,1.0s
BJT Baijiatuau 37.30 28 *e*P **P 17 37 39.8 +0.6**
comp=Z,65nm,1.0s,mb5.4
JOW Kunigami 37.30 56 LR LR 17 55 21.0
comp=Z,4μm,18.1s,MS5.3,baz=57,slow=40
BJI Beijing 37.32 28 P **P 17 37 40.9 +1.5**
BJI *PP pP 17 37 49.0 +2.7
BJI *SP sP 17 37 53.2 +4.0
BJI 17 39 05.7
BJI S **S 17 43 28.6 +3.3**
BJI *SS 17 43 44.4
BJI pmax pmax
comp=Z,52nm,2.1s,mb5.0
BJI MLR MLR
comp=Z,3μm,23.5s,MS5.0
BJI Beijing 37.32 28 P **P 17 37 40.9 +1.5**
comp=Z,52nm,2.1s,mb5.0
BJI pP pP 17 37 49.0 +2.7
BJI sP sP 17 37 53.2 +4.0
BJI PP PP 17 39 05.7 -1.5
BJI S **S 17 43 28.6 +3.3**
BJI sS 17 43 44.4
BJI SS SS 17 46 17.4 +20
BJI LR LR
comp=Z,3μm,23.5s,MS5.0
KZA Kyzart 37.59 337 P **P 17 37 42.4 +0.8**
SNR=11
UCH Uchtor 38.01 336 P **P 17 37 47.0 +1.8**
SNR=14
TKM2 Tokmak 2 38.18 338 P **P 17 37 47.1 +0.5**
SNR=16
KBK Karagaybulak 38.20 337 P **P 17 37 48.8 +2.0**
SNR=30
AML Almayashu 38.26 335 P **P 17 37 47.9 +0.6**
SNR=44
AAK Ala-Archa 38.36 337 P **P 17 37 49.1 +1.0**
SNR=27
AAK Ala-Archa 38.36 337 *e*P **P 17 37 47.2 -0.9**
AAK pmax pmax
comp=Z,79nm,1.1s,mb5.4
AAK MLR MLR
comp=Z,1μm,20.0s,MS4.8
AAK Ala-Archa 38.36 337 *e*P **P 17 37 47.2 -0.9**
comp=Z,79nm,1.1s,mb5.4
AAK LR LR
comp=Z,1μm,20.0s,MS4.8
FRU Bishkek 38.48 337⇑ *i*P **P 17 37 50.0 +0.9**
FRU pmax pmax
comp=Z,110nm,2.0s,mb5.2
FRU MLR MLR
comp=Z,5μm,20.0s,MS5.3
MBWA Marble Bar 38.57 140 *e*P **P 17 37 52.3 +2.2**
MBWA LR LR
comp=Z,2μm,20.0s,MS4.9
CHMS Chumysh 38.57 337 P **P 17 37 50.9 +1.1**
SNR=15
EKS2 Erkin-Say 38.67 336 P **P 17 37 51.7 +0.9**
SNR=25
USP Ospenovka 38.90 337 P **P 17 37 52.4 -0.2**
SNR=32
MKAR Makanchi Array 39.73 347 *i* P **P 17 37 58.6 -0.9**
MKAR pmax pmax
comp=Z,15nm,0.7s
FITZ Fitzroy Crossi 40.68 130 *e*P **P 17 38 05.4 -2.2**
comp=Z,27nm,0.9s,mb4.9
FITZ *e*PCP PcP 17 40 15.8 +6.1
SONM Songino Array 40.83 13 P **P 17 38 08.5 -0.1**
comp=Z,8.0nm,0.9s,baz=192,slow=7.5,SNR=30
SONM PcP PcP 17 40 09.5 -0.3
comp=Z,2.2nm,0.9s,baz=190,slow=3.7,SNR=4.5
SONM *p*PcP 17 40 14.8
comp=Z,15nm,1.1s,baz=205,slow=3.5,SNR=8.6
ULN Ulaanbaatar 41.01 13 *e*P **P 17 38 08.6 -1.4**
ULN pmax pmax
comp=Z,8.0nm,0.9s
ULN Ulaanbaatar 41.01 13 *e*P **P 17 38 08.6 -1.3**
comp=Z,7.7nm,0.9s
KS15 Wonju Array Si 42.20 41 *e*P **P 17 38 20.7 +0.7**
SNY Shenyang 42.41 33⇓ P **P 17 38 22.5 +0.9**
SNY S **S 17 44 40.5 -1.0**
SNY AMB AMB
comp=Z,40nm,1.9s,mb4.7
SNY LR LR
comp=N,4μm,16.5s,MS5.5
SNY LR LR
comp=E,3μm,14.4s,MS5.5
SNY LR LR
comp=Z,4μm,16.5s,MS5.3
ZAK Zakamensk 42.71 9⇑ *e*P **P 17 38 22.9 -1.0**
MOY Mondy 43.68 6 *e*P **P 17 38 32.1 +0.4**
TLY Talaya 44.03 9 *i* P **P 17 38 34.5 -0.1**
TLY pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
TLY MLR MLR
comp=Z,2μm,20.0s,MS4.9
TLY Talaya 44.03 9 *e*P **P 17 38 35.5 +0.9**
KURK Kurchatov 44.26 346 *e*P **P 17 38 35.7 -0.8**
KURK pmax pmax
comp=Z,120nm,1.4s,mb5.4
KURK MLR MLR
comp=Z,791nm,22.0s,MS4.6
KURK Kurchatov 44.26 346 *e*P **P 17 38 35.7 -0.8**
comp=Z,120nm,1.4s,mb5.4
KURK LR LR
comp=Z,791nm,22.0s,MS4.6
IRK Irkutsk 44.67 9 *e*P **P 17 38 37.2 -2.6**
IRK *e* 17 40 29.6
IRK *e* 17 45 03.3
IRK pmax pmax
comp=Z,40nm,1.8s,mb5.0
MUN Mundaring 45.22 153 *e*P **P 17 38 44.6 +0.1**
comp=Z,95nm,1.0s,mb5.6
MUN *e*PCP PcP 17 40 29.7 +4.9
MUN Mundaring 45.22 153 *e*P **P 17 38 44.6 +0.1**
MUN *e* 17 40 29.7
MUN pmax pmax
comp=Z,95nm,1.0s,mb5.6
KLBR Kellerberrin 45.61 151 *e*P **P 17 38 47.0 -0.5**
comp=Z,2μm,1.1s
KLBR *e*PCP PcP 17 40 31.3 +5.1
ZAL Zalesovo 46.19 352 P **P 17 38 52.0 +0.2**
comp=Z,24nm,0.9s,mb5.1,baz=301,slow=7.5,SNR=62
HIA Hailar 46.22 23 *e*P **P 17 38 51.3 -0.8**
HIA pmax pmax
comp=Z,93nm,1.4s
HIA MLR MLR
comp=Z,5μm,19.0s
HIA Hailar 46.22 23 *e*P **P 17 38 51.3 -0.8**
comp=Z,92nm,1.4s,mb5.5
HIA LR LR
comp=Z,5μm,19.0s,MS5.5
NWAO Narrogin (SRO) 46.48 153 *e*P **P 17 38 53.7 -0.7**
NWAO pmax pmax
comp=Z,240nm,1.2s
NWAO MLR MLR
comp=Z,2μm,21.0s
NWAO Narrogin (SRO) 46.48 153 P **P 17 38 54.4 0.0**
comp=Z,44nm,0.9s,mb5.4,baz=320,slow=9.1,SNR=13
NWAO pP pP 17 39 01.2 -0.2
comp=Z,193nm,1.1s,baz=327,slow=9.6,SNR=19
NWAO Narrogin (SRO) 46.48 153 *e*P **P 17 38 53.7 -0.7**
comp=Z,240nm,1.2s,mb6.0
NWAO LR LR
comp=Z,2μm,21.0s,MS5.1
NVS Novosibirsk 47.29 351 *e*P **P 17 38 58.7 -1.8**
NVS *e* 17 40 51.6
NVS *e*S **S 17 45 48.8 -2.8**
NVS pmax pmax
comp=N,51nm,0.8s
NVS pmax pmax
comp=E,37nm,0.8s
NVS pmax pmax
comp=Z,106nm,0.8s,mb5.8
NVS smax
comp=N,76nm,3.0s
NVS smax
comp=E,107nm,3.0s
MDJ Mudanjiang 47.55 34 P **P 17 39 03.3 +0.6**
MDJ PCP PcP 17 40 33.3 +0.5
MDJ PP PP 17 40 55.3 +1.8
MDJ SCP 17 44 23.8
MDJ PCS 17 44 28.0
MDJ S **S 17 45 58.5 +3.1**
MDJ AMB AMB
comp=Z,30nm,2.0s,mb5.0
MDJ AMB AMB
comp=Z,380nm,5.6s
MDJ LR LR
comp=N,2μm,18.3s,MS5.5
MDJ LR LR
comp=E,4μm,15.8s,MS5.5
MDJ LR LR
comp=Z,3μm,16.3s,MS5.4
MDJ Mudanjiang 47.55 34 *e*P **P 17 39 04.0 +1.3**
comp=Z,61nm,1.4s,mb5.4
VLA Vladivostok 47.98 37⇑ *i*P **P 17 39 08.0 +1.9**
VLA *i* 17 49 28.0
VLA pmax pmax
comp=Z,500nm,8.0s
VLA pmax pmax
comp=N,500nm,4.0s
VLA MLR MLR
comp=N,2μm,12.0s,MS5.6
VLA MLR MLR
comp=Z,5μm,12.0s,MS5.7
VLA MLR MLR
comp=E,4μm,13.0s,MS5.6
WRA Warramunga Arr 48.51 126 P **P 17 39 08.7 -1.7**
comp=E,7.5nm,0.8s,mb4.8,baz=308,slow=8.6,SNR=50
WRA pP pP 17 39 15.8 -1.6
comp=E,28nm,0.8s,baz=306,slow=8.6,SNR=38
WRA *p*PcP 17 40 42.3
comp=E,8.5nm,0.9s,baz=309,slow=3.0,SNR=6.5
WRAB Tennant Creek 48.51 126 *e*P **P 17 39 07.7 -2.8**
WRAB *e**PP pP 17 39 16.0 -1.5
WRAB pmax pmax
comp=Z,72nm,0.9s,mb5.7
WRAB Tennant Creek 48.51 126 *e*P **P 17 39 07.7 -2.8**
comp=Z,72nm,0.9s,mb5.7
WRAB *e*pP pP 17 39 16.0 -1.5
WB2 Warramunga Arr 48.52 126⇓ *i*P **P 17 39 08.8 -1.7**
WB2 *e*PCP PcP 17 40 41.5 +4.8
BVAR Borovoye Array 48.64 341 P **P 17 39 10.2 -0.8**
comp=Z,6.4nm,0.8s,mb4.7,baz=143,slow=7.4,SNR=26
BVAR pP pP 17 39 17.5 -0.5
comp=Z,32nm,1.1s,baz=150,slow=10,SNR=19
BVAR *p*PcP 17 40 41.6
comp=Z,10nm,0.8s,baz=152,slow=2.1,SNR=5.2
BRVK Borovoye 48.70 341 *e*P **P 17 39 10.4 -1.1**
BRVK *e**PP pP 17 39 18.3 -0.2
BRVK pmax pmax
comp=Z,33nm,1.0s,mb5.3
BRVK MLR MLR
comp=Z,358nm,19.0s,MS4.4
BRVK Borovoye 48.70 341 *e*P **P 17 39 10.4 -1.1**
comp=Z,33nm,1.0s,mb5.3
BRVK *e*pP pP 17 39 18.3 -0.2
BRVK LR LR
comp=Z,358nm,19.0s,MS4.4
JHJ Hachijo jima 2 48.89 53 LR LR 17 59 29.7
comp=Z,1μm,18.7s,MS5.0,baz=253,slow=36
MAJO Matsushiro 48.97 48 *e*P **P 17 39 12.6 -1.2**
MAJO pmax pmax
comp=Z,243nm,2.1s,mb5.9
MAJO MLR MLR
comp=Z,2μm,20.0s,MS5.1
MAJO Matsushiro 48.97 48 *e*P **P 17 39 12.6 -1.2**
comp=Z,242nm,2.1s,mb5.9
MAJO LR LR
comp=Z,2μm,20.0s,MS5.1
MAT Matsushiro 48.97 48 *e*P **P 17 39 11.0 -2.8**
MAT *e*S **S 17 46 18.0 +2.5**
MAT pmax pmax
comp=Z,213nm,2.6s,mb5.7
MAT MLR MLR
comp=Z,2μm,20.0s,MS5.0
MAT Matsushiro 48.97 48 *e*P **P 17 39 11.0 -2.8**
comp=Z,212nm,2.6s,mb5.7
MAT *e*S **S 17 46 18.0 +2.5**
MAT LR LR
comp=Z,2μm,20.0s,MS5.0
MAT Matsushiro 48.97 48 P **P 17 39 11.2 -2.6**
MAT S **S 17 46 17.0 +1.5**
CHKZ Chkalovo 49.12 342 *e*P **P 17 39 13.8 -0.9**
CHKZ *e**PP pP 17 39 22.1 +0.4
CHKZ pmax pmax
comp=Z,28nm,0.6s,mb5.5
CHKZ Chkalovo 49.12 342 *e*P **P 17 39 13.8 -1.0**
comp=Z,28nm,0.6s,mb5.5
CHKZ *e*pP pP 17 39 22.1 +0.4
CBIJ Chichi jima 49.18 61 LR LR 18 02 10.3
comp=Z,834nm,18.8s,MS4.8,baz=252,slow=39
ASPA Alice Springs 50.18 130 *e*P **P 17 39 21.2 -2.1**
ASPA *e*PCP PcP 17 40 48.9 +6.3
ASAR Alice Springs 50.18 130 P **P 17 39 21.0 -2.3**
comp=Z,7.4nm,0.8s,mb4.8,baz=302,slow=6.9,SNR=37
ASAR pP pP 17 39 27.9 -2.5
comp=Z,29nm,0.9s,baz=308,slow=6.0,SNR=35
ASAR PcP PcP 17 40 42.2 -0.4
comp=Z,1.7nm,0.8s,baz=303,slow=2.6,SNR=2.1
ASAR *p*PcP 17 40 49.0
comp=Z,11nm,0.7s,baz=308,slow=3.2,SNR=12
ASAR LR LR 18 02 17.2
comp=Z,1μm,19.8s,MS5.0,baz=308,slow=38
FORT Forrest 50.65 142 *e*P **P 17 39 31.3 +4.6**
comp=Z,170nm,0.9s,mb6.0
KLR Kul'dur 51.61 31 *e*P **P 17 39 29.9 -3.9**
KLR *e* 17 41 26.0
KLR *e*S **S 17 46 53.0 +1.1**
KLR *e*SS SS 17 50 26.0 -0.2
KLR pmax pmax
comp=E,65nm,2.2s
KLR pmax pmax
comp=Z,80nm,2.2s,mb5.3
KLR MLR MLR
comp=Z,4μm,13.0s,MS5.6
BOD Bodaibo 51.82 13 *e*P **P 17 39 33.6 -1.6**
BHD Baghdad 52.13 306 *e*P **P 17 39 38.0 +0.1**
MSL Mosul 54.05 309 *e*P **P 17 39 50.0 -2.0**
CLNS Chul'man 54.13 20 *e*P **P 17 39 52.4 +0.1**
CLNS *e*S **S 17 47 24.4 -1.6**
CLNS pmax pmax
comp=Z,16nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,9.0nm,1.0s
CLNS pmax pmax
comp=E,13nm,1.4s
CLNS pmax pmax
comp=Z,12nm,1.9s,mb4.5
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS smax
comp=N,273nm,3.7s
CLNS smax
comp=Z,153nm,3.5s
CLNS smax
comp=E,114nm,4.0s
CLNS MLR MLR
comp=N,3μm,14.0s,MS5.6
CLNS MLR MLR
comp=Z,4μm,14.0s,MS5.7
CLNS MLR MLR
comp=E,500nm,13.0s,MS5.6
GNI Garni 54.15 314 P **P 17 39 52.0 -0.7**
comp=E,8.4nm,0.8s,mb4.8,baz=186,slow=10,SNR=6.5
GNI LR LR 18 07 38.7
comp=E,806nm,18.3s,MS4.8,baz=97,slow=41
GNI Garni 54.15 314 P **P 17 39 52.0 -0.7**
GNI LR LR 18 07 38.7
TI2 Plekhanov 54.76 316⇑ *i*P **P 17 39 58.4 +1.2**
TI2 pmax pmax
comp=Z,40nm,1.0s,mb5.4
SVE Sverdlovsk 55.05 338⇓ *e*P **P 17 39 58.0 -1.2**
SVE *e* 17 41 03.0
SVE *e*S **S 17 47 35.0 -3.4**
SVE *e*PS PS 17 47 49.0 -3.6
SVE *e* 17 48 00.0
SVE pmax pmax
comp=Z,160nm,1.5s,mb5.8
SVE MLR MLR
comp=Z,5μm,19.5s,MS5.6
ASAJ Asahikawa 55.19 41 LR LR 18 03 08.2
comp=Z,2μm,20.9s,MS5.1,baz=114,slow=36
ARU Arti 55.55 337 P **P 17 40 01.9 -0.8**
comp=Z,371nm,1.1s,mb6.3,SNR=18
ARU Arti 55.55 337⇑ *i*P **P 17 39 55.9 -6.8**
ARU *e*S **S 17 47 36.6 -8.4**
ARU *e* 17 49 40.3
ARU *e*SS SS 17 51 25.1 -4.9
ARU pmax pmax
comp=Z,79nm,1.1s,mb5.7
ARU MLR MLR
comp=Z,4μm,20.0s,MS5.5
ARU MLR MLR
comp=N,2μm,19.0s,MS5.5
ARU MLR MLR
comp=E,3μm,19.0s,MS5.5
PMG Port Moresby 55.69 107 P **P 17 40 04.4 +0.1**
comp=E,20nm,0.9s,mb5.2,baz=300,slow=8.6,SNR=5.4
PMG pP pP 17 40 09.5 -1.9
comp=E,110nm,0.8s,baz=334,slow=4.0,SNR=22
ZEI Tsey 55.74 317 *i* P **P 17 40 03.9 -0.5**
ZEI pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
BEST Besiri 55.93 310 *i* P **P 17 40 08.0 +2.3**
ERZM Erzurum 56.49 313 *i* P **P 17 40 12.4 +2.6**
YSS Yuzh-Sakhalins 56.54 38 *e*P **P 17 40 10.0 0.0**
YSS *e* pP 17 40 16.8 -0.3
YSS *e**SP sP 17 40 27.8 +8.0
YSS *e* 17 41 05.8
YSS *e* 17 42 18.0
YSS S **S 17 47 51.0 -7.4**
YSS *e*PS PS 17 48 04.0 -9.5
YSS *e*SS SS 17 51 43.0 -3.6
YSS pmax pmax
comp=Z,60nm,1.2s,mb5.5
YSS MLR MLR
comp=Z,2μm,13.0s,MS5.3
YSS MLR MLR
comp=N,1μm,15.0s,MS5.5
YSS MLR MLR
comp=E,2μm,13.0s,MS5.5
YSS Yuzh-Sakhalins 56.54 38 *e*P **P 17 40 10.7 +0.7**
comp=E,68nm,1.3s,mb5.5
KIV Kislovodsk 57.02 318 P **P 17 40 13.9 +0.4**
comp=E,353nm,0.9s,mb6.4,SNR=7.9
KIV Kislovodsk 57.02 318 *c i*P **P 17 40 13.0 -0.5**
KIV *e* 17 42 20.7
KIV *e*S **S 17 48 04.9 +0.2**
KIV pmax pmax
comp=Z,79nm,1.1s,mb5.7
KIV pmax pmax
comp=N,30nm,0.9s
KIV MLR MLR
comp=Z,947nm,20.0s,MS4.9
KIV MLR MLR
comp=N,727nm,19.0s
KIV Kislovodsk 57.02 318 *e*P **P 17 40 13.2 -0.4**
comp=N,88nm,1.1s,mb5.7
KIV LR LR
comp=Z,276nm,21.0s,MS4.3
GOF Gofitskoye 57.23 319 *e*P **P 17 40 19.0 +4.1**
GOF pmax pmax
comp=Z,100nm,2.0s,mb5.5
KMBO Kilima Mbogo 57.41 263 P **P 17 40 18.5 +1.9**
comp=Z,11nm,0.8s,mb5.0,baz=54,slow=13,SNR=18
KMBO LR LR 18 00 43.8
comp=Z,2μm,21.7s,MS5.1,baz=87,slow=32
ELZG Elazig 57.83 311 *i* P **P 17 40 19.3 +0.1**
ASF Jabal al Asfar 57.98 303 P **P 17 40 20.3 -0.1**
comp=Z,3.4nm,0.7s,mb4.5,baz=66,slow=4.4,SNR=4.7
ASF pP pP 17 40 28.0 +0.5
comp=Z,12nm,0.8s,baz=320,slow=3.8,SNR=5.9
ASF LR LR 18 07 58.9
comp=Z,1μm,19.6s,MS5.0,baz=315,slow=39
MALT Malatya 58.19 310 *e*P **P 17 40 20.7 -1.1**
MALT pmax pmax
comp=Z,56nm,1.7s,mb5.3
MALT Malatya 58.19 310 *e*P **P 17 40 20.7 -1.1**
comp=Z,56nm,1.7s,mb5.3
SOKR Solikamsk 58.45 339⇓ *i*P **P 17 40 20.9 -2.4**
SOKR pmax pmax
comp=Z,5μm,20.8s
SOKR MLR MLR
comp=Z,5μm,21.0s,MS5.6
CTA Charters Tower 58.53 119 P **P 17 40 23.1 -1.3**
comp=Z,5.6nm,0.9s,mb4.6,baz=333,slow=9.0,SNR=2.8
CTA pP pP 17 40 30.0 -1.5
comp=Z,19nm,1.0s,baz=288,slow=8.2,SNR=6.5
CTA *p*PcP 17 41 21.3
comp=Z,10nm,0.6s,baz=283,slow=4.8,SNR=8.9
CTAO Charters Tower 58.53 119 *e*P **P 17 40 23.5 -0.9**
CTAO *e**PP pP 17 40 30.3 -1.2
CTAO pmax pmax
comp=Z,67nm,1.4s,mb5.5
CTAO MLR MLR
comp=Z,3μm,20.0s,MS5.3
CTAO Charters Tower 58.53 119 *e*P **P 17 40 23.5 -0.9**
comp=Z,67nm,1.4s,mb5.5
CTAO *e*pP pP 17 40 30.3 -1.2
CTAO LR LR
comp=Z,3μm,20.0s,MS5.3
GZT Gaziantep 58.60 309 *i* P **P 17 40 23.4 -1.2**
SOC Sochi 58.89 316 *e*P **P 17 40 24.1 -2.5**
SOC *e* 17 41 12.3
SOC *e* 17 42 34.2
SOC *e*S **S 17 48 26.4 -2.9**
SOC *e* 17 50 10.7
SOC *e*SS SS 17 52 22.9 -1.8
SOC pmax pmax
comp=N,40nm,1.1s
SOC pmax pmax
comp=Z,32nm,1.1s,mb5.3
SOC pmax pmax
comp=E,32nm,1.3s
SOC MLR MLR
comp=N,659nm,20.0s,MS5.0
SOC MLR MLR
comp=Z,892nm,20.0s,MS4.9
SOC MLR MLR
comp=E,705nm,17.0s,MS5.0
KAHT Ahir Dag 59.20 309 *i* P **P 17 40 28.5 -0.4**
EIL Elat 59.20 300 P **P 17 40 28.9 -0.1**
comp=E,5.1nm,0.7s,mb4.7,baz=67,slow=4.7,SNR=6.5
EIL pP pP 17 40 35.1 -1.0
comp=E,9.5nm,0.9s,baz=99,slow=13,SNR=12
EIL LR LR 18 06 19.6
comp=E,1μm,21.5s,MS5.0,baz=93,slow=36
EIL Elat 59.20 300 *e*P **P 17 40 28.6 -0.4**
comp=E,98nm,1.5s,mb5.6
YAK Yakutsk 59.68 19 *d i*P **P 17 40 30.1 -1.7**
YAK pmax pmax
comp=Z,54nm,0.9s,mb5.6
YAK MLR MLR
comp=Z,2μm,12.0s,MS5.4
YAK Yakutsk 59.68 19 *e*P **P 17 40 30.0 -1.8**
comp=Z,53nm,0.8s,mb5.6
STKA Stephens Creek 60.39 134 *e*P **P 17 40 35.1 -2.0**
comp=Z,30nm,1.0s,mb5.3
STKA Stephens Creek 60.39 134 P **P 17 40 34.7 -2.4**
comp=Z,9.9nm,1.1s,mb4.8,baz=340,slow=12,SNR=6.2
STKA pP pP 17 40 42.6 -1.7
comp=Z,38nm,1.0s,baz=308,slow=7.8,SNR=22
STKA LR LR 18 07 07.3
comp=Z,3μm,20.4s,MS5.4,baz=302,slow=36
ANN Anapa 60.84 317 *e*P **P 17 40 46.3 +6.4**
ANN pmax pmax
comp=Z,72nm,1.1s,mb5.7
CTKT Corum 61.52 312 *i* P **P 17 40 40.5 -4.1**
BOYT Boyabat 61.63 313 *i* P **P 17 40 44.3 -1.1**
BR131 Keskin Array S 62.16 311 PFAKE 17 41 00.0 +11
BR131 LR LR
comp=Z,717nm,19.0s,MS4.8
BRTR Keskin Array B 62.16 311 P **P 17 40 46.9 -2.0**
comp=Z,7.0nm,0.7s,mb4.9,baz=123,slow=7.2,SNR=23
BRTR pP pP 17 40 55.2 -0.9
comp=Z,8.8nm,0.7s,baz=125,slow=6.7,SNR=12

VOR Voronezh 62.26 325 *e*P **P 17 40 48.5 -1.0**
VOR *e**PP pP 17 40 55.0 -1.6
VOR 17 43 04.0
VOR pmax pmax
comp=Z,100nm,2.0s,mb5.6
ELDT Eldivan 62.49 311 *i* P **P 17 40 50.0 -1.1**
BALT Daday 62.77 313 *i* P **P 17 40 51.6 -1.3**
SIM Simferopol' 63.14 316 P **P 17 40 55.4 +0.1**
SIM pmax pmax
comp=Z,33nm,1.0s,mb5.4
SIM MLR MLR
comp=Z,1µm,22.0s,MS5.0
MBAR Mbarara 63.73 265 *e*P **P 17 41 00.2 +0.4**
MBAR pmax pmax
comp=Z,224nm,1.8s,mb5.9
MBAR MLR MLR
comp=Z,549nm,21.0s,MS4.7
MBAR Mbarara 63.73 265 *e*P **P 17 41 00.2 +0.4**
comp=Z,224nm,1.8s,mb5.9
MBAR LR LR
comp=Z,549nm,21.0s,MS4.7
ESKT Eskisehir 64.22 310 *i* P **P 17 41 00.5 -2.0**
MOS Moscow 64.75 329 *e*P **P 17 41 04.7 -1.0**
MOS *e*PPP PPP 17 45 00.3 -3.4
MOS *i* S **S 17 49 40.2 -3.1**
MOS pmax pmax
comp=Z,316nm,1.5s,mb6.1
MOS MLR MLR
comp=Z,3µm,19.2s,MS5.5
MOS MLR MLR
comp=E,2µm,19.0s
OBN Obninsk 65.05 328α *i*P **P 17 41 04.4 -3.3**
OBN *e* 17 41 38.7
OBN *e* 17 43 30.3
OBN *e*S S 17 49 40.8 -6.2
OBN *e* 17 50 59.4
OBN SS SS 17 54 03.0 +1.9
OBN pmax pmax
comp=Z,79nm,1.2s,mb5.6
OBN MLR MLR
comp=Z,2µm,20.0s,MS5.3
OBN Obninsk 65.05 328 *e*P **P 17 41 04.0 -3.7**
comp=Z,274nm,1.4s,mb6.1
OBN LR LR
comp=Z,573nm,21.0s,MS4.8
TOO Toolangi 66.15 137 *e*P **P 17 41 17.8 +2.8**
comp=Z,1.9nm,0.8s
TOO Toolangi 66.15 137 *e*P **P 17 41 17.8 +2.8**
TOO pmax pmax
comp=Z,2.0nm,0.8s
MA2 Magadan 66.48 28 *i* P **P 17 41 15.8 -0.9**
MA2 MLR MLR
comp=Z,973nm,20.0s,MS5.0
TIXI Tiksi 66.90 11 *i* P **P 17 41 17.6 -1.6**
TIXI Tiksi 66.90 11 *i* Pr 17 41 17.6
CNB Canberra Magne 67.71 133 *e*P **P 17 41 27.1 +2.1**
comp=Z,327nm,1.0s,mb6.3
AKASG Malin Array Be 67.84 322 P **P 17 41 23.4 -2.1**
comp=Z,4.3nm,0.6s,mb4.7,baz=88,slow=5.6,SNR=4.6
AKASG PP PP 17 43 50.6 -6.5
comp=Z,2.9nm,0.8s,baz=87,slow=6.3,SNR=4.1
PET Petropavlovsk 68.28 36 *e*P **P 17 41 27.3 -0.9**
PET *e*S S 17 50 24.6 -1.5
PET pmax pmax
comp=Z,100nm,15.1s
PET pmax pmax
comp=Z,100nm,17.4s
PET smax
comp=E,100nm,12.1s
PET MLR MLR
comp=Z,1µm,18.0s,MS5.1
PET Petropavlovsk 68.28 36 PFAKE 17 41 40.0 +12
PET LR LR
comp=Z,1µm,19.0s,MS5.1
VRI Vrincioaia 68.41 316 ⇑P **P 17 41 28.9 -0.2**
VRI Vrincioaia 68.41 316 P **P 17 41 29.7 +0.6**
SEY Seymchan 68.63 25 *e*P **P 17 41 29.3 -0.9**
SEY *e* 17 41 54.8
SEY 17 44 06.0
SEY *e*PPP PPP 17 45 47.3 +5.7
SEY *e*S S 17 50 30.7 +0.6
SEY *e*PS PS 17 51 04.1 +5.8
SEY 17 51 30.3
SEY SS SS 17 54 58.4 +2.1
SEY pmax pmax
comp=N,20nm,1.2s
SEY pmax pmax
comp=Z,70nm,1.2s,mb5.5
SEY pmax pmax
comp=E,40nm,1.7s
SEY MLR MLR
comp=Z,6µm,18.0s,MS5.9
SEY MLR MLR
comp=N,5µm,22.0s
SEY MLR MLR
comp=E,4µm,16.0s
MLR Muntele Rosu 68.88 316 ⇑P **P 17 41 31.9 -0.2**
MLR Muntele Rosu 68.88 316 P **P 17 41 31.9 -0.2**
comp=E,14nm,0.9s,mb4.9,baz=115,slow=3.4,SNR=11
MLR pP pP 17 41 39.0 -0.2
comp=E,39nm,0.9s,baz=117,slow=4.3,SNR=18
MLR Muntele Rosu 68.88 316 P **P 17 41 32.8 +0.7**
SNX Sinaia 69.16 315 P **P 17 41 36.0 +2.2**
RZN Rozhen 69.18 311 *e*P **P 17 41 33.0 -1.0**
MTUR Matau 69.45 315 P **P 17 41 40.2 +4.6**
MNK Minsk 69.64 325 *e*P **P 17 41 32.0 -4.5**
PGB Panagyurishte 69.70 312 *e*P **P 17 41 40.0 +2.9**
BURAR Bucovina Array 69.75 318 ⇑P **P 17 41 37.0 -0.3**
PUL Pulkovo 69.88 331 *e*P **P 17 41 42.4 +4.5**
PUL pmax pmax
comp=Z,68nm,0.6s,mb5.8
PUL pmax pmax
comp=N,61nm,0.8s
PUL pmax pmax
comp=E,120nm,1.0s
PUL MLR MLR
comp=N,1µm,22.0s,MS5.5
PUL MLR MLR
comp=Z,3µm,22.0s,MS5.5
PUL MLR MLR
comp=E,3µm,23.0s,MS5.5
MMB Musomiste 69.90 311 *e*P **P 17 41 42.0 +3.6**
VTS Vitosha 70.41 312 P **P 17 41 46.0 +4.6**
VTS Vitosha 70.41 312 *e*P **P 17 41 41.0 -0.4**
KKB Krupnik 70.42 311 *e*P **P 17 41 40.0 -1.5**
JOF Joensuu 70.51 334 *e*p **P 17 41 40.3 -1.4**
LVV L'vov 70.91 320 *e*P **P 17 41 48.3 +3.9**
APA Apatity 71.50 339 ⇑*i*P **P 17 41 47.3 -0.3**
APA *i* pP 17 41 53.3 -1.5
APA *i* 17 42 06.5
APA pmax pmax
comp=Z,44nm,0.9s,mb5.4
APA MLR MLR
comp=Z,4µm,16.0s,MS5.8
SKO Skopje 71.65 311 *e*P **P 17 41 53.0 +4.1**
KWP Kalwaria 71.73 320 *e*P **P 17 41 49.0 -0.3**
KWP *e*pP pP 17 41 55.6 -0.9
KWP *e*S S 17 51 06.9 +0.4
KWP Kalwaria 71.73 320 *e*P **P 17 41 49.0 -0.3**
KWP *e*pP pP 17 41 55.6 -0.8
KWP *e*S S 17 51 06.9 +0.3
KWP MLR MLR 18 10 10.1
comp=Z,1µm,35.2s,MS4.8
KOLS Kolonicke sedl 71.90 319 *i* P **P 17 41 50.5 +0.2**
SUW Suwalki 72.19 324 *e*P **P 17 41 51.2 -0.7**
SUW *e*pP pP 17 41 58.3 -0.9
SUW *e*S S 17 51 11.2 -0.6
SUW MLR MLR 18 20 15.1
comp=Z,1µm,17.4s,MS5.2
GRUS Gruza 72.36 313 ⇑*i*P **P 17 41 49.4 -3.7**
FINES FINESS Array B 72.38 332 P **P 17 41 52.3 -0.6**
comp=Z,9.5nm,0.8s,mb4.8,baz=101,slow=6.7,SNR=24
FINES pP pP 17 41 58.7 -1.4
comp=Z,30nm,0.9s,baz=112,slow=7.5,SNR=18
FINES LR LR 18 19 56.8
comp=Z,2µm,18.6s,MS5.3,baz=279,slow=41
FINES FINESS Array B 72.38 332 P **P 17 41 52.3 -0.6**
FINES pP pP 17 41 58.7 -1.4
FINES LR LR 18 19 56.8
CRVS Cervenica-Dubn 72.43 319 *i* P **P 17 41 53.7 +0.2**
KAF Kangasniemi 72.45 333 *e*p **P 17 41 52.2 -1.2**
comp=Z,31nm,0.8s,mb5.3,baz=104,slow=5.7
KAF Kangasniemi 72.45 333 *e*P **P 17 41 52.2 -1.2**
KAF pmax pmax
comp=Z,31nm,0.8s,mb5.3
KECS Kecovo 73.02 318 *i* P **P 17 41 57.5 +0.6**
WAR Warsaw 73.18 322 *e*P **P 17 41 57.3 -0.5**
WAR *e**PP pP 17 42 03.7 -1.3
WAR *e*S S 17 51 23.3 +0.3
WAR MLR MLR
comp=Z,2µm,24.1s,MS5.2
WAR Warsaw 73.18 322 *e*P **P 17 41 57.3 -0.5**
WAR *e*pP pP 17 42 03.7 -1.3
WAR *e*S S 17 51 23.3 +0.3
WAR *e*SS 17 51 37.9
WAR LR LR
comp=Z,2µm,24.1s,MS5.2
WAR Warsaw 73.18 322 *e*P **P 17 41 57.3 -0.5**
WAR *e*pP pP 17 42 03.6 -1.3
WAR *e*S S 17 51 23.3 +0.3
WAR *e*SS 17 51 37.9
WAR MLR MLR 18 16 38.7
comp=Z,2µm,24.1s,MS5.2
NIE Niedzica 73.24 319 *e*P **P 17 41 59.3 +1.1**
PSZ Piszkesteto 73.35 318 *e*P **P 17 41 58.6 -0.3**
PSZ pmax pmax
comp=Z,40nm,1.2s,mb5.2
PSZ Piszkesteto 73.35 318 *e*P **P 17 41 58.6 -0.3**
comp=Z,40nm,1.2s,mb5.2
OJC Ojcow 73.67 320 *e*P **P 17 42 00.9 +0.2**
PKSM Moragy 74.03 316 ⇑*e*P **P 17 42 02.4 -0.5**
VYHS Vyhne 74.11 318 *i* P **P 17 42 03.4 +0.1**
OKC Ostrava-Krasne 74.69 319 *e*P **P 17 42 07.4 +0.8**
OKC *e*pP pP 17 42 14.8 +1.0
OKC AMS AMS 18 22 40.0
ARCES ARCESS Array B 74.92 340 P **P 17 42 06.5 -1.1**
comp=Z,5.7nm,0.6s,mb4.7,baz=102,slow=6.9,SNR=16
ARCES pP pP 17 42 13.6 -1.2
comp=Z,19nm,0.9s,baz=87,slow=6.6,SNR=6.4
ARCES LR LR 18 17 49.9
comp=Z,4µm,20.9s,MS5.7,baz=116,slow=38
TIP Timpagrande 75.03 308 *e*P **P 17 42 07.3 -1.6**
MORC Moravsky Berou 75.07 319 *e*P **P 17 42 08.5 -0.3**
MORC pmax pmax
comp=Z,41nm,1.0s,mb5.3
MORC Moravsky Berou 75.07 319 *e*P **P 17 42 08.5 -0.3**
comp=Z,41nm,1.0s,mb5.3
CASY Casey 75.28 173 *e*P **P 17 42 10.3 +0.6**
comp=Z,98nm,1.3s,mb5.6
CASY LR LR
comp=Z,989nm,20.0s,MS5.1
GKP Gorka Klasztor 75.59 323 *e*P **P 17 42 11.2 -0.4**
GKP *e*pP pP 17 42 18.2 -0.8
GKP *e*S S 17 51 50.5 +0.7
GKP MLR MLR 18 18 21.6
comp=Z,2µm,22.4s,MS5.3
BOSA Boshof 75.72 238 *e*P **P 17 42 13.0 0.0**
BOSA pmax pmax
comp=Z,111nm,1.5s,mb5.6
BOSA MLR MLR
comp=Z,681nm,19.0s,MS5.0
BOSA Boshof 75.72 238 *e*P **P 17 42 13.0 0.0**
comp=Z,111nm,1.5s,mb5.6
BOSA LR LR
comp=Z,681nm,19.0s,MS5.0
BILL Biilibino 75.78 22d *i*P **P 17 42 11.6 -0.9**
BILL pmax pmax
comp=Z,33nm,1.5s,mb5.0
BILL MLR MLR
comp=Z,2µm,13.0s,MS5.6
BILL Biilibino 75.78 22 *e*P **P 17 42 11.9 -0.6**
comp=Z,41nm,1.7s,mb5.1
BILL LR LR
comp=Z,2µm,20.0s,MS5.5
DPC Dobruska-Polom 75.90 320 *e*P **P 17 42 13.9 +0.4**
DPC *e*pP pP 17 42 21.7 +0.9
DPC AMS AMS 18 20 00.0
comp=Z,900nm,18.6s
KSP Ksiaz 75.96 320 *e*P **P 17 42 14.1 +0.3**
KSP *e**PP pP 17 42 20.8 -0.3
KSP *e*S S 17 51 55.0 +1.1
KSP MLR MLR
comp=Z,2µm,20.0s,MS5.4
KSP Ksiaz 75.96 320 *e*P **P 17 42 14.4 +0.6**
KSP *e*pP pP 17 42 20.7 -0.4
KSP MLR MLR 18 12 45.5
comp=Z,1µm,33.0s,MS5.0
UPC Upice 76.11 320 *e*P **P 17 42 15.5 +0.8**
UPC *e*pP pP 17 42 22.6 +0.6
ARSA Arzberg 76.24 317 ⇑*i*P **P 17 42 14.9 -0.6**
comp=Z,87nm,1.8s,mb5.4
BOJS Bojanci 76.36 315 *e*P **P 17 42 18.2 +2.0**
PERS Pernice 76.50 316 *e*P **P 17 42 18.0 +1.0**
VAE Valguarnera 76.86 307 LR LR 18 19 17.8
comp=Z,496nm,19.2s,MS4.8,baz=336,slow=38
NOUC Port Laguerre 76.87 115 *e*P pP 17 42 26.6 -0.2
LJU Ljubljana 76.88 315 *e*(P) pP 17 42 26.0 -0.4
FX1 Attu Island--F 76.90 38 LR LR 18 18 59.2
comp=Z,30nm,18.8s,baz=129,slow=38
DZM Mont Dzumac 76.99 115 *e*P **P 17 42 22.5 +2.3**
PRU Pruhonice 77.02 319 *e*P **P 17 42 20.1 +0.3**
PRU *e*pP pP 17 42 27.6 +0.5
PRU AMS AMS 18 21 20.0
comp=Z,700nm,21.4s
PVCC Panska Ves 77.03 320 *e*P **P 17 42 20.8 +1.0**
PVCC *e*pP pP 17 42 27.9 +0.8
PVCC AMS AMS 18 20 40.0
comp=Z,1µm,14.1s
BSD Bornholm Skovb 77.10 325 *e*P **P 17 42 19.2 -0.9**
BSD pmax pmax
comp=Z,38nm,0.9s,mb5.3
BSD Bornholm Skovb 77.10 325 *e*P **P 17 42 19.2 -0.9**
comp=Z,38nm,0.9s,mb5.3
BSD Bornholm Skovb 77.10 325 *i* P **P 17 42 19.2 -0.9**
comp=Z,38nm,0.9s,mb5.3
comp=Z,1µm,19.0s
MOA Molln 77.12 317 ⇓*i*P **P 17 42 14.3 -6.1**
comp=Z,42nm,1.4s,mb5.2
BRG Berggiesshubel 77.45 320 *i* P **P 17 42 22.8 +0.7**
BRG *i* pP 17 42 30.0 +0.6
BRG *e*S S 17 52 12.0 +1.9
BRG pmax pmax
comp=Z,139nm,1.5s,mb5.7
BRG MLR MLR
comp=Z,1µm,21.6s,MS5.2
BRG Berggiesshubel 77.45 320 *i* P **P 17 42 22.8 +0.7**
comp=Z,139nm,1.5s,mb5.7
BRG *i* pP 17 42 30.0 +0.6
BRG *e* 17 45 09.0
BRG *e*S S 17 52 12.0 +1.9
BRG LR LR
comp=Z,1µm,21.6s,MS5.2
GEC2 GERESS Array S 77.53 318 *e*P **P 17 42 22.2 -0.4**
GERES GERESS Array B 77.53 318 P **P 17 42 22.7 0.0**
comp=Z,11nm,0.8s,mb4.9,baz=90,slow=5.3,SNR=26
GERES pP pP 17 42 30.3 +0.4
comp=Z,20nm,0.8s,baz=90,slow=3.9,SNR=16
ROBS Robic 77.59 315 *e*P **P 17 42 25.5 +2.4**
KHC Kasperske Hory 77.62 318 *e*P **P 17 42 23.1 0.0**
KHC *e*pP pP 17 42 30.8 +0.4
KHC AMS AMS 18 21 00.0
comp=Z,800nm,19.7s
RUE Ruedersdorf 77.62 322 *e*P **P 17 42 23.1 +0.1**
comp=Z,169nm,1.1s,mb5.9
KBA Koelnbreinsper 77.72 316 ⇑*i*P **P 17 42 20.4 -3.3**
comp=Z,58nm,1.5s,mb5.3
KBA Koelnbreinsper 77.72 316 ⇑*i*P **P 17 42 20.4 -3.3**
KBA pmax pmax
comp=Z,58nm,1.5s,mb5.3
CLL Collm 78.06 321 ⇑*i*P **P 17 42 25.8 +0.4**
CLL *i* 17 42 30.5
CLL pmax pmax
comp=Z,14nm,1.2s,mb4.8
CLL Collm 78.06 321 ⇑*i*P **P 17 42 25.8 +0.4**
comp=Z,14nm,1.2s,mb4.8
CLL *i* 17 42 30.5
CLL *i* 17 42 55.7
CLL Collm 78.06 321 ⇑P **P 17 42 25.8 +0.4**
comp=Z,logA/T=1.1,mb4.8
CLL *i* *PP pP 17 42 30.5 -2.2
CLL *i* *SP sP 17 42 32.4 -2.8
CLL *i* 17 42 55.7
CLL *e* 17 43 20.0
WET Wettzell 78.08 318 *e*P **P 17 42 25.7 +0.1**
NKC Novy Kostel 78.38 320 *e*P **P 17 42 27.9 +0.6**
NKC *e*pP pP 17 42 35.4 +0.8
NKC AMS AMS 18 23 50.0
comp=Z,900nm,17.6s
COP Copenhagen 78.55 325 *e*P pP 17 42 35.4 0.0
COP pmax pmax
comp=Z,38nm,0.9s,mb5.3
COP MLR MLR
comp=Z,430nm,18.0s,MS4.8
COP Copenhagen 78.55 325 *i* P pP 17 42 35.4 0.0
comp=Z,38nm,0.9s
comp=Z,420nm,18.0s
MAW Mawson 78.87 192 P **P 17 42 30.9 +1.3**
comp=Z,15nm,0.9s,mb4.9,baz=57,slow=5.6,SNR=3.5
MAW pP pP 17 42 37.7 +0.8
comp=Z,38nm,0.9s,baz=34,slow=7.9,SNR=7.3
MAW LR LR 18 12 55.3
comp=Z,626nm,18.7s,MS5.0,baz=34,slow=32
MAW Mawson 78.87 192 P **P 17 42 30.9 +1.3**
MAW pP pP 17 42 37.7 +0.8
MAW LR LR 18 12 55.3
WTTA Wattenberg 78.89 317 ⇑*i*P **P 17 42 27.1 -3.0**
comp=Z,138nm,1.8s,mb5.6
WTTA Wattenberg 78.89 317 ⇑*i*P **P 17 42 27.1 -3.0**
WTTA pmax pmax
comp=Z,138nm,1.8s,mb5.6
MOX Moxa 78.92 320 *e*P **P 17 42 30.8 +0.6**
MOX pmax pmax
comp=Z,123nm,1.7s,mb5.6
MOX MLR MLR
comp=Z,700nm,19.0s,MS5.0
MOX Moxa 78.92 320 *e*P **P 17 42 30.8 +0.6**
comp=Z,123nm,1.7s,mb5.6
MOX LR LR
comp=Z,700nm,19.0s,MS5.0
MOX Moxa 78.92 320 *i* P **P 17 42 30.8 +0.6**
comp=Z,logA/T=1.9,mb5.6
MOX L 18 23 35.0
WATA Walderalm 78.93 317 ⇓*i*P **P 17 42 28.8 -1.6**
comp=Z,112nm,1.6s,mb5.5
WATA Walderalm 78.93 317 ⇓*i*P **P 17 42 28.8 -1.6**
WATA pmax pmax
comp=Z,112nm,1.6s,mb5.5
FUR Furstenfeldbru 79.13 317 *e*P **P 17 42 32.0 +0.6**
GRA1 Grafenberg Arr 79.17 319 *e*P **P 17 42 32.1 +0.5**
comp=Z,27nm,1.1s,mb5.1
GRA1 LR LR
comp=Z,500nm,20.8s,MS4.8
GRF Grafenberg Arr 79.17 319 *e*P **P 17 42 32.1 +0.5**
GRF pmax pmax
comp=Z,27nm,1.1s,mb5.1
GRF MLR MLR
comp=Z,500nm,20.8s,MS4.8
GRF Grafenberg Arr 79.17 319 *e*P **P 17 42 32.1 +0.5**
GRF pmax pmax
comp=Z,27nm,1.1s,mb5.1
GRF MLR MLR
comp=Z,500nm,20.8s,MS4.8
GRF Grafenberg Arr 79.17 319 *e*P **P 17 42 32.1 +0.5**
comp=Z,27nm,1.1s,mb5.1
GRF LR LR
comp=Z,500nm,20.8s,MS4.8
SQTA Sankt Quirin 79.18 316 ⇑*i*P **P 17 42 31.4 -0.3**
comp=Z,64nm,1.2s,mb5.4
SQTA Sankt Quirin 79.18 316 ⇑*i*P **P 17 42 31.4 -0.3**
SQTA pmax pmax
comp=Z,64nm,1.2s,mb5.4
MOTA Moosalm 79.25 317 ⇑*i*P **P 17 42 30.7 -1.4**
comp=Z,37nm,1.1s,mb5.2
MOTA Moosalm 79.25 317 ⇑*i*P **P 17 42 30.7 -1.4**
MOTA pmax pmax
comp=Z,37nm,1.1s,mb5.2
NB2 NORSAR Subarra 79.40 331 P **P 17 42 32.4 -0.2**
comp=Z,48nm,1.0s,mb5.4,baz=95,slow=5.0
NB2 NORSAR Subarra 79.40 331 P **P 17 42 32.4 -0.2**
baz=95,slow=5.1
NOA NORSAR Array B 79.40 331 P **P 17 42 33.0 +0.4**
comp=Z,11nm,0.9s,mb4.8,baz=93,slow=5.5,SNR=17
NOA LR LR 18 22 36.4
comp=Z,949nm,19.3s,MS5.2,baz=85,slow=39
NAO01 NORSAR Array S 79.55 330 *e*P **P 17 42 33.4 0.0**
comp=Z,17nm,0.8s,mb5.0
CLZ Clausthal 79.70 321 *e*P **P 17 42 35.2 +0.8**
BSEG Bad Segeberg 79.74 323 *e*P **P 17 42 34.9 +0.3**
HDH Heidenheim 79.84 318 *e*P **P 17 42 35.4 +0.2**
VALM 79.91 314 P **P 17 42 35.5 -0.2**
UBR Uberruh 79.92 317 *e*P **P 17 42 36.0 +0.3**
GRAM 80.03 314 P **P 17 42 36.5 +0.1**
DAVA Damuels 80.09 317 ⇓*i*P **P 17 42 34.9 -1.7**
comp=Z,128nm,1.6s,mb5.6
KONO Kongsberg 80.17 329 PFAKE 17 42 50.0 +13
KONO LR LR
comp=Z,2µm,21.0s,MS5.5
CODM 80.19 314 P **P 17 42 37.0 -0.2**
SIND Sindeldorf 80.22 319 *e*P **P 17 42 38.1 +0.8**
MUD Monsted U'grnd 80.39 326 *i* P **P 17 42 39.1 +1.1**
MUD *e*S S 17 52 42.9 +1.7
MUD pmax pmax
comp=Z,84nm,1.0s,mb5.6
MUD Monsted U'grnd 80.39 326 *i* P **P 17 42 39.1 +1.1**
comp=Z,84nm,1.0s,mb5.6
MUD *e*S S 17 52 42.9 +1.7
MUD Monsted U'grnd 80.39 326 *i* P **P 17 42 39.1 +1.1**
comp=Z,84nm,1.0s,mb5.6
MUD Monsted U'grnd 80.39 326 *e*S S 17 52 42.9 +1.7
comp=Z,570nm,20.0s
BUCH Bad Urach 80.41 318 *e*P **P 17 42 38.7 +0.4**
SUR Sutherland 80.48 235 P **P 17 42 39.3 +0.2**
comp=Z,86nm,1.4s,mb5.5
STU Stuttgart 80.51 318 *e*P **P 17 42 38.9 +0.1**
STU pmax pmax
comp=Z,138nm,1.4s,mb5.7
STU Stuttgart 80.51 318 *e*P **P 17 42 38.9 +0.1**
comp=Z,138nm,1.4s,mb5.7
GUT Gutenstein 80.58 317 *e*P **P 17 42 39.3 +0.1**
TOD Tromm 80.74 319 *e*P **P 17 42 40.6 +0.6**
LBG Lerchenberg 80.78 318 *e*P **P 17 42 40.8 +0.6**
SPAK Spaichingen 80.80 317 *e*P **P 17 42 40.7 +0.3**
PGF Pioggiola 80.88 312 *e*P **P 17 42 41.1 +0.2**
TNS Taunus Mts 80.95 320 *e*P **P 17 42 41.7 +0.6**
BFO Black Forest 81.10 318 *e*P **P 17 42 42.1 +0.2**
PCP Pian Castagno 81.12 314 P **P 17 42 41.9 -0.2**
FELD Feldberg 81.33 317 *e*P **P 17 42 43.5 +0.3**
FIN Finale Ligure 81.38 313 P **P 17 42 43.1 -0.3**
KIZ Kirchzarten 81.39 317 *e*P **P 17 42 43.6 +0.2**
LANF Langenberg 81.42 318 *e*P **P 17 42 43.9 +0.3**
ORX Oropa 81.46 315 P **P 17 42 44.0 +0.1**
ABH Alteburg 81.54 319 *e*P **P 17 42 45.8 +1.6**
ABH Alteburg 81.54 319 *e*P **P 17 42 45.2 +1.0**
LIBD Limburg 81.59 317 *e*P **P 17 42 44.7 +0.2**
ROB Roburent 81.61 314 P **P 17 42 44.7 0.0**
IMI Imperia 81.62 313 P **P 17 42 44.1 -0.7**
TRAV 81.63 315 P **P 17 42 43.8 -0.9**
BBS Basel-Blauen 81.69 317 *e*P **P 17 42 45.6 +0.6**
MONE Monesi 81.71 313 P **P 17 42 44.9 -0.2**
CDF Champ du Feu 81.80 318 *e*P **P 17 42 44.0 -1.5**
comp=Z,134nm,1.4s,mb5.4
CDF Champ du Feu 81.80 318 *e*P **P 17 42 44.0 -1.5**
CDF pmax pmax
comp=Z,67nm,1.4s,mb5.4
SAOF Saorge 81.86 313 *e*P **P 17 42 49.3 +3.3**
RUP Ruppelstein 81.87 319 *e*P **P 17 42 45.8 -0.1**
RUP Ruppelstein 81.87 319 *e*P **P 17 42 47.0 +1.1**
ECH Echery 81.88 318 *e*P **P 17 42 47.3 +1.3**
WTSB Winterswijk 81.91 321 *e*P **P 17 42 46.7 +0.6**
comp=Z,29nm,0.7s,mb5.3
ENR Entracque 81.94 314 P **P 17 42 45.5 -0.9**
WIT Witteveen 81.95 322 *e*P **P 17 42 51.6 +5.4**
SBF Sospel 81.95 313 *e*P **P 17 42 46.7 +0.3**
comp=Z,220nm,1.0s,mb5.8
SBF Sospel 81.95 313 *e*P **P 17 42 46.7 +0.3**
SBF pmax pmax
comp=Z,110nm,1.0s,mb5.7
RSP Reno Superiore 82.00 314 P **P 17 42 46.2 -0.5**
STV Sta Anna Valdi 82.01 314 P **P 17 42 46.0 -0.7**
BHB Bricherasio 82.01 314 P **P 17 42 45.9 -0.9**
LSD Ceresole Reale 82.05 315 P **P 17 42 47.2 +0.3**
TOUF Mont Tournerai 82.08 313 *e*P **P 17 42 52.3 +5.2**
HINF Hinteralfeld 82.11 317 *e*P **P 17 42 45.3 -1.9**
FENE Fenestrelle 82.14 314 P **P 17 42 47.4 0.0**
PZZ Prazzo 82.15 314 P **P 17 42 46.1 -1.4**
LOMF Lomont 82.16 317 *e*P **P 17 42 50.6 +3.2**
LPG La Plagne 82.33 315 *e*P **P 17 42 49.1 +0.7**
comp=Z,101nm,0.8s,mb5.5
LPG La Plagne 82.33 315 *e*P **P 17 42 49.1 +0.7**
LPG pmax pmax
comp=Z,51nm,0.8s,mb5.5
LPL La Plagne 82.34 315 *e*P **P 17 42 49.1 +0.7**
comp=Z,122nm,0.8s,mb5.6
LPL La Plagne 82.34 315 *e*P **P 17 42 49.1 +0.7**

LPL pmax pmax
comp=Z,61nm,0.8s,mb5.6
RRL Cesana Torines 82.35 314 P **P 17 42 48.5 0.0**
SURF Saint Ours 82.36 314 *e*P **P 17 42 52.2 +3.7**
MBDF Montbardon 82.37 314 *e*P **P 17 42 48.3 -0.3**
comp=Z,131nm,1.3s,mb5.4
MBDF Montbardon 82.37 314 *e*P **P 17 42 48.3 -0.3**
MBDF pmax pmax
comp=Z,65nm,1.3s,mb5.4
RSL Roselend 82.41 315 *e*P **P 17 42 50.1 +1.3**
BNI Bardonecchia 82.41 314 *e*P **P 17 42 49.4 +0.6**
BNI pmax pmax
comp=Z,40nm,0.8s,mb5.4
BNI Bardonecchia 82.41 314 *e*P **P 17 42 49.4 +0.6**
comp=Z,40nm,0.8s,mb5.4
HAU Haudompre 82.44 317 *e*P **P 17 42 49.1 +0.2**
comp=Z,108nm,0.9s,mb5.5
HAU *e*R
comp=Z,581nm,21.5s
HAU Haudompre 82.44 317 *e*P **P 17 42 49.1 +0.2**
HAU pmax pmax
comp=Z,54nm,0.9s,mb5.5
HAU MLR MLR
comp=Z,580nm,21.5s,MS4.9
WLF Walferdange 82.46 319 *e*P **P 17 42 47.0 -1.9**
WLF *e**PP pP 17 42 54.9 -1.4
WLF pmax pmax
comp=Z,236nm,1.8s,mb5.8
WLF Walferdange 82.46 319 *e*P **P 17 42 47.0 -1.9**
comp=Z,236nm,1.8s,mb5.8
WLF *e*pP pP 17 42 54.9 -1.4
HGN Heimansgroeve 82.53 320 *e*P **P 17 42 55.6 +6.3**
comp=Z,48nm,2.2s,mb5.1
HGN *e*x x 17 47 13.3
HGN *e*S S 17 52 54.8 -8.5
HGN *e*SS tx 17 57 57.3
FRF La Foret Royal 82.54 313 *e*P **P 17 42 49.9 +0.4**
LMR La Mourre 82.66 313 *e*P **P 17 42 50.3 +0.2**
comp=Z,169nm,1.4s,mb5.6
LMR La Mourre 82.66 313 *e*P **P 17 42 50.3 +0.2**
LMR pmax pmax
comp=Z,84nm,1.4s,mb5.6
THEF They Montfort 82.67 318 *e*P **P 17 42 47.3 -2.8**
CABF La Chapelle 82.71 316 *e*P **P 17 42 49.3 -1.0**
comp=Z,273nm,1.5s,mb5.8
CABF La Chapelle 82.71 316 *e*P **P 17 42 49.3 -1.0**
CABF pmax pmax
comp=Z,136nm,1.5s,mb5.8
ORIF Oris-en-Rattie 82.99 314 *e*P **P 17 42 52.3 +0.5**
comp=Z,51nm,0.8s,mb5.3
ORIF *e*R
comp=Z,583nm,19.0s
GRN Grenoble 83.06 315 *e*P **P 17 42 52.8 +0.6**
OG05 Jujurieux 83.19 315 *e*P **P 17 42 52.9 +0.1**
MEZF Maizieres J'vi 83.27 318 *e*P **P 17 42 51.8 -1.3**
GIVF Givet 83.28 320 *e*P **P 17 42 52.0 -1.2**
SMRF Simiane la Rot 83.28 313 *e*P **P 17 42 54.2 +0.9**
comp=Z,248nm,1.6s,mb5.7
BAIF Baives 83.68 320 *e*P **P 17 42 53.8 -1.4**
comp=Z,64nm,1.0s,mb5.4
BAIF Baives 83.68 320 *e*P **P 17 42 53.8 -1.4**
BAIF pmax pmax
comp=Z,32nm,1.0s,mb5.4
VIVF Saint-Julien-l 83.85 314 *e*P **P 17 42 56.5 +0.3**
comp=Z,141nm,1.3s,mb5.6
VIVF Saint-Julien-l 83.85 314 *e*P **P 17 42 56.5 +0.3**
VIVF pmax pmax
comp=Z,70nm,1.3s,mb5.6
SMF Signal de Mont 84.25 316 *e*P **P 17 42 58.3 +0.1**
comp=Z,126nm,1.2s,mb5.6
SMF Signal de Mont 84.25 316 *e*P **P 17 42 58.3 +0.1**
SMF pmax pmax
comp=Z,63nm,1.2s,mb5.6
SSF Saint Saulge 84.44 317 *e*P **P 17 42 59.1 0.0**
SSF pmax pmax
comp=Z,97nm,1.5s,mb5.7
SSF Saint Saulge 84.44 317 *e*P **P 17 42 59.1 0.0**
comp=Z,96nm,1.5s,mb5.7
PLDF La Plantade 84.47 316 *e*P **P 17 43 00.9 +1.6**
PLDF La Plantade 84.47 316 *e*P **P 17 42 59.7 +0.4**
LASF Ste Croix 84.51 314 *e*P **P 17 43 00.3 +0.7**
AVF Avril sur Loir 84.57 316 *e*P **P 17 42 59.9 +0.1**
comp=Z,231nm,1.7s,mb5.7
AVF Avril sur Loir 84.57 316 *e*P **P 17 42 59.9 +0.1**
AVF pmax pmax
comp=Z,116nm,1.7s,mb5.7
AGO Saint Agoulin 84.81 316 *e*P **P 17 43 02.5 +1.5**
PYM Petit Puy Mans 84.92 315 *e*P **P 17 43 05.5 +3.9**
BGF Bois d'Agland 84.94 316 *e*P **P 17 43 02.2 +0.5**
TCF Toulx Ste Croi 85.41 316 *e*P **P 17 43 03.7 -0.3**
comp=Z,52nm,1.1s,mb5.3
TCF Toulx Ste Croi 85.41 316 *e*P **P 17 43 03.7 -0.3**
TCF pmax pmax
comp=Z,26nm,1.1s,mb5.3
CAF Calviac 85.68 315 *e*P **P 17 43 06.2 +0.8**
comp=Z,296nm,1.7s,mb5.9
CAF Calviac 85.68 315 *e*P **P 17 43 06.2 +0.8**
CAF pmax pmax
comp=Z,148nm,1.7s,mb5.9
SYO Syowa Base 85.72 197 ⇑P **P 17 43 07.8 +2.8**
SYO Syowa Base 85.72 197 ⇓PcP PcP 17 43 12.5 +4.1
SYO Syowa Base 85.72 197 ⇓pP pP 17 43 17.3 +4.9
MTLF Montolieu 85.77 313 *e*P **P 17 43 06.4 +0.5**
TNA Tin City 85.87 24 *e*P **P 17 43 04.0 -1.8**
RJF Les Rejaudoux 86.02 315 *e*P **P 17 43 07.9 +0.8**
RJF *e*R
comp=Z,600nm,20.8s
RPZ Rata Peaks 86.33 135 LR LR 18 20 53.1
comp=Z,1μm,20.6s,MS5.3,baz=210,slow=35
JMIC Jan Mayen 86.36 341 LR LR 18 23 52.3
comp=Z,1μm,18.6s,MS5.4,baz=81,slow=37
LCP Cassop 86.55 325 *e*P **P 17 43 10.8 +1.4**
LFF La Frestale 86.61 315 *e*P **P 17 43 11.0 +1.0**
comp=Z,225nm,1.6s,mb5.8
LFF La Frestale 86.61 315 *e*P **P 17 43 11.0 +1.0**
LFF pmax pmax
comp=Z,113nm,1.6s,mb5.8
LDF La Druitiere 86.67 318 *e*P **P 17 43 10.6 +0.4**
HPK Haverah Park 86.76 324 *e*P **P 17 43 11.0 +0.5**
HPK AMb AMB 17 43 20.2
comp=Z,302nm,1.4s,mb6.3
KBI1 Birley Grange 86.82 323 *e*P **P 17 43 11.2 +0.4**
KBI1 AMb AMB 17 43 20.1
comp=Z,161nm,1.6s,mb6.0
FLN La Foliniere 86.88 319 *e*P **P 17 43 11.5 +0.3**
comp=Z,218nm,1.5s,mb5.9
FLN *e*R
comp=Z,849nm,21.8s
FLN La Foliniere 86.88 319 *e*P **P 17 43 11.5 +0.3**
FLN pmax pmax
comp=Z,109nm,1.5s,mb5.9
FLN MLR MLR
comp=Z,850nm,21.8s,MS5.1
LHO Holmfirth 86.97 324 *i*P **P 17 43 13.3 +1.8**
LHO Holmfirth 86.97 324 *e*P **P 17 43 12.3 +0.8**
LHO AMb AMB 17 43 21.9
comp=Z,190nm,1.3s,mb6.2
MFF Saint Martin d 86.98 316 *e*P **P 17 43 12.1 +0.3**
comp=Z,120nm,1.3s,mb5.7
MFF Saint Martin d 86.98 316 *e*P **P 17 43 12.1 +0.3**
MFF pmax pmax
comp=Z,60nm,1.3s,mb5.7
KWE Weaver Farm 87.05 323 *e*P **P 17 43 13.2 +1.3**
KWE AMb AMB 17 43 22.3
comp=Z,236nm,1.4s,mb6.2
ANM Nome 87.14 25 *e*P **P 17 43 12.7 +0.6**
GRR Gorron 87.19 318 *e*P **P 17 43 13.2 +0.5**
ESK Eskdalemuir 87.43 325 PFAKE 17 43 30.0 +16
ESK LR LR
comp=Z,268nm,21.0s,MS4.6
EAU Auchinoon 87.47 326 *e*P **P 17 43 14.5 +0.6**
EAU AMb AMB 17 43 23.8
comp=Z,124nm,1.6s,mb5.9
ETSF Etsaut 87.85 313 *e*P **P 17 43 18.5 +2.5**
comp=Z,91nm,1.4s,mb5.5
ETSF Etsaut 87.85 313 *e*P **P 17 43 18.5 +2.5**
ETSF pmax pmax
comp=Z,46nm,1.4s,mb5.5
EAB Aberfoyle 87.89 326 *e*P **P 17 43 17.1 +1.2**
EAB AMb AMB 17 43 25.6
comp=Z,108nm,1.8s,mb5.8
SJPF Ste Jean 88.30 313 *e*P **P 17 43 20.6 +2.5**
SGMF Saint Gilles 88.33 318 *e*P **P 17 43 18.5 +0.3**
ROSF Rostrenen 88.78 319 *e*P **P 17 43 20.8 +0.5**
URZ Urewera 89.60 129 LR LR 18 26 35.2
comp=Z,1μm,18.7s,MS5.3,baz=286,slow=38
ESDC Sonseca Array 90.95 310 P **P 17 43 31.9 +1.2**
comp=Z,5.8nm,0.6s,mb5.1,baz=56,slow=4.8,SNR=9.8
ESDC pP pP 17 43 38.5 +0.5
comp=Z,10nm,0.8s,baz=61,slow=4.1,SNR=8.7
ESLA Sonseca Array 90.95 310 PFAKE 17 43 40.0 +9.3
ESLA LR LR
comp=Z,3μm,19.0s,MS5.7
IMA Indian Mountai 91.32 22 *e*P **P 17 43 32.7 +1.0**
IMA pmax pmax
comp=Z,89nm,0.9s,mb6.1
IMA Indian Mountai 91.32 22 *e*P **P 17 43 32.9 +1.2**
BORG Borgarnes 93.08 337 LR LR 18 27 18.9
comp=Z,965nm,18.1s,MS5.3,baz=62,slow=37
VNDA Vanda 93.28 168 P **P 17 43 39.1 -1.4**
comp=Z,1.6nm,1.0s,mb4.4,baz=352,slow=3.3,SNR=2.0
VNDA pP pP 17 43 47.4 -0.5
comp=Z,7.5nm,0.9s,baz=288,slow=3.6,SNR=7.0
VNDA LR LR 18 23 00.8
comp=Z,1μm,18.1s,MS5.4,baz=300,slow=34
COLA College 94.03 22 *i*P **P 17 43 44.6 +0.4**
COLA MLR MLR
comp=Z,864nm,20.0s,MS5.2
MCK McKinley 94.16 23 *e*P **P 17 43 45.3 +0.5**
MCK pmax pmax
comp=Z,14nm,1.0s,mb5.3
MCK McKinley 94.16 23 *e*P **P 17 43 45.3 +0.5**
comp=Z,14nm,1.0s,mb5.4
SBA Scott Base 94.39 168 PFAKE 17 44 00.0 +14
SBA LR LR
comp=Z,676nm,19.0s,MS5.1
ILAR Eielson Array 94.44 22 P **P 17 43 45.4 -0.7**
comp=Z,0.8nm,0.7s,baz=305,slow=5.1,SNR=8.5
ILAR pP pP 17 43 53.2 -0.3
comp=Z,3.3nm,0.8s,baz=287,slow=3.5,SNR=16
ILAR PP PP 17 47 33.1 -3.2
comp=Z,0.9nm,1.0s,baz=270,slow=6.3,SNR=3.8
ILAR PKKPbc 18 00 44.5
comp=Z,0.3nm,0.9s,baz=108,slow=2.9,SNR=2.8
ILAR LR LR 18 30 21.3
comp=Z,790nm,19.6s,MS5.2,baz=69,slow=38
PWA Palmer West 94.73 25 *e*P **P 17 43 47.9 +0.4**
SLKM Skilak Lake 95.10 27 *e*P pP 17 43 55.8 -0.8
KDAK Kodiak Island 95.16 30 PFAKE 17 44 00.0 +10
KDAK LR LR
comp=Z,215nm,20.0s,MS4.6
SML Sawmill 95.31 25 *e*P **P 17 43 50.3 +0.1**
INK Inuvik 96.67 16 *e*P **P 17 43 56.0 -0.2**
INK pmax pmax
comp=Z,28nm,1.1s
INK Inuvik 96.67 16 P **P 17 43 56.8 +0.6**
comp=Z,2.9nm,1.1s,mb4.6,baz=345,slow=3.8,SNR=5.7
INK PKKPbc 18 00 46.2
comp=Z,1.7nm,1.0s,baz=105,slow=5.0,SNR=3.3
INK LR LR 18 34 13.7
comp=Z,997nm,18.3s,MS5.3,baz=156,slow=40
INK Inuvik 96.67 16 *e*P **P 17 43 56.0 -0.2**
comp=Z,28nm,1.1s,mb5.6
RES Resolute Bay 97.05 2 *e*P **P 17 43 50.4 -7.5**
RES pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
RES Resolute Bay 97.05 2 *e*P **P 17 43 50.4 -7.5**
comp=Z,4.0nm,0.9s,mb4.8
DBIC Dimbokro 97.84 278 P **P 17 44 04.3 +1.5**
comp=Z,2.9nm,0.8s,mb4.8,baz=72,slow=3.2,SNR=3.1
DBIC LR LR 18 27 03.1
comp=Z,821nm,20.3s,MS5.2,baz=69,slow=35
POHA Pohakuloa 106.08 67 PFAKE 17 49 00.0
POHA LR LR
comp=Z,1.0nm,22.0s
YKA Yellowknife Ar 106.10 13 Pdiff Pdif 17 44 41.5 +3.1
comp=Z,0.1nm,0.7s,baz=86,slow=39,SNR=3.3
YKA PP PP 17 48 58.8 -6.2
comp=Z,0.6nm,0.8s,baz=334,slow=7.5,SNR=5.5
YKA PKKPbc 18 00 13.8
comp=Z,0.8nm,0.7s,baz=148,slow=3.0,SNR=8.4
YKA Yellowknife Ar 106.10 13 Pdif Pdif 17 44 41.5 +3.1
YKA PP PP 17 48 58.9 -6.2
YKA PKKPbc 18 00 13.8
RAR Rarotonga 107.93 110 Pdiff Pdif 17 44 50.7 +3.2
comp=Z,14nm,0.6s,baz=118,slow=3.1,SNR=3.1
OCWA Octopus Mounta 114.81 27 PFAKE 17 49 20.0 +10
OCWA LR LR
comp=Z,539nm,21.0s,MS5.1
SCHQ Schefferville 115.17 348 PFAKE 17 49 20.0 +9.2
SCHQ LR LR
comp=Z,2μm,21.0s,MS5.7
FFC Flin Flon 115.85 10 PFAKE 17 49 20.0 +7.8
FFC LR LR
comp=Z,237nm,20.0s,MS4.8
NEW Newport 117.38 23 PFAKE 17 49 20.0 +4.7
NEW LR LR
comp=Z,938nm,20.0s,MS5.4
HUMO Hull Mountain 119.17 31 PFAKE 17 49 30.0 +11
HUMO LR LR
comp=Z,757nm,22.0s,MS5.3
MSO Missoula 119.78 22 *e*PKPdf PKPdf 17 49 19.0 -1.0
MSO LR LR
comp=Z,536nm,22.0s,MS5.1
CHMT Chamberlain Mo 119.95 21 *e*PKPdf PKPdf 17 49 18.7 -1.6
BMO Blue Mountains 120.07 25 PKIKP PKPdf 17 49 22.4 +1.8
BMO MLR MLR
comp=Z,569nm,21.0s,MS5.2
MOD Modoc 121.01 29 PFAKE 17 49 30.0 +7.4
MOD LR LR
comp=Z,587nm,19.0s,MS5.2
DGMT Dagmar 121.29 14 PFAKE 17 49 30.0 +7.1
DGMT LR LR
comp=Z,904nm,20.0s,MS5.4
WVOR Wild Horse Val 121.40 28 *e*PKIKP PKPdf 17 49 21.6 -1.7
PMSA Palmer Station 121.47 191 PFAKE 17 49 30.0 +7.1
PMSA LR LR
comp=Z,637nm,20.0s,MS5.3
MCMT McKenzie Canyo 121.88 22 PKPdf PKPdf 17 49 22.1 -2.0
HLID Hailey 122.33 24 PFAKE 17 49 30.0 +5.0
HLID LR LR
comp=Z,605nm,20.0s,MS5.2
LAO LASA Array 122.41 16 PFAKE 17 49 30.0 +4.9
LAO LR LR
comp=Z,956nm,21.0s,MS5.4
YMR Madison River 122.70 21 *e*PKPdf PKPdf 17 49 28.7 +3.1
YFT Old Faithful 122.94 21 PKPdf PKPdf 17 49 25.7 -0.4
LKWY Lake 122.99 21 *e*PKIKP PKPdf 17 49 26.2 0.0
LKWY MLR MLR
comp=Z,1μm,19.0s,MS5.6
IMW Indian Meadow 123.38 21 *e*PKPdf PKPdf 17 49 25.7 -1.4
BMN Battle Mountai 123.62 28 PFAKE 17 49 40.0 +12
BMN LR LR
comp=Z,292nm,19.0s,MS5.0
LOHW Long Hollow 123.75 21 *e*PKPdf PKPdf 17 49 26.0 -1.8
SNOW Snow King Moun 123.82 22 *e*PKPdf PKPdf 17 49 26.3 -1.6
CMB Columbia Colle 123.86 33 PFAKE 17 49 40.0 +12
CMB LR LR
comp=Z,482nm,19.0s,MS5.2
SAO San Andreas Ge 124.21 34 PFAKE 17 49 40.0 +11
SAO LR LR
comp=Z,496nm,22.0s,MS5.1
AHID Auburn Hatcher 124.30 22 PFAKE 17 49 40.0 +11
AHID LR LR
comp=Z,710nm,20.0s,MS5.3
NVAR Mina Array Bea 124.65 31 PKP PKPdf 17 49 27.4 -2.3
comp=Z,0.6nm,0.7s,baz=328,slow=1.7,SNR=3.3
NVAR PKKPbc 17 59 15.7
comp=Z,3.0nm,1.1s,baz=148,slow=5.0,SNR=6.9
MNV Mina 124.72 31 *e*PKIKP PKPdf 17 49 32.3 +2.4
MNV MLR MLR
comp=Z,503nm,19.0s,MS5.2
BW06 Boulder Array 124.86 21 PFAKE 17 49 40.0 +10
BW06 LR LR
comp=Z,692nm,21.0s,MS5.3
PDAR Pinedale Array 124.86 21 PKP PKPdf 17 49 27.5 -2.5
comp=Z,1.8nm,0.7s,baz=331,slow=3.3,SNR=4.9
PDAR PKKPbc 17 59 05.4
comp=Z,0.4nm,0.8s,baz=142,slow=7.7,SNR=3.1
HWUT Hardware Ranch 125.11 23 PKPdf PKPdf 17 49 28.3 -2.2
HWUT LR LR
comp=Z,941nm,20.0s,MS5.5
RSSD Black Hills 125.38 16 PFAKE 17 49 40.0 +9.1
RSSD LR LR
comp=Z,2.0nm,20.0s
TPH Tonopah 125.46 30 PFAKE 17 49 40.0 +8.7
TPH LR LR
comp=Z,471nm,20.0s,MS5.2
TRCR Troy Canyon 126.05 29 *e*PKPdf PKPdf 17 49 31.2 -1.2
NLU North Lily Min 126.30 25 PKPdf PKPdf 17 49 28.6 -4.2
DAC Darwin (Calif) 126.65 32 PFAKE 17 49 40.0 +6.5
DAC LR LR
comp=Z,430nm,19.0s,MS5.2
MIV Mineville/With 126.75 349 *e*PKPdf PKPdf 17 49 33.0 -0.5
MVU Marysvale 127.45 26 PKPdf PKPdf 17 49 32.6 -2.5
MVU LR LR
comp=Z,483nm,22.0s,MS5.1
MSU Marysvale 127.46 26 *e*PKIKP PKPdf 17 49 33.6 -1.5
HRV Harvard--Oak R 127.84 347 PFAKE 17 49 40.0 +4.3
HRV LR LR
comp=Z,653nm,21.0s,MS5.3
NEN Nelson 128.54 30 *e*PKPdf PKPdf 17 49 35.1 -2.2
ISCO Idaho Springs 128.85 19 PFAKE 17 49 50.0 +12
ISCO LR LR
comp=Z,627nm,20.0s,MS5.3
PV10 Paradox Valley 128.87 23 PKPdf PKPdf 17 49 37.2 -0.6
PFO Pinyon Flat Ob 129.28 33 PFAKE 17 49 50.0 +11
PFO LR LR
comp=Z,135nm,20.0s,MS4.6
ERPA Erie 129.61 354 PFAKE 17 49 50.0 +11
ERPA LR LR
comp=Z,987nm,20.0s,MS5.5
AAM Ann Arbor 129.68 358 PFAKE 17 49 50.0 +11
AAM LR LR
comp=Z,927nm,20.0s,MS5.5
WUAZ Wupatki 130.31 27 PFAKE 17 49 50.0 +9.3
WUAZ LR LR
comp=Z,9μm,19.0s
RCBR Riachuelo 130.33 269 PFAKE 17 49 50.0 +8.7
RCBR LR LR
comp=Z,840nm,20.0s,MS5.4
SDCO Great Sand Dun 130.74 21 PFAKE 17 49 50.0 +8.6
SDCO LR LR
comp=Z,1μm,21.0s,MS5.5
ACSO Alum Creek Sta 131.71 357 PFAKE 17 49 50.0 +6.8
ACSO LR LR
comp=Z,1μm,19.0s,MS5.6
ANMO Albuquerque 132.87 23 PFAKE 17 49 50.0 +4.4
ANMO LR LR
comp=Z,574nm,20.0s,MS5.3
LAZ Ladron 133.08 24 *e*PKPdf PKPdf 17 49 45.0 -1.0
CBN Corbin 133.13 351 PFAKE 17 49 50.0 +4.1
CBN LR LR
comp=Z,1μm,21.0s,MS5.7
LPM Los Pinos Moun 133.36 24 PKPdf PKPdf 17 49 41.1 -5.3
CCM Cathedral Cave 133.69 6 PFAKE 17 50 00.0 +13
CCM LR LR
comp=Z,1μm,21.0s,MS5.5
BLA Blacksburg 134.51 354 PFAKE 17 50 00.0 +12
BLA LR LR
comp=Z,1μm,21.0s,MS5.6
AMTX Amarillo 134.61 18 PFAKE 17 50 00.0 +11
AMTX LR LR
comp=Z,952nm,21.0s,MS5.5
WVT Waverly 135.84 2 *e*PKIKP PKPdf 17 49 47.2 -3.8
GDL2 Guadalupe Moun 136.11 23 PKPdf PKPdf 17 49 50.3 -1.3
MNTX Cornudas Mount 136.15 24 *e*PKPdf PKPdf 17 49 49.8 -1.8
MNTX LR LR
comp=Z,663nm,19.0s,MS5.4
CPCT Cooper Cave 136.54 358 PKPdf PKPdf 17 49 55.8 +3.6
MIAR Mount Ida 136.85 9 *e*PKIKP PKPdf 17 49 50.0 -2.8
MIAR *e* 17 49 55.4
MIAR MLR MLR
comp=Z,1μm,20.0s,MS5.6
OXF Oxford 137.37 4 PFAKE 17 50 00.0 +6.2
OXF LR LR
comp=Z,858nm,20.0s,MS5.5
GOGA Godfrey 138.53 357 PFAKE 17 50 00.0 +4.0
GOGA LR LR
comp=Z,1μm,20.0s,MS5.7
NHSC New Hope 138.54 353 PFAKE 17 50 00.0 +4.0
NHSC LR LR
comp=Z,856nm,21.0s,MS5.5
TXAR Lajitas Array 138.93 24 PKP PKPdf 17 49 54.3 -2.5
comp=Z,1.2nm,0.9s,baz=250,slow=0.4,SNR=6.1
LRAL Lakeview Retre 138.96 1 PFAKE 17 50 10.0 +13
LRAL LR LR
comp=Z,976nm,21.0s,MS5.5
JCT Junction City 139.27 19 *e*PKIKP PKPdf 17 49 55.2 -2.2
JCT MLR MLR
comp=Z,696nm,21.0s,MS5.4
NATX Nacogdoches 139.37 11 PFAKE 17 50 10.0 +12
NATX LR LR
comp=Z,1μm,20.0s,MS5.6
HKT Hockley 140.86 14 PFAKE 17 50 10.0 +10
HKT LR LR
comp=Z,1μm,20.0s,MS5.6
BAO Brasilia Array 142.22 255 P PKPdf 17 50 01.0 -2.0
TRQA Tornquist 143.27 212 *e*PKPpre 17 49 58.3
DWPF Disney 143.62 353 PFAKE 17 50 10.0 +11
DWPF LR LR
comp=Z,934nm,21.0s,MS5.5
PLCA Paso Flores 144.86 200 *e*PKIKP PKPdf 17 50 03.6 -3.3
PLCA MLR MLR
comp=Z,564nm,19.0s
PLCA Paso Flores 144.86 200 PKP PKPdf 17 50 04.2 -2.8
comp=Z,28nm,0.8s,baz=155,slow=4.1,SNR=21
BBL Barber's Block 146.18 314 *e*P PKPbc 17 50 12.8 +6.2
CPUP Villa Florida 147.43 233 PKPdf PKPdf 17 50 12.0 +0.3
FCH Farellones 151.15 208 *e*P PKPdf 17 50 19.4 +2.1
SDV Santo Domingo 157.18 318 PKP PKPdf 17 50 24.6 -1.6
comp=Z,9.9nm,1.1s,baz=336,slow=20,SNR=3.5
SDV PKPab PKPab 17 50 56.1 +1.1
comp=Z,13nm,0.9s,baz=331,slow=8.2,SNR=4.2
LPAZ La Paz 160.88 244 *e*PKIKP PKPdf 17 50 28.1 -2.2
LPAZ MLR MLR
comp=Z,455nm,21.0s
LPAZ La Paz 160.88 244 PKP PKPdf 17 50 28.3 -2.0
comp=Z,1.7nm,1.0s,baz=219,slow=6.5,SNR=2.6
LPAZ PKPab PKPab 17 51 14.3 +3.5
comp=Z,2.0nm,0.8s,baz=243,slow=2.3,SNR=2.2
OTAV Otavalo 168.77 318 *e*PKP PKPdf 17 50 42.4 +5.1
OTAV LR LR
comp=Z,628nm,19.0s
NNA Nana 170.32 247 PFAKE 17 50 50.0 +12
NNA LR LR
comp=Z,151nm,19.0s
PAYG Puerto Ayora 171.33 30 PFAKE 17 50 50.0 +11
PAYG LR LR
comp=Z,378nm,20.0s

*IDC **26** 17:36:33.7±1.1, 7.60N×93.75E, mb4.0/8, mb1 4.2/9, mb1mx4.0/19, mbtmp4.0/9, ML4.1/1, Error ellipse: s-maj=42.6km s-min=24.1km az=53.0*
*NEIC **26** 17:36:38.4±0.7, 7.68N×93.85E, h30km, mb4.3/1, Error ellipse: s-maj=19.4km s-min=14.8km az=78.0*
ISC 26 17:36:37.0±1.1, 7.7N±0.2×93.9E±0.2, h33km, n15, σ0°88/13, mb4.0/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.73**	**24**	Pn	**P**	**17 39 24.3**	**-0.8**
	0.4nm,0.3s,baz=211,slow=14,SNR=3.1						
MDRS	**Chennai**	**14.46**	**293**	*e*	**P**	**17 40 12.0**	**+11**
SONM	**Songino Array**	**41.35**	**13**	P	**P**	**17 44 23.0**	**+1.5**
	0.7nm,0.8s,mb3.3,baz=213,slow=9.2,SNR=3.1						
SONM				PcP	PcP	17 46 21.3	+1.2
	0.6nm,0.8s,baz=203,slow=4.7,SNR=3.8						
ZAL	**Zalesovo**	**46.67**	**353**	P	**P**	**17 45 04.8**	**+0.5**
	1.5nm,0.7s,mb4.0,baz=294,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**48.34**	**125**	P	**P**	**17 45 17.6**	**-0.3**
	1.1nm,0.5s,mb4.2,baz=304,slow=8.5,SNR=14						
BVAR	**Borovoye Array**	**49.06**	**341**	P	**P**	**17 45 23.0**	**+0.1**
	1.0nm,0.8s,mb3.9,baz=135,slow=14,SNR=2.8						
CHKZ	**Chkalovo**	**49.55**	**342**	*e*P	**P**	**17 45 25.9**	**-0.8**
	2.1nm,0.7s,mb4.3						
BRTR	**Keskin Array B**	**62.37**	**311**	P	**P**	**17 46 57.4**	**-1.5**
	0.8nm,0.5s,mb4.1,baz=117,slow=5.5,SNR=3.7						
FINES	**FINESS Array B**	**72.75**	**332**	P	**P**	**17 48 03.6**	**+0.1**
	2.2nm,0.7s,mb4.2,baz=117,slow=8.5,SNR=4.6						
GERES	**GERESS Array B**	**77.80**	**318**	P	**P**	**17 48 34.0**	**+1.3**
	1.9nm,0.9s,mb4.0,baz=27,slow=3.0,SNR=3.9						
GERES	**GERESS Array B**	**77.80**	**318**	P	**P**	**17 48 34.0**	**+1.3**
NB2	**NORSAR Subarra**	**79.76**	**331**	P	**P**	**17 48 43.4**	**+0.2**
	1.4nm,0.8s,mb3.9,baz=92,slow=5.3						
NOA	**NORSAR Array B**	**79.76**	**331**	P	**P**	**17 48 43.0**	**-0.2**
	1.4nm,0.7s,mb4.0,baz=91,slow=5.7,SNR=4.2						
PDAR	**Pinedale Array**	**125.38**	**21**	PKP	PKPdf	17 55 37.8	+2.7
	0.5nm,0.8s,baz=27,slow=3.3,SNR=4.8						
PLCA	**Paso Flores**	**144.34**	**200**	PKP	PKPdf	17 56 12.2	+2.1
	2.8nm,0.8s,baz=177,slow=2.2,SNR=6.6						

*IDC **26** 17:40:20.5±1.0, 7.75N×94.20E, mb3.7/6, mb1 3.9/7,*

mb1mx3.8/18, mbtmp3.7/7, ML3.1/1, Error ellipse: s-maj=32.1km s-min=22.0km az=61.0

NEIC ***26*** *17:40:24.6±0.8, 7.81N×94.20E, h30km, mb4.3/2, Error ellipse: s-maj=24.2km s-min=16.0km az=80.0*

ISC 26 17:40:23.0±0.9, 7.9N±0.1×94.3E±0.2, h30km, n10, σ1$09/9, mb3.9/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.46**	**23**	Pn	P		**P**	**17 43 07.3**	**-0.5**
	0.0nm,0.3s,baz=209,slow=14,SNR=5.5								
LSA	**Lhasa**	**21.92**	**353**	*eP*	P		**P**	**17 45 16.2**	**+0.5**
	6.8nm,0.8s,mb4.1								
SONM	**Songino Array**	**41.14**	**12**	P	P		**P**	**17 48 08.9**	**+2.8**
	0.4nm,0.6s,mb3.2,baz=198,slow=9.1,SNR=3.5								
ZAL	**Zalesovo**	**46.57**	**352**	P	P		**P**	**17 48 49.6**	**-0.3**
	1.2nm,0.5s,mb4.1,baz=303,slow=11,SNR=6.7								
WRA	**Warramunga Arr**	**48.14**	**126**	P	P		**P**	**17 49 01.9**	**-0.8**
	0.4nm,0.5s,mb3.7,baz=305,slow=8.5,SNR=11								
CHKZ	**Chkalovo**	**49.52**	**342**	*eP*	P		**P**	**17 49 10.8**	**-2.0**
	3.9nm,1.0s,mb4.4								
ASAR	**Alice Springs**	**49.80**	**130**	P	P		**P**	**17 49 16.0**	**+0.6**
	0.3nm,0.6s,mb3.5,baz=309,slow=5.8,SNR=3.5								
KMBO	**Kilima Mbogo**	**57.56**	**264**	P	P		**P**	**17 50 12.8**	**0.0**
	1.8nm,0.8s,mb4.2,baz=50,slow=12,SNR=5.3								
NOA	**NORSAR Array B**	**79.80**	**331**	P	P		**P**	**17 52 30.6**	**+0.8**
	0.9nm,0.7s,mb3.8,baz=95,slow=5.4,SNR=3.4								
PLCA	**Paso Flores**	**144.59**	**200**	PKP	PKPdf			17 59 57.4	-4.7
	0.8nm,0.8s,baz=152,slow=7.4,SNR=3.6								

BJI ***26*** *17:49:48.9, 7.63S×130.06E, h33km, mB5.7, mb5.5, Ms5.1, Msz4.7*

HRVD ***26*** *17:49:56.8±0.3, 6.82S×129.75E, h28km±1km, MW5.5/61, Centroid moment Tensor Solution. LP body waves: s11,c13;Mantle waves: s61,c119; Half duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr0.41±.07; Mθθ-0.65±.04; Mφφ0.23±.04; Mrθ-0.06±.07; Mθφ0.08±.03; Mφr2.55±.14; Best double couple: M0 2.555×10^17 NP1: φs109°, δ3°, λ21°. NP2:φs358°, δ89°, λ93°. Principal axes: T 2.874, Plg46°, Azm270°; N -.639, Plg3°, Azm178°; P -2.235, Plg44°, Azm85°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***26*** *17:49:56.8±0.1, 6.76S×129.57E, mb5.5/42 Error ellipse: s-maj=7.8km s-min=4.9km az=75.0*

MOS ***26*** *17:49:59.7±0.9, 6.77S×129.44E, h67km, mb5.7/36, Error ellipse: s-maj=11.1km s-min=5.7km az=106.4*

IDC ***26*** *17:50:11.1±0.9, 6.88S×129.55E, h155km±7km, mb5.1/23, mb1 5.1/26, mb1mx5.1/26, mbtmp5.5/26, Error ellipse: s-maj=13.7km s-min=7.0km az=62.0*

ISC 26 17:50:08.5±0.7, 6.93S±0.02×129.51E±0.51, h151km±7km, n450, σ1$05/302, mb5.4/88, 42C-31D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.43**	**154**	⇓*iP*	P		**P**	**17 51 39.9**	**-1.9**
FITZ	**Fitzroy Crossi**	**11.73**	**198**	⇓*iP*	P		**P**	**17 52 49.3**	**-2.7**
	394nm,0.3s								
FITZ				*eS*			**S**	**17 54 51.1**	**-9.2**
WRAB	**Tennant Creek**	**13.75**	**160**	*diP*	P		**P**	**17 53 14.0**	**-4.2**
WRAB	**Tennant Creek**	**13.75**	**160**	*eP*	P		**P**	**17 53 13.9**	**-4.3**
	808nm,0.9s								
WRA	**Warramunga Arr**	**13.76**	**161**	P	P		**P**	**17 53 13.9**	**-4.4**
	40nm,0.3s,baz=334,slow=13,SNR=215								
WRA				S			**S**	**17 55 38.7**	**-8.9**
	73nm,0.3s,baz=338,slow=22,SNR=14								
WRA				ScP				18 01 50.0	
	baz=316,slow=1.7,SNR=5.2								
WRA				ScS	ScS			18 05 26.0	+0.4
	1.2nm,0.3s,baz=256,slow=5.3,SNR=6.6								
WRA				P3KPbc				18 29 12.7	
	0.0nm,0.3s,baz=157,slow=4.4,SNR=4.7								
WB2	**Warramunga Arr**	**13.76**	**161**	⇓*iP*	P		**P**	**17 53 14.0**	**-4.3**
WB2				*eS*	S		**S**	**17 55 38.3**	**-9.5**
WB2				*e*SCS	ScS			18 05 23.6	-2.0
MATI	**Mati**	**14.16**	**347**	*eP*	P		**P**	**17 53 24.2**	**+0.7**
DAV	**Davao City (W)**	**14.45**	**344**	*eP*	P		**P**	**17 53 32.0**	**+4.9**
KCP	**Kidapawan**	**14.53**	**342**	‖*eP*	P		**P**	**17 53 29.9**	**+1.8**
BIPH	**Bislig**	**15.34**	**348**	⇓*iP*	P		**P**	**17 53 41.1**	**+2.8**
BUKP	**Musuan**	**15.37**	**343**	*eP*	P		**P**	**17 53 40.0**	**+1.4**
PAGZ	**Pagadian**	**15.90**	**337**	*eP*	P		**P**	**17 53 45.3**	**+0.1**
IPIL	**Ipil**	**16.18**	**335**	*eP*	P		**P**	**17 53 51.0**	**+2.3**
BUTP	**Butuan**	**16.26**	**346**	*eP*	P		**P**	**17 53 50.0**	**+0.2**
MBWA	**Marble Bar**	**17.02**	**213**	*eP*	P		**P**	**17 53 58.2**	**-0.7**
	672nm,0.8s								
ASPA	**Alice Springs**	**17.17**	**166**	⇓*iP*	P		**P**	**17 53 59.6**	**-1.1**
ASPA				*eS*	S		**S**	**17 57 00.6**	**-4.3**
ASPA				*e*SCS	ScS			18 05 32.4	-2.2
ASAR	**Alice Springs**	**17.17**	**166**	P	P		**P**	**17 54 00.3**	**-0.4**
	45nm,0.3s,baz=347,slow=8.9,SNR=1284								
ASAR				S			**S**	**17 57 04.2**	**-0.7**
	28nm,0.3s,baz=350,slow=26,SNR=7.8								
ASAR				ScP				18 01 56.5	
	8.8nm,0.3s,baz=338,slow=1.9,SNR=9.1								
ASAR				P3KPbc				18 28 55.7	
	0.1nm,0.3s,baz=163,slow=4.1,SNR=15								
TBP	**Tagbilaran**	**17.45**	**341**	*eP*	P		**P**	**17 54 04.6**	**+0.6**
MSLP	**Maasin**	**17.57**	**345**	*eP*	P		**P**	**17 54 05.6**	**0.0**
PMG	**Port Moresby**	**17.64**	**99**	P	P		**P**	**17 54 07.3**	**+0.9**
	16nm,0.3s,baz=304,slow=5.8,SNR=71								
PMG				S			**S**	**17 57 13.8**	**-1.6**
	6.3nm,0.3s,baz=20,slow=22,SNR=10								
OCLP	**Ormoc**	**18.52**	**345**	*eP*	P		**P**	**17 54 16.5**	**+0.6**
GUIM	**Jordan**	**18.75**	**338**	*eP*	P		**P**	**17 54 18.5**	**0.0**
BESP	**Borongan**	**18.85**	**348**	*eP*	P		**P**	**17 54 19.8**	**+0.3**
BATP	**Bataraza**	**19.50**	**323**	*eP*	P		**P**	**17 54 28.4**	**+2.1**
CUYO	**Cuyo Island**	**19.58**	**334**	*eP*	P		**P**	**17 54 27.6**	**+0.5**
CNP	**Catarman**	**19.91**	**346**	*eP*	P		**P**	**17 54 29.8**	**-0.6**
OTRP	**Odiongan**	**20.56**	**339**	*eP*	P		**P**	**17 54 37.6**	**+0.6**
ENPP	**El Nido**	**20.62**	**331**	*eP*	P		**P**	**17 54 38.2**	**+0.6**
CTA	**Charters Tower**	**20.85**	**130**	⇓*iP*	P		**P**	**17 54 40.7**	**+0.8**
	84nm,0.7s								
CTA	**Charters Tower**	**20.85**	**130**	⇓*iP*	P		**P**	**17 54 40.7**	**+0.8**
CTA				pmax	pmax				
	comp=Z,84nm,0.7s								
CTA	**Charters Tower**	**20.85**	**130**	P	P		**P**	**17 54 40.8**	**+1.0**
	comp=Z,79nm,0.7s,baz=303,slow=12,SNR=123								
CTA				S			**S**	**17 58 24.8**	**+6.2**
	comp=Z,30nm,1.1s,baz=329,slow=16,SNR=3.5								
CTAO	**Charters Tower**	**20.85**	**130**	*eP*	P		**P**	**17 54 40.7**	**+0.8**
CTAO				pmax	pmax				
	comp=Z,97nm,0.8s								
CTAO	**Charters Tower**	**20.85**	**130**	*eP*	P		**P**	**17 54 40.6**	**+0.8**
	comp=Z,97nm,0.8s								
BUSP	**Coron**	**20.97**	**334**	*eP*	P		**P**	**17 54 42.5**	**+1.5**
SJMP	**San Jose**	**20.99**	**337**	*eP*	P		**P**	**17 54 42.8**	**+1.5**
PVCP	**Virac**	**21.07**	**345**	*eP*	P		**P**	**17 54 43.0**	**+0.8**
AUQP	**San Andres**	**21.24**	**341**	*eP*	P		**P**	**17 54 46.0**	**+2.3**
BOAC	**Boac**	**21.64**	**339**	*eP*	P		**P**	**17 54 49.1**	**+1.4**
GQP	**Guinayangan**	**21.86**	**341**	⇑*eP*	P		**P**	**17 54 50.8**	**+1.0**
LQP	**Lukban**	**22.35**	**339**	*eP*	P		**P**	**17 54 55.7**	**+1.1**
LUBP	**Lubang**	**22.50**	**336**	*eP*	P		**P**	**17 54 57.5**	**+1.5**
TGY	**Tagaytay City**	**22.56**	**338**	⇑*eP*	P		**P**	**17 54 57.8**	**+1.0**
TGY	**Tagaytay City**	**22.56**	**338**	P	P		**P**	**17 54 59.1**	**+2.3**
	comp=Z,2μm,0.8s,baz=130,slow=4.4,SNR=41								
TGY				S			**S**	**17 58 54.6**	**+5.6**
	comp=Z,344nm,0.9s,baz=174,slow=21,SNR=4.2								
TGY				ScP				18 02 11.5	
	comp=Z,54nm,0.3s,baz=275,slow=9.6,SNR=3.4								
POLP	**Polilio Island**	**22.79**	**341**	*eP*	P		**P**	**17 54 58.4**	**-0.6**
FORT	**Forrest**	**23.76**	**183**	⇓*iP*	P		**P**	**17 55 08.8**	**+0.6**
	comp=Z,3μm,0.6s								
FORT				*eS*	S		**S**	**17 59 11.3**	**+2.0**
PCPH	**Palayan**	**23.85**	**340**	⇓*eP*	P		**P**	**17 55 12.3**	**+3.1**
BALP	**Baler**	**23.86**	**341**	*eP*	P		**P**	**17 55 08.4**	**-0.9**
SCZP	**Santa Cruz**	**24.48**	**337**	*eP*	P		**P**	**17 55 13.6**	**-1.5**
PALP	**Palanan**	**24.85**	**344**	*eP*	P		**P**	**17 55 17.2**	**-1.4**
CAUP	**Cauayan**	**24.91**	**342**	*eP*	P		**P**	**17 55 18.7**	**-0.5**
BOLP	**Bolinao**	**25.03**	**338**	*eP*	P		**P**	**17 55 19.6**	**-0.8**
CVP	**Callao Caves**	**25.63**	**343**	⇑*eP*	P		**P**	**17 55 34.5**	**+8.6**
ABRA	**Dolores**	**25.92**	**341**	*eP*	P		**P**	**17 55 28.2**	**-0.4**
APYP	**Conner**	**25.95**	**342**	*eP*	P		**P**	**17 55 26.3**	**-2.6**
SGCP	**Mt. Cagua**	**26.07**	**344**	*eP*	P		**P**	**17 55 27.5**	**-2.5**
KLBR	**Kellerberrin**	**26.88**	**203**	⇑*iP*	P		**P**	**17 55 37.5**	**+0.2**
	comp=Z,902nm,0.6s								
KLBR				*eS*	tx			18 00 46.7	
STKA	**Stephens Creek**	**27.26**	**157**	⇓*iP*	P		**P**	**17 55 40.1**	**-0.6**
	comp=Z,81nm,0.5s,mb5.6								
STKA	**Stephens Creek**	**27.26**	**157**	P	P		**P**	**17 55 40.2**	**-0.5**
	comp=Z,123nm,0.6s,mb5.7,baz=330,slow=8.3,SNR=178								
MUN	**Mundaring**	**27.84**	**205**	⇑*iP*	P		**P**	**17 55 46.0**	**0.0**
	comp=Z,62nm,0.8s,mb5.4								
MUN				*eS*				18 01 06.7	
MUN	**Mundaring**	**27.84**	**205**	⇑*iP*	P		**P**	**17 55 46.0**	**0.0**
MUN				pmax	pmax				
	comp=Z,63nm,0.8s,mb5.4								
NWAO	**Narrogin (SRO)**	**28.27**	**202**	*eP*	P		**P**	**17 55 48.7**	**-1.1**
NWAO				pmax	pmax				
	comp=Z,48nm,0.8s								
NWAO	**Narrogin (SRO)**	**28.27**	**202**	P	P		**P**	**17 55 50.4**	**+0.5**
	comp=Z,34nm,0.5s,mb5.4,baz=30,slow=9.6,SNR=74								
NWAO	**Narrogin (SRO)**	**28.27**	**202**	*eP*	P		**P**	**17 55 48.7**	**-1.1**
	comp=Z,48nm,0.8s,mb5.3								
ADE	**Adelaide**	**29.16**	**164**	*eP*	P		**P**	**17 55 58.2**	**+0.5**
SNG	**Songkhla**	**32.05**	**295**	P	P		**P**	**17 56 22.0**	**-1.3**
QIZ	**Qiongzhong**	**32.27**	**323**	P	P		**P**	**17 56 25.0**	**-0.2**
QIZ	**Qiongzhong**	**32.27**	**323**	*eP*	P		**P**	**17 56 24.1**	**-1.0**
	comp=Z,33nm,0.9s,mb5.1								
COCO	**West Island**	**32.63**	**258**	*eP*	P		**P**	**17 56 27.4**	**-0.9**
JOW	**Kunigami**	**33.58**	**358**	P	P		**P**	**17 56 35.9**	**-0.5**
	comp=Z,140nm,0.7s,mb5.8,baz=185,slow=7.0,SNR=36								
CNB	**Canberra Magne**	**33.63**	**150**	*eP*	P		**P**	**17 56 37.0**	**+0.4**
	comp=Z,609nm,0.8s,mb6.4								
TOO	**Toolangi**	**33.78**	**157**	⇓*iP*	P		**P**	**17 56 39.5**	**+1.6**
	comp=Z,1.4nm,0.5s								
TOO				*e*SCP				18 02 43.4	
TOO	**Toolangi**	**33.78**	**157**	⇓*iP*	P		**P**	**17 56 39.5**	**+1.6**
TOO				pmax	pmax				
	comp=Z,1.0nm,0.5s								
KKTK	**Khon Kaen**	**35.10**	**311**	P	P		**P**	**17 56 50.0**	**+0.7**
	comp=Z,1μm,1.0s								
CBIJ	**Chichi jima**	**35.98**	**19**	P	P		**P**	**17 56 55.6**	**-1.0**
	comp=Z,120nm,0.5s,mb5.8,baz=98,slow=17,SNR=5.3								
NST	**Nakhon Sawan**	**36.76**	**308**	P	P		**P**	**17 57 04.1**	**+0.8**
NANT	**Nan**	**38.22**	**312**	P	P		**P**	**17 57 16.5**	**+1.0**
	comp=Z,348nm,0.6s,mb6.2								
NOUC	**Port Laguerre**	**38.54**	**117**	⇓*eP*	P		**P**	**17 57 18.3**	**+0.1**
SSE	**Sheshan**	**38.64**	**349**	P	P		**P**	**17 57 18.5**	**-0.4**
SSE				AMB	AMB				
	comp=Z,75nm,0.8s,mb5.4								
SSE				AMB	AMB				
	comp=Z,2μm,10.8s								
SSE	**Sheshan**	**38.64**	**349**	P	P		**P**	**17 57 18.6**	**-0.3**
	comp=Z,5nm,0.8s,mb5.4								
DZM	**Mont Dzumac**	**38.66**	**117**	⇑*eP*	P		**P**	**17 57 19.0**	**-0.1**
CM31	**Chiang Mai Arr**	**39.32**	**310**	*eP*	P		**P**	**17 57 25.2**	**+0.6**
	comp=Z,53nm,0.6s,mb5.3								
CMAR	**Chiang Mai Arr**	**39.32**	**310**	P	P		**P**	**17 57 25.3**	**+0.7**
CMAR								18 07 18.2	
CMAR	**Chiang Mai Arr**	**39.32**	**310**	P	P		**P**	**17 57 25.3**	**+0.7**
	comp=Z,74nm,0.6s,mb5.5,baz=135,slow=7.2,SNR=647								
CMAR				ScP				18 03 05.5	
	comp=Z,19nm,0.7s,baz=148,slow=3.0,SNR=17								
CMAR				ScS	ScS			18 07 18.2	+3.7
	comp=Z,0.8nm,1.0s,baz=162,slow=9.0,SNR=3.7								
CMAR				P3KPbc				18 27 21.2	
	comp=Z,0.8nm,1.0s,baz=288,slow=4.5,SNR=4.3								
CMAR	**Chiang Mai Arr**	**39.32**	**310**	P	P		**P**	**17 57 25.3**	**+0.7**
CMAR				ScP				18 03 05.5	
CMAR				ScS	ScS			18 07 18.2	+3.7
CMAR				*e*				18 27 21.2	
CHG	**Chiang Mai**	**39.53**	**311**	P	P		**P**	**17 57 27.0**	**+0.7**
	comp=Z,141nm,0.8s,mb5.7								
CHRT	**Chiangrai**	**39.56**	**313**	⇑P	P		**P**	**17 57 27.5**	**+0.9**
	comp=Z,600nm,0.9s,mb6.2								
WHN	**Wuhan**	**40.00**	**339**	⇓P	P		**P**	**17 57 30.5**	**+0.5**
NJ2	**Nanjing**	**40.08**	**346**	*eP*	P		**P**	**17 57 30.3**	**-0.4**
NJ2				AMB	AMB				
	comp=Z,140nm,1.0s,mb5.5								
NJ2				AMB	AMB				
	comp=Z,4μm,4.6s								
NJ2				LR	LR				
	comp=N,670nm,25.3s								
NJ2				LR	LR				
	comp=E,700nm,25.5s								
NJ2				LR	LR				
	comp=Z,220nm,24.7s								
KMI	**Kunming**	**41.16**	**322**	P	P		**P**	**17 57 41.0**	**+1.4**
KMI				pmax	pmax				
	comp=Z,39nm,1.1s,mb5.0								
KMI	**Kunming**	**41.16**	**322**	P	P		**P**	**17 57 41.0**	**+1.4**
	comp=Z,39nm,1.1s,mb5.0								
KMI				pP	pP			17 57 48.9	-24
ENH	**Enshi**	**41.68**	**334**	*eP*	P		**P**	**17 57 42.5**	**-1.5**
	comp=Z,42nm,0.6s,mb5.2								
MAJO	**Matsushiro**	**44.01**	**10**	*eP*	P		**P**	**17 58 00.4**	**-2.3**
MAJO				pmax	pmax				
	comp=Z,113nm,0.8s,mb5.5								
MAJO	**Matsushiro**	**44.01**	**10**	*eP*	P		**P**	**17 58 00.4**	**-2.2**
	comp=Z,113nm,0.8s,mb5.5								
MAT	**Matsushiro**	**44.01**	**10**	*eP*	P		**P**	**17 58 01.0**	**-1.7**
MAT				pmax	pmax				
	comp=Z,145nm,1.0s,mb5.6								
MAT	**Matsushiro**	**44.01**	**10**	*eP*	P		**P**	**17 58 01.0**	**-1.7**
	comp=Z,145nm,1.0s,mb5.6								
MAT	**Matsushiro**	**44.01**	**10**	P	P		**P**	**17 58 00.6**	**-2.1**
KS15	**Wonju Array Si**	**44.17**	**358**	*eP*	P		**P**	**17 58 04.0**	**0.0**
TIA	**Tai'an**	**44.46**	**346**	P	P		**P**	**17 58 05.3**	**-1.0**
TIA				AMB	AMB				
	comp=Z,38nm,1.3s,mb4.9								
XAN	**Xi'an**	**45.17**	**336**	P	P		**P**	**17 58 10.8**	**-1.2**
XAN				AMB	AMB				
	comp=Z,70nm,0.7s,mb5.4								
IMP	**Imphal**	**46.84**	**314**	*eP*	P		**P**	**17 58 24.0**	**-1.3**
AGT	**Agartala**	**48.29**	**311**	‖*iP*	P		**P**	**17 58 38.0**	**+1.4**
AGT				*i*				17 59 26.0	
BJT	**Baijiatuau**	**48.31**	**346**	*eP*	P		**P**	**17 58 35.5**	**-1.0**
BJT				pmax	pmax				
	comp=Z,86nm,0.8s								
BJT	**Baijiatuau**	**48.31**	**346**	*eP*	P		**P**	**17 58 35.5**	**-1.0**
	comp=Z,86nm,0.8s,mb5.4								
BJI	**Beijing**	**48.33**	**346**	P	P		**P**	**17 58 35.9**	**-0.7**
BJI				pmax	pmax				
	comp=Z,93nm,1.0s,mb5.4								
BJI	**Beijing**	**48.33**	**346**	P	P		**P**	**17 58 35.9**	**-0.7**
	comp=Z,93nm,1.0s,mb5.4								
SHL	**Shillong**	**48.80**	**313**	*eP*	P		**P**	**17 58 39.8**	**-0.6**
SHL				*eP*				17 58 41.0	
SHL				*e*				18 03 43.0	
LZH	**Lanzhou**	**49.12**	**332**	*eP*	P		**P**	**17 58 43.0**	**+0.3**
LZH				AP	pP			17 58 54.5	-23
LZH				XP	sP			17 59 00.5	-33
LZH				AMB	AMB				
	comp=Z,41nm,1.0s,mb5.0								
LZH				AMB	AMB				
	comp=Z,330nm,6.0s								
LZH	**Lanzhou**	**49.12**	**332**	*eP*	P		**P**	**17 58 42.9**	**+0.2**
LZH				*SP	sP			17 59 00.6	-33
LZH								18 08 18.0	
LZH				pmax	pmax				
	comp=Z,41nm,1.0s,mb5.0								
LZH	**Lanzhou**	**49.12**	**332**	*eP*	P		**P**	**17 58 42.9**	**+0.2**
	comp=Z,41nm,1.0s,mb5.0								
LZH				pP	pP			17 58 54.5	-23
LZH				sP	sP			17 59 00.6	-33
LZH				PcP				18 03 45.4	
LZH				ScS	ScS			18 08 18.0	+2.1
MSZ	**Milford Sound**	**50.28**	**145**	P	P		**P**	**17 58 52.5**	**+1.0**
JCZ	**Jackson Bay**	**50.41**	**144**	P	P		**P**	**17 58 53.6**	**+1.1**
FOZ	**Fox Glacier**	**50.67**	**143**	P	P		**P**	**17 58 55.0**	**+0.5**
PALK	**Pallekele**	**50.69**	**285**	*eP*	P		**P**	**17 58 53.9**	**-1.1**
	comp=Z,75nm,0.7s,mb5.4								
MLZ	**Mavora Lakes**	**50.83**	**145**	P	P		**P**	**17 58 55.3**	**-0.3**
WKZ	**Wanaka**	**51.00**	**144**	P	P		**P**	**17 58 57.1**	**+0.2**
DSZ	**Denniston Nort**	**51.02**	**140**	P	P		**P**	**17 58 58.0**	**+0.9**
QRZ	**Quartz Range**	**51.03**	**138**	P	P		**P**	**17 58 58.2**	**+1.0**
MDJ	**Mudanjiang**	**51.31**	**0**	P	P		**P**	**17 58 58.5**	**-0.7**
MDJ				AMB	AMB				
	comp=Z,71nm,1.2s,mb5.2								
MDJ				AMB	AMB				
	comp=Z,1μm,14.9s								
MDJ	**Mudanjiang**	**51.31**	**0**	*eP*	P		**P**	**17 58 58.4**	**-0.9**
	comp=Z,122nm,1.3s,mb5.4								
LBZ	**Lake Benmore**	**51.43**	**143**	P	P		**P**	**17 58 59.6**	**-0.6**
THZ	**Tophouse**	**51.74**	**139**	P	P		**P**	**17 59 02.4**	**-0.1**
VIS	**Vishakhapatnam**	**51.77**	**299**	*eP*	P		**P**	**17 59 02.9**	**-0.1**
VIS				*e*				17 59 04.4	
	comp=Z,108nm,0.6s								
VIS				*e*				18 02 40.0	
NNZ	**Nelson**	**51.78**	**138**	P	P		**P**	**17 59 02.0**	**-0.9**
LSA	**Lhasa**	**51.81**	**317**	P	P		**P**	**17 59 04.3**	**+1.0**
LSA				AMB	AMB				
	comp=Z,40nm,0.6s,mb5.2								
LSA	**Lhasa**	**51.81**	**317**	*eP*	P		**P**	**17 59 03.4**	**+0.1**
LSA				pmax	pmax				
	comp=Z,28nm,0.6s,mb5.1								
LSA	**Lhasa**	**51.81**	**317**	*eP*	P		**P**	**17 59 03.4**	**+0.2**
	comp=Z,28nm,0.6s,mb5.1								
LTZ	**Lake Taylor**	**51.85**	**141**	P	P		**P**	**17 59 03.3**	**0.0**
TUZ	**Tuapeka**	**52.01**	**145**	P	P		**P**	**17 59 04.5**	**0.0**
ODZ	**Otahua Downs**	**52.07**	**144**	P	P		**P**	**17 59 04.9**	**-0.1**
ASAJ	**Asahikawa**	**52.17**	**12**	P	P		**P**	**17 59 04.8**	**-0.8**
	comp=Z,50nm,0.6s,mb5.3,baz=244,slow=9.7,SNR=7.8								
MGZ	**Maungaku**	**52.25**	**135**	P	P		**P**	**17 59 07.2**	**+0.8**
CNZ	**Chateau**	**52.34**	**135**	P	P		**P**	**17 59 07.9**	**+0.9**
NGZ	**Ngauruhoe**	**52.37**	**135**	P	P		**P**	**17 59 08.0**	**+0.8**
TUVZ	**Tukino**	**52.44**	**135**	P	P		**P**	**17 59 08.7**	**+0.9**
MDRS	**Chennai**	**52.82**	**292**	*eP*	P		**P**	**17 59 10.2**	**-0.7**
MDRS				*e*				17 59 11.6	
	comp=Z,125nm,0.6s								
BKZ	**Black Stump Fm**	**52.99**	**135**	P	P		**P**	**17 59 11.4**	**-0.4**
TSZ	**Takapari Road**	**53.00**	**136**	P	P		**P**	**17 59 11.2**	**-0.7**
MRZ	**Mangatainoka R**	**53.00**	**137**	P	P		**P**	**17 59 10.8**	**-1.1**
URZ	**Urewera**	**53.06**	**133**	P	P		**P**	**17 59 11.7**	**-0.7**
	comp=Z,68nm,0.6s,mb5.6,baz=304,slow=2.5,SNR=45								
URZ	**Urewera**	**53.06**	**133**	P	P		**P**	**17 59 11.6**	**-0.8**
MWZ	**Matawai**	**53.39**	**133**	P	P		**P**	**17 59 14.5**	**-0.3**
KNZ	**Kokohu**	**53.77**	**134**	P	P		**P**	**17 59 16.6**	**-1.0**
JIRN	**Jiri**	**54.18**	**311**	*eP*	P		**P**	**17 59 20.3**	**-0.4**
	comp=Z,132nm,0.6s,mb5.8								
BLSP	**Bilaspur**	**54.66**	**303**	*eP*	P		**P**	**17 59 23.5**	**-0.8**
BLSP				*e*				17 59 25.5	
	comp=Z,162nm,0.8s								
BLSP				*e*				18 10 35.8	
PKI	**Pulchoki**	**54.71**	**311**	*eP*	P		**P**	**17 59 23.9**	**-0.7**
	comp=Z,139nm,0.5s,mb5.9								
YSS	**Yuzh-Sakhalins**	**54.92**	**11**	*eP*	P		**P**	**17 59 23.2**	**-2.6**
YSS				*e*				17 59 44.0	
YSS				pmax	pmax				
	comp=Z,40nm,0.5s,mb5.4								
YSS	**Yuzh-Sakhalins**	**54.92**	**11**	*eP*	P		**P**	**17 59 23.7**	**-2.2**
	comp=Z,31nm,0.5s,mb5.3								
KKN	**Kakani**	**54.93**	**311**	*eP*	P		**P**	**17 59 25.4**	**-0.7**
	comp=Z,59nm,0.4s,mb5.7								
DMN	**Daman**	**54.96**	**311**	*eP*	P		**P**	**17 59 26.0**	**-0.4**
	comp=Z,71nm,0.5s,mb5.7								
GKN	**Gorkha**	**55.52**	**311**	*eP*	P		**P**	**17 59 29.9**	**-0.5**
	comp=Z,253nm,0.6s,mb6.2								
HYB	**Hyderabad**	**55.85**	**296**	*eP*	P		**P**	**17 59 31.0**	**-1.9**
HYB	**Hyderabad**	**55.85**	**296**	*iP*	P		**P**	**17 59 31.0**	**-1.9**
	comp=Z,150nm,1.0s,mb5.8								
KLR	**Kul'dur**	**55.96**	**2**	⇑*iP*	P		**P**	**17 59 28.8**	**-4.5**
KLR				*eS*	S		**S**	**18 07 04.2**	**-3.2**
KLR				pmax	pmax				
	comp=E,64nm,1.8s								
KLR				pmax	pmax				
	comp=Z,100nm,1.8s,mb5.3								
KOLN	**Koldanda**	**56.18**	**310**	*eP*	P		**P**	**17

TKM2 **Tokmak 2** 69.62 321 P P 18 01 03.7 +0.3
SNR=41
KBK **Karagaybulak** 69.90 320 P P 18 01 06.2 +1.1
SNR=25
UCH **Uchtor** 69.96 320 P P 18 01 06.8 +1.2
SNR=27
FX1 **Attu Island--F** 70.12 26 P P 18 01 06.0 -0.3
comp=N,126nm,0.8s,mb5.7,baz=186,slow=2.3,SNR=15
FX1 **Attu Island--F** 70.12 26 eP P 18 01 06.1 -0.2
AAK **Ala-Archa** 70.17 320 P P 18 01 07.7 +0.9
SNR=26
AAK **Ala-Archa** 70.17 320 i P P 18 01 06.5 -0.3
AAK pmax pmax
comp=Z,45nm,1.3s,mb5.0
AAK **Ala-Archa** 70.17 320 eP P 18 01 06.4 -0.4
comp=Z,27nm,0.8s,mb5.0
CHMS **Chumysh** 70.19 320 P P 18 01 07.2 +0.3
SNR=13
FRU **Bishkek** 70.20 320 eP P 18 01 07.5 +0.6
FRU pmax pmax
comp=Z,37nm,1.8s,mb4.8
AML **Almayashu** 70.44 319 P P 18 01 09.6 +1.2
SNR=49
USP **Ospenovka** 70.49 321 P P 18 01 09.1 +0.4
SNR=54
EKS2 **Erkin-Say** 70.65 320 P P 18 01 10.6 +1.0
SNR=49
ZAL **Zalesovo** 71.31 334 P P 18 01 12.7 -0.7
comp=Z,23nm,0.8s,mb5.0,baz=342,slow=5.4,SNR=100
ZAL S S 18 10 16.1 -1.0
comp=Z,2.8nm,0.9s,baz=81,slow=24,SNR=31
ZAL PKPPKP 18 29 04.7
comp=Z,1.1nm,0.8s,baz=174,slow=7.0,SNR=3.8
KURK **Kurchatov** 72.21 329d i P P 18 01 18.6 -0.1
KURK **Kurchatov** 72.21 329 eP P 18 01 18.5 -0.2
comp=Z,68nm,0.9s,mb5.4
VNDA **Vanda** 72.57 173 eP P 18 01 20.5 +0.1
VNDA pmax pmax
comp=Z,33nm,0.8s
VNDA **Vanda** 72.57 173 P P 18 01 20.6 +0.2
comp=Z,34nm,0.6s,mb5.3,baz=319,slow=6.2,SNR=149
VNDA **Vanda** 72.57 173 eP P 18 01 20.5 0.0
comp=Z,33nm,0.8s,mb5.1
NVS **Novosibirsk** 72.59 334 eP P 18 01 19.4 -1.5
NVS pmax pmax
comp=N,33nm,1.1s
NVS pmax pmax
comp=E,51nm,1.1s
NVS pmax pmax
comp=Z,102nm,1.1s,mb5.5
SBA **Scott Base** 73.47 172 eP P 18 01 27.3 +1.6
SBA pmax pmax
comp=Z,43nm,0.8s,mb5.2
SBA **Scott Base** 73.47 172 eP P 18 01 27.3 +1.6
comp=Z,42nm,0.8s,mb5.2
KIWB **Kanaga Island** 74.12 31 eP P 18 01 29.5 -0.3
MAW **Mawson** 74.84 201 eP P 18 01 34.0 +0.3
comp=Z,14nm,0.6s,mb4.8
MAW **Mawson** 74.84 201 eP P 18 01 34.0 +0.3
MAW pmax pmax
comp=Z,14nm,0.6s
MAW **Mawson** 74.84 201 P P 18 01 34.4 +0.8
comp=Z,13nm,0.6s,mb4.8,baz=281,slow=12,SNR=11
WBK **Wadi Bani Khal** 74.94 296 ⇓P P 18 01 35.1 -0.1
SNR=11
JMDO **Jabal Madar** 75.66 295 ⇓P P 18 01 39.7 +0.5
SNR=19
SMDO **Samad** 75.88 296 ⇑P P 18 01 41.0 +0.6
SNR=54
BIDO **Bidbid** 75.92 296 P P 18 01 42.0 +1.3
SNR=67
HON **Honolulu** 76.40 66 eP P 18 01 44.8 +1.5
KIP **Kipapa** 76.41 66 eP P 18 01 43.9 +0.5
KIP pmax pmax
comp=Z,171nm,1.2s,mb5.5
KIP **Kipapa** 76.41 66 eP P 18 01 43.9 +0.5
comp=Z,171nm,1.2s,mb5.5
BSY **Bisya** 76.56 295 ⇓P P 18 01 44.0 -0.2
SNR=14
HOQ **Hoqain** 76.66 296 ⇓P P 18 01 45.6 +0.8
SNR=20
ARQ **Araqi** 77.31 296 ⇑P P 18 01 49.0 +0.6
SNR=26
BVAR **Borovoye Array** 77.75 328 P P 18 01 50.2 0.0
comp=Z,23nm,0.7s,mb4.9,baz=129,slow=9.5,SNR=94
BVAR S S 18 11 28.7 +0.4
comp=Z,3.1nm,1.0s,baz=135,slow=10,SNR=7.6
BRVK **Borovoye** 77.82 328 eP P 18 01 50.5 -0.1
BRVK pmax pmax
comp=Z,45nm,0.8s,mb5.2
BRVK **Borovoye** 77.82 328 eP P 18 01 50.5 -0.1
comp=Z,45nm,0.8s,mb5.2
CHKZ **Chkalovo** 77.95 329 P P 18 01 50.9 -0.4
CHKZ pmax pmax
comp=Z,81nm,1.6s,mb5.1
CHKZ **Chkalovo** 77.95 329 eP P 18 01 50.7 -0.6
comp=Z,31nm,0.8s,mb5.0
RBK **Rabkut** 78.20 289 ⇑P P 18 01 53.8 +0.5
SNR=14
TIXI **Tiksi** 78.42 360 ⇓i P P 18 01 52.3 -1.2
TIXI pmax pmax
comp=Z,51nm,0.6s,mb5.3
ABTO **Aybut** 79.02 289 ⇑P P 18 01 58.4 +0.5
SNR=21
TBI **Tubuai** 79.07 112 eP P 18 02 00.0 +2.0
comp=Z,227nm,1.1s,mb5.7
TBI eLR LR 18 26 47.6
comp=Z,773nm,35.5s
BILL **Bilibino** 79.16 13 eP P 18 01 57.0 -0.6
BILL pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
BILL **Bilibino** 79.16 13 eP P 18 01 57.0 -0.6
comp=Z,5.7nm,0.6s,mb4.4
PPT **Papeete** 79.31 107 eP P 18 02 00.9 +1.5
comp=Z,75nm,1.3s,mb5.2
PPT **Papeete** 79.31 107 eLR LR 18 26 37.4
comp=Z,536nm,23.5s
PPT **Papeete** 79.31 107 P P 18 02 00.7 +1.4
comp=Z,27nm,0.6s,mb5.0,baz=27,slow=14,SNR=2.5
TIAR **Tiarei** 79.53 107 eP P 18 02 02.5 +2.0
comp=Z,236nm,1.4s,mb5.6
UNV **Unalaska Valle** 80.71 33 eP P 18 02 06.1 -0.1
MEH **Mehetia** 80.72 107 eP P 18 02 09.1 +2.2
comp=Z,99nm,1.1s,mb5.4
PMOR **Pomariorio Ree** 81.11 104 eP P 18 02 11.0 +2.0
comp=Z,133nm,1.0s,mb5.5
AKUT **Akutan** 81.22 33 eP P 18 02 08.8 0.0
QSPA **South Pole Qui** 83.05 180 ⇓i P P 18 02 18.6 +0.8
comp=Z,52nm,0.7s,mb5.4
SYO **Syowa Base** 83.55 201 ⇑O P 18 02 21.5 +1.1
SYO **Syowa Base** 83.55 201 ⇑PcP PcP 18 02 26.6 +1.9
SYO **Syowa Base** 83.55 201 ⇑pP pP 18 02 50.5 -7.9
SYO **Syowa Base** 83.55 201 ⇑sP sP 18 03 01.0 -14
SVE **Sverdlovsk** 84.46 329 ⇓i P P 18 02 25.7 +0.5
SVE pmax pmax
comp=Z,200nm,1.2s,mb5.7
SDPT **Sand Point** 84.52 33 eP P 18 02 25.8 +0.2
TNA **Tin City** 85.34 22 eP P 18 02 29.3 -0.1
ARU **Arti** 85.39 328 P P 18 02 29.2 -0.6
comp=Z,674nm,0.7s,SNR=57
ARU **Arti** 85.39 328 ⇓i P P 18 02 24.0 -5.8
ARU e 18 05 47.2
ARU pmax pmax
comp=Z,88nm,0.8s,mb5.5
ANM **Nome** 85.86 23 eP P 18 02 32.8 +0.9
SVW2 **Sparrevohn** 88.81 28 eP P 18 02 46.8 +0.7
KDAK **Kodiak Island** 89.42 32 eP P 18 02 49.1 +0.1
comp=Z,30nm,0.8s,mb5.3
RSO **Redoubt South** 89.98 29 eP P 18 02 53.1 +1.5
GNI **Garni** 90.44 310 P P 18 02 56.4 +2.1
GNI **Garni** 90.44 310 P P 18 02 56.3 +2.1
comp=Z,7.7nm,0.7s,mb4.8,baz=213,slow=5.3,SNR=8.3
TI2 **Plekhanov** 90.67 312 ⇑i P P 18 02 57.0 +1.7
TI2 eS S 18 13 13.6 -22
TI2 pmax pmax
comp=Z,40nm,1.0s,mb5.4
IMA **Indian Mountai** 90.98 23 eP P 18 02 56.3 +0.1
SLKM **Skilak Lake** 91.21 29 eP P 18 02 57.0 -0.4
ZEI **Tsey** 91.44 313 i P P 18 02 59.0 +0.1
ZEI pmax pmax
comp=Z,15nm,0.9s,mb5.0
PWA **Palmer West** 91.61 28 eP P 18 02 58.9 -0.3
PMR **Palmer** 91.94 28 eP P 18 03 00.1 -0.7
KMBO **Kilima Mbogo** 92.11 269 P P 18 03 07.5 +4.8
comp=Z,10nm,0.9s,mb4.8,baz=55,slow=7.3,SNR=18
SML **Sawmill** 92.36 28 eP P 18 03 02.1 -0.5

MCK **McKinley** 92.43 26 eP P 18 03 01.7 -1.3
MCK pmax pmax
comp=Z,65nm,1.4s,mb5.5
MCK **McKinley** 92.43 26 eP P 18 03 01.7 -1.2
comp=Z,65nm,1.4s,mb5.5
KIV **Kislovodsk** 92.48 314 eP P 18 03 03.2 -0.4
KIV **Kislovodsk** 92.48 314 eP P 18 03 03.2 -0.5
COLA **College** 93.10 25 eP P 18 03 04.9 -1.1
DIV **Divide** 93.47 29 eP P 18 03 07.7 0.0
ILAR **Eielson Array** 93.49 25 P P 18 03 05.7 -2.1
comp=Z,22nm,0.8s,mb5.3,baz=274,slow=4.4,SNR=198
ILAR PP PP 18 06 47.5 -9.2
comp=Z,6.0nm,1.2s,baz=259,slow=7.7,SNR=6.3
ILAR PKKPbc 18 20 14.2
comp=Z,0.8nm,0.6s,baz=343,slow=0.4,SNR=14
SOC **Sochi** 94.58 313 eP P 18 03 08.2 -5.0
SOC pmax pmax
comp=Z,20nm,0.6s,mb5.5
SOC pmax pmax
comp=N,21nm,0.9s
SOC pmax pmax
comp=E,14nm,0.8s
MENT **Mentasta** 94.65 27 eP P 18 03 13.5 +0.5
MALT **Malatya** 95.09 308 eP P 18 03 17.9 +2.2
MALT pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
MALT **Malatya** 95.09 308 eP P 18 03 17.9 +2.2
comp=Z,3.8nm,0.8s,mb4.7
SNAA **Sanae** 95.62 194 ⇑i P P 18 03 18.9 +1.6
ASF **Jabal al Asfar** 95.85 302 P P 18 03 20.8 +1.5
comp=Z,6.0nm,0.8s,mb5.0,baz=318,slow=6.8,SNR=6.4
ANN **Anapa** 96.31 314 eP P 18 03 19.9 -1.1
ANN pmax pmax
comp=Z,71nm,1.4s,mb5.8
DAWY **Dawson** 96.66 26 eP P 18 03 22.4 +0.2
OBN **Obninsk** 97.32 325α i P P 18 03 22.0 -3.4
OBN e 18 03 39.7
OBN pmax pmax
comp=Z,9.0nm,0.6s,mb5.3
OBN **Obninsk** 97.32 325 eP P 18 03 21.8 -3.6
comp=Z,20nm,0.6s,mb5.6
EIL **Elat** 97.34 299 P P 18 03 27.4 +1.2
comp=Z,2.0nm,0.4s,mb4.8,baz=221,slow=9.3,SNR=3.5
MBAR **Mbarara** 98.64 268 eP P 18 03 38.0 +5.6
BRTR **Keskin Array B** 98.90 309 P P 18 03 32.5 -0.5
comp=Z,2.7nm,0.7s,mb4.8,baz=131,slow=5.1,SNR=12
BRTR PP PP 18 07 40.4 +2.2
comp=Z,1.6nm,0.9s,baz=112,slow=6.7,SNR=3.6
BRTR PKKPbc 18 20 00.8
comp=Z,4.5nm,1.2s,baz=252,slow=3.9,SNR=5.5
INK **Inuvik** 98.98 22 eP P 18 03 31.9 -0.8
INK pmax pmax
comp=Z,11nm,0.8s
INK **Inuvik** 98.98 22 P P 18 03 32.1 -0.6
comp=Z,9.0nm,0.8s,mb5.2,baz=272,slow=4.2,SNR=30
INK PP PP 18 07 34.0 -4.1
comp=Z,3.2nm,1.0s,baz=270,slow=3.5,SNR=3.8
INK S 18 13 54.2
comp=Z,1.8nm,1.1s,baz=161,slow=30,SNR=13
INK PKKPbc 18 19 58.7
comp=Z,2.1nm,0.5s,baz=47,slow=3.1,SNR=13
INK **Inuvik** 98.98 22 eP P 18 03 31.9 -0.8
comp=Z,11nm,0.8s,mb5.3
BOSA **Boshof** 99.08 240 eP P 18 03 34.7 +0.6
BOSA pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
BOSA **Boshof** 99.08 240 eP P 18 03 34.7 +0.6
comp=Z,4.6nm,0.8s,mb5.0
JOF **Joensuu** 99.87 333 ep P 18 03 34.8 -2.0
ARCES **ARCESS Array B** 101.34 340 P P 18 03 42.5 -0.8
comp=Z,7.9nm,0.7s,baz=90,slow=6.1,SNR=14
ARCES PKiKP 18 08 08.0
comp=Z,4.9nm,0.9s,baz=90,slow=1.2,SNR=4.0
ARCES PKKPbc 18 19 50.3
comp=Z,12nm,1.1s,baz=329,slow=7.1,SNR=9.9
AKASG **Malin Array Be** 101.84 320 P P 18 03 44.6 -1.2
comp=Z,2.9nm,0.6s,baz=64,slow=4.5,SNR=9.4
KAF **Kangasniemi** 102.27 332 ep Pdif 18 03 45.6 -1.9
FINES **FINESS Array B** 102.47 331 P Pdif 18 03 47.4 -1.0
comp=Z,1.5nm,0.7s,baz=63,slow=4.3,SNR=9.1
FINES PKiKP 18 08 09.6
comp=Z,1.4nm,0.5s,baz=112,slow=3.2,SNR=10
FINES PKKPbc 18 19 49.4
comp=Z,0.7nm,0.5s,SNR=7.1
MLR **Muntele Rosu** 104.42 315 S 18 14 24.5
comp=Z,6.2nm,0.9s,baz=253,slow=6.5,SNR=5.3
MLR PKKPbc 18 19 44.7
comp=Z,2.1nm,0.7s,baz=244,slow=13,SNR=3.3
HUMO **Hull Mountain** 107.56 48 ePKPdf 18 08 20.0
RES **Resolute Bay** 107.70 11 ePKPdf 18 08 18.3
YKA **Yellowknife Ar** 107.90 26 P Pdif 18 04 12.6 +0.3
YKA 18 08 42.0
YKA **Yellowknife Ar** 107.90 26 Pdiff Pdif 18 04 12.5 +0.3
comp=Z,1.0nm,0.7s,baz=294,slow=4.8,SNR=24
YKA PKiKP 18 08 18.9
comp=Z,3.1nm,0.7s,baz=296,slow=1.6,SNR=37
YKA PP PP 18 08 42.0 -3.5
comp=Z,1.1nm,0.8s,baz=285,slow=7.2,SNR=4.8
YKA PKKPbc 18 19 32.1
comp=Z,1.8nm,0.8s,baz=112,slow=3.1,SNR=16
YKA **Yellowknife Ar** 107.90 26 Pdif Pdif 18 04 12.6 +0.3
YKA PKPdif 18 08 18.9
YKA PP PP 18 08 42.0 -3.5
YKA PKKPbc 18 19 32.1
HFS **Hagfors** 108.67 332 PKKPbc 18 19 30.4
comp=Z,2.2nm,0.5s,baz=207,slow=3.3,SNR=14
NB2 **NORSAR Subarra** 109.50 333 P Pdif 18 04 19.1 -0.2
comp=Z,1.1nm,0.6s,baz=66,slow=4.5
NB2 **NORSAR Subarra** 109.50 333 P 18 08 21.6
comp=Z,2.1nm,0.9s,baz=82,slow=7.9
NOA **NORSAR Array B** 109.50 333 P Pdif 18 04 19.1 -0.2
NOA 18 19 28.6
NOA **NORSAR Array B** 109.50 333 Pdiff Pdif 18 04 19.1 -0.2
comp=Z,1.7nm,0.8s,baz=67,slow=4.6,SNR=6.8
NOA PKiKP 18 08 22.4
comp=Z,2.7nm,1.0s,baz=263,slow=3.2,SNR=4.4
NOA PKKPbc 18 19 28.6
comp=Z,2.8nm,0.7s,baz=67,slow=3.2,SNR=9.3
NOA PKPPKP 18 27 53.0
comp=Z,1.0nm,1.0s,baz=28,slow=6.2,SNR=3.3
MOD **Modoc** 109.60 48 ePKPdf 18 08 23.3
VRAC **Vranov** 110.10 320 S SKS 18 14 49.1 +3.2
comp=Z,1.0nm,0.6s,baz=342,slow=16,SNR=3.2
WVOR **Wild Horse Val** 110.74 47 ePKIKP PKPdf 18 08 26.2 +2.9
BMO **Blue Mountains** 111.24 45 ePKIKP PKPdf 18 08 26.0 +1.8
EDM **Edmonton** 111.60 35 ePKIKP PKPdf 18 08 26.8 +2.1
NVAR **Mina Array Bea** 111.63 51 Pdiff Pdif 18 04 34.9 +5.6
comp=Z,2.3nm,0.7s,baz=268,slow=4.4,SNR=9.4
NVAR PKiKP 18 08 28.6
comp=Z,3.9nm,0.6s,baz=262,slow=0.5,SNR=21
NVAR PP PP 18 09 09.6 -3.6
comp=Z,10nm,1.2s,baz=260,slow=6.0,SNR=7.0
NVAR SKP 18 11 48.6
comp=Z,0.8nm,0.6s,baz=210,slow=1.9,SNR=3.6
NVAR PKKPbc 18 19 24.4
comp=Z,0.8nm,0.7s,baz=108,slow=6.0,SNR=5.4
NVAR PKKPab 18 19 36.9
comp=Z,1.2nm,0.7s,baz=152,slow=3.2,SNR=5.3
NVAR **Mina Array Bea** 111.63 51 Pdif Pdif 18 04 34.9 +5.6
NVAR PKPdf PKPdf 18 08 28.6 +3.4
NVAR PP PP 18 09 09.6 -3.6
NVAR SKP 18 11 48.6
NVAR PKKPbc 18 19 24.4
NVAR PKKPab 18 19 36.9
MNV **Mina** 111.75 51 ePKIKP PKPdf 18 08 28.4 +3.0
GERES **GERESS Array B** 112.06 320 PKiKP 18 08 27.7
comp=Z,3.5nm,0.5s,baz=74,slow=1.8,SNR=19
GERES SKP 18 11 48.1
comp=Z,0.9nm,0.5s,baz=27,slow=3.0,SNR=5.1
GERES PKKPab 18 19 30.3
comp=Z,1.7nm,0.8s,baz=180,slow=1.3,SNR=5.3
KHC **Kasperske Hory** 112.06 320 eP PKPdf 18 08 27.0 +1.3
CHMT **Chamberlain Mo** 113.50 42 ePKPdf PKPdf 18 08 30.6 +2.0
HLID **Hailey** 113.55 45 ePKPdf PKPdf 18 08 31.8 +3.0
PFO **Pinyon Flat Ob** 113.80 56 ePKIKP PKPdf 18 08 32.0 +2.4
WTTA **Wattenberg** 113.82 319 ⇓i P PKPdf 18 08 31.1 +1.8
WATA **Walderalm** 113.84 319 ⇑i P PKPdf 18 08 30.7 +1.4
SQTA **Sankt Quirin** 114.11 319 ⇓i P PKPdf 18 08 31.6 +1.7
MOTA **Moosalm** 114.15 319 ⇑i P PKPdf 18 08 31.5 +1.6
MCMT **McKenzie Canyo** 114.33 44 ePKiKP 18 08 33.3
LDFC **Landfair** 114.68 55 ePKiKP 18 08 33.8
NEN **Nelson** 114.80 54 ePKiKP 18 08 34.0
DAVA **Damuels** 114.96 319 ⇑i P PKPdf 18 08 33.5 +2.0
DAVOX **Davos** 115.11 319 PKKPab 18 19 17.0
comp=Z,9.0nm,0.9s,baz=349,slow=12,SNR=5.3

HVU **Hansel Valley** 115.14 47 ePKIKP PKPdf 18 08 34.6 +2.6
QLMT **Earthquake Lak** 115.30 43 ePKiKP 18 08 35.3
SPUT **South Promonto** 115.49 47 ePKiKP 18 08 35.3
YMR **Madison River** 115.66 44 ePKPdf PKPdf 18 08 36.3 +3.4
YFT **Old Faithful** 115.81 44 ePKiKP 18 08 36.9
IMW **Indian Meadow** 115.90 44 ePKPdf PKPdf 18 08 36.3 +2.8
TPAW **Teton Pass** 116.00 45 ePKiKP 18 08 36.6
HWUT **Hardware Ranch** 116.06 47 ePKPdf PKPdf 18 08 36.1 +2.3
MOOW **Moose Ponds** 116.08 44 ePKiKP 18 08 36.3
LKWY **Lake** 116.08 44 ePKIKP PKPdf 18 08 37.3 +3.6
NLU **North Lily Min** 116.09 49 ePKiKP 18 08 36.2
WUWY **Wally Ulrich** 116.14 45 ePKiKP 18 08 37.1
SNOW **Snow King Moun** 116.15 45 ePKiKP 18 08 37.0
LOHW **Long Hollow** 116.21 45 ePKiKP 18 08 36.6
CDF **Champ du Feu** 116.25 321 ePKP1 PKPdf 18 08 35.2 +1.2
TCUT **Toone Canyon** 116.30 47 ePKiKP 18 08 36.8
MVU **Marysvale** 116.32 50 ePKiKP 18 08 37.8
MSU **Marysvale** 116.34 50 ePKIKP PKPdf 18 08 37.8 +3.4
JLU **Jordanelle** 116.40 48 ePKiKP 18 08 37.0
MPU **Maple Canyon** 116.41 49 ePKiKP 18 08 37.4
DAU **Daniels Canyon** 116.59 48 ePKIKP PKPdf 18 08 37.8 +3.0
HINF **Hinteralfeld** 116.72 321 ⇑i PKP1 PKPdf 18 08 36.2 +1.3
comp=Z,18nm,0.7s
HAU **Haudompre** 116.97 321 ePKP1 PKPdf 18 08 36.2 +0.9
comp=Z,7.1nm,0.7s
PDAR **Pinedale Array** 117.19 45 PKP PKPdf 18 08 37.9 +2.0
comp=Z,11nm,0.7s,baz=229,slow=1.2,SNR=80
PDAR PP PP 18 09 45.1 -7.9
comp=Z,1.9nm,1.1s,baz=284,slow=3.7,SNR=2.0
PDAR SKP 18 11 59.0
comp=Z,1.9nm,0.8s,baz=246,slow=1.9,SNR=5.2
PDAR PKKPbc 18 19 03.0
comp=Z,1.0nm,0.7s,baz=105,slow=3.9,SNR=3.4
PDAR PKKPab 18 19 10.1
comp=Z,1.2nm,0.9s,baz=108,slow=4.7,SNR=4.0
SRU **San Rafael** 117.46 49 ePKIKP PKPdf 18 08 39.0 +2.5
BAIF **Baives** 117.48 324 ePKP1 PKPdf 18 08 37.6 +1.4
LPG **La Plagne** 117.58 318 ⇑i PKP1 PKPdf 18 08 38.8 +2.2
comp=Z,13nm,0.6s
MEZF **Maizieres J'vi** 117.59 322 ePKP1 PKPdf 18 08 38.5 +2.0
LPL **La Plagne** 117.59 318 ⇑i PKP1 PKPdf 18 08 38.7 +2.1
comp=Z,18nm,0.6s
WUAZ **Wupatki** 117.61 54 ePKPdf PKPdf 18 08 39.9 +3.0
CABF **La Chapelle** 117.64 319 ⇑i PKP1 PKPdf 18 08 38.7 +2.1
comp=Z,32nm,0.7s
MBDF **Montbardon** 117.83 317 ⇑i PKP1 PKPdf 18 08 39.3 +2.3
comp=Z,29nm,1.0s
LAO **LASA Array** 118.15 40 ePKPdf PKPdf 18 08 40.2 +2.6
FRF **La Foret Royal** 118.29 316 ePKP1 PKPdf 18 08 39.8 +1.8
ORIF **Oris-en-Rattie** 118.36 318 ⇑i PKP1 PKPdf 18 08 39.9 +1.8
comp=Z,12nm,0.6s
FCC **Fort Churchill** 118.49 24 ePKIKP PKPdf 18 08 38.8 +0.8
TUC **Tucson** 118.71 57 ePKIKP PKPdf 18 08 41.9 +2.8
DGMT **Dagmar** 118.72 38 ePKPdf PKPdf 18 08 40.6 +1.8
PV10 **Paradox Valley** 118.77 50 ePKPdf PKPdf 18 08 42.0 +2.9
EKA **Eskdalemuir Ar** 118.87 331 PKKPbc 18 18 57.1
comp=Z,2.5nm,0.6s,baz=235,slow=3.9,SNR=9.6
SMRF **Simiane la Rot** 118.89 317 ⇑i PKP1 PKPdf 18 08 41.5 +2.3
comp=Z,17nm,0.7s
SMF **Signal de Mont** 119.06 320 ⇑i PKP1 PKPdf 18 08 41.3 +1.9
comp=Z,9.1nm,0.6s
SSF **Saint Saulge** 119.11 321 ⇑i PKP1 PKPdf 18 08 41.3 +1.8
comp=Z,22nm,0.7s
PV01 **Paradox Valley** 119.19 50 ePKPdf PKPdf 18 08 42.8 +2.9
VIVF **Saint-Julien-l** 119.19 318 ⇑i PKP1 PKPdf 18 08 41.5 +1.8
comp=Z,9.4nm,0.6s
AVF **Avril sur Loir** 119.31 320 ⇑i PKP1 PKPdf 18 08 41.3 +1.4
comp=Z,17nm,0.8s
BGF **Bois d'Agland** 119.73 320 ⇑i PKP1 PKPdf 18 08 42.7 +2.0
comp=Z,47nm,0.8s
RW3 **Ridgway** 119.83 50 ePKIKP PKPdf 18 08 44.2 +3.1
TCF **Toulx Ste Croi** 120.24 320 ⇑i PKP1 PKPdf 18 08 43.6 +1.9
comp=Z,21nm,0.8s
PHWY **Pilot Hill** 120.54 46 ePKPdf PKPdf 18 08 44.3 +1.8
ISCO **Idaho Springs** 120.91 47 ePKIKP PKPdf 18 08 46.2 +3.0
GRR **Gorron** 121.20 324 ePKP1 PKPdf 18 08 45.5 +1.9
LAZ **Ladron** 121.25 54 ePKPdf PKPdf 18 08 47.1 +3.1
LENM **Lemitar** 121.44 54 ePKPdf PKPdf 18 08 47.3 +2.9
MFF **Saint Martin d** 121.58 321 ⇑i PKP1 PKPdf 18 08 46.0 +1.7
comp=Z,25nm,0.6s
SDCO **Great Sand Dun** 121.62 50 ePKPdf PKPdf 18 08 47.4 +2.7
ANMO **Albuquerque** 121.65 53 ePKIKP PKPdf 18 08 47.6 +2.8
ANMO **Albuquerque** 121.65 53 PKP PKPdf 18 08 47.8 +3.1
baz=305,slow=2.8
LPM **Los Pinos Moun** 121.67 54 ePKPdf PKPdf 18 08 47.8 +3.0
LFF **La Frestale** 121.73 319 ePKP1 PKPdf 18 08 46.8 +2.1
SGMF **Saint Gilles** 122.26 324 ⇑i PKP1 PKPdf 18 08 47.1 +1.5
comp=Z,29nm,0.8s
QUIF **Quistinic** 122.78 324 ePKP1 PKPdf 18 08 47.6 +1.0
comp=Z,12nm,0.6s
MNTX **Cornudas Mount** 123.32 57 ePKPdf PKPdf 18 08 50.1 +2.1
ETSF **Etsaut** 123.43 318 ePKP1 PKPdf 18 08 50.5 +2.5
comp=Z,23nm,1.0s
SJPF **Ste Jean** 123.78 318 ePKP1 PKPdf 18 08 51.2 +2.5
comp=Z,23nm,0.8s
GDL2 **Guadalupe Moun** 124.04 56 ePKPdf PKPdf 18 08 51.9 +2.4
CPRX **Cap Rock** 124.23 55 ePKPdf PKPdf 18 08 51.6 +1.8
TXAR **Lajitas Array** 125.31 59 PKP PKPdf 18 08 54.4 +2.4
comp=Z,15nm,0.7s,baz=270,slow=1.3,SNR=33
AMTX **Amarillo** 125.43 52 ePKPdf PKPdf 18 08 54.4 +2.2
ESDC **Sonseca Array** 127.11 315 PKiKP 18 08 57.4
comp=Z,1.3nm,0.7s,baz=71,slow=2.8,SNR=8.3
ESDC PP PP 18 11 00.0 +0.4
comp=Z,1.9nm,0.8s,baz=63,slow=6.5,SNR=4.1
KSU1 **Kansas State U** 127.64 45 ePKPdf PKPdf 18 08 58.2 +2.0
WMOK **Wichita Mounta** 127.73 51 ePKIKP PKPdf 18 08 58.3 +1.7
JCT **Junction City** 128.26 56 ePKIKP PKPdf 18 08 59.6 +1.9
PVRL **Vila Real** 128.91 319 e- 18 12 07.5
PLCA **Paso Flores** 129.11 160 ePKIKP PKPdf 18 09 00.5 +1.5
PLCA **Paso Flores** 129.11 160 PKP PKPdf 18 09 01.3 +2.3
comp=Z,13nm,0.7s,baz=205,slow=3.3,SNR=30
PLCA SKPbc 18 12 07.6
comp=Z,14nm,0.8s,baz=197,slow=3.9,SNR=13
MTE **Manteigas** 129.23 318 e- 18 12 08.3
PVIS **Viseu** 129.30 318 e- 18 12 09.2
PCBR **Castelo Branco** 129.45 317 e- 18 12 09.0
SCHQ **Schefferville** 130.46 12 PKP PKPdf 18 09 02.8 +1.6
comp=Z,5.5nm,0.9s,baz=57,slow=6.5,SNR=11
SCHQ SKPbc 18 12 11.2
comp=Z,44nm,0.9s,baz=357,slow=4.1,SNR=34
PALC **Alcoutim** 130.56 314 e- 18 12 13.1
PBEJ **Beja** 130.58 315 e- 18 12 13.2
MOE **Montemor** 130.68 316 e- 18 12 13.9
PLOU **Loures** 131.05 317 e- 18 12 16.2
PTEO **Sao Teotonio** 131.40 315 e- 18 12 16.3
MIAR **Mount Ida** 131.77 49 ePKIKP PKPdf 18 09 06.5 +2.2
NATX **Nacogdoches** 132.02 53 ePKPdf PKPdf 18 09 07.1 +2.3
UALR **University of** 132.59 48 ePKPdf PKPdf 18 09 07.1 +1.2
TRQA **Tornquist** 133.98 167 ePKPdf PKPdf 18 09 08.9 +0.7
BLO **Bloomington** 134.39 40 ePKIKP PKPdf 18 09 10.5 +1.5
DBIC **Dimbokro** 134.70 273 ePKHKP 18 09 01.4
DBIC e 18 09 12.0
DBIC 18 11 50.3
DBIC **Dimbokro** 134.70 273 PKP PKPdf 18 09 12.7 +2.4
comp=Z,15nm,0.9s,baz=70,slow=2.3,SNR=12
DBIC PP PP 18 11 50.3 +1.0
comp=Z,3.4nm,0.7s,baz=77,slow=2.8,SNR=3.2
DBIC SKPbc 18 12 27.0
comp=Z,182nm,1.1s,baz=83,slow=3.7,SNR=54
DBIC PKKP PKKP 18 18 58.5 +22
comp=Z,3.5nm,1.2s,baz=64,slow=4.7,SNR=3.4
DBIC **Dimbokro** 134.70 273 ePKPpre 18 09 01.4
DBIC ePKPdf PKPdf 18 09 12.0 +1.7
DBIC PKP PKPdf 18 09 12.7 +2.4
DBIC PP PP 18 11 50.3 +1.0
DBIC SKPbc 18 12 27.0
DBIC PKKP PKKP 18 18 58.5 +22
SADO **Sadowa** 134.81 29 PKP PKPdf 18 09 12.8 +3.2
comp=Z,8.8nm,0.6s,baz=325,slow=3.4,SNR=7.6
SADO SKPbc 18 12 26.7
comp=Z,14nm,0.9s,baz=16,slow=4.5,SNR=5.0
SADO **Sadowa** 134.81 29 PKP PKPdf 18 09 12.8 +3.2
SADO SKPbc 18 12 26.7
OXF **Oxford** 134.87 47 ePKIKP PKPdf 18 09 09.1 -1.0
WCI **Wyandotte Cave** 135.07 41 ePKIKP PKPdf 18 09 11.9 +1.6
WVT **Waverly** 135.18 44 ePKIKP PKPdf 18 09 11.8 +1.2
ACSO **Alum Creek Sta** 135.91 36 ePKPpre 18 09 03.6
ACSO ePKPdf PKPdf 18 09 12.5 +0.7
LRAL **Lakeview Retre** 137.34 48 ePKPpre 18 09 03.5
LRAL ePKPdf PKPdf 18 09 16.2 +1.6
CPCT **Cooper Cave** 137.81 43 ePKPpre 18 09 04.8
CPCT ePKPdf PKPdf 18 09 17.0 +1.6
SSPA **Standing Stone** 138.47 32 ePKPpre 18 09 07.9

BLA	**Blacksburg**	**139.38**	**38**	*e*PKHKP		18 09 06.3	
GOGA	**Godfrey**	**139.67**	**45**	*e*PKHKP		18 09 11.6	
SDMD	**Soldier's Deli**	**139.91**	**32**	*e*PKPdf	PKPdf	18 09 20.1	+1.0
COW	**Cow Castle Cre**	**141.58**	**43**	*e*PKPpre		18 09 17.1	
DWPF	**Disney**	**143.94**	**50**	*e*PKPpre		18 09 25.8	
LVC	**Limon Verde**	**145.54**	**149**	PKPbc	PKPbc	18 09 33.7	+3.5
	comp=Z,147nm,0.6s,baz=258,slow=2.8,SNR=210						
LVC				SKPbc		18 12 58.0	
	comp=Z,21nm,0.7s,baz=265,slow=2.9,SNR=7.6						
JTS	**JuntasAbangare**	**145.77**	**82**	*e*PKIKP	PKPdf	18 09 32.2	+2.1
CPUP	**Villa Florida**	**146.28**	**169**	PKPdf	PKPdf	18 09 31.9	+1.4
CPUP				PKPbc	PKPbc	18 09 34.1	+2.3
CPUP				SKPbc		18 12 58.2	
NNA	**Nana**	**147.75**	**126**	*e*PKPdf	PKPdf	18 09 35.6	+2.3
ARE	**Arequipa**	**148.82**	**138**	*e*PKIKP	PKPdf	18 09 38.0	+3.0
ARE				*i*		18 09 42.6	
LPAZ	**La Paz**	**151.07**	**143**	PKPdf	PKPdf	18 09 42.3	+3.9
LPAZ				PKiKP		18 09 48.0	
LPAZ				PKPab	PKPab	18 09 57.0	+2.0
LPAZ	**La Paz**	**151.07**	**143**	PKP	PKPdf	18 09 42.2	+3.9
	comp=Z,18nm,0.9s,baz=157,slow=0.6,SNR=40						
LPAZ				PKPbc	PKPdf	18 09 48.0	+10
	comp=Z,49nm,0.4s,baz=57,slow=1.1,SNR=63						
LPAZ				PKPab	PKPab	18 09 55.9	+1.0
	comp=Z,58nm,0.6s,baz=222,slow=3.8,SNR=15						
LPAZ	**La Paz**	**151.07**	**143**	*e*PKPdf	PKPdf	18 09 41.9	+3.5
OTAV	**Otavalo**	**151.33**	**102**	*e*PKPdf	PKPdf	18 09 41.8	+2.9
BAO	**Brasilia Array**	**157.44**	**186**	P	PKPdf	18 09 50.8	+3.6
SDV	**Santo Domingo**	**159.95**	**83**	PKP	PKPdf	18 09 52.7	+2.5
	comp=Z,44nm,1.0s,baz=312,slow=1.0,SNR=24						
SDV				PKPab	PKPab	18 10 33.7	+0.9
	comp=Z,16nm,1.0s,baz=341,slow=4.4,SNR=2.8						
SJG	**San Juan**	**161.12**	**53**	PKP	PKPdf	18 09 54.0	+2.7
	comp=Z,7.2nm,0.3s,baz=326,slow=19,SNR=4.2						
SJG				PKPab	PKPab	18 10 37.4	-0.3
	comp=Z,62nm,0.8s,baz=325,slow=3.2,SNR=13						

JMA 26 17:56:12.4, 42.33N×144.56E, h39km±1km, M3.5, 1C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.67**	**9**	⇑P	P	17 56 25.5	0.0
JAK				S	S	17 56 35.6	+0.6
JCH	**Churui**	**0.93**	**288**	⇓P	P	17 56 29.3	+0.2
JCH				*e*S	S	17 56 41.6	+0.1
JEM	**Erimo**	**1.09**	**254**	P	P	17 56 32.1	+0.7
JEM				S	S	17 56 46.6	+1.1
JAR	**Ashorobuto**	**1.13**	**329**	P	P	17 56 31.6	-0.3
JAR				*e*S	S	17 56 46.5	0.0
JNK	**Nakash**	**1.26**	**5**	P	P	17 56 33.4	-0.4
JNK				S	S	17 56 49.0	-0.8
JNBK	**Urakawa-nobuka**	**1.34**	**268**	P	P	17 56 34.7	-0.4
NEM2	**Nemuro 2**	**1.35**	**40**	P	P	17 56 35.2	0.0
NEM2				*e*S	S	17 56 52.3	+0.1
JRA	**Rausu**	**1.66**	**14**	P	P	17 56 39.7	+0.2
JRA				*e*S	S	17 57 00.2	+0.4
JFR	**Furan**	**1.67**	**301**	P	P	17 56 39.6	-0.1
JFR				*e*S	S	17 57 00.3	+0.2
JBT2	**Biratori 2**	**1.68**	**286**	P	P	17 56 39.6	-0.3
JTKR	**Abashiri--Toko**	**1.71**	**344**	P	P	17 56 41.0	+0.8

*IDC **26** 17:59:13.6±1.9, 8.01N×94.20E, mb4.3/9, mb1 4.4/10, mb1mx4.3/19, mbtmp4.2/10, ML3.7/1, Error ellipse: s-maj=54.5km s-min=32.7km az=128.0*
*NEIC **26** 17:59:17.4±1.2, 7.74N×94.18E, h30km, mb4.5/3, Error ellipse: s-maj=35.8km s-min=17.8km az=123.0*
ISC 26 17:59:17.1±1.0, 8.0N±0.2×94.1E±0.1, h33km, n19, σ0°78/15, mb4.3/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.52**	**96**	P	P	**18 00 53.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**11.45**	**24**	Pn	P	**18 02 02.3**	**+0.9**
	0.1nm,0.3s,baz=209,slow=15,SNR=6.6						
LSA	**Lhasa**	**21.80**	**353**	*e*P	P	**18 04 12.3**	**+4.1**
	13nm,0.8s,mb4.4						
SONM	**Songino Array**	**41.09**	**13**	P	P	**18 06 58.6**	**-0.8**
	1.8nm,0.9s,mb3.7,baz=200,slow=8.9,SNR=4.2						
ZAL	**Zalesovo**	**46.45**	**352**	P	P	**18 07 42.9**	**+0.3**
	3.2nm,0.8s,mb4.3,baz=292,slow=8.8,SNR=6.3						
CHKZ	**Chkalovo**	**49.37**	**342**	*e*P	P	**18 08 05.3**	**-0.1**
	5.4nm,0.9s,mb4.6						
KMBO	**Kilima Mbogo**	**57.38**	**264**	P	P	**18 09 06.3**	**+1.2**
	6.0nm,0.9s,mb4.6,baz=53,slow=11,SNR=12						
BRTR	**Keskin Array B**	**62.33**	**311**	P	P	**18 09 37.5**	**-1.2**
	1.5nm,0.8s,mb4.2,baz=119,slow=7.2,SNR=4.4						
AKASG	**Malin Array Be**	**68.05**	**322**	P	P	**18 10 14.2**	**-1.2**
	0.5nm,0.4s,mb3.9,baz=83,slow=4.8,SNR=4.3						
FINES	**FINESS Array B**	**72.61**	**332**	P	P	**18 10 43.3**	**+0.5**
	5.9nm,0.8s,mb4.6,baz=127,slow=9.5,SNR=9.1						
KAF	**Kangasniemi**	**72.69**	**333**	*e*p	P	**18 10 42.7**	**-0.5**
GERES	**GERESS Array B**	**77.72**	**318**	P	P	**18 11 13.2**	**+0.8**
	3.4nm,0.9s,mb4.3,baz=117,slow=3.0,SNR=5.5						
HFS	**Hagfors**	**78.35**	**330**	P	P	**18 11 16.1**	**+0.5**
	5.4nm,0.9s,mb4.5,baz=90,slow=3.0,SNR=4.5						
NB2	**NORSAR Subarra**	**79.63**	**331**	P	P	**18 11 22.4**	**-0.1**
	3.6nm,0.8s,mb4.3,baz=92,slow=5.8						
NOA	**NORSAR Array B**	**79.63**	**331**	P	P	**18 11 22.2**	**-0.3**
	2.7nm,0.8s,mb4.2,baz=93,slow=5.6,SNR=7.6						
PDAR	**Pinedale Array**	**125.11**	**21**	PKP	PKPdf	18 18 16.4	+1.8
	1.5nm,1.0s,baz=63,slow=2.0,SNR=5.7						
TXAR	**Lajitas Array**	**139.17**	**24**	PKhKP		18 18 32.4	
	0.4nm,0.8s,baz=80,slow=7.6,SNR=3.2						
PLCA	**Paso Flores**	**144.61**	**200**	PKP	PKPdf	18 18 51.5	+0.8
	4.6nm,0.9s,baz=124,slow=3.2,SNR=9.3						
PLCA	**Paso Flores**	**144.61**	**200**	PKP	PKPdf	18 18 51.5	+0.8

IDC 26 18:10:13.7±5.1, 6.31S×148.34E, mb3.8/2, mb1 3.9/4, mb1mx3.7/13, mbtmp3.7/4, ML3.3/2, MS3.3/1, Ms1 3.3/1, ms1mx2.4/19, Error ellipse: s-maj=77.0km s-min=64.0km az=104.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.29**	**201**	Pn	Pn	18 11 08.3	+0.8
	7.8nm,0.3s,baz=60,slow=5.7,SNR=32						
PMG				Sn	Sn	18 11 47.2	-0.8
	15nm,0.3s,baz=25,slow=19,SNR=4.0						
PMG				LR	LR	18 12 28.3	
	comp=Z,441nm,19.6s,baz=300,slow=41						
WRA	**Warramunga Arr**	**19.20**	**224**	P	P	18 14 38.2	-3.6
	0.2nm,0.3s,baz=52,slow=11,SNR=15						
ASAR	**Alice Springs**	**22.15**	**217**	P	P	18 15 10.9	-2.0
	2.5nm,0.6s,baz=50,slow=8.9,SNR=42						
STKA	**Stephens Creek**	**26.21**	**193**	P	P	18 15 50.6	-1.4
	2.2nm,0.8s,baz=11,slow=10,SNR=5.0						

*NEIC **26** 18:12:06.1±1.1, 2.57N×95.16E, h30km, mb4.0/3, Error ellipse: s-maj=28.8km s-min=14.6km az=70.0*
*IDC **26** 18:12:08.6±1.7, 3.01N×95.88E, h26km±6km, mb3.7/5, mb1 4.0/6, mb1mx3.7/18, mbtmp3.9/6, ML4.0/1, Error ellipse: s-maj=62.8km s-min=21.7km az=57.0*
ISC 26 18:12:03.2±1.5, 2.5N±0.2×95.1E±0.3, h26km, h26km±.7km: pP-P, n10, σ0°35/10, mb3.9/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**16.28**	**13**	*e*P	P	**18 15 51.9**	**-0.1**
	4.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.28**	**13**	Pn	P	**18 15 52.2**	**+0.3**
	0.2nm,0.3s,baz=203,slow=11,SNR=30						
LSA	**Lhasa**	**27.28**	**353**	*e*P	P	**18 17 48.3**	**+0.6**
	2.8nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**44.54**	**122**	P	P	**18 20 15.2**	**+0.1**
	0.3nm,0.5s,mb3.4,baz=300,slow=9.2,SNR=4.6						
WRA				pP	pP	18 20 22.7	-0.1
	0.5nm,0.5s,baz=301,slow=9.1,SNR=4.0						
SONM	**Songino Array**	**46.18**	**11**	P	P	**18 20 27.0**	**-0.7**
	1.7nm,0.6s,mb4.2,baz=190,slow=8.9,SNR=16						
SONM				pP	pP	18 20 34.7	-0.8
	0.8nm,0.7s,baz=194,slow=9.6,SNR=3.9						
SONM				PcP	PcP	18 22 04.3	+0.5
	0.4nm,0.5s,baz=204,slow=3.8,SNR=3.9						
ZAL	**Zalesovo**	**51.93**	**352**	P	P	**18 21 12.1**	**+0.1**
	4.0nm,1.0s,mb4.3,baz=304,slow=6.6,SNR=14						
ZAL				pP	pP	18 21 20.4	+0.4
	2.1nm,0.5s,baz=314,slow=7.3,SNR=5.8						
ZAL	**Zalesovo**	**51.93**	**352**	P	P	**18 21 12.1**	**+0.1**
ZAL				pP	pP	18 21 20.4	+0.4
BVAR	**Borovoye Array**	**54.32**	**342**	P	P	**18 21 29.6**	**0.0**
	1.0nm,0.7s,mb3.9,baz=149,slow=8.6,SNR=6.2						
CHKZ	**Chkalovo**	**54.81**	**342**	*e*P	P	**18 21 33.1**	**-0.2**
	1.7nm,0.6s,mb4.2						
GERES	**GERESS Array B**	**82.42**	**319**	P	P	**18 24 30.5**	**+6.0**
	0.3nm,0.4s,mb3.6,baz=113,slow=17,SNR=1.9						

IGQ 26 18:14:17.9, 0.58S×81.64W, h16km±6km, mb4.3, 1C-3D, Error ellipse: s-maj=12.3km s-min=5.7km az=68.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**1.47**	**77**	P	Pn	18 14 44.8	+0.9
JAMA				S	Sb	18 15 02.2	-0.4
JUA2	**San Juan 2**	**3.05**	**83**	P	Pn	18 15 07.8	+1.2
PINO	**Pino**	**3.06**	**82**	⇓P	Pn	18 15 07.2	+0.5
TERV	**Terraza Guagua**	**3.06**	**82**	P	Pn	18 15 07.3	+0.6
NAS1	**Nasa**	**3.16**	**91**	⇓P	Pn	18 15 09.8	+1.6
NAS1				S	Sn	18 15 45.9	0.0
VC1	**Cotopaxi 1**	**3.23**	**91**	P	Pn	18 15 10.8	+1.6
CUSU	**Cusua**	**3.27**	**105**	P	Pn	18 15 12.2	+2.5
TAMB	**Tambo**	**3.27**	**92**	P	Pn	18 15 11.4	+1.7
PISA	**Pisayambo**	**3.29**	**98**	⇑P	Pn	18 15 11.1	+1.1
ULBA	**Ulba**	**3.34**	**105**	P	Pn	18 15 11.0	+0.3
COTA	**Cotacachi**	**3.42**	**75**	P	Pn	18 15 13.5	+1.6
ANTI	**Antisana**	**3.48**	**88**	P	Pn	18 15 14.4	+1.7
ANTI				S	Sn	18 15 54.7	+0.8
CAYR	**Refugio Cayamb**	**3.68**	**81**	⇓P	Pn	18 15 18.6	+3.1
CAYR				S	Sn	18 16 00.9	+2.0
CAYA	**Cayambe**	**3.70**	**80**	P	Pn	18 15 18.4	+2.6

PRE 26 18:15:42.6±0.7, 26.28S×27.61E, h2km, ML3.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEK	**Senekal**	**2.03**	**180**	*e*S	Sn	18 16 42.9	-1.6
SEK				*e*		18 16 46.3	
	comp=Z,542nm,0.2s						
BOSA	**Boshof**	**3.13**	**222**	*e*P	Pn	18 16 31.8	-2.1
BOSA				*e*S	Sn	18 17 08.8	-3.5
CVNA	**Calvinia**	**8.61**	**231**	*e*P	P	18 17 46.2	-5.0
CVNA				*e*		18 18 25.1	
	comp=Z,3.9nm,0.4s						
CVNA				*e*S	Sn	18 19 16.2	-14

*BJI **26** 18:25:45.7, 8.42N×93.91E, h18km, mb4.3*
*IDC **26** 18:25:45.7±0.7, 8.42N×94.56E, h27km±4km, mb3.8/12, mb1 3.9/13, mb1mx3.8/20, mbtmp3.9/13, ML3.8/1, MS3.5/2, Ms1 3.6/2, ms1mx3.3/23, Error ellipse: s-maj=25.4km s-min=15.6km az=51.0*
*NEIC **26** 18:25:45.8±0.6, 8.23N×94.35E, mb4.5/3, Error ellipse: s-maj=16.2km s-min=13.0km az=62.0*
ISC 26 18:25:43.8±0.7, 8.30N±0.10×94.4E±0.1, h28km, h28km±1.2km: pP-P, n31, σ1°06/29, mb4.2/19, MS3.9/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.04**	**23**	Pn	P	**18 28 24.7**	**+1.5**
	0.2nm,0.3s,baz=213,slow=15,SNR=9.5						
CMAR				LR	LR	18 33 40.0	
	comp=Z,100nm,18.8s,baz=240,slow=44						
HYB	**Hyderabad**	**17.86**	**302**	*e*P	P	**18 29 52.0**	**-0.2**
HYB	**Hyderabad**	**17.86**	**302**	*i* P	P	**18 29 52.0**	**-0.2**
JIRN	**Jiri**	**20.75**	**339**	*e*P	P	**18 30 23.4**	**-1.6**
	47nm,1.1s						
PKI	**Pulchoki**	**20.96**	**337**	*e*P	P	**18 30 26.7**	**-0.5**
	68nm,1.3s						
DMN	**Daman**	**21.11**	**337**	*e*P	P	**18 30 27.8**	**-0.9**
	48nm,1.0s,mb4.8						
KKN	**Kakani**	**21.20**	**337**	*e*P	P	**18 30 28.8**	**-0.8**
	30nm,0.8s,mb4.7						
LSA	**Lhasa**	**21.50**	**352**	*e*P	P	**18 30 33.3**	**+0.6**
LSA	**Lhasa**	**21.50**	**352**	*e*P	P	**18 30 32.7**	**0.0**
	5.5nm,0.8s,mb4.0						
GKN	**Gorkha**	**21.64**	**336**	*e*P	P	**18 30 33.2**	**-0.9**
	41nm,0.9s,mb4.9						
KOLN	**Koldanda**	**21.88**	**334**	*e*P	P	**18 30 36.0**	**-0.4**
	29nm,0.8s,mb4.7						
SONM	**Songino Array**	**40.71**	**12**	P	P	**18 33 23.9**	**+0.2**
	2.0nm,1.1s,mb3.6,baz=193,slow=6.8,SNR=4.1						
SONM				PcP	PcP	18 35 24.4	-1.1
	0.3nm,0.6s,baz=180,slow=4.8,SNR=2.8						
SONM				pPcP		18 35 30.7	
	0.4nm,0.6s,baz=207,slow=5.5,SNR=3.8						
KURK	**Kurchatov**	**44.26**	**346**	*e*P	P	**18 33 53.4**	**+0.8**
	10nm,1.3s,mb4.4						
ZAL	**Zalesovo**	**46.16**	**352**	P	P	**18 34 08.3**	**+0.6**
	1.0nm,0.4s,mb4.1,baz=290,slow=4.2,SNR=4.8						
ZAL				pP	pP	18 34 15.2	-1.0
	2.6nm,1.0s,baz=297,slow=5.2,SNR=5.8						
WRA	**Warramunga Arr**	**48.33**	**126**	P	P	**18 34 24.6**	**-0.7**
	0.8nm,0.8s,mb3.8,baz=305,slow=8.6,SNR=4.1						
WRA				pP	pP	18 34 33.5	-0.3
	0.6nm,0.8s,baz=305,slow=8.5,SNR=4.1						
BVAR	**Borovoye Array**	**48.66**	**341**	P	P	**18 34 27.1**	**-0.3**
	0.5nm,0.8s,mb3.6,baz=137,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**50.02**	**130**	P	P	**18 34 36.8**	**-1.5**
	0.4nm,0.8s,mb3.5,baz=293,slow=6.9,SNR=3.7						
ASAR				LR	LR	18 56 29.3	
	comp=Z,121nm,18.5s,MS3.9,baz=298,slow=37						
KMBO	**Kilima Mbogo**	**57.68**	**263**	P	P	**18 35 36.5**	**+1.8**
	4.1nm,0.9s,mb4.5,baz=42,slow=9.6,SNR=7.0						
KMBO				pP	pP	18 35 44.8	+1.5
	4.3nm,0.9s,baz=57,slow=14,SNR=6.9						
KMBO	**Kilima Mbogo**	**57.68**	**263**	P	P	**18 35 36.5**	**+1.8**
KMBO				pP	pP	18 35 44.8	+1.5
BRTR	**Keskin Array B**	**62.32**	**311**	P	P	**18 36 07.7**	**+1.5**
	0.7nm,0.6s,mb4.0,baz=107,slow=6.7,SNR=2.8						
FINES	**FINESS Array B**	**72.44**	**332**	P	P	**18 37 08.2**	**-1.2**
	1.6nm,0.9s,mb4.0,baz=117,slow=4.3,SNR=3.9						
FINES				pP	pP	18 37 18.1	-0.1
	1.8nm,0.6s,baz=90,slow=5.7,SNR=3.2						
ARCES	**ARCESS Array B**	**74.94**	**340**	P	P	**18 37 23.3**	**-0.5**
	8.3nm,1.2s,mb4.5,baz=83,slow=7.3,SNR=3.6						
ARCES	**ARCESS Array B**	**74.94**	**340**	P	P	**18 37 23.3**	**-0.6**
GERES	**GERESS Array B**	**77.66**	**318**	P	P	**18 37 39.8**	**+0.3**
	0.6nm,0.5s,mb3.8,baz=104,slow=4.0,SNR=2.4						
GERES				pP	pP	18 37 48.8	+0.6
	1.7nm,0.7s,baz=72,slow=8.4,SNR=4.9						
HFS	**Hagfors**	**78.20**	**330**	P	P	**18 37 41.7**	**-0.5**
	1.8nm,0.8s,mb4.1,baz=68,slow=7.8,SNR=3.8						
HFS				pP	pP	18 37 50.6	-0.4
	8.9nm,1.2s,baz=124,slow=5.3,SNR=2.8						
NB2	**NORSAR Subarra**	**79.47**	**331**	P	P	**18 37 48.1**	**-1.0**
	5.2nm,1.2s,mb4.3,baz=95,slow=5.0						
NOA	**NORSAR Array B**	**79.47**	**331**	P	P	**18 37 49.2**	**0.0**
	1.4nm,0.9s,mb3.9,baz=99,slow=5.2,SNR=3.2						
LPG	**La Plagne**	**82.47**	**315**	*e*P	P	**18 38 07.3**	**+2.1**
	9.6nm,0.7s,mb4.5						
IMA	**Indian Mountai**	**91.15**	**22**	*e*P	P	**18 38 49.4**	**+2.3**
PLCA	**Paso Flores**	**145.02**	**200**	PKPbc	PKPbc	18 45 20.9	+1.9
	3.0nm,0.9s,baz=12,slow=4.0,SNR=5.1						
PLCA	**Paso Flores**	**145.02**	**200**	PKPbc	PKPbc	18 45 20.9	+1.8

*BJI **26** 18:51:26.6, 7.07N×93.90E, h48km, mB4.8, mb4.4, Ms3.8, Msz4.0*
*IDC **26** 18:51:27.8±0.7, 7.75N×93.87E, mb4.4/14, mb1 4.5/15, mb1mx4.5/19, mbtmp4.3/15, ML4.0/1, MS3.7/3, Ms1 3.8/3, ms1mx3.0/25, Error ellipse: s-maj=33.4km s-min=15.5km az=51.0*
*MOS **26** 18:51:32.1±1.1, 8.00N×94.07E, h33km, mb4.8/28, Error ellipse: s-maj=13.7km s-min=7.4km az=113.9*
*NEIC **26** 18:51:35.4±1.8, 7.96N×94.09E, h49km±14km, mb4.6/16, Error ellipse: s-maj=13.0km s-min=9.5km az=203.0*
ISC 26 18:51:31.7±2.1, 7.90N±0.09×94.10E±0.06, h34km±17km, n118, σ0°99/115, mb4.7/43, MS4.0/4, 6C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.51**	**24**	*e*P	P	**18 54 17.6**	**+0.8**
	7.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**11.51**	**24**	*i* P	P	**18 54 17.9**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,12nm,1.1s						
CMAR	**Chiang Mai Arr**	**11.51**	**24**	Pn	P	**18 54 17.1**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=211,slow=14,SNR=38						
CMAR				LR	LR	18 58 51.9	
	comp=Z,377nm,19.5s,baz=210,slow=38						
VIS	**Vishakhapatnam**	**14.34**	**314**	*e*P	P	**18 54 53.9**	**-0.5**
VIS				*e*		18 55 00.4	
	comp=Z,34nm,1.0s						
VIS				*e*S	S	**18 57 25.6**	**-7.5**
HYB	**Hyderabad**	**17.87**	**303**	*e*P	P	**18 55 40.0**	**+0.5**
HYB	**Hyderabad**	**17.87**	**303**	*i* P	P	**18 55 40.0**	**+0.5**
BLSP	**Bilaspur**	**18.25**	**322**	*e*P	P	**18 55 40.2**	**-4.1**
BLSP				*e*		18 55 45.3	
	comp=Z,17nm,1.0s						
JIRN	**Jiri**	**21.04**	**340**	*e*P	P	**18 56 13.1**	**-2.0**
	comp=Z,85nm,1.0s,mb5.0						
PKI	**Pulchoki**	**21.23**	**338**	*e*P	P	**18 56 16.3**	**-0.7**
	comp=Z,39nm,0.7s,mb4.8						
DMN	**Daman**	**21.38**	**338**	*e*P	P	**18 56 18.1**	**-0.4**
	comp=Z,69nm,0.8s,mb5.1						
KKN	**Kakani**	**21.48**	**338**	*e*P	P	**18 56 18.6**	**-0.9**
	comp=Z,33nm,0.7s,mb4.8						
LSA	**Lhasa**	**21.87**	**353**	P	P	**18 56 26.5**	**+3.1**
LSA				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.0						
LSA	**Lhasa**	**21.87**	**353**	*e*P	P	**18 56 22.7**	**-0.7**
LSA				pmax	pmax		
	comp=Z,32nm,0.7s,mb4.9						
LSA	**Lhasa**	**21.87**	**353**	*e*P	P	**18 56 22.7**	**-0.7**
	comp=Z,32nm,0.7s,mb4.9						
GKN	**Gorkha**	**21.91**	**337**	*e*P	P	**18 56 23.2**	**-0.6**
	comp=Z,62nm,0.8s,mb5.1						
BHPL	**Bhopal**	**22.12**	**315**	*e*P	P	**18 56 27.6**	**+1.7**
BHPL				*e*P		18 56 27.7	
BHPL				*e*		18 56 28.5	
	comp=Z,28nm,0.6s						
BHPL				*e*		18 56 28.6	
	comp=Z,28nm,0.6s						
KOLN	**Koldanda**	**22.12**	**335**	*e*P	P	**18 56 26.4**	**+0.4**
	comp=Z,44nm,0.7s,mb5.0						
ENH	**Enshi**	**26.52**	**31**	*e*P	P	**18 57 08.0**	**-0.3**
	comp=Z,9.6nm,0.9s,mb4.3						
DDI	**Dehra Dun**	**26.91**	**328**	*e*	P	**18 57 13.1**	**+1.3**
XAN	**Xi'an**	**29.39**	**26**	P	P	**18 57 33.8**	**-0.3**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.1						
WHN	**Wuhan**	**29.44**	**37**	*e*P	P	**18 57 37.8**	**+3.2**
NJ2	**Nanjing**	**33.28**	**40**	*e*P	P	**18 58 09.5**	**+1.1**
NJ2				AP	pP	18 58 19.0	+0.8
NJ2				XP	sP	18 58 22.0	-0.7
NJ2				PP	PP	18 59 23.5	+3.3
NJ2				S	S	**19 03 30.0**	**+4.7**
NJ2				XS		19 03 46.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
NJ2				LR	LR		
	comp=Z,1μm,13.7s,MS4.8						
SSE	**Sheshan**	**34.23**	**44**	P	P	**18 58 15.5**	**-1.1**
SSE				S	S	**19 03 43.8**	**+3.7**
SSE				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,88nm,6.3s						
SSE				LR	LR		
	comp=N,32nm,18.2s,MS3.7						
SSE				LR	LR		
	comp=E,121nm,18.0s,MS3.7						
SSE				LR	LR		
	comp=Z,119nm,14.8s,MS3.8						
SSE	**Sheshan**	**34.23**	**44**	P	P	**18 58 15.6**	**-1.0**
	comp=Z,22nm,0.7s,mb5.2						
SSE				sP	sP	18 58 28.1	-2.8
SSE				S	S	**19 03 43.8**	**+3.7**
SSE				sS		19 03 58.6	
SSE				LR	LR		
	comp=Z,120nm,14.8s,MS3.8						
WMQ	**Urumqi**	**36.22**	**352**	*e*P	P	**18 58 33.5**	**+0.1**
KBK	**Karagaybulak**	**38.51**	**337**	P	P	**18 58 53.7**	**+1.1**
	SNR=12						
AML	**Almayashu**	**38.57**	**335**	P	P	**18 58 53.7**	**+0.6**
	SNR=12						
AAK	**Ala-Archa**	**38.67**	**337**	P	P	**18 58 58.2**	**+4.3**
	SNR=5.7						
AAK	**Ala-Archa**	**38.67**	**337**	*i* P	P	**18 58 52.6**	**-1.3**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.3						
AAK	**Ala-Archa**	**38.67**	**337**	*e*P	P	**18 58 52.2**	**-1.7**
	comp=Z,8.0nm,1.0s,mb4.4						
CHMS	**Chumysh**	**38.88**	**337**	P	P	**18 58 55.8**	**+0.2**
	SNR=5.4						
EKS2	**Erkin-Say**	**38.98**	**336**	P	P	**18 58 57.4**	**+0.9**
	SNR=8.2						
USP	**Ospenovka**	**39.20**	**337**	P	P	**18 58 59.0**	**+0.7**
	SNR=6.2						
SONM	**Songino Array**	**41.15**	**13**	P	P	**18 59 14.7**	**+0.3**
	comp=Z,2.7nm,0.8s,mb3.9,baz=195,slow=7.3,SNR=24						
SONM				PcP	PcP	19 01 14.8	+0.8
	comp=Z,1.4nm,0.7s,baz=211,slow=2.8,SNR=6.5						
ULN	**Ulaanbaatar**	**41.32**	**13**	*e*P	P	**18 59 16.2**	**+0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
ULN

SOC pmax pmax
comp=N,26nm,1.3s
SOC pmax pmax
comp=E,22nm,1.2s
YAK Yakutsk 59.99 18 *c iP* **P 19 01 36.3 -0.8**
YAK pmax pmax
comp=Z,18nm,0.8s,mb5.2
YAK Yakutsk 59.99 18 *eP* **P 19 01 36.0 -1.1**
comp=Z,17nm,0.8s,mb5.1
STKA Stephens Creek 60.15 134 P **P 19 01 38.6 0.0**
comp=Z,10nm,1.3s,mb4.7,baz=285,slow=11,SNR=3.5
ANN Anapa 61.09 317 *eP* **P 19 01 48.9 +4.0**
ANN pmax pmax
comp=Z,63nm,1.0s,mb5.7
BRTR Keskin Array B 62.39 311 P **P 19 01 51.3 -2.3**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 62.39 311 P **P 19 01 51.3 -2.3**
comp=Z,2.9nm,0.9s,mb4.4,baz=122,slow=7.1,SNR=12
MBAR Mbarara 63.73 265 *eP* **P 19 02 03.6 +0.7**
MOS Moscow 65.04 329 *eP* **P 19 02 10.1 -0.6**
OBN Obninsk 65.34 328 *eP* **P 19 02 08.6 -4.1**
OBN 19 04 34.0
OBN pmax pmax
comp=Z,24nm,1.4s,mb5.0
TIXI Tiksi 67.22 11⇑ *iP* **P 19 02 23.4 -0.9**
TIXI pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
AKASG Malin Array Be 68.11 322 P **P 19 02 28.3 -2.0**
AKASG pmax pmax
comp=Z,6.0nm,1.0s
AKASG Malin Array Be 68.11 322 P **P 19 02 28.3 -2.0**
comp=Z,6.0nm,1.0s,mb4.6,baz=91,slow=4.7,SNR=10
VRI Vrincioaia 68.66 316⇑P **P 19 02 33.3 -0.5**
MLR Muntele Rosu 69.13 316⇑P **P 19 02 36.8 +0.1**
BURAR Bucovina Array 70.00 318⇑P **P 19 02 41.9 0.0**
JOF Joensuu 70.81 334 *ep* **P 19 02 45.7 -0.9**
KOLS Kolonicke sedl 72.16 319 *eP* **P 19 02 56.5 +1.6**
FINES FINESS Array B 72.67 332 P **P 19 02 57.2 -0.5**
FINES pmax pmax
comp=Z,7.0nm,0.7s
FINES FINESS Array B 72.67 332 P **P 19 02 57.2 -0.5**
comp=Z,6.9nm,0.7s,mb4.7,baz=104,slow=7.9,SNR=21
CRVS Cervenica-Dubn 72.69 319 *i P* **P 19 02 58.4 +0.4**
KAF Kangasniemi 72.75 333 *ep* **P 19 02 57.0 -1.2**
comp=Z,6.5nm,0.9s,mb4.6,baz=103,slow=5.6
KAF Kangasniemi 72.75 333 *eP* **P 19 02 57.0 -1.2**
KAF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
OJC Ojcow 73.93 320 *eP* **P 19 03 04.9 -0.4**
VYHS Vyhne 74.37 318 *i P* **P 19 03 07.9 0.0**
OKC Ostrava-Krasne 74.95 319 *eP* **P 19 03 11.8 +0.6**
ZST Bratislava 75.49 318 *i P* **P 19 03 14.0 -0.3**
BILL Bilibino 76.08 22 *i P* **P 19 03 17.3 0.0**
BILL pmax pmax
comp=Z,9.0nm,1.8s,mb4.4
DPC Dobruska-Polom 76.17 320 *eP* **P 19 03 18.4 +0.3**
UPC Upice 76.38 320 *eP* **P 19 03 19.5 +0.2**
PERS Pernice 76.74 316 *eP* **P 19 03 21.4 -0.1**
PRU Pruhonice 77.29 319 *eP* **P 19 03 25.2 +0.7**
BRG Berggiesshubel 77.71 320 *eP* **P 19 03 27.0 +0.2**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BRG Berggiesshubel 77.71 320 *eP* **P 19 03 27.0 +0.2**
comp=Z,3.8nm,0.9s,mb4.3
GERES GERESS Array B 77.78 318 P **P 19 03 27.5 +0.2**
GERES pmax pmax
comp=Z,5.0nm,0.8s
GERES GERESS Array B 77.78 318 P **P 19 03 27.5 +0.3**
comp=Z,4.6nm,0.8s,mb4.5,baz=79,slow=6.8,SNR=16
KHC Kasperske Hory 77.88 318 *eP* **P 19 03 27.8 +0.1**
CLL Collm 78.32 321 *e*PP* pP 19 03 37.0 -3.7
MOX Moxa 79.18 320 *eP* **P 19 03 34.0 -0.9**
GRA1 Grafenberg Arr 79.43 319 *eP* **P 19 03 36.5 +0.3**
comp=Z,9.0nm,1.0s,mb4.7
GRF Grafenberg Arr 79.43 319 *eP* **P 19 03 36.5 +0.3**
GRF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
GRF Grafenberg Arr 79.43 319 *eP* **P 19 03 36.5 +0.3**
GRF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
GRF Grafenberg Arr 79.43 319 *eP* **P 19 03 36.5 +0.3**
comp=Z,9.0nm,1.0s,mb4.7
NB2 NORSAR Subarra 79.69 331 P **P 19 03 36.7 -0.7**
comp=Z,3.6nm,0.7s,mb4.4,baz=91,slow=5.8
NB2 NORSAR Subarra 79.69 331 P **P 19 03 36.7 -0.7**
NB2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
NOA NORSAR Array B 79.69 331 P **P 19 03 37.1 -0.3**
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA NORSAR Array B 79.69 331 P **P 19 03 37.1 -0.3**
comp=Z,6.1nm,0.8s,mb4.6,baz=92,slow=5.7,SNR=17
LPG La Plagne 82.58 315 *eP* **P 19 03 53.3 +0.5**
comp=Z,16nm,1.0s,mb4.7
LPG La Plagne 82.58 315 *eP* **P 19 03 53.3 +0.5**
LPG pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
ESDC Sonseca Array 91.17 310 P **P 19 04 36.0 +1.1**
comp=Z,0.2nm,0.3s,mb3.9,baz=72,slow=4.7,SNR=5.1
IMA Indian Mountai 91.62 22 *eP* **P 19 04 38.1 +1.8**
ILAR Eielson Array 94.74 22 P **P 19 04 51.1 +0.6**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.74 22 P **P 19 04 51.1 +0.6**
comp=Z,0.8nm,0.8s,mb4.2,baz=308,slow=6.8,SNR=7.1
INK Inuvik 96.98 16 P **P 19 05 03.1 +2.4**
INK pmax pmax
comp=Z,1.0nm,0.6s
INK Inuvik 96.98 16 P **P 19 05 03.0 +2.3**
comp=Z,0.5nm,0.6s,mb4.2,baz=291,slow=6.9,SNR=3.6
YKA Yellowknife Ar 106.41 13 PP PP 19 10 02.3 -8.4
comp=Z,0.3nm,0.8s,baz=334,slow=7.9,SNR=3.9
NVAR Mina Array Bea 124.92 31 PKP PKPdf 19 10 32.3 +3.4
comp=Z,1.1nm,0.7s,baz=16,slow=1.8,SNR=9.2
PDAR Pinedale Array 125.16 21 PKP PKPdf 19 10 31.1 +1.8
comp=Z,1.1nm,0.7s,baz=48,slow=1.6,SNR=10
TXAR Lajitas Array 139.22 24 PKIKP 19 11 00.6
comp=Z,0.6nm,0.6s,baz=270,slow=1.3,SNR=4.4
JCT Junction City 139.58 19 *e*PKIKP PKPdf 19 10 58.8 +2.2
PLCA Paso Flores 144.56 200 PKIKP PKPdf 19 11 06.3 +1.3
PLCA pmax pmax
comp=Z,11nm,0.8s
PLCA Paso Flores 144.56 200 PKP PKPdf 19 11 06.3 +1.2
comp=Z,11nm,0.8s,baz=160,slow=3.6,SNR=25

IDC 26 19:02:20.8±2.7, 7.73N×93.80E, mb3.5/4, mb1 3.7/5, mb1mx3.6/18, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=89.4km s-min=23.6km az=69.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.78**	**25**	Pn	P	19 05 10.9	-2.3
	0.1nm,0.3s,baz=215,slow=15,SNR=5.8						
SONM	**Songino Array**	**41.38**	**13**	P	P	19 10 08.0	-2.3
	0.2nm,0.7s,baz=190,slow=8.8,SNR=2.3						
ZAL	**Zalesovo**	**46.65**	**353**	P	P	19 10 51.1	-1.6
	0.7nm,0.4s,baz=279,slow=10,SNR=5.2						
WRA	**Warramunga Arr**	**48.45**	**125**	P	P	19 11 04.3	-3.0
	0.2nm,0.4s,baz=301,slow=9.7,SNR=8.0						
ASAR	**Alice Springs**	**50.08**	**130**	P	P	19 11 19.1	-0.8
	0.4nm,0.9s,baz=302,slow=7.9,SNR=2.5						

*IDC **26** 19:11:31.4±0.6, 7.85N×93.96E, mb4.3/18, mb1 4.4/19, mb1mx4.4/23, mbtmp4.3/19, ML4.0/1, MS4.0/5, Ms1 4.0/5, ms1mx3.6/21, Error ellipse: s-maj=31.2km s-min=13.6km az=54.0*
*BJI **26** 19:11:35.7, 7.63N×93.79E, h48km, mB4.0, mb4.5, Ms4.4, Msz4.3*
*NEIC **26** 19:11:36.6±0.5, 7.90N×94.18E, h30km, mb4.6/6, Error ellipse: s-maj=12.7km s-min=9.8km az=70.0*
ISC 26 19:11:33.2±3.3, 7.85N±0.08×94.0E±0.08, h23km±22km, n53, σ1§04/50, mb4.4/31, MS4.1/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.56**	**95**	P	**Pn**	**19 13 11.0**	**0.0**
CM31	**Chiang Mai Arr**	**11.57**	**24**	*eP*	**P**	**19 14 20.6**	**+0.3**
	16nm,1.0s						
CMAR	**Chiang Mai Arr**	**11.57**	**24**	Pn	**P**	**19 14 18.0**	**-2.3**
	0.3nm,0.3s,baz=211,slow=14,SNR=22						
CMAR				LR	LR	19 18 46.3	
	comp=Z,332nm,19.9s,baz=205,slow=38						
CHG	**Chiang Mai**	**11.89**	**23**	P	**P**	**19 14 26.1**	**+1.4**
VIS	**Vishakhapatnam**	**14.32**	**314**	*eP*	**P**	**19 14 56.2**	**-0.7**
VIS				*e*		19 14 57.3	
	comp=Z,15nm,0.7s						
VIS				*eP*		19 14 57.9	
VIS				*eS*	**S**	**19 17 26.9**	**-9.0**
SHL	**Shillong**	**17.73**	**354**	*eP*	**P**	**19 15 39.0**	**-1.6**
HYB	**Hyderabad**	**17.83**	**304**	*eP*	**P**	**19 15 46.0**	**+4.1**
HYB	**Hyderabad**	**17.83**	**304**	*i P*	**P**	**19 15 46.0**	**+4.1**
BLSP	**Bilaspur**	**18.25**	**322**	*eP*	**P**	**19 15 47.0**	**0.0**
BLSP				*e*		19 15 51.1	
	comp=Z,12nm,0.5s						
KMI	**Kunming**	**19.08**	**25**	P	**P**	**19 15 59.4**	**+2.4**
JIRN	**Jiri**	**21.05**	**340**	*eP*	**P**	**19 16 17.7**	**-0.5**
	comp=Z,38nm,0.8s,mb4.8						
PKI	**Pulchoki**	**21.24**	**338**	*eP*	**P**	**19 16 20.5**	**+0.3**
	comp=Z,41nm,0.9s,mb4.8						
DMN	**Daman**	**21.39**	**338**	*eP*	**P**	**19 16 22.1**	**+0.4**
	comp=Z,48nm,0.8s,mb4.9						
KKN	**Kakani**	**21.49**	**338**	*eP*	**P**	**19 16 22.7**	**0.0**
	comp=Z,26nm,0.8s,mb4.6						
LSA	**Lhasa**	**21.90**	**353**	P	**P**	**19 16 27.0**	**+0.2**
LSA	**Lhasa**	**21.90**	**353**	*eP*	**P**	**19 16 26.6**	**-0.1**
	comp=Z,17nm,0.8s,mb4.5						
GKN	**Gorkha**	**21.92**	**337**	*eP*	**P**	**19 16 27.4**	**+0.4**
	comp=Z,36nm,0.7s,mb4.9						
BHPL	**Bhopal**	**22.10**	**316**	*eP*	**P**	**19 16 31.5**	**+2.7**
BHPL				*e*		19 16 32.7	
	comp=Z,14nm,1.1s						
BHPL	**Bhopal**	**22.10**	**316**	*eP*	**P**	**19 16 31.9**	**+3.1**
BHPL				*e*		19 16 32.5	
	comp=E,4.9nm,0.5s						
KOLN	**Koldanda**	**22.13**	**335**	*eP*	**P**	**19 16 30.0**	**+0.9**
	comp=E,40nm,0.8s,mb4.9						
ENH	**Enshi**	**26.59**	**31**	*eP*	**P**	**19 17 10.1**	**-1.8**
	comp=E,15nm,1.1s,mb4.4						
DDI	**Dehra Dun**	**26.91**	**328**	*e*	**P**	**19 17 20.4**	**+5.6**
XAN	**Xi'an**	**29.46**	**26**	P	**P**	**19 17 37.5**	**-0.3**
XAN				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.0						
SONM	**Songino Array**	**41.20**	**13**	P	**P**	**19 19 18.3**	**+0.4**
	comp=Z,2.1nm,1.0s,mb3.7,baz=192,slow=11,SNR=11						
SONM				PcP	PcP	19 21 17.3	-0.2
	comp=Z,1.9nm,1.1s,baz=198,slow=3.5,SNR=5.1						
SONM				ScP		19 25 06.6	
	comp=Z,1.2nm,1.2s,baz=135,slow=1.7,SNR=4.0						
KURK	**Kurchatov**	**44.60**	**346**	*eP*	**P**	**19 19 45.0**	**-0.6**
	comp=Z,5.2nm,0.8s,mb4.4						
NWAO	**Narrogin (SRO)**	**46.18**	**153**	P	**P**	**19 19 59.5**	**+1.2**
	comp=Z,9.2nm,0.8s,mb4.7,baz=354,slow=10,SNR=2.7						
ZAL	**Zalesovo**	**46.55**	**352**	P	**P**	**19 20 01.1**	**+0.1**
	comp=Z,4.9nm,0.8s,mb4.5,baz=294,slow=8.0,SNR=31						
ZAL				LR	LR	19 40 18.3	
	comp=Z,86nm,18.2s,MS3.7,baz=112,slow=37						
HIA	**Hailar**	**46.58**	**23**	*eP*	**P**	**19 20 02.7**	**+1.4**
	comp=Z,6.2nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**48.33**	**125**	P	**P**	**19 20 15.0**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.2,baz=304,slow=8.6,SNR=14						
BVAR	**Borovoye Array**	**48.98**	**341**	P	**P**	**19 20 20.3**	**+0.3**
	comp=Z,1.4nm,0.8s,mb4.0,baz=141,slow=9.5,SNR=6.8						
BVAR				PcP	PcP	19 21 45.5	+1.2
	comp=Z,0.7nm,0.7s,baz=162,slow=4.7,SNR=3.6						
CHKZ	**Chkalovo**	**49.46**	**342**	*eP*	**P**	**19 20 23.6**	**-0.1**
	comp=Z,7.7nm,0.9s,mb4.7						
ASAR	**Alice Springs**	**49.98**	**130**	P	**P**	**19 20 26.6**	**-1.6**
	comp=Z,1.4nm,0.8s,mb4.0,baz=307,slow=7.2,SNR=9.7						
ASAR				PcP	PcP	19 21 48.4	+0.1
	comp=Z,0.5nm,0.8s,baz=306,slow=3.2,SNR=4.8						
ASAR				LR	LR	19 41 49.7	
	comp=Z,86nm,19.7s,MS3.8,baz=127,slow=36						
KMBO	**Kilima Mbogo**	**57.32**	**264**	P	**P**	**19 21 25.8**	**+3.4**
	comp=Z,4.6nm,0.8s,mb4.6,baz=59,slow=12,SNR=13						
KMBO				LR	LR	19 42 42.3	
	comp=Z,158nm,18.4s,MS4.2,baz=93,slow=33						
YAK	**Yakutsk**	**60.05**	**18**	*eP*	**P**	**19 21 39.9**	**-0.8**
	comp=Z,12nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**60.17**	**134**	P	**P**	**19 21 42.0**	**+0.1**
	comp=Z,2.3nm,0.8s,mb4.3,baz=335,slow=6.4,SNR=3.0						
BRTR	**Keskin Array B**	**62.36**	**311**	P	**P**	**19 21 54.1**	**-2.5**
	comp=Z,1.1nm,0.5s,mb4.2,baz=130,slow=8.1,SNR=5.8						
AKASG	**Malin Array Be**	**68.11**	**322**	P	**P**	**19 22 32.2**	**-1.3**
	comp=Z,1.4nm,0.6s,mb4.2,baz=98,slow=4.1,SNR=5.3						
IDI	**Anoyia**	**68.49**	**305**	P	**P**	**19 22 36.2**	**0.0**
	comp=Z,12nm,0.9s,mb4.9,baz=61,slow=10,SNR=3.2						
IDI	**Anoyia**	**68.49**	**305**	P	**P**	**19 22 36.2**	**0.0**
MLR	**Muntele Rosu**	**69.11**	**316**	P	**P**	**19 22 39.8**	**-0.1**
	comp=Z,11nm,1.2s,mb4.7,baz=129,slow=13,SNR=3.6						
JOF	**Joensuu**	**70.82**	**334**	*ep*	**P**	**19 22 49.5**	**-0.5**
FINES	**FINESS Array B**	**72.68**	**332**	P	**P**	**19 23 00.9**	**-0.2**
	comp=Z,3.6nm,0.7s,mb4.4,baz=104,slow=7.9,SNR=11						
ARCES	**ARCESS Array B**	**75.25**	**340**	P	**P**	**19 23 16.3**	**+0.5**
	comp=Z,2.9nm,0.8s,mb4.3,baz=68,slow=6.5,SNR=7.6						
GERES	**GERESS Array B**	**77.77**	**318**	P	**P**	**19 23 30.5**	**+0.2**
	comp=Z,0.3nm,0.3s,mb3.7,baz=90,slow=5.3,SNR=6.2						
HFS	**Hagfors**	**78.42**	**330**	P	**P**	**19 23 33.6**	**0.0**
	comp=Z,3.4nm,0.5s,mb4.6,baz=108,slow=4.7,SNR=19						
NB2	**NORSAR Subarra**	**79.70**	**331**	P	**P**	**19 23 40.1**	**-0.5**
	comp=Z,1.7nm,0.6s,mb4.2,baz=91,slow=5.8						
NOA	**NORSAR Array B**	**79.70**	**331**	P	**P**	**19 23 39.9**	**-0.7**
	comp=Z,2.5nm,0.7s,mb4.2,baz=92,slow=5.7,SNR=9.3						
IMA	**Indian Mountai**	**91.68**	**22**	*eP*	**P**	**19 24 41.8**	**+2.0**
BORG	**Borgarnes**	**93.41**	**337**	LR	LR	20 07 43.8	
	comp=Z,231nm,20.7s,MS4.6,baz=39,slow=36						
ILAR	**Eielson Array**	**94.80**	**22**	P	**P**	**19 24 54.4**	**+0.2**
	comp=Z,0.5nm,0.8s,mb4.0,baz=297,slow=4.4,SNR=6.7						
NVAR	**Mina Array Bea**	**124.99**	**31**	PKP	PKPdf	19 30 35.4	-1.3
	comp=Z,0.7nm,0.7s,baz=7,9,slow=1.7,SNR=4.4						
PDAR	**Pinedale Array**	**125.22**	**21**	PKP	PKPdf	19 30 34.8	-2.3
	comp=Z,0.7nm,0.7s,baz=45,slow=2.1,SNR=6.8						
PLCA	**Paso Flores**	**144.49**	**200**	PKP	PKPdf	19 31 09.9	-2.7
	comp=Z,2.0nm,0.8s,baz=204,slow=5.2,SNR=4.9						

*IDC **26** 19:18:29.5±2.3, 4.68N×93.08E, mb3.5/5, mb1 3.7/6, mb1mx3.6/19, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=82.8km s-min=22.3km az=62.0*
ISC 26 19:18:33.2±1.2, 4.8N±0.2×93.3E±0.2, h33km, n12, σ0§70/12, mb4.0/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.71**	**22**	Pn	**P**	**19 22 00.9**	**0.0**
	0.0nm,0.3s,baz=218,slow=14,SNR=9.1						
JIRN	**Jiri**	**23.75**	**344**	*eP*	**P**	**19 23 44.4**	**+0.8**
	17nm,0.8s,mb4.5						
PKI	**Pulchoki**	**23.89**	**343**	*eP*	**P**	**19 23 44.2**	**-0.7**
	13nm,0.6s,mb4.6						
DMN	**Daman**	**24.02**	**342**	*eP*	**P**	**19 23 45.4**	**-0.7**
KKN	**Kakani**	**24.13**	**343**	*eP*	**P**	**19 23 47.1**	**-0.2**
GKN	**Gorkha**	**24.53**	**341**	*eP*	**P**	**19 23 51.6**	**+0.5**
	10nm,0.4s,mb4.7						
KOLN	**Koldanda**	**24.66**	**339**	*eP*	**P**	**19 23 53.4**	**+1.0**
	9.2nm,0.5s,mb4.6						
SONM	**Songino Array**	**44.38**	**13**	P	**P**	**19 26 42.3**	**0.0**
	0.9nm,0.7s,mb3.6,baz=194,slow=7.9,SNR=8.6						
WRA	**Warramunga Arr**	**47.25**	**123**	P	**P**	**19 27 04.5**	**-1.0**
	0.2nm,0.5s,mb3.3,baz=300,slow=9.0,SNR=2.6						
ASAR	**Alice Springs**	**48.67**	**127**	P	**P**	**19 27 17.5**	**+1.1**
	0.2nm,0.8s,mb3.2,baz=291,slow=7.7,SNR=2.9						
ZAL	**Zalesovo**	**49.51**	**353**	P	**P**	**19 27 22.7**	**+0.2**
	0.5nm,0.3s,mb4.0,baz=332,slow=16,SNR=3.0						
BVAR	**Borovoye Array**	**51.66**	**343**	P	**P**	**19 27 37.9**	**-1.0**
	0.4nm,0.6s,mb3.5,baz=149,slow=8.4,SNR=3.0						

*CSEM **26** 19:28:21.4±0.1, 45.61N×6.90E, h6km, ML2.8/17, Error ellipse: s-maj=1.3km s-min=0.9km az=75.0*
*ZUR **26** 19:28:21.9, 45.67N×6.88E, h7km, ML2.1/7*
*GEN **26** 19:28:22.2, 45.63N×6.85E, h3km, ML2.6*
*NEIC **26** 19:28:22.1, 45.62N×6.82E, h3km, ML2.8(LDG), ML2.6(GEN), ML2.1(ZUR), ML2.0(STR), After LDG.*
LDG 26 19:28:22.1±0.1, 45.62N×6.82E, h3km, Md2.9/2, Ml2.8/19, 5C, Error ellipse: s-maj=1.6km s-min=0.8km az=89.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	**La Plagne**	**0.12**	**212**	*eP*g	Pg	19 28 25.2	+0.6
LPL				*eS*g	Sg	19 28 27.2	+1.0
	315nm,0.4s						
LPG	**La Plagne**	**0.13**	**202**	*eP*g	Pg	19 28 25.4	+0.6
LPG				*eS*g	Sg	19 28 27.5	+0.9
	190nm,0.2s						
RSL	**Roselend**	**0.15**	**297**	Pg	Pg	19 28 24.9	-0.3
RSL				Sg	Sg	19 28 27.0	-0.3
LSD	**Ceresole Reale**	**0.28**	**124**	P	Pg	19 28 27.7	-0.1
LSD				S	Sg	19 28 31.3	-0.4
LSD	**Ceresole Reale**	**0.28**	**124**	P	Pg	19 28 27.7	-0.1
EMV	**Vieux Emosson**	**0.45**	**7**⇑	*iP*g	Pg	19 28 29.9	-1.1
EMV				*eS*g	Sg	19 28 35.2	-1.8
SALAN	**Lac Salanfe**	**0.54**	**11**⇑	*iP*g	Pg	19 28 31.5	-1.3
SALAN				*eS*g	Sg	19 28 38.0	-1.9
RSP	**Reno Superiore**	**0.56**	**147**	P	Pg	19 28 33.1	-0.2
RSP				S	Sg	19 28 40.6	-0.1
RSP	**Reno Superiore**	**0.56**	**147**	P	Pg	19 28 33.1	-0.2
RSP				S	Sg	19 28 40.6	-0.1
BNI	**Bardonecchia**	**0.58**	**190**	*eP*	Pg	19 28 32.5	-1.1
BNI	**Bardonecchia**	**0.58**	**190**	*eP*	Pg	19 28 32.5	-1.1
FENE	**Fenestrelle**	**0.61**	**164**	P	Pg	19 28 33.9	-0.4
FENE				S	Sg	19 28 42.2	-0.3
FENE	**Fenestrelle**	**0.61**	**164**	P	Pg	19 28 33.9	-0.5
FENE	**Fenestrelle**	**0.61**	**164**	S	Sg	19 28 42.2	-0.3
DIX	**Grande Dixence**	**0.62**	**42**⇑	*iP*g	Pg	19 28 33.1	-1.4
DIX				*eS*g	Sg	19 28 41.2	-1.5
TRAV		**0.66**	**99**	P	Pg	19 28 34.4	-0.9
TRAV				S	Sg	19 28 42.7	-1.3
TRAV		**0.66**	**99**	P	Pg	19 28 34.3	-1.0
TRAV				S	Sg	19 28 42.7	-1.3
GRYON	**Gryon**	**0.66**	**18**⇑	*iP*g	Pg	19 28 33.9	-1.4
RRL	**Cesana Torines**	**0.70**	**182**	P	Pg	19 28 35.8	-0.3
RRL				S	Sg	19 28 45.4	0.0
RRL	**Cesana Torines**	**0.70**	**182**	S	Sg	19 28 45.4	0.0
RRL	**Cesana Torines**	**0.70**	**182**	P	Pg	19 28 35.8	-0.3
AIGLE	**Aigle**	**0.73**	**7**⇑	*iP*g	Pg	19 28 35.0	-1.6
OG22	**Abries**	**0.80**	**174**	Pg	Pg	19 28 37.3	-0.8
OG22				Sg	Sg	19 28 48.1	-0.7
ORX	**Oropa**	**0.81**	**89**	P	Pg	19 28 37.5	-0.8
ORX				S	Sg	19 28 47.6	-1.6
ORX	**Oropa**	**0.81**	**89**	S	Sg	19 28 47.6	-1.6
ORX	**Oropa**	**0.81**	**89**	P	Pg	19 28 37.5	-0.9
SENIN	**Lac Senin**	**0.81**	**24**	*e*Pg	Pg	19 28 36.9	-1.5
BHB	**Bricherasio**	**0.84**	**158**	P	Pg	19 28 38.5	-0.4
BHB				S	Sg	19 28 49.1	-0.9
BHB	**Bricherasio**	**0.84**	**158**	S	Sg	19 28 49.1	-0.9
BHB	**Bricherasio**	**0.84**	**158**	P	Pg	19 28 38.5	-0.3
MBDF	**Montbardon**	**0.89**	**182**	*eP*g	Pg	19 28 39.1	-0.8
MBDF				*eP*n	Pn	19 28 40.1	-1.2
MBDF				*eS*g	Sg	19 28 50.6	-1.2
	23nm,0.2s						
MBDF				*eS*n	Sn	19 28 52.4	-2.5
MMK	**Mattmark**	**0.91**	**61**	*eP*g	Pg	19 28 38.2	-2.0
ORIF	**Oris-en-Rattie**	**0.97**	**224**	*eP*g	Pg	19 28 40.3	-1.1
ORIF				*eP*n	Pn	19 28 41.1	-1.3
ORIF				*eS*g	Sg	19 28 52.4	-1.9
	34nm,0.3s						
ORIF				*eS*n	Sn	19 28 53.8	-3.0
OG05	**Jujurieux**	**1.04**	**294**	Pg	Pg	19 28 42.6	-0.3
OG05				Sg	Sg	19 28 55.8	-1.0
OG05	**Jujurieux**	**1.04**	**294**	Pg	Pg	19 28 41.8	-1.1
OG05				Sg	Sg	19 28 55.8	-1.0
CABF	**La Chapelle**	**1.12**	**333**	*e*Pn	Pn	19 28 43.0	-1.5
CABF				*eP*g	Pg	19 28 43.9	-0.5
CABF				*eS*g	Sg	19 28 57.1	-2.2
	31nm,0.2s						
CABF	**La Chapelle**	**1.12**	**333**	*eP*g	Pg	19 28 43.9	-0.5
CABF				*eS*g	Sg	19 28 57.1	-2.2
	16nm,0.2s						
PZZ	**Prazzo**	**1.13**	**170**	P	Pb	19 28 43.3	-0.7
PZZ				S	Sb	19 28 57.7	-1.2
PZZ	**Prazzo**	**1.13**	**170**	P	Pb	19 28 43.3	-0.7
PZZ				S	Sb	19 28 57.7	-1.2
STV	**Sta Anna Valdi**	**1.42**	**165**	P	Pn	19 28 47.5	-1.4
STV				S	Sb	19 29 04.7	-2.6
STV	**Sta Anna Valdi**	**1.42**	**165**	P	Pn	19 28 47.5	-1.4
STV				S	Sb	19 29 04.7	-2.6
ENR	**Entracque**	**1.46**	**163**	P	Pn	19 28 47.8	-1.6
ENR				S	Sb	19 29 05.5	-2.9
ENR	**Entracque**	**1.46**	**163**	P	Pn	19 28 47.8	-1.6
ENR				S	Sb	19 29 05.5	-2.8
ROB	**Roburent**	**1.52**	**150**	P	Pn	19 28 49.5	-0.8
ROB	**Roburent**	**1.52**	**150**	P	Pn	19 28 49.5	-0.8
PCP	**Pian Castagno**	**1.63**	**131**	P	Pn	19 28 50.2	-1.6
VIVF	**Saint-Julien-I**	**1.70**	**244**	*e*Pn	Pn	19 28 50.9	-2.0
VIVF				*eP*g	Pg	19 28 53.6	-2.4
VIVF				*eS*n	Sn	19 29 11.4	-4.0
VIVF				*eS*g	Sg	19 29 15.4	-3.3
	16nm,0.2s						
FIN	**Finale Ligure**	**1.72**	**145**	P	Pn	19 28 50.9	-2.3
FIN	**Finale Ligure**	**1.72**	**145**	P	Pn	19 28 50.9	-2.3
SBF	**Sospel**	**1.81**	**166**	*e*Pn	Pn	19 28 52.7	-1.7
SBF				*eP*g	Pg	19 28 56.2	-2.0
SBF				*eS*g	Sg	19 29 19.5	-2.8
	22nm,0.4s						
SMRF	**Simiane la Rot**	**1.87**	**209**	*eS*g	Sg	19 29 21.0	-3.3
	4.6nm,0.4s						
IMI	**Imperia**	**1.87**	**156**	P	Pn	19 28 52.8	-2.5
IMI	**Imperia**	**1.87**	**156**	P	Pn	19 28 52.8	-2.5
FRF	**La Foret Royal**	**2.06**	**184**	*e*Pn	Pn	19 28 55.9	-2.2
FRF				*eP*g	Pg	19 29 00.4	-2.9
FRF				*eS*g	Sg	19 29 27.0	-3.8
	7.6nm,0.3s						
HINF	**Hinteralfeld**	**2.20**	**1**	*e*Pn	Pn

LVC LR LR 19 32 56.4
comp=Z,507nm,21.4s,baz=358,slow=42
ARE Arequipa 3.70 342 *eP* **P 19 31 48.0 -1.3**
ARE *eS* **S 19 32 33.0 +1.1**
TRQA Tornquist 19.39 160 *eP* **P 19 35 14.3 -2.0**
4.5nm,0.6s
PLCA Paso Flores 20.67 181 P **P 19 35 30.1 +0.3**
2.4nm,0.6s,baz=358,slow=12,SNR=11
PLCA pP 19 35 40.5
2.1nm,0.5s,baz=3.8,slow=9.7,SNR=3.9
OTAV Otavalo 21.65 337 P **P 19 35 38.6 -1.2**
4.3nm,0.7s,mb3.9
OTAV *e* 19 35 54.5
DBIC Dimbokro 69.55 75 P **P 19 41 57.2 -0.2**
2.4nm,0.6s,mb4.2,baz=233,slow=4.1,SNR=5.1
DBIC Dimbokro 69.55 75 P **P 19 41 57.2 -0.2**
PDAR Pinedale Array 72.18 331 P **P 19 42 13.5 +0.8**
0.4nm,0.6s,mb3.4,baz=164,slow=6.3,SNR=3.7
YKA Yellowknife Ar 89.35 341 P **P 19 43 44.4 +1.3**
1.1nm,0.6s,mb4.1,baz=136,slow=4.8,SNR=33
YKA pP pP 19 43 55.7 -6.1
YKA Yellowknife Ar 89.35 341 P **P 19 43 44.4 +1.3**
YKA pP pP 19 43 55.7 -6.1
ASAR Alice Springs 130.61 210 PKP PKPdf 19 49 59.6 +2.3
0.5nm,0.9s,baz=108,slow=1.6,SNR=4.4
WRA Warramunga Arr 133.56 213 PKP PKPdf 19 50 05.3 +2.4
0.3nm,0.4s,baz=146,slow=1.8,SNR=3.8
WRA pPKP 19 50 16.8
0.6nm,0.7s,baz=148,slow=1.9,SNR=2.7
BVAR Borovoye Array 135.26 33 PKP PKPdf 19 50 07.4 +2.2
1.8nm,1.1s,baz=315,slow=2.1,SNR=3.9
BVAR pPKP 19 50 17.8
0.5nm,0.6s,baz=164,slow=2.7,SNR=3.0
ZAL Zalesovo 141.12 23 PKP PKPdf 19 50 17.0 +1.2
0.9nm,0.5s,baz=173,slow=2.9,SNR=3.1
ZAL pPKP 19 50 28.9
1.6nm,0.9s,baz=290,slow=8.3,SNR=3.4
SONM Songino Array 152.10 5 PKPbc PKPdf 19 50 44.4 +10
1.3nm,0.5s,baz=260,slow=0.8,SNR=12
SONM PKPab PKPab 19 50 53.3 +0.4
1.8nm,0.8s,baz=310,slow=1.9,SNR=8.5

*IDC **26** 19:40:04.7±0.6, 8.00N×94.25E, mb4.1/12, mb1 4.2/13, mb1mx4.2/20, mbtmp4.1/13, ML3.4/1, MS4.1/7, Ms1 4.1/7, ms1mx3.8/17, Error ellipse: s-maj=27.9km s-min=15.6km az=57.0*
*BJI **26** 19:40:10.5, 8.00N×94.30E, h41km, mb4.4, Ms4.6, Msz4.3*
*NEIC **26** 19:40:10.6±1.9, 7.99N×94.31E, h42km±17km, mb4.4/6, Error ellipse: s-maj=13.9km s-min=10.4km az=53.0*
ISC 26 19:40:08.8±2.0, 7.96N±0.09×94.25E±0.07, h43km±17km, n43, σ1§15/40, mb4.3/21, MS4.1/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.36**	**97**	P	**P**	**19 41 49.0**	**+6.7**
NNT	**Nongplab**	**7.09**	**49**	P	**P**	**19 41 53.0**	**+0.4**
CM31	**Chiang Mai Arr**	**11.39**	**23**	*eP*	**P**	**19 42 52.6**	**+0.8**
2.2nm,0.4s							
CMAR	**Chiang Mai Arr**	**11.39**	**23**	Pn	**P**	**19 42 49.9**	**-2.0**
0.1nm,0.3s,baz=219,slow=13,SNR=4.0							
CMAR				LR	LR	19 47 28.4	
comp=Z,642nm,18.5s,baz=205,slow=39							
CHG	**Chiang Mai**	**11.71**	**22**	P	**P**	**19 42 58.9**	**+2.7**
VIS	**Vishakhapatnam**	**14.40**	**313**	*eP*	**P**	**19 43 29.9**	**-1.9**
VIS				*e*		19 43 37.5	
comp=Z,36nm,1.1s							
SHL	**Shillong**	**17.66**	**353**	*eP*	**P**	**19 44 12.0**	**-1.3**
HYB	**Hyderabad**	**17.95**	**303**	*eP*	**P**	**19 44 18.0**	**+0.9**
HYB	**Hyderabad**	**17.95**	**303**	*i P*	**P**	**19 44 18.0**	**+0.9**
BLSP	**Bilaspur**	**18.30**	**322**	*eP*	**P**	**19 44 19.4**	**-1.9**
BLSP				*e*		19 44 24.6	
comp=Z,6.8nm,0.3s							
KMI	**Kunming**	**18.89**	**24**	P	**P**	**19 44 32.7**	**+4.2**
comp=Z,12nm,1.8s							
KMI				S	**S**	**19 48 09.0**	**+15**
JIRN	**Jiri**	**21.03**	**340**	*eP*	**P**	**19 44 51.8**	**+0.5**
comp=Z,26nm,0.8s,mb4.6							
PKI	**Pulchoki**	**21.23**	**338**	*eP*	**P**	**19 44 52.5**	**-0.8**
comp=Z,18nm,0.5s,mb4.7							
DMN	**Daman**	**21.38**	**337**	*eP*	**P**	**19 44 54.3**	**-0.5**
KKN	**Kakani**	**21.47**	**338**	*eP*	**P**	**19 44 55.8**	**+0.1**
KAD	**Karad**	**21.65**	**297**	*eP*	**P**	**19 44 58.5**	**+0.9**
KAD				*e*		19 45 00.2	
comp=Z,11nm,1.1s							
LSA	**Lhasa**	**21.82**	**353**	P	**P**	**19 45 04.0**	**+4.8**
LSA	**Lhasa**	**21.82**	**353**	*eP*	**P**	**19 44 58.9**	**-0.3**
comp=Z,9.9nm,0.6s,mb4.4							
GKN	**Gorkha**	**21.91**	**337**	*eP*	**P**	**19 45 01.0**	**+0.9**
comp=Z,55nm,1.0s,mb5.0							
KOLN	**Koldanda**	**22.13**	**334**	*eP*	**P**	**19 45 04.3**	**+2.0**
comp=Z,34nm,0.8s,mb4.8							
BHPL	**Bhopal**	**22.18**	**315**	*eP*	**P**	**19 45 05.1**	**+2.3**
BHPL				*e*		19 45 06.5	
comp=Z,6.6nm,0.3s							
ENH	**Enshi**	**26.39**	**31**	P	**P**	**19 45 44.3**	**+1.0**
comp=Z,8.5nm,1.1s,mb4.2							
SONM	**Songino Array**	**41.06**	**12**	P	**P**	**19 47 50.9**	**+1.1**
comp=Z,1.9nm,1.1s,mb3.6,baz=203,slow=8.7,SNR=5.8							
SONM				PcP	PcP	19 49 51.4	+1.8
comp=Z,0.6nm,0.5s,baz=204,slow=3.8,SNR=7.4							
KURK	**Kurchatov**	**44.55**	**346**	*eP*	**P**	**19 48 18.2**	**0.0**
comp=Z,26nm,1.5s,mb4.8							
NWAO	**Narrogin (SRO)**	**46.17**	**153**	P	**P**	**19 48 31.8**	**+0.4**
comp=Z,14nm,1.1s,mb4.8,baz=293,slow=10,SNR=5.1							
ZAL	**Zalesovo**	**46.48**	**352**	P	**P**	**19 48 33.0**	**-0.5**
comp=Z,2.1nm,0.5s,mb4.3,baz=312,slow=5.6,SNR=9.0							
ZAL				LR	LR	20 13 03.3	
comp=Z,135nm,18.6s,MS3.9,baz=118,slow=43							
WRA	**Warramunga Arr**	**48.22**	**126**	P	**P**	**19 48 46.3**	**-1.3**
comp=Z,0.8nm,0.5s,mb4.0,baz=305,slow=8.4,SNR=9.5							
BVAR	**Borovoye Array**	**48.95**	**341**	P	**P**	**19 48 51.9**	**-0.8**
comp=Z,0.5nm,0.5s,mb3.8,baz=142,slow=12,SNR=6.3							
CHKZ	**Chkalovo**	**49.43**	**342**	*eP*	**P**	**19 48 56.2**	**-0.3**
comp=Z,5.7nm,1.0s,mb4.6							
ASAR	**Alice Springs**	**49.88**	**130**	P	**P**	**19 48 59.9**	**-0.5**
comp=Z,1.0nm,0.7s,mb3.9,baz=301,slow=7.7,SNR=7.4							
ASAR				PcP	PcP	19 50 21.4	+0.8
comp=Z,0.8nm,0.7s,baz=309,slow=3.4,SNR=4.7							
ASAR				LR	LR	20 12 10.9	
comp=Z,107nm,21.4s,MS3.8,baz=308,slow=39							
KMBO	**Kilima Mbogo**	**57.54**	**264**	P	**P**	**19 49 58.7**	**+1.8**
comp=Z,5.0nm,0.9s,mb4.5,baz=66,slow=9.0,SNR=8.1							
KMBO				LR	LR	20 13 26.9	
comp=Z,153nm,18.2s,MS4.1,baz=96,slow=35							
STKA	**Stephens Creek**	**60.09**	**134**	LR	LR	20 17 03.1	
comp=Z,148nm,19.7s,MS4.1,baz=214,slow=37							
BRTR	**Keskin Array B**	**62.46**	**311**	P	**P**	**19 50 28.8**	**-1.4**
comp=Z,0.6nm,0.5s,mb4.0,baz=136,slow=10.0,SNR=4.7							
AKASG	**Malin Array Be**	**68.16**	**322**	P	**P**	**19 51 04.7**	**-1.9**
comp=Z,0.5nm,0.5s,mb3.8,baz=92,slow=4.6,SNR=4.3							
FINES	**FINESS Array B**	**72.69**	**332**	P	**P**	**19 51 33.4**	**-0.5**
comp=Z,2.5nm,0.8s,mb4.2,baz=102,slow=5.3,SNR=10							
ARCES	**ARCESS Array B**	**75.22**	**340**	LR	LR	20 27 07.6	
comp=Z,341nm,18.7s,MS4.7,baz=104,slow=38							
BOSA	**Boshof**	**75.72**	**238**	*eP*	**P**	**19 51 52.4**	**+0.3**
comp=Z,3.7nm,0.8s,mb4.4							
GERES	**GERESS Array B**	**77.84**	**318**	P	**P**	**19 52 04.2**	**+0.7**
comp=Z,1.1nm,0.5s,mb4.0,baz=90,slow=8.0,SNR=8.1							
NB2	**NORSAR Subarra**	**79.71**	**331**	P	**P**	**19 52 14.1**	**+0.5**
comp=Z,1.1nm,0.5s,mb4.0,baz=95,slow=5.0							
NOA	**NORSAR Array B**	**79.71**	**331**	P	**P**	**19 52 13.5**	**-0.1**
comp=Z,1.8nm,0.8s,mb4.1,baz=95,slow=5.1,SNR=5.6							
NOA				LR	LR	20 32 21.6	
comp=Z,94nm,18.3s,MS4.2,baz=345,slow=39							
IMA	**Indian Mountai**	**91.50**	**22**	P	**P**	**19 53 11.2**	**-0.5**
PDAR	**Pinedale Array**	**125.05**	**21**	PKP	PKPdf	19 59 08.6	+3.6
comp=Z,0.5nm,0.5s,baz=135,slow=2.1,SNR=6.1							
PLCA	**Paso Flores**	**144.66**	**200**	PKP	PKPdf	19 59 43.2	+2.0
comp=Z,3.8nm,0.8s,baz=171,slow=5.0,SNR=8.6							

IDC 26 19:40:23.3±1.5, 5.20S×152.82E, mb3.7/6, mb1 3.9/7, mb1mx3.8/14, mbtmp3.7/7, ML2.3/1, Error ellipse: s-maj=59.7km s-min=22.4km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.00**	**233**	Pn	Pn	19 42 07.1	-2.6
0.3nm,0.3s,baz=93,slow=3.9,SNR=2.3							
PMG				Sn	Sn	19 43 24.9	-6.1
1.0nm,0.3s,baz=336,slow=19,SNR=4.6							
WRA	**Warramunga Arr**	**23.20**	**229**	P	P	19 45 30.9	-2.1
0.5nm,0.6s,baz=53,slow=9.8,SNR=5.7							
ASAR	**Alice Springs**	**25.88**	**223**	P	P	19 45 57.7	-1.0
0.7nm,0.7s,baz=60,slow=8.4,SNR=5.7							
CMAR	**Chiang Mai Arr**	**58.06**	**295**	P	P	19 50 19.4	-1.6
0.5nm,0.6s,baz=87,slow=6.6,SNR=4.7							
ILAR	**Eielson Array**	**82.51**	**22**	P	P	19 52 47.6	-1.3
0.8nm,0.7s,baz=247,slow=5.5,SNR=12							
BVAR	**Borovoye Array**	**89.57**	**323**	P	P	19 53 22.1	-1.9
0.4nm,0.7s,baz=90,slow=5.8,SNR=3.3							
YKA	**Yellowknife Ar**	**95.76**	**28**	P	P	19 53 51.3	-1.0
0.1nm,0.5s,baz=273,slow=4.6,SNR=4.9							

*LDG **26** 19:44:06.4±0.0, 42.60N×0.83E, h5km, Md2.7/2, Ml2.5/7, Error ellipse: s-maj=0.9km s-min=0.7km az=35.0*
*CSEM **26** 19:44:06.7±0.1, 42.62N×0.82E, h10km, ML2.6/7, Error ellipse: s-maj=0.9km s-min=0.8km az=172.0*
*NEIC **26** 19:44:06.5, 42.62N×0.84E, h5km, ML2.6(STR), ML2.5(LDG), MN2.1(MDD), After STR.*
MDD 26 19:44:06.7±0.2, 42.61N×0.83E, h10km, mbLg2.0/21, Error ellipse: s-maj=1.9km s-min=1.4km az=32.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELF	**Melles**	**0.27**	**348**	Pg	Pg	19 44 12.3	-0.1
MELF				Lg		19 44 16.1	
MELF	**Melles**	**0.27**	**348**	Pg	Pg	19 44 12.0	-0.4
MELF				Sg	Sg	19 44 16.0	-0.1
SALF	**Salau**	**0.30**	**60**	Pg	Pg	19 44 12.7	-0.3
SALF				Lg		19 44 16.7	
SALF	**Salau**	**0.30**	**60**	Pg	Pg	19 44 12.7	-0.3
SALF				Sg	Sg	19 44 16.6	-0.6
CSOR	**Sort**	**0.32**	**137**	Pg	Pg	19 44 12.9	-0.5
CSOR				Lg		19 44 17.3	
44nm,0.1s							
MLS	**Moulis**	**0.40**	**29**	Pg	Pg	19 44 14.5	-0.3
MLS				Lg		19 44 19.4	
MLS	**Moulis**	**0.40**	**29**	Pg	Pg	19 44 14.4	-0.4
MLS				Sg	Sg	19 44 19.4	-0.9
RESF	**Ens**	**0.41**	**298**	Pg	Pg	19 44 14.6	-0.6
RESF				Lg		19 44 20.2	
RESF	**Ens**	**0.41**	**298**	Pg	Pg	19 44 14.5	-0.7
RESF				Sg	Sg	19 44 20.1	-0.8
EBIE	**Bielsa**	**0.52**	**279**	Pg	Pg	19 44 16.2	-1.0
EBIE				Lg		19 44 22.9	
EBIE	**Bielsa**	**0.52**	**279**	Pg	Pg	19 44 16.2	-1.0
SNR=7.9							
EBIE				Lg		19 44 23.0	
18nm,0.1s,SNR=7.9							
EBIE	**Bielsa**	**0.52**	**279**	Pg	Pg	19 44 16.2	-1.0
SNR=7.9							
CORG	**Organya**	**0.52**	**137**	Pg	Pg	19 44 16.5	-0.8
CORG				Lg		19 44 23.7	
12nm,0.1s							
PAND	**Andorre**	**0.53**	**99**	Pg	Pg	19 44 16.5	-1.0
PAND				Lg		19 44 23.1	
EPF	**Esparros**	**0.56**	**319**	*e*Pg	Pg	19 44 17.1	-0.9
EPF				*e*Sg	Sg	19 44 24.4	-1.1
47nm,0.4s							
GRBF	**Gourbit**	**0.57**	**66**	Pg	Pg	19 44 17.5	-0.7
GRBF				Lg		19 44 24.9	
CAVN	**Les Avellanes**	**0.73**	**185**	Pg	Pg	19 44 20.6	-0.8
CAVN				Lg		19 44 30.8	
11nm,0.1s							
CLLI	**Llivia**	**0.85**	**98**	Pg	Pg	19 44 22.3	-1.5
CLLI				Lg		19 44 33.5	
1.6nm,0.1s							
EMIR	**Miracle**	**0.86**	**143**	Pg	Pg	19 44 22.9	-1.2
2.8nm,0.2s,SNR=8.9							
EMIR				Lg		19 44 34.9	
10nm,0.1s,SNR=7.9							
EMIR	**Miracle**	**0.86**	**143**	Pg	Pg	19 44 22.9	-1.2
2.8nm,0.2s,SNR=8.9							
CARF	**Carcanieres**	**0.94**	**83**	Lg		19 44 36.8	
CBRU	**Bruguera**	**1.05**	**108**	Pg	Pg	19 44 26.1	-1.6
CBRU				Lg		19 44 40.2	
4.9nm,0.2s							
ETSF	**Etsaut**	**1.07**	**286**	*e*Pg	Pg	19 44 26.0	-2.1
ETSF				*e*Sg	Sg	19 44 40.2	-2.1
25nm,0.2s							
ATE	**Arette**	**1.22**	**293**	Lg		19 44 45.1	
MTLF	**Montolieu**	**1.25**	**54**	*e*Pg	Pg	19 44 30.1	-1.7
MTLF				*e*Sg	Sg	19 44 46.2	-2.3
16nm,0.3s							
EPOB	**Poblet**	**1.27**	**172**	Pg	Pg	19 44 30.3	-1.8
EPOB				Lg		19 44 47.3	
EPOB	**Poblet**	**1.27**	**172**	Pg	Pg	19 44 30.3	-1.8
1.2nm,0.1s,SNR=8.3							
EPOB				Lg		19 44 47.2	
12nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**1.27**	**172**	Pg	Pg	19 44 30.3	-1.9
1.2nm,0.1s,SNR=8.3							
ESAC	**San Caprasio**	**1.31**	**228**	Pg	Pg	19 44 31.6	-1.5
ESAC				Lg		19 44 49.3	
ESAC	**San Caprasio**	**1.31**	**228**	Pg	Pg	19 44 31.3	-1.7
5.5nm,0.1s,SNR=7.9							
ESAC				Lg		19 44 49.3	
131nm,0.3s,SNR=7.9							
ESAC	**San Caprasio**	**1.31**	**228**	Pg	Pg	19 44 31.6	-1.4
5.5nm,0.1s,SNR=7.9							
CGAR	**Garraf**	**1.33**	**170**	Lg		19 44 55.5	
3.4nm,0.2s							
CFON	**Fontmartina**	**1.46**	**125**	Pg	Pg	19 44 33.3	-2.7
CFON				Lg		19 44 52.4	
49nm,0.2s							
EJON	**La Jonquera**	**1.53**	**95**	Pg	Pg	19 44 35.1	-2.1
EJON				Lg		19 44 55.2	
EJON	**La Jonquera**	**1.53**	**95**	Pg	Pg	19 44 35.1	-2.1
3.3nm,0.2s,SNR=7.9							
EJON				Lg		19 44 56.1	
5.8nm,0.2s,SNR=7.9							
EJON	**La Jonquera**	**1.53**	**95**	Pg	Pg	19 44 35.1	-2.2
3.3nm,0.2s,SNR=7.9							
SJPF	**Ste Jean**	**1.59**	**289**	*e*Pg	Pg	19 44 36.0	-2.6
SJPF				*e*Sn	Sn	19 44 53.2	-2.7
SJPF				*e*Sg	Sg	19 44 56.3	-3.6
28nm,0.4s							
ERTA	**Horta de San J**	**1.69**	**193**	Pg	Pg	19 44 37.8	-2.8
0.1nm,0.1s,SNR=7.7							
ERTA				Lg		19 45 00.4	
4.8nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**1.69**	**193**	Pg	Pg	19 44 37.8	-2.8
0.1nm,0.1s,SNR=7.7							
EALK	**Alkurruntz**	**1.82**	**290**	Pg	Pg	19 44 40.3	-2.9
EALK				Lg		19 45 04.9	
EALK	**Alkurruntz**	**1.82**	**290**	Pg	Pg	19 44 40.0	-3.2
0.5nm,0.1s,SNR=6.3							
EALK				Lg		19 45 05.4	
50nm,0.4s,SNR=7.9							
EALK	**Alkurruntz**	**1.82**	**290**	Pg	Pg	19 44 40.3	-2.9
0.5nm,0.1s,SNR=6.3							
LFF	**La Frestale**	**2.33**	**358**	*e*Sg	Sg	19 45 20.0	-4.3
4.3nm,0.3s							
EMOS	**Mosqueruela**	**2.45**	**204**	Pg	Pg	19 44 51.5	-4.1
EMOS				Lg		19 45 22.6	
EMOS	**Mosqueruela**	**2.45**	**204**	Pg	Pg	19 44 51.9	-3.8
0.4nm,0.2s,SNR=7.9							
EMOS				Lg		19 45 23.1	
5.9nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**2.45**	**204**	Pg	Pg	19 44 51.5	-4.2
0.4nm,0.2s,SNR=7.9							
CAF	**Calviac**	**2.48**	**21**	*e*Pn	Pn	19 44 45.9	-1.9
CAF				*e*Pg	Pg	19 44 52.5	-3.8
CAF				*e*Sg	Sg	19 45 24.7	-4.6
3.8nm,0.3s							
LASF	**Ste Croix**	**2.65**	**55**	*e*Pg	Pg	19 44 55.5	-4.1
LASF				*e*Sg	Sg	19 45 29.8	-5.1
1.6nm,0.2s							
RJF	**Les Rejaudoux**	**2.74**	**10**	*e*Pg	Pg	19 44 57.4	-4.0
RJF				*e*Sg	Sg	19 45 33.0	-4.9
2.9nm,0.3s							

*BJI **26** 19:48:05.3, 6.30S×147.30E, h71km, mB5.2, mb4.4*
*NEIC **26** 19:48:05.4±2.1, 6.34S×147.28E, h72km±19km, mb4.2/6, Error ellipse: s-maj=18.0km s-min=15.0km az=115.0*
*IDC **26** 19:48:06.8±3.1, 6.38S×147.43E, h86km±28km, mb3.9/6, mb1 4.1/9, mb1mx3.9/14, mbtmp4.3/9, Error ellipse: s-maj=39.4km s-min=20.8km az=94.0*
ISC 26 19:48:04.7±2.5, 6.3S±0.1×147.2E±0.1, h79km±22km, n21, σ1§03/23, mb4.1/9, 2C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.05**	**181**	P	**P**	**19 48 50.7**	**-1.2**
38nm,0.3s,baz=10,slow=4.7,SNR=27							
PMG				S	**S**	**19 49 29.6**	**+2.2**
17nm,0.3s,baz=6.7,slow=23,SNR=3.6							
PMG	**Port Moresby**	**3.05**	**181**	P	**P**	**19 48 50.7**	**-1.2**
PMG				S	**S**	**19 49 29.6**	**+2.2**
CTA	**Charters Tower**	**13.71**	**184**	P	**P**	**19 51 17.4**	**+0.4**
0.5nm,0.3s,baz=3.1,slow=13,SNR=9.9							
CTAO	**Charters Tower**	**13.71**	**184**	*eP*	**P**	**19 51 17.5**	**+0.6**
11nm,0.9s							
KAKA	**Kakadu**	**15.90**	**245**	*eP*	**P**	**19 51 45.1**	**0.0**
11nm,0.6s							
WRAB	**Tennant Creek**	**18.42**	**222**	*eP*	**P**	**19 52 14.8**	**-1.3**
15nm,0.8s							
WB2	**Warramunga Arr**	**18.43**	**222**	⇑*iP*	**P**	**19 52 15.3**	**-0.9**
WRA	**Warramunga Arr**	**18.43**	**222**	P	**P**	**19 52 15.2**	**-1.1**
0.9nm,0.3s,baz=48,slow=11,SNR=21							
ASAR	**Alice Springs**	**21.48**	**215**	P	**P**	**19 52 48.8**	**+0.3**
5.4nm,0.5s,mb4.1,baz=45,slow=8.6,SNR=47							
ASPA	**Alice Springs**	**21.48**	**215**	*eP*	**P**	**19 52 48.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**24.09**	**239**	⇑*iP*	**P**	**19 53 15.5**	**+1.5**
14nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**25.95**	**191**	*eP*	**P**	**19 53 31.0**	**-0.7**
4.4nm,0.6s,mb4.1							
STKA	**Stephens Creek**	**25.95**	**191**	P	**P**	**19 53 31.5**	**-0.2**
4.6nm,0.6s,mb4.1,baz=355,slow=6.9,SNR=17							
NWAO	**Narrogin (SRO)**	**38.44**	**223**	P	**P**	**19 55 20.0**	**-0.4**
2.6nm,0.5s,mb4.3,baz=87,slow=12,SNR=5.6							
SONM	**Songino Array**	**64.80**	**331**	P	**P**	**19 58 38.6**	**+1.2**
2.5nm,0.9s,mb4.0,baz=143,slow=6.2,SNR=13							
VNDA	**Vanda**	**71.57**	**177**	P	**P**	**19 59 18.5**	**-0.4**
2.2nm,0.8s,mb4.0,baz=19,slow=2.3,SNR=6.9							
ILAR	**Eielson Array**	**85.70**	**23**	P	**P**	**20 00 34.0**	**-1.7**
0.9nm,1.0s,mb3.6,baz=243,slow=6.0,SNR=5.3							
BVAR	**Borovoye Array**	**87.17**	**324**	P	**P**	**20 00 44.4**	**+1.2**
baz=90,slow=4.3							
BVAR	**Borovoye Array**	**87.17**	**324**	P	**P**	**20 00 44.4**	**+1.2**
CHKZ	**Chkalovo**	**87.20**	**325**	*eP*	**P**	**20 00 44.3**	**+0.9**
1.2nm,0.8s,mb3.9							
BRVK	**Borovoye**	**87.24**	**324**	*eP*	**P**	**20 00 43.2**	**-0.3**
1.7nm,0.9s,mb4.0							

*IDC **26** 19:50:05.5±1.7, 7.65N×93.90E, mb3.7/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=55.7km s-min=29.0km az=61.0*
ISC 26 19:50:09.2±1.4, 7.8N±0.2×94.1E±0.2, h33km, n7, σ0§33/7, mb3.6/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.62**	**23**	Pn	**P**	**19 52 55.5**	**-0.3**
0.1nm,0.3s,baz=211,slow=14,SNR=8.3							
SONM	**Songino Array**	**41.27**	**13**	P	**P**	**19 57 53.5**	**+0.5**
0.4nm,0.9s,mb3.0,baz=193,slow=7.9,SNR=3.2							
ZAL	**Zalesovo**	**46.65**	**352**	P	**P**	**19 58 36.6**	**+0.3**
1.1nm,0.8s,mb3.8,baz=304,slow=7.5,SNR=6.7							
WRA	**Warramunga Arr**	**48.23**	**125**	P	**P**	**19 58 49.1**	**0.0**
0.3nm,0.5s,mb3.6,baz=304,slow=8.5,SNR=6.1							
FINES	**FINESS Array B**	**72.79**	**332**	P	**P**	**20 01 35.5**	**-0.4**
0.9nm,0.7s,mb3.8,baz=127,slow=9.5,SNR=3.8							
NB2	**NORSAR Subarra**	**79.81**	**331**	P	**P**	**20 02 15.6**	**0.0**
0.6nm,0.6s,mb3.7,baz=96,slow=5.0							
NOA	**NORSAR Array B**	**79.81**	**331**	P	**P**	**20 02 15.6**	**-0.1**
1.0nm,0.7s,mb3.8,baz=92,slow=5.4,SNR=3.4							

*IDC **26** 20:00:21.6±2.9, 7.76N×94.08E, mb3.7/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=89.4km s-min=28.8km az=68.0*
ISC 26 20:00:25.1±1.4, 7.8N±0.2×94.2E±0.2, h33km, n10, σ0§72/10, mb4.1/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.56**	**23**	Pn	**P**	**20 03 11.1**	**+0.3**
0.1nm,0.3s,baz=210,slow=15,SNR=7.4							
JIRN	**Jiri**	**21.16**	**340**	*eP*	**P**	**20 05 11.2**	**+1.4**
23nm,1.1s,mb4.4							
PKI	**Pulchoki**	**21.35**	**338**	*eP*	**P**	**20 05 11.1**	**-0.6**
8.2nm,0.6s,mb4.2							
DMN	**Daman**	**21.50**	**338**	*eP*	**P**	**20 05 12.2**	**-1.0**
10nm,0.7s,mb4.3							
KKN	**Kakani**	**21.60**	**338**	*eP*	**P**	**20 05 13.6**	**-0.6**
20nm,1.2s,mb4.4							
GKN	**Gorkha**	**22.03**	**337**	*eP*	**P**	**20 05 18.9**	**+0.4**
11nm,0.7s,mb4.4							
KOLN	**Koldanda**	**22.25**	**335**	*eP*	**P**	**20 05 21.6**	**+0.9**
11nm,0.8s,mb4.4							
SONM	**Songino Array**	**41.22**	**12**	P	**P**	**20 08 08.0**	**-0.5**
0.5nm,0.8s,mb3.2,baz=191,slow=6.3,SNR=4.7							
ZAL	**Zalesovo**	**46.63**	**352**	P	**P**	**20 08 51.6**	**-0.4**
0.9nm,0.3s,mb4.1,baz=318,slow=6.8,SNR=5.1							
WRA	**Warramunga Arr**	**48.17**	**126**	P	**P**	**20 09 04.7**	**+0.1**
0.6nm,0.7s,mb3.7,baz=305,slow=8.4,SNR=9.5							

*NEIC **26** 20:06:05.7, 35.70N×4.79W, h68km, MG3.6(MDD), After MDD.*
*INMG **26** 20:06:06.5±0.8, 35.78N×4.83W, h68km±4km

EADA	Adamuz	2.48	3	P	P	20 06 43.1	-1.4
	6.9nm,0.0s,SNR=18						
EQES	Quesada	2.51	32	P	P	20 06 44.2	-0.8
EQES				S	S	20 07 11.8	-2.6
EQES	Quesada	2.51	32	P	P	20 06 44.0	-1.0
	0.8nm,0.1s,SNR=12						
EQES				S	S	20 07 11.8	-2.6
	2.9nm,0.2s,SNR=7.9						
EQES	Quesada	2.51	32	P	P	20 06 44.0	-1.0
	1.5nm,0.1s,SNR=12						
EQES	Quesada	2.51	32	S	S	20 07 11.8	-2.6
	2.9nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	2.58	324	⇑P	P	20 06 44.3	-1.6
	1.5nm,0.1s,SNR=18						
EMIN				S	S	20 07 12.4	-3.8
	20nm,0.1s,SNR=47						
EMIN	Mina Concepcio	2.58	324	P	P	20 06 44.3	-1.7
	1.5nm,0.1s,SNR=18						
EMIN	Mina Concepcio	2.58	324	S	S	20 07 12.4	-3.8
	20nm,0.1s,SNR=47						
PALC	Alcoutim	2.81	310	eP	P	20 06 47.4	-1.8
PALC				eS	S	20 07 18.3	-3.8
	14nm,0.1s						
PALC	Alcoutim	2.81	310	P	P	20 06 47.4	-1.8
PALC				S	S	20 07 18.3	-3.8
	7.2nm,0.1s						
PALC	Alcoutim	2.81	310	P	P	20 06 47.4	-1.8
PALC				S	S	20 07 18.2	-3.9
EGRO	El Granado	2.86	311	⇑P	P	20 06 48.1	-1.8
	7.3nm,0.1s,SNR=18						
EGRO				S	S	20 07 19.3	-3.9
	26nm,0.1s,SNR=7.9						
EGRO	El Granado	2.86	311	P	P	20 06 48.1	-1.8
	7.3nm,0.1s,SNR=18						
EGRO				S	S	20 07 19.3	-4.0
	26nm,0.1s,SNR=7.9						
PBEJ	Beja	3.41	314	eP	P	20 06 55.8	-1.8
PBEJ				eS	S	20 07 32.3	-4.8
	5.9nm,0.2s						
PBEJ	Beja	3.41	314	P	P	20 06 55.8	-1.8
PBEJ				S	S	20 07 32.2	-4.9
PBEJ	Beja	3.41	314	P	P	20 06 55.8	-1.8
PBEJ				eS	S	20 07 32.3	-4.8
	5.9nm,0.2s						
EVIA	Vianos	3.45	31	P	P	20 06 58.1	-0.1
EVIA	Vianos	3.45	31	P	P	20 06 56.2	-2.0
	1.0nm,0.2s,SNR=4.0						
EVIA				S	S	20 07 30.5	-7.7
	2.0nm,0.6s,SNR=4.0						
EBAD	Badajoz	3.55	330	P	P	20 06 57.7	-1.8
EBAD				S	S	20 07 35.5	-5.0
EBAD	Badajoz	3.55	330	P	P	20 06 57.7	-1.8
	2.0nm,0.1s,SNR=6.3						
EBAD				S	S	20 07 35.5	-5.0
	20nm,0.1s,SNR=6.2						
EBAD	Badajoz	3.55	330	P	P	20 06 57.7	-1.8
	2.0nm,0.1s,SNR=6.3						
EBAD				S	S	20 07 35.5	-5.0
	20nm,0.1s,SNR=6.2						
PTEO	Sao Teotonio	3.69	301	eP	P	20 06 59.5	-2.0
PTEO				eS	S	20 07 39.5	-4.5
	5.6nm,0.1s						
PTEO	Sao Teotonio	3.69	301	P	P	20 06 59.4	-2.1
PTEO				S	S	20 07 39.3	-4.7
PTEO	Sao Teotonio	3.69	301	eP	P	20 06 59.5	-2.0
PTEO				eS	S	20 07 39.5	-4.5
	5.6nm,0.1s						
ESDC	Sonseca Array	4.03	9	P	P	20 07 03.5	-2.7
ESDC				S	S	20 07 45.5	-7.0
ESDC	Sonseca Array	4.03	9	P	P	20 07 03.5	-2.7
	1.4nm,0.3s,baz=192,slow=13,SNR=6.1						
ESDC				S	S	20 07 45.8	-6.7
	0.8nm,0.4s,baz=188,slow=22,SNR=4.3						
ESDC	Sonseca Array	4.03	9	P	P	20 07 03.5	-2.7
	1.4nm,0.3s,SNR=6.1						
ESDC				S	S	20 07 45.8	-6.7
	0.8nm,0.4s,SNR=4.3						
MOE	Montemor	4.03	316	eS	S	20 07 47.5	-5.0
PCBR	Castelo Branco	4.67	333	eP	P	20 07 13.0	-2.2
PCBR				eS	S	20 08 02.0	-6.6
	2.2nm,0.1s						
PCBR	Castelo Branco	4.67	333	P	P	20 07 13.0	-2.2
PCBR				S	S	20 08 02.0	-6.6
	1.1nm,0.1s						
PCBR	Castelo Branco	4.67	333	P	P	20 07 12.9	-2.3
PCBR				S	S	20 08 01.9	-6.7
PLOU	Loures	4.74	314	P	P	20 07 12.8	-3.3
PLOU				S	S	20 08 04.0	-6.2
PLOU	Loures	4.74	314	P	P	20 07 12.8	-3.3
PLOU				S	S	20 08 04.2	-6.0
GUD	Guadarrama	4.97	5	P	P	20 07 16.9	-2.4
GUD				S	S	20 08 10.2	-5.8
GUD	Guadarrama	4.97	5	P	P	20 07 16.8	-2.6
	1.7nm,0.4s,SNR=4.0						
GUD				S	S	20 08 10.0	-6.1
	2.0nm,0.5s,SNR=4.0						
GUD	Guadarrama	4.97	5	P	P	20 07 16.9	-2.4
	2.8nm,0.6s,SNR=4.0						
GUD				S	S	20 08 10.2	-5.9
	2.0nm,0.5s,SNR=4.0						
PVIS	Viseu	5.59	335	eS	S	20 08 24.6	-6.9
PVIS	Viseu	5.59	335	S	S	20 08 24.5	-7.0
PVRL	Vila Real	6.04	338	eS	S	20 08 35.1	-7.6
	8.4nm,0.1s						
PVRL	Vila Real	6.04	338	S	S	20 08 35.1	-7.6
	4.2nm,0.1s						
PVRL	Vila Real	6.04	338	S	S	20 08 34.9	-7.8
ELOB	Lobios	6.69	338	S	S	20 08 49.6	-9.0
	2.0nm,0.1s,SNR=7.9						
ELAN	Lanestosa	7.60	7	P	P	20 07 53.4	-2.5
	0.2nm,0.2s,SNR=4.0						
ELAN	Lanestosa	7.60	7	P	P	20 07 53.4	-2.4
EALK	Alkurruntz	7.93	18	P	P	20 07 58.1	-2.2
	0.6nm,0.2s,SNR=4.0						

*IDC **26** 20:13:41.1±3.0, 7.76N×94.00E, mb3.5/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=93.6km s-min=30.3km az=68.0*

ISC 26 20:13:44.7±1.4, 7.8N±0.2×94.1E±0.2, h33km, n10, σ0°70/10, mb3.9/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.59	23	Pn	P	20 16 31.1	+0.3
	0.0nm,0.3s,baz=210,slow=13,SNR=4.9						
JIRN	Jiri	21.14	340	eP	P	20 18 30.1	+0.9
	9.2nm,0.8s,mb4.2						
PKI	Pulchoki	21.33	338	eP	P	20 18 31.8	+0.7
	5.7nm,0.5s,mb4.2						
DMN	Daman	21.48	338	eP	P	20 18 33.1	+0.5
	6.4nm,0.6s,mb4.1						
KKN	Kakani	21.58	338	eP	P	20 18 33.0	-0.5
	9.8nm,1.0s,mb4.2						
GKN	Gorkha	22.01	337	eP	P	20 18 36.6	-1.3
	8.1nm,0.7s,mb4.2						
KOLN	Koldanda	22.22	335	eP	P	20 18 39.9	-0.1
	8.0nm,0.8s,mb4.2						
SONM	Songino Array	41.24	13	P	P	20 21 27.2	-1.1
	0.6nm,1.1s,mb3.1,baz=191,slow=7.3,SNR=3.0						
ZAL	Zalesovo	46.62	352	P	P	20 22 11.8	+0.3
	1.0nm,0.8s,mb3.8,baz=296,slow=8.1,SNR=6.8						
WRA	Warramunga Arr	48.23	125	P	P	20 22 24.8	+0.2
	0.2nm,0.5s,mb3.4,baz=305,slow=8.5,SNR=5.4						

*IDC **26** 20:31:06.5±2.9, 7.79N×94.08E, mb3.6/3, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, ML3.5/1, MS3.0/1, Ms1 3.2/1, ms1mx2.4/22, Error ellipse: s-maj=92.1km s-min=27.9km az=68.0*

ISC 26 20:31:10.0±1.4, 7.9N±0.2×94.2E±0.2, h33km, n10, σ0°61/10, mb4.1/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.49	23	Pn	P	20 33 54.7	-0.1
	0.1nm,0.3s,baz=206,slow=14,SNR=6.2						
CMAR				LR	LR	20 38 39.8	
	comp=Z,67nm,18.7s,baz=208,slow=39						
JIRN	Jiri	21.09	340	eP	P	20 35 54.3	+0.3
	14nm,0.7s,mb4.4						
PKI	Pulchoki	21.29	338	eP	P	20 35 56.8	+0.8
DMN	Daman	21.44	337	eP	P	20 35 58.0	+0.6
	12nm,0.8s,mb4.3						
KKN	Kakani	21.54	338	eP	P	20 35 58.9	+0.5
GKN	Gorkha	21.97	337	eP	P	20 36 01.7	-1.1
	15nm,0.8s,mb4.5						
KOLN	Koldanda	22.19	334	eP	P	20 36 03.8	-1.1
	11nm,0.7s,mb4.4						
SONM	Songino Array	41.15	12	P	P	20 38 52.8	0.0
	0.5nm,0.8s,mb3.2,baz=186,slow=7.2,SNR=4.5						
ZAL	Zalesovo	46.56	352	P	P	20 39 36.5	+0.1
	1.1nm,0.6s,mb3.9,baz=274,slow=6.2,SNR=8.3						
WRA	Warramunga Arr	48.21	126	P	P	20 39 49.7	0.0
	0.4nm,0.5s,mb3.8,baz=304,slow=8.5,SNR=14						

*IDC **26** 20:36:00.9±0.9, 7.91N×94.05E, mb3.8/9, mb1 3.9/10, mb1mx3.9/19, mbtmp3.8/10, ML3.6/1, Error ellipse: s-maj=30.8km s-min=19.7km az=53.0*

*BJI **26** 20:36:05.2, 7.90N×94.00E, h30km, mb4.2*

*NEIC **26** 20:36:05.3±0.8, 7.90N×94.03E, h30km, mb4.4/3, Error ellipse: s-maj=22.5km s-min=16.5km az=71.0*

ISC 26 20:36:04.3±4.9, 8.0N±0.2×94.1E±0.2, h37km±43km, n22, σ1°07/22, mb4.1/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.43	24	Pn	P	20 38 48.6	+0.5
	0.1nm,0.3s,baz=212,slow=13,SNR=8.0						
JIRN	Jiri	20.93	340	eP	P	20 40 46.2	-0.1
	14nm,0.8s						
PKI	Pulchoki	21.12	338	eP	P	20 40 47.2	-1.1
	38nm,1.3s,mb4.5						
DMN	Daman	21.27	338	eP	P	20 40 48.6	-1.2
	20nm,0.8s,mb4.5						
KKN	Kakani	21.37	338	eP	P	20 40 49.6	-1.1
	12nm,0.9s,mb4.2						
LSA	Lhasa	21.76	353	P	P	20 40 58.8	+4.2
LSA				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.3						
LSA	Lhasa	21.76	353	eP	P	20 40 57.9	+3.2
	comp=Z,7.8nm,0.7s,mb4.2						
GKN	Gorkha	21.80	337	eP	P	20 40 55.3	+0.2
	comp=Z,16nm,0.7s,mb4.5						
KOLN	Koldanda	22.02	335	eP	P	20 40 58.7	+1.5
	comp=Z,7.6nm,0.6s,mb4.3						
SONM	Songino Array	41.06	13	P	P	20 43 46.8	+0.9
	comp=Z,0.5nm,0.8s,mb3.2,baz=191,slow=6.3,SNR=5.4						
KURK	Kurchatov	44.47	346	P	P	20 44 11.7	-2.0
	comp=Z,11nm,1.5s,mb4.4						
ZAL	Zalesovo	46.42	352	P	P	20 44 30.4	+1.3
	comp=Z,1.4nm,0.5s,mb4.2,baz=287,slow=6.0,SNR=10.0						
WRA	Warramunga Arr	48.39	126	P	P	20 44 43.6	-1.4
	comp=Z,1.6nm,1.2s,mb3.9,baz=304,slow=8.6,SNR=7.5						
BVAR	Borovoye Array	48.85	341	P	P	20 44 49.2	+1.1
	comp=Z,1.0nm,0.9s,mb3.8,baz=90,slow=5.8,SNR=3.9						
CHKZ	Chkalovo	49.34	342	eP	P	20 44 50.7	-1.2
	comp=Z,3.2nm,0.9s,mb4.3						
ASAR	Alice Springs	50.05	130	P	P	20 44 58.3	+0.6
	comp=Z,0.3nm,0.6s,mb3.5,baz=297,slow=7.7,SNR=3.4						
KMBO	Kilima Mbogo	57.37	264	P	P	20 45 52.9	+1.1
	comp=Z,1.8nm,1.0s,mb4.1,baz=52,slow=17,SNR=4.9						
KMBO	Kilima Mbogo	57.37	264	P	P	20 45 52.9	+1.1
BRTR	Keskin Array B	62.30	311	P	P	20 46 24.9	-0.3
	comp=Z,0.7nm,0.8s,mb3.8,baz=90,slow=7.2,SNR=3.5						
FINES	FINESS Array B	72.57	332	P	P	20 47 29.1	-0.2
	comp=Z,1.0nm,0.7s,mb3.8,baz=98,slow=9.8,SNR=3.1						
NB2	NORSAR Subarra	79.59	331	P	P	20 48 09.7	+0.6
	comp=Z,0.8nm,0.7s,mb3.8,baz=91,slow=5.8						
NOA	NORSAR Array B	79.59	331	P	P	20 48 09.7	+0.6
	comp=Z,1.1nm,0.9s,mb3.8,baz=304,slow=22,SNR=2.4						

*IDC **26** 20:39:15.8±0.6, 7.78N×93.88E, mb4.5/18, mb1 4.6/19, mb1mx4.6/23, mbtmp4.5/19, ML4.0/1, Error ellipse: s-maj=30.0km s-min=14.6km az=54.0*

*MOS **26** 20:39:19.9±1.1, 7.97N×94.13E, h33km, mb4.9/30, Error ellipse: s-maj=12.8km s-min=6.9km az=111.0*

*BJI **26** 20:39:22.4, 7.79N×93.77E, h70km, mB4.9, mb4.4, Ms4.7, Msz4.1*

*NEIC **26** 20:39:23.6±1.1, 7.97N×94.10E, h49km±9km, mb4.7/21, Error ellipse: s-maj=8.9km s-min=8.4km az=212.0*

ISC 26 20:39:19.8±0.4, 7.92N±0.06×94.14E±0.06, h33km, n126, σ1°01/125, mb4.7/48, MS4.2/3, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.47	24	eP	P	20 42 04.5	+0.1
	11nm,0.9s						
CMAR	Chiang Mai Arr	11.47	24	Pn	P	20 42 05.2	+0.9
	0.3nm,0.3s,baz=211,slow=14,SNR=30						
PALK	Pallekele	13.33	268	P	P	20 42 29.5	+0.2
SHL	Shillong	17.68	353	eP	P	20 43 23.0	-2.2
HYB	Hyderabad	17.88	303	eP	P	20 43 29.0	+1.3
HYB	Hyderabad	17.88	303	i P	P	20 43 29.0	+1.3
KMI	Kunming	18.98	25	P	P	20 43 42.0	+0.8
KMI				S	S	20 47 15.1	+7.1
KMI				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KMI	Kunming	18.98	25	P	P	20 43 42.0	+0.8
	comp=Z,4.0nm,1.3s						
KMI				pP		20 43 46.3	
KMI				PP	PP	20 44 01.9	+4.2
KMI				S	S	20 47 15.1	+7.1
JIRN	Jiri	21.03	340	eP	P	20 44 03.0	-0.1
	comp=Z,20nm,0.4s,mb4.8						
PKI	Pulchoki	21.22	338	eP	P	20 44 05.8	+0.7
	comp=Z,21nm,0.5s,mb4.7						
DMN	Daman	21.37	338	eP	P	20 44 06.7	+0.2
	comp=Z,18nm,0.5s,mb4.7						
KKN	Kakani	21.47	338	eP	P	20 44 07.0	-0.5
	comp=Z,30nm,0.9s,mb4.6						
LSA	Lhasa	21.85	353	P	P	20 44 11.5	+0.2
LSA	Lhasa	21.85	353	eP	P	20 44 11.2	-0.1
LSA				pmax	pmax		
	comp=Z,36nm,0.9s,mb4.8						
LSA	Lhasa	21.85	353	eP	P	20 44 11.2	-0.1
	comp=Z,36nm,0.9s,mb4.8						
GKN	Gorkha	21.90	337	eP	P	20 44 11.3	-0.6
	comp=Z,33nm,0.5s,mb5.0						
KOLN	Koldanda	22.12	335	eP	P	20 44 13.8	-0.2
	comp=Z,32nm,0.7s,mb4.8						
WHN	Wuhan	29.40	37	eP	P	20 45 28.8	+6.4
NJ2	Nanjing	33.24	40	eP	P	20 45 58.3	+2.1
NJ2				PP	PP	20 47 13.5	+5.6
NJ2				S	S	20 51 22.0	+9.1
NJ2				AMB	AMB		
	comp=Z,400nm,4.2s						
NJ2				LR	LR		
	comp=N,402nm,14.4s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,16.2s,MS5.0						
NJ2				LR	LR		
	comp=Z,1μm,14.8s,MS4.7						
SSE	Sheshan	34.19	44	P	P	20 46 08.5	+4.1
SSE				S	S	20 51 33.5	+5.8
SSE				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,25nm,3.2s						
SSE				LR	LR		
	comp=Z,45nm,16.6s,MS3.3						
SSE	Sheshan	34.19	44	P	P	20 46 08.6	+4.2
	comp=Z,20nm,0.8s,mb5.1						
SSE				sP	sP	20 46 21.2	+2.8
SSE				S	S	20 51 33.5	+5.8
SSE				sS		20 51 48.2	
SSE				LR	LR		
	comp=Z,50nm,16.6s,MS3.3						
WMQ	Urumqi	36.20	352	eP	P	20 46 22.0	+0.6
WMQ				PP	PP	20 47 44.3	-0.2
WMQ				PCP	PcP	20 48 48.0	+1.3
WMQ				S	S	20 52 00.3	+1.7
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,104nm,5.6s						
WMQ				LR	LR		
	comp=N,547nm,16.2s,MS4.6						
WMQ				LR	LR		
	comp=E,654nm,15.4s,MS4.6						
WMQ				LR	LR		
	comp=Z,1μm,18.0s,MS4.6						
UCH	Uchtor	38.31	336	P	P	20 46 39.2	+0.1
	SNR=5.9						
KBK	Karagaybulak	38.51	337	P	P	20 46 41.6	+1.0
	SNR=9.1						
AML	Almayashu	38.56	335	P	P	20 46 42.2	+1.0
	SNR=13						
AAK	Ala-Archa	38.66	337	P	P	20 46 43.3	+1.3
	SNR=5.5						
AAK	Ala-Archa	38.66	337	i P	P	20 46 42.0	0.0
AAK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
AAK	Ala-Archa	38.66	337	eP	P	20 46 41.6	-0.4
	comp=Z,8.9nm,1.1s,mb4.4						
EKS2	Erkin-Say	38.97	336	P	P	20 46 45.4	+0.8
	SNR=5.8						
USP	Ospenovka	39.20	337	P	P	20 46 46.5	+0.1
	SNR=7.3						
SONM	Songino Array	41.12	13	P	P	20 47 03.0	+0.7
	comp=Z,3.1nm,0.9s,mb3.9,baz=196,slow=7.7,SNR=21						
SONM				PcP	PcP	20 49 02.5	+0.5
	comp=Z,3.2nm,1.0s,baz=202,slow=3.6,SNR=14						
ZAK	Zakamensk	43.01	9	eP	P	20 47 08.2	-10
ZAK				i		20 49 08.6	
KURK	Kurchatov	44.57	346	i P	P	20 47 30.1	-0.2
KURK	Kurchatov	44.57	346	eP	P	20 47 29.1	-1.3
	comp=Z,12nm,1.0s,mb4.7						
NWAO	Narrogin (SRO)	46.19	153	P	P	20 47 43.7	+0.2
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NWAO	Narrogin (SRO)	46.19	153	P	P	20 47 43.7	+0.2
	comp=Z,5.1nm,0.7s,mb4.6,baz=335,slow=12,SNR=6.9						
NWAO	Narrogin (SRO)	46.19	153	eP	P	20 47 44.6	+1.1
	comp=Z,6.3nm,0.9s,mb4.5						
HIA	Hailar	46.48	23	eP	P	20 47 46.8	+1.2
HIA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HIA	Hailar	46.48	23	eP	P	20 47 46.8	+1.2
	comp=Z,6.6nm,1.0s,mb4.5						
ZAL	Zalesovo	46.50	352	P	P	20 47 46.0	+0.3
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ZAL	Zalesovo	46.50	352	P	P	20 47 46.0	+0.3
	comp=Z,6.4nm,0.5s,mb4.8,baz=301,slow=5.4,SNR=37						
ZAL	Zalesovo	46.50	352	P	P	20 47 46.0	+0.3
NVS	Novosibirsk	47.60	351	eP	P	20 47 52.2	-2.1
NVS				pmax	pmax		
	comp=N,19nm,0.8s						
NVS				pmax	pmax		
	comp=E,8.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.2						
MDJ	Mudanjiang	47.77	34	P	P	20 47 55.8	0.0
MDJ				AMB	AMB		
	comp=Z,7.0nm,2.0s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,117nm,5.4s						
WRA	Warramunga Arr	48.29	126	P	P	20 47 58.8	-1.3
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA	Warramunga Arr	48.29	126	P	P	20 47 58.8	-1.3
	comp=Z,1.7nm,0.5s,mb4.3,baz=304,slow=8.5,SNR=27						
WRAB	Tennant Creek	48.29	126	eP	P	20 47 59.6	-0.6
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
WRAB	Tennant Creek	48.29	126	eP	P	20 47 59.6	-0.6
	comp=Z,2.9nm,0.7s,mb4.4						
BVAR	Borovoye Array	48.95	341	P	P	20 48 03.7	-1.0
	comp=Z,3.4nm,0.9s,mb4.4,baz=135,slow=8.4,SNR=12						
BVAR				PcP	PcP	20 49 28.9	-0.1
	comp=Z,2.8nm,0.9s,baz=153,slow=3.3,SNR=7.8						
BRVK	Borovoye	49.01	341	eP	P	20 48 04.5	-0.7
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BRVK	Borovoye	49.01	341	eP	P	20 48 04.5	-0.7
	comp=Z,2.6nm,0.8s,mb4.3						
RAYN	Ar Rayn	49.06	294	P	P	20 48 07.6	+1.5
	comp=Z,94nm,0.8s,SNR=20						
CHKZ	Chkalovo	49.43	342	eP	P	20 48 07.7	-0.8
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
CHKZ	Chkalovo	49.43	342	eP	P	20 48 07.7	-0.8
	comp=Z,9.6nm,0.8s,mb4.9						
ASAR	Alice Springs	49.95	130	P	P	20 48 11.4	-1.5
	comp=Z,0.9nm,0.6s,mb4.0,baz=304,slow=7.2,SNR=6.6						
ASAR				PcP	PcP	20 49 33.1	+0.2
	comp=Z,1.5nm,0.9s,baz=316,slow=3.5,SNR=7.4						
BOD	Bodaibo	52.11	13	eP	P	20 48 27.4	-1.3
ARU	Arti	55.85	337	eP	P	20 48 49.0	-7.2
KIV	Kislovodsk	57.28	318	eP	P	20 49 05.7	-1.0
KIV				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
KIV	Kislovodsk	57.28	318	eP	P	20 49 05.7	-1.0
	comp=Z,6.4nm,0.7s,mb4.8						
KMBO	Kilima Mbogo	57.42	264	P	P	20 49 10.1	+2.0
KMBO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KMBO	Kilima Mbogo	57.42	264	P	P	20 49 10.1	+1.9
	comp=Z,7.3nm,0.9s,mb4.7,baz=53,slow=10,SNR=14						
SOC	Sochi	59.15	316	eP	Px	20 49 38.0	
SOC				e		20 50 14.2	
SOC				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.2						
SOC				pmax	pmax		
	comp=N,22nm,0.9s						
SOC				pmax	pmax		
	comp=E,23nm,1.1s						
YAK	Yakutsk	59.95	18	i P	P	20 49 24.9	-0.1
YAK				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.2						
YAK	Yakutsk	59.95	18	eP	P	20 49 24.5	-0.5
	comp=Z,18nm,0.8s,mb5.1						
ANN	Anapa	61.10	317	eP	sP	20 49 45.2	-1.9
ANN				pmax	pmax		
	comp=Z,56nm,1.0s,mb5.7						
BRTR	Keskin Array B	62.40	311	P	P	20 49 39.3	-2.5
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRTR	Keskin Array B	62.40	311	P	P	20 49 39.3	-2.5
	comp=Z,2.6nm,0.7s,mb4.5,baz=124,slow=7.3,SNR=13						
OBN	Obninsk	65.34	328	eP	P	20 49 57.1	-3.7
OBN						20 50 28.0	
OBN				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.1						
OBN	Obninsk	65.34	328	eP	P	20 49 57.1	-3.7
	comp=Z,8.2nm,0.6s,mb4.9						
TIXI	Tiksi	67.19	11	eP	P	20 50 11.7	-0.6
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
AKASG	Malin Array Be	68.12	322	P	P	20 50 16.0	-2.4
AKASG				pmax	pmax		
	comp=Z,10.0nm,1.1s						
AKASG	Malin Array Be	68.12	322	P	P	20 50 15.9	-2.5
	comp=Z,9.5nm,1.1s,mb4.7,baz=86,slow=4.9,SNR=10						
IDI	Anoyia	68.54	305	P	P	20 50 20.1	-1.2
	comp=Z,17nm,0.9s,mb5.0,baz=136,slow=23,SNR=5.8						
JOF	Joensuu	70.81	334	ep	P	20 50 33.5	-1.2
KWP	Kalwaria	71.99	320	P	P	20 50 39.8	-2.2
KOLS	Kolonicke sedl	72.17	319	i P	P	20 50 44.1	+1.1
FINES	FINESS Array B	72.67

GERES	GERESS Array B	77.79	318	P	P	20 51 15.2	-0.2
GERES	GERESS Array B	77.79	318	P	P	20 51 15.1	-0.3
	comp=Z,5.5nm,0.8s,mb4.5,baz=90,slow=5.3,SNR=14						
KHC	Kasperske Hory	77.88	318	*e*P	P	20 51 16.0	+0.1
KHC				*ex*	x	20 51 24.4	
CLL	Collm	78.32	321	P	P	20 51 19.0	+0.7
MAW	Mawson	78.58	192	P	P	20 51 22.2	+2.8
MAW				pmax	pmax		
	comp=Z,30nm,1.2s						
MAW	Mawson	78.58	192	P	P	20 51 22.2	+2.8
	comp=Z,30nm,1.2s,mb5.1						
GRA1	Grafenberg Arr	79.43	319	*e*P	P	20 51 24.6	+0.2
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	Grafenberg Arr	79.43	319	*e*P	P	20 51 24.6	+0.2
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	Grafenberg Arr	79.43	319	*e*P	P	20 51 24.6	+0.2
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	Grafenberg Arr	79.43	319	*e*P	P	20 51 24.6	+0.2
	comp=Z,6.0nm,0.9s,mb4.5						
NB2	NORSAR Subarra	79.69	331	P	P	20 51 24.8	-0.8
	comp=Z,9.5nm,0.8s,mb4.8,baz=96,slow=5.0						
NB2	NORSAR Subarra	79.69	331	P	P	20 51 24.8	-0.8
NB2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
NOA	NORSAR Array B	79.69	331	P	P	20 51 25.1	-0.5
NOA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NOA	NORSAR Array B	79.69	331	P	P	20 51 25.1	-0.4
	comp=Z,7.3nm,0.8s,mb4.7,baz=92,slow=5.7,SNR=18						
LPG	La Plagne	82.58	315	*e*P	P	20 51 41.0	0.0
	comp=Z,11nm,0.9s,mb4.6						
LPG	La Plagne	82.58	315	*e*P	P	20 51 41.0	0.0
LPG				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
EKA	Eskdalemuir Ar	87.68	325	P	P	20 52 06.6	+0.5
EKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
EKA	Eskdalemuir Ar	87.68	325	P	P	20 52 06.5	+0.4
	comp=Z,4.1nm,0.8s,mb4.7,baz=108,slow=5.3,SNR=6.4						
ESDC	Sonseca Array	91.19	310	P	P	20 52 22.9	-0.2
	comp=Z,3.3nm,0.9s,mb4.6,baz=66,slow=4.0,SNR=5.2						
IMA	Indian Mountai	91.58	22	*e*P	P	20 52 26.0	+1.7
ILAR	Eielson Array	94.70	22	P	P	20 52 38.7	+0.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	94.70	22	P	P	20 52 38.6	+0.1
	comp=Z,0.8nm,0.8s,mb4.2,baz=293,slow=4.7,SNR=10						
INK	Inuvik	96.95	16	P	P	20 52 49.7	+1.0
INK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
INK	Inuvik	96.95	16	P	P	20 52 49.6	+0.9
	comp=Z,2.2nm,1.1s,mb4.5,baz=304,slow=7.8,SNR=3.4						
RES	Resolute Bay	97.36	2	*e*P	P	20 52 51.5	+1.0
RES				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.9						
RES	Resolute Bay	97.36	2	*e*P	P	20 52 51.5	+1.1
	comp=Z,3.5nm,0.8s,mb4.8						
NVAR	Mina Array Bea	124.88	31	PKP	PKPdf	20 58 20.3	+3.3
	comp=Z,1.8nm,0.7s,baz=290,slow=1.5,SNR=12						
MSU	Marysvale	127.72	26	*e*PKIKP	PKPdf	20 58 26.3	+3.8
TXAR	Lajitas Array	139.19	24	PKP	PKPdf	20 58 46.7	+2.6
	comp=Z,0.5nm,0.4s,baz=242,slow=1.9,SNR=3.5						
PLCA	Paso Flores	144.59	200	PKIKP	PKPdf	20 58 54.3	+1.0
PLCA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PLCA	Paso Flores	144.59	200	PKP	PKPdf	20 58 54.3	+1.0
	comp=Z,8.9nm,0.8s,baz=144,slow=3.8,SNR=17						

WEL 26 20:42:54.4±0.3, 39.19S×178.08E, h17km±2km, ML3.6/5, 2C-2D, Error ellipse: s-maj=2.0km s-min=1.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	Kokohu	0.35	297	⇓P*	Pb	20 43 01.6	-0.3
KNZ				S*	Sb	20 43 06.8	-0.1
MWZ	Matawai	0.95	333	⇑P*	Pb	20 43 12.1	+0.1
MWZ				S*	Sb	20 43 24.9	+0.8
PUZ	Puketiti	1.12	7	PN	Pn	20 43 14.6	-0.8
URZ	Urewera	1.19	320	⇑PN	Pn	20 43 15.5	-0.9
URZ				SN	Sn	20 43 31.1	-1.2
BKZ	Black Stump Fm	1.23	270	⇓PN	Pn	20 43 16.3	-0.7
BKZ				SN	Sn	20 43 32.3	-0.9
PWZ	Pawanui	1.26	228	PN	Pn	20 43 16.6	-0.7
MXZ	Matakaoa Point	1.63	6	PN	Pn	20 43 21.6	-1.0
MXZ				SN	Sn	20 43 43.7	+0.4
MOVZ	Moawhango	1.82	262	PN	Pn	20 43 25.2	-0.1
TSZ	Takapari Road	1.85	241	PN	Pn	20 43 24.5	-1.4
TSZ				SN	Sn	20 43 47.2	-1.8
TUVZ	Tukino	1.88	267	PN	Pn	20 43 26.2	-0.1
NGZ	Ngauruhoe	1.93	269	PN	Pn	20 43 26.2	-0.6
FWVZ	Far West T-bar	1.96	267	PN	Pn	20 43 27.0	-0.4
CNZ	Chateau	1.97	269	PN	Pn	20 43 27.0	-0.5

*IDC **26** 20:48:14.3±1.3, 7.76N×93.91E, mb4.0/9, mb1 4.1/10, mb1mx4.0/19, mbtmp3.9/10, ML3.9/1, MS3.8/1, Ms1 3.8/1, ms1mx2.6/29, Error ellipse: s-maj=45.1km s-min=26.4km az=58.0*
*NEIC **26** 20:48:19.1±0.7, 7.77N×93.91E, h30km, mb4.1/5, Error ellipse: s-maj=17.3km s-min=13.6km az=98.0*

ISC 26 20:48:17.4±1.0, 7.8N±0.1×94.0E±0.1, h30km, n18, σ0§88/17, mb4.0/14, MS3.8/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.62	24	*e*P	P	20 51 04.1	-0.4
	1.3nm,0.5s						
CMAR	Chiang Mai Arr	11.62	24	Pn	P	20 51 04.2	-0.3
	0.2nm,0.3s,baz=209,slow=14,SNR=16						
LSA	Lhasa	21.94	353	*e*P	P	20 53 10.3	-0.1
	5.7nm,0.6s,mb4.2						
ENH	Enshi	26.64	31	*e*P	P	20 53 57.4	+1.8
	3.7nm,0.8s,mb4.0						
SONM	Songino Array	41.25	13	P	P	20 56 01.4	-0.1
	0.5nm,0.8s,mb3.2,baz=187,slow=10.0,SNR=4.8						
KURK	Kurchatov	44.64	346	*e*P	P	20 56 29.0	-0.1
	1.7nm,0.7s,mb4.0						
ZAL	Zalesovo	46.59	353	P	P	20 56 45.2	+0.7
	1.7nm,0.5s,mb4.2,baz=287,slow=6.2,SNR=8.1						
ZAL				LR	LR	21 17 36.7	
	comp=Z,108nm,19.1s,MS3.8,baz=117,slow=38						
WRA	Warrumunga Arr	48.34	125	P	P	20 56 58.2	-0.4
	0.8nm,0.6s,mb3.9,baz=305,slow=8.4,SNR=6.7						
BVAR	Borovoye Array	49.00	341	P	P	20 57 01.8	-1.5
	0.6nm,0.7s,mb3.7,baz=117,slow=6.6,SNR=4.3						
BRVK	Borovoye	49.06	341	P	P	20 57 04.5	+0.6
	0.7nm,0.6s,mb3.9						
CHKZ	Chkalovo	49.49	342	*e*P	P	20 57 07.1	0.0
	3.1nm,0.9s,mb4.3						
KMBO	Kilima Mbogo	57.28	264	P	P	20 58 10.0	+4.7
	2.8nm,0.8s,mb4.4,baz=54,slow=13,SNR=8.7						
FINES	FINESS Array B	72.70	332	P	P	20 59 43.8	-0.6
	1.2nm,0.7s,mb3.9,baz=104,slow=7.9,SNR=7.3						
ARCES	ARCESS Array B	75.28	340	P	P	20 59 57.5	-1.6
	4.3nm,1.0s,mb4.3,baz=80,slow=7.4,SNR=5.8						
GERES	GERESS Array B	77.78	318	P	P	21 00 14.7	+1.3
	1.2nm,0.8s,mb3.9,baz=108,slow=4.2,SNR=5.6						
NB2	NORSAR Subarra	79.72	331	P	P	21 00 24.5	+0.7
	0.6nm,0.5s,mb3.8,baz=98,slow=4.8						
NOA	NORSAR Array B	79.72	331	P	P	21 00 24.4	+0.6
	1.0nm,0.6s,mb3.9,baz=96,slow=5.0,SNR=3.9						
PLCA	Paso Flores	144.44	200	PKP	PKPdf	21 07 53.1	-3.2
	2.2nm,0.8s,baz=161,slow=3.7,SNR=3.6						

IGQ 26 20:50:37.4, 1.53S×81.14W, h14km±9km, mb4.3, 7C-5D, Error ellipse: s-maj=9.4km s-min=4.9km az=9.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.76	52	⇑P	Pb	20 50 51.9	0.0
JAMA	Jama	1.57	37	⇓P	Pn	20 51 06.0	+1.0
JAMA				S	Sn	20 51 26.1	+0.9
MAGD	Magdalena	2.00	43	P	Pn	20 51 13.2	+2.1
IGUA	Igualata	2.50	89	⇑P	Pn	20 51 19.6	+1.2
IGUA				S	Sn	20 51 51.4	+2.5
CUSU	Cusua	2.66	88	P	Pn	20 51 22.4	+1.7
JUIV	Juive	2.68	88	P	Pn	20 51 22.5	+1.6
ARRY	Arrayan	2.69	90	P	Pn	20 51 21.2	+0.2
ARRY				S	Sn	20 51 54.7	+1.1
RETU	Refugio	2.70	88	P	Pn	20 51 23.2	+2.0
ULBA	Ulba	2.74	88	⇑P	Pn	20 51 23.5	+1.8
MARY	Rancho Maria	2.77	73	P	Pn	20 51 25.5	+3.3
PISA	Pisayambo	2.80	80	⇓P	Pn	20 51 24.8	+2.2
NAS1	Nasa	2.81	72	⇓P	Pn	20 51 24.8	+2.1
JUA2	San Juan 2	2.85	63	⇑P	Pn	20 51 24.0	+0.6
TERV	Terraza Guagua	2.87	62	P	Pn	20 51 24.2	+0.5
PINO	Pino	2.88	62	⇓P	Pn	20 51 24.2	+0.5
VC1	Cotopaxi 1	2.88	72	P	Pn	20 51 26.8	+3.1
TAMB	Tambo	2.90	73	P	Pn	20 51 26.3	+2.3
YANA	Yana	2.93	61	⇑P	Pn	20 51 24.9	+0.5
ANTI	Antisana	3.17	70	⇑P	Pn	20 51 30.0	+2.2
ANTI				S	Sn	20 52 12.7	+6.9
COTA	Cotacachi	3.36	57	⇓P	Pn	20 51 33.0	+2.4
COTA				S	Sn	20 52 22.2	+12
CAYR	Refugio Cayamb	3.49	64	P	Pn	20 51 35.6	+3.2
CAYR				S	Sn	20 52 22.0	+8.1
CAYA	Cayambe	3.53	63	⇑P	Pn	20 51 36.0	+3.0
CAYA				S	Sn	20 52 23.9	+8.9
CONE	Cono NE Rev Vo	3.79	68	P	Pn	20 51 42.3	+5.7

IDC 26 20:51:06.5±1.2, 14.55N×120.05E, mb3.8/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.8/5, Error ellipse: s-maj=78.9km s-min=19.8km az=74.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	35.07	344	P	P	20 58 02.0	-1.1
	0.2nm,0.5s,baz=135,slow=10,SNR=5.3						
WRA	Warramunga Arr	37.05	157	P	P	20 58 18.7	-1.5
	7.4nm,1.1s,baz=327,slow=10,SNR=15						
ASAR	Alice Springs	40.33	160	P	P	20 58 45.7	-1.8
	1.0nm,0.6s,baz=327,slow=9.1,SNR=11						
ZAL	Zalesovo	48.02	333	P	P	20 59 47.1	-2.0
	0.6nm,0.6s,baz=314,slow=7.2,SNR=3.6						
ILAR	Eielson Array	78.27	26	P	P	21 03 07.5	-2.0
	0.7nm,0.5s,baz=268,slow=6.0,SNR=19						

*IDC **26** 20:53:20.7±1.3, 6.78N×93.13E, mb3.8/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, ML3.1/1, MS4.1/5, Ms1 4.1/5, ms1mx3.4/26, Error ellipse: s-maj=49.5km s-min=21.9km az=56.0*
*BJI **26** 20:53:25.0, 6.80N×93.10E, h30km, mb4.7, Ms4.4, Msz4.2*
*NEIC **26** 20:53:25.1±0.7, 6.76N×93.08E, h30km, mb4.2/3, Error ellipse: s-maj=16.3km s-min=10.4km az=72.0*

ISC 26 20:53:23.4±0.9, 6.84N±0.10×93.2E±0.1, h30km, n18, σ0§94/14, mb4.0/9, MS4.2/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	12.85	25	*e*P	P	20 56 26.9	0.0
CMAR	Chiang Mai Arr	12.85	25	Pn	P	20 56 27.8	+1.0
	0.0nm,0.3s,baz=213,slow=14,SNR=6.0						
CMAR				LR	LR	21 01 48.3	
	comp=Z,573nm,18.2s,baz=210,slow=39						
HYB	Hyderabad	17.73	308	*e*P	Px	20 57 49.0	
SHL	Shillong	18.66	356	*e*P	P	20 57 40.0	-1.4
QIZ	Qiongzhong	20.24	52	P	P	20 58 00.0	+0.8
	9.0nm,0.9s						
LSA	Lhasa	22.82	355	*e*P	P	20 58 26.8	+1.6
	5.6nm,0.8s,mb4.0						
XAN	Xi'an	30.74	26	P	P	20 59 36.5	-1.8
XAN				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.8						
SONM	Songino Array	42.38	13	P	P	21 01 15.8	-0.9
	comp=Z,0.6nm,0.7s,mb3.4,baz=196,slow=9.1,SNR=4.3						
ZAL	Zalesovo	47.45	353	P	P	21 01 57.8	+0.5
	comp=Z,0.7nm,0.5s,mb3.8,baz=321,slow=6.5,SNR=2.9						
WRA	Warramunga Arr	48.46	124	P	P	21 02 05.0	-0.6
	comp=Z,0.9nm,0.6s,mb4.0,baz=306,slow=8.5,SNR=8.1						
WRAB	Tennant Creek	48.47	124	*e*P	P	21 02 05.7	+0.1
	comp=Z,3.6nm,0.5s,mb4.7						
ASAR	Alice Springs	50.01	129	P	P	21 02 17.6	+0.2
	comp=Z,0.4nm,0.5s,mb3.7,baz=303,slow=7.8,SNR=5.4						
ASAR				LR	LR	21 26 22.7	
	comp=Z,87nm,19.3s,MS3.8,baz=187,slow=40						
CHKZ	Chkalovo	50.16	343	*e*P	P	21 02 17.4	-0.8
STKA	Stephens Creek	60.10	133	LR	LR	21 31 56.0	
	comp=Z,95nm,18.1s,MS4.0,baz=201,slow=38						
FINES	FINESS Array B	73.18	332	P	P	21 04 53.8	+0.8
	comp=Z,1.9nm,0.8s,mb4.1,baz=309,slow=12,SNR=2.8						
ARCES	ARCESS Array B	75.91	340	LR	LR	21 42 58.2	
	comp=Z,319nm,18.5s,MS4.7,baz=213,slow=39						
GERES	GERESS Array B	77.96	318	P	P	21 05 20.8	+0.4
	comp=Z,0.7nm,0.8s,mb3.6,baz=121,slow=5.7,SNR=2.0						
RPZ	Rata Peaks	86.00	135	LR	LR	21 43 38.9	
	comp=Z,98nm,20.5s,MS4.2,baz=21,slow=35						

*IDC **26** 20:54:13.1±7.8, 6.40N×95.37E, mb4.1/8, mb1 4.2/9, mb1mx4.1/18, mbtmp4.0/9, ML3.8/1, Error ellipse: s-maj=192.5km s-min=42.7km az=139.0*

ISC 26 20:54:22.7±3.3, 7.2N±0.4×94.9E±0.4, h33km, n13, σ1§32/13, mb4.1/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.90	19	Pn	P	20 57 14.2	+1.2
	0.2nm,0.3s,baz=210,slow=14,SNR=2.8						
DDI	Dehra Dun	27.91	328	*e*	P	21 00 12.4	+0.4
SONM	Songino Array	41.69	12	P	P	21 02 07.3	-2.7
	1.1nm,1.0s,mb3.5,baz=187,slow=8.6,SNR=2.9						
ZAL	Zalesovo	47.33	352	P	P	21 02 55.3	+0.2
	2.7nm,0.8s,mb4.3,baz=290,slow=10,SNR=8.2						
KMBO	Kilima Mbogo	58.06	264	P	P	21 04 16.6	+1.2
	0.8nm,0.6s,mb4.0,baz=84,slow=19,SNR=2.9						
BRTR	Keskin Array B	63.42	311	P	P	21 04 49.2	-2.3
	1.4nm,0.7s,mb4.2,baz=101,slow=6.3,SNR=5.8						
AKASG	Malin Array Be	69.14	322	P	P	21 05 26.7	-1.0
	0.3nm,0.4s,mb3.6,baz=86,slow=5.1,SNR=4.2						
FINES	FINESS Array B	73.66	332	P	P	21 05 55.2	+0.6
	3.4nm,0.8s,mb4.3,baz=127,slow=9.5,SNR=7.2						
KAF	Kangasniemi	73.73	333	*ep*	P	21 05 57.8	+2.8
GERES	GERESS Array B	78.82	318	P	P	21 06 23.9	-0.1
	1.9nm,0.8s,mb4.0,baz=84,slow=12,SNR=5.8						
NB2	NORSAR Subarra	80.69	331	P	P	21 06 33.9	+0.1
	3.7nm,0.9s,mb4.3,baz=92,slow=5.8						
NOA	NORSAR Array B	80.69	331	P	P	21 06 33.4	-0.3
	2.3nm,0.9s,mb4.1,baz=96,slow=5.0,SNR=4.5						
LPG	La Plagne	83.61	315	*e*P	P	21 06 42.9	-6.3
	20nm,1.1s,mb4.9						

*NEIC **26** 20:55:34.7, 17.16N×94.77W, h133km, MD4.1(MEX), After MEX.*

MEX 26 20:55:34.7±1.4, 17.16N×94.77W, h133km±9km, MD4.1, 2C, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.13	238	*i* P	P	20 55 51.5	-1.4
CMIG				*i* S	S	20 56 04.4	-2.3
TUIG	Tuzandepetl	0.93	21	*e*P	P	20 55 55.4	-2.0
TUIG				*i* S	S	20 56 12.3	-2.4
EVV	El Vigia	1.40	337	*i* P	P	20 56 00.0	-2.3
EVV				*i* S	S	20 56 22.0	-1.5
OXX	Oaxaca	1.87	268	*i* P	P	20 56 07.0	-0.6
OXX				*i* S	S	20 56 33.0	+0.2
VHO	Vista Hermosa	1.88	268	⇑*i* P	P	20 56 06.9	-0.8
VHO				*i* S	S	20 56 31.1	-1.9
HUIG	Huatulco	1.89	223	*i* P	P	20 56 04.4	-3.5
HUIG				*i* S	S	20 56 29.7	-3.4
SCX	San Cristobal	2.09	101	*i* P	P	20 56 09.0	-1.3
SCX				*i* S	S	20 56 35.5	-2.0
CCIG	Comitan	2.67	109	⇑*i* P	P	20 56 16.7	-1.2
CCIG				*i* S	S	20 56 48.7	-2.1
LVIG	Laguna Verde	2.99	329	*i* P	P	20 56 18.3	-3.8
LVIG				*i* S	S	20 56 53.2	-5.0
POHV	Veracruz	3.05	309	*i* P	P	20 56 21.5	-1.4
IISM	Ciudad Serdan	3.08	307	*i* P	P	20 56 21.0	-2.2
IISM				*i* S	S	20 56 57.0	-3.2
PPM	Popocatepetl	4.13	298	*i* P	P	20 56 37.0	-0.3
PPM				*e*P		20 56 38.0	
PPM				*i* S	S	20 57 19.9	-5.2
PPM				*i* S	S	20 57 20.0	-5.2
PLIG	Platanillo	4.67	286	*e*P	P	20 56 42.4	-2.1
PLIG				*i* S	S	20 57 36.6	-1.6
ACX	Acapulco	4.93	267	*e*P	P	20 56 43.0	-5.0

*NEIC **26** 21:00:14.6±0.9, 16.83S×69.62W, h173km±8km, mb4.3/3, Error ellipse: s-maj=17.0km s-min=8.6km az=57.0*
*IDC **26** 21:00:15.4±0.7, 16.90S×69.60W, h183km±6km, mb3.9/8, mb1 4.2/9, mb1mx4.0/16, mbtmp4.4/9, Error ellipse: s-maj=22.9km s-min=11.4km az=74.0, Putative timing error at LPAZ*

ISC 26 21:00:13.6±1.0, 16.8S±0.1×69.7W±0.1, h178km±10km, n27, σ0§96/20, mb4.1/10, 1C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.54	71	P	Px	21 00 06.0	
	565nm,0.3s,baz=278,slow=7.3,SNR=8950						
LPAZ				S	Sx	21 00 29.9	
	83nm,0.3s,baz=144,slow=23,SNR=6.7						
ARE	Arequipa	1.79	280	⇑*i* P	P	21 00 49.3	+0.7
ARE				*i* S	S	21 01 15.7	0.0
LVC	Limon Verde	5.84	173	P	P	21 01 39.1	-0.1
	44nm,0.3s,baz=1.8,slow=7.4,SNR=208						
LVC				S	S	21 02 41.7	-4.0
	111nm,0.3s,baz=152,slow=21,SNR=34						
NNA	Nana	8.44	303	Pn	P	21 02 12.3	-1.3
	4um,0.4s,SNR=76						
NNA	Nana	8.44	303	*e*P	P	21 02 11.7	-1.9
	259nm,0.4s						
OTAV	Otavalo	19.01	332	*e*P	P	21 04 25.7	+1.6
	5.9nm,0.6s						
BAO	Brasilia Array	20.83	90	*e*P	P	21 04 43.0	+0.4
BAO				*i*		21 04 45.0	
TRQA	Tornquist	22.24	164	*e*P	P	21 04 57.7	+1.5
	23nm,1.0s,mb4.6						
PLCA	Paso Flores	23.88	182	P	P	21 05 12.1	+0.1
	7.0nm,0.6s,mb4.4,baz=2.1,slow=11,SNR=26						
TXAR	Lajitas Array	56.40	324	P	P	21 09 37.4	-1.4
	1.0nm,0.7s,mb3.8,baz=152,slow=9.3,SNR=7.2						
TXAR				pP	pP	21 10 21.6	+2.0
	0.6nm,0.7s,baz=135,slow=7.1,SNR=2.5						
GDL2	Guadalupe Moun	58.98	326	*e*P	P	21 09 56.8	-0.1
LAZ	Ladron	62.16	325	*e*P	P	21 10 19.3	+1.0
SDCO	Great Sand Dun	63.86	329	*e*P	P	21 10 29.4	0.0
	3.2nm,0.8s,mb4.2						
DBIC	Dimbokro	68.16	76	P	P	21 10 55.5	-1.6
	11nm,0.6s,mb4.8,baz=233,slow=6.2,SNR=32						
PDAR	Pinedale Array	69.70	330	P	P	21 11 05.3	-0.7
	1.2nm,0.4s,mb4.0,baz=129,slow=9.0,SNR=22						
NVAR	Mina Array Bea	71.38	322	P	P	21 11 16.9	+0.7
	1.2nm,0.7s,mb3.7,baz=139,slow=7.8,SNR=8.4						
YBH	Yreka Blue Hor	76.08	322	P	P	21 11 43.4	+0.1
	0.9nm,0.4s,mb3.7,baz=85,slow=3.9,SNR=3.2						
YKA	Yellowknife Ar	86.53	341	P	P	21 12 37.4	+0.2
	1.2nm,0.5s,mb4.0,baz=133,slow=5.0,SNR=40						
YKA				pP	pP	21 13 23.9	+2.4
	3.0nm,1.0s,baz=135,slow=5.0,SNR=4.0						
INK	Inuvik	96.29	340	P	P	21 13 21.9	-0.5
	0.5nm,0.7s,mb3.9,baz=113,slow=9.0,SNR=3.1						
BVAR	Borovoye Array	132.24	32	SKPbc		21 22 20.5	
	0.7nm,0.6s,baz=243,slow=3.3,SNR=4.4						
ASAR	Alice Springs	133.68	210	PKP	PKPdf	21 19 10.6	+0.7
	0.8nm,0.6s,baz=135,slow=2.6,SNR=3.2						
ASAR				SKPbc		21 22 23.4	
	1.7nm,1.0s,baz=170,slow=3.8,SNR=6.2						
WRA	Warramunga Arr	136.55	214	PKP	PKPdf	21 19 17.0	+1.8
	0.8nm,0.4s,baz=144,slow=1.7,SNR=5.6						
WRA				SKPbc		21 22 32.6	
	1.0nm,0.8s,baz=150,slow=1.9,SNR=4.9						
MAT	Matsushiro	148.45	314	*e*PKP	PKPdf	21 19 43.0	+7.4
MAT	Matsushiro	148.45	314	PKP	PKPdf	21 19 43.1	+7.5
SONM	Songino Array	148.87	5	PKPbc	PKPdf	21 19 42.8	+7.0
	3.9nm,0.7s,baz=312,slow=1.7,SNR=21						
SONM				pPKPbc		21 20 30.2	
	1.1nm,0.6s,baz=320,slow=1.6,SNR=2.7						
ULN	Ulaanbaatar	148.89	4	*e*PKPbc	PKPdf	21 19 43.0	+7.1
CMAR	Chiang Mai Arr	169.00	80	PKPab	PKPab	21 21 14.2	+0.2
	0.8nm,0.9s,baz=256,slow=6.5,SNR=4.7						

*IDC **26** 21:02:12.8±1.1, 7.66N×93.90E, mb3.9/7, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, ML3.7/1, Error ellipse: s-maj=50.5km s-min=20.4km az=49.0*

ISC 26 21:02:16.4±0.9, 7.8N±0.1×94.1E±0.2, h33km, n15, σ0§60/15, mb4.2/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.59	23	Pn	P	21 05 01.9	-0.7
	0.1nm,0.3s,baz=212,slow=13,SNR=9.0						
JIRN	Jiri	21.15	340	*e*P	P	21 07 01.1	+0.1
	11nm,0.7s,mb4.3						
PKI	Pulchoki	21.35	338	*e*P	P	21 07 03.7	+0.7
	8.2nm,0.5s,mb4.3						
DMN	Daman	21.49	338	*e*P	P	21 07 04.9	+0.4
	25nm,0.9s,mb4.5						
KKN	Kakani	21.59	338	*e*P	P	21 07 06.0	+0.6
	21nm,1.0s,mb4.5						
GKN	Gorkha	22.03	337	*e*P	P	21 07 09.1	-0.7
	23nm,0.8s,mb4.6						
KOLN	Koldanda	22.24	335	*e*P	P	21 07 12.1	+0.2
	21nm,0.8s,mb4.6						
ZAL	Zalesovo	46.64	352	P	P	21 10 44.0	+0.6

comp=Z,0.1nm,0.3s,baz=180,slow=13,SNR=4.2
BRVK Borovoye 15.40 1 *e*P **P 21 07 22.2 -2.4**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
BRVK Borovoye 15.40 1 *e*P **P 21 07 22.2 -2.4**
comp=Z,3.9nm,0.6s
CHKZ Chkalovo 16.03 2 ⇑P **P 21 07 32.6 0.0**
comp=Z,2.3nm,0.7s
CHKZ Chkalovo 16.03 2 *e*P **P 21 07 32.6 0.0**
CHKZ pmax pmax
comp=Z,4.0nm,0.8s
CHKZ Chkalovo 16.03 2 *e*P **P 21 07 32.6 +0.1**
comp=Z,4.3nm,0.8s
ZAL Zalesovo 19.30 28 P **P 21 08 09.6 -2.6**
comp=Z,0.8nm,0.3s,baz=241,slow=7.9,SNR=7.6
LSA Lhasa 19.48 108 P **P 21 08 20.3 +6.1**
LSA Lhasa 19.48 108 P **P 21 08 14.0 -0.2**
NVS Novosibirsk 19.50 24 *e*P **P 21 08 11.9 -2.3**
NVS pmax pmax
comp=N,8.0nm,0.6s
NVS pmax pmax
comp=E,6.0nm,0.6s
NVS pmax pmax
comp=Z,8.0nm,0.6s
GNI Garni 19.59 285 P **P 21 08 13.7 -1.6**
comp=Z,0.1nm,0.3s,baz=236,slow=3.6,SNR=2.2
TI2 Plekhanov 19.63 290 *e*P **P 21 08 21.0 +5.3**
ARU Arti 20.21 342 *e*P **P 21 08 16.5 -5.3**
ARU *e* 21 08 34.6
ARU *e*S **S 21 11 55.4 -4.3**
ARU *e*SS **S 21 12 11.3 +12**
KIV Kislovodsk 21.36 296 P **P 21 08 34.3 +0.8**
KIV pmax pmax
comp=Z,8.0nm,0.6s,mb4.2
KIV Kislovodsk 21.36 296 P **P 21 08 34.2 +0.7**
comp=Z,7.9nm,0.6s,mb4.2
HYB Hyderabad 21.61 157 *e*P **P 21 08 36.0 -0.1**
HYB Hyderabad 21.61 157 *i*P **P 21 08 36.0 -0.1**
ZAK Zakamensk 27.02 51 *e*P **P 21 09 31.7 +4.1**
BRTR Keskin Array B 28.13 286 P **P 21 09 37.4 -0.5**
comp=Z,0.9nm,0.8s,mb3.3,baz=80,slow=8.8,SNR=4.2
SONM Songino Array 28.54 57 P **P 21 09 41.7 +0.4**
comp=Z,0.8nm,1.1s,mb3.2,baz=259,slow=7.3,SNR=3.4
CMAR Chiang Mai Arr 31.90 119 P **P 21 10 10.3 -1.0**
comp=Z,0.8nm,0.8s,mb3.5,baz=307,slow=8.2,SNR=5.3
FINES FINESS Array B 35.96 326 P **P 21 10 47.4 +1.7**
comp=Z,0.5nm,0.5s,mb3.7,baz=135,slow=8.1,SNR=4.4
ARCES ARCESS Array B 39.69 337 P **P 21 11 17.1 +0.3**
comp=Z,3.9nm,1.0s,mb4.2,baz=63,slow=8.1,SNR=2.8
NB2 NORSAR Subarra 42.85 322 P **P 21 11 43.8 +1.1**
comp=Z,3.0nm,1.0s,mb4.0,baz=96,slow=7.9
NOA NORSAR Array B 42.85 322 P **P 21 11 43.2 +0.4**
comp=Z,0.2nm,0.4s,mb3.2,baz=107,slow=7.6,SNR=3.0
INK Inuvik 72.92 9 P **P 21 15 14.5 +1.4**
comp=Z,1.9nm,1.1s,mb3.9,baz=294,slow=10,SNR=3.2
ILAR Eielson Array 73.94 15 P **P 21 15 19.8 +0.6**
comp=Z,1.4nm,1.1s,mb3.6,baz=326,slow=4.8,SNR=6.3
YKA Yellowknife Ar 80.13 2 P **P 21 15 55.5 +1.8**
comp=Z,1.9nm,0.7s,mb4.0,baz=350,slow=5.5,SNR=30

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*BJI **26** 21:07:32.9, 4.99N×94.35E, h53km, mB5.1, mb5.1, Ms4.1, Msz3.8*
*MOS **26** 21:07:33.6±0.9, 5.41N×94.42E, h33km, mb5.0/29, Error ellipse: s-maj=11.7km s-min=6.5km az=105.0*
*NEIC **26** 21:07:34.9±0.3, 5.41N×94.42E, h30km, mb4.8/27, Error ellipse: s-maj=8.8km s-min=6.0km az=221.0*
*IDC **26** 21:07:36.0±2.6, 5.45N×94.39E, h39km±21km, mb4.5/20, mb1 4.5/21, mb1mx4.4/25, mbtmp4.6/21, ML5.2/1, MS3.9/4, Ms1 3.9/4, ms1mx3.5/22, Error ellipse: s-maj=23.8km s-min=13.0km az=37.0, Putative timing error at LPAZ*
ISC 26 21:07:35.5±0.3, 5.43N±0.05×94.44E±0.05, h49km, h49km±2.1km: pP-P, n145, σ0.89/140, mb4.8/60, MS3.9/6, 16C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.38**	**74**	P	**P**	**21 09 09.0**	**-0.2**
	560nm,1.0s						
NNT	**Nongplab**	**8.83**	**36**	P	**P**	**21 09 44.5**	**+1.4**
KKTK	**Khon Kaen**	**13.61**	**37**	P	**P**	**21 10 58.0**	**+10**
	741nm,0.5s						
CM31	**Chiang Mai Arr**	**13.68**	**18**	*e*P	**P**	**21 10 51.8**	**+3.1**
	34nm,0.6s						
CMAR	**Chiang Mai Arr**	**13.68**	**18**	Pn	**P**	**21 10 47.8**	**-0.9**
	3.8nm,0.3s,baz=209,slow=14,SNR=160						
CMAR				LR	LR	21 15 52.9	
	comp=Z,181nm,20.2s,baz=200,slow=36						
CMAR				ScP		21 19 41.9	
	0.1nm,0.3s,baz=245,slow=2.4,SNR=5.0						
CHG	**Chiang Mai**	**14.01**	**18**	⇓P	**P**	**21 10 57.6**	**+4.5**
	23nm,0.8s						
NANT	**Nan**	**14.62**	**24**	P	**P**	**21 11 09.0**	**+7.9**
CHRT	**Chiangrai**	**15.27**	**19**	⇑P	**P**	**21 11 15.0**	**+5.5**
	553nm,0.9s						
HYB	**Hyderabad**	**19.58**	**309**	*i*P	**P**	**21 12 03.0**	**+0.7**
HYB				*e*		21 15 27.0	
HYB				*e*S	**S**	**21 15 39.0**	**+3.8**
SHL	**Shillong**	**20.17**	**353**	EP		21 12 05.5	
QIZ	**Qiongzhong**	**20.20**	**47**	P	**P**	**21 12 10.5**	**+1.6**
QIZ				S	**S**	**21 15 59.0**	**+11**
QIZ				AMB	AMB		
	comp=Z,24nm,1.0s						
QIZ				LR	LR		
	comp=N,326nm,18.9s,MS4.0						
QIZ				LR	LR		
	comp=E,420nm,16.0s,MS4.0						
QIZ				LR	LR		
	comp=Z,417nm,20.2s,MS3.8						
KMI	**Kunming**	**21.14**	**21**	P	**P**	**21 12 20.3**	**+1.8**
KMI				*SP		21 12 31.2	
KMI				pmax	pmax		
	comp=Z,34nm,1.0s,mb4.6						
KMI	**Kunming**	**21.14**	**21**	P	**P**	**21 12 20.3**	**+1.8**
	comp=Z,34nm,1.0s,mb4.6						
KMI				sP		21 12 31.2	
JIRN	**Jiri**	**23.46**	**341**	*e*P	**P**	**21 12 40.7**	**-0.7**
	comp=Z,90nm,0.7s,mb5.3						
PKI	**Pulchoki**	**23.64**	**340**	*e*P	**P**	**21 12 42.4**	**-0.7**
	comp=Z,43nm,0.6s,mb5.0						
DMN	**Daman**	**23.78**	**339**	*e*P	**P**	**21 12 44.3**	**-0.2**
	comp=Z,47nm,0.7s,mb5.0						
KKN	**Kakani**	**23.88**	**340**	*e*P	**P**	**21 12 45.1**	**-0.4**
	comp=Z,45nm,0.8s,mb5.0						
GKN	**Gorkha**	**24.31**	**339**	*e*P	**P**	**21 12 49.7**	**+0.1**
	comp=Z,68nm,0.5s,mb5.3						
LSA	**Lhasa**	**24.34**	**353**	P	**P**	**21 12 51.8**	**+1.8**
LSA				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.0						
LSA	**Lhasa**	**24.34**	**353**	*e*P	**P**	**21 12 50.4**	**+0.4**
LSA				pmax	pmax		
	comp=Z,25nm,0.5s,mb4.9						
LSA	**Lhasa**	**24.34**	**353**	*e*P	**P**	**21 12 50.4**	**+0.4**
	comp=Z,25nm,0.5s,mb4.9						
KOLN	**Koldanda**	**24.49**	**336**	*e*P	**P**	**21 12 51.9**	**+0.4**
	comp=Z,89nm,1.0s,mb5.2						
TGY	**Tagaytay City**	**27.47**	**70**	P	**P**	**21 13 20.2**	**+0.8**
TGY				pmax	pmax		
	comp=Z,174nm,1.1s						
TGY	**Tagaytay City**	**27.47**	**70**	P	**P**	**21 13 20.2**	**+0.8**
	comp=Z,174nm,1.1s,mb5.5,baz=123,slow=12,SNR=3.5						
ENH	**Enshi**	**28.49**	**28**	*e*P	**P**	**21 13 26.9**	**-1.4**
	comp=Z,21nm,0.6s,mb5.0						
WHN	**Wuhan**	**31.23**	**35**	P	**P**	**21 13 53.3**	**+0.6**
XAN	**Xi'an**	**31.48**	**23**	P	**P**	**21 13 53.8**	**-1.1**
XAN				AMB	AMB		
	comp=Z,54nm,0.7s,mb5.5						
LZH	**Lanzhou**	**31.71**	**15**	*e*P	**P**	**21 13 56.5**	**-0.4**
LZH				AP	pP	21 14 16.0	+6.2
LZH				XP	sP	21 14 21.3	+5.3
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,130nm,5.2s						
LZH	**Lanzhou**	**31.71**	**15**	*e*P	**P**	**21 13 56.4**	**-0.5**
LZH				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.9						
LZH	**Lanzhou**	**31.71**	**15**	*e*P	**P**	**21 13 56.4**	**-0.5**
	comp=Z,20nm,1.0s,mb4.9						
LZH				pP	pP	21 14 16.0	+6.2
LZH				sP	sP	21 14 21.2	+5.2
NJ2	**Nanjing**	**34.97**	**38**	*e*P	**P**	**21 14 25.5**	**+0.4**
NJ2				PP	PP	21 15 47.0	+2.7
NJ2				S	**S**	**21 20 02.0**	**+10**
NJ2				XS		21 20 18.0	
NJ2				AMB	AMB		
	comp=Z,80nm,0.8s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,406nm,4.0s						
NJ2				LR	LR		
	comp=N,340nm,18.0s						
NJ2				LR	LR		
	comp=E,690nm,12.0s						
SSE	**Sheshan**	**35.81**	**41**	P	**P**	**21 14 29.8**	**-2.4**
SSE				S	**S**	**21 20 14.0**	**+8.6**
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,113nm,6.7s						
SSE				LR	LR		
	comp=N,71nm,21.3s,MS3.7						
SSE				LR	LR		
	comp=E,117nm,21.3s,MS3.7						
SSE				LR	LR		
	comp=Z,151nm,20.4s,MS3.8						
SSE	**Sheshan**	**35.81**	**41**	P	**P**	**21 14 29.8**	**-2.4**
	comp=Z,29nm,0.7s,mb5.3						
SSE				sP	sP	21 14 42.6	-8.9
SSE				S	**S**	**21 20 14.1**	**+8.7**
SSE				sS		21 20 29.1	
SSE				LR	LR		
	comp=Z,150nm,20.4s,MS3.8						
JOW	**Kunigami**	**38.63**	**53**	P	**P**	**21 14 56.9**	**+1.0**
	comp=Z,19nm,0.4s,mb5.1,baz=230,slow=8.3,SNR=7.6						
JOW				LR	LR	21 31 04.3	
	comp=Z,184nm,20.3s,MS3.9,baz=234,slow=36						
FITZ	**Fitzroy Crossi**	**38.65**	**128**	⇑*i*P	**P**	**21 14 55.5**	**-0.6**
	comp=Z,17nm,0.7s,mb4.9						
WMQ	**Urumqi**	**38.69**	**352**	*e*P	**P**	**21 14 56.5**	**+0.3**
BJT	**Baijiatuau**	**39.61**	**26**	*e*P	**P**	**21 15 05.5**	**+1.7**
BJT				pmax	pmax		
	comp=Z,17nm,0.6s						
BJT	**Baijiatuau**	**39.61**	**26**	*e*P	**P**	**21 15 05.5**	**+1.7**
	comp=Z,17nm,0.6s,mb5.0						
BJI	**Beijing**	**39.63**	**26**	P	**P**	**21 15 05.8**	**+1.8**
BJI				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.0						
BJI				MLR	MLR		
	comp=Z,170nm,22.9s,MS3.8						
BJI	**Beijing**	**39.63**	**26**	P	**P**	**21 15 05.8**	**+1.8**
	comp=Z,29nm,0.9s,mb5.0						
BJI				LR	LR		
	comp=Z,170nm,22.9s,MS3.8						
AAK	**Ala-Archa**	**41.06**	**337**	*e*P	**P**	**21 15 16.1**	**+0.3**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**41.06**	**337**	*e*P	**P**	**21 15 16.1**	**+0.3**
	comp=Z,6.8nm,0.8s,mb4.3						
KAKA	**Kakadu**	**41.84**	**116**	*e*P	**P**	**21 15 22.2**	**-0.4**
	comp=Z,9.5nm,0.6s,mb4.6						
SONM	**Songino Array**	**43.48**	**12**	P	**P**	**21 15 35.1**	**-0.4**
	comp=Z,11nm,0.9s,mb4.6,baz=195,slow=9.2,SNR=70						
SONM				PcP	PcP	21 17 23.4	-0.1
	comp=Z,4.2nm,0.7s,baz=197,slow=3.6,SNR=14						
SONM				ScP		21 21 11.5	
	comp=Z,1.7nm,0.8s,baz=206,slow=2.5,SNR=9.1						
ULN	**Ulaanbaatar**	**43.64**	**12**	*e*P	**P**	**21 15 35.9**	**-1.0**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
ULN	**Ulaanbaatar**	**43.64**	**12**	*e*P	**P**	**21 15 35.9**	**-1.0**
	comp=Z,3.1nm,0.6s,mb4.2						
SNY	**Shenyang**	**44.57**	**31**	⇑P	**P**	**21 15 44.5**	**0.0**
SNY				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
ZAK	**Zakamensk**	**45.41**	**8**	*e*P	**P**	**21 15 49.9**	**-1.2**
WRA	**Warramunga Arr**	**46.63**	**124**	P	**P**	**21 16 01.0**	**-0.1**
WRA				pmax	pmax		
	comp=Z,18nm,0.7s						
WRA	**Warramunga Arr**	**46.63**	**124**	P	**P**	**21 16 01.0**	**-0.1**
	comp=Z,18nm,0.7s,mb5.1,baz=302,slow=9.4,SNR=101						
WRAB	**Tennant Creek**	**46.64**	**124**	*c i*P	**P**	**21 16 01.4**	**+0.2**
WRAB	**Tennant Creek**	**46.64**	**124**	*e*P	**P**	**21 16 01.2**	**+0.1**
	comp=Z,19nm,0.6s,mb5.2						
WB2	**Warramunga Arr**	**46.64**	**124**	⇑*i*P	**P**	**21 16 01.3**	**+0.1**
TLY	**Talaya**	**46.73**	**8**	*e*P	**P**	**21 16 01.6**	**+0.1**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TLY	**Talaya**	**46.73**	**8**	*e*P	**P**	**21 16 01.6**	**+0.1**
	comp=Z,4.1nm,0.9s,mb4.4						
KURK	**Kurchatov**	**47.04**	**346**	*c i*P	**P**	**21 16 04.3**	**+0.4**
ASPA	**Alice Springs**	**48.15**	**129**	⇑*i*P	**P**	**21 16 12.9**	**-0.1**
ASAR	**Alice Springs**	**48.15**	**129**	P	**P**	**21 16 13.0**	**0.0**
	comp=Z,7.7nm,0.5s,mb5.0,baz=301,slow=7.8,SNR=106						
HIA	**Hailar**	**48.65**	**22**	*e*P	**P**	**21 16 15.9**	**-0.6**
HIA				pmax	pmax		
	comp=Z,11nm,1.0s						
HIA	**Hailar**	**48.65**	**22**	*e*P	**P**	**21 16 15.9**	**-0.6**
	comp=Z,11nm,1.0s,mb4.8						
ZAL	**Zalesovo**	**48.99**	**352**	P	**P**	**21 16 19.1**	**0.0**
ZAL				pmax	pmax		
	comp=Z,22nm,0.8s						
ZAL	**Zalesovo**	**48.99**	**352**	P	**P**	**21 16 19.1**	**0.0**
	comp=Z,22nm,0.8s,mb5.2,baz=300,slow=5.9,SNR=63						
NVS	**Novosibirsk**	**50.09**	**352**	*e*P	**P**	**21 16 25.8**	**-1.7**
NVS				*e*S	**S**	**21 23 32.5**	**-1.3**
NVS				pmax	pmax		
	comp=N,32nm,0.8s						
NVS				pmax	pmax		
	comp=E,26nm,0.8s						
NVS				pmax	pmax		
	comp=Z,42nm,0.8s,mb5.5						
NVS				smax			
	comp=N,27nm,1.8s						
NVS				smax			
	comp=E,38nm,1.8s						
BVAR	**Borovoye Array**	**51.38**	**342**	P	**P**	**21 16 36.8**	**-0.6**
	comp=E,8.9nm,0.5s,mb5.0,baz=141,slow=9.5,SNR=69						
BRVK	**Borovoye**	**51.45**	**342**	*e*P	**P**	**21 16 37.0**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
BRVK	**Borovoye**	**51.45**	**342**	*e*P	**P**	**21 16 37.0**	**-0.8**
	comp=Z,15nm,0.8s,mb5.0						
CHKZ	**Chkalovo**	**51.87**	**342**	*e*P	**P**	**21 16 40.6**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,45nm,0.7s,mb5.5						
CHKZ	**Chkalovo**	**51.87**	**342**	*e*P	**P**	**21 16 40.6**	**-0.4**
	comp=Z,45nm,0.7s,mb5.5						
BOD	**Bodaibo**	**54.45**	**13**	⇑*i*P	**P**	**21 16 59.2**	**-0.8**
GNI	**Garni**	**56.36**	**315**	P	**P**	**21 17 14.3**	**+0.2**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GNI	**Garni**	**56.36**	**315**	P	**P**	**21 17 14.3**	**+0.2**
	comp=Z,1.1nm,0.5s,mb4.2,baz=192,slow=19,SNR=3.4						
CTA	**Charters Tower**	**56.88**	**118**	LR	LR	21 43 03.7	
	comp=Z,98nm,18.5s,MS3.9,baz=48,slow=37						
KMBO	**Kilima Mbogo**	**57.48**	**265**	LR	LR	21 37 24.2	
	comp=Z,180nm,20.3s,MS4.2,baz=95,slow=31						
STKA	**Stephens Creek**	**58.23**	**133**	*e*P	**P**	**21 17 27.0**	**-0.4**
	comp=Z,5.0nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**58.23**	**133**	P	**P**	**21 17 26.8**	**-0.6**
	comp=Z,4.5nm,0.7s,mb4.6,baz=324,slow=7.9,SNR=6.5						
ARU	**Arti**	**58.24**	**337**	⇑*i*P	**P**	**21 17 35.0**	**+7.9**
ARU				*e*		21 19 44.9	
ARU				*e*PPP	PPP	21 21 07.7	+6.2
ARU				*e*S		21 25 52.0	
ARU				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
EIL	**Elat**	**60.91**	**301**	P	**P**	**21 17 45.9**	**0.0**
	comp=Z,2.7nm,0.7s,mb4.5,baz=109,slow=6.9,SNR=4.5						
SOC	**Sochi**	**61.16**	**317**	*e*P	**P**	**21 17 41.1**	**-6.2**
SOC				*e*		21 18 22.6	
SOC				*e*		21 19 59.4	
SOC				*e*PPP	PPP	21 21 26.3	-6.6
SOC				*e*S	**S**	**21 25 59.3**	**-2.1**
SOC				*e*SS	SS	21 30 06.0	+2.7
SOC				pmax	pmax		
	comp=N,23nm,0.9s						
SOC				pmax	pmax		
	comp=E,21nm,0.9s						
SOC				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.4						
YAK	**Yakutsk**	**62.21**	**18**	*e*P	**P**	**21 17 52.5**	**-1.6**
YAK				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.3						
YAK	**Yakutsk**	**62.21**	**18**	*e*P	**P**	**21 17 52.5**	**-1.7**
	comp=Z,25nm,0.9s,mb5.3						
BRTR	**Keskin Array B**	**64.25**	**312**	P	**P**	**21 18 06.9**	**-1.0**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	**64.25**	**312**	P	**P**	**21 18 06.8**	**-1.1**
	comp=Z,2.0nm,0.7s,mb4.3,baz=130,slow=7.1,SNR=11						
OBN	**Obninsk**	**67.60**	**328**	*i*P	**P**	**21 18 25.4**	**-3.6**
OBN				*e*	pP	21 18 39.6	-3.4
OBN				*e*		21 18 53.3	
OBN				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
TIXI	**Tiksi**	**69.56**	**11**	*e*P	**P**	**21 18 39.5**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.2						
IDI	**Anoyia**	**70.21**	**305**	P	**P**	**21 18 45.3**	**-0.1**
	comp=Z,22nm,1.1s,mb5.0,baz=353,slow=5.0,SNR=4.1						
AKASG	**Malin Array Be**	**70.25**	**322**	P	**P**	**21 18 43.7**	**-1.7**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKASG	**Malin Array Be**	**70.25**	**322**	P	**P**	**21 18 43.7**	**-1.7**
	comp=Z,3.0nm,0.5s,mb4.5,baz=84,slow=5.2,SNR=16						
JOF	**Joensuu**	**73.17**	**335**	*e*p	**P**	**21 19 03.5**	**+0.9**
KOLS	**Kolonicke sedl**	**74.23**	**319**	*i*P	**P**	**21 19 09.7**	**+0.7**
CRVS	**Cervenica-Dubn**	**74.75**	**319**	*i*P	**P**	**21 19 13.4**	**+1.3**
FINES	**FINESS Array B**	**75.00**	**332**	P	**P**	**21 19 12.4**	**-0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**75.00**	**332**	P	**P**	**21 19 12.4**	**-0.8**
	comp=Z,1.7nm,0.4s,mb4.3,baz=90,slow=6.5,SNR=13						
KAF	**Kangasniemi**	**75.09**	**333**	*e*p	**P**	**21 19 13.1**	**-0.6**
KECS	**Kecovo**	**75.33**	**319**	*i*P	**P**	**21 19 16.1**	**+0.7**
OJC	**Ojcow**	**76.03**	**320**	*e*P	**P**	**21 19 19.4**	**+0.1**
VYHS	**Vyhne**	**76.42**	**318**	*i*P	**P**	**21 19 21.9**	**+0.3**
OKC	**Ostrava-Krasne**	**77.03**	**320**	*e*P	**P**	**21 19 25.5**	**+0.5**
OKC				*e*x	x	21 19 39.7	
ZST	**Bratislava**	**77.53**	**318**	*i*P	**P**	**21 19 28.5**	**+0.7**
ARCES	**ARCESS Array B**	**77.65**	**340**	P	**P**	**21 19 27.7**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	**ARCESS Array B**	**77.65**	**340**	P	**P**	**21 19 27.6**	**-0.4**
	comp=Z,2.1nm,0.5s,mb4.3,baz=90,slow=6.1,SNR=16						
BILL	**Bilibino**	**78.24**	**21**	*e*P	**P**	**21 19 31.2**	**-0.1**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
BILL	**Bilibino**	**78.24**	**21**	*e*P	**P**	**21 19 31.1**	**-0.1**
	comp=Z,6.4nm,0.8s,mb4.6						
DPC	**Dobruska-Polom**	**78.26**	**320**	*e*P	**P**	**21 19 32.8**	**+1.1**
DPC				*e*x	x	21 19 47.0	
FX1	**Attu Island--F**	**78.89**	**37**	P	**P**	**21 19 34.5**	**-0.6**
FX1				pmax	pmax		
	comp=Z,12nm,0.5s						
FX1	**Attu Island--F**	**78.89**	**37**	P	**P**	**21 19 34.5**	**-0.6**
	comp=Z,12nm,0.5s,mb5.1,baz=121,slow=5.9,SNR=4.2						
PRU	**Pruhonice**	**79.37**	**320**	*e*P	**P**	**21 19 38.5**	**+0.7**
PRU				*e*	pP	21 19 52.5	+0.4
PVCC	**Panska Ves**	**79.39**	**320**	*e*P	**P**	**21 19 38.7**	**+0.8**
BRG	**Berggiesshubel**	**79.81**	**321**	*i*P	**P**	**21 19 40.8**	**+0.6**
BRG				*e*	pP	21 19 55.0	+0.5
BRG				pmax	pmax		
	comp=Z,14nm,1.6s,mb4.6						
BRG	**Berggiesshubel**	**79.81**	**321**	*i*P	**P**	**21 19 40.8**	**+0.6**
	comp=Z,14nm,1.6s,mb4.6						
BRG				*e*	pP	21 19 55.0	+0.5
GERES	**GERESS Array B**	**79.84**	**319**	P	**P**	**21 19 41.0**	**+0.6**
GERES				pmax	pmax		
	comp=Z,6.0nm,0.6s						
GERES	**GERESS Array B**	**79.84**	**319**	P	**P**	**21 19 41.0**	**+0.6**
	comp=Z,5.8nm,0.6s,mb4.7,baz=90,slow=4.0,SNR=22						
KHC	**Kasperske Hory**	**79.94**	**319**	*e*P	**P**	**21 19 40.7**	**-0.2**
KHC				*e*x	x	21 19 56.0	
CLL	**Collm**	**80.43**	**321**	P	**P**	**21 19 44.0**	**+0.5**
CLL				*e*	pP	21 20 00.0	+2.2
WTTA	**Wattenberg**	**81.15**	**317**	⇑*i*P	**P**	**21 19 47.1**	**-0.3**
	comp=Z,13nm,0.7s,mb5.0						
WTTA	**Wattenberg**	**81.15**	**317**	⇑*i*P	**P**	**21 19 47.1**	**-0.3**
WTTA				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
WATA	**Walderalm**	**81.20**	**317**	⇓*i*P	**P**	**21 19 47.2**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.1						
WATA	**Walderalm**	**81.20**	**317**	⇓*i*P	**P**	**21 19 47.2**	**-0.4**
WATA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
SQTA	**Sankt Quirin**	**81.44**	**317**	⇑*i*P	**P**	**21 19 48.9**	**0.0**
	comp=Z,3.3nm,0.7s,mb4.4						
SQTA	**Sankt Quirin**	**81.44**	**317**	⇑*i*P	**P**	**21 19 48.9**	**0.0**
SQTA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
GRA1	**Grafenberg Arr**	**81.50**	**319**	*e*PKP	**P**	**21 19 49.8**	**+0.7**
GRA1				*e*	pP	21 20 03.4	-0.1
GRF	**Grafenberg Arr**	**81.50**	**319**	*e*P	**P**	**21 19 49.8**	**+0.7**
GRF				*e*	pP	21 20 03.4	-0.1
MOTA	**Moosalm**	**81.52**	**317**	⇑*i*P	**P**	**21 19 49.1**	**-0.2**
	comp=Z,1.4nm,0.8s,mb3.9						
MOTA	**Moosalm**	**81.52**	**317**	⇑*i*P	**P**	**21 19 49.1**	**-0.2**
MOTA				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
NB2	**NORSAR Subarra**	**81.99**	**331**	P	**P**	**21 19 50.8**	**-0.7**
	comp=Z,0.8nm,0.7s,mb3.8,baz=96,slow=5.3						
NB2	**NORSAR Subarra**	**81.99**	**331**	P	**P**	**21 19 50.8**	**-0.7**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**81.99**	**331**	P	**P**	**21 19 51.1**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**81.99**	**331**	P	**P**	**21 19 51.1**	**-0.4**
	comp=Z,0.9nm,0.7s,mb3.8,baz=94,slow=5.6,SNR=4.0						
DAVA	**Damuels**	**82.35**	**317**	⇑*i*P	**P**	**21 19 54.2**	**+0.6**
	comp=Z,6.6nm,0.8s,mb4.6						
LPG	**La Plagne**	**84.55**	**315**	*e*P	**P**	**21 20 05.7**	**+0.9**
	comp=Z,16nm,0.9s,mb4.9						
LPG	**La Plagne**	**84.55**	**315**	*e*P	**P**	**21 20 05.7**	**+0.9**
LPG				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ESDC	**Sonseca Array**	**93.01**	**310**	P	**P**	**21 20 45.6**	**+0.4**
	comp=Z,0.5nm,0.5s,mb4.2,baz=67,slow=4.3,SNR=5.3						
IMA	**Indian Mountai**	**93.76**	**22**	*e*P	**P**	**21 20

0.3nm,0.4s,baz=214,slow=5.2,SNR=4.4
SONM Songino Array 86.48 40 P P 21 26 37.7 -1.2
0.4nm,0.7s,baz=233,slow=4.7,SNR=4.5
ASAR Alice Springs 93.18 115 P P 21 27 09.4 -1.6
1.3nm,0.8s,baz=262,slow=4.8,SNR=13
WRA Warramunga Arr 94.49 111 P P 21 27 15.2 -1.9
0.7nm,0.7s,baz=254,slow=2.9,SNR=5.8

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*IDC **26** 21:25:31.4±1.0, 7.73N×93.95E, mb3.9/9, mb1 4.1/10, mb1mx3.9/20, mbtmp3.9/10, ML3.7/1, Error ellipse: s-maj=43.3km s-min=19.9km az=57.0*
*NEIC **26** 21:25:36.2±0.5, 7.83N×94.07E, h30km, mb4.3/4, Error ellipse: s-maj=15.2km s-min=9.7km az=79.0*
ISC 26 21:25:34.5±0.6, 7.88N±0.08×94.1E±0.1, h30km, n27, σ0§86/25, mb4.2/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.51**	**24**	*eP*	**P**	**21 28 20.3**	**+0.2**
	2.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**11.51**	**24**	Pn	**P**	**21 28 20.5**	**+0.4**
	0.2nm,0.3s,baz=212,slow=14,SNR=18						
HYB	**Hyderabad**	**17.90**	**303**	*i* P	**P**	**21 29 39.0**	**-4.1**
JIRN	**Jiri**	**21.06**	**340**	*eP*	**P**	**21 30 20.9**	**+2.2**
	39nm,1.1s,mb4.6						
PKI	**Pulchoki**	**21.26**	**338**	*eP*	**P**	**21 30 20.5**	**-0.1**
	52nm,1.2s,mb4.8						
DMN	**Daman**	**21.41**	**338**	*eP*	**P**	**21 30 21.3**	**-0.8**
	22nm,0.8s,mb4.5						
KKN	**Kakani**	**21.50**	**338**	*eP*	**P**	**21 30 22.9**	**-0.2**
	42nm,1.3s,mb4.7						
LSA	**Lhasa**	**21.89**	**353**	*eP*	**P**	**21 30 27.0**	**0.0**
	5.1nm,0.6s,mb4.1						
GKN	**Gorkha**	**21.94**	**337**	*eP*	**P**	**21 30 27.4**	**-0.1**
	20nm,0.7s,mb4.6						
KOLN	**Koldanda**	**22.15**	**335**	*eP*	**P**	**21 30 28.0**	**-1.6**
	95nm,1.5s,mb5.0						
SONM	**Songino Array**	**41.16**	**13**	P	**P**	**21 33 18.7**	**+0.9**
	0.5nm,0.8s,mb3.2,baz=194,slow=5.9,SNR=4.3						
SONM				PcP	PcP	21 35 17.6	+0.2
	0.2nm,0.4s,baz=197,slow=4.5,SNR=5.7						
KURK	**Kurchatov**	**44.61**	**346**	*eP*	**P**	**21 33 43.8**	**-2.1**
	2.2nm,0.8s,mb4.0						
ZAL	**Zalesovo**	**46.54**	**352**	P	**P**	**21 34 01.4**	**+0.3**
	1.7nm,0.3s,mb4.4,baz=307,slow=4.3,SNR=6.7						
ZAL	**Zalesovo**	**46.54**	**352**	P	**P**	**21 34 01.4**	**+0.3**
WRA	**Warramunga Arr**	**48.27**	**126**	P	**P**	**21 34 15.0**	**-0.2**
	0.8nm,0.5s,mb4.0,baz=304,slow=8.5,SNR=6.4						
WRAB	**Tennant Creek**	**48.28**	**126**	P	**P**	**21 34 14.5**	**-0.7**
	2.7nm,0.7s,mb4.4						
BVAR	**Borovoye Array**	**48.98**	**341**	P	**P**	**21 34 20.4**	**+0.2**
	0.4nm,0.7s,mb3.6,baz=63,slow=9.9,SNR=3.8						
CHKZ	**Chkalovo**	**49.47**	**342**	*eP*	**P**	**21 34 23.8**	**-0.2**
ASAR	**Alice Springs**	**49.93**	**130**	P	**P**	**21 34 27.6**	**-0.3**
	0.4nm,0.7s,mb3.5,baz=298,slow=7.0,SNR=2.8						
FINES	**FINESS Array B**	**72.70**	**332**	P	**P**	**21 37 01.3**	**-0.1**
	3.2nm,1.0s,mb4.2,baz=101,slow=9.7,SNR=4.3						
FINES	**FINESS Array B**	**72.70**	**332**	P	**P**	**21 37 01.3**	**-0.1**
ARCES	**ARCESS Array B**	**75.26**	**340**	P	**P**	**21 37 17.1**	**+1.0**
	7.9nm,1.2s,mb4.5,baz=45,slow=3.4,SNR=3.7						
BOSA	**Boshof**	**75.57**	**238**	*eP*	**P**	**21 37 20.0**	**+1.4**
	3.5nm,0.8s,mb4.3						
GERES	**GERESS Array B**	**77.82**	**318**	P	**P**	**21 37 30.8**	**+0.1**
	0.4nm,0.4s,mb3.7,baz=45,slow=2.8,SNR=3.2						
HFS	**Hagfors**	**78.45**	**330**	P	**P**	**21 37 33.9**	**0.0**
	1.7nm,0.6s,mb4.2,baz=117,slow=3.3,SNR=6.2						
PDAR	**Pinedale Array**	**125.17**	**21**	PKP	PKPdf	21 44 34.1	-3.6
	0.4nm,0.9s,slow=1.5,SNR=4.0						
PLCA	**Paso Flores**	**144.54**	**200**	PKP	PKPdf	21 45 10.2	-3.3
	3.0nm,0.8s,baz=173,slow=3.5,SNR=6.0						

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*IDC **26** 21:26:59.0±0.9, 7.95N×94.12E, mb3.9/10, mb1 4.0/11, mb1mx3.9/20, mbtmp3.9/11, ML3.8/1, Error ellipse: s-maj=30.2km s-min=21.3km az=53.0*
*NEIC **26** 21:27:03.4±0.6, 7.94N×94.15E, h30km, mb4.3/2, Error ellipse: s-maj=16.1km s-min=12.0km az=71.0*
ISC 26 21:27:01.5±0.7, 8.0N±0.1×94.2E±0.1, h30km, n16, σ0§83/16, mb4.0/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.41**	**23**	Pn	**P**	**21 29 45.1**	**-0.6**
	0.2nm,0.3s,baz=213,slow=14,SNR=6.9						
HYB	**Hyderabad**	**17.91**	**303**	*i* P		**21 31 15.0**	**+4.7**
LSA	**Lhasa**	**21.81**	**353**	*eP*	**P**	**21 31 54.4**	**+1.1**
	13nm,0.8s,mb4.4						
SONM	**Songino Array**	**41.06**	**13**	P	**P**	**21 34 45.1**	**+1.0**
	0.4nm,0.8s,mb3.1,baz=214,slow=5.2,SNR=2.9						
SONM				PcP	PcP	21 36 45.3	+1.2
	0.4nm,0.5s,baz=208,slow=4.1,SNR=5.3						
KURK	**Kurchatov**	**44.54**	**346**	*eP*	**P**	**21 35 12.2**	**-0.2**
	2.9nm,0.9s,mb4.1						
ZAL	**Zalesovo**	**46.47**	**352**	P	**P**	**21 35 28.6**	**+1.0**
	1.5nm,0.9s,mb3.9,baz=307,slow=6.4,SNR=6.6						
WRA	**Warramunga Arr**	**48.26**	**126**	P	**P**	**21 35 42.5**	**+0.2**
	0.6nm,0.5s,mb3.9,baz=304,slow=8.7,SNR=4.6						
BVAR	**Borovoye Array**	**48.92**	**341**	P	**P**	**21 35 45.4**	**-1.5**
	0.2nm,0.5s,mb3.4,baz=53,slow=41,SNR=4.7						
CHKZ	**Chkalovo**	**49.41**	**342**	*eP*	**P**	**21 35 50.5**	**0.0**
ASAR	**Alice Springs**	**49.93**	**130**	P	**P**	**21 35 54.5**	**-0.4**
	1.1nm,0.9s,mb3.9,baz=320,slow=5.6,SNR=4.0						
KMBO	**Kilima Mbogo**	**57.49**	**264**	P	**P**	**21 36 51.8**	**+0.9**
	2.2nm,0.8s,mb4.3,baz=47,slow=5.1,SNR=5.2						
BRTR	**Keskin Array B**	**62.41**	**311**	P	**P**	**21 37 22.8**	**-1.5**
	0.6nm,0.5s,mb4.0,baz=119,slow=7.0,SNR=3.5						
FINES	**FINESS Array B**	**72.66**	**332**	P	**P**	**21 38 27.5**	**-0.7**
	1.7nm,0.7s,mb4.1,baz=90,slow=9.5,SNR=4.6						
GERES	**GERESS Array B**	**77.80**	**318**	P	**P**	**21 38 57.8**	**+0.1**
	1.4nm,0.7s,mb4.0,baz=252,slow=4.2,SNR=4.5						
HFS	**Hagfors**	**78.41**	**330**	P	**P**	**21 39 01.3**	**+0.5**
	18nm,1.2s,mb4.9,baz=104,slow=6.1,SNR=8.9						
HFS	**Hagfors**	**78.41**	**330**	P	**P**	**21 39 01.3**	**+0.5**

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*IDC **26** 21:31:49.1±0.9, 7.87N×94.21E, mb3.9/10, mb1 4.1/11, mb1mx4.0/20, mbtmp3.9/11, ML3.7/1, Error ellipse: s-maj=29.3km s-min=19.9km az=52.0*
ISC 26 21:31:52.3±0.7, 7.9N±0.1×94.3E±0.1, h33km, n17, σ0§52/17, mb4.2/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.45**	**23**	Pn	**P**	**21 34 36.3**	**-0.2**
	0.1nm,0.3s,baz=210,slow=14,SNR=14						
JIRN	**Jiri**	**21.12**	**340**	*eP*	**P**	**21 36 36.6**	**+0.1**
	42nm,1.1s,mb4.7						
PKI	**Pulchoki**	**21.32**	**338**	*eP*	**P**	**21 36 38.7**	**+0.2**
	43nm,1.1s,mb4.7						
DMN	**Daman**	**21.46**	**337**	*eP*	**P**	**21 36 40.3**	**+0.3**
	30nm,0.9s,mb4.6						
KKN	**Kakani**	**21.56**	**338**	*eP*	**P**	**21 36 41.1**	**+0.1**
	29nm,1.1s,mb4.6						
GKN	**Gorkha**	**22.00**	**337**	*eP*	**P**	**21 36 45.2**	**-0.2**
	21nm,0.7s,mb4.7						
KOLN	**Koldanda**	**22.22**	**334**	*eP*	**P**	**21 36 48.0**	**+0.4**
	65nm,1.5s,mb4.8						
SONM	**Songino Array**	**41.13**	**12**	P	**P**	**21 39 35.5**	**+0.6**
	1.4nm,1.1s,mb3.5,baz=199,slow=3.8,SNR=7.4						
ZAL	**Zalesovo**	**46.56**	**352**	P	**P**	**21 40 18.7**	**+0.1**
	1.9nm,0.5s,mb4.3,baz=301,slow=7.4,SNR=12						
WRA	**Warramunga Arr**	**48.14**	**126**	P	**P**	**21 40 31.8**	**+0.3**
	0.4nm,0.5s,mb3.7,baz=303,slow=9.0,SNR=6.0						
BVAR	**Borovoye Array**	**49.03**	**341**	P	**P**	**21 40 38.2**	**+0.3**
	1.3nm,1.0s,mb3.9,baz=127,slow=7.4,SNR=4.6						
ASAR	**Alice Springs**	**49.80**	**130**	P	**P**	**21 40 44.0**	**-0.2**
	1.8nm,1.0s,mb4.1,baz=305,slow=6.9,SNR=8.0						
KMBO	**Kilima Mbogo**	**57.57**	**264**	P	**P**	**21 41 42.6**	**+0.9**
	3.2nm,0.9s,mb4.3,baz=47,slow=10,SNR=6.4						
BRTR	**Keskin Array B**	**62.54**	**311**	P	**P**	**21 42 13.9**	**-1.4**
	0.4nm,0.4s,mb3.9,baz=135,slow=8.2,SNR=3.1						
GERES	**GERESS Array B**	**77.92**	**318**	P	**P**	**21 43 48.6**	**-0.1**
	0.9nm,0.6s,mb3.9,baz=45,slow=2.8,SNR=2.8						
HFS	**Hagfors**	**78.53**	**330**	P	**P**	**21 43 51.2**	**-0.6**
	0.8nm,0.5s,mb3.9,baz=90,slow=3.0,SNR=7.7						
NOA	**NORSAR Array B**	**79.80**	**331**	P	**P**	**21 43 58.0**	**-0.7**
	0.7nm,0.6s,mb3.7,baz=94,slow=5.2,SNR=3.3						

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*IDC **26** 21:33:02.0±0.6, 7.94N×94.13E, mb4.4/18, mb1 4.5/19, mb1mx4.5/24, mbtmp4.4/19, ML4.1/1, MS3.7/1, Ms1 3.9/1, ms1mx2.7/27, Error ellipse: s-maj=24.0km s-min=14.6km az=50.0, Putative timing error at LPAZ*
*NEIC **26** 21:33:08.0±1.7, 7.95N×94.25E, h41km±14km, mb4.5/10, Error ellipse: s-maj=12.0km s-min=8.9km az=45.0*
ISC 26 21:33:05.4±1.8, 7.90N±0.08×94.28E±0.08, h35km±16km, n62, σ0§93/56, mb4.6/34, 2C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.32**	**96**	P	**P**	**21 34 37.0**	**-1.6**
	376nm,0.9s						
NNT	**Nongplab**	**7.10**	**49**	P	**P**	**21 34 50.5**	**+0.9**
CM31	**Chiang Mai Arr**	**11.43**	**23**	*eP*	**P**	**21 35 51.4**	**+2.1**
	5.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**11.43**	**23**	Pn	**P**	**21 35 48.3**	**-1.0**
	0.4nm,0.3s,baz=212,slow=14,SNR=18						
CMAR				LR	LR	21 40 26.0	
	comp=Z,348nm,18.1s,baz=205,slow=39						
HYB	**Hyderabad**	**18.01**	**303**	*eP*	**P**	**21 37 16.0**	**+1.1**
HYB	**Hyderabad**	**18.01**	**303**	*i* P	**P**	**21 37 16.0**	**+1.1**
JIRN	**Jiri**	**21.09**	**340**	*eP*	**P**	**21 37 48.8**	**-0.4**
	50nm,0.7s,mb4.9						
PKI	**Pulchoki**	**21.29**	**338**	*eP*	**P**	**21 37 51.4**	**+0.2**
	33nm,0.6s,mb4.8						
DMN	**Daman**	**21.44**	**337**	*eP*	**P**	**21 37 52.6**	**-0.1**
	68nm,0.7s,mb5.1						
KKN	**Kakani**	**21.54**	**338**	*eP*	**P**	**21 37 52.9**	**-0.8**
	35nm,0.7s,mb4.9						
LSA	**Lhasa**	**21.88**	**353**	*eP*	**P**	**21 37 56.6**	**-0.5**
	36nm,0.6s,mb5.0						
GKN	**Gorkha**	**21.98**	**337**	*eP*	**P**	**21 37 57.4**	**-0.6**
	66nm,0.7s,mb5.2						
KOLN	**Koldanda**	**22.20**	**334**	*eP*	**P**	**21 37 59.8**	**-0.5**
	48nm,0.7s,mb5.1						
BHPL	**Bhopal**	**22.24**	**315**	*eP*	**P**	**21 38 02.0**	**+1.3**
BHPL				*e*		21 38 02.8	
	comp=E,11nm,0.6s						
TKM2	**Tokmak 2**	**38.56**	**338**	P	**P**	**21 40 26.8**	**+0.3**
	SNR=5.1						
KBK	**Karagaybulak**	**38.58**	**337**	P	**P**	**21 40 27.4**	**+0.7**
	SNR=13						
AML	**Almayashu**	**38.64**	**335**	P	**P**	**21 40 27.9**	**+0.7**
	SNR=15						
AAK	**Ala-Archa**	**38.73**	**336**	*eP*	**P**	**21 40 27.5**	**-0.5**
	comp=E,5.3nm,0.9s,mb4.3						
EKS2	**Erkin-Say**	**39.05**	**336**	P	**P**	**21 40 31.1**	**+0.6**
	SNR=6.8						
USP	**Ospenovka**	**39.27**	**337**	P	**P**	**21 40 31.9**	**-0.5**
	SNR=7.9						
SONM	**Songino Array**	**41.10**	**12**	P	**P**	**21 40 47.9**	**+0.3**
	comp=E,2.4nm,0.8s,mb3.9,baz=196,slow=7.2,SNR=14						
SONM				PcP	PcP	21 42 47.8	+0.5
	comp=E,1.0nm,0.6s,baz=197,slow=4.1,SNR=7.1						
ULN	**Ulaanbaatar**	**41.28**	**13**	*eP*	**P**	**21 40 49.8**	**+0.8**
	comp=E,2.9nm,0.8s,mb4.0						
KURK	**Kurchatov**	**44.62**	**346**	*eP*	**P**	**21 41 15.9**	**-0.3**
	comp=E,5.7nm,0.7s,mb4.5						
NWAO	**Narrogin (SRO)**	**46.11**	**153**	P	**P**	**21 41 29.4**	**+1.1**
	comp=E,7.7nm,0.9s,mb4.6,baz=232,slow=18,SNR=3.3						
ZAL	**Zalesovo**	**46.54**	**352**	P	**P**	**21 41 31.2**	**-0.1**
	comp=E,6.3nm,0.6s,mb4.7,baz=290,slow=7.6,SNR=27						
WRA	**Warramunga Arr**	**48.16**	**126**	P	**P**	**21 41 44.5**	**-0.1**
	comp=E,1.8nm,0.8s,mb4.1,baz=302,slow=9.3,SNR=12						
RAYN	**Ar Rayn**	**49.20**	**294**	P	**P**	**21 41 53.6**	**+1.0**
	comp=E,79nm,0.9s,mb5.7,SNR=18						
CHKZ	**Chkalovo**	**49.49**	**342**	*eP*	**P**	**21 41 53.4**	**-1.0**
	comp=E,12nm,0.9s,mb4.9						
ASAR	**Alice Springs**	**49.82**	**130**	P	**P**	**21 41 56.8**	**-0.6**
	comp=E,1.2nm,0.8s,mb4.0,baz=302,slow=6.6,SNR=5.4						
ASAR				PcP	PcP	21 43 20.1	+2.1
	comp=E,1.2nm,0.9s,baz=310,slow=3.8,SNR=4.8						
GNI	**Garni**	**54.52**	**314**	P	**P**	**21 42 31.6**	**-0.6**
	comp=E,3.4nm,0.8s,mb4.4,baz=17,slow=19,SNR=2.4						
GNI				PcP	PcP	21 43 36.8	+1.6
	comp=E,2.9nm,0.8s,baz=210,slow=16,SNR=2.3						
KMBO	**Kilima Mbogo**	**57.57**	**264**	P	**P**	**21 42 54.1**	**-0.4**
	comp=E,8.1nm,0.9s,mb4.7,baz=54,slow=10,SNR=15						
EIL	**Elat**	**59.53**	**300**	P	**P**	**21 43 07.6**	**-0.4**
	comp=E,3.5nm,0.9s,mb4.4,baz=80,slow=12,SNR=4.0						
BRTR	**Keskin Array B**	**62.52**	**311**	P	**P**	**21 43 25.6**	**-2.4**
	comp=E,2.3nm,0.8s,mb4.4,baz=123,slow=7.0,SNR=8.8						
AKASG	**Malin Array Be**	**68.22**	**322**	P	**P**	**21 44 02.2**	**-2.3**
	comp=E,5.6nm,0.9s,mb4.6,baz=87,slow=5.2,SNR=7.3						
IDI	**Anoyia**	**68.67**	**305**	P	**P**	**21 44 05.6**	**-2.0**
	comp=E,8.5nm,0.7s,mb4.8,baz=112,slow=5.4,SNR=4.2						
VRI	**Vrincioaia**	**68.78**	**316**	⇑P	**P**	**21 44 08.5**	**+0.5**
MLR	**Muntele Rosu**	**69.25**	**316**	⇑P	**P**	**21 44 11.6**	**+0.7**
BURAR	**Bucovina Array**	**70.12**	**318**	⇓P	**P**	**21 44 16.1**	**-0.1**
JOF	**Joensuu**	**70.88**	**334**	*ep*	**P**	**21 44 20.2**	**-0.4**
FINES	**FINESS Array B**	**72.75**	**332**	P	**P**	**21 44 30.7**	**-1.0**
	comp=E,6.5nm,0.7s,mb4.7,baz=117,slow=8.5,SNR=16						
KAF	**Kangasniemi**	**72.83**	**333**	*ep*	**P**	**21 44 30.5**	**-1.7**
	comp=E,5.2nm,0.8s,mb4.5,baz=105,slow=5.6						
ARCES	**ARCESS Array B**	**75.29**	**340**	P	**P**	**21 44 46.9**	**+0.5**
	comp=E,3.8nm,0.7s,mb4.4,baz=76,slow=5.0,SNR=9.4						
BOSA	**Boshof**	**75.72**	**238**	*eP*	**P**	**21 44 50.8**	**+1.2**
BILL	**Bilibino**	**76.01**	**22**	*eP*	**P**	**21 44 50.9**	**+0.5**
	comp=E,3.3nm,0.9s,mb4.3						
BRG	**Berggiesshubel**	**77.82**	**320**	*eP*	**P**	**21 45 01.7**	**+0.8**
	comp=E,5.1nm,1.0s,mb4.4						
GERES	**GERESS Array B**	**77.90**	**318**	P	**P**	**21 45 01.1**	**-0.3**
	comp=E,3.2nm,0.6s,mb4.4,baz=108,slow=4.2,SNR=11						
KHC	**Kasperske Hory**	**77.99**	**318**	*eP*	**P**	**21 45 02.0**	**+0.1**
CLL	**Collm**	**78.43**	**321**	P	**P**	**21 45 05.0**	**+0.7**
HFS	**Hagfors**	**78.50**	**330**	P	**P**	**21 45 04.4**	**-0.1**
	comp=E,5.8nm,0.5s,mb4.7,baz=117,slow=6.6,SNR=20						
NB2	**NORSAR Subarra**	**79.78**	**331**	P	**P**	**21 45 10.9**	**-0.5**
	comp=E,3.9nm,0.7s,mb4.5,baz=95,slow=5.0						
NOA	**NORSAR Array B**	**79.78**	**331**	P	**P**	**21 45 10.5**	**-0.9**
	comp=E,4.4nm,0.7s,mb4.5,baz=92,slow=5.6,SNR=16						
NOA	**NORSAR Array B**	**79.78**	**331**	P	**P**	**21 45 10.5**	**-0.9**
LPG	**La Plagne**	**82.70**	**315**	*eP*	**P**	**21 45 28.1**	**+1.1**
	comp=E,8.7nm,0.8s,mb4.5						
EKA	**Eskdalemuir Ar**	**87.78**	**325**	P	**P**	**21 45 52.6**	**+0.7**
	comp=E,2.2nm,0.8s,mb4.4,baz=86,slow=6.0,SNR=5.2						
IMA	**Indian Mountai**	**91.54**	**22**	*eP*	**P**	**21 46 12.1**	**+2.6**
ILAR	**Eielson Array**	**94.67**	**22**	P	**P**	**21 46 23.9**	**+0.2**
	comp=E,0.5nm,0.8s,mb4.0,baz=310,slow=4.1,SNR=6.3						
NVAR	**Mina Array Bea**	**124.82**	**31**	PKP	PKPdf	21 52 06.0	+3.8
	comp=E,0.6nm,0.6s,slow=0.9,SNR=5.4						
NVAR	**Mina Array Bea**	**124.82**	**31**	PKP	PKPdf	21 52 06.0	+3.8
PDAR	**Pinedale Array**	**125.09**	**21**	PKP	PKPdf	21 52 04.3	+1.7
	comp=E,0.6nm,0.8s,baz=90,slow=3.0,SNR=5.1						
TXAR	**Lajitas Array**	**139.14**	**24**	PKP	PKPdf	21 52 32.0	+2.7
	comp=E,0.4nm,0.3s,baz=76,slow=6.6,SNR=4.9						
PLCA	**Paso Flores**	**144.62**	**200**	PKP	PKPdf	21 52 39.5	+0.8
	comp=E,7.3nm,0.8s,baz=139,slow=1.7,SNR=16						
LPAZ	**La Paz**	**160.91**	**242**	PKPab	PKPab	21 53 05.8	-42
	comp=E,1.1nm,0.5s,baz=122,slow=3.2,SNR=4.2						

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*IDC **26** 21:42:33.9±2.4, 7.95N×93.75E, mb4.1/10, mb1 4.2/11, mb1mx4.1/20, mbtmp4.1/11, ML3.8/1, Error ellipse: s-maj=59.7km s-min=37.3km az=136.0*
*NEIC **26** 21:42:38.9±1.3, 8.01N×93.90E, h30km, mb4.4/3, Error ellipse: s-maj=33.0km s-min=13.1km az=129.0*
ISC 26 21:42:38.4±2.9, 8.2N±0.4×93.8E±0.3, h30km, n20, σ0§77/19, mb4.1/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.34**	**26**	P	**P**	**21 45 22.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**11.34**	**26**	Pn	**P**	**21 45 20.8**	**-1.0**
	0.2nm,0.3s,baz=213,slow=14,SNR=10						
LSA	**Lhasa**	**21.51**	**354**	*eP*	**P**	**21 47 28.2**	**+1.1**
	13nm,0.9s,mb4.4						
SONM	**Songino Array**	**40.90**	**13**	P	**P**	**21 50 20.1**	**+0.5**
	0.9nm,0.8s,mb3.5,baz=197,slow=7.4,SNR=9.6						
SONM				PcP	PcP	21 52 19.2	-1.3
	0.5nm,0.6s,baz=197,slow=3.6,SNR=5.9						
KURK	**Kurchatov**	**44.19**	**346**	*eP*	**P**	**21 50 47.2**	**+0.7**
	3.8nm,0.9s,mb4.1						
ZAL	**Zalesovo**	**46.16**	**353**	P	**P**	**21 51 02.1**	**0.0**
	7.4nm,1.1s,mb4.5,baz=290,slow=7.9,SNR=19						
BVAR	**Borovoye Array**	**48.55**	**341**	P	**P**	**21 51 20.5**	**-0.4**
	0.9nm,0.7s,mb3.9,baz=119,slow=15,SNR=5.3						
CHKZ	**Chkalovo**	**49.04**	**342**	*eP*	**P**	**21 51 25.6**	**+1.0**
	4.0nm,0.8s,mb4.5						
KMBO	**Kilima Mbogo**	**57.12**	**263**	P	**P**	**21 52 26.7**	**+1.6**
	2.2nm,0.8s,mb4.2,baz=43,slow=16,SNR=5.4						
BRTR	**Keskin Array B**	**61.94**	**311**	P	**P**	**21 52 56.7**	**-1.3**
	1.1nm,0.7s,mb4.1,baz=127,slow=6.2,SNR=5.3						
AKASG	**Malin Array Be**	**67.67**	**322**	P	**P**	**21 53 33.9**	**-1.0**
	0.1nm,0.3s,mb3.4,baz=92,slow=4.7,SNR=4.1						
JOF	**Joensuu**	**70.39**	**334**	*ep*	**P**	**21 53 50.9**	**-0.6**
FINES	**FINESS Array B**	**72.25**	**332**	P	**P**	**21 54 02.5**	**-0.1**
	2.5nm,0.7s,mb4.3,baz=90,slow=7.6,SNR=8.2						
KAF	**Kangasniemi**	**72.33**	**333**	*ep*	**P**	**21 54 02.8**	**-0.3**
GERES	**GERESS Array B**	**77.34**	**318**	P	**P**	**21 54 31.7**	**-0.3**
	1.3nm,0.6s,mb4.0,baz=153,slow=3.0,SNR=5.5						
HFS	**Hagfors**	**77.98**	**330**	P	**P**	**21 54 35.0**	**-0.3**
	2.3nm,0.6s,mb4.3,baz=117,slow=3.3,SNR=9.4						
HFS	**Hagfors**	**77.98**	**330**	P	**P**	**21 54 35.0**	**-0.3**
NB2	**NORSAR Subarra**	**79.26**	**331**	P	**P**	**21 54 42.3**	**0.0**
	1.8nm,0.7s,mb4.1,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.26**	**331**	P	**P**	**21 54 42.3**	**0.0**
	3.0nm,0.8s,mb4.3,baz=93,slow=5.4,SNR=7.6						
PLCA	**Paso Flores**	**144.75**	**201**	PKP	PKPdf	22 00 12.2	-5.6
	2.6nm,0.9s,baz=185,slow=1.9,SNR=5.1						

IDC 26 21:45:30.6±1.5, 3.13S×140.08E, mb3.9/3, mb1 4.3/4, mb1mx4.0/12, mbtmp4.1/4, ML4.6/1, Error ellipse: s-maj=74.0km s-min=27.8km az=102.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.62**	**198**	P	P	21 49 36.7	-2.6
	1.9nm,0.3s,baz=20,slow=11,SNR=59						
WRA				S	S	21 52 37.9	-17
	0.3nm,0.3s,baz=16,slow=22,SNR=4.1						
ASAR	**Alice Springs**	**21.27**	**196**	P	P	21 50 19.3	-1.6
	5.7nm,0.7s,baz=28,slow=10,SNR=45						
ASAR				S	S	21 54 06.4	-6.9
	2.0nm,0.8s,baz=12,slow=29,SNR=5.0						
BVAR	**Borovoye Array**	**80.44**	**325**	P	P	21 57 43.8	-1.9
	0.2nm,0.6s,baz=90,slow=4.4,SNR=3.5						
ILAR	**Eielson Array**	**85.65**	**24**	P	P	21 58 11.3	-0.8
	0.5nm,0.7s,baz=258,slow=4.7,SNR=8.3						

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*IDC **26** 21:59:01.6±0.9, 7.81N×94.02E, mb3.9/8, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, ML3.6/1, Error ellipse: s-maj=39.3km s-min=23.7km az=50.0*
*NEIC **26** 21:59:05.9±0.7, 7.54N×93.90E, h30km, mb3.9/2, Error ellipse: s-maj=24.7km s-min=17.3km az=78.0*
ISC 26 21:59:05.4±1.0, 7.7N±0.1×94.2E±0.1, h33km, n24, σ1§37/20, mb4.1/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.63**	**23**	P	**P**	**22 01 52.9**	**+0.7**
	1.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**11.63**	**23**	Pn	**P**	**22 01 49.8**	**-2.4**
	0.1nm,0.3s,baz=212,slow=15,SNR=14						
JIRN	**Jiri**	**21.20**	**340**	*eP*	**P**	**22 03 52.1**	**+1.5**
PKI	**Pulchoki**	**21.40**	**338**	*eP*	**P**	**22 03 54.1**	**+1.6**
	34nm,1.0s,mb4.6						
DMN	**Daman**	**21.55**	**338**	*eP*	**P**	**22 03 55.2**	**+1.2**
	25nm,1.0s,mb4.6						
KKN	**Kakani**	**21.64**	**338**	*eP*	**P**	**22 03 55.3**	**+0.3**
	34nm,1.3s,mb4.6						
LSA	**Lhasa**	**22.03**	**353**	*eP*	**P**	**22 04 01.7**	**+2.9**
	2.0nm,0.5s,mb3.8						
GKN	**Gorkha**	**22.08**	**337**	*eP*	**P**	**22 03 58.0**	**-1.3**

$M_{\theta\theta}$-3.94±.06; $M_{\phi\phi}$-2.71±.07; M_{rr}2.11±.17; $M_{\theta\phi}$3.99±.05; $M_{\theta r}$-3.53±.18; Best double couple: $M_0$8.136×10^{17} NP1: ϕ_s300°,δ31°,λ72°. NP2:ϕ_s140°,δ60°,λ101°. Principal axes: T 7.885, Plg73°, Azm76°; N .501, Plg9°, Azm315°; P -8.386, Plg15°, Azm223°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

ISC 26 22:00:40.7±0.2,**2.66N**±0.03×**94.68E**±0.03,**h24**km, **h24**km±1.5km:**pP-P**,**n578**,σ1§**16**/471,**mb5.5**/164,**MS6.0**/163, **46C-31D**,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**9.15**	**348**	⇑*i*	**P**	**22 02 46.1**	**-8.2**
PBA				*i*		22 10 16.0	
	comp=Z,112μm,19.7s						
NNT	**Nongplab**	**11.06**	**27**	P	**P**	**22 03 19.9**	**-0.9**
NST	**Nakhon Sawan**	**14.00**	**22**	P	**P**	**22 04 03.0**	**+2.8**
PALK	**Pallekele**	**14.66**	**289**	*e*P	**P**	**22 04 05.4**	**-3.5**
	comp=Z,277nm,1.3s						
COCO	**West Island**	**14.90**	**172**	*e*P	**P**	**22 04 16.2**	**+4.2**
	comp=Z,442nm,1.1s						
KKTK	**Khon Kaen**	**15.78**	**30**	PG	**P**	**22 04 24.0**	**+0.7**
CM31	**Chiang Mai Arr**	**16.25**	**15**	*e*P	**P**	**22 04 28.4**	**-0.9**
	comp=Z,389nm,1.0s						
CMAR	**Chiang Mai Arr**	**16.25**	**15**	Pn	**P**	**22 04 28.4**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=203,slow=11,SNR=85						
CMAR				LR	LR	22 11 34.4	
	comp=Z,34μm,19.4s,baz=195,slow=40						
CHG	**Chiang Mai**	**16.59**	**14**	⇑P	**P**	**22 04 31.4**	**-2.2**
	comp=Z,24nm,0.8s						
NANT	**Nan**	**17.09**	**20**	P	**P**	**22 04 40.0**	**+0.1**
MDRS	**Chennai**	**17.64**	**307**	⇑*i*P	**P**	**22 04 46.0**	**-0.8**
MDRS				*e*		22 04 57.7	
	comp=Z,186nm,1.3s						
MDRS				*i*		22 13 22.1	
	comp=Z,25μm,19.6s						
CHRT	**Chiangrai**	**17.82**	**16**	⇑P	**P**	**22 04 47.5**	**-1.5**
	comp=Z,553nm,0.9s						
TRD	**Trivandrum**	**18.57**	**289**	⇓*e*P	**P**	**22 04 56.6**	**-1.7**
TRD				*e*		22 05 15.1	
	comp=Z,224nm,1.9s						
TRD				*e*S	**S**	**22 08 31.0**	**+10**
VIS	**Vishakhapatnam**	**18.66**	**324**	⇑*e*P	**P**	**22 04 57.7**	**-1.7**
VIS				*e*		22 05 23.5	
	comp=Z,262nm,1.4s						
VIS				*e*		22 08 05.3	
VIS				*e*S	**S**	**22 08 30.6**	**+7.1**
VIS				*i*		22 15 53.9	
	comp=Z,25μm,15.0s						
KOD	**Kodaikanal**	**18.68**	**295**	⇑*i*P	**P**	**22 04 59.2**	**-0.5**
KOD				*e*		22 05 11.2	
	comp=Z,222nm,1.5s						
KOD				*e*S	**S**	**22 08 32.6**	**+8.7**
KOD				*i*		22 13 24.5	
	comp=Z,26μm,17.4s						
BWNR	**Bhubaneshwar**	**19.55**	**334**	*e*P	**P**	**22 05 06.0**	**-3.9**
BWNR				*e*	**S**	**22 08 33.0**	**-11**
CAL	**Calcutta**	**20.70**	**343**	*e*	**P**	**22 05 22.8**	**+0.8**
CAL				*e*	**S**	**22 09 18.1**	**+11**
AGT	**Agartala**	**21.36**	**351**	⇑*i*P	**P**	**22 05 28.0**	**-0.7**
AGT				*i*		22 07 47.0	
HYB	**Hyderabad**	**21.59**	**314**	*e*P	**P**	**22 05 30.5**	**-0.5**
HYB				*e*S	**S**	**22 09 32.0**	**+8.0**
HYB	**Hyderabad**	**21.59**	**314**	*i*P	**P**	**22 05 30.5**	**-0.5**
	comp=Z,270nm,1.0s,mb5.6						
HYB				*e*S	**S**	**22 09 30.0**	**+6.0**
IMP	**Imphal**	**22.01**	**358**	*e*P	**P**	**22 05 33.3**	**-1.9**
QIZ	**Qiongzhong**	**22.02**	**41**	P	**P**	**22 05 35.8**	**+0.5**
QIZ				AP		22 05 40.0	
QIZ				S	**S**	**22 09 34.5**	**+2.5**
QIZ				SS	SS	22 10 12.0	+0.9
QIZ				AMB	AMB		
	comp=Z,12μm,13.8s						
QIZ				LR	LR		
	comp=N,84μm,16.8s,MS6.4						
QIZ				LR	LR		
	comp=E,100μm,16.7s,MS6.4						
QIZ				LR	LR		
	comp=Z,111μm,17.7s,MS6.3						
QIZ	**Qiongzhong**	**22.02**	**41**	*e*P	**P**	**22 05 35.4**	**0.0**
	comp=Z,80nm,0.8s,mb5.2						
QIZ				LR	LR		
	comp=Z,103μm,19.0s,MS6.3						
MNGI	**Mangalore**	**22.15**	**299**	*i*P	**P**	**22 05 38.0**	**+1.3**
	comp=Z,185nm,1.2s,mb5.4						
MNGI				*i*		22 09 35.1	
BLSP	**Bilaspur**	**22.88**	**329**	⇑*e*P	**P**	**22 05 43.3**	**-0.6**
BLSP				*e*		22 06 01.0	
	comp=Z,300nm,1.7s						
BLSP				*i*		22 15 11.6	
	comp=Z,21μm,20.1s						
SHL	**Shillong**	**22.94**	**353**	⇓*i*P	**P**	**22 05 42.2**	**-2.3**
SHL				*e*	**S**	**22 09 58.0**	**+9.3**
KMI	**Kunming**	**23.65**	**18**	P	**P**	**22 05 53.2**	**+1.8**
KMI						22 06 28.8	
KMI				PPP	PPP	22 06 39.5	+5.3
KMI				SS	SS	22 11 05.6	+15
KMI				pmax	pmax		
	comp=Z,160nm,1.1s,mb5.4						
KMI				MLR	MLR		
	comp=Z,83μm,12.5s,MS6.4						
KMI	**Kunming**	**23.65**	**18**	P	**P**	**22 05 53.2**	**+1.8**
	comp=Z,160nm,1.1s,mb5.4						
KMI				pP		22 05 55.6	
KMI				PP	PP	22 06 28.8	+4.6
KMI				PPP	PPP	22 06 39.5	+5.3
KMI				S	**S**	**22 10 11.0**	**+10**
KMI				sS		22 10 14.9	
KMI				SS	SS	22 11 05.6	+15
KMI				LR	LR		
	comp=Z,83μm,12.5s,MS6.4						
LATR	**Latur**	**23.68**	**313**	*e*P	**P**	**22 05 51.5**	**-0.2**
NGP	**Nagpur**	**23.87**	**322**	*e*P	**P**	**22 05 54.5**	**+1.0**
NGP				*e*		22 10 20.5	
GOA	**Goa**	**24.19**	**303**	⇑*i*	**P**	**22 06 04.8**	**+8.1**
GOA				⇓*i*		22 06 05.2	
GOA				*e*		22 06 21.6	
	comp=Z,139nm,1.4s						
GOA				*i*	**S**	**22 10 23.1**	**+13**
GOA				*i*		22 16 04.6	
	comp=Z,15μm,18.7s						
DGAR	**Diego Garcia**	**24.33**	**246**	PFAKE		22 06 10.0	+12
DGAR				LR	LR		
	comp=Z,8μm,22.0s,MS5.2						
KAD	**Karad**	**24.84**	**307**	⇑*i*P	**P**	**22 06 02.9**	**-0.1**
KAD				*e*		22 10 51.6	
KAD				*i*		22 17 44.6	
	comp=Z,14μm,14.3s						
KAD	**Karad**	**24.84**	**307**	*e*	**P**	**22 06 02.5**	**-0.5**
KAD				*e*		22 06 17.7	
	comp=Z,82nm,1.3s						
GTK	**Gangtok**	**25.21**	**347**	*e*P	**P**	**22 06 05.0**	**-1.5**
ALBI	**Allahabad**	**25.71**	**332**	*e*P	**P**	**22 06 10.0**	**-1.1**
POO	**Poona**	**25.79**	**309**	⇑*i*P	**P**	**22 06 11.9**	**0.0**
POO				*e*		22 06 15.9	
	comp=Z,82nm,1.0s						
POO				*i*		22 18 30.5	
	comp=Z,22μm,16.4s						
JIRN	**Jiri**	**26.16**	**343**	*e*P	**P**	**22 06 15.3**	**+0.1**
	comp=Z,432nm,1.0s,mb6.0						
PKI	**Pulchoki**	**26.32**	**341**	*e*P	**P**	**22 06 18.0**	**+1.3**
	comp=Z,204nm,1.1s,mb5.6						
BHPL	**Bhopal**	**26.42**	**322**	⇑*e*P	**P**	**22 06 16.4**	**-1.3**
BHPL				*e*		22 06 28.0	
	comp=Z,153nm,1.4s						
BHPL				*e*S	**S**	**22 10 50.5**	**+2.6**
BHPL				*i*		22 20 22.2	
	comp=Z,20μm,20.6s						
DMN	**Daman**	**26.45**	**341**	*e*P	**P**	**22 06 19.3**	**+1.4**
	comp=Z,226nm,0.9s,mb5.7						
KKN	**Kakani**	**26.56**	**341**	*e*P	**P**	**22 06 18.5**	**-0.5**
	comp=Z,342nm,1.0s,mb5.8						
BOM	**Bombay**	**26.81**	**309**	⇓*e*	**P**	**22 06 16.2**	**-5.2**
BOM				*e*		22 06 17.6	
BOM				*e*		22 06 31.9	
	comp=Z,305nm,1.2s						
BOM				*e*S	**S**	**22 10 56.7**	**+2.4**
BOM				*i*		22 19 17.8	
	comp=Z,24μm,18.0s						
GKN	**Gorkha**	**26.97**	**340**	*e*P	**P**	**22 06 22.4**	**-0.3**
	comp=Z,285nm,0.9s,mb5.8						
LSA	**Lhasa**	**27.10**	**353**	P	**P**	**22 06 24.8**	**+0.9**
LSA				XP	sP	22 06 36.3	+2.3
LSA				PCP	PcP	22 09 38.8	-6.1
LSA				S	**S**	**22 11 05.3**	**+6.4**
LSA				PCS		22 13 19.8	
LSA				SCS	ScS	22 17 08.5	-3.7
LSA				LR	LR		
	comp=N,411μm,14.2s						
LSA				LR	LR		
	comp=E,120μm,15.9s						
LSA				LR	LR		
	comp=Z,122μm,15.9s,MS6.6						
LSA	**Lhasa**	**27.10**	**353**	*e*P	**P**	**22 06 24.6**	**+0.7**
LSA				pmax	pmax		
	comp=Z,457nm,1.0s,mb6.0						
LSA				MLR	MLR		
	comp=Z,12μm,21.0s,MS5.4						
LSA	**Lhasa**	**27.10**	**353**	*e*P	**P**	**22 06 24.6**	**+0.7**
	comp=Z,457nm,1.0s,mb6.0						
LSA				LR	LR		
	comp=Z,12μm,21.0s,MS5.4						
KOLN	**Koldanda**	**27.13**	**338**	*e*P	**P**	**22 06 23.8**	**-0.3**
	comp=Z,157nm,1.1s,mb5.5						
HKC	**Hong Kong**	**27.19**	**43**	⇑*i*P	**P**	**22 06 26.0**	**+1.2**
HKC				*i*S	**S**	**22 11 04.0**	**+3.6**
TGY	**Tagaytay City**	**28.31**	**65**	P	**P**	**22 06 35.1**	**+0.1**
	comp=Z,221nm,0.4s,mb6.2,baz=243,slow=11,SNR=3.4						
TGY				LR	LR	22 17 06.0	
	comp=Z,17μm,20.8s,MS5.6,baz=65,slow=35						
PTH	**Pithoragarh**	**30.07**	**334**	*e*P	**P**	**22 06 49.0**	**-1.7**
PTH				*e*		22 12 04.0	
AJM	**Ajmer**	**30.51**	**323**	⇓*i*P	**P**	**22 06 55.0**	**+0.5**
NDI	**New Delhi**	**30.77**	**329**	⇑*i*P	**P**	**22 06 55.3**	**-1.6**
NDI				*e*		22 07 06.3	
	comp=Z,200nm,1.2s						
NDI				*e*		22 12 08.0	
NDI				*i*		22 20 48.6	
	comp=Z,15μm,20.2s						
ENH	**Enshi**	**30.84**	**26**	*e*P	**P**	**22 06 55.7**	**-1.7**
	comp=Z,211nm,1.1s,mb5.9						
ENH				LR	LR		
	comp=Z,66μm,20.0s,MS6.3						
DAV	**Davao City (W)**	**31.09**	**81**	*e*P	**P**	**22 07 05.0**	**+5.3**
DDI	**Dehra Dun**	**31.70**	**332**	*e*P	**P**	**22 07 06.2**	**+1.2**
DDI				*e*		22 12 52.2	
BHJ	**Bhuj**	**31.73**	**312**	⇑*e*P	**P**	**22 07 06.5**	**+1.2**
BHJ				*e*		22 07 18.0	
	comp=Z,55nm,1.4s						
BHJ				*i*		22 19 55.8	
	comp=Z,15μm,20.3s						
QZH	**Quanzhou**	**31.97**	**44**	⇑*i*P	**P**	**22 07 08.0**	**+0.6**
QZH				PP	PP	22 08 18.0	+4.3
QZH				S	**S**	**22 12 19.3**	**+3.1**
QZH				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.5						
QZH				AMB	AMB		
	comp=Z,6μm,6.6s						
QZH				LR	LR		
	comp=N,53μm,13.3s,MS6.7						
QZH				LR	LR		
	comp=E,79μm,11.5s,MS6.7						
QZH				LR	LR		
	comp=Z,111μm,11.6s,MS6.8						
SMLA	**Simla**	**32.80**	**332**	⇑*e*P	**P**	**22 07 12.3**	**-2.2**
SMLA				*e*		22 07 39.5	
	comp=Z,219nm,1.4s						
SMLA				*i*		22 21 09.6	
	comp=Z,8μm,19.5s						
XAN	**Xi'an**	**33.93**	**21**	P	**P**	**22 07 23.0**	**-1.4**
XAN				AP	pP	22 07 36.3	+4.9
XAN				S	**S**	**22 12 47.5**	**+0.8**
XAN				AMB	AMB		
	comp=Z,130nm,0.8s,mb5.9						
XAN				AMB	AMB		
	comp=Z,3μm,8.3s						
XAN				LR	LR		
	comp=N,17μm,17.8s,MS6.4						
XAN				LR	LR		
	comp=E,51μm,14.5s,MS6.4						
XAN				LR	LR		
	comp=Z,53μm,12.7s,MS6.5						
TATO	**Taipei**	**34.05**	**47**	PFAKE		22 07 40.0	+14
TATO				LR	LR		
	comp=Z,21μm,20.0s,MS5.9						
MBWA	**Marble Bar**	**34.09**	**135**	*e*P	**P**	**22 07 25.8**	**-0.1**
	comp=Z,56nm,1.1s,mb5.4						
MBWA				LR	LR		
	comp=Z,13μm,20.0s,MS5.6						
LZH	**Lanzhou**	**34.33**	**13**	⇑P	**P**	**22 07 27.0**	**-0.8**
LZH				PP	PP	22 08 43.0	-0.3
LZH				S	**S**	**22 12 54.0**	**+1.2**
LZH				SS	SS	22 15 02.0	-1.1
LZH				AMB	AMB		
	comp=Z,222nm,1.2s,mb6.0						
LZH				AMB	AMB		
	comp=Z,1μm,6.1s						
LZH				LR	LR		
	comp=N,18μm,14.7s						
LZH				LR	LR		
	comp=Z,26μm,15.8s,MS6.1						
LZH	**Lanzhou**	**34.33**	**13**	⇑P	**P**	**22 07 27.1**	**-0.7**
LZH				*SP	sP	22 07 33.2	-4.6
LZH						22 08 43.0	
LZH				S	**S**	**22 12 54.0**	**+1.2**
LZH				SS	SS	22 15 02.0	-1.1
LZH				pmax	pmax		
	comp=Z,222nm,1.2s,mb6.0						
LZH				MLR	MLR		
	comp=Z,26μm,15.8s,MS6.1						
LZH	**Lanzhou**	**34.33**	**13**	⇑P	**P**	**22 07 27.1**	**-0.7**
	comp=Z,222nm,1.2s,mb6.0						
LZH				pP	pP	22 07 31.5	-3.3
LZH				sP	sP	22 07 33.2	-4.6
LZH				PP	PP	22 08 43.0	-0.3
LZH				S	**S**	**22 12 54.0**	**+1.2**
LZH				sS		22 13 00.0	
LZH				SS	SS	22 15 02.0	-1.1
LZH				LR	LR		
	comp=Z,26μm,15.8s,MS6.1						
FITZ	**Fitzroy Crossi**	**36.82**	**125**	*e*P	**P**	**22 07 48.0**	**-1.0**
	comp=Z,69nm,0.9s,mb5.5						
NJ2	**Nanjing**	**37.04**	**35**	*e*P	**P**	**22 07 51.8**	**+1.0**
NJ2				AP	pP	22 08 01.0	+3.2
NJ2				XP	sP	22 08 05.0	+4.2
NJ2				PP	PP	22 09 16.3	-1.2
NJ2				S	**S**	**22 13 38.0**	**+3.4**
NJ2				XS		22 13 54.0	
NJ2				AMB	AMB		
	comp=Z,190nm,1.0s,mb5.9						
NJ2				AMB	AMB		
	comp=Z,504nm,4.6s						
NJ2				LR	LR		
	comp=N,85μm,13.5s,MS6.9						
NJ2				LR	LR		
	comp=E,127μm,15.0s,MS6.9						
NJ2				LR	LR		
	comp=Z,81μm,14.3s,MS6.7						
SSE	**Sheshan**	**37.76**	**39**	P	**P**	**22 07 58.0**	**+1.1**
SSE				AP	pP	22 08 08.0	+4.0
SSE				PP	PP	22 09 32.0	+5.8
SSE				S	**S**	**22 13 50.5**	**+4.8**
SSE				XS		22 14 06.0	
SSE				AMB	AMB		
	comp=Z,45nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,2μm,7.0s						
SSE				LR	LR		
	comp=N,36μm,16.0s,MS6.4						
SSE				LR	LR		
	comp=E,32μm,16.0s,MS6.4						
SSE				LR	LR		
	comp=Z,29μm,10.7s						
SSE	**Sheshan**	**37.76**	**39**	P	**P**	**22 07 57.9**	**+1.0**
	comp=Z,45nm,0.7s,mb5.3						
SSE				pP	pP	22 08 08.1	+4.1
SSE				PP	PP	22 09 31.9	+5.7
SSE				S	**S**	**22 13 50.6**	**+4.9**
SSE				sS		22 14 06.1	
SSE				SS	SS	22 16 39.0	+18
SSE				LR	LR		
	comp=Z,29μm,10.7s,MS6.4						
TIA	**Tai'an**	**39.30**	**29**	P	**P**	**22 08 10.0**	**+0.2**
TIA				PP	PP	22 09 40.8	-3.1
TIA				AMB	AMB		
	comp=Z,35nm,1.2s,mb5.0						
TIA				AMB	AMB		
	comp=Z,2μm,6.0s						
TIA				LR	LR		
	comp=N,15μm,13.1s,MS6.2						
TIA				LR	LR		
	comp=E,15μm,13.4s,MS6.2						
WBK	**Wadi Bani Khal**	**39.91**	**303**	⇓P	**P**	**22 08 15.7**	**+0.8**
MUN	**Mundaring**	**40.05**	**151**	*e*P	**P**	**22 08 17.0**	**+1.0**
	comp=E,17nm,0.6s,mb5.0						
MUN	**Mundaring**	**40.05**	**151**	*e*P	**P**	**22 08 17.0**	**+1.0**
MUN				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.0						
JOW	**Kunigami**	**40.16**	**50**	P	**P**	**22 08 17.1**	**+0.2**
	comp=Z,48nm,0.6s,mb5.4,baz=221,slow=7.9,SNR=17						
JOW				LR	LR	22 27 54.4	
	comp=Z,16μm,18.7s,MS5.9,baz=230,slow=41						
KAKA	**Kakadu**	**40.48**	**113**	*e*P	**P**	**22 08 18.4**	**-1.2**
	comp=Z,58nm,0.9s,mb5.3						
KLBR	**Kellerberrin**	**40.51**	**149**	*e*P	**P**	**22 08 23.5**	**+3.8**
	comp=Z,2μm,1.8s,mb6.4						
JMDO	**Jabal Madar**	**40.54**	**302**	⇑P	**P**	**22 08 21.1**	**+1.0**
SMDO	**Samad**	**40.87**	**303**	⇓P	**P**	**22 08 24.1**	**+1.4**
BIDO	**Bidbid**	**40.99**	**304**	P	**P**	**22 08 25.7**	**+2.0**
	SNR=10.0						
NWAO	**Narrogin (SRO)**	**41.32**	**151**	*e*P	**P**	**22 08 26.6**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,21nm,0.9s						
NWAO				MLR	MLR		
	comp=Z,10μm,20.0s						
NWAO	**Narrogin (SRO)**	**41.32**	**151**	P	**P**	**22 08 26.8**	**+0.4**
	comp=Z,22nm,0.9s,mb4.8,baz=316,slow=9.9,SNR=12						
NWAO				LR	LR	22 25 56.9	
	comp=Z,41nm,18.7s,baz=335,slow=37						
NWAO	**Narrogin (SRO)**	**41.32**	**151**	*e*P	**P**	**22 08 26.6**	**+0.2**
	comp=Z,21nm,0.9s,mb4.8						
NWAO				LR	LR		
	comp=Z,10μm,20.0s,MS5.7						
BSY	**Bisya**	**41.46**	**302**	P	**P**	**22 08 29.6**	**+2.0**
	SNR=18						
WMQ	**Urumqi**	**41.46**	**352**	*e*P	**P**	**22 08 28.0**	**+0.6**
WMQ				PP	PP	22 10 06.5	+0.3
WMQ				PCP	PcP	22 10 27.5	+1.9
WMQ				S	**S**	**22 14 41.0**	**0.0**
WMQ				AMB	AMB		
	comp=Z,200nm,1.5s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,937nm,5.6s						
WMQ				LR	LR		
	comp=N,12μm,20.0s,MS5.9						
WMQ				LR	LR		
	comp=E,12μm,24.2s,MS5.9						
WMQ				LR	LR		
	comp=Z,15μm,18.8s						
HOQ	**Hoqain**	**41.70**	**303**	P	**P**	**22 08 32.0**	**+2.3**
	SNR=8.1						
BJT	**Baijiatuau**	**41.98**	**25**	*e*P	**P**	**22 08 32.9**	**+1.1**
BJT				pmax	pmax		
	comp=Z,71nm,0.7s						
BJT				MLR	MLR		
	comp=Z,27μm,19.0s						
BJT	**Baijiatuau**	**41.98**	**25**	*e*P	**P**	**22 08 32.9**	**+1.2**
	comp=Z,71nm,0.7s,mb5.4						
BJT				LR	LR		
	comp=Z,27μm,19.0s,MS6.1						
BJI	**Beijing**	**42.01**	**25**	P	**P**	**22 08 33.3**	**+1.3**
BJI						22 10 24.0	
BJI				S	**S**	**22 14 56.1**	**+6.9**
BJI				pmax	pmax		
	comp=Z,122nm,1.0s,mb5.5						
BJI				MLR	MLR		
	comp=Z,18μm,18.5s,MS6.0						
BJI	**Beijing**	**42.01**	**25**	P	**P**	**22 08 33.3**	**+1.3**
	comp=Z,122nm,1.0s,mb5.5						
BJI				PP	PP	22 10 24.0	+12
BJI				S	**S**	**22 14 56.1**	**+6.9**
BJI				SS	SS	22 18 19.2	+28
BJI				LR	LR		
	comp=Z,18μm,18.5s,MS6.0						
ARQ	**Araqi**	**42.26**	**302**	⇑P	**P**	**22 08 36.9**	**+2.6**
RBK	**Rabkut**	**42.37**	**293**	⇓P	**P**	**22 08 35.6**	**+0.4**
	SNR=7.2						
ULHL	**Ulahol**	**42.74**	**340**	P	**P**	**22 08 38.7**	**+0.7**
	SNR=10						
KZA	**Kyzart**	**42.94**	**339**	P	**P**	**22 08 40.8**	**+1.2**
	SNR=18						
ABTO	**Aybut**	**43.16**	**293**	⇑P	**P**	**22 08 42.1**	**+0.4**
UCH	**Uchtor**	**43.34**	**338**	P	**P**	**22 08 43.7**	**+0.9**
	SNR=36						
AAA	**Alma-Ata**	**43.41**	**341**	*i*P	**P**	**22 08 44.0**	**+0.6**
AAA				*e*S	**S**	**22 15 16.0**	**+6.3**
AAA				pmax	pmax		
	comp=Z,2μm,6.0s						
AAA				smax			
	comp=E,9μm,10.0s						
AAA				MLR	MLR		
	comp=Z,8μm,16.0s,MS5.7						
KBK	**Karagaybulak**	**43.55**	**339**	P	**P**	**22 08 45.7**	**+1.1**
	SNR=60						
TKM2	**Tokmak 2**	**43.56**	**340**	P	**P**	**22 08 44.8**	**+0.3**
	SNR=31						
AML	**Almayashu**	**43.57**	**337**	P	**P**	**22 08 45.2**	**+0.6**
	SNR=54						
AAK	**Ala-Archa**	**43.70**	**338**	P	**P**	**22 08 48.7**	**+3.0**
	SNR=28						
AAK	**Ala-Archa**	**43.70**	**338**	*e*P	**P**	**22 08 44.4**	**-1.3**
AAK				pmax	pmax		
	comp=Z,128nm,1.2s,mb5.5						
AAK				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.2						
AAK	**Ala-Archa**	**43.70**	**338**	*e*P	**P**	**22 08 44.4**	**-1.3**
	comp=Z,128nm,1.2s,mb5.5						
AAK				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
FRU	**Bishkek**	**43.83**	**339**	⇓*i*P	**P**	**22 08 48.5**	**+1.7**
FRU				*i*	pP	22 08 54.5	+0.6
FRU				pmax	pmax		
	comp=Z,850nm,3.5s						
FRU				MLR	MLR		
	comp=Z,12μm,20.0s,MS5.8						
CHMS	**Chumysh**	**43.92**	**339**	P	**P**	**22 08 49.7**	**+2.1**
	SNR=17						
EKS2	**Erkin-Say**	**43.99**	**338**	P	**P**	**22 08 48.8**	**+0.7**
	SNR=28						
USP	**Ospenovka**	**44.25**	**339**	P	**P**	**22 08 50.2**	**0.0**
	SNR=63						
WRA	**Warramunga Arr**	**44.93**	**122**	P	**P**	**22 08 55.9**	**-0.2**
	comp=Z,82nm,0.9s,mb5.6,baz=301,slow=8.8,SNR=57						
WRA				PcP	PcP	22 10 37.3	-0.4
	comp=Z,11nm,0.9s,baz=306,slow=3.1,SNR=5.0						
WRAB	**Tennant Creek**	**44.94**	**122**	*e*P	**P**	**22 08 54.8**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,203nm,1.0s,mb5.9						
WRAB				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.3						
WRAB	**Tennant Creek**	**44.94**	**122**	*e*P	**P**	**22 08 54.8**	**-1.2**
	comp=Z,203nm,1.0s,mb5.9						
WRAB				LR	LR		
	comp=Z,4μm,19.0s,MS5.3						
WB2	**Warramunga Arr**	**44.95**	**122**	⇓*i*P	**P**	**22 08 55.7**	**-0.4**
MKAR	**Makanchi Array**	**45.27**	**348**	*e*P	**P**	**22 08 57.9**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,65nm,0.9s						
FORT	**Forrest**	**46.01**	**139**	*e*P	**P**	**22 09 05.3**	**+0.9**
	comp=Z,325nm,0.9s,mb6.3						
FORT				*e*S	**S**	**22 15 46.4**	**-1.0**
KS15	**Wonju Array Si**	**46.12**	**37**	*e*P	**P**	**22 09 05.1**	**0.0**
SONM	**Songino Array**	**46.13**	**11**	P	**P**	**22 09 05.1**	**0.0**
	comp=Z,36nm,0.8s,mb5.3,baz=191,slow=7.6,SNR=152						
SONM				PcP	PcP	22 10 41.2	-0.3
	comp=Z,16nm,1.1s,baz=196,slow=3.0,SNR=4.3						
ASPA	**Alice Springs**	**46.27**	**127**	*e*P	**P**	**22 09 06.5**	**0.0**
ASPA				*e*S		22 14 37.5	
ASAR	**Alice Springs**	**46.27**	**127**	P	**P**	**22 09 06.0**	**-0.6**
	comp=Z,31nm,0.9s,mb5.2,baz=295,slow=6.8,SNR=35						
ASAR				PcP	PcP	22 10 42.3	0.0
	comp=Z,22nm,0.9s,baz=298,slow=3.1,

SNY AMB AMB
comp=Z,60nm,0.8s,mb5.6
SNY LR LR
comp=N,26μm,15.6s
SNY LR LR
comp=Z,34μm,18.8s,MS6.3
ZAK Zakamensk 48.11 7⇑ *i P* **P 22 09 20.3 -0.3**
MOY Mondy 49.13 5 *e P* **P 22 09 28.7 +0.2**
TLY Talaya 49.43 7 *P* **P 22 09 31.0 +0.2**
comp=Z,481nm,0.9s,mb6.5,SNR=54
TLY Talaya 49.43 7 *c i P* **P 22 09 30.5 -0.3**
TLY *e* 22 11 28.1
TLY *e*S **S 22 16 39.5 +4.2**
TLY *e*PS PS 22 16 52.0 +5.4
TLY *e*SS ScS 22 19 22.2 +4.0
TLY pmax pmax
comp=Z,78nm,0.9s,mb5.7
TLY MLR MLR
comp=Z,20μm,16.0s,MS6.2
TLY Talaya 49.43 7 *e P* **P 22 09 31.1 +0.3**
comp=Z,50nm,0.9s,mb5.5
TLY LR LR
comp=Z,7μm,19.0s,MS5.7
KURK Kurchatov 49.77 347⇑ *i P* **P 22 09 33.1 -0.4**
KURK Kurchatov 49.77 347 PFAKE 22 09 40.0 +6.5
KURK LR LR
comp=Z,3μm,20.0s,MS5.3
IRK Irkutsk 50.06 8 *e P* **P 22 09 35.7 +0.1**
IRK *e*S **S 22 16 41.6 -2.5**
IRK pmax pmax
comp=Z,142nm,3.9s
HIA Hailar 51.13 21 *e P* **P 22 09 43.6 -0.2**
HIA pmax pmax
comp=Z,116nm,0.9s
HIA MLR MLR
comp=Z,62μm,19.0s
HIA Hailar 51.13 21 *e P* **P 22 09 43.6 -0.2**
comp=Z,116nm,0.9s,mb5.8
HIA LR LR
comp=Z,62μm,19.0s,MS6.7
CBIJ Chichi jima 51.50 57 LR LR 22 28 37.5
comp=Z,6μm,21.6s,MS5.6,baz=244,slow=33
ZAL Zalesovo 51.76 353 P **P 22 09 48.2 -0.3**
comp=Z,257nm,1.3s,mb6.0,baz=295,slow=6.4,SNR=46
RAYN Ar Rayn 51.86 298 P **P 22 09 49.6 -0.1**
comp=Z,333nm,0.9s,mb6.3,SNR=25
MDJ Mudanjiang 51.88 31 P **P 22 09 49.5 -0.1**
MDJ PCP PcP 22 11 02.5 +0.2
MDJ PP PP 22 11 46.5 -1.7
MDJ SCP 22 14 58.5
MDJ S **S 22 17 15.3 +6.0**
MDJ AMB AMB
comp=Z,27nm,0.7s,mb5.3
MDJ AMB AMB
comp=Z,3μm,7.9s
MDJ LR LR
comp=N,17μm,15.2s,MS6.4
MDJ LR LR
comp=E,19μm,13.7s,MS6.4
MDJ LR LR
comp=Z,29μm,12.2s,MS6.5
MDJ Mudanjiang 51.88 31 *e P* **P 22 09 50.1 +0.5**
comp=Z,84nm,1.2s,mb5.5
MDJ LR LR
comp=Z,16μm,20.0s,MS6.0
VLA Vladivostok 52.13 34⇓ *i P* **P 22 09 52.0 +0.5**
VLA *i* S **S 22 17 20.0 +7.3**
VLA *i* SS SS 22 20 50.0 +1.7
VLA pmax pmax
comp=Z,4μm,9.0s
VLA pmax pmax
comp=N,1μm,8.0s
VLA pmax pmax
comp=E,2μm,6.0s
VLA pmax pmax
comp=Z,2μm,11.0s
VLA pmax pmax
comp=N,1μm,10.0s
VLA pmax pmax
comp=E,1μm,10.0s
VLA smax
comp=N,2μm,8.0s
VLA smax
comp=E,2μm,8.0s
VLA MLR MLR
comp=Z,14μm,13.0s,MS6.2
VLA MLR MLR
comp=N,24μm,16.0s
MAJO Matsushiro 52.37 44 *e P* **P 22 09 55.7 +2.3**
MAJO MLR MLR
comp=Z,22μm,20.0s,MS6.2
MAT Matsushiro 52.37 44 *e P* **P 22 09 55.0 +1.6**
MAT *e*S **S 22 17 25.0 +9.0**
MAT pmax pmax
comp=Z,45nm,1.8s,mb5.1
MAT MLR MLR
comp=Z,22μm,20.0s,MS6.2
MAT Matsushiro 52.37 44 *e P* **P 22 09 55.0 +1.6**
comp=Z,46nm,1.8s,mb5.1
MAT *e*S **S 22 17 25.0 +9.0**
MAT LR LR
comp=Z,22μm,20.0s,MS6.2
MAT Matsushiro 52.37 44 P **P 22 09 54.9 +1.5**
MAT S **S 22 17 21.0 +5.0**
NVS Novosibirsk 52.85 352 *e P* **P 22 09 54.6 -2.1**
NVS *e*S **S 22 17 24.9 +2.6**
NVS pmax pmax
comp=N,108nm,1.0s
NVS pmax pmax
comp=E,100nm,1.0s
NVS pmax pmax
comp=Z,213nm,1.0s,mb6.0
NVS smax
comp=N,201nm,3.7s
NVS smax
comp=E,133nm,2.9s
PMG Port Moresby 53.64 104 P **P 22 10 02.8 -0.2**
PMG MLR MLR
comp=Z,6μm,19.0s
PMG Port Moresby 53.64 104 P **P 22 10 02.8 -0.2**
comp=Z,61nm,0.8s,mb5.6,baz=305,slow=3.8,SNR=10
BVAR Borovoye Array 54.08 342 P **P 22 10 04.3 -1.5**
comp=Z,52nm,0.8s,mb5.5,baz=143,slow=7.4,SNR=87
BRVK Borovoye 54.14 342 P **P 22 10 04.9 -1.3**
BRVK pmax pmax
comp=Z,62nm,1.0s,mb5.5
BRVK Borovoye 54.14 342 *e P* **P 22 10 04.7 -1.5**
comp=Z,85nm,1.0s,mb5.6
BRVK LR LR
comp=Z,1μm,20.0s,MS5.0
CHKZ Chkalovo 54.57 343 *e P* **P 22 10 08.2 -1.2**
CHKZ pmax pmax
comp=Z,278nm,1.1s,mb6.2
CHKZ Chkalovo 54.57 343 *e P* **P 22 10 08.2 -1.1**
comp=Z,278nm,1.1s,mb6.2
CTA Charters Tower 55.40 117 *e P* **P 22 10 18.7 +2.8**
comp=Z,43nm,1.0s,mb5.4
CTA *e*S **S 22 17 55.4 -1.8**
CTA Charters Tower 55.40 117 *e P* **P 22 10 18.7 +2.8**
CTA *e*S **S 22 17 55.4 -1.8**
CTA pmax pmax
comp=Z,43nm,1.0s
CTA Charters Tower 55.40 117 P **P 22 10 16.1 +0.2**
comp=Z,63nm,1.0s,mb5.6,baz=282,slow=8.5,SNR=22
CTA LR LR 22 37 39.1
comp=Z,10μm,19.2s,MS5.9,baz=283,slow=40
CTAO Charters Tower 55.40 117 *e P* **P 22 10 15.9 0.0**
CTAO pmax pmax
comp=Z,73nm,1.0s,mb5.7
CTAO MLR MLR
comp=Z,10μm,19.0s,MS5.9
CTAO Charters Tower 55.40 117 *e P* **P 22 10 15.9 +0.1**
comp=Z,73nm,1.0s,mb5.7
CTAO LR LR
comp=Z,10μm,19.0s,MS5.9
BHD Baghdad 55.97 309 *e P* **P 22 10 15.0 -4.8**
KLR Kul'dur 56.13 28 *d i P* **P 22 10 17.5 -3.2**
KLR *e* 22 12 26.5
KLR *e*S **S 22 18 07.5 +0.9**
KLR pmax pmax
comp=N,5μm,7.5s
KLR pmax pmax
comp=E,2μm,7.5s
KLR pmax pmax
comp=Z,6μm,7.5s
KLR MLR MLR
comp=Z,42μm,13.0s,MS6.7
STKA Stephens Creek 56.19 132 *e P* **P 22 10 21.2 -0.2**
comp=Z,31nm,1.0s,mb5.3
STKA *e*S **S 22 18 09.2 +1.6**
STKA Stephens Creek 56.19 132 P **P 22 10 20.2 -1.2**
comp=Z,34nm,0.9s,mb5.4,baz=306,slow=6.9,SNR=14
STKA LR LR 22 35 27.6
comp=Z,10μm,19.1s,MS5.9,baz=305,slow=37
BOD Bodaibo 57.09 12 *e P* **P 22 10 26.3 -1.1**
KMBO Kilima Mbogo 57.54 267 P **P 22 10 30.2 -1.0**
comp=Z,10nm,0.9s,mb4.9,baz=57,slow=9.3,SNR=18
KMBO LR LR 22 32 33.6
comp=Z,11μm,18.9s,MS6.0,baz=88,slow=33
MAK Makhachkala 58.01 321 *e P* **P 22 10 32.0 -2.1**
MAK *e* 22 11 28.0
MAK *e*S **S 22 18 32.0 +0.5**
MAK *e*PS PS 22 18 55.0 +7.1
MAK *e* 22 20 21.0
MAK pmax pmax
comp=Z,5μm,8.0s
MAK smax
comp=N,4μm,14.0s
MAK smax
comp=E,2μm,14.0s
ERM Erimo 58.38 41 PFAKE 22 10 50.0 +13
ERM LR LR
comp=Z,16nm,19.0s
GNI Garni 58.51 317 P **P 22 10 36.9 -0.7**
comp=Z,16nm,0.6s,mb5.2,baz=205,slow=2.7,SNR=10
GNI LR LR 22 40 35.0
comp=Z,4μm,18.4s,MS5.6,baz=3.0,slow=41
ASAJ Asahikawa 59.06 39 P **P 22 10 42.0 +0.5**
comp=Z,11nm,0.6s,mb5.1,baz=249,slow=15,SNR=6.0
CLNS Chul'man 59.14 19 *e P* **P 22 10 41.7 -0.1**
CLNS *e* 22 11 28.6
CLNS *e*S **S 22 18 48.5 +2.5**
CLNS *e*SS SS 22 22 46.5 +4.5
CLNS pmax pmax
comp=N,71nm,0.9s
CLNS pmax pmax
comp=Z,93nm,0.9s,mb5.8
CLNS pmax pmax
comp=E,84nm,1.1s
CLNS pmax pmax
comp=Z,16nm,1.2s,mb4.9
CLNS pmax pmax
comp=N,22nm,1.1s
CLNS pmax pmax
comp=E,14nm,0.8s
CLNS smax
comp=N,3μm,7.4s
CLNS smax
comp=Z,2μm,6.0s
CLNS smax
comp=E,763nm,7.6s
CLNS MLR MLR
comp=Z,55μm,15.0s,MS6.8
CLNS MLR MLR
comp=N,33μm,14.0s,MS6.6
CLNS MLR MLR
comp=E,6μm,15.0s,MS6.6
TI2 Plekhanov 59.22 318⇑ *i P* **P 22 10 42.0 -0.6**
TI2 *e* 22 10 56.0
TI2 *e* 22 18 48.0
TI2 pmax pmax
comp=Z,30nm,1.0s,mb5.3
TI2 pmax pmax
comp=Z,100nm,1.0s,mb5.8
TI2 MLR MLR
comp=N,2μm,17.0s,MS5.3
TI2 MLR MLR
comp=E,2μm,17.0s,MS5.3
TI2 MLR MLR
comp=Z,1μm,17.0s,MS5.0
AKH Akhalkalaki 59.92 317 P **P 22 10 48.3 +0.9**
SVE Sverdlovsk 60.43 339⇑ *e P* **P 22 10 48.7 -2.0**
SVE *e* 22 11 33.8
SVE *e* 22 13 13.0
SVE *e*S **S 22 19 02.0 -0.6**
SVE *e*PS PS 22 19 20.0 -1.1
SVE *e* 22 20 30.8
SVE pmax pmax
comp=Z,400nm,1.6s,mb6.2
SVE pmax pmax
comp=Z,240nm,2.0s,mb5.9
SVE pmax pmax
comp=Z,3μm,8.0s
SVE smax
comp=N,3μm,8.0s
SVE smax
comp=E,3μm,8.0s
SVE MLR MLR
comp=Z,10μm,20.0s,MS5.9
ONI Oni 60.46 319 S **S 22 18 59.4 -3.7**
YSS Yuzh-Sakhalins 60.61 36 *α i P* **P 22 10 51.0 -1.0**
YSS *e* 22 11 31.2
YSS *e* 22 13 08.0
YSS *e*S **S 22 19 03.0 -2.0**
YSS *e*PS PS 22 19 14.0 -9.5
YSS *e*PPS PPS 22 19 38.0 +5.9
YSS pmax pmax
comp=Z,80nm,1.1s,mb5.8
YSS pmax pmax
comp=E,2μm,8.0s
YSS pmax pmax
comp=Z,4μm,8.0s
YSS MLR MLR
comp=Z,19μm,18.0s,MS6.3
YSS MLR MLR
comp=N,17μm,17.0s,MS6.3
YSS MLR MLR
comp=E,12μm,19.0s,MS6.3
YSS Yuzh-Sakhalins 60.61 36 *e P* **P 22 10 51.2 -0.8**
comp=E,70nm,0.9s,mb5.8
YSS LR LR
comp=Z,21μm,19.0s,MS6.3
ARU Arti 60.89 338 P **P 22 10 51.9 -1.9**
comp=Z,350nm,1.1s,mb6.4,SNR=59
ARU Arti 60.89 338⇑ *i P* **P 22 10 46.1 -7.7**
ARU *i* S **S 22 18 58.9 -10**
ARU pmax pmax
comp=Z,134nm,1.1s,mb6.0
YUK Yuzh-Kuril'sk 61.08 40 *e P* **P 22 10 55.0 -0.3**
YUK *e* 22 11 45.0
YUK *e* 22 13 11.0
YUK *e*S **S 22 19 13.0 +1.9**
YUK *i* PS PS 22 19 34.0 +4.2
YUK pmax pmax
comp=Z,6μm,7.0s
YUK smax
comp=N,5μm,5.0s
YUK smax
comp=E,3μm,5.0s
YUK MLR MLR
comp=N,8μm,18.0s,MS6.3
YUK MLR MLR
comp=E,19μm,18.0s,MS6.3
YUK MLR MLR
comp=Z,26μm,18.0s,MS6.4
KIV Kislovodsk 61.57 320 P **P 22 10 57.4 -1.2**
comp=Z,516nm,1.1s,mb6.6,SNR=24
KIV Kislovodsk 61.57 320 *e P* **P 22 10 57.3 -1.3**
KIV *e* 22 11 39.6
KIV *e* 22 13 14.6
KIV *i* S **S 22 19 17.6 +0.3**
KIV *e*SS SS 22 23 16.1 -4.2
KIV pmax pmax
comp=N,99nm,1.2s
KIV pmax pmax
comp=E,35nm,1.2s
KIV pmax pmax
comp=Z,120nm,1.2s,mb5.9
KIV smax
comp=N,983nm,6.1s
KIV smax
comp=E,390nm,6.1s
KIV Kislovodsk 61.57 320 *e P* **P 22 10 57.5 -1.1**
comp=E,118nm,1.1s,mb5.9
KIV LR LR
comp=Z,780nm,22.0s
ASF Jabal al Asfar 61.58 305 P **P 22 10 58.5 -0.3**
comp=Z,14nm,0.8s,mb5.2,baz=338,slow=4.0,SNR=22
ASF LR LR 22 37 15.7
comp=Z,6μm,18.2s,MS5.8,baz=329,slow=36
GOF Gofitskoye 61.85 321 *e P* **P 22 11 00.0 -0.5**
GOF pmax pmax
comp=Z,60nm,1.3s,mb5.6
GOF MLR MLR
comp=N,3μm,16.0s,MS5.8
GOF MLR MLR
comp=E,4μm,16.0s,MS5.8
GOF MLR MLR
comp=Z,6μm,16.0s,MS5.8
MALT Malatya 62.29 312 *e P* **P 22 11 01.4 -2.2**
MALT pmax pmax
comp=Z,82nm,1.3s,mb5.7
MALT Malatya 62.29 312 *e P* **P 22 11 01.4 -2.2**
comp=Z,82nm,1.3s,mb5.7
EIL Elat 62.56 302 *e P* **P 22 11 04.2 -1.1**
comp=Z,44nm,1.2s,mb5.5
SOC Sochi 63.36 318 *i P* **P 22 11 07.6 -2.9**
SOC *e* 22 11 43.0
SOC *e* 22 13 27.7
SOC *e*PPP PPP 22 15 00.2 -2.7
SOC *i* S **S 22 19 34.7 -5.2**
SOC *e* 22 21 02.0
SOC *e*SS SS 22 23 47.9 -0.7
SOC pmax pmax
comp=Z,86nm,1.1s,mb5.8
SOC pmax pmax
comp=N,41nm,1.2s
SOC pmax pmax
comp=E,62nm,0.9s
SOC MLR MLR
comp=Z,2μm,15.0s,MS5.4
SOC MLR MLR
comp=N,1μm,18.0s,MS5.5
SOC MLR MLR
comp=E,2μm,17.0s,MS5.5
SOKR Solikamsk 63.84 340⇑ *i P* **P 22 11 11.8 -1.6**
SOKR pmax pmax
comp=Z,140nm,1.0s,mb6.0
SOKR MLR MLR
comp=Z,9μm,21.0s,MS5.9
MBAR Mbarara 64.01 268 *e P* **P 22 11 13.7 -1.6**
MBAR pmax pmax
comp=Z,30nm,1.4s,mb5.1
MBAR MLR MLR
comp=Z,30nm,1.0s,MS5.1
MBAR Mbarara 64.01 268 *e P* **P 22 11 13.7 -1.6**
comp=Z,30nm,1.4s,mb5.1
MBAR LR LR
comp=Z,1μm,20.0s,MS5.1
YAK Yakutsk 64.76 17 *e P* **P 22 11 18.5 -0.9**
YAK *e**PP pP 22 11 24.6 -2.1
YAK *e*S **S 22 19 59.3 +2.4**
YAK *e* 22 21 10.3
YAK pmax pmax
comp=Z,93nm,1.0s,mb5.8
YAK pmax pmax
comp=N,35nm,1.1s
YAK pmax pmax
comp=E,30nm,1.2s
YAK smax
comp=E,588nm,15.2s
YAK smax
comp=Z,204nm,12.5s
YAK smax
comp=N,785nm,16.6s
YAK MLR MLR
comp=N,15μm,17.0s,MS6.3
YAK MLR MLR
comp=Z,23μm,17.0s,MS6.4
YAK MLR MLR
comp=E,11μm,18.0s,MS6.3
YAK Yakutsk 64.76 17 *e P* **P 22 11 17.8 -1.6**
comp=E,145nm,0.9s,mb6.0
YAK LR LR
comp=Z,39μm,19.0s,MS6.6
CSS Prodhromos 65.19 307 *e P* **P 22 11 22.4 -0.2**
comp=Z,65nm,1.1s,mb5.6
ANN Anapa 65.35 319 *e P* **P 22 11 22.5 -1.0**
ANN *e*S S 22 20 04.9 +0.5
ANN pmax pmax
comp=Z,61nm,1.2s,mb5.5
TAU Tasmania Unive 65.53 140 PFAKE 22 11 40.0 +15
TAU LR LR
comp=Z,1μm,20.0s,MS5.1
BR131 Keskin Array S 66.28 313 PFAKE 22 11 40.0 +11
BR131 LR LR
comp=Z,2μm,19.0s,MS5.4
BRTR Keskin Array B 66.28 313 P **P 22 11 28.1 -1.4**
comp=Z,16nm,0.8s,mb5.1,baz=128,slow=6.5,SNR=40
VOR Voronezh 67.17 326 *e P* **P 22 11 34.0 -0.9**
VOR *e**PP pP 22 11 42.0 -0.3
VOR pmax pmax
comp=N,30nm,1.2s
VOR pmax pmax
comp=E,50nm,1.2s
VOR pmax pmax
comp=Z,80nm,1.2s,mb5.6
SIM Simferopol' 67.61 318⇑ *i P* **P 22 11 37.6 -0.2**
SIM *i* S S 22 20 32.0 +0.2
SIM PS 22 21 29.0
SIM pmax pmax
comp=Z,63nm,1.1s,mb5.6
SIM pmax pmax
comp=Z,670nm,9.4s
ISP Isparta 68.12 310 P **P 22 11 38.2 -3.0**
ISP pmax pmax
comp=Z,99nm,0.5s,mb6.1
ISP Isparta 68.12 310 *e P* **P 22 11 37.4 -3.8**
comp=Z,99nm,0.4s,mb6.2
LSZ Lusaka 68.13 252 P **P 22 11 41.1 -0.5**
LSZ pmax pmax
comp=Z,55nm,1.6s,mb5.3
LSZ MLR MLR
comp=Z,11μm,20.0s,MS6.1
LSZ Lusaka 68.13 252 *e P* **P 22 11 40.7 -0.9**
comp=Z,55nm,1.6s,mb5.3
LSZ LR LR
comp=Z,11μm,20.0s,MS6.1
CASY Casey 69.72 173 *e P* **P 22 11 53.6 +3.1**
MOS Moscow 69.81 330κ *i P* **P 22 11 50.0 -1.2**
MOS *e* 22 12 10.0
MOS *e* 22 14 27.1
MOS *e*PPP PPP 22 16 09.7 +2.5
MOS *e*S S 22 20 58.5 +0.8
MOS pmax pmax
comp=Z,121nm,0.9s,mb5.8
MOS MLR MLR
comp=Z,7μm,18.0s,MS5.9
OBN Obninsk 70.07 329κ *i P* **P 22 11 48.8 -4.0**
OBN *i* pP 22 11 57.5 -2.7
OBN *e* 22 12 01.7
OBN *e* 22 12 13.2
OBN *e*PPP PPP 22 16 10.2 +0.4
OBN *i* S S 22 20 57.4 -3.4
OBN pmax pmax
comp=Z,13nm,0.6s,mb5.0
OBN pmax pmax
comp=Z,114nm,1.4s,mb5.6
OBN Obninsk 70.07 329 *e P* **P 22 11 48.3 -4.6**
comp=Z,57nm,0.8s,mb5.5
OBN LR LR
comp=Z,1μm,19.0s,MS5.2
SKR Severo-Kuril's 70.16 36 *e P* **P 22 11 51.0 -2.5**
SKR *e* 22 12 10.0
SKR *e*PPP PPP 22 16 16.0 +5.2
SKR *e*S S 22 21 04.0 +2.1
SKR *e*PS PS 22 21 29.0 -3.0
SKR *e* 22 21 34.0
SKR *e*SS SS 22 25 30.0 -3.6
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
SKR pmax pmax
comp=Z,5μm,14.0s
SKR pmax pmax
comp=N,3μm,10.0s
SKR pmax pmax
comp=E,3μm,14.0s
SKR smax
comp=N,5μm,10.0s
SKR smax
comp=E,5μm,10.0s
SKR MLR MLR
comp=N,8μm,16.0s,MS6.1
SKR MLR MLR

comp=E,3μm,16.0s,MS6.1
SKR MLR MLR
comp=Z,8μm,16.0s,MS6.1
MA2 Magadan 71.14 27 *e*P **P 22 11 58.8 -0.4**
MA2 *e*S S 22 21 13.3 +0.1
MA2 *e* 22 21 49.8
MA2 pmax pmax
comp=Z,30nm,1.0s,mb5.2
MA2 MLR MLR
comp=Z,33μm,22.0s,MS6.5
MA2 Magadan 71.14 27 *e*P **P 22 11 58.1 -1.1**
comp=Z,46nm,0.9s,mb5.4
MA2 LR LR
comp=Z,12μm,20.0s,MS6.2
TIRR Tirgusor 71.34 316 ⇓P **P 22 12 00.3 -0.4**
KIS Kishinev 71.75 319 *e*P **P 22 12 00.0 -3.2**
KIS *e* 22 12 16.0
TIXI Tiksi 72.22 11⇑*i*P **P 22 12 04.4 -1.1**
TIXI *e* 22 14 44.8
TIXI *e*S S 22 21 24.1 -1.3
TIXI *e*SS SS 22 26 08.8 +3.6
TIXI pmax pmax
comp=Z,113nm,1.1s,mb5.7
TIXI MLR MLR
comp=Z,20μm,14.0s,MS6.5
TIXI MLR MLR
comp=N,12μm,15.0s,MS6.4
TIXI MLR MLR
comp=E,11μm,15.0s,MS6.4
TIXI Tiksi 72.22 11⇑*i*P **P 22 12 05.2 -0.3**
TIXI LR LR
comp=Z,22μm,20.0s,MS6.4
PET Petropavlovsk 72.45 35*c i*P **P 22 12 05.2 -2.0**
PET *e* 22 14 48.9
PET *e*S S 22 21 25.4 -3.0
PET *e*PS PS 22 22 05.4 +2.7
PET pmax pmax
comp=Z,69nm,1.3s,mb5.4
PET pmax pmax
comp=Z,2μm,15.8s
PET pmax pmax
comp=Z,3μm,17.7s
PET pmax pmax
comp=Z,500nm,13.0s
PET smax
comp=N,1μm,14.1s
PET MLR MLR
comp=N,14μm,16.0s
PET MLR MLR
comp=N,14μm,15.0s
PET MLR MLR
comp=Z,17μm,17.0s,MS6.4
PET MLR MLR
comp=Z,17μm,17.0s
PET Petropavlovsk 72.45 35 *e*P **P 22 12 06.9 -0.3**
comp=Z,50nm,0.9s,mb5.5
PET LR LR
comp=Z,16μm,19.0s,MS6.3
AKASG Malin Array Be 72.58 323 P **P 22 12 06.2 -1.8**
comp=Z,19nm,0.8s,mb5.0,baz=88,slow=4.7,SNR=31
VRI Vrincioaia 72.85 317 P **P 22 12 09.7 0.0**
BUC1 Bucharest 72.97 316 P sP 22 12 24.6 +4.1
MLR Muntele Rosu 73.29 317 P **P 22 12 12.0 -0.3**
comp=Z,47nm,1.0s,mb5.4,baz=97,slow=2.1,SNR=28
MLR Muntele Rosu 73.29 317 P **P 22 12 12.1 -0.1**
BOSA Boshof 73.34 239 P **P 22 12 12.5 -0.4**
BOSA pmax pmax
comp=Z,55nm,1.3s,mb5.3
BOSA MLR MLR
comp=Z,7μm,20.0s,MS5.9
BOSA Boshof 73.34 239 *e*P **P 22 12 10.8 -2.1**
comp=Z,56nm,1.4s,mb5.3
BOSA LR LR
comp=Z,7μm,20.0s,MS5.9
SEY Seymchan 73.43 24 *e*P **P 22 12 10.8 -1.9**
SEY 22 12 22.6
SEY 22 14 52.7
SEY *e*PPP PPP 22 16 36.3 -6.0
SEY *e*S S 22 21 38.2 -1.1
SEY 22 22 15.7
SEY SS SS 22 26 24.1 -0.2
SEY SSS SSS 22 29 38.4 +3.3
SEY pmax pmax
comp=Z,180nm,1.1s,mb5.9
SEY pmax pmax
comp=N,30nm,1.0s
SEY pmax pmax
comp=E,70nm,1.0s
SEY smax
comp=N,9μm,10.9s
SEY smax
comp=E,2μm,9.0s
SEY MLR MLR
comp=Z,73μm,21.0s,MS6.9
SEY MLR MLR
comp=N,40μm,25.0s,MS6.7
SEY MLR MLR
comp=E,27μm,20.0s,MS6.7
SNX Sinaia 73.55 317 P **P 22 12 14.3 +0.5**
MAW Mawson 73.57 192 P **P 22 12 14.2 +0.7**
comp=E,5.1nm,0.3s,mb5.0,baz=230,slow=20,SNR=6.9
MAW LR LR 22 40 56.8
comp=E,4μm,18.0s,MS5.8,baz=26,slow=33
MTUR Matau 73.83 316 P **P 22 12 16.3 +0.9**
BURAR Bucovina Array 74.28 319 P **P 22 12 18.9 +0.9**
MNK Minsk 74.55 326 *e*P **P 22 12 15.0 -4.4**
VTS Vitosha 74.61 313 P **P 22 12 19.1 -0.9**
PUL Pulkovo 75.03 332 *e*P **P 22 12 20.3 -1.7**
PUL *i* 22 12 34.1
PUL *i* 22 15 05.7
PUL *i* PPP PPP 22 16 57.2 -0.1
PUL *e*S S 22 21 54.7 -2.4
PUL pmax pmax
comp=Z,96nm,0.8s,mb5.8
PUL pmax pmax
comp=N,32nm,0.6s
PUL pmax pmax
comp=E,59nm,0.7s
PUL smax
comp=Z,388nm,7.5s
PUL smax
comp=N,3μm,16.9s
PUL smax
comp=E,2μm,15.2s
PUL smax
comp=N,3μm,5.9s
PUL smax
comp=Z,3μm,8.4s
PUL smax
comp=E,873nm,3.4s
LVV L'vov 75.56 321⇑*i*P **P 22 12 25.9 +0.6**
LVV *e*S S 22 21 59.9 -3.3
LVV MLR MLR
comp=Z,780nm,19.0s,MS5.0
LVV MLR MLR
comp=N,300nm,18.0s,MS5.0
LVV MLR MLR
comp=E,680nm,19.0s,MS5.0
JOF Joensuu 75.77 335 *e*p **P 22 12 24.5 -1.7**
SKO Skopje 75.79 313 *i*P **P 22 12 25.5 -1.3**
DRV Dumont d'Urvil 76.26 163 P **P 22 12 38.0 +9.1**
DRV S S 22 22 15.0 +4.5
DRV SS SS 22 27 07.0 -0.6
KWP Kalwaria 76.35 320 *e*P **P 22 12 29.7 -0.1**
KWP *e* 22 12 42.2
KWP Kalwaria 76.35 320 *e*P **P 22 12 29.7 -0.1**
KWP *e*pP pP 22 12 32.6 -4.6
KWP *e*PcP PcP 22 12 42.2 +0.3
KWP Kalwaria 76.35 320 *e*P **P 22 12 29.7 0.0**
KWP *e*pP pP 22 12 32.6 -4.7
KWP *e*PcP PcP 22 12 42.2 +0.3
KWP MLR MLR 22 53 14.9
comp=E,4μm,19.5s,MS5.7
KOLS Kolonicke sedl 76.49 320 *i*P **P 22 12 31.2 +0.7**
LVZ Lovozero 76.62 340 *e*P **P 22 12 30.7 -0.2**
LVZ *i* 22 12 42.0
LVZ *i* 22 15 27.9
LVZ *i* PPP PPP 22 17 06.7 -5.7
LVZ *e*S S 22 22 16.4 +2.0
LVZ *i* SS SS 22 27 11.2 -1.8
LVZ pmax pmax
comp=Z,43nm,1.0s,mb5.3
LVZ pmax pmax
comp=N,13nm,1.1s
LVZ pmax pmax
comp=E,12nm,1.2s
LVZ pmax pmax
comp=Z,2μm,4.1s
LVZ pmax pmax
comp=N,1μm,3.8s
LVZ smax
comp=Z,747nm,11.4s
LVZ smax
comp=N,3μm,15.0s
LVZ smax
comp=E,2μm,16.7s
LVZ smax
comp=N,2μm,5.7s
LVZ smax
comp=Z,2μm,3.6s
LVZ smax
comp=E,2μm,6.1s
APA Apatity 76.89 340⇑*i*P **P 22 12 31.6 -0.8**
APA *i* pP 22 12 39.9 0.0
APA *i* 22 12 49.0
APA *i* S S 22 22 18.0 +0.6
APA pmax pmax
comp=Z,54nm,1.2s,mb5.3
APA MLR MLR
comp=Z,9μm,16.0s,MS6.2
APA MLR MLR
comp=Z,9μm,16.0s
CRVS Cervenica-Dubn 77.00 320 *e*P **P 22 12 34.5 +1.1**
SUW Suwalki 77.04 325 *e*P **P 22 12 31.9 -1.6**
SUW *e* 22 12 45.4
SUW *e*S S 22 22 17.9 -1.4
SUW Suwalki 77.04 325 *e*P **P 22 12 31.9 -1.6**
SUW *e*pP pP 22 12 36.5 -4.5
SUW *e*PcP PcP 22 12 45.4 +0.6
SUW *e*S S 22 22 17.9 -1.4
SUW Suwalki 77.04 325 *e*P **P 22 12 31.9 -1.6**
SUW *e*pP pP 22 12 36.5 -4.6
SUW *e*PcP PcP 22 12 45.4 +0.6
SUW *e*S S 22 22 17.9 -1.4
SUW MLR MLR 22 59 05.9
comp=Z,5μm,18.0s,MS5.9
DIVS Divcibare 77.18 315⇓*i*P **P 22 12 36.9 +2.5**
FINES FINESS Array B 77.56 333 P **P 22 12 35.7 -0.5**
comp=Z,17nm,0.9s,mb5.0,baz=117,slow=8.5,SNR=20
FINES LR LR 22 54 20.3
comp=Z,5μm,19.0s,MS5.8,baz=277,slow=42
FINES FINESS Array B 77.56 333 P **P 22 12 35.7 -0.5**
FINES LR LR 22 54 20.3
KECS Kecovo 77.56 319 *i*P **P 22 12 36.4 -0.1**
KAF Kangasniemi 77.66 333 *e*p **P 22 12 35.2 -1.6**
comp=Z,45nm,0.9s,mb5.4,baz=105,slow=5.2
KAF Kangasniemi 77.66 333 *e*P **P 22 12 35.2 -1.6**
KAF pmax pmax
comp=Z,45nm,0.9s,mb5.4
NIE Niedzica 77.84 320 *e*P **P 22 12 38.6 +0.6**
PSZ Piszkesteto 77.86 318 P **P 22 12 38.2 +0.1**
PSZ pmax pmax
comp=Z,62nm,1.2s,mb5.4
PSZ Piszkesteto 77.86 318 *e*P **P 22 12 38.3 +0.2**
SUR Sutherland 77.86 236 *e*P **P 22 12 39.1 +0.6**
comp=Z,55nm,1.0s,mb5.4
SUR LR LR
comp=Z,2μm,19.0s,MS5.5
WAR Warsaw 77.93 323 *e*P **P 22 12 40.6 +2.2**
WAR MLR MLR 22 52 49.6
comp=Z,5μm,20.5s,MS5.8
OJC Ojcow 78.31 321 *e*P **P 22 12 40.5 -0.1**
OJC *e*S S 22 22 31.7 -1.3
OJC MLR MLR 22 54 09.0
comp=Z,4μm,18.7s,MS5.7
PKSM Moragy 78.44 317⇓*e*P **P 22 12 40.7 -0.7**
VYHS Vyhne 78.65 319 *i*P **P 22 12 44.0 +1.5**
VYHS *i*S S 22 22 37.5 +0.8
OKC Ostrava-Krasne 79.30 320 *e*P **P 22 12 46.3 +0.3**
OKC *e*pP pP 22 12 54.4 +0.9
OKC *e*S S 22 22 45.7 +2.1
OKC Ostrava-Krasne 79.30 320 *e*P **P 22 12 46.3 +0.3**
OKC *e*pP pP 22 12 54.4 +0.9
OKC *e*S S 22 22 45.7 +2.1
OKC AMS AMS 22 54 40.0
comp=Z,3μm,18.2s
MORC Moravsky Berou 79.68 320 P **P 22 12 47.6 -0.4**
MORC pmax pmax
comp=Z,52nm,1.3s,mb5.3
MORC Moravsky Berou 79.68 320 *e*P **P 22 12 46.5 -1.5**
comp=Z,63nm,1.3s,mb5.4
ZST Bratislava 79.75 318 *i*P **P 22 12 48.7 +0.2**
ZST *i*S S 22 22 45.2 -3.1
KEV Kevo 79.91 341 *e*p **P 22 12 47.8 -1.1**
ARCES ARCESS Array B 80.33 341 P **P 22 12 51.1 0.0**
comp=Z,40nm,1.1s,mb5.3,baz=117,slow=2.7,SNR=15
ARCES LR LR 22 54 18.1
comp=Z,6μm,18.9s,MS6.0,baz=113,slow=40
ARE0 ARCESS Array S 80.33 341 *e*P **P 22 12 51.0 -0.1**
GKP Gorka Klasztor 80.37 324 *e*P **P 22 12 50.9 -0.8**
GKP *e*S S 22 22 55.8 +1.1
GKP *e*SS 22 23 01.6
GKP MLR MLR
comp=Z,4μm,21.5s,MS5.7
GKP Gorka Klasztor 80.37 324 *e*P **P 22 12 50.9 -0.8**
GKP *e*S S 22 22 55.8 +1.1
GKP *e*SS 22 23 01.6
GKP MLR MLR 22 53 00.2
comp=Z,4μm,21.5s,MS5.7
DPC Dobruska-Polom 80.53 320 *e*P **P 22 12 53.1 +0.5**
DPC *e*pP pP 22 13 01.7 +1.6
DPC *e*S S 22 23 00.6 +4.1
DPC AMS AMS 22 56 40.0
comp=Z,4μm,16.9s
CRES Cresnjev 80.59 316 *e* pP 22 13 04.4 +3.8
KSP Ksiaz 80.62 321 *e*P **P 22 12 54.7 +1.7**
KSP *e* pP 22 13 01.3 +0.8
KSP *e*S S 22 22 59.0 +1.7
KSP MLR MLR
comp=Z,6μm,20.3s,MS6.0
KSP Ksiaz 80.62 321 *e*P **P 22 12 54.3 +1.3**
KSP *e*pP pP 22 12 56.5 -4.0
KSP *e*S S 22 22 59.6 +2.3
KSP *e*SS 22 23 04.8
KSP MLR MLR 22 53 41.4
comp=Z,6μm,20.3s,MS5.9
SYO Syowa Base 80.62 197⇑P **P 22 12 56.3 +3.6**
SYO Syowa Base 80.62 197⇑pP pP 22 12 59.0 -1.2
SYO Syowa Base 80.62 197⇓PcP PcP 22 13 01.6 +1.7
ARSA Arzberg 80.69 317⇑*i*P **P 22 12 55.9 +2.4**
comp=Z,54nm,1.2s,mb5.4
BOJS Bojanci 80.70 316 *e*P **P 22 12 53.8 +0.2**
BOJS *e* 22 12 55.3
BILL Bilibino 80.72 21 *e*P **P 22 12 53.6 +0.4**
BILL pmax pmax
comp=Z,17nm,0.9s,mb5.0
BILL MLR MLR
comp=Z,20μm,20.0s,MS6.5
BILL Bilibino 80.72 21 *e*P **P 22 12 53.6 +0.4**
comp=Z,17nm,0.9s,mb5.0
BILL LR LR
comp=Z,20μm,20.0s,MS6.5
UPC Upice 80.75 321 *e*P **P 22 12 55.8 +2.1**
UPC *e*pP pP 22 13 03.0 +1.7
PERS Pernice 80.91 317 *e*P **P 22 12 55.0 +0.3**
FX1 Attu Island--F 80.94 37 P **P 22 12 55.1 +0.5**
comp=Z,48nm,0.7s,mb5.6,baz=132,slow=8.4,SNR=7.2
FX1 Attu Island--F 80.94 37 *e*P **P 22 12 57.1 +2.5**
KTK1 Kautokeino 80.94 340 *e*P **P 22 12 55.2 +0.8**
comp=Z,120nm,1.7s,mb5.5
KTK1 Kautokeino 80.94 340 *e*P **P 22 12 55.2 +0.8**
KTK1 AMb AMB 22 13 04.3
comp=Z,120nm,1.7s,mb5.6
LJU Ljubljana 81.26 316 *e*P **P 22 12 57.2 +0.7**
OBKA Obir 81.29 316⇑*i*P **P 22 12 59.1 +2.5**
comp=Z,42nm,1.3s,mb5.2
SMY Shemya 81.48 37 PFAKE 22 13 10.0 +13
SMY LR LR
comp=Z,6μm,22.0s,MS5.9
MOA Molln 81.60 318⇑*i*P **P 22 12 59.2 +1.0**
comp=Z,38nm,1.4s,mb5.1
PRU Pruhonice 81.63 320 *e*P **P 22 13 00.1 +1.8**
PRU *e*pP pP 22 13 07.0 +1.1
PRU *e*S S 22 23 11.7 +3.9
PRU AMS AMS 22 59 30.0
comp=Z,3μm,15.6s
PVCC Panska Ves 81.67 321 *e*P **P 22 13 00.4 +1.9**
PVCC *e*pP pP 22 13 07.4 +1.3
PVCC *e*S S 22 23 10.2 +2.0
PVCC AMS AMS 22 54 10.0
comp=Z,3μm,18.5s
AQU L'Aquila 81.77 312 *e*P **P 22 12 59.2 0.0**
AQU pmax pmax
comp=Z,98nm,1.2s,mb5.6
AQU L'Aquila 81.77 312 *e*P **P 22 12 59.2 -0.1**
comp=Z,98nm,1.2s,mb5.6
CADS Cadrg 81.82 316 *e* **P 22 13 00.5 +1.1**
BSD Bornholm Skovb 81.97 325 *e*P sP 22 13 15.9 +5.9
BSD *i* S S 22 23 10.4 -0.8
BSD Bornholm Skovb 81.97 325 *i*P sP 22 13 15.9 +5.9
comp=Z,17nm,0.8s
BSD *i* S S 22 23 10.4 -0.8
GEC2 GERESS Array S 82.07 319 *e*P **P 22 13 02.6 +2.0**
GEC2 pmax pmax
comp=Z,92nm,1.3s,mb5.5
GEC2 GERESS Array S 82.07 319 *e*P **P 22 13 02.6 +2.0**
comp=Z,92nm,1.3s,mb5.5
GERES GERESS Array B 82.07 319 P **P 22 13 00.6 0.0**
comp=Z,15nm,0.8s,mb5.0,baz=90,slow=4.0,SNR=33
BRG Berggiesshubel 82.10 321 *e*P **P 22 13 00.9 +0.2**
BRG *e*S S 22 23 15.0 +2.4
BRG pmax pmax
comp=Z,33nm,1.2s,mb5.1
BRG MLR MLR
comp=Z,4μm,22.1s,MS5.7
BRG Berggiesshubel 82.10 321 *e*P **P 22 13 00.9 +0.2**
comp=Z,33nm,1.2s,mb5.1
BRG *i* 22 13 02.9
BRG *e*S S 22 23 15.0 +2.4
BRG *e* 22 24 45.2
BRG LR LR
comp=Z,4μm,22.1s,MS5.7
KBA Koelnbreinsper 82.16 317⇓*i*P **P 22 13 00.9 -0.2**
comp=Z,28nm,1.3s,mb5.0
KBA Koelnbreinsper 82.16 317⇓*i*P **P 22 13 00.9 -0.2**
KBA pmax pmax
comp=Z,28nm,1.3s,mb5.0
KHC Kasperske Hory 82.17 319 *e*P **P 22 13 02.9 +1.7**
KHC *e*pP pP 22 13 10.9 +2.2
KHC *e*S S 22 23 17.2 +3.8
KHC AMS AMS 22 56 20.0
comp=Z,3μm,18.2s
RUE Ruedersdorf 82.36 322 *e*P **P 22 13 02.5 +0.5**
comp=Z,92nm,1.3s,mb5.5
TRO Tromso 82.58 340 *e*P **P 22 13 01.7 -1.2**
TRO pmax pmax
comp=Z,137nm,1.7s,mb5.7
TRO Tromso 82.58 340 *e*P **P 22 13 01.7 -1.1**
comp=Z,136nm,1.7s,mb5.7
TRO Tromso 82.58 340 *e*P **P 22 13 01.7 -1.1**
TRO *e*pP pP 22 13 10.6 +0.1
TRO AMb AMB 22 13 12.3
comp=Z,136nm,1.7s,mb5.7
WET Wettzell 82.63 319 *e*P **P 22 13 05.6 +2.0**
WET pmax pmax
comp=Z,38nm,1.2s,mb5.3
WET Wettzell 82.63 319 *e*P **P 22 13 05.6 +2.0**
comp=Z,38nm,1.2s,mb5.3
CLL Collm 82.73 321⇓*i*P **P 22 13 05.5 +1.5**
CLL *i* pP 22 13 12.8 +1.2
CLL *e*S S 22 23 19.0 0.0
CLL pmax pmax
comp=Z,28nm,1.4s,mb5.1
CLL MLR MLR
comp=Z,3μm,18.0s,MS5.7
CLL Collm 82.73 321⇓*i*P **P 22 13 05.5 +1.5**
comp=Z,28nm,1.4s,mb5.1
CLL *i* pP 22 13 12.8 +1.2
CLL *e*S S 22 23 19.0 0.0
CLL LR LR
comp=Z,3μm,18.0s,MS5.7
CLL Collm 82.73 321 ⇓P **P 22 13 05.5 +1.5**
comp=Z,logA/T=1.3,mb5.1
CLL *i* *PP pP 22 13 12.8 +1.2
CLL *e*S S 22 23 19.0 0.0
CLL *e*PS PS 22 24 04.0 -9.4
CLL *e*PPS PPS 22 24 28.0 -7.1
NKC Novy Kostel 83.00 320 *e*P **P 22 13 07.1 +1.7**
NKC *e*pP pP 22 13 14.9 +1.9
NKC *e*S S 22 23 27.1 +5.4
NKC AMS AMS 22 58 00.0
comp=Z,4μm,17.2s
WTTA Wattenberg 83.33 317⇑*i*P **P 22 13 06.2 -1.0**
comp=Z,66nm,1.4s,mb5.5
WTTA Wattenberg 83.33 317⇑*i*P **P 22 13 06.2 -1.0**
WTTA pmax pmax
comp=Z,67nm,1.4s,mb5.5
WATA Walderalm 83.38 317⇓*i*P **P 22 13 07.4 0.0**
comp=Z,39nm,1.3s,mb5.3
WATA Walderalm 83.38 317⇓*i*P **P 22 13 07.4 0.0**
WATA pmax pmax
comp=Z,39nm,1.3s,mb5.3
COP Copenhagen 83.44 326 *e*P pP 22 13 17.5 +2.3
COP *i* S S 22 23 28.5 +2.4
COP pmax pmax
comp=Z,20nm,0.9s,mb5.2
COP Copenhagen 83.44 326 *e*P pP 22 13 17.5 +2.3
comp=Z,20nm,0.9s
COP *i* S S 22 23 28.5 +2.4
COP Copenhagen 83.44 326 *i*P pP 22 13 17.5 +2.3
comp=Z,20nm,0.9s
COP Copenhagen 83.44 326 *i* S S 22 23 28.5 +2.4
MOX Moxa 83.55 321 *e*P **P 22 13 10.3 +2.0**
MOX *e*S S 22 23 32.0 +4.7
MOX pmax pmax
comp=Z,32nm,1.4s,mb5.3
MOX MLR MLR
comp=Z,2μm,19.0s,MS5.6
MOX Moxa 83.55 321 *e*P **P 22 13 10.3 +2.0**
comp=Z,32nm,1.4s,mb5.3
MOX *e*S S 22 23 32.0 +4.7
MOX LR LR
comp=Z,2μm,19.0s,MS5.6
MOX Moxa 83.55 321 *i*P **P 22 13 10.3 +2.0**
comp=Z,logA/T=1.4,mb5.3
MOX S S 22 23 32.0 +4.7
MOX L 22 59 22.0
SQTA Sankt Quirin 83.62 317⇓*i*P **P 22 13 08.3 -0.4**
comp=Z,16nm,1.0s,mb5.1
SQTA Sankt Quirin 83.62 317⇓*i*P **P 22 13 08.3 -0.4**
SQTA pmax pmax
comp=Z,16nm,1.0s,mb5.1
FUR Furstenfeldbru 83.63 318 *e*P **P 22 13 10.1 +1.4**
FUR pmax pmax
comp=Z,58nm,1.5s,mb5.5
FUR Furstenfeldbru 83.63 318 *e*P **P 22 13 10.1 +1.4**
comp=Z,58nm,1.5s,mb5.5
MOR8 Moi Rana 83.64 336 *e*P **P 22 13 08.2 -0.1**
comp=Z,74nm,1.4s,mb5.6
MOR8 Moi Rana 83.64 336 *e*P **P 22 13 08.2 -0.1**
MOR8 AMb AMB 22 13 11.2
comp=Z,74nm,1.4s,mb5.6
MOTA Moosalm 83.70 317⇓*i*P **P 22 13 08.5 -0.6**
comp=Z,32nm,1.2s,mb5.3
MOTA Moosalm 83.70 317⇓*i*P **P 22 13 08.5 -0.6**
MOTA pmax pmax
comp=Z,32nm,1.2s,mb5.3
GRA1 Grafenberg Arr 83.75 320 *e*P **P 22 13 11.4 +2.1**
comp=Z,58nm,1.4s,mb5.5
GRA1 LR LR
comp=Z,4μm,18.1s,MS5.9
GRF Grafenberg Arr 83.75 320 *e*P **P 22 13 11.4 +2.1**
GRF pmax pmax
comp=Z,58nm,1.4s,mb5.5
GRF MLR MLR
comp=Z,4μm,18.1s,MS5.9
GRF Grafenberg Arr 83.75 320 *e*P **P 22 13 11.4 +2.1**
comp=Z,58nm,1.4s,mb5.5
GRF pmax pmax
comp=Z,58nm,1.4s,mb5.5
GRF MLR MLR
comp=Z,4μm,18.1s,MS5.9
GRF Grafenberg Arr 83.75 320 *e*P **P 22 13 11.4 +2.1**
comp=Z,58nm,1.4s,mb5.5
GRF LR LR
comp=Z,4μm,18.1s,MS5.9
CLZ Clausthal 84.40 322 *e*P **P 22 13 14.6 +2.1**
comp=Z,36nm,1.2s,mb5.4
NSS Namsos 84.48 334 *e*P **P 22 13 11.9 -0.7**
comp=Z,157nm,2.6s,mb5.7
NSS Namsos 84.48 334 *e*P **P 22 13 11.9 -0.7**
NSS *e*pP pP 22 13 20.5 +0.3
NSS AMb AMB 22 13 23.0
comp=Z,157nm,2.6s,mb5.7
DAVOX Davos 84.51 317 P **P 22 13 13.3 0.0**
comp=Z,26nm,0.7s,mb5.5,baz=131,slow=6.9,SNR=21

NB2 NORSAR Subarra 84.52 331 P **P** **22 13 12.2 -0.7**
comp=Z,41nm,1.2s,mb5.4,baz=97,slow=5.0
NB2 NORSAR Subarra 84.52 331 P **P** **22 13 12.2 -0.7**
baz=96,slow=5.1
NOA NORSAR Array B 84.52 331 P **P** **22 13 12.4 -0.5**
comp=Z,15nm,1.0s,mb5.1,baz=93,slow=5.7,SNR=13
NOA LR LR 22 57 13.2
comp=Z,4μm,19.2s,MS5.8,baz=95,slow=40
DAVA Damuels 84.53 317 *i* P **P** **22 13 12.9 -0.4**
comp=Z,41nm,1.2s,mb5.4
BSEG Bad Segeberg 84.54 324 *e*P **P** **22 13 15.4 +2.2**
NAO01 NORSAR Array S 84.66 331 *e*P **P** **22 13 13.5 -0.1**
comp=Z,13nm,0.9s,mb5.1
PGF Pioggiola 85.03 312 *e*P **P** **22 13 15.4 -0.5**
comp=Z,291nm,1.6s,mb5.9
PGF Pioggiola 85.03 312 *e*P **P** **22 13 15.4 -0.5**
PGF pmax pmax
comp=Z,146nm,1.6s,mb5.9
KONO Kongsberg 85.23 329 PFAKE 22 13 30.0 +14
KONO LR LR
comp=Z,4μm,20.0s,MS5.8
SPAK Spaichingen 85.29 318 *e*P **P** **22 13 19.1 +2.0**
MUD Monsted U'grnd 85.31 326 *i* P **P** **22 13 19.0 +2.0**
MUD *i* S S 22 23 47.2 +2.6
MUD pmax pmax
comp=Z,22nm,1.1s,mb5.2
MUD Monsted U'grnd 85.31 326 *i* P **P** **22 13 19.0 +2.0**
comp=Z,22nm,1.1s,mb5.2
MUD *i* S S 22 23 47.2 +2.6
MUD Monsted U'grnd 85.31 326 *i* P **P** **22 13 19.0 +2.0**
comp=Z,22nm,1.1s,mb5.2
MUD Monsted U'grnd 85.31 326 *i* S S 22 23 47.2 +2.6
TOD Tromm 85.32 319 *e*P pP 22 13 25.0 +0.3
TNS Taunus Mts 85.56 320 *e*P **P** **22 13 20.6 +2.3**
TNS pmax pmax
comp=Z,36nm,1.4s,mb5.4
TNS Taunus Mts 85.56 320 *e*P **P** **22 13 20.6 +2.3**
comp=Z,36nm,1.4s,mb5.4
BFO Black Forest 85.60 318 *e*P **P** **22 13 20.0 +1.4**
BFO pmax pmax
comp=Z,20nm,1.3s,mb5.2
BFO Black Forest 85.60 318 *e*P **P** **22 13 20.0 +1.4**
comp=Z,20nm,1.3s,mb5.2
URZ Urewera 85.68 129 P **P** **22 13 19.1 -0.2**
comp=Z,95nm,1.0s,mb6.0,baz=11,slow=3.1,SNR=22
FELD Feldberg 85.81 318 *e*P **P** **22 13 21.1 +1.4**
LANF Langenberg 85.96 319 *e*P **P** **22 13 21.7 +1.3**
SBF Sospel 86.19 314 *e*P **P** **22 13 21.0 -0.6**
comp=Z,278nm,1.4s,mb6.0
SBF Sospel 86.19 314 *e*P **P** **22 13 21.0 -0.6**
SBF pmax pmax
comp=Z,139nm,1.4s,mb6.0
CDF Champ du Feu 86.31 318 *e*P **P** **22 13 21.3 -0.8**
comp=Z,37nm,1.3s,mb5.1
CDF Champ du Feu 86.31 318 *e*P **P** **22 13 21.3 -0.8**
CDF pmax pmax
comp=Z,18nm,1.3s,mb5.1
ECH Echery 86.38 318 *e*P **P** **22 13 24.9 +2.4**
ECH Echery 86.38 318 *e*P **P** **22 13 25.0 +2.5**
RUP Ruppelstein 86.45 319 *e*P **P** **22 13 24.7 +1.9**
HINF Hinteralfeld 86.59 318 *e*P **P** **22 13 22.2 -1.3**
LOMF Lomont 86.61 317 *e*P **P** **22 13 24.9 +1.3**
LOMF Lomont 86.61 317 *e*P **P** **22 13 25.0 +1.4**
MBDF Montbardon 86.66 314 *e*P **P** **22 13 24.0 +0.1**
comp=Z,60nm,1.3s,mb5.4
MBDF Montbardon 86.66 314 *e*P **P** **22 13 24.0 +0.1**
MBDF pmax pmax
comp=Z,30nm,1.3s,mb5.4
LPG La Plagne 86.67 315 *e*P **P** **22 13 23.7 -0.3**
comp=Z,56nm,1.1s,mb5.4
LPG La Plagne 86.67 315 *e*P **P** **22 13 23.7 -0.3**
LPG pmax pmax
comp=Z,28nm,1.1s,mb5.4
LPL La Plagne 86.68 315 *e*P **P** **22 13 23.7 -0.3**
comp=Z,72nm,1.1s,mb5.5
LPL La Plagne 86.68 315 *e*P **P** **22 13 23.7 -0.3**
LPL pmax pmax
comp=Z,36nm,1.1s,mb5.5
BNI Bardonecchia 86.72 315 P **P** **22 13 22.2 -2.0**
BNI pmax pmax
comp=Z,76nm,1.6s,mb5.7
BNI Bardonecchia 86.72 315 P **P** **22 13 22.2 -2.0**
comp=Z,76nm,1.6s,mb5.7
FRF La Foret Royal 86.76 313 *e*P **P** **22 13 23.9 -0.6**
comp=Z,262nm,1.7s,mb5.9
FRF La Foret Royal 86.76 313 *e*P **P** **22 13 23.9 -0.6**
FRF pmax pmax
comp=Z,131nm,1.7s,mb5.9
KIWB Kanaga Island 86.79 38 *e*P **P** **22 13 26.1 +1.7**
LMR La Mourre 86.86 313 *e*P **P** **22 13 24.4 -0.6**
comp=Z,245nm,1.7s,mb5.9
LMR La Mourre 86.86 313 *e*P **P** **22 13 24.4 -0.6**
LMR pmax pmax
comp=Z,122nm,1.7s,mb5.9
HAU Haudompre 86.93 318 *e*P **P** **22 13 24.2 -0.9**
comp=Z,70nm,1.2s,mb5.5
HAU *e*R
comp=Z,3μm,17.8s
HAU Haudompre 86.93 318 *e*P **P** **22 13 24.2 -0.9**
HAU pmax pmax
comp=Z,35nm,1.2s,mb5.5
HAU MLR MLR
comp=Z,3μm,17.8s,MS5.8
CABF La Chapelle 87.12 316 *e*P **P** **22 13 25.8 -0.3**
comp=Z,154nm,1.4s,mb5.7
CABF La Chapelle 87.12 316 *e*P **P** **22 13 25.8 -0.3**
CABF pmax pmax
comp=Z,77nm,1.4s,mb5.7
ORIF Oris-en-Rattie 87.29 315 *e*P **P** **22 13 26.8 -0.2**
comp=Z,41nm,1.1s,mb5.3
ORIF *e*R
comp=Z,4μm,21.2s
SMRF Simiane la Rot 87.53 314 *e*P **P** **22 13 27.0 -1.2**
comp=Z,134nm,1.5s,mb5.7
VNDA Vanda 87.74 168 *e*P **P** **22 13 27.0 -1.5**
VNDA pmax pmax
comp=Z,41nm,1.6s
VNDA Vanda 87.74 168 P **P** **22 13 28.8 +0.3**
comp=Z,9.1nm,1.2s,mb4.9,baz=340,slow=7.3,SNR=5.9
VNDA LR LR 22 49 17.4
comp=Z,7μm,18.0s,MS6.1,baz=296,slow=33
VNDA Vanda 87.74 168 *e*P **P** **22 13 27.0 -1.5**
comp=Z,41nm,1.6s,mb5.4
MEZF Maizieres J'vi 87.78 318 *e*P **P** **22 13 28.5 -0.8**
comp=Z,51nm,1.2s,mb5.3
GIVF Givet 87.89 320 *e*P **P** **22 13 29.2 -0.5**
comp=Z,52nm,1.2s,mb5.3
GIVF Givet 87.89 320 *e*P **P** **22 13 29.2 -0.5**
GIVF pmax pmax
comp=Z,26nm,1.2s,mb5.3
VIVF Saint-Julien-l 88.15 315 *e*P **P** **22 13 30.9 -0.2**
comp=Z,88nm,1.4s,mb5.5
VIVF Saint-Julien-l 88.15 315 *e*P **P** **22 13 30.9 -0.2**
VIVF pmax pmax
comp=Z,44nm,1.4s,mb5.5
BAIF Baives 88.29 320 *e*P **P** **22 13 31.4 -0.2**
comp=Z,82nm,1.3s,mb5.5
BAIF Baives 88.29 320 *e*P **P** **22 13 31.4 -0.2**
BAIF pmax pmax
comp=Z,41nm,1.3s,mb5.5
SMF Signal de Mont 88.67 316 *e*P **P** **22 13 33.9 +0.4**
comp=Z,93nm,1.4s,mb5.6
SMF Signal de Mont 88.67 316 *e*P **P** **22 13 33.9 +0.4**
SMF pmax pmax
comp=Z,47nm,1.4s,mb5.6
LASF Ste Croix 88.77 314 *e*P **P** **22 13 34.0 -0.1**
comp=Z,167nm,1.7s,mb5.8
SBA Scott Base 88.85 168 PFAKE 22 13 50.0 +16
SBA LR LR
comp=Z,3μm,19.0s,MS5.8
SSF Saint Saulge 88.88 317 *e*P **P** **22 13 34.2 -0.3**
SSF pmax pmax
comp=Z,50nm,1.7s,mb5.6
SSF Saint Saulge 88.88 317 *e*P **P** **22 13 34.2 -0.3**
comp=Z,50nm,1.7s,mb5.6
AVF Avril sur Loir 89.00 317 *e*P **P** **22 13 34.5 -0.6**
comp=Z,56nm,1.3s,mb5.4
AVF Avril sur Loir 89.00 317 *e*P **P** **22 13 34.5 -0.6**
AVF pmax pmax
comp=Z,28nm,1.3s,mb5.4
BGF Bois d'Agland 89.36 316 *e*P **P** **22 13 36.6 -0.2**
comp=Z,144nm,1.4s,mb5.8
BGF Bois d'Agland 89.36 316 *e*P **P** **22 13 36.6 -0.2**
BGF pmax pmax
comp=Z,72nm,1.4s,mb5.8
TCF Toulx Ste Croi 89.81 316 *e*P **P** **22 13 38.8 -0.2**
comp=Z,50nm,1.2s,mb5.4
TCF Toulx Ste Croi 89.81 316 *e*P **P** **22 13 38.8 -0.2**
TCF pmax pmax
comp=Z,25nm,1.2s,mb5.4
MTLF Montolieu 89.99 313 *e*P **P** **22 13 39.7 -0.2**
CAF Calviac 90.00 315 *e*P **P** **22 13 39.9 0.0**
comp=Z,75nm,1.5s,mb5.5
CAF Calviac 90.00 315 *e*P **P** **22 13 39.9 0.0**
CAF pmax pmax
comp=Z,38nm,1.5s,mb5.5
MAIT Maitri 90.16 199 *e*P **P** **22 13 38.7 -1.3**
RJF Les Rejaudoux 90.36 315 *e*P **P** **22 13 41.5 0.0**
comp=Z,215nm,1.7s,mb5.9
RJF *e*R
comp=Z,2μm,19.8s
RJF Les Rejaudoux 90.36 315 *e*P **P** **22 13 41.5 0.0**
RJF pmax pmax
comp=Z,107nm,1.7s,mb5.9
RJF MLR MLR
comp=Z,2μm,19.8s,MS5.6
TNA Tin City 90.67 24 *e*P **P** **22 13 42.4 -0.1**
LFF La Frestale 90.94 315 *e*P **P** **22 13 44.5 +0.3**
comp=Z,132nm,1.4s,mb5.8
LFF La Frestale 90.94 315 *e*P **P** **22 13 44.5 +0.3**
LFF pmax pmax
comp=Z,66nm,1.4s,mb5.8
LDF La Druitiere 91.21 319 *e*P **P** **22 13 45.0 -0.3**
comp=Z,102nm,1.3s,mb5.7
LDF La Druitiere 91.21 319 *e*P **P** **22 13 45.0 -0.3**
LDF pmax pmax
comp=Z,51nm,1.3s,mb5.7
EPF Esparros 91.39 313 *e*P **P** **22 13 45.6 -0.7**
comp=Z,46nm,1.3s,mb5.3
EPF Esparros 91.39 313 *e*P **P** **22 13 45.6 -0.7**
EPF pmax pmax
comp=Z,23nm,1.3s,mb5.3
FLN La Foliniere 91.43 319 *e*P **P** **22 13 46.0 -0.3**
comp=Z,135nm,1.4s,mb5.8
FLN *e*R
comp=Z,3μm,21.8s
FLN La Foliniere 91.43 319 *e*P **P** **22 13 46.0 -0.3**
FLN pmax pmax
comp=Z,68nm,1.4s,mb5.8
FLN MLR MLR
comp=Z,3μm,21.8s,MS5.7
GRR Gorron 91.72 318 *e*P **P** **22 13 47.6 -0.1**
comp=Z,99nm,1.2s,mb5.7
GRR Gorron 91.72 318 *e*P **P** **22 13 47.6 -0.1**
GRR pmax pmax
comp=Z,50nm,1.2s,mb5.7
JMIC Jan Mayen 91.79 341 LR LR 23 04 06.0
comp=Z,3μm,18.3s,MS5.7,baz=244,slow=42
ETSF Etsaut 92.06 313 *e*P **P** **22 13 49.7 +0.3**
comp=Z,83nm,1.1s,mb5.7
ETSF Etsaut 92.06 313 *e*P **P** **22 13 49.7 +0.3**
ETSF pmax pmax
comp=Z,42nm,1.1s,mb5.7
ESK Eskdalemuir 92.33 325 PFAKE 22 14 00.0 +10
ESK LR LR
comp=Z,944nm,19.0s,MS5.3
SJPF Ste Jean 92.52 313 *e*P **P** **22 13 51.8 +0.3**
comp=Z,93nm,1.4s,mb5.7
SJPF Ste Jean 92.52 313 *e*P **P** **22 13 51.8 +0.3**
SJPF pmax pmax
comp=Z,47nm,1.4s,mb5.7
DAG Danmarks Havn 92.66 348 *e*P **P** **22 13 51.0 -0.4**
DAG MLR MLR
comp=Z,7μm,18.0s,MS6.2
DAG Danmarks Havn 92.66 348 *i* P **P** **22 13 51.0 -0.4**
comp=Z,7μm,18.0s
SGMF Saint Gilles 92.86 318 *e*P **P** **22 13 52.6 -0.3**
comp=Z,170nm,1.5s,mb6.0
SGMF Saint Gilles 92.86 318 *e*P **P** **22 13 52.6 -0.3**
SGMF pmax pmax
comp=Z,85nm,1.5s,mb6.0
QUIF Quistinic 93.31 318 *e*P **P** **22 13 54.2 -0.8**
ROSF Rostrenen 93.32 319 *e*P **P** **22 13 54.8 -0.3**
comp=Z,116nm,1.5s,mb5.8
ROSF Rostrenen 93.32 319 *e*P **P** **22 13 54.8 -0.3**
ROSF pmax pmax
comp=Z,58nm,1.5s,mb5.8
AFI Afiamalu 94.06 104 PFAKE 22 14 10.0 +11
AFI LR LR
comp=Z,2μm,20.0s,MS5.6
ESDC Sonseca Array 94.97 310 P **P** **22 14 02.4 -0.5**
comp=Z,2.5nm,0.8s,mb4.7,baz=67,slow=4.8,SNR=7.2
ESLA Sonseca Array 94.97 310 PFAKE 22 14 10.0 +7.1
ESLA LR LR
comp=Z,10μm,19.0s,MS6.3
IMA Indian Mountai 96.21 22 P **P** **22 14 09.8 +1.9**
IMA pmax pmax
comp=Z,140nm,1.5s,mb6.2
IMA Indian Mountai 96.21 22 *e*P **P** **22 14 08.6 +0.7**
SVW2 Sparrevohn 97.10 27 *e*P **P** **22 14 15.6 +3.6**
BORG Borgarnes 98.41 337 LR LR 23 03 21.5
comp=Z,3μm,19.7s,MS5.8,baz=65,slow=38
BORG Borgarnes 98.41 337 PFAKE 22 14 30.0 +12
BORG LR LR
comp=Z,980nm,20.0s,MS5.3
SPU Mount Spurr 98.68 27 *e*P **P** **22 14 19.0 -0.1**
COLA College 98.92 23 PFAKE 22 14 30.0 +10
COLA LR LR
comp=Z,6μm,19.0s,MS6.1
MCK McKinley 98.99 24 PFAKE 22 14 30.0 +10
MCK LR LR
comp=Z,4μm,19.0s,MS5.9
DBIC Dimbokro 99.16 277 LR LR 22 54 53.8
comp=Z,4μm,21.6s,MS5.9,baz=71,slow=33
DBIC Dimbokro 99.16 277 PFAKE 22 14 30.0 +7.6
DBIC LR LR
comp=Z,4μm,22.0s,MS5.9
ILAR Eielson Array 99.34 22 P **P** **22 14 20.8 -1.3**
comp=Z,1.2nm,0.9s,baz=291,slow=4.6,SNR=9.4
ILAR PP PP 22 18 21.3 -6.3
comp=Z,3.6nm,1.0s,baz=303,slow=7.6,SNR=6.3
ILAR LR LR 23 04 51.1
comp=Z,5μm,18.8s,MS6.0,baz=160,slow=39
FIB Fire Island 99.53 26 PFAKE 22 14 40.0 +17
FIB LR LR
comp=Z,2μm,21.0s,MS5.7
KDAK Kodiak Island 99.67 30 PFAKE 22 14 40.0 +16
KDAK LR LR
comp=Z,2μm,20.0s,MS5.6
INK Inuvik 101.82 16 *e*P P 22 14 34.3 +1.1
INK pmax pmax
comp=Z,10.0nm,1.3s
INK Inuvik 101.82 16 P P 22 14 33.2 0.0
comp=Z,5.6nm,1.1s,baz=290,slow=5.7,SNR=7.6
INK Inuvik 101.82 16 *e*Pdif P 22 14 34.3 +1.1
comp=Z,10nm,1.3s
DAWY Dawson 102.50 21 *e*Pdif Pdif 22 14 38.7 +2.4
RES Resolute Bay 102.56 3 *e*P Pdif 22 14 37.6 +1.3
RES pmax pmax
comp=Z,13nm,1.0s
RES Resolute Bay 102.56 3 *e*Pdif Pdif 22 14 37.6 +1.2
comp=Z,13nm,1.0s
KIP Kipapa 105.08 67 PFAKE 22 19 20.0
KIP LR LR
comp=Z,4μm,21.0s,MS5.9
RAR Rarotonga 105.45 111 PFAKE 22 19 20.0
RAR LR LR
comp=Z,2μm,19.0s,MS5.6
POHA Pohakuloa 107.64 68 PFAKE 22 19 20.0
POHA LR LR
comp=Z,1.0nm,21.0s
SIT Sitka 108.19 26 PFAKE 22 19 20.0
SIT LR LR
comp=Z,9μm,21.0s,MS6.3
YKA Yellowknife Ar 111.33 14 Pdiff Pdif 22 15 16.5 +1.4
comp=Z,0.2nm,0.7s,baz=332,slow=5.5,SNR=2.9
YKA PP PP 22 19 54.1 -3.1
comp=Z,2.8nm,0.9s,baz=335,slow=8.4,SNR=9.3
YKA PKKPbc 22 30 09.4
comp=Z,0.2nm,0.6s,baz=150,slow=3.0,SNR=5.9
TBI Tubuai 114.74 114 *e*PP PP 22 20 14.0 -9.1
TBI *e*PS PS 22 30 04.4 +7.1
TBI *e*SS SS 22 36 15.4 +3.0
TBI *e*LQ 22 49 46.2
TBI *e*LR LR 22 53 55.3
comp=Z,3μm,22.2s
PPT Papeete 115.32 108 *e*PP PP 22 20 14.0 -13
PPT *e*PS PS 22 30 07.1 +4.3
PPT *e*LQ 22 49 26.1
PPT *e*LR LR 22 54 11.4
comp=Z,4μm,25.2s
PMSA Palmer Station 116.14 190 PFAKE 22 19 40.0 +14
PMSA LR LR
comp=Z,4μm,19.0s,MS6.0
OCWA Octopus Mounta 119.40 29 PFAKE 22 19 40.0 +7.0
OCWA LR LR
comp=Z,5μm,19.0s,MS6.2
EDM Edmonton 119.56 19 *e*PKIKP PKPdf 22 19 31.9 -1.2
SCHQ Schefferville 120.70 348 PKP PKPdf 22 19 31.6 -3.7
comp=Z,7.4nm,1.1s,baz=8.0,slow=3.0,SNR=3.6
SCHQ PP PP 22 21 00.3 -2.8
comp=Z,14nm,1.0s,baz=26,slow=8.2,SNR=6.7
SCHQ Schefferville 120.70 348 PKP PKPdf 22 19 31.6 -3.7
SCHQ PP PP 22 21 00.3 -2.7
SCHQ LR LR
comp=Z,7μm,20.0s,MS6.3
FFC Flin Flon 121.17 11 PFAKE 22 19 50.0 +14
FFC LR LR
comp=Z,2μm,20.0s,MS5.7
COR Corvallis 122.03 31 PFAKE 22 19 50.0 +12
COR LR LR
comp=Z,2μm,20.0s,MS5.8
NEW Newport 122.21 25 *e*PKIKP PKPdf 22 19 37.4 -1.0
NEW MLR MLR
comp=Z,7μm,20.0s
HUMO Hull Mountain 123.57 33 PFAKE 22 19 50.0 +8.8
HUMO LR LR
comp=Z,3μm,19.0s,MS6.0
YBH Yreka Blue Hor 124.30 33 PFAKE 22 19 50.0 +7.3
YBH LR LR
comp=Z,3μm,22.0s,MS5.9
MSO Missoula 124.65 24 *e*PKPdf PKPdf 22 19 39.9 -3.4
MSO LR LR
comp=Z,7μm,19.0s,MS6.3
BMO Blue Mountains 124.77 27 PKIKP PKPdf 22 19 43.5 0.0
BMO MLR MLR
comp=Z,3μm,20.0s,MS5.9
BMO Blue Mountains 124.77 27 *e*PKPdf PKPdf 22 19 42.6 -0.9
BMO LR LR
comp=Z,3μm,20.0s,MS5.9
CHMT Chamberlain Mo 124.86 23 *e*PKPdf PKPdf 22 19 40.0 -3.6
WDC Whiskeytown Da 125.17 34 PFAKE 22 19 50.0 +5.6
WDC LR LR
comp=Z,4μm,20.0s,MS6.1
MOD Modoc 125.47 32 *e*PKPdf PKPdf 22 19 44.8 -0.1
MOD LR LR
comp=Z,5μm,20.0s,MS6.1
HOPS Hopland 125.92 36 PFAKE 22 19 50.0 +4.1
HOPS LR LR
comp=Z,3μm,21.0s,MS6.0
WVOR Wild Horse Val 125.94 30 *e*PKIKP PKPdf 22 19 43.6 -2.2
WVOR MLR MLR
comp=Z,4μm,20.0s,MS6.1
DGMT Dagmar 126.49 16 *e*PKPdf PKPdf 22 19 46.8 +0.2
DGMT LR LR
comp=Z,6μm,22.0s,MS6.2
MCMT McKenzie Canyo 126.73 24 *e*PKPdf PKPdf 22 19 47.2 +0.1
HLID Hailey 127.08 26 *e*PKPdf PKPdf 22 19 45.9 -2.1
HLID LR LR
comp=Z,6μm,20.0s,MS6.3
QLMT Earthquake Lak 127.29 23 *e*PKPdf PKPdf 22 19 46.8 -1.6
LAO LASA Array 127.52 18 *e*PKPdf PKPdf 22 19 46.8 -1.9
LAO LR LR
comp=Z,7μm,19.0s,MS6.4
YMR Madison River 127.61 23 *e*PKPdf PKPdf 22 19 47.6 -1.4
YFT Old Faithful 127.84 23 *e*PKPdf PKPdf 22 19 51.9 +2.5
LKWY Lake 127.92 23 *e*PKIKP PKPdf 22 19 49.2 -0.4
LKWY MLR MLR
comp=Z,11μm,19.0s,MS6.5
CMB Columbia Colle 128.12 35 PFAKE 22 20 00.0 +10
CMB LR LR
comp=Z,2μm,20.0s,MS5.9
BMN Battle Mountai 128.14 31 *e*PKIKP PKPdf 22 19 47.5 -2.7
BMN MLR MLR
comp=Z,3μm,21.0s,MS6.0
SAO San Andreas Ge 128.35 37 PFAKE 22 20 00.0 +9.3
SAO LR LR
comp=Z,2μm,20.0s,MS5.9
MOOW Moose Ponds 128.47 23 *e*PKPdf PKPdf 22 19 47.5 -3.2
LOHW Long Hollow 128.64 23 *e*PKPdf PKPdf 22 19 49.0 -2.0
SNOW Snow King Moun 128.70 24 *e*PKPdf PKPdf 22 19 50.2 -0.9
NVAR Mina Array Bea 129.02 33 PKP PKPdf 22 19 48.7 -3.2
comp=Z,8.5nm,1.0s,baz=307,slow=1.0,SNR=17
MNV Mina 129.10 33 *e*PKIKP PKPdf 22 19 50.4 -1.6
MNV MLR MLR
comp=Z,4μm,20.0s,MS6.0
AHID Auburn Hatcher 129.14 24 PFAKE 22 20 00.0 +8.0
AHID LR LR
comp=Z,10μm,19.0s,MS6.5
BW06 Boulder Array 129.76 23 PFAKE 22 20 00.0 +6.8
BW06 LR LR
comp=Z,5μm,20.0s,MS6.2
PDAR Pinedale Array 129.76 23 PKhKP 22 19 41.0
comp=Z,0.5nm,0.8s,baz=68,slow=4.9,SNR=3.6
PDAR PKP PKPdf 22 19 49.6 -3.5
comp=Z,6.9nm,1.1s,baz=107,slow=3.0,SNR=10
TPH Tonopah 129.87 33 PFAKE 22 20 00.0 +6.5
TPH LR LR
comp=Z,3μm,21.0s,MS6.0
HWUT Hardware Ranch 129.90 26 PFAKE 22 20 00.0 +6.5
HWUT LR LR
comp=Z,5μm,19.0s,MS6.2
TRCR Troy Canyon 130.53 31 *e*PKPdf PKPdf 22 19 53.4 -1.4
RCBR Riachuelo 130.63 265 PFAKE 22 20 00.0 +4.4
RCBR LR LR
comp=Z,3μm,19.0s,MS6.0
JLU Jordanelle 130.77 26 PKPdf PKPdf 22 19 54.4 -0.8
ISA Isabella 130.87 36 PFAKE 22 20 00.0 +4.5
ISA LR LR
comp=Z,108nm,21.0s
DAC Darwin (Calif) 130.95 35 PFAKE 22 20 00.0 +4.4
DAC LR LR
comp=Z,3μm,21.0s,MS6.0
PTCN Pitcairn Islan 131.49 121 PFAKE 22 20 10.0 +13
PTCN LR LR
comp=Z,3μm,20.0s,MS6.0
MVU Marysvale 132.10 29 *e*PKPdf PKPdf 22 19 56.8 -1.0
MVU LR LR
comp=Z,3μm,21.0s,MS6.0
MSU Marysvale 132.11 29 *e*PKIKP PKPdf 22 19 57.0 -0.8
NEN Nelson 132.94 33 *e*PKPdf PKPdf 22 19 56.4 -3.0
LDFC Landfair 133.21 34 *e*PKPdf PKPdf 22 19 56.5 -3.4
HRV Harvard--Oak R 133.35 346 PFAKE 22 20 10.0 +10
HRV LR LR
comp=Z,3μm,20.0s,MS6.0
PFO Pinyon Flat Ob 133.49 36 PFAKE 22 20 10.0 +10
PFO LR LR
comp=Z,750nm,20.0s,MS5.4
PV10 Paradox Valley 133.66 26 *e*PKPdf PKPdf 22 19 58.5 -2.1
ISCO Idaho Springs 133.82 22 PFAKE 22 20 10.0 +9.1
ISCO LR LR
comp=Z,6μm,20.0s,MS6.3
PV01 Paradox Valley 134.06 26 PKPdf PKPdf 22 19 58.5 -2.9
ERPA Erie 135.18 354 PFAKE 22 20 10.0 +6.6
ERPA LR LR
comp=Z,5μm,20.0s,MS6.2
AAM Ann Arbor 135.23 358 PFAKE 22 20 10.0 +6.6
AAM LR LR
comp=Z,7μm,20.0s,MS6.3
SDCO Great Sand Dun 135.66 23 PFAKE 22 20 10.0 +5.6
SDCO LR LR
comp=Z,10μm,19.0s,MS6.6
SSPA Standing Stone 136.38 352 PFAKE 22 20 10.0 +4.5
SSPA LR LR
comp=Z,1μm,20.0s,MS5.6
CBKS Cedar Bluff 136.64 16 PFAKE 22 20 20.0 +14
CBKS LR LR
comp=Z,5.0nm,20.0s
MVL Millersville 136.76 350 *e*PKPdf PKPdf 22 20 05.3 -0.9
ACSO Alum Creek Sta 137.27 357 PFAKE 22 20 20.0 +13
ACSO LR LR
comp=Z,9μm,20.0s,MS6.5
ANMO Albuquerque 137.65 26 *e*PKIKP PKPdf 22 20 04.8 -3.3
ANMO MLR MLR
comp=Z,4μm,19.0s
ANMO Albuquerque 137.65 26 PKP PKPdf 22 20 05.8 -2.3
comp=Z,12nm,1.0s,baz=259,slow=1.9,SNR=12
TUC Tucson 137.66 33 PKIKP PKPdf 22 20 06.9 -1.3
TUC Tucson 137.66 33 PKPpre 22 19 55.9
TUC LR LR
comp=Z,2μm,19.0s,MS5.9
LAZ Ladron 137.81 27 *e*PKPdf PKPdf 22 20 05.1 -3.3
LENM Lemitar 138.08 27 *e*PKPdf PKPdf 22 20 06.4 -2.5
LPM Los Pinos Moun 138.11 27 *e*PKPdf PKPdf 22 20 07.0 -2.0
CBN Corbin 138.69 351 PFAKE 22 20 20.0 +10
CBN LR LR
comp=Z,7μm,20.0s,MS6.4

TRQA	Tornquist	138.79	208	PFAKE			22 20 20.0	+10
TRQA				LR	LR			
comp=Z,4μm,20.0s,MS6.2								
CCM	Cathedral Cave	139.12	7	PFAKE			22 20 20.0	+9.3
CCM				LR	LR			
comp=Z,4μm,19.0s,MS6.2								
WCI	Wyandotte Cave	139.31	1	PFAKE			22 20 20.0	+9.0
WCI				LR	LR			
comp=Z,5μm,20.0s,MS6.3								
AMTX	Amarillo	139.62	21	PFAKE			22 20 20.0	+8.3
AMTX				LR	LR			
comp=Z,7μm,20.0s,MS6.4								
PLCA	Paso Flores	139.82	197	PKhKP			22 19 59.6	
comp=Z,1.9nm,0.9s,baz=222,slow=6.4,SNR=3.2								
PLCA	Paso Flores	139.82	197	PFAKE			22 20 20.0	+8.2
PLCA				LR	LR			
comp=Z,4μm,21.0s,MS6.1								
BLA	Blacksburg	140.08	354	PFAKE			22 20 20.0	+7.6
BLA				LR	LR			
comp=Z,5μm,20.0s,MS6.3								
WMOK	Wichita Mounta	140.71	18	PKIKP	PKPdf		22 20 06.7	-7.0
WMOK	Wichita Mounta	140.71	18	ePKPpre			22 20 03.8	
WMOK				LR	LR			
comp=Z,5μm,20.0s,MS6.2								
MNTX	Cornudas Mount	140.87	28	ePKPpre			22 20 06.2	
MNTX				LR	LR			
comp=Z,4μm,19.0s,MS6.2								
WVT	Waverly	141.34	3	ePKIKP	PKPdf		22 20 06.9	-7.9
WVT				MLR	MLR			
comp=Z,7μm,22.0s,MS6.4								
UALR	University of	142.19	9	ePKPdf	PKPdf		22 20 13.7	-2.6
MIAR	Mount Ida	142.19	11	ePKIKP	PKPdf		22 20 08.4	-7.9
MIAR				MLR	MLR			
comp=Z,5μm,19.0s,MS6.3								
OXF	Oxford	142.83	6	PFAKE			22 20 30.0	+13
OXF				LR	LR			
comp=Z,5μm,21.0s,MS6.2								
LTX	Lajitas	143.66	28	PKIKP	PKPdf		22 20 14.3	-4.6
LTX				MLR	MLR			
comp=Z,4μm,20.0s,MS6.2								
LTX	Lajitas	143.66	28	ePKPpre			22 20 12.9	
LTX				LR	LR			
comp=Z,5μm,20.0s,MS6.2								
TXAR	Lajitas Array	143.66	28	PKP	PKPdf		22 20 14.1	-4.8
comp=Z,15nm,0.9s,baz=297,slow=2.8,SNR=22								
GOGA	Godfrey	144.09	357	PFAKE			22 20 30.0	+16
GOGA				LR	LR			
comp=Z,7μm,19.0s,MS6.5								
NHSC	New Hope	144.10	353	PFAKE			22 20 30.0	+16
NHSC				LR	LR			
comp=Z,5μm,19.0s,MS6.3								
JCT	Junction City	144.27	22	PKIKP	PKPdf		22 20 15.6	-4.3
JCT				MLR	MLR			
comp=Z,420nm,20.0s,MS5.2								
JCT	Junction City	144.27	22	ePKPpre			22 20 15.2	
JCT				LR	LR			
comp=Z,7μm,20.0s,MS6.4								
LRAL	Lakeview Retre	144.47	2	ePKPpre			22 20 14.2	
LRAL				LR	LR			
comp=Z,6μm,20.0s,MS6.4								
NATX	Nacogdoches	144.64	14	ePKPpre			22 20 16.7	
NATX				LR	LR			
comp=Z,6μm,19.0s,MS6.4								
HKT	Hockley	146.05	16	ePKP2	PKPab		22 20 21.3	-0.8
HKT				MLR	MLR			
comp=Z,5μm,20.0s,MS6.3								
MDZ	Mendoza	146.20	205	eP	PKPbc		22 20 23.2	+3.3
MDZ				e			22 20 25.2	
RPN	Rapa Nui	146.52	139	ePKPdf	PKPdf		22 20 23.2	-0.7
DWPF	Disney	149.18	353	PFAKE			22 20 40.0	+12
DWPF				LR	LR			
comp=Z,8μm,20.0s,MS6.5								
BBL	Barber's Block	150.28	308	eP	PKPdf		22 20 35.4	+5.1
COLM	Colima	151.76	39	eP	PKPdf		22 20 41.3	+8.9
SJG	San Juan	152.03	318	PKPbc	PKPdf		22 20 36.6	+3.8
comp=Z,9.3nm,0.2s,baz=23,slow=6.4,SNR=3.4								
SJG	San Juan	152.03	318	ePKPbc	PKPdf		22 20 37.7	+4.9
SJG				LR	LR			
comp=Z,3μm,20.0s,MS6.1								
LVC	Limon Verde	154.57	217	ePKPab	PKPab		22 20 59.2	+1.9
LVC				LR	LR			
comp=Z,3μm,22.0s,MS6.0								
PPM	Popocatepetl	154.75	31	ePKIKP	PKPdf		22 20 33.9	-2.6
PLIG	Platanillo	154.85	33	i P	PKPdf		22 20 37.5	+0.9
LPAZ	La Paz	158.33	230	ePKIKP	PKPdf		22 20 34.7	-6.6
LPAZ				MLR	MLR			
comp=Z,4μm,20.0s								
LPAZ	La Paz	158.33	230	PFAKE			22 20 50.0	+8.7
LPAZ				LR	LR			
comp=Z,4μm,20.0s,MS6.3								
SDV	Santo Domingo	161.41	308	PFAKE			22 20 50.0	+5.3
SDV				LR	LR			
comp=Z,5μm,20.0s								
JTS	JuntasAbangare	167.13	358	PFAKE			22 21 00.0	+10
JTS				LR	LR			
comp=Z,1μm,22.0s								
NNA	Nana	167.49	222	PFAKE			22 21 00.0	+10
NNA				LR	LR			
comp=Z,950nm,20.0s								
OTAV	Otavalo	172.56	293	ePKPdf	PKPdf		22 20 53.7	+0.4
OTAV				LR	LR			
comp=Z,6μm,21.0s								
PAYG	Puerto Ayora	174.66	68	PFAKE			22 21 00.0	+6.1
PAYG				LR	LR			
comp=Z,3μm,19.0s								

*CSEM **26** 22:09:33.1±0.5, 37.51N×43.41E, h12km, MD3.2, Error ellipse: s-maj=14.9km s-min=9.7km az=132.0*
*ISK **26** 22:09:34.8, 37.66N×43.85E, h21km, MD3.2*
ISC 26 22:09:33.5±1.8, 37.70N±0.04×44.1E±0.1, h3km±8km, n8, σ1§01/13, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	Hakkari	0.28	244	i PG	Pg	22 09 39.8	+0.6
HKR				i SG	Sg	22 09 42.2	-0.8
VANT	Van	0.91	325	i PG	Pg	22 09 52.8	+1.0
TVAN	Van	0.97	328	i P	Pb	22 09 53.6	+0.9
TVAN				i S	Sb	22 10 04.1	-1.7
VANB	Van	1.04	330	PG	Pg	22 09 53.1	-1.2
VANB				SG	Sg	22 10 08.0	-0.1
MSL	Mosul	1.61	209	ePn	Pn	22 10 03.0	0.0
MSL				eSn	Sn	22 10 23.5	-1.0
BTMT	Batman	2.09	284	PN	Pn	22 10 09.6	-0.3
BEST	Besiri	2.22	276	i P	Pn	22 10 12.8	+1.0
BEST				i S	Sn	22 10 42.8	+2.8
ONI	Oni	4.90	355	P	Pn	22 10 49.9	0.0

*CSEM **26** 22:10:59.0±0.1, 35.79N×29.55E, h30km, Mw3.6, Error ellipse: s-maj=2.1km s-min=1.4km az=73.0*
*ISK **26** 22:10:59.2, 35.80N×29.58E, h32km, ML3.8*
*ATH **26** 22:11:00.3, 35.91N×29.30E, h2km, MD3.7/5*
*HLW **26** 22:11:00.7, 35.80N×29.59E, h17km, Mb3.9*
*NEIC **26** 22:11:00.3, 35.91N×29.30E, h2km, MD3.7(ATH), ML3.6(NIC), After ATH.*
*NIC **26** 22:11:02.7±0.3, 35.91N×29.73E, h25km, mb4.0, ML3.6, MW3.4*
ISC 26 22:10:56.9±0.7, 35.76N±0.02×29.63E±0.03, h5km±5km, n70, σ1§00/83, 3C, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	Kastellorizon	0.40	354	ePG	Pg	22 11 06.7	+1.8
FETY	Fethiye	0.98	333	i PG	Pg	22 11 15.9	-0.7
FETY				i SG	Sg	22 11 28.5	-1.2
ELL	Elmali	1.02	13	i PG	Pg	22 11 16.9	-0.3
ANTB	Antalya	1.41	35	PN	Pn	22 11 23.2	-0.1
BCK	Bucak	1.87	24	PN	Pn	22 11 29.5	-0.3
DNZL	Cakiroluk	1.99	346	i P	Pn	22 11 33.7	+2.1
DNZL				i S	Sn	22 11 57.8	+0.7
KARP	Karpathos	2.02	265	ePB	Pb	22 11 34.2	+0.4
KARP				eSG	Sn	22 11 56.5	-1.5
DENT	Denizli	2.05	347	ePN	Pn	22 11 31.5	-1.0
MLSB	Milas	2.15	316	ePN	Pn	22 11 33.6	-0.2
BDRM	Kayabasi	2.20	307	i P	Pn	22 11 40.3	+5.7
BDRM				i S	Sn	22 12 04.4	+2.0
ISP	Isparta	2.20	18	ePN	Pn	22 11 34.1	-0.5
AKMC	Akamas	2.32	107⇑	eP	Pn	22 11 37.4	+1.1
AYDN	Tasoluk	2.37	324	i P	Pn	22 11 41.1	+4.1
AYDN				i S	Sn	22 12 09.0	+2.2
PPCY	Paphos	2.38	111⇑	iP	Pn	22 11 39.1	+1.9
ALFC	Alevga	2.49	103	P	Pn	22 11 39.5	+0.7
17nm,0.3s							
ALFC				S	Sn	22 12 08.9	-1.0
KHL	Karahalli	2.56	358	ePN	Pn	22 11 38.8	-1.0
HDMB	Hadim	2.60	61	ePN	Pn	22 11 40.4	+0.1
LEF	Lefka	2.73	102	ePN	Pn	22 11 42.4	+0.2
SZAC	Souni-Zanaja	2.84	110	P	Pn	22 11 44.7	+1.0
10nm,0.2s							
SZAC				S	Sn	22 12 18.3	-0.4
MANT	Manisa	2.86	343	i P	Pn	22 11 47.8	+3.7
MANT				i S	Sn	22 12 20.3	+0.9
SMG	Samos	2.98	312	ePG	Pb	22 11 48.5	-1.6
MAMC	Mammari	2.98	100	P	Pn	22 11 47.0	+1.2
KONT	Konya--Tatoy	3.09	44	ePN	Pn	22 11 46.6	-0.7
CSS	Prodhromos	3.12	104	P	Pn	22 11 48.9	+1.1
3.4nm,0.3s							
CSS				S	Sn	22 12 24.7	-1.2
KDAG	Bornova	3.25	325	i P	Pn	22 11 45.3	-4.3
KDAG				i S	Sn	22 12 27.4	-1.8
NPS	Neapolis	3.32	263	ePB	Pb	22 11 53.3	-2.7
AKS	Akhisar	3.44	336	ePN	Pn	22 11 51.8	-0.5
KIZT	Kizilcal	3.60	29	ePN	Pn	22 11 54.7	+0.2
PHNC	Paralimni	3.67	100	P	Pn	22 11 58.2	+2.7
ESKT	Eskisehir	3.88	14	eS	Sn	22 12 41.2	-3.9
DST	Dursunbey	3.93	349	ePN	Pn	22 11 59.1	-0.1
VAM	Vamos	4.44	267	ePN	Pn	22 12 09.1	+2.6
KAMT	Kaman	4.85	41	ePN	Pn	22 12 11.7	-0.6
DABA	Dabaa	4.87	194	P	Pn	22 12 13.1	+0.6
HMAT	Matruh	5.11	205	P	Pn	22 12 15.8	-0.1
HMAT				S	Sn	22 13 10.8	-5.3
HBRG	Burj al 'Arab	5.17	178	⇑P	Pn	22 12 17.3	+0.5
HAF	Haifa	5.36	122	Pn	Pn	22 12 18.8	-0.7
HWQ	Hawqa	5.38	104	ePN	Pn	22 12 19.1	-0.7
OFRI	'Ofer	5.42	124	Pn	Pn	22 12 19.9	-0.5
KSDI	Kefar Szold	5.59	115	Pn	Pn	22 12 22.5	-0.3
SLUM		5.63	222	P	Pn	22 12 24.3	+1.0
SLTI	Sal'it	5.70	126	Sn	Sn	22 13 24.3	-6.6
KSHT	Keshet	5.81	117	Pn	Pn	22 12 26.1	+0.3
MMLI	Mount Malkishu	5.83	123	Pn	Pn	22 12 26.5	+0.4
HMDT	Nahal Hemdat	6.01	124	Pn	Pn	22 12 29.2	+0.5
HMYD	Mayadein	6.02	170	P	Pn	22 12 29.3	+0.4
KOT	Kottamia	6.10	162	P	Pn	22 12 30.0	+0.1
HHAG	Hagoal	6.14	160	P	Pn	22 12 30.2	-0.4
FYM	Al Fayyum	6.16	169	P	Pn	22 12 32.3	+1.5
HNAT	Natrouh	6.16	172	P	Pn	22 12 30.9	+0.1
AYT	Al 'Ayyat	6.17	168	P	Pn	22 12 31.5	+0.6
KZIT	Kziot	6.26	139	Pn	Pn	22 12 32.0	-0.3
RTMM	Retamin	6.31	137	Pn	Pn	22 12 31.4	-1.5
HSAF	As Saff	6.33	165	P	Pn	22 12 33.2	+0.1
DRGI	Dragot	6.34	129	Pn	Pn	22 12 33.3	-0.1
GLL	Jalalah	6.40	164	P	Pn	22 12 35.0	+0.8
MASH	Mash'abbe Sade	6.41	136	Pn	Pn	22 12 33.8	-0.5
SUZ		6.48	155	P	Pn	22 12 35.5	+0.2
MZDA	Masada	6.52	131	Sn	Sn	22 13 44.2	-7.3
HNKL	Nakhl	6.86	147	P	Pn	22 12 40.5	-0.2
ZAF		6.91	158	P	Pn	22 12 41.5	+0.2
ZNM		6.92	156	P	Pn	22 12 41.3	-0.2
KMTI	Karmit	7.07	141	Pn	Pn	22 12 42.6	-1.1
KMTI				Sn	Sn	22 13 56.6	-8.8
SWA1		7.27	208	P	Pn	22 12 45.9	-0.5
SWA2		7.39	210	P	Pn	22 12 47.6	-0.4
SWA2				S	Sn	22 14 06.1	-7.1
MBH	Mount Berech	7.42	142	Pn	Pn	22 12 47.7	-0.8
AWBH		7.44	185	P	Pn	22 12 48.0	-0.7
EIL	Elat	7.54	142	Pn	Pn	22 12 49.2	-1.0
HBST	Basata	7.81	145	P	Pn	22 12 53.4	-0.6
HBST	Basata	7.81	145	P	Pn	22 12 53.3	-0.7

*BJI **26** 22:12:43.1, 7.03N×93.55E, h30km, mb4.4*
*IDC **26** 22:12:46.5±0.7, 7.87N×94.06E, mb4.4/19, mb1 4.5/20, mb1mx4.5/25, mbtmp4.3/20, ML3.8/1, Error ellipse: s-maj=26.5km s-min=16.5km az=46.0, Putative timing error at LPAZ*
*NEIC **26** 22:12:51.4±0.5, 7.89N×94.14E, h30km, mb4.8/4, Error ellipse: s-maj=17.2km s-min=13.9km az=52.0*
ISC 26 22:12:50.4±0.6, 7.81N±0.09×94.20E±0.10, h33km, n51, σ1§41/45, mb4.6/28, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.55	23	Pn	P	22 15 33.9	-2.1
0.2nm,0.3s,baz=210,slow=14,SNR=12							
HYB	Hyderabad	18.00	304	i P	P	22 17 03.0	+3.2
JIRN	Jiri	21.16	340	eP	P	22 17 35.7	+0.7
83nm,1.0s,mb5.0							
PKI	Pulchoki	21.35	338	eP	P	22 17 38.0	+1.0
148nm,1.2s,mb5.2							
DMN	Daman	21.50	337	eP	P	22 17 39.7	+1.2
84nm,0.9s,mb5.1							
KKN	Kakani	21.60	338	eP	P	22 17 40.4	+1.0
67nm,1.2s,mb5.1							
LSA	Lhasa	21.97	353	P	P	22 17 44.8	+1.7
LSA	Lhasa	21.97	353	eP	P	22 17 39.1	-4.0
31nm,0.8s,mb4.8							
GKN	Gorkha	22.03	337	eP	P	22 17 43.6	-0.2
72nm,0.9s,mb5.1							
KOLN	Koldanda	22.25	334	eP	P	22 17 45.8	-0.1
127nm,1.1s,mb5.2							
WHN	Wuhan	29.45	37	eP	P	22 18 55.0	+1.6
SONM	Songino Array	41.22	12	P	P	22 20 32.7	-1.0
4.5nm,1.1s,mb4.0,baz=198,slow=7.8,SNR=7.6							
SONM				PcP	PcP	22 22 32.9	-0.1
2.3nm,0.9s,baz=209,slow=3.8,SNR=4.9							
ZAL	Zalesovo	46.62	352	P	P	22 21 15.4	-1.8
4.1nm,0.8s,mb4.4,baz=300,slow=8.1,SNR=12							
WRA	Warramunga Arr	48.17	126	P	P	22 21 29.7	-0.1
0.6nm,0.4s,mb3.9,baz=304,slow=8.6,SNR=9.9							
BVAR	Borovoye Array	49.07	341	P	P	22 21 34.3	-2.0
2.3nm,1.0s,mb4.2,baz=146,slow=5.3,SNR=5.0							
BVAR				PcP	PcP	22 22 59.0	-1.1
1.6nm,0.6s,baz=146,slow=5.2,SNR=3.8							
RAYN	Ar Rayn	49.17	294	P	P	22 21 37.8	+0.3
110nm,0.9s,SNR=9.5							
CHKZ	Chkalovo	49.56	342	eP	P	22 21 35.8	-4.3
12nm,1.0s,mb4.9							
ASAR	Alice Springs	49.82	130	P	P	22 21 42.5	0.0
1.5nm,1.0s,mb4.0,baz=307,slow=6.9,SNR=5.7							
ASAR				PcP	PcP	22 23 02.1	-1.0
0.7nm,0.9s,baz=297,slow=4.0,SNR=2.8							
GNI	Garni	54.53	314	P	P	22 22 16.3	-1.2
1.7nm,0.6s,mb4.2,baz=15,slow=20,SNR=3.6							
KMBO	Kilima Mbogo	57.48	264	P	P	22 22 38.2	-0.9
2.3nm,0.8s,mb4.3,baz=49,slow=14,SNR=6.4							
BRTR	Keskin Array B	62.52	311	P	P	22 23 10.6	-2.7
2.6nm,0.8s,mb4.4,baz=124,slow=8.9,SNR=5.8							
AKASG	Malin Array Be	68.25	322	P	P	22 23 47.4	-2.4
3.1nm,0.9s,mb4.4,baz=91,slow=3.7,SNR=7.3							
VRI	Vrincioaia	68.79	316	P	P	22 23 53.4	0.0
MLR	Muntele Rosu	69.26	316	P	P	22 23 56.2	-0.1
82nm,1.6s,mb5.4,baz=118,slow=4.9,SNR=4.5							
MLR	Muntele Rosu	69.26	316	P	P	22 23 59.0	+2.7
BURAR	Bucovina Array	70.14	318	P	P	22 24 03.8	+2.3
JOF	Joensuu	70.94	334	ep	P	22 24 07.6	+1.5
FINES	FINESS Array B	72.80	332	P	P	22 24 15.4	-1.8
4.1nm,0.8s,mb4.4,baz=79,slow=9.7,SNR=10.0							
KAF	Kangasniemi	72.88	333	ep	P	22 24 19.3	+1.6
ARCES	ARCESS Array B	75.35	340	P	P	22 24 29.9	-2.0
3.2nm,0.8s,mb4.3,baz=50,slow=9.5,SNR=4.3							
VRAC	Vranov	76.05	319	P	P	22 24 35.4	-0.9
2.0nm,0.4s,mb4.4,slow=10,SNR=3.4							
GERES	GERESS Array B	77.92	318	P	P	22 24 45.8	-0.9
3.2nm,0.7s,mb4.4,baz=90,slow=5.3,SNR=9.2							
KHC	Kasperske Hory	78.01	319	eP	P	22 24 50.0	+2.8
HFS	Hagfors	78.55	330	P	P	22 24 48.3	-1.6
5.7nm,0.7s,mb4.6,baz=127,slow=7.4,SNR=9.3							
MOX	Moxa	79.31	320	eP	P	22 24 58.0	+3.6
GRA1	Grafenberg Arr	79.56	319	eP	P	22 24 56.0	+0.3
GRF	Grafenberg Arr	79.56	319	eP	P	22 24 56.0	+0.3
NB2	NORSAR Subarra	79.82	331	P	P	22 24 56.3	-0.6
2.5nm,0.7s,mb4.2,baz=96,slow=5.0							
NOA	NORSAR Array B	79.82	331	P	P	22 24 55.7	-1.1
3.2nm,0.7s,mb4.4,baz=93,slow=5.5,SNR=8.2							
NOA	NORSAR Array B	79.82	331	P	P	22 24 55.7	-1.1
DAVOX	Davos	80.48	316	P	P	22 25 00.5	-0.2
5.5nm,0.7s,mb4.6,baz=128,slow=12,SNR=3.4							
LPG	La Plagne	82.71	315	eP	P	22 25 13.8	+1.5
65nm,1.5s,mb5.1							
IMA	Indian Mountai	91.66	22	eP	P	22 25 56.3	+1.1
ILAR	Eielson Array	94.78	22	P	P	22 26 10.4	+0.9
0.8nm,0.8s,mb4.2,baz=303,slow=4.8,SNR=9.0							
INK	Inuvik	97.04	16	P	P	22 26 21.4	+1.7
2.7nm,1.0s,mb4.6,baz=265,slow=4.6,SNR=5.4							
NVAR	Mina Array Bea	124.94	31	PKP	PKPdf	22 31 49.8	+2.1
0.7nm,0.3s,baz=211,slow=39,SNR=4.2							
PDAR	Pinedale Array	125.21	21	PKP	PKPdf	22 31 49.6	+1.6
2.0nm,0.9s,baz=297,slow=2.0,SNR=3.9							
TXAR	Lajitas Array	139.26	24	PKP	PKPdf	22 32 16.2	+1.3
0.4nm,0.5s,baz=100,slow=11,SNR=5.5							
TXAR	Lajitas Array	139.26	24	PKP	PKPdf	22 32 16.2	+1.3
PLCA	Paso Flores	144.51	200	PKP	PKPdf	22 32 24.3	+0.6
2.9nm,0.8s,baz=117,slow=1.7,SNR=5.7							
LPAZ	La Paz	160.79	242	PKPab	PKPab	22 32 50.3	-42
0.4nm,0.3s,baz=338,slow=5.4,SNR=3.5							

*IDC **26** 22:18:26.4±1.3, 7.62N×93.86E, mb4.0/8, mb1 4.2/9, mb1mx4.0/19, mbtmp4.0/9, ML4.0/1, Error ellipse: s-maj=41.9km s-min=28.3km az=49.0*
*NEIC **26** 22:18:31.2±0.8, 7.68N×93.94E, h30km, mb4.3/2, Error ellipse: s-maj=17.1km s-min=14.3km az=112.0*
ISC 26 22:18:29.4±1.0, 7.7N±0.1×94.1E±0.1, h30km, n23, σ0§92/23, mb4.2/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.70	23	eP	P	22 21 16.1	-1.4
CMAR	Chiang Mai Arr	11.70	23	Pn	P	22 21 18.1	+0.6
0.3nm,0.3s,baz=211,slow=14,SNR=12							
JIRN	Jiri	21.24	340	eP	P	22 23 15.7	+0.4
11nm,0.7s,mb4.3							
PKI	Pulchoki	21.43	338	eP	P	22 23 19.1	+1.9
11nm,0.5s,mb4.5							
DMN	Daman	21.57	338	eP	P	22 23 19.9	+1.2
13nm,0.7s,mb4.5							
KKN	Kakani	21.67	338	eP	P	22 23 19.4	-0.3
33nm,1.1s,mb4.7							
LSA	Lhasa	22.08	353	eP	P	22 23 23.8	+0.1
13nm,0.8s,mb4.4							
GKN	Gorkha	22.11	337	eP	P	22 23 23.7	-0.3
11nm,0.5s,mb4.5							
KOLN	Koldanda	22.32	335	eP	P	22 23 26.7	+0.6
8.0nm,0.6s,mb4.3							
SONM	Songino Array	41.36	13	P	P	22 26 14.3	0.0
0.7nm,0.9s,mb3.3,baz=190,slow=7.5,SNR=4.5							
KURK	Kurchatov	44.78	346	eP	P	22 26 41.6	-0.6
2.0nm,0.6s,mb4.1							
ZAL	Zalesovo	46.73	352	P	P	22 26 57.4	-0.2
2.3nm,0.6s,mb4.3,baz=293,slow=6.3,SNR=14							
WRA	Warramunga Arr	48.18	125	P	P	22 27 10.1	+0.7
0.9nm,1.1s,mb3.7,baz=303,slow=9.1,SNR=5.4							
CHKZ	Chkalovo	49.64	342	eP	P	22 27 20.2	0.0
BRTR	Keskin Array B	62.52	311	P	P	22 28 50.5	-2.3
0.8nm,0.7s,mb4.0,baz=127,slow=6.2,SNR=4.6							
FINES	FINESS Array B	72.86	332	P	P	22 29 56.8	-0.4
2.7nm,0.8s,mb4.2,baz=127,slow=9.5,SNR=6.4							
KAF	Kangasniemi	72.94	333	ep	P	22 29 56.4	-1.2
GERES	GERESS Array B	77.94	318	P	P	22 30 27.5	+1.2
0.3nm,0.3s,mb3.6,baz=143,slow=6.7,SNR=3.7							
HFS	Hagfors	78.60	330	P	P	22 30 29.7	0.0
1.9nm,0.6s,mb4.2,baz=117,slow=6.6,SNR=8.5							
MOX	Moxa	79.34	320	eP	P	22 30 30.0	-3.9
NB2	NORSAR Subarra	79.88	331	P	P	22 30 36.8	+0.2
1.3nm,0.7s,mb4.0,baz=93,slow=5.6							
NOA	NORSAR Array B	79.88	331	P	P	22 30 36.4	-0.2
1.4nm,0.7s,mb4.0,baz=95,slow=5.2,SNR=5.7							
NOA	NORSAR Array B	79.88	331	P	P	22 30 36.4	-0.2

*IDC **26** 22:18:46.0±5.6, 8.37N×93.61E, mb4.1/9, mb1 4.3/10, mb1mx4.1/19, mbtmp4.1/10, ML4.1/1, Error ellipse: s-maj=148.0km s-min=28.8km az=135.0*
*NEIC **26** 22:18:46.9±2.7, 7.87N×94.09E, h30km, mb4.5/1, Error ellipse: s-maj=68.3km s-min=15.4km az=135.0*
ISC 26 22:18:47.0±3.5, 8.2N±0.4×93.9E±0.4, h30km, n16, σ0§87/16, mb4.1/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.33	25	eP	P	22 21 29.2	-0.9
5.6nm,0.8s							
CMAR	Chiang Mai Arr	11.33	25	Pn	P	22 21 30.4	+0.3
0.4nm,0.3s,baz=211,slow=14,SNR=7.3							
LSA	Lhasa	21.57	353	eP	P	22 23 39.9	+3.6
SONM	Songino Array	40.92	13	P	P	22 26 28.8	+0.5
1.4nm,0.9s,mb3.6,baz=194,slow=7.6,SNR=7.9							
KURK	Kurchatov	44.26	346	eP	P	22 26 54.8	-0.8
ZAL	Zalesovo	46.22	353	P	P	22 27 12.2	+1.0
4.0nm,1.0s,mb4.3,baz=292,slow=8.6,SNR=10							
CHKZ	Chkalovo	49.12	342	eP	P	22 27 34.1	+0.3
5.4nm,1.1s,mb4.5							
KMBO	Kilima Mbogo	57.24	263	P	P	22 28 35.0	+0.5
4.1nm,1.0s,mb4.4,baz=54,slow=7.2,SNR=7.9							
KMBO	Kilima Mbogo	57.24	263	P	P	22 28 35.0	+0.4
BRTR	Keskin Array B	62.06	311	P	P	22 29 06.2	-1.2
0.6nm,0.7s,mb3.9,baz=127,slow=6.2,SNR=3.9							
FINES	FINESS Array B	72.34	332	P	P	22 30 11.4

1.9nm,0.9s,baz=85,slow=6.6,SNR=2.8
PLCA **Paso Flores** 143.95 201 PKP PKPdf 22 43 03.9 -1.0
2.1nm,1.0s,baz=158,slow=5.4,SNR=2.5

IDC 26 22:26:09.2±1.4, 7.74N×93.84E, mb3.9/7, mb1 4.0/8, mb1mx3.8/19, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=43.2km s-min=29.0km az=49.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.76	24	Pn	P	22 28 57.7	-3.5
	0.1nm,0.3s,baz=208,slow=15,SNR=3.9						
SONM	**Songino Array**	41.36	13	P	P	22 33 56.7	-1.8
	1.0nm,1.0s,baz=215,slow=4.0,SNR=4.6						
ZAL	**Zalesovo**	46.65	353	P	P	22 34 40.9	-0.2
	2.3nm,1.0s,baz=294,slow=8.1,SNR=6.1						
WRA	**Warramunga Arr**	48.42	125	P	P	22 34 53.7	-1.8
	0.5nm,0.8s,baz=302,slow=9.5,SNR=4.8						
BRTR	**Keskin Array B**	62.30	311	P	P	22 36 34.6	-1.1
	0.5nm,0.5s,baz=123,slow=6.5,SNR=3.1						
FINES	**FINESS Array B**	72.69	332	P	P	22 37 37.1	-3.5
	4.2nm,1.1s,baz=207,slow=17,SNR=3.1						
HFS	**Hagfors**	78.43	330	P	P	22 38 10.7	-2.5
	1.5nm,0.6s,baz=90,slow=5.9,SNR=5.0						
NB2	**NORSAR Subarra**	79.71	331	P	P	22 38 19.2	-0.9
	0.8nm,0.7s,baz=91,SNR=5.8						
NOA	**NORSAR Array B**	79.71	331	P	P	22 38 19.3	-0.9
	1.3nm,0.8s,baz=91,slow=5.8,SNR=4.3						

*IDC **26** 22:26:51.0±0.6, 7.83N×93.99E, mb4.2/17, mb1 4.3/18, mb1mx4.3/22, mbtmp4.2/18, ML4.2/1, Error ellipse: s-maj=25.2km s-min=16.0km az=47.0*
*BJI **26** 22:26:57.2, 7.90N×94.10E, h40km, mb4.5*
*NEIC **26** 22:26:57.3±2.2, 7.91N×94.12E, h40km±19km, mb4.5/10, Error ellipse: s-maj=14.7km s-min=8.0km az=55.0*
ISC 26 22:26:55.9±3.5, 7.87N±0.09×94.2E±0.1, h44km±30km, n49, σ1§03/44, mb4.4/31, 3C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.51	23	Pn	P	22 29 39.4	-1.1
	0.4nm,0.3s,baz=213,slow=14,SNR=11						
KMI	**Kunming**	19.01	25	P	P	22 31 19.6	+2.8
	13nm,1.0s						
JIRN	**Jiri**	21.08	340	*eP*	P	22 31 39.2	+0.5
	54nm,0.9s,mb4.9						
PKI	**Pulchoki**	21.27	338	*eP*	P	22 31 42.1	+1.4
	36nm,0.7s,mb4.8						
DMN	**Daman**	21.42	338	*eP*	P	22 31 43.4	+1.2
	44nm,0.7s,mb4.9						
KKN	**Kakani**	21.52	338	*eP*	P	22 31 43.7	+0.5
	21nm,0.6s,mb4.7						
LSA	**Lhasa**	21.90	353	*eP*	P	22 31 46.5	-0.4
	19nm,0.7s,mb4.6						
GKN	**Gorkha**	21.95	337	*eP*	P	22 31 47.1	-0.4
	62nm,0.8s,mb5.1						
KOLN	**Koldanda**	22.17	335	*eP*	P	22 31 50.1	+0.5
	38nm,0.7s,mb4.9						
ENH	**Enshi**	26.52	31	*eP*	P	22 32 31.1	-0.2
	11nm,0.9s,mb4.4						
SONM	**Songino Array**	41.16	13	P	P	22 34 38.0	+0.4
	2.1nm,0.8s,mb3.8,baz=195,slow=7.9,SNR=12						
SONM				PcP	PcP	22 36 37.4	+0.6
	0.9nm,0.7s,baz=209,slow=3.1,SNR=4.9						
KURK	**Kurchatov**	44.62	346	*eP*	P	22 35 05.5	-0.1
	33nm,1.8s,mb4.9						
NWAO	**Narrogin (SRO)**	46.14	153	P	P	22 35 19.5	+1.5
HIA	**Hailar**	46.52	23	*eP*	P	22 35 20.9	+0.2
	5.5nm,0.9s,mb4.5						
ZAL	**Zalesovo**	46.55	352	P	P	22 35 21.3	+0.3
	3.2nm,0.6s,mb4.5,baz=305,slow=7.3,SNR=12						
WRA	**Warramunga Arr**	48.24	126	P	P	22 35 33.9	-0.8
	2.4nm,1.0s,mb4.2,baz=305,slow=9.2,SNR=8.6						
WRAB	**Tennant Creek**	48.25	126	*eP*	P	22 35 34.0	-0.7
	9.2nm,1.1s,mb4.7						
BVAR	**Borovoye Array**	49.00	341	P	P	22 35 37.4	-2.7
	1.0nm,0.8s,mb3.9,baz=149,slow=8.6,SNR=3.7						
BRVK	**Borovoye**	49.06	341	P	P	22 35 39.9	-0.6
CHKZ	**Chkalovo**	49.48	342	*eP*	P	22 35 43.1	-0.7
	4.6nm,0.8s,mb4.6						
ASAR	**Alice Springs**	49.90	130	P	P	22 35 46.5	-0.9
	1.7nm,0.9s,mb4.1,baz=310,slow=7.3,SNR=7.6						
KMBO	**Kilima Mbogo**	57.44	264	P	P	22 36 42.6	-0.5
	6.5nm,0.9s,mb4.7,baz=56,slow=11,SNR=15						
ASF	**Jabal al Asfar**	58.23	303	P	P	22 36 45.6	-2.8
	2.4nm,0.8s,mb4.3,baz=7.1,slow=8.1,SNR=2.5						
STKA	**Stephens Creek**	60.09	134	P	P	22 37 01.6	+0.3
	1.8nm,1.0s,mb4.1,baz=271,slow=14,SNR=3.1						
BRTR	**Keskin Array B**	62.44	311	P	P	22 37 14.5	-2.5
	1.9nm,0.6s,mb4.4,baz=123,slow=7.3,SNR=8.9						
AKASG	**Malin Array Be**	68.17	322	P	P	22 37 51.0	-2.6
	0.5nm,0.4s,mb3.9,baz=89,slow=4.9,SNR=4.0						
VRI	**Vrincioaia**	68.72	316	⇑P	P	22 37 57.5	+0.4
MLR	**Muntele Rosu**	69.19	316	⇑P	P	22 37 59.4	-0.6
BURAR	**Bucovina Array**	70.06	318	⇑P	P	22 38 06.5	+1.2
FINES	**FINESS Array B**	72.72	332	P	P	22 38 20.1	-0.9
	2.9nm,0.7s,mb4.3,baz=113,slow=7.8,SNR=8.5						
KAF	**Kangasniemi**	72.80	333	*ep*	P	22 38 21.0	-0.4
OJC	**Ojcow**	73.99	320	*eP*	P	22 38 28.8	+0.2
ARCES	**ARCESS Array B**	75.27	340	P	P	22 38 36.1	+0.5
	2.3nm,0.7s,mb4.2,baz=104,slow=5.0,SNR=9.9						
BOSA	**Boshof**	75.60	238	*eP*	P	22 38 40.2	+1.9
	5.6nm,0.9s,mb4.5						
GERES	**GERESS Array B**	77.84	318	P	P	22 38 50.3	-0.2
	2.3nm,0.7s,mb4.2,baz=82,slow=9.4,SNR=7.3						
KHC	**Kasperske Hory**	77.93	318	*eP*	P	22 38 51.0	0.0
KHC				*e*		22 39 33.5	
KHC	**Kasperske Hory**	77.93	318	*eP*	P	22 38 51.0	0.0
KHC				x	x	22 39 33.5	
HFS	**Hagfors**	78.47	330	P	P	22 38 54.0	+0.3
	3.9nm,0.5s,mb4.6,baz=104,slow=6.1,SNR=29						
NB2	**NORSAR Subarra**	79.74	331	P	P	22 39 00.6	0.0
	1.4nm,0.5s,mb4.2,baz=98,slow=4.8						
NOA	**NORSAR Array B**	79.74	331	P	P	22 39 00.6	0.0
	1.9nm,0.5s,mb4.2,baz=95,slow=5.0,SNR=5.8						
DAVOX	**Davos**	80.40	316	P	P	22 39 05.2	+0.8
	2.8nm,0.8s,mb4.3,baz=44,slow=10.0,SNR=3.3						
DAVOX	**Davos**	80.40	316	P	P	22 39 05.2	+0.8
LPG	**La Plagne**	82.63	315	*eP*	P	22 39 16.9	+0.8
	9.5nm,1.0s,mb4.5						
ILAR	**Eielson Array**	94.74	22	P	P	22 40 14.4	+0.9
	0.5nm,0.8s,mb4.0,baz=274,slow=4.0,SNR=5.1						
NVAR	**Mina Array Bea**	124.91	31	PKP	PKPdf	22 45 54.4	+2.7
	0.9nm,0.8s,baz=325,slow=1.0,SNR=4.5						
NVAR	**Mina Array Bea**	124.91	31	PKP	PKPdf	22 45 54.4	+2.7
PDAR	**Pinedale Array**	125.16	21	PKP	PKPdf	22 45 54.2	+2.1
	0.9nm,0.8s,baz=56,slow=5.3,SNR=6.4						
PLCA	**Paso Flores**	144.55 200		PKP	PKPdf	22 46 29.4	+1.5
	4.4nm,0.8s,baz=139,slow=3.8,SNR=8.9						
PLCA	**Paso Flores**	144.55 200		PKP	PKPdf	22 46 29.4	+1.5

*IDC **26** 22:27:35.1±0.9, 8.04N×94.04E, mb4.3/13, mb1 4.4/14, mb1mx4.3/21, mbtmp4.2/14, Error ellipse: s-maj=28.2km s-min=21.3km az=41.0*
*NEIC **26** 22:27:39.2±0.6, 8.01N×94.18E, h30km, mb4.5/4, Error ellipse: s-maj=18.7km s-min=13.3km az=59.0*
ISC 26 22:27:37.0±0.7, 7.9N±0.1×94.0E±0.1, h30km, n23, σ1§01/22, mb4.4/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.57	24	Pn	P	22 30 17.6	-5.8
	baz=220,slow=14,SNR=3.1						
LSA	**Lhasa**	21.89	353	*eP*	P	22 32 30.3	+0.8
	19nm,0.7s,mb4.6						
SONM	**Songino Array**	41.20	13	P	P	22 35 20.9	+0.2
	1.8nm,0.8s,mb3.8,baz=192,slow=6.6,SNR=4.9						
SONM				PcP	PcP	22 37 20.1	+0.1
	1.0nm,0.8s,baz=196,slow=3.2,SNR=3.6						
KURK	**Kurchatov**	44.59	346	*eP*	P	22 35 48.4	0.0
	6.1nm,0.9s,mb4.4						
ZAL	**Zalesovo**	46.54	352	P	P	22 36 04.4	+0.7
	5.3nm,0.8s,mb4.5,baz=297,slow=7.2,SNR=8.2						
WRA	**Warramunga Arr**	48.35	125	P	P	22 36 18.4	+0.1
	0.8nm,0.5s,mb4.0,baz=304,slow=8.6,SNR=4.8						
WRAB	**Tennant Creek**	48.35	125	P	P	22 36 16.4	-2.0
	6.2nm,0.9s,mb4.6						
BVAR	**Borovoye Array**	48.96	341	P	P	22 36 22.0	-0.6
	1.7nm,0.8s,mb4.1,baz=135,slow=4.2,SNR=4.9						
BVAR				PcP	PcP	22 37 48.0	+1.3
	1.2nm,0.9s,baz=180,slow=2.9,SNR=3.3						
PMG	**Port Moresby**	55.64	107	P	P	22 37 14.5	+1.5
	18nm,0.8s,mb5.1,baz=319,slow=6.7,SNR=3.4						
PMG	**Port Moresby**	55.64	107	P	P	22 37 14.5	+1.5
KMBO	**Kilima Mbogo**	57.31	264	P	P	22 37 27.2	+2.1
	5.1nm,0.9s,mb4.5,baz=54,slow=8.8,SNR=7.2						
KMBO	**Kilima Mbogo**	57.31	264	P	P	22 37 27.2	+2.1
	1.7nm,0.8s,mb4.2,baz=116,slow=6.6,SNR=4.0						
BRTR	**Keskin Array B**	62.35	311	P	P	22 37 57.2	-2.1
	1.7nm,0.8s,mb4.2,baz=116,slow=6.6,SNR=4.0						
AKASG	**Malin Array Be**	68.09	322	P	P	22 38 34.8	-1.4
	3.3nm,0.9s,mb4.4,baz=89,slow=5.0,SNR=4.1						
JOF	**Josuiu**	70.81	334	*ep*	P	22 38 52.2	-0.4
FINES	**FINESS Array B**	72.67	332	P	P	22 39 03.8	+0.1
	4.5nm,0.8s,mb4.5,baz=101,slow=9.7,SNR=7.7						
KAF	**Kangasniemi**	72.75	333	*ep*	P	22 39 03.4	-0.7
GERES	**GERESS Array B**	77.76	318	P	P	22 39 33.3	+0.4
	4.4nm,0.8s,mb4.4,baz=72,slow=4.2,SNR=5.8						
HFS	**Hagfors**	78.41	330	P	P	22 39 36.8	+0.5
	4.5nm,0.7s,mb4.5,baz=108,slow=4.7,SNR=6.8						
NB2	**NORSAR Subarra**	79.69	331	P	P	22 39 43.3	+0.1
	2.6nm,0.7s,mb4.3,baz=91,slow=5.8						
NOA	**NORSAR Array B**	79.69	331	P	P	22 39 43.0	-0.1
	3.6nm,0.8s,mb4.4,baz=92,slow=5.6,SNR=7.7						
ILAR	**Eielson Array**	94.80	22	P	P	22 40 57.0	+0.3
	0.3nm,0.7s,mb3.8,baz=319,slow=3.7,SNR=4.1						
PLCA	**Paso Flores**	144.50 200		PKP	PKPdf	22 47 13.2	-2.8
	4.6nm,0.8s,baz=190,slow=2.3,SNR=7.2						

*IDC **26** 22:38:08.1±0.9, 7.76N×93.83E, mb4.0/10, mb1 4.1/11, mb1mx4.0/20, mbtmp3.9/11, ML3.6/1, Error ellipse: s-maj=40.3km s-min=19.2km az=55.0*
*NEIC **26** 22:38:10.9±12.0, 7.73N×93.82E, h18km±72km, mb4.2/4, Error ellipse: s-maj=37.5km s-min=12.7km az=52.0*
ISC 26 22:38:11.6±5.6, 7.8N±0.2×94.0E±0.2, h34km±46km, n27, σ0§85/25, mb4.2/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	11.64	24	*eP*	P	22 40 57.7	-0.8
CMAR	**Chiang Mai Arr**	11.64	24	Pn	P	22 40 57.4	-1.1
	0.1nm,0.3s,baz=212,slow=14,SNR=15						
KMI	**Kunming**	19.15	25	P	P	22 42 37.2	+2.2
	10.0nm,1.3s						
JIRN	**Jiri**	21.12	340	*eP*	P	22 42 56.3	+0.5
	28nm,1.0s,mb4.6						
PKI	**Pulchoki**	21.31	339	*eP*	P	22 42 59.1	+1.4
	12nm,0.7s,mb4.4						
DMN	**Daman**	21.46	338	*eP*	P	22 43 00.1	+0.9
	23nm,0.7s,mb4.6						
KKN	**Kakani**	21.56	338	*eP*	P	22 43 01.1	+0.9
	14nm,0.8s,mb4.4						
LSA	**Lhasa**	21.97	353	*eP*	P	22 43 04.2	-0.1
	6.4nm,0.8s,mb4.1						
GKN	**Gorkha**	21.99	337	*eP*	P	22 43 04.3	-0.2
	16nm,0.8s,mb4.5						
KOLN	**Koldanda**	22.20	335	*eP*	P	22 43 07.2	+0.6
	23nm,0.8s,mb4.7						
SONM	**Songino Array**	41.28	13	P	P	22 45 55.3	-0.1
	0.9nm,1.1s,mb3.3,baz=180,slow=6.2,SNR=4.6						
SONM				PcP	PcP	22 47 55.3	+1.0
	0.5nm,0.6s,baz=196,slow=3.4,SNR=6.4						
KURK	**Kurchatov**	44.67	346	*eP*	P	22 46 23.1	+0.2
	4.3nm,1.1s,mb4.2						
ZAL	**Zalesovo**	46.63	353	P	P	22 46 38.3	-0.1
	3.6nm,1.1s,mb4.2,baz=288,slow=9.0,SNR=12						
WRA	**Warramunga Arr**	48.30	125	P	P	22 46 52.0	0.0
	0.4nm,0.7s,mb3.6,baz=298,slow=10,SNR=6.2						
BVAR	**Borovoye Array**	49.04	341	P	P	22 46 56.3	-1.0
	0.8nm,0.8s,mb3.8,baz=135,slow=10,SNR=5.0						
CHKZ	**Chkalovo**	49.53	342	*eP*	P	22 47 00.4	-0.6
	3.2nm,0.9s,mb4.3						
STKA	**Stephens Creek**	60.12	134	P	P	22 48 19.2	+0.8
	2.2nm,0.9s,mb4.2,baz=292,slow=19,SNR=1.6						
STKA	**Stephens Creek**	60.12	134	P	P	22 48 19.2	+0.8
BRTR	**Keskin Array B**	62.40	311	P	P	22 48 32.0	-1.6
	0.5nm,0.4s,mb4.0,baz=121,slow=7.2,SNR=4.5						
FINES	**FINESS Array B**	72.74	332	P	P	22 49 37.1	-0.9
	2.2nm,0.8s,mb4.2,baz=108,slow=12,SNR=6.0						
GERES	**GERESS Array B**	77.82	318	P	P	22 50 07.9	+0.6
	1.8nm,0.8s,mb4.0,baz=124,slow=4.8,SNR=4.2						
HFS	**Hagfors**	78.48	330	P	P	22 50 10.4	-0.3
	1.2nm,0.8s,mb3.9,baz=117,slow=9.9,SNR=4.7						
NB2	**NORSAR Subarra**	79.76	331	P	P	22 50 16.5	-1.2
	2.7nm,0.9s,mb4.2,baz=91,slow=5.8						
NOA	**NORSAR Array B**	79.76	331	P	P	22 50 17.3	-0.4
	1.2nm,0.8s,mb3.9,baz=94,slow=4.9,SNR=5.0						
NOA	**NORSAR Array B**	79.76	331	P	P	22 50 17.3	-0.4
NVAR	**Mina Array Bea**	125.06	31	PKP	PKPdf	22 57 09.8	+0.8
	0.1nm,0.2s,baz=17,slow=32,SNR=2.7						
PLCA	**Paso Flores**	144.42 200		PKP	PKPdf	22 57 46.8	+2.1
	2.6nm,1.0s,baz=66,slow=2.2,SNR=4.3						

IDC 26 22:44:31.1±1.3, 6.32N×92.79E, mb3.8/6, mb1 3.9/7, mb1mx3.8/19, mbtmp3.7/7, Error ellipse: s-maj=47.0km s-min=21.3km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	13.47	26	Pn	P	22 47 45.1	-1.1
	baz=220,slow=15,SNR=4.8						
SONM	**Songino Array**	42.97	13	P	P	22 52 31.4	-2.3
	0.6nm,0.5s,baz=196,slow=9.2,SNR=8.3						
ZAL	**Zalesovo**	47.92	354	P	P	22 53 11.3	-1.7
	1.9nm,0.4s,baz=282,slow=4.9,SNR=9.9						
WRA	**Warramunga Arr**	48.49	124	P	P	22 53 16.1	-1.8
	0.7nm,0.8s,baz=304,slow=8.8,SNR=7.4						
ASAR	**Alice Springs**	49.98	128	P	P	22 53 27.3	-2.1
	0.6nm,0.6s,baz=304,slow=7.6,SNR=5.8						
BVAR	**Borovoye Array**	50.04	343	P	P	22 53 26.9	-2.5
	0.4nm,0.5s,baz=140,slow=12,SNR=4.3						
BRTR	**Keskin Array B**	62.44	312	P	P	22 54 56.6	-1.9
	0.7nm,0.7s,baz=123,slow=6.3,SNR=3.3						

*IDC **26** 22:46:08.7±1.3, 7.67N×93.60E, mb3.8/7, mb1 4.0/8, mb1mx3.9/19, mbtmp3.8/8, ML3.5/1, Error ellipse: s-maj=42.7km s-min=26.1km az=55.0*
*NEIC **26** 22:46:13.6±0.8, 7.72N×93.77E, h30km, mb4.2/4, Error ellipse: s-maj=16.0km s-min=11.2km az=143.0*
ISC 26 22:46:08.1±2.5, 7.51N±0.09×93.72E±0.08, h6km±17km, n32, σ1§39/35, mb4.2/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	12.01	25	*eP*	P	22 48 59.5	-3.4
CMAR	**Chiang Mai Arr**	12.01	25	Pn	P	22 48 59.1	-3.8
	0.1nm,0.3s,baz=219,slow=13,SNR=3.3						
PALK	**Pallekele**	12.91	270	P	P	22 49 16.1	+1.0
	8.1nm,0.6s						
VIS	**Vishakhapatnam**	14.34	316	*eP*	P	22 49 31.9	-2.0
VIS				*eS*	S	22 52 11.3	-2.9
TRD	**Trivandrum**	16.63	275	*eP*	P	22 50 03.6	0.0
IMP	**Imphal**	17.18	1	*e*	P	22 50 11.2	+0.8
HYB	**Hyderabad**	17.77	305	*i P*	P	22 50 25.0	+7.1
BLSP	**Bilaspur**	18.33	324	*eP*	P	22 50 24.0	-0.9
BLSP				*eS*	S	22 53 47.4	+0.7
KMI	**Kunming**	19.52	25	P	P	22 50 40.4	+1.3
	7.0nm,1.3s						
GOA	**Goa**	21.03	294	*e*	P	22 51 02.1	+6.9
GOA				*e*		22 51 05.5	
	comp=Z,18nm,1.3s						
JIRN	**Jiri**	21.27	341	*eP*	P	22 50 58.8	+1.2
	comp=Z,50nm,1.3s,mb4.7						
PKI	**Pulchoki**	21.45	339	*eP*	P	22 51 01.0	+1.6
	comp=Z,58nm,1.3s,mb4.7						
DMN	**Daman**	21.59	339	*eP*	P	22 51 01.8	+1.0
	comp=Z,18nm,0.8s,mb4.6						
KKN	**Kakani**	21.69	339	*eP*	P	22 51 02.8	+1.0
GKN	**Gorkha**	22.12	338	*eP*	P	22 51 06.8	+0.7
	comp=Z,22nm,0.8s,mb4.7						
BHPL	**Bhopal**	22.13	317	*i P*	P	22 51 05.8	-0.5
BHPL				AMb	AMB	22 51 07.9	
	comp=Z,29nm,1.4s,mb4.5						
BHPL				*eS*	S	22 55 06.7	+1.3
LSA	**Lhasa**	22.20	354	*eP*	P	22 51 07.4	+0.5
	comp=Z,6.8nm,0.7s,mb4.2						
KOLN	**Koldanda**	22.31	336	*eP*	P	22 51 09.7	+1.7
PTH	**Pithoragarh**	25.34	332	*e*	P	22 51 40.0	+2.6
SONM	**Songino Array**	41.60	13	P	P	22 53 57.5	-1.0
	comp=Z,0.6nm,0.8s,mb3.3,baz=242,slow=8.4,SNR=2.7						
KURK	**Kurchatov**	44.86	346	*eP*	P	22 54 24.5	-0.5
	comp=Z,5.3nm,1.2s,mb4.2						
ZAL	**Zalesovo**	46.85	353	P	P	22 54 39.5	-1.1
	comp=Z,1.4nm,0.5s,mb4.2,baz=274,slow=6.2,SNR=5.7						
BVAR	**Borovoye Array**	49.20	342	P	P	22 54 56.9	-2.1
	comp=Z,0.7nm,1.0s,mb3.6,baz=146,slow=5.2,SNR=2.5						
CHKZ	**Chkalovo**	49.69	342	*eP*	P	22 55 01.2	-1.5
	comp=Z,3.7nm,1.0s,mb4.4						
ASAR	**Alice Springs**	50.01	129	P	P	22 55 06.7	+1.0
	comp=Z,0.9nm,0.8s,mb3.8,baz=311,slow=8.3,SNR=3.3						
ARU	**Arti**	56.06	337	*eP*	P	22 55 53.7	+3.6
BRTR	**Keskin Array B**	62.35	311	P	P	22 56 32.2	-1.7
	comp=Z,0.6nm,0.6s,mb3.9,baz=117,slow=6.4,SNR=2.6						
FINES	**FINESS Array B**	72.83	332	P	P	22 57 37.9	-1.5
	comp=Z,2.5nm,1.0s,mb4.1,baz=331,slow=14,SNR=3.2						
NB2	**NORSAR Subarra**	79.84	331	P	P	22 58 19.4	+0.6
	comp=Z,1.2nm,0.7s,mb3.9,baz=96,slow=5.0						
NOA	**NORSAR Array B**	79.84	331	P	P	22 58 17.5	-1.3
	comp=Z,1.5nm,0.7s,mb4.0,baz=92,slow=5.7,SNR=4.0						
NOA	**NORSAR Array B**	79.84	331	P	P	22 58 17.5	-1.3
LPG	**La Plagne**	82.58	315	*eP*	P	22 58 39.0	+5.5
	comp=Z,13nm,0.8s,mb4.7						

*IDC **26** 22:46:23.7±0.5, 7.99N×94.19E, mb4.5/24, mb1 4.6/25, mb1mx4.6/29, mbtmp4.5/25, ML3.7/1, Error ellipse: s-maj=23.0km s-min=12.4km az=45.0*
*MOS **26** 22:46:27.4±1.4, 7.95N×94.10E, h33km, mb4.8/37, Error ellipse: s-maj=11.6km s-min=6.7km az=107.8*
*BJI **26** 22:46:28.9, 7.67N×93.95E, h58km, mB5.7, mb4.5, Ms5.4, Msz5.3*
*NEIC **26** 22:46:29.4±1.7, 7.88N×93.99E, h39km±14km, mb4.6/18, Error ellipse: s-maj=12.4km s-min=7.2km az=49.0*
ISC 26 22:46:30.3±1.3, 7.86N±0.05×94.05E±0.05, h62km±11km, n137, σ1§35/129, mb4.6/50, 2C-2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	3.99	341	*eP*	P	22 47 32.6	+2.0
PBA				*e*		22 48 11.3	
PBA				*eS*	S	22 48 17.3	+0.9
NNT	**Nongplab**	7.31	49	P	P	22 48 12.5	-4.3
CM31	**Chiang Mai Arr**	11.56	24	*eP*	P	22 49 13.1	-1.8
	10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	11.56	24	Pn	P	22 49 09.4	-5.4
	0.2nm,0.3s,baz=209,slow=14,SNR=4.5						
NANT	**Nan**	12.65	30	P	P	22 49 31.5	+2.0
MDRS	**Chennai**	14.53	292	*e*	P	22 49 53.0	-1.1
MDRS				*e*		22 52 56.0	
AGT	**Agartala**	16.16	351	*e*	P	22 50 12.0	-3.0
KOD	**Kodaikanal**	16.55	279	*eP*	P	22 50 23.9	+4.1
KOD				*e*		22 50 24.8	
	comp=Z,153nm,1.5s						
HYB	**Hyderabad**	17.84	304	*eP*	P	22 50 36.0	0.0
HYB	**Hyderabad**	17.84	304	*e*	P	22 50 36.0	0.0
QIZ	**Qiongzhong**	18.94	53	P	P	22 50 49.0	0.0
KMI	**Kunming**	19.07	25	P	P	22 50 53.4	+2.9
KMI				pmax	pmax		
	comp=Z,27nm,1.6s						
KMI	**Kunming**	19.07	25	P	P	22 50 53.4	+2.9
	comp=Z,27nm,1.6s						
COCO	**West Island**	20.11	172	*eP*	P	22 51 05.4	+3.7
LSA	**Lhasa**	21.90	353	*eP*	P	22 51 19.7	-0.1
LSA				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.3						
LSA	**Lhasa**	21.90	353	*eP*	P	22 51 19.7	-0.1
	comp=Z,11nm,0.8s,mb4.3						
NDI	**New Delhi**	26.10	325	*eP*	P	22 52 04.7	+4.4
NDI				*e*		22 52 36.6	
	comp=Z,179nm,0.9s						
NDI	**New Delhi**	26.10	325	*e*	P	22 52 02.0	+1.8
ENH	**Enshi**	26.58	31	*eP*	P	22 52 04.5	-0.2
	comp=Z,38nm,0.9s,mb4.9						
LZH	**Lanzhou**	29.49	16	*eP*	P	22 52 31.5	+0.6
LZH				AP	pP	22 52 47.5	+1.3
LZH				XP	sP	22 52 55.0	+1.3
LZH				AMB	AMB		
	comp=Z,24nm,1.7s,mb4.7						
LZH	**Lanzhou**	29.49	16	*eP*	P	22 52 31.5	+0.6
LZH				*PP	pP	22 52 47.5	+1.3
LZH				pmax	pmax		
	comp=Z,24nm,1.7s,mb4.7						
LZH	**Lanzhou**	29.49	16	*eP*	P

BVAR Borovoye Array 48.98 341 P **P** **22 55 10.7 -1.8**
comp=Z,2.8nm,0.8s,mb4.3,baz=135,slow=8.4,SNR=11
BRVK Borovoye 49.04 341 *e*P **P** **22 55 11.4 -1.5**
BRVK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BRVK Borovoye 49.04 341 *e*P **P** **22 55 11.3 -1.6**
comp=Z,4.8nm,1.0s,mb4.5
CHKZ Chkalovo 49.46 342 *e*P **P** **22 55 14.5 -1.7**
CHKZ pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
CHKZ Chkalovo 49.46 342 *e*P **P** **22 55 14.5 -1.7**
comp=Z,3.7nm,1.0s,mb4.4
ASPA Alice Springs 49.97 130 *e*P **P** **22 55 19.9 -0.6**
ASAR Alice Springs 49.97 130 P **P** **22 55 19.3 -1.2**
comp=Z,4.0nm,0.8s,mb4.5,baz=304,slow=7.6,SNR=16
BOD Bodaibo 52.19 13 *e*P **P** **22 55 36.6 -0.2**
GNI Garni 54.38 314 P **P** **22 55 53.8 +0.5**
GNI pmax pmax
comp=Z,4.0nm,0.8s
GNI Garni 54.38 314 P **P** **22 55 53.8 +0.5**
comp=Z,3.7nm,0.8s,mb4.3,baz=54,slow=8.7,SNR=3.1
GNI Garni 54.38 314 *e*P **P** **22 55 56.5 +3.2**
comp=Z,5.4nm,0.8s,mb4.5
SVE Sverdlovsk 55.38 338 *e*P **P** **22 56 01.0 +0.7**
PMG Port Moresby 55.61 107 P **P** **22 56 01.9 -0.6**
PMG pmax pmax
comp=Z,15nm,0.9s
PMG Port Moresby 55.61 107 P **P** **22 56 01.9 -0.6**
comp=Z,15nm,0.8s,mb5.0,baz=9.9,slow=18,SNR=8.3
PMG Port Moresby 55.61 107 P **P** **22 56 01.9 -0.6**
ZEI Tsey 55.99 317 *e*P **P** **22 56 04.7 -0.2**
ZEI pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
YSS Yuzh-Sakhalins 56.85 38 *i*P **P** **22 56 12.5 +1.5**
YSS pmax pmax
comp=Z,19nm,1.8s,mb4.8
KIV Kislovodsk 57.27 318 *e*P **P** **22 56 11.1 -2.9**
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
KIV Kislovodsk 57.27 318 *e*P **P** **22 56 11.5 -2.5**
KMBO Kilima Mbogo 57.33 264 P **P** **22 56 17.0 +2.2**
KMBO pmax pmax
comp=Z,8.0nm,0.9s
KMBO Kilima Mbogo 57.33 264 P **P** **22 56 17.0 +2.2**
comp=Z,7.6nm,0.9s,mb4.7,baz=52,slow=9.8,SNR=13
KMBO Kilima Mbogo 57.33 264 *e*P **P** **22 56 17.7 +2.9**
comp=Z,7.9nm,0.9s,mb4.7
ASF Jabal al Asfar 58.15 303 P **P** **22 56 19.4 -0.9**
comp=Z,1.7nm,0.6s,mb4.2,baz=158,slow=14,SNR=2.8
SOC Sochi 59.13 317 *e*P **P** **22 56 20.2 -6.7**
SOC *e* 22 58 33.7
SOC *e*S **S** **23 04 28.8 +1.1**
SOC pmax pmax
comp=Z,19nm,0.8s,mb5.2
SOC pmax pmax
comp=N,28nm,1.0s
SOC pmax pmax
comp=E,16nm,0.8s
EIL Elat 59.36 300 P **P** **22 56 27.4 -1.3**
comp=E,3.0nm,0.5s,mb4.6,baz=329,slow=11,SNR=3.6
YAK Yakutsk 60.04 18 *i*P **P** **22 56 32.6 -0.3**
YAK pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
STKA Stephens Creek 60.16 134 *e*P **P** **22 56 34.1 -0.1**
comp=Z,6.3nm,1.6s,mb4.4
STKA Stephens Creek 60.16 134 P **P** **22 56 32.9 -1.3**
comp=Z,4.0nm,0.8s,mb4.5,baz=311,slow=9.3,SNR=4.6
BRTR Keskin Array B 62.37 311 P **P** **22 56 47.0 -2.0**
BRTR pmax pmax
comp=Z,2.0nm,0.5s
BRTR Keskin Array B 62.37 311 P **P** **22 56 47.0 -2.0**
comp=Z,1.6nm,0.5s,mb4.4,baz=128,slow=7.1,SNR=7.0
MBAR Mbarara 63.67 265 *e*P **P** **22 56 59.7 +1.7**
OBN Obninsk 65.35 328 *e*P **P** **22 57 05.2 -3.0**
OBN *e* 22 59 33.0
OBN pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
MA2 Magadan 66.82 28 *e*P **P** **22 57 18.4 +0.9**
MA2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
TIXI Tiksi 67.27 11 *c i*P **P** **22 57 19.6 -0.5**
TIXI pmax pmax
comp=Z,15nm,1.6s,mb4.8
VRI Vrincioaia 68.65 316 ⇑P **P** **22 57 28.6 -0.5**
MLR Muntele Rosu 69.12 316 P **P** **22 57 32.2 +0.2**
MLR pmax pmax
comp=Z,6.0nm,0.9s
MLR Muntele Rosu 69.12 316 P **P** **22 57 32.2 +0.2**
comp=Z,6.3nm,0.9s,mb4.5,baz=17,slow=1.6,SNR=4.1
MLR Muntele Rosu 69.12 316 ⇓P **P** **22 57 29.8 -2.2**
BURAR Bucovina Array 70.00 318 ⇓P **P** **22 57 36.8 -0.6**
JOF Joensuu 70.83 334 *e*p **P** **22 57 41.5 -0.6**
KWP Kalwaria 71.99 320 *e*P **P** **22 57 54.3 +5.1**
FINES FINESS Array B 72.69 332 P **P** **22 57 52.6 -0.5**
FINES pmax pmax
comp=Z,7.0nm,0.8s
FINES FINESS Array B 72.69 332 P **P** **22 57 52.5 -0.6**
comp=Z,6.8nm,0.8s,mb4.6,baz=115,slow=8.5,SNR=11
KAF Kangasniemi 72.77 333 *e*p **P** **22 57 53.5 -0.1**
ARCES ARCESS Array B 75.25 340 P **P** **22 58 06.6 -1.3**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 75.25 340 P **P** **22 58 06.6 -1.2**
comp=Z,1.7nm,0.5s,mb4.3,baz=98,slow=6.8,SNR=5.6
MORC Moravsky Berou 75.33 319 *e*P **P** **22 58 07.2 -1.5**
MORC pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MORC Moravsky Berou 75.33 319 *e*P **P** **22 58 07.2 -1.5**
comp=Z,10nm,1.0s,mb4.7
BOSA Boshof 75.50 238 *e*P **P** **22 58 11.5 +1.4**
BILL Bilibino 76.14 22 *i*P **P** **22 58 13.0 +0.1**
BILL pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
BRG Berggiesshubel 77.71 320 *e*P **P** **22 58 21.8 -0.2**
BRG pmax pmax
comp=Z,30nm,1.9s,mb4.9
BRG Berggiesshubel 77.71 320 *e*P **P** **22 58 21.8 -0.2**
comp=Z,30nm,1.9s,mb4.9
BRG *i* 22 58 58.9
BRG *i* 22 59 13.2
BRG *e* 23 10 08.2
GERES GERESS Array B 77.78 318 P **P** **22 58 22.4 -0.1**
GERES pmax pmax
comp=Z,5.0nm,0.9s
GERES GERESS Array B 77.78 318 P **P** **22 58 22.4 -0.1**
comp=Z,5.0nm,0.9s,mb4.5,baz=90,slow=2.7,SNR=6.4
CLL Collm 78.32 321 *e**PP PcP 22 58 31.0 -3.9
HFS Hagfors 78.43 330 P **P** **22 58 25.5 -0.3**
HFS pmax pmax
comp=Z,6.0nm,0.7s
HFS Hagfors 78.43 330 P **P** **22 58 25.5 -0.3**
comp=Z,5.8nm,0.7s,mb4.6,baz=104,slow=6.1,SNR=15
MOX Moxa 79.18 320 *e*P **P** **22 58 34.0 +3.9**
GRA1 Grafenberg Arr 79.42 319 *e*P **P** **22 58 33.7 +2.2**
GRF Grafenberg Arr 79.42 319 *e*P **P** **22 58 33.7 +2.2**
NOA NORSAR Array B 79.70 331 P **P** **22 58 32.8 +0.1**
NOA pmax pmax
comp=Z,5.0nm,1.0s
NOA NORSAR Array B 79.70 331 P **P** **22 58 32.8 0.0**
comp=Z,4.5nm,1.0s,mb4.4,baz=92,slow=5.6,SNR=8.4
SUR Sutherland 80.25 235 *e*P **P** **22 58 40.5 +4.2**
DAVOX Davos 80.34 316 P **P** **22 58 38.2 +1.7**
comp=Z,6.1nm,0.8s,mb4.6,baz=136,slow=9.0,SNR=4.2
EKA Eskdalemuir Ar 87.69 325 P **P** **22 59 15.1 +1.9**
EKA pmax pmax
comp=Z,4.0nm,0.8s
EKA Eskdalemuir Ar 87.69 325 P **P** **22 59 15.1 +1.8**
comp=Z,4.2nm,0.8s,mb4.7,baz=110,slow=5.0,SNR=6.9
ESDC Sonseca Array 91.16 310 P **P** **22 59 32.8 +2.8**
comp=Z,4.8nm,1.1s,mb4.8,baz=57,slow=4.0,SNR=3.7
IMA Indian Mountai 91.67 22 *e*P **P** **22 59 33.6 +1.9**
MCK McKinley 94.51 23 *e*P **P** **22 59 46.7 +2.0**
ILAR Eielson Array 94.80 22 P **P** **22 59 45.8 -0.2**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 94.80 22 P **P** **22 59 45.8 -0.2**
comp=Z,0.8nm,0.7s,mb4.2,baz=314,slow=4.2,SNR=6.6
INK Inuvik 97.04 16 P **P** **22 59 57.4 +1.3**
INK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 97.04 16 P **P** **22 59 57.4 +1.2**
comp=Z,4.1nm,1.1s,mb4.8,baz=305,slow=5.5,SNR=5.8
INK Inuvik 97.04 16 *e*P **P** **22 59 57.3 +1.2**
RES Resolute Bay 97.42 2 *e*P **P** **22 59 57.8 0.0**
RES pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
RES Resolute Bay 97.42 2 *e*P **P** **22 59 57.8 +0.1**
comp=Z,2.8nm,0.8s,mb4.7
PMSA Palmer Station 121.11 191 PKPdf PKPdf 23 05 16.4 +0.6
NVAR Mina Array Bea 124.98 31 PKP PKPdf 23 05 26.8 +2.8
comp=Z,1.3nm,0.8s,baz=209,slow=0.6,SNR=6.3
MNV Mina 125.06 31 PKIKP PKPdf 23 05 27.7 +3.5
PDAR Pinedale Array 125.22 21 PKP PKPdf 23 05 26.4 +2.1
comp=Z,1.7nm,0.9s,baz=27,slow=3.3,SNR=5.5
TXAR Lajitas Array 139.28 24 PKP PKPdf 23 05 54.1 +3.0
comp=Z,0.4nm,0.5s,baz=243,slow=2.8,SNR=3.5
BAO Brasilia Array 142.09 255 P PKPdf 23 05 56.5 0.0
BAO *e* 23 06 28.1
PLCA Paso Flores 144.50 200 PKIKP PKPdf 23 06 02.3 +2.4
PLCA pmax pmax
comp=Z,8.0nm,0.8s
PLCA Paso Flores 144.50 200 PKP PKPdf 23 06 02.3 +2.4
comp=Z,8.4nm,0.8s,baz=141,slow=2.2,SNR=14
PLCA Paso Flores 144.50 200 *e*PKPdf PKPdf 23 06 01.9 +2.0

IDC ***26*** *22:46:54.9±0.4, 7.99N×94.11E, mb5.0/29, mb1 5.0/30, mb1mx5.0/31, mbtmp4.9/30, ML4.3/1, MS5.0/1, Ms1 5.0/1, ms1mx3.5/14, Error ellipse: s-maj=21.3km s-min=10.6km az=47.0, Putative timing error at LPAZ*
BJI ***26*** *22:46:57.7, 7.87N×93.88E, h33km, mB5.9, mb4.8, Ms5.6, Msz5.3*
MOS ***26*** *22:46:58.8±1.0, 8.10N×94.10E, h33km, mb5.4/78, MS5.2/22, Error ellipse: s-maj=9.4km s-min=4.7km az=119.6*
HRVD ***26*** *22:46:59.1±0.2, 7.92N×94.14E, h21km±1km, MW5.4/62, Centroid moment Tensor Solution. LP body waves: s40,c69;Mantle waves: s62,c129; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.00±.04; $M_{\theta\theta}$-1.15±.04; $M_{\phi\phi}$1.15±.04; $M_{r\theta}$-0.53±.08; $M_{\theta\phi}$1.09±.03; $M_{\phi r}$-0.22±.07; Best double couple: $M_0$1.685×10^{17} NP1: ϕ_s157°, δ70°, λ-180°. NP2:ϕ_p67°, δ90°, λ-20°. Principal axes: T 1.683, Plg14°, Azm114°; N .007, Plg70°, Azm246°; P -1.688, Plg14°, Azm20°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***26*** *22:46:59.1±2.2, 8.02N×94.06E, h23km±14km, mb5.3/64, MS5.5/109 Error ellipse: s-maj=6.2km s-min=4.9km az=221.0*
ISC 26 22:46:58.6±0.2, 8.04N±0.04×94.11E±0.03, h33km, (h26km±11.7km:pP-P), n371, σ1§03/274, mb5.1/104, MS5.4/117, 4C-7D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.37**	**24**	P	**P**	**22 49 40.7**	**-1.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.37**	**24**	Pn	**P**	**22 49 40.6**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=218,slow=13,SNR=4.7						
PALK	**Pallekele**	**13.31**	**268**	P	**P**	**22 50 06.0**	**-1.9**
VIS	**Vishakhapatnam**	**14.24**	**314**	*e*P	**P**	**22 50 17.2**	**-3.0**
VIS				*e*		22 50 25.4	
	comp=Z,97nm,0.7s						
VIS				*e*S	**S**	**22 52 57.1**	**-0.9**
HYB	**Hyderabad**	**17.80**	**303**	*e*P	**P**	**22 51 06.5**	**+1.0**
HYB	**Hyderabad**	**17.80**	**303**	*i*P	**P**	**22 51 06.5**	**+1.0**
	comp=Z,100nm,1.0s						
BLSP	**Bilaspur**	**18.15**	**322**	*e*P	**P**	**22 51 08.7**	**-1.3**
BLSP				*e*S	**S**	**22 54 31.8**	**+3.5**
QIZ	**Qiongzhong**	**18.77**	**53**	*e*P	**P**	**22 51 16.8**	**-0.9**
QIZ				S	**S**	**22 54 42.0**	**-0.3**
QIZ				LR	LR		
	comp=N,25μm,13.0s						
QIZ				LR	LR		
	comp=E,9μm,13.8s						
QIZ	**Qiongzhong**	**18.77**	**53**	P	**P**	**22 51 15.6**	**-2.1**
KMI	**Kunming**	**18.88**	**25**	P	**P**	**22 51 22.3**	**+3.4**
KMI				pmax	pmax		
	comp=Z,86nm,1.2s						
KMI	**Kunming**	**18.88**	**25**	P	**P**	**22 51 22.3**	**+3.4**
	comp=Z,86nm,1.2s						
KMI				pP		22 51 28.7	
LATR	**Latur**	**19.94**	**303**	*e*P	**P**	**22 51 32.0**	**+1.3**
COCO	**West Island**	**20.28**	**172**	*e*P	**P**	**22 51 34.6**	**+0.3**
	comp=Z,569nm,1.2s						
LSA	**Lhasa**	**21.73**	**353**	*e*P	**P**	**22 51 49.9**	**+0.9**
LSA				MLR	MLR		
	comp=Z,5μm,22.0s,MS4.8						
POO	**Poona**	**22.28**	**300**	⇓*i*P	**P**	**22 51 55.0**	**+0.4**
	comp=Z,30nm,1.0s,mb4.7						
PTH	**Pithoragarh**	**25.07**	**330**	*e*	**S**	**22 57 00.0**	**+19**
AJM	**Ajmer**	**26.05**	**317**	⇓*i*P	**P**	**22 52 32.0**	**+1.1**
ENH	**Enshi**	**26.39**	**31**	*e*P	**P**	**22 52 34.0**	**-0.1**
	comp=Z,14nm,0.8s,mb4.5						
ENH				LR	LR		
	comp=Z,5μm,21.0s,MS5.1						
DDI	**Dehra Dun**	**26.79**	**328**	*e*P	**P**	**22 52 42.6**	**+4.8**
DDI				*e*S	S	22 57 32.8	+23
XAN	**Xi'an**	**29.26**	**26**	P	**P**	**22 53 00.0**	**+0.1**
XAN				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.8						
LZH	**Lanzhou**	**29.30**	**16**	*e*P	**P**	**22 53 01.0**	**+0.7**
LZH				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.9						
LZH	**Lanzhou**	**29.30**	**16**	*e*P	**P**	**22 53 01.0**	**+0.7**
LZH				*SP	sP	22 53 08.4	-5.8
LZH				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.9						
LZH	**Lanzhou**	**29.30**	**16**	*e*P	**P**	**22 53 01.0**	**+0.7**
	comp=Z,30nm,1.2s,mb4.9						
LZH				pP	pP	22 53 05.1	-4.7
LZH				sP	sP	22 53 08.4	-5.8
WHN	**Wuhan**	**29.32**	**38**	⇑P	**P**	**22 53 02.8**	**+2.3**
WHN				LR	LR		
	comp=Z,13μm,21.1s,MS5.5						
TATO	**Taipei**	**31.08**	**54**	PFAKE		22 53 30.0	+14
TATO				LR	LR		
	comp=Z,7μm,19.0s,MS5.3						
NJ2	**Nanjing**	**33.16**	**41**	*e*P	**P**	**22 53 35.0**	**+0.6**
NJ2				AMB	AMB		
	comp=Z,110nm,1.0s,mb5.7						
SSE	**Sheshan**	**34.12**	**44**	P	**P**	**22 53 45.3**	**+2.7**
SSE				XP	sP	22 53 58.0	+1.4
SSE				S	**S**	**22 59 17.5**	**+12**
SSE				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,3μm,12.0s						
SSE				LR	LR		
	comp=N,4μm,15.2s,MS5.4						
SSE				LR	LR		
	comp=E,3μm,15.4s,MS5.4						
SSE				LR	LR		
	comp=Z,4μm,13.3s,MS5.3						
SSE	**Sheshan**	**34.12**	**44**	P	**P**	**22 53 45.2**	**+2.6**
	comp=Z,43nm,0.7s,mb5.5						
SSE				sP	sP	22 53 57.9	+1.3
SSE				S	**S**	**22 59 17.4**	**+12**
SSE				sS		22 59 32.7	
SSE				LR	LR		
	comp=Z,4μm,13.3s,MS5.3						
TIA	**Tai'an**	**35.03**	**33**	*e*P	**P**	**22 53 51.5**	**+1.1**
WMQ	**Urumqi**	**36.08**	**352**	P	**P**	**22 54 00.8**	**+1.6**
WMQ				PP	PP	22 55 23.5	+1.7
WMQ				PCP	PcP	22 56 26.0	+0.8
WMQ				S	**S**	**22 59 42.0**	**+6.4**
WMQ				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,415nm,5.6s						
WMQ				LR	LR		
	comp=N,2μm,16.2s,MS5.2						
WMQ				LR	LR		
	comp=E,2μm,15.4s,MS5.2						
WMQ				LR	LR		
	comp=Z,4μm,18.0s,MS5.2						
BJT	**Baijiatuau**	**37.45**	**28**	*e*P	**P**	**22 54 12.8**	**+2.0**
BJT				pmax	pmax		
	comp=Z,32nm,1.1s						
BJT				MLR	MLR		
	comp=Z,4μm,22.0s						
BJT	**Baijiatuau**	**37.45**	**28**	*e*P	**P**	**22 54 12.8**	**+2.0**
	comp=Z,32nm,1.1s,mb5.1						
BJT				LR	LR		
	comp=Z,4μm,22.0s,MS5.2						
BJI	**Beijing**	**37.47**	**28**	P	**P**	**22 54 14.2**	**+3.2**
BJI				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.7						
BJI				MLR	MLR		
	comp=Z,3μm,21.8s,MS5.1						
BJI	**Beijing**	**37.47**	**28**	P	**P**	**22 54 14.2**	**+3.2**
	comp=Z,15nm,1.1s,mb4.7						
BJI				S	**S**	**23 00 15.5**	**+19**
BJI				LR	LR		
	comp=Z,3μm,21.8s,MS5.1						
MBWA	**Marble Bar**	**38.41**	**139**	PFAKE		22 54 30.0	+11
MBWA				LR	LR		
	comp=Z,3μm,19.0s,MS5.2						
AAK	**Ala-Archa**	**38.54**	**337**	*i*P	**P**	**22 54 19.5**	**-0.4**
AAK				pmax	pmax		
	comp=Z,36nm,1.4s,mb4.9						
AAK	**Ala-Archa**	**38.54**	**337**	*e*P	**P**	**22 54 18.4**	**-1.4**
AAK				LR	LR		
	comp=Z,1μm,22.0s,MS4.7						
FRU	**Bishkek**	**38.66**	**337**	*e*P	**P**	**22 54 26.0**	**+5.1**
FRU				pmax	pmax		
	comp=Z,66nm,2.0s,mb5.0						
SONM	**Songino Array**	**41.01**	**13**	P	**P**	**22 54 40.6**	**+0.3**
	comp=Z,11nm,1.1s,mb4.4,baz=198,slow=7.8,SNR=15						
SONM				PcP	PcP	22 56 41.2	+0.7
	comp=Z,9.9nm,1.1s,baz=207,slow=4.6,SNR=7.1						
ULN	**Ulaanbaatar**	**41.18**	**13**	*e*P	**P**	**22 54 42.6**	**+0.9**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
ULN				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.1						
ULN	**Ulaanbaatar**	**41.18**	**13**	*e*P	**P**	**22 54 42.5**	**+0.9**
	comp=Z,5.4nm,0.9s,mb4.2						
ULN				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
KS15	**Wonju Array Si**	**42.33**	**41**	P	**P**	**22 54 52.0**	**+0.8**
TLY	**Talaya**	**44.21**	**9**	*e*P	**P**	**22 55 07.3**	**+1.0**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.2						
TLY				MLR	MLR		
	comp=Z,542nm,21.0s,MS4.4						
TLY	**Talaya**	**44.21**	**9**	*e*P	**P**	**22 55 07.3**	**+1.0**
	comp=Z,7.1nm,1.3s,mb4.2						
TLY				LR	LR		
	comp=Z,542nm,21.0s,MS4.4						
KURK	**Kurchatov**	**44.45**	**346**	*e*P	**P**	**22 55 07.8**	**-0.4**
KURK				MLR	MLR		
	comp=Z,483nm,20.0s,MS4.4						
MUN	**Mundaring**	**45.04**	**153**	*e*P	**P**	**22 55 14.0**	**+0.7**
	comp=Z,32nm,1.0s,mb5.1						
MUN	**Mundaring**	**45.04**	**153**	*e*P	**P**	**22 55 14.0**	**+0.7**
MUN				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.1						
NWAO	**Narrogin (SRO)**	**46.30**	**153**	P	**P**	**22 55 22.7**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,55nm,1.1s						
NWAO	**Narrogin (SRO)**	**46.30**	**153**	P	**P**	**22 55 22.6**	**-0.6**
	comp=Z,55nm,1.1s,mb5.4,baz=321,slow=6.7,SNR=8.0						
NWAO	**Narrogin (SRO)**	**46.30**	**153**	*e*P	**P**	**22 55 22.6**	**-0.7**
	comp=Z,26nm,0.9s,mb5.2						
HIA	**Hailar**	**46.38**	**23**	*e*P	**P**	**22 55 25.4**	**+1.7**
HIA				pmax	pmax		
	comp=Z,31nm,1.0s						
HIA				MLR	MLR		
	comp=Z,3μm,20.0s						
HIA	**Hailar**	**46.38**	**23**	*e*P	**P**	**22 55 25.4**	**+1.8**
	comp=Z,31nm,1.0s,mb5.2						
HIA				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
ZAL	**Zalesovo**	**46.38**	**352**	P	**P**	**22 55 23.8**	**+0.2**
ZAL				pmax	pmax		
	comp=Z,29nm,1.0s						
ZAL	**Zalesovo**	**46.38**	**352**	P	**P**	**22 55 23.8**	**+0.2**
	comp=Z,29nm,0.9s,mb5.2,baz=297,slow=8.5,SNR=20						
NVS	**Novosibirsk**	**47.48**	**351**	*e*P	**P**	**22 55 30.5**	**-1.7**
NVS				*e*S	**S**	**23 02 23.4**	**-0.2**
NVS				pmax	pmax		
	comp=N,51nm,1.0s						
NVS				pmax	pmax		
	comp=E,43nm,1.0s						
NVS				pmax	pmax		
	comp=Z,88nm,1.0s,mb5.6						
NVS				smax			
	comp=N,21nm,1.4s						
NVS				smax			
	comp=E,78nm,2.1s						
MDJ	**Mudanjiang**	**47.69**	**34**	P	**P**	**22 55 32.0**	**-2.0**
MDJ				PCP	PcP	22 57 03.3	-0.1
MDJ				SCP		23 00 58.3	
MDJ				S	**S**	**23 02 31.5**	**+4.8**
MDJ				AMB	AMB		
	comp=Z,12nm,2.3s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,2μm,14.0s						
MDJ				LR	LR		
	comp=N,564nm,23.5s						
MDJ				LR	LR		
	comp=E,2μm,13.7s						
MDJ				LR	LR		
	comp=Z,1μm,18.9s,MS4.9						
MDJ	**Mudanjiang**	**47.69**	**34**	P	**P**	**22 55 34.7**	**+0.7**
MDJ				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
WRA	**Warramunga Arr**	**48.38**	**126**	P	**P**	**22 55 37.4**	**-2.3**
WRA						22 57 05.1	
WRA				pmax	pmax		
	comp=Z,19nm,0.9s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRA	**Warramunga Arr**	**48.38**	**126**	P	**P**	**22 55 37.4**	**-2.2**
	comp=Z,19nm,0.9s,mb5.1,baz=304,slow=8.5,SNR=16						
WRA				PcP	PcP	22 57 05.1	-1.2
	comp=Z,3.4nm,0.8s,baz=314,slow=3.3,SNR=4.9						
WRAB	**Tennant Creek**	**48.38**	**126**	*e*P	**P**	**22 55 37.8**	**-1.9**
WRAB				MLR	MLR		
	comp=Z,619nm,20.0s,MS4.6						
WB2	**Warramunga Arr**	**48.39**	**126**	*e*P	**P**	**22 55 38.6**	**-1.2**
BVAR	**Borovoye Array**	**48.83**	**341**	P	**P**	**22 55 42.4**	**-0.3**
	comp=Z,13nm,1.0s,mb4.9,baz=153,slow=6.6,SNR=15						
BVAR				PcP	PcP	22 57 08.4	+1.0
	comp=Z,2.9nm,0.7s,baz=153,slow=3.2,SNR=3.2						
BVAR				ScP		23 01 02.4	
	comp=Z,1.1nm,0.8s,baz=180,slow=3.0,SNR=4.3						
BRVK	**Borovoye**	**48.89**	**341**	*e*P	**P**	**22 55 42.4**	**-0.8**
BRVK				MLR	MLR		
	comp=Z,539nm,22.0s,MS4.5						
RAYN	**Ar Rayn**	**48.99**	**294**	P	**P**	**22 55 46.5**	**+2.1**
	comp=Z,335nm,1.0s,SNR=12						
MAJO	**Matsushiro**	**49.07**	**48**	P	**P**	**22 55 42.5**	**-2.3**
MAJO				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.0						
MAT	**Matsushiro**	**49.07**	**48**	P	**P**	**22 55 42.6**	**-2.2**
CHKZ	**Chkalovo**	**49.31**	**342**	*e*P	**P**	**22 55 45.8**	**-0.6**
ASPA	**Alice Springs**	**50.04**	**130**	*e*P	**P**	**22 55 51.1**	**-1.3**
ASAR	**Alice Springs**	**50.04**	**130**	P	**P**	**22 55 50.1**	**-2.3**
	comp=Z,22nm,1.1s,mb5.1,baz=304,slow=7.1,SNR=18						
ASAR				PcP	PcP	22 57 11.3	-0.8
	comp=Z,9.2nm,0.9s,baz=306,slow=3.3,SNR=8.1						
GUMO	**Guam**	**50.09**	**79**	PFAKE		22 56 10.0	+17
GUMO				LR	LR		
	comp=Z,1μm,22.0s,MS5.0						
CLNS	**Chul'man**	**54.29**	**20**	*e*P	**P**	**22 56 24.4**	**+0.6**
CLNS				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.2						
CLNS				pmax	pmax		
	comp=N,15nm,1.0s						
CLNS				pmax	pmax		
	comp=E,16nm,1.1s						
GNI	**Garni**	**54.30**	**314**	*e*P	**P**	**22 56 24.1**	**0.0**
GNI				pmax	pmax		
	comp=Z,30nm,1.1s						
GNI				MLR	MLR		
	comp=Z,2μm,22.0s						
GNI	**Garni**	**54.30**	**314**	P	**P**	**22 56 24.0**	**-0.1**
	comp=Z,14nm,0.9s,mb4.9,baz=67,slow=3.0,SNR=7.8						
GNI	**Garni**	**54.30**	**314**	*e*P	**P**	**22 56 24.1**	**-0.1**
	comp=Z,30nm,1.1s,mb5.1						
GNI				LR	LR		
	comp=Z,2μm,22.0s,MS5.0						
ERM	**Erimo**	**54.80**	**44**	PFAKE		22 56 40.0	+12
ERM				LR	LR		
	comp=Z,11nm,19.0s						
TI2	**Plekhanov**	**54.91**	**316**	*e*P	**P**	**22 56 29.0**	**+0.4**
SVE	**Sverdlovsk**	**55.24**	**338**	*e*P	**P**	**22 56 30.0**	**-0.7**
SVE				pmax	pmax		
	comp=Z,160nm,2.0s,mb5.7						
PMG	**Port Moresby**	**55.60**	**107**	*e*P	**P**	**22 56 34.8**	**+0.9**
PMG				pmax	pmax		

comp=Z,56nm,0.9s
PMG MLR MLR
comp=Z,2µm,22.0s
PMG Port Moresby 55.60 107 P **P** **22 56 34.0 +0.1**
comp=Z,45nm,0.9s,mb5.5,baz=282,slow=6.8,SNR=5.7
PMG Port Moresby 55.60 107 *e*P **P** **22 56 34.8 +0.9**
comp=Z,56nm,0.9s,mb5.6
PMG LR LR
comp=Z,2µm,22.0s,MS5.2
ARU Arti 55.73 337⇑ *i*P **P** **22 56 26.1 -8.1**
ARU *e* 22 57 27.0
ARU *e*S **S** **23 04 10.0 -6.8**
ARU *e* 23 06 11.1
ARU *e*SS SS 23 08 02.2 0.0
ARU *e*SSS SSS 23 10 08.0 -0.6
ARU pmax pmax
comp=Z,20nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 56.67 38 *i* P **P** **22 56 40.8 -0.3**
YSS pmax pmax
comp=Z,15nm,1.1s,mb4.9
YSS Yuzh-Sakhalins 56.67 38 *i* P **P** **22 56 40.9 -0.2**
YSS LR LR
comp=Z,1µm,19.0s,MS5.1
KIV Kislovodsk 57.18 318 *e*P **P** **22 56 43.8 -1.0**
KIV pmax pmax
comp=Z,37nm,0.9s,mb5.4
KIV MLR MLR
comp=Z,421nm,19.0s,MS4.6
KIV Kislovodsk 57.18 318 *e*P **P** **22 56 43.8 -1.0**
comp=Z,37nm,0.9s,mb5.4
KIV LR LR
comp=Z,421nm,19.0s,MS4.6
KMBO Kilima Mbogo 57.41 264 *e*P **P** **22 56 48.0 +1.1**
KMBO pmax pmax
comp=Z,34nm,0.9s
KMBO MLR MLR
comp=Z,2µm,20.0s
KMBO Kilima Mbogo 57.41 264 P **P** **22 56 47.5 +0.6**
comp=Z,32nm,0.8s,mb5.4,baz=54,slow=8.5,SNR=25
KMBO Kilima Mbogo 57.41 264 *e*P **P** **22 56 48.0 +1.1**
comp=Z,34nm,0.9s,mb5.4
KMBO LR LR
comp=Z,2µm,20.0s,MS5.2
ASF Jabal al Asfar 58.10 303 P **P** **22 56 51.1 -0.4**
comp=Z,3.8nm,0.6s,mb4.6,baz=205,slow=0.6,SNR=6.7
CTA Charters Tower 58.41 119 P **P** **22 56 53.3 -0.5**
CTA pmax pmax
comp=Z,8.0nm,0.8s
CTA Charters Tower 58.41 119 P **P** **22 56 53.3 -0.5**
comp=Z,8.2nm,0.8s,mb4.8,baz=325,slow=3.9,SNR=5.1
CTAO Charters Tower 58.41 119 *e*P **P** **22 56 53.0 -0.8**
CTAO pmax pmax
comp=Z,15nm,1.0s,mb5.0
CTAO MLR MLR
comp=Z,3µm,19.0s,MS5.4
CTAO Charters Tower 58.41 119 *e*P **P** **22 56 53.0 -0.8**
comp=Z,15nm,1.0s,mb5.0
CTAO LR LR
comp=Z,3µm,19.0s,MS5.4
SOKR Solikamsk 58.64 339⇑ *i*P **P** **22 56 52.9 -1.9**
SOKR pmax pmax
comp=Z,30nm,0.9s,mb5.3
SOC Sochi 59.04 316 *e*P **P** **22 56 55.2 -2.7**
SOC *e*PPP PPP 23 00 27.1 -7.6
SOC *e*S **S** **23 04 59.8 -0.8**
SOC *e* 23 06 36.7
SOC *e*SS SS 23 09 01.6 +5.2
SOC pmax pmax
comp=E,13nm,0.7s
SOC pmax pmax
comp=Z,18nm,0.7s,mb5.2
SOC MLR MLR
comp=Z,2µm,18.0s,MS5.2
SOC MLR MLR
comp=N,20nm,1.0s
SOC MLR MLR
comp=E,705nm,19.0s
EIL Elat 59.32 300 P **P** **22 57 00.7 +0.7**
comp=E,10nm,0.7s,mb5.0,baz=109,slow=6.8,SNR=7.2
YAK Yakutsk 59.85 18 *e*P **P** **22 57 02.1 -1.1**
YAK pmax pmax
comp=Z,33nm,1.1s,mb5.3
YAK pmax pmax
comp=N,12nm,0.9s
YAK pmax pmax
comp=E,13nm,1.1s
YAK Yakutsk 59.85 18 *e*P **P** **22 57 03.0 -0.1**
comp=E,44nm,0.9s,mb5.5
YAK LR LR
comp=Z,1µm,19.0s,MS5.1
STKA Stephens Creek 60.24 134 *e*P **P** **22 57 05.5 -0.8**
comp=Z,14nm,1.0s,mb4.9
STKA Stephens Creek 60.24 134 P **P** **22 57 04.9 -1.3**
comp=Z,18nm,1.0s,mb5.1,baz=306,slow=6.1,SNR=10
ANN Anapa 61.00 317 *e*P pP 22 57 21.7 +0.3
ANN pmax pmax
comp=Z,85nm,1.1s,mb5.8
BR131 Keskin Array S 62.30 311 PFAKE 22 57 30.0 +10
BR131 LR LR
comp=Z,999nm,20.0s,MS5.0
BRTR Keskin Array B 62.30 311 P **P** **22 57 18.6 -1.4**
BRTR pmax pmax
comp=Z,7.0nm,0.7s
BRTR Keskin Array B 62.30 311 P **P** **22 57 18.6 -1.5**
comp=Z,7.1nm,0.7s,mb4.9,baz=127,slow=6.2,SNR=12
VOR Voronezh 62.43 325 *e*P **P** **22 57 20.0 -0.7**
VOR pmax pmax
comp=N,80nm,1.2s
VOR pmax pmax
comp=E,70nm,1.2s
VOR pmax pmax
comp=Z,50nm,1.2s,mb5.5
SIM Simferopol' 63.29 316 P **P** **22 57 26.4 -0.2**
SIM pmax pmax
comp=Z,17nm,0.7s,mb5.3
MBAR Mbarara 63.75 265 *e*P **P** **22 57 31.1 +1.0**
MBAR pmax pmax
comp=Z,29nm,1.1s,mb5.2
MBAR MLR MLR
comp=Z,475nm,19.0s,MS4.7
MBAR Mbarara 63.75 265 *e*P **P** **22 57 31.1 +1.0**
comp=Z,29nm,1.1s,mb5.2
MBAR LR LR
comp=Z,475nm,19.0s,MS4.7
MOS Moscow 64.93 329 *e*P **P** **22 57 36.5 -0.5**
MOS *e* 22 58 08.0
MOS pmax pmax
comp=Z,65nm,1.0s,mb5.6
MOS MLR MLR
comp=Z,2µm,14.0s,MS5.5
OBN Obninsk 65.23 328 *e*P **P** **22 57 36.0 -3.0**
OBN *e* pP 22 57 47.7 -1.6
OBN *i* 22 58 13.5
OBN *e* 23 00 00.0
OBN pmax pmax
comp=Z,76nm,1.4s,mb5.5
OBN Obninsk 65.23 328 *e*P **P** **22 57 36.0 -3.0**
OBN LR LR
comp=Z,584nm,22.0s,MS4.7
MA2 Magadan 66.63 28 *e*P **P** **22 57 47.9 +0.1**
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.1
MA2 Magadan 66.63 28 *i* P **P** **22 57 48.1 +0.3**
MA2 LR LR
comp=Z,905nm,20.0s,MS5.0
TIXI Tiksi 67.08 11 *e*P **P** **22 57 49.4 -1.0**
TIXI pmax pmax
comp=Z,30nm,0.8s,mb5.4
TIXI Tiksi 67.08 11 *i* P **P** **22 57 50.2 -0.2**
TIXI LR LR
comp=Z,1µm,20.0s,MS5.2
AKASG Malin Array Be 68.01 322 P **P** **22 57 54.8 -1.8**
AKASG pmax pmax
comp=Z,20nm,1.0s
AKASG Malin Array Be 68.01 322 P **P** **22 57 54.8 -1.9**
comp=Z,20nm,1.0s,mb5.1,baz=86,slow=5.0,SNR=14
PET Petropavlovsk 68.42 36 PFAKE 22 58 10.0 +11
PET LR LR
comp=Z,1µm,21.0s,MS5.1
MLR Muntele Rosu 69.04 316 P **P** **22 58 02.4 -0.7**
MLR pmax pmax
comp=Z,23nm,0.9s
MLR Muntele Rosu 69.04 316 P **P** **22 58 02.4 -0.7**
comp=Z,23nm,0.9s,mb5.1,baz=44,slow=4.5,SNR=11
LSZ Lusaka 69.30 250 PFAKE 22 58 20.0 +15
LSZ LR LR
comp=Z,2µm,19.0s,MS5.4
TAU Tasmania Unive 70.03 141 PFAKE 22 58 20.0 +11
TAU LR LR
comp=Z,542nm,22.0s,MS4.8
MMB Musomiste 70.05 311 *e*P **P** **22 58 11.0 +1.7**
VTS Vitosha 70.56 312 *e*P **P** **22 58 11.0 -1.4**
KKB Krupnik 70.56 311 *e*P **P** **22 58 10.5 -2.0**
JOF Joensuu 70.69 334 *e*p **P** **22 58 11.7 -1.2**
LVV L'vov 71.07 320 *e*P **P** **22 58 14.5 -0.9**
APA Apatity 71.69 339⇓ *i*P **P** **22 58 18.5 -0.3**
APA *i* 22 58 26.6
APA pmax pmax
comp=Z,36nm,1.1s,mb5.2
SKO Skopje 71.79 311 *i* P **P** **22 58 18.0 -1.8**
KWP Kalwaria 71.89 320 *e*P **P** **22 58 20.1 -0.2**
KOLS Kolonicke sedl 72.06 319 *i* P **P** **22 58 22.2 +0.9**
SUW Suwalki 72.36 324 *e*P **P** **22 58 21.9 -1.1**
FINES FINESS Array B 72.55 332 P **P** **22 58 23.3 -0.7**
FINES pmax pmax
comp=Z,14nm,0.7s
FINES FINESS Array B 72.55 332 P **P** **22 58 23.2 -0.7**
comp=Z,14nm,0.7s,mb5.0,baz=104,slow=7.9,SNR=14
CRVS Cervenica-Dubn 72.59 319 *i* P **P** **22 58 25.0 +0.6**
KAF Kangasniemi 72.63 333 *e*p **P** **22 58 22.9 -1.5**
comp=Z,27nm,1.0s,mb5.1,baz=103,slow=5.4
KAF Kangasniemi 72.63 333 *e*P **P** **22 58 22.9 -1.5**
KAF pmax pmax
comp=Z,27nm,1.0s,mb5.1
NIE Niedzica 73.40 319 *e*P **P** **22 58 29.5 +0.2**
PSZ Piszkesteto 73.50 318 *e*P **P** **22 58 30.0 +0.1**
PSZ pmax pmax
comp=Z,21nm,1.2s,mb4.9
PSZ Piszkesteto 73.50 318 *e*P **P** **22 58 30.0 +0.1**
comp=Z,21nm,1.2s,mb5.0
OJC Ojcow 73.83 320 *e*P **P** **22 58 31.7 0.0**
VYHS Vyhne 74.27 318 *i* P **P** **22 58 34.2 -0.1**
VYHS *e* 23 07 35.2
KEV Kevo 74.67 341 *e*p **P** **22 58 37.6 +1.4**
OKC Ostrava-Krasne 74.85 319 *e*P **P** **22 58 37.9 +0.3**
CASY Casey 75.09 173 *e*P **P** **22 58 38.8 +0.1**
comp=Z,14nm,1.0s,mb4.8
CASY LR LR
comp=Z,984nm,21.0s,MS5.1
ARCES ARCESS Array B 75.10 340 P **P** **22 58 38.2 -0.5**
ARCES pmax pmax
comp=Z,11nm,0.9s
ARCES ARCESS Array B 75.10 340 P **P** **22 58 38.2 -0.5**
comp=Z,11nm,0.8s,mb4.8,baz=100,slow=5.9,SNR=11
TIP Timpagrande 75.17 308 *e*P **P** **22 58 41.0 +1.3**
MORC Moravsky Berou 75.23 319 *e*P **P** **22 58 40.0 +0.1**
MORC pmax pmax
comp=Z,33nm,1.1s,mb5.2
MORC Moravsky Berou 75.23 319 *e*P **P** **22 58 40.0 +0.2**
comp=Z,33nm,1.1s,mb5.2
ZST Bratislava 75.39 318 *i* P **P** **22 58 41.0 +0.2**
ZST *e* 23 07 29.9
ZST *e*SS tx 23 12 20.6
BOSA Boshof 75.65 238 *e*P **P** **22 58 43.5 +0.8**
BOSA pmax pmax
comp=Z,31nm,1.0s,mb5.2
BOSA MLR MLR
comp=Z,920nm,21.0s,MS5.1
BOSA Boshof 75.65 238 *e*P **P** **22 58 43.5 +0.8**
comp=Z,31nm,1.0s,mb5.2
BOSA LR LR
comp=Z,920nm,21.0s,MS5.1
VRAC Vranov 75.81 319 P **P** **22 58 42.8 -0.4**
VRAC pmax pmax
comp=Z,6.0nm,0.9s
VRAC Vranov 75.81 319 P **P** **22 58 42.8 -0.3**
comp=Z,6.4nm,0.8s,mb4.6,baz=113,slow=5.6,SNR=4.9
BILL Bilibino 75.95 22 *i* P **P** **22 58 43.8 +0.3**
BILL MLR MLR
comp=Z,2µm,20.0s,MS5.4
DPC Dobruska-Polom 76.06 320 *e*P **P** **22 58 44.8 +0.2**
KSP Ksiaz 76.12 320 *e*P **P** **22 58 45.5 +0.6**
KSP Ksiaz 76.12 320 *e*P **P** **22 58 45.7 +0.8**
UPC Upice 76.27 320 *e*P **P** **22 58 46.2 +0.4**
PERS Pernice 76.65 316 *e*P **P** **22 58 48.1 +0.1**
LJU Ljubljana 77.03 315 *e*P **P** **22 58 51.1 +0.9**
PRU Pruhonice 77.19 319 *e*P **P** **22 58 51.4 +0.5**
PVCC Panska Ves 77.19 320 *e*P **P** **22 58 51.3 +0.3**
BSD Bornholm Skovb 77.27 325⇓ *i*P **P** **22 58 51.9 +0.6**
comp=Z,33nm,0.9s,mb5.3
comp=Z,3µm,16.0s
SMY Shemya 77.58 38 PFAKE 22 59 10.0 +17
SMY LR LR
comp=Z,6µm,22.0s,MS5.9
GERES GERESS Array B 77.69 318 P **P** **22 58 53.7 0.0**
GERES pmax pmax
comp=Z,11nm,0.8s
GERES GERESS Array B 77.69 318 P **P** **22 58 53.7 -0.1**
comp=Z,11nm,0.8s,mb4.8,baz=90,slow=5.3,SNR=16
ROBS Robic 77.75 316 *e*P **P** **22 58 54.2 +0.1**
KHC Kasperske Hory 77.78 318 *e*P **P** **22 58 54.3 +0.1**
RUE Ruedersdorf 77.78 322 *e*P **P** **22 58 54.5 +0.3**
comp=Z,83nm,1.1s,mb5.6
CLL Collm 78.22 321 *i* P **P** **22 58 56.6 0.0**
CLL *e* 22 59 02.0
CLL pmax pmax
comp=Z,15nm,1.1s,mb4.8
CLL Collm 78.22 321 *i* P **P** **22 58 56.6 0.0**
comp=Z,15nm,1.1s,mb4.8
CLL *e* 22 59 02.0
CLL Collm 78.22 321 P **P** **22 58 56.6 0.0**
comp=Z,logA/T=1.1,mb4.8
CLL *e**PP pP 22 59 02.0 -4.9
CLL *e**SP sP 22 59 04.0 -6.6
CLL *e* pP 22 59 08.0 +1.1
WET Wettzell 78.24 318 *e*P **P** **22 58 56.8 +0.1**
WET pmax pmax
comp=Z,18nm,1.0s,mb5.0
WET Wettzell 78.24 318 *e*P **P** **22 58 56.8 +0.1**
comp=Z,18nm,1.0s,mb5.0
HFS Hagfors 78.30 330 P **P** **22 58 57.2 +0.4**
HFS pmax pmax
comp=Z,17nm,0.6s
HFS Hagfors 78.30 330 P **P** **22 58 57.2 +0.4**
comp=Z,17nm,0.6s,mb5.2,baz=117,slow=6.6,SNR=18
NKC Novy Kostel 78.54 320 *e*P **P** **22 58 59.4 +1.0**
MAW Mawson 78.69 192 *e*P **P** **22 59 00.1 +1.3**
MAW pmax pmax
comp=Z,26nm,1.1s
MAW Mawson 78.69 192 *e*P **P** **22 59 00.1 +1.3**
comp=Z,26nm,1.1s,mb5.1
COP Copenhagen 78.72 325 *e*P **P** **22 58 59.6 +0.4**
COP pmax pmax
comp=Z,35nm,0.9s,mb5.3
COP MLR MLR
comp=Z,2µm,18.0s,MS5.4
COP Copenhagen 78.72 325 *e*P **P** **22 58 59.6 +0.4**
comp=Z,35nm,0.9s,mb5.3
COP LR LR
comp=Z,2µm,18.0s,MS5.4
COP Copenhagen 78.72 325 *i* P **P** **22 58 59.6 +0.4**
comp=Z,35nm,0.9s,mb5.3
comp=Z,2µm,18.0s
MOX Moxa 79.08 320 *e*P **P** **22 59 01.9 +0.6**
MOX Moxa 79.08 320 *i* P **P** **22 59 01.9 +0.6**
FUR Furstenfeldbru 79.29 317 *e*P **P** **22 59 02.3 -0.2**
FUR pmax pmax
comp=Z,15nm,0.8s,mb5.0
FUR Furstenfeldbru 79.29 317 *e*P **P** **22 59 02.3 -0.2**
comp=Z,15nm,0.8s,mb5.0
GRA1 Grafenberg Arr 79.33 319 *e*P **P** **22 59 03.5 +0.8**
comp=Z,55nm,1.4s,mb5.3
GRF Grafenberg Arr 79.33 319 *e*P **P** **22 59 03.5 +0.8**
GRF pmax pmax
comp=Z,55nm,1.4s,mb5.3
GRF Grafenberg Arr 79.33 319 *e*P **P** **22 59 03.5 +0.8**
GRF pmax pmax
comp=Z,55nm,1.4s,mb5.3
GRF Grafenberg Arr 79.33 319 *e*P **P** **22 59 03.5 +0.8**
comp=Z,55nm,1.4s,mb5.3
NB2 NORSAR Subarra 79.58 331 P **P** **22 59 03.5 -0.3**
comp=Z,32nm,1.0s,mb5.2,baz=97,slow=5.0
NB2 NORSAR Subarra 79.58 331 P **P** **22 59 03.5 -0.3**
baz=97,slow=5.1
NOA NORSAR Array B 79.58 331 P **P** **22 59 03.5 -0.3**
NOA pmax pmax
comp=Z,23nm,1.0s
NOA NORSAR Array B 79.58 331 P **P** **22 59 03.5 -0.3**
comp=Z,23nm,1.0s,mb5.0,baz=95,slow=4.9,SNR=14
NOA NORSAR Array B 79.58 331 P **P** **22 59 03.5 -0.3**
NAO01 NORSAR Array S 79.73 330 *e*P **P** **22 59 04.7 +0.1**
comp=Z,19nm,0.8s,mb5.1
CLZ Clausthal 79.87 321 *e*P **P** **22 59 05.5 -0.1**
comp=Z,23nm,1.1s,mb5.0
BSEG Bad Segeberg 79.90 323 *e*P **P** **22 59 06.4 +0.7**
DAVOX Davos 80.25 316 P **P** **22 59 08.3 +0.6**
comp=Z,14nm,0.7s,mb5.0,baz=161,slow=8.4,SNR=7.5
KONO Kongsberg 80.34 329 PFAKE 22 59 20.0 +12
KONO LR LR
comp=Z,3µm,22.0s,MS5.5
SUR Sutherland 80.40 235 *e*P **P** **22 59 10.8 +2.0**
comp=Z,39nm,1.1s,mb5.2
SUR LR LR
comp=Z,284nm,19.0s,MS4.6
MUD Monsted U'grnd 80.56 326 *i* P **P** **22 59 09.9 +0.8**
comp=Z,36nm,0.9s,mb5.3
comp=Z,3µm,17.0s
PGF Pioggiola 81.03 312 *e*P **P** **22 59 11.2 -0.7**
BFO Black Forest 81.25 318 *e*P **P** **22 59 13.6 +0.6**
BFO pmax pmax
comp=Z,15nm,1.1s,mb4.8
BFO Black Forest 81.25 318 *e*P **P** **22 59 13.6 +0.6**
comp=Z,15nm,1.1s,mb4.8
CDF Champ du Feu 81.95 318 *e*P **P** **22 59 15.9 -0.7**
comp=Z,37nm,1.3s,mb4.9
CDF Champ du Feu 81.95 318 *e*P **P** **22 59 15.9 -0.7**
CDF pmax pmax
comp=Z,18nm,1.3s,mb4.8
SBF Sospel 82.10 313 *e*P **P** **22 59 16.9 -0.6**
comp=Z,87nm,1.1s,mb5.3
SBF Sospel 82.10 313 *e*P **P** **22 59 16.9 -0.6**
SBF pmax pmax
comp=Z,43nm,1.0s,mb5.3
LPG La Plagne 82.48 315 *e*P **P** **22 59 19.4 0.0**
comp=Z,73nm,0.9s,mb5.3
LPG La Plagne 82.48 315 *e*P **P** **22 59 19.4 0.0**
LPG pmax pmax
comp=Z,36nm,0.9s,mb5.3
LPL La Plagne 82.50 315 *e*P **P** **22 59 19.3 -0.1**
comp=Z,106nm,1.1s,mb5.4
LPL La Plagne 82.50 315 *e*P **P** **22 59 19.3 -0.1**
LPL pmax pmax
comp=Z,53nm,1.1s,mb5.4
MBDF Montbardon 82.52 314 *e*P **P** **22 59 18.5 -1.1**
comp=Z,27nm,0.9s,mb5.0
MBDF Montbardon 82.52 314 *e*P **P** **22 59 18.5 -1.1**
MBDF pmax pmax
comp=Z,13nm,0.9s,mb5.0
BNI Bardonecchia 82.56 314 *e*P **P** **22 59 23.1 +3.3**
comp=Z,21nm,0.9s,mb5.2
HAU Haudompre 82.60 317 *e*P **P** **22 59 19.1 -0.8**
comp=Z,45nm,1.0s,mb5.1
HAU Haudompre 82.60 317 *e*P **P** **22 59 19.1 -0.8**
HAU pmax pmax
comp=Z,22nm,1.0s,mb5.1
FRF La Foret Royal 82.69 313 *e*P **P** **22 59 20.2 -0.3**
comp=Z,85nm,1.2s,mb5.3
FRF La Foret Royal 82.69 313 *e*P **P** **22 59 20.2 -0.3**
FRF pmax pmax
comp=Z,42nm,1.2s,mb5.3
CABF La Chapelle 82.87 316 *e*P **P** **22 59 21.0 -0.3**
comp=Z,60nm,1.0s,mb5.3
CABF La Chapelle 82.87 316 *e*P **P** **22 59 21.0 -0.3**
CABF pmax pmax
comp=Z,30nm,1.0s,mb5.3
ORIF Oris-en-Rattie 83.14 314 *e*P **P** **22 59 22.2 -0.5**
MEZF Maizieres J'vi 83.42 318 *e*P **P** **22 59 23.8 -0.3**
comp=Z,30nm,1.0s,mb5.0
SMRF Simiane la Rot 83.43 313 *e*P **P** **22 59 24.5 +0.3**
comp=Z,253nm,1.9s,mb5.6
BAIF Baives 83.84 320 *e*P **P** **22 59 26.0 -0.2**
comp=Z,45nm,1.2s,mb5.2
BAIF Baives 83.84 320 *e*P **P** **22 59 26.0 -0.2**
BAIF pmax pmax
comp=Z,22nm,1.2s,mb5.2
VIVF Saint-Julien-l 84.00 314 *e*P **P** **22 59 26.8 -0.4**
comp=Z,56nm,1.3s,mb5.2
VIVF Saint-Julien-l 84.00 314 *e*P **P** **22 59 26.8 -0.4**
VIVF pmax pmax
comp=Z,28nm,1.3s,mb5.2
SMF Signal de Mont 84.41 316 *e*P **P** **22 59 28.5 -0.7**
comp=Z,65nm,1.2s,mb5.3
SMF Signal de Mont 84.41 316 *e*P **P** **22 59 28.5 -0.7**
SMF pmax pmax
comp=Z,33nm,1.2s,mb5.3
SSF Saint Saulge 84.59 317 *e*P **P** **22 59 29.9 -0.2**
SSF pmax pmax
comp=Z,15nm,1.2s,mb5.0
SSF Saint Saulge 84.59 317 *e*P **P** **22 59 29.9 -0.2**
comp=Z,15nm,1.2s,mb5.0
AVF Avril sur Loir 84.73 316 *e*P **P** **22 59 30.2 -0.5**
comp=Z,44nm,1.2s,mb5.2
AVF Avril sur Loir 84.73 316 *e*P **P** **22 59 30.2 -0.5**
AVF pmax pmax
comp=Z,22nm,1.2s,mb5.2
BGF Bois d'Agland 85.10 316 *e*P **P** **22 59 32.6 0.0**
comp=Z,91nm,1.4s,mb5.4
BGF Bois d'Agland 85.10 316 *e*P **P** **22 59 32.6 0.0**
BGF pmax pmax
comp=Z,46nm,1.4s,mb5.4
SYO Syowa Base 85.55 197 ⇑P **P** **22 59 36.0 +1.7**
CAF Calviac 85.84 315 *e*P **P** **22 59 36.4 +0.1**
MTLF Montolieu 85.92 313 *e*P **P** **22 59 36.6 -0.1**
RJF Les Rejaudoux 86.17 315 *e*P **P** **22 59 38.1 +0.2**
MFF Saint Martin d 87.14 316 *e*P **P** **22 59 42.2 -0.4**
comp=Z,82nm,1.3s,mb5.5
MFF Saint Martin d 87.14 316 *e*P **P** **22 59 42.2 -0.4**
MFF pmax pmax
comp=Z,41nm,1.3s,mb5.5
DAG Danmarks Havn 87.31 348⇓ *e*P **P** **22 59 43.2 +0.4**
DAG pmax pmax
comp=Z,2.0nm,1.0s,mb4.3
DAG Danmarks Havn 87.31 348⇓ *e*P **P** **22 59 43.2 +0.4**
comp=Z,2.0nm,1.0s,mb4.3
DAG Danmarks Havn 87.31 348⇓ *i*P **P** **22 59 43.2 +0.4**
comp=Z,2.0nm,1.0s,mb4.3
EKA Eskdalemuir Ar 87.57 325 P **P** **22 59 44.4 0.0**
EKA pmax pmax
comp=Z,8.0nm,0.8s
EKA Eskdalemuir Ar 87.57 325 P **P** **22 59 44.4 -0.1**
comp=Z,7.8nm,0.8s,mb5.0,baz=102,slow=5.4,SNR=8.4
ESK Eskdalemuir 87.60 325 PFAKE 23 00 00.0 +15
ESK LR LR
comp=Z,322nm,19.0s,MS4.8
ETSF Etsaut 88.00 313 *e*P **P** **22 59 47.2 +0.4**
comp=Z,73nm,1.5s,mb5.4
ETSF Etsaut 88.00 313 *e*P **P** **22 59 47.2 +0.4**
ETSF pmax pmax
comp=Z,37nm,1.5s,mb5.4
SJPF Ste Jean 88.45 313 *e*P **P** **22 59 49.2 +0.3**
comp=Z,58nm,1.2s,mb5.4
SJPF Ste Jean 88.45 313 *e*P **P** **22 59 49.2 +0.3**
SJPF pmax pmax
comp=Z,29nm,1.2s,mb5.4
ESDC Sonseca Array 91.09 310 P **P** **23 00 01.5 0.0**
comp=Z,9.5nm,1.0s,mb5.1,baz=61,slow=3.9,SNR=10
ESLA Sonseca Array 91.09 310 PFAKE 23 00 10.0 +8.5
ESLA LR LR
comp=Z,8µm,19.0s,MS6.2
IMA Indian Mountai 91.48 22 *e*P **P** **23 00 04.8 +2.1**
VNDA Vanda 93.09 168 *e*P **P** **23 00 11.3 +1.4**
VNDA pmax pmax
comp=Z,12nm,1.5s
VNDA MLR MLR
comp=Z,772nm,19.0s
VNDA Vanda 93.09 168 P **P** **23 00 09.8 -0.1**
comp=Z,2.0nm,0.9s,mb4.6,baz=333,slow=2.3,SNR=3.5
VNDA Vanda 93.09 168 *e*P **P** **23 00 11.3 +1.4**
comp=Z,12nm,1.5s,mb5.1
VNDA LR LR
comp=Z,772nm,19.0s,MS5.2
BORG Borgarnes 93.27 337 LR LR 23 43 59.2
comp=Z,694nm,18.4s,MS5.2,baz=65,slow=37
COLA College 94.19 22 *i* P **P** **23 00 14.7 -0.3**
COLA College 94.19 22 P **P** **23 00 18.6 +3.5**
COLA LR LR
comp=Z,734nm,19.0s,MS5.2
SBA Scott Base 94.20 168 *e*P **P** **23 00 15.8 +0.9**
SBA MLR MLR
comp=Z,909nm,19.0s,MS5.3
MCK McKinley 94.32 23 *e*P **P** **23 00 16.8 +1.2**
MCK pmax pmax
comp=Z,8.0nm,1.2s,mb5.0
MCK McKinley 94.32 23 *e*P **P** **23 00 16.8 +1.2**
comp=Z,7.5nm,1.2s,mb5.0
ILAR Eielson Array 94.60 22 P **P** **23 00 17.3 +0.4**
ILAR pmax pmax

comp=Z,2.0nm,0.9s
ILAR Eielson Array 94.60 22 P **P 23 00 17.3 +0.4**
comp=Z,2.1nm,0.9s,mb4.6,baz=300,slow=4.7,SNR=11
FIB Fire Island 94.98 26 PFAKE
FIB LR LR 23 00 30.0 +11
comp=Z,795nm,20.0s,MS5.2
KDAK Kodiak Island 95.31 30 PFAKE
KDAK LR LR 23 00 30.0 +10
comp=Z,199nm,22.0s,MS4.5
INK Inuvik 96.84 16 *e*P **P 23 00 28.2 +1.1**
INK pmax pmax
comp=Z,16nm,1.2s
INK Inuvik 96.84 16 P **P 23 00 28.4 +1.3**
comp=Z,13nm,1.2s,mb5.3,baz=294,slow=5.7,SNR=10.0
INK Inuvik 96.84 16 *e*P **P 23 00 28.2 +1.1**
comp=Z,16nm,1.2s,mb5.3
RES Resolute Bay 97.24 2 *e*P **P 23 00 26.6 -2.2**
RES pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
RES Resolute Bay 97.24 2 *e*P **P 23 00 26.6 -2.2**
comp=Z,8.8nm,1.0s,mb5.1
DAWY Dawson 97.72 21 *e*P **P 23 00 32.7 +1.6**
DBIC Dimbokro 97.89 278 P **P 23 00 34.1 +1.0**
comp=Z,2.7nm,0.6s,mb4.9,baz=358,slow=7.6,SNR=6.2
DBIC Dimbokro 97.89 278 P **P 23 00 34.1 +1.0**
DBIC LR LR
comp=Z,1μm,19.0s,MS5.3
YKA Yellowknife Ar 106.27 13 P Pdif
YKA pmax pmax 23 01 10.1 +0.8
comp=Z,1.0nm,1.0s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 106.27 13 Pdiff Pdif
comp=Z,0.5nm,1.0s,baz=334,slow=5.1,SNR=3.4
YKA PKKPbc 23 16 40.9
comp=Z,0.5nm,0.9s,baz=148,slow=2.5,SNR=5.7
OCWA Octopus Mounta 114.96 27 PFAKE
OCWA LR LR 23 05 50.0 +14
comp=Z,2μm,20.0s,MS5.7
SCHQ Schefferville 115.36 348 PFAKE
SCHQ LR LR 23 05 50.0 +13
comp=Z,2μm,22.0s,MS5.7
FFC Flin Flon 116.03 10 PFAKE
FFC LR LR 23 05 50.0 +12
comp=Z,446nm,22.0s,MS5.0
NEW Newport 117.55 23 PFAKE
NEW LR LR 23 05 50.0 +8.7
comp=Z,2μm,19.0s,MS5.7
COR Corvallis 117.70 29 PFAKE
COR LR LR 23 06 00.0 +18
comp=Z,1μm,19.0s,MS5.5
HUMO Hull Mountain 119.32 31 PFAKE
HUMO LR LR 23 06 00.0 +15
comp=Z,1μm,22.0s,MS5.6
MSO Missoula 119.94 22 *e*PKPdf PKPdf
MSO LR LR 23 05 47.2 +1.1
comp=Z,934nm,20.0s,MS5.4
YBH Yreka Blue Hor 120.08 31 PFAKE
YBH LR LR 23 06 00.0 +14
comp=Z,1μm,20.0s,MS5.6
BMO Blue Mountains 120.23 25 PFAKE
BMO LR LR 23 06 00.0 +13
comp=Z,1μm,19.0s,MS5.6
WDC Whiskeytown Da 121.00 32 PFAKE
WDC LR LR 23 06 00.0 +12
comp=Z,1μm,20.0s,MS5.5
MOD Modoc 121.16 30 PKPdf PKPdf
MOD LR LR 23 05 51.2 +2.7
comp=Z,1μm,19.0s,MS5.6
PMSA Palmer Station 121.30 191 PFAKE
PMSA LR LR 23 06 00.0 +12
comp=Z,1μm,19.0s,MS5.6
DGMT Dagmar 121.47 14 PFAKE
DGMT LR LR 23 06 00.0 +11
comp=Z,1μm,19.0s,MS5.6
WVOR Wild Horse Val 121.55 28 *e*PKIKP PKPdf
WVOR MLR MLR 23 05 52.8 +3.6
comp=Z,2μm,20.0s,MS5.7
HOPS Hopland 121.86 34 PFAKE
HOPS LR LR 23 06 00.0 +10
comp=Z,2μm,20.0s,MS5.7
HLID Hailey 122.49 24 PFAKE
HLID LR LR 23 06 00.0 +8.9
comp=Z,1μm,20.0s,MS5.6
LAO LASA Array 122.58 16 PFAKE
LAO LR LR 23 06 00.0 +8.8
comp=Z,1μm,20.0s,MS5.6
LKWY Lake 123.16 21 PFAKE
LKWY LR LR 23 06 10.0 +18
comp=Z,3μm,19.0s,MS5.9
BMN Battle Mountai 123.78 29 PFAKE
BMN LR LR 23 06 10.0 +16
comp=Z,1μm,19.0s,MS5.5
TPAW Teton Pass 123.89 22 *e*PKPdf PKPdf 23 05 56.3 +2.5
SNOW Snow King Moun 123.99 22 *e*PKPdf PKPdf 23 05 57.1 +3.1
CMB Columbia Colle 124.00 33 PFAKE 23 06 10.0 +16
CMB LR LR
comp=Z,1μm,19.0s,MS5.6
SAO San Andreas Ge 124.34 34 PFAKE
SAO LR LR 23 06 10.0 +15
comp=Z,2μm,21.0s,MS5.7
AHID Auburn Hatcher 124.46 22 PFAKE
AHID LR LR 23 06 10.0 +15
comp=Z,2μm,20.0s,MS5.7
NVAR Mina Array Bea 124.79 31 PKP PKPdf 23 05 58.6 +2.9
comp=Z,6.6nm,0.9s,baz=314,slow=0.6,SNR=15
MNV Mina 124.87 31 *e*PKIKP PKPdf
MNV MLR MLR 23 05 58.2 +2.4
comp=Z,1μm,20.0s,MS5.6
BW06 Boulder Array 125.02 21 PFAKE
BW06 LR LR 23 06 10.0 +14
comp=Z,2μm,19.0s,MS5.7
PDAR Pinedale Array 125.03 21 PKP PKPdf 23 05 57.6 +1.7
comp=Z,6.3nm,0.9s,slow=1.5,SNR=16
HWUT Hardware Ranch 125.27 23 PFAKE
HWUT LR LR 23 06 10.0 +14
comp=Z,1μm,20.0s,MS5.7
RSSD Black Hills 125.55 16 PFAKE
RSSD LR LR 23 06 10.0 +13
comp=Z,2.0nm,19.0s
TPH Tonopah 125.61 30 PFAKE
TPH LR LR 23 06 10.0 +13
comp=Z,1μm,22.0s,MS5.6
DAC Darwin (Calif) 126.80 32 PFAKE
DAC LR LR 23 06 10.0 +10
comp=Z,1μm,22.0s,MS5.5
SADO Sadowa 127.09 354 PKP PKPdf 23 06 01.5 +1.6
comp=Z,4.3nm,0.7s,baz=343,slow=6.7,SNR=3.5
SADO Sadowa 127.09 354 PKPdf PKPdf 23 06 01.5 +1.6
MVU Marysvale 127.61 26 *e*PKPdf PKPdf
MVU LR LR 23 06 04.8 +3.6
comp=Z,2μm,20.0s,MS5.7
MSU Marysvale 127.62 26 *e*PKIKP PKPdf 23 06 04.8 +3.7
HRV Harvard--Oak R 128.03 347 PFAKE 23 06 20.0 +18
HRV LR LR
comp=Z,1μm,21.0s,MS5.6
NEN Nelson 128.69 30 *e*PKPdf PKPdf 23 06 06.6 +3.4
ISCO Idaho Springs 129.02 20 PFAKE 23 06 20.0 +16
ISCO LR LR
comp=Z,2μm,21.0s,MS5.7
PV10 Paradox Valley 129.03 23 *e*PKPdf PKPdf 23 06 06.9 +3.1
JFWS Jewell Farm 129.14 4 PFAKE 23 06 20.0 +16
JFWS LR LR
comp=Z,2μm,19.0s,MS5.8
PFO Pinyon Flat Ob 129.43 33 PFAKE 23 06 20.0 +15
PFO LR LR
comp=Z,294nm,19.0s,MS5.0
PV01 Paradox Valley 129.43 23 *e*PKPdf PKPdf 23 06 08.6 +4.0
ERPA Erie 129.80 354 PFAKE 23 06 20.0 +15
ERPA LR LR
comp=Z,1μm,21.0s,MS5.7
AAM Ann Arbor 129.87 358 PFAKE 23 06 20.0 +15
AAM LR LR
comp=Z,2μm,21.0s,MS5.8
RCBR Riachuelo 130.35 269 PFAKE 23 06 20.0 +13
RCBR LR LR
comp=Z,2μm,19.0s,MS5.7
SDCO Great Sand Dun 130.91 21 *e*PKPdf PKPdf 23 06 08.6 +1.1
SDCO LR LR
comp=Z,2μm,20.0s,MS5.8
SSPA Standing Stone 131.01 352 PFAKE 23 06 20.0 +12
SSPA LR LR
comp=Z,4μm,21.0s,MS6.1
ACSO Alum Creek Sta 131.90 357 PFAKE 23 06 20.0 +11
ACSO LR LR

comp=Z,2μm,19.0s,MS5.7
ANMO Albuquerque 133.03 23 PKIKP PKPdf 23 06 12.4 +0.9
ANMO pmax pmax
comp=Z,3.0nm,0.7s
ANMO Albuquerque 133.03 23 PKP PKPdf 23 06 12.4 +0.8
comp=Z,2.8nm,0.7s,baz=187,slow=1.3,SNR=6.9
ANMO Albuquerque 133.03 23 *e*PKPdf PKPdf 23 06 12.4 +0.9
ANMO LR LR
comp=Z,2μm,21.0s,MS5.8
CBN Corbin 133.32 351 PFAKE 23 06 30.0 +18
CBN LR LR
comp=Z,2μm,20.0s,MS5.8
TUC Tucson 133.37 29 *e*PKIKP PKPdf 23 06 15.1 +2.8
TUC MLR MLR
comp=Z,1μm,21.0s,MS5.5
CCM Cathedral Cave 133.88 6 *e*PKPpre 23 02 58.9
CCM LR LR
comp=Z,1μm,19.0s,MS5.7
WCI Wyandotte Cave 133.97 0 PFAKE 23 06 30.0 +17
WCI LR LR
comp=Z,2μm,19.0s,MS5.8
BLA Blacksburg 134.70 354 PFAKE 23 06 30.0 +15
BLA LR LR
comp=Z,2μm,20.0s,MS5.8
AMTX Amarillo 134.78 18 PFAKE 23 06 30.0 +15
AMTX LR LR
comp=Z,1μm,19.0s,MS5.7
WMOK Wichita Mounta 135.74 15 PFAKE 23 06 30.0 +13
WMOK LR LR
comp=Z,2μm,19.0s,MS5.8
WVT Waverly 136.03 2 *e*PKIKP PKPdf 23 06 19.4 +2.4
WVT MLR MLR
comp=Z,925nm,20.0s,MS5.5
MNTX Cornudas Mount 136.31 24 *e*PKPdf PKPdf 23 06 20.7 +3.1
MNTX LR LR
comp=Z,2μm,22.0s,MS5.7
MIAR Mount Ida 137.03 9 *e*PKIKP PKPdf 23 06 20.0 +1.1
MIAR MLR MLR
comp=Z,2μm,20.0s,MS5.8
MYNC Murphy 137.09 358 PFAKE 23 06 30.0 +11
MYNC LR LR
comp=Z,2μm,20.0s,MS5.8
OXF Oxford 137.55 4 PFAKE 23 06 30.0 +10
OXF LR LR
comp=Z,2μm,20.0s,MS5.9
GOGA Godfrey 138.72 357 PFAKE 23 06 40.0 +18
GOGA LR LR
comp=Z,1μm,20.0s,MS5.7
NHSC New Hope 138.73 353 PFAKE 23 06 40.0 +18
NHSC LR LR
comp=Z,1μm,22.0s,MS5.7
LTX Lajitas 139.09 24 PKIKP PKPdf 23 06 25.1 +2.3
LTX MLR MLR
comp=Z,2μm,19.0s,MS5.8
TXAR Lajitas Array 139.09 24 PKP PKPdf 23 06 24.6 +1.8
comp=Z,1.8nm,0.7s,baz=270,slow=2.5,SNR=8.8
LRAL Lakeview Retre 139.14 1 PFAKE 23 06 40.0 +17
LRAL LR LR
comp=Z,2μm,19.0s,MS5.8
JCT Junction City 139.44 19 *e*PKIKP PKPdf 23 06 25.9 +2.5
JCT MLR MLR
comp=Z,1μm,20.0s,MS5.6
NATX Nacogdoches 139.55 12 PFAKE 23 06 40.0 +16
NATX LR LR
comp=Z,2μm,20.0s,MS5.8
HKT Hockley 141.04 14 PFAKE 23 06 40.0 +14
HKT LR LR
comp=Z,2μm,19.0s,MS5.8
TRQA Tornquist 143.13 212 PFAKE 23 06 40.0 +12
TRQA LR LR
comp=Z,1μm,20.0s,MS5.7
DWPF Disney 143.81 353 PFAKE 23 06 40.0 +10
DWPF LR LR
comp=Z,1μm,19.0s,MS5.7
PLCA Paso Flores 144.69 200 PKIKP PKPdf 23 06 33.2 +0.9
PLCA pmax pmax
comp=Z,37nm,1.0s
PLCA Paso Flores 144.69 200 PKP PKPdf 23 06 33.2 +0.9
comp=Z,37nm,0.9s,baz=164,slow=3.6,SNR=21
PLCA Paso Flores 144.69 200 *e*PKPpre 23 06 32.6
PLCA LR LR
comp=Z,1μm,20.0s,MS5.7
SJG San Juan 147.52 323 PKP2 PKPab 23 06 40.8 -3.7
SJG pmax pmax
comp=Z,11nm,0.5s
SJG San Juan 147.52 323 PKPbc PKPdf 23 06 40.8 +3.1
comp=Z,11nm,0.5s,baz=16,slow=20,SNR=3.0
SJG San Juan 147.52 323 PFAKE 23 06 50.0 +12
SJG LR LR
comp=Z,2μm,19.0s,MS5.9
SDV Santo Domingo 157.34 318 PFAKE 23 07 10.0 +18
SDV LR LR
comp=Z,573nm,20.0s,MS5.4
SAML Samuel 157.53 266 PFAKE 23 07 10.0 +18
SAML LR LR
comp=Z,591nm,20.0s,MS5.4
LVC Limon Verde 158.17 227 PFAKE 23 07 10.0 +17
LVC LR LR
comp=Z,2μm,20.0s,MS5.9
LPAZ La Paz 160.82 243 PKIKP PKPdf 23 06 17.5 -38
LPAZ pmax pmax
comp=Z,5.0nm,0.9s
LPAZ pmax pmax
comp=Z,3.0nm,0.9s
LPAZ La Paz 160.82 243 PKP PKPdf 23 06 17.5 -38
comp=Z,4.9nm,0.9s,baz=64,slow=6.2,SNR=8.6
LPAZ PKPab PKPab 23 06 59.5 -41
comp=Z,3.2nm,0.9s,baz=103,slow=9.5,SNR=4.2
LPAZ La Paz 160.82 243 PFAKE 23 07 10.0 +14
LPAZ LR LR
comp=Z,2μm,20.0s
JTS JuntasAbangare 161.77 357 PFAKE 23 07 10.0 +13
JTS LR LR
comp=Z,192nm,22.0s
OTAV Otavalo 168.93 318 PFAKE 23 07 20.0 +17
OTAV LR LR
comp=Z,715nm,19.0s
NNA Nana 170.27 245 PFAKE 23 07 20.0 +16
NNA LR LR
comp=Z,191nm,19.0s
PAYG Puerto Ayora 171.47 31 PFAKE 23 07 20.0 +15
PAYG LR LR
comp=Z,963nm,19.0s

*IDC **26** 22:53:10.5±3.1, 34.69N×23.16E, mb4.2/2, mb1 4.0/9, mb1mx3.7/24, mbtmp3.8/9, ML4.1/5, Error ellipse: s-maj=46.3km s-min=20.9km az=29.0*
*ATH **26** 22:53:14.1, 34.99N×23.13E, h22km±5km, MD3.8/12*
*NEIC **26** 22:53:14.1, 34.99N×23.13E, h22km, MD3.8(ATH), After ATH.*
*CSEM **26** 22:53:15.0±0.5, 34.99N×23.23E, h10km, MD3.8, Error ellipse: s-maj=11.9km s-min=3.5km az=39.0*
ISC 26 22:53:11.3±2.1, 34.73N±0.09×23.13E±0.08, h14km±17km, n30, σ1°28/33, mb4.0/2, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.80**	**82**	*e*PN	**Pn**	**22 53 30.0**	**+2.0**
VAM	**Vamos**	**1.11**	**52**	*e*PB	**Pb**	**22 53 31.7**	**-0.1**
VAM				*e*SN	**Sn**	**22 53 47.1**	**-0.5**
IDI	**Anoyia**	**1.55**	**68**	Pn	**Pn**	**22 53 40.4**	**+1.6**
	42nm,0.3s,baz=262,slow=15,SNR=128						
IDI				Sn	**Sn**	**22 53 59.6**	**+0.8**
	70nm,0.3s,baz=332,slow=16,SNR=11						
IDI	**Anoyia**	**1.55**	**68**	Pn	**Pn**	**22 53 40.4**	**+1.6**
IDI				Sn	**Sn**	**22 53 59.5**	**+0.7**
KYTH	**Kithira**	**1.55**	**357**	*e*PB	**Pb**	**22 53 37.7**	**-1.7**
VLI	**Veliai**	**2.00**	**356**	*e*PN	**Pn**	**22 53 46.2**	**+1.1**
NPS	**Neapolis**	**2.11**	**75**	*e*PB	**Pb**	**22 53 50.5**	**+1.6**
SANT	**Santorini**	**2.51**	**49**	*e*P	**Pn**	**22 53 52.6**	**+0.1**
SANT	**Santorini**	**2.51**	**49**	*e*P	**Pn**	**22 53 52.6**	**+0.1**
NAIG	**Nisos Aigina**	**3.04**	**5**	*e*PB	**Pb**	**22 54 00.5**	**-4.3**
APE	**Apeiranthos**	**3.05**	**39**	*e*PN	**Pn**	**22 54 00.0**	**-0.1**
MGER	**Gerania Oros**	**3.26**	**2**	*e*PB	**Pb**	**22 54 04.0**	**-4.5**
PTL	**Penteli**	**3.37**	**10**	*e*PN	**Pn**	**22 54 04.0**	**-0.7**
KARP	**Karpathos**	**3.41**	**75**	*e*PN	**Pn**	**22 54 06.1**	**+0.9**
MPAR	**Parnis Oros**	**3.45**	**8**	*e*PN	**Pn**	**22 54 04.5**	**-1.4**
LKR	**Lokris**	**3.92**	**359**	*e*PN	**Pn**	**22 54 12.3**	**-0.2**
EVR	**Evrytania**	**4.32**	**346**	*e*PN	**Pn**	**22 54 19.5**	**+1.4**
NEO	**Neokhori**	**4.57**	**1**	*e*PN	**Pn**	**22 54 20.9**	**-0.9**
BRTR	**Keskin Array B**	**9.75**	**56**	Pn	**P**	**22 55 32.5**	**-1.8**
	0.1nm,0.3s,baz=243,slow=14,SNR=4.3						
MLR	**Muntele Rosu**	**10.97**	**10**	Pn	**P**	**22 55 50.2**	**-0.7**
	0.1nm,0.3s,baz=160,slow=17,SNR=5.0						
EIL	**Elat**	**11.21**	**113**	Pn	**P**	**22 55 52.2**	**-2.1**
	0.6nm,0.3s,baz=278,slow=14,SNR=4.6						
ASF	**Jabal al Asfar**	**11.78**	**99**	Pn	**P**	**22 55 59.2**	**-2.8**
	0.1nm,0.3s,baz=288,slow=20,SNR=1.6						
BOJS	**Bojanci**	**12.33**	**333**	*e*	**P**	**22 56 04.0**	**-5.4**
BOJS				*e*P		22 58 47.5	
CRES	**Cresnjev**	**12.53**	**335**	*e*	**P**	**22 56 06.7**	**-5.4**
VRAC	**Vranov**	**15.35**	**344**	Pn	**P**	**22 56 48.9**	**-0.2**
	0.4nm,0.3s,baz=168,slow=20,SNR=2.5						
GERES	**GERESS Array B**	**15.74**	**337**	Pn	**P**	**22 56 54.7**	**+0.6**
	0.3nm,0.3s,baz=147,slow=14,SNR=4.6						
KHC	**Kasperske Hory**	**16.03**	**337**	*e*P	**P**	**22 57 00.0**	**+2.1**
AKASG	**Malin Array Be**	**16.57**	**14**	Pn	**P**	**22 57 05.3**	**+0.6**
	2.0nm,0.3s,baz=204,slow=12,SNR=8.5						
HFS	**Hagfors**	**26.16**	**349**	P	**P**	**22 58 47.7**	**+1.1**
	2.3nm,0.5s,mb4.0,baz=153,slow=9.9,SNR=5.1						
ZAL	**Zalesovo**	**46.49**	**46**	P	**P**	**23 01 37.3**	**-2.3**
	0.9nm,0.3s,mb4.1,baz=166,slow=4.2,SNR=2.7						

*IDC **26** 22:53:35.8±1.5, 7.61N×93.74E, mb3.8/8, mb1 4.0/9, mb1mx3.8/20, mbtmp3.8/9, ML3.4/1, Error ellipse: s-maj=45.0km s-min=29.9km az=53.0*
*NEIC **26** 22:53:40.5±1.0, 7.75N×93.89E, h30km, mb4.3/2, Error ellipse: s-maj=22.4km s-min=18.9km az=53.0*
ISC 26 22:53:39.1±1.1, 7.8N±0.1×94.0E±0.2, h30km, n14, σ0°93/14, mb3.9/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.61**	**24**	Pn	**P**	**22 56 25.6**	**-0.4**
	0.1nm,0.3s,baz=215,slow=15,SNR=2.1						
LSA	**Lhasa**	**21.93**	**353**	*e*P	**P**	**22 58 32.0**	**0.0**
	6.2nm,0.8s,mb4.1						
SONM	**Songino Array**	**41.24**	**13**	P	**P**	**23 01 24.0**	**+0.9**
	0.7nm,0.9s,mb3.3,baz=211,slow=8.4,SNR=2.6						
ZAL	**Zalesovo**	**46.59**	**352**	P	**P**	**23 02 07.8**	**+1.6**
	1.8nm,0.7s,mb4.1,baz=281,slow=6.2,SNR=7.2						
WRA	**Warramunga Arr**	**48.32**	**125**	P	**P**	**23 02 20.2**	**0.0**
	0.4nm,0.6s,mb3.6,baz=306,slow=8.1,SNR=3.8						
BVAR	**Borovoye Array**	**49.00**	**341**	P	**P**	**23 02 25.0**	**-0.1**
	0.4nm,0.7s,mb3.6,baz=229,slow=34,SNR=3.7						
BRVK	**Borovoye**	**49.07**	**341**	P	**P**	**23 02 24.1**	**-1.5**
MAT	**Matsushiro**	**49.28**	**48**	*e*P	**P**	**23 02 27.0**	**-0.4**
MAT	**Matsushiro**	**49.28**	**48**	P	**P**	**23 02 26.7**	**-0.7**
MAT				S	sP	23 02 37.6	-2.5
CHKZ	**Chkalovo**	**49.49**	**342**	*e*P	**P**	**23 02 28.4**	**-0.3**
	3.9nm,1.0s,mb4.4						
BRTR	**Keskin Array B**	**62.38**	**311**	P	**P**	**23 03 58.3**	**-3.3**
	0.6nm,1.0s,mb3.7,baz=100,slow=9.9,SNR=2.8						
FINES	**FINESS Array B**	**72.71**	**332**	P	**P**	**23 05 05.8**	**-0.2**
	3.6nm,1.0s,mb4.2,baz=170,slow=23,SNR=3.6						
HFS	**Hagfors**	**78.45**	**330**	P	**P**	**23 05 38.9**	**+0.3**
	4.4nm,1.1s,mb4.3,baz=112,slow=8.0,SNR=4.7						
NOA	**NORSAR Array B**	**79.72**	**331**	P	**P**	**23 05 46.7**	**+1.2**
	1.0nm,0.7s,mb3.9,baz=95,slow=5.4,SNR=3.4						

*IDC **26** 22:56:07.1±1.0, 7.81N×94.08E, mb3.9/7, mb1 4.0/8, mb1mx3.9/19, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=31.3km s-min=25.1km az=58.0*
ISC 26 22:56:10.4±1.0, 7.8N±0.1×94.2E±0.2, h33km, n10, σ0°62/8, mb3.9/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.54**	**23**	Pn	**P**	**22 58 55.6**	**-0.2**
	0.2nm,0.3s,baz=216,slow=15,SNR=5.5						
SONM	**Songino Array**	**41.19**	**13**	P	**P**	**23 03 53.9**	**+0.4**
	0.4nm,0.8s,mb3.1,baz=207,slow=6.4,SNR=2.6						
ZAL	**Zalesovo**	**46.59**	**352**	P	**P**	**23 04 37.9**	**+0.9**
	0.9nm,0.3s,mb4.2,baz=304,slow=6.1,SNR=3.3						
WRA	**Warramunga Arr**	**48.23**	**126**	P	**P**	**23 04 50.3**	**0.0**
	0.8nm,0.5s,mb4.0,baz=305,slow=8.5,SNR=16						
KMBO	**Kilima Mbogo**	**57.43**	**264**	P	**P**	**23 05 59.0**	**+0.2**
	1.3nm,0.7s,mb4.1,baz=84,slow=7.3,SNR=4.9						
FINES	**FINESS Array B**	**72.75**	**332**	P	**P**	**23 07 35.5**	**-1.4**
	2.5nm,1.0s,mb4.1,baz=183,slow=32,SNR=3.9						
GERES	**GERESS Array B**	**77.86**	**318**	P	**P**	**23 08 06.8**	**+0.3**
	0.5nm,0.5s,mb3.8,baz=101,slow=5.0,SNR=2.9						
HFS	**Hagfors**	**78.50**	**330**	P	**P**	**23 08 09.6**	**-0.1**
	1.2nm,0.5s,mb4.1,baz=90,slow=7.4,SNR=11						
PDAR	**Pinedale Array**	**125.19**	**21**	PKP	PKPdf	23 15 09.8	+1.7
	0.3nm,0.8s,slow=1.5,SNR=3.9						
PLCA	**Paso Flores**	**144.52**	**200**	PKP	PKPdf	23 15 44.9	+1.1
	3.4nm,0.8s,baz=134,slow=4.4,SNR=8.3						

*BJI **26** 22:58:07.2, 7.49N×93.65E, h30km, mb4.5*
*IDC **26** 22:58:07.8±0.7, 8.02N×94.27E, mb4.2/18, mb1 4.3/19, mb1mx4.3/24, mbtmp4.2/19, ML4.1/1, Error ellipse: s-maj=25.5km s-min=18.7km az=48.0*
*NEIC **26** 22:58:12.6±0.6, 8.08N×94.38E, h30km, mb4.4/3, Error ellipse: s-maj=17.3km s-min=14.0km az=50.0*
ISC 26 22:58:10.6±0.6, 8.0N±0.1×94.3E±0.1, h30km, n43, σ1°28/41, mb4.4/24, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.29**	**23**	*e*P	**P**	**23 00 57.6**	**+4.3**
CMAR	**Chiang Mai Arr**	**11.29**	**23**	Pn	**P**	**23 00 50.1**	**-3.1**
	0.4nm,0.3s,baz=212,slow=14,SNR=3.3						
HYB	**Hyderabad**	**17.98**	**303**	*e*P	**P**	**23 02 22.0**	**+1.7**
HYB	**Hyderabad**	**17.98**	**303**	*i* P	**P**	**23 02 22.0**	**+1.7**
KMI	**Kunming**	**18.80**	**24**	P	**P**	**23 02 35.7**	**+5.4**
	17nm,1.1s						
JIRN	**Jiri**	**20.99**	**339**	*e*P	**P**	**23 02 54.1**	**0.0**
	83nm,0.9s						
PKI	**Pulchoki**	**21.19**	**338**	*e*P	**P**	**23 02 55.0**	**-1.1**
	34nm,0.7s,mb4.8						
DMN	**Daman**	**21.34**	**337**	*e*P	**P**	**23 02 56.8**	**-0.8**
	63nm,0.8s,mb5.0						
KKN	**Kakani**	**21.44**	**338**	*e*P	**P**	**23 02 58.1**	**-0.5**
	33nm,0.8s,mb4.7						
LSA	**Lhasa**	**21.76**	**353**	P	**P**	**23 03 03.0**	**+1.1**
LSA	**Lhasa**	**21.76**	**353**	*e*P	**P**	**23 02 59.8**	**-2.0**
	18nm,0.8s,mb4.5						
GKN	**Gorkha**	**21.88**	**336**	*e*P	**P**	**23 03 02.3**	**-0.7**
	57nm,0.8s,mb5.0						
KOLN	**Koldanda**	**22.10**	**334**	*e*P	**P**	**23 03 03.9**	**-1.4**
	64nm,0.8s,mb5.1						
NDI	**New Delhi**	**26.12**	**324**	*e*	**P**	**23 03 46.0**	**+2.0**
WMQ	**Urumqi**	**36.12**	**352**	*e*P	**P**	**23 05 13.8**	**+1.8**
SONM	**Songino Array**	**40.97**	**12**	P	**P**	**23 05 53.8**	**+1.4**
	2.0nm,0.9s,mb3.8,baz=196,slow=8.6,SNR=12						
SONM				PcP	PcP	23 07 53.8	+0.9
	1.7nm,0.8s,baz=188,slow=4.4,SNR=7.9						
ZAL	**Zalesovo**	**46.42**	**352**	P	**P**	**23 06 36.9**	**+0.6**
	7.1nm,1.0s,mb4.5,baz=294,slow=7.6,SNR=23						
ZAL	**Zalesovo**	**46.42**	**352**	P	**P**	**23 06 36.9**	**+0.6**
WRA	**Warramunga Arr**	**48.20**	**126**	P	**P**	**23 06 49.1**	**-1.7**
	0.9nm,0.7s,mb3.9,baz=300,slow=9.8,SNR=7.4						
BVAR	**Borovoye Array**	**48.90**	**341**	P	**P**	**23 06 53.7**	**-2.0**
	1.8nm,0.8s,mb4.1,baz=141,slow=9.5,SNR=8.7						
BVAR				PcP	PcP	23 08 20.1	-0.1
	0.9nm,0.8s,baz=152,slow=3.7,SNR=5.1						
ASAR	**Alice Springs**	**49.87**	**130**	P	**P**	**23 07 03.2**	**-0.4**
	1.1nm,0.9s,mb3.9,baz=296,slow=7.4,SNR=4.3						
KMBO	**Kilima Mbogo**	**57.63**	**264**	P	**P**	**23 08 01.8**	**+0.8**
	12nm,1.1s,mb4.8,baz=55,slow=11,SNR=17						
BRTR	**Keskin Array B**	**62.47**	**311**	P	**P**	**23 08 31.8**	**-2.0**
	1.0nm,0.7s,mb4.1,baz=120,slow=7.3,SNR=4.4						
AKASG	**Malin Array Be**	**68.15**	**322**	P	**P**	**23 09 08.0**	**-2.1**
	2.1nm,0.8s,mb4.2,baz=91,slow=5.0,SNR=7.1						
MLR	**Muntele Rosu**	**69.19**	**316**	P	**P**	**23 09 16.5**	**-0.2**
	8.2nm,1.1s,mb4.6,baz=96,slow=4.1,SNR=3.6						
JOF	**Joensuu**	**70.79**	**334**	*ep*	**P**	**23 09 25.6**	**-0.5**
FINES	**FINESS Array B**	**72.66**	**332**	P	**P**	**23 09 37.0**	**-0.3**
	4.3nm,0.8s,mb4.4,baz=104,slow=7.9,SNR=6.3						
KAF	**Kangasniemi**	**72.74**	**333**	*ep*	**P**	**23 09 37.6**	**-0.1**
ARCES	**ARCESS Array B**	**75.18**	**340**	P	**P**	**23 09 51.1**	**-0.7**
	3.2nm,0.9s,mb4.2,baz=101,slow=6.2,SNR=6.2						
GERES	**GERESS Array B**	**77.84**	**318**	P	**P**	**23 10 07.0**	**0.0**
	2.9nm,0.9s,mb4.2,baz=135,slow=1.9,SNR=4.6						
HFS	**Hagfors**	**78.42**	**330**	P	**P**	**23 10 09.6**	**-0.3**
	2.4nm,0.4s,mb4.5,baz=104,slow=6.1,SNR=22						
GRA1	**Grafenberg Arr**	**79.47**	**319**	*e*P	**P**	**23 10 21.1**	**+5.2**
GRF	**Grafenberg Arr**	**79.47**	**319**	*e*P	**P**	**23 10 21.1**	**+5.2**
NB2	**NORSAR Subarra**	**79.69**	**331**	P	**P**	**23 10 16.8**	**0.0**
	4.5nm,0.9s,mb4.4,baz=91,slow=5.0						
NOA	**NORSAR Array B**	**79.69**	**331**	P	**P**	**23 10 17.1**	**+0.2**
	0.5nm,0.6s,mb3.6,baz=117,slow=3.9,SNR=4.9						
DAVOX	**Davos**	**80.41**	**316**	P	**P**	**23 10 22.1**	**+1.1**
	6.2nm,1.1s,mb4.5,baz=90,slow=2.0,SNR=2.8						

EKA	**Eskdalemuir Ar**	87.70	325	P		**P**	**23 10 58.5 +0.8**
	0.9nm,0.6s,mb4.2,baz=108,slow=4.5,SNR=3.6						
IMA	**Indian Mountai**	91.41	22	*e*P		**P**	**23 11 17.9 +3.1**
ILAR	**Eielson Array**	94.53	22	P		**P**	**23 11 30.9 +1.7**
	0.8nm,0.9s,mb4.2,baz=315,slow=5.1,SNR=5.8						
INK	**Inuvik**	96.79	16	P		**P**	**23 11 41.5 +2.0**
	2.5nm,1.1s,mb4.5,baz=246,slow=7.5,SNR=3.7						
INK	**Inuvik**	96.79	16	P		**P**	**23 11 41.5 +2.0**
NVAR	**Mina Array Bea**	124.69	31	PKP		PKPdf	23 17 11.9 -1.1
	1.3nm,0.8s,baz=346,slow=3.7,SNR=6.3						
PLCA	**Paso Flores**	144.76	200	PKP		PKPdf	23 17 45.8 -4.2
	3.9nm,0.8s,baz=176,slow=4.4,SNR=7.1						

BJI ***26*** *23:03:02.7, 7.85N×93.74E, h18km, mB5.7, mb4.8, Ms5.2, Msz5.2*

HRVD ***26*** *23:03:04.8±0.4, 7.94N×94.23E, h15km±2km, MW5.1/50, Centroid moment Tensor Solution. LP body waves: s7,c7; Mantle waves: s50,c80; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.18±.36; $M_{\theta\theta}$=2.04±.17; $M_{\phi\phi}$=4.22±.30; $M_{r\theta}$=2.15±.61; $M_{r\phi}$=2.25±.17; $M_{\theta r}$=2.80±.73; Best double couple: M_0=5.287×10^{16} NP1:ϕ_s158°, δ37°, λ-153°. NP2: ϕ_s46°, δ74°, λ-56°. Principal axes: T6.276, Plg22°, Azm111°; N-1.979, Plg32°, Azm215°; P-4.297, Plg49°, Azm353°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***26*** *23:03:04.8±0.3, 7.84N×94.01E, mb5.1/22 Error ellipse: s-maj=9.0km s-min=7.8km az=214.0*

MOS ***26*** *23:03:06.0±0.9, 7.99N×93.95E, h33km, mb5.2/40, Error ellipse: s-maj=11.4km s-min=6.0km az=108.5*

IDC ***26*** *23:03:07.8±5.0, 7.96N×94.08E, h38km±42km, mb4.4/25, mb1 4.5/26, mb1mx4.5/29, mbtmp4.6/26, ML4.3/1, MS4.5/3, Ms1 4.5/3, ms1mx3.8/26, Error ellipse: s-maj=21.9km s-min=11.3km az=47.0*

ISC 26 23:03:02.9±0.3, 7.86N±0.05×94.05E±0.04, h17km, h17km±.6km:pP-P,n171,σ1ℙ00/165, mb5.0/63, MS4.6/3, 2C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	7.30	49	P	**Pn**	**23 04 50.0**	**-1.6**
CM31	**Chiang Mai Arr**	11.56	24	*e*P	**P**	**23 05 51.0**	**+0.6**
	15nm,0.8s						
CMAR	**Chiang Mai Arr**	11.56	24	P	**P**	**23 05 49.6**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	11.56	24	Pn	**P**	**23 05 49.6**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=211,slow=14,SNR=48						
CHG	**Chiang Mai**	11.88	23	⇓P	**P**	**23 05 55.7**	**+1.0**
	comp=Z,42nm,0.8s						
CHRT	**Chiangrai**	13.17	24	⇓P	**P**	**23 06 13.5**	**+1.6**
	comp=Z,155nm,1.3s						
VIS	**Vishakhapatnam**	14.33	314	*e*P	**P**	**23 06 25.0**	**-2.3**
VIS				*e*		23 06 34.4	
	comp=Z,96nm,1.5s						
VIS				*e*S	**S**	**23 08 54.2**	**-12**
IMP	**Imphal**	16.83	360	*e*P	**P**	**23 07 01.4**	**+1.8**
HYB	**Hyderabad**	17.85	304	*e*P	**P**	**23 07 15.0**	**+2.7**
HYB	**Hyderabad**	17.85	304	*i* P	**P**	**23 07 15.0**	**+2.7**
HYB				*e*	**S**	**23 10 30.0**	**+1.6**
BLSP	**Bilaspur**	18.25	322	*e*P	**P**	**23 07 21.8**	**+4.4**
BLSP				*e*		23 07 23.3	
	comp=Z,56nm,0.9s						
KMI	**Kunming**	19.07	25	P	**P**	**23 07 29.7**	**+2.5**
KMI				pmax	pmax		
	comp=Z,54nm,1.3s						
KMI	**Kunming**	19.07	25	P	**P**	**23 07 29.7**	**+2.5**
	comp=Z,54nm,1.3s						
JIRN	**Jiri**	21.05	340	*e*P	**P**	**23 07 47.7**	**-1.0**
	comp=Z,349nm,1.2s,mb5.5						
PKI	**Pulchoki**	21.25	338	*e*P	**P**	**23 07 49.8**	**-0.8**
	comp=Z,539nm,1.4s,mb5.7						
DMN	**Daman**	21.39	338	*e*P	**P**	**23 07 51.9**	**-0.2**
	comp=Z,182nm,0.8s,mb5.5						
KKN	**Kakani**	21.49	338	*e*P	**P**	**23 07 52.4**	**-0.7**
	comp=Z,137nm,1.0s,mb5.2						
LSA	**Lhasa**	21.90	353	P	**P**	**23 07 56.8**	**-0.4**
GKN	**Gorkha**	21.93	337	*e*P	**P**	**23 07 56.6**	**-0.8**
	comp=Z,248nm,1.0s,mb5.6						
BHPL	**Bhopal**	22.11	316	*e*	**P**	**23 07 58.5**	**-0.8**
BHPL				*e*		23 08 01.3	
BHPL				*e*		23 08 05.4	
	comp=Z,57nm,1.4s						
KOLN	**Koldanda**	22.14	335	*e*P	**P**	**23 07 59.8**	**+0.2**
	comp=Z,674nm,1.5s,mb5.8						
PTH	**Pithoragarh**	25.20	331	*e*	**P**	**23 08 30.0**	**+0.6**
PTH				*e*		23 12 08.0	
DDI	**Dehra Dun**	26.91	328	*e*	**P**	**23 08 46.8**	**+1.5**
DDI				*e*		23 14 37.0	
LZH	**Lanzhou**	29.49	16	*e*P	**P**	**23 09 09.0**	**+0.5**
LZH				AP	pP	23 09 15.0	+1.6
LZH				XP	sP	23 09 17.5	+2.0
LZH				AMB	AMB		
	comp=Z,40nm,1.4s,mb5.0						
LZH	**Lanzhou**	29.49	16	*e*P	**P**	**23 09 09.0**	**+0.5**
LZH				*SP	sP	23 09 17.6	+2.1
LZH						23 10 13.0	
LZH				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.0						
LZH	**Lanzhou**	29.49	16	*e*P	**P**	**23 09 09.0**	**+0.5**
	comp=Z,40nm,1.4s,mb5.0						
LZH				pP	pP	23 09 15.0	+1.6
LZH				sP	sP	23 09 17.6	+2.1
LZH				PP	PP	23 10 13.0	+8.6
WHN	**Wuhan**	29.50	37	P	**P**	**23 09 09.5**	**+0.8**
NJ2	**Nanjing**	33.34	40	*e*P	**P**	**23 09 43.5**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.6						
SSE	**Sheshan**	34.29	44	P	**P**	**23 09 48.5**	**-2.2**
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,347nm,7.3s						
SSE	**Sheshan**	34.29	44	P	**P**	**23 09 48.4**	**-2.3**
	comp=Z,31nm,0.7s,mb5.3						
WMQ	**Urumqi**	36.25	352	*e*P	**P**	**23 10 08.0**	**+0.8**
BJI	**Beijing**	37.66	28	*e*P	**P**	**23 10 20.2**	**+1.1**
BJI				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.5						
BJI	**Beijing**	37.66	28	*e*P	**P**	**23 10 20.2**	**+1.1**
	comp=Z,17nm,1.5s,mb4.5						
KZA	**Kyzart**	37.92	337	P	**P**	**23 10 26.2**	**+5.0**
	SNR=5.9						
TKM2	**Tokmak 2**	38.51	338	P	**P**	**23 10 26.7**	**+0.5**
	SNR=7.2						
KBK	**Karagaybulak**	38.53	337	P	**P**	**23 10 27.1**	**+0.8**
	SNR=12						
AML	**Almayashu**	38.58	335	P	**P**	**23 10 27.8**	**+1.0**
	SNR=20						
AAK	**Ala-Archa**	38.68	337	P	**P**	**23 10 28.6**	**+0.9**
	SNR=9.0						
AAK	**Ala-Archa**	38.68	337	*i* P	**P**	**23 10 27.2**	**-0.4**
AAK				pmax	pmax		
	comp=Z,17nm,1.6s,mb4.5						
FRU	**Bishkek**	38.81	337	*e*P	**P**	**23 10 33.0**	**+4.3**
USP	**Ospenovka**	39.22	337	P	**P**	**23 10 32.2**	**+0.1**
	SNR=8.1						
SONM	**Songino Array**	41.20	13	P	**P**	**23 10 48.8**	**+0.5**
	comp=Z,4.0nm,1.0s,mb4.0,baz=196,slow=6.8,SNR=18						
SONM				PcP	PcP	23 12 47.4	-0.6
	comp=Z,3.5nm,0.8s,baz=192,slow=3.9,SNR=11						
ULN	**Ulaanbaatar**	41.37	13	*i* P	**P**	**23 10 49.4**	**-0.4**
ZAK	**Zakamensk**	43.08	9	*e*P	**P**	**23 11 03.4**	**-0.3**
ZAK				*e*		23 12 54.6	
TLY	**Talaya**	44.40	9	*i* P	**P**	**23 11 13.0**	**-1.4**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	44.60	346	*e*P	**P**	**23 11 15.8**	**-0.3**
KURK				pmax	pmax		
	comp=Z,63nm,1.2s,mb5.3						
KURK	**Kurchatov**	44.60	346	*e*P	**P**	**23 11 15.8**	**-0.3**
	comp=Z,63nm,1.2s,mb5.3						
NWAO	**Narrogin (SRO)**	46.17	153	P	**P**	**23 11 29.9**	**+1.1**
NWAO				pmax	pmax		
	comp=Z,12nm,1.1s						
NWAO	**Narrogin (SRO)**	46.17	153	P	**P**	**23 11 29.9**	**+1.1**
	comp=Z,12nm,1.1s,mb4.8,baz=198,slow=18,SNR=4.1						
ZAL	**Zalesovo**	46.55	352	P	**P**	**23 11 31.8**	**+0.3**
ZAL				pmax	pmax		
	comp=Z,11nm,0.9s						
ZAL	**Zalesovo**	46.55	352	P	**P**	**23 11 31.8**	**+0.3**
	comp=Z,11nm,0.9s,mb4.8,baz=302,slow=7.0,SNR=32						
HIA	**Hailar**	46.57	23	*e*P	**P**	**23 11 32.6**	**+0.9**
HIA				pmax	pmax		
	comp=Z,32nm,1.1s						
HIA	**Hailar**	46.57	23	*e*P	**P**	**23 11 32.6**	**+0.9**
	comp=Z,32nm,1.1s,mb5.2						
NVS	**Novosibirsk**	47.65	352	*e*P	**P**	**23 11 38.5**	**-1.6**
NVS				*e*S	**S**	**23 18 32.3**	**-1.8**
NVS				pmax	pmax		
	comp=N,60nm,1.0s						
NVS				pmax	pmax		
	comp=E,31nm,1.0s						
NVS				pmax	pmax		
	comp=Z,83nm,1.0s,mb5.7						
NVS				smax			
	comp=N,21nm,1.7s						
NVS				smax			
	comp=E,37nm,1.7s						
WRA	**Warramunga Arr**	48.32	125	P	**P**	**23 11 44.2**	**-1.7**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	48.32	125	P	**P**	**23 11 44.2**	**-1.7**
	comp=Z,2.5nm,0.7s,mb4.4,baz=304,slow=8.9,SNR=8.9						
BVAR	**Borovoye Array**	48.98	341	P	**P**	**23 11 48.6**	**-1.9**
	comp=Z,7.8nm,1.0s,mb4.7,baz=149,slow=8.6,SNR=12						
BVAR				PcP	PcP	23 13 15.0	+0.2
	comp=Z,3.9nm,0.8s,baz=200,slow=0.4,SNR=5.6						
RAYN	**Ar Rayn**	49.01	294	P	**P**	**23 11 52.5**	**+1.3**
	comp=Z,246nm,1.2s,mb6.1,SNR=52						
CHKZ	**Chkalovo**	49.46	342	*e*P	**P**	**23 11 52.3**	**-1.9**
CHKZ				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.3						
CHKZ	**Chkalovo**	49.46	342	*e*P	**P**	**23 11 52.2**	**-1.9**
	comp=Z,35nm,1.1s,mb5.3						
ASAR	**Alice Springs**	49.97	130	P	**P**	**23 11 57.9**	**-0.7**
	comp=Z,3.5nm,0.9s,mb4.4,baz=299,slow=7.1,SNR=10						
KLR	**Kul'dur**	51.94	31	*e*P	**P**	**23 12 16.2**	**+3.1**
BOD	**Bodaibo**	52.18	13	*e*P	**P**	**23 12 14.0**	**-0.8**
GNI	**Garni**	54.38	314	P	**P**	**23 12 30.7**	**-0.6**
	comp=Z,16nm,1.1s,mb4.9,baz=125,slow=18,SNR=9.3						
GNI				LR	LR	23 36 06.8	
	comp=Z,835nm,18.4s,MS4.8,baz=275,slow=36						
CLNS	**Chul'man**	54.48	20	*e*P	**P**	**23 12 32.8**	**+1.0**
CLNS				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.1						
CLNS				pmax	pmax		
	comp=N,13nm,0.9s						
CLNS				pmax	pmax		
	comp=E,13nm,0.9s						
TI2	**Plekhanov**	55.00	316	*e*P	**P**	**23 12 36.0**	**+0.1**
ARU	**Arti**	55.87	337	⇓*i*P	**P**	**23 12 34.8**	**-7.1**
ARU				*e*S	**S**	**23 20 17.9**	**-8.9**
ARU				*e*		23 22 23.0	
ARU				*e*SS	SS	23 24 02.6	-10
ARU				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.1						
ZEI	**Tsey**	55.99	317	*e*P	**P**	**23 12 42.9**	**-0.1**
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
KIV	**Kislovodsk**	57.27	318	*e*P	**P**	**23 12 50.7**	**-1.4**
KIV				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.2						
KIV	**Kislovodsk**	57.27	318	*e*P	**P**	**23 12 50.7**	**-1.5**
	comp=Z,29nm,1.1s,mb5.2						
KMBO	**Kilima Mbogo**	57.34	264	P	**P**	**23 12 54.6**	**+1.6**
KMBO				pmax	pmax		
	comp=Z,11nm,0.9s						
KMBO				MLR	MLR		
	comp=Z,710nm,19.5s						
KMBO	**Kilima Mbogo**	57.34	264	P	**P**	**23 12 54.6**	**+1.6**
	comp=Z,11nm,0.9s,mb4.9,baz=51,slow=9.3,SNR=24						
KMBO				LR	LR	23 34 02.5	
	comp=Z,710nm,19.5s,MS4.8,baz=89,slow=32						
ASF	**Jabal al Asfar**	58.15	303	P	**P**	**23 12 58.8**	**+0.3**
	comp=Z,8.5nm,1.2s,mb4.7,baz=194,slow=0.3,SNR=5.7						
ASF				LR	LR	23 37 33.0	
	comp=Z,150nm,20.9s,MS4.1,baz=111,slow=36						
CTA	**Charters Tower**	58.38	119	P	**P**	**23 13 01.7**	**+1.5**
CTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CTA	**Charters Tower**	58.38	119	P	**P**	**23 13 01.7**	**+1.5**
	comp=Z,5.3nm,1.0s,mb4.5,baz=246,slow=20,SNR=2.1						
SOC	**Sochi**	59.13	317	*e*P	**P**	**23 13 00.6**	**-4.5**
SOC				*e*		23 15 15.7	
SOC				*e*S	**S**	**23 21 05.7**	**-4.2**
SOC				*e*		23 22 46.6	
SOC				*e*SS	SS	23 25 02.2	-3.8
SOC				*e*SSS	SSS	23 27 29.5	-2.2
SOC				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
SOC				pmax	pmax		
	comp=N,14nm,0.7s						
SOC				pmax	pmax		
	comp=E,13nm,0.8s						
EIL	**Elat**	59.36	300	P	**P**	**23 13 06.8**	**-0.1**
	comp=E,2.5nm,0.6s,mb4.4,baz=117,slow=4.5,SNR=3.6						
YAK	**Yakutsk**	60.04	18	*e*P	**P**	**23 13 10.2**	**-0.9**
YAK				pmax	pmax		
	comp=Z,53nm,1.0s,mb5.5						
YAK	**Yakutsk**	60.04	18	*e*P	**P**	**23 13 10.2**	**-1.0**
	comp=Z,53nm,1.0s,mb5.5						
STKA	**Stephens Creek**	60.16	134	P	**P**	**23 13 12.0**	**-0.4**
	comp=Z,5.1nm,1.0s,mb4.5,baz=288,slow=6.4,SNR=3.6						
ANN	**Anapa**	61.09	317	*e*P	**P**	**23 13 10.1**	**-8.4**
ANN				pmax	pmax		
	comp=Z,65nm,1.4s,mb5.6						
BRTR	**Keskin Array B**	62.37	311	P	**P**	**23 13 25.3**	**-2.0**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRTR	**Keskin Array B**	62.37	311	P	**P**	**23 13 25.2**	**-2.0**
	comp=Z,5.3nm,0.9s,mb4.7,baz=128,slow=7.1,SNR=13						
MOS	**Moscow**	65.05	329	*e*P	**P**	**23 13 42.9**	**-1.6**
MOS				*e*		23 14 12.5	
MOS				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.5						
OBN	**Obninsk**	65.35	328	*i* P	**P**	**23 13 42.7**	**-3.7**
OBN				*e*		23 13 53.0	
OBN				*e*PCP	PcP	23 14 20.6	+2.1
OBN				*e*PP	PP	23 16 09.9	-2.6
OBN				pmax	pmax		
	comp=Z,43μm,1.0s						
OBN	**Obninsk**	65.35	328	*e*P	**P**	**23 13 42.5**	**-3.9**
	comp=Z,93nm,1.4s,mb5.6						
MA2	**Magadan**	66.82	28	*e*P	**P**	**23 13 55.1**	**-0.7**
MA2				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
TIXI	**Tiksi**	67.26	11	*c i*P	**P**	**23 13 57.3**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
AKASG	**Malin Array Be**	68.11	322	*i* P	**P**	**23 14 02.6**	**-1.5**
AKASG				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AKASG	**Malin Array Be**	68.11	322	P	**P**	**23 14 01.8**	**-2.3**
	comp=Z,9.7nm,0.9s,mb4.8,baz=87,slow=4.8,SNR=11						
IDI	**Anoyia**	68.50	305	P	**P**	**23 14 06.8**	**0.0**
	comp=Z,20nm,1.0s,mb5.0,baz=38,slow=12,SNR=4.2						
VRI	**Vrincioaia**	68.65	316	⇑P	**P**	**23 14 06.9**	**-0.6**
MLR	**Muntele Rosu**	69.12	316	P	**P**	**23 14 09.7**	**-0.7**
MLR				pmax	pmax		
	comp=Z,20nm,0.9s						
MLR	**Muntele Rosu**	69.12	316	P	**P**	**23 14 09.7**	**-0.7**
	comp=Z,20nm,0.9s,mb5.0,baz=81,slow=2.6,SNR=15						
JOF	**Joensuu**	70.83	334	*e*p	**P**	**23 14 19.5**	**-1.0**
LVV	**L'vov**	71.17	320	*e*P	**P**	**23 14 26.5**	**+3.7**
LVV				*e*		23 14 42.5	
KWP	**Kalwaria**	71.99	320	*e*P	**P**	**23 14 27.8**	**+0.1**
KOLS	**Kolonicke sedl**	72.16	319	*e*P	**P**	**23 14 29.7**	**+0.9**
SUW	**Suwalki**	72.47	324	*e*P	**P**	**23 14 29.4**	**-1.1**
CRVS	**Cervenica-Dubn**	72.68	319	*i* P	**P**	**23 14 32.7**	**+0.8**
CRVS				*e*		23 14 42.6	
CRVS				*e*PP	PP	23 17 09.5	-6.1
CRVS				*e*S	S	23 23 59.3	+4.3
FINES	**FINESS Array B**	72.68	332	*i* P	**P**	**23 14 31.3**	**-0.3**
FINES				pmax	pmax		
	comp=Z,12nm,0.8s						
FINES	**FINESS Array B**	72.68	332	P	**P**	**23 14 30.4**	**-1.2**
	comp=Z,12nm,0.8s,mb4.9,baz=94,slow=6.3,SNR=17						
KAF	**Kangasniemi**	72.77	333	*e*p	**P**	**23 14 30.8**	**-1.3**
	comp=Z,22nm,1.0s,mb5.0,baz=104,slow=5.6						
KAF	**Kangasniemi**	72.77	333	*e*P	**P**	**23 14 30.8**	**-1.3**
KAF				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
NIE	**Niedzica**	73.50	319	*e*P	**P**	**23 14 36.6**	**0.0**
PSZ	**Piszkesteto**	73.59	318	*e*P	**P**	**23 14 36.3**	**-0.9**
PSZ				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
PSZ	**Piszkesteto**	73.59	318	*e*P	**P**	**23 14 36.3**	**-0.9**
	comp=Z,18nm,1.3s,mb4.8						
OJC	**Ojcow**	73.93	320	*e*P	**P**	**23 14 38.9**	**-0.2**
VYHS	**Vyhne**	74.36	318	*i* P	**P**	**23 14 41.8**	**+0.2**
OKC	**Ostrava-Krasne**	74.95	319	*e*P	**P**	**23 14 45.1**	**+0.1**
OKC				*e*pP	pP	23 14 49.5	-0.7
ARCES	**ARCESS Array B**	75.25	340	P	**P**	**23 14 46.2**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ARCES	**ARCESS Array B**	75.25	340	P	**P**	**23 14 46.2**	**-0.1**
	comp=Z,10nm,1.0s,mb4.7,baz=98,slow=5.6,SNR=19						
ARCES	**ARCESS Array B**	75.25	340	P	**P**	**23 14 46.2**	**-0.1**
MORC	**Moravsky Berou**	75.33	319	*e*P	**P**	**23 14 47.0**	**-0.2**
MORC				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.2						
MORC	**Moravsky Berou**	75.33	319	*e*P	**P**	**23 14 47.0**	**-0.2**
	comp=Z,32nm,1.1s,mb5.2						
ZST	**Bratislava**	75.49	318	*e*P	**P**	**23 14 48.5**	**+0.4**
BILL	**Bilibino**	76.13	22	*i* P	**P**	**23 14 51.6**	**+0.2**
BILL				pmax	pmax		
	comp=Z,14nm,1.9s,mb4.6						
DPC	**Dobruska-Polom**	76.16	320	*e*P	**P**	**23 14 52.6**	**+0.7**
DPC				*e*pP	pP	23 14 57.4	+0.3
KSP	**Ksiaz**	76.22	320	*e*P	**P**	**23 14 52.9**	**+0.7**
UPC	**Upice**	76.37	320	*e*P	**P**	**23 14 53.7**	**+0.6**
UPC				*e*pP	pP	23 14 58.9	+0.6
PERS	**Pernice**	76.74	316	*e*P	**P**	**23 14 55.6**	**+0.4**
PRU	**Pruhonice**	77.28	319	*e*P	**P**	**23 14 58.1**	**0.0**
PRU				*e*pP	pP	23 15 03.4	0.0
PVCC	**Panska Ves**	77.29	320	*e*P	**P**	**23 14 58.7**	**+0.5**
PVCC				*e*pP	pP	23 15 03.6	+0.2
BRG	**Berggiesshubel**	77.71	320	*e*P	**P**	**23 15 00.8**	**+0.3**
BRG				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.1						
BRG	**Berggiesshubel**	77.71	320	*e*P	**P**	**23 15 00.8**	**+0.3**
	comp=Z,33nm,1.4s,mb5.1						
GERES	**GERESS Array B**	77.78	318	P	**P**	**23 15 00.8**	**-0.1**
GERES				pmax	pmax		
	comp=Z,11nm,0.9s						
GERES	**GERESS Array B**	77.78	318	P	**P**	**23 15 00.8**	**-0.1**
	comp=Z,11nm,0.9s,mb4.8,baz=90,slow=5.3,SNR=13						
KHC	**Kasperske Hory**	77.87	319	*e*P	**P**	**23 15 00.4**	**-1.0**
KHC				*e*pP	pP	23 15 06.3	-0.3
RUE	**Ruedersdorf**	77.89	322	*e*P	**P**	**23 15 01.8**	**+0.3**
	comp=Z,40nm,0.9s,mb5.3						
CLL	**Collm**	78.32	321	*i* P	**P**	**23 15 03.6**	**-0.2**
CLL				*i*	pP	23 15 08.6	-0.4
CLL	**Collm**	78.32	321	P	**P**	**23 15 03.6**	**-0.2**
CLL				*i* *PP	pP	23 15 08.6	-0.4
WET	**Wettzell**	78.33	319	*e*P	**P**	**23 15 04.3**	**+0.4**
WET				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
WET	**Wettzell**	78.33	319	*e*P	**P**	**23 15 04.3**	**+0.4**
	comp=Z,9.0nm,1.1s,mb4.6						
HFS	**Hagfors**	78.43	330	P	**P**	**23 15 04.1**	**-0.1**
HFS				pmax	pmax		
	comp=Z,12nm,0.8s						
HFS	**Hagfors**	78.43	330	P	**P**	**23 15 04.1**	**-0.1**
	comp=Z,12nm,0.8s,mb4.9,baz=104,slow=6.1,SNR=54						
NKC	**Novy Kostel**	78.64	320	*e*P	**P**	**23 15 04.9**	**-0.7**
NKC				*e*pP	pP	23 15 10.9	+0.1
MOX	**Moxa**	79.18	320	*e*P	**P**	**23 15 08.9**	**+0.4**
MOX	**Moxa**	79.18	320	*i* P	**P**	**23 15 08.9**	**+0.4**
GRA1	**Grafenberg Arr**	79.42	319	*e*P	**P**	**23 15 10.5**	**+0.6**
	comp=Z,14nm,1.0s,mb4.8						
GRA1				*e*pP	pP	23 15 15.5	+0.4
GRF	**Grafenberg Arr**	79.42	319	*e*P	**P**	**23 15 10.5**	**+0.6**
GRF				*e**PP	pP	23 15 15.5	+0.4
GRF				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
GRF	**Grafenberg Arr**	79.42	319	*e*P	**P**	**23 15 10.5**	**+0.6**
GRF				*e**PP	pP	23 15 15.5	+0.4
GRF				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
GRF	**Grafenberg Arr**	79.42	319	*e*P	**P**	**23 15 10.5**	**+0.6**
	comp=Z,14nm,1.0s,mb4.8						
GRF				*e*pP	pP	23 15 15.5	+0.4
NB2	**NORSAR Subarra**	79.70	331	P	**P**	**23 15 10.7**	**-0.4**
	comp=Z,6.1nm,0.7s,mb4.6,baz=91,slow=5.8						
NB2	**NORSAR Subarra**	79.70	331	P	**P**	**23 15 10.7**	**-0.4**
NB2				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
NOA	**NORSAR Array B**	79.70	331	P	**P**	**23 15 10.7**	**-0.4**
NOA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NOA	**NORSAR Array B**	79.70	331	P	**P**	**23 15 10.7**	**-0.4**
	comp=Z,6.5nm,0.8s,mb4.6,baz=97,slow=5.1,SNR=12						
CLZ	**Clausthal**	79.97	321	*e*P	**P**	**23 15 13.3**	**+0.5**
	comp=Z,14nm,1.2s,mb4.8						
BSEG	**Bad Segeberg**	80.01	323	*e*P	**P**	**23 15 13.2**	**+0.2**
BFO	**Black Forest**	81.35	318	*e*P	**P**	**23 15 20.2**	**+0.1**
BFO				pmax	pmax		
	comp=Z,50nm,2.1s,mb5.1						
BFO	**Black Forest**	81.35	318	*e*P	**P**	**23 15 20.2**	**+0.1**
	comp=Z,50nm,2.1s,mb5.1						
LPG	**La Plagne**	82.57	315	*e*P	**P**	**23 15 26.9**	**+0.4**
	comp=Z,41nm,1.0s,mb5.1						
LPG	**La Plagne**	82.57	315	*e*P	**P**	**23 15 26.9**

σ0°62/17, mb4.3/12, 1C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.77**	**150**	P	**P**	**23 14 28.7**	**-0.9**
	1.1nm,0.3s,baz=327,slow=12,SNR=17						
WRA				S	**S**	**23 17 06.7**	**+0.7**
	0.2nm,0.3s,baz=322,slow=22,SNR=5.4						
ASAR	**Alice Springs**	**17.86**	**158**	P	**P**	**23 15 03.3**	**+1.2**
	3.3nm,0.3s,baz=331,slow=8.4,SNR=40						
ASAR				S	**S**	**23 18 06.2**	**+0.2**
	0.2nm,0.3s,baz=331,slow=21,SNR=5.1						
FORT	**Forrest**	**23.55**	**177**	⇓*i*P	**P**	**23 15 57.0**	**-0.2**
	60nm,0.6s,mb5.0						
KLBR	**Kellerberrin**	**25.68**	**198**	*e*P	**P**	**23 16 16.5**	**-0.1**
	60nm,0.5s,mb5.1						
NWAO	**Narrogin (SRO)**	**27.09**	**197**	P	**P**	**23 16 28.5**	**-0.8**
	5.0nm,0.5s,mb4.0,baz=29,slow=6.6,SNR=9.8						
STKA	**Stephens Creek**	**28.30**	**152**	⇑*i*P	**P**	**23 16 39.3**	**-0.8**
	2.8nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**28.30**	**152**	P	**P**	**23 16 39.4**	**-0.8**
	4.7nm,0.5s,mb4.0,baz=334,slow=9.8,SNR=16						
JIRN	**Jiri**	**52.18**	**313**	*e*P	**P**	**23 19 54.4**	**+0.6**
	8.5nm,0.6s,mb4.2						
PKI	**Pulchoki**	**52.70**	**313**	*e*P	**P**	**23 19 57.9**	**+0.3**
	12nm,0.7s,mb4.3						
KKN	**Kakani**	**52.92**	**313**	*e*P	**P**	**23 19 59.6**	**+0.5**
	8.5nm,0.6s,mb4.2						
DMN	**Daman**	**52.94**	**313**	*e*P	**P**	**23 19 59.1**	**-0.2**
	5.3nm,0.6s,mb4.0						
GKN	**Gorkha**	**53.51**	**313**	*e*P	**P**	**23 20 03.6**	**+0.2**
	16nm,0.5s,mb4.6						
KOLN	**Koldanda**	**54.14**	**312**	*e*P	**P**	**23 20 08.5**	**+0.6**
	16nm,0.7s,mb4.5						
SONM	**Songino Array**	**57.58**	**344**	P	**P**	**23 20 31.6**	**-0.2**
	1.4nm,0.6s,mb3.5,baz=168,slow=6.6,SNR=33						
ZAL	**Zalesovo**	**70.26**	**335**	P	**P**	**23 21 52.4**	**-1.0**
	3.5nm,0.4s,mb4.5,baz=336,slow=5.0,SNR=14						

*IDC **26** 23:14:11.2±0.6, 16.29S×73.87W, mb4.6/11, mb1 4.9/13, mb1mx4.7/19, mbtmp4.7/13, ML5.2/2, Error ellipse: s-maj=28.7km s-min=14.6km az=76.0, Putative timing error at LPAZ*
*BJI **26** 23:14:15.2, 16.30S×74.10W, h28km*
*NEIC **26** 23:14:15.2±0.3, 16.32S×74.05W, mb4.4/4, Error ellipse: s-maj=12.4km s-min=6.3km az=60.0*
NEIC Felt [III] at Atico.

ISC 26 23:14:12.6±3.1, 16.33S±0.07×74.06W±0.07, h21km±23km, h28km±1.5km: pP-P, n40, σ0°96/28, mb4.5/14, 3C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.47**	**94**	⇑*i*P	**Pn**	**23 14 55.6**	**+3.1**
ARE				S	**Sn**	**23 15 23.0**	**+0.6**
NNA	**Nana**	**5.08**	**328**	*e*P	**Pn**	**23 15 30.5**	**+0.9**
	55nm,0.6s						
LVC	**Limon Verde**	**7.92**	**143**	Pn	**Pn**	**23 16 08.1**	**-1.4**
	15nm,0.3s,baz=313,slow=9.3,SNR=107						
LVC				Sn	**Sn**	**23 17 31.1**	**-8.3**
	11nm,0.3s,baz=309,slow=8.4,SNR=3.4						
OTAV	**Otavalo**	**17.02**	**345**	P	**P**	**23 18 10.6**	**-0.6**
	5.6nm,0.8s						
TRQA	**Tornquist**	**24.12**	**156**	*e*P	**P**	**23 19 27.6**	**-0.4**
	8.0nm,0.9s,mb4.2						
PLCA	**Paso Flores**	**24.51**	**174**	P	**P**	**23 19 32.3**	**+0.5**
	41nm,1.1s,mb4.9,baz=346,slow=11,SNR=24						
PLCA				PcP	PcP	23 23 10.7	-0.6
	3.4nm,0.8s,baz=325,slow=3.6,SNR=3.3						
BAO	**Brasilia Array**	**25.07**	**92**	⇑P	**P**	**23 19 37.1**	**-0.3**
SDV	**Santo Domingo**	**25.28**	**8**	P	**P**	**23 19 40.6**	**+1.3**
	8.0nm,0.9s,mb4.2,baz=325,slow=3.0,SNR=7.8						
USHA	**Ushuaia**	**38.67**	**175**	P	**P**	**23 21 36.1**	**-0.4**
	16nm,0.8s,mb4.8,baz=318,slow=1.5,SNR=8.3						
LTX	**Lajitas**	**53.64**	**328**	P	**P**	**23 23 34.3**	**-0.8**
TXAR	**Lajitas Array**	**53.64**	**328**	P	**P**	**23 23 34.8**	**-0.3**
	2.1nm,0.7s,mb4.2,baz=150,slow=10,SNR=8.8						
TXAR	**Lajitas Array**	**53.64**	**328**	P	**P**	**23 23 34.8**	**-0.3**
ANMO	**Albuquerque**	**59.56**	**329**	P	**P**	**23 24 17.3**	**+0.1**
	3.4nm,1.2s,mb4.2,baz=180,slow=3.2,SNR=3.9						
ANMO	**Albuquerque**	**59.56**	**329**	P	**P**	**23 24 17.3**	**+0.1**
MSU	**Marysvale**	**65.20**	**328**	*e*P	**P**	**23 24 55.5**	**+0.7**
MSU				*ep*P	pP	23 25 03.2	+1.8
HWUT	**Hardware Ranch**	**67.27**	**330**	*e*P	**P**	**23 25 06.7**	**-1.2**
	4.5nm,0.9s,mb4.5						
HWUT				*ep*P	pP	23 25 15.5	+0.9
NVAR	**Mina Array Bea**	**68.45**	**324**	P	**P**	**23 25 15.8**	**+0.4**
	1.8nm,0.9s,mb4.1,baz=124,slow=6.7,SNR=7.3						
SNAA	**Sanae**	**68.73**	**161**	P	**P**	**23 25 16.4**	**-0.2**
	4.1nm,0.5s,mb4.6,baz=272,slow=7.1,SNR=20						
DBIC	**Dimbokro**	**72.16**	**77**	P	**P**	**23 25 36.3**	**-2.0**
	17nm,0.7s,mb5.1,baz=230,slow=6,3,SNR=28						
QSPA	**South Pole Qui**	**73.84**	**180**	⇑*i*P	**P**	**23 25 48.4**	**+1.4**
	17nm,0.9s,mb5.0						
EDM	**Edmonton**	**77.08**	**337**	*e*P	**P**	**23 26 05.1**	**-0.8**
EDM				*ep*P	pP	23 26 14.8	+2.2
VNDA	**Vanda**	**81.05**	**191**	P	**P**	**23 26 29.3**	**+2.3**
	3.4nm,0.8s,mb4.3,baz=96,slow=4.8,SNR=8.4						
VNDA	**Vanda**	**81.05**	**191**	P	**P**	**23 26 29.3**	**+2.3**
YKA	**Yellowknife Ar**	**84.76**	**342**	P	**P**	**23 26 46.1**	**-0.1**
	5.2nm,0.8s,mb4.7,baz=136,slow=5.1,SNR=92						
YKW3	**Yellowknife Ar**	**84.81**	**342**	*e*P	**P**	**23 26 46.4**	**-0.1**
ESDC	**Sonseca Array**	**85.72**	**47**	P	**P**	**23 26 51.8**	**+0.2**
	6.2nm,1.1s,mb4.8,baz=251,slow=5.4,SNR=7.8						
ASAR	**Alice Springs**	**131.77**	**215**	PKP	PKPdf	23 33 25.9	-3.6
	1.4nm,0.6s,baz=124,slow=1.6,SNR=13						
WRA	**Warramunga Arr**	**134.42**	**219**	PKP	PKPdf	23 33 31.7	-2.8
	2.8nm,0.5s,baz=137,slow=1.8,SNR=23						
ZAL	**Zalesovo**	**139.01**	**19**	PKP	PKPdf	23 33 39.7	-2.2
	2.3nm,0.7s,baz=205,slow=2.3,SNR=16						
ZAL	**Zalesovo**	**139.01**	**19**	PKP	PKPdf	23 33 39.7	-2.2
MAJO	**Matsushiro**	**145.03**	**311**	*e*P	PKPbc	23 33 49.1	0.0
MAT	**Matsushiro**	**145.03**	**311**	*e*PKP	PKPdf	23 33 49.0	-4.0
MAT	**Matsushiro**	**145.03**	**311**	PKP	PKPdf	23 33 49.1	-3.9
HIA	**Hailar**	**145.27**	**344**	*e*P	PKPbc	23 33 49.6	+0.3
WMQ	**Urumqi**	**148.52**	**26**	*e*PKP	PKPdf	23 34 00.3	+1.7
ULN	**Ulaanbaatar**	**148.53**	**359**	*e*P	PKPdf	23 34 00.1	+1.6
SONM	**Songino Array**	**148.58**	**359**	PKP	PKPdf	23 33 56.2	-2.3
	11nm,0.6s,SNR=55						
SONM				PKPbc	PKPdf	23 34 00.5	+2.0
	13nm,0.8s,baz=327,slow=1.9,SNR=96						
DDI	**Dehra Dun**	**150.95**	**56**	*e*	PKPdf	23 34 06.9	+4.1
KS15	**Wonju Array Si**	**151.40**	**322**	*e*P	PKPdf	23 34 07.7	+4.4
CMAR	**Chiang Mai Arr**	**172.99**	**71**	PKP	PKPdf	23 34 22.7	-2.5
	0.7nm,0.5s,baz=272,slow=1.5,SNR=5.4						
CMAR				PKPab	PKPab	23 35 48.9	-0.9
	2.8nm,1.0s,baz=281,slow=5.3,SNR=7.2						

*IDC **26** 23:18:47.5±1.1, 24.20N×121.90E, mb3.7/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, Error ellipse: s-maj=48.4km s-min=26.3km az=71.0*
*TAP **26** 23:18:51.4, 24.27N×121.77E, h9km, ML4.0*
TAP Felt IV J at Nanau, II J at Nanshan, II J at Nioudou, I J at Neicheng, I J at Hehuanshan, I J at Sanguang, I J at Tachien.

ISC 26 23:18:51.3±0.4, 24.27N±0.01×121.85E±0.03, h9km, n58, σ1°06/91, mb3.6/6, 12C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.19**	**329**	⇑*i*P	**Pg**	**23 18 55.2**	**-0.1**
ENA				S	**Sg**	**23 18 57.9**	**-0.1**
TWD	**Chiawan**	**0.30**	**231**	⇓*i*P	**Pg**	**23 18 56.6**	**-0.8**
TWD				S	**Sg**	**23 19 00.9**	**-0.5**
TWC	**Suao**	**0.34**	**0**	⇑*i*P	**Pg**	**23 18 58.4**	**+0.1**
TWC				S	**Sg**	**23 19 03.4**	**+0.4**
HWA	**Hwalien**	**0.36**	**218**	*e*P	**Pg**	**23 18 59.1**	**+0.3**
ENTT	**Nioudou**	**0.45**	**325**	⇑*i*P	**Pg**	**23 19 00.1**	**-0.3**
ENTT				S	**Sg**	**23 19 05.8**	**-0.7**
NNS	**Nan Shan**	**0.47**	**292**	⇑*i*P	**Pg**	**23 18 60.0**	**-0.8**
NNS				S	**Sg**	**23 19 05.4**	**-1.6**
TWE	**Neicheng**	**0.48**	**340**	⇑*i*P	**Pg**	**23 19 00.9**	**-0.1**
TWE				S	**Sg**	**23 19 07.3**	**-0.2**
ILA	**Ilan**	**0.51**	**350**	⇑*i*P	**Pg**	**23 19 01.6**	**+0.1**
ILA				S	**Sg**	**23 19 09.7**	**+1.4**
WHF	**Hehuan Shan**	**0.55**	**257**	⇓*i*P	**Pg**	**23 19 01.3**	**-1.0**
WHF				S	**Sg**	**23 19 07.8**	**-1.9**
ESL	**Shilin**	**0.59**	**220**	*e*P	**Pg**	**23 19 02.3**	**-0.9**
ESL				S	**Sg**	**23 19 10.3**	**-0.8**
NSK	**Sanguang**	**0.60**	**313**	⇑*i*P	**Pg**	**23 19 02.8**	**-0.7**
NSK				S	**Sg**	**23 19 10.3**	**-1.3**
TWT	**Tachien**	**0.61**	**269**	⇑*i*P	**Pg**	**23 19 03.1**	**-0.5**
TWT				S	**Sg**	**23 19 11.0**	**-0.9**
TWA	**Mucha**	**0.75**	**341**	⇑P	**Pb**	**23 19 05.9**	**-0.2**
NWF	**Wu-fen Shan**	**0.80**	**356**	⇑*i*P	**Pb**	**23 19 07.2**	**+0.2**
NWF				S	**Sb**	**23 19 17.5**	**-0.3**
TAP1	**Taipei**	**0.82**	**339**	*e*P	**Pb**	**23 19 07.9**	**+0.6**
TAP1				S	**Sb**	**23 19 18.2**	**-0.2**
TAP	**Taipei**	**0.83**	**338**	*e*P	**Pb**	**23 19 07.3**	**-0.1**
TAP				S	**Sb**	**23 19 18.7**	**+0.2**
NSTT	**Nanjuang**	**0.85**	**295**	*e*P	**Pb**	**23 19 07.5**	**-0.3**
NSTT				S	**Sb**	**23 19 18.2**	**-1.0**
EHY	**Hungye**	**0.90**	**213**	*e*P	**Pb**	**23 19 07.3**	**-1.3**
EHY				S	**Sb**	**23 19 21.1**	**+0.7**
TWS1	**Kuangyinshan**	**0.92**	**335**	*e*P	**Pb**	**23 19 09.2**	**+0.3**
TWS1				S	**Sb**	**23 19 22.6**	**+1.5**
NCU	**National Centr**	**0.92**	**319**	*e*P	**Pb**	**23 19 09.7**	**+0.7**
NCU				S	**Sb**	**23 19 23.1**	**+1.9**
SMLT	**Sun Moon Lake**	**0.95**	**246**	⇑P	**Pb**	**23 19 09.2**	**-0.2**
SMLT				S	**Sb**	**23 19 21.7**	**-0.2**
HSN	**Hsinchu**	**0.96**	**304**	*e*P	**Pb**	**23 19 08.6**	**-1.1**
HSN				S	**Sb**	**23 19 23.7**	**+1.4**
TYC	**Yuchr**	**0.97**	**248**	⇑*i*P	**Pb**	**23 19 09.6**	**-0.3**
TYC				S	**Sb**	**23 19 22.4**	**-0.3**
TWQ1	**Liyutan**	**0.98**	**275**	*e*P	**Pb**	**23 19 10.4**	**+0.4**
NSY	**Sanyi**	**1.00**	**279**	*e*P	**Pb**	**23 19 10.8**	**+0.4**
NSY				S	**Sb**	**23 19 24.2**	**+0.7**
TWY	**Chenhua**	**1.03**	**347**	*e*P	**Pb**	**23 19 11.3**	**+0.5**
TWF1	**Yuli**	**1.04**	**209**	*e*P	**Pb**	**23 19 09.9**	**-1.1**
TWF1				S	**Sb**	**23 19 25.3**	**+0.7**
TCU	**Taichung**	**1.08**	**264**	*e*P	**Pb**	**23 19 12.6**	**+0.9**
YUS	**Yu-Shan**	**1.13**	**227**	*e*P	**Pb**	**23 19 12.4**	**-0.1**
YUS				S	**Sb**	**23 19 28.1**	**+1.0**
ALS	**Alishan**	**1.22**	**232**	*e*P	**Pb**	**23 19 14.1**	**0.0**
CHKT	**Chengkung**	**1.24**	**201**	*e*P	**Pb**	**23 19 14.4**	**-0.1**
CHKT				S	**Sb**	**23 19 31.2**	**+0.7**
CHN5	**Tsauling**	**1.26**	**238**	*e*P	**Pb**	**23 19 15.1**	**+0.2**
CHN5				S	**Sb**	**23 19 33.9**	**+2.9**
ELDTW	**Lidau**	**1.31**	**216**	*e*P	**Pb**	**23 19 14.4**	**-1.3**
PCYT	**Pengchaiyu**	**1.37**	**8**	*i* P	**Pn**	**23 19 16.9**	**+0.2**
PCYT				S	**Sb**	**23 19 37.3**	**+3.0**
CHN2	**Minshiung**	**1.45**	**240**	*e*P	**Pn**	**23 19 18.9**	**+1.0**
CHN4	**Tsaushan**	**1.47**	**232**	*e*P	**Pn**	**23 19 18.8**	**0.7**
CHN4				S	**Sb**	**23 19 39.9**	**+2.9**
STYT	**Tauyuan**	**1.48**	**223**	*e*P	**Pn**	**23 19 18.1**	**-0.2**
STYT				S	**Sb**	**23 19 40.8**	**+3.2**
CHY	**Chiayi**	**1.51**	**240**	*e*P	**Pn**	**23 19 19.6**	**+0.9**
CHY				S	**Sb**	**23 19 39.9**	**+1.6**
WTP	**Ta-pu**	**1.52**	**228**	*e*P	**Pn**	**23 19 19.0**	**+0.2**
WTP				S	**Sb**	**23 19 41.2**	**+2.7**
TWK	**Hsinying**	**1.59**	**232**	*e*P	**Pn**	**23 19 19.9**	**0.0**
TWG	**Pinlang**	**1.61**	**206**	*e*P	**Pn**	**23 19 17.8**	**-2.3**
CHN1	**Nanshi**	**1.62**	**229**	*e*P	**Pn**	**23 19 20.7**	**+0.4**
SGST	**Jiashian**	**1.65**	**225**	*e*P	**Pn**	**23 19 21.4**	**+0.6**
ECL	**Taimali**	**1.85**	**206**	*e*P	**Pn**	**23 19 21.7**	**-1.9**
SSD	**Sandimen**	**1.88**	**217**	*e*P	**Pn**	**23 19 24.5**	**+0.5**
SSD				S	**Sn**	**23 19 49.7**	**+1.6**
TWM1	**Shoushan**	**1.94**	**223**	*e*P	**Pn**	**23 19 26.5**	**+1.6**
EAST	**Anshuo**	**2.09**	**206**	*e*P	**Pn**	**23 19 28.4**	**+1.4**
SCZT	**Fangliau**	**2.20**	**211**	*e*P	**Pn**	**23 19 29.2**	**+0.6**
PNG	**Penghu**	**2.21**	**252**	*e*P	**Pn**	**23 19 27.6**	**-1.1**
LAY	**Lan-yu**	**2.23**	**187**	*e*P	**Pn**	**23 19 26.4**	**-2.7**
WDGT	**Dungji**	**2.24**	**244**	*e*P	**Pn**	**23 19 28.2**	**-0.9**
WDGT				S	**Sn**	**23 19 56.8**	**-0.4**
TWK1	**Hengchun**	**2.50**	**203**	*e*P	**Pn**	**23 19 31.9**	**-1.0**
SONM	**Songino Array**	**26.53**	**336**	P	**P**	**23 24 28.5**	**-2.6**
	0.6nm,0.6s,mb3.3,baz=150,slow=9.9,SNR=6.9						
WRA	**Warramunga Arr**	**45.59**	**163**	P	**P**	**23 27 09.1**	**-4.7**
	0.7nm,1.0s,mb3.5,baz=345,slow=8.6,SNR=2.4						
ILAR	**Eielson Array**	**68.86**	**27**	P	**P**	**23 29 53.9**	**-4.1**
	0.3nm,0.9s,mb3.2,baz=290,slow=7.2,SNR=4.6						
FINES	**FINESS Array B**	**71.68**	**330**	P	**P**	**23 30 11.7**	**-3.5**
	1.8nm,1.0s,mb4.0,baz=27,slow=4.3,SNR=4.6						
BRTR	**Keskin Array B**	**73.61**	**307**	P	**P**	**23 30 22.8**	**-4.2**
	0.7nm,0.7s,mb3.7,baz=112,slow=6.7,SNR=4.6						
YKA	**Yellowknife Ar**	**82.66**	**23**	P	**P**	**23 31 12.5**	**-3.6**
	0.5nm,0.6s,mb3.7,baz=313,slow=4.9,SNR=13						

*IDC **26** 23:29:37.2±1.6, 7.74N×93.93E, mb3.9/5, mb1 4.0/6, mb1mx3.8/18, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=51.3km s-min=28.3km az=59.0*

ISC 26 23:29:41.3±7.2, 7.9N±0.3×94.2E±0.3, h34km±58km, n12, σ0°45/12, mb4.1/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.51**	**23**	Pn	**P**	**23 32 25.9**	**-0.4**
	0.1nm,0.3s,baz=212,slow=14,SNR=7.7						
JIRN	**Jiri**	**21.10**	**340**	*e*P	**P**	**23 34 25.2**	**-0.1**
	15nm,0.9s,mb4.3						
PKI	**Pulchoki**	**21.29**	**338**	*e*P	**P**	**23 34 26.7**	**-0.6**
	13nm,0.8s,mb4.3						
DMN	**Daman**	**21.44**	**337**	*e*P	**P**	**23 34 29.6**	**+0.9**
	20nm,0.8s,mb4.5						
KKN	**Kakani**	**21.54**	**338**	*e*P	**P**	**23 34 30.2**	**+0.5**
GKN	**Gorkha**	**21.98**	**337**	*e*P	**P**	**23 34 34.0**	**-0.1**
	19nm,0.8s,mb4.6						
KOLN	**Koldanda**	**22.19**	**334**	*e*P	**P**	**23 34 36.4**	**+0.2**
	14nm,0.8s,mb4.4						
SONM	**Songino Array**	**41.17**	**13**	P	**P**	**23 37 24.6**	**+0.4**
	0.5nm,0.8s,mb3.2,baz=205,slow=7.0,SNR=4.3						
ZAL	**Zalesovo**	**46.57**	**352**	P	**P**	**23 38 07.7**	**+0.1**
	2.3nm,1.0s,mb4.1,baz=294,slow=8.4,SNR=8.3						
WRA	**Warramunga Arr**	**48.22**	**126**	P	**P**	**23 38 21.3**	**+0.2**
	0.4nm,0.5s,mb3.7,baz=304,slow=8.5,SNR=6.8						
HFS	**Hagfors**	**78.49**	**330**	P	**P**	**23 41 39.6**	**-0.8**
	1.9nm,0.8s,mb4.1,baz=59,slow=8.4,SNR=4.5						
NOA	**NORSAR Array B**	**79.77**	**331**	P	**P**	**23 41 47.1**	**-0.2**
	1.3nm,0.8s,mb3.9,baz=113,slow=4.9,SNR=4.0						

*IDC **26** 23:34:55.2±0.9, 7.89N×94.16E, mb4.0/11, mb1 4.2/12, mb1mx4.1/19, mbtmp4.0/12, ML4.1/1, Error ellipse: s-maj=28.5km s-min=24.3km az=60.0*
*NEIC **26** 23:35:00.8±2.6, 7.91N×94.22E, h38km±21km, mb4.4/4, Error ellipse: s-maj=21.0km s-min=13.3km az=57.0*

ISC 26 23:34:57.9±7.6, 7.9N±0.2×94.3E±0.2, h29km±52km, n26, σ0°67/24, mb4.3/22, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.41**	**23**	Pn	**P**	**23 37 41.9**	**-0.3**
	0.4nm,0.3s,baz=213,slow=14,SNR=14						
JIRN	**Jiri**	**21.08**	**340**	*e*P	**P**	**23 39 41.3**	**-1.0**
	13nm,0.6s,mb4.4						
PKI	**Pulchoki**	**21.28**	**338**	*e*P	**P**	**23 39 45.6**	**+1.2**
	14nm,0.6s,mb4.5						
DMN	**Daman**	**21.43**	**337**	*e*P	**P**	**23 39 46.0**	**+0.1**
	22nm,0.6s,mb4.6						
KKN	**Kakani**	**21.53**	**338**	*e*P	**P**	**23 39 47.0**	**+0.2**
	13nm,0.7s,mb4.5						
LSA	**Lhasa**	**21.87**	**353**	*e*P	**P**	**23 39 50.5**	**+0.2**
	8.4nm,0.6s,mb4.3						
GKN	**Gorkha**	**21.97**	**337**	*e*P	**P**	**23 39 51.1**	**-0.1**
	28nm,0.7s,mb4.8						
KOLN	**Koldanda**	**22.19**	**334**	*e*P	**P**	**23 39 53.6**	**+0.2**
	26nm,0.8s,mb4.7						
SONM	**Songino Array**	**41.09**	**12**	P	**P**	**23 42 41.5**	**+0.8**
	0.7nm,0.9s,mb3.3,baz=193,slow=6.3,SNR=4.6						
SONM				PcP	PcP	23 44 41.7	+1.1
	0.3nm,0.5s,baz=194,slow=5.0,SNR=5.9						
KURK	**Kurchatov**	**44.61**	**346**	*e*P	**P**	**23 43 09.2**	**-0.1**
	1.2nm,0.5s,mb4.0						
ZAL	**Zalesovo**	**46.53**	**352**	P	**P**	**23 43 24.9**	**+0.4**
	1.4nm,0.5s,mb4.2,baz=315,slow=5.1,SNR=7.7						
WRA	**Warramunga Arr**	**48.16**	**126**	P	**P**	**23 43 37.8**	**0.0**
	0.5nm,0.6s,mb3.7,baz=303,slow=9.1,SNR=4.8						
BVAR	**Borovoye Array**	**49.00**	**341**	P	**P**	**23 43 43.6**	**-0.2**
	0.7nm,0.8s,mb3.8,baz=135,slow=4.1,SNR=3.6						
RAYN	**Ar Rayn**	**49.21**	**294**	P	**P**	**23 43 46.5**	**+0.7**
	43nm,1.1s,mb5.4,SNR=12						
CHKZ	**Chkalovo**	**49.48**	**342**	*e*P	**P**	**23 43 47.0**	**-0.6**
	4.3nm,1.0s,mb4.4						
KMBO	**Kilima Mbogo**	**57.58**	**264**	P	**P**	**23 44 48.0**	**+0.2**
	2.7nm,0.7s,mb4.4,baz=66,slow=7.9,SNR=11						
BRTR	**Keskin Array B**	**62.52**	**311**	P	**P**	**23 45 18.9**	**-2.5**
	1.2nm,0.8s,mb4.1,baz=122,slow=7.3,SNR=5.1						
FINES	**FINESS Array B**	**72.75**	**332**	P	**P**	**23 46 24.6**	**-0.5**
	2.8nm,0.7s,mb4.3,baz=101,slow=9.7,SNR=6.1						
ARCES	**ARCESS Array B**	**75.28**	**340**	P	**P**	**23 46 40.0**	**+0.3**
	3.1nm,0.8s,mb4.3,baz=63,slow=2.7,SNR=4.0						
GERES	**GERESS Array B**	**77.90**	**318**	P	**P**	**23 46 54.5**	**-0.1**
	1.2nm,0.6s,mb4.0,baz=90,slow=5.3,SNR=5.4						
HFS	**Hagfors**	**78.50**	**330**	P	**P**	**23 46 57.5**	**-0.2**
	2.5nm,0.6s,mb4.4,baz=101,slow=7.6,SNR=12						
NB2	**NORSAR Subarra**	**79.77**	**331**	P	**P**	**23 47 04.8**	**+0.2**
	0.9nm,0.6s,mb3.9,baz=96,slow=5.3						
NOA	**NORSAR Array B**	**79.77**	**331**	P	**P**	**23 47 04.0**	**-0.6**
	1.7nm,0.8s,mb4.0,baz=93,slow=5.7,SNR=5.2						
LPG	**La Plagne**	**82.70**	**315**	*e*P	**P**	**23 47 21.2**	**+0.9**
	33nm,1.3s,mb4.9						
PDAR	**Pinedale Array**	**125.08**	**21**	PKP	PKPdf	23 53 57.5	-3.5
	0.5nm,1.0s,baz=270,slow=3.0,SNR=3.4						
PLCA	**Paso Flores**	**144.64**	**200**	PKP	PKPdf	23 54 34.0	-3.0
	2.1nm,0.8s,baz=155,slow=1.6,SNR=4.9						

*TIR **26** 23:38:22.5, 41.25N×20.51E, h8km, Ml2.3*
*CSEM **26** 23:38:23.2±0.1, 41.25N×20.51E, h5km, MD3.4, Error ellipse: s-maj=2.5km s-min=1.0km az=40.0*
*PDG **26** 23:38:26.4±0.2, 41.25N×20.20E, h6km±1km*
*NEIC **26** 23:38:26.4, 41.25N×20.20E, h6km, MD3.0(PDG), After PDG.*
*ATH **26** 23:38:37.9, 40.60N×21.16E, h10km, MD3.4/3*

ISC 26 23:38:24.1±0.3, 41.23N±0.03×20.50E±0.03, h8km, n31, σ1°41/49, 9C-1D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.25**	**117**	⇑*i*Pg	**Pg**	**23 38 29.1**	**-0.3**
OHR				*i* Sg	**Sg**	**23 38 33.7**	**+0.8**
TIR	**Tirane**	**0.49**	**284**	*e*Pg	**Pg**	**23 38 32.8**	**-1.3**
TIR				*i* Sg	**Sg**	**23 38 40.4**	**-0.3**
QSH	**Qafa e Shtames**	**0.54**	**303**	*i* Pg	**Pg**	**23 38 34.4**	**-0.5**
QSH				*i* Sg	**Sg**	**23 38 44.4**	**+2.3**
KBN	**Korca**	**0.64**	**160**	*i* Pg	**Pg**	**23 38 35.8**	**-1.2**
KBN				*i* Sg	**Sg**	**23 38 47.5**	**+1.9**
LACI	**Lac**	**0.72**	**305**	*i* Pg	**Pg**	**23 38 36.4**	**-2.2**
LACI				*i* Sg	**Sg**	**23 38 47.4**	**-0.9**
FNA	**Florina**	**0.80**	**124**	*e*P	**Pb**	**23 38 38.7**	**-1.1**
PUK	**Puka**	**0.93**	**331**	*i* Pg	**Pg**	**23 38 40.9**	**-1.9**
PUK				*i* Sg	**Sg**	**23 38 56.0**	**+0.7**
SKO	**Skopje**	**1.02**	**43**	⇓*i*Pg	**Pg**	**23 38 45.5**	**+0.9**
	comp=Z,0.1nm,0.4s						
SKO				*i* Sg	**Sg**	**23 38 56.6**	**-1.7**
SKO				Lg		23 38 59.0	
	comp=Z,0.2nm,0.6s						
BCI	**Bajram Curri**	**1.18**	**344**	*i* Pn	**Pn**	**23 38 45.5**	**-1.4**
BCI	**Bajram Curri**	**1.18**	**344**	*e*Pn	**Pn**	**23 38 45.5**	**-1.4**
ULC	**Ulcinj**	**1.19**	**308**	⇑*i*Pg	**Pg**	**23 38 45.0**	**-3.0**
ULC				*e*Sg	**Sg**	**23 39 01.0**	**-2.9**
KZN	**Kozani**	**1.33**	**133**	*e*PB	**Pb**	**23 38 48.6**	**-0.3**
PVY	**Plav**	**1.42**	**344**	⇑*i*Pg	**Pg**	**23 38 51.4**	**-1.1**
PVY				*e*Sg	**Sg**	**23 39 13.0**	**+1.5**
GRG	**Griva**	**1.46**	**100**	*e*P	**Pn**	**23 38 50.5**	**-0.4**
TTG	**Podgorica**	**1.52**	**

comp=Z,3.0nm,0.3s
CMAR Chiang Mai Arr 13.76 18 P **P 23 46 41.8 +0.2**
comp=Z,2.5nm,0.3s,baz=209,slow=14,SNR=33
CHG Chiang Mai 14.10 18 ⇓P **P 23 46 47.3 +1.3**
comp=Z,13nm,0.9s
VIS Vishakhapatnam 16.37 320 *eP* **P 23 47 14.8 -0.5**
VIS *e* 23 47 17.8
comp=Z,33nm,1.3s
VIS *eS* **S 23 50 00.6 -14**
IMP Imphal 19.33 359 *eP* **P 23 47 48.3 -2.9**
HYB Hyderabad 19.59 309 *eP* **P 23 47 53.0 -1.2**
HYB *eS* **S 23 51 30.0 +2.8**
HYB Hyderabad 19.59 309 *i* P **P 23 47 53.0 -1.2**
HYB *e* 23 51 19.5
HYB *eS* **S 23 51 29.5 +2.3**
SHL Shillong 20.24 353 *eP* **P 23 47 59.0 -2.0**
SHL *eS* **S 23 51 29.0 -11**
QIZ Qiongzhong 20.29 47 P **P 23 48 03.0 +1.4**
QIZ Qiongzhong 20.29 47 *eP* **P 23 48 02.5 +0.9**
comp=Z,36nm,0.9s
BLSP Bilaspur 20.47 326 *eP* **P 23 48 03.4 0.0**
BLSP *e* 23 48 07.7
comp=Z,56nm,0.9s
BLSP *e* **S 23 51 46.8 +2.0**
KMI Kunming 21.23 21 P **P 23 48 12.3 +1.2**
KMI *PP 23 48 25.0
KMI pmax pmax
comp=Z,52nm,0.9s,mb4.9
KMI Kunming 21.23 21 P **P 23 48 12.3 +1.2**
comp=Z,52nm,0.9s,mb4.9
KMI pP 23 48 25.0
KAD Karad 23.07 303 *e* 23 48 41.5
KAD *e* 23 48 44.9
comp=Z,17nm,1.0s
KAD *eS* **S 23 52 37.1 +4.2**
JIRN Jiri 23.52 342 *eP* **P 23 48 33.3 -0.4**
comp=Z,124nm,0.8s,mb5.4
PKI Pulchoki 23.69 340 *eP* **P 23 48 35.0 -0.4**
comp=Z,37nm,0.6s,mb5.0
DMN Daman 23.83 339 *eP* **P 23 48 36.5 -0.3**
comp=Z,83nm,1.0s,mb5.1
KKN Kakani 23.94 340 *eP* **P 23 48 37.5 -0.3**
comp=Z,85nm,0.8s,mb5.2
BHPL Bhopal 24.17 319 *eP* **P 23 48 41.7 +1.6**
BHPL *e* 23 48 42.8
comp=Z,22nm,0.5s
GKN Gorkha 24.36 339 *eP* **P 23 48 42.2 +0.3**
comp=Z,115nm,0.6s,mb5.5
LSA Lhasa 24.41 353 P **P 23 48 42.8 +0.4**
LSA AMB AMB
comp=Z,50nm,1.0s,mb4.9
LSA Lhasa 24.41 353 *eP* **P 23 48 42.2 -0.2**
LSA pmax pmax
comp=Z,73nm,0.8s,mb5.2
LSA Lhasa 24.41 353 *eP* **P 23 48 42.2 -0.2**
comp=Z,73nm,0.8s,mb5.2
KOLN Koldanda 24.54 336 *eP* **P 23 48 44.2 +0.5**
comp=Z,155nm,0.8s,mb5.6
TGY Tagaytay City 27.55 70 P **P 23 49 13.3 +1.5**
TGY pmax pmax
comp=Z,106nm,0.4s
TGY Tagaytay City 27.55 70 P **P 23 49 13.3 +1.5**
comp=Z,106nm,0.4s,mb5.9,baz=71,slow=20,SNR=5.2
ENH Enshi 28.58 28 *eP* **P 23 49 19.9 -1.0**
comp=Z,34nm,0.6s,mb5.3
WHN Wuhan 31.32 35 P **P 23 49 45.5 +0.2**
XAN Xi'an 31.57 23 P **P 23 49 46.3 -1.1**
XAN AP pP 23 49 57.5 -2.7
XAN AMB AMB
comp=Z,95nm,0.8s,mb5.7
LZH Lanzhou 31.80 15 *eP* **P 23 49 48.0 -1.4**
LZH AP pP 23 50 01.0 -1.2
LZH AMB AMB
comp=Z,40nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,130nm,4.6s
LZH Lanzhou 31.80 15 *eP* **P 23 49 48.1 -1.3**
comp=Z,40nm,1.0s,mb5.2
LZH pP pP 23 50 01.0 -1.2
LZH sP sP 23 50 05.1 -3.2
NJ2 Nanjing 35.06 38 *eP* **P 23 50 15.0 -2.6**
NJ2 AMB AMB
comp=Z,130nm,0.8s,mb5.9
SSE Sheshan 35.90 41 P **P 23 50 22.3 -2.4**
SSE AMB AMB
comp=Z,34nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,454nm,9.5s
SSE Sheshan 35.90 41 P **P 23 50 22.2 -2.5**
comp=Z,34nm,0.7s,mb5.4
TIA Tai'an 37.14 31 *eP* **P 23 50 35.5 +0.4**
TIA AMB AMB
comp=Z,33nm,0.9s,mb5.2
FITZ Fitzroy Crossi 38.65 128⇑*iP* **P 23 50 47.8 0.0**
comp=Z,28nm,0.6s,mb5.2
JOW Kunigami 38.72 53 P **P 23 50 49.1 +0.7**
comp=Z,41nm,0.6s,mb5.3,baz=243,slow=7.1,SNR=10
JOW LR LR 00 07 15.7
comp=Z,210nm,20.7s,MS3.9,baz=62,slow=37
WMQ Urumqi 38.77 352 P **P 23 50 49.0 +0.5**
BJT Baijiatuau 39.70 26 *eP* **P 23 50 57.8 +1.4**
BJT pmax pmax
comp=Z,34nm,0.7s
BJT Baijiatuau 39.70 26 *eP* **P 23 50 57.8 +1.5**
comp=Z,34nm,0.7s,mb5.2
BJI Beijing 39.72 26 *eP* **P 23 50 58.0 +1.5**
BJI *SP sP 23 51 10.0 -5.5
BJI pmax pmax
comp=Z,44nm,0.9s,mb5.2
BJI MLR MLR
comp=Z,340nm,18.6s,MS4.2
BJI Beijing 39.72 26 *eP* **P 23 50 58.0 +1.5**
comp=Z,44nm,0.9s,mb5.2
BJI sP sP 23 51 10.0 -5.5
BJI S tx 23 54 47.1
BJI LR LR
comp=Z,340nm,18.6s,MS4.2
UCH Uchtor 40.75 337 P **P 23 51 06.4 +1.3**
SNR=13
TKM2 Tokmak 2 40.95 339 P **P 23 51 07.3 +0.7**
SNR=9.8
KBK Karagaybulak 40.96 338 P **P 23 51 07.8 +1.0**
SNR=27
AML Almayashu 40.99 336 P **P 23 51 08.2 +1.1**
SNR=18
AAK Ala-Archa 41.11 338 *i* P **P 23 51 08.1 +0.1**
AAK pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
AAK Ala-Archa 41.11 338 *eP* **P 23 51 08.4 +0.4**
comp=Z,9.2nm,0.8s,mb4.5
EKS2 Erkin-Say 41.41 337 P **P 23 51 11.7 +1.3**
SNR=8.3
USP Ospenovka 41.65 338 P **P 23 51 12.9 +0.4**
SNR=12
KAKA Kakadu 41.85 116 *eP* **P 23 51 13.7 -0.8**
comp=Z,17nm,0.6s,mb4.9
MKAR Makanchi Array 42.59 348 *i* P **P 23 51 20.4 +0.3**
MKAR pmax pmax
comp=Z,32nm,0.6s
SONM Songino Array 43.56 12 P **P 23 51 27.9 -0.2**
comp=Z,28nm,0.9s,mb5.0,baz=193,slow=7.9,SNR=160
SONM PcP PcP 23 53 15.1 -0.5
comp=Z,4.0nm,0.6s,baz=197,slow=4.0,SNR=9.2
SONM pPcP 23 53 30.2
comp=Z,2.6nm,0.7s,baz=188,slow=3.8,SNR=4.4
SONM ScP 23 57 03.8
comp=Z,1.3nm,0.9s,baz=200,slow=5.3,SNR=4.8
ULN Ulaanbaatar 43.73 12 *eP* **P 23 51 28.2 -1.2**
ULN pmax pmax
comp=Z,16nm,0.9s,mb4.8
ULN Ulaanbaatar 43.73 12 *eP* **P 23 51 28.2 -1.1**
comp=Z,16nm,0.9s,mb4.8
KS15 Wonju Array Si 44.19 39 *eP* **P 23 51 34.1 +0.8**
ZAK Zakamensk 45.49 8⇓*iP* **P 23 51 42.2 -1.3**
ZAK *e* 23 53 22.1
MOY Mondy 46.49 6 *eP* **P 23 51 51.3 0.0**
WRA Warramunga Arr 46.63 124 P **P 23 51 53.3 +0.4**
WRA pmax pmax
comp=Z,36nm,0.7s
WRA Warramunga Arr 46.63 124 P **P 23 51 53.3 +0.4**
comp=Z,36nm,0.7s,mb5.4,baz=300,slow=9.8,SNR=296
WRAB Tennant Creek 46.64 124 *eP* **P 23 51 53.1 +0.2**
WRAB pmax pmax
comp=Z,70nm,0.8s,mb5.6
WRAB Tennant Creek 46.64 124 *eP* **P 23 51 53.1 +0.2**
comp=Z,70nm,0.8s,mb5.6
WB2 Warramunga Arr 46.64 124⇑*iP* **P 23 51 53.5 +0.6**
TLY Talaya 46.81 8 *eP* **P 23 51 54.2 +0.3**
TLY pmax pmax
comp=Z,12nm,0.8s,mb4.9
TLY Talaya 46.81 8 *eP* **P 23 51 54.0 +0.1**
comp=Z,11nm,0.8s,mb4.8
KURK Kurchatov 47.10 346*c iP* **P 23 51 56.5 +0.3**
KURK pmax pmax
comp=Z,13nm,0.7s,mb5.0
KURK Kurchatov 47.10 346 *eP* **P 23 51 56.5 +0.4**
comp=Z,23nm,0.6s,mb5.3
ASPA Alice Springs 48.14 128⇑*iP* **P 23 52 04.9 +0.3**
ASAR Alice Springs 48.14 128 P **P 23 52 05.0 +0.3**
comp=Z,15nm,0.6s,mb5.2,baz=299,slow=7.6,SNR=136
ASAR PcP PcP 23 53 31.9 0.0
comp=Z,3.0nm,0.6s,baz=310,slow=3.1,SNR=4.3
ASAR pPcP 23 53 46.0
comp=Z,2.5nm,0.7s,baz=316,slow=4.4,SNR=4.2
HIA Hailar 48.74 22 *eP* **P 23 52 08.2 -0.8**
HIA pmax pmax
comp=Z,18nm,0.8s
HIA Hailar 48.74 22 *eP* **P 23 52 08.2 -0.8**
comp=Z,18nm,0.8s,mb5.1
ZAL Zalesovo 49.06 353 P **P 23 52 11.3 -0.1**
ZAL pmax pmax
comp=Z,24nm,0.4s
ZAL Zalesovo 49.06 353 P **P 23 52 11.3 -0.1**
comp=Z,24nm,0.4s,mb5.6,baz=300,slow=5.6,SNR=94
ZAL Zalesovo 49.06 353 P **P 23 52 11.3 -0.1**
MDJ Mudanjiang 49.77 33 *eP* **P 23 52 16.5 -0.4**
comp=Z,29nm,1.4s,mb5.1
NVS Novosibirsk 50.16 352 *eP* **P 23 52 19.6 -0.2**
NVS *e* pP 23 52 35.5 +2.5
NVS *eS* **S 23 59 21.4 -5.2**
NVS pmax pmax
comp=N,32nm,0.5s
NVS pmax pmax
comp=E,38nm,0.5s
NVS pmax pmax
comp=Z,38nm,0.5s,mb5.7
NVS smax
comp=N,17nm,1.3s
NVS smax
comp=E,7.0nm,0.7s
BVAR Borovoye Array 51.44 342 P **P 23 52 28.6 -1.0**
comp=E,18nm,0.8s,mb5.1,baz=143,slow=7.4,SNR=60
BVAR pP pP 23 52 41.2 -1.7
comp=E,16nm,0.7s,baz=146,slow=10,SNR=7.0
BRVK Borovoye 51.51 342 *eP* **P 23 52 29.1 -0.9**
BRVK pmax pmax
comp=Z,14nm,0.6s,mb5.1
BRVK Borovoye 51.51 342 *eP* **P 23 52 29.1 -0.9**
comp=Z,14nm,0.6s,mb5.1
CHKZ Chkalovo 51.93 342 *eP* **P 23 52 32.8 -0.4**
CHKZ pmax pmax
comp=Z,48nm,0.8s,mb5.5
CHKZ Chkalovo 51.93 342 *eP* **P 23 52 32.8 -0.4**
comp=Z,48nm,0.8s,mb5.5
KLR Kul'dur 53.93 29 *eP* **P 23 52 44.7 -3.4**
BOD Bodaibo 54.53 13⇓*iP* **P 23 52 51.4 -1.0**
PMG Port Moresby 54.59 105 P **P 23 52 53.1 -0.3**
PMG pmax pmax
comp=Z,8.0nm,0.5s
PMG Port Moresby 54.59 105 P **P 23 52 53.1 -0.3**
comp=Z,7.7nm,0.5s,mb5.0,baz=97,slow=4.7,SNR=5.0
GNI Garni 56.38 315 *i* P **P 23 53 03.9 -2.1**
GNI pmax pmax
comp=Z,8.0nm,1.3s
GNI Garni 56.38 315 P **P 23 53 05.4 -0.5**
comp=Z,4.9nm,0.8s,mb4.6,baz=91,slow=5.3,SNR=8.1
CTA Charters Tower 56.89 118 P **P 23 53 09.6 -0.3**
CTA pmax pmax
comp=Z,8.0nm,0.8s
CTA Charters Tower 56.89 118 P **P 23 53 09.6 -0.3**
comp=Z,8.3nm,0.8s,mb4.8,baz=276,slow=5.0,SNR=5.8
CTA Charters Tower 56.89 118 P **P 23 53 09.6 -0.3**
TI2 Plekhanov 57.04 317 *eP* **P 23 53 10.0 -0.7**
KMBO Kilima Mbogo 57.43 265 P **P 23 53 14.4 +0.6**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 57.43 265 P **P 23 53 14.4 +0.6**
comp=Z,1.5nm,0.8s,mb4.1,baz=47,slow=9.4,SNR=4.6
SVE Sverdlovsk 57.83 339 *eP* **P 23 53 15.3 -0.7**
STKA Stephens Creek 58.21 133 *eP* **P 23 53 18.9 -0.1**
comp=Z,9.3nm,0.7s,mb4.9
STKA Stephens Creek 58.21 133 P **P 23 53 18.6 -0.4**
comp=Z,12nm,0.7s,mb5.0,baz=300,slow=8.0,SNR=19
ARU Arti 58.30 338⇑*iP* **P 23 53 11.5 -7.8**
ARU *eS* **S 00 01 12.1 -4.0**
ARU *eSS* SS 00 05 03.8 -6.3
ARU pmax pmax
comp=Z,17nm,0.8s,mb5.1
YSS Yuzh-Sakhalins 58.62 37 *eP* **P 23 53 21.0 -0.7**
YSS *e* pP 23 53 33.9 -1.4
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
KIV Kislovodsk 59.35 319 *eP* **P 23 53 25.3 -1.5**
KIV pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KIV Kislovodsk 59.35 319 *eP* **P 23 53 25.3 -1.4**
comp=Z,9.9nm,0.9s,mb4.8
ASF Jabal al Asfar 59.81 304 P **P 23 53 30.3 +0.2**
comp=Z,1.5nm,0.6s,mb4.2,baz=319,slow=7.6,SNR=4.3
EIL Elat 60.91 301 P **P 23 53 38.0 +0.4**
comp=Z,5.1nm,0.7s,mb4.7,baz=337,slow=4.5,SNR=7.6
SOC Sochi 61.18 317 *eP* **P 23 53 38.2 -1.1**
SOC *e* 23 54 21.1
SOC *e* 23 55 49.9
SOC pmax pmax
comp=Z,16nm,0.7s,mb5.3
SOC pmax pmax
comp=N,12nm,1.0s
SOC pmax pmax
comp=E,6.0nm,0.8s
YAK Yakutsk 62.30 18 *i* P **P 23 53 45.0 -1.5**
YAK pmax pmax
comp=Z,23nm,0.6s,mb5.5
ANN Anapa 63.15 318 *eP* **P 23 53 45.6 -6.8**
ANN pmax pmax
comp=Z,47nm,0.9s,mb5.6
BRTR Keskin Array B 64.27 312 P **P 23 53 58.4 -1.4**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
BRTR pmax pmax
comp=Z,1.0nm,1.0s
BRTR Keskin Array B 64.27 312 P **P 23 53 58.4 -1.4**
comp=Z,4.8nm,0.7s,mb4.7,baz=129,slow=7.7,SNR=24
BRTR PKKPbc 00 14 48.8
comp=Z,1.3nm,1.0s,baz=18,slow=3.9,SNR=3.9
OBN Obninsk 67.64 328⇑*iP* **P 23 54 17.2 -3.8**
OBN *e* pP 23 54 30.7 -4.2
OBN *e* 23 54 50.0
OBN pmax pmax
comp=Z,53nm,1.4s,mb5.4
OBN MLR MLR
comp=Z,300nm,17.0s,MS4.6
MA2 Magadan 68.88 27 *i* P **P 23 54 28.0 -0.6**
MA2 pmax pmax
comp=Z,25nm,0.9s,mb5.1
MA2 Magadan 68.88 27 *eP* **P 23 54 28.2 -0.5**
comp=Z,24nm,0.8s,mb5.2
TIXI Tiksi 69.64 11*c iP* **P 23 54 31.8 -1.3**
TIXI pmax pmax
comp=Z,29nm,0.6s,mb5.4
IDI Anoyia 70.21 305 P **P 23 54 36.9 -0.3**
comp=Z,7.1nm,0.6s,mb4.8,baz=85,slow=7.2,SNR=6.2
AKASG Malin Array Be 70.28 322 P **P 23 54 35.0 -2.3**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKASG Malin Array Be 70.28 322 P **P 23 54 35.0 -2.3**
comp=Z,6.1nm,0.6s,mb4.7,baz=88,slow=5.1,SNR=21
VRI Vrincioaia 70.69 317⇑⇑P **P 23 54 40.4 +0.5**
MLR Muntele Rosu 71.14 316⇑⇑P **P 23 54 41.7 -1.0**
BURAR Bucovina Array 72.08 318⇑⇑P **P 23 54 48.7 +0.5**
JOF Joensuu 73.22 335 *ep* **P 23 54 53.1 -1.5**
KWP Kalwaria 74.11 320 *eP* **P 23 55 00.0 -0.1**
KWP Kalwaria 74.11 320 *eP* **P 23 54 60.0 -0.1**
SUW Suwalki 74.69 325 *eP* **P 23 55 02.6 -0.7**
FINES FINESS Array B 75.05 332 P **P 23 55 04.7 -0.5**
FINES pmax pmax
comp=Z,11nm,0.8s
FINES FINESS Array B 75.05 332 P **P 23 55 04.7 -0.5**
comp=Z,11nm,0.8s,mb4.8,baz=100,slow=6.6,SNR=32
KAF Kangasniemi 75.14 333 *ep* **P 23 55 04.1 -1.6**
comp=Z,5.6nm,0.6s,mb4.7,baz=105,slow=5.5
KAF Kangasniemi 75.14 333 *eP* **P 23 55 04.1 -1.6**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
NIE Niedzica 75.61 320 *eP* **P 23 55 09.9 +1.2**
PSZ Piszkesteto 75.67 318 P **P 23 55 08.8 -0.2**
OJC Ojcow 76.06 320 *eP* **P 23 55 11.6 +0.4**
OKC Ostrava-Krasne 77.06 320 *eP* **P 23 55 16.8 -0.1**
OKC *ep*P pP 23 55 31.7 +0.7
MORC Moravsky Berou 77.44 320 *eP* **P 23 55 19.4 +0.4**
MORC pmax pmax
comp=Z,35nm,1.5s,mb5.1
MORC Moravsky Berou 77.44 320 *eP* **P 23 55 19.4 +0.3**
comp=Z,35nm,1.5s,mb5.1
ARCES ARCESS Array B 77.71 340 P **P 23 55 19.5 -0.6**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 77.71 340 P **P 23 55 19.5 -0.6**
comp=Z,5.6nm,0.9s,mb4.5,baz=95,slow=6.3,SNR=11
GKP Gorka Klasztor 78.05 323 *eP* **P 23 55 22.2 -0.1**
DPC Dobruska-Polom 78.29 320 *eP* **P 23 55 24.7 +1.1**
DPC *ep*P pP 23 55 37.9 +0.2
BILL Bilibino 78.33 21 *i* P **P 23 55 23.1 -0.4**
BILL pmax pmax
comp=Z,13nm,1.0s,mb4.8
BILL Bilibino 78.33 21 *eP* **P 23 55 23.0 -0.6**
comp=Z,9.1nm,0.7s,mb4.8
KSP Ksiaz 78.35 321 *eP* **P 23 55 24.7 +0.7**
UPC Upice 78.50 320 *eP* **P 23 55 25.8 +1.0**
PRU Pruhonice 79.39 320 *eP* **P 23 55 30.3 +0.6**
PVCC Panska Ves 79.42 320 *eP* **P 23 55 30.7 +0.9**
PVCC *ep*P pP 23 55 47.4 +3.4
BSD Bornholm Skovb 79.61 325⇑*iP* **P 23 55 30.2 -0.6**
BSD pmax pmax
comp=Z,18nm,0.6s,mb5.2
BSD Bornholm Skovb 79.61 325⇑*iP* **P 23 55 30.2 -0.6**
comp=Z,18nm,0.6s,mb5.2
BRG Berggiesshubel 79.84 321⇑*iP* **P 23 55 32.6 +0.5**
BRG *e* pP 23 55 46.5 +0.2
BRG pmax pmax
comp=Z,11nm,0.8s,mb4.8
BRG Berggiesshubel 79.84 321⇑*iP* **P 23 55 32.6 +0.5**
comp=Z,11nm,0.8s,mb4.8
BRG *e* pP 23 55 46.5 +0.2
GERES GERESS Array B 79.86 319 P **P 23 55 32.6 +0.3**
GERES *PP pP 23 55 46.1 -0.3
GERES pmax pmax
comp=Z,13nm,0.7s
GERES pmax pmax
comp=Z,7.0nm,0.6s
GERES GERESS Array B 79.86 319 P **P 23 55 32.6 +0.3**
comp=Z,13nm,0.7s,mb4.9,baz=90,slow=4.0,SNR=38
GERES pP pP 23 55 46.1 -0.3
comp=Z,6.6nm,0.6s,baz=90,slow=6.7,SNR=5.1
KHC Kasperske Hory 79.96 319 *eP* **P 23 55 33.2 +0.4**
KHC *ep*P pP 23 55 49.6 +2.6
KBA Koelnbreinsper 80.00 317⇓*iP* **P 23 55 33.4 +0.3**
comp=Z,16nm,1.5s,mb4.7
KBA Koelnbreinsper 80.00 317⇓*iP* **P 23 55 33.4 +0.3**
KBA pmax pmax
comp=Z,16nm,1.5s,mb4.7
CLL Collm 80.46 321 ⇑P **P 23 55 35.0 -0.4**
comp=Z,logA/T=1.0,mb4.7
HFS Hagfors 80.75 330 P **P 23 55 36.5 -0.2**
HFS pmax pmax
comp=Z,3.0nm,0.4s
HFS Hagfors 80.75 330 P **P 23 55 36.5 -0.2**
comp=Z,3.4nm,0.4s,mb4.6,baz=117,slow=6.6,SNR=23
NKC Novy Kostel 80.75 320 *eP* **P 23 55 37.7 +0.7**
WTTA Wattenberg 81.18 317⇑*iP* **P 23 55 39.3 0.0**
comp=Z,15nm,0.8s,mb5.0
WTTA Wattenberg 81.18 317⇑*iP* **P 23 55 39.3 0.0**
WTTA pmax pmax
comp=Z,15nm,0.8s,mb5.0
WATA Walderalm 81.22 317⇑*iP* **P 23 55 39.3 -0.2**
comp=Z,5.8nm,0.9s,mb4.5
WATA Walderalm 81.22 317⇑*iP* **P 23 55 39.3 -0.2**
WATA pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MOX Moxa 81.31 320 *eP* **P 23 55 40.0 +0.1**
SQTA Sankt Quirin 81.47 317⇑*iP* **P 23 55 40.9 +0.1**
comp=Z,4.9nm,0.7s,mb4.5
SQTA Sankt Quirin 81.47 317⇑*iP* **P 23 55 40.9 +0.1**
SQTA pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GRA1 Grafenberg Arr 81.53 319 *eP* **P 23 55 42.1 +1.1**
comp=Z,11nm,1.0s,mb4.7
GRF Grafenberg Arr 81.53 319 *eP* **P 23 55 42.1 +1.1**
GRF pmax pmax
comp=Z,11nm,1.0s,mb4.7
GRF Grafenberg Arr 81.53 319 *eP* **P 23 55 42.1 +1.1**
GRF pmax pmax
comp=Z,11nm,1.0s,mb4.7
GRF Grafenberg Arr 81.53 319 *eP* **P 23 55 42.1 +1.1**
comp=Z,11nm,1.0s,mb4.7
MOTA Moosalm 81.54 317⇑*iP* **P 23 55 41.0 -0.2**
comp=Z,4.4nm,0.9s,mb4.4
MOTA Moosalm 81.54 317⇑*iP* **P 23 55 41.0 -0.2**
MOTA pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
NB2 NORSAR Subarra 82.04 331 P **P 23 55 42.7 -0.7**
comp=Z,2.8nm,0.8s,mb4.2,baz=93,slow=5.6
NB2 NORSAR Subarra 82.04 331 P **P 23 55 42.7 -0.7**
NB2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
NOA NORSAR Array B 82.04 331 P **P 23 55 43.3 -0.1**
NOA *PP pP 23 55 55.9 -1.8
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 82.04 331 P **P 23 55 43.2 -0.2**
comp=Z,2.2nm,0.8s,mb4.1,baz=94,slow=5.3,SNR=6.3
NOA pP pP 23 55 55.9 -1.8
comp=Z,1.8nm,0.8s,baz=94,slow=5.5,SNR=3.3
DAVOX Davos 82.37 316 P **P 23 55 46.5 +1.0**
comp=Z,18nm,0.6s,mb5.2,baz=115,slow=5.3,SNR=34
DAVA Damuels 82.37 317⇑*iP* **P 23 55 46.1 +0.6**
comp=Z,7.8nm,0.9s,mb4.6
LPG La Plagne 84.56 315⇑*iP* **P 23 55 57.3 +0.7**
comp=Z,4.3nm,1.1s,mb5.2
LPG La Plagne 84.56 315⇑*iP* **P 23 55 57.3 +0.7**
LPG pmax pmax
comp=Z,21nm,1.1s,mb5.2
URZ Urewera 87.58 129 P **P 23 56 10.8 -0.8**
comp=Z,6.0nm,0.5s,mb5.0,baz=308,slow=5.3,SNR=4.1
TNA Tin City 88.35 24 *eP* **P 23 56 15.2 +0.6**
EKA Eskdalemuir Ar 89.93 325 P **P 23 56 23.3 +1.0**
EKA *PP pP 23 56 36.5 -0.2
EKA pmax pmax
comp=Z,6.0nm,0.7s
EKA pmax pmax
comp=Z,4.0nm,0.7s
EKA Eskdalemuir Ar 89.93 325 P **P 23 56 23.2 +1.0**
comp=Z,6.2nm,0.7s,mb5.1,baz=98,slow=5.8,SNR=20
EKA pP pP 23 56 36.5 -0.2
comp=Z,3.7nm,0.7s,baz=108,slow=5.3,SNR=5.1
VNDA Vanda 90.42 168 P **P 23 56 25.4 +1.2**
VNDA pmax pmax
comp=Z,1.0nm,0.9s
VNDA Vanda 90.42 168 P **P 23 56 25.4 +1.2**
comp=Z,1.3nm,0.8s,mb4.3,baz=314,slow=6.2,SNR=4.3
ESDC Sonseca Array 93.02 310 P **P 23 56 37.7 +0.7**
comp=Z,0.8nm,0.6s,mb4.3,baz=53,slow=4.0,SNR=7.1
IMA Indian Mountai 93.85 22 *eP* **P 23 56 41.6 +1.5**
DBIC Dimbokro 98.52 278 P **P 23 57 03.2 +0.6**
DBIC pmax pmax
comp=Z,2.0nm,1.0s
DBIC Dimbokro 98.52 278 P **P 23 57 03.2 +0.6**
comp=Z,2.2nm,0.9s,mb4.7,baz=138,slow=15,SNR=2.4
INK Inuvik 99.33 16 P **P 23 57 05.1 +0.1**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK pmax pmax
comp=Z,2.0nm,1.0s
INK Inuvik 99.33 16 P **P 23 57 05.1 +0.1**
comp=Z,1.1nm,0.5s,mb4.7,baz=318,slow=3.9,SNR=7.0
INK PKiKP 00 01 33.9
comp=Z,1.8nm,1.0s,baz=252,slow=3.2,SNR=3.5
INK Inuvik 99.33 16 P **P 23 57 05.1 +0.1**
YKA Yellowknife Ar 108.80 14 Pdiff Pdif 23 57 48.4 +1.4
comp=Z,0.2nm,0.8s,baz=328,slow=4.1,SNR=6.0
YKA PKiKP 00 01 52.8
comp=Z,0.2nm,0.6s,baz=339,slow=2.2,SNR=4.6
YKA PP PP 00 02 12.3 -10
comp=Z,1.0nm,0.7s,baz=334,slow=7.7,SNR=12
YKA PKKP PKKP 00 13 14.0 +7.3
comp=Z,0.3nm,0.6s,baz=145,slow=3.8,SNR=6.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**108.80**	**14**	Pdif	Pdif	23 57 48.4	+1.4
YKA				PKPdf		00 01 52.8	
YKA				PP	PP	00 02 12.3	-10
YKA				PKKP	PKKP	00 13 14.0	+7.3
SCHQ	**Schefferville**	**118.03**	**348**	PKP	PKPdf	00 02 10.3	+1.7
	comp=Z,0.8nm,0.4s,baz=150,slow=3.0,SNR=5.6						
NVAR	**Mina Array Bea**	**126.93**	**32**	PKP	PKPdf	00 02 29.2	+2.8
	comp=Z,1.5nm,0.5s,baz=358,slow=1.6,SNR=13						
NVAR				pPKP		00 02 42.8	
	comp=Z,1.0nm,0.6s,baz=297,slow=2.0,SNR=10.0						
NVAR	**Mina Array Bea**	**126.93**	**32**	PKP	PKPdf	00 02 29.2	+2.8
NVAR				pPKP		00 02 42.8	
PDAR	**Pinedale Array**	**127.41**	**22**	PKP	PKPdf	00 02 28.9	+1.8
	comp=Z,2.3nm,0.8s,baz=136,slow=0.7,SNR=13						
PDAR				pPKP		00 02 43.2	
	comp=Z,1.9nm,0.8s,baz=105,slow=1.2,SNR=6.6						
TXAR	**Lajitas Array**	**141.40**	**26**	PKhKP		00 02 49.2	
	comp=Z,0.9nm,0.6s,baz=262,slow=1.8,SNR=7.1						
TXAR				PKP	PKPdf	00 02 54.1	+0.5
	comp=Z,1.5nm,0.5s,baz=324,slow=0.8,SNR=12						
TXAR				PKiKP		00 02 58.5	
	comp=Z,1.5nm,0.5s,baz=223,slow=0.7,SNR=13						
TXAR				PP	PP	00 05 57.8	-2.5
	comp=Z,0.5nm,0.7s,baz=49,slow=29,SNR=4.7						
LPAZ	**La Paz**	**159.70**	**236**	PKP	PKPdf	00 02 42.6	-39
	comp=Z,1.7nm,0.6s,baz=342,slow=1.2,SNR=5.8						

*NIED **26** 23:43:00, 36.70N×141.50E, h32km, Mw3.8 Best double couple: M0:5.46×10^14 NP1:φ=137°, δ=76°, λ=-26°. NP2: φ=234°, δ=65°, λ=-164°.*
*NEIC **26** 23:43:42.8±1.4, 37.12N×141.47E, h10km, Error ellipse: s-maj=45.5km s-min=11.9km az=157.0*
NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Tochigi Prefectures.
*JMA **26** 23:43:44.2±0.1, 36.68N×141.43E, h48km±2km, M3.9*
JMA Felt II J1.
*IDC **26** 23:43:47.5±8.3, 36.56N×141.34E, h70km±95km, mb3.4/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.7/4, ML4.4/1, MS4.1/1, Ms1 4.3/1, ms1mx3.0/28, Error ellipse: s-maj=60.3km s-min=35.3km az=19.0*
ISC 26 23:43:43.8±1.3, 36.66N±0.05×141.5E±0.1, h45km±13km, n14, σ0=75/20, mb3.6/4, MS4.1/1, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.69**	**310**	⇓P	**P**	**23 43 57.2**	**0.0**
ONAJ				S	**S**	**23 44 06.8**	**-0.3**
JHO	**Hitachi**	**0.72**	**266**	⇓P	**P**	**23 43 57.6**	**0.0**
JHO				S	**S**	**23 44 07.8**	**0.0**
JFK	**Kawauchi**	**0.85**	**327**	P	**P**	**23 43 59.0**	**-0.4**
JFK				S	**S**	**23 44 10.4**	**-0.5**
JYT	**Yasato**	**1.11**	**247**	P	**P**	**23 44 03.3**	**+0.2**
JYT				S	**S**	**23 44 16.7**	**-0.8**
MAJO	**Matsushiro**	**2.62**	**268**	*e*P	**P**	**23 44 26.1**	**+1.4**
MAT	**Matsushiro**	**2.62**	**268**	*e*P	**P**	**23 44 26.0**	**+1.3**
MAT				*e*S	**S**	**23 45 00.0**	**+4.6**
MAT	**Matsushiro**	**2.62**	**268**	P	**P**	**23 44 26.1**	**+1.4**
MAT				*e*S	**S**	**23 44 55.9**	**+0.5**
JHJ	**Hachijo jima 2**	**3.79**	**202**	P	**P**	**23 44 42.1**	**+0.8**
	75nm,0.3s,baz=52,slow=19,SNR=1.8						
JHJ				S	**S**	**23 45 23.7**	**-1.4**
	92nm,0.3s,baz=232,slow=19,SNR=4.7						
SONM	**Songino Array**	**28.02**	**305**	P	**P**	**23 49 32.0**	**-0.6**
	0.5nm,0.5s,mb3.4,baz=95,slow=10,SNR=5.1						
CMAR	**Chiang Mai Arr**	**41.44**	**256**	LR	LR	00 07 46.3	
	comp=Z,264nm,19.5s,MS4.1,baz=19,slow=35						
YKA	**Yellowknife Ar**	**64.11**	**30**	P	**P**	**23 54 14.4**	**-0.6**
	0.3nm,0.6s,mb3.5,baz=302,slow=6.9,SNR=7.7						
YKA	**Yellowknife Ar**	**64.11**	**30**	P	**P**	**23 54 14.4**	**-0.7**
NOA	**NORSAR Array B**	**74.55**	**337**	P	**P**	**23 55 18.7**	**-0.3**
	0.8nm,0.7s,mb3.8,baz=39,slow=5.7,SNR=4.0						
NVAR	**Mina Array Bea**	**75.18**	**53**	P	**P**	**23 55 24.1**	**+0.9**
	0.7nm,0.7s,mb3.7,baz=292,slow=6.2,SNR=4.4						

*IDC **26** 23:50:54.6±1.3, 7.65N×93.87E, mb4.0/7, mb1 4.1/8, mb1mx3.9/19, mbtmp3.9/8, ML4.3/1, Error ellipse: s-maj=47.8km s-min=27.8km az=60.0*
ISC 26 23:50:58.2±1.1, 7.7N±0.1×94.1E±0.2, h33km, n18, σ0=69/17, mb4.1/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.65**	**23**	Pn	**P**	**23 53 44.6**	**-0.6**
	0.6nm,0.3s,baz=209,slow=15,SNR=5.5						
NANT	**Nan**	**12.73**	**30**	P	**P**	**23 53 55.0**	**-4.8**
JIRN	**Jiri**	**21.19**	**340**	*e*P	**P**	**23 55 44.0**	**+0.8**
	10nm,0.6s,mb4.3						
PKI	**Pulchoki**	**21.38**	**338**	*e*P	**P**	**23 55 45.8**	**+0.7**
	9.7nm,0.5s,mb4.4						
DMN	**Daman**	**21.53**	**338**	*e*P	**P**	**23 55 46.9**	**+0.3**
	18nm,0.8s,mb4.6						
KKN	**Kakani**	**21.63**	**338**	*e*P	**P**	**23 55 47.7**	**+0.1**
	16nm,1.0s,mb4.4						
GKN	**Gorkha**	**22.06**	**337**	*e*P	**P**	**23 55 51.1**	**-0.8**
	14nm,0.7s,mb4.5						
KOLN	**Koldanda**	**22.27**	**335**	*e*P	**P**	**23 55 54.2**	**+0.2**
	38nm,1.3s,mb4.7						
SONM	**Songino Array**	**41.31**	**13**	P	**P**	**23 58 43.5**	**+1.2**
	0.7nm,0.8s,mb3.4,baz=187,slow=7.6,SNR=2.6						
SONM				PcP	PcP	00 00 40.2	-0.9
	0.4nm,0.6s,baz=183,slow=3.8,SNR=4.3						
ZAL	**Zalesovo**	**46.68**	**352**	P	**P**	**23 59 25.7**	**+0.2**
	1.1nm,0.7s,mb3.9,baz=261,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**48.21**	**125**	P	**P**	**23 59 38.1**	**+0.1**
	0.5nm,0.6s,mb3.7,baz=305,slow=8.5,SNR=4.8						
BVAR	**Borovoye Array**	**49.11**	**341**	P	**P**	**23 59 42.9**	**-1.6**
	0.8nm,0.7s,mb3.8,baz=135,slow=6.1,SNR=3.5						
FINES	**FINESS Array B**	**72.82**	**332**	P	**P**	**00 02 24.6**	**-0.5**
	1.3nm,0.8s,mb3.9,baz=117,slow=6.2,SNR=4.0						
CLL	**Collm**	**78.45**	**321**	P	**P**	**00 02 45.8**	**-12**
HFS	**Hagfors**	**78.56**	**330**	P	**P**	**00 02 57.7**	**-0.1**
	1.8nm,0.6s,mb4.2,baz=117,slow=6.6,SNR=10.0						
NB2	**NORSAR Subarra**	**79.84**	**331**	P	**P**	**00 03 05.2**	**+0.4**
	0.9nm,0.6s,mb3.9,baz=97,slow=4.8						
NOA	**NORSAR Array B**	**79.84**	**331**	P	**P**	**00 03 04.4**	**-0.4**
	1.4nm,0.7s,mb4.0,baz=95,slow=4.9,SNR=3.4						
PLCA	**Paso Flores**	**144.40**	**200**	PKP	PKPdf	00 10 34.6	+3.3
	3.1nm,0.9s,baz=234,slow=1.9,SNR=5.0						

*BJI **26** 23:52:12.8, 23.57N×103.97E, h16km, ML3.8*
*PLV **26** 23:52:15.1±0.6, 23.02N×104.00E, MD4.2*
ISC 26 23:52:16.0±1.2, 22.89N±0.08×104.01E±0.04, h10km, n8, σ1=17/22, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHV	**Doan Hung**	**1.66**	**139**	*e*Pn	**Pn**	**23 52 47.0**	**+1.5**
DHV				*e*Pg	**Pg**	**23 52 49.3**	**0.0**
DHV				*e*Sg	**Sg**	**23 53 12.2**	**+0.8**
BVV	**Ba Vi**	**2.18**	**144**	*e*Pn	**Pn**	**23 52 54.6**	**+1.7**
BVV				*e*Pg	**Pg**	**23 53 00.0**	**+0.4**
BVV				*e*Sg	**Sg**	**23 53 34.4**	**+1.8**
HNV	**Hanoi**	**2.47**	**137**	*e*Pn	**Pn**	**23 52 58.5**	**+1.4**
HNV				*e*Pg	**Pg**	**23 53 04.7**	**-0.8**
HNV				*e*Sg	**Sg**	**23 53 38.9**	**+0.5**
MTZV	**Met**	**2.54**	**121**	*e*Pn	**Pn**	**23 52 58.5**	**+0.5**
MTZV				*e*Pg	**Pg**	**23 53 05.5**	**-1.3**
MTZV				*e*Sg	**Sg**	**23 53 40.0**	**-0.7**
YTV	**Yen Tu**	**3.05**	**124**	*e*Pn	**Pn**	**23 53 05.5**	**+0.2**
YTV				*e*Pg	**Pg**	**23 53 15.0**	**-1.8**
YTV				*e*Sg	**Sg**	**23 53 56.5**	**-1.0**
PLV	**Phu-Lien**	**3.20**	**130**	*e*Pn	**Pn**	**23 53 08.0**	**+0.6**
PLV				*e*Pg	**Pg**	**23 53 18.4**	**-1.5**
PLV				*e*Sg	**Sg**	**23 54 00.7**	**-1.8**
CHRT	**Chiangrai**	**4.95**	**233**	PG	**Pg**	**23 53 55.0**	**+0.1**
CHRT				SG	**Sg**	**23 54 59.5**	**-1.4**
QIZ	**Qiongzhong**	**6.67**	**124**	P	**Pn**	**23 54 00.0**	**+3.5**
QIZ				SG	**Sg**	**23 55 50.0**	**-8.0**

TAP 26 23:56:37.2, 24.28N×121.76E, h11km, ML3.6, 8C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.15**	**353**	⇑*i*P	Pg	23 56 41.5	+0.7
ENA				S	Sg	23 56 44.2	+1.0
TWD	**Chiawan**	**0.25**	**217**	⇓*i*P	Pg	23 56 42.9	+0.3
TWD				S	Sg	23 56 47.0	+0.9
HWA	**Hwalien**	**0.33**	**205**	*e*P	Pg	23 56 45.0	+0.8
HWA				S	Sg	23 56 50.6	+1.7
TWC	**Suao**	**0.34**	**14**	⇑*i*P	Pg	23 56 44.7	+0.4
TWC				S	Sg	23 56 49.4	+0.4
NNS	**Nan Shan**	**0.39**	**294**	⇑*i*P	Pg	23 56 46.2	+0.9
NNS				S	Sg	23 56 52.0	+1.4
ENTT	**Nioudou**	**0.40**	**334**	⇑*i*P	Pg	23 56 46.4	+0.9
ENTT				S	Sg	23 56 52.0	+1.0
TWE	**Neicheng**	**0.45**	**349**	⇑*i*P	Pg	23 56 47.1	+0.7
TWE				S	Sg	23 56 53.4	+0.9
WHF	**Hehuan Shan**	**0.47**	**254**	P	Pg	23 56 47.4	+0.6
WHF				S	Sg	23 56 54.3	+1.0
ILA	**Ilan**	**0.48**	**359**	P	Pg	23 56 47.3	+0.2
ILA				S	Sg	23 56 54.8	+1.2
TWT	**Tachien**	**0.53**	**267**	⇑*i*P	Pg	23 56 49.3	+1.3
TWT				S	Sg	23 56 56.7	+1.4
NSK	**Sanguang**	**0.54**	**317**	*e*P	Pg	23 56 49.0	+0.8
NSK				S	Sg	23 56 56.5	+1.0
ESL	**Shilin**	**0.55**	**213**	*e*P	Pb	23 56 48.4	0.0
TWA	**Mucha**	**0.71**	**347**	*e*P	Pb	23 56 52.4	+1.2
TWA				S	Sb	23 57 01.9	+1.1
NSTT	**Nanjuang**	**0.78**	**297**	P	Pb	23 56 53.8	+1.6
NSTT				S	Sb	23 57 04.1	+1.6
TAP1	**Taipei**	**0.79**	**344**	*e*P	Pb	23 56 52.7	+0.2
NWF	**Wu-fen Shan**	**0.79**	**1**	⇑P	Pb	23 56 53.5	+1.0
NWF				S	Sb	23 57 03.7	+0.9
TAP	**Taipei**	**0.79**	**343**	*e*P	Pb	23 56 53.1	+0.6
NCU	**National Centr**	**0.86**	**323**	*e*P	Pb	23 56 55.4	+1.7
NCU				S	Sb	23 57 07.9	+2.8
EHY	**Hungye**	**0.87**	**208**	*e*P	Pb	23 56 53.1	-0.7
EHY				S	Sb	23 57 07.2	+2.0
TWS1	**Kuangyinshan**	**0.88**	**339**	*e*P	Pb	23 56 55.8	+1.9
TWS1				S	Sb	23 57 08.7	+3.3
SMLT	**Sun Moon Lake**	**0.88**	**243**	*e*P	Pb	23 56 55.5	+1.5
SMLT				S	Sb	23 57 07.5	+1.9
HSN	**Hsinchu**	**0.89**	**306**	*e*P	Pb	23 56 55.2	+1.1
TWQ1	**Liyutan**	**0.90**	**275**	*e*P	Pb	23 56 55.8	+1.3
TWQ1				S	Sb	23 57 08.8	+2.5
TYC	**Yuchr**	**0.91**	**246**	*e*P	Pb	23 56 55.5	+1.0
NSY	**Sanyi**	**0.92**	**279**	*e*P	Pb	23 56 56.7	+2.0
NSY				S	Sb	23 57 10.2	+3.5
TCU	**Taichung**	**1.00**	**263**	*e*P	Pb	23 56 58.2	+2.2
TCU				S	Sb	23 57 14.2	+5.3
TWY	**Chenhua**	**1.00**	**352**	*e*P	Pb	23 56 58.1	+2.0
TWF1	**Yuli**	**1.02**	**205**	*e*P	Pb	23 56 55.4	-1.0
TWF1				S	Sb	23 57 11.6	+2.1
YUS	**Yu-Shan**	**1.08**	**223**	*e*P	Pb	23 56 58.4	+0.9
YUS				S	Sb	23 57 13.9	+2.6
ALS	**Alishan**	**1.16**	**229**	⇑P	Pb	23 57 00.1	+1.2
ALS				S	Sb	23 57 16.4	+2.7
CHN5	**Tsauling**	**1.20**	**236**	*e*P	Pb	23 57 00.9	+1.4
CHN5				S	Sb	23 57 19.1	+4.3
ELDTW	**Lidau**	**1.28**	**212**	*e*P	Pb	23 57 00.2	-0.7
PCYT	**Pengchaiyu**	**1.37**	**12**	*e*P	Pn	23 57 03.3	+0.9
CHN4	**Tsaushan**	**1.41**	**229**	*e*P	Pn	23 57 04.6	+1.6
CHN4				S	Sb	23 57 25.9	+4.8
STYT	**Tauyuan**	**1.44**	**220**	*e*P	Pn	23 57 03.9	+0.5
STYT				S	Sb	23 57 24.0	+2.1
CHY	**Chiayi**	**1.45**	**238**	*e*P	Pn	23 57 06.2	+2.7
WTP	**Ta-pu**	**1.47**	**226**	*e*P	Pn	23 57 05.4	+1.6
TWK	**Hsinying**	**1.54**	**229**	*e*P	Pn	23 57 06.4	+1.6
TWK				S	Sb	23 57 28.0	+3.2
CHN1	**Nanshi**	**1.57**	**226**	*e*P	Pn	23 57 06.3	+1.1
TWG	**Pinlang**	**1.58**	**204**	*e*P	Pn	23 57 03.1	-2.3
SGST	**Jiashian**	**1.61**	**222**	*e*P	Pn	23 57 06.7	+0.9
ECL	**Taimali**	**1.83**	**204**	*e*P	Pn	23 57 09.0	+0.1
SSD	**Sandimen**	**1.84**	**214**	*e*P	Pn	23 57 10.2	+1.0
SSD				S	Sn	23 57 35.1	+2.5
EAST	**Anshuo**	**2.07**	**204**	*e*P	Pn	23 57 12.0	-0.3
SCZT	**Fangliau**	**2.17**	**209**	*e*P	Pn	23 57 14.1	+0.3
WDGT	**Dungji**	**2.17**	**243**	*e*P	Pn	23 57 14.8	+0.9
LAY	**Lan-yu**	**2.24**	**185**	*e*P	Pn	23 57 12.3	-2.5
TWK1	**Hengchun**	**2.49**	**201**	*e*P	Pn	23 57 17.1	-1.3

*IDC **27** 00:01:06.6±1.1, 7.49N×94.52E, mb3.9/9, mb1 4.0/10, mb1mx3.9/19, mbtmp3.9/10, ML3.8/1, Error ellipse: s-maj=30.7km s-min=27.1km az=76.0*
*NEIC **27** 00:01:10.8±0.7, 7.51N×94.54E, h30km, mb4.2/3, Error ellipse: s-maj=20.8km s-min=14.7km az=71.0*
ISC 27 00:01:08.5±0.8, 7.6N±0.1×94.5E±0.1, h30km, n21, σ1=39/20, mb4.1/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.64**	**21**	Pn	**P**	**00 03 57.0**	**+1.1**
	0.2nm,0.3s,baz=210,slow=15,SNR=12						
JIRN	**Jiri**	**21.45**	**340**	*e*P	**P**	**00 05 55.4**	**-1.2**
	13nm,0.7s,mb4.3						
PKI	**Pulchoki**	**21.66**	**338**	*e*P	**P**	**00 05 55.9**	**-2.7**
	19nm,0.8s,mb4.6						
KKN	**Kakani**	**21.90**	**338**	*e*P	**P**	**00 05 59.2**	**-1.9**
	16nm,1.0s,mb4.4						
LSA	**Lhasa**	**22.22**	**352**	*e*P	**P**	**00 06 05.1**	**+0.9**
	6.5nm,0.7s,mb4.2						
GKN	**Gorkha**	**22.34**	**337**	*e*P	**P**	**00 06 04.0**	**-1.5**
	25nm,0.8s,mb4.7						
KOLN	**Koldanda**	**22.57**	**334**	*e*P	**P**	**00 06 06.4**	**-1.4**
	16nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**39.10**	**336**	*e*P	**P**	**00 08 35.0**	**+0.1**
	1.4nm,0.7s,mb3.8						
SONM	**Songino Array**	**41.37**	**12**	P	**P**	**00 08 55.8**	**+2.4**
	0.9nm,0.9s,mb3.4,baz=191,slow=6.3,SNR=6.0						
KURK	**Kurchatov**	**44.97**	**346**	*e*P	**P**	**00 09 22.8**	**0.0**
	8.0nm,1.4s,mb4.4						
ZAL	**Zalesovo**	**46.88**	**352**	P	**P**	**00 09 38.1**	**+0.3**
	1.1nm,0.5s,mb4.0,baz=294,slow=9.0,SNR=7.8						
WRA	**Warramunga Arr**	**47.82**	**126**	P	**P**	**00 09 44.9**	**-0.8**
	0.3nm,0.4s,mb3.6,baz=308,slow=8.1,SNR=4.6						
WRAB	**Tennant Creek**	**47.82**	**126**	P	**P**	**00 09 44.3**	**-1.4**
BVAR	**Borovoye Array**	**49.37**	**341**	P	**P**	**00 09 57.0**	**-0.2**
	0.5nm,0.7s,mb3.7,baz=124,slow=5.3,SNR=3.8						
KMBO	**Kilima Mbogo**	**57.73**	**264**	P	**P**	**00 11 00.9**	**+1.5**
	3.9nm,1.0s,mb4.4,baz=68,slow=7.7,SNR=6.7						
BRTR	**Keskin Array B**	**62.87**	**311**	P	**P**	**00 11 33.9**	**-0.3**
	0.4nm,0.5s,mb3.8,baz=112,slow=6.7,SNR=3.6						
GERES	**GERESS Array B**	**78.27**	**318**	P	**P**	**00 13 09.1**	**+1.9**
	1.7nm,0.9s,mb4.0,baz=78,slow=9.0,SNR=3.5						
HFS	**Hagfors**	**78.87**	**330**	P	**P**	**00 13 13.1**	**+2.9**
	1.8nm,0.8s,mb4.1,baz=100,slow=9.0,SNR=4.6						
NB2	**NORSAR Subarra**	**80.15**	**331**	P	**P**	**00 13 17.6**	**+0.5**
	5.5nm,1.2s,mb4.4,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**80.15**	**331**	P	**P**	**00 13 20.1**	**+3.0**
	1.0nm,0.7s,mb3.8,baz=82,slow=8.0,SNR=3.7						
PLCA	**Paso Flores**	**144.40**	**200**	PKP	PKPdf	00 20 45.4	-1.8
	1.8nm,0.8s,baz=188,slow=5.3,SNR=4.3						

*JMA **27** 00:03:46.2±0.6, 25.29N×122.02E, h4km, M2.9*
*TAP **27** 00:03:47.6, 24.26N×121.77E, h10km, ML3.7*
TAP Felt IV J at Nanau, I J at Suao, I J at Nanshan, II J at Nioudou.
ISC 27 00:03:47.3±0.5, 24.26N±0.02×121.82E±0.02, h1km±4km, n49, σ0=77/79, 5C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.18**	**335**	⇑*i*P	**Pg**	**00 03 51.5**	**+0.6**
ENA				S	**Sg**	**00 03 54.3**	**+1.0**
TWD	**Chiawan**	**0.28**	**229**	P	**Pg**	**00 03 53.0**	**+0.2**
TWD				S	**Sg**	**00 03 57.0**	**+0.5**
TWC	**Suao**	**0.35**	**4**	⇑*i*P	**Pg**	**00 03 54.7**	**+0.5**
TWC				S	**Sg**	**00 03 59.3**	**+0.5**
HWA	**Hwalien**	**0.35**	**215**	*e*P	**Pg**	**00 03 55.1**	**+0.8**
ENTT	**Nioudou**	**0.44**	**328**	⇑*i*P	**Pg**	**00 03 56.3**	**+0.2**
ENTT				S	**Sg**	**00 04 02.1**	**+0.1**
NNS	**Nan Shan**	**0.45**	**293**	*i* P	**Pg**	**00 03 56.1**	**-0.1**
NNS				S	**Sg**	**00 04 01.5**	**-0.7**
TWE	**Neicheng**	**0.48**	**343**	⇑*i*P	**Pg**	**00 03 57.0**	**+0.1**
TWE				S	**Sg**	**00 04 03.2**	**0.0**
ILA	**Ilan**	**0.51**	**352**	*i* P	**Pg**	**00 03 57.7**	**+0.3**
ILA				S	**Sg**	**00 04 05.0**	**+0.9**
WHF	**Hehuan Shan**	**0.52**	**257**	*i* P	**Pg**	**00 03 57.5**	**-0.3**
WHF				S	**Sg**	**00 04 04.4**	**-0.3**
ESL	**Shilin**	**0.57**	**219**	*e*P	**Pg**	**00 03 58.4**	**-0.3**
ESL				S	**Sg**	**00 04 07.3**	**+1.0**
NSK	**Sanguang**	**0.59**	**314**	⇓*i*P	**Pg**	**00 03 58.9**	**-0.2**
NSK				S	**Sg**	**00 04 06.5**	**-0.5**
TWT	**Tachien**	**0.59**	**269**	⇓*i*P	**Pg**	**00 03 59.3**	**+0.2**
TWT				S	**Sg**	**00 04 06.0**	**-1.0**
TWA	**Mucha**	**0.75**	**343**	*e*P	**Pg**	**00 04 02.0**	**-0.2**
TWA				S	**Sg**	**00 04 11.3**	**-0.8**
NWF	**Wu-fen Shan**	**0.81**	**357**	⇑*i*P	**Pg**	**00 04 03.3**	**-0.1**
NWF				S	**Sg**	**00 04 13.4**	**-0.7**
TAP1	**Taipei**	**0.82**	**341**	*e*P	**Pg**	**00 04 04.0**	**+0.3**
TAP1				S	**Sg**	**00 04 14.1**	**-0.5**
TAP	**Taipei**	**0.82**	**340**	*e*P	**Pg**	**00 04 04.3**	**+0.5**
TAP				S	**Sg**	**00 04 14.2**	**-0.6**
NSTT	**Nanjuang**	**0.83**	**296**	*e*P	**Pg**	**00 04 03.5**	**-0.4**
NSTT				S	**Sg**	**00 04 14.3**	**-0.8**
EHY	**Hungye**	**0.88**	**211**	*e*P	**Pg**	**00 04 04.0**	**-0.9**
EHY				S	**Sg**	**00 04 17.7**	**+1.0**
NCU	**National Centr**	**0.91**	**321**	*e*P	**Pg**	**00 04 06.0**	**+0.5**
TWS1	**Kuangyinshan**	**0.91**	**336**	*e*P	**Pg**	**00 04 05.7**	**+0.2**
TWS1				S	**Sg**	**00 04 18.4**	**+0.7**
SMLT	**Sun Moon Lake**	**0.93**	**246**	*i* P	**Pg**	**00 04 05.3**	**-0.4**
SMLT				S	**Sg**	**00 04 18.1**	**0.0**
TYC	**Yuchr**	**0.95**	**248**	*e*P	**Pb**	**00 04 05.5**	**-0.7**
TWQ1	**Liyutan**	**0.96**	**275**	*e*P	**Pb**	**00 04 06.4**	**0.0**
NSY	**Sanyi**	**0.98**	**279**	*e*P	**Pb**	**00 04 06.6**	**-0.1**
NSY				S	**Sg**	**00 04 20.3**	**+0.4**
TWF1	**Yuli**	**1.03**	**208**	*e*P	**Pb**	**00 04 06.5**	**-1.0**
TWF1				S	**Sb**	**00 04 21.9**	**+0.6**
TWY	**Chenhua**	**1.03**	**349**	*e*P	**Pb**	**00 04 07.7**	**+0.2**
TWY				S	**Sb**	**00 04 22.2**	**+0.8**
TCU	**Taichung**	**1.05**	**264**	*e*P	**Pb**	**00 04 08.8**	**+0.8**
YOJ	**Yonaguni jima**	**1.10**	**79**	P	**Pb**	**00 04 09.1**	**+0.3**
YOJ				*e*S	**Sb**	**00 04 25.8**	**+2.3**
YUS	**Yu-Shan**	**1.11**	**226**	*e*P	**Pb**	**00 04 08.5**	**-0.4**
YUS				S	**Sb**	**00 04 24.3**	**+0.6**
ALS	**Alishan**	**1.20**	**231**	*e*P	**Pb**	**00 04 10.3**	**-0.1**
CHN5	**Tsauling**	**1.24**	**238**	*e*P	**Pb**	**00 04 11.4**	**+0.2**
CHN5				S	**Sb**	**00 04 29.9**	**+2.3**
ELDTW	**Lidau**	**1.30**	**215**	*e*P	**Pb**	**00 04 10.4**	**-1.7**
PCYT	**Pengchaiyu**	**1.38**	**9**	*e*P	**Pb**	**00 04 13.1**	**-0.5**
CHN4	**Tsaushan**	**1.45**	**231**	*e*P	**Pn**	**00 04 14.6**	**0.0**
CHN4				S	**Sb**	**00 04 36.2**	**+2.7**
STYT	**Tauyuan**	**1.47**	**222**	*e*P	**Pn**	**00 04 13.7**	**-1.2**
STYT				S	**Sb**	**00 04 34.2**	**0.0**
CHY	**Chiayi**	**1.49**	**240**	*e*P	**Pn**	**00 04 15.6**	**+0.4**
WTP	**Ta-pu**	**1.50**	**228**	*e*P	**Pn**	**00 04 15.9**	**+0.5**
TWK	**Hsinying**	**1.57**	**231**	*e*P	**Pn**	**00 04 16.4**	**0.0**
CHN1	**Nanshi**	**1.60**	**228**	*e*P	**Pn**	**00 04 16.8**	**-0.1**
SGST	**Jiashian**	**1.64**	**224**	*e*P	**Pn**	**00 04 17.2**	**-0.2**
IRIF	**Iriomote-Funau**	**1.74**	**87**	P	**Pn**	**00 04 19.3**	**+0.4**
IRIF				*e*S	**Sn**	**00 04 40.9**	**-1.1**
ECL	**Taimali**	**1.84**	**206**	*e*P	**Pn**	**00 04 19.8**	**-0.5**
SSD	**Sandimen**	**1.86**	**216**	*e*P	**Pn**	**00 04 20.3**	**-0.3**
JKRS	**Kuro-shima**	**2.00**	**90**	P	**Pn**	**00 04 22.3**	**-0.2**
JKRS				*e*S	**Sn**	**00 04 49.8**	**+1.4**
EAST	**Anshuo**	**2.08**	**206**	*e*P	**Pn**	**00 04 24.2**	**+0.6**
JIJ	**Ishigaki jima**	**2.12**	**87**	P	**Pn**	**00 04 23.2**	**-1.1**
JIJ				*e*S	**Sn**	**00 04 50.1**	**-1.5**
SCZT	**Fangliau**	**2.18**	**211**	*e*P	**Pn**	**00 04 24.9**	**-0.3**
WDGT	**Dungji**	**2.22**	**244**	*e*P	**Pn**	**00 04 24.7**	**-1.0**
TWK1	**Hengchun**	**2.49**	**202**	*e*P	**Pn**	**00 04 27.2**	**-2.4**

*IDC **27** 00:08:38.4±1.3, 7.65N×94.68E, mb3.9/9, mb1 4.0/10, mb1mx3.9/18, mbtmp3.9/10, ML4.3/1, Error ellipse: s-maj=44.8km s-min=28.1km az=49.0*
*NEIC **27** 00:08:43.3±1.0, 7.80N×94.78E, h30km, mb3.9/3, Error ellipse: s-maj=25.3km s-min=20.4km az=75.0*
**ISC 27 00:08:41.7±1.0, 7.9N±

FINES **FINESS Array B 72.78 332** P **P 00 23 44.1 -0.4**
1.3nm,0.8s,mb3.9,baz=101,slow=9.7,SNR=3.8
GERES **GERESS Array B 77.87 318** P **P 00 24 14.9 +1.2**
1.4nm,0.7s,mb4.0,baz=86,slow=14,SNR=4.2
HFS **Hagfors 78.52 330** P **P 00 24 16.7 -0.3**
1.0nm,0.4s,mb4.1,baz=90,slow=5.9,SNR=7.1
NOA **NORSAR Array B 79.79 331** P **P 00 24 24.2 +0.2**
0.7nm,0.7s,mb3.7,baz=94,slow=5.7,SNR=3.9

IDC 27 00:12:31.4±12.0,13.78N×91.49W,mb3.7/2,mb1 4.0/3, mb1mx3.7/15,mbtmp3.5/3,ML4.2/1,Error ellipse: s-maj=254.8km s-min=104.9km az=7.0,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**19.15**	**326**	P	P	00 16 56.2	-2.6
	0.2nm,0.3s,baz=146,slow=13,SNR=6.3						
NVAR	**Mina Array Bea**	**34.15**	**321**	P	P	00 19 18.7	-1.6
	0.3nm,0.6s,baz=139,slow=8.3,SNR=4.4						
YKA	**Yellowknife Ar**	**51.35**	**347**	P	P	00 21 37.2	-2.2
	1.0nm,0.7s,baz=149,slow=7.4,SNR=18						

*IDC **27** 00:14:14.9±1.2,7.69N×93.88E,mb4.1/9,mb1 4.3/10, mb1mx4.1/19,mbtmp4.1/10,ML4.3/1,Error ellipse: s-maj=40.4km s-min=26.4km az=52.0*
*NEIC **27** 00:14:19.5±0.7,7.75N×93.94E,h30km,mb4.4/3,Error ellipse: s-maj=17.0km s-min=15.3km az=69.0*
ISC 27 00:14:18.3±1.0,7.8N±0.1×94.0E±0.2,h33km,n20, σ0°76/19,mb4.3/17,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.60**	**24**	Pn	P	**00 17 04.7**	**0.0**
	0.6nm,0.3s,baz=215,slow=14,SNR=7.0						
JIRN	**Jiri**	**21.05**	**340**	*eP*	P	**00 19 01.4**	**-0.5**
	28nm,0.9s,mb4.6						
PKI	**Pulchoki**	**21.24**	**339**	*eP*	P	**00 19 02.2**	**-1.6**
	14nm,0.7s,mb4.4						
KKN	**Kakani**	**21.48**	**339**	*eP*	P	**00 19 05.3**	**-0.9**
	37nm,1.3s,mb4.6						
GKN	**Gorkha**	**21.91**	**337**	*eP*	P	**00 19 11.1**	**+0.5**
	24nm,0.8s,mb4.7						
KOLN	**Koldanda**	**22.12**	**335**	*eP*	P	**00 19 13.4**	**+0.8**
	62nm,1.4s,mb4.8						
SONM	**Songino Array**	**41.23**	**13**	P	P	**00 22 02.2**	**+0.5**
	0.6nm,0.8s,mb3.3,baz=202,slow=6.7,SNR=4.4						
SONM				PcP	PcP	00 24 01.3	+0.3
	0.5nm,0.8s,baz=203,slow=4.7,SNR=3.7						
KURK	**Kurchatov**	**44.60**	**346**	*eP*	P	**00 22 28.5**	**-0.7**
	8.1nm,1.3s,mb4.4						
ZAL	**Zalesovo**	**46.56**	**353**	P	P	**00 22 45.7**	**+1.0**
	3.6nm,0.3s,mb4.8,baz=37,slow=2.8,SNR=7.5						
WRA	**Warramunga Arr**	**48.37**	**125**	P	P	**00 22 58.7**	**-0.6**
	0.9nm,0.8s,mb3.9,baz=304,slow=8.5,SNR=5.6						
BVAR	**Borovoye Array**	**48.97**	**341**	P	P	**00 23 03.7**	**+0.2**
	1.4nm,0.9s,mb4.0,baz=146,slow=5.3,SNR=5.2						
BRTR	**Keskin Array B**	**62.33**	**311**	P	P	**00 24 39.0**	**-0.9**
	0.9nm,0.8s,mb4.0,baz=113,slow=9.4,SNR=3.5						
JOF	**Joensuu**	**70.81**	**334**	*ep*	P	**00 25 32.9**	**-0.4**
	6.4nm,0.9s,mb4.5						
FINES	**FINESS Array B**	**72.67**	**332**	P	P	**00 25 45.0**	**+0.7**
	3.3nm,0.8s,mb4.3,baz=121,slow=11,SNR=5.6						
KAF	**Kangasniemi**	**72.75**	**333**	*ep*	P	**00 25 44.5**	**-0.3**
	7.5nm,0.9s,mb4.6,baz=105,slow=5.6						
GERES	**GERESS Array B**	**77.75**	**318**	P	P	**00 26 15.2**	**+1.4**
	1.3nm,0.7s,mb4.0,baz=90,slow=6.9,SNR=3.3						
HFS	**Hagfors**	**78.41**	**330**	P	P	**00 26 17.5**	**+0.4**
	2.6nm,0.8s,mb4.2,baz=108,slow=9.4,SNR=6.9						
NB2	**NORSAR Subarra**	**79.68**	**331**	P	P	**00 26 24.6**	**+0.5**
	1.0nm,0.7s,mb3.9,baz=89,slow=5.6						
NOA	**NORSAR Array B**	**79.68**	**331**	P	P	**00 26 24.6**	**+0.5**
	1.6nm,0.8s,mb4.0,baz=92,slow=5.7,SNR=5.1						
PLCA	**Paso Flores**	**144.47**	**200**	PKP	PKPdf	00 33 53.1	+1.5
	1.2nm,0.8s,baz=196,slow=5.4,SNR=3.1						

IDC 27 00:16:29.8±9.1,18.66N×108.07W,mb3.5/4,mb1 3.9/6, mb1mx3.8/15,mbtmp3.6/6,ML3.8/1,1C,Error ellipse: s-maj=144.2km s-min=64.9km az=156.0,Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**11.36**	**20**	Pn	P	00 19 14.3	-2.1
	0.1nm,0.3s,baz=201,slow=13,SNR=14						
ANMO	**Albuquerque**	**16.29**	**5**	Pn	P	00 20 21.3	-0.3
	baz=194,slow=8.9,SNR=7.0						
NVAR	**Mina Array Bea**	**21.62**	**338**	P	P	00 21 21.4	-2.2
	2.5nm,1.1s,baz=150,slow=12,SNR=7.7						
PDAR	**Pinedale Array**	**24.06**	**357**	P	P	00 21 47.0	-0.6
	0.8nm,0.7s,baz=162,slow=9.4,SNR=7.4						
YBH	**Yreka Blue Hor**	**26.17**	**335**	P	P	00 22 06.3	-1.4
	1.2nm,0.6s,baz=121,slow=9.7,SNR=2.5						
YKA	**Yellowknife Ar**	**44.02**	**356**	P	P	00 24 38.8	-1.9
	0.3nm,0.7s,baz=171,slow=7.7,SNR=6.7						
SYO	**Syowa Base**	**125.83**	**166**	⇑P	PKPdf	00 35 26.9	-8.2

MAN 27 00:21:48.9,10.13N×124.89E,h93km,mb3.7,ML2.4, MS1.9,1C,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.68**	**120**	⇑*eP*	P	00 22 07.0	+1.2
PLP	**Palo**	**1.03**	**5**	*eP*	P	00 22 09.4	0.0
PLP				*eS*	S	00 22 20.8	-4.0

*CSEM **27** 00:29:37.4±0.1,67.90N×20.40E,h5km,ML2.7,Error ellipse: s-maj=4.0km s-min=2.1km az=102.0,Mining explosion.*
*UPP **27** 00:29:37.1,67.85N×20.20E,h0km,ML2.7,Mining explosion.*
HEL 27 00:29:37.7±0.1,67.85N×20.21E,ML1.8,ML2.7(UPP), Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**24**	*i* P	Pg	00 29 39.6	-0.4
KUA				*i* S	Sg	00 29 41.4	-0.1
NIKU	**Nikkaluokta**	**0.45**	**273**	*i* P	Pg	00 29 45.5	-1.1
DUNU	**Dundret**	**0.74**	**169**	*i* P	Pg	00 29 51.0	-1.6
MASU	**Masugnsbyn**	**0.79**	**119**	*i* P	Pg	00 29 52.0	-1.5
KIF	**Kilpisjarvi**	**1.18**	**10**	*eP*	Pb	00 29 60.0	-0.7
KIF				*eS*	Sb	00 30 15.6	-0.8
KIF	**Kilpisjarvi**	**1.18**	**10**	P	Pb	00 29 59.9	-0.8
KIF				S	Sb	00 30 15.6	-0.8
PAJU	**Pajala**	**1.39**	**125**	*eP*	Pb	00 30 02.7	-1.6
ERTU	**Ertsjaerv**	**1.51**	**148**	*eP*	Pn	00 30 04.7	-1.4
KTK1	**Kautokeino**	**1.62**	**42**	*eP*	Pn	00 30 08.3	+0.7
TRO	**Tromso**	**1.85**	**346**	*e*	Sn	00 30 34.4	-1.0
SJUU	**Sjulsmark**	**2.42**	**166**	*eP*	Pn	00 30 18.9	-0.2
SGF	**Sodankyl**	**2.45**	**97**	*eP*	Pn	00 30 19.1	-0.4
SGF				*eS*	Sn	00 30 48.6	-1.9
SGF				MSG		00 30 56.2	
	comp=Z,2.6nm,0.2s						
SGF	**Sodankyl**	**2.45**	**97**	P	Pn	00 30 19.1	-0.4
SGF				S	Sn	00 30 48.6	-2.0
	comp=Z,2.6nm,0.2s						
LILU	**Lilltraesk**	**2.58**	**183**	*eP*	Pn	00 30 21.5	+0.1
KEV	**Kevo**	**3.12**	**49**	*eP*	Pn	00 30 28.1	-1.0
KEV				*eS*	Sn	00 31 04.3	-3.4
KEV				MSG		00 31 12.5	
	comp=Z,3.7nm,0.3s						
KEV	**Kevo**	**3.12**	**49**	P	Pn	00 30 28.1	-1.1
KEV				S	Sn	00 31 04.3	-3.4
	comp=Z,3.7nm,0.3s						
BURU	**Burvik**	**3.31**	**171**	*eP*	Pn	00 30 31.4	-0.4
SVAU	**Svanoeiden**	**3.38**	**185**	*eP*	Pn	00 30 32.9	+0.1
OUL	**Oulu**	**3.59**	**138**	*ePG*	Pg	00 30 41.5	-7.9
OUL				*eSG*	Sg	00 31 27.8	-9.5
OUL				MSG		00 31 33.8	
	comp=Z,2.2nm,0.3s						
OUL	**Oulu**	**3.59**	**138**	Pg	Pg	00 30 41.4	-8.0
OUL				Sg	Sg	00 31 27.7	-10
	comp=Z,2.2nm,0.3s						
KU4	**Oulanka**	**3.95**	**108**	*eP*	Pn	00 30 39.3	-1.6
KU4				*eS*	Sn	00 31 24.6	-4.0
MSF	**Maaselka**	**3.99**	**115**	*eP*	Pn	00 30 39.9	-1.5
MSF				*eS*	Sn	00 31 26.1	-3.5
MSF				MSG		00 31 44.4	
	comp=Z,1.8nm,0.3s						
KJN	**Kajaani**	**4.86**	**137**	*eP*	Pn	00 30 52.7	-1.2
KJN				*eS*	Sn	00 31 46.3	-5.5
KJN				MSG		00 32 10.7	
	comp=Z,1.1nm,0.3s						

*IDC **27** 00:31:50.9±1.0,7.74N×93.81E,mb3.8/10,mb1 4.0/11, mb1mx4.0/18,mbtmp3.8/11,ML3.4/1,Error ellipse: s-maj=41.2km s-min=19.8km az=54.0*
*NEIC **27** 00:31:55.4±0.8,7.79N×93.91E,h30km,mb4.4/1,Error ellipse: s-maj=24.0km s-min=15.3km az=64.0*
ISC 27 00:31:53.9±0.8,7.8N±0.1×94.1E±0.2,h30km,n22, σ1°11/20,mb4.2/17,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.61**	**24**	Pn	P	**00 34 39.8**	**-0.9**
	0.1nm,0.3s,baz=208,slow=13,SNR=9.9						
JIRN	**Jiri**	**21.12**	**340**	*eP*	P	**00 36 39.2**	**+0.6**
	23nm,0.9s,mb4.5						
PKI	**Pulchoki**	**21.31**	**338**	*eP*	P	**00 36 41.7**	**+1.1**
	28nm,1.0s,mb4.5						
DMN	**Daman**	**21.46**	**338**	*eP*	P	**00 36 43.4**	**+1.4**
	28nm,0.7s,mb4.7						
KKN	**Kakani**	**21.56**	**338**	*eP*	P	**00 36 43.4**	**+0.4**
	11nm,0.7s,mb4.4						
LSA	**Lhasa**	**21.96**	**353**	*eP*	P	**00 36 46.4**	**-0.7**
	14nm,0.8s,mb4.5						
GKN	**Gorkha**	**21.99**	**337**	*eP*	P	**00 36 46.9**	**-0.5**
	29nm,0.8s,mb4.8						
KOLN	**Koldanda**	**22.20**	**335**	*eP*	P	**00 36 50.2**	**+0.7**
	29nm,0.8s,mb4.8						
SONM	**Songino Array**	**41.25**	**13**	P	P	**00 39 38.4**	**+0.5**
	0.5nm,0.8s,mb3.2,baz=195,slow=8.3,SNR=5.1						
SONM				PcP	PcP	00 41 38.7	+1.7
	0.5nm,0.7s,baz=207,slow=3.4,SNR=5.8						
ZAL	**Zalesovo**	**46.61**	**352**	P	P	**00 40 21.9**	**+0.8**
	1.8nm,0.7s,mb4.1,baz=291,slow=6.5,SNR=12						
WRA	**Warramunga Arr**	**48.27**	**125**	P	P	**00 40 35.6**	**+1.0**
	0.5nm,0.5s,mb3.9,baz=304,slow=8.6,SNR=11						
BVAR	**Borovoye Array**	**49.04**	**341**	P	P	**00 40 39.2**	**-0.9**
	0.7nm,0.7s,mb3.8,baz=144,slow=13,SNR=5.1						
ASAR	**Alice Springs**	**49.92**	**130**	P	P	**00 40 47.0**	**-0.3**
	0.4nm,0.7s,mb3.5,baz=297,slow=6.4,SNR=4.3						
BRTR	**Keskin Array B**	**62.43**	**311**	P	P	**00 42 14.4**	**-2.2**
	0.8nm,0.7s,mb4.0,baz=100,slow=7.5,SNR=3.7						
FINES	**FINESS Array B**	**72.75**	**332**	P	P	**00 43 18.5**	**-2.5**
	2.0nm,0.7s,mb4.2,baz=140,slow=15,SNR=5.0						
ARCES	**ARCESS Array B**	**75.31**	**340**	P	P	**00 43 34.0**	**-1.8**
	3.2nm,0.8s,mb4.3,baz=90,slow=7.3,SNR=5.5						
ARCES	**ARCESS Array B**	**75.31**	**340**	P	P	**00 43 34.0**	**-1.8**
GERES	**GERESS Array B**	**77.84**	**318**	P	P	**00 43 50.7**	**+0.5**
	0.9nm,0.6s,mb3.9,baz=117,slow=6.0,SNR=4.0						
NB2	**NORSAR Subarra**	**79.77**	**331**	P	P	**00 44 01.9**	**+1.4**
	0.9nm,0.6s,mb3.9,baz=98,slow=4.8						
NOA	**NORSAR Array B**	**79.77**	**331**	P	P	**00 44 01.8**	**+1.3**
	0.9nm,0.6s,mb3.9,baz=94,slow=5.1,SNR=4.1						
TXAR	**Lajitas Array**	**139.32**	**24**	PKP	PKPdf	00 51 23.0	-1.0
	0.1nm,0.4s,baz=19,slow=1.9,SNR=5.3						
PLCA	**Paso Flores**	**144.46**	**200**	PKP	PKPdf	00 51 30.7	-2.0
	2.1nm,0.9s,baz=287,slow=2.4,SNR=4.2						

*IDC **27** 00:37:08.4±0.6,7.89N×94.11E,mb4.2/14,mb1 4.3/15, mb1mx4.3/19,mbtmp4.2/15,ML4.6/1,MS3.9/2,Ms1 4.0/2, ms1mx3.1/27,Error ellipse: s-maj=26.8km s-min=14.2km az=56.0*
*BJI **27** 00:37:12.6,7.55N×93.94E,h57km,mB5.4,mb4.3*
*NEIC **27** 00:37:13.0±0.6,7.91N×94.21E,h30km,mb4.5/3,Error ellipse: s-maj=20.7km s-min=12.7km az=64.0*
ISC 27 00:37:11.5±0.5,7.92N±0.07×94.30E±0.09,h33km,n47, σ1°10/42,mb4.5/28,MS4.5/1,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.41**	**23**	Pn	P	**00 39 55.7**	**+0.4**
	1.3nm,0.3s,baz=211,slow=14,SNR=4.5						
CMAR				LR	LR	00 44 33.5	
	comp=Z,189nm,21.3s,baz=215,slow=39						
VIS	**Vishakhapatnam**	**14.46**	**313**	*e*	P	**00 40 29.4**	**-6.5**
VIS				*e*		00 41 20.4	
SHL	**Shillong**	**17.70**	**353**	*eP*	P	**00 41 16.0**	**-1.2**
HYB	**Hyderabad**	**18.02**	**303**	*i* P	P	**00 41 22.0**	**+0.8**
BLSP	**Bilaspur**	**18.36**	**322**	*eP*	P	**00 41 25.2**	**-0.3**
BLSP				AMb	AMB	00 41 34.8	
	comp=Z,30nm,1.1s						
JIRN	**Jiri**	**21.09**	**340**	*eP*	P	**00 41 55.2**	**-0.3**
	comp=Z,48nm,0.9s,mb4.8						
PKI	**Pulchoki**	**21.28**	**338**	*eP*	P	**00 41 58.7**	**+1.2**
	comp=Z,72nm,1.1s,mb4.9						
DMN	**Daman**	**21.43**	**337**	*eP*	P	**00 41 59.8**	**+0.8**
	comp=Z,35nm,0.7s,mb4.8						
KKN	**Kakani**	**21.53**	**338**	*eP*	P	**00 42 00.1**	**+0.2**
	comp=Z,48nm,1.1s,mb4.8						
LSA	**Lhasa**	**21.87**	**353**	P	P	**00 42 06.5**	**+3.2**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
LSA	**Lhasa**	**21.87**	**353**	*eP*	P	**00 42 02.7**	**-0.6**
	comp=Z,11nm,0.7s,mb4.4						
GKN	**Gorkha**	**21.97**	**337**	*eP*	P	**00 42 03.5**	**-0.8**
	comp=Z,50nm,0.7s,mb5.0						
KOLN	**Koldanda**	**22.19**	**334**	*eP*	P	**00 42 06.6**	**+0.1**
	comp=Z,54nm,1.0s,mb4.9						
BHPL	**Bhopal**	**22.24**	**315**	*eP*	P	**00 42 07.5**	**+0.5**
BHPL				AMb	AMB	00 42 08.8	
	comp=Z,18nm,0.6s,mb4.7						
BHPL				*e*		00 42 14.0	
	comp=Z,25nm,1.9s						
POO	**Poona**	**22.50**	**300**	*eP*	P	**00 42 09.8**	**0.0**
DDI	**Dehra Dun**	**26.99**	**328**	*e*	P	**00 42 52.9**	**+0.4**
XAN	**Xi'an**	**29.29**	**25**	P	P	**00 43 14.0**	**+0.9**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.2						
SONM	**Songino Array**	**41.09**	**12**	P	P	**00 44 54.9**	**+1.1**
	comp=Z,1.6nm,0.9s,mb3.7,baz=200,slow=6.3,SNR=14						
SONM				PcP	PcP	00 46 54.4	+0.7
	comp=Z,2.1nm,1.0s,baz=201,slow=3.3,SNR=7.9						
NWAO	**Narrogin (SRO)**	**46.11**	**153**	P	P	**00 45 36.3**	**+1.6**
	comp=Z,9.6nm,0.7s,mb4.8,baz=317,slow=7.0,SNR=5.1						
ZAL	**Zalesovo**	**46.53**	**352**	P	P	**00 45 37.9**	**+0.3**
	comp=Z,4.1nm,0.8s,mb4.4,baz=292,slow=7.8,SNR=28						
WRA	**Warramunga Arr**	**48.16**	**126**	P	P	**00 45 50.7**	**-0.2**
	comp=Z,1.9nm,0.6s,mb4.3,baz=305,slow=8.4,SNR=6.7						
BVAR	**Borovoye Array**	**49.00**	**341**	P	P	**00 45 55.7**	**-1.2**
	comp=Z,0.9nm,0.7s,mb3.9,baz=135,slow=8.4,SNR=8.2						
BVAR				PcP	PcP	00 47 21.0	+0.1
	comp=Z,0.8nm,0.7s,baz=162,slow=4.7,SNR=3.8						
RAYN	**Ar Rayn**	**49.21**	**294**	P	P	**00 46 00.9**	**+1.9**
	comp=Z,63nm,0.9s,mb5.6,SNR=12						
ASAR	**Alice Springs**	**49.82**	**130**	P	P	**00 46 03.8**	**+0.1**
	comp=Z,1.1nm,0.7s,mb4.0,baz=302,slow=7.2,SNR=12						
ASAR				PcP	PcP	00 47 25.4	+1.1
	comp=Z,1.5nm,0.7s,baz=306,slow=3.9,SNR=8.1						
KMBO	**Kilima Mbogo**	**57.58**	**264**	P	P	**00 47 00.4**	**-0.5**
	comp=Z,4.5nm,0.8s,mb4.6,baz=59,slow=10,SNR=13						
STKA	**Stephens Creek**	**60.02**	**134**	P	P	**00 47 16.4**	**-1.3**
	comp=Z,1.6nm,0.7s,mb4.1,baz=306,slow=8.7,SNR=4.4						
STKA	**Stephens Creek**	**60.02**	**134**	P	P	**00 47 16.4**	**-1.3**
BRTR	**Keskin Array B**	**62.52**	**311**	P	P	**00 47 32.1**	**-2.3**
	comp=Z,1.3nm,0.7s,mb4.2,baz=111,slow=7.5,SNR=5.3						
AKASG	**Malin Array Be**	**68.22**	**322**	P	P	**00 48 09.1**	**-1.8**
	comp=Z,0.7nm,0.5s,mb4.0,baz=98,slow=3.3,SNR=4.9						
JOF	**Joensuu**	**70.88**	**334**	*ep*	P	**00 48 24.2**	**-2.7**
	comp=Z,5.9nm,0.8s,mb4.6						
FINES	**FINESS Array B**	**72.75**	**332**	P	P	**00 48 37.5**	**-0.5**
	comp=Z,3.1nm,0.6s,mb4.4,baz=90,slow=9.5,SNR=10						
KAF	**Kangasniemi**	**72.83**	**333**	*ep*	P	**00 48 37.6**	**-0.9**
	comp=Z,5.6nm,0.9s,mb4.5,baz=103,slow=5.5						
ARCES	**ARCESS Array B**	**75.28**	**340**	P	P	**00 48 52.5**	**-0.1**
	comp=Z,4.6nm,1.0s,mb4.4,baz=101,slow=4.6,SNR=4.2						
ARCES				LR	LR	01 28 19.2	
	comp=Z,222nm,19.0s,MS4.5,baz=35,slow=41						
MORC	**Moravsky Berou**	**75.44**	**319**	*eP*	P	**00 48 50.6**	**-3.3**
	comp=Z,4.5nm,1.0s,mb4.3						
BRG	**Berggiesshubel**	**77.82**	**320**	*eP*	P	**00 49 09.9**	**+2.6**
GERES	**GERESS Array B**	**77.90**	**318**	P	P	**00 49 07.9**	**+0.1**
	comp=Z,3.1nm,0.9s,mb4.2,baz=90,slow=5.3,SNR=5.8						
KHC	**Kasperske Hory**	**77.99**	**318**	*eP*	P	**00 49 07.5**	**-0.8**
GRA1	**Grafenberg Arr**	**79.54**	**319**	*eP*	P	**00 49 18.5**	**+1.8**
GRF	**Grafenberg Arr**	**79.54**	**319**	*eP*	P	**00 49 18.5**	**+1.8**
NB2	**NORSAR Subarra**	**79.77**	**331**	P	P	**00 49 17.1**	**-0.6**
	comp=Z,2.5nm,0.7s,mb4.2,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.77**	**331**	P	P	**00 49 17.8**	**0.0**
	comp=Z,2.6nm,0.7s,mb4.3,baz=93,slow=5.5,SNR=9.3						
LPG	**La Plagne**	**82.70**	**315**	*eP*	P	**00 49 34.0**	**+0.6**
	comp=Z,23nm,1.1s,mb4.8						
NVAR	**Mina Array Bea**	**124.81**	**31**	PKP	PKPdf	00 56 12.4	+3.8
	comp=Z,1.9nm,0.8s,baz=293,slow=1.7,SNR=11						
PDAR	**Pinedale Array**	**125.07**	**21**	PKP	PKPdf	00 56 11.5	+2.5
	comp=Z,1.4nm,0.7s,baz=42,slow=1.9,SNR=11						
ANMO	**Albuquerque**	**133.07**	**23**	PKP	PKPdf	00 56 27.6	+3.1
	comp=Z,1.1nm,0.7s,baz=70,slow=1.7,SNR=5.4						
TXAR	**Lajitas Array**	**139.13**	**24**	PKP	PKPdf	00 56 38.9	+3.1
	comp=Z,1.1nm,0.9s,baz=304,slow=0.1,SNR=5.6						
PLCA	**Paso Flores**	**144.64**	**200**	PKP	PKPdf	00 56 47.0	+1.8
	comp=Z,4.6nm,0.9s,baz=136,slow=4.3,SNR=7.0						

*BJI **27** 00:42:09.4,6.97N×93.76E,h30km,mb4.5*
*NEIC **27** 00:42:17.8±0.5,7.79N×93.97E,h30km,mb4.5/6,Error ellipse: s-maj=15.1km s-min=10.1km az=61.0*
*IDC **27** 00:42:21.3±4.4,7.97N×94.17E,h50km±40km,mb3.8/12, mb1 4.0/13,mb1mx3.9/19,mbtmp4.1/13,ML4.1/1,MS3.8/1, Ms1 3.8/1,ms1mx2.8/25,Error ellipse: s-maj=28.7km s-min=17.0km az=51.0*
ISC 27 00:42:17.0±0.7,7.90N±0.10×94.1E±0.1,h33km,n36, σ0°85/31,mb4.4/23,MS3.6/1,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.49**	**24**	P	P	**00 45 03.0**	**+1.2**
	0.4nm,0.3s,baz=211,slow=15,SNR=14						
SHL	**Shillong**	**17.70**	**353**	*eS*	P	**00 46 21.0**	**-1.6**
KMI	**Kunming**	**19.00**	**25**	P	P	**00 46 43.0**	**+4.3**
	13nm,0.6s						
JIRN	**Jiri**	**21.04**	**340**	*eP*	P	**00 47 00.8**	**+0.3**
	18nm,0.6s,mb4.6						
PKI	**Pulchoki**	**21.24**	**338**	*eP*	P	**00 47 02.7**	**+0.3**
	27nm,0.7s,mb4.7						
DMN	**Daman**	**21.38**	**338**	*eP*	P	**00 47 03.8**	**-0.1**
	36nm,0.7s,mb4.8						
KKN	**Kakani**	**21.48**	**338**	*eP*	P	**00 47 04.7**	**-0.2**
	17nm,0.7s,mb4.5						
LSA	**Lhasa**	**21.87**	**353**	P	P	**00 47 12.0**	**+3.3**
LSA	**Lhasa**	**21.87**	**353**	*eP*	P	**00 47 08.6**	**-0.1**
	15nm,0.6s,mb4.6						
GKN	**Gorkha**	**21.92**	**337**	*eP*	P	**00 47 08.8**	**-0.4**
	30nm,0.7s,mb4.8						
KOLN	**Koldanda**	**22.13**	**335**	*eP*	P	**00 47 11.5**	**+0.1**
	34nm,0.7s,mb4.9						
TGY	**Tagaytay City**	**27.02**	**74**	LR	LR	00 59 57.1	
	comp=Z,179nm,18.8s,MS3.6,baz=19,slow=39						
AAK	**Ala-Archa**	**38.67**	**337**	*eP*	P	**00 49 39.4**	**+0.1**
SONM	**Songino Array**	**41.14**	**13**	P	P	**00 50 00.5**	**+0.8**
	1.2nm,0.8s,mb3.6,baz=194,slow=7.7,SNR=10.0						
SONM				PcP	PcP	00 52 00.2	+0.9
	0.7nm,0.7s,baz=202,slow=3.8,SNR=7.0						
KURK	**Kurchatov**	**44.58**	**346**	*eP*	P	**00 50 27.2**	**-0.5**
	21nm,1.6s,mb4.7						
ZAL	**Zalesovo**	**46.52**	**352**	P	P	**00 50 43.5**	**+0.5**
	2.8nm,0.7s,mb4.3,baz=296,slow=7.0,SNR=25						
WRA	**Warramunga Arr**	**48.29**	**126**	P	P	**00 50 56.8**	**-0.5**
	0.8nm,0.5s,mb4.0,baz=305,slow=8.5,SNR=8.2						
BVAR	**Borovoye Array**	**48.96**	**341**	P	P	**00 51 01.5**	**-0.6**
	1.4nm,0.8s,mb4.0,baz=153,slow=9.9,SNR=8.2						
BVAR				PcP	PcP	00 52 26.6	+0.4
	1.0nm,0.8s,baz=153,slow=3.3,SNR=4.4						
ASAR	**Alice Springs**	**49.94**	**130**	P	P	**00 51 09.7**	**-0.4**
	0.3nm,0.5s,mb3.6,baz=302,slow=7.5,SNR=4.9						
ASAR				PcP	PcP	00 52 31.1	+0.9
	0.5nm,0.8s,baz=288,slow=4.5,SNR=4.1						
KMBO	**Kilima Mbogo**	**57.41**	**264**	P	P	**00 52 07.5**	**+2.3**
	2.9nm,0.8s,mb4.4,baz=61,slow=10,SNR=11						
KMBO	**Kilima Mbogo**	**57.41**	**264**	P	P	**00 52 07.5**	**+2.3**
BRTR	**Keskin Array B**	**62.40**	**311**	P	P	**00 52 37.6**	**-1.5**
	1.0nm,0.6s,mb4.2,baz=129,slow=7.5,SNR=5.5						
JOF	**Joensuu**	**70.82**	**334**	*ep*	P	**00 53 30.6**	**-1.4**
	5.2nm,0.7s,mb4.6						
FINES	**FINESS Array B**	**72.68**	**332**	P	P	**00 53 43.0**	**-0.1**
	3.2nm,0.8s,mb4.3,baz=104,slow=7.9,SNR=7.4						
KAF	**Kangasniemi**	**72.76**	**333**	*ep*	P	**00 53 42.9**	**-0.7**
	6.0nm,0.9s,mb4.5						
ARCES	**ARCESS Array B**	**75.24**	**340**	P	P	**00 53 57.8**	**-0.1**
	3.2nm,0.8s,mb4.3,baz=80,slow=5.5,SNR=5.1						
GERES	**GERESS Array B**	**77.80**	**318**	P	P	**00 54 13.2**	**+0.6**
	1.2nm,0.6s,mb4.0,baz=90,slow=2.7,SNR=5.4						
KHC	**Kasperske Hory**	**77.89**	**318**	*eP*	P	**00 54 13.5**	**+0.3**
HFS	**Hagfors**	**78.43**	**330**	P	P	**00 54 16.0**	**+0.1**
	3.9nm,0.7s,mb4.5,baz=101,slow=7.

WRA	Warramunga Arr	48.34	125	P		P	01 05 29.4	-1.8
	0.3nm,0.5s,baz=305,slow=8.5,SNR=5.5							
ASAR	Alice Springs	49.97	130	P		P	01 05 41.6	-2.2
	0.4nm,1.0s,baz=302,slow=8.8,SNR=2.8							
FINES	FINESS Array B	72.79	332	P		P	01 08 15.4	-2.1
	1.8nm,0.8s,baz=135,slow=11,SNR=3.9							
GERES	GERESS Array B	77.82	318	P		P	01 08 44.8	-1.7
	0.3nm,0.3s,baz=45,slow=13,SNR=3.5							
HFS	Hagfors	78.52	330	P		P	01 08 49.1	-1.0
	1.0nm,0.4s,baz=104,slow=6.1,SNR=6.9							
NOA	NORSAR Array B	79.80	331	P		P	01 08 55.5	-1.6
	0.8nm,0.7s,baz=94,slow=5.8,SNR=3.3							

IDC 27 00:58:57.0±1.8, 7.62N×93.86E, mb3.7/4, mb1 3.9/5, mb1mx3.7/19, mbtmp3.7/5, ML4.2/1, Error ellipse: s-maj=59.5km s-min=28.4km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.85	24	Pn	P	01 01 47.8	-2.6
	0.4nm,0.3s,baz=214,slow=15,SNR=4.0						
SONM	Songino Array	41.47	13	P	P	01 06 45.3	-1.9
	0.8nm,1.0s,baz=189,slow=8.4,SNR=5.7						
ZAL	Zalesovo	46.76	353	P	P	01 07 28.1	-1.7
	1.2nm,0.6s,baz=309,slow=7.8,SNR=8.0						
WRA	Warramunga Arr	48.34	125	P	P	01 07 40.7	-2.0
	0.4nm,0.5s,baz=305,slow=8.4,SNR=7.9						
HFS	Hagfors	78.53	330	P	P	01 11 00.1	-1.5
	0.5nm,0.4s,baz=104,slow=5.9,SNR=6.2						

IDC 27 01:04:08.7±1.8, 7.77N×93.81E, mb3.7/4, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, ML4.2/1, Error ellipse: s-maj=58.3km s-min=28.9km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.73	25	Pn	P	01 06 57.5	-3.0
	0.4nm,0.3s,baz=215,slow=13,SNR=4.9						
SONM	Songino Array	41.33	13	P	P	01 11 56.0	-1.8
	0.3nm,0.9s,baz=180,slow=6.6,SNR=3.7						
ZAL	Zalesovo	46.60	353	P	P	01 12 38.9	-1.4
	0.8nm,0.5s,baz=217,slow=3.1,SNR=3.9						
WRA	Warramunga Arr	48.47	125	P	P	01 12 53.4	-1.9
	0.2nm,0.5s,baz=304,slow=8.5,SNR=7.4						
HFS	Hagfors	78.38	330	P	P	01 16 10.8	-1.6
	4.3nm,1.1s,baz=100,slow=9.0,SNR=6.4						

*MEX **27** 01:09:39.6±0.6, 13.46N×92.51W, h54km±226km, MD4.6*
*CASC **27** 01:09:41.8±1.4, 13.74N×92.27W, h31km±110km, MD4.5, mb4.4(NEIC)*
*NEIC **27** 01:09:41.8±1.5, 13.80N×92.03W, h42km±10km, mb4.4/27, MD4.6(MEX), Error ellipse: s-maj=16.6km s-min=9.6km az=194.0*
*IDC **27** 01:09:55.9±4.3, 14.66N×91.70W, h130km±39km, mb3.9/14, mb1 4.1/15, mb1mx3.9/22, mbtmp4.3/15, MS4.3/1, Ms1 4.2/1, ms1mx2.7/14, Error ellipse: s-maj=26.6km s-min=14.4km az=50.0*

ISC 27 01:09:40.1±0.7, 13.70N±0.06×92.36W±0.04, h45km±5km, n97, σ1§36/113, mb4.4/35, MS4.3/1, 7C-6D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.93	49⇓	eP	P	01 09 57.4	+0.4
JAT				eS	S	01 10 09.5	+0.1
TP2	Tecpan 2	1.69	50⇑	eP	P	01 10 07.7	0.0
IXG	Ixpaco	1.91	75⇓	eP	P	01 10 09.8	-1.0
IXG				eS	S	01 10 34.7	+1.0
NBG	Las Nubes	2.14	65⇑	eP	P	01 10 14.8	+0.7
NBG				eS	S	01 10 40.9	+1.3
CCIG	Comitan	2.58	5	i P	P	01 10 21.5	+1.2
CCIG				i S	S	01 10 53.3	+2.6
RBDL	Robledal	2.63	81⇓	eP	P	01 10 21.6	+0.5
RBDL				eS	S	01 10 51.2	-0.8
RTR	El Retiro	2.65	85⇑	eP	P	01 10 21.7	+0.3
SBLS	San Blas	2.66	87⇓	eP	P	01 10 22.3	+0.7
SBLS				eS	S	01 10 52.7	-0.2
SNJE	San Jose	2.68	86⇑	eP	P	01 10 22.4	+0.5
MTO2	Montecristo 2	2.99	76⇑	eP	P	01 10 25.9	-0.4
BOQS	Boqueron	2.99	89⇑	eP	P	01 10 27.0	+0.7
SCX	San Cristobal	3.03	355	i P	P	01 10 28.0	+1.2
SCX				i S	S	01 11 05.0	+2.8
LFRS	El Faro	3.21	91⇓	eP	P	01 10 29.3	0.0
LFRS				eS	S	01 11 05.9	-0.7
LCBS	La Ceiba	3.29	90⇓	eP	P	01 10 30.7	+0.2
SNVI	San Vicente	3.42	91	eP	P	01 10 32.1	-0.3
CMIG	Matias Romero	4.16	324	i P	P	01 10 40.9	-1.9
CMIG				i S	S	01 11 29.9	-0.8
CNCH	Conchagua	4.42	95⇑	eP	P	01 10 46.8	+0.3
TUIG	Tuzandepetl	4.74	336	i P	P	01 10 49.4	-1.6
TUIG				i S	S	01 11 45.2	-0.3
OXX	Oaxaca	5.39	309	eP	P	01 10 58.0	-2.0
VHO	Vista Hermosa	5.39	309	eP	P	01 10 57.7	-2.3
VHO				i S	S	01 11 59.2	-2.4
EVV	El Vigia	5.53	329	eP	P	01 10 58.0	-4.0
EVV				i S	S	01 11 57.0	-8.3
POHV	Veracruz	7.13	319	eP	P	01 11 19.5	-4.9
IISM	Ciudad Serdan	7.13	318	eP	P	01 11 26.0	+1.6
TEIG	Tepich	7.58	30	ePn	P	01 11 28.1	-2.5
TEIG				eSn	S	01 12 48.9	-7.2
JTS	JuntasAbangare	8.00	114	ePn	P	01 11 35.3	-1.2
	18nm,0.6s						
JTS				eSn	S	01 13 27.3	+21
PPM	Popocatepetl	8.04	312	i P	P	01 11 36.3	-0.7
PPM				i S	S	01 13 05.5	-2.1
PPM	Popocatepetl	8.04	312	i P	P	01 11 36.3	-0.7
PPM				eP		01 11 38.0	
PPM				i S	S	01 13 05.5	-2.1
ZIIG	Zihuatanejo	9.59	295	eP	P	01 11 58.6	0.0
JCT	Junction City	18.06	339	P	P	01 13 50.9	+1.5
	10.0nm,0.8s						
JCT				eS	S	01 16 54.0	-12
LTX	Lajitas	18.76	328	eP	P	01 13 58.6	+0.6
	8.9nm,0.9s						
TXAR	Lajitas Array	18.76	328	P	P	01 13 59.7	+1.7
	0.2nm,0.3s,baz=147,slow=11,SNR=34						
TXAR	Lajitas Array	18.76	328	P	P	01 13 59.7	+1.7
OTAV	Otavalo	19.20	133	eP	P	01 14 12.2	+9.0
MIAR	Mount Ida	20.78	357	eP	P	01 14 17.4	-2.5
	22nm,1.1s						
GDL2	Guadalupe Moun	21.44	331	eP	P	01 14 27.4	+0.8
MNTX	Cornudas Mount	21.53	328	eP	P	01 14 27.7	+0.3
	13nm,1.0s,mb4.3						
WMOK	Wichita Mounta	21.74	346	eP	P	01 14 28.1	-1.4
	7.4nm,0.8s,mb4.2						
WMOK				eS	S	01 18 08.8	-13
SDV	Santo Domingo	21.83	100	P	P	01 14 32.9	+2.4
	5.5nm,0.7s,mb4.1,baz=302,slow=6.6,SNR=4.5						
SDV	Santo Domingo	21.83	100	P	P	01 14 29.7	-0.9
	6.4nm,0.8s,mb4.1						
CPRX	Cap Rock	21.92	333	eP	P	01 14 32.0	+0.7
MYNC	Murphy	22.54	18	eP	P	01 14 37.2	-0.3
	14nm,0.8s,mb4.4						
WVT	Waverly	22.70	10	eP	P	01 14 36.8	-2.3
	8.9nm,1.0s,mb4.2						
AMTX	Amarillo	22.71	340	eP	P	01 14 39.4	+0.3
	35nm,0.6s,mb5.0						
LPM	Los Pinos Moun	24.26	330	eP	P	01 14 57.8	+3.7
ANMO	Albuquerque	24.70	331	P	P	01 15 00.5	+2.0
	2.3nm,0.4s,mb4.0,baz=143,slow=12,SNR=12						
ANMO	Albuquerque	24.70	331	eP	P	01 15 00.2	+1.7
	2.8nm,0.6s,mb4.0						
WCI	Wyandotte Cave	25.02	11	eP	P	01 14 58.5	-3.0
	17nm,0.8s,mb4.6						
WCI				e	pP	01 15 14.8	+1.8
KSU1	Kansas State U	25.58	352	P	P	01 15 07.7	+0.9
SDCO	Great Sand Dun	26.65	336	eP	P	01 15 18.2	+1.4
	7.8nm,1.2s,mb4.1						
ACSO	Alum Creek Sta	27.68	16	eP	P	01 15 22.5	-3.7
	7.5nm,0.6s,mb4.5						
PV01	Paradox Valley	28.28	332	eP	P	01 15 33.0	+1.5
PV10	Paradox Valley	28.69	332	eP	P	01 15 35.5	+0.4
NEN	Nelson	29.78	321	eP	P	01 15 46.2	+1.3
MSU	Marysvale	30.32	328	eP	P	01 15 53.1	+3.4
DAU	Daniels Canyon	31.34	332	eP	P	01 15 55.3	-3.4
TCUT	Toone Canyon	31.97	332	eP	P	01 16 03.0	-1.2
HWUT	Hardware Ranch	32.44	333	eP	P	01 16 09.6	+1.3
	7.4nm,1.2s,mb4.4						
PDAR	Pinedale Array	32.55	336	P	P	01 16 09.7	+0.5
	0.6nm,0.6s,mb3.7,baz=135,slow=10,SNR=6.8						
PDAR				PcP	PcP	01 18 54.8	-0.4
	0.6nm,0.6s,baz=141,slow=5.3,SNR=5.5						
BGU	Big Grassy Mou	32.58	330	eP	P	01 16 11.1	+1.6
SADO	Sadowa	32.95	17	P	P	01 16 07.7	-5.0
	2.1nm,0.5s,mb4.4,baz=219,slow=6.3,SNR=4.6						
SADO	Sadowa	32.95	17	P	P	01 16 07.7	-5.0
SNOW	Snow King Moun	33.61	335	eP	P	01 16 19.7	+1.4
NVAR	Mina Array Bea	33.69	322	P	P	01 16 21.8	+2.7
	2.9nm,0.7s,mb4.3,baz=129,slow=8.7,SNR=31						
NVAR				PcP	PcP	01 19 00.7	+2.3
	0.8nm,0.8s,baz=132,slow=3.4,SNR=4.4						
TPAW	Teton Pass	33.71	335	eP	P	01 16 20.2	+0.9
CMB	Columbia Colle	34.73	319	eP	P	01 16 30.1	+2.1
	8.5nm,1.3s,mb4.5						
QLMT	Earthquake Lak	35.02	336	eP	P	01 16 32.9	+2.4
HLID	Hailey	35.27	332	eP	P	01 16 33.8	+1.2
	7.4nm,1.1s,mb4.5						
MCMT	McKenzie Canyo	35.59	335	eP	P	01 16 37.6	+2.3
WALA	Waterton Lakes	39.48	338	eP	P	01 17 07.9	+0.2
	4.5nm,0.9s,mb4.2						
NEW	Newport	40.11	334	P	P	01 17 15.6	+2.5
	16nm,1.6s,mb4.5						
LVC	Limon Verde	42.78	147	P	P	01 17 45.3	+10
	4.7nm,0.2s,mb4.8,baz=313,slow=22,SNR=14						
EDM	Edmonton	42.80	342	eP	P	01 17 35.0	-0.2
FCC	Fort Churchill	45.00	359	eP	P	01 17 51.6	-1.2
	1.0nm,0.6s,mb3.8						
SCHQ	Schefferville	45.62	20	P	P	01 17 54.6	-3.2
	2.1nm,0.8s,mb4.1,baz=191,slow=12,SNR=3.6						
SCHQ				LR	LR	01 37 39.4	
	comp=Z,299nm,18.5s,MS4.3,baz=215,slow=37						
SCHQ	Schefferville	45.62	20	eP	P	01 17 54.8	-3.1
	16nm,1.3s,mb4.8						
YKA	Yellowknife Ar	51.24	347	P	P	01 18 40.6	-0.6
	6.5nm,0.6s,mb4.8,baz=150,slow=7.5,SNR=157						
YKA				PcP	PcP	01 19 56.1	0.0
	1.5nm,0.8s,baz=149,slow=3.7,SNR=10						
YKW3	Yellowknife Ar	51.30	347	eP	P	01 18 40.9	-0.8
FRB	Frobisher Bay	52.68	13	P	P	01 18 48.3	-3.7
	1.2nm,0.5s,mb4.1,baz=216,slow=9.0,SNR=8.1						
RCBR	Riachuelo	59.30	105	P	P	01 19 36.8	-3.4
	9.7nm,0.9s,mb4.8						
DAWY	Dawson	59.82	338	eP	P	01 19 42.2	-1.0
INK	Inuvik	60.63	344	eP	P	01 19 48.2	-0.3
	12nm,1.0s,mb5.0						
INK				e		01 19 55.9	
RES	Resolute Bay	60.99	359	eP	P	01 19 48.3	-2.7
	1.4nm,0.6s,mb4.3						
ILAR	Eielson Array	62.98	337	P	P	01 20 04.4	0.0
	2.5nm,0.7s,mb4.5,baz=130,slow=4.9,SNR=45						
MCK	McKinley	63.32	335	eP	P	01 20 06.8	+0.2
	4.3nm,1.0s,mb4.5						
COLA	College	63.39	337	eP	P	01 20 06.7	-0.4
	4.2nm,0.7s,mb4.7						
SPU	Mount Spurr	63.67	332	eP	P	01 20 09.6	+0.6
RSO	Redoubt South	63.75	331	eP	P	01 20 09.9	+0.5
ESK	Eskdalemuir	78.39	36	P	P	01 21 34.6	-2.8
	6.7nm,0.6s,mb4.8						
EKA	Eskdalemuir Ar	78.41	36	P	P	01 21 35.9	-1.8
	3.7nm,0.6s,mb4.5,baz=276,slow=6.5,SNR=16						
ESLA	Sonseca Array	80.18	52	eP	P	01 21 46.3	-1.2
	5.3nm,1.1s,mb4.4						
ARCES	ARCESS Array B	86.53	18	P	P	01 22 17.5	-1.6
	2.8nm,0.8s,mb4.5,baz=326,slow=4.4,SNR=5.5						
ARCES	ARCESS Array B	86.53	18	P	P	01 22 17.5	-1.6
GERES	GERESS Array B	90.06	39	P	P	01 22 36.7	+0.3
	0.5nm,0.4s,mb4.2,baz=304,slow=4.8,SNR=3.6						
FINES	FINESS Array B	90.92	25	P	P	01 22 39.7	-0.5
	3.7nm,1.1s,mb4.6,baz=225,slow=2.7,SNR=3.6						
FINES	FINESS Array B	90.92	25	P	P	01 22 39.7	-0.5
WRA	Warramunga Arr	134.98	255	PKP	PKPdf	01 28 59.3	+3.8
	0.4nm,0.8s,baz=69,slow=1.7,SNR=4.9						
CMAR	Chiang Mai Arr	146.16	340	PKPbc	PKPbc	01 29 19.8	+3.2
	8.2nm,0.6s,baz=328,slow=3.7,SNR=25						

*IDC **27** 01:14:51.3±1.0, 7.71N×94.10E, mb3.8/9, mb1 4.0/10, mb1mx3.9/19, mbtmp3.8/10, ML4.2/1, Error ellipse: s-maj=40.7km s-min=19.0km az=51.0*
*NEIC **27** 01:14:55.6±0.8, 7.67N×94.09E, h30km, mb4.4/3, Error ellipse: s-maj=24.9km s-min=15.0km az=64.0*

ISC 27 01:14:53.8±0.8, 7.7N±0.1×94.2E±0.1, h30km, n20, σ1§29/20, mb4.3/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.63	23	Pn	P	01 17 41.2	+0.2
	0.5nm,0.3s,baz=210,slow=15,SNR=4.3						
JIRN	Jiri	21.22	340	eP	P	01 19 40.4	+0.8
	56nm,0.8s,mb5.0						
PKI	Pulchoki	21.41	338	eP	P	01 19 42.6	+1.1
	57nm,0.5s,mb5.1						
DMN	Daman	21.56	338	eP	P	01 19 43.8	+0.8
KKN	Kakani	21.66	338	eP	P	01 19 43.8	-0.2
	34nm,0.6s,mb5.0						
LSA	Lhasa	22.04	353	eP	P	01 19 49.9	+2.1
	6.8nm,0.8s,mb4.1						
GKN	Gorkha	22.09	337	eP	P	01 19 46.3	-2.0
	91nm,0.8s,mb5.3						
KOLN	Koldanda	22.30	335	eP	P	01 19 48.6	-1.9
	48nm,0.8s,mb5.0						
NDI	New Delhi	26.27	325	eP	P	01 20 31.0	+2.4
SONM	Songino Array	41.30	12	P	P	01 22 38.0	-0.3
	0.8nm,0.9s,mb3.4,baz=202,slow=6.7,SNR=4.9						
SONM				PcP	PcP	01 24 38.4	+1.3
	0.4nm,0.5s,baz=207,slow=3.2,SNR=2.8						
KURK	Kurchatov	44.76	346	eP	P	01 23 03.3	-3.2
	16nm,1.0s,mb4.8						
ZAL	Zalesovo	46.70	352	P	P	01 23 21.4	-0.3
	1.8nm,0.9s,mb4.0,baz=290,slow=8.7,SNR=9.2						
WRA	Warramunga Arr	48.15	125	P	P	01 23 34.1	+0.5
	0.8nm,0.5s,mb4.0,baz=300,slow=10.0,SNR=17						
BVAR	Borovoye Array	49.14	341	P	P	01 23 39.2	-1.6
	0.5nm,0.6s,mb3.7,baz=121,slow=8.6,SNR=3.6						
CHKZ	Chkalovo	49.62	342	eP	P	01 23 43.3	-1.2
	2.9nm,0.8s,mb4.4						
ASAR	Alice Springs	49.80	130	P	P	01 23 45.8	-0.5
	0.5nm,0.6s,mb3.8,baz=102,slow=7.8,SNR=7.0						
BRTR	Keskin Array B	62.55	311	P	P	01 25 16.2	-1.2
	0.4nm,0.4s,mb3.9,baz=107,slow=9.9,SNR=3.2						
AKASG	Malin Array Be	68.29	322	P	P	01 25 54.0	-0.1
	0.3nm,0.4s,mb3.7,baz=104,slow=3.9,SNR=3.5						
FINES	FINESS Array B	72.85	332	P	P	01 26 22.8	+1.2
	2.3nm,0.8s,mb4.2,baz=90,slow=13,SNR=4.5						
GERES	GERESS Array B	77.95	318	P	P	01 26 52.7	+1.9
	4.6nm,1.2s,mb4.3,baz=117,slow=3.0,SNR=5.0						

*IDC **27** 01:15:01.9±0.8, 7.72N×93.87E, mb4.3/12, mb1 4.4/13, mb1mx4.3/20, mbtmp4.3/13, ML4.6/1, MS4.0/1, Ms1 4.0/1, ms1mx2.4/17, Error ellipse: s-maj=35.2km s-min=16.8km az=52.0*
*BJI **27** 01:15:04.3, 7.39N×93.63E, h56km, mB4.7, mb4.7, Ms4.7, Msz4.1*
*NEIC **27** 01:15:05.8±0.6, 7.65N×93.88E, h30km, mb4.4/6, Error ellipse: s-maj=14.3km s-min=12.9km az=78.0*

ISC 27 01:15:07.5±2.7, 7.94N±0.09×94.24E±0.09, h53km±23km, n35, σ1§00/31, mb4.3/19, MS4.0/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.41	23	Pn	P	01 17 50.8	+0.4
	1.3nm,0.3s,baz=221,slow=14,SNR=14						
CMAR	Chiang Mai Arr	11.41	23	Pn	P	01 17 50.8	+0.4
SHL	Shillong	17.68	353	eP	P	01 19 09.0	-2.7
HYB	Hyderabad	17.96	303	i P	P	01 19 16.5	+1.3
KMI	Kunming	18.92	24	P	P	01 19 31.0	+4.3
	22nm,1.0s						
KMI				pP		01 19 37.3	
KMI				sP		01 19 39.0	
KMI				PP	PP	01 19 44.2	+0.5
KMI				S	x	01 22 36.6	
KMI				sS	S	01 22 52.2	0.0
KMI				SS	SS	01 22 58.1	-21
ENH	Enshi	26.42	31	eP	P	01 20 40.1	-1.1
	14nm,0.9s,mb4.5						
WMQ	Urumqi	36.20	352	eP	P	01 22 06.0	-1.1
AAK	Ala-Archa	38.69	336	eP	P	01 22 28.2	+0.3
	3.3nm,0.6s,mb4.2						
SONM	Songino Array	41.08	12	P	P	01 22 49.3	+1.7
	3.9nm,1.0s,mb4.0,baz=195,slow=7.5,SNR=16						
SONM				PcP	PcP	01 24 49.0	+1.8
	1.2nm,0.7s,baz=195,slow=3.4,SNR=5.8						
SONM				ScP		01 28 39.7	
	0.8nm,0.8s,baz=192,slow=6.5,SNR=6.0						
HIA	Hailar	46.43	23	eP	P	01 23 32.0	+1.2
	9.7nm,1.0s,mb4.7						
ZAL	Zalesovo	46.50	352	P	P	01 23 32.3	+1.0
	7.5nm,0.9s,mb4.6,baz=306,slow=6.9,SNR=22						
ZAL				LR	LR	01 44 34.6	
	comp=Z,157nm,18.9s,MS4.0,baz=294,slow=38						
WRA	Warramunga Arr	48.21	126	P	P	01 23 45.2	0.0
	1.2nm,0.5s,mb4.2,baz=304,slow=8.5,SNR=18						
BVAR	Borovoye Array	48.96	341	P	P	01 23 50.6	+0.1
	1.7nm,0.6s,mb4.2,baz=149,slow=8.6,SNR=8.8						
ASAR	Alice Springs	49.88	130	P	P	01 23 57.6	-0.3
	2.0nm,1.0s,mb4.1,baz=310,slow=7.3,SNR=7.3						
ASAR				PcP	PcP	01 25 19.4	+1.4
	1.3nm,1.0s,baz=333,slow=3.6,SNR=4.3						
KMBO	Kilima Mbogo	57.53	264	eP	P	01 24 49.4	-5.0
	0.9nm,0.8s,mb3.9						
BRTR	Keskin Array B	62.47	311	P	P	01 25 25.9	-2.0
	2.3nm,0.8s,mb4.4,baz=126,slow=6.8,SNR=9.9						
BRTR	Keskin Array B	62.47	311	P	P	01 25 25.9	-2.0
AKASG	Malin Array Be	68.17	322	P	P	01 26 02.2	-2.1
	0.9nm,0.5s,mb4.0,baz=88,slow=5.1,SNR=5.3						
JOF	Joensuu	70.84	334	ep	P	01 26 20.1	-0.3
	6.0nm,0.8s,mb4.6						
FINES	FINESS Array B	72.70	332	P	P	01 26 31.8	+0.3
	5.0nm,0.8s,mb4.5,baz=89,slow=5.4,SNR=17						
FINES	FINESS Array B	72.70	332	P	P	01 26 31.8	+0.3
KAF	Kangasniemi	72.78	333	ep	P	01 26 31.4	-0.5
	2.7nm,0.6s,mb4.3						
ARCES	ARCESS Array B	75.24	340	P	P	01 26 46.8	+0.7
	1.5nm,0.5s,mb4.2,baz=95,slow=6.4,SNR=14						
GERES	GERESS Array B	77.85	318	P	P	01 27 01.7	+0.6
	2.3nm,0.7s,mb4.2,baz=90,slow=4.0,SNR=7.7						
GERES	GERESS Array B	77.85	318	P	P	01 27 01.7	+0.6
KHC	Kasperske Hory	77.94	318	eP	P	01 27 01.5	-0.1
NB2	NORSAR Subarra	79.73	331	P	P	01 27 10.9	-0.3
	4.0nm,0.7s,mb4.5,baz=95,slow=5.0						
NOA	NORSAR Array B	79.73	331	P	P	01 27 11.2	0.0
	2.1nm,0.6s,mb4.3,baz=95,slow=5.1,SNR=8.7						
DAVOX	Davos	80.42	316	P	P	01 27 15.8	+0.7
	2.9nm,0.7s,mb4.3,baz=58,slow=8.2,SNR=4.2						
LPG	La Plagne	82.65	315	eP	P	01 27 27.2	+0.4
	33nm,1.3s,mb4.9						
NVAR	Mina Array Bea	124.81	31	PKP	PKPdf	01 34 06.5	+4.4
	1.1nm,0.8s,baz=321,slow=1.3,SNR=6.9						
PDAR	Pinedale Array	125.07	21	PKP	PKPdf	01 34 05.2	+2.8
	0.9nm,0.8s,baz=33,slow=1.5,SNR=8.2						
ANMO	Albuquerque	133.07	23	PKP	PKPdf	01 34 22.5	+4.5
	0.5nm,0.4s,SNR=3.7						
TXAR	Lajitas Array	139.13	24	PKP	PKPdf	01 34 32.0	+2.8
	0.3nm,0.7s,baz=229,slow=1.7,SNR=4.3						
PLCA	Paso Flores	144.64	200	PKP	PKPdf	01 34 40.5	+1.9
	5.7nm,0.9s,baz=158,slow=2.4,SNR=11						

IDC 27 01:17:34.5±11.0, 7.22N×94.49E, mb3.9/5, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, ML4.2/1, Error ellipse: s-maj=298.8km s-min=51.3km az=137.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.98	21	Pn	P	01 20 27.1	-2.7
	0.5nm,0.3s,baz=211,slow=15,SNR=4.1						
SONM	Songino Array	41.73	12	P	P	01 25 25.7	-1.1
	0.7nm,0.7s,baz=202,slow=7.0,SNR=2.9						
ZAL	Zalesovo	47.24	352	P	P	01 26 08.9	-2.2
	1.4nm,0.7s,baz=281,slow=8.0,SNR=4.9						
FINES	FINESS Array B	73.45	332	P	P	01 29 08.3	-2.1
	2.8nm,0.8s,baz=109,slow=25,SNR=4.0						
GERES	GERESS Array B	78.55	318	P	P	01 29 39.9	+0.5
	0.5nm,0.6s,baz=112,slow=5.3,SNR=3.5						
NOA	NORSAR Array B	80.47	331	P	P	01 29 46.6	-3.0
	1.9nm,1.1s,baz=98,slow=5.3,SNR=3.4						

IDC 27 01:21:08.0±23.0, 15.81S×173.64W, h144km±220km, mb3.4/7, mb1 3.8/7, mb1mx3.6/15, mbtmp3.8/7, Error ellipse: s-maj=115.5km s-min=30.6km az=158.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.52	257	P	P	01 29 44.4	-1.8
	0.3nm,0.6s,baz=90,slow=7.2,SNR=9.6						
ASAR	Alice Springs	49.76	252	P	P	01 29 46.0	-1.9
	3.2nm,0.6s,baz=88,slow=7.9,SNR=55						
NVAR	Mina Array Bea	74.79	42	P	P	01 32 32.2	-2.0
	1.5nm,1.0s,baz=217,slow=9.0,SNR=6.6						
TXAR	Lajitas Array	81.03	56	P	P	01 33 07.7	-0.9
	1.3nm,1.1s,baz=217,slow=6.3,SNR=6.0						
PDAR	Pinedale Array	82.73	42	P	P	01 33 16.0	-1.0
	0.3nm,0.6s,baz=243,slow=3.3,SNR=4.4						
ILAR	Eielson Array	82.89	11	P	P	01 33 16.3	-1.1
	0.4nm,0.7s,baz=236,slow=7.2,SNR=5.9						
YKA	Yellowknife Ar	90.57

*IDC **27** 01:24:54.9±3.3, 7.57N×93.95E, mb3.9/6, mb1 4.1/7, mb1mx3.9/18, mbtmp3.9/7, ML3.9/1, Error ellipse: s-maj=84.7km s-min=41.1km az=133.0*

ISC 27 01:24:58.4±2.4, 7.7N±0.3×94.1E±0.2, h33km, n14, σ0.58/13, mb4.0/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.73**	**23**	Pn	**P**	**01 27 46.2**	**-0.3**
	0.2nm,0.3s,baz=209,slow=15,SNR=7.0						
JIRN	**Jiri**	**21.25**	**340**	*eP*	**P**	**01 29 44.4**	**+0.4**
DMN	**Daman**	**21.59**	**338**	*eP*	**P**	**01 29 46.7**	**-0.7**
KKN	**Kakani**	**21.69**	**338**	*eP*	**P**	**01 29 48.8**	**+0.4**
GKN	**Gorkha**	**22.12**	**337**	*eP*	**P**	**01 29 52.3**	**-0.4**
	25nm,0.8s,mb4.7						
KOLN	**Koldanda**	**22.33**	**335**	*eP*	**P**	**01 29 55.4**	**+0.6**
	13nm,0.8s,mb4.4						
SONM	**Songino Array**	**41.39**	**13**	P	**P**	**01 32 43.1**	**-0.1**
	0.6nm,0.8s,mb3.3,baz=202,slow=6.7,SNR=5.4						
ZAL	**Zalesovo**	**46.76**	**352**	P	**P**	**01 33 26.7**	**+0.4**
	1.4nm,0.7s,mb4.0,baz=289,slow=7.1,SNR=8.5						
BRTR	**Keskin Array B**	**62.53**	**311**	P	**P**	**01 35 20.1**	**-1.3**
	1.0nm,0.9s,mb4.0,baz=117,slow=8.3,SNR=4.1						
FINES	**FINESS Array B**	**72.88**	**332**	P	**P**	**01 36 25.5**	**-0.2**
	2.2nm,0.9s,mb4.1,baz=117,slow=8.5,SNR=4.7						
GERES	**GERESS Array B**	**77.95**	**318**	P	**P**	**01 36 55.8**	**+0.9**
	0.9nm,0.8s,mb3.8,baz=82,slow=9.4,SNR=4.3						
NB2	**NORSAR Subarra**	**79.89**	**331**	P	**P**	**01 37 05.2**	**-0.1**
	0.8nm,0.6s,mb3.8,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**79.89**	**331**	P	**P**	**01 37 05.6**	**+0.3**
	1.5nm,0.8s,mb4.0,baz=94,slow=5.6,SNR=4.4						
PLCA	**Paso Flores**	**144.32**	**200**	PKP	PKPdf	01 44 33.0	+1.6
	1.9nm,0.7s,baz=149,slow=3.6,SNR=5.2						

MAN 27 01:28:35.2, 9.49N×122.22E, h13km, mb4.3, ML3.1, MS2.9, 2C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**1.01**	**98**	*i* S	Sb	01 29 07.5	+0.5
TBP	**Tagbilaran**	**1.63**	**83**	⇑*e*P	Pn	01 29 02.8	-1.0
TBP				*i* S	Sn	01 29 24.6	-0.1
LLP	**Lapu-Lapu**	**1.90**	**64**	⇑*i*P	Pn	01 29 06.9	-0.9
LLP				*e*S	Sn	01 29 25.4	-6.3
RCP	**Roxas**	**2.12**	**14**	⇓*e*P	Pn	01 29 11.7	+0.9
RCP				*e*S	Sn	01 29 38.5	+1.3

*IDC **27** 01:29:56.4±1.1, 7.76N×94.03E, mb3.7/7, mb1 4.0/8, mb1mx3.9/19, mbtmp3.7/8, ML4.2/1, MS3.5/1, Ms1 3.7/1, ms1mx2.5/25, Error ellipse: s-maj=40.8km s-min=20.6km az=55.0*

ISC 27 01:30:00.0±0.9, 7.8N±0.1×94.2E±0.2, h33km, n15, σ0.76/14, mb4.1/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.52**	**23**	Pn	**P**	**01 32 44.5**	**-0.8**
	0.5nm,0.3s,baz=211,slow=15,SNR=8.1						
CMAR				LR	LR	01 37 10.3	
	comp=Z,241nm,18.5s,baz=225,slow=37						
JIRN	**Jiri**	**21.15**	**340**	*eP*	**P**	**01 34 46.2**	**+1.6**
	22nm,0.9s,mb4.5						
PKI	**Pulchoki**	**21.34**	**338**	*eP*	**P**	**01 34 46.5**	**0.0**
	75nm,1.3s,mb4.9						
DMN	**Daman**	**21.49**	**337**	*eP*	**P**	**01 34 48.2**	**+0.2**
	22nm,0.7s,mb4.6						
KKN	**Kakani**	**21.59**	**338**	*eP*	**P**	**01 34 49.8**	**+0.8**
GKN	**Gorkha**	**22.03**	**337**	*eP*	**P**	**01 34 53.7**	**+0.3**
KOLN	**Koldanda**	**22.24**	**334**	*eP*	**P**	**01 34 55.0**	**-0.5**
	50nm,1.2s,mb4.8						
SONM	**Songino Array**	**41.19**	**12**	P	**P**	**01 37 43.6**	**+0.5**
	1.0nm,0.9s,mb3.4,baz=207,slow=8.3,SNR=5.1						
ZAL	**Zalesovo**	**46.61**	**352**	P	**P**	**01 38 26.9**	**+0.2**
	1.3nm,0.7s,mb4.0,baz=309,slow=8.7,SNR=9.4						
WRA	**Warramunga Arr**	**48.16**	**126**	P	**P**	**01 38 39.7**	**+0.3**
	2.0nm,1.1s,mb4.1,baz=307,slow=9.2,SNR=6.4						
BVAR	**Borovoye Array**	**49.06**	**341**	P	**P**	**01 38 44.5**	**-1.5**
	0.2nm,0.4s,mb3.5,baz=153,slow=3.2,SNR=3.1						
ASAR	**Alice Springs**	**49.82**	**130**	P	**P**	**01 38 52.1**	**0.0**
	1.1nm,0.8s,mb3.9,baz=306,slow=6.7,SNR=5.5						
BRTR	**Keskin Array B**	**62.53**	**311**	P	**P**	**01 40 21.7**	**-1.3**
	0.4nm,0.5s,mb3.8,baz=91,slow=5.6,SNR=2.5						
GERES	**GERESS Array B**	**77.92**	**318**	P	**P**	**01 41 56.5**	**+0.1**
	0.9nm,0.7s,mb3.8,baz=45,slow=1.9,SNR=5.6						
PLCA	**Paso Flores**	**144.53**	**200**	PKP	PKPdf	01 49 34.6	+1.2
	2.1nm,0.7s,baz=124,slow=1.3,SNR=4.3						

IDC 27 01:33:24.9±10.0, 7.51N×93.78E, mb3.8/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, ML4.0/1, Error ellipse: s-maj=244.6km s-min=44.7km az=142.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.98**	**24**	Pn	P	01 36 18.7	-1.4
	0.3nm,0.3s,baz=210,slow=14,SNR=3.8						
SONM	**Songino Array**	**41.59**	**13**	P	P	01 41 13.5	-2.7
	0.3nm,0.7s,baz=193,slow=6.6,SNR=3.2						
ZAL	**Zalesovo**	**46.86**	**353**	P	P	01 41 56.7	-1.8
	1.1nm,0.4s,baz=290,slow=7.9,SNR=4.4						
BRTR	**Keskin Array B**	**62.39**	**311**	P	P	01 43 49.1	-2.9
	0.3nm,0.5s,baz=143,slow=6.2,SNR=3.8						
FINES	**FINESS Array B**	**72.86**	**332**	P	P	01 44 55.5	-1.8
	3.3nm,1.2s,baz=90,slow=3.8,SNR=3.4						
GERES	**GERESS Array B**	**77.85**	**318**	P	P	01 45 25.8	-0.3
	0.4nm,0.5s,baz=108,slow=9.3,SNR=4.2						
NOA	**NORSAR Array B**	**79.87**	**331**	P	P	01 45 35.4	-1.3
	0.8nm,0.8s,baz=122,slow=3.9,SNR=3.0						

*IDC **27** 01:37:59.2±2.9, 7.63N×93.79E, mb3.7/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=89.0km s-min=28.7km az=67.0*

ISC 27 01:38:03.5±1.4, 7.7N±0.2×94.1E±0.2, h33km, n10, σ0.95/10, mb4.2/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.64**	**23**	Pn	**P**	**01 40 50.3**	**-0.1**
	0.1nm,0.3s,baz=218,slow=14,SNR=8.0						
JIRN	**Jiri**	**21.18**	**340**	*eP*	**P**	**01 42 49.2**	**+0.7**
	13nm,0.9s,mb4.3						
PKI	**Pulchoki**	**21.38**	**338**	*eP*	**P**	**01 42 51.7**	**+1.3**
	9.2nm,0.6s,mb4.3						
DMN	**Daman**	**21.52**	**338**	*eP*	**P**	**01 42 52.7**	**+0.8**
	7.4nm,0.2s,mb4.7						
KKN	**Kakani**	**21.62**	**338**	*eP*	**P**	**01 42 53.7**	**+0.8**
	11nm,0.7s,mb4.4						
GKN	**Gorkha**	**22.06**	**337**	*eP*	**P**	**01 42 55.6**	**-1.6**
	13nm,0.6s,mb4.5						
KOLN	**Koldanda**	**22.27**	**335**	*eP*	**P**	**01 42 57.6**	**-1.7**
	11nm,0.7s,mb4.4						
SONM	**Songino Array**	**41.29**	**13**	P	**P**	**01 45 47.6**	**0.0**
	0.9nm,0.9s,mb3.4,baz=194,slow=5.1,SNR=7.3						
ZAL	**Zalesovo**	**46.67**	**352**	P	**P**	**01 46 30.2**	**-0.6**
	1.3nm,0.5s,mb4.1,baz=285,slow=7.9,SNR=11						
WRA	**Warramunga Arr**	**48.20**	**125**	P	**P**	**01 46 43.4**	**+0.1**
	0.4nm,0.6s,mb3.7,baz=304,slow=8.4,SNR=8.0						

*IDC **27** 01:43:17.7±0.7, 7.81N×93.93E, mb4.2/11, mb1 4.3/12, mb1mx4.2/20, mbtmp4.1/12, ML3.9/1, MS3.3/1, Ms1 3.5/1, ms1mx2.8/22, Error ellipse: s-maj=37.6km s-min=15.9km az=57.0*

*NEIC **27** 01:43:21.9±0.6, 7.78N×93.83E, h30km, mb4.7/4, Error ellipse: s-maj=22.5km s-min=13.2km az=63.0*

ISC 27 01:43:21.1±0.6, 7.88N±0.09×94.1E±0.1, h33km, n30, σ1.02/27, mb4.4/21, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.52**	**24**	Pn	**P**	**01 46 07.5**	**+1.2**
	0.2nm,0.3s,baz=211,slow=14,SNR=9.8						
CMAR				LR	LR	01 50 42.9	
	comp=Z,136nm,18.8s,baz=220,slow=38						
SHL	**Shillong**	**17.71**	**353**	*eP*	**P**	**01 47 26.0**	**-0.9**
HYB	**Hyderabad**	**17.87**	**304**	*eP*	**P**	**01 47 30.0**	**+1.1**
HYB	**Hyderabad**	**17.87**	**304**	*i* P	**P**	**01 47 30.0**	**+1.1**
JIRN	**Jiri**	**21.05**	**340**	*eP*	**P**	**01 48 04.0**	**-0.6**
	28nm,0.8s,mb4.6						
PKI	**Pulchoki**	**21.24**	**338**	*eP*	**P**	**01 48 07.4**	**+0.8**
	20nm,0.6s,mb4.6						
DMN	**Daman**	**21.39**	**338**	*eP*	**P**	**01 48 08.6**	**+0.5**
	46nm,0.9s,mb4.8						
KKN	**Kakani**	**21.49**	**338**	*eP*	**P**	**01 48 09.6**	**+0.6**
	24nm,0.8s,mb4.5						
GKN	**Gorkha**	**21.92**	**337**	*eP*	**P**	**01 48 13.1**	**-0.3**
	31nm,0.8s,mb4.8						
KOLN	**Koldanda**	**22.14**	**335**	*eP*	**P**	**01 48 16.1**	**+0.6**
	25nm,0.9s,mb4.7						
SONM	**Songino Array**	**41.16**	**13**	P	**P**	**01 51 04.8**	**+0.8**
	0.7nm,1.0s,mb3.3,baz=162,slow=7.8,SNR=4.1						
SONM				PcP	PcP	01 53 02.5	-1.0
	0.6nm,0.7s,baz=184,slow=4.1,SNR=4.7						
NWAO	**Narrogin (SRO)**	**46.17**	**153**	P	**P**	**01 51 46.1**	**+1.4**
	3.7nm,0.5s,mb4.6,baz=314,slow=11,SNR=7.2						
ZAL	**Zalesovo**	**46.53**	**352**	P	**P**	**01 51 47.9**	**+0.6**
	2.5nm,0.9s,mb4.1,baz=305,slow=8.2,SNR=12						
WRA	**Warramunga Arr**	**48.30**	**126**	P	**P**	**01 52 01.2**	**-0.3**
	1.3nm,0.4s,mb4.3,baz=304,slow=8.5,SNR=30						
BVAR	**Borovoye Array**	**48.97**	**341**	P	**P**	**01 52 04.9**	**-1.3**
	0.9nm,0.8s,mb3.9,baz=146,slow=5.3,SNR=4.1						
ASAR	**Alice Springs**	**49.95**	**130**	P	**P**	**01 52 13.5**	**-0.7**
	0.5nm,0.5s,mb3.8,baz=301,slow=7.5,SNR=8.7						
KMBO	**Kilima Mbogo**	**57.38**	**264**	*eP*	**P**	**01 53 12.2**	**+3.0**
	6.4nm,0.9s,mb4.7						
BRTR	**Keskin Array B**	**62.39**	**311**	P	**P**	**01 53 41.8**	**-1.4**
	1.4nm,0.6s,mb4.2,baz=132,slow=8.0,SNR=9.2						
JOF	**Joensuu**	**70.82**	**334**	*ep*	**P**	**01 54 34.6**	**-1.5**
	4.0nm,0.8s,mb4.4						
FINES	**FINESS Array B**	**72.68**	**332**	P	**P**	**01 54 47.1**	**-0.1**
	3.4nm,0.7s,mb4.4,baz=143,slow=9.5,SNR=6.8						
KAF	**Kangasniemi**	**72.76**	**333**	*ep*	**P**	**01 54 46.5**	**-1.2**
	6.7nm,0.9s,mb4.6,baz=104,slow=5.5						
ARCES	**ARCESS Array B**	**75.24**	**340**	P	**P**	**01 55 02.1**	**+0.2**
	8.1nm,1.2s,mb4.5,baz=104,slow=5.0,SNR=5.2						
GERES	**GERESS Array B**	**77.79**	**318**	P	**P**	**01 55 17.5**	**+0.8**
	1.9nm,0.6s,mb4.2,baz=82,slow=4.9,SNR=14						
KHC	**Kasperske Hory**	**77.88**	**318**	*eP*	**P**	**01 55 17.5**	**+0.2**
NB2	**NORSAR Subarra**	**79.70**	**331**	P	**P**	**01 55 26.2**	**-0.7**
	1.3nm,0.6s,mb4.0,baz=95,slow=5.0						
NOA	**NORSAR Array B**	**79.70**	**331**	P	**P**	**01 55 27.1**	**+0.1**
	2.1nm,0.6s,mb4.2,baz=92,slow=5.6,SNR=7.8						
LPG	**La Plagne**	**82.58**	**315**	*eP*	**P**	**01 55 39.4**	**-2.9**
	17nm,1.1s,mb4.7						
PDAR	**Pinedale Array**	**125.17**	**21**	PKP	PKPdf	02 02 20.6	+1.9
	0.4nm,0.7s,baz=180,slow=1.5,SNR=4.1						
TXAR	**Lajitas Array**	**139.24**	**24**	PKP	PKPdf	02 02 48.0	+2.5
	0.2nm,0.5s,baz=25,slow=0.8,SNR=5.7						
PLCA	**Paso Flores**	**144.54**	**200**	PKP	PKPdf	02 02 56.2	+1.7
	2.2nm,0.8s,baz=282,slow=0.7,SNR=4.8						

*INMG **27** 01:44:26.5±0.9, 35.71N×4.63W, h91km±6km, ML2.1, Error ellipse: s-maj=3.9km s-min=2.9km az=7.0*

*SFS **27** 01:44:26.0, 35.72N×4.63W*

*NEIC **27** 01:44:26.6, 35.72N×4.63W, h95km, MG2.6(MDD), After MDD.*

*CSEM **27** 01:44:28.3±0.3, 36.05N×4.71W, h90km, mb2.6/14, Error ellipse: s-maj=5.3km s-min=2.7km az=172.0*

MDD 27 01:44:26.6±1.1, 35.72N×4.63W, h99km±11km, mb2.8/8, 6C-1D, Error ellipse: s-maj=11.2km s-min=6.5km az=7.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.85**	**352**	⇑P	P	01 44 44.6	-1.0
	7.5nm,0.1s,SNR=18						
EMIJ				S	S	01 44 57.8	-1.9
	21nm,0.1s,SNR=22						
LIJA	**Lijar**	**1.34**	**332**	⇑P	P	01 44 51.8	+0.5
LIJA				S	S	01 45 09.0	-0.6
LIJA	**Lijar**	**1.34**	**332**	*i* P	P	01 44 51.8	+0.5
LIJA				*e*S	S	01 45 09.0	-0.6
EMEL	**Melilla**	**1.43**	**107**	P	P	01 44 51.0	-1.3
	14nm,0.1s,SNR=4.0						
EMLI	**Melilla**	**1.43**	**106**	P	P	01 44 51.0	-1.3
	25nm,0.1s,SNR=4.0						
ELOJ	**Sierra Loja**	**1.48**	**15**	P	P	01 44 51.3	-1.6
ELOJ				S	S	01 45 10.7	-1.8
ELOJ	**Sierra Loja**	**1.48**	**15**	P	P	01 44 52.4	-0.5
	1.6nm,0.2s,SNR=4.0						
ELOJ				S	S	01 45 10.7	-1.8
	1.1nm,0.2s,SNR=4.0						
ELOJ	**Sierra Loja**	**1.48**	**15**	P	P	01 44 51.3	-1.6
	1.9nm,0.3s,SNR=4.0						
ELOJ				S	S	01 45 10.7	-1.8
	1.1nm,0.2s,SNR=4.0						
ESPR	**Espera**	**1.52**	**320**	⇓P	P	01 44 53.2	-0.3
	3.5nm,0.2s,SNR=18						
ESPR				S	S	01 45 11.4	-2.0
	12nm,0.3s,SNR=5.9						
ESPR	**Espera**	**1.52**	**320**	P	P	01 44 53.2	-0.2
	1.9nm,0.1s,SNR=18						
ESPR				S	S	01 45 11.4	-2.0
	12nm,0.3s,SNR=5.9						
EBER	**Berja**	**1.83**	**49**	P	P	01 44 56.1	-1.3
	0.1nm,0.1s,SNR=7.2						
EBER				S	S	01 45 19.0	-1.2
	21nm,0.6s,SNR=4.0						
EBER	**Berja**	**1.83**	**49**	P	P	01 44 56.1	-1.3
	22nm,0.8s,SNR=7.2						
EBER				S	S	01 45 19.0	-1.2
	21nm,0.6s,SNR=4.0						
ELUQ	**Luque**	**1.86**	**9**	⇑P	P	01 44 57.4	-0.4
	5.8nm,0.1s,SNR=18						
ELUQ				S	S	01 45 20.1	-0.7
	12nm,0.2s,SNR=13						
EQES	**Quesada**	**2.43**	**31**	P	P	01 45 04.7	-0.8
EQES				S	S	01 45 32.4	-2.1
EQES	**Quesada**	**2.43**	**31**	P	P	01 45 04.5	-0.9
	0.4nm,0.1s,SNR=9.3						
EQES				S	S	01 45 32.3	-2.2
	3.8nm,0.3s						
EQES	**Quesada**	**2.43**	**31**	P	P	01 45 04.7	-0.8
	1.7nm,0.2s,SNR=9.3						
EQES				S	S	01 45 32.4	-2.1
	3.8nm,0.3s						
EADA	**Adamuz**	**2.45**	**1**	P	P	01 45 04.4	-1.3
EADA				S	S	01 45 31.7	-3.2
EADA	**Adamuz**	**2.45**	**1**	P	P	01 45 04.4	-1.4
	4.0nm,0.1s,SNR=36						
EADA				S	S	01 45 31.4	-3.5
	7.8nm,0.1s,SNR=9.7						
EADA	**Adamuz**	**2.45**	**1**	S	S	01 45 31.7	-3.2
	7.8nm,0.1s,SNR=9.7						
EADA	**Adamuz**	**2.45**	**1**	P	P	01 45 04.4	-1.3
	4.0nm,0.1s,SNR=36						
EMIN	**Mina Concepcio**	**2.62**	**322**	⇑P	P	01 45 06.5	-1.7
EMIN				S	S	01 45 35.4	-3.8
EMIN	**Mina Concepcio**	**2.62**	**322**	⇑P	P	01 45 06.5	-1.7
	4.6nm,0.1s,SNR=18						
EMIN				S	S	01 45 35.2	-4.0
	2.7nm,0.1s,SNR=14						
EMIN	**Mina Concepcio**	**2.62**	**322**	P	P	01 45 06.5	-1.7
	4.6nm,0.1s,SNR=18						
EMIN				S	S	01 45 35.4	-3.9
	2.7nm,0.1s,SNR=14						
PALC	**Alcoutim**	**2.88**	**308**	*eP*	P	01 45 09.8	-1.9
PALC				*e*S	S	01 45 42.3	-3.3
	9.4nm,0.2s						
PALC	**Alcoutim**	**2.88**	**308**	P	P	01 45 09.7	-2.0
PALC				S	S	01 45 41.9	-3.7
PALC	**Alcoutim**	**2.88**	**308**	P	P	01 45 09.8	-1.9
PALC				S	S	01 45 42.3	-3.3
	4.7nm,0.2s						
PALC	**Alcoutim**	**2.88**	**308**	*eP*	P	01 45 09.8	-1.9
PALC				S	S	01 45 41.9	-3.7
EGRO	**El Granado**	**2.93**	**309**	⇑P	P	01 45 10.3	-2.0
	2.6nm,0.1s,SNR=18						
EGRO				S	S	01 45 42.3	-4.4
	6.3nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.93**	**309**	P	P	01 45 10.3	-2.0
	4.9nm,0.1s,SNR=18						
EGRO				S	S	01 45 42.3	-4.4
	6.3nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**3.37**	**30**	P	P	01 45 16.6	-1.8
EVIA				S	S	01 45 53.0	-4.7
EVIA	**Vianos**	**3.37**	**30**	P	P	01 45 16.6	-1.8
	1.1nm,0.2s,SNR=4.0						
EVIA				S	S	01 45 52.9	-4.8
	2.6nm,0.6s,SNR=4.0						
EVIA	**Vianos**	**3.37**	**30**	P	P	01 45 16.6	-1.8
	1.2nm,0.3s,SNR=4.0						
EVIA				S	S	01 45 53.0	-4.6
	2.6nm,0.6s,SNR=4.0						
PBEJ	**Beja**	**3.47**	**313**	*eP*	P	01 45 17.6	-2.2
PBEJ				*e*S	S	01 45 55.4	-4.7
	2.9nm,0.1s						
PBEJ	**Beja**	**3.47**	**313**	P	P	01 45 17.6	-2.2
PBEJ				S	S	01 45 55.3	-4.8
PBEJ	**Beja**	**3.47**	**313**	*eP*	P	01 45 17.6	-2.2
PBEJ				*e*S	S	01 45 55.4	-4.7
	2.9nm,0.1s						
EBAD	**Badajoz**	**3.58**	**329**	P	P	01 45 19.1	-2.2
EBAD				S	S	01 45 58.1	-4.6
EBAD	**Badajoz**	**3.58**	**329**	P	P	01 45 19.1	-2.2
	8.8nm,0.1s,SNR=22						
EBAD				S	S	01 45 58.2	-4.5
	2.4nm,0.0s						
EBAD	**Badajoz**	**3.58**	**329**	P	P	01 45 19.1	-2.2
	8.8nm,0.1s,SNR=22						
EBAD				S	S	01 45 58.1	-4.6
	2.4nm,0.0s						
PTEO	**Sao Teotonio**	**3.77**	**300**	*eP*	P	01 45 21.8	-2.0
PTEO				*e*S	S	01 46 03.7	-3.6
	3.0nm,0.1s						
PTEO	**Sao Teotonio**	**3.77**	**300**	P	P	01 45 21.7	-2.1
PTEO				S	S	01 46 03.3	-4.0
PTEO	**Sao Teotonio**	**3.77**	**300**	P	P	01 45 21.7	-2.1
PTEO				S	S	01 46 03.7	-3.6
	1.5nm,0.1s						
PTEO	**Sao Teotonio**	**3.77**	**300**	*eP*	P	01 45 21.8	-2.0
PTEO				*e*S	S	01 46 03.7	-3.6
	3.0nm,0.1s						
ESDC	**Sonseca Array**	**3.98**	**7**	P	P	01 45 24.3	-2.5
	1.3nm,0.2s,baz=191,slow=13,SNR=5.9						
ESDC				S	S	01 46 07.2	-5.4
	0.5nm,0.5s,baz=187,slow=23,SNR=4.2						
ESDC	**Sonseca Array**	**3.98**	**7**	P	P	01 45 24.3	-2.5
	1.3nm,0.2s,SNR=5.9						
ESDC				S	S	01 46 07.2	-5.5
	0.5nm,0.5s,SNR=4.2						
PCBR	**Castelo Branco**	**4.69**	**332**	*eP*	P	01 45 33.9	-2.6
PCBR				*e*S	S	01 46 24.5	-5.7
PCBR	**Castelo Branco**	**4.69**	**332**	P	P	01 45 33.8	-2.7
PCBR				S	S	01 46 23.7	-6.5
GUD	**Guadarrama**	**4.93**	**4**	S	S	01 46 29.8	-6.2
	0.5nm,0.4s,SNR=4.0						
PVIS	**Viseu**	**5.61**	**334**	*eP*	P	01 45 46.3	-2.7
PVIS	**Viseu**	**5.61**	**334**	P	P	01 45 46.3	-2.7
PVIS				S	S	01 46 45.9	-6.9
PVIS	**Viseu**	**5.61**	**334**	P	P	01 45 47.0	-2.0
PVIS				S	S	01 46 45.9	-6.9
EIBI	**Ibiza**	**5.79**	**53**	P	P	01 45 49.2	-2.1
EIBI				S	S	01 46 50.6	-6.5
EIBI	**Ibiza**	**5.79**	**53**	P	P	01 45 49.6	-1.7
	4.2nm,0.2s,SNR=7.9						
EIBI				S	S	01 46 50.6	-6.5
	3.5nm,0.6s,SNR=7.9						
EIBI	**Ibiza**	**5.79**	**53**	P	P	01 45 49.2	-2.2
	6.4nm,0.3s,SNR=7.9						
PVRL	**Vila Real**	**6.05**	**337**	S	S	01 46 58.2	-5.4
PBRG	**Braganca**	**6.30**	**345**	P	P	01 45 56.3	-2.1
ELOB	**Lobios**	**6.70**	**337**	P	P	01 46 01.3	-2.7
ELOB				S	S	01 47 12.5	-6.9
ELOB	**Lobios**	**6.70**	**337**	P	P	01 46 02.0	-2.0
	0.2nm,0.2s,SNR=7.9						
ELOB				S	S	01 47 12.5	-6.9
	2.4nm,0.7s,SNR=7.9						
ELOB	**Lobios**	**6.70**	**337**	P	P	01 46 01.3	-2.7
	1.8nm,0.4s,SNR=7.9						
ELOB				S	S	01 47 12.5	-6.9
	2.4nm,0.7s,SNR=7.9						

*IDC **27** 01:50:31.4±0.8, 7.64N×93.74E, mb4.2/11, mb1 4.4/12, mb1mx4.3/19, mbtmp4.2/12, ML4.7/1, Error ellipse: s-maj=36.0km s-min=17.6km az=52.0*

*NEIC **27** 01:50:35.7±0.6, 7.64N×93.81E, h30km, mb4.7/7, Error ellipse: s-maj=18.5km s-min=12.2km az=61.0*

ISC 27 01:50:36.2±3.1, 7.8N±0.1×94.0E±0.1, h47km±26km, n38, σ1.02/34, mb4.5/24, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.68**	**24**	Pn	**P**	**01 53 22.2**	**-0.7**
	1.4nm,0.3s,baz=213,slow=14,SNR=14						
HYB	**Hyderabad**	**17.86**	**304**	*i* P	**P**	**01 54 43.0**	**-0.1**
JIRN	**Jiri**	**21.14**	**340**	*eP*	**P**	**01 55 19.5**	**+0.1**
	30nm,0.7s,mb4.7						
PKI	**Pulchoki**	**21.33**	**339**	*eP*	**P**	**01 55 21.9**	**+0.6**
	22nm,0.7s,mb4.6						
DMN	**Daman**	**21.47**	**338**	*eP*	**P**	**01 55 22.5**	**-0.2**
	40nm,0.7s,mb4.9						
KKN	**Kakani**	**21.57**	**339**	*eP*	**P**	**01 55 22.8**	**-0.9**
	50nm,1.2s,mb4.8						
LSA	**Lhasa**	**22.00**	**353**	*eP*	**P**	**01 55 30.5**	**+2.5**
	25nm,0.7s,mb4.8						
GKN	**Gorkha**	**22.00**	**337**	*eP*	**P**	**01 55 27.9**	**-0.1**
	50nm,0.8s,mb5.0						
BHPL	**Bhopal**	**22.15**	**316**	*eP*	**P**	**01 55 31.2**	**+1.7**
KOLN	**Koldanda**	**22.21**	**335**	*eP*	**P**	**01 55 30.2**	**+0.1**
	33nm,0.8s,mb4.8						
AAK	**Ala-Archa**

2.0nm,0.8s,baz=117,slow=12,SNR=3.0
GERES GERESS Array B 78.16 318 P P 02 05 56.3 -0.6
0.5nm,0.7s,baz=90,slow=5.9,SNR=3.6
NB2 NORSAR Subarra 80.11 331 P P 02 06 05.6 -1.7
0.9nm,0.7s,baz=95,slow=5.0
NOA NORSAR Array B 80.11 331 P P 02 06 05.8 -1.5
1.4nm,0.9s,baz=93,slow=5.2,SNR=3.9

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*IDC **27** 01:58:57.0±1.0, 7.73N×93.99E, mb3.8/9, mb1 4.1/10, mb1mx3.9/9, mbtmp3.8/10, ML4.3/1, MS3.5/1, Ms1 3.8/1, ms1mx3.1/21, Error ellipse: s-maj=41.3km s-min=20.6km az=54.0*

ISC 27 01:59:00.5±0.8, 7.8N±0.1×94.2E±0.2, h33km, n18, σ0:96/17, mb4.1/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.59**	**23**	Pn	**P**	**02 01 46.2**	**-0.5**
	0.6nm,0.3s,baz=208,slow=13,SNR=5.1						
CMAR				LR	LR	02 06 30.1	
	comp=Z,237nm,18.1s,baz=203,slow=39						
SHL	**Shillong**	**17.83**	**353**	*eP*	**P**	**02 03 04.0**	**-3.8**
JIRN	**Jiri**	**21.18**	**340**	*eP*	**P**	**02 03 49.1**	**+3.7**
	42nm,1.1s,mb4.7						
PKI	**Pulchoki**	**21.37**	**338**	*eP*	**P**	**02 03 49.1**	**+1.8**
	19nm,0.6s,mb4.6						
DMN	**Daman**	**21.52**	**338**	*eP*	**P**	**02 03 49.7**	**+0.9**
KKN	**Kakani**	**21.62**	**338**	*eP*	**P**	**02 03 50.9**	**+1.1**
GKN	**Gorkha**	**22.05**	**337**	*eP*	**P**	**02 03 53.9**	**-0.2**
	22nm,0.7s,mb4.7						
KOLN	**Koldanda**	**22.27**	**335**	*eP*	**P**	**02 03 55.9**	**-0.4**
	14nm,0.6s,mb4.6						
SONM	**Songino Array**	**41.26**	**12**	P	**P**	**02 06 43.8**	**-0.4**
	0.9nm,1.0s,mb3.4,baz=188,slow=8.7,SNR=4.9						
ZAL	**Zalesovo**	**46.66**	**352**	P	**P**	**02 07 27.8**	**+0.2**
	2.6nm,1.0s,mb4.1,baz=307,slow=10,SNR=8.6						
WRA	**Warramunga Arr**	**48.17**	**125**	P	**P**	**02 07 40.5**	**+0.5**
	0.5nm,0.6s,mb3.8,baz=305,slow=8.5,SNR=5.2						
BVAR	**Borovoye Array**	**49.10**	**341**	P	**P**	**02 07 45.8**	**-0.9**
	0.6nm,0.7s,mb3.7,baz=117,slow=9.9,SNR=3.7						
ASAR	**Alice Springs**	**49.82**	**130**	P	**P**	**02 07 52.8**	**+0.1**
	1.2nm,1.0s,mb3.9,baz=301,slow=8.4,SNR=5.7						
BRTR	**Keskin Array B**	**62.52**	**311**	P	**P**	**02 09 21.3**	**-2.1**
	1.5nm,1.1s,mb4.0,baz=104,slow=5.1,SNR=3.8						
FINES	**FINESS Array B**	**72.82**	**332**	P	**P**	**02 10 26.6**	**-0.8**
	3.9nm,0.9s,mb4.3,baz=158,slow=22,SNR=4.2						
GERES	**GERESS Array B**	**77.93**	**318**	P	**P**	**02 10 57.4**	**+0.5**
	1.5nm,0.9s,mb3.9,baz=90,slow=11,SNR=6.4						
NOA	**NORSAR Array B**	**79.84**	**331**	P	**P**	**02 11 07.1**	**0.0**
	1.2nm,0.8s,mb3.9,baz=91,slow=6.1,SNR=3.3						
PLCA	**Paso Flores**	**144.46**	**200**	PKP	PKPdf	02 18 36.2	+2.4
	1.1nm,0.7s,baz=86,slow=8.7,SNR=2.9						

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*IDC **27** 01:59:53.9±0.9, 7.72N×93.79E, mb4.0/11, mb1 4.2/12, mb1mx4.2/19, mbtmp4.0/12, ML4.2/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/23, Error ellipse: s-maj=40.3km s-min=18.9km az=52.0*

ISC 27 01:59:57.0±0.8, 7.8N±0.1×93.9E±0.2, h33km, n16, σ0:86/13, mb4.0/11, MS3.8/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.68**	**24**	Pn	**P**	**02 02 44.1**	**-0.3**
	0.4nm,0.3s,baz=223,slow=14,SNR=4.7						
SONM	**Songino Array**	**41.30**	**13**	P	**P**	**02 07 41.1**	**+0.1**
	0.5nm,0.6s,mb3.3,baz=198,slow=6.7,SNR=4.4						
ZAL	**Zalesovo**	**46.61**	**353**	P	**P**	**02 08 23.8**	**+0.1**
	2.5nm,0.7s,mb4.2,baz=311,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**48.39**	**125**	P	**P**	**02 08 38.3**	**+0.2**
	3.3nm,1.2s,mb4.2,baz=304,slow=8.6,SNR=4.0						
BVAR	**Borovoye Array**	**49.00**	**341**	P	**P**	**02 08 42.1**	**-0.3**
	0.6nm,1.0s,mb3.6,baz=135,slow=6.1,SNR=2.2						
ASAR	**Alice Springs**	**50.03**	**130**	P	**P**	**02 08 50.3**	**-0.4**
	0.9nm,0.8s,mb3.9,baz=319,slow=7.5,SNR=3.4						
CTA	**Charters Tower**	**58.46**	**119**	LR	LR	02 39 23.0	
	comp=Z,62nm,18.6s,MS3.8,baz=46,slow=40						
BRTR	**Keskin Array B**	**62.32**	**311**	P	**P**	**02 10 17.1**	**-1.5**
	1.4nm,0.8s,mb4.2,baz=135,slow=7.0,SNR=4.8						
AKASG	**Malin Array Be**	**68.09**	**322**	P	**P**	**02 10 53.9**	**-1.6**
	0.3nm,0.3s,mb3.7,baz=92,slow=4.7,SNR=4.8						
FINES	**FINESS Array B**	**72.69**	**332**	P	**P**	**02 11 23.9**	**+0.8**
	2.4nm,0.7s,mb4.2,baz=90,slow=1.9,SNR=4.3						
ARCES	**ARCESS Array B**	**75.28**	**340**	P	**P**	**02 11 38.9**	**+0.8**
	2.0nm,0.9s,mb4.0,baz=63,slow=2.7,SNR=5.3						
GERES	**GERESS Array B**	**77.75**	**318**	P	**P**	**02 11 53.8**	**+1.4**
	2.0nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=8.1						
NB2	**NORSAR Subarra**	**79.70**	**331**	P	**P**	**02 12 03.3**	**+0.5**
	1.1nm,0.6s,mb4.0,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.70**	**331**	P	**P**	**02 12 03.8**	**+1.0**
	2.3nm,0.9s,mb4.1,baz=91,slow=6.1,SNR=4.8						
NVAR	**Mina Array Bea**	**125.11**	**31**	PKP	PKPdf	02 18 59.5	+4.8
	0.7nm,0.9s,baz=354,slow=1.6,SNR=4.0						
PLCA	**Paso Flores**	**144.39**	**200**	PKP	PKPdf	02 19 32.3	+2.2
	2.1nm,0.8s,baz=184,slow=4.2,SNR=5.1						

IDC 27 02:13:27.2±1.2, 8.02N×94.32E, mb4.0/7, mb1 4.2/7, mb1mx3.8/17, mbtmp4.0/7, Error ellipse: s-maj=47.5km s-min=29.8km az=48.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**46.42**	**352**	P	P	02 21 56.5	-0.8
	0.9nm,0.6s,baz=285,slow=9.6,SNR=4.2						
WRA	**Warramunga Arr**	**48.20**	**126**	P	P	02 22 09.8	-2.0
	0.2nm,0.4s,baz=300,slow=10.0,SNR=5.0						
KMBO	**Kilima Mbogo**	**57.61**	**264**	P	P	02 23 20.4	-1.4
	0.6nm,0.6s,baz=68,slow=5.4,SNR=3.7						
FINES	**FINESS Array B**	**72.66**	**332**	P	P	02 24 56.7	-1.7
	2.4nm,0.8s,baz=108,slow=8.8,SNR=3.5						
ARCES	**ARCESS Array B**	**75.19**	**340**	P	P	02 25 11.2	-1.7
	6.3nm,1.1s,baz=117,slow=6.0,SNR=4.2						
GERES	**GERESS Array B**	**77.83**	**318**	P	P	02 25 26.2	-2.0
	0.5nm,0.6s,baz=76,slow=5.5,SNR=4.4						
NB2	**NORSAR Subarra**	**79.69**	**331**	P	P	02 25 35.6	-2.4
	0.7nm,0.6s,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.69**	**331**	P	P	02 25 35.8	-2.2
	1.2nm,0.8s,baz=94,slow=5.1,SNR=4.1						

CASC 27 02:17:52.4±2.0, 12.90N×90.28W, h21km±7km, MD3.7, 3C-7D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.14**	**34**	*eP*	Pb	02 18 12.4	-0.8
SBLS				*eS*	Sb	02 18 29.0	+1.5
SNJE	**San Jose**	**1.17**	**34**	*eP*	Pn	02 18 13.3	-0.3
SNJE				*eS*	Sb	02 18 29.6	+1.1
RTR	**El Retiro**	**1.17**	**32⇑**	*eP*	Pn	02 18 14.0	+0.3
BOQS	**Boqueron**	**1.28**	**49⇑**	*eP*	Pn	02 18 15.8	+0.4
BOQS				*eS*	Sb	02 18 32.4	+0.7
IXG	**Ixpaco**	**1.28**	**352⇓**	*eP*	Pn	02 18 14.5	-0.9
IXG				*eS*	Sb	02 18 31.5	-0.3
RBDL	**Robledal**	**1.34**	**25⇓**	*eP*	Pn	02 18 16.5	+0.3
RBDL				*eS*	Sn	02 18 35.6	+2.1
LFRS	**El Faro**	**1.39**	**58**	*eP*	Pn	02 18 16.1	-0.8
LFRS				⇓*iP*		02 18 16.6	
LFRS				*eS*	Sn	02 18 34.6	-0.1
LFU	**La Fuente**	**1.42**	**53⇑**	*eP*	Pn	02 18 17.1	-0.2
LBRS	**Las Brisas**	**1.47**	**55⇓**	*eP*	Pn	02 18 17.9	-0.1
LBRS				*eS*	Sn	02 18 37.3	+0.6
LCBS	**La Ceiba**	**1.48**	**59⇓**	*eP*	Pn	02 18 17.9	-0.2
SNVI	**San Vicente**	**1.57**	**63**	*eP*	Pn	02 18 19.0	-0.5
NBG	**Las Nubes**	**1.68**	**358⇓**	*eP*	Pn	02 18 21.8	+0.8
NBG				*eS*	Sn	02 18 45.3	+3.1
MTO2	**Montecristo 2**	**1.74**	**31**	*eP*	Pn	02 18 22.4	+0.6
TP2	**Tecpan 2**	**2.01**	**339⇑**	*eP*	Pn	02 18 25.4	-0.3
TP2				*eS*	Sn	02 18 50.9	+0.4

IDC 27 02:18:42.3±3.1, 7.14N×93.79E, mb3.5/3, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=96.7km s-min=31.0km az=68.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.32**	**24**	Pn	P	02 21 40.1	-1.9
	baz=220,slow=13,SNR=5.8						
SONM	**Songino Array**	**41.95**	**13**	P	P	02 26 33.6	-2.9
	0.3nm,0.7s,baz=198,slow=3.9,SNR=3.5						
ZAL	**Zalesovo**	**47.23**	**353**	P	P	02 27 17.6	-1.2
	2.0nm,1.1s,baz=286,slow=6.7,SNR=5.8						
WRA	**Warramunga Arr**	**48.13**	**125**	P	P	02 27 24.5	-1.9
	0.9nm,1.2s,baz=298,slow=10,SNR=5.4						

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*IDC **27** 02:21:55.0±7.2, 8.00N×94.03E, h49km±65km, mb3.6/9, mb1 3.8/10, mb1mx3.7/18, mbtmp3.9/10, ML4.3/1, Error ellipse: s-maj=60.8km s-min=19.1km az=52.0*

ISC 27 02:21:51.8±0.8, 8.0N±0.1×94.1E±0.1, h33km, n17, σ0:76/16, mb4.1/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.38**	**24**	P	**P**	**02 24 36.0**	**+0.8**
	0.6nm,0.3s,baz=210,slow=14,SNR=10						
JIRN	**Jiri**	**20.94**	**340**	*eP*	**P**	**02 26 34.2**	**-0.1**
PKI	**Pulchoki**	**21.14**	**338**	*eP*	**P**	**02 26 37.2**	**+0.9**
	26nm,0.9s,mb4.5						
DMN	**Daman**	**21.29**	**337**	*eP*	**P**	**02 26 37.6**	**-0.1**
	14nm,0.7s,mb4.4						
KKN	**Kakani**	**21.38**	**338**	*eP*	**P**	**02 26 38.3**	**-0.4**
GKN	**Gorkha**	**21.82**	**337**	*eP*	**P**	**02 26 43.0**	**-0.1**
	26nm,0.8s,mb4.7						
KOLN	**Koldanda**	**22.04**	**334**	*eP*	**P**	**02 26 45.8**	**+0.6**
	15nm,0.7s,mb4.5						
SONM	**Songino Array**	**41.03**	**13**	P	**P**	**02 29 33.4**	**-0.2**
	0.9nm,1.1s,mb3.3,baz=194,slow=5.1,SNR=4.2						
ZAL	**Zalesovo**	**46.41**	**352**	P	**P**	**02 30 16.8**	**-0.2**
	1.2nm,0.5s,mb4.1,baz=288,slow=11,SNR=7.3						
WRA	**Warramunga Arr**	**48.34**	**126**	P	**P**	**02 30 33.0**	**+0.4**
	1.0nm,1.2s,mb3.7,baz=301,slow=9.8,SNR=5.4						
ASAR	**Alice Springs**	**50.00**	**130**	P	**P**	**02 30 44.9**	**-0.5**
	0.5nm,0.8s,mb3.6,baz=315,slow=7.7,SNR=3.2						
KMBO	**Kilima Mbogo**	**57.44**	**264**	P	**P**	**02 31 42.2**	**+2.0**
	2.8nm,0.8s,mb4.4,baz=57,slow=13,SNR=9.3						
BRTR	**Keskin Array B**	**62.34**	**311**	P	**P**	**02 32 11.9**	**-1.5**
	1.2nm,1.0s,mb4.0,baz=90,slow=5.8,SNR=3.5						
FINES	**FINESS Array B**	**72.59**	**332**	P	**P**	**02 33 17.0**	**-0.4**
	7.0nm,1.2s,mb4.5,baz=135,slow=5.9,SNR=3.1						
GERES	**GERESS Array B**	**77.72**	**318**	P	**P**	**02 33 47.0**	**-0.1**
	1.0nm,0.8s,mb3.8,baz=90,slow=4.0,SNR=7.4						
NOA	**NORSAR Array B**	**79.61**	**331**	P	**P**	**02 33 56.2**	**-1.0**
	1.1nm,0.7s,mb3.9,baz=92,slow=5.8,SNR=4.4						
PLCA	**Paso Flores**	**144.68**	**200**	PKP	PKPdf	02 41 26.6	+1.1
	2.2nm,0.8s,baz=194,slow=4.2,SNR=4.9						

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*MOS **27** 02:25:53.0±1.0, 7.96N×94.27E, h33km, mb4.7/19, Error ellipse: s-maj=20.0km s-min=10.2km az=113.1*
*BJI **27** 02:25:54.8, 7.51N×93.65E, h57km, mb4.6*
*IDC **27** 02:25:54.6±0.5, 7.96N×94.18E, h26km±2km, mb3.9/11, mb1 4.1/12, mb1mx4.1/16, mbtmp4.1/12, ML4.1/1, MS3.7/6, Ms1 3.8/6, ms1mx3.4/21, Error ellipse: s-maj=21.4km s-min=13.9km az=46.0*
*NEIC **27** 02:25:54.6±0.5, 7.88N×94.15E, h30km, mb4.6/10, Error ellipse: s-maj=14.3km s-min=11.9km az=56.0*

ISC 27 02:25:52.1±0.6, 7.89N±0.08×94.28E±0.09, h27km, h27km±.8km: pP-P, n77, σ1:09/61, mb4.6/28, MS3.9/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.44**	**23**	Pn	**P**	**02 28 36.6**	**-0.4**
	0.3nm,0.3s,baz=212,slow=14,SNR=8.2						
CMAR				LR	LR	02 33 24.2	
	comp=Z,165nm,21.2s,baz=215,slow=39						
SHL	**Shillong**	**17.72**	**353**	*eP*	**P**	**02 29 57.0**	**-1.8**
HYB	**Hyderabad**	**18.01**	**303**	*eP*	**P**	**02 30 03.0**	**+0.5**
HYB	**Hyderabad**	**18.01**	**303**	*i P*	**P**	**02 30 03.0**	**+0.5**
JIRN	**Jiri**	**21.10**	**340**	*eP*	**P**	**02 30 37.5**	**+0.5**
	67nm,1.0s,mb4.9						
PKI	**Pulchoki**	**21.30**	**338**	*eP*	**P**	**02 30 40.2**	**+1.2**
	83nm,1.0s,mb5.0						
DMN	**Daman**	**21.45**	**337**	*eP*	**P**	**02 30 41.9**	**+1.4**
KKN	**Kakani**	**21.54**	**338**	*eP*	**P**	**02 30 42.3**	**+0.8**
	20nm,0.6s,mb4.7						
LSA	**Lhasa**	**21.89**	**353**	P	**P**	**02 30 48.5**	**+3.5**
LSA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
LSA	**Lhasa**	**21.89**	**353**	*eP*	**P**	**02 30 45.9**	**+0.9**
LSA				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.4						
LSA	**Lhasa**	**21.89**	**353**	*eP*	**P**	**02 30 45.9**	**+0.9**
	comp=Z,11nm,0.7s,mb4.4						
GKN	**Gorkha**	**21.98**	**337**	*eP*	**P**	**02 30 45.7**	**-0.2**
	comp=Z,72nm,0.7s,mb5.2						
KOLN	**Koldanda**	**22.20**	**334**	*eP*	**P**	**02 30 48.6**	**+0.5**
	comp=Z,87nm,1.3s,mb5.0						
NDI	**New Delhi**	**26.20**	**324**	*e*	**P**	**02 31 19.0**	**-7.6**
ENH	**Enshi**	**26.44**	**31**	P	**P**	**02 31 30.5**	**+1.7**
	comp=Z,21nm,1.2s,mb4.5						
DDI	**Dehra Dun**	**27.00**	**328**	*e*	pP	02 31 42.6	+0.8
SONM	**Songino Array**	**41.12**	**12**	P	**P**	**02 33 36.7**	**+1.2**
	comp=Z,0.8nm,1.0s,baz=190,slow=7.5,SNR=3.7						
SONM				pP	pP	02 33 44.4	+0.8
	comp=Z,3.1nm,1.0s,baz=198,slow=6.5,SNR=7.0						
SONM				PcP	PcP	02 35 36.5	+1.3
	comp=Z,1.1nm,1.0s,baz=190,slow=3.8,SNR=4.5						
SONM				pPcP		02 35 45.3	
	comp=Z,0.9nm,0.7s,baz=200,slow=4.1,SNR=5.1						
ZAK	**Zakamensk**	**43.01**	**8**	*eP*	pP	02 34 01.2	+2.1
ZAK				*e*		02 35 46.8	
KURK	**Kurchatov**	**44.62**	**346**	*eP*	**P**	**02 34 03.8**	**-0.2**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.5						
KURK	**Kurchatov**	**44.62**	**346**	*eP*	**P**	**02 34 03.8**	**-0.3**
	comp=Z,9.8nm,1.2s,mb4.5						
ZAL	**Zalesovo**	**46.55**	**352**	P	**P**	**02 34 19.4**	**+0.2**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZAL	**Zalesovo**	**46.55**	**352**	P	**P**	**02 34 19.4**	**+0.2**
	comp=Z,2.8nm,0.8s,mb4.2,baz=294,slow=6.2,SNR=17						
ZAL	**Zalesovo**	**46.55**	**352**	P	**P**	**02 34 19.4**	**+0.2**
NVS	**Novosibirsk**	**47.65**	**351**	*eP*	**P**	**02 34 26.1**	**-1.8**
NVS				pmax	pmax		
	comp=N,5.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,3.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
WRA	**Warramunga Arr**	**48.16**	**126**	P	**P**	**02 34 33.1**	**+0.7**
WRA				*PP	pP	02 34 40.9	+0.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**48.16**	**126**	P	**P**	**02 34 33.1**	**+0.7**
	comp=Z,0.8nm,0.9s,mb3.8,baz=300,slow=9.8,SNR=5.1						
WRA				pP	pP	02 34 40.9	+0.3
	comp=Z,1.2nm,0.6s,baz=304,slow=8.5,SNR=6.6						
RAYN	**Ar Rayn**	**49.20**	**294**	P	**P**	**02 34 41.5**	**+1.1**
	comp=Z,63nm,0.6s,SNR=10						
CHKZ	**Chkalovo**	**49.50**	**342**	*eP*	**P**	**02 34 41.7**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**49.50**	**342**	*eP*	**P**	**02 34 41.7**	**-0.5**
	comp=Z,3.9nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**49.82**	**130**	P	**P**	**02 34 45.4**	**+0.3**
	comp=Z,1.9nm,1.1s,mb4.0,baz=300,slow=8.4,SNR=4.5						
ASAR				pP	pP	02 34 54.5	+1.1
	comp=Z,1.2nm,0.8s,baz=306,slow=7.4,SNR=7.3						
ASAR				pPcP		02 36 16.4	
	comp=Z,1.2nm,1.0s,baz=326,slow=3.3,SNR=4.0						
BOD	**Bodaibo**	**52.10**	**13**	*eP*	**P**	**02 35 08.5**	**+6.6**
KIV	**Kislovodsk**	**57.40**	**318**	*eP*	**P**	**02 35 34.0**	**-6.7**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
KMBO	**Kilima Mbogo**	**57.56**	**264**	P	**P**	**02 35 44.0**	**+1.7**
KMBO				*PP	pP	02 35 51.4	+0.7
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KMBO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KMBO	**Kilima Mbogo**	**57.56**	**264**	P	**P**	**02 35 44.0**	**+1.7**
	comp=Z,3.7nm,0.9s,mb4.4,baz=46,slow=11,SNR=10						
KMBO				pP	pP	02 35 51.4	+0.7
	comp=Z,8.2nm,1.0s,baz=51,slow=11,SNR=11						
KMBO				LR	LR	02 56 24.8	
	comp=Z,94nm,21.5s,MS3.9,baz=93,slow=32						
KMBO	**Kilima Mbogo**	**57.56**	**264**	*eP*	**P**	**02 35 43.3**	**+1.0**
	comp=Z,8.7nm,0.9s,mb4.8						
KMBO				pP	pP	02 35 51.4	+0.7
KMBO				LR	LR	02 56 24.8	
ASF	**Jabal al Asfar**	**58.32**	**303**	LR	LR	03 00 22.3	
	comp=Z,40nm,20.6s,MS3.5,baz=244,slow=36						
STKA	**Stephens Creek**	**60.02**	**134**	LR	LR	03 01 38.2	
	comp=Z,64nm,19.3s,MS3.8,baz=229,slow=36						
STKA	**Stephens Creek**	**60.02**	**134**	*eP*	**P**	**02 35 55.9**	**-3.3**
BRTR	**Keskin Array B**	**62.52**	**311**	P	**P**	**02 36 13.8**	**-2.1**
BRTR				*PP	pP	02 36 21.9	-2.5
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	**62.52**	**311**	P	**P**	**02 36 13.8**	**-2.2**
	comp=Z,1.7nm,0.7s,mb4.3,baz=128,slow=6.9,SNR=11						
BRTR				pP	pP	02 36 21.9	-2.5
	comp=Z,1.5nm,0.7s,baz=125,slow=7.2,SNR=5.7						
OBN	**Obninsk**	**65.44**	**328**	*eP*	**P**	**02 36 39.9**	**+5.2**
OBN				pmax	pmax		
	comp=Z,35nm,1.6s,mb5.1						
TIXI	**Tiksi**	**67.19**	**11**	*eP*	**P**	**02 36 45.3**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
AKASG	**Malin Array Be**	**68.22**	**322**	P	**P**	**02 36 50.6**	**-1.9**
AKASG				*PP	pP	02 36 58.7	-2.2
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**68.22**	**322**	P	**P**	**02 36 50.6**	**-1.9**
	comp=Z,1.8nm,0.7s,mb4.2,baz=91,slow=4.7,SNR=6.0						
AKASG				pP	pP	02 36 58.7	-2.2
	comp=Z,1.6nm,0.6s,baz=82,slow=5.9,SNR=2.9						
JOF	**Joensuu**	**70.89**	**334**	*ep*	**P**	**02 37 07.7**	**-0.9**
	comp=Z,7.3nm,0.7s,mb4.7						
FINES	**FINESS Array B**	**72.76**	**332**	P	**P**	**02 37 19.5**	**-0.2**
FINES				*PP	pP	02 37 28.6	+0.4
FINES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	**FINESS Array B**	**72.76**	**332**	P	**P**	**02 37 19.5**	**-0.2**
	comp=Z,4.8nm,0.9s,mb4.4,baz=104,slow=7.9,SNR=9.8						
FINES				pP	pP	02 37 28.6	+0.4
	comp=Z,3.6nm,0.8s,baz=108,slow=6.0,SNR=3.5						
KAF	**Kangasniemi**	**72.84**	**333**	*ep*	**P**	**02 37 19.2**	**-1.0**
	comp=Z,9.4nm,1.1s,mb4.6,baz=104,slow=5.4						
KAF	**Kangasniemi**	**72.84**	**333**	*eP*	**P**	**02 37 19.2**	**-1.0**
KAF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
ARCES	**ARCESS Array B**	**75.29**	**340**	P	**P**	**02 37 34.9**	**+0.6**
ARCES				*PP	pP	02 37 44.0	+1.2
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES	**ARCESS Array B**	**75.29**	**340**	P	**P**	**02 37 34.9**	**+0.6**
	comp=Z,3.9nm,0.9s,mb4.3,baz=90,slow=4.9,SNR=7.9						
ARCES				pP	pP	02 37 44.0	+1.2
	comp=Z,4.2nm,0.8s,baz=90,slow=3.6,SNR=2.2						
ARCES	**ARCESS Array B**	**75.29**	**340**	P	**P**	**02 37 34.9**	**+0.6**
ARCES				pP	pP	02 37 44.0	+1.2
MORC	**Moravsky Berou**	**75.45**	**319**	*eP*	**P**	**02 37 33.5**	**-2.0**
MORC				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
MORC	**Moravsky Berou**	**75.45**	**319**	*eP*	**P**	**02 37 33.5**	**-2.1**
	comp=Z,1.8nm,0.8s,mb4.0						
BRG	**Berggiesshubel**	**77.82**	**320**	*eP*	**P**	**02 37 54.0**	**+5.2**
BRG				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.6						
BRG	**Berggiesshubel**	**77.82**	**320**	*eP*	**P**	**02 37 54.0**	**+5.2**
	comp=Z,14nm,1.7s,mb4.6						
GERES	**GERESS Array B**	**77.90**	**318**	P	**P**	**02 37 50.0**	**+0.8**
GERES				*PP	pP	02 37 58.5	+0.7
GERES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GERES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GERES	**GERESS Array B**	**77.90**	**318**	P	**P**	**02 37 50.0**	**+0.8**
	comp=Z,2.6nm,0.8s,mb4.2,baz=90,slow=4.0,SNR=17						
GERES				pP	pP	02 37 58.5	+0.7
	comp=Z,2.9nm,0.8s,baz=90,slow=5.3,SNR=9.1						
KHC	**Kasperske Hory**	**77.99**	**318**	*eP*	**P**	**02 37 49.5**	**-0.2**
CLL	**Collm**	**78.43**	**321**	*e**PP	pP	02 38 01.0	+0.3
GRF	**Grafenberg Arr**	**79.54**	**319**	*eP*	pP	02 38 08.4	+1.6
NB2	**NORSAR Subarra**	**79.78**	**331**	P	**P**	**02 37 59.0**	**-0.2**
	comp=Z,6.4nm,1.0s,mb4.5,ba

TBP	Tagbilaran	2.13 258	⇓eP	Pn	02 38 26.2	0.0
TBP			eS	Sn	02 38 51.4	-1.0

*IDC **27** 02:40:23.5±5.7, 8.06N×94.19E, h76km±51km, mb3.6/8, mb1 3.8/9, mb1mx3.6/19, mbtmp3.9/9, ML4.2/1, Error ellipse: s-maj=36.1km s-min=24.4km az=57.0*

ISC 27 02:40:16.9±1.0, 8.0N±0.1×94.1E±0.1, h33km, n14, σ0°77/14, mb3.9/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.47	24	P	P	02 43 02.2	+0.7
	0.5nm, 0.3s, baz=209, slow=14, SNR=3.5						
JIRN	Jiri	20.98	340	eP	P	02 44 59.3	-0.5
	15nm, 0.8s						
PKI	Pulchoki	21.17	338	eP	P	02 45 02.5	+0.8
	14nm, 0.8s, mb4.4						
DMN	Daman	21.32	338	eP	P	02 45 04.5	+1.3
GKN	Gorkha	21.85	337	eP	P	02 45 07.4	-1.1
KOLN	Koldanda	22.07	335	eP	P	02 45 10.2	-0.5
	12nm, 0.7s, mb4.5						
SONM	Songino Array	41.10	13	P	P	02 47 59.3	0.0
	0.3nm, 0.7s, mb3.1, baz=180, slow=8.6, SNR=3.9						
ZAL	Zalesovo	46.47	352	P	P	02 48 42.0	-0.5
	1.5nm, 0.7s, mb4.0, baz=288, slow=7.0, SNR=9.4						
WRA	Warramunga Arr	48.35	126	P	P	02 48 57.7	-0.1
	1.1nm, 1.2s, mb3.8, baz=305, slow=8.4, SNR=4.0						
KMBO	Kilima Mbogo	57.37	264	P	P	02 50 05.8	+0.9
	1.5nm, 1.0s, mb4.0, baz=35, slow=12, SNR=5.1						
FINES	FINESS Array B	72.62	332	P	P	02 51 42.4	-0.2
	1.7nm, 0.7s, mb4.1, baz=72, slow=4.4, SNR=4.9						
GERES	GERESS Array B	77.73	318	P	P	02 52 12.6	+0.3
	0.6nm, 0.5s, mb3.8, baz=63, slow=6.0, SNR=4.8						
HFS	Hagfors	78.36	330	P	P	02 52 15.8	+0.3
	1.5nm, 0.6s, mb4.1, baz=90, slow=5.9, SNR=7.1						
NOA	NORSAR Array B	79.64	331	P	P	02 52 20.8	-1.6
	0.6nm, 0.6s, mb3.7, baz=90, slow=5.7, SNR=3.3						

IDC 27 02:42:28.2±1.0, 6.85N×96.06E, mb3.9/6, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, ML4.3/1, Error ellipse: s-maj=48.8km s-min=21.5km az=44.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.88	13	Pn	P	02 45 23.0	+1.1
	0.5nm, 0.3s, baz=213, slow=15, SNR=3.3						
WRA	Warramunga Arr	46.12	126	P	P	02 50 54.1	-2.3
	0.6nm, 0.4s, baz=303, slow=9.9, SNR=16						
ASAR	Alice Springs	47.80	131	P	P	02 51 08.2	-1.4
	0.9nm, 0.4s, baz=311, slow=6.9, SNR=13						
ZAL	Zalesovo	47.83	351	P	P	02 51 08.6	-0.9
	1.4nm, 0.9s, baz=289, slow=9.1, SNR=5.0						
KMBO	Kilima Mbogo	59.21	265	P	P	02 52 32.7	-1.3
	0.6nm, 0.6s, baz=52, slow=23, SNR=4.1						
GERES	GERESS Array B	79.85	318	P	P	02 54 37.2	-3.0
	1.0nm, 1.0s, baz=104, slow=8.1, SNR=3.1						
HFS	Hagfors	80.29	330	P	P	02 54 40.6	-1.7
	0.8nm, 0.5s, baz=108, slow=4.6, SNR=6.4						

*IDC **27** 02:46:49.0±0.8, 7.80N×93.95E, mb4.1/14, mb1 4.3/15, mb1mx4.2/21, mbtmp4.1/15, ML4.1/1, Error ellipse: s-maj=36.1km s-min=17.5km az=51.0*
*BJI **27** 02:46:52.5, 7.43N×93.90E, h58km, mb4.3, Ms4.4, Msz4.0*
*NEIC **27** 02:46:54.0±0.5, 7.86N×94.06E, h30km, mb4.4/6, Error ellipse: s-maj=15.2km s-min=12.6km az=83.0*

ISC 27 02:46:52.4±0.6, 7.90N±0.08×94.22E±0.08, h33km, n39, σ1°00/37, mb4.4/26, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.46	23	Pn	P	02 49 37.3	+0.5
	0.4nm, 0.3s, baz=212, slow=14, SNR=12						
HYB	Hyderabad	17.96	303	i P	P	02 51 04.0	+2.7
HYB				e		02 51 12.5	
KMI	Kunming	18.96	24	P	P	02 51 16.3	+2.7
	12nm, 0.7s						
KMI				S	S	02 54 39.7	-0.5
JIRN	Jiri	21.07	340	eP	P	02 51 36.0	-0.2
	70nm, 1.2s, mb4.9						
PKI	Pulchoki	21.27	338	eP	P	02 51 38.4	+0.2
	64nm, 1.1s, mb4.9						
DMN	Daman	21.42	337	eP	P	02 51 39.2	-0.5
	42nm, 0.8s, mb4.8						
KKN	Kakani	21.52	338	eP	P	02 51 39.9	-0.7
	18nm, 0.7s, mb4.6						
LSA	Lhasa	21.88	353	eP	P	02 51 44.3	+0.1
	11nm, 0.7s, mb4.4						
GKN	Gorkha	21.95	337	eP	P	02 51 44.4	-0.6
	43nm, 0.7s, mb5.0						
KOLN	Koldanda	22.17	334	eP	P	02 51 47.3	+0.1
	31nm, 0.7s, mb4.9						
NDI	New Delhi	26.16	324	eP	P	02 52 29.0	+3.3
NDI				eS	S	02 56 44.0	-9.1
ENH	Enshi	26.46	31	P	P	02 52 29.9	+1.5
	8.6nm, 0.9s, mb4.3						
WMQ	Urumqi	36.23	352	eP	P	02 53 54.3	0.0
SONM	Songino Array	41.12	12	P	P	02 54 35.7	+0.7
	1.4nm, 0.9s, mb3.6, baz=202, slow=6.7, SNR=9.2						
SONM				PcP	PcP	02 56 35.9	+1.3
	0.6nm, 0.5s, baz=199, slow=4.1, SNR=7.1						
KURK	Kurchatov	44.60	346	eP	P	02 55 02.7	-0.6
	6.4nm, 1.1s, mb4.4						
ZAL	Zalesovo	46.53	352	P	P	02 55 18.4	-0.2
	2.5nm, 0.7s, mb4.2, baz=294, slow=5.7, SNR=14						
WRA	Warramunga Arr	48.21	126	P	P	02 55 31.7	-0.5
	0.7nm, 0.6s, mb3.9, baz=304, slow=8.5, SNR=11						
BVAR	Borovoye Array	48.99	341	P	P	02 55 36.8	-1.0
	0.7nm, 0.9s, mb3.7, baz=153, slow=13, SNR=4.5						
RAYN	Ar Rayn	49.15	294	P	P	02 55 40.4	+1.1
	46nm, 0.7s, mb5.6, SNR=11						
CHKZ	Chkalovo	49.47	342	eP	P	02 55 40.7	-0.8
	2.3nm, 0.6s, mb4.4						
ASAR	Alice Springs	49.87	130	P	P	02 55 44.8	-0.1
	0.8nm, 0.8s, mb3.8, baz=314, slow=7.8, SNR=4.6						
ASAR				PcP	PcP	02 57 06.8	+1.4
	0.7nm, 0.8s, baz=296, slow=5.9, SNR=4.0						
KMBO	Kilima Mbogo	57.50	264	P	P	02 56 43.1	+1.8
	6.3nm, 0.8s, mb4.7, baz=52, slow=10, SNR=19						
KMBO	Kilima Mbogo	57.50	264	eP	P	02 56 42.7	+1.4
BRTR	Keskin Array B	62.47	311	P	P	02 57 12.8	-2.2
	1.4nm, 0.9s, mb4.1, baz=129, slow=6.8, SNR=6.1						
AKASG	Malin Array Be	68.18	322	P	P	02 57 49.4	-2.1
	1.2nm, 0.7s, mb4.0, baz=87, slow=5.2, SNR=4.7						
MLR	Muntele Rosu	69.21	316	P	P	02 57 57.5	-0.4
	3.8nm, 1.1s, mb4.2, baz=336, slow=19, SNR=3.9						
MLR	Muntele Rosu	69.21	316	P	P	02 57 57.5	-0.4
FINES	FINESS Array B	72.72	332	P	P	02 58 19.4	+0.6
	1.6nm, 0.7s, mb4.1, baz=101, slow=7.1, SNR=5.4						
ARCES	ARCESS Array B	75.27	340	P	P	02 58 32.9	-0.6
	3.7nm, 0.9s, mb4.3, baz=53, slow=6.1, SNR=4.4						
GERES	GERESS Array B	77.86	318	P	P	02 58 48.6	+0.2
	1.2nm, 0.7s, mb4.0, baz=90, slow=5.3, SNR=9.8						
KHC	Kasperske Hory	77.95	318	eP	P	02 58 43.5	-5.4
HFS	Hagfors	78.47	330	P	P	02 58 51.6	0.0
	2.1nm, 0.5s, mb4.3, baz=108, slow=4.7, SNR=17						
NB2	NORSAR Subarra	79.75	331	P	P	02 58 58.0	-0.5
	1.3nm, 0.7s, mb4.0, baz=96, slow=5.0						
NOA	NORSAR Array B	79.75	331	P	P	02 58 58.3	-0.2
	2.4nm, 0.9s, mb4.1, baz=91, slow=5.8, SNR=4.9						
LPG	La Plagne	82.66	315	eP	P	02 59 14.1	+0.1
	14nm, 1.0s, mb4.7						
NVAR	Mina Array Bea	124.86	31	PKP	PKPdf	03 05 53.0	+3.4
	0.3nm, 0.6s, baz=37, slow=1.4, SNR=4.0						
PDAR	Pinedale Array	125.12	21	PKP	PKPdf	03 05 52.9	+2.9
	0.4nm, 0.8s, baz=45, slow=2.1, SNR=3.6						
TXAR	Lajitas Array	139.17	24	PKP	PKPdf	03 06 21.1	+4.4
	0.2nm, 0.5s, baz=7.0, slow=1.8, SNR=6.7						
PLCA	Paso Flores	144.60	200	PKP	PKPdf	03 06 27.8	+1.8
	4.5nm, 0.8s, baz=144, slow=2.1, SNR=9.7						

IDC 27 02:48:07.9±3.3, 7.87N×93.80E, mb4.0/6, mb1 4.2/6, mb1mx3.9/18, mbtmp4.0/6, Error ellipse: s-maj=93.5km s-min=54.4km az=123.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRD	Trivandrum	16.68	273	eP	P	02 51 53.4	-11
TRD				i S	S	02 54 55.4	-15
SONM	Songino Array	41.24	13	P	P	02 55 54.5	-1.8
	0.8nm, 0.8s, baz=198, slow=8.6, SNR=2.2						
ZAL	Zalesovo	46.51	353	P	P	02 56 37.1	-1.6
	2.1nm, 1.0s, baz=294, slow=10, SNR=3.5						
FINES	FINESS Array B	72.56	332	P	P	02 59 37.3	-1.3
	2.0nm, 0.8s, baz=120, slow=11, SNR=3.9						
GERES	GERESS Array B	77.61	318	P	P	03 00 05.9	-1.8
	0.9nm, 0.7s, baz=104, slow=5.5, SNR=3.9						
HFS	Hagfors	78.29	330	P	P	03 00 10.0	-1.2
	2.9nm, 0.8s, baz=104, slow=5.9, SNR=2.6						
NOA	NORSAR Array B	79.57	331	P	P	03 00 16.1	-2.1
	1.1nm, 0.7s, baz=93, slow=5.6, SNR=3.4						
PLCA	Paso Flores	144.43	201	PKP	PKPdf	03 07 46.5	-1.9
	1.4nm, 0.7s, baz=274, slow=6.0, SNR=3.6						

*IDC **27** 02:49:17.3±7.0, 7.54N×94.03E, mb4.0/8, mb1 4.1/9, mb1mx3.9/20, mbtmp4.0/9, ML3.8/1, Error ellipse: s-maj=167.7km s-min=41.3km az=141.0*

ISC 27 02:49:18.9±2.2, 7.3N±0.2×94.3E±0.2, h33km, n15, σ0°94/15, mb4.1/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.94	22	Pn	P	02 52 09.8	0.0
	0.2nm, 0.3s, baz=211, slow=14, SNR=4.0						
JIRN	Jiri	21.63	340	eP	P	02 54 09.5	+1.2
	28nm, 1.2s, mb4.6						
PKI	Pulchoki	21.82	338	eP	P	02 54 11.7	+1.5
	10nm, 0.5s, mb4.6						
DMN	Daman	21.97	338	eP	P	02 54 11.9	+0.2
KKN	Kakani	22.07	338	eP	P	02 54 13.1	+0.4
GKN	Gorkha	22.50	337	eP	P	02 54 15.9	-1.1
	13nm, 0.6s, mb4.5						
KOLN	Koldanda	22.71	335	eP	P	02 54 17.9	-1.3
	18nm, 1.0s, mb4.5						
SONM	Songino Array	41.65	12	P	P	02 57 05.9	+0.1
	0.5nm, 0.8s, mb3.2, baz=198, slow=9.1, SNR=2.3						
ZAL	Zalesovo	47.10	352	P	P	02 57 49.1	-0.4
	2.5nm, 0.8s, mb4.2, baz=299, slow=10, SNR=6.4						
BVAR	Borovoye Array	49.55	341	P	P	02 58 06.5	-2.1
	1.2nm, 0.8s, mb4.0, baz=124, slow=5.2, SNR=3.5						
BRTR	Keskin Array B	62.30	311	P	P	02 59 44.0	-0.3
	1.1nm, 0.6s, mb4.1, baz=114, slow=6.3, SNR=4.5						
FINES	FINESS Array B	73.26	332	P	P	03 00 50.0	+1.5
	3.5nm, 0.8s, mb4.3, baz=135, slow=11, SNR=4.9						
GERES	GERESS Array B	78.33	318	P	P	03 01 18.1	+0.6
	0.9nm, 0.7s, mb3.8, baz=45, slow=2.8, SNR=4.5						
HFS	Hagfors	79.00	330	P	P	03 01 20.9	-0.1
	2.1nm, 0.8s, mb4.1, baz=104, slow=5.9, SNR=3.2						
NOA	NORSAR Array B	80.28	331	P	P	03 01 27.5	-0.4
	0.7nm, 0.8s, mb3.7, baz=94, slow=5.5, SNR=3.5						

*NEIC **27** 02:49:42.1±0.7, 7.89N×94.09E, h30km, mb4.4/3, Error ellipse: s-maj=20.0km s-min=16.0km az=97.0*
*BJI **27** 02:49:43.5, 8.03N×93.91E, h25km, mB4.3, mb4.1, Ms3.9, Msz3.3*
*IDC **27** 02:49:45.2±5.7, 7.95N×94.19E, h56km±49km, mb3.9/12, mb1 4.1/13, mb1mx3.9/21, mbtmp4.2/13, ML4.2/1, MS3.6/1, Ms1 3.8/1, ms1mx2.8/13, Error ellipse: s-maj=34.7km s-min=24.4km az=52.0*

ISC 27 02:49:39.5±0.9, 7.8N±0.1×94.3E±0.1, h30km, n22, σ1°03/19, mb4.2/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.53	23	P	P	02 52 26.4	+1.0
	0.4nm, 0.3s, baz=211, slow=14, SNR=8.5						
CMAR				LR	LR	02 57 01.7	
	comp=Z, 322nm, 19.8s, baz=190, slow=38						
HYB	Hyderabad	18.04	303	i P	P	02 53 51.5	+1.6
LSA	Lhasa	21.97	353	P	P	02 54 36.0	+3.1
LSA	Lhasa	21.97	353	eP	P	02 54 32.4	-0.5
	12nm, 0.7s, mb4.4						
SONM	Songino Array	41.21	12	P	P	02 57 24.3	+1.1
	1.4nm, 0.8s, mb3.7, baz=193, slow=8.0, SNR=6.1						
ZAL	Zalesovo	46.63	352	P	P	02 58 06.9	0.0
	3.4nm, 0.5s, mb4.5, baz=299, slow=6.4, SNR=8.3						
WRA	Warramunga Arr	48.13	126	P	P	02 58 19.4	+0.3
	0.6nm, 0.5s, mb3.9, baz=305, slow=8.5, SNR=4.7						
BVAR	Borovoye Array	49.09	341	P	P	02 58 25.3	-0.7
	1.3nm, 0.8s, mb4.0, baz=135, slow=8.4, SNR=4.4						
CHKZ	Chkalovo	49.57	342	eP	P	02 58 28.7	-1.1
	6.6nm, 0.8s, mb4.7						
KMBO	Kilima Mbogo	57.52	264	P	P	02 59 30.6	+1.6
	2.3nm, 0.9s, mb4.2, baz=65, slow=12, SNR=3.7						
BRTR	Keskin Array B	62.55	311	P	P	03 00 01.1	-2.0
	1.5nm, 0.9s, mb4.1, baz=128, slow=6.6, SNR=4.3						
MLR	Muntele Rosu	69.29	316	P	P	03 00 46.1	0.0
	6.5nm, 1.1s, mb4.5, baz=213, slow=3.1, SNR=5.0						
FINES	FINESS Array B	72.82	332	P	P	03 01 05.7	-1.4
	2.5nm, 0.7s, mb4.2, baz=107, slow=7.1, SNR=6.8						
FINES	FINESS Array B	72.82	332	P	P	03 01 05.7	-1.4
ARCES	ARCESS Array B	75.37	340	P	P	03 01 21.1	-0.5
	2.9nm, 0.8s, mb4.2, baz=97, slow=7.3, SNR=4.4						
GERES	GERESS Array B	77.95	318	P	P	03 01 36.9	+0.4
	1.0nm, 0.6s, mb4.0, baz=90, slow=5.3, SNR=6.4						
HFS	Hagfors	78.57	330	P	P	03 01 39.2	-0.4
	1.5nm, 0.4s, mb4.2, baz=117, slow=6.6, SNR=9.1						
NB2	NORSAR Subarra	79.84	331	P	P	03 01 46.2	-0.3
	1.0nm, 0.6s, mb3.9, baz=97, slow=5.0						
NOA	NORSAR Array B	79.84	331	P	P	03 01 46.7	+0.2
	1.3nm, 0.7s, mb4.0, baz=92, slow=5.6, SNR=4.0						
PDAR	Pinedale Array	125.19	21	PKP	PKPdf	03 08 41.5	-1.2
	0.6nm, 0.8s, baz=90, slow=1.5, SNR=3.7						
PLCA	Paso Flores	144.52	200	PKP	PKPdf	03 09 17.8	-0.7
	0.9nm, 0.7s, baz=180, slow=7.1, SNR=4.0						
PLCA	Paso Flores	144.52	200	PKP	PKPdf	03 09 17.8	-0.7

IDC 27 02:50:51.8±1.1, 7.70N×93.96E, mb3.9/8, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, ML4.5/1, Error ellipse: s-maj=41.0km s-min=27.0km az=47.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.74	24	Pn	P	02 53 41.6	-2.0
	0.9nm, 0.3s, baz=215, slow=12, SNR=4.1						
SONM	Songino Array	41.37	13	P	P	02 58 39.2	-2.0
	0.7nm, 1.0s, baz=202, slow=7.8, SNR=1.9						
ZAL	Zalesovo	46.69	353	P	P	02 59 21.8	-2.3
	2.0nm, 0.8s, baz=306, slow=7.9, SNR=3.4						
WRA	Warramunga Arr	48.30	125	P	P	02 59 34.6	-2.6
	0.6nm, 0.5s, baz=305, slow=8.3, SNR=4.8						
BRTR	Keskin Array B	62.41	311	P	P	03 01 16.8	-2.2
	0.4nm, 0.5s, baz=137, slow=8.0, SNR=3.0						
FINES	FINESS Array B	72.78	332	P	P	03 02 21.6	-2.1
	1.7nm, 0.8s, baz=120, slow=11, SNR=2.9						
GERES	GERESS Array B	77.84	318	P	P	03 02 51.4	-1.4
	1.0nm, 0.7s, baz=90, slow=6.9, SNR=3.6						
HFS	Hagfors	78.52	330	P	P	03 02 55.1	-1.2
	1.0nm, 0.5s, baz=90, slow=5.9, SNR=4.7						
NOA	NORSAR Array B	79.79	331	P	P	03 03 01.7	-1.5
	0.9nm, 0.8s, baz=90, slow=5.8, SNR=3.3						
NVAR	Mina Array Bea	125.16	31	PKP	PKPdf	03 09 56.2	-0.5
	0.6nm, 0.8s, baz=316, slow=1.3, SNR=3.6						
NVAR	Mina Array Bea	125.16	31	PKP	PKPdf	03 09 56.2	-0.5
PDAR	Pinedale Array	125.39	21	PKP	PKPdf	03 09 55.6	-1.4
	0.5nm, 0.9s, baz=180, slow=0.9, SNR=3.3						
PDAR	Pinedale Array	125.39	21	PKP	PKPdf	03 09 55.6	-1.4

*BJI **27** 02:51:12.2, 7.53N×93.67E, h54km, mb4.6*
*NEIC **27** 02:51:12.4±0.5, 7.81N×94.14E, h30km, mb4.7/6, Error ellipse: s-maj=15.6km s-min=10.5km az=65.0*
*IDC **27** 02:51:14.5±4.6, 7.87N×94.13E, h46km±41km, mb4.1/16, mb1 4.2/17, mb1mx4.2/21, mbtmp4.3/17, ML4.5/1, Error ellipse: s-maj=30.9km s-min=14.7km az=50.0*

ISC 27 02:51:11.0±0.6, 7.80N±0.10×94.2E±0.1, h33km, n36, σ1°04/31, mb4.4/21, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.56	23	P	P	02 53 57.2	+0.4
	1.0nm, 0.3s, baz=211, slow=15, SNR=10						
HYB	Hyderabad	17.98	304	i P	P	02 55 23.5	+3.4
KMI	Kunming	19.07	24	⇑P	P	02 55 38.1	+4.6
	21nm, 0.9s						
LSA	Lhasa	21.97	353	eP	P	02 56 04.3	+0.6
LSA	Lhasa	21.97	353	eP	P	02 56 04.1	+0.4
	31nm, 0.9s, mb4.7						
WMQ	Urumqi	36.32	352	eP	P	02 58 14.8	+1.2
SONM	Songino Array	41.22	12	P	P	02 58 55.3	+0.9
	2.8nm, 0.8s, mb3.9, baz=194, slow=7.3, SNR=11						
KURK	Kurchatov	44.69	346	eP	P	02 59 22.2	-0.3
	22nm, 1.1s, mb4.9						
ZAL	Zalesovo	46.62	352	P	P	02 59 38.0	+0.2
	6.4nm, 0.5s, mb4.8, baz=295, slow=8.0, SNR=14						
WRA	Warramunga Arr	48.19	126	P	P	02 59 51.1	+0.4
	1.8nm, 0.8s, mb4.1, baz=306, slow=9.1, SNR=5.1						
WRA				PcP	PcP	03 01 19.3	+1.3
	0.6nm, 0.9s, baz=310, slow=5.4, SNR=3.1						
BVAR	Borovoye Array	49.07	341	P	P	02 59 55.0	-2.0
	4.2nm, 0.9s, mb4.5, baz=143, slow=7.4, SNR=10						
CHKZ	Chkalovo	49.55	342	eP	P	03 00 00.1	-0.5
	73nm, 1.3s, mb5.5						
ASAR	Alice Springs	49.84	130	P	P	03 00 03.6	+0.3
	1.4nm, 0.8s, mb4.1, baz=302, slow=6.6, SNR=5.8						
ASAR				PcP	PcP	03 01 22.3	-1.6
	1.0nm, 1.0s, baz=309, slow=5.8, SNR=3.0						
KMBO	Kilima Mbogo	57.45	264	P	P	03 01 01.0	+1.5
	1.2nm, 0.6s, mb4.1, baz=57, slow=12, SNR=4.6						
STKA	Stephens Creek	60.03	134	P	P	03 01 16.2	-1.0
	2.5nm, 0.9s, mb4.2, baz=295, slow=8.5, SNR=3.0						
BRTR	Keskin Array B	62.50	311	P	P	03 01 32.1	-1.7
	1.9nm, 0.8s, mb4.3, baz=127, slow=6.2, SNR=6.1						
AKASG	Malin Array Be	68.23	322	P	P	03 02 08.2	-2.2
	1.7nm, 0.8s, mb4.1, baz=89, slow=4.8, SNR=7.2						
JOF	Joensuu	70.93	334	ep	P	03 02 26.0	-0.7
	7.5nm, 1.0s, mb4.6						
FINES	FINESS Array B	72.79	332	P	P	03 02 37.6	-0.1
	5.8nm, 0.8s, mb4.5, baz=121, slow=11, SNR=6.8						
KAF	Kangasniemi	72.87	333	ep	P	03 02 37.1	-1.1
	6.4nm, 0.8s, mb4.6, baz=106, slow=5.8						
KEV	Kevo	74.91	341	ep	P	03 02 46.2	-3.8
ARCES	ARCESS Array B	75.34	340	P	P	03 02 52.6	+0.1
	5.3nm, 0.9s, mb4.5, baz=102, slow=5.0, SNR=5.7						
GERES	GERESS Array B	77.90	318	P	P	03 03 07.6	+0.3
	2.9nm, 0.8s, mb4.2, baz=90, slow=5.3, SNR=10						
KHC	Kasperske Hory	77.99	319	eP	P	03 03 08.0	+0.2
HFS	Hagfors	78.53	330	P	P	03 03 10.6	+0.1
	2.4nm, 0.6s, mb4.3, baz=104, slow=6.1, SNR=7.6						
GRA1	Grafenberg Arr	79.54	319	eP	P	03 03 18.0	+1.8
GRF	Grafenberg Arr	79.54	319	eP	P	03 03 18.0	+1.8
NB2	NORSAR Subarra	79.81	331	P	P	03 03 17.2	-0.2
	1.6nm, 0.6s, mb4.1, baz=98, slow=4.8						
NOA	NORSAR Array B	79.81	331	P	P	03 03 17.1	-0.3
	3.5nm, 0.8s, mb4.3, baz=93, slow=5.5, SNR=5.9						
EKA	Eskdalemuir Ar	87.80	325	P	P	03 03 59.3	+1.4
	3.0nm, 1.1s, mb4.4, baz=162, slow=2.6, SNR=3.8						
ILAR	Eielson Array	94.80	22	P	P	03 04 29.9	-0.3
	0.5nm, 0.8s, mb4.0, baz=301, slow=5.6, SNR=4.6						
NVAR	Mina Array Bea	124.96	31	PKP	PKPdf	03 10 11.0	+2.6
	0.7nm, 0.9s, baz=90, slow=0.9, SNR=3.4						
NVAR	Mina Array Bea	124.96	31	PKP	PKPdf	03 10 11.0	+2.6
PDAR	Pinedale Array	125.22	21	PKP	PKPdf	03 10 11.5	+2.8
	0.5nm, 0.7s, baz=90, slow=1.5, SNR=3.6						
PDAR	Pinedale Array	125.22	21	PKP	PKPdf	03 10 11.5	+2.8
PLCA	Paso Flores	144.49	200	PKP	PKPdf	03 10 46.3	+1.9
	2.9nm, 0.9s, baz=116, slow=2.6, SNR=3.4						

*IDC **27** 02:52:54.4±1.2, 7.99N×93.89E, mb4.0/9, mb1 4.2/10, mb1mx4.1/19, mbtmp4.0/10, ML3.8/1, Error ellipse: s-maj=42.4km s-min=28.2km az=54.0*

ISC 27 02:52:58.0±1.0, 8.1N±0.2×94.0E±0.2, h33km, n11, σ0°73/10, mb4.0/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.39	24	Pn	P	02 55 42.0	+0.4
	0.2nm, 0.3s, baz=175, slow=31, SNR=2.6						
SONM	Songino Array	41.01	13	P	P	03 00 38.4	-1.2
	0.7nm, 0.8s, mb3.3, baz=213, slow=4.4, SNR=3.2						
ZAL	Zalesovo	46.34	352	P	P	03 01 23.9	+1.3
	4.8nm, 1.1s, mb4.3, baz=294, slow=11, SNR=4.7						
WRA	Warramunga Arr	48.48	126	P	P	03 01 40.1	+0.2
	0.8nm, 0.6s, mb3.9, baz=304, slow=8.7, SNR=4.5						
BRTR	Keskin Array B	62.20	311	P	P	03 03 19.8	+1.0
	0.8nm, 0.9s, mb3.9, baz=121, slow=7.2, SNR=3.0						
FINES	FINESS Array B	72.48	332	P	P	03 04 22.2	-0.8
	1.2nm, 0.7s, mb4.0, baz=158, slow=10, SNR=2.5						
ARCES	ARCESS Array B	75.04	340	P	P	03 04 37.5	-0.3
	6.5nm, 1.0s, mb4.5, baz=21, slow=10, SNR=2.5			

ASAR Alice Springs 49.44 130 P **P 03 12 32.6 -0.8**
0.7nm,0.8s,mb3.8,baz=299,slow=7.3,SNR=4.5
BVAR Borovoye Array 49.55 341 P **P 03 12 34.0 +0.2**
3.4nm,1.2s,mb4.2,baz=169,slow=7.6,SNR=4.3
KMBO Kilima Mbogo 57.53 264 P **P 03 13 39.5 +6.3**
3.1nm,1.0s,mb4.3,baz=60,slow=13,SNR=6.8
BRTR Keskin Array B 62.91 311 P **P 03 14 09.4 -0.2**
1.0nm,0.6s,mb4.1,baz=125,slow=7.7,SNR=6.8
FINES FINESS Array B 73.27 332 P **P 03 15 14.6 +0.9**
2.1nm,1.0s,mb4.0,baz=90,slow=5.7,SNR=4.6
ARCES ARCESS Array B 75.83 340 P **P 03 15 30.3 +2.0**
100nm,1.6s,baz=90,slow=2.4,SNR=3.6
GERES GERESS Array B 78.34 318 P **P 03 15 45.0 +2.2**
1.8nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=12
NB2 NORSAR Subarra 80.28 331 P **P 03 15 54.5 +1.4**
1.0nm,0.6s,mb3.9,baz=98,slow=4.8
NOA NORSAR Array B 80.28 331 P **P 03 15 54.3 +1.2**
1.5nm,0.7s,mb4.1,baz=95,slow=4.9,SNR=4.2
NVAR Mina Array Bea 125.30 31 PKP PKPdf 03 22 46.8 +4.7
1.0nm,1.0s,baz=270,slow=0.9,SNR=3.3
PDAR Pinedale Array 125.61 21 PKP PKPdf 03 22 49.4 +6.8
0.7nm,0.9s,slow=3.0,SNR=4.4
PLCA Paso Flores 144.10 200 PKP PKPdf 03 23 24.6 +7.9
3.6nm,0.9s,baz=179,slow=7.1,SNR=5.7

*CSEM **27** 03:05:56.3±0.2, 37.98N×25.95W, h6km, ML2.9, Error ellipse: s-maj=13.6km s-min=3.1km az=34.0, After PDA*
*PDA **27** 03:05:56.3±1.1, 37.98N×25.95W, h6km±3km, MD2.9, ML2.9, Error ellipse: s-maj=6.0km s-min=1.1km az=34.0*
SVSA 27 03:05:56.3±1.1, 37.98N×25.95W, h6km±3km, MD2.9, ML2.9, Error ellipse: s-maj=6.0km s-min=1.1km az=34.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SET4	**Mosteiros**	**0.16**	**130**	*i* P		Pg	03 05 59.4	-0.2
SET2	**Ginetes**	**0.17**	**139**	*e*P		Pg	03 05 59.7	-0.2
PFET	**Feteiras**	**0.20**	**141**	*i* P		Pg	03 06 00.0	-0.5
PSAN	**Santo Antonio**	**0.22**	**125**	*i* P		Pg	03 06 00.3	-0.4
PSET	**Sete Cidades**	**0.24**	**130**	*i* P		Pg	03 06 00.5	-0.6
PSET				*e*S		Sg	03 06 04.7	+0.3
	2μm,0.2s							
FAC	**Faja de Cima**	**0.31**	**130**	*i* P		Pg	03 06 02.1	-0.5
FAC				*i* S		Sg	03 06 06.9	+0.1
CML	**Cha da Macela**	**0.38**	**123**	*i* P		Pg	03 06 02.9	-1.1
CML				*i* S		Sg	03 06 08.1	-1.0
PVER	**Pico Vermelho**	**0.39**	**117**	*i* P		Pg	03 06 03.1	-1.0
PVER				*i* S		Sg	03 06 08.1	-1.2
PMAT	**Coroa da Mata**	**0.41**	**113**	*e*P		Pg	03 06 03.5	-1.1
PMAT				*i* S		Sg	03 06 08.7	-1.4
	432nm,0.4s							
LFA	**Lagoa do Fogo**	**0.42**	**119**	*i* P		Pg	03 06 03.6	-1.2
MESC	**Monte Escuro**	**0.44**	**114**	*e*P		Pg	03 06 03.9	-1.2
MESC				*i* S		Sg	03 06 09.6	-1.4
PRCH	**Ribeira Ch**	**0.45**	**123**	*i* P		Pg	03 06 04.0	-1.3
PRCH				*i* S		Sg	03 06 10.1	-1.2
	431nm,0.3s							
VIF	**Vila Franca**	**0.47**	**120**	*e*P		Pg	03 06 04.5	-1.1
VIF				*i* S		Sg	03 06 10.5	-1.4
	143nm,0.3s							
PCNG	**Congro**	**0.49**	**115**	*e*P		Pg	03 06 04.7	-1.3
PCNG				*e*S		Sg	03 06 11.4	-1.2
	239nm,0.4s							
PFAD	**Fenais da Ajud**	**0.51**	**105**	*e*P		Pg	03 06 04.9	-1.7
PFAD				*i* S		Sg	03 06 11.6	-1.9
FRA1	**Furnas**	**0.52**	**116**	*e*P		Pg	03 06 05.6	-1.2
MIRA	**Miradouro**	**0.56**	**109**	*e*P		Pg	03 06 06.0	-1.6
MIRA				*i* S		Sg	03 06 13.2	-2.0
BART	**Pico Bartolome**	**0.65**	**108**	*e*P		Pg	03 06 06.9	-2.4
BART				*e*S		Sg	03 06 15.9	-2.1
	271nm,0.4s							
PFAV	**Pico das Favas**	**1.16**	**310**	*e*P		Pb	03 06 13.9	-4.4
PFAV				*i* S		Sb	03 06 27.5	-5.9
	80nm,0.1s							
PSCM	**Serra do Cume**	**1.17**	**309**	*e*P		Pb	03 06 14.1	-4.4
PSCM				*e*S		Sb	03 06 28.0	-5.8
	310nm,0.1s							
PSMA	**Santa Maria**	**1.18**	**146**	*e*P		Pb	03 06 14.1	-4.6
PSMA				*e*S		Sb	03 06 27.8	-6.2
	69nm,0.3s							
RIB2	**Ribeirinha**	**1.19**	**306**	*e*P		Pb	03 06 14.4	-4.4
RIB2				*i* S		Sb	03 06 28.5	-5.8
	243nm,0.2s							
ADH	**Angra Heroismo**	**1.22**	**304**	*e*S		Sb	03 06 29.0	-6.2
PVNV	**Vila Nova**	**1.23**	**310**	*e*P		Pb	03 06 15.0	-4.6
PVNV				*i* S		Sb	03 06 29.4	-6.2
	114nm,0.2s							
PPAD	**Pico dos Padre**	**1.28**	**305**	*e*S		Sb	03 06 30.9	-6.0
	45nm,0.1s							
PBIS	**Biscoitos**	**1.29**	**308**	*e*S		Sb	03 06 31.1	-6.2
ASBA	**Santa Barbara**	**1.31**	**305**	*e*S		Sb	03 06 31.9	-6.1
	86nm,0.1s							
PSBA	**Serra de Santa**	**1.34**	**307**	*e*P		Pb	03 06 16.9	-4.5
PSBA				*e*S		Sb	03 06 32.5	-6.2
	108nm,0.2s							
PMAN	**Manadas**	**1.81**	**292**	*e*S		Sn	03 06 42.9	-8.9
ROSA	**Rosais**	**1.95**	**293**	*e*rx		Sn	03 06 46.0	-9.4
PICO	**Pico**	**2.02**	**286**	*e*P		Pn	03 06 26.3	-5.0
PICO				*e*S		Sn	03 06 48.2	-9.0
HOR	**Horta**	**2.18**	**285**	*e*rx		Sn	03 06 51.7	-10
CALA	**Caldeira**	**2.25**	**286**	*e*P		Pn	03 06 29.8	-4.8
CALA				*e*S		Sn	03 06 54.8	-8.2
PCED	**Cedros**	**2.26**	**288**	*e*rx		Sn	03 06 53.9	-9.4

GUC 27 03:08:10.3±0.9, 22.46S×69.93W, h88km±17km, MD3.5, ML2.9, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.95**	**99**	*e*P		P	03 08 30.8	+1.2
LVC				*i* S		S	03 08 45.1	+1.1
LVC				AMP			03 08 46.8	
	comp=E,435nm,0.6s							
ANCH	**Antofagasta**	**1.29**	**200**	*e*P		P	03 08 33.6	-0.1
ANCH				*i* S		S	03 08 51.4	+0.1
SPCH	**San Pedro de A**	**1.66**	**106**	*e*P		P	03 08 44.5	+6.0
SPCH				*i* S		S	03 09 06.4	+7.1
CPN1	**Cerro Paranal**	**2.20**	**191**	*e*P		P	03 08 46.1	+0.4
CPN1				*i* S		S	03 09 14.4	+2.5
CPN1				AMP			03 09 32.0	
	comp=E,92nm,0.4s							

*IDC **27** 03:09:16.5±1.7, 8.92N×93.01E, mb3.7/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.7/5, ML4.3/1, Error ellipse: s-maj=50.6km s-min=28.8km az=62.0*
ISC 27 03:09:22.9±1.4, 9.0N±0.2×93.6E±0.2, h33km, n11, σ0°93/11, mb3.7/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.75**	**28**	Pn		P	**03 11 58.3**	**+0.6**
	0.7nm,0.3s,baz=215,slow=13,SNR=4.1							
JIRN	**Jiri**	**19.87**	**340**	*e*P		P	**03 13 54.3**	**+0.2**
PKI	**Pulchoki**	**20.06**	**338**	*e*P		P	**03 13 56.4**	**+0.2**
	9.8nm,0.6s							
DMN	**Daman**	**20.20**	**338**	*e*P		P	**03 13 57.8**	**+0.1**
	22nm,0.8s							
KKN	**Kakani**	**20.30**	**338**	*e*P		P	**03 13 58.7**	**0.0**
GKN	**Gorkha**	**20.74**	**337**	*e*P		P	**03 14 03.4**	**+0.2**
	18nm,0.9s							
KOLN	**Koldanda**	**20.95**	**334**	*e*P		P	**03 14 06.4**	**+0.9**
	12nm,0.8s							
SONM	**Songino Array**	**40.21**	**13**	P		P	**03 16 54.6**	**-3.3**
	0.8nm,0.9s,mb3.4,baz=194,slow=5.9,SNR=4.0							
ZAL	**Zalesovo**	**45.40**	**353**	P		P	**03 17 38.1**	**-2.0**
	1.2nm,0.8s,mb3.8,baz=300,slow=9.3,SNR=6.4							
WRA	**Warramunga Arr**	**49.32**	**126**	P		P	**03 18 11.6**	**+0.4**
	0.4nm,0.5s,mb3.7,baz=303,slow=8.6,SNR=4.8							
GERES	**GERESS Array B**	**76.67**	**318**	P		P	**03 21 07.1**	**-5.1**
	0.7nm,0.7s,mb3.7,baz=104,slow=5.5,SNR=4.8							

IDC 27 03:09:39.8±1.1, 9.28N×92.76E, mb3.9/9, mb1 4.1/10, mb1mx4.0/18, mbtmp3.9/10, ML3.8/1, Error ellipse: s-maj=30.5km s-min=26.7km az=46.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.91**	**33**	Pn		P	03 12 18.7	-1.7
	0.2nm,0.3s,baz=210,slow=14,SNR=3.2							
SONM	**Songino Array**	**40.12**	**14**	P		P	03 17 15.8	-3.1
	0.6nm,0.8s,baz=197,slow=7.4,SNR=4.2							
SONM				PcP		PcP	03 19 16.0	-8.1
	0.4nm,0.6s,baz=205,slow=3.3,SNR=3.6							
ZAL	**Zalesovo**	**44.99**	**353**	P		P	03 17 58.0	-0.6
	3.1nm,1.0s,baz=293,slow=8.9,SNR=9.7							
WRA	**Warramunga Arr**	**50.18**	**126**	P		P	03 18 37.6	-2.0
	0.3nm,0.8s,baz=303,slow=9.5,SNR=3.0							
KMBO	**Kilima Mbogo**	**56.24**	**262**	P		P	03 19 23.3	-1.3
	1.2nm,0.8s,baz=61,slow=15,SNR=3.9							
BRTR	**Keskin Array B**	**60.48**	**310**	P		P	03 19 51.2	-2.8
	0.9nm,0.7s,baz=125,slow=7.9,SNR=5.1							
FINES	**FINESS Array B**	**70.84**	**332**	P		P	03 20 58.1	-2.0
	2.0nm,0.7s,baz=127,slow=9.5,SNR=5.2							
ARCES	**ARCESS Array B**	**73.49**	**340**	P		P	03 21 14.2	-1.5
	3.2nm,0.8s,baz=108,slow=3.8,SNR=4.3							
GERES	**GERESS Array B**	**75.88**	**318**	P		P	03 21 28.2	-1.6
	1.3nm,0.8s,baz=72,slow=4.2,SNR=7.3							
NB2	**NORSAR Subarra**	**77.84**	**330**	P		P	03 21 38.3	-2.3
	1.1nm,0.6s,baz=96,slow=5.0							
NOA	**NORSAR Array B**	**77.84**	**330**	P		P	03 21 38.7	-1.9
	1.5nm,0.7s,baz=92,slow=5.7,SNR=4.5							

IDC 27 03:14:37.8±3.1, 8.28N×93.56E, mb3.9/3, mb1 4.1/4, mb1mx3.6/18, mbtmp3.9/4, ML4.3/1, Error ellipse: s-maj=91.0km s-min=50.0km az=120.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.39**	**27**	Pn		P	03 17 22.1	-2.8
	0.6nm,0.3s,baz=214,slow=14,SNR=4.2							
ZAL	**Zalesovo**	**46.07**	**353**	P		P	03 23 03.3	-1.8
	1.2nm,0.7s,baz=282,slow=6.0,SNR=7.9							
GERES	**GERESS Array B**	**77.14**	**318**	P		P	03 26 33.6	-1.3
	0.9nm,0.7s,baz=90,slow=3.9,SNR=6.6							
NOA	**NORSAR Array B**	**79.10**	**331**	P		P	03 26 43.8	-1.7
	0.7nm,0.7s,baz=91,slow=6.2,SNR=3.5							
PLCA	**Paso Flores**	**144.72**	**201**	PKP		PKPdf	03 34 16.6	-2.1
	1.8nm,0.9s,baz=156,slow=6.7,SNR=3.0							

*CSEM **27** 03:15:33.1±0.8, 37.75N×43.90E, h5km, MD3.8, Error ellipse: s-maj=20.8km s-min=3.7km az=95.0*
ISK 27 03:15:33.6, 37.73N×43.89E, h8km, MD3.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.20**	**217**	*i* PG		Pg	03 15 38.4	+0.6
HKR				*i* SG		Sg	03 15 41.0	+0.4
VANT	**Van**	**0.81**	**331**	*i* PG		Pg	03 15 51.2	+1.3
TVAN	**Van**	**0.88**	**334**	*i* P		Pb	03 15 52.2	+1.5
TVAN				*i* S		Sb	03 16 02.9	+0.5
VANB	**Van**	**0.95**	**335**	*i* PG		Pg	03 15 51.5	-1.0
VANB				*i* SG		Sg	03 16 05.5	+0.3
MSL	**Mosul**	**1.58**	**204**	*e*Pn		Pn	03 16 02.5	+0.4
MSL				*e*Sb		Sb	03 16 23.0	+0.4
MSL				*i* Sg		Sg	03 16 24.0	-2.2
BTMT	**Batman**	**1.95**	**284**	*i* PN		Pn	03 16 10.1	+2.7
BEST	**Besiri**	**2.08**	**275**	*i* P		Pn	03 16 11.7	+2.5
BEST				*i* S		Sn	03 16 41.4	+5.7
VRT	**Varto**	**2.32**	**308**	*e*PN		Pn	03 16 12.7	0.0
BINT	**Bingol**	**2.91**	**294**	*e*PN		Pn	03 16 21.9	+0.8

MAN 27 03:15:35.0, 9.29N×126.25E, h16km, mb4.4, ML3.3, MS3.2, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.70**	**243**	*e*P		Pb	03 15 48.7	+0.3
BUTP				*e*S		Sb	03 16 01.2	+3.8
MSLP	**Maasin**	**1.61**	**301**	*e*P		Pn	03 16 01.2	-1.8
BUKP	**Musuan**	**1.83**	**220**	*e*P		Pn	03 16 06.0	-0.3
MATI	**Mati**	**2.33**	**180**	*e*P		Pn	03 16 13.0	-0.4
OCLP	**Ormoc**	**2.38**	**317**	*e*P		Pn	03 16 13.9	-0.2
PAGZ	**Pagadian**	**3.18**	**243**	*e*P		Pn	03 16 24.9	-0.5
GUIM	**Jordan**	**3.84**	**290**	*e*P		Pn	03 16 35.5	+0.6

*IDC **27** 03:17:17.7±0.6, 8.01N×94.17E, mb4.2/15, mb1 4.4/16, mb1mx4.4/19, mbtmp4.2/16, ML4.4/1, MS4.0/8, Ms1 4.0/8, ms1mx3.6/29, Error ellipse: s-maj=28.5km s-min=15.4km az=52.0*
*BJI **27** 03:17:20.8, 7.77N×93.67E, h43km, mB4.6, mb4.5, Ms4.7, Msz4.5*
*MOS **27** 03:17:21.1±1.1, 8.08N×94.24E, h33km, mb4.6/18, Error ellipse: s-maj=19.5km s-min=10.0km az=104.9*
*NEIC **27** 03:17:21.9±0.4, 7.91N×94.04E, h30km, mb4.6/10, Error ellipse: s-maj=13.5km s-min=8.9km az=66.0*
ISC 27 03:17:17.9±2.1, 8.00N±0.06×94.24E±0.07, h13km±13km, n85, σ1°16/81, mb4.6/31, MS4.2/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.36**	**23**	*e*P		P	**03 20 05.2**	**+2.2**
	14nm,0.9s							
CMAR	**Chiang Mai Arr**	**11.36**	**23**	P		P	**03 20 03.7**	**+0.7**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
CMAR				MLR		MLR		
	comp=Z,630nm,19.4s							
CMAR	**Chiang Mai Arr**	**11.36**	**23**	Pn		P	**03 20 03.6**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=210,slow=14,SNR=19							
CMAR				LR		LR	03 24 30.6	
	comp=Z,630nm,19.4s,baz=205,slow=38							
VIS	**Vishakhapatnam**	**14.36**	**313**	*e*P		P	**03 20 42.0**	**-1.1**
VIS				*e*			03 23 09.0	
MDRS	**Chennai**	**14.65**	**291**	*e*P		P	**03 20 45.1**	**-1.7**
MDRS				*e*			03 24 58.0	
SHL	**Shillong**	**17.61**	**353**	*e*P		P	**03 21 23.0**	**-1.8**
SHL				*e*S		S	**03 24 45.0**	**+6.3**
HYB	**Hyderabad**	**17.92**	**303**	*i* P		P	**03 21 30.0**	**+1.4**
BLSP	**Bilaspur**	**18.26**	**322**	*e*P		P	**03 21 33.5**	**+0.7**
BLSP				*e*			03 21 40.9	
	comp=Z,39nm,1.0s							
BLSP				*e*S		S	**03 24 54.4**	**+1.1**
KMI	**Kunming**	**18.86**	**24**	P		P	**03 21 45.6**	**+5.4**
KMI				pmax		pmax		
	comp=Z,18nm,1.4s							
KMI	**Kunming**	**18.86**	**24**	P		P	**03 21 45.6**	**+5.4**
	comp=Z,18nm,1.4s							
KMI				pP			03 21 50.7	
KMI				sP			03 21 52.4	
KMI				PP		PP	03 22 05.9	+9.3
KMI				S		S	**03 25 25.8**	**+19**
KMI				sS			03 25 31.1	
KMI				SS		SS	03 25 55.1	+23
NGP	**Nagpur**	**19.65**	**313**	*e*		P	**03 21 50.8**	**+1.5**
NGP				*e*			03 21 52.8	
JIRN	**Jiri**	**20.99**	**340**	*e*P		P	**03 22 03.8**	**+0.4**
	comp=Z,124nm,1.2s							
PKI	**Pulchoki**	**21.19**	**338**	*e*P		P	**03 22 04.7**	**-0.7**
	comp=Z,104nm,1.1s,mb5.1							
DMN	**Daman**	**21.34**	**337**	*e*P		P	**03 22 05.8**	**-1.1**
KKN	**Kakani**	**21.43**	**338**	*e*P		P	**03 22 06.8**	**-1.1**
	comp=Z,102nm,1.1s,mb5.0							
KAD	**Karad**	**21.62**	**297**	*e*P		P	**03 22 10.5**	**+0.6**
LSA	**Lhasa**	**21.78**	**353**	P		P	**03 22 12.0**	**+0.6**
LSA				AP			03 22 26.5	
LSA				S		S	**03 26 07.3**	**+0.4**
LSA				SCP			03 29 42.0	
LSA				AMB		AMB		
	comp=Z,20nm,1.1s,mb4.5							
LSA				LR		LR		
	comp=N,8μm,23.9s							
LSA				LR		LR		
	comp=E,8μm,16.4s							
LSA				LR		LR		
	comp=Z,9μm,23.9s,MS5.1							
LSA	**Lhasa**	**21.78**	**353**	*e*P		P	**03 22 12.5**	**+1.1**
LSA				pmax		pmax		
	comp=Z,19nm,0.6s,mb4.7							
LSA	**Lhasa**	**21.78**	**353**	*e*P		P	**03 22 12.5**	**+1.0**
	comp=Z,19nm,0.6s,mb4.7							
GKN	**Gorkha**	**21.87**	**337**	*e*P		P	**03 22 11.8**	**-0.5**
	comp=Z,125nm,1.2s,mb5.2							
KOLN	**Koldanda**	**22.09**	**334**	*e*P		P	**03 22 14.7**	**+0.2**
	comp=Z,76nm,1.0s,mb5.1							
BHPL	**Bhopal**	**22.14**	**315**	*e*		P	**03 22 16.4**	**+1.3**
BHPL				*e*			03 22 21.9	
	comp=Z,52nm,1.2s							
NDI	**New Delhi**	**26.09**	**324**	*e*P		P	**03 22 53.0**	**-0.2**
ENH	**Enshi**	**26.36**	**31**	*e*P		P	**03 22 59.1**	**+3.4**
AAK	**Ala-Archa**	**38.63**	**336**	*i* P		P	**03 24 42.5**	**-0.1**
AAK	**Ala-Archa**	**38.63**	**336**	*e*P		P	**03 24 41.8**	**-0.9**
	comp=Z,11nm,1.3s,mb4.4							
SONM	**Songino Array**	**41.02**	**12**	P		P	**03 25 03.0**	**+0.6**
	comp=Z,1.9nm,1.0s,mb3.7,baz=196,slow=9.0,SNR=6.5							
SONM				PcP		PcP	03 27 03.3	+0.3
	comp=Z,0.6nm,0.6s,baz=194,slow=3.3,SNR=4.6							
KURK	**Kurchatov**	**44.51**	**346**	*i* P		P	**03 25 30.9**	**+0.1**
KURK	**Kurchatov**	**44.51**	**346**	*e*P		P	**03 25 28.7**	**-2.2**
	comp=Z,14nm,1.1s,mb4.7							
ZAL	**Zalesovo**	**46.44**	**352**	P		P	**03 25 45.7**	**-0.3**
ZAL				pmax		pmax		
	comp=Z,6.0nm,1.0s							
ZAL	**Zalesovo**	**46.44**	**352**	P		P	**03 25 45.7**	**-0.3**
	comp=Z,5.8nm,1.0s,mb4.5							
ZAL	**Zalesovo**	**46.44**	**352**	P		P	**03 25 45.7**	**-0.3**
NVS	**Novosibirsk**	**47.54**	**351**	*e*P		P	**03 25 53.1**	**-1.6**
NVS				*e*S		S	**03 32 45.9**	**-2.4**
NVS				pmax		pmax		
	comp=N,6.0nm,1.1s							
NVS				pmax		pmax		
	comp=E,5.0nm,1.1s							
NVS				pmax		pmax		
	comp=Z,14nm,1.1s,mb4.9							
NVS				smax				
	comp=N,7.0nm,1.4s							
NVS				smax				
	comp=E,29nm,1.8s							
WRA	**Warramunga Arr**	**48.25**	**126**	P		P	**03 26 01.1**	**+0.3**
WRA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
WRA	**Warramunga Arr**	**48.25**	**126**	P		P	**03 26 01.1**	**+0.3**
	comp=Z,3.5nm,0.9s,mb4.4,baz=305,slow=8.9,SNR=18							
WRAB	**Tennant Creek**	**48.26**	**126**	*e*P		P	**03 26 00.9**	**+0.1**
WRAB				pmax		pmax		
	comp=Z,34nm,1.4s,mb5.2							
WRAB	**Tennant Creek**	**48.26**	**126**	*e*P		P	**03 26 00.9**	**0.0**
	comp=Z,34nm,1.4s,mb5.2							
BVAR	**Borovoye Array**	**48.90**	**341**	P		P	**03 26 04.7**	**-0.7**
	comp=Z,3.0nm,1.1s,mb4.2,baz=170,slow=9.0,SNR=7.0							
BVAR				PcP		PcP	03 27 30.4	+0.3
	comp=Z,0.8nm,0.7s,baz=241,slow=37,SNR=2.8							
RAYN	**Ar Rayn**	**49.12**	**294**	P		P	**03 26 08.4**	**+0.9**
	comp=Z,65nm,1.1s,mb5.6,SNR=14							
CHKZ	**Chkalovo**	**49.39**	**342**	*e*P		P	**03 26 08.2**	**-0.9**
CHKZ				pmax		pmax		
	comp=Z,12nm,1.2s,mb4.8							
CHKZ	**Chkalovo**	**49.39**	**342**	*e*P		P	**03 26 08.2**	**-0.9**
	comp=Z,12nm,1.2s,mb4.8							
ASAR	**Alice Springs**	**49.92**	**130**	P		P	**03 26 13.5**	**-0.1**
	comp=Z,3.9nm,0.9s,mb4.4,baz=304,slow=7.6,SNR=19							
ASAR				PcP		PcP	03 27 34.4	+0.2
	comp=Z,1.5nm,0.9s,baz=309,slow=3.6,SNR=7.3							
ASAR				LR		LR	03 48 53.8	
	comp=Z,131nm,19.6s,MS4.0,baz=295,slow=38							
BOD	**Bodaibo**	**52.01**	**13**	*e*P		P	**03 26 27.5**	**-1.5**
GNI	**Garni**	**54.42**	**314**	*i* P		P	**03 26 51.9**	**+4.8**
GNI	**Garni**	**54.42**	**314**	LR		LR	03 52 57.1	
	comp=Z,65nm,19.2s,MS3.7,baz=246,slow=39							
KIV	**Kislovodsk**	**57.29**	**318**	*i* P		P	**03 27 12.0**	**+4.2**
KMBO	**Kilima Mbogo**	**57.53**	**264**	P		P	**03 27 11.3**	**+1.4**
	comp=Z,1.1nm,0.3s,mb4.4,baz=48,slow=10,SNR=5.2							
KMBO				LR		LR	03 50 47.0	
	comp=Z,188nm,18.7s,MS4.2,baz=278,slow=35							
ASF	**Jabal al Asfar**	**58.23**	**303**	LR		LR	03 51 30.9	
	comp=Z,80nm,19.2s,MS3.9,baz=101,slow=35							
CTA	**Charters Tower**	**58.28**	**119**	LR		LR	03 53 03.0	
	comp=Z,150nm,18.5s,MS4.1,baz=66,slow=37							
STKA	**Stephens Creek**	**60.12**	**134**	P		P	**03 27 26.8**	**-0.8**
	comp=Z,3.1nm,0.9s,mb4.3,baz=339,slow=12,SNR=3.1							
STKA				LR		LR	03 54 17.4	
	comp=Z,170nm,19.7s,MS4.2,baz=116,slow=37							
BRTR	**Keskin Array B**	**62.42**	**311**	P		P	**03 27 40.9**	**-2.1**
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.9s							
BRTR	**Keskin Array B**	**62.42**	**311**	P		P	**03 27 40.9**	**-2.2**
	comp=Z,1.5nm,0.9s,mb4.1,baz=146,slow=4.5,SNR=5.2							
OBN	**Obninsk**	**65.33**	**328**	*e*P		P	**03 27 58.1**	**-3.7**
OBN				pmax		pmax		
	comp=Z,24nm,1.4s,mb5.0							
TIXI	**Tiksi**	**67.09**	**11**	*e*P		P	**03 28 11.0**	**-1.8**
TIXI				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.8							
AKASG	**Malin Array Be**	**68.12**	**322**	P		P	**03 28 18.6**	**-1.0**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**68.12**	**322**	P		P	**03 28 18.6**	**-1.0**
	comp=Z,1.1nm,0.6s,mb4.1,baz=87,slow=4.6,SNR=4.5							
FINES	**FINESS Array B**	**72.65**	**332**	P		P	**03 28 46.9**	**0.0**
FINES				pmax		pmax		
	comp=Z,3.0nm,0.9s							
FINES	**FINESS Array B**	**72.65**	**332**	P		P	**03 28 46.9**	**+0.1**
	comp=Z,3.3nm,0.9s,mb4.3,baz=104,slow=7.4,SNR=6.5							
FINES	**FINESS Array B**	**72.65**	**332**	P		P	**03 28 46.9**	**0.0**
ARCES	**ARCESS Array B**	**75.18**	**340**	P		P	**03 29 01.5**	**+0.1**
ARCES				pmax		pmax		
	comp=Z,2.0nm,0.7s							
ARCES	**ARCESS Array B**	**75.18**	**340**	P		P	**03 29 01.5**	**+0.1**
	comp=Z,2.0nm,0.7s,mb4.1,baz=45,slow=3.4,SNR=5.9							
ARCES	**ARCESS Array B**	**75.18**	**340**	P		P	**03 29 01.5**	**+0.1**
MORC	**Moravsky

ZAL Zalesovo 46.43 352 P P 03 33 38.0 -1.1
1.2nm,0.9s,baz=281,slow=10,SNR=3.8
WRA Warramunga Arr 48.29 126 P P 03 33 51.8 -2.4
1.0nm,1.1s,baz=304,slow=8.7,SNR=2.2
BVAR Borovoye Array 48.89 341 P P 03 33 55.3 -3.1
0.3nm,0.5s,baz=228,slow=40,SNR=2.1
KMBO Kilima Mbogo 57.49 264 P P 03 35 02.4 -0.3
1.7nm,0.8s,baz=234,slow=23,SNR=3.1
BRTR Keskin Array B 62.39 311 P P 03 35 32.9 -3.1
0.2nm,0.5s,baz=34,slow=40,SNR=2.1
GERES GERESS Array B 77.77 318 P P 03 37 07.3 -2.3
0.3nm,0.6s,baz=329,slow=42,SNR=4.0

*IDC **27** 03:25:30.8±5.0, 8.09N×94.26E, h60km±44km, mb3.7/10, mb1 3.9/11, mb1mx3.7/19, mbtmp3.9/11, ML4.2/1, Error ellipse: s-maj=32.1km s-min=17.6km az=49.0*

ISC 27 03:25:24.9±0.8, 7.9N±0.1×94.1E±0.2, h33km, n16, σ0$70/12, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.54	24	P	P	03 28 10.8	+0.5
0.4nm,0.3s,baz=208,slow=15,SNR=4.4							
SONM	Songino Array	41.18	13	P	P	03 33 08.1	+0.3
1.0nm,1.0s,mb3.4,baz=192,slow=6.4,SNR=4.8							
SONM				PcP	PcP	03 35 07.3	0.0
0.3nm,0.8s,baz=202,slow=3.3,SNR=4.3							
ZAL	Zalesovo	46.53 352		P	P	03 33 50.3	-0.7
2.2nm,0.8s,mb4.1,baz=285,slow=9.6,SNR=9.0							
WRA	Warramunga Arr	48.32 125		P	P	03 34 05.4	-0.2
1.1nm,0.8s,mb4.0,baz=304,slow=8.5,SNR=7.5							
BVAR	Borovoye Array	48.96 341		P	P	03 34 09.4	-0.6
1.0nm,0.8s,mb3.9,baz=149,slow=8.6,SNR=5.2							
ASAR	Alice Springs	49.98 130		P	P	03 34 18.1	-0.1
0.5nm,0.6s,mb3.7,baz=313,slow=7.9,SNR=4.5							
ASAR				PcP	PcP	03 35 39.2	+1.0
0.6nm,0.7s,baz=304,slow=3.6,SNR=4.8							
KMBO	Kilima Mbogo	57.35 264		P		03 35 16.8	+4.1
1.2nm,0.8s,mb4.0,baz=57,slow=10,SNR=5.1							
BRTR	Keskin Array B	62.37 311		P		03 35 46.0	-0.7
1.0nm,0.8s,mb4.0,baz=119,slow=7.4,SNR=5.5							
FINES	FINESS Array B	72.67 332		P		03 36 50.8	-0.2
3.6nm,0.9s,mb4.3,baz=129,slow=12,SNR=5.2							
GERES	GERESS Array B	77.77 318		P		03 37 21.5	+1.0
4.2nm,1.1s,mb4.3,baz=90,slow=4.0,SNR=7.9							
NB2	NORSAR Subarra	79.69 331		P		03 37 30.8	+0.1
1.4nm,0.7s,mb4.0,baz=95,slow=5.0							
NOA	NORSAR Array B	79.69 331		P		03 37 31.1	+0.4
1.6nm,0.7s,mb4.0,baz=94,slow=5.5,SNR=6.2							
NVAR	Mina Array Bea	124.95	31	PKP	PKPdf	03 44 25.9	+3.6
0.2nm,0.4s,baz=348,slow=1.5,SNR=4.8							
PDAR	Pinedale Array	125.19	21	PKP	PKPdf	03 44 24.9	+2.3
0.6nm,0.7s,baz=323,slow=9.0,SNR=5.3							
TXAR	Lajitas Array	139.25	24	PKP	PKPdf	03 44 52.9	+3.5
0.1nm,0.5s,slow=1.8,SNR=3.0							
PLCA	Paso Flores	144.53 200		PKP	PKPdf	03 45 01.2	+2.9
1.7nm,0.7s,baz=54,slow=8.5,SNR=4.1							

IDC 27 03:31:46.4±1.6, 8.23N×93.92E, mb4.0/6, mb1 4.1/7, mb1mx3.9/18, mbtmp3.9/7, ML4.1/1, Error ellipse: s-maj=47.9km s-min=38.8km az=124.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.28	25	Pn	P	03 34 28.4	-3.6
0.4nm,0.3s,baz=173,slow=33,SNR=3.3							
SONM	Songino Array	40.87	13	P	P	03 39 30.9	-0.7
0.5nm,0.9s,baz=214,slow=5.2,SNR=3.4							
SONM				PcP	PcP	03 41 31.6	-1.6
0.5nm,0.6s,baz=207,slow=5.5,SNR=4.4							
ZAL	Zalesovo	46.17 353		P	P	03 40 11.2	-3.3
2.4nm,0.3s,baz=138,slow=1.3,SNR=6.6							
BRTR	Keskin Array B	62.03 311		P	P	03 42 08.7	-2.4
0.8nm,0.8s,baz=130,slow=7.9,SNR=4.7							
FINES	FINESS Array B	72.30 332		P	P	03 43 14.1	-1.4
2.7nm,1.0s,baz=117,slow=8.5,SNR=3.7							
GERES	GERESS Array B	77.42 318		P	P	03 43 44.2	-0.9
0.8nm,0.7s,baz=79,slow=6.8,SNR=6.4							
NOA	NORSAR Array B	79.32 331		P	P	03 43 54.0	-1.3
0.9nm,0.8s,baz=93,slow=5.6,SNR=3.9							
NVAR	Mina Array Bea	124.73	31	PKP	PKPdf	03 50 48.7	-1.8
0.4nm,0.7s,baz=291,slow=2.9,SNR=3.7							
PDAR	Pinedale Array	124.92	21	PKP	PKPdf	03 50 48.0	-2.7
0.4nm,0.8s,baz=27,slow=3.3,SNR=4.0							
PLCA	Paso Flores	144.80 201		PKP	PKPdf	03 51 24.8	-2.6
1.0nm,0.7s,SNR=3.3							

*IDC **27** 03:38:51.0±1.4, 7.75N×93.87E, mb3.8/7, mb1 4.1/8, mb1mx3.8/19, mbtmp3.8/8, Error ellipse: s-maj=47.6km s-min=27.5km az=56.0*

ISC 27 03:38:54.5±1.2, 7.8N±0.2×94.0E±0.2, h33km, n9, σ0$50/9, mb3.8/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.61	24	Pn	P	03 41 41.1	+0.1
baz=215,slow=14,SNR=3.9							
SONM	Songino Array	41.24	13	P	P	03 46 38.1	0.0
0.2nm,0.6s,mb2.9,baz=207,slow=5.5,SNR=5.0							
ZAL	Zalesovo	46.58 353		P	P	03 47 21.2	+0.2
1.5nm,0.4s,mb4.3,baz=66,slow=3.2,SNR=8.0							
WRA	Warramunga Arr	48.34 125		P	P	03 47 35.2	-0.1
0.2nm,0.5s,mb3.5,baz=305,slow=8.5,SNR=6.4							
BVAR	Borovoye Array	48.99 341		P	P	03 47 39.4	-0.4
1.1nm,1.0s,mb3.9,baz=121,slow=8.4,SNR=4.0							
FINES	FINESS Array B	72.69 332		P	P	03 50 19.7	-1.0
2.7nm,0.8s,mb4.2,baz=225,slow=5.4,SNR=3.4							
GERES	GERESS Array B	77.77 318		P	P	03 50 50.9	+0.9
0.6nm,0.7s,mb3.7,baz=90,slow=5.3,SNR=5.3							
NB2	NORSAR Subarra	79.71 331		P	P	03 51 00.4	0.0
1.0nm,0.6s,mb3.9,baz=94,slow=5.0							
NOA	NORSAR Array B	79.71 331		P	P	03 51 00.8	+0.4
1.4nm,0.9s,mb3.9,baz=94,slow=5.1,SNR=5.0							

*IDC **27** 03:42:15.7±1.2, 7.81N×93.71E, mb3.8/6, mb1 4.1/7, mb1mx3.8/18, mbtmp3.8/7, ML4.1/1, Error ellipse: s-maj=44.5km s-min=28.3km az=61.0*

ISC 27 03:42:18.6±1.2, 7.8N±0.2×93.8E±0.2, h33km, n9, σ0$48/7, mb3.8/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.70	25	Pn	P	03 45 06.5	+0.3
0.3nm,0.3s,baz=211,slow=15,SNR=8.9							
SONM	Songino Array	41.30	13	P	P	03 50 02.5	-0.1
0.3nm,0.6s,mb3.1,baz=198,slow=4.6,SNR=3.1							
ZAL	Zalesovo	46.58 353		P	P	03 50 44.5	-0.6
1.0nm,0.4s,mb4.1,baz=44,slow=1.1,SNR=5.0							
WRA	Warramunga Arr	48.47 125		P	P	03 51 00.3	-0.1
0.3nm,0.6s,mb3.5,baz=305,slow=8.5,SNR=4.7							
FINES	FINESS Array B	72.63 332		P	P	03 53 43.8	-0.6
2.2nm,0.9s,mb4.1,baz=124,slow=10.0,SNR=2.9							
GERES	GERESS Array B	77.68 318		P	P	03 54 13.8	+0.2
1.2nm,0.9s,mb3.8,baz=104,slow=5.5,SNR=5.5							
NOA	NORSAR Array B	79.64 331		P	P	03 54 25.0	+0.9
1.3nm,1.0s,mb3.8,baz=40,slow=4.6,SNR=3.5							
PDAR	Pinedale Array	125.34	21	PKP	PKPdf	04 01 20.9	+4.3
0.4nm,0.8s,baz=27,slow=3.3,SNR=4.0							
PLCA	Paso Flores	144.38 201		PKP	PKPdf	04 01 54.8	+3.1
1.2nm,0.8s,baz=179,slow=3.4,SNR=4.3							

*IDC **27** 03:42:53.5±1.0, 8.59N×93.28E, mb4.0/11, mb1 4.2/12, mb1mx4.1/19, mbtmp4.0/12, ML4.3/1, Error ellipse: s-maj=39.3km s-min=19.4km az=50.0*
*NEIC **27** 03:42:58.1±0.6, 8.65N×93.34E, h30km, mb4.5/5, Error ellipse: s-maj=15.4km s-min=12.6km az=62.0*

ISC 27 03:42:56.2±0.7, 8.6N±0.1×93.4E±0.1, h30km, n24, σ0$85/24, mb4.2/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.15	28	Pn	P	03 45 36.6	-0.3
0.7nm,0.3s,baz=212,slow=15,SNR=4.7							
HYB	Hyderabad	16.86 303		eP	P	03 47 02.0	+10
HYB	Hyderabad	16.86 303		iP	P	03 47 02.0	+10
LSA	Lhasa	21.05 355		P	P	03 47 43.2	+2.9
16nm,0.8s,mb4.4							
NDI	New Delhi	25.08 325		eP	P	03 48 33.0	+13
SONM	Songino Array	40.59	13	P	P	03 50 34.1	-0.8
0.7nm,0.7s,mb3.4,baz=200,slow=8.0,SNR=5.3							

KURK Kurchatov 43.69 346 eP P 03 51 01.0 +0.8
3.8nm,0.8s,mb4.2
ZAL Zalesovo 45.69 353 P P 03 51 16.8 +0.6
4.1nm,0.8s,mb4.4
BVAR Borovoye Array 48.02 341 P P 03 51 35.4 +0.8
1.8nm,0.9s,mb4.1,baz=135,slow=8.4,SNR=6.7
CHKZ Chkalovo 48.51 342 eP P 03 51 38.5 +0.2
6.0nm,0.8s,mb4.7
WRA Warramunga Arr 49.32 126 P P 03 51 44.7 -0.4
0.3nm,0.3s,mb3.8,baz=342,slow=10,SNR=13
ASAR Alice Springs 50.98 130 P P 03 51 58.5 +0.8
0.5nm,0.6s,mb3.6,baz=302,slow=7.9,SNR=4.6
KMBO Kilima Mbogo 56.76 263 eP P 03 52 41.0 +0.6
BRTR Keskin Array B 61.36 311 P P 03 53 11.4 -0.4
2.3nm,1.1s,mb4.2,baz=124,slow=8.5,SNR=5.7
AKASG Malin Array Be 67.09 322 P P 03 53 48.5 -0.5
1.2nm,0.6s,mb4.1,baz=90,slow=4.6,SNR=4.5
JOF Joensuu 69.83 334 ep P 03 54 04.1 -1.7
4.2nm,0.8s,mb4.4
FINES FINESS Array B 71.68 332 P P 03 54 17.3 +0.3
3.8nm,0.8s,mb4.4,baz=108,slow=12,SNR=8.0
KAF Kangasniemi 71.77 333 ep P 03 54 17.1 -0.5
3.7nm,0.8s,mb4.4,baz=104,slow=5.5
KEV Kevo 73.86 341 ep P 03 54 28.4 -1.3
ARCES ARCESS Array B 74.29 340 P P 03 54 32.6 +0.5
7.4nm,1.2s,mb4.5,baz=90,slow=7.2,SNR=4.2
GERES GERESS Array B 76.75 318 P P 03 54 46.4 -0.2
1.6nm,0.7s,mb4.1,baz=90,slow=4.0,SNR=9.6
KHC Kasperske Hory 76.84 318 eP P 03 54 40.0 -7.1
NB2 NORSAR Subarra 78.69 331 P P 03 54 56.5 -0.5
2.7nm,0.7s,mb4.3,baz=95,slow=5.0
NOA NORSAR Array B 78.69 331 P P 03 54 57.0 0.0
2.2nm,0.7s,mb4.2,baz=95,slow=5.2,SNR=6.6

*IDC **27** 03:43:45.0±0.7, 7.89N×94.10E, mb4.2/11, mb1 4.4/12, mb1mx4.3/19, mbtmp4.2/12, ML4.0/1, MS3.9/1, Ms1 4.1/1, ms1mx2.8/27, Error ellipse: s-maj=27.3km s-min=18.8km az=54.0*
*BJI **27** 03:43:48.9, 7.71N×93.70E, h48km, mb4.7, Ms4.7, Msz4.5*
*NEIC **27** 03:43:49.9±0.4, 7.92N×94.11E, h30km, mb4.7/10, Error ellipse: s-maj=12.2km s-min=9.7km az=109.0*

ISC 27 03:43:49.2±2.4, 7.91N±0.09×94.19E±0.08, h40km±20km, n52, σ0$85/45, mb4.6/27, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.46	23	Pn	P	03 46 32.9	-0.4
0.3nm,0.3s,baz=212,slow=15,SNR=12							
CMAR				LR	LR	03 50 20.4	
comp=Z,550nm,19.9s,baz=210,slow=34							
VIS	Vishakhapatnam	14.38 314		eP	P	03 47 12.0	-0.2
TRD	Trivandrum	17.06 273		eP	P	03 47 52.4	+5.9
HYB	Hyderabad	17.93 303		e	P	03 47 58.0	+0.7
KMI	Kunming	18.97	25	P	P	03 48 10.7	+0.8
22nm,1.2s							
JIRN	Jiri	21.05 340		eP	P	03 48 31.8	-0.4
38nm,0.7s,mb4.8							
PKI	Pulchoki	21.25 338		eP	P	03 48 34.2	+0.1
35nm,0.7s,mb4.8							
DMN	Daman	21.40 337		eP	P	03 48 35.6	0.0
46nm,0.7s,mb4.9							
KKN	Kakani	21.49 338		eP	P	03 48 37.2	+0.6
98nm,1.3s,mb5.0							
KAD	Karad	21.62 298		iP	P	03 48 37.9	0.0
LSA	Lhasa	21.86 353		P	P	03 48 39.3	-1.0
LSA				AMB	AMB		
comp=Z,30nm,0.7s,mb4.8							
LSA	Lhasa	21.86 353		eP	P	03 48 39.6	-0.7
comp=Z,20nm,0.6s,mb4.7							
GKN	Gorkha	21.93 337		eP	P	03 48 40.8	-0.1
comp=Z,44nm,0.6s,mb5.1							
KOLN	Koldanda	22.15 334		eP	P	03 48 42.9	-0.2
comp=Z,35nm,0.7s,mb4.9							
ENH	Enshi	26.47	31	eP	P	03 49 25.5	+0.9
comp=Z,11nm,0.9s,mb4.4							
DGAR	Diego Garcia	26.48 235		P	P	03 49 26.1	+1.1
WMQ	Urumqi	36.22 352		eP	P	03 50 52.0	+1.8
SONM	Songino Array	41.12	13	P	P	03 51 31.2	+0.2
comp=Z,1.8nm,0.8s,mb3.8,baz=193,slow=6.1,SNR=8.5							
SONM				PcP	PcP	03 53 31.1	+0.5
comp=Z,1.4nm,0.7s,baz=195,slow=3.8,SNR=3.2							
KURK	Kurchatov	44.59 346		eP	P	03 51 58.2	-1.0
comp=Z,22nm,1.4s,mb4.8							
ZAL	Zalesovo	46.52 352		P	P	03 52 14.5	+0.1
comp=Z,4.4nm,0.7s,mb4.5,baz=294,slow=3.1,SNR=11							
ZAL	Zalesovo	46.52 352		P	P	03 52 14.5	0.0
WRA	Warramunga Arr	48.24 126		P	P	03 52 27.5	-1.0
comp=Z,4.6nm,1.2s,mb4.4,baz=309,slow=9.1,SNR=6.9							
BVAR	Borovoye Array	48.97 341		P	P	03 52 32.9	-0.7
comp=Z,2.4nm,0.9s,mb4.2,baz=149,slow=8.6,SNR=4.9							
BVAR				PcP	PcP	03 53 58.1	+0.5
comp=Z,1.0nm,0.6s,baz=124,slow=5.3,SNR=4.0							
RAYN	Ar Rayn	49.11 294		P	P	03 52 35.4	+0.3
comp=Z,69nm,0.7s,mb5.8,SNR=9.7							
CHKZ	Chkalovo	49.45 342		eP	P	03 52 35.9	-1.4
comp=Z,6.2nm,0.8s,mb4.7							
ASAR	Alice Springs	49.90 130		P	P	03 52 40.9	-0.3
comp=Z,1.9nm,0.9s,mb4.1,baz=305,slow=6.5,SNR=6.9							
KMBO	Kilima Mbogo	57.47 264		P	P	03 53 37.5	+0.4
comp=Z,5.3nm,0.8s,mb4.6,baz=61,slow=11,SNR=12							
KMBO	Kilima Mbogo	57.47 264		P	P	03 53 37.5	+0.4
MALT	Malatya	58.47 310		eP	P	03 53 39.9	-3.8
BRTR	Keskin Array B	62.44 311		P	P	03 54 08.3	-2.4
comp=Z,1.4nm,0.8s,mb4.1,baz=118,slow=7.0,SNR=5.9							
MBAR	Mbarara	63.81 265		eP	P	03 54 19.8	-0.5
JOF	Joensuu	70.84 334		ep	P	03 55 03.1	-0.4
comp=Z,2.6nm,0.6s,mb4.3							
FINES	FINESS Array B	72.70 332		P	P	03 55 13.8	-0.8
comp=Z,5.4nm,0.8s,mb4.5,baz=104,slow=7.9,SNR=8.7							
KAF	Kangasniemi	72.78 333		ep	P	03 55 15.9	+0.8
comp=Z,1.6nm,0.5s,mb4.2,baz=101,slow=5.1							
KEV	Kevo	74.82 341		ep	P	03 55 28.0	+1.2
ARCES	ARCESS Array B	75.25 340		P	P	03 55 29.5	+0.2
comp=Z,3.1nm,0.9s,mb4.3,baz=72,slow=3.8,SNR=5.7							
BRG	Berggiesshubel	77.75 320		eP	P	03 55 44.8	+1.0
comp=Z,15nm,1.6s,mb4.7							
GERES	GERESS Array B	77.83 318		P	P	03 55 44.2	-0.1
comp=Z,1.6nm,0.7s,mb4.1,baz=90,slow=4.0,SNR=7.9							
KHC	Kasperske Hory	77.92 318		eP	P	03 55 39.0	-5.7
GRA1	Grafenberg Arr	79.47 319		eP	P	03 55 53.6	+0.4
GRF	Grafenberg Arr	79.47 319		eP	P	03 55 53.6	+0.4
NB2	NORSAR Subarra	79.72 331		P	P	03 55 53.0	-1.3
comp=Z,4.5nm,0.8s,mb4.5,baz=96,slow=5.0							
NOA	NORSAR Array B	79.72 331		P	P	03 55 53.8	-0.5
comp=Z,2.5nm,0.6s,mb4.3,baz=92,slow=5.6,SNR=9.8							
LPG	La Plagne	82.62 315		eP	P	03 56 09.4	-0.4
comp=Z,23nm,1.1s,mb4.8							
IMA	Indian Mountai	91.57	22	eP	P	03 56 54.7	+1.9
comp=Z,12nm,0.7s,mb5.3							
NVAR	Mina Array Bea	124.87	31	PKP	PKPdf	04 02 48.7	+3.2
comp=Z,0.8nm,0.8s,baz=226,slow=0.5,SNR=5.7							
NVAR	Mina Array Bea	124.87	31	PKP	PKPdf	04 02 48.7	+3.2
PDAR	Pinedale Array	125.12	21	PKP	PKPdf	04 02 48.0	+2.1
comp=Z,1.1nm,0.8s,baz=42,slow=1.1,SNR=9.0							
TXAR	Lajitas Array	139.18	24	PKP	PKPdf	04 03 15.9	+3.3
comp=Z,0.3nm,0.6s,baz=293,slow=0.1,SNR=6.2							
PLCA	Paso Flores	144.60 200		PKP	PKPdf	04 03 23.3	+1.5
comp=Z,6.8nm,0.9s,baz=216,slow=2.7,SNR=14							
LPAZ	La Paz	160.82 243		PKP	PKPdf	04 03 49.2	+3.6
comp=Z,1.1nm,0.8s,baz=88,slow=9.9,SNR=4.5							
LPAZ				PP	PP	04 08 20.4	+6.1
comp=Z,1.3nm,1.0s,baz=43,slow=5.2,SNR=4.7							
LPAZ	La Paz	160.82 243		PKP	PKPdf	04 03 49.2	+3.6
LPAZ				PP	PP	04 08 20.4	+6.1

IDC 27 03:45:58.2±1.1, 8.36N×94.14E, mb4.1/7, mb1 4.2/8, mb1mx4.0/18, mbtmp4.0/8, ML4.0/1, Error ellipse: s-maj=44.8km s-min=27.7km az=46.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.07	24	Pn	P	03 48 44.2	+3.1
0.3nm,0.3s,baz=210,slow=14,SNR=3.0							
ZAL	Zalesovo	46.07 352		P	P	03 54 25.4	-0.2
2.5nm,0.9s,baz=298,slow=9.3,SNR=3.7							
WRA	Warramunga Arr	48.54 126		P	P	03 54 43.9	-1.6
0.3nm,0.4s,baz=305,slow=8.5,SNR=5.4							
KMBO	Kilima Mbogo	57.47 263		P	P	03 55 51.5	-0.4
2.8nm,0.9s,baz=51,slow=11,SNR=5.7							
BRTR	Keskin Array B	62.11 311		P	P	03 56 20.2	-3.3
1.7nm,0.9s,baz=128,slow=7.5,SNR=4.6							
FINES	FINESS Array B	72.29 332		P	P	03 57 26.1	-1.2
3.0nm,0.8s,baz=117,slow=8.5,SNR=4.2							

GERES GERESS Array B 77.47 318 P P 03 57 55.1 -2.1
2.3nm,0.9s,baz=76,slow=5.5,SNR=7.3
NB2 NORSAR Subarra 79.31 331 P P 03 58 05.5 -1.6
0.2nm,0.8s,baz=92,slow=6.2
NOA NORSAR Array B 79.31 331 P P 03 58 05.0 -2.1
1.9nm,0.8s,baz=93,slow=5.7,SNR=4.6
PLCA Paso Flores 145.00 200 PKP PKPdf 04 05 35.1 -4.5
2.7nm,0.9s,baz=196,slow=5.2,SNR=4.0

*IDC **27** 03:47:55.7±1.0, 7.68N×93.97E, mb4.1/11, mb1 4.3/12, mb1mx4.2/20, mbtmp4.1/12, ML4.2/1, Error ellipse: s-maj=37.3km s-min=20.3km az=52.0*
*BJI **27** 03:47:58.8, 7.66N×93.88E, h35km, mb4.5*
*NEIC **27** 03:48:00.5±0.4, 7.75N×94.03E, h30km, mb4.6/10, Error ellipse: s-maj=13.5km s-min=7.7km az=61.0*

ISC 27 03:47:58.9±0.5, 7.77N±0.08×94.21E±0.09, h30km, n39, σ1$10/37, mb4.5/27, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.58	23	P	P	03 50 38.1	-7.4
CMAR	Chiang Mai Arr	11.58	23	Pn	P	03 50 45.4	-0.1
0.5nm,0.3s,baz=210,slow=15,SNR=9.9							
PALK	Pallekele	13.40 269		P	P	03 51 12.3	+2.6
100nm,1.7s							
HYB	Hyderabad	18.02 304		iP	P	03 52 13.0	+3.8
JIRN	Jiri	21.19 340		eP	P	03 52 46.1	+1.7
34nm,0.8s,mb4.8							
PKI	Pulchoki	21.39 338		eP	P	03 52 48.1	+1.7
34nm,0.8s,mb4.7							
DMN	Daman	21.54 338		eP	P	03 52 49.1	+1.2
53nm,0.8s,mb5.0							
KKN	Kakani	21.64 338		eP	P	03 52 49.7	+0.8
36nm,0.9s,mb4.8							
LSA	Lhasa	22.01 353		eP	P	03 52 55.3	+2.7
34nm,0.8s,mb4.8							
GKN	Gorkha	22.07 337		eP	P	03 52 52.5	-0.7
31nm,0.7s,mb4.8							
KOLN	Koldanda	22.29 335		eP	P	03 52 54.5	-0.9
39nm,0.9s,mb4.8							
ENH	Enshi	26.58	31	eP	P	03 53 37.1	+0.6
11nm,1.0s,mb4.3							
AAK	Ala-Archa	38.83 337		eP	P	03 55 22.4	-0.7
5.7nm,0.8s,mb4.3							
SONM	Songino Array	41.25	12	P	P	03 55 42.7	-0.3
2.2nm,0.8s,mb3.8,baz=192,slow=6.8,SNR=7.8							
ULN	Ulaanbaatar	41.43	13	eP	P	03 55 44.3	-0.1
2.0nm,0.8s,mb3.8							
KURK	Kurchatov	44.73 346		eP	P	03 56 10.0	-1.3
11nm,0.9s,mb4.7							
ZAL	Zalesovo	46.66 352		P	P	03 56 27.0	+0.5
5.8nm,0.9s,mb4.5,baz=298,slow=7.6,SNR=19							
WRA	Warramunga Arr	48.14 126		P	P	03 56 38.9	+0.2
0.6nm,0.5s,mb3.9,baz=304,slow=9.5,SNR=4.7							
WRAB	Tennant Creek	48.15 125		eP	P	03 56 39.0	+0.3
17nm,1.3s,mb4.9							
BVAR	Borovoye Array	49.11 341		P	P	03 56 44.9	-0.8
2.6nm,0.8s,mb4.3,baz=143,slow=7.4,SNR=9.4							
CHKZ	Chkalovo	49.60 342		eP	P	03 56 48.5	-0.8
13nm,0.9s,mb5.0							
ASAR	Alice Springs	49.80 130		P	P	03 56 51.4	0.0
0.9nm,0.9s,mb3.8,baz=303,slow=8.2,SNR=4.4							
KMBO	Kilima Mbogo	57.48 264		eP	P	03 57 44.8	-3.3
4.9nm,1.3s,mb4.4							
STKA	Stephens Creek	59.98 134		P	P	03 58 05.7	+0.5
BRTR	Keskin Array B	62.55 311		P	P	03 58 20.3	-2.2
1.3nm,0.8s,mb4.1,baz=126,slow=6.7,SNR=6.1							
AKASG	Malin Array Be	68.28 322		P	P	03 58 57.4	-1.8
2.5nm,0.8s,mb4.3,baz=88,slow=4.7,SNR=5.8							
JOF	Joensuu	70.97 334		ep	P	03 59 14.4	-1.1
4.9nm,0.8s,mb4.5							
FINES	FINESS Array B	72.84 332		P	P	03 59 25.8	-0.8
5.3nm,0.9s,mb4.5,baz=112,slow=10,SNR=8.5							
FINES	FINESS Array B	72.84 332		P	P	03 59 25.8	-0.8
KAF	Kangasniemi	72.92 333		ep	P	03 59 25.5	-1.5
9.8nm,1.0s,mb4.7,baz=104,slow=5.8							
DPC	Dobruska-Polom	76.33 320		eP	P	03 59 47.5	+0.6
PRU	Pruhonice	77.45 319		eP	P	03 59 53.4	+0.3
GERES	GERESS Array B	77.95 318		P	P	03 59 56.3	+0.4
2.7nm,0.8s,mb4.2,baz=90,slow=4.0,SNR=13							
KHC	Kasperske Hory	78.04 319		eP	P	03 59 56.7	+0.3
NB2	NORSAR Subarra	79.86 331		P	P	04 00 05.7	-0.3
1.9nm,0.8s,mb4.1,baz=96,slow=5.3							
NOA	NORSAR Array B	79.86 331		P	P	04 00 05.6	-0.4
3.2nm,0.8s,mb4.3,baz=93,slow=5.6,SNR=7.3							
INK	Inuvik	97.08	16	P	P	04 01 29.8	+0.8
1.0nm,0.9s,mb4.3,baz=242,slow=6.5,SNR=3.1							
TXAR	Lajitas Array	139.30	24	PKP	PKPdf	04 07 27.6	-1.5
0.3nm,0.8s,baz=346,slow=3.7,SNR=2.9							
PLCA	Paso Flores	144.47 200		PKP	PKPdf	04 07 34.3	-3.5
1.9nm,1.0s,baz=2.8,slow=18,SNR=2.9							

*BJI **27** 03:48:52.6, 6.98N×93.69E, h30km, mB5.3, mb4.5*
*NEIC **27** 03:49:02

39nm,1.4s,mb5.0
IMA Indian Mountai 91.61 22 *e*P **P 04 02 07.6 +2.0**
INK Inuvik 96.97 16 P **P 04 02 30.4 +0.4**
4.6nm,1.2s,mb4.8,baz=318,slow=7.9,SNR=4.4
NVAR Mina Array Bea 124.92 31 PKP PKPdf 04 08 01.6 +3.3
1.2nm,0.7s,baz=345,slow=1.4,SNR=6.2
PDAR Pinedale Array 125.15 21 PKP PKPdf 04 08 00.5 +1.9
1.4nm,0.8s,baz=50,slow=1.8,SNR=9.5
PDAR PP PP 04 09 46.5 -5.8
5.2nm,1.0s,baz=270,slow=3.0,SNR=8.0
TXAR Lajitas Array 139.21 24 PKP PKPdf 04 08 28.5 +3.1
0.6nm,0.7s,baz=43,slow=0.1,SNR=7.0
PLCA Paso Flores 144.57 200 PKP PKPdf 04 08 36.4 +2.0
9.8nm,0.9s,baz=183,slow=2.8,SNR=14

NIED ***27*** *03:56:00,27.40N×141.20E,h185km,Mw5.0 Best double couple: M₀3.78×10¹⁶ NP1:φs270°,δ69°,λ134°. NP2:φs20°, δ48°,λ29°.*
BJI ***27*** *03:56:42.8,27.20N×140.40E,h174km,mB5.0,mb5.0*
NEIC ***27*** *03:56:42.9±0.2,27.22N×140.44E,mb4.9/56, MW5.0(NIED),Error ellipse: s-maj=5.6km s-min=4.0km az=94.0*
HRVD ***27*** *03:56:42.8±0.5,27.22N×140.84E,h201km±4km, MW5.2/45,Centroid moment Tensor Solution. LP body waves: s18,c24;Mantle waves: s45,c74; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.90±.35; Mθθ-2.87±.34; Mφφ0.97±.34; Mrθ-4.80±.30; Mθφ-3.83±.30; Mφr0.98±.32; Best double couple: M₀6.705×10¹⁶ NP1: φs19°,δ40°,λ17°. NP2:φs276°,δ80°,λ128°. Principal axes: T 6.518, Plg42°, Azm222°; N .375, Plg38°, Azm88°; P -6.892, Plg25°, Azm337°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***27*** *03:56:43.2±0.5,27.20N×140.60E,h180km±4km,mb4.5/24, mb1 4.6/27,mb1mx4.6/29,mbtmp5.0/27,MS3.4/1, Ms1 3.4/1,ms1mx2.4/25 Error ellipse: s-maj=9.7km s-min=7.5km az=77.0,Putative timing error at LPAZ*
MOS ***27*** *03:56:44.3±1.1,27.27N×140.44E,h205km,mb4.9/41, Error ellipse: s-maj=10.3km s-min=5.1km az=97.7*
JMA ***27*** *03:56:45.0±0.1,27.38N×141.21E,h200km±4km,M5.4*
JMA Felt I J1.
ISC 27 03:56:43.6±0.2,27.19N±0.02×140.57E±0.04,h196km, h196km±2.7km:pP-P,n293,σ1936/312,mb4.8/87,13C-12D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.45**	**93**	P	**P**	**03 57 14.0**	**-2.8**
	684nm,0.3s,baz=336,slow=1.6,SNR=151						
CBIJ				S	**S**	**03 57 37.8**	**-4.7**
	4μm,0.3s,baz=300,slow=22,SNR=32						
CBIJ	**Chichi jima**	**1.45**	**93**	P	**P**	**03 57 14.3**	**-2.5**
JHHJ	**Haha-jima-NKT**	**1.54**	**111**	P	**P**	**03 57 15.8**	**-1.9**
JHHJ				S	**S**	**03 57 39.3**	**-4.8**
JHJ2	**Mitsune**	**5.94**	**354**	P	**P**	**03 58 11.2**	**+0.5**
JHJ	**Hachijo jima 2**	**5.95**	**354**	P	**P**	**03 58 11.2**	**+0.3**
	426nm,0.3s,baz=110,slow=14,SNR=34						
JHJ				S	**S**	**03 59 15.3**	**-3.4**
	299nm,0.3s,baz=243,slow=23,SNR=7.2						
JMY	**Miyakejima3**	**6.92**	**353**	P	**P**	**03 58 23.3**	**-0.2**
TK01	**Tokai 1**	**7.04**	**339**	P	**P**	**03 58 27.2**	**+2.1**
JKO	**Kozu shima**	**7.08**	**350**	P	**P**	**03 58 26.1**	**+0.5**
JKO				*e*S	**S**	**03 59 45.7**	**+0.4**
TK02	**Tokai 2**	**7.16**	**341**	P	**P**	**03 58 28.8**	**+2.2**
NJJJ	**Nii jima 2**	**7.27**	**352**	P	**P**	**03 58 28.7**	**+0.6**
BSO1	**Boso 1**	**7.45**	**3**	P	**P**	**03 58 28.8**	**-1.6**
BSO1				S	**S**	**03 59 46.8**	**-7.1**
JIM2	**Oshima 3**	**7.57**	**353**	P	**P**	**03 58 31.5**	**-0.5**
JWZ	**Kozaga**	**7.58**	**328**	P	**P**	**03 58 35.5**	**+3.3**
BSO3	**Boso 3**	**7.59**	**360**	P	**P**	**03 58 30.3**	**-2.0**
JIZS	**Izushimoda**	**7.64**	**349**	P	**P**	**03 58 33.1**	**+0.1**
JSG	**Sagara**	**7.74**	**345**	P	**P**	**03 58 36.2**	**+2.0**
BSO4	**Boso 4**	**7.78**	**359**	P	**P**	**03 58 33.8**	**-1.0**
JIE	**Ise**	**7.91**	**336**	P	**P**	**03 58 38.7**	**+2.3**
JHMK	**Hamakita**	**7.97**	**343**	P	**P**	**03 58 38.2**	**+0.9**
JAA	**Atsumi**	**7.98**	**339**	P	**P**	**03 58 39.4**	**+2.0**
JWM	**Minabe**	**8.01**	**327**	P	**P**	**03 58 41.6**	**+3.8**
HMMJ	**Hamamatsu 2**	**8.02**	**343**	P	**P**	**03 58 39.2**	**+1.3**
JOD2	**Odawara 2**	**8.15**	**351**	P	**P**	**03 58 39.2**	**-0.4**
TSUJ	**Tsu 2**	**8.30**	**336**	P	**P**	**03 58 44.3**	**+2.8**
MRT2	**Murotomisaki 2**	**8.30**	**320**	P	**P**	**03 58 46.4**	**+4.8**
JYN	**Shimob**	**8.46**	**349**	P	**P**	**03 58 44.0**	**+0.3**
JAO	**Obara**	**8.53**	**341**	P	**P**	**03 58 46.2**	**+1.6**
JHE	**Heguri**	**8.54**	**332**	P	**P**	**03 58 47.9**	**+3.2**
JMN	**Monobe**	**8.70**	**320**	P	**P**	**03 58 52.0**	**+5.2**
JAJ2	**Tsuna**	**8.70**	**327**	P	**P**	**03 58 51.0**	**+4.2**
JTO	**Tosashimizu**	**8.79**	**312**	P	**P**	**03 58 52.8**	**+4.9**
JGF	**Kuroka**	**8.82**	**343**	P	**P**	**03 58 49.6**	**+1.2**
JKU	**Kubokawa**	**8.90**	**315**	P	**P**	**03 58 54.5**	**+5.1**
JNT	**Takato**	**8.90**	**347**	P	**P**	**03 58 50.1**	**+0.7**
JRY	**Ryogami san**	**8.91**	**351**	P	**P**	**03 58 48.6**	**-1.0**
JRY				S	**S**	**04 00 22.6**	**-5.5**
JGM	**Miyama**	**9.10**	**340**	P	**P**	**03 58 53.4**	**+1.5**
JJS	**Sakaide**	**9.15**	**323**	P	**P**	**03 58 57.2**	**+4.5**
JFM	**Mihama**	**9.19**	**336**	P	**P**	**03 58 55.5**	**+2.4**
JWT	**Wachi**	**9.20**	**333**	P	**P**	**03 58 55.9**	**+2.7**
JET	**Tanbara**	**9.23**	**317**	P	**P**	**03 58 58.6**	**+5.0**
JAG	**Ashikaga**	**9.26**	**354**	P	**P**	**03 58 50.9**	**-3.1**
JHO	**Hitachi**	**9.39**	**0**	P	**P**	**03 58 52.9**	**-2.9**
JGN	**Niukaw**	**9.42**	**344**	P	**P**	**03 58 56.9**	**+0.8**
JNG	**Nsakai**	**9.43**	**348**	P	**P**	**03 58 55.7**	**-0.5**
JGK	**Kuni**	**9.49**	**351**	P	**P**	**03 58 56.0**	**-1.0**
JTZ	**Takazaki**	**9.49**	**302**	P	**P**	**03 59 03.2**	**+6.1**
MAJO	**Matsushiro**	**9.54**	**348**	*e*Pn	**P**	**03 58 56.5**	**-1.2**
MAJO				*e*Sn	**S**	**04 00 37.1**	**-5.5**
MAT	**Matsushiro**	**9.54**	**348**	*e*P	**P**	**03 58 56.0**	**-1.7**
MAT				*e*S	**S**	**04 00 41.0**	**-1.6**
MAT				pmax	pmax		
	comp=Z,119nm,0.8s						
MAT	**Matsushiro**	**9.54**	**348**	*e*P	**P**	**03 58 56.0**	**-1.7**
	comp=Z,119nm,0.8s						
MAT				*e*S	**S**	**04 00 41.0**	**-1.6**
MAT	**Matsushiro**	**9.54**	**348**	P	**P**	**03 58 55.9**	**-1.8**
MAT				S	**S**	**04 00 40.8**	**-1.8**
JKT	**Katashina**	**9.61**	**354**	P	**P**	**03 58 55.5**	**-3.2**
JUS	**Usuki**	**9.62**	**310**	P	**P**	**03 59 04.3**	**+5.6**
JSB	**Shiboa**	**9.77**	**357**	P	**P**	**03 58 58.0**	**-2.6**
JKSM	**Kasumi**	**9.77**	**330**	P	**P**	**03 59 03.5**	**+2.8**
JJG	**Jouge**	**9.78**	**321**	P	**P**	**03 59 05.3**	**+4.5**
JHS	**Saijyo**	**10.06**	**322**	P	**P**	**03 59 08.8**	**+4.3**
JJN	**Nakama**	**10.09**	**349**	P	**P**	**03 59 03.7**	**-1.1**
JHK	**Hiroka**	**10.12**	**353**	P	**P**	**03 59 02.3**	**-2.9**
JUR	**Ureshino**	**10.91**	**305**	P	**P**	**03 59 20.8**	**+5.4**
JOW	**Kunigami**	**10.97**	**271**	P	**P**	**03 59 18.0**	**+1.8**
	comp=Z,1.7nm,0.3s,baz=106,slow=18,SNR=7.7						
JSD	**Sado**	**10.99**	**350**	P	**P**	**03 59 13.6**	**-2.9**
GUMO	**Guam**	**14.12**	**163**	*e*P	**P**	**03 59 59.7**	**+3.6**
GUMO				pmax	pmax		
	comp=Z,363nm,0.9s						
GUMO	**Guam**	**14.12**	**163**	*e*P	**P**	**03 59 59.7**	**+3.6**
	comp=Z,363nm,0.9s						
GUMO				*e*S	**S**	**04 02 47.0**	**+19**
KS15	**Wonju Array Si**	**14.80**	**317**	*e*P	**P**	**04 00 08.8**	**+4.3**
ASAJ	**Asahikawa**	**16.97**	**5**	P	**P**	**04 00 30.4**	**-0.4**
ASAJ				S	**S**	**04 03 31.0**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,117nm,18.0s						
ASAJ	**Asahikawa**	**16.97**	**5**	P	**P**	**04 00 30.4**	**-0.4**
	comp=Z,9.4nm,0.3s,baz=213,slow=11,SNR=42						
ASAJ				S	**S**	**04 03 30.9**	**-0.8**
	comp=Z,2.1nm,0.3s,baz=298,slow=27,SNR=3.7						
ASAJ				LR	LR	04 07 45.1	
	comp=Z,117nm,18.0s,baz=123,slow=39						
YUK	**Yuzh-Kuril'sk**	**17.34**	**13**	*e*P	**P**	**04 00 32.2**	**-2.7**
YUK				*e*S	**S**	**04 03 36.1**	**-3.6**
YUK				pmax	pmax		
	comp=Z,280nm,0.6s						
YUK				pmax	pmax		
	comp=Z,3μm,2.0s						
YUK				smax			
	comp=N,570nm,0.6s						
YUK				smax			
	comp=E,310nm,0.6s						
YUK				smax			
	comp=N,2μm,3.0s						
YUK				smax			
	comp=E,3μm,1.0s						
SSE	**Sheshan**	**17.37**	**288**	P	**P**	**04 00 28.1**	**-7.2**
	comp=E,24nm,0.7s						
SSE				S	**S**	**04 03 38.1**	**-2.2**
SSE				sS		04 03 58.4	
NJ2	**Nanjing**	**19.48**	**290**	*e*P	**P**	**04 00 59.0**	**+1.7**
NJ2				AP		04 01 22.0	
NJ2				S	**S**	**04 04 24.0**	**+2.2**
NJ2				AMB	AMB		
	comp=Z,80nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,3μm,5.3s						
NJ2				LR	LR		
	comp=N,3μm,21.8s						
NJ2				LR	LR		
	comp=E,5μm,15.8s						
NJ2				LR	LR		
	comp=Z,1μm,24.0s						
MDJ	**Mudanjiang**	**19.50**	**336**	P	**P**	**04 00 56.5**	**-0.9**
MDJ				PP	PP	04 01 30.0	+8.4
MDJ				XP		04 01 52.0	
MDJ				S	**S**	**04 04 27.5**	**+5.4**
MDJ				AMB	AMB		
	comp=Z,27nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,101nm,3.7s						
MDJ	**Mudanjiang**	**19.50**	**336**	*e*P	**P**	**04 00 56.2**	**-1.3**
	comp=Z,42nm,1.0s						
CVP	**Callao Caves**	**19.71**	**245⇑**	*e*P	**P**	**04 01 03.0**	**+3.2**
	comp=Z,35μm,1.0s						
YSS	**Yuzh-Sakhalins**	**19.80**	**4**	*d i*P	**P**	**04 01 01.0**	**+0.5**
YSS				*e*S	**S**	**04 04 34.0**	**+6.2**
YSS				pmax	pmax		
	comp=Z,230nm,1.2s						
YSS				pmax	pmax		
	comp=Z,1μm,4.0s						
YSS				smax			
	comp=N,160nm,1.5s						
YSS				smax			
	comp=E,160nm,1.5s						
YSS	**Yuzh-Sakhalins**	**19.80**	**4**	*e*P	**P**	**04 01 01.2**	**+0.6**
	comp=E,230nm,0.8s						
TIA	**Tai'an**	**21.84**	**300**	⇓P	**P**	**04 01 22.3**	**+1.6**
TIA				AMB	AMB		
	comp=Z,33nm,1.0s,mb4.8						
TGY	**Tagaytay City**	**22.47**	**239**	P	**P**	**04 01 30.4**	**+3.4**
TGY				pmax	pmax		
	comp=Z,653nm,0.6s						
TGY	**Tagaytay City**	**22.47**	**239**	P	**P**	**04 01 30.4**	**+3.4**
	comp=Z,653nm,0.6s,baz=300,slow=12,SNR=24						
KLR	**Kul'dur**	**23.04**	**345⇑**	*i*P	**P**	**04 01 28.9**	**-3.4**
KLR				*e*		04 12 11.0	
KLR				pmax	pmax		
	comp=N,24nm,0.8s						
KLR				pmax	pmax		
	comp=E,36nm,0.8s						
KLR				pmax	pmax		
	comp=Z,64nm,0.8s,mb5.2						
WHN	**Wuhan**	**23.18**	**285**	⇓P	**P**	**04 01 37.0**	**+3.2**
WHN				AMB	AMB		
	comp=Z,42nm,1.0s,mb4.9						
WHN				LR	LR		
	comp=Z,10μm,13.3s						
BJT	**Baijiatuau**	**23.92**	**309**	*e*P	**P**	**04 01 40.2**	**-0.6**
BJT				pmax	pmax		
	comp=Z,22nm,1.1s						
BJT	**Baijiatuau**	**23.92**	**309**	*e*P	**P**	**04 01 40.2**	**-0.5**
	comp=Z,22nm,1.1s,mb4.7						
BJI	**Beijing**	**23.93**	**309**	P	**P**	**04 01 41.7**	**+0.9**
BJI				*PP		04 02 21.2	
BJI				*SP		04 02 48.6	
BJI				S	**S**	**04 05 36.2**	**-3.8**
BJI				*SS		04 06 50.5	
BJI				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.7						
BJI	**Beijing**	**23.93**	**309**	P	**P**	**04 01 41.7**	**+0.9**
	comp=Z,22nm,1.1s,mb4.7						
BJI				pP		04 02 21.2	
BJI				sP		04 02 48.6	
BJI				S	**S**	**04 05 36.2**	**-3.8**
BJI				sS		04 06 50.5	
HIA	**Hailar**	**27.28**	**329**	*e*P	**P**	**04 02 10.0**	**-1.6**
HIA				pmax	pmax		
	comp=Z,31nm,1.3s						
HIA	**Hailar**	**27.28**	**329**	*e*P	**P**	**04 02 10.0**	**-1.6**
	comp=Z,31nm,1.3s,mb4.8						
ENH	**Enshi**	**27.38**	**284**	*e*P	**P**	**04 02 12.8**	**0.0**
	comp=Z,62nm,2.0s,mb4.9						
XAN	**Xi'an**	**28.00**	**292**	P	**P**	**04 02 19.0**	**+0.7**
XAN				AMB	AMB		
	comp=Z,55nm,1.0s,mb5.1						
PET	**Petropavlovsk**	**29.11**	**23**	*e*P	**P**	**04 02 28.0**	**+0.1**
PET				pmax	pmax		
	comp=Z,48nm,1.4s,mb4.9						
PET				MLR	MLR		
	comp=Z,200nm,17.0s						
PET	**Petropavlovsk**	**29.11**	**23**	*i* P	**P**	**04 02 27.6**	**-0.3**
QIZ	**Qiongzhong**	**29.34**	**260**	P	**P**	**04 02 32.7**	**+2.4**
	comp=Z,31nm,1.3s,mb4.8						
CLNS	**Chul'man**	**31.67**	**344**	*e*P	**P**	**04 02 49.2**	**-1.2**
CLNS				*e*		04 03 50.8	
CLNS				*e*PPP	sP	04 03 58.1	+4.4
CLNS				*e*		04 05 33.5	
CLNS				pmax	pmax		
	comp=Z,32nm,0.7s,mb5.0						
CLNS				pmax	pmax		
	comp=N,29nm,0.9s						
CLNS				pmax	pmax		
	comp=E,1.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.5						
CLNS				pmax	pmax		
	comp=N,13nm,0.8s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,400nm,13.0s						
CLNS				MLR	MLR		
	comp=N,300nm,14.0s						
CLNS				MLR	MLR		
	comp=E,100nm,11.0s						
LZH	**Lanzhou**	**32.34**	**295**	⇓P	**P**	**04 02 57.5**	**+1.1**
LZH				AP	pP	04 03 37.5	+0.4
LZH				PP	PP	04 04 13.3	+1.9
LZH				AMB	AMB		
	comp=Z,164nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,270nm,4.0s						
LZH	**Lanzhou**	**32.34**	**295**	⇓P	**P**	**04 02 57.5**	**+1.1**
LZH				*PP	pP	04 03 37.5	+0.4
LZH				*SP	sP	04 04 01.0	+1.1
LZH						04 04 13.2	
LZH						04 05 41.1	
LZH				S	**S**	**04 07 53.3**	**-1.4**
LZH				*SS		04 09 07.0	
LZH				SS	SS	04 10 06.0	-0.1
LZH				pmax	pmax		
	comp=Z,164nm,1.5s,mb5.3						
LZH	**Lanzhou**	**32.34**	**295**	⇓P	**P**	**04 02 57.5**	**+1.1**
	comp=Z,164nm,1.5s,mb5.3						
LZH				pP	pP	04 03 37.5	+0.4
LZH				sP	sP	04 04 01.0	+1.1
LZH				PP	PP	04 04 13.2	+1.8
LZH				PcP	PcP	04 05 41.1	+1.7
LZH				S	**S**	**04 07 53.3**	**-1.4**
LZH				sS		04 09 07.0	
LZH				SS	SS	04 10 06.0	-0.1
MA2	**Magadan**	**33.13**	**9**	*d i*P	**P**	**04 03 02.9**	**0.0**
MA2				pmax	pmax		
	comp=Z,201nm,0.9s,mb5.7						
MA2	**Magadan**	**33.13**	**9**	*e*P	**P**	**04 03 02.5**	**-0.4**
	comp=Z,195nm,0.9s,mb5.6						
ULN	**Ulaanbaatar**	**33.27**	**317**	*e*P	**P**	**04 03 02.9**	**-1.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1						
ULN	**Ulaanbaatar**	**33.27**	**317**	*e*P	**P**	**04 03 02.9**	**-1.3**
	comp=Z,5.8nm,0.9s,mb4.1						
SONM	**Songino Array**	**33.65**	**317**	P	**P**	**04 03 07.1**	**-0.4**
	comp=Z,1.8nm,0.4s,mb4.0,baz=124,slow=8.9,SNR=28						
SONM				sP	sP	04 04 05.3	-6.0
	comp=Z,4.5nm,0.9s,baz=121,slow=7.3,SNR=2.9						
SONM				ScP		04 09 07.0	
	comp=Z,4.9nm,0.8s,baz=140,slow=2.8,SNR=5.7						
KMI	**Kunming**	**33.93**	**275**	P	**P**	**04 03 07.3**	**-2.8**
	comp=Z,59nm,1.4s,mb4.9						
KMI				pP	pP	04 03 51.2	+0.1
KMI				sP	sP	04 04 13.4	-0.5
KMI				PP	PP	04 04 31.8	+0.6
KMI				sS		04 06 49.9	
KMI				S	**S**	**04 08 15.0**	**-4.4**
KMI				sS		04 09 33.9	
KMI				SS	SS	04 10 33.8	-8.1
KMI	**Kunming**	**33.93**	**275**	P	**P**	**04 03 07.3**	**-2.8**
KMI				pmax	pmax		
	comp=Z,59nm,1.4s,mb4.9						
FX1	**Attu Island--F**	**35.28**	**34**	P	**P**	**04 03 21.4**	**+0.2**
FX1				pmax	pmax		
	comp=Z,116nm,0.7s						
FX1	**Attu Island--F**	**35.28**	**34**	P	**P**	**04 03 21.4**	**+0.2**
	comp=Z,116nm,0.7s,mb5.5,baz=231,slow=1.4,SNR=20						
FX1	**Attu Island--F**	**35.28**	**34**	*e*P	**P**	**04 03 22.4**	**+1.1**
YAK	**Yakutsk**	**35.59**	**351**	*d i*P	**P**	**04 03 22.0**	**-1.7**
YAK				*e*		04 04 49.2	
YAK				*e*		04 05 47.8	
YAK				*e*S	**S**	**04 08 52.6**	**+8.2**
YAK				pmax	pmax		
	comp=Z,32nm,0.8s,mb4.9						
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.2s						
YAK				smax			
	comp=E,12nm,1.1s						
YAK				smax			
	comp=N,11nm,0.9s						
YAK	**Yakutsk**	**35.59**	**351**	*e*P	**P**	**04 03 21.1**	**-2.6**
	comp=N,76nm,0.9s,mb5.2						
BOD	**Bodaibo**	**35.87**	**336**	*e*P	**P**	**04 03 24.2**	**-1.9**
SEY	**Seymchan**	**36.58**	**9**	*e*P	**P**	**04 03 29.0**	**-3.0**
SEY						04 04 57.6	
SEY				*e*S	**S**	**04 09 01.1**	**+1.5**
SEY				SS	SS	04 11 44.2	+4.4
SEY				pmax	pmax		
	comp=E,20nm,0.9s						
SEY				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.0						
SEY				pmax	pmax		
	comp=N,40nm,1.1s						
SEY				smax			
	comp=N,410nm,23.6s						
SEY				smax			
	comp=E,410nm,23.6s						
SEY				MLR	MLR		
	comp=Z,500nm,22.0s						
SEY				MLR	MLR		
	comp=N,410nm,16.0s						
SEY				MLR	MLR		
	comp=E,320nm,20.0s						
ZAK	**Zakamensk**	**36.59**	**319⇑**	*i*P	**P**	**04 03 31.2**	**-1.1**
PMG	**Port Moresby**	**36.94**	**169**	*e*P	**P**	**04 03 35.1**	**-0.4**
PMG				pmax	pmax		
	comp=Z,39nm,1.1s						
PMG	**Port Moresby**	**36.94**	**169**	*e*P	**P**	**04 03 35.1**	**-0.4**
	comp=Z,39nm,1.1s,mb4.8						
TLY	**Talaya**	**36.96**	**322**	*e*P	**P**	**04 03 35.6**	**+0.3**
TLY				pmax	pmax		
	comp=Z,18nm,1.9s,mb4.3						
TLY	**Talaya**	**36.96**	**322**	*e*P	**P**	**04 03 33.6**	**-1.7**
	comp=Z,5.6nm,0.8s,mb4.2						
CMAR	**Chiang Mai Arr**	**39.19**	**266**	P	**P**	**04 03 55.5**	**+1.3**
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**39.19**	**266**	P	**P**	**04 03 55.5**	**+1.3**
	comp=Z,8.3nm,0.7s,mb4.4,baz=55,slow=9.0,SNR=11						
KAKA	**Kakadu**	**40.44**	**192**	*i*P	**P**	**04 04 04.7**	**+0.2**
	comp=Z,36nm,0.8s,mb4.9						
BILL	**Bilibino**	**43.70**	**14**	*d i*P	**P**	**04 04 30.0**	**-0.3**
BILL				pmax	pmax		
	comp=Z,127nm,1.4s,mb5.1						
BILL	**Bilibino**	**43.70**	**14**	*e*P	**P**	**04 04 29.8**	**-0.5**
	comp=Z,328nm,1.6s,mb5.4						
UNV	**Unalaska Valle**	**46.82**	**40**	*e*P	**P**	**04 04 54.0**	**-1.1**
WRAB	**Tennant Creek**	**47.23**	**188**	*e*P	**P**	**04 04 58.5**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,499nm,0.8s						
WRAB	**Tennant Creek**	**47.23**	**188**	*e*P	**P**	**04 04 58.5**	**-0.2**
	comp=Z,499nm,0.8s						
WRAB				*e*S	**S**	**04 11 25.2**	**-10**
WB2	**Warramunga Arr**	**47.24**	**188⇑**	*i*P	**P**	**04 04 58.5**	**-0.3**
WB2				*e*S	**S**	**04 11 32.6**	**-3.1**
WRA	**Warramunga Arr**	**47.24**	**188**	P	**P**	**04 04 58.7**	**-0.1**
WRA				*PP	pP	04 05 40.8	-1.2
WRA				pmax	pmax		
	comp=Z,315nm,0.9s						
WRA				pmax	pmax		
	comp=Z,43nm,0.9s						
WRA				pmax	pmax		
	comp=N,3.0nm,0.7s						
WRA	**Warramunga Arr**	**47.24**	**188**	P	**P**	**04 04 58.7**	**-0.1**
	comp=N,315nm,0.9s,mb5.7,baz=7.1,slow=8.5,SNR=2095						
WRA				pP	pP	04 05 40.8	-1.1
	comp=N,43nm,0.8s,baz=8.6,slow=8.6,SNR=3.3						
WRA				ScP		04 10 00.8	
	comp=N,3.1nm,0.7s,baz=4.2,slow=4.4,SNR=6.5						
FITZ	**Fitzroy Crossi**	**47.29**	**199⇑**	*i*P	**P**	**04 04 59.9**	**+0.7**
	comp=N,36nm,0.8s,mb4.8						
CTA	**Charters Tower**	**47.32**	**173⇑**	*i*P	**P**	**04 04 58.8**	**-0.6**
	comp=N,17nm,0.8s,mb4.4						
CTA	**Charters Tower**	**47.32**	**173**	P	**P**	**04 04 59.0**	**-0.4**
CTA				pmax	pmax		
	comp=Z,23nm,0.8s						
CTA	**Charters Tower**	**47.32**	**173**	P	**P**	**04 04 59.0**	**-0.5**
	comp=Z,23nm,0.8s,mb4.6,baz=357,slow=9.0,SNR=26						
CTAO	**Charters Tower**	**47.32**	**173**	*e*P	**P**	**04 04 58.8**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.6						
CTAO	**Charters Tower**	**47.32**	**173**	*e*P	**P**	**04 04 58.8**	**-0.6**
	comp=Z,23nm,0.8s,mb4.5						
ZAL	**Zalesovo**	**48.48**	**319**	ScP		04 10 03.4	
	comp=Z,3.5nm,0.8s,baz=360,slow=9.7,SNR=4.9						
MKAR	**Makanchi Array**	**49.30**	**310**	*i* P	**P**	**04 05 13.4**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**49.30**	**310**	*i* P	**P**	**04 05 13.5**	**-0.8**
NVS	**Novosibirsk**	**49.54**	**320**	*e*P	**P**	**04 05 13.1**	**-2.9**
NVS				pmax	pmax		
	comp=N,11nm,1.2s						
NVS				pmax	pmax		
	comp=E,29nm,1.2s						
NVS				pmax	pmax		
	comp=Z,32nm,1.2s,mb4.5						
TNA	**Tin City**	**49.91**	**25**	*e*P	**P**	**04 05 19.2**	**+0.5**
TNA				*e*	pP	04 06 04.8	+2.5
ANM	**Nome**	**50.53**	**27**	*e*P	**P**	**04 05 24.1**	**+0.7**
SDPT	**Sand Point**	**50.55**	**39**	*e*P	**P**	**04 05 22.9**	**-0.7**
ASAR	**Alice Springs**	**50.97**	**188**	P	**P**	**04 05 26.4**	**-0.8**
	comp=Z,11nm,0.4s,mb4.7,baz=360,slow=5.1,SNR=107						

comp=Z,5.4nm,0.6s,baz=90,slow=7.4,SNR=4.0
BVAR ScP 04 10 40.7
comp=Z,3.7nm,0.8s,baz=108,slow=4.6,SNR=4.9
BRVK Borovoye 57.06 317 *e*P **P 04 06 10.1 -1.0**
BRVK pmax pmax
comp=Z,34nm,0.9s,mb5.0
BRVK Borovoye 57.06 317 *e*P **P 04 06 10.1 -1.0**
comp=Z,34nm,0.9s,mb5.0
PMR Palmer 57.13 32 *e*P **P 04 06 10.8 -0.7**
MCK McKinley 57.36 30 *e*P **P 04 06 12.5 -0.6**
MCK *e* pP 04 07 00.3 +2.4
MCK pmax pmax
comp=Z,41nm,1.3s,mb4.9
MCK McKinley 57.36 30 *e*P **P 04 06 12.5 -0.5**
comp=Z,41nm,1.3s,mb4.9
MCK *e* pP 04 07 00.3 +2.4
SML Sawmill 57.52 32 *e*P **P 04 06 13.7 -0.5**
COCO West Island 57.73 233 *e*P **P 04 06 13.8 -2.4**
comp=Z,97nm,1.1s,mb5.3
COLA College 57.92 29 *i*P **P 04 06 17.3 +0.4**
COLA College 57.92 29 *e*P **P 04 06 16.8 -0.1**
ILAR Eielson Array 58.32 29 P **P 04 06 18.2 -1.5**
ILAR pP 04 07 06.6 +1.9
ILAR pmax pmax
comp=Z,8.0nm,0.9s
ILAR pmax pmax
comp=Z,26nm,1.0s
ILAR Eielson Array 58.32 29 P **P 04 06 18.2 -1.5**
comp=Z,8.2nm,0.8s,mb4.4,baz=273,slow=5.7,SNR=67
ILAR PcP PcP 04 07 06.6 -1.8
comp=Z,26nm,1.0s,baz=264,slow=5.9,SNR=7.0
STKA Stephens Creek 58.74 179⇑*i*P **P 04 06 21.9 -1.2**
comp=Z,14nm,0.6s,mb4.8
STKA Stephens Creek 58.74 179 P **P 04 06 22.3 -0.8**
comp=Z,14nm,0.6s,mb4.8,baz=358,slow=6.6,SNR=46
STKA PcP PcP 04 07 08.7 -1.9
comp=Z,12nm,0.8s,baz=338,slow=5.5,SNR=5.7
FORT Forrest 58.87 193 *e*P **P 04 06 23.6 -0.4**
comp=Z,434nm,0.8s
MENT Mentasta 59.69 31 *e*P **P 04 06 29.6 +0.5**
DAWY Dawson 61.58 30 *e*P **P 04 06 41.8 0.0**
DAWY *e* pP 04 07 30.6 +3.2
AFI Afiamalu 61.70 125 *e*P **P 04 06 43.0 -0.3**
AFI pmax pmax
comp=Z,56nm,0.8s,mb5.2
AFI Afiamalu 61.70 125 *e*P **P 04 06 43.0 -0.3**
comp=Z,56nm,0.8s,mb5.2
KLBR Kellerberrin 62.37 202 *e*P **P 04 06 47.2 -0.4**
comp=Z,539nm,1.2s
CNB Canberra Magne 62.72 172 *e*P **P 04 06 49.4 -0.5**
comp=Z,154nm,0.9s,mb5.6
ARU Arti 63.46 322 P **P 04 06 53.6 -0.8**
comp=Z,424nm,0.6s,SNR=17
ARU Arti 63.46 322⇓*i*P **P 04 06 47.1 -7.3**
ARU *e*S **S 04 15 06.1 -3.9**
ARU pmax pmax
comp=Z,59nm,0.9s,mb5.2
INK Inuvik 63.54 24 *e*P **P 04 06 53.9 -0.8**
INK *e* pP 04 07 41.6 +1.1
INK pmax pmax
comp=Z,35nm,0.9s
INK Inuvik 63.54 24 P **P 04 06 54.0 -0.8**
comp=Z,14nm,0.4s,mb4.9,baz=291,slow=6.2,SNR=93
INK Inuvik 63.54 24 *e*P **P 04 06 53.9 -0.8**
comp=Z,35nm,0.9s,mb5.0
INK *e* pP 04 07 41.6 +1.1
NWAO Narrogin (SRO) 63.77 202 P **P 04 06 56.9 +0.1**
NWAO pmax pmax
comp=Z,23nm,0.9s
NWAO Narrogin (SRO) 63.77 202 P **P 04 06 56.9 +0.1**
comp=Z,22nm,0.9s,mb4.8,baz=20,slow=7.6,SNR=10.0
NWAO Narrogin (SRO) 63.77 202 *e*P **P 04 06 56.4 -0.4**
comp=Z,63nm,1.3s,mb5.1
NWAO *e* 04 07 06.5
TOO Toolangi 64.58 176 *e*P **P 04 07 02.1 +0.2**
comp=Z,1.3nm,1.0s
TOO Toolangi 64.58 176 *e*P **P 04 07 02.1 +0.2**
TOO pmax pmax
comp=Z,1.0nm,1.0s
TAU Tasmania Unive 70.03 175 *e*P **P 04 07 35.4 -0.4**
TAU pmax pmax
comp=Z,23nm,0.9s,mb4.8
TAU Tasmania Unive 70.03 175 *e*P **P 04 07 35.4 -0.4**
comp=Z,23nm,0.9s,mb4.8
APA Apatity 71.41 337⇓*i*P **P 04 07 41.3 -2.3**
APA *i* 04 07 56.3
APA *i* pP 04 08 26.0 -4.4
APA pmax pmax
comp=Z,31nm,1.0s,mb4.9
RES Resolute Bay 72.31 13 *e*P **P 04 07 48.5 -0.4**
RES pmax pmax
comp=Z,40nm,1.1s,mb5.0
RES Resolute Bay 72.31 13 *e*P **P 04 07 48.5 -0.4**
comp=Z,40nm,1.1s,mb5.0
KEV Kevo 72.41 340 *e*p **P 04 07 48.8 -0.8**
YKW3 Yellowknife Ar 72.71 28 *e*P **P 04 07 50.7 -0.7**
YKW3 *e* pP 04 08 40.1 +1.8
YKA Yellowknife Ar 72.74 28 P **P 04 07 51.0 -0.6**
YKA pmax pmax
comp=Z,21nm,0.8s
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 72.74 28 P **P 04 07 51.0 -0.5**
comp=Z,21nm,0.8s,mb4.8,baz=294,slow=5.9,SNR=97
YKA pP pP 04 08 33.8 -4.7
comp=Z,2.9nm,0.8s,baz=295,slow=6.1,SNR=2.3
YKA Yellowknife Ar 72.74 28 P **P 04 07 51.0 -0.5**
YKA pP pP 04 08 33.8 -4.7
ARCES ARCESS Array B 72.98 341 P **P 04 07 52.5 -0.3**
ARCES pmax pmax
comp=Z,6.0nm,0.6s
ARCES ARCESS Array B 72.98 341 P **P 04 07 52.5 -0.3**
comp=Z,6.3nm,0.6s,mb4.5,baz=71,slow=8.1,SNR=44
ARCES ARCESS Array B 72.98 341 P **P 04 07 52.5 -0.4**
ARE0 ARCESS Array S 72.98 341 *e*P **P 04 07 52.5 -0.3**
URZ Urewera 73.56 151 P **P 04 07 55.0 -1.9**
comp=Z,6.2nm,0.5s,mb4.5,baz=184,slow=1.4,SNR=6.9
KTK1 Kautokeino 73.94 341 *e*P **P 04 07 59.1 +0.7**
KTK1 AMb AMB 04 08 18.7
comp=Z,74nm,1.9s,mb5.0
JOF Joensuu 74.36 333 *e*p **P 04 07 59.2 -1.7**
comp=Z,12nm,0.3s,mb5.0
JCW Jim Creek 74.94 43 P **P 04 08 05.8 +1.2**
DAG Danmarks Havn 75.49 355⇑*e*P **P 04 08 06.2 -1.0**
DAG pmax pmax
comp=Z,4.0nm,1.1s,mb4.0
DAG Danmarks Havn 75.49 355⇑*e*P **P 04 08 06.2 -1.0**
comp=Z,3.8nm,1.1s,mb3.9
DAG Danmarks Havn 75.49 355⇑*i*P **P 04 08 06.2 -1.0**
comp=Z,3.8nm,1.1s,mb3.9
DAG Danmarks Havn 75.49 355⇑*i*P pP 04 08 57.0 +2.6
comp=Z,4.8nm,0.7s
OBN Obninsk 75.63 325⇑*i*P **P 04 08 05.3 -3.0**
OBN pmax pmax
comp=Z,39nm,1.0s,mb5.0
RPZ Rata Peaks 75.90 158 P **P 04 08 08.6 -1.5**
comp=Z,27nm,0.9s,mb4.8,baz=37,slow=3.2,SNR=11
NAC Naches 76.22 44 P **P 04 08 13.1 +1.3**
EBG Ellensburg 76.31 44 P **P 04 08 13.6 +1.4**
WTV Waterville 76.35 43 P **P 04 08 13.0 +0.6**
MXC Moxie City 76.62 44 P **P 04 08 15.3 +1.3**
KAF Kangasniemi 76.76 334 *e*p **P 04 08 12.9 -1.5**
comp=Z,7.9nm,0.4s,mb4.7,baz=55,slow=5.3
KAF Kangasniemi 76.76 334 *e*P **P 04 08 12.9 -1.5**
KAF pmax pmax
comp=Z,8.0nm,0.4s,mb4.7
KIV Kislovodsk 76.93 313 *e*P **P 04 08 15.6 -0.1**
KIV *e* 04 08 29.2
KIV pmax pmax
comp=Z,51μm,1.0s
KIV Kislovodsk 76.93 313 *e*P **P 04 08 15.6 -0.2**
comp=Z,51nm,1.0s,mb5.1
KIV *e* 04 08 29.1
YBH Yreka Blue Hor 77.10 50 P **P 04 08 18.2 +1.5**
YBH pmax pmax
comp=Z,6.0nm,0.7s
YBH Yreka Blue Hor 77.10 50 P **P 04 08 18.2 +1.5**
comp=Z,6.1nm,0.7s,mb4.3,baz=313,slow=2.4,SNR=14
FINES FINESS Array B 77.22 333 P **P 04 08 16.7 -0.3**
FINES *PP pP 04 09 01.5 -2.9
FINES pmax pmax
comp=Z,11nm,0.3s
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 77.22 333 P **P 04 08 16.7 -0.2**
comp=Z,11nm,0.3s,mb4.9,baz=73,slow=4.8,SNR=103
FINES pP pP 04 09 01.5 -2.9
comp=Z,1.6nm,0.4s,baz=69,slow=5.7,SNR=1.0
FINES FINESS Array B 77.22 333 P **P 04 08 16.7 -0.2**
FINES FINESS Array B 77.22 333 pP pP 04 09 01.5 -2.9
EDM Edmonton 77.60 36 *e*P **P 04 08 19.2 0.0**
EDM *e* pP 04 09 08.5 +1.8
NEW Newport 77.81 42 *e*P **P 04 08 21.0 +0.6**
NEW *e* pP 04 09 10.0 +2.0
NEW pmax pmax
comp=Z,25nm,0.9s
NEW Newport 77.81 42 *e*P **P 04 08 21.0 +0.5**
comp=Z,25nm,0.9s,mb4.8
NEW *e* pP 04 09 04.3 -3.7
NEW *e* pP 04 09 10.0 +2.0
MOR8 Moi Rana 78.35 340 *e*P **P 04 08 21.5 -1.5**
MOR8 *e*pP pP 04 09 04.5 -6.1
SOC Sochi 79.02 313 *e*P **P 04 08 25.3 -1.9**
SOC *e* 04 11 32.1
SOC *e*PPP PPP 04 13 24.1 +2.7
SOC *e*S S 04 18 12.9 +4.8
SOC pmax pmax
comp=Z,38nm,1.1s,mb4.9
SOC pmax pmax
comp=N,42nm,1.3s
SOC pmax pmax
comp=E,31nm,1.1s
BMO Blue Mountains 79.26 45 *e*P **P 04 08 29.2 +0.9**
comp=E,21nm,1.1s,mb4.7
BMO *e* 04 09 10.9
BMO *e* pP 04 09 18.1 +1.9
WALA Waterton Lakes 79.31 40 *e*P **P 04 08 29.9 +1.3**
comp=E,20nm,0.8s,mb4.8
WALA *e* pP 04 09 14.0 -2.3
WVOR Wild Horse Val 79.51 48 *e*P **P 04 08 30.7 +0.9**
WVOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
WVOR Wild Horse Val 79.51 48 *e*P **P 04 08 30.7 +0.9**
comp=Z,3.9nm,0.8s,mb4.1
WVOR *e* pP 04 09 13.9 -3.6
ANN Anapa 79.92 315 *e*P **P 04 08 31.6 -0.3**
ANN pmax pmax
comp=Z,91nm,1.0s,mb5.4
NSS Namsos 80.24 340 *e*P **P 04 08 31.6 -1.6**
CMB Columbia Colle 80.31 52 *e*P **P 04 08 34.3 +0.1**
CMB *e* pP 04 09 20.3 -1.7
CMB pmax pmax
comp=Z,11nm,1.0s,mb4.4
CMB Columbia Colle 80.31 52 *e*P **P 04 08 34.3 +0.1**
comp=Z,11nm,1.0s,mb4.5
CMB *e* 04 08 44.7
CMB *e* pP 04 09 20.3 -1.8
NVAR Mina Array Bea 81.59 51 P **P 04 08 41.8 +0.9**
comp=Z,3.8nm,0.6s,mb4.2,baz=300,slow=3.9,SNR=19
NVAR pP pP 04 09 25.2 -3.6
comp=Z,2.6nm,0.7s,baz=304,slow=3.9,SNR=3.6
AKASG Malin Array Be 81.68 323 P **P 04 08 39.6 -1.4**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKASG Malin Array Be 81.68 323 P **P 04 08 39.6 -1.4**
comp=Z,3.8nm,0.4s,mb4.4,baz=48,slow=6.1,SNR=31
HLID Hailey 81.70 45 *e*P **P 04 08 42.6 +1.3**
comp=Z,9.5nm,1.0s,mb4.4
HLID *e* pP 04 09 26.0 -3.3
SIM Simferopol' 81.90 317 *e*P **P 04 08 43.0 +0.7**
SIM pmax pmax
comp=Z,20nm,0.8s,mb4.8
MCMT McKenzie Canyo 82.05 44 *e*P **P 04 08 44.2 +1.2**
MALT Malatya 82.34 309 *e* **P 04 08 46.3 +1.6**
FFC Flin Flon 82.42 31 P **P 04 08 45.3 +0.6**
comp=Z,104nm,0.8s,mb5.5,SNR=14
TPH Tonopah 82.51 51 P **P 04 08 47.8 +2.3**
TPH pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
TPH Tonopah 82.51 51 P **P 04 08 47.8 +2.3**
comp=Z,6.9nm,1.0s,mb4.3
TPH *e* 04 09 29.8
SUW Suwalki 82.81 328 *e*P **P 04 08 46.4 -0.4**
QLMT Earthquake Lak 82.91 43 *e*P **P 04 08 49.3 +1.8**
QLMT *e* 04 09 32.0
QLMT *e* pP 04 09 38.3 +2.7
NB2 NORSAR Subarra 82.98 338 P **P 04 08 46.3 -1.2**
comp=Z,9.1nm,0.6s,mb4.7,baz=51,slow=4.6
NB2 NORSAR Subarra 82.98 338 P **P 04 08 46.3 -1.2**
baz=51,slow=4.6
NOA NORSAR Array B 82.98 338 P **P 04 08 46.7 -0.8**
NOA *PP pP 04 09 32.7 -2.9
NOA pmax pmax
comp=Z,9.0nm,0.6s
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 82.98 338 P **P 04 08 46.6 -0.9**
comp=Z,9.0nm,0.6s,mb4.7,baz=46,slow=4.9,SNR=33
NOA pP pP 04 09 32.7 -2.9
comp=Z,2.4nm,0.8s,baz=50,slow=4.3,SNR=2.1
NOA NORSAR Array B 82.98 338 P **P 04 08 46.6 -0.9**
NOA pP pP 04 09 32.7 -2.9
FCC Fort Churchill 83.15 25 *e*P **P 04 08 47.5 -0.9**
FCC *e* pP 04 09 38.4 +1.9
FCC pmax pmax
comp=Z,29nm,1.1s,mb4.9
FCC Fort Churchill 83.15 25 *e*P **P 04 08 47.5 -0.8**
comp=Z,29nm,1.1s,mb4.9
FCC *e* pP 04 09 38.4 +1.8
NAO01 NORSAR Array S 83.24 338 *e*P **P 04 08 47.1 -1.7**
comp=Z,11nm,0.7s,mb4.7
YMR Madison River 83.28 43 *e*P **P 04 08 51.5 +2.1**
YMR *e* 04 09 32.9
YMR *e* pP 04 09 40.9 +3.4
HVU Hansel Valley 83.65 46 *e*P **P 04 08 53.0 +1.7**
HVU *e* 04 09 36.0
LKWY Lake 83.67 43 *e*P **P 04 08 54.5 +3.2**
LKWY *e* pP 04 09 44.1 +4.6
LKWY pmax pmax
comp=Z,19nm,0.9s,mb4.8
LKWY Lake 83.67 43 *e*P **P 04 08 54.5 +3.2**
comp=Z,19nm,0.9s,mb4.8
LKWY *e* 04 09 05.0
LKWY *e* pP 04 09 44.1 +4.6
IMW Indian Meadow 83.70 44 *e*P **P 04 08 53.5 +2.1**
IMW *e* pP 04 09 43.4 +3.8
TPAW Teton Pass 83.91 44 *e*P **P 04 08 54.7 +2.2**
TPAW *e* pP 04 09 42.5 +1.8
KIS Kishinev 83.95 320 *e*P **P 04 08 51.0 -1.6**
WUWY Wally Ulrich 84.01 44 *e*P **P 04 08 54.7 +1.7**
LOHW Long Hollow 84.06 44 *e*P **P 04 08 55.0 +1.8**
LOHW *e* 04 09 36.3
HWUT Hardware Ranch 84.51 46 *e*P **P 04 08 57.2 +1.6**
comp=Z,20nm,0.9s,mb4.8
HWUT *e* pP 04 09 45.4 +1.5
BRTR Keskin Array B 84.88 312 P **P 04 08 57.2 -0.2**
BRTR pmax pmax
comp=Z,4μm,0.8s
BRTR Keskin Array B 84.88 312 P **P 04 08 57.2 -0.2**
comp=Z,3.9nm,0.8s,mb4.2,baz=96,slow=4.2,SNR=19
LVV L'vov 84.92 324 *e*P **P 04 09 04.1 +6.7**
LVV MLR MLR
comp=Z,250nm,17.0s
LVV MLR MLR
comp=N,140nm,18.0s
LVV MLR MLR
comp=E,160nm,19.0s
LAO LASA Array 84.95 39 *e*P **P 04 08 58.6 +1.0**
comp=E,18nm,0.9s,mb4.8
LAO *e* pP 04 09 43.0 -3.0
LAO *e* pP 04 09 49.2 +3.3
DGMT Dagmar 85.04 37 *e*P **P 04 08 58.4 +0.4**
comp=E,19nm,0.8s,mb4.9
NLU North Lily Min 85.04 47 *e*P **P 04 08 59.5 +1.2**
PDAR Pinedale Array 85.16 44 P **P 04 08 59.8 +1.0**
comp=E,5.1nm,0.8s,mb4.3,baz=283,slow=2.5,SNR=30
NEN Nelson 85.36 52 *e*P **P 04 09 00.9 +1.0**
LDFC Landfair 85.45 53 *e*P **P 04 09 01.2 +0.8**
LDFC *e* 04 09 06.7
LDFC *e* 04 09 40.0
MVU Marysvale 85.71 49 *e*P **P 04 09 02.9 +1.3**
comp=E,7.5nm,1.0s,mb4.4
MVU *e* pP 04 09 47.9 -2.1
MVU *e* pP 04 09 53.1 +3.1
KWP Kalwaria 85.72 325 *e*P **P 04 09 01.5 +0.2**
MSU Marysvale 85.73 49 *e*P **P 04 09 03.4 +1.7**
MSU *e* pP 04 09 52.9 +2.9
FRB Frobisher Bay 86.50 13 P **P 04 09 04.9 +0.1**
FRB *PP pP 04 09 50.5 -2.7
FRB pmax pmax
comp=Z,17nm,0.8s
FRB pmax pmax
comp=Z,10.0nm,1.1s
FRB Frobisher Bay 86.50 13 P **P 04 09 04.9 +0.1**
comp=Z,17nm,0.8s,mb4.8,baz=345,slow=5.8,SNR=22
FRB pP pP 04 09 50.5 -2.8
comp=Z,9.5nm,1.1s,baz=325,slow=3.3,SNR=2.9
SRU San Rafael 86.51 48 *e*P **P 04 09 06.1 +0.7**
SRU *e* 04 09 49.2
VYHS Vyhne 88.41 326 *i*P **P 04 09 14.1 -0.1**
CLL Collm 89.26 330 *i*P **P 04 09 17.6 -0.5**
CLL Collm 89.26 330 P **P 04 09 17.6 -0.5**
KHC Kasperske Hory 90.53 328 *e*P **P 04 09 23.0 -1.1**
GERES GERESS Array B 90.68 328 P **P 04 09 24.0 -0.8**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 90.68 328 P **P 04 09 24.0 -0.8**
comp=Z,1.7nm,0.8s,mb4.0,baz=37,slow=6.1,SNR=7.7
ANMO Albuquerque 91.51 49 *e*P **P 04 09 30.8 +1.8**
ANMO pmax pmax
comp=Z,7.0nm,1.0s
ANMO Albuquerque 91.51 49 *e*P **P 04 09 30.8 +1.7**
comp=Z,6.7nm,1.0s,mb4.5
TXAR Lajitas Array 96.70 52 P **P 04 09 54.6 +1.7**
comp=Z,1.0nm,0.7s,mb4.2,baz=310,slow=3.2,SNR=12
TXAR pP pP 04 10 35.5 -6.2
comp=Z,0.6nm,0.7s,baz=297,slow=4.0,SNR=2.6
TXAR Lajitas Array 96.70 52 P **P 04 09 54.6 +1.7**
TXAR pP pP 04 10 35.5 -6.2
SDV Santo Domingo 133.09 45 PKP PKPdf 04 15 38.7 +2.1
comp=Z,4.3nm,0.8s,baz=87,slow=6.5,SNR=7.3
NNA Nana 141.82 74 *e*PKPdf PKPdf 04 15 54.4 +2.0
USHA Ushuaia 145.23 151 PKPbc PKPbc 04 15 59.4 +1.6
comp=Z,22nm,0.8s,baz=202,slow=5.7,SNR=12
PLCA Paso Flores 151.04 126 PKPbc PKPdf 04 16 14.9 +8.0
comp=Z,6.1nm,0.7s,baz=243,slow=3.5,SNR=19
PLCA Paso Flores 151.04 126 *e*PKPbc PKPdf 04 16 14.7 +7.8
PLCA *e*PKPab PKPab 04 16 24.5 +0.9
LPAZ La Paz 151.29 74 PKPbc PKPdf 04 15 35.6 -32
comp=Z,12nm,0.8s,baz=318,slow=2.8,SNR=41
LPAZ pPKPab 04 16 27.3
comp=Z,4.0nm,0.9s,baz=309,slow=4.4,SNR=2.6
LVC Limon Verde 152.91 87 *e*PKPbc PKPdf 04 16 20.6 +10

IDC 27 03:56:55.4±7.8, 7.30N×94.09E, mb4.2/4, mb1 4.3/5, mb1mx4.0/18, mbtmp4.1/5, ML4.2/1, Error ellipse: s-maj=180.3km s-min=54.4km az=138.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.05**	**23**	Pn	P	03 59 48.0	-3.6
0.4nm,0.3s,baz=212,slow=15,SNR=7.5							
BVAR	**Borovoye Array**	**49.51**	**341**	P	P	04 05 47.7	-1.9
1.3nm,0.4s,baz=157,slow=11,SNR=2.3							
BRTR	**Keskin Array B**	**62.76**	**311**	P	P	04 07 22.1	-2.9
0.9nm,0.7s,baz=108,slow=7.8,SNR=5.6							
FINES	**FINESS Array B**	**73.19**	**332**	P	P	04 08 28.6	-1.1
5.7nm,0.8s,baz=90,slow=8.3,SNR=4.1							

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*IDC **27** 03:58:39.7±0.5, 7.95N×94.08E, mb5.0/23, mb1 5.1/24, mb1mx5.1/25, mbtmp5.0/24, ML4.7/1, MS4.8/6, Ms1 4.8/6, ms1mx4.5/10, Error ellipse: s-maj=25.7km s-min=11.9km az=46.0*

*BJI **27** 03:58:42.8, 7.76N×93.87E, h40km, mB5.3, mb4.9, Ms5.4, Msz5.2*

*HRVD **27** 03:58:44.6±0.2, 7.94N×94.20E, h20km±1km, MW5.4/59, Centroid moment Tensor Solution. LP body waves: s47,c75;Mantle waves: s59,c122; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.14±.03; $M_{\theta\theta}$-0.94±.03; $M_{\phi\phi}$1.08±.03; $M_{r\theta}$-0.55±.07; $M_{\theta\phi}$0.77±.03; $M_{\phi r}$-0.27±.06; Best double couple: $M_0$1.411×10^{17} NP1: ϕ_s154°, δ64°, λ-176°. NP2:ϕ_p62°, δ87°, λ-26°. Principal axes: T 1.46, Plg16°, Azm111°; N -.102, Plg64°, Azm236°; P -1.362, Plg21°, Azm15°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **27** 03:58:44.6±0.2, 7.94N×93.99E, h30km, mb5.3/83, MS4.9/37 Error ellipse: s-maj=5.2km s-min=4.6km az=195.0*

NEIC Felt on Little Nicobar Island.

*MOS **27** 03:58:47.4±0.9, 8.26N×93.82E, h52km, mb5.5/87, MS4.8/26, Error ellipse: s-maj=8.8km s-min=4.5km az=117.4*

ISC 27 03:58:42.3±1.1, 7.98N±0.04×94.02E±0.03, h25km±7km, h28km±1.5km: pP-P, n406, σ1§00/368, mb5.2/125, MS4.9/53, 36C-9D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.87**	**341**	*e*	**Pn**	**03 59 47.2**	**+5.4**
PBA				*e*		04 00 35.9	
NNT	**Nongplab**	**7.26**	**50**	P	**Pn**	**04 00 27.8**	**-1.8**
NST	**Nakhon Sawan**	**9.71**	**37**	P	**P**	**04 00 59.0**	**-4.8**
CM31	**Chiang Mai Arr**	**11.47**	**24**	*e*P	**P**	**04 01 28.6**	**+0.9**
84nm,0.9s							
CMAR	**Chiang Mai Arr**	**11.47**	**24**	P	**P**	**04 01 28.3**	**+0.5**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
CMAR				MLR	MLR		
comp=Z,7μm,18.3s							
CMAR	**Chiang Mai Arr**	**11.47**	**24**	Pn	**P**	**04 01 28.3**	**+0.5**
comp=Z,1.4nm,0.3s,baz=211,slow=14,SNR=43							
CMAR				LR	LR	04 06 03.0	
comp=Z,7μm,18.3s,baz=210,slow=39							
CHG	**Chiang Mai**	**11.79**	**23**	⇑P	**P**	**04 01 33.0**	**+0.9**
comp=Z,30nm,0.8s							
KKTK	**Khon Kaen**	**11.96**	**45**	P	**P**	**04 01 34.0**	**-0.4**
comp=Z,247nm,0.9s							
NANT	**Nan**	**12.57**	**30**	⇑P	**P**	**04 01 43.0**	**+0.5**
comp=Z,62nm,1.0s							
CHRT	**Chiangrai**	**13.08**	**25**	⇑P	**P**	**04 01 51.5**	**+2.2**
comp=Z,250nm,1.1s							
PALK	**Pallekele**	**13.22**	**268**	*e*P	**P**	**04 01 50.9**	**-0.3**
comp=Z,40nm,1.1s							
VIS	**Vishakhapatnam**	**14.22**	**314**	*e*P	**P**	**04 02 03.9**	**-0.6**
VIS				*e*S	**S**	**04 04 39.7**	**-2.5**
BWNR	**Bhubaneshwar**	**14.60**	**328**	*e*P	**P**	**04 02 09.2**	**-0.2**
BWNR				*e*S	**S**	**04 04 49.3**	**-2.0**
CAL	**Calcutta**	**15.48**	**340**	*e*P	**P**	**04 02 23.6**	**+2.7**
CAL				*e*	**S**	**04 05 24.3**	**+12**
CAL				*e*		04 05 30.4	
AGT	**Agartala**	**16.04**	**351**	⇑*i*P	**P**	**04 02 28.0**	**-0.1**
AGT				*i*		04 03 03.0	
KOD	**Kodaikanal**	**16.50**	**279**	*e*P	**P**	**04 02 36.1**	**+2.2**
KOD				*e*		04 02 42.1	
comp=Z,143nm,1.5s							
KOD				*e*	**S**	**04 05 51.8**	**+16**
IMP	**Imphal**	**16.71**	**360**	*e*P	**P**	**04 02 35.9**	**-0.7**
TRD	**Trivandrum**	**16.89**	**273**	*e*		04 02 54.4	
TRD				*i*	**S**	**04 05 58.4**	**+14**
SHL	**Shillong**	**17.61**	**354**	*e*P	**P**	**04 02 45.0**	**-2.9**
comp=Z,250nm,1.2s							
SHL				*e*	**S**	**04 06 05.8**	**+4.8**
HYB	**Hyderabad**	**17.75**	**303**	*e*P	**P**	**04 02 50.0**	**+0.4**
HYB				pmax	pmax		
comp=Z,129nm,1.2s							
HYB	**Hyderabad**	**17.75**	**303**	*e*P	**P**	**04 02 50.0**	**+0.4**
comp=Z,129nm,1.2s							
HYB				*e*S	**S**	**04 06 10.0**	**+5.7**
HYB	**Hyderabad**	**17.75**	**303**	*i*P	**P**	**04 02 50.0**	**+0.4**
comp=Z,129nm,1.2s							
HYB				*e*S	**S**	**04 06 10.0**	**+5.7**
BLSP	**Bilaspur**	**18.14**	**322**	*e*P	**P**	**04 02 53.9**	**-0.6**
BLSP				*e*S	**S**	**04 06 16.1**	**+3.1**
QIZ	**Qiongzhong**	**18.89**	**53**	P	**P**	**04 03 05.0**	**+1.4**
QIZ				S	**S**	**04 06 31.3**	**+1.4**
QIZ				AMB	AMB		
comp=Z,506nm,6.3s							
QIZ				LR	LR		
comp=N,17μm,14.3s							
QIZ				LR	LR		
comp=Z,4μm,9.2s							
QIZ	**Qiongzhong**	**18.89**	**53**	*e*P	**P**	**04 03 04.9**	**+1.3**
comp=Z,74nm,1.1s							
KMI	**Kunming**	**18.98**	**25**	S	**S**	**04 06 38.7**	**+6.9**
KMI	**Kunming**	**18.98**	**25**	⇑P	**P**	**04 03 08.8**	**+4.2**
KMI				pP		04 03 14.6	
KMI				sP		04 03 19.6	
KMI				PP	PP	04 03 23.9	+2.8
KMI				S	**S**	**04 06 38.7**	**+6.9**

KMI SS SS 04 07 02.7 +5.3
NGP Nagpur 19.50 314 *e*P **P** **04 03 11.4 +0.7**
NGP *e* 04 03 21.0
comp=Z,111nm,0.3s
NGP *e* 04 03 21.2
NGP *e* **S** **04 06 59.1 +15**
NGP *e* 04 06 59.5
MNGI Mangalore 19.50 286 *i* P **P** **04 03 11.2 +0.4**
MNGI *i* **S** **04 06 44.5 +0.7**
COCO West Island 20.23 172 *e*P **P** **04 03 18.6 0.0**
comp=Z,238nm,1.1s
ALBI Allahabad 20.80 327 *e* **S** **04 07 28.5 +18**
JIRN Jiri 20.93 340 *e*P **P** **04 03 25.4 -0.4**
comp=Z,354nm,0.9s
GOA Goa 21.12 293 *e* 04 03 36.2
GOA *e* 04 03 39.2
comp=Z,141nm,1.4s
GOA *e* 04 07 39.6
PKI Pulchoki 21.12 338 *e*P **P** **04 03 27.4 -0.3**
comp=Z,406nm,1.0s,mb5.7
DMN Daman 21.27 338 *e*P **P** **04 03 29.1 -0.1**
comp=Z,414nm,1.0s,mb5.7
KKN Kakani 21.37 338 *e*P **P** **04 03 29.4 -0.8**
comp=Z,507nm,1.3s,mb5.7
KAD Karad 21.44 298 *e*P **P** **04 03 31.3 +0.3**
KAD *e*S **S** **04 07 26.8 +4.3**
LSA Lhasa 21.78 353 *e*P **P** **04 03 34.2 -0.1**
LSA pmax pmax
comp=Z,186nm,0.8s,mb5.6
LSA MLR MLR
comp=Z,3μm,19.0s,MS4.8
LSA Lhasa 21.78 353 *e*P **P** **04 03 34.2 -0.1**
comp=Z,186nm,0.8s,mb5.6
LSA LR LR
comp=Z,3μm,19.0s,MS4.8
GKN Gorkha 21.80 337 *e*P **P** **04 03 34.3 -0.3**
comp=Z,333nm,0.9s,mb5.8
KOLN Koldanda 22.02 335 *e*P **P** **04 03 37.3 +0.6**
comp=Z,713nm,1.3s,mb5.9
POO Poona 22.23 300 *i* P **P** **04 03 40.0 +1.1**
POO *i* S **S** **04 07 45.0 +7.8**
BOM Bombay 23.27 300 *e* **S** **04 08 07.0 +11**
NDI New Delhi 25.98 325 *e*P **P** **04 04 14.4 -0.7**
NDI *e* pP 04 04 22.1 -0.3
comp=Z,202nm,1.7s
NDI *e* **S** **04 08 50.8 +9.0**
AJM Ajmer 26.03 317 ⇑*i*P **P** **04 04 16.0 +0.5**
DGAR Diego Garcia 26.38 235 PFAKE 04 04 30.0 +11
DGAR LR LR
comp=Z,441nm,19.0s,MS4.0
ENH Enshi 26.50 31 *e*P **P** **04 04 19.9 +0.1**
comp=Z,89nm,1.1s,mb5.2
ENH LR LR
comp=Z,4μm,19.0s,MS5.0
DDI Dehra Dun 26.79 328 *e*P **P** **04 04 22.0 -0.5**
DDI *e* 04 08 24.3
TGY Tagaytay City 27.10 75 LR LR 04 15 20.7
comp=Z,2μm,18.6s,MS4.6,baz=191,slow=37
SMLA Simla 27.90 328 *e* **P** **04 04 41.1 +8.6**
LZH Lanzhou 29.39 16 *e*P **P** **04 04 47.3 +1.4**
LZH AP pP 04 04 56.5 +3.2
LZH XP sP 04 05 00.3 +3.7
LZH PP PP 04 05 43.0 +1.5
LZH *e*S **S** **04 09 38.0 +1.3**
LZH XS 04 09 54.0
LZH SS SS 04 11 13.0 +3.8
LZH AMB AMB
comp=Z,62nm,1.8s,mb5.0
LZH AMB AMB
comp=Z,159nm,4.0s
LZH LR LR
comp=N,3μm,14.2s
LZH LR LR
comp=Z,3μm,16.8s,MS5.0
LZH Lanzhou 29.39 16 *e*P **P** **04 04 47.2 +1.3**
LZH *SP sP 04 05 00.2 +3.6
LZH 04 05 43.0
LZH *e*S **S** **04 09 38.0 +1.3**
LZH SS SS 04 11 13.0 +3.8
LZH pmax pmax
comp=Z,62nm,1.8s,mb5.0
LZH MLR MLR
comp=Z,3μm,16.8s,MS5.0
LZH Lanzhou 29.39 16 *e*P **P** **04 04 47.2 +1.3**
comp=Z,62nm,1.8s,mb5.0
LZH pP pP 04 04 56.6 +3.3
LZH sP sP 04 05 00.2 +3.6
LZH PP PP 04 05 43.0 +1.5
LZH *e*S **S** **04 09 38.0 +1.3**
LZH sS 04 09 54.0
LZH SS SS 04 11 13.0 +3.8
LZH LR LR
comp=Z,3μm,16.8s,MS5.0
WHN Wuhan 29.43 38 P **P** **04 04 47.5 +1.1**
TATO Taipei 31.19 54 PFAKE 04 05 10.0 +8.0
TATO LR LR
comp=Z,3μm,21.0s,MS4.9
NJ2 Nanjing 33.27 41 *e*P **P** **04 05 19.5 -0.6**
NJ2 AP pP 04 05 29.0 +1.4
NJ2 XP sP 04 05 33.5 +2.7
NJ2 PP PP 04 06 31.8 0.0
NJ2 AMB AMB
comp=Z,80nm,0.9s,mb5.7
NJ2 AMB AMB
comp=Z,2μm,5.4s
NJ2 LR LR
comp=N,7μm,19.6s
NJ2 LR LR
comp=E,6μm,14.4s
NJ2 LR LR
comp=Z,6μm,12.7s
SSE Sheshan 34.23 44 P **P** **04 05 25.5 -2.9**
SSE S **S** **04 10 51.0 -1.6**
SSE AMB AMB
comp=Z,22nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,320nm,10.7s
SSE LR LR
comp=N,2μm,24.5s,MS4.8
SSE LR LR
comp=E,2μm,24.3s,MS4.8
SSE LR LR
comp=Z,1μm,15.6s
SSE Sheshan 34.23 44 P **P** **04 05 25.5 -2.9**
comp=Z,22nm,0.7s,mb5.2
SSE sP sP 04 05 38.1 -1.0
SSE S **S** **04 10 51.0 -1.6**
SSE sS 04 11 06.1
SSE SS SS 04 13 20.7 +18
SSE LR LR
comp=Z,1μm,15.6s,MS4.7
WMQ Urumqi 36.13 352 P **P** **04 05 45.5 +1.1**
WMQ AP pP 04 05 55.3 +3.3
WMQ XP sP 04 05 59.0 +3.9
WMQ PP PP 04 07 08.0 +0.9
WMQ PCP PcP 04 08 11.3 +1.0
WMQ S **S** **04 11 22.0 +0.2**
WMQ AMB AMB
comp=Z,135nm,1.0s,mb5.8
WMQ AMB AMB
comp=Z,922nm,5.4s
WMQ LR LR
comp=N,2μm,16.4s,MS5.2
WMQ LR LR
comp=E,2μm,16.2s,MS5.2
WMQ LR LR
comp=Z,3μm,16.5s,MS5.2
WBK Wadi Bani Khal 36.68 297 ⇓P **P** **04 05 53.1 +3.8**
BJT Baijiatuau 37.55 28 *e*P **P** **04 05 57.4 +1.0**
BJT pmax pmax
comp=Z,57nm,1.3s
BJT MLR MLR
comp=Z,2μm,22.0s
BJT Baijiatuau 37.55 28 *e*P **P** **04 05 57.4 +1.0**
comp=Z,57nm,1.3s,mb5.1
BJT LR LR
comp=Z,2μm,22.0s,MS4.9
BJI Beijing 37.57 28 *e*P **P** **04 05 58.2 +1.6**
BJI *SP sP 04 06 11.8 +4.5
BJI 04 07 31.9
BJI S **S** **04 11 43.5 -0.5**
BJI pmax pmax
comp=Z,18nm,1.6s,mb4.5
BJI MLR MLR
comp=Z,2μm,23.5s,MS4.8

BJI Beijing 37.57 28 *e*P **P** **04 05 58.2 +1.6**
comp=Z,18nm,1.6s,mb4.5
BJI sP sP 04 06 11.8 +4.5
BJI PP PP 04 07 31.9 +6.6
BJI S **S** **04 11 43.5 -0.5**
BJI SS SS 04 14 27.0 +8.9
BJI LR LR
comp=Z,2μm,23.5s,MS4.8
SMDO Samad 37.63 298 ⇓P **P** **04 06 00.7 +3.5**
BIDO Bidbid 37.70 298 ⇑P **P** **04 06 01.4 +3.5**
BSY Bisya 38.28 297 P **P** **04 06 06.3 +3.6**
SNR=10
HOQ Hoqain 38.43 298 P **P** **04 06 07.4 +3.4**
SNR=11
AAK Ala-Archa 38.56 337 *e*P **P** **04 06 03.9 -1.0**
AAK pmax pmax
comp=Z,58nm,1.2s,mb5.2
AAK Ala-Archa 38.56 337 *e*P **P** **04 06 03.9 -1.0**
comp=Z,58nm,1.2s,mb5.2
AAK Ala-Archa 38.56 337 PFAKE 04 06 20.0 +15
AAK LR LR
comp=Z,648nm,21.0s,MS4.4
ARQ Araqi 39.05 297 P **P** **04 06 12.7 +3.5**
SNR=6.7
MKAR Makanchi Array 39.96 347 *i* P **P** **04 06 15.9 -0.6**
ABTO Aybut 40.73 287 ⇑P **P** **04 06 23.5 +0.5**
SONM Songino Array 41.09 13 P **P** **04 06 26.0 +0.3**
comp=Z,11nm,0.8s,mb4.5,baz=194,slow=7.2,SNR=18
SONM PcP PcP 04 08 25.6 -0.1
comp=Z,7.2nm,0.6s,baz=198,slow=3.0,SNR=14
ULN Ulaanbaatar 41.27 13 *e*P **P** **04 06 26.8 -0.4**
ULN pmax pmax
comp=Z,12nm,0.9s,mb4.5
ULN MLR MLR
comp=Z,2μm,20.0s,MS4.9
ULN Ulaanbaatar 41.27 13 *e*P **P** **04 06 26.8 -0.4**
comp=Z,12nm,0.9s,mb4.5
ULN LR LR
comp=Z,2μm,20.0s,MS4.9
SNY Shenyang 42.65 33 ⇓P **P** **04 06 39.5 +0.9**
SNY AMB AMB
comp=Z,20nm,1.7s,mb4.6
SNY LR LR
comp=N,2μm,17.0s
SNY LR LR
comp=Z,2μm,13.9s,MS5.2
ZAK Zakamensk 42.97 9 *e*P **P** **04 06 40.3 -0.8**
TLY Talaya 44.29 9 *e*P **P** **04 06 53.2 +1.4**
TLY *e*S **S** **04 13 29.1 +5.6**
TLY pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
TLY MLR MLR
comp=Z,2μm,26.0s,MS4.8
TLY Talaya 44.29 9 *i* P **P** **04 06 51.0 -0.8**
KURK Kurchatov 44.48 346 *i* P **P** **04 06 52.4 -1.0**
KURK Kurchatov 44.48 346 PFAKE 04 07 10.0 +17
KURK LR LR
comp=Z,339nm,21.0s,MS4.2
MUN Mundaring 45.03 153 *e*P **P** **04 06 57.4 -0.6**
comp=Z,19nm,0.7s,mb5.0
MUN Mundaring 45.03 153 *e*P **P** **04 06 57.4 -0.6**
MUN pmax pmax
comp=Z,19nm,0.7s,mb5.0
NWAO Narrogin (SRO) 46.29 153 P **P** **04 07 06.3 -1.7**
NWAO pmax pmax
comp=Z,21nm,0.7s
NWAO Narrogin (SRO) 46.29 153 P **P** **04 07 06.3 -1.7**
comp=Z,21nm,0.7s,mb5.2,baz=334,slow=8.8,SNR=9.9
HIA Hailar 46.48 23 *e*P **P** **04 07 10.4 +1.2**
HIA pmax pmax
comp=Z,44nm,1.1s
HIA Hailar 46.48 23 *e*P **P** **04 07 10.4 +1.2**
comp=Z,44nm,1.1s,mb5.3
NVS Novosibirsk 47.53 352 *e*P **P** **04 07 15.6 -1.8**
NVS *e*S **S** **04 13 56.5 -13**
NVS pmax pmax
comp=N,83nm,1.0s
NVS pmax pmax
comp=E,48nm,1.0s
NVS pmax pmax
comp=Z,128nm,1.0s,mb5.9
NVS smax
comp=N,42nm,2.3s
NVS smax
comp=E,111nm,2.3s
MDJ Mudanjiang 47.79 34 P **P** **04 07 20.5 +0.8**
MDJ AP pP 04 07 28.8 +1.5
MDJ XP sP 04 07 32.5 +2.1
MDJ PP PP 04 09 12.0 +1.2
MDJ S **S** **04 14 13.5 -0.2**
MDJ SS SS 04 17 44.3 +7.7
MDJ AMB AMB
comp=Z,12nm,0.8s,mb5.0
MDJ AMB AMB
comp=Z,106nm,4.5s
MDJ LR LR
comp=E,2μm,13.7s
MDJ LR LR
comp=Z,2μm,14.8s,MS5.2
MDJ Mudanjiang 47.79 34 PFAKE 04 07 30.0 +10
MDJ LR LR
comp=Z,2μm,19.0s,MS5.0
WRA Warramunga Arr 48.42 126 P **P** **04 07 22.9 -1.9**
WRA pmax pmax
comp=Z,17nm,1.0s
WRA Warramunga Arr 48.42 126 P **P** **04 07 22.9 -1.9**
comp=Z,16nm,1.0s,mb5.0,baz=305,slow=8.9,SNR=5.8
WRAB Tennant Creek 48.42 126 PFAKE 04 07 40.0 +15
WRAB LR LR
comp=Z,534nm,19.0s,MS4.5
BVAR Borovoye Array 48.85 341 P **P** **04 07 26.7 -1.0**
comp=Z,14nm,0.9s,mb5.0,baz=149,slow=8.6,SNR=6.6
BVAR PcP PcP 04 08 52.0 -0.5
comp=Z,9.4nm,0.8s,baz=153,slow=3.3,SNR=4.6
BRVK Borovoye 48.92 341 *i* P **P** **04 07 27.7 -0.5**
BRVK MLR MLR
comp=Z,1μm,21.0s,MS4.9
MAJO Matsushiro 49.18 48 PFAKE 04 07 40.0 +9.5
MAJO LR LR
comp=Z,925nm,20.0s,MS4.8
MAT Matsushiro 49.18 48 *e*P **P** **04 07 36.0 +5.5**
MAT Matsushiro 49.18 48 P **P** **04 07 31.4 +0.9**
CHKZ Chkalovo 49.34 342 *e*P **P** **04 07 30.6 -0.9**
CHKZ pmax pmax
comp=Z,101nm,1.1s,mb5.8
CHKZ Chkalovo 49.34 342 *e*P **P** **04 07 30.6 -0.9**
comp=Z,101nm,1.1s,mb5.8
ASAR Alice Springs 50.07 130 P **P** **04 07 34.7 -2.8**
comp=Z,10nm,0.9s,mb4.8,baz=307,slow=6.7,SNR=12
ASAR PcP PcP 04 08 56.0 -1.2
comp=Z,7.7nm,0.9s,baz=304,slow=4.3,SNR=6.6
ASAR LR LR 04 30 58.1
comp=Z,779nm,21.2s,MS4.7,baz=298,slow=39
GUMO Guam 50.19 79 PFAKE 04 07 50.0 +11
GUMO LR LR
comp=Z,1μm,20.0s,MS4.9
KLR Kul'dur 51.86 31 *e*P **P** **04 07 45.0 -5.7**
BOD Bodaibo 52.08 13 *e*P **P** **04 07 51.3 -1.0**
GNI Garni 54.28 314 P **P** **04 08 08.6 -0.2**
GNI pmax pmax
comp=Z,7.0nm,0.6s
GNI Garni 54.28 314 P **P** **04 08 08.6 -0.2**
comp=Z,6.6nm,0.6s,mb4.7,baz=303,slow=2.7,SNR=8.8
CLNS Chul'man 54.38 20 *e*P **P** **04 08 08.3 -1.0**
CLNS *e* 04 09 12.3
CLNS *e* 04 10 08.4
CLNS *e*S **S** **04 15 44.9 +0.6**
CLNS pmax pmax
comp=Z,50nm,1.2s,mb5.3
CLNS pmax pmax
comp=N,22nm,1.1s
CLNS pmax pmax
comp=E,15nm,0.8s
CLNS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
CLNS pmax pmax
comp=N,6.0nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS smax
comp=N,4.0nm,0.9s
CLNS smax
comp=Z,3.0nm,0.9s
CLNS smax
comp=E,3.0nm,0.8s
CLNS MLR MLR

comp=Z,2μm,14.0s,MS5.3
CLNS MLR MLR
comp=N,2μm,13.0s,MS5.5
CLNS MLR MLR
comp=E,500nm,13.0s,MS5.5
TI2 Plekhanov 54.89 316 ⇓*i*P **P** **04 08 12.8 -0.5**
SVE Sverdlovsk 55.26 338 *e*P **P** **04 08 14.0 -1.8**
SVE pmax pmax
comp=Z,150nm,2.0s,mb5.7
SVE MLR MLR
comp=N,900nm,20.0s,MS5.1
SVE MLR MLR
comp=E,1μm,20.0s,MS5.1
SVE MLR MLR
comp=Z,2μm,20.0s,MS5.1
PMG Port Moresby 55.68 107 P **P** **04 08 18.9 -0.4**
comp=Z,41nm,0.8s,mb5.5,baz=67,slow=0.6,SNR=9.6
PMG Port Moresby 55.68 107 P **P** **04 08 18.9 -0.4**
PMG LR LR
comp=Z,754nm,22.0s,MS4.7
ARU Arti 55.75 337 ⇓*i*P **P** **04 08 12.2 -7.1**
ARU *e*S **S** **04 15 54.6 -8.0**
ARU *e*SS SS 04 19 38.5 -10
ARU pmax pmax
comp=Z,36nm,1.2s,mb5.3
ARU MLR MLR
comp=Z,2μm,21.0s,MS5.1
ARU MLR MLR
comp=N,1μm,20.0s,MS5.1
ARU MLR MLR
comp=E,800nm,20.0s,MS5.1
ZEI Tsey 55.88 317 *i* P **P** **04 08 13.9 -6.5**
ZEI *i* 04 10 19.3
ZEI pmax pmax
comp=Z,12nm,1.0s,mb4.9
YSS Yuzh-Sakhalins 56.78 38 PFAKE 04 08 40.0 +13
YSS LR LR
comp=Z,795nm,20.0s,MS4.8
KIV Kislovodsk 57.16 318 *e*P **P** **04 08 28.6 -1.0**
KIV *e* 04 10 35.5
KIV *e*S **S** **04 16 22.5 +1.1**
KIV pmax pmax
comp=Z,33nm,0.8s,mb5.4
KIV pmax pmax
comp=N,23nm,0.9s
KIV pmax pmax
comp=E,18nm,0.8s
KIV MLR MLR
comp=E,497nm,20.0s
KIV MLR MLR
comp=Z,469nm,20.0s,MS4.6
KIV Kislovodsk 57.16 318 *i* P **P** **04 08 28.7 -0.9**
KIV LR LR
comp=Z,148nm,22.0s,MS4.0
KMBO Kilima Mbogo 57.31 264 P **P** **04 08 33.6 +2.5**
comp=Z,21nm,0.7s,mb5.3,baz=53,slow=10.0,SNR=59
KMBO Kilima Mbogo 57.31 264 P **P** **04 08 33.6 +2.5**
KMBO LR LR
comp=Z,1μm,19.0s,MS5.0
ASF Jabal al Asfar 58.06 303 P **P** **04 08 36.5 +0.5**
comp=Z,8.0nm,0.8s,mb4.8,baz=352,slow=5.2,SNR=16
ASF LR LR 04 35 59.0
comp=Z,579nm,21.1s,MS4.7,baz=133,slow=38
MALT Malatya 58.30 310 *e*P **P** **04 08 36.7 -0.9**
MALT *e* pP 04 08 46.3 +0.8
MALT pmax pmax
comp=Z,20nm,1.0s,mb5.1
CTA Charters Tower 58.46 119 LR LR 04 37 44.3
comp=Z,692nm,18.3s,MS4.8,baz=289,slow=40
CTAO Charters Tower 58.46 119 PFAKE 04 08 50.0 +11
CTAO LR LR
comp=Z,683nm,20.0s,MS4.8
SOC Sochi 59.02 317 *e*P **P** **04 08 37.0 -5.6**
SOC *e*PPP PPP 04 12 14.6 -4.7
SOC *e*S **S** **04 16 43.3 -2.6**
SOC pmax pmax
comp=N,38nm,1.2s
SOC pmax pmax
comp=Z,40nm,1.2s,mb5.3
SOC MLR MLR
comp=Z,592nm,20.0s,MS4.7
SOC MLR MLR
comp=N,206nm,13.0s
SOC MLR MLR
comp=E,336nm,18.0s
EIL Elat 59.27 300 P **P** **04 08 44.8 +0.3**
comp=E,10nm,0.7s,mb5.0,baz=90,slow=5.8,SNR=13
EIL Elat 59.27 300 *e*P **P** **04 08 44.6 +0.1**
comp=E,27nm,1.0s,mb5.2
YAK Yakutsk 59.94 19*d i*P **P** **04 08 47.7 -0.9**
YAK *e* 04 11 06.7
YAK *e*PPP PPP 04 12 33.0 +4.3
YAK *e*S S 04 17 18.1 +21
YAK *e* 04 18 29.4
YAK pmax pmax
comp=Z,31nm,0.8s,mb5.4
YAK pmax pmax
comp=N,12nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK smax
comp=E,41nm,7.1s
YAK smax
comp=N,17nm,5.7s
YAK MLR MLR
comp=Z,781nm,17.0s,MS4.9
YAK MLR MLR
comp=N,752nm,14.0s,MS5.0
YAK MLR MLR
comp=E,431nm,14.0s,MS5.0
YAK Yakutsk 59.94 19 *e*P **P** **04 08 47.8 -0.8**
comp=E,106nm,0.9s,mb5.9
YAK LR LR
comp=Z,1μm,21.0s,MS5.0
STKA Stephens Creek 60.26 134 P **P** **04 08 49.1 -2.2**
comp=Z,11nm,1.0s,mb4.8,baz=302,slow=5.3,SNR=3.8
BRTR Keskin Array B 62.27 311 P **P** **04 09 02.8 -2.0**
BRTR pmax pmax
comp=Z,10μm,0.6s
BRTR Keskin Array B 62.27 311 P **P** **04 09 02.8 -2.0**
comp=Z,9.7nm,0.6s,mb5.1,baz=127,slow=7.3,SNR=35
BRTR Keskin Array B 62.27 311 P **P** **04 09 02.8 -2.0**
VOR Voronezh 62.43 325 *e*P **P** **04 09 04.5 -1.1**
VOR pmax pmax
comp=Z,70nm,1.7s,mb5.5
SIM Simferopol' 63.27 317 *e*P **P** **04 09 11.0 -0.3**
SIM pmax pmax
comp=Z,20nm,0.9s,mb5.2
SIM MLR MLR
comp=Z,510nm,20.6s,MS4.7
MOS Moscow 64.93 329 *e*P **P** **04 09 20.3 -1.6**
MOS *e* 04 09 49.7
MOS pmax pmax
comp=Z,144nm,1.2s,mb5.9
OBN Obninsk 65.23 328 *e*P **P** **04 09 20.1 -3.8**
OBN *e* 04 11 43.0
OBN *e*S S 04 18 02.4 -1.6
OBN pmax pmax
comp=Z,162nm,1.7s,mb5.8
OBN MLR MLR
comp=Z,900nm,22.0s,MS4.9
OBN Obninsk 65.23 328 *e*P **P** **04 09 19.6 -4.2**
comp=Z,104nm,1.0s,mb5.8
MA2 Magadan 66.73 28*de*P **P** **04 09 33.4 0.0**
MA2 pmax pmax
comp=Z,20nm,1.1s,mb5.1
MA2 Magadan 66.73 28 *e*P **P** **04 09 33.5 +0.1**
comp=Z,35nm,0.8s,mb5.4
MA2 LR LR
comp=Z,597nm,20.0s,MS4.8
KIS Kishinev 67.36 318 *e*P **P** **04 09 35.0 -2.7**
KIS *e* 04 09 54.0
AKASG Malin Array Be 68.00 322 P **P** **04 09 39.8 -1.8**
AKASG pmax pmax
comp=Z,11nm,0.7s
AKASG Malin Array Be 68.00 322 P **P** **04 09 39.8 -1.8**
comp=Z,11nm,0.7s,mb5.0,baz=88,slow=4.9,SNR=27
IDI Anoyia 68.41 305 P **P** **04 09 43.9 -0.5**
comp=Z,24nm,0.6s,mb5.4,baz=89,slow=8.1,SNR=16
VRI Vrincioaia 68.54 316 ⇑P **P** **04 09 44.7 -0.3**
SEY Seymchan 68.89 25 *e*P **P** **04 09 41.7 -5.2**
SEY *e* 04 23 13.5
MLR Muntele Rosu 69.01 316 ⇑P **P** **04 09 47.5 -0.4**
MLR Muntele Rosu 69.01 316 LR LR 04 45 43.1
comp=Z,659nm,19.6s,MS4.9,baz=52,slow=41
LSZ Lusaka 69.19 250 *e*P **P** **04 09 50.6 +1.1**

LSZ pmax pmax
comp=Z,24nm,1.1s,mb5.0
LSZ Lusaka 69.19 250 *e*P **P 04 09 50.6 +1.2**
comp=Z,24nm,1.1s,mb5.0
MNK Minsk 69.80 325 *e*P **P 04 09 48.0 -4.6**
BURAR Bucovina Array 69.89 318 ⇑P **P 04 09 53.0 -0.3**
SRS Serrai 70.06 311 *e*P **P 04 09 50.7 -3.7**
KNT Kendrikon 70.59 311 *e*P **P 04 09 56.3 -1.3**
JOF Joensuu 70.70 334 *e*p **P 04 09 56.5 -1.4**
comp=Z,31nm,0.7s,mb5.3
LIT Litokhoron 70.78 310 *e*P **P 04 09 57.5 -1.3**
AGG Agios Georgios 70.80 308 *e*P **P 04 09 54.6 -4.4**
GRG Griva 70.94 310 *e*P **P 04 09 58.1 -1.7**
BOLS Boljevac 71.58 313⇑*i*P **P 04 10 01.8 -1.8**
FNA Florina 71.69 310 *e*P **P 04 10 02.5 -1.8**
APA Apatity 71.71 339 *e*P **P 04 10 00.0 -3.9**
APA pmax pmax
comp=Z,44nm,1.0s,mb5.3
APA MLR MLR
comp=Z,2µm,15.0s,MS5.6
SKO Skopje 71.76 311 *i*P **P 04 10 03.0 -1.7**
KWP Kalwaria 71.87 320 *e*P **P 04 10 05.1 -0.1**
KOLS Kolonicke sedl 72.05 319 *i*P **P 04 10 07.1 +0.8**
SUW Suwalki 72.35 324 *e*P **P 04 10 07.1 -0.9**
IGT Igoumenitsa 72.39 309 *e*P **P 04 10 05.8 -2.6**
FINES FINESS Array B 72.56 332 *i*P **P 04 10 09.1 0.0**
FINES pmax pmax
comp=Z,32nm,0.7s
FINES FINESS Array B 72.56 332 P **P 04 10 08.0 -1.1**
comp=Z,32nm,0.7s,mb5.3,baz=104,slow=7.9,SNR=22
FINES FINESS Array B 72.56 332 P **P 04 10 08.0 -1.1**
CRVS Cervenica-Dubn 72.57 319 *i*P **P 04 10 10.1 +0.7**
KAF Kangasniemi 72.64 333 *e*p **P 04 10 07.6 -1.9**
comp=Z,42nm,0.9s,mb5.4,baz=104,slow=5.3
KAF Kangasniemi 72.64 333 *e*P **P 04 10 07.6 -1.9**
KAF pmax pmax
comp=Z,42nm,0.9s,mb5.4
KECS Kecovo 73.16 318 *i*P **P 04 10 13.1 +0.3**
NIE Niedzica 73.39 319||*e*P **P 04 10 14.5 +0.4**
PSZ Piszkesteto 73.48 318 *e*P **P 04 10 14.1 -0.6**
PSZ pmax pmax
comp=Z,18nm,1.0s,mb5.0
PSZ Piszkesteto 73.48 318 *e*P **P 04 10 14.1 -0.6**
comp=Z,18nm,1.0s,mb5.0
OJC Ojcow 73.82 320 *e*P **P 04 10 16.3 -0.3**
PKSM Moragy 74.17 316||*e*P **P 04 10 18.0 -0.7**
LBTB Lobatse 74.18 241 PFAKE 04 10 30.0 +11
LBTB LR LR
comp=Z,1µm,22.0s,MS5.1
VYHS Vyhne 74.25 318 *i*P **P 04 10 18.8 -0.3**
KEV Kevo 74.70 341 *e*p **P 04 10 20.7 -0.6**
comp=Z,18nm,0.7s,mb5.1
KEV Kevo 74.70 341 *e*P **P 04 10 20.7 -0.6**
KEV pmax pmax
comp=Z,18nm,0.7s,mb5.1
OKC Ostrava-Krasne 74.83 319 *e*P **P 04 10 22.2 -0.3**
ARCES ARCESS Array B 75.13 340 P **P 04 10 24.1 +0.3**
ARCES pmax pmax
comp=Z,15nm,0.8s
ARCES ARCESS Array B 75.13 340 P **P 04 10 24.1 +0.3**
comp=Z,15nm,0.8s,mb5.0,baz=90,slow=6.1,SNR=12
MORC Moravsky Berou 75.22 319 *e*P **P 04 10 24.6 -0.1**
MORC pmax pmax
comp=Z,49nm,1.1s,mb5.3
MORC Moravsky Berou 75.22 319 *e*P **P 04 10 24.6 -0.2**
comp=Z,48nm,1.1s,mb5.3
ZST Bratislava 75.38 318 *i*P **P 04 10 25.9 +0.3**
BOSA Boshof 75.53 238 *e*P **P 04 10 27.8 +0.8**
BOSA pmax pmax
comp=Z,40nm,1.0s,mb5.3
BOSA Boshof 75.53 238 *e*P **P 04 10 27.8 +0.8**
comp=Z,40nm,1.0s,mb5.3
GKP Gorka Klasztor 75.74 323 *e*P **P 04 10 27.5 -0.2**
KTK1 Kautokeino 75.76 339 *e*P **P 04 10 28.4 +1.0**
comp=Z,100nm,1.4s,mb5.5
KTK1 Kautokeino 75.76 339 *e*P **P 04 10 28.4 +1.0**
KTK1 AMb AMB 04 10 38.2
comp=Z,100nm,1.4s,mb5.5
BILL Bilibino 76.04 22 *i*P **P 04 10 28.7 -0.3**
BILL pmax pmax
comp=Z,25nm,1.2s,mb5.0
BILL MLR MLR
comp=Z,2µm,19.0s,MS5.5
BILL Bilibino 76.04 22 *e*P **P 04 10 28.5 -0.5**
comp=Z,17nm,0.8s,mb5.0
BILL LR LR
comp=Z,2µm,20.0s,MS5.4
DPC Dobruska-Polom 76.05 320 *e*P **P 04 10 29.8 +0.4**
KSP Ksiaz 76.11 320 *e*P **P 04 10 29.5 -0.2**
KSP Ksiaz 76.11 320 *e*P **P 04 10 30.2 +0.5**
UPC Upice 76.26 320 *e*P **P 04 10 30.9 +0.3**
ARSA Arzberg 76.38 317⇑*i*P **P 04 10 31.4 +0.1**
comp=Z,34nm,1.6s,mb5.0
PERS Pernice 76.63 316 *e*P **P 04 10 32.9 +0.1**
OBKA Obir 77.01 316⇑*i*P **P 04 10 35.0 +0.1**
comp=Z,28nm,1.1s,mb5.1
PRU Pruhonice 77.17 319 *e*P **P 04 10 35.6 -0.1**
PRU *e*pP pP 04 10 42.5 -1.2
PVCC Panska Ves 77.18 320 *e*P **P 04 10 36.0 +0.3**
MOA Molln 77.26 317⇑*i*P **P 04 10 35.8 -0.4**
comp=Z,17nm,1.0s,mb4.9
BSD Bornholm Skovb 77.27 325 *i*P **P 04 10 35.0 -1.1**
BSD pmax pmax
comp=Z,41nm,0.7s,mb5.5
BSD Bornholm Skovb 77.27 325 *i*P **P 04 10 35.0 -1.1**
comp=Z,41nm,0.7s,mb5.5
TRO Tromso 77.39 340 *e*P **P 04 10 35.3 -1.2**
BRG Berggiesshubel 77.59 320 *i*P **P 04 10 39.5 +1.5**
BRG pmax pmax
comp=Z,28nm,1.1s,mb5.1
BRG Berggiesshubel 77.59 320 *i*P **P 04 10 39.5 +1.5**
comp=Z,28nm,1.1s,mb5.1
BRG *i* 04 14 42.8
GEC2 GERESS Array S 77.67 318 *e*P **P 04 10 38.8 +0.3**
GEC2 pmax pmax
comp=Z,60nm,1.2s,mb5.4
GEC2 GERESS Array S 77.67 318 *e*P **P 04 10 38.8 +0.3**
comp=Z,60nm,1.2s,mb5.4
GERES GERESS Array B 77.67 318 P **P 04 10 38.5 0.0**
GERES pmax pmax
comp=Z,18nm,0.7s
GERES GERESS Array B 77.67 318 P **P 04 10 38.5 +0.1**
comp=Z,18nm,0.7s,mb5.1,baz=84,slow=5.4,SNR=65
KHC Kasperske Hory 77.76 318 *e*P **P 04 10 39.2 +0.3**
KHC *e*pP pP 04 10 46.3 -0.6
RUE Ruedersdorf 77.77 322 *e*P **P 04 10 38.4 -0.5**
comp=Z,72nm,0.8s,mb5.7
KBA Koelnbreinsper 77.86 316⇑*i*P **P 04 10 38.6 -0.9**
comp=Z,20nm,0.9s,mb5.0
KBA Koelnbreinsper 77.86 316⇑*i*P **P 04 10 38.6 -0.9**
KBA pmax pmax
comp=Z,20nm,0.9s,mb5.0
CLL Collm 78.20 321⇑*i*P **P 04 10 41.1 -0.2**
CLL pmax pmax
comp=Z,34nm,1.2s,mb5.2
CLL Collm 78.20 321⇑*i*P **P 04 10 41.1 -0.2**
comp=Z,34nm,1.2s,mb5.2
CLL Collm 78.20 321 ⇑P **P 04 10 41.1 -0.2**
comp=Z,logA/T=1.5,mb5.2
WET Wettzell 78.22 318 *e*P **P 04 10 41.8 +0.3**
WET pmax pmax
comp=Z,28nm,1.0s,mb5.2
WET Wettzell 78.22 318 *e*P **P 04 10 41.8 +0.3**
comp=Z,28nm,1.0s,mb5.2
NKC Novy Kostel 78.53 320 *e*P **P 04 10 43.7 +0.6**
MOR8 Moi Rana 78.53 336 *e*P **P 04 10 43.0 +0.2**
MAW Mawson 78.61 192 P **P 04 10 43.8 +0.6**
MAW pmax pmax
comp=Z,14nm,0.9s
MAW Mawson 78.61 192 P **P 04 10 43.8 +0.5**
comp=Z,14nm,0.9s,mb4.9,baz=344,slow=8.1,SNR=4.3
COP Copenhagen 78.72 325 *i*P **P 04 10 43.9 -0.1**
COP pmax pmax
comp=Z,42nm,0.7s,mb5.5
COP Copenhagen 78.72 325 *i*P **P 04 10 43.9 -0.1**
comp=Z,42nm,0.7s,mb5.5
WTTA Wattenberg 79.03 317⇑*i*P **P 04 10 45.7 -0.2**
comp=Z,38nm,0.7s,mb5.4
WTTA Wattenberg 79.03 317⇑*i*P **P 04 10 45.7 -0.2**
WTTA pmax pmax
comp=Z,38nm,0.7s,mb5.4
MOX Moxa 79.07 320 *e*P **P 04 10 46.2 +0.1**
MOX pmax pmax
comp=Z,44nm,1.5s,mb5.2
MOX MLR MLR
comp=Z,600nm,19.0s,MS5.0
MOX Moxa 79.07 320 *e*P **P 04 10 46.2 +0.1**
comp=Z,44nm,1.5s,mb5.2
MOX LR LR
comp=Z,600nm,19.0s,MS5.0
MOX Moxa 79.07 320 *i*P **P 04 10 46.2 +0.1**
comp=Z,logA/T=1.5,mb5.2
MOX L 04 52 06.0
WATA Walderalm 79.07 317⇑*i*P **P 04 10 45.4 -0.8**
comp=Z,25nm,1.1s,mb5.0
WATA Walderalm 79.07 317⇑*i*P **P 04 10 45.4 -0.8**
WATA pmax pmax
comp=Z,25nm,1.1s,mb5.1
FUR Furstenfeldbru 79.27 317 *e*P **P 04 10 47.1 -0.1**
GRA1 Grafenberg Arr 79.31 319 *e*P **P 04 10 48.0 +0.6**
comp=Z,42nm,1.0s,mb5.3
GRF Grafenberg Arr 79.31 319 *e*P **P 04 10 48.0 +0.6**
GRF pmax pmax
comp=Z,42nm,1.0s,mb5.3
GRF Grafenberg Arr 79.31 319 *e*P **P 04 10 48.1 +0.7**
GRF pmax pmax
comp=Z,42nm,1.0s,mb5.3
GRF Grafenberg Arr 79.31 319 *e*P **P 04 10 48.1 +0.7**
comp=Z,42nm,1.0s,mb5.3
SQTA Sankt Quirin 79.32 317⇑*i*P **P 04 10 47.0 -0.5**
comp=Z,33nm,1.1s,mb5.2
SQTA Sankt Quirin 79.32 317⇑*i*P **P 04 10 47.0 -0.5**
SQTA pmax pmax
comp=Z,33nm,1.1s,mb5.2
MOTA Moosalm 79.39 317⇑*i*P **P 04 10 47.1 -0.8**
comp=Z,15nm,0.9s,mb4.9
MOTA Moosalm 79.39 317⇑*i*P **P 04 10 47.1 -0.8**
MOTA pmax pmax
comp=Z,15nm,0.9s,mb4.9
NSS Namsos 79.42 334 *e*P **P 04 10 46.5 -1.3**
comp=Z,108nm,2.0s,mb5.4
NSS Namsos 79.42 334 *e*P **P 04 10 46.5 -1.3**
NSS *e*pP pP 04 10 56.4 +0.6
NSS AMb AMB 04 11 10.5
comp=Z,108nm,2.0s,mb5.4
NB2 NORSAR Subarra 79.58 331 P **P 04 10 48.2 -0.5**
comp=Z,70nm,1.2s,mb5.5,baz=96,slow=5.0
NB2 NORSAR Subarra 79.58 331 P **P 04 10 48.2 -0.5**
baz=96,slow=5.3
NOA NORSAR Array B 79.58 331 P **P 04 10 47.8 -0.9**
NOA pmax pmax
comp=Z,18nm,0.7s
NOA NORSAR Array B 79.58 331 P **P 04 10 47.8 -0.8**
comp=Z,18nm,0.7s,mb5.1,baz=93,slow=5.5,SNR=32
NAO01 NORSAR Array S 79.73 330 *e*P **P 04 10 49.1 -0.4**
comp=Z,25nm,0.7s,mb5.3
CLZ Clausthal 79.86 321 *e*P **P 04 10 50.7 +0.4**
comp=Z,52nm,1.1s,mb5.4
BSEG Bad Segeberg 79.90 323 *e*P **P 04 10 51.1 +0.6**
DAVA Damuels 80.22 317⇑*i*P **P 04 10 52.6 +0.2**
comp=Z,36nm,0.8s,mb5.3
SUR Sutherland 80.29 235 *e*P **P 04 10 55.8 +2.8**
comp=Z,52nm,1.1s,mb5.4
MUD Monsted U'grnd 80.56 326⇑*i*P **P 04 10 54.7 +0.8**
MUD pmax pmax
comp=Z,39nm,0.8s,mb5.4
MUD Monsted U'grnd 80.56 326⇑*i*P **P 04 10 54.7 +0.8**
comp=Z,39nm,0.8s,mb5.4
STU Stuttgart 80.65 318 *e*P **P 04 10 55.0 +0.4**
STU pmax pmax
comp=Z,14nm,0.6s,mb5.1
STU Stuttgart 80.65 318 *e*P **P 04 10 55.0 +0.4**
comp=Z,14nm,0.6s,mb5.1
PGF Pioggiola 81.00 312 *e*P **P 04 10 56.5 -0.1**
TNS Taunus Mts 81.09 320 *e*P **P 04 10 57.4 +0.5**
BFO Black Forest 81.24 318 *e*P **P 04 10 57.3 -0.4**
BFO pmax pmax
comp=Z,21nm,1.1s,mb5.0
BFO Black Forest 81.24 318 *e*P **P 04 10 57.3 -0.4**
comp=Z,21nm,1.1s,mb5.0
CDF Champ du Feu 81.93 318 *e*P **P 04 11 01.2 -0.1**
comp=Z,30nm,1.0s,mb4.9
CDF Champ du Feu 81.93 318 *e*P **P 04 11 01.2 -0.1**
CDF pmax pmax
comp=Z,15nm,1.0s,mb4.9
SBF Sospel 82.07 313 *e*P **P 04 11 02.2 +0.1**
comp=Z,80nm,0.9s,mb5.4
SBF Sospel 82.07 313 *e*P **P 04 11 02.2 +0.1**
SBF pmax pmax
comp=Z,40nm,0.9s,mb5.3
HINF Hinteralfeld 82.25 317 *e*P **P 04 11 02.5 -0.5**
LPG La Plagne 82.46 315 *e*P **P 04 11 04.7 +0.6**
comp=Z,80nm,1.0s,mb5.3
LPG La Plagne 82.46 315 *e*P **P 04 11 04.7 +0.6**
LPG pmax pmax
comp=Z,40nm,1.0s,mb5.3
LPL La Plagne 82.47 315 *e*P **P 04 11 04.8 +0.6**
comp=Z,51nm,0.7s,mb5.2
LPL La Plagne 82.47 315 *e*P **P 04 11 04.8 +0.6**
LPL pmax pmax
comp=Z,26nm,0.7s,mb5.3
MBDF Montbardon 82.50 314 *e*P **P 04 11 04.0 -0.3**
comp=Z,36nm,0.9s,mb5.0
MBDF Montbardon 82.50 314 *e*P **P 04 11 04.0 -0.3**
MBDF pmax pmax
comp=Z,18nm,0.9s,mb5.0
BNI Bardonecchia 82.54 314 *e*P **P 04 11 04.4 -0.1**
BNI pmax pmax
comp=Z,28nm,0.9s,mb5.3
BNI Bardonecchia 82.54 314 *e*P **P 04 11 04.4 -0.2**
comp=Z,28nm,0.9s,mb5.3
HAU Haudompre 82.58 317 *e*P **P 04 11 04.6 -0.1**
comp=Z,70nm,1.0s,mb5.3
HAU *e*R
comp=Z,399nm,20.8s
HAU Haudompre 82.58 317 *e*P **P 04 11 04.6 -0.1**
HAU pmax pmax
comp=Z,35nm,1.0s,mb5.3
HAU MLR MLR
comp=Z,400nm,20.8s,MS4.8
FRF La Foret Royal 82.66 313 *e*P **P 04 11 05.5 +0.3**
comp=Z,87nm,1.1s,mb5.4
FRF La Foret Royal 82.66 313 *e*P **P 04 11 05.5 +0.3**
FRF pmax pmax
comp=Z,43nm,1.1s,mb5.4
LMR La Mourre 82.78 313 *e*P **P 04 11 05.9 +0.1**
comp=Z,83nm,1.2s,mb5.3
LMR La Mourre 82.78 313 *e*P **P 04 11 05.9 +0.1**
LMR pmax pmax
comp=Z,41nm,1.2s,mb5.3
CABF La Chapelle 82.85 316 *e*P **P 04 11 06.6 +0.5**
comp=Z,37nm,0.9s,mb5.1
CABF La Chapelle 82.85 316 *e*P **P 04 11 06.6 +0.5**
CABF pmax pmax
comp=Z,18nm,0.9s,mb5.1
ORIF Oris-en-Rattie 83.11 314 *e*P **P 04 11 07.6 +0.1**
comp=Z,29nm,1.0s,mb5.0
ORIF *e*R
comp=Z,547nm,20.5s
MEZF Maizieres J'vi 83.41 318 *e*P **P 04 11 09.1 +0.2**
comp=Z,36nm,0.9s,mb5.1
SMRF Simiane la Rot 83.41 313 *e*P **P 04 11 09.8 +0.8**
comp=Z,234nm,1.7s,mb5.6
GIVF Givet 83.43 320 *e*P **P 04 11 09.3 +0.3**
BAIF Baives 83.83 320 *e*P **P 04 11 11.5 +0.5**
comp=Z,46nm,1.0s,mb5.2
BAIF Baives 83.83 320 *e*P **P 04 11 11.5 +0.5**
BAIF pmax pmax
comp=Z,23nm,1.0s,mb5.3
VIVF Saint-Julien-l 83.97 314 *e*P **P 04 11 12.2 +0.3**
comp=Z,58nm,1.2s,mb5.3
VIVF Saint-Julien-l 83.97 314 *e*P **P 04 11 12.2 +0.3**
VIVF pmax pmax
comp=Z,29nm,1.2s,mb5.3
SMF Signal de Mont 84.39 316 *e*P **P 04 11 13.9 -0.1**
comp=Z,43nm,1.0s,mb5.2
SMF Signal de Mont 84.39 316 *e*P **P 04 11 13.9 -0.1**
SMF pmax pmax
comp=Z,22nm,1.0s,mb5.2
SSF Saint Saulge 84.57 317 *e*P **P 04 11 15.1 +0.2**
SSF pmax pmax
comp=Z,38nm,1.5s,mb5.3
SSF Saint Saulge 84.57 317 *e*P **P 04 11 15.1 +0.2**
comp=Z,38nm,1.5s,mb5.3
LASF Ste Croix 84.63 314 *e*P **P 04 11 15.9 +0.7**
comp=Z,362nm,1.9s,mb5.9
AVF Avril sur Loir 84.71 316 *e*P **P 04 11 15.5 0.0**
comp=Z,44nm,1.1s,mb5.2
AVF Avril sur Loir 84.71 316 *e*P **P 04 11 15.5 0.0**
AVF pmax pmax
comp=Z,22nm,1.1s,mb5.2
BGF Bois d'Agland 85.08 316 *e*P **P 04 11 17.9 +0.5**
comp=Z,101nm,1.5s,mb5.4
BGF Bois d'Agland 85.08 316 *e*P **P 04 11 17.9 +0.5**
BGF pmax pmax
comp=Z,51nm,1.5s,mb5.4
SYO Syowa Base 85.47 197 ⇑P **P 04 11 20.7 +1.9**
SYO Syowa Base 85.47 197 ⇑pP pP 04 11 30.3 +3.4
TCF Toulx Ste Croi 85.55 316 *e*P **P 04 11 20.2 +0.5**
CAF Calviac 85.81 315 *e*P **P 04 11 21.8 +0.7**
comp=Z,24nm,1.1s,mb5.0
CAF Calviac 85.81 315 *e*P **P 04 11 21.8 +0.7**
CAF pmax pmax
comp=Z,12nm,1.1s,mb5.0
MTLF Montolieu 85.89 313 *e*P **P 04 11 22.0 +0.4**
comp=Z,33nm,1.1s,mb5.2
MTLF Montolieu 85.89 313 *e*P **P 04 11 22.0 +0.4**
MTLF pmax pmax
comp=Z,17nm,1.1s,mb5.2
TNA Tin City 86.12 24 *e*P **P 04 11 22.8 +0.6**
RJF Les Rejaudoux 86.15 315 *e*P **P 04 11 23.3 +0.5**
comp=Z,105nm,1.5s,mb5.5
RJF *e*R
comp=Z,393nm,21.8s
RJF Les Rejaudoux 86.15 315 *e*P **P 04 11 23.3 +0.5**
RJF pmax pmax
comp=Z,52nm,1.5s,mb5.5
RJF MLR MLR
comp=Z,390nm,21.8s,MS4.8
LFF La Frestale 86.74 315 *e*P **P 04 11 26.5 +0.8**
comp=Z,62nm,1.3s,mb5.4
LFF La Frestale 86.74 315 *e*P **P 04 11 26.5 +0.8**
LFF pmax pmax
comp=Z,31nm,1.3s,mb5.4
LDF La Druitiere 86.81 318 *e*P **P 04 11 26.2 +0.3**
FLN La Foliniere 87.02 319 *e*P **P 04 11 27.2 +0.3**
comp=Z,26nm,0.9s,mb5.2
FLN *e*R
comp=Z,423nm,18.0s
FLN La Foliniere 87.02 319 *e*P **P 04 11 27.2 +0.3**
FLN pmax pmax
comp=Z,13nm,0.9s,mb5.2
FLN MLR MLR
comp=Z,420nm,18.0s,MS4.9
MFF Saint Martin d 87.12 316 *e*P **P 04 11 27.6 +0.1**
comp=Z,49nm,1.3s,mb5.3
MFF Saint Martin d 87.12 316 *e*P **P 04 11 27.6 +0.1**
MFF pmax pmax
comp=Z,25nm,1.3s,mb5.3
EPF Esparros 87.30 313 *e*P **P 04 11 29.8 +1.4**
comp=Z,49nm,1.4s,mb5.2
EPF Esparros 87.30 313 *e*P **P 04 11 29.8 +1.4**
EPF pmax pmax
comp=Z,25nm,1.4s,mb5.2
GRR Gorron 87.33 318 *e*P **P 04 11 29.0 +0.6**
DAG Danmarks Havn 87.35 348⇑*e*P **P 04 11 27.5 -0.5**
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
DAG Danmarks Havn 87.35 348⇑*e*P **P 04 11 27.5 -0.5**
comp=Z,3.4nm,0.7s,mb4.7
DAG Danmarks Havn 87.35 348⇑*i*P **P 04 11 27.5 -0.5**
comp=Z,3.4nm,0.7s,mb4.7
ANM Nome 87.39 25 *e*P **P 04 11 29.4 +1.1**
ESK Eskdalemuir 87.60 325 PFAKE 04 11 40.0 +10
ESK LR LR
comp=Z,190nm,19.0s,MS4.5
ETSF Etsaut 87.97 313 *e*P **P 04 11 32.5 +0.9**
comp=Z,39nm,1.1s,mb5.3
ETSF Etsaut 87.97 313 *e*P **P 04 11 32.5 +0.9**
ETSF pmax pmax
comp=Z,19nm,1.1s,mb5.2
SJPF Ste Jean 88.42 313 *e*P **P 04 11 35.5 +1.7**
comp=Z,50nm,1.2s,mb5.3
SJPF Ste Jean 88.42 313 *e*P **P 04 11 35.5 +1.7**
SJPF pmax pmax
comp=Z,25nm,1.2s,mb5.3
ROSF Rostrenen 88.92 319 *e*P **P 04 11 36.6 +0.5**
comp=Z,77nm,1.3s,mb5.6
ROSF Rostrenen 88.92 319 *e*P **P 04 11 36.6 +0.5**
ROSF pmax pmax
comp=Z,38nm,1.3s,mb5.6
QUIF Quistinic 88.93 318 *e*P **P 04 11 36.3 +0.2**
ESDC Sonseca Array 91.06 310 P **P 04 11 47.2 +1.0**
comp=Z,9.3nm,0.9s,mb5.1,baz=63,slow=4.2,SNR=18
IMA Indian Mountai 91.58 22 *e*P **P 04 11 48.8 +0.8**
SVW2 Sparrevohn 92.71 27 *e*P **P 04 11 55.4 +2.1**
VNDA Vanda 93.05 168 PFAKE 04 12 10.0 +15
VNDA LR LR
comp=Z,577nm,20.0s,MS5.0
SBA Scott Base 94.16 168 PFAKE 04 12 10.0 +10
SBA LR LR
comp=Z,469nm,21.0s,MS4.9
SPU Mount Spurr 94.25 26 *e*P **P 04 12 01.2 +0.9**
COLA College 94.29 22 *i*P **P 04 12 00.9 +0.4**
MCK McKinley 94.41 23 *e*P **P 04 12 01.2 +0.1**
MCK pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
MCK MLR MLR
comp=Z,274nm,21.0s,MS4.7
MCK McKinley 94.41 23 *e*P **P 04 12 01.2 +0.2**
comp=Z,8.4nm,1.0s,mb5.1
MCK LR LR
comp=Z,274nm,21.0s,MS4.7
ILAR Eielson Array 94.70 22 P **P 04 12 02.6 +0.3**
ILAR pmax pmax
comp=Z,4.0nm,0.8s
ILAR Eielson Array 94.70 22 P **P 04 12 02.6 +0.3**
comp=Z,3.7nm,0.8s,mb4.9,baz=297,slow=5.5,SNR=20
PWA Palmer West 94.98 25 *e*P **P 04 12 04.3 +0.6**
PMR Palmer 95.33 25 *e*P **P 04 12 06.3 +1.0**
SLKM Skilak Lake 95.35 27 *e*P **P 04 12 04.5 -0.9**
MENT Mentasta 96.85 23 *e*P **P 04 12 14.1 +1.9**
INK Inuvik 96.93 16 P **P 04 12 13.2 +0.7**
INK pmax pmax
comp=Z,13nm,1.2s
INK Inuvik 96.93 16 P **P 04 12 13.2 +0.7**
comp=Z,13nm,1.2s,mb5.2,baz=311,slow=4.9,SNR=9.0
INK Inuvik 96.93 16 *e*P **P 04 12 12.2 -0.2**
comp=Z,19nm,1.3s,mb5.4
RES Resolute Bay 97.31 2 *e*P **P 04 12 14.7 +0.7**
RES pmax pmax
comp=Z,15nm,0.8s,mb5.5
RES Resolute Bay 97.31 2 *e*P **P 04 12 14.7 +0.7**
comp=Z,15nm,0.8s,mb5.5
DAWY Dawson 97.81 21 *e*P **P 04 12 16.7 +0.2**
DBIC Dimbokro 97.81 278 P **P 04 12 19.6 +1.9**
comp=Z,3.0nm,0.8s,mb4.8,baz=59,slow=5.9,SNR=3.7
DBIC Dimbokro 97.81 278 P **P 04 12 19.6 +1.9**
DBIC LR LR
comp=Z,734nm,19.0s,MS5.2
QSPA South Pole Qui 97.88 180 PFAKE 04 12 30.0 +13
QSPA LR LR
comp=Z,815nm,19.0s,MS5.2
YKA Yellowknife Ar 106.36 13 PP PP 04 17 16.5 -5.6
comp=Z,0.6nm,0.8s,baz=336,slow=7.8,SNR=4.4
YKA PKKPbc 04 28 25.6
comp=Z,0.3nm,0.7s,baz=148,slow=3.5,SNR=6.6
SCHQ Schefferville 115.40 348 PKP PKPdf 04 17 23.4 -3.1
comp=Z,1.5nm,0.7s,baz=346,slow=4.2,SNR=4.6
SCHQ Schefferville 115.40 348 PKP PKPdf 04 17 23.4 -3.2
SCHQ LR LR
comp=Z,937nm,21.0s,MS5.4
MSO Missoula 120.03 22 *e*PKPdf PKPdf 04 17 32.3 -3.5
MOD Modoc 121.26 29 *e*PKPdf PKPdf 04 17 35.9 -2.4
BOZ Bozeman (W) 121.88 21 *e*PKIKP PKPdf 04 17 36.3 -3.1
GCMT Greycliff 122.42 19 *e*PKPdf PKPdf 04 17 37.9 -2.4
HLID Hailey 122.58 24 *e*PKPdf PKPdf 04 17 38.0 -2.7
QLMT Earthquake Lak 122.65 21 *e*PKPdf PKPdf 04 17 38.8 -2.0
LAO LASA Array 122.67 16 *e*PKPdf PKPdf 04 17 38.5 -2.3
YMR Madison River 122.96 21 *e*PKPdf PKPdf 04 17 39.8 -1.6
YFT Old Faithful 123.19 21 *e*PKPdf PKPdf 04 17 40.7 -1.2
LKWY Lake 123.25 21 *e*PKIKP PKPdf 04 17 40.5 -1.5
LOHW Long Hollow 124.00 21 *e*PKPdf PKPdf 04 17 40.8 -2.8
WUWY Wally Ulrich 124.02 22 *e*PKPdf PKPdf 04 17 40.9 -2.7
SNOW Snow King Moun 124.08 22 *e*PKPdf PKPdf 04 17 41.8 -1.9
NVAR Mina Array Bea 124.89 31 PKP PKPdf 04 17 43.0 -2.5
comp=Z,6.4nm,0.7s,baz=349,slow=0.8,SNR=36
PDAR Pinedale Array 125.12 21 PKP PKPdf 04 17 42.4 -3.4
comp=Z,6.5nm,0.7s,baz=53,slow=0.9,SNR=55
HWUT Hardware Ranch 125.36 23 *e*PKPdf PKPdf 04 17 43.5 -2.8
HWUT LR LR
comp=Z,641nm,21.0s,MS5.3
TRCR Troy Canyon 126.30 29 *e*PKPdf PKPdf 04 17 46.4 -1.7
NLU North Lily Min 126.55 25 *e*PKPdf PKPdf 04 17 46.0 -2.6
MVU Marysvale 127.71 26 *e*PKPdf PKPdf 04 17 48.8 -2.1
MSU Marysvale 127.72 26 *e*PKIKP PKPdf 04 17 49.1 -1.8
NEN Nelson 128.79 30 *e*PKPdf PKPdf 04 17 50.6 -2.5

ACSO	**Alum Creek Sta**	**131.96**	**357**	*e*PKPdf	PKPdf	04 17 56.4	-2.5
ANMO	**Albuquerque**	**133.13**	**23**	*e*PKIKP	PKPdf	04 17 59.2	-2.1
ANMO				MLR	MLR		
comp=Z,511nm,22.0s							
TUC	**Tucson**	**133.47**	**29**	*e*PKIKP	PKPdf	04 18 00.3	-1.6
LPM	**Los Pinos Moun**	**133.62**	**24**	*e*PKPdf	PKPdf	04 17 59.9	-2.2
CPRX	**Cap Rock**	**135.81**	**22**	*e*P	PKPdf	04 18 02.5	-3.8
WMOK	**Wichita Mounta**	**135.83**	**15**	PKIKP	PKPdf	04 18 03.2	-3.0
WMOK				MLR	MLR		
comp=Z,393nm,21.0s,MS5.1							
WVT	**Waverly**	**136.10**	**2**	*e*PKIKP	PKPdf	04 18 03.0	-3.7
GDL2	**Guadalupe Moun**	**136.37**	**23**	*e*PKPdf	PKPdf	04 18 03.5	-3.7
MIAR	**Mount Ida**	**137.10**	**9**	*e*PKIKP	PKPdf	04 18 05.8	-2.7
TXAR	**Lajitas Array**	**139.18**	**24**	PKhKP		04 18 01.5	
comp=Z,0.3nm,0.5s,baz=155,slow=1.0,SNR=12							
TXAR				PKP	PKPdf	04 18 09.0	-3.5
comp=Z,2.5nm,0.6s,baz=245,slow=0.9,SNR=22							
TXAR				PP	PP	04 21 04.3	-1.0
comp=Z,1.0nm,0.9s,slow=4.5,SNR=5.4							
TXAR	**Lajitas Array**	**139.18**	**24**	PKP		04 18 01.5	
TXAR				PKP	PKPdf	04 18 09.0	-3.5
TXAR				PP	PP	04 21 04.3	-1.0
JCT	**Junction City**	**139.53**	**19**	*e*PKIKP	PKPdf	04 18 08.6	-4.5
PLCA	**Paso Flores**	**144.60**	**200**	PKIKP	PKPdf	04 18 18.1	-3.6
PLCA				pmax	pmax		
comp=Z,26nm,0.9s							
PLCA	**Paso Flores**	**144.60**	**200**	PKP	PKPdf	04 18 18.1	-3.6
comp=Z,26nm,0.9s,baz=150,slow=3.0,SNR=18							
PLCA	**Paso Flores**	**144.60**	**200**	*e*PKPdf	PKPdf	04 18 18.0	-3.8
SJG	**San Juan**	**147.51**	**323**	PKIKP	PKPdf	04 18 23.4	-3.9
SJG				pmax	pmax		
comp=Z,30nm,0.7s							
SJG	**San Juan**	**147.51**	**323**	PKP	PKPdf	04 18 23.4	-3.9
comp=Z,30nm,0.7s,baz=320,slow=16,SNR=6.2							
SJG	**San Juan**	**147.51**	**323**	PKP	PKPdf	04 18 23.4	-3.9
SJG				*e*PKPbc	PKPdf	04 18 26.9	-0.4
FCH	**Farellones**	**150.89**	**208**	*e*P	PKPdf	04 18 36.0	+3.7
TEIG	**Tepich**	**151.88**	**5**	*e*PKPdf	PKPdf	04 18 31.6	-2.5
TEIG				*e*PKPbc	PKPdf	04 18 38.1	+4.1
SDV	**Santo Domingo**	**157.32**	**317**	PKP	PKPdf	04 18 38.7	-2.9
comp=Z,5.4nm,0.9s,baz=154,slow=3.1,SNR=5.9							
SDV				PKPbc	PKPdf	04 18 49.1	+7.5
comp=Z,12nm,0.8s,baz=311,slow=3.5,SNR=10							
SDV				PKPab	PKPab	04 19 11.3	+0.7
comp=Z,7.4nm,0.7s,baz=357,slow=2.1,SNR=5.4							
SDV	**Santo Domingo**	**157.32**	**317**	*e*PKPdf	PKPdf	04 18 39.0	-2.6
SDV				LR	LR		
comp=Z,290nm,21.0s,MS5.1							
LPAZ	**La Paz**	**160.70**	**243**	PFAKE		04 18 50.0	+4.6
LPAZ				LR	LR		
comp=Z,452nm,20.0s							
OTAV	**Otavalo**	**168.91**	**317**	*e*PKPdf	PKPdf	04 18 48.8	-3.8
OTAV				*e*PKPab	PKPab	04 20 01.1	+0.1

MAN 27 04:00:43.9, 11.05N×126.05E, h342km, mb4.4, ML3.2, MS3.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**2.54**	**238**	*e*P	P	04 01 38.9	-0.2

*MOS **27** 04:01:18.0±1.5, 36.54N×70.64E, h201km, mb3.8/4, Error ellipse: s-maj=18.8km s-min=8.5km az=86.6*
*BJI **27** 04:01:18.2, 36.55N×70.69E, h215km*
*IDC **27** 04:01:21.1±5.9, 36.42N×70.84E, h221km±52km, mb3.7/10, mb1 3.9/11, mb1mx3.7/20, mbtmp4.3/11, Error ellipse: s-maj=30.6km s-min=18.1km az=2.0*
*NEIC **27** 04:01:21.0±5.4, 36.72N×70.73E, h198km±37km, mb4.0/3, Error ellipse: s-maj=86.4km s-min=31.9km az=147.0*
ISC 27 04:01:18.4±0.5, 36.48N±0.04×70.8E±0.1, h207km±8km, n51, σ1°05/53, mb3.9/12, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.80**	**161**	⇑P	P	04 02 07.1	+0.5
CEP				S	S	04 02 43.0	-0.9
CHCP	**Chirah Chowk**	**3.47**	**143**	⇑P	P	04 02 16.2	+1.7
THW	**Thamme Wali**	**3.76**	**168**	⇓P	P	04 02 18.0	-0.1
SBDP	**Sheikh Budin**	**4.17**	**180**	⇑P	P	04 02 23.5	+0.4
DRP	**Derazinda**	**4.75**	**186**	⇓P	P	04 02 31.7	+1.3
SARP	**Sargodha**	**4.80**	**160**	⇑P	P	04 02 30.6	-0.6
SARP				S	S	04 03 25.0	-2.6
AML	**Almayashu**	**6.08**	**21**	P	P	04 02 48.0	+0.5
SNR=645							
UCH	**Uchtor**	**6.43**	**26**	P	P	04 02 52.6	+0.6
SNR=243							
KZA	**Kyzart**	**6.58**	**30**	P	P	04 02 54.2	+0.2
SNR=40							
EKS2	**Erkin-Say**	**6.59**	**20**	P	P	04 02 54.8	+0.6
SNR=71							
AAK	**Ala-Archa**	**6.78**	**24**	*e*PN	P	04 02 56.0	-0.6
AAK				pmax	pmax		
comp=Z,74nm,0.6s							
AAK	**Ala-Archa**	**6.78**	**24**	*e*P	P	04 02 56.0	-0.6
comp=Z,74nm,0.6s							
KBK	**Karagaybulak**	**6.96**	**26**	P	P	04 02 59.8	+0.9
SNR=67							
FRU	**Bishkek**	**7.00**	**24**	*e*PN	P	04 02 59.0	-0.5
ULHL	**Ulahol**	**7.14**	**35**	P	P	04 03 01.9	+0.6
SNR=30							
CHMS	**Chumysh**	**7.19**	**24**	P	P	04 03 02.0	0.0
SNR=41							
USP	**Ospenovka**	**7.36**	**22**	P	P	04 03 03.6	-0.5
SNR=93							
TKM2	**Tokmak 2**	**7.43**	**28**	P	P	04 03 05.5	+0.5
SNR=107							
MKAR	**Makanchi Array**	**13.41**	**36**	*e*P	P	04 04 21.1	-0.5
MKAR				pmax	pmax		
comp=Z,3.0nm,0.5s							
WMQ	**Urumqi**	**14.85**	**55**	P	P	04 04 44.3	+4.8
WMQ				AP		04 05 25.8	
WMQ				AMB	AMB		
comp=Z,31nm,1.3s							
WMQ				AMB	AMB		
comp=Z,230nm,5.4s							
KURK	**Kurchatov**	**15.31**	**19**	P	P	04 04 43.4	-1.7
KURK				pmax	pmax		
comp=Z,2.0nm,1.1s							
KURK	**Kurchatov**	**15.31**	**19**	*e*P	P	04 04 43.1	-1.9
comp=Z,4.0nm,0.8s							
BVA0	**Borovoye Array**	**16.55**	**359**	P	P	04 04 59.8	-0.3
BVA0				pmax	pmax		
comp=Z,2.0nm,1.5s							
BVAR	**Borovoye Array**	**16.55**	**359**	P	P	04 04 59.7	-0.3
comp=Z,1.3nm,0.3s,baz=160,slow=12,SNR=24							
BRVK	**Borovoye**	**16.58**	**359**	*e*P	P	04 04 58.2	-2.3
BRVK				pmax	pmax		
comp=Z,8.0nm,0.9s							
BRVK	**Borovoye**	**16.58**	**359**	*e*P	P	04 04 58.2	-2.3
comp=Z,8.2nm,0.9s							
CHKZ	**Chkalovo**	**17.20**	**360**	P	P	04 05 06.3	-1.1
CHKZ				pmax	pmax		
comp=Z,1.0nm,0.6s							
CHKZ	**Chkalovo**	**17.20**	**360**	*e*P	P	04 05 05.3	-2.1
comp=Z,3.9nm,0.7s							
ZAL	**Zalesovo**	**19.99**	**25**	P	P	04 05 37.0	+0.6
baz=256,slow=5.9							
ARU	**Arti**	**21.60**	**341**	*e*P	P	04 05 48.9	-3.3
TLY	**Talaya**	**27.78**	**46**	*i* P	P	04 06 51.9	+2.0
TLY				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.3							
AKASG	**Malin Array Be**	**32.83**	**309**	P	P	04 07 33.8	-0.3
AKASG				pmax	pmax		
comp=Z,2.0nm,0.4s							
AKASG	**Malin Array Be**	**32.83**	**309**	P	P	04 07 33.8	-0.4
comp=Z,1.5nm,0.4s,mb3.9,baz=79,slow=7.2,SNR=6.7							
MLR	**Muntele Rosu**	**34.64**	**299**	P	P	04 07 51.4	+1.8
comp=Z,4.3nm,0.9s,mb4.0,baz=122,slow=9.5,SNR=4.2							
FINES	**FINESS Array B**	**37.41**	**326**	P	P	04 08 13.2	+0.5
FINES	**FINESS Array B**	**37.41**	**326**	P	P	04 08 13.2	+0.5
comp=Z,9.0nm,0.3s,mb4.7,baz=118,slow=10,SNR=40							
FINES	**FINESS Array B**	**37.41**	**326**	P	P	04 08 13.2	+0.5
ARCES	**ARCESS Array B**	**41.10**	**338**	P	P	04 08 43.8	+0.7
ARCES				pmax	pmax		
comp=Z,20nm,1.0s							
ARCES	**ARCESS Array B**	**41.10**	**338**	P	P	04 08 43.8	+0.7
comp=Z,20nm,0.9s,mb4.5,baz=99,slow=7.5,SNR=13							
GERES	**GERESS Array B**	**42.80**	**305**	P	P	04 08 57.3	+0.2
GERES				pmax	pmax		
comp=Z,1.0nm,0.8s							
GERES	**GERESS Array B**	**42.80**	**305**	P	P	04 08 57.3	+0.3
comp=Z,1.3nm,0.8s,mb3.4,baz=90,slow=4.0,SNR=9.8							
CLL	**Collm**	**43.07**	**309**	P	P	04 09 01.0	+1.8
NOA	**NORSAR Array B**	**44.30**	**323**	P	P	04 09 07.2	-1.7
comp=Z,4.1nm,0.7s,mb3.9,baz=100,slow=7.7,SNR=5.6							
ESDC	**Sonseca Array**	**57.32**	**298**	P	P	04 10 45.4	-1.3
comp=Z,0.9nm,0.6s,mb3.5,baz=52,slow=7.4,SNR=4.3							
INK	**Inuvik**	**73.96**	**9**	P	P	04 12 32.7	+0.7
INK				pmax	pmax		
comp=Z,2.0nm,0.5s							
INK	**Inuvik**	**73.96**	**9**	P	P	04 12 32.7	+0.6
comp=Z,2.2nm,0.5s,mb4.0,baz=342,slow=5.0,SNR=11							
ILAR	**Eielson Array**	**74.85**	**16**	P	P	04 12 36.6	-0.6
ILAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
ILAR	**Eielson Array**	**74.85**	**16**	P	P	04 12 36.6	-0.6
comp=Z,0.8nm,0.8s,mb3.4,baz=297,slow=4.0,SNR=3.6							
YKA	**Yellowknife Ar**	**81.28**	**3**	P	P	04 13 12.7	+0.5
comp=Z,1.0nm,0.3s,mb3.9,baz=348,slow=5.4,SNR=18							
WRA	**Warramunga Arr**	**82.12**	**122**	P	P	04 13 16.9	-0.4
WRA				pmax	pmax		
comp=Z,1.0nm,1.0s							
WRA	**Warramunga Arr**	**82.12**	**122**	P	P	04 13 16.9	-0.5
comp=Z,0.9nm,1.0s,mb3.4,baz=328,slow=5.2,SNR=2.6							

*IDC **27** 04:02:03.8±0.8, 7.85N×94.03E, mb4.4/16, mb1 4.5/17, mb1mx4.4/23, mbtmp4.3/17, ML4.2/1, MS4.6/1, Ms1 4.6/1, ms1mx3.6/23, Error ellipse: s-maj=29.5km s-min=20.9km az=36.0*
*NEIC **27** 04:02:08.5±0.4, 7.82N×94.03E, h30km, mb4.7/4, Error ellipse: s-maj=14.7km s-min=10.9km az=69.0*
ISC 27 04:02:08.2±3.0, 7.9N±0.1×94.1E±0.1, h42km±25km, n36, σ1°03/28, mb4.4/19, MS4.6/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.49**	**24**	Pn	P	04 04 52.2	-0.4
0.4nm,0.3s,baz=212,slow=14,SNR=5.7							
HYB	**Hyderabad**	**17.89**	**303**	*i* P	P	04 06 16.0	+0.3
AKL	**Akola**	**20.87**	**309**	*i*	P	04 06 46.0	-3.3
LSA	**Lhasa**	**21.87**	**353**	*e*P	P	04 07 01.7	+2.6
16nm,0.6s,mb4.6							
SONM	**Songino Array**	**41.14**	**13**	P	P	04 09 50.2	+0.2
1.4nm,0.8s,mb3.7,baz=229,slow=8.1,SNR=2.6							
SONM				PcP	PcP	04 11 49.8	+0.4
1.1nm,0.5s,baz=200,slow=3.9,SNR=7.3							
NWAO	**Narrogin (SRO)**	**46.17**	**153**	P	P	04 10 31.1	+0.1
16nm,1.2s,mb4.8							
ZAL	**Zalesovo**	**46.52**	**352**	P	P	04 10 33.5	+0.2
2.5nm,0.5s,mb4.4,baz=292,slow=7.1							
WRA	**Warramunga Arr**	**48.28**	**126**	P	P	04 10 47.0	-0.6
1.6nm,0.8s,mb4.1,baz=305,slow=9.3,SNR=4.6							
PMG	**Port Moresby**	**55.55**	**107**	LR	LR	04 38 38.0	
comp=Z,506nm,18.8s,MS4.6,baz=253,slow=40							
KMBO	**Kilima Mbogo**	**57.41**	**264**	P	P	04 11 57.9	+2.4
7.9nm,0.8s,mb4.8,baz=54,slow=10,SNR=15							
ASF	**Jabal al Asfar**	**58.19**	**303**	P	P	04 12 01.4	+0.7
4.3nm,1.1s,mb4.4,baz=80,slow=0.9,SNR=3.7							
EIL	**Elat**	**59.40**	**300**	P	P	04 12 09.3	+0.2
3.0nm,0.7s,mb4.5,baz=60,slow=8.1,SNR=2.8							
EIL	**Elat**	**59.40**	**300**	P	P	04 12 09.3	+0.1
BRTR	**Keskin Array B**	**62.40**	**311**	P	P	04 12 27.4	-2.0
1.6nm,0.6s,mb4.3,baz=146,slow=6.2,SNR=4.9							
AKASG	**Malin Array Be**	**68.13**	**322**	P	P	04 13 03.7	-2.2
1.6nm,0.6s,mb4.2,baz=87,slow=4.7,SNR=4.1							
IDI	**Anoyia**	**68.54**	**305**	P	P	04 13 08.1	-0.7
11nm,0.9s,mb4.8,baz=139,slow=9.3,SNR=3.1							
MLR	**Muntele Rosu**	**69.14**	**316**	P	P	04 13 12.2	-0.1
2.9nm,0.7s,mb4.3,baz=35,slow=12,SNR=2.8							
FINES	**FINESS Array B**	**72.68**	**332**	P	P	04 13 33.2	-0.1
5.2nm,0.8s,mb4.5,baz=108,slow=6.0,SNR=5.5							
FINES	**FINESS Array B**	**72.68**	**332**	P	P	04 13 33.2	-0.1
ARCES	**ARCESS Array B**	**75.24**	**340**	P	P	04 13 48.0	0.0
1.8nm,0.6s,mb4.2,baz=103,slow=5.9,SNR=7.9							
GERES	**GERESS Array B**	**77.80**	**318**	P	P	04 14 03.0	+0.1
2.4nm,0.6s,mb4.3,baz=90,slow=5.3,SNR=7.8							
CLL	**Collm**	**78.33**	**321**	*e*P	P	04 14 06.0	+0.3
CLL				*e*		04 14 26.0	
CLL	**Collm**	**78.33**	**321**	P	P	04 14 06.0	+0.3
CLL				*e**SP	sP	04 14 26.0	+3.0
NB2	**NORSAR Subarra**	**79.70**	**331**	P	P	04 14 12.9	-0.1
2.0nm,0.6s,mb4.2,baz=97,slow=4.8							
NOA	**NORSAR Array B**	**79.70**	**331**	P	P	04 14 13.0	0.0
2.9nm,0.7s,mb4.3,baz=94,slow=5.4,SNR=4.8							
NOA	**NORSAR Array B**	**79.70**	**331**	P	P	04 14 13.0	0.0
LPG	**La Plagne**	**82.59**	**315**	*e*P	P	04 14 28.2	-0.3
24nm,1.1s,mb4.8							
ILAR	**Eielson Array**	**94.73**	**22**	P	P	04 15 27.4	+1.4
0.4nm,0.7s,mb4.0,baz=315,slow=4.6,SNR=4.6							
INK	**Inuvik**	**96.97**	**16**	P	P	04 15 35.9	-0.3
4.4nm,1.2s,mb4.8,baz=320,slow=1.1,SNR=3.3							
NVAR	**Mina Array Bea**	**124.90**	**31**	PKP	PKPdf	04 21 07.6	+3.3
0.8nm,0.8s,baz=270,slow=3.6,SNR=3.8							
PDAR	**Pinedale Array**	**125.15**	**21**	PKP	PKPdf	04 21 07.1	+2.5
0.5nm,0.8s,slow=4.4,SNR=3.9							
USHA	**Ushuaia**	**131.16**	**193**	PKP	PKPdf	04 21 17.1	+1.3
4.3nm,0.8s,baz=207,slow=2.3,SNR=2.7							
TXAR	**Lajitas Array**	**139.21**	**24**	PKP	PKPdf	04 21 35.5	+4.0
0.5nm,0.7s,baz=17,slow=1.5,SNR=6.9							
TXAR	**Lajitas Array**	**139.21**	**24**	PKP	PKPdf	04 21 35.5	+4.0
PLCA	**Paso Flores**	**144.57**	**200**	PKP	PKPdf	04 21 41.9	+1.3
7.5nm,0.9s,baz=237,slow=0.3,SNR=9.4							
LPAZ	**La Paz**	**160.77**	**243**	PKPab	PKPab	04 22 06.0	-43
2.7nm,1.1s,baz=56,slow=5.6,SNR=4.4							

*BJI **27** 04:02:40.8, 7.13N×93.65E, h30km, mB5.1, mb4.8, Ms5.3, Msz4.9*
*IDC **27** 04:02:43.4±0.5, 7.92N×94.24E, mb4.9/22, mb1 5.0/23, mb1mx5.0/26, mbtmp4.9/23, ML4.5/1, Error ellipse: s-maj=24.5km s-min=13.0km az=47.0*
*MOS **27** 04:02:46.7±0.8, 8.00N×94.31E, h33km, mb5.3/46, Error ellipse: s-maj=19.3km s-min=5.9km az=125.6*
*HRVD **27** 04:02:47.6±0.5, 7.89N×94.21E, h13km±3km, MW5.1/48, Centroid moment Tensor Solution. LP body waves: s10,c12;Mantle waves: s48,c82; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.71±.29; $M_{\theta\theta}$-3.52±.26; $M_{\phi\phi}$4.23±.31; $M_{r\theta}$-2.15±.97; $M_{\theta\phi}$1.80±.22; $M_{\phi r}$-3.20±1.30; Best double couple: $M_0$5.577×10^{16} NP1:ϕ_s144°, δ49°, λ-179° NP2:ϕ_s53°, δ89°, λ-41°. Principal axes: T 6.47, Plg27°, Azm106°; N -1.788, Plg49°, Azm233°; P -4.685, Plg28°, Azm1°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 04:02:47.6±0.3, 7.87N×94.25E, h30km, mb5.2/31 Error ellipse: s-maj=14.1km s-min=7.0km az=48.0*
ISC 27 04:02:47.4±2.0, 7.86N±0.07×94.25E±0.08, h42km±17km, n176, σ0°83/165, mb5.1/62, 5C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.48**	**23**	P	P	04 05 33.3	+1.5
CMAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**11.48**	**23**	Pn	P	04 05 33.2	+1.4
comp=Z,1.1nm,0.3s,baz=210,slow=15,SNR=11							
HYB	**Hyderabad**	**18.01**	**303**	*i* P	P	04 06 56.0	-0.5
COCO	**West Island**	**20.08**	**173**	*e*P	P	04 07 24.3	+4.0
comp=Z,241nm,1.3s							
NJ2	**Nanjing**	**33.21**	**40**	*e*P	P	04 09 23.3	+0.6
NJ2				AMB	AMB		
comp=Z,20nm,0.8s,mb5.1							
KZA	**Kyzart**	**37.99**	**337**	P	P	04 10 04.2	+1.0
SNR=5.8							
UCH	**Uchtor**	**38.41**	**336**	P	P	04 10 07.4	+0.7
SNR=9.3							
KBK	**Karagaybulak**	**38.60**	**337**	P	P	04 10 09.1	+0.8
SNR=9.6							
AML	**Almayashu**	**38.66**	**335**	P	P	04 10 09.2	+0.4
SNR=19							
CHMS	**Chumysh**	**38.97**	**337**	P	P	04 10 11.2	-0.1
SNR=7.6							
EKS2	**Erkin-Say**	**39.07**	**336**	P	P	04 10 12.9	+0.8
SNR=9.5							
USP	**Ospenovka**	**39.30**	**337**	P	P	04 10 14.1	+0.1
SNR=15							
SONM	**Songino Array**	**41.16**	**12**	P	P	04 10 30.5	+1.1
comp=Z,9.4nm,0.9s,mb4.4,baz=198,slow=6.6,SNR=11							
SONM				PcP	PcP	04 12 29.6	+0.8
comp=Z,2.5nm,0.7s,baz=213,slow=2.5,SNR=4.9							
ZAK	**Zakamensk**	**43.05**	**8**	*e*P	P	04 10 45.6	+0.7
NWAO	**Narrogin (SRO)**	**46.08**	**153**	P	P	04 11 09.6	+0.1
NWAO				pmax	pmax		
comp=Z,16nm,0.8s							
NWAO	**Narrogin (SRO)**	**46.08**	**153**	P	P	04 11 09.6	+0.2
comp=Z,16nm,0.8s,mb5.0,baz=328,slow=9.0,SNR=6.0							
ZAL	**Zalesovo**	**46.58**	**352**	P	P	04 11 13.3	+0.3
ZAL				pmax	pmax		
comp=Z,30nm,1.0s							
ZAL	**Zalesovo**	**46.58**	**352**	P	P	04 11 13.3	+0.3
comp=Z,30nm,1.0s,mb5.2,baz=293,slow=8.8,SNR=27							
ZAL	**Zalesovo**	**46.58**	**352**	P	P	04 11 13.3	+0.3
NVS	**Novosibirsk**	**47.68**	**351**	*e*P	P	04 11 20.3	-1.4
NVS				*e*S	S	04 18 13.7	+0.1
NVS				pmax	pmax		
comp=N,69nm,1.0s							
NVS				pmax	pmax		
comp=E,39nm,1.0s							
NVS				pmax	pmax		
comp=Z,95nm,1.0s,mb5.8							
NVS				smax			
comp=N,26nm,2.3s							
NVS				smax			
comp=E,62nm,2.3s							
WRA	**Warramunga Arr**	**48.16**	**126**	P	P	04 11 25.0	-0.9
WRA				pmax	pmax		
comp=Z,6.0nm,0.9s							
WRA	**Warramunga Arr**	**48.16**	**126**	P	P	04 11 25.0	-0.9
comp=Z,6.1nm,0.9s,mb4.6,baz=303,slow=9.1,SNR=8.8							
WRA	**Warramunga Arr**	**48.16**	**126**	P	P	04 11 25.0	-0.9
BVAR	**Borovoye Array**	**49.04**	**341**	P	P	04 11 31.2	-1.0
comp=Z,14nm,0.9s,mb5.0,baz=143,slow=7.4,SNR=13							
RAYN	**Ar Rayn**	**49.19**	**294**	P	P	04 11 34.4	+0.6
comp=Z,324nm,0.8s,SNR=18							
ASAR	**Alice Springs**	**49.82**	**130**	P	P	04 11 37.8	-0.9
comp=Z,6.1nm,0.9s,mb4.6,baz=308,slow=7.4,SNR=8.1							
ASAR				PcP	PcP	04 13 00.0	+0.8
comp=Z,2.6nm,0.9s,baz=309,slow=2.9,SNR=4.6							
BOD	**Bodaibo**	**52.14**	**13**	*e*P	P	04 11 54.3	-1.4
GNI	**Garni**	**54.52**	**314**	P	P	04 12 12.3	-1.3
GNI				pmax	pmax		
comp=Z,16nm,1.0s							
GNI	**Garni**	**54.52**	**314**	P	P	04 12 12.3	-1.3
comp=Z,16nm,0.9s,mb5.0,baz=332,slow=1.9,SNR=5.4							
SVE	**Sverdlovsk**	**55.46**	**338**	*e*P	P	04 12 18.6	-1.6
ARU	**Arti**	**55.95**	**337**	*e*P	P	04 12 17.0	-6.7
KIV	**Kislovodsk**	**57.40**	**318**	P	P	04 12 33.3	-1.0
comp=Z,243nm,1.0s,mb6.2,SNR=7.9							
KIV	**Kislovodsk**	**57.40**	**318**	*e*P	P	04 12 33.2	-1.1
KIV				pmax	pmax		
comp=Z,41nm,1.0s,mb5.4							
KMBO	**Kilima Mbogo**	**57.53**	**264**	P	P	04 12 37.3	+1.7
KMBO				pmax	pmax		
comp=Z,14nm,0.9s							
KMBO	**Kilima Mbogo**	**57.53**	**264**	P	P	04 12 37.3	+1.7
comp=Z,14nm,0.9s,mb5.0,baz=60,slow=10,SNR=13							
ASF	**Jabal al Asfar**	**58.32**	**303**	P	P	04 12 40.9	+0.1
comp=Z,9.3nm,0.9s,mb4.8,baz=347,slow=4.3,SNR=9.6							
SOKR	**Solikamsk**	**58.85**	**339**	⇑*i* P	P	04 12 42.0	-2.2
SOKR				pmax	pmax		
comp=Z,50nm,1.0s,mb5.5							
EIL	**Elat**	**59.53**	**300**	P	P	04 12 49.2	0.0
comp=Z,11nm,0.9s,mb4.9,baz=84,slow=5.1,SNR=7.8							
YAK	**Yakutsk**	**59.98**	**18**	*e*P	P	04 12 50.8	-1.1
YAK				pmax	pmax		
comp=N,6.0nm,0.9s							
YAK				pmax	pmax		
comp=Z,22nm,0.9s,mb5.2							
YAK				pmax	pmax		
comp=E,7.0nm,1.1s							
STKA	**Stephens Creek**	**60.02**	**134**	P	P	04 12 52.5	-0.1
comp=E,5.7nm,1.0s,mb4.5,baz=336,slow=10,SNR=3.8							
BRTR	**Keskin Array B**	**62.52**	**311**	P	P	04 13 07.2	-2.2
BRTR				pmax	pmax		
comp=Z,8.0nm,0.7s							
BRTR	**Keskin Array B**	**62.52**	**311**	P	P	04 13 07.2	-2.2
comp=Z,7.6nm,0.7s,mb4.9,baz=122,slow=7.2,SNR=16							
SIM	**Simferopol'**	**63.51**	**317**	*e*P	P	04 13 15.0	-0.9
SIM				pmax	pmax		
comp=Z,30nm,1.0s,mb5.3							
MOS	**Moscow**	**65.15**	**329**	*e*P	P	04 13 24.4	-1.9
MOS				pmax	pmax		
comp=Z,85nm,1.0s,mb5.7							
OBN	**Obninsk**	**65.45**	**328**	*e*P	P	04 13 23.2	-5.1
OBN				pmax	pmax		
comp=Z,31nm,0.7s,mb5.5							
AKASG	**Malin Array Be**	**68.23**	**322**	P	P	04 13 43.9	-2.0
AKASG						04 16 14.5	
AKASG				pmax	pmax		
comp=Z,14nm,0.9s							
AKASG	**Malin Array Be**	**68.23**	**322**	P	P	04 13 43.9	-2.0
comp=Z,14nm,0.9s,mb5.0,baz=88,slow=4.8,SNR=16							
AKASG				PP	PP	04 16 14.5	-4.3
comp=Z,0.3nm,0.3s,baz=102,slow=7.4,SNR=4.3							
IDI	**Anoyia**	**68.67**	**305**	P	P	04 13 48.8	0.0

WET pmax pmax
comp=Z,11nm,0.9s,mb4.8
WET Wettzell 78.46 318 *eP* **P 04 14 46.3 +0.5**
comp=Z,11nm,0.9s,mb4.8
NKC Novy Kostel 78.77 320 *eP* **P 04 14 47.9 +0.5**
COP Copenhagen 78.94 325 *eP* **P 04 14 47.5 -0.8**
COP pmax pmax
comp=Z,29nm,1.0s,mb5.2
COP Copenhagen 78.94 325 *eP* **P 04 14 47.5 -0.8**
comp=Z,29nm,1.0s,mb5.2
COP Copenhagen 78.94 325 *i* P **P 04 14 47.5 -0.8**
comp=Z,29nm,1.0s,mb5.2
MOX Moxa 79.30 320 *eP* **P 04 14 51.1 +0.8**
MOX pmax pmax
comp=Z,23nm,1.4s,mb4.9
MOX Moxa 79.30 320 *eP* **P 04 14 51.1 +0.8**
comp=Z,23nm,1.4s,mb4.9
MOX Moxa 79.30 320 *i* P **P 04 14 51.1 +0.8**
comp=Z,logA/T=1.2,mb4.9
GRF Grafenberg Arr 79.55 319 *eP* **P 04 14 52.8 +1.1**
GRF pmax pmax
comp=Z,18nm,0.9s,mb5.0
GRF Grafenberg Arr 79.55 319 *eP* **P 04 14 52.8 +1.1**
GRF pmax pmax
comp=Z,18nm,0.9s,mb5.0
GRF Grafenberg Arr 79.55 319 *eP* **P 04 14 52.8 +1.1**
comp=Z,18nm,0.9s,mb5.0
NB2 NORSAR Subarra 79.80 331 P **P 04 14 52.2 -0.6**
comp=Z,28nm,0.9s,mb5.2,baz=91,slow=5.8
NB2 NORSAR Subarra 79.80 331 P **P 04 14 52.2 -0.6**
baz=91,slow=5.9
NOA NORSAR Array B 79.80 331 P **P 04 14 52.5 -0.3**
NOA pmax pmax
comp=Z,18nm,0.9s
NOA NORSAR Array B 79.80 331 P **P 04 14 52.5 -0.3**
comp=Z,18nm,0.9s,mb5.0,baz=93,slow=5.5,SNR=18
CLZ Clausthal 80.09 321 *eP* **P 04 14 55.5 +0.9**
comp=Z,16nm,1.0s,mb4.9
BSEG Bad Segeberg 80.13 323 *eP* **P 04 14 55.9 +1.2**
MUD Monsted U'grnd 80.78 326 *eP* **P 04 14 59.3 +1.2**
MUD Monsted U'grnd 80.78 326 *i* P **P 04 14 59.3 +1.2**
PGF Pioggiola 81.25 312 *eP* **P 04 15 00.7 -0.2**
comp=Z,114nm,1.4s,mb5.3
PGF Pioggiola 81.25 312 *eP* **P 04 15 00.7 -0.2**
PGF pmax pmax
comp=Z,57nm,1.4s,mb5.3
TNS Taunus Mts 81.33 320 *eP* **P 04 15 02.2 +1.0**
BFO Black Forest 81.48 318 *eP* **P 04 15 02.3 +0.4**
BFO pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CDF Champ du Feu 82.18 318 *eP* **P 04 15 05.2 -0.3**
comp=Z,11nm,1.0s,mb4.5
SBF Sospel 82.32 313 *eP* **P 04 15 06.2 -0.2**
comp=Z,246nm,1.4s,mb5.6
SBF Sospel 82.32 313 *eP* **P 04 15 06.2 -0.2**
SBF pmax pmax
comp=Z,123nm,1.4s,mb5.6
HINF Hinteralfeld 82.49 317 *eP* **P 04 15 07.7 +0.5**
LPG La Plagne 82.71 315⇑ *i* P **P 04 15 08.7 +0.4**
comp=Z,39nm,1.0s,mb5.1
LPG La Plagne 82.71 315⇑ *iP* **P 04 15 08.7 +0.4**
LPG pmax pmax
comp=Z,20nm,1.0s,mb5.1
LPL La Plagne 82.72 315 *eP* **P 04 15 08.6 +0.2**
comp=Z,70nm,1.1s,mb5.3
LPL La Plagne 82.72 315 *eP* **P 04 15 08.6 +0.2**
LPL pmax pmax
comp=Z,35nm,1.1s,mb5.3
MBDF Montbardon 82.74 314 *eP* **P 04 15 07.9 -0.6**
comp=Z,31nm,1.1s,mb5.0
MBDF Montbardon 82.74 314 *eP* **P 04 15 07.9 -0.6**
MBDF pmax pmax
comp=Z,16nm,1.1s,mb5.0
HAU Haudompre 82.82 317 *eP* **P 04 15 08.5 -0.3**
comp=Z,53nm,1.1s,mb5.2
HAU Haudompre 82.82 317 *eP* **P 04 15 08.5 -0.3**
HAU pmax pmax
comp=Z,27nm,1.1s,mb5.2
FRF La Foret Royal 82.91 313 *eP* **P 04 15 09.6 +0.2**
comp=Z,33nm,1.0s,mb5.0
FRF La Foret Royal 82.91 313 *eP* **P 04 15 09.6 +0.2**
FRF pmax pmax
comp=Z,16nm,1.0s,mb5.0
CABF La Chapelle 83.09 316 *eP* **P 04 15 10.2 0.0**
comp=Z,81nm,1.3s,mb5.3
CABF La Chapelle 83.09 316 *eP* **P 04 15 10.2 0.0**
CABF pmax pmax
comp=Z,41nm,1.3s,mb5.3
MEZF Maizieres J'vi 83.65 318 *eP* **P 04 15 12.9 -0.2**
GIVF Givet 83.67 320 *eP* **P 04 15 13.2 +0.1**
BAIF Baives 84.07 320 *eP* **P 04 15 15.5 +0.4**
comp=Z,23nm,0.9s,mb5.0
BAIF Baives 84.07 320 *eP* **P 04 15 15.5 +0.4**
BAIF pmax pmax
comp=Z,12nm,0.9s,mb5.0
VIVF Saint-Julien-I 84.22 314 *eP* **P 04 15 16.2 +0.1**
comp=Z,22nm,1.0s,mb5.0
VIVF Saint-Julien-I 84.22 314 *eP* **P 04 15 16.2 +0.1**
VIVF pmax pmax
comp=Z,11nm,1.0s,mb4.9
SMF Signal de Mont 84.63 316 *eP* **P 04 15 17.8 -0.3**
comp=Z,29nm,1.1s,mb5.0
SMF Signal de Mont 84.63 316 *eP* **P 04 15 17.8 -0.3**
SMF pmax pmax
comp=Z,14nm,1.1s,mb5.0
SSF Saint Saulge 84.82 317 *eP* **P 04 15 19.0 0.0**
SSF pmax pmax
comp=Z,21nm,1.4s,mb5.1
SSF Saint Saulge 84.82 317 *eP* **P 04 15 19.0 0.0**
comp=Z,21nm,1.4s,mb5.1
AVF Avril sur Loir 84.95 316 *eP* **P 04 15 19.4 -0.2**
comp=Z,23nm,1.1s,mb4.9
AVF Avril sur Loir 84.95 316 *eP* **P 04 15 19.4 -0.2**
AVF pmax pmax
comp=Z,11nm,1.1s,mb4.9
BGF Bois d'Agland 85.32 316 *eP* **P 04 15 21.7 +0.2**
comp=Z,75nm,1.5s,mb5.3
BGF Bois d'Agland 85.32 316 *eP* **P 04 15 21.7 +0.2**
BGF pmax pmax
comp=Z,37nm,1.5s,mb5.3
TCF Toulx Ste Croi 85.79 316 *eP* **P 04 15 24.2 +0.4**
comp=Z,29nm,1.2s,mb5.1
TCF Toulx Ste Croi 85.79 316 *eP* **P 04 15 24.2 +0.4**
TCF pmax pmax
comp=Z,15nm,1.2s,mb5.1
MTLF Montolieu 86.14 313 *eP* **P 04 15 25.9 +0.3**
RJF Les Rejaudoux 86.39 315 *eP* **P 04 15 27.4 +0.6**
comp=Z,72nm,1.4s,mb5.4
RJF Les Rejaudoux 86.39 315 *eP* **P 04 15 27.4 +0.6**
RJF pmax pmax
comp=Z,36nm,1.4s,mb5.4
LDF La Druitiere 87.05 318 *eP* **P 04 15 30.1 +0.2**
comp=Z,42nm,1.2s,mb5.2
LDF La Druitiere 87.05 318 *eP* **P 04 15 30.1 +0.2**
LDF pmax pmax
comp=Z,21nm,1.2s,mb5.2
FLN La Foliniere 87.26 319 *eP* **P 04 15 31.1 +0.2**
MFF Saint Martin d 87.36 317 *eP* **P 04 15 31.6 +0.2**
comp=Z,35nm,1.3s,mb5.1
MFF Saint Martin d 87.36 317 *eP* **P 04 15 31.6 +0.2**
MFF pmax pmax
comp=Z,17nm,1.3s,mb5.1
ETSF Etsaut 88.22 313 *eP* **P 04 15 37.2 +1.6**
comp=Z,31nm,1.1s,mb5.1
ETSF Etsaut 88.22 313 *eP* **P 04 15 37.2 +1.6**
ETSF pmax pmax
comp=Z,15nm,1.1s,mb5.1
SJPF Ste Jean 88.67 313 *eP* **P 04 15 38.6 +0.8**
comp=Z,68nm,1.5s,mb5.5
SJPF Ste Jean 88.67 313 *eP* **P 04 15 38.6 +0.8**
SJPF pmax pmax
comp=Z,34nm,1.5s,mb5.5
ROSF Rostrenen 89.16 319 *eP* **P 04 15 40.5 +0.5**
ESDC Sonseca Array 91.31 310 P **P 04 15 51.6 +1.3**
comp=Z,5.6nm,0.9s,mb4.9,baz=61,slow=4.4,SNR=9.4
ILAR Eielson Array 94.72 22 P **P 04 16 06.0 +0.8**
comp=Z,2.2nm,1.1s,mb4.5,baz=277,slow=4.4,SNR=4.8
ILAR PP PP 04 19 48.0 -8.2
comp=Z,0.3nm,0.8s,baz=278,slow=6.4,SNR=3.7
INK Inuvik 96.98 16 P **P 04 16 17.2 +1.7**
INK pmax pmax
comp=Z,6.0nm,1.1s
INK Inuvik 96.98 16 P **P 04 16 17.2 +1.7**
comp=Z,6.4nm,1.1s,mb5.0,baz=314,slow=7.1,SNR=6.5
QSPA South Pole Qui 97.76 180⇑ *iP* **P 04 16 18.3 -0.5**
comp=Z,24nm,1.2s,mb5.6

YKA Yellowknife Ar 106.42 14 Pdiff Pdif 04 17 00.4 +2.7
comp=Z,0.1nm,0.7s,baz=337,slow=5.0,SNR=4.3
YKA PP PP 04 21 20.2 -5.4
comp=Z,0.4nm,0.8s,baz=333,slow=8.0,SNR=5.9
YKA PKKPbc 04 32 29.4
comp=Z,0.1nm,0.4s,baz=147,slow=4.0,SNR=3.4
YKA Yellowknife Ar 106.42 14 PKKPbc 04 32 29.4
YKA Yellowknife Ar 106.42 14 Pdif Pdif 04 17 00.4 +2.7
YKA PP PP 04 21 20.2 -5.4
NVAR Mina Array Bea 124.88 31 PKP PKPdf 04 21 47.3 +3.8
comp=Z,1.5nm,0.7s,baz=8.0,slow=1.5,SNR=6.8
PDAR Pinedale Array 125.14 21 PKP PKPdf 04 21 46.4 +2.4
comp=Z,2.0nm,0.8s,baz=23,slow=1.6,SNR=11
USHA Ushuaia 131.15 193 PKP PKPdf 04 21 58.9 +3.8
comp=Z,8.0nm,1.2s,baz=19,slow=2.8,SNR=2.7
TXAR Lajitas Array 139.20 24 PKP PKPdf 04 22 10.7 0.0
comp=Z,1.3nm,1.1s,slow=1.8,SNR=2.4
TXAR PP PP 04 25 05.9 -2.4
comp=Z,0.9nm,0.9s,baz=18,slow=5.7,SNR=5.1
PLCA Paso Flores 144.57 200 PKIKP PKPdf 04 22 21.1 +1.3
PLCA pmax pmax
comp=Z,14nm,0.9s
PLCA Paso Flores 144.57 200 PKP PKPdf 04 22 21.1 +1.3
comp=Z,14nm,0.9s,baz=156,slow=2.1,SNR=10.0
SDV Santo Domingo 157.56 318 PKPab PKPab 04 23 14.3 -0.2
comp=Z,7.0nm,1.0s,baz=218,slow=7.8,SNR=4.8
LPAZ La Paz 160.85 242 PKIKP PKPdf 04 22 47.8 +4.1
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ La Paz 160.85 242 PKPab PKPab 04 22 47.8 -41
comp=Z,2.1nm,0.9s,baz=134,slow=0.7,SNR=3.7

*IDC **27** 04:07:31.4±1.4, 7.58N×93.90E, mb4.0/7, mb1 4.2/8, mb1mx4.0/18, mbtmp4.0/8, ML4.0/1, Error ellipse: s-maj=41.1km s-min=28.9km az=48.0*
ISC 27 04:07:34.8±1.1, 7.7N±0.2×94.0E±0.2, h33km, n9, σ0§41/9, mb4.0/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.75**	**24**	Pn	P	**P**	**04 10 22.9**	**-0.3**
	0.3nm,0.3s,baz=209,slow=14,SNR=5.2							
SONM	**Songino Array**	**41.39**	**13**	P	P	**P**	**04 15 19.9**	**+0.3**
	0.7nm,0.9s,mb3.3,baz=217,slow=7.2,SNR=4.1							
ZAL	**Zalesovo**	**46.74**	**353**	P	P	**P**	**04 16 02.8**	**+0.2**
	3.2nm,0.9s,mb4.2,baz=275,slow=5.8,SNR=6.7							
WRA	**Warramunga Arr**	**48.23**	**125**	P	P	**P**	**04 16 14.6**	**-0.1**
	0.7nm,0.7s,mb3.8,baz=305,slow=8.5,SNR=4.9							
BRTR	**Keskin Array B**	**62.48**	**311**	P	P	**P**	**04 17 56.6**	**-0.8**
	0.7nm,0.6s,mb4.0,baz=117,slow=6.1,SNR=3.0							
FINES	**FINESS Array B**	**72.85**	**332**	P	P	**P**	**04 19 01.8**	**-0.1**
	3.0nm,0.8s,mb4.3,baz=108,slow=6.0,SNR=4.4							
GERES	**GERESS Array B**	**77.91**	**318**	P	P	**P**	**04 19 31.7**	**+0.6**
	1.6nm,0.9s,mb4.0,baz=90,slow=4.0,SNR=5.9							
NB2	**NORSAR Subarra**	**79.86**	**331**	P	P	**P**	**04 19 41.6**	**+0.1**
	4.8nm,1.0s,mb4.4,baz=92,slow=5.6							
NOA	**NORSAR Array B**	**79.86**	**331**	P	P	**P**	**04 19 41.8**	**+0.3**
	2.0nm,0.8s,mb4.1,baz=93,slow=5.5,SNR=4.2							

*IDC **27** 04:16:47.3±1.2, 7.67N×93.85E, mb4.1/10, mb1 4.3/11, mb1mx4.1/20, mbtmp4.0/11, ML4.1/1, Error ellipse: s-maj=41.4km s-min=27.3km az=39.0*
ISC 27 04:16:50.7±1.0, 7.8N±0.2×94.0E±0.2, h33km, n12, σ0§76/12, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.67**	**24**	Pn	P	**P**	**04 19 37.6**	**-0.4**
	0.4nm,0.3s,baz=211,slow=14,SNR=8.0							
SONM	**Songino Array**	**41.30**	**13**	P	P	**P**	**04 24 34.8**	**0.0**
	0.8nm,0.9s,mb3.4,baz=194,slow=7.9,SNR=5.2							
WRA	**Warramunga Arr**	**48.31**	**125**	P	P	**P**	**04 25 30.9**	**-0.4**
	0.4nm,0.4s,mb3.8,baz=304,slow=8.7,SNR=6.0							
BRTR	**Keskin Array B**	**62.39**	**311**	P	P	**P**	**04 27 11.6**	**-1.2**
	0.9nm,0.7s,mb4.0,baz=121,slow=7.2,SNR=5.0							
MLR	**Muntele Rosu**	**69.15**	**316**	P	P	**P**	**04 27 56.4**	**+0.4**
	3.9nm,0.9s,mb4.3,baz=194,slow=4.6,SNR=3.6							
FINES	**FINESS Array B**	**72.74**	**332**	P	P	**P**	**04 28 16.9**	**-0.3**
	3.7nm,0.8s,mb4.3,baz=112,slow=10,SNR=6.9							
ARCES	**ARCESS Array B**	**75.32**	**340**	P	P	**P**	**04 28 32.4**	**+0.3**
	4.2nm,1.0s,mb4.3,baz=80,slow=7.4,SNR=4.4							
GERES	**GERESS Array B**	**77.81**	**318**	P	P	**P**	**04 28 47.2**	**+0.7**
	1.9nm,0.9s,mb4.0,baz=90,slow=4.0,SNR=9.8							
HFS	**Hagfors**	**78.48**	**330**	P	P	**P**	**04 28 49.9**	**0.0**
	1.6nm,0.5s,mb4.2,baz=90,slow=5.9,SNR=7.9							
NB2	**NORSAR Subarra**	**79.76**	**331**	P	P	**P**	**04 28 56.7**	**-0.2**
	1.5nm,0.7s,mb4.0,baz=95,slow=5.0							
NOA	**NORSAR Array B**	**79.76**	**331**	P	P	**P**	**04 28 56.6**	**-0.2**
	2.1nm,0.8s,mb4.1,baz=93,slow=5.5,SNR=5.7							
ILAR	**Eielson Array**	**94.90**	**22**	P	P	**P**	**04 30 13.6**	**+3.1**
	0.2nm,0.9s,mb3.5,baz=304,slow=5.5,SNR=4.4							

*IDC **27** 04:20:56.6±0.8, 8.18N×94.40E, mb4.0/12, mb1 4.1/13, mb1mx4.0/20, mbtmp4.0/13, ML3.9/1, MS4.0/2, Ms1 4.1/2, ms1mx3.2/27, Error ellipse: s-maj=35.2km s-min=19.7km az=46.0*
*NEIC **27** 04:21:01.3±0.6, 8.12N×94.39E, h30km, mb4.5/6, Error ellipse: s-maj=19.0km s-min=13.6km az=72.0*
ISC 27 04:20:59.2±0.7, 7.97N±0.10×94.5E±0.1, h30km, n36, σ1§33/29, mb4.3/19, MS4.1/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.30**	**22**	P	P	**P**	**04 23 39.6**	**-2.3**
CMAR	**Chiang Mai Arr**	**11.30**	**22**	Pn	P	**P**	**04 23 45.0**	**+3.1**
	0.3nm,0.3s,baz=213,slow=14,SNR=4.8							
CMAR				LR	LR		04 27 38.9	
	comp=Z,614nm,19.8s,baz=28,slow=36							
HYB	**Hyderabad**	**18.12**	**303**	*eP*	P	**P**	**04 25 15.0**	**+4.3**
HYB	**Hyderabad**	**18.12**	**303**	*i* P	P	**P**	**04 25 15.0**	**+4.3**
JIRN	**Jiri**	**21.09**	**339**	*eP*	P	**P**	**04 25 45.9**	**+2.2**
	89nm,1.3s,mb4.9							
PKI	**Pulchoki**	**21.30**	**337**	*eP*	P	**P**	**04 25 46.7**	**+0.9**
	77nm,1.2s,mb4.9							
DMN	**Daman**	**21.45**	**337**	*eP*	P	**P**	**04 25 48.2**	**+0.9**
	61nm,1.1s,mb4.8							
KKN	**Kakani**	**21.54**	**337**	*eP*	P	**P**	**04 25 49.3**	**+1.1**
LSA	**Lhasa**	**21.84**	**352**	*eP*	P	**P**	**04 25 50.5**	**-0.7**
	24nm,0.8s,mb4.7							
GKN	**Gorkha**	**21.98**	**336**	*eP*	P	**P**	**04 25 53.3**	**+0.6**
	29nm,0.6s,mb4.9							
KOLN	**Koldanda**	**22.21**	**334**	*eP*	P	**P**	**04 25 54.6**	**-0.3**
	27nm,0.9s,mb4.7							
DDI	**Dehra Dun**	**27.03**	**327**	*e*	P	**P**	**04 26 43.5**	**+2.6**
JOW	**Kunigami**	**37.14**	**55**	LR	LR		04 46 05.7	
	comp=Z,273nm,18.0s,MS4.1,baz=224,slow=41							
AAK	**Ala-Archa**	**38.74**	**336**	P	P	**P**	**04 28 23.2**	**+0.5**
	9.4nm,1.3s,mb4.4							
SONM	**Songino Array**	**41.00**	**12**	P	P	**P**	**04 28 41.7**	**+0.5**
	0.7nm,0.8s,mb3.3,baz=190,slow=11,SNR=4.7							
SONM				PcP	PcP		04 30 41.3	-0.3
	0.6nm,0.9s,baz=180,slow=5.8,SNR=2.6							
KURK	**Kurchatov**	**44.59**	**346**	*eP*	P	**P**	**04 29 09.4**	**-1.1**
	13nm,1.2s,mb4.6							
NWAO	**Narrogin (SRO)**	**46.09**	**153**	P	pP		04 29 29.4	-2.3
	6.2nm,0.9s,baz=346,slow=13,SNR=3.5							
NWAO	**Narrogin (SRO)**	**46.09**	**153**	P	pP		04 29 29.3	-2.4
	18nm,0.9s							
WRA	**Warramunga Arr**	**48.06**	**126**	P	P	**P**	**04 29 39.8**	**+1.5**
	0.6nm,0.5s,mb3.9,baz=305,slow=8.4,SNR=5.8							
ASAR	**Alice Springs**	**49.73**	**130**	P	P	**P**	**04 29 51.5**	**+0.3**
	0.7nm,0.9s,mb3.7,baz=315,slow=6.4,SNR=3.4							
KMBO	**Kilima Mbogo**	**57.75**	**264**	P	P	**P**	**04 30 51.0**	**+0.7**
	4.4nm,1.2s,mb4.4,baz=63,slow=10,SNR=3.7							
KMBO	**Kilima Mbogo**	**57.75**	**264**	*eP*	P	**P**	**04 30 50.9**	**+0.6**
	3.8nm,0.9s,mb4.4							
BRTR	**Keskin Array B**	**62.61**	**311**	P	P	**P**	**04 31 22.3**	**-0.9**
	0.4nm,0.5s,mb3.8,baz=120,slow=12,SNR=4.3							
AKASG	**Malin Array Be**	**68.28**	**322**	P	P	**P**	**04 31 59.2**	**-0.3**
	0.2nm,0.3s,mb3.6,baz=71,slow=6.4,SNR=3.1							
FINES	**FINESS Array B**	**72.77**	**332**	P	P	**P**	**04 32 24.2**	**-2.3**
	2.4nm,0.8s,mb4.2,baz=90,slow=5.7,SNR=5.1							
ARCES	**ARCESS Array B**	**75.28**	**340**	P	P	**P**	**04 32 40.7**	**-0.2**
	3.5nm,0.9s,mb4.3,baz=95,slow=10.0,SNR=3.3							
ARCES	**ARCESS Array B**	**75.28**	**340**	P	P	**P**	**04 32 40.7**	**-0.2**
GERES	**GERESS Array B**	**77.97**	**318**	P	P	**P**	**04 32 54.0**	**-2.3**
	0.6nm,0.7s,mb3.6,baz=135,slow=5.6,SNR=3.0							
HFS	**Hagfors**	**78.53**	**330**	P	P	**P**	**04 32 57.7**	**-1.4**
	10nm,1.2s,mb4.7,baz=112,slow=8.0,SNR=6.9							
NB2	**NORSAR Subarra**	**79.80**	**331**	P	P	**P**	**04 33 04.2**	**-1.8**
	0.8nm,0.5s,mb3.9,baz=96,slow=5.0							
NOA	**NORSAR Array B**	**79.80**	**331**	P	P	**P**	**04 33 04.8**	**-1.2**
	1.2nm,0.9s,mb3.8,baz=97,slow=5.1,SNR=2.6							
NOA	**NORSAR Array B**	**79.80**	**331**	P	P	**P**	**04 33 04.8**	**-1.2**
TXAR	**Lajitas Array**	**139.01**	**24**	PKP	PKPdf		04 40 29.2	+0.3
	0.4nm,1.0s,baz=342,slow=2.9,SNR=3.2							
TXAR	**Lajitas Array**	**139.01**	**24**	PKP	PKPdf		04 40 29.2	+0.3
PLCA	**Paso Flores**	**144.75**	**200**	PKP	PKPdf		04 40 37.7	-0.9
	5.0nm,1.1s,baz=89,slow=2.8,SNR=6.2							
PLCA	**Paso Flores**	**144.75**	**200**	PKP	PKPdf		04 40 37.7	-0.9

IDC 27 04:23:21.4±4.8, 8.50N×93.64E, mb4.2/6, mb1 4.2/7, mb1mx3.9/19, mbtmp4.1/7, ML3.9/1, Error ellipse: s-maj=126.3km s-min=38.1km az=135.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.16**	**27**	Pn	P		**04 26 02.8**	**-2.6**
	0.3nm,0.3s,baz=212,slow=14,SNR=2.9							
KMBO	**Kilima Mbogo**	**57.00**	**263**	P	P		04 33 09.8	-1.9
	2.3nm,1.0s,baz=50,slow=12,SNR=5.2							
BRTR	**Keskin Array B**	**61.64**	**311**	P	P		04 33 41.1	-2.4
	1.0nm,0.7s,baz=124,slow=8.9,SNR=4.1							
FINES	**FINESS Array B**	**71.93**	**332**	P	P		04 34 46.7	-1.6
	2.5nm,1.1s,baz=124,slow=6.9,SNR=4.6							
GERES	**GERESS Array B**	**77.03**	**318**	P	P		04 35 16.9	-1.1
	1.6nm,0.8s,baz=90,slow=5.3,SNR=7.8							
HFS	**Hagfors**	**77.67**	**330**	P	P		04 35 19.5	-1.7
	1.5nm,0.5s,baz=72,slow=4.7,SNR=5.3							
NB2	**NORSAR Subarra**	**78.94**	**331**	P	P		04 35 25.3	-2.9
	1.4nm,0.7s,baz=93,slow=5.6							
NOA	**NORSAR Array B**	**78.94**	**331**	P	P		04 35 26.4	-1.8
	2.1nm,0.8s,baz=94,slow=5.3,SNR=5.7							
TXAR	**Lajitas Array**	**138.86**	**23**	PKP	PKPdf		04 42 49.7	-2.6
	0.3nm,1.0s,slow=0.9,SNR=3.4							

IDC 27 04:29:24.0±1.4, 7.68N×94.01E, mb3.8/5, mb1 4.0/6, mb1mx3.8/19, mbtmp3.8/6, ML4.1/1, Error ellipse: s-maj=48.9km s-min=32.3km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.73**	**24**	Pn	P		04 32 14.4	-1.4
	0.3nm,0.3s,baz=211,slow=16,SNR=3.3							
SONM	**Songino Array**	**41.37**	**13**	P	P		04 37 11.5	-2.0
	0.5nm,0.8s,baz=191,slow=7.3,SNR=3.7							
WRA	**Warramunga Arr**	**48.25**	**125**	P	P		04 38 06.8	-2.2
	0.5nm,0.7s,baz=297,slow=9.1,SNR=3.4							
GERES	**GERESS Array B**	**77.88**	**318**	P	P		04 41 24.5	-0.8
	1.1nm,1.0s,baz=108,slow=4.2,SNR=4.4							
HFS	**Hagfors**	**78.56**	**330**	P	P		04 41 26.8	-2.0
	2.2nm,0.9s,baz=104,slow=5.9,SNR=3.1							
NB2	**NORSAR Subarra**	**79.83**	**331**	P	P		04 41 33.3	-2.4
	0.8nm,0.7s,baz=98,slow=5.3							
NOA	**NORSAR Array B**	**79.83**	**331**	P	P		04 41 34.0	-1.7
	1.4nm,0.9s,baz=114,slow=5.4,SNR=2.7							
PLCA	**Paso Flores**	**144.33**	**200**	PKP	PKPdf		04 49 03.4	-0.9
	1.5nm,0.8s,baz=180,slow=4.8,SNR=4.0							

*IDC **27** 04:31:54.8±1.0, 7.90N×94.19E, mb4.1/7, mb1 4.2/8, mb1mx4.0/19, mbtmp4.1/8, ML4.3/1, Error ellipse: s-maj=31.3km s-min=28.5km az=58.0*
ISC 27 04:31:58.1±1.0, 7.9N±0.1×94.3E±0.2, h33km, n11, σ0§44/9, mb4.0/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.41**	**23**	Pn	P	**P**	**04 34 42.0**	**+0.1**
	0.6nm,0.3s,baz=215,slow=14,SNR=3.1							
SONM	**Songino Array**	**41.08**	**12**	P	P	**P**	**04 39 41.0**	**+0.7**
	1.0nm,0.9s,mb3.5,baz=196,slow=7.2,SNR=7.4							
SONM				PcP	PcP		04 41 41.1	+0.8
	0.3nm,0.6s,baz=200,slow=2.3,SNR=3.7							
WRA	**Warramunga Arr**	**48.19**	**126**	P	P	**P**	**04 40 37.7**	**-0.1**
	0.5nm,0.6s,mb3.7,baz=304,slow=8.4,SNR=5.2							
KMBO	**Kilima Mbogo**	**57.55**	**264**	P	P	**P**	**04 41 48.0**	**+0.7**
	2.4nm,0.8s,mb4.3,baz=50,slow=12,SNR=6.2							
FINES	**FINESS Array B**	**72.72**	**332**	P	P	**P**	**04 43 23.9**	**-0.6**
	1.9nm,0.7s,mb4.1,baz=135,slow=8.1,SNR=5.3							
GERES	**GERESS Array B**	**77.87**	**318**	P	P	**P**	**04 43 54.0**	**-0.2**
	1.1nm,0.7s,mb3.9,baz=90,slow=5.3,SNR=7.0							
HFS	**Hagfors**	**78.47**	**330**	P	P	**P**	**04 43 57.3**	**+0.1**
	2.3nm,0.6s,mb4.3,baz=108,slow=4.7,SNR=6.8							
NB2	**NORSAR Subarra**	**79.74**	**331**	P	P	**P**	**04 44 03.6**	**-0.6**
	1.1nm,0.7s,mb3.9,baz=92,slow=5.3							
NOA	**NORSAR Array B**	**79.74**	**331**	P	P	**P**	**04 44 03.9**	**-0.4**
	1.5nm,0.7s,mb4.0,baz=92,slow=5.6,SNR=5.3							
TXAR	**Lajitas Array**	**139.12**	**24**	PKP	PKPdf		04 51 25.6	+3.2
	0.1nm,0.5s,baz=315,slow=1.0,SNR=4.1							
PLCA	**Paso Flores**	**144.65**	**200**	PKP	PKPdf		04 51 31.1	-0.7
	2.6nm,0.8s,baz=219,slow=2.9,SNR=5.8							

IDC 27 04:38:17.0±7.8, 7.82N×94.30E, mb4.0/7, mb1 4.2/7, mb1mx3.8/19, mbtmp4.0/7, Error ellipse: s-maj=195.6km s-min=61.7km az=142.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.18**	**12**	P	P		04 46 03.3	-1.5
	0.6nm,1.0s,baz=198,slow=4.6,SNR=3.5							
BVAR	**Borovoye Array**	**49.09**	**341**	P	P		04 47 05.9	-2.1
	0.7nm,0.8s,baz=143,slow=7.2,SNR=3.3							
FINES	**FINESS Array B**	**72.83**	**332**	P	P		04 49 47.8	-1.5
	2.3nm,0.8s,baz=100,slow=8.5,SNR=4.8							
ARCES	**ARCESS Array B**	**75.37**	**340**	P	P		04 50 02.5	-1.3
	3.4nm,0.9s,baz=84,slow=8.2,SNR=2.6							
GERES	**GERESS Array B**	**77.97**	**318**	P	P		04 50 17.5	-1.2
	1.0nm,0.8s,baz=90,slow=5.3,SNR=7.1							
HFS	**Hagfors**	**78.58**	**330**	P	P		04 50 20.0	-1.8
	8.1nm,1.2s,baz=121,slow=8.6,SNR=4.2							
NOA	**NORSAR Array B**	**79.85**	**331**	P	P		04 50 26.9	-1.9
	1.4nm,0.8s,baz=91,slow=5.7,SNR=4.4							

*BJI **27** 04:38:31.7, 7.61N×93.76E, h51km, mB4.9, mb4.5, Ms4.8, Msz4.5*
*MOS **27** 04:38:32.

comp=Z,153nm,1.0s,mb5.3
PKI Pulchoki 21.23 338 *e*P **P 04 43 16.2 -0.7**
comp=Z,246nm,1.3s,mb5.4
DMN Daman 21.38 337 *e*P **P 04 43 18.0 -0.4**
comp=Z,83nm,0.9s,mb5.0
KKN Kakani 21.48 338 *e*P **P 04 43 18.7 -0.7**
comp=Z,124nm,1.2s,mb5.1
LSA Lhasa 21.85 353 *e*P **P 04 43 23.7 +0.6**
LSA pmax pmax
comp=Z,19nm,0.8s,mb4.6
LSA Lhasa 21.85 353 *e*P **P 04 43 23.7 +0.6**
comp=Z,19nm,0.8s,mb4.6
GKN Gorkha 21.91 337 *e*P **P 04 43 23.2 -0.5**
comp=Z,84nm,0.8s,mb5.2
KOLN Koldanda 22.13 334 *e*P **P 04 43 26.2 +0.3**
comp=Z,109nm,0.9s,mb5.3
BHPL Bhopal 22.15 315 *e*P **P 04 43 28.0 +1.9**
BHPL *e* 04 43 33.7
comp=Z,48nm,0.9s
POO Poona 22.39 300 *e* **P 04 43 27.0 -1.6**
POO *e*P 04 43 30.3
POO *e* 04 43 33.3
comp=Z,7.6nm,0.3s
NDI New Delhi 26.11 324 *e*P **P 04 44 02.0 -2.4**
ENH Enshi 26.46 31 *e*P **P 04 44 08.3 +0.7**
comp=Z,26nm,1.1s,mb4.7
DDI Dehra Dun 26.92 328 *e* **P 04 44 13.5 +1.7**
XAN Xi'an 29.33 26 P **P 04 44 33.8 +0.2**
XAN AMB AMB
comp=Z,9.0nm,1.0s,mb4.5
WMQ Urumqi 36.20 352 *e*P **P 04 45 33.8 +0.5**
BJI Beijing 37.54 28 *e*P **P 04 45 49.4 +4.8**
BJI pmax pmax
comp=Z,11nm,1.0s,mb4.5
BJI MLR MLR
comp=Z,340nm,21.7s,MS4.1
BJI Beijing 37.54 28 *e*P **P 04 45 49.4 +4.8**
comp=Z,11nm,1.0s,mb4.5
BJI S tx 04 50 27.6
BJI LR LR
comp=Z,340nm,21.7s,MS4.1
AAK Ala-Archa 38.67 337 *e*P **P 04 45 51.9 -2.2**
AAK pmax pmax
comp=Z,11nm,1.1s,mb4.5
AAK Ala-Archa 38.67 337 *e*P **P 04 45 51.9 -2.2**
comp=Z,11nm,1.1s,mb4.5
SONM Songino Array 41.10 13 P **P 04 46 13.8 -0.3**
comp=Z,3.7nm,1.0s,mb4.0,baz=196,slow=10,SNR=15
SONM PcP PcP 04 48 13.7 -0.7
comp=Z,2.0nm,0.8s,baz=194,slow=4.0,SNR=5.2
ZAK Zakamensk 42.99 9 *e*P **P 04 46 28.8 -0.8**
ZAK *e* 04 48 20.4
NWAO Narrogin (SRO) 46.18 153 P **P 04 46 56.1 +0.7**
NWAO pmax pmax
comp=Z,6.0nm,0.6s
NWAO Narrogin (SRO) 46.18 153 P **P 04 46 56.1 +0.7**
comp=Z,6.1nm,0.6s,mb4.7,baz=300,slow=9.9,SNR=3.7
HIA Hailar 46.46 23 *e*P **P 04 46 57.9 +0.5**
HIA pmax pmax
comp=Z,11nm,0.9s
HIA Hailar 46.46 23 *e*P **P 04 46 57.9 +0.5**
comp=Z,11nm,0.9s,mb4.8
NVS Novosibirsk 47.60 351 *e*P **P 04 47 03.9 -2.4**
NVS pmax pmax
comp=N,22nm,0.8s
NVS pmax pmax
comp=E,11nm,0.8s
NVS pmax pmax
comp=Z,27nm,0.8s,mb5.3
WRA Warramunga Arr 48.26 126 P **P 04 47 10.9 -1.1**
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 48.26 126 P **P 04 47 10.9 -1.1**
comp=Z,2.5nm,0.7s,mb4.4,baz=305,slow=9.1,SNR=16
BVAR Borovoye Array 48.95 341 P **P 04 47 17.8 +0.9**
comp=Z,3.5nm,0.9s,mb4.4,baz=135,slow=6.3,SNR=12
BVAR PcP PcP 04 48 39.6 -1.8
comp=Z,1.7nm,0.9s,baz=135,slow=4.1,SNR=3.1
ASAR Alice Springs 49.92 130 P **P 04 47 24.1 -0.6**
comp=Z,1.8nm,0.8s,mb4.2,baz=308,slow=7.3,SNR=12
ASAR PcP PcP 04 48 46.1 +0.9
comp=Z,2.0nm,1.0s,baz=290,slow=3.5,SNR=5.2
BOD Bodaibo 52.09 13 *e*P **P 04 47 38.4 -2.3**
GNI Garni 54.42 314 P **P 04 48 00.1 +1.9**
GNI pmax pmax
comp=Z,2.0nm,0.5s
GNI Garni 54.42 314 P **P 04 48 00.1 +1.9**
comp=Z,2.0nm,0.5s,mb4.3,baz=337,slow=16,SNR=3.3
SVE Sverdlovsk 55.37 338 *e*P **P 04 48 03.0 -1.9**
KIV Kislovodsk 57.30 318 *e*P **P 04 48 18.8 -0.1**
KIV pmax pmax
comp=Z,14nm,1.1s,mb4.9
KIV pmax pmax
comp=N,9.0nm,0.9s
KMBO Kilima Mbogo 57.46 264 P **P 04 48 21.9 +1.4**
KMBO pmax pmax
comp=Z,9.0nm,0.8s
KMBO Kilima Mbogo 57.46 264 P **P 04 48 21.9 +1.4**
comp=Z,8.6nm,0.8s,mb4.8,baz=57,slow=8.9,SNR=22
KMBO Kilima Mbogo 57.46 264 P **P 04 48 21.9 +1.4**
ASF Jabal al Asfar 58.22 303 P **P 04 48 26.7 +1.2**
comp=Z,3.2nm,0.8s,mb4.4,baz=326,slow=5.6,SNR=5.3
YAK Yakutsk 59.94 18 *e*P **P 04 48 36.1 -0.9**
YAK pmax pmax
comp=Z,11nm,1.0s,mb4.8
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.1s
STKA Stephens Creek 60.12 134 P **P 04 48 38.1 -0.6**
comp=E,2.5nm,0.9s,mb4.2,baz=309,slow=13,SNR=3.5
BRTR Keskin Array B 62.42 311 P **P 04 48 52.7 -1.5**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 62.42 311 P **P 04 48 52.6 -1.5**
comp=Z,3.8nm,0.9s,mb4.5,baz=128,slow=7.0,SNR=11
MBAR Mbarara 63.80 265 *e*P **P 04 49 03.6 -0.1**
MBAR pmax pmax
comp=Z,12nm,1.3s,mb4.8
MBAR Mbarara 63.80 265 *e*P **P 04 49 03.6 -0.1**
comp=Z,12nm,1.3s,mb4.8
OBN Obninsk 65.35 328 *e*P **P 04 49 09.5 -3.6**
OBN pmax pmax
comp=Z,14nm,0.9s,mb5.0
AKASG Malin Array Be 68.14 322 P **P 04 49 29.6 -1.2**
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 68.14 322 P **P 04 49 29.6 -1.3**
comp=Z,4.9nm,0.9s,mb4.5,baz=86,slow=5.2,SNR=8.6
IDI Anoyia 68.57 305 P **P 04 49 33.3 -0.5**
comp=Z,7.5nm,1.0s,mb4.6,baz=191,slow=19,SNR=2.6
MLR Muntele Rosu 69.16 316 P **P 04 49 36.6 -0.7**
MLR pmax pmax
comp=Z,6.0nm,0.9s
MLR Muntele Rosu 69.16 316 P **P 04 49 36.6 -0.7**
comp=Z,6.4nm,0.9s,mb4.5,baz=155,slow=8.4,SNR=6.0
JOF Joensuu 70.82 334 *e*p **P 04 49 44.8 -2.3**
comp=Z,7.1nm,0.8s,mb4.7
FINES FINESS Array B 72.68 332 P **P 04 49 56.5 -1.7**
FINES pmax pmax
comp=Z,8.0nm,0.8s
FINES FINESS Array B 72.68 332 P **P 04 49 56.5 -1.7**
comp=Z,7.9nm,0.8s,mb4.7,baz=112,slow=10,SNR=14
FINES FINESS Array B 72.68 332 P **P 04 49 56.5 -1.7**
KAF Kangasniemi 72.76 333 *e*p **P 04 49 58.1 -0.6**
comp=Z,12nm,0.9s,mb4.8
KAF Kangasniemi 72.76 333 *e*P **P 04 49 58.1 -0.6**
KAF pmax pmax
comp=Z,12nm,0.9s,mb4.8
ARCES ARCESS Array B 75.23 340 P **P 04 50 13.0 +0.1**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 75.23 340 P **P 04 50 13.0 +0.2**
comp=Z,3.9nm,0.8s,mb4.4,baz=104,slow=5.0,SNR=9.9
ARCES ARCESS Array B 75.23 340 P **P 04 50 13.0 +0.2**
MORC Moravsky Berou 75.36 319 *e*P **P 04 50 13.2 -0.8**
MORC pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MORC Moravsky Berou 75.36 319 *e*P **P 04 50 13.2 -0.8**
comp=Z,7.7nm,1.1s,mb4.5
BILL Bilibino 76.03 22 *e*P **P 04 50 17.7 +0.3**
DPC Dobruska-Polom 76.19 320 *e*P **P 04 50 19.3 +0.6**
UPC Upice 76.40 320 *e*P **P 04 50 21.8 +1.9**
PRU Pruhonice 77.31 319 *e*P **P 04 50 26.1 +1.2**
PVCC Panska Ves 77.32 320 *e*P **P 04 50 25.8 +0.8**
BRG Berggiesshubel 77.73 320 *e*P **P 04 50 28.5 +1.3**
BRG *e* 04 50 35.7
BRG pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
BRG Berggiesshubel 77.73 320 *e*P **P 04 50 28.5 +1.3**
comp=Z,5.5nm,1.1s,mb4.4
BRG *e* 04 50 35.7
GERES GERESS Array B 77.81 318 P **P 04 50 28.2 +0.5**
GERES pmax pmax
comp=Z,6.0nm,0.9s
GERES GERESS Array B 77.81 318 P **P 04 50 28.2 +0.5**
comp=Z,6.4nm,0.9s,mb4.5,baz=108,slow=4.2,SNR=23
KHC Kasperske Hory 77.90 318 *e*P **P 04 50 27.9 -0.3**
CLL Collm 78.34 321 *e**PP pP 04 50 38.0 +5.4
HFS Hagfors 78.43 330 P **P 04 50 30.7 -0.2**
HFS pmax pmax
comp=Z,5.0nm,0.5s
HFS Hagfors 78.43 330 P **P 04 50 30.7 -0.2**
comp=Z,4.9nm,0.5s,mb4.7,baz=104,slow=6.1,SNR=15
MOX Moxa 79.20 320 *e*P **P 04 50 30.0 -5.3**
GRA1 Grafenberg Arr 79.45 319 *e*P **P 04 50 37.4 +0.7**
comp=Z,9.0nm,1.2s,mb4.6
GRF Grafenberg Arr 79.45 319 *e*P **P 04 50 37.4 +0.7**
GRF pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
GRF Grafenberg Arr 79.45 319 *e*P **P 04 50 37.4 +0.7**
GRF pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
GRF Grafenberg Arr 79.45 319 *e*P **P 04 50 37.4 +0.7**
comp=Z,9.0nm,1.2s,mb4.6
NB2 NORSAR Subarra 79.70 331 P **P 04 50 35.7 -2.1**
comp=Z,8.3nm,0.9s,mb4.7,baz=92,slow=5.6
NB2 NORSAR Subarra 79.70 331 P **P 04 50 35.7 -2.1**
NB2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
NOA NORSAR Array B 79.70 331 P **P 04 50 36.4 -1.4**
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA NORSAR Array B 79.70 331 P **P 04 50 36.4 -1.4**
comp=Z,5.0nm,0.8s,mb4.5,baz=94,slow=5.5,SNR=12
DAVOX Davos 80.38 316 P **P 04 50 41.1 -0.6**
comp=Z,9.2nm,0.9s,mb4.7,baz=113,slow=9.9,SNR=7.8
LPG La Plagne 82.61 315⇑ *i*P **P 04 50 54.9 +1.5**
comp=Z,15nm,0.8s,mb4.8
LPG La Plagne 82.61 315⇑ *i*P **P 04 50 54.9 +1.5**
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
EKA Eskdalemuir Ar 87.70 325 P **P 04 51 20.0 +1.5**
EKA pmax pmax
comp=Z,4.0nm,0.8s
EKA Eskdalemuir Ar 87.70 325 P **P 04 51 20.0 +1.5**
comp=Z,3.7nm,0.8s,mb4.7,baz=90,slow=5.0,SNR=5.5
ESDC Sonseca Array 91.21 310 P **P 04 51 36.4 +0.9**
comp=Z,1.1nm,0.7s,mb4.3,baz=27,slow=5.7,SNR=3.5
IMA Indian Mountai 91.56 22 *e*P **P 04 51 37.5 +1.1**
ILAR Eielson Array 94.68 22 P **P 04 51 52.1 +1.3**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 94.68 22 P **P 04 51 52.1 +1.3**
comp=Z,0.7nm,0.9s,mb4.1,baz=312,slow=5.0,SNR=7.7
YKA Yellowknife Ar 106.37 13 PKKPbc 05 08 16.9
comp=Z,0.2nm,0.8s,baz=146,slow=3.0,SNR=4.3
YKA PKKPab 05 08 31.8
comp=Z,0.2nm,0.8s,baz=145,slow=4.2,SNR=5.4
PPT Papeete 117.32 106 *e*LR LR 04 53 01.8
comp=Z,366nm,24.0s
NVAR Mina Array Bea 124.86 31 PKP PKPdf 04 57 32.0 +0.1
comp=Z,1.2nm,0.7s,baz=332,slow=0.2,SNR=5.1
PDAR Pinedale Array 125.11 21 PKP PKPdf 04 57 30.7 -1.6
comp=Z,1.8nm,0.9s,baz=4.9,slow=1.8,SNR=11
MVU Marysvale 127.68 26 *e*PKPdf PKPdf 04 57 39.7 +2.3
TXAR Lajitas Array 139.16 24 PKPkKP 04 57 50.5
comp=Z,0.2nm,0.7s,baz=18,slow=0.8,SNR=4.2
TXAR PKP PKPdf 04 57 56.8 -2.3
comp=Z,0.3nm,0.5s,baz=44,slow=1.2,SNR=4.3
JCT Junction City 139.53 19 *e*PKIKP PKPdf 04 57 59.4 -0.3
PLCA Paso Flores 144.61 200 PKIKP PKPdf 04 58 07.0 -1.3
PLCA pmax pmax
comp=Z,8.0nm,0.9s
PLCA Paso Flores 144.61 200 PKP PKPdf 04 58 07.0 -1.3
comp=Z,8.0nm,0.9s,baz=130,slow=3.0,SNR=10
LPAZ La Paz 160.82 243 PKPab PKPab 04 58 34.0 -40
comp=Z,1.2nm,0.8s,baz=77,slow=6.3,SNR=4.8

*IDC **27** 04:47:13.1±0.7, 7.87N×93.85E, mb4.3/18, mb1 4.4/19, mb1mx4.4/24, mbtmp4.3/19, ML4.0/1, Error ellipse: s-maj=30.8km s-min=16.2km az=53.0*
*BJI **27** 04:47:16.1, 7.59N×93.73E, h46km, mb4.2*
*MOS **27** 04:47:17.1±1.1, 8.06N×94.07E, h33km, mb4.7/21, Error ellipse: s-maj=19.8km s-min=9.1km az=105.8*
*NEIC **27** 04:47:17.8±0.3, 7.91N×93.90E, h30km, mb4.6/8, Error ellipse: s-maj=11.1km s-min=7.3km az=64.0*
ISC 27 04:47:17.2±3.2, 8.0N±0.1×94.1E±0.1, h38km±27km, n71, σ0:90/65, mb4.6/34, 3C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.45**	**24**	Pn	P	**04 50 01.8**	**+0.4**
0.3nm,0.3s,baz=211,slow=14,SNR=25							
SHL	**Shillong**	**17.61**	**354**	*e*P	P	**04 51 20.0**	**-1.5**
JIRN	**Jiri**	**20.95**	**340**	*e*P	P	**04 52 00.0**	**+0.7**
79nm,0.9s							
PKI	**Pulchoki**	**21.14**	**338**	*e*P	P	**04 52 02.4**	**+1.2**
45nm,0.6s,mb4.9							
DMN	**Daman**	**21.29**	**338**	*e*P	P	**04 52 03.7**	**+1.0**
78nm,0.7s,mb5.1							
KKN	**Kakani**	**21.38**	**338**	*e*P	P	**04 52 03.7**	**0.0**
35nm,0.6s,mb4.8							
LSA	**Lhasa**	**21.78**	**353**	*e*P	P	**04 52 08.1**	**+0.5**
LSA				pmax	pmax		
comp=Z,24nm,0.8s,mb4.7							
LSA	**Lhasa**	**21.78**	**353**	*e*P	P	**04 52 08.1**	**+0.5**
comp=Z,24nm,0.8s,mb4.7							
GKN	**Gorkha**	**21.82**	**337**	*e*P	P	**04 52 07.6**	**-0.4**
comp=Z,49nm,0.7s,mb5.1							
KOLN	**Koldanda**	**22.03**	**335**	*e*P	P	**04 52 11.2**	**+1.1**
comp=Z,48nm,0.7s,mb5.0							
ENH	**Enshi**	**26.48**	**31**	*e*P	P	**04 52 53.1**	**+0.2**
comp=Z,13nm,1.2s,mb4.3							
AAK	**Ala-Archa**	**38.58**	**337**	*e*P	P	**04 54 38.4**	**+0.2**
AAK				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.2							
AAK	**Ala-Archa**	**38.58**	**337**	*e*P	P	**04 54 38.4**	**+0.2**
comp=Z,3.9nm,0.8s,mb4.2							
MKAR	**Makanchi Array**	**39.97**	**347**	*i* P	P	**04 54 49.6**	**-0.1**
MKAR				pmax	pmax		
comp=Z,4.0nm,0.7s							
SONM	**Songino Array**	**41.08**	**13**	P	P	**04 54 59.9**	**+1.0**
comp=Z,2.7nm,0.8s,mb3.9,baz=196,slow=6.9,SNR=22							
SONM				PcP	PcP	04 56 58.6	-0.1
comp=Z,1.1nm,0.7s,baz=180,slow=3.7,SNR=3.6							
NWAO	**Narrogin (SRO)**	**46.28**	**153**	P	P	**04 55 41.4**	**+0.3**
NWAO				pmax	pmax		
comp=Z,3.0nm,0.6s							
NWAO	**Narrogin (SRO)**	**46.28**	**153**	P	P	**04 55 41.4**	**+0.3**
comp=Z,3.4nm,0.6s,mb4.5,baz=285,slow=7.1,SNR=5.1							
ZAL	**Zalesovo**	**46.44**	**352**	P	P	**04 55 42.3**	**+0.3**
ZAL				pmax	pmax		
comp=Z,6.0nm,0.7s							
ZAL	**Zalesovo**	**46.44**	**352**	P	P	**04 55 42.3**	**+0.3**
comp=Z,6.0nm,0.7s,mb4.6,baz=294,slow=11,SNR=31							
NVS	**Novosibirsk**	**47.53**	**352**	*e*P	P	**04 55 49.5**	**-1.2**
NVS				pmax	pmax		
comp=N,12nm,0.7s							
NVS				pmax	pmax		
comp=E,8.0nm,0.7s							
NVS				pmax	pmax		
comp=Z,17nm,0.7s,mb5.2							
WRA	**Warramunga Arr**	**48.39**	**126**	P	P	**04 55 57.4**	**-0.4**
WRA				pmax	pmax		
comp=Z,3.0nm,1.1s							
WRA	**Warramunga Arr**	**48.39**	**126**	P	P	**04 55 57.4**	**-0.5**
comp=Z,2.5nm,1.1s,mb4.2,baz=303,slow=8.8,SNR=5.4							
BVAR	**Borovoye Array**	**48.87**	**341**	P	P	**04 56 00.6**	**-0.4**
comp=Z,2.7nm,0.8s,mb4.3,baz=135,slow=8.4,SNR=14							
BVAR				ScP		05 01 21.7	
comp=Z,0.3nm,0.7s,baz=180,slow=2.9,SNR=3.0							
BRVK	**Borovoye**	**48.93**	**341**	*e*P	P	**04 56 00.7**	**-0.8**
BRVK				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.5							
BRVK	**Borovoye**	**48.93**	**341**	*e*P	P	**04 56 00.7**	**-0.8**
comp=Z,5.1nm,1.0s,mb4.5							
CHKZ	**Chkalovo**	**49.35**	**342**	P	P	**04 56 04.7**	**-0.1**
CHKZ	**Chkalovo**	**49.35**	**342**	*e*P	P	**04 56 04.2**	**-0.5**
comp=Z,15nm,0.8s,mb5.1							
ASAR	**Alice Springs**	**50.05**	**130**	P	P	**04 56 10.2**	**-0.4**
comp=Z,0.9nm,0.8s,mb3.8,baz=299,slow=8.9,SNR=5.0							
BOD	**Bodaibo**	**52.07**	**13**	*e*P	P	**04 56 24.5**	**-0.8**
KMBO	**Kilima Mbogo**	**57.35**	**264**	P	P	**04 57 07.7**	**+3.2**
KMBO				pmax	pmax		
comp=Z,5.0nm,0.8s							
KMBO	**Kilima Mbogo**	**57.35**	**264**	P	P	**04 57 07.7**	**+3.3**
comp=Z,4.9nm,0.8s,mb4.6,baz=60,slow=8.7,SNR=12							
KMBO	**Kilima Mbogo**	**57.35**	**264**	P	P	**04 57 07.7**	**+3.3**
BRTR	**Keskin Array B**	**62.30**	**311**	P	P	**04 57 37.3**	**-0.7**
BRTR				pmax	pmax		
comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**62.30**	**311**	P	P	**04 57 37.3**	**-0.7**
comp=Z,0.9nm,0.6s,mb4.1,baz=125,slow=6.4,SNR=5.4							
OBN	**Obninsk**	**65.25**	**328**	*e*P	P	**04 57 54.2**	**-2.9**
OBN				pmax	pmax		
comp=Z,12nm,1.0s,mb4.9							
TIXI	**Tiksi**	**67.15**	**11⇑**	*i*P	P	**04 58 07.3**	**-1.6**
TIXI				pmax	pmax		
comp=Z,11nm,0.8s,mb4.9							
AKASG	**Malin Array Be**	**68.02**	**322**	P	P	**04 58 14.1**	**-0.6**
AKASG				pmax	pmax		
comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**68.02**	**322**	P	P	**04 58 14.1**	**-0.6**
comp=Z,1.8nm,0.7s,mb4.2,baz=89,slow=5.0,SNR=4.9							
IDI	**Anoyia**	**68.44**	**305**	P	P	**04 58 16.6**	**-1.0**
comp=Z,27nm,1.2s,mb5.1,baz=120,slow=8.1,SNR=3.1							
MLR	**Muntele Rosu**	**69.04**	**316**	P	P	**04 58 21.1**	**0.0**
MLR				pmax	pmax		
comp=Z,17nm,1.4s							
MLR	**Muntele Rosu**	**69.04**	**316**	P	P	**04 58 21.1**	**0.0**
comp=Z,17nm,1.4s,mb4.8,baz=127,slow=10,SNR=4.5							
JOF	**Joensuu**	**70.72**	**334**	*e*p	P	**04 58 31.1**	**0.0**
comp=Z,3.6nm,0.6s,mb4.5							
FINES	**FINESS Array B**	**72.58**	**332**	P	P	**04 58 41.7**	**-0.4**
FINES				pmax	pmax		
comp=Z,5.0nm,0.8s							
FINES	**FINESS Array B**	**72.58**	**332**	P	P	**04 58 41.7**	**-0.4**
comp=Z,5.0nm,0.8s,mb4.5,baz=72,slow=6.0,SNR=11							
FINES	**FINESS Array B**	**72.58**	**332**	P	P	**04 58 41.7**	**-0.4**
KAF	**Kangasniemi**	**72.66**	**333**	*e*p	P	**04 58 42.0**	**-0.6**
comp=Z,5.6nm,0.7s,mb4.6							
KAF	**Kangasniemi**	**72.66**	**333**	*e*P	P	**04 58 42.0**	**-0.6**
KAF				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.6							
ARCES	**ARCESS Array B**	**75.14**	**340**	P	P	**04 58 57.1**	**+0.2**
ARCES				pmax	pmax		
comp=Z,5.0nm,1.0s							
ARCES	**ARCESS Array B**	**75.14**	**340**	P	P	**04 58 57.0**	**+0.1**
comp=Z,5.3nm,1.0s,mb4.4,baz=45,slow=5.1,SNR=4.7							
GERES	**GERESS Array B**	**77.69**	**318**	P	P	**04 59 11.6**	**-0.1**
GERES				pmax	pmax		
comp=Z,2.0nm,0.8s							
GERES	**GERESS Array B**	**77.69**	**318**	P	P	**04 59 11.6**	**-0.1**
comp=Z,2.4nm,0.8s,mb4.2,baz=87,slow=5.5,SNR=16							
KHC	**Kasperske Hory**	**77.78**	**318**	*e*P	P	**04 59 13.5**	**+1.3**
HFS	**Hagfors**	**78.33**	**330**	P	P	**04 59 15.2**	**+0.2**
HFS				pmax	pmax		
comp=Z,4.0nm,0.7s							
HFS	**Hagfors**	**78.33**	**330**	P	P	**04 59 15.2**	**+0.2**
comp=Z,3.8nm,0.7s,mb4.5,baz=101,slow=7.6,SNR=16							
NB2	**NORSAR Subarra**	**79.60**	**331**	P	P	**04 59 20.8**	**-1.1**
comp=Z,3.5nm,0.8s,mb4.3,baz=90,slow=5.3							
NB2	**NORSAR Subarra**	**79.60**	**331**	P	P	**04 59 20.8**	**-1.1**
NB2				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4							
NOA	**NORSAR Array B**	**79.60**	**331**	P	P	**04 59 21.3**	**-0.6**
NOA				pmax	pmax		
comp=Z,2.0nm,0.7s							
NOA	**NORSAR Array B**	**79.60**	**331**	P	P	**04 59 21.3**	**-0.6**
comp=Z,1.7nm,0.7s,mb4.1,baz=97,slow=5.1,SNR=7.0							
NOA	**NORSAR Array B**	**79.60**	**331**	P	P	**04 59 21.3**	**-0.6**
DAVOX	**Davos**	**80.26**	**316**	P	P	**04 59 25.6**	**-0.2**
comp=Z,2.1nm,0.6s,mb4.2,baz=150,slow=20							
LPG	**La Plagne**	**82.48**	**315⇑**	*i*P	P	**04 59 38.7**	**+1.3**
comp=Z,26nm,1.2s,mb4.7							
LPG	**La Plagne**	**82.48**	**315⇑**	*i*P	P	**04 59 38.7**	**+1.3**
LPG				pmax	pmax		
comp=Z,13nm,1.2s,mb4.7							
IMA	**Indian Mountai**	**91.56**	**22**	*e*P	P	**05 00 22.7**	**+1.7**
ILAR	**Eielson Array**	**94.68**	**22**	P	P	**05 00 36.7**	**+1.4**
ILAR				pmax	pmax		
comp=Z,1.0nm,1.2s							
ILAR	**Eielson Array**	**94.68**	**22**	P	P	**05 00 36.6**	**+1.4**
comp=Z,1.0nm,1.2s,mb4.1,baz=294,slow=4.0,SNR=4.7							
YKA	**Yellowknife Ar**	**106.35**	**13**	PP	PP	05 05 50.2	-5.0
comp=Z,0.2nm,0.7s,baz=330,slow=7.4,SNR=3.5							
PDAR	**Pinedale Array**	**125.10**	**21**	PKP	PKPdf	05 06 16.0	+1.9
comp=Z,0.4nm,0.7s,baz=45,slow=2.1,SNR=4.0							
TXAR	**Lajitas Array**	**139.17**	**24**	PKP	PKPdf	05 06 45.0	+4.2
comp=Z,0.3nm,0.6s,SNR=3.3							
JCT	**Junction City**	**139.52**	**19**	*e*PKIKP	PKPdf	05 06 43.2	+1.7
PLCA	**Paso Flores**	**144.61**	**200**	PKIKP	PKPdf	05 06 51.9	+1.8
PLCA				pmax	pmax		
comp=Z,3.0nm,0.9s							
PLCA	**Paso Flores**	**144.61**	**200**	PKP	PKPdf	05 06 51.9	+1.8
comp=Z,3.0nm,0.9s,baz=103,slow=3.3,SNR=5.8							

IDC 27 04:48:34.2±1.4, 8.13N×93.60E, mb3.8/7, mb1 3.9/8, mb1mx3.8/20, mbtmp3.8/8, ML3.8/1, Error ellipse: s-maj=45.7km s-min=30.6km az=46.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.51**	**26**	Pn	P	04 51 21.6	-1.3
0.2nm,0.3s,baz=213,slow=15,SNR=2.6							
SONM	**Songino Array**	**41.03**	**13**	P	P	04 56 17.9	-3.0
0.4nm,0.6s,baz=198,slow=9.1,SNR=2.1							
SONM				PcP	PcP	04 58 17.9	-3.6
0.3nm,0.5s,baz=225,slow=2.0,SNR=2.5							
BVAR	**Borovoye Array**	**48.58**	**341**	P	P	04 57 20.1	-1.1
1.0nm,0.9s,baz=150,slow=12,SNR=2.9							
WRA	**Warramunga Arr**	**48.84**	**125**	P	P	04 57 22.2	-1.6
0.5nm,0.7s,baz=302,slow=8.8,SNR=3.4							
BRTR	**Keskin Array B**	**61.86**	**311**	P	P	04 58 54.6	-3.2
0.5nm,0.5s,baz=112,slow=7.7,SNR=2.3							
FINES	**FINESS Array B**	**72.24**	**332**	P	P	05 00 01.5	-1.5
2.9nm,0.8s,baz=108,slow=4.4,SNR=4.4							
GERES	**GERESS Array B**	**77.28**	**318**	P	P	05 00 31.9	-0.3
1.3nm,0.9s,baz=59,slow=5.7,SNR=3.0							
HFS	**Hagfors**	**77.97**	**330**	P	P	05 00 34.2	-1.5
1.4nm,0.7s,baz=104,slow=6.1,SNR=4.1							

*IDC **27** 04:51:14.7±0.8, 7.74N×93.93E, mb4.2/15, mb1 4.3/16, mb1mx4.3/21, mbtmp4.2/16, ML4.2/1, Error ellipse: s-maj=36.3km s-min=17.5km az=48.0*
*NEIC **27** 04:51:19.4±0.4, 7.78N×93.97E, h30km, mb4.6/2, Error ellipse: s-maj=15.8km s-min=10.9km az=57.0*
ISC 27 04:51:18.1±0.7, 7.8N±0.1×94.1E±0.1, h33km, n31, σ0:93/27, mb4.4/23, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.58**	**24**	Pn	P	**04 54 04.0**	**-0.1**
0.4nm,0.3s,baz=212,slow=14,SNR=9.2							
HYB	**Hyderabad**	**17.91**	**304**	*i* P	P	**04 55 30.0**	**+3.6**
JIRN	**Jiri**	**21.11**	**340**	*e*P	P	**04 56 02.4**	**+0.1**
27nm,0.8s,mb4.6							
PKI	**Pulchoki**	**21.31**	**338**	*e*P	P	**04 56 05.9**	**+1.6**
14nm,0.5s,mb4.5							
DMN	**Daman**	**21.45**	**338**	*e*P	P	**04 56 06.9**	**+1.2**
45nm,0.9s,mb4.8							
KKN	**Kakani**	**21.55**	**338**	*e*P	P	**04 56 07.1**	**+0.4**
22nm,0.8s,mb4.7							
GKN	**Gorkha**	**21.99**	**337**	*e*P	P	**04 56 10.2**	**-0.8**
28nm,0.7s,mb4.8							
KOLN	**Koldanda**	**22.20**	**335**	*e*P	P	**04 56 13.1**	**-0.1**
26nm,0.7s,mb4.8							
SONM	**Songino Array**	**41.23**	**13**	P	P	**04

BRTR Keskin Array B 62.44 311 P **P 05 01 38.9 -1.6**
1.0nm,0.5s,mb4.2,baz=110,slow=7.0,SNR=6.6
AKASG Malin Array Be 68.18 322 P **P 05 02 15.8 -1.3**
1.7nm,0.8s,mb4.1,baz=85,slow=5.0,SNR=5.4
MLR Muntele Rosu 69.19 316 P **P 05 02 23.4 -0.1**
2.3nm,0.8s,mb4.2,baz=215,slow=14,SNR=4.0
JOF Joensuu 70.89 334 *ep* **P 05 02 32.7 -0.8**
2.2nm,0.5s,mb4.3
FINES FINESS Array B 72.75 332 P **P 05 02 44.3 -0.3**
3.9nm,0.6s,mb4.5,baz=121,slow=11,SNR=9.6
KAF Kangasniemi 72.83 333 *ep* **P 05 02 44.4 -0.7**
9.1nm,0.9s,mb4.7
ARCES ARCESS Array B 75.31 340 P **P 05 02 59.8 +0.4**
3.6nm,0.9s,mb4.3,baz=90,slow=2.4,SNR=8.0
GERES GERESS Array B 77.85 318 P **P 05 03 14.7 +0.6**
2.2nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=14
KHC Kasperske Hory 77.94 319 *eP* **P 05 03 13.0 -1.5**
HFS Hagfors 78.49 330 P **P 05 03 17.5 +0.1**
4.3nm,0.5s,mb4.6,baz=104,slow=6.1,SNR=20
NB2 NORSAR Subarra 79.77 331 P **P 05 03 23.7 -0.6**
3.4nm,0.8s,mb4.3,baz=92,slow=5.8
NOA NORSAR Array B 79.77 331 P **P 05 03 24.1 -0.2**
1.9nm,0.6s,mb4.2,baz=93,slow=5.6,SNR=11
DAVOX Davos 80.41 316 P **P 05 03 28.9 +0.9**
3.1nm,0.8s,mb4.3,baz=111,slow=11,SNR=4.4
ILAR Eielson Array 94.81 22 P **P 05 04 38.0 +0.6**
6.7nm,1.6s,mb4.8,baz=256,slow=5.2,SNR=4.1
NVAR Mina Array Bea 124.99 31 PKP PKPdf 05 10 19.3 +3.8
0.6nm,0.7s,baz=270,slow=2.7,SNR=4.4
PDAR Pinedale Array 125.24 21 PKP PKPdf 05 10 18.4 +2.6
0.8nm,0.8s,slow=1.5,SNR=6.3
TXAR Lajitas Array 139.30 24 PKP PKPdf 05 10 46.0 +3.3
0.2nm,0.5s,baz=180,slow=1.5,SNR=5.6
PLCA Paso Flores 144.48 200 PKP PKPdf 05 10 52.0 +0.6
1.2nm,0.7s,baz=238,slow=1.8,SNR=3.6

*IDC **27** 04:56:09.3±0.6, 7.87N×94.03E, mb4.5/22, mb1 4.6/23, mb1mx4.5/27, mbtmp4.4/23, ML4.1/1, Error ellipse: s-maj=34.2km s-min=13.4km az=48.0*
*MOS **27** 04:56:12.9±1.3, 7.92N×94.06E, h33km, mb4.8/29, Error ellipse: s-maj=15.3km s-min=7.5km az=114.9*
*NEIC **27** 04:56:13.8±0.4, 7.81N×94.01E, h30km, mb4.7/13, Error ellipse: s-maj=14.0km s-min=9.6km az=53.0*
*BJI **27** 04:56:17.4, 8.31N×93.45E, h30km, mB5.0, mb4.6, Ms4.7, Msz4.2*
ISC 27 04:56:12.7±0.4, 7.99N±0.07×94.21E±0.08, h33km, n107, σ1º00/94, mb4.6/43, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.38**	**23**	Pn	**P**	**04 58 58.1**	**+2.0**
	0.3nm,0.3s,baz=211,slow=14,SNR=21						
VIS	**Vishakhapatnam**	**14.35**	**313**	*eP*	**P**	**04 59 34.7**	**-0.9**
VIS				AMb	AMB	04 59 39.7	
	comp=Z,43nm,0.9s						
VIS				*e*		05 02 00.6	
IMP	**Imphal**	**16.71**	**359**	*eP*	**P**	**05 00 05.3**	**-0.6**
SHL	**Shillong**	**17.62**	**353**	*eP*	**P**	**05 00 16.0**	**-1.4**
HYB	**Hyderabad**	**17.90**	**303**	*eP*	**P**	**05 00 22.0**	**+1.1**
HYB	**Hyderabad**	**17.90**	**303**	*i* P	**P**	**05 00 22.0**	**+1.1**
KMI	**Kunming**	**18.89**	**25**	P	**P**	**05 00 37.6**	**+4.5**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.5s						
KMI	**Kunming**	**18.89**	**25**	P	**P**	**05 00 37.6**	**+4.5**
	comp=Z,10.0nm,1.5s						
JIRN	**Jiri**	**20.99**	**340**	*eP*	**P**	**05 00 55.3**	**-0.4**
	comp=Z,123nm,1.2s						
PKI	**Pulchoki**	**21.18**	**338**	*eP*	**P**	**05 00 57.7**	**0.0**
	comp=Z,81nm,0.8s,mb5.1						
DMN	**Daman**	**21.33**	**337**	*eP*	**P**	**05 00 59.5**	**+0.4**
	comp=Z,82nm,0.7s,mb5.1						
KKN	**Kakani**	**21.43**	**338**	*eP*	**P**	**05 00 59.6**	**-0.5**
	comp=Z,36nm,0.6s,mb4.8						
LSA	**Lhasa**	**21.79**	**353**	P	**P**	**05 01 06.5**	**+2.8**
LSA				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.8						
LSA	**Lhasa**	**21.79**	**353**	*eP*	**P**	**05 01 03.9**	**+0.2**
LSA				pmax	pmax		
	comp=Z,24nm,0.6s,mb4.8						
LSA	**Lhasa**	**21.79**	**353**	*eP*	**P**	**05 01 03.9**	**+0.2**
	comp=Z,24nm,0.6s,mb4.8						
GKN	**Gorkha**	**21.87**	**337**	*eP*	**P**	**05 01 04.5**	**0.0**
	comp=Z,71nm,0.9s,mb5.1						
KOLN	**Koldanda**	**22.09**	**334**	*eP*	**P**	**05 01 07.2**	**+0.5**
	comp=Z,358nm,1.5s,mb5.6						
BHPL	**Bhopal**	**22.12**	**315**	*eP*	**P**	**05 01 08.6**	**+1.5**
BHPL				AMb	AMB	05 01 13.6	
	comp=Z,71nm,1.2s,mb5.0						
POO	**Poona**	**22.39**	**300**	⇓*i*	**P**	**05 01 10.5**	**+0.8**
POO				*eP*		05 01 12.7	
NDI	**New Delhi**	**26.08**	**324**	*eP*	**P**	**05 01 44.0**	**-1.4**
DDI	**Dehra Dun**	**26.88**	**328**	*eP*	**P**	**05 01 51.6**	**-1.1**
WMQ	**Urumqi**	**36.15**	**352**	*eP*	**P**	**05 03 14.5**	**+0.6**
BJI	**Beijing**	**37.48**	**28**	*eP*	pP	05 03 31.3	-3.5
BJI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
BJI	**Beijing**	**37.48**	**28**	*eP*	pP	05 03 31.3	-3.5
	comp=Z,6.0nm,0.9s						
MKAR	**Makanchi Array**	**39.99**	**347**	P	**P**	**05 03 45.8**	**-0.1**
SONM	**Songino Array**	**41.04**	**13**	P	**P**	**05 03 56.2**	**+1.6**
	comp=Z,1.6nm,0.8s,mb3.7,baz=195,slow=6.7,SNR=11						
SONM				PcP	PcP	05 05 55.6	+0.9
	comp=Z,1.1nm,0.8s,baz=210,slow=3.3,SNR=4.1						
KURK	**Kurchatov**	**44.52**	**346**	*i* P	**P**	**05 04 23.2**	**+0.3**
KURK				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.7						
KURK	**Kurchatov**	**44.52**	**346**	*eP*	**P**	**05 04 22.8**	**-0.1**
	comp=Z,15nm,1.1s,mb4.7						
NWAO	**Narrogin (SRO)**	**46.22**	**153**	P	**P**	**05 04 37.2**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,13nm,1.1s						
NWAO	**Narrogin (SRO)**	**46.22**	**153**	P	**P**	**05 04 37.2**	**+0.5**
	comp=Z,13nm,1.1s,mb4.8,baz=305,slow=15,SNR=3.8						
NWAO	**Narrogin (SRO)**	**46.22**	**153**	P	**P**	**05 04 37.2**	**+0.5**
NVS	**Novosibirsk**	**47.54**	**351**	*eP*	**P**	**05 04 45.8**	**-1.0**
NVS				pmax	pmax		
	comp=N,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
WRA	**Warramunga Arr**	**48.27**	**126**	P	**P**	**05 04 52.1**	**-0.9**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**48.27**	**126**	P	**P**	**05 04 52.1**	**-0.9**
	comp=Z,3.1nm,0.8s,mb4.4,baz=303,slow=9.2,SNR=18						
BVAR	**Borovoye Array**	**48.90**	**341**	P	**P**	**05 04 56.6**	**-0.8**
	comp=Z,2.8nm,0.9s,mb4.3,baz=143,slow=7.4,SNR=11						
BVAR				PcP	PcP	05 06 21.6	-0.2
	comp=Z,0.8nm,0.7s,baz=135,slow=2.0,SNR=2.6						
RAYN	**Ar Rayn**	**49.10**	**294**	P	**P**	**05 05 00.4**	**+1.1**
	comp=Z,114nm,0.6s,SNR=14						
CHKZ	**Chkalovo**	**49.39**	**342**	*eP*	**P**	**05 05 00.6**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
CHKZ	**Chkalovo**	**49.39**	**342**	*eP*	**P**	**05 05 00.6**	**-0.6**
	comp=Z,13nm,0.9s,mb5.0						
ASAR	**Alice Springs**	**49.94**	**130**	P	**P**	**05 05 04.8**	**-1.0**
	comp=Z,2.6nm,0.8s,mb4.3,baz=307,slow=7.3,SNR=16						
KIV	**Kislovodsk**	**57.28**	**318**	*eP*	**P**	**05 05 58.4**	**-1.2**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
KIV				pmax	pmax		
	comp=E,5.0nm,0.8s						
KMBO	**Kilima Mbogo**	**57.50**	**264**	P	**P**	**05 06 03.5**	**+1.9**
KMBO				pmax	pmax		
	comp=Z,14nm,1.1s						
KMBO	**Kilima Mbogo**	**57.50**	**264**	P	**P**	**05 06 03.5**	**+1.9**
	comp=Z,14nm,1.1s,mb4.9,baz=54,slow=11,SNR=25						
EIL	**Elat**	**59.43**	**300**	P	**P**	**05 06 14.8**	**0.0**
	comp=Z,3.1nm,0.4s,mb4.7,baz=111,slow=5.0,SNR=4.3						
STKA	**Stephens Creek**	**60.14**	**134**	P	**P**	**05 06 18.6**	**-1.0**
	comp=Z,5.6nm,1.1s,mb4.5,baz=329,slow=11,SNR=2.9						
BRTR	**Keskin Array B**	**62.40**	**311**	P	**P**	**05 06 32.9**	**-1.9**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRTR	**Keskin Array B**	**62.40**	**311**	P	**P**	**05 06 32.9**	**-2.0**
	comp=Z,3.1nm,0.7s,mb4.5,baz=122,slow=7.3,SNR=14						
OBN	**Obninsk**	**65.32**	**328**	*eP*	**P**	**05 06 50.1**	**-3.5**
OBN				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.2						
TIXI	**Tiksi**	**67.11**	**11**	*eP*	**P**	**05 07 04.8**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
AKASG	**Malin Array Be**	**68.11**	**322**	P	**P**	**05 07 09.4**	**-1.9**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**68.11**	**322**	P	**P**	**05 07 09.3**	**-2.0**
	comp=Z,2.3nm,0.6s,mb4.4,baz=91,slow=4.8,SNR=10.0						
IDI	**Anoyia**	**68.56**	**305**	P	**P**	**05 07 14.2**	**-0.2**
	comp=Z,9.3nm,0.8s,mb4.8,baz=180,slow=3.4,SNR=5.3						
MLR	**Muntele Rosu**	**69.14**	**316**	P	**P**	**05 07 18.0**	**+0.2**
MLR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MLR	**Muntele Rosu**	**69.14**	**316**	P	**P**	**05 07 18.0**	**+0.2**
	comp=Z,4.2nm,0.7s,mb4.5,baz=236,slow=5.4,SNR=7.2						
JOF	**Joensuu**	**70.78**	**334**	*ep*	**P**	**05 07 26.6**	**-0.9**
	comp=Z,4.5nm,0.8s,mb4.5						
FINES	**FINESS Array B**	**72.64**	**332**	P	**P**	**05 07 38.7**	**+0.1**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FINES	**FINESS Array B**	**72.64**	**332**	P	**P**	**05 07 38.6**	**0.0**
	comp=Z,6.3nm,0.8s,mb4.6,baz=104,slow=7.9,SNR=14						
KAF	**Kangasniemi**	**72.72**	**333**	*ep*	**P**	**05 07 37.4**	**-1.7**
	comp=Z,11nm,1.0s,mb4.7						
KAF	**Kangasniemi**	**72.72**	**333**	*eP*	**P**	**05 07 37.4**	**-1.7**
KAF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
OJC	**Ojcow**	**73.93**	**320**	*eP*	**P**	**05 07 46.2**	**-0.2**
KEV	**Kevo**	**74.75**	**341**	*ep*	**P**	**05 07 50.0**	**-0.8**
OKC	**Ostrava-Krasne**	**74.95**	**319**	*eP*	**P**	**05 07 52.7**	**+0.4**
ARCES	**ARCESS Array B**	**75.18**	**340**	P	**P**	**05 07 53.9**	**+0.6**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**75.18**	**340**	P	**P**	**05 07 53.9**	**+0.6**
	comp=Z,1.4nm,0.6s,mb4.1,baz=117,slow=5.4,SNR=8.3						
MORC	**Moravsky Berou**	**75.33**	**319**	*eP*	**P**	**05 07 53.8**	**-0.7**
MORC				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
MORC	**Moravsky Berou**	**75.33**	**319**	*eP*	**P**	**05 07 53.8**	**-0.7**
	comp=Z,11nm,1.2s,mb4.7						
VRAC	**Vranov**	**75.91**	**319**	P	**P**	**05 07 58.2**	**+0.4**
VRAC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
VRAC	**Vranov**	**75.91**	**319**	P	**P**	**05 07 58.2**	**+0.4**
	comp=Z,2.3nm,0.7s,mb4.2,baz=64,slow=11,SNR=3.2						
DPC	**Dobruska-Polom**	**76.16**	**320**	*eP*	**P**	**05 07 59.3**	**+0.1**
UPC	**Upice**	**76.37**	**320**	*eP*	**P**	**05 08 00.9**	**+0.5**
PRU	**Pruhonice**	**77.28**	**319**	*eP*	**P**	**05 08 05.9**	**+0.3**
BRG	**Berggiesshubel**	**77.71**	**320**	*eP*	**P**	**05 08 08.0**	**+0.1**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BRG	**Berggiesshubel**	**77.71**	**320**	*eP*	**P**	**05 08 08.0**	**+0.1**
	comp=Z,3.3nm,0.9s,mb4.3						
GERES	**GERESS Array B**	**77.79**	**318**	P	**P**	**05 08 08.7**	**+0.3**
GERES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GERES	**GERESS Array B**	**77.79**	**318**	P	**P**	**05 08 08.7**	**+0.3**
	comp=Z,4.0nm,0.7s,mb4.5,baz=90,slow=5.3,SNR=31						
KHC	**Kasperske Hory**	**77.88**	**318**	*eP*	**P**	**05 08 08.8**	**0.0**
HFS	**Hagfors**	**78.39**	**330**	P	**P**	**05 08 11.3**	**-0.1**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HFS	**Hagfors**	**78.39**	**330**	P	**P**	**05 08 11.3**	**-0.2**
	comp=Z,4.3nm,0.6s,mb4.6,baz=101,slow=7.6,SNR=18						
MOX	**Moxa**	**79.18**	**320**	*eP*	**P**	**05 08 14.0**	**-2.0**
GRA1	**Grafenberg Arr**	**79.42**	**319**	*eP*	**P**	**05 08 18.3**	**+1.0**
	comp=Z,9.0nm,1.2s,mb4.6						
GRF	**Grafenberg Arr**	**79.42**	**319**	*eP*	**P**	**05 08 18.3**	**+1.0**
GRF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
GRF	**Grafenberg Arr**	**79.42**	**319**	*eP*	**P**	**05 08 18.3**	**+1.0**
GRF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
GRF	**Grafenberg Arr**	**79.42**	**319**	*eP*	**P**	**05 08 18.3**	**+1.0**
	comp=Z,9.0nm,1.2s,mb4.6						
NB2	**NORSAR Subarra**	**79.67**	**331**	P	**P**	**05 08 18.1**	**-0.3**
	comp=Z,2.4nm,0.7s,mb4.2,baz=96,slow=5.0						
NB2	**NORSAR Subarra**	**79.67**	**331**	P	**P**	**05 08 18.1**	**-0.3**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
NOA	**NORSAR Array B**	**79.67**	**331**	P	**P**	**05 08 18.1**	**-0.3**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NOA	**NORSAR Array B**	**79.67**	**331**	P	**P**	**05 08 18.1**	**-0.3**
	comp=Z,5.1nm,0.8s,mb4.5,baz=93,slow=5.5,SNR=11						
DAVOX	**Davos**	**80.35**	**316**	P	**P**	**05 08 22.5**	**+0.1**
	comp=Z,5.4nm,0.6s,mb4.6,baz=104,slow=3.6,SNR=7.2						
LPG	**La Plagne**	**82.58**	**315**	*eP*	**P**	**05 08 34.6**	**+0.6**
	comp=Z,18nm,0.9s,mb4.8						
LPG	**La Plagne**	**82.58**	**315**	*eP*	**P**	**05 08 34.6**	**+0.6**
LPG				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
EKA	**Eskdalemuir Ar**	**87.67**	**325**	P	**P**	**05 09 00.1**	**+1.1**
EKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
EKA	**Eskdalemuir Ar**	**87.67**	**325**	P	**P**	**05 09 00.1**	**+1.1**
	comp=Z,4.1nm,0.9s,mb4.7,baz=90,slow=5.8,SNR=4.4						
ESDC	**Sonseca Array**	**91.19**	**310**	P	**P**	**05 09 17.2**	**+1.1**
	comp=Z,1.6nm,0.8s,mb4.4,baz=60,slow=4.6,SNR=4.1						
IMA	**Indian Mountai**	**91.50**	**22**	*eP*	**P**	**05 09 19.6**	**+2.8**
ILAR	**Eielson Array**	**94.62**	**22**	P	**P**	**05 09 34.0**	**+2.9**
	comp=Z,0.3nm,0.9s,mb3.7,baz=315,slow=5.1,SNR=5.1						
RES	**Resolute Bay**	**97.29**	**2**	*eP*	**P**	**05 09 44.2**	**+1.1**
RES				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.9						
RES	**Resolute Bay**	**97.29**	**2**	*eP*	**P**	**05 09 44.2**	**+1.1**
	comp=Z,4.5nm,1.1s,mb4.8						
YKA	**Yellowknife Ar**	**106.30**	**13**	PKKPbc		05 25 57.1	
	comp=Z,0.3nm,0.9s,baz=148,slow=2.8,SNR=4.2						
NVAR	**Mina Array Bea**	**124.79**	**31**	PKP	PKPdf	05 15 13.1	+3.3
	comp=Z,0.8nm,0.8s,baz=339,slow=0.9,SNR=5.3						
PDAR	**Pinedale Array**	**125.04**	**21**	PKP	PKPdf	05 15 11.5	+1.4
	comp=Z,0.7nm,0.7s,baz=63,slow=3.3,SNR=7.0						
ANMO	**Albuquerque**	**133.04**	**23**	PKIKP	PKPdf	05 15 29.5	+3.8
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ANMO	**Albuquerque**	**133.04**	**23**	PKP	PKPdf	05 15 29.5	+3.9
	comp=Z,0.8nm,0.8s,baz=342,slow=3.2,SNR=4.1						
ANMO	**Albuquerque**	**133.04**	**23**	PKP	PKPdf	05 15 29.5	+3.9
TXAR	**Lajitas Array**	**139.10**	**24**	PKP	PKPdf	05 15 37.0	+0.1
	comp=Z,0.2nm,0.6s,baz=281,slow=4.6,SNR=3.1						
TXAR	**Lajitas Array**	**139.10**	**24**	PKP	PKPdf	05 15 37.0	+0.1
PLCA	**Paso Flores**	**144.68**	**200**	PKIKP	PKPdf	05 15 48.0	+1.6
PLCA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PLCA	**Paso Flores**	**144.68**	**200**	PKP	PKPdf	05 15 48.0	+1.6
	comp=Z,4.2nm,0.8s,baz=141,slow=3.6,SNR=10						
ARE	**Arequipa**	**163.69**	**238**	*e*PKIKP	PKPdf	05 16 11.0	-1.9

*IDC **27** 05:00:16.4±0.7, 7.73N×93.85E, mb4.0/12, mb1 4.1/13, mb1mx4.1/21, mbtmp4.0/13, ML4.1/1, Error ellipse: s-maj=38.5km s-min=15.9km az=55.0*
ISC 27 05:00:19.9±0.6, 7.9N±0.1×94.1E±0.1, h33km, n17, σ1º08/13, mb4.0/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.50**	**24**	Pn	**P**	**05 03 05.1**	**+0.2**
	0.4nm,0.3s,baz=212,slow=15,SNR=8.1						
SONM	**Songino Array**	**41.15**	**13**	P	**P**	**05 08 05.3**	**+2.6**
	1.2nm,0.8s,mb3.6,baz=197,slow=7.9,SNR=6.5						
NWAO	**Narrogin (SRO)**	**46.16**	**153**	P	**P**	**05 08 44.1**	**+0.8**
	9.9nm,1.1s,mb4.7,baz=294,slow=13,SNR=6.1						
WRA	**Warramunga Arr**	**48.27**	**126**	P	**P**	**05 08 59.5**	**-0.6**
	1.4nm,0.5s,mb4.3,baz=305,slow=8.4,SNR=20						
BVAR	**Borovoye Array**	**48.98**	**341**	P	**P**	**05 09 04.7**	**-0.4**
	1.1nm,0.9s,mb3.9,baz=135,slow=8.2,SNR=3.6						
ASAR	**Alice Springs**	**49.92**	**130**	P	**P**	**05 09 12.1**	**-0.7**
	0.8nm,0.8s,mb3.8,baz=304,slow=7.9,SNR=4.7						
ASAR				PcP	PcP	05 10 33.4	+0.4
	0.8nm,0.9s,baz=326,slow=3.4,SNR=3.9						
KMBO	**Kilima Mbogo**	**57.42**	**264**	P	**P**	**05 10 10.1**	**+1.9**
	1.7nm,0.6s,mb4.2,baz=51,slow=15,SNR=5.6						
BRTR	**Keskin Array B**	**62.42**	**311**	P	**P**	**05 10 40.2**	**-1.8**
	0.9nm,0.6s,mb4.1,baz=118,slow=7.8,SNR=5.1						
AKASG	**Malin Array Be**	**68.14**	**322**	P	**P**	**05 11 17.4**	**-1.3**
	0.4nm,0.4s,mb3.8,baz=91,slow=4.2,SNR=4.3						
FINES	**FINESS Array B**	**72.70**	**332**	P	**P**	**05 11 45.5**	**-0.5**
	1.9nm,0.7s,mb4.2,baz=185,slow=34,SNR=5.1						
GERES	**GERESS Array B**	**77.82**	**318**	P	**P**	**05 12 16.3**	**+0.6**
	0.9nm,0.5s,mb3.9,baz=90,slow=5.3,SNR=8.3						
HFS	**Hagfors**	**78.45**	**330**	P	**P**	**05 12 18.8**	**0.0**
	2.0nm,0.5s,mb4.3,baz=117,slow=3.3,SNR=9.0						
NOA	**NORSAR Array B**	**79.72**	**331**	P	**P**	**05 12 26.1**	**+0.3**
	0.9nm,0.7s,mb3.8,baz=97,slow=5.0,SNR=3.2						
NVAR	**Mina Array Bea**	**124.91**	**31**	PKP	PKPdf	05 19 21.5	+4.4
	0.6nm,0.9s,slow=1.8,SNR=4.1						
PDAR	**Pinedale Array**	**125.16**	**21**	PKP	PKPdf	05 19 19.6	+2.1
	0.4nm,0.5s,baz=45,slow=2.1,SNR=4.6						
TXAR	**Lajitas Array**	**139.22**	**24**	PKP	PKPdf	05 19 47.1	+2.9
	0.3nm,0.5s,baz=40,slow=0.4,SNR=6.7						
PLCA	**Paso Flores**	**144.56**	**200**	PKP	PKPdf	05 19 55.1	+1.8
	2.5nm,0.8s,baz=140,slow=1.6,SNR=6.5						

IDC 27 05:02:08.4±6.0, 8.12N×94.24E, h64km±53km, mb3.4/5, mb1 3.7/6, mb1mx3.5/18, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=39.1km s-min=25.0km az=39.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.25**	**24**	P	P	05 04 47.1	-1.5
	0.1nm,0.3s,baz=207,slow=16,SNR=4.3						
SONM	**Songino Array**	**40.91**	**13**	P	P	05 09 44.5	-1.4
	0.9nm,1.0s,baz=216,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**48.33**	**126**	P	P	05 10 43.2	-2.5
	0.6nm,0.7s,baz=303,slow=9.0,SNR=5.1						
KMBO	**Kilima Mbogo**	**57.54**	**263**	P	P	05 11 53.0	-1.1
	2.0nm,0.8s,baz=45,slow=15,SNR=4.2						
BRTR	**Keskin Array B**	**62.34**	**311**	P	P	05 12 23.4	-3.3
	0.5nm,0.7s,baz=130,slow=5.6,SNR=3.0						
GERES	**GERESS Array B**	**77.71**	**318**	P	P	05 13 58.7	-1.3
	0.6nm,0.7s,baz=105,slow=11,SNR=2.6						
PDAR	**Pinedale Array**	**124.91**	**21**	PKP	PKPdf	05 21 02.9	+1.3
	0.4nm,0.7s,SNR=4.0						
PLCA	**Paso Flores**	**144.81**	**200**	PKP	PKPdf	05 21 38.0	-0.4
	1.7nm,0.9s,baz=132,slow=4.9,SNR=3.4						

*IDC **27** 05:03:10.9±0.5, 7.83N×94.03E, mb4.7/23, mb1 4.8/24, mb1mx4.7/28, mbtmp4.7/24, ML4.8/1, Error ellipse: s-maj=26.7km s-min=12.1km az=44.0*
*BJI **27** 05:03:13.3, 7.49N×93.87E, h50km, mB5.0, mb4.8, Ms4.8, Msz4.4*
*MOS **27** 05:03:14.3±1.0, 7.93N×94.17E, h33km, mb5.0/41, Error ellipse: s-maj=12.9km s-min=6.5km az=114.4*
*NEIC **27** 05:03:15.5±0.3, 7.79N×94.01E, h30km, mb4.8/27, MS4.1/1, Error ellipse: s-maj=8.2km s-min=7.0km az=52.0*
ISC 27 05:03:14.2±0.3, 7.88N±0.05×94.18E±0.06, h33km, (h11km±3.9km: pP-P), n165, σ0º93/150, mb4.8/62, MS4.0/1, 3C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.49**	**23**	*eP*	**P**	**05 06 00.2**	**+1.1**
	7.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**11.49**	**23**	P	**P**	**05 05 59.7**	**+0.6**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.49**	**23**	Pn	**P**	**05 05 59.7**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=210,slow=14,SNR=24						
HYB	**Hyderabad**	**17.94**	**303**	*i* P	**P**	**05 07 25.0**	**+2.1**
	comp=Z,50nm,1.0s						
KMI	**Kunming**	**19.00**	**24**	⇑P	**P**	**05 07 39.3**	**+3.4**
KMI				pmax	pmax		
	comp=Z,41nm,0.9s						
KMI	**Kunming**	**19.00**	**24**	⇑P	**P**	**05 07 39.3**	**+3.4**
	comp=Z,41nm,0.9s						
KMI				pP		05 07 43.2	
KMI				sP		05 07 46.1	
KMI				PP	PP	05 07 51.2	-1.2
KMI				S	rx	05 10 19.6	
JIRN	**Jiri**	**21.08**	**340**	*eP*	**P**	**05 07 57.2**	**-0.9**
	comp=Z,161nm,0.8s,mb5.4						
PKI	**Pulchoki**	**21.27**	**338**	*eP*	**P**	**05 07 59.3**	**-0.7**
	comp=Z,109nm,0.5s,mb5.4						
GUN	**Gumba**	**21.41**	**340**	*eP*	**P**	**05 08 00.8**	**-0.6**
	comp=Z,141nm,0.6s,mb5.4						
DMN	**Daman**	**21.42**	**337**	*eP*	**P**	**05 08 00.3**	**-1.2**
	comp=Z,118nm,0.6s,mb5.4						
KKN	**Kakani**	**21.52**	**338**	*eP*	**P**	**05 08 01.7**	**-0.8**
	comp=Z,76nm,0.6s,mb5.3						
LSA	**Lhasa**	**21.89**	**353**	P	**P**	**05 08 06.0**	**-0.2**
LSA	

WRA Warramunga Arr 48.23 126 P **P** 05 11 53.6 -0.6
comp=Z,3.2nm,0.6s,mb4.6,baz=304,slow=8.6,SNR=15
WRAB Tennant Creek 48.24 126 *e*P **P** 05 11 53.4 -0.8
WRAB pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
WRAB Tennant Creek 48.24 126 *e*P **P** 05 11 53.4 -0.8
comp=Z,8.4nm,0.8s,mb4.8
BVA0 Borovoye Array 48.99 341 *i*P **P** 05 11 59.0 -0.6
BVA0 pmax pmax
comp=Z,1.0nm,1.1s,mb3.8
BVAR Borovoye Array 48.99 341 P **P** 05 11 58.5 -1.1
comp=Z,1.6nm,0.4s,mb4.4,baz=143,slow=9.4,SNR=15
BVAR PcP PcP 05 13 24.1 +0.5
comp=Z,1.7nm,0.6s,baz=150,slow=3.7,SNR=6.0
BRVK Borovoye 49.06 341 *e*P **P** 05 11 55.7 -4.4
BRVK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BRVK Borovoye 49.06 341 *e*P **P** 05 11 55.7 -4.3
comp=Z,6.2nm,0.9s,mb4.6
RAYN Ar Rayn 49.12 294 P **P** 05 12 02.4 +1.5
comp=Z,283nm,0.6s,SNR=31
CHKZ Chkalovo 49.48 342 P **P** 05 12 02.8 -0.5
CHKZ Chkalovo 49.48 342 *e*P **P** 05 12 02.5 -0.8
comp=Z,9.5nm,0.6s,mb5.0
ASAR Alice Springs 49.89 130 P **P** 05 12 06.1 -0.8
comp=Z,4.0nm,1.0s,mb4.4,baz=305,slow=7.6,SNR=10
ASAR PcP PcP 05 13 27.6 +0.4
comp=Z,2.7nm,0.9s,baz=317,slow=4.2,SNR=4.6
BOD Bodaibo 52.14 13 *e*P **P** 05 12 20.9 -2.5
GNI Garni 54.46 314 P **P** 05 12 41.2 +0.3
GNI pmax pmax
comp=Z,4.0nm,0.6s
GNI Garni 54.46 314 P **P** 05 12 41.2 +0.3
comp=Z,4.4nm,0.6s,mb4.6,baz=187,slow=19,SNR=3.8
PMG Port Moresby 55.50 107 P **P** 05 12 49.1 +0.3
PMG pmax pmax
comp=Z,12nm,0.7s
PMG Port Moresby 55.50 107 P **P** 05 12 49.1 +0.4
comp=Z,12nm,0.7s,mb5.1,baz=278,slow=7.1,SNR=3.1
PMG Port Moresby 55.50 107 P **P** 05 12 49.1 +0.4
ARU Arti 55.90 337 *e*P **P** 05 12 44.5 -6.5
KIV Kislovodsk 57.34 318 *i*P **P** 05 13 00.3 -1.2
KIV Kislovodsk 57.34 318 *e*P **P** 05 12 59.8 -1.8
comp=Z,11nm,0.8s,mb5.0
KMBO Kilima Mbogo 57.46 264 P **P** 05 13 04.8 +2.0
KMBO pmax pmax
comp=Z,18nm,0.8s
KMBO Kilima Mbogo 57.46 264 P **P** 05 13 04.8 +1.9
comp=Z,18nm,0.8s,mb5.1,baz=59,slow=9.8,SNR=38
ASF Jabal al Asfar 58.24 303 P **P** 05 13 07.3 -0.7
comp=Z,5.4nm,0.8s,mb4.7,baz=323,slow=4.1,SNR=9.4
MALT Malatya 58.49 310 *e*P **P** 05 13 06.6 -3.0
MALT pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MALT Malatya 58.49 310 *e*P **P** 05 13 06.5 -3.1
comp=Z,4.0nm,0.9s,mb4.5
EIL Elat 59.45 300 P **P** 05 13 16.1 -0.4
comp=Z,7.2nm,0.7s,mb4.8,baz=82,slow=3.7,SNR=8.2
YAK Yakutsk 59.98 18 *e*P **P** 05 13 17.9 -1.8
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=Z,13nm,0.9s,mb5.0
YAK pmax pmax
comp=E,3.0nm,1.0s
STKA Stephens Creek 60.08 134 P **P** 05 13 20.1 -0.7
comp=E,2.9nm,0.8s,mb4.3,baz=300,slow=13,SNR=4.1
BRTR Keskin Array B 62.45 311 P **P** 05 13 34.5 -2.1
BRTR pmax pmax
comp=Z,5.0nm,0.6s
BRTR Keskin Array B 62.45 311 P **P** 05 13 34.5 -2.1
comp=Z,4.9nm,0.6s,mb4.8,baz=125,slow=7.0,SNR=27
MBAR Mbarara 63.80 265 *e*P **P** 05 13 43.7 -2.3
MBAR pmax pmax
comp=Z,12nm,1.1s,mb4.8
MBAR Mbarara 63.80 265 *e*P **P** 05 13 43.7 -2.3
comp=Z,12nm,1.1s,mb4.8
MOS Moscow 65.09 329 *e*P **P** 05 13 50.2 -3.5
MOS *e* 05 14 04.6
OBN Obninsk 65.39 328 *e*P **P** 05 13 51.9 -3.7
OBN pmax pmax
comp=Z,17nm,0.7s,mb5.2
TIXI Tiksi 67.22 11⇓ *i*P **P** 05 14 05.9 -1.0
TIXI pmax pmax
comp=Z,17nm,0.7s,mb5.2
AKASG Malin Array Be 68.17 322 P **P** 05 14 11.4 -1.8
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 68.17 322 P **P** 05 14 11.4 -1.8
comp=Z,5.4nm,0.7s,mb4.7,baz=88,slow=4.8,SNR=12
IDI Anoyia 68.59 305 P **P** 05 14 15.3 -0.8
comp=Z,18nm,0.6s,mb5.2,baz=107,slow=5.0,SNR=8.8
JOF Joensuu 70.86 334 *e*p **P** 05 14 29.3 -0.2
comp=Z,8.1nm,0.7s,mb4.8
APA Apatity 71.86 339⇑ *i*P **P** 05 14 34.7 -0.7
APA pmax pmax
comp=Z,13nm,0.6s,mb5.0
KOLS Kolonicke sedl 72.22 319 *e*P **P** 05 14 37.9 +0.1
FINES FINESS Array B 72.72 332 P **P** 05 14 40.2 -0.4
FINES pmax pmax
comp=Z,16nm,0.9s
FINES FINESS Array B 72.72 332 P **P** 05 14 40.2 -0.4
comp=Z,16nm,0.9s,mb5.0,baz=101,slow=6.0,SNR=34
FINES FINESS Array B 72.72 332 P **P** 05 14 40.2 -0.4
CRVS Cervenica-Dubn 72.75 319 *i*P **P** 05 14 42.1 +1.1
KAF Kangasniemi 72.80 333 *e*p **P** 05 14 40.2 -0.9
comp=Z,6.8nm,0.6s,mb4.8
KAF Kangasniemi 72.80 333 *e*P **P** 05 14 40.2 -0.9
KAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
OJC Ojcow 73.99 320 *e*P **P** 05 14 48.0 -0.3
VYHS Vyhne 74.43 318 *i*P **P** 05 14 50.9 +0.1
KEV Kevo 74.84 341 *e*p **P** 05 14 53.0 +0.2
OKC Ostrava-Krasne 75.01 319 *e*P **P** 05 14 53.7 -0.5
OKC *e*pP pP 05 14 58.2 -6.3
ARCES ARCESS Array B 75.27 340 P **P** 05 14 55.8 +0.5
ARCES pmax pmax
comp=Z,3.0nm,0.5s
ARCES ARCESS Array B 75.27 340 P **P** 05 14 55.8 +0.5
comp=Z,2.7nm,0.5s,mb4.5,baz=98,slow=5.5,SNR=40
ZST Bratislava 75.55 318 *i*P **P** 05 14 57.4 +0.1
BOSA Boshof 75.62 238 *e*P **P** 05 14 58.9 +0.8
BOSA pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
BOSA Boshof 75.62 238 *e*P **P** 05 14 58.9 +0.8
comp=Z,7.1nm,0.7s,mb4.7
BILL Bilibino 76.07 22 *e*P **P** 05 15 00.1 +0.3
BILL pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BILL Bilibino 76.07 22 *e*P **P** 05 15 00.1 +0.3
comp=Z,4.4nm,0.6s,mb4.6
DPC Dobruska-Polom 76.22 320 *e*P **P** 05 15 01.3 +0.2
DPC *e*pP pP 05 15 05.9 -5.5
KSP Ksiaz 76.28 320 *e*P **P** 05 15 01.2 -0.2
KSP *e* 05 15 05.1
UPC Upice 76.43 320 *e*P **P** 05 15 02.5 +0.2
PRU Pruhonice 77.34 319 *e*P **P** 05 15 07.3 -0.1
PRU *e*pP pP 05 15 11.8 -6.0
PVCC Panska Ves 77.36 320 *e*P **P** 05 15 07.8 +0.3
BRG Berggiesshubel 77.77 320 *e*P **P** 05 15 10.4 +0.7
BRG *e* 05 15 15.1
BRG pmax pmax
comp=Z,12nm,1.3s,mb4.7
BRG Berggiesshubel 77.77 320 *e*P **P** 05 15 10.4 +0.7
comp=Z,12nm,1.3s,mb4.7
BRG *e* 05 15 15.1
GEC2 GERESS Array S 77.85 318 *e*P **P** 05 15 10.2 0.0
GEC2 pmax pmax
comp=Z,14nm,1.1s,mb4.8
GEC2 GERESS Array S 77.85 318 *e*P **P** 05 15 10.2 0.0
comp=Z,14nm,1.1s,mb4.8
GERES GERESS Array B 77.85 318 P **P** 05 15 10.2 0.0
GERES pmax pmax
comp=Z,6.0nm,0.6s
GERES GERESS Array B 77.85 318 P **P** 05 15 10.2 0.0
comp=Z,6.2nm,0.6s,mb4.7,baz=85,slow=5.2,SNR=35
KHC Kasperske Hory 77.94 318 *e*P **P** 05 15 10.6 -0.1
CLL Collm 78.38 321 *e*P **P** 05 15 13.0 -0.1
CLL *i* 05 15 19.5
CLL Collm 78.38 321 P **P** 05 15 13.0 -0.1
CLL *i*PP pP 05 15 19.5 -3.9
WET Wettzell 78.40 318 *e*P **P** 05 15 12.9 -0.3
WET pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
WET Wettzell 78.40 318 *e*P **P** 05 15 12.9 -0.3
comp=Z,7.0nm,1.1s,mb4.5
NKC Novy Kostel 78.70 320 *e*P **P** 05 15 18.0 +3.2
MOX Moxa 79.24 320 *e*P **P** 05 15 18.3 +0.5
MOX Moxa 79.24 320 *i*P **P** 05 15 18.3 +0.5
GRA1 Grafenberg Arr 79.49 319 *e*P **P** 05 15 19.9 +0.8
comp=Z,29nm,1.3s,mb5.0
GRF Grafenberg Arr 79.49 319 *e*P **P** 05 15 19.9 +0.8
GRF pmax pmax
comp=Z,29nm,1.3s,mb5.0
GRF Grafenberg Arr 79.49 319 *e*P **P** 05 15 19.9 +0.8
GRF pmax pmax
comp=Z,29nm,1.3s,mb5.0
GRF Grafenberg Arr 79.49 319 *e*P **P** 05 15 19.9 +0.8
comp=Z,29nm,1.3s,mb5.0
NB2 NORSAR Subarra 79.74 331 P **P** 05 15 19.9 -0.4
comp=Z,8.5nm,0.6s,mb4.8,baz=97,slow=5.0
NB2 NORSAR Subarra 79.74 331 P **P** 05 15 19.9 -0.4
baz=96,slow=5.1
NOA NORSAR Array B 79.74 331 P **P** 05 15 19.9 -0.4
NOA pmax pmax
comp=Z,7.0nm,0.6s
NOA NORSAR Array B 79.74 331 P **P** 05 15 19.9 -0.4
comp=Z,6.6nm,0.6s,mb4.8,baz=95,slow=5.1,SNR=24
NAO01 NORSAR Array S 79.90 330 *e*P **P** 05 15 21.4 +0.2
comp=Z,12nm,0.8s,mb4.9
CLZ Clausthal 80.03 321 *e*P **P** 05 15 22.5 +0.5
comp=Z,14nm,1.0s,mb4.8
BSEG Bad Segeberg 80.07 323 *e*P **P** 05 15 22.8 +0.6
DAVOX Davos 80.41 316 P **P** 05 15 24.6 +0.4
comp=Z,8.2nm,0.7s,mb4.8,baz=107,slow=10,SNR=8.9
MUD Monsted U'grnd 80.72 326 *i*P **P** 05 15 26.6 +1.0
MUD pmax pmax
comp=Z,13nm,0.9s,mb4.9
MUD Monsted U'grnd 80.72 326 *i*P **P** 05 15 26.6 +1.0
comp=Z,13nm,0.9s,mb4.9
TNS Taunus Mts 81.27 320 *e*P **P** 05 15 29.2 +0.6
BFO Black Forest 81.41 318 *e*P **P** 05 15 29.6 +0.2
BFO pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BFO Black Forest 81.41 318 *e*P **P** 05 15 29.6 +0.2
comp=Z,6.0nm,1.0s,mb4.5
LPG La Plagne 82.64 315 *e*P **P** 05 15 35.3 -0.5
comp=Z,16nm,0.7s,mb4.8
LPG La Plagne 82.64 315 *e*P **P** 05 15 35.3 -0.5
LPG pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
TNA Tin City 86.15 24 *e*P **P** 05 15 53.2 +0.4
EKA Eskdalemuir Ar 87.74 325 P **P** 05 16 01.8 +1.0
EKA pmax pmax
comp=Z,4.0nm,0.8s
EKA Eskdalemuir Ar 87.74 325 P **P** 05 16 01.8 +0.9
comp=Z,3.9nm,0.8s,mb4.7,baz=98,slow=4.9,SNR=9.4
ESDC Sonseca Array 91.24 310 P **P** 05 16 18.4 +0.6
comp=Z,4.4nm,0.8s,mb4.8,baz=64,slow=4.3,SNR=10
IMA Indian Mountai 91.61 22 *e*P **P** 05 16 20.5 +1.7
ILAR Eielson Array 94.73 22 P **P** 05 16 33.6 +0.5
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 94.73 22 P **P** 05 16 33.5 +0.5
comp=Z,0.7nm,0.7s,mb4.2,baz=319,slow=4.1,SNR=13
INK Inuvik 96.98 16 P **P** 05 16 44.3 +1.0
INK pmax pmax
comp=Z,5.0nm,1.2s
INK Inuvik 96.98 16 P **P** 05 16 44.3 +1.0
comp=Z,4.9nm,1.2s,mb4.8,baz=278,slow=8.1,SNR=5.4
RES Resolute Bay 97.39 2 *e*P **P** 05 16 46.3 +1.2
RES pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
RES Resolute Bay 97.39 2 *e*P **P** 05 16 46.3 +1.3
comp=Z,4.4nm,0.9s,mb4.9
YKA Yellowknife Ar 106.41 13 PP PP 05 21 46.5 -6.8
comp=Z,0.3nm,0.6s,baz=333,slow=7.7,SNR=5.2
YKA PKKPbc 05 32 56.9
comp=Z,0.2nm,0.7s,baz=153,slow=2.7,SNR=6.5
YKA PKKP PKKP 05 33 11.7 +10
comp=Z,0.5nm,0.9s,baz=142,slow=4.7,SNR=7.4
SNOW Snow King Moun 124.11 22 *e*PKPdf PKPdf 05 22 11.6 +1.8
NVAR Mina Array Bea 124.90 31 PKP PKPdf 05 22 15.1 +3.7
comp=Z,1.6nm,0.8s,baz=1.1,slow=1.3,SNR=10
PDAR Pinedale Array 125.15 21 PKP PKPdf 05 22 13.9 +2.1
comp=Z,1.8nm,0.8s,baz=38,slow=1.1,SNR=15
MSU Marysvale 127.73 26 *e*PKIKP PKPdf 05 22 21.1 +4.1
ANMO Albuquerque 133.15 23 PKIKP PKPdf 05 22 31.0 +3.6
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 133.15 23 PKP PKPdf 05 22 30.9 +3.6
comp=Z,1.7nm,0.8s,baz=20,slow=2.6,SNR=8.3
TXAR Lajitas Array 139.21 24 PKhKP 05 22 33.4
comp=Z,0.1nm,0.3s,baz=38,slow=0.5,SNR=5.9
TXAR PKP PKPdf 05 22 40.7 +2.1
comp=Z,0.8nm,0.7s,baz=136,slow=0.7,SNR=10
TXAR Lajitas Array 139.21 24 PKP PKPdf 05 22 33.4 -5.2
TXAR PKP PKPdf 05 22 40.7 +2.1
JCT Junction City 139.57 19 *e*PKIKP PKPdf 05 22 42.1 +2.9
PLCA Paso Flores 144.56 200 PKIKP PKPdf 05 22 49.6 +1.9
PLCA pmax pmax
comp=Z,12nm,0.9s
PLCA Paso Flores 144.56 200 PKP PKPdf 05 22 49.5 +1.9
comp=Z,12nm,0.9s,baz=172,slow=3.3,SNR=21
SJG San Juan 147.69 323 PKP2 PKPab 05 22 58.2 -2.6
SJG pmax pmax
comp=Z,7.0nm,0.5s
SJG San Juan 147.69 323 PKPbc PKPdf 05 22 58.2 +4.7
comp=Z,7.2nm,0.5s,baz=14,slow=4.2,SNR=3.2
SDV Santo Domingo 157.50 317 PKPab PKPab 05 23 41.4 -0.6
comp=Z,3.1nm,0.7s,baz=30,slow=1.6,SNR=4.8
LPAZ La Paz 160.80 243 PKPab PKPab 05 23 15.2 -41
comp=Z,1.7nm,0.8s,baz=45,slow=2.9,SNR=6.5

*NEIC **27** 05:05:48.2, 15.13N×95.17W, h10km, MD4.0(MEX), After MEX.*

MEX 27 05:05:48.2±0.9, 15.13N×95.17W, h10km, MD4.0, 1C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.11**	**305**	*i* P		Pb	05 06 05.7	-3.3
HUIG				*i* S		Sb	05 06 19.6	-3.6
CMIG	**Matias Romero**	**1.97**	**8**⇑	*i*P		Pn	05 06 17.8	-4.3
CMIG				*i* S		Sn	05 06 42.1	-5.0
VHO	**Vista Hermosa**	**2.45**	**322**	*i* P		Pn	05 06 25.3	-3.6
VHO				*i* S		Sn	05 06 55.2	-4.0
OXX	**Oaxaca**	**2.45**	**323**	*e*P		Pn	05 06 25.0	-3.9
SCX	**San Cristobal**	**2.92**	**56**	*i* P		Pn	05 06 33.0	-2.6
SCX				*i* S		Sn	05 07 10.0	-1.1
EVV	**El Vigia**	**3.31**	**357**	*e*P		Pn	05 06 44.0	+2.8
POHV	**Veracruz**	**4.41**	**333**	*e*P		Pn	05 07 05.5	+8.7
PPM	**Popocatepetl**	**5.12**	**320**	*e*P		Pn	05 07 11.0	+4.1
TEIG	**Tepich**	**8.30**	**51**	*e*Pn		P	05 07 43.5	-8.0
	2.2nm,0.4s							

IDC 27 05:06:52.1±1.1, 8.05N×94.33E, mb3.8/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=41.5km s-min=27.8km az=35.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.28**	**23**	Pn		P	05 09 36.0	-1.7
	0.2nm,0.3s,baz=236,slow=13,SNR=3.3							
WRA	**Warramunga Arr**	**48.21**	**126**	P		P	05 15 34.9	-1.8
	0.3nm,0.5s,baz=304,slow=9.0,SNR=3.2							
KMBO	**Kilima Mbogo**	**57.62**	**264**	P		P	05 16 46.0	-0.8
	2.2nm,0.9s,baz=45,slow=16,SNR=4.6							
BRTR	**Keskin Array B**	**62.45**	**311**	P		P	05 17 16.5	-3.1
	1.0nm,1.0s,baz=90,slow=7.2,SNR=3.3							
GERES	**GERESS Array B**	**77.82**	**318**	P		P	05 18 52.1	-0.9
	1.0nm,0.8s,baz=112,slow=5.3,SNR=4.2							
PLCA	**Paso Flores**	**144.78**	**200**	PKP		PKPdf	05 26 29.4	-3.7
	2.4nm,1.1s,baz=194,slow=4.2,SNR=3.1							

IDC 27 05:13:08.9±1.2, 7.66N×94.04E, mb3.8/5, mb1 4.1/6, mb1mx3.9/18, mbtmp3.8/6, ML4.3/1, MS3.6/1, Ms1 3.8/1, ms1mx2.5/30, Error ellipse: s-maj=44.7km s-min=23.4km az=53.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.74**	**23**	Pn		P	05 15 57.0	-3.9
	0.6nm,0.3s,baz=216,slow=14,SNR=4.2							
CMAR				LR		LR	05 20 30.9	
	comp=Z,253nm,18.9s,baz=215,slow=38							
SONM	**Songino Array**	**41.39**	**13**	P		P	05 20 57.3	-1.2
	1.4nm,1.1s,baz=192,slow=4.7,SNR=4.2							
WRA	**Warramunga Arr**	**48.22**	**125**	P		P	05 21 51.8	-1.9
	0.7nm,0.5s,baz=305,slow=8.5,SNR=7.5							
ASAR	**Alice Springs**	**49.85**	**130**	P		P	05 22 03.9	-2.4
	2.9nm,1.2s,baz=307,slow=7.3,SNR=6.4							
BRTR	**Keskin Array B**	**62.49**	**311**	P		P	05 23 33.2	-3.5
	1.0nm,0.9s,baz=164,slow=9.0,SNR=3.9							
GERES	**GERESS Array B**	**77.92**	**318**	P		P	05 25 10.4	0.0
	0.7nm,0.8s,baz=90,slow=8.0,SNR=4.3							
PLCA	**Paso Flores**	**144.32**	**200**	PKP		PKPdf	05 32 47.6	-1.5
	2.1nm,0.8s,baz=157,slow=4.4,SNR=4.1							

*IDC **27** 05:13:43.5±0.8, 7.87N×94.19E, mb3.9/6, mb1 4.0/7, mb1mx3.9/18, mbtmp3.8/7, Error ellipse: s-maj=32.4km s-min=23.6km az=43.0*

ISC 27 05:13:46.1±0.8, 7.9N±0.1×94.3E±0.1, h33km, n11, σ0.9 75/7, mb3.9/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.44**	**23**	Pn		P	**05 16 30.7**	**+0.4**
	baz=222,slow=15,SNR=2.5							
SONM	**Songino Array**	**41.11**	**12**	P		P	**05 21 28.3**	**-0.3**
	1.2nm,1.1s,mb3.5,baz=219,slow=7.9,SNR=3.7							
SONM				PcP		PcP	05 23 31.0	+2.6
	0.8nm,0.9s,baz=180,slow=4.3,SNR=3.7							
WRA	**Warramunga Arr**	**48.19**	**126**	P		P	**05 22 25.0**	**-0.7**
	1.2nm,0.9s,mb3.9,baz=305,slow=8.4,SNR=5.0							
ASAR	**Alice Springs**	**49.85**	**130**	P		P	**05 22 39.0**	**+0.5**
	1.4nm,1.0s,mb4.0,baz=308,slow=8.5,SNR=4.5							
KMBO	**Kilima Mbogo**	**57.54**	**264**	P		P	**05 23 36.0**	**+0.7**
	2.1nm,0.8s,mb4.2,baz=45,slow=14,SNR=5.1							
BRTR	**Keskin Array B**	**62.50**	**311**	P		P	**05 24 07.4**	**-1.4**
	1.2nm,1.1s,mb3.9,baz=106,slow=9.0,SNR=3.5							
GERES	**GERESS Array B**	**77.88**	**318**	P		P	**05 25 43.0**	**+0.7**
	1.0nm,0.6s,mb3.9,baz=90,slow=4.0,SNR=6.2							
NVAR	**Mina Array Bea**	**124.83**	**31**	PKP		PKPdf	05 32 46.5	+3.3
	0.5nm,0.6s,baz=357,slow=2.7,SNR=4.5							
PDAR	**Pinedale Array**	**125.10**	**21**	PKP		PKPdf	05 32 47.6	+4.0
	0.4nm,0.7s,baz=117,slow=3.3,SNR=4.9							
TXAR	**Lajitas Array**	**139.15**	**24**	PKP		PKPdf	05 33 14.2	+3.8
	0.2nm,0.7s,baz=158,slow=1.1,SNR=4.0							
PLCA	**Paso Flores**	**144.62**	**200**	PKP		PKPdf	05 33 21.3	+1.6
	2.4nm,0.9s,baz=225,slow=2.9,SNR=4.1							

IDC 27 05:16:36.8±6.5, 8.00N×94.27E, h68km±54km, mb3.5/5, mb1 3.7/6, mb1mx3.5/19, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=76.3km s-min=36.8km az=127.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.34**	**23**	P		P	05 19 15.9	-2.2
	0.1nm,0.3s,baz=210,slow=14,SNR=7.1							
SONM	**Songino Array**	**41.01**	**12**	P		P	05 24 13.8	-0.9
	0.5nm,0.8s,baz=198,slow=7.8,SNR=3.7							
BVAR	**Borovoye Array**	**48.91**	**341**	P		P	05 25 15.2	-2.6
	0.3nm,0.5s,baz=135,slow=6.1,SNR=3.1							
KMBO	**Kilima Mbogo**	**57.56**	**264**	P		P	05 26 20.4	-1.8
	1.4nm,0.8s,baz=46,slow=8.2,SNR=5.7							
FINES	**FINESS Array B**	**72.66**	**332**	P		P	05 27 56.8	-1.9
	2.1nm,0.8s,baz=83,slow=11,SNR=3.6							
GERES	**GERESS Array B**	**77.82**	**318**	P		P	05 28 27.5	-1.0
	0.4nm,0.6s,baz=90,slow=5.3,SNR=3.7							
PLCA	**Paso Flores**	**144.71**	**200**	PKP		PKPdf	05 36 05.0	-1.0
	1.8nm,0.8s,baz=198,slow=4.9,SNR=4.3							

*BUG **27** 05:19:44.8, 51.65N×7.68E, h1km, ML2.3*
*NEIC **27** 05:19:45.6±0.8, 51.57N×7.81E, h10km, ML2.8(LDG), ML2.4(SZGRF), Error ellipse: s-maj=11.8km s-min=8.8km az=134.0*
*LDG **27** 05:19:46.5±0.2, 51.68N×7.62E, h1km, Ml2.8/8, Error ellipse: s-maj=3.1km s-min=2.7km az=34.0, Suspected Mining induced.*
*BNS **27** 05:19:46.8±1.7, 51.67N×7.61E, h1km, ML2.6*
*CSEM **27** 05:19:46.6±0.1, 51.66N×7.63E, h2km, ML2.8/7, Error ellipse: s-maj=2.2km s-min=1.2km az=132.0*

BGR 27 05:19:46.2±0.3, 51.63N×7.69E, h1km, ML2.5/3, 1C-1D, Error ellipse: s-maj=5.6km s-min=3.3km az=166.0, Germany

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BAHL	**Ahlen**	**0.13**	**37**	Pg		Pg	05 19 48.6	-0.3
BAHL				Sg		Sg	05 19 51.5	+0.8
BUG	**Bochum--Univer**	**0.33**	**234**⇓	*i*Pg		Pg	05 19 52.0	-0.8
BUG				Sg		Sg	05 19 57.3	+0.2
WTSB	**Winterswijk**	**0.65**	**302**	*e*Pg		Pg	05 19 58.2	-1.0
WTSB				*e*Sg		Sg	05 20 07.4	-0.5
WTSB	**Winterswijk**	**0.65**	**302**	*e*Sg		Sg	05 20 07.4	-0.5
IBBN	**Ibbenburen**	**0.68**	**3**	*e*Pg		Pg	05 19 59.0	-0.8
IBBN				*e*Sg		Sg	05 20 08.7	-0.1
	199nm,0.9s							
BNS	**Bensberg**	**0.74**	**206**	*i*Pg		Pg	05 20 02.1	+1.0
BNS				*e*Sg		Sg	05 20 12.6	+1.6
	197nm,0.9s							
JUE	**Julich**	**1.08**	**229**	*e*Pg		Pg	05 20 07.1	-0.7
JUE				*e*Sg		Sg	05 20 22.4	+0.1
	608nm,0.6s							
STB	**Steinbach**	**1.17**	**208**	*e*Pg		Pg	05 20 08.1	-1.5
STB				*e*Sg		Sg	05 20 24.3	-0.9
	96nm,1.0s							
KLL	**Kalltalsperre**	**1.31**	**222**⇑	*e*Pg		Pg	05 20 09.8	-2.7
KLL				*e*Sg		Sg	05 20 28.0	-2.0
	58nm,0.9s							
HGN	**Heimansgroeve**	**1.41**	**233**	*e*Pg		Pg	05 20 10.9	-3.4
	12nm,0.2s							
HGN				*e*Sg		Sg	05 20 29.8	-3.3
BGG	**Burgeitz**	**1.45**	**189**	*e*Sg		Sg	05 20 31.1	-3.3
	44nm,0.8s							
MEM	**Membach**	**1.48**	**227**	S		Sb	05 20 32.4	-0.9
MEM	**Membach**	**1.48**	**227**	P		Pn	05 20 09.9	-4.1
TNS	**Taunus Mts**	**1.49**	**161**	*e*Pg		Pg	05 20 13.3	-2.7
TNS				*e*Sg		Sg	05 20 30.4	-5.4
TNS	**Taunus Mts**	**1.49**	**161**	*e*Pg		Pg	05 20 10.1	-5.9
TNS				*e*Sg		Sg	05 20 30.4	-5.4
CLZ	**Clausthal**	**1.68**	**82**	*e*Pg		Pg	05 20 16.8	-3.0
CLZ				*e*Sg		Sg	05 20 40.3	-1.8
	SNR=3.0							
CLZ	**Clausthal**	**1.68**	**82**	*e*Pg		Pg	05 20 15.9	-3.9
CLZ				*e*Sg		Sg	05 20 40.6	-1.6
NRDL	**Niedersach Rie**	**1.72**	**59**	*e*Pg		Pg	05 20 18.3	-2.3
WLF	**Walferdange**	**2.20**	**207**	*e*Pn		Pn	05 20 22.7	-1.7
	SNR=2.7							
WLF				*e*Sg		Sg	05 20 51.7	-7.8
WLF	**Walferdange**	**2.20**	**207**	*e*Pn		Pn	05 20 15.1	-9.3
GIVF	**Givet**	**2.38**	**231**	*e*Pn		Pn	05 20 24.9	-2.0
GIVF				*e*Pg		Pg	05 20 30.4	-3.3
GIVF				*e*Sn		Sn	05 20 52.4	-4.7
GIVF				*e*Sg		Sg	05 21 00.8	-4.6
	25nm,0.5s							
MOX	**Moxa**	**2.66**	**110**	*e*Pn		Pn	05 20 29.5	-1.5
	SNR=5.4							
MOX				*e*Pg		Pg	05 20 36.4	-2.9
	SNR=3.6							
MOX				*e*Sg		Sg	05 21 10.1	-4.8
	SNR=2.9							
MOX	**Moxa**	**2.66**	**110**	*e*Pn		Pn	05 20 27.4	-3.6
MOX				*e*Pg		Pg	05 20 36.4	-3.0
MOX				*e*Sg		Sg	05 21 13.2	-1.6
MOX	**Moxa**	**2.66**	**110**	*i*P		Pn	05 20 27.4	-3.6
MOX				Pg		Pg	05 20 36.0	-3.4
MOX				Sg		Sg	05 21 13.0	-1.8
MOX	**Moxa**	**2.66**	**110**	*e*Pg		Pg	05 20 36.4	-3.0
BAIF	**Baives**	**2.71**	**236**	*e*Pn		Pn	05 20 29.4	-2.3
BAIF				*e*Pg		Pg	05 20 36.6	-3.8
BAIF				*e*Sn		Sn	05 21 00.4	-5.3
BAIF				*e*Sg		Sg	05 21 10.9	-5.7
	9.3nm,0.3s							
WERD	**Werda**	**3.14**	**110**	*e*Pn		Pn	05 20 36.2	-1.7
	SNR=3.2	

	SNR=2.6						
TANN				*e*Sg	Sg	05 21 29.5	-4.8
	SNR=2.3						
RFYF	**Reffroy**	**3.33**	**206**	*e*Pn	Pn	05 20 37.8	-2.7
RFYF				*e*Sg	Sg	05 21 31.9	-5.1
	10nm,0.5s						
BFO	**Black Forest**	**3.33**	**173**	*e*Pn	Pn	05 20 38.4	-2.1
	SNR=3.5						
BFO				*e*(Sn)	Sn	05 21 16.4	-4.9
	SNR=1.8						
CLL	**Collm**	**3.34**	**93**	*e*Pn	Pn	05 20 37.7	-2.9
	SNR=1.6						
CLL				*e*Pg	Pg	05 20 48.4	-4.4
	SNR=1.6						
CLL				*e*Sg	Sg	05 21 34.0	-3.3
CLL	**Collm**	**3.34**	**93**	*e*PN	Pn	05 20 39.0	-1.6
CLL				*i* PG	Pg	05 20 47.4	-5.5
CLL				*e*SG	Sg	05 21 34.0	-3.3
MEZF	**Maizieres J'vi**	**3.56**	**210**	*e*Sg	Sg	05 21 38.7	-6.2
	3.7nm,0.3s						
HAU	**Haudompre**	**3.73**	**194**	*e*Pn	Pn	05 20 43.7	-2.5
HAU				*e*Sg	Sg	05 21 43.9	-6.6
	5.2nm,0.3s						
HINF	**Hinteralfeld**	**3.86**	**188**	*e*Pn	Pn	05 20 45.7	-2.3
HINF				*e*Sg	Sg	05 21 49.2	-5.5
	1.7nm,0.3s						
BRG	**Berggiesshubel**	**4.00**	**98**	*e*Pg	Pg	05 21 01.3	-4.8
BRG				*e*Sg	Sg	05 21 56.0	-3.4
KHC	**Kasperske Hory**	**4.52**	**121**	*e*PG	Pg	05 21 06.5	-10
KHC				*ex*	x	05 21 29.0	
KHC				*e*SG	Sg	05 22 11.5	-5.3
KHC	**Kasperske Hory**	**4.52**	**121**	Pg	Pg	05 21 06.5	-10
KHC				*e*Sg	Sg	05 22 11.5	-5.3
KHC	**Kasperske Hory**	**4.52**	**121**	*e*Sg	Sg	05 22 11.5	-5.3
KHC	**Kasperske Hory**	**4.52**	**121**	*e*	Pg	05 21 06.5	-10
KHC				*e*		05 21 29.0	

IDC 27 05:21:28.0±1.6,8.07N×94.36E,mb3.6/4,mb1 3.9/5, mb1mx3.6/18,mbtmp3.6/5,ML4.3/1,Error ellipse: s-maj=51.0km s-min=31.4km az=60.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.25**	**23**	Pn	P	05 24 10.7	-2.5
	0.7nm,0.3s,baz=222,slow=27,SNR=3.9						
SONM	**Songino Array**	**40.93**	**12**	P	P	05 29 11.9	-1.8
	1.7nm,1.3s,baz=198,slow=4.6,SNR=3.3						
WRA	**Warramunga Arr**	**48.20**	**126**	P	P	05 30 10.5	-2.1
	0.2nm,0.5s,baz=304,slow=8.8,SNR=4.7						
FINES	**FINESS Array B**	**72.64**	**332**	P	P	05 32 57.2	-2.0
	1.6nm,0.8s,baz=90,slow=5.7,SNR=3.3						
GERES	**GERESS Array B**	**77.83**	**318**	P	P	05 33 27.6	-1.3
	0.3nm,0.5s,baz=135,slow=1.9,SNR=3.7						
TXAR	**Lajitas Array**	**138.96**	**24**	PKP	PKPdf	05 40 59.3	+0.1
	0.1nm,0.5s,baz=12,slow=1.4,SNR=3.6						
LPAZ	**La Paz**	**161.05**	**243**	PKPab	PKPab	05 41 33.7	-43
	2.6nm,1.0s,baz=66,slow=7.0,SNR=7.5						

*IDC **27** 05:22:14.0±0.4,8.02N×94.11E,mb4.9/25,mb1 5.0/26, mb1mx4.9/28,mbtmp4.9/26,ML4.4/1,MS4.8/22,Ms1 4.8/22, ms1mx4.6/31,Error ellipse: s-maj=21.9km s-min=10.7km az=47.0*

*MOS **27** 05:22:17.6±1.4,7.88N×93.97E,h33km,mb5.3/69, MS4.8/26,Error ellipse: s-maj=8.1km s-min=4.9km az=109.9*

*BJI **27** 05:22:17.0,7.62N×93.66E,h46km,mB5.3,mb5.1,Ms5.4, Msz5.1*

*HRVD **27** 05:22:18.7±0.2,7.90N×94.18E,h20km±1km,MW5.3/61, Centroid moment Tensor Solution. LP body waves: s44,c73;Mantle waves: s61,c116; Half duration: 1ŝ1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.20±.03; $M_{\theta\theta}$-0.78±.03; $M_{\phi\phi}$0.97±.03; $M_{r\theta}$-0.44±.07; $M_{\theta\phi}$0.69±.02; $M_{\phi r}$-0.21±.06; Best double couple: $M_0$1.221×10^{17} NP1: ϕ_s155°,δ65°,λ-174°. NP2:ϕ_s62°,δ85°,λ-25°. Principal axes: T 1.293, Plg13°, Azm111°; N -.144, Plg65°, Azm231°; P -1.149, Plg21°, Azm16°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **27** 05:22:18.7±0.2,7.83N×94.00E,h30km,mb5.2/72, MS5.0/31 Error ellipse: s-maj=6.7km s-min=5.2km az=223.0*

NEIC Felt on Camorta.

ISC 27 05:22:17.6±0.2,7.86N±0.03×93.99E±0.03,h33km, (h25km±4.1km:pP-P),n337,σ1ŝ28/311,mb5.2/109, MS5.0/65,13C-15D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.97**	**342**	*e*P	**P**	**05 23 18.4**	**+0.7**
PBA				*e*SG	**Sn**	**05 24 11.8**	**+8.0**
NST	**Nakhon Sawan**	**9.82**	**37**	P	**P**	**05 24 40.0**	**+0.4**
CM31	**Chiang Mai Arr**	**11.59**	**24**	*e*P	**P**	**05 25 03.1**	**-0.6**
	80nm,0.9s						
CMAR	**Chiang Mai Arr**	**11.59**	**24**	P	**P**	**05 25 02.4**	**-1.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,5μm,18.4s						
CMAR	**Chiang Mai Arr**	**11.59**	**24**	Pn	**P**	**05 25 02.4**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=211,slow=13,SNR=36						
CMAR				LR	LR	05 29 38.5	
	comp=Z,5μm,18.4s,baz=210,slow=39						
CHG	**Chiang Mai**	**11.91**	**23**	⇓P	**P**	**05 25 07.1**	**-1.0**
	comp=Z,55nm,1.1s						
PALK	**Pallekele**	**13.19**	**268**	P	**P**	**05 25 24.0**	**-1.1**
	comp=Z,64nm,1.4s						
CHRT	**Chiangrai**	**13.20**	**25**	⇓P	**P**	**05 25 25.0**	**-0.3**
	comp=Z,276nm,1.0s						
VIS	**Vishakhapatnam**	**14.28**	**314**	*e*P	**P**	**05 25 37.3**	**-2.3**
VIS				*e*		05 25 42.1	
	comp=Z,69nm,1.1s						
VIS				*e*S	**S**	**05 28 05.9**	**-12**
BWNR	**Bhubaneshwar**	**14.69**	**328**	*e*P	**P**	**05 25 43.3**	**-1.6**
BWNR				*e*		05 25 44.5	
	comp=Z,66nm,0.9s						
BWNR				*e*		05 28 04.8	
CAL	**Calcutta**	**15.58**	**340**	*e*	**S**	**05 29 00.3**	**+12**
SALM	**Salem**	**16.01**	**285**	*e*	**P**	**05 26 05.0**	**+2.9**
AGT	**Agartala**	**16.15**	**351**	⇑*i*P	**P**	**05 26 04.0**	**+0.2**
AGT				*i*		05 26 30.0	
KOD	**Kodaikanal**	**16.49**	**279**	*e*P	**P**	**05 26 06.0**	**-2.1**
KOD				*e*P		05 26 08.3	
KOD				*e*		05 26 31.4	
	comp=Z,106nm,1.4s						
KOD				*e*S	**S**	**05 29 09.8**	**+0.5**
IMP	**Imphal**	**16.83**	**360**	*e*P	**P**	**05 26 10.7**	**-1.7**
SHL	**Shillong**	**17.73**	**354**	*e*	**P**	**05 26 20.0**	**-3.6**
SHL				*e*S	**S**	**05 29 42.0**	**+4.4**
HYB	**Hyderabad**	**17.80**	**304**	*e*P	**P**	**05 26 24.0**	**-0.5**
HYB				*e*S	**S**	**05 29 40.0**	**+0.8**
HYB				pmax	pmax		
	comp=Z,60nm,1.0s						
HYB	**Hyderabad**	**17.80**	**304**	*e*P	**P**	**05 26 24.0**	**-0.5**
	comp=Z,60nm,1.0s						
HYB				*e*S	**S**	**05 29 40.0**	**+0.8**
HYB	**Hyderabad**	**17.80**	**304**	*i* P	**P**	**05 26 24.0**	**-0.5**
	comp=Z,60nm,1.0s						
HYB				*e*S	**S**	**05 29 40.0**	**+0.8**
HYB				LR	LR	05 34 00.0	
	comp=Z,4.1nm,18.0s						
QIZ	**Qiongzhong**	**18.98**	**53**	P	**P**	**05 26 39.0**	**-0.1**
QIZ				S	**S**	**05 30 09.0**	**+3.1**
QIZ				AMB	AMB		
	comp=Z,74nm,1.2s						
QIZ				AMB	AMB		
	comp=Z,403nm,6.7s						
QIZ				LR	LR		
	comp=N,15μm,13.8s						
QIZ	**Qiongzhong**	**18.98**	**53**	*e*P	**P**	**05 26 39.1**	**0.0**
	comp=N,206nm,1.4s						
KMI	**Kunming**	**19.09**	**25**	⇓P	**P**	**05 26 43.3**	**+3.0**
KMI				S	**S**	**05 30 12.3**	**+3.8**
KMI				pmax	pmax		
	comp=Z,131nm,1.4s						
KMI	**Kunming**	**19.09**	**25**	⇓P	**P**	**05 26 43.3**	**+3.0**
	comp=Z,131nm,1.4s						
KMI				pP		05 26 51.7	
KMI				PP	PP	05 27 01.9	+4.8
KMI				PPP	PPP	05 27 10.7	+4.6
KMI				S	**S**	**05 30 12.3**	**+3.8**
KMI				sS		05 30 24.9	
KMI				SS	SS	05 30 29.2	-5.0
MNGI	**Mangalore**	**19.51**	**287**	*i*	**P**	**05 26 49.3**	**+4.3**
MNGI				*e*		05 30 24.5	
COCO	**West Island**	**20.11**	**172**	*e*P	**P**	**05 26 53.0**	**+1.4**
	comp=Z,367nm,1.1s						
ALBI	**Allahabad**	**20.89**	**328**	*e*P	**P**	**05 27 00.0**	**+0.5**
JIRN	**Jiri**	**21.04**	**340**	*e*P	**P**	**05 27 00.9**	**-0.1**
	comp=Z,320nm,0.9s,mb5.6						
GOA	**Goa**	**21.14**	**293**	*e*	**P**	**05 27 08.9**	**+6.8**
GOA				*e*		05 27 13.3	
	comp=Z,79nm,2.3s						
GOA				*e*	S	05 31 10.6	+20
GOA				*e*		05 31 11.3	
PKI	**Pulchoki**	**21.23**	**339**	*e*P	**P**	**05 27 02.5**	**-0.4**
	comp=Z,529nm,1.1s,mb5.8						
DMN	**Daman**	**21.37**	**338**	*e*P	**P**	**05 27 04.4**	**0.0**
	comp=Z,309nm,0.8s,mb5.7						
GUN	**Gumba**	**21.37**	**340**	*e*P	**P**	**05 27 03.5**	**-0.9**
	comp=Z,311nm,0.8s,mb5.7						
KAD	**Karad**	**21.47**	**298**	*e*P	**P**	**05 27 05.1**	**-0.4**
KAD				*e*		05 27 10.2	
	comp=Z,74nm,1.2s						
KKN	**Kakani**	**21.47**	**338**	*e*P	**P**	**05 27 04.9**	**-0.5**
	comp=Z,280nm,0.9s,mb5.6						
LSA	**Lhasa**	**21.89**	**353**	P	**P**	**05 27 10.3**	**+0.7**
LSA				AP		05 27 17.8	
LSA				XP		05 27 22.5	
LSA				S	**S**	**05 31 02.5**	**-2.0**
LSA				XS		05 31 24.8	
LSA				PCS		05 34 46.8	
LSA				LR	LR		
	comp=N,31μm,21.6s,MS5.8						
LSA				LR	LR		
	comp=E,21μm,18.2s,MS5.8						
LSA				LR	LR		
	comp=Z,53μm,19.3s,MS6.0						
LSA	**Lhasa**	**21.89**	**353**	*e*P	**P**	**05 27 10.2**	**+0.6**
LSA				pmax	pmax		
	comp=Z,206nm,0.9s,mb5.6						
LSA	**Lhasa**	**21.89**	**353**	*e*P	**P**	**05 27 10.2**	**+0.6**
	comp=Z,206nm,0.9s,mb5.6						
GKN	**Gorkha**	**21.90**	**337**	*e*P	**P**	**05 27 08.6**	**-1.1**
	comp=Z,504nm,1.2s,mb5.8						
BHPL	**Bhopal**	**22.07**	**316**	*e*P	**P**	**05 27 10.6**	**-0.7**
BHPL				*e*P		05 27 11.7	
BHPL				*e*		05 27 18.3	
	comp=Z,132nm,1.0s						
BHPL				*e*		05 27 18.3	
	comp=Z,132nm,1.0s						
KOLN	**Koldanda**	**22.11**	**335**	*e*P	**P**	**05 27 11.4**	**-0.4**
	comp=Z,502nm,1.1s,mb5.9						
POO	**Poona**	**22.27**	**300**	*e*P	**P**	**05 27 11.9**	**-1.4**
POO				*e*		05 27 17.6	
	comp=Z,37nm,0.9s						
BOM	**Bombay**	**23.31**	**300**	*e*S	**P**	**05 27 25.4**	**+1.7**
BOM	**Bombay**	**23.31**	**300**	*e*P	**P**	**05 27 26.7**	**+3.0**
BOM				*e*		05 27 32.5	
	comp=Z,78nm,0.9s						
BOM				*e*		05 31 41.3	
NDI	**New Delhi**	**26.06**	**325**	*e*P	**P**	**05 27 50.0**	**-0.1**
NDI				*e*P		05 27 51.0	
NDI				*e*		05 27 56.4	
	comp=Z,130nm,1.5s						
NDI				*e*S	**S**	**05 32 20.1**	**+3.4**
DGAR	**Diego Garcia**	**26.29**	**235**	PFAKE		05 28 00.0	+7.7
DGAR				LR	LR		
	comp=Z,406nm,21.0s,MS3.9						
ENH	**Enshi**	**26.61**	**31**	*e*P	**P**	**05 27 54.5**	**-0.5**
	comp=Z,65nm,1.0s,mb5.1						
ENH				LR	LR		
	comp=Z,3μm,19.0s,MS4.9						
DDI	**Dehra Dun**	**26.88**	**328**	*e*P	**P**	**05 27 57.5**	**0.0**
DDI				*e*		05 33 12.3	
SMLA	**Simla**	**27.98**	**328**	*e*	**P**	**05 28 20.9**	**+13**
SMLA				*e*		05 28 26.4	
	comp=Z,47nm,0.7s						
QZH	**Quanzhou**	**28.99**	**51**	*e*P	**P**	**05 28 13.5**	**-3.1**
QZH				S	**S**	**05 33 13.0**	**+9.0**
QZH				LR	LR		
	comp=N,9μm,12.3s,MS5.7						
QZH				LR	LR		
	comp=E,6μm,11.6s,MS5.7						
QZH				LR	LR		
	comp=Z,10μm,13.2s,MS5.6						
XAN	**Xi'an**	**29.47**	**26**	P	**P**	**05 28 20.0**	**-0.8**
XAN				AP	pP	05 28 30.8	+0.4
XAN				AMB	AMB		
	comp=Z,23nm,1.2s,mb4.8						
LZH	**Lanzhou**	**29.51**	**16**	*e*P	**P**	**05 28 21.5**	**+0.4**
LZH				AP	pP	05 28 32.0	+1.3
LZH				XP	sP	05 28 36.0	+1.0
LZH				PP	PP	05 29 17.0	-0.4
LZH				S	**S**	**05 33 13.5**	**+1.4**
LZH				XS		05 33 31.0	
LZH				SS	SS	05 34 47.5	+1.6
LZH				AMB	AMB		
	comp=Z,51nm,1.7s,mb5.0						
LZH				AMB	AMB		
	comp=Z,140nm,5.8s						
LZH				LR	LR		
	comp=E,3μm,14.6s						
LZH				LR	LR		
	comp=Z,3μm,16.4s,MS5.0						
LZH	**Lanzhou**	**29.51**	**16**	*e*P	**P**	**05 28 21.6**	**+0.5**
LZH				*PP	pP	05 28 32.0	+1.3
LZH				*SP	sP	05 28 36.0	+1.0
LZH						05 29 17.0	
LZH				S	**S**	**05 33 13.4**	**+1.3**
LZH				*SS		05 33 31.0	
LZH				SS	SS	05 34 47.5	+1.6
LZH				pmax	pmax		
	comp=Z,51nm,1.7s,mb5.0						
LZH				MLR	MLR		
	comp=Z,3μm,16.4s,MS5.0						
LZH	**Lanzhou**	**29.51**	**16**	*e*P	**P**	**05 28 21.6**	**+0.5**
	comp=Z,51nm,1.7s,mb5.0						
LZH				pP	pP	05 28 32.0	+1.3
LZH				sP	sP	05 28 36.0	+1.0
LZH				PP	PP	05 29 17.0	-0.4
LZH				S	**S**	**05 33 13.4**	**+1.3**
LZH				sS		05 33 31.0	
LZH				SS	SS	05 34 47.5	+1.6
LZH				LR	LR		
	comp=Z,3μm,16.4s,MS5.0						
WHN	**Wuhan**	**29.54**	**38**	P	**P**	**05 28 23.0**	**+1.6**
WHN				S	**S**	**05 33 17.5**	**+4.8**
WHN				AMB	AMB		
	comp=Z,49nm,1.1s,mb5.2						
WHN				LR	LR		
	comp=Z,8μm,13.4s,MS5.5						
NJ2	**Nanjing**	**33.38**	**40**	*e*P	**P**	**05 28 56.0**	**+0.8**
NJ2				AP	pP	05 29 05.3	+0.5
NJ2				XP	sP	05 29 10.0	+0.8
NJ2				PP	PP	05 30 07.0	-0.4
NJ2				S	**S**	**05 34 14.0**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,160nm,0.9s,mb6.0						
NJ2				LR	LR		
	comp=N,4μm,11.0s,MS5.5						
NJ2				LR	LR		
	comp=E,4μm,10.8s,MS5.5						
NJ2				LR	LR		
	comp=Z,5μm,12.8s,MS5.5						
SSE	**Sheshan**	**34.34**	**44**	P	**P**	**05 29 00.5**	**-2.9**
SSE				S	**S**	**05 34 28.3**	**+0.5**
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,137nm,4.7s						
SSE				LR	LR		
	comp=N,1μm,24.5s,MS4.7						
SSE				LR	LR		
	comp=E,1μm,24.3s,MS4.7						
SSE				LR	LR		
	comp=Z,1μm,15.7s						
SSE	**Sheshan**	**34.34**	**44**	P	**P**	**05 29 00.6**	**-2.8**
	comp=Z,29nm,0.7s,mb5.3						
SSE				S	**S**	**05 34 28.2**	**+0.4**
SSE				sS		05 34 44.0	
SSE				SS	SS	05 36 58.2	+20
SSE				LR	LR		
	comp=Z,1μm,15.7s,MS4.7						
WMQ	**Urumqi**	**36.24**	**352**	*e*P	**P**	**05 29 20.0**	**+0.5**
WMQ				AP	pP	05 29 29.8	+0.5
WMQ				XP	sP	05 29 33.5	0.0
WMQ				PP	PP	05 30 43.0	+0.1
WMQ				PCP	PcP	05 31 45.3	+0.7
WMQ				S	**S**	**05 34 57.3**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,168nm,1.3s,mb5.8						
WMQ				AMB	AMB		
	comp=Z,871nm,5.3s						
WMQ				LR	LR		
	comp=N,3μm,18.0s,MS5.2						
WMQ				LR	LR		
	comp=E,2μm,18.1s,MS5.2						
WMQ				LR	LR		
	comp=Z,3μm,18.2s,MS5.2						
JOW	**Kunigami**	**37.59**	**56**	LR	LR	05 47 15.1	
	comp=Z,1μm,19.1s,MS4.7,baz=176,slow=40						
BJT	**Baijiatuau**	**37.67**	**28**	*e*P	**P**	**05 29 32.9**	**+1.3**
BJT				pmax	pmax		
	comp=Z,74nm,1.4s						
BJT	**Baijiatuau**	**37.67**	**28**	*e*P	**P**	**05 29 32.9**	**+1.4**
	comp=Z,74nm,1.4s,mb5.2						
BJI	**Beijing**	**37.69**	**28**	P	**P**	**05 29 34.1**	**+2.4**
BJI				*SP	sP	05 29 50.1	+4.4
BJI						05 31 01.9	
BJI				S	**S**	**05 35 17.6**	**-1.6**
BJI				pmax	pmax		
	comp=Z,28nm,1.5s,mb4.8						
BJI				MLR	MLR		
	comp=Z,1μm,24.5s,MS4.7						
BJI	**Beijing**	**37.69**	**28**	P	**P**	**05 29 34.1**	**+2.4**
	comp=Z,28nm,1.5s,mb4.8						
BJI				sP	sP	05 29 50.1	+4.4
BJI				PP	PP	05 31 01.9	+0.9
BJI				S	**S**	**05 35 17.6**	**-1.6**
BJI				SS	SS	05 38 06.4	+12
BJI				LR	LR		
	comp=Z,1μm,24.5s,MS4.7						
KZA	**Kyzart**	**37.90**	**337**	P	**P**	**05 29 35.5**	**+2.1**
	SNR=7.7						
UCH	**Uchtor**	**38.31**	**336**	P	**P**	**05 29 39.1**	**+2.2**
	SNR=16						
MBWA	**Marble Bar**	**38.35**	**139**	P	**P**	**05 29 32.6**	**-4.8**
	comp=Z,82nm,1.9s,mb5.1						
TKM2	**Tokmak 2**	**38.49**	**338**	P	**P**	**05 29 37.6**	**-0.7**
	SNR=9.6						
AML	**Almayashu**	**38.56**	**336**	P	**P**	**05 29 38.8**	**-0.1**
	SNR=38						
AAK	**Ala-Archa**	**38.66**	**337**	P	**P**	**05 29 42.1**	**+2.4**
	SNR=17						
AAK	**Ala-Archa**	**38.66**	**337**	*i* P	**P**	**05 29 40.2**	**+0.4**
AAK				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.0						
AAK	**Ala-Archa**	**38.66**	**337**	*e*P	**P**	**05 29 39.0**	**-0.8**
	comp=Z,55nm,1.2s,mb5.2						
FRU	**Bishkek**	**38.78**	**337**	*e*P	**P**	**05 29 40.0**	**-0.8**
FRU				*e*		05 31 10.0	
FRU				pmax	pmax		
	comp=Z,60nm,2.0s,mb5.0						
CHMS	**Chumysh**	**38.87**	**337**	P	**P**	**05 29 43.0**	**+1.5**
	SNR=13						
EKS2	**Erkin-Say**	**38.97**	**336**	P	**P**	**05 29 44.4**	**+2.0**
	SNR=15						
USP	**Ospenovka**	**39.20**	**337**	P	**P**	**05 29 43.3**	**-0.9**
	SNR=23						
MKAR	**Makanchi Array**	**40.07**	**348**	*i* P	**P**	**05 29 49.7**	**-1.7**
MKAR				pmax	pmax		
	comp=Z,51nm,1.0s						
FITZ	**Fitzroy Crossi**	**40.52**	**130**	*e*P	**P**	**05 29 54.5**	**-0.9**
	comp=Z,9.5nm,1.2s,mb4.3						
SONM	**Songino Array**	**41.21**	**13**	P	**P**	**05 30 00.7**	**-0.2**
	comp=Z,15nm,0.9s,mb4.6,baz=196,slow=5.8,SNR=60						
SONM				PcP	PcP	05 32 00.2	0.0
	comp=Z,5.9nm,0.8s,baz=201,slow=2.6,SNR=9.4						
ULN	**Ulaanbaatar**	**41.39**	**13**	*e*P	**P**	**05 30 01.8**	**-0.5**
ULN				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.5						
ULN				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.8						
ULN	**Ulaanbaatar**	**41.39**	**13**	*e*P	**P**	**05 30 01.8**	**-0.5**
	comp=Z,13nm,1.0s,mb4.5						
ULN				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
SNY	**Shenyang**	**42.77**	**33**	⇑P	**P**	**05 30 14.5**	**+0.8**
SNY				S	**S**	**05 36 38.5**	**+3.5**
SNY				AMB	AMB		
	comp=Z,30nm,1.3s,mb4.9						
SNY				LR	LR		
	comp=N,2μm,15.5s						
SNY				LR	LR		
	comp=Z,2μm,15.7s,MS5.1						
ZAK	**Zakamensk**	**43.09**	**9**	⇑*i*P	**P**	**05 30 16.2**	**-0.1**
TLY	**Talaya**	**44.41**	**9**	*e*P	**P**	**05 30 28.1**	**+1.2**
TLY				*e*S	**S**	**05 37 05.2**	**+6.4**
TLY				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
TLY				MLR	MLR		
	comp=Z,1μm,21.0s,MS4.8						
TLY	**Talaya**	**44.41**	**9**	*e*P	**P**	**05 30 26.8**	**-0.1**
	comp=Z,14nm,1.2s,mb4.6						
KURK	**Kurchatov**	**44.59**	**346**	*i* P	**P**	**05 30 26.8**	**-1.5**
KURK				pmax	pmax		
	comp=Z,51nm,1.2s,mb5.2						
KURK	**Kurchatov**	**44.59**	**346**	*e*P	**P**	**05 30 26.6**	**-1.8**
	comp=Z,99nm,1.2s,mb5.5						
KURK				LR	LR		
	comp=Z,310nm,21.0s,MS4.2						
MUN	**Mundaring**	**44.94**	**153**	*e*P	**P**	**05 30 33.1**	**+1.7**
	comp=Z,22nm,0.8s,mb5.0						
MUN	**Mundaring**	**44.94**	**153**	*e*P	**P**	**05 30 33.1**	**+1.7**
MUN				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.0						
KLBR	**Kellerberrin**	**45.33**	**151**	*e*P	**P**	**05 30 34.5**	**-0.1**
	comp=Z,210nm,0.8s,mb6.0						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	*e*P	**P**	**05 30 41.3**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,37nm,1.0s						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	P	**P**	**05 30 41.9**	**+0.4**
	comp=Z,42nm,1.1s,mb5.3,baz=318,slow=9.4,SNR=12						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	*e*P	**P**	**05 30 41.3**	**-0.1**
	comp=Z,37nm,1.0s,mb5.3						
HIA	**Hailar**	**46.60**	**23**	*e*P	**P**	**05 30 45.7**	**+1.4**
HIA				pmax	pmax		
	comp=Z,58nm,1.2s						
HIA	**Hailar**	**46.60**	**23**	*e*P	**P**	**05 30 45.7**	**+1.4**
	comp=Z,58nm,1.2s,mb5.4						
NVS	**Novosibirsk**	**47.64**	**352**	*e*P	**P**	**05 30 50.0**	**-2.4**
NVS				*e*S	**S**	**05 37 45.6**	**+0.7**
NVS				pmax	pmax		
	comp=N,40nm,1.1s						
NVS				pmax	pmax		
	comp=E,26nm,1.1s						
NVS				pmax	pmax		
	comp=Z,90nm,1.1s,mb5.7						
NVS				smax			
	comp=N,25nm,2.1s						
NVS				smax			
	comp=E,64nm,2.1s						
MDJ	**Mudanjiang**	**47.91**	**34**	P	**P**	**05 30 56.8**	**+2.1**
MDJ				AP	pP	05 31 04.0	-0.5
MDJ				XP	sP	05 31 08.3	-0.4
MDJ				PP	PP	05 32 46.5	+0.6
MDJ				S	**S**	**05 37 53.5**	**+4.7**
MDJ				AMB	AMB		
	comp=Z,23nm,0.9s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,153nm,3.9s						
MDJ				LR	LR		
	comp=N,715nm,15.5s,MS5.2						
MDJ				LR	LR		
	comp=E,2μm,14.7s,MS5.2						
MDJ				LR	LR		
	comp=Z,2μm,15.1s,MS5.1						
MDJ	**Mudanjiang**	**47.91**	**34**	*e*P	**P**	**05 30 56.7**	**+2.1**
	comp=Z,59nm,1.5s,mb5.4						
MDJ				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
WRA	**Warramunga Arr**	**48.37

WRAB MLR MLR
comp=Z,360nm,19.0s,MS4.4
WRAB Tennant Creek 48.38 125 *e*P **P 05 30 56.2 -2.4**
comp=Z,14nm,0.7s,mb5.1
WRAB LR LR
comp=Z,360nm,19.0s,MS4.4
WB2 Warramunga Arr 48.38 125 *e*P **P 05 30 56.7 -2.0**
BVA0 Borovoye Array 48.96 341 *i* P **P 05 31 01.8 -0.8**
BVA0 pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
BVAR Borovoye Array 48.96 341 P **P 05 31 00.8 -1.9**
comp=Z,14nm,0.9s,mb5.0,baz=143,slow=7.4,SNR=35
BVAR PcP PcP 05 32 27.3 +0.5
comp=Z,4.7nm,0.7s,baz=135,slow=4.2,SNR=5.8
RAYN Ar Rayn 48.96 294 P **P 05 31 04.4 +1.3**
comp=Z,251nm,1.0s,mb6.2,SNR=38
BRVK Borovoye 49.02 341 *e*P **P 05 31 01.5 -1.6**
BRVK pmax pmax
comp=Z,25nm,1.1s,mb5.2
BRVK Borovoye 49.02 341 *e*P **P 05 31 01.5 -1.6**
comp=Z,25nm,1.1s,mb5.2
JHJ Hachijo jima 2 49.19 53 LR LR 05 51 32.8
comp=Z,807nm,19.0s,MS4.7,baz=287,slow=36
MAJO Matsushiro 49.28 48 *e*P **P 05 31 06.1 +0.7**
MAJO pmax pmax
comp=Z,104nm,1.8s,mb5.6
MAJO MLR MLR
comp=Z,799nm,20.0s,MS4.7
MAJO Matsushiro 49.28 48 *e*P **P 05 31 06.1 +0.7**
comp=Z,104nm,1.8s,mb5.6
MAJO LR LR
comp=Z,799nm,20.0s,MS4.7
MAT Matsushiro 49.28 48 *e*P pP 05 31 14.0 -1.3
MAT Matsushiro 49.28 48 P pP 05 31 14.0 -1.3
CBIJ Chichi jima 49.44 61 LR LR 05 50 45.8
comp=Z,296nm,19.2s,MS4.3,baz=260,slow=35
CHKZ Chkalovo 49.44 342 *e*P **P 05 31 04.7 -1.7**
CHKZ pmax pmax
comp=Z,82nm,1.1s,mb5.7
CHKZ Chkalovo 49.44 342 *e*P **P 05 31 04.7 -1.7**
comp=Z,82nm,1.1s,mb5.7
ASPA Alice Springs 50.02 130 *e*P **P 05 31 09.4 -1.8**
ASAR Alice Springs 50.02 130 P **P 05 31 08.8 -2.4**
comp=Z,7.0nm,0.9s,mb4.7,baz=304,slow=7.2,SNR=28
ASAR PcP PcP 05 32 30.4 -0.6
comp=Z,3.9nm,0.8s,baz=314,slow=3.9,SNR=6.2
ASAR LR LR 05 54 13.3
comp=Z,645nm,19.9s,MS4.6,baz=298,slow=38
GUMO Guam 50.24 79 P **P 05 31 13.5 +0.5**
FORT Forrest 50.42 141 *e*P **P 05 31 14.3 +0.1**
comp=Z,78nm,0.9s,mb5.7
KLR Kul'dur 51.98 31 *e*P **P 05 31 22.7 -2.9**
KLR *e* 05 33 19.2
BOD Bodaibo 52.20 13 *e*P **P 05 31 25.5 -1.7**
GNI Garni 54.34 314 P **P 05 31 42.7 -0.7**
GNI pmax pmax
comp=Z,19nm,1.1s
GNI MLR MLR
comp=Z,367nm,20.4s
GNI Garni 54.34 314 P **P 05 31 42.7 -0.6**
comp=Z,19nm,1.1s,mb5.0,baz=318,slow=9.3,SNR=8.7
GNI LR LR 05 59 06.8
comp=Z,367nm,20.4s,MS4.4,baz=302,slow=41
GNI Garni 54.34 314 *e*P **P 05 31 42.5 -0.9**
comp=Z,28nm,1.1s,mb5.1
CLNS Chul'man 54.50 20 *e*P **P 05 31 44.1 -0.2**
CLNS *e**PP pP 05 31 49.7 -4.7
CLNS *e* 05 32 46.2
CLNS *e* 05 33 43.8
CLNS *e*S **S 05 39 23.8 +4.4**
CLNS pmax pmax
comp=Z,47nm,0.8s,mb5.6
CLNS pmax pmax
comp=N,29nm,0.9s
CLNS pmax pmax
comp=E,28nm,1.0s
CLNS pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS smax
comp=N,138nm,13.7s
CLNS smax
comp=Z,204nm,11.0s
CLNS smax
comp=E,55nm,12.2s
CLNS MLR MLR
comp=N,2μm,15.0s,MS5.4
CLNS MLR MLR
comp=Z,2μm,15.0s,MS5.3
CLNS MLR MLR
comp=E,300nm,13.0s,MS5.4
SVE Sverdlovsk 55.36 338 *e*P **P 05 31 50.3 -0.2**
SVE pmax pmax
comp=Z,120nm,2.0s,mb5.6
SVE MLR MLR
comp=N,1μm,18.0s,MS5.0
SVE MLR MLR
comp=E,700nm,18.0s,MS5.0
SVE MLR MLR
comp=Z,2μm,18.0s,MS5.2
ASAJ Asahikawa 55.53 41 LR LR 05 55 02.8
comp=Z,920nm,20.3s,MS4.8,baz=358,slow=36
PMG Port Moresby 55.67 107 *e*P **P 05 31 51.2 -2.1**
PMG pmax pmax
comp=Z,36nm,0.9s
PMG MLR MLR
comp=Z,482nm,20.0s
PMG Port Moresby 55.67 107 P **P 05 31 53.3 0.0**
comp=Z,27nm,0.8s,mb5.3,baz=296,slow=9.6,SNR=6.1
PMG Port Moresby 55.67 107 *e*P **P 05 31 51.2 -2.2**
comp=Z,36nm,0.9s,mb5.4
PMG LR LR
comp=Z,482nm,20.0s,MS4.6
ARU Arti 55.85 337 P **P 05 31 53.9 -0.1**
comp=Z,180nm,0.7s,mb6.2,SNR=8.8
ARU Arti 55.85 337 ⇓*i*P **P 05 31 48.2 -5.8**
ARU *e*S **S 05 39 31.0 -6.4**
ARU *e*SS SS 05 43 19.2 -3.9
ARU pmax pmax
comp=Z,32nm,1.1s,mb5.3
ARU MLR MLR
comp=Z,2μm,21.0s,MS5.1
ARU MLR MLR
comp=N,1μm,20.0s,MS5.0
ARU MLR MLR
comp=E,600nm,20.0s,MS5.0
YSS Yuzh-Sakhalins 56.89 38 *e*P **P 05 32 02.5 +0.8**
YSS *e* 05 32 15.5
YSS MLR MLR
comp=E,1μm,13.0s
YSS MLR MLR
comp=Z,900nm,13.0s,MS5.0
YSS Yuzh-Sakhalins 56.89 38 P **P 05 32 01.3 -0.4**
YSS LR LR
comp=Z,703nm,19.0s,MS4.8
KIV Kislovodsk 57.23 318 *d i*P **P 05 32 04.7 +0.6**
KIV *e*S **S 05 39 57.2 +1.4**
KIV pmax pmax
comp=N,18nm,1.0s
KIV pmax pmax
comp=E,14nm,1.0s
KIV pmax pmax
comp=Z,28nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,510nm,20.0s,MS4.6
KIV MLR MLR
comp=N,159nm,18.0s,MS4.6
KIV MLR MLR
comp=E,480nm,20.0s,MS4.6
KIV Kislovodsk 57.23 318 *e*P **P 05 32 04.0 -0.2**
comp=E,29nm,0.9s,mb5.3
KIV LR LR
comp=Z,120nm,20.0s,MS4.0
KMBO Kilima Mbogo 57.27 264 P **P 05 32 07.2 +2.3**
KMBO pmax pmax
comp=Z,17nm,0.9s
KMBO MLR MLR
comp=Z,949nm,18.1s
KMBO Kilima Mbogo 57.27 264 P **P 05 32 07.2 +2.3**
comp=Z,17nm,0.9s,mb5.1,baz=56,slow=9.3,SNR=24
KMBO LR LR 05 56 28.4
comp=Z,949nm,18.1s,MS4.9,baz=93,slow=36
KMBO Kilima Mbogo 57.27 264 *e*P **P 05 32 07.0 +2.1**
comp=Z,29nm,1.0s,mb5.3
KMBO LR LR
comp=Z,1μm,19.0s,MS5.0
ASF Jabal al Asfar 58.10 303 P **P 05 32 10.4 0.0**
comp=Z,7.7nm,1.0s,mb4.7,baz=315,slow=5.2,SNR=9.1
ASF LR LR 05 59 44.1
comp=Z,615nm,21.3s,MS4.7,baz=313,slow=39
MALT Malatya 58.36 310 *e*P **P 05 32 11.5 -0.6**
MALT pmax pmax
comp=Z,11nm,1.1s,mb4.8
MALT Malatya 58.36 310 *e*P **P 05 32 11.5 -0.6**
comp=Z,11nm,1.1s,mb4.8
CTA Charters Tower 58.43 119 P **P 05 32 10.7 -2.1**
CTA pmax pmax
comp=Z,4.0nm,1.0s
CTA MLR MLR
comp=Z,636nm,18.0s
CTA Charters Tower 58.43 119 P **P 05 32 10.7 -2.2**
comp=Z,4.3nm,1.0s,mb4.4,baz=307,slow=7.8,SNR=3.2
CTA LR LR 06 01 28.6
comp=Z,636nm,18.0s,MS4.8,baz=288,slow=40
CTAO Charters Tower 58.43 119 *e*P **P 05 32 11.4 -1.4**
CTAO MLR MLR
comp=Z,733nm,20.0s,MS4.8
SOC Sochi 59.09 317 *e*P **P 05 32 14.3 -2.8**
SOC *e*PPP PPP 05 35 54.0 -0.2
SOC *e*S **S 05 40 23.1 +2.9**
SOC *e* 05 42 04.3
SOC pmax pmax
comp=Z,37nm,1.2s,mb5.3
SOC pmax pmax
comp=N,48nm,1.4s
SOC pmax pmax
comp=E,22nm,1.0s
SOC MLR MLR
comp=Z,647nm,22.0s,MS4.7
SOC MLR MLR
comp=N,544nm,25.0s,MS4.7
SOC MLR MLR
comp=E,420nm,20.0s,MS4.7
EIL Elat 59.30 300 P **P 05 32 17.2 -1.6**
comp=E,5.9nm,0.7s,mb4.7,baz=187,slow=12,SNR=8.2
EIL LR LR 05 59 56.7
comp=E,1μm,18.8s,MS5.0,baz=100,slow=38
EIL Elat 59.30 300 *e*P **P 05 32 17.8 -1.0**
comp=E,37nm,1.4s,mb5.2
YAK Yakutsk 60.06 19 *e*P **P 05 32 22.8 -0.8**
YAK pmax pmax
comp=Z,44nm,1.0s,mb5.4
YAK pmax pmax
comp=N,19nm,1.2s
YAK pmax pmax
comp=E,17nm,1.2s
YAK Yakutsk 60.06 19 *e*P **P 05 32 21.5 -2.0**
comp=E,99nm,0.9s,mb5.8
YAK LR LR
comp=Z,884nm,20.0s,MS4.9
STKA Stephens Creek 60.20 134 P **P 05 32 23.9 -1.0**
comp=Z,13nm,1.1s,mb4.9,baz=313,slow=7.0,SNR=7.9
STKA PcP PcP 05 33 08.0 -2.0
comp=Z,4.6nm,1.0s,baz=289,slow=8.4,SNR=2.9
STKA LR LR 05 59 04.3
comp=Z,1μm,21.8s,MS5.0,baz=297,slow=37
STKA Stephens Creek 60.20 134 *e*P **P 05 32 22.8 -2.2**
BRTR Keskin Array B 62.33 311 P **P 05 32 36.5 -2.7**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 62.33 311 P **P 05 32 36.5 -2.7**
comp=Z,7.2nm,0.8s,mb4.8,baz=120,slow=6.4,SNR=22
MBAR Mbarara 63.61 265 *e*P **P 05 32 49.3 +1.1**
MBAR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
MBAR Mbarara 63.61 265 *e*P **P 05 32 49.3 +1.2**
comp=Z,9.8nm,1.0s,mb4.8
MOS Moscow 65.02 329 *e*P **P 05 32 54.1 -2.4**
MOS *e* 05 33 24.9
MOS *e*S S 05 41 39.4 +4.7
MOS pmax pmax
comp=Z,200nm,1.6s,mb5.9
MOS pmax pmax
comp=Z,84nm,0.8s,mb5.8
MOS MLR MLR
comp=Z,3μm,23.0s,MS5.5
OBN Obninsk 65.31 328 *i* P **P 05 32 54.8 -3.7**
OBN *e* 05 33 29.4
OBN *e* 05 35 18.5
OBN *e*S S 05 41 33.2 -5.2
OBN *e*SS SS 05 45 51.3 -2.0
OBN pmax pmax
comp=Z,77nm,1.2s,mb5.6
OBN MLR MLR
comp=Z,900nm,23.0s,MS4.9
OBN Obninsk 65.31 328 *e*P **P 05 32 54.5 -3.9**
comp=Z,51nm,1.0s,mb5.5
MA2 Magadan 66.85 28 *e*P **P 05 33 08.3 +0.2**
MA2 S S 05 41 57.6 +0.6
MA2 pmax pmax
comp=Z,30nm,1.0s,mb5.3
MA2 pmax pmax
comp=N,10.0nm,1.1s
MA2 pmax pmax
comp=E,10.0nm,1.1s
MA2 MLR MLR
comp=Z,1μm,22.5s,MS5.0
MA2 Magadan 66.85 28 *e*P **P 05 33 08.0 -0.1**
comp=Z,49nm,1.0s,mb5.5
MA2 LR LR
comp=Z,533nm,20.0s,MS4.8
TIXI Tiksi 67.28 11 *e*P **P 05 33 08.5 -2.2**
TIXI *e*S S 05 42 00.7 -1.3
TIXI pmax pmax
comp=Z,66nm,0.9s,mb5.7
TIXI MLR MLR
comp=Z,559nm,14.0s,MS4.9
AKASG Malin Array Be 68.08 322 P **P 05 33 13.5 -2.5**
AKASG pmax pmax
comp=Z,14nm,0.9s
AKASG Malin Array Be 68.08 322 P **P 05 33 13.4 -2.5**
comp=Z,14nm,0.9s,mb5.0,baz=89,slow=4.8,SNR=26
IDI Anoyia 68.45 305 P **P 05 33 18.9 +0.2**
comp=Z,21nm,0.9s,mb5.2,baz=108,slow=10,SNR=6.1
VRI Vrincioaia 68.61 316 ⇓P **P 05 33 18.1 -1.3**
SEY Seymchan 69.00 25 *e*P **P 05 33 20.8 -0.7**
SEY pmax pmax
comp=E,30nm,0.9s
SEY pmax pmax
comp=Z,30nm,0.9s,mb5.2
MLR Muntele Rosu 69.08 316 ⇑P **P 05 33 22.0 -0.3**
MLR Muntele Rosu 69.08 316 P **P 05 33 21.5 -0.8**
comp=Z,21nm,0.9s,mb5.1,baz=121,slow=4.6,SNR=18
LSZ Lusaka 69.12 250 *e*P **P 05 33 22.8 -0.2**
LSZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
LSZ Lusaka 69.12 250 *e*P **P 05 33 22.8 -0.3**
comp=Z,8.0nm,1.0s,mb4.6
BURAR Bucovina Array 69.96 318 ⇑P **P 05 33 27.0 -0.7**
JOF Joensuu 70.80 334 *e*p **P 05 33 32.3 -0.2**
comp=Z,29nm,0.8s,mb5.3
APA Apatity 71.81 339 ⇑*i*P **P 05 33 38.0 -0.5**
APA *i* pP 05 33 49.8 +1.0
APA pmax pmax
comp=Z,32nm,0.8s,mb5.3
KWP Kalwaria 71.95 320 *e*P **P 05 33 38.9 -0.7**
KOLS Kolonicke sedl 72.12 319 *i* P **P 05 33 42.7 +2.1**
SUW Suwalki 72.43 324 *e*P **P 05 33 41.9 -0.4**
CRVS Cervenica-Dubn 72.64 319 *i* P **P 05 33 45.5 +1.8**
FINES FINESS Array B 72.66 332 P **P 05 33 42.5 -1.1**
comp=Z,22nm,0.8s,mb5.2,baz=104,slow=7.9,SNR=30
FINES LR LR 06 11 53.5
comp=Z,643nm,18.3s,MS4.9,baz=279,slow=41
KAF Kangasniemi 72.74 333 *e*p **P 05 33 43.3 -0.7**
comp=Z,34nm,1.0s,mb5.2
KAF Kangasniemi 72.74 333 *e*P **P 05 33 43.3 -0.7**
KAF pmax pmax
comp=Z,34nm,1.0s,mb5.2
NIE Niedzica 73.46 319 *e*P **P 05 33 50.0 +1.4**
PSZ Piszkesteto 73.55 318 *e*P **P 05 33 46.5 -2.6**
PSZ pmax pmax
comp=Z,16nm,1.2s,mb4.8
PSZ Piszkesteto 73.55 318 *e*P **P 05 33 46.5 -2.6**
comp=Z,16nm,1.2s,mb4.8
OJC Ojcow 73.89 320 *e*P **P 05 33 50.8 -0.2**
VYHS Vyhne 74.32 318 *i* P **P 05 33 54.8 +1.3**
KEV Kevo 74.80 341 *e*p **P 05 33 55.6 -0.3**
comp=Z,16nm,0.9s,mb4.9
KEV Kevo 74.80 341 *e*P **P 05 33 55.6 -0.3**
KEV pmax pmax
comp=Z,16nm,0.9s,mb5.0
OKC Ostrava-Krasne 74.91 319 *e*P **P 05 33 57.1 +0.2**
CASY Casey 74.93 173 *e*P **P 05 33 55.1 -1.6**
comp=Z,34nm,1.3s,mb5.1
ARCES ARCESS Array B 75.23 340 P **P 05 33 57.9 -0.5**
ARCES pmax pmax
comp=Z,15nm,0.9s
ARCES MLR MLR
comp=Z,2μm,20.2s
ARCES ARCESS Array B 75.23 340 P **P 05 33 57.9 -0.5**
comp=Z,15nm,0.9s,mb4.9,baz=95,slow=5.5,SNR=16
ARCES LR LR 06 09 57.5
comp=Z,2μm,20.1s,MS5.3,baz=212,slow=38
ARCES ARCESS Array B 75.23 340 P **P 05 33 57.9 -0.5**
ARCES LR LR 06 09 57.5
MORC Moravsky Berou 75.29 319 *e*P **P 05 33 59.0 -0.1**
MORC pmax pmax
comp=Z,30nm,1.0s,mb5.2
MORC Moravsky Berou 75.29 319 *e*P **P 05 33 59.0 -0.1**
comp=Z,30nm,1.0s,mb5.2
ZST Bratislava 75.44 318 *i* P **P 05 34 02.2 +2.2**
BOSA Boshof 75.45 238 *e*P **P 05 34 01.8 +1.3**
BOSA pmax pmax
comp=Z,14nm,1.0s,mb4.8
BOSA Boshof 75.45 238 *e*P **P 05 34 01.8 +1.3**
comp=Z,14nm,1.0s,mb4.8
GKP Gorka Klasztor 75.82 323 *e*P **P 05 34 03.0 +0.9**
GKP Gorka Klasztor 75.82 323 *e*P **P 05 34 03.0 +0.9**
DPC Dobruska-Polom 76.12 320 *e*P **P 05 34 04.0 +0.2**
DPC *e*pP pP 05 34 11.1 -3.1
BILL Bilibino 76.16 22 *i* P **P 05 34 03.4 -0.3**
BILL pmax pmax
comp=Z,25nm,1.2s,mb5.0
BILL Bilibino 76.16 22 *e*P **P 05 34 01.7 -2.0**
comp=Z,54nm,1.4s,mb5.3
BILL LR LR
comp=Z,1μm,21.0s,MS5.2
KSP Ksiaz 76.18 320 *e*P **P 05 34 04.6 +0.4**
KSP Ksiaz 76.18 320 *e*P **P 05 34 04.9 +0.8**
UPC Upice 76.33 320 *e*P **P 05 34 05.0 0.0**
GROS Grobnik 76.42 316 *e*P **P 05 34 06.7 +1.1**
VISS Visnje 76.85 315 *e*P **P 05 34 09.9 +1.8**
PRU Pruhonice 77.24 319 *e*P **P 05 34 10.2 0.0**
PVCC Panska Ves 77.25 320 *e*P **P 05 34 10.8 +0.5**
PVCC *e*pP pP 05 34 18.4 -2.2
MOA Molln 77.33 317 ⇑*i*P **P 05 34 06.1 -4.6**
comp=Z,15nm,1.1s,mb4.8
BSD Bornholm Skovb 77.35 325 ⇓*i*P **P 05 34 11.9 +1.2**
BSD pmax pmax
comp=Z,36nm,0.8s,mb5.3
BSD Bornholm Skovb 77.35 325 ⇓*i*P **P 05 34 11.9 +1.2**
comp=Z,36nm,0.8s,mb5.3
BRG Berggiesshubel 77.67 320 *i* P **P 05 34 14.5 +2.0**
BRG pmax pmax
comp=Z,34nm,1.3s,mb5.1
BRG Berggiesshubel 77.67 320 *i* P **P 05 34 14.5 +2.0**
comp=Z,34nm,1.3s,mb5.1
GEC2 GERESS Array S 77.74 318 *e*P **P 05 34 12.8 -0.2**
GEC2 pmax pmax
comp=Z,40nm,1.2s,mb5.2
GEC2 GERESS Array S 77.74 318 *e*P **P 05 34 12.8 -0.2**
comp=Z,40nm,1.2s,mb5.2
GERES GERESS Array B 77.74 318 P **P 05 34 12.6 -0.4**
GERES pmax pmax
comp=Z,15nm,0.8s
GERES GERESS Array B 77.74 318 P **P 05 34 12.6 -0.4**
comp=Z,14nm,0.8s,mb5.0,baz=90,slow=6.7,SNR=40
KHC Kasperske Hory 77.83 319 *e*P **P 05 34 13.3 -0.2**
KHC *e*pP pP 05 34 18.9 -4.9
RUE Ruedersdorf 77.85 322 *e*P **P 05 34 13.4 0.0**
comp=Z,62nm,1.0s,mb5.5
KBA Koelnbreinsper 77.92 316 ⇑*i*P **P 05 34 13.6 -0.4**
comp=Z,19nm,1.2s,mb4.9
KBA Koelnbreinsper 77.92 316 ⇑*i*P **P 05 34 13.6 -0.4**
KBA pmax pmax
comp=Z,19nm,1.2s,mb4.9
CLL Collm 78.28 321 *i* P **P 05 34 16.2 +0.3**
CLL *i* 05 34 21.9
CLL pmax pmax
comp=Z,30nm,1.4s,mb5.0
CLL Collm 78.28 321 *i* P **P 05 34 16.2 +0.3**
comp=Z,30nm,1.4s,mb5.0
CLL *i* 05 34 21.9
CLL Collm 78.28 321 P **P 05 34 16.2 +0.3**
comp=Z,logA/T=1.3,mb5.0
CLL *i* *PP pP 05 34 21.9 -4.3
WET Wettzell 78.29 319 *e*P **P 05 34 16.0 0.0**
WET pmax pmax
comp=Z,24nm,1.1s,mb5.0
WET Wettzell 78.29 319 *e*P **P 05 34 16.0 0.0**
comp=Z,24nm,1.1s,mb5.0
MAW Mawson 78.49 192 P **P 05 34 19.3 +2.6**
MAW pmax pmax
comp=Z,7.0nm,0.9s
MAW Mawson 78.49 192 P **P 05 34 19.3 +2.6**
comp=Z,7.4nm,0.9s,mb4.6,baz=72,slow=6.4,SNR=3.9
NKC Novy Kostel 78.60 320 *e*P **P 05 34 17.8 +0.2**
MOX Moxa 79.14 320 *e*P **P 05 34 21.0 +0.4**
MOX pmax pmax
comp=Z,28nm,1.6s,mb4.9
MOX MLR MLR
comp=Z,500nm,17.0s,MS4.9
MOX Moxa 79.14 320 *e*P **P 05 34 21.0 +0.4**
comp=Z,28nm,1.6s,mb4.9
MOX LR LR
comp=Z,500nm,17.0s,MS4.9
MOX Moxa 79.14 320 *i* P **P 05 34 21.0 +0.4**
comp=Z,logA/T=1.2,mb4.9
MOX L 06 15 50.0
GRA1 Grafenberg Arr 79.38 319 *e*P **P 05 34 22.8 +0.9**
comp=Z,38nm,1.1s,mb5.2
GRF Grafenberg Arr 79.38 319 *e*P **P 05 34 22.8 +0.9**
GRF pmax pmax
comp=Z,38nm,1.1s,mb5.2
GRF Grafenberg Arr 79.38 319 *e*P **P 05 34 22.8 +0.9**
GRF pmax pmax
comp=Z,38nm,1.1s,mb5.2
GRF Grafenberg Arr 79.38 319 *e*P **P 05 34 22.8 +0.9**
comp=Z,38nm,1.1s,mb5.2
SQTA Sankt Quirin 79.38 317 ⇓*i*P **P 05 34 20.3 -1.7**
comp=Z,15nm,0.9s,mb4.9
SQTA Sankt Quirin 79.38 317 ⇓*i*P **P 05 34 20.3 -1.7**
SQTA pmax pmax
comp=Z,15nm,0.9s,mb4.9
MOTA Moosalm 79.45 317 ⇓*i*P **P 05 34 21.1 -1.3**
comp=Z,14nm,1.0s,mb4.9
MOTA Moosalm 79.45 317 ⇓*i*P **P 05 34 21.1 -1.3**
MOTA pmax pmax
comp=Z,15nm,1.0s,mb4.9
NB2 NORSAR Subarra 79.67 331 P **P 05 34 21.8 -1.5**
comp=Z,47nm,1.2s,mb5.3,baz=90,slow=5.8
NB2 NORSAR Subarra 79.67 331 P **P 05 34 21.8 -1.5**
baz=90,slow=5.9
NOA NORSAR Array B 79.67 331 P **P 05 34 21.9 -1.3**
comp=Z,17nm,0.8s,mb5.0,baz=93,slow=5.5,SNR=33
NOA LR LR 06 14 42.6
comp=Z,475nm,18.6s,MS4.9,baz=95,slow=40
NAO01 NORSAR Array S 79.83 330 *e*P **P 05 34 23.0 -1.1**
comp=Z,29nm,0.9s,mb5.2
CLZ Clausthal 79.93 321 *e*P **P 05 34 24.4 -0.4**
comp=Z,32nm,1.1s,mb5.2
BSEG Bad Segeberg 79.97 323 *e*P **P 05 34 25.9 +0.9**
SUR Sutherland 80.20 235 *e*P **P 05 34 27.7 +1.0**
comp=Z,18nm,1.1s,mb4.9
DAVA Damuels 80.29 317 ⇓*i*P **P 05 34 26.7 -0.1**
comp=Z,27nm,1.0s,mb5.1
MUD Monsted U'grnd 80.64 326 *e*P **P 05 34 30.3 +1.8**
MUD pmax pmax
comp=Z,35nm,0.9s,mb5.3
MUD Monsted U'grnd 80.64 326 *e*P **P 05 34 30.3 +1.8**
comp=Z,35nm,0.9s,mb5.3
MUD Monsted U'grnd 80.64 326 *i* P **P 05 34 30.3 +1.8**
comp=Z,35nm,0.9s,mb5.3
BFO Black Forest 81.31 318 *e*P **P 05 34 31.4 -0.8**
BFO pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BFO Black Forest 81.31 318 *e*P **P 05 34 31.4 -0.8**
comp=Z,9.0nm,1.0s,mb4.7
LPG La Plagne 82.52 315 *e*P **P 05 34 38.3 -0.2**
comp=Z,47nm,0.9s,mb5.2
LPG La Plagne 82.52 315 *e*P **P 05 34 38.3 -0.2**
LPG pmax pmax
comp=Z,23nm,0.9s,mb5.2
BNI Bardonecchia 82.60 314 *e*P **P 05 34 40.0 +1.0**
BNI pmax pmax
comp=Z,19nm,0.9s,mb5.1

BNI	Bardonecchia	82.60	314	eP		P	05 34 40.0	+1.0
	comp=Z,19nm,0.9s,mb5.1							
SYO	Syowa Base	85.34	197	⇑P		P	05 34 54.4	+2.2
SYO	Syowa Base	85.34	197	⇓PcP		PcP	05 34 58.1	+2.4
RPZ	Rata Peaks	86.14	135	LR	LR	LR	06 12 04.8	
	comp=Z,711nm,20.9s,MS5.0,baz=188,slow=35							
TNA	Tin City	86.25	24	eP		P	05 34 56.7	0.0
JMIC	Jan Mayen	86.68	341	LR		LR	06 20 33.2	
	comp=Z,557nm,18.0s,MS5.0,baz=272,slow=40							
DAG	Danmarks Havn	87.46	348	⇑eP		P	05 35 03.1	+0.7
DAG				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.8							
DAG	Danmarks Havn	87.46	348	⇑eP		P	05 35 03.1	+0.7
	comp=Z,6.0nm,1.0s,mb4.8							
DAG	Danmarks Havn	87.46	348	⇑iP		P	05 35 03.1	+0.7
	comp=Z,6.0nm,1.0s,mb4.8							
ANM	Nome	87.51	25	eP		P	05 35 05.2	+2.3
ESK	Eskdalemuir	87.68	325	PFAKE			05 35 20.0	+16
ESK				LR	LR			
	comp=Z,153nm,21.0s,MS4.4							
URZ	Urewera	89.44	129	LR	LR	LR	06 15 47.8	
	comp=Z,261nm,20.8s,MS4.6,baz=270,slow=36							
ESDC	Sonseca Array	91.11	310	P		P	05 35 20.5	0.0
	comp=Z,5.5nm,0.9s,mb4.9,baz=60,slow=5.1,SNR=10							
ESLA	Sonseca Array	91.11	310	eP		P	05 35 21.5	+0.9
	comp=Z,5.6nm,1.2s,mb4.8							
ESLA				LR	LR			
	comp=Z,2μm,21.0s,MS5.6							
IMA	Indian Mountai	91.70	22	eP		P	05 35 24.0	+1.4
SVW2	Sparrevohn	92.83	27	eP		P	05 35 30.9	+3.0
VNDA	Vanda	92.94	168	P		P	05 35 28.7	+0.5
	comp=Z,1.4nm,0.9s,mb4.4,baz=280,slow=6.1,SNR=3.2							
VNDA				LR	LR		06 12 44.5	
	comp=Z,424nm,19.5s,MS4.9,baz=300,slow=33							
VNDA	Vanda	92.94	168	P		P	05 35 30.6	+2.5
	comp=Z,4.1nm,1.1s,mb4.8							
VNDA				LR	LR			
	comp=Z,389nm,20.0s,MS4.9							
SPU	Mount Spurr	94.37	26	eP		P	05 35 35.3	+0.4
COLA	College	94.41	22	P		P	05 35 35.9	+0.9
COLA				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.8							
COLA				MLR	MLR			
	comp=Z,545nm,19.0s,MS5.0							
COLA	College	94.41	22	P		P	05 35 35.9	+0.9
	comp=Z,4.0nm,1.0s,mb4.8							
COLA				LR	LR			
	comp=Z,545nm,19.0s,MS5.0							
MCK	McKinley	94.53	23	eP		P	05 35 36.9	+1.3
MCK				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb5.1							
MCK				MLR	MLR			
	comp=Z,270nm,21.0s,MS4.7							
MCK	McKinley	94.53	23	eP		P	05 35 36.9	+1.3
	comp=Z,7.8nm,1.0s,mb5.1							
MCK				LR	LR			
	comp=Z,270nm,21.0s,MS4.7							
ILAR	Eielson Array	94.82	22	P		P	05 35 36.7	-0.2
ILAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ILAR				MLR	MLR			
	comp=Z,288nm,18.9s							
ILAR	Eielson Array	94.82	22	P		P	05 35 36.6	-0.2
	comp=Z,2.6nm,0.8s,mb4.7,baz=302,slow=4.9,SNR=28							
ILAR				LR	LR		06 21 45.0	
	comp=Z,288nm,18.9s,MS4.8,baz=126,slow=38							
PWA	Palmer West	95.10	25	eP		P	05 35 39.0	+0.7
PMR	Palmer	95.45	25	eP		P	05 35 41.9	+2.1
SLKM	Skilak Lake	95.47	27	eP		P	05 35 39.9	0.0
SML	Sawmill	95.68	25	eP		P	05 35 42.7	+1.8
MENT	Mentasta	96.97	23	eP		P	05 35 49.8	+3.1
INK	Inuvik	97.05	16	P		P	05 35 48.3	+1.3
	comp=Z,8.4nm,1.1s,mb5.1,baz=296,slow=4.9,SNR=14							
INK				LR	LR		06 25 58.5	
	comp=Z,579nm,19.3s,MS5.1,baz=198,slow=40							
INK	Inuvik	97.05	16	eP		P	05 35 48.8	+1.8
	comp=Z,27nm,1.4s,mb5.5							
RES	Resolute Bay	97.42	2	eP		P	05 35 49.2	+0.6
RES				pmax	pmax			
	comp=Z,14nm,0.9s,mb5.4							
RES	Resolute Bay	97.42	2	eP		P	05 35 49.1	+0.6
	comp=Z,14nm,0.9s,mb5.4							
QSPA	South Pole Qui	97.76	180	PFAKE			05 36 00.0	+10
QSPA				LR	LR			
	comp=Z,710nm,21.0s,MS5.1							
DBIC	Dimbokro	97.80	278	LR		LR	06 20 56.4	
	comp=Z,610nm,18.2s,MS5.1,baz=184,slow=36							
DBIC	Dimbokro	97.80	278	PFAKE			05 36 00.0	+8.4
DBIC				LR	LR			
	comp=Z,665nm,19.0s,MS5.2							
DAWY	Dawson	97.93	21	eP		P	05 35 52.5	+1.5
YKA	Yellowknife Ar	106.48	13	P		Pdif	05 36 30.1	+0.9
YKA							05 40 50.4	
YKA	Yellowknife Ar	106.48	13	Pdiff		Pdif	05 36 30.0	+0.9
	comp=Z,0.3nm,0.9s,baz=328,slow=2.6,SNR=4.1							
YKA				PKiKP			05 40 39.4	
	comp=Z,0.2nm,0.7s,baz=302,slow=2.3,SNR=3.7							
YKA				PP		PP	05 40 50.4	-6.8
	comp=Z,0.6nm,0.8s,baz=338,slow=8.1,SNR=6.7							
YKA				PKKPbc			05 52 00.5	
	comp=Z,0.3nm,0.6s,baz=154,slow=3.0,SNR=7.5							
YKA				PKKP		PKKP	05 52 16.6	+12
	comp=Z,0.6nm,0.8s,baz=148,slow=4.3,SNR=9.4							
SCHQ	Schefferville	115.51	348	PFAKE			05 41 10.0	+14
SCHQ				LR	LR			
	comp=Z,862nm,21.0s,MS5.3							
MSO	Missoula	120.15	22	ePKPdf		PKPdf	05 41 06.4	+1.0
MOD	Modoc	121.38	30	ePKPdf		PKPdf	05 41 10.2	+2.3
HLID	Hailey	122.70	24	ePKPdf		PKPdf	05 41 12.4	+1.9
QLMT	Earthquake Lak	122.77	21	ePKPdf		PKPdf	05 41 12.1	+1.6
YMR	Madison River	123.08	21	ePKPdf		PKPdf	05 41 13.8	+2.6
LOHW	Long Hollow	124.12	21	ePKPdf		PKPdf	05 41 14.7	+1.5
SNOW	Snow King Moun	124.20	22	ePKPdf		PKPdf	05 41 15.6	+2.3
NVAR	Mina Array Bea	125.01	31	PKP		PKPdf	05 41 18.1	+3.1
	comp=Z,4.9nm,0.8s,baz=6.9,slow=0.5,SNR=21							
MNV	Mina	125.08	31	ePKIKP		PKPdf	05 41 16.9	+1.7
PDAR	Pinedale Array	125.24	21	PKP		PKPdf	05 41 16.9	+1.6
	comp=Z,4.6nm,0.8s,baz=37,slow=1.4,SNR=30							
HWUT	Hardware Ranch	125.48	23	ePKPdf		PKPdf	05 41 16.7	+0.9
HWUT				LR	LR			
	comp=Z,480nm,20.0s,MS5.2							
RSSD	Black Hills	125.75	16	PFAKE			05 41 30.0	+14
RSSD				LR	LR			
	comp=Z,2.0nm,20.0s							
TRCR	Troy Canyon	126.41	29	ePKPdf		PKPdf	05 41 16.4	-1.3
NLU	North Lily Min	126.67	25	ePKPdf		PKPdf	05 41 20.4	+2.2
MVU	Marysvale	127.83	26	ePKPdf		PKPdf	05 41 23.3	+2.8
MSU	Marysvale	127.83	26	ePKIKP		PKPdf	05 41 23.5	+3.0
NEN	Nelson	128.91	30	ePKPdf		PKPdf	05 41 23.2	+0.6
KSU1	Kansas State U	132.26	11	ePKPdf		PKPdf	05 41 31.5	+2.6
ANMO	Albuquerque	133.25	23	ePKIKP		PKPdf	05 41 33.4	+2.5
ANMO				MLR	MLR			
	comp=Z,394nm,19.0s							
CPRX	Cap Rock	135.93	22	ePKPdf		PKPdf	05 41 39.1	+3.2
WMOK	Wichita Mounta	135.95	15	PFAKE			05 41 50.0	+14
WMOK				LR	LR			
	comp=Z,501nm,20.0s,MS5.2							
GDL2	Guadalupe Moun	136.49	23	ePKPdf		PKPdf	05 41 38.1	+1.1
MNTX	Cornudas Mount	136.53	24	eP		PKPdf	05 41 38.4	+1.4
MIAR	Mount Ida	137.23	9	PFAKE			05 41 50.0	+12
MIAR				LR	LR			
	comp=Z,951nm,20.0s,MS5.5							
TXAR	Lajitas Array	139.30	24	PKhKP			05 41 34.9	
	comp=Z,0.3nm,0.6s,baz=257,slow=1.3,SNR=5.0							
TXAR				PKP		PKPdf	05 41 42.2	+0.1
	comp=Z,1.5nm,0.8s,baz=299,slow=0.8,SNR=10							
TXAR	Lajitas Array	139.30	24	PKP			05 41 34.9	
TXAR				PKP		PKPdf	05 41 42.2	+0.1
JCT	Junction City	139.65	19	ePKIKP			05 41 38.7	
JCT				e			05 41 46.1	
TRQA	Tornquist	142.91	212	PFAKE			05 42 00.0	+12
TRQA				LR	LR			
	comp=Z,530nm,19.0s,MS5.3							
PLCA	Paso Flores	144.48	200	PKIKP		PKPdf	05 41 52.4	+1.5
PLCA				pmax	pmax			
	comp=Z,20nm,0.9s							
PLCA	Paso Flores	144.48	200	PKP		PKPdf	05 41 52.4	+1.5
	comp=Z,20nm,0.9s,baz=172,slow=3.3,SNR=23							
PLCA	Paso Flores	144.48	200	ePKPdf		PKPdf	05 41 52.2	+1.3
SJG	San Juan	147.59	323	PFAKE			05 42 10.0	+13
SJG				LR	LR			
	comp=Z,509nm,22.0s,MS5.3							
FCH	Farellones	150.78	208	eP		PKPdf	05 42 10.0	+8.6
TEIG	Tepich	152.01	5	ePKPdf		PKPdf	05 42 05.7	+2.1
TEIG				ePKPbc		PKPdf	05 42 13.1	+10
SDV	Santo Domingo	157.39	317	PFAKE			05 42 20.0	+8.9
SDV				LR	LR			
	comp=Z,255nm,20.0s,MS5.0							
SAML	Samuel	157.39	266	PFAKE			05 42 20.0	+8.9
SAML				LR	LR			
	comp=Z,459nm,21.0s,MS5.3							
LPAZ	La Paz	160.62	243	PFAKE			05 42 30.0	+15
LPAZ				LR	LR			
	comp=Z,357nm,21.0s							
JTS	JuntasAbangare	161.94	357	PFAKE			05 42 30.0	+14
JTS				LR	LR			
	comp=Z,69nm,21.0s							
OTAV	Otavalo	168.98	317	PFAKE			05 42 40.0	+18
OTAV				LR	LR			
	comp=Z,296nm,21.0s							

*IDC **27** 05:27:32.7±0.6, 7.84N×94.11E, mb4.4/21, mb1 4.5/22, mb1mx4.5/26, mbtmp4.4/22, ML4.8/1, Error ellipse: s-maj=26.9km s-min=14.0km az=46.0*
*BJI **27** 05:27:36.3, 7.52N×93.62E, h50km, mb4.6*
*NEIC **27** 05:27:37.4±0.4, 7.80N×94.07E, h30km, mb4.7/14, Error ellipse: s-maj=13.1km s-min=9.2km az=52.0*

ISC 27 05:27:35.0±4.3, 7.81N±0.09×94.09E±0.09, h26km±30km, n65, σ1§15/59, mb4.7/41, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.59	24	Pn		05 30 22.9	+0.8
	1.9nm,0.3s,baz=209,slow=14,SNR=13						
HYB	Hyderabad	17.91	304	eP		05 31 46.0	+1.8
HYB	Hyderabad	17.91	304	iP		05 31 46.0	+1.8
QIZ	Qiongzhong	18.93	52	P		05 32 00.0	+3.3
KMI	Kunming	19.10	25	P		05 32 04.6	+5.9
	24nm,1.2s						
JIRN	Jiri	21.12	340	eP		05 32 19.5	-0.8
	87nm,0.9s,mb5.1						
PKI	Pulchoki	21.31	338	eP		05 32 22.0	-0.2
	68nm,0.6s,mb5.1						
GUN	Gumba	21.45	340	eP		05 32 22.0	-1.7
	120nm,1.0s,mb5.2						
DMN	Daman	21.46	338	eP		05 32 23.9	+0.2
	126nm,0.8s,mb5.3						
KKN	Kakani	21.55	338	eP		05 32 24.9	+0.2
	215nm,1.4s,mb5.4						
LSA	Lhasa	21.95	353	eP		05 32 28.0	-0.7
	24nm,0.6s,mb4.8						
GKN	Gorkha	21.99	337	eP		05 32 27.9	-1.2
	92nm,0.8s,mb5.3						
KOLN	Koldanda	22.20	335	eP		05 32 31.4	+0.2
	99nm,1.0s,mb5.2						
ENH	Enshi	26.60	31	eP		05 33 09.4	-4.0
	15nm,0.9s,mb4.5						
AAK	Ala-Archa	38.75	337	eP		05 34 57.5	-1.6
	8.7nm,0.9s,mb4.5						
SONM	Songino Array	41.24	13	P		05 35 20.1	+0.5
	2.7nm,0.9s,mb3.9,baz=202,slow=5.8,SNR=8.9						
SONM				PcP	PcP	05 37 18.4	-0.4
	1.2nm,0.9s,baz=207,slow=3.5,SNR=3.6						
KURK	Kurchatov	44.66	346	eP		05 35 47.2	-0.3
	17nm,1.0s,mb4.8						
NWAO	Narrogin (SRO)	46.11	153	P		05 35 59.5	+0.3
	5.5nm,0.6s,mb4.7,baz=338,slow=5.4,SNR=3.4						
HIA	Hailar	46.60	23	eP		05 36 04.8	+2.0
	14nm,1.2s,mb4.8						
WRA	Warramunga Arr	48.26	125	P		05 36 15.5	-0.8
	1.8nm,0.9s,mb4.1,baz=304,slow=9.0,SNR=5.6						
BVAR	Borovoye Array	49.04	341	P		05 36 21.0	-0.8
	2.6nm,0.7s,mb4.4,baz=149,slow=8.6,SNR=10.0						
BVAR				PcP	PcP	05 37 44.8	-1.0
	0.9nm,0.5s,baz=117,slow=3.2,SNR=3.7						
RAYN	Ar Rayn	49.07	294	P		05 36 24.4	+1.9
	87nm,1.0s,mb5.7,SNR=10						
BRVK	Borovoye	49.10	341	eP		05 36 20.3	-2.0
	5.1nm,1.0s,mb4.5						
CHKZ	Chkalovo	49.52	342	eP		05 36 23.0	-2.6
	16nm,0.9s,mb5.1						
ASAR	Alice Springs	49.91	130	P		05 36 27.4	-1.5
	1.2nm,0.7s,mb4.1,baz=300,slow=8.1,SNR=5.0						
KMBO	Kilima Mbogo	57.37	264	P		05 37 23.5	-0.6
	2.8nm,0.7s,mb4.4,baz=53,slow=11,SNR=6.6						
ASF	Jabal al Asfar	58.22	303	P		05 37 29.3	-0.5
	1.5nm,0.4s,mb4.4,baz=254,slow=7.4,SNR=3.2						
EIL	Elat	59.42	300	P		05 37 38.5	+0.3
	3.9nm,0.7s,mb4.5,baz=38,slow=12,SNR=3.5						
STKA	Stephens Creek	60.09	134	P		05 37 42.3	-0.4
	1.5nm,0.5s,mb4.2,baz=126,slow=15,SNR=3.0						
BRTR	Keskin Array B	62.44	311	P		05 37 57.0	-1.5
	2.1nm,0.7s,mb4.4,baz=128,slow=7.9,SNR=8.8						
AKASG	Malin Array Be	68.18	322	P		05 38 33.9	-1.4
	2.8nm,0.8s,mb4.3,baz=96,slow=4.3,SNR=7.9						
IDI	Anoyia	68.57	305	P		05 38 38.0	0.0
	12nm,0.7s,mb5.0,baz=74,slow=9.4,SNR=7.5						
MLR	Muntele Rosu	69.19	316	P		05 38 40.5	-1.1
	6.4nm,0.9s,mb4.6,baz=51,slow=6.5,SNR=5.2						
JOF	Joensuu	70.89	334	ep		05 38 53.4	+1.7
	9.7nm,0.8s,mb4.8						
FINES	FINESS Array B	72.75	332	P		05 39 02.4	-0.4
	6.1nm,0.7s,mb4.7,baz=95,slow=6.9,SNR=13						
FINES	FINESS Array B	72.75	332	P		05 39 02.4	-0.4
KAF	Kangasniemi	72.83	333	ep		05 39 01.4	-1.9
	9.6nm,1.0s,mb4.7						
KEV	Kevo	74.88	341	ep		05 39 18.0	+3.0
ARCES	ARCESS Array B	75.31	340	P		05 39 17.6	+0.1
	3.0nm,0.7s,mb4.3,baz=103,slow=5.4,SNR=8.6						
MORC	Moravsky Berou	75.40	319	eP		05 39 18.1	-0.2
	8.2nm,1.1s,mb4.6						
DPC	Dobruska-Polom	76.23	320	eP		05 39 23.8	+0.7
KSP	Ksiaz	76.28	320	eP		05 39 23.6	+0.2
UPC	Upice	76.44	320	eP		05 39 27.8	+3.6
PRU	Pruhonice	77.35	319	eP		05 39 30.0	+0.7
GERES	GERESS Array B	77.85	318	P		05 39 32.6	+0.5
	2.7nm,0.7s,mb4.3,baz=90,slow=5.3,SNR=15						
KHC	Kasperske Hory	77.94	319	eP		05 39 36.0	+3.5
CLL	Collm	78.38	321	P		05 39 36.0	+1.0
HFS	Hagfors	78.49	330	P		05 39 35.6	+0.3
	5.2nm,0.6s,mb4.7,baz=127,slow=7.2,SNR=3.7						
MOX	Moxa	79.24	320	eP		05 39 40.0	+0.3
GRA1	Grafenberg Arr	79.49	319	eP		05 39 41.8	+0.8
	12nm,1.3s,mb4.7						
GRF	Grafenberg Arr	79.49	319	eP		05 39 41.8	+0.8
	12nm,1.3s,mb4.7						
NB2	NORSAR Subarra	79.77	331	P		05 39 41.9	-0.4
	3.7nm,0.7s,mb4.4,baz=91,slow=5.8						
NOA	NORSAR Array B	79.77	331	P		05 39 42.5	+0.2
	2.6nm,0.6s,mb4.3,baz=94,slow=5.2,SNR=6.8						
NOA	NORSAR Array B	79.77	331	P		05 39 42.5	+0.2
LPG	La Plagne	82.63	315	eP		05 39 58.4	+0.8
	14nm,0.8s,mb4.8						
ESDC	Sonseca Array	91.22	310	P		05 40 41.1	+1.5
	1.2nm,0.8s,mb4.3,baz=72,slow=4.5,SNR=4.3						
IMA	Indian Mountai	91.70	22	eP		05 40 43.3	+2.1
ILAR	Eielson Array	94.82	22	P		05 40 55.4	-0.2
	0.4nm,0.7s,mb3.9,baz=280,slow=4.7,SNR=3.6						
INK	Inuvik	97.07	16	P		05 41 05.2	-0.6
	6.0nm,1.3s,mb4.8,baz=323,slow=3.6,SNR=3.8						
YKA	Yellowknife Ar	106.50	13	PP	PP	05 46 10.2	-5.8
	0.2nm,0.5s,baz=332,slow=7.3,SNR=4.6						
NVAR	Mina Array Bea	125.00	31	PKP	PKPdf	05 46 36.6	-1.7
	0.9nm,0.8s,baz=5.6,slow=3.1,SNR=5.3						
PDAR	Pinedale Array	125.25	21	PKP	PKPdf	05 46 36.2	-2.4
	0.9nm,0.8s,baz=315,slow=2.1,SNR=8.0						
TXAR	Lajitas Array	139.31	24	PKP	PKPdf	05 47 03.5	-1.9
	0.3nm,0.6s,baz=178,slow=1.3,SNR=4.0						
PLCA	Paso Flores	144.47	200	PKP	PKPdf	05 47 11.3	-2.9
	4.0nm,0.7s,baz=301,slow=4.0,SNR=5.9						
PLCA	Paso Flores	144.47	200	PKP	PKPdf	05 47 11.3	-2.9

*IDC **27** 05:32:35.1±1.1, 7.84N×93.86E, mb4.0/10, mb1 4.1/11, mb1mx4.0/21, mbtmp4.0/11, ML4.2/1, Error ellipse: s-maj=52.6km s-min=25.8km az=47.0*

ISC 27 05:32:37.5±1.0, 7.6N±0.2×93.7E±0.2, h33km, n17, σ0§94/13, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.92	25	Pn		05 35 29.2	+1.0
	0.5nm,0.3s,baz=182,slow=24,SNR=3.5						
SHL	Shillong	17.96	355	e		05 36 53.0	+6.6
SONM	Songino Array	41.52	13	P		05 40 22.0	-1.3
	1.6nm,1.1s,mb3.6,baz=192,slow=7.1,SNR=4.9						
WRA	Warramunga Arr	48.42	125	P		05 41 18.7	-0.2
	0.4nm,0.6s,mb3.6,baz=302,slow=9.5,SNR=4.8						
BVAR	Borovoye Array	49.12	342	P		05 41 21.9	-1.9
	0.5nm,0.6s,mb3.7,baz=124,slow=5.2,SNR=3.4						
BRTR	Keskin Array B	62.31	311	P		05 42 58.3	-0.7
	0.8nm,0.8s,mb3.9,baz=121,slow=7.2,SNR=4.5						
FINES	FINESS Array B	72.77	332	P		05 44 04.2	0.0
	2.6nm,0.7s,mb4.2,baz=104,slow=7.9,SNR=6.1						
ARCES	ARCESS Array B	75.39	340	P		05 44 19.8	+0.5
	1.9nm,0.8s,mb4.1,baz=72,slow=3.8,SNR=3.6						
GERES	GERESS Array B	77.77	318	P		05 44 34.3	+1.2
	1.0nm,0.7s,mb3.8,baz=90,slow=4.0,SNR=6.5						
HFS	Hagfors	78.49	330	P		05 44 36.7	-0.1
	3.0nm,0.7s,mb4.3,baz=108,slow=4.7,SNR=5.1						
NB2	NORSAR Subarra	79.78	331	P		05 44 43.6	-0.2
	6.4nm,1.0s,mb4.5,baz=92,slow=5.6						
NOA	NORSAR Array B	79.78	331	P		05 44 44.4	+0.6
	1.4nm,0.7s,mb4.0,baz=94,slow=5.5,SNR=5.0						
DAVOX	Davos	80.31	316	P		05 44 48.0	+1.1
	1.3nm,0.6s,mb4.0,baz=150,slow=20,SNR=2.5						
NVAR	Mina Array Bea	125.36	31	PKP	PKPdf	05 51 39.1	+3.5
	0.5nm,0.7s,baz=297,slow=2.0,SNR=3.7						
PDAR	Pinedale Array	125.57	21	PKP	PKPdf	05 51 39.0	+3.1
	0.5nm,0.9s,baz=315,slow=2.6,SNR=4.3						
TXAR	Lajitas Array	139.64	24	PKP	PKPdf	05 52 07.2	+4.5
	0.2nm,0.8s,baz=346,slow=3.7,SNR=2.4						
PLCA	Paso Flores	144.15	201	PKP	PKPdf	05 52 13.7	+3.4
	1.5nm,0.9s,baz=221,slow=5.1,SNR=3.0						

*IDC **27** 05:35:18.8±0.5, 13.31N×92.77E, mb4.6/20, mb1 4.7/21, mb1mx4.6/26, mbtmp4.5/21, ML4.6/1, Error ellipse: s-maj=24.2km s-min=12.5km az=46.0*
*MOS **27** 05:35:21.8±0.9, 13.30N×92.84E, h33km, mb5.0/45, Error ellipse: s-maj=9.2km s-min=6.5km az=102.1*
*BJI **27** 05:35:21.4, 13.17N×92.82E, h38km, mB5.3, mb4.8, Ms5.0, Msz4.8*
*HRVD **27** 05:35:23.2±0.5, 13.28N×92.87E, h14km±3km, MW5.0/54, Centroid moment Tensor Solution. LP body waves: s6,c7; Mantle waves: s54,c83; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.16±.19; $M_{\theta\theta}$2.78±.18; $M_{\phi\phi}$-2.62±.14; $M_{r\theta}$1.23±.43; $M_{\theta\phi}$-0.73±.11; $M_{\phi r}$1.17±.46; Best double couple: $M_0$3.275×10^{16} NP1:ϕ_s141°, δ59°, λ-4°. NP2: ϕ_s233°, δ87°, λ-149°. Principal axes: T 3.242, Plg19°, Azm3°; N .065, Plg59°, Azm239°; P -3.308, Plg24°, Azm102°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 05:35:23.2±0.2, 13.29N×92.84E, h30km, mb4.9/42 Error ellipse: s-maj=6.0km s-min=5.7km az=204.0*

ISC 27 05:35:21.3±0.2, 13.36N±0.04×92.80E±0.03, h30km, h30km±3.3km: pP-P, n207, σ1§19/200, mb4.8/64, MS4.9/3, 3C-4D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.69	182	e	Sn	05 36 18.6	+8.5
PBA				eS	Sn	05 36 21.4	+11
PBA				e		05 36 29.6	
	comp=N,25μm,0.4s						
PBA				e		05 36 41.2	
	comp=E,24μm,1.1s						
CM31	Chiang Mai Arr	7.79	49	ePn	Pn	05 37 14.2	-1.3
	comp=E,17nm,0.6s						
CMAR	Chiang Mai Arr	7.79	49	P	Pn	05 37 14.1	-1.4
CMAR						05 38 40.9	
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
CMAR				smax			
	comp=N,2.0nm,0.3s						
CMAR	Chiang Mai Arr	7.79	49	Pn	Pn	05 37 14.1	-1.4
	comp=N,2.5nm,0.3s,baz=239,slow=14,SNR=24						
CMAR				Sn	Sn	05 38 40.9	-2.7
	comp=N,2.2nm,0.3s,baz=220,slow=23,SNR=2.8						
NANT	Nan	9.32	53	⇑P		05 37 39.0	+2.2
	comp=N,50nm,0.7s						
BWNR	Bhubaneshwar	9.61	317	eP		05 37 35.0	-5.9
BWNR				e		05 37 41.3	
	comp=Z,184nm,0.6s						
BWNR				e		05 39 15.0	
VIS	Vishakhapatnam	10.11	297	eP		05 37 45.2	-2.5
VIS				e		05 39 32.9	
	comp=E,415nm,0.5s						
VIS				e	S	05 39 33.0	-8.0
	comp=N,807nm,0.8s						
KKTK	Khon Kaen	10.13	72	P		05 37 51.0	+3.0
	comp=N,1μm,0.8s						
AGT	Agartala	10.57	352	eP		05 37 52.0	-2.0
IMP	Imphal	11.42	5	e		05 38 03.3	-2.2
SHL	Shillong	12.18	356	eS		05 40 19.0	-13
PALK	Pallekele	13.35	244	eP		05 38 30.3	-1.0
	comp=N,49nm,0.8s						
PALK				eS	S

comp=Z,83nm,1.5s,mb5.0
LZH pP 05 40 50.8
LZH sP 05 40 53.9
XAN Xi'an 25.27 33 P P 05 40 46.0 -0.6
XAN AMB AMB
comp=Z,34nm,0.9s,mb4.9
NJ2 Nanjing 30.26 48 *eP* **P 05 41 33.0 +1.0**
NJ2 AP pP 05 41 42.5 +1.6
NJ2 XP sP 05 41 46.5 +1.6
NJ2 PP PP 05 42 33.0 +1.8
NJ2 S **S 05 46 28.0 -0.5**
NJ2 XS 05 46 44.0
NJ2 AMB AMB
comp=Z,40nm,1.1s,mb5.1
NJ2 AMB AMB
comp=Z,1μm,4.9s
NJ2 LR LR
comp=N,4μm,14.9s,MS5.2
NJ2 LR LR
comp=E,2μm,11.4s,MS5.2
NJ2 LR LR
comp=Z,4μm,12.7s,MS5.2
WMQ Urumqi 30.67 353 P **P 05 41 36.5 +1.0**
AAK Ala-Archa 33.19 335 *eP* **P 05 41 58.2 +0.6**
AAK pmax pmax
comp=Z,13nm,1.2s,mb4.7
AAK Ala-Archa 33.19 335 *eP* **P 05 41 58.2 +0.7**
comp=Z,13nm,1.2s,mb4.7
BJT Baijiatuau 33.57 33 *eP* **P 05 42 00.3 -0.6**
BJT pmax pmax
comp=Z,22nm,1.0s
BJT Baijiatuau 33.57 33 *eP* **P 05 42 00.3 -0.6**
comp=Z,22nm,1.0s,mb5.0
BJI Beijing 33.59 33 P **P 05 42 02.1 +1.0**
BJI pmax pmax
comp=Z,13nm,0.9s,mb4.9
BJI Beijing 33.59 33 P **P 05 42 02.1 +1.0**
comp=Z,13nm,0.9s,mb4.9
SONM Songino Array 36.20 16 P **P 05 42 23.4 +0.2**
comp=Z,12nm,0.9s,mb4.8,baz=203,slow=9.4,SNR=36
ULN Ulaanbaatar 36.40 16 *eP* **P 05 42 25.3 +0.4**
ULN pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ULN Ulaanbaatar 36.40 16 *eP* **P 05 42 25.3 +0.4**
comp=Z,9.4nm,0.9s,mb4.7
ZAK Zakamensk 37.90 11 *eP* **P 05 42 38.5 +1.0**
ZAK *e* 05 44 57.7
MOY Mondy 38.78 8 *eP* **P 05 42 46.5 +1.6**
KURK Kurchatov 39.01 346 *eP* **P 05 42 47.1 +0.3**
KURK pmax pmax
comp=Z,43nm,1.2s,mb5.0
KURK Kurchatov 39.01 346 *eP* **P 05 42 47.1 +0.3**
comp=Z,43nm,1.2s,mb5.0
TLY Talaya 39.21 11 *i P* **P 05 42 49.2 +0.7**
TLY pmax pmax
comp=Z,7.0nm,1.4s,mb4.2
TLY Talaya 39.21 11 *eP* **P 05 42 50.3 +1.8**
comp=Z,14nm,1.6s,mb4.4
KS15 Wonju Array Si 39.38 46 P **P 05 42 50.8 +0.7**
NVS Novosibirsk 42.06 352 *eP* **P 05 43 11.1 -0.8**
NVS pmax pmax
comp=N,5.0nm,0.8s
NVS pmax pmax
comp=E,5.0nm,0.8s
NVS pmax pmax
comp=Z,14nm,0.8s,mb4.6
HIA Hailar 42.11 26 *eP* **P 05 43 12.2 -0.2**
HIA pmax pmax
comp=Z,15nm,1.1s
HIA Hailar 42.11 26 *eP* **P 05 43 12.2 -0.2**
comp=Z,15nm,1.1s,mb4.5
MBWA Marble Bar 43.31 142 *eP* **P 05 43 20.1 -2.5**
comp=Z,19nm,1.0s,mb4.8
BVAR Borovoye Array 43.41 340 P **P 05 43 23.5 +0.6**
comp=Z,6.5nm,0.9s,mb4.4,baz=143,slow=7.4,SNR=12
BRVK Borovoye 43.47 340 *eP* **P 05 43 23.7 +0.3**
BRVK pmax pmax
comp=Z,13nm,1.1s,mb4.6
BRVK Borovoye 43.47 340 *eP* **P 05 43 23.7 +0.3**
comp=Z,13nm,1.1s,mb4.6
CHKZ Chkalovo 43.89 341 *eP* **P 05 43 27.6 +0.9**
CHKZ pmax pmax
comp=Z,40nm,1.0s,mb5.1
CHKZ Chkalovo 43.89 341 *eP* **P 05 43 27.6 +0.8**
comp=Z,40nm,1.0s,mb5.1
MDJ Mudanjiang 44.16 38 P **P 05 43 29.3 +0.2**
MDJ AP pP 05 43 37.0 -1.2
MDJ S **S 05 49 59.3 -0.4**
MDJ AMB AMB
comp=Z,6.0nm,1.1s,mb4.2
MDJ AMB AMB
comp=Z,79nm,3.4s
MDJ LR LR
comp=N,804nm,13.6s,MS4.9
MDJ LR LR
comp=E,540nm,12.7s,MS4.9
MDJ LR LR
comp=Z,855nm,12.3s,MS4.9
FITZ Fitzroy Crossi 45.02 133 *eP* **P 05 43 34.8 -1.5**
comp=Z,23nm,0.7s,mb5.1
MAJO Matsushiro 46.66 52 *eP* **P 05 43 46.1 -3.0**
MAJO pmax pmax
comp=Z,37nm,1.3s,mb5.2
MAJO Matsushiro 46.66 52 *eP* **P 05 43 46.1 -2.9**
comp=Z,37nm,1.3s,mb5.2
BOD Bodaibo 47.19 15 *eP* **P 05 43 53.1 +0.1**
BOD *e* 05 43 58.8
KLR Kul'dur 47.97 34 *eP* **P 05 44 00.0 +0.8**
GNI Garni 49.76 312 *i P* **P 05 44 15.4 +2.3**
GNI pmax pmax
comp=Z,19nm,1.0s
GNI Garni 49.76 312 P **P 05 44 12.0 -1.1**
comp=Z,1.6nm,0.3s,mb4.5,baz=315,slow=2.9,SNR=2.1
GNI Garni 49.76 312 *eP* **P 05 44 11.8 -1.3**
comp=Z,30nm,0.9s,mb5.3
CLNS Chul'man 49.84 22 *eP* **P 05 44 13.5 0.0**
CLNS pmax pmax
comp=Z,14nm,0.7s,mb5.1
CLNS pmax pmax
comp=N,5.0nm,0.6s
CLNS pmax pmax
comp=E,4.0nm,0.6s
SVE Sverdlovsk 49.86 337 *eP* **P 05 44 14.0 +0.3**
MUN Mundaring 50.35 154 *eP* **P 05 44 17.6 -0.2**
comp=E,17nm,0.8s,mb5.1
MUN Mundaring 50.35 154 *eP* **P 05 44 17.6 -0.2**
MUN pmax pmax
comp=Z,17nm,0.8s,mb5.1
ARU Arti 50.37 336 *eP* **P 05 44 12.3 -5.2**
ARU *eS* **S 05 51 21.4 -5.9**
ARU *e*SS SS 05 54 55.3 -2.8
KLBR Kellerberrin 50.70 152 *eP* **P 05 44 19.1 -1.3**
comp=Z,292nm,1.3s
NWAO Narrogin (SRO) 51.60 154 P **P 05 44 26.7 -0.6**
NWAO pmax pmax
comp=Z,21nm,0.7s
NWAO Narrogin (SRO) 51.60 154 P **P 05 44 26.6 -0.6**
comp=Z,21nm,0.7s,mb5.2,baz=320,slow=8.3,SNR=8.0
NWAO Narrogin (SRO) 51.60 154 *eP* **P 05 44 26.1 -1.1**
comp=Z,20nm,0.9s,mb5.1
KIV Kislovodsk 52.45 316 *eP* **P 05 44 34.9 +1.4**
KIV pmax pmax
comp=Z,16nm,0.7s,mb5.1
KIV Kislovodsk 52.45 316 *eP* **P 05 44 34.9 +1.4**
comp=Z,16nm,0.7s,mb5.0
WRA Warramunga Arr 52.59 128 P **P 05 44 34.1 -0.7**
WRA 05 45 45.2
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRA Warramunga Arr 52.59 128 P **P 05 44 34.1 -0.7**
comp=Z,5.1nm,0.7s,mb4.6,baz=307,slow=8.4,SNR=19
WRA PcP PcP 05 45 45.2 +0.5
comp=Z,1.1nm,0.4s,baz=322,slow=3.1,SNR=6.2
WRAB Tennant Creek 52.59 128 *eP* **P 05 44 33.5 -1.4**
WRAB pmax pmax
comp=Z,12nm,0.6s,mb5.0
WRAB Tennant Creek 52.59 128 *eP* **P 05 44 33.5 -1.3**
comp=Z,12nm,0.6s,mb5.0
WB2 Warramunga Arr 52.60 128 *eP* **P 05 44 33.9 -1.0**
YSS Yuzh-Sakhalins 53.40 41 *i P* **P 05 44 39.9 -0.6**
YSS pmax pmax
comp=Z,14nm,0.8s,mb4.9
YSS Yuzh-Sakhalins 53.40 41 P **P 05 44 38.9 -1.6**
MALT Malatya 54.01 308 *eP* **P 05 44 46.0 +1.0**
MALT pmax pmax
comp=Z,13nm,1.1s,mb4.8
MALT Malatya 54.01 308 *eP* **P 05 44 46.0 +1.0**
comp=Z,12nm,1.1s,mb4.8
ASF Jabal al Asfar 54.24 300 P **P 05 44 47.7 +0.8**
comp=Z,1.2nm,0.5s,mb4.1,baz=214,slow=19,SNR=3.4
SOC Sochi 54.37 314 *eP* **P 05 44 46.5 -1.1**
SOC *e* 05 45 53.2
SOC *e* 05 46 50.9
SOC *e*PPP PPP 05 48 02.9 +0.7
SOC *e*S **S 05 52 25.6 +3.5**
SOC *e* 05 54 31.3
SOC pmax pmax
comp=Z,17nm,0.8s,mb5.0
SOC pmax pmax
comp=N,26nm,0.9s
SOC pmax pmax
comp=E,8.0nm,0.7s
SOC MLR MLR
comp=Z,238nm,12.0s,MS4.5
SOC MLR MLR
comp=N,210nm,14.0s,MS4.4
SOC MLR MLR
comp=E,108nm,12.0s,MS4.4
ASPA Alice Springs 54.49 132 *eP* **P 05 44 47.9 -0.9**
ASAR Alice Springs 54.49 132 P **P 05 44 47.8 -1.0**
comp=E,9.4nm,0.8s,mb4.8,baz=311,slow=6.7,SNR=20
YAK Yakutsk 55.29 20 *i P* **P 05 44 53.5 -0.6**
YAK pmax pmax
comp=Z,12nm,0.5s,mb5.2
YAK Yakutsk 55.29 20 P **P 05 44 53.1 -1.0**
comp=Z,36nm,0.7s,mb5.5
EIL Elat 55.68 297 P **P 05 44 57.5 +0.1**
comp=Z,2.5nm,0.4s,mb4.6,baz=21,slow=8.6,SNR=3.6
EIL Elat 55.68 297 *eP* **P 05 44 57.4 0.0**
comp=Z,14nm,1.1s,mb4.9
ANN Anapa 56.29 315 *eP* **P 05 44 54.2 -7.4**
ANN *i* *PP pP 05 45 05.0 -5.9
ANN pmax pmax
comp=Z,43nm,1.0s,mb5.4
KMBO Kilima Mbogo 56.91 260 P **P 05 45 06.9 +0.5**
KMBO pmax pmax
comp=Z,4.0nm,1.1s
KMBO Kilima Mbogo 56.91 260 P **P 05 45 06.9 +0.5**
comp=Z,4.0nm,1.1s,mb4.4
BRTR Keskin Array B 57.93 309 P **P 05 45 13.2 0.0**
BRTR pmax pmax
comp=Z,7.0nm,1.0s
BRTR Keskin Array B 57.93 309 P **P 05 45 13.2 -0.1**
comp=Z,6.9nm,1.0s,mb4.6,baz=120,slow=7.3,SNR=12
MOS Moscow 59.76 327 *eP* pP 05 45 34.0 -1.2
MOS pmax pmax
comp=Z,61nm,1.4s,mb5.4
OBN Obninsk 60.09 327 *eP* **P 05 45 24.4 -3.6**
OBN *e*SS SS 05 57 36.5 +1.2
OBN pmax pmax
comp=Z,13nm,0.9s,mb5.0
OBN Obninsk 60.09 327 *eP* **P 05 45 26.0 -2.0**
comp=Z,48nm,1.5s,mb5.3
TIXI Tiksi 62.16 12 ⇓ *i P* **P 05 45 41.3 -0.6**
TIXI pmax pmax
comp=Z,29nm,1.7s,mb5.1
CTAO Charters Tower 62.20 121 *eP* **P 05 45 46.7 +3.9**
CTAO pmax pmax
comp=Z,17nm,1.3s,mb5.0
CTAO Charters Tower 62.20 121 *eP* **P 05 45 46.7 +4.0**
comp=Z,17nm,1.3s,mb5.0
MA2 Magadan 62.59 29 *i P* **P 05 45 44.8 0.0**
MA2 pmax pmax
comp=Z,20nm,1.4s,mb5.0
MA2 Magadan 62.59 29 *eP* **P 05 45 39.7 -5.1**
comp=Z,14nm,0.9s,mb5.1
MBAR Mbarara 63.03 262 P **P 05 45 49.8 +1.5**
MBAR pmax pmax
comp=Z,18nm,1.4s,mb5.0
MBAR Mbarara 63.03 262 P **P 05 45 49.8 +1.5**
comp=Z,18nm,1.4s,mb5.0
AKASG Malin Array Be 63.09 320 P **P 05 45 47.5 -0.7**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 63.09 320 P **P 05 45 47.5 -0.7**
comp=Z,3.6nm,0.8s,mb4.5,baz=85,slow=4.9,SNR=6.2
VRI Vrincioaia 63.90 315 ⇑ P **P 05 45 53.6 0.0**
MLR Muntele Rosu 64.39 314 P **P 05 45 55.9 -1.0**
comp=Z,13nm,0.9s,mb5.0,baz=117,slow=12,SNR=5.1
MLR Muntele Rosu 64.39 314 ⇓ P **P 05 45 58.5 +1.6**
STKA Stephens Creek 64.86 135 *eP* **P 05 45 59.0 -1.1**
comp=Z,4.9nm,0.6s,mb4.7
STKA Stephens Creek 64.86 135 P **P 05 46 00.1 -0.1**
comp=Z,6.7nm,0.6s,mb4.8,baz=330,slow=7.4,SNR=11
BURAR Bucovina Array 65.16 316 ⇓ P **P 05 46 02.6 +0.8**
JOF Joensuu 65.37 334 *ep* **P 05 46 08.3 +5.4**
comp=Z,12nm,0.8s,mb5.0
KWP Kalwaria 67.05 318 *eP* **P 05 46 12.7 -1.1**
FINES FINESS Array B 67.29 331 P **P 05 46 15.3 +0.2**
FINES pmax pmax
comp=Z,9.0nm,1.1s
FINES FINESS Array B 67.29 331 P **P 05 46 15.3 +0.2**
comp=Z,8.8nm,1.1s,mb4.7,baz=96,slow=6.9,SNR=6.9
FINES FINESS Array B 67.29 331 P **P 05 46 15.3 +0.2**
SUW Suwalki 67.33 323 *eP* **P 05 46 14.9 -0.6**
SUW Suwalki 67.33 323 *eP* **P 05 46 14.9 -0.6**
KAF Kangasniemi 67.35 332 *ep* **P 05 46 21.1 +5.6**
comp=Z,11nm,0.9s,mb4.9
KAF Kangasniemi 67.35 332 *eP* **P 05 46 21.1 +5.6**
KAF pmax pmax
comp=Z,11nm,0.9s,mb4.9
OJC Ojcow 68.98 319 *eP* **P 05 46 29.7 +3.8**
KEV Kevo 69.26 340 *ep* **P 05 46 28.4 +1.1**
LSZ Lusaka 69.96 248 P **P 05 46 34.1 +1.7**
LSZ pmax pmax
comp=Z,16nm,1.3s,mb4.8
LSZ Lusaka 69.96 248 P **P 05 46 34.0 +1.7**
comp=Z,16nm,1.3s,mb4.8
OKC Ostrava-Krasne 70.02 318 *eP* **P 05 46 36.2 +4.0**
DPC Dobruska-Polom 71.21 319 *eP* **P 05 46 42.3 +2.9**
BILL Bilibino 71.53 22 *eP* **P 05 46 40.9 -0.1**
BILL pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
BILL Bilibino 71.53 22 *eP* **P 05 46 40.9 -0.2**
comp=Z,9.4nm,1.1s,mb4.6
PVCC Panska Ves 72.34 319 *eP* **P 05 46 50.8 +4.7**
PRU Pruhonice 72.35 318 *eP* **P 05 46 47.1 +0.9**
GERES GERESS Array B 72.91 317 P **P 05 46 50.5 +1.0**
GERES pmax pmax
comp=Z,4.0nm,0.7s
GERES GERESS Array B 72.91 317 P **P 05 46 50.5 +1.0**
comp=Z,3.7nm,0.7s,mb4.4,baz=90,slow=5.3,SNR=7.5
KHC Kasperske Hory 72.98 318 *eP* **P 05 46 51.4 +1.4**
HFS Hagfors 73.09 329 P **P 05 46 51.3 +0.9**
HFS pmax pmax
comp=Z,4.0nm,0.6s
HFS Hagfors 73.09 329 P **P 05 46 51.3 +0.9**
comp=Z,3.6nm,0.6s,mb4.5,baz=101,slow=7.6,SNR=5.3
CLL Collm 73.33 320 *i P* **P 05 46 52.5 +0.6**
CLL *e* 05 46 56.0
CLL Collm 73.33 320 P **P 05 46 52.5 +0.6**
CLL *e*PP pP 05 46 56.0 -5.5
FX1 Attu Island--F 73.66 39 P **P 05 46 54.4 +0.6**
FX1 pmax pmax
comp=Z,12nm,0.6s
FX1 Attu Island--F 73.66 39 P **P 05 46 54.4 +0.6**
comp=Z,12nm,0.6s,mb5.0,baz=270,slow=2.0,SNR=3.1
NKC Novy Kostel 73.70 319 *eP* **P 05 46 58.5 +4.4**
MOX Moxa 74.22 319 *eP* **P 05 46 58.0 +0.9**
NB2 NORSAR Subarra 74.35 330 P **P 05 46 57.3 -0.3**
comp=Z,7.1nm,0.8s,mb4.7,baz=90,slow=5.8
NB2 NORSAR Subarra 74.35 330 P **P 05 46 57.3 -0.3**
NB2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
NOA NORSAR Array B 74.35 330 P **P 05 46 57.9 +0.3**
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA NORSAR Array B 74.35 330 P **P 05 46 57.9 +0.3**
comp=Z,6.0nm,0.8s,mb4.6,baz=90,slow=5.8,SNR=11
GRA1 Grafenberg Arr 74.51 318 *eP* **P 05 46 59.8 +1.0**
comp=Z,6.0nm,1.0s,mb4.5
GRF Grafenberg Arr 74.51 318 *eP* **P 05 46 59.8 +1.0**
GRF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
GRF Grafenberg Arr 74.51 318 *eP* **P 05 46 59.8 +1.0**
GRF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
GRF Grafenberg Arr 74.51 318 *eP* **P 05 46 59.8 +1.0**
comp=Z,6.0nm,1.0s,mb4.5
MUD Monsted U'grnd 75.47 325 *eP* **P 05 47 07.5 +3.3**
MUD pmax pmax
comp=Z,13nm,0.9s,mb4.9
MUD Monsted U'grnd 75.47 325 *eP* **P 05 47 07.5 +3.3**
comp=Z,13nm,0.9s,mb4.8
MUD Monsted U'grnd 75.47 325 *i P* **P 05 47 07.5 +3.3**
comp=Z,13nm,0.9s,mb4.8
BOSA Boshof 77.44 236 *eP* **P 05 47 15.1 -0.7**
BOSA pmax pmax
comp=Z,12nm,1.0s,mb4.8
BOSA Boshof 77.44 236 *eP* **P 05 47 15.1 -0.7**
comp=Z,12nm,1.0s,mb4.8
LPG La Plagne 77.86 314 *eP* **P 05 47 19.1 +1.4**
comp=Z,23nm,0.8s,mb4.9
LPG La Plagne 77.86 314 *eP* **P 05 47 19.1 +1.4**
LPG pmax pmax
comp=Z,12nm,0.8s,mb4.9
CASY Casey 80.50 173 P **P 05 47 32.1 +0.5**
comp=Z,10nm,1.1s,mb4.7
SUR Sutherland 82.40 234 P pP 05 47 48.7 -3.3
comp=Z,12nm,0.9s
ESDC Sonseca Array 86.70 310 P **P 05 48 04.6 +0.8**
comp=Z,1.8nm,0.9s,mb4.3,baz=63,slow=8.6,SNR=3.6
IMA Indian Mountai 87.07 22 *eP* **P 05 48 07.3 +2.4**
MCK McKinley 89.97 23 *eP* **P 05 48 19.0 +0.2**
MCK pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
MCK McKinley 89.97 23 *eP* **P 05 48 19.0 +0.2**
comp=Z,4.4nm,1.0s,mb4.7
SPU Mount Spurr 89.98 26 *eP* **P 05 48 20.8 +1.9**
ILAR Eielson Array 90.18 22 P **P 05 48 20.7 +1.0**
ILAR 05 51 54.1
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 90.18 22 P **P 05 48 20.6 +0.9**
comp=Z,1.2nm,0.7s,mb4.3,baz=294,slow=4.7,SNR=17
ILAR PP PP 05 51 54.1 -1.7
comp=Z,0.9nm,0.8s,baz=301,slow=7.6,SNR=5.6
SYO Syowa Base 90.23 197 ⇓ PcP PcP 05 48 26.6 +5.3
SYO Syowa Base 90.23 197 ⇑ sP sP 05 48 34.5 +1.7
SLKM Skilak Lake 91.09 26 *eP* **P 05 48 25.7 +1.7**
INK Inuvik 92.11 16 P **P 05 48 29.9 +1.4**
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 92.11 16 P **P 05 48 29.9 +1.4**
comp=Z,1.6nm,0.6s,mb4.5,baz=318,slow=3.8,SNR=7.2
INK Inuvik 92.11 16 *eP* **P 05 48 30.0 +1.4**
comp=Z,20nm,1.5s,mb5.2
YKA Yellowknife Ar 101.41 13 P P 05 49 12.2 +1.2
YKA 05 53 24.1
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 101.41 13 P P 05 49 12.2 +1.2
comp=Z,0.1nm,0.5s,baz=329,slow=5.4,SNR=4.1
YKA PP PP 05 53 24.1 +0.8
comp=Z,0.9nm,0.8s,baz=335,slow=7.6,SNR=8.9
YKA Yellowknife Ar 101.41 13 P P 05 49 12.2 +1.2
YKA PP PP 05 53 24.1 +0.8
PDAR Pinedale Array 120.50 19 PKP PKPdf 05 54 12.6 -2.9
comp=Z,0.4nm,0.8s,baz=72,slow=2.9,SNR=3.3
NVAR Mina Array Bea 120.83 28 PKP PKPdf 05 54 15.1 -1.1
comp=Z,1.2nm,0.7s,baz=7.8,slow=1.3,SNR=5.9
NVAR Mina Array Bea 120.83 28 PKP PKPdf 05 54 15.1 -1.1
ANMO Albuquerque 128.60 20 PKIKP PKPdf 05 54 30.1 -1.2
ANMO pmax pmax
comp=Z,1.0nm,0.8s
ANMO Albuquerque 128.60 20 PKP PKPdf 05 54 30.1 -1.2
comp=Z,0.9nm,0.8s,baz=76,slow=1.7,SNR=4.0
CLNB Carlsbad 131.91 19 *e*PKPdf PKPdf 05 54 40.5 +2.9
TXAR Lajitas Array 134.68 20 PKP PKPdf 05 54 42.2 -0.7
comp=Z,0.3nm,0.6s,baz=128,slow=0.7,SNR=8.3
TXAR Lajitas Array 134.68 20 PKP PKPdf 05 54 42.2 -0.7
TEIG Tepich 146.61 2 *e*PKPdf PKPdf 05 55 03.2 -1.1
PLCA Paso Flores 149.07 205 PKP2 PKPab 05 55 13.7 +0.5
PLCA pmax pmax
comp=Z,4.0nm,0.9s
PLCA Paso Flores 149.07 205 PKPbc PKPdf 05 55 13.7 +5.9
comp=Z,3.9nm,0.9s,baz=150,slow=2.4,SNR=5.3
SDV Santo Domingo 152.45 322 *e*PKPbc PKPdf 05 55 23.2 +10
LPAZ La Paz 161.34 259 PKPab PKPab 05 55 30.8 -35
comp=Z,1.8nm,0.8s,baz=81,slow=9.6,SNR=5.3

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*IDC **27** 05:39:33.3±0.7, 7.90N×94.05E, mb4.2/13, mb1 4.3/14, mb1mx4.2/21, mbtmp4.2/14, ML4.1/1, Error ellipse: s-maj=30.0km s-min=17.8km az=48.0*
*BJI **27** 05:39:35.8, 7.49N×93.92E, h53km, mb4.5*
*NEIC **27** 05:39:37.8±0.5, 7.91N×94.10E, h30km, mb4.7/8, Error ellipse: s-maj=16.9km s-min=12.5km az=66.0*
ISC 27 05:39:36.0±0.6, 7.89N±0.09×94.2E±0.1, h33km, n31, σ0 99/26, mb4.3/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.49**	**23**	Pn	**P**	**05 42 20.8**	**+0.1**
	0.4nm,0.3s,baz=210,slow=14,SNR=7.0						
KMI	**Kunming**	**18.99**	**25**	P	**P**	**05 44 02.9**	**+5.3**
	29nm,1.3s						
LSA	**Lhasa**	**21.88**	**353**	*eP*	**P**	**05 44 26.8**	**-1.1**
	29nm,0.8s,mb4.8						
ENH	**Enshi**	**26.50**	**31**	*eP*	**P**	**05 45 12.7**	**+0.2**
	22nm,1.1s,mb4.6						
AAK	**Ala-Archa**	**38.70**	**337**	*eP*	**P**	**05 46 56.9**	**-1.6**
	16nm,1.4s,mb4.6						
SONM	**Songino Array**	**41.14**	**13**	P	**P**	**05 47 19.9**	**+1.2**
	2.9nm,1.2s,mb3.8,baz=188,slow=8.7,SNR=4.2						
SONM				PcP	PcP	05 49 18.8	+0.5
	0.5nm,0.6s,baz=201,slow=2.3,SNR=3.6						
KURK	**Kurchatov**	**44.60**	**346**	*eP*	**P**	**05 47 45.9**	**-0.9**
	23nm,1.4s,mb4.8						
WRA	**Warramunga Arr**	**48.25**	**126**	P	**P**	**05 48 15.9**	**-0.2**
	1.4nm,0.6s,mb4.2,baz=304,slow=8.5,SNR=5.4						
WRA				PcP	PcP	05 49 44.5	+1.3
	0.7nm,0.7s,baz=313,slow=3.3,SNR=5.1						
BVAR	**Borovoye Array**	**48.98**	**341**	P	**P**	**05 48 22.5**	**+1.3**
	2.9nm,1.1s,mb4.2,baz=112,slow=7.8,SNR=2.9						
BVAR				PcP	PcP	05 49 46.1	+0.8
	1.9nm,0.8s,baz=108,slow=4.7,SNR=4.1						
ASAR	**Alice Springs**	**49.91**	**130**	P	**P**	**05 48 28.1**	**-0.7**
	1.5nm,0.8s,mb4.1,baz=310,slow=7.0,SNR=5.0						
ASAR				PcP	PcP	05 49 51.1	+2.0
	1.4nm,0.8s,baz=312,slow=3.7,SNR=5.1						
KMBO	**Kilima Mbogo**	**57.45**	**264**	P	**P**	**05 49 25.8**	**+1.3**
	2.7nm,0.7s,mb4.4,baz=61,slow=12,SNR=7.7						
KMBO	**Kilima Mbogo**	**57.45**	**264**	P	**P**	**05 49 25.8**	**+1.3**
STKA	**Stephens Creek**	**60.10**	**134**	*eP*	**P**	**05 49 42.4**	**-0.3**
BRTR	**Keskin Array B**	**62.43**	**311**	P	**P**	**05 49 56.9**	**-1.4**
	1.2nm,0.8s,mb4.1,baz=114,slow=7.6,SNR=3.6						
MA2	**Magadan**	**66.74**	**28**	*eP*	**P**	**05 50 26.9**	**+1.0**
	18nm,1.1s,mb5.0						
AKASG	**Malin Array Be**	**68.15**	**322**	P	**P**	**05 50 33.5**	**-1.4**
	0.2nm,0.3s,mb3.7,baz=90,slow=5.4,SNR=4.2						
FINES	**FINESS Array B**	**72.71**	**332**	P	**P**	**05 51 03.0**	**+0.7**
	2.8nm,0.8s,mb4.3,baz=121,slow=11,SNR=5.1						
FINES	**FINESS Array B**	**72.71**	**332**	P	**P**	**05 51 03.0**	**+0.7**
ARCES	**ARCESS Array B**	**75.26**	**340**	P	**P**	**05 51 17.2**	**+0.3**
	10.0nm,1.2s,mb4.6,baz=101,slow=6.2,SNR=5.3						
GERES	**GERESS Array B**	**77.83**	**318**	P	**P**	**05 51 32.3**	**+0.5**
	1.5nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=7.8						
HFS	**Hagfors**	**78.45**	**330**	P	**P**	**05 51 35.1**	**0.0**
	2.3nm,0.5s,mb4.4,baz=117,slow=3.3,SNR=8.3						
NB2	**NORSAR Subarra**	**79.73**	**331**	P	**P**	**05 51 42.1**	**+0.1**
	1.5nm,0.7s,mb4.0,baz=95,slow=5.3						
NOA	**NORSAR Array B**	**79.73**	**331**	P	**P**	**05 51 41.0**	**-0.9**
	2.4nm,0.8s,mb4.2,baz=93,slow=5.5,SNR=6.2						
DAVOX	**Davos**	**80.39**	**316**	P	**P**	**05 51 45.5**	**-0.4**
	2.6nm,0.7s,mb4.3,baz=158,slow=19,SNR=3.1						
DAVOX	**Davos**	**80.39**	**316**	P	**P**	**05 51 45.5**	**-0.4**
LPG	**La Plagne**	**82.62**	**315**	*eP*	**P**	**05 52 00.0**	**+2.6**
	13nm,0.9s,mb4.6						
NVAR	**Mina Array Bea**	**124.89**	**31**	PKP	PKPdf	05 58 37.4	+4.2
	1.1nm,0.8s,baz=297,slow=2.0,SNR=6.3						
NVAR	**Mina Array Bea**	**124.89**	**31**	PKP	PKPdf	05 58 37.4	+4.2
PDAR	**Pinedale Array**	**125.14**	**21**	PKP	PKPdf	05 58 37.4	+3.8
	1.3nm,0.8s,baz=45,slow=1.3,SNR=9.5						
TXAR	**Lajitas Array**	**139.20**	**24**	PKP	PKPdf	05 59 04.5	+4.2
	0.3nm,0.5s,baz=26,slow=1.0,SNR=4.0						
PLCA	**Paso Flores**	**144.57**	**200**	PKP	PKPdf	05 59 11.6	+2.1
	2.1nm,0.7s,baz=83,slow=9.4,SNR=5.3						

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*IDC **27** 05:44:33.6±1.0, 8.22N×94.38E, mb4.0/10, mb1 4.1/11, mb1mx4.0/20, mbtmp3.9/11, Error ellipse: s-maj=32.0km*

s-min=26.5km az=56.0

ISC 27 05:44:36.5±0.9, 8.3N±0.1×94.5E±0.2, h33km, n16, σ0999/12, mb3.9/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.99**	**22**	Pn	**P**	**05 47 13.2**	**-1.3**
	baz=210,slow=12,SNR=3.4						
SONM	**Songino Array**	**40.69**	**12**	P	**P**	**05 52 16.0**	**+0.5**
	0.5nm,0.8s,mb3.2,baz=185,slow=17,SNR=3.9						
WRA	**Warramunga Arr**	**48.17**	**126**	P	**P**	**05 53 15.9**	**0.0**
	0.8nm,0.8s,mb3.8,baz=304,slow=8.5,SNR=4.9						
BVAR	**Borovoye Array**	**48.74**	**341**	P	**P**	**05 53 20.8**	**+0.9**
	0.6nm,0.7s,mb3.7,baz=146,slow=16,SNR=2.6						
KMBO	**Kilima Mbogo**	**57.86**	**263**	P	**P**	**05 54 27.1**	**-0.7**
	1.4nm,0.7s,mb4.1,baz=51,slow=15,SNR=4.7						
BRTR	**Keskin Array B**	**62.47**	**311**	P	**P**	**05 54 56.8**	**-2.2**
	1.2nm,0.8s,mb4.0,baz=123,slow=9.5,SNR=3.9						
FINES	**FINESS Array B**	**72.55**	**332**	P	**P**	**05 56 02.3**	**+0.5**
	3.0nm,0.8s,mb4.3,baz=135,slow=11,SNR=3.6						
ARCES	**ARCESS Array B**	**75.03**	**340**	P	**P**	**05 56 17.8**	**+1.7**
	1.7nm,0.9s,mb4.0,baz=108,slow=5.7,SNR=4.9						
GERES	**GERESS Array B**	**77.80**	**318**	P	**P**	**05 56 32.4**	**+0.3**
	1.2nm,0.9s,mb3.8,baz=90,slow=6.7,SNR=4.9						
HFS	**Hagfors**	**78.31**	**330**	P	**P**	**05 56 34.7**	**-0.1**
	2.2nm,0.6s,mb4.2,baz=104,slow=6.1,SNR=5.7						
NB2	**NORSAR Subarra**	**79.58**	**331**	P	**P**	**05 56 41.6**	**-0.1**
	4.0nm,1.0s,mb4.3,baz=93,slow=5.8						
NOA	**NORSAR Array B**	**79.58**	**331**	P	**P**	**05 56 42.1**	**+0.4**
	1.5nm,0.9s,mb3.9,baz=98,slow=5.1,SNR=2.8						
PDAR	**Pinedale Array**	**124.65**	**21**	PKP	PKPdf	06 03 37.3	+4.2
	0.5nm,0.9s,baz=45,slow=2.1,SNR=4.3						
PDAR	**Pinedale Array**	**124.65**	**21**	PKP	PKPdf	06 03 37.3	+4.2
TXAR	**Lajitas Array**	**138.70**	**24**	PKP	PKPdf	06 04 04.0	+4.1
	0.2nm,0.7s,baz=333,slow=6.0,SNR=2.6						
PLCA	**Paso Flores**	**145.06**	**200**	PKP	PKPdf	06 04 13.3	+2.5
	2.3nm,0.8s,baz=346,slow=4.6,SNR=5.3						

*IDC **27** 05:48:08.1±0.5, 8.05N×94.14E, mb4.5/23, mb1 4.6/24, mb1mx4.6/27, mbtmp4.5/24, ML4.5/1, MS4.6/10, Ms1 4.7/10, ms1mx4.2/25, Error ellipse: s-maj=25.5km s-min=12.3km az=49.0*

*MOS **27** 05:48:11.6±1.4, 7.97N×94.10E, h33km, mb5.0/43, Error ellipse: s-maj=11.0km s-min=6.3km az=97.2*

*BJI **27** 05:48:11.5, 7.67N×93.82E, h52km, mB5.4, mb4.7, Ms5.3, Msz5.0*

*HRVD **27** 05:48:12.6±0.3, 7.99N×94.20E, h15km±1km, MW5.2/57, Centroid moment Tensor Solution. LP body waves: s25,c36;Mantle waves: s57,c107; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}~0.01±.03; $M_{\theta\theta}$~0.61±.02; $M_{\phi\phi}$0.62±.02; $M_{r\theta}$-0.57±.08; $M_{\theta\phi}$0.30±.02; $M_{\phi r}$~0.25±.08; Best double couple: M_0.922×10^{17} NP1: ϕ_s150°,δ48°,λ-177°. NP2:ϕ_s58°,δ88°,λ-42°. Principal axes: T .88, Plg27°, Azm112°; N .084, Plg48°, Azm236°; P -.964, Plg30°, Azm6°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **27** 05:48:12.7±0.3, 7.96N×94.09E, h30km, mb5.0/41 Error ellipse: s-maj=8.4km s-min=6.7km az=83.0*

ISC 27 05:48:11.7±0.3, 7.92N±0.04×94.11E±0.04, h36km, h36km±3.6km: pP-P, n181, σ1s21/169, mb4.7/61, MS4.8/14, 4C-5D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.48**	**24**	*eP*	**P**	**05 50 55.8**	**-0.4**
	86nm,1.2s						
CMAR	**Chiang Mai Arr**	**11.48**	**24**	P	**P**	**05 50 55.4**	**-0.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,4μm,18.1s						
CMAR	**Chiang Mai Arr**	**11.48**	**24**	Pn	**P**	**05 50 55.4**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=211,slow=14,SNR=37						
CMAR				LR	LR	05 55 29.8	
	comp=Z,4μm,18.1s,baz=210,slow=39						
VIS	**Vishakhapatnam**	**14.32**	**314**	*eP*	**P**	**05 51 27.6**	**-6.6**
VIS				*e*		05 51 43.4	
	comp=Z,169nm,1.6s						
VIS				*e*		05 55 19.9	
IMP	**Imphal**	**16.77**	**359**	*e*	**P**	**05 52 06.9**	**+1.4**
SHL	**Shillong**	**17.68**	**353**	*eP*	**P**	**05 52 13.0**	**-3.9**
SHL	**Shillong**	**17.68**	**353**	*e*	**P**	**05 52 13.0**	**-3.9**
QIZ	**Qiongzhong**	**18.85**	**53**	P	**P**	**05 52 34.0**	**+2.6**
QIZ				S	**S**	**05 55 58.5**	**+1.8**
QIZ				LR	LR		
	comp=N,10μm,14.4s						
QIZ				LR	LR		
	comp=Z,3μm,9.2s						
KMI	**Kunming**	**18.99**	**25**	P	**P**	**05 52 35.0**	**+2.0**
KMI				S	**S**	**05 56 06.7**	**+6.9**
KMI				pmax	pmax		
	comp=Z,17nm,1.1s						
KMI	**Kunming**	**18.99**	**25**	P	**P**	**05 52 35.0**	**+2.0**
	comp=Z,17nm,1.1s						
KMI				pP		05 52 43.7	
KMI				sP		05 52 48.1	
KMI				PP	PP	05 52 53.3	+3.7
KMI				S	**S**	**05 56 06.7**	**+6.9**
KMI				sS		05 56 16.7	
MNGI	**Mangalore**	**19.61**	**286**	*i*	**P**	**05 52 41.0**	**+1.1**
MNGI				*i*		05 57 41.8	
COCO	**West Island**	**20.16**	**172**	P	**P**	**05 52 46.0**	**+0.2**
	comp=Z,214nm,1.2s						
KAD	**Karad**	**21.55**	**298**	*e*		05 53 11.6	
LSA	**Lhasa**	**21.85**	**353**	P	**P**	**05 53 02.5**	**-0.4**
LSA				XP		05 53 21.0	
LSA				S	**S**	**05 56 59.3**	**+2.1**
LSA				PCS		06 00 34.0	
LSA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
LSA				LR	LR		
	comp=N,4μm,19.8s,MS5.7						
LSA				LR	LR		
	comp=E,31μm,20.9s,MS5.7						
LSA				LR	LR		
	comp=Z,32μm,18.7s,MS5.8						
LSA	**Lhasa**	**21.85**	**353**	*eP*	**P**	**05 53 02.4**	**-0.5**
LSA				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.2						
LSA	**Lhasa**	**21.85**	**353**	*eP*	**P**	**05 53 02.4**	**-0.5**
	comp=Z,90nm,1.0s,mb5.2						
BHPL	**Bhopal**	**22.11**	**315**	*eP*	**P**	**05 53 03.9**	**-1.6**
BHPL				*e*		05 57 19.6	
POO	**Poona**	**22.34**	**300**	*eP*	**P**	**05 53 06.3**	**-1.5**
POO				*e*		05 55 49.9	
	comp=Z,68nm,1.3s						
POO				*e*		05 57 14.0	
POO				*e*		05 57 15.7	
NDI	**New Delhi**	**26.08**	**324**	*e*	**P**	**05 53 38.7**	**-5.2**
ENH	**Enshi**	**26.50**	**31**	*eP*	**P**	**05 53 46.1**	**-1.6**
	comp=Z,41nm,1.1s,mb4.9						
DDI	**Dehra Dun**	**26.89**	**328**	*e*	**P**	**05 53 51.3**	**-0.1**
DDI				*e*		05 58 40.1	
DDI	**Dehra Dun**	**26.89**	**328**	*e*	**S**	**05 58 40.1**	**+16**
DDI				*e*		05 58 40.1	
XAN	**Xi'an**	**29.37**	**26**	P	**P**	**05 54 12.8**	**-0.8**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
LZH	**Lanzhou**	**29.41**	**16**	*eP*	**P**	**05 54 14.0**	**0.0**
LZH				AP	pP	05 54 25.0	+0.7
LZH				XP	sP	05 54 29.0	0.0
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.9						
LZH	**Lanzhou**	**29.41**	**16**	*eP*	**P**	**05 54 14.0**	**0.0**
LZH				*PP	pP	05 54 25.0	+0.7
LZH				*SP	sP	05 54 28.9	-0.1
LZH				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.9						
LZH	**Lanzhou**	**29.41**	**16**	*eP*	**P**	**05 54 14.0**	**0.0**
	comp=Z,25nm,1.0s,mb4.9						
LZH				pP	pP	05 54 25.0	+0.7
LZH				sP	sP	05 54 28.9	-0.1
WHN	**Wuhan**	**29.42**	**37**	*eP*	**P**	**05 54 14.3**	**+0.2**
WHN				S	**S**	**05 59 16.0**	**+12**
WHN				LR	LR		
	comp=Z,7μm,13.8s,MS5.4						
NJ2	**Nanjing**	**33.26**	**40**	*eP*	**P**	**05 54 48.5**	**+0.6**
NJ2				AP	pP	05 54 58.0	-0.2
NJ2				PP	PP	05 56 01.5	+1.7
NJ2				S	**S**	**06 00 08.0**	**+3.5**
NJ2				AMB	AMB		
	comp=Z,2μm,4.1s						
NJ2				LR	LR		
	comp=N,3μm,24.9s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,21.4s,MS5.0						
NJ2				LR	LR		
	comp=Z,1μm,22.7s,MS4.5						
SSE	**Sheshan**	**34.21**	**44**	P	**P**	**05 54 54.5**	**-1.6**
SSE				S	**S**	**06 00 23.0**	**+3.7**
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,241nm,6.3s						
SSE				LR	LR		
	comp=N,955nm,24.8s,MS4.6						
SSE				LR	LR		
	comp=E,922nm,25.0s,MS4.6						
SSE				LR	LR		
	comp=Z,654nm,15.6s						
SSE	**Sheshan**	**34.21**	**44**	P	**P**	**05 54 54.5**	**-1.6**
	comp=Z,29nm,0.7s,mb5.3						
SSE				pP	pP	05 55 03.3	-3.2
SSE				sP	sP	05 55 07.2	-4.0
SSE				S	**S**	**06 00 22.9**	**+3.6**
SSE				sS		06 00 37.3	
SSE				LR	LR		
	comp=Z,650nm,15.6s,MS4.5						
WMQ	**Urumqi**	**36.20**	**352**	P	**P**	**05 55 13.5**	**+0.6**
BJT	**Baijiatuan**	**37.56**	**28**	P	**P**	**05 55 24.4**	**0.0**
BJT				pmax	pmax		
	comp=Z,21nm,1.3s						
BJT	**Baijiatuan**	**37.56**	**28**	P	**P**	**05 55 24.4**	**0.0**
	comp=Z,21nm,1.3s,mb4.7						
BJI	**Beijing**	**37.58**	**28**	*eP*	**P**	**05 55 25.4**	**+0.8**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.2						
BJI	**Beijing**	**37.58**	**28**	*eP*	**P**	**05 55 25.4**	**+0.8**
	comp=Z,7.0nm,1.3s,mb4.2						
UCH	**Uchtor**	**38.30**	**336**	P	**P**	**05 55 31.7**	**+1.1**
	SNR=6.0						
AML	**Almayashu**	**38.55**	**335**	P	**P**	**05 55 34.4**	**+1.8**
	SNR=13						
AAK	**Ala-Archa**	**38.65**	**337**	P	**P**	**05 55 34.7**	**+1.2**
	SNR=6.7						
AAK	**Ala-Archa**	**38.65**	**337**	*d iP*	**P**	**05 55 33.5**	**+0.1**
AAK				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.5						
AAK	**Ala-Archa**	**38.65**	**337**	*eP*	**P**	**05 55 33.2**	**-0.2**
	comp=Z,12nm,1.0s,mb4.6						
CHMS	**Chumysh**	**38.86**	**337**	P	**P**	**05 55 36.0**	**+0.8**
	SNR=5.2						
EKS2	**Erkin-Say**	**38.96**	**336**	P	**P**	**05 55 37.1**	**+1.1**
	SNR=6.2						
USP	**Ospenovka**	**39.19**	**337**	P	**P**	**05 55 38.4**	**+0.5**
	SNR=11						
MKAR	**Makanchi Array**	**40.04**	**347**	*i* P	**P**	**05 55 43.5**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,13nm,1.0s						
SONM	**Songino Array**	**41.13**	**13**	P	**P**	**05 55 53.8**	**-0.1**
	comp=Z,3.6nm,0.9s,mb4.0,baz=198,slow=5.3,SNR=14						
SONM				PcP	PcP	05 57 53.0	-0.5
	comp=Z,1.2nm,0.6s,baz=236,slow=1.9,SNR=3.9						
ULN	**Ulaanbaatar**	**41.30**	**13**	⇑*iP*	**P**	**05 55 54.7**	**-0.6**
ULN	**Ulaanbaatar**	**41.30**	**13**	*eP*	**P**	**05 55 53.3**	**-2.0**
	comp=Z,2.3nm,0.7s,mb3.9						
ZAK	**Zakamensk**	**43.01**	**9**	*eP*	**P**	**05 56 08.7**	**-0.7**
TLY	**Talaya**	**44.33**	**8**	P	**P**	**05 56 20.7**	**+0.7**
TLY				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.3						
TLY	**Talaya**	**44.33**	**8**	P	**P**	**05 56 20.7**	**+0.8**
	comp=Z,8.8nm,1.4s,mb4.3						
KURK	**Kurchatov**	**44.56**	**346**	*i P*	**P**	**05 56 21.6**	**-0.2**
KURK				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.8						
KURK	**Kurchatov**	**44.56**	**346**	*eP*	**P**	**05 56 20.6**	**-1.2**
	comp=Z,29nm,1.1s,mb5.0						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	*eP*	**P**	**05 56 34.7**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,24nm,1.0s						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	P	**P**	**05 56 35.2**	**+0.1**
	comp=Z,14nm,0.7s,mb5.0,baz=322,slow=9.7,SNR=9.9						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	*eP*	**P**	**05 56 34.7**	**-0.5**
	comp=Z,24nm,1.0s,mb5.1						
HIA	**Hailar**	**46.49**	**23**	*eP*	**P**	**05 56 37.7**	**+0.5**
HIA				pmax	pmax		
	comp=Z,33nm,1.4s						
HIA	**Hailar**	**46.49**	**23**	*eP*	**P**	**05 56 37.7**	**+0.5**
	comp=Z,33nm,1.4s,mb5.1						
ZAL	**Zalesovo**	**46.50**	**352**	P	**P**	**05 56 37.3**	**+0.1**
ZAL				pmax	pmax		
	comp=Z,21nm,1.1s						
ZAL	**Zalesovo**	**46.50**	**352**	P	**P**	**05 56 37.3**	**+0.1**
	comp=Z,21nm,1.1s,mb5.0,baz=296,slow=9.4,SNR=4.6						
NVS	**Novosibirsk**	**47.60**	**352**	*eP*	**P**	**05 56 44.2**	**-1.6**
NVS				pmax	pmax		
	comp=N,10.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.3						
MDJ	**Mudanjiang**	**47.79**	**34**	P	**P**	**05 56 46.5**	**-1.0**
MDJ				AP	pP	05 56 58.8	+0.7
MDJ				XP	sP	05 57 04.0	+1.4
MDJ				S	**S**	**06 03 41.0**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,505nm,5.0s						
MDJ				LR	LR		
	comp=E,2μm,14.8s						
MDJ				LR	LR		
	comp=Z,1μm,16.4s,MS4.9						
MDJ	**Mudanjiang**	**47.79**	**34**	*eP*	**P**	**05 56 46.8**	**-0.7**
	comp=Z,13nm,1.1s,mb4.9						
WRA	**Warramunga Arr**	**48.31**	**126**	P	**P**	**05 56 51.1**	**-0.7**
WRA						05 58 19.6	
WRA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**48.31**	**126**	P	**P**	**05 56 51.1**	**-0.8**
	comp=Z,10nm,1.1s,mb4.8,baz=303,slow=9.1,SNR=23						
WRA				PcP	PcP	05 58 19.6	+1.0
	comp=Z,2.6nm,0.9s,baz=308,slow=2.9,SNR=4.7						
WRAB	**Tennant Creek**	**48.31**	**126**	*d iP*	**P**	**05 56 50.5**	**-1.4**
WRAB	**Tennant Creek**	**48.31**	**126**	*eP*	**P**	**05 56 51.4**	**-0.5**
	comp=Z,72nm,1.5s,mb5.5						
WB2	**Warramunga Arr**	**48.32**	**126**	*eP*	**P**	**05 56 51.1**	**-0.8**
BVA0	**Borovoye Array**	**48.94**	**341**	*i P*	**P**	**05 56 55.4**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
BVAR	**Borovoye Array**	**48.94**	**341**	P	**P**	**05 56 55.5**	**-0.7**
	comp=Z,3.2nm,0.7s,mb4.5,baz=153,slow=6.6,SNR=12						
BVAR				ScP		06 02 14.6	
	comp=Z,1.6nm,0.9s,baz=135,slow=4.1,SNR=3.1						
BRVK	**Borovoye**	**49.00**	**341**	*eP*	**P**	**05 56 55.7**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
BRVK	**Borovoye**	**49.00**	**341**	*eP*	**P**	**05 56 55.7**	**-1.0**
	comp=Z,10nm,1.2s,mb4.7						
RAYN	**Ar Rayn**	**49.04**	**294**	P	**P**	**05 56 58.6**	**+1.2**
	comp=Z,178nm,0.9s,SNR=13						
JHJ	**Hachijo jima 2**	**49.06**	**53**	LR	LR	06 20 39.1	
	comp=Z,565nm,18.9s,MS4.6,baz=297,slow=40						
MAJO	**Matsushiro**	**49.15**	**48**	P	**P**	**05 56 56.7**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
MAJO	**Matsushiro**	**49.15**	**48**	P	**P**	**05 56 56.6**	**-1.5**
	comp=Z,9.7nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**49.42**	**342**	P	**P**	**05 56 59.1**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
CHKZ	**Chkalovo**	**49.42**	**342**	*eP*	**P**	**05 56 58.4**	**-1.6**
	comp=Z,24nm,1.0s,mb5.2						
ASAR	**Alice Springs**	**49.97**	**130**	P	**P**	**05 57 04.3**	**-0.3**
	comp=Z,6.2nm,1.0s,mb4.6,baz=309,slow=7.3,SNR=20						
ASAR				PcP	PcP	05 58 25.4	+0.9
	comp=Z,3.9nm,0.9s,baz=316,slow=3.8,SNR=9.6						
ASAR				LR	LR	06 20 55.7	
	comp=Z,381nm,18.4s,MS4.4,baz=300,slow=39						
GNI	**Garni**	**54.38**	**314**	P	**P**	**05 57 41.3**	**+3.9**
GNI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GNI				MLR	MLR		
	comp=Z,267nm,19.2s						
GNI	**Garni**	**54.38**	**314**	P	**P**	**05 57 41.3**	**+3.9**
	comp=Z,3.3nm,0.5s,mb4.5,baz=194,slow=6.8,SNR=3.8						
GNI				LR	LR	06 23 37.7	
	comp=Z,267nm,19.2s,MS4.3,baz=223,slow=39						
GNI	**Garni**	**54.38**	**314**	*eP*	**P**	**05 57 40.5**	**+3.0**
	comp=Z,33nm,1.4s,mb5.1						
CLNS	**Chul'man**	**54.41**	**20**	*eP*	**P**	**05 57 37.7**	**+0.4**
CLNS				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.0s						
SVE	**Sverdlovsk**	**55.35**	**338**	*eP*	**P**	**05 57 43.0**	**-1.2**
ASAJ	**Asahikawa**	**55.40**	**41**	LR	LR	06 20 54.5	
	comp=E,701nm,18.1s,MS4.8,baz=269,slow=36						
PMG	**Port Moresby**	**55.57**	**107**	*eP*	**P**	**05 57 47.5**	**+1.1**
PMG				pmax	pmax		
	comp=Z,23nm,0.8s						
PMG	**Port Moresby**	**55.57**	**107**	P	**P**	**05 57 47.7**	**+1.3**
	comp=Z,20nm,0.8s,mb5.2,baz=50,slow=1.0,SNR=4.1						
PMG	**Port Moresby**	**55.57**	**107**	*eP*	**P**	**05 57 47.5**	**+1.1**
	comp=Z,23nm,0.8s,mb5.2						
ARU	**Arti**	**55.84**	**337**	*eP*	**P**	**05 57 41.2**	**-6.5**
ARU				*eS*	**S**	**06 05 24.8**	**-5.9**
ARU				*e*SS	SS	06 09 15.8	-0.6
KIV	**Kislovodsk**	**57.27**	**318**	*eP*	**P**	**05 57 57.6**	**-0.5**
KIV				pmax	pmax		
	comp=Z,32nm,1.5s,mb5.1						
KIV	**Kislovodsk**	**57.27**	**318**	*eP*	**P**	**05 57 57.6**	**-0.5**
	comp=Z,32nm,1.5s,mb5.1						
KMBO	**Kilima Mbogo**	**57.40**	**264**	P	**P**	**05 58 00.8**	**+1.3**
	comp=Z,8.3nm,0.9s,mb4.8,baz=53,slow=9.2,SNR=17						
KMBO				LR	LR	06 20 17.1	
	comp=Z,688nm,19.1s,MS4.8,baz=96,slow=34						
KMBO	**Kilima Mbogo**	**57.40**	**264**	*eP*	**P**	**05 58 00.4**	**+0.9**
	comp=Z,16nm,1.1s,mb5.0						
CTA	**Charters Tower**	**58.35**	**119**	LR	LR	06 25 03.8	
	comp=Z,520nm,20.2s,MS4.6,baz=291,slow=38						
MALT	**Malatya**	**58.41**	**310**	*eP*	**P**	**05 58 06.9**	**+0.7**
MALT				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
MALT	**Malatya**	**58.41**	**310**	*eP*	**P**	**05 58 06.9**	**+0.7**
	comp=Z,5.8nm,1.1s,mb4.5						
EIL	**Elat**	**59.38**	**300**	P	**P**	**05 58 13.3**	**+0.3**
	comp=Z,3.4nm,0.4s,mb4.7,baz=82,slow=11,SNR=5.9						
EIL	**Elat**	**59.38**	**300**	*eP*	**P**	**05 58 10.2**	**-2.9**
	comp=Z,8.7nm,0.8s,mb4.8						
YAK	**Yakutsk**	**59.96**	**18**	*d iP*	**P**	**05 58 16.5**	**-0.1**
YAK				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.2						
YAK	**Yakutsk**	**59.96**	**18**	*eP*	**P**	**05 58 15.8**	**-0.9**
	comp=Z,54nm,1.4s,mb5.4						
STKA	**Stephens Creek**	**60.16**	**134**	P	**P**	**05 58 17.0**	**-1.4**
	comp=Z,3.8nm,0.9s,mb4.4,baz=342,slow=7.0,SNR=5.3						
STKA				LR	LR	06 29 22.2	
	comp=Z,602nm,18.1s,MS4.8,baz=46,slow=41						
STKA	**Stephens Creek**	**60.16**	**134**	*eP*	**P**	**05 58 16.9**	**-1.5**
BRTR	**Keskin Array B**	**62.38**	**311**	P	**P**	**05 58 32.7**	**-0.5**
BRTR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRTR	**Keskin Array B**	**62.38**	**311**	P	**P**	**05 58 32.6**	**-0.6**
	comp=Z,3.8nm,1.0s,mb4.5,baz=123,slow=8.2,SNR=7.4						
MOS	**Moscow**	**65.03**	**329**	*eP*	**P**	**05 58 53.3**	**+3.0**
OBN	**Obninsk**	**65.33**	**328**	*eP*	**P**	**05 58 49.3**	**-3.0**
OBN				*e*		05 59 20.8	
OBN				*e*S	S	06 07 31.3	-0.6
OBN				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
OBN	**Obninsk**	**65.33**	**328**	P	**P**	**05 58 49.8**	**-2.4**
	comp=Z,51nm,1.5s,mb5.3						
MA2	**Magadan**	**66.74**	**28**	*eP*	**P**	**05 59 01.3**	**+0.1**
MA2				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
MA2	**Magadan**	**66.74**	**28**	*eP*	**P**	**05 59 01.3**	**+0.2**
	comp=Z,12nm,0.9s,mb4.9						
TIXI	**Tiksi**	**67.20**	**11**	*eP*	**P**	**05 59 02.4**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
AKASG	**Malin Array Be**	**68.10**	**322**	P	**P**	**05 59 07.6**	**-2.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**68.10**	**322**	P	**P**	**05 59 07.5**	**-2.3**
	comp=Z,1.8nm,0.7s,mb4.2,baz=87,slow=5.1,SNR=6.5						
VRI	**Vrincioaia**	**68.65**	**316**	⇑P	**P**	**05 59 16.1**	**+2.7**
MLR	**Muntele Rosu**	**69.12**	**316**	P	**P**	**05 59 18.5**	**+2.3**
	comp=Z,13nm,1.1s,mb4.8,baz=326,slow=4.1,SNR=4.8						
MLR	**Muntele Rosu**	**69.12**	**316**	⇑P	**P**	**05 59 19.0**	**+2.8**
LSZ	**Lusaka**	**69.25**	**250**	*eP*	**P**	**05 59 16.7**	**-0.9**
LSZ				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.8						
LSZ	**Lusaka**	**69.25**	**250**	*eP*	**P**	**05 59 16.7**	**-0.9**
	comp=Z,18nm,1.4s,mb4.8						
BURAR	**Bucovina Array**	**69.99**	**318**	⇑P	**P**	**05 59 25.0**	**+3.5**
JOF	**Joensuu**	**70.80**	**334**	*ep*	**P**	**05 59 25.7**	**-0.5**
	comp=Z,6.6nm,0.8s,mb4.6						
FINES	**FINESS Array B**	**72.66**	**332**	*eP*	**P**	**05 59 39.6**	**+2.3**
FINES	**FINESS Array B**	**72.66**	**332**	P	**P**	**05 59 36.0**	**-1.2**
	comp=Z,22nm,1.3s,mb4.9,baz=104,slow=8.2,SNR=10						
KAF	**Kangasniemi**	**72.74**	**333**	*ep*	**P**	**05 59 36.8**	**-0.9**
	comp=Z,10nm,0.9s,mb4.8						
KAF	**Kangasniemi**	**72.74**	**333**	*eP*	**P**	**05 59 36.8**	**-0.9**
KAF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
OJC	**Ojcow**	**73.92**	**320**	*eP*	**P**	**05 59 45.5**	**+0.6**
LBTB	**Lobatse**	**74.24**	**241**	P	**P**	**05 59 48.0**	**+0.7**
LBTB				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8

NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 79.68 331 P **P** **06 00 16.0 -1.0**
comp=Z,2.8nm,0.7s,mb4.3,baz=92,slow=5.6,SNR=9.2
SUR Sutherland 80.33 235 *eP* **P** **06 00 23.5 +2.4**
comp=Z,21nm,1.1s,mb5.0
LPG La Plagne 82.57 315 *eP* **P** **06 00 31.7 -0.7**
comp=Z,25nm,1.0s,mb4.9
LPG La Plagne 82.57 315 *eP* **P** **06 00 31.7 -0.7**
LPG pmax pmax
comp=Z,12nm,1.0s,mb4.9
SYO Syowa Base 85.44 197 ⇓X 06 00 45.0
SYO Syowa Base 85.44 197 ⇓PcP PcP 06 00 49.2 -0.6
EKA Eskdalemuir Ar 87.67 325 P **P** **06 00 57.7 +0.2**
EKA pmax pmax
comp=Z,1.0nm,0.7s
EKA Eskdalemuir Ar 87.67 325 P **P** **06 00 57.7 +0.2**
comp=Z,1.4nm,0.7s,mb4.3,baz=90,slow=5.0,SNR=4.0
ESDC Sonseca Array 91.17 310 P **P** **06 01 16.7 +2.2**
comp=Z,0.9nm,0.7s,mb4.2,baz=59,slow=3.1,SNR=3.5
IMA Indian Mountai 91.59 22 *eP* **P** **06 01 17.1 +1.3**
VNDA Vanda 92.98 168 LR LR 06 38 17.5
comp=Z,400nm,19.1s,MS4.9,baz=307,slow=32
SPU Mount Spurr 94.26 26 *eP* **P** **06 01 28.4 +0.3**
ILAR Eielson Array 94.72 22 P **P** **06 01 30.3 +0.2**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 94.72 22 P **P** **06 01 30.3 +0.2**
comp=Z,0.7nm,0.9s,mb4.1,baz=295,slow=4.3,SNR=6.7
INK Inuvik 96.96 16 P **P** **06 01 40.1 -0.1**
INK pmax pmax
comp=Z,2.0nm,1.0s
INK Inuvik 96.96 16 P **P** **06 01 40.1 -0.2**
comp=Z,2.1nm,1.0s,mb4.5,baz=286,slow=5.2,SNR=4.2
SNAA Sanae 99.66 199 *eP* **P** **06 01 48.5 -3.9**
YKA Yellowknife Ar 106.39 13 PKKPbc 06 17 55.2
comp=Z,0.3nm,0.7s,baz=153,slow=2.9,SNR=9.1
YKA PKKP PKKP 06 18 10.2 +12
comp=Z,0.4nm,0.8s,baz=146,slow=4.5,SNR=6.3
NVAR Mina Array Bea 124.90 31 PKP PKPdf 06 07 11.5 +3.0
comp=Z,3.0nm,1.1s,baz=33,slow=0.5,SNR=7.8
PDAR Pinedale Array 125.14 21 PKP PKPdf 06 07 11.2 +2.4
comp=Z,1.4nm,0.8s,baz=20,slow=2.1,SNR=13
PDAR Pinedale Array 125.14 21 PKP PKPdf 06 07 11.2 +2.4
MSU Marysvale 127.73 26 *e*PKIKP PKPdf 06 07 18.0 +4.0
ANMO Albuquerque 133.14 23 PKIKP PKPdf 06 07 27.3 +2.9
ANMO pmax pmax
comp=Z,1.0nm,0.7s
ANMO Albuquerque 133.14 23 PKP PKPdf 06 07 27.3 +3.0
comp=Z,1.0nm,0.7s,baz=130,slow=2.3,SNR=7.5
TXAR Lajitas Array 139.20 24 PKhKP 06 07 30.4
comp=Z,0.2nm,0.8s,baz=27,slow=3.3,SNR=3.6
TXAR PKP PKPdf 06 07 39.0 +3.5
comp=Z,2.0nm,1.1s,baz=197,slow=0.5,SNR=10
JCT Junction City 139.56 19 *e*PKIKP PKPdf 06 07 39.5 +3.3
PLCA Paso Flores 144.58 200 PKIKP PKPdf 06 07 46.7 +2.0
PLCA pmax pmax
comp=Z,13nm,0.9s
PLCA Paso Flores 144.58 200 PKP PKPdf 06 07 46.7 +2.0
comp=Z,13nm,0.9s,baz=138,slow=3.5,SNR=24
PLCA Paso Flores 144.58 200 *e*PKPdf PKPdf 06 07 46.1 +1.4
LPAZ La Paz 160.76 243 PKP PKPdf 06 07 30.4 -38
comp=Z,1.5nm,0.8s,baz=53,slow=8.1,SNR=6.2
LPAZ PKPab PKPab 06 08 12.6 -40
comp=Z,4.7nm,1.4s,baz=172,slow=9.2,SNR=4.4

*IDC **27** 05:50:55.6±0.6, 10.78N×91.73E, mb4.4/17, mb1 4.6/18, mb1mx4.5/23, mbtmp4.4/18, ML4.5/1, Error ellipse: s-maj=35.5km s-min=13.2km az=52.0*
*MOS **27** 05:50:58.9±1.0, 10.79N×91.81E, h33km, mb4.9/32, Error ellipse: s-maj=14.8km s-min=8.1km az=108.9*
*BJI **27** 05:50:59.2, 10.30N×91.75E, h60km, mB5.5, mb4.9, Ms5.0, Msz4.6*
*HRVD **27** 05:51:00.3±0.9, 10.72N×91.72E, h37km±1km, MW5.2/26, Centroid moment Tensor Solution. LP body waves: s18,c19;Mantle waves: s26,c34; Half duration: 0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.83±.09; $M_{\theta\theta}$-0.19±.05; $M_{\phi\phi}$-0.64±.06; $M_{r\theta}$0.24±.04; $M_{\theta\phi}$-0.06±.06; $M_{\phi r}$-0.03±.05; Best double couple: M_0.773×10^{17} NP1:ϕ_s175°, δ46°, λ72°. NP2:ϕ_s20°, δ47°, λ108°. Principal axes: T.889, Plg77°, Azm7°; N-.231, Plg13°, Azm188°; P-.658, Plg0°, Azm98°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 05:51:00.3±0.3, 10.78N×91.78E, h30km, mb4.9/18 Error ellipse: s-maj=12.1km s-min=7.7km az=55.0*
ISC 27 05:50:55.3±2.9, 10.74N±0.07×91.74E±0.07, h11km±18km, n103, σ0.97/98, mb4.7/41, MS4.7/2, 1C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.37**	**41**	P	**P**	**05 53 35.2**	**+8.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**10.37**	**41**	Pn	**P**	**05 53 35.2**	**+8.1**
	comp=Z,1.0nm,0.3s,baz=230,slow=15,SNR=5.5						
VIS	**Vishakhapatnam**	**10.70**	**311**	*eP*	**P**	**05 53 29.4**	**-2.4**
VIS				*eS*	**S**	**05 55 21.2**	**-11**
MDRS	**Chennai**	**11.48**	**283**	*e*	**P**	**05 53 56.0**	**+14**
KAD	**Karad**	**18.23**	**293**	*eP*	**P**	**05 55 10.8**	**+0.6**
KAD				AMb	AMB	05 55 12.7	
	comp=Z,56nm,0.7s						
KAD				*e*		05 55 28.0	
	comp=Z,65nm,1.0s						
KAD				*e*		05 55 28.0	
	comp=Z,65nm,1.0s						
BHPL	**Bhopal**	**18.47**	**314**	*eP*	**P**	**05 55 13.7**	**+0.5**
LSA	**Lhasa**	**18.87**	**358**	*eP*	**P**	**05 55 19.1**	**+1.1**
LSA				pmax	pmax		
	comp=Z,169nm,1.5s						
LSA	**Lhasa**	**18.87**	**358**	*eP*	**P**	**05 55 19.1**	**+1.2**
	comp=Z,169nm,1.5s						
NDI	**New Delhi**	**22.44**	**325**	*e*	**P**	**05 56 06.5**	**+11**
NDI				*e*		05 58 48.0	
ENH	**Enshi**	**25.50**	**38**	*eP*	**P**	**05 56 25.2**	**-0.2**
	comp=Z,40nm,0.7s,mb5.0						
LZH	**Lanzhou**	**27.52**	**22**	*eP*	**P**	**05 56 44.8**	**+0.9**
LZH				AMB	AMB		
	comp=Z,31nm,1.1s,mb4.8						
LZH	**Lanzhou**	**27.52**	**22**	*eP*	**P**	**05 56 44.7**	**+0.8**
LZH				*PP	pP	05 56 53.9	+6.8
LZH				*SP	sP	05 56 58.3	+10
LZH				pmax	pmax		
	comp=Z,31nm,1.1s,mb4.8						
LZH	**Lanzhou**	**27.52**	**22**	*eP*	**P**	**05 56 44.7**	**+0.8**
	comp=Z,31nm,1.1s,mb4.8						
LZH				pP	pP	05 56 53.9	+6.8
LZH				sP	sP	05 56 58.3	+10
WMQ	**Urumqi**	**33.15**	**355**	*eP*	**P**	**05 57 34.0**	**+0.2**
AAK	**Ala-Archa**	**35.16**	**338**	*dP*	**P**	**05 57 52.7**	**+1.5**
AAK				pmax	pmax		
	comp=Z,41nm,1.7s,mb5.1						
AAK	**Ala-Archa**	**35.16**	**338**	*eP*	**P**	**05 57 50.2**	**-0.9**
	comp=Z,42nm,1.3s,mb5.2						
BJT	**Baijiatuau**	**36.32**	**32**	*eP*	**P**	**05 58 01.4**	**+0.4**
BJT				pmax	pmax		
	comp=Z,36nm,1.2s						
BJT	**Baijiatuau**	**36.32**	**32**	*eP*	**P**	**05 58 01.4**	**+0.4**
	comp=Z,36nm,1.2s,mb5.2						
BJI	**Beijing**	**36.34**	**32**	P	**P**	**05 58 02.0**	**+0.8**
BJI				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1						
BJI				MLR	MLR		
	comp=Z,1μm,24.2s,MS4.5						
BJI	**Beijing**	**36.34**	**32**	P	**P**	**05 58 02.0**	**+0.8**
	comp=Z,28nm,1.1s,mb5.1						
BJI				S	tx	06 01 28.7	
BJI				LR	LR		
	comp=Z,1μm,24.2s,MS4.5						
SONM	**Songino Array**	**38.98**	**16**	P	**P**	**05 58 24.4**	**+1.1**
	comp=Z,16nm,1.1s,mb4.6,baz=198,slow=7.8,SNR=17						
SONM				PcP	PcP	06 00 34.6	+0.4
	comp=Z,1.1nm,0.9s,baz=212,slow=4.4,SNR=2.7						
ULN	**Ulaanbaatar**	**39.19**	**16**	*eP*	**P**	**05 58 25.5**	**+0.5**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
ULN	**Ulaanbaatar**	**39.19**	**16**	*eP*	**P**	**05 58 25.5**	**+0.5**
	comp=Z,3.2nm,0.9s,mb4.0						
KURK	**Kurchatov**	**41.29**	**347**	*cP*	**P**	**05 58 42.1**	**-0.2**
KURK	**Kurchatov**	**41.29**	**347**	*eP*	**P**	**05 58 41.6**	**-0.7**
	comp=Z,40nm,1.5s,mb4.8						
SNY	**Shenyang**	**41.67**	**36**	⇓P	**P**	**05 58 46.0**	**+0.4**
SNY				SS	SS	06 08 01.0	-1.0
SNY				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.5						
SNY				LR	LR		
	comp=N,1μm,13.9s						
SNY				LR	LR		
	comp=Z,1μm,15.2s,MS5.0						
TLY	**Talaya**	**41.96**	**11**	*eP*	**P**	**05 58 44.7**	**-3.1**
ZAL	**Zalesovo**	**43.44**	**354**	P	**P**	**05 58 58.0**	**-1.8**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZAL	**Zalesovo**	**43.44**	**354**	P	**P**	**05 58 58.0**	**-1.8**
	comp=Z,4.1nm,0.6s,mb4.3,baz=314,slow=6.9,SNR=3.9						
NVS	**Novosibirsk**	**44.50**	**353**	*eP*	**P**	**05 59 03.4**	**-5.0**
HIA	**Hailar**	**44.91**	**26**	*eP*	**P**	**05 59 12.6**	**+0.8**
HIA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HIA	**Hailar**	**44.91**	**26**	*eP*	**P**	**05 59 12.6**	**+0.8**
	comp=Z,8.2nm,1.0s,mb4.5						
BVAR	**Borovoye Array**	**45.54**	**342**	P	**P**	**05 59 15.2**	**-1.5**
	comp=Z,3.4nm,0.9s,mb4.3,baz=135,slow=4.2,SNR=5.3						
BVAR				PcP	PcP	06 00 56.2	+0.3
	comp=Z,0.8nm,0.7s,baz=166,slow=5.9,SNR=2.5						
BVAR	**Borovoye Array**	**45.54**	**342**	P	**P**	**05 59 15.2**	**-1.5**
BVAR				PcP	PcP	06 00 56.2	+0.3
CHKZ	**Chkalovo**	**46.04**	**343**	*eP*	**P**	**05 59 19.4**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
CHKZ	**Chkalovo**	**46.04**	**343**	*eP*	**P**	**05 59 19.4**	**-1.3**
	comp=Z,20nm,1.1s,mb5.0						
GNI	**Garni**	**50.75**	**314**	P	**P**	**06 00 00.2**	**+2.7**
GNI	**Garni**	**50.75**	**314**	P	**P**	**06 00 00.1**	**+2.7**
	comp=Z,7.4nm,0.8s,mb4.7,baz=153,slow=5.0,SNR=5.3						
WRA	**Warramunga Arr**	**51.85**	**126**	P	**P**	**06 00 05.2**	**-0.8**
WRA						06 01 19.0	
WRA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**51.85**	**126**	P	**P**	**06 00 05.2**	**-0.8**
	comp=Z,3.6nm,0.5s,mb4.6,baz=306,slow=8.4,SNR=22						
WRA				PcP	PcP	06 01 19.0	-0.1
	comp=Z,0.9nm,0.5s,baz=315,slow=3.1,SNR=5.1						
WRAB	**Tennant Creek**	**51.85**	**126**	*eP*	**P**	**06 00 05.9**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**51.85**	**126**	*eP*	**P**	**06 00 05.9**	**-0.2**
	comp=Z,7.9nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	**51.86**	**126**	*eP*	**P**	**06 00 06.0**	**-0.1**
ARU	**Arti**	**52.35**	**337**	⇓*iP*	**P**	**06 00 03.5**	**-5.8**
ARU				*e*		06 02 07.7	
ARU				*eS*	**S**	**06 07 33.0**	**-0.2**
ARU				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
CLNS	**Chul'man**	**52.64**	**22**	*eP*	**P**	**06 00 11.1**	**-0.4**
CLNS				pmax	pmax		
	comp=N,7.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.9s						
ASPA	**Alice Springs**	**53.56**	**130**	*eP*	**P**	**06 00 18.3**	**-0.5**
ASAR	**Alice Springs**	**53.56**	**130**	P	**P**	**06 00 18.4**	**-0.4**
	comp=E,8.5nm,0.9s,mb4.7,baz=305,slow=6.9,SNR=24						
ASAR				PcP	PcP	06 01 25.6	+0.2
	comp=E,1.8nm,0.7s,baz=312,slow=3.6,SNR=5.1						
KIV	**Kislovodsk**	**53.62**	**317**	*eP*	**P**	**06 00 20.2**	**+1.3**
KIV				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
MALT	**Malatya**	**54.82**	**309**	*eP*	**P**	**06 00 28.5**	**+0.7**
MALT				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
MALT	**Malatya**	**54.82**	**309**	*eP*	**P**	**06 00 28.5**	**+0.7**
	comp=Z,6.6nm,1.0s,mb4.6						
YAK	**Yakutsk**	**58.09**	**20**	*eP*	**P**	**06 00 46.2**	**-4.6**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
BRTR	**Keskin Array B**	**58.78**	**310**	P	**P**	**06 00 55.2**	**-0.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**58.78**	**310**	P	**P**	**06 00 55.1**	**-0.8**
	comp=Z,1.4nm,0.6s,mb4.2,baz=113,slow=6.6,SNR=4.9						
MOS	**Moscow**	**61.41**	**329**	*eP*	**P**	**06 01 12.8**	**-1.0**
MOS				*e*		06 01 53.8	
OBN	**Obninsk**	**61.70**	**328**	*eP*	**P**	**06 01 13.3**	**-2.5**
OBN				*e*		06 03 32.8	
OBN				*eS*	**S**	**06 09 41.9**	**+5.3**
OBN				pmax	pmax		
	comp=Z,22nm,1.6s,mb5.0						
CTA	**Charters Tower**	**61.77**	**120**	P	**P**	**06 01 16.9**	**+0.2**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CTA	**Charters Tower**	**61.77**	**120**	P	**P**	**06 01 16.9**	**+0.2**
	comp=Z,4.6nm,0.8s,mb4.6,baz=297,slow=16,SNR=3.3						
CTA	**Charters Tower**	**61.77**	**120**	P	**P**	**06 01 16.9**	**+0.2**
STKA	**Stephens Creek**	**63.79**	**134**	*eP*	**P**	**06 01 29.8**	**-0.2**
	comp=Z,3.7nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**63.79**	**134**	P	**P**	**06 01 30.5**	**+0.5**
	comp=Z,5.3nm,0.9s,mb4.6,baz=318,slow=5.7,SNR=6.8						
AKASG	**Malin Array Be**	**64.45**	**321**	P	**P**	**06 01 32.9**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKASG	**Malin Array Be**	**64.45**	**321**	P	**P**	**06 01 32.9**	**-1.1**
	comp=Z,3.9nm,0.9s,mb4.5,baz=94,slow=4.5,SNR=7.5						
TIXI	**Tiksi**	**64.93**	**12**	*eP*	**P**	**06 01 36.2**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
MA2	**Magadan**	**65.37**	**29**	*eP*	**P**	**06 01 30.3**	**-9.5**
MA2				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
MLR	**Muntele Rosu**	**65.48**	**315**	P	**P**	**06 01 41.6**	**+0.9**
MLR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MLR	**Muntele Rosu**	**65.48**	**315**	P	**P**	**06 01 41.6**	**+0.9**
	comp=Z,8.8nm,0.9s,mb4.8,baz=26,slow=12,SNR=6.0						
JOF	**Jomsuu**	**67.26**	**334**	*ep*	**P**	**06 01 51.3**	**-0.5**
	comp=Z,13nm,1.0s,mb4.9						
LSZ	**Lusaka**	**68.04**	**249**	*eP*	**P**	**06 01 59.2**	**+1.8**
FINES	**FINESS Array B**	**69.08**	**332**	P	**P**	**06 02 03.2**	**0.0**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	**FINESS Array B**	**69.08**	**332**	P	**P**	**06 02 03.1**	**0.0**
	comp=Z,4.0nm,0.8s,mb4.4,baz=108,slow=6.0,SNR=6.4						
KAF	**Kangasniemi**	**69.17**	**333**	*ep*	**P**	**06 02 03.6**	**-0.1**
	comp=Z,9.9nm,0.9s,mb4.7						
KAF	**Kangasniemi**	**69.17**	**333**	*eP*	**P**	**06 02 03.6**	**-0.1**
KAF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
OJC	**Ojcow**	**70.27**	**320**	*eP*	**P**	**06 02 11.1**	**+0.5**
KEV	**Kevo**	**71.36**	**341**	*ep*	**P**	**06 02 16.9**	**0.0**
	comp=Z,16nm,1.1s,mb4.9						
KEV	**Kevo**	**71.36**	**341**	*eP*	**P**	**06 02 16.9**	**0.0**
KEV				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
ARCES	**ARCESS Array B**	**71.78**	**340**	P	**P**	**06 02 20.5**	**+1.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES	**ARCESS Array B**	**71.78**	**340**	P	**P**	**06 02 20.5**	**+1.1**
	comp=Z,2.6nm,0.7s,mb4.3,baz=104,slow=5.0,SNR=8.4						
ARCES	**ARCESS Array B**	**71.78**	**340**	P	**P**	**06 02 20.5**	**+1.1**
GERES	**GERESS Array B**	**74.12**	**318**	P	**P**	**06 02 34.1**	**+0.6**
GERES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GERES	**GERESS Array B**	**74.12**	**318**	P	**P**	**06 02 34.1**	**+0.6**
	comp=Z,3.6nm,1.0s,mb4.2,baz=90,slow=5.3,SNR=7.0						
CLL	**Collm**	**74.66**	**320**	P	**P**	**06 02 37.0**	**+0.5**
MOX	**Moxa**	**75.52**	**320**	*eP*	**P**	**06 02 40.0**	**-1.5**
NB2	**NORSAR Subarra**	**76.08**	**330**	P	**P**	**06 02 43.7**	**-0.8**
	comp=Z,9.6nm,1.0s,mb4.7,baz=96,slow=5.3						
NB2	**NORSAR Subarra**	**76.08**	**330**	P	**P**	**06 02 43.7**	**-0.8**
NB2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
NOA	**NORSAR Array B**	**76.08**	**330**	P	**P**	**06 02 44.0**	**-0.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**76.08**	**330**	P	**P**	**06 02 44.0**	**-0.5**
	comp=Z,2.4nm,0.7s,mb4.2,baz=94,slow=5.6,SNR=4.9						
LPG	**La Plagne**	**78.93**	**314**	*eP*	**P**	**06 03 01.1**	**+0.5**
	comp=Z,13nm,0.8s,mb4.6						
LPG	**La Plagne**	**78.93**	**314**	*eP*	**P**	**06 03 01.1**	**+0.5**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
MCK	**McKinley**	**92.77**	**23**	*eP*	**P**	**06 04 09.3**	**+0.6**
MCK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.8						
MCK	**McKinley**	**92.77**	**23**	*eP*	**P**	**06 04 09.3**	**+0.6**
	comp=Z,5.2nm,1.2s,mb4.8						
ILAR	**Eielson Array**	**92.98**	**21**	P	**P**	**06 04 09.8**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR	**Eielson Array**	**92.98**	**21**	P	**P**	**06 04 09.8**	**+0.2**
	comp=Z,1.2nm,1.0s,mb4.3,baz=286,slow=4.8,SNR=8.7						
INK	**Inuvik**	**94.89**	**15**	P	**P**	**06 04 18.4**	**+0.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**94.89**	**15**	P	**P**	**06 04 18.4**	**+0.1**
	comp=Z,1.3nm,0.8s,mb4.4,baz=316,slow=5.7,SNR=4.0						
INK	**Inuvik**	**94.89**	**15**	P	**P**	**06 04 18.4**	**+0.1**
YKA	**Yellowknife Ar**	**104.18**	**12**	PP	PP	06 09 15.5	-5.3
	comp=Z,0.9nm,1.2s,baz=333,slow=7.6,SNR=3.8						
NVAR	**Mina Array Bea**	**123.61**	**28**	PKP	PKPdf	06 09 57.3	+0.7
	comp=Z,0.4nm,0.7s,baz=297,slow=2.0,SNR=4.3						
ANMO	**Albuquerque**	**131.40**	**20**	PKIKP	PKPdf	06 10 12.7	+1.0
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ANMO	**Albuquerque**	**131.40**	**20**	PKP	PKPdf	06 10 12.7	+1.0
	comp=Z,1.4nm,1.1s,baz=2.7,slow=2.5,SNR=3.1						
TXAR	**Lajitas Array**	**137.48**	**20**	PKP	PKPdf	06 10 22.6	-0.5
	comp=Z,0.3nm,0.6s,baz=131,slow=0.8,SNR=5.6						
PLCA	**Paso Flores**	**146.28**	**205**	PKP2	PKPbc	06 10 37.4	+1.0
PLCA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PLCA	**Paso Flores**	**146.28**	**205**	PKPbc	PKPbc	06 10 37.4	+1.0
	comp=Z,2.9nm,1.0s,baz=215,slow=2.1,SNR=4.0						
LPAZ	**La Paz**	**159.67**	**252**	PKPab	PKPab	06 10 56.7	-39
	comp=Z,4.1nm,1.2s,baz=174,slow=2.7,SNR=5.5						

*IDC **27** 05:55:15.6±0.8, 8.32N×93.91E, mb4.2/15, mb1 4.3/16, mb1mx4.2/22, mbtmp4.2/16, ML3.8/1, Error ellipse: s-maj=31.4km s-min=19.4km az=48.0*
*NEIC **27** 05:55:20.0±0.5, 8.22N×93.85E, h30km, mb4.6/2, Error ellipse: s-maj=14.9km s-min=12.4km az=64.0*
ISC 27 05:55:18.9±0.7, 8.3N±0.1×93.9E±0.1, h33km, n25, σ0.74/21, mb4.2/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.23**	**25**	Pn	**P**	**05 58 00.3**	**0.0**
	0.2nm,0.3s,baz=212,slow=14,SNR=7.3						
LSA	**Lhasa**	**21.46**	**353**	*eP*	**P**	**06 00 11.4**	**+4.9**
	12nm,0.6s,mb4.4						
SONM	**Songino Array**	**40.81**	**13**	P	**P**	**06 03 00.3**	**+1.4**
	0.8nm,0.8s,mb3.4,baz=199,slow=6.4,SNR=3.3						
SONM				PcP	PcP	06 04 59.4	-0.8
	0.5nm,0.7s,baz=209,slow=4.2,SNR=2.6						
ZAL	**Zalesovo**	**46.11**	**353**	P	**P**	**06 03 41.2**	**-0.5**
	2.0nm,0.8s,mb4.1,baz=276,slow=7.1,SNR=8.3						
BVAR	**Borovoye Array**	**48.52**	**341**	P	**P**	**06 04 00.6**	**-0.1**
	1.2nm,0.9s,mb3.9,baz=180,slow=1.4,SNR=4.1						
BVAR				PcP	PcP	06 05 26.3	-0.3
	0.5nm,0.7s,baz=135,slow=4.1,SNR=2.8						
WRA	**Warramunga Arr**	**48.70**	**126**	P	**P**	**06 04 02.3**	**-0.1**
	1.4nm,0.6s,mb4.2,baz=305,slow=9.1,SNR=5.9						
ASAR	**Alice Springs**	**50.36**	**130**	P	**P**	**06 04 14.8**	**-0.3**
	1.4nm,0.9s,mb4.0,baz=311,slow=7.8,SNR=4.9						
KMBO	**Kilima Mbogo**	**57.23**	**263**	P	**P**	**06 05 07.2**	**+1.3**
	3.9nm,0.7s,mb4.5,baz=50,slow=10,SNR=10						
BRTR	**Keskin Array B**	**61.98**	**311**	P	**P**	**06 05 37.0**	**-1.2**
	2.4nm,0.9s,mb4.3,baz=121,slow=7.6,SNR=6.6						
AKASG	**Malin Array Be**	**67.68**	**322**	P	**P**	**06 06 13.5**	**-1.3**
	1.2nm,0.6s,mb4.1,baz=84,slow=4.8,SNR=3.7						
IDI	**Anoyia**	**68.14**	**305**	P	**P**	**06 06 18.0**	**0.0**
	7.9nm,0.6s,mb4.9,baz=135,slow=13,SNR=3.1						
FINES	**FINESS Array B**	**72.24**	**332**	P	**P**	**06 06 42.2**	**-0.2**
	3.8nm,0.8s,mb4.4,baz=101,slow=9.7,SNR=6.5						
FINES	**FINESS Array B**	**72.24**	**332**	P	**P**	**06 06 42.2**	**-0.2**
ARCES	**ARCESS Array B**	**74.80**	**340**	P	**P**	**06 06 57.7**	**+0.4**
	2.1nm,0.7s,mb4.2,baz=101,slow=6.2,SNR=4.0						
ARCES	**ARCESS Array B**	**74.80**	**340**	P	**P**	**06 06 57.7**	**+0.4**
GERES	**GERESS Array B**	**77.36**	**318**	P	**P**	**06 07 12.4**	**+0.2**
	1.5nm,0.6s,mb4.1,baz=90,slow=5.3,SNR=12						
HFS	**Hagfors**	**77.98**	**330**	P	**P**	**06 07 15.4**	**+0.1**
	3.8nm,0.7s,mb4.5,baz=104,slow=6.1,SNR=10.0						
NB2	**NORSAR Subarra**	**79.25**	**331**	P	**P**	**06 07 20.8**	**-1.5**
	0.2nm,0.7s,mb3.2,baz=94,slow=5.8						
NOA	**NORSAR Array B**	**79.25**	**331**	P	**P**	**06 07 22.1**	**-0.2**
	2.1nm,0.8s,mb4.2,baz=93,slow=5.5,SNR=5.1						
LPG	**La Plagne**	**82.16**	**315**	*eP*	**P**	**06 07 38.3**	**+0.3**
	18nm,1.1s,mb4.6						
EKA	**Eskdalemuir Ar**	**87.25**	**325**	P	**P**	**06 08 04.0**	**+0.9**
	2.0nm,0.8s,mb4.4,baz=98,slow=5.0,SNR=3.1						
YKA	**Yellowknife Ar**	**106.08**	**13**	PP	PP	06 13 54.8	-0.5
	0.2nm,0.8s,baz=342,slow=7.7,SNR=3.7						
PDAR	**Pinedale Array**	**124.87**	**21**	PKP	PKPdf	06 14 17.7	+1.7
	0.4nm,0.8s,baz=27,slow=4.0,SNR=3.0						
PLCA	**Paso Flores**	**144.85**	**201**	PKP	PKPdf	06 14 52.9	+0.1
	3.7nm,1.0s,baz=280,slow=3.2,SNR=5

*BJI **27** 06:08:03.3, 7.39N×93.85E, h30km, mB5.2, mb4.5, Ms4.7, Msz4.5*
*IDC **27** 06:08:04.2±0.5, 8.01N×94.25E, mb4.4/22, mb1 4.5/23, mb1mx4.5/26, mbtmp4.4/23, MS4.0/1, Ms1 4.2/1, ms1mx2.8/25, Error ellipse: s-maj=23.6km s-min=13.2km az=50.0*
*NEIC **27** 06:08:08.8±0.2, 7.97N×94.26E, h30km, mb4.7/24, Error ellipse: s-maj=9.5km s-min=6.2km az=55.0*
ISC 27 06:08:05.8±4.1, 7.95N±0.07×94.24E±0.07, h22km±28km, n77, σ0§94/68, mb4.7/51, MS4.6/1, 1C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	11.40	23	P			P	06 10 52.6	+1.9
CMAR	**Chiang Mai Arr**	11.40	23	Pn			P	06 10 47.0	-3.7
	baz=216,slow=12,SNR=2.6								
CMAR				LR			LR	06 15 19.9	
	comp=Z,691nm,19.9s,baz=200,slow=38								
HYB	**Hyderabad**	17.95	303	*i* P			P	06 12 15.5	-0.5
KMI	**Kunming**	18.91	24	P			P	06 12 31.9	+4.2
	20nm,1.2s								
JIRN	**Jiri**	21.03	340	*e*P			P	06 12 51.3	+0.6
	94nm,0.9s,mb5.1								
PKI	**Pulchoki**	21.23	338	*e*P			P	06 12 51.7	-1.0
	48nm,0.6s,mb5.0								
GUN	**Gumba**	21.36	339	*e*P			P	06 12 54.4	+0.3
	62nm,0.7s,mb5.1								
DMN	**Daman**	21.38	337	*e*P			P	06 12 53.1	-1.1
	91nm,0.7s,mb5.2								
KKN	**Kakani**	21.47	338	*e*P			P	06 12 54.5	-0.7
	40nm,0.7s,mb4.9								
LSA	**Lhasa**	21.83	353	P			P	06 13 02.5	+3.7
LSA					AMB		AMB		
	comp=Z,40nm,0.8s,mb4.9								
LSA	**Lhasa**	21.83	353	*e*P			P	06 12 59.7	+0.9
	comp=Z,33nm,0.8s,mb4.8								
GKN	**Gorkha**	21.91	337	*e*P			P	06 12 59.4	-0.2
	comp=Z,79nm,0.6s,mb5.3								
KOLN	**Koldanda**	22.13	334	*e*P			P	06 13 02.6	+0.8
	comp=Z,74nm,0.8s,mb5.2								
ENH	**Enshi**	26.40	31	*e*P			P	06 13 43.5	+0.6
	comp=Z,20nm,0.9s,mb4.6								
WMQ	**Urumqi**	36.18	352	*e*P			P	06 15 10.0	+1.1
WMQ				PP			PP	06 16 33.0	+1.3
WMQ				PCP			PcP	06 17 35.3	+0.8
WMQ				AMB			AMB		
	comp=Z,44nm,1.3s,mb5.2								
WMQ				AMB			AMB		
	comp=Z,229nm,5.3s								
WMQ				LR			LR		
	comp=N,642nm,18.0s,MS4.6								
WMQ				LR			LR		
	comp=E,577nm,18.1s,MS4.6								
WMQ				LR			LR		
	comp=Z,920nm,18.2s,MS4.6								
AAK	**Ala-Archa**	38.67	336	*e*P			P	06 15 29.4	-0.4
	comp=Z,12nm,1.1s,mb4.5								
SONM	**Songino Array**	41.06	12	P			P	06 15 50.5	+1.0
	comp=Z,2.0nm,0.9s,mb3.7,baz=195,slow=8.8,SNR=9.0								
SONM				PcP			PcP	06 17 50.4	+0.6
	comp=Z,1.8nm,0.5s,baz=199,slow=3.2,SNR=10								
ULN	**Ulaanbaatar**	41.24	13	*e*P			P	06 15 50.8	-0.2
	comp=Z,3.6nm,0.9s,mb4.0								
TLY	**Talaya**	44.28	8	P			P	06 16 23.8	+8.1
KURK	**Kurchatov**	44.56	346	*e*P			P	06 16 17.5	-0.5
	comp=Z,15nm,0.9s,mb4.8								
NWAO	**Narrogin (SRO)**	46.17	153	P			P	06 16 32.3	+1.2
	comp=Z,7.1nm,0.7s,mb4.7,baz=329,slow=13,SNR=5.9								
NWAO	**Narrogin (SRO)**	46.17	153	*e*P			P	06 16 31.6	+0.6
	comp=Z,21nm,1.2s,mb5.0								
HIA	**Hailar**	46.41	23	*e*P			P	06 16 33.4	+0.6
	comp=Z,6.8nm,0.8s,mb4.6								
ZAL	**Zalesovo**	46.48	352	P			P	06 16 33.0	-0.2
	comp=Z,4.1nm,0.5s,mb4.6,baz=304,slow=7.9,SNR=15								
WRA	**Warramunga Arr**	48.23	126	P			P	06 16 46.5	-0.9
	comp=Z,4.8nm,0.9s,mb4.5,baz=304,slow=8.5,SNR=21								
WRAB	**Tennant Creek**	48.23	126	*e*P			P	06 16 46.6	-0.8
	comp=Z,11nm,0.8s,mb4.9								
WB2	**Warramunga Arr**	48.24	126	*e*P			P	06 16 46.7	-0.8
BVAR	**Borovoye Array**	48.94	341	P			P	06 16 51.4	-1.1
	comp=Z,1.4nm,0.5s,mb4.2,baz=146,slow=10,SNR=3.7								
BVAR				PcP			PcP	06 18 16.2	-0.7
	comp=Z,1.2nm,0.5s,baz=179,slow=4.7,SNR=8.5								
RAYN	**Ar Rayn**	49.14	294	P			P	06 16 55.3	+0.9
	comp=Z,72nm,0.7s,mb5.8,SNR=11								
CHKZ	**Chkalovo**	49.43	342	*e*P			P	06 16 55.4	-0.8
	comp=Z,12nm,0.8s,mb5.0								
ASAR	**Alice Springs**	49.89	130	P			P	06 16 58.8	-1.4
	comp=Z,3.9nm,1.0s,mb4.4,baz=304,slow=7.6,SNR=13								
ASAR				PcP			PcP	06 18 21.4	+0.7
	comp=Z,2.2nm,1.0s,baz=318,slow=4.0,SNR=6.4								
GNI	**Garni**	54.45	314	P			P	06 17 33.4	-0.7
	comp=Z,7.0nm,0.9s,mb4.6								
KIV	**Kislovodsk**	57.32	318	*e*P			P	06 17 54.6	-0.1
	comp=Z,14nm,0.9s,mb5.0								
KMBO	**Kilima Mbogo**	57.53	264	P			P	06 17 57.4	+0.8
	comp=Z,6.7nm,0.7s,mb4.8,baz=55,slow=11,SNR=18								
KMBO	**Kilima Mbogo**	57.53	264	*e*P			P	06 17 58.3	+1.7
	comp=Z,9.2nm,0.9s,mb4.8								
ASF	**Jabal al Asfar**	58.25	303	P			P	06 18 01.4	0.0
	comp=Z,3.5nm,0.8s,mb4.4,baz=322,slow=3.6,SNR=3.7								
MALT	**Malatya**	58.48	310	*e*P			P	06 17 57.4	-5.5
	comp=Z,4.1nm,1.0s,mb4.4								
STKA	**Stephens Creek**	60.09	134	P			P	06 18 12.9	-1.2
	comp=Z,4.0nm,1.0s,mb4.4,baz=320,slow=10,SNR=3.4								
STKA	**Stephens Creek**	60.09	134	*e*P			P	06 18 13.7	-0.4
BRTR	**Keskin Array B**	62.45	311	P			P	06 18 28.5	-1.5
	comp=Z,2.3nm,0.7s,mb4.4,baz=125,slow=7.0,SNR=11								
AKASG	**Malin Array Be**	68.15	322	P			P	06 19 04.8	-1.7
	comp=Z,10nm,1.2s,mb4.7,baz=88,slow=4.6,SNR=4.5								
IDI	**Anoyia**	68.60	305	P			P	06 19 08.5	-1.2
	comp=Z,9.5nm,0.7s,mb4.8,baz=70,slow=14,SNR=4.3								
IDI	**Anoyia**	68.60	305	P			P	06 19 08.4	-1.2
MLR	**Muntele Rosu**	69.18	316	P			P	06 19 12.5	-0.5
	comp=Z,9.5nm,1.0s,mb4.7,baz=24,slow=0.9,SNR=5.7								
JOF	**Joensuu**	70.82	334	*e*p			P	06 19 21.4	-1.3
	comp=Z,9.3nm,0.9s,mb4.7								
FINES	**FINESS Array B**	72.69	332	P			P	06 19 32.9	-0.9
	comp=Z,11nm,1.0s,mb4.8,baz=112,slow=10,SNR=9.9								
KAF	**Kangasniemi**	72.76	333	*e*p			P	06 19 33.6	-0.7
	comp=Z,7.5nm,0.7s,mb4.7								
ARCES	**ARCESS Array B**	75.22	340	P			P	06 19 48.6	+0.2
	comp=Z,1.9nm,0.5s,mb4.3,baz=91,slow=5.6,SNR=18								
MORC	**Moravsky Berou**	75.38	319	*e*P			P	06 19 49.9	+0.2
	comp=Z,8.6nm,1.0s,mb4.6								
BOSA	**Boshof**	75.71	238	*e*P			P	06 19 51.9	-0.1
	comp=Z,11nm,0.9s,mb4.8								
BILL	**Bilibino**	75.98	22	*e*P			P	06 19 53.1	+0.3
	comp=Z,3.2nm,0.7s,mb4.4								
BRG	**Berggiesshubel**	77.75	320	*e*P			P	06 20 03.6	+0.7
	comp=Z,10nm,1.3s,mb4.6								
GERES	**GERESS Array B**	77.83	318	P			P	06 20 03.5	+0.1
	comp=Z,2.5nm,0.6s,mb4.3,baz=82,slow=5.4,SNR=16								
KHC	**Kasperske Hory**	77.92	318	*e*P			P	06 20 04.0	+0.1
CLL	**Collm**	78.36	321	P			P	06 20 07.0	+0.8
HFS	**Hagfors**	78.44	330	P			P	06 20 06.4	-0.1
	comp=Z,5.9nm,0.5s,mb4.8,baz=117,slow=6.6,SNR=34								
GRA1	**Grafenberg Arr**	79.47	319	*e*P			P	06 20 13.5	+1.2
	comp=Z,5.0nm,0.9s,mb4.4								
GRF	**Grafenberg Arr**	79.47	319	*e*P			P	06 20 13.5	+1.2
	comp=Z,5.0nm,0.9s,mb4.4								
NB2	**NORSAR Subarra**	79.71	331	P			P	06 20 12.8	-0.6
	comp=Z,2.8nm,0.6s,mb4.4,baz=97,slow=5.0								
NOA	**NORSAR Array B**	79.71	331	P			P	06 20 12.8	-0.6
	comp=Z,2.9nm,0.6s,mb4.4,baz=95,slow=5.1,SNR=12								
DAVOX	**Davos**	80.40	316	P			P	06 20 18.1	+0.7
	comp=Z,3.1nm,0.6s,mb4.4,baz=117,slow=14,SNR=3.9								
SUR	**Sutherland**	80.45	235	P			P	06 20 20.0	+2.0
	comp=Z,5.3nm,0.7s,mb4.6								
LPG	**La Plagne**	82.63	315	*e*P			P	06 20 29.9	+0.8
	comp=Z,17nm,0.9s,mb4.8								
SYO	**Syowa Base**	85.51	197	⇓P			P	06 20 45.1	+2.0
SYO	**Syowa Base**	85.51	197	⇑pP			pP	06 20 55.1	+5.1
ESDC	**Sonseca Array**	91.24	310	P			P	06 21 11.8	+0.7
	comp=Z,1.3nm,0.6s,mb4.4,baz=71,slow=4.2,SNR=4.3								
IMA	**Indian Mountai**	91.51	22	*e*P			P	06 21 14.1	+2.3
ILAR	**Eielson Array**	94.64	22	P			P	06 21 25.8	-0.3
	comp=Z,0.7nm,0.7s,mb4.2,baz=335,slow=4.5,SNR=8.8								
INK	**Inuvik**	96.89	16	P			P	06 21 36.3	-0.1
	comp=Z,1.0nm,0.6s,mb4.4,baz=314,slow=7.1,SNR=8.2								
NVAR	**Mina Array Bea**	124.80	31	PKP			PKPdf	06 27 07.4	-1.6
	comp=Z,0.9nm,0.6s,baz=298,slow=3.2,SNR=5.9								
PDAR	**Pinedale Array**	125.06	21	PKP			PKPdf	06 27 07.0	-2.4
	comp=Z,1.0nm,0.7s,baz=230,slow=1.7,SNR=7.6								
MSU	**Marysvale**	127.64	26	*e*PKPdf			PKPdf	06 27 13.0	-1.5
TXAR	**Lajitas Array**	139.11	24	PKhKP				06 27 27.2	
	comp=Z,0.1nm,0.5s,baz=291,slow=0.6,SNR=4.9								
TXAR				PKiKP				06 27 36.5	
	comp=Z,0.7nm,0.6s,baz=41,slow=0.9,SNR=12								
JCT	**Junction City**	139.48	19	*e*PKPdf			PKPdf	06 27 34.2	-2.6
PLCA	**Paso Flores**	144.66	200	PKP			PKPdf	06 27 42.4	-3.1
	comp=Z,9.4nm,0.9s,baz=140,slow=2.8,SNR=16								
PLCA	**Paso Flores**	144.66	200	*e*PKPdf			PKPdf	06 27 42.4	-3.2
PLCA				*e*				06 28 09.7	
LPAZ	**La Paz**	160.89	243	PKPab			PKPab	06 28 08.5	-41
	comp=Z,1.2nm,0.8s,baz=93,slow=5.7,SNR=4.1								

*IDC **27** 06:10:02.5±1.3, 7.62N×93.93E, mb4.2/8, mb1 4.4/9, mb1mx4.1/20, mbtmp4.2/9, Error ellipse: s-maj=49.9km s-min=26.2km az=49.0*
ISC 27 06:10:05.8±1.0, 7.8N±0.2×94.1E±0.2, h33km, n12, σ0§79/12, mb4.3/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.65	24	Pn			P	06 12 52.7	-0.1
	baz=211,slow=14,SNR=5.2								
ZAL	**Zalesovo**	46.66	352	P			P	06 18 33.0	0.0
	4.5nm,0.5s,mb4.7,baz=298,slow=9.3,SNR=6.4								
WRA	**Warramunga Arr**	48.24	125	P			P	06 18 45.7	-0.1
	0.9nm,0.9s,mb3.8,baz=307,slow=8.6,SNR=3.4								
BVAR	**Borovoye Array**	49.09	341	P			P	06 18 51.9	0.0
	1.1nm,0.7s,mb4.0,baz=130,slow=11,SNR=3.0								
BRTR	**Keskin Array B**	62.46	311	P			P	06 20 27.2	-1.1
	1.6nm,0.6s,mb4.3,baz=124,slow=6.9,SNR=5.2								
JOF	**Joensuu**	70.93	334	*e*p			P	06 21 21.6	+0.1
	5.5nm,1.0s,mb4.4								
FINES	**FINESS Array B**	72.79	332	P			P	06 21 33.4	+0.8
	3.2nm,0.7s,mb4.4,baz=104,slow=7.9,SNR=6.4								
KAF	**Kangasniemi**	72.87	333	*e*p			P	06 21 31.0	-2.0
	4.8nm,0.9s,mb4.4								
GERES	**GERESS Array B**	77.87	318	P			P	06 22 02.8	+0.9
	4.1nm,1.1s,mb4.3,baz=90,slow=5.3,SNR=6.5								
HFS	**Hagfors**	78.53	330	P			P	06 22 05.6	+0.4
	4.0nm,0.6s,mb4.5,baz=112,slow=8.0,SNR=6.3								
NB2	**NORSAR Subarra**	79.81	331	P			P	06 22 12.9	+0.7
	1.5nm,0.6s,mb4.1,baz=92,slow=5.3								
NOA	**NORSAR Array B**	79.81	331	P			P	06 22 12.9	+0.7
	1.8nm,0.6s,mb4.2,baz=92,slow=5.6,SNR=4.5								

*MAN **27** 06:12:59.9, 15.58N×119.49E, h17km, mb5.2, ML4.2, MS4.3*
MAN IBA ZAMBALES INTENSITY III MANILA MAKATI II.
*MOS **27** 06:13:02.7±1.0, 15.50N×119.80E, h72km, mb4.9/26, Error ellipse: s-maj=17.6km s-min=6.5km az=116.9*
*BJI **27** 06:13:03.0, 15.27N×119.90E, h92km, mB5.1, mb4.5*
*NEIC **27** 06:13:03.9±1.0, 15.48N×119.81E, h68km±9km, mb4.9/25, Error ellipse: s-maj=9.6km s-min=4.4km az=67.0*
NEIC Felt [III PIVS] at Iba; [II PIVS] at Makati and Manila; [I PIVS] at Quezon City.
*IDC **27** 06:13:05.3±1.7, 15.51N×119.75E, h76km±15km, mb4.2/22, mb1 4.3/22, mb1mx4.3/26, mbtmp4.5/22, MS3.9/1, Ms1 3.9/1, ms1mx2.7/29, Error ellipse: s-maj=26.0km s-min=10.7km az=66.0*
ISC 27 06:13:02.9±0.8, 15.49N±0.04×119.75E±0.07, h73km±8km, n121, σ1§02/121, mb4.6/47, 4C-5D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	1.19	42	⇑*i*P			P	06 13 21.9	-2.4
BCPH				*i* S			S	06 13 40.8	+0.5
PCPH	**Palayan**	1.30	87	⇓*i*P			P	06 13 24.3	-1.6
PCPH				*i* S			S	06 13 43.1	+0.2
TGY	**Tagaytay City**	1.80	140	⇑*i*P			P	06 13 33.8	+1.4
TGY				*i* S			S	06 13 59.8	+5.6
TGY	**Tagaytay City**	1.80	140	P			P	06 13 33.4	+0.9
TGY				S			S	06 13 57.9	+3.6
TGY				pmax			pmax		
	comp=Z,506nm,0.3s								
TGY	**Tagaytay City**	1.80	140	P			P	06 13 33.4	+0.9
	comp=Z,506nm,0.3s,baz=260,slow=9.9,SNR=26								
TGY				S			S	06 13 57.9	+3.6
	comp=Z,3μm,0.3s,baz=332,slow=6.5,SNR=9.4								
LQP	**Lukban**	2.21	128	*e*P			P	06 13 39.6	+1.4
CVP	**Callao Caves**	2.96	42	*e*P			P	06 13 48.5	-0.3
GQP	**Guinayangan**	3.05	121	⇓*e*P			P	06 13 51.1	+1.1
GQP				*e*S			S	06 14 28.9	+3.4
QIZ	**Qiongzhong**	10.09	292	*e*P			P	06 15 21.3	-5.9
QIZ				*e*S			S	06 17 06.8	-13
JOW	**Kunigami**	13.80	34	LR			LR	06 21 20.4	
	comp=Z,432nm,19.3s,baz=297,slow=36								
ENH	**Enshi**	17.47	329	*e*P			P	06 16 58.3	-4.9
	comp=Z,19nm,1.0s								
NANT	**Nan**	18.50	283	P			P	06 17 14.0	-1.7
KMI	**Kunming**	18.59	304	P			P	06 17 15.4	-1.3
KMI				pmax			pmax		
	comp=Z,9.0nm,0.9s								
KMI	**Kunming**	18.59	304	P			P	06 17 15.4	-1.3
	comp=Z,9.0nm,0.9s								
XAN	**Xi'an**	20.89	334	P			P	06 17 41.3	0.0
XAN				AMB			AMB		
	comp=Z,15nm,0.6s								
KS15	**Wonju Array Si**	23.02	17	*e*P			P	06 18 02.4	+0.1
BJT	**Baijiatuau**	24.63	353	*e*P			P	06 18 18.2	+0.3
BJT				pmax			pmax		
	comp=Z,18nm,0.7s								
BJT	**Baijiatuau**	24.63	353	*e*P			P	06 18 18.2	+0.3
	comp=Z,18nm,0.7s,mb4.6								
BJI	**Beijing**	24.66	353	*e*P			P	06 18 18.4	+0.3
BJI				pmax			pmax		
	comp=Z,24nm,0.8s,mb4.7								
BJI				MLR			MLR		
	comp=Z,310nm,20.5s								
BJI	**Beijing**	24.66	353	*e*P			P	06 18 18.4	+0.3
	comp=Z,24nm,0.8s,mb4.7								
BJI				LR			LR		
	comp=Z,310nm,20.5s								
LZH	**Lanzhou**	24.94	328	*e*P			P	06 18 22.8	+1.9
LZH				AMB			AMB		
	comp=Z,42nm,1.2s,mb4.7								
LZH				AMB			AMB		
	comp=Z,144nm,5.9s								
LZH				LR			LR		
	comp=E,673nm,12.0s								
LZH				LR			LR		
	comp=Z,826nm,13.2s								
LZH	**Lanzhou**	24.94	328	*e*P			P	06 18 22.7	+1.8
LZH				*SP				06 18 35.8	
LZH								06 19 18.5	
LZH				pmax			pmax		
	comp=Z,42nm,1.2s,mb4.7								
LZH				MLR			MLR		
	comp=Z,830nm,13.2s								
LZH	**Lanzhou**	24.94	328	*e*P			P	06 18 22.7	+1.8
	comp=Z,42nm,1.2s,mb4.7								
LZH				pP				06 18 30.6	
LZH				sP				06 18 35.8	
LZH				PP			PP	06 19 18.5	+18
LZH				LR			LR		
	comp=Z,830nm,13.2s								
LSA	**Lhasa**	29.85	303	P			P	06 19 05.6	0.0
LSA				pmax			pmax		
	comp=Z,43nm,0.8s,mb5.1								
LSA	**Lhasa**	29.85	303	P			P	06 19 05.5	0.0
	comp=Z,43nm,0.8s,mb5.1								
MDJ	**Mudanjiang**	30.20	14	P			P	06 19 08.5	-0.1
MDJ				AMB			AMB		
	comp=Z,4.0nm,0.8s,mb4.1								
SONM	**Songino Array**	34.09	344	P			P	06 19 42.2	-0.2
	comp=Z,3.6nm,0.5s,mb4.4,baz=166,slow=9.9,SNR=19								
KLR	**Kul'dur**	35.05	14	*e*P			P	06 19 46.2	-4.3
MBWA	**Marble Bar**	36.42	180	*e*P			P	06 20 02.1	-0.4
	comp=Z,23nm,0.6s,mb5.3								
PMG	**Port Moresby**	36.73	131	P			P	06 20 04.2	-1.0
PMG				pmax			pmax		
	comp=Z,23nm,0.9s								
PMG	**Port Moresby**	36.73	131	P			P	06 20 04.2	-1.0
	comp=Z,23nm,0.9s,mb5.1								
ZAK	**Zakamensk**	37.26	343	*e*P			P	06 20 07.2	-2.0
ZAK				*e*				06 21 40.0	
WRAB	**Tennant Creek**	38.02	157	*i* P			P	06 20 14.4	-1.4
WRAB	**Tennant Creek**	38.02	157	*e*P			P	06 20 14.2	-1.6
	comp=Z,9.2nm,0.7s,mb4.7								
WRA	**Warramunga Arr**	38.02	157	P			P	06 20 14.6	-1.2
WRA								06 22 31.8	
WRA				pmax			pmax		
	comp=Z,4.0nm,0.6s								
WRA				pmax			pmax		
	comp=Z,3.0nm,0.7s								
WRA	**Warramunga Arr**	38.02	157	P			P	06 20 14.6	-1.2
	comp=Z,4.0nm,0.6s,mb4.5,baz=336,slow=9.4,SNR=24								
WRA				PcP			PcP	06 22 31.8	+1.2
	comp=Z,2.6nm,0.7s,baz=343,slow=3.4,SNR=8.9								
WB2	**Warramunga Arr**	38.03	157	⇓*i*P			P	06 20 14.5	-1.4
TLY	**Talaya**	38.33	344	P			P	06 20 17.6	-0.5
TLY				pmax			pmax		
	comp=Z,6.0nm,0.8s,mb4.5								
TLY	**Talaya**	38.33	344	P			P	06 20 17.6	-0.4
	comp=Z,6.0nm,0.8s,mb4.5								
MOY	**Mondy**	39.08	341	*e*P			P	06 20 25.3	+1.0
WMQ	**Urumqi**	39.23	323	*e*P			P	06 20 26.3	+0.7
WMQ				AMB			AMB		
	comp=Z,19nm,0.7s,mb5.0								
WMQ				AMB			AMB		
	comp=Z,163nm,4.7s								
WMQ				LR			LR		
	comp=N,1μm,16.0s								
WMQ				LR			LR		
	comp=E,611nm,17.0s								
WMQ				LR			LR		
	comp=Z,1μm,18.0s								
ASAR	**Alice Springs**	41.31	160	P			P	06 20 42.0	-1.0
	comp=Z,3.7nm,0.5s,mb4.5,baz=339,slow=6.7,SNR=29								
ASAR				PcP			PcP	06 22 42.4	+1.3
	comp=Z,6.6nm,1.0s,baz=346,slow=2.4,SNR=9.4								
ASPA	**Alice Springs**	41.31	160	⇓*i*P			P	06 20 42.5	-0.5
CTA	**Charters Tower**	43.92	143	P			P	06 21 03.9	-0.6
CTA								06 22 51.3	
CTA				pmax			pmax		
	comp=Z,6.0nm,0.7s								
CTA				pmax			pmax		
	comp=Z,6.0nm,1.2s								
CTA	**Charters Tower**	43.92	143	P			P	06 21 03.9	-0.6
	comp=Z,5.6nm,0.7s,mb4.4,baz=322,slow=11,SNR=6.3								
CTA				PcP			PcP	06 22 51.3	+1.4
	comp=Z,6.4nm,1.1s,baz=301,slow=7.8,SNR=5.4								
CTAO	**Charters Tower**	43.92	143	*e*P			P	06 21 03.6	-0.9
CTAO				pmax			pmax		
	comp=Z,8.0nm,0.8s,mb4.5								
CTAO	**Charters Tower**	43.92	143	*e*P			P	06 21 03.6	-0.9
	comp=Z,8.2nm,0.8s,mb4.5								
MKAR	**Makanchi Array**	44.05	323	*e*P			P	06 21 05.9	+0.7
MKAR				pmax			pmax		
	comp=Z,2.0nm,0.5s								
KLBR	**Kellerberrin**	46.85	182	*e*P			P	06 21 27.4	-0.2
	comp=Z,279nm,0.6s								
YAK	**Yakutsk**	47.01	6	*e*P			P	06 21 27.6	-0.9
YAK				pmax			pmax		
	comp=Z,40nm,1.0s,mb5.1								
YAK	**Yakutsk**	47.01	6	*e*P			P	06 21 27.6	-0.8
	comp=Z,40nm,1.0s,mb5.1								
AAK	**Ala-Archa**	47.16	314	*e*P			P	06 21 29.5	-0.4
AAK				*e*			pP	06 21 51.8	+3.7
AAK				pmax			pmax		
	comp=Z,12nm,1.1s,mb4.5								
AAK	**Ala-Archa**	47.16	314	*e*P			P	06 21 29.5	-0.3
	comp=Z,12nm,1.1s,mb4.5								
AAK				*e*			pP	06 21 51.8	+3.6
KURK	**Kurchatov**	48.20	326	*c i*P			P	06 21 38.4	+0.6
KURK	**Kurchatov**	48.20	326	*e*P			P	06 21 38.2	+0.3
	comp=Z,24nm,0.6s,mb5.2								
NWAO	**Narrogin (SRO)**	48.20	183	P			P	06 21 38.1	-0.1
NWAO				pmax			pmax		
	comp=Z,26nm,0.8s								
NWAO	**Narrogin (SRO)**	48.20	183	P			P	06 21 38.1	0.0
	comp=Z,26nm,0.8s,mb5.1,baz=8.6,slow=8.2,SNR=18								
NWAO	**Narrogin (SRO)**	48.20	183	*e*P			P	06 21 38.0	-0.2
	comp=Z,23nm,0.8s,mb5.1								
NVS	**Novosibirsk**	48.34	333	*e*P			P	06 21 37.6	-1.3
MA2	**Magadan**	49.53	20	*e*P			P	06 21 47.5	-0.5
MA2				pmax			pmax		
	comp=Z,19nm,1.2s,mb4.9								
MA2	**Magadan**	49.53	20	*e*P			P	06 21 47.5	-0.6
	comp=Z,19nm,1.

KMBO **Kilima Mbogo 83.07 267 P P 06 25 25.2 +2.7**
comp=Z,4.1nm,1.0s,mb4.2,baz=52,slow=12,SNR=3.4
HFS **Hagfors 84.47 331** P **P 06 25 28.8 +0.2**
HFS pmax pmax
comp=Z,3.0nm,0.6s
HFS **Hagfors 84.47 331** P **P 06 25 28.8 +0.3**
comp=Z,2.7nm,0.6s,mb4.3,baz=104,slow=6.1,SNR=6.4
NB2 **NORSAR Subarra 85.25 332** P **P 06 25 32.7 +0.3**
comp=Z,2.0nm,0.6s,mb4.2,baz=67,slow=4.8
NB2 **NORSAR Subarra 85.25 332** P **P 06 25 32.7 +0.3**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
NOA **NORSAR Array B 85.25 332** P **P 06 25 33.1 +0.7**
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA **NORSAR Array B 85.25 332** P **P 06 25 33.0 +0.6**
comp=Z,3.5nm,0.7s,mb4.4,baz=67,slow=4.8,SNR=9.6
GERES **GERESS Array B 88.67 321** P **P 06 25 49.8 +0.5**
GERES pmax pmax
comp=Z,2.0nm,0.9s
GERES **GERESS Array B 88.67 321** P **P 06 25 49.8 +0.5**
comp=Z,1.5nm,0.9s,mb4.0,baz=58,slow=5.1,SNR=7.5
YKA **Yellowknife Ar 91.48 22** P **P 06 26 03.3 +1.2**
comp=Z,0.7nm,0.6s,mb4.0,baz=312,slow=4.3,SNR=22
YKA PKKPbc 06 43 22.9
comp=Z,0.1nm,0.4s,baz=129,slow=2.6,SNR=5.5
YKA PKPPKP 06 51 36.6
comp=Z,0.2nm,0.7s,baz=152,slow=2.3,SNR=4.9
YKA **Yellowknife Ar 91.48 22** P **P 06 26 03.4 +1.3**
YKA PKKPbc 06 43 22.9
YKA P'P' 06 51 36.6
DAVOX **Davos 91.85 320** P **P 06 26 05.9 +1.7**
comp=Z,2.3nm,0.6s,mb4.6,baz=330,slow=18,SNR=4.0
LPG **La Plagne 94.37 320** *e*P **P 06 26 17.5 +1.8**
comp=Z,23nm,1.1s,mb5.1
LPG **La Plagne 94.37 320** *e*P **P 06 26 17.5 +1.8**
LPG pmax pmax
comp=Z,12nm,1.1s,mb5.1
VNDA **Vanda 95.94 172** P **P 06 26 23.4 +1.2**
VNDA pmax pmax
comp=Z,2.0nm,0.9s
VNDA **Vanda 95.94 172** P **P 06 26 23.4 +1.2**
comp=Z,2.3nm,0.9s,mb4.6,baz=13,slow=4.3,SNR=5.0
TXAR **Lajitas Array 118.83 43** PKP PKPdf 06 31 46.4 +2.9
comp=Z,0.3nm,0.5s,baz=286,slow=0.6,SNR=4.8
DBIC **Dimbokro 120.88 288** PKIKP PKPdf 06 31 49.9 +2.1
DBIC pmax pmax
comp=Z,2.0nm,0.6s
DBIC **Dimbokro 120.88 288** PKP PKPdf 06 31 49.9 +2.1
comp=Z,1.8nm,0.6s,baz=45,slow=2.9,SNR=5.9
PLCA **Paso Flores 153.31 162** PKIKP PKPdf 06 32 56.9 +12
PLCA pmax pmax
comp=Z,2.0nm,0.5s
PLCA **Paso Flores 153.31 162** PKPbc PKPdf 06 32 56.9 +12
comp=Z,2.2nm,0.5s,baz=242,slow=1.8,SNR=12
SDV **Santo Domingo 153.69 24** *e*PKPbc PKPdf 06 32 57.2 +11

BJI ***27*** *06:14:28.2, 7.53N×93.69E, h55km, mB5.1, mb4.6, Ms4.5, Msz4.5*
HRVD ***27*** *06:14:29.1±0.5, 7.94N×94.18E, h12km, MW5.0/47, Centroid moment Tensor Solution. LP body waves: s4,c5; Mantle waves: s47,c64; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.50±.15; Mθθ-1.39±.11; Mφφ2.89±.11; Mrθ-1.68±.42; Mθφ0.26±.12; Mφr-1.63±.38; Best double couple: M=3.43×10^16 NP1:φs148°,δ39°,λ-153°. NP2: φs36°,δ74°,λ-54°. Principal axes: T 3.562, Plg21°, Azm100°; N -.264, Plg34°, Azm205°; P -3.298, Plg49°, Azm345°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***27*** *06:14:29.1±0.4, 7.82N×94.18E, h30km, mb4.9/15 Error ellipse: s-maj=11.9km s-min=10.6km az=53.0*
IDC ***27*** *06:14:32.9±4.2, 7.98N×94.31E, h62km±37km, mb4.2/23, mb1 4.3/24, mb1mx4.3/27, mbtmp4.5/24, ML4.5/1, MS4.4/2, Ms1 4.4/2, ms1mx3.4/26, Error ellipse: s-maj=23.1km s-min=12.9km az=50.0*

ISC 27 06:14:29.9±2.1, 7.88N±0.08×94.24E±0.05, h50km±17km, h23km±1.8km; pP-P, n77, σ1s07/70, mb4.7/43, MS4.4/2, 2C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	11.46	23	*e*P	P	06 17 13.4	-0.1
CMAR	**Chiang Mai Arr**	11.46	23	P	P	06 17 13.5	-0.1
	1.0nm,0.3s,baz=210,slow=14,SNR=20						
CHG	**Chiang Mai**	11.79	22	⇑P	P	06 17 18.7	+0.7
	15nm,0.9s						
MDRS	**Chennai**	14.69	292	*e*	S	06 20 39.0	+0.6
SHL	**Shillong**	17.73	353	*e*P	P	06 18 31.5	-3.3
HYB	**Hyderabad**	17.99	303	*e*P	P	06 18 37.0	-1.1
HYB	**Hyderabad**	17.99	303	*i* P	P	06 18 37.0	-1.1
QIZ	**Qiongzhong**	18.77	52	*e*P	P	06 18 49.4	+1.8
KMI	**Kunming**	18.97	24	P	P	06 18 54.4	+4.6
	27nm,1.3s						
JIRN	**Jiri**	21.10	340	*e*P	P	06 19 12.1	-0.3
	159nm,1.1s,mb5.2						
PKI	**Pulchoki**	21.29	338	*e*P	P	06 19 15.1	+0.8
	92nm,1.0s,mb5.1						
GUN	**Gumba**	21.43	339	*e*P	P	06 19 14.3	-1.4
	88nm,0.7s,mb5.2						
DMN	**Daman**	21.44	337	*e*P	P	06 19 16.2	+0.4
	128nm,1.0s,mb5.2						
KKN	**Kakani**	21.54	338	*e*P	P	06 19 17.0	+0.2
	74nm,0.9s,mb5.1						
LSA	**Lhasa**	21.90	353	P	P	06 19 19.8	-0.5
GKN	**Gorkha**	21.98	337	*e*P	P	06 19 19.9	-1.2
	150nm,1.1s,mb5.3						
KOLN	**Koldanda**	22.20	334	*e*P	P	06 19 22.1	-1.2
	167nm,1.1s,mb5.4						
POO	**Poona**	22.47	300	*e*P	P	06 19 27.0	+1.0
NDI	**New Delhi**	26.19	324	*e*	P	06 20 02.0	+0.2
ENH	**Enshi**	26.46	31	*e*P	P	06 20 04.1	-0.2
	18nm,1.0s,mb4.5						
DDI	**Dehra Dun**	26.99	328	*e*	P	06 20 11.3	+2.2
WHN	**Wuhan**	29.37	37	⇑P	P	06 20 32.5	+2.0
WMQ	**Urumqi**	36.25	352	P	P	06 21 30.5	+0.4
JOW	**Kunigami**	37.37	55	LR	LR	06 37 55.0	
	comp=Z,326nm,18.0s,MS4.2,baz=294,slow=38						
BJI	**Beijing**	37.55	28	*e*P	P	06 21 44.3	+3.2
	13nm,1.5s,mb4.4						
SONM	**Songino Array**	41.13	12	P	P	06 22 11.0	+0.3
	3.9nm,0.8s,mb4.1,baz=198,slow=7.8,SNR=7.8						
SONM				PcP	PcP	06 24 09.5	-0.5
	1.4nm,0.9s,baz=180,slow=4.3,SNR=3.2						
ULN	**Ulaanbaatar**	41.31	13	*e*P	P	06 22 11.6	-0.5
	2.9nm,0.8s,mb4.0						
NWAO	**Narrogin (SRO)**	46.11	153	P	P	06 22 52.5	+1.3
	13nm,0.8s,mb4.9,baz=340,slow=12,SNR=3.8						
HIA	**Hailar**	46.48	23	*e*P	P	06 22 54.0	+0.2
	9.2nm,0.6s,mb4.9						
ZAL	**Zalesovo**	46.55	352	P	P	06 22 53.5	-0.9
	6.0nm,0.5s,mb4.8,baz=299,slow=7.4,SNR=8.8						
WRA	**Warramunga Arr**	48.19	126	P	P	06 23 05.9	-1.6
	1.8nm,0.5s,mb4.4,baz=304,slow=9.0,SNR=6.8						
BVAR	**Borovoye Array**	49.01	341	P	P	06 23 11.3	-2.2
	1.5nm,0.7s,mb4.2,baz=129,slow=9.5,SNR=3.9						
RAYN	**Ar Rayn**	49.17	294	P	P	06 23 17.3	+2.1
	159nm,0.7s,SNR=12						
CHKZ	**Chkalovo**	49.50	342	*e*P	P	06 23 15.5	-1.8
	12nm,0.9s,mb4.9						
ASAR	**Alice Springs**	49.84	130	P	P	06 23 18.6	-1.8
	2.2nm,0.7s,mb4.3,baz=308,slow=8.1,SNR=6.6						
KMBO	**Kilima Mbogo**	57.52	264	P	P	06 24 18.1	+1.2
	8.9nm,1.2s,mb4.7,baz=58,slow=11,SNR=8.7						
KMBO				LR	LR	06 45 55.7	
	comp=Z,421nm,18.5s,MS4.6,baz=276,slow=33						
ASF	**Jabal al Asfar**	58.30	303	P	P	06 24 22.4	+0.3
	3.3nm,0.7s,mb4.5,baz=222,slow=3.1,SNR=3.6						
EIL	**Elat**	59.51	300	P	P	06 24 30.6	0.0
	4.0nm,0.5s,mb4.8,baz=109,slow=17,SNR=5.0						
STKA	**Stephens Creek**	60.04	134	P	P	06 24 33.4	-0.8
	2.6nm,0.8s,mb4.3,baz=354,slow=9.8,SNR=3.4						
STKA	**Stephens Creek**	60.04	134	P	P	06 24 33.4	-0.8
BRTR	**Keskin Array B**	62.50	311	P	P	06 24 49.5	-1.1
	2.6nm,0.6s,mb4.5,baz=121,slow=7.5,SNR=9.0						
AKASG	**Malin Array Be**	68.21	322	P	P	06 25 26.1	-1.1
	4.6nm,0.9s,mb4.5,baz=82,slow=4.8,SNR=8.0						
IDI	**Anoyia**	68.64	305	P	P	06 25 30.8	+0.7
	7.0nm,0.6s,mb4.8,baz=76,slow=8.3,SNR=3.7						
MLR	**Muntele Rosu**	69.23	316	P	P	06 25 34.6	+1.0
	15nm,1.1s,mb4.8,baz=164,slow=4.3,SNR=7.0						
JOF	**Joensuu**	70.88	334	*ep*	P	06 25 43.1	-0.2
	8.6nm,0.9s,mb4.7						
FINES	**FINESS Array B**	72.75	332	P	P	06 25 53.2	-1.2
	4.3nm,0.7s,mb4.5,baz=117,slow=8.5,SNR=6.7						
FINES	**FINESS Array B**	72.75	332	P	P	06 25 53.2	-1.2
KAF	**Kangasniemi**	72.83	333	*ep*	P	06 25 54.8	-0.1
	11nm,0.8s,mb4.8						
OJC	**Ojcow**	74.03	320	*e*P	P	06 26 02.7	+0.6
KEV	**Kevo**	74.86	341	*ep*	P	06 26 11.9	+5.4
	22nm,1.0s,mb5.0						
ARCES	**ARCESS Array B**	75.29	340	P	P	06 26 08.4	-0.6
	3.8nm,0.9s,mb4.3,baz=93,slow=5.7,SNR=4.8						
MORC	**Moravsky Berou**	75.43	319	*e*P	P	06 26 10.2	0.0
	24nm,1.4s,mb4.9						
BRG	**Berggiesshubel**	77.81	320	*e*P	P	06 26 24.8	+1.3
	19nm,1.6s,mb4.8						
GERES	**GERESS Array B**	77.89	318	P	P	06 26 23.2	-0.8
	2.8nm,0.7s,mb4.3,baz=90,slow=5.3,SNR=13						
KHC	**Kasperske Hory**	77.98	318	*e*P	P	06 26 24.0	-0.5
CLL	**Collm**	78.42	321	*i* P	P	06 26 27.8	+0.9
	20nm,1.6s,mb4.8						
CLL				*i*		06 26 35.6	
CLL	**Collm**	78.42	321	P	P	06 26 27.8	+0.9
	logA/T=1.1,mb4.8						
CLL				*i* *PP	pP	06 26 35.6	-5.8
HFS	**Hagfors**	78.50	330	P	P	06 26 26.6	-0.5
	3.8nm,0.6s,mb4.5,baz=101,slow=7.6,SNR=7.9						
MOX	**Moxa**	79.28	320	*e*P	P	06 26 38.0	+6.4
GRA1	**Grafenberg Arr**	79.53	319	*e*P	P	06 26 34.2	+1.2
	21nm,1.4s,mb4.9						
GRA1				*e*pP	pP	06 26 42.5	-5.0
GRF	**Grafenberg Arr**	79.53	319	*e*P	P	06 26 34.2	+1.2
	21nm,1.4s,mb4.9						
GRF				*e*pP	pP	06 26 42.5	-5.0
NB2	**NORSAR Subarra**	79.77	331	P	P	06 26 31.6	-2.5
	7.7nm,0.9s,mb4.6,baz=92,slow=5.6						
NOA	**NORSAR Array B**	79.77	331	P	P	06 26 32.7	-1.4
	4.4nm,0.9s,mb4.4,baz=93,slow=5.5,SNR=5.2						
NOA	**NORSAR Array B**	79.77	331	P	P	06 26 32.7	-1.4
DAVOX	**Davos**	80.45	316	P	P	06 26 37.4	-0.5
	7.3nm,0.7s,mb4.7,baz=114,slow=14,SNR=3.4						
LPG	**La Plagne**	82.68	315	*e*P	P	06 26 54.2	+4.6
	19nm,0.9s,mb4.8						
ESDC	**Sonseca Array**	91.29	310	P	P	06 27 31.1	-0.5
	1.0nm,0.6s,mb4.4,baz=58,slow=3.7,SNR=5.7						
IMA	**Indian Mountai**	91.58	22	*e*P	P	06 27 33.3	+1.0
MCK	**McKinley**	94.41	23	P	P	06 27 45.7	+0.5
	9μm,1.2s						
ILAR	**Eielson Array**	94.70	22	P	P	06 27 46.6	+0.1
	0.4nm,0.9s,mb3.9,baz=270,slow=5.4,SNR=4.2						
INK	**Inuvik**	96.96	16	P	P	06 27 58.3	+1.5
	5.3nm,1.3s,mb4.8,baz=304,slow=4.7,SNR=3.6						
NVAR	**Mina Array Bea**	124.86	31	PKP	PKPdf	06 33 28.1	+3.3
	2.1nm,0.9s,baz=288,slow=3.3,SNR=5.3						
BW06	**Boulder Array**	125.12	21	*e*PKPdf	PKPdf	06 33 26.6	+1.4
PDAR	**Pinedale Array**	125.12	21	PKP	PKPdf	06 33 27.1	+1.9
	2.3nm,0.9s,baz=112,slow=0.5,SNR=6.1						
MSU	**Marysvale**	127.70	26	*e*PKPdf	PKPdf	06 33 33.9	+3.6
TXAR	**Lajitas Array**	139.18	24	PKP	PKPdf	06 33 54.4	+2.4
	0.3nm,0.5s,baz=170,slow=2.4,SNR=3.6						
PLCA	**Paso Flores**	144.59	200	PKP	PKPdf	06 34 02.8	+1.7
	2.7nm,0.8s,baz=255,slow=0.7,SNR=2.2						

BJI ***27*** *06:18:38.5, 8.00N×94.20E, h30km, mB5.3, mb4.6, Ms5.0, Msz4.6*
NEIC ***27*** *06:18:38.6±0.3, 7.97N×94.23E, h30km, mb4.7/28, Error ellipse: s-maj=9.6km s-min=7.2km az=53.0*
IDC ***27*** *06:18:39.8±5.3, 7.92N×94.13E, h38km±44km, mb4.3/21, mb1 4.5/22, mb1mx4.4/26, mbtmp4.5/22, Error ellipse: s-maj=26.0km s-min=12.6km az=52.0*

ISC 27 06:18:39.3±2.0, 7.88N±0.06×94.25E±0.07, h53km±17km, n83, σ0s91/77, mb4.7/55, MS4.6/1, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.46	23	Pn	P	06 21 22.9	-0.1
	baz=207,slow=16,SNR=2.0						
HYB	**Hyderabad**	18.00	303	*i* P	P	06 22 47.5	0.0
KMI	**Kunming**	18.97	24	P	P	06 22 55.1	-4.0
	18nm,1.1s						
KMI				pP		06 23 03.5	
KMI				sP		06 23 09.6	
JIRN	**Jiri**	21.10	340	*e*P	P	06 23 22.2	+0.5
	64nm,0.7s,mb5.0						
PKI	**Pulchoki**	21.30	338	*e*P	P	06 23 25.4	+1.7
	80nm,1.0s,mb5.0						
GUN	**Gumba**	21.44	339	*e*P	P	06 23 25.4	+0.3
	87nm,0.8s,mb5.1						
DMN	**Daman**	21.45	337	*e*P	P	06 23 25.9	+0.8
	94nm,0.7s,mb5.2						
KKN	**Kakani**	21.54	338	*e*P	P	06 23 27.1	+1.0
	55nm,0.9s,mb5.0						
LSA	**Lhasa**	21.90	353	P	P	06 23 26.3	-3.3
LSA	**Lhasa**	21.90	353	*e*P	P	06 23 26.6	-3.1
	45nm,0.8s,mb5.0						
GKN	**Gorkha**	21.98	337	*e*P	P	06 23 30.2	-0.3
	73nm,0.8s,mb5.2						
KOLN	**Koldanda**	22.20	334	*e*P	P	06 23 32.6	0.0
	52nm,0.7s,mb5.1						
ENH	**Enshi**	26.46	31	*e*P	P	06 24 14.3	+0.7
	18nm,1.0s,mb4.5						
WMQ	**Urumqi**	36.26	352	*e*P	P	06 25 39.5	+0.1
WMQ				PP	PP	06 27 02.5	-1.0
WMQ				PCP	PcP	06 28 04.8	+0.8
WMQ				S	S	06 31 16.8	+1.3
WMQ				AMB	AMB		
	comp=Z,44nm,1.3s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,229nm,5.3s						
WMQ				LR	LR		
	comp=N,642nm,18.0s,MS4.6						
WMQ				LR	LR		
	comp=E,577nm,18.1s,MS4.6						
WMQ				LR	LR		
	comp=Z,920nm,18.2s,MS4.6						
UCH	**Uchtor**	38.39	336	P	P	06 25 58.0	+0.8
	SNR=7.2						
AML	**Almayashu**	38.64	335	P	P	06 26 00.2	+0.8
	SNR=18						
AAK	**Ala-Archa**	38.74	337	P	P	06 26 01.1	+1.0
	SNR=6.8						
AAK	**Ala-Archa**	38.74	337	*e*P	P	06 25 59.6	-0.5
	comp=Z,14nm,1.0s,mb4.7						
CHMS	**Chumysh**	38.95	337	P	P	06 26 02.3	+0.4
	SNR=6.5						
EKS2	**Erkin-Say**	39.05	336	P	P	06 26 03.4	+0.7
	SNR=7.9						
USP	**Ospenovka**	39.27	337	P	P	06 26 04.5	-0.1
	SNR=9.6						
SONM	**Songino Array**	41.13	12	P	P	06 26 20.9	+1.0
	comp=Z,3.7nm,0.8s,mb4.0,baz=200,slow=7.2,SNR=15						
SONM				PcP	PcP	06 28 19.6	+0.4
	comp=Z,1.3nm,0.7s,baz=206,slow=3.2,SNR=5.9						
ULN	**Ulaanbaatar**	41.31	13	*e*P	P	06 26 22.0	+0.7
	comp=Z,3.0nm,0.8s,mb4.0						
KURK	**Kurchatov**	44.63	346	*e*P	P	06 26 48.1	-0.2
	comp=Z,26nm,1.0s,mb5.0						
NWAO	**Narrogin (SRO)**	46.10	153	P	P	06 27 02.0	+1.6
	comp=Z,4.1nm,0.8s,mb4.4,baz=308,slow=3.6,SNR=5.3						
NWAO	**Narrogin (SRO)**	46.10	153	*e*P	P	06 27 01.1	+0.8
	comp=Z,7.5nm,0.8s,mb4.7						
HIA	**Hailar**	46.48	23	*e*P	P	06 27 02.6	-0.4
	comp=Z,7.7nm,0.9s,mb4.6						
ZAL	**Zalesovo**	46.55	352	P	P	06 27 03.2	-0.4
	comp=Z,11nm,0.9s,mb4.8,baz=297,slow=7.4,SNR=28						
MDJ	**Mudanjiang**	47.74	34	P	P	06 27 11.5	-1.6
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,381nm,6.5s						
WRA	**Warramunga Arr**	48.18	126	P	P	06 27 16.4	-0.4
	comp=Z,3.3nm,0.9s,mb4.3,baz=305,slow=9.2,SNR=10						
WRAB	**Tennant Creek**	48.18	126	*e*P	P	06 27 15.8	-1.0
	comp=Z,6.7nm,0.9s,mb4.7						
BVAR	**Borovoye Array**	49.02	341	P	P	06 27 21.4	-1.4
	comp=Z,5.0nm,0.8s,mb4.6,baz=143,slow=7.4,SNR=14						
BVAR				PcP	PcP	06 28 46.6	+0.2
	comp=Z,2.2nm,0.8s,baz=153,slow=3.3,SNR=5.7						
RAYN	**Ar Rayn**	49.18	294	P	P	06 27 25.3	+0.8
	comp=Z,108nm,1.1s,mb5.8,SNR=14						
CHKZ	**Chkalovo**	49.50	342	*e*P	P	06 27 25.6	-1.0
	comp=Z,25nm,0.9s,mb5.2						
ASAR	**Alice Springs**	49.84	130	P	P	06 27 28.9	-0.6
	comp=Z,2.7nm,0.9s,mb4.3,baz=309,slow=7.1,SNR=9.3						
ASAR				PcP	PcP	06 28 50.2	+0.4
	comp=Z,1.1nm,0.8s,baz=275,slow=3.7,SNR=5.0						
GNI	**Garni**	54.51	314	*e*P	P	06 28 03.4	-0.9
	comp=Z,22nm,1.3s,mb5.0						
PMG	**Port Moresby**	55.43	107	*e*P	P	06 28 12.6	+1.3
	comp=Z,24nm,0.9s,mb5.2						
KIV	**Kislovodsk**	57.38	318	*e*P	P	06 28 23.7	-1.1
	comp=Z,19nm,1.0s,mb5.1						
KMBO	**Kilima Mbogo**	57.53	264	P	P	06 28 27.0	+0.7
	comp=Z,3.1nm,0.7s,mb4.5,baz=60,slow=12,SNR=7.4						
KMBO	**Kilima Mbogo**	57.53	264	*e*P	P	06 28 27.7	+1.4
	comp=Z,6.9nm,1.0s,mb4.6						
MALT	**Malatya**	58.54	310	P	P	06 28 31.5	-1.5
	comp=Z,3.5nm,1.0s,mb4.3						
EIL	**Elat**	59.52	300	*e*P	P	06 28 39.6	-0.2
	comp=Z,5.9nm,0.8s,mb4.7						
YAK	**Yakutsk**	59.95	18	*e*P	P	06 28 42.2	-0.2
	comp=Z,32nm,0.9s,mb5.3						
STKA	**Stephens Creek**	60.03	134	P	P	06 28 43.5	+0.1
	comp=Z,1.5nm,0.7s,mb4.1,baz=294,slow=3.8,SNR=5.0						
STKA	**Stephens Creek**	60.03	134	*e*P	P	06 28 42.6	-0.8
BRTR	**Keskin Array B**	62.51	311	P	P	06 28 57.8	-2.2
	comp=Z,2.9nm,0.7s,mb4.5,baz=126,slow=7.1,SNR=9.8						
MA2	**Magadan**	66.71	28	*e*P	P	06 29 22.2	-4.6
	comp=Z,22nm,1.1s,mb5.1						
AKASG	**Malin Array Be**	68.22	322	P	P	06 29 34.3	-2.1
	comp=Z,4.0nm,0.8s,mb4.5,baz=87,slow=4.9,SNR=11						
IDI	**Anoyia**	68.65	305	P	P	06 29 38.9	-0.5
	comp=Z,11nm,0.8s,mb4.8,baz=117,slow=11,SNR=3.9						
IDI	**Anoyia**	68.65	305	P	P	06 29 38.9	-0.5
MLR	**Muntele Rosu**	69.24	316	P	P	06 29 41.7	-1.1
	comp=Z,7.5nm,0.9s,mb4.6,baz=137,slow=4.4,SNR=6.0						
LSZ	**Lusaka**	69.37	250	*e*P	P	06 29 44.6	+0.5
	comp=Z,3.9nm,1.1s,mb4.2						
JOF	**Joensuu**	70.89	334	*ep*	P	06 29 51.7	-0.9
	comp=Z,14nm,0.9s,mb4.9						
FINES	**FINESS Array B**	72.75	332	P	P	06 30 03.4	-0.2
	comp=Z,7.2nm,0.7s,mb4.7,baz=101,slow=9.7,SNR=16						
FINES	**FINESS Array B**	72.75	332	P	P	06 30 03.4	-0.2
KAF	**Kangasniemi**	72.83	333	*ep*	P	06 30 03.0	-1.1
	comp=Z,11nm,0.9s,mb4.8						
KEV	**Kevo**	74.87	341	*ep*	P	06 30 15.3	-0.5
ARCES	**ARCESS Array B**	75.30	340	P	P	06 30 17.9	-0.4
	comp=Z,3.4nm,0.7s,mb4.4,baz=98,slow=8.7,SNR=5.1						
MORC	**Moravsky Berou**	75.44	319	*e*P	P	06 30 19.3	-0.1
	comp=Z,13nm,1.1s,mb4.8						
BOSA	**Boshof**	75.68	238	*e*P	P	06 30 22.3	+1.0
	comp=Z,6.1nm,0.9s,mb4.5						
BILL	**Bilibino**	76.04	22	*e*P	P	06 30 23.0	+0.4
	comp=Z,3.5nm,0.8s,mb4.3						
GERES	**GERESS Array B**	77.89	318	P	P	06 30 33.4	+0.2
	comp=Z,5.9nm,0.9s,mb4.5,baz=90,slow=5.3,SNR=19						
CLL	**Collm**	78.42	321	P	P	06 30 36.0	-0.1
HFS	**Hagfors**	78.50	330	P	P	06 30 36.3	-0.1
	comp=Z,8.0nm,0.8s,mb4.7,baz=90,slow=7.4,SNR=12						
MOX	**Moxa**	79.29	320	*e*P	P	06 30 44.0	+3.1
GRA1	**Grafenberg Arr**	79.53	319	*e*P	P	06 30 42.7	+0.5
	comp=Z,9.0nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	79.53	319	*e*P	P	06 30 42.7	+0.5
	comp=Z,9.0nm,1.1s,mb4.6						
NB2	**NORSAR Subarra**	79.78	331	P	P	06 30 42.8	-0.5
	comp=Z,6.6nm,0.8s,mb4.6,baz=92,slow=5.6						
NOA	**NORSAR Array B**	79.78	331	P	P	06 30 43.1	-0.2
	comp=Z,6.2nm,0.8s,mb4.6,baz=93,slow=5.5,SNR=13						
DAVOX	**Davos**	80.46	316	P	P	06 30 47.3	0.0
	comp=Z,8.0nm,0.9s,mb4.6,baz=106,slow=8.8,SNR=7.5						
LPG	**La Plagne**	82.69	315	*e*P	P	06 30 59.4	+0.6
	comp=Z,22nm,1.0s,mb4.8						
SYO	**Syowa Base**	85.44	197	⇓PcP	PcP	06 31 19.7	+4.1
EKA	**Eskdalemuir Ar**	87.78	325	P	P	06 31 24.6	+0.7
	comp=Z,4.4nm,0.9s,mb4.7,baz=104,slow=6.9,SNR=5.2						
ESDC	**Sonseca Array**	91.30	310	P	P	06 31 41.2	+0.4
	comp=Z,1.5nm,0.9s,mb4.3,baz=58,slow=3.5,SNR=5.1						
IMA	**Indian Mountai**	91.58	22	*e*P	P	06 31 43.3	+1.9
MCK	**McKinley**	94.41	23	P	P	06 31 53.5	-0.9
	comp=Z,1.7nm,0.9s,mb4.5						
INK	**Inuvik**	96.96	16	P	P	06 32 06.7	+0.8
	comp=Z,2.6nm,1.1s,mb4.6,baz=318,slow=6.0,SNR=4.1						
YKA	**Yellowknife Ar**	106.39	14	PP	PP	06 37 09.5	-6.6
	comp=Z,0.3nm,0.8s,baz=333,slow=7.9,SNR=5.4						
NVAR	**Mina Array Bea**	124.86	31	PKP	PKPdf	06 37 37.8	+3.8
	comp=Z,1.0nm,0.7s,baz=29,slow=2.8,SNR=6.5						
PDAR	**Pinedale Array**	125.12	21	PKP	PKPdf	06 37 36.4	+2.0
	comp=Z,0.9nm,0.8s,baz=69,slow=2.0,SNR=7.4						
MDV	**Middlebury**	127.12	349	P	PKPdf	06 37 39.2	+1.0
TXAR	**Lajitas Array**	139.18	24	PKP	PKPdf	06 38 04.8	+3.6
	comp=Z,0.6nm,0.8s,baz=151,slow=1

WRA PcP PcP 06 32 01.4 +0.6
1.2nm,0.9s,baz=318,slow=3.3,SNR=4.9
BVAR Borovoye Array 48.98 341 P P 06 30 39.0 +0.3
1.9nm,0.9s,mb4.1,baz=135,slow=6.3,SNR=4.7
ASAR Alice Springs 49.95 130 P P 06 30 46.7 +0.1
3.2nm,1.0s,mb4.3,baz=304,slow=7.2,SNR=7.9
ASAR PcP PcP 06 32 08.4 +1.7
1.6nm,0.8s,baz=308,slow=3.9,SNR=7.6
KMBO Kilima Mbogo 57.37 264 P P 06 31 44.3 +2.8
6.5nm,0.8s,mb4.7,baz=51,slow=9.4,SNR=13
BRTR Keskin Array B 62.40 311 P P 06 32 14.5 -1.1
1.5nm,0.8s,mb4.2,baz=100,slow=7.5,SNR=3.9
JOF Joensuu 70.84 334 *ep* **P 06 33 08.1 -0.5**
6.1nm,0.9s,mb4.5
FINES FINESS Array B 72.70 332 P P 06 33 16.7 -3.0
5.4nm,0.9s,mb4.5,baz=117,slow=8.5,SNR=6.2
FINES FINESS Array B 72.70 332 P P 06 33 16.7 -3.0
KAF Kangasniemi 72.78 333 *ep* **P 06 33 20.3 +0.1**
9.6nm,0.9s,mb4.7
ARCES ARCESS Array B 75.26 340 P P 06 33 33.8 -0.7
5.0nm,1.1s,mb4.4,baz=45,slow=3.4,SNR=4.7
HFS Hagfors 78.44 330 P P 06 33 52.9 +0.4
3.6nm,0.6s,mb4.5,baz=104,slow=6.1,SNR=9.0
NB2 NORSAR Subarra 79.72 331 P P 06 33 56.5 -2.9
3.0nm,0.7s,mb4.3,baz=96,slow=5.0
NOA NORSAR Array B 79.72 331 P P 06 33 58.8 -0.6
3.4nm,0.9s,mb4.2,baz=95,slow=5.2,SNR=4.4
LPG La Plagne 82.59 315 *eP* **P 06 34 17.3 +2.5**
16nm,0.8s,mb4.8
EKA Eskdalemuir Ar 87.70 325 P P 06 34 40.0 0.0
2.4nm,0.8s,mb4.5,baz=120,slow=5.7,SNR=2.8
ESDC Sonseca Array 91.19 310 P P 06 34 56.9 +0.1
0.8nm,0.7s,mb4.2,baz=108,slow=4.7,SNR=4.4
IMA Indian Mountai 91.65 22 *eP* **P 06 35 01.5 +3.2**
INK Inuvik 97.02 16 P P 06 35 21.7 -1.1
1.8nm,1.1s,mb4.4,baz=250,slow=1.4,SNR=2.6
INK Inuvik 97.02 16 P P 06 35 21.7 -1.1
NVAR Mina Array Bea 124.95 31 PKP PKPdf 06 40 51.8 +1.0
1.1nm,0.8s,baz=50,slow=0.9,SNR=5.5
PDAR Pinedale Array 125.20 21 PKP PKPdf 06 40 52.6 +1.4
1.3nm,0.9s,baz=27,slow=3.3,SNR=7.9
TXAR Lajitas Array 139.26 24 PKP PKPdf 06 41 20.6 +2.6
2.4nm,1.2s,baz=270,slow=1.3,SNR=4.9
PLCA Paso Flores 144.52 200 PKP PKPdf 06 41 29.1 +2.3
8.1nm,0.8s,baz=166,slow=3.7,SNR=13
LPAZ La Paz 160.72 243 PKP PKPdf 06 41 13.4 -37
0.7nm,0.9s,baz=99,slow=2.3,SNR=4.5
LPAZ PKPab PKPab 06 41 55.5 -40
0.7nm,0.8s,baz=111,slow=5.9,SNR=4.1

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*BJI **27** 06:31:19.1, 7.18N×93.97E, h30km, mb4.7*
*IDC **27** 06:31:20.9±0.8, 7.82N×93.98E, mb4.1/14, mb1 4.3/15, mb1mx4.2/23, mbtmp4.1/15, ML4.0/1, Error ellipse: s-maj=35.4km s-min=18.8km az=49.0*
*NEIC **27** 06:31:25.6±0.4, 7.81N×94.02E, h30km, mb4.6/9, Error ellipse: s-maj=13.9km s-min=9.3km az=65.0*
ISC 27 06:31:24.5±0.5, 7.94N±0.08×94.15E±0.09, h33km, n41, σ1§26/36, mb4.3/25, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.45**	**24**	P	P	**06 34 09.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**11.45**	**24**	Pn	P	**06 34 09.1**	**+0.4**
0.3nm,0.3s,baz=210,slow=14,SNR=8.9							
HYB	**Hyderabad**	**17.88**	**303**	*i* P	P	**06 35 35.0**	**+2.6**
JIRN	**Jiri**	**21.01**	**340**	*eP*	P	**06 36 07.3**	**-0.4**
40nm,0.9s,mb4.8							
PKI	**Pulchoki**	**21.21**	**338**	*eP*	P	**06 36 07.2**	**-2.4**
DMN	**Daman**	**21.36**	**337**	*eP*	P	**06 36 08.6**	**-2.5**
KKN	**Kakani**	**21.45**	**338**	*eP*	P	**06 36 09.7**	**-2.4**
LSA	**Lhasa**	**21.83**	**353**	P	P	**06 36 19.8**	**+3.9**
LSA	**Lhasa**	**21.83**	**353**	*eP*	P	**06 36 19.4**	**+3.6**
17nm,0.8s,mb4.5							
GKN	**Gorkha**	**21.89**	**337**	*eP*	P	**06 36 14.9**	**-1.6**
35nm,0.9s,mb4.8							
KOLN	**Koldanda**	**22.11**	**334**	*eP*	P	**06 36 19.3**	**+0.7**
50nm,1.0s,mb4.9							
ENH	**Enshi**	**26.46**	**31**	*eP*	P	**06 37 02.4**	**+1.8**
8.3nm,0.8s,mb4.3							
ENH				*e*	pP	06 37 11.7	+1.7
AAK	**Ala-Archa**	**38.65**	**337**	*eP*	P	**06 38 46.1**	**-0.5**
6.1nm,1.0s,mb4.3							
SONM	**Songino Array**	**41.10**	**13**	P	P	**06 39 07.0**	**+0.2**
1.1nm,0.8s,mb3.5,baz=194,slow=10,SNR=5.3							
SONM				PcP	PcP	06 41 06.8	+0.2
0.5nm,0.5s,baz=186,slow=4.3,SNR=5.6							
KURK	**Kurchatov**	**44.55**	**346**	*eP*	P	**06 39 33.9**	**-1.0**
18nm,1.4s,mb4.7							
ZAL	**Zalesovo**	**46.49**	**352**	P	P	**06 39 50.8**	**+0.6**
2.6nm,0.8s,mb4.2,baz=288,slow=6.7,SNR=8.3							
WRA	**Warramunga Arr**	**48.29**	**126**	P	P	**06 40 04.1**	**-0.8**
1.2nm,0.6s,mb4.1,baz=304,slow=8.6,SNR=6.0							
WRAB	**Tennant Creek**	**48.29**	**126**	*eP*	P	**06 40 03.7**	**-1.1**
11nm,1.2s,mb4.8							
BVAR	**Borovoye Array**	**48.93**	**341**	P	P	**06 40 08.9**	**-0.4**
0.6nm,0.6s,mb3.8,baz=135,slow=6.3,SNR=5.0							
ASAR	**Alice Springs**	**49.95**	**130**	P	P	**06 40 17.0**	**-0.6**
0.5nm,0.6s,mb3.7,baz=306,slow=7.8,SNR=3.1							
PMG	**Port Moresby**	**55.54**	**107**	P	P	**06 41 03.2**	**+3.9**
22nm,1.0s,mb5.1							
KMBO	**Kilima Mbogo**	**57.44**	**264**	*eP*	P	**06 41 15.3**	**+2.4**
5.0nm,0.9s,mb4.5							
CTAO	**Charters Tower**	**58.33**	**119**	*eP*	P	**06 41 18.4**	**-0.6**
13nm,1.2s,mb4.8							
BRTR	**Keskin Array B**	**62.40**	**311**	P	P	**06 41 44.5**	**-2.1**
1.2nm,0.9s,mb4.0,baz=114,slow=4.8,SNR=3.3							
MLR	**Muntele Rosu**	**69.13**	**316**	P	P	**06 42 29.5**	**-0.1**
2.3nm,0.8s,mb4.2,baz=130,slow=20,SNR=3.8							
ARCES	**ARCESS Array B**	**75.21**	**340**	P	P	**06 43 05.0**	**-0.2**
2.5nm,0.8s,mb4.2,baz=90,slow=4.9,SNR=5.9							
ARCES	**ARCESS Array B**	**75.21**	**340**	P	P	**06 43 05.0**	**-0.2**
GERES	**GERESS Array B**	**77.79**	**318**	P	P	**06 43 20.5**	**+0.4**
1.8nm,0.8s,mb4.0,baz=79,slow=6.8,SNR=6.7							
CLL	**Collm**	**78.32**	**321**	P	P	**06 43 24.0**	**+1.0**
HFS	**Hagfors**	**78.41**	**330**	P	P	**06 43 23.1**	**-0.2**
2.6nm,0.6s,mb4.4,baz=108,slow=4.7,SNR=8.9							
NB2	**NORSAR Subarra**	**79.68**	**331**	P	P	**06 43 30.0**	**-0.2**
1.3nm,0.6s,mb4.0,baz=94,slow=5.0							
NOA	**NORSAR Array B**	**79.68**	**331**	P	P	**06 43 30.3**	**+0.1**
1.4nm,0.6s,mb4.0,baz=95,slow=5.2,SNR=4.6							
DAVOX	**Davos**	**80.35**	**316**	P	P	**06 43 34.9**	**+0.8**
2.0nm,0.6s,mb4.2,baz=90,slow=19,SNR=2.5							
IMA	**Indian Mountai**	**91.56**	**22**	*eP*	P	**06 44 31.4**	**+2.5**
ILAR	**Eielson Array**	**94.68**	**22**	P	P	**06 44 44.3**	**+1.2**
0.4nm,0.7s,mb4.0,baz=267,slow=4.1,SNR=4.5							
INK	**Inuvik**	**96.93**	**16**	P	P	**06 44 54.3**	**+1.0**
1.1nm,0.9s,mb4.3,baz=355,slow=2.3,SNR=3.4							
NVAR	**Mina Array Bea**	**124.86**	**31**	PKP	PKPdf	06 50 25.6	+4.0
0.8nm,0.8s,baz=241,slow=4.6,SNR=3.9							
PDAR	**Pinedale Array**	**125.10**	**21**	PKP	PKPdf	06 50 24.9	+2.9
0.9nm,0.9s,slow=3.0,SNR=4.4							
TXAR	**Lajitas Array**	**139.16**	**24**	PKP	PKPdf	06 50 52.0	+3.2
0.2nm,0.5s,baz=70,slow=1.5,SNR=4.1							
PLCA	**Paso Flores**	**144.61**	**200**	PKP	PKPdf	06 51 00.5	+2.5
3.2nm,1.0s,baz=173,slow=8.1,SNR=3.8							
PLCA	**Paso Flores**	**144.61**	**200**	PKP	PKPdf	06 51 00.5	+2.5

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*NEIC **27** 06:31:52.4±0.5, 50.35N×18.88E, h5km, ML3.0(VIE), Error ellipse: s-maj=7.7km s-min=4.5km az=197.0*
*PRU **27** 06:31:53.8, 50.25N×18.80E*
*CSEM **27** 06:31:53.7±0.1, 50.32N×18.83E, h2km, ML3.5/3, Error ellipse: s-maj=2.5km s-min=1.3km az=13.0*
*IPEC **27** 06:31:54.0±0.6, 50.27N×18.78E, h5km±2km, ML2.5/3, Error ellipse: s-maj=3.2km s-min=2.4km az=50.0*
*IDC **27** 06:31:55.0±1.3, 50.28N×18.69E, mb1 3.7/3, mb1mx3.5/14, mbtmp3.5/3, ML3.1/3, Error ellipse: s-maj=26.1km s-min=9.7km az=138.0*
WAR 27 06:31:53.2, 50.26N×18.85E, h0km, ML2.9, 3C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.46**	**247**	*ePG*	Pg	06 32 03.0	+0.6
RAC				*eSG*	Sg	06 32 10.0	+1.5
RAC	**Raciborz**	**0.46**	**247**	*ePg*	Pg	06 32 02.9	+0.5
RAC				*eSg*	Sg	06 32 10.1	+1.6
OJC	**Ojcow**	**0.61**	**94**	*ePG*	Pg	06 32 06.0	+0.7
OJC				*eSG*	Sg	06 32 14.0	+0.5
OJC	**Ojcow**	**0.61**	**94**	*ePg*	Pg	06 32 05.6	+0.3
OJC				*eSg*	Sg	06 32 14.3	+0.8
OKC	**Ostrava-Krasne**	**0.62**	**227**	*ePG*	Pg	06 32 05.7	+0.1
OKC				*eSG*	Sg	06 32 14.3	+0.4
200nm,0.8s							
MORC	**Moravsky Berou**	**0.97**	**241**	*ePg*	Pg	06 32 11.5	-1.1
MORC				*eSg*	Sg	06 32 22.6	-3.1
MORC	**Moravsky Berou**	**0.97**	**241**	*ePg*	Pg	06 32 11.5	-1.2
MORC				*eSg*	Sg	06 32 24.5	-1.2
60nm,0.3s							
LIKS	**Likavka**	**1.22**	**172**	*ePG*	Pg	06 32 17.9	+0.3
LIKS				*eSG*	Sg	06 32 34.4	+0.4
NIE	**Niedzica**	**1.27**	**131**	*ePg*	Pg	06 32 17.7	-0.8
NIE				*eSg*	Sg	06 32 34.5	-0.9
NIE				*e*		06 32 36.1	
DPC	**Dobruska-Polom**	**1.62**	**274**	*ePG*	Pg	06 32 22.4	-3.2
DPC				*eSG*	Sg	06 32 44.0	-3.3
48nm,0.3s							
DPC	**Dobruska-Polom**	**1.62**	**274**	*ePn*	Pn	06 32 22.5	-0.7
DPC				*eSg*	Sg	06 32 43.2	-4.1
KSP	**Ksiaz**	**1.73**	**291**	*ePN*	Pn	06 32 24.0	-0.7
KSP				*i* PG	Pg	06 32 25.9	-1.9
KSP				*eSG*	Sg	06 32 48.9	-2.0
KSP	**Ksiaz**	**1.73**	**291**	*ePn*	Pn	06 32 23.6	-1.1
KSP				*i* Pg	Pg	06 32 25.9	-1.9
KSP				*eSg*	Sg	06 32 48.3	-2.6
KSP	**Ksiaz**	**1.73**	**291**	*ePn*	Pn	06 32 26.0	+1.3
KSP				*ePg*	Pg	06 32 27.9	+0.1
KSP				*eSn*	Sg	06 32 48.6	-2.3
KSP	**Ksiaz**	**1.73**	**291**	*i* Pg	Pg	06 32 25.9	-1.9
KSP				*eSg*	Sg	06 32 48.3	-2.6
VRAC	**Vranov**	**1.75**	**238**	Pn	Pn	06 32 24.8	-0.2
12nm,0.3s,baz=57,slow=14,SNR=37							
VRAC				Lg		06 32 48.3	
19nm,0.3s,baz=112,slow=23,SNR=16							
VRAC	**Vranov**	**1.75**	**238**	*ePn*	Pn	06 32 24.2	-0.7
VRAC				*eSg*	Sg	06 32 47.7	-3.7
78nm,0.4s							
VYHS	**Vyhne**	**1.77**	**180**	*i* PG	Pg	06 32 24.8	-3.7
VYHS				*i* SG	Sg	06 32 49.3	-2.8
UPC	**Upice**	**1.83**	**279**	*ePG*	Pg	06 32 25.7	-4.1
KRUC	**Moravsky**	**2.00**	**234**	*ePn*	Pn	06 32 28.5	0.0
KRUC				*eSg*	Sg	06 32 54.6	-5.1
20nm,0.3s							
KECS	**Kecovo**	**2.08**	**148**	*ePG*	Pg	06 32 32.4	-2.2
CRVS	**Cervenica-Dubn**	**2.18**	**128**	*i* PG	Pg	06 32 34.3	-2.3
PSZ	**Piszkesteto**	**2.44**	**163**	⇑*i*P	Pn	06 32 41.2	+6.3
PSZ				*eS*	Sn	06 33 12.5	+6.6
PSZ	**Piszkesteto**	**2.44**	**163**	⇑*i*P	Pn	06 32 41.3	+6.4
PSZ				*eS*	Sn	06 33 12.5	+6.6
KWP	**Kalwaria**	**2.57**	**103**	*eP*	Pn	06 32 43.0	+6.3
KWP				*eSG*	Sg	06 33 24.0	+5.3
KWP	**Kalwaria**	**2.57**	**103**	*eP*	Pn	06 32 42.8	+6.1
KWP				*eS*	Sg	06 33 24.4	+5.7
KOLS	**Kolonicke sedl**	**2.59**	**120**	*ePG*	Pg	06 32 42.1	-2.8
PVCC	**Panska Ves**	**2.75**	**277**	*ePG*	Pg	06 32 41.7	-6.5
PRU	**Pruhonice**	**2.79**	**266**	*ePG*	Pg	06 32 42.9	-6.0
PRU				*eSG*	Sg	06 33 18.7	-7.3
BRG	**Berggiesshubel**	**3.19**	**283**	*i* Pg	Pg	06 32 52.6	-4.3
BRG				*i* Sg	Sg	06 33 34.0	-5.4
KHC	**Kasperske Hory**	**3.61**	**254**	*ex*	x	06 32 55.5	
KHC				*eSG*	Sg	06 33 47.3	-6.0
KHC	**Kasperske Hory**	**3.61**	**254**	*eSg*	Sg	06 33 47.3	-6.0
GERES	**GERESS Array B**	**3.64**	**249**	Pn	Pn	06 32 51.2	-0.7
0.4nm,0.3s,baz=60,slow=13,SNR=8.0							
GERES				Pg	Pg	06 32 59.9	-6.0
1.5nm,0.3s,baz=61,slow=17,SNR=20							
GERES				Lg		06 33 46.5	
1.7nm,0.3s,baz=65,slow=28,SNR=4.3							
GERES	**GERESS Array B**	**3.64**	**249**	Pg	Pg	06 32 59.9	-6.0
CLL	**Collm**	**3.86**	**288**	*ePG*	Pg	06 33 06.0	-4.2
CLL				*i* SG	Sg	06 34 00.0	-1.6
MOA	**Molln**	**3.86**	**233**	⇑*i*PN	Pn	06 32 53.3	-1.8
MOA				*i* SG	Sg	06 33 54.7	-7.1
13nm,0.6s							
AKASG	**Malin Array Be**	**6.63**	**82**	Pg	Pg	06 33 52.1	-14
0.6nm,0.3s,baz=266,slow=14,SNR=3.8							
AKASG				Lg		06 35 17.2	
0.8nm,0.3s,baz=274,slow=25,SNR=3.2							
DAVOX	**Davos**	**6.90**	**243**	Lg		06 35 33.4	
0.3nm,0.3s,baz=194,slow=19,SNR=3.4							
FINES	**FINESS Array B**	**11.91**	**17**	Pn	P	06 34 40.9	-6.1
0.2nm,0.3s,baz=197,slow=11,SNR=6.2							
FINES	**FINESS Array B**	**11.91**	**17**	Pn	P	06 34 40.9	-6.1
ARCES	**ARCESS Array B**	**19.60**	**7**	Pn	P	06 36 19.3	-6.0
0.2nm,0.3s,baz=192,slow=11,SNR=7.0							

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*JMA **27** 06:32:12.5, 33.29N×135.50E, h25km±1km, M3.7*
ISC 27 06:32:12.1±1.8, 33.29N±0.10×135.50E±0.07, h27km±7km, n6, σ0§49/12, 2C-1D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**0.30**	**37**	⇑P	**Pb**	**06 32 19.3**	**+0.1**
JWZ				S	**Sb**	**06 32 24.1**	**0.0**
JWM	**Minabe**	**0.57**	**347**	⇑P	**Pb**	**06 32 23.7**	**+0.2**
JWM				S	**Sb**	**06 32 31.4**	**+0.1**
JWY	**Kouya**	**0.93**	**5**	P	**Pb**	**06 32 29.3**	**-0.2**
JWY				S	**Sb**	**06 32 41.5**	**+0.1**
JAI	**Aioi**	**1.01**	**300**	⇓P	**Pn**	**06 32 30.4**	**-0.3**
JAI				*e*S	**Sb**	**06 32 43.1**	**-0.7**
JAJ2	**Tsuna**	**1.24**	**336**	P	**Pn**	**06 32 34.5**	**+0.6**
JAJ2				S	**Sn**	**06 32 50.4**	**+0.6**
MAT	**Matsushiro**	**3.93**	**34**	P	**Pn**	**06 33 12.9**	**+0.6**
MAT				S	**Sn**	**06 33 57.0**	**-1.1**

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*IDC **27** 06:33:30.9±1.8, 7.87N×93.71E, mb4.1/8, mb1 4.2/9, mb1mx4.0/20, mbtmp4.1/9, ML3.7/1, MS3.4/1, Ms1 3.6/1, ms1mx2.9/27, Error ellipse: s-maj=49.6km s-min=44.9km az=93.0*
ISC 27 06:33:36.4±6.6, 8.3N±0.9×93.7E±0.7, h33km, n12, σ0§55/9, mb4.1/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.35**	**26**	Pn	P	**06 36 19.0**	**-0.4**
0.2nm,0.3s,baz=211,slow=16,SNR=4.5							
CMAR				LR	LR	06 40 34.9	
comp=Z,183nm,19.1s,baz=348,slow=36							
ZAL	**Zalesovo**	**46.10**	**353**	P	P	**06 41 59.7**	**+0.5**
5.2nm,1.1s,mb4.4,baz=285,slow=9.8,SNR=5.1							
BVAR	**Borovoye Array**	**48.47**	**341**	P	P	**06 42 18.3**	**+0.6**
1.6nm,0.9s,mb4.0,baz=162,slow=4.7,SNR=3.9							
BRTR	**Keskin Array B**	**61.82**	**311**	P	P	**06 43 54.0**	**-0.6**
1.0nm,0.7s,mb4.0,baz=104,slow=5.1,SNR=4.3							
AKASG	**Malin Array Be**	**67.56**	**322**	P	P	**06 44 30.4**	**-1.1**
0.6nm,0.5s,mb3.9,baz=86,slow=5.6,SNR=4.1							
FINES	**FINESS Array B**	**72.15**	**332**	P	P	**06 44 59.3**	**0.0**
2.0nm,0.8s,mb4.1,baz=90,slow=3.8,SNR=4.0							
GERES	**GERESS Array B**	**77.22**	**318**	P	P	**06 45 29.4**	**+0.5**
3.4nm,1.1s,mb4.2,baz=90,slow=4.0,SNR=7.0							
HFS	**Hagfors**	**77.88**	**330**	P	P	**06 45 32.7**	**+0.4**
2.2nm,0.6s,mb4.3,baz=117,slow=6.4,SNR=5.0							
NOA	**NORSAR Array B**	**79.16**	**331**	P	P	**06 45 39.5**	**+0.1**
1.7nm,0.8s,mb4.0,baz=91,slow=5.7,SNR=5.5							
NVAR	**Mina Array Bea**	**124.82**	**30**	PKP	PKPdf	06 52 34.5	+1.0
0.5nm,0.7s,baz=266,slow=4.6,SNR=3.7							
PDAR	**Pinedale Array**	**124.97**	**21**	PKP	PKPdf	06 52 33.5	-0.2
0.5nm,1.0s,baz=135,slow=2.1,SNR=3.7							
PLCA	**Paso Flores**	**144.75**	**201**	PKP	PKPdf	06 53 09.1	-1.1
3.1nm,0.9s,baz=179,slow=6.6,SNR=5.1							

IDC 27 06:34:05.8±20.0, 9.58N×93.17E, mb4.2/5, mb1 4.3/5, mb1mx3.9/18, mbtmp4.2/5, Error ellipse: s-maj=532.6km s-min=154.8km az=162.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**60.60**	**310**	P	P	06 44 18.4	-2.3
1.3nm,1.0s,baz=117,slow=8.3,SNR=3.6							
FINES	**FINESS Array B**	**70.76**	**332**	P	P	06 45 23.9	-1.8
3.3nm,0.8s,baz=117,slow=6.2,SNR=3.8							
GERES	**GERESS Array B**	**75.92**	**318**	P	P	06 45 55.0	-1.1
2.0nm,0.9s,baz=90,slow=5.3,SNR=5.0							
HFS	**Hagfors**	**76.51**	**330**	P	P	06 45 57.6	-1.6
3.8nm,0.8s,baz=90,slow=8.6,SNR=3.1							
NOA	**NORSAR Array B**	**77.78**	**330**	P	P	06 46 04.6	-1.7
1.1nm,0.8s,baz=96,slow=5.1,SNR=2.5							

IDC 27 06:38:58.4±3.0, 7.73N×94.78E, mb3.6/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML4.2/1, Error ellipse: s-maj=97.4km s-min=28.8km az=68.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.41**	**20**	Pn	P	06 41 41.5	-4.3
0.5nm,0.3s,baz=215,slow=14,SNR=4.4							
SONM	**Songino Array**	**41.17**	**12**	P	P	06 46 45.2	-0.9
0.7nm,0.8s,baz=191,slow=7.3,SNR=5.3							
ZAL	**Zalesovo**	**46.78**	**352**	P	P	06 47 29.3	-2.1
1.9nm,1.0s,baz=280,slow=7.8,SNR=6.8							
WRA	**Warramunga Arr**	**47.66**	**126**	P	P	06 47 36.7	-2.1
0.3nm,0.6s,baz=304,slow=9.1,SNR=3.4							

IDC 27 06:40:49.4±1.1, 7.66N×93.90E, mb3.8/5, mb1 4.1/6, mb1mx3.9/18, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=51.8km s-min=23.6km az=51.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.80**	**24**	Pn	P	06 43 39.6	-2.5
0.1nm,0.3s,baz=210,slow=14,SNR=3.5							
ZAL	**Zalesovo**	**46.73**	**353**	P	P	06 49 20.0	-2.0
1.2nm,0.5s,baz=295,slow=4.8,SNR=3.8							
WRA	**Warramunga Arr**	**48.33**	**125**	P	P	06 49 32.2	-2.8
0.6nm,0.6s,baz=304,slow=8.7,SNR=5.8							
ASAR	**Alice Springs**	**49.96**	**130**	P	P	06 49 46.1	-1.4
1.0nm,0.8s,baz=312,slow=7.0,SNR=4.5							
BRTR	**Keskin Array B**	**62.39**	**311**	P	P	06 51 13.8	-2.7
0.6nm,0.6s,baz=82,slow=10,SNR=3.0							
GERES	**GERESS Array B**	**77.83**	**318**	P	P	06 52 49.3	-1.1
0.8nm,0.6s,baz=79,slow=6.8,SNR=4.9							
TXAR	**Lajitas Array**	**139.52**	**24**	PKiKP		07 00 22.0	
0.1nm,0.5s,baz=338,slow=1.5,SNR=4.6							
PLCA	**Paso Flores**	**144.26**	**200**	PKP	PKPdf	07 00 28.8	-0.7
1.6nm,0.7s,baz=230,slow=6.7,SNR=4.3							

IDC 27 06:43:22.1±14.0, 1.96S×126.26E, mb4.1/2, mb1 4.4/3, mb1mx4.0/15, mbtmp4.3/3, ML4.5/1, 1C, Error ellipse: s-maj=217.8km s-min=151.1km az=145.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.54**	**157**	P	P	06 47 51.4	-2.9
1.5nm,0.3s,baz=335,slow=11,SNR=86							
WB2	**Warramunga Arr**	**19.55**	**157**	⇑*i*P	P	06 47 51.9	-2.4
ASAR	**Alice Springs**	**22.82**	**162**	P	P	06 48 26.6	-1.4
3.6nm,0.4s,baz=344,slow=12,SNR=37							
ASPA	**Alice Springs**	**22.82**	**162**	*eP*	P	06 48 26.4	-1.7
STKA	**Stephens Creek**	**33.09**	**156**	P	P	06 50 00.2	-1.8
1.3nm,0.5s,baz=319,slow=10,SNR=4.0							

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*IDC **27** 06:44:04.4±0.9, 7.86N×94.07E, mb4.1/7, mb1 4.2/7, mb1mx4.0/18, mbtmp4.1/7, Error ellipse: s-maj=44.2km s-min=21.8km az=44.0*
ISC 27 06:44:07.8±0.8, 7.9N±0.2×94.2E±0.2, h33km, n8, σ0§65/8, mb4.1/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAD	**Karad**	**21.64**	**298**	*eP*	P	**06 48 58.5**	**+1.2**
ZAL	**Zalesovo**	**46.57**	**352**	P	P	**06 52 33.7**	**-0.5**
1.4nm,0.7s,mb4.0,baz=283,slow=8.7,SNR=5.1							
WRA	**Warramunga Arr**	**48.22**	**126**	P	P	**06 52 47.6**	**0.0**
1.0nm,0.5s,mb4.1,baz=303,slow=8.7,SNR=5.4							
ASAR	**Alice Springs**	**49.87**	**130**	P	P	**06 53 00.7**	**+0.4**
0.7nm,0.6s,mb3.8,baz=299,slow=8.1,SNR=3.1							
KMBO	**Kilima Mbogo**	**57.46**	**264**	P	P	**06 53 55.2**	**-1.1**
2.5nm,0.6s,mb4.4,baz=66,slow=10,SNR=6.9							
FINES	**FINESS Array B**	**72.75**	**332**	P	P	**06 55 33.9**	**-0.3**
3.9nm,1.0s,mb4.3,baz=90,slow=5.6,SNR=3.3							
GERES	**GERESS Array B**	**77.87**	**318**	P	P	**06 56 04.3**	**+0.4**
1.0nm,0.6s,mb3.9,baz=90,slow=5.3,SNR=5.5							
DAVOX	**Davos**	**80.43**	**316**	P	P	**06 56 17.7**	**-0.1**
1.7nm,0.7s,mb4.1,baz=113,slow=7.7,SNR=4.2							

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*BJI **27** 06:44:40.3, 7.65N×93.76E, h44km, mB4.7, mb4.6, Ms5.0, Msz4.6*
*NEIC **27** 06:44:41.1±0.3, 7.83N×94.07E, h30km, mb4.8/13, Error ellipse: s-maj=8.6km s-min=6.7km az=56.0*
*IDC **27** 06:44:42.7±4.3, 7.86N×94.03E, h43km±39km, mb4.2/21, mb1 4.3/22, mb1mx4.3/26, mbtmp4.4/22, ML4.5/1, Error ellipse: s-maj=26.7km s-min=11.9km az=47.0, Putative timing error at LPAZ*
ISC 27 06:44:39.3±0.4, 7.79N±0.06×94.06E±0.05, h30km, n63, σ1§01/57, mb4.7/39, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang

comp=N,1.9nm,0.6s,mb4.3,baz=89,slow=4.8,SNR=6.9
IDI Anoyia 68.55 305 P **P** **06 55 41.2 -0.3**
comp=N,15nm,0.7s,mb5.0,baz=111,slow=2.9,SNR=5.4
LSZ Lusaka 69.16 250 P **P** **06 55 44.9 -0.7**
MLR Muntele Rosu 69.18 316 P **P** **06 55 44.8 -0.4**
comp=N,4.1nm,0.7s,mb4.5,baz=126,slow=6.0,SNR=5.2
JOF Joensuu 70.89 334 *ep* **P** **06 55 54.0 -1.4**
comp=N,6.4nm,0.7s,mb4.7
FINES FINESS Array B 72.75 332 P **P** **06 56 06.3 -0.2**
comp=N,5.3nm,0.7s,mb4.6,baz=104,slow=7.9,SNR=12
KAF Kangasniemi 72.83 333 *ep* **P** **06 56 06.0 -0.9**
comp=N,12nm,1.0s,mb4.8
KEV Kevo 74.89 341 *ep* **P** **06 56 23.6 +4.9**
comp=N,18nm,0.9s,mb5.0
ARCES ARCESS Array B 75.32 340 P **P** **06 56 20.7 -0.5**
comp=N,3.6nm,0.9s,mb4.3,baz=76,slow=5.0,SNR=6.5
MORC Moravsky Berou 75.39 319 *eP* **P** **06 56 21.3 -0.6**
comp=N,21nm,1.5s,mb4.8
BOSA Boshof 75.47 238 P **P** **06 56 24.0 +1.1**
KSP Ksiaz 76.28 320 *eP* **P** **06 56 27.1 +0.1**
KSP *e* 06 56 33.2
BRG Berggiesshubel 77.77 320 *eP* **P** **06 56 36.4 +1.2**
comp=N,4.0nm,0.3s,mb4.8
GERES GERESS Array B 77.84 318 P **P** **06 56 35.4 -0.2**
comp=N,4.4nm,0.7s,mb4.5,baz=90,slow=5.3,SNR=20
KHC Kasperske Hory 77.93 319 *eP* **P** **06 56 36.0 -0.1**
CLL Collm 78.38 321 P **P** **06 56 41.0 +2.5**
GRA1 Grafenberg Arr 79.48 319 *eP* **P** **06 56 45.9 +1.3**
comp=N,10.0nm,1.0s,mb4.7
GRF Grafenberg Arr 79.48 319 *eP* **P** **06 56 45.9 +1.3**
comp=N,10.0nm,1.0s,mb4.7
NB2 NORSAR Subarra 79.77 331 P **P** **06 56 45.9 0.0**
comp=N,6.5nm,0.8s,mb4.6,baz=91,slow=5.8
NOA NORSAR Array B 79.77 331 P **P** **06 56 44.9 -1.0**
comp=N,3.4nm,0.7s,mb4.4,baz=93,slow=5.5,SNR=10.0
DAVOX Davos 80.39 316 P **P** **06 56 49.8 +0.3**
comp=N,6.2nm,0.7s,mb4.7,baz=118,slow=6.9,SNR=7.1
LPG La Plagne 82.62 315 *eP* **P** **06 57 02.7 +1.5**
comp=N,22nm,0.7s,mb5.0
ESDC Sonseca Array 91.21 310 P **P** **06 57 42.8 -0.4**
comp=N,0.4nm,0.4s,mb4.1,baz=80,slow=4.7,SNR=4.1
YKA Yellowknife Ar 106.53 13 PP PP 07 03 11.7 -8.1
NVAR Mina Array Bea 125.03 31 PKP PKPdf 07 03 39.7 -2.7
comp=N,1.6nm,0.8s,baz=78,slow=0.8,SNR=8.5
NVAR Mina Array Bea 125.03 31 PKP PKPdf 07 03 39.7 -2.7
PDAR Pinedale Array 125.28 21 PKP PKPdf 07 03 39.2 -3.5
comp=N,1.8nm,0.8s,baz=26,slow=1.5,SNR=14
TXAR Lajitas Array 139.34 24 PKiKP 07 04 09.5
comp=N,0.5nm,0.7s,baz=216,slow=1.2,SNR=6.0
TXAR Lajitas Array 139.34 24 PKPdf PKPdf 07 04 09.5 0.0
PLCA Paso Flores 144.44 200 PKP PKPdf 07 04 15.4 -2.7
comp=N,10nm,0.9s,baz=166,slow=3.7,SNR=16
LPAZ La Paz 160.66 242 PKP PKPdf 07 03 59.4 -43
comp=N,1.0nm,0.8s,baz=40,slow=6.7,SNR=4.9
LPAZ PKPab PKPab 07 04 40.8 -40
comp=N,0.8nm,0.9s,baz=68,slow=5.5,SNR=4.8

IDC 27 06:50:57.8±1.8, 7.80N×94.03E, mb4.0/6, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, Error ellipse: s-maj=50.0km s-min=47.9km az=85.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.26**	**13**	P	P	06 58 43.9	-2.4
	0.6nm,0.9s,baz=202,slow=7.8,SNR=2.7						
ZAL	**Zalesovo**	**46.61**	**352**	P	P	06 59 28.6	-0.8
	2.8nm,0.9s,baz=304,slow=8.8,SNR=4.3						
BRTR	**Keskin Array B**	**62.40**	**311**	P	P	07 01 22.3	-2.6
	1.0nm,0.8s,baz=119,slow=7.3,SNR=2.7						
FINES	**FINESS Array B**	**72.73**	**332**	P	P	07 02 28.5	-0.9
	2.7nm,0.9s,baz=153,slow=4.3,SNR=3.8						
GERES	**GERESS Array B**	**77.81**	**318**	P	P	07 02 57.5	-1.2
	2.5nm,0.9s,baz=90,slow=5.3,SNR=6.6						
NOA	**NORSAR Array B**	**79.75**	**331**	P	P	07 03 06.9	-2.1
	1.2nm,0.8s,baz=92,slow=5.7,SNR=3.7						
NVAR	**Mina Array Bea**	**125.04**	**31**	PKP	PKPdf	07 10 00.6	-1.9
	0.7nm,0.9s,baz=315,slow=1.3,SNR=3.8						
PDAR	**Pinedale Array**	**125.28**	**21**	PKP	PKPdf	07 10 01.1	-1.7
	0.5nm,0.9s,baz=333,slow=3.3,SNR=4.1						
TXAR	**Lajitas Array**	**139.34**	**24**	PKP	PKPdf	07 10 28.3	-1.2
	0.2nm,0.6s,baz=225,slow=1.3,SNR=2.9						
PLCA	**Paso Flores**	**144.44**	**200**	PKP	PKPdf	07 10 36.0	-2.2
	2.0nm,1.1s,baz=244,slow=1.6,SNR=4.9						

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*IDC **27** 06:53:00.3±0.6, 7.98N×94.21E, mb4.4/20, mb1 4.5/21, mb1mx4.5/24, mbtmp4.4/21, ML4.4/1, Error ellipse: s-maj=25.8km s-min=14.1km az=51.0*
*NEIC **27** 06:53:04.9±0.3, 7.89N×94.21E, h30km, mb4.8/21, Error ellipse: s-maj=9.5km s-min=7.3km az=54.0*
*BJI **27** 06:53:06.3, 8.17N×93.43E, h22km, mB5.1, mb4.7, Ms5.2, Msz4.8*

ISC 27 06:53:03.6±0.4, 7.82N±0.07×94.19E±0.07, h33km, n86, σ1§13/72, mb4.7/46, MS4.8/1, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.54**	**23**	Pn	**P**	**06 55 46.4**	**-2.6**
	0.7nm,0.3s,baz=209,slow=14,SNR=3.8						
HYB	**Hyderabad**	**17.98**	**304**	*eP*	**P**	**06 57 14.0**	**+1.3**
	40nm,1.0s						
HYB	**Hyderabad**	**17.98**	**304**	*i* P	**P**	**06 57 14.0**	**+1.3**
	40nm,1.0s						
KMI	**Kunming**	**19.04**	**24**	P	**P**	**06 57 32.0**	**+6.3**
	38nm,1.4s						
KMI				S	**S**	**07 01 06.9**	**+14**
JIRN	**Jiri**	**21.13**	**340**	*eP*	**P**	**06 57 47.9**	**-0.1**
	167nm,1.0s,mb5.3						
PKI	**Pulchoki**	**21.33**	**338**	*eP*	**P**	**06 57 51.5**	**+1.6**
	271nm,1.3s,mb5.4						
GUN	**Gumba**	**21.47**	**340**	*eP*	**P**	**06 57 51.2**	**-0.1**
	149nm,0.9s,mb5.3						
DMN	**Daman**	**21.48**	**338**	*eP*	**P**	**06 57 52.2**	**+0.8**
	144nm,0.9s,mb5.3						
KKN	**Kakani**	**21.57**	**338**	*eP*	**P**	**06 57 52.0**	**-0.4**
LSA	**Lhasa**	**21.95**	**353**	*eP*	**P**	**06 57 57.2**	**+1.1**
	37nm,0.8s,mb4.9						
GKN	**Gorkha**	**22.01**	**337**	*eP*	**P**	**06 57 55.0**	**-1.7**
	178nm,0.9s,mb5.5						
KOLN	**Koldanda**	**22.23**	**335**	*eP*	**P**	**06 57 59.5**	**+0.6**
	126nm,0.9s,mb5.4						
ENH	**Enshi**	**26.54**	**31**	*eP*	**P**	**06 58 40.3**	**-0.1**
	28nm,1.0s,mb4.8						
WHN	**Wuhan**	**29.45**	**37**	P	**P**	**06 59 09.0**	**+2.4**
LZH	**Lanzhou**	**29.48**	**16**	*eP*	**P**	**06 59 10.0**	**+3.2**
LZH				AP	pP	06 59 20.0	+3.6
LZH				XP	sP	06 59 23.5	+2.7
LZH				AMB	AMB		
	comp=Z,23nm,1.1s,mb4.8						
LZH	**Lanzhou**	**29.48**	**16**	*eP*	**P**	**06 59 10.1**	**+3.3**
	comp=Z,23nm,1.1s,mb4.8						
LZH				pP	pP	06 59 19.9	+3.5
LZH				sP	sP	06 59 23.6	+2.8
WMQ	**Urumqi**	**36.30**	**352**	P	**P**	**07 00 06.3**	**+0.3**
BJI	**Beijing**	**37.63**	**28**	*eP*	**P**	**07 00 21.0**	**+3.8**
	comp=Z,9.0nm,1.5s,mb4.3						
AAK	**Ala-Archa**	**38.77**	**337**	*eP*	**P**	**07 00 25.3**	**-1.4**
	comp=Z,5.6nm,0.5s,mb4.5						
SONM	**Songino Array**	**41.20**	**12**	P	**P**	**07 00 46.1**	**-0.7**
	comp=Z,3.9nm,0.8s,mb4.1,baz=202,slow=5.0,SNR=16						
ULN	**Ulaanbaatar**	**41.37**	**13**	*eP*	**P**	**07 00 48.3**	**+0.1**
	comp=Z,4.3nm,0.9s,mb4.1						
SNY	**Shenyang**	**42.69**	**33**	⇑P	pP	07 01 06.5	-2.4
SNY				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
SNY				LR	LR		
	comp=N,770nm,17.6s						
SNY				LR	LR		
	comp=Z,940nm,15.1s,MS4.8						
KURK	**Kurchatov**	**44.67**	**346**	*eP*	**P**	**07 01 14.8**	**-0.2**
	comp=Z,26nm,1.1s,mb5.0						
NWAO	**Narrogin (SRO)**	**46.08**	**153**	P	**P**	**07 01 26.6**	**+0.1**
	comp=Z,16nm,1.2s,mb4.8,baz=324,slow=13,SNR=2.7						
HIA	**Hailar**	**46.55**	**23**	*eP*	**P**	**07 01 28.0**	**-1.8**
	comp=Z,12nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**48.19**	**126**	P	**P**	**07 01 42.9**	**-0.3**
	comp=Z,1.6nm,0.5s,mb4.3,baz=305,slow=9.0,SNR=9.3						
WRAB	**Tennant Creek**	**48.20**	**126**	*eP*	**P**	**07 01 42.4**	**-0.8**
BVAR	**Borovoye Array**	**49.05**	**341**	P	**P**	**07 01 47.3**	**-2.0**
	comp=Z,5.2nm,1.0s,mb4.5,baz=149,slow=8.6,SNR=9.7						
BRVK	**Borovoye**	**49.11**	**341**	*eP*	**P**	**07 01 48.9**	**-1.0**
	comp=Z,7.4nm,1.0s,mb4.7						
RAYN	**Ar Rayn**	**49.15**	**294**	P	**P**	**07 01 51.3**	**+0.8**
	comp=Z,114nm,0.8s,mb6.0,SNR=18						
ASAR	**Alice Springs**	**49.85**	**130**	P	**P**	**07 01 55.2**	**-0.7**
	comp=Z,2.4nm,0.9s,mb4.2,baz=304,slow=7.0,SNR=7.7						
GNI	**Garni**	**54.51**	**314**	P	**P**	**07 02 30.3**	**-0.3**
	comp=Z,3.0nm,0.6s,mb4.5,baz=246,slow=16,SNR=4.7						
GNI	**Garni**	**54.51**	**314**	*eP*	**P**	**07 02 29.9**	**-0.6**
	comp=Z,22nm,1.1s,mb5.1						
KMBO	**Kilima Mbogo**	**57.46**	**264**	P	**P**	**07 02 53.8**	**+1.6**
	comp=Z,9.2nm,1.1s,mb4.7,baz=52,slow=9.6,SNR=9.4						
MALT	**Malatya**	**58.53**	**310**	*eP*	**P**	**07 02 58.0**	**-1.3**
	comp=Z,8.1nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**60.04**	**134**	P	**P**	**07 03 10.8**	**+1.0**
	comp=Z,2.6nm,0.7s,mb4.4,baz=325,slow=9.4,SNR=3.7						
BRTR	**Keskin Array B**	**62.50**	**311**	P	**P**	**07 03 23.9**	**-2.4**
	comp=Z,2.3nm,0.7s,mb4.4,baz=121,slow=7.2,SNR=6.8						
MBAR	**Mbarara**	**63.80**	**265**	*eP*	**P**	**07 03 33.7**	**-1.7**
	comp=Z,8.2nm,1.2s,mb4.6						
AKASG	**Malin Array Be**	**68.22**	**322**	P	**P**	**07 04 00.7**	**-2.2**
	comp=Z,7.9nm,1.1s,mb4.7,baz=96,slow=4.2,SNR=6.6						
MLR	**Muntele Rosu**	**69.24**	**316**	P	**P**	**07 04 09.0**	**-0.3**
	comp=Z,15nm,1.1s,mb4.8,baz=59,slow=8.8,SNR=4.8						
LSZ	**Lusaka**	**69.30**	**250**	*eP*	**P**	**07 04 09.6**	**-0.5**
	comp=Z,16nm,1.4s,mb4.7						
JOF	**Joensuu**	**70.91**	**334**	*ep*	**P**	**07 04 18.2**	**-1.0**
	comp=Z,7.5nm,0.8s,mb4.7						
KWP	**Kalwaria**	**72.10**	**320**	*eP*	**P**	**07 04 30.8**	**+4.4**
KOLS	**Kolonicke sedl**	**72.27**	**319**	*e*	pP	07 04 33.6	-4.2
SUW	**Suwalki**	**72.57**	**324**	*eP*	**P**	**07 04 32.8**	**+3.6**
SUW	**Suwalki**	**72.57**	**324**	*eP*	**P**	**07 04 32.8**	**+3.6**
FINES	**FINESS Array B**	**72.78**	**332**	P	**P**	**07 04 30.2**	**-0.1**
	comp=Z,4.0nm,0.7s,mb4.5,baz=90,slow=7.4,SNR=10						
FINES	**FINESS Array B**	**72.78**	**332**	P	**P**	**07 04 30.2**	**-0.1**
CRVS	**Cervenica-Dubn**	**72.80**	**319**	*e*	pP	07 04 36.5	-4.4
KAF	**Kangasniemi**	**72.86**	**333**	*ep*	**P**	**07 04 30.2**	**-0.5**
	comp=Z,7.3nm,0.6s,mb4.8						
OJC	**Ojcow**	**74.04**	**320**	*eP*	**P**	**07 04 42.3**	**+4.4**
VYHS	**Vyhne**	**74.48**	**318**	*eP*	**P**	**07 04 44.5**	**+4.1**
VYHS	**Vyhne**	**74.48**	**318**	*e*	**P**	**07 04 44.5**	**+4.1**
KEV	**Kevo**	**74.90**	**341**	*ep*	**P**	**07 04 43.8**	**+1.3**
	comp=Z,11nm,1.0s,mb4.8						
OKC	**Ostrava-Krasne**	**75.06**	**319**	*eP*	pP	07 04 49.4	-4.7
ARCES	**ARCESS Array B**	**75.33**	**340**	P	**P**	**07 04 44.4**	**-0.5**
	comp=Z,1.5nm,0.4s,mb4.2,baz=90,slow=4.9,SNR=13						
MORC	**Moravsky Berou**	**75.44**	**319**	*eP*	**P**	**07 04 45.6**	**-0.4**
	comp=Z,18nm,1.1s,mb4.9						
ZST	**Bratislava**	**75.60**	**318**	*i* P	pP	07 04 53.3	-3.9
ZST	**Bratislava**	**75.60**	**318**	*i*	pP	07 04 53.3	-3.9
DPC	**Dobruska-Polom**	**76.28**	**320**	*eP*	**P**	**07 04 51.3**	**+0.6**
KSP	**Ksiaz**	**76.33**	**320**	*eP*	**P**	**07 04 51.6**	**+0.6**
KSP				*e*		07 04 56.6	
KSP	**Ksiaz**	**76.33**	**320**	*eP*	pP	07 04 57.0	-4.3
UPC	**Upice**	**76.48**	**320**	*eP*	**P**	**07 04 52.6**	**+0.7**
PRU	**Pruhonice**	**77.39**	**319**	*eP*	pP	07 05 02.6	-4.8
BRG	**Berggiesshubel**	**77.82**	**320**	*eP*	**P**	**07 05 03.4**	**+4.1**
	comp=Z,22nm,1.4s,mb4.9						
GERES	**GERESS Array B**	**77.89**	**318**	P	**P**	**07 04 59.7**	**-0.1**
	comp=Z,7.0nm,1.1s,mb4.5,baz=90,slow=5.3,SNR=12						
KHC	**Kasperske Hory**	**77.99**	**319**	*eP*	**P**	**07 05 00.8**	**+0.5**
CLL	**Collm**	**78.43**	**321**	*eP*	pP	07 05 09.0	-4.0
CLL	**Collm**	**78.43**	**321**	*e**PP	pP	07 05 09.0	-4.0
HFS	**Hagfors**	**78.52**	**330**	P	**P**	**07 05 02.2**	**-0.8**
	comp=Z,2.8nm,0.5s,mb4.5,baz=101,slow=7.3,SNR=5.9						
MOX	**Moxa**	**79.29**	**320**	*eP*	**P**	**07 05 12.0**	**+4.6**
GRA1	**Grafenberg Arr**	**79.54**	**319**	*eP*	**P**	**07 05 10.0**	**+1.3**
GRF	**Grafenberg Arr**	**79.54**	**319**	*eP*	**P**	**07 05 10.0**	**+1.3**
NB2	**NORSAR Subarra**	**79.80**	**331**	P	**P**	**07 05 09.6**	**-0.3**
	comp=Z,4.1nm,0.8s,mb4.4,baz=91,slow=5.8						
NOA	**NORSAR Array B**	**79.80**	**331**	P	**P**	**07 05 09.4**	**-0.5**
	comp=Z,2.8nm,0.9s,mb4.2,baz=96,slow=5.5,SNR=7.0						
DAVOX	**Davos**	**80.46**	**316**	P	**P**	**07 05 13.9**	**+0.1**
	comp=Z,5.4nm,0.8s,mb4.5,baz=127,slow=10,SNR=3.6						
LPG	**La Plagne**	**82.69**	**315**	*eP*	**P**	**07 05 26.1**	**+0.8**
	comp=Z,32nm,1.1s,mb5.0						
ESDC	**Sonseca Array**	**91.29**	**310**	P	**P**	**07 06 08.9**	**+1.6**
	comp=Z,0.9nm,0.6s,mb4.2,baz=92,slow=4.2,SNR=3.5						
IMA	**Indian Mountai**	**91.65**	**22**	*eP*	**P**	**07 06 09.6**	**+1.2**
ILAR	**Eielson Array**	**94.77**	**22**	P	**P**	**07 06 22.9**	**+0.2**
	comp=Z,0.3nm,0.8s,mb3.8,baz=330,slow=3.5,SNR=4.0						
INK	**Inuvik**	**97.03**	**16**	P	**P**	**07 06 33.3**	**+0.4**
	comp=Z,1.7nm,1.0s,mb4.4,baz=16,slow=6.5,SNR=2.9						
NVAR	**Mina Array Bea**	**124.94**	**31**	PKP	PKPdf	07 12 04.4	+3.5
	comp=Z,0.6nm,0.7s,baz=302,slow=3.9,SNR=4.1						
PDAR	**Pinedale Array**	**125.20**	**21**	PKP	PKPdf	07 12 03.5	+2.2
	comp=Z,1.5nm,1.0s,baz=270,slow=1.5,SNR=5.4						
TXAR	**Lajitas Array**	**139.25**	**24**	PKP	PKPdf	07 12 30.8	+2.8
	comp=Z,0.4nm,0.6s,baz=193,slow=1.5,SNR=5.1						
JCT	**Junction City**	**139.62**	**19**	*e*PKP	PKPdf	07 12 30.2	+1.5
PLCA	**Paso Flores**	**144.52**	**200**	PKP	PKPdf	07 12 38.9	+2.0
	comp=Z,3.5nm,0.9s,baz=4.1,slow=3.8,SNR=5.0						

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*IDC **27** 06:56:53.0±0.4, 8.02N×94.23E, mb5.1/28, mb1 5.2/29, mb1mx5.2/30, mbtmp5.1/29, ML4.8/1, MS5.2/24, Ms1 5.2/24, ms1mx5.0/30, Error ellipse: s-maj=21.7km s-min=10.7km az=45.0, Putative timing error at LPAZ*
*MOS **27** 06:56:57.5±1.1, 8.03N×94.01E, h33km, mb5.8/91, MS5.2/35, Error ellipse: s-maj=7.9km s-min=4.1km az=118.9*
*BJI **27** 06:56:57.3, 7.75N×93.75E, h56km, mB5.7, mb5.2, Ms5.6, Msz5.3*
*HRVD **27** 06:56:59.2±0.2, 7.92N×94.17E, h18km±1km, MW5.5/71, Centroid moment Tensor Solution. LP body waves: s48,c78;Mantle waves: s71,c139; Half duration: 1§4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.55±.05; $M_{\theta\theta}$-0.90±.05; $M_{\phi\phi}$1.45±.06; $M_{r\theta}$-0.44±.12; $M_{\theta\phi}$2.08±.04; $M_{\phi r}$0.12±.12; Best double couple: $M_0$2.45×10^{17} NP1: ϕ_s166°, δ78°, λ-171°. NP2:ϕ_s74°, δ81°, λ-12°. Principal axes: T 2.667, Plg2°, Azm120°; N -.439, Plg75°, Azm219°; P -2.232, Plg15°, Azm30°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 06:56:59.2±1.1, 7.94N×94.06E, h38km±9km, mb5.5/116, MS5.2/35, MW5.7 Error ellipse: s-maj=6.3km s-min=4.1km az=47.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^{17}Nm; M_{rr}0.42; $M_{\theta\theta}$-1.53; $M_{\phi\phi}$1.11; $M_{r\theta}$-0.55; $M_{\theta\phi}$3.06; $M_{\phi r}$0.01; Best double couple: $M_0$3.4×10^{17} NP1: ϕ_s168°, δ81°, λ-180°. NP2:ϕ_s78°, δ90°, λ-9°. Principal axes: T 3.15, Plg6°, Azm124°; N .45, Plg81°, Azm257°; P -3.59, Plg7°, Azm33°;*
NEIC Felt on Camorta.

ISC 27 06:56:55.0±0.2, 7.94N±0.03×94.10E±0.03, h20km, h20km±2.4km: pP-P, n521, σ1§08/458, mb5.5/161, MS5.2/78, 50C-15D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.93**	**340**	*e*PB	**Pb**	**06 57 58.5**	**-4.9**
PBA				⇓*i*PG	**Pn**	**06 58 03.9**	**+8.2**
PBA				*e*SB	**Sb**	**06 58 41.9**	**-9.1**
PBA				*i* SG	**Sn**	**06 58 51.8**	**+10**
PBA				*e*		06 59 00.5	
	comp=N,930nm,1.0s						
PBA				*e*		06 59 02.9	
	comp=E,4μm,1.7s						
CM31	**Chiang Mai Arr**	**11.47**	**24**	*eP*	**P**	**06 59 41.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**11.47**	**24**	Pn	**P**	**06 59 41.0**	**0.0**
	comp=E,2.1nm,0.3s,baz=211,slow=14,SNR=36						
CMAR				LR	LR	07 04 17.3	
	comp=E,9μm,18.7s,baz=205,slow=39						
CHG	**Chiang Mai**	**11.79**	**23**	⇑P	**P**	**06 59 46.2**	**+0.9**
	comp=E,109nm,1.0s						
CHG				S	Sx	07 02 46.8	
KKTK	**Khon Kaen**	**11.93**	**45**	P	**P**	**06 59 49.0**	**+1.8**
UBT	**Ubonrachathani**	**12.93**	**55**	P	**P**	**07 00 00.0**	**-0.5**
CHRT	**Chiangrai**	**13.08**	**24**	⇑P	**P**	**07 00 04.0**	**+1.5**
	comp=E,495nm,1.2s						
PALK	**Pallekele**	**13.29**	**268**	*eP*	**P**	**06 59 57.8**	**-7.6**
	comp=E,43nm,1.0s						
VIS	**Vishakhapatnam**	**14.30**	**314**	*eP*	**P**	**07 00 16.7**	**-2.0**
VIS				*e*		07 00 25.2	
	comp=Z,322nm,1.3s						
VIS				*e*		07 02 37.4	
MDRS	**Chennai**	**14.54**	**292**	*eP*	**P**	**07 00 24.0**	**+2.1**
MDRS				*e*		07 00 26.7	
	comp=Z,117nm,0.3s						
MDRS				*e*		07 02 43.4	
BWNR	**Bhubaneshwar**	**14.67**	**328**	*eP*	**P**	**07 00 20.8**	**-2.8**
BWNR				*e*		07 00 32.5	
	comp=Z,394nm,1.1s						
BWNR				*e*		07 02 50.3	
SALM	**Salem**	**16.09**	**285**	*eP*	**P**	**07 00 43.0**	**+1.0**
KOD	**Kodaikanal**	**16.58**	**279**	*e*	**P**	**07 00 53.8**	**+5.6**
KOD				*e*		07 00 56.3	
	comp=Z,230nm,1.2s						
TRD	**Trivandrum**	**16.97**	**273**	*e*P	**P**	**07 00 55.9**	**+2.7**
TRD				*e*		07 01 11.9	
	comp=Z,118nm,1.2s						
BOK	**Bokaro**	**17.62**	**334**	*e*P	**P**	**07 01 01.8**	**+0.5**
BOK				*e*		07 01 10.0	
	comp=Z,402nm,1.3s						
BOK				*e*		07 04 10.8	
SHL	**Shillong**	**17.66**	**353**	*e*P	**P**	**07 01 00.1**	**-1.6**
SHL				*e*		07 01 08.8	
	comp=Z,4μm,1.6s						
SHL				*e*		07 04 26.0	
HYB	**Hyderabad**	**17.84**	**303**	*e*P	**P**	**07 01 04.0**	**0.0**
HYB				pmax	pmax		
	comp=Z,243nm,1.2s						
HYB	**Hyderabad**	**17.84**	**303**	*i* P	**P**	**07 01 04.0**	**0.0**
	comp=Z,243nm,1.2s						
HYB				*e*S	**S**	**07 04 20.5**	**+0.7**
HYB				LR	LR	07 07 00.0	
	comp=Z,9.2nm,20.0s						
BLSP	**Bilaspur**	**18.22**	**322**	*e*P	**P**	**07 01 08.4**	**-0.3**
BLSP				*e*		07 01 11.2	
	comp=Z,262nm,1.6s						
QIZ	**Qiongzhong**	**18.85**	**53**	P	**P**	**07 01 18.5**	**+2.1**
QIZ				S	**S**	**07 04 44.0**	**+1.4**
QIZ				AMB	AMB		
	comp=Z,183nm,1.4s						
QIZ				AMB	AMB		
	comp=Z,3μm,6.7s						
QIZ				LR	LR		
	comp=N,30μm,14.2s						
QIZ				LR	LR		
	comp=Z,7μm,15.6s						
QIZ	**Qiongzhong**	**18.85**	**53**	*e*P	**P**	**07 01 18.7**	**+2.3**
	comp=Z,400nm,1.4s						
KMI	**Kunming**	**18.98**	**25**	⇑P	**P**	**07 01 22.0**	**+4.1**
KMI				S	**S**	**07 04 48.6**	**+3.2**
KMI				pmax	pmax		
	comp=Z,105nm,1.7s						
KMI	**Kunming**	**18.98**	**25**	⇑P	**P**	**07 01 22.0**	**+4.1**
	comp=Z,105nm,1.7s						
KMI				pP		07 01 29.5	
KMI				sP		07 01 36.8	
KMI				PP	PP	07 01 40.7	+6.2
KMI				S	**S**	**07 04 48.6**	**+3.2**
KMI				sS		07 05 03.1	
KMI				SS	SS	07 05 15.8	+4.8
COCO	**West Island**	**20.18**	**172**	*e*P	**P**	**07 01 32.8**	**+1.3**
	comp=Z,795nm,1.2s						
ALBI	**Allahabad**	**20.88**	**327**	*e*P	**P**	**07 01 37.5**	**-1.0**
JIRN	**Jiri**	**20.99**	**340**	*e*P	**P**	**07 01 39.1**	**-0.6**
	comp=Z,1μm,1.0s						
PKI	**Pulchoki**	**21.19**	**338**	*e*P	**P**	**07 01 41.2**	**-0.5**
	comp=Z,893nm,1.0s,mb6.1						
GOA	**Goa**	**21.21**	**293**	*e*		07 01 51.0	
GOA				*e*		07 01 53.3	
	comp=Z,314nm,1.0s						
GOA				*e*		07 05 48.1	
GUN	**Gumba**	**21.33**	**340**	*e*P	**P**	**07 01 41.9**	**-1.3**
	comp=Z,2μm,1.1s,mb6.3						
DMN	**Daman**	**21.34**	**338**	*e*P	**P**	**07 01 42.8**	**-0.4**
	comp=Z,848nm,0.9s,mb6.1						
KKN	**Kakani**	**21.43**	**338**	*e*P	**P**	**07 01 43.5**	**-0.7**
	comp=Z,1μm,1.3s,mb6.1						
KAD	**Karad**	**21.53**	**298**	*e*P	**P**	**07 01 46.1**	**+0.9**
KAD				*e*		07 01 48.8	
	comp=Z,229nm,1.2s						
LSA	**Lhasa**	**21.82**	**353**	P	**P**	**07 01 47.5**	**-0.6**
LSA				S	**S**	**07 05 37.8**	**-5.6**
LSA				PCS		07 09 27.3	
LSA				LR	LR		
	comp=N,82μm,15.5s						
LSA				LR	LR		
	comp=E,74μm,14.4s						
LSA				LR	LR		
	comp=Z,84μm,15.5s,MS6.3						
LSA	**Lhasa**	**21.82**	**353**	*e*P	**P**	**07 01 47.6**	**-0.5**
LSA				pmax	pmax		
	comp=Z,215nm,0.9s,mb5.6						
LSA	**Lhasa**	**21.82**	**353**	*e*P	**P**	**07 01 47.6**	**-0.5**
	comp=Z,215nm,0.9s,mb5.6						
GKN	**Gorkha**	**21.87**	**337**	*e*P	**P**	**07 01 48.3**	**-0.3**
	comp=Z,2μm,1.2s,mb6.3						
BHPL	**Bhopal**	**22.08**	**315**	*e*P	**P**	**07 01 52.0**	**+1.3**
BHPL				*e*		07 01 57.9	
	comp=Z,653nm,1.5s						
BHPL				*e*		07 05 46.6	
KOLN	**Koldanda**	**22.08**	**335**	*e*P	**P**	**07 01 51.1**

comp=Z,6μm,11.8s,MS5.5
TIY Taiyuan 33.98 27 ⇑P P 07 03 36.0 -3.5
TIY S **S** **07 09 04.0 +1.6**
TIY LR LR
comp=N,7μm,14.0s
TIY LR LR
comp=Z,2μm,11.0s,MS5.2
SSE Sheshan 34.21 44 P P 07 03 41.3 -0.3
SSE S **S** **07 09 07.5 +1.4**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,269nm,5.4s
SSE LR LR
comp=N,2μm,19.1s,MS5.1
SSE LR LR
comp=E,2μm,19.0s,MS5.1
SSE LR LR
comp=Z,2μm,17.4s,MS4.8
SSE Sheshan 34.21 44 P P 07 03 41.3 -0.3
comp=Z,30nm,0.7s,mb5.3
SSE sP sP 07 03 53.9 +3.8
SSE S **S** **07 09 07.4 +1.3**
SSE sS 07 09 22.9
SSE LR LR
comp=Z,2μm,17.4s,MS4.8
TIA Tai'an 35.12 33 eP P 07 03 49.8 +0.4
TIA S **S** **07 09 26.0 +5.8**
TIA LR LR
comp=N,1μm,15.0s,MS5.2
TIA LR LR
comp=E,3μm,14.2s,MS5.2
WMQ Urumqi 36.18 352⇑iP P 07 03 59.3 +1.1
WMQ AP pP 07 04 09.0 +4.8
WMQ XP sP 07 04 12.8 +6.1
WMQ PP PP 07 05 21.8 +0.8
WMQ PCP PcP 07 06 25.0 +1.1
WMQ S **S** **07 09 35.8 -0.6**
WMQ AMB AMB
comp=Z,200nm,1.0s,mb6.0
WMQ AMB AMB
comp=Z,1μm,4.9s
WMQ LR LR
comp=N,4μm,17.4s,MS5.3
WMQ LR LR
comp=E,3μm,17.1s,MS5.3
WMQ LR LR
comp=Z,5μm,17.5s,MS5.4
WBK Wadi Bani Khal 36.77 297 ⇑P P 07 04 07.0 +3.6
JOW Kunigami 37.45 56 LR LR 07 22 00.8
comp=Z,3μm,18.5s,MS5.1,baz=285,slow=40
JMDO Jabal Madar 37.46 297 ⇓P P 07 04 11.6 +2.3
BJT Baijiatuau 37.55 28 eP P 07 04 11.3 +1.5
BJT pmax pmax
comp=Z,195nm,1.4s
BJT Baijiatuau 37.55 28 eP P 07 04 11.3 +1.5
comp=Z,195nm,1.4s,mb5.6
BJI Beijing 37.57 28 P P 07 04 11.6 +1.6
BJI *SP sP 07 04 28.3 +10
BJI 07 05 39.9
BJI S **S** **07 10 00.6 +2.8**
BJI pmax pmax
comp=Z,46nm,1.5s,mb5.0
BJI MLR MLR
comp=Z,3μm,21.9s,MS5.1
BJI Beijing 37.57 28 P P 07 04 11.6 +1.6
comp=Z,46nm,1.5s,mb5.0
BJI sP sP 07 04 28.3 +10
BJI PP PP 07 05 39.9 +1.3
BJI S **S** **07 10 00.6 +2.8**
BJI SS SS 07 12 52.8 +21
BJI LR LR
comp=Z,3μm,21.9s,MS5.1
SMDO Samad 37.71 298 ⇑P P 07 04 14.8 +3.4
BIDO Bidbid 37.79 298 ⇑P P 07 04 15.3 +3.4
KZA Kyzart 37.86 337 P P 07 04 12.8 +0.4
SNR=10
UCH Uchtor 38.28 336 P P 07 04 16.3 +0.4
SNR=12
MBWA Marble Bar 38.34 139 eP P 07 04 15.3 -1.3
comp=Z,100nm,1.6s,mb5.3
BSY Bisya 38.37 297 ⇑P P 07 04 19.9 +3.1
SNR=16
TKM2 Tokmak 2 38.45 338 P P 07 04 17.3 -0.1
SNR=12
KBK Karagaybulak 38.47 337 P P 07 04 18.3 +0.8
SNR=11
HOQ Hoqain 38.52 298 P P 07 04 21.3 +3.2
SNR=16
AML Almayashu 38.53 335 P P 07 04 18.5 +0.5
SNR=44
AAK Ala-Archa 38.63 337 P P 07 04 19.4 +0.5
SNR=20
AAK Ala-Archa 38.63 337 P P 07 04 19.3 +0.5
AAK pmax pmax
comp=Z,63nm,1.1s,mb5.3
AAK Ala-Archa 38.63 337 eP P 07 04 18.0 -0.8
comp=Z,86nm,1.1s,mb5.4
FRU Bishkek 38.75 337 eP P 07 04 19.0 -0.8
FRU *i* 07 05 56.0
FRU pmax pmax
comp=Z,160nm,1.8s,mb5.5
FRU MLR MLR
comp=Z,6μm,18.0s,MS5.5
CHMS Chumysh 38.84 337 P P 07 04 20.3 -0.3
SNR=14
EKS2 Erkin-Say 38.94 336 P P 07 04 22.1 +0.7
SNR=14
ARQ Araqi 39.14 297 P P 07 04 26.6 +3.4
SNR=12
USP Ospenovka 39.16 337 P P 07 04 22.9 -0.4
SNR=27
RBK Rabkut 39.98 288 ⇓P P 07 04 32.6 +2.3
MKAR Makanchi Array 40.02 347 *i* P P 07 04 29.4 -0.9
FITZ Fitzroy Crossi 40.49 130 eP P 07 04 33.2 -1.3
comp=Z,18nm,0.9s,mb4.8
ABTO Aybut 40.82 287 ⇑P P 07 04 39.5 +2.4
SNR=9.8
SONM Songino Array 41.11 13 P P 07 04 39.0 -0.2
comp=Z,25nm,1.2s,mb4.7,baz=200,slow=5.5,SNR=14
SONM PcP PcP 07 06 38.8 -0.6
comp=Z,5.4nm,0.8s,baz=200,slow=3.5,SNR=5.9
SONM ScP 07 10 27.2
comp=Z,1.4nm,1.1s,baz=196,slow=9.0,SNR=4.0
ULN Ulaanbaatar 41.28 13 eP P 07 04 40.7 0.0
ULN pmax pmax
comp=Z,27nm,1.1s,mb4.8
ULN Ulaanbaatar 41.28 13 eP P 07 04 40.2 -0.5
comp=Z,53nm,1.4s,mb5.0
KS15 Wonju Array Si 42.41 41 eP P 07 04 51.9 +1.8
SNY Shenyang 42.64 33 ⇑P P 07 04 53.8 +1.9
SNY AMB AMB
comp=Z,70nm,1.1s,mb5.3
SNY AMB AMB
comp=Z,390nm,5.3s
SNY LR LR
comp=N,930nm,11.7s
SNY LR LR
comp=Z,850nm,14.4s,MS4.8
ZAK Zakamensk 42.99 9 eP P 07 04 54.2 -0.5
ZAK *e* 07 06 41.4
TLY Talaya 44.31 9 P P 07 05 06.0 +0.6
comp=Z,63nm,0.9s,mb5.3,SNR=9.4
TLY Talaya 44.31 9 eP P 07 05 06.1 +0.7
TLY *e*S **S** **07 11 28.4 -9.4**
TLY *e*SS SS 07 15 03.3 +15
TLY pmax pmax
comp=Z,34nm,1.9s,mb4.8
TLY MLR MLR
comp=Z,1μm,15.0s,MS5.0
TLY Talaya 44.31 9 eP P 07 05 05.4 0.0
comp=Z,9.4nm,0.8s,mb4.6
KURK Kurchatov 44.54 346 *i* P P 07 05 06.8 -0.4
KURK pmax pmax
comp=Z,123nm,1.4s,mb5.5
KURK Kurchatov 44.54 346 eP P 07 05 06.6 -0.6
comp=Z,191nm,1.2s,mb5.8
MUN Mundaring 44.96 153 eP P 07 05 11.4 +0.5
comp=Z,64nm,0.9s,mb5.5
MUN Mundaring 44.96 153 eP P 07 05 11.4 +0.5
MUN pmax pmax
comp=Z,64nm,0.9s,mb5.5
KLBR Kellerberrin 45.35 151 eP P 07 05 14.2 +0.2
comp=Z,491nm,0.8s,mb6.4
NWAO Narrogin (SRO) 46.22 153 P P 07 05 20.0 -0.9
NWAO pmax pmax
comp=Z,70μm,1.0s
NWAO Narrogin (SRO) 46.22 153 P P 07 05 20.1 -0.7
comp=Z,42nm,0.8s,mb5.4,baz=325,slow=9.6,SNR=20
NWAO LR LR 07 23 44.8
comp=Z,11nm,18.3s,baz=158,slow=35
NWAO Narrogin (SRO) 46.22 153 eP P 07 05 19.4 -1.5
comp=Z,76nm,0.9s,mb5.6
HIA Hailar 46.48 23 eP P 07 05 23.2 +0.6
HIA pmax pmax
comp=Z,164nm,1.3s
HIA Hailar 46.48 23 eP P 07 05 23.2 +0.5
comp=Z,164nm,1.3s,mb5.8
NVS Novosibirsk 47.57 352 eP P 07 05 29.6 -1.6
NVS *e* 07 07 29.0
NVS *e*S **S** **07 12 17.5 -6.9**
NVS pmax pmax
comp=N,71nm,1.0s
NVS pmax pmax
comp=E,38nm,1.0s
NVS pmax pmax
comp=Z,144nm,1.0s,mb6.0
NVS smax
comp=N,560nm,1.9s
NVS smax
comp=E,109nm,1.9s
MDJ Mudanjiang 47.78 34 eP P 07 05 34.7 +1.7
comp=E,56nm,1.2s,mb5.5
VLA Vladivostok 48.20 37 eP P 07 05 37.0 +0.8
VLA *e* 07 07 29.0
VLA *e* 07 12 42.0
VLA *e* 07 15 21.0
VLA MLR MLR
comp=Z,4μm,14.0s,MS5.5
VLA MLR MLR
comp=E,3μm,13.0s,MS5.5
VLA MLR MLR
comp=N,1μm,11.0s,MS5.5
WRA Warramunga Arr 48.33 126 P P 07 05 35.6 -2.0
comp=N,12nm,0.8s,mb5.0,baz=304,slow=8.7,SNR=25
WRAB Tennant Creek 48.34 126 P P 07 05 36.0 -1.6
WRAB pmax pmax
comp=Z,61μm,1.0s
WRAB Tennant Creek 48.34 126 eP P 07 05 35.8 -1.9
comp=Z,79nm,1.0s,mb5.7
WRAB LR LR
comp=Z,495nm,19.0s,MS4.5
WB2 Warramunga Arr 48.34 126 eP P 07 05 35.6 -2.1
BVA0 Borovoye Array 48.91 341 P P 07 05 40.3 -1.3
BVA0 pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
BVAR Borovoye Array 48.91 341 P P 07 05 40.3 -1.3
comp=Z,8.8nm,0.9s,mb4.8,baz=143,slow=7.4,SNR=22
BVAR PcP PcP 07 07 06.6 +0.4
comp=Z,2.8nm,0.7s,baz=135,slow=4.1,SNR=2.5
BRVK Borovoye 48.98 341 eP P 07 05 41.1 -1.0
BRVK pmax pmax
comp=Z,23nm,0.9s,mb5.2
BRVK Borovoye 48.98 341 eP P 07 05 40.8 -1.3
comp=Z,33nm,1.0s,mb5.3
RAYN Ar Rayn 49.02 294 P P 07 05 44.3 +1.5
comp=Z,588nm,1.1s,mb6.5,SNR=73
JHJ Hachijo jima 2 49.05 53 LR LR 07 29 25.7
comp=Z,838nm,19.7s,MS4.7,baz=283,slow=40
MAJO Matsushiro 49.15 48 P P 07 05 40.0 -3.7
comp=Z,18nm,1.0s,mb5.1
MAT Matsushiro 49.15 48 eP P 07 05 46.0 +2.3
MAT pmax pmax
comp=Z,60nm,1.6s,mb5.4
MAT MLR MLR
comp=Z,2μm,20.0s,MS5.0
MAT Matsushiro 49.15 48 eP P 07 05 46.0 +2.3
comp=Z,60nm,1.6s,mb5.4
MAT *e*S tx 07 12 10.0
MAT LR LR
comp=Z,2μm,20.0s,MS5.0
MAT Matsushiro 49.15 48 P P 07 05 44.0 +0.3
CHKZ Chkalovo 49.40 342 P P 07 05 44.5 -0.8
CHKZ pmax pmax
comp=Z,79nm,1.0s,mb5.7
ASPA Alice Springs 49.99 130 eP P 07 05 49.3 -1.0
ASAR Alice Springs 49.99 130 P P 07 05 48.1 -2.2
comp=Z,9.2nm,0.9s,mb4.8,baz=304,slow=6.8,SNR=24
ASAR LR LR 07 30 11.5
comp=Z,1μm,18.2s,MS5.0,baz=295,slow=40
GUMO Guam 50.12 79 PFAKE 07 06 00.0 +8.6
GUMO LR LR
comp=Z,1μm,20.0s,MS4.9
FORT Forrest 50.41 141 eP P 07 05 53.1 -0.4
comp=Z,149nm,0.8s,mb6.1
KLR Kul'dur 51.85 31 eP P 07 06 02.0 -2.1
KLR MLR MLR
comp=E,4μm,13.5s
KLR MLR MLR
comp=Z,4μm,13.5s,MS5.7
BOD Bodaibo 52.10 13 eP P 07 06 04.8 -1.0
MSL Mosul 54.24 309 eP P 07 06 18.5 -3.4
GNI Garni 54.36 314 LR LR 07 33 00.2
comp=Z,870nm,21.9s,MS4.8,baz=96,slow=40
CLNS Chul'man 54.39 20 eP P 07 06 22.5 -0.3
CLNS *e* 07 07 25.0
CLNS *e*S **S** **07 13 58.1 -0.2**
CLNS pmax pmax
comp=Z,77nm,1.2s,mb5.5
CLNS pmax pmax
comp=N,22nm,0.9s
CLNS pmax pmax
comp=E,34nm,1.1s
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=Z,12nm,0.8s,mb4.9
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS smax
comp=N,8.0nm,1.0s
CLNS smax
comp=Z,3.0nm,0.7s
CLNS smax
comp=E,4.0nm,1.0s
CLNS MLR MLR
comp=Z,2μm,15.0s,MS5.4
CLNS MLR MLR
comp=N,2μm,12.0s,MS5.3
CLNS MLR MLR
comp=E,500nm,15.0s,MS5.3
SVE Sverdlovsk 55.33 338⇑eP P 07 06 28.9 -0.7
SVE *e* 07 07 35.0
SVE *e*S **S** **07 14 08.0 -2.8**
SVE pmax pmax
comp=Z,200nm,1.4s,mb6.0
SVE pmax pmax
comp=Z,240nm,2.0s,mb5.9
SVE MLR MLR
comp=N,2μm,20.0s,MS5.4
SVE MLR MLR
comp=E,2μm,20.0s,MS5.4
SVE MLR MLR
comp=Z,5μm,20.0s,MS5.6
ASAJ Asahikawa 55.39 41 LR LR 07 29 40.4
comp=Z,2μm,21.4s,MS5.1,baz=294,slow=36
PMG Port Moresby 55.59 107 P P 07 06 32.5 +0.4
PMG pmax pmax
comp=Z,76μm,0.9s
PMG Port Moresby 55.59 107 P P 07 06 31.6 -0.6
comp=Z,50nm,0.9s,mb5.6,baz=300,slow=5.8,SNR=8.9
PMG Port Moresby 55.59 107 eP P 07 06 31.8 -0.3
comp=Z,107nm,0.9s,mb5.9
PMG LR LR
comp=Z,952nm,21.0s,MS4.8
ARU Arti 55.81 337 P P 07 06 31.3 -1.9
comp=Z,221nm,1.1s,mb6.1,SNR=21
ARU Arti 55.81 337⇓*i*P P 07 06 24.8 -8.4
ARU *e* 07 16 11.2
ARU *e*SS SS 07 17 58.1 -5.0
ARU *e*SSS SSS 07 20 00.5 -8.7
ARU pmax pmax
comp=Z,62nm,1.4s,mb5.5
ARU MLR MLR
comp=Z,5μm,21.0s,MS5.5
ARU MLR MLR
comp=N,3μm,20.0s,MS5.5
ARU MLR MLR
comp=E,2μm,20.0s,MS5.5
YSS Yuzh-Sakhalins 56.76 38 eP P 07 06 42.5 +2.4
YSS pmax pmax
comp=Z,79μm,1.2s
YSS Yuzh-Sakhalins 56.76 38 eP P 07 06 42.5 +2.4
comp=Z,78nm,1.2s,mb5.6
KIV Kislovodsk 57.24 318 P P 07 06 41.1 -2.5
KIV pmax pmax
comp=Z,148nm,0.9s,mb6.0
KIV Kislovodsk 57.24 318 P P 07 06 41.1 -2.5
comp=Z,148nm,0.9s,mb6.0
KMBO Kilima Mbogo 57.39 264 eP P 07 06 47.3 +2.3
KMBO pmax pmax
comp=Z,81nm,1.0s
KMBO MLR MLR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 57.39 264 P P 07 06 46.8 +1.8
comp=Z,73nm,1.1s,mb5.6,baz=53,slow=8.9,SNR=61
KMBO LR LR 07 28 46.1
comp=Z,2μm,19.3s,MS5.2,baz=85,slow=33
KMBO Kilima Mbogo 57.39 264 eP P 07 06 47.3 +2.3
comp=Z,81nm,1.0s,mb5.7
KMBO LR LR
comp=Z,2μm,20.0s,MS5.2
ASF Jabal al Asfar 58.15 303 P P 07 06 50.3 +0.2
comp=Z,20nm,1.1s,mb5.0,baz=178,slow=0.7,SNR=9.5
ASF LR LR 07 34 21.8
comp=Z,2μm,20.3s,MS5.2,baz=320,slow=39
CTA Charters Tower 58.38 119 eP P 07 06 51.2 -0.6
comp=Z,10nm,1.0s,mb4.8
CTA Charters Tower 58.38 119 eP P 07 06 51.2 -0.6
CTA pmax pmax
comp=Z,11nm,1.0s
CTA Charters Tower 58.38 119 P P 07 06 50.5 -1.3
comp=Z,11nm,1.0s,mb4.8,baz=306,slow=9.8,SNR=5.4
CTA LR LR 07 32 10.7
comp=Z,2μm,21.6s,MS5.1,baz=287,slow=36
CTAO Charters Tower 58.38 119 eP P 07 06 51.1 -0.7
CTAO pmax pmax
comp=Z,59nm,1.5s,mb5.4
CTAO MLR MLR
comp=Z,2μm,22.0s,MS5.1
CTAO Charters Tower 58.38 119 eP P 07 06 51.1 -0.7
comp=Z,59nm,1.5s,mb5.4
CTAO LR LR
comp=Z,2μm,22.0s,MS5.1
MALT Malatya 58.39 310 eP P 07 06 51.3 -0.4
MALT pmax pmax
comp=Z,40nm,1.3s,mb5.3
MALT Malatya 58.39 310 eP P 07 06 48.5 -3.1
comp=Z,39nm,1.2s,mb5.3
SOKR Solikamsk 58.72 339⇑*i*P P 07 06 51.1 -2.6
SOKR pmax pmax
comp=Z,80nm,1.3s,mb5.6
SOKR MLR MLR
comp=Z,5μm,21.0s,MS5.7
SOC Sochi 59.10 316 eP P 07 06 53.4 -3.2
SOC *e* 07 07 46.7
SOC *e* 07 09 02.8
SOC *e*PPP PPP 07 10 27.4 -6.1
SOC *e*S **S** **07 14 56.4 -4.5**
SOC *e* 07 16 41.6
SOC *e*SS SS 07 18 58.0 +1.1
SOC pmax pmax
comp=Z,127nm,1.3s,mb5.8
SOC pmax pmax
comp=N,39nm,0.7s
SOC pmax pmax
comp=E,110nm,1.1s
SOC MLR MLR
comp=Z,1μm,18.0s,MS5.0
SOC MLR MLR
comp=N,110nm,21.0s,MS4.8
SOC MLR MLR
comp=E,818nm,20.0s,MS4.8
EIL Elat 59.36 300 P P 07 06 58.7 +0.2
comp=E,18nm,0.7s,mb5.2,baz=121,slow=8.6,SNR=19
EIL LR LR 07 34 35.8
comp=E,3μm,18.3s,MS5.4,baz=99,slow=38
EIL Elat 59.36 300 eP P 07 06 58.4 -0.1
comp=E,108nm,1.4s,mb5.7
YAK Yakutsk 59.95 18 eP P 07 07 00.8 -1.3
YAK *e**PP pP 07 07 09.5 +1.1
YAK *e* 07 07 45.9
YAK *e* 07 09 13.3
YAK *e*S **S** **07 15 12.4 +0.9**
YAK *e* 07 16 46.9
YAK *e*SS SS 07 19 14.4 +5.1
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=Z,24nm,1.0s,mb5.2
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,3.0nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax
comp=N,32nm,1.6s
YAK smax
comp=E,17nm,1.8s
YAK MLR MLR
comp=Z,882nm,17.0s,MS5.0
YAK MLR MLR
comp=N,936nm,16.0s,MS5.2
YAK MLR MLR
comp=E,945nm,14.0s,MS5.2
YAK Yakutsk 59.95 18 eP P 07 06 60.0 -2.2
comp=E,137nm,1.1s,mb5.9
STKA Stephens Creek 60.18 134 eP P 07 07 02.6 -1.6
comp=E,17nm,0.9s,mb5.1
STKA Stephens Creek 60.18 134 P P 07 07 01.7 -2.4
comp=E,14nm,1.0s,mb4.9,baz=306,slow=8.1,SNR=13
STKA LR LR 07 36 17.5
comp=E,3μm,19.4s,MS5.4,baz=296,slow=39
ANN Anapa 61.06 317 eP P 07 07 04.8 -5.1
ANN *e*S **S** **07 15 19.7 -6.3**
ANN pmax pmax
comp=Z,44nm,0.8s,mb5.6
ANN MLR MLR
comp=Z,151nm,13.0s,MS4.3
ANN MLR MLR
comp=N,901nm,14.0s,MS5.2
ANN MLR MLR
comp=E,777nm,15.0s,MS5.2
BRTR Keskin Array B 62.35 311 P P 07 07 16.3 -2.4
comp=E,11nm,0.9s,mb5.0,baz=121,slow=7.2,SNR=26
BRTR PcP PcP 07 07 58.0 -0.1
comp=E,7.2nm,1.0s,baz=124,slow=4.5,SNR=3.6
VOR Voronezh 62.50 325 eP P 07 07 18.0 -1.6
VOR *e**PP pP 07 07 25.0 -0.8
VOR *e* 07 07 35.0
VOR pmax pmax
comp=Z,180nm,1.6s,mb6.0
VOR pmax pmax
comp=E,170nm,1.4s
SIM Simferopol' 63.35 317 eP P 07 07 24.0 -1.2
SIM S **S** **07 16 00.0 +5.1**
SIM pmax pmax
comp=Z,40nm,0.9s,mb5.5
SIM MLR MLR
comp=Z,1μm,22.4s,MS5.1
MBAR Mbarara 63.72 265 eP P 07 07 29.3 +1.1
MBAR pmax pmax
comp=Z,67nm,1.2s,mb5.5
MBAR Mbarara 63.72 265 eP P 07 07 29.0 +0.8
comp=Z,78nm,1.2s,mb5.6
ISP Isparta 64.36 308 P P 07 07 30.7 -1.3
ISP pmax pmax
comp=Z,63nm,1.2s,mb5.5
ISP Isparta 64.36 308 eP P 07 07 29.4 -2.6
comp=Z,132nm,1.4s,mb5.8
MOS Moscow 65.00 329 eP P 07 07 34.6 -1.2
MOS *e* 07 09 59.4
MOS *e*S **S** **07 16 12.2 -2.9**
MOS pmax pmax
comp=Z,259nm,1.4s,mb6.1
MOS MLR MLR
comp=Z,4μm,19.6s,MS5.6
OBN Obninsk 65.30 328*c* *i*P P 07 07 33.7 -4.1
OBN *e* 07 09 59.0
OBN S S 07 16 17.8 -1.0
OBN *e*SS SS 07 20 31.1 -2.5
OBN pmax pmax
comp=Z,179nm,1.2s,mb6.0
OBN MLR MLR
comp=Z,2μm,20.0s,MS5.3
OBN Obninsk 65.30 328 eP P 07 07 33.6 -4.2

comp=Z,73nm,0.7s,mb5.8
TOO Toolangi 65.93 137 *e*P **P 07 07 43.0 +0.9**
comp=Z,1.0nm,0.9s
TOO Toolangi 65.93 137 *e*P **P 07 07 43.0 +0.9**
TOO pmax pmax
comp=Z,1.0nm,0.9s
MA2 Magadan 66.73 28 *e*P **P 07 07 48.9 +2.1**
MA2 *e*S S 07 16 35.7 -0.4
MA2 pmax pmax
comp=Z,40nm,1.1s,mb5.4
MA2 MLR MLR
comp=Z,3µm,26.0s,MS5.4
MA2 Magadan 66.73 28 *e*P **P 07 07 47.1 +0.3**
comp=Z,58nm,1.0s,mb5.6
TIXI Tiksi 67.18 11⇑*e*P **P 07 07 48.0 -1.5**
TIXI pmax pmax
comp=Z,69nm,1.4s,mb5.5
TIXI Tiksi 67.18 11⇑*e*P **P 07 07 48.1 -1.4**
TIXI LR LR
comp=Z,1µm,19.0s,MS5.2
KIS Kishinev 67.44 318 *e*P **P 07 07 50.0 -1.6**
KIS *e* pP 07 07 55.0 -2.8
CNB Canberra Magne 67.51 133 *e*P **P 07 07 51.6 -0.6**
comp=Z,287nm,1.0s,mb6.3
AKASG Malin Array Be 68.08 322 P **P 07 07 53.0 -2.5**
comp=Z,14nm,0.9s,mb5.0,baz=86,slow=4.6,SNR=40
IDI Anoyia 68.50 305 P **P 07 07 57.8 -0.5**
comp=Z,41nm,0.8s,mb5.5,baz=80,slow=7.8,SNR=5.9
VRI Vrincioaia 68.62 316 P **P 07 07 59.0 0.0**
VRI Vrincioaia 68.62 316 ⇑P **P 07 07 58.6 -0.4**
SEY Seymchan 68.89 25 *e*P **P 07 07 55.8 -4.5**
SEY 07 08 25.1
SEY *e* 07 10 37.6
SEY *e*PPP PPP 07 12 10.4 -2.3
SEY *e*S S 07 16 52.5 -9.4
SEY *e*PS PS 07 17 19.9 -10
SEY 07 17 51.3
SEY *e*SS SS 07 21 20.9 -8.3
SEY pmax pmax
comp=E,40nm,1.1s
SEY pmax pmax
comp=Z,70nm,1.1s,mb5.5
SEY pmax pmax
comp=N,20nm,0.8s
SEY smax
comp=N,830nm,10.4s
SEY smax
comp=E,460nm,8.3s
SEY MLR MLR
comp=Z,9µm,17.0s,MS6.1
SEY MLR MLR
comp=N,5µm,16.0s,MS6.0
SEY MLR MLR
comp=E,4µm,16.0s,MS6.0
MLR Muntele Rosu 69.09 316 ⇑P **P 07 08 01.6 -0.3**
MLR Muntele Rosu 69.09 316 P **P 07 08 01.4 -0.5**
comp=E,76nm,1.1s,mb5.5,baz=41,slow=1.5,SNR=22
MLR LR LR 07 43 47.7
comp=E,1µm,20.1s,MS5.2,baz=286,slow=41
LSZ Lusaka 69.25 250 P **P 07 08 04.5 +1.2**
LSZ pmax pmax
comp=Z,44nm,1.2s,mb5.3
LSZ Lusaka 69.25 250 *e*P **P 07 08 04.3 +1.0**
comp=Z,42nm,1.1s,mb5.3
SNX Sinaia 69.37 315 P **P 07 08 03.9 +0.3**
MTUR Matau 69.66 315 ⇓P **P 07 08 06.2 +0.8**
MNK Minsk 69.88 325 *e*P **P 07 08 02.0 -4.5**
PAIG Paliouri 69.94 310 *e*P **P 07 08 04.0 -3.2**
TAU Tasmania Unive 69.96 141 PFAKE 07 08 20.0 +13
TAU LR LR
comp=Z,390nm,19.0s,MS4.7
BURAR Bucovina Array 69.97 318 ⇑P **P 07 08 06.0 -1.2**
PUL Pulkovo 70.13 331 *e*P **P 07 08 07.8 -0.2**
PUL pmax pmax
comp=Z,159nm,0.9s,mb6.0
PUL pmax pmax
comp=N,140nm,0.8s
PUL pmax pmax
comp=E,238nm,1.2s
PUL MLR MLR
comp=Z,2µm,20.0s,MS5.4
PUL MLR MLR
comp=N,788nm,17.0s,MS5.4
PUL MLR MLR
comp=E,2µm,21.0s,MS5.4
SRS Serrai 70.14 311 *e*P **P 07 08 05.8 -2.6**
KNT Kendrikon 70.67 311 *e*P **P 07 08 09.6 -1.9**
JOF Joensuu 70.77 334 *e*p **P 07 08 11.2 -0.6**
comp=E,44nm,0.8s,mb5.4
GRG Griva 71.02 311 *e*P **P 07 08 11.6 -2.1**
LVV L'vov 71.14 320 *e*P **P 07 08 13.1 -1.1**
LVV *e* 07 08 36.3
LVV *e* 07 12 32.9
BOLS Boljevac 71.67 313 ⇓*i*P **P 07 08 16.6 -0.9**
APA Apatity 71.77 339 ⇓*i*P **P 07 08 18.7 +0.9**
APA pmax pmax
comp=Z,69nm,1.1s,mb5.5
APA MLR MLR
comp=Z,4µm,20.0s,MS5.7
SKO Skopje 71.84 311 *i*P **P 07 08 16.0 -2.6**
KWP Kalwaria 71.95 320 *e*P **P 07 08 19.0 -0.1**
KWP Kalwaria 71.95 320 *e*P **P 07 08 19.0 -0.2**
KOLS Kolonicke sedl 72.13 319 *i*P **P 07 08 20.5 +0.3**
SUW Suwalki 72.43 324 *e*P **P 07 08 20.8 -1.1**
GRUS Gruza 72.56 313 ⇓*i*P **P 07 08 22.0 -0.9**
FINES FINESS Array B 72.63 332 *i*P **P 07 08 24.7 +1.8**
FINES pmax pmax
comp=E,41nm,0.9s
FINES FINESS Array B 72.63 332 P **P 07 08 21.9 -1.1**
comp=Z,41nm,0.9s,mb5.4,baz=105,slow=5.3,SNR=17
FINES LR LR 07 46 31.7
comp=Z,2µm,19.1s,MS5.3,baz=274,slow=41
CRVS Cervenica-Dubn 72.65 319 *i*P **P 07 08 23.8 +0.5**
KAF Kangasniemi 72.71 333 *e*p **P 07 08 23.0 -0.4**
comp=Z,49nm,0.9s,mb5.4
KAF Kangasniemi 72.71 333 *e*P **P 07 08 23.0 -0.4**
KAF pmax pmax
comp=Z,49nm,0.9s,mb5.4
DIVS Divcibare 73.11 314 *e*P **P 07 08 24.7 -1.4**
KECS Kecovo 73.24 318 *i*P **P 07 08 26.9 +0.2**
NIE Niedzica 73.47 319 *e*P **P 07 08 28.4 +0.4**
PSZ Piszkesteto 73.56 318 P **P 07 08 28.4 -0.2**
PSZ pmax pmax
comp=Z,120nm,1.6s,mb5.6
PSZ Piszkesteto 73.56 318 *e*P **P 07 08 27.9 -0.7**
OJC Ojcow 73.90 320 *e*P **P 07 08 29.7 -0.8**
PKSM Moragy 74.25 316⇑*e*P **P 07 08 31.5 -1.1**
VYHS Vyhne 74.33 318 *i*P **P 07 08 32.8 -0.3**
KEV Kevo 74.76 341 *e*p **P 07 08 34.5 -0.6**
comp=Z,24nm,0.8s,mb5.2
KEV Kevo 74.76 341 *e*P **P 07 08 34.5 -0.6**
KEV pmax pmax
comp=Z,24nm,0.8s,mb5.2
OKC Ostrava-Krasne 74.91 319 *e*P **P 07 08 36.2 -0.2**
CASY Casey 75.00 173 ⇓*i*P **P 07 08 37.5 +0.9**
ARCES ARCESS Array B 75.19 340 P **P 07 08 37.0 -0.6**
comp=Z,14nm,0.7s,mb5.0,baz=143,slow=3.1,SNR=14
ARCES LR LR 07 44 46.4
comp=Z,4µm,19.9s,MS5.7,baz=115,slow=38
ARCES ARCESS Array B 75.19 340 P **P 07 08 37.0 -0.7**
ARCES LR LR 07 44 46.4
MORC Moravsky Berou 75.30 319 *e*P **P 07 08 37.8 -0.8**
MORC pmax pmax
comp=Z,64nm,1.0s,mb5.5
MORC Moravsky Berou 75.30 319 *e*P **P 07 08 37.7 -0.9**
comp=Z,91nm,1.1s,mb5.6
ZST Bratislava 75.46 318 *i*P **P 07 08 39.7 +0.1**
BOSA Boshof 75.58 238 *e*P **P 07 08 41.5 +0.8**
BOSA pmax pmax
comp=Z,95nm,1.2s,mb5.6
BOSA MLR MLR
comp=Z,832nm,20.0s,MS5.0
BOSA Boshof 75.58 238 *e*P **P 07 08 41.5 +0.8**
comp=Z,95nm,1.2s,mb5.6
BOSA LR LR
comp=Z,832nm,20.0s,MS5.0
GKP Gorka Klasztor 75.82 323 *e*P **P 07 08 41.0 -0.5**
GKP Gorka Klasztor 75.82 323 *e*P **P 07 08 41.0 -0.6**
VRAC Vranov 75.88 319 P **P 07 08 42.6 +0.7**
VRAC Vranov 75.88 319 P **P 07 08 41.5 -0.5**
comp=Z,9.8nm,0.9s,mb4.7,baz=79,slow=7.9,SNR=7.6
BILL Bilibino 76.04 22⇓*e*P **P 07 08 42.3 -0.2**
BILL pmax pmax
comp=Z,32nm,1.5s,mb5.0
BILL Bilibino 76.04 22 *e*P **P 07 08 41.7 -0.8**
comp=Z,39nm,1.2s,mb5.2
DPC Dobruska-Polom 76.13 320 *e*P **P 07 08 42.2 -1.1**
KSP Ksiaz 76.19 320 *e*P **P 07 08 43.5 -0.1**
KSP *e*pP pP 07 08 49.0 -0.9
KSP *e* 07 09 07.3
KSP Ksiaz 76.19 320 *e*P **P 07 08 43.3 -0.3**
UPC Upice 76.34 320 *e*P **P 07 08 44.7 +0.2**
ARSA Arzberg 76.46 317⇑*i*P **P 07 08 45.4 +0.2**
comp=Z,56nm,1.3s,mb5.3
PERS Pernice 76.71 316 *e*P **P 07 08 46.4 -0.3**
LJU Ljubljana 77.09 315 *e*P **P 07 08 49.2 +0.4**
OBKA Obir 77.09 316⇑*i*P **P 07 08 48.6 -0.2**
comp=Z,64nm,1.2s,mb5.4
PRU Pruhonice 77.25 319 *e*P **P 07 08 49.6 0.0**
PRU *e*pP pP 07 08 53.6 -2.3
PVCC Panska Ves 77.26 320 *e*P **P 07 08 49.8 +0.2**
MOA Molln 77.34 317⇑*i*P **P 07 08 49.6 -0.5**
comp=Z,52nm,1.1s,mb5.4
BSD Bornholm Skovb 77.34 325 *i*P **P 07 08 47.7 -2.3**
BSD pmax pmax
comp=Z,95nm,1.2s,mb5.6
BSD Bornholm Skovb 77.34 325 *i*P **P 07 08 47.7 -2.3**
comp=Z,95nm,1.2s,mb5.6
BRG Berggiesshubel 77.67 320 *i*P **P 07 08 52.3 +0.4**
BRG *e*S S 07 18 43.0 +1.6
BRG pmax pmax
comp=Z,80nm,1.4s,mb5.5
BRG MLR MLR
comp=Z,1µm,18.6s,MS5.2
BRG Berggiesshubel 77.67 320 *i*P **P 07 08 52.3 +0.4**
comp=Z,80nm,1.4s,mb5.5
BRG *e*PP PP 07 11 35.3 -14
BRG *e*S S 07 18 43.0 +1.6
BRG LR LR
comp=Z,1µm,18.6s,MS5.2
GEC2 GERESS Array S 77.75 318 *e*P **P 07 08 52.6 +0.3**
GEC2 pmax pmax
comp=Z,74nm,1.1s,mb5.5
GEC2 GERESS Array S 77.75 318 *e*P **P 07 08 52.6 +0.3**
comp=Z,74nm,1.1s,mb5.5
GERES GERESS Array B 77.75 318 P **P 07 08 52.3 0.0**
comp=Z,28nm,1.1s,mb5.1,baz=90,slow=4.0,SNR=56
KHC Kasperske Hory 77.84 318 *e*P **P 07 08 52.5 -0.3**
KHC *e*pP pP 07 08 58.0 -1.2
RUE Ruedersdorf 77.85 322 *e*P **P 07 08 52.5 -0.4**
comp=Z,200nm,1.1s,mb6.0
KBA Koelnbreinsper 77.94 316⇑*i*P **P 07 08 53.0 -0.4**
comp=Z,41nm,1.2s,mb5.2
KBA Koelnbreinsper 77.94 316⇑*i*P **P 07 08 53.0 -0.4**
KBA pmax pmax
comp=Z,41nm,1.2s,mb5.2
CLL Collm 78.28 321⇑*i*P **P 07 08 55.0 -0.2**
CLL *i* pP 07 09 00.4 -1.2
CLL pmax pmax
comp=Z,67nm,1.4s,mb5.4
CLL Collm 78.28 321⇑*i*P **P 07 08 55.0 -0.2**
comp=Z,67nm,1.4s,mb5.4
CLL *i* pP 07 09 00.4 -1.2
CLL Collm 78.28 321 ⇑P **P 07 08 55.0 -0.2**
comp=Z,logA/T=1.7,mb5.4
CLL *i* *PP pP 07 09 00.4 -1.2
CLL *e* 07 09 07.0
CLL *e* 07 09 35.0
WET Wettzell 78.30 318 *e*P **P 07 08 55.5 +0.1**
WET pmax pmax
comp=Z,64nm,1.3s,mb5.4
WET Wettzell 78.30 318 *e*P **P 07 08 55.5 +0.1**
comp=Z,64nm,1.3s,mb5.4
HFS Hagfors 78.38 330 P **P 07 08 55.1 -0.5**
comp=Z,167nm,1.3s,mb5.8,baz=104,slow=6.1,SNR=26
MAW Mawson 78.59 192 *e*P **P 07 08 58.8 +2.2**
comp=Z,26nm,1.0s,mb5.1
MAW Mawson 78.59 192 P **P 07 08 58.7 +2.1**
MAW pmax pmax
comp=Z,60nm,1.1s
MAW Mawson 78.59 192 P **P 07 08 56.3 -0.2**
comp=Z,24nm,0.8s,mb5.2,baz=12,slow=5.8,SNR=7.1
MAW LR LR 07 39 20.2
comp=Z,756nm,18.8s,MS5.0,baz=32,slow=32
NKC Novy Kostel 78.61 320 *e*P **P 07 08 57.1 +0.1**
COP Copenhagen 78.79 325 *i*P **P 07 08 59.2 +1.3**
COP pmax pmax
comp=Z,47nm,0.7s,mb5.5
COP Copenhagen 78.79 325 *i*P **P 07 08 59.2 +1.3**
comp=Z,47nm,0.7s,mb5.5
WTTA Wattenberg 79.11 317⇑*i*P **P 07 08 59.3 -0.5**
comp=Z,83nm,1.2s,mb5.5
WTTA Wattenberg 79.11 317⇑*i*P **P 07 08 59.3 -0.5**
WTTA pmax pmax
comp=Z,83nm,1.2s,mb5.5
MOX Moxa 79.14 320 *e*P **P 07 09 00.0 0.0**
MOX pmax pmax
comp=Z,28nm,1.6s,mb4.9
MOX MLR MLR
comp=Z,1µm,20.0s,MS5.2
MOX Moxa 79.14 320 *e*P **P 07 09 00.0 0.0**
comp=Z,28nm,1.6s,mb4.9
MOX LR LR
comp=Z,1µm,20.0s,MS5.2
MOX Moxa 79.14 320 *i*P **P 07 09 00.0 0.0**
comp=Z,logA/T=1.2,mb4.9
MOX L 07 50 25.0
WATA Walderalm 79.15 317⇑*i*P **P 07 08 59.5 -0.6**
comp=Z,48nm,1.2s,mb5.3
FUR Furstenfeldbru 79.35 317 *e*P **P 07 09 00.8 -0.3**
GRA1 Grafenberg Arr 79.39 319 *e*P **P 07 09 02.0 +0.7**
comp=Z,135nm,1.3s,mb5.7
GRA1 LR LR
comp=Z,700nm,21.0s,MS5.0
GRF Grafenberg Arr 79.39 319 *e*P **P 07 09 02.0 +0.7**
GRF pmax pmax
comp=Z,135nm,1.3s,mb5.7
GRF MLR MLR
comp=Z,700nm,21.0s,MS5.0
GRF Grafenberg Arr 79.39 319 *e*P **P 07 09 02.0 +0.7**
GRF pmax pmax
comp=Z,135nm,1.3s,mb5.7
GRF MLR MLR
comp=Z,700nm,21.0s,MS5.0
GRF Grafenberg Arr 79.39 319 *e*P **P 07 09 02.0 +0.7**
comp=Z,135nm,1.3s,mb5.7
GRF LR LR
comp=Z,700nm,21.0s,MS5.0
SQTA Sankt Quirin 79.40 317⇑*i*P **P 07 09 00.9 -0.5**
comp=Z,65nm,1.4s,mb5.4
SQTA Sankt Quirin 79.40 317⇑*i*P **P 07 09 00.9 -0.5**
SQTA pmax pmax
comp=Z,65nm,1.4s,mb5.4
MOTA Moosalm 79.47 317⇑*i*P **P 07 09 01.1 -0.7**
comp=Z,43nm,1.1s,mb5.3
MOTA Moosalm 79.47 317⇑*i*P **P 07 09 01.1 -0.7**
MOTA pmax pmax
comp=Z,43nm,1.1s,mb5.3
NB2 NORSAR Subarra 79.65 331 P **P 07 09 01.2 -1.3**
comp=Z,96nm,1.4s,mb5.5,baz=92,slow=5.6
NB2 NORSAR Subarra 79.65 331 P **P 07 09 01.2 -1.3**
baz=92,slow=5.9
NOA NORSAR Array B 79.65 331 P **P 07 09 01.7 -0.8**
comp=Z,26nm,0.8s,mb5.2,baz=92,slow=5.6,SNR=25
NOA LR LR 07 47 59.2
comp=Z,1µm,21.1s,MS5.3,baz=110,slow=38
NAO01 NORSAR Array S 79.81 330 *e*P **P 07 09 02.4 -0.9**
comp=Z,55nm,0.9s,mb5.5
CLZ Clausthal 79.93 321 *e*P **P 07 09 04.1 -0.1**
comp=Z,104nm,1.4s,mb5.6
BSEG Bad Segeberg 79.97 323 *e*P **P 07 09 04.8 +0.4**
HDH Heidenheim 80.06 318 *e*P **P 07 09 04.3 -0.6**
UBR Uberruh 80.14 317 *e*P **P 07 09 04.9 -0.5**
DAVA Damuels 80.30 317⇑*i*P **P 07 09 06.3 0.0**
comp=Z,87nm,1.4s,mb5.5
DAVOX Davos 80.31 316 P **P 07 09 06.4 0.0**
comp=Z,58nm,1.2s,mb5.4,baz=178,slow=1.1,SNR=25
SUR Sutherland 80.33 235 *e*P **P 07 09 08.1 +1.4**
comp=Z,82nm,1.1s,mb5.6
SUR *e* pP 07 09 14.4 +1.3
SUR LR LR
comp=Z,228nm,20.0s,MS4.5
SIND Sindeldorf 80.44 319⇑*e*P **P 07 09 07.0 0.0**
BUCH Bad Urach 80.63 318⇑*e*P **P 07 09 08.0 0.0**
MUD Monsted U'grnd 80.63 326⇑*i*P **P 07 09 08.5 +0.7**
comp=Z,80nm,1.0s,mb5.6
comp=Z,1µm,18.0s
GUT Gutenstein 80.80 317⇑*e*P **P 07 09 08.7 -0.2**
TOD Tromm 80.96 319 *e*P **P 07 09 09.2 -0.5**
TOD Tromm 80.96 319 *e*P **P 07 09 09.5 -0.2**
LBG Lerchenberg 81.00 318 *e*P **P 07 09 09.5 -0.4**
SWS Schriesheim 81.03 319 *e*P **P 07 09 09.6 -0.5**
PGF Pioggiola 81.08 312 *e*P **P 07 09 10.8 +0.3**
comp=Z,162nm,1.3s,mb5.5
PGF Pioggiola 81.08 312 *e*P **P 07 09 10.8 +0.3**
PGF pmax pmax
comp=Z,81nm,1.3s,mb5.5
TNS Taunus Mts 81.17 320 *e*P **P 07 09 11.2 +0.4**
BFO Black Forest 81.32 318 *e*P **P 07 09 11.2 -0.4**
BFO pmax pmax
comp=Z,51nm,1.4s,mb5.3
BFO Black Forest 81.32 318 *e*P **P 07 09 11.2 -0.4**
comp=Z,51nm,1.4s,mb5.3
FELD Feldberg 81.55 317 *e*P **P 07 09 12.9 +0.1**
KIZ Kirchzarten 81.61 317 *e*P **P 07 09 12.8 -0.3**
LANF Langenberg 81.64 318 *e*P **P 07 09 13.5 +0.3**
ABH Alteburg 81.77 319 *e*P **P 07 09 14.1 +0.2**
ABH Alteburg 81.77 319 *e*P **P 07 09 14.3 +0.4**
LIBD Limburg 81.81 318 *e*P **P 07 09 14.1 0.0**
LIBD Limburg 81.81 318 *e*P **P 07 09 14.4 +0.3**
BBS Basel-Blauen 81.91 317 *e*P **P 07 09 13.9 -0.7**
BBS Basel-Blauen 81.91 317 *e*P **P 07 09 14.3 -0.3**
WLS Welschbruch 81.96 318 *e*P **P 07 09 14.6 -0.3**
CDF Champ du Feu 82.01 318 *e*P **P 07 09 15.2 0.0**
comp=Z,73nm,1.2s,mb5.2
CDF Champ du Feu 82.01 318 *e*P **P 07 09 15.2 0.0**
CDF pmax pmax
comp=Z,37nm,1.2s,mb5.2
CDF Champ du Feu 82.01 318 *e*P **P 07 09 15.2 0.0**
comp=Z,37nm,1.2s,mb5.2
RUP Ruppelstein 82.09 319 *e*P **P 07 09 15.7 +0.1**
RUP Ruppelstein 82.09 319 *e*P **P 07 09 15.8 +0.2**
ECH Echery 82.10 318 *e*P **P 07 09 15.7 0.0**
MOF Molkenrain 82.14 317 *e*P **P 07 09 15.7 -0.2**
WTSB Winterswijk 82.14 321⇑*i*P **P 07 09 15.9 +0.2**
comp=Z,70nm,1.3s,mb5.4
SBF Sospel 82.16 313 *e*P **P 07 09 16.3 +0.3**
comp=Z,129nm,0.8s,mb5.6
SBF Sospel 82.16 313 *e*P **P 07 09 16.3 +0.3**
SBF pmax pmax
comp=Z,65nm,0.8s,mb5.6
WIT Witteveen 82.18 322 *e*P **P 07 09 17.5 +1.5**
HINF Hinteralfeld 82.33 317 *e*P **P 07 09 16.6 -0.2**
LOMF Lomont 82.37 317 *e*P **P 07 09 16.9 -0.2**
LPG La Plagne 82.54 315 *e*P **P 07 09 18.6 +0.6**
comp=Z,95nm,0.8s,mb5.5
LPG La Plagne 82.54 315 *e*P **P 07 09 18.6 +0.6**
LPG pmax pmax
comp=Z,47nm,0.8s,mb5.6
LPL La Plagne 82.55 315 *e*P **P 07 09 18.7 +0.6**
comp=Z,187nm,1.1s,mb5.7
LPL La Plagne 82.55 315 *e*P **P 07 09 18.7 +0.6**
LPL pmax pmax
comp=Z,93nm,1.1s,mb5.7
BNI Bardonecchia 82.62 314 P **P 07 09 18.9 +0.5**
BNI pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
BNI Bardonecchia 82.62 314 *e*P **P 07 09 16.8 -1.6**
comp=Z,50nm,0.9s,mb5.5
HAU Haudompre 82.66 317 *e*P **P 07 09 18.5 0.0**
comp=Z,97nm,1.0s,mb5.5
HAU *e*R
comp=Z,831nm,21.0s
HAU Haudompre 82.66 317 *e*P **P 07 09 18.5 0.0**
HAU pmax pmax
comp=Z,48nm,1.0s,mb5.5
HAU MLR MLR
comp=Z,830nm,21.0s,MS5.1
WLF Walferdange 82.68 319 P **P 07 09 19.9 +1.3**
WLF pmax pmax
comp=Z,96nm,1.4s,mb5.6
WLF Walferdange 82.68 319 *e*P **P 07 09 18.9 +0.3**
comp=Z,74nm,1.3s,mb5.6
FRF La Foret Royal 82.75 313 *e*P **P 07 09 19.4 +0.3**
comp=Z,295nm,1.5s,mb5.8
FRF La Foret Royal 82.75 313 *e*P **P 07 09 19.4 +0.3**
FRF pmax pmax
comp=Z,147nm,1.5s,mb5.8
HGN Heimansgroeve 82.75 320 *i*P **P 07 09 19.5 +0.5**
comp=Z,30nm,0.7s,mb5.5
HGN Heimansgroeve 82.75 320 *e*S S 07 19 29.6 -4.9
LMR La Mourre 82.86 313 *e*P **P 07 09 20.0 +0.3**
comp=Z,207nm,1.5s,mb5.7
LMR La Mourre 82.86 313 *e*P **P 07 09 20.0 +0.3**
LMR pmax pmax
comp=Z,104nm,1.5s,mb5.6
THEF They Montfort 82.89 318 *e*P **P 07 09 19.3 -0.4**
CABF La Chapelle 82.93 316 *e*P **P 07 09 20.5 +0.5**
comp=Z,77nm,1.0s,mb5.4
CABF La Chapelle 82.93 316 *e*P **P 07 09 20.5 +0.5**
CABF pmax pmax
comp=Z,38nm,1.0s,mb5.4
ORIF Oris-en-Rattie 83.20 314 *e*P **P 07 09 21.7 +0.3**
comp=Z,51nm,0.9s,mb5.3
ORIF *e*R
comp=Z,936nm,22.8s
MEZF Maizieres J'vi 83.49 318 *e*P **P 07 09 23.2 +0.4**
SMRF Simiane la Rot 83.49 313 *e*P **P 07 09 23.9 +1.0**
comp=Z,254nm,1.6s,mb5.7
GIVF Givet 83.51 320 *e*P **P 07 09 23.3 +0.4**
BAIF Baives 83.91 320 *e*P **P 07 09 25.5 +0.6**
comp=Z,118nm,1.2s,mb5.6
BAIF Baives 83.91 320 *e*P **P 07 09 25.5 +0.6**
BAIF pmax pmax
comp=Z,59nm,1.2s,mb5.6
VIVF Saint-Julien-l 84.06 314 *e*P **P 07 09 26.2 +0.4**
comp=Z,107nm,1.3s,mb5.5
VIVF Saint-Julien-l 84.06 314 *e*P **P 07 09 26.2 +0.4**
VIVF pmax pmax
comp=Z,54nm,1.3s,mb5.5
SMF Signal de Mont 84.47 316 *e*P **P 07 09 27.8 0.0**
comp=Z,106nm,1.3s,mb5.5
SMF Signal de Mont 84.47 316 *e*P **P 07 09 27.8 0.0**
SMF pmax pmax
comp=Z,53nm,1.3s,mb5.5
SSF Saint Saulge 84.66 317 *e*P **P 07 09 29.1 +0.4**
SSF pmax pmax
comp=Z,46nm,1.3s,mb5.5
SSF Saint Saulge 84.66 317 *e*P **P 07 09 29.1 +0.4**
comp=Z,46nm,1.3s,mb5.4
LASF Ste Croix 84.71 314 *e*P **P 07 09 29.9 +0.8**
comp=Z,279nm,1.6s,mb5.8
AVF Avril sur Loir 84.79 316 *e*P **P 07 09 29.4 0.0**
comp=Z,131nm,1.4s,mb5.6
AVF Avril sur Loir 84.79 316 *e*P **P 07 09 29.4 0.0**
AVF pmax pmax
comp=Z,66nm,1.4s,mb5.6
BGF Bois d'Agland 85.16 316 *e*P **P 07 09 31.8 +0.5**
comp=Z,165nm,1.4s,mb5.7
BGF Bois d'Agland 85.16 316 *e*P **P 07 09 31.8 +0.5**
BGF pmax pmax
comp=Z,83nm,1.4s,mb5.7
SYO Syowa Base 85.45 197 ⇓P **P 07 09 33.7 +1.5**
SYO Syowa Base 85.45 197 ⇓PcP PcP 07 09 38.7 +2.9
SYO Syowa Base 85.45 197 ⇓pP pP 07 09 47.7 +9.1
TCF Toulx Ste Croi 85.63 316 *e*P **P 07 09 34.2 +0.6**
comp=Z,75nm,1.4s,mb5.4
TCF Toulx Ste Croi 85.63 316 *e*P **P 07 09 34.2 +0.6**
TCF pmax pmax
comp=Z,38nm,1.4s,mb5.4
CAF Calviac 85.89 315 *e*P **P 07 09 35.7 +0.7**
MTLF Montolieu 85.98 313 *e*P **P 07 09 36.0 +0.6**
comp=Z,167nm,1.6s,mb5.7
MTLF Montolieu 85.98 313 *e*P **P 07 09 36.0 +0.6**
MTLF pmax pmax
comp=Z,83nm,1.6s,mb5.7
RPZ Rata Peaks 86.12 135 LR LR 07 48 29.7
comp=Z,2µm,20.4s,MS5.4,baz=280,slow=36
TNA Tin City 86.13 24 *e*P **P 07 09 35.8 +0.2**
RJF Les Rejaudoux 86.23 315 *e*P **P 07 09 37.5 +0.9**
RJF *e*R
comp=Z,698nm,18.5s
JMIC Jan Mayen 86.63 341 LR LR 07 49 55.7
comp=Z,2µm,18.7s,MS5.4,baz=91,slow=37
LFF La Frestale 86.82 315 *e*P **P 07 09 40.3 +0.7**
LDF La Druitiere 86.89 318 *e*P **P 07 09 40.1 +0.3**
comp=Z,145nm,1.4s,mb5.7
LDF La Druitiere 86.89 318 *e*P **P 07 09 40.1 +0.3**
LDF pmax pmax
comp=Z,73nm,1.4s,mb5.7
FLN La Foliniere 87.10 319 *e*P **P 07 09 41.1 +0.3**
comp=Z,73nm,1.2s,mb5.5
FLN *e*R
comp=Z,741nm,21.5s
FLN La Foliniere 87.10 319 *e*P **P 07 09 41.1 +0.3**
FLN pmax pmax

comp=Z,36nm,1.2s,mb5.5
FLN MLR MLR
comp=Z,740nm,21.5s,MS5.1
MFF Saint Martin d 87.20 316 *e*P **P 07 09 41.6 +0.3**
comp=Z,140nm,1.5s,mb5.7
MFF Saint Martin d 87.20 316 *e*P **P 07 09 41.6 +0.3**
MFF pmax pmax
comp=Z,70nm,1.5s,mb5.7
ANM Nome 87.39 25 *e*P **P 07 09 43.1 +1.3**
DAG Danmarks Havn 87.40 348⇑ *e*P **P 07 09 41.2 -0.5**
DAG pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
DAG Danmarks Havn 87.40 348⇑ *e*P **P 07 09 41.2 -0.5**
comp=Z,6.0nm,1.0s,mb4.8
DAG Danmarks Havn 87.40 348 *i*P **P 07 09 41.2 -0.5**
comp=Z,6.0nm,1.0s,mb4.8
GRR Gorron 87.41 318 *e*P **P 07 09 42.6 +0.3**
comp=Z,124nm,1.5s,mb5.6
GRR Gorron 87.41 318 *e*P **P 07 09 42.6 +0.3**
GRR pmax pmax
comp=Z,62nm,1.5s,mb5.6
EKA Eskdalemuir Ar 87.64 325 P **P 07 09 42.7 -0.5**
comp=Z,22nm,1.1s,mb5.3,baz=90,slow=6.7,SNR=12
ESK Eskdalemuir 87.67 325 *e*P **P 07 09 41.6 -1.8**
ESK pmax pmax
comp=Z,31nm,0.9s,mb5.5
ESK MLR MLR
comp=Z,359nm,22.0s,MS4.7
ESK Eskdalemuir 87.67 325 *e*P **P 07 09 41.5 -1.8**
comp=Z,31nm,0.9s,mb5.5
ESK LR LR
comp=Z,359nm,22.0s,MS4.7
SJPF Ste Jean 88.50 313 *e*P **P 07 09 48.6 +0.9**
comp=Z,139nm,1.4s,mb5.8
SJPF Ste Jean 88.50 313 *e*P **P 07 09 48.6 +0.9**
SJPF pmax pmax
comp=Z,70nm,1.4s,mb5.8
SGMF Saint Gilles 88.55 318 *e*P **P 07 09 48.3 +0.6**
comp=Z,111nm,1.4s,mb5.7
SGMF Saint Gilles 88.55 318 *e*P **P 07 09 48.3 +0.6**
SGMF pmax pmax
comp=Z,55nm,1.4s,mb5.7
ROSF Rostrenen 89.00 319 *e*P **P 07 09 50.6 +0.7**
comp=Z,223nm,1.5s,mb6.0
ROSF Rostrenen 89.00 319 *e*P **P 07 09 50.6 +0.7**
ROSF pmax pmax
comp=Z,112nm,1.5s,mb6.0
URZ Urewera 89.41 129 LR LR 07 52 27.2
comp=Z,1µm,19.6s,MS5.4,baz=277,slow=37
EVIA Vianos 90.22 309 P **P 07 09 56.8 +0.9**
EVIA pmax pmax
comp=Z,20nm,0.8s,mb5.5
EVIA Vianos 90.22 309 P **P 07 09 56.8 +1.0**
comp=Z,20nm,0.8s,mb5.5
EQES Quesada 90.81 308 P **P 07 09 56.7 -1.9**
comp=Z,8.5nm,0.8s,mb5.1
GUD Guadarrama 91.10 311 P **P 07 10 00.8 +0.9**
GUD pmax pmax
comp=Z,44nm,1.2s,mb5.7
GUD Guadarrama 91.10 311 P **P 07 10 00.8 +1.0**
comp=Z,44nm,1.2s,mb5.7
ESDC Sonseca Array 91.14 310 P **P 07 10 00.6 +0.6**
comp=Z,15nm,1.0s,mb5.3,baz=65,slow=4.3,SNR=26
ESDC Sonseca Array 91.14 310 P **P 07 10 00.6 +0.5**
comp=Z,22nm,1.4s,mb5.3
ESLA Sonseca Array 91.14 310 *e*P **P 07 10 00.6 +0.5**
comp=Z,15nm,1.2s,mb5.2
ESLA LR LR
comp=Z,4µm,20.0s,MS5.8
IMA Indian Mountai 91.58 22 *e*P **P 07 10 03.1 +1.6**
IMA pmax pmax
comp=Z,120nm,1.0s,mb6.2
IMA Indian Mountai 91.58 22 *e*P **P 07 10 02.7 +1.2**
EADA Adamuz 91.91 309 P **P 07 10 04.3 +0.6**
comp=Z,14nm,1.0s,mb5.3
EPON Pontenova 92.70 314 P **P 07 10 11.6 +4.4**
comp=Z,29nm,1.1s,mb5.6
SVW2 Sparrevohn 92.71 27 *e*P **P 07 10 08.9 +2.2**
VNDA Vanda 93.00 168 *e*P **P 07 10 08.9 +1.1**
VNDA pmax pmax
comp=Z,26nm,1.6s
VNDA MLR MLR
comp=Z,687nm,19.0s
VNDA Vanda 93.00 168 LR LR 07 51 12.5
comp=Z,603nm,18.2s,MS5.1,baz=288,slow=35
VNDA Vanda 93.00 168 *e*P **P 07 10 08.9 +1.1**
comp=Z,26nm,1.6s,mb5.4
VNDA LR LR
comp=Z,687nm,19.0s,MS5.1
BORG Borgarnes 93.35 337 LR LR 07 55 18.2
comp=Z,1µm,20.3s,MS5.4,baz=64,slow=38
SBA Scott Base 94.10 168 *e*P **P 07 10 13.1 +0.2**
SBA pmax pmax
comp=Z,34nm,1.3s,mb5.6
SBA MLR MLR
comp=Z,681nm,20.0s,MS5.1
SBA Scott Base 94.10 168 *e*P **P 07 10 13.1 +0.2**
comp=Z,34nm,1.3s,mb5.6
SBA LR LR
comp=Z,681nm,20.0s,MS5.1
SPU Mount Spurr 94.25 26 *e*P **P 07 10 14.2 +0.4**
COLA College 94.29 22 P **P 07 10 15.2 +1.3**
COLA pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
COLA College 94.29 22 P **P 07 10 15.2 +1.3**
comp=Z,6.7nm,1.0s,mb5.0
MCK McKinley 94.42 23 P **P 07 10 15.9 +1.3**
MCK pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
MCK McKinley 94.42 23 *e*P **P 07 10 13.2 -1.3**
comp=Z,11nm,1.0s,mb5.2
MCK LR LR
comp=Z,381nm,19.0s,MS4.9
ILAR Eielson Array 94.70 22 P **P 07 10 15.1 -0.7**
comp=Z,1.4nm,0.8s,mb4.4,baz=301,slow=4.5,SNR=15
ILAR LR 07 56 55.1
comp=Z,519nm,18.4s,MS5.0,baz=60,slow=38
PWA Palmer West 94.98 26 *e*P **P 07 10 18.0 +0.8**
FIB Fire Island 95.07 26 *e*P **P 07 10 20.3 +2.7**
SLKM Skilak Lake 95.35 27 *e*P **P 07 10 17.5 -1.4**
SML Sawmill 95.56 25 P **P 07 10 21.7 +1.8**
SML Sawmill 95.56 25 *e*P **P 07 10 18.3 -1.6**
INK Inuvik 96.94 16 P **P 07 10 26.7 +0.7**
INK pmax pmax
comp=Z,23nm,1.1s
INK Inuvik 96.94 16 P **P 07 10 25.9 0.0**
comp=Z,18nm,1.2s,mb5.4,baz=293,slow=4.4,SNR=11
INK LR LR 08 00 36.6
comp=Z,1µm,18.3s,MS5.4,baz=188,slow=40
INK Inuvik 96.94 16 *e*P **P 07 10 25.8 -0.2**
comp=Z,31nm,1.2s,mb5.6
RES Resolute Bay 97.34 2 P **P 07 10 28.7 +1.0**
RES pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
RES Resolute Bay 97.34 2 *e*P **P 07 10 28.2 +0.6**
comp=Z,8.7nm,0.9s,mb5.2
DAWY Dawson 97.81 21 *e*PKPdf **P 07 10 28.5 -1.5**
QSPA South Pole Qui 97.84 180 PFAKE 07 10 40.0 +10
QSPA LR LR
comp=Z,1µm,20.0s,MS5.4
DBIC Dimbokro 97.89 278 *e*P **P 07 10 32.1 +0.6**
DBIC pmax pmax
comp=Z,24nm,1.2s
DBIC MLR MLR
comp=Z,1µm,20.0s
DBIC Dimbokro 97.89 278 P **P 07 10 32.7 +1.2**
comp=Z,15nm,1.1s,mb5.4,baz=84,slow=6.5,SNR=6.0
DBIC LR LR 07 55 26.5
comp=Z,1µm,18.4s,MS5.4,baz=66,slow=36
DBIC Dimbokro 97.89 278 *e*P **P 07 10 32.1 +0.6**
comp=Z,24nm,1.2s,mb5.6
DBIC LR LR
comp=Z,1µm,20.0s,MS5.4
VNA2 Neumayer--Watz 101.21 199⇑ *i*Pdif P 07 10 42.6 -2.7
VNA2 *e* 07 10 59.4
VNA3 Neumayer Olymp 101.89 199⇑ *i*P P 07 10 44.7 -3.6
VNA3 Neumayer Olymp 101.89 199 *e* P 07 11 00.6 +12
VNA3 Neumayer Olymp 101.89 199 ⇓ *i*Pdif P 07 10 44.7 -3.6
VNA3 *e* 07 11 00.6
YKA Yellowknife Ar 106.37 13 Pdiff Pdif 07 11 09.0 +0.8
comp=Z,0.3nm,0.9s,baz=328,slow=5.0,SNR=5.7
MSO Missoula 120.04 22 *e*PKPdf PKPdf 07 15 46.2 -2.5
CHMT Chamberlain Mo 120.22 21 *e*PKPdf PKPdf 07 15 46.4 -2.6
BOZ Bozeman (W) 121.88 21 PKIKP PKPdf 07 15 50.3 -2.1
BOZ Bozeman (W) 121.88 21 *e*PKPdf PKPdf 07 15 48.3 -4.0
MCMT McKenzie Canyo 122.14 22 *e*PKPdf PKPdf 07 15 51.1 -1.8

QLMT Earthquake Lak 122.66 21 *e*PKPdf PKPdf 07 15 46.3 -7.6
LAO LASA Array 122.68 16 *e*PKPdf PKPdf 07 15 51.7 -2.1
YMR Madison River 122.97 21 *e*PKPdf PKPdf 07 15 52.2 -2.2
YFT Old Faithful 123.20 21 *e*PKPdf PKPdf 07 15 55.3 +0.4
LKWY Lake 123.25 21 *e*PKIKP PKPdf 07 15 55.1 +0.1
IMW Indian Meadow 123.64 22 *e*PKPdf PKPdf 07 15 54.6 -1.3
MOOW Moose Ponds 123.84 22 *e*PKPdf PKPdf 07 15 52.2 -4.0
TPAW Teton Pass 123.99 22 *e*PKPdf PKPdf 07 15 54.8 -1.7
LOHW Long Hollow 124.01 21 *e*PKPdf PKPdf 07 15 54.3 -2.3
SNOW Snow King Moun 124.08 22 *e*PKPdf PKPdf 07 15 54.5 -2.3
NVAR Mina Array Bea 124.89 31 PKP PKPdf 07 15 56.6 -1.8
comp=Z,3.4nm,0.8s,baz=22,slow=1.4,SNR=19
PDAR Pinedale Array 125.12 21 PKP PKPdf 07 15 55.1 -3.6
comp=Z,5.8nm,1.0s,baz=270,slow=1.5,SNR=25
HWUT Hardware Ranch 125.37 23 *e*PKPdf PKPdf 07 15 56.3 -2.9
HWUT LR LR
comp=Z,839nm,20.0s,MS5.4
TPH Tonopah 125.70 30 PFAKE 07 16 10.0 +10
TPH LR LR
comp=Z,504nm,19.0s,MS5.2
TRCR Troy Canyon 126.29 29 *e*PKPdf PKPdf 07 16 00.0 -1.1
NLU North Lily Min 126.55 25 *e*PKPdf PKPdf 07 15 57.0 -4.5
MVU Marysvale 127.71 26 *e*PKPdf PKPdf 07 16 02.4 -1.5
MSU Marysvale 127.72 26 *e*PKIKP PKPdf 07 16 02.7 -1.2
MSU Marysvale 127.72 26 *e*PKPdf PKPdf 07 16 03.0 -0.9
ARUT Antelope Range 127.75 28 P Pdif 07 12 45.5 +2.6
NEN Nelson 128.78 30 *e*PKPdf PKPdf 07 16 04.9 -1.1
PV10 Paradox Valley 129.13 23 *e*PKPdf PKPdf 07 16 05.3 -1.3
PV01 Paradox Valley 129.53 23 *e*PKPdf PKPdf 07 16 04.9 -2.5
RCBR Riachuelo 130.34 269 *e*PKPdf PKPdf 07 16 07.5 -2.0
RCBR LR LR
comp=Z,886nm,20.0s,MS5.5
KSU1 Kansas State U 132.16 11 *e*PKPdf PKPdf 07 16 10.3 -2.1
ANMO Albuquerque 133.13 23 PKP PKPdf 07 16 12.9 -1.4
comp=Z,3.1nm,0.8s,baz=245,slow=2.6,SNR=7.2
ANMO Albuquerque 133.13 23 *e*PKPdf PKPdf 07 16 13.2 -1.1
ANMO LR LR
comp=Z,758nm,21.0s,MS5.4
TUC Tucson 133.47 29 *e*PKIKP PKPdf 07 16 14.0 -0.9
LENM Lemitar 133.61 24 *e*PKPdf PKPdf 07 16 13.8 -1.3
LPM Los Pinos Moun 133.62 24 *e*PKPdf PKPdf 07 16 15.4 +0.2
WMOK Wichita Mounta 135.84 15 PFAKE 07 16 30.0 +11
WMOK LR LR
comp=Z,908nm,19.0s,MS5.5
WVT Waverly 136.13 2 PKIKP PKPdf 07 16 17.8 -1.9
WVT Waverly 136.13 2 *e*PKPdf PKPdf 07 16 17.5 -2.3
GDL2 Guadalupe Moun 136.37 23 *e*PKPdf PKPdf 07 16 15.4 -4.8
MNTX Cornudas Mount 136.41 24 *e*PKPdf PKPdf 07 16 18.4 -2.0
MIAR Mount Ida 137.13 9 *e*PKIKP PKPdf 07 16 18.5 -3.1
MIAR MLR MLR
comp=Z,2µm,22.0s,MS5.7
LTX Lajitas 139.18 24 PFAKE 07 16 30.0 +4.5
LTX LR LR
comp=Z,621nm,20.0s,MS5.3
TXAR Lajitas Array 139.18 24 PKhKP 07 16 14.3
comp=Z,0.6nm,1.0s,baz=201,slow=0.1,SNR=6.6
TXAR PKiKP 07 16 24.0
comp=Z,2.3nm,0.8s,baz=264,slow=0.8,SNR=5.7
TXAR Lajitas Array 139.18 24 PKPdf PKPdf 07 16 24.0 -1.5
JCT Junction City 139.54 19 PKIKP PKPdf 07 16 23.8 -2.3
JCT Junction City 139.54 19 *e*PKPdf PKPdf 07 16 23.5 -2.6
HKT Hockley 141.14 14 PKIKP PKPdf 07 16 27.4 -1.7
HKT Hockley 141.14 14 *e*PKPdf PKPdf 07 16 25.9 -3.2
TRQA Tornquist 143.03 212 PFAKE 07 16 40.0 +14
TRQA LR LR
comp=Z,884nm,19.0s,MS5.5
PLCA Paso Flores 144.59 200 *e*PKIKP PKPdf 07 16 31.1 -3.6
PLCA MLR MLR
comp=Z,976nm,19.0s
PLCA Paso Flores 144.59 200 PKP PKPdf 07 16 31.3 -3.4
comp=Z,56nm,0.9s,baz=153,slow=3.9,SNR=58
SCG Saint Claude 146.20 315 *e*P PKPbc 07 16 37.4 +2.2
BBL Barber's Block 146.39 314 *e*P PKPbc 07 16 37.4 +1.8
CRM Caravelle 146.50 312⇑ *e*P PKPbc 07 16 37.2 +1.3
MVM Montagne Vaucl 146.61 312⇑ *e*P PKPbc 07 16 38.1 +1.9
FDF Fort de France 146.68 312⇑ *e*P PKPbc 07 16 37.0 +0.7
BIM Bigot 146.77 312⇑ *e*P PKPbc 07 16 38.2 +1.8
CPUP Villa Florida 147.27 233 PKPdf PKPdf 07 16 37.9 -1.8
CPUP PKPdf PKPdf 07 16 40.2 +0.5
SJG San Juan 147.59 323 PKP2 PKPab 07 16 40.0 -3.3
SJG San Juan 147.59 323 *e*PKPdf PKPdf 07 16 37.1 -3.3
FCH Farellones 150.90 208 *e*P PKPdf 07 16 48.0 +2.8
CLCH Cerro Calan 150.95 207 *e*P PKPdf 07 16 48.5 +3.2
TEIG Tepich 151.91 5 *e*PKPdf PKPdf 07 16 46.2 -0.9
TEIG *e*PKPbc PKPdf 07 16 51.8 +4.7
SDV Santo Domingo 157.40 317 PKP PKPdf 07 16 52.0 -2.7
comp=Z,14nm,1.2s,baz=303,slow=3.3,SNR=7.3
SDV Santo Domingo 157.40 317 *e*PKPdf PKPdf 07 16 52.1 -2.6
SDV *e*PKPab PKPab 07 17 23.3 -1.2
SDV LR LR
comp=Z,483nm,21.0s,MS5.3
SAML Samuel 157.50 266 *e*PKPdf PKPdf 07 16 52.1 -2.7
LPAZ La Paz 160.76 243 PKP PKPdf 07 16 15.4 -43
comp=Z,14nm,1.2s,baz=57,slow=2.8,SNR=19
LPAZ PKPab PKPab 07 16 57.7 -41
comp=Z,9.6nm,1.0s,baz=105,slow=8.8,SNR=6.2
LPAZ La Paz 160.76 243 PFAKE 07 17 10.0 +12
LPAZ LR LR
comp=Z,516nm,20.0s
OTAV Otavalo 168.99 317 *e*PKPdf PKPdf 07 17 05.4 -0.2
OTAV *e*PKPab PKPab 07 18 15.2 +0.3
OTAV LR LR
comp=Z,487nm,19.0s
NNA Nana 170.21 245 PFAKE 07 17 10.0 +3.7
NNA LR LR
comp=Z,151nm,19.0s

IDC 27 07:02:26.1±17.0, 3.72N×96.39E, mb4.1/5, mb1 4.2/5, mb1mx3.8/17, mbtmp4.1/5, Error ellipse: s-maj=470.1km s-min=125.8km az=161.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**66.84**	**312**	P	P	07 13 20.5	-1.7
	0.8nm,0.6s,baz=123,slow=8.2,SNR=3.6						
FINES	**FINESS Array B**	**77.41**	**332**	P	P	07 14 22.1	-2.4
	1.8nm,0.6s,baz=106,slow=10,SNR=3.1						
ARCES	**ARCESS Array B**	**79.91**	**340**	P	P	07 14 37.7	-0.4
	1.1nm,0.7s,baz=108,slow=5.7,SNR=2.7						
GERES	**GERESS Array B**	**82.40**	**319**	P	P	07 14 50.9	-0.6
	0.6nm,0.7s,baz=63,slow=6.6,SNR=3.0						
HFS	**Hagfors**	**83.15**	**330**	P	P	07 14 52.9	-2.3
	3.1nm,0.9s,baz=63,slow=6.4,SNR=3.2						

*CSEM **27** 07:07:40.9±0.1, 42.33N×5.54E, h25km, ML3.2/18, Error ellipse: s-maj=3.0km s-min=1.5km az=152.0*
*LDG **27** 07:07:42.3±0.1, 42.51N×5.57E, h15km, Md3.1/2, Ml3.3/22, Error ellipse: s-maj=2.8km s-min=1.5km az=150.0*
*NEIC **27** 07:07:42.3, 42.51N×5.57E, h15km, ML3.3(LDG), ML3.0(STR), MN2.5(MDD), After LDG.*
*MDD **27** 07:07:43.0±0.7, 42.49N×5.54E, h30km±3km, mb3.9/7, Error ellipse: s-maj=7.6km s-min=4.0km az=153.0*

ISC 27 07:07:40.3±0.4, 42.64N±0.03×5.38E±0.03, h10km, n82, σ1§48/132, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMR	**La Mourre**	**1.08**	**50**	*e*Pn	**Pn**	**07 08 01.8**	**+0.4**
LMR				*e*Sn	**Sn**	**07 08 14.8**	**-1.7**
	160nm,0.2s						
FRF	**La Foret Royal**	**1.31**	**45**	*e*Pn	**Pn**	**07 08 05.1**	**+0.5**
FRF				*e*Pg	**Pg**	**07 08 07.2**	**+0.8**
FRF				*e*Sn	**Sn**	**07 08 20.5**	**-1.7**
	499nm,0.2s						
SMRF	**Simiane la Rot**	**1.34**	**6**	*e*Pn	**Pn**	**07 08 06.6**	**+1.4**
SMRF				*e*Pg	**Pg**	**07 08 09.9**	**+2.7**
SMRF				*e*Sn	**Sn**	**07 08 24.5**	**+1.3**
SMRF				*e*Sg	**Sg**	**07 08 29.3**	**+4.1**
	48nm,0.2s						
MVIF	**Mont Vial**	**1.80**	**45**	Pg	**Pg**	**07 08 13.9**	**-2.4**
LASF	**Ste Croix**	**1.82**	**323**	*e*Pn	**Pn**	**07 08 13.8**	**+1.8**
LASF				*e*Pg	**Pg**	**07 08 19.7**	**+3.1**
LASF				*e*Sn	**Sn**	**07 08 35.7**	**+0.5**
	45nm,0.2s						
EJON	**La Jonquera**	**1.85**	**265**	P	**Pn**	**07 08 12.4**	**0.0**
EJON				S	**Sn**	**07 08 32.6**	**-3.5**
EJON	**La Jonquera**	**1.85**	**265**	Pn	**Pn**	**07 08 12.4**	**0.0**
	3.6nm,0.1s,SNR=16						
EJON				Sn	**Sn**	**07 08 33.3**	**-2.8**
	5.4nm,0.1s,SNR=6.4						
EJON	**La Jonquera**	**1.85**	**265**	S	**Sn**	**07 08 32.6**	**-3.5**
	5.4nm,0.1s,SNR=6.4						
EJON	**La Jonquera**	**1.85**	**265**	P	**Pn**	**07 08 12.4**	**-0.1**
	3.6nm,0.1s,SNR=16						
TOUF	**Mont Tournerai**	**1.94**	**44**	Pg	**Pg**	**07 08 16.4**	**-2.6**
SBF	**Sospel**	**1.94**	**50**	*e*Pn	**Pn**	**07 08 13.0**	**-0.6**
SBF				*e*P		07 08 15.2	
SBF				*e*Pg	**Pg**	**07 08 17.9**	**-1.1**
SBF				*e*Sn	**Sn**	**07 08 35.5**	**-2.7**
SBF				*e*Sg	**Sg**	**07 08 42.0**	**-2.8**
	110nm,0.4s						
AUTN	**L'Aution**	**2.02**	**47**	Pn	**Pn**	**07 08 15.7**	**+0.9**
AUTN				Sg	**Sg**	**07 08 41.3**	**-6.2**
SAOF	**Saorge**	**2.08**	**49**	Pn	**Pn**	**07 08 17.5**	**+1.8**
NEGI	**Negi**	**2.08**	**54**	P	**Pn**	**07 08 18.8**	**+3.1**
NEGI	**Negi**	**2.08**	**54**	P	**Pn**	**07 08 18.8**	**+3.0**
SURF	**Saint Ours**	**2.12**	**29**	Pn	**Pn**	**07 08 19.3**	**+3.1**
STV	**Sta Anna Valdi**	**2.14**	**41**	P	**Pn**	**07 08 17.9**	**+1.3**
ENR	**Entracque**	**2.17**	**42**	P	**Pn**	**07 08 18.0**	**+0.9**
IMI	**Imperia**	**2.23**	**54**	P	**Pn**	**07 08 17.7**	**-0.2**
IMI	**Imperia**	**2.23**	**54**	P	**Pn**	**07 08 17.7**	**-0.1**
PZZ	**Prazzo**	**2.25**	**33**	P	**Pn**	**07 08 20.5**	**+2.4**
PZZ	**Prazzo**	**2.25**	**33**	P	**Pn**	**07 08 20.5**	**+2.4**
MONE	**Monesi**	**2.25**	**49**	P	**Pn**	**07 08 22.0**	**+3.8**
VIVF	**Saint-Julien-l**	**2.28**	**347**	*e*Pn	**Pn**	**07 08 20.0**	**+1.5**
VIVF				*e*Pg	**Pg**	**07 08 27.9**	**+2.1**
VIVF				*e*Sn	**Sn**	**07 08 46.4**	**-0.5**
	18nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.31**	**9**	*e*Pn	**Pn**	**07 08 19.6**	**+0.6**
ORIF				*e*P		07 08 22.3	
ORIF				*e*Pg	**Pg**	**07 08 27.4**	**+1.0**
ORIF				*e*Sn	**Sn**	**07 08 47.5**	**-0.2**
ORIF				*e*Sg	**Sg**	**07 08 58.5**	**+1.3**
	16nm,0.3s						
MBDF	**Montbardon**	**2.32**	**25**	*e*Pn	**Pn**	**07 08 19.2**	**+0.1**
MBDF				*e*P		07 08 21.8	
MBDF				*e*Pg	**Pg**	**07 08 26.6**	**0.0**
MBDF				*e*Sn	**Sn**	**07 08 46.3**	**-1.7**
MBDF				*e*Sg	**Sg**	**07 08 57.4**	**-0.1**
	23nm,0.3s						
MTLF	**Montolieu**	**2.43**	**288**	*e*Pn	**Pn**	**07 08 21.4**	**+0.7**
MTLF				*e*Sn	**Sn**	**07 08 50.7**	**0.0**
	102nm,0.2s						
ROB	**Roburent**	**2.45**	**47**	P	**Pn**	**07 08 22.0**	**+0.9**
ROB	**Roburent**	**2.45**	**47**	P	**Pn**	**07 08 22.0**	**+0.9**
RRL	**Cesana Torines**	**2.50**	**24**	P	**Pn**	**07 08 18.0**	**-3.7**
FIN	**Finale Ligure**	**2.59**	**52**	P	**Pn**	**07 08 26.9**	**+3.9**
BHB	**Bricherasio**	**2.59**	**31**	P	**Pn**	**07 08 23.6**	**+0.6**
BHB	**Bricherasio**	**2.59**	**31**	P	**Pn**	**07 08 23.6**	**+0.6**
PGF	**Pioggiola**	**2.67**	**91**	*e*Pn	**Pn**	**07 08 21.3**	**-2.9**
PGF				*e*Sn	**Sn**	**07 08 47.9**	**-9.0**
	91nm,0.3s						
FENE	**Fenestrelle**	**2.68**	**26**	P	**Pn**	**07 08 27.4**	**+3.1**
FENE	**Fenestrelle**	**2.68**	**26**	P	**Pn**	**07 08 27.4**	**+3.1**
RSP	**Reno Superiore**	**2.85**	**28**	P	**Pn**	**07 08 29.8**	**+3.0**
RSP	**Reno Superiore**	**2.85**	**28**	P	**Pn**	**07 08 29.8**	**+3.0**
EMIR	**Miracle**	**2.95**	**257**	P	**Pn**	**07 08 26.4**	**-1.8**
EMIR				S	**Sn**	**07 08 59.9**	**-4.1**
EMIR	**Miracle**	**2.95**	**257**	Pn	**Pn**	**07 08 26.4**	**-1.8**
	1.4nm,0.1s,SNR=7.9						
EMIR				Sn	**Sn**	**07 09 01.0**	**-3.0**
	3.4nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**2.95**	**257**	P	**Pn**	**07 08 26.4**	**-1.8**
	1.4nm,0.1s,SNR=7.9						
EMIR				S	**Sn**	**07 08 59.9**	**-4.1**
	3.4nm,0.1s,SNR=7.9						
PCP	**Pian Castagno**	**2.98**	**49**	P	**Pn**	**07 08 33.0**	**+4.3**
LPG	**La Plagne**	**3.02**	**19**	*e*Pn	**Pn**	**07 08 29.3**	**+0.1**
LPG				*e*P		07 08 32.4	
LPG				*e*Pg	**Pg**	**07 08 40.3**	**-0.4**
LPG				*e*Sg	**Sg**	**07 09 20.1**	**-0.9**
	10nm,0.3s						
LPL	**La Plagne**	**3.04**	**18**	*e*Pn	**Pn**	**07 08 29.5**	**+0.1**
LPL				*e*Pg	**Pg**	**07 08 39.6**	**-1.4**
LPL				*e*Sg	**Sg**	**07 09 20.7**	**-0.8**
LSD	**Ceresole Reale**	**3.10**	**24**	P	**Pn**	**07 08 34.5**	**+4.3**
LSD	**Ceresole Reale**	**3.10**	**24**	P	**Pn**	**07 08 34.5**	**+4.3**
COLF	**Collangettes**	**3.13**	**338**	Pn	**Pn**	**07 08 32.0**	**+1.4**
CAF	**Calviac**	**3.32**	**315**	*e*Pn	**Pn**	**07 08 34.7**	**+1.3**
CAF				*e*Sn	**Sn**	**07 09 13.4**	**+0.1**
	7.8nm,0.2s						
FRNF	**Fournols**	**3.42**	**324**	Pn	**Pn**	**07 08 37.6**	**+2.8**
EPOB	**Poblet**	**3.46**	**250**	Pn	**Pn**	**07 08 34.7**	**-0.6**
	1.5nm,0.1s,SNR=8.5						
EPOB				Sn	**Sn**	**07 09 13.2**	**-3.6**
	4.0nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**3.46**	**250**	P	**Pn**	**07 08 34.7**	**-0.6**
	1.5nm,0.1s,SNR=8.5						
EPOB				S	**Sn**	**07 09 13.2**	**-3.6**
	4.0nm,0.1s,SNR=7.9						
ORX	**Oropa**	**3.53**	**31**	P	**Pn**	**07 08 33.9**	**-2.5**
PYM	**Petit Puy Mans**	**3.55**	**332**	Pn	**Pn**	**07 08 38.7**	**+2.0**
PLDF	**La Plantade**	**3.56**	**340**	Pn	**Pn**	**07 08 38.4**	**+1.5**
EPF	**Esparros**	**3.73**	**278**	*e*Pn	**Pn**	**07 08 39.3**	**+0.1**
EPF				*e*Sn	**Sn**	**07 09 22.0**	**-1.7**
	11nm,0.3s						
RJF	**Les Rejaudoux**	**3.86**	**315**	*e*Pn	**Pn**	**07 08 42.1**	**+1.0**
RJF				*e*Sn	**Sn**	**07 09 26.1**	**-0.9**
	11nm,0.2s						
EBIE	**Bielsa**	**3.87**	**272**	Pn	**Pn**	**07 08 43.3**	**+2.2**
	0.5nm,0.1s,SNR=13						
EBIE				Sn	**Sn**	**07 09 28.1**	**+1.0**
	18nm,0.4s,SNR=6.8						
EBIE	**Bielsa**	**3.87**	**272**	S	**Sn**	**07 09 28.1**	**+1.0**
	18nm,0.4s,SNR=6.8						
EBIE	**Bielsa**	**3.87**	**272**	P	**Pn**	**07 08 43.3**	**+2.2**
	0.5nm,0.1s,SNR=13						
CABF	**La Chapelle**	**4.00**	**7**	*e*Pn	**Pn**	**07 08 42.4**	**-0.7**
LFF	**La Frestale**	**4.07**	**306**	*e*Pn	**Pn**	**07 08 45.2**	**+1.1**
LFF				*e*Sn	**Sn**	**07 09 30.2**	**-2.2**
	12nm,0.3s						
ERTA	**Horta de San J**	**4.13**	**248**	P	**Pn**	**07 08 44.4**	**-0.5**
ERTA				S	**Sn**	**07 09 27.4**	**-6.5**
ERTA	**Horta de San J**	**4.13**	**248**	Pn	**Pn**	**07 08 44.4**	**-0.5**
	0.7nm,0.1s,SNR=7.9						
ERTA				Sn	**Sn**	**07 09 29.2**	**-4.7**
	4.4nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**4.13**	**248**	P	**Pn**	**07 08 44.4**	**-0.5**
	0.7nm,0.1s,SNR=7.9						
SMF	**Signal de Mont**	**4.16**	**345**	*e*Pn	**Pn**	**07 08 46.6**	**+1.3**
SMF				*e*Sn	**Sn**	**07 09 32.5**	**-2.0**
	3.9nm,0.2s						
TCF	**Toulx Ste Croi**	**4.30**	**329**	*e*Pn	**Pn**	**07 08 48.8**	**+1.5**
TCF				*e*Sn	**Sn**	**07 09 36.5**	**-1.6**
	2.7nm,0.2s						
BGF	**Bois d'Agland**	**4.32**	**336**	*e*Pn	**Pn**	**07 08 48.5**	**+0.9**
ETSF	**Etsaut**	**4.38**	**275**	*e*Pn	**Pn**	**07 08 49.1**	**+0.6**
ETSF				*e*Sn	**Sn**	**07 09 37.8**	**-2.4**
	13nm,0.3s						
AVF	**Avril sur Loir**	**4.40**	**341**	*e*Pn	**Pn**	**07 08 49.7**	**+1.0**
AVF				*e*Sn	**Sn**	**07 09 38.3**	**-2.3**
	1.4nm,0.2s						
EIBI	**Ibiza**	**4.73**	**222**	Sn	**Sn**	**07 09 41.5**	**-7.6**
	6.7nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**4.88**	**278**	*e*Pn	**Pn**	**07 08 55.1**	**-0.4**
SJPF				*e*Sn	**Sn**	**07 09 49.5**	**-3.3**
	2.8nm,0.2s						
EMOS	**Mosqueruela**	**4.95**	**245**	Pn	**Pn**	**07 08 55.6**	**-0.9**
	0.1nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**07 09 49.3**	**-5.2**
	2.7nm,0.4s,SNR=5.6						
EMOS	**Mosqueruela**	**4.95**	**245**	P	**Pn**	**07 08 55.6**	**-0.9**
	0.1n

*BJI **27** 07:08:17.1, 6.93N×93.65E, h30km, mb4.6*
*IDC **27** 07:08:22.4±0.5, 7.86N×93.96E, mb4.5/25, mb1 4.6/26, mb1mx4.6/29, mbtmp4.5/26, ML4.3/1, Error ellipse: s-maj=30.6km s-min=12.2km az=47.0, putative timing error at LPAZ*
*MOS **27** 07:08:25.9±1.3, 7.86N×94.01E, h33km, mb5.0/30, Error ellipse: s-maj=12.2km s-min=7.5km az=109.9*
*NEIC **27** 07:08:27.1±0.3, 7.92N×94.08E, h30km, mb4.8/16, Error ellipse: s-maj=9.6km s-min=7.5km az=49.0*
ISC 27 07:08:25.6±0.4, **7.90N**±0.06×**94.11E**±0.07, **h33**km, **(h10**km±4.9km:**pP-P), n112,** σ1§**06**/100, **mb4.8**/48, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.50**	**24**	P	**P**	**07 11 08.6**	**-2.1**
CMAR	**Chiang Mai Arr**	**11.50**	**24**	P	**P**	**07 11 12.0**	**+1.4**
CMAR	comp=Z,1.0nm,0.3s			pmax	pmax		
CMAR	**Chiang Mai Arr**	**11.50**	**24**	Pn	**P**	**07 11 12.0**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=212,slow=15,SNR=9.7						
HYB	**Hyderabad**	**17.87**	**303**	*eP*	**P**	**07 12 34.0**	**+0.5**
HYB	**Hyderabad**	**17.87**	**303**	*i* P	**P**	**07 12 34.0**	**+0.5**
KMI	**Kunming**	**19.01**	**25**	P	**P**	**07 12 51.3**	**+3.9**
KMI	comp=Z,26nm,1.5s			pmax	pmax		
KMI	**Kunming**	**19.01**	**25**	P	**P**	**07 12 51.3**	**+3.9**
	comp=Z,26nm,1.5s						
JIRN	**Jiri**	**21.04**	**340**	*eP*	**P**	**07 13 09.8**	**+0.7**
	comp=Z,195nm,1.1s,mb5.3						
PKI	**Pulchoki**	**21.23**	**338**	*eP*	**P**	**07 13 11.7**	**+0.7**
	comp=Z,337nm,1.5s,mb5.5						
GUN	**Gumba**	**21.38**	**340**	*eP*	**P**	**07 13 12.0**	**-0.5**
	comp=Z,205nm,1.1s,mb5.4						
DMN	**Daman**	**21.38**	**338**	*eP*	**P**	**07 13 12.8**	**+0.3**
	comp=Z,117nm,0.8s,mb5.2						
KKN	**Kakani**	**21.48**	**338**	*eP*	**P**	**07 13 13.0**	**-0.5**
	comp=Z,160nm,1.2s,mb5.2						
LSA	**Lhasa**	**21.87**	**353**	*eP*	**P**	**07 13 17.0**	**-0.4**
LSA				pmax	pmax		
	comp=Z,34nm,0.8s,mb4.8						
LSA	**Lhasa**	**21.87**	**353**	*eP*	**P**	**07 13 16.9**	**-0.4**
	comp=Z,34nm,0.8s,mb4.8						
GKN	**Gorkha**	**21.91**	**337**	*eP*	**P**	**07 13 16.8**	**-1.0**
	comp=Z,108nm,0.8s,mb5.3						
KOLN	**Koldanda**	**22.13**	**335**	*eP*	**P**	**07 13 20.1**	**+0.1**
	comp=Z,277nm,1.3s,mb5.5						
NDI	**New Delhi**	**26.10**	**325**	*eP*	**P**	**07 14 01.0**	**+2.6**
ENH	**Enshi**	**26.52**	**31**	*eP*	**P**	**07 14 01.6**	**-0.7**
	comp=Z,17nm,0.8s,mb4.6						
WMQ	**Urumqi**	**36.22**	**352**	*eP*	**P**	**07 15 27.0**	**-0.4**
BJI	**Beijing**	**37.60**	**28**	*eP*	**P**	**07 15 41.6**	**+2.6**
BJI				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
BJI	**Beijing**	**37.60**	**28**	*eP*	**P**	**07 15 41.6**	**+2.6**
	comp=Z,9.0nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**38.67**	**337**	*eP*	**P**	**07 15 46.4**	**-1.5**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**38.67**	**337**	*eP*	**P**	**07 15 46.4**	**-1.6**
	comp=Z,6.1nm,0.9s,mb4.3						
SONM	**Songino Array**	**41.15**	**13**	P	**P**	**07 16 08.8**	**+0.4**
	comp=Z,3.7nm,0.9s,mb4.0,baz=198,slow=7.8,SNR=6.6						
SONM				PcP	PcP	07 18 08.8	+0.8
	comp=Z,2.0nm,0.9s,baz=188,slow=4.3,SNR=6.9						
ULN	**Ulaanbaatar**	**41.32**	**13**	*eP*	**P**	**07 16 09.2**	**-0.6**
KURK	**Kurchatov**	**44.58**	**346**	*eP*	**P**	**07 16 35.5**	**-0.8**
KURK				pmax	pmax		
	comp=Z,38nm,1.3s,mb5.1						
KURK	**Kurchatov**	**44.58**	**346**	*eP*	**P**	**07 16 35.5**	**-0.8**
	comp=Z,38nm,1.3s,mb5.1						
NWAO	**Narrogin (SRO)**	**46.18**	**153**	P	**P**	**07 16 51.1**	**+1.8**
NWAO				pmax	pmax		
	comp=Z,15nm,0.8s						
NWAO	**Narrogin (SRO)**	**46.18**	**153**	P	**P**	**07 16 51.1**	**+1.8**
	comp=Z,15nm,0.8s,mb5.0,baz=357,slow=9.9,SNR=7.8						
HIA	**Hailar**	**46.51**	**23**	*eP*	**P**	**07 16 52.9**	**+1.2**
HIA				pmax	pmax		
	comp=Z,15nm,1.0s						
HIA	**Hailar**	**46.51**	**23**	*eP*	**P**	**07 16 52.9**	**+1.2**
	comp=Z,15nm,1.0s,mb4.9						
ZAL	**Zalesovo**	**46.52**	**352**	P	**P**	**07 16 52.2**	**+0.5**
ZAL				pmax	pmax		
	comp=Z,15nm,1.1s						
ZAL	**Zalesovo**	**46.52**	**352**	P	**P**	**07 16 52.2**	**+0.5**
	comp=Z,15nm,1.1s,mb4.8,baz=305,slow=6.7,SNR=15						
ZAL	**Zalesovo**	**46.52**	**352**	P	**P**	**07 16 52.2**	**+0.5**
NVS	**Novosibirsk**	**47.62**	**352**	*eP*	**P**	**07 16 58.7**	**-1.6**
NVS				*e*		07 17 13.0	
NVS				pmax	pmax		
	comp=N,17nm,1.3s						
NVS				pmax	pmax		
	comp=E,15nm,1.3s						
NVS				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.2						
WRA	**Warramunga Arr**	**48.30**	**126**	P	**P**	**07 17 05.5**	**-0.5**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WRA	**Warramunga Arr**	**48.30**	**126**	P	**P**	**07 17 05.5**	**-0.6**
	comp=Z,4.7nm,0.8s,mb4.5,baz=306,slow=9.1,SNR=9.0						
WRAB	**Tennant Creek**	**48.30**	**126**	*eP*	**P**	**07 17 05.2**	**-0.9**
BVAR	**Borovoye Array**	**48.96**	**341**	P	**P**	**07 17 09.9**	**-0.8**
	comp=Z,2.4nm,0.8s,mb4.3,baz=141,slow=9.5,SNR=8.7						
BVAR				PcP	PcP	07 18 34.5	-0.4
	comp=Z,2.3nm,1.0s,baz=164,slow=7.9,SNR=6.4						
ASAR	**Alice Springs**	**49.95**	**130**	P	**P**	**07 17 18.3**	**-0.4**
	comp=Z,3.6nm,0.8s,mb4.4,baz=301,slow=7.3,SNR=7.1						
ASAR				PcP	PcP	07 18 40.0	+1.2
	comp=Z,1.5nm,0.7s,baz=308,slow=3.9,SNR=5.9						
BOD	**Bodaibo**	**52.14**	**13**	*eP*	**P**	**07 17 33.9**	**-0.9**
GNI	**Garni**	**54.40**	**314**	P	**P**	**07 17 50.6**	**-1.2**
GNI				pmax	pmax		
	comp=Z,2.0nm,0.4s						
GNI	**Garni**	**54.40**	**314**	P	**P**	**07 17 50.6**	**-1.2**
	comp=Z,2.0nm,0.4s,mb4.4,baz=347,slow=18,SNR=2.1						
PMG	**Port Moresby**	**55.56**	**107**	P	**P**	**07 18 00.0**	**-0.6**
PMG				pmax	pmax		
	comp=Z,16nm,0.7s						
PMG	**Port Moresby**	**55.56**	**107**	P	**P**	**07 18 00.0**	**-0.6**
	comp=Z,16nm,0.7s,mb5.1,baz=63,slow=6.8,SNR=3.5						
KMBO	**Kilima Mbogo**	**57.40**	**264**	P	**P**	**07 18 15.5**	**+1.7**
KMBO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KMBO	**Kilima Mbogo**	**57.40**	**264**	P	**P**	**07 18 15.5**	**+1.7**
	comp=Z,9.1nm,0.8s,mb4.8,baz=56,slow=11,SNR=19						
EIL	**Elat**	**59.39**	**300**	P	**P**	**07 18 25.2**	**-2.2**
	comp=Z,2.7nm,0.6s,mb4.5,baz=76,slow=8.3,SNR=2.8						
STKA	**Stephens Creek**	**60.14**	**134**	P	**P**	**07 18 31.5**	**-1.1**
	comp=Z,1.5nm,0.7s,mb4.1,baz=297,slow=2.3,SNR=3.5						
BRTR	**Keskin Array B**	**62.39**	**311**	P	**P**	**07 18 46.0**	**-1.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**62.39**	**311**	P	**P**	**07 18 46.0**	**-1.7**
	comp=Z,1.2nm,0.5s,mb4.2,baz=137,slow=6.6,SNR=5.3						
MBAR	**Mbarara**	**63.73**	**265**	*eP*	**P**	**07 18 55.9**	**-1.1**
MBAR				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
MBAR	**Mbarara**	**63.73**	**265**	*eP*	**P**	**07 18 55.9**	**-1.1**
	comp=Z,12nm,1.3s,mb4.8						
OBN	**Obninsk**	**65.35**	**328**	*eP*	**P**	**07 19 02.3**	**-4.4**
OBN				pmax	pmax		
	comp=Z,44nm,1.4s,mb5.3						
AKASG	**Malin Array Be**	**68.12**	**322**	P	**P**	**07 19 22.5**	**-1.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**68.12**	**322**	P	**P**	**07 19 22.5**	**-1.8**
	comp=Z,1.6nm,0.6s,mb4.2,baz=88,slow=5.1,SNR=6.8						
IDI	**Anoyia**	**68.53**	**305**	P	**P**	**07 19 26.0**	**-1.1**
	comp=Z,6.7nm,0.8s,mb4.7,baz=16,slow=12,SNR=4.0						
MLR	**Muntele Rosu**	**69.14**	**316**	P	**P**	**07 19 31.1**	**+0.4**
MLR	**Muntele Rosu**	**69.14**	**316**	P	**P**	**07 19 31.0**	**+0.4**
	comp=Z,4.5nm,0.7s,mb4.5,baz=275,slow=6.1,SNR=5.9						
LSZ	**Lusaka**	**69.25**	**250**	*eP*	**P**	**07 19 31.5**	**-0.3**
JOF	**Joensuu**	**70.82**	**334**	*ep*	**P**	**07 19 40.2**	**-0.4**
	comp=Z,9.9nm,0.9s,mb4.7						
FINES	**FINESS Array B**	**72.68**	**332**	P	**P**	**07 19 51.5**	**-0.2**
FINES				pmax	pmax		
	comp=Z,7.0nm,0.9s						
FINES	**FINESS Array B**	**72.68**	**332**	P	**P**	**07 19 51.5**	**-0.2**
	comp=Z,6.9nm,0.9s,mb4.6,baz=105,slow=4.8,SNR=8.6						
KAF	**Kangasniemi**	**72.76**	**333**	*ep*	**P**	**07 19 52.4**	**+0.2**
	comp=Z,12nm,0.9s,mb4.8						
KAF	**Kangasniemi**	**72.76**	**333**	*eP*	**P**	**07 19 52.4**	**+0.2**
KAF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
KEV	**Kevo**	**74.81**	**341**	*ep*	**P**	**07 20 04.3**	**+0.3**
	comp=Z,17nm,1.0s,mb4.9						
KEV	**Kevo**	**74.81**	**341**	*eP*	**P**	**07 20 04.3**	**+0.3**
KEV				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
OKC	**Ostrava-Krasne**	**74.96**	**319**	*eP*	**P**	**07 20 10.3**	**+5.1**
ARCES	**ARCESS Array B**	**75.24**	**340**	P	**P**	**07 20 06.3**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ARCES	**ARCESS Array B**	**75.24**	**340**	P	**P**	**07 20 06.3**	**-0.1**
	comp=Z,9.6nm,1.1s,mb4.6,baz=45,slow=1.7,SNR=13						
ARCES	**ARCESS Array B**	**75.24**	**340**	P	**P**	**07 20 06.3**	**-0.1**
MORC	**Moravsky Berou**	**75.34**	**319**	*eP*	**P**	**07 20 07.2**	**-0.2**
MORC				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
MORC	**Moravsky Berou**	**75.34**	**319**	*eP*	**P**	**07 20 07.2**	**-0.3**
	comp=Z,12nm,1.0s,mb4.8						
UPC	**Upice**	**76.38**	**320**	*eP*	pP	07 20 18.5	-5.2
PRU	**Pruhonice**	**77.29**	**319**	*eP*	pP	07 20 23.6	-5.2
PVCC	**Panska Ves**	**77.30**	**320**	*eP*	**P**	**07 20 21.4**	**+2.8**
BRG	**Berggiesshubel**	**77.72**	**320**	*eP*	pP	07 20 27.4	-3.8
BRG				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.7						
BRG	**Berggiesshubel**	**77.72**	**320**	*eP*	pP	07 20 27.4	-3.8
	comp=Z,15nm,1.4s						
GERES	**GERESS Array B**	**77.79**	**318**	P	**P**	**07 20 21.1**	**-0.2**
GERES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GERES	**GERESS Array B**	**77.79**	**318**	P	**P**	**07 20 21.1**	**-0.2**
	comp=Z,6.2nm,1.0s,mb4.5,baz=85,slow=6.2,SNR=13						
KHC	**Kasperske Hory**	**77.88**	**318**	*eP*	**P**	**07 20 21.5**	**-0.3**
KHC				*ex*	x	07 20 26.7	
HFS	**Hagfors**	**78.42**	**330**	P	**P**	**07 20 25.1**	**+0.6**
HFS				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HFS	**Hagfors**	**78.42**	**330**	P	**P**	**07 20 25.1**	**+0.6**
	comp=Z,7.1nm,0.5s,mb4.8,baz=101,slow=7.6,SNR=20						
MOX	**Moxa**	**79.19**	**320**	*eP*	**P**	**07 20 30.0**	**+1.1**
GRA1	**Grafenberg Arr**	**79.43**	**319**	*eP*	**P**	**07 20 31.1**	**+0.9**
	comp=Z,16nm,1.2s,mb4.8						
GRA1				*ep*P	pP	07 20 36.0	-4.6
GRF	**Grafenberg Arr**	**79.43**	**319**	*eP*	**P**	**07 20 31.1**	**+0.9**
GRF				*e**PP	pP	07 20 36.0	-4.6
GRF				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
GRF	**Grafenberg Arr**	**79.43**	**319**	*eP*	**P**	**07 20 31.1**	**+0.9**
GRF				*e**PP	pP	07 20 36.0	-4.6
GRF				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
GRF	**Grafenberg Arr**	**79.43**	**319**	*eP*	**P**	**07 20 31.1**	**+0.9**
	comp=Z,16nm,1.2s,mb4.8						
GRF				*ep*P	pP	07 20 36.0	-4.6
NB2	**NORSAR Subarra**	**79.70**	**331**	P	**P**	**07 20 31.3**	**-0.1**
	comp=Z,2.3nm,0.6s,mb4.3,baz=97,slow=5.0						
NB2	**NORSAR Subarra**	**79.70**	**331**	P	**P**	**07 20 31.3**	**-0.1**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
NOA	**NORSAR Array B**	**79.70**	**331**	P	**P**	**07 20 31.6**	**+0.2**
NOA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NOA	**NORSAR Array B**	**79.70**	**331**	P	**P**	**07 20 31.6**	**+0.2**
	comp=Z,7.1nm,1.0s,mb4.5,baz=95,slow=5.0,SNR=8.3						
DAVOX	**Davos**	**80.35**	**316**	P	**P**	**07 20 36.2**	**+1.0**
	comp=Z,5.1nm,0.6s,mb4.6,baz=159,slow=8.6,SNR=4.7						
LPG	**La Plagne**	**82.58**	**315**	*eP*	**P**	**07 20 47.9**	**+1.0**
	comp=Z,2.1nm,0.9s,mb4.8						
LPG	**La Plagne**	**82.58**	**315**	*eP*	**P**	**07 20 47.9**	**+1.0**
LPG				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
EKA	**Eskdalemuir Ar**	**87.69**	**325**	P	**P**	**07 21 13.2**	**+1.2**
EKA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
EKA	**Eskdalemuir Ar**	**87.69**	**325**	P	**P**	**07 21 13.2**	**+1.2**
	comp=Z,6.1nm,1.0s,mb4.8,baz=104,slow=5.1,SNR=6.1						
ESDC	**Sonseca Array**	**91.18**	**310**	P	**P**	**07 21 29.9**	**+1.0**
	comp=Z,7.3nm,1.1s,mb4.9,baz=58,slow=4.9,SNR=3.7						
ESLA	**Sonseca Array**	**91.18**	**310**	P	**P**	**07 21 29.1**	**+0.2**
IMA	**Indian Mountai**	**91.61**	**22**	*eP*	**P**	**07 21 31.6**	**+1.3**
ILAR	**Eielson Array**	**94.74**	**22**	P	**P**	**07 21 45.1**	**+0.6**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**94.74**	**22**	P	**P**	**07 21 45.0**	**+0.5**
	comp=Z,0.7nm,0.8s,mb4.2,baz=303,slow=4.1,SNR=7.3						
INK	**Inuvik**	**96.98**	**16**	P	**P**	**07 21 55.8**	**+1.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
INK	**Inuvik**	**96.98**	**16**	P	**P**	**07 21 55.8**	**+1.1**
	comp=Z,2.1nm,0.9s,mb4.6,baz=298,slow=5.5,SNR=4.9						
NVAR	**Mina Array Bea**	**124.92**	**31**	PKP	PKPdf	07 27 26.8	+3.9
	comp=Z,1.0nm,0.7s,baz=31,slow=2.1,SNR=6.1						
NVAR	**Mina Array Bea**	**124.92**	**31**	PKP	PKPdf	07 27 26.8	+3.9
PDAR	**Pinedale Array**	**125.16**	**21**	PKP	PKPdf	07 27 25.5	+2.3
	comp=Z,1.5nm,0.9s,slow=3.0,SNR=5.6						
ANMO	**Albuquerque**	**133.16**	**23**	PKP	PKPdf	07 27 42.3	+3.5
	comp=Z,0.3nm,0.3s,baz=311,slow=3.0,SNR=3.4						
TXAR	**Lajitas Array**	**139.22**	**24**	PKP	PKPdf	07 27 54.1	+4.1
	comp=Z,0.4nm,0.5s,baz=194,slow=0.5,SNR=5.8						
PLCA	**Paso Flores**	**144.56**	**200**	PKIKP	PKPdf	07 28 00.4	+1.3
PLCA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PLCA	**Paso Flores**	**144.56**	**200**	PKP	PKPdf	07 28 00.4	+1.3
	comp=Z,6.0nm,0.8s,baz=165,slow=1.7,SNR=10.0						
LPAZ	**La Paz**	**160.75**	**243**	PKP	PKPdf	07 27 45.6	-37
	comp=Z,0.5nm,0.6s,baz=280,slow=3.4,SNR=3.7						
LPAZ				PKPab	PKPab	07 28 24.0	-43
	comp=Z,1.2nm,0.7s,baz=126,slow=5.9,SNR=5.2						

*ATH **27** 07:09:12.5, 40.03N×22.09E, h22km±5km, MD2.9/4*
*NEIC **27** 07:09:12.5, 40.03N×22.09E, h22km, MD2.9(ATH), After ATH.*
*THE **27** 07:09:14.8, 40.00N×21.76E, h6km, ML2.6*
*CSEM **27** 07:09:14.7±0.4, 40.00N×21.76E, h15km, ML2.6, Error ellipse: s-maj=11.1km s-min=5.1km az=67.0*
ISC 27 07:09:14.0±0.8, **40.00N**±0.03×**21.76E**±0.07, **h9**km±9km, **n10,** σ0§**82**/15, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.31**	**2**	*eP*B	**Pb**	**07 09 20.8**	**-0.4**
KZN				*e*SB	**Sb**	**07 09 26.3**	**+0.3**
LIT	**Litokhoron**	**0.57**	**79**	*eP*g	**Pg**	**07 09 25.1**	**-0.5**
LIT				*e*Sg	**Sg**	**07 09 33.9**	**+0.6**
LIT	**Litokhoron**	**0.57**	**79**	*eP*g	**Pg**	**07 09 25.0**	**-0.6**
LIT				*e*Sg	**Sg**	**07 09 33.9**	**+0.6**
JAN	**Janina**	**0.78**	**244**	*eP*N	**Pn**	**07 09 31.9**	**+1.0**
FNA	**Florina**	**0.84**	**340**	*eP*g	**Pg**	**07 09 30.3**	**-0.5**
FNA				*e*Sg	**Sg**	**07 09 42.9**	**+0.8**
AGG	**Agios Georgios**	**1.07**	**155**	*eP*g	**Pg**	**07 09 34.1**	**-1.3**
AGG				*e*Sg	**Sg**	**07 09 51.0**	**+1.3**
GRG	**Griva**	**1.08**	**27**	*eP*g	**Pg**	**07 09 35.0**	**-0.6**
EVR	**Evrytania**	**1.08**	**178**	*eP*N	**Pn**	**07 09 34.1**	**-1.1**
XOR	**Xorichti**	**1.27**	**119**	*eP*b	**Pb**	**07 09 38.2**	**+0.4**
PLG	**Polygyros**	**1.35**	**73**	*eP*N	**Pn**	**07 09 32.8**	**-6.2**

*IDC **27** 07:10:51.4±0.6, 7.94N×94.06E, mb4.3/20, mb1 4.5/21, mb1mx4.4/25, mbtmp4.3/21, Error ellipse: s-maj=28.4km s-min=15.2km az=51.0*
*NEIC **27** 07:10:55.7±0.3, 8.01N×94.26E, h30km, mb4.5/7, Error ellipse: s-maj=13.2km s-min=8.1km az=58.0*
ISC 27 07:10:54.2±0.5, **7.87N**±0.08×**94.15E**±0.09, **h33**km, **n43,** σ1§**08**/38, **mb4.4**/25, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.52**	**23**	P	**P**	**07 13 34.5**	**-4.8**
CMAR	**Chiang Mai Arr**	**11.52**	**23**	Pn	**P**	**07 13 40.8**	**+1.4**
	baz=210,slow=14,SNR=5.8						
HYB	**Hyderabad**	**17.92**	**303**	*i* P	**P**	**07 15 04.0**	**+1.4**
LSA	**Lhasa**	**21.90**	**353**	P	**P**	**07 15 45.6**	**-0.7**
	17nm,0.6s,mb4.6						
ENH	**Enshi**	**26.52**	**31**	*eP*	**P**	**07 16 30.2**	**-0.7**
AAK	**Ala-Archa**	**38.71**	**337**	*eP*	**P**	**07 18 16.3**	**-0.5**
	3.9nm,0.6s,mb4.3						
SONM	**Songino Array**	**41.17**	**13**	P	**P**	**07 18 38.7**	**+1.6**
	0.7nm,0.8s,mb3.4,baz=194,slow=12,SNR=3.1						
KURK	**Kurchatov**	**44.62**	**346**	*eP*	**P**	**07 19 04.5**	**-0.7**
NWAO	**Narrogin (SRO)**	**46.14**	**153**	P	**P**	**07 19 18.9**	**+1.4**
	4.3nm,0.7s,mb4.5,baz=285,slow=19,SNR=3.5						
NWAO	**Narrogin (SRO)**	**46.14**	**153**	P	**P**	**07 19 18.9**	**+1.4**
ZAL	**Zalesovo**	**46.56**	**352**	P	**P**	**07 19 20.9**	**+0.4**
	3.4nm,0.8s,mb4.3,baz=294,slow=6.2,SNR=5.8						
WRA	**Warramunga Arr**	**48.25**	**126**	P	**P**	**07 19 34.5**	**+0.3**
	1.6nm,0.5s,mb4.3,baz=305,slow=8.4,SNR=11						
WRAB	**Tennant Creek**	**48.26**	**126**	*eP*	**P**	**07 19 33.4**	**-0.9**
BVAR	**Borovoye Array**	**49.00**	**341**	P	**P**	**07 19 38.7**	**-0.8**
	3.0nm,0.9s,mb4.3,baz=143,slow=7.4,SNR=4.1						
ASAR	**Alice Springs**	**49.90**	**130**	P	**P**	**07 19 47.3**	**+0.4**
	1.3nm,0.7s,mb4.1,baz=304,slow=7.5,SNR=6.8						
KMBO	**Kilima Mbogo**	**57.43**	**264**	P	**P**	**07 20 44.0**	**+1.4**
	4.8nm,0.7s,mb4.6,baz=55,slow=11,SNR=10						
KMBO	**Kilima Mbogo**	**57.43**	**264**	P	**P**	**07 20 44.0**	**+1.4**
STKA	**Stephens Creek**	**60.09**	**134**	P	**P**	**07 20 58.6**	**-2.2**
	2.8nm,0.8s,mb4.3,baz=295,slow=5.9,SNR=3.9						
BRTR	**Keskin Array B**	**62.44**	**311**	P	**P**	**07 21 14.9**	**-1.6**
	2.2nm,0.7s,mb4.4,baz=119,slow=7.8,SNR=6.5						
AKASG	**Malin Array Be**	**68.16**	**322**	P	**P**	**07 21 51.6**	**-1.5**
	1.3nm,0.6s,mb4.2,baz=91,slow=4.3,SNR=7.4						
IDI	**Anoyia**	**68.58**	**305**	P	**P**	**07 21 55.2**	**-0.7**
	13nm,0.8s,mb4.9,baz=233,slow=20,SNR=4.5						
MLR	**Muntele Rosu**	**69.18**	**316**	P	**P**	**07 21 59.4**	**-0.1**
	4.3nm,0.8s,mb4.4,baz=212,slow=2.1,SNR=4.3						
FINES	**FINESS Array B**	**72.72**	**332**	P	**P**	**07 22 19.8**	**-0.8**
	4.8nm,0.8s,mb4.5,baz=104,slow=7.9,SNR=8.1						
KAF	**Kangasniemi**	**72.80**	**333**	*ep*	**P**	**07 22 19.1**	**-1.9**
	4.8nm,0.8s,mb4.5						
ARCES	**ARCESS Array B**	**75.28**	**340**	P	**P**	**07 22 35.8**	**+0.6**
	4.1nm,1.0s,mb4.3,baz=102,slow=5.7,SNR=5.7						
MORC	**Moravsky Berou**	**75.39**	**319**	*eP*	**P**	**07 22 36.0**	**-0.3**
GERES	**GERESS Array B**	**77.84**	**318**	P	**P**	**07 22 50.7**	**+0.7**
	1.1nm,1.1s,mb4.7,baz=90,slow=5.3,SNR=14						
KHC	**Kasperske Hory**	**77.93**	**318**	*eP*	**P**	**07 22 49.0**	**-1.6**
HFS	**Hagfors**	**78.47**	**330**	P	**P**	**07 22 53.6**	**+0.3**
	12nm,1.0s,mb4.8,baz=90,slow=3.0,SNR=10						
GRA1	**Grafenberg Arr**	**79.48**	**319**	*eP*	**P**	**07 23 00.3**	**+1.3**
	5.0nm,0.9s,mb4.4						
GRF	**Grafenberg Arr**	**79.48**	**319**	*eP*	**P**	**07 23 00.3**	**+1.3**
	5.0nm,0.9s,mb4.4						
NB2	**NORSAR Subarra**	**79.74**	**331**	P	**P**	**07 22 59.5**	**-0.7**
	2.7nm,0.7s,mb4.3,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.74**	**331**	P	**P**	**07 23 00.2**	**0.0**
	5.1nm,0.9s,mb4.5,baz=93,slow=5.5,SNR=9.9						
NOA	**NORSAR Array B**	**79.74**	**331**	P	**P**	**07 23 00.2**	**-0.1**
DAVOX	**Davos**	**80.40**	**316**	P	**P**	**07 23 03.9**	**-0.1**
	3.3nm,0.7s,mb4.4,baz=116,slow=18,SNR=3.5						
LPG	**La Plagne**	**82.63**	**315**	*eP*	**P**	**07 23 16.6**	**+0.9**
	19nm,1.0s,mb4.8						
EKA	**Eskdalemuir Ar**	**87.73**	**325**	P	**P**	**07 23 42.5**	**+1.8**
	5.6nm,1.0s,mb4.7,baz=100,slow=5.1,SNR=5.9						
ILAR	**Eielson Array**	**94.75**	**22**	P	**P**	**07 24 14.3**	**+1.2**
	0.3nm,0.7s,mb3.8,baz=318,slow=5.3,SNR=4.4						
NVAR	**Mina Array Bea**	**124.92**	**31**	PKP	PKPdf	07 29 54.8	+3.4
	0.9nm,0.7s,baz=37,slow=2.1,SNR=4.8						
PDAR	**Pinedale Array**	**125.17**	**21**	PKP	PKPdf	07 29 54.5	+2.6
	0.9nm,0.8s,baz=90,slow=1.5,SNR=4.1						
TXAR	**Lajitas Array**	**139.23**	**24**	PKP	PKPdf	07 30 22.8	+4.2
	0.8nm,0.9s,baz=13,slow=1.7,SNR=5.6						
PLCA	**Paso Flores**	**144.54**	**200**	PKP	PKPdf	07 30 29.7	+2.1
	2.4nm,0.7s,baz=216,slow=8.5,SNR=5.0						
LPAZ	**La Paz**	**160.77**	**243**	PKP	PKPdf	07 30

*IDC **27** 07:17:11.7±1.1, 7.82N×93.69E, mb4.1/7, mb1 4.2/8, mb1mx4.0/19, mbtmp4.1/8, ML3.9/1, Error ellipse: s-maj=60.0km s-min=22.6km az=49.0*

ISC 27 07:17:15.4±0.9, 7.9N±0.2×93.9E±0.2, h33km, n9, σ0§92/9, mb4.1/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.56**	**25**	Pn	**P**	**07 20 01.2**	**+0.1**
	0.2nm,0.3s,baz=213,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**48.50**	**125**	P	**P**	**07 25 55.7**	**-1.7**
	0.7nm,0.5s,mb3.9,baz=305,slow=8.5,SNR=6.4						
ASAR	**Alice Springs**	**50.14**	**130**	P	**P**	**07 26 11.7**	**+1.7**
	0.4nm,0.6s,mb3.6,baz=302,slow=7.4,SNR=3.8						
FINES	**FINESS Array B**	**72.54**	**332**	P	**P**	**07 28 40.5**	**-0.2**
	2.4nm,0.8s,mb4.2,baz=101,slow=7.1,SNR=3.1						
ARCES	**ARCESS Array B**	**75.12**	**340**	P	**P**	**07 28 56.1**	**+0.5**
	7.3nm,1.1s,mb4.5,baz=76,slow=5.0,SNR=4.2						
GERES	**GERESS Array B**	**77.62**	**318**	P	**P**	**07 29 10.7**	**+0.5**
	0.9nm,0.6s,mb3.9,baz=72,slow=4.2,SNR=4.6						
HFS	**Hagfors**	**78.28**	**330**	P	**P**	**07 29 12.6**	**-0.9**
	12nm,1.1s,mb4.7,baz=98,slow=10,SNR=5.1						
NB2	**NORSAR Subarra**	**79.56**	**331**	P	**P**	**07 29 20.5**	**0.0**
	3.4nm,0.9s,mb4.3,baz=93,slow=5.6						
NOA	**NORSAR Array B**	**79.56**	**331**	P	**P**	**07 29 20.2**	**-0.2**
	1.5nm,0.8s,mb4.0,baz=94,slow=5.4,SNR=3.6						

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*IDC **27** 07:17:49.2±1.4, 7.63N×94.06E, mb3.9/5, mb1 4.2/6, mb1mx3.9/18, mbtmp3.9/6, ML4.0/1, Error ellipse: s-maj=60.4km s-min=27.2km az=50.0*

ISC 27 07:17:52.7±1.1, 7.8N±0.2×94.2E±0.2, h33km, n8, σ0§54/8, mb3.9/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.59**	**23**	Pn	**P**	**07 20 39.1**	**+0.2**
	0.3nm,0.3s,baz=214,slow=14,SNR=4.5						
WRA	**Warramunga Arr**	**48.12**	**126**	P	**P**	**07 26 31.6**	**-0.1**
	1.1nm,0.9s,mb3.9,baz=305,slow=9.0,SNR=2.9						
BVAR	**Borovoye Array**	**49.14**	**341**	P	**P**	**07 26 38.2**	**-0.9**
	0.7nm,0.8s,mb3.8,baz=135,slow=6.1,SNR=2.9						
FINES	**FINESS Array B**	**72.86**	**332**	P	**P**	**07 29 20.6**	**+0.7**
	1.8nm,0.8s,mb4.1,baz=114,slow=14,SNR=2.6						
GERES	**GERESS Array B**	**77.98**	**318**	P	**P**	**07 29 49.8**	**+0.4**
	0.9nm,0.7s,mb3.8,baz=90,slow=4.0,SNR=4.1						
KHC	**Kasperske Hory**	**78.07**	**319**	*eP*	**P**	**07 29 50.0**	**+0.1**
NB2	**NORSAR Subarra**	**79.89**	**331**	P	**P**	**07 29 58.7**	**-0.8**
	5.9nm,1.2s,mb4.4,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**79.89**	**331**	P	**P**	**07 29 59.4**	**-0.1**
	1.1nm,0.8s,mb3.9,baz=94,slow=5.4,SNR=3.6						

IDC 27 07:19:51.9±1.5, 7.69N×93.88E, mb4.1/4, mb1 4.3/5, mb1mx3.9/18, mbtmp4.1/5, ML4.3/1, Error ellipse: s-maj=59.8km s-min=31.2km az=48.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.78**	**24**	Pn	P	07 22 41.7	-2.7
	0.6nm,0.3s,baz=209,slow=15,SNR=4.3						
WRA	**Warramunga Arr**	**48.36**	**125**	P	P	07 28 35.8	-2.0
	0.4nm,0.5s,baz=305,slow=8.5,SNR=4.8						
ARCES	**ARCESS Array B**	**75.35**	**340**	P	P	07 31 36.9	-1.7
	1.4nm,0.8s,baz=98,slow=6.4,SNR=3.6						
GERES	**GERESS Array B**	**77.80**	**318**	P	P	07 31 51.3	-1.4
	3.8nm,1.1s,baz=90,slow=6.7,SNR=5.4						
HFS	**Hagfors**	**78.49**	**330**	P	P	07 31 54.8	-1.4
	1.8nm,0.5s,baz=101,slow=7.3,SNR=5.9						

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*IDC **27** 07:20:19.4±0.4, 7.97N×94.12E, mb4.7/24, mb1 4.8/25, mb1mx4.8/28, mbtmp4.7/25, ML4.9/1, Error ellipse: s-maj=24.0km s-min=11.6km az=46.0, putatitive timing error at LPAZ*

*BJI **27** 07:20:22.5, 7.70N×93.83E, h44km, mB5.3, mb4.8, Ms5.3, Msz5.0*

*MOS **27** 07:20:23.1±1.0, 8.01N×94.14E, h33km, mb5.2/50, Error ellipse: s-maj=10.3km s-min=5.7km az=111.3*

*HRVD **27** 07:20:24.3±0.4, 7.95N×94.19E, h14km±2km, MW5.2/50, Centroid moment Tensor Solution. LP body waves: s8,c10;Mantle waves: s50,c92; Half duration: 1§0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.71±.43; $M_{\theta\theta}$-2.54±.22; $M_{\phi\phi}$5.25±.36; $M_{r\theta}$-4.14±1.13; $M_{\theta\phi}$2.64±.21; $M_{\phi r}$-2.30±.80; Best double couple: $M_0$7.059×10^{16} NP1: ϕ_s159°, δ41°, λ-158°. NP2:ϕ_s52°, δ75°, λ-51°. Principal axes: T 7.348, Plg21°, Azm114°; N -.578, Plg38°, Azm221°; P -6.77, Plg45°, Azm2°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **27** 07:20:24.3±0.2, 7.93N×94.05E, h30km, mb5.0/43 Error ellipse: s-maj=6.9km s-min=5.7km az=60.0*

ISC 27 07:20:22.3±0.2, 7.94N±0.03×94.09E±0.04, h29km, h29km±2.3km: pP-P, n216, σ1§09/213, mb5.0/75, MS5.0/4, 8C-8D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.93**	**340**	*eP*	**Pn**	**07 21 27.0**	**+4.8**
PBA				*eS*	**Sn**	**07 22 11.6**	**+3.6**
NST	**Nakhon Sawan**	**9.70**	**37**	P	**P**	**07 22 42.0**	**-1.2**
CM31	**Chiang Mai Arr**	**11.47**	**24**	*eP*	**P**	**07 23 08.4**	**+1.0**
	87nm,0.9s						
CMAR	**Chiang Mai Arr**	**11.47**	**24**	P	**P**	**07 23 08.3**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.47**	**24**	Pn	**P**	**07 23 08.3**	**+0.8**
	comp=Z,2.3nm,0.3s,baz=212,slow=14,SNR=61						
CHG	**Chiang Mai**	**11.79**	**23**	⇑P	**P**	**07 23 12.8**	**+1.0**
	comp=Z,62nm,1.0s						
CHRT	**Chiangrai**	**13.08**	**24**	⇑P	**P**	**07 23 30.5**	**+1.5**
	comp=Z,495nm,1.2s						
PALK	**Pallekele**	**13.29**	**268**	P	**P**	**07 23 30.9**	**-0.8**
	comp=Z,26nm,0.9s						
KOD	**Kodaikanal**	**16.57**	**279**	*eP*	**P**	**07 24 19.6**	**+5.1**
KOD				*e*		07 24 29.6	
	comp=Z,82nm,1.5s						
KOD				*eS*	**S**	**07 27 26.0**	**+9.1**
SHL	**Shillong**	**17.66**	**353**	*eP*	**P**	**07 24 26.3**	**-1.7**
SHL				*e*		07 24 33.1	
	comp=Z,1μm,1.5s						
HYB	**Hyderabad**	**17.84**	**303**	*eP*	**P**	**07 24 32.0**	**+1.7**
HYB				*eS*	**S**	**07 27 49.0**	**+3.5**
HYB	**Hyderabad**	**17.84**	**303**	*i* P	**P**	**07 24 32.0**	**+1.7**
HYB				*eS*	**S**	**07 27 49.0**	**+3.5**
QIZ	**Qiongzhong**	**18.85**	**53**	P	**P**	**07 24 43.5**	**+0.8**
QIZ				*eS*	**S**	**07 28 08.0**	**-0.5**
QIZ				LR	LR		
	comp=N,8μm,14.6s						
QIZ				LR	LR		
	comp=Z,2μm,17.7s						
QIZ	**Qiongzhong**	**18.85**	**53**	*eP*	**P**	**07 24 43.9**	**+1.2**
	comp=Z,87nm,1.1s						
KMI	**Kunming**	**18.98**	**25**	⇓P	**P**	**07 24 47.3**	**+3.1**
KMI				S	**S**	**07 28 13.6**	**+2.3**
KMI				pmax	pmax		
	comp=Z,61nm,1.3s						
KMI	**Kunming**	**18.98**	**25**	⇓P	**P**	**07 24 47.3**	**+3.1**
	comp=Z,61nm,1.3s						
KMI				pP		07 24 56.7	
KMI				sP		07 25 03.7	
KMI				PP	PP	07 25 06.6	+5.9
KMI				PPP	PPP	07 25 14.0	+4.3
KMI				S	**S**	**07 28 13.6**	**+2.3**
KMI				sS		07 28 31.9	
KMI				SS	SS	07 28 40.5	+3.7
COCO	**West Island**	**20.18**	**172**	*eP*	**P**	**07 24 59.2**	**+1.6**
	comp=Z,258nm,1.2s						
JIRN	**Jiri**	**21.00**	**340**	*eP*	**P**	**07 25 05.1**	**-0.8**
	comp=Z,279nm,1.1s						
PKI	**Pulchoki**	**21.19**	**338**	*eP*	**P**	**07 25 07.6**	**-0.3**
	comp=Z,88nm,0.7s,mb5.2						
GOA	**Goa**	**21.20**	**293**	*eP*	**P**	**07 25 13.0**	**+4.9**
GOA				*e*		07 25 19.2	
	comp=Z,66nm,1.2s						
GUN	**Gumba**	**21.33**	**340**	*eP*	**P**	**07 25 08.6**	**-0.7**
	comp=Z,532nm,1.4s,mb5.7						
DMN	**Daman**	**21.34**	**338**	*eP*	**P**	**07 25 09.2**	**-0.2**
	comp=Z,185nm,0.9s,mb5.4						
KKN	**Kakani**	**21.43**	**338**	*eP*	**P**	**07 25 09.4**	**-1.0**
	comp=Z,352nm,1.6s,mb5.5						
LSA	**Lhasa**	**21.83**	**353**	*eP*	**P**	**07 25 13.5**	**-0.8**
LSA				pmax	pmax		
	comp=Z,99nm,0.8s,mb5.3						
LSA	**Lhasa**	**21.83**	**353**	*eP*	**P**	**07 25 13.5**	**-0.8**
	comp=Z,99nm,0.8s,mb5.3						
GKN	**Gorkha**	**21.87**	**337**	*eP*	**P**	**07 25 14.5**	**-0.2**
	comp=Z,124nm,0.6s,mb5.5						
KOLN	**Koldanda**	**22.08**	**335**	*eP*	**P**	**07 25 17.3**	**+0.4**
	comp=Z,138nm,0.9s,mb5.4						
NDI	**New Delhi**	**26.06**	**325**	*eP*	**P**	**07 25 56.3**	**+1.0**
NDI				*e*	pP	07 26 03.5	-0.1
	comp=Z,95nm,1.5s						
NDI				*eS*	**S**	**07 30 32.2**	**+10**
ENH	**Enshi**	**26.49**	**31**	*eP*	**P**	**07 25 59.0**	**-0.2**
	comp=Z,57nm,1.0s,mb5.1						
SMLA	**Simla**	**27.97**	**328**	*eP*	**P**	**07 26 17.2**	**+4.6**
SMLA				*e*	pP	07 26 27.1	+5.9
	comp=Z,16nm,1.0s						
SMLA				*eS*	**S**	**07 31 02.2**	**+8.9**
LZH	**Lanzhou**	**29.40**	**16**	*eP*	**P**	**07 26 25.5**	**0.0**
LZH				AP	pP	07 26 35.0	+1.0
LZH				XP	sP	07 26 41.0	+3.2
LZH				PP	PP	07 27 21.5	+0.3
LZH				*eS*	**S**	**07 31 15.8**	**-0.4**
LZH				XS		07 31 33.5	
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,123nm,5.0s						
LZH				LR	LR		
	comp=E,2μm,12.1s						
LZH				LR	LR		
	comp=Z,3μm,13.5s,MS5.0						
LZH	**Lanzhou**	**29.40**	**16**	*eP*	**P**	**07 26 25.5**	**0.0**
LZH				*PP	pP	07 26 35.0	+1.0
LZH				*SP	sP	07 26 40.9	+3.1
LZH						07 27 21.5	
LZH				*eS*	**S**	**07 31 15.8**	**-0.4**
LZH				*SS		07 31 33.5	
LZH				*eSS	SS	07 32 51.0	+2.1
LZH				pmax	pmax		
	comp=Z,22nm,1.5s,mb4.7						
LZH				MLR	MLR		
	comp=Z,3μm,13.5s,MS5.0						
LZH	**Lanzhou**	**29.40**	**16**	*eP*	**P**	**07 26 25.5**	**0.0**
	comp=Z,22nm,1.5s,mb4.7						
LZH				pP	pP	07 26 35.0	+1.0
LZH				sP	sP	07 26 40.9	+3.1
LZH				PP	PP	07 27 21.5	+0.3
LZH				*eS*	**S**	**07 31 15.8**	**-0.4**
LZH				sS		07 31 33.5	
LZH				*eSS	SS	07 32 51.0	+2.1
LZH				LR	LR		
	comp=Z,3μm,13.5s,MS5.0						
WHN	**Wuhan**	**29.42**	**37**	⇑P	**P**	**07 26 27.0**	**+1.3**
NJ2	**Nanjing**	**33.25**	**40**	*eP*	**P**	**07 26 59.5**	**+0.1**
NJ2				AP	pP	07 27 09.3	+1.3
NJ2				XP	sP	07 27 13.5	+1.8
NJ2				PP	PP	07 28 12.0	+0.9
NJ2				S	**S**	**07 32 17.0**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,1μm,4.5s						
NJ2				LR	LR		
	comp=N,2μm,15.2s,MS5.4						
NJ2				LR	LR		
	comp=E,4μm,10.8s,MS5.4						
NJ2				LR	LR		
	comp=Z,3μm,10.9s,MS5.2						
SSE	**Sheshan**	**34.21**	**44**	P	**P**	**07 27 06.3**	**-1.4**
SSE				S	**S**	**07 32 32.8**	**+1.4**
SSE				AMB	AMB		
	comp=Z,48nm,0.8s,mb5.5						
SSE				AMB	AMB		
	comp=Z,181nm,12.0s						
SSE				LR	LR		
	comp=N,1μm,22.7s,MS4.7						
SSE				LR	LR		
	comp=E,1μm,22.9s,MS4.7						
SSE				LR	LR		
	comp=Z,944nm,16.5s						
SSE	**Sheshan**	**34.21**	**44**	P	**P**	**07 27 06.2**	**-1.5**
	comp=Z,48nm,0.8s,mb5.5						
SSE				pP	pP	07 27 14.9	-1.4
SSE				S	**S**	**07 32 32.7**	**+1.3**
SSE				sS		07 32 47.9	
SSE				LR	LR		
	comp=Z,940nm,16.5s,MS4.6						
WMQ	**Urumqi**	**36.18**	**352**	P	**P**	**07 27 25.3**	**+1.0**
WMQ				AP	pP	07 27 37.3	+4.4
WMQ				XP	sP	07 27 42.8	+6.2
WMQ				PP	PP	07 28 48.3	+1.1
WMQ				PCP	PcP	07 29 50.8	+1.0
WMQ				S	**S**	**07 33 00.8**	**-1.0**
WMQ				AMB	AMB		
	comp=Z,78nm,1.2s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,427nm,5.2s						
WMQ				LR	LR		
	comp=N,1μm,17.8s,MS4.8						
WMQ				LR	LR		
	comp=E,1μm,17.5s,MS4.8						
WMQ				LR	LR		
	comp=Z,2μm,17.6s,MS4.9						
BJT	**Baijiatuau**	**37.55**	**28**	*eP*	**P**	**07 27 37.7**	**+1.8**
BJT				pmax	pmax		
	comp=Z,16nm,0.9s						
BJT	**Baijiatuau**	**37.55**	**28**	*eP*	**P**	**07 27 37.7**	**+1.8**
	comp=Z,16nm,0.9s,mb4.8						
BJI	**Beijing**	**37.57**	**28**	P	**P**	**07 27 39.0**	**+2.9**
BJI				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.7						
BJI	**Beijing**	**37.57**	**28**	P	**P**	**07 27 39.0**	**+2.9**
	comp=Z,18nm,1.2s,mb4.7						
UCH	**Uchtor**	**38.28**	**336**	P	**P**	**07 27 42.9**	**+0.9**
	SNR=5.8						
MBWA	**Marble Bar**	**38.34**	**139**	P	**P**	**07 27 41.7**	**-1.0**
	comp=Z,58nm,1.6s,mb5.1						
TKM2	**Tokmak 2**	**38.45**	**338**	P	**P**	**07 27 43.7**	**+0.3**
	SNR=6.6						
AML	**Almayashu**	**38.53**	**335**	P	**P**	**07 27 44.9**	**+0.8**
	SNR=17						
AAK	**Ala-Archa**	**38.63**	**337**	P	**P**	**07 27 45.5**	**+0.6**
	SNR=7.4						
AAK	**Ala-Archa**	**38.63**	**337**	P	**P**	**07 27 45.2**	**+0.3**
AAK				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.7						
AAK	**Ala-Archa**	**38.63**	**337**	*eP*	**P**	**07 27 44.1**	**-0.8**
	comp=Z,11nm,0.8s,mb4.6						
CHMS	**Chumysh**	**38.84**	**337**	P	**P**	**07 27 46.5**	**-0.1**
	SNR=6.9						
EKS2	**Erkin-Say**	**38.94**	**336**	P	**P**	**07 27 48.2**	**+0.7**
	SNR=11						
USP	**Ospenovka**	**39.16**	**337**	P	**P**	**07 27 49.4**	**0.0**
	SNR=13						
MKAR	**Makanchi Array**	**40.02**	**347**	*i* P	**P**	**07 27 55.6**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,27nm,1.0s						
SONM	**Songino Array**	**41.11**	**13**	P	**P**	**07 28 05.9**	**+0.5**
	comp=Z,8.8nm,0.9s,mb4.4,baz=195,slow=7.2,SNR=28						
SONM				PcP	PcP	07 30 05.6	+0.4
	comp=Z,4.1nm,0.7s,baz=202,slow=3.8,SNR=7.3						
ULN	**Ulaanbaatar**	**41.29**	**13**	*eP*	**P**	**07 28 06.8**	**0.0**
ULN				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**41.29**	**13**	*eP*	**P**	**07 28 06.8**	**0.0**
	comp=Z,10.0nm,0.9s,mb4.5						
KS15	**Wonju Array Si**	**42.42**	**41**	*eP*	**P**	**07 28 18.1**	**+1.8**
ZAK	**Zakamensk**	**43.00**	**9**	⇑*i*P	**P**	**07 28 20.1**	**-0.7**
TLY	**Talaya**	**44.31**	**9**	*eP*	**P**	**07 28 32.3**	**+0.8**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
TLY	**Talaya**	**44.31**	**9**	*eP*	**P**	**07 28 31.1**	**-0.3**
	comp=Z,6.8nm,1.0s,mb4.3						
KURK	**Kurchatov**	**44.54**	**346**	*eP*	**P**	**07 28 33.2**	**-0.1**
KURK				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.2						
KURK	**Kurchatov**	**44.54**	**346**	*eP*	**P**	**07 28 33.2**	**-0.1**
	comp=Z,50nm,1.2s,mb5.2						
MUN	**Mundaring**	**44.96**	**153**	*eP*	**P**	**07 28 39.1**	**+2.1**
	comp=Z,20nm,0.9s,mb4.9						
MUN	**Mundaring**	**44.96**	**153**	*eP*	**P**	**07 28 39.1**	**+2.1**
MUN				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
KLBR	**Kellerberrin**	**45.35**	**151**	*eP*	**P**	**07 28 40.7**	**+0.6**
	comp=Z,653nm,1.4s						
NWAO	**Narrogin (SRO)**	**46.22**	**153**	*eP*	**P**	**07 28 47.2**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,29nm,0.9s						
NWAO	**Narrogin (SRO)**	**46.22**	**153**	P	**P**	**07 28 47.6**	**+0.7**
	comp=Z,7.9nm,0.5s,mb4.9,baz=321,slow=9.3,SNR=11						
NWAO	**Narrogin (SRO)**	**46.22**	**153**	*eP*	**P**	**07 28 47.2**	**+0.3**
	comp=Z,29nm,0.9s,mb5.2						
HIA	**Hailar**	**46.48**	**23**	*eP*	**P**	**07 28 49.6**	**+0.9**
HIA				pmax	pmax		
	comp=Z,38nm,1.2s						
HIA	**Hailar**	**46.48**	**23**	*eP*	**P**	**07 28 49.6**	**+0.9**
	comp=Z,38nm,1.2s,mb5.2						
NVS	**Novosibirsk**	**47.58**	**352**	*eP*	**P**	**07 28 55.0**	**-2.3**
NVS				pmax	pmax		
	comp=N,19nm,1.0s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,450nm,1.0s						
WRA	**Warramunga Arr**	**48.34**	**126**	P	**P**	**07 29 02.4**	**-1.3**
WRA						07 30 29.7	
	comp=Z,4.3nm,0.6s,mb4.7,baz=304,slow=9.1,SNR=21						
WRA				PcP	PcP	07 30 29.7	-0.7
	comp=Z,0.8nm,0.6s,baz=307,slow=3.0,SNR=4.5						
WRAB	**Tennant Creek**	**48.34**	**126**	*eP*	**P**	**07 29 01.8**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
WRAB	**Tennant Creek**	**48.34**	**126**	*eP*	**P**	**07 29 01.8**	**-1.9**
	comp=Z,19nm,1.0s,mb5.1						
WB2	**Warramunga Arr**	**48.35**	**126**	*eP*	**P**	**07 29 02.5**	**-1.2**
BVA0	**Borovoye Array**	**48.91**	**341**	*i* P	**P**	**07 29 06.1**	**-1.6**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
BVAR	**Borovoye Array**	**48.91**	**341**	P	**P**	**07 29 06.8**	**-0.9**
	comp=Z,8.3nm,0.9s,mb4.8,baz=141,slow=9.5,SNR=21						
BVAR				PcP	PcP	07 30 31.8	-0.3
	comp=Z,2.5nm,0.7s,baz=153,slow=3.3,SNR=4.4						
BVAR				ScP		07 34 25.1	
	comp=Z,0.9nm,0.7s,baz=124,slow=5.3,SNR=4.1						
BRVK	**Borovoye**	**48.98**	**341**	*eP*	**P**	**07 29 07.0**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
BRVK	**Borovoye**	**48.98**	**341**	*eP*	**P**	**07 29 07.0**	**-1.2**
	comp=Z,9.4nm,0.9s,mb4.8						
CHKZ	**Chkalovo**	**49.40**	**342**	P	**P**	**07 29 10.8**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
ASPA	**Alice Springs**	**49.99**	**130**	*eP*	**P**	**07 29 15.8**	**-0.6**
ASAR	**Alice Springs**	**49.99**	**130**	P	**P**	**07 29 14.8**	**-1.5**
	comp=Z,5.0nm,0.9s,mb4.5,baz=307,slow=7.1,SNR=15						
ASAR				PcP	PcP	07 30 36.1	-0.2
	comp=Z,4.1nm,0.8s,baz=313,slow=3.4,SNR=9.5						
KLR	**Kul'dur**	**51.85**	**31**	*eP*	**P**	**07 29 29.0**	**-1.2**
KLR				*e*		07 30 39.0	
KLR				*e*		07 31 20.8	
BOD	**Bodaibo**	**52.10**	**13**	*eP*	**P**	**07 29 30.2**	**-1.7**
GNI	**Garni**	**54.36**	**314**	*i* P	**P**	**07 29 49.2**	**+0.4**
GNI				pmax	pmax		
	comp=Z,14nm,1.3s						
GNI	**Garni**	**54.36**	**314**	P	**P**	**07 29 47.5**	**-1.4**
	comp=Z,2.3nm,0.4s,mb4.5,baz=345,slow=14,SNR=2.6						
GNI	**Garni**	**54.36**	**314**	*eP*	**P**	**07 29 46.6**	**-2.2**
	comp=Z,6.6nm,0.7s,mb4.7						
CLNS	**Chul'man**	**54.39**	**20**	*eP*	**P**	**07 29 48.9**	**+0.1**
CLNS				pmax	pmax		
	comp=N,21nm,0.9s						
CLNS				pmax	pmax		
	comp=E,13nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.3						
SVE	**Sverdlovsk**	**55.33**	**338**	*eP*	**P**	**07 29 55.0**	**-0.7**
PMG	**Port Moresby**	**55.60**	**107**	*eP*	**P**	**07 29 58.0**	**-0.2**
PMG				pmax	pmax		
	comp=Z,30nm,0.9s						
PMG	**Port Moresby**	**55.60**	**107**	P	**P**	**07 29 58.2**	**0.0**
	comp=Z,24nm,0.8s,mb5.3,baz=85,slow=0.7,SNR=4.6						
PMG	**Port Moresby**	**55.60**	**107**	*eP*	**P**	**07 29 58.0**	**-0.2**
	comp=Z,30nm,0.9s,mb5.3						
ARU	**Arti**	**55.81**	**337**	⇑*i*P	**P**	**07 29 51.7**	**-7.5**
ARU				*eS*	**S**	**07 37 33.6**	**-9.0**
ARU				*e*SS	SS	07 41 23.6	-4.7
ARU				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
KIV	**Kislovodsk**	**57.24**	**318**	*eP*	**P**	**07 30 09.8**	**+0.2**
KIV				pmax	pmax		
	comp=N,13nm,1.1s						
KIV				pmax	pmax		
	comp=E,8.0nm,1.1s						
KIV				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
KIV	**Kislovodsk**	**57.24**	**318**	*eP*	**P**	**07 30 08.7**	**-0.9**
	comp=Z,19nm,0.8s,mb5.2						
KMBO	**Kilima Mbogo**	**57.38**	**264**	*eP*	**P**	**07 30 12.9**	**+1.9**
KMBO				pmax	pmax		
	comp=Z,37nm,1.7s						
KMBO	**Kilima Mbogo**	**57.38**	**264**	P	**P**	**07 30 12.2**	**+1.2**
	comp=Z,12nm,0.2s,mb5.6,baz=74,slow=21,SNR=9.1						
KMBO	**Kilima Mbogo**	**57.38**	**264**	*eP*	**P**	**07 30 12.9**	**+1.9**
	comp=Z,38nm,1.7s,mb5.1						
MALT	**Malatya**	**58.39**	**310**	*eP*	**P**	**07 30 16.5**	**-1.2**
MALT				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
MALT	**Malatya**	**58.39**	**310**	*eP*	**P**	**07 30 16.5**	**-1.2**
	comp=Z,5.8nm,1.0s,mb4.6						
EIL	**Elat**	**59.35**	**300**	P	**P**	**07 30 24.7**	**+0.2**
	comp=Z,3.9nm,0.7s,mb4.5,baz=120,slow=8.1,SNR=3.9						
EIL	**Elat**	**59.35**	**300**	*eP*	**P**	**07 30 23.8**	**-0.7**
	comp=Z,9.1nm,1.0s,mb4.8						
YAK	**Yakutsk**	**59.95**	**18**	⇑*eP*	**P**	**07 30 27.5**	**-0.7**
YAK				pmax	pmax		
	comp=Z,43nm,0.7s,mb5.6						
YAK	**Yakutsk**	**59.95**	**18**	*eP*	**P**	**07 30 27.2**	**-1.0**
	comp=Z,45nm,0.7s,mb5.6						
STKA	**Stephens Creek**	**60.18**	**134**	*eP*	**P**	**07 30 29.2**	**-1.0**
	comp=Z,6.9nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**60.18**	**134**	P	**P**	**07 30 28.0**	**-2.2**
	comp=Z,4.6nm,0.9s,mb4.5,baz=338,slow=10,SNR=6.2						
BRTR	**Keskin Array B**	**62.

LSZ Lusaka 69.24 250 *e*P **P 07 31 29.8 +0.5**
LSZ pmax pmax
comp=Z,18nm,1.3s,mb4.8
LSZ Lusaka 69.24 250 *e*P **P 07 31 29.8 +0.6**
comp=Z,18nm,1.3s,mb4.8
BURAR Bucovina Array 69.97 318 ⇓P **P 07 31 33.4 +0.2**
JOF Joensuu 70.77 334 *e*p **P 07 31 36.1 -1.7**
comp=Z,13nm,0.8s,mb4.9
APA Apatity 71.77 339 ⇓*i*P **P 07 31 41.5 -2.3**
APA pmax pmax
comp=Z,13nm,0.7s,mb5.0
KOLS Kolonicke sedl 72.12 319 *e*P **P 07 31 47.7 +1.5**
SUW Suwalki 72.43 324 *e*P **P 07 31 47.3 -0.6**
FINES FINESS Array B 72.63 332 P **P 07 31 48.3 -0.6**
FINES pmax pmax
comp=Z,38nm,1.1s
FINES FINESS Array B 72.63 332 P **P 07 31 48.3 -0.6**
comp=Z,38nm,1.1s,mb5.2,baz=101,slow=9.7,SNR=23
CRVS Cervenica-Dubn 72.65 319 *i* P **P 07 31 50.3 +1.0**
KAF Kangasniemi 72.71 333 *e*p **P 07 31 48.2 -1.2**
comp=Z,14nm,0.9s,mb4.9
KAF Kangasniemi 72.71 333 *e*P **P 07 31 48.2 -1.2**
KAF pmax pmax
comp=Z,14nm,0.9s,mb4.9
OJC Ojcow 73.90 320 *e*P **P 07 31 56.6 +0.1**
VYHS Vyhne 74.33 318 *i* P **P 07 31 59.0 0.0**
KEV Kevo 74.76 341 *e*p **P 07 31 59.0 -2.1**
comp=Z,12nm,0.9s,mb4.8
KEV Kevo 74.76 341 *e*P **P 07 31 59.0 -2.1**
KEV pmax pmax
comp=Z,12nm,0.9s,mb4.8
OKC Ostrava-Krasne 74.91 319 *e*P **P 07 32 02.7 +0.3**
CASY Casey 75.00 173 *e*P **P 07 32 03.3 +0.8**
ARCES ARCESS Array B 75.19 340 P **P 07 32 03.3 -0.3**
ARCES pmax pmax
comp=Z,13nm,1.0s
ARCES ARCESS Array B 75.19 340 P **P 07 32 03.3 -0.3**
comp=Z,13nm,1.0s,mb4.8,baz=82,slow=8.6,SNR=9.9
MORC Moravsky Berou 75.30 319 *e*P **P 07 32 04.4 -0.2**
MORC pmax pmax
comp=Z,15nm,1.1s,mb4.8
MORC Moravsky Berou 75.30 319 *e*P **P 07 32 04.4 -0.2**
comp=Z,15nm,1.1s,mb4.8
ZST Bratislava 75.45 318 *e*P **P 07 32 05.7 +0.2**
BOSA Boshof 75.58 238 *e*P **P 07 32 07.4 +0.7**
BOSA pmax pmax
comp=Z,23nm,1.3s,mb5.0
BOSA Boshof 75.58 238 *e*P **P 07 32 07.4 +0.7**
comp=Z,23nm,1.3s,mb5.0
VRAC Vranov 75.88 319 P **P 07 32 07.9 0.0**
VRAC pmax pmax
comp=Z,1.0nm,0.4s
VRAC Vranov 75.88 319 P **P 07 32 07.9 0.0**
comp=Z,1.4nm,0.4s,mb4.2,baz=136,slow=14,SNR=3.0
BILL Bilibino 76.05 22⇑*e*P **P 07 32 08.6 +0.1**
BILL pmax pmax
comp=Z,12nm,0.9s,mb4.8
BILL Bilibino 76.05 22 *e*P **P 07 32 08.4 -0.1**
comp=Z,11nm,0.9s,mb4.8
KSP Ksiaz 76.18 320 *e*P **P 07 32 09.7 +0.1**
KSP *e**PP pP 07 32 15.3 -3.4
KSP Ksiaz 76.18 320 *e*P **P 07 32 10.0 +0.4**
UPC Upice 76.34 320 *e*P **P 07 32 10.9 +0.4**
UPC epP pP 07 32 22.3 +2.7
PRU Pruhonice 77.25 319 *e*P **P 07 32 16.1 +0.5**
BRG Berggiesshubel 77.67 320 *e*P **P 07 32 18.2 +0.3**
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BRG Berggiesshubel 77.67 320 *e*P **P 07 32 18.2 +0.3**
comp=Z,6.4nm,0.9s,mb4.5
GERES GERESS Array B 77.75 318 P **P 07 32 18.8 +0.5**
GERES pmax pmax
comp=Z,5.0nm,0.7s
GERES GERESS Array B 77.75 318 P **P 07 32 18.8 +0.5**
comp=Z,5.1nm,0.7s,mb4.6,baz=90,slow=5.3,SNR=25
KHC Kasperske Hory 77.84 318 *e*P **P 07 32 18.6 -0.2**
KHC epP pP 07 32 24.8 -3.2
CLL Collm 78.28 321 *e*P **P 07 32 21.0 -0.2**
CLL *e* pP 07 32 30.0 -0.4
CLL Collm 78.28 321 P **P 07 32 21.0 -0.2**
CLL *e**SP pP 07 32 30.0 -0.4
HFS Hagfors 78.38 330 P **P 07 32 21.6 +0.1**
HFS pmax pmax
comp=Z,9.0nm,0.6s
HFS Hagfors 78.38 330 P **P 07 32 21.6 0.0**
comp=Z,9.3nm,0.6s,mb4.9,baz=101,slow=7.6,SNR=17
NKC Novy Kostel 78.60 320 *e*P **P 07 32 23.3 +0.3**
MOX Moxa 79.14 320 *e*P **P 07 32 30.0 +4.1**
GRA1 Grafenberg Arr 79.39 319 *e*P **P 07 32 28.0 +0.7**
comp=Z,12nm,1.0s,mb4.8
GRF Grafenberg Arr 79.39 319 *e*P **P 07 32 28.0 +0.7**
GRF pmax pmax
comp=Z,12nm,1.0s,mb4.8
GRF Grafenberg Arr 79.39 319 *e*P **P 07 32 28.0 +0.7**
GRF pmax pmax
comp=Z,12nm,1.0s,mb4.8
GRF Grafenberg Arr 79.39 319 *e*P **P 07 32 28.0 +0.7**
comp=Z,12nm,1.0s,mb4.8
NB2 NORSAR Subarra 79.65 331 P **P 07 32 27.9 -0.6**
comp=Z,14nm,0.9s,mb4.9,baz=91,slow=5.8
NB2 NORSAR Subarra 79.65 331 P **P 07 32 27.9 -0.6**
baz=91,slow=5.9
NOA NORSAR Array B 79.65 331 P **P 07 32 28.3 -0.2**
NOA pmax pmax
comp=Z,8.0nm,0.7s
NOA NORSAR Array B 79.65 331 P **P 07 32 28.2 -0.2**
comp=Z,7.9nm,0.7s,mb4.7,baz=93,slow=5.6,SNR=20
SUR Sutherland 80.33 235 *e*P **P 07 32 34.6 +1.9**
comp=Z,16nm,1.0s,mb4.9
LPG La Plagne 82.54 315 *e*P **P 07 32 44.5 +0.5**
comp=Z,25nm,0.9s,mb5.0
LPG La Plagne 82.54 315 *e*P **P 07 32 44.5 +0.5**
LPG pmax pmax
comp=Z,13nm,0.9s,mb5.0
SYO Syowa Base 85.45 197 ⇑P **P 07 33 00.7 +2.5**
SYO Syowa Base 85.45 197 ⇓PcP PcP 07 33 04.7 +3.1
TNA Tin City 86.13 24 *e*P **P 07 33 01.8 +0.2**
EKA Eskdalemuir Ar 87.64 325 P **P 07 33 10.2 +1.0**
EKA pmax pmax
comp=Z,12nm,1.1s
EKA Eskdalemuir Ar 87.64 325 P **P 07 33 10.2 +1.0**
comp=Z,12nm,1.1s,mb5.0,baz=101,slow=4.9,SNR=8.8
ESDC Sonseca Array 91.14 310 P **P 07 33 26.3 +0.2**
comp=Z,0.7nm,0.5s,mb4.2,baz=63,slow=2.8,SNR=4.2
IMA Indian Mountai 91.58 22 *e*P **P 07 33 29.1 +1.7**
VNDA Vanda 93.00 168 *e*P **P 07 33 34.9 +1.1**
VNDA pmax pmax
comp=Z,14nm,1.6s
VNDA Vanda 93.00 168 *e*P **P 07 33 34.9 +1.1**
comp=Z,14nm,1.6s,mb5.1
MCK McKinley 94.42 23 *e*P **P 07 33 41.1 +0.6**
MCK *e* pP 07 33 48.5 -1.3
MCK pmax pmax
comp=Z,5.0nm,1.1s,mb4.9
MCK McKinley 94.42 23 *e*P **P 07 33 41.1 +0.6**
comp=Z,5.4nm,1.1s,mb4.9
MCK *e* pP 07 33 48.5 -1.3
ILAR Eielson Array 94.70 22 P **P 07 33 41.5 -0.3**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.70 22 P **P 07 33 41.5 -0.3**
comp=Z,1.3nm,0.8s,mb4.4,baz=299,slow=4.5,SNR=15
SML Sawmill 95.57 25 *e*P **P 07 33 46.9 +1.0**
INK Inuvik 96.95 16 P **P 07 33 52.4 +0.4**
INK pmax pmax
comp=Z,7.0nm,1.1s
INK Inuvik 96.95 16 P **P 07 33 52.4 +0.4**
comp=Z,7.2nm,1.1s,mb5.0,baz=313,slow=5.0,SNR=10.0
RES Resolute Bay 97.34 2 *e*P **P 07 33 54.3 +0.7**
RES pmax pmax
comp=Z,11nm,1.0s,mb5.2
RES Resolute Bay 97.34 2 *e*P **P 07 33 54.3 +0.7**
comp=Z,10nm,1.0s,mb5.2
YKA Yellowknife Ar 106.38 13 Pdiff Pdif 07 34 34.8 +0.7
comp=Z,0.2nm,1.0s,baz=49,slow=5.7,SNR=3.3
BBB Bella Bella 110.10 26 Pdiff Pdif 07 34 49.8 -1.0
comp=Z,38nm,1.1s,baz=78,slow=8.6,SNR=3.9
EDM Edmonton 114.77 18 *e*P Pdif 07 35 13.7 +2.4
SNOW Snow King Mount 124.09 22 *e*PKPdf PKPdf 07 39 21.2 -2.2
NVAR Mina Array Bea 124.89 31 PKP PKPdf 07 39 23.3 -1.9
comp=Z,3.4nm,0.8s,baz=32,slow=1.7,SNR=25
PDAR Pinedale Array 125.13 21 PKP PKPdf 07 39 22.4 -3.2
comp=Z,7.1nm,1.1s,baz=36,slow=1.3,SNR=26
MSU Marysvale 127.72 26 *e*PKIKP PKPdf 07 39 28.8 -1.8
PV10 Paradox Valley 129.14 23 *e*PKPdf PKPdf 07 39 30.0 -3.4
GDL2 Guadalupe Moun 136.37 23 *e*PKPdf PKPdf 07 39 43.9 -3.2
MIAR Mount Ida 137.13 9 *e*PKIKP PKPdf 07 39 45.5 -2.9
TXAR Lajitas Array 139.19 24 PKhKP 07 39 41.9
comp=Z,0.4nm,0.7s,baz=282,slow=0.3,SNR=5.3
TXAR PKP PKPdf 07 39 49.6 -2.7
comp=Z,0.9nm,0.5s,baz=193,slow=0.3,SNR=13
JCT Junction City 139.54 19 *e*PKIKP PKPdf 07 39 45.9 -7.0
JCT *e* 07 39 50.4
BAO Brasilia Array 142.15 255 P PKPdf 07 39 52.1 -5.8
PLCA Paso Flores 144.59 200 PKIKP PKPdf 07 39 57.9 -3.6
PLCA pmax pmax
comp=Z,15nm,0.8s
PLCA Paso Flores 144.59 200 PKP PKPdf 07 39 57.9 -3.6
comp=Z,15nm,0.8s,baz=145,slow=2.9,SNR=18
PLCA Paso Flores 144.59 200 *e*PKPdf PKPdf 07 39 57.7 -3.8
TEIG Tepich 151.92 5 *e*PKPdf PKPdf 07 40 12.2 -1.7
TEIG *e*PKPbc PKPdf 07 40 17.4 +3.5
TEIG *e*PKPab PKPab 07 40 24.8 -2.1
SDV Santo Domingo 157.40 317 PKP PKPdf 07 40 18.6 -2.9
comp=Z,2.6nm,0.8s,baz=37,slow=10,SNR=3.6
SDV PKPab PKPab 07 40 50.3 -0.1
comp=Z,3.6nm,0.7s,baz=144,slow=3.1,SNR=3.3
LVC Limon Verde 158.09 226 PKPab PKPab 07 40 51.7 -1.4
comp=Z,6.2nm,1.1s,baz=11,slow=5.2,SNR=2.5

IDC 27 07:25:46.9±1.4, 8.33N×94.30E, mb4.1/5, mb1 4.3/5, mb1mx4.0/17, mbtmp4.1/5, MS4.9/1, Ms1 5.1/1, ms1mx3.5/20, Error ellipse: s-maj=50.0km s-min=39.4km az=97.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.04**	**24**	LR	LR	07 33 19.1	
	comp=Z,5μm,18.2s,baz=200,slow=41						
BVAR	**Borovoye Array**	**48.62**	**341**	P	P	07 34 34.0	-0.3
	1.7nm,1.0s,SNR=3.6						
KMBO	**Kilima Mbogo**	**57.63**	**263**	P	P	07 35 40.1	-1.6
	3.0nm,0.7s,baz=48,slow=12,SNR=8.2						
FINES	**FINESS Array B**	**72.39**	**332**	P	P	07 37 13.3	-3.3
	2.4nm,0.7s,baz=90,slow=5.7,SNR=4.3						
GERES	**GERESS Array B**	**77.60**	**318**	P	P	07 37 45.2	-1.4
	1.7nm,0.8s,baz=90,slow=5.3,SNR=6.3						
NOA	**NORSAR Array B**	**79.42**	**331**	P	P	07 37 54.5	-1.9
	1.5nm,0.8s,baz=95,slow=5.8,SNR=4.4						
NVAR	**Mina Array Bea**	**124.45**	**31**	PKP	PKPdf	07 44 49.3	-1.1
	0.2nm,0.3s,baz=357,slow=0.4,SNR=3.6						
PDAR	**Pinedale Array**	**124.69**	**21**	PKP	PKPdf	07 44 49.0	-1.8
	0.9nm,0.9s,baz=90,slow=1.5,SNR=6.1						
PLCA	**Paso Flores**	**145.03**	**200**	PKPbc	PKPbc	07 45 24.1	-2.6
	4.4nm,1.0s,baz=83,slow=1.0,SNR=5.6						

*IDC **27** 07:25:55.9±0.4, 7.88N×94.04E, mb5.0/24, mb1 5.1/25, mb1mx5.0/27, mbtmp4.9/25, ML4.5/1, Error ellipse: s-maj=23.0km s-min=10.9km az=43.0, putative timing error at LPAZ -*
*BJI **27** 07:25:58.7, 7.50N×93.72E, h51km, mB5.6, mb4.8, Ms5.4, Msz5.1*
*MOS **27** 07:25:59.6±0.9, 7.94N×94.04E, h33km, mb5.5/74, MS4.9/6, Error ellipse: s-maj=9.1km s-min=4.5km az=120.8*
*HRVD **27** 07:26:00.7±0.4, 7.99N×94.21E, h22km±1km, MW5.3/61, Centroid moment Tensor Solution. LP body waves: s20,c30; Mantle waves: s61,c101; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.01±.05; $M_{\theta\theta}$-0.74±.04; $M_{\phi\phi}$0.75±.04; $M_{r\theta}$-0.41±.07; $M_{\theta\phi}$0.56±.03; $M_{\phi r}$-0.29±.08; Best double couple: $M_0$1.059×10^{17} NP1: ϕs153°, δ62°, λ178°. NP2:ϕ_b244°, δ88°, λ28°. Principal axes: T 1.095, Plg21°, Azm112°; N -.073, Plg62°, Azm248°; P -1.022, Plg18°, Azm15°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 07:26:00.7±0.2, 7.83N×93.95E, h30km, mb5.3/67 Error ellipse: s-maj=5.8km s-min=4.6km az=215.0*

ISC 27 07:25:58.3±0.2, 7.88N±0.04×94.01E±0.04, h25km, h25km±1.4km: pP-P, n338, σ0:97/312, mb5.3/115, MS5.0/10, 36C-10D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.95**	**342**	*e*PN	**Pn**	**07 26 56.5**	**-2.4**
PBA				*i* PG	**Pn**	**07 27 14.8**	**+16**
PBA				*e*SN	**Sn**	**07 27 46.5**	**+1.5**
PBA				*i* SB	**Sb**	**07 28 00.3**	**+5.4**
CM31	**Chiang Mai Arr**	**11.55**	**24**	*e*P	**P**	**07 28 45.4**	**+0.4**
	34nm,0.9s						
CMAR	**Chiang Mai Arr**	**11.55**	**24**	P	**P**	**07 28 45.4**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.55**	**24**	Pn	**P**	**07 28 45.4**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=210,slow=14,SNR=14						
PALK	**Pallekele**	**13.20**	**268**	*e*P	**P**	**07 29 02.0**	**-5.0**
	comp=Z,127nm,1.6s						
VIS	**Vishakhapatnam**	**14.27**	**314**	*e*P	**P**	**07 29 20.9**	**-0.3**
VIS				*e*		07 29 33.6	
	comp=Z,194nm,1.3s						
VIS				*e*	**S**	**07 31 51.7**	**-7.9**
BWNR	**Bhubaneshwar**	**14.67**	**328**	*e*P	**P**	**07 29 24.7**	**-1.7**
BWNR				*e*		07 29 30.5	
	comp=Z,94nm,0.5s						
BWNR				*e*		07 31 53.4	
KOD	**Kodaikanal**	**16.50**	**279**	*e*P	**P**	**07 29 46.4**	**-3.6**
KOD				*e*		07 30 00.5	
	comp=Z,112nm,1.4s						
KOD				*e*S	**S**	**07 32 57.0**	**+5.3**
SHL	**Shillong**	**17.70**	**354**	*e*P	**P**	**07 30 00.2**	**-4.8**
SHL				*e*		07 30 11.5	
	comp=Z,2μm,1.9s						
HYB	**Hyderabad**	**17.79**	**304**	*e*P	**P**	**07 30 08.0**	**+1.8**
HYB				pmax	pmax		
	comp=Z,114nm,1.2s						
HYB	**Hyderabad**	**17.79**	**304**	*e*P	**P**	**07 30 08.0**	**+1.8**
	comp=Z,114nm,1.2s						
HYB	**Hyderabad**	**17.79**	**304**	*i* P	**P**	**07 30 08.0**	**+1.8**
	comp=Z,114nm,1.2s						
BLSP	**Bilaspur**	**18.20**	**322**	*e*P	**P**	**07 30 10.6**	**-0.8**
BLSP				*e*		07 30 13.2	
	comp=Z,104nm,0.8s						
BLSP				*e*S	**S**	**07 33 36.6**	**+6.0**
QIZ	**Qiongzhong**	**18.95**	**53**	P	**P**	**07 30 23.5**	**+3.1**
QIZ				LR	LR		
	comp=N,12μm,14.0s						
QIZ				LR	LR		
	comp=Z,3μm,14.8s						
QIZ	**Qiongzhong**	**18.95**	**53**	*e*P	**P**	**07 30 23.3**	**+2.9**
	comp=Z,115nm,1.2s						
KMI	**Kunming**	**19.06**	**25**	⇑P	**P**	**07 30 25.5**	**+3.8**
KMI				pmax	pmax		
	comp=Z,56nm,1.7s						
KMI	**Kunming**	**19.06**	**25**	⇑P	**P**	**07 30 25.5**	**+3.8**
	comp=Z,56nm,1.7s						
KMI				sP		07 30 38.8	
KMI				PP	PP	07 30 42.8	+4.4
KMI				S	**S**	**07 34 03.4**	**+13**
ALBI	**Allahabad**	**20.87**	**328**	*e*P	**P**	**07 30 39.5**	**-1.7**
JIRN	**Jiri**	**21.02**	**340**	*e*P	**P**	**07 30 42.3**	**-0.3**
	comp=Z,455nm,1.2s,mb5.7						
GOA	**Goa**	**21.14**	**293**	*e*P	**P**	**07 30 42.9**	**-1.1**
GOA				*e*		07 30 55.5	
	comp=Z,112nm,0.9s						
GOA				*e*S	**S**	**07 34 38.1**	**+5.1**
PKI	**Pulchoki**	**21.21**	**338**	*e*P	**P**	**07 30 44.0**	**-0.6**
	comp=Z,796nm,1.3s,mb5.9						
GUN	**Gumba**	**21.35**	**340**	*e*P	**P**	**07 30 45.7**	**-0.3**
	comp=Z,975nm,1.3s,mb6.0						
DMN	**Daman**	**21.35**	**338**	*e*P	**P**	**07 30 45.0**	**-1.1**
	comp=Z,268nm,0.9s,mb5.6						
KKN	**Kakani**	**21.45**	**338**	*e*P	**P**	**07 30 46.2**	**-0.9**
	comp=Z,535nm,1.4s,mb5.7						
KAD	**Karad**	**21.47**	**298**	*e*P	**P**	**07 30 48.3**	**+1.0**
KAD				*e*		07 30 53.1	
	comp=Z,127nm,1.3s						
LSA	**Lhasa**	**21.87**	**353**	*e*P	**P**	**07 30 51.0**	**-0.2**
LSA				pmax	pmax		
	comp=Z,138nm,0.8s,mb5.4						
LSA	**Lhasa**	**21.87**	**353**	*e*P	**P**	**07 30 51.0**	**-0.2**
	comp=Z,138nm,0.8s,mb5.4						
GKN	**Gorkha**	**21.88**	**337**	*e*P	**P**	**07 30 50.2**	**-1.2**
	comp=Z,644nm,1.4s,mb5.9						
BHPL	**Bhopal**	**22.06**	**316**	*e*P	**P**	**07 30 54.1**	**+0.9**
BHPL				*e*P		07 30 55.1	
BHPL				*e*		07 30 59.5	
	comp=Z,228nm,1.3s						
BHPL				*e*S	**S**	**07 34 53.9**	**+3.8**
KOLN	**Koldanda**	**22.09**	**335**	*e*P	**P**	**07 30 53.0**	**-0.5**
	comp=Z,1μm,1.4s,mb6.1						
BOM	**Bombay**	**23.31**	**300**	*e*P	**P**	**07 31 02.0**	**-3.6**
NDI	**New Delhi**	**26.05**	**325**	*e*P	**P**	**07 31 32.6**	**+0.9**
NDI				*e*		07 31 36.9	
	comp=Z,142nm,1.2s						
ENH	**Enshi**	**26.58**	**31**	*e*P	**P**	**07 31 37.1**	**+0.5**
	comp=Z,49nm,1.0s,mb5.0						
SMLA	**Simla**	**27.97**	**328**	*e*P	**P**	**07 31 44.8**	**-4.4**
SMLA				*e*		07 32 19.2	
	comp=Z,93nm,1.5s						
SMLA				*e*		07 34 38.6	
XAN	**Xi'an**	**29.44**	**26**	P	**P**	**07 32 02.0**	**-0.5**
XAN				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.5						
LZH	**Lanzhou**	**29.48**	**16**	*e*P	**P**	**07 32 03.5**	**+0.8**
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb4.8						
LZH	**Lanzhou**	**29.48**	**16**	*e*P	**P**	**07 32 03.5**	**+0.8**
LZH				*SP	sP	07 32 12.1	-1.3
LZH				pmax	pmax		
	comp=Z,27nm,1.4s,mb4.8						
LZH	**Lanzhou**	**29.48**	**16**	*e*P	**P**	**07 32 03.5**	**+0.8**
	comp=Z,27nm,1.4s,mb4.8						
LZH				pP	pP	07 32 09.3	-0.8
LZH				sP	sP	07 32 12.1	-1.3
WHN	**Wuhan**	**29.51**	**38**	⇑P	**P**	**07 32 03.5**	**+0.4**
NJ2	**Nanjing**	**33.35**	**40**	*e*P	**P**	**07 32 37.0**	**+0.2**
NJ2				AP	pP	07 32 46.5	+2.3
NJ2				PP	PP	07 33 51.3	+2.6
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,2μm,4.0s						
NJ2				LR	LR		
	comp=N,2μm,12.3s,MS5.4						
NJ2				LR	LR		
	comp=E,4μm,12.4s,MS5.4						
NJ2				LR	LR		
	comp=Z,3μm,12.5s,MS5.2						
WMQ	**Urumqi**	**36.22**	**352**	⇑*i*P	**P**	**07 33 01.5**	**+0.3**
WMQ				AP	pP	07 33 11.3	+2.6
WMQ				XP	sP	07 33 15.0	+3.2
WMQ				PP	PP	07 34 24.0	-0.3
WMQ				PCP	PcP	07 35 27.3	+0.7
WMQ				AMB	AMB		
	comp=Z,113nm,1.0s,mb5.8						
WMQ				AMB	AMB		
	comp=Z,703nm,4.9s						
WMQ				LR	LR		
	comp=N,2μm,17.4s,MS5.1						
WMQ				LR	LR		
	comp=E,1μm,17.1s,MS5.1						
WMQ				LR	LR		
	comp=Z,3μm,17.5s,MS5.1						
BJT	**Baijiatuau**	**37.64**	**28**	*e*P	**P**	**07 33 14.4**	**+1.2**
BJT				pmax	pmax		
	comp=Z,50nm,1.4s						
BJT	**Baijiatuau**	**37.64**	**28**	*e*P	**P**	**07 33 14.3**	**+1.2**
	comp=Z,50nm,1.4s,mb5.0						
SMDO	**Samad**	**37.66**	**298**	⇑P	**P**	**07 33 16.0**	**+2.5**
BJI	**Beijing**	**37.66**	**28**	*e*P	**P**	**07 33 15.2**	**+1.8**
BJI				pmax	pmax		
	comp=Z,17nm,1.6s,mb4.5						
BJI	**Beijing**	**37.66**	**28**	*e*P	**P**	**07 33 15.2**	**+1.8**
	comp=Z,17nm,1.6s,mb4.5						
BIDO	**Bidbid**	**37.73**	**298**	⇓P	**P**	**07 33 17.9**	**+3.8**
KZA	**Kyzart**	**37.88**	**337**	P	**P**	**07 33 15.6**	**+0.5**
	SNR=9.2						
UCH	**Uchtor**	**38.29**	**336**	P	**P**	**07 33 19.1**	**+0.5**
	SNR=14						
BSY	**Bisya**	**38.31**	**297**	⇑P	**P**	**07 33 22.6**	**+3.6**
	SNR=8.2						
BSY				P		07 33 22.8	
	SNR=8.2						
HOQ	**Hoqain**	**38.46**	**298**	P	**P**	**07 33 23.9**	**+3.7**
	SNR=11						
HOQ				P		07 33 23.9	
	SNR=11						
TKM2	**Tokmak 2**	**38.47**	**338**	P	**P**	**07 33 21.2**	**+1.1**
	SNR=10						
KBK	**Karagaybulak**	**38.49**	**337**	P	**P**	**07 33 22.1**	**+1.9**
	SNR=5.6						
AML	**Almayashu**	**38.54**	**336**	P	**P**	**07 33 20.8**	**+0.1**
	SNR=26						
AAK	**Ala-Archa**	**38.64**	**337**	P	**P**	**07 33 22.6**	**+1.0**
	SNR=18						
AAK	**Ala-Archa**	**38.64**	**337**	P	**P**	**07 33 21.9**	**+0.3**
AAK				pmax	pmax		
	comp=Z,38nm,1.1s,mb5.0						
AAK	**Ala-Archa**	**38.64**	**337**	⇑*i*P	**P**	**07 33 21.1**	**-0.5**
CHMS	**Chumysh**	**38.85**	**337**	P	**P**	**07 33 23.0**	**-0.3**
	SNR=11						
EKS2	**Erkin-Say**	**38.95**	**336**	P	**P**	**07 33 24.6**	**+0.5**
	SNR=15						
ARQ	**Araqi**	**39.08**	**297**	P	**P**	**07 33 29.1**	**+3.6**
	SNR=9.1						
ARQ				P		07 33 29.1	
	SNR=9.1						
USP	**Ospenovka**	**39.18**	**337**	P	**P**	**07 33 25.9**	**-0.2**
	SNR=25						
MKAR	**Makanchi Array**	**40.05**	**347**	*i* P	**P**	**07 33 32.3**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,43nm,1.0s						
FITZ	**Fitzroy Crossi**	**40.52**	**130**	*e*P	**P**	**07 33 36.1**	**-1.3**
	comp=Z,12nm,0.9s,mb4.5						
SONM	**Songino Array**	**41.18**	**13**	P	**P**	**07 33 43.1**	**+0.6**
	comp=Z,8.6nm,0.9s,mb4.4,baz=195,slow=6.6,SNR=27						
SONM				PcP	PcP	07 35 42.9	+0.8
	comp=Z,5.7nm,0.7s,baz=195,slow=4.3,SNR=8.0						
ULN	**Ulaanbaatar**	**41.36**	**13**	⇓*e*P	**P**	**07 33 44.4**	**+0.5**
KS15	**Wonju Array Si**	**42.51**	**41**	*e*P	**P**	**07 33 55.3**	**+1.7**
SNY	**Shenyang**	**42.74**	**33**	⇓P	**P**	**07 33 56.0**	**+0.6**
SNY				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
SNY				LR	LR		
	comp=N,2μm,16.3s						
SNY				LR	LR		
	comp=Z,2μm,17.8s,MS5.0						
ZAK	**Zakamensk**	**43.06**	**9**	*e*P	**P**	**07 33 57.0**	**-0.9**
TLY	**Talaya**	**44.38**	**9**	⇑*e*P	**P**	**07 34 07.7**	**-0.9**
KURK	**Kurchatov**	**44.57**	**346**	*e*P	**P**	**07 34 08.5**	**-1.6**
KURK				pmax	pmax		
	comp=Z,91nm,1.1s,mb5.5						
KURK	**Kurchatov**	**44.57**	**346**	*e*P	**P**	**07 34 08.5**	**-1.6**
	comp=Z,91nm,1.1s,mb5.5						
MUN	**Mundaring**	**44.95**	**153**	*e*P	**P**	**07 34 14.5**	**+1.0**
	comp=Z,26nm,0.9s,mb5.1						
MUN	**Mundaring**	**44.95**	**153**	*e*P	**P**	**07 34 14.5**	**+1.0**
MUN				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.1						
KLBR	**Kellerberrin**	**45.35**	**151**	*e*P	**P**	**07 34 17.2**	**+0.6**
	comp=Z,228nm,0.9s,mb6.0						
NWAO	**Narrogin (SRO)**	**46.22**	**153**	P	**P**	**07 34 24.2**	**+0.8**
NWAO				pmax	pmax		
	comp=Z,22nm,0.8s						
NWAO	**Narrogin (SRO)**	**46.22**	**153**	P	**P**	**07 34 24.2**	**+0.8**
	comp=Z,22nm,0.8s,mb5.2,baz=310,slow=9.5,SNR=8.6						
NWAO	**Narrogin (SRO)**	**46.22**	**153**	*e*P	**P**	**07 34 24.1**	**+0.7**
	comp=Z,21nm,0.9s,mb5.1						
NVS	**Novosibirsk**	**47.62**	**352**	*e*P	**P**	**07 34 32.0**	**-2.2**
NVS				pmax	pmax		
	comp=N,50nm,1.3s						
NVS				pmax	pmax		
	comp=E,36nm,1.3s						
NVS				pmax	pmax		
	comp=Z,122nm,1.3s,mb5.8						
MDJ	**Mudanjiang**	**47.87**	**34**	P	**P**	**07 34 38.5**	**+2.2**
MDJ				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,958nm,7.4s						
MDJ				LR	LR		
	comp=N,863nm,15.2s,MS5.2						
MDJ				LR	LR		
	comp=E,2μm,12.9s,MS5.2						
MDJ				LR	LR		
	comp=Z,2μm,15.2s,MS5.2	

WRAB Tennant Creek 48.38 125 *eP* **P 07 34 39.3 -1.3**
WRAB pmax pmax
comp=Z,27nm,0.9s,mb5.3
WRAB Tennant Creek 48.38 125 *eP* **P 07 34 39.3 -1.2**
comp=Z,27nm,0.9s,mb5.3
WB2 Warramunga Arr 48.38 125 *eP* **P 07 34 39.5 -1.1**
BVA0 Borovoye Array 48.94 341 P **P 07 34 43.0 -1.4**
BVA0 pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
BVAR Borovoye Array 48.94 341 P **P 07 34 43.1 -1.3**
comp=Z,11nm,0.9s,mb4.9,baz=143,slow=7.4,SNR=24
BVAR PcP PcP 07 36 09.3 +0.5
comp=Z,4.9nm,0.9s,baz=225,slow=4.2,SNR=5.2
RAYN Ar Rayn 48.96 294 P **P 07 34 46.3 +1.3**
comp=Z,462nm,0.8s,SNR=20
BRVK Borovoye 49.00 341⇑ *eP* **P 07 34 43.7 -1.2**
MAT Matsushiro 49.25 48 PCP PcP 07 36 10.4 +0.2
CHKZ Chkalovo 49.42 342 P **P 07 34 47.2 -0.9**
CHKZ pmax pmax
comp=Z,50nm,1.0s,mb5.5
ASPA Alice Springs 50.02 130 *eP* **P 07 34 52.0 -1.2**
ASAR Alice Springs 50.02 130 P **P 07 34 51.7 -1.5**
comp=Z,7.5nm,0.8s,mb4.8,baz=306,slow=7.2,SNR=22
ASAR PcP PcP 07 36 13.3 +0.2
comp=Z,7.3nm,0.8s,baz=308,slow=3.8,SNR=11
KLR Kul'dur 51.94 31 *eP* **P 07 35 02.8 -4.6**
KLR *e* 07 37 04.7
BOD Bodaibo 52.17 13 *eP* **P 07 35 06.7 -2.3**
GNI Garni 54.33 314 P **P 07 35 25.7 +0.5**
GNI pmax pmax
comp=Z,16nm,0.9s
GNI Garni 54.33 314 P **P 07 35 25.7 +0.5**
comp=Z,16nm,0.9s,mb5.0,baz=173,slow=5.0,SNR=10
CLNS Chul'man 54.47 20 *eP* **P 07 35 25.0 -1.0**
CLNS pmax pmax
comp=Z,31nm,0.7s,mb5.3
CLNS pmax pmax
comp=N,25nm,0.9s
CLNS pmax pmax
comp=E,21nm,1.0s
CLNS MLR MLR
comp=Z,1μm,11.0s,MS5.2
CLNS MLR MLR
comp=N,1μm,14.0s,MS5.1
CLNS MLR MLR
comp=E,200nm,12.0s,MS5.1
TI2 Plekhanov 54.95 316 *eP* **P 07 35 29.2 -0.5**
SVE Sverdlovsk 55.34 338 *eP* **P 07 35 31.0 -1.4**
SVE pmax pmax
comp=Z,120nm,1.5s,mb5.7
SVE MLR MLR
comp=N,1μm,20.0s,MS5.0
SVE MLR MLR
comp=E,600nm,20.0s,MS5.0
SVE MLR MLR
comp=Z,1μm,20.0s,MS5.0
PMG Port Moresby 55.66 107 P **P 07 35 34.0 -1.3**
PMG pmax pmax
comp=Z,32nm,0.8s
PMG Port Moresby 55.66 107 P **P 07 35 34.0 -1.3**
comp=Z,32nm,0.8s,mb5.4,baz=326,slow=1.5,SNR=8.3
ARU Arti 55.83 337 P **P 07 35 34.8 -1.1**
comp=Z,190nm,0.9s,mb6.1,SNR=13
ARU Arti 55.83 337⇑ *iP* **P 07 35 28.8 -7.1**
ARU *eS* **S 07 43 11.0 -8.7**
ARU *e*SS SS 07 47 02.4 -3.1
ARU pmax pmax
comp=Z,34nm,1.0s,mb5.3
ZEI Tsey 55.94 317 *eP* **P 07 35 36.1 -0.8**
ZEI *i* *PP pP 07 35 46.1 +1.6
ZEI *i* 07 37 41.2
ZEI pmax pmax
comp=Z,11nm,1.1s,mb4.8
YSS Yuzh-Sakhalins 56.86 38 *eP* **P 07 35 45.0 +1.6**
YSS MLR MLR
comp=Z,1μm,15.0s,MS5.0
KIV Kislovodsk 57.22 318*c iP* **P 07 35 45.3 -0.7**
KIV pmax pmax
comp=N,33nm,1.1s
KIV pmax pmax
comp=E,24nm,1.1s
KIV pmax pmax
comp=Z,45nm,1.1s,mb5.4
KIV Kislovodsk 57.22 318 *eP* **P 07 35 45.0 -1.0**
comp=Z,60nm,1.1s,mb5.5
KMBO Kilima Mbogo 57.29 264 P **P 07 35 48.0 +1.1**
KMBO pmax pmax
comp=Z,23nm,0.9s
KMBO Kilima Mbogo 57.29 264 P **P 07 35 48.0 +1.1**
comp=Z,23nm,0.8s,mb5.2,baz=52,slow=9.4,SNR=32
KMBO Kilima Mbogo 57.29 264 *eP* **P 07 35 49.1 +2.1**
comp=Z,49nm,1.1s,mb5.5
ASF Jabal al Asfar 58.10 303 P **P 07 35 51.8 -0.5**
comp=Z,8.3nm,0.9s,mb4.7,baz=6.1,slow=3.0,SNR=6.4
MALT Malatya 58.35 310 *eP* **P 07 35 52.4 -1.6**
MALT pmax pmax
comp=Z,23nm,1.2s,mb5.1
MALT Malatya 58.35 310 *eP* **P 07 35 52.4 -1.6**
comp=Z,23nm,1.2s,mb5.1
CTA Charters Tower 58.43 119 P **P 07 35 52.9 -1.9**
CTA pmax pmax
comp=Z,5.0nm,0.9s
CTA Charters Tower 58.43 119 P **P 07 35 52.9 -1.9**
comp=Z,5.3nm,0.9s,mb4.6,baz=180,slow=14,SNR=2.9
SOKR Solikamsk 58.74 339⇑ *iP* **P 07 35 54.7 -1.7**
SOKR pmax pmax
comp=Z,50nm,0.9s,mb5.5
SOC Sochi 59.08 317 *eP* **P 07 35 55.9 -3.1**
SOC *e* 07 36 42.2
SOC *e*S **S 07 44 01.9 -0.8**
SOC *e* 07 45 43.3
SOC *e*SS SS 07 47 56.0 -2.6
SOC pmax pmax
comp=Z,32nm,1.0s,mb5.3
SOC pmax pmax
comp=N,11nm,0.9s
SOC pmax pmax
comp=E,16nm,0.8s
SOC MLR MLR
comp=Z,923nm,20.0s,MS4.9
SOC MLR MLR
comp=N,543nm,22.0s,MS4.7
SOC MLR MLR
comp=E,331nm,19.0s,MS4.7
EIL Elat 59.30 300 P **P 07 36 00.7 -0.1**
comp=E,15nm,1.0s,mb5.0,baz=114,slow=10.0,SNR=12
EIL Elat 59.30 300 *eP* **P 07 36 00.5 -0.3**
comp=E,61nm,1.4s,mb5.4
YAK Yakutsk 60.03 19*d iP* **P 07 36 04.7 -0.6**
YAK pmax pmax
comp=Z,88nm,0.9s,mb5.8
YAK Yakutsk 60.03 19 *i* Pr 07 36 04.8
STKA Stephens Creek 60.21 134 *eP* **P 07 36 05.9 -1.0**
comp=Z,6.4nm,0.9s,mb4.7
STKA Stephens Creek 60.21 134 P **P 07 36 04.8 -2.1**
comp=Z,5.2nm,0.8s,mb4.6,baz=327,slow=6.3,SNR=9.7
STKA Stephens Creek 60.21 134 *eP* **P 07 36 01.1 -5.9**
BRTR Keskin Array B 62.32 311 P **P 07 36 19.2 -1.9**
BRTR pmax pmax
comp=Z,8.0nm,0.8s
BRTR Keskin Array B 62.32 311 P **P 07 36 19.2 -1.9**
comp=Z,7.9nm,0.8s,mb4.9,baz=125,slow=6.3,SNR=24
VOR Voronezh 62.50 325 *eP* **P 07 36 21.0 -1.1**
VOR pmax pmax
comp=Z,120nm,1.4s,mb5.8
SIM Simferopol' 63.33 317 *eP* **P 07 36 28.0 +0.3**
SIM pmax pmax
comp=Z,27nm,0.8s,mb5.4
SIM MLR MLR
comp=Z,560nm,19.3s,MS4.8
MBAR Mbarara 63.63 265 *eP* **P 07 36 30.6 +0.4**
MBAR pmax pmax
comp=Z,37nm,1.1s,mb5.3
MBAR Mbarara 63.63 265 *eP* **P 07 36 30.6 +0.4**
comp=Z,37nm,1.1s,mb5.3
MOS Moscow 65.00 329 *eP* **P 07 36 37.2 -1.2**
MOS *e* 07 37 06.1
MOS pmax pmax
comp=Z,168nm,1.4s,mb5.9
MOS MLR MLR
comp=Z,1μm,19.6s,MS5.1
OBN Obninsk 65.30 328⇑ *eP* **P 07 36 36.6 -3.8**
OBN *i* 07 36 41.9
OBN *e* 07 37 07.0
OBN *e* 07 39 00.5
OBN pmax pmax
comp=Z,99nm,1.1s,mb5.8
OBN Obninsk 65.30 328⇑ *eP* **P 07 36 36.7 -3.7**
MA2 Magadan 66.82 28 *eP* **P 07 36 49.1 -0.9**
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.1
MA2 Magadan 66.82 28⇑ *eP* **P 07 36 49.2 -0.8**
TIXI Tiksi 67.25 11⇑ *eP* **P 07 36 50.9 -1.7**
TIXI pmax pmax
comp=Z,60nm,1.0s,mb5.6
TIXI Tiksi 67.25 11⇑ *eP* **P 07 36 50.0 -2.6**
KIS Kishinev 67.42 318 *eP* **P 07 36 53.0 -1.1**
AKASG Malin Array Be 68.06 322 P **P 07 36 55.9 -2.1**
AKASG pmax pmax
comp=Z,9.0nm,0.7s
AKASG Malin Array Be 68.06 322 P **P 07 36 55.9 -2.1**
comp=Z,9.3nm,0.7s,mb4.9,baz=90,slow=4.6,SNR=29
IDI Anoyia 68.45 305 P **P 07 37 00.4 -0.3**
comp=Z,30nm,0.7s,mb5.4,baz=96,slow=8.6,SNR=11
VRI Vrinciioaia 68.60 316 ⇑P **P 07 37 01.1 -0.3**
MLR Muntele Rosu 69.07 316 P **P 07 37 04.1 -0.2**
MLR pmax pmax
comp=Z,31nm,0.9s
MLR Muntele Rosu 69.07 316 P **P 07 37 04.1 -0.3**
comp=Z,31nm,0.9s,mb5.2,baz=56,slow=2.7,SNR=19
MLR Muntele Rosu 69.07 316 ⇑P **P 07 37 03.8 -0.5**
LSZ Lusaka 69.14 250 *eP* **P 07 37 06.7 +1.4**
LSZ pmax pmax
comp=Z,24nm,1.3s,mb5.0
LSZ Lusaka 69.14 250 *eP* **P 07 37 06.7 +1.4**
comp=Z,24nm,1.3s,mb5.0
BURAR Bucovina Array 69.95 318 ⇓P **P 07 37 09.1 -0.6**
JOF Joensuu 70.78 334 *ep* **P 07 37 13.7 -0.8**
comp=Z,36nm,1.0s,mb5.3
BOLS Boljevac 71.64 313⇑ *iP* **P 07 37 19.4 -0.5**
KWP Kalwaria 71.94 320 *eP* **P 07 37 21.2 -0.4**
KOLS Kolonicke sedl 72.11 319 *eP* **P 07 37 22.7 0.0**
SUW Suwalki 72.42 324 *eP* **P 07 37 23.1 -1.3**
SUW pmax pmax
comp=Z,246nm,1.2s,mb6.0
SUW Suwalki 72.42 324 *eP* **P 07 37 23.1 -1.3**
comp=Z,246nm,1.2s,mb6.0
SUW Suwalki 72.42 324 *eP* **P 07 37 23.9 -0.5**
CRVS Cervenica-Dubn 72.63 319 *i* P **P 07 37 26.3 +0.5**
CRVS *i* pP pP 07 37 36.2 +2.6
CRVS *i* 07 37 44.5
FINES FINESS Array B 72.64 332 P **P 07 37 24.7 -0.8**
FINES pmax pmax
comp=Z,21nm,0.8s
FINES FINESS Array B 72.64 332 P **P 07 37 24.7 -0.8**
comp=Z,21nm,0.8s,mb5.1,baz=90,slow=5.7,SNR=32
KAF Kangasniemi 72.72 333 *ep* **P 07 37 26.5 +0.5**
comp=Z,43nm,1.0s,mb5.3
KAF Kangasniemi 72.72 333 *eP* **P 07 37 26.5 +0.5**
KAF pmax pmax
comp=Z,43nm,1.0s,mb5.3
KECS Kecovo 73.22 318 *eP* **P 07 37 29.2 0.0**
NIE Niedzica 73.45 319 *eP* **P 07 37 31.1 +0.6**
NIE *e* 07 40 01.9
PSZ Piszkesteto 73.55 318 *eP* **P 07 37 30.7 -0.4**
OJC Ojcow 73.88 320 *eP* **P 07 37 32.3 -0.7**
VYHS Vyhne 74.31 318 *i* P **P 07 37 35.2 -0.3**
VYHS *ep*P pP 07 37 43.1 -0.3
KEV Kevo 74.78 341 *ep* **P 07 37 36.6 -1.3**
comp=Z,22nm,0.8s,mb5.2
KEV Kevo 74.78 341 *eP* **P 07 37 36.6 -1.3**
KEV pmax pmax
comp=Z,22nm,0.8s,mb5.1
OKC Ostrava-Krasne 74.90 319 *eP* **P 07 37 39.3 +0.4**
OKC *ep*P pP 07 37 46.8 0.0
ARCES ARCESS Array B 75.21 340 P **P 07 37 41.2 +0.9**
ARCES pmax pmax
comp=Z,16nm,0.9s
ARCES ARCESS Array B 75.21 340 P **P 07 37 41.2 +0.8**
comp=Z,16nm,0.9s,mb4.9,baz=80,slow=7.4,SNR=13
ARCES ARCESS Array B 75.21 340 P **P 07 37 41.2 +0.8**
MORC Moravsky Berou 75.28 319 *eP* **P 07 37 40.9 -0.2**
MORC pmax pmax
comp=Z,46nm,1.1s,mb5.3
MORC Moravsky Berou 75.28 319 *eP* **P 07 37 40.9 -0.3**
comp=Z,46nm,1.1s,mb5.3
ZST Bratislava 75.44 318 *i* P **P 07 37 42.7 +0.7**
BOSA Boshof 75.48 238 *eP* **P 07 37 43.2 +0.5**
BOSA pmax pmax
comp=Z,31nm,1.1s,mb5.2
BOSA Boshof 75.48 238 *eP* **P 07 37 43.2 +0.6**
comp=Z,31nm,1.1s,mb5.2
GKP Gorka Klasztor 75.81 323 *eP* **P 07 37 43.9 -0.2**
BILL Bilibino 76.13 22⇓ *eP* **P 07 37 45.2 -0.3**
BILL pmax pmax
comp=Z,26nm,1.2s,mb5.0
BILL Bilibino 76.13 22⇓ *eP* **P 07 37 45.3 -0.2**
KSP Ksiaz 76.17 320 *eP* **P 07 37 46.2 +0.1**
KSP *e**PP pP 07 37 51.6 -2.4
KSP *e* 07 37 56.9
KSP Ksiaz 76.17 320 *eP* **P 07 37 46.6 +0.5**
UPC Upice 76.32 320 *eP* **P 07 37 47.3 +0.3**
UPC *ep*P pP 07 37 53.6 -1.3
ARSA Arzberg 76.44 317⇑ *iP* **P 07 37 47.9 +0.2**
comp=Z,35nm,1.5s,mb5.1
LJU Ljubljana 77.07 315 *eP* **P 07 37 52.0 +0.7**
PRU Pruhonice 77.23 319 *eP* **P 07 37 52.1 0.0**
PVCC Panska Ves 77.24 320 *eP* **P 07 37 52.4 +0.3**
PVCC *ep*P pP 07 37 59.7 -0.3
MOA Molln 77.32 317⇑ *iP* **P 07 37 52.8 +0.2**
comp=Z,23nm,1.1s,mb5.0
BSD Bornholm Skovb 77.34 325⇓ *iP* **P 07 37 52.3 -0.2**
BSD pmax pmax
comp=Z,34nm,0.8s,mb5.3
BSD Bornholm Skovb 77.34 325⇓ *iP* **P 07 37 52.3 -0.2**
comp=Z,34nm,0.8s,mb5.3
BRG Berggiesshubel 77.66 320 *i* P **P 07 37 54.6 +0.2**
BRG *i* pP 07 38 01.9 -0.4
BRG pmax pmax
comp=Z,52nm,1.6s,mb5.2
BRG Berggiesshubel 77.66 320 *i* P **P 07 37 54.6 +0.2**
comp=Z,52nm,1.6s,mb5.2
BRG *i* pP 07 38 01.9 -0.4
BRG *i* 07 40 25.9
GEC2 GERESS Array S 77.73 318 *eP* **P 07 37 54.7 -0.1**
GEC2 pmax pmax
comp=Z,46nm,1.1s,mb5.3
GEC2 GERESS Array S 77.73 318 *eP* **P 07 37 54.7 -0.1**
comp=Z,46nm,1.1s,mb5.3
GERES GERESS Array B 77.73 318 P **P 07 37 55.1 +0.3**
GERES pmax pmax
comp=Z,15nm,0.8s
GERES GERESS Array B 77.73 318 P **P 07 37 55.1 +0.3**
comp=Z,15nm,0.8s,mb5.0,baz=90,slow=5.3,SNR=53
KHC Kasperske Hory 77.82 318 *eP* **P 07 37 55.2 -0.1**
KHC *ep*P pP 07 38 03.2 0.0
RUE Ruedersdorf 77.84 322 *eP* **P 07 37 54.1 -1.3**
comp=Z,79nm,0.8s,mb5.7
KBA Koelnbreinsper 77.92 316⇑ *iP* **P 07 37 55.6 -0.3**
comp=Z,27nm,1.1s,mb5.1
CLL Collm 78.27 321⇑ *iP* **P 07 37 57.5 -0.2**
CLL *i* pP 07 38 04.3 -1.4
CLL pmax pmax
comp=Z,31nm,1.2s,mb5.1
CLL Collm 78.27 321⇑ *iP* **P 07 37 57.5 -0.2**
comp=Z,31nm,1.2s,mb5.1
CLL *i* pP 07 38 04.3 -1.4
CLL Collm 78.27 321 ⇑P **P 07 37 57.5 -0.2**
comp=Z,logA/T=1.4,mb5.1
CLL *i* *SP sP 07 38 04.3 -4.0
WET Wettzell 78.28 318 *eP* **P 07 37 58.2 +0.4**
WET pmax pmax
comp=Z,29nm,1.1s,mb5.1
WET Wettzell 78.28 318 *eP* **P 07 37 58.2 +0.4**
comp=Z,29nm,1.1s,mb5.1
NKC Novy Kostel 78.59 320 *eP* **P 07 37 59.9 +0.4**
NKC *ep*P pP 07 38 07.8 +0.4
WTTA Wattenberg 79.08 317⇑ *iP* **P 07 38 01.8 -0.5**
comp=Z,57nm,1.2s,mb5.4
WTTA Wattenberg 79.08 317⇑ *iP* **P 07 38 01.8 -0.5**
WTTA pmax pmax
comp=Z,57nm,1.2s,mb5.4
WATA Walderalm 79.12 317⇑ *iP* **P 07 38 01.9 -0.6**
comp=Z,32nm,1.2s,mb5.1
WATA Walderalm 79.12 317⇑ *iP* **P 07 38 01.9 -0.6**
WATA pmax pmax
comp=Z,32nm,1.2s,mb5.1
MOX Moxa 79.13 320 *eP* **P 07 38 03.0 +0.5**
MOX pmax pmax
comp=Z,42nm,1.5s,mb5.2
MOX Moxa 79.13 320 *eP* **P 07 38 03.0 +0.5**
comp=Z,42nm,1.5s,mb5.2
MOX Moxa 79.13 320 *i* P **P 07 38 03.0 +0.5**
comp=Z,logA/T=1.4,mb5.1
FUR Furstenfeldbru 79.33 317 *eP* **P 07 38 04.6 +1.0**
GRA1 Grafenberg Arr 79.37 319 *eP* **P 07 38 04.4 +0.6**
comp=Z,51nm,1.1s,mb5.4
GRF Grafenberg Arr 79.37 319 *eP* **P 07 38 04.4 +0.6**
GRF pmax pmax
comp=Z,51nm,1.1s,mb5.4
GRF Grafenberg Arr 79.37 319 *eP* **P 07 38 04.4 +0.6**
GRF pmax pmax
comp=Z,51nm,1.1s,mb5.4
GRF Grafenberg Arr 79.37 319 *eP* **P 07 38 04.4 +0.6**
comp=Z,51nm,1.1s,mb5.4
SQTA Sankt Quirin 79.38 317⇑ *iP* **P 07 38 03.5 -0.4**
comp=Z,34nm,1.2s,mb5.2
SQTA Sankt Quirin 79.38 317⇑ *iP* **P 07 38 03.5 -0.4**
SQTA pmax pmax
comp=Z,34nm,1.2s,mb5.2
MOTA Moosalm 79.45 317⇑ *iP* **P 07 38 03.8 -0.4**
comp=Z,20nm,1.0s,mb5.0
MOTA Moosalm 79.45 317⇑ *iP* **P 07 38 03.8 -0.4**
MOTA pmax pmax
comp=Z,20nm,1.0s,mb5.0
NB2 NORSAR Subarra 79.66 331 P **P 07 38 04.1 -1.0**
comp=Z,32nm,0.9s,mb5.2,baz=92,slow=5.8
NB2 NORSAR Subarra 79.66 331 P **P 07 38 04.1 -1.0**
baz=92,slow=5.9
NOA NORSAR Array B 79.66 331 P **P 07 38 04.3 -0.8**
NOA pmax pmax
comp=Z,20nm,0.8s
NOA NORSAR Array B 79.66 331 P **P 07 38 04.3 -0.8**
comp=Z,20nm,0.8s,mb5.1,baz=93,slow=5.6,SNR=7.4
NOA NORSAR Array B 79.66 331 P **P 07 38 04.3 -0.8**
NAO01 NORSAR Array S 79.81 330 *eP* **P 07 38 04.9 -1.0**
comp=Z,76nm,1.3s,mb5.5
CLZ Clausthal 79.92 321 *eP* **P 07 38 07.0 +0.3**
comp=Z,69nm,1.4s,mb5.4
BSEG Bad Segeberg 79.96 323 *eP* **P 07 38 07.5 +0.6**
DAVA Damuels 80.28 317⇑ *iP* **P 07 38 08.9 +0.2**
comp=Z,65nm,1.4s,mb5.4
PGF Pioggiola 81.05 312 *eP* **P 07 38 13.4 +0.5**
comp=Z,115nm,1.5s,mb5.3
PGF Pioggiola 81.05 312 *eP* **P 07 38 13.4 +0.5**
PGF pmax pmax
comp=Z,58nm,1.5s,mb5.3
TNS Taunus Mts 81.16 320 *eP* **P 07 38 14.0 +0.7**
BFO Black Forest 81.30 318 *eP* **P 07 38 13.9 -0.1**
BFO pmax pmax
comp=Z,33nm,1.3s,mb5.1
BFO Black Forest 81.30 318 *eP* **P 07 38 13.9 -0.1**
comp=Z,33nm,1.3s,mb5.1
CDF Champ du Feu 82.00 318 *eP* **P 07 38 17.6 -0.1**
comp=Z,43nm,1.3s,mb4.9
CDF Champ du Feu 82.00 318 *eP* **P 07 38 17.6 -0.1**
CDF pmax pmax
comp=Z,22nm,1.3s,mb4.9
SBF Sospel 82.13 313 *eP* **P 07 38 18.7 +0.2**
comp=Z,96nm,1.1s,mb5.3
SBF Sospel 82.13 313 *eP* **P 07 38 18.7 +0.2**
SBF pmax pmax
comp=Z,48nm,1.1s,mb5.3
HINF Hinteralfeld 82.31 317 *eP* **P 07 38 19.2 -0.1**
LPG La Plagne 82.52 315 *eP* **P 07 38 21.2 +0.8**
comp=Z,61nm,1.1s,mb5.2
LPG La Plagne 82.52 315 *eP* **P 07 38 21.2 +0.8**
LPG pmax pmax
comp=Z,31nm,1.1s,mb5.2
LPL La Plagne 82.53 315 *eP* **P 07 38 21.2 +0.7**
comp=Z,91nm,1.0s,mb5.5
LPL La Plagne 82.53 315 *eP* **P 07 38 21.2 +0.7**
LPL pmax pmax
comp=Z,45nm,1.0s,mb5.5
MBDF Montbardon 82.55 314 *eP* **P 07 38 20.3 -0.3**
comp=Z,63nm,1.3s,mb5.2
HAU Haudompre 82.64 317 *eP* **P 07 38 21.0 0.0**
comp=Z,105nm,1.2s,mb5.4
HAU Haudompre 82.64 317 *eP* **P 07 38 21.0 0.0**
HAU pmax pmax
comp=Z,52nm,1.2s,mb5.4
FRF La Foret Royal 82.72 313 *eP* **P 07 38 22.2 +0.7**
LMR La Mourre 82.83 313 *eP* **P 07 38 22.5 +0.4**
comp=Z,79nm,1.2s,mb5.3
LMR La Mourre 82.83 313 *eP* **P 07 38 22.5 +0.4**
LMR pmax pmax
comp=Z,40nm,1.2s,mb5.3
CABF La Chapelle 82.91 316 *eP* **P 07 38 23.0 +0.6**
comp=Z,110nm,1.3s,mb5.4
CABF La Chapelle 82.91 316 *eP* **P 07 38 23.0 +0.6**
CABF pmax pmax
comp=Z,55nm,1.3s,mb5.4
ORIF Oris-en-Rattie 83.17 314 *eP* **P 07 38 24.4 +0.6**
SMRF Simiane la Rot 83.46 313 *eP* **P 07 38 26.4 +1.1**
comp=Z,129nm,1.5s,mb5.4
BAIF Baives 83.89 320 *eP* **P 07 38 28.0 +0.6**
VIVF Saint-Julien-l 84.03 314 *eP* **P 07 38 28.7 +0.5**
comp=Z,120nm,1.7s,mb5.4
VIVF Saint-Julien-l 84.03 314 *eP* **P 07 38 28.7 +0.5**
VIVF pmax pmax
comp=Z,60nm,1.7s,mb5.5
SMF Signal de Mont 84.44 316 *eP* **P 07 38 30.3 0.0**
comp=Z,63nm,1.2s,mb5.3
SMF Signal de Mont 84.44 316 *eP* **P 07 38 30.3 0.0**
SMF pmax pmax
comp=Z,32nm,1.2s,mb5.3
SSF Saint Saulge 84.63 317 *eP* **P 07 38 31.6 +0.4**
SSF pmax pmax
comp=Z,33nm,1.5s,mb5.2
SSF Saint Saulge 84.63 317 *eP* **P 07 38 31.6 +0.4**
comp=Z,33nm,1.5s,mb5.2
LASF Ste Croix 84.69 314 *eP* **P 07 38 32.4 +0.9**
comp=Z,270nm,1.8s,mb5.8
AVF Avril sur Loir 84.77 316 *eP* **P 07 38 32.0 +0.1**
comp=Z,84nm,1.4s,mb5.4
AVF Avril sur Loir 84.77 316 *eP* **P 07 38 32.0 +0.1**
AVF pmax pmax
comp=Z,42nm,1.4s,mb5.4
BGF Bois d'Agland 85.14 316 *eP* **P 07 38 34.4 +0.7**
SYO Syowa Base 85.38 197 ⇓P **P 07 38 37.7 +3.3**
SYO Syowa Base 85.38 197 ⇑pP pP 07 38 44.2 +1.8
TCF Toulx Ste Croi 85.60 316 *eP* **P 07 38 36.8 +0.7**
CAF Calviac 85.87 315 *eP* **P 07 38 38.3 +0.9**
comp=Z,57nm,1.3s,mb5.3
CAF Calviac 85.87 315 *eP* **P 07 38 38.3 +0.9**
CAF pmax pmax
comp=Z,28nm,1.3s,mb5.3
MTLF Montolieu 85.95 313 *eP* **P 07 38 38.5 +0.6**
RJF Les Rejaudoux 86.21 315 *eP* **P 07 38 40.1 +1.0**
TNA Tin City 86.21 24 *eP* **P 07 38 39.4 +0.7**
LFF La Frestale 86.80 315 *eP* **P 07 38 42.8 +0.8**
comp=Z,153nm,1.6s,mb5.7
LFF La Frestale 86.80 315 *eP* **P 07 38 42.8 +0.8**
LFF pmax pmax
comp=Z,76nm,1.6s,mb5.7
LDF La Druitiere 86.87 318 *eP* **P 07 38 42.6 +0.3**
FLN La Foliniere 87.08 319 *eP* **P 07 38 43.7 +0.4**
MFF Saint Martin d 87.18 316 *eP* **P 07 38 44.0 +0.2**
comp=Z,153nm,1.8s,mb5.6
MFF Saint Martin d 87.18 316 *eP* **P 07 38 44.0 +0.2**
MFF pmax pmax
comp=Z,77nm,1.8s,mb5.6
EPF Esparros 87.35 313 *eP* **P 07 38 45.7 +1.0**
GRR Gorron 87.39 318 *eP* **P 07 38 45.4 +0.6**
comp=Z,84nm,1.4s,mb5.5
GRR Gorron 87.39 318 *eP* **P 07 38 45.4 +0.6**
GRR pmax pmax
comp=Z,42nm,1.4s,mb5.5
ANM Nome 87.48 25 *eP* **P 07 38 45.9 +1.1**
SGMF Saint Gilles 88.53 318 *eP* **P 07 38 50.7 +0.5**
ROSF Rostrenen 88.98 319 *eP* **P 07 38 53.0 +0.6**
comp=Z,91nm,1.4s,mb5.6
ROSF Rostrenen 88.98 319 *eP* **P 07 38 53.0 +0.6**
ROSF pmax pmax
comp=Z,46nm,1.4s,mb5.6
QUIF Quistinic 88.99 318 *eP* **P 07 38 52.7 +0.3**
comp=Z,124nm,1.4s,mb5.8
QUIF Quistinic 88.99 318 *eP* **P 07 38 52.7 +0.3**
QUIF pmax pmax
comp=Z,62nm,1.4s,mb5.8
ESDC Sonseca Array 91.11 310 P **P 07 39 02.9 +0.4**
comp=Z,6.5nm,0.8s,mb5.0,baz=68,slow=4.6,SNR=15
IMA Indian Mountai 91.67 22 *eP* **P 07 39 05.5 +1.1**
SVW2 Sparrevohn 92.80 27 *eP* **P 07 39 10.8 +1.1**
SPU Mount Spurr 94.33 26 *eP* **P 07 39 17.6 +0.8**
MCK McKinley 94.50 23 *eP* **P 07 39 18.5 +1.0**

MCK pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
MCK McKinley 94.50 23 *e*P **P 07 39 18.5 +1.0**
comp=Z,8.0nm,1.1s,mb5.1
ILAR Eielson Array 94.79 22 P **P 07 39 18.8 0.0**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 94.79 22 P **P 07 39 18.8 0.0**
comp=Z,2.0nm,0.8s,mb4.6,baz=296,slow=4.4,SNR=12
PWA Palmer West 95.07 25 *e*P **P 07 39 20.5 +0.3**
PMR Palmer 95.42 25 *e*P **P 07 39 22.6 +0.8**
MENT Mentasta 96.94 23 *e*P **P 07 39 30.5 +1.9**
INK Inuvik 97.02 16 P **P 07 39 29.5 +0.6**
INK pmax pmax
comp=Z,12nm,1.1s
INK Inuvik 97.02 16 P **P 07 39 29.4 +0.6**
comp=Z,12nm,1.1s,mb5.2,baz=302,slow=4.6,SNR=14
RES Resolute Bay 97.40 2 *e*P **P 07 39 31.1 +0.6**
RES pmax pmax
comp=Z,12nm,0.9s,mb5.3
RES Resolute Bay 97.40 2 *e*P **P 07 39 31.1 +0.6**
comp=Z,12nm,0.9s,mb5.3
DBIC Dimbokro 97.81 278 P **P 07 39 31.6 -2.1**
DBIC pmax pmax
comp=Z,6.0nm,1.2s
DBIC Dimbokro 97.81 278 P **P 07 39 31.6 -2.1**
comp=Z,5.7nm,1.1s,mb5.0,baz=156,slow=10.0,SNR=2.8
YKA Yellowknife Ar 106.45 13 Pdiff Pdif 07 40 10.2 -0.8
comp=Z,0.3nm,1.0s,baz=273,slow=37,SNR=2.9
FRB Frobisher Bay 107.36 352 P Pdif 07 40 16.4 +1.4
FRB pmax pmax
comp=Z,3.0nm,1.0s
FRB Frobisher Bay 107.36 352 Pdiff Pdif 07 40 16.4 +1.4
comp=Z,2.8nm,0.9s,baz=64,slow=9.3,SNR=3.4
FRB Frobisher Bay 107.36 352 Pdif Pdif 07 40 16.4 +1.4
MSO Missoula 120.12 22 *e*PKPdf PKPdf 07 44 48.8 -3.1
GCMT Greycliff 122.51 19 *e*PKPdf PKPdf 07 44 54.4 -2.2
LAO LASA Array 122.76 16 *e*PKPdf PKPdf 07 44 55.2 -1.8
NVAR Mina Array Bea 124.98 31 PKP PKPdf 07 45 00.5 -1.2
comp=Z,5.7nm,0.8s,baz=58,slow=0.9,SNR=26
NVAR Mina Array Bea 124.98 31 PKP PKPdf 07 45 00.5 -1.2
PDAR Pinedale Array 125.21 21 PKP PKPdf 07 44 59.5 -2.4
comp=Z,6.0nm,0.9s,baz=43,slow=1.8,SNR=32
TRCR Troy Canyon 126.38 29 *e*PKPdf PKPdf 07 45 03.1 -1.2
NLU North Lily Min 126.64 25 *e*PKPdf PKPdf 07 45 02.4 -2.3
MSU Marysvale 127.80 26 *e*PKIKP PKPdf 07 45 05.6 -1.5
PV10 Paradox Valley 129.22 23 *e*PKPdf PKPdf 07 45 08.0 -1.7
ANMO Albuquerque 133.22 23 *e*PKPpre 07 45 13.2
ANMO *e*PKPdf PKPdf 07 45 15.8 -1.7
TUC Tucson 133.56 29 *e*PKIKP PKPdf 07 45 16.6 -1.5
WVT Waverly 136.19 2 *e*PKIKP PKPdf 07 45 20.5 -2.4
GDL2 Guadalupe Moun 136.46 23 *e*PKPpre 07 45 16.7
GDL2 *e*PKPdf PKPdf 07 45 21.2 -2.2
CLNB Carlsbad 136.58 22 *e*PKPdf PKPdf 07 45 19.3 -4.4
MIAR Mount Ida 137.20 9 *e*PKIKP PKPdf 07 45 16.5 -8.2
MIAR *e* 07 45 22.5
TXAR Lajitas Array 139.27 24 PKhKP 07 45 15.8
comp=Z,0.4nm,0.7s,baz=245,slow=0.6,SNR=7.7
TXAR PKP PKPdf 07 45 26.5 -2.2
comp=Z,1.9nm,0.7s,baz=250,slow=1.3,SNR=13
TXAR Lajitas Array 139.27 24 PKP PKPdf 07 45 26.5 -2.2
JCT Junction City 139.62 19 *e*PKHKP 07 45 18.5
JCT *e* 07 45 26.4
BAO Brasilia Array 142.06 255 P PKPdf 07 45 29.8 -4.2
PLCA Paso Flores 144.51 200 PKIKP PKPdf 07 45 34.5 -3.1
PLCA pmax pmax
comp=Z,26nm,0.9s
PLCA Paso Flores 144.51 200 PKP PKPdf 07 45 34.5 -3.1
comp=Z,26nm,0.9s,baz=153,slow=3.8,SNR=26
PLCA Paso Flores 144.51 200 *e*PKPdf PKPdf 07 45 33.7 -3.9
SJG San Juan 147.58 323 PKIKP PKPdf 07 45 40.6 -2.8
SJG pmax pmax
comp=Z,24nm,1.0s
SJG San Juan 147.58 323 PKPbc PKPdf 07 45 40.6 -2.8
comp=Z,24nm,0.9s,baz=13,slow=6.7,SNR=3.6
FCH Farellones 150.81 208 *e*P PKPdf 07 45 52.0 +3.9
TEIG Tepich 151.98 5 *e*PKPdf PKPdf 07 45 47.4 -2.8
TEIG *e*PKPbc PKPdf 07 45 54.0 +3.8
SDV Santo Domingo 157.38 317 PKP PKPdf 07 45 53.5 -4.2
comp=Z,6.7nm,1.0s,baz=116,slow=4.3,SNR=5.9
SDV PKPab PKPab 07 46 25.7 -1.3
comp=Z,11nm,1.0s,baz=31,slow=4.3,SNR=6.3
LVC Limon Verde 157.99 226 PKP PKPdf 07 45 54.9 -3.4
comp=Z,5.0nm,1.0s,baz=130,slow=4.0,SNR=3.1
LVC PKPab PKPab 07 46 27.3 -2.0
comp=Z,4.5nm,0.8s,baz=13,slow=3.4,SNR=2.4
LPAZ La Paz 160.65 243 PKP PKPdf 07 45 17.8 -44
comp=Z,5.8nm,1.0s,baz=127,slow=1.6,SNR=12
LPAZ PKPab PKPab 07 45 58.5 -42
comp=Z,2.3nm,0.8s,baz=129,slow=4.8,SNR=4.9

*IDC **27** 07:28:26.3±0.5, 7.87N×93.97E, mb4.8/21, mb1 4.9/22, mb1mx4.9/25, mbtmp4.8/22, ML4.5/1, MS4.3/1, Ms1 4.3/1, ms1mx3.1/24, Error ellipse: s-maj=25.9km s-min=12.5km az=49.0, putative timing error at LPAZ*
*BJI **27** 07:28:29.3, 7.48N×93.83E, h52km, mB5.3, mb4.9, Ms5.2, Msz5.0*
*MOS **27** 07:28:30.8±0.9, 7.99N×93.96E, h33km, mb5.3/45, Error ellipse: s-maj=10.8km s-min=6.2km az=113.7*
*HRVD **27** 07:28:31.2±0.6, 7.98N×94.22E, h23km±2km, MW5.1/48, Centroid moment Tensor Solution. LP body waves: s15,c19;Mantle waves: s48,c76; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.93±.69; $M_{\theta\theta}$1.17±.42; $M_{\phi\phi}$2.76±.48; $M_{r\theta}$0.69±.62; $M_{\theta\phi}$5.64±.30; $M_{\phi r}$0.12±.55; Best double couple: $M_0$5.993×10^{16} NP1:ϕ_s9°,δ54°,λ-139°. NP2:ϕ_s252°, δ58°, λ-44°. Principal axes: T 7.687, Plg3°, Azm311°; N -3.388, Plg38°, Azm43°; P -4.299, Plg52°, Azm218°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 07:28:31.2±0.2, 7.85N×93.98E, h30km, mb5.1/38 Error ellipse: s-maj=7.2km s-min=5.7km az=50.0*
ISC 27 07:28:29.0±0.3, 7.88N±0.05×94.07E±0.05, h27km, **h27**km±1.9km:**pP-P, n192,** σ1**9 03**/171, **mb5.1**/65, **MS4.8**/3, **2C-2D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.97**	**341**	*e*PG	**Pn**	**07 29 43.9**	**+14**
	comp=Z,704nm,1.9s						
PBA				*e*S	**Sn**	**07 30 10.6**	**-5.3**
CM31	**Chiang Mai Arr**	**11.53**	**24**	*e*P	**P**	**07 31 14.8**	**-0.3**
	comp=Z,56nm,1.0s						
CMAR	**Chiang Mai Arr**	**11.53**	**24**	P	**P**	**07 31 14.8**	**-0.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.53**	**24**	Pn	**P**	**07 31 14.8**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=211,slow=14,SNR=9.6						
KOD	**Kodaikanal**	**16.56**	**279**	*e*P	**P**	**07 32 26.3**	**+5.1**
KOD				*e*		07 32 29.0	
	comp=Z,65nm,1.4s						
SHL	**Shillong**	**17.71**	**354**	*e*P	**P**	**07 32 34.4**	**-1.1**
HYB	**Hyderabad**	**17.84**	**304**	*e*P	**P**	**07 32 33.0**	**-4.2**
HYB				*e*		07 33 31.0	
HYB	**Hyderabad**	**17.84**	**304**	*i* P	**P**	**07 32 33.0**	**-4.2**
HYB				*e*		07 33 31.0	
QIZ	**Qiongzhong**	**18.91**	**53**	P	**P**	**07 32 51.5**	**+1.3**
QIZ	**Qiongzhong**	**18.91**	**53**	*e*P	**P**	**07 32 51.3**	**+1.0**
	comp=Z,81nm,1.2s						
KMI	**Kunming**	**19.04**	**25**	P	**P**	**07 32 54.6**	**+2.8**
KMI				S	**S**	**07 36 24.5**	**+4.7**
KMI				pmax	pmax		
	comp=Z,75nm,1.0s						
KMI	**Kunming**	**19.04**	**25**	P	**P**	**07 32 54.6**	**+2.8**
	comp=Z,75nm,1.0s						
KMI				pP		07 32 59.7	
KMI				PP	PP	07 33 11.0	+2.6
KMI				S	**S**	**07 36 24.5**	**+4.7**
KMI				SS	SS	07 36 50.5	+5.2
GOA	**Goa**	**21.20**	**293**	*e*P	**P**	**07 33 23.6**	**+8.6**
GOA				*e*		07 33 26.5	
	comp=Z,84nm,1.2s						
LSA	**Lhasa**	**21.88**	**353**	*e*P	**P**	**07 33 21.7**	**0.0**
LSA				pmax	pmax		
	comp=Z,69nm,0.7s,mb5.2						
LSA	**Lhasa**	**21.88**	**353**	*e*P	**P**	**07 33 21.7**	**0.0**
	comp=Z,69nm,0.7s,mb5.2						
NDI	**New Delhi**	**26.09**	**325**	*e*P	**P**	**07 34 04.2**	**+1.8**
NDI				*e*		07 34 07.3	
	comp=Z,109nm,1.3s						
ENH	**Enshi**	**26.55**	**31**	*e*P	**P**	**07 34 06.2**	**-0.5**
	comp=Z,57nm,1.0s,mb5.1						
SMLA	**Simla**	**28.00**	**328**	*e*P	**P**	**07 34 23.3**	**+3.5**
SMLA				*e*		07 34 37.8	
	comp=Z,45nm,1.5s						
SMLA				*e*		07 41 54.8	
WHN	**Wuhan**	**29.47**	**37**	⇑P	**P**	**07 34 33.8**	**+0.7**
NJ2	**Nanjing**	**33.31**	**40**	*e*P	**P**	**07 35 07.5**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,100nm,0.9s,mb5.8						
WMQ	**Urumqi**	**36.23**	**352**	*e*P	**P**	**07 35 32.5**	**+0.8**
WMQ				AP	pP	07 35 42.3	+2.5
WMQ				XP	sP	07 35 46.0	+2.7
WMQ				PP	PP	07 36 55.5	+0.7
WMQ				PCP	PcP	07 37 57.8	+0.9
WMQ				S	**S**	**07 41 09.8**	**+0.3**
WMQ				AMB	AMB		
	comp=Z,130nm,1.3s,mb5.7						
WMQ				AMB	AMB		
	comp=Z,675nm,5.3s						
WMQ				LR	LR		
	comp=N,2μm,18.0s,MS5.0						
WMQ				LR	LR		
	comp=E,1μm,18.1s,MS5.0						
WMQ				LR	LR		
	comp=Z,3μm,18.2s,MS5.1						
BJT	**Baijiatuau**	**37.61**	**28**	*e*P	**P**	**07 35 45.9**	**+2.6**
BJT				pmax	pmax		
	comp=Z,42nm,1.3s						
BJT	**Baijiatuau**	**37.61**	**28**	*e*P	**P**	**07 35 45.9**	**+2.6**
	comp=Z,42nm,1.3s,mb5.0						
BJI	**Beijing**	**37.63**	**28**	*e*P	**P**	**07 35 46.1**	**+2.6**
BJI				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.6						
BJI	**Beijing**	**37.63**	**28**	*e*P	**P**	**07 35 46.1**	**+2.6**
	comp=Z,19nm,1.5s,mb4.6						
SONM	**Songino Array**	**41.17**	**13**	P	**P**	**07 36 12.8**	**0.0**
	comp=Z,4.7nm,0.9s,mb4.1,baz=211,slow=7.2,SNR=5.7						
SONM				PcP	PcP	07 38 13.1	+0.8
	comp=Z,3.6nm,0.8s,baz=183,slow=3.6,SNR=4.0						
SNY	**Shenyang**	**42.70**	**33**	⇑P	**P**	**07 36 27.3**	**+1.9**
SNY				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.6						
SNY				AMB	AMB		
	comp=Z,340nm,9.6s						
SNY				LR	LR		
	comp=E,2μm,12.9s						
SNY				LR	LR		
	comp=Z,2μm,13.9s,MS5.1						
KURK	**Kurchatov**	**44.59**	**346**	*e*P	**P**	**07 36 39.9**	**-0.7**
KURK				pmax	pmax		
	comp=Z,161nm,1.6s,mb5.6						
KURK	**Kurchatov**	**44.59**	**346**	*e*P	**P**	**07 36 39.9**	**-0.7**
	comp=Z,161nm,1.6s,mb5.6						
MUN	**Mundaring**	**44.92**	**153**	*e*P	**P**	**07 36 45.3**	**+1.7**
	comp=Z,23nm,0.8s,mb5.1						
MUN	**Mundaring**	**44.92**	**153**	*e*P	**P**	**07 36 45.3**	**+1.7**
MUN				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.1						
KLBR	**Kellerberrin**	**45.32**	**151**	*e*P	**P**	**07 36 47.2**	**+0.5**
	comp=Z,186nm,0.7s,mb6.0						
NWAO	**Narrogin (SRO)**	**46.19**	**153**	*e*P	**P**	**07 36 54.1**	**+0.6**
NWAO				pmax	pmax		
	comp=Z,31nm,0.8s						
NWAO	**Narrogin (SRO)**	**46.19**	**153**	P	**P**	**07 36 54.6**	**+1.1**
	comp=Z,44nm,1.1s,mb5.3,baz=310,slow=13,SNR=6.2						
NWAO	**Narrogin (SRO)**	**46.19**	**153**	*e*P	**P**	**07 36 54.1**	**+0.6**
	comp=Z,31nm,0.8s,mb5.3						
ZAL	**Zalesovo**	**46.53**	**352**	P	**P**	**07 36 56.5**	**+0.6**
ZAL				pmax	pmax		
	comp=Z,14nm,1.0s						
ZAL	**Zalesovo**	**46.53**	**352**	P	**P**	**07 36 56.5**	**+0.5**
	comp=Z,14nm,1.0s,mb4.8,baz=310,slow=9.3,SNR=7.5						
ZAL	**Zalesovo**	**46.53**	**352**	P	**P**	**07 36 56.5**	**+0.5**
NVS	**Novosibirsk**	**47.62**	**352**	*e*P	**P**	**07 37 01.8**	**-2.8**
NVS				pmax	pmax		
	comp=N,46nm,1.4s						
NVS				pmax	pmax		
	comp=E,39nm,1.4s						
NVS				pmax	pmax		
	comp=Z,94nm,1.4s,mb5.6						
MDJ	**Mudanjiang**	**47.84**	**34**	P	**P**	**07 37 05.3**	**-1.1**
MDJ				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,96nm,4.1s						
WRA	**Warramunga Arr**	**48.33**	**125**	P	**P**	**07 37 09.5**	**-1.0**
WRA				pmax	pmax		
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**48.33**	**125**	P	**P**	**07 37 09.5**	**-1.0**
	comp=Z,12nm,0.9s,mb4.9,baz=305,slow=9.1,SNR=11						
WRAB	**Tennant Creek**	**48.33**	**125**	*e*P	**P**	**07 37 08.0**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.3						
WRAB	**Tennant Creek**	**48.33**	**125**	*e*P	**P**	**07 37 08.0**	**-2.5**
	comp=Z,33nm,1.1s,mb5.3						
WB2	**Warramunga Arr**	**48.33**	**125**	*e*P	**P**	**07 37 09.2**	**-1.4**
BVAR	**Borovoye Array**	**48.96**	**341**	P	**P**	**07 37 14.2**	**-0.8**
	comp=Z,5.2nm,0.9s,mb4.5,baz=153,slow=6.6,SNR=3.6						
BVAR				PcP	PcP	07 38 39.1	-0.1
	comp=Z,2.2nm,0.7s,baz=180,slow=5.8,SNR=3.1						
MAT	**Matsushiro**	**49.21**	**48**	P	**P**	**07 37 21.0**	**+3.9**
MAT	**Matsushiro**	**49.21**	**48**	P	**P**	**07 37 20.5**	**+3.4**
ASPA	**Alice Springs**	**49.97**	**130**	*e*P	**P**	**07 37 21.9**	**-1.2**
ASAR	**Alice Springs**	**49.98**	**130**	P	**P**	**07 37 21.9**	**-1.3**
	comp=Z,11nm,0.9s,mb4.9,baz=305,slow=7.2,SNR=9.0						
ASAR				PcP	PcP	07 38 43.1	-0.1
	comp=Z,5.4nm,0.9s,baz=311,slow=3.5,SNR=6.9						
BOD	**Bodaibo**	**52.16**	**13**	*e*P	**P**	**07 37 38.2**	**-1.0**
CLNS	**Chul'man**	**54.45**	**20**	*e*P	**P**	**07 37 55.3**	**-0.9**
CLNS				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0						
CLNS				pmax	pmax		
	comp=N,20nm,1.3s						
CLNS				pmax	pmax		
	comp=E,14nm,1.2s						
SVE	**Sverdlovsk**	**55.37**	**338**	*e*P	**P**	**07 38 02.0**	**-0.9**
PMG	**Port Moresby**	**55.60**	**107**	P	**P**	**07 38 05.5**	**+0.3**
PMG				pmax	pmax		
	comp=Z,33nm,0.9s						
PMG				MLR	MLR		
	comp=Z,256nm,18.2s						
PMG	**Port Moresby**	**55.60**	**107**	P	**P**	**07 38 05.5**	**+0.3**
	comp=Z,33nm,0.8s,mb5.4,baz=262,slow=5.3,SNR=5.7						
PMG				LR	LR	08 06 51.2	
	comp=Z,256nm,18.2s,MS4.3,baz=265,slow=41						
ARU	**Arti**	**55.85**	**337**	*e*P	**P**	**07 37 57.9**	**-8.5**
YSS	**Yuzh-Sakhalins**	**56.82**	**38**	*e*P	**P**	**07 38 14.0**	**+0.5**
YSS				*e*	pP	07 38 21.0	-1.0
YSS				pmax	pmax		
	comp=Z,140nm,1.8s,mb5.7						
KIV	**Kislovodsk**	**57.26**	**318**	*e*P	**P**	**07 38 16.0**	**-0.7**
KIV				pmax	pmax		
	comp=N,18nm,1.2s						
KIV				pmax	pmax		
	comp=E,16nm,1.2s						
KIV				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.1						
KMBO	**Kilima Mbogo**	**57.35**	**264**	P	**P**	**07 38 20.0**	**+2.3**
KMBO				pmax	pmax		
	comp=Z,19nm,1.1s						
KMBO	**Kilima Mbogo**	**57.35**	**264**	P	**P**	**07 38 20.0**	**+2.3**
	comp=Z,19nm,1.1s,mb5.0,baz=52,slow=9.6,SNR=11						
KMBO	**Kilima Mbogo**	**57.35**	**264**	*e*P	**P**	**07 38 20.2**	**+2.5**
	comp=Z,26nm,1.1s,mb5.2						
MALT	**Malatya**	**58.40**	**310**	*e*P	**P**	**07 38 22.0**	**-2.7**
MALT				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
MALT	**Malatya**	**58.40**	**310**	*e*P	**P**	**07 38 22.0**	**-2.7**
	comp=Z,13nm,1.2s,mb4.8						
EIL	**Elat**	**59.36**	**300**	P	**P**	**07 38 29.7**	**-1.8**
	comp=Z,4.8nm,0.7s,mb4.6,baz=26,slow=24,SNR=4.9						
EIL	**Elat**	**59.36**	**300**	*e*P	**P**	**07 38 30.6**	**-0.9**
	comp=Z,16nm,1.0s,mb5.0						
YAK	**Yakutsk**	**60.01**	**18**	*e*P	**P**	**07 38 33.2**	**-2.3**
YAK				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
YAK				pmax	pmax		
	comp=N,12nm,1.1s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
STKA	**Stephens Creek**	**60.16**	**134**	*e*P	**P**	**07 38 35.6**	**-1.4**
	comp=E,11nm,1.0s,mb4.9						
STKA	**Stephens Creek**	**60.16**	**134**	P	**P**	**07 38 35.9**	**-1.0**
	comp=E,15nm,1.1s,mb5.0,baz=314,slow=8.3,SNR=8.0						
BRTR	**Keskin Array B**	**62.37**	**311**	P	**P**	**07 38 50.0**	**-1.8**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRTR	**Keskin Array B**	**62.37**	**311**	P	**P**	**07 38 50.0**	**-1.8**
	comp=Z,2.8nm,0.7s,mb4.5,baz=135,slow=7.0,SNR=4.8						
MBAR	**Mbarara**	**63.69**	**265**	*e*P	**P**	**07 39 01.3**	**+0.3**
MBAR				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.1						
MBAR	**Mbarara**	**63.69**	**265**	*e*P	**P**	**07 39 01.3**	**+0.4**
	comp=Z,22nm,1.2s,mb5.1						
MOS	**Moscow**	**65.03**	**329**	*e*P	**P**	**07 39 07.0**	**-2.0**
MOS				pmax	pmax		
	comp=Z,139nm,1.3s,mb5.8						
OBN	**Obninsk**	**65.33**	**328**	*e*P	**P**	**07 39 06.8**	**-4.1**
OBN				pmax	pmax		
	comp=Z,64nm,1.5s,mb5.4						
MA2	**Magadan**	**66.79**	**28**	*e*P	**P**	**07 39 20.1**	**-0.1**
MA2				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2						
MA2	**Magadan**	**66.79**	**28**	*e*P	**P**	**07 39 20.1**	**-0.1**
	comp=Z,31nm,1.1s,mb5.2						
TIXI	**Tiksi**	**67.24**	**11**	*e*P	**P**	**07 39 21.9**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,48nm,1.2s,mb5.4						
AKASG	**Malin Array Be**	**68.10**	**322**	P	**P**	**07 39 26.8**	**-1.8**
AKASG				pmax	pmax		
	comp=Z,9.0nm,1.0s						
AKASG	**Malin Array Be**	**68.10**	**322**	P	**P**	**07 39 26.8**	**-1.8**
	comp=Z,9.4nm,1.0s,mb4.8,baz=91,slow=4.9,SNR=9.6						
IDI	**Anoyia**	**68.50**	**305**	P	**P**	**07 39 30.7**	**-0.6**
	comp=Z,21nm,1.1s,mb5.0,baz=80,slow=12,SNR=3.2						
PET	**Petropavlovsk**	**68.57**	**36**	*e*P	pP	07 39 40.3	+0.3
MLR	**Muntele Rosu**	**69.11**	**316**	P	**P**	**07 39 34.5**	**-0.4**
MLR				pmax	pmax		
	comp=Z,57nm,1.4s						
MLR	**Muntele Rosu**	**69.11**	**316**	P	**P**	**07 39 34.5**	**-0.4**
	comp=Z,57nm,1.4s,mb5.3,baz=288,slow=3.2,SNR=7.6						
JOF	**Joensuu**	**70.81**	**334**	*e*p	**P**	**07 39 43.5**	**-1.4**
	comp=Z,20nm,1.1s,mb5.0						
KWP	**Kalwaria**	**71.98**	**320**	*e*P	**P**	**07 39 50.8**	**-1.4**
KWP				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.9						
KWP	**Kalwaria**	**71.98**	**320**	*e*P	**P**	**07 39 50.8**	**-1.4**
	comp=Z,6.9nm,0.4s,mb4.9						
KOLS	**Kolonicke sedl**	**72.15**	**319**	*e*P	**P**	**07 39 54.7**	**+1.5**
FINES	**FINESS Array B**	**72.67**	**332**	P	**P**	**07 39 56.0**	**-0.1**
FINES				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FINES	**FINESS Array B**	**72.67**	**332**	P	**P**	**07 39 56.0**	**-0.1**
	comp=Z,7.4nm,0.8s,mb4.7,baz=90,slow=7.6,SNR=7.8						
CRVS	**Cervenica-Dubn**	**72.67**	**319**	*i* P	**P**	**07 39 57.1**	**+0.8**
KAF	**Kangasniemi**	**72.75**	**333**	*e*p	**P**	**07 39 56.6**	**+0.1**
	comp=Z,16nm,0.8s,mb5.0						
KAF	**Kangasniemi**	**72.75**	**333**	*e*P	**P**	**07 39 56.6**	**+0.1**
KAF				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
PSZ	**Piszkesteto**	**73.59**	**318**	*e*P	**P**	**07 40 01.2**	**-0.5**
PSZ				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
PSZ	**Piszkesteto**	**73.59**	**318**	*e*P	**P**	**07 40 01.2**	**-0.5**
	comp=Z,17nm,1.2s,mb4.8						
VYHS	**Vyhne**	**74.35**	**318**	*i* P	**P**	**07 40 06.4**	**+0.3**
KEV	**Kevo**	**74.80**	**341**	*e*p	**P**	**07 40 08.2**	**-0.1**
	comp=Z,24nm,1.0s,mb5.1						
KEV	**Kevo**	**74.80**	**341**	*e*P	**P**	**07 40 08.2**	**-0.1**
KEV				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
OKC	**Ostrava-Krasne**	**74.94**	**319**	*e*P	**P**	**07 40 09.3**	**-0.2**
ARCES	**ARCESS Array B**	**75.23**	**340**	P	**P**	**07 40 11.0**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,17nm,1.1s						
ARCES	**ARCESS Array B**	**75.23**	**340**	P	**P**	**07 40 11.0**	**+0.2**
	comp=Z,17nm,1.1s,mb4.9,baz=97,slow=4.6,SNR=8.4						
MORC	**Moravsky Berou**	**75.32**	**319**	*e*P	**P**	**07 40 11.6**	**-0.1**
MORC				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.1						
MORC	**Moravsky Berou**	**75.32**	**319**	*e*P	**P**	**07 40 11.6**	**-0.1**
	comp=Z,31nm,1.2s,mb5.1						
ZST	**Bratislava**	**75.48**	**318**	*i* P	**P**	**07 40 13.4**	**+0.8**
BOSA	**Boshof**	**75.53**	**238**	*e*P	**P**	**07 40 14.8**	**+1.5**
BOSA				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
BOSA	**Boshof**	**75.53**	**238**	*e*P	**P**	**07 40 14.8**	**+1.5**
	comp=Z,24nm,1.2s,mb5.0						
BILL	**Bilibino**	**76.11**	**22**	*e*P	**P**	**07 40 15.4**	**-0.4**
BILL				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
BILL	**Bilibino**	**76.11**	**22**	*e*P	**P**	**07 40 15.4**	**-0.3**
	comp=Z,16nm,1.1s,mb4.9						
DPC	**Dobruska-Polom**	**76.15**	**320**	*e*P	**P**	**07 40 16.7**	**+0.3**
DPC				*e*pP	pP	07 40 25.8	+0.8
KSP	**Ksiaz**	**76.21**	**320**	*e*P	**P**	**07 40 16.3**	**-0.4**
KSP				*e*		07 40 30.8	
UPC	**Upice**	**76.36**	**320**	*e*P	**P**	**07 40 17.9**	**+0.4**
UPC				*e*pP	pP	07 40 26.8	+0.6
PRU	**Pruhonice**	**77.27**	**319**	*e*P	**P**	**07 40 22.9**	**+0.3**
PVCC	**Panska Ves**	**77.28**	**320**	*e*P	**P**	**07 40 23.0**	**+0.3**
PVCC				*e*pP	pP	07 40 33.1	+1.7
GERES	**GERESS Array B**	**77.77**	**318**	P	**P**	**07 40 25.1**	**-0.3**
GERES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GERES	**GERESS Array B**	**77.77**	**318**	P	**P**	**07 40 25.1**	**-0.3**
	comp=Z,5.2nm,0.7s,mb4.5,baz=90,slow=5.3,SNR=14						
KHC	**Kasperske Hory**	**77.86**	**318**	*e*P	**P**	**07 40 25.9**	**0.0**
CLL	**Collm**	**78.31**	**321**	*i* P	**P**	**07 40 27.2**	**-1.1**
CLL				*e*		07 40 33.0	
CLL				*i*		07 40 38.9	
CLL				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
CLL	**Collm**	**78.31**	**321**	*i* P	**P**	**07 40 27.2**	**-1.1**
	comp=Z,20nm,1.3s,mb4.9						
CLL				*e*		07 40 33.0	
CLL				*i*		07 40 38.9	
CLL	**Collm**	**78.31**	**321**	P	**P**	**07 40 27.2**	**-1.1**
	comp=Z,logA/T=1.2,mb4.9						
CLL				*e*		07 40 33.0	
CLL				*i*		07 40 38.9	
CLL				*e*		07 41 21.0	
NKC	**Novy Kostel**	**78.63**	**320**	*e*P	**P**	**07 40 30.5**

comp=Z,14nm,0.9s,mb5.0
ORIF Oris-en-Rattie 83.22 314 *e*P **P 07 40 54.9 +0.5**
VIVF Saint-Julien-I 84.08 314 *e*P **P 07 40 59.0 +0.2**
SMF Signal de Mont 84.49 316 *e*P **P 07 41 00.8 0.0**
comp=Z,30nm,1.1s,mb5.0
SMF Signal de Mont 84.49 316 *e*P **P 07 41 00.8 0.0**
SMF pmax pmax
comp=Z,15nm,1.1s,mb5.0
SSF Saint Saulge 84.68 317 *e*P **P 07 41 01.9 +0.2**
AVF Avril sur Loir 84.81 316 *e*P **P 07 41 02.4 0.0**
comp=Z,24nm,1.1s,mb4.9
AVF Avril sur Loir 84.81 316 *e*P **P 07 41 02.4 0.0**
AVF pmax pmax
comp=Z,12nm,1.1s,mb4.9
BGF Bois d'Agland 85.18 316 *e*P **P 07 41 04.8 +0.5**
SYO Syowa Base 85.39 197 ⇓P **P 07 41 05.6 +0.8**
SYO Syowa Base 85.39 197 ⇓pP sP 07 41 17.2 +0.7
TCF Toulx Ste Croi 85.65 316 *e*P **P 07 41 07.0 +0.4**
CAF Calviac 85.91 315 *e*P **P 07 41 08.7 +0.7**
RJF Les Rejaudoux 86.25 315 *e*P **P 07 41 10.5 +0.9**
comp=Z,22nm,1.1s,mb5.0
RJF Les Rejaudoux 86.25 315 *e*P **P 07 41 10.5 +0.9**
RJF pmax pmax
comp=Z,11nm,1.1s,mb5.0
LFF La Frestale 86.84 315 *e*P **P 07 41 13.3 +0.8**
LDF La Druitiere 86.91 318 *e*P **P 07 41 12.8 0.0**
GRR Gorron 87.43 318 *e*P **P 07 41 15.7 +0.4**
comp=Z,169nm,1.6s,mb5.7
GRR Gorron 87.43 318 *e*P **P 07 41 15.7 +0.4**
GRR pmax pmax
comp=Z,85nm,1.6s,mb5.7
QUIF Quistinic 89.03 318 *e*P **P 07 41 23.2 +0.2**
comp=Z,47nm,1.1s,mb5.4
ESDC Sonseca Array 91.16 310 P **P 07 41 33.4 +0.4**
comp=Z,3.7nm,0.8s,mb4.7,baz=56,slow=5.1,SNR=5.5
IMA Indian Mountai 91.64 22 *e*P **P 07 41 36.2 +1.6**
SPU Mount Spurr 94.31 26 *e*P **P 07 41 47.4 +0.4**
ILAR Eielson Array 94.77 22 P **P 07 41 48.5 -0.5**
comp=Z,1.5nm,0.9s,mb4.4,baz=298,slow=3.9,SNR=6.4
ILAR PKKPbc 07 58 52.5
comp=Z,0.5nm,0.9s,baz=153,slow=3.2,SNR=4.2
INK Inuvik 97.00 16 P **P 07 41 59.8 +0.7**
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 97.00 16 P **P 07 41 59.8 +0.7**
comp=Z,8.7nm,1.1s,mb5.1,baz=288,slow=5.2,SNR=8.6
RES Resolute Bay 97.40 2 *e*P **P 07 42 01.8 +1.0**
RES pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
RES Resolute Bay 97.40 2 *e*P **P 07 42 01.8 +1.0**
comp=Z,7.5nm,1.0s,mb5.1
YKA Yellowknife Ar 106.43 13 PKKPbc
comp=Z,0.4nm,0.8s,baz=147,slow=2.3,SNR=5.5
YKA PKKPab 07 58 28.8
comp=Z,0.7nm,0.8s,baz=146,slow=4.5,SNR=7.7
MSO Missoula 120.10 22 *e*PKPdf PKPdf 07 47 18.7 -3.8
LAO LASA Array 122.74 16 *e*PKPdf PKPdf 07 47 25.5 -2.0
YMR Madison River 123.03 21 *e*PKPdf PKPdf 07 47 26.9 -1.2
NVAR Mina Array Bea 124.95 31 PKP PKPdf 07 47 30.6 -1.5
comp=Z,4.4nm,0.9s,baz=44,slow=0.4,SNR=11
PDAR Pinedale Array 125.19 21 PKP PKPdf 07 47 29.2 -3.2
comp=Z,4.7nm,0.9s,baz=16,slow=1.4,SNR=15
TRCR Troy Canyon 126.35 29 *e*PKPdf PKPdf 07 47 32.8 -2.0
NLU North Lily Min 126.62 25 *e*PKPdf PKPdf 07 47 33.1 -2.1
MSU Marysvale 127.78 26 *e*PKIKP PKPdf 07 47 35.3 -2.3
PV10 Paradox Valley 129.19 23 *e*PKPdf PKPdf 07 47 38.6 -1.7
ANMO Albuquerque 133.19 23 *e*PKIKP PKPdf 07 47 46.1 -1.8
TXAR Lajitas Array 139.25 24 PKP PKPdf 07 47 56.7 -2.5
comp=Z,2.0nm,0.9s,baz=289,slow=1.3,SNR=8.4
TXAR Lajitas Array 139.25 24 PKP PKPdf 07 47 56.7 -2.5
JCT Junction City 139.60 19 *e*PKIKP PKPdf 07 47 57.4 -2.4
PLCA Paso Flores 144.53 200 PKIKP PKPdf 07 48 04.9 -3.3
PLCA pmax pmax
comp=Z,21nm,0.9s
PLCA Paso Flores 144.53 200 PKP PKPdf 07 48 04.9 -3.2
comp=Z,21nm,0.9s,baz=146,slow=3.4,SNR=17
PLCA Paso Flores 144.53 200 *e*PKPdf PKPdf 07 48 04.5 -3.7
SJG San Juan 147.62 323 PKIKP PKPdf 07 48 10.8 -3.2
SJG pmax pmax
comp=Z,5.0nm,0.3s
SJG San Juan 147.62 323 PKPbc PKPdf 07 48 10.8 -3.2
comp=Z,5.4nm,0.3s,baz=320,slow=20,SNR=2.9
TEIG Tepich 151.97 5 *e*PKPdf PKPdf 07 48 18.6 -2.1
TEIG *e*PKPbc PKPdf 07 48 24.3 +3.6
SDV Santo Domingo 157.42 317 PKPab PKPab 07 48 55.8 -1.6
comp=Z,7.9nm,1.0s,baz=54,slow=4.9,SNR=3.3
LVC Limon Verde 158.03 226 PKPab PKPab 07 49 01.3 +1.5
comp=Z,4.8nm,0.9s,baz=287,slow=1.7,SNR=7.5
LPAZ La Paz 160.71 243 PKP PKPdf 07 47 48.6 -43
comp=Z,3.2nm,1.0s,baz=35,slow=7.3,SNR=5.0
LPAZ PKPab PKPab 07 48 31.2 -40
comp=Z,2.2nm,1.0s,baz=95,slow=12,SNR=2.9

IDC 27 07:28:53.7±5.4, 11.50N×140.96E, mb4.1/5, mb1 4.4/5, mb1mx4.0/18, mbtmp4.1/5, Error ellipse: s-maj=172.0km s-min=52.2km az=5.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVAR	**Borovoye Array**	**69.22**	**322**	P	P	07 40 03.1	-1.2
	1.1nm,0.5s,baz=114,slow=7.9,SNR=4.0						
ILAR	**Eielson Array**	**72.08**	**25**	P	P	07 40 19.2	-2.3
	0.7nm,0.6s,baz=246,slow=6.0,SNR=8.6						
YKA	**Yellowknife Ar**	**86.44**	**27**	P	P	07 41 38.6	-0.6
	0.3nm,0.4s,baz=288,slow=4.9,SNR=15						
NVAR	**Mina Array Bea**	**91.19**	**51**	P	P	07 42 01.6	-0.6
	0.4nm,0.6s,baz=252,slow=5.7,SNR=2.9						
FINES	**FINESS Array B**	**91.40**	**334**	P	P	07 42 00.1	-2.6
	5.0nm,1.1s,baz=72,slow=6.0,SNR=4.4						

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*IDC **27** 07:34:27.7±1.4, 7.93N×94.02E, mb4.1/8, mb1 4.4/8, mb1mx4.1/18, mbtmp4.1/8, Error ellipse: s-maj=56.2km s-min=29.1km az=48.0*

ISC 27 07:34:31.0±1.2, 7.9N±0.3×94.1E±0.3, h33km, n9, σ0§61/9, mb4.1/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.11**	**13**	P	**P**	**07 42 14.1**	**+0.6**
	0.9nm,0.7s,mb3.5,baz=207,slow=5.5,SNR=4.1						
ZAL	**Zalesovo**	**46.48**	**352**	P	**P**	**07 42 55.6**	**-1.1**
	2.5nm,0.7s,mb4.2,baz=295,slow=8.4,SNR=6.5						
WRA	**Warramunga Arr**	**48.34**	**126**	P	**P**	**07 43 11.6**	**-0.1**
	0.5nm,0.5s,mb3.9,baz=304,slow=8.6,SNR=4.8						
MLR	**Muntele Rosu**	**69.09**	**316**	P	**P**	**07 45 35.3**	**-0.5**
	2.7nm,0.7s,mb4.3,baz=204,slow=10.0,SNR=3.4						
FINES	**FINESS Array B**	**72.63**	**332**	P	**P**	**07 45 56.7**	**-0.2**
	3.8nm,0.8s,mb4.4,baz=117,slow=13,SNR=6.7						
ARCES	**ARCESS Array B**	**75.19**	**340**	P	**P**	**07 46 12.2**	**+0.6**
	1.7nm,0.7s,mb4.1,baz=80,slow=7.4,SNR=4.6						
GERES	**GERESS Array B**	**77.75**	**318**	P	**P**	**07 46 27.4**	**+0.9**
	1.4nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=6.6						
NB2	**NORSAR Subarra**	**79.65**	**331**	P	**P**	**07 46 36.4**	**-0.2**
	7.1nm,1.2s,mb4.5,baz=91,slow=5.8						
NOA	**NORSAR Array B**	**79.65**	**331**	P	**P**	**07 46 36.5**	**-0.1**
	1.5nm,0.7s,mb4.0,baz=91,slow=6.0,SNR=5.5						

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*IDC **27** 07:35:41.1±0.4, 7.99N×94.21E, mb4.8/24, mb1 4.8/25, mb1mx4.8/27, mbtmp4.8/25, ML4.8/1, MS4.8/4, Ms1 4.9/4, ms1mx3.9/24, Error ellipse: s-maj=21.9km s-min=11.4km az=48.0, putative timing error at LPAZ*

*MOS **27** 07:35:44.4±0.9, 7.98N×94.19E, h33km, mb5.3/55, MS5.0/5, Error ellipse: s-maj=10.3km s-min=5.4km az=115.7*

*BJI **27** 07:35:44.1, 7.61N×93.86E, h50km, mB5.6, mb4.8, Ms5.1, Msz5.0*

*HRVD **27** 07:35:45.6±0.3, 7.96N×94.20E, h17km±1km, MW5.2/58, Centroid moment Tensor Solution. LP body waves: s14,c17; Mantle waves: s58,c107; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.03±.35; $M_{\theta\theta}$-1.46±.25; $M_{\phi\phi}$4.50±.30; $M_{r\theta}$-0.97±.70; $M_{\theta\phi}$7.51±.27; $M_{\phi r}$-2.39±.81; Best double couple: $M_0$8.368×10^{16} NP1: ϕ_s260°, δ76°, λ1°. NP2: ϕ_s170°, δ89°, λ166°. Principal axes: T 10.086, Plg11°, Azm124°; N -3.427, Plg75°, Azm346°; P -6.649, Plg9°, Azm216°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **27** 07:35:45.6±0.2, 7.90N×94.14E, h30km, mb5.1/44, MS4.9/1 Error ellipse: s-maj=6.4km s-min=4.9km az=53.0*

ISC 27 07:35:42.8±0.2, 7.96N±0.04×94.15E±0.04, h21km, h21km±1.9km: pP-P, n240, σ1§06/228, mb5.1/86, MS5.0/11, 13C-23D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.92**	**339**	*e*P	**Pn**	**07 36 37.6**	**-5.8**
PBA				*e*SG	**Sn**	**07 37 38.5**	**+9.2**
CM31	**Chiang Mai Arr**	**11.43**	**24**	*e*P	**P**	**07 38 28.7**	**+0.7**
	15nm,0.4s						
CMAR	**Chiang Mai Arr**	**11.43**	**24**	P	**P**	**07 38 29.1**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,4μm,18.1s						
CMAR	**Chiang Mai Arr**	**11.43**	**24**	Pn	**P**	**07 38 29.1**	**+1.1**
	comp=Z,1.8nm,0.3s,baz=211,slow=14,SNR=28						
CMAR				LR	LR	07 43 03.2	
	comp=Z,4μm,18.1s,baz=210,slow=39						
VIS	**Vishakhapatnam**	**14.32**	**314**	*e*P	**P**	**07 39 05.8**	**-0.9**
VIS				*e*		07 39 12.0	
	comp=Z,152nm,1.3s						
VIS				*e*		07 41 25.4	
BWNR	**Bhubaneshwar**	**14.68**	**327**	*e*P	**P**	**07 39 07.7**	**-3.7**
BWNR				*e*		07 39 12.6	
	comp=Z,72nm,0.9s						
BWNR				*e*S	**S**	**07 41 46.4**	**-7.9**
KOD	**Kodaikanal**	**16.63**	**279**	*e*P	**P**	**07 39 42.2**	**+5.7**
KOD				*e*		07 39 43.5	
	comp=Z,94nm,2.2s						
SHL	**Shillong**	**17.64**	**353**	*e*P	**P**	**07 39 44.5**	**-4.5**
SHL				*e*		07 39 55.8	
	comp=Z,2μm,1.6s						
SHL				*e*		07 42 41.0	
HYB	**Hyderabad**	**17.87**	**303**	*e*P	**P**	**07 39 51.0**	**-1.0**
HYB				*e*S	**S**	**07 43 13.0**	**+4.9**
HYB				pmax	pmax		
	comp=Z,143nm,1.2s						
HYB	**Hyderabad**	**17.87**	**303**	*e*P	**P**	**07 39 51.0**	**-1.0**
	comp=Z,143nm,1.2s						
HYB				*e*S	**S**	**07 43 13.0**	**+4.9**
HYB	**Hyderabad**	**17.87**	**303**	*i* P	**P**	**07 39 51.0**	**-1.0**
	comp=Z,143nm,1.2s						
HYB				*e*S	**S**	**07 43 10.5**	**+2.4**
BLSP	**Bilaspur**	**18.23**	**322**	*e*P	**P**	**07 39 53.3**	**-3.2**
BLSP				*e*		07 40 00.7	
	comp=Z,139nm,1.3s						
BLSP				*e*S	**S**	**07 43 15.7**	**-0.6**
QIZ	**Qiongzhong**	**18.79**	**53**	P	**P**	**07 40 06.3**	**+3.0**
KMI	**Kunming**	**18.93**	**25**	⇑P	**P**	**07 40 09.2**	**+4.2**
KMI				pmax	pmax		
	comp=Z,46nm,1.0s						
KMI	**Kunming**	**18.93**	**25**	⇑P	**P**	**07 40 09.2**	**+4.2**
	comp=Z,46nm,1.0s						
KMI				pP		07 40 14.1	
COCO	**West Island**	**20.20**	**172**	*e*P	**P**	**07 40 14.0**	**-5.2**
	comp=Z,374nm,1.2s						
JIRN	**Jiri**	**20.99**	**340**	*e*P	**P**	**07 40 24.7**	**-2.6**
	comp=Z,538nm,1.2s						
PKI	**Pulchoki**	**21.19**	**338**	*e*P	**P**	**07 40 27.8**	**-1.5**
	comp=Z,139nm,0.5s,mb5.5						
GOA	**Goa**	**21.25**	**292**	*e*P	**P**	**07 40 34.3**	**+4.3**
GOA				*e*		07 40 41.3	
	comp=Z,107nm,1.3s						
GOA				*e*S	**S**	**07 44 35.7**	**+15**
GOA	**Goa**	**21.25**	**292**	*e*		07 40 37.9	
GUN	**Gumba**	**21.33**	**340**	*e*P	**P**	**07 40 28.8**	**-1.9**
	comp=Z,650nm,1.2s,mb5.8						
DMN	**Daman**	**21.34**	**337**	*e*P	**P**	**07 40 30.1**	**-0.7**
	comp=Z,377nm,1.0s,mb5.7						
KKN	**Kakani**	**21.43**	**338**	*e*P	**P**	**07 40 30.7**	**-1.1**
	comp=Z,530nm,1.5s,mb5.7						
LSA	**Lhasa**	**21.81**	**353**	*e*P	**P**	**07 40 35.6**	**+0.1**
LSA				pmax	pmax		
	comp=Z,56nm,0.7s,mb5.1						
LSA	**Lhasa**	**21.81**	**353**	*e*P	**P**	**07 40 35.6**	**+0.1**
	comp=Z,56nm,0.7s,mb5.1						
GKN	**Gorkha**	**21.87**	**337**	*e*P	**P**	**07 40 35.7**	**-0.5**
	comp=Z,297nm,1.0s,mb5.7						
KOLN	**Koldanda**	**22.09**	**334**	*e*P	**P**	**07 40 38.6**	**+0.3**
	comp=Z,157nm,0.7s,mb5.5						
BOM	**Bombay**	**23.40**	**300**	*e*P	**P**	**07 40 54.5**	**+3.1**
BOM				*e*		07 40 56.0	
	comp=Z,61nm,1.6s						
BOM				*e*S	**S**	**07 45 08.0**	**+8.6**
NDI	**New Delhi**	**26.07**	**324**	*e*P	**P**	**07 41 17.3**	**+0.5**
NDI				*e*	pP	07 41 22.6	-0.5
	comp=Z,140nm,1.6s						
NDI				*e*S	**S**	**07 45 41.9**	**-2.7**
NDI	**New Delhi**	**26.07**	**324**	*e*	**P**	**07 41 18.1**	**+1.3**
ENH	**Enshi**	**26.44**	**31**	*e*P	**P**	**07 41 20.6**	**+0.4**
	comp=Z,87nm,1.4s,mb5.1						
SMLA	**Simla**	**27.98**	**328**	*e*	**P**	**07 41 49.7**	**+15**
SMLA				*e*	pP	07 41 55.1	+15
	comp=Z,28nm,0.5s						
XAN	**Xi'an**	**29.31**	**26**	P	**P**	**07 41 46.0**	**-0.2**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
WHN	**Wuhan**	**29.36**	**37**	⇓P	**P**	**07 41 48.0**	**+1.3**
LZH	**Lanzhou**	**29.36**	**16**	*e*P	**P**	**07 41 47.0**	**+0.4**
LZH				AMB	AMB		
	comp=Z,46nm,1.8s,mb4.9						
LZH				AMB	AMB		
	comp=Z,1μm,4.0s						
LZH				LR	LR		
	comp=E,2μm,11.6s						
LZH				LR	LR		
	comp=Z,2μm,12.5s,MS4.9						
LZH	**Lanzhou**	**29.36**	**16**	*e*P	**P**	**07 41 47.0**	**+0.4**
	comp=Z,46nm,1.8s,mb4.9						
LZH				pP	pP	07 41 54.8	+1.9
LZH				sP	sP	07 41 58.8	+3.1
LZH				LR	LR		
	comp=Z,2μm,12.5s,MS4.9						
NJ2	**Nanjing**	**33.20**	**40**	*e*P	**P**	**07 42 21.8**	**+1.4**
NJ2				PP	PP	07 43 35.5	+3.7
NJ2				S	**S**	**07 47 39.0**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,1μm,5.6s						
NJ2				LR	LR		
	comp=N,4μm,13.4s,MS5.6						
NJ2				LR	LR		
	comp=E,5μm,11.1s,MS5.6						
NJ2				LR	LR		
	comp=Z,4μm,11.6s,MS5.4						
SSE	**Sheshan**	**34.15**	**44**	*e*P	**P**	**07 42 27.3**	**-1.4**
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,1μm,11.7s						
SSE	**Sheshan**	**34.15**	**44**	*e*P	**P**	**07 42 27.3**	**-1.4**
	comp=Z,26nm,0.7s,mb5.3						
WMQ	**Urumqi**	**36.16**	**352**	P	**P**	**07 42 46.8**	**+1.1**
WMQ				PP	PP	07 44 09.5	+1.1
WMQ				PCP	PcP	07 45 12.0	+0.6
WMQ				AMB	AMB		
	comp=Z,19nm,0.5s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,262nm,5.6s						
WMQ				LR	LR		
	comp=N,1μm,16.2s,MS5.0						
WMQ				LR	LR		
	comp=E,1μm,15.4s,MS5.0						
WMQ				LR	LR		
	comp=Z,2μm,18.0s,MS5.0						
BJT	**Baijiatuau**	**37.50**	**28**	*e*P	**P**	**07 42 56.7**	**-0.3**
	comp=Z,16nm,0.8s,mb4.8						
BJI	**Beijing**	**37.52**	**28**	*e*P	**P**	**07 42 59.6**	**+2.5**
	comp=Z,17nm,1.2s,mb4.7						
BJI				LR	LR		
	comp=Z,2μm,22.1s,MS4.8						
UCH	**Uchtor**	**38.28**	**336**	P	**P**	**07 43 04.9**	**+1.4**
	SNR=6.5						
TKM2	**Tokmak 2**	**38.45**	**338**	P	**P**	**07 43 05.8**	**+0.9**
	SNR=7.2						
AML	**Almayashu**	**38.53**	**335**	P	**P**	**07 43 06.5**	**+0.9**
	SNR=14						
AAK	**Ala-Archa**	**38.63**	**337**	P	**P**	**07 43 07.2**	**+0.7**
	SNR=10						
AAK	**Ala-Archa**	**38.63**	**337**	*i* Pr	**P**	**07 43 06.2**	**-0.2**
FRU	**Bishkek**	**38.75**	**337**	*e*P	**P**	**07 43 08.0**	**+0.6**
FRU				*e*		07 44 44.0	
FRU				pmax	pmax		
	comp=Z,60nm,1.4s,mb5.1						
FRU				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.9						
CHMS	**Chumysh**	**38.84**	**337**	P	**P**	**07 43 08.9**	**+0.7**
	SNR=5.1						
EKS2	**Erkin-Say**	**38.94**	**336**	P	**P**	**07 43 10.5**	**+1.5**
	SNR=6.9						
USP	**Ospenovka**	**39.16**	**337**	P	**P**	**07 43 11.7**	**+0.8**
	SNR=10.0						
SONM	**Songino Array**	**41.07**	**13**	P	**P**	**07 43 27.4**	**+0.8**
	comp=Z,6.3nm,1.1s,mb4.2,baz=198,slow=7.8,SNR=11						
SONM				PcP	PcP	07 45 26.5	-0.3
	comp=Z,5.4nm,1.1s,baz=210,slow=2.9,SNR=5.4						
ULN	**Ulaanbaatar**	**41.25**	**13**	*e*P	**P**	**07 43 25.9**	**-2.1**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3						
ULN	**Ulaanbaatar**	**41.25**	**13**	*e*P	**P**	**07 43 25.9**	**-2.1**
	comp=Z,8.4nm,1.0s,mb4.3						
SNY	**Shenyang**	**42.59**	**33**	⇓P	**P**	**07 43 44.0**	**+4.9**
SNY				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.6						
SNY				AMB	AMB		
	comp=Z,590nm,13.5s						
SNY				LR	LR		
	comp=E,2μm,12.8s						
SNY				LR	LR		
	comp=Z,2μm,15.2s,MS5.1						
ZAK	**Zakamensk**	**42.96**	**9**	*e*P	**P**	**07 43 41.2**	**-0.8**
ZAK				*e*		07 45 33.0	
TLY	**Talaya**	**44.28**	**8⇑**	*e*P	**P**	**07 43 52.6**	**-0.1**
KURK	**Kurchatov**	**44.53**	**346**	*e*P	**P**	**07 43 54.6**	**-0.1**
KURK				pmax	pmax		
	comp=Z,66nm,1.3s,mb5.3						
KURK	**Kurchatov**	**44.53**	**346**	*e*P	**P**	**07 43 54.6**	**-0.2**
	comp=Z,66nm,1.3s,mb5.3						
MUN	**Mundaring**	**44.96**	**153**	*e*P	**P**	**07 43 59.3**	**+0.9**
	comp=Z,25nm,0.7s,mb5.2						
MUN	**Mundaring**	**44.96**	**153**	*e*P	**P**	**07 43 59.3**	**+0.9**
MUN				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.2						
KLBR	**Kellerberrin**	**45.35**	**151**	*e*P	**P**	**07 44 01.8**	**+0.3**
	comp=Z,193nm,0.7s,mb6.0						
NWAO	**Narrogin (SRO)**	**46.22**	**153**	*e*P	**P**	**07 44 06.7**	**-1.7**
NWAO				pmax	pmax		
	comp=Z,36nm,0.9s						
NWAO	**Narrogin (SRO)**	**46.22**	**153**	P	**P**	**07 44 08.4**	**0.0**
	comp=Z,38nm,0.8s,mb5.4,baz=329,slow=9.3,SNR=12						
NWAO	**Narrogin (SRO)**	**46.22**	**153**	*e*P	**P**	**07 44 06.7**	**-1.7**
	comp=Z,36nm,0.9s,mb5.3						
HIA	**Hailar**	**46.44**	**23**	*e*P	**P**	**07 44 10.6**	**+0.7**
HIA				pmax	pmax		
	comp=Z,18nm,1.0s						
HIA	**Hailar**	**46.44**	**23**	*e*P	**P**	**07 44 10.6**	**+0.7**
	comp=Z,18nm,1.0s,mb5.0						
ZAL	**Zalesovo**	**46.46**	**352**	P	**P**	**07 44 10.8**	**+0.8**
ZAL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ZAL	**Zalesovo**	**46.46**	**352**	P	**P**	**07 44 10.8**	**+0.8**
	comp=Z,8.9nm,0.9s,mb4.7,baz=297,slow=8.2,SNR=14						
ZAL	**Zalesovo**	**46.46**	**352**	P	**P**	**07 44 10.8**	**+0.8**
NVS	**Novosibirsk**	**47.56**	**351**	*e*P	**P**	**07 44 16.4**	**-2.3**
NVS				pmax	pmax		
	comp=N,98nm,1.6s						
NVS				pmax	pmax		
	comp=E,72nm,1.6s						
NVS				pmax	pmax		
	comp=Z,107nm,1.6s,mb5.6						
MDJ	**Mudanjiang**	**47.73**	**34**	P	**P**	**07 44 24.8**	**+4.6**
MDJ				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,163nm,4.7s						
WRA	**Warramunga Arr**	**48.30**	**126**	P	**P**	**07 44 23.0**	**-1.9**
WRA				pmax	pmax		
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**48.30**	**126**	P	**P**	**07 44 23.0**	**-1.9**
	comp=Z,12nm,1.2s,mb4.8,baz=306,slow=9.0,SNR=15						
WRAB	**Tennant Creek**	**48.31**	**126**	*e*P	**P**	**07 44 23.5**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.2						
WRAB	**Tennant Creek**	**48.31**	**126**	*e*P	**P**	**07 44 23.4**	**-1.5**
	comp=Z,21nm,0.9s,mb5.2						
WB2	**Warramunga Arr**	**48.31**	**126**	*e*P	**P**	**07 44 23.3**	**-1.7**
BVAR	**Borovoye Array**	**48.91**	**341**	P	**P**	**07 44 28.9**	**-0.3**
	comp=Z,4.5nm,0.9s,mb4.5,baz=141,slow=9.5,SNR=11						
BVAR				PcP	PcP	07 45 53.7	0.0
	comp=Z,6.5nm,1.1s,baz=180,slow=4.3,SNR=3.2						
BRVK	**Borovoye**	**48.97**	**341⇓**	*e*P	**P**	**07 44 29.1**	**-0.5**
RAYN	**Ar Rayn**	**49.06**	**294**	P	**P**	**07 44 32.3**	**+1.6**
	comp=Z,292nm,0.8s,SNR=28						
ASPA	**Alice Springs**	**49.96**	**130**	*e*P	**P**	**07 44 36.4**	**-1.2**
ASAR	**Alice Springs**	**49.96**	**130**	P	**P**	**07 44 35.9**	**-1.8**
	comp=Z,6.0nm,1.0s,mb4.6,baz=303,slow=6.9,SNR=17						
ASAR				PcP	PcP	07 45 57.6	-0.3
	comp=Z,3.7nm,1.0s,baz=293,slow=4.7,SNR=4.6						
ASAR				LR	LR	08 05 57.8	
	comp=Z,632nm,19.6s,MS4.6,baz=297,slow=36						
ASAR	**Alice Springs**	**49.96**	**130**	P	**P**	**07 44 35.9**	**-1.8**
ASAR				PcP	PcP	07 45 57.6	-0.3
ASAR				LR	LR	08 05 57.8	
BOD	**Bodaibo**	**52.06**	**13**	*e*P	**P**	**07 44 51.5**	**-1.6**
BOD				*e*		07 45 05.1	
GNI	**Garni**	**54.38**	**314**	*d i*P	**P**	**07 45 10.3**	**-0.2**
GNI				pmax	pmax		
	comp=Z,34nm,1.3s						
GNI	**Garni**	**54.38**	**314**	P	**P**	**07 45 09.8**	**-0.8**
	comp=Z,9.2nm,0.8s,mb4.8,baz=358,slow=8.4,SNR=7.5						
GNI				LR	LR	08 10 37.5	
	comp=Z,537nm,21.1s,MS4.6,baz=97,slow=38						
GNI	**Garni**	**54.38**	**314**	P	**P**	**07 45 09.8**	**-0.8**
GNI				LR	LR	08 10 37.5	
SVE	**Sverdlovsk**	**55.32**	**338**	*e*P	**P**	**07 45 16.5**	**-0.7**
SVE				pmax	pmax		
	comp=Z,120nm,2.0s,mb5.6						
PMG	**Port Moresby**	**55.55**	**107**	P	**P**	**07 45 19.7**	**+0.3**
PMG				pmax	pmax		
	comp=Z,12nm,0.7s						
PMG	**Port Moresby**	**55.55**	**107**	P	**P**	**07 45 19.7**	**+0.3**
	comp=Z,12nm,0.7s,mb5.0,baz=313,slow=10,SNR=3.3						
ARU	**Arti**	**55.81**	**337**	P	**P**	**07 45 19.9**	**-0.8**
	comp=Z,116nm,1.1s,mb5.8,SNR=9.0						
ARU	**Arti**	**55.81**	**337⇓**	*i*P	**P**	**07 45 13.2**	**-7.5**
ARU				*e*S	**S**	**07 52 54.7**	**-10**
ARU				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.2						
YSS	**Yuzh-Sakhalins**	**56.70**	**38**	*e*P	**P**	**07 45 23.0**	**-4.3**
YSS				*e*		07 46 19.0	
KIV	**Kislovodsk**	**57.26**	**318**	*e*P	**P**	**07 45 29.7**	**-1.6**
KIV				pmax	pmax		
	comp=N,24

comp=Z,6.7nm,0.9s,mb4.7
STKA Stephens Creek 60.16 134 P **P 07 45 50.1 -1.4**
comp=Z,7.5nm,1.0s,mb4.7,baz=312,slow=7.0,SNR=6.0
ANN Anapa 61.08 317 *e*P **P 07 45 52.0 -5.6**
ANN *e* pP 07 45 58.7 -5.6
ANN pmax pmax
comp=Z,43nm,1.0s,mb5.5
BRTR Keskin Array B 62.38 311 P **P 07 46 04.7 -1.8**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 62.38 311 P **P 07 46 04.7 -1.8**
comp=Z,7.2nm,0.8s,mb4.8,baz=121,slow=7.2,SNR=21
VOR Voronezh 62.52 325 *e*P **P 07 46 05.0 -2.2**
VOR pmax pmax
comp=Z,80nm,1.4s,mb5.7
MBAR Mbarara 63.78 265 *e*P **P 07 46 17.0 +0.8**
MBAR pmax pmax
comp=Z,21nm,1.2s,mb5.0
MBAR Mbarara 63.78 265 *e*P **P 07 46 17.0 +0.8**
comp=Z,21nm,1.2s,mb5.0
MOS Moscow 65.01 329 *e*P **P 07 46 21.8 -1.7**
MOS pmax pmax
comp=Z,122nm,1.4s,mb5.7
MOS MLR MLR
comp=Z,1μm,19.6s,MS5.1
OBN Obninsk 65.31 328 *d i*P **P 07 46 21.8 -3.6**
OBN *e* 07 48 48.0
OBN *e*S S 07 55 01.0 -5.4
OBN pmax pmax
comp=Z,112nm,1.7s,mb5.6
OBN Obninsk 65.31 328 *i* Pr **P 07 46 21.8 -3.6**
MA2 Magadan 66.68 28 *e*P **P 07 46 34.9 +0.8**
MA2 pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
MA2 Magadan 66.68 28⇑ *e*P **P 07 46 34.0 -0.1**
TIXI Tiksi 67.14 11⇓ *i*P **P 07 46 36.2 -0.7**
TIXI pmax pmax
comp=Z,36nm,1.1s,mb5.3
TIXI Tiksi 67.14 11⇓ *e*P **P 07 46 35.0 -1.9**
AKASG Malin Array Be 68.09 322 P **P 07 46 41.3 -1.9**
AKASG pmax pmax
comp=Z,10.0nm,0.9s
AKASG Malin Array Be 68.09 322 P **P 07 46 41.3 -1.9**
comp=Z,10nm,0.8s,mb4.9,baz=88,slow=4.9,SNR=25
IDI Anoyia 68.53 305 P **P 07 46 45.4 -0.7**
comp=Z,18nm,0.7s,mb5.1,baz=78,slow=8.5,SNR=7.4
VRI Vrincioaia 68.65 316 ⇑P **P 07 46 47.0 +0.3**
MLR Muntele Rosu 69.12 316 ⇑P **P 07 46 50.0 +0.4**
LSZ Lusaka 69.31 250 *e*P **P 07 46 52.0 +0.8**
LSZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LSZ Lusaka 69.31 250 *e*P **P 07 46 52.0 +0.8**
comp=Z,7.5nm,0.9s,mb4.6
BURAR Bucovina Array 69.99 318 ⇓P **P 07 46 54.1 -0.8**
JOF Joensuu 70.78 334 *e*p **P 07 46 57.9 -1.5**
comp=Z,18nm,0.9s,mb5.0
KWP Kalwaria 71.97 320 *e*P **P 07 47 06.1 -0.8**
KOLS Kolonicke sedl 72.15 319 *i* P **P 07 47 08.2 +0.3**
SUW Suwalki 72.44 324 *e*P **P 07 47 09.1 -0.5**
FINES FINESS Array B 72.64 332 P **P 07 47 09.9 -0.6**
FINES pmax pmax
comp=Z,13nm,0.9s
FINES FINESS Array B 72.64 332 P **P 07 47 09.9 -0.6**
comp=Z,13nm,0.8s,mb4.9,baz=112,slow=10,SNR=19
CRVS Cervenica-Dubn 72.67 319 *i* P **P 07 47 11.4 +0.4**
KAF Kangasniemi 72.72 333 *e*p **P 07 47 10.3 -0.7**
comp=Z,26nm,0.9s,mb5.2
KAF Kangasniemi 72.72 333 *e*P **P 07 47 10.3 -0.7**
KAF pmax pmax
comp=Z,26nm,0.9s,mb5.2
NIE Niedzica 73.49 319 *e*P **P 07 47 16.5 +0.8**
OJC Ojcow 73.92 320 *e*P **P 07 47 18.2 0.0**
VYHS Vyhne 74.35 318 *i* P **P 07 47 20.3 -0.4**
VYHS *e*pP pP 07 47 30.4 +3.0
KEV Kevo 74.76 341 *e*p **P 07 47 22.8 +0.1**
comp=Z,17nm,0.9s,mb5.0
KEV Kevo 74.76 341 *e*P **P 07 47 22.8 +0.1**
KEV pmax pmax
comp=Z,17nm,0.9s,mb5.0
OKC Ostrava-Krasne 74.93 319 *e*P **P 07 47 24.3 +0.2**
ARCES ARCESS Array B 75.19 340 P **P 07 47 24.9 -0.3**
ARCES pmax pmax
comp=Z,9.0nm,0.9s
ARCES MLR MLR
comp=Z,2μm,19.2s
ARCES ARCESS Array B 75.19 340 P **P 07 47 24.9 -0.3**
comp=Z,8.8nm,0.9s,mb4.7,baz=45,slow=1.7,SNR=11
ARCES LR LR 08 23 23.0
comp=Z,2μm,19.2s,MS5.4,baz=119,slow=38
MORC Moravsky Berou 75.32 319 *e*P **P 07 47 26.4 +0.1**
MORC pmax pmax
comp=Z,45nm,1.2s,mb5.3
MORC Moravsky Berou 75.32 319 *e*P **P 07 47 26.4 +0.1**
comp=Z,46nm,1.2s,mb5.3
ZST Bratislava 75.48 318 *i* P **P 07 47 27.9 +0.7**
BOSA Boshof 75.64 238 *e*P **P 07 47 29.1 +0.5**
BOSA pmax pmax
comp=Z,25nm,1.2s,mb5.0
BOSA Boshof 75.64 238 *e*P **P 07 47 29.1 +0.5**
comp=Z,25nm,1.2s,mb5.0
GKP Gorka Klasztor 75.84 323 *e*P pP 07 47 34.6 -1.3
GKP Gorka Klasztor 75.84 323 *e*P pP 07 47 34.6 -1.2
BILL Bilibino 76.00 22⇓ *e*P **P 07 47 29.9 +0.1**
BILL pmax pmax
comp=Z,17nm,1.7s,mb4.7
BILL Bilibino 76.00 22⇓ *e*P **P 07 47 29.0 -0.8**
DPC Dobruska-Polom 76.15 320 *e*P **P 07 47 31.7 +0.7**
KSP Ksiaz 76.20 320 *e*P **P 07 47 31.3 0.0**
KSP *e*pP pP 07 47 35.2 -2.8
KSP Ksiaz 76.20 320 *e*P **P 07 47 31.8 +0.5**
UPC Upice 76.36 320 *e*P **P 07 47 32.6 +0.4**
ARSA Arzberg 76.48 317 ⇓ *i*P **P 07 47 33.4 +0.5**
comp=Z,27nm,1.6s,mb4.9
PRU Pruhonice 77.27 319 *e*P **P 07 47 37.7 +0.5**
PRU *e*pP pP 07 47 43.2 -0.8
PVCC Panska Ves 77.28 320 *e*P **P 07 47 37.8 +0.5**
PVCC *e*pP pP 07 47 45.6 +1.6
BSD Bornholm Skovb 77.36 325 ⇓ *i*P **P 07 47 37.2 -0.4**
comp=Z,60nm,1.1s,mb5.4
comp=Z,1μm,19.0s
BRG Berggiesshubel 77.69 320 *i* P **P 07 47 40.1 +0.5**
BRG pmax pmax
comp=Z,26nm,1.1s,mb5.1
BRG Berggiesshubel 77.69 320 *i* P **P 07 47 40.1 +0.5**
comp=Z,26nm,1.1s,mb5.1
GEC2 GERESS Array S 77.77 318 *e*P **P 07 47 40.7 +0.7**
GEC2 pmax pmax
comp=Z,33nm,1.1s,mb5.2
GEC2 GERESS Array S 77.77 318 *e*P **P 07 47 40.7 +0.7**
comp=Z,33nm,1.1s,mb5.2
GERES GERESS Array B 77.77 318 P **P 07 47 40.5 +0.5**
GERES pmax pmax
comp=Z,12nm,0.8s
GERES GERESS Array B 77.77 318 P **P 07 47 40.5 +0.5**
comp=Z,12nm,0.8s,mb4.9,baz=90,slow=5.3,SNR=43
KHC Kasperske Hory 77.86 318 *e*P **P 07 47 40.5 0.0**
KHC *e* 07 47 56.0
KHC Kasperske Hory 77.86 318 *e*P **P 07 47 40.5 0.0**
KHC x x 07 47 56.0
KBA Koelnbreinsper 77.96 316⇑ *i*P **P 07 47 41.5 +0.4**
comp=Z,21nm,1.3s,mb4.9
KBA Koelnbreinsper 77.96 316⇑ *i*P **P 07 47 41.5 +0.4**
KBA pmax pmax
comp=Z,21nm,1.3s,mb4.9
CLL Collm 78.30 321⇓ *i*P **P 07 47 43.1 +0.2**
CLL *e* pP 07 47 50.0 +0.4
CLL pmax pmax
comp=Z,26nm,1.2s,mb5.0
CLL Collm 78.30 321⇓ *i*P **P 07 47 43.1 +0.2**
comp=Z,26nm,1.2s,mb5.0
CLL *e* pP 07 47 50.0 +0.4
CLL Collm 78.30 321 ⇓P **P 07 47 43.1 +0.2**
comp=Z,logA/T=1.3,mb5.0
CLL *e**PP pP 07 47 50.0 +0.4
WET Wettzell 78.32 318 *e*P **P 07 47 43.6 +0.6**
WET pmax pmax
comp=Z,20nm,1.1s,mb5.0
WET Wettzell 78.32 318 *e*P **P 07 47 43.6 +0.6**
comp=Z,20nm,1.1s,mb5.0
MAW Mawson 78.62 192 P **P 07 47 44.9 +0.6**
MAW pmax pmax
comp=Z,8.0nm,0.8s
MAW Mawson 78.62 192 P **P 07 47 44.9 +0.6**
comp=Z,8.3nm,0.8s,mb4.7,baz=360,slow=9.8,SNR=3.4
NKC Novy Kostel 78.62 320 *e*P **P 07 47 45.1 +0.4**

COP Copenhagen 78.80 325 *i* P **P 07 47 45.7 +0.2**
COP pmax pmax
comp=Z,26nm,0.6s,mb5.3
COP MLR MLR
comp=Z,530nm,19.0s,MS4.9
COP Copenhagen 78.80 325 *i* P **P 07 47 45.7 +0.2**
comp=Z,26nm,0.6s,mb5.3
comp=Z,520nm,19.0s
WTTA Wattenberg 79.13 317⇓ *i*P **P 07 47 47.4 -0.1**
comp=Z,36nm,1.0s,mb5.3
WTTA Wattenberg 79.13 317⇓ *i*P **P 07 47 47.4 -0.1**
WTTA pmax pmax
comp=Z,36nm,1.0s,mb5.3
MOX Moxa 79.16 320 *e*P **P 07 47 48.4 +0.8**
MOX pmax pmax
comp=Z,30nm,1.6s,mb5.0
MOX Moxa 79.16 320 *e*P **P 07 47 48.4 +0.8**
comp=Z,30nm,1.6s,mb5.0
MOX Moxa 79.16 320 *i* P **P 07 47 48.4 +0.8**
comp=Z,logA/T=1.3,mb5.0
WATA Walderalm 79.17 317⇓ *i*P **P 07 47 47.1 -0.6**
comp=Z,21nm,1.2s,mb4.9
WATA Walderalm 79.17 317⇓ *i*P **P 07 47 47.1 -0.6**
WATA pmax pmax
comp=Z,21nm,1.2s,mb4.9
FUR Furstenfeldbru 79.37 317 *e*P **P 07 47 48.7 -0.1**
GRA1 Grafenberg Arr 79.41 319 *e*P **P 07 47 49.8 +0.8**
comp=Z,49nm,1.4s,mb5.2
GRF Grafenberg Arr 79.41 319 *e*P **P 07 47 49.8 +0.8**
GRF pmax pmax
comp=Z,49nm,1.4s,mb5.2
GRF Grafenberg Arr 79.41 319 *e*P **P 07 47 49.8 +0.8**
GRF pmax pmax
comp=Z,49nm,1.4s,mb5.2
GRF Grafenberg Arr 79.41 319 *e*P **P 07 47 49.8 +0.8**
comp=Z,49nm,1.4s,mb5.2
SQTA Sankt Quirin 79.42 317⇓ *i*P **P 07 47 48.9 -0.2**
comp=Z,16nm,1.0s,mb4.9
SQTA Sankt Quirin 79.42 317⇓ *i*P **P 07 47 48.9 -0.2**
SQTA pmax pmax
comp=Z,16nm,1.0s,mb4.9
MOTA Moosalm 79.49 317⇑ *i*P **P 07 47 49.2 -0.3**
comp=Z,14nm,1.1s,mb4.8
MOTA Moosalm 79.49 317⇑ *i*P **P 07 47 49.2 -0.3**
MOTA pmax pmax
comp=Z,14nm,1.1s,mb4.8
NB2 NORSAR Subarra 79.66 331 P **P 07 47 49.5 -0.6**
comp=Z,21nm,1.0s,mb5.0,baz=93,slow=5.8
NB2 NORSAR Subarra 79.66 331 P **P 07 47 49.5 -0.6**
baz=92,slow=5.9
NOA NORSAR Array B 79.66 331 P **P 07 47 50.2 +0.1**
NOA pmax pmax
comp=Z,11nm,0.9s
NOA NORSAR Array B 79.66 331 P **P 07 47 50.2 +0.1**
comp=Z,11nm,0.9s,mb4.8,baz=93,slow=5.5,SNR=16
NAO01 NORSAR Array S 79.81 330 *e*P **P 07 47 50.8 -0.1**
comp=Z,26nm,1.0s,mb5.1
CLZ Clausthal 79.95 321 *e*P **P 07 47 52.4 +0.6**
comp=Z,34nm,1.1s,mb5.2
BSEG Bad Segeberg 79.99 323 *e*P **P 07 47 53.0 +1.0**
DAVA Damuels 80.32 317⇑ *i*P **P 07 47 54.4 +0.5**
comp=Z,28nm,1.1s,mb5.1
DAVOX Davos 80.33 316 P **P 07 47 54.8 +0.7**
comp=Z,15nm,0.8s,mb5.0,baz=88,slow=5.7,SNR=13
TNS Taunus Mts 81.19 320 *e*P **P 07 47 59.2 +0.8**
BFO Black Forest 81.34 318 *e*P **P 07 47 59.2 0.0**
BFO pmax pmax
comp=Z,18nm,1.1s,mb4.9
BFO Black Forest 81.34 318 *e*P **P 07 47 59.2 0.0**
comp=Z,18nm,1.1s,mb4.9
LPG La Plagne 82.56 315 *e*P **P 07 48 06.1 +0.4**
comp=Z,60nm,1.1s,mb5.2
LPG La Plagne 82.56 315 *e*P **P 07 48 06.1 +0.4**
LPG pmax pmax
comp=Z,30nm,1.1s,mb5.2
SYO Syowa Base 85.49 197⇑P **P 07 48 21.8 +1.8**
ESDC Sonseca Array 91.17 310 P **P 07 48 48.6 +0.8**
comp=Z,0.8nm,0.4s,mb4.4,baz=57,slow=4.9,SNR=10
IMA Indian Mountai 91.54 22 *e*P **P 07 48 51.0 +2.2**
SPU Mount Spurr 94.20 26 *e*P **P 07 49 02.4 +1.3**
ILAR Eielson Array 94.66 22 P **P 07 49 03.4 +0.2**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 94.66 22 P **P 07 49 03.4 +0.2**
comp=Z,0.8nm,0.7s,mb4.2,baz=297,slow=4.1,SNR=8.1
SML Sawmill 95.52 25 *e*P **P 07 49 08.8 +1.6**
INK Inuvik 96.91 16 P **P 07 49 13.7 +0.3**
INK pmax pmax
comp=Z,7.0nm,1.2s
INK Inuvik 96.91 16 P **P 07 49 13.7 +0.3**
comp=Z,6.9nm,1.1s,mb5.0,baz=309,slow=4.1,SNR=7.5
YKA Yellowknife Ar 106.34 13 Pdiff Pdif 07 50 01.9 +6.3
comp=Z,0.7nm,1.0s,baz=159,slow=2.5,SNR=5.7
YKA PKKPbc 08 05 27.4
comp=Z,1.2nm,1.2s,baz=148,slow=3.2,SNR=4.9
YKA PKKPab 08 05 43.6
comp=Z,0.4nm,0.9s,baz=225,slow=5.9,SNR=4.3
SCHQ Schefferville 115.44 348 PKP PKPdf 07 54 24.4 -2.9
comp=Z,1.1nm,0.6s,baz=246,slow=15,SNR=2.3
TBI Tubuai 117.31 112 *e*LR LR 07 50 52.0
comp=Z,790nm,24.0s
PMSA Palmer Station 121.23 191 *e*PKP PKPdf 07 54 23.5 -15
LAO LASA Array 122.64 17 *e*PKPdf PKPdf 07 54 40.0 -1.4
IMW Indian Meadow 123.60 22 PKPdf PKPdf 07 54 40.7 -2.7
NVAR Mina Array Bea 124.84 31 PKP PKPdf 07 54 45.0 -1.0
comp=Z,5.2nm,1.1s,baz=64,slow=0.5,SNR=11
NVAR Mina Array Bea 124.84 31 PKP PKPdf 07 54 45.0 -1.0
PDAR Pinedale Array 125.08 21 PKP PKPdf 07 54 44.2 -2.1
comp=Z,2.7nm,0.9s,baz=47,slow=1.8,SNR=16
PV10 Paradox Valley 129.09 24 *e*PKPdf PKPdf 07 54 50.9 -3.3
TXAR Lajitas Array 139.14 24 PKiKP 07 55 03.3
comp=Z,0.4nm,0.7s,baz=101,slow=1.5,SNR=4.3
TXAR PKP PKPdf 07 55 12.6 -0.5
comp=Z,0.6nm,0.6s,baz=2.7,slow=0.2,SNR=6.7
TXAR Lajitas Array 139.14 24 PKP PKPdf 07 55 12.6 -0.5
JCT Junction City 139.50 19 *e*PKiKP PKPdf 07 55 10.1 -3.6
BAO Brasilia Array 142.22 255 P PKPdf 07 55 13.8 -5.2
PLCA Paso Flores 144.63 200 PKiKP PKPdf 07 55 19.3 -3.2
PLCA pmax pmax
comp=Z,19nm,0.9s
PLCA Paso Flores 144.63 200 PKP PKPdf 07 55 19.3 -3.2
comp=Z,19nm,0.9s,baz=167,slow=3.7,SNR=24
PLCA Paso Flores 144.63 200 *e*PKPdf PKPdf 07 55 19.1 -3.4
SJG San Juan 147.61 323 PKP2 PKPab 07 55 28.0 -2.9
SJG pmax pmax
comp=Z,7.0nm,0.4s
SJG San Juan 147.61 323 PKPbc PKPdf 07 55 28.0 -0.1
comp=Z,7.1nm,0.4s,baz=38,slow=7.2,SNR=4.6
SDV Santo Domingo 157.42 318 PKP PKPdf 07 55 40.8 -1.6
comp=Z,4.8nm,1.1s,baz=342,slow=13,SNR=3.6
SDV PKPab PKPab 07 56 11.3 -0.9
comp=Z,8.7nm,1.0s,baz=22,slow=2.4,SNR=5.2
LPAZ La Paz 160.82 243 PKP PKPdf 07 55 03.5 -43
comp=Z,6.1nm,1.2s,baz=68,slow=4.0,SNR=8.0
LPAZ PKPab PKPab 07 55 45.0 -42
comp=Z,2.9nm,1.0s,baz=93,slow=13,SNR=4.5

BJI ***27*** *07:41:16.4, 7.39N×94.66E, h30km, mB5.3, mb4.9, Ms5.1, Msz5.0*
IDC ***27*** *07:41:17.1±0.5, 7.95N×94.12E, mb4.6/21, mb1 4.7/21, mb1mx4.6/25, mbtmp4.6/21, Error ellipse: s-maj=24.9km s-min=12.3km az=47.0, Putative timing error at LPAZ*
MOS ***27*** *07:41:20.4±1.1, 7.96N×94.18E, h33km, mb5.1/35, Error ellipse: s-maj=13.5km s-min=6.8km az=121.9*
HRVD ***27*** *07:41:21.6±1.0, 7.90N×94.25E, h22km±6km, MW4.9/32, Centroid moment Tensor Solution. Mantle waves: s32, c40; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.89±.57; $M_{\theta\theta}$-1.63±.35; $M_{\phi\phi}$2.52±.44; $M_{r\theta}$-0.48±.52; $M_{\theta\phi}$0.70±.35; $M_{\phi r}$-1.30±.67; Best double couple: $M_0$2.484×10^{16} NP1:ϕ_s142°, δ58°, λ-175°. NP2:ϕ_s50°, δ86°, λ-32°. Principal axes: T 3.1, Plg19°, Azm100°; N -1.235, Plg58°, Azm223°; P -1.869, Plg25°, Azm1°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***27*** *07:41:21.6±0.3, 7.91N×94.16E, h30km, mb4.9/28 Error ellipse: s-maj=11.0km s-min=6.8km az=45.0*
ISC 27 07:41:21.1±2.0, 7.92N±0.06×94.19E±0.06, h41km±18km**, h14**km±5.9km**: pP-P, n137,σ1§09/129, mb4.9/57, MS5.1/2, 2C-2D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	Time	ISC	Res
						h m s		ISC
KOD	**Kodaikanal**	**16.67**	**279**	*e*	**P**	**07 45 14.8**		**+1.4**
HYB	**Hyderabad**	**17.92**	**303**	*e*P	**P**	**07 45 30.0**		**+0.9**
HYB	**Hyderabad**	**17.92**	**303**	*i* P	**P**	**07 45 30.0**		**+0.9**
KMI	**Kunming**	**18.95**	**25**	P	**P**	**07 45 46.1**		**+4.5**
KMI				pmax	pmax			
comp=Z,20nm,1.2s								
KMI	**Kunming**	**18.95**	**25**	P	**P**	**07 45 46.1**		**+4.5**
comp=Z,20nm,1.2s								
JIRN	**Jiri**	**21.04**	**340**	*e*P	**P**	**07 46 04.7**		**+0.8**
comp=Z,78nm,1.0s,mb5.0								
PKI	**Pulchoki**	**21.24**	**338**	*e*P	**P**	**07 46 04.9**		**-0.9**
comp=Z,217nm,1.3s,mb5.3								
GUN	**Gumba**	**21.38**	**339**	*e*P	**P**	**07 46 07.8**		**+0.6**
comp=Z,168nm,1.2s,mb5.2								
DMN	**Daman**	**21.38**	**337**	*e*P	**P**	**07 46 06.5**		**-0.8**
KKN	**Kakani**	**21.48**	**338**	*e*P	**P**	**07 46 07.3**		**-1.0**
LSA	**Lhasa**	**21.85**	**353**	*e*P	**P**	**07 46 13.5**		**+1.5**
LSA				pmax	pmax			
comp=Z,45nm,0.9s,mb4.9								
LSA	**Lhasa**	**21.85**	**353**	*e*P	**P**	**07 46 13.5**		**+1.6**
comp=Z,45nm,0.9s,mb4.9								
GKN	**Gorkha**	**21.92**	**337**	*e*P	**P**	**07 46 12.1**		**-0.5**
comp=Z,90nm,0.9s,mb5.2								
KOLN	**Koldanda**	**22.14**	**334**	*e*P	**P**	**07 46 13.5**		**-1.3**
comp=Z,145nm,1.3s,mb5.2								
ENH	**Enshi**	**26.46**	**31**	*e*P	**P**	**07 46 58.6**		**+2.3**
comp=Z,26nm,1.1s,mb4.7								
NJ2	**Nanjing**	**33.20**	**40**	*e*P	**P**	**07 47 59.5**		**+3.1**
NJ2				PP	PP	07 49 11.5		+3.2
NJ2				S	**S**	**07 53 17.0**		**+4.8**
NJ2				AMB	AMB			
comp=Z,20nm,0.6s,mb5.2								
NJ2				AMB	AMB			
comp=Z,1μm,6.1s								
NJ2				LR	LR			
comp=N,4μm,11.7s,MS5.4								
NJ2				LR	LR			
comp=E,4μm,12.6s,MS5.4								
NJ2				LR	LR			
comp=Z,4μm,19.0s								
WMQ	**Urumqi**	**36.21**	**352**	*e*P	**P**	**07 48 23.0**		**+1.1**
WMQ				PP	PP	07 49 46.5		+1.2
WMQ				PCP	PcP	07 50 47.8		+0.8
WMQ				S	**S**	**07 54 01.0**		**+2.5**
WMQ				AMB	AMB			
comp=Z,64nm,1.5s,mb5.3								
WMQ				AMB	AMB			
comp=Z,302nm,5.6s								
WMQ				LR	LR			
comp=N,721nm,18.3s,MS4.7								
WMQ				LR	LR			
comp=E,819nm,18.4s,MS4.7								
WMQ				LR	LR			
comp=Z,1μm,18.7s,MS4.7								
AAK	**Ala-Archa**	**38.68**	**337**	*de*P	**P**	**07 48 42.4**		**-0.2**
AAK				pmax	pmax			
comp=Z,15μm,1.4s								
AAK	**Ala-Archa**	**38.68**	**337**	*e*P	**P**	**07 48 39.9**		**-2.7**
comp=Z,24nm,1.4s,mb4.7								
SONM	**Songino Array**	**41.10**	**13**	P	**P**	**07 49 03.4**		**+0.8**
comp=Z,1.2nm,0.7s,baz=207,slow=8.3,SNR=5.6								
SONM				PcP	PcP	07 51 03.3		+1.0
comp=Z,2.7nm,1.1s,baz=204,slow=3.5,SNR=5.2								
KURK	**Kurchatov**	**44.57**	**346**	*e*P	**P**	**07 49 30.1**		**-0.8**
KURK				pmax	pmax			
comp=Z,28nm,1.2s,mb5.0								
KURK	**Kurchatov**	**44.57**	**346**	*e*P	**P**	**07 49 30.1**		**-0.8**
comp=Z,28nm,1.2s,mb5.0								
KLBR	**Kellerberrin**	**45.30**	**151**	*e*P	**P**	**07 49 37.7**		**+0.8**
comp=Z,105nm,0.7s,mb5.8								
NWAO	**Narrogin (SRO)**	**46.17**	**153**	P	**P**	**07 49 44.6**		**+0.7**
NWAO				pmax	pmax			
comp=Z,12nm,0.8s								
NWAO	**Narrogin (SRO)**	**46.17**	**153**	P	**P**	**07 49 44.6**		**+0.7**
comp=Z,12nm,0.8s,mb4.9,baz=318,slow=8.1,SNR=6.0								
HIA	**Hailar**	**46.46**	**23**	*e*P	**P**	**07 49 47.7**		**+1.8**
HIA				pmax	pmax			
comp=Z,16nm,1.1s								
HIA	**Hailar**	**46.46**	**23**	*e*P	**P**	**07 49 47.7**		**+1.8**
comp=Z,16nm,1.1s,mb4.8								
ZAL	**Zalesovo**	**46.51**	**352**	*i* P	**P**	**07 49 47.4**		**+1.2**
ZAL				pmax	pmax			
comp=Z,5.0nm,0.7s								
ZAL	**Zalesovo**	**46.51**	**352**	P	**P**	**07 49 46.8**		**+0.6**
comp=Z,4.9nm,0.7s,mb4.5,baz=299,slow=9.0,SNR=12								
NVS	**Novosibirsk**	**47.60**	**351**	*e*P	**P**	**07 49 53.6**		**-1.2**
NVS				pmax	pmax			
comp=N,25nm,1.1s								
NVS				pmax	pmax			
comp=E,15nm,1.1s								
NVS				pmax	pmax			
comp=Z,31nm,1.1s,mb5.2								
WRA	**Warramunga Arr**	**48.25**	**126**	P	**P**	**07 49 59.3**		**-1.0**
WRA				pmax	pmax			
comp=Z,5.0nm,0.6s								
WRA	**Warramunga Arr**	**48.25**	**126**	P	**P**	**07 49 59.3**		**-1.0**
comp=Z,4.8nm,0.6s,mb4.7,baz=304,slow=8.5,SNR=27								
WRAB	**Tennant Creek**	**48.26**	**126**	*e*P	**P**	**07 49 59.2**		**-1.2**
WRAB				pmax	pmax			
comp=Z,23nm,1.0s,mb5.2								
WRAB	**Tennant Creek**	**48.26**	**126**	*e*P	**P**	**07 49 59.2**		**-1.2**
comp=Z,22nm,1.0s,mb5.2								
WB2	**Warramunga Arr**	**48.26**	**126**	*e*P	**P**	**07 49 59.3**		**-1.1**
BVAR	**Borovoye Array**	**48.96**	**341**	P	**P**	**07 50 04.7**		**-0.6**
comp=Z,2.4nm,0.9s,mb4.2,baz=149,slow=8.6,SNR=4.3								
BVAR				PcP	PcP	07 51 30.0		+0.6
comp=Z,2.1nm,0.8s,baz=194,slow=6.1,SNR=4.5								
BRVK	**Borovoye**	**49.02**	**341**	*e*P	**P**	**07 50 04.8**		**-1.0**
BRVK				pmax	pmax			
comp=Z,10.0nm,1.3s,mb4.7								
BRVK	**Borovoye**	**49.02**	**341**	*e*P	**P**	**07 50 04.8**		**-1.0**
comp=Z,10nm,1.3s,mb4.7								
MAJO	**Matsushiro**	**49.09**	**48**	P	**P**	**07 50 06.1**		**-0.5**
MAJO				pmax	pmax			
comp=Z,20nm,1.2s,mb5.0								
MAJO	**Matsushiro**	**49.09**	**48**	P	**P**	**07 50 06.1**		**-0.5**
comp=Z,20nm,1.2s,mb5.0								
RAYN	**Ar Rayn**	**49.11**	**294**	P	**P**	**07 50 08.3**		**+1.4**
comp=Z,132nm,1.2s,mb5.8,SNR=16								
ASAR	**Alice Springs**	**49.91**	**130**	P	**P**	**07 50 11.9**		**-1.2**
comp=Z,5.0nm,0.8s,mb4.6,baz=307,slow=7.2,SNR=18								
ASAR				PcP	PcP	07 51 33.8		+0.5
comp=Z,2.1nm,0.7s,baz=307,slow=3.8,SNR=9.2								
BOD	**Bodaibo**	**52.09**	**13**	*e*P	**P**	**07 50 28.7**		**-0.4**
GNI	**Garni**	**54.44**	**314**	*e*P	**P**	**07 50 46.4**		**-0.3**
GNI				pmax	pmax			
comp=Z,10.0nm,1.0s								
GNI	**Garni**	**54.44**	**314**	P	**P**	**07 50 45.5**		**-1.2**
comp=Z,2.0nm,0.3s,mb4.5,baz=156,slow=17,SNR=3.4								
GNI	**Garni**	**54.44**	**314**	*e*P	**P**	**07 50 46.4**		**-0.3**
comp=Z,10nm,1.0s,mb4.7								
PMG	**Port Moresby**	**55.50**	**107**	P	**P**	**07 50 55.7**		**+0.9**
PMG				pmax	pmax			
comp=Z,20nm,0.8s								
PMG	**Port Moresby**	**55.50**	**107**	P	**P**	**07 50 55.7**		**+1.0**
comp=Z,20nm,0.8s,mb5.2,baz=98,slow=18,SNR=5.6								
ARU	**Arti**	**55.86**	**337**	*e*P	**P**	**07 50 49.3**		**-7.5**
YSS	**Yuzh-Sakhalins**	**56.72**	**38**	*i* P	pP	07 51 12.5		-2.4
KIV	**Kislovodsk**	**57.31**	**318**	*i* P	**P**	**07 51 06.8**		**-0.6**
KIV				pmax	pmax			
comp=Z,17nm,1.2s,mb5.0								
KIV	**Kislovodsk**	**57.31**	**318**	*e*P	**P**	**07 51 06.6**		**-0.8**
comp=Z,26nm,1.2s,mb5.1								
KMBO	**Kilima Mbogo**	**57.48**	**264**	*i* P	**P**	**07 51 11.0**		**+2.1**
KMBO				pmax	pmax			
comp=Z,15nm,0.9s								
KMBO	**Kilima Mbogo**	**57.48**	**264**	P	**P**	**07 51 10.2**		**+1.3**
comp=Z,15nm,0.9s,mb5.0,baz=53,slow=9.8,SNR=26								
KMBO	**Kilima Mbogo**	**57.48**	**264**	*e*P	**P**	**07 51 10.9**		**+1.9**
comp=Z,24nm,1.1s,mb5.2								
MALT	**Malatya**	**58.47**	**310**	*e*P	**P**	**07 51 13.9**		**-1.6**
MALT				pmax	pmax			
comp=Z,7.0nm,1.1s,mb4.6								
MALT	**Malatya**	**58.47**	**310**	*e*P	**P**	**07 51 13.9**		**-1.6**
comp=Z,6.6nm,1.1s,mb4.6								
SOC	**Sochi**	**59.18**	**316**	*e*P	**P**	**07 51 16.6**		**-3.8**
SOC				*e*		07 52 11.1		
SOC				*e*		07 53 31.7		
SOC				*e*PPP	PPP	07 54 54.3		-3.6
SOC				*e*S	**S**	**07 59 16.7**		**-6.6**
SOC				*e*		08 01 09.3		
SOC				*e*SSS	SSS	08 05 52.4		+5.8
SOC				pmax	pmax			
comp=N,25nm,1.0s								
SOC				pmax	pmax			
comp=Z,29nm,1.0s,mb5.3

comp=E,8.0nm,0.6s
EIL Elat 59.44 300 P **P 07 51 22.1 -0.4**
comp=E,5.1nm,0.8s,mb4.6,baz=67,slow=15,SNR=3.6
EIL Elat 59.44 300 *eP* **P 07 51 22.6 +0.2**
comp=E,14nm,1.2s,mb4.9
YAK Yakutsk 59.93 18 *i* P **P 07 51 25.1 -0.2**
YAK pmax pmax
comp=Z,18nm,0.9s,mb5.1
STKA Stephens Creek 60.11 134 *eP* **P 07 51 26.5 -0.4**
comp=Z,5.3nm,0.9s,mb4.6
STKA Stephens Creek 60.11 134 P **P 07 51 26.7 -0.2**
comp=Z,6.9nm,1.0s,mb4.7,baz=336,slow=5.0,SNR=8.4
ANN Anapa 61.13 317 *eP* **P 07 51 33.4 -0.3**
ANN *e* 07 51 42.0
ANN pmax pmax
comp=Z,45nm,0.9s,mb5.6
BRTR Keskin Array B 62.43 311 P **P 07 51 40.1 -2.4**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 62.43 311 P **P 07 51 40.0 -2.5**
comp=Z,2.8nm,0.8s,mb4.5,baz=104,slow=5.1,SNR=9.5
MBAR Mbarara 63.81 265 *eP* **P 07 51 51.9 -0.2**
MBAR pmax pmax
comp=Z,20nm,1.1s,mb5.1
MBAR Mbarara 63.81 265 *eP* **P 07 51 51.9 -0.2**
comp=Z,20nm,1.1s,mb5.0
MOS Moscow 65.06 329 *eP* **P 07 51 58.1 -1.4**
OBN Obninsk 65.36 328 *eP* **P 07 51 57.9 -3.5**
OBN *e* 07 52 30.6
OBN *e*SS SS 08 04 53.8 -2.3
OBN pmax pmax
comp=Z,34nm,1.4s,mb5.2
MA2 Magadan 66.70 28 *eP* **P 07 52 09.4 -0.4**
MA2 pmax pmax
comp=Z,14nm,1.1s,mb4.9
MA2 Magadan 66.70 28 *eP* **P 07 52 09.4 -0.5**
comp=Z,14nm,1.1s,mb4.9
TIXI Tiksi 67.17 11⇓*eP* **P 07 52 12.4 -0.2**
TIXI pmax pmax
comp=Z,25nm,1.5s,mb5.0
AKASG Malin Array Be 68.14 322 P **P 07 52 17.3 -1.7**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 68.14 322 P **P 07 52 17.2 -1.8**
comp=Z,2.0nm,0.6s,mb4.3,baz=88,slow=4.8,SNR=9.3
IDI Anoyia 68.58 305 P **P 07 52 20.2 -1.8**
comp=Z,15nm,1.1s,mb4.8,baz=14,slow=8.3,SNR=2.8
JOF Joensuu 70.83 334 *ep* **P 07 52 34.7 -0.6**
comp=Z,6.8nm,0.9s,mb4.6
KOLS Kolonicke sedl 72.20 319 *eP* **P 07 52 44.6 +0.9**
KOLS *ep*P pP 07 52 51.0 -4.8
FINES FINESS Array B 72.69 332 P **P 07 52 45.7 -0.6**
FINES pmax pmax
comp=Z,14nm,1.1s
FINES FINESS Array B 72.69 332 P **P 07 52 45.6 -0.7**
comp=Z,14nm,1.1s,mb4.8,baz=104,slow=7.9,SNR=10
CRVS Cervenica-Dubn 72.72 319 *eP* **P 07 52 47.3 +0.5**
CRVS *ep*P pP 07 52 54.5 -4.5
KAF Kangasniemi 72.77 333 *ep* **P 07 52 44.9 -1.9**
comp=Z,10nm,0.9s,mb4.8
KAF Kangasniemi 72.77 333 *eP* **P 07 52 44.9 -1.9**
KAF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
OJC Ojcow 73.97 320 *eP* **P 07 52 54.1 0.0**
VYHS Vyhne 74.40 318 *eP* **P 07 52 55.9 -0.7**
VYHS *e* pP 07 53 11.0 +2.2
KEV Kevo 74.81 341 *ep* **P 07 53 02.9 +4.4**
CASY Casey 74.97 173 *eP* **P 07 52 56.0 -3.6**
comp=Z,3.0nm,0.8s,mb4.3
OKC Ostrava-Krasne 74.98 319 *eP* **P 07 53 00.2 +0.2**
ARCES ARCESS Array B 75.24 340 P **P 07 53 01.3 +0.3**
ARCES pmax pmax
comp=Z,8.0nm,1.0s
ARCES ARCESS Array B 75.24 340 P **P 07 53 01.3 +0.3**
comp=Z,7.6nm,1.0s,mb4.6,baz=90,slow=7.3,SNR=5.6
MORC Moravsky Berou 75.37 319 *eP* **P 07 53 02.7 +0.5**
MORC pmax pmax
comp=Z,17nm,1.2s,mb4.8
MORC Moravsky Berou 75.37 319 *eP* **P 07 53 02.7 +0.6**
comp=Z,18nm,1.2s,mb4.9
ZST Bratislava 75.53 318 *eP* **P 07 53 03.2 +0.1**
BOSA Boshof 75.65 238 *eP* **P 07 53 04.9 +0.7**
BOSA pmax pmax
comp=Z,20nm,1.1s,mb5.0
BOSA Boshof 75.65 238 *eP* **P 07 53 04.9 +0.7**
comp=Z,20nm,1.1s,mb5.0
BILL Bilibino 76.03 22⇑*eP* **P 07 53 06.4 +0.9**
BILL pmax pmax
comp=Z,14nm,1.8s,mb4.6
BILL Bilibino 76.03 22 P **P 07 53 03.5 -2.0**
comp=Z,26nm,1.9s,mb4.8
DPC Dobruska-Polom 76.20 320 *eP* **P 07 53 07.3 +0.4**
KSP Ksiaz 76.25 320 *eP* **P 07 53 07.8 +0.6**
KSP *ep*P pP 07 53 11.0 -8.4
UPC Upice 76.41 320 *eP* **P 07 53 08.6 +0.5**
BRG Berggiesshubel 77.74 320 *eP* **P 07 53 16.5 +1.0**
BRG pmax pmax
comp=Z,11nm,1.2s,mb4.7
BRG Berggiesshubel 77.74 320 *eP* **P 07 53 16.5 +1.0**
comp=Z,11nm,1.2s,mb4.7
BRG *e* 07 59 26.8
GERES GERESS Array B 77.82 318 P **P 07 53 16.9 +0.9**
GERES pmax pmax
comp=Z,4.0nm,0.7s
GERES GERESS Array B 77.82 318 P **P 07 53 16.9 +0.9**
comp=Z,3.9nm,0.7s,mb4.5,baz=90,slow=5.3,SNR=21
KHC Kasperske Hory 77.91 318 *eP* **P 07 53 16.6 +0.1**
CLL Collm 78.35 321 *eP* **P 07 53 19.0 +0.2**
CLL Collm 78.35 321 P **P 07 53 19.0 +0.2**
NKC Novy Kostel 78.68 320 *eP* **P 07 53 20.3 -0.3**
MOX Moxa 79.22 320 *eP* **P 07 53 24.0 +0.4**
GRA1 Grafenberg Arr 79.46 319 *eP* **P 07 53 25.4 +0.5**
comp=Z,13nm,1.1s,mb4.8
GRF Grafenberg Arr 79.46 319 *eP* **P 07 53 25.4 +0.5**
GRF pmax pmax
comp=Z,13nm,1.1s,mb4.8
GRF Grafenberg Arr 79.46 319 *eP* **P 07 53 25.4 +0.5**
GRF pmax pmax
comp=Z,13nm,1.1s,mb4.8
GRF Grafenberg Arr 79.46 319 *eP* **P 07 53 25.4 +0.5**
comp=Z,13nm,1.1s,mb4.8
NB2 NORSAR Subarra 79.71 331 P **P 07 53 25.2 -0.9**
comp=Z,20nm,1.4s,mb4.9,baz=95,slow=5.0
NB2 NORSAR Subarra 79.71 331 P **P 07 53 25.2 -0.9**
baz=95,slow=5.1
NOA NORSAR Array B 79.71 331 P **P 07 53 26.2 +0.1**
NOA pmax pmax
comp=Z,8.0nm,1.0s
NOA NORSAR Array B 79.71 331 P **P 07 53 26.2 +0.1**
comp=Z,7.5nm,1.0s,mb4.6,baz=93,slow=5.5,SNR=6.3
NOA NORSAR Array B 79.71 331 P **P 07 53 26.2 +0.1**
DAVOX Davos 80.39 316 P **P 07 53 30.7 +0.7**
comp=Z,6.6nm,0.9s,mb4.6,baz=88,slow=1.8,SNR=4.5
LPG La Plagne 82.62 315 *eP* **P 07 53 42.5 +0.9**
comp=Z,23nm,1.0s,mb4.8
LPG La Plagne 82.62 315 *eP* **P 07 53 42.5 +0.9**
LPG pmax pmax
comp=Z,11nm,1.0s,mb4.8
SYO Syowa Base 85.47 197 ⇑P **P 07 53 57.1 +1.7**
ESDC Sonseca Array 91.22 310 P **P 07 54 24.0 +0.4**
comp=Z,0.5nm,0.6s,mb4.1,baz=60,slow=4.9,SNR=6.3
ESLA Sonseca Array 91.22 310 *eP* **P 07 54 20.7 -2.9**
comp=Z,18nm,1.6s,mb5.2
SPU Mount Spurr 94.22 26 *eP* **P 07 54 37.5 +0.8**
INK Inuvik 96.93 16 P **P 07 54 50.9 +1.9**
INK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 96.93 16 P **P 07 54 50.9 +1.9**
comp=Z,4.1nm,1.1s,mb4.8,baz=291,slow=4.1,SNR=5.5
NVAR Mina Array Bea 124.85 31 PKP PKPdf 08 00 21.2 +4.0
comp=Z,2.1nm,0.8s,baz=262,slow=3.8,SNR=10
PDAR Pinedale Array 125.11 21 PKP PKPdf 08 00 20.1 +2.6
comp=Z,2.2nm,0.8s,baz=22,slow=2.9,SNR=16
MDV Middlebury 127.07 349 *e*PKPdf PKPdf 08 00 23.5 +2.2
MSU Marysvale 127.69 26 *e*PKIKP PKPdf 08 00 25.6 +2.9
TXAR Lajitas Array 139.16 24 PKP PKPdf 08 00 47.6 +3.3
comp=Z,0.6nm,0.6s,baz=270,slow=1.3,SNR=7.8
PLCA Paso Flores 144.61 200 PKIKP PKPdf 08 00 55.7 +2.1
PLCA pmax pmax
comp=Z,12nm,0.8s
PLCA Paso Flores 144.61 200 PKP PKPdf 08 00 55.7 +2.1
comp=Z,12nm,0.8s,baz=167,slow=3.6,SNR=21
PLCA Paso Flores 144.61 200 *e*PKPdf PKPdf 08 00 54.9 +1.2
LVC Limon Verde 158.15 226 PKPab PKPab 08 01 51.4 +0.8
comp=Z,3.4nm,0.7s,baz=348,slow=0.7,SNR=4.6
LPAZ La Paz 160.83 243 PKP PKPdf 08 00 39.5 -38
comp=Z,1.2nm,1.1s,baz=20,slow=5.0,SNR=5.8
LPAZ PKPab PKPab 08 01 21.4 -41
comp=Z,1.9nm,0.8s,baz=84,slow=6.3,SNR=6.5

*JMA **27** 07:42:29.6±0.1, 38.04N×144.05E, h36km, M4.4*
*IDC **27** 07:42:34.1±7.7, 38.23N×142.90E, h84km±83km, mb3.5/4, mb1 3.8/5, mb1mx3.4/22, mbtmp3.9/5, ML4.1/1, Error ellipse: s-maj=142.1km s-min=22.0km az=109.0*
ISC 27 07:42:30.1±1.9, **38.1N**±0.1×**144.1E**±0.1, **h48**km±20km, **n11**, σ0°**99**/16, **mb3.9**/4, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.14**	**298**	P	**P**	**07 43 04.4**	**+0.4**
OFUJ				S	**S**	**07 43 30.1**	**+0.7**
JIO	**Ouri**	**2.19**	**281**	P	**P**	**07 43 04.5**	**-0.2**
JIO				S	**S**	**07 43 30.2**	**-0.4**
JMK	**Ichinoseki**	**2.41**	**292**	P	**P**	**07 43 08.2**	**+0.3**
JMK				*e*S	**S**	**07 43 37.3**	**+1.0**
JOM	**Ohasama**	**2.58**	**303**	P	**P**	**07 43 11.1**	**+0.7**
JMM	**Marumori**	**2.61**	**266**	P	**P**	**07 43 10.3**	**-0.5**
JOT	**Ohata**	**4.04**	**326**	P	**P**	**07 43 31.6**	**+0.6**
JOT				*e*S	**S**	**07 44 15.0**	**-2.6**
ASAJ	**Asahikawa**	**6.13**	**350**	P	**P**	**07 43 59.2**	**-1.0**
	4.1nm,0.3s,baz=185,slow=10.0,SNR=6.8						
ASAJ				S	**S**	**07 45 05.0**	**-5.0**
	2.1nm,0.3s,baz=184,slow=23,SNR=2.4						
ILAR	**Eielson Array**	**47.47**	**33**	P	**P**	**07 51 02.4**	**+0.8**
	1.2nm,0.8s,mb3.9,baz=258,slow=5.9,SNR=9.7						
INK	**Inuvik**	**52.48**	**28**	P	**P**	**07 51 40.6**	**+0.8**
	0.7nm,0.5s,mb3.9,baz=276,slow=6.3,SNR=5.1						
WRA	**Warramunga Arr**	**58.44**	**191**	P	**P**	**07 52 20.9**	**-2.6**
	1.6nm,0.6s,mb4.2,baz=11,slow=7.4,SNR=8.2						
YKA	**Yellowknife Ar**	**61.82**	**31**	P	**P**	**07 52 46.3**	**+0.3**
	0.3nm,0.6s,mb3.6,baz=300,slow=6.4,SNR=9.1						

*JMA **27** 07:42:46.8, 37.37N×139.03E, M3.5 Broadband fault plane solution: P waves. NP1:φs213°, δ15°, λ80°. NP2: φs43°, δ75°, λ93°. Principal axes: T Plg60°, Azm317°; N Plg3°, Azm222°; P Plg30°, Azm131°;*
JMA Felt II J1.
ISC 27 07:42:46.8±0.6, **37.36N**±0.03×**139.04E**±0.05, **h13**km±5km, **n7**, σ0°**51**/13, **4D**, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.12**	**190**	⇓P	**Pg**	**07 42 49.7**	**-0.3**
JHK				S	**Sg**	**07 42 51.8**	**-0.4**
JIZZ	**Izumozaki**	**0.31**	**303**	⇓P	**Pg**	**07 42 53.6**	**+0.2**
JIZZ				*e*S	**Sg**	**07 42 59.0**	**+1.1**
JNS	**Sasagawa**	**0.51**	**26**	P	**Pb**	**07 42 56.7**	**-0.3**
JNS				S	**Sb**	**07 43 03.6**	**-0.3**
JFY	**Yanaizu**	**0.53**	**85**	⇓P	**Pb**	**07 42 57.7**	**+0.3**
JFY				S	**Sb**	**07 43 05.3**	**+0.6**
JKT	**Katashina**	**0.62**	**164**	⇓P	**Pb**	**07 42 59.0**	**+0.1**
JKT				S	**Sb**	**07 43 07.5**	**+0.3**
JSD	**Sado**	**0.92**	**318**	P	**Pb**	**07 43 03.0**	**-1.0**
MAT	**Matsushiro**	**1.06**	**219**	P	**Pb**	**07 43 06.1**	**-0.3**
MAT				S	**Sb**	**07 43 20.2**	**+0.2**

IDC 27 07:43:28.3±1.8, **7.79N**×**93.71E**, **mb4.3**/4, **mb1 4.5**/5, **mb1mx4.0**/18, **mbtmp4.2**/5, **ML3.8**/1, **Error ellipse: s-maj=54.8km s-min=51.5km az=23.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.76**	**25**	Pn	P	07 46 17.5	-3.0
	0.2nm,0.3s,baz=211,slow=15,SNR=2.7						
BRTR	**Keskin Array B**	**62.16**	**311**	P	P	07 53 51.5	-2.4
	3.3nm,1.1s,baz=109,slow=6.3,SNR=4.1						
FINES	**FINESS Array B**	**72.58**	**332**	P	P	07 54 57.2	-1.9
	4.0nm,0.8s,baz=135,slow=7.9,SNR=5.6						
GERES	**GERESS Array B**	**77.60**	**318**	P	P	07 55 27.3	-0.8
	2.9nm,0.8s,baz=90,slow=5.3,SNR=5.9						
NB2	**NORSAR Subarra**	**79.59**	**331**	P	P	07 55 36.8	-1.9
	0.4nm,0.8s,baz=94,slow=5.8						
NOA	**NORSAR Array B**	**79.59**	**331**	P	P	07 55 37.1	-1.6
	2.2nm,0.7s,baz=92,slow=5.6,SNR=4.6						
NVAR	**Mina Array Bea**	**125.21**	**31**	PKP	PKPdf	08 02 32.1	-1.3
	0.6nm,0.7s,baz=55,slow=1.6,SNR=3.6						
PDAR	**Pinedale Array**	**125.40**	**21**	PKP	PKPdf	08 02 31.4	-2.2
	0.4nm,0.7s,baz=18,slow=2.9,SNR=3.3						
PLCA	**Paso Flores**	**144.32**	**201**	PKP	PKPdf	08 03 06.2	-2.4
	3.1nm,0.8s,baz=187,slow=2.7,SNR=4.1						

*IDC **27** 07:44:32.9±10.0, 7.96N×94.17E, h71km±87km, mb3.8/6, mb1 4.0/7, mb1mx3.7/18, mbtmp4.1/7, ML3.6/1, Error ellipse: s-maj=91.6km s-min=25.7km az=49.0*
ISC 27 07:44:26.5±1.1, **7.8N**±0.2×**94.0E**±0.2, **h33**km, **n8**, σ0°**60**/7, **mb4.1**/6, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.62**	**24**	P	**P**	**07 47 13.4**	**+0.3**
	0.1nm,0.3s,baz=210,slow=14,SNR=3.3						
ZAL	**Zalesovo**	**46.60**	**353**	P	**P**	**07 52 52.6**	**-0.6**
	3.4nm,1.1s,mb4.2,baz=296,slow=7.1,SNR=3.6						
WRA	**Warramunga Arr**	**48.32**	**125**	P	**P**	**07 53 07.1**	**-0.1**
	0.6nm,0.5s,mb3.9,baz=304,slow=8.5,SNR=4.9						
BRTR	**Keskin Array B**	**62.38**	**311**	P	**P**	**07 54 48.3**	**-0.2**
	1.2nm,0.8s,mb4.1,baz=117,slow=9.7,SNR=3.2						
FINES	**FINESS Array B**	**72.71**	**332**	P	**P**	**07 55 51.9**	**-0.9**
	3.6nm,0.8s,mb4.4,baz=104,slow=7.9,SNR=5.3						
GERES	**GERESS Array B**	**77.79**	**318**	P	**P**	**07 56 23.3**	**+1.0**
	3.0nm,0.9s,mb4.2,baz=90,slow=5.3,SNR=5.7						
NOA	**NORSAR Array B**	**79.73**	**331**	P	**P**	**07 56 33.0**	**+0.4**
	1.7nm,0.8s,mb4.0,baz=94,slow=5.4,SNR=3.3						
PLCA	**Paso Flores**	**144.44**	**200**	PKP	PKPdf	08 04 02.0	+2.3
	2.4nm,0.9s,baz=133,slow=5.3,SNR=3.6						

IDC 27 07:45:09.9±10.0, **7.21N**×**94.12E**, **mb4.3**/4, **mb1 4.3**/5, **mb1mx3.9**/18, **mbtmp4.2**/5, **ML4.3**/1, **Error ellipse: s-maj=244.9km s-min=54.0km az=141.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.12**	**22**	Pn	P	07 48 04.1	-2.9
	0.6nm,0.3s,baz=208,slow=13,SNR=4.0						
ZAL	**Zalesovo**	**47.20**	**352**	P	P	07 53 43.9	-2.3
	1.8nm,0.3s,baz=312,slow=6.0,SNR=3.5						
BRTR	**Keskin Array B**	**62.85**	**311**	P	P	07 55 37.8	-2.2
	1.0nm,0.6s,baz=104,slow=5.9,SNR=3.5						
FINES	**FINESS Array B**	**73.29**	**332**	P	P	07 56 43.1	-1.7
	2.5nm,0.8s,baz=117,slow=4.3,SNR=4.3						
ARCES	**ARCESS Array B**	**75.88**	**340**	P	P	07 56 58.3	-1.3
	2.6nm,0.9s,baz=90,slow=4.9,SNR=4.7						

*IDC **27** 07:47:24.8±0.6, 7.84N×93.84E, mb4.5/20, mb1 4.6/21, mb1mx4.6/24, mbtmp4.5/21, ML4.7/1, Error ellipse: s-maj=25.4km s-min=14.1km az=50.0*
*BJI **27** 07:47:27.3, 7.51N×93.76E, h50km, mb4.8, Ms4.8, Msz4.5*
*NEIC **27** 07:47:29.5±0.4, 7.85N×93.94E, h30km, mb4.7/12, Error ellipse: s-maj=10.4km s-min=8.9km az=58.0*
ISC 27 07:47:28.4±0.5, **7.90N**±0.07×**94.02E**±0.07, **h33**km, **n68**, σ0°**99**/60, **mb4.7**/38, **MS4.6**/1, **2C**, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.54**	**24**	*eP*	**P**	**07 50 14.1**	**+0.3**
	31nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.54**	**24**	Pn	**P**	**07 50 13.7**	**-0.2**
	1.3nm,0.3s,baz=211,slow=14,SNR=31						
HYB	**Hyderabad**	**17.79**	**304**	*eP*	**P**	**07 51 37.0**	**+1.8**
HYB	**Hyderabad**	**17.79**	**304**	*i* P	**P**	**07 51 37.0**	**+1.8**
HYB				*e*		07 54 44.0	
HYB				*e*S	**S**	**07 54 55.0**	**+5.1**
KMI	**Kunming**	**19.05**	**25**	⇑P	**P**	**07 51 53.2**	**+2.6**
	46nm,1.2s						
JIRN	**Jiri**	**21.00**	**340**	*eP*	**P**	**07 52 11.9**	**+0.4**
	154nm,1.0s,mb5.3						
PKI	**Pulchoki**	**21.19**	**338**	*eP*	**P**	**07 52 13.4**	**0.0**
	49nm,0.5s,mb5.1						
GUN	**Gumba**	**21.34**	**340**	*eP*	**P**	**07 52 14.4**	**-0.4**
	250nm,1.1s,mb5.5						
DMN	**Daman**	**21.34**	**338**	*eP*	**P**	**07 52 14.7**	**-0.2**
	126nm,0.9s,mb5.2						
KKN	**Kakani**	**21.44**	**338**	*eP*	**P**	**07 52 15.9**	**0.0**
	73nm,0.9s,mb5.0						
LSA	**Lhasa**	**21.85**	**353**	*eP*	**P**	**07 52 19.5**	**-0.5**
	43nm,0.8s,mb4.9						
GKN	**Gorkha**	**21.87**	**337**	*eP*	**P**	**07 52 19.4**	**-0.8**
	105nm,0.7s,mb5.3						
KOLN	**Koldanda**	**22.08**	**335**	*eP*	**P**	**07 52 22.1**	**-0.2**
	88nm,1.0s,mb5.1						
ENH	**Enshi**	**26.56**	**31**	*eP*	**P**	**07 53 04.5**	**-0.9**
	15nm,0.9s,mb4.5						
DDI	**Dehra Dun**	**26.86**	**328**	*e*	**P**	**07 53 12.0**	**+3.9**
XAN	**Xi'an**	**29.42**	**26**	P	**P**	**07 53 30.0**	**-1.1**
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
WHN	**Wuhan**	**29.49**	**38**	⇑P	**P**	**07 53 32.3**	**+0.5**
WMQ	**Urumqi**	**36.20**	**352**	*eP*	**P**	**07 54 30.8**	**+0.8**
JOW	**Kunigami**	**37.54**	**56**	P	**P**	**07 54 42.9**	**+1.5**
	comp=Z,18nm,0.4s,mb5.2,baz=188,slow=28,SNR=11						
BJI	**Beijing**	**37.64**	**28**	*eP*	**P**	**07 54 43.6**	**+1.5**
	comp=Z,10.0nm,1.1s,mb4.5						
BJI				LR	LR		
	comp=Z,750nm,16.3s,MS4.6						
AAK	**Ala-Archa**	**38.63**	**337**	*eP*	**P**	**07 54 48.3**	**-2.0**
	comp=Z,12nm,1.1s,mb4.5						
SONM	**Songino Array**	**41.16**	**13**	P	**P**	**07 55 11.3**	**+0.1**
	comp=Z,4.4nm,0.8s,mb4.1,baz=196,slow=9.0,SNR=7.3						
SONM				PcP	PcP	07 57 10.7	-0.1
	comp=Z,1.7nm,0.7s,baz=207,slow=2.8,SNR=3.7						
KURK	**Kurchatov**	**44.55**	**346**	*eP*	**P**	**07 55 38.4**	**-0.4**
	comp=Z,22nm,1.1s,mb4.9						
NWAO	**Narrogin (SRO)**	**46.23**	**153**	P	**P**	**07 55 53.4**	**+1.0**
	comp=Z,7.7nm,0.8s,mb4.7,baz=41,slow=11,SNR=4.5						
ZAL	**Zalesovo**	**46.51**	**352**	P	**P**	**07 55 54.7**	**+0.4**
	comp=Z,6.6nm,0.4s,mb4.9,baz=291,slow=4.2,SNR=15						
ZAL	**Zalesovo**	**46.51**	**352**	P	**P**	**07 55 54.7**	**+0.4**
HIA	**Hailar**	**46.55**	**23**	*eP*	**P**	**07 55 54.9**	**+0.2**
	comp=Z,16nm,1.3s,mb4.8						
WRA	**Warramunga Arr**	**48.38**	**125**	P	**P**	**07 56 08.7**	**-0.7**
	comp=Z,1.4nm,0.6s,mb4.2,baz=305,slow=8.5,SNR=7.0						
BVAR	**Borovoye Array**	**48.92**	**341**	P	**P**	**07 56 12.2**	**-1.0**
	comp=Z,8.4nm,1.1s,mb4.7,baz=143,slow=7.4,SNR=10.0						
BVAR				PcP	PcP	07 57 37.4	-0.1
	comp=Z,1.8nm,0.8s,baz=135,slow=6.1,SNR=3.3						
ASAR	**Alice Springs**	**50.03**	**130**	P	**P**	**07 56 20.7**	**-1.4**
	comp=Z,1.2nm,0.8s,mb4.0,baz=300,slow=7.2,SNR=4.6						
ERM	**Erimo**	**54.97**	**43**	*eP*	**P**	**07 56 57.8**	**-1.0**
KMBO	**Kilima Mbogo**	**57.30**	**264**	P	**P**	**07 57 18.2**	**+2.3**
	comp=Z,4.8nm,0.9s,mb4.5,baz=48,slow=9.5,SNR=8.2						
KMBO	**Kilima Mbogo**	**57.30**	**264**	P	**P**	**07 57 18.2**	**+2.3**
STKA	**Stephens Creek**	**60.21**	**134**	P	**P**	**07 57 35.7**	**-0.2**
	comp=Z,8.5nm,1.2s,mb4.7,baz=309,slow=9.4,SNR=3.2						
STKA	**Stephens Creek**	**60.21**	**134**	P	**P**	**07 57 35.7**	**-0.2**
BRTR	**Keskin Array B**	**62.32**	**311**	P	**P**	**07 57 48.6**	**-1.3**
	comp=Z,3.3nm,0.9s,mb4.5,baz=128,slow=8.3,SNR=7.0						
AKASG	**Malin Array Be**	**68.06**	**322**	P	**P**	**07 58 24.7**	**-1.9**
	comp=Z,5.3nm,0.9s,mb4.6,baz=91,slow=4.8,SNR=7.2						
IDI	**Anoyia**	**68.45**	**305**	P	**P**	**07 58 28.8**	**-0.6**
	comp=Z,31nm,1.3s,mb5.2,baz=48,slow=14,SNR=3.9						
JOF	**Joensuu**	**70.77**	**334**	*ep*	**P**	**07 58 43.4**	**+0.3**
	comp=Z,8.4nm,0.6s,mb4.8						
FINES	**FINESS Array B**	**72.63**	**332**	P	**P**	**07 58 53.6**	**-0.5**
	comp=Z,5.2nm,0.7s,mb4.5,baz=101,slow=9.7,SNR=10						
KAF	**Kangasniemi**	**72.71**	**333**	*ep*	**P**	**07 58 54.3**	**-0.3**
	comp=Z,7.1nm,0.7s,mb4.7						
KEV	**Kevo**	**74.77**	**341**	*ep*	**P**	**07 59 05.8**	**-0.7**
OKC	**Ostrava-Krasne**	**74.89**	**319**	*eP*	pP	07 59 13.8	-4.1
ARCES	**ARCESS Array B**	**75.20**	**340**	P	**P**	**07 59 09.3**	**+0.3**
	comp=Z,12nm,1.2s,mb4.7,baz=88,slow=4.8,SNR=5.6						
ARCES	**ARCESS Array B**	**75.20**	**340**	P	**P**	**07 59 09.3**	**+0.3**
DPC	**Dobruska-Polom**	**76.11**	**320**	*eP*	**P**	**07 59 15.4**	**+0.9**
KSP	**Ksiaz**	**76.16**	**320**	*eP*	**P**	**07 59 15.5**	**+0.7**
GERES	**GERESS Array B**	**77.72**	**318**	P	**P**	**07 59 24.4**	**+0.8**
	comp=Z,7.1nm,1.0s,mb4.6,baz=90,slow=5.3,SNR=14						
KHC	**Kasperske Hory**	**77.81**	**318**	*eP*	**P**	**07 59 21.1**	**-3.1**
KHC				*e*	pP	07 59 30.5	-4.0
KHC	**Kasperske Hory**	**77.81**	**318**	*eP*	**P**	**07 59 21.1**	**-3.1**
KHC				pP	pP	07 59 30.5	-4.0
CLL	**Collm**	**78.26**	**321**	*e*PP	pP	07 59 33.0	-3.9
GRA1	**Grafenberg Arr**	**79.36**	**319**	*eP*	**P**	**07 59 33.9**	**+1.3**
	comp=Z,5.0nm,0.8s,mb4.5						
GRF	**Grafenberg Arr**	**79.36**	**319**	*eP*	**P**	**07 59 33.9**	**+1.3**
	comp=Z,5.0nm,0.8s,mb4.5						
NB2	**NORSAR Subarra**	**79.65**	**331**	P	**P**	**07 59 33.3**	**-0.6**
	comp=Z,8.4nm,0.8s,mb4.7,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**79.65**	**331**	P	**P**	**07 59 33.5**	**-0.4**
	comp=Z,6.8nm,0.8s,mb4.6,baz=92,slow=5.6,SNR=9.1						
DAVOX	**Davos**	**80.28**	**316**	P	**P**	**07 59 37.4**	**-0.3**
	comp=Z,5.7nm,0.8s,mb4.6,baz=122,slow=14,SNR=4.9						
LPG	**La Plagne**	**82.51**	**315**	*eP*	**P**	**07 59 50.4**	**+1.1**
	comp=Z,23nm,0.9s,mb4.9						
ESDC	**Sonseca Array**	**91.11**	**310**	P	**P**	**08 00 30.2**	**-1.1**
	comp=Z,1.3nm,0.8s,mb4.3,baz=37,slow=6.4,SNR=3.6						
ILAR	**Eielson Array**	**94.77**	**22**	P	**P**	**08 00 47.6**	**+0.2**
	comp=Z,1.5nm,1.1s,mb4.3,baz=281,slow=5.5,SNR=4.7						
FIB	**Fire Island**	**95.14**	**26**	*eP*	**P**	**08 00 50.3**	**+1.1**
INK	**Inuvik**	**97.00**	**16**	P	**P**	**08 00 57.8**	**+0.3**
	comp=Z,4.4nm,1.1s,mb4.8,baz=276,slow=3.3,SNR=4.9						
NVAR	**Mina Array Bea**	**124.96**	**31**	PKP	PKPdf	08 06 29.0	+3.3
	comp=Z,1.1nm,0.7s,baz=308,slow=2.1,SNR=6.8						
NVAR	**Mina Array Bea**	**124.96**	**31**	PKP	PKPdf	08 06 29.0	+3.3
PDAR	**Pinedale Array**	**125.19**	**21**	PKP	PKPdf	08 06 27.4	+1.4
	comp=Z,1.3nm,0.8s,baz=7.1,slow=2.0,SNR=10						
TXAR	**Lajitas Array**	**139.25**	**24**	PKP	PKPdf	08 06 55.2	+2.4
	comp=Z,0.4nm,0.6s,baz=238,slow=0.7,SNR=6.1						
JCT	**Junction City**	**139.60**	**19**	*e*PKPdf	PKPdf

ms1mx2.8/29, Error ellipse: s-maj=30.0km s-min=15.3km az=47.0
*BJI **27** 07:54:27.4, 7.60N×94.00E, h30km, mb4.6*
*NEIC **27** 07:54:28.5±0.5, 7.63N×94.00E, h30km, mb4.6/8, Error ellipse: s-maj=11.8km s-min=9.8km az=221.0*
ISC 27 07:54:26.6±0.5, 7.66N±0.08×94.04E±0.08, h30km, n44, σ1§15/42, mb4.5/29, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.75**	**24**	Pn	**P**	**07 57 14.8**	**-0.5**
	0.4nm,0.3s,baz=210,slow=15,SNR=14						
CMAR				LR	LR	08 02 20.4	
	comp=Z,438nm,18.3s,baz=195,slow=40						
PALK	**Pallekele**	**13.23**	**269**	*eP*	**P**	**07 57 33.4**	**-1.7**
SHL	**Shillong**	**17.93**	**354**	*eP*	**P**	**07 58 32.2**	**-3.3**
HYB	**Hyderabad**	**17.94**	**304**	*i P*	**P**	**07 58 39.0**	**+3.2**
JIRN	**Jiri**	**21.24**	**340**	*eP*	**P**	**07 59 11.5**	**-1.0**
	41nm,0.8s,mb4.8						
PKI	**Pulchoki**	**21.43**	**339**	*eP*	**P**	**07 59 14.2**	**-0.2**
	30nm,0.7s,mb4.8						
DMN	**Daman**	**21.57**	**338**	*eP*	**P**	**07 59 16.4**	**+0.5**
	51nm,0.8s,mb5.0						
GUN	**Gumba**	**21.57**	**340**	*eP*	**P**	**07 59 14.7**	**-1.2**
	56nm,0.7s,mb5.1						
KKN	**Kakani**	**21.67**	**339**	*eP*	**P**	**07 59 16.2**	**-0.7**
	34nm,0.8s,mb4.8						
LSA	**Lhasa**	**22.09**	**353**	P	**P**	**07 59 23.5**	**+2.4**
LSA	**Lhasa**	**22.09**	**353**	*eP*	**P**	**07 59 23.1**	**+2.0**
	35nm,0.8s,mb4.8						
GKN	**Gorkha**	**22.10**	**337**	*eP*	**P**	**07 59 20.5**	**-0.7**
	51nm,0.8s,mb5.0						
KOLN	**Koldanda**	**22.31**	**335**	*eP*	**P**	**07 59 23.5**	**+0.2**
	48nm,0.9s,mb4.9						
ENH	**Enshi**	**26.76**	**31**	P	**P**	**08 00 05.5**	**-0.3**
	9.2nm,0.8s,mb4.4						
UCH	**Uchtor**	**38.51**	**337**	P	**P**	**08 01 48.9**	**+0.9**
	SNR=5.8						
AML	**Almayashu**	**38.76**	**336**	P	**P**	**08 01 51.1**	**+1.0**
	SNR=14						
AAK	**Ala-Archa**	**38.86**	**337**	P	**P**	**08 01 52.3**	**+1.3**
	SNR=5.1						
EKS2	**Erkin-Say**	**39.17**	**336**	P	**P**	**08 01 54.4**	**+0.8**
	SNR=6.5						
USP	**Ospenovka**	**39.40**	**337**	P	**P**	**08 01 55.7**	**+0.2**
	SNR=9.1						
SONM	**Songino Array**	**41.40**	**13**	P	**P**	**08 02 12.2**	**+0.4**
	2.5nm,0.8s,mb3.9,baz=194,slow=7.1,SNR=14						
SONM				PcP	PcP	08 04 10.8	+0.6
	0.6nm,0.7s,baz=207,slow=2.8,SNR=3.7						
JNU	**Nakatsue**	**42.47**	**48**	P	**P**	**08 02 21.0**	**+0.1**
	0.6nm,0.4s,mb3.6,baz=180,slow=8.1,SNR=2.4						
ZAL	**Zalesovo**	**46.75**	**353**	P	**P**	**08 02 55.2**	**+0.4**
	7.2nm,0.8s,mb4.7,baz=299,slow=7.6,SNR=25						
ZAL	**Zalesovo**	**46.75**	**353**	P	**P**	**08 02 55.2**	**+0.3**
WRA	**Warramunga Arr**	**48.22**	**125**	P	**P**	**08 03 07.2**	**+0.3**
	1.3nm,0.9s,mb4.0,baz=304,slow=9.3,SNR=6.8						
WRAB	**Tennant Creek**	**48.23**	**125**	P	**P**	**08 03 03.2**	**-3.8**
	16nm,1.3s,mb4.9						
BVAR	**Borovoye Array**	**49.16**	**341**	P	**P**	**08 03 13.1**	**-0.6**
	3.7nm,0.8s,mb4.4,baz=135,slow=8.4,SNR=14						
BVAR				PcP	PcP	08 04 37.7	+0.7
	2.3nm,0.9s,baz=153,slow=3.2,SNR=3.9						
BRVK	**Borovoye**	**49.22**	**341**	*eP*	**P**	**08 03 13.5**	**-0.6**
	7.7nm,1.1s,mb4.7						
ASAR	**Alice Springs**	**49.86**	**130**	P	**P**	**08 03 19.5**	**0.0**
	1.3nm,0.9s,mb3.9,baz=314,slow=7.2,SNR=5.3						
PMG	**Port Moresby**	**55.57**	**107**	P	**P**	**08 04 03.2**	**+1.1**
	12nm,0.8s,mb4.0,baz=117,slow=14,SNR=3.4						
KMBO	**Kilima Mbogo**	**57.30**	**264**	P	**P**	**08 04 17.0**	**+2.5**
	3.1nm,1.1s,mb4.3,baz=54,slow=14,SNR=4.7						
STKA	**Stephens Creek**	**60.03**	**134**	P	**P**	**08 04 31.5**	**-1.8**
	2.0nm,0.8s,mb4.2,baz=287,slow=11,SNR=3.2						
BRTR	**Keskin Array B**	**62.49**	**311**	P	**P**	**08 04 48.8**	**-1.0**
	1.3nm,0.7s,mb4.2,baz=121,slow=7.2,SNR=6.3						
AKASG	**Malin Array Be**	**68.26**	**322**	P	**P**	**08 05 25.1**	**-1.6**
	3.2nm,0.8s,mb4.4,baz=89,slow=4.6,SNR=9.6						
JOF	**Joensuu**	**71.00**	**335**	*ep*	**P**	**08 05 42.1**	**-1.2**
	9.0nm,0.9s,mb4.7						
FINES	**FINESS Array B**	**72.85**	**332**	P	**P**	**08 05 53.8**	**-0.5**
	7.0nm,0.8s,mb4.6,baz=90,slow=9.5,SNR=13						
KAF	**Kangasniemi**	**72.94**	**333**	*ep*	**P**	**08 05 51.5**	**-3.3**
	6.1nm,0.9s,mb4.5						
KEV	**Kevo**	**75.00**	**341**	*ep*	**P**	**08 05 55.5**	**-11**
GERES	**GERESS Array B**	**77.92**	**318**	P	**P**	**08 06 24.6**	**+1.2**
	3.4nm,0.8s,mb4.3,baz=90,slow=4.0,SNR=15						
HFS	**Hagfors**	**78.59**	**330**	P	**P**	**08 06 27.5**	**+0.7**
	5.3nm,0.7s,mb4.6,baz=117,slow=6.4,SNR=3.3						
GRA1	**Grafenberg Arr**	**79.56**	**319**	*eP*	**P**	**08 06 34.3**	**+2.0**
	7.0nm,1.1s,mb4.5						
GRF	**Grafenberg Arr**	**79.56**	**319**	*eP*	**P**	**08 06 34.3**	**+2.0**
	7.0nm,1.1s,mb4.5						
NB2	**NORSAR Subarra**	**79.87**	**331**	P	**P**	**08 06 34.0**	**+0.3**
	2.7nm,0.8s,mb4.2,baz=91,slow=5.8						
PDAR	**Pinedale Array**	**125.41**	**21**	PKP	PKPdf	08 13 25.7	-4.6
	0.8nm,1.0s,baz=342,slow=4.7,SNR=3.7						
PLCA	**Paso Flores**	**144.31**	**200**	PKP	PKPdf	08 14 03.3	-1.9
	3.2nm,0.8s,baz=160,slow=4.5,SNR=4.9						

*IDC **27** 07:54:53.4±0.7, 8.09N×93.85E, mb4.2/12, mb1 4.3/13, mb1mx4.2/20, mbtmp4.2/13, ML4.2/1, MS4.7/1, Ms1 4.7/1, ms1mx3.1/28, Error ellipse: s-maj=33.0km s-min=16.5km az=48.0*
*NEIC **27** 07:54:57.5±0.5, 7.81N×93.48E, h30km, mb4.7/6, Error ellipse: s-maj=18.9km s-min=11.7km az=63.0*
ISC 27 07:54:57.2±0.6, 8.1N±0.1×93.7E±0.1, h33km, n28, σ1§00/21, mb4.4/18, MS4.6/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.52**	**26**	Pn	**P**	**07 57 46.4**	**+3.9**
	0.5nm,0.3s,baz=209,slow=14,SNR=5.1						
LSA	**Lhasa**	**21.68**	**354**	P	**P**	**07 59 49.1**	**+2.1**
	33nm,0.9s,mb4.8						
ENH	**Enshi**	**26.58**	**32**	P	**P**	**08 00 34.6**	**+0.1**
	16nm,1.1s,mb4.5						
TGY	**Tagaytay City**	**27.35**	**75**	LR	LR	08 11 39.9	
	comp=Z,2μm,20.4s,MS4.6,baz=85,slow=37						
SONM	**Songino Array**	**41.08**	**13**	P	**P**	**08 02 38.4**	**-1.1**
	1.0nm,0.8s,mb3.5,baz=193,slow=8.6,SNR=4.1						
ZAL	**Zalesovo**	**46.32**	**353**	P	**P**	**08 03 22.0**	**+0.2**
	3.1nm,0.8s,mb4.3,baz=285,slow=6.1,SNR=4.3						
WRA	**Warramunga Arr**	**48.69**	**125**	P	**P**	**08 03 40.9**	**+0.1**
	2.5nm,0.8s,mb4.3,baz=304,slow=9.0,SNR=6.6						
BVAR	**Borovoye Array**	**48.70**	**341**	P	**P**	**08 03 39.5**	**-0.7**
	1.3nm,0.8s,mb4.0,baz=135,slow=8.4,SNR=3.7						
WRAB	**Tennant Creek**	**48.70**	**125**	*eP*	**P**	**08 03 41.1**	**+0.3**
	17nm,1.2s,mb4.9						
BRVK	**Borovoye**	**48.76**	**341**	*eP*	**P**	**08 03 39.8**	**-0.9**
	5.2nm,1.0s,mb4.5						
ASAR	**Alice Springs**	**50.34**	**130**	P	**P**	**08 03 53.8**	**+0.4**
	2.2nm,0.9s,mb4.2,baz=307,slow=7.2,SNR=6.5						
KMBO	**Kilima Mbogo**	**57.04**	**263**	P	**P**	**08 04 44.6**	**+1.7**
	1.9nm,0.7s,mb4.2,baz=62,slow=24,SNR=5.0						
CTAO	**Charters Tower**	**58.75**	**119**	P	**P**	**08 04 48.9**	**-5.9**
	9.2nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**60.52**	**134**	P	**P**	**08 05 03.6**	**-3.2**
	1.8nm,1.0s,mb4.2,baz=308,slow=12,SNR=2.6						
BRTR	**Keskin Array B**	**62.01**	**311**	P	**P**	**08 05 15.7**	**-1.0**
	1.6nm,0.9s,mb4.2,baz=121,slow=8.4,SNR=3.2						
IDI	**Anoyia**	**68.14**	**305**	P	**P**	**08 05 55.8**	**-0.5**
	6.9nm,0.8s,mb4.8,baz=83,slow=16,SNR=3.4						
FINES	**FINESS Array B**	**72.37**	**332**	P	**P**	**08 06 20.9**	**-0.6**
	3.7nm,0.8s,mb4.4,baz=90,slow=11,SNR=6.1						
FINES	**FINESS Array B**	**72.37**	**332**	P	**P**	**08 06 20.9**	**-0.6**
ARCES	**ARCESS Array B**	**74.97**	**340**	P	**P**	**08 06 37.0**	**+0.4**
	3.2nm,0.9s,mb4.3,baz=45,slow=5.1,SNR=3.6						
ARCES	**ARCESS Array B**	**74.97**	**340**	P	**P**	**08 06 37.0**	**+0.4**
GERES	**GERESS Array B**	**77.43**	**318**	P	**P**	**08 06 51.2**	**+0.3**
	2.3nm,0.8s,mb4.2,baz=76,slow=5.5,SNR=7.3						
LPG	**La Plagne**	**82.21**	**315**	*eP*	**P**	**08 07 16.6**	**0.0**
	14nm,0.9s,mb4.6						
NVAR	**Mina Array Bea**	**124.98**	**31**	PKP	PKPdf	08 13 54.6	-0.1
	3.7nm,1.2s,baz=214,slow=5.3,SNR=4.3						
PDAR	**Pinedale Array**	**125.15**	**21**	PKP	PKPdf	08 13 54.0	-0.8
	0.5nm,0.8s,baz=27,slow=3.3,SNR=3.8						
PDAR	**Pinedale Array**	**125.15**	**21**	PKP	PKPdf	08 13 54.0	-0.8
TXAR	**Lajitas Array**	**139.23**	**24**	PKP	PKPdf	08 14 23.1	+1.4
	0.3nm,0.7s,baz=140,slow=1.1,SNR=3.6						
PLCA	**Paso Flores**	**144.57**	**201**	PKP	PKPdf	08 14 29.8	-0.9
	1.7nm,0.8s,baz=227,slow=5.1,SNR=4.0						
LPAZ	**La Paz**	**160.48**	**243**	PKP	PKPdf	08 14 55.1	+0.9
	0.7nm,0.8s,baz=265,slow=3.1,SNR=2.6						

*IDC **27** 07:57:01.3±1.1, 7.60N×93.92E, mb4.0/10, mb1 4.1/11, mb1mx4.0/20, mbtmp4.0/11, ML4.2/1, Error ellipse: s-maj=47.6km s-min=24.5km az=50.0*
ISC 27 07:57:04.5±1.0, 7.7N±0.2×94.1E±0.2, h33km, n15, σ1§00/12, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.66**	**23**	Pn	**P**	**07 59 51.9**	**+0.3**
	0.4nm,0.3s,baz=210,slow=14,SNR=3.6						
SONM	**Songino Array**	**41.32**	**13**	P	**P**	**08 04 45.3**	**-3.3**
	0.9nm,0.7s,mb3.5,baz=184,slow=3.0,SNR=3.9						
ZAL	**Zalesovo**	**46.71**	**352**	P	**P**	**08 05 31.6**	**-0.3**
	2.1nm,0.7s,mb4.2,baz=278,slow=8.7,SNR=4.5						
WRA	**Warramunga Arr**	**48.17**	**125**	P	**P**	**08 05 43.7**	**-0.2**
	0.8nm,0.9s,mb3.8,baz=298,slow=9.6,SNR=3.1						
BVAR	**Borovoye Array**	**49.14**	**341**	P	**P**	**08 05 50.4**	**-0.6**
	1.6nm,0.8s,mb4.1,baz=90,slow=5.8,SNR=3.2						
BRTR	**Keskin Array B**	**62.53**	**311**	P	**P**	**08 07 25.5**	**-1.9**
	1.0nm,0.8s,mb4.0,baz=108,slow=9.1,SNR=3.6						
FINES	**FINESS Array B**	**72.85**	**332**	P	**P**	**08 08 32.2**	**+0.6**
	2.8nm,0.7s,mb4.3,baz=121,slow=11,SNR=3.9						
ARCES	**ARCESS Array B**	**75.42**	**340**	P	**P**	**08 08 47.9**	**+1.5**
	2.8nm,1.1s,mb4.1,baz=12,slow=29,SNR=2.4						
GERES	**GERESS Array B**	**77.95**	**318**	P	**P**	**08 09 01.9**	**+0.9**
	1.3nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=5.0						
HFS	**Hagfors**	**78.59**	**330**	P	**P**	**08 09 04.6**	**+0.2**
	2.9nm,1.1s,mb4.1,baz=178,slow=39,SNR=2.8						
NB2	**NORSAR Subarra**	**79.87**	**331**	P	**P**	**08 09 11.6**	**+0.3**
	24nm,2.0s,mb4.8,baz=92,slow=5.8						
NOA	**NORSAR Array B**	**79.87**	**331**	P	**P**	**08 09 11.4**	**+0.1**
	0.6nm,0.8s,mb3.6,baz=116,slow=3.8,SNR=3.3						
PDAR	**Pinedale Array**	**125.32**	**21**	PKP	PKPdf	08 16 05.7	+3.3
	0.3nm,0.7s,baz=162,slow=2.9,SNR=3.2						
TXAR	**Lajitas Array**	**139.37**	**24**	PKhKP		08 16 27.0	
	0.1nm,0.7s,SNR=2.3						
TXAR				PKP	PKPdf	08 16 32.9	+3.8
	0.2nm,0.5s,baz=60,slow=0.8,SNR=4.6						
PLCA	**Paso Flores**	**144.40**	**200**	PKP	PKPdf	08 16 40.5	+2.9
	2.1nm,0.8s,baz=211,slow=3.5,SNR=3.5						

*IDC **27** 07:57:12.5±1.2, 7.71N×93.81E, mb4.1/8, mb1 4.3/9, mb1mx4.1/19, mbtmp4.1/9, ML4.1/1, Error ellipse: s-maj=45.8km s-min=27.9km az=54.0*
ISC 27 07:57:16.4±1.1, 7.9N±0.2×94.1E±0.2, h33km, n11, σ1§05/9, mb4.0/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.54**	**23**	Pn	**P**	**08 00 01.4**	**-0.6**
	0.4nm,0.3s,baz=211,slow=14,SNR=6.3						
SONM	**Songino Array**	**41.19**	**13**	P	**P**	**08 05 01.6**	**+2.0**
	0.8nm,0.6s,mb3.5,baz=187,slow=4.0,SNR=4.9						
WRA	**Warramunga Arr**	**48.26**	**126**	P	**P**	**08 05 56.6**	**0.0**
	1.1nm,0.6s,mb4.1,baz=304,slow=8.5,SNR=5.6						
BRTR	**Keskin Array B**	**62.43**	**311**	P	**P**	**08 07 40.8**	**+2.0**
	0.7nm,0.6s,mb4.0,baz=114,slow=6.0,SNR=3.9						
FINES	**FINESS Array B**	**72.72**	**332**	P	**P**	**08 08 41.6**	**-1.2**
	4.0nm,0.9s,mb4.3,baz=135,slow=5.4,SNR=3.6						
ARCES	**ARCESS Array B**	**75.28**	**340**	P	**P**	**08 08 57.2**	**-0.3**
	2.4nm,0.8s,mb4.2,baz=90,slow=5.4,SNR=4.2						
GERES	**GERESS Array B**	**77.83**	**318**	P	**P**	**08 09 11.7**	**-0.6**
	0.9nm,0.5s,mb3.9,baz=90,slow=5.3,SNR=4.9						
HFS	**Hagfors**	**78.47**	**330**	P	**P**	**08 09 14.9**	**-0.6**
	1.9nm,0.5s,mb4.3,baz=90,slow=7.4,SNR=6.7						
NOA	**NORSAR Array B**	**79.74**	**331**	P	**P**	**08 09 22.2**	**-0.3**
	0.7nm,0.6s,mb3.7,baz=123,slow=3.6,SNR=3.3						
PDAR	**Pinedale Array**	**125.19**	**21**	PKP	PKPdf	08 16 15.9	+1.8
	0.6nm,0.9s,slow=3.0,SNR=3.5						
PLCA	**Paso Flores**	**144.52**	**200**	PKP	PKPdf	08 16 52.2	+2.4
	5.6nm,0.9s,baz=176,slow=2.4,SNR=6.5						

*IDC **27** 07:58:43.8±1.0, 6.67N×94.84E, mb4.3/12, mb1 4.4/13, mb1mx4.2/22, mbtmp4.2/13, ML4.3/1, Error ellipse: s-maj=44.2km s-min=20.0km az=45.0*
*NEIC **27** 07:58:48.2±0.8, 6.65N×94.77E, h30km, mb4.4/5, Error ellipse: s-maj=26.2km s-min=17.6km az=62.0*
ISC 27 07:58:47.3±6.9, 6.7N±0.2×94.8E±0.3, h38km±58km, n21, σ1§28/21, mb4.3/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.39**	**19**	Pn	**P**	**08 01 45.0**	**+0.9**
	0.6nm,0.3s,baz=215,slow=14,SNR=4.6						
LSA	**Lhasa**	**23.17**	**352**	P	**P**	**08 03 51.1**	**-0.4**
	28nm,0.9s,mb4.7						
AAK	**Ala-Archa**	**40.07**	**337**	*eP*	**P**	**08 06 17.5**	**-3.2**
	5.2nm,0.9s,mb4.3						
SONM	**Songino Array**	**42.20**	**12**	P	**P**	**08 06 38.8**	**+0.7**
	0.9nm,0.8s,mb3.5,baz=202,slow=9.4,SNR=3.6						
KURK	**Kurchatov**	**45.93**	**346**	*eP*	**P**	**08 07 06.2**	**-2.1**
	5.2nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**47.83**	**352**	P	**P**	**08 07 22.7**	**-0.3**
	5.6nm,0.9s,mb4.6,baz=288,slow=8.7,SNR=9.7						
ASAR	**Alice Springs**	**48.64**	**130**	P	**P**	**08 07 29.9**	**+0.2**
	0.4nm,0.7s,mb3.5,baz=290,slow=3.0,SNR=4.2						
BVAR	**Borovoye Array**	**50.34**	**341**	P	**P**	**08 07 40.5**	**-1.9**
	2.1nm,0.9s,mb4.2,baz=135,slow=8.4,SNR=4.5						
CTA	**Charters Tower**	**57.15**	**119**	P	**P**	**08 08 31.9**	**-1.1**
	1.8nm,0.7s,mb4.2,baz=72,slow=19,SNR=2.7						
KMBO	**Kilima Mbogo**	**57.96**	**264**	*eP*	**P**	**08 08 46.7**	**+7.9**
	2.5nm,0.8s,mb4.3						
BRTR	**Keskin Array B**	**63.71**	**311**	P	**P**	**08 09 16.9**	**-0.6**
	4.7nm,1.1s,mb4.4,baz=117,slow=7.3,SNR=6.5						
AKASG	**Malin Array Be**	**69.50**	**322**	P	**P**	**08 09 52.7**	**-1.2**
	2.1nm,0.7s,mb4.2,baz=89,slow=5.1,SNR=6.3						
IDI	**Anoyia**	**69.80**	**305**	P	**P**	**08 09 56.3**	**+0.3**
	6.2nm,0.6s,mb4.7,baz=111,slow=14,SNR=3.4						
JOF	**Joensuu**	**72.22**	**335**	*ep*	**P**	**08 10 08.9**	**-1.1**
	5.0nm,0.8s,mb4.5						
FINES	**FINESS Array B**	**74.08**	**332**	P	**P**	**08 10 22.5**	**+1.5**
	4.8nm,0.7s,mb4.5,baz=101,slow=9.7,SNR=8.7						
KAF	**Kangasniemi**	**74.16**	**333**	*ep*	**P**	**08 10 21.9**	**+0.5**
	4.7nm,0.8s,mb4.5						
KEV	**Kevo**	**76.19**	**341**	*ep*	**P**	**08 10 33.1**	**+0.1**
GERES	**GERESS Array B**	**79.16**	**318**	P	**P**	**08 10 52.5**	**+2.6**
	5.7nm,1.0s,mb4.4,baz=90,slow=5.3,SNR=10						
HFS	**Hagfors**	**79.82**	**330**	P	**P**	**08 10 55.2**	**+2.0**
	2.8nm,0.5s,mb4.4,baz=124,slow=5.2,SNR=6.3						
NB2	**NORSAR Subarra**	**81.10**	**331**	P	**P**	**08 11 01.6**	**+1.6**
	2.1nm,0.7s,mb4.2,baz=93,slow=5.6						
NOA	**NORSAR Array B**	**81.10**	**331**	P	**P**	**08 11 01.6**	**+1.7**
	2.4nm,0.7s,mb4.2,baz=94,slow=5.5,SNR=6.7						

IDC 27 07:59:16.7±1.8, 7.81N×93.89E, mb4.1/4, mb1 4.3/5, mb1mx3.9/18, mbtmp4.1/5, ML4.1/1, Error ellipse: s-maj=52.8km s-min=47.7km az=119.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.67**	**24**	Pn	P	08 02 05.2	-2.4
	0.4nm,0.3s,baz=212,slow=15,SNR=5.1						
ZAL	**Zalesovo**	**46.58**	**353**	P	P	08 07 46.4	-1.6
	3.7nm,0.9s,baz=290,slow=9.3,SNR=5.5						
BRTR	**Keskin Array B**	**62.28**	**311**	P	P	08 09 40.6	-2.4
	1.2nm,0.7s,baz=117,slow=5.5,SNR=3.7						
GERES	**GERESS Array B**	**77.70**	**318**	P	P	08 11 15.8	-1.1
	0.7nm,0.7s,baz=90,slow=5.3,SNR=4.2						
ILAR	**Eielson Array**	**94.90**	**22**	P	P	08 12 39.5	-2.1
	0.5nm,1.1s,baz=297,slow=4.0,SNR=4.3						
NVAR	**Mina Array Bea**	**125.10**	**31**	PKP	PKPdf	08 18 20.2	-1.2
	0.3nm,0.3s,baz=342,slow=2.9,SNR=3.9						
PDAR	**Pinedale Array**	**125.32**	**21**	PKP	PKPdf	08 18 19.4	-2.4
	0.5nm,0.7s,SNR=3.6						
PLCA	**Paso Flores**	**144.40**	**201**	PKP	PKPdf	08 18 55.9	-1.1
	1.4nm,0.8s,baz=182,slow=4.7,SNR=3.1						

IGQ 27 08:03:21.4, 1.70S×81.77W, h12km±7km, mb4.2, 4C, Error ellipse: s-maj=10.1km s-min=7.2km az=18.3, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.39**	**62**	⇑P	Pn	08 03 45.2	-1.4
JAMA	**Jama**	**2.12**	**48**	P	Pn	08 03 58.9	+1.8
JAMA				S	Sn	08 04 20.5	-3.0
IGUA	**Igualata**	**3.14**	**86**	P	Pn	08 04 11.8	+0.1
ARRY	**Arrayan**	**3.32**	**87**	⇑P	Pn	08 04 15.5	+1.2
ARRY				S	Sn	08 04 48.7	-5.3
ULBA	**Ulba**	**3.37**	**86**	P	Pn	08 04 16.7	+1.7
PISA	**Pisayambo**	**3.45**	**79**	P	Pn	08 04 17.8	+1.8
NAS1	**Nasa**	**3.46**	**72**	P	Pn	08 04 17.7	+1.4
JUA2	**San Juan 2**	**3.49**	**65**	P	Pn	08 04 17.6	+0.9
TERV	**Terraza Guagua**	**3.51**	**65**	P	Pn	08 04 18.4	+1.4
PINO	**Pino**	**3.52**	**64**	P	Pn	08 04 18.0	+1.0
VC1	**Cotopaxi 1**	**3.53**	**73**	P	Pn	08 04 20.4	+3.1
TAMB	**Tambo**	**3.55**	**74**	P	Pn	08 04 20.0	+2.6
JOR1	**San Jorge 1**	**3.56**	**62**	P	Pn	08 04 16.7	-0.9
YANA	**Yana**	**3.56**	**64**	P	Pn	08 04 18.8	+1.1
ANTI	**Antisana**	**3.82**	**71**	⇑P	Pn	08 04 24.0	+2.7
ANTI				S	Sn	08 05 06.8	+0.1
COTA	**Cotacachi**	**3.98**	**60**	P	Pn	08 04 25.7	+2.0
COTA				S	Sn	08 05 11.1	+0.2
CAYR	**Refugio Cayamb**	**4.13**	**66**	⇑P	Pn	08 04 29.7	+3.9
CAYR				S	Sn	08 05 17.1	+2.6

*IDC **27** 08:04:21.5±5.4, 7.96N×94.13E, h64km±48km, mb3.6/10, mb1 3.8/11, mb1mx3.7/19, mbtmp3.9/11, ML3.7/1, Error ellipse: s-maj=33.1km s-min=17.7km az=47.0*
ISC 27 08:04:16.1±0.8, 7.9N±0.1×94.1E±0.1, h33km, n14, σ0§92/12, mb3.9/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.54**	**24**	P	**P**	**08 07 01.6**	**0.0**
	0.1nm,0.3s,baz=209,slow=14,SNR=4.7						
SONM	**Songino Array**	**41.18**	**13**	P	**P**	**08 12 00.4**	**+1.3**
	0.3nm,0.3s,mb3.4,baz=214,slow=5.2,SNR=3.0						
ZAL	**Zalesovo**	**46.54**	**352**	P	**P**	**08 12 42.7**	**+0.4**
	1.5nm,0.7s,mb4.1,baz=291,slow=10.0,SNR=8.7						
WRA	**Warramunga Arr**	**48.32**	**125**	P	**P**	**08 12 56.2**	**-0.6**
	1.4nm,1.1s,mb3.9,baz=305,slow=8.6,SNR=5.2						
ASAR	**Alice Springs**	**49.97**	**130**	P	**P**	**08 13 09.6**	**+0.2**
	0.5nm,0.8s,mb3.6,baz=315,slow=8.2,SNR=4.6						
ASAR				PcP	PcP	08 14 28.9	-0.5
	0.7nm,0.8s,baz=321,slow=3.6,SNR=4.1						
KMBO	**Kilima Mbogo**	**57.35**	**264**	P	**P**	**08 14 05.9**	**+2.0**
	2.0nm,0.6s,mb4.3,baz=60,slow=10,SNR=6.9						
BRTR	**Keskin Array B**	**62.37**	**311**	P	**P**	**08 14 36.2**	**-1.8**
	1.0nm,0.8s,mb4.0,baz=124,slow=5.2,SNR=3.6						
AKASG	**Malin Array Be**	**68.11**	**322**	P	**P**	**08 15 14.0**	**-0.7**
	0.2nm,0.3s,mb3.6,baz=104,slow=3.8,SNR=4.3						
GERES	**GERESS Array B**	**77.78**	**318**	P	**P**	**08 16 11.7**	**0.0**
	0.8nm,0.6s,mb3.8,baz=90,slow=5.3,SNR=6.5						
HFS	**Hagfors**	**78.42**	**330**	P	**P**	**08 16 14.5**	**-0.5**
	2.1nm,0.6s,mb4.2,baz=90,slow=7.4,SNR=6.9						
NB2	**NORSAR Subarra**	**79.69**	**331**	P	**P**	**08 16 21.6**	**-0.3**
	0.9nm,0.7s,mb3.8,baz=93,slow=5.3						
NOA	**NORSAR Array B**	**79.69**	**331**	P	**P**	**08 16 22.0**	**+0.1**
	2.2nm,0.9s,mb4.1,baz=93,slow=5.4,SNR=3.5						
PDAR	**Pinedale Array**	**125.19**	**21**	PKP	PKPdf	08 23 15.6	+1.8
	0.3nm,0.8s,slow=3.0,SNR=4.2						
PLCA	**Paso Flores**	**144.53**	**200**	PKP	PKPdf	08 23 51.4	+1.9

KOLN Koldanda 22.00 334 *e*P **P 08 12 16.4 +0.2**
comp=Z,166nm,0.8s,mb5.5
BHPL Bhopal 22.03 315 *e*P **P 08 12 18.1 +1.5**
BHPL *e* 08 12 26.4
comp=Z,129nm,1.4s
BHPL *e* 08 16 09.2
BHPL *e* 08 16 09.2
POO Poona 22.29 300 *i* P **P 08 12 20.0 +0.8**
NDI New Delhi 25.99 324 *e*P **P 08 12 55.0 +0.1**
ENH Enshi 26.37 31 *e*P **P 08 12 58.0 -0.5**
comp=Z,23nm,0.9s,mb4.7
DDI Dehra Dun 26.79 328 *e* **P 08 13 05.0 +2.7**
XAN Xi'an 29.24 26 P **P 08 13 23.5 -0.8**
XAN AMB AMB
comp=Z,14nm,0.9s,mb4.7
LZH Lanzhou 29.28 16 *e*P **P 08 13 25.0 +0.4**
LZH AP pP 08 13 38.5 +3.9
LZH AMB AMB
comp=Z,26nm,1.4s,mb4.8
LZH AMB AMB
comp=Z,104nm,4.5s
LZH Lanzhou 29.28 16 *e*P **P 08 13 25.1 +0.5**
LZH *PP pP 08 13 33.5 -1.1
LZH *SP sP 08 13 38.5 -0.6
LZH pmax pmax
comp=Z,26nm,1.4s,mb4.8
LZH Lanzhou 29.28 16 *e*P **P 08 13 25.1 +0.5**
comp=Z,26nm,1.4s,mb4.8
LZH pP pP 08 13 33.5 -1.1
LZH sP sP 08 13 38.5 -0.6
WHN Wuhan 29.30 38 P **P 08 13 26.0 +1.1**
NJ2 Nanjing 33.14 41 *e*P **P 08 13 58.5 -0.2**
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.3
WMQ Urumqi 36.07 352 *e*P **P 08 14 24.0 +0.3**
WMQ AP pP 08 14 36.0 +2.2
WMQ XP sP 08 14 41.5 +3.3
WMQ PP PP 08 15 47.0 +0.8
WMQ PCP PcP 08 16 49.5 -0.1
WMQ S **S 08 19 59.5 -0.3**
WMQ AMB AMB
comp=Z,78nm,1.2s,mb5.5
WMQ AMB AMB
comp=Z,427nm,5.2s
WMQ LR LR
comp=N,1μm,17.8s,MS4.8
WMQ LR LR
comp=E,1μm,17.5s,MS4.8
WMQ LR LR
comp=Z,2μm,17.6s,MS4.9
BJT Baijiatuau 37.43 28 *e*P **P 08 14 36.6 +1.5**
BJT pmax pmax
comp=Z,25nm,1.1s
BJT Baijiatuau 37.43 28 *e*P **P 08 14 36.6 +1.4**
comp=Z,25nm,1.1s,mb5.0
AAK Ala-Archa 38.54 337 *e*P **P 08 14 44.5 +0.2**
AAK pmax pmax
comp=Z,11nm,0.9s,mb4.6
AAK Ala-Archa 38.54 337 *e*P **P 08 14 44.5 +0.2**
comp=Z,11nm,0.9s,mb4.6
SONM Songino Array 40.99 13 P **P 08 15 03.4 -1.2**
comp=Z,5.8nm,0.9s,mb4.2,baz=196,slow=7.2,SNR=21
SONM PcP PcP 08 17 04.3 -0.7
comp=Z,1.7nm,0.7s,baz=190,slow=3.3,SNR=3.9
ULN Ulaanbaatar 41.17 13 *e*P **P 08 15 05.0 -1.1**
ULN pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
ULN Ulaanbaatar 41.17 13 *e*P **P 08 15 05.0 -1.1**
comp=Z,9.5nm,1.0s,mb4.4
ZAK Zakamensk 42.88 9 *e*P **P 08 15 18.6 -1.5**
TLY Talaya 44.20 8 *e*P **P 08 15 29.7 -1.0**
KURK Kurchatov 44.44 346 *e*P **P 08 15 32.2 -0.5**
KURK pmax pmax
comp=Z,19nm,1.0s,mb4.8
KURK Kurchatov 44.44 346 *e*P **P 08 15 32.2 -0.4**
comp=Z,19nm,1.0s,mb4.8
NWAO Narrogin (SRO) 46.31 153 P **P 08 15 47.7 -0.1**
NWAO pmax pmax
comp=Z,15nm,0.8s
NWAO Narrogin (SRO) 46.31 153 P **P 08 15 47.7 -0.1**
comp=Z,15nm,0.8s,mb5.0,baz=345,slow=12,SNR=7.5
NWAO Narrogin (SRO) 46.31 153 *e*P **P 08 15 48.0 +0.2**
comp=Z,22nm,0.9s,mb5.1
HIA Hailar 46.36 23 *e*P **P 08 15 48.8 +0.8**
HIA pmax pmax
comp=Z,30nm,1.6s
HIA Hailar 46.36 23 *e*P **P 08 15 48.8 +0.8**
comp=Z,30nm,1.6s,mb5.0
ZAL Zalesovo 46.37 352 P **P 08 15 47.5 -0.5**
ZAL pmax pmax
comp=Z,11nm,1.1s
ZAL Zalesovo 46.37 352 P **P 08 15 47.5 -0.6**
comp=Z,11nm,1.1s,mb4.7,baz=291,slow=8.8,SNR=14
NVS Novosibirsk 47.47 351 *e*P **P 08 15 55.5 -1.1**
NVS pmax pmax
comp=N,29nm,1.3s
NVS pmax pmax
comp=E,16nm,1.3s
NVS pmax pmax
comp=Z,32nm,1.3s,mb5.1
MDJ Mudanjiang 47.66 34 P **P 08 15 59.5 +1.2**
MDJ PP PP 08 17 49.5 +0.2
MDJ S **S 08 22 54.5 +3.7**
MDJ AMB AMB
comp=Z,3.0nm,0.6s,mb4.5
MDJ AMB AMB
comp=Z,180nm,4.9s
MDJ LR LR
comp=E,1μm,14.2s
MDJ LR LR
comp=Z,931nm,14.8s,MS4.9
WRA Warramunga Arr 48.37 126 P **P 08 16 01.8 -2.3**
comp=Z,3.5nm,0.7s,mb4.5,baz=305,slow=8.6,SNR=12
WRAB Tennant Creek 48.38 126 *e*P **P 08 16 02.3 -1.9**
comp=Z,43nm,1.4s,mb5.3
WB2 Warramunga Arr 48.38 126 *e*P **P 08 16 02.4 -1.8**
BVAR Borovoye Array 48.82 341 P **P 08 16 06.0 -1.2**
comp=Z,2.3nm,0.8s,mb4.2,baz=135,slow=8.4,SNR=5.5
BVAR PcP PcP 08 17 31.6 -0.3
comp=Z,2.1nm,0.7s,baz=190,slow=8.8,SNR=3.0
BRVK Borovoye 48.88 341 *e*P **P 08 16 05.4 -2.2**
BRVK pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
BRVK Borovoye 48.88 341 *e*P **P 08 16 05.4 -2.2**
comp=Z,7.4nm,1.0s,mb4.7
RAYN Ar Rayn 49.01 294 P **P 08 16 10.3 +1.3**
comp=Z,160nm,0.7s,SNR=18
MAJO Matsushiro 49.05 48 P **P 08 16 08.0 -1.2**
MAJO pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
MAJO Matsushiro 49.05 48 P **P 08 16 08.0 -1.2**
comp=Z,7.5nm,0.7s,mb4.8
ASPA Alice Springs 50.03 130 *e*P **P 08 16 18.8 +1.9**
ASAR Alice Springs 50.03 130 P **P 08 16 14.2 -2.7**
comp=Z,3.7nm,1.0s,mb4.4,baz=302,slow=8.0,SNR=6.5
ASAR PcP PcP 08 17 37.7 +1.0
comp=Z,3.5nm,1.0s,baz=314,slow=3.1,SNR=5.3
BOD Bodaibo 51.98 13 *e*P **P 08 16 28.9 -2.2**
GNI Garni 54.31 314 *e*P **P 08 16 49.4 +0.7**
GNI pmax pmax
comp=Z,17nm,1.1s
GNI Garni 54.31 314 *e*P **P 08 16 49.4 +0.7**
comp=Z,17nm,1.1s,mb4.9
SVE Sverdlovsk 55.23 338 *e*P **P 08 16 56.0 +0.8**
PMG Port Moresby 55.59 107 *e*P **P 08 16 57.4 -0.9**
PMG pmax pmax
comp=Z,19nm,0.8s
PMG Port Moresby 55.59 107 P **P 08 16 57.3 -1.0**
comp=Z,16nm,0.8s,mb5.1,baz=274,slow=6.6,SNR=3.7
PMG Port Moresby 55.59 107 *e*P **P 08 16 57.4 -0.9**
comp=Z,19nm,0.8s,mb5.2
ARU Arti 55.72 337 *e*P **P 08 16 52.0 -6.7**
KIV Kislovodsk 57.18 318 *e*P **P 08 17 07.7 -1.7**
KIV pmax pmax
comp=Z,18nm,0.9s,mb5.1
KIV Kislovodsk 57.18 318 *e*P **P 08 17 07.7 -1.7**
comp=Z,18nm,0.9s,mb5.1
KMBO Kilima Mbogo 57.43 264 P **P 08 17 13.3 +1.7**
KMBO pmax pmax
comp=Z,16nm,0.9s
KMBO Kilima Mbogo 57.43 264 P **P 08 17 13.3 +1.7**
comp=Z,16nm,0.9s,mb5.1,baz=56,slow=10,SNR=35
KMBO Kilima Mbogo 57.43 264 *e*P **P 08 17 13.0 +1.4**
comp=Z,21nm,0.9s,mb5.2
MALT Malatya 58.34 310 *e*P **P 08 17 17.0 -0.6**
MALT pmax pmax
comp=Z,12nm,1.3s,mb4.8
MALT Malatya 58.34 310 *e*P **P 08 17 16.9 -0.6**
comp=Z,12nm,1.3s,mb4.8
CTAO Charters Tower 58.40 119 P **P 08 17 16.1 -2.1**
CTAO pmax pmax
comp=Z,16nm,1.3s,mb4.9
CTAO Charters Tower 58.40 119 P **P 08 17 16.1 -2.1**
comp=Z,16nm,1.3s,mb4.9
EIL Elat 59.33 300 *e*P **P 08 17 24.9 +0.3**
comp=Z,28nm,1.3s,mb5.1
YAK Yakutsk 59.83 18 *e*P **P 08 17 26.4 -1.1**
YAK pmax pmax
comp=Z,54nm,1.1s,mb5.5
YAK Yakutsk 59.83 18 *e*P **P 08 17 26.4 -1.1**
comp=Z,54nm,1.1s,mb5.5
STKA Stephens Creek 60.23 134 P **P 08 17 29.9 -0.9**
comp=Z,7.5nm,1.0s,mb4.7,baz=300,slow=7.2,SNR=4.7
STKA Stephens Creek 60.23 134 *e*P **P 08 17 31.9 +1.2**
BRTR Keskin Array B 62.31 311 P **P 08 17 42.5 -2.1**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 62.31 311 P **P 08 17 42.5 -2.1**
comp=Z,3.4nm,0.8s,mb4.5,baz=131,slow=6.3,SNR=11
MBAR Mbarara 63.77 265 *e*P **P 08 17 54.6 -0.1**
MBAR pmax pmax
comp=Z,29nm,1.4s,mb5.1
MBAR Mbarara 63.77 265 *e*P **P 08 17 54.6 -0.1**
comp=Z,28nm,1.4s,mb5.1
MOS Moscow 64.92 329 *e*P **P 08 18 02.3 +0.8**
MOS pmax pmax
comp=Z,55nm,0.7s,mb5.7
OBN Obninsk 65.22 328 *e*P **P 08 18 01.3 -2.1**
OBN pmax pmax
comp=Z,27nm,1.1s,mb5.2
OBN Obninsk 65.22 328 *e*P **P 08 17 59.9 -3.5**
MA2 Magadan 66.61 28 *e*P **P 08 18 12.5 +0.3**
MA2 pmax pmax
comp=Z,21nm,1.0s,mb5.1
MA2 Magadan 66.61 28 *e*P **P 08 18 12.5 +0.3**
comp=Z,21nm,1.0s,mb5.1
TIXI Tiksi 67.06 11 ⇓*i*P **P 08 18 13.5 -1.3**
TIXI pmax pmax
comp=Z,24nm,1.1s,mb5.1
AKASG Malin Array Be 68.01 322 P **P 08 18 18.6 -2.5**
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 68.01 322 P **P 08 18 18.6 -2.5**
comp=Z,4.6nm,0.9s,mb4.5,baz=87,slow=4.8,SNR=8.8
SANT Santorini 68.11 306 *e*P **P 08 18 17.4 -4.7**
comp=Z,166nm,1.1s
IDI Anoyia 68.46 305 P **P 08 18 24.0 -0.2**
comp=Z,7.5nm,0.5s,mb5.0,baz=245,slow=4.4,SNR=5.9
LSZ Lusaka 69.32 250 *e*P **P 08 18 29.7 -0.1**
LSZ pmax pmax
comp=Z,11nm,1.2s,mb4.7
LSZ Lusaka 69.32 250 *e*P **P 08 18 29.7 -0.1**
comp=Z,11nm,1.2s,mb4.7
JOF Joensuu 70.69 334 *e*p **P 08 18 36.5 -0.8**
comp=Z,8.1nm,0.9s,mb4.7
FINES FINESS Array B 72.55 332 P **P 08 18 48.5 +0.1**
comp=Z,5.0nm,0.6s,mb4.6,baz=98,slow=7.3,SNR=14
KAF Kangasniemi 72.63 333 *e*p **P 08 18 49.0 +0.1**
comp=Z,8.1nm,0.7s,mb4.8
KAF Kangasniemi 72.63 333 *e*P **P 08 18 49.0 +0.1**
KAF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
KEV Kevo 74.67 341 *e*p **P 08 19 03.9 +3.2**
comp=Z,17nm,0.9s,mb5.0
ARCES ARCESS Array B 75.10 340 P **P 08 19 03.3 +0.1**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 75.10 340 P **P 08 19 03.3 +0.1**
comp=Z,2.4nm,0.6s,mb4.3,baz=63,slow=2.7,SNR=9.4
MORC Moravsky Berou 75.24 319 *e*P **P 08 19 04.3 -0.1**
MORC pmax pmax
comp=Z,18nm,1.3s,mb4.8
MORC Moravsky Berou 75.24 319 *e*P **P 08 19 04.3 0.0**
comp=Z,18nm,1.3s,mb4.8
BOSA Boshof 75.67 238 *e*P **P 08 19 07.2 -0.1**
BOSA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BOSA Boshof 75.67 238 *e*P **P 08 19 07.2 -0.1**
comp=Z,8.3nm,0.8s,mb4.7
BILL Bilibino 75.93 22 *e*P **P 08 19 06.8 -1.1**
BILL pmax pmax
comp=Z,24nm,1.3s,mb5.0
BILL Bilibino 75.93 22 *e*P **P 08 19 06.8 -1.2**
comp=Z,24nm,1.3s,mb5.0
DPC Dobruska-Polom 76.07 320 *e*P **P 08 19 09.6 +0.5**
KSP Ksiaz 76.12 320 *e*P **P 08 19 09.4 0.0**
UPC Upice 76.28 320 *e*P **P 08 19 11.8 +1.5**
PRU Pruhonice 77.19 319 *e*P **P 08 19 16.5 +1.1**
BRG Berggiesshubel 77.61 320 *e*P **P 08 19 17.6 -0.2**
BRG pmax pmax
comp=Z,50nm,2.0s,mb5.1
BRG Berggiesshubel 77.61 320 *e*P **P 08 19 17.6 -0.2**
comp=Z,50nm,2.0s,mb5.1
BRG *e* 08 22 37.9
GERES GERESS Array B 77.69 318 P **P 08 19 18.0 -0.2**
GERES pmax pmax
comp=Z,4.0nm,0.8s
GERES GERESS Array B 77.69 318 P **P 08 19 18.0 -0.3**
comp=Z,4.3nm,0.8s,mb4.4,baz=108,slow=4.2,SNR=13
KHC Kasperske Hory 77.78 318 *e*P **P 08 19 19.7 +1.0**
CLL Collm 78.22 321 P **P 08 19 22.0 +0.9**
CLL *e**PP pP 08 19 32.0 +0.1
HFS Hagfors 78.30 330 P **P 08 19 20.9 -0.4**
HFS pmax pmax
comp=Z,11nm,0.7s
HFS Hagfors 78.30 330 P **P 08 19 20.9 -0.5**
comp=Z,11nm,0.7s,mb4.9,baz=101,slow=7.6,SNR=15
MAW Mawson 78.70 192 P **P 08 19 25.3 +1.9**
MAW pmax pmax
comp=Z,6.0nm,0.8s
MAW Mawson 78.70 192 P **P 08 19 25.3 +1.8**
comp=Z,5.8nm,0.8s,mb4.6,baz=173,slow=21,SNR=3.6
GRA1 Grafenberg Arr 79.33 319 *e*P **P 08 19 28.3 +1.1**
comp=Z,13nm,1.1s,mb4.8
GRF Grafenberg Arr 79.33 319 *e*P **P 08 19 28.3 +1.1**
GRF pmax pmax
comp=Z,13nm,1.1s,mb4.8
GRF Grafenberg Arr 79.33 319 *e*P **P 08 19 28.3 +1.1**
GRF pmax pmax
comp=Z,13nm,1.1s,mb4.8
GRF Grafenberg Arr 79.33 319 *e*P **P 08 19 28.3 +1.1**
comp=Z,13nm,1.1s,mb4.8
NB2 NORSAR Subarra 79.57 331 P **P 08 19 27.5 -0.8**
comp=Z,7.3nm,0.8s,mb4.7,baz=92,slow=5.8
NB2 NORSAR Subarra 79.57 331 P **P 08 19 27.5 -0.8**
NB2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
NOA NORSAR Array B 79.57 331 P **P 08 19 26.6 -1.7**
NOA pmax pmax
comp=Z,4.0nm,0.6s
NOA NORSAR Array B 79.57 331 P **P 08 19 26.6 -1.7**
comp=Z,3.5nm,0.6s,mb4.4,baz=93,slow=5.5,SNR=12
NAO01 NORSAR Array S 79.73 330 P **P 08 19 23.6 -5.5**
comp=Z,7.1nm,0.7s,mb4.7
SUR Sutherland 80.42 235 P **P 08 19 35.4 +1.9**
comp=Z,14nm,1.1s,mb4.8
LPG La Plagne 82.49 315 *e*P **P 08 19 45.1 +1.2**
comp=Z,44nm,1.0s,mb5.0
LPG La Plagne 82.49 315 *e*P **P 08 19 45.1 +1.2**
LPG pmax pmax
comp=Z,22nm,1.0s,mb5.0
SYO Syowa Base 85.57 197 ⇓P **P 08 20 02.5 +3.6**
SYO Syowa Base 85.57 197 ⇓PcP PcP 08 20 06.2 +3.9
SYO Syowa Base 85.57 197 ⇓pP pP 08 20 13.9 +4.1
SYO Syowa Base 85.57 197 ⇑sP sP 08 20 20.0 +6.5
EKA Eskdalemuir Ar 87.57 325 P **P 08 20 10.7 +1.8**
EKA pmax pmax
comp=Z,4.0nm,0.7s
EKA Eskdalemuir Ar 87.57 325 P **P 08 20 10.7 +1.8**
comp=Z,3.7nm,0.7s,mb4.7,baz=98,slow=5.9,SNR=6.1
ESDC Sonseca Array 91.10 310 P **P 08 20 27.6 +1.5**
comp=Z,1.8nm,0.8s,mb4.4,baz=62,slow=4.8,SNR=4.3
IMA Indian Mountai 91.46 22 *e*P **P 08 20 28.3 +1.2**
ILAR Eielson Array 94.58 22 P **P 08 20 40.0 -1.4**
comp=Z,0.9nm,0.9s,mb4.2,baz=305,slow=5.0,SNR=10
ILAR PP PP 08 24 23.5 -8.5
comp=Z,0.2nm,0.8s,baz=297,slow=12,SNR=3.5
INK Inuvik 96.83 16 P **P 08 20 51.5 0.0**
INK pmax pmax
comp=Z,2.0nm,1.1s
INK Inuvik 96.83 16 P **P 08 20 51.5 +0.1**
comp=Z,2.4nm,1.1s,mb4.6,baz=347,slow=7.5,SNR=4.9
SNOW Snow King Moun 123.97 22 *e*PKPdf PKPdf 08 26 20.4 +2.0
NVAR Mina Array Bea 124.77 31 PKP PKPdf 08 26 21.3 +1.2
comp=Z,1.0nm,0.7s,baz=35,slow=1.8,SNR=6.9
PDAR Pinedale Array 125.00 21 PKP PKPdf 08 26 21.7 +1.3
comp=Z,1.6nm,0.7s,baz=318,slow=1.0,SNR=14
PDAR PP PP 08 28 07.3 -6.2
comp=Z,0.2nm,0.5s,baz=319,slow=45,SNR=3.3
MSU Marysvale 127.60 26 *e*PKIKP PKPdf 08 26 28.3 +2.7
TXAR Lajitas Array 139.07 24 PKiKP 08 26 41.6
comp=Z,0.1nm,0.5s,baz=304,slow=1.4,SNR=3.3
TXAR PKP PKPdf 08 26 47.7 +0.5
comp=Z,0.6nm,0.6s,baz=25,slow=0.7,SNR=10
JCT Junction City 139.42 19 *e*PKIKP PKPdf 08 26 48.5 +0.7
PLCA Paso Flores 144.71 200 PKIKP PKPdf 08 26 57.4 +0.6
PLCA 08 30 17.9
PLCA pmax pmax
comp=Z,9.0nm,0.8s
PLCA pmax pmax
comp=Z,4.0nm,0.9s
PLCA Paso Flores 144.71 200 PKP PKPdf 08 26 57.4 +0.6
comp=Z,9.4nm,0.8s,baz=165,slow=3.3,SNR=13
PLCA PP PP 08 30 17.9 0.0
comp=Z,3.8nm,0.9s,baz=149,slow=7.2,SNR=4.1
PLCA Paso Flores 144.71 200 *e*PKPdf PKPdf 08 26 57.0 +0.2
LVC Limon Verde 158.20 227 PKPab PKPab 08 27 55.2 +1.5
comp=Z,1.7nm,0.6s,baz=89,slow=2.7,SNR=3.9
LPAZ La Paz 160.84 243 PKP PKPdf 08 26 43.3 -37
comp=Z,1.2nm,0.9s,baz=128,slow=1.5,SNR=4.0
LPAZ PKPab PKPab 08 27 30.0 -35
comp=Z,2.0nm,1.0s,baz=46,slow=11,SNR=3.7

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*IDC **27** 08:09:26.0±1.3, 8.03N×93.50E, mb4.4/9, mb1 4.5/10, mb1mx4.2/21, mbtmp4.4/10, ML4.5/1, Error ellipse: s-maj=43.4km s-min=28.6km az=75.0*
*NEIC **27** 08:09:30.4±0.6, 8.04N×93.58E, h30km, mb4.7/4, Error ellipse: s-maj=15.6km s-min=10.9km az=110.0*
ISC 27 08:09:23.6±1.6, 7.4N±0.2×94.3E±0.1, h30km, n22, σ0§83/21, mb4.4/13, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.86**	**22**	*e*P	**P**	**08 12 14.0**	**+0.1**
	33nm,1.1s						
CMAR	**Chiang Mai Arr**	**11.86**	**22**	Pn	**P**	**08 12 13.7**	**-0.2**
	0.9nm,0.3s,baz=220,slow=20,SNR=4.8						
VIS	**Vishakhapatnam**	**14.75**	**315**	*e*	**P**	**08 12 53.2**	**+1.0**
VIS				*e*		08 12 53.2	
BWNR	**Bhubaneshwar**	**15.17**	**328**	*e*	**P**	**08 12 56.6**	**-1.0**
BWNR				*e*		08 12 56.6	
HYB	**Hyderabad**	**18.24**	**304**	*i* P	**P**	**08 13 37.0**	**+0.5**
LSA	**Lhasa**	**22.33**	**353**	*e*P	**P**	**08 14 20.4**	**-0.1**
	34nm,0.8s,mb4.8						
SONM	**Songino Array**	**41.56**	**12**	P	**P**	**08 17 11.7**	**+1.5**
	4.2nm,0.8s,mb4.1,baz=197,slow=4.4,SNR=5.1						
KURK	**Kurchatov**	**45.05**	**346**	*e*P	**P**	**08 17 37.9**	**-0.6**
	11nm,0.9s,mb4.7						
NWAO	**Narrogin (SRO)**	**45.72**	**153**	P	**P**	**08 17 55.9**	**+12**
	12nm,1.1s,mb4.8,baz=292,slow=15,SNR=3.1						
ZAL	**Zalesovo**	**46.98**	**352**	P	**P**	**08 17 53.6**	**-0.1**
	3.4nm,0.7s,mb4.4,baz=296,slow=7.4,SNR=3.7						
BVAR	**Borovoye Array**	**49.43**	**341**	P	**P**	**08 18 12.1**	**-0.7**
	4.0nm,0.9s,mb4.4,baz=149,slow=8.6,SNR=4.2						
BRTR	**Keskin Array B**	**62.79**	**311**	P	**P**	**08 19 47.1**	**-1.6**
	1.1nm,0.7s,mb4.1,baz=124,slow=8.9,SNR=3.7						
JOF	**Joensuu**	**71.28**	**335**	*e*p	**P**	**08 20 41.1**	**-0.9**
	7.3nm,0.9s,mb4.6						
FINES	**FINESS Array B**	**73.14**	**332**	P	**P**	**08 20 53.0**	**+0.1**
	3.3nm,0.7s,mb4.4,baz=72,slow=6.0,SNR=4.9						
KAF	**Kangasniemi**	**73.22**	**333**	*e*p	**P**	**08 20 48.1**	**-5.3**
	9.5nm,1.0s,mb4.7						
GERES	**GERESS Array B**	**78.22**	**318**	P	**P**	**08 21 23.0**	**+1.0**
	2.9nm,1.0s,mb4.2,baz=63,slow=4.4,SNR=4.6						
GERES	**GERESS Array B**	**78.22**	**318**	P	**P**	**08 21 23.0**	**+1.0**
HFS	**Hagfors**	**78.88**	**330**	P	**P**	**08 21 26.2**	**+0.8**
	3.1nm,0.6s,mb4.4,baz=108,slow=9.1,SNR=3.4						
NB2	**NORSAR Subarra**	**80.16**	**331**	P	**P**	**08 21 32.6**	**+0.3**
	1.5nm,0.7s,mb4.0,baz=93,slow=5.3						
NOA	**NORSAR Array B**	**80.16**	**331**	P	**P**	**08 21 32.5**	**+0.3**
	3.1nm,0.9s,mb4.2,baz=93,slow=5.5,SNR=4.0						
SYO	**Syowa Base**	**85.03**	**197**	⇓P	**P**	**08 21 53.6**	**-3.6**
TXAR	**Lajitas Array**	**139.57**	**24**	PKiKP		08 29 00.8	
	0.3nm,0.9s,SNR=4.0						

IGQ 27 08:10:15.3, 1.55S×81.16W, h12km±13km, mb4.0, Error ellipse: s-maj=11.5km s-min=3.9km az=17.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**1.60**	**37**	P	Pn	08 10 44.3	+0.7
JAMA				S	Sn	08 11 05.6	+1.4
IGUA	**Igualata**	**2.52**	**89**	P	Pn	08 10 57.4	+0.6
ARRY	**Arrayan**	**2.70**	**89**	P	Pn	08 11 00.2	+0.8
ARRY				S	Sn	08 11 33.2	+0.9
RETU	**Refugio**	**2.71**	**88**	P	Pn	08 11 03.7	+4.2
ULBA	**Ulba**	**2.75**	**88**	P	Pn	08 11 02.0	+2.0
PISA	**Pisayambo**	**2.82**	**80**	P	Pn	08 11 03.2	+2.2
NAS1	**Nasa**	**2.83**	**71**	P	Pn	08 11 04.1	+2.9
JUA2	**San Juan 2**	**2.88**	**62**	P	Pn	08 11 04.2	+2.3
VC1	**Cotopaxi 1**	**2.90**	**72**	P	Pn	08 11 05.9	+3.7
PINO	**Pino**	**2.90**	**62**	P	Pn	08 11 03.0	+0.8
TAMB	**Tambo**	**2.92**	**73**	P	Pn	08 11 06.2	+3.8
YANA	**Yana**	**2.95**	**61**	P	Pn	08 11 04.4	+1.4
ANTI	**Antisana**	**3.19**	**70**	P	Pn	08 11 09.8	+3.5
COTA	**Cotacachi**	**3.39**	**56**	P	Pn	08 11 11.6	+2.5
CAYR	**Refugio Cayamb**	**3.52**	**64**	P	Pn	08 11 14.3	+3.4
CAYA	**Cayambe**	**3.56**	**63**	P	Pn	08 11 15.0	+3.5

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*NEIC **27** 08:10:45.3±1.2, 8.04N×93.68E, h30km, mb4.7/8, Error ellipse: s-maj=32.0km s-min=17.5km az=138.0*
*IDC **27** 08:10:52.9±6.2, 8.36N×93.92E, h90km±47km, mb4.1/11, mb1 4.2/12, mb1mx4.0/20, mbtmp4.4/12, Error ellipse: s-maj=56.2km s-min=30.7km az=142.0*
ISC 27 08:10:41.4±1.9, 7.8N±0.3×94.0E±0.2, h30km, n25, σ1§15/23, mb4.5/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.63**	**24**	P	**P**	**08 13 29.1**	**+0.5**
	1.0nm,0.3s,baz=210,slow=15,SNR=3.4						
HYB	**Hyderabad**	**17.84**	**304**	*i* P	**P**	**08 14 49.5**	**+0.2**
LSA	**Lhasa**	**21.95**	**353**	*e*P	**P**	**08 15 37.1**	**+2.7**
	20nm,0.7s,mb4.7						
SONM	**Songino Array**	**41.26**	**13**	P	**P**	**08 18 24.8**	**-0.7**
	4.4nm,0.3s,mb4.6,baz=191,slow=7.3,SNR=54						
KURK	**Kurchatov**	**44.65**	**346**	*e*P	**P**	**08 18 52.4**	**-0.7**
	20nm,1.2s,mb4.8						
ZAL	**Zalesovo**	**46.60**	**353**	P	**P**	**08 19 08.4**	**-0.1**
	4.7nm,0.8s,mb4.5,baz=300,slow=6.2,SNR=4.3						
BVAR	**Borovoye Array**	**49.02**	**341**	P	**P**	**08 19 27.6**	**+0.2**
	1.6nm,0.8s,mb4.1,baz=141,slow=9.2,SNR=2.5						
KMBO	**Kilima Mbogo**	**57.29**	**264**	P	**P**	**08 20 32.6**	**+3.4**
	3.8nm,0.8s,mb4.5,baz=54,slow=11,SNR=5.2						
BRTR	**Keskin Array B**	**62.38**	**311**	P	**P**	**08 21 02.6**	**-1.3**
	1.7nm,0.7s,mb4.3,baz=129,slow=7.9,SNR=4.2						
AKASG	**Malin Array Be**	**68.13**	**322**	P	**P**	**08 21 39.0**	**-1.7**
	1.2nm,0.6s,mb4.1,baz=88,slow=4.9,SNR=4.9						
JOF	**Joensuu**	**70.86**	**334**	*e*p	**P**	**08 21 54.1**	**-3.2**
	10nm,1.0s,mb4.7						
FINES	**FINESS Array B**	**72.71**	**332**	P	**P**	**08 22 07.7**	**-0.7**
	5.2nm,0.7s,mb4.5,baz=104,slow=7.9,SNR=6.1						
KAF	**Kangasniemi**	**72.80**	**333**	*e*p	**P**	**08 22 07.5**	**-1.3**
	7.5nm,0.9s,mb4.6						
KEV	**Kevo**	**74.86**	**341**	*e*p	**P**	**08 22 23.9**	**+3.2**
	9.0nm,0.8s,mb4.8						
ARCES	**ARCESS Array B**	**75.29**	**340**	P	**P**	**08 22 23.1**	**0.0**
	4.2nm,0.9s,mb4.4,baz=90,slow=6.1,SNR=3.6						
MORC	**Moravsky Berou**	**75.34**	**319**	*e*P	**P**	**08 22 23.9**	**+0.1**
	11nm,1.1s,mb4.7						
GERES	**GERESS Array B**	**77.79**	**318**	P	**P**	**08 22 38.5**	**+1.0**
	4.0nm,0.8s,mb4.4,baz=90,slow=5.3,SNR=6.6						
CLL	**Collm**	**78.33**	**321**	P	**P**	**08 22 41.0**	**+0.6**
HFS	**Hagfors**	**78.45**	**330**	P	**P**	**08 22 41.3**	**+0.4**
	4.0nm,0.5s,mb4.6,baz=108,slow=4.7,SNR=4.6						
GRA1	**Grafenberg Arr**	**79.44**	**319**	*e*P	**P**	**08 22 47.4**	**+0.9**
	8.0nm,1.2s,mb4.5						
GRF	**Grafenberg Arr**	**79.44**	**319**	*e*P	**P**	**08 22 47.4**	**+0.9**
	8.0nm,1.2s,mb4.5						
NB2	**NORSAR Subarra**	**79.73**	**331**	P	**P**	**08 22 47.1**	**-0.7**
	6.7nm,0.9s,mb4.6,baz=92,slow=5.8						
NOA	**NORSAR Array B**	**79.73**	**331**	P	**P**	**08 22 47.9**	**+0.1**
	4.1nm,0.8s,mb4.4,baz=92,slow=5.6,SNR=4.8						

PDAR	**Pinedale Array**	**125.28**	**21**	PKP	PKPdf	08 29 42.9	-1.9
	0.7nm,0.7s,baz=63,slow=3.3,SNR=3.5						
TXAR	**Lajitas Array**	**139.34**	**24**	PKiKP		08 30 11.4	
	0.2nm,0.5s,baz=69,slow=0.9,SNR=4.8						

IDC 27 08:15:14.2±1.1,8.08N×94.27E,mb4.0/8,mb1 4.2/9, mb1mx4.0/19,mbtmp4.0/9,ML4.5/1,Error ellipse: s-maj=35.7km s-min=27.3km az=55.0,Putative timing error on GERES,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.28**	**23**	Pn	P	08 18 01.6	+1.8
	0.9nm,0.3s,baz=211,slow=14,SNR=9.4						
SONM	**Songino Array**	**40.94**	**12**	P	P	08 22 59.6	-0.4
	1.5nm,1.1s,baz=201,slow=7.0,SNR=3.4						
ZAL	**Zalesovo**	**46.37**	**352**	P	P	08 23 43.2	-0.7
	1.8nm,0.7s,baz=285,slow=8.3,SNR=3.8						
WRA	**Warramunga Arr**	**48.27**	**126**	P	P	08 23 57.4	-1.9
	0.4nm,0.8s,baz=304,slow=8.7,SNR=3.1						
KMBO	**Kilima Mbogo**	**57.58**	**264**	P	P	08 25 07.7	-1.0
	4.9nm,1.0s,baz=43,slow=11,SNR=8.4						
FINES	**FINESS Array B**	**72.60**	**332**	P	P	08 26 42.9	-2.2
	2.4nm,0.8s,baz=153,slow=8.5,SNR=4.3						
GERES	**GERESS Array B**	**77.77**	**318**	P	P	08 27 02.6	-12
	1.6nm,0.9s,baz=180,slow=1.3,SNR=4.0						
HFS	**Hagfors**	**78.35**	**330**	P	P	08 27 15.2	-2.6
	1.8nm,0.7s,baz=101,slow=7.6,SNR=5.8						
NOA	**NORSAR Array B**	**79.62**	**331**	P	P	08 27 22.3	-2.4
	1.9nm,0.8s,baz=92,slow=5.6,SNR=4.5						
PLCA	**Paso Flores**	**144.78**	**200**	PKP	PKPdf	08 34 52.4	-2.8
	3.4nm,0.9s,baz=121,slow=7.6,SNR=4.4						

*IDC **27** 08:15:52.4±1.3,7.67N×93.69E,mb4.2/10,mb1 4.4/11, mb1mx4.2/20,mbtmp4.2/11,ML4.3/1,Error ellipse: s-maj=43.1km s-min=26.6km az=48.0,Putative timing error at GERES*

ISC 27 08:15:56.2±1.0,7.8N±0.2×93.9E±0.2,h33km,n14, σ1§06/14,mb4.2/11,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.68**	**24**	Pn	P	08 18 43.9	+0.2
	0.5nm,0.3s,baz=214,slow=14,SNR=5.7						
SONM	**Songino Array**	**41.29**	**13**	P	P	08 23 39.6	-0.5
	1.0nm,0.9s,mb3.5,baz=201,slow=7.8,SNR=3.3						
ZAL	**Zalesovo**	**46.59**	**353**	P	P	08 24 22.9	+0.1
	3.6nm,0.6s,mb4.5,baz=294,slow=6.6,SNR=6.3						
WRA	**Warramunga Arr**	**48.42**	**125**	P	P	08 24 37.3	-0.3
	1.0nm,0.6s,mb4.1,baz=306,slow=8.5,SNR=7.0						
BVAR	**Borovoye Array**	**48.98**	**341**	P	P	08 24 41.1	-0.3
	1.0nm,0.7s,mb4.0,baz=124,slow=11,SNR=4.2						
BRTR	**Keskin Array B**	**62.29**	**311**	P	P	08 26 15.2	-2.3
	1.9nm,0.8s,mb4.3,baz=120,slow=7.4,SNR=5.0						
AKASG	**Malin Array Be**	**68.06**	**322**	P	P	08 26 53.0	-1.5
	0.7nm,0.5s,mb3.9,baz=88,slow=4.8,SNR=5.2						
FINES	**FINESS Array B**	**72.66**	**332**	P	P	08 27 21.8	-0.4
	4.7nm,0.7s,mb4.5,baz=101,slow=9.7,SNR=9.2						
GERES	**GERESS Array B**	**77.71**	**318**	P	P	08 27 42.5	-8.9
	1.0nm,0.6s,mb3.9,baz=104,slow=5.5,SNR=5.3						
KHC	**Kasperske Hory**	**77.81**	**319**	*e*P	P	08 27 53.5	+1.6
HFS	**Hagfors**	**78.39**	**330**	P	P	08 27 56.3	+1.3
	6.5nm,0.9s,mb4.6,baz=117,slow=3.3,SNR=5.4						
NB2	**NORSAR Subarra**	**79.67**	**331**	P	P	08 28 02.2	+0.3
	4.0nm,0.7s,mb4.5,baz=94,slow=5.6						
NOA	**NORSAR Array B**	**79.67**	**331**	P	P	08 28 02.8	+0.9
	3.0nm,0.7s,mb4.3,baz=93,slow=5.7,SNR=8.8						
LPG	**La Plagne**	**82.49**	**315**	*e*P	P	08 28 18.3	+1.3
	15nm,1.0s,mb4.6						

*IDC **27** 08:16:53.3±10.0,33.22S×178.57W,h55km±95km,mb4.4/3, mb1 4.6/4,mb1mx4.1/14,mbtmp4.6/4,ML4.5/1,Error ellipse: s-maj=105.7km s-min=41.3km az=16.0*

ISC 27 08:16:54.1±1.9,33.28S±0.07×179.3W±0.3,h33km,n18, σ1§03/16,mb4.4/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.70**	**204**	*e*P	P	08 18 05.6	+1.0
PUZ	**Puketiti**	**5.18**	**202**	*e*P	P	08 18 10.0	-1.3
PUZ				S	S	08 19 17.6	+6.8
MWZ	**Matawai**	**5.67**	**206**	*e*P	P	08 18 18.2	+0.1
MWZ				S	S	08 19 30.1	+7.2
URZ	**Urewera**	**5.77**	**209**	P	P	08 18 21.4	+1.9
	10nm,0.3s,baz=330,slow=4.0,SNR=50						
URZ	**Urewera**	**5.77**	**209**	*e*P	P	08 18 21.2	+1.7
KNZ	**Kokohu**	**6.23**	**202**	*e*P	P	08 18 24.5	-1.6
BFZ	**Birch Farm**	**8.20**	**204**	S	S	08 20 27.7	+1.5
MRZ	**Mangatainoka R**	**8.43**	**208**	S	S	08 20 31.1	-0.7
KIW	**Kapiti Island**	**8.87**	**210**	S	S	08 20 42.7	-0.1
THZ	**Tophouse**	**10.49**	**214**	*e*P	P	08 19 20.6	-4.6
THZ				S	S	08 21 21.9	-0.7
CTA	**Charters Tower**	**33.30**	**284**	P	P	08 23 31.6	+0.7
	7.8nm,0.5s,mb4.9,baz=116,slow=11,SNR=23						
ASAR	**Alice Springs**	**41.95**	**271**	P	P	08 24 43.5	0.0
	4.0nm,0.8s,mb4.1,baz=111,slow=7.5,SNR=21						
WRA	**Warramunga Arr**	**43.20**	**276**	P	P	08 24 53.0	-0.7
	2.2nm,0.4s,mb4.3,baz=131,slow=4.0,SNR=5.0						
KAF	**Kangasniemi**	**146.84**	**338**	*e*p	PKPdf	08 36 27.0	-3.2
	2.7nm,0.5s						
FINES	**FINESS Array B**	**147.42**	**338**	PKPbc	PKPdf	08 36 30.0	-1.1
	4.0nm,0.5s,baz=57,slow=4.4,SNR=29						
EIL	**Elat**	**150.65**	**272**	PKPbc	PKPdf	08 36 41.2	+3.9
	10.0nm,1.0s,baz=31,slow=17,SNR=4.6						
NOA	**NORSAR Array B**	**151.39**	**349**	PKPbc	PKPdf	08 36 39.7	+2.3
	1.4nm,0.7s,baz=14,slow=4.1,SNR=5.1						
AKASG	**Malin Array Be**	**152.81**	**318**	PKPbc	PKPdf	08 36 44.1	+4.4
	0.3nm,0.3s,baz=53,slow=2.5,SNR=4.4						

*IDC **27** 08:19:03.7±0.4,8.10N×94.27E,mb5.0/30,mb1 5.0/31, mb1mx5.0/31,mbtmp4.9/31,ML4.5/1,MS5.1/12,Ms1 5.1/12, ms1mx4.7/23,Error ellipse: s-maj=22.9km s-min=10.6km az=50.0,Putative timing errors at GERES, LPAZ.*
*MOS **27** 08:19:06.7±1.1,7.86N×93.96E,h33km,mb5.5/75, MS5.1/26,Error ellipse: s-maj=8.5km s-min=4.8km az=110.6*
*BJI **27** 08:19:06.8,7.65N×93.84E,h46km,mB5.6,mb5.0,Ms5.5, Msz5.3*
*HRVD **27** 08:19:07.9±0.2,7.93N×94.17E,h12km,MW5.5/65, Centroid moment Tensor Solution. LP body waves: s50,c93;Mantle waves: s65,c131; Half duration: 1§4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.56±.04; $M_{\theta\theta}$-0.55±.04; $M_{\phi\phi}$1.10±.04; $M_{r\theta}$-0.21±.10; $M_{\theta\phi}$1.92±.03; $M_{\phi r}$-0.05±.11; Best double couple: $M_0$2.102×10^{17} NP1: ϕ_s168°,δ83°,λ-178°. NP2:ϕ_s78°,δ88°,λ-7°. Principal axes: T 2.375, Plg3°, Azm124°; N -.547, Plg83°, Azm239°; P -1.829, Plg7°, Azm33°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 08:19:07.9±0.2,7.91N×94.03E,h30km,mb5.3/74, MS4.9/29 Error ellipse: s-maj=6.0km s-min=4.9km az=222.0*

ISC 27 08:19:05.7±0.2,7.95N±0.03×94.09E±0.03,h25km, h25km±1.0km:pP-P,n374,σ1§19/352,mb5.2/116,MS5.0/57, 22C-24D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.92**	**340**	*e*PN	Pn	08 20 03.7	-2.1
PBA				*i* PG	Pn	08 20 13.4	+7.5
PBA				*e*SG	Sn	08 20 58.2	+6.5
NST	**Nakhon Sawan**	**9.69**	**37**	P	P	08 21 25.0	-1.9
CM31	**Chiang Mai Arr**	**11.47**	**24**	*e*P	P	08 21 51.8	+0.6
	52nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.47**	**24**	P	P	08 21 52.0	+0.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,8μm,18.7s						
CMAR	**Chiang Mai Arr**	**11.47**	**24**	Pn	P	08 21 52.0	+0.8
	comp=Z,1.1nm,0.3s,baz=211,slow=14,SNR=30						
CMAR				LR	LR	08 26 27.8	
	comp=Z,8μm,18.7s,baz=205,slow=40						
CHG	**Chiang Mai**	**11.79**	**23**	⇑P	P	08 21 55.9	+0.4
	comp=Z,64nm,1.0s						
KKTK	**Khon Kaen**	**11.93**	**45**	P	P	08 22 00.0	+2.5
UBT	**Ubonrachathani**	**12.93**	**55**	P	P	08 22 12.5	+1.7
CHRT	**Chiangrai**	**13.08**	**24**	⇑P	P	08 22 12.0	-0.7
	comp=Z,395nm,1.2s						
PALK	**Pallekele**	**13.29**	**268**	*e*P	P	08 22 16.4	+0.9
	comp=Z,66nm,1.0s						
VIS	**Vishakhapatnam**	**14.29**	**314**	*e*P	P	08 22 26.8	-2.0
VIS				*e*		08 22 38.4	
	comp=Z,285nm,1.0s						
MDRS	**Chennai**	**14.53**	**292**	*e*	P	08 22 34.0	+2.1
MDRS				*e*		08 26 11.0	
BWNR	**Bhubaneshwar**	**14.66**	**328**	*e*P	P	08 22 30.1	-3.5
BWNR				*e*		08 22 37.4	
	comp=Z,148nm,0.7s						
BWNR				*e*S	S	08 25 02.6	-14
AGT	**Agartala**	**16.08**	**351**	⇑*i*P	P	08 22 53.0	+1.0
AGT				*i*		08 23 32.0	
SALM	**Salem**	**16.08**	**284**	*e*P	P	08 22 57.0	+4.9
KOD	**Kodaikanal**	**16.57**	**279**	*e*P	P	08 23 02.4	+4.1
KOD				*e*		08 23 06.1	
	comp=Z,115nm,1.1s						
KOD				*e*		08 27 49.5	
IMP	**Imphal**	**16.74**	**360**	*e*	P	08 23 02.9	+2.5
SHL	**Shillong**	**17.65**	**353**	*e*P	P	08 23 11.0	-0.7
SHL				*e*	S	08 26 25.0	-0.3
HYB	**Hyderabad**	**17.83**	**303**	⇓*e*P	P	08 23 18.0	+4.0
HYB				*e*S	S	08 26 34.0	+4.6
HYB				pmax	pmax		
	comp=Z,100nm,1.2s						
HYB	**Hyderabad**	**17.83**	**303**	⇓*e*P	P	08 23 18.0	+4.0
	comp=Z,100nm,1.2s						
HYB				*e*S	S	08 26 34.0	+4.6
HYB	**Hyderabad**	**17.83**	**303**	⇓*i*P	P	08 23 18.0	+4.0
	comp=Z,100nm,1.2s						
HYB				*e*S	S	08 26 34.0	+4.6
HYB				LR	LR	08 29 00.0	
	comp=Z,10nm,24.0s						
QIZ	**Qiongzhong**	**18.85**	**53**	P	P	08 23 27.3	+0.7
QIZ				AP		08 23 36.5	
QIZ				S	S	08 26 52.5	0.0
QIZ				AMB	AMB		
	comp=Z,2μm,5.6s						
QIZ				LR	LR		
	comp=Z,8μm,10.5s						
QIZ	**Qiongzhong**	**18.85**	**53**	*e*P	P	08 23 27.2	+0.6
	comp=Z,265nm,1.4s						
KMI	**Kunming**	**18.97**	**25**	P	P	08 23 31.7	+3.7
KMI				S	S	08 26 59.2	+3.9
KMI				pmax	pmax		
	comp=Z,100nm,1.9s						
KMI	**Kunming**	**18.97**	**25**	P	P	08 23 31.7	+3.7
	comp=Z,100nm,1.9s						
KMI				pP		08 23 37.3	
KMI				sP		08 23 41.4	
KMI				PP	PP	08 23 49.7	+5.2
KMI				S	S	08 26 59.2	+3.9
KMI				sS		08 27 15.1	
KMI				SS	SS	08 27 32.7	+12
NGP	**Nagpur**	**19.57**	**314**	*e*	P	08 23 38.0	+3.0
NGP				*e*	S	08 27 19.3	+11
MNGI	**Mangalore**	**19.58**	**286**	*i* P	P	08 23 36.4	+1.4
COCO	**West Island**	**20.19**	**172**	*e*P	P	08 23 44.0	+2.4
COCO	comp=Z,940nm,1.5s						
				LR	LR		
	comp=Z,898nm,19.0s,MS4.1						
ALBI	**Allahabad**	**20.86**	**327**	*e*P	P	08 23 48.0	-0.5
JIRN	**Jiri**	**20.98**	**340**	*e*P	P	08 23 49.8	+0.1
	comp=Z,1μm,1.3s						
PKI	**Pulchoki**	**21.18**	**338**	*e*P	P	08 23 51.8	+0.1
	comp=Z,572nm,1.2s,mb5.8						
GOA	**Goa**	**21.20**	**293**	*e*P	P	08 23 55.9	+3.9
GOA				*e*		08 24 03.9	
	comp=Z,134nm,1.2s						
GOA				*e*		08 28 03.2	
GUN	**Gumba**	**21.32**	**340**	*e*P	P	08 23 51.7	-1.4
	comp=Z,951nm,1.2s,mb6.0						
DMN	**Daman**	**21.33**	**338**	*e*P	P	08 23 54.0	+0.8
	comp=Z,375nm,1.0s,mb5.7						
KKN	**Kakani**	**21.43**	**338**	*e*P	P	08 23 54.4	+0.2
	comp=Z,536nm,1.3s,mb5.7						
KAD	**Karad**	**21.52**	**298**	*e*P	P	08 23 56.1	+1.0
KAD				*e*		08 24 06.8	
	comp=Z,141nm,1.4s						
LSA	**Lhasa**	**21.82**	**353**	P	P	08 23 58.5	+0.4
LSA				S	S	08 27 53.3	+0.3
LSA				PCP	PcP	08 27 55.5	-2.8
LSA				XS		08 28 11.3	
LSA				PCS		08 31 34.8	
LSA				SCS	ScS	08 35 16.5	+0.9
LSA				LR	LR		
	comp=Z,12μm,17.5s,MS5.4						
LSA	**Lhasa**	**21.82**	**353**	*e*P	P	08 23 58.3	+0.2
LSA				pmax	pmax		
	comp=Z,120nm,0.9s,mb5.3						
LSA				MLR	MLR		
	comp=Z,3μm,20.0s,MS4.7						
LSA	**Lhasa**	**21.82**	**353**	*e*P	P	08 23 58.2	+0.1
	comp=Z,120nm,0.9s,mb5.3						
LSA				LR	LR		
	comp=Z,3μm,20.0s,MS4.7						
GKN	**Gorkha**	**21.86**	**337**	*e*P	P	08 23 57.4	-1.1
	comp=Z,621nm,1.2s,mb5.9						
BHPL	**Bhopal**	**22.07**	**315**	*e*P	P	08 24 01.6	+0.9
BHPL				*e*		08 24 07.0	
	comp=Z,184nm,0.7s						
BHPL				*e*S	S	08 27 57.3	-0.4
KOLN	**Koldanda**	**22.07**	**335**	*e*P	P	08 23 59.9	-0.8
	comp=Z,143nm,0.8s,mb5.4						
POO	**Poona**	**22.31**	**300**	⇓*i*P	P	08 24 04.0	+1.0
	comp=Z,89nm,1.5s,mb5.0						
POO				*i*		08 28 20.0	
BOM	**Bombay**	**23.35**	**300**	*e*P	P	08 24 15.3	+2.0
BOM				*e*		08 24 26.8	
	comp=Z,195nm,1.4s						
BOM				*e*		08 28 35.3	
NDI	**New Delhi**	**26.05**	**325**	*e*P	P	08 24 39.8	+0.7
NDI				*e*		08 24 51.9	
	comp=Z,293nm,1.3s						
NDI				*e*		08 29 16.5	
AJM	**Ajmer**	**26.09**	**317**	⇑*i*P	P	08 24 42.0	+2.5
DGAR	**Diego Garcia**	**26.42**	**235**	PFAKE		08 24 50.0	+7.4
DGAR				LR	LR		
	comp=Z,684nm,19.0s,MS4.2						
ENH	**Enshi**	**26.49**	**31**	*e*P	P	08 24 43.5	+0.3
	comp=Z,94nm,1.1s,mb5.2						
ENH				LR	LR		
	comp=Z,5μm,21.0s,MS5.1						
DDI	**Dehra Dun**	**26.86**	**328**	*e*P	P	08 24 47.7	+1.2
SMLA	**Simla**	**27.96**	**328**	*e*	P	08 25 13.2	+17
SMLA				*e*	pP	08 25 21.8	+18
	comp=Z,98nm,1.2s						
SMLA				*e*		08 29 47.7	
LZH	**Lanzhou**	**29.39**	**16**	*e*P	P	08 25 12.0	+2.6
LZH				AP	pP	08 25 20.0	+3.3
LZH				XP	sP	08 25 24.0	+4.1
LZH				PP	PP	08 26 08.0	+3.0
LZH				S	S	08 30 02.0	+1.6
LZH				SS	SS	08 31 37.0	+4.1
LZH				AMB	AMB		
	comp=Z,108nm,1.8s,mb5.3						
LZH				AMB	AMB		
	comp=Z,260nm,4.4s						
LZH				LR	LR		
	comp=E,5μm,14.6s						
LZH				LR	LR		
	comp=Z,6μm,16.0s,MS5.3						
LZH	**Lanzhou**	**29.39**	**16**	*e*P	P	08 25 12.0	+2.6
LZH				*PP	pP	08 25 20.0	+3.3
LZH				*SP	sP	08 25 24.0	+4.1
LZH						08 26 08.0	
LZH				S	S	08 30 02.0	+1.6
LZH				*SS		08 30 17.8	
LZH				SS	SS	08 31 37.0	+4.1
LZH				pmax	pmax		
	comp=Z,108nm,1.8s,mb5.3						
LZH				MLR	MLR		
	comp=Z,6μm,16.0s,MS5.3						
LZH	**Lanzhou**	**29.39**	**16**	*e*P	P	08 25 12.0	+2.6
	comp=Z,108nm,1.8s,mb5.3						
LZH				pP	pP	08 25 20.0	+3.3
LZH				sP	sP	08 25 24.0	+4.1
LZH				PP	PP	08 26 08.0	+3.0
LZH				S	S	08 30 02.0	+1.6
LZH				sS		08 30 17.8	
LZH				SS	SS	08 31 37.0	+4.1
LZH				LR	LR		
	comp=Z,6μm,16.0s,MS5.3						
WHN	**Wuhan**	**29.41**	**37**	P	P	08 25 11.0	+1.4
WHN				S	S	08 30 00.0	-0.7
WHN				LR	LR		
	comp=Z,8μm,17.0s,MS5.4						
NJ2	**Nanjing**	**33.25**	**40**	*e*P	P	08 25 44.3	+1.0
NJ2				AP	pP	08 25 54.0	+3.4
NJ2				XP	sP	08 25 58.5	+4.7
NJ2				PP	PP	08 26 56.3	+1.4
NJ2				S	S	08 31 01.0	+0.1
NJ2				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,1μm,5.1s						
NJ2				LR	LR		
	comp=Z,8μm,11.7s,MS5.6						
SSE	**Sheshan**	**34.21**	**44**	P	P	08 25 49.3	-2.3
SSE				S	S	08 31 15.5	-0.2
SSE				AMB	AMB		
	comp=Z,45nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,225nm,6.5s						
SSE				LR	LR		
	comp=N,2μm,18.9s,MS5.1						
SSE				LR	LR		
	comp=E,2μm,18.7s,MS5.1						
SSE				LR	LR		
	comp=Z,2μm,23.2s,MS4.7						
SSE	**Sheshan**	**34.21**	**44**	P	P	08 25 49.3	-2.3
	comp=Z,45nm,0.7s,mb5.5						
SSE				S	S	08 31 15.4	-0.3
SSE				sS		08 31 30.2	
SSE				SS	SS	08 33 45.4	+20
SSE				LR	LR		
	comp=Z,2μm,23.2s,MS4.7						
TIA	**Tai'an**	**35.12**	**33**	*e*P	P	08 26 01.0	+1.6
TIA				*e*S	S	08 31 33.0	+3.2
TIA				LR	LR		
	comp=N,1μm,17.4s,MS5.2						
TIA				LR	LR		
	comp=E,3μm,14.0s,MS5.2						
WMQ	**Urumqi**	**36.17**	**352**	*e*P	P	08 26 08.0	-0.2
WMQ				AP	pP	08 26 17.8	+2.2
WMQ				XP	sP	08 26 21.5	+2.8
WMQ				PP	PP	08 27 30.5	-0.5
WMQ				PCP	PcP	08 28 33.8	0.0
WMQ				S	S	08 31 44.5	-1.4
WMQ				AMB	AMB		
	comp=Z,200nm,1.0s,mb6.0						
WMQ				AMB	AMB		
	comp=Z,1μm,4.9s						
WMQ				LR	LR		
	comp=N,4μm,17.4s,MS5.3						
WMQ				LR	LR		
	comp=E,3μm,17.1s,MS5.3						
WMQ				LR	LR		
	comp=Z,5μm,17.5s,MS5.4						
JOW	**Kunigami**	**37.46**	**56**	LR	LR	08 43 52.1	
	comp=Z,4μm,18.6s,MS5.2,baz=313,slow=40						
BJT	**Baijiatuau**	**37.55**	**28**	*e*P	P	08 26 20.1	+0.3
BJT				pmax	pmax		
	comp=Z,60nm,1.0s						
BJT				MLR	MLR		
	comp=Z,4μm,20.0s						
BJT	**Baijiatuau**	**37.55**	**28**	*e*P	P	08 26 20.1	+0.2
	comp=Z,60nm,1.0s,mb5.3						
BJT				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
BJI	**Beijing**	**37.57**	**28**	P	P	08 26 22.9	+2.9
BJI				*SP	sP	08 26 35.9	+5.4
BJI						08 27 51.3	
BJI				S	S	08 32 01.9	-5.5
BJI				pmax	pmax		
	comp=Z,37nm,1.7s,mb4.8						
BJI				MLR	MLR		
	comp=Z,3μm,22.1s,MS5.1						
BJI	**Beijing**	**37.57**	**28**	P	P	08 26 22.9	+2.9
	comp=Z,37nm,1.7s,mb4.8						
BJI				sP	sP	08 26 35.9	+5.4
BJI				PP	PP	08 27 51.3	+2.7
BJI				S	S	08 32 01.9	-5.5
BJI				SS	SS	08 35 00.9	+20
BJI				LR	LR		
	comp=Z,3μm,22.1s,MS5.1						
KZA	**Kyzart**	**37.85**	**337**	P	P	08 26 22.2	-0.1
	SNR=11						
AAA	**Alma-Ata**	**38.27**	**340**	*e*P	P	08 26 28.0	+2.2
AAA				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.0						
UCH	**Uchtor**	**38.27**	**336**	P	P	08 26 27.1	+1.3
	SNR=11						
MBWA	**Marble Bar**	**38.35**	**139**	*e*P	P	08 26 25.5	-1.2
	comp=Z,38nm,1.4s,mb4.9						
MBWA				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
AML	**Almayashu**	**38.52**	**335**	P	P	08 26 28.3	+0.4
	SNR=18						
AAK	**Ala-Archa**	**38.62**	**337**	P	P	08 26 29.1	+0.3
	SNR=9.2						
AAK	**Ala-Archa**	**38.62**	**337**	P	P	08 26 29.0	+0.2
AAK				pmax	pmax		
	comp=Z,51nm,1.1s,mb5.2						
AAK	**Ala-Archa**	**38.62**	**337**	*e*P	P	08 26 27.4	-1.4
	comp=Z,35nm,0.9s,mb5.1						
AAK				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
FRU	**Bishkek**	**38.74**	**337**	*e*P	P	08 26 32.0	+2.2
FRU				*e*		08 28 06.0	
FRU				pmax	pmax		
	comp=Z,100nm,1.8s,mb5.2						
FRU				MLR	MLR		
	comp=Z,6μm,20.0s,MS5.5						
CHMS	**Chumysh**	**38.83**	**337**	P	P	08 26 30.2	-0.4
	SNR=7.7						
EKS2	**Erkin-Say**	**38.93**	**336**	P	P	08 26 29.1	-2.2
	SNR=12						
USP	**Ospenovka**	**39.15**	**337**	P	P	08 26 32.8	-0.4
	SNR=17						
MKAR	**Makanchi Array**	**40.01**	**347**	*i* P	P	08 26 36.6	-3.7
MKAR				pmax	pmax		
	comp=Z,139nm,1.3s						
SONM	**Songino Array**	**41.10**	**13**	PcP	PcP	08 28 50.9	+1.7
	comp=Z,8.3nm,0.8s,baz=198,slow=2.9,SNR=6.8						
ULN	**Ulaanbaatar**	**41.28**	**13**	⇓*e*P	P	08 26 49.2	-1.5
ULN	**Ulaanbaatar**	**41.28**	**13**	*e*P	P	08 26 46.9	-3.8
	comp=Z,24nm,1.1s,mb4.7						
ULN				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
KS15	**Wonju Array Si**	**42.41**	**41**	*e*P	P	08 27 01.0	+0.9
SNY	**Shenyang**	**42.64**	**33**	⇑P	P	08 27 04.0	+2.0
SNY				AMB	AMB		
	comp=Z,40nm,1.9s,mb4.8						
SNY				AMB	AMB		
	comp=Z,350nm,4.6s						
SNY				LR	LR		
	comp=N,3μm,16.1s						
SNY				LR	LR		
	comp=Z,2μm,16.8s,MS5.2						
ZAK	**Zakamensk**	**42.99**	**9**	*e*P	P	08 27 05.6	+0.9
MOY	**Mondy**	**43.96**	**6**	*e*P	P	08 27 16.2	+3.7
TLY	**Talaya**	**44.31**	**9**	*e*P	P	08 27 17.2	+1.8
TLY				*e*S	S	08 33 54.0	+6.7
TLY				*e*SS	SS	08 37 16.0	+18
TLY				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.7						
TLY				MLR	MLR		
	comp=Z,1μm,15.0s,MS5.0						

comp=Z,386nm,0.8s,mb6.3
NWAO Narrogin (SRO) 46.23 153 *e*P **P** **08 27 30.1 -0.9**
NWAO pmax pmax
comp=Z,66nm,1.0s
NWAO MLR MLR
comp=Z,2µm,22.0s
NWAO Narrogin (SRO) 46.23 153 P **P** **08 27 30.6 -0.3**
comp=Z,31nm,0.9s,mb5.2,baz=319,slow=8.6,SNR=14
NWAO LR LR 08 44 50.9
comp=Z,14nm,19.2s,MS2.9,baz=328,slow=33
NWAO Narrogin (SRO) 46.23 153 *e*P **P** **08 27 30.1 -0.9**
comp=Z,66nm,1.0s,mb5.5
NWAO LR LR
comp=Z,2µm,22.0s,MS5.1
ZAL Zalesovo 46.47 352 P **P** **08 27 32.2 -0.3**
ZAL pmax pmax
comp=Z,10.0nm,0.6s
ZAL Zalesovo 46.47 352 P **P** **08 27 32.1 -0.4**
comp=Z,10nm,0.6s,mb4.9,baz=294,slow=9.0,SNR=20
HIA Hailar 46.48 23 *e*P **P** **08 27 33.4 +0.8**
HIA pmax pmax
comp=Z,67nm,1.1s
HIA MLR MLR
comp=Z,3µm,20.0s
HIA Hailar 46.48 23 *e*P **P** **08 27 33.4 +0.8**
comp=Z,67nm,1.1s,mb5.5
HIA LR LR
comp=Z,3µm,20.0s,MS5.3
NVS Novosibirsk 47.57 352 *e*P **P** **08 27 36.3 -4.9**
NVS *e*S **S** **08 34 34.1 +0.3**
NVS pmax pmax
comp=N,113nm,1.2s
NVS pmax pmax
comp=E,59nm,1.2s
NVS pmax pmax
comp=Z,135nm,1.2s,mb5.8
NVS smax
comp=N,59nm,2.0s
NVS smax
comp=E,80nm,2.0s
MDJ Mudanjiang 47.78 34 P **P** **08 27 43.5 +0.5**
MDJ PP PP 08 29 36.5 +2.4
MDJ S **S** **08 34 36.5 -0.5**
MDJ SS SS 08 38 08.0 +8.2
MDJ AMB AMB
comp=Z,28nm,1.2s,mb5.2
MDJ AMB AMB
comp=Z,292nm,3.8s
MDJ LR LR
comp=N,1µm,13.0s,MS5.4
MDJ LR LR
comp=E,3µm,15.3s,MS5.4
MDJ LR LR
comp=Z,2µm,13.0s,MS5.3
MDJ Mudanjiang 47.78 34 *e*P **P** **08 27 41.8 -1.2**
comp=Z,53nm,1.3s,mb5.4
MDJ LR LR
comp=Z,1µm,21.0s,MS4.9
WRA Warramunga Arr 48.34 126 P **P** **08 27 46.6 -1.1**
WRA pmax pmax
comp=Z,11nm,0.7s
WRA Warramunga Arr 48.34 126 P **P** **08 27 46.6 -1.1**
comp=Z,11nm,0.7s,mb5.0,baz=304,slow=9.2,SNR=30
WRAB Tennant Creek 48.35 126 *e*P **P** **08 27 45.0 -2.7**
WRAB pmax pmax
comp=Z,30nm,0.8s,mb5.4
WRAB MLR MLR
comp=Z,359nm,19.0s,MS4.4
WRAB Tennant Creek 48.35 126 *e*P **P** **08 27 45.0 -2.7**
comp=Z,30nm,0.8s,mb5.4
WRAB LR LR
comp=Z,359nm,19.0s,MS4.4
WB2 Warramunga Arr 48.35 126 *e*P **P** **08 27 45.8 -2.0**
BVA0 Borovoye Array 48.91 341 *i* P **P** **08 27 50.5 -1.1**
BVA0 pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
BVAR Borovoye Array 48.91 341 P **P** **08 27 51.0 -0.6**
comp=Z,9.9nm,0.9s,mb4.9,baz=143,slow=7.4,SNR=15
BVAR PcP PcP 08 29 16.7 +0.6
comp=Z,7.4nm,0.9s,baz=166,slow=6.1,SNR=4.2
BVAR ScP 08 33 10.4
comp=Z,1.6nm,0.8s,baz=143,slow=7.4,SNR=4.0
BRVK Borovoye 48.97 341 *e*P **P** **08 27 50.4 -1.6**
BRVK pmax pmax
comp=Z,52nm,1.2s,mb5.4
BRVK MLR MLR
comp=Z,491nm,19.0s,MS4.5
BRVK Borovoye 48.97 341 *e*P **P** **08 27 50.4 -1.6**
comp=Z,52nm,1.2s,mb5.4
BRVK LR LR
comp=Z,491nm,19.0s,MS4.5
RAYN Ar Rayn 49.01 294 P **P** **08 27 54.3 +1.5**
comp=Z,449nm,0.8s,mb6.5,SNR=36
JHJ Hachijo jima 2 49.06 53 LR LR 08 46 51.1
comp=Z,854nm,21.8s,MS4.7,baz=270,slow=34
MAJO Matsushiro 49.15 48 *e*P **P** **08 27 54.9 +1.2**
MAJO pmax pmax
comp=Z,22nm,1.1s,mb5.1
MAJO MLR MLR
comp=Z,2µm,19.0s,MS5.1
MAJO Matsushiro 49.15 48 *e*P **P** **08 27 54.9 +1.2**
comp=Z,22nm,1.1s,mb5.1
MAJO LR LR
comp=Z,2µm,19.0s,MS5.1
MAT Matsushiro 49.15 48 *e*P **P** **08 27 57.0 +3.3**
MAT *e*S **S** **08 34 56.0 -0.4**
MAT Matsushiro 49.15 48 P **P** **08 27 56.5 +2.8**
MAT S **S** **08 34 55.0 -1.4**
CBIJ Chichi jima 49.31 61 LR LR 08 46 26.5
comp=Z,715nm,21.4s,MS4.6,baz=256,slow=34
CHKZ Chkalovo 49.39 342 P **P** **08 27 51.9 -3.4**
CHKZ pmax pmax
comp=Z,100nm,1.2s,mb5.7
ASPA Alice Springs 50.00 130 *e*P **P** **08 27 59.4 -1.0**
ASAR Alice Springs 50.00 130 P **P** **08 27 59.2 -1.2**
comp=Z,8.3nm,0.8s,mb4.8,baz=308,slow=7.5,SNR=23
ASAR PcP PcP 08 29 19.2 -1.2
comp=Z,6.2nm,0.8s,baz=306,slow=3.5,SNR=8.9
ASAR LR LR 08 52 22.0
comp=Z,1µm,18.3s,MS5.0,baz=296,slow=40
KLR Kul'dur 51.85 31 *e*P **P** **08 28 10.8 -3.3**
KLR MLR MLR
comp=E,4µm,13.5s
KLR MLR MLR
comp=Z,2µm,13.5s,MS5.4
BOD Bodaibo 52.09 13 *e*P **P** **08 28 14.9 -0.9**
GNI Garni 54.35 314 *i* P **P** **08 28 33.0 +0.3**
GNI pmax pmax
comp=Z,24nm,1.3s
GNI Garni 54.35 314 P **P** **08 28 30.7 -2.0**
comp=Z,9.1nm,0.8s,mb4.8,baz=124,slow=5.8,SNR=5.6
GNI Garni 54.35 314 *e*P **P** **08 28 30.0 -2.7**
comp=Z,108nm,1.5s,mb5.6
GNI LR LR
comp=Z,992nm,21.0s,MS4.8
CLNS Chul'man 54.39 20 *e*P **P** **08 28 34.7 +1.9**
CLNS *e* 08 29 40.6
CLNS *e* 08 30 33.4
CLNS *e*S **S** **08 36 06.1 -1.8**
CLNS pmax pmax
comp=Z,59nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,34nm,1.0s
CLNS pmax pmax
comp=E,26nm,1.0s
CLNS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CLNS pmax pmax
comp=N,9.0nm,1.2s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS smax
comp=N,230nm,13.1s
CLNS smax
comp=Z,105nm,10.8s
CLNS smax
comp=E,88nm,12.8s
CLNS MLR MLR
comp=Z,2µm,12.0s,MS5.4
CLNS MLR MLR
comp=N,2µm,15.0s,MS5.4
CLNS MLR MLR
comp=E,500nm,13.0s,MS5.4
TI2 Plekhanov 54.96 316 *i* P **P** **08 28 37.0 -0.2**
SVE Sverdlovsk 55.31 338 *e*P **P** **08 28 39.3 -0.3**
SVE pmax pmax
comp=Z,240nm,1.5s,mb6.0

ASAJ Asahikawa 55.40 41 LR LR 08 52 49.0
comp=Z,1µm,18.3s,MS5.0,baz=286,slow=37
PMG Port Moresby 55.60 107 *e*P **P** **08 28 42.3 +0.1**
PMG pmax pmax
comp=Z,58nm,0.9s
PMG Port Moresby 55.60 107 P **P** **08 28 43.4 +1.2**
comp=Z,28nm,0.7s,mb5.4,baz=301,slow=8.5,SNR=9.4
PMG Port Moresby 55.60 107 *e*P **P** **08 28 42.3 +0.1**
comp=Z,58nm,0.9s,mb5.6
ARU Arti 55.80 337 P **P** **08 28 42.1 -1.0**
comp=Z,302nm,1.4s,mb6.1,SNR=12
ARU Arti 55.80 337⇓ *i*P **P** **08 28 36.6 -6.5**
ARU *e*S **S** **08 36 19.7 -7.1**
ARU *e*SS SS 08 40 10.2 -2.3
ARU *e*SSS SSS 08 42 16.0 -2.8
ARU pmax pmax
comp=Z,59nm,1.1s,mb5.5
ARU MLR MLR
comp=Z,5µm,21.0s,MS5.5
ARU MLR MLR
comp=N,3µm,20.0s,MS5.5
ARU MLR MLR
comp=E,2µm,19.0s,MS5.5
YSS Yuzh-Sakhalins 56.76 38 *e*P **P** **08 28 51.5 +1.4**
YSS pmax pmax
comp=Z,50nm,1.2s,mb5.4
YSS MLR MLR
comp=N,1µm,16.0s,MS5.4
YSS MLR MLR
comp=Z,2µm,16.0s,MS5.3
YSS MLR MLR
comp=E,2µm,15.0s,MS5.4
YSS Yuzh-Sakhalins 56.76 38 *e*P **P** **08 28 50.0 -0.1**
comp=E,119nm,1.4s,mb5.7
YSS LR LR
comp=Z,1µm,21.0s,MS4.9
KIV Kislovodsk 57.23 318 *e*P **P** **08 28 52.3 -1.2**
KIV *e*S **S** **08 36 48.2 +2.4**
KIV pmax pmax
comp=E,29nm,1.1s
KIV pmax pmax
comp=Z,49nm,1.1s,mb5.5
KIV MLR MLR
comp=Z,1µm,21.0s,MS5.0
KIV MLR MLR
comp=N,641nm,18.0s,MS5.1
KIV MLR MLR
comp=E,1µm,21.0s,MS5.1
KIV Kislovodsk 57.23 318 *e*P **P** **08 28 51.6 -1.8**
comp=E,42nm,0.9s,mb5.5
KIV LR LR
comp=Z,403nm,22.0s,MS4.5
KMBO Kilima Mbogo 57.38 264 P **P** **08 28 57.1 +2.2**
KMBO pmax pmax
comp=Z,21nm,0.8s
KMBO Kilima Mbogo 57.38 264 P **P** **08 28 57.1 +2.2**
comp=Z,21nm,0.8s,mb5.2,baz=50,slow=9.2,SNR=22
KMBO Kilima Mbogo 57.38 264 *e*P **P** **08 28 55.1 +0.1**
comp=Z,45nm,1.0s,mb5.5
KMBO LR LR
comp=Z,2µm,20.0s,MS5.2
ASF Jabal al Asfar 58.13 303 P **P** **08 29 00.5 +0.6**
comp=Z,5.5nm,0.7s,mb4.7,baz=2.2,slow=3.5,SNR=6.3
ASF LR LR 08 57 04.7
comp=Z,2µm,20.7s,MS5.2,baz=145,slow=39
MALT Malatya 58.38 310 *e*P **P** **08 28 56.3 -5.3**
MALT pmax pmax
comp=Z,27nm,1.4s,mb5.1
MALT Malatya 58.38 310 *e*P **P** **08 28 56.3 -5.3**
comp=Z,27nm,1.4s,mb5.1
CTA Charters Tower 58.39 119 P **P** **08 29 01.7 -0.2**
CTA pmax pmax
comp=Z,4.0nm,0.9s
CTA MLR MLR
comp=Z,1µm,20.6s
CTA Charters Tower 58.39 119 P **P** **08 29 01.7 -0.2**
comp=Z,3.9nm,0.9s,mb4.4,baz=301,slow=11,SNR=3.3
CTA LR LR 08 57 40.4
comp=Z,1µm,20.6s,MS5.0,baz=290,slow=40
CTA Charters Tower 58.39 119 P **P** **08 29 01.7 -0.2**
CTAO Charters Tower 58.39 119 *e*P **P** **08 29 01.2 -0.7**
CTAO pmax pmax
comp=Z,58nm,1.6s,mb5.4
CTAO MLR MLR
comp=Z,1µm,20.0s,MS5.1
CTAO Charters Tower 58.39 119 *e*P **P** **08 29 01.2 -0.7**
comp=Z,58nm,1.6s,mb5.4
CTAO LR LR
comp=Z,1µm,20.0s,MS5.1
SOKR Solikamsk 58.71 339⇑ *i*P **P** **08 29 03.7 +0.1**
SOKR pmax pmax
comp=Z,80nm,1.0s,mb5.7
SOKR MLR MLR
comp=Z,5µm,21.0s,MS5.6
SOC Sochi 59.09 316 *e*P **P** **08 29 03.0 -3.5**
SOC *e* 08 29 51.3
SOC *e* 08 31 12.6
SOC *e*S **S** **08 37 07.2 -3.1**
SOC *e* 08 38 49.5
SOC *e*SS SS 08 41 02.0 -4.2
SOC pmax pmax
comp=N,12nm,0.9s
SOC pmax pmax
comp=E,7.0nm,0.9s
SOC pmax pmax
comp=Z,30nm,0.9s,mb5.3
SOC MLR MLR
comp=Z,1µm,22.0s,MS5.0
SOC MLR MLR
comp=N,866nm,20.0s,MS5.0
SOC MLR MLR
comp=E,627nm,20.0s,MS5.0
EIL Elat 59.34 300 P **P** **08 29 09.4 +1.0**
comp=E,21nm,1.1s,mb5.1,baz=123,slow=11,SNR=9.2
EIL Elat 59.34 300 *e*P **P** **08 29 07.2 -1.2**
comp=E,45nm,1.3s,mb5.3
YAK Yakutsk 59.94 18 *e*P **P** **08 29 12.9 +0.8**
YAK *e**PP pP 08 29 22.8 +3.0
YAK *e* 08 29 51.2
YAK *e* 08 31 30.4
YAK *e*S **S** **08 37 39.2 +18**
YAK *e* 08 39 01.3
YAK *e*SS SS 08 41 25.6 +6.9
YAK pmax pmax
comp=Z,34nm,0.8s,mb5.4
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,11nm,1.0s
YAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK MLR MLR
comp=N,898nm,13.0s,MS5.2
YAK MLR MLR
comp=Z,904nm,13.0s,MS5.1
YAK MLR MLR
comp=E,897nm,17.0s,MS5.2
YAK Yakutsk 59.94 18 *e*P **P** **08 29 10.6 -1.5**
comp=E,117nm,0.9s,mb5.9
YAK LR LR
comp=Z,1µm,19.0s,MS5.1
STKA Stephens Creek 60.19 134 *e*P **P** **08 29 13.3 -0.9**
comp=Z,9.5nm,0.9s,mb4.8
STKA Stephens Creek 60.19 134 P **P** **08 29 13.8 -0.5**
comp=Z,13nm,0.9s,mb4.9,baz=318,slow=6.1,SNR=15
STKA LR LR 08 58 27.9
comp=Z,2µm,19.1s,MS5.4,baz=295,slow=39
BRTR Keskin Array B 62.34 311 P **P** **08 29 26.5 -2.2**
BRTR pmax pmax
comp=Z,8.0nm,0.8s
BRTR Keskin Array B 62.34 311 P **P** **08 29 26.4 -2.2**
comp=Z,7.9nm,0.8s,mb4.9,baz=127,slow=6.2,SNR=19
VOR Voronezh 62.49 325 *e*P **P** **08 29 29.5 0.0**
VOR *e* 08 29 39.5
VOR pmax pmax
comp=Z,100nm,1.4s,mb5.8
SIM Simferopol' 63.34 317 *e*P **P** **08 29 35.0 -0.2**
SIM pmax pmax
comp=Z,24nm,0.8s,mb5.4
MBAR Mbarara 63.71 265*c i*P **P** **08 29 38.7 +0.5**
MBAR Mbarara 63.71 265 *e*P **P** **08 29 36.8 -1.4**
comp=Z,49nm,1.3s,mb5.4
MOS Moscow 64.99 329 *e*P **P** **08 29 42.7 -3.1**

MOS *i* pP 08 29 49.5 -4.0
MOS *e*S **S** **08 38 23.0 -1.5**
MOS pmax pmax
comp=Z,81nm,0.7s,mb5.9
MOS MLR MLR
comp=Z,3µm,18.6s,MS5.5
MOS MLR MLR
comp=N,3µm,19.6s
OBN Obninsk 65.29 328⇑ *e*P **P** **08 29 43.6 -4.1**
OBN *i* pP 08 29 51.2 -4.2
OBN *e* 08 32 07.0
OBN *e*S S 08 38 28.4 +0.2
OBN *e*SS SS 08 42 42.4 -0.6
OBN pmax pmax
comp=Z,64nm,1.2s,mb5.5
OBN MLR MLR
comp=Z,2µm,21.0s,MS5.3
OBN Obninsk 65.29 328 *e*P **P** **08 29 43.0 -4.8**
comp=Z,131nm,1.2s,mb5.8
OBN LR LR
comp=Z,533nm,21.0s,MS4.7
MA2 Magadan 66.73 28 *e*P **P** **08 29 55.5 -1.3**
MA2 *e*S S 08 38 43.6 -2.1
MA2 *e*PS PS 08 39 09.6 -1.7
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.2
MA2 MLR MLR
comp=Z,3µm,26.0s,MS5.4
MA2 Magadan 66.73 28 *e*P **P** **08 29 56.0 -0.8**
comp=Z,40nm,0.9s,mb5.5
MA2 LR LR
comp=Z,873nm,21.0s,MS5.0
TIXI Tiksi 67.17 11⇓ *e*P **P** **08 29 57.5 -2.0**
TIXI pmax pmax
comp=Z,17nm,1.0s,mb5.0
KIS Kishinev 67.43 318 *e*P **P** **08 30 00.0 -1.5**
KIS *e* pP 08 30 07.0 -2.2
KIS *e* 08 30 17.0
KIS MLR MLR
comp=E,800nm,17.0s
KIS MLR MLR
comp=Z,700nm,17.0s,MS5.0
KIS MLR MLR
comp=Z,400nm,17.0s
AKASG Malin Array Be 68.06 322 P **P** **08 30 03.3 -2.1**
AKASG 08 32 35.0
AKASG pmax pmax
comp=Z,8.0nm,0.7s
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 68.06 322 P **P** **08 30 03.3 -2.1**
comp=Z,8.0nm,0.7s,mb4.8,baz=90,slow=4.7,SNR=26
AKASG PP PP 08 32 35.0 -2.6
comp=Z,3.8nm,0.8s,baz=98,slow=6.8,SNR=5.6
IDI Anoyia 68.48 305 P **P** **08 30 08.5 +0.2**
comp=Z,14nm,0.6s,mb5.2,baz=118,slow=8.4,SNR=9.7
VRI Vrincioaia 68.61 316⇓ P **P** **08 30 08.5 -0.4**
SEY Seymchan 68.88 25 *e*P **P** **08 30 08.9 -1.4**
SEY *e* 08 30 36.7
SEY *e* 08 40 09.2
SEY pmax pmax
comp=E,40nm,1.1s
SEY pmax pmax
comp=Z,70nm,1.1s,mb5.5
MLR Muntele Rosu 69.08 316⇓ P **P** **08 30 11.4 -0.4**
LSZ Lusaka 69.24 250 *e*P **P** **08 30 10.4 -2.9**
LSZ pmax pmax
comp=Z,36nm,1.4s,mb5.1
LSZ MLR MLR
comp=Z,1µm,19.0s,MS5.2
LSZ Lusaka 69.24 250 *e*P **P** **08 30 10.4 -2.8**
comp=Z,36nm,1.4s,mb5.1
LSZ LR LR
comp=Z,1µm,19.0s,MS5.2
MNK Minsk 69.87 325 *e*P **P** **08 30 13.0 -3.4**
BURAR Bucovina Array 69.96 318⇓ P **P** **08 30 17.2 +0.1**
TAU Tasmania Unive 69.97 141 P **P** **08 30 17.0 -0.3**
TAU pmax pmax
comp=Z,35nm,1.4s,mb5.1
TAU MLR MLR
comp=Z,426nm,19.0s,MS4.7
TAU Tasmania Unive 69.97 141 P **P** **08 30 17.0 -0.3**
comp=Z,35nm,1.4s,mb5.1
TAU LR LR
comp=Z,426nm,19.0s,MS4.7
JOF Joensuu 70.76 334 *e*p **P** **08 30 16.8 -4.9**
comp=Z,26nm,0.9s,mb5.2
BOLS Boljevac 71.65 313⇑ *i*P **P** **08 30 25.9 -1.5**
APA Apatity 71.76 339⇓ *i*P **P** **08 30 27.0 -0.7**
APA *i* pP 08 30 33.0 -2.4
APA pmax pmax
comp=Z,26nm,1.0s,mb5.1
APA MLR MLR
comp=Z,4µm,20.0s,MS5.7
KWP Kalwaria 71.94 320 *e*P **P** **08 30 28.3 -0.7**
KOLS Kolonicke sedl 72.12 319 *e*P **P** **08 30 29.6 -0.5**
KOLS *e* 08 30 49.9
SUW Suwalki 72.42 324 *e*P **P** **08 30 30.7 -1.1**
FINES FINESS Array B 72.62 332 P **P** **08 30 32.6 -0.2**
comp=Z,17nm,0.8s,mb5.0,baz=104,slow=7.9,SNR=22
FINES LR LR 09 08 51.9
comp=Z,2µm,18.7s,MS5.4,baz=278,slow=41
CRVS Cervenica-Dubn 72.64 319 *e*P **P** **08 30 33.3 +0.1**
CRVS *e* 08 30 50.9
KAF Kangasniemi 72.70 333 *e*p **P** **08 30 29.4 -3.9**
comp=Z,32nm,1.0s,mb5.2
KAF Kangasniemi 72.70 333 *e*P **P** **08 30 29.4 -3.9**
KAF pmax pmax
comp=Z,32nm,1.0s,mb5.2
NIE Niedzica 73.46 319 *e*P **P** **08 30 38.6 +0.6**
NIE *e* 08 33 23.5
PSZ Piszkesteto 73.55 316⇑ *e*P **P** **08 30 38.6 0.0**
OJC Ojcow 73.89 320 *e*P **P** **08 30 39.8 -0.6**
VYHS Vyhne 74.32 318 *e*P **P** **08 30 42.2 -0.8**
VYHS *e* pP 08 30 49.8 -1.0
VYHS *e* 08 31 00.4
VYHS *e*PP PP 08 33 27.1 -3.8
SRO Srobarova 74.60 317 *e*P **P** **08 30 44.3 -0.3**
KEV Kevo 74.75 341 *e*p **P** **08 30 44.7 -0.4**
comp=Z,22nm,0.7s,mb5.2
KEV Kevo 74.75 341 *e*P **P** **08 30 44.7 -0.4**
KEV pmax pmax
comp=Z,22nm,0.7s,mb5.2
OKC Ostrava-Krasne 74.90 319 *e*P **P** **08 30 46.0 -0.3**
OKC *e*pP pP 08 30 52.9 -1.2
OKC AMS AMS 09 09 30.0
comp=Z,600nm,19.3s
CASY Casey 75.00 173⇓ *i*P **P** **08 30 47.0 +0.4**
ARCES ARCESS Array B 75.18 340 P **P** **08 30 47.7 +0.1**
ARCES pmax pmax
comp=Z,22nm,1.1s
ARCES ARCESS Array B 75.18 340 P **P** **08 30 47.7 +0.1**
comp=Z,22nm,1.1s,mb5.0,baz=89,slow=3.4,SNR=14
MORC Moravsky Berou 75.29 319 *e*P **P** **08 30 46.2 -2.3**
MORC pmax pmax
comp=Z,36nm,1.0s,mb5.3
MORC Moravsky Berou 75.29 319 *e*P **P** **08 30 46.2 -2.4**
comp=Z,36nm,1.0s,mb5.2
ZST Bratislava 75.44 318 *e*P **P** **08 30 49.4 -0.1**
ZST *e* 08 31 03.2
ZST *e* 08 31 09.8
BOSA Boshof 75.58 238 *e*P **P** **08 30 51.0 +0.3**
BOSA pmax pmax
comp=Z,46nm,1.3s,mb5.2
BOSA MLR MLR
comp=Z,751nm,21.0s,MS5.0
BOSA Boshof 75.58 238 *e*P **P** **08 30 51.0 +0.3**
comp=Z,46nm,1.3s,mb5.2
BOSA LR LR
comp=Z,751nm,21.0s,MS5.0
GKP Gorka Klasztor 75.81 323 *e*P **P** **08 30 51.2 -0.3**
BILL Bilibino 76.04 22⇑ *e*P **P** **08 30 51.9 -0.6**
BILL pmax pmax
comp=Z,18nm,1.3s,mb4.8
BILL Bilibino 76.04 22 *e*P **P** **08 30 51.7 -0.7**
comp=Z,31nm,1.1s,mb5.2
BILL LR LR
comp=Z,2µm,21.0s,MS5.4
DPC Dobruska-Polom 76.12 320 *e*P **P** **08 30 53.2 0.0**
DPC *e*pP pP 08 31 01.0 0.0
DPC AMS AMS 09 08 30.0
comp=Z,800nm,20.6s
KSP Ksiaz 76.17 320 *e*P **P** **08 30 53.4 -0.1**
KSP *e**PP pP 08 31 01.0 -0.3
KSP *e*S S 08 40 30.0 -4.6

KSP **Ksiaz** 76.17 320 *eP* P 08 30 54.1 +0.5
UPC **Upice** 76.33 320 *eP* P 08 30 54.4 0.0
UPC *epP* pP 08 31 00.1 -2.1
GROS **Grobnik** 76.42 316 *eP* P 08 30 55.5 +0.5
ARSA **Arzberg** 76.45 317⇑*iP* P 08 30 55.6 +0.4
comp=Z,33nm,1.3s,mb5.1
PDKS **Podkum** 76.75 315 *eP* P 08 30 57.5 +0.6
VAE **Valguarnera** 77.03 307 P P 08 31 01.1 +2.5
comp=Z,32nm,1.2s,mb5.1,baz=317,slow=6.7,SNR=3.6
PRU **Pruhonice** 77.24 319 *eP* P 08 30 59.8 +0.3
PRU *epP* pP 08 31 06.5 -0.8
PRU AMS AMS 09 10 10.0
comp=Z,700nm,21.0s
PVCC **Panska Ves** 77.25 320 *eP* P 08 30 59.8 +0.3
PVCC *epP* pP 08 31 07.7 +0.3
PVCC AMS AMS 09 09 20.0
comp=Z,1μm,18.8s
MOA **Molln** 77.33 317⇑*iP* P 08 30 59.3 -0.7
comp=Z,17nm,1.1s,mb4.9
BSD **Bornholm Skovb** 77.33 325 *eP* P 08 30 58.4 -1.5
BSD pmax pmax
comp=Z,43nm,1.1s,mb5.3
BSD **Bornholm Skovb** 77.33 325 *eP* P 08 30 58.4 -1.5
comp=Z,42nm,1.1s,mb5.3
BSD **Bornholm Skovb** 77.33 325 *i P* P 08 30 58.4 -1.5
comp=Z,42nm,1.1s,mb5.3
BRG **Berggiesshubel** 77.66 320 *i P* P 08 31 02.1 +0.3
BRG pmax pmax
comp=Z,18nm,1.0s,mb5.0
BRG **Berggiesshubel** 77.66 320 *i P* P 08 31 02.1 +0.3
comp=Z,18nm,1.0s,mb5.0
GEC2 **GERESS Array S** 77.74 318 *eP* P 08 31 02.0 -0.3
GEC2 pmax pmax
comp=Z,28nm,1.0s,mb5.2
GEC2 **GERESS Array S** 77.74 318 *eP* P 08 31 02.0 -0.3
comp=Z,28nm,1.0s,mb5.2
GERES **GERESS Array B** 77.74 318 P P 08 30 52.1 -10
GERES pmax pmax
comp=Z,11nm,0.9s
GERES **GERESS Array B** 77.74 318 P P 08 30 52.1 -10
comp=Z,11nm,0.9s,mb4.8,baz=104,slow=5.5,SNR=29
KHC **Kasperske Hory** 77.83 318 *eP* P 08 31 02.3 -0.5
KHC *epP* pP 08 31 10.1 -0.5
KHC AMS AMS 09 09 20.0
comp=Z,800nm,19.0s
RUE **Ruedersdorf** 77.84 322 *eP* P 08 31 02.3 -0.5
comp=Z,66nm,0.8s,mb5.6
KBA **Koelnbreinsper** 77.93 316⇑*iP* P 08 31 02.6 -0.7
comp=Z,32nm,1.3s,mb5.1
KBA **Koelnbreinsper** 77.93 316⇑*iP* P 08 31 02.6 -0.7
KBA pmax pmax
comp=Z,32nm,1.3s,mb5.1
CLL **Collm** 78.27 321⇑*iP* P 08 31 04.2 -0.9
CLL *i* pP 08 31 12.4 -0.6
CLL **Collm** 78.27 321 ⇑P P 08 31 04.2 -0.9
comp=Z,logA/T=1.2,mb4.9
CLL *i* *PP pP 08 31 12.4 -0.6
CLL *e* 08 31 22.0
WET **Wettzell** 78.29 318 *eP* P 08 31 06.0 +0.7
WET pmax pmax
comp=Z,25nm,1.1s,mb5.1
WET **Wettzell** 78.29 318 *eP* P 08 31 06.0 +0.7
comp=Z,25nm,1.1s,mb5.1
HFS **Hagfors** 78.37 330 P P 08 31 05.2 -0.3
HFS pmax pmax
comp=Z,25nm,0.7s
HFS **Hagfors** 78.37 330 P P 08 31 05.2 -0.3
comp=Z,25nm,0.7s,mb5.3,baz=90,slow=5.9,SNR=22
MAW **Mawson** 78.59 192 *eP* P 08 31 09.1 +2.5
comp=Z,17nm,1.1s,mb4.9
MAW **Mawson** 78.59 192 *eP* P 08 31 06.8 +0.2
MAW pmax pmax
comp=Z,76nm,1.3s
MAW **Mawson** 78.59 192 P P 08 31 07.7 +1.1
comp=Z,12nm,0.8s,mb4.9,baz=42,slow=6.1,SNR=6.3
NKC **Novy Kostel** 78.59 320 *eP* P 08 31 07.3 +0.4
NKC *epP* pP 08 31 14.3 -0.5
NKC AMS AMS 09 14 00.0
comp=Z,800nm,17.6s
WTTA **Wattenberg** 79.09 317⇓*iP* P 08 31 09.3 -0.5
comp=Z,36nm,1.0s,mb5.3
WTTA **Wattenberg** 79.09 317⇓*iP* P 08 31 09.3 -0.5
WTTA pmax pmax
comp=Z,36nm,1.0s,mb5.3
MOX **Moxa** 79.13 320 *eP* P 08 31 10.5 +0.6
MOX pmax pmax
comp=Z,21nm,1.3s,mb4.9
MOX **Moxa** 79.13 320 *eP* P 08 31 10.5 +0.6
comp=Z,21nm,1.3s,mb4.9
MOX **Moxa** 79.13 320 *i P* P 08 31 10.5 +0.6
comp=Z,logA/T=1.2,mb4.9
MOX L 09 12 29.0
WATA **Walderalm** 79.14 317⇑*iP* P 08 31 09.3 -0.7
comp=Z,19nm,1.2s,mb4.9
WATA **Walderalm** 79.14 317⇑*iP* P 08 31 09.3 -0.7
WATA pmax pmax
comp=Z,19nm,1.2s,mb4.9
FUR **Furstenfeldbru** 79.34 317 *eP* P 08 31 11.6 +0.5
GRA1 **Grafenberg Arr** 79.38 319 *eP* P 08 31 11.4 +0.2
comp=Z,43nm,1.2s,mb5.2
GRF **Grafenberg Arr** 79.38 319 *eP* P 08 31 11.4 +0.2
GRF pmax pmax
comp=Z,43nm,1.2s,mb5.2
GRF **Grafenberg Arr** 79.38 319 *eP* P 08 31 11.4 +0.2
GRF pmax pmax
comp=Z,43nm,1.2s,mb5.2
GRF **Grafenberg Arr** 79.38 319 *eP* P 08 31 11.4 +0.2
comp=Z,43nm,1.2s,mb5.2
SQTA **Sankt Quirin** 79.39 317⇑*iP* P 08 31 10.5 -0.8
comp=Z,18nm,1.0s,mb5.0
SQTA **Sankt Quirin** 79.39 317⇑*iP* P 08 31 10.5 -0.8
SQTA pmax pmax
comp=Z,18nm,1.0s,mb5.0
MOTA **Moosalm** 79.46 317⇓*iP* P 08 31 11.0 -0.7
comp=Z,16nm,1.0s,mb4.9
MOTA **Moosalm** 79.46 317⇓*iP* P 08 31 11.0 -0.7
MOTA pmax pmax
comp=Z,16nm,1.0s,mb4.9
NB2 **NORSAR Subarra** 79.64 331 P P 08 31 11.0 -1.4
comp=Z,23nm,0.9s,mb5.1,baz=93,slow=5.6
NB2 **NORSAR Subarra** 79.64 331 P P 08 31 11.0 -1.4
baz=93,slow=5.9
NOA **NORSAR Array B** 79.64 331 P P 08 31 11.9 -0.5
NOA pmax pmax
comp=Z,18nm,0.9s
NOA **NORSAR Array B** 79.64 331 P P 08 31 11.8 -0.6
comp=Z,18nm,0.8s,mb5.0,baz=92,slow=5.6,SNR=30
NAO01 **NORSAR Array S** 79.80 330 *eP* P 08 31 11.4 -1.9
comp=Z,28nm,0.9s,mb5.2
CLZ **Clausthal** 79.92 321 *eP* P 08 31 14.6 +0.5
comp=Z,29nm,1.1s,mb5.1
BSEG **Bad Segeberg** 79.96 323 *eP* P 08 31 14.6 +0.3
DAVA **Damuels** 80.29 317⇑*iP* P 08 31 16.5 +0.3
comp=Z,29nm,1.0s,mb5.2
SUR **Sutherland** 80.33 235 *eP* P 08 31 18.8 +2.1
comp=Z,42nm,1.1s,mb5.3
SUR LR LR
comp=Z,231nm,21.0s,MS4.5
MUD **Monsted U'grnd** 80.62 326⇓*iP* P 08 31 18.6 +0.9
MUD pmax pmax
comp=Z,40nm,0.9s,mb5.3
MUD **Monsted U'grnd** 80.62 326⇓*iP* P 08 31 18.6 +0.9
comp=Z,40nm,0.9s,mb5.3
TOD **Tromm** 80.95 319 *eP* P 08 31 20.8 +1.2
SPAK **Spaichingen** 81.01 317 *eP* P 08 31 19.8 -0.1
TNS **Taunus Mts** 81.16 320 *eP* P 08 31 21.7 +1.0
BFO **Black Forest** 81.31 318 *eP* P 08 31 21.9 +0.4
BFO pmax pmax
comp=Z,20nm,1.2s,mb4.9
BFO **Black Forest** 81.31 318 *eP* P 08 31 21.9 +0.4
comp=Z,20nm,1.2s,mb4.9
FELD **Feldberg** 81.54 317 *eP* P 08 31 22.8 +0.1
LANF **Langenberg** 81.63 318 *eP* P 08 31 23.4 +0.3
RUP **Ruppelstein** 82.08 319 *eP* P 08 31 24.5 -1.0
ECH **Echery** 82.09 318 *eP* P 08 31 24.5 -1.1
LPG **La Plagne** 82.53 315 *eP* P 08 31 28.1 +0.2
comp=Z,74nm,1.1s,mb5.3
LPG **La Plagne** 82.53 315 *eP* P 08 31 28.1 +0.2
LPG pmax pmax
comp=Z,37nm,1.1s,mb5.3
BNI **Bardonecchia** 82.61 314 *eP* P 08 31 27.6 -0.7
BNI pmax pmax
comp=Z,32nm,1.1s,mb5.3
BNI **Bardonecchia** 82.61 314 *eP* P 08 31 27.6 -0.8
comp=Z,32nm,1.1s,mb5.3
SYO **Syowa Base** 85.46 197 ⇓P P 08 31 43.2 +1.0
SYO **Syowa Base** 85.46 197 ⇓pP pP 08 31 54.7 +4.6
SYO **Syowa Base** 85.46 197 ⇓PP PP 08 35 03.0 +0.7
TNA **Tin City** 86.12 24 *eP* P 08 31 40.6 -5.0
RPZ **Rata Peaks** 86.14 135 P P 08 31 46.9 +0.8
comp=Z,7.6nm,0.8s,mb5.0,baz=236,slow=3.6,SNR=3.3
RPZ LR LR 09 07 20.0
comp=Z,2μm,22.0s,MS5.4,baz=272,slow=34
RPZ **Rata Peaks** 86.14 135 P P 08 31 46.9 +0.8
ANM **Nome** 87.39 25 *eP* P 08 31 53.1 +1.3
DAG **Danmarks Havn** 87.39 348⇓*eP* P 08 31 51.8 +0.2
DAG pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
DAG **Danmarks Havn** 87.39 348⇓*eP* P 08 31 51.8 +0.2
comp=Z,2.0nm,0.6s,mb4.5
DAG **Danmarks Havn** 87.39 348⇓*iP* P 08 31 51.8 +0.2
comp=Z,2.0nm,0.6s,mb4.5
EKA **Eskdalemuir Ar** 87.63 325 P P 08 31 53.8 +0.6
EKA pmax pmax
comp=Z,13nm,0.9s
EKA **Eskdalemuir Ar** 87.63 325 P P 08 31 53.8 +0.6
comp=Z,13nm,0.9s,mb5.2,baz=101,slow=5.2,SNR=16
URZ **Urewera** 89.42 129 P P 08 32 04.4 +2.2
comp=Z,6.1nm,0.8s,mb5.0,baz=2.1,slow=9.3,SNR=3.9
URZ LR LR 09 14 07.3
comp=Z,1μm,19.4s,MS5.4,baz=262,slow=37
ESDC **Sonseca Array** 91.13 310 P P 08 32 11.1 +1.1
comp=Z,8.3nm,0.9s,mb5.0,baz=59,slow=4.8,SNR=13
ESLA **Sonseca Array** 91.13 310 *eP* P 08 32 10.0 0.0
comp=Z,8.5nm,1.3s,mb4.9
IMA **Indian Mountai** 91.58 22 *eP* P 08 32 12.5 +1.1
SVW2 **Sparrevohn** 92.70 27 *eP* P 08 32 18.0 +1.3
VNDA **Vanda** 93.01 168 *eP* P 08 32 17.1 -0.7
VNDA pmax pmax
comp=Z,27nm,1.8s
VNDA **Vanda** 93.01 168 P P 08 32 17.9 +0.1
comp=Z,1.6nm,0.9s,mb4.5,baz=287,slow=6.7,SNR=4.5
VNDA **Vanda** 93.01 168 *eP* P 08 32 17.1 -0.7
comp=Z,27nm,1.8s,mb5.4
SPU **Mount Spurr** 94.24 26 *eP* P 08 32 21.3 -2.5
COLA **College** 94.29 22 *i P* P 08 32 24.2 +0.3
COLA **College** 94.29 22 *eP* P 08 32 22.6 -1.4
comp=Z,4.2nm,1.0s,mb4.8
MCK **McKinley** 94.42 23 *eP* P 08 32 23.0 -1.5
MCK pmax pmax
comp=Z,14nm,1.2s,mb5.3
MCK **McKinley** 94.42 23 *eP* P 08 32 22.9 -1.6
comp=Z,14nm,1.2s,mb5.3
ILAR **Eielson Array** 94.70 22 P P 08 32 24.9 -0.9
ILAR 08 36 17.7
ILAR pmax pmax
comp=Z,2.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR **Eielson Array** 94.70 22 P P 08 32 24.9 -0.9
comp=Z,1.5nm,0.9s,mb4.4,baz=296,slow=4.0,SNR=14
ILAR PP PP 08 36 17.7 +1.1
comp=Z,1.0nm,0.9s,baz=302,slow=7.6,SNR=5.2
ILAR PKKPbc 08 49 25.2
comp=Z,0.4nm,0.8s,baz=162,slow=4.1,SNR=4.9
PWA **Palmer West** 94.98 26 *eP* P 08 32 27.6 +0.4
PMR **Palmer** 95.33 25 *eP* P 08 32 29.7 +0.9
SLKM **Skilak Lake** 95.34 27 *eP* P 08 32 26.5 -2.4
SML **Sawmill** 95.56 25 *eP* P 08 32 29.3 -0.5
MENT **Mentasta** 96.85 23 *eP* P 08 32 37.8 +2.2
INK **Inuvik** 96.94 16 P P 08 32 36.9 +1.0
INK pmax pmax
comp=Z,9.0nm,1.0s
INK **Inuvik** 96.94 16 P P 08 32 36.9 +1.0
comp=Z,9.1nm,1.0s,mb5.1,baz=303,slow=5.4,SNR=15
INK **Inuvik** 96.94 16 *eP* P 08 32 36.3 +0.4
comp=Z,27nm,1.1s,mb5.6
RES **Resolute Bay** 97.33 2 *eP* P 08 32 34.1 -3.5
RES pmax pmax
comp=Z,17nm,1.0s,mb5.4
RES **Resolute Bay** 97.33 2 *eP* P 08 32 34.1 -3.5
comp=Z,17nm,1.0s,mb5.4
DBIC **Dimbokro** 97.88 278 P P 08 32 43.4 +2.0
DBIC pmax pmax
comp=Z,7.0nm,1.1s
DBIC **Dimbokro** 97.88 278 P P 08 32 43.4 +2.0
comp=Z,6.8nm,1.1s,mb5.1,baz=122,slow=4.7,SNR=4.1
DBIC **Dimbokro** 97.88 278 *eP* P 08 32 41.8 +0.4
comp=Z,12nm,1.2s,mb5.3
YKA **Yellowknife Ar** 106.37 13 P Pdif 08 33 20.3 +2.2
YKA 08 37 39.5
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA **Yellowknife Ar** 106.37 13 Pdiff Pdif 08 33 20.3 +2.2
comp=Z,0.5nm,0.9s,baz=328,slow=4.8,SNR=6.4
YKA PP PP 08 37 39.5 -6.2
comp=Z,0.7nm,0.7s,baz=333,slow=7.8,SNR=5.8
YKA PKKPbc 08 48 49.2
comp=Z,0.7nm,0.8s,baz=151,slow=3.0,SNR=12
YKA **Yellowknife Ar** 106.37 13 Pdif Pdif 08 33 20.3 +2.2
YKA PP PP 08 37 39.5 -6.2
YKA PKKPbc 08 48 49.2
MSO **Missoula** 120.03 22 *e*PKPdf PKPdf 08 37 54.4 -4.8
CHMT **Chamberlain Mo** 120.21 21 *e*PKPdf PKPdf 08 37 56.4 -3.1
GCMT **Greycliff** 122.43 20 *e*PKPdf PKPdf 08 38 00.7 -3.1
HLID **Hailey** 122.58 24 *e*PKPdf PKPdf 08 38 01.4 -2.7
QLMT **Earthquake Lak** 122.66 21 *e*PKPdf PKPdf 08 38 02.3 -2.0
LAO **LASA Array** 122.68 16 *e*PKPdf PKPdf 08 38 01.6 -2.6
YMR **Madison River** 122.96 21 *e*PKPdf PKPdf 08 38 02.4 -2.4
YFT **Old Faithful** 123.20 21 *e*PKPdf PKPdf 08 38 03.6 -1.7
MOOW **Moose Ponds** 123.84 21 *e*PKPdf PKPdf 08 38 04.4 -2.2
LOHW **Long Hollow** 124.01 21 *e*PKPdf PKPdf 08 38 03.6 -3.3
WUWY **Wally Ulrich** 124.02 22 *e*PKPdf PKPdf 08 38 03.9 -3.1
SNOW **Snow King Moun** 124.08 22 *e*PKPdf PKPdf 08 38 04.5 -2.7
NVAR **Mina Array Bea** 124.89 31 PKP PKPdf 08 38 06.8 -2.0
comp=Z,5.5nm,0.9s,baz=60,slow=1.1,SNR=23
PDAR **Pinedale Array** 125.12 21 PKP PKPdf 08 38 05.1 -4.0
comp=Z,5.8nm,0.9s,baz=47,slow=0.6,SNR=32
PDAR PKKPbc 08 47 45.4
comp=Z,1.5nm,1.0s,baz=132,slow=8.3,SNR=4.9
HWUT **Hardware Ranch** 125.36 23 *e*PKPdf PKPdf 08 38 05.6 -4.0
TRCR **Troy Canyon** 126.29 29 *e*PKPdf PKPdf 08 38 08.5 -2.9
NLU **North Lily Min** 126.55 25 *e*PKPdf PKPdf 08 38 09.4 -2.5
SADO **Sadowa** 127.18 354 PKP PKPdf 08 38 09.6 -3.4
comp=Z,6.7nm,0.9s,baz=22,slow=4.3,SNR=3.5
SADO **Sadowa** 127.18 354 PKP PKPdf 08 38 09.6 -3.4
MVU **Marysvale** 127.70 26 *e*PKPdf PKPdf 08 38 09.5 -4.8
MSU **Marysvale** 127.71 26 *e*PKIKP PKPdf 08 38 13.0 -1.3
PV10 **Paradox Valley** 129.13 23 *e*PKPdf PKPdf 08 38 15.1 -1.9
KSU1 **Kansas State U** 132.15 11 *e*PKPdf PKPdf 08 38 19.1 -3.6
ANMO **Albuquerque** 133.13 23 *e*PKIKP PKPdf 08 38 22.1 -2.6
ANMO **Albuquerque** 133.13 23 PP PP 08 40 50.7 +0.4
comp=Z,1.1nm,1.1s,baz=84,slow=12,SNR=3.0
TUC **Tucson** 133.47 29 *e*PKIKP PKPdf 08 38 23.5 -1.8
CPRX **Cap Rock** 135.81 22 *e*PKPdf PKPdf 08 38 25.2 -4.5
WVT **Waverly** 136.12 2 *e*PKIKP PKPdf 08 38 26.2 -3.9
GDL2 **Guadalupe Moun** 136.37 23 *e*PKPdf PKPdf 08 38 27.5 -3.2
MNTX **Cornudas Mount** 136.41 24 *e*PKPpre 08 38 20.1
MNTX *e*PKPdf PKPdf 08 38 28.0 -2.7
MIAR **Mount Ida** 137.12 9 *e*PKIKP PKPdf 08 38 21.9 -10
MIAR *e* 08 38 26.5
TXAR **Lajitas Array** 139.18 24 PKP PKPdf 08 38 29.5 -6.4
comp=Z,0.4nm,0.6s,baz=290,slow=1.0,SNR=6.7
TXAR PKiKP 08 38 34.7
comp=Z,1.4nm,0.8s,baz=118,slow=0.2,SNR=11
TXAR PP PP 08 41 26.3 -2.5
comp=Z,1.6nm,1.0s,baz=18,slow=4.0,SNR=5.1
TXAR **Lajitas Array** 139.18 24 PKP PKPdf 08 38 29.5 -6.4
TXAR PKPdf PKPdf 08 38 34.7 -1.3
TXAR PP PP 08 41 26.3 -2.5
JCT **Junction City** 139.54 19 *e*PKHKP 08 38 26.7
JCT *e* 08 38 34.2
BAO **Brasilia Array** 142.15 255 P PKPdf 08 38 35.0 -6.6
BAO *e* 08 38 39.5
TRQA **Tornquist** 143.03 212 *e*PKPdf PKPdf 08 38 35.8 -6.7
PLCA **Paso Flores** 144.60 200 PKIKP PKPdf 08 38 41.5 -3.6
PLCA 08 42 00.9
PLCA pmax pmax
comp=Z,41nm,0.9s
PLCA pmax pmax
comp=Z,3.0nm,0.8s
PLCA **Paso Flores** 144.60 200 PKP PKPdf 08 38 41.5 -3.6
comp=Z,41nm,0.9s,baz=157,slow=3.9,SNR=43
PLCA PP PP 08 42 00.9 0.0
comp=Z,2.5nm,0.8s,baz=147,slow=5.0,SNR=4.2
PLCA **Paso Flores** 144.60 200 *e*PKPdf PKPdf 08 38 40.9 -4.2
SJG **San Juan** 147.58 323 *e*PKIKP PKPdf 08 38 47.1 -3.7
MDZ **Mendoza** 150.57 210 *eP* PKPdf 08 38 49.7 -5.4
MDZ *e* 08 39 58.7
FCH **Farellones** 150.90 208 *eP* PKPdf 08 38 53.9 -1.7
TEIG **Tepich** 151.91 5 *e*PKPdf PKPdf 08 38 54.3 -3.1
SDV **Santo Domingo** 157.39 317 *e*PKPdf PKPdf 08 39 02.1 -3.0
LVC **Limon Verde** 158.09 226 PKP PKPdf 08 39 03.9 -1.9
comp=Z,3.5nm,0.8s,baz=268,slow=5.7,SNR=2.9
LVC PKPab PKPab 08 39 37.9 +0.7
comp=Z,9.0nm,0.9s,baz=162,slow=2.7,SNR=6.6
LPAZ **La Paz** 160.75 243 PKP PKPdf 08 38 26.0 -43
comp=Z,5.0nm,0.9s,baz=108,slow=1.4,SNR=14
LPAZ PKPab PKPab 08 39 07.8 -41
comp=Z,4.7nm,1.0s,baz=112,slow=14,SNR=5.1

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*GII **27** 08:20:50.4±0.6, 27.24N×34.15E, h3km±30km, ML3.5/3, Mw3.7/6*
*SNSN **27** 08:20:53.6, 27.69N×34.18E, h3km, Ml3.0*
*CSEM **27** 08:20:54.3±0.1, 27.60N×34.32E, h10km, Mw3.7, Error ellipse: s-maj=2.3km s-min=1.4km az=79.0*
*HLW **27** 08:20:55.5, 27.60N×34.30E, h8km, Mb3.6*
ISC 27 08:20:54.9±0.4, 27.59N±0.03×34.32E±0.04, h10km, n42, σ0670/49, 5C-5D, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TR1		**0.53**	**322**	⇓P	**Pg**	**08 21 06.0**	**+0.5**
TR1				S	**Sg**	**08 21 12.4**	**-0.3**
ZEIT		**0.74**	**292**	P	**Pb**	**08 21 09.6**	**+0.1**
HHRG	**Al Ghardaqah**	**0.76**	**241**	P	**Pb**	**08 21 10.7**	**+1.0**
TR2		**0.95**	**327**	⇑P	**Pb**	**08 21 13.2**	**+0.2**
HKAT	**Jabal Katrina**	**0.97**	**343**	P	**Pb**	**08 21 13.7**	**+0.3**
AYUS	**'Aynunah**	**1.03**	**54**	P	**Pb**	**08 21 14.3**	**-0.1**
HSFG		**1.07**	**199**	P	**Pb**	**08 21 15.7**	**+0.6**
TAYS	**Tayyib Ism**	**1.08**	**27**	P	**Pb**	**08 21 14.2**	**-0.9**
BDAS	**Al Bad'**	**1.09**	**39**	P	**Pb**	**08 21 14.5**	**-0.8**
HDHB	**Dhahab**	**1.16**	**13**	P	**Pb**	**08 21 16.8**	**+0.2**
HRDS	**Abu Rudays**	**1.44**	**321**	P	**Pn**	**08 21 20.7**	**-0.4**
NUB		**1.46**	**11**	⇑P	**Pn**	**08 21 22.0**	**+0.6**
HAQS	**Haql**	**1.56**	**20**	P	**Pn**	**08 21 21.2**	**-1.6**
HBST	**Basata**	**1.66**	**13**	⇑P	**Pn**	**08 21 23.7**	**-0.6**
JMOS	**Jabal al Moall**	**1.72**	**24**	P	**Pn**	**08 21 24.2**	**-1.0**
HQSR		**1.83**	**178**	⇓P	**Pn**	**08 21 26.3**	**-0.4**
ALWS	**Ilw as Safayha**	**1.84**	**21**	P	**Pn**	**08 21 25.9**	**-0.9**
JMQS	**Jabal Moqyreh**	**1.89**	**46**	P	**Pn**	**08 21 27.2**	**-0.3**
TBKS	**Tabuk**	**2.07**	**72**	P	**Pn**	**08 21 30.8**	**+0.6**
EIL	**Elat**	**2.15**	**15**	Pn	**Pn**	**08 21 32.6**	**+1.4**
EIL				Sn	**Sn**	**08 22 04.4**	**+6.2**
ZNM		**2.19**	**325**	⇑P	**Pn**	**08 21 31.3**	**-0.5**
AQBJ	**Aqaba**	**2.23**	**17**	Pn	**Pn**	**08 21 32.9**	**+0.5**
HADB		**2.25**	**173**	P	**Pn**	**08 21 32.3**	**-0.4**
MBH	**Mount Berech**	**2.26**	**13**	Pn	**Pn**	**08 21 33.6**	**+0.8**
ZAF		**2.29**	**318**	⇑P	**Pn**	**08 21 32.5**	**-0.8**
ZAF		**2.29**	**318**	P	**Pn**	**08 21 32.5**	**-0.9**
HNKL	**Nakhl**	**2.35**	**353**	⇓P	**Pn**	**08 21 34.1**	**0.0**
ASUT		**2.45**	**266**	⇓P	**Pn**	**08 21 35.1**	**-0.5**
HRFI	**Mount Harif**	**2.52**	**14**	Pn	**Pn**	**08 21 37.0**	**+0.4**
HRFI				Sn	**Sn**	**08 22 14.4**	**+6.8**
KMTI	**Karmit**	**2.53**	**8**	Pn	**Pn**	**08 21 36.4**	**-0.4**
KMTI				Sn	**Sn**	**08 22 14.0**	**+6.1**
KMTI	**Karmit**	**2.53**	**8**	Pn	**Pn**	**08 21 36.3**	**-0.4**
SUZ		**2.59**	**330**	⇓P	**Pn**	**08 21 37.5**	**-0.2**
EMRS	**Mersa Alam**	**2.61**	**170**	P	**Pn**	**08 21 37.4**	**-0.4**
ZFRI	**Zfri**	**3.05**	**14**	Pn	**Pn**	**08 21 45.3**	**+1.2**
ZFRI				Sn	**Sn**	**08 22 27.7**	**+6.6**
KOT	**Kottamia**	**3.19**	**317**	P	**Pn**	**08 21 45.5**	**-0.7**
HAGS	**Hagol**	**3.25**	**169**	P	**Pn**	**08 21 46.9**	**-0.1**
KZIT	**Kziot**	**3.31**	**1**	Pn	**Pn**	**08 21 49.0**	**+1.2**
KZIT				Sn	**Sn**	**08 22 32.7**	**+5.2**
UMJS	**Umm Lajj**	**3.57**	**130**	P	**Pn**	**08 21 51.0**	**-0.5**
MZDA	**Masada**	**3.82**	**14**	Pn	**Pn**	**08 21 56.1**	**+1.1**
MZDA				Sn	**Sn**	**08 22 45.1**	**+4.7**
DRGI	**Dragot**	**4.10**	**13**	Pn	**Pn**	**08 21 59.4**	**+0.3**
YNBS	**Yanbu' al Bahr**	**4.63**	**134**	P	**Pn**	**08 22 07.4**	**+0.8**
SLTI	**Sal'it**	**4.68**	**8**	Sn	**Sn**	**08 23 06.8**	**+4.5**

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*IDC **27** 08:26:05.7±0.7, 7.80N×93.82E, mb4.5/18, mb1 4.6/19, mb1mx4.5/24, mbtmp4.5/19, ML4.3/1, Error ellipse: s-maj=34.8km s-min=13.6km az=55.0, Putative timing error at GERES, LPAZ*
*BJI **27** 08:26:09.0, 7.65N×94.06E, h40km, mb4.8*
*NEIC **27** 08:26:10.5±0.4, 7.86N×94.04E, h30km, mb4.9/12, Error ellipse: s-maj=13.2km s-min=8.9km az=67.0*
ISC 27 08:26:09.4±0.4, 7.88N±0.07×94.15E±0.08, h33km, n56, σ1§09/51, mb4.7/37, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.50**	**23**	*eP*	**P**	**08 28 54.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**11.50**	**23**	Pn	**P**	**08 28 55.6**	**+1.3**
	0.5nm,0.3s,baz=212,slow=14,SNR=5.8						
HYB	**Hyderabad**	**17.91**	**303**	*eP*	**P**	**08 30 21.0**	**+3.3**
HYB	**Hyderabad**	**17.91**	**303**	*i P*	**P**	**08 30 21.0**	**+3.3**
JIRN	**Jiri**	**21.07**	**340**	*eP*	**P**	**08 30 54.6**	**+1.5**
	62nm,0.9s,mb4.9						
PKI	**Pulchoki**	**21.26**	**338**	*eP*	**P**	**08 30 55.8**	**+0.7**
	108nm,1.0s,mb5.1						
GUN	**Gumba**	**21.41**	**340**	*eP*	**P**	**08 30 56.0**	**-0.5**
	87nm,0.9s,mb5.1						
DMN	**Daman**	**21.41**	**338**	*eP*	**P**	**08 30 57.1**	**+0.5**
	109nm,0.8s,mb5.2						
KKN	**Kakani**	**21.51**	**338**	*eP*	**P**	**08 30 58.3**	**+0.8**
	100nm,0.9s,mb5.2						
LSA	**Lhasa**	**21.89**	**353**	*eP*	**P**	**08 31 01.5**	**+0.1**
	38nm,0.6s,mb5.0						
GKN	**Gorkha**	**21.94**	**337**	*eP*	**P**	**08 31 00.7**	**-1.2**
	70nm,0.8s,mb5.2						
KOLN	**Koldanda**	**22.16**	**335**	*eP*	**P**	**08 31 03.8**	**-0.2**
	60nm,0.7s,mb5.1						
ENH	**Enshi**	**26.51**	**31**	*eP*	**P**	**08 31 45.9**	**0.0**
	15nm,0.9s,mb4.5						
WMQ	**Urumqi**	**36.24**	**352**	*eP*	**P**	**08 33 11.5**	**+0.2**
SONM	**Songino Array**	**41.16**	**13**	P	**P**	**08 33 52.5**	**+0.3**
	2.6nm,0.8s,mb3.9,baz=197,slow=6.7,SNR=8.3						
SONM				PP	PP	08 35 25.1	-5.0
	1.2nm,0.8s,baz=192,slow=6.7,SNR=3.7						
SONM				PcP	PcP	08 35 52.2	+0.4
	1.3nm,0.5s,baz=195,slow=4.6,SNR=3.7						
ULN	**Ulaanbaatar**	**41.33**	**13**	P	**P**	**08 33 48.8**	**-4.9**
	3.7nm,0.8s,mb4.1						
KURK	**Kurchatov**	**44.61**	**346**	*eP*	**P**	**08 34 18.7**	**-1.5**
	21nm,1.1s,mb4.9						
NWAO	**Narrogin (SRO)**	**46.15**	**153**	P	**P**	**08 34 34.2**	**+1.4**
	7.9nm,0.8s,mb4.7,baz=318,slow=11,SNR=6.2						
NWAO	**Narrogin (SRO)**	**46.15**	**153**	P	**P**	**08 34 34.2**	**+1.4**
ZAL	**Zalesovo**	**46.54**	**352**	P	**P**	**08 34 35.5**	**-0.1**
	14nm,1.1s,mb4.8,baz=303,slow=9.0,SNR=11						
WRA	**Warramunga Arr**	**48.26**	**126**	P	**P**	**08 34 49.3**	**-0.2**
	2.2nm,0.6s,mb4.4,baz=304,slow=8.6,SNR=10						
WRAB	**Tennant Creek**	**48.26**	**126**	*eP*	**P**	**08 34 47.2**	**-2.3**
	22nm,1.1s,mb5.1						
BVAR	**Borovoye Array**	**48.99**	**341**	P	**P**	**08 34 53.0**	**-1.7**
	2.6nm,0.7s,mb4.4,baz=222,slow=36,SNR=6.7						
RAYN	**Ar Rayn**	**49.09**	**294**	P	**P**	**08 34 57.3**	**+1.4**
	78nm,1.4s,mb5.5,SNR=11						
CHKZ	**Chkalovo**	**49.47**	**342**	*eP*	**P**	**08 34 57.5**	**-0.8**
	9.9nm,0.8s,mb4.9						
ASAR	**Alice Springs**	**49.91**	**130**	P	**P**	**08 35 01.8**	**-0.4**
	2.1nm,0.8s,mb4.2,baz=302,slow=7.1,SNR=6.8						
ASAR				PcP	PcP	08 36 23.2	+0.8
	2.3nm,0.7s,baz=308,slow=5.7,SNR=5.8						
PMG	**Port Moresby**	**55.52**	**107**	P	**P**	**08 35 45.3**	**+1.2**
	14nm,0.7s,mb5.1,baz=300,slow=3.6,SNR=4.0						
PMG	**Port Moresby**	**55.52**	**107**	*eP*	**P**	**08 35 44.4**	**+0.3**
	20nm,0.8s,mb5.2						
KMBO	**Kilima Mbogo**	**57.43**	**264**	P	**P**	**08 35 58.9**	**+1.2**
	4.3nm,0.8s,mb4.5,baz=58,slow=10,SNR=9.0						
KMBO	**Kilima Mbogo**	**57.43**	**264**	P	**P**	**08 35 58.9**	**+1.1**
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KAF **Kangasniemi** 72.79 333 *ep* P 08 37 28.2 -7.9
14nm,1.1s,mb4.8
OJC **Ojcow** 73.98 320 *eP* P 08 37 43.3 0.0
KEV **Kevo** 74.83 341 *ep* P 08 37 49.4 +1.5
11nm,0.7s,mb4.9
ARCES **ARCESS Array B** 75.26 340 P P 08 37 50.6 +0.2
6.2nm,0.9s,mb4.5,baz=180,slow=1.2,SNR=7.6
GERES **GERESS Array B** 77.83 318 P P 08 37 55.5 -10
1.5nm,0.6s,mb4.1,baz=90,slow=4.0,SNR=9.5
KHC **Kasperske Hory** 77.92 318 *eP* P 08 38 05.0 -0.7
HFS **Hagfors** 78.46 330 P P 08 38 07.9 -0.5
5.3nm,0.4s,mb4.8,baz=90,slow=5.9,SNR=10
NB2 **NORSAR Subarra** 79.73 331 P P 08 38 14.5 -0.9
3.6nm,0.6s,mb4.5,baz=91,slow=5.6
NOA **NORSAR Array B** 79.73 331 P P 08 38 14.7 -0.7
4.2nm,0.7s,mb4.5,baz=92,slow=5.6,SNR=12
LPG **La Plagne** 82.62 315 *eP* P 08 38 31.6 +0.8
14nm,0.8s,mb4.7
TNA **Tin City** 86.16 24 *eP* P 08 38 47.2 -0.9
EKA **Eskdalemuir Ar** 87.72 325 P P 08 38 56.8 +0.9
3.6nm,0.8s,mb4.7,baz=90,slow=5.8,SNR=4.6
IMA **Indian Mountai** 91.61 22 *eP* P 08 39 15.4 +1.4
INK **Inuvik** 96.98 16 P P 08 39 40.0 +1.6
1.6nm,0.9s,mb4.4,baz=352,slow=5.8,SNR=3.2
NVAR **Mina Array Bea** 124.91 31 PKP PKPdf 08 45 09.4 +2.8
1.2nm,0.7s,baz=269,slow=4.1,SNR=7.1
PDAR **Pinedale Array** 125.16 21 PKP PKPdf 08 45 08.9 +2.0
1.2nm,0.7s,baz=30,slow=1.6,SNR=10
ANMO **Albuquerque** 133.16 23 PKP PKPdf 08 45 24.4 +1.9
1.0nm,0.6s,baz=10,slow=0.9,SNR=6.3
TXAR **Lajitas Array** 139.22 24 PKhKP 08 45 27.6
0.2nm,0.7s,baz=246,slow=1.2,SNR=5.1
PLCA **Paso Flores** 144.56 200 PKP PKPdf 08 45 44.6 +1.8
7.6nm,0.9s,baz=154,slow=5.3,SNR=11

*NEIC **27** 08:27:18.4±0.5, 7.85N×94.11E, mb4.8/9, Error ellipse: s-maj=14.9km s-min=11.0km az=69.0*
*IDC **27** 08:27:20.7±4.6, 7.96N×94.16E, h46km±42km, mb4.1/14, mb1 4.3/15, mb1mx4.2/21, mbtmp4.3/15, ML4.5/1, Error ellipse: s-maj=31.4km s-min=19.4km az=54.0, Putative timing error at GERES*
ISC 27 08:27:18.5±2.8, 7.9N±0.1×94.3E±0.1, h44km±23km, n33, σ1§16/29, mb4.5/21, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	11.41	23	P	P	08 30 01.5	-0.3
CMAR	**Chiang Mai Arr**	11.41	23	P	P	08 30 01.8	0.0
HYB	**Hyderabad**	17.99	303	*i* P	P	08 31 28.0	+0.9
LSA	**Lhasa**	21.86	353	*eP*	P	08 32 15.4	+6.3
AAK	**Ala-Archa**	38.71	336	P	P	08 34 36.2	-3.7
SONM	**Songino Array**	41.09	12	P	P	08 35 00.1	+0.6
KURK	**Kurchatov**	44.59	346	*eP*	P	08 35 23.6	-4.5
ZAL	**Zalesovo**	46.51	352	P	P	08 35 43.5	+0.2
WRA	**Warramunga Arr**	48.19	126	P	P	08 35 56.6	-0.3
WRAB	**Tennant Creek**	48.19	126	*eP*	P	08 35 56.4	-0.6
CHKZ	**Chkalovo**	49.46	342	*eP*	P	08 36 02.7	-3.6
ASAR	**Alice Springs**	49.85	130	P	P	08 36 10.3	+0.6
KMBO	**Kilima Mbogo**	57.55	264	P	P	08 37 06.7	+0.1
KMBO	**Kilima Mbogo**	57.55	264	*eP*	P	08 37 06.2	-0.4
CTAO	**Charters Tower**	58.22	119	*eP*	P	08 37 10.8	-0.3
AKASG	**Malin Array Be**	68.19	322	P	P	08 38 12.8	-3.7
JOF	**Joensuu**	70.86	334	*ep*	P	08 38 32.8	+0.3
FINES	**FINESS Array B**	72.72	332	P	P	08 38 41.6	-2.0
KAF	**Kangasniemi**	72.80	333	*ep*	P	08 38 44.5	+0.4
ARCES	**ARCESS Array B**	75.26	340	P	P	08 38 57.7	-0.5
GERES	**GERESS Array B**	77.87	318	P	P	08 39 01.8	-12
HFS	**Hagfors**	78.47	330	P	P	08 39 14.5	-1.9
NB2	**NORSAR Subarra**	79.75	331	P	P	08 39 21.0	-2.3
NOA	**NORSAR Array B**	79.75	331	P	P	08 39 22.8	-0.5
LPG	**La Plagne**	82.67	315	*eP*	P	08 39 40.4	+1.5
EKA	**Eskdalemuir Ar**	87.75	325	P	P	08 40 05.2	+1.4
ILAR	**Eielson Array**	94.65	22	P	P	08 40 37.6	+2.0
INK	**Inuvik**	96.91	16	P	P	08 40 47.1	+1.2
NVAR	**Mina Array Bea**	124.81	31	PKP	PKPdf	08 46 17.4	+3.2
PDAR	**Pinedale Array**	125.07	21	PKP	PKPdf	08 46 17.5	+2.9
TXAR	**Lajitas Array**	139.13	24	PKiKP		08 46 45.0	
PLCA	**Paso Flores**	144.64	200	PKP	PKPdf	08 46 51.8	+1.1

*IDC **27** 08:29:29.5±5.7, 7.92N×94.26E, h83km±52km, mb3.9/10, mb1 4.1/11, mb1mx3.9/19, mbtmp4.2/11, Error ellipse: s-maj=43.9km s-min=19.8km az=48.0, Putative timing error at GERES*
ISC 27 08:29:22.1±0.7, 7.7N±0.1×94.1E±0.1, h33km, n15, σ0§89/14, mb4.3/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.65	23	P	P	08 32 10.2	+1.0
HYB	**Hyderabad**	17.98	304	*eP*	P	08 33 32.0	+0.6
SONM	**Songino Array**	41.31	13	P	P	08 37 01.0	-5.3
WRA	**Warramunga Arr**	48.18	125	P	P	08 38 01.7	0.0
ASAR	**Alice Springs**	49.83	130	P	P	08 38 14.2	0.0
KMBO	**Kilima Mbogo**	57.40	264	P	P	08 39 11.8	+1.5
BRTR	**Keskin Array B**	62.52	311	P	P	08 39 42.9	-2.1
FINES	**FINESS Array B**	72.84	332	P	P	08 40 48.0	-1.2
KAF	**Kangasniemi**	72.92	333	*ep*	P	08 40 50.0	+0.3
ARCES	**ARCESS Array B**	75.41	340	P	P	08 41 03.5	-0.4
GERES	**GERESS Array B**	77.93	318	P	P	08 41 09.0	-10
HFS	**Hagfors**	78.58	330	P	P	08 41 22.1	+0.2
NOA	**NORSAR Array B**	79.86	331	P	P	08 41 28.4	-0.4
LPG	**La Plagne**	82.72	315	*eP*	P	08 41 44.3	+0.2
PLCA	**Paso Flores**	144.40	200	PKP	PKPdf	08 48 57.0	+1.7
3.5nm,0.8s,baz=202,slow=2.7,SNR=4.8

*IDC **27** 08:30:41.0±1.0, 7.93N×94.06E, mb4.3/9, mb1 4.4/10, mb1mx4.2/19, mbtmp4.3/10, ML4.5/1, Error ellipse: s-maj=32.1km s-min=27.7km az=46.0, Putative timing error at GERES - Putative timin error at GERES*
ISC 27 08:30:43.9±0.9, 7.9N±0.1×94.2E±0.1, h33km, n18, σ0§89/13, mb4.3/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.47	23	Pn	P	08 33 28.5	0.0
0.9nm,0.3s,baz=211,slow=14,SNR=6.4
AKL **Akola** 20.90 309 *e* P 08 35 25.7 -0.2
AKL *e* 08 35 29.6
comp=Z,88nm,0.8s
AKL *e* S 08 39 19.2 +7.1
SONM **Songino Array** 41.13 13 P P 08 38 26.8 +0.3
comp=Z,1.7nm,0.8s,mb3.7,baz=197,slow=9.2,SNR=3.5

WRA **Warramunga Arr** 48.26 126 P P 08 39 23.8 -0.2
comp=Z,1.6nm,0.8s,mb4.1,baz=303,slow=8.9,SNR=3.3
KMBO **Kilima Mbogo** 57.45 264 P P 08 40 33.1 +0.8
comp=Z,2.3nm,0.7s,mb4.3,baz=55,slow=11,SNR=5.4
BRTR **Keskin Array B** 62.42 311 P P 08 41 05.0 -1.1
comp=Z,1.2nm,0.6s,mb4.2,baz=143,slow=6.2,SNR=3.4
FINES **FINESS Array B** 72.69 332 P P 08 42 11.2 +1.1
comp=Z,4.4nm,0.7s,mb4.5,baz=85,slow=7.9,SNR=5.8
ARCES **ARCESS Array B** 75.24 340 P P 08 42 25.9 +1.1
comp=Z,2.5nm,0.7s,mb4.3,baz=76,slow=5.0,SNR=4.6
GERES **GERESS Array B** 77.82 318 P Px 08 42 30.7
comp=Z,1.1nm,0.7s,baz=80,slow=6.0,SNR=3.7
HFS **Hagfors** 78.44 330 P P 08 42 41.8 -1.0
comp=Z,4.6nm,0.5s,mb4.6,baz=90,slow=5.8,SNR=7.7
NB2 **NORSAR Subarra** 79.72 331 P P 08 42 47.3 -2.5
comp=Z,3.0nm,0.8s,mb4.3,baz=93,slow=5.6
NOA **NORSAR Array B** 79.72 331 P P 08 42 48.8 -1.0
comp=Z,2.2nm,0.7s,mb4.2,baz=94,slow=5.2,SNR=5.0
LPG **La Plagne** 82.61 315 *eP* P 08 43 05.9 +0.6
comp=Z,8.3nm,0.6s,mb4.7
NVAR **Mina Array Bea** 124.88 31 PKP PKPdf 08 49 44.2 +3.2
comp=Z,1.0nm,0.8s,baz=274,slow=4.0,SNR=4.5
PDAR **Pinedale Array** 125.13 21 PKP PKPdf 08 49 44.3 +2.8
comp=Z,1.0nm,0.8s,baz=37,slow=1.2,SNR=4.5
ANMO **Albuquerque** 133.13 23 PKP PKPdf 08 50 01.2 +4.3
comp=Z,0.6nm,0.6s,baz=319,slow=9.3,SNR=2.9
TXAR **Lajitas Array** 139.19 24 PKP PKPdf 08 50 11.0 +2.8
comp=Z,0.2nm,0.6s,baz=334,slow=4.1,SNR=2.9
PLCA **Paso Flores** 144.59 200 PKP PKPdf 08 50 19.4 +2.0
comp=Z,4.9nm,0.8s,baz=200,slow=3.3,SNR=7.0

*IDC **27** 08:31:08.2±0.5, 8.02N×94.11E, mb4.8/24, mb1 4.9/25, mb1mx4.8/28, mbtmp4.8/25, ML4.7/1, Error ellipse: s-maj=26.1km s-min=12.3km az=45.0, Putative timing error at GERES, LPAZ*
*MOS **27** 08:31:11.7±1.5, 7.96N×94.11E, h33km, mb5.2/44, Error ellipse: s-maj=11.4km s-min=6.4km az=111.5*
*BJI **27** 08:31:12.5, 7.79N×93.64E, h49km, mB5.3, mb4.8, Ms5.3, Msz5.0*
*NEIC **27** 08:31:12.8±0.3, 7.95N×94.11E, h30km, mb5.0/28, Error ellipse: s-maj=8.9km s-min=6.5km az=61.0*
*HRVD **27** 08:31:12.8±0.3, 7.96N×94.22E, h15km±2km, MW5.2/60, Centroid moment Tensor Solution. LP body waves: s12,c16;Mantle waves: s60,c113; Half duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.02±.04; $M_{\theta\theta}$-0.84±.04; $M_{\phi\phi}$0.81±.03; $M_{r\theta}$-0.15±.07; $M_{\theta\phi}$0.10±.03; $M_{\phi r}$-0.16±.07; Best double couple: M_0.863×10^{17} NP1: ϕ_s138°, δ75°, λ178°. NP2:ϕ_s229°, δ88°, λ15°. Principal axes: T .858, Plg12°, Azm95°; N .011, Plg75°, Azm235°; P -.869, Plg9°, Azm3°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 27 08:31:13.2±1.4, 8.01N±0.06×94.21E±0.05, h48km±12km, n155, σ1§14/145, mb4.9/57, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	3.90	338	*i* P	P	08 32 12.6	+0.3
PBA *i* S S 08 32 43.2 -14
CM31 **Chiang Mai Arr** 11.36 23 *eP* P 08 33 55.8 +0.1
10nm,0.4s
CMAR **Chiang Mai Arr** 11.36 23 P P 08 33 55.9 +0.2
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR **Chiang Mai Arr** 11.36 23 Pn P 08 33 55.9 +0.3
comp=Z,1.4nm,0.3s,baz=210,slow=14,SNR=16
KOD **Kodaikanal** 16.68 279 *eP* P 08 35 08.4 +3.1
KOD *e* 08 35 10.0
comp=Z,61nm,0.9s
KOD *e* 08 37 50.6
SHL **Shillong** 17.60 353 *eP* P 08 35 12.9 -3.9
SHL *e* 08 35 16.3
comp=Z,727nm,1.0s
HYB **Hyderabad** 17.89 303 *eP* P 08 35 20.0 -0.5
HYB *eS* S 08 38 33.0 -2.5
HYB **Hyderabad** 17.89 303 *i* P P 08 35 20.0 -0.5
HYB *eS* S 08 38 33.0 -2.5
NGP **Nagpur** 19.62 313 *eP* P 08 35 40.5 -0.1
NGP *e* 08 35 49.8
comp=Z,44nm,1.3s
MNGI **Mangalore** 19.68 286 *e* P 08 35 48.8 +7.5
MNGI *e* 08 41 25.6
GOA **Goa** 21.29 292 *eP* P 08 36 00.8 +2.9
GOA *e* 08 36 08.6
comp=Z,51nm,0.7s
KAD **Karad** 21.60 297 *e* P 08 36 00.5 -0.5
LSA **Lhasa** 21.77 353 *eP* P 08 36 05.0 +2.3
LSA pmax pmax
comp=Z,109nm,0.8s,mb5.3
LSA **Lhasa** 21.77 353 *eP* P 08 36 05.0 +2.3
comp=Z,109nm,0.8s,mb5.3
BOM **Bombay** 23.43 300 *e* P 08 36 25.2 +6.2
BOM *e* 08 36 27.4
comp=Z,122nm,1.2s
BOM *eS* S 08 40 26.8 +1.4
NDI **New Delhi** 26.07 324 *eP* P 08 36 45.2 +0.9
NDI *eS* S 08 41 03.4 -6.4
ENH **Enshi** 26.37 31 *eP* P 08 36 46.9 -0.1
comp=Z,21nm,0.8s,mb4.7
DDI **Dehra Dun** 26.87 328 *e* P 08 36 55.0 +3.4
SMLA **Simla** 27.97 328 *e* P 08 37 17.8 +16
SMLA *e* 08 37 23.6
comp=Z,66nm,1.5s
SMLA *e* 08 43 00.3
LZH **Lanzhou** 29.30 16 *eP* P 08 37 15.0 +1.6
LZH AMB AMB
comp=Z,29nm,1.6s,mb4.8
LZH **Lanzhou** 29.30 16 *eP* P 08 37 14.9 +1.5
LZH *SP sP 08 37 26.0 -5.9
LZH pmax pmax
comp=Z,29nm,1.6s,mb4.8
LZH **Lanzhou** 29.30 16 *eP* P 08 37 14.9 +1.5
comp=Z,29nm,1.6s,mb4.8
LZH pP pP 08 37 22.7 -3.2
LZH sP sP 08 37 26.0 -5.9
WMQ **Urumqi** 36.12 352 *eP* P 08 38 13.0 +0.3
BJI **Beijing** 37.45 28 *eP* P 08 38 27.8 +3.9
BJI pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
BJI **Beijing** 37.45 28 *eP* P 08 38 27.8 +3.9
comp=Z,10.0nm,0.9s,mb4.7
AAK **Ala-Archa** 38.61 336 *eP* P 08 38 32.9 -0.5
AAK pmax pmax
comp=Z,15nm,1.0s,mb4.7
AAK **Ala-Archa** 38.61 336 *eP* P 08 38 32.9 -0.5
comp=Z,15nm,1.0s,mb4.7
MKAR **Makanchi Array** 39.97 347 *i* P P 08 38 43.6 -1.1
MKAR pmax pmax
comp=Z,19nm,0.8s
SONM **Songino Array** 41.02 13 P P 08 38 54.0 +0.7
comp=Z,7.8nm,1.1s,mb4.2,baz=201,slow=8.9,SNR=4.8
SONM PcP PcP 08 40 52.9 -0.4
comp=Z,2.0nm,0.6s,baz=195,slow=3.3,SNR=7.0
ULN **Ulaanbaatar** 41.19 13 *eP* P 08 38 54.9 +0.1
ULN pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
ULN **Ulaanbaatar** 41.19 13 *eP* P 08 38 54.9 +0.2
comp=Z,4.0nm,0.6s,mb4.2
ZAK **Zakamensk** 42.91 9 *eP* P 08 39 12.6 +3.8
KURK **Kurchatov** 44.50 346 *i* P P 08 39 21.3 -0.4
KURK pmax pmax
comp=Z,22nm,1.0s,mb4.8
KURK **Kurchatov** 44.50 346 *eP* P 08 39 20.3 -1.4
comp=Z,80nm,1.4s,mb5.3
MUN **Mundaring** 44.97 153 *eP* P 08 39 26.5 +0.7
comp=Z,19nm,0.7s,mb5.0
MUN **Mundaring** 44.97 153 *eP* P 08 39 26.5 +0.7
MUN pmax pmax
comp=Z,19nm,0.7s,mb5.0
KLBR **Kellerberrin** 45.36 151 *eP* P 08 39 29.4 +0.5
comp=Z,134nm,0.7s,mb5.9
NWAO **Narrogin (SRO)** 46.23 153 P P 08 39 35.6 -0.2
NWAO pmax pmax
comp=Z,16nm,0.7s
NWAO **Narrogin (SRO)** 46.23 153 P P 08 39 35.6 -0.2
comp=Z,16nm,0.7s,mb5.1,baz=328,slow=9.9,SNR=6.4
HIA **Hailar** 46.37 23 *eP* P 08 39 37.5 +0.9
HIA pmax pmax
comp=Z,24nm,1.2s
HIA **Hailar** 46.37 23 *eP* P 08 39 37.5 +0.9
comp=Z,24nm,1.2s,mb5.0
ZAL **Zalesovo** 46.42 352 P P 08 39 37.1 +0.2
ZAL pmax pmax
comp=Z,10.0nm,0.4s
ZAL **Zalesovo** 46.42 352 P P 08 39 37.1 +0.2
comp=Z,9.7nm,0.4s,mb5.1,baz=316,slow=4.1,SNR=7.1
NVS **Novosibirsk** 47.52 351 *eP* P 08 39 43.8 -1.8
NVS pmax pmax
comp=N,37nm,1.0s
NVS pmax pmax
comp=E,31nm,1.0s
NVS pmax pmax
comp=Z,55nm,1.0s,mb5.5
MDJ **Mudanjiang** 47.66 34 P P 08 39 52.3 +5.5
MDJ AMB AMB
comp=Z,13nm,1.4s,mb4.8
MDJ AMB AMB
comp=Z,64nm,3.9s
WRA **Warramunga Arr** 48.28 126 P P 08 39 51.5 -0.5
WRA pmax pmax
comp=Z,8.0nm,0.6s
WRA **Warramunga Arr** 48.28 126 P P 08 39 51.5 -0.5
comp=Z,7.8nm,0.6s,mb4.9,baz=303,slow=8.8,SNR=13
WRAB **Tennant Creek** 48.29 126 *eP* P 08 39 50.7 -1.3
WRAB pmax pmax
comp=Z,14nm,0.6s,mb5.2
WRAB **Tennant Creek** 48.29 126 *eP* P 08 39 50.7 -1.3
comp=Z,14nm,0.6s,mb5.2
BVA0 **Borovoye Array** 48.88 341 *i* P P 08 39 55.8 -0.4
BVA0 pmax pmax
comp=Z,4.0nm,1.5s,mb4.2
BVAR **Borovoye Array** 48.88 341 P P 08 39 55.9 -0.3
comp=Z,5.2nm,1.1s,mb4.7,baz=141,slow=9.5,SNR=7.4
BVAR PcP PcP 08 41 21.0 +0.6
comp=Z,3.0nm,0.6s,baz=143,slow=7.2,SNR=3.2
RAYN **Ar Rayn** 49.09 294 P P 08 40 00.3 +2.1
comp=Z,222nm,1.3s,mb6.0,SNR=9.6
CHKZ **Chkalovo** 49.37 342 P P 08 39 58.3 -1.6
CHKZ pmax pmax
comp=Z,21nm,1.0s,mb5.1
CHKZ **Chkalovo** 49.37 342 *eP* P 08 39 57.6 -2.3
comp=Z,26nm,0.9s,mb5.3
ASAR **Alice Springs** 49.95 130 P P 08 40 04.1 -0.7
comp=Z,7.5nm,0.9s,mb4.7,baz=305,slow=7.2,SNR=9.7
ASAR PcP PcP 08 41 25.3 +0.7
comp=Z,5.4nm,0.8s,baz=307,slow=4.2,SNR=8.6
BOD **Bodaibo** 52.00 13 *eP* P 08 40 18.6 -1.2
GNI **Garni** 54.39 314 *eP* P 08 40 36.1 -1.7
GNI pmax pmax
comp=Z,14nm,0.8s
GNI **Garni** 54.39 314 *eP* P 08 40 36.1 -1.7
comp=Z,14nm,0.8s,mb4.9
PMG **Port Moresby** 55.50 107 P P 08 40 46.8 +0.6
PMG pmax pmax
comp=Z,32nm,0.7s
PMG **Port Moresby** 55.50 107 P P 08 40 46.8 +0.6
comp=Z,32nm,0.7s,mb5.5,baz=0.3,slow=3.7,SNR=9.2
ARU **Arti** 55.79 337 *eP* P 08 40 40.2 -7.5
YSS **Yuzh-Sakhalins** 56.63 38 *eP* pP 08 41 06.9 -0.4
KIV **Kislovodsk** 57.27 318 *eP* P 08 40 56.9 -1.5
KIV pmax pmax
comp=Z,34nm,0.9s,mb5.4
KIV **Kislovodsk** 57.27 318 *eP* P 08 40 56.9 -1.5
comp=Z,34nm,0.9s,mb5.4
KMBO **Kilima Mbogo** 57.51 264 P P 08 41 00.9 +0.4
KMBO pmax pmax
comp=Z,16nm,0.9s
KMBO **Kilima Mbogo** 57.51 264 P P 08 41 00.9 +0.4
comp=Z,16nm,0.9s,mb5.1,baz=53,slow=9.0,SNR=7.3
ASF **Jabal al Asfar** 58.20 303 P P 08 41 05.3 +0.2
comp=Z,4.5nm,0.9s,mb4.5,baz=314,slow=6.0,SNR=4.0
CTAO **Charters Tower** 58.31 119 *eP* P 08 41 05.8 -0.2
CTAO pmax pmax
comp=Z,11nm,1.1s,mb4.8
CTAO **Charters Tower** 58.31 119 *eP* P 08 41 05.8 -0.3
comp=Z,12nm,1.1s,mb4.8
EIL **Elat** 59.42 300 P P 08 41 12.8 -0.8
comp=Z,3.7nm,0.5s,mb4.7,baz=130,slow=7.9,SNR=4.4
YAK **Yakutsk** 59.84 18 *eP* pP 08 41 26.7 -2.8
YAK pmax pmax
comp=Z,11nm,0.9s,mb4.9
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.0s
STKA **Stephens Creek** 60.15 134 P P 08 41 17.8 -0.8
comp=E,9.1nm,1.1s,mb4.7,baz=299,slow=9.4,SNR=5.3
STKA **Stephens Creek** 60.15 134 *eP* P 08 41 16.8 -1.8
BRTR **Keskin Array B** 62.39 311 P P 08 41 31.6 -2.0
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR **Keskin Array B** 62.39 311 P P 08 41 31.6 -2.0
comp=Z,4.7nm,0.8s,mb4.7,baz=135,slow=7.7,SNR=8.1
MOS **Moscow** 65.00 329 *eP* P 08 41 49.6 -0.8
MOS *e* 08 44 16.6
MOS *eS* S 08 50 48.2 +21
MOS pmax pmax
comp=Z,59nm,0.7s,mb5.7
OBN **Obninsk** 65.30 328 *eP* P 08 41 49.0 -3.4
OBN pmax pmax
comp=Z,32nm,1.0s,mb5.3
MA2 **Magadan** 66.61 28 *eP* P 08 41 58.9 -1.8
MA2 pmax pmax
comp=Z,17nm,0.8s,mb5.1
MA2 **Magadan** 66.61 28 *eP* P 08 41 58.9 -1.8
comp=Z,17nm,0.8s,mb5.1
AKASG **Malin Array Be** 68.09 322 P P 08 42 07.6 -2.5
AKASG pmax pmax
comp=Z,21nm,1.2s
AKASG **Malin Array Be** 68.09 322 P P 08 42 07.6 -2.5
comp=Z,21nm,1.2s,mb5.0,baz=88,slow=4.9,SNR=10
IDI **Anoyia** 68.55 305 P P 08 42 12.2 -1.0
comp=Z,22nm,1.0s,mb5.0,baz=38,slow=7.3,SNR=3.1
LSZ **Lusaka** 69.38 250 *eP* P 08 42 17.7 -0.9
LSZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LSZ **Lusaka** 69.38 250 *eP* P 08 42 17.7 -0.9
comp=Z,7.5nm,0.9s,mb4.6
FINES **FINESS Array B** 72.62 332 P P 08 42 36.3 -1.0
FINES pmax pmax
comp=Z,8.0nm,0.6s
FINES **FINESS Array B** 72.62 332 P P 08 42 36.3 -1.0
comp=Z,7.5nm,0.6s,mb4.8,baz=101,slow=9.7,SNR=10.0
CRVS **Cervenica-Dubn** 72.67 319 *eP* P 08 42 38.8 +0.9
NIE **Niedzica** 73.49 319 *eP* P 08 42 43.0 +0.4
OJC **Ojcow** 73.92 320 *eP* P 08 42 45.4 +0.3
VYHS **Vyhne** 74.35 318 *eP* P 08 42 47.4 -0.3
OKC **Ostrava-Krasne** 74.94 319 *eP* P 08 42 51.6 +0.6
CASY **Casey** 75.05 173 *eP* P 08 42 51.7 +0.3
ARCES **ARCESS Array B** 75.16 340 P P 08 42 51.1 -0.8
ARCES pmax pmax
comp=Z,7.0nm,1.0s
ARCES **ARCESS Array B** 75.16 340 P P 08 42 51.1 -0.9
comp=Z,7.3nm,1.0s,mb4.6,baz=90,slow=7.1,SNR=6.9
MORC **Moravsky Berou** 75.32 319 *eP* P 08 42 51.7 -1.5
MORC pmax pmax
comp=Z,34nm,1.4s,mb5.1
MORC **Moravsky Berou** 75.32 319 *eP* P 08 42 51.6 -1.6
comp=Z,34nm,1.4s,mb5.1
ZST **Bratislava** 75.48 318 *eP* P 08 42 55.0 +0.8
BOSA **Boshof** 75.72 238 *eP* P 08 42 55.3 -0.6
BOSA pmax pmax
comp=Z,11nm,0.8s,mb4.8
BOSA **Boshof** 75.72 238 *eP* P 08 42 55.3 -0.6
comp=Z,11nm,0.8s,mb4.8
BILL **Bilibino** 75.94 22 *eP* P 08 42 53.9 -2.5
BILL pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BILL **Bilibino** 75.94 22 *eP* P 08 42 53.9 -2.5
comp=Z,7.4nm,0.8s,mb4.7
DPC **Dobruska-Polom** 76.15 320 *eP* P 08 42 58.0 +0.1
KSP **Ksiaz** 76.20 320 *eP* P 08 42 58.4 +0.2
UPC **Upice** 76.36 320 *eP* P 08 43 00.0 +0.9
PRU **Pruhonice** 77.27 319 *eP* P 08 43 05.2 +0.9
PVCC **Panska Ves** 77.28 320 *eP* P 08 43 05.4 +1.1
BRG **Berggiesshubel** 77.69 320 *eP* P 08 43 07.3 +0.7
BRG pmax pmax
comp=Z,18nm,1.2s,mb4.9
BRG **Berggiesshubel** 77.69 320 *eP* P 08 43 07.3 +0.7
comp=Z,18nm,1.2s,mb4.9
GERES **GERESS Array B** 77.77 318 P P 08 42 56.8 -10
GERES pmax pmax
comp=Z,5.0nm,0.7s
GERES **GERESS Array B** 77.77 318 P P 08 42 56.8 -10
comp=Z,4.9nm,0.7s,mb4.5,baz=90,slow=6.7,SNR=9.6
KHC **Kasperske Hory** 77.86 318 *eP* P 08 43 07.9 +0.4
CLL **Collm** 78.30 321 *eP* P 08 43 11.0 +1.1
CLL pmax pmax
comp=Z,19nm,1.6s,mb4.8

CLL	**Collm**	**78.30**	**321**	*eP*	**P**	**08 43 11.0**	**+1.1**
	comp=Z,19nm,1.6s,mb4.8						
CLL	**Collm**	**78.30**	**321**	P	**P**	**08 43 11.0**	**+1.1**
	comp=Z,logA/T=1.1,mb4.8						
HFS	**Hagfors**	**78.38**	**330**	P	**P**	**08 43 09.6**	**-0.5**
HFS				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HFS	**Hagfors**	**78.38**	**330**	P	**P**	**08 43 09.6**	**-0.5**
	comp=Z,8.6nm,0.5s,mb5.0,baz=104,slow=6.1,SNR=11						
NKC	**Novy Kostel**	**78.63**	**320**	*eP*	**P**	**08 43 13.0**	**+1.3**
MOX	**Moxa**	**79.16**	**320**	*eP*	**P**	**08 43 18.0**	**+3.4**
GRA1	**Grafenberg Arr**	**79.41**	**319**	*eP*	**P**	**08 43 17.3**	**+1.3**
	comp=Z,24nm,1.1s,mb5.0						
GRF	**Grafenberg Arr**	**79.41**	**319**	*eP*	**P**	**08 43 17.3**	**+1.3**
GRF				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0						
GRF	**Grafenberg Arr**	**79.41**	**319**	*eP*	**P**	**08 43 17.3**	**+1.3**
GRF				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0						
GRF	**Grafenberg Arr**	**79.41**	**319**	*eP*	**P**	**08 43 17.3**	**+1.3**
	comp=Z,24nm,1.1s,mb5.0						
NB2	**NORSAR Subarra**	**79.65**	**331**	P	**P**	**08 43 15.2**	**-1.8**
	comp=Z,16nm,1.0s,mb4.9,baz=91,slow=5.8						
NB2	**NORSAR Subarra**	**79.65**	**331**	P	**P**	**08 43 15.2**	**-1.8**
NB2				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
NOA	**NORSAR Array B**	**79.65**	**331**	P	**P**	**08 43 16.4**	**-0.6**
NOA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NOA	**NORSAR Array B**	**79.65**	**331**	P	**P**	**08 43 16.4**	**-0.7**
	comp=Z,7.7nm,0.8s,mb4.7,baz=92,slow=5.7,SNR=8.7						
DAVOX	**Davos**	**80.34**	**316**	P	**P**	**08 43 21.1**	**+0.1**
	comp=Z,14nm,0.7s,mb5.0,baz=120,slow=16,SNR=6.5						
LPG	**La Plagne**	**82.57**	**315**	*eP*	**P**	**08 43 33.4**	**+0.7**
	comp=Z,34nm,0.8s,mb5.1						
LPG	**La Plagne**	**82.57**	**315**	*eP*	**P**	**08 43 33.4**	**+0.7**
LPG				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
BNI	**Bardonecchia**	**82.65**	**314**	*eP*	**P**	**08 43 34.6**	**+1.5**
BNI				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
BNI	**Bardonecchia**	**82.65**	**314**	*eP*	**P**	**08 43 34.5**	**+1.4**
	comp=Z,15nm,0.8s,mb5.1						
TNA	**Tin City**	**86.02**	**24**	*eP*	**P**	**08 43 48.8**	**-0.6**
EKA	**Eskdalemuir Ar**	**87.65**	**325**	P	**P**	**08 43 57.7**	**0.0**
EKA				pmax	pmax		
	comp=Z,12nm,1.1s						
EKA	**Eskdalemuir Ar**	**87.65**	**325**	P	**P**	**08 43 57.6**	**0.0**
	comp=Z,12nm,1.1s,mb5.0,baz=96,slow=5.2,SNR=4.5						
ESDC	**Sonseca Array**	**91.18**	**310**	P	**P**	**08 44 16.1**	**+1.4**
	comp=Z,1.9nm,0.6s,mb4.6,baz=56,slow=5.3,SNR=4.4						
IMA	**Indian Mountai**	**91.47**	**22**	*eP*	**P**	**08 44 16.2**	**+0.8**
MCK	**McKinley**	**94.31**	**23**	*eP*	**P**	**08 44 29.2**	**+0.8**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.5						
MCK	**McKinley**	**94.31**	**23**	*eP*	**P**	**08 44 29.2**	**+0.8**
	comp=Z,2.5nm,0.9s,mb4.6						
ILAR	**Eielson Array**	**94.59**	**22**	P	**P**	**08 44 31.3**	**+1.6**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**94.59**	**22**	P	**P**	**08 44 31.3**	**+1.6**
	comp=Z,0.9nm,0.6s,mb4.3,baz=294,slow=4.2,SNR=5.8						
INK	**Inuvik**	**96.84**	**16**	P	**P**	**08 44 41.5**	**+1.6**
INK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
INK	**Inuvik**	**96.84**	**16**	P	**P**	**08 44 41.5**	**+1.6**
	comp=Z,7.1nm,1.3s,mb4.9,baz=291,slow=6.4,SNR=5.6						
NVAR	**Mina Array Bea**	**124.77**	**31**	PKP	PKPdf	08 50 11.9	+3.6
	comp=Z,4.9nm,1.0s,baz=277,slow=3.3,SNR=13						
PDAR	**Pinedale Array**	**125.02**	**21**	PKP	PKPdf	08 50 10.9	+2.2
	comp=Z,2.8nm,0.8s,baz=39,slow=1.0,SNR=12						
SADO	**Sadowa**	**127.13**	**354**	PKP	PKPdf	08 50 15.3	+2.6
	comp=Z,4.8nm,0.8s,baz=304,slow=8.5,SNR=3.1						
MSU	**Marysvale**	**127.60**	**26**	*e*PKIKP	PKIKPdf	08 50 17.7	+3.9
ANMO	**Albuquerque**	**133.02**	**23**	PKIKP	PKPdf	08 50 27.5	+3.3
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ANMO	**Albuquerque**	**133.02**	**23**	PKP	PKPdf	08 50 27.5	+3.3
	comp=Z,1.5nm,0.8s,baz=326,slow=1.0,SNR=8.5						
ANMO	**Albuquerque**	**133.02**	**23**	PKP	PKPdf	08 50 27.5	+3.3
TXAR	**Lajitas Array**	**139.07**	**24**	PKP	PKPdf	08 50 39.2	+3.7
	comp=Z,0.8nm,0.5s,baz=350,slow=0.4,SNR=7.9						
TXAR	**Lajitas Array**	**139.07**	**24**	PKP	PKPdf	08 50 39.2	+3.7
PLCA	**Paso Flores**	**144.70**	**200**	PKIKP	PKPdf	08 50 46.7	+1.7
PLCA						08 54 05.0	
PLCA				pmax	pmax		
	comp=Z,20nm,0.8s						
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PLCA	**Paso Flores**	**144.70**	**200**	PKP	PKPdf	08 50 46.7	+1.7
	comp=Z,20nm,0.8s,baz=166,slow=2.9,SNR=18						
PLCA				PP	PP	08 54 05.0	-1.0
	comp=Z,3.0nm,0.8s,baz=100,slow=3.0,SNR=3.8						
PLCA	**Paso Flores**	**144.70**	**200**	PKP	PKPdf	08 50 46.7	+1.7
PLCA				PP	PP	08 54 05.0	-1.0
LPAZ	**La Paz**	**160.89**	**243**	PKP	PKPdf	08 50 30.7	-38
	comp=Z,2.3nm,0.8s,baz=359,slow=1.8,SNR=5.4						
LPAZ				PKPab	PKPab	08 51 12.9	-41
	comp=Z,1.1nm,0.7s,baz=85,slow=17,SNR=4.2						

*BJI **27** 08:34:20.6, 6.87N×93.64E, h30km, mB5.5, mb4.9*
*IDC **27** 08:34:24.4±1.1, 7.63N×93.86E, mb4.5/12, mb1 4.6/13, mb1mx4.4/19, mbtmp4.4/13, ML4.4/1, Error ellipse: s-maj=36.1km s-min=25.5km az=39.0, - Putative timing error at GERES*
*NEIC **27** 08:34:29.0±0.5, 7.66N×93.97E, h30km, mb4.7/8, Error ellipse: s-maj=11.9km s-min=10.3km az=153.0*

ISC 27 08:34:27.1±0.7, 7.68N±0.09×94.00E±0.08, h30km, n35, σ0^{s}78/35, mb4.7/27, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.75**	**24**	*eP*	**P**	**08 37 16.7**	**+0.8**
	32nm,0.9s						
CMAR	**Chiang Mai Arr**	**11.75**	**24**	Pn	**P**	**08 37 16.4**	**+0.5**
	0.7nm,0.3s,baz=213,slow=15,SNR=10						
PALK	**Pallekele**	**13.20**	**269**	P	**P**	**08 37 35.8**	**+0.6**
HYB	**Hyderabad**	**17.91**	**304**	*i P*	**P**	**08 38 39.0**	**+3.1**
JIRN	**Jiri**	**21.21**	**341**	*eP*	**P**	**08 39 12.7**	**-0.1**
	58nm,0.5s,mb5.1						
PKI	**Pulchoki**	**21.40**	**339**	*eP*	**P**	**08 39 14.9**	**+0.2**
	38nm,0.6s,mb4.9						
DMN	**Daman**	**21.54**	**338**	*eP*	**P**	**08 39 16.1**	**-0.1**
	77nm,0.6s,mb5.3						
GUN	**Gumba**	**21.55**	**340**	*eP*	**P**	**08 39 15.9**	**-0.3**
	91nm,0.8s,mb5.3						
KKN	**Kakani**	**21.64**	**339**	*eP*	**P**	**08 39 17.4**	**+0.2**
LSA	**Lhasa**	**22.07**	**353**	*eP*	**P**	**08 39 20.7**	**-0.8**
	54nm,0.7s,mb5.1						
GKN	**Gorkha**	**22.07**	**337**	*eP*	**P**	**08 39 21.1**	**-0.4**
	72nm,0.6s,mb5.3						
KOLN	**Koldanda**	**22.28**	**335**	*eP*	**P**	**08 39 23.6**	**0.0**
	62nm,0.7s,mb5.2						
ENH	**Enshi**	**26.76**	**31**	P	**P**	**08 40 06.6**	**+0.2**
WMQ	**Urumqi**	**36.43**	**352**	P	**P**	**08 41 32.0**	**+0.9**
AAK	**Ala-Archa**	**38.83**	**337**	*eP*	**P**	**08 41 50.7**	**-0.6**
	6.4nm,0.8s,mb4.4						
SONM	**Songino Array**	**41.39**	**13**	P	**P**	**08 42 12.4**	**+0.1**
	3.3nm,0.9s,mb4.0,baz=209,slow=8.4,SNR=5.4						
KURK	**Kurchatov**	**44.77**	**346**	*eP*	**P**	**08 42 38.9**	**-1.0**
	12nm,1.1s,mb4.6						
ZAL	**Zalesovo**	**46.73**	**353**	P	**P**	**08 42 54.9**	**-0.4**
	12nm,0.5s,mb5.0,baz=303,slow=4.9,SNR=14						
WRA	**Warramunga Arr**	**48.26**	**125**	P	**P**	**08 43 08.1**	**+0.3**
	0.7nm,0.5s,mb4.0,baz=306,slow=8.5,SNR=8.0						
WRAB	**Tennant Creek**	**48.26**	**125**	P	**P**	**08 43 06.9**	**-0.9**
	6.3nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**49.62**	**342**	*eP*	**P**	**08 43 16.6**	**-1.2**
	8.0nm,0.8s,mb4.8						
BRTR	**Keskin Array B**	**62.46**	**311**	P	**P**	**08 44 49.1**	**-1.0**
	4.5nm,0.9s,mb4.6,baz=131,slow=6.8,SNR=7.5						
AKASG	**Malin Array Be**	**68.22**	**322**	P	**P**	**08 45 25.8**	**-1.3**
	1.4nm,0.6s,mb4.2,baz=89,slow=5.1,SNR=4.9						
IDI	**Anoyia**	**68.57**	**305**	P	**P**	**08 45 29.2**	**-0.3**
	7.7nm,0.5s,mb4.9,baz=68,slow=14,SNR=6.6						
JOF	**Joensuu**	**70.97**	**335**	*ep*	**P**	**08 45 43.3**	**-0.4**
	7.1nm,0.6s,mb4.8						
FINES	**FINESS Array B**	**72.82**	**332**	P	**P**	**08 45 54.5**	**-0.2**
	9.6nm,0.9s,mb4.8,baz=103,slow=7.5,SNR=13						
KAF	**Kangasniemi**	**72.91**	**333**	*ep*	**P**	**08 45 54.3**	**-0.9**
	3.0nm,0.4s,mb4.6						
ARCES	**ARCESS Array B**	**75.41**	**340**	P	**P**	**08 46 09.9**	**+0.4**
	1.0nm,0.5s,mb4.0,baz=93,slow=6.7,SNR=7.5						
GERES	**GERESS Array B**	**77.88**	**318**	P	**P**	**08 46 15.0**	**-8.7**
	2.0nm,0.7s,mb4.2,baz=101,slow=6.8,SNR=7.0						
HFS	**Hagfors**	**78.56**	**330**	P	**P**	**08 46 27.7**	**+0.5**
	4.7nm,0.4s,mb4.7,baz=104,slow=6.1,SNR=15						
NB2	**NORSAR Subarra**	**79.84**	**331**	P	**P**	**08 46 34.0**	**-0.1**
	3.4nm,0.7s,mb4.4,baz=92,slow=5.8						
NOA	**NORSAR Array B**	**79.84**	**331**	P	**P**	**08 46 34.4**	**+0.3**
	4.2nm,0.9s,mb4.4,baz=94,slow=5.2,SNR=6.8						
DAVOX	**Davos**	**80.44**	**316**	P	**P**	**08 46 38.8**	**+1.1**
	3.1nm,0.6s,mb4.5,baz=120,slow=21,SNR=4.7						
LPG	**La Plagne**	**82.66**	**315**	*eP*	**P**	**08 46 51.0**	**+1.7**
	12nm,0.8s,mb4.7						
ILAR	**Eielson Array**	**94.98**	**22**	P	**P**	**08 47 49.0**	**+1.2**
	0.4nm,0.8s,mb3.9,baz=283,slow=4.7,SNR=5.1						

IDC 27 08:34:42.0±1.0, 7.72N×94.98E, mb4.4/7, mb1 4.5/8, mb1mx4.2/18, mbtmp4.4/8, ML4.3/1, Error ellipse: s-maj=37.8km s-min=28.7km az=46.0, - Putative timing error at GERES, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.35**	**19**	Pn	P	08 37 26.8	-1.8
	0.7nm,0.3s,baz=221,slow=14,SNR=7.7						
WRA	**Warramunga Arr**	**47.49**	**126**	P	P	08 43 19.2	-1.9
	2.2nm,0.5s,baz=305,slow=8.6,SNR=5.7						
KMBO	**Kilima Mbogo**	**58.24**	**264**	P	P	08 44 39.4	-1.6
	2.2nm,0.7s,baz=63,slow=11,SNR=6.3						
FINES	**FINESS Array B**	**73.24**	**332**	P	P	08 46 14.8	-1.8
	8.7nm,1.1s,baz=100,slow=8.5,SNR=3.6						
ARCES	**ARCESS Array B**	**75.70**	**340**	P	P	08 46 29.0	-1.7
	2.0nm,0.6s,baz=90,slow=6.1,SNR=7.4						
GERES	**GERESS Array B**	**78.50**	**318**	P	P	08 46 34.7	-12
	1.0nm,0.6s,baz=68,slow=7.2,SNR=4.7						
HFS	**Hagfors**	**79.01**	**330**	P	P	08 46 47.7	-1.5
	4.0nm,0.5s,baz=104,slow=6.1,SNR=9.9						
NOA	**NORSAR Array B**	**80.28**	**331**	P	P	08 46 54.2	-1.8
	2.1nm,0.7s,baz=95,slow=5.0,SNR=3.4						
PDAR	**Pinedale Array**	**125.01**	**22**	PKP	PKPdf	08 53 44.6	-1.9
	0.1nm,0.3s,baz=315,slow=1.3,SNR=6.3						
TXAR	**Lajitas Array**	**139.02**	**25**	PKiKP		08 54 13.2	
	0.8nm,0.9s,baz=120,slow=0.3,SNR=4.0						

*IDC **27** 08:36:47.2±0.6, 7.79N×93.81E, mb4.6/21, mb1 4.7/22, mb1mx4.7/25, mbtmp4.6/22, ML4.4/1, Error ellipse: s-maj=31.3km s-min=13.4km az=51.0, - Putative timing error at GERES, LPAZ*
*MOS **27** 08:36:51.2±1.7, 7.86N×94.19E, h33km, mb5.0/34, Error ellipse: s-maj=12.7km s-min=7.0km az=109.5*
*BJI **27** 08:36:51.4, 7.69N×93.88E, h40km, mB5.6, mb4.8, Ms5.0, Msz4.9*
*HRVD **27** 08:36:52.2±0.6, 7.89N×94.21E, h16km±3km, MW5.2/50, Centroid moment Tensor Solution. LP body waves: s7,c8; Mantle waves: s50,c72; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.50±.39; $M_{\theta\theta}$-2.12±.34; $M_{\phi\phi}$3.62±.35; $M_{r\theta}$-5.14±1.64; $M_{\theta\phi}$4.11±.30; $M_{\phi r}$-3.51±1.36; Best double couple: $M_0$7.934×10^{16} NP1:ϕ_s162°, δ36°, λ-169° NP2:ϕ_s63°, δ83°, λ-55°. Principal axes: T 8.866, Plg29°, Azm125°; N -1.862, Plg35°, Azm238°; P -7.003, Plg41°, Azm6°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 08:36:52.2±0.4, 7.78N×94.05E, h30km, mb4.9/21 Error ellipse: s-maj=12.2km s-min=8.4km az=61.0*

ISC 27 08:36:51.3±0.4, 7.85N±0.06×94.24E±0.05, h33km, (h26km±6.7km:pP-P), n137, σ1s23/128, mb4.9/54, 2C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.06**	**339**	*eP*	Px	08 37 44.8	
PBA				*e*		08 38 01.4	
CM31	**Chiang Mai Arr**	**11.49**	**23**	*eP*	**P**	**08 39 37.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**11.49**	**23**	P	**P**	**08 39 37.0**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.49**	**23**	Pn	**P**	**08 39 37.0**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=212,slow=14,SNR=12						
PALK	**Pallekele**	**13.43**	**268**	*eP*	**P**	**08 39 53.3**	**-8.8**
VIS	**Vishakhapatnam**	**14.46**	**314**	*eP*	**P**	**08 40 13.8**	**-1.9**
VIS				*e*		08 40 19.7	
	comp=Z,143nm,1.7s						
VIS				*e*		08 42 40.0	
BWNR	**Bhubaneshwar**	**14.82**	**327**	*e*	**P**	**08 40 21.8**	**+1.4**
	comp=Z,49nm,0.7s						
KOD	**Kodaikanal**	**16.73**	**279**	*eP*	**P**	**08 40 50.8**	**+6.0**
KOD				*e*		08 40 57.2	
	comp=Z,69nm,1.5s						
SHL	**Shillong**	**17.76**	**353**	*e*	**P**	**08 40 47.1**	**-11**
HYB	**Hyderabad**	**18.00**	**303**	*eP*	**P**	**08 41 03.0**	**+2.3**
HYB				*eS*	**S**	**08 44 19.0**	**+1.4**
HYB	**Hyderabad**	**18.00**	**303**	*i P*	**P**	**08 41 03.0**	**+2.3**
HYB				*eS*	**S**	**08 44 19.0**	**+1.4**
BLSP	**Bilaspur**	**18.37**	**322**	*eP*	**P**	**08 41 01.2**	**-4.2**
BLSP				*e*		08 41 13.4	
	comp=Z,92nm,1.8s						
BLSP				*e*		08 44 00.1	
QIZ	**Qiongzhong**	**18.79**	**52**	P	**P**	**08 41 12.8**	**+2.3**
KMI	**Kunming**	**19.00**	**24**	⇑P	**P**	**08 41 16.3**	**+3.3**
KMI				pmax	pmax		
	comp=Z,41nm,1.3s						
KMI	**Kunming**	**19.00**	**24**	⇑P	**P**	**08 41 16.3**	**+3.3**
	comp=Z,41nm,1.3s						
JIRN	**Jiri**	**21.13**	**340**	*eP*	**P**	**08 41 36.3**	**+0.7**
	comp=Z,125nm,0.8s,mb5.3						
PKI	**Pulchoki**	**21.32**	**338**	*eP*	**P**	**08 41 37.9**	**+0.3**
	comp=Z,101nm,0.6s,mb5.3						
GOA	**Goa**	**21.37**	**293**	*eP*	**P**	**08 41 47.2**	**+9.1**
GOA				*e*		08 41 54.3	
	comp=Z,69nm,0.6s						
GOA				*e*		08 46 21.4	
GUN	**Gumba**	**21.46**	**339**	*eP*	**P**	**08 41 38.8**	**-0.2**
	comp=Z,133nm,0.6s,mb5.3						
DMN	**Daman**	**21.47**	**337**	*eP*	**P**	**08 41 38.9**	**-0.2**
	comp=Z,149nm,0.8s,mb5.4						
KKN	**Kakani**	**21.57**	**338**	*eP*	**P**	**08 41 39.7**	**-0.3**
	comp=Z,303nm,1.3s,mb5.6						
LSA	**Lhasa**	**21.93**	**353**	*eP*	**P**	**08 41 45.7**	**+2.1**
LSA				pmax	pmax		
	comp=Z,122nm,0.7s,mb5.4						
LSA	**Lhasa**	**21.93**	**353**	*eP*	**P**	**08 41 45.7**	**+2.1**
	comp=Z,122nm,0.7s,mb5.4						
GKN	**Gorkha**	**22.00**	**337**	*eP*	**P**	**08 41 44.0**	**-0.4**
	comp=Z,193nm,0.9s,mb5.5						
KOLN	**Koldanda**	**22.22**	**334**	*eP*	**P**	**08 41 46.2**	**-0.4**
	comp=Z,193nm,0.8s,mb5.6						
BHPL	**Bhopal**	**22.24**	**315**	*eP*	**P**	**08 41 47.1**	**+0.3**
BHPL				*e*		08 41 51.5	
	comp=Z,73nm,1.1s						
NDI	**New Delhi**	**26.21**	**324**	*eP*	**P**	**08 42 27.8**	**+2.7**
NDI				*e*		08 42 31.6	
	comp=Z,81nm,1.0s						
ENH	**Enshi**	**26.49**	**31**	*eP*	**P**	**08 42 26.7**	**-0.9**
	comp=Z,35nm,1.0s,mb4.8						
SMLA	**Simla**	**28.12**	**328**	*e*	**P**	**08 43 00.9**	**+18**
SMLA				*e*	pP	08 43 11.5	+20
	comp=Z,42nm,1.4s						
XAN	**Xi'an**	**29.37**	**25**	P	**P**	**08 42 58.5**	**+4.9**
XAN				AP	pP	08 43 06.0	+2.8
XAN				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.8						
LZH	**Lanzhou**	**29.45**	**16**	*eP*	**P**	**08 42 59.5**	**+5.3**
LZH				AP	pP	08 43 08.5	+4.7
LZH				XP	sP	08 43 13.0	+4.8
LZH				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.5						
LZH	**Lanzhou**	**29.45**	**16**	*eP*	**P**	**08 42 59.6**	**+5.4**
LZH				pP	pP	08 43 08.5	+4.7
LZH				sP	sP	08 43 12.9	+4.7
NJ2	**Nanjing**	**33.23**	**40**	*eP*	**P**	**08 43 29.3**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.6						
WMQ	**Urumqi**	**36.29**	**352**	*eP*	**P**	**08 43 53.0**	**-0.6**
BJI	**Beijing**	**37.58**	**28**	*eP*	**P**	**08 44 06.4**	**+1.9**
BJI				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.5						
BJI	**Beijing**	**37.58**	**28**	*eP*	**P**	**08 44 06.4**	**+1.9**
	comp=Z,14nm,1.3s,mb4.5						
AAK	**Ala-Archa**	**38.77**	**337**	*eP*	**P**	**08 44 13.2**	**-1.1**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**38.77**	**337**	*eP*	**P**	**08 44 13.2**	**-1.1**
	comp=Z,10nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**40.13**	**347**	*i P*	**P**	**08 44 24.2**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,24nm,1.0s						
SONM	**Songino Array**	**41.17**	**12**	P	**P**	**08 44 33.4**	**-0.8**
	comp=Z,2.7nm,0.9s,mb3.9,baz=198,slow=7.8,SNR=5.8						
ULN	**Ulaanbaatar**	**41.34**	**13**	P	**P**	**08 44 35.8**	**+0.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
ULN	**Ulaanbaatar**	**41.34**	**13**	P	**P**	**08 44 35.8**	**+0.1**
	comp=Z,3.9nm,0.7s,mb4.2						
ZAK	**Zakamensk**	**43.06**	**8**	*eP*	**P**	**08 44 42.4**	**-7.3**
KURK	**Kurchatov**	**44.66**	**346**	*eP*	**P**	**08 45 01.7**	**-0.9**
KURK				pmax	pmax		
	comp=Z,73nm,1.4s,mb5.3						
KURK	**Kurchatov**	**44.66**	**346**	*eP*	**P**	**08 45 01.7**	**-0.9**
	comp=Z,73nm,1.4s,mb5.3						
NWAO	**Narrogin (SRO)**	**46.08**	**153**	*eP*	**P**	**08 45 16.2**	**+2.0**
	comp=Z,115nm,0.8s,mb5.9						
NWAO	**Narrogin (SRO)**	**46.08**	**153**	P	**P**	**08 45 15.4**	**+1.2**
NWAO				pmax	pmax		
	comp=Z,18nm,0.7s						
NWAO	**Narrogin (SRO)**	**46.08**	**153**	P	**P**	**08 45 15.4**	**+1.2**
	comp=Z,18nm,0.7s,mb5.1,baz=300,slow=9.1,SNR=4.2						
ZAL	**Zalesovo**	**46.59**	**352**	P	**P**	**08 45 16.8**	**-1.0**
ZAL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ZAL	**Zalesovo**	**46.59**	**352**	P	**P**	**08 45 16.8**	**-1.0**
	comp=Z,7.2nm,0.6s,mb4.8,baz=299,slow=8.1,SNR=9.4						
ZAL	**Zalesovo**	**46.59**	**352**	P	**P**	**08 45 16.8**	**-1.0**
NVS	**Novosibirsk**	**47.68**	**351**	*eP*	**P**	**08 45 24.2**	**-2.3**
NVS				pmax	pmax		
	comp=N,15nm,0.6s						
NVS				pmax	pmax		
	comp=E,8.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.3						
WRA	**Warramunga Arr**	**48.17**	**126**	P	**P**	**08 45 30.5**	**-0.2**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WRA	**Warramunga Arr**	**48.17**	**126**	P	**P**	**08 45 30.5**	**-0.2**
	comp=Z,4.6nm,0.7s,mb4.6,baz=306,slow=8.9,SNR=7.8						
WRAB	**Tennant Creek**	**48.17**	**126**	*eP*	**P**	**08 45 30.7**	**0.0**
WRAB				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.1						
WRAB	**Tennant Creek**	**48.17**	**126**	*eP*	**P**	**08 45 30.7**	**0.0**
	comp=Z,22nm,1.1s,mb5.1						
BVA0	**Borovoye Array**	**49.04**	**341**	*i P*	**P**	**08 45 34.5**	**-2.5**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.1						
BVAR	**Borovoye Array**	**49.04**	**341**	P	**P**	**08 45 35.9**	**-1.1**
	comp=Z,3.8nm,0.8s,mb4.5,baz=149,slow=8.6,SNR=6.4						
RAYN	**Ar Rayn**	**49.18**	**294**	P	**P**	**08 45 39.3**	**+0.8**
	comp=Z,80nm,0.8s,mb5.8,SNR=9.1						
CHKZ	**Chkalovo**	**49.53**	**342**	P	**P**	**08 45 39.3**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
CHKZ	**Chkalovo**	**49.53**	**342**	*eP*	**P**	**08 45 38.7**	**-2.0**
	comp=Z,19nm,0.8s,mb5.2						
ASAR	**Alice Springs**	**49.83**	**130**	P	**P**	**08 45 43.5**	**+0.1**
	comp=Z,4.2nm,0.9s,mb4.5,baz=310,slow=6.8,SNR=6.7						
ASAR				PcP	PcP	08 47 05.0	+0.9
	comp=Z,2.4nm,0.8s,baz=316,slow=3.2,SNR=6.3						
BOD	**Bodaibo**	**52.15**	**13**	*eP*	**P**	**08 45 58.7**	**-1.8**
PMG	**Port Moresby**	**55.43**	**107**	*eP*	**P**	**08 46 24.2**	**-1.1**
PMG				pmax	pmax		
	comp=Z,17nm,0.9s						
PMG	**Port Moresby**	**55.43**	**107**	P	**P**	**08 46 27.6**	**+2.2**
	comp=Z,12nm,0.7s,mb5.0,baz=217,slow=10.0,SNR=3.9						
PMG	**Port Moresby**	**55.43**	**107**	*eP*	**P**	**08 46 24.2**	**-1.2**
	comp=Z,17nm,0.9s,mb5.1						
KIV	**Kislovodsk**	**57.40**	**318**	*eP*	**P**	**08 46 33.4**	**-5.6**
KIV				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
KIV				pmax	pmax		
	comp=E,9.0nm,0.7s						
KMBO	**Kilima Mbogo**	**57.52**	**264**	P	**P**	**08 46 42.1**	**+1.9**
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KMBO	**Kilima Mbogo**	**57.52**	**

GRA1	Grafenberg Arr	79.55	319	eP	P	08 48 56.9	+0.4
	comp=Z,21nm,1.4s,mb4.9						
GRF	Grafenberg Arr	79.55	319	eP	P	08 48 56.9	+0.4
GRF				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
GRF	Grafenberg Arr	79.55	319	eP	P	08 48 56.9	+0.4
GRF				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
GRF	Grafenberg Arr	79.55	319	eP	P	08 48 56.9	+0.4
	comp=Z,21nm,1.4s,mb4.9						
NB2	NORSAR Subarra	79.80	331	P	P	08 48 56.4	-1.2
	comp=Z,3.9nm,0.7s,mb4.5,baz=91,slow=5.8						
NB2	NORSAR Subarra	79.80	331	P	P	08 48 56.4	-1.2
NB2				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
NOA	NORSAR Array B	79.80	331	P	P	08 48 56.7	-0.9
NOA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NOA	NORSAR Array B	79.80	331	P	P	08 48 56.7	-0.9
	comp=Z,6.8nm,1.0s,mb4.5,baz=93,slow=5.6,SNR=7.4						
NOA	NORSAR Array B	79.80	331	P	P	08 48 56.7	-0.9
DAVOX	Davos	80.47	316	P	P	08 49 00.9	-0.6
	comp=Z,4.9nm,0.8s,mb4.5,baz=101,slow=10,SNR=3.7						
LPG	La Plagne	82.70	315	eP	P	08 49 13.3	+0.2
	comp=Z,35nm,1.1s,mb5.0						
LPG	La Plagne	82.70	315	eP	P	08 49 13.3	+0.2
LPG				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
TNA	Tin City	86.15	24	eP	P	08 49 30.9	+0.9
EKA	Eskdalemuir Ar	87.80	325	P	P	08 49 39.8	+1.6
EKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
EKA	Eskdalemuir Ar	87.80	325	P	P	08 49 39.8	+1.6
	comp=Z,2.8nm,0.7s,mb4.6,baz=97,slow=5.7,SNR=4.8						
IMA	Indian Mountai	91.61	22	eP	P	08 49 57.6	+1.7
ILAR	Eielson Array	94.73	22	P	P	08 50 10.7	+0.5
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	Eielson Array	94.73	22	P	P	08 50 10.7	+0.5
	comp=Z,0.9nm,0.9s,mb4.2,baz=294,slow=5.6,SNR=7.1						
INK	Inuvik	96.99	16	P	P	08 50 20.8	+0.4
INK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
INK	Inuvik	96.99	16	P	P	08 50 20.8	+0.4
	comp=Z,2.5nm,1.0s,mb4.6,baz=289,slow=6.2,SNR=5.3						
YKA	Yellowknife Ar	106.43	14	PP	PP	08 55 27.2	-3.3
	comp=Z,0.2nm,0.7s,baz=334,slow=7.7,SNR=4.4						
YKA				PKKPbc		09 06 33.6	
	comp=Z,0.2nm,0.7s,baz=161,slow=2.5,SNR=4.6						
YMR	Madison River	123.00	21	ePKPdf	PKPdf	08 55 46.4	+1.7
SNOW	Snow King Moun	124.12	22	ePKPdf	PKPdf	08 55 49.7	+2.9
NVAR	Mina Array Bea	124.89	31	PKP	PKPdf	08 55 51.7	+3.2
	comp=Z,2.2nm,0.8s,baz=260,slow=4.5,SNR=9.6						
NVAR	Mina Array Bea	124.89	31	PKP	PKPdf	08 55 51.7	+3.2
PDAR	Pinedale Array	125.16	21	PKP	PKPdf	08 55 50.9	+2.0
	comp=Z,2.3nm,0.9s,baz=12,slow=1.4,SNR=11						
PDAR				PKKPbc		09 05 29.8	
	comp=Z,0.8nm,0.9s,baz=117,slow=3.3,SNR=3.8						
MSU	Marysvale	127.73	26	ePKIKP	PKPdf	08 55 57.4	+3.4
TXAR	Lajitas Array	139.21	24	PKP	PKPdf	08 56 16.5	+0.8
	comp=Z,0.4nm,0.6s,baz=319,slow=1.3,SNR=4.4						
PLCA	Paso Flores	144.56	200	PKIKP	PKPdf	08 56 26.5	+1.8
PLCA				pmax	pmax		
	comp=Z,11nm,1.0s						
PLCA	Paso Flores	144.56	200	PKP	PKPdf	08 56 26.4	+1.7
	comp=Z,11nm,1.0s,baz=213,slow=2.5,SNR=15						

*IDC **27** 08:38:40.0±1.0, 7.66N×93.76E, mb4.1/9, mb1 4.3/10, mb1mx4.2/18, mbtmp4.1/10, Error ellipse: s-maj=43.7km s-min=19.8km az=56.0, - Putative timing error at GERES*

ISC 27 08:38:43.1±0.9, 7.8N±0.1×93.9E±0.2, h33km, n16, σ0§81/11, mb4.2/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.68	24	Pn	P	08 41 29.8	-0.6
	baz=214,slow=14,SNR=3.4						
SONM	Songino Array	41.30	13	P	P	08 46 29.8	+2.8
	2.5nm,0.8s,mb3.9,baz=207,slow=3.7,SNR=5.4						
ZAL	Zalesovo	46.62	353	P	P	08 47 09.9	+0.1
	5.0nm,0.9s,mb4.4,baz=302,slow=10,SNR=4.7						
WRA	Warramunga Arr	48.36	125	P	P	08 47 23.3	-0.7
	1.4nm,0.7s,mb4.1,baz=303,slow=8.9,SNR=2.9						
BVAR	Borovoye Array	49.02	341	P	P	08 47 28.0	-0.6
	1.6nm,0.7s,mb4.2,baz=135,slow=8.2,SNR=3.6						
ASAR	Alice Springs	50.00	130	P	P	08 47 37.2	+0.6
	1.5nm,0.8s,mb4.1,baz=304,slow=6.5,SNR=2.8						
BRTR	Keskin Array B	62.34	311	P	P	08 49 04.8	0.0
	1.9nm,0.9s,mb4.2,baz=112,slow=6.7,SNR=3.8						
FINES	FINESS Array B	72.70	332	P	P	08 50 09.2	-0.1
	4.0nm,0.9s,mb4.3,baz=90,slow=5.7,SNR=4.6						
GERES	GERESS Array B	77.77	318	P	P	08 50 29.5	-9.1
	1.3nm,0.7s,mb4.0,baz=104,slow=5.5,SNR=3.8						
NB2	NORSAR Subarra	79.72	331	P	P	08 50 48.9	-0.1
	7.2nm,1.1s,mb4.5,baz=90,slow=5.3						
NOA	NORSAR Array B	79.72	331	P	P	08 50 48.9	-0.1
	2.2nm,0.7s,mb4.2,baz=93,slow=5.4,SNR=4.0						
NVAR	Mina Array Bea	125.10	31	PKP	PKPdf	08 57 44.3	+3.6
	1.3nm,0.8s,baz=3.6,slow=0.2,SNR=4.8						
NVAR	Mina Array Bea	125.10	31	PKP	PKPdf	08 57 44.3	+3.6
PDAR	Pinedale Array	125.33	21	PKP	PKPdf	08 57 45.6	+4.6
	0.6nm,0.9s,slow=1.5,SNR=3.7						
PDAR	Pinedale Array	125.33	21	PKP	PKPdf	08 57 45.6	+4.6
PLCA	Paso Flores	144.39	200	PKP	PKPdf	08 58 18.6	+2.4
	4.5nm,0.9s,baz=189,slow=1.9,SNR=6.1						

*IDC **27** 08:42:11.5±0.5, 7.69N×94.02E, mb4.8/25, mb1 4.9/26, mb1mx4.8/28, mbtmp4.8/26, ML4.8/1, MS5.1/2, Ms1 5.2/2, ms1mx4.2/15, Error ellipse: s-maj=26.5km s-min=12.0km az=48.0, - Putative timing error at GERES, LPAZ*

*MOS **27** 08:42:15.4±1.0, 7.89N×94.19E, h33km, mb5.4/64, MS5.1/10, Error ellipse: s-maj=9.4km s-min=5.2km az=117.1*

*HRVD **27** 08:42:16.5±0.3, 7.83N×94.22E, h15km±1km, MW5.4/62, Centroid moment Tensor Solution. LP body waves: s25,c27;Mantle waves: s62,c110; Half duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.29±.05; $M_{\theta\theta}$-1.14±.04; $M_{\phi\phi}$1.43±.05; $M_{r\theta}$-0.70±.15; $M_{\theta\phi}$0.56±.04; $M_{\phi r}$-0.88±.18; Best double couple: $M_0$1.77×10^{17} NP1: ϕ_s145°, δ51°, λ-176°. NP2:ϕ_s53°, δ87°, λ-39°. Principal axes: T2, Plg24°, Azm106°; N-.464, Plg51°, Azm229°; P -1.539, Plg29°, Azm1°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **27** 08:42:16.5±0.2, 7.95N×94.27E, h30km, mb5.2/68 Error ellipse: s-maj=5.9km s-min=4.7km az=51.0*

*BJI **27** 08:42:17.5, 7.71N×93.92E, h52km, mB5.6, mb4.8, Ms5.6, Msz5.4*

ISC 27 08:42:13.3±0.2, 7.87N±0.03×94.25E±0.03, h20km, h20km±1.5km:pP-P, n286, σ1§10/285, mb5.1/104, MS5.2/15, 12C-17D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	4.04	339	eP	Pn	08 43 19.3	+3.6
PBA				eS	Sn	08 44 05.8	+2.8
CM31	Chiang Mai Arr	11.47	23	P	P	08 44 55.2	-4.1
	26nm,0.7s						
CMAR	Chiang Mai Arr	11.47	23	P	P	08 45 02.0	+2.7
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,10μm,18.2s						
CMAR	Chiang Mai Arr	11.47	23	Pn	P	08 45 02.0	+2.7
	comp=Z,1.9nm,0.3s,baz=211,slow=14,SNR=16						
CMAR				LR	LR	08 49 37.5	
	comp=Z,10μm,18.2s,baz=200,slow=38						
PALK	Pallekele	13.44	268	eP	P	08 45 27.1	+1.5
	comp=Z,54nm,0.9s						
VIS	Vishakhapatnam	14.46	314	eP	P	08 45 37.1	-1.9
VIS				e		08 48 03.9	
BWNR	Bhubaneshwar	14.81	327	eP	P	08 45 42.6	-1.1
BWNR				e		08 48 14.4	
KOD	Kodaikanal	16.74	279	e	P	08 46 11.8	+3.3
KOD				e		08 46 14.2	
	comp=Z,163nm,1.2s						
KOD				e		08 48 59.9	
KOD				eS	S	08 49 02.0	-11
TRD	Trivandrum	17.13	273	e	P	08 46 11.8	-1.6
	comp=Z,65nm,1.5s						
TRD	Trivandrum	17.13	273	eP	P	08 46 06.2	-7.2
SHL	Shillong	17.74	353	i	P	08 46 25.4	+4.4
	comp=Z,2μm,1.1s						
HYB	Hyderabad	18.00	303	eP	P	08 46 23.0	-1.3
HYB				eS	S	08 49 44.0	+2.2
HYB	Hyderabad	18.00	303	i P	P	08 46 23.0	-1.3
HYB				eS	S	08 49 44.0	+2.2
BLSP	Bilaspur	18.36	322	eP	P	08 46 28.2	-0.6
BLSP				e		08 46 30.3	
	comp=Z,147nm,1.4s						
BLSP				e		08 50 01.9	
QIZ	Qiongzhong	18.77	52	P	P	08 46 38.0	+4.2
QIZ				eS	S	08 49 59.0	-0.1
QIZ				LR	LR		
	comp=N,25μm,12.5s						
QIZ	Qiongzhong	18.77	52	P	P	08 46 31.5	-2.3
	comp=N,201nm,1.5s						
KMI	Kunming	18.98	24	P	P	08 46 41.1	+4.9
KMI				S	S	08 50 06.4	+2.7
KMI	Kunming	18.98	24	P	P	08 46 41.1	+4.9
KMI				pP		08 46 47.5	
KMI				sP		08 46 52.6	
KMI				PP	PP	08 46 56.7	+4.0
KMI				S	S	08 50 06.4	+2.7
KMI				sS		08 50 19.4	
COCO	West Island	20.09	173	eP	P	08 46 48.4	-0.5
	comp=N,400nm,1.2s						
COCO				e		08 46 59.9	
COCO				e		08 47 10.5	
MNCY	Minicoy	21.01	273	i	P	08 47 06.0	+7.7
JIRN	Jiri	21.11	340	eP	P	08 47 00.0	+0.8
	comp=N,220nm,0.9s,mb5.5						
PKI	Pulchoki	21.31	338	eP	P	08 47 01.6	+0.4
	comp=N,789nm,1.4s,mb5.8						
GOA	Goa	21.37	293	e	P	08 47 09.8	+7.9
GOA				i		08 47 12.1	
	comp=Z,168nm,1.0s						
GUN	Gumba	21.45	339	eP	P	08 47 01.8	-0.8
	comp=Z,631nm,1.1s,mb5.8						
DMN	Daman	21.46	337	eP	P	08 47 03.1	+0.4
	comp=Z,243nm,0.9s,mb5.5						
KKN	Kakani	21.55	338	eP	P	08 47 04.0	+0.3
	comp=Z,448nm,1.2s,mb5.8						
LSA	Lhasa	21.91	353	eP	P	08 47 07.8	+0.5
LSA				pmax	pmax		
	comp=Z,93nm,0.8s,mb5.3						
LSA	Lhasa	21.91	353	eP	P	08 47 07.8	+0.6
	comp=Z,93nm,0.8s,mb5.3						
GKN	Gorkha	21.99	337	eP	P	08 47 07.6	-0.5
	comp=Z,363nm,1.1s,mb5.7						
KOLN	Koldanda	22.21	334	eP	P	08 47 10.6	+0.3
	comp=Z,447nm,1.3s,mb5.7						
BHPL	Bhopal	22.24	315	eP	P	08 47 11.6	+1.1
BHPL				e		08 47 17.2	
	comp=Z,304nm,1.3s						
BHPL				e		08 47 17.2	
	comp=Z,304nm,1.3s						
BOM	Bombay	23.53	300	eP	P	08 47 25.3	+2.0
BOM				e		08 47 32.4	
	comp=Z,174nm,1.6s						
AGRA	Agra	24.69	323	eP	P	08 47 32.2	-2.4
SONA	Sohna	25.96	323	eP	P	08 47 47.6	+1.1
SONA				e		08 47 48.7	
	comp=Z,68nm,0.7s						
AYAN	Aya Nagar	26.10	324	eP	P	08 47 45.2	-2.6
NDI	New Delhi	26.20	324	eP	P	08 47 49.1	+0.4
NDI				e	pP	08 47 56.9	+2.2
	comp=Z,179nm,1.4s						
KUDL	Kundal	26.23	322	eP	P	08 47 48.7	-0.3
KUDL				e		08 47 57.7	
	comp=Z,63nm,0.7s						
ENH	Enshi	26.47	31	eP	P	08 47 51.1	-0.1
	comp=Z,71nm,1.1s,mb5.1						
DGAR	Diego Garcia	26.51	236	P	P	08 47 52.5	+0.8
DGAR				pmax	pmax		
	comp=Z,150nm,1.0s,mb5.5						
DGAR	Diego Garcia	26.51	236	P	P	08 47 52.5	+0.8
	comp=Z,150nm,1.0s,mb5.5						
KHET	Khetri	26.60	321	eP	P	08 47 52.2	-0.2
SMLA	Simla	28.11	328	i P	P	08 48 08.2	+2.2
SMLA				e		08 48 19.7	
XAN	Xi'an	29.35	25	P	P	08 48 19.3	+2.0
XAN				AMB	AMB		
	comp=Z,12nm,1.9s,mb4.3						
WHN	Wuhan	29.37	37	P	P	08 48 22.3	+4.8
LZH	Lanzhou	29.42	16	eP	P	08 48 21.0	+3.1
LZH				AP	pP	08 48 30.3	+6.4
LZH				PP	PP	08 49 17.0	+3.4
LZH				eS	S	08 53 08.0	-1.4
LZH				eSS	SS	08 54 45.0	+3.0
LZH				AMB	AMB		
	comp=Z,80nm,1.8s,mb5.2						
LZH				AMB	AMB		
	comp=Z,390nm,6.0s						
LZH				LR	LR		
	comp=E,5μm,12.6s						
LZH				LR	LR		
	comp=Z,6μm,13.2s,MS5.4						
LZH	Lanzhou	29.42	16	eP	P	08 48 20.9	+3.0
LZH				*PP	pP	08 48 30.2	+6.3
LZH				*SP	sP	08 48 34.0	+7.5
LZH						08 49 17.0	
LZH				eS	S	08 53 07.9	-1.5
LZH				*SS		08 53 25.0	
LZH				eSS	SS	08 54 45.0	+3.0
LZH				pmax	pmax		
	comp=Z,80nm,1.8s,mb5.2						
LZH				MLR	MLR		
	comp=Z,6μm,13.2s,MS5.4						
LZH	Lanzhou	29.42	16	eP	P	08 48 20.9	+3.0
	comp=Z,80nm,1.8s,mb5.2						
LZH				pP	pP	08 48 30.2	+6.3
LZH				sP	sP	08 48 34.0	+7.5
LZH				PP	PP	08 49 17.0	+3.4
LZH				eS	S	08 53 07.9	-1.5
LZH				sS		08 53 25.0	
LZH				eSS	SS	08 54 45.0	+3.0
LZH				LR	LR		
	comp=Z,6μm,13.2s,MS5.4						
NJ2	Nanjing	33.20	40	eP	P	08 48 52.3	+1.1
NJ2				PP	PP	08 50 03.3	+0.7
NJ2				S	S	08 54 09.0	+0.2
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,5μm,6.3s						
NJ2				LR	LR		
	comp=N,4μm,13.6s,MS5.5						
NJ2				LR	LR		
	comp=E,6μm,13.2s,MS5.5						
NJ2				LR	LR		
	comp=Z,4μm,10.2s,MS5.4						
SSE	Sheshan	34.15	44	P	P	08 48 59.8	+0.4
SSE				S	S	08 54 22.5	-1.0
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,545nm,12.0s						
SSE				LR	LR		
	comp=N,3μm,16.3s,MS5.2						
SSE				LR	LR		
	comp=E,2μm,16.3s,MS5.2						
SSE				LR	LR		
	comp=Z,1μm,17.4s,MS4.8						
SSE	Sheshan	34.15	44	P	P	08 48 59.8	+0.4
	comp=Z,37nm,0.7s,mb5.4						
SSE				S	S	08 54 22.4	-1.1
SSE				sS		08 54 39.5	
SSE				SS	SS	08 56 51.9	+20
SSE				LR	LR		
	comp=Z,1μm,17.4s,MS4.8						
WMQ	Urumqi	36.27	352	P	P	08 49 17.8	+0.5
WMQ				AP	pP	08 49 27.5	+4.2
WMQ				PP	PP	08 50 40.8	+0.3
WMQ				PCP	PcP	08 51 43.0	+0.5
WMQ				S	S	08 54 55.0	-1.0
WMQ				AMB	AMB		
	comp=Z,1μm,5.3s						
WMQ				LR	LR		
	comp=N,4μm,18.0s,MS5.3						
WMQ				LR	LR		
	comp=E,3μm,18.1s,MS5.3						
WMQ				LR	LR		
	comp=Z,5μm,18.2s,MS5.4						
BJT	Baijiatuau	37.54	28	eP	P	08 49 25.7	-2.3
BJT				pmax	pmax		
	comp=Z,20nm,1.0s						
BJT	Baijiatuau	37.54	28	eP	P	08 49 25.7	-2.2
	comp=Z,20nm,1.0s,mb4.8						
BJI	Beijing	37.56	28	P	P	08 49 32.4	+4.2
BJI				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.5						
BJI				MLR	MLR		
	comp=Z,2μm,22.1s,MS5.0						
BJI	Beijing	37.56	28	P	P	08 49 32.4	+4.2
	comp=Z,15nm,1.5s,mb4.5						
BJI				LR	LR		
	comp=Z,2μm,22.1s,MS5.0						
MBWA	Marble Bar	38.19	139	eP	P	08 49 34.7	+1.1
	comp=Z,30nm,1.3s,mb4.9						
UCH	Uchtor	38.40	336	P	P	08 49 36.4	+1.2
	SNR=8.9						
TKM2	Tokmak 2	38.57	338	P	P	08 49 37.3	+0.6
	SNR=6.0						
KBK	Karagaybulak	38.59	337	P	P	08 49 38.1	+1.3
	SNR=7.1						
AML	Almayashu	38.65	335	P	P	08 49 38.8	+1.4
	SNR=13						
AAK	Ala-Archa	38.75	337	P	P	08 49 39.9	+1.7
	SNR=8.4						
AAK	Ala-Archa	38.75	337	eP	P	08 49 38.3	+0.1
AAK				pmax	pmax		
	comp=Z,68nm,1.4s,mb5.2						
AAK	Ala-Archa	38.75	337	eP	P	08 49 38.3	+0.2
	comp=Z,68nm,1.4s,mb5.2						
FRU	Bishkek	38.87	337	eP	P	08 49 39.0	-0.2
FRU				e		08 51 54.0	
FRU				pmax	pmax		
	comp=Z,40nm,1.8s,mb4.8						
CHMS	Chumysh	38.96	337	P	P	08 49 40.1	+0.2
	SNR=7.2						
EKS2	Erkin-Say	39.06	336	P	P	08 49 42.0	+1.3
	SNR=12						
USP	Ospenovka	39.28	337	P	P	08 49 43.2	+0.6
	SNR=12						
SONM	Songino Array	41.14	12	P	P	08 49 59.1	+1.3
	comp=Z,7.8nm,0.8s,mb4.4,baz=192,slow=7.4,SNR=13						
SONM				PcP	PcP	08 51 57.8	+0.1
	comp=Z,1.9nm,0.7s,baz=196,slow=6.1,SNR=3.1						
ULN	Ulaanbaatar	41.32	13	eP	P	08 49 57.6	-1.7
ULN				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.4						
ULN	Ulaanbaatar	41.32	13	eP	P	08 49 57.6	-1.7
	comp=Z,11nm,1.0s,mb4.4						
SNY	Shenyang	42.62	33	⇓P	P	08 50 14.3	+4.3
SNY				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.7						
ZAK	Zakamensk	43.04	8	eP	P	08 50 14.4	+1.0
ZAK				e		08 52 03.9	
TLY	Talaya	44.36	8	eP	P	08 50 23.7	-0.3
TLY				eS	S	08 56 52.8	-3.9
TLY				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
TLY				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.0						
TLY	Talaya	44.36	8	eP	P	08 50 24.6	+0.6
	comp=Z,20nm,1.5s,mb4.6						
KURK	Kurchatov	44.64	346	eP	P	08 50 26.5	+0.2
KURK				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.5						
KURK	Kurchatov	44.64	346	eP	P	08 50 26.5	+0.1
	comp=Z,90nm,1.2s,mb5.5						
MUN	Mundaring	44.83	153	eP	P	08 50 29.2	+1.0
	comp=Z,32nm,0.9s,mb5.2						
MUN	Mundaring	44.83	153	eP	P	08 50 29.2	+1.0
MUN				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.2						
KLBR	Kellerberrin	45.22	151	eP	P	08 50 31.6	+0.4
	comp=Z,347nm,1.0s,mb6.1						
NWAO	Narrogin (SRO)	46.09	153	eP	P	08 50 37.5	-0.6
NWAO				pmax	pmax		
	comp=Z,57nm,1.0s						
NWAO	Narrogin (SRO)	46.09	153	P	P	08 50 37.9	-0.3
	comp=Z,28nm,1.0s,mb5.2,baz=312,slow=9.4,SNR=8.2						
NWAO				LR	LR	09 08 21.2	
	comp=Z,11nm,18.5s,baz=279,slow=34						
NWAO	Narrogin (SRO)	46.09	153	eP	P	08 50 37.5	-0.7
	comp=Z,57nm,1.0s,mb5.5						
HIA	Hailar	46.48	23	eP	P	08 50 40.1	-0.9
HIA				pmax	pmax		
	comp=Z,40nm,1.3s						
HIA	Hailar	46.48	23	eP	P	08 50 40.1	-0.9
	comp=Z,40nm,1.3s,mb5.2						
ZAL	Zalesovo	46.56	352	P	P	08 50 42.5	+1.0
ZAL				pmax	pmax		
	comp=Z,20nm,1.0s						
ZAL	Zalesovo	46.56	352	P	P	08 50 42.5	+1.0
	comp=Z,20nm,1.0s,mb5.0,baz=297,slow=7.0,SNR=23						
NVS	Novosibirsk	47.66	351	eP	P	08 50 49.5	-0.7
NVS				eS	S	08 57 41.8	-2.1
NVS				pmax	pmax		
	comp=N,70nm,1.0s						
NVS				pmax	pmax		
	comp=E,39nm,1.0s						
NVS				pmax	pmax		
	comp=Z,79nm,1.0s,mb5.7						
NVS				smax			
	comp=N,34nm,1.5s						
NVS				smax			
	comp=E,57nm,1.5s						
MDJ	Mudanjiang	47.75	34	P	P	08 50 50.5	-0.6
MDJ				AP	pP	08 51 04.5	+7.3
MDJ				XP	sP	08 51 10.3	+11
MDJ				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.8						
MDJ	Mudanjiang	47.75	34	eP	P	08 50 48.8	-2.3
	comp=Z,34nm,1.4s,mb5.2						
WRA	Warramunga Arr	48.17	126	P	P	08 50 54.3	-0.3
WRA				pmax	pmax		
	comp=Z,18nm,1.2s						
WRA	Warramunga Arr	48.17	126	P	P	08 50 54.3	-0.3
	comp=Z,18nm,1.2s,mb5.0,baz=303,slow=8.3,SNR=14						
WRAB	Tennant Creek	48.18	126	eP	P	08 50 53.2	-1.5
WRAB				pmax	pmax		
	comp=Z,116nm,1.7s,mb5.6						
WRAB	Tennant Creek	48.18	126	eP	P	08 50 53.1	-1.5
	comp=Z,116nm,1.7s,mb5.6						
WB2	Warramunga Arr	48.18	126	eP	P	08 50 55.9	+1.2
BVAR	Borovoye Array	49.03	341	P	P	08 51 00.2	-0.6
	comp=Z,12nm,1.1s,mb4.8,baz=149,slow=8.6,SNR=12						
MAJO	Matsushiro	49.08	48	P	P	08 50 58.0	-3.5
BRVK	Borovoye	49.09	341	eP	P	08 51 00.1	-1.2
BRVK				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
BRVK	Borovoye	49.09	341	eP	P	08 51 00.1	-1.2
	comp=Z,17nm,1.0s,mb5.0						
RAYN	Ar Rayn	49.19	294	P	P	08 51 03.2	+0.8
	comp=Z,296nm,1.0s,SNR=23						
CHKZ	Chkalovo	49.51	342	eP	P	08 51 04.4	-0.1
CHKZ				pmax	pmax		
	comp=Z,65nm,1.1s,mb5.6						
CHKZ	Chkalovo	49.51	342	eP	P	08 51 04.4	-0.1
	comp=Z,65nm,1.1s,mb5.6						
ASPA	Alice Springs	49.83	130	eP	P	08 51 07.4	0.0
ASAR	Alice Springs	49.83	130	P	P	08 51 06.5	-0.8
	comp=Z,14nm,1.2s,mb4.9,baz=303,slow=7.5,SNR=9.8						
GUMO	Guam	49.99	79	eP	P	08 51 07.6	-1.1
GUMO				pmax	pmax		
	comp=Z,484nm,1.4s						
GUMO	Guam	49.99	79	eP	P	08 51 07.6	-1.1
	comp=Z,484nm,1.4s						
KL

ASAJ	Asahikawa	55.35	41	LR	LR	09 15 00.2
	comp=Z,1μm,18.1s,MS5.1,baz=224,slow=35					
PMG	Port Moresby	55.43	107	P	P	08 51 50.4 +1.1
PMG				pmax	pmax	
	comp=Z,16nm,0.7s					
PMG	Port Moresby	55.43	107	P	P	08 51 50.4 +1.1
	comp=Z,16nm,0.7s,mb5.1,baz=310,slow=7.9,SNR=3.8					
PMG	Port Moresby	55.43	107	eP	P	08 51 50.4 +1.2
	comp=Z,22nm,0.8s,mb5.2					
ARU	Arti	55.94	337	⇑iP	P	08 51 45.2 -7.1
ARU				eS	S	08 59 26.4 -11
ARU				pmax	pmax	
	comp=Z,44nm,1.4s,mb5.3					
ARU				MLR	MLR	
	comp=Z,2μm,21.0s,MS5.2					
ARU				MLR	MLR	
	comp=N,1μm,19.0s,MS5.0					
ARU				MLR	MLR	
	comp=E,500nm,19.0s,MS5.0					
YSS	Yuzh-Sakhalins	56.72	38	iP	P	08 51 58.5 +0.4
YSS				pmax	pmax	
	comp=Z,39nm,1.7s,mb5.2					
YSS	Yuzh-Sakhalins	56.72	38	P	P	08 51 57.4 -0.7
KIV	Kislovodsk	57.39	318	diP	P	08 52 01.9 -1.0
KIV				pmax	pmax	
	comp=Z,45nm,1.3s,mb5.3					
KIV	Kislovodsk	57.39	318	eP	P	08 52 01.6 -1.3
	comp=Z,78nm,1.2s,mb5.6					
KMBO	Kilima Mbogo	57.53	264	iP	P	08 52 06.3 +2.0
KMBO				pmax	pmax	
	comp=Z,12nm,0.9s					
KMBO	Kilima Mbogo	57.53	264	P	P	08 52 05.2 +0.9
	comp=Z,12nm,0.9s,mb4.9,baz=51,slow=9.4,SNR=19					
KMBO	Kilima Mbogo	57.53	264	eP	P	08 52 05.4 +1.1
	comp=Z,45nm,1.4s,mb5.3					
CTAO	Charters Tower	58.21	119	eP	P	08 52 09.3 +0.4
CTAO				pmax	pmax	
	comp=Z,32nm,1.5s,mb5.1					
CTAO	Charters Tower	58.21	119	eP	P	08 52 09.2 +0.3
	comp=Z,32nm,1.5s,mb5.1					
ASF	Jabal al Asfar	58.31	303	P	P	08 52 09.1 -0.3
	comp=Z,8.1nm,0.9s,mb4.8,baz=2.4,slow=5.6,SNR=7.4					
MALT	Malatya	58.55	310	eP	P	08 52 10.0 -1.1
MALT				pmax	pmax	
	comp=Z,20nm,1.3s,mb5.0					
MALT	Malatya	58.55	310	eP	P	08 52 10.0 -1.0
	comp=Z,20nm,1.3s,mb5.0					
SOKR	Solikamsk	58.84	339	⇑iP	P	08 52 11.3 -1.5
SOKR				pmax	pmax	
	comp=Z,30nm,0.9s,mb5.3					
SOKR				MLR	MLR	
	comp=Z,2μm,21.0s,MS5.2					
SOC	Sochi	59.26	316	eP	P	08 52 12.2 -3.7
SOC				e		08 53 03.0
SOC				e		08 54 31.9
SOC				eS	S	09 00 16.8 -4.3
SOC				eS	SS	09 04 18.6 +1.2
SOC				pmax	pmax	
	comp=Z,24nm,0.8s,mb5.3					
SOC				pmax	pmax	
	comp=N,28nm,0.9s					
SOC				pmax	pmax	
	comp=E,16nm,0.8s					
SOC				MLR	MLR	
	comp=Z,789nm,17.0s,MS4.9					
SOC				MLR	MLR	
	comp=N,1μm,20.0s,MS5.1					
SOC				MLR	MLR	
	comp=E,719nm,17.0s,MS5.1					
EIL	Elat	59.52	300	P	P	08 52 17.8 -0.2
	comp=E,14nm,1.0s,mb4.9,baz=131,slow=1.7,SNR=7.2					
EIL	Elat	59.52	300	eP	P	08 52 17.4 -0.6
	comp=E,73nm,1.5s,mb5.5					
YAK	Yakutsk	59.97	18	⇑eP	P	08 52 20.2 -0.3
YAK				pmax	pmax	
	comp=Z,13nm,0.4s,mb5.3					
YAK	Yakutsk	59.97	18	eP	P	08 52 20.1 -0.5
	comp=Z,49nm,0.9s,mb5.5					
STKA	Stephens Creek	60.03	134	eP	P	08 52 21.3 -0.1
	comp=Z,6.4nm,1.0s,mb4.6					
STKA	Stephens Creek	60.03	134	P	P	08 52 20.1 -1.3
	comp=Z,11nm,1.1s,mb4.8,baz=329,slow=7.9,SNR=6.0					
ANN	Anapa	61.21	317	eP	P	08 52 24.1 -5.2
ANN				e	pP	08 52 30.5 -5.1
ANN				eS	S	09 00 38.3 -7.9
ANN				pmax	pmax	
	comp=Z,50nm,1.5s,mb5.4					
ANN				MLR	MLR	
	comp=N,434nm,15.0s,MS5.2					
ANN				MLR	MLR	
	comp=Z,222nm,15.0s,MS4.4					
ANN				MLR	MLR	
	comp=E,1μm,16.0s,MS5.2					
BRTR	Keskin Array B	62.51	311	P	P	08 52 36.0 -2.1
BRTR				pmax	pmax	
	comp=Z,5.0nm,0.8s					
BRTR	Keskin Array B	62.51	311	P	P	08 52 36.0 -2.1
	comp=Z,5.4nm,0.8s,mb4.7,baz=121,slow=7.2,SNR=16					
VOR	Voronezh	62.65	325	eP	P	08 52 38.0 -0.8
VOR				pmax	pmax	
	comp=Z,80nm,1.8s,mb5.5					
SIM	Simferopol'	63.51	317	eP	P	08 52 49.0 +4.4
SIM				pmax	pmax	
	comp=Z,20nm,0.8s,mb5.2					
SIM				MLR	MLR	
	comp=Z,560nm,17.9s,MS4.8					
MBAR	Mbarara	63.87	265	eP	P	08 52 47.5 0.0
MBAR				pmax	pmax	
	comp=Z,36nm,1.4s,mb5.2					
MBAR	Mbarara	63.87	265	eP	P	08 52 47.5 0.0
	comp=Z,36nm,1.4s,mb5.2					
MOS	Moscow	65.14	329	eP	P	08 52 52.0 -3.0
MOS				i	pP	08 52 58.7 -2.7
MOS				pmax	pmax	
	comp=Z,116nm,1.1s,mb5.8					
MOS				MLR	MLR	
	comp=Z,2μm,20.0s,MS5.4					
OBN	Obninsk	65.44	328	⇑eP	P	08 52 53.2 -3.8
OBN				e	pP	08 52 58.9 -4.4
OBN				eS	S	09 01 33.9 -4.9
OBN				pmax	pmax	
	comp=Z,82nm,1.5s,mb5.5					
OBN	Obninsk	65.44	328	eP	P	08 52 53.1 -3.8
	comp=Z,277nm,1.6s,mb6.0					
MA2	Magadan	66.72	28	eP	P	08 53 04.9 -0.2
MA2				pmax	pmax	
	comp=Z,20nm,1.0s,mb5.1					
MA2	Magadan	66.72	28	eP	P	08 53 04.9 -0.2
	comp=Z,20nm,1.0s,mb5.1					
TIXI	Tiksi	67.22	11	⇑eP	P	08 53 07.7 -0.3
AKASG	Malin Array Be	68.22	322	P	P	08 53 12.4 -2.3
AKASG				pmax	pmax	
	comp=Z,8.0nm,0.9s					
AKASG	Malin Array Be	68.22	322	P	P	08 53 12.3 -2.3
	comp=Z,7.6nm,0.9s,mb4.7,baz=90,slow=4.8,SNR=18					
IDI	Anoyia	68.66	305	P	P	08 53 16.6 -1.0
	comp=Z,12nm,0.6s,mb5.0,baz=73,slow=8.2,SNR=3.8					
VRI	Vrincioaia	68.78	316	⇓P	P	08 53 18.0 -0.2
MLR	Muntele Rosu	69.25	316	⇓P	P	08 53 20.7 -0.4
LSZ	Lusaka	69.37	250	eP	P	08 53 22.4 +0.1
LSZ				pmax	pmax	
	comp=Z,24nm,1.3s,mb5.0					
LSZ	Lusaka	69.37	250	eP	P	08 53 22.4 +0.1
	comp=Z,24nm,1.3s,mb5.0					
MNK	Minsk	70.02	325	eP	P	08 53 23.0 -2.6
BURAR	Bucovina Array	70.12	318	⇓P	P	08 53 26.0 -0.4
JOF	Joensuu	70.90	334	ep	P	08 53 29.1 -1.8
	comp=Z,16nm,0.7s,mb5.1					
APA	Apatity	71.89	339	⇑iP	P	08 53 42.0 +5.2
APA				pmax	pmax	
	comp=Z,11nm,0.9s,mb4.8					
APA				MLR	MLR	
	comp=Z,2μm,19.0s,MS5.5					
KWP	Kalwaria	72.10	320	eP	P	08 53 37.7 -0.6
KOLS	Kolonicke sedl	72.28	319	eP	P	08 53 40.0 +0.6
SUW	Suwalki	72.57	324	eP	P	08 53 40.2 -0.8
FINES	FINESS Array B	72.76	332	P	P	08 53 41.5 -0.5
FINES				pmax	pmax	
	comp=Z,14nm,0.9s					
FINES	FINESS Array B	72.76	332	P	P	08 53 41.5 -0.5
	comp=Z,14nm,0.9s,mb4.9,baz=104,slow=6.4,SNR=16					
CRVS	Cervenica-Dubn	72.80	319	eP	P	08 53 43.2 +0.7
CRVS				e	pP	08 53 48.4 -0.4
CRVS				esP	sP	08 53 55.4 +4.3
KAF	Kangasniemi	72.84	333	ep	P	08 53 40.7 -1.7
	comp=Z,12nm,0.6s,mb5.0					
KAF	Kangasniemi	72.84	333	eP	P	08 53 40.7 -1.7
KAF				pmax	pmax	
	comp=Z,12nm,0.6s,mb5.0					
NIE	Niedzica	73.62	319	eP	P	08 53 47.4 +0.2
PSZ	Piszkesteto	73.72	318	eP	P	08 53 47.3 -0.5
OJC	Ojcow	74.05	320	eP	P	08 53 49.3 -0.4
VYHS	Vyhne	74.48	318	eP	P	08 53 51.6 -0.6
VYHS				e	pP	08 53 57.4 -1.2
VYHS				epP	pP	08 54 01.3 +2.7
VYHS				eS	S	09 03 24.9 +0.2
KEV	Kevo	74.88	341	ep	P	08 53 55.4 +1.3
	comp=Z,12nm,0.6s,mb5.0					
KEV	Kevo	74.88	341	eP	P	08 53 55.4 +1.3
KEV				pmax	pmax	
	comp=Z,12μm,0.6s					
CASY	Casey	74.91	173	eP	P	08 53 55.7 +1.3
	comp=Z,15nm,1.1s,mb4.8					
OKC	Ostrava-Krasne	75.06	319	eP	P	08 53 55.5 -0.1
OKC				epP	pP	08 54 01.2 -0.8
OKC				AMS	AMS	09 33 30.0
ARCES	ARCESS Array B	75.31	340	P	P	08 53 57.2 +0.6
ARCES				pmax	pmax	
	comp=Z,8μm,0.8s					
ARCES	ARCESS Array B	75.31	340	P	P	08 53 57.1 +0.6
	comp=Z,8.5nm,0.8s,mb4.8,baz=98,slow=6.3,SNR=9.3					
MORC	Moravsky Berou	75.45	319	eP	P	08 53 57.6 -0.2
MORC				pmax	pmax	
	comp=Z,103nm,1.5s,mb5.5					
MORC	Moravsky Berou	75.45	319	eP	P	08 53 57.6 -0.2
	comp=Z,103nm,1.5s,mb5.5					
ZST	Bratislava	75.61	318	iP	P	08 53 59.1 +0.4
BOSA	Boshof	75.67	238	eP	P	08 53 58.8 -0.7
BOSA				pmax	pmax	
	comp=Z,32nm,1.1s,mb5.2					
BOSA	Boshof	75.67	238	eP	P	08 53 58.8 -0.7
	comp=Z,32nm,1.1s,mb5.2					
BILL	Biilibino	76.05	22	eP	P	08 54 01.0 +0.2
BILL				pmax	pmax	
	comp=Z,29nm,1.6s,mb5.0					
BILL	Biilibino	76.05	22	eP	P	08 54 01.0 +0.2
	comp=Z,29nm,1.6s,mb5.0					
DPC	Dobruska-Polom	76.28	320	eP	P	08 54 03.0 +0.5
DPC				epP	pP	08 54 08.7 -0.2
DPC				AMS	AMS	09 38 20.0
	comp=Z,600nm,16.3s					
KSP	Ksiaz	76.33	320	eP	P	08 54 02.8 0.0
KSP				epP	pP	08 54 08.9 -0.3
KSP				e		08 54 44.2
KSP	Ksiaz	76.33	320	eP	P	08 54 03.2 +0.5
UPC	Upice	76.49	320	eP	P	08 54 04.1 +0.5
UPC				epP	pP	08 54 09.7 -0.3
ARSA	Arzberg	76.61	317	⇑iP	P	08 54 05.0 +0.6
	comp=Z,39nm,1.4s,mb5.1					
OBKA	Obir	77.25	316	⇓iP	P	08 54 07.1 -0.8
	comp=Z,30nm,1.2s,mb5.1					
PRU	Pruhonice	77.40	319	eP	P	08 54 09.0 +0.3
PRU				epP	pP	08 54 14.9 -0.2
PRU				AMS	AMS	09 32 30.0
	comp=Z,600nm,17.3s					
PVCC	Panska Ves	77.41	320	eP	P	08 54 09.3 +0.6
PVCC				epP	pP	08 54 15.3 +0.1
PVCC				AMS	AMS	09 34 30.0
MOA	Molln	77.49	317	⇑iP	P	08 54 08.9 -0.3
	comp=Z,28nm,1.4s,mb5.0					
BRG	Berggiesshubel	77.82	320	iP	P	08 54 11.3 +0.3
BRG				i	pP	08 54 17.1 -0.3
BRG				pmax	pmax	
	comp=Z,64nm,1.8s,mb5.2					
BRG	Berggiesshubel	77.82	320	iP	P	08 54 11.3 +0.3
	comp=Z,64nm,1.8s,mb5.2					
BRG				i	pP	08 54 17.1 -0.3
BRG				i		08 54 53.1
BRG				e		09 09 50.8
BRG				e		09 12 12.6
GEC2	GERESS Array S	77.90	318	eP	P	08 54 11.6 +0.1
GEC2				pmax	pmax	
	comp=Z,59nm,1.4s,mb5.3					
GEC2	GERESS Array S	77.90	318	eP	P	08 54 11.6 +0.1
	comp=Z,59nm,1.4s,mb5.3					
GERES	GERESS Array B	77.90	318	P	P	08 54 01.9 -10
GERES				pmax	pmax	
	comp=Z,6.0nm,0.9s					
GERES	GERESS Array B	77.90	318	P	P	08 54 01.9 -10
	comp=Z,5.9nm,0.9s,mb4.5,baz=104,slow=5.5,SNR=16					
KHC	Kasperske Hory	77.99	318	eP	P	08 54 12.2 +0.2
KHC				epP	pP	08 54 18.1 -0.3
KHC				AMS	AMS	09 25 20.0
	comp=Z,700nm,15.1s					
RUE	Ruedersdorf	78.00	322	eP	P	08 54 10.3 -1.6
	comp=Z,190nm,1.6s,mb5.8					
KBA	Koelnbreinsper	78.09	316	⇓iP	P	08 54 12.1 -0.5
	comp=Z,26nm,1.2s,mb5.0					
KBA	Koelnbreinsper	78.09	316	⇓iP	P	08 54 12.1 -0.5
KBA				pmax	pmax	
	comp=Z,26nm,1.2s,mb5.0					
CLL	Collm	78.43	321	iP	P	08 54 13.8 -0.5
CLL				i	pP	08 54 19.4 -1.4
CLL				pmax	pmax	
	comp=Z,28nm,1.5s,mb5.0					
CLL	Collm	78.43	321	iP	P	08 54 13.8 -0.5
	comp=Z,28nm,1.5s,mb5.0					
CLL				i	pP	08 54 19.4 -1.4
CLL	Collm	78.43	321	P	P	08 54 13.8 -0.5
	comp=Z,logA/T=1.3,mb5.0					
CLL				i *PP	pP	08 54 19.4 -1.4
CLL				e		08 54 31.0
WET	Wettzell	78.45	318	eP	P	08 54 15.0 +0.5
WET				pmax	pmax	
	comp=Z,44nm,1.4s,mb5.2					
WET	Wettzell	78.45	318	eP	P	08 54 15.0 +0.5
	comp=Z,44nm,1.4s,mb5.2					
MAW	Mawson	78.55	192	eP	P	08 54 16.8 +2.1
MAW				pmax	pmax	
	comp=Z,77nm,1.5s					
MAW	Mawson	78.55	192	eP	P	08 54 16.8 +2.1
	comp=Z,77nm,1.5s,mb5.4					
NKC	Novy Kostel	78.75	320	eP	P	08 54 16.5 +0.4
NKC				epP	pP	08 54 22.2 -0.4
NKC				AMS	AMS	09 33 50.0
	comp=Z,700nm,16.2s					
WTTA	Wattenberg	79.26	317	⇓iP	P	08 54 18.5 -0.5
	comp=Z,40nm,1.2s,mb5.2					
WTTA	Wattenberg	79.26	317	⇓iP	P	08 54 18.5 -0.5
WTTA				pmax	pmax	
	comp=Z,40nm,1.2s,mb5.2					
MOX	Moxa	79.29	320	eP	P	08 54 19.3 +0.2
MOX				pmax	pmax	
	comp=Z,49nm,1.6s,mb5.2					
MOX	Moxa	79.29	320	eP	P	08 54 19.3 +0.2
	comp=Z,49nm,1.6s,mb5.2					
MOX	Moxa	79.29	320	iP	P	08 54 19.3 +0.2
	comp=Z,logA/T=1.5,mb5.2					
MOX				L		09 35 37.0
WATA	Walderalm	79.30	317	⇑iP	P	08 54 18.6 -0.6
	comp=Z,36nm,1.3s,mb5.1					
WATA	Walderalm	79.30	317	⇑iP	P	08 54 18.6 -0.6
WATA				pmax	pmax	
	comp=Z,36nm,1.3s,mb5.1					
GRA1	Grafenberg Arr	79.54	319	eP	P	08 54 20.7 +0.3
	comp=Z,64nm,1.4s,mb5.4					
GRF	Grafenberg Arr	79.54	319	eP	P	08 54 20.7 +0.3
GRF				pmax	pmax	
	comp=Z,64nm,1.4s,mb5.4					
GRF	Grafenberg Arr	79.54	319	eP	P	08 54 20.7 +0.3
GRF				pmax	pmax	
	comp=Z,64nm,1.4s,mb5.4					
GRF	Grafenberg Arr	79.54	319	eP	P	08 54 20.7 +0.3
	comp=Z,64nm,1.4s,mb5.4					
SQTA	Sankt Quirin	79.55	317	⇑iP	P	08 54 19.8 -0.7
	comp=Z,32nm,1.3s,mb5.1					
SQTA	Sankt Quirin	79.55	317	⇑iP	P	08 54 19.8 -0.7
SQTA				pmax	pmax	
	comp=Z,32nm,1.3s,mb5.1					
MOTA	Moosalm	79.62	317	⇓iP	P	08 54 20.4 -0.5
	comp=Z,33nm,1.4s,mb5.1					
MOTA	Moosalm	79.62	317	⇓iP	P	08 54 20.4 -0.5
MOTA				pmax	pmax	
	comp=Z,33nm,1.4s,mb5.1					
NB2	NORSAR Subarra	79.79	331	P	P	08 54 20.6 -0.9
	comp=Z,6.9nm,0.8s,mb4.6,baz=93,slow=5.6					
NB2	NORSAR Subarra	79.79	331	P	P	08 54 20.6 -0.9
NB2				pmax	pmax	
	comp=Z,7.0nm,0.8s,mb4.6					
NOA	NORSAR Array B	79.79	331	P	P	08 54 21.3 -0.2
NOA				pmax	pmax	
	comp=Z,9.0nm,0.8s					
NOA	NORSAR Array B	79.79	331	P	P	08 54 21.3 -0.2
	comp=Z,8.6nm,0.8s,mb4.7,baz=93,slow=5.5,SNR=14					
NOA	NORSAR Array B	79.79	331	P	P	08 54 21.3 -0.2
CLZ	Clausthal	80.08	321	eP	P	08 54 23.6 +0.3
	comp=Z,58nm,1.4s,mb5.3					
BSEG	Bad Segeberg	80.12	323	eP	P	08 54 24.2 +0.8
SUR	Sutherland	80.42	235	eP	P	08 54 25.9 +0.4
	comp=Z,13nm,0.9s,mb4.8					
DAVA	Damuels	80.45	317	⇓iP	P	08 54 25.8 +0.4
	comp=Z,33nm,1.2s,mb5.1					
DAVOX	Davos	80.47	316	P	P	08 54 26.0 +0.6
	comp=Z,11nm,0.9s,mb4.8,baz=110,slow=3.9,SNR=7.1					
MUD	Monsted U'grnd	80.77	326	eP	pP	08 54 34.7 +1.4
MUD				pmax	pmax	
	comp=Z,53nm,1.3s,mb5.3					
MUD	Monsted U'grnd	80.77	326	eP	pP	08 54 34.7 +1.4
	comp=Z,53nm,1.3s					
MUD	Monsted U'grnd	80.77	326	iP	pP	08 54 34.7 +1.4
	comp=Z,53nm,1.3s					
TNS	Taunus Mts	81.32	320	eP	P	08 54 30.4 +0.5
BFO	Black Forest	81.47	318	eP	P	08 54 30.7 0.0
BFO				pmax	pmax	
	comp=Z,28nm,1.3s,mb5.0					
BFO	Black Forest	81.47	318	eP	P	08 54 30.7 0.0
	comp=Z,28nm,1.3s,mb5.0					
FELD	Feldberg	81.70	317	eP	P	08 54 31.2 -0.7
LANF	Langenberg	81.79	318	eP	P	08 54 31.9 -0.4
ECH	Echery	82.25	318	eP	P	08 54 33.6 -1.1
LPG	La Plagne	82.70	315	eP	P	08 54 36.9 -0.2
	comp=Z,79nm,1.2s,mb5.3					
LPG	La Plagne	82.70	315	eP	P	08 54 36.9 -0.2
LPG				pmax	pmax	
	comp=Z,40nm,1.2s,mb5.3					
THEF	They Montfort	83.04	318	eP	P	08 54 36.6 -2.2
SYO	Syowa Base	85.43	197	⇓P	P	08 54 53.1 +2.7
SYO	Syowa Base	85.43	197	⇓PcP	PcP	08 54 58.2 +4.2
SYO	Syowa Base	85.43	197	⇓sP	sP	08 55 07.3 +8.3
RPZ	Rata Peaks	85.97	135	P	P	08 54 52.7 -1.0
	comp=Z,9.0nm,0.9s,mb5.0,baz=338,slow=5.4,SNR=3.0					
TNA	Tin City	86.13	24	eP	P	08 54 52.9 -1.0
DAG	Danmarks Havn	87.50	348	eP	P	08 55 02.0 +1.6
DAG	Danmarks Havn	87.50	348	iP	P	08 55 02.0 +1.6
EKA	Eskdalemuir Ar	87.78	325	P	P	08 55 02.8 +0.6
EKA				pmax	pmax	
	comp=Z,6.0nm,0.9s					
EKA	Eskdalemuir Ar	87.78	325	P	P	08 55 02.8 +0.5
	comp=Z,6.1nm,0.9s,mb4.8,baz=101,slow=4.3,SNR=5.8					
ESDC	Sonseca Array	91.30	310	P	P	08 55 20.3 +1.2
	comp=Z,7.2nm,1.1s,mb4.9,baz=67,slow=4.7,SNR=7.9					
ESLA	Sonseca Array	91.30	310	eP	P	08 55 19.1 0.0
	comp=Z,4.0nm,1.0s,mb4.7					
IMA	Indian Mountai	91.59	22	eP	P	08 55 22.2 +2.4
SPU	Mount Spurr	94.24	26	eP	P	08 55 30.5 -1.5
MCK	McKinley	94.42	23	P	P	08 55 34.7 +1.8
MCK				pmax	pmax	
	comp=Z,12nm,1.5s,mb5.1					
MCK	McKinley	94.42	23	P	P	08 55 34.7 +1.8
	comp=Z,12nm,1.5s,mb5.1					
ILAR	Eielson Array	94.71	22	P	P	08 55 35.2 +1.0
	comp=Z,0.4nm,0.8s,baz=289,slow=4.3,SNR=4.2					
ILAR				PP	PP	08 59 17.9 -7.0
	comp=Z,1.8nm,1.3s,baz=307,slow=9.0,SNR=3.0					
ILAR				PKKP	PKKP	09 12 37.5 +12
	comp=Z,0.3nm,0.7s,baz=156,slow=2.5,SNR=4.5					
INK	Inuvik	96.97	16	P	P	08 55 46.4 +2.0
INK				pmax	pmax	
	comp=Z,2.0nm,0.7s					
INK	Inuvik	96.97	16	P	P	08 55 46.4 +2.0
	comp=Z,1.6nm,0.7s,mb4.6,baz=314,slow=4.4,SNR=6.4					
RES	Resolute Bay	97.40	2	eP	P	08 55 46.8 +0.6
RES				pmax	pmax	
	comp=Z,12nm,1.2s,mb5.2					
RES	Resolute Bay	97.40	2	eP	P	08 55 46.8 +0.6
	comp=Z,12nm,1.2s,mb5.2					
SNAA	Sanae	99.65	199	P	P	08 55 56.4 -0.1
SNAA				pmax	pmax	
	comp=Z,172nm,1.1s					
SNAA	Sanae	99.65	199	P	P	08 55 56.4 -0.1
	comp=Z,172nm,1.1s					
YKA	Yellowknife Ar	106.40	14	PP	PP	09 00 49.8 -4.4
	comp=Z,0.5nm,0.8s,baz=332,slow=7.4,SNR=4.3					
YKA				PKKPbc		09 12 01.9
	comp=Z,0.3nm,0.6s,baz=154,slow=2.9,SNR=9.4					
YKA				PKKPab		09 12 14.9
	comp=Z,0.4nm,0.8s,baz=148,slow=4.2,SNR=5.6					
NVAR	Mina Array Bea	124.87	31	PKP	PKPdf	09 01 15.7 -1.0
	comp=Z,1.1nm,0.7s,baz=59,slow=1.1,SNR=6.2					
NVAR	Mina Array Bea	124.87	31	PKP	PKPdf	09 01 15.7 -1.0
PDAR	Pinedale Array	125.13	21	PKP	PKPdf	09 01 13.8 -3.3
	comp=Z,0.8nm,0.8s,baz=270,slow=1.8,SNR=5.5					
PDAR	Pinedale Array	125.13	21	PKP	PKPdf	09 01 13.8 -3.3
MSU	Marysvale	127.71	26	ePKIKP	PKPdf	09 01 22.0 -0.2
TXAR	Lajitas Array	139.19	24	PKP	PKPdf	09 01 42.5 -1.4
	comp=Z,0.8nm,0.7s,baz=293,slow=0.6,SNR=5.1					
JCT	Junction City	139.56	19	ePKIKP	PKPdf	09 01 41.9 -2.6
PLCA	Paso Flores	144.58	200	PKIKP	PKPdf	09 01 49.9 -3.1
PLCA				pmax	pmax	
	comp=Z,9.0nm,0.9s					
PLCA	Paso Flores	144.58	200	PKP	PKPdf	09 01 49.9 -3.1
	comp=Z,9.0nm,0.8s,baz=156,slow=4.4,SNR=14					
FCH	Farellones	150.91	207	eP	PKPdf	09 02 07.9 +4.4
TEIG	Tepich	151.97	5	ePKPbc	PKPdf	09 02 07.4 +1.9
LPAZ	La Paz	160.86	242	PKP	PKPdf	09 01 35.2 -42
	comp=Z,2.6nm,1.2s,baz=34,slow=3.0,SNR=5.2					
OTAV	Otavalo	169.14	318	ePKPdf	PKPdf	09 02 22.8 -1.3

MOS ***27*** *08:42:57.2±1.3, 7.75N×94.11E, h33km, mb5.3/21, Error ellipse: s-maj=18.8km s-min=9.0km az=110.3*
NEIC ***27*** *08:42:58.1±0.4, 7.69N×94.07E, h30km, mb5.2/15, Error ellipse: s-maj=11.8km s-min=10.2km az=79.0*
IDC ***27*** *08:43:02.4±5.3, 7.90N×94.23E, h60km±45km, mb4.6/16, mb1 4.7/17, mb1mx4.6/22, mbtmp4.8/17, ML4.6/1, MS4.8/1, Ms1 4.9/1, ms1mx3.4/16, Error ellipse: s-maj=30.3km s-min=23.1km az=35.0*

ISC 27 08:42:57.0±6.3, 7.8N±0.1×94.2E±0.1, h32km±42km, n81, σ1§05/74, mb5.0/31, MS4.9/1, 4D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.58	23	eP	P	08 45 43.5	+0.2
	103nm,1.4s						
CMAR	Chiang Mai Arr	11.58	23	P	P	08 45 43.5	+0.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	11.58	23	P	P	08 45 43.5	+0.2
	comp=Z,1.2nm,0.3s,baz=212,slow=14,SNR=4.2						
AKL	Akola	20.98	310	⇓i	Px	08 46 26.6	
	comp=Z,256nm,1.7s						
AKL				i		08 47 49.4	
LSA	Lhasa	21.98	353	eP	P	08 47 53.1

KIV Kislovodsk 57.41 318 *eP* **P 08 52 43.6 -1.4**
KIV pmax pmax
comp=Z,52nm,1.1s,mb5.5
KIV Kislovodsk 57.41 318 *eP* **P 08 52 43.6 -1.4**
comp=Z,52nm,1.1s,mb5.5
KMBO Kilima Mbogo 57.45 264 P **P 08 52 48.1 +2.4**
KMBO pmax pmax
comp=Z,13nm,0.9s
KMBO Kilima Mbogo 57.45 264 P **P 08 52 48.0 +2.4**
comp=Z,13nm,0.9s,mb5.0,baz=59,slow=12,SNR=5.7
ASF Jabal al Asfar 58.29 303 P **P 08 52 51.5 +0.2**
comp=Z,4.1nm,0.7s,mb4.6,baz=170,slow=2.5,SNR=3.6
EIL Elat 59.50 300 P **P 08 53 00.0 +0.2**
comp=Z,20nm,1.1s,mb5.1,baz=56,slow=2.7,SNR=4.3
STKA Stephens Creek 60.02 134 P **P 08 53 02.6 -0.7**
comp=Z,5.1nm,0.7s,mb4.7,baz=312,slow=11,SNR=3.5
BRTR Keskin Array B 62.51 311 P **P 08 53 18.5 -1.5**
BRTR pmax pmax
comp=Z,9.0nm,1.0s
BRTR Keskin Array B 62.51 311 P **P 08 53 18.4 -1.6**
comp=Z,8.6nm,1.0s,mb4.8,baz=116,slow=5.1,SNR=4.8
OBN Obninsk 65.47 328 *eP* **P 08 53 35.1 -4.0**
OBN pmax pmax
comp=Z,9.0nm,0.4s,mb5.2
MA2 Magadan 66.83 28 P **P 08 53 48.5 +0.8**
MA2 pmax pmax
comp=Z,22nm,0.9s,mb5.2
MA2 Magadan 66.83 28 P **P 08 53 48.5 +0.8**
comp=Z,22nm,0.9s,mb5.2
AKASG Malin Array Be 68.25 322 P **P 08 53 55.2 -1.6**
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKASG Malin Array Be 68.25 322 P **P 08 53 55.2 -1.6**
comp=Z,9.4nm,0.8s,mb4.9,baz=87,slow=4.8,SNR=7.0
IDI Anoyia 68.65 305 P **P 08 53 58.7 -0.8**
comp=Z,18nm,0.8s,mb5.0,baz=100,slow=11,SNR=2.7
JOF Joensuu 70.94 334 *ep* **P 08 54 11.9 -1.2**
comp=Z,26nm,0.9s,mb5.2
SUW Suwalki 72.60 324 *eP* **P 08 54 20.7 -2.4**
SUW pmax pmax
comp=Z,171nm,1.3s,mb5.8
SUW Suwalki 72.60 324 *eP* **P 08 54 20.6 -2.4**
comp=Z,171nm,1.3s,mb5.8
FINES FINESS Array B 72.81 332 P **P 08 54 24.0 -0.1**
FINES pmax pmax
comp=Z,18nm,0.7s
FINES FINESS Array B 72.81 332 P **P 08 54 23.9 -0.2**
comp=Z,18nm,0.7s,mb5.1,baz=101,slow=9.7,SNR=9.6
KAF Kangasniemi 72.89 333 *ep* **P 08 54 23.1 -1.5**
comp=Z,31nm,0.9s,mb5.2
KAF Kangasniemi 72.89 333 *eP* **P 08 54 23.1 -1.5**
KAF pmax pmax
comp=Z,31nm,0.9s,mb5.2
VYHS Vyhne 74.50 318 *i* P **P 08 54 34.4 +0.2**
KEV Kevo 74.93 341 *ep* **P 08 54 35.5 -0.8**
OKC Ostrava-Krasne 75.08 319 *eP* **P 08 54 38.0 +0.4**
ARCES ARCESS Array B 75.36 340 P **P 08 54 39.4 +0.6**
ARCES pmax pmax
comp=Z,23nm,1.1s
ARCES ARCESS Array B 75.36 340 P **P 08 54 39.4 +0.6**
comp=Z,23nm,1.1s,mb5.0,baz=108,slow=7.7,SNR=5.5
ARCES ARCESS Array B 75.36 340 P **P 08 54 39.4 +0.6**
ZST Bratislava 75.62 318 *i* P **P 08 54 41.6 +0.9**
DPC Dobruska-Polom 76.30 320 *eP* **P 08 54 45.2 +0.7**
UPC Upice 76.51 320 *eP* **P 08 54 46.6 +1.0**
PRU Pruhonice 77.42 319 *eP* **P 08 54 51.4 +0.7**
PVCC Panska Ves 77.43 320 *eP* **P 08 54 52.0 +1.3**
GERES GERESS Array B 77.92 318 P **P 08 54 44.3 -9.2**
GERES pmax pmax
comp=Z,12nm,1.0s
GERES GERESS Array B 77.92 318 P **P 08 54 44.3 -9.1**
comp=Z,12nm,0.9s,mb4.8,baz=72,slow=4.2,SNR=6.2
KHC Kasperske Hory 78.01 319 *eP* **P 08 54 54.5 +0.6**
CLL Collm 78.45 321 ⇓*iP* **P 08 54 55.1 -1.2**
CLL *i* pP 08 55 05.2 -1.3
CLL pmax pmax
comp=Z,23nm,1.2s,mb5.0
CLL Collm 78.45 321 ⇓*iP* **P 08 54 55.1 -1.2**
comp=Z,23nm,1.2s,mb5.0
CLL *i* pP 08 55 05.2 -1.3
CLL Collm 78.45 321 ⇓P **P 08 54 55.1 -1.2**
comp=Z,logA/T=1.3,mb5.0
CLL *i* *PP pP 08 55 05.2 -1.3
NKC Novy Kostel 78.77 320 *eP* **P 08 55 01.9 +3.8**
GRA1 Grafenberg Arr 79.56 319 *eP* **P 08 55 03.4 +1.0**
comp=Z,34nm,1.1s,mb5.2
GRF Grafenberg Arr 79.56 319 *eP* **P 08 55 03.4 +1.0**
GRF pmax pmax
comp=Z,34nm,1.1s,mb5.2
GRF Grafenberg Arr 79.56 319 *eP* **P 08 55 03.4 +1.0**
GRF pmax pmax
comp=Z,34nm,1.1s,mb5.2
GRF Grafenberg Arr 79.56 319 *eP* **P 08 55 03.4 +1.0**
comp=Z,34nm,1.1s,mb5.2
NB2 NORSAR Subarra 79.83 331 P **P 08 55 03.4 -0.2**
comp=Z,6.2nm,0.8s,mb4.6,baz=91,slow=5.8
NB2 NORSAR Subarra 79.83 331 P **P 08 55 03.4 -0.2**
NB2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
NOA NORSAR Array B 79.83 331 P **P 08 55 03.3 -0.3**
NOA pmax pmax
comp=Z,12nm,0.8s
NOA NORSAR Array B 79.83 331 P **P 08 55 03.2 -0.4**
comp=Z,12nm,0.8s,mb4.9,baz=92,slow=5.6,SNR=5.1
NAO01 NORSAR Array S 79.98 330 *eP* **P 08 55 04.0 -0.5**
comp=Z,20nm,0.9s,mb5.0
DAVOX Davos 80.48 316 P **P 08 55 08.6 +1.2**
comp=Z,21nm,0.9s,mb5.1,baz=129,slow=2.9,SNR=4.8
DAVOX Davos 80.48 316 P **P 08 55 08.6 +1.2**
ESDC Sonseca Array 91.30 310 P **P 08 56 02.2 +1.3**
comp=Z,2.0nm,0.7s,mb4.6,baz=61,slow=4.7,SNR=4.5
VNDA Vanda 92.83 168 LR LR 09 37 04.6
comp=Z,420nm,18.1s,MS4.9,baz=338,slow=35
ILAR Eielson Array 94.81 22 P **P 08 56 17.4 +0.9**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.81 22 P **P 08 56 17.4 +0.9**
comp=Z,0.7nm,0.8s,mb4.2,baz=303,slow=4.1,SNR=4.9
RES Resolute Bay 97.49 2 *eP* **P 08 56 29.6 +1.1**
RES pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
RES Resolute Bay 97.49 2 *eP* **P 08 56 29.6 +1.1**
comp=Z,5.1nm,1.0s,mb4.9
NVAR Mina Array Bea 124.98 31 PKP PKPdf 09 01 57.0 -2.8
comp=Z,1.2nm,0.8s,baz=36,slow=1.6,SNR=4.1
PDAR Pinedale Array 125.24 21 PKP PKPdf 09 01 56.8 -3.4
comp=Z,1.4nm,0.7s,baz=323,slow=4.5,SNR=2.7
PLCA Paso Flores 144.48 200 PKP PKPdf 09 02 31.6 -4.2
comp=Z,9.6nm,0.9s,baz=210,slow=5.5,SNR=4.3
LVC Limon Verde 158.04 226 PKP PKPdf 09 02 52.8 -3.7
comp=Z,5.4nm,0.7s,baz=117,slow=3.5,SNR=5.4
LVC Limon Verde 158.04 226 PKP PKPdf 09 02 52.8 -3.7

*IDC **27** 08:52:02.9±0.9, 7.83N×93.96E, mb4.2/11, mb1 4.3/12, mb1mx4.2/18, mbtmp4.1/12, ML4.2/1, Error ellipse: s-maj=41.2km s-min=18.8km az=57.0, - Putative timing error at GERES, LPAZ*
ISC 27 08:52:07.7±4.9, 8.0N±0.2×94.3E±0.2, h42km±42km, n20, σ0§97/14, mb4.2/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.38**	**23**	Pn	**P**	**08 54 50.9**	**+0.2**
	0.5nm,0.3s,baz=212,slow=13,SNR=5.3						
SONM	**Songino Array**	**41.05**	**12**	P	**P**	**08 59 48.5**	**-0.1**
	1.4nm,0.9s,mb3.6,baz=210,slow=10.0,SNR=5.1						
ZAL	**Zalesovo**	**46.47**	**352**	P	**P**	**09 00 32.0**	**-0.3**
	6.6nm,1.0s,mb4.5,baz=309,slow=7.3,SNR=9.2						
WRA	**Warramunga Arr**	**48.23**	**126**	P	**P**	**09 00 46.0**	**-0.7**
	1.1nm,0.6s,mb4.1,baz=304,slow=9.3,SNR=6.8						
BVAR	**Borovoye Array**	**48.93**	**341**	P	**P**	**09 00 51.9**	**+0.3**
	1.5nm,0.8s,mb4.1,baz=149,slow=8.6,SNR=5.5						
ASAR	**Alice Springs**	**49.90**	**130**	P	**P**	**09 00 59.5**	**+0.1**
	1.9nm,0.9s,mb4.1,baz=305,slow=7.1,SNR=6.1						
ASAR				PcP	PcP	09 02 20.1	+0.5
	1.5nm,0.8s,baz=318,slow=3.8,SNR=7.5						
KMBO	**Kilima Mbogo**	**57.54**	**264**	P	**P**	**09 01 56.7**	**+0.9**
	3.7nm,0.9s,mb4.4,baz=45,slow=10,SNR=7.8						
BRTR	**Keskin Array B**	**62.45**	**311**	P	**P**	**09 02 26.4**	**-2.7**
	1.6nm,0.8s,mb4.2,baz=127,slow=6.2,SNR=6.3						
FINES	**FINESS Array B**	**72.68**	**332**	P	**P**	**09 03 32.1**	**-0.6**
	4.0nm,0.8s,mb4.4,baz=112,slow=10,SNR=7.2						
GERES	**GERESS Array B**	**77.83**	**318**	P	**P**	**09 03 51.6**	**-11**
	1.7nm,0.7s,mb4.1,baz=90,slow=4.0,SNR=6.9						
NB2	**NORSAR Subarra**	**79.70**	**331**	P	**P**	**09 04 10.5**	**-1.9**
	3.3nm,0.8s,mb4.3,baz=92,slow=5.3						
NOA	**NORSAR Array B**	**79.70**	**331**	P	**P**	**09 04 12.9**	**+0.5**
	2.7nm,0.8s,mb4.3,baz=93,slow=5.4,SNR=7.0						
LPG	**La Plagne**	**82.63**	**315**	*eP*	**P**	**09 04 29.3**	**+1.2**
	15nm,0.9s,mb4.7						
ILAR	**Eielson Array**	**94.62**	**22**	P	**P**	**09 05 26.1**	**+1.2**
	0.4nm,0.8s,mb3.9,baz=295,slow=3.6,SNR=4.8						
NVAR	**Mina Array Bea**	**124.78**	**31**	PKP	PKPdf	09 11 07.2	+3.7
	0.8nm,0.7s,baz=38,slow=0.7,SNR=6.2						
PDAR	**Pinedale Array**	**125.04**	**21**	PKP	PKPdf	09 11 06.9	+3.0
	1.1nm,0.9s,baz=24,slow=1.6,SNR=7.1						
ANMO	**Albuquerque**	**133.04**	**23**	PKP	PKPdf	09 11 24.0	+4.5
	0.9nm,0.8s,baz=329,slow=5.0,SNR=5.2						
TXAR	**Lajitas Array**	**139.09**	**24**	PKP	PKPdf	09 11 33.2	+2.6
	0.2nm,0.5s,baz=235,slow=1.7,SNR=4.3						
PLCA	**Paso Flores**	**144.68**	**200**	PKP	PKPdf	09 11 40.4	+0.2
	6.0nm,1.0s,baz=167,slow=3.3,SNR=8.4						
LPAZ	**La Paz**	**160.91**	**243**	PKP	PKPdf	09 11 28.0	-36
	0.6nm,0.8s,baz=8.9,slow=7.6,SNR=3.9						

*IDC **27** 08:57:50.9±0.6, 8.08N×94.40E, mb4.4/21, mb1 4.6/22, mb1mx4.5/24, mbtmp4.4/22, ML4.2/1, Error ellipse: s-maj=27.5km s-min=13.3km az=51.0, - Putative timing error at GERES, LPAZ*
*BJI **27** 08:57:55.5, 7.74N×93.74E, h54km, mb4.8, Ms4.8, Msz4.6*
*NEIC **27** 08:57:55.4±0.3, 8.01N×94.32E, h30km, mb4.8/20, Error ellipse: s-maj=11.5km s-min=7.3km az=51.0*
ISC 27 08:57:54.1±0.4, 7.96N±0.05×94.20E±0.06, h33km, n81, σ1§20/75, mb4.7/45, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.41**	**23**	*eP*	**P**	**09 00 39.8**	**+1.9**
CMAR	**Chiang Mai Arr**	**11.41**	**23**	Pn	**P**	**09 00 39.2**	**+1.4**
	0.5nm,0.3s,baz=212,slow=15,SNR=32						
VIS	**Vishakhapatnam**	**14.36**	**314**	*eP*	**P**	**09 01 16.4**	**-0.8**
VIS				*e*		09 01 27.5	
	comp=N,32nm,1.3s						
VIS				*e*		09 01 27.6	
	comp=E,37nm,1.0s						
VIS				*e*		09 03 04.7	
BWNR	**Bhubaneshwar**	**14.71**	**327**	*eP*	**P**	**09 01 20.7**	**-1.0**
BWNR				*e*		09 01 22.4	
	comp=Z,26nm,0.4s						
BWNR				*eS*	**S**	**09 04 03.0**	**-1.5**
IMP	**Imphal**	**16.73**	**359**	*e*	**P**	**09 01 47.1**	**-0.5**
HYB	**Hyderabad**	**17.91**	**303**	*eP*	**P**	**09 02 03.0**	**+0.6**
HYB	**Hyderabad**	**17.91**	**303**	*i P*	**P**	**09 02 03.0**	**+0.6**
HYB				*eS*	**S**	**09 05 29.5**	**+11**
QIZ	**Qiongzhong**	**18.76**	**53**	P	**P**	**09 02 17.8**	**+4.9**
QIZ	**Qiongzhong**	**18.76**	**53**	*eP*	**P**	**09 02 16.7**	**+3.8**
	comp=Z,104nm,1.2s						
JIRN	**Jiri**	**21.01**	**340**	*eP*	**P**	**09 02 36.6**	**-0.7**
	comp=Z,210nm,1.1s,mb5.4						
PKI	**Pulchoki**	**21.21**	**338**	*eP*	**P**	**09 02 37.5**	**-1.8**
	comp=Z,214nm,1.2s,mb5.3						
GUN	**Gumba**	**21.35**	**339**	*eP*	**P**	**09 02 40.0**	**-0.7**
	comp=Z,354nm,1.2s,mb5.6						
DMN	**Daman**	**21.36**	**337**	*eP*	**P**	**09 02 39.3**	**-1.4**
	comp=Z,162nm,0.9s,mb5.3						
KKN	**Kakani**	**21.46**	**338**	*eP*	**P**	**09 02 40.7**	**-1.0**
	comp=Z,109nm,1.1s,mb5.1						
LSA	**Lhasa**	**21.82**	**353**	*eP*	**P**	**09 02 45.4**	**0.0**
	comp=Z,18nm,0.6s,mb4.7						
GKN	**Gorkha**	**21.89**	**337**	*eP*	**P**	**09 02 45.9**	**-0.2**
	comp=Z,121nm,0.7s,mb5.4						
KOLN	**Koldanda**	**22.11**	**334**	*eP*	**P**	**09 02 48.4**	**+0.1**
	comp=Z,211nm,1.3s,mb5.4						
BHPL	**Bhopal**	**22.14**	**315**	*eP*	**P**	**09 02 49.6**	**+1.0**
BHPL				*e*		09 02 54.2	
	comp=Z,50nm,1.4s						
NDI	**New Delhi**	**26.10**	**324**	*eP*	**P**	**09 03 30.5**	**+3.6**
ENH	**Enshi**	**26.42**	**31**	*eP*	**P**	**09 03 29.8**	**0.0**
	comp=Z,39nm,1.1s,mb4.8						
DDI	**Dehra Dun**	**26.90**	**328**	*e*	**P**	**09 03 35.8**	**+1.6**
XAN	**Xi'an**	**29.29**	**26**	P	**P**	**09 03 56.3**	**+0.6**
XAN				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.5						
WHN	**Wuhan**	**29.34**	**37**	⇑P	**P**	**09 03 58.3**	**+2.2**
LZH	**Lanzhou**	**29.35**	**16**	*eP*	**P**	**09 03 57.5**	**+1.3**
LZH				AP	pP	09 04 10.0	+4.2
LZH				AMB	AMB		
	comp=Z,33nm,1.5s,mb4.8						
LZH	**Lanzhou**	**29.35**	**16**	*eP*	**P**	**09 03 57.5**	**+1.3**
	comp=Z,33nm,1.5s,mb4.8						
LZH				pP	pP	09 04 06.4	+0.6
LZH				sP	sP	09 04 10.0	-0.1
WMQ	**Urumqi**	**36.17**	**352**	P	**P**	**09 04 56.5**	**+1.1**
BJI	**Beijing**	**37.51**	**28**	*eP*	**P**	**09 05 09.2**	**+2.5**
	comp=Z,14nm,1.2s,mb4.6						
AAK	**Ala-Archa**	**38.65**	**337**	*eP*	**P**	**09 05 14.7**	**-1.5**
	comp=Z,16nm,1.1s,mb4.7						
SONM	**Songino Array**	**41.07**	**13**	P	**P**	**09 05 35.4**	**-0.8**
	comp=Z,3.1nm,1.0s,mb3.9,baz=207,slow=8.3,SNR=13						
KURK	**Kurchatov**	**44.54**	**346**	*eP*	**P**	**09 06 04.0**	**-0.4**
	comp=Z,30nm,1.2s,mb5.0						
NWAO	**Narrogin (SRO)**	**46.19**	**153**	P	**P**	**09 06 18.6**	**+0.7**
	comp=Z,11nm,1.0s,mb4.8,baz=315,slow=8.7,SNR=4.4						
ZAL	**Zalesovo**	**46.47**	**352**	P	**P**	**09 06 19.7**	**-0.1**
	comp=Z,3.7nm,0.4s,mb4.6,baz=294,slow=7.0,SNR=10						
ZAL	**Zalesovo**	**46.47**	**352**	P	**P**	**09 06 19.7**	**-0.1**
WRA	**Warramunga Arr**	**48.26**	**126**	P	**P**	**09 06 33.3**	**-0.9**
	comp=Z,4.5nm,0.8s,mb4.5,baz=304,slow=9.1,SNR=17						
WRAB	**Tennant Creek**	**48.27**	**126**	*eP*	**P**	**09 06 33.5**	**-0.7**
	comp=Z,13nm,0.8s,mb5.0						
WB2	**Warramunga Arr**	**48.27**	**126**	*eP*	**P**	**09 06 33.4**	**-0.9**
BVAR	**Borovoye Array**	**48.93**	**341**	P	**P**	**09 06 38.2**	**-0.7**
	comp=Z,5.5nm,1.1s,mb4.5,baz=135,slow=4.1,SNR=5.6						
BVAR	**Borovoye Array**	**48.93**	**341**	P	**P**	**09 06 38.2**	**-0.7**
RAYN	**Ar Rayn**	**49.11**	**294**	P	**P**	**09 06 42.7**	**+2.0**
	comp=Z,77nm,1.6s,mb5.5,SNR=9.9						
CHKZ	**Chkalovo**	**49.41**	**342**	*eP*	**P**	**09 06 41.7**	**-1.0**
	comp=Z,16nm,1.0s,mb5.0						
ASAR	**Alice Springs**	**49.92**	**130**	P	**P**	**09 06 45.9**	**-1.1**
	comp=Z,4.1nm,0.9s,mb4.4,baz=306,slow=7.3,SNR=14						
ASAR				PcP	PcP	09 08 07.3	+0.1
	comp=Z,2.3nm,0.8s,baz=310,slow=4.3,SNR=6.2						
PMG	**Port Moresby**	**55.50**	**107**	P	**P**	**09 07 26.3**	**-2.3**
	comp=Z,7.2nm,0.7s,mb4.8,baz=56,slow=3.0,SNR=2.7						
PMG	**Port Moresby**	**55.50**	**107**	*eP*	**P**	**09 07 25.9**	**-2.7**
	comp=Z,31nm,0.8s,mb5.4						
KMBO	**Kilima Mbogo**	**57.49**	**264**	P	**P**	**09 07 45.0**	**+2.2**
	comp=Z,9.1nm,0.9s,mb4.8,baz=46,slow=9.3,SNR=12						
KMBO	**Kilima Mbogo**	**57.49**	**264**	*eP*	**P**	**09 07 44.0**	**+1.1**
	comp=Z,21nm,1.2s,mb5.0						
STKA	**Stephens Creek**	**60.12**	**134**	P	**P**	**09 07 58.8**	**-2.1**
	comp=Z,4.6nm,1.0s,mb4.5,baz=2.8,slow=3.1,SNR=5.4						
STKA	**Stephens Creek**	**60.12**	**134**	*eP*	**P**	**09 07 58.9**	**-2.0**
BRTR	**Keskin Array B**	**62.42**	**311**	P	**P**	**09 08 15.6**	**-0.7**
	comp=Z,1.7nm,0.8s,mb4.2,baz=133,slow=7.8,SNR=4.9						
MBAR	**Mbarara**	**63.83**	**265**	*eP*	**P**	**09 08 27.4**	**+1.4**
	comp=Z,23nm,1.5s,mb5.0						
MA2	**Magadan**	**66.67**	**28**	*eP*	**P**	**09 08 40.7**	**-2.8**
	comp=Z,18nm,1.0s,mb5.0						
AKASG	**Malin Array Be**	**68.13**	**322**	P	**P**	**09 08 50.6**	**-2.2**
	comp=Z,0.2nm,0.3s,mb3.6,baz=98,slow=3.7,SNR=5.6						
FINES	**FINESS Array B**	**72.67**	**332**	P	**P**	**09 09 19.6**	**-0.5**
	comp=Z,2.1nm,0.5s,mb4.3,baz=124,slow=6.4,SNR=8.3						
ARCES	**ARCESS Array B**	**75.21**	**340**	P	**P**	**09 09 34.2**	**-0.6**
	comp=Z,8.4nm,1.1s,mb4.6,baz=101,slow=6.2,SNR=9.6						
ARCES	**ARCESS Array B**	**75.21**	**340**	P	**P**	**09 09 34.2**	**-0.6**
MORC	**Moravsky Berou**	**75.35**	**319**	*eP*	**P**	**09 09 35.9**	**-0.1**
	comp=Z,9.3nm,1.2s,mb4.6						
BOSA	**Boshof**	**75.68**	**238**	*eP*	**P**	**09 09 39.6**	**+1.4**
	comp=Z,6.4nm,0.8s,mb4.6						
GERES	**GERESS Array B**	**77.80**	**318**	P	**P**	**09 09 40.5**	**-9.3**
	comp=Z,1.1nm,0.5s,mb4.0,baz=101,slow=6.8,SNR=7.4						
KHC	**Kasperske Hory**	**77.89**	**318**	*eP*	**P**	**09 09 51.0**	**+0.7**
HFS	**Hagfors**	**78.41**	**330**	P	**P**	**09 09 52.9**	**0.0**
	comp=Z,2.9nm,0.5s,mb4.5,baz=108,slow=4.7,SNR=13						
GRA1	**Grafenberg Arr**	**79.44**	**319**	*eP*	**P**	**09 09 59.6**	**+0.8**
	comp=Z,9.0nm,1.2s,mb4.6						
GRF	**Grafenberg Arr**	**79.44**	**319**	*eP*	**P**	**09 09 59.6**	**+0.8**
	comp=Z,9.0nm,1.2s,mb4.6						
NB2	**NORSAR Subarra**	**79.69**	**331**	P	**P**	**09 09 58.9**	**-0.9**
	comp=Z,4.0nm,0.8s,mb4.4,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.69**	**331**	P	**P**	**09 09 59.3**	**-0.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=92,slow=5.7,SNR=7.7						
DAVOX	**Davos**	**80.37**	**316**	P	**P**	**09 10 05.8**	**+2.0**
	comp=Z,7.6nm,0.8s,mb4.7,baz=102,slow=5.5,SNR=4.2						
LPG	**La Plagne**	**82.60**	**315**	*eP*	**P**	**09 10 15.5**	**+0.1**
	comp=Z,37nm,1.1s,mb5.0						
TNA	**Tin City**	**86.07**	**24**	*eP*	**P**	**09 10 31.5**	**-0.8**
EKA	**Eskdalemuir Ar**	**87.69**	**325**	P	**P**	**09 10 41.3**	**+0.9**
	comp=Z,1.5nm,0.7s,mb4.3,baz=74,slow=6.1,SNR=3.7						
ESDC	**Sonseca Array**	**91.21**	**310**	P	**P**	**09 11 03.6**	**+6.2**
	comp=Z,5.3nm,1.0s,mb4.8,baz=49,slow=3.7,SNR=4.9						
ESLA	**Sonseca Array**	**91.21**	**310**	P	**P**	**09 10 53.8**	**-3.7**
	comp=Z,4.2nm,1.1s,mb4.7						
IMA	**Indian Mountai**	**91.52**	**22**	*eP*	**P**	**09 11 00.1**	**+1.8**
SPU	**Mount Spurr**	**94.18**	**26**	*eP*	**P**	**09 11 11.3**	**+0.8**
ILAR	**Eielson Array**	**94.65**	**22**	P	**P**	**09 11 13.1**	**+0.5**
	comp=Z,0.7nm,0.9s,mb4.1,baz=277,slow=3.7,SNR=5.3						
INK	**Inuvik**	**96.90**	**16**	P	**P**	**09 11 23.6**	**+0.9**
	comp=Z,3.7nm,1.1s,mb4.7,baz=314,slow=5.8,SNR=5.1						
YKA	**Yellowknife Ar**	**106.33**	**13**	PP	PP	09 16 31.0	-1.5
	comp=Z,0.2nm,0.9s,baz=327,slow=2.6,SNR=3.9						
PPT	**Papeete**	**117.31**	**106**	*e*LR	LR	09 13 11.5	
	comp=Z,647nm,23.8s						
NVAR	**Mina Array Bea**	**124.82**	**31**	PKP	PKPdf	09 16 54.8	+3.6
	comp=Z,1.1nm,0.8s,baz=270,slow=3.3,SNR=6.5						
PDAR	**Pinedale Array**	**125.07**	**21**	PKP	PKPdf	09 16 53.5	+2.0
	comp=Z,1.3nm,0.8s,baz=27,slow=3.3,SNR=9.9						
PDAR				PP	PP	09 18 40.7	-4.2
	comp=Z,0.9nm,1.1s,baz=90,slow=1.5,SNR=4.3						
ANMO	**Albuquerque**	**133.07**	**23**	PKP	PKPdf	09 17 10.5	+3.4
	comp=Z,1.4nm,0.8s,baz=19,slow=2.6,SNR=5.9						
TXAR	**Lajitas Array**	**139.13**	**24**	PKP	PKPdf	09 17 19.4	+1.1
	comp=Z,1.0nm,1.0s,baz=332,slow=0.7,SNR=5.6						
PLCA	**Paso Flores**	**144.65**	**200**	PKP	PKPdf	09 17 29.1	+1.5
	comp=Z,10nm,1.0s,baz=140,slow=4.9,SNR=12						
LPAZ	**La Paz**	**160.86**	**243**	PKP	PKPdf	09 17 13.2	-38
	comp=Z,2.5nm,1.1s,baz=38,slow=3.9,SNR=5.4						
LPAZ				PKPab	PKPab	09 18 00.9	-35
	comp=Z,1.6nm,0.8s,baz=156,slow=2.6,SNR=4.9						

*IDC **27** 08:59:37.6±1.0, 7.99N×94.02E, mb4.2/8, mb1 4.3/9, mb1mx4.2/18, mbtmp4.2/9, ML4.1/1, Error ellipse: s-maj=30.6km s-min=26.2km az=71.0, - Putative timing error at GERES*
ISC 27 08:59:41.0±1.0, 8.0N±0.1×94.1E±0.2, h33km, n12, σ0§31/9, mb4.2/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.40**	**24**	Pn	**P**	**09 02 24.4**	**-0.3**
	0.4nm,0.3s,baz=208,slow=15,SNR=2.8						
SONM	**Songino Array**	**41.03**	**13**	P	**P**	**09 07 23.2**	**+0.4**
	2.3nm,1.0s,mb3.8,baz=191,slow=7.3,SNR=3.6						
ZAL	**Zalesovo**	**46.39**	**352**	P	**P**	**09 08 06.5**	**+0.5**
	4.6nm,0.9s,mb4.4,baz=301,slow=9.2,SNR=5.1						
WRA	**Warramunga Arr**	**48.40**	**126**	P	**P**	**09 08 22.2**	**0.0**
	1.5nm,0.7s,mb4.2,baz=304,slow=8.5,SNR=5.0						
KMBO	**Kilima Mbogo**	**57.37**	**264**	P	**P**	**09 09 29.1**	**+0.1**
	12nm,1.3s,mb4.8,baz=46,slow=11,SNR=4.0						
FINES	**FINESS Array B**	**72.55**	**332**	P	**P**	**09 11 05.8**	**-0.5**
	1.5nm,0.6s,mb4.1,baz=124,slow=6.9,SNR=4.0						
GERES	**GERESS Array B**	**77.67**	**318**	P	**P**	**09 11 24.6**	**-11**
	0.8nm,0.7s,mb3.8,baz=101,slow=5.0,SNR=2.3						
HFS	**Hagfors**	**78.29**	**330**	P	**P**	**09 11 39.1**	**0.0**
	3.0nm,0.6s,mb4.4,baz=104,slow=6.1,SNR=4.1						
NOA	**NORSAR Array B**	**79.57**	**331**	P	**P**	**09 11 45.9**	**-0.2**
	1.2nm,0.6s,mb4.0,baz=92,slow=5.6,SNR=3.3						
PDAR	**Pinedale Array**	**125.05**	**21**	PKP	PKPdf	09 18 39.2	+0.9
	0.8nm,0.9s,SNR=5.1						
TXAR	**Lajitas Array**	**139.12**	**24**	PKP	PKPdf	09 19 08.5	+3.3
	0.2nm,0.5s,slow=0.9,SNR=3.7						
PLCA	**Paso Flores**	**144.66**	**200**	PKP	PKPdf	09 19 16.0	+1.4
	4.7nm,0.9s,baz=231,slow=1.5,SNR=4.0						

*IDC **27** 09:00:11.9±0.7, 7.76N×93.88E, mb4.7/20, mb1 4.8/21, mb1mx4.7/25, mbtmp4.6/21, ML4.3/1, Error ellipse: s-maj=31.4km s-min=14.9km az=50.0, Putative timing error at GERES*
*MOS **27** 09:00:15.4±1.2, 7.84N×94.07E, h33km, mb5.0/29, Error ellipse: s-maj=15.5km s-min=7.9km az=114.0*
*NEIC **27** 09:00:16.5±0.3, 7.77N×94.01E, h30km, mb4.8/12, Error ellipse: s-maj=10.1km s-min=7.7km az=64.0*
ISC 27 09:00:17.0±3.1, 7.85N±0.09×94.16E±0.10, h49km±26km, n97, σ1§00/87, mb4.8/36, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.52**	**23**	*eP*	**P**	**09 03 01.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**11.52**	**23**	P	**P**	**09 03 02.4**	**+0.8**
CMAR				pmax	pmax		
	com

YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.0s
STKA Stephens Creek 60.08 134 P P 09 10 21.6 -0.3
comp=E,3.3nm,0.8s,mb4.4,baz=312,slow=7.8,SNR=4.0
STKA Stephens Creek 60.08 134 P P 09 10 20.2 -1.7
BRTR Keskin Array B 62.46 311 P P 09 10 35.9 -1.9
BRTR pmax pmax
comp=Z,11nm,1.2s
BRTR Keskin Array B 62.46 311 P P 09 10 35.9 -1.9
comp=Z,11nm,1.2s,mb4.9,baz=121,slow=7.2,SNR=6.6
OBN Obninsk 65.41 328 *eP* **P 09 10 53.1 -3.7**
OBN pmax pmax
comp=Z,17nm,0.8s,mb5.1
MA2 Magadan 66.78 28 *eP* **P 09 11 06.3 +0.9**
MA2 pmax pmax
comp=Z,16nm,0.9s,mb5.0
MA2 Magadan 66.78 28 *eP* **P 09 11 06.2 +0.9**
comp=Z,16nm,0.9s,mb5.0
AKASG Malin Array Be 68.18 322 P P 09 11 12.7 -1.7
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 68.18 322 P P 09 11 12.7 -1.7
comp=Z,5.3nm,0.8s,mb4.6,baz=90,slow=4.7,SNR=25
MLR Muntele Rosu 69.20 316 P P 09 11 20.0 -0.7
MLR pmax pmax
comp=Z,16nm,1.2s
MLR Muntele Rosu 69.20 316 P P 09 11 20.0 -0.8
comp=Z,16nm,1.1s,mb4.8,baz=32,slow=20,SNR=4.9
JOF Joensuu 70.88 334 *ep* **P 09 11 29.3 -1.3**
comp=Z,11nm,0.9s,mb4.8
KOLS Kolonicke sedl 72.23 319 *eP* **P 09 11 39.8 +0.9**
FINES FINESS Array B 72.74 332 P P 09 11 41.1 -0.6
FINES pmax pmax
comp=Z,13nm,0.8s
FINES FINESS Array B 72.74 332 P P 09 11 41.1 -0.6
comp=Z,12nm,0.8s,mb4.9,baz=101,slow=9.7,SNR=14
CRVS Cervenica-Dubn 72.76 319 *eP* **P 09 11 42.1 0.0**
CRVS *e* 09 11 49.2
KAF Kangasniemi 72.82 333 *ep* **P 09 11 39.5 -2.7**
comp=Z,13nm,0.8s,mb4.9
KAF Kangasniemi 72.82 333 *eP* **P 09 11 39.5 -2.7**
KAF pmax pmax
comp=Z,13nm,0.8s,mb4.9
OJC Ojcow 74.00 320 *eP* **P 09 11 49.5 +0.2**
VYHS Vyhne 74.44 318 *eP* **P 09 11 43.8 -8.1**
VYHS Vyhne 74.44 318 *e* **P 09 11 43.8 -8.1**
KEV Kevo 74.86 341 *ep* **P 09 11 53.4 -0.5**
OKC Ostrava-Krasne 75.02 319 *eP* **P 09 11 55.6 +0.4**
ARCES ARCESS Array B 75.29 340 P P 09 11 56.9 +0.5
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 75.29 340 P P 09 11 56.9 +0.5
comp=Z,3.0nm,0.6s,mb4.4,baz=117,slow=8.1,SNR=5.3
ZST Bratislava 75.56 318 *eP* **P 09 11 59.7 +1.4**
DPC Dobruska-Polom 76.23 320 *eP* **P 09 12 03.2 +1.1**
UPC Upice 76.44 320 *eP* **P 09 12 04.0 +0.7**
PRU Pruhonice 77.36 319 *eP* **P 09 12 09.9 +1.5**
GERES GERESS Array B 77.86 318 P P 09 12 01.8 -9.4
GERES pmax pmax
comp=Z,5.0nm,0.9s
GERES GERESS Array B 77.86 318 P P 09 12 01.8 -9.4
comp=Z,4.8nm,0.8s,mb4.5,baz=104,slow=5.5,SNR=9.6
KHC Kasperske Hory 77.95 319 *eP* **P 09 12 12.4 +0.7**
CLL Collm 78.39 321 P P 09 12 15.0 +0.9
HFS Hagfors 78.48 330 P P 09 12 14.7 +0.3
HFS pmax pmax
comp=Z,12nm,0.8s
HFS Hagfors 78.48 330 P P 09 12 14.7 +0.3
comp=Z,12nm,0.8s,mb4.9,baz=90,slow=7.4,SNR=11
MOX Moxa 79.25 320 *eP* **P 09 12 18.0 -0.8**
MOX *e* 09 12 38.0
GRA1 Grafenberg Arr 79.50 319 *eP* **P 09 12 21.2 +1.0**
comp=Z,10.0nm,1.0s,mb4.7
GRF Grafenberg Arr 79.50 319 *eP* **P 09 12 21.2 +1.0**
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GRF Grafenberg Arr 79.50 319 *eP* **P 09 12 21.2 +1.0**
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GRF Grafenberg Arr 79.50 319 *eP* **P 09 12 21.2 +1.0**
comp=Z,10.0nm,1.0s,mb4.7
NB2 NORSAR Subarra 79.76 331 P P 09 12 21.0 -0.4
comp=Z,9.1nm,0.8s,mb4.8,baz=96,slow=5.0
NB2 NORSAR Subarra 79.76 331 P P 09 12 21.0 -0.4
NB2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
NOA NORSAR Array B 79.76 331 P P 09 12 21.4 0.0
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA NORSAR Array B 79.76 331 P P 09 12 21.4 0.0
comp=Z,6.2nm,0.7s,mb4.7,baz=92,slow=5.6,SNR=10
DAVOX Davos 80.42 316 P P 09 12 25.2 0.0
comp=Z,10nm,0.8s,mb4.8,baz=90,slow=4.4,SNR=6.4
LPG La Plagne 82.65 315 *eP* **P 09 12 37.6 +0.8**
comp=Z,20nm,0.9s,mb4.9
LPG La Plagne 82.65 315 *eP* **P 09 12 37.6 +0.8**
LPG pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
EKA Eskdalemuir Ar 87.75 325 P P 09 13 02.0 +0.2
EKA pmax pmax
comp=Z,6.0nm,0.8s
EKA Eskdalemuir Ar 87.75 325 P P 09 13 02.0 +0.2
comp=Z,5.7nm,0.8s,mb4.8,baz=106,slow=6.1,SNR=6.7
ESDC Sonseca Array 91.25 310 P P 09 13 19.3 +0.6
comp=Z,1.9nm,0.8s,mb4.5,baz=66,slow=4.0,SNR=4.1
ILAR Eielson Array 94.76 22 P P 09 13 34.3 +0.1
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.76 22 P P 09 13 34.3 +0.1
comp=Z,0.8nm,0.8s,mb4.2,baz=294,slow=5.7,SNR=5.9
INK Inuvik 97.01 16 P P 09 13 45.3 +0.9
INK pmax pmax
comp=Z,3.0nm,1.0s
INK Inuvik 97.01 16 P P 09 13 45.3 +0.9
comp=Z,2.5nm,1.0s,mb4.6,baz=284,slow=9.0,SNR=4.4
NVAR Mina Array Bea 124.93 31 PKP PKPdf 09 19 15.5 +3.2
comp=Z,1.1nm,0.6s,baz=41,slow=1.4,SNR=7.3
NVAR Mina Array Bea 124.93 31 PKP PKPdf 09 19 15.5 +3.2
PDAR Pinedale Array 125.18 21 PKP PKPdf 09 19 15.1 +2.4
comp=Z,1.9nm,0.8s,baz=38,slow=2.1,SNR=9.3
ANMO Albuquerque 133.19 23 PKIKP PKPdf 09 19 31.4 +3.2
ANMO pmax pmax
comp=Z,1.0nm,0.8s
ANMO Albuquerque 133.19 23 PKP PKPdf 09 19 31.4 +3.2
comp=Z,1.2nm,0.8s,baz=332,slow=0.9,SNR=6.2
ANMO Albuquerque 133.19 23 PKP PKPdf 09 19 31.4 +3.2
TXAR Lajitas Array 139.24 24 PKP PKPdf 09 19 42.9 +3.5
comp=Z,0.7nm,0.7s,baz=142,slow=0.4,SNR=5.8
TXAR Lajitas Array 139.24 24 PKP PKPdf 09 19 42.9 +3.4
PLCA Paso Flores 144.53 200 PKIKP PKPdf 09 19 50.0 +1.6
PLCA pmax pmax
comp=Z,7.0nm,0.9s
PLCA Paso Flores 144.53 200 PKP PKPdf 09 19 50.0 +1.5
comp=Z,7.0nm,0.9s,baz=161,slow=3.8,SNR=6.1

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*IDC **27** 09:03:59.6±0.8, 7.99N×93.98E, mb4.2/13, mb1 4.4/14, mb1mx4.3/20, mbtmp4.2/14, ML4.1/1, Error ellipse: s-maj=39.5km s-min=18.2km az=55.0, Putative timing error at GERES*
*NEIC **27** 09:04:05.0±0.5, 8.04N×94.23E, h30km, mb4.6/10, Error ellipse: s-maj=12.4km s-min=10.7km az=208.0*
*BJI **27** 09:04:05.0, 7.68N×93.86E, h61km, mb4.4*
ISC 27 09:04:03.6±0.6, 8.06N±0.08×94.28E±0.09, h33km, n42, σ1§05/38, mb4.5/27, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.29**	**23**	Pn	**P**	**09 06 44.8**	**-0.9**
	0.4nm,0.3s,baz=213,slow=16,SNR=6.9						
PALK	**Pallekele**	**13.48**	**268**	P	**P**	**09 07 12.3**	**-2.7**
	11nm,0.9s						
HYB	**Hyderabad**	**17.93**	**303**	*eP*	**P**	**09 08 13.0**	**+0.9**
HYB	**Hyderabad**	**17.93**	**303**	*i P*	**P**	**09 08 13.0**	**+0.9**
JIRN	**Jiri**	**20.95**	**340**	*eP*	**P**	**09 08 46.6**	**+0.5**
	68nm,1.0s						
PKI	**Pulchoki**	**21.15**	**338**	*eP*	**P**	**09 08 48.5**	**+0.3**
	146nm,1.3s,mb5.2						
GUN	**Gumba**	**21.29**	**339**	*eP*	**P**	**09 08 49.7**	**+0.2**
	114nm,1.1s,mb5.1						
DMN	**Daman**	**21.30**	**337**	*eP*	**P**	**09 08 50.0**	**+0.3**
	51nm,0.8s,mb4.9						
KKN	**Kakani**	**21.39**	**338**	*eP*	**P**	**09 08 50.9**	**+0.3**
	58nm,1.0s,mb4.9						
LSA	**Lhasa**	**21.73**	**353**	*eP*	**P**	**09 08 57.0**	**+3.0**
	15nm,0.7s,mb4.5						
GKN	**Gorkha**	**21.83**	**337**	*eP*	**P**	**09 08 53.8**	**-1.2**
	141nm,1.2s,mb5.3						
KOLN	**Koldanda**	**22.06**	**334**	*eP*	**P**	**09 08 56.4**	**-0.9**
	113nm,1.3s,mb5.1						
ENH	**Enshi**	**26.29**	**31**	P	**P**	**09 09 38.2**	**+0.1**
	13nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**38.59**	**336**	*eP*	**P**	**09 11 25.4**	**+0.2**
	8.4nm,1.0s,mb4.4						
SONM	**Songino Array**	**40.95**	**12**	P	**P**	**09 11 44.8**	**0.0**
	2.2nm,1.0s,mb3.7,baz=202,slow=7.8,SNR=5.6						
KURK	**Kurchatov**	**44.47**	**346**	*eP*	**P**	**09 12 13.3**	**-0.1**
	31nm,1.5s,mb4.8						
ZAL	**Zalesovo**	**46.39**	**352**	P	**P**	**09 12 28.4**	**-0.2**
	2.9nm,0.7s,mb4.3,baz=300,slow=8.5,SNR=6.3						
ZAL	**Zalesovo**	**46.39**	**352**	P	**P**	**09 12 28.4**	**-0.2**
WRA	**Warramunga Arr**	**48.25**	**126**	P	**P**	**09 12 42.7**	**-1.0**
	3.0nm,1.1s,mb4.3,baz=305,slow=8.7,SNR=4.6						
BVAR	**Borovoye Array**	**48.86**	**341**	P	**P**	**09 12 45.3**	**-2.7**
	1.7nm,0.9s,mb4.1,baz=135,slow=10,SNR=2.3						
BVAR				PcP	PcP	09 14 12.8	+0.3
	0.8nm,0.5s,baz=135,slow=4.2,SNR=3.8						
ASAR	**Alice Springs**	**49.92**	**130**	P	**P**	**09 12 56.2**	**-0.3**
	3.1nm,1.1s,mb4.3,baz=308,slow=7.8,SNR=4.8						
ASAR				PcP	PcP	09 14 18.1	+1.4
	0.6nm,0.7s,baz=315,slow=5.5,SNR=2.9						
KMBO	**Kilima Mbogo**	**57.58**	**264**	*eP*	**P**	**09 13 53.0**	**-0.1**
	7.9nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**60.13**	**134**	P	**P**	**09 14 11.8**	**+1.3**
BRTR	**Keskin Array B**	**62.42**	**311**	P	**P**	**09 14 21.7**	**-4.1**
	2.1nm,1.0s,mb4.2,baz=90,slow=5.8,SNR=3.4						
AKASG	**Malin Array Be**	**68.10**	**322**	P	**P**	**09 14 57.0**	**-5.2**
	0.8nm,0.5s,mb4.0,baz=88,slow=4.9,SNR=6.0						
FINES	**FINESS Array B**	**72.61**	**332**	P	**P**	**09 15 28.7**	**-0.6**
	6.3nm,1.0s,mb4.5,baz=124,slow=6.9,SNR=7.2						
ARCES	**ARCESS Array B**	**75.14**	**340**	P	**P**	**09 15 42.5**	**-1.4**
	4.5nm,0.9s,mb4.4,baz=83,slow=7.3,SNR=3.6						
BRG	**Berggiesshubel**	**77.70**	**320**	*eP*	**P**	**09 15 59.8**	**+1.1**
	7.2nm,1.2s,mb4.5						
GERES	**GERESS Array B**	**77.78**	**318**	P	**P**	**09 15 47.0**	**-12**
	1.3nm,0.7s,mb4.0,baz=104,slow=5.6,SNR=5.5						
KHC	**Kasperske Hory**	**77.87**	**318**	*eP*	**P**	**09 16 00.0**	**+0.3**
CLL	**Collm**	**78.31**	**321**	P	**P**	**09 16 02.0**	**-0.1**
HFS	**Hagfors**	**78.37**	**330**	P	**P**	**09 16 03.1**	**+0.9**
	2.8nm,0.5s,mb4.4,baz=108,slow=9.4,SNR=5.6						
GRA1	**Grafenberg Arr**	**79.42**	**319**	*eP*	**P**	**09 16 09.1**	**+0.9**
	8.0nm,1.2s,mb4.5						
GRF	**Grafenberg Arr**	**79.42**	**319**	*eP*	**P**	**09 16 09.1**	**+0.9**
	8.0nm,1.2s,mb4.5						
NB2	**NORSAR Subarra**	**79.64**	**331**	P	**P**	**09 16 08.2**	**-0.9**
	1.4nm,0.7s,mb4.0,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**79.64**	**331**	P	**P**	**09 16 07.5**	**-1.6**
	2.1nm,0.8s,mb4.2,baz=92,slow=5.7,SNR=3.4						
LPG	**La Plagne**	**82.59**	**315**	*eP*	**P**	**09 16 27.0**	**+2.1**
	23nm,1.0s,mb4.9						
EKA	**Eskdalemuir Ar**	**87.65**	**325**	P	**P**	**09 16 51.0**	**+1.3**
	2.4nm,0.7s,mb4.5,baz=72,slow=7.9,SNR=4.2						
PDAR	**Pinedale Array**	**124.95**	**21**	PKP	PKPdf	09 23 03.2	+2.3
	0.6nm,0.8s,baz=225,slow=2.1,SNR=4.6						
PDAR	**Pinedale Array**	**124.95**	**21**	PKP	PKPdf	09 23 03.2	+2.3
TXAR	**Lajitas Array**	**139.00**	**24**	PKP	PKPdf	09 23 31.1	+3.5
	0.3nm,0.8s,baz=327,slow=0.4,SNR=4.3						
PLCA	**Paso Flores**	**144.77**	**200**	PKP	PKPdf	09 23 38.1	+0.7
	3.4nm,0.9s,baz=154,slow=6.2,SNR=5.6						

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*IDC **27** 09:06:14.2±1.2, 7.33N×93.79E, mb4.1/8, mb1 4.2/9, mb1mx4.0/18, mbtmp4.1/9, ML4.7/1, Error ellipse: s-maj=51.9km s-min=25.9km az=47.0, - Putative timing error at GERES*
ISC 27 09:06:17.7±1.1, 7.5N±0.2×93.9E±0.2, h33km, n11, σ0§81/10, mb4.1/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.96**	**24**	Pn	**P**	**09 09 08.7**	**-0.2**
	1.4nm,0.3s,baz=215,slow=14,SNR=6.3						
ZAL	**Zalesovo**	**46.92**	**353**	P	**P**	**09 14 46.6**	**-0.2**
	3.0nm,0.6s,mb4.4,baz=290,slow=10,SNR=6.2						
WRA	**Warramunga Arr**	**48.19**	**125**	P	**P**	**09 14 57.1**	**-0.2**
	0.5nm,0.5s,mb3.8,baz=305,slow=8.4,SNR=3.2						
BRTR	**Keskin Array B**	**62.54**	**311**	P	**P**	**09 16 39.6**	**-1.1**
	1.4nm,0.7s,mb4.2,baz=136,slow=9.0,SNR=5.1						
AKASG	**Malin Array Be**	**68.35**	**322**	P	**P**	**09 17 16.9**	**-1.0**
	0.3nm,0.3s,mb3.7,baz=88,slow=4.6,SNR=4.6						
FINES	**FINESS Array B**	**72.98**	**332**	P	**P**	**09 17 46.3**	**+0.7**
	3.4nm,0.8s,mb4.4,baz=112,slow=10,SNR=6.8						
GERES	**GERESS Array B**	**78.00**	**318**	P	**P**	**09 18 06.0**	**-8.5**
	1.4nm,0.8s,mb4.0,baz=90,slow=6.7,SNR=4.8						
HFS	**Hagfors**	**78.71**	**330**	P	**P**	**09 18 19.7**	**+1.5**
	1.5nm,0.6s,mb4.1,baz=121,slow=8.4,SNR=3.5						
NB2	**NORSAR Subarra**	**79.99**	**331**	P	**P**	**09 18 25.5**	**+0.4**
	1.4nm,0.6s,mb4.1,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.99**	**331**	P	**P**	**09 18 25.5**	**+0.5**
	2.1nm,0.8s,mb4.2,baz=93,slow=5.3,SNR=5.3						
PDAR	**Pinedale Array**	**125.62**	**21**	PKP	PKPdf	09 25 17.8	+1.6
	0.3nm,0.8s,baz=326,slow=3.3,SNR=3.3						

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*IDC **27** 09:08:35.6±0.8, 7.85N×94.17E, mb4.1/14, mb1 4.2/15, mb1mx4.1/20, mbtmp4.1/15, ML4.2/1, Error ellipse: s-maj=30.1km s-min=17.0km az=54.0, Putative timing error at GERES*
ISC 27 09:08:38.9±0.7, 7.9N±0.1×94.3E±0.1, h33km, n18, σ1§11/17, mb4.2/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.44**	**23**	Pn	**P**	**09 11 22.2**	**-0.8**
	0.5nm,0.3s,baz=210,slow=14,SNR=6.0						
SONM	**Songino Array**	**41.11**	**12**	P	**P**	**09 16 23.1**	**+1.7**
	0.9nm,0.9s,mb3.4,baz=200,slow=6.2,SNR=4.2						
ZAL	**Zalesovo**	**46.54**	**352**	P	**P**	**09 17 05.6**	**+0.5**
	2.2nm,0.7s,mb4.2,baz=290,slow=9.3,SNR=5.9						
WRA	**Warramunga Arr**	**48.17**	**126**	P	**P**	**09 17 19.0**	**+0.6**
	0.5nm,0.5s,mb3.8,baz=305,slow=8.5,SNR=4.2						
BVAR	**Borovoye Array**	**49.01**	**341**	P	**P**	**09 17 22.6**	**-1.7**
	1.0nm,0.9s,mb3.9,baz=169,slow=7.3,SNR=2.9						
ASAR	**Alice Springs**	**49.83**	**130**	P	**P**	**09 17 29.3**	**-1.8**
	0.4nm,0.6s,mb3.6,baz=311,slow=7.5,SNR=3.1						
KMBO	**Kilima Mbogo**	**57.55**	**264**	P	**P**	**09 18 28.4**	**+0.3**
	2.5nm,0.8s,mb4.3,baz=49,slow=12,SNR=5.5						
STKA	**Stephens Creek**	**60.03**	**134**	P	**P**	**09 18 45.6**	**+0.5**
	1.9nm,0.8s,mb4.2,baz=135,slow=6.0,SNR=3.4						
BRTR	**Keskin Array B**	**62.51**	**311**	P	**P**	**09 19 00.1**	**-1.6**
	1.8nm,0.8s,mb4.2,baz=121,slow=7.2,SNR=4.5						
FINES	**FINESS Array B**	**72.75**	**332**	P	**P**	**09 20 05.1**	**-0.3**
	5.8nm,0.9s,mb4.5,baz=117,slow=6.1,SNR=7.0						
ARCES	**ARCESS Array B**	**75.29**	**340**	P	**P**	**09 20 21.2**	**+1.2**
	3.5nm,0.9s,mb4.3,baz=135,slow=1.7,SNR=3.7						
GERES	**GERESS Array B**	**77.89**	**318**	P	**P**	**09 20 25.6**	**-10**
	1.0nm,0.7s,mb3.9,baz=96,slow=8.9,SNR=5.0						
HFS	**Hagfors**	**78.50**	**330**	P	**P**	**09 20 38.2**	**0.0**
	2.6nm,0.5s,mb4.4,baz=63,slow=6.6,SNR=4.6						
NB2	**NORSAR Subarra**	**79.77**	**331**	P	**P**	**09 20 44.7**	**-0.4**
	1.8nm,0.7s,mb4.1,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.77**	**331**	P	**P**	**09 20 44.8**	**-0.3**
	1.3nm,0.7s,mb4.0,baz=95,slow=5.1,SNR=5.0						
LPG	**La Plagne**	**82.69**	**315**	*eP*	**P**	**09 20 56.0**	**-4.7**
	12nm,0.8s,mb4.7						
EKA	**Eskdalemuir Ar**	**87.77**	**325**	P	**P**	**09 21 27.4**	**+1.7**
	11nm,1.3s,mb4.9,baz=107,slow=4.8,SNR=2.4						
PLCA	**Paso Flores**	**144.61**	**200**	PKP	PKPdf	09 28 15.0	+2.5
	2.7nm,1.0s,baz=188,slow=8.2,SNR=3.0						

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*IDC **27** 09:10:58.3±0.5, 7.95N×94.23E, mb4.5/26, mb1 4.6/27, mb1mx4.6/28, mbtmp4.5/27, ML4.3/1, MS4.2/1, Ms1 4.2/1, ms1mx2.7/25, Error ellipse: s-maj=24.3km s-min=12.4km az=49.0, Putative timing error at GERES*
*MOS **27** 09:11:02.0±1.1, 7.94N×94.17E, h33km, mb5.0/46, Error ellipse: s-maj=11.4km s-min=5.9km az=113.9*
*BJI **27** 09:11:02.9, 7.56N×93.74E, h55km, mB5.8, mb4.8, Ms5.2, Msz4.9*
*NEIC **27** 09:11:02.9±0.3, 7.87N×94.19E, h30km, mb4.8/34, Error ellipse: s-maj=8.7km s-min=7.0km az=54.0*
ISC 27 09:11:01.7±0.3, 7.89N±0.05×94.21E±0.05, h33km, n167, σ1§02/158, mb4.8/79, MS4.9/7, 13C-5D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.47**	**23**	*eP*	**P**	**09 13 46.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**11.47**	**23**	P	**P**	**09 13 46.8**	**+0.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.47**	**23**	Pn	**P**	**09 13 46.8**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=210,slow=14,SNR=12						
HYB	**Hyderabad**	**17.95**	**303**	*eP*	**P**	**09 15 09.0**	**-1.5**
HYB				*e*		09 15 34.0	
HYB	**Hyderabad**	**17.95**	**303**	*i P*	**P**	**09 15 09.0**	**-1.5**
HYB				*e*		09 15 34.0	
JIRN	**Jiri**	**21.07**	**340**	*eP*	**P**	**09 15 45.0**	**-0.5**
	comp=Z,84nm,0.8s,mb5.1						
PKI	**Pulchoki**	**21.27**	**338**	*eP*	**P**	**09 15 46.9**	**-0.6**
	comp=Z,90nm,0.9s,mb5.1						
GUN	**Gumba**	**21.41**	**339**	*eP*	**P**	**09 15 48.1**	**-0.8**
	comp=Z,243nm,1.3s,mb5.4						
DMN	**Daman**	**21.42**	**337**	*eP*	**P**	**09 15 48.5**	**-0.5**
	comp=Z,104nm,0.8s,mb5.2						
KKN	**Kakani**	**21.52**	**338**	*eP*	**P**	**09 15 49.3**	**-0.6**
	comp=Z,94nm,0.9s,mb5.2						
LSA	**Lhasa**	**21.88**	**353**	*eP*	**P**	**09 15 54.0**	**+0.4**
LSA	**Lhasa**	**21.88**	**353**	*eP*	**P**	**09 15 53.8**	**+0.2**
LSA				pmax	pmax		
	comp=Z,69nm,0.9s,mb5.1						
LSA	**Lhasa**	**21.88**	**353**	*eP*	**P**	**09 15 53.8**	**+0.2**
	comp=Z,69nm,0.9s,mb5.1						
GKN	**Gorkha**	**21.95**	**337**	*eP*	**P**	**09 15 52.7**	**-1.6**
	comp=Z,96nm,0.9s,mb5.2						
KOLN	**Koldanda**	**22.17**	**334**	*eP*	**P**	**09 15 54.8**	**-1.7**
	comp=Z,398nm,1.7s,mb5.6						
ENH	**Enshi**	**26.47**	**31**	*eP*	**P**	**09 16 39.1**	**+1.2**
	comp=Z,29nm,1.0s,mb4.8						
WHN	**Wuhan**	**29.38**	**37**	⇑P	**P**	**09 17 06.3**	**+2.2**
WHN				LR	LR		
	comp=Z,5μm,16.1s,MS5.2						
NJ2	**Nanjing**	**33.21**	**40**	*eP*	**P**	**09 17 39.5**	**+1.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,2μm,3.6s						
NJ2				LR	LR		
	comp=N,2μm,14.9s,MS5.4						
NJ2				LR	LR		
	comp=E,4μm,11.4s,MS5.4						
NJ2				LR	LR		
	comp=Z,3μm,15.1s,MS5.1						
SSE	**Sheshan**	**34.16**	**44**	P	**P**	**09 17 43.5**	**-2.5**
	comp=Z,42nm,0.7s,mb5.5						
SSE				S	**S**	**09 23 13.5**	**+4.3**
SSE				sS		09 23 29.8	
SSE				SS	SS	09 25 52.3	+34
SSE				LR	LR		
	comp=Z,740nm,14.9s,MS4.5						
WMQ	**Urumqi**	**36.24**	**352**	*eP*	**P**	**09 18 04.5**	**+0.9**
UCH	**Uchtor**	**38.36**	**336**	P	**P**	**09 18 22.3**	**+0.9**
	SNR=7.2						
AML	**Almayashu**	**38.62**	**335**	P	**P**	**09 18 24.7**	**+1.2**
	SNR=20						
AAK	**Ala-Archa**	**38.71**	**337**	P	**P**	**09 18 25.3**	**+0.9**
	SNR=11						
AAK	**Ala-Archa**	**38.71**	**337**	P	**P**	**09 18 24.8**	**+0.5**
AAK				pmax	pmax		
	comp=Z,37nm,1.2s,mb5.0						
AAK	**Ala-Archa**	**38.71**	**337**	*eP*	**P**	**09 18 24.3**	**0.0**
	comp=Z,29nm,1.2s,mb4.9						
CHMS	**Chumysh**	**38.92**	**337**	P	**P**	**09 18 26.4**	**+0.3**
	SNR=7.1						
EKS2	**Erkin-Say**	**39.02**	**336**	P	**P**	**09 18 27.9**	**+1.0**
	SNR=7.0						
USP	**Ospenovka**	**39.25**	**337**	P	**P**	**09 18 29.1**	**+0.3**
	SNR=14						
MK02	**Makanchi Array**	**40.06**	**347**	P	**P**	**09 18 35.0**	**-0.4**
MK02				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
SONM	**Songino Array**	**41.13**	**12**	P	**P**	**09 18 43.3**	**-1.0**
	comp=Z,7.6nm,0.9s,mb4.3,baz=193,slow=6.7,SNR=21						
ULN	**Ulaanbaatar**	**41.30**	**13**	*eP*	**P**	**09 18 45.5**	**-0.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
ULN	**Ulaanbaatar**	**41.30**	**13**	*eP*	**P**	**09 18 45.5**	**-0.2**
	comp=Z,5.4nm,1.0s,mb4.1						
ZAK	**Zakamensk**	**43.02**	**9**	*eP*	**P**	**09 19 00.1**	**+0.3**
TLY	**Talaya**	**44.34**	**8**	*eP*	**P**	**09 19 11.3**	**+0.9**
KURK	**Kurchatov**	**44.61**	**346**	*i P*	**P**	**09 19 12.4**	**-0.2**
KURK				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.0						
KURK	**Kurchatov**	**44.61**	**346**	*eP*	**P**	**09 19 12.1**	**-0.5**
	comp=Z,50nm,1.2s,mb5.2						
NWAO	**Narrogin (SRO)**	**46.13**	**153**	P	**P**	**09 19 25.3**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NWAO	**Narrogin (SRO)**	**46.13**	**153**	P	**P**	**09 19 25.3**	**+0.3**
	comp=Z,8.2nm,0.9s,mb4.6,baz=305,slow=12,SNR=5.8						
HIA	**Hailar**	**46.48**	**23**	⇑*iP*	**P**	**09 19 28.7**	**+1.2**
HIA	**Hailar**	**46.48**	**23**	*eP*	**P**	**09 19 29.4**	**+2.0**
	comp=Z,17nm,1.0s,mb4.9						
ZAL	**Zalesovo**	**46.54**	**352**	*i P*	**P**	**09 19 28.8**	**+0.9**
ZAL				pmax	pmax		
	comp=Z,17nm,0.9s						
ZAL	**Zalesovo**	**46.54**	**352**	P	**P**	**09 19 28.3**	**+0.4**
	comp=Z,17nm,0.9s,mb5.0,baz=293,slow=8.7,SNR=39						
NVS	**Novosibirsk**	**47.63**	**351**	*eP*	**P**	**09 19 35.3**	**-1.2**
NVS				pmax	pmax		
	comp=N,51nm,1.2s						
NVS				pmax	pmax		
	comp=E,26nm,1.2s						
NVS				pmax	pmax		
	comp=Z,73nm,1.2s,mb5.6						
WRA	**Warramunga Arr**	**48.22**	**126**	P	**P**	**09 19 39.9**	**-1.6**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**48.22**	**126**

YSS	**Yuzh-Sakhalins**	**56.73**	**38**	*e*P	pP	09 20 57.0	+2.3
KIV	**Kiślovodsk**	**57.35**	**318**	*e*P	**P**	**09 20 49.1**	**0.0**
KIV				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
KIV	**Kislovodsk**	**57.35**	**318**	*e*P	**P**	**09 20 49.1**	**+0.1**
	comp=Z,18nm,1.0s,mb5.0						
KMBO	**Kilima Mbogo**	**57.49**	**264**	*i* P	**P**	**09 20 53.3**	**+2.8**
KMBO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KMBO	**Kilima Mbogo**	**57.49**	**264**	P	**P**	**09 20 51.2**	**+0.8**
	comp=Z,7.1nm,1.0s,mb4.7,baz=59,slow=15,SNR=4.5						
KMBO	**Kilima Mbogo**	**57.49**	**264**	*e*P	**P**	**09 20 51.6**	**+1.1**
	comp=Z,12nm,1.0s,mb4.9						
ASF	**Jabal al Asfar**	**58.26**	**303**	P	**P**	**09 20 56.6**	**+1.0**
	comp=Z,1.6nm,0.4s,mb4.4,baz=180,slow=5.1,SNR=3.3						
MALT	**Malatya**	**58.50**	**310**	*e*P	**P**	**09 20 55.4**	**-1.8**
MALT				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
MALT	**Malatya**	**58.50**	**310**	*e*P	**P**	**09 20 55.4**	**-1.8**
	comp=Z,5.0nm,1.0s,mb4.5						
SOKR	**Solíkamsk**	**58.80**	**339**	⇓*i*P	**P**	**09 20 57.5**	**-1.5**
SOKR				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.2						
SOKR				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.1						
SOC	**Sochi**	**59.21**	**316**	*e*P	**P**	**09 20 57.6**	**-4.5**
SOC				*e*		09 21 44.1	
SOC				*e*		09 23 09.1	
SOC				*e*PPP	PPP	09 24 34.2	-5.4
SOC				*e*S	**S**	**09 29 03.5**	**-2.4**
SOC				*e*		09 30 51.2	
SOC				*e*SS	SS	09 32 55.9	-6.1
SOC				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.3						
SOC				pmax	pmax		
	comp=N,56nm,1.1s						
SOC				pmax	pmax		
	comp=E,24nm,0.9s						
YAK	**Yakutsk**	**59.96**	**18***d*	*i*P	**P**	**09 21 06.9**	**-0.1**
YAK				pmax	pmax		
	comp=Z,26nm,0.7s,mb5.4						
STKA	**Stephens Creek**	**60.07**	**134**	P	**P**	**09 21 06.6**	**-1.6**
	comp=Z,2.3nm,0.9s,mb4.2,baz=339,slow=23,SNR=3.1						
ANN	**Anapa**	**61.17**	**317**	*e*P	**P**	**09 21 15.5**	**+0.1**
ANN				*e*		09 21 54.9	
ANN				*e*S	**S**	**09 29 32.3**	**+1.4**
ANN				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.6						
BRTR	**Keskin Array B**	**62.47**	**311**	P	**P**	**09 21 22.2**	**-2.0**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRTR	**Keskin Array B**	**62.47**	**311**	P	**P**	**09 21 22.1**	**-2.1**
	comp=Z,3.2nm,0.9s,mb4.4,baz=135,slow=3.5,SNR=8.2						
MBAR	**Mbarara**	**63.83**	**265**	*e*P	**P**	**09 21 34.3**	**+0.6**
MBAR				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
MBAR	**Mbarara**	**63.83**	**265**	*e*P	**P**	**09 21 34.2**	**+0.6**
	comp=Z,8.4nm,1.2s,mb4.7						
OBN	**Obninsk**	**65.40**	**328**	⇓*i*P	**P**	**09 21 39.2**	**-3.9**
OBN				*e*		09 22 07.9	
OBN				*e*		09 24 05.0	
OBN				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.3						
OBN				MLR	MLR		
	comp=Z,700nm,20.0s,MS4.9						
TIXI	**Tiksi**	**67.20**	**11**	⇓*i*P	**P**	**09 21 54.1**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
AKASG	**Malin Array Be**	**68.18**	**322**	P	**P**	**09 21 58.4**	**-2.4**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKASG	**Malin Array Be**	**68.18**	**322**	P	**P**	**09 21 58.4**	**-2.4**
	comp=Z,3.7nm,0.8s,mb4.5,baz=86,slow=4.7,SNR=14						
IDI	**Anoyia**	**68.61**	**305**	P	**P**	**09 22 03.7**	**0.0**
	comp=Z,11nm,0.9s,mb4.8,baz=63,slow=2.3,SNR=4.4						
VRI	**Vrincioaia**	**68.73**	**316**	⇑P	**P**	**09 22 04.9**	**+0.6**
SEY	**Seymchan**	**68.88**	**25**	*e*P	**P**	**09 22 09.4**	**+4.5**
SEY				*e*		09 22 30.7	
MLR	**Muntele Rosu**	**69.20**	**316**	⇓P	**P**	**09 22 07.7**	**+0.5**
MLR	**Muntele Rosu**	**69.20**	**316**	P	**P**	**09 22 07.4**	**+0.2**
	comp=Z,24nm,1.2s,mb5.0,baz=58,slow=4.9,SNR=6.3						
BURAR	**Bucovina Array**	**70.08**	**318**	⇑P	**P**	**09 22 13.2**	**+0.8**
JOF	**Joensuu**	**70.86**	**334**	*e*p	**P**	**09 22 15.9**	**-1.1**
	comp=Z,7.4nm,0.8s,mb4.7						
FINES	**FINESS Array B**	**72.72**	**332**	*i* P	**P**	**09 22 27.7**	**-0.4**
FINES				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FINES	**FINESS Array B**	**72.72**	**332**	P	**P**	**09 22 26.9**	**-1.2**
	comp=Z,6.6nm,0.8s,mb4.6,baz=100,slow=6.0,SNR=13						
KAF	**Kangasniemi**	**72.80**	**333**	*e*p	**P**	**09 22 27.4**	**-1.1**
	comp=Z,13nm,0.9s,mb4.9						
KAF	**Kangasniemi**	**72.80**	**333**	*e*P	**P**	**09 22 27.4**	**-1.1**
KAF				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
LBTB	**Lobatse**	**74.31**	**241**	*e*P	**P**	**09 22 38.6**	**+0.5**
LBTB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
LBTB	**Lobatse**	**74.31**	**241**	*e*P	**P**	**09 22 38.6**	**+0.6**
	comp=Z,7.5nm,0.9s,mb4.6						
KEV	**Kevo**	**74.84**	**341**	*e*p	**P**	**09 22 37.7**	**-2.6**
	comp=Z,16nm,0.9s,mb5.0						
KEV	**Kevo**	**74.84**	**341**	*e*P	**P**	**09 22 37.7**	**-2.6**
KEV				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
OKC	**Ostrava-Krasne**	**75.02**	**319**	*e*P	**P**	**09 22 42.5**	**+0.8**
ARCES	**ARCESS Array B**	**75.27**	**340**	P	**P**	**09 22 42.8**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARCES	**ARCESS Array B**	**75.27**	**340**	P	**P**	**09 22 42.8**	**0.0**
	comp=Z,3.9nm,0.8s,mb4.4,baz=88,slow=5.9,SNR=11						
MORC	**Moravsky Berou**	**75.40**	**319**	*e*P	**P**	**09 22 44.1**	**+0.2**
MORC				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
MORC	**Moravsky Berou**	**75.40**	**319**	*e*P	**P**	**09 22 44.1**	**+0.2**
	comp=Z,12nm,1.1s,mb4.8						
BOSA	**Boshof**	**75.65**	**238**	*e*P	**P**	**09 22 46.5**	**+0.8**
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
BOSA	**Boshof**	**75.65**	**238**	*e*P	**P**	**09 22 46.5**	**+0.7**
	comp=Z,4.3nm,0.7s,mb4.5						
BILL	**Bilibino**	**76.05**	**22**	*e*P	**P**	**09 22 47.0**	**-0.2**
BILL				pmax	pmax		
	comp=Z,9.0nm,2.0s,mb4.3						
DPC	**Dobruska-Polom**	**76.23**	**320**	*e*P	**P**	**09 22 49.2**	**+0.6**
UPC	**Upice**	**76.44**	**320**	*e*P	**P**	**09 22 50.7**	**+0.9**
ARSA	**Arzberg**	**76.57**	**317**	⇑*i*P	**P**	**09 22 52.4**	**+1.8**
	comp=Z,10nm,1.1s,mb4.7						
ARSA				*i*		09 23 08.1	
	comp=Z,15nm,1.0s						
PRU	**Pruhonice**	**77.36**	**319**	*e*P	**P**	**09 22 56.1**	**+1.2**
PVCC	**Panska Ves**	**77.36**	**320**	*e*P	**P**	**09 22 55.9**	**+0.9**
MOA	**Molln**	**77.44**	**317**	⇑*i*P	**P**	**09 22 55.5**	**0.0**
	comp=Z,8.6nm,1.3s,mb4.5						
MOA				*i*		09 23 24.1	
	comp=Z,18nm,1.4s						
BRG	**Berggiesshubel**	**77.78**	**320**	*e*P	**P**	**09 22 58.2**	**+1.0**
BRG				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
BRG	**Berggiesshubel**	**77.78**	**320**	*e*P	**P**	**09 22 58.2**	**+1.0**
	comp=Z,16nm,1.0s,mb4.9						
BRG				*i*		09 23 29.1	
GERES	**GERESS Array B**	**77.86**	**318**	P	**P**	**09 22 48.4**	**-9.3**
	comp=Z,4.2nm,0.9s,mb4.4,baz=104,slow=5.5,SNR=11						
KHC	**Kasperske Hory**	**77.95**	**318**	*e*P	**P**	**09 22 58.5**	**+0.3**
KBA	**Koelnbreinsper**	**78.05**	**316**	⇑*i*P	**P**	**09 22 59.2**	**+0.4**
	comp=Z,16nm,1.4s,mb4.8						
KBA				*i*		09 23 27.6	
	comp=Z,19nm,1.3s						
CLL	**Collm**	**78.39**	**321**	*i* P	**P**	**09 23 00.5**	**-0.1**
CLL				*e*	pP	09 23 11.0	+0.1
CLL				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
CLL	**Collm**	**78.39**	**321**	*i* P	**P**	**09 23 00.5**	**-0.1**
	comp=Z,9.0nm,1.2s,mb4.6						
CLL				*e*	pP	09 23 11.0	+0.1
CLL	**Collm**	**78.39**	**321**	P	**P**	**09 23 00.5**	**-0.1**
	comp=Z,logA/T=0.9,mb4.6						
CLL				*e**SP	sP	09 23 11.0	-3.6
HFS	**Hagfors**	**78.47**	**330**	P	**P**	**09 23 01.0**	**+0.2**
HFS				pmax	pmax		
	comp=Z,53nm,1.3s						
HFS	**Hagfors**	**78.47**	**330**	P	**P**	**09 23 01.0**	**+0.2**
	comp=Z,53nm,1.3s,mb5.3,baz=104,slow=6.1,SNR=13						
MAW	**Mawson**	**78.57**	**192**	P	**P**	**09 23 02.0**	**+0.8**
MAW				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MAW	**Mawson**	**78.57**	**192**	P	**P**	**09 23 02.0**	**+0.8**
	comp=Z,9.3nm,1.0s,mb4.7,baz=224,slow=1.8,SNR=3.5						
NKC	**Novy Kostel**	**78.71**	**320**	*e*P	**P**	**09 23 04.1**	**+1.7**
WTTA	**Wattenberg**	**79.21**	**317**	⇑*i*P	**P**	**09 23 05.1**	**-0.1**
	comp=Z,19nm,1.2s,mb4.9						
WTTA				*i*		09 23 30.4	
	comp=Z,41nm,1.5s						
MOX	**Moxa**	**79.25**	**320**	*e*P	**P**	**09 23 05.0**	**-0.3**
GRA1	**Grafenberg Arr**	**79.50**	**319**	*e*P	**P**	**09 23 06.9**	**+0.2**
	comp=Z,10.0nm,1.1s,mb4.7						
GRF	**Grafenberg Arr**	**79.50**	**319**	*e*P	**P**	**09 23 06.9**	**+0.2**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
GRF	**Grafenberg Arr**	**79.50**	**319**	*e*P	**P**	**09 23 06.9**	**+0.2**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
GRF	**Grafenberg Arr**	**79.50**	**319**	*e*P	**P**	**09 23 06.9**	**+0.2**
	comp=Z,10.0nm,1.1s,mb4.7						
SQTA	**Sankt Quirin**	**79.51**	**317**	⇑*i*P	**P**	**09 23 07.7**	**+0.9**
	comp=Z,8.8nm,0.9s,mb4.7						
SQTA	**Sankt Quirin**	**79.51**	**317**	⇑*i*P	**P**	**09 23 07.7**	**+0.9**
SQTA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
MOTA	**Moosalm**	**79.58**	**317**	⇑*i*P	**P**	**09 23 07.1**	**0.0**
	comp=Z,11nm,1.1s,mb4.7						
MOTA				*i*		09 23 33.8	
	comp=Z,20nm,1.4s						
NB2	**NORSAR Subarra**	**79.75**	**331**	P	**P**	**09 23 07.4**	**-0.4**
	comp=Z,3.9nm,0.8s,mb4.4,baz=91,slow=5.8						
NB2	**NORSAR Subarra**	**79.75**	**331**	P	**P**	**09 23 07.4**	**-0.4**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
NOA	**NORSAR Array B**	**79.75**	**331**	P	**P**	**09 23 07.9**	**+0.1**
NOA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NOA	**NORSAR Array B**	**79.75**	**331**	P	**P**	**09 23 07.9**	**+0.2**
	comp=Z,7.5nm,0.9s,mb4.6,baz=92,slow=5.6,SNR=8.2						
NAO01	**NORSAR Array S**	**79.90**	**330**	*e*P	**P**	**09 23 09.0**	**+0.4**
	comp=Z,8.4nm,0.8s,mb4.7						
DAVA	**Damuels**	**80.41**	**317**	⇑*i*P	**P**	**09 23 12.2**	**+0.6**
	comp=Z,18nm,1.4s,mb4.8						
DAVA				*i*		09 23 40.4	
	comp=Z,34nm,1.1s						
DAVOX	**Davos**	**80.42**	**316**	P	**P**	**09 23 11.7**	**0.0**
	comp=Z,4.0nm,0.7s,mb4.5,baz=196,slow=4.1,SNR=3.8						
LPG	**La Plagne**	**82.65**	**315**	*e*P	**P**	**09 23 22.0**	**-1.3**
	comp=Z,17nm,1.0s,mb4.8						
LPG	**La Plagne**	**82.65**	**315**	*e*P	**P**	**09 23 22.0**	**-1.3**
LPG				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
EKA	**Eskdalemuir Ar**	**87.74**	**325**	P	**P**	**09 23 49.2**	**+0.9**
EKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
EKA	**Eskdalemuir Ar**	**87.74**	**325**	P	**P**	**09 23 49.2**	**+0.9**
	comp=Z,2.9nm,0.9s,mb4.5,baz=84,slow=7.6,SNR=4.2						
ESDC	**Sonseca Array**	**91.25**	**310**	P	**P**	**09 24 04.9**	**-0.4**
	comp=Z,1.7nm,0.8s,mb4.4,baz=98,slow=7.6,SNR=4.0						
IMA	**Indian Mountai**	**91.58**	**22**	*e*P	**P**	**09 24 08.2**	**+2.0**
ILAR	**Eielson Array**	**94.70**	**22**	P	**P**	**09 24 20.4**	**0.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**94.70**	**22**	P	**P**	**09 24 20.4**	**-0.1**
	comp=Z,0.5nm,0.8s,mb4.0,baz=296,slow=4.7,SNR=4.8						
INK	**Inuvik**	**96.96**	**16**	P	**P**	**09 24 31.8**	**+1.1**
INK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
INK	**Inuvik**	**96.96**	**16**	P	**P**	**09 24 31.8**	**+1.2**
	comp=Z,3.1nm,1.0s,mb4.7,baz=280,slow=5.3,SNR=5.5						
RES	**Resolute Bay**	**97.38**	**2**	*e*P	**P**	**09 24 26.8**	**-5.7**
RES				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
RES	**Resolute Bay**	**97.38**	**2**	*e*P	**P**	**09 24 26.8**	**-5.7**
	comp=Z,3.9nm,0.9s,mb4.8						
SNOW	**Snow King Moun**	**124.09**	**22**	*e*PKPdf	PKPdf	09 29 59.7	+2.5
NVAR	**Mina Array Bea**	**124.87**	**31**	PKP	PKPdf	09 30 01.8	+2.9
	comp=Z,1.0nm,0.8s,baz=57,slow=1.5,SNR=4.8						
PDAR	**Pinedale Array**	**125.12**	**21**	PKP	PKPdf	09 30 01.2	+2.0
	comp=Z,1.3nm,1.0s,baz=45,slow=2.1,SNR=6.5						
ANMO	**Albuquerque**	**133.13**	**23**	PKIKP	PKPdf	09 30 18.0	+3.2
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ANMO	**Albuquerque**	**133.13**	**23**	PKP	PKPdf	09 30 17.9	+3.2
	comp=Z,0.9nm,0.9s,baz=0.8,slow=7.0,SNR=3.9						
TXAR	**Lajitas Array**	**139.18**	**24**	PKP	PKPdf	09 30 28.0	+2.0
	comp=Z,0.2nm,0.5s,baz=47,slow=0.8,SNR=3.7						
TXAR	**Lajitas Array**	**139.18**	**24**	PKP	PKPdf	09 30 28.0	+2.0
JCT	**Junction City**	**139.55**	**19**	*e*PKIKP	PKPdf	09 30 29.4	+2.8
PLCA	**Paso Flores**	**144.59**	**200**	PKIKP	PKPdf	09 30 35.9	+0.7
PLCA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PLCA	**Paso Flores**	**144.59**	**200**	PKP	PKPdf	09 30 35.9	+0.7
	comp=Z,5.1nm,0.9s,baz=180,slow=4.6,SNR=8.0						
PLCA	**Paso Flores**	**144.59**	**200**	PKP	PKPdf	09 30 35.9	+0.7

*IDC **27** 09:11:25.4±0.5, 7.85N×93.99E, mb4.7/24, mb1 4.8/25, mb1mx4.8/28, mbtmp4.7/25, ML4.9/1, MS4.6/1, Ms1 4.6/1, ms1mx2.8/25, Error ellipse: s-maj=28.1km s-min=12.6km az=49.0, Putative timing error at GERES*

*BJI **27** 09:11:27.2, 7.82N×93.89E, h31km, mB5.2, mb4.9, Ms5.3, Msz4.8*

*MOS **27** 09:11:28.7±1.3, 7.86N×94.11E, h33km, mb5.2/39, Error ellipse: s-maj=11.5km s-min=6.7km az=105.8*

*HRVD **27** 09:11:29.8±0.3, 8.11N×94.26E, h16km±1km, MW5.2/55, Centroid moment Tensor Solution. LP body waves: s13,c16;Mantle waves: s55,c90; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-3.12±.34; $M_{\theta\theta}$-2.45±.20; $M_{\phi\phi}$5.58±.27; $M_{r\theta}$0.03±.66; $M_{\theta\phi}$3.45±.19; $M_{\phi r}$-3.67±.84; Best double couple: $M_0$6.582×10^16^ NP1:ϕ_s240°, δ43°, λ-27°. NP2:ϕ_s350°, δ72°, λ-129°. Principal axes: T 7.937, Plg17°, Azm108°; N -2.7, Plg37°, Azm5°; P -5.228, Plg48°, Azm218°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **27** 09:11:29.8±0.3, 7.81N×94.02E, h30km, mb5.1/31 Error ellipse: s-maj=7.9km s-min=7.0km az=58.0*

ISC 27 09:11:26.6±0.3, 7.86N±0.05×94.12E±0.04, h19km, h19km±2.0km: pP-P, n179, σ1§15/164, mb4.9/60, MS4.8/3, 3C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.01**	**340**	*i* PG		**Pn**	**09 12 36.4**	**+7.8**
PBA				*e*SG		**Sn**	**09 13 21.4**	**+5.7**
NST	**Nakhon Sawan**	**9.74**	**37**	P		**P**	**09 13 47.0**	**-2.0**
CM31	**Chiang Mai Arr**	**11.53**	**24**	*e*P		**P**	**09 14 13.9**	**+0.5**
	144nm,0.9s							
CMAR	**Chiang Mai Arr**	**11.53**	**24**	P		**P**	**09 14 13.9**	**+0.4**
CMAR				pmax	pmax			
	comp=Z,3.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**11.53**	**24**	Pn		**P**	**09 14 13.9**	**+0.4**
	comp=Z,2.6nm,0.3s,baz=212,slow=14,SNR=32							
KKTK	**Khon Kaen**	**11.97**	**44**	P		**P**	**09 14 19.0**	**-0.4**
	comp=Z,432nm,0.8s							
VIS	**Vishakhapatnam**	**14.38**	**314**	*e*P		**P**	**09 14 49.1**	**-2.3**
VIS				*e*			09 14 53.5	
	comp=Z,92nm,1.1s							
VIS				*e*			09 17 15.6	
BWNR	**Bhubaneshwar**	**14.75**	**328**	*e*P		**P**	**09 14 54.8**	**-1.5**
BWNR				*e*			09 14 56.9	
	comp=Z,60nm,0.7s							
BWNR				*e*S		**S**	**09 17 29.6**	**-11**
KOD	**Kodaikanal**	**16.62**	**279**	*e*		**P**	**09 15 09.7**	**-11**
	comp=E,42nm,1.8s							
KOD				*e*P			09 15 23.4	
KOD				*e*			09 15 28.1	
	comp=Z,119nm,1.7s							
KOD				*i*			09 15 29.0	
	comp=E,137nm,1.8s							
TRD	**Trivandrum**	**17.00**	**273**	*i* P		**P**	**09 15 29.6**	**+4.4**
TRD				*e*			09 15 47.1	
	comp=Z,86nm,1.1s							
SHL	**Shillong**	**17.74**	**353**	*e*		**P**	**09 15 28.9**	**-5.5**
SHL				*e*			09 15 31.5	
	comp=Z,452nm,0.2s							
HYB	**Hyderabad**	**17.90**	**304**	*i* P		**P**	**09 15 38.5**	**+2.0**
HYB	**Hyderabad**	**17.90**	**304**	*e*S		**S**	**09 18 49.0**	**-4.0**
QIZ	**Qiongzhong**	**18.88**	**52**	P		**P**	**09 15 49.0**	**+0.6**
QIZ				LR		LR		
	comp=N,12μm,13.4s							
QIZ	**Qiongzhong**	**18.88**	**52**	*e*P		**P**	**09 15 50.5**	**+2.1**
	comp=N,106nm,1.1s							
KMI	**Kunming**	**19.04**	**25**	⇑P		**P**	**09 15 53.4**	**+3.1**
KMI				S		**S**	**09 19 11.3**	**-7.4**
KMI				pmax	pmax			
	comp=Z,109nm,1.3s							
KMI	**Kunming**	**19.04**	**25**	⇑P		**P**	**09 15 53.4**	**+3.1**
	comp=Z,109nm,1.3s							
KMI				pP			09 16 01.5	
KMI				sP			09 16 05.3	
KMI				PP		PP	09 16 11.3	+4.3
KMI				S		**S**	**09 19 11.3**	**-7.4**
GOA	**Goa**	**21.26**	**293**	*e*		**P**	**09 16 23.1**	**+8.9**
GOA				*e*			09 16 25.7	
	comp=Z,95nm,1.4s							
GOA				*e*S		**S**	**09 20 04.3**	**-0.5**
LSA	**Lhasa**	**21.91**	**353**	*e*P		**P**	**09 16 21.4**	**+0.8**
BHPL	**Bhopal**	**22.16**	**316**	*e*P		**P**	**09 16 23.3**	**+0.2**
BHPL				*e*P			09 16 24.0	
BHPL				*e*			09 16 32.4	
	comp=E,98nm,1.4s							
BHPL				*e*			09 16 32.8	
	comp=Z,212nm,1.6s							
POO	**Poona**	**22.38**	**300**	*e*P		**P**	**09 16 26.6**	**+1.2**
POO				*e*			09 16 34.6	
	comp=Z,133nm,2.1s							
BOM	**Bombay**	**23.42**	**300**	*e*P		**P**	**09 16 35.6**	**-0.1**
BOM				*e*			09 16 40.6	
	comp=Z,68nm,1.1s							
AGRA	**Agra**	**24.63**	**323**	*e*P		**P**	**09 16 48.0**	**+0.7**
AGRA				*e*			09 16 56.2	
	comp=Z,105nm,0.5s							
SONA	**Sohna**	**25.89**	**324**	*e*P		**P**	**09 16 59.7**	**+0.4**
SONA				*e*			09 17 07.5	
	comp=Z,102nm,0.8s							
AYAN	**Aya Nagar**	**26.04**	**324**	*e*P		**P**	**09 17 01.6**	**+0.9**
AYAN				*e*			09 17 03.8	
	comp=Z,41nm,1.1s							
NDI	**New Delhi**	**26.14**	**325**	*e*P		**P**	**09 17 02.1**	**+0.6**
NDI				*e*			09 17 12.2	
	comp=Z,112nm,1.3s							
KUDL	**Kundal**	**26.17**	**323**	*e*P		**P**	**09 17 02.6**	**+0.8**
KUDL				*e*		pP	09 17 08.7	+1.3
	comp=Z,42nm,1.3s							
KHET	**Khetri**	**26.53**	**322**	*e*P		**P**	**09 17 07.6**	**+2.4**
KHET				*e*			09 17 18.0	
	comp=Z,87nm,1.7s							
ENH	**Enshi**	**26.54**	**31**	*e*P		**P**	**09 17 04.2**	**-1.1**
RTK	**Rohtak**	**26.86**	**324**	*e*		**P**	**09 17 13.3**	**+5.1**
RTK				*e*		pP	09 17 17.3	+3.5
	comp=Z,93nm,0.2s							
SMLA	**Simla**	**28.05**	**328**	*e*P		**P**	**09 17 20.2**	**+1.2**
SMLA				*e*		pP	09 17 26.6	+2.0
	comp=Z,27nm,0.9s							
SMLA				*e*			09 22 20.2	
XAN	**Xi'an**	**29.41**	**26**	P		**P**	**09 17 30.8**	**-0.5**
XAN				AP		pP	09 17 37.3	+0.5
XAN				AMB		AMB		
	comp=Z,27nm,1.0s,mb4.9							
LZH	**Lanzhou**	**29.47**	**16**	*e*P		**P**	**09 17 31.5**	**-0.2**
LZH				AP		pP	09 17 40.8	+3.5
LZH				XP		sP	09 17 44.0	+4.2
LZH				AMB		AMB		
	comp=Z,40nm,1.5s,mb4.9							
LZH				AMB		AMB		
	comp=Z,153nm,4.5s							
LZH				LR		LR		
	comp=E,3μm,12.2s							
LZH				LR		LR		
	comp=Z,3μm,13.0s,MS5.1							
LZH	**Lanzhou**	**29.47**	**16**	*e*P		**P**	**09 17 31.5**	**-0.2**
LZH				*PP		pP	09 17 40.7	+3.4
LZH				*SP		sP	09 17 44.0	+4.2
LZH				pmax		pmax		
	comp=Z,40nm,1.5s,mb4.9							
LZH				MLR		MLR		
	comp=Z,3μm,13.0s,MS5.1							
LZH	**Lanzhou**	**29.47**	**16**	*e*P		**P**	**09 17 31.5**	**-0.2**
	comp=Z,40nm,1.5s,mb4.9							
LZH				pP		pP	09 17 40.7	+3.4
LZH				sP		sP	09 17 44.0	+4.2
LZH				LR		LR		
	comp=Z,3μm,13.0s,MS5.1							
NJ2	**Nanjing**	**33.29**	**40**	*e*P		**P**	**09 18 06.0**	**+0.6**
NJ2				AMB		AMB		
	comp=Z,100nm,0.9s,mb5.8							
TIA	**Tai'an**	**35.17**	**33**	*e*P		**P**	**09 18 22.0**	**+0.5**
WMQ	**Urumqi**	**36.26**	**352**	P		**P**	**09 18 30.0**	**-0.6**
JOW	**Kunigami**	**37.48**	**56**	LR		LR	09 35 43.9	
	comp=Z,853nm,19.0s,MS4.6,baz=306,slow=39							
BJT	**Baijiatuau**	**37.61**	**28**	*e*P		**P**	**09 18 43.6**	**+1.6**
BJT				pmax		pmax		
	comp=Z,30nm,1.0s							
BJT	**Baijiatuau**	**37.61**	**28**	*e*P		**P**	**09 18 43.6**	**+1.6**
	comp=Z,30nm,1.0s,mb5.0							
BJI	**Beijing**	**37.63**	**28**	P		**P**	**09 18 44.2**	**+2.0**
BJI				S		**S**	**09 24 38.0**	**+7.5**
BJI				pmax		pmax		
	comp=Z,23nm,1.2

comp=Z,11nm,0.9s,mb4.9
MAT Matsushiro 49.18 48 PCP PcP 09 21 46.2 +7.0
CHKZ Chkalovo 49.48 342 *eP* **P 09 20 17.1 -0.6**
ASAR Alice Springs 49.92 130 P **P 09 20 21.3 -0.2**
comp=Z,2.5nm,0.7s,mb4.3,baz=296,slow=6.6,SNR=4.8
ASAR PcP PcP 09 21 42.4 +0.4
comp=Z,3.5nm,0.9s,baz=306,slow=3.4,SNR=2.9
KLR Kul'dur 51.91 31 *eP* **P 09 20 27.5 -8.7**
GNI Garni 54.44 314 P **P 09 20 54.8 -0.3**
GNI pmax pmax
comp=Z,1.0nm,0.4s
GNI Garni 54.44 314 P **P 09 20 54.8 -0.3**
comp=Z,1.2nm,0.4s,mb4.2,baz=187,slow=16,SNR=2.3
CLNS Chul'man 54.46 20 *eP* **P 09 20 58.5 +3.5**
CLNS pmax pmax
comp=N,22nm,0.9s
CLNS pmax pmax
comp=Z,36nm,0.9s,mb5.3
CLNS pmax pmax
comp=E,23nm,1.2s
PMG Port Moresby 55.54 107 *eP* **P 09 21 04.3 +0.8**
PMG Port Moresby 55.54 107 P **P 09 21 04.7 +1.2**
comp=E,24nm,0.8s,mb5.3,baz=14,slow=4.8,SNR=4.3
YSS Yuzh-Sakhalins 56.80 38 P **P 09 21 02.5 -10**
YSS pmax pmax
comp=Z,43nm,1.2s,mb5.3
YSS Yuzh-Sakhalins 56.80 38 P **P 09 21 02.5 -10**
comp=Z,43nm,1.2s,mb5.3
KIV Kislovodsk 57.32 318 *eP* **P 09 21 15.1 -0.7**
KIV pmax pmax
comp=Z,38nm,1.0s,mb5.4
KIV Kislovodsk 57.32 318 *eP* **P 09 21 15.1 -0.7**
comp=Z,38nm,1.0s,mb5.4
KMBO Kilima Mbogo 57.40 264 *eP* **P 09 21 19.2 +2.4**
KMBO pmax pmax
comp=Z,21nm,0.8s
KMBO Kilima Mbogo 57.40 264 *eP* **P 09 21 19.2 +2.3**
comp=Z,21nm,0.8s,mb5.2
ASF Jabal al Asfar 58.21 303 P **P 09 21 21.8 -0.5**
comp=Z,4.0nm,0.7s,mb4.6,baz=85,slow=2.3,SNR=4.8
CTAO Charters Tower 58.31 119 *eP* **P 09 21 21.3 -1.8**
CTAO pmax pmax
comp=Z,13nm,1.1s,mb4.9
CTAO Charters Tower 58.31 119 *eP* **P 09 21 21.3 -1.8**
comp=Z,13nm,1.1s,mb4.9
MALT Malatya 58.46 310 *eP* **P 09 21 22.4 -1.5**
MALT pmax pmax
comp=Z,16nm,1.2s,mb4.9
MALT Malatya 58.46 310 *eP* **P 09 21 22.4 -1.5**
comp=Z,16nm,1.2s,mb4.9
EIL Elat 59.42 300 *eP* **P 09 21 28.7 -2.0**
comp=Z,35nm,1.1s,mb5.3
YAK Yakutsk 60.02 18 *eP* **P 09 21 32.7 -1.6**
YAK pmax pmax
comp=Z,52nm,0.7s,mb5.7
YAK Yakutsk 60.02 18 *eP* **P 09 21 32.7 -1.6**
comp=Z,52nm,0.7s,mb5.7
STKA Stephens Creek 60.11 134 P **P 09 21 35.9 +0.5**
comp=Z,7.6nm,0.9s,mb4.7,baz=283,slow=4.4,SNR=5.3
STKA Stephens Creek 60.11 134 *eP* **P 09 21 35.4 +0.1**
BRTR Keskin Array B 62.43 311 P **P 09 21 48.8 -2.1**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 62.43 311 P **P 09 21 48.8 -2.1**
comp=Z,4.7nm,0.8s,mb4.7,baz=123,slow=7.4,SNR=6.1
MBAR Mbarara 63.74 265 *eP* **P 09 21 59.4 -0.7**
MBAR pmax pmax
comp=Z,24nm,1.2s,mb5.1
MBAR Mbarara 63.74 265 *eP* **P 09 21 59.4 -0.7**
comp=Z,24nm,1.2s,mb5.1
MOS Moscow 65.08 329 *eP* **P 09 22 06.6 -1.5**
MA2 Magadan 66.79 28 *eP* **P 09 22 18.5 -0.4**
MA2 pmax pmax
comp=Z,41nm,0.9s,mb5.5
MA2 Magadan 66.79 28 *eP* **P 09 22 18.5 -0.4**
comp=Z,41nm,0.9s,mb5.5
TIXI Tiksi 67.25 11 *eP* **P 09 22 20.2 -1.5**
TIXI pmax pmax
comp=Z,65nm,1.1s,mb5.6
AKASG Malin Array Be 68.16 322 P **P 09 22 25.4 -2.3**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 68.16 322 P **P 09 22 25.4 -2.3**
comp=Z,3.7nm,0.7s,mb4.5,baz=88,slow=4.9,SNR=7.6
IDI Anoyia 68.56 305 P **P 09 22 30.1 -0.5**
comp=Z,11nm,0.6s,mb5.0,baz=92,slow=8.6,SNR=3.6
MLR Muntele Rosu 69.17 316 P **P 09 22 33.7 -0.4**
MLR pmax pmax
comp=Z,10.0nm,1.0s
MLR Muntele Rosu 69.17 316 P **P 09 22 33.7 -0.4**
comp=Z,10nm,0.9s,mb4.7,baz=156,slow=20,SNR=3.7
MLR Muntele Rosu 69.17 316 P **P 09 22 33.7 -0.4**
JOF Joensuu 70.86 334 *ep* **P 09 22 46.1 +2.1**
comp=Z,11nm,0.6s,mb5.0
FINES FINESS Array B 72.72 332 P **P 09 22 53.8 -1.3**
FINES pmax pmax
comp=Z,10.0nm,0.8s
FINES FINESS Array B 72.72 332 P **P 09 22 53.8 -1.4**
comp=Z,10nm,0.8s,mb4.8,baz=92,slow=6.8,SNR=8.1
KAF Kangasniemi 72.80 333 *ep* **P 09 22 54.2 -1.4**
comp=Z,13nm,1.0s,mb4.8
KAF Kangasniemi 72.80 333 *eP* **P 09 22 54.2 -1.4**
KAF pmax pmax
comp=Z,13nm,1.0s,mb4.8
LBTB Lobatse 74.22 241 *eP* **P 09 23 00.9 -3.7**
LBTB pmax pmax
comp=Z,18nm,0.9s,mb5.0
LBTB Lobatse 74.22 241 *eP* **P 09 23 00.8 -3.8**
comp=Z,18nm,0.9s,mb5.0
KEV Kevo 74.84 341 *ep* **P 09 23 07.3 -0.1**
comp=Z,18nm,0.8s,mb5.0
KEV Kevo 74.84 341 *eP* **P 09 23 07.3 -0.1**
KEV pmax pmax
comp=Z,18nm,0.8s,mb5.0
OKC Ostrava-Krasne 74.99 319 *eP* **P 09 23 11.0 +2.4**
ARCES ARCESS Array B 75.28 340 P **P 09 23 09.3 -0.5**
ARCES pmax pmax
comp=Z,7.0nm,0.9s
ARCES ARCESS Array B 75.28 340 P **P 09 23 09.3 -0.6**
comp=Z,6.6nm,0.9s,mb4.6,baz=106,slow=6.6,SNR=4.8
ARCES ARCESS Array B 75.28 340 P **P 09 23 09.3 -0.6**
MORC Moravsky Berou 75.38 319 *eP* **P 09 23 10.0 -0.8**
MORC pmax pmax
comp=Z,34nm,1.3s,mb5.1
MORC Moravsky Berou 75.38 319 *eP* **P 09 23 10.0 -0.8**
comp=Z,34nm,1.3s,mb5.1
BOSA Boshof 75.56 238 *eP* **P 09 23 13.3 +1.0**
BOSA pmax pmax
comp=Z,27nm,1.3s,mb5.0
BOSA Boshof 75.56 238 *eP* **P 09 23 13.3 +1.0**
comp=Z,27nm,1.3s,mb5.0
BILL Bilibino 76.11 22 *eP* **P 09 23 13.8 -0.8**
BILL pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BILL Bilibino 76.11 22 *eP* **P 09 23 13.8 -0.8**
comp=Z,2.6nm,0.6s,mb4.3
DPC Dobruska-Polom 76.21 320 *eP* **P 09 23 15.5 0.0**
DPC *epP* pP 09 23 20.7 -0.8
KSP Ksiaz 76.26 320 *eP* **P 09 23 15.7 -0.1**
KSP *e**PP pP 09 23 22.1 +0.3
UPC Upice 76.42 320 *eP* **P 09 23 18.8 +2.1**
UPC *epP* pP 09 23 23.8 +1.2
PRU Pruhonice 77.33 319 *eP* **P 09 23 17.3 -4.4**
PVCC Panska Ves 77.34 320 *eP* **P 09 23 22.6 +0.8**
PVCC *epP* pP 09 23 26.9 -0.9
GERES GERESS Array B 77.83 318 P **P 09 23 14.5 -10**
comp=Z,7.0nm,1.0s,mb4.5,baz=108,slow=4.2,SNR=6.3
KHC Kasperske Hory 77.92 319 *eP* **P 09 23 24.8 -0.2**
KHC *epP* pP 09 23 29.8 -1.2
CLL Collm 78.36 321 *i* P **P 09 23 31.5 +4.1**
CLL *e* 09 23 46.0
CLL pmax pmax
comp=Z,20nm,1.5s,mb4.8
CLL Collm 78.36 321 *i* P **P 09 23 31.5 +4.1**
comp=Z,20nm,1.5s,mb4.8
CLL *e* 09 23 46.0
CLL Collm 78.36 321 P **P 09 23 31.5 +4.1**
comp=Z,logA/T=1.1,mb4.8
CLL *e* 09 23 46.0
HFS Hagfors 78.46 330 P **P 09 23 27.1 -0.6**
HFS pmax pmax
comp=Z,10.0nm,0.8s
HFS Hagfors 78.46 330 P **P 09 23 27.1 -0.7**
comp=Z,9.9nm,0.8s,mb4.8,baz=117,slow=3.3,SNR=5.5
NKC Novy Kostel 78.68 320 *eP* **P 09 23 29.3 +0.1**
NKC *epP* pP 09 23 34.2 -1.0

MOX Moxa 79.22 320 *eP* **P 09 23 32.0 -0.1**
GRA1 Grafenberg Arr 79.47 319 *eP* **P 09 23 33.9 +0.4**
GRF Grafenberg Arr 79.47 319 *eP* **P 09 23 33.9 +0.4**
NOA NORSAR Array B 79.74 331 P **P 09 23 34.5 -0.2**
NOA pmax pmax
comp=Z,7.0nm,1.1s
NOA NORSAR Array B 79.74 331 P **P 09 23 34.5 -0.1**
comp=Z,7.0nm,1.1s,mb4.5,baz=106,slow=5.2,SNR=5.1
DAVOX Davos 80.39 316 P **P 09 23 38.8 +0.4**
comp=Z,11nm,0.8s,mb4.8,baz=64,slow=2.4,SNR=5.4
LPG La Plagne 82.62 315 *eP* **P 09 23 50.5 +0.4**
comp=Z,28nm,0.8s,mb5.1
LPG La Plagne 82.62 315 *eP* **P 09 23 50.5 +0.4**
LPG pmax pmax
comp=Z,14nm,0.8s,mb5.0
DAG Danmarks Havn 87.49 348 *eP* **P 09 24 16.0 +2.2**
DAG pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
DAG Danmarks Havn 87.49 348 *eP* **P 09 24 16.0 +2.2**
comp=Z,1.4nm,0.7s,mb4.3
DAG Danmarks Havn 87.49 348 *i* P **P 09 24 16.0 +2.2**
comp=Z,1.4nm,0.7s,mb4.3
EKA Eskdalemuir Ar 87.72 325 P **P 09 24 16.9 +1.5**
EKA pmax pmax
comp=Z,13nm,0.8s
EKA Eskdalemuir Ar 87.72 325 P **P 09 24 16.9 +1.5**
comp=Z,13nm,0.8s,mb5.2,baz=95,slow=5.3,SNR=13
ESDC Sonseca Array 91.21 310 P **P 09 24 33.1 +1.0**
comp=Z,2.0nm,0.8s,mb4.5,baz=51,slow=4.4,SNR=4.1
MCK McKinley 94.48 23 *eP* **P 09 24 46.4 -0.2**
MCK pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
MCK McKinley 94.48 23 *eP* **P 09 24 46.4 -0.1**
comp=Z,4.2nm,0.9s,mb4.9
ILAR Eielson Array 94.77 22 P **P 09 24 47.2 -0.7**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.77 22 P **P 09 24 47.1 -0.7**
comp=Z,0.7nm,0.8s,mb4.2,baz=300,slow=4.7,SNR=5.9
INK Inuvik 97.01 16 P **P 09 24 58.5 +0.5**
INK pmax pmax
comp=Z,4.0nm,1.0s
INK Inuvik 97.01 16 P **P 09 24 58.5 +0.4**
comp=Z,4.4nm,1.0s,mb4.8,baz=280,slow=6.9,SNR=4.6
RES Resolute Bay 97.42 2 *eP* **P 09 24 59.9 +0.1**
RES pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
RES Resolute Bay 97.42 2 *eP* **P 09 24 59.9 +0.1**
comp=Z,9.5nm,0.8s,mb5.3
YKA Yellowknife Ar 106.44 13 P Pdif 09 25 42.2 +1.9
YKA 09 30 07.5
YKA Yellowknife Ar 106.44 13 Pdiff Pdif 09 25 42.1 +1.9
comp=Z,0.4nm,0.9s,baz=328,slow=4.8,SNR=3.9
YKA PP PP 09 30 07.4 -0.6
comp=Z,1.0nm,0.8s,baz=334,slow=7.7,SNR=6.6
MCMT McKenzie Canyo 122.20 22 *e*PKPdf PKPdf 09 30 22.3 -2.3
LAO LASA Array 122.75 17 PKPdf PKPdf 09 30 23.9 -1.7
YMR Madison River 123.03 21 *e*PKPdf PKPdf 09 30 24.4 -1.8
WUWY Wally Ulrich 124.09 22 *e*PKPdf PKPdf 09 30 26.4 -1.9
SNOW Snow King Moun 124.15 22 *e*PKPdf PKPdf 09 30 26.6 -1.9
NVAR Mina Array Bea 124.94 31 PKP PKPdf 09 30 29.2 -0.9
comp=Z,14nm,0.7s,baz=38,slow=2.0,SNR=7.3
PDAR Pinedale Array 125.19 21 PKP PKPdf 09 30 28.1 -2.5
comp=Z,1.4nm,0.7s,baz=44,slow=1.3,SNR=6.8
MSU Marysvale 127.78 26 *e*PKIKP PKPdf 09 30 35.2 -0.4
PV10 Paradox Valley 129.19 24 *eP* Pdif 09 27 22.7 +1.7
KSU1 Kansas State U 132.23 11 *e*PKPdf PKPdf 09 30 41.6 -2.5
ANMO Albuquerque 133.19 23 PKIKP PKPdf 09 30 44.2 -1.8
ANMO pmax pmax
comp=Z,2.0nm,0.7s
ANMO Albuquerque 133.19 23 PKP PKPdf 09 30 44.2 -1.8
comp=Z,1.7nm,0.7s,baz=336,slow=0.9,SNR=5.3
GDL2 Guadalupe Moun 136.43 23 *e*PKPdf PKPdf 09 30 46.4 -5.6
MNTX Cornudas Mount 136.47 24 *e*PKPdf PKPdf 09 30 49.3 -2.8
TXAR Lajitas Array 139.25 24 PKP PKPdf 09 30 55.7 -1.6
comp=Z,0.6nm,0.5s,baz=38,slow=0.8,SNR=8.2
JCT Junction City 139.61 19 *e*PKIKP PKPdf 09 30 53.6 -4.3
PLCA Paso Flores 144.53 200 PKIKP PKPdf 09 31 02.9 -3.3
PLCA pmax pmax
comp=Z,14nm,0.9s
PLCA Paso Flores 144.53 200 PKP PKPdf 09 31 02.9 -3.3
comp=Z,14nm,0.8s,baz=168,slow=2.2,SNR=9.3

*IDC **27** 09:17:34.3±1.2, 7.97N×93.37E, mb4.1/9, mb1 4.3/10, mb1mx4.1/18, mbtmp4.1/10, ML3.4/1, Error ellipse: s-maj=40.4km s-min=27.7km az=53.0, Putative timing error at GERES*
ISC 27 09:17:37.9±1.1, 8.1N±0.2×93.6E±0.2, h33km, n12, σ0=96/11, mb4.1/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.53**	**26**	Pn	**P**	**09 20 22.5**	**-0.9**
	0.1nm,0.3s,baz=212,slow=15,SNR=4.7						
SONM	**Songino Array**	**41.06**	**13**	P	**P**	**09 25 22.3**	**+2.3**
	0.7nm,0.7s,mb3.4,baz=198,slow=4.6,SNR=3.7						
ZAL	**Zalesovo**	**46.25**	**353**	P	**P**	**09 26 01.4**	**-0.5**
	2.3nm,0.6s,mb4.3,baz=157,slow=7.7,SNR=2.1						
WRA	**Warramunga Arr**	**48.84**	**125**	P	**P**	**09 26 22.4**	**-0.2**
	0.7nm,0.6s,mb3.9,baz=305,slow=8.6,SNR=5.0						
BRTR	**Keskin Array B**	**61.86**	**311**	P	**P**	**09 27 55.5**	**-0.9**
	0.9nm,0.8s,mb4.0,baz=142,slow=8.5,SNR=3.1						
FINES	**FINESS Array B**	**72.25**	**332**	P	**P**	**09 29 01.0**	**-0.5**
	2.9nm,0.9s,mb4.2,baz=125,slow=6.0,SNR=3.8						
ARCES	**ARCESS Array B**	**74.86**	**340**	P	**P**	**09 29 16.7**	**0.0**
	17nm,1.3s,mb4.8,baz=104,slow=8.1,SNR=3.7						
GERES	**GERESS Array B**	**77.29**	**318**	P	**P**	**09 29 22.9**	**-8.0**
	0.5nm,0.5s,mb3.7,baz=90,slow=9.3,SNR=5.1						
HFS	**Hagfors**	**77.98**	**330**	P	**P**	**09 29 35.6**	**+1.2**
	3.0nm,0.7s,mb4.3,baz=112,slow=8.0,SNR=4.1						
NB2	**NORSAR Subarra**	**79.26**	**331**	P	**P**	**09 29 42.1**	**+0.7**
	1.6nm,0.7s,mb4.1,baz=93,slow=5.0						
NOA	**NORSAR Array B**	**79.26**	**331**	P	**P**	**09 29 40.7**	**-0.7**
	2.1nm,0.9s,mb4.0,baz=94,slow=5.0,SNR=3.7						
PLCA	**Paso Flores**	**144.57**	**201**	PKP	PKPdf	09 37 13.3	+1.9
	4.1nm,1.0s,baz=128,slow=8.3,SNR=5.2						

*IDC **27** 09:17:38.0±2.4, 6.55N×73.04W, h144km±21km, mb3.7/12, mb1 4.0/14, mb1mx3.8/23, mbtmp4.2/14, Error ellipse: s-maj=22.1km s-min=15.3km az=56.0*
*NEIC **27** 09:17:39.9±0.7, 6.64N×72.98W, h162km±7km, mb4.3/26, Error ellipse: s-maj=8.7km s-min=7.1km az=101.0*
*FUNV **27** 09:17:39.0, 6.67N×73.26W, h161km, MW4.0*
ISC 27 09:17:39.4±0.5, 6.69N±0.05×72.90W±0.04, h172km±4km, n70, σ0=89/80, mb4.1/29, 3C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.30**	**26**	*eP*	**P**	**09 18 09.2**	**+0.1**
CAPV				*eS*	**S**	**09 18 31.2**	**-0.9**
SOCV	**Socops**	**2.57**	**52**	⇓*iP*	**P**	**09 18 24.7**	**+1.7**
SOCV				*eS*	**S**	**09 18 57.2**	**+0.7**
VIGV	**El Vigia**	**2.62**	**35**	*eP*	**P**	**09 18 24.2**	**+0.6**
VIGV				*eS*	**S**	**09 18 57.3**	**-0.3**
SDV	**Santo Domingo**	**3.13**	**46**	P	**P**	**09 18 31.3**	**+1.5**
	80nm,0.3s,baz=245,slow=8.4,SNR=461						
SDV				S	**S**	**09 19 09.7**	**+1.0**
	242nm,0.3s,baz=109,slow=20,SNR=43						
SDV	**Santo Domingo**	**3.13**	**46**	*e*Pn	**P**	**09 18 31.3**	**+1.5**
SDV				*e*Sn	**S**	**09 19 05.9**	**-2.8**
VIRV	**Villa del Rosa**	**3.82**	**7**	⇑*iP*	**P**	**09 18 36.9**	**-1.8**
VIRV				*eS*	**S**	**09 19 19.6**	**-4.7**
CURV	**Curarigua**	**4.40**	**41**	⇓*iP*	**P**	**09 18 46.7**	**+0.6**
TEPV	**Terepaima**	**4.90**	**48**	⇓*iP*	**P**	**09 18 53.4**	**+0.8**
TEPV				*eS*	**S**	**09 19 48.5**	**-0.8**
BAUV	**El Baul**	**5.31**	**65**	*eS*	**S**	**09 19 58.8**	**-0.1**
TURV	**Turiamo**	**6.24**	**53**	*eP*	**P**	**09 19 11.0**	**+0.7**
TURV				*eS*	**S**	**09 20 18.9**	**-2.0**
CAOV	**Caicara del Or**	**6.56**	**84**	⇓*eP*	**P**	**09 19 15.0**	**+0.6**
CAOV				*eS*	**S**	**09 20 27.6**	**-0.8**
OTAV	**Otavalo**	**8.47**	**221**	*e*Pn	**P**	**09 19 38.3**	**-1.5**
	11nm,0.8s						
OTAV				*e*Sn	**S**	**09 21 14.5**	**+0.6**
GWJ	**Greenwich**	**11.91**	**342**	⇑*eP*	**P**	**09 20 24.7**	**0.0**
STH	**Stony Hill**	**11.94**	**342**	⇓*eP*	**P**	**09 20 25.2**	**+0.1**
STH				*eS*	**S**	**09 22 24.9**	**-10**
MCJ	**Malvern**	**12.10**	**338**	⇑*eP*	**P**	**09 20 28.4**	**+1.2**
MCJ				*eS*	**S**	**09 22 32.5**	**-6.6**
JTS	**JuntasAbangare**	**12.45**	**288**	*eP*	**P**	**09 20 30.6**	**-0.9**
	68nm,0.8s						
SJG	**San Juan**	**13.12**	**29**	P	**P**	**09 20 40.9**	**+0.7**
	8.0nm,0.3s,baz=196,slow=20,SNR=5.0						

SJG San Juan 13.12 29 P **P 09 20 40.9 +0.7**
NNA Nana 18.97 192 *eP* **P 09 21 49.8 -0.1**
75nm,1.0s
TEIG Tepich 20.09 314 *eP* **P 09 22 01.3 -0.1**
18nm,0.9s
WVT Waverly 32.34 337 *eP* **P 09 23 54.3 -0.1**
14nm,1.0s,mb4.6
MIAR Mount Ida 33.65 328 *eP* **P 09 24 04.8 -0.9**
3.5nm,0.8s,mb4.1
FVM French Village 34.98 335 *eP* **P 09 24 16.5 -0.5**
14nm,0.9s,mb4.6
CCM Cathedral Cave 35.38 335 *eP* **P 09 24 20.1 -0.2**
18nm,0.8s,mb4.8
LTX Lajitas 36.71 312 *eP* **P 09 24 31.4 -0.2**
4.7nm,0.7s,mb4.2
TXAR Lajitas Array 36.71 312 P **P 09 24 31.4 -0.2**
3.0nm,0.6s,mb4.1,baz=128,slow=9.2,SNR=46
TXAR PcP PcP 09 26 53.0 +2.2
0.5nm,0.7s,baz=141,slow=6.7,SNR=4.0
WMOK Wichita Mounta 36.71 323 *eP* **P 09 24 30.5 -1.1**
5.2nm,0.7s,mb4.3
AMTX Amarillo 38.59 321 *eP* **P 09 24 47.4 +0.1**
14nm,0.9s,mb4.6
KSU1 Kansas State U 38.71 330 *eP* **P 09 24 47.0 -1.2**
MNTX Cornudas Mount 39.22 314 *eP* **P 09 24 52.4 -0.1**
7.4nm,0.7s,mb4.4
ANMO Albuquerque 41.76 317 P **P 09 25 14.0 +0.6**
1.2nm,0.7s,mb3.7,baz=154,slow=9.3,SNR=6.5
ANMO Albuquerque 41.76 317 *eP* **P 09 25 14.0 +0.7**
2.3nm,0.9s,mb3.8
LAZ Ladron 41.92 316 *eP* **P 09 25 15.1 +0.5**
SDCO Great Sand Dun 42.79 321 *eP* **P 09 25 22.5 +0.9**
6.9nm,0.8s,mb4.3
TUC Tucson 43.50 311 *eP* **P 09 25 28.0 +0.5**
5.4nm,0.9s,mb4.2
PV10 Paradox Valley 45.41 319 P **P 09 25 41.3 -1.3**
PLCA Paso Flores 47.24 178 P **P 09 25 53.8 -3.1**
1.6nm,0.8s,mb3.7,baz=288,slow=3.2,SNR=2.7
PLCA Paso Flores 47.24 178 *eP* **P 09 25 54.2 -2.7**
9.2nm,1.3s,mb4.2
MSU Marysvale 47.55 318 *eP* **P 09 26 00.0 +0.7**
MVU Marysvale 47.57 318 *eP* **P 09 26 00.5 +1.0**
9.4nm,1.0s,mb4.4
NEN Nelson 48.02 313 *eP* **P 09 26 03.4 +0.3**
SCHQ Schefferville 48.25 5 P **P 09 26 05.2 +0.8**
2.1nm,0.5s,mb4.0,baz=203,slow=6.6,SNR=8.1
SCHQ Schefferville 48.25 5 *eP* **P 09 26 05.4 +0.9**
4.1nm,0.7s,mb4.2
PDAR Pinedale Array 48.31 324 P **P 09 26 05.2 0.0**
1.5nm,0.5s,mb3.9,baz=126,slow=9.0,SNR=16
TCUT Toone Canyon 48.47 321 *eP* **P 09 26 06.5 +0.1**
HWUT Hardware Ranch 48.84 322 *eP* **P 09 26 09.2 -0.1**
4.5nm,0.8s,mb4.2
DGMT Dagmar 49.36 333 *eP* **P 09 26 13.5 +0.4**
21nm,0.7s,mb4.9
BGU Big Grassy Mou 49.38 320 *eP* **P 09 26 13.4 0.0**
SNOW Snow King Moun 49.43 324 *eP* **P 09 26 13.8 +0.1**
LOHW Long Hollow 49.43 324 *eP* **P 09 26 14.1 +0.4**
TPAW Teton Pass 49.56 324 *eP* **P 09 26 14.5 -0.2**
IMW Indian Meadow 49.80 324 *eP* **P 09 26 16.3 -0.2**
QLMT Earthquake Lak 50.64 325 *eP* **P 09 26 24.1 +1.2**
MCMT McKenzie Canyo 51.45 324 *eP* **P 09 26 29.9 +0.9**
HLID Hailey 51.67 322 *eP* **P 09 26 30.6 0.0**
3.8nm,0.9s,mb4.0
NVAR Mina Array Bea 51.73 315 P **P 09 26 31.3 +0.2**
1.8nm,0.7s,mb3.8,baz=133,slow=6.2,SNR=12
FCC Fort Churchill 54.45 347 *eP* **P 09 26 49.8 -1.0**
2.0nm,0.7s,mb4.0
YBH Yreka Blue Hor 56.18 317 P **P 09 27 01.5 -2.1**
1.7nm,0.5s,mb4.1,baz=250,slow=2.4,SNR=10
FRB Frobisher Bay 57.03 2 P **P 09 27 08.6 -0.7**
1.5nm,0.5s,mb4.1,baz=151,slow=13,SNR=6.4
YKA Yellowknife Ar 63.46 340 P **P 09 27 52.3 -0.6**
2.8nm,0.5s,mb4.3,baz=132,slow=6.6,SNR=128
YKA Yellowknife Ar 63.46 340 P **P 09 27 52.3 -0.6**
DBIC Dimbokro 67.52 86 P **P 09 28 20.4 +0.8**
1.1nm,0.5s,mb3.9,baz=177,slow=11,SNR=7.1
DBIC Dimbokro 67.52 86 *eP* **P 09 28 20.3 +0.7**
0.7nm,0.5s,mb3.6
INK Inuvik 73.22 340 P **P 09 28 53.5 +0.6**
1.5nm,0.6s,mb3.9,baz=105,slow=5.7,SNR=12
INK Inuvik 73.22 340 *eP* **P 09 28 53.4 +0.4**
2.0nm,0.7s,mb4.0
ILAR Eielson Array 77.17 335 P **P 09 29 15.7 +0.4**
0.5nm,0.7s,mb3.3,baz=112,slow=4.4,SNR=7.9
COLA College 77.60 335 P **P 09 29 19.3 +1.7**
2.3nm,0.9s,mb3.8
MCK McKinley 77.86 334 P **P 09 29 17.0 -2.1**
1.7nm,0.9s,mb3.7
ASAR Alice Springs 149.22 234 PKPbc PKPdf 09 37 10.4 +6.7
2.0nm,0.7s,baz=115,slow=3.6,SNR=12
WRA Warramunga Arr 150.47 241 PKPbc PKPdf 09 37 13.6 +7.9
1.3nm,0.5s,baz=106,slow=3.1,SNR=23

*IDC **27** 09:20:13.2±0.8, 8.11N×94.32E, mb4.0/7, mb1 4.2/8, mb1mx4.0/17, mbtmp3.9/8, Error ellipse: s-maj=34.1km s-min=22.0km az=44.0, Putative timing error at GERES*
ISC 27 09:20:15.9±0.8, 8.2N±0.1×94.4E±0.1, h33km, n12, σ1=92/8, mb4.1/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.13**	**23**	Pn	**P**	**09 22 55.9**	**-0.1**
	baz=214,slow=14,SNR=2.5						
ZAL	**Zalesovo**	**46.29**	**352**	P	**P**	**09 28 41.8**	**+1.7**
	2.4nm,0.5s,mb4.4,baz=287,slow=11,SNR=5.5						
WRA	**Warramunga Arr**	**48.22**	**126**	P	**P**	**09 28 55.8**	**0.0**
	2.3nm,0.9s,mb4.2,baz=301,slow=9.5,SNR=5.2						
ASAR	**Alice Springs**	**49.91**	**130**	P	**P**	**09 29 08.5**	**-0.2**
	1.1nm,0.6s,mb4.1,baz=303,slow=6.6,SNR=4.7						
KMBO	**Kilima Mbogo**	**57.72**	**263**	P	**P**	**09 30 07.5**	**+1.2**
	3.6nm,0.9s,mb4.4,baz=48,slow=11,SNR=6.9						
BRTR	**Keskin Array B**	**62.43**	**311**	P	**P**	**09 30 36.9**	**-1.3**
	0.8nm,0.8s,mb3.9,baz=140,slow=10,SNR=3.1						
AKASG	**Malin Array Be**	**68.08**	**322**	P	**P**	**09 31 13.2**	**-1.2**
	0.8nm,0.7s,mb3.9,baz=96,slow=4.2,SNR=4.2						
GERES	**GERESS Array B**	**77.78**	**318**	P	**P**	**09 32 01.7**	**-10**
	1.0nm,0.9s,mb3.7,baz=63,slow=3.0,SNR=3.9						
NVAR	**Mina Array Bea**	**124.53**	**31**	PKP	PKPdf	09 39 16.9	+4.4
	1.1nm,0.8s,baz=270,slow=3.2,SNR=7.0						
PDAR	**Pinedale Array**	**124.80**	**21**	PKP	PKPdf	09 39 15.6	+2.7
	0.7nm,0.8s,slow=1.5,SNR=5.3						
TXAR	**Lajitas Array**	**138.85**	**24**	PKP	PKPdf	09 39 43.3	+3.6
	0.5nm,0.8s,baz=298,slow=1.2,SNR=4.4						
PLCA	**Paso Flores**	**144.92**	**200**	PKP	PKPdf	09 39 51.7	+1.7
	3.0nm,0.8s,baz=182,slow=3.5,SNR=4.7						

IDC 27 09:21:12.8±2.1, 7.94N×93.83E, mb4.2/6, mb1 4.3/6, mb1mx3.9/17, mbtmp4.2/6, Error ellipse: s-maj=56.8km s-min=50.0km az=114.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.17**	**13**	P	P	09 28 58.5	-2.1
	1.1nm,0.9s,baz=189,slow=6.6,SNR=3.4						
ZAL	**Zalesovo**	**46.45**	**353**	P	P	09 29 41.9	-1.3
	3.5nm,0.5s,baz=295,slow=7.1,SNR=5.6						
BRTR	**Keskin Array B**	**62.16**	**311**	P	P	09 31 36.1	-2.3
	1.8nm,1.0s,baz=119,slow=7.6,SNR=3.7						
FINES	**FINESS Array B**	**72.51**	**332**	P	P	09 32 41.4	-1.8
	1.9nm,0.8s,baz=101,slow=9.7,SNR=4.3						
ARCES	**ARCESS Array B**	**75.10**	**340**	P	P	09 32 55.5	-2.7
	3.8nm,1.0s,baz=98,slow=6.4,SNR=3.6						
HFS	**Hagfors**	**78.25**	**330**	P	P	09 33 15.1	-0.8
	0.9nm,0.4s,baz=117,slow=3.3,SNR=5.1						
NVAR	**Mina Array Bea**	**125.02**	**31**	PKP	PKPdf	09 40 16.1	-1.4
	0.8nm,0.8s,baz=196,slow=3.1,SNR=3.9						
TXAR	**Lajitas Array**	**139.29**	**24**	PKP	PKPdf	09 40 44.4	-0.2
	0.2nm,0.5s,baz=280,slow=0.8,SNR=4.4						
PLCA	**Paso Flores**	**144.50**	**201**	PKP	PKPdf	09 40 50.1	-3.2
	2.2nm,0.8s,baz=268,slow=2.7,SNR=3.7						

**IDC 27 09:22:24.7±1.3, 7.57N×93.69E, mb4.0/7, mb1 4.2/7, mb1mx4.0/18, mbtmp4.0/

0.9nm,0.6s,baz=124,slow=5.7,SNR=3.1
FINES FINESS Array B 72.77 332 P P 09 33 54.4 -2.2
1.4nm,0.7s,baz=130,slow=15,SNR=3.9
GERES GERESS Array B 77.75 318 P P 09 34 15.7 -9.5
0.8nm,0.7s,baz=117,slow=3.0,SNR=4.0
HFS Hagfors 78.49 330 P P 09 34 27.7 -1.3
1.5nm,0.5s,baz=112,slow=8.0,SNR=4.2
NOA NORSAR Array B 79.77 331 P P 09 34 35.7 -0.3
1.4nm,0.8s,baz=90,slow=6.2,SNR=3.3
PDAR Pinedale Array 125.61 21 PKP PKPdf 09 41 28.6 -1.7
0.4nm,0.7s,baz=45,slow=2.1,SNR=3.8
PLCA Paso Flores 144.11 201 PKP PKPdf 09 42 04.8 +0.3
2.6nm,0.9s,baz=145,slow=4.5,SNR=4.3

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*IDC **27** 09:25:22.6±0.5, 7.87N×93.99E, mb4.8/26, mb1 4.9/27, mb1mx4.9/29, mbtmp4.8/27, ML4.1/1, MS4.5/6, Ms1 4.5/6, ms1mx3.8/30, Error ellipse: s-maj=24.5km s-min=10.7km az=50.0, Putative timing error at GERES and LPAZ*
*MOS **27** 09:25:26.5±1.1, 7.99N×94.15E, h33km, mb5.3/59, Error ellipse: s-maj=8.7km s-min=4.9km az=113.3*
*BJI **27** 09:25:26.1, 7.50N×93.85E, h55km, mB5.3, mb4.8, Ms4.9, Msz4.5*
*HRVD **27** 09:25:27.9±0.3, 7.94N×94.16E, h18km±1km, MW5.1/56, Centroid moment Tensor Solution. LP body waves: s17,c24;Mantle waves: s56,c99; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-2.04±.24; Mθθ-0.35±.17; Mφφ2.39±.21; Mrθ-2.50±.53; Mrφ5.37±.18; Mθr-1.56±.50; Best double couple: M0:6.179×10^16^ NP1:φs172°, δ61°, λ-174°. NP2:φs79°, δ85°, λ-29°. Principal axes: T 7.381, Plg16°, Azm129°; N -2.405, Plg60°, Azm251°; P -4.978, Plg24°, Azm32°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 09:25:27.9±0.2, 7.93N×94.09E, h30km, mb5.1/62 Error ellipse: s-maj=5.6km s-min=4.3km az=57.0*
ISC 27 09:25:25.8±0.2, 7.96N±0.03×94.12E±0.04, h29km, h29km±1.9km: pP-P, n280, σ1s04/267, mb5.1/98, MS4.6/11, 27C-10D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.92**	**340**	*i* PG	**Pn**	**09 26 35.6**	**+10**
PBA				*e*SG	**Sn**	**09 27 19.2**	**+8.1**
CM31	**Chiang Mai Arr**	**11.44**	**24**	*e*P	**P**	**09 28 11.3**	**+0.7**
	16nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.44**	**24**	Pn	**P**	**09 28 10.7**	**+0.1**
	0.4nm,0.3s,baz=211,slow=14,SNR=20						
CMAR				LR	LR	09 32 37.7	
	comp=Z,1μm,19.3s,baz=215,slow=38						
CHG	**Chiang Mai**	**11.77**	**23**	⇑P	**P**	**09 28 15.7**	**+0.7**
	42nm,1.0s						
CHRT	**Chiangrai**	**13.05**	**24**	⇑P	**P**	**09 28 35.0**	**+2.8**
	166nm,1.1s						
VIS	**Vishakhapatnam**	**14.30**	**314**	*e*P	**P**	**09 28 46.5**	**-2.2**
VIS				*e*		09 28 55.5	
	comp=Z,108nm,1.6s						
VIS				*e*		09 31 05.2	
BWNR	**Bhubaneshwar**	**14.67**	**328**	*e*P	**P**	**09 28 52.7**	**-0.8**
BWNR				*e*		09 29 00.9	
	comp=Z,98nm,0.8s						
BWNR				*e*S	**S**	**09 31 28.6**	**-7.2**
KOD	**Kodaikanal**	**16.59**	**279**	*e*P	**P**	**09 29 23.5**	**+5.2**
KOD				*e*		09 29 25.2	
	comp=Z,55nm,1.6s						
SHL	**Shillong**	**17.64**	**353**	*e*P	**P**	**09 29 29.9**	**-1.4**
SHL				*e*P		09 29 30.0	
SHL				*e*		09 29 38.2	
	comp=Z,2μm,2.2s						
HYB	**Hyderabad**	**17.84**	**303**	*e*P	**P**	**09 29 34.0**	**+0.1**
HYB				*e*S	**S**	**09 32 48.0**	**-1.2**
HYB				pmax	pmax		
	comp=Z,125nm,1.4s						
HYB	**Hyderabad**	**17.84**	**303**	*e*P	**P**	**09 29 34.0**	**+0.1**
	comp=Z,125nm,1.4s						
HYB				*e*S	**S**	**09 32 48.0**	**-1.2**
HYB	**Hyderabad**	**17.84**	**303**	*i* P	**P**	**09 29 34.0**	**+0.1**
	comp=Z,125nm,1.4s						
HYB				*e*S	**S**	**09 32 48.0**	**-1.2**
QIZ	**Qiongzhong**	**18.82**	**53**	*e*P	**P**	**09 29 46.5**	**+0.6**
QIZ				LR	LR		
	comp=N,6μm,13.8s						
QIZ	**Qiongzhong**	**18.82**	**53**	*e*P	**P**	**09 29 49.4**	**+3.5**
	comp=N,126nm,1.4s						
KMI	**Kunming**	**18.95**	**25**	⇑P	**P**	**09 29 51.6**	**+4.2**
KMI				S	**S**	**09 33 22.3**	**+8.1**
KMI				pmax	pmax		
	comp=Z,61nm,1.5s						
KMI	**Kunming**	**18.95**	**25**	⇑P	**P**	**09 29 51.6**	**+4.2**
	comp=Z,61nm,1.5s						
KMI				S	**S**	**09 33 22.3**	**+8.1**
COCO	**West Island**	**20.20**	**172**	*e*P	**P**	**09 30 01.9**	**+0.6**
	comp=Z,268nm,1.0s						
JIRN	**Jiri**	**20.98**	**340**	*e*P	**P**	**09 30 08.4**	**-1.0**
	comp=Z,291nm,1.0s						
PKI	**Pulchoki**	**21.18**	**338**	*e*P	**P**	**09 30 10.5**	**-0.8**
	comp=Z,206nm,1.1s,mb5.4						
GOA	**Goa**	**21.22**	**293**	*e*P	**P**	**09 30 17.8**	**+6.0**
GOA				*e*		09 30 23.1	
	comp=Z,52nm,1.1s						
GOA				*e*S	**S**	**09 34 04.5**	**+3.4**
GUN	**Gumba**	**21.32**	**340**	*e*P	**P**	**09 30 12.1**	**-0.7**
	comp=Z,696nm,1.4s,mb5.8						
DMN	**Daman**	**21.32**	**338**	*e*P	**P**	**09 30 11.9**	**-0.9**
	comp=Z,218nm,0.9s,mb5.5						
KKN	**Kakani**	**21.42**	**338**	*e*P	**P**	**09 30 12.5**	**-1.3**
	comp=Z,373nm,1.4s,mb5.5						
KAD	**Karad**	**21.53**	**297**	*e*P	**P**	**09 30 16.8**	**+1.8**
KAD				*e*		09 30 24.9	
	comp=Z,71nm,1.5s						
LSA	**Lhasa**	**21.81**	**353**	*e*P	**P**	**09 30 16.8**	**-0.9**
LSA				pmax	pmax		
	comp=Z,70nm,0.8s,mb5.1						
LSA	**Lhasa**	**21.81**	**353**	*e*P	**P**	**09 30 16.8**	**-0.9**
	comp=Z,70nm,0.8s,mb5.1						
GKN	**Gorkha**	**21.86**	**337**	*e*P	**P**	**09 30 17.1**	**-1.1**
	comp=Z,129nm,0.8s,mb5.4						
KOLN	**Koldanda**	**22.07**	**335**	*e*P	**P**	**09 30 20.3**	**0.0**
	comp=Z,197nm,0.8s,mb5.6						
BHPL	**Bhopal**	**22.08**	**315**	*e*P	**P**	**09 30 21.9**	**+1.5**
BHPL				*e*		09 30 26.9	
	comp=Z,137nm,1.4s						
BHPL				*e*S	**S**	**09 34 19.0**	**+1.8**
SONA	**Sohna**	**25.81**	**324**	*e*P	**P**	**09 30 57.0**	**+0.6**
SONA				*e*		09 30 59.2	
	comp=Z,58nm,0.7s						
AYAN	**Aya Nagar**	**25.95**	**324**	*e*P	**P**	**09 30 58.0**	**+0.1**
AYAN				*e*	pP	09 31 05.3	-1.0
	comp=Z,43nm,0.4s						
NDI	**New Delhi**	**26.05**	**324**	*e*P	**P**	**09 31 02.7**	**+4.0**
NDI				*e*		09 31 04.3	
	comp=Z,100nm,1.0s						
KUDL	**Kundal**	**26.08**	**323**	*e*P	**P**	**09 30 58.1**	**-0.9**
KUDL				*e*		09 31 04.1	
	comp=Z,31nm,1.0s						
KHET	**Khetri**	**26.45**	**321**	*e*P	**P**	**09 31 02.9**	**+0.5**
KHET				*e*		09 31 06.3	
	comp=Z,69nm,2.3s						
ENH	**Enshi**	**26.46**	**31**	*e*P	**P**	**09 31 02.9**	**+0.4**
	comp=Z,56nm,1.1s,mb5.0						
RTK	**Rohtak**	**26.78**	**324**	*e*P	**P**	**09 31 09.0**	**+3.5**
SMLA	**Simla**	**27.96**	**328**	*e*P	**P**	**09 31 24.8**	**+8.6**
SMLA				*e*		09 37 07.4	
XAN	**Xi'an**	**29.33**	**26**	P	**P**	**09 31 28.5**	**+0.1**
XAN				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.7						
LZH	**Lanzhou**	**29.38**	**16**	*e*P	**P**	**09 31 29.0**	**+0.2**
LZH				AMB	AMB		
	comp=Z,34nm,1.6s,mb4.8						
LZH	**Lanzhou**	**29.38**	**16**	*e*P	**P**	**09 31 29.0**	**+0.2**
LZH				*PP	pP	09 31 37.7	+0.4
LZH				*SP	sP	09 31 40.8	-0.2
LZH				pmax	pmax		
	comp=Z,34nm,1.6s,mb4.8						
LZH	**Lanzhou**	**29.38**	**16**	*e*P	**P**	**09 31 29.0**	**+0.2**
	comp=Z,34nm,1.6s,mb4.8						
LZH				pP	pP	09 31 37.7	+0.4
LZH				sP	sP	09 31 40.8	-0.2
WHN	**Wuhan**	**29.39**	**37**	⇑P	**P**	**09 31 30.5**	**+1.5**
WHN				AMB	AMB		
	comp=Z,57nm,1.5s,mb5.1						
NJ2	**Nanjing**	**33.22**	**40**	*e*P	**P**	**09 32 04.5**	**+1.8**
NJ2				AMB	AMB		
	comp=Z,60nm,1.1s,mb5.4						
SSE	**Sheshan**	**34.18**	**44**	P	**P**	**09 32 12.5**	**+1.5**
SSE				AP	pP	09 32 21.3	+1.8
SSE				S	**S**	**09 37 42.5**	**+8.0**
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,1μm,12.0s						
SSE				LR	LR		
	comp=N,460nm,17.4s,MS4.5						
SSE				LR	LR		
	comp=E,550nm,17.8s,MS4.5						
SSE				LR	LR		
	comp=Z,351nm,23.3s						
SSE	**Sheshan**	**34.18**	**44**	P	**P**	**09 32 12.4**	**+1.4**
	comp=Z,31nm,0.7s,mb5.3						
SSE				pP	pP	09 32 21.2	+1.7
SSE				S	**S**	**09 37 42.5**	**+8.0**
SSE				LR	LR		
	comp=Z,350nm,23.3s,MS4.0						
TIA	**Tai'an**	**35.09**	**33**	*e*P	**P**	**09 32 18.5**	**-0.3**
WMQ	**Urumqi**	**36.16**	**352**	P	**P**	**09 32 28.3**	**+0.6**
WMQ				AP	pP	09 32 38.0	+1.7
WMQ				PP	PP	09 33 51.0	+0.5
WMQ				PCP	PcP	09 34 54.0	+0.7
WMQ				S	**S**	**09 38 04.8**	**-0.2**
WMQ				AMB	AMB		
	comp=Z,72nm,1.0s,mb5.6						
WMQ				AMB	AMB		
	comp=Z,494nm,5.4s						
WMQ				LR	LR		
	comp=N,1μm,16.4s,MS4.9						
WMQ				LR	LR		
	comp=E,1μm,16.2s,MS4.9						
WMQ				LR	LR		
	comp=Z,2μm,16.5s,MS4.9						
JOW	**Kunigami**	**37.43**	**56**	LR	LR	09 50 20.7	
	comp=Z,759nm,18.6s,MS4.5,baz=304,slow=40						
BJT	**Baijiatuau**	**37.52**	**28**	*e*P	**P**	**09 32 40.6**	**+1.4**
BJT				pmax	pmax		
	comp=Z,81nm,1.5s						
BJT	**Baijiatuau**	**37.52**	**28**	*e*P	**P**	**09 32 40.6**	**+1.4**
	comp=Z,81nm,1.5s,mb5.2						
BJI	**Beijing**	**37.54**	**28**	P	**P**	**09 32 41.4**	**+2.0**
BJI				pmax	pmax		
	comp=Z,19nm,1.6s,mb4.6						
BJI	**Beijing**	**37.54**	**28**	P	**P**	**09 32 41.4**	**+2.0**
	comp=Z,19nm,1.6s,mb4.6						
KZA	**Kyzart**	**37.85**	**337**	P	**P**	**09 32 43.1**	**+1.1**
	SNR=6.7						
UCH	**Uchtor**	**38.27**	**336**	P	**P**	**09 32 46.1**	**+0.7**
	SNR=8.7						
MBWA	**Marble Bar**	**38.34**	**139**	P	**P**	**09 32 45.2**	**-1.1**
	comp=Z,38nm,1.3s,mb5.0						
TKM2	**Tokmak 2**	**38.44**	**338**	P	**P**	**09 32 47.0**	**+0.1**
	SNR=6.8						
KBK	**Karagaybulak**	**38.46**	**337**	P	**P**	**09 32 48.0**	**+0.9**
	SNR=8.0						
AML	**Almayashu**	**38.52**	**335**	P	**P**	**09 32 48.5**	**+0.9**
	SNR=23						
AAK	**Ala-Archa**	**38.62**	**337**	P	**P**	**09 32 49.4**	**+1.0**
	SNR=15						
AAK	**Ala-Archa**	**38.62**	**337**	P	**P**	**09 32 49.0**	**+0.6**
AAK				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.0						
AAK	**Ala-Archa**	**38.62**	**337**	*i* Pr		09 32 48.1	
FRU	**Bishkek**	**38.74**	**337**	*e*P	**P**	**09 32 49.0**	**-0.4**
FRU				*e*		09 34 24.0	
FRU				pmax	pmax		
	comp=Z,40nm,1.6s,mb4.9						
CHMS	**Chumysh**	**38.83**	**337**	P	**P**	**09 32 49.8**	**-0.3**
	SNR=7.2						
EKS2	**Erkin-Say**	**38.93**	**336**	P	**P**	**09 32 51.8**	**+0.8**
	SNR=8.7						
USP	**Ospenovka**	**39.15**	**337**	P	**P**	**09 32 53.0**	**+0.1**
	SNR=14						
MK02	**Makanchi Array**	**39.97**	**347**	P	**P**	**09 32 59.1**	**-0.5**
MK02				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.9						
SONM	**Songino Array**	**41.09**	**13**	P	**P**	**09 33 09.2**	**+0.5**
	comp=Z,2.7nm,0.9s,baz=198,slow=5.6,SNR=13						
SONM				PcP	PcP	09 35 09.3	+0.7
	comp=Z,4.3nm,1.0s,baz=199,slow=4.2,SNR=5.5						
ULN	**Ulaanbaatar**	**41.26**	**13**	*e*P	**P**	**09 33 06.5**	**-3.6**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**41.26**	**13**	*e*P	**P**	**09 33 06.5**	**-3.6**
	comp=Z,7.3nm,1.0s,mb4.3						
KS15	**Wonju Array Si**	**42.39**	**41**	*e*P	**P**	**09 33 21.5**	**+1.9**
ZAK	**Zakamensk**	**42.97**	**9**	*e*P	**P**	**09 33 23.7**	**-0.4**
TLY	**Talaya**	**44.29**	**8**	⇑*e*P	**P**	**09 33 36.2**	**+1.4**
TLY	**Talaya**	**44.29**	**8**	*e*P	**P**	**09 33 34.6**	**-0.2**
	comp=Z,11nm,1.2s,mb4.5						
KURK	**Kurchatov**	**44.52**	**346**	*i* P	**P**	**09 33 36.5**	**-0.2**
KURK				pmax	pmax		
	comp=Z,36nm,1.2s,mb5.1						
KURK	**Kurchatov**	**44.52**	**346**	*e*P	**P**	**09 33 35.9**	**-0.8**
	comp=Z,77nm,1.3s,mb5.4						
MUN	**Mundaring**	**44.97**	**153**	*e*P	**P**	**09 33 41.7**	**+1.1**
	comp=Z,27nm,0.9s,mb5.1						
MUN	**Mundaring**	**44.97**	**153**	*e*P	**P**	**09 33 41.7**	**+1.1**
MUN				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.1						
KLBR	**Kellerberrin**	**45.36**	**151**	*e*P	**P**	**09 33 43.5**	**-0.2**
	comp=Z,359nm,1.0s						
NWAO	**Narrogin (SRO)**	**46.23**	**153**	*e*P	**P**	**09 33 49.9**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,44nm,1.1s						
NWAO	**Narrogin (SRO)**	**46.23**	**153**	P	**P**	**09 33 50.5**	**-0.1**
	comp=Z,32nm,0.9s,mb5.2,baz=322,slow=10.0,SNR=8.6						
NWAO	**Narrogin (SRO)**	**46.23**	**153**	*e*P	**P**	**09 33 49.9**	**-0.6**
	comp=Z,44nm,1.1s,mb5.3						
HIA	**Hailar**	**46.45**	**23**	*e*P	**P**	**09 33 53.1**	**+1.1**
HIA				pmax	pmax		
	comp=Z,57nm,1.4s						
HIA	**Hailar**	**46.45**	**23**	*e*P	**P**	**09 33 53.1**	**+1.1**
	comp=Z,57nm,1.4s,mb5.3						
ZAL	**Zalesovo**	**46.46**	**352**	P	**P**	**09 33 52.3**	**+0.3**
ZAL				pmax	pmax		
	comp=Z,20nm,1.0s						
ZAL	**Zalesovo**	**46.46**	**352**	P	**P**	**09 33 52.3**	**+0.3**
	comp=Z,20nm,1.0s,mb5.0,baz=298,slow=8.9,SNR=35						
NVS	**Novosibirsk**	**47.56**	**351**	*e*P	**P**	**09 33 59.3**	**-1.4**
NVS				*e*S	**S**	**09 40 53.2**	**+0.3**
NVS				pmax	pmax		
	comp=Z,99μm,1.6s						
MDJ	**Mudanjiang**	**47.75**	**34**	P	**P**	**09 34 03.0**	**+0.6**
MDJ				AP	pP	09 34 13.3	+2.2
MDJ				PP	PP	09 35 53.8	+0.4
MDJ				S	**S**	**09 40 54.3**	**-1.5**
MDJ				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,129nm,5.0s						
MDJ				LR	LR		
	comp=E,497nm,16.2s						
MDJ				LR	LR		
	comp=Z,511nm,18.3s,MS4.5						
MDJ	**Mudanjiang**	**47.75**	**34**	*e*P	**P**	**09 34 03.1**	**+0.7**
	comp=Z,104nm,1.7s,mb5.6						
WRA	**Warramunga Arr**	**48.33**	**126**	P	**P**	**09 34 05.6**	**-1.6**
WRA						09 35 33.5	
WRA				pmax	pmax		
	comp=Z,22nm,1.1s						
WRA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WRA	**Warramunga Arr**	**48.33**	**126**	P	**P**	**09 34 05.6**	**-1.5**
	comp=Z,22nm,1.1s,mb5.1,baz=304,slow=9.1,SNR=36						
WRA				PcP	PcP	09 35 33.5	-0.5
	comp=Z,3.5nm,0.9s,baz=318,slow=3.3,SNR=4.9						
WRAB	**Tennant Creek**	**48.33**	**126**	*e*P	**P**	**09 34 05.5**	**-1.7**
WRAB	**Tennant Creek**	**48.33**	**126**	*e*P	**P**	**09 34 05.3**	**-1.9**
	comp=Z,32nm,0.9s,mb5.3						
WB2	**Warramunga Arr**	**48.34**	**126**	⇓*i*P	**P**	**09 34 05.9**	**-1.3**
BVA0	**Borovoye Array**	**48.90**	**341**	P	**P**	**09 34 10.0**	**-1.1**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
BVAR	**Borovoye Array**	**48.90**	**341**	P	**P**	**09 34 10.2**	**-0.9**
	comp=Z,5.7nm,0.9s,mb4.6,baz=149,slow=8.6,SNR=19						
BRVK	**Borovoye**	**48.96**	**341**	*e*P	**P**	**09 34 10.8**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.0						
BRVK	**Borovoye**	**48.96**	**341**	*e*P	**P**	**09 34 10.8**	**-0.8**
	comp=Z,22nm,1.3s,mb5.0						
RAYN	**Ar Rayn**	**49.03**	**294**	P	**P**	**09 34 13.2**	**+0.7**
	comp=Z,214nm,1.0s,mb6.1,SNR=27						
MAT	**Matsushiro**	**49.12**	**48**	*e*P	**P**	**09 34 13.0**	**-0.1**
MAT	**Matsushiro**	**49.12**	**48**	P	**P**	**09 34 13.0**	**-0.1**
CHKZ	**Chkalovo**	**49.39**	**342**	P	**P**	**09 34 14.1**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
CHKZ	**Chkalovo**	**49.39**	**342**	*e*P	**P**	**09 34 13.6**	**-1.3**
	comp=Z,54nm,1.2s,mb5.5						
ASPA	**Alice Springs**	**49.99**	**130**	*e*P	**P**	**09 34 18.6**	**-1.3**
ASAR	**Alice Springs**	**49.99**	**130**	P	**P**	**09 34 18.5**	**-1.4**
	comp=Z,11nm,0.9s,mb4.9,baz=308,slow=7.3,SNR=35						
ASAR				PcP	PcP	09 35 40.0	+0.1
	comp=Z,6.1nm,1.0s,baz=309,slow=3.0,SNR=8.6						
ASAR				LR	LR	09 58 41.2	
	comp=Z,485nm,18.1s,MS4.5,baz=288,slow=40						
KLR	**Kul'dur**	**51.83**	**31**	*e*P	**P**	**09 34 30.8**	**-2.7**
BOD	**Bodaibo**	**52.07**	**13**	*e*P	**P**	**09 34 33.1**	**-2.1**
GNI	**Garni**	**54.36**	**314**	*d i*P	**P**	**09 34 52.6**	**+0.2**
GNI				pmax	pmax		
	comp=Z,28nm,1.4s						
GNI	**Garni**	**54.36**	**314**	P	**P**	**09 34 51.6**	**-0.8**
	comp=Z,20nm,1.1s,mb5.0,baz=8.1,slow=4.1,SNR=6.3						
GNI				LR	LR	10 00 07.3	
	comp=Z,316nm,21.8s,MS4.3,baz=96,slow=38						
GNI	**Garni**	**54.36**	**314**	*e*P	**P**	**09 34 52.3**	**0.0**
	comp=Z,24nm,1.0s,mb5.1						
CLNS	**Chul'man**	**54.37**	**20**	*e*P	**P**	**09 34 52.2**	**0.0**
CLNS				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.2						
CLNS				pmax	pmax		
	comp=N,14nm,1.1s						
CLNS				pmax	pmax		
	comp=E,16nm,1.2s						
TI2	**Plekhanov**	**54.97**	**316**	⇓*i*P	**P**	**09 34 57.0**	**+0.1**
SVE	**Sverdlovsk**	**55.31**	**338**	⇓*e*P	**P**	**09 34 57.5**	**-1.6**
SVE				pmax	pmax		
	comp=Z,100nm,2.0s,mb5.5						
SVE				MLR	MLR		
	comp=N,500nm,22.0s,MS4.6						
SVE				MLR	MLR		
	comp=E,200nm,22.0s,MS4.6						
SVE				MLR	MLR		
	comp=Z,2μm,22.0s,MS5.0						
ASAJ	**Asahikawa**	**55.37**	**41**	LR	LR	09 58 20.5	
	comp=Z,500nm,19.8s,MS4.6,baz=315,slow=36						
PMG	**Port Moresby**	**55.58**	**107**	P	**P**	**09 35 01.3**	**-0.3**
PMG				pmax	pmax		
	comp=Z,38nm,0.8s						
PMG	**Port Moresby**	**55.58**	**107**	P	**P**	**09 35 01.3**	**-0.4**
	comp=Z,38nm,0.8s,mb5.5,baz=263,slow=5.7,SNR=9.8						
PMG	**Port Moresby**	**55.58**	**107**	*e*P	**P**	**09 35 01.3**	**-0.3**
	comp=Z,60nm,0.9s,mb5.6						
ARU	**Arti**	**55.80**	**337**	P	**P**	**09 35 01.5**	**-1.2**
	comp=Z,130nm,0.9s,mb6.0,SNR=8.9						
ARU	**Arti**	**55.80**	**337**	⇑*i*P	**P**	**09 34 55.3**	**-7.4**
ARU				*e*		09 35 56.3	
ARU				*e*S	**S**	**09 42 38.1**	**-7.9**
ARU				*e*SS	SS	09 46 24.1	-7.5
ARU				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.2						
ARU				MLR	MLR		
	comp=Z,1μm,20.5s,MS4.9						
ARU				MLR	MLR		
	comp=N,500nm,22.0s,MS4.8						
ARU				MLR	MLR		
	comp=E,600nm,21.0s,MS4.8						
YSS	**Yuzh-Sakhalins**	**56.73**	**38**	⇓*e*P	**P**	**09 35 06.6**	**-2.9**
KIV	**Kislovodsk**	**57.24**	**318**	*i* P	**P**	**09 35 12.5**	**-0.6**
KIV	**Kislovodsk**	**57.24**	**318**	*i* Pr		09 35 12.5	
KMBO	**Kilima Mbogo**	**57.41**	**264**	*e*P	**P**	**09 35 15.8**	**+1.1**
KMBO				pmax	pmax		
	comp=Z,32nm,1.2s						
KMBO	**Kilima Mbogo**	**57.41**	**264**	P	**P**	**09 35 15.6**	**+0.9**
	comp=Z,17nm,1.0s,mb5.0,baz=52,slow=10.0,SNR=25						
KMBO	**Kilima Mbogo**	**57.41**	**264**	*e*P	**P**	**09 35 15.8**	**+1.1**
	comp=Z,32nm,1.2s,mb5.2						
ASF	**Jabal al Asfar**	**58.15**	**303**	P	**P**	**09 35 19.5**	**-0.2**
	comp=Z,7.7nm,1.0s,mb4.7,baz=34,slow=2.0,SNR=5.7						
CTA	**Charters Tower**	**58.37**	**119**	P	**P**	**09 35 20.8**	**-0.5**
CTA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CTA	**Charters Tower**	**58.37**	**119**	P	**P**	**09 35 20.8**	**-0.5**
	comp=Z,8.7nm,1.0s,mb4.7,baz=301,slow=10.0,SNR=4.8						
CTAO	**Charters Tower**	**58.37**	**119**	*e*P	**P**	**09 35 20.4**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
CTAO	**Charters Tower**	**58.37**	**119**	*e*P	**P**	**09 35 20.4**	**-0.9**
	comp=Z,18nm,1.2s,mb5.0						
MALT	**Malatya**	**58.39**	**310**	*e*P	**P**	**09 35 20.8**	**-0.4**
MALT				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
MALT	**Malatya**	**58.39**	**310**	*e*P	**P**	**09 35 20.8**	**-0.5**
	comp=Z,15nm,1.2s,mb4.9						
SOKR	**Solikamsk**	**58.71**	**339**	⇑*i*P	**P**	**09 35 20.7**	**-2.5**
SOKR				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
SOC	**Sochi**	**59.10**	**316**	*e*P	**P**	**09 35 22.5**	**-3.6**
SOC				*e*		09 36 07.4	
SOC				*e*		09 37 38.1	
SOC				*e*S	**S**	**09 43 31.3**	**+1.7**
SOC				*e*		09 45 10.3	
SOC				*e*SS	SS	09 47 23.0	-2.5
SOC				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.3						
SOC				pmax	pmax		
	comp=N,15nm,0.7s						
SOC				pmax	pmax		
	comp=E,24nm,0.8s						
EIL	**Elat**	**59.36**	**300**	*e*P	**P**	**09 35 27.6**	**-0.5**
	comp=E,30nm,1.2s,mb5.2						
YAK	**Yakutsk**	**59.92**	**18**	⇑*e*P	**P**	**09 35 31.6**	**+0.1**
YAK				pmax	pmax		
	comp=Z,64nm,1.2s,mb5.5						
YAK	**Yakutsk**	**59.92**	**18**	*e*P	**P**	**09 35 30.9**	**-0.6**
	comp=Z,122nm,1.4s,mb5.7						
STKA	**Stephens Creek**	**60.18**	**134**	*e*P	**P**	**09 35 32.2**	**-1.5**
	comp=Z,9.7nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**60.18**	**134**	P	**P**	**09 35 32.2**	**-1.5**
	comp=Z,13nm,1.0s,mb4.9,baz=314,slow=7.9,SNR=13						
STKA				LR	LR	10 02 20.7	
	comp=Z,628nm,18.8s,MS4.8,baz

comp=Z,13nm,0.8s,mb5.0,baz=84,slow=7.3,SNR=4.9
VRI Vrincioaia 68.62 316 ⇓P **P 09 36 27.3 -1.2**
MLR Muntele Rosu 69.09 316 ⇑P **P 09 36 31.4 0.0**
MLR Muntele Rosu 69.09 316 P **P 09 36 31.3 -0.2**
comp=Z,15nm,0.9s,mb4.9,baz=82,slow=2.4,SNR=11
LSZ Lusaka 69.27 250 *e*P **P 09 36 33.3 +0.3**
LSZ pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LSZ Lusaka 69.27 250 *e*P **P 09 36 33.3 +0.3**
comp=Z,10nm,1.0s,mb4.7
JOF Joensuu 70.76 334 *e*p **P 09 36 39.9 -1.4**
comp=Z,20nm,0.9s,mb5.0
KWP Kalwaria 71.95 320 *e*P **P 09 36 48.7 +0.1**
SUW Suwalki 72.42 324 *e*P **P 09 36 50.5 -0.8**
FINES FINESS Array B 72.63 332 *i* P **P 09 36 52.8 +0.4**
FINES pmax pmax
comp=Z,13nm,0.8s
FINES FINESS Array B 72.63 332 P **P 09 36 50.9 -1.5**
comp=Z,13nm,0.8s,mb4.9,baz=90,slow=7.6,SNR=22
CRVS Cervenica-Dubn 72.65 319 *i* P **P 09 36 53.6 +0.8**
CRVS *e**SP pP 09 37 03.4 +1.6
CRVS Cervenica-Dubn 72.65 319 *i* P **P 09 36 53.6 +0.8**
CRVS *e* 09 36 58.3
CRVS *e*pP pP 09 37 03.4 +1.6
KAF Kangasniemi 72.70 333 *e*p **P 09 36 51.6 -1.3**
comp=Z,25nm,0.9s,mb5.1
KAF Kangasniemi 72.70 333 *e*P **P 09 36 51.6 -1.3**
KAF pmax pmax
comp=Z,25nm,0.9s,mb5.1
NIE Niedzica 73.47 319 *e*P **P 09 36 57.0 -0.6**
PSZ Piszkesteto 73.56 318⇑*e*P **P 09 36 58.2 0.0**
OJC Ojcow 73.89 320 *e*P **P 09 36 59.9 -0.1**
LBTB Lobatse 74.26 241 *e*P **P 09 37 04.2 +1.5**
LBTB pmax pmax
comp=Z,23nm,0.9s,mb5.1
LBTB Lobatse 74.26 241 *e*P **P 09 37 04.2 +1.5**
comp=Z,24nm,0.9s,mb5.1
VYHS Vyhne 74.33 318 *i* P **P 09 37 02.6 0.0**
VYHS *e**SP pP 09 37 12.6 +1.0
VYHS *e* sP 09 37 15.8 +1.0
VYHS Vyhne 74.33 318 *i* P **P 09 37 02.6 0.0**
VYHS *e* 09 37 07.5
VYHS *e*pP pP 09 37 12.6 +1.0
VYHS *e*sP sP 09 37 15.8 +1.0
KEV Kevo 74.75 341 *e*p **P 09 37 04.6 0.0**
comp=Z,16nm,0.9s,mb5.0
KEV Kevo 74.75 341 *e*P **P 09 37 04.6 0.0**
KEV pmax pmax
comp=Z,16nm,0.9s,mb5.0
OKC Ostrava-Krasne 74.91 319 *e*P **P 09 37 06.0 +0.1**
CASY Casey 75.01 173 *e*P **P 09 37 07.1 +0.9**
comp=Z,18nm,0.8s,mb5.1
ARCES ARCESS Array B 75.18 340 P **P 09 37 06.1 -1.0**
ARCES pmax pmax
comp=Z,12nm,1.0s
ARCES ARCESS Array B 75.18 340 P **P 09 37 06.1 -1.0**
comp=Z,12nm,1.0s,mb4.8,baz=27,slow=5.4,SNR=8.2
MORC Moravsky Berou 75.30 319 *e*P **P 09 37 06.5 -1.6**
MORC pmax pmax
comp=Z,33nm,1.2s,mb5.1
MORC Moravsky Berou 75.30 319 *e*P **P 09 37 06.5 -1.7**
comp=Z,33nm,1.2s,mb5.1
ZST Bratislava 75.45 318 *i* P **P 09 37 09.7 +0.6**
BOSA Boshof 75.61 238 *e*P **P 09 37 11.1 +0.7**
BOSA pmax pmax
comp=Z,19nm,0.9s,mb5.0
BOSA Boshof 75.61 238 *e*P **P 09 37 11.1 +0.7**
comp=Z,19nm,0.9s,mb5.0
VRAC Vranov 75.87 319 P **P 09 37 11.2 -0.2**
VRAC pmax pmax
comp=Z,2.0nm,0.6s
VRAC Vranov 75.87 319 P **P 09 37 11.2 -0.2**
comp=Z,2.4nm,0.6s,mb4.3,baz=102,slow=13,SNR=3.7
BILL Bilibino 76.02 22*c i*P **P 09 37 12.5 +0.6**
BILL pmax pmax
comp=Z,20nm,1.3s,mb4.9
BILL Bilibino 76.02 22 *e*P **P 09 37 11.9 0.0**
comp=Z,19nm,1.2s,mb4.9
DPC Dobruska-Polom 76.13 320 *e*P **P 09 37 13.2 +0.4**
KSP Ksiaz 76.18 320 *e*P **P 09 37 12.8 -0.3**
KSP Ksiaz 76.18 320 *e*P **P 09 37 14.3 +1.2**
UPC Upice 76.34 320 *e*P **P 09 37 14.9 +0.9**
ARSA Arzberg 76.46 317⇑*i*P **P 09 37 15.4 +0.6**
comp=Z,20nm,1.2s,mb4.9
PRU Pruhonice 77.25 319 *e*P **P 09 37 19.8 +0.7**
PVCC Panska Ves 77.26 320 *e*P **P 09 37 20.4 +1.3**
MOA Molln 77.34 317⇑*i*P **P 09 37 20.0 +0.4**
comp=Z,15nm,1.1s,mb4.8
BRG Berggiesshubel 77.67 320 *i* P **P 09 37 22.1 +0.7**
BRG pmax pmax
comp=Z,39nm,1.5s,mb5.1
BRG Berggiesshubel 77.67 320 *i* P **P 09 37 22.1 +0.7**
comp=Z,39nm,1.5s,mb5.1
GEC2 GERESS Array S 77.75 318 *e*P **P 09 37 22.0 +0.1**
GEC2 pmax pmax
comp=Z,29nm,1.1s,mb5.1
GEC2 GERESS Array S 77.75 318 *e*P **P 09 37 22.0 +0.1**
comp=Z,29nm,1.1s,mb5.1
GERES GERESS Array B 77.75 318 P **P 09 37 12.0 -10**
comp=Z,21nm,1.2s,mb5.0,baz=101,slow=6.8,SNR=28
KHC Kasperske Hory 77.84 318 *e*P **P 09 37 22.7 +0.3**
RUE Ruedersdorf 77.85 322 *e*P **P 09 37 21.9 -0.4**
comp=Z,60nm,0.9s,mb5.5
KBA Koelnbreinsper 77.94 316⇑*i*P **P 09 37 23.5 +0.6**
comp=Z,18nm,1.3s,mb4.8
KBA Koelnbreinsper 77.94 316⇑*i*P **P 09 37 23.5 +0.6**
KBA pmax pmax
comp=Z,18nm,1.3s,mb4.8
CLL Collm 78.28 321 *i* P **P 09 37 25.1 +0.4**
CLL *e* 09 37 30.0
CLL pmax pmax
comp=Z,20nm,1.3s,mb4.9
CLL Collm 78.28 321 *i* P **P 09 37 25.1 +0.4**
comp=Z,20nm,1.3s,mb4.9
CLL *e* 09 37 30.0
CLL Collm 78.28 321 P **P 09 37 25.1 +0.4**
comp=Z,logA/T=1.2,mb4.9
CLL *e**PP pP 09 37 30.0 -3.9
CLL *e* 09 37 38.0
WET Wettzell 78.30 318 *e*P **P 09 37 25.5 +0.6**
WET pmax pmax
comp=Z,21nm,1.1s,mb5.0
WET Wettzell 78.30 318 *e*P **P 09 37 25.5 +0.6**
comp=Z,21nm,1.1s,mb5.0
HFS Hagfors 78.37 330 P **P 09 37 24.4 -0.6**
HFS pmax pmax
comp=Z,37nm,1.1s
HFS Hagfors 78.37 330 P **P 09 37 24.4 -0.6**
comp=Z,37nm,1.1s,mb5.2,baz=108,slow=4.7,SNR=15
NKC Novy Kostel 78.60 320 *e*P **P 09 37 27.3 +0.8**
MAW Mawson 78.61 192 *e*P **P 09 37 25.6 -0.6**
MAW pmax pmax
comp=Z,139nm,1.7s
MAW Mawson 78.61 192 P **P 09 37 25.4 -0.9**
comp=Z,12nm,0.8s,mb4.8,baz=31,slow=9.6,SNR=5.3
MAW Mawson 78.61 192 *e*P **P 09 37 25.6 -0.6**
comp=Z,139nm,1.7s,mb5.6
WTTA Wattenberg 79.11 317⇑*i*P **P 09 37 29.7 +0.4**
comp=Z,28nm,1.0s,mb5.1
WTTA Wattenberg 79.11 317⇑*i*P **P 09 37 29.7 +0.4**
WTTA pmax pmax
comp=Z,28nm,1.0s,mb5.2
MOX Moxa 79.14 320 *e*P **P 09 37 30.3 +0.8**
MOX Moxa 79.14 320 *i* P **P 09 37 30.3 +0.8**
WATA Walderalm 79.15 317⇑*i*P **P 09 37 29.6 0.0**
comp=Z,19nm,1.1s,mb4.9
WATA Walderalm 79.15 317⇑*i*P **P 09 37 29.6 0.0**
WATA pmax pmax
comp=Z,19nm,1.1s,mb4.9
GRA1 Grafenberg Arr 79.39 319 *e*P **P 09 37 31.8 +1.0**
comp=Z,36nm,1.1s,mb5.2
GRF Grafenberg Arr 79.39 319 *e*P **P 09 37 31.8 +1.0**
GRF pmax pmax
comp=Z,36nm,1.1s,mb5.2
GRF Grafenberg Arr 79.39 319 *e*P **P 09 37 31.8 +1.0**
GRF pmax pmax
comp=Z,36nm,1.1s,mb5.2
GRF Grafenberg Arr 79.39 319 *e*P **P 09 37 31.8 +1.0**
comp=Z,36nm,1.1s,mb5.2
SQTA Sankt Quirin 79.40 317⇑*i*P **P 09 37 30.6 -0.3**
comp=Z,18nm,1.1s,mb4.9
SQTA Sankt Quirin 79.40 317⇑*i*P **P 09 37 30.6 -0.3**
SQTA pmax pmax
comp=Z,18nm,1.1s,mb4.9
MOTA Moosalm 79.47 317⇓*i*P **P 09 37 31.0 -0.3**
comp=Z,12nm,1.0s,mb4.8
MOTA Moosalm 79.47 317⇓*i*P **P 09 37 31.0 -0.3**
MOTA pmax pmax
comp=Z,12nm,1.0s,mb4.8
NB2 NORSAR Subarra 79.65 331 P **P 09 37 32.0 0.0**
comp=Z,31nm,1.1s,mb5.2,baz=91,slow=5.8
NB2 NORSAR Subarra 79.65 331 P **P 09 37 32.0 0.0**
baz=91,slow=5.9
NOA NORSAR Array B 79.65 331 P **P 09 37 31.8 -0.2**
NOA pmax pmax
comp=Z,12nm,0.9s
NOA NORSAR Array B 79.65 331 P **P 09 37 31.8 -0.2**
comp=Z,12nm,0.9s,mb4.8,baz=92,slow=5.6,SNR=18
CLZ Clausthal 79.93 321 *e*P **P 09 37 34.9 +1.2**
comp=Z,38nm,1.2s,mb5.2
BSEG Bad Segeberg 79.97 323 *e*P **P 09 37 35.1 +1.2**
DAVA Damuels 80.30 317⇑*i*P **P 09 37 36.8 +1.0**
comp=Z,28nm,1.4s,mb5.0
DAVOX Davos 80.31 316 P **P 09 37 37.1 +1.2**
comp=Z,16nm,0.9s,mb4.9,baz=126,slow=8.0,SNR=9.2
SUR Sutherland 80.36 235 *e*P **P 09 37 38.1 +1.7**
comp=Z,26nm,1.0s,mb5.1
TNS Taunus Mts 81.17 320 *e*P **P 09 37 41.0 +0.7**
BFO Black Forest 81.31 318 *e*P **P 09 37 41.5 +0.4**
BFO pmax pmax
comp=Z,25nm,1.4s,mb5.0
BFO Black Forest 81.31 318 *e*P **P 09 37 41.5 +0.4**
comp=Z,25nm,1.4s,mb5.0
LPG La Plagne 82.54 315 *e*P **P 09 37 48.1 +0.6**
comp=Z,33nm,0.9s,mb5.0
LPG La Plagne 82.54 315 *e*P **P 09 37 48.1 +0.6**
LPG pmax pmax
comp=Z,16nm,0.9s,mb5.0
SYO Syowa Base 85.48 197 ⇓P **P 09 38 02.6 +0.7**
SYO Syowa Base 85.48 197 ⇓PcP PcP 09 38 04.3 -1.0
SYO Syowa Base 85.48 197 ⇓sP sP 09 38 23.0 +8.9
ESDC Sonseca Array 91.14 310 P **P 09 38 30.6 +1.0**
comp=Z,6.8nm,1.1s,mb4.9,baz=62,slow=3.5,SNR=10.0
ESLA Sonseca Array 91.14 310 *e*P **P 09 38 30.0 +0.4**
comp=Z,7.2nm,1.3s,mb4.8
IMA Indian Mountai 91.56 22 *e*P **P 09 38 32.7 +1.9**
SPU Mount Spurr 94.22 26 *e*P **P 09 38 44.4 +1.2**
MCK McKinley 94.39 23 *e*P **P 09 38 44.9 +1.0**
INK Inuvik 96.92 16 P **P 09 38 56.5 +1.1**
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 96.92 16 P **P 09 38 56.5 +1.1**
comp=Z,8.9nm,1.1s,mb5.1,baz=308,slow=6.3,SNR=11
RES Resolute Bay 97.32 2 *e*P **P 09 38 56.9 -0.2**
RES pmax pmax
comp=Z,11nm,1.1s,mb5.2
RES Resolute Bay 97.32 2 *e*P **P 09 38 56.9 -0.2**
comp=Z,11nm,1.1s,mb5.2
YKA Yellowknife Ar 106.35 13 PKiKP 09 43 49.3
YKA PP PP 09 44 03.7 -1.4
comp=Z,0.3nm,0.8s,baz=328,slow=2.0,SNR=4.0
YKA Yellowknife Ar 106.35 13 PKPdf 09 43 49.3
YKA PP PP 09 44 03.7 -1.4
comp=Z,0.2nm,0.8s,baz=311,slow=6.5,SNR=4.7
YKA Yellowknife Ar 106.35 13 PKPdf 09 43 49.3
YKA PP PP 09 44 03.7 -1.4
comp=Z,0.2nm,0.8s,baz=311,slow=6.5,SNR=4.7
QLMT Earthquake Lak 122.63 21 *e*PKPdf PKPdf 09 44 22.2 -1.9
LAO LASA Array 122.66 17 *e*PKPdf PKPdf 09 44 21.0 -3.1
YMR Madison River 122.94 21 *e*PKPdf PKPdf 09 44 22.7 -2.0
SNOW Snow King Moun 124.06 22 *e*PKPdf PKPdf 09 44 24.4 -2.5
NVAR Mina Array Bea 124.86 31 PKP PKPdf 09 44 26.6 -2.0
comp=Z,3.7nm,0.8s,baz=67,slow=1.3,SNR=20
PDAR Pinedale Array 125.10 21 PKP PKPdf 09 44 25.1 -3.9
comp=Z,5.1nm,0.9s,baz=41,slow=1.6,SNR=28
HWUT Hardware Ranch 125.34 23 *e*PKPdf PKPdf 09 44 25.8 -3.7
MVU Marysvale 127.68 26 *e*PKPdf PKPdf 09 44 32.3 -1.8
MSU Marysvale 127.69 26 *e*PKIKP PKPdf 09 44 31.7 -2.4
NEN Nelson 128.76 30 *e*PKPdf PKPdf 09 44 34.9 -1.4
KSU1 Kansas State U 132.13 11 *e*PKPdf PKPdf 09 44 40.1 -2.5
TUC Tucson 133.44 29 *e*PKIKP PKPdf 09 44 42.9 -2.3
GDL2 Guadalupe Moun 136.35 23 *e*PKPdf PKPdf 09 44 47.9 -2.6
TXAR Lajitas Array 139.16 24 PKP PKPdf 09 44 53.5 -2.3
comp=Z,0.7nm,0.8s,baz=311,slow=0.6,SNR=4.9
TXAR PP PP 09 47 44.6 -3.5
comp=Z,0.5nm,0.8s,baz=27,slow=2.8,SNR=3.5
JCT Junction City 139.52 19 *e*PKIKP PKPdf 09 44 52.8 -3.6
PLCA Paso Flores 144.62 200 PKIKP PKPdf 09 45 01.2 -3.8
PLCA pmax pmax
comp=Z,30nm,0.9s
PLCA Paso Flores 144.62 200 PKP PKPdf 09 45 01.1 -3.9
comp=Z,30nm,0.9s,baz=161,slow=2.3,SNR=42
PLCA Paso Flores 144.62 200 *e*PKPdf PKPdf 09 45 00.6 -4.5
TEIG Tepich 151.90 5 *e*PKPdf PKPdf 09 45 16.1 -1.3
TEIG *e*PKPbc PKPdf 09 45 21.4 +4.1
SDV Santo Domingo 157.40 317 *e*PKPdf PKPdf 09 45 21.7 -3.3
LPAZ La Paz 160.78 243 PKP PKPdf 09 44 45.5 -43
comp=Z,4.8nm,1.0s,baz=63,slow=3.8,SNR=11
LPAZ PKPab PKPab 09 45 26.9 -41
comp=Z,3.3nm,0.9s,baz=117,slow=7.4,SNR=7.5

IDC ***27*** *09:26:06.1±0.9,* **11.30N×140.92E, mb4.0/8, mb1 4.2/8, mb1mx4.0/19, mbtmp4.0/8, Error ellipse: s-maj=44.1km s-min=20.9km az=96.0, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.71**	**192**	P	P	09 32 31.4	-2.6
	1.1nm,0.9s,baz=11,slow=9.8,SNR=6.7						
ASAR	**Alice Springs**	**35.42**	**191**	P	P	09 33 04.5	-1.5
	0.7nm,0.5s,baz=19,slow=12,SNR=5.8						
SONM	**Songino Array**	**46.51**	**328**	P	P	09 34 36.9	0.0
	1.3nm,1.0s,baz=135,slow=4.1,SNR=2.6						
BVAR	**Borovoye Array**	**69.36**	**323**	P	P	09 37 14.6	-2.9
	0.8nm,0.4s,baz=102,slow=9.6,SNR=1.4						
ILAR	**Eielson Array**	**72.28**	**25**	P	P	09 37 32.4	-2.7
	0.6nm,0.5s,baz=257,slow=5.1,SNR=9.4						
INK	**Inuvik**	**77.94**	**22**	P	P	09 38 06.0	-1.3
	2.6nm,1.1s,baz=262,slow=6.9,SNR=3.2						
YKA	**Yellowknife Ar**	**86.65**	**27**	P	P	09 38 52.5	0.0
	1.7nm,0.9s,baz=292,slow=5.2,SNR=17						
FINES	**FINESS Array B**	**91.57**	**334**	P	P	09 39 13.6	-2.1
	0.8nm,0.5s,baz=67,slow=6.3,SNR=7.8						

IDC ***27*** *09:32:18.3±0.8, 8.26N×94.38E, mb4.1/12, mb1 4.2/13, mb1mx4.1/19, mbtmp4.1/13, ML3.8/1, Error ellipse: s-maj=29.4km s-min=19.6km az=53.0, Putative timing error at GERES*
NEIC ***27*** *09:32:22.8±0.6, 8.24N×94.44E, h30km, mb4.6/7, Error ellipse: s-maj=20.4km s-min=13.4km az=62.0*
ISC 27 09:32:23.2±3.2, 8.3N±0.1×94.6E±0.1, h50km±28km, n28, σ1§21/23, mb4.2/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.94**	**22**	Pn	P	09 34 59.4	-0.5
	0.2nm,0.3s,baz=212,slow=12,SNR=2.7						
CMAR	**Chiang Mai Arr**	**10.94**	**22**	Pn	P	09 34 59.4	-0.5
HYB	**Hyderabad**	**18.05**	**302**	*i* P	P	09 36 33.0	+0.9
LSA	**Lhasa**	**21.52**	**352**	*e*P	P	09 37 16.4	+6.4
	11nm,0.6s,mb4.5						
AAK	**Ala-Archa**	**38.48**	**336**	*e*P	P	09 39 44.0	+1.9
	6.9nm,0.9s,mb4.4						
SONM	**Songino Array**	**40.65**	**12**	P	P	09 39 59.2	-0.8
	0.5nm,0.6s,mb3.3,baz=203,slow=8.1,SNR=2.7						
SONM				PcP	PcP	09 42 04.4	+2.7
	1.7nm,0.8s,baz=207,slow=3.9,SNR=4.8						
KURK	**Kurchatov**	**44.30**	**346**	P	P	09 40 25.7	-4.2
	13nm,1.3s,mb4.5						
ZAL	**Zalesovo**	**46.18**	**352**	P	P	09 40 43.0	-1.8
	1.6nm,0.4s,mb4.3,baz=295,slow=8.9,SNR=4.5						
WRA	**Warramunga Arr**	**48.16**	**126**	P	P	09 41 01.8	+1.1
	1.3nm,0.6s,mb4.1,baz=304,slow=8.7,SNR=5.7						
WRAB	**Tennant Creek**	**48.16**	**126**	*e*P	P	09 41 01.0	+0.3
	8.5nm,1.0s,mb4.7						
BVAR	**Borovoye Array**	**48.72**	**341**	P	P	09 41 05.4	+0.8
	0.9nm,0.8s,mb3.9,baz=117,slow=9.9,SNR=4.3						
ASAR	**Alice Springs**	**49.86**	**131**	P	P	09 41 13.2	-0.6
	1.3nm,0.8s,mb4.0,baz=303,slow=7.6,SNR=5.0						
KMBO	**Kilima Mbogo**	**57.91**	**263**	P	P	09 42 11.7	-1.3
	2.8nm,0.8s,mb4.3,baz=56,slow=9.8,SNR=5.7						
KMBO	**Kilima Mbogo**	**57.91**	**263**	*e*P	P	09 42 11.3	-1.7
	9.6nm,1.2s,mb4.7						
BRTR	**Keskin Array B**	**62.48**	**311**	P	P	09 42 41.5	-2.4
	1.8nm,0.7s,mb4.3,baz=117,slow=8.3,SNR=6.2						
AKASG	**Malin Array Be**	**68.09**	**321**	P	P	09 43 18.9	-0.9
	0.4nm,0.3s,mb3.9,baz=86,slow=4.9,SNR=4.2						
JOF	**Joensuu**	**70.65**	**334**	*e*p	P	09 43 36.5	+1.3
	3.0nm,0.8s,mb4.3						
FINES	**FINESS Array B**	**72.53**	**332**	P	P	09 43 48.0	+1.6
	5.3nm,0.8s,mb4.5,baz=121,slow=8.1,SNR=8.0						
KAF	**Kangasniemi**	**72.61**	**333**	*e*p	P	09 43 45.8	-1.1
	6.6nm,0.9s,mb4.6						
GERES	**GERESS Array B**	**77.80**	**318**	P	P	09 44 08.6	-8.2
	1.6nm,0.7s,mb4.1,baz=112,slow=7.2,SNR=5.7						
HFS	**Hagfors**	**78.31**	**330**	P	P	09 44 19.6	+0.2
	3.1nm,0.6s,mb4.5,baz=104,slow=6.1,SNR=4.8						
NB2	**NORSAR Subarra**	**79.57**	**331**	P	P	09 44 27.3	+1.0
	1.9nm,0.7s,mb4.1,baz=96,slow=5.3						
NOA	**NORSAR Array B**	**79.57**	**331**	P	P	09 44 27.7	+1.4
	2.3nm,0.7s,mb4.2,baz=94,slow=5.5,SNR=5.9						
NVAR	**Mina Array Bea**	**124.32**	**31**	PKP	PKPdf	09 51 21.8	+4.7
	0.9nm,0.7s,baz=259,slow=3.2,SNR=5.9						
PDAR	**Pinedale Array**	**124.60**	**21**	PKP	PKPdf	09 51 20.6	+3.0
	0.8nm,0.7s,baz=323,slow=1.1,SNR=7.6						
TXAR	**Lajitas Array**	**138.65**	**24**	PKP	PKPdf	09 51 50.6	+6.3
	0.4nm,0.7s,baz=238,slow=1.4,SNR=5.3						
PLCA	**Paso Flores**	**145.10**	**200**	PKP	PKPdf	09 51 56.9	+1.5
	5.0nm,0.9s,baz=135,slow=3.0,SNR=8.0						
PLCA	**Paso Flores**	**145.10**	**200**	PKP	PKPdf	09 51 56.9	+1.5

IDC ***27*** *09:32:57.1±1.2, 7.53N×92.93E, mb4.3/10, mb1 4.4/11, mb1mx4.2/20, mbtmp4.3/11, ML4.5/1, Error ellipse: s-maj=55.6km s-min=27.3km az=70.0, Putative timing error at GERES*
ISC 27 09:33:00.4±0.9, 7.6N±0.1×93.2E±0.2, h33km, n13, σ1§03/12, mb4.3/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.14**	**27**	Pn	P	09 35 53.8	-0.2
	0.9nm,0.3s,baz=215,slow=14,SNR=5.9						
NWAO	**Narrogin (SRO)**	**46.39**	**152**	P	P	09 41 25.6	-0.2
	12nm,1.0s,mb4.8,baz=324,slow=8.5,SNR=3.8						
ZAL	**Zalesovo**	**46.66**	**353**	P	P	09 41 28.7	+1.1
	1.8nm,0.6s,mb4.2,baz=310,slow=5.1,SNR=4.4						
BVAR	**Borovoye Array**	**48.91**	**342**	P	P	09 41 43.3	-1.8
	1.0nm,0.8s,mb3.9,baz=135,slow=4.1,SNR=3.1						
KMBO	**Kilima Mbogo**	**56.43**	**264**	P	P	09 42 47.5	+5.9
	4.4nm,0.9s,mb4.5,baz=55,slow=7.6,SNR=7.1						
BRTR	**Keskin Array B**	**61.85**	**311**	P	P	09 43 18.6	-0.2
	1.3nm,0.8s,mb4.1,baz=127,slow=7.2,SNR=2.7						
FINES	**FINESS Array B**	**72.47**	**332**	P	P	09 44 24.8	-0.5
	2.0nm,0.6s,mb4.2,baz=124,slow=6.9,SNR=3.8						
ARCES	**ARCESS Array B**	**75.16**	**340**	P	P	09 44 42.8	+1.9
	3.0nm,0.8s,mb4.3,slow=6.1,SNR=4.3						
GERES	**GERESS Array B**	**77.35**	**318**	P	P	09 44 43.9	-10
	1.2nm,0.8s,mb3.9,baz=180,slow=1.3,SNR=4.0						
HFS	**Hagfors**	**78.17**	**330**	P	P	09 44 56.6	-1.3
	3.2nm,0.6s,mb4.4,baz=124,slow=5.2,SNR=2.2						
NOA	**NORSAR Array B**	**79.46**	**331**	P	P	09 45 05.6	+0.6
	0.8nm,0.6s,mb3.8,baz=92,slow=5.6,SNR=3.3						
LPG	**La Plagne**	**82.09**	**315**	*e*P	P	09 45 19.8	+0.6
	25nm,1.1s,mb4.7						
PLCA	**Paso Flores**	**143.98**	**201**	PKP	PKPdf	09 52 33.5	+0.6
	5.3nm,0.9s,baz=152,slow=1.9,SNR=5.0						

IDC ***27*** *09:36:30.6±0.7, 7.79N×93.87E, mb4.3/16, mb1 4.4/17, mb1mx4.4/21, mbtmp4.2/17, ML4.0/1, Error ellipse: s-maj=36.1km s-min=14.8km az=55.0, Putative timing error at GERES*
BJI ***27*** *09:36:34.2, 7.56N×93.76E, h48km, mB4.5, mb4.5, Ms4.8, Msz4.4*
NEIC ***27*** *09:36:35.5±0.4, 7.80N×93.97E, h30km, mb4.8/11, Error ellipse: s-maj=11.6km s-min=8.3km az=63.0*
ISC 27 09:36:34.2±0.5, 7.84N±0.07×94.07E±0.07, h33km, n58, σ1§01/54, mb4.6/34, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.57**	**24**	*e*P	P	09 39 19.4	-0.7
CMAR	**Chiang Mai Arr**	**11.57**	**24**	Pn	P	09 39 20.1	0.0
	0.3nm,0.3s,baz=210,slow=14,SNR=8.5						
VIS	**Vishakhapatnam**	**14.35**	**314**	*e*	S	09 42 30.9	-5.2
VIS				*e*		09 42 34.3	
	comp=Z,78nm,1.7s						
TRD	**Trivandrum**	**16.95**	**273**	*e*	P	09 40 36.1	+5.4
TRD				*e*		09 40 46.4	
	comp=Z,40nm,0.3s						
HYB	**Hyderabad**	**17.87**	**304**	*e*P	P	09 40 43.0	+0.9
HYB	**Hyderabad**	**17.87**	**304**	*i* P	P	09 40 43.0	+0.9
JIRN	**Jiri**	**21.08**	**340**	*e*P	P	09 41 18.4	+0.3
	comp=Z,75nm,1.0s,mb5.0						
PKI	**Pulchoki**	**21.27**	**338**	*e*P	P	09 41 20.3	+0.3
	comp=Z,186nm,1.3s,mb5.3						
GUN	**Gumba**	**21.41**	**340**	*e*P	P	09 41 21.5	0.0
	comp=Z,227nm,1.3s,mb5.4						
DMN	**Daman**	**21.42**	**338**	*e*P	P	09 41 22.1	+0.6
	comp=Z,69nm,0.8s,mb5.0						
KKN	**Kakani**	**21.52**	**338**	*e*P	P	09 41 22.8	+0.3
	comp=Z,216nm,1.6s,mb5.3						
KAD	**Karad**	**21.55**	**298**	*e*P	P	09 41 23.0	+0.1
KAD				*e*		09 41 26.3	
	comp=Z,51nm,1.3s						
LSA	**Lhasa**	**21.92**	**353**	*e*P	P	09 41 26.2	-0.3
	comp=Z,25nm,0.6s,mb4.8						
GKN	**Gorkha**	**21.95**	**337**	*e*P	P	09 41 26.1	-0.7
	comp=Z,80nm,0.7s,mb5.3						
BHPL	**Bhopal**	**22.14**	**316**	*e*P	P	09 41 28.4	-0.4
BHPL				*e*		09 41 35.1	
	comp=Z,107nm,1.0s						
BHPL				*e*S	S	09 45 32.7	+7.1
KOLN	**Koldanda**	**22.16**	**335**	*e*P	P	09 41 28.5	-0.5
	comp=Z,371nm,1.7s,mb5.5						
POO	**Poona**	**22.35**	**300**	*e*P	P	09 41 32.0	+1.2
	comp=Z,20nm,1.0s,mb4.5						
ENH	**Enshi**	**26.58**	**31**	*e*P	P	09 42 11.9	+0.5
	comp=Z,10nm,0.8s,mb4.4						
DDI	**Dehra Dun**	**26.94**	**328**	*e*	P	09 42 11.0	-3.7
LZH	**Lanzhou**	**29.50**	**16**	*e*P	P	09 42 38.5	+0.8
LZH				AMB	AMB		
	comp=Z,31nm,1.6s,mb4.8						
LZH	**Lanzhou**	**29.50**	**16**	*e*P	P	09 42 38.4	+0.7
	comp=Z,31nm,1.6s,mb4.8						
LZH				pP	pP	09 42 46.3	-1.0
LZH				sP	sP	09 42 49.5	-2.1
WMQ	**Urumqi**	**36.27**	**352**	*e*P	P	09 43 36.5	+0.1
BJI	**Beijing**	**37.67**	**28**	*e*P	P	09 43 50.8	+2.6
	comp=Z,10.0nm,1.8s,mb4.2						
AAK	**Ala-Archa**	**38.71**	**337**	*e*P	P	09 43 55.0	-1.9
	comp=Z,8.6nm,1.0s,mb4.4						
SONM	**Songino Array**	**41.21**	**13**	P	P	09 44 17.3	-0.3
	comp=Z,1.6nm,0.8s,mb3.7,baz=191,slow=6.3,SNR=5.0						
KURK	**Kurchatov**	**44.63**	**346**	*e*P	P	09 44 44.2	-1.1
	comp=Z,27nm,1.3s,mb4.9						
NWAO	**Narrogin (SRO)**	**46.15**	**153**	P	P	09 44 58.2	+0.5
	comp=Z,5.1nm,0.6s,mb4.6,baz=281,slow=8.5,SNR=3.8						
ZAL	**Zalesovo**	**46.57**	**352**	P	P	09 45 00.7	0.0
	comp=Z,4.0nm,0.9s,mb4.3,baz=296,slow=8.5,SNR=8.5						
MDJ	**Mudanjiang**	**47.87**	**34**	*e*P	P	09 45 13.1	+2.1
WRA	**Warramunga Arr**	**48.30**	**125**	P	P	09 45 14.2	-0.5
	comp=Z,2.2nm,0.7s,mb4.3,baz=304,slow=9.0,SNR=6.4						
WRAB

HFS	Hagfors	78.45	330	P	P	09 48 33.4	+0.1
	comp=Z,3.6nm,0.6s,mb4.5,baz=124,slow=5.3,SNR=7.4						
NB2	NORSAR Subarra	79.73	331	P	P	09 48 39.8	-0.4
	comp=Z,15nm,1.4s,mb4.7,baz=92,slow=5.8						
NOA	NORSAR Array B	79.73	331	P	P	09 48 40.0	-0.3
	comp=Z,3.0nm,0.9s,mb4.2,baz=91,slow=5.7,SNR=5.0						
LPG	La Plagne	82.59	315	*e*P	P	09 48 58.8	+3.2
	comp=Z,20nm,0.9s,mb4.9						
ILAR	Eielson Array	94.80	22	P	P	09 49 55.0	+1.6
	comp=Z,0.4nm,0.9s,mb3.8,baz=323,slow=4.5,SNR=3.0						
NVAR	Mina Array Bea	124.98	31	PKP	PKPdf	09 55 33.4	+1.7
	comp=Z,1.2nm,0.9s,baz=243,slow=6.0,SNR=4.1						
PDAR	Pinedale Array	125.22	21	PKP	PKPdf	09 55 34.7	+2.7
	comp=Z,0.9nm,0.9s,baz=315,slow=2.1,SNR=5.1						
TXAR	Lajitas Array	139.28	24	PKP	PKPdf	09 56 02.5	+3.7
	comp=Z,0.4nm,0.7s,baz=170,slow=1.7,SNR=4.9						
PLCA	Paso Flores	144.49	200	PKP	PKPdf	09 56 10.2	+2.6
	comp=Z,9.0nm,0.9s,baz=159,slow=5.5,SNR=12						
LPAZ	La Paz	160.69	243	PKP	PKPdf	09 55 53.5	-38
	comp=Z,1.8nm,1.1s,baz=346,slow=7.5,SNR=4.0						

*IDC **27** 09:40:24.4±1.0, 7.93N×93.50E, mb3.9/10, mb1 4.0/11, mb1mx4.0/18, mbtmp3.9/11, ML4.1/1, Error ellipse: s-maj=41.9km s-min=19.8km az=48.0, Putative timing error at GERES*

ISC 27 09:40:28.0±0.8, 8.0N±0.1×93.7E±0.2, h33km, n14, σ0§18/12, mb3.9/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.57	26	Pn	P	09 43 13.5	-0.4
	0.3nm,0.3s,baz=208,slow=13,SNR=2.9						
SONM	Songino Array	41.12	13	P	P	09 48 10.2	-0.3
	0.2nm,0.5s,mb3.0,baz=217,slow=7.2,SNR=2.8						
WRA	Warramunga Arr	48.73	125	P	P	09 49 11.2	-0.6
	1.1nm,0.6s,mb4.0,baz=305,slow=9.3,SNR=3.8						
ASAR	Alice Springs	50.38	130	P	P	09 49 24.8	+0.4
	1.0nm,0.8s,mb3.9,baz=306,slow=7.8,SNR=3.8						
BRTR	Keskin Array B	61.97	311	P	P	09 50 45.4	-1.8
	0.8nm,0.7s,mb4.0,baz=110,slow=8.9,SNR=3.2						
AKASG	Malin Array Be	67.74	322	P	P	09 51 22.3	-2.0
	0.2nm,0.3s,mb3.6,baz=86,slow=5.3,SNR=3.2						
FINES	FINESS Array B	72.36	332	P	P	09 51 53.0	+0.9
	2.3nm,0.8s,mb4.2,baz=117,slow=9.3,SNR=3.4						
ARCES	ARCESS Array B	74.96	340	P	P	09 52 09.4	+2.2
	8.5nm,1.1s,mb4.6,baz=83,slow=9.8,SNR=3.8						
GERES	GERESS Array B	77.40	318	P	P	09 52 13.5	-8.0
	0.6nm,0.6s,mb3.7,baz=101,slow=6.8,SNR=3.7						
HFS	Hagfors	78.09	330	P	P	09 52 25.9	+0.9
	3.1nm,0.8s,mb4.3,baz=117,slow=9.9,SNR=4.5						
NB2	NORSAR Subarra	79.37	331	P	P	09 52 32.7	+0.7
	1.4nm,0.7s,mb4.0,baz=95,slow=5.0						
NOA	NORSAR Array B	79.37	331	P	P	09 52 33.0	+1.0
	1.6nm,0.7s,mb4.0,baz=95,slow=5.1,SNR=3.8						
PDAR	Pinedale Array	125.20	21	PKP	PKPdf	09 59 26.4	+0.7
	0.5nm,0.8s,slow=1.5,SNR=3.6						
TXAR	Lajitas Array	139.28	23	PKP	PKPdf	09 59 56.1	+3.6
	0.1nm,0.6s,baz=316,slow=1.8,SNR=4.3						

IDC 27 09:40:44.4±0.9, 7.85N×93.95E, mb4.3/9, mb1 4.4/10, mb1mx4.3/18, mbtmp4.3/10, ML4.0/1, Error ellipse: s-maj=44.4km s-min=22.3km az=56.0, - Putative timing error at GERES, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.61	24	Pn	P	09 43 31.9	-2.7
	0.3nm,0.3s,baz=215,slow=14,SNR=3.7						
SONM	Songino Array	41.23	13	P	P	09 48 30.8	-1.9
	1.9nm,1.0s,baz=201,slow=11,SNR=4.8						
ASAR	Alice Springs	50.04	130	P	P	09 49 40.6	-2.5
	1.1nm,0.7s,baz=309,slow=6.8,SNR=4.2						
STKA	Stephens Creek	60.22	134	P	P	09 50 54.1	-2.9
	3.9nm,1.0s,baz=18,slow=6.7,SNR=3.2						
BRTR	Keskin Array B	62.30	311	P	P	09 51 08.7	-2.3
	1.8nm,0.9s,baz=135,slow=5.2,SNR=3.6						
FINES	FINESS Array B	72.65	332	P	P	09 52 13.3	-2.3
	4.7nm,0.8s,baz=117,slow=8.5,SNR=5.9						
ARCES	ARCESS Array B	75.23	340	P	P	09 52 28.9	-1.5
	5.5nm,1.0s,baz=63,slow=8.1,SNR=5.0						
GERES	GERESS Array B	77.72	318	P	P	09 52 34.4	-10
	1.1nm,0.7s,baz=108,slow=4.2,SNR=5.3						
HFS	Hagfors	78.38	330	P	P	09 52 47.3	-0.9
	3.7nm,0.5s,baz=124,slow=5.3,SNR=9.0						
NOA	NORSAR Array B	79.66	331	P	P	09 52 52.5	-2.6
	2.0nm,0.7s,baz=95,slow=5.0,SNR=4.8						
NVAR	Mina Array Bea	125.04	31	PKP	PKPdf	09 59 49.0	-0.1
	0.3nm,0.4s,baz=293,slow=3.1,SNR=3.6						
NVAR	Mina Array Bea	125.04	31	PKP	PKPdf	09 59 49.0	-0.1
PDAR	Pinedale Array	125.26	21	PKP	PKPdf	09 59 47.8	-1.6
	0.6nm,0.7s,baz=69,slow=0.1,SNR=4.5						
TXAR	Lajitas Array	139.33	24	PKP	PKPdf	10 00 15.4	-0.7
	0.4nm,0.8s,baz=288,slow=2.0,SNR=3.6						
PLCA	Paso Flores	144.46	200	PKP	PKPdf	10 00 23.6	-1.3
	2.1nm,0.8s,baz=36,slow=1.9,SNR=4.2						

*IDC **27** 09:44:13.5±0.8, 7.78N×93.92E, mb4.3/16, mb1 4.4/17, mb1mx4.3/21, mbtmp4.2/17, ML4.0/1, Error ellipse: s-maj=37.1km s-min=17.5km az=52.0, Putative timing error at GERES and LPAZ*

*NEIC **27** 09:44:18.5±0.4, 7.88N×94.21E, h30km, mb4.6/7, Error ellipse: s-maj=13.6km s-min=9.9km az=53.0*

ISC 27 09:44:19.8±2.9, 7.9N±0.1×94.3E±0.1, h58km±25km, n41, σ0§99/33, mb4.4/22, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.40	23	P	P	09 47 08.0	+5.6
	10nm,0.5s						
CMAR	Chiang Mai Arr	11.40	23	Pn	P	09 47 02.5	+0.1
	0.3nm,0.3s,baz=213,slow=15,SNR=4.2						
HYB	Hyderabad	18.00	303	*e*P	P	09 48 28.0	+0.3
HYB	Hyderabad	18.00	303	*i* P	P	09 48 28.0	+0.3
LSA	Lhasa	21.86	353	*e*P	P	09 49 08.7	-0.6
	15nm,0.6s,mb4.6						
ENH	Enshi	26.40	31	P	P	09 49 55.1	+2.1
AAK	Ala-Archa	38.71	336	*e*P	P	09 51 39.0	-0.9
	14nm,1.3s,mb4.5						
SONM	Songino Array	41.08	12	P	P	09 52 00.4	+1.0
	1.8nm,1.1s,mb3.6,baz=198,slow=7.8,SNR=6.4						
KURK	Kurchatov	44.59	346	*e*P	P	09 52 27.2	-0.8
	12nm,0.9s,mb4.7						
ZAL	Zalesovo	46.51	352	P	P	09 52 44.0	+0.8
	3.6nm,0.4s,mb4.6,baz=340,slow=7.0,SNR=3.7						
ZAL	Zalesovo	46.51	352	P	P	09 52 44.0	+0.7
WRA	Warramunga Arr	48.18	126	P	P	09 52 57.1	+0.3
	1.6nm,0.6s,mb4.3,baz=305,slow=9.0,SNR=8.4						
WRAB	Tennant Creek	48.18	126	P	P	09 52 55.3	-1.5
	17nm,1.2s,mb5.0						
BVAR	Borovoye Array	48.98	341	P	P	09 53 00.8	-1.7
	1.5nm,0.8s,mb4.1,baz=90,slow=4.4,SNR=4.6						
ASAR	Alice Springs	49.84	130	P	P	09 53 09.2	-0.3
	1.7nm,0.7s,mb4.2,baz=309,slow=7.6,SNR=7.5						
ASAR				PcP	PcP	09 54 31.3	+1.6
	1.0nm,0.7s,baz=314,slow=3.5,SNR=5.3						
KMBO	Kilima Mbogo	57.57	264	P	P	09 54 07.7	+1.2
	7.7nm,1.0s,mb4.7,baz=51,slow=9.4,SNR=13						
STKA	Stephens Creek	60.04	134	P	P	09 54 23.4	0.0
BRTR	Keskin Array B	62.50	311	P	P	09 54 37.2	-2.7
	1.5nm,0.6s,mb4.3,baz=135,slow=5.2,SNR=4.4						
MBAR	Mbarara	63.91	265	*e*P	P	09 54 50.5	+0.9
	7.4nm,1.2s,mb4.6						
AKASG	Malin Array Be	68.20	322	P	P	09 55 14.0	-2.3
	2.0nm,0.7s,mb4.3,baz=84,slow=4.9,SNR=8.1						
FINES	FINESS Array B	72.73	332	P	P	09 55 42.8	-0.6
	3.4nm,0.7s,mb4.4,baz=90,slow=11,SNR=8.3						
CRVS	Cervenica-Dubn	72.78	319	*e*P	P	09 55 44.1	+0.1
VYHS	Vyhne	74.46	318	*e*P	P	09 55 54.0	+0.2
ARCES	ARCESS Array B	75.26	340	P	P	09 55 58.3	+0.3
	6.2nm,1.0s,mb4.5,baz=72,slow=3.8,SNR=4.2						
BRG	Bergqueshubel	77.80	320	P	P	09 56 12.7	+0.1
	4.4nm,0.9s,mb4.4						
GERES	GERESS Array B	77.88	318	P	P	09 56 03.8	-9.3
	1.8nm,0.7s,mb4.1,baz=101,slow=6.8,SNR=7.7						
CLL	Collm	78.41	321	P	P	09 56 16.0	+0.1
HFS	Hagfors	78.48	330	P	P	09 56 16.1	-0.1
	2.0nm,0.5s,mb4.3,baz=135,slow=4.2,SNR=6.7						
NB2	NORSAR Subarra	79.75	331	P	P	09 56 23.2	+0.1
	1.8nm,0.7s,mb4.1,baz=94,slow=5.0						
NOA	NORSAR Array B	79.75	331	P	P	09 56 23.0	-0.1
	3.7nm,0.9s,mb4.3,baz=94,slow=5.4,SNR=5.7						
DAVOX	Davos	80.45	316	P	P	09 56 27.3	+0.2
	2.6nm,0.5s,mb4.4,baz=182,slow=4.8,SNR=4.7						
EKA	Eskdalemuir Ar	87.76	325	P	P	09 57 05.2	+1.5
	3.2nm,0.9s,mb4.5,baz=80,slow=5.1,SNR=3.9						
ESDC	Sonseca Array	91.29	310	P	P	09 57 21.7	+1.0
	0.2nm,0.3s,mb3.9,baz=95,slow=3.0,SNR=4.1						
NVAR	Mina Array Bea	124.80	31	PKP	PKPdf	10 03 17.3	+3.5
	0.9nm,0.8s,baz=54,slow=2.2,SNR=4.2						
NVAR	Mina Array Bea	124.80	31	PKP	PKPdf	10 03 17.3	+3.5
PDAR	Pinedale Array	125.06	21	PKP	PKPdf	10 03 16.4	+2.3
	1.2nm,0.9s,baz=38,slow=2.8,SNR=7.0						
TXAR	Lajitas Array	139.12	24	PKP	PKPdf	10 03 44.4	+3.4
	0.4nm,0.8s,baz=200,slow=1.6,SNR=4.5						
JCT	Junction City	139.49	19	*e*PKPdf	PKPdf	10 03 44.4	+2.9
PLCA	Paso Flores	144.65	200	PKP	PKPdf	10 03 52.7	+2.4
	7.3nm,0.9s,baz=172,slow=3.7,SNR=13						
PLCA	Paso Flores	144.65	200	PKP	PKPdf	10 03 52.7	+2.4
LPAZ	La Paz	160.92	243	PKPab	PKPab	10 04 18.3	-41
	0.5nm,0.8s,baz=94,slow=8.1,SNR=4.0						

*IDC **27** 09:46:19.0±1.0, 8.49N×94.55E, mb4.1/12, mb1 4.2/13, mb1mx4.1/19, mbtmp4.1/13, ML4.0/1, Error ellipse: s-maj=28.9km s-min=24.2km az=68.0, Putative timing error at GERES*

ISC 27 09:46:21.9±0.9, 8.5N±0.1×94.6E±0.2, h33km, n15, σ0§87/14, mb4.0/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.76	23	Pn	P	09 48 56.4	-0.5
	0.4nm,0.3s,baz=213,slow=15,SNR=2.7						
SONM	Songino Array	40.46	12	P	P	09 53 60.0	+0.9
	1.3nm,0.9s,mb3.6,baz=208,slow=4.0,SNR=5.2						
ZAL	Zalesovo	46.01	352	P	P	09 54 42.4	-1.6
	1.1nm,0.5s,mb4.0,baz=271,slow=9.7,SNR=3.5						
WRA	Warramunga Arr	48.23	126	P	P	09 55 01.7	-0.2
	0.9nm,0.5s,mb4.1,baz=304,slow=8.5,SNR=7.2						
KMBO	Kilima Mbogo	57.97	263	P	P	09 56 13.8	-0.3
	3.4nm,0.7s,mb4.5,baz=52,slow=10,SNR=7.9						
BRTR	Keskin Array B	62.40	310	P	P	09 56 43.5	-0.4
	1.6nm,0.8s,mb4.2,baz=129,slow=7.5,SNR=2.9						
AKASG	Malin Array Be	67.97	321	P	P	09 57 19.4	-0.3
	0.2nm,0.4s,mb3.5,baz=88,slow=4.9,SNR=5.0						
MLR	Muntele Rosu	69.07	315	P	P	09 57 26.4	-0.3
	1.5nm,0.7s,mb4.1,baz=171,slow=17,SNR=3.5						
FINES	FINESS Array B	72.39	332	P	P	09 57 47.2	+0.9
	2.2nm,0.8s,mb4.1,baz=79,slow=7.1,SNR=3.7						
ARCES	ARCESS Array B	74.85	340	P	P	09 58 01.4	+0.8
	3.7nm,1.1s,mb4.2,baz=121,slow=10,SNR=2.8						
GERES	GERESS Array B	77.69	318	P	P	09 58 09.3	-7.8
	0.5nm,0.5s,mb3.7,baz=80,slow=8.1,SNR=5.4						
HFS	Hagfors	78.17	330	P	P	09 58 18.6	-0.8
	1.6nm,0.5s,mb4.2,baz=108,slow=9.1,SNR=5.1						
NB2	NORSAR Subarra	79.43	331	P	P	09 58 28.2	+1.9
	2.6nm,0.9s,mb4.2,baz=91,slow=5.3						
NOA	NORSAR Array B	79.43	331	P	P	09 58 28.1	+1.8
	1.4nm,0.7s,mb4.0,baz=93,slow=5.5,SNR=4.0						
PLCA	Paso Flores	145.29	200	PKPbc	PKPbc	10 05 59.1	+2.0
	2.1nm,1.0s,baz=204,slow=6.1,SNR=3.4						

*IDC **27** 09:46:44.4±1.1, 7.80N×93.97E, mb4.0/7, mb1 4.2/8, mb1mx4.0/18, mbtmp4.0/8, Error ellipse: s-maj=49.9km s-min=19.9km az=59.0*

ISC 27 09:46:47.6±1.0, 7.8N±0.1×94.1E±0.2, h33km, n11, σ0§21/8, mb4.0/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.58	24	Pn	P	09 49 33.9	+0.2
	baz=210,slow=14,SNR=4.3						
SONM	Songino Array	41.23	13	P	P	09 54 30.8	-0.3
	1.1nm,0.8s,mb3.5,baz=198,slow=8.2,SNR=3.3						
WRA	Warramunga Arr	48.27	125	P	P	09 55 27.7	-0.2
	2.5nm,0.8s,mb4.3,baz=304,slow=9.1,SNR=7.1						
ASAR	Alice Springs	49.92	130	P	P	09 55 40.7	+0.2
	1.4nm,0.7s,mb4.1,baz=308,slow=7.8,SNR=5.3						
STKA	Stephens Creek	60.10	134	P	P	09 56 54.4	0.0
	3.0nm,0.9s,mb4.3,baz=263,slow=5.1,SNR=4.1						
FINES	FINESS Array B	72.73	332	P	P	09 58 14.0	-0.1
	1.4nm,0.8s,mb4.0,baz=90,slow=3.8,SNR=3.8						
ARCES	ARCESS Array B	75.30	340	P	P	09 58 28.7	-0.2
	1.0nm,0.7s,mb3.9,baz=102,slow=8.3,SNR=2.5						
HFS	Hagfors	78.48	330	P	P	09 58 47.2	+0.4
	1.5nm,0.6s,mb4.1,baz=90,slow=5.9,SNR=5.2						
PDAR	Pinedale Array	125.23	21	PKP	PKPdf	10 05 48.4	+2.9
	0.6nm,0.7s,baz=45,slow=2.1,SNR=5.2						
TXAR	Lajitas Array	139.29	24	PKP	PKPdf	10 06 15.0	+2.8
	0.2nm,0.5s,baz=190,slow=0.8,SNR=3.7						
PLCA	Paso Flores	144.48	200	PKP	PKPdf	10 06 23.0	+2.1
	3.8nm,0.9s,baz=150,slow=4.6,SNR=3.9						

IDC 27 09:50:40.7±1.3, 7.83N×94.07E, mb3.9/7, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, ML3.9/1, Error ellipse: s-maj=47.3km s-min=26.8km az=60.0, Putative timing error at GERES, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.58	24	Pn	P	09 53 28.8	-1.7
	0.2nm,0.3s,baz=213,slow=14,SNR=6.8						
SONM	Songino Array	41.23	13	P	P	09 58 26.6	-2.3
	0.7nm,1.0s,baz=198,slow=9.1,SNR=2.9						
ZAL	Zalesovo	46.59	352	P	P	09 59 11.6	-0.6
	1.4nm,0.4s,baz=329,slow=8.9,SNR=4.3						
WRA	Warramunga Arr	48.29	125	P	P	09 59 23.8	-2.3
	0.7nm,0.9s,baz=304,slow=8.6,SNR=4.1						
FINES	FINESS Array B	72.72	332	P	P	10 02 09.9	-2.5
	1.8nm,0.8s,baz=98,slow=9.8,SNR=3.1						
GERES	GERESS Array B	77.81	318	P	P	10 02 30.7	-11
	0.5nm,0.6s,baz=80,slow=6.0,SNR=3.0						
HFS	Hagfors	78.46	330	P	P	10 02 43.9	-1.1
	0.8nm,0.4s,baz=117,slow=6.6,SNR=4.3						
NOA	NORSAR Array B	79.74	331	P	P	10 02 50.0	-1.9
	0.6nm,0.8s,baz=174,slow=19,SNR=2.6						
PLCA	Paso Flores	144.48	200	PKP	PKPdf	10 10 21.4	+0.2
	1.7nm,0.9s,baz=220,slow=4.9,SNR=3.7						

*IDC **27** 09:52:15.1±0.7, 7.74N×93.98E, mb4.6/24, mb1 4.6/25, mb1mx4.6/28, mbtmp4.5/25, ML4.7/1, MS4.8/10, Ms1 4.9/10, ms1mx4.3/31, Error ellipse: s-maj=28.5km s-min=15.6km az=42.0, Putative timing error at GERES*

*BJI **27** 09:52:19.3, 7.62N×93.71E, h46km, mB5.1, mb4.8, Ms5.4, Msz5.1*

*MOS **27** 09:52:20.0±1.4, 7.93N×93.95E, h33km, mb5.1/40, MS4.7/4, Error ellipse: s-maj=11.0km s-min=6.4km az=102.3*

*NEIC **27** 09:52:20.5±0.3, 7.85N×94.01E, h30km, mb4.9/30, Error ellipse: s-maj=8.6km s-min=8.0km az=128.0*

*HRVD **27** 09:52:20.5±0.3, 7.87N×94.25E, h20km±1km, MW5.3/59, Centroid moment Tensor Solution. LP body waves: s33,c50;Mantle waves: s59,c110; Half duration: 1§1 Moment tensor: Scale 10^17^Nm; M_{rr}0.03±.04; $M_{\theta\theta}$-1.03±.03; $M_{\phi\phi}$1.00±.04; $M_{r\theta}$-0.37±.07; $M_{\theta\phi}$0.35±.03; $M_{\phi r}$-0.34±.08; Best double couple: $M_0$1.184×10^17^ NP1: ϕ_s144°, δ65°, λ177°. NP2:ϕ_s235°, δ87°, λ25°. Principal axes: T 1.195, Plg19°, Azm102°; N -.023, Plg65°, Azm241°; P -1.173, Plg15°, Azm7°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 27 09:52:19.6±0.4, 7.88N±0.05×94.07E±0.04, h33km, (h33km±3.7km:pP-P), n186, σ1§25/184, mb4.8/66, MS4.9/16, 8C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	3.97	341	*e*SG	S	09 54 14.4	+8.7
PBA				*e*		09 54 14.4	
PBA				*i*		09 54 24.4	
NNT	Nongplab	7.28	50	P	P	09 54 04.0	-2.2
NST	Nakhon Sawan	9.75	37	P	P	09 54 39.0	-1.7
CM31	Chiang Mai Arr	11.53	24	*e*P	P	09 55 03.8	-1.1
	20nm,0.6s						
CMAR	Chiang Mai Arr	11.53	24	P	P	09 55 05.4	+0.5
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,5μm,18.2s						
CMAR	Chiang Mai Arr	11.53	24	Pn	P	09 55 05.3	+0.4
	comp=Z,1.5nm,0.3s,baz=212,slow=14,SNR=35						
CMAR				LR	LR	09 59 40.2	
	comp=Z,5μm,18.2s,baz=205,slow=38						
CHG	Chiang Mai	11.85	23	⇑P	P	09 55 09.5	+0.2
	comp=Z,29nm,0.8s						
KKTK	Khon Kaen	11.99	45	P	P	09 55 11.5	+0.4
	comp=Z,432nm,0.8s						
CHRT	Chiangrai	13.14	24	⇑P	P	09 55 27.0	+0.5
	comp=Z,284nm,1.0s						
VIS	Vishakhapatnam	14.32	314	*e*P	P	09 55 41.9	-0.3
VIS				*e*		09 55 49.0	
	comp=Z,87nm,0.9s						
VIS				*e*		09 58 10.1	
VIS				*e*S	S	09 58 10.1	-11
BWNR	Bhubaneshwar	14.71	328	*e*P	P	09 55 43.5	-3.6
BWNR				*e*		09 55 49.0	
	comp=Z,78nm,0.8s						
BWNR				*e*		09 58 16.6	
KOD	Kodaikanal	16.56	279	*e*P	P	09 56 09.5	-1.6
KOD				*e*		09 56 22.7	
	comp=Z,62nm,1.1s						
KOD				*e*		09 58 32.5	
SHL	Shillong	17.71	353	*i* P	P	09 56 30.7	+5.4
SHL				*i*		09 56 30.7	
SHL				*i*		09 56 33.0	
	comp=Z,760nm,0.7s						
HYB	Hyderabad	17.85	304	*e*P	P	09 56 27.0	-0.1
HYB				*e*S	S	09 59 45.0	+2.6
HYB				pmax	pmax		
	comp=Z,60nm,1.0s						
HYB	Hyderabad	17.85	304	*e*P	P	09 56 27.0	-0.1
	comp=Z,60nm,1.0s						
HYB				*e*S	S	09 59 45.0	+2.6
HYB	Hyderabad	17.85	304	*i* P	P	09 56 27.0	-0.1
	comp=Z,60nm,1.0s						
HYB				*e*S	S	09 59 45.0	+2.6
SHBG	Sahibganj	18.29	341	*e*	P	09 56 40.8	+8.1
QIZ	Qiongzhong	18.90	53	P	P	09 56 41.3	+1.2
QIZ				S	S	10 00 06.5	+0.4
QIZ				LR	LR		
	comp=N,15μm,11.7s						
QIZ				LR	LR		
	comp=Z,3μm,13.8s						
QIZ	Qiongzhong	18.90	53	*e*P	P	09 56 41.1	+0.9
	comp=Z,167nm,1.5s						
KMI	Kunming	19.04	25	⇑P	P	09 56 45.4	+3.7
KMI				pmax	pmax		
	comp=Z,36nm,1.5s						
KMI	Kunming	19.04	25	⇑P	P	09 56 45.4	+3.7
	comp=Z,36nm,1.5s						
KMI				pP		09 56 51.0	
KMI				sP		09 56 53.6	
KMI				PP	PP	09 57 04.1	+5.8
KMI				S	S	10 00 20.7	+12
KMI				sS		10 00 32.1	
KMI				SS	SS	10 00 42.8	+8.0
MNGI	Mangalore	19.58	286	*i*	P	09 56 50.7	+2.9
MNGI				*i*	S	10 00 24.4	+2.9
NGP	Nagpur	19.61	314	*e*P	P	09 56 47.6	-0.4
NGP				*i*		09 56 53.5	
NGP				*e*	S	10 00 40.1	+18
JIRN	Jiri	21.04	340	*e*P	P	09 57 02.2	-0.8
	comp=Z,137nm,0.8s,mb5.3						
GOA	Goa	21.21	293	*e*P	P	09 57 02.7	-2.1
GOA				*e*	S	10 01 07.6	+14
PKI	Pulchoki	21.23	338	*e*P	P	09 57 05.1	+0.1
	comp=Z,459nm,1.5s,mb5.6						
GUN	Gumba	21.38	340	*e*P	P	09 57 05.5	-0.9
	comp=Z,215nm,0.9s,mb5.5						
DMN	Daman	21.38	338	*e*P	P	09 57 06.3	-0.1
	comp=Z,113nm,0.8s,mb5.3						
KKN	Kakani	21.48	338	*e*P	P	09 57 07.1	-0.3
	comp=Z,136nm,1.0s,mb5.2						
KAD	Karad	21.53	298	*e*P	P	09 57 08.8	+0.8
LSA	Lhasa	21.88	353	P	P	09 57 11.5	+0.1
LSA	Lhasa	21.88	353	*e*P	P	09 57 11.1	-0.3
LSA				pmax	pmax		
	comp=Z,139nm,1.0s,mb5.3						
LSA	Lhasa	21.88	353	*e*P	P	09 57 11.1	-0.3
	comp=Z,139nm,1.0s,mb5.3						
GKN	Gorkha	21.91	337	*e*P	P	09 57 11.1	-0.7
	comp=Z,108nm,0.8s,mb5.3						
KOLN	Koldanda	22.12	335	*e*P	P	09 57 13.6	-0.3
	comp=Z,74nm,1.1s,mb5.0						
BOM	Bombay	23.37	300	*e*P	P	09 57 27.6	+1.3
BOM				*e*		09 57 34.8	
	comp=Z,70nm,0.5s						
BOM				*e*	S	10 01 49.8	+17
NDI	New Delhi	26.09	325	*e*P	P	09 57 53.5	+1.2
NDI				*e*	pP	09 58 03.3	+1.7
	comp=Z,75nm,1.3s						
NDI				*e*		10 02 18.7	
NDI				*e*S	S	10 02 18.7	-0.4
ENH	Enshi	26.55	31	*e*P	P	09 57 56.4	-0.1
	comp=Z,40nm,0.9s,mb5.0						
TGY	Tagaytay City	27.07	74	LR	LR	10 08 20.4	
	comp=Z,3μm,18.2s,MS4.8,baz=76,slow=36						
SM

comp=Z,5.7nm,0.9s,mb4.2,baz=194,slow=7.0,SNR=12
SONM PcP PcP 10 02 00.2 -1.8
comp=Z,1.8nm,0.7s,baz=194,slow=4.5,SNR=5.2
ULN Ulaanbaatar 41.34 13 *eP* **P 10 00 03.1 -0.8**
ULN pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
ULN Ulaanbaatar 41.34 13 *eP* **P 10 00 03.1 -0.8**
comp=Z,8.4nm,1.0s,mb4.3
SNY Shenyang 42.70 33 ⇑P **P 10 00 16.8 +1.6**
SNY S **S 10 06 30.5 -5.6**
SNY AMB AMB
comp=Z,400nm,13.7s
SNY LR LR
comp=N,1μm,15.9s
SNY LR LR
comp=Z,2μm,16.3s,MS5.0
ZAK Zakamensk 43.05 9 *eP* **P 10 00 17.4 -0.5**
KURK Kurchatov 44.59 346 *eP* **P 10 00 29.7 -0.6**
KURK pmax pmax
comp=Z,64nm,1.1s,mb5.4
KURK Kurchatov 44.59 346 *eP* **P 10 00 29.6 -0.6**
comp=Z,64nm,1.1s,mb5.4
NWAO Narrogin (SRO) 46.19 153 P **P 10 00 44.8 +1.5**
NWAO pmax pmax
comp=Z,13nm,0.6s
NWAO Narrogin (SRO) 46.19 153 P **P 10 00 44.8 +1.5**
comp=Z,12nm,0.6s,mb5.0,baz=326,slow=12,SNR=4.7
ZAL Zalesovo 46.53 352 P **P 10 00 45.3 -0.4**
ZAL pmax pmax
comp=Z,9.0nm,0.5s
ZAL Zalesovo 46.53 352 P **P 10 00 45.3 -0.3**
comp=Z,8.7nm,0.5s,mb5.0,baz=300,slow=6.8,SNR=18
HIA Hailar 46.54 23 *eP* **P 10 00 46.4 +0.6**
HIA pmax pmax
comp=Z,57nm,1.4s
HIA Hailar 46.54 23 *eP* **P 10 00 46.4 +0.6**
comp=Z,57nm,1.4s,mb5.3
NVS Novosibirsk 47.63 352 *eP* **P 10 00 52.4 -1.9**
NVS pmax pmax
comp=N,57nm,1.0s
NVS pmax pmax
comp=E,29nm,1.0s
NVS pmax pmax
comp=Z,82nm,1.0s,mb5.7
MDJ Mudanjiang 47.84 34 P **P 10 00 58.0 +1.9**
MDJ S **S 10 07 52.8 +3.0**
MDJ AMB AMB
comp=Z,14nm,1.0s,mb5.0
MDJ AMB AMB
comp=Z,179nm,5.2s
MDJ LR LR
comp=E,2μm,13.0s
MDJ LR LR
comp=Z,1μm,13.4s,MS5.1
MDJ Mudanjiang 47.84 34 P **P 10 00 59.1 +3.0**
comp=Z,32nm,1.3s,mb5.2
BVA0 Borovoye Array 48.96 341 *i* P **P 10 01 07.0 +2.4**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
BVAR Borovoye Array 48.96 341 P **P 10 01 02.8 -1.9**
comp=Z,9.8nm,0.9s,mb4.8,baz=149,slow=8.6,SNR=10.0
RAYN Ar Rayn 49.02 294 P **P 10 01 06.2 +0.7**
comp=Z,170nm,0.6s,SNR=18
BRVK Borovoye 49.02 341 *eP* **P 10 01 04.2 -0.9**
BRVK pmax pmax
comp=Z,12nm,1.0s,mb4.9
BRVK Borovoye 49.02 341 *eP* **P 10 01 04.2 -0.9**
comp=Z,12nm,1.0s,mb4.9
JHJ Hachijo jima 2 49.11 53 LR LR 10 22 29.5
comp=Z,875nm,18.1s,MS4.8,baz=112,slow=37
MAT Matsushiro 49.20 48 PCP PcP 10 02 34.4 +4.5
CBIJ Chichi jima 49.35 61 LR LR 10 19 21.9
comp=Z,428nm,21.4s,MS4.4,baz=160,slow=33
CHKZ Chkalovo 49.44 342 P **P 10 01 07.4 -1.0**
CHKZ pmax pmax
comp=Z,28nm,1.0s,mb5.2
CHKZ Chkalovo 49.44 342 *eP* **P 10 01 07.2 -1.2**
comp=Z,47nm,1.0s,mb5.5
ASAR Alice Springs 49.97 130 P **P 10 01 10.4 -2.5**
comp=Z,3.8nm,0.7s,mb4.5,baz=307,slow=7.4,SNR=9.1
BOD Bodaibo 52.16 13 *eP* **P 10 01 27.2 -1.7**
GNI Garni 54.38 314 P **P 10 01 44.0 -1.7**
GNI pmax pmax
comp=Z,2.0nm,0.4s
GNI Garni 54.38 314 P **P 10 01 44.0 -1.7**
comp=Z,2.4nm,0.4s,mb4.5,baz=174,slow=18,SNR=2.2
SVE Sverdlovsk 55.37 338 *eP* **P 10 01 48.0 -4.6**
SVE pmax pmax
comp=Z,70nm,2.0s,mb5.3
PMG Port Moresby 55.60 107 *eP* **P 10 01 53.1 -1.7**
PMG Port Moresby 55.60 107 P **P 10 01 53.2 -1.6**
comp=Z,14nm,0.7s,mb5.1,baz=306,slow=9.4,SNR=4.1
ARU Arti 55.85 337⇑*iP* **P 10 01 48.9 -7.2**
ARU *e* 10 02 49.4
ARU *eS* **S 10 09 32.5 -7.0**
ARU *eSS* SS 10 13 21.6 -3.6
ARU pmax pmax
comp=Z,23nm,1.1s,mb5.1
YSS Yuzh-Sakhalins 56.82 38 *eP* pP 10 02 11.0 -2.3
KMBO Kilima Mbogo 57.36 264 P **P 10 02 09.3 +1.8**
comp=Z,11nm,1.1s,mb4.8,baz=57,slow=9.4,SNR=11
KMBO LR LR 10 23 48.2
comp=Z,1μm,20.1s,MS5.0,baz=90,slow=33
KMBO Kilima Mbogo 57.36 264 *eP* **P 10 02 07.5 +0.1**
comp=Z,15nm,1.1s,mb5.0
KMBO *e* 10 04 02.9
SOKR Solikamsk 58.77 339⇑*iP* **P 10 02 15.3 -1.3**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.3
SOKR MLR MLR
comp=Z,960nm,20.0s,MS4.9
EIL Elat 59.36 300 P **P 10 02 20.9 -0.3**
comp=Z,3.8nm,0.5s,mb4.7,baz=72,slow=6.4,SNR=4.7
YAK Yakutsk 60.01 18 *eP* **P 10 02 27.2 +2.0**
YAK *e* pP 10 02 38.2 +2.9
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=Z,13nm,0.9s,mb5.0
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,16nm,0.9s,mb5.0
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK MLR MLR
comp=Z,513nm,13.0s,MS4.8
YAK MLR MLR
comp=N,325nm,12.0s,MS4.9
YAK MLR MLR
comp=E,389nm,11.0s,MS4.9
STKA Stephens Creek 60.16 134 P **P 10 02 25.1 -1.6**
comp=E,3.9nm,0.8s,mb4.5,baz=334,slow=8.6,SNR=4.5
STKA LR LR 10 29 02.7
comp=E,824nm,21.4s,MS4.8,baz=298,slow=37
STKA Stephens Creek 60.16 134 *eP* **P 10 02 24.3 -2.3**
BRTR Keskin Array B 62.37 311 P **P 10 02 39.2 -2.3**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 62.37 311 P **P 10 02 39.2 -2.3**
comp=Z,1.3nm,0.5s,mb4.3,baz=145,slow=6.7,SNR=5.5
MBAR Mbarara 63.69 265 *eP* **P 10 02 50.4 -0.3**
MBAR pmax pmax
comp=Z,15nm,1.3s,mb4.9
MBAR Mbarara 63.69 265 *eP* **P 10 02 50.4 -0.3**
comp=Z,15nm,1.3s,mb4.9
MOS Moscow 65.04 329 *eP* **P 10 02 50.7 -8.0**
OBN Obninsk 65.33 328 *eP* **P 10 02 56.1 -4.5**
OBN pmax pmax
comp=Z,39nm,1.2s,mb5.3
MA2 Magadan 66.79 28 *eP* **P 10 03 12.7 +3.0**
MA2 pmax pmax
comp=Z,15nm,0.9s,mb5.0
MA2 Magadan 66.79 28 *eP* **P 10 03 12.7 +3.0**
comp=Z,15nm,0.9s,mb5.0
TIXI Tiksi 67.24 11 *eP* **P 10 03 10.6 -1.8**
TIXI pmax pmax
comp=Z,23nm,0.9s,mb5.2
AKASG Malin Array Be 68.11 322 P **P 10 03 15.5 -2.7**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 68.11 322 P **P 10 03 15.5 -2.6**
comp=Z,2.2nm,0.6s,mb4.4,baz=87,slow=4.9,SNR=6.5
IDI Anoyia 68.51 305 P **P 10 03 19.8 -1.2**
comp=Z,9.4nm,0.6s,mb4.9,baz=6.8,slow=17,SNR=3.5
SEY Seymchan 68.95 25 *eP* **P 10 03 27.9 +4.7**
MLR Muntele Rosu 69.12 316 P **P 10 03 25.0 +0.5**
MLR pmax pmax
comp=Z,5.0nm,0.7s
MLR Muntele Rosu 69.12 316 P **P 10 03 25.0 +0.5**
comp=Z,4.9nm,0.7s,mb4.6,baz=167,slow=7.5,SNR=5.2
LSZ Lusaka 69.21 250 *eP* **P 10 03 26.8 +1.3**
LSZ pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LSZ Lusaka 69.21 250 *eP* **P 10 03 26.8 +1.2**
comp=Z,8.0nm,0.9s,mb4.7
JOF Joensuu 70.81 334 *ep* **P 10 03 33.1 -1.4**
comp=Z,10.0nm,0.8s,mb4.8
APA Apatity 71.82 339⇑*eP* **P 10 03 39.0 -1.5**
APA pmax pmax
comp=Z,26nm,1.0s,mb5.1
KWP Kalwaria 71.98 320 *eP* **P 10 03 41.1 -0.6**
KWP pmax pmax
comp=Z,18nm,1.0s,mb5.0
KWP Kalwaria 71.98 320 *eP* **P 10 03 41.1 -0.7**
comp=Z,18nm,1.0s,mb4.9
FINES FINESS Array B 72.67 332 P **P 10 03 44.6 -1.0**
FINES pmax pmax
comp=Z,7.0nm,0.7s
FINES FINESS Array B 72.67 332 P **P 10 03 44.6 -1.0**
comp=Z,6.7nm,0.7s,mb4.7,baz=98,slow=7.3,SNR=18
KAF Kangasniemi 72.75 333 *ep* **P 10 03 40.9 -5.2**
comp=Z,5.3nm,0.5s,mb4.7
KAF Kangasniemi 72.75 333 *eP* **P 10 03 40.9 -5.2**
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
LBTB Lobatse 74.19 241 *eP* **P 10 03 55.9 +0.7**
LBTB pmax pmax
comp=Z,13nm,0.8s,mb4.9
LBTB Lobatse 74.19 241 *eP* **P 10 03 55.9 +0.6**
comp=Z,13nm,0.8s,mb4.9
KEV Kevo 74.81 341 *ep* **P 10 03 57.2 -0.7**
comp=Z,11nm,0.7s,mb4.9
KEV Kevo 74.81 341 *eP* **P 10 03 57.2 -0.7**
KEV pmax pmax
comp=Z,11nm,0.7s,mb4.9
OKC Ostrava-Krasne 74.94 319 *eP* **P 10 04 02.0 +2.9**
ARCES ARCESS Array B 75.23 340 P **P 10 04 00.1 -0.3**
ARCES pmax pmax
comp=Z,2.0nm,0.4s
ARCES ARCESS Array B 75.23 340 P **P 10 04 00.1 -0.4**
comp=Z,1.7nm,0.4s,mb4.3,baz=91,slow=6.2,SNR=25
MORC Moravsky Berou 75.33 319 *eP* **P 10 04 00.8 -0.5**
MORC pmax pmax
comp=Z,15nm,1.1s,mb4.8
MORC Moravsky Berou 75.33 319 *eP* **P 10 04 00.8 -0.5**
comp=Z,15nm,1.1s,mb4.8
BOSA Boshof 75.53 238 *eP* **P 10 04 03.0 +0.1**
BOSA pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BOSA Boshof 75.53 238 *eP* **P 10 04 03.0 +0.1**
comp=Z,5.2nm,0.7s,mb4.6
BILL Bilibino 76.11 22 *eP* **P 10 04 04.7 -0.7**
BILL pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
BILL Bilibino 76.11 22 *eP* **P 10 04 04.7 -0.6**
comp=Z,1.5nm,0.5s,mb4.2
DPC Dobruska-Polom 76.16 320 *eP* **P 10 04 06.8 +0.8**
UPC Upice 76.37 320 *eP* **P 10 04 07.1 -0.1**
PRU Pruhonice 77.28 319 *eP* **P 10 04 15.3 +2.9**
PVCC Panska Ves 77.29 320 *eP* **P 10 04 07.8 -4.6**
BRG Berggiesshubel 77.70 320 P **P 10 04 15.1 +0.4**
BRG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BRG Berggiesshubel 77.70 320 P **P 10 04 15.1 +0.4**
comp=Z,4.8nm,0.8s,mb4.5
GERES GERESS Array B 77.78 318 P **P 10 04 04.7 -10**
GERES pmax pmax
comp=Z,3.0nm,0.9s
GERES GERESS Array B 77.78 318 P **P 10 04 04.7 -10**
comp=Z,3.0nm,0.9s,mb4.2,baz=135,slow=3.8,SNR=7.8
KHC Kasperske Hory 77.87 318 *eP* **P 10 04 15.1 -0.5**
KHC *e* 10 04 23.0
KHC Kasperske Hory 77.87 318 *eP* **P 10 04 15.1 -0.5**
KHC pP pP 10 04 23.0 -3.0
CLL Collm 78.31 321 P **P 10 04 20.0 +2.0**
HFS Hagfors 78.41 330 P **P 10 04 18.1 -0.3**
HFS pmax pmax
comp=Z,6.0nm,0.4s
HFS Hagfors 78.41 330 P **P 10 04 18.1 -0.3**
comp=Z,5.6nm,0.4s,mb4.9,baz=104,slow=6.1,SNR=30
HFS Hagfors 78.41 330 P **P 10 04 18.1 -0.3**
NKC Novy Kostel 78.63 320 *eP* **P 10 04 24.3 +4.5**
MOX Moxa 79.17 320 *eP* **P 10 04 22.0 -0.8**
GRA1 Grafenberg Arr 79.42 319 *eP* **P 10 04 24.1 0.0**
comp=Z,22nm,1.6s,mb4.8
GRF Grafenberg Arr 79.42 319 *eP* **P 10 04 24.1 0.0**
GRF pmax pmax
comp=Z,22nm,1.6s,mb4.8
GRF Grafenberg Arr 79.42 319 *eP* **P 10 04 24.1 0.0**
GRF pmax pmax
comp=Z,22nm,1.6s,mb4.8
GRF Grafenberg Arr 79.42 319 *eP* **P 10 04 24.1 0.0**
comp=Z,22nm,1.6s,mb4.8
NB2 NORSAR Subarra 79.69 331 P **P 10 04 24.3 -1.0**
comp=Z,6.5nm,0.8s,mb4.6,baz=92,slow=5.8
NB2 NORSAR Subarra 79.69 331 P **P 10 04 24.3 -1.0**
NB2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
NOA NORSAR Array B 79.69 331 P **P 10 04 24.5 -0.8**
NOA pmax pmax
comp=Z,3.0nm,0.6s
NOA NORSAR Array B 79.69 331 P **P 10 04 24.5 -0.9**
comp=Z,2.7nm,0.6s,mb4.3,baz=96,slow=5.5,SNR=10
DAVOX Davos 80.34 316 P **P 10 04 28.7 -0.4**
comp=Z,5.4nm,0.7s,mb4.6,baz=20,slow=16,SNR=3.8
LPG La Plagne 82.56 315 *eP* **P 10 04 40.7 0.0**
comp=Z,27nm,0.8s,mb5.0
LPG La Plagne 82.56 315 *eP* **P 10 04 40.7 0.0**
LPG pmax pmax
comp=Z,14nm,0.8s,mb5.0
TNA Tin City 86.19 24 *eP* **P 10 05 00.2 +1.8**
EKA Eskdalemuir Ar 87.68 325 P **P 10 05 06.6 +0.7**
EKA pmax pmax
comp=Z,2.0nm,0.7s
EKA Eskdalemuir Ar 87.68 325 P **P 10 05 06.5 +0.7**
comp=Z,2.1nm,0.7s,mb4.5,baz=99,slow=5.1,SNR=5.3
ESDC Sonseca Array 91.16 310 P **P 10 05 23.2 +0.5**
comp=Z,0.2nm,0.3s,mb3.9,baz=90,slow=2.6,SNR=3.8
VNDA Vanda 92.95 168 LR LR 10 42 23.2
comp=Z,352nm,18.4s,MS4.8,baz=331,slow=32
SPU Mount Spurr 94.31 26 P **P 10 05 37.0 +0.4**
ILAR Eielson Array 94.76 22 P **P 10 05 38.1 -0.5**
comp=Z,0.4nm,0.7s,mb4.0,baz=301,slow=4.8,SNR=4.5
ILAR LR LR 10 51 55.8
comp=Z,372nm,18.2s,MS4.9,baz=232,slow=38
SML Sawmill 95.63 25 *eP* **P 10 05 45.2 +2.6**
INK Inuvik 97.00 16 P **P 10 05 50.6 +1.9**
comp=Z,6.7nm,1.1s,mb5.0,baz=330,slow=3.3,SNR=5.4
INK LR LR 10 56 00.5
comp=Z,704nm,19.6s,MS5.2,baz=109,slow=39
DBIC Dimbokro 97.87 278 LR LR 10 50 10.5
comp=Z,631nm,18.5s,MS5.1,baz=180,slow=36
YKA Yellowknife Ar 106.43 13 PP PP 10 10 54.7 -4.1
comp=Z,0.3nm,0.7s,baz=335,slow=7.6,SNR=5.5
SNOW Snow King Moun 124.15 22 *e*PKPdf PKPdf 10 11 16.5 +1.3
NVAR Mina Array Bea 124.95 31 PKP PKPdf 10 11 19.1 +2.2
comp=Z,1.0nm,0.7s,baz=291,slow=2.8,SNR=5.2
PDAR Pinedale Array 125.18 21 PKP PKPdf 10 11 18.2 +1.0
comp=Z,0.7nm,0.6s,baz=91,slow=0.6,SNR=8.4
SADO Sadowa 127.24 354 PKP PKPdf 10 11 21.9 +0.8
comp=Z,1.9nm,0.7s,baz=69,slow=8.6,SNR=3.1
MSU Marysvale 127.78 26 *e*PKIKP PKPdf 10 11 23.6 +1.2
GDL2 Guadalupe Moun 136.43 23 *e*PKPdf PKPdf 10 11 40.6 +1.8
TXAR Lajitas Array 139.25 24 PKhKP 10 11 37.5
comp=Z,0.1nm,0.4s,baz=305,slow=1.4,SNR=4.7
TXAR PKP PKPdf 10 11 46.5 +2.4
comp=Z,0.6nm,0.5s,baz=222,slow=0.7,SNR=10
JCT Junction City 139.60 19 *e*PKIKP PKPdf 10 11 45.3 +0.7
PLCA Paso Flores 144.53 200 PKIKP PKPdf 10 11 53.1 +0.1
PLCA pmax pmax
comp=Z,4.0nm,0.7s
PLCA Paso Flores 144.53 200 PKP PKPdf 10 11 53.1 +0.1
comp=Z,3.9nm,0.7s,baz=153,slow=5.0,SNR=10

IDC 27 09:55:33.6±2.4,7.46N×93.57E,mb4.2/6,mb1 4.4/6, mb1mx4.0/17,mbtmp4.2/6,Error ellipse: s-maj=87.1km s-min=62.7km az=59.0,Putative timing error at GERES, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**46.89**	**353**	P	P		10 04 04.8	-2.6
	2.9nm,0.8s,baz=303,slow=9.0,SNR=3.4							
BRTR	**Keskin Array B**	**62.28**	**311**	P	P		10 05 57.0	-2.9
	0.9nm,0.6s,baz=124,slow=7.7,SNR=3.4							
FINES	**FINESS Array B**	**72.82**	**332**	P	P		10 07 05.0	-0.7
	3.2nm,0.8s,baz=143,slow=9.5,SNR=4.3							
GERES	**GERESS Array B**	**77.76**	**318**	P	P		10 07 23.5	-11
	1.1nm,0.7s,baz=180,slow=2.7,SNR=4.1							
HFS	**Hagfors**	**78.53**	**330**	P	P		10 07 37.2	-0.9
	3.2nm,0.9s,baz=127,slow=7.2,SNR=5.0							
NB2	**NORSAR Subarra**	**79.82**	**331**	P	P		10 07 43.7	-1.4
	1.6nm,0.7s,baz=97,slow=5.0							
NOA	**NORSAR Array B**	**79.82**	**331**	P	P		10 07 43.8	-1.3
	2.1nm,0.7s,baz=92,slow=5.6,SNR=4.8							
PDAR	**Pinedale Array**	**125.75**	**21**	PKP	PKPdf		10 14 36.9	-2.6
	0.7nm,0.9s,slow=1.5,SNR=3.5							
PLCA	**Paso Flores**	**143.96**	**201**	PKP	PKPdf		10 15 11.8	-1.4
	1.7nm,0.8s,baz=272,slow=1.8,SNR=4.2							

IDC 27 09:55:51.7±2.8,7.16N×94.80E,mb4.3/8,mb1 4.4/8, mb1mx4.2/17,mbtmp4.3/8,Error ellipse: s-maj=71.8km s-min=56.4km az=147.0,Putative timing error at GERES,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.72**	**12**	P	P		10 03 41.0	-3.0
	1.0nm,1.0s,baz=197,slow=9.4,SNR=2.5							
ZAL	**Zalesovo**	**47.34**	**352**	P	P		10 04 28.2	-0.9
	4.3nm,0.8s,baz=298,slow=10,SNR=4.2							
BRTR	**Keskin Array B**	**63.39**	**311**	P	P		10 06 21.4	-4.0
	0.8nm,0.5s,baz=121,slow=7.2,SNR=4.3							
FINES	**FINESS Array B**	**73.64**	**332**	P	P		10 07 27.3	-1.4
	3.6nm,0.7s,baz=112,slow=10,SNR=5.1							
ARCES	**ARCESS Array B**	**76.16**	**340**	P	P		10 07 42.1	-0.9
	3.6nm,0.8s,baz=104,slow=5.0,SNR=5.2							
GERES	**GERESS Array B**	**78.79**	**318**	P	P		10 07 47.5	-10
	1.5nm,0.7s,baz=117,slow=9.0,SNR=4.0							
HFS	**Hagfors**	**79.40**	**330**	P	P		10 08 00.4	-0.7
	4.4nm,0.6s,baz=104,slow=6.1,SNR=6.0							
NOA	**NORSAR Array B**	**80.67**	**331**	P	P		10 08 07.0	-0.8
	3.4nm,0.9s,baz=95,slow=5.1,SNR=5.3							
PDAR	**Pinedale Array**	**125.59**	**22**	PKP	PKPdf		10 14 55.4	-2.0
	0.6nm,0.9s,baz=326,slow=3.3,SNR=3.9							

*NEIC **27** 09:57:46.0±1.1,10.89S×124.04E,h55km±17km,mb4.7/5, MS4.9/1,Error ellipse: s-maj=19.2km s-min=8.3km az=215.0*

*IDC **27** 09:57:53.2±5.9,11.85S×124.42E,mb4.0/2,mb1 4.6/4, mb1mx4.3/11,mbtmp4.5/4,ML4.5/2,Error ellipse: s-maj=86.9km s-min=71.3km az=57.0*

ISC 27 09:57:44.3±1.3,10.94S±0.07×124.01E±0.06,h57km±17km, n24,σ1°41/38,mb4.5/6,MS4.9/1,1C-4D,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.29**	**168**	*eP*	**P**	**P**	**09 59 32.5**	**+1.9**
	69nm,0.3s							
FITZ				*eS*		**S**	**10 00 51.2**	**-1.6**
KEDI	**Kedomdong**	**8.16**	**287**⇓	*ePn*		**P**	**09 59 44.5**	**+2.0**
KEDI				*eSn*		**S**	**10 01 13.7**	**-0.5**
KAKA	**Kakadu**	**8.44**	**103**	*eP*		**P**	**09 59 46.4**	**+0.1**
	39nm,0.4s							
KAKA				*eS*		**S**	**10 01 17.2**	**-3.9**
RATI	**Rata**	**8.64**	**284**⇓	*ePn*		**P**	**09 59 49.5**	**+0.3**
RATI				*eSn*		**S**	**10 01 21.3**	**-4.9**
KELI	**Kelakatan**	**9.77**	**285**⇓	*eP*		**P**	**10 00 04.4**	**-0.4**
	113nm,0.3s							
KELI				*eS*		**S**	**10 01 50.2**	**-3.8**
SRDI	**Scrawed**	**10.03**	**283**⇓	*eP*		**P**	**10 00 06.1**	**-2.2**
	68nm,0.2s							
SRDI				*eS*		**S**	**10 01 54.0**	**-6.4**
MBWA	**Marble Bar**	**10.96**	**201**	*ePn*		**P**	**10 00 21.9**	**+1.0**
MBWA				*eSn*		**S**	**10 02 17.0**	**-6.0**
WRA	**Warramunga Arr**	**13.38**	**133**	Pn		**P**	**10 00 52.3**	**-0.9**
	3.2nm,0.3s,baz=312,slow=15,SNR=152							
WRA				Sn		**S**	**10 03 12.0**	**-9.0**
	10nm,0.3s,baz=305,slow=20,SNR=19							
WRAB	**Tennant Creek**	**13.38**	**133**	*eP*		**P**	**10 00 51.5**	**-1.7**
	37nm,0.6s							
WRAB				*eS*		**S**	**10 03 12.0**	**-9.1**
WB2	**Warramunga Arr**	**13.39**	**133**	*eP*		**P**	**10 00 52.4**	**-0.9**
WB2				*eS*		**S**	**10 03 12.7**	**-8.5**
ASPA	**Alice Springs**	**15.78**	**145**⇑	*iP*		**P**	**10 01 26.0**	**+1.6**
ASPA				*eS*		**S**	**10 04 12.3**	**-5.1**
ASAR	**Alice Springs**	**15.78**	**145**	Pn		**P**	**10 01 26.2**	**+1.8**
	2.8nm,0.3s,baz=321,slow=12,SNR=130							
ASAR				Sn		**S**	**10 04 10.4**	**-7.1**
	2.6nm,0.3s,baz=317,slow=21,SNR=9.2							
NWAO	**Narrogin (SRO)**	**22.76**	**195**	S		**S**	**10 06 54.5**	**+12**
	7.2nm,0.6s,baz=135,slow=20,SNR=3.8							
NWAO	**Narrogin (SRO)**	**22.76**	**195**	P		**P**	**10 02 42.3**	**-0.4**
	22nm,1.3s,mb4.4							
CTA	**Charters Tower**	**23.26**	**116**	P		**P**	**10 02 54.2**	**+6.6**
	3.3nm,0.7s,mb3.9,baz=267,slow=12,SNR=3.8							
CTA				S		**S**	**10 07 11.1**	**+19**
	3.5nm,0.9s,baz=250,slow=15,SNR=2.2							
CTA	**Charters Tower**	**23.26**	**116**	P		**P**	**10 02 54.2**	**+6.6**
CTA				S		**S**	**10 07 11.1**	**+19**
CTAO	**Charters Tower**	**23.26**	**116**	*eP*		**P**	**10 02 49.0**	**+1.4**
	16nm,1.1s,mb4.4							
STKA	**Stephens Creek**	**26.42**	**145**	P		**P**	**10 03 23.1**	**+5.4**
	2.2nm,0.6s,mb3.9,baz=318,slow=12,SNR=2.8							
STKA				S		S	10 08 05.7	+21
	2.0nm,0.8s,baz=284,slow=18,SNR=1.5							
WHN	**Wuhan**	**42.27**	**348**	P		**P**	**10 05 32.8**	**-1.2**
PALK	**Pallekele**	**46.75**	**291**	*eP*		**P**	**10 06 06.9**	**-3.2**
	27nm,1.2s,mb5.0							
BJT	**Baijiatuau**	**51.21**	**352**	*eP*		**P**	**10 06 40.8**	**-3.5**
	5.6nm,0.5s,mb4.8							
BJI	**Beijing**	**51.23**	**352**	*eP*		**P**	**10 06 44.3**	**-0.1**
	10.0nm,0.9s,mb4.8							
BJI				LR		LR		
	comp=Z,1μm,19.0s,MS4.9							
LSA	**Lhasa**	**51.33**	**323**	*eP*		**P**	**10 06 47.8**	**+2.5**
ULN	**Ulaanbaatar**	**60.45**	**347**	P		**P**	**10 07 51.0**	**+0.5**

*IDC **27** 09:59:26.7±0.6,8.06N×93.72E,mb4.6/23,mb1 4.7/24, mb1mx4.7/27,mbtmp4.6/24,ML4.3/1,Error ellipse: s-maj=28.5km s-min=14.8km az=49.0,putative timing error in GERES*

*MOS **27** 09:59:30.7±1.4,8.10N×93.74E,h33km,mb5.2/39,Error ellipse: s-maj=11.7km s-min=6.8km az=103.2*

*BJI **27** 09:59:30.4,7.79N×93.77E,h49km,mB5.2,mb4.7,Ms5.2, Msz4.8*

*HRVD **27** 09:59:31.5±0.4,7.98N×94.22E,h25km±1km,MW5.3/59, Centroid moment Tensor Solution. LP body waves: s20,c24;Mantle waves: s59,c100; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.30±.05; $M_{\theta\theta}$-0.19±.04; $M_{\phi\phi}$0.48±.04; $M_{r\theta}$-0.32±.08; $M_{\theta\phi}$0.82±.04; $M_{\phi r}$-0.15±.09; Best double couple: M_0.952×10^{17} NP1: ϕ_s169°,δ66°,λ-173°. NP2:ϕ_s76°,δ84°,λ-25°. Principal axes: T 1.097, Plg12°, Azm125°; N -.29, Plg65°, Azm243°; P -.806, Plg22°, Azm30°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **27** 09:59:31.5±0.3,8.06N×93.82E,h30km,mb5.0/31 Error ellipse: s-maj=9.7km s-min=8.2km az=111.0*

ISC 27 09:59:32.7±1.5,8.11N±0.06×93.95E±0.05,h54km±12km, n167,σ1°25/154,mb4.9/61,MS5.0/2,10C-2D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.72**	**341**	*iP*		**P**	**10 00 32.8**	**+3.8**
PBA				*i*			10 00 49.1	
CM31	**Chiang Mai Arr**	**11.37**	**25**	*eP*		**P**	**10 02 14.2**	**-0.8**
	28nm,0.9s							
CMAR	**Chiang Mai Arr**	**11.37**	**25**	P		**P**	**10 02 14.3**	**-0.7**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**11.37**	**25**	Pn		**P**	**10 02 14.2**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=203,slow=11,SNR=7.4							
PALK	**Pallekele**	**13.16**	**267**	*eP*		**P**	**10 02 35.6**	**-3.2**
VIS	**Vishakhapatnam**	**14.08**	**314**	*eP*		**P**	**10 02 49.8**	**-1.1**
VIS				*e*			10 03 09.0	
	comp=Z,112nm,1.0s							

BWNR Bhubaneshwar 14.45 328 *eP* **P 10 02 56.3 +0.5**
BWNR *e* 10 03 18.7
comp=Z,86nm,1.6s
BWNR *e* 10 06 06.5
KOD Kodaikanal 16.41 279 *eP* **P 10 03 24.4 +3.4**
KOD *e* 10 03 27.9
comp=Z,35nm,1.3s
KOD *eS* **S 10 06 20.5 -0.2**
HYB Hyderabad 17.62 303 *i P* **P 10 03 34.5 -1.7**
QIZ Qiongzhong 18.86 53 P **P 10 03 52.5 +1.4**
KMI Kunming 18.88 25 ⇑P **P 10 03 53.7 +2.3**
KMI pmax pmax
comp=Z,42nm,1.0s
KMI Kunming 18.88 25 ⇑P **P 10 03 53.7 +2.3**
comp=Z,42nm,1.0s
KMI pP 10 03 59.4
NGP Nagpur 19.36 314 *e* **P 10 04 01.5 +4.8**
COCO West Island 20.37 172 *eP* **P 10 04 07.6 +0.1**
comp=Z,174nm,1.0s
JIRN Jiri 20.78 340 *eP* **P 10 04 10.7 -1.0**
comp=Z,263nm,1.1s
PKI Pulchoki 20.97 338 *eP* **P 10 04 14.6 +1.0**
comp=Z,162nm,1.0s
GOA Goa 21.01 292 *eP* **P 10 04 15.2 +1.2**
GOA *i P* 10 04 22.9
GUN Gumba 21.12 340 *eP* **P 10 04 14.9 -0.2**
comp=Z,122nm,0.7s,mb5.3
DMN Daman 21.12 338 *eP* **P 10 04 15.4 +0.3**
comp=Z,190nm,0.9s,mb5.4
KKN Kakani 21.22 338 *eP* **P 10 04 16.2 +0.1**
comp=Z,122nm,1.0s,mb5.2
KAD Karad 21.32 297 *eP* **P 10 04 18.4 +1.3**
LSA Lhasa 21.64 353 P **P 10 04 23.5 +3.3**
LSA AMB AMB
comp=Z,60nm,0.8s,mb5.1
LSA Lhasa 21.64 353 *eP* **P 10 04 22.3 +2.1**
LSA pmax pmax
comp=Z,73nm,0.7s,mb5.2
LSA Lhasa 21.64 353 *eP* **P 10 04 22.3 +2.1**
comp=Z,73nm,0.7s,mb5.2
GKN Gorkha 21.65 337 *eP* **P 10 04 20.6 +0.2**
comp=Z,118nm,0.8s,mb5.4
BHPL Bhopal 21.86 315 *eP* **P 10 04 24.2 +1.8**
BHPL *e* 10 04 29.5
comp=Z,61nm,1.4s
KOLN Koldanda 21.86 335 *eP* **P 10 04 23.8 +1.3**
comp=Z,126nm,0.7s,mb5.5
BOM Bombay 23.15 300 *eP* **P 10 04 37.8 +2.6**
BOM *e* 10 04 45.1
comp=Z,102nm,1.8s
NDI New Delhi 25.83 325 *eP* **P 10 05 03.2 +2.2**
NDI *e* pP 10 05 13.5 -0.8
comp=Z,63nm,1.4s
ENH Enshi 26.42 31 *eP* **P 10 05 05.1 -1.2**
comp=Z,49nm,1.1s,mb5.0
SMLA Simla 27.75 328 *eP* **P 10 05 19.4 +0.9**
SMLA *e* 10 05 22.2
comp=Z,14nm,0.7s
XAN Xi'an 29.26 26 P **P 10 05 30.8 -1.2**
XAN AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
LZH Lanzhou 29.27 17 *eP* **P 10 05 35.5 +3.4**
LZH AMB AMB
comp=Z,28nm,1.5s,mb4.8
LZH Lanzhou 29.27 17 *eP* **P 10 05 35.6 +3.5**
LZH *SP sP 10 05 43.6 -8.7
LZH pmax pmax
comp=Z,28nm,1.5s,mb4.8
LZH Lanzhou 29.27 17 *eP* **P 10 05 35.6 +3.5**
comp=Z,28nm,1.5s,mb4.8
LZH pP pP 10 05 40.2 -5.5
LZH sP sP 10 05 43.6 -8.7
AAK Ala-Archa 38.41 337 *eP* **P 10 06 50.2 -0.4**
AAK pmax pmax
comp=Z,17nm,0.9s,mb4.8
AAK Ala-Archa 38.41 337 *eP* **P 10 06 50.2 -0.4**
comp=Z,17nm,0.9s,mb4.8
SONM Songino Array 40.97 13 P **P 10 07 11.9 +0.2**
comp=Z,4.2nm,0.9s,mb4.1,baz=199,slow=5.7,SNR=11
SONM PcP PcP 10 09 11.8 0.0
comp=Z,1.8nm,0.6s,baz=225,slow=3.5,SNR=2.5
ULN Ulaanbaatar 41.15 13 *eP* **P 10 07 10.9 -2.3**
ULN pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
ULN Ulaanbaatar 41.15 13 *eP* **P 10 07 10.9 -2.3**
comp=Z,6.7nm,1.0s,mb4.2
ZAK Zakamensk 42.84 9 *eP* **P 10 07 26.4 -0.7**
ZAK *e* 10 09 15.6
TLY Talaya 44.16 9 *eP* **P 10 07 42.4 +4.6**
TLY pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
TLY Talaya 44.16 9 *eP* **P 10 07 42.4 +4.6**
comp=Z,4.5nm,1.0s,mb4.2
KURK Kurchatov 44.34 346 *eP* **P 10 07 37.9 -1.3**
KURK pmax pmax
comp=Z,46nm,1.3s,mb5.0
KURK Kurchatov 44.34 346 *eP* **P 10 07 37.9 -1.3**
comp=Z,46nm,1.3s,mb5.0
ZAL Zalesovo 46.29 353 P **P 10 07 55.0 +0.3**
ZAL pmax pmax
comp=Z,7.0nm,1.0s
ZAL Zalesovo 46.29 353 P **P 10 07 55.0 +0.3**
comp=Z,6.7nm,1.0s,mb4.5,baz=306,slow=7.3,SNR=10
ZAL Zalesovo 46.29 353 P **P 10 07 55.0 +0.3**
HIA Hailar 46.38 23 *eP* **P 10 07 56.5 +1.0**
HIA pmax pmax
comp=Z,17nm,1.0s
HIA Hailar 46.38 23 *eP* **P 10 07 56.5 +1.0**
comp=Z,16nm,1.0s,mb4.9
NWAO Narrogin (SRO) 46.44 153 P **P 10 07 56.4 +0.2**
NWAO pmax pmax
comp=Z,37nm,0.8s
NWAO Narrogin (SRO) 46.44 153 P **P 10 07 56.4 +0.1**
comp=Z,37nm,0.8s,mb5.4,baz=331,slow=6.3,SNR=7.1
NVS Novosibirsk 47.38 352 *eP* **P 10 08 01.3 -2.0**
NVS pmax pmax
comp=N,15nm,0.8s
NVS pmax pmax
comp=E,9.0nm,0.8s
NVS pmax pmax
comp=Z,18nm,0.8s,mb5.0
MDJ Mudanjiang 47.72 34 P **P 10 08 08.3 +2.2**
MDJ S **S 10 15 05.3 +8.1**
MDJ SS SS 10 18 26.5 +6.3
MDJ AMB AMB
comp=Z,12nm,1.4s,mb4.7
MDJ AMB AMB
comp=Z,134nm,4.5s
MDJ LR LR
comp=N,584nm,13.3s,MS5.1
MDJ LR LR
comp=E,1μm,13.8s,MS5.1
MDJ LR LR
comp=Z,1μm,13.8s,MS5.0
MDJ Mudanjiang 47.72 34 *eP* **P 10 08 11.2 +5.2**
comp=Z,39nm,1.5s,mb5.2
WRA Warramunga Arr 48.55 126 P **P 10 08 13.3 +0.5**
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA Warramunga Arr 48.55 126 P **P 10 08 13.3 +0.4**
comp=Z,5.4nm,0.7s,mb4.7,baz=304,slow=9.1,SNR=4.9
BVAR Borovoye Array 48.70 341 P **P 10 08 12.6 -1.0**
comp=Z,2.4nm,0.8s,mb4.2,baz=180,slow=5.9,SNR=6.1
BVAR PcP PcP 10 09 37.7 -0.8
comp=Z,0.7nm,0.5s,baz=236,slow=48,SNR=2.1
CHKZ Chkalovo 49.19 342 *eP* **P 10 08 15.6 -1.7**
CHKZ pmax pmax
comp=Z,20nm,0.8s,mb5.2
CHKZ Chkalovo 49.19 342 *eP* **P 10 08 15.6 -1.7**
comp=Z,20nm,0.8s,mb5.2
BOD Bodaibo 51.96 13 *eP* **P 10 08 36.6 -1.7**
SVE Sverdlovsk 55.11 338 *eP* **P 10 08 58.0 -3.6**
SVE pmax pmax
comp=Z,80nm,2.3s,mb5.3
SVE MLR MLR
comp=N,1μm,20.0s,MS5.0
SVE MLR MLR
comp=E,1μm,20.0s,MS5.0
SVE MLR MLR
comp=Z,2μm,20.0s,MS5.1
ARU Arti 55.60 337 *eP* **P 10 08 57.9 -7.2**
ARU *e* 10 09 59.0
ARU *eS* **S 10 16 39.2 -5.8**
ARU *e*SS SS 10 20 24.6 -6.0
PMG Port Moresby 55.78 107 P **P 10 09 08.9 +1.9**
PMG pmax pmax
comp=Z,22nm,0.8s
PMG Port Moresby 55.78 107 P **P 10 09 08.9 +2.0**
comp=Z,22nm,0.8s,mb5.2,baz=179,slow=6.0,SNR=4.0
PMG Port Moresby 55.78 107 *eP* **P 10 09 03.1 -3.9**
comp=Z,43nm,1.1s,mb5.4
YSS Yuzh-Sakhalins 56.71 38 *eP* **P 10 09 18.0 +4.8**
KIV Kislovodsk 57.02 318 *eP* **P 10 09 15.5 +0.1**
KIV pmax pmax
comp=Z,27nm,1.0s,mb5.2
KIV Kislovodsk 57.02 318 *eP* **P 10 09 15.5 +0.1**
comp=Z,27nm,1.0s,mb5.2
KMBO Kilima Mbogo 57.26 263 *eP* **P 10 09 15.7 -1.9**
KMBO pmax pmax
comp=Z,15nm,0.9s
KMBO Kilima Mbogo 57.26 263 P **P 10 09 19.3 +1.7**
comp=Z,15nm,1.1s,mb5.0,baz=57,slow=8.4,SNR=16
KMBO Kilima Mbogo 57.26 263 *eP* **P 10 09 15.7 -1.9**
comp=Z,15nm,0.9s,mb5.0
SOKR Solikamsk 58.51 339 ⇑*iP* **P 10 09 24.2 -1.4**
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
EIL Elat 59.15 300 P **P 10 09 30.2 -0.3**
comp=Z,3.0nm,0.5s,mb4.6,baz=19,slow=7.7,SNR=3.2
YAK Yakutsk 59.83 19 *eP* **P 10 09 36.9 +2.1**
YAK *e* pP 10 09 55.2 +5.7
YAK pmax pmax
comp=Z,17nm,1.1s,mb5.0
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,11nm,1.0s,mb4.8
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK Yakutsk 59.83 19 *eP* **P 10 09 33.1 -1.7**
comp=E,29nm,0.7s,mb5.4
STKA Stephens Creek 60.41 134 P **P 10 09 37.9 -1.2**
comp=E,12nm,0.9s,mb4.9,baz=41,slow=7.7,SNR=3.7
STKA Stephens Creek 60.41 134 *eP* **P 10 09 37.9 -1.3**
BRTR Keskin Array B 62.13 311 P **P 10 09 48.8 -1.8**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 62.13 311 P **P 10 09 48.8 -1.8**
comp=Z,2.1nm,0.8s,mb4.3,baz=122,slow=7.3,SNR=8.4
MBAR Mbarara 63.59 265 *eP* **P 10 09 58.3 -2.5**
MBAR pmax pmax
comp=Z,14nm,1.1s,mb4.9
MBAR Mbarara 63.59 265 *eP* **P 10 09 58.3 -2.5**
comp=Z,14nm,1.1s,mb4.9
MOS Moscow 64.78 329 *eP* **P 10 10 10.1 +2.3**
MOS pmax pmax
comp=Z,67nm,0.8s,mb5.7
OBN Obninsk 65.08 328 *eP* **P 10 10 05.8 -3.9**
OBN pmax pmax
comp=Z,49nm,1.5s,mb5.3
MA2 Magadan 66.64 28 *eP* **P 10 10 19.8 +0.2**
MA2 pmax pmax
comp=Z,12nm,0.8s,mb5.0
MA2 Magadan 66.64 28 *eP* **P 10 10 19.8 +0.2**
comp=Z,12nm,0.8s,mb5.0
TIXI Tiksi 67.04 11 *eP* **P 10 10 20.1 -1.8**
TIXI pmax pmax
comp=Z,16nm,0.8s,mb5.1
AKASG Malin Array Be 67.85 322 P **P 10 10 25.0 -2.3**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 67.85 322 P **P 10 10 25.0 -2.3**
comp=Z,3.1nm,0.8s,mb4.4,baz=86,slow=5.0,SNR=8.3
IDI Anoyia 68.28 305 P **P 10 10 29.3 -1.0**
comp=Z,9.1nm,0.8s,mb4.8,baz=94,slow=13,SNR=2.7
VRI Vrincioaia 68.40 316 ⇑P **P 10 10 31.0 +0.2**
MLR Muntele Rosu 68.87 316 P **P 10 10 33.3 -0.5**
MLR pmax pmax
comp=Z,7.0nm,0.9s
MLR Muntele Rosu 68.87 316 P **P 10 10 33.3 -0.5**
comp=Z,7.2nm,0.9s,mb4.6,baz=146,slow=6.9,SNR=4.4
MLR Muntele Rosu 68.87 316 ⇑P **P 10 10 33.7 0.0**
JOF Joensuu 70.55 334 *ep* **P 10 10 42.9 -0.8**
comp=Z,8.9nm,0.8s,mb4.8
KOLS Kolonicke sedl 71.90 319 *eP* pP 10 10 59.1 -8.2
KOLS Kolonicke sedl 71.90 319 *e* pP 10 10 59.1 -8.2
FINES FINESS Array B 72.41 332 P **P 10 10 54.0 -0.8**
FINES pmax pmax
comp=Z,11nm,1.1s
FINES FINESS Array B 72.41 332 P **P 10 10 54.0 -0.8**
comp=Z,11nm,1.1s,mb4.7,baz=104,slow=7.9,SNR=8.1
CRVS Cervenica-Dubn 72.43 319 *i P* **P 10 10 55.8 +0.7**
KAF Kangasniemi 72.49 333 *ep* **P 10 10 46.8 -8.5**
comp=Z,12nm,0.8s,mb4.9
KAF Kangasniemi 72.49 333 *eP* **P 10 10 46.8 -8.5**
KAF pmax pmax
comp=Z,12nm,0.8s,mb4.9
OJC Ojcow 73.67 320 *eP* **P 10 11 02.1 -0.3**
VYHS Vyhne 74.11 318 *eP* **P 10 11 05.0 0.0**
LBTB Lobatse 74.19 241 *eP* **P 10 11 07.8 +1.8**
LBTB pmax pmax
comp=Z,13nm,0.9s,mb4.9
LBTB Lobatse 74.19 241 *eP* **P 10 11 07.8 +1.8**
comp=Z,13nm,0.9s,mb4.9
KEV Kevo 74.55 341 *ep* **P 10 11 06.6 -0.6**
comp=Z,20nm,0.9s,mb5.0
KEV Kevo 74.55 341 *eP* **P 10 11 06.6 -0.6**
KEV pmax pmax
comp=Z,20nm,0.9s,mb5.0
OKC Ostrava-Krasne 74.69 319 *eP* **P 10 11 10.8 +2.5**
OKC *ex* x 10 11 15.0
ARCES ARCESS Array B 74.98 340 P **P 10 11 10.0 +0.4**
ARCES pmax pmax
comp=Z,13nm,1.2s
ARCES ARCESS Array B 74.98 340 P **P 10 11 09.9 +0.3**
comp=Z,13nm,1.1s,mb4.7,baz=104,slow=5.0,SNR=7.0
BOSA Boshof 75.55 238 *eP* **P 10 11 11.3 -2.4**
BOSA pmax pmax
comp=Z,22nm,1.3s,mb4.9
BOSA Boshof 75.55 238 *eP* **P 10 11 11.3 -2.4**
comp=Z,22nm,1.3s,mb4.9
DPC Dobruska-Polom 75.90 320 *eP* **P 10 11 15.7 +0.4**
DPC *ex* x 10 11 19.5
KSP Ksiaz 75.96 320 *eP* **P 10 11 15.6 0.0**
KSP *e* 10 11 19.0
UPC Upice 76.11 320 *eP* **P 10 11 19.7 +3.2**
UPC *ex* x 10 11 22.9
PRU Pruhonice 77.02 319 *eP* **P 10 11 21.7 +0.1**
PRU *ex* x 10 11 27.9
PVCC Panska Ves 77.03 320 *eP* **P 10 11 21.8 +0.1**
PVCC *ex* x 10 11 28.2
BRG Berggiesshubel 77.45 320 *eP* **P 10 11 24.5 +0.5**
BRG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BRG Berggiesshubel 77.45 320 *eP* **P 10 11 24.5 +0.5**
comp=Z,7.2nm,0.9s,mb4.6
GERES GERESS Array B 77.52 318 P **P 10 11 14.3 -10**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES GERESS Array B 77.52 318 P **P 10 11 14.3 -10**
comp=Z,2.0nm,0.6s,mb4.2,baz=90,slow=5.9,SNR=10.0
KHC Kasperske Hory 77.61 318 *eP* **P 10 11 25.2 +0.3**
KHC *ex* x 10 11 28.9
CLL Collm 78.06 321 P **P 10 11 28.0 +0.7**
HFS Hagfors 78.16 330 P **P 10 11 26.7 -0.9**
HFS pmax pmax
comp=Z,14nm,0.7s
HFS Hagfors 78.16 330 P **P 10 11 26.7 -0.9**
comp=Z,14nm,0.7s,mb5.0,baz=104,slow=6.1,SNR=10.0
WTTA Wattenberg 78.88 317 ⇓*iP* **P 10 11 34.0 +2.1**
comp=Z,26nm,1.2s,mb5.0
WTTA Wattenberg 78.88 317 ⇓*iP* **P 10 11 34.0 +2.1**
WTTA pmax pmax
comp=Z,26nm,1.2s,mb5.0
GRA1 Grafenberg Arr 79.17 319 *eP* **P 10 11 33.6 +0.2**
comp=Z,18nm,1.2s,mb4.9
GRF Grafenberg Arr 79.17 319 *eP* **P 10 11 33.6 +0.2**
GRF pmax pmax
comp=Z,18nm,1.2s,mb4.9
GRF Grafenberg Arr 79.17 319 *eP* **P 10 11 33.6 +0.2**
GRF pmax pmax
comp=Z,18nm,1.2s,mb4.9
GRF Grafenberg Arr 79.17 319 *eP* **P 10 11 33.6 +0.2**
comp=Z,18nm,1.2s,mb4.9
SQTA Sankt Quirin 79.17 316 ⇑*iP* **P 10 11 32.7 -0.8**
comp=Z,9.8nm,0.9s,mb4.7
SQTA Sankt Quirin 79.17 316 ⇑*iP* **P 10 11 32.7 -0.8**
SQTA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MOTA Moosalm 79.24 317 ⇑*iP* **P 10 11 32.7 -1.2**
comp=Z,8.8nm,1.0s,mb4.6
MOTA Moosalm 79.24 317 ⇑*iP* **P 10 11 32.7 -1.2**
MOTA pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
NB2 NORSAR Subarra 79.43 331 P **P 10 11 33.8 -0.8**
comp=Z,3.9nm,0.6s,mb4.5,baz=97,slow=5.0
NB2 NORSAR Subarra 79.43 331 P **P 10 11 33.8 -0.8**
NB2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
NOA NORSAR Array B 79.43 331 P **P 10 11 34.0 -0.6**
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA NORSAR Array B 79.43 331 P **P 10 11 34.0 -0.6**
comp=Z,5.6nm,0.7s,mb4.6,baz=93,slow=5.6,SNR=12
DAVA Damuels 80.08 317 ⇑*iP* **P 10 11 42.7 +4.3**
comp=Z,26nm,1.5s,mb4.9
DAVOX Davos 80.09 316 P **P 10 11 39.0 +0.6**
comp=Z,11nm,0.8s,mb4.8,baz=127,slow=16,SNR=5.4
LPG La Plagne 82.32 315 *eP* **P 10 11 51.1 +1.0**
comp=Z,30nm,0.8s,mb5.0
LPG La Plagne 82.32 315 *eP* **P 10 11 51.1 +1.0**
LPG pmax pmax
comp=Z,15nm,0.8s,mb5.0
EKA Eskdalemuir Ar 87.42 325 P **P 10 12 16.5 +1.2**
EKA pmax pmax
comp=Z,5.0nm,0.7s
EKA Eskdalemuir Ar 87.42 325 P **P 10 12 16.5 +1.2**
comp=Z,4.5nm,0.7s,mb4.8,baz=100,slow=5.1,SNR=7.5
ESDC Sonseca Array 90.92 310 P **P 10 12 32.9 +0.6**
comp=Z,1.4nm,0.6s,mb4.5,baz=56,slow=4.6,SNR=3.9
IMA Indian Mountai 91.47 22 *eP* **P 10 12 34.4 +0.2**
SPU Mount Spurr 94.16 26 *eP* **P 10 12 47.1 +0.6**
ILAR Eielson Array 94.60 22 P **P 10 12 48.4 0.0**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 94.60 22 P **P 10 12 48.4 -0.1**
comp=Z,0.5nm,0.7s,mb4.0,baz=309,slow=4.9,SNR=5.1
INK Inuvik 96.82 16 P **P 10 12 59.6 +1.1**
INK pmax pmax
comp=Z,3.0nm,1.1s
INK Inuvik 96.82 16 P **P 10 12 59.6 +1.1**
comp=Z,2.8nm,1.1s,mb4.6,baz=288,slow=7.7,SNR=4.2
WVOR Wild Horse Val 121.56 28 *eP*KIKP PKPdf 10 18 24.0 +3.3
SNOW Snow King Moun 123.98 22 *eP* PKPdf 10 18 27.2 +1.8
NVAR Mina Array Bea 124.81 31 PKP PKPdf 10 18 29.7 +2.6
comp=Z,2.5nm,0.7s,baz=292,slow=2.7,SNR=9.9
NVAR Mina Array Bea 124.81 31 PKP PKPdf 10 18 29.7 +2.6
PDAR Pinedale Array 125.01 21 PKP PKPdf 10 18 28.7 +1.3
comp=Z,1.4nm,0.9s,baz=16,slow=1.5,SNR=8.4
MSU Marysvale 127.62 26 *eP*KIKP PKPdf 10 18 35.9 +3.4
ANMO Albuquerque 133.03 23 PKIKP PKPdf 10 18 46.9 +4.0
ANMO pmax pmax
comp=Z,1.0nm,0.7s
ANMO Albuquerque 133.03 23 PKP PKPdf 10 18 46.9 +3.9
comp=Z,1.1nm,0.7s,baz=217,slow=5.1,SNR=2.7
TXAR Lajitas Array 139.09 24 PKP PKPdf 10 18 53.7 -0.5
comp=Z,0.4nm,0.7s,baz=354,slow=1.2,SNR=5.2
PLCA Paso Flores 144.71 201 PKIKP PKPdf 10 19 04.1 +0.4
PLCA pmax pmax
comp=Z,10.0nm,1.0s
PLCA Paso Flores 144.71 201 PKP PKPdf 10 19 04.1 +0.4
comp=Z,10nm,1.0s,baz=177,slow=3.8,SNR=14
PLCA Paso Flores 144.71 201 PKP PKPdf 10 19 04.1 +0.3
LPAZ La Paz 160.71 243 PKIKP PKPdf 10 19 37.1 +10
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ La Paz 160.71 243 PKPab PKPab 10 19 37.1 -35
comp=Z,2.0nm,0.9s,baz=147,slow=3.2,SNR=5.0

IDC 27 10:00:37.4±11.0, 8.79N×93.87E, mb4.4/7, mb1 4.5/7, mb1mx4.2/18, mbtmp4.4/7, Error ellipse: s-maj=294.7km s-min=57.2km az=149.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	40.34	13	P	P		10 08 16.6	-1.8
	2.2nm,0.9s,baz=186,slow=7.1,SNR=2.3							
BRTR	Keskin Array B	61.63	310	P	P		10 10 56.8	-2.7
	3.0nm,0.9s,baz=126,slow=6.7,SNR=3.6							
FINES	FINESS Array B	71.78	332	P	P		10 12 02.6	-0.9
	4.9nm,0.7s,baz=117,slow=8.5,SNR=5.0							
GERES	GERESS Array B	76.97	318	P	P		10 12 23.5	-10
	1.9nm,0.6s,baz=104,slow=4.0,SNR=3.0							
HFS	Hagfors	77.54	330	P	P		10 12 36.1	-0.4
	5.3nm,0.6s,baz=117,slow=6.6,SNR=4.5							
NB2	NORSAR Subarra	78.81	331	P	P		10 12 40.3	-3.2
	2.5nm,0.7s,baz=92,slow=5.6							
NOA	NORSAR Array B	78.81	331	P	P		10 12 40.6	-2.9
	6.3nm,1.0s,baz=92,slow=5.6,SNR=4.2							
EKA	Eskdalemuir Ar	86.82	325	P	P		10 13 23.9	-1.1
	2.1nm,0.7s,baz=104,slow=3.4,SNR=3.4							

IDC 27 10:03:00.3±3.2, 7.31N×93.45E, mb4.2/5, mb1 4.3/6, mb1mx4.0/18, mbtmp4.2/6, Error ellipse: s-maj=84.6km s-min=56.9km az=153.0, putative timing error ar GERES, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.30	25	Pn	P		10 05 57.0	-2.8
	baz=199,slow=32,SNR=3.3							
BRTR	Keskin Array B	62.28	311	P	P		10 13 24.9	-1.8
	0.7nm,0.6s,baz=136,slow=7.7,SNR=3.0							
FINES	FINESS Array B	72.89	332	P	P		10 14 30.9	-2.0
	2.6nm,0.7s,baz=127,slow=9.5,SNR=4.6							
GERES	GERESS Array B	77.79	318	P	P		10 14 51.5	-10
	1.1nm,0.7s,baz=117,slow=4.4,SNR=4.6							
HFS	Hagfors	78.60	330	P	P		10 15 03.6	-1.6
	2.1nm,0.5s,baz=104,slow=6.1,SNR=4.5							
NB2	NORSAR Subarra	79.89	331	P	P		10 15 10.5	-1.7
	1.2nm,0.6s,baz=96,slow=5.0							
NOA	NORSAR Array B	79.89	331	P	P		10 15 10.6	-1.6
	1.6nm,0.7s,baz=95,slow=4.9,SNR=3.8							
PDAR	Pinedale Array	125.94	21	PKP	PKPdf		10 22 05.0	-1.6
	0.8nm,1.1s,baz=45,slow=2.1,SNR=3.5							

IDC 27 10:03:43.7±1.7, 8.01N×93.66E, mb4.2/7, mb1 4.3/8, mb1mx4.0/19, mbtmp4.1/8, Error ellipse: s-maj=52.9km s-min=45.9km az=58.0, Putative timing error at GERES, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.59	26	Pn	P		10 06 29.8	-3.7
	baz=209,slow=16,SNR=3.0							
BVAR	Borovoye Array	48.70	341	P	P		10 12 29.7	-2.1
	2.0nm,0.9s,baz=140,slow=12,SNR=4.3							
BRTR	Keskin Array B	61.98	311	P	P		10 14 06.4	-1.7
	1.0nm,0.6s,baz=134,slow=6.3,SNR=3.8							
AKASG	Malin Array Be	67.75	322	P	P		10 14 41.9	-3.4
	0.8nm,0.7s,baz=89,slow=4.7,SNR=4.2							
FINES	FINESS Array B	72.36	332	P	P		10 15 11.5	-1.8
	3.9nm,0.9s,baz=135,slow=2.7,SNR=5.0							
GERES	GERESS Array B	77.40	318	P	P		10 15 32.2	-10
	1.0nm,0.6s,baz=68,slow=7.2,SNR=4.6							
HFS	Hagfors	78.09	330	P	P		10 15 45.1	-0.8
	3.4nm,0.8s,baz=108,slow=4.7,SNR=5.4							
NB2	NORSAR Subarra	79.38	331	P	P		10 15 51.6	-1.3
	2.6nm,0.8s,baz=91,slow=5.0							
NOA	NORSAR Array B	79.38	331	P	P		10 15 51.9	-1.0
	2.2nm,0.7s,baz=93,slow=5.6,SNR=4.1							
NVAR	Mina Array Bea	125.05	31	PKP	PKPdf		10 22 47.8	-0.7
	1.1nm,0.8s,baz=315,slow=3.8,SNR=4.7							
PDAR	Pinedale Array	125.21	21	PKP	PKPdf		10 22 46.0	-2.6
	0.7nm,0.8s,baz=90,slow=3.0,SNR=4.2							
TXAR	Lajitas Array	139.29	23	PKP	PKPdf		10 23 14.2	-1.2
	0.1nm,0.5s,baz=336,slow=1.5,SNR=3.8							
PLCA	Paso Flores	144.51	201	PKP	PKPdf		10 23 20.8	-3.5
	3.4nm,0.9s,baz=107,slow=6.3,SNR=5.4							

IDC 27 10:06:03.3±2.2, 7.62N×94.07E, mb4.2/10, mb1 4.4/10, mb1mx4.1/19, mbtmp4.2/10, Error ellipse: s-maj=76.3km s-min=58.0km az=55.0, Putative timing error at GERES, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZAL	Zalesovo	46.78	352	P	P		10 14 34.7	-1.6
	3.0nm,0.8s,baz=285,slow=6.7,SNR=3.3							
BRTR	Keskin Array B	62.54	311	P	P		10 16 28.8	-2.6

0.8nm,0.5s,baz=133,slow=7.6,SNR=3.3
AKASG Malin Array Be 68.31 322 P P 10 17 05.4 -3.0
1.0nm,0.6s,baz=84,slow=5.0,SNR=5.1
MLR Muntele Rosu 69.30 316 P P 10 17 12.4 -2.2
1.4nm,0.5s,baz=28,slow=7.2,SNR=2.7
FINES FINESS Array B 72.90 332 P P 10 17 33.7 -2.2
4.1nm,1.0s,baz=104,slow=7.9,SNR=4.0
ARCES ARCESS Array B 75.48 340 P P 10 17 50.0 -0.7
2.3nm,0.8s,baz=108,slow=3.8,SNR=3.5
GERES GERESS Array B 77.97 318 P P 10 17 55.2 -10
1.1nm,0.6s,baz=90,slow=6.7,SNR=4.8
HFS Hagfors 78.64 330 P P 10 18 07.2 -1.2
2.8nm,0.5s,baz=135,slow=4.2,SNR=9.8
NB2 NORSAR Subarra 79.91 331 P P 10 18 14.1 -1.3
1.9nm,0.6s,baz=96,slow=5.0
NOA NORSAR Array B 79.91 331 P P 10 18 14.2 -1.1
1.6nm,0.6s,baz=95,slow=4.9,SNR=5.1
DAVOX Davos 80.52 316 P P 10 18 18.8 -0.1
2.9nm,0.6s,baz=136,slow=15,SNR=3.3
PDAR Pinedale Array 125.42 21 PKP PKPdf 10 25 05.3 -3.3
0.7nm,0.9s,baz=34,slow=5.3,SNR=4.2
TXAR Lajitas Array 139.48 24 PKiKP 10 25 37.6
0.2nm,0.5s,baz=2.1,slow=1.3,SNR=5.3
PLCA Paso Flores 144.29 200 PKP PKPdf 10 25 43.0 -0.5
3.1nm,0.9s,baz=355,slow=2.3,SNR=4.6

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*IDC **27** 10:07:37.0±1.5, 7.45N×93.70E, mb4.0/7, mb1 4.2/7, mb1mx4.0/17, mbtmp4.0/7, Error ellipse: s-maj=90.9km s-min=27.0km az=46.0, Putative timing error at GERES*
ISC 27 10:07:40.1±1.3, 7.5N±0.4×93.7E±0.4, h33km, n8, σ0§43/8, mb4.1/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**46.90**	**353**	P		**P**		**10 16 09.0**	**-0.1**
	9.1nm,1.2s,mb4.6,baz=303,slow=5.9,SNR=5.3								
WRA	**Warramunga Arr**	**48.35**	**125**	P		**P**		**10 16 20.9**	**0.0**
	0.6nm,0.6s,mb3.8,baz=303,slow=8.9,SNR=3.7								
BRTR	**Keskin Array B**	**62.40**	**311**	P		**P**		**10 18 02.4**	**+0.2**
	1.0nm,0.7s,mb4.1,baz=120,slow=9.4,SNR=3.8								
AKASG	**Malin Array Be**	**68.23**	**322**	P		**P**		**10 18 38.7**	**-0.8**
	0.9nm,0.6s,mb4.0,baz=90,slow=5.0,SNR=5.0								
FINES	**FINESS Array B**	**72.89**	**332**	P		**P**		**10 19 08.0**	**+0.5**
	3.0nm,0.7s,mb4.3,baz=104,slow=7.9,SNR=6.2								
GERES	**GERESS Array B**	**77.87**	**318**	P		**P**		**10 19 28.6**	**-7.6**
	1.2nm,0.8s,mb3.9,baz=63,slow=3.0,SNR=4.6								
NB2	**NORSAR Subarra**	**79.89**	**331**	P		**P**		**10 19 47.3**	**+0.3**
	1.3nm,0.7s,mb4.0,baz=97,slow=5.0								
NOA	**NORSAR Array B**	**79.89**	**331**	P		**P**		**10 19 47.4**	**+0.4**
	1.9nm,0.7s,mb4.1,baz=93,slow=5.6,SNR=5.0								

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*MOS **27** 10:08:10.9±1.2, 7.97N×94.17E, h33km, mb5.2/50, MS5.1/4, Error ellipse: s-maj=10.1km s-min=5.9km az=112.6*
*BJI **27** 10:08:11.3, 7.75N×93.77E, h48km, mB5.4, mb4.8, Ms5.1, Msz5.0*
*HRVD **27** 10:08:12.4±0.3, 7.92N×94.16E, h20km±1km, MW5.3/61, Centroid moment Tensor Solution. LP body waves: s16,c18;Mantle waves: s61,c111; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.37±.05; $M_{\theta\theta}$-0.37±.03; $M_{\phi\phi}$0.74±.04; $M_{r\theta}$-0.45±.08; $M_{\phi\theta}$0.61±.03; $M_{\phi r}$-0.19±.07; Best double couple: M_0.997×10^{17} NP1: ϕ_s163°, δ54°, λ-162°. NP2:ϕ_s62°, δ76°, λ-37°. Principal axes: T 1.105, Plg14°, Azm117°; N -.215, Plg50°, Azm224°; P -.89, Plg36°, Azm16°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 10:08:12.3±0.3, 7.96N×94.13E, h30km, mb5.1/48 Error ellipse: s-maj=8.2km s-min=7.4km az=93.0*
*IDC **27** 10:08:15.1±4.1, 8.10N×94.28E, h54km±36km, mb4.3/25, mb1 4.4/26, mb1mx4.4/28, mbtmp4.6/26, ML4.3/1, MS4.7/1, Ms1 4.6/1, ms1mx3.1/18, Error ellipse: s-maj=22.0km s-min=11.7km az=47.0, Putative timing error at GERES*
ISC 27 10:08:08.5±0.3, 7.90N±0.04×94.16E±0.05, h17km, h17km±1.4km: pP-P, n215, σ1§12/204, mb5.0/84, MS5.1/7, 18C-7D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.98**	**340**	*eP*		**Pn**		**10 09 11.1**	**+0.8**
PBA				*e*	SG	**Sn**		**10 09 59.4**	**+2.3**
CM31	**Chiang Mai Arr**	**11.48**	**23**	*eP*		**P**		**10 10 56.0**	**+1.2**
	116nm,1.4s								
CMAR	**Chiang Mai Arr**	**11.48**	**23**	P		**P**		**10 10 55.1**	**+0.2**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
CMAR	**Chiang Mai Arr**	**11.48**	**23**	P		**P**		**10 10 55.1**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=211,slow=14,SNR=18								
VIS	**Vishakhapatnam**	**14.37**	**314**	*eP*		**P**		**10 11 30.3**	**-3.2**
VIS				*e*				10 11 46.8	
	comp=Z,95nm,1.0s								
VIS				*e*				10 13 58.4	
BWNR	**Bhubaneshwar**	**14.73**	**328**	*eP*		**P**		**10 11 32.9**	**-5.3**
BWNR				*e*				10 11 49.7	
	comp=Z,124nm,1.0s								
KOD	**Kodaikanal**	**16.64**	**279**	*eP*		**P**		**10 12 08.2**	**+5.3**
SHL	**Shillong**	**17.70**	**353**	*e*		**P**		**10 12 15.8**	**-0.2**
	comp=Z,1μm,1.9s								
HYB	**Hyderabad**	**17.91**	**303**	*eP*		**P**		**10 12 20.5**	**+1.9**
HYB	**Hyderabad**	**17.91**	**303**	*i P*		**P**		**10 12 20.5**	**+1.9**
HYB				*eS*		**S**		**10 15 39.0**	**+3.7**
QIZ	**Qiongzhong**	**18.82**	**52**	P		**P**		**10 12 34.5**	**+4.6**
QIZ	**Qiongzhong**	**18.82**	**52**	*eP*		**P**		**10 12 32.6**	**+2.7**
	comp=Z,96nm,1.2s								
KMI	**Kunming**	**18.98**	**25**	⇑P		**P**		**10 12 35.4**	**+3.6**
KMI				pmax		pmax			
	comp=Z,39nm,1.3s								
KMI	**Kunming**	**18.98**	**25**	⇑P		**P**		**10 12 35.4**	**+3.6**
	comp=Z,39nm,1.3s								
KMI				pP				10 12 40.2	
COCO	**West Island**	**20.14**	**172**	*eP*		**P**		**10 12 45.3**	**+0.5**
	comp=Z,296nm,1.3s								
JIRN	**Jiri**	**21.05**	**340**	*eP*		**P**		**10 12 53.0**	**-1.2**
	comp=Z,270nm,1.0s,mb5.5								
PKI	**Pulchoki**	**21.24**	**338**	*eP*		**P**		**10 12 55.8**	**-0.3**
	comp=Z,159nm,0.7s,mb5.5								
GOA	**Goa**	**21.28**	**293**	*eP*		**P**		**10 13 00.1**	**+3.6**
GOA				*e*				10 13 06.8	
	comp=Z,46nm,2.2s								
GUN	**Gumba**	**21.39**	**340**	*eP*		**P**		**10 12 57.3**	**-0.3**
	comp=Z,489nm,1.4s,mb5.7								
DMN	**Daman**	**21.39**	**337**	*eP*		**P**		**10 12 57.4**	**-0.2**
	comp=Z,289nm,1.0s,mb5.5								
KKN	**Kakani**	**21.49**	**338**	*eP*		**P**		**10 12 57.8**	**-0.8**
	comp=Z,53nm,0.6s,mb5.1								
KAD	**Karad**	**21.60**	**298**	*eP*		**P**		**10 12 59.6**	**-0.1**
KAD				*e*				10 13 06.4	
	comp=Z,60nm,1.3s								
LSA	**Lhasa**	**21.87**	**353**	P		**P**		**10 13 05.0**	**+2.6**
LSA	**Lhasa**	**21.87**	**353**	*eP*		**P**		**10 13 03.1**	**+0.7**
LSA				pmax		pmax			
	comp=Z,202nm,0.9s,mb5.5								
LSA	**Lhasa**	**21.87**	**353**	*eP*		**P**		**10 13 03.1**	**+0.7**
	comp=Z,202nm,0.9s,mb5.5								
GKN	**Gorkha**	**21.93**	**337**	*eP*		**P**		**10 13 02.5**	**-0.5**
	comp=Z,123nm,0.6s,mb5.5								
KOLN	**Koldanda**	**22.14**	**334**	*eP*		**P**		**10 13 04.6**	**-0.6**
	comp=Z,250nm,1.2s,mb5.5								
BHPL	**Bhopal**	**22.15**	**315**	*eP*		**P**		**10 13 05.9**	**+0.7**
BHPL				*e*				10 13 15.8	
	comp=Z,139nm,1.3s								
POO	**Poona**	**22.39**	**300**	*eP*		**P**		**10 13 07.0**	**-0.7**
POO				*e*				10 13 20.7	
	comp=Z,65nm,1.6s								
NDI	**New Delhi**	**26.12**	**324**	*eP*		**P**		**10 13 44.7**	**+1.1**
NDI				*e*		pP		10 13 49.2	+0.6
	comp=Z,100nm,1.5s								
ENH	**Enshi**	**26.49**	**31**	*eP*		**P**		**10 13 47.1**	**+0.1**
	comp=Z,106nm,1.3s,mb5.2								
SMLA	**Simla**	**28.03**	**328**	*e*		**P**		**10 14 07.5**	**+6.5**
SMLA				*e*				10 14 36.2	
	comp=Z,46nm,1.8s								
XAN	**Xi'an**	**29.36**	**26**	P		**P**		**10 14 13.8**	**+0.8**
XAN				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.6								
WHN	**Wuhan**	**29.40**	**37**	⇓P		**P**		**10 14 15.8**	**+2.4**
WHN				S		**S**		**10 19 11.0**	**+5.9**
WHN				LR		LR			
	comp=Z,6μm,12.7s,MS5.4								
LZH	**Lanzhou**	**29.42**	**16**	⇑P		**P**		**10 14 14.0**	**+0.6**
LZH				AP		pP		10 14 26.3	+7.8
LZH				XP		sP		10 14 32.0	+11
LZH				PP		PP		10 15 12.3	+3.3
LZH				AMB		AMB			
	comp=Z,59nm,1.7s,mb5.0								
LZH				AMB		AMB			
	comp=Z,203nm,5.1s								
LZH				LR		LR			
	comp=E,2μm,13.0s								
LZH				LR		LR			
	comp=Z,3μm,14.3s,MS5.0								
LZH	**Lanzhou**	**29.42**	**16**	⇑P		**P**		**10 14 13.9**	**+0.5**
LZH				*PP		pP		10 14 26.2	+7.7
LZH								10 15 12.2	
LZH				pmax		pmax			
	comp=Z,59nm,1.7s,mb5.0								
LZH				MLR		MLR			
	comp=Z,3μm,14.3s,MS5.0								
LZH	**Lanzhou**	**29.42**	**16**	⇑P		**P**		**10 14 13.9**	**+0.5**
	comp=Z,59nm,1.7s,mb5.0								
LZH				pP		pP		10 14 26.2	+7.7
LZH				sP		sP		10 14 32.0	+11
LZH				PP		PP		10 15 12.2	+3.2
LZH				LR		LR			
	comp=Z,3μm,14.3s,MS5.0								
NJ2	**Nanjing**	**33.24**	**40**	*eP*		**P**		**10 14 47.0**	**-0.1**
NJ2				AMB		AMB			
	comp=Z,30nm,0.5s,mb5.5								
WMQ	**Urumqi**	**36.22**	**352**	*eP*		**P**		**10 15 12.8**	**+0.3**
WMQ				AP		pP		10 15 27.8	+10
WMQ				XP		sP		10 15 35.0	+15
WMQ				PP		PP		10 16 36.3	+0.9
WMQ				PCP		PcP		10 17 36.8	-1.2
WMQ				S		**S**		**10 20 47.0**	**-4.2**
WMQ				AMB		AMB			
	comp=Z,78nm,1.2s,mb5.5								
WMQ				AMB		AMB			
	comp=Z,427nm,5.2s								
WMQ				LR		LR			
	comp=N,1μm,17.8s,MS4.8								
WMQ				LR		LR			
	comp=E,1μm,17.5s,MS4.8								
WMQ				LR		LR			
	comp=Z,2μm,17.6s,MS4.9								
BJT	**Baijiatuau**	**37.55**	**28**	*eP*		**P**		**10 15 25.8**	**+2.1**
BJT				pmax		pmax			
	comp=Z,23nm,1.1s								
BJT	**Baijiatuau**	**37.55**	**28**	*eP*		**P**		**10 15 25.8**	**+2.1**
	comp=Z,24nm,1.1s,mb4.8								
BJI	**Beijing**	**37.57**	**28**	P		**P**		**10 15 25.2**	**+1.3**
BJI				pmax		pmax			
	comp=Z,17nm,1.8s,mb4.5								
BJI	**Beijing**	**37.57**	**28**	P		**P**		**10 15 25.2**	**+1.3**
	comp=Z,17nm,1.8s,mb4.5								
AAK	**Ala-Archa**	**38.68**	**337**	*eP*		**P**		**10 15 31.9**	**-1.3**
AAK				pmax		pmax			
	comp=Z,52nm,1.3s,mb5.1								
AAK	**Ala-Archa**	**38.68**	**337**	*eP*		**P**		**10 15 31.9**	**-1.3**
	comp=Z,52nm,1.3s,mb5.1								
MKAR	**Makanchi Array**	**40.06**	**347**	*i P*		**P**		**10 15 43.2**	**-1.4**
MKAR				pmax		pmax			
	comp=Z,8.0nm,0.6s								
SONM	**Songino Array**	**41.13**	**13**	P		**P**		**10 15 52.5**	**-0.8**
	comp=Z,3.0nm,1.0s,mb3.9,baz=198,slow=6.6,SNR=3.2								
SONM				PcP		PcP		10 17 52.7	-0.7
	comp=Z,2.4nm,0.8s,baz=206,slow=3.9,SNR=6.7								
ULN	**Ulaanbaatar**	**41.30**	**13**	*eP*		**P**		**10 15 57.3**	**+2.5**
ULN				pmax		pmax			
	comp=Z,7.0nm,0.8s,mb4.3								
ULN	**Ulaanbaatar**	**41.30**	**13**	*eP*		**P**		**10 15 57.2**	**+2.5**
	comp=Z,6.5nm,0.8s,mb4.3								
KS15	**Wonju Array Si**	**42.40**	**41**	*eP*		**P**		**10 16 09.0**	**+5.0**
SNY	**Shenyang**	**42.64**	**33**	⇑P		**P**		**10 16 07.3**	**+1.5**
TLY	**Talaya**	**44.34**	**8**	P		**P**		**10 16 19.4**	**-0.1**
TLY				pmax		pmax			
	comp=Z,8.0nm,1.2s,mb4.3								
TLY	**Talaya**	**44.34**	**8**	P		**P**		**10 16 19.4**	**-0.1**
	comp=Z,7.5nm,1.2s,mb4.3								
KURK	**Kurchatov**	**44.59**	**346**	*i P*		**P**		**10 16 20.9**	**-0.6**
KURK				pmax		pmax			
	comp=Z,45nm,1.4s,mb5.1								
KURK	**Kurchatov**	**44.59**	**346**	*eP*		**P**		**10 16 19.8**	**-1.7**
	comp=Z,136nm,1.4s,mb5.6								
NWAO	**Narrogin (SRO)**	**46.16**	**153**	*eP*		**P**		**10 16 32.9**	**-1.4**
NWAO				pmax		pmax			
	comp=Z,17nm,0.9s								
NWAO	**Narrogin (SRO)**	**46.16**	**153**	P		**P**		**10 16 35.6**	**+1.3**
	comp=Z,13nm,0.7s,mb5.0,baz=306,slow=6.3,SNR=6.7								
NWAO	**Narrogin (SRO)**	**46.16**	**153**	*eP*		**P**		**10 16 32.9**	**-1.4**
	comp=Z,17nm,0.9s,mb5.0								
HIA	**Hailar**	**46.49**	**23**	*eP*		**P**		**10 16 37.2**	**+0.6**
HIA				pmax		pmax			
	comp=Z,23nm,1.1s								
HIA	**Hailar**	**46.49**	**23**	*eP*		**P**		**10 16 37.2**	**+0.6**
	comp=Z,23nm,1.1s,mb5.0								
ZAL	**Zalesovo**	**46.52**	**352**	P		**P**		**10 16 36.1**	**-0.7**
ZAL				pmax		pmax			
	comp=Z,12nm,1.0s								
ZAL	**Zalesovo**	**46.52**	**352**	P		**P**		**10 16 36.1**	**-0.7**
	comp=Z,12nm,0.9s,mb4.8,baz=295,slow=6.9,SNR=14								
MDJ	**Mudanjiang**	**47.77**	**34**	*eP*		**P**		**10 16 47.9**	**+1.1**
VLA	**Vladivostok**	**48.19**	**37**	*eP*		**P**		**10 16 49.0**	**-1.1**
VLA				*e*				10 17 05.0	
VLA				*e*				10 18 15.0	
WRA	**Warramunga Arr**	**48.26**	**126**	P		**P**		**10 16 50.7**	**-0.3**
WRA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
WRA	**Warramunga Arr**	**48.26**	**126**	P		**P**		**10 16 50.7**	**-0.2**
	comp=Z,4.3nm,0.9s,mb4.5,baz=305,slow=9.1,SNR=11								
WRAB	**Tennant Creek**	**48.27**	**126**	*eP*		**P**		**10 16 49.1**	**-1.9**
WRAB				pmax		pmax			
	comp=Z,9.0nm,0.8s,mb4.8								
WRAB	**Tennant Creek**	**48.27**	**126**	*eP*		**P**		**10 16 49.1**	**-1.9**
	comp=Z,9.4nm,0.8s,mb4.9								
BVA0	**Borovoye Array**	**48.97**	**341**	*i P*		**P**		**10 16 55.1**	**-0.8**
BVA0				pmax		pmax			
	comp=Z,4.0nm,1.4s,mb4.3								
BVAR	**Borovoye Array**	**48.97**	**341**	P		**P**		**10 16 54.0**	**-2.0**
	comp=Z,6.4nm,0.9s,mb4.7,baz=141,slow=9.5,SNR=9.4								
BVAR				PcP		PcP		10 18 20.0	-0.4
	comp=Z,1.3nm,0.6s,baz=180,slow=3.0,SNR=2.9								
BRVK	**Borovoye**	**49.03**	**341**	*eP*		**P**		**10 16 53.6**	**-2.8**
BRVK				pmax		pmax			
	comp=Z,23nm,1.3s,mb5.0								
BRVK	**Borovoye**	**49.03**	**341**	*eP*		**P**		**10 16 53.6**	**-2.8**
	comp=Z,23nm,1.3s,mb5.0								
RAYN	**Ar Rayn**	**49.09**	**294**	P		**P**		**10 16 58.2**	**+0.9**
	comp=Z,176nm,1.1s,mb6.0,SNR=18								
CHKZ	**Chkalovo**	**49.45**	**342**	P		**P**		**10 16 58.5**	**-1.2**
CHKZ				pmax		pmax			
	comp=Z,32nm,1.1s,mb5.3								
CHKZ	**Chkalovo**	**49.45**	**342**	*eP*		**P**		**10 16 58.1**	**-1.6**
	comp=Z,40nm,1.0s,mb5.4								
ASAR	**Alice Springs**	**49.92**	**130**	P		**P**		**10 17 02.4**	**-1.3**
	comp=Z,2.7nm,0.7s,mb4.4,baz=307,slow=7.3,SNR=10								
KLR	**Kul'dur**	**51.85**	**31**	*eP*		**P**		**10 17 13.9**	**-4.1**
KLR				MLR		MLR			
	comp=E,2μm,12.0s								
KLR				MLR		MLR			
	comp=Z,2μm,12.0s,MS5.3								
BOD	**Bodaibo**	**52.12**	**13**	*eP*		**P**		**10 17 18.6**	**-1.3**
GNI	**Garni**	**54.43**	**314**	*eP*		**P**		**10 17 36.6**	**-0.6**
GNI				pmax		pmax			
	comp=Z,30nm,1.3s								
GNI	**Garni**	**54.43**	**314**	*eP*		**P**		**10 17 36.6**	**-0.6**
	comp=Z,30nm,1.3s,mb5.1								
SVE	**Sverdlovsk**	**55.38**	**338**	*eP*		**P**		**10 17 39.0**	**-5.0**
SVE				pmax		pmax			
	comp=Z,110nm,2.2s,mb5.5								
SVE				MLR		MLR			
	comp=N,500nm,20.0s,MS4.9								
SVE				MLR		MLR			
	comp=E,900nm,20.0s,MS4.9								
SVE				MLR		MLR			
	comp=Z,2μm,20.0s,MS5.1								
PMG	**Port Moresby**	**55.52**	**107**	P		**P**		**10 17 45.8**	**+0.2**
PMG				pmax		pmax			
	comp=Z,16nm,0.7s								
PMG	**Port Moresby**	**55.52**	**107**	P		**P**		**10 17 45.8**	**+0.2**
	comp=Z,16nm,0.7s,mb5.2,baz=285,slow=4.8,SNR=4.9								
PMG	**Port Moresby**	**55.52**	**107**	*eP*		**P**		**10 17 46.2**	**+0.6**
	comp=Z,22nm,0.9s,mb5.2								
ARU	**Arti**	**55.87**	**337**	*eP*		**P**		**10 17 40.0**	**-7.5**
YSS	**Yuzh-Sakhalins**	**56.75**	**38**	*eP*		**P**		**10 17 56.0**	**+2.1**
KIV	**Kislovodsk**	**57.31**	**318**	*eP*		**P**		**10 17 55.1**	**-2.8**
KIV				pmax		pmax			
	comp=Z,23nm,1.1s,mb5.1								
KIV	**Kislovodsk**	**57.31**	**318**	*eP*		**P**		**10 17 54.9**	**-3.1**
	comp=Z,22nm,1.0s,mb5.1								
KMBO	**Kilima Mbogo**	**57.44**	**264**	P		**P**		**10 18 01.9**	**+2.6**
KMBO				pmax		pmax			
	comp=Z,9.0nm,0.9s								
KMBO	**Kilima Mbogo**	**57.44**	**264**	P		**P**		**10 18 01.9**	**+2.6**
	comp=Z,8.8nm,0.8s,mb4.8,baz=55,slow=11,SNR=18								
KMBO	**Kilima Mbogo**	**57.44**	**264**	*eP*		**P**		**10 18 01.3**	**+2.0**
	comp=Z,18nm,1.0s,mb5.1								
ASF	**Jabal al Asfar**	**58.22**	**303**	P		**P**		**10 18 05.2**	**+0.8**
	comp=Z,3.8nm,0.7s,mb4.5,baz=353,slow=5.7,SNR=4.0								
MALT	**Malatya**	**58.46**	**310**	*eP*		**P**		**10 18 05.0**	**-1.1**
MALT				pmax		pmax			
	comp=Z,13nm,1.3s,mb4.8								
MALT	**Malatya**	**58.46**	**310**	*eP*		**P**		**10 18 05.0**	**-1.0**
	comp=Z,13nm,1.3s,mb4.8								
SOKR	**Solikamsk**	**58.78**	**339**	⇑*i P*		**P**		**10 18 07.6**	**-0.4**
SOKR				pmax		pmax			
	comp=Z,30nm,1.1s,mb5.2								
EIL	**Elat**	**59.43**	**300**	P		**P**		**10 18 13.9**	**+1.0**
	comp=Z,4.4nm,0.5s,mb4.7,baz=131,slow=12,SNR=5.1								
EIL	**Elat**	**59.43**	**300**	*eP*		**P**		**10 18 13.1**	**+0.2**
	comp=Z,33nm,1.3s,mb5.2								
YAK	**Yakutsk**	**59.96**	**18**	*eP*		**P**		**10 18 15.6**	**-0.5**
YAK				pmax		pmax			
	comp=N,7.0nm,1.1s								
YAK				pmax		pmax			
	comp=E,7.0nm,1.1s								
YAK				pmax		pmax			
	comp=Z,16nm,1.1s,mb5.0								
YAK				pmax		pmax			
	comp=Z,22nm,0.9s,mb5.2								
YAK				pmax		pmax			
	comp=N,8.0nm,0.8s								
YAK				pmax		pmax			
	comp=E,9.0nm,1.3s								
YAK	**Yakutsk**	**59.96**	**18**	*eP*		**P**		**10 18 14.9**	**-1.3**
	comp=E,44nm,0.8s,mb5.5								
STKA	**Stephens Creek**	**60.11**	**134**	P		**P**		**10 18 16.8**	**-0.8**
	comp=E,4.3nm,1.0s,mb4.4,baz=290,slow=7.9,SNR=4.6								
STKA	**Stephens Creek**	**60.11**	**134**	*eP*		**P**		**10 18 14.6**	**-3.0**
BRTR	**Keskin Array B**	**62.42**	**311**	P		**P**		**10 18 30.8**	**-2.3**
BRTR				pmax		pmax			
	comp=Z,4.0nm,0.9s								
BRTR	**Keskin Array B**	**62.42**	**311**	P		**P**		**10 18 30.8**	**-2.3**
	comp=Z,4.0nm,0.9s,mb4.5,baz=123,slow=7.8,SNR=8.9								
MBAR	**Mbarara**	**63.78**	**265**	*eP*		**P**		**10 18 43.5**	**+1.0**
MBAR				pmax		pmax			
	comp=Z,19nm,1.2s,mb5.0								
MBAR	**Mbarara**	**63.78**	**265**	*eP*		**P**		**10 18 43.5**	**+1.0**
	comp=Z,20nm,1.2s,mb5.0								
MOS	**Moscow**	**65.06**	**329**	*eP*		**P**		**10 18 48.3**	**-1.9**
MOS				*eS*		S		10 27 33.4	+3.3
MOS				pmax		pmax			
	comp=Z,108nm,1.3s,mb5.7								
MOS				MLR		MLR			
	comp=Z,1μm,20.0s,MS5.2								
OBN	**Obninsk**	**65.36**	**328**	⇑*i P*		**P**		**10 18 48.0**	**-4.1**
OBN				pmax		pmax			
	comp=Z,60nm,1.6s,mb5.4								
OBN	**Obninsk**	**65.36**	**328**	*eP*		**P**		**10 18 48.0**	**-4.1**
	comp=Z,68nm,1.3s,mb5.5								
TIXI	**Tiksi**	**67.20**	**11**	*eP*		**P**		**10 19 01.7**	**-1.9**
TIXI				pmax		pmax			
	comp=Z,27nm,0.8s,mb5.3								
AKASG	**Malin Array Be**	**68.14**	**322**	P		**P**		**10 19 07.2**	**-2.6**
AKASG				pmax		pmax			
	comp=Z,4.0nm,0.7s								
AKASG	**Malin Array Be**	**68.14**	**322**	P		**P**		**10 19 07.2**	**-2.7**
	comp=Z,3.5nm,0.7s,mb4.5,baz=87,slow=4.7,SNR=9.6								
IDI	**Anoyia**	**68.56**	**305**	P		**P**		**10 19 11.8**	**-0.9**
	comp=Z,5.3nm,0.5s,mb4.8,baz=28,slow=12,SNR=3.5								
VRI	**Vrincioaia**	**68.69**	**316**	⇑P		**P**		**10 19 12.6**	**-0.7**
MLR	**Muntele Rosu**	**69.16**	**316**	P		**P**		**10 19 16.0**	**-0.2**
MLR				pmax		pmax			
	comp=Z,12nm,0.9s								
MLR	**Muntele Rosu**	**69.16**	**316**	P		**P**		**10 19 16.0**	**-0.3**
	comp=Z,12nm,0.8s,mb4.8,baz=114,slow=3.4,SNR=7.4								
MLR	**Muntele Rosu**	**69.16**	**316**	⇑P		**P**		**10 19 13.6**	**-2.7**
LSZ	**Lusaka**	**69.29**	**250**	*eP*		**P**		**10 19 17.6**	**+0.1**
LSZ				pmax		pmax			
	comp=Z,8.0nm,0.9s,mb4.7								
LSZ	**Lusaka**	**69.29**	**250**	*eP*		**P**		**10 19 17.6**	**+0.1**
	comp=Z,8.1nm,0.9s,mb4.7								
JOF	**Joensuu**	**70.83**	**334**	*ep*		**P**		**10 19 25.1**	**-1.0**
	comp=Z,9.4nm,0.9s,mb4.7								
APA	**Apatity**	**71.83**	**339**	⇓*eP*		**P**		**10 19 32.5**	**+0.5**
APA				pmax		pmax			
	comp=Z,23nm,1.0s,mb5.1								
KOLS	**Kolonicke sedl**	**72.19**	**319**

GERES	**GERESS Array B**	**77.82**	**318**	P	**P**	**10 19 56.9**	**-10**
	comp=Z,2.7nm,0.6s,mb4.3,baz=117,slow=6.0,SNR=11						
KHC	**Kasperske Hory**	**77.91**	**318**	*e*P	**P**	**10 20 07.4**	**+0.3**
KHC				*ep*P	pP	10 20 12.2	-0.4
CLL	**Collm**	**78.35**	**321**	*i* P	**P**	**10 20 09.8**	**+0.3**
CLL				*i*	pP	10 20 14.4	-0.5
CLL				pmax	pmax		
	comp=Z,38nm,2.0s,mb5.0						
CLL	**Collm**	**78.35**	**321**	*i* P	**P**	**10 20 09.8**	**+0.3**
	comp=Z,38nm,2.0s,mb5.0						
CLL				*i*	pP	10 20 14.4	-0.5
CLL	**Collm**	**78.35**	**321**	P	**P**	**10 20 09.8**	**+0.3**
	comp=Z,logA/T=1.3,mb5.0						
CLL				*i* *PP	pP	10 20 14.4	-0.5
CLL				*i* *SP	sP	10 20 16.5	-0.3
CLL				*e*		10 20 28.0	
HFS	**Hagfors**	**78.44**	**330**	P	**P**	**10 20 08.8**	**-1.0**
HFS				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HFS	**Hagfors**	**78.44**	**330**	P	**P**	**10 20 08.8**	**-1.0**
	comp=Z,9.7nm,0.5s,mb5.0,baz=104,slow=6.1,SNR=21						
MAW	**Mawson**	**78.56**	**192**	LR	LR	10 50 33.1	
	comp=Z,425nm,20.3s,MS4.8,baz=168,slow=32						
NKC	**Novy Kostel**	**78.67**	**320**	*e*P	**P**	**10 20 10.3**	**-1.0**
NKC				*ep*P	pP	10 20 17.6	+0.9
WTTA	**Wattenberg**	**79.17**	**317⇑**	*i* P	**P**	**10 20 14.0**	**-0.1**
	comp=Z,28nm,1.3s,mb5.0						
WTTA	**Wattenberg**	**79.17**	**317⇑**	*i* P	**P**	**10 20 14.0**	**-0.1**
WTTA				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.0						
MOX	**Moxa**	**79.21**	**320**	*e*P	**P**	**10 20 14.8**	**+0.5**
MOX				pmax	pmax		
	comp=Z,28nm,1.6s,mb4.9						
MOX	**Moxa**	**79.21**	**320**	*e*P	**P**	**10 20 14.8**	**+0.5**
	comp=Z,28nm,1.6s,mb4.9						
MOX	**Moxa**	**79.21**	**320**	*i* P	**P**	**10 20 14.8**	**+0.5**
	comp=Z,logA/T=1.2,mb4.9						
WATA	**Walderalm**	**79.22**	**317⇓**	*i* P	**P**	**10 20 14.3**	**0.0**
	comp=Z,11nm,1.0s,mb4.7						
WATA	**Walderalm**	**79.22**	**317⇓**	*i* P	**P**	**10 20 14.3**	**0.0**
WATA				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
GRA1	**Grafenberg Arr**	**79.46**	**319**	*e*P	**P**	**10 20 15.8**	**+0.2**
	comp=Z,40nm,1.5s,mb5.1						
GRF	**Grafenberg Arr**	**79.46**	**319**	*e*P	**P**	**10 20 15.8**	**+0.2**
GRF				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.1						
GRF	**Grafenberg Arr**	**79.46**	**319**	*e*P	**P**	**10 20 15.8**	**+0.2**
	comp=Z,40nm,1.5s,mb5.1						
GRF	**Grafenberg Arr**	**79.46**	**319**	*e*P	**P**	**10 20 15.8**	**+0.2**
	comp=Z,40nm,1.5s,mb5.1						
SQTA	**Sankt Quirin**	**79.47**	**317⇑**	*i* P	**P**	**10 20 15.6**	**-0.1**
	comp=Z,34nm,1.7s,mb5.0						
SQTA	**Sankt Quirin**	**79.47**	**317⇑**	*i* P	**P**	**10 20 15.6**	**-0.1**
SQTA				pmax	pmax		
	comp=Z,34nm,1.7s,mb5.0						
MOTA	**Moosalm**	**79.54**	**317⇑**	*i* P	**P**	**10 20 16.5**	**+0.4**
	comp=Z,8.3nm,1.0s,mb4.6						
MOTA	**Moosalm**	**79.54**	**317⇑**	*i* P	**P**	**10 20 16.5**	**+0.4**
MOTA				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
NB2	**NORSAR Subarra**	**79.72**	**331**	P	**P**	**10 20 15.0**	**-1.8**
	comp=Z,22nm,1.1s,mb5.0,baz=93,slow=5.8						
NB2	**NORSAR Subarra**	**79.72**	**331**	P	**P**	**10 20 15.0**	**-1.8**
	baz=93,slow=5.9						
NOA	**NORSAR Array B**	**79.72**	**331**	P	**P**	**10 20 15.7**	**-1.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**79.72**	**331**	P	**P**	**10 20 15.7**	**-1.1**
	comp=Z,1.4nm,0.5s,mb4.2,baz=114,slow=4.1,SNR=8.8						
SUR	**Sutherland**	**80.36**	**235**	*e*P	**P**	**10 20 22.2**	**+1.4**
	comp=Z,17nm,1.0s,mb4.9						
DAVA	**Damuels**	**80.37**	**317⇓**	*i* P	**P**	**10 20 21.5**	**+1.0**
	comp=Z,22nm,1.0s,mb5.0						
DAVOX	**Davos**	**80.38**	**316**	P	**P**	**10 20 21.0**	**+0.4**
	comp=Z,9.1nm,0.7s,mb4.8,baz=105,slow=9.2,SNR=5.0						
LPG	**La Plagne**	**82.61**	**315**	*e*P	**P**	**10 20 32.6**	**+0.3**
	comp=Z,35nm,1.0s,mb5.1						
LPG	**La Plagne**	**82.61**	**315**	*e*P	**P**	**10 20 32.6**	**+0.3**
LPG				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
SYO	**Syowa Base**	**85.44**	**197**	⇓P	**P**	**10 20 45.9**	**-0.2**
SYO	**Syowa Base**	**85.44**	**197**	⇓PcP	PcP	10 20 52.0	+2.4
TNA	**Tin City**	**86.13**	**24**	*e*P	**P**	**10 20 49.0**	**-0.6**
EKA	**Eskdalemuir Ar**	**87.71**	**325**	P	**P**	**10 20 58.2**	**+0.7**
EKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**87.71**	**325**	P	**P**	**10 20 58.2**	**+0.7**
	comp=Z,3.8nm,0.7s,mb4.8,baz=96,slow=4.4,SNR=5.0						
ESDC	**Sonseca Array**	**91.21**	**310**	P	**P**	**10 21 15.6**	**+1.3**
	comp=Z,2.7nm,0.8s,mb4.6,baz=38,slow=6.8,SNR=4.9						
IMA	**Indian Mountai**	**91.59**	**22**	*e*P	**P**	**10 21 16.3**	**+0.9**
SPU	**Mount Spurr**	**94.25**	**26**	*e*P	**P**	**10 21 27.9**	**+0.1**
MCK	**McKinley**	**94.43**	**23**	*e*P	**P**	**10 21 27.7**	**-0.8**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb5.0						
MCK	**McKinley**	**94.43**	**23**	*e*P	**P**	**10 21 27.7**	**-0.8**
	comp=Z,8.3nm,1.3s,mb5.0						
ILAR	**Eielson Array**	**94.71**	**22**	P	**P**	**10 21 29.3**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR	**Eielson Array**	**94.71**	**22**	P	**P**	**10 21 29.2**	**-0.6**
	comp=Z,1.1nm,1.0s,mb4.3,baz=288,slow=5.1,SNR=4.1						
INK	**Inuvik**	**96.96**	**16**	P	**P**	**10 21 40.2**	**+0.2**
INK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
INK	**Inuvik**	**96.96**	**16**	P	**P**	**10 21 40.1**	**+0.1**
	comp=Z,7.9nm,1.1s,mb5.0,baz=289,slow=4.2,SNR=7.8						
YKA	**Yellowknife Ar**	**106.39**	**13**	PP	PP	10 26 36.0	-14
	comp=Z,0.2nm,0.8s,baz=339,slow=1.5,SNR=4.5						
YKA				PKKPbc		10 37 53.1	
	comp=Z,0.2nm,0.7s,baz=144,slow=2.9,SNR=4.4						
NVAR	**Mina Array Bea**	**124.89**	**31**	PKP	PKPdf	10 27 10.4	-1.7
	comp=Z,1.2nm,0.6s,baz=284,slow=2.4,SNR=8.1						
PDAR	**Pinedale Array**	**125.14**	**21**	PKP	PKPdf	10 27 10.0	-2.4
	comp=Z,2.0nm,0.8s,baz=45,slow=2.1,SNR=10						
SADO	**Sadowa**	**127.23**	**354**	PKP	PKPdf	10 27 13.4	-3.0
	comp=Z,4.2nm,0.8s,baz=53,slow=10,SNR=2.6						
MSU	**Marysvale**	**127.72**	**26**	*e*PKIKP	PKPdf	10 27 17.3	-0.2
KSU1	**Kansas State U**	**132.18**	**11**	*e*PKPdf	PKPdf	10 27 18.1	-8.0
TXAR	**Lajitas Array**	**139.19**	**24**	PKP	PKPdf	10 27 38.4	-0.9
	comp=Z,0.5nm,0.5s,baz=111,slow=0.7,SNR=10						
TXAR				PP	PP	10 30 30.8	-2.0
	comp=Z,1.3nm,1.1s,baz=342,slow=4.0,SNR=5.6						
TXAR	**Lajitas Array**	**139.19**	**24**	PKP	PKPdf	10 27 38.4	-0.9
TXAR				PP	PP	10 30 30.8	-2.0
JCT	**Junction City**	**139.55**	**19**	*e*PKIKP	PKPdf	10 27 38.0	-1.8
PLCA	**Paso Flores**	**144.58**	**200**	PKIKP	PKPdf	10 27 45.7	-2.6
PLCA				pmax	pmax		
	comp=Z,13nm,1.0s						
PLCA	**Paso Flores**	**144.58**	**200**	PKP	PKPdf	10 27 45.7	-2.6
	comp=Z,13nm,1.0s,baz=159,slow=4.0,SNR=13						
PLCA	**Paso Flores**	**144.58**	**200**	*e*PKPdf	PKPdf	10 27 45.4	-3.0
TEIG	**Tepich**	**151.95**	**5**	*e*PKPdf	PKPdf	10 27 59.8	-1.0
TEIG				*e*PKPbc	PKPdf	10 28 04.7	+3.9

MOS ***27*** *10:11:43.1±1.7, 8.04N×94.07E, h33km, mb4.7/17, Error ellipse: s-maj=17.4km s-min=10.0km az=111.4*
NEIC ***27*** *10:11:45.1±0.4, 7.94N×94.00E, h30km, mb4.7/11, Error ellipse: s-maj=13.5km s-min=9.8km az=70.0*
IDC ***27*** *10:11:47.0±4.5, 8.08N×94.12E, h42km±40km, mb4.0/17, mb1 4.1/18, mb1mx4.1/21, mbtmp4.2/18, ML4.4/1, Error ellipse: s-maj=28.2km s-min=13.8km az=56.0*
ISC 27 10:11:43.0±5.7, 7.98N±0.09×94.0E±0.1, h31km±39km, n63, σ1§26/59, mb4.4/28, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.48**	**24**	*e*P	**P**	**10 14 28.9**	**+0.9**
	24nm,0.9s						
CMAR	**Chiang Mai Arr**	**11.48**	**24**	P	**P**	**10 14 27.6**	**-0.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.48**	**24**	P	**P**	**10 14 27.6**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=212,slow=14,SNR=13						
LSA	**Lhasa**	**21.78**	**353**	*e*P	**P**	**10 16 32.6**	**-1.6**
LSA				pmax	pmax		
	comp=Z,20nm,0.7s,mb4.7						
LSA	**Lhasa**	**21.78**	**353**	*e*P	**P**	**10 16 32.6**	**-1.6**
	comp=Z,20nm,0.7s,mb4.7						
ENH	**Enshi**	**26.51**	**31**	*e*P	**P**	**10 17 21.2**	**+1.3**
	comp=Z,14nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**38.55**	**337**	P	**P**	**10 19 07.7**	**+3.0**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
AAK	**Ala-Archa**	**38.55**	**337**	P	**P**	**10 19 07.7**	**+3.0**
	comp=Z,7.1nm,1.1s,mb4.3						
SONM	**Songino Array**	**41.10**	**13**	P	**P**	**10 19 26.3**	**+0.7**
	comp=Z,2.0nm,1.0s,mb3.7,baz=202,slow=7.8,SNR=5.1						
SONM				PcP	PcP	10 21 24.7	-0.9
	comp=Z,0.9nm,0.9s,baz=198,slow=4.6,SNR=3.1						
KURK	**Kurchatov**	**44.48**	**346**	*e*P	**P**	**10 19 47.4**	**-5.8**
NWAO	**Narrogin (SRO)**	**46.30**	**153**	P	**P**	**10 20 08.9**	**+0.9**
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**46.30**	**153**	P	**P**	**10 20 08.8**	**+0.9**
	comp=Z,4.5nm,0.8s,mb4.5,baz=242,slow=16,SNR=2.6						
ZAL	**Zalesovo**	**46.43**	**353**	P	**P**	**10 20 06.7**	**-2.0**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZAL	**Zalesovo**	**46.43**	**353**	P	**P**	**10 20 06.7**	**-2.0**
	comp=Z,2.7nm,0.9s,mb4.2,baz=297,slow=7.3,SNR=4.0						
NVS	**Novosibirsk**	**47.52**	**352**	*e*P	**P**	**10 20 13.7**	**-3.6**
WRA	**Warramunga Arr**	**48.44**	**126**	P	**P**	**10 20 24.0**	**-0.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**48.44**	**126**	P	**P**	**10 20 24.0**	**-0.9**
	comp=Z,0.8nm,0.6s,mb4.0,baz=304,slow=8.9,SNR=4.1						
WRAB	**Tennant Creek**	**48.44**	**125**	P	**P**	**10 20 23.7**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**48.44**	**125**	P	**P**	**10 20 23.7**	**-1.2**
	comp=Z,8.9nm,1.0s,mb4.8						
BVAR	**Boroye Array**	**48.85**	**341**	P	**P**	**10 20 27.9**	**+0.4**
	comp=Z,1.1nm,0.8s,mb3.9,baz=146,slow=5.2,SNR=2.3						
BVAR				PcP	PcP	10 21 52.0	-0.2
	comp=Z,0.4nm,0.6s,baz=234,slow=42,SNR=2.0						
ASAR	**Alice Springs**	**50.09**	**130**	P	**P**	**10 20 38.6**	**+1.1**
	comp=Z,3.1nm,0.9s,mb4.3,baz=306,slow=6.5,SNR=4.2						
PMG	**Port Moresby**	**55.70**	**107**	P	**P**	**10 21 16.2**	**-3.2**
PMG				pmax	pmax		
	comp=Z,21nm,0.9s						
PMG	**Port Moresby**	**55.70**	**107**	P	**P**	**10 21 16.2**	**-3.2**
	comp=Z,21nm,0.9s,mb5.2						
KMBO	**Kilima Mbogo**	**57.29**	**264**	P	**P**	**10 21 32.4**	**+1.6**
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KMBO	**Kilima Mbogo**	**57.29**	**264**	P	**P**	**10 21 32.4**	**+1.7**
	comp=Z,4.6nm,0.9s,mb4.5,baz=60,slow=12,SNR=6.9						
KMBO	**Kilima Mbogo**	**57.29**	**264**	*e*P	**P**	**10 21 32.0**	**+1.3**
	comp=Z,11nm,1.1s,mb4.8						
STKA	**Stephens Creek**	**60.28**	**134**	P	**P**	**10 21 50.7**	**-0.6**
	comp=Z,5.7nm,1.2s,mb4.5,baz=1.1,slow=9.1,SNR=2.8						
STKA	**Stephens Creek**	**60.28**	**134**	P	**P**	**10 21 50.7**	**-0.6**
BRTR	**Keskin Array B**	**62.25**	**311**	P	**P**	**10 22 04.8**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	**Keskin Array B**	**62.25**	**311**	P	**P**	**10 22 04.8**	**+0.2**
	comp=Z,2.2nm,0.6s,mb4.5,baz=112,slow=6.7,SNR=5.3						
MBAR	**Mbarara**	**63.62**	**265**	*e*P	**P**	**10 22 13.8**	**-0.2**
MBAR				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.8						
MBAR	**Mbarara**	**63.62**	**265**	*e*P	**P**	**10 22 13.8**	**-0.2**
	comp=Z,15nm,1.4s,mb4.8						
OBN	**Obninsk**	**65.22**	**328**	*e*P	**P**	**10 22 22.0**	**-1.7**
OBN				pmax	pmax		
	comp=Z,34nm,1.6s,mb5.1						
MA2	**Magadan**	**66.74**	**28**	*e*P	**P**	**10 22 34.3**	**+0.9**
MA2				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
MA2	**Magadan**	**66.74**	**28**	*e*P	**P**	**10 22 34.3**	**+0.9**
	comp=Z,15nm,1.0s,mb5.0						
AKASG	**Malin Array Be**	**67.98**	**322**	P	**P**	**10 22 41.1**	**-0.2**
	comp=Z,0.4nm,0.4s,mb3.9,baz=86,slow=5.0,SNR=2.7						
JOF	**Joensuu**	**70.69**	**334**	*ep*	**P**	**10 22 54.1**	**-3.6**
	comp=Z,7.5nm,0.8s,mb4.7						
FINES	**FINESS Array B**	**72.55**	**332**	P	**P**	**10 23 08.6**	**-0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	**72.55**	**332**	P	**P**	**10 23 08.6**	**-0.3**
	comp=Z,2.7nm,0.7s,mb4.3,baz=135,slow=11,SNR=4.9						
FINES	**FINESS Array B**	**72.55**	**332**	P	**P**	**10 23 08.6**	**-0.3**
KAF	**Kangasniemi**	**72.63**	**333**	*ep*	**P**	**10 23 08.3**	**-1.0**
	comp=Z,8.3nm,0.9s,mb4.7						
KAF	**Kangasniemi**	**72.63**	**333**	*e*P	**P**	**10 23 08.3**	**-1.0**
KAF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
ARCES	**ARCESS Array B**	**75.12**	**340**	P	**P**	**10 23 22.9**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARCES	**ARCESS Array B**	**75.12**	**340**	P	**P**	**10 23 22.9**	**-0.7**
	comp=Z,4.8nm,1.0s,mb4.4,baz=90,slow=4.9,SNR=4.0						
ARCES	**ARCESS Array B**	**75.12**	**340**	P	**P**	**10 23 22.9**	**-0.7**
GERES	**GERESS Array B**	**77.65**	**318**	P	**P**	**10 23 30.5**	**-7.7**
	comp=Z,2.0nm,0.6s,mb4.2,baz=90,slow=4.0,SNR=6.0						
KHC	**Kasperske Hory**	**77.74**	**318**	*e*P	**P**	**10 23 38.0**	**-0.7**
KHC				*ex*	x	10 23 41.1	
HFS	**Hagfors**	**78.30**	**330**	P	**P**	**10 23 42.7**	**+1.2**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HFS	**Hagfors**	**78.30**	**330**	P	**P**	**10 23 42.7**	**+1.2**
	comp=Z,2.8nm,0.5s,mb4.4,baz=124,slow=10,SNR=5.5						
NB2	**NORSAR Subarra**	**79.57**	**331**	P	**P**	**10 23 48.9**	**+0.5**
	comp=Z,2.9nm,0.7s,mb4.3,baz=93,slow=5.6						
NB2	**NORSAR Subarra**	**79.57**	**331**	P	**P**	**10 23 48.9**	**+0.5**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
NOA	**NORSAR Array B**	**79.57**	**331**	P	**P**	**10 23 49.3**	**+0.9**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA	**NORSAR Array B**	**79.57**	**331**	P	**P**	**10 23 49.3**	**+0.9**
	comp=Z,2.8nm,0.8s,mb4.2,baz=94,slow=5.5,SNR=4.5						
DAVOX	**Davos**	**80.22**	**316**	P	**P**	**10 23 54.9**	**+2.7**
	comp=Z,3.9nm,0.6s,mb4.5,baz=30,slow=2.6,SNR=3.7						
DAVOX	**Davos**	**80.22**	**316**	P	**P**	**10 23 54.9**	**+2.7**
LPG	**La Plagne**	**82.44**	**315**	*e*P	**P**	**10 24 00.6**	**-3.3**
	comp=Z,13nm,0.9s,mb4.5						
LPG	**La Plagne**	**82.44**	**315**	*e*P	**P**	**10 24 00.6**	**-3.3**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
IMA	**Indian Mountai**	**91.59**	**22**	*e*P	**P**	**10 24 49.3**	**+1.5**
ILAR	**Eielson Array**	**94.71**	**22**	P	**P**	**10 25 02.8**	**+0.6**
	comp=Z,0.4nm,0.8s,mb3.9,baz=270,slow=1.8,SNR=2.9						
NVAR	**Mina Array Bea**	**124.91**	**31**	PKP	PKPdf	10 30 44.3	-1.5
	comp=Z,1.2nm,0.8s,baz=273,slow=2.2,SNR=4.1						
PDAR	**Pinedale Array**	**125.13**	**21**	PKP	PKPdf	10 30 43.5	-2.6
	comp=Z,0.4nm,0.6s,baz=135,slow=1.3,SNR=3.5						
PLCA	**Paso Flores**	**144.59**	**200**	PKIKP	PKPdf	10 31 19.3	-2.7
PLCA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
PLCA	**Paso Flores**	**144.59**	**200**	PKP	PKPdf	10 31 19.3	-2.7
	comp=Z,4.9nm,1.1s,baz=51,slow=4.3,SNR=4.2						

IDC 27 10:15:39.6±13.0, 8.27N×95.20E, h115km±106km, mb3.6/5, mb1 3.8/6, mb1mx3.5/18, mbtmp4.0/6, Error ellipse: s-maj=132.5km s-min=23.0km az=55.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.76**	**19**	P	P	10 18 11.3	-0.1
	baz=212,slow=13,SNR=5.5						
ZAL	**Zalesovo**	**46.30**	**352**	P	P	10 23 51.9	-3.5
	1.0nm,0.8s,baz=246,slow=12,SNR=2.4						
WRA	**Warrmunga Arr**	**47.64**	**127**	P	P	10 24 04.4	-1.9
	1.8nm,1.1s,baz=304,slow=9.1,SNR=3.8						
ARCES	**ARCESS Array B**	**75.25**	**340**	P	P	10 27 09.2	-1.9
	5.1nm,1.1s,baz=80,slow=7.4,SNR=3.7						
HFS	**Hagfors**	**78.65**	**330**	P	P	10 27 29.7	-0.5
	1.6nm,0.5s,baz=90,slow=4.4,SNR=5.9						
NOA	**NORSAR Array B**	**79.91**	**331**	P	P	10 27 36.3	-0.6
	0.7nm,0.6s,baz=95,slow=5.0,SNR=3.9						
PDAR	**Pinedale Array**	**124.41**	**22**	PKP	PKPdf	10 34 26.7	+1.3
	0.4nm,0.7s,baz=79,slow=4.6,SNR=3.0						
PLCA	**Paso Flores**	**145.27**	**199**	PKP	PKPdf	10 35 01.2	-2.8
	1.0nm,0.6s,baz=200,slow=8.0,SNR=3.0						

BJI ***27*** *10:15:55.1, 7.47N×93.77E, h47km, mb4.6*
NEIC ***27*** *10:15:56.9±0.5, 7.71N×93.94E, h30km, mb4.7/9, Error ellipse: s-maj=12.6km s-min=9.6km az=64.0*
IDC ***27*** *10:16:00.7±4.8, 7.96N×94.14E, h56km±42km, mb4.0/16, mb1 4.2/17, mb1mx4.2/20, mbtmp4.3/17, ML4.2/1, Error ellipse: s-maj=27.9km s-min=14.3km az=50.0, Putative timing error at GERES*
ISC 27 10:15:55.7±0.6, 7.74N±0.08×94.07E±0.08, h33km, n38, σ1§17/35, mb4.4/22, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.66**	**24**	*e*P	**P**	**10 18 41.4**	**-1.4**
	45nm,1.0s						
CMAR	**Chiang Mai Arr**	**11.66**	**24**	P	**P**	**10 18 42.5**	**-0.3**
	0.5nm,0.3s,baz=212,slow=14,SNR=17						
HYB	**Hyderabad**	**17.92**	**304**	*e*P	**P**	**10 20 05.0**	**+0.8**
HYB	**Hyderabad**	**17.92**	**304**	*i* P	**P**	**10 20 05.0**	**+0.8**
HYB				*e*S	**S**	**10 23 23.0**	**+2.8**
KMI	**Kunming**	**19.17**	**25**	P	**P**	**10 20 21.5**	**+2.2**
	34nm,1.3s						
LSA	**Lhasa**	**22.02**	**353**	*e*P	**P**	**10 20 51.0**	**+2.1**
LSA	**Lhasa**	**22.02**	**353**	*e*P	**P**	**10 20 50.9**	**+2.0**
	31nm,0.9s,mb4.7						
ENH	**Enshi**	**26.67**	**31**	*e*P	**P**	**10 21 34.2**	**+0.5**
	28nm,1.0s,mb4.8						
WHN	**Wuhan**	**29.59**	**37**	⇓P	**P**	**10 22 00.5**	**+0.6**
BJI	**Beijing**	**37.76**	**28**	P	**P**	**10 23 11.9**	**+1.5**
AAK	**Ala-Archa**	**38.80**	**337**	P	**P**	**10 23 13.6**	**-5.4**
SONM	**Songino Array**	**41.31**	**13**	P	**P**	**10 23 39.3**	**-0.5**
	1.6nm,0.7s,mb3.8,baz=198,slow=7.8,SNR=7.8						
ULN	**Ulaanbaatar**	**41.48**	**13**	*e*P	**P**	**10 23 37.2**	**-4.0**
	7.5nm,1.3s,mb4.2						
KURK	**Kurchatov**	**44.72**	**346**	*e*P	**P**	**10 24 06.0**	**-1.5**
	18nm,1.1s,mb4.8						
ZAL	**Zalesovo**	**46.67**	**352**	P	**P**	**10 24 22.9**	**+0.1**
	3.6nm,0.9s,mb4.3,baz=292,slow=7.9,SNR=8.9						
WRA	**Warramunga Arr**	**48.24**	**125**	P	**P**	**10 24 36.5**	**+0.8**
	2.7nm,0.8s,mb4.3,baz=303,slow=9.2,SNR=9.8						
WRAB	**Tennant Creek**	**48.25**	**125**	*e*P	**P**	**10 24 35.4**	**-0.3**
	15nm,0.9s,mb5.0						
BVAR	**Borovoye Array**	**49.09**	**341**	P	**P**	**10 24 40.6**	**-1.2**
	7.4nm,1.2s,mb4.6,baz=149,slow=8.6,SNR=5.3						
ASAR	**Alice Springs**	**49.89**	**130**	P	**P**	**10 24 48.4**	**+0.1**
	2.7nm,0.9s,mb4.3,baz=307,slow=7.4,SNR=9.5						
ASAR				PcP	PcP	10 26 09.8	+1.1
	1.4nm,0.8s,baz=320,slow=3.6,SNR=6.7						
KMBO	**Kilima Mbogo**	**57.34**	**264**	P	**P**	**10 25 46.1**	**+2.7**
	12nm,1.2s,mb4.8,baz=61,slow=11,SNR=10						
KMBO	**Kilima Mbogo**	**57.34**	**264**	*e*P	**P**	**10 25 47.1**	**+3.7**
	7.6nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**60.07**	**134**	P	**P**	**10 26 02.9**	**+0.7**
	2.6nm,0.8s,mb4.3,baz=44,slow=8.6,SNR=4.4						
BRTR	**Keskin Array B**	**62.46**	**311**	P	**P**	**10 26 16.2**	**-2.0**
	2.0nm,0.8s,mb4.3,baz=117,slow=7.1,SNR=7.9						
AKASG	**Malin Array Be**	**68.21**	**322**	P	**P**	**10 26 53.0**	**-2.0**
	1.1nm,0.6s,mb4.1,baz=87,slow=4.7,SNR=7.9						
MLR	**Muntele Rosu**	**69.22**	**316**	P	**P**	**10 27 01.6**	**+0.3**
	6.1nm,0.9s,mb4.5,baz=193,slow=6.7,SNR=5.2						
FINES	**FINESS Array B**	**72.79**	**332**	P	**P**	**10 27 22.1**	**-0.4**
	4.0nm,0.8s,mb4.4,baz=112,slow=10,SNR=6.8						
ARCES	**ARCESS Array B**	**75.36**	**340**	P	**P**	**10 27 37.9**	**+0.6**
	4.0nm,0.9s,mb4.4,baz=59,slow=14,SNR=4.1						
GERES	**GERESS Array B**	**77.88**	**318**	P	**P**	**10 27 42.3**	**-9.5**
	3.6nm,1.0s,mb4.3,baz=117,slow=6.0,SNR=8.2						
KHC	**Kasperske Hory**	**77.97**	**319**	*e*P	**P**	**10 27 52.5**	**+0.2**
HFS	**Hagfors**	**78.53**	**330**	P	**P**	**10 27 54.8**	**-0.4**
	4.0nm,0.8s,mb4.4,baz=146,slow=5.3,SNR=4.5						
NB2	**NORSAR Subarra**	**79.81**	**331**	P	**P**	**10 28 01.4**	**-0.7**
	3.9nm,0.8s,mb4.4,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.81**	**331**	P	**P**

MD3.8/6,4C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**2.25**	**76⇑**	*eP*	P	10 20 46.7	+0.2
LSP				*eS*	S	10 21 12.9	-1.7
PORP	**Portuguez**	**2.64**	**80⇑**	*eP*	P	10 20 49.7	-2.0
PORP				*eS*	S	10 21 23.1	-0.8
CELP	**Cerrillos**	**2.70**	**80⇓**	*eP*	P	10 20 52.9	+0.4
CELP				*eS*	S	10 21 24.1	-1.1
CSB	**Colonia Sabana**	**3.13**	**77⇑**	*eP*	P	10 20 56.8	-1.5
CSB				*eS*	S	10 21 31.6	-3.9
HUMP	**Col San Antoni**	**3.39**	**81⇓**	*eP*	P	10 21 00.8	-1.0
HUMP				*eS*	S	10 21 42.4	+0.7
CBYP	**Canovanas**	**3.41**	**79⇑**	*eP*	P	10 20 59.6	-2.4
CBYP				*eS*	S	10 21 41.8	-0.3
SDV	**Santo Domingo**	**8.77**	**188**	P	P	10 22 15.9	+1.5

*NEIC **27** 10:21:05.7,26.31S×69.61W,h5km,ML4.2(GUC),After GUC.*

GUC 27 10:21:05.7±0.6,26.31S×69.61W,h5km,MD4.2,ML4.2,1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.24**	**212**	*eP*	Pb	10 21 26.1	-3.1
CPCH				*i S*	Sb	10 21 43.2	-2.1
CPCH				AMP		10 21 45.4	
	comp=E,10μm,0.1s						
CPN1	**Cerro Paranal**	**1.82**	**337⇑**	*iP*	Pn	10 21 38.1	+0.1
CPN1				*i* S	Sn	10 22 03.0	+1.2
CPN1				AMP		10 22 06.9	
	comp=E,2μm,0.4s						
VACH	**Vallenar**	**2.48**	**204**	*eP*	Pn	10 21 47.5	+0.1
VACH				*i* S	Sn	10 22 20.1	+1.7
VACH				AMP		10 22 21.3	
	comp=E,4μm,0.2s						
ANCH	**Antofagasta**	**2.71**	**344**	*eP*	Pn	10 21 51.1	+0.4
ANCH				*eS*	Sn	10 22 26.3	+1.9
ANCH				AMP		10 22 33.6	
	comp=E,950nm,0.6s						
LVC	**Limon Verde**	**3.73**	**10**	*ePn*	Pn	10 22 06.2	+1.0
TLL	**Tololo Astrono**	**3.99**	**195**	*eP*	Pn	10 22 08.4	-0.4
TLL				*i* S	Sn	10 22 56.5	-0.1

*MOS **27** 10:24:37.4±1.3,7.87N×94.06E,h33km,mb4.9/26,Error ellipse: s-maj=12.1km s-min=7.2km az=108.4*
*BJI **27** 10:24:38.8,7.48N×93.66E,h57km,mB5.3,mb4.6,Ms5.0,Msz4.6*
*NEIC **27** 10:24:38.7±0.4,7.82N×94.07E,h30km,mb4.8/14,MS4.4/1,Error ellipse: s-maj=12.6km s-min=9.8km az=47.0*
*IDC **27** 10:24:40.6±4.3,7.87N×94.18E,h43km±39km,mb4.2/19,mb1 4.4/20,mb1mx4.3/22,mbtmp4.4/20,ML3.9/1,MS4.4/1,Ms1 4.6/1,ms1mx3.0/24,Error ellipse: s-maj=24.6km s-min=12.4km az=50.0,Putative timing error at GERES*

ISC 27 10:24:35.4±0.4,7.88N±0.06×94.10E±0.06,h20km, h20km±.9km:pP-P,n114,σ1§31/105,mb4.7/41,MS4.8/3,1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.52**	**24**	P	**P**	**10 27 17.1**	**-5.0**
	39nm,1.2s						
CMAR	**Chiang Mai Arr**	**11.52**	**24**	P	**P**	**10 27 22.9**	**+0.8**
	0.3nm,0.3s,baz=210,slow=14,SNR=13						
CMAR				LR	LR	10 32 57.3	
	comp=Z,2μm,18.1s,baz=200,slow=43						
VIS	**Vishakhapatnam**	**14.35**	**314**	*eP*	**P**	**10 28 04.3**	**+4.6**
VIS				*e*		10 28 06.7	
	comp=Z,56nm,1.0s						
VIS				*eS*	**S**	**10 30 22.9**	**-16**
HYB	**Hyderabad**	**17.88**	**304**	*eP*	**P**	**10 28 44.0**	**-0.8**
HYB	**Hyderabad**	**17.88**	**304**	*i P*	**P**	**10 28 44.0**	**-0.8**
KMI	**Kunming**	**19.03**	**25**	P	**P**	**10 28 58.3**	**-0.6**
KMI				pmax	pmax		
	comp=Z,32nm,2.0s						
KMI	**Kunming**	**19.03**	**25**	P	**P**	**10 28 58.3**	**-0.6**
	comp=Z,32nm,2.0s						
KMI				pP		10 29 02.3	
KMI				sP		10 29 04.1	
KMI				PP	PP	10 29 25.5	+10
KMI				S		10 32 58.6	
JIRN	**Jiri**	**21.05**	**340**	*eP*	**P**	**10 29 19.2**	**-1.5**
	comp=Z,95nm,0.9s,mb5.1						
PKI	**Pulchoki**	**21.25**	**338**	*eP*	**P**	**10 29 19.8**	**-2.9**
	comp=Z,110nm,0.8s,mb5.2						
GUN	**Gumba**	**21.39**	**340**	*eP*	**P**	**10 29 21.8**	**-2.4**
	comp=Z,187nm,1.0s,mb5.4						
DMN	**Daman**	**21.39**	**338**	*eP*	**P**	**10 29 20.6**	**-3.6**
KKN	**Kakani**	**21.49**	**338**	*eP*	**P**	**10 29 21.8**	**-3.4**
KAD	**Karad**	**21.56**	**298**	*i P*		10 29 37.3	
LSA	**Lhasa**	**21.89**	**353**	P	**P**	**10 29 34.0**	**+4.9**
GKN	**Gorkha**	**21.93**	**337**	*eP*	**P**	**10 29 24.8**	**-4.7**
	comp=Z,93nm,0.9s,mb5.2						
BHPL	**Bhopal**	**22.13**	**316**	*eP*		10 29 43.3	
BHPL				*e*		10 29 48.1	
	comp=Z,89nm,1.6s						
KOLN	**Koldanda**	**22.14**	**335**	*eP*	**P**	**10 29 25.1**	**-6.6**
	comp=Z,131nm,0.9s,mb5.4						
POO	**Poona**	**22.35**	**300**	*e*	**P**	**10 29 35.0**	**+1.2**
NDI	**New Delhi**	**26.11**	**325**	*e*	**P**	**10 30 10.0**	**0.0**
ENH	**Enshi**	**26.54**	**31**	P	**P**	**10 30 15.6**	**+1.7**
	comp=Z,14nm,0.7s,mb4.6						
DDI	**Dehra Dun**	**26.92**	**328**	*e*	**P**	**10 30 19.2**	**+1.8**
XAN	**Xi'an**	**29.41**	**26**	P	**P**	**10 30 44.5**	**+4.6**
XAN				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.7						
LZH	**Lanzhou**	**29.45**	**16**	*eP*	**P**	**10 30 43.5**	**+3.2**
LZH				AMB	AMB		
	comp=Z,40nm,1.6s,mb4.9						
LZH				AMB	AMB		
	comp=Z,156nm,4.5s						
LZH				LR	LR		
	comp=E,1μm,12.0s						
LZH				LR	LR		
	comp=Z,2μm,13.2s,MS4.8						
LZH	**Lanzhou**	**29.45**	**16**	*eP*	**P**	**10 30 43.5**	**+3.2**
	comp=Z,40nm,1.6s,mb4.9						
LZH				pP	pP	10 30 50.3	+4.1
LZH				sP	sP	10 30 52.6	+3.8
LZH				LR	LR		
	comp=Z,2μm,13.2s,MS4.8						
WHN	**Wuhan**	**29.46**	**37**	*eP*	**P**	**10 30 43.0**	**+2.6**
WMQ	**Urumqi**	**36.24**	**352**	*eP*	**P**	**10 31 39.5**	**+0.4**
BJI	**Beijing**	**37.62**	**28**	P	**P**	**10 31 54.1**	**+3.3**
BJI				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.3						
BJI				MLR	MLR		
	comp=Z,670nm,21.0s,MS4.4						
BJI	**Beijing**	**37.62**	**28**	P	**P**	**10 31 54.1**	**+3.3**
	comp=Z,11nm,1.6s,mb4.3						
BJI				LR	LR		
	comp=Z,670nm,21.0s,MS4.4						
AAK	**Ala-Archa**	**38.69**	**337**	*eP*	**P**	**10 31 59.4**	**-0.3**
AAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**38.69**	**337**	*eP*	**P**	**10 31 59.4**	**-0.3**
	comp=Z,9.6nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**40.08**	**347**	*i P*	**P**	**10 32 11.8**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,11nm,1.0s						
SONM	**Songino Array**	**41.17**	**13**	P	**P**	**10 32 19.8**	**-0.4**
	comp=Z,3.2nm,0.9s,mb3.9,baz=198,slow=7.8,SNR=14						
ULN	**Ulaanbaatar**	**41.34**	**13**	P	**P**	**10 32 19.3**	**-2.3**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.1						
ULN	**Ulaanbaatar**	**41.34**	**13**	P	**P**	**10 32 19.3**	**-2.3**
	comp=Z,6.8nm,1.3s,mb4.1						
ZAK	**Zakamensk**	**43.05**	**9**	*eP*	**P**	**10 32 35.1**	**-0.5**
KURK	**Kurchatov**	**44.60**	**346**	*i P*	**P**	**10 32 47.3**	**-0.8**
KURK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6						
KURK	**Kurchatov**	**44.60**	**346**	*eP*	**P**	**10 32 47.1**	**-1.0**
	comp=Z,26nm,1.0s,mb5.0						
NWAO	**Narrogin (SRO)**	**46.17**	**153**	P	**P**	**10 33 01.9**	**+1.1**
NWAO				pmax	pmax		
	comp=Z,16nm,0.9s						
NWAO	**Narrogin (SRO)**	**46.17**	**153**	P	**P**	**10 33 01.9**	**+1.1**
	comp=Z,16nm,0.9s,mb5.0,baz=329,slow=11,SNR=5.1						
ZAL	**Zalesovo**	**46.54**	**352**	P	**P**	**10 33 05.2**	**+1.8**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZAL	**Zalesovo**	**46.54**	**352**	P	**P**	**10 33 05.2**	**+1.7**
	comp=Z,4.4nm,0.6s,mb4.6,baz=295,slow=6.8,SNR=10						
NVS	**Novosibirsk**	**47.63**	**352**	*eP*	**P**	**10 33 10.7**	**-1.4**
MDJ	**Mudanjiang**	**47.83**	**34**	P	**P**	**10 33 15.5**	**+1.8**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.6						
WRA	**Warramunga Arr**	**48.29**	**126**	P	**P**	**10 33 16.8**	**-0.9**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	**48.29**	**126**	P	**P**	**10 33 16.8**	**-0.9**
	comp=Z,3.4nm,0.7s,mb4.5,baz=305,slow=9.1,SNR=18						
WRAB	**Tennant Creek**	**48.30**	**125**	*eP*	**P**	**10 33 16.7**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
WRAB	**Tennant Creek**	**48.30**	**125**	*eP*	**P**	**10 33 16.7**	**-1.0**
	comp=Z,16nm,1.0s,mb5.0						
BVAR	**Borovoye Array**	**48.97**	**341**	P	**P**	**10 33 24.4**	**+1.9**
	comp=Z,1.6nm,0.8s,mb4.1,baz=150,slow=24,SNR=4.6						
RAYN	**Ar Rayn**	**49.05**	**294**	P	**P**	**10 33 16.6**	**-6.9**
	comp=Z,97nm,1.0s,SNR=8.2						
CHKZ	**Chkalovo**	**49.46**	**342**	*eP*	**P**	**10 33 25.1**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
CHKZ	**Chkalovo**	**49.46**	**342**	*eP*	**P**	**10 33 25.1**	**-1.1**
	comp=Z,13nm,0.9s,mb5.0						
ASAR	**Alice Springs**	**49.95**	**130**	P	**P**	**10 33 29.6**	**-0.8**
	comp=Z,5.1nm,1.0s,mb4.5,baz=305,slow=7.2,SNR=19						
BOD	**Bodaibo**	**52.15**	**13**	*eP*	**P**	**10 33 46.8**	**+0.1**
SVE	**Sverdlovsk**	**55.38**	**338**	*eP*	**P**	**10 34 10.0**	**-0.5**
PMG	**Port Moresby**	**55.57**	**107**	P	**P**	**10 34 11.5**	**-0.9**
PMG				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PMG	**Port Moresby**	**55.57**	**107**	P	**P**	**10 34 11.5**	**-0.8**
	comp=Z,8.6nm,0.6s,mb4.9,baz=220,slow=3.4,SNR=3.3						
PMG	**Port Moresby**	**55.57**	**107**	P	**P**	**10 34 11.5**	**-0.9**
KIV	**Kislovodsk**	**57.29**	**318**	*eP*	**P**	**10 34 23.6**	**-0.7**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
KMBO	**Kilima Mbogo**	**57.39**	**264**	P	**P**	**10 34 26.3**	**+0.9**
KMBO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KMBO	**Kilima Mbogo**	**57.39**	**264**	P	**P**	**10 34 26.3**	**+0.9**
	comp=Z,6.0nm,0.9s,mb4.6,baz=48,slow=8.5,SNR=9.9						
EIL	**Elat**	**59.39**	**300**	P	**P**	**10 34 40.5**	**+1.4**
	comp=Z,2.5nm,0.5s,mb4.5,baz=10,slow=31,SNR=4.1						
YAK	**Yakutsk**	**60.00**	**18**	*eP*	**P**	**10 34 45.8**	**+2.9**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.1s						
STKA	**Stephens Creek**	**60.14**	**134**	P	**P**	**10 34 42.7**	**-1.6**
	comp=E,4.4nm,0.9s,mb4.5,baz=301,slow=5.1,SNR=6.0						
STKA	**Stephens Creek**	**60.14**	**134**	P	**P**	**10 34 42.7**	**-1.6**
BRTR	**Keskin Array B**	**62.40**	**311**	P	**P**	**10 34 58.9**	**-0.5**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR	**Keskin Array B**	**62.40**	**311**	P	**P**	**10 34 58.9**	**-0.5**
	comp=Z,2.0nm,0.8s,mb4.3,baz=121,slow=7.2,SNR=7.3						
MBAR	**Mbarara**	**63.72**	**265**	*eP*	**P**	**10 35 09.5**	**+0.8**
MBAR				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.9						
MBAR	**Mbarara**	**63.72**	**265**	*eP*	**P**	**10 35 09.5**	**+0.9**
	comp=Z,19nm,1.4s,mb4.9						
MOS	**Moscow**	**65.06**	**329**	*eP*	**P**	**10 35 14.0**	**-2.6**
MOS				*e*		10 35 53.8	
MOS				MLR	MLR		
	comp=Z,1μm,22.3s,MS5.0						
MA2	**Magadan**	**66.78**	**28**	P	**P**	**10 35 25.0**	**-2.6**
MA2				pmax	pmax		
	comp=Z,31nm,1.4s,mb5.2						
MA2	**Magadan**	**66.78**	**28**	P	**P**	**10 35 25.0**	**-2.5**
	comp=Z,31nm,1.4s,mb5.1						
AKASG	**Malin Array Be**	**68.13**	**322**	P	**P**	**10 35 35.8**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.8,baz=89,slow=4.8,SNR=8.4						
MLR	**Muntele Rosu**	**69.14**	**316**	P	**P**	**10 35 41.5**	**-1.1**
MLR				pmax	pmax		
	comp=Z,17nm,1.3s						
MLR	**Muntele Rosu**	**69.14**	**316**	P	**P**	**10 35 41.5**	**-1.1**
	comp=Z,17nm,1.3s,mb4.8,baz=359,slow=1.0,SNR=3.8						
FINES	**FINESS Array B**	**72.69**	**332**	P	**P**	**10 36 02.5**	**-1.2**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FINES	**FINESS Array B**	**72.69**	**332**	P	**P**	**10 36 02.5**	**-1.2**
	comp=Z,5.5nm,0.8s,mb4.6,baz=90,slow=5.7,SNR=6.7						
FINES	**FINESS Array B**	**72.69**	**332**	P	**P**	**10 36 02.5**	**-1.2**
CRVS	**Cervenica-Dubn**	**72.70**	**319**	*eP*	**P**	**10 36 04.4**	**+0.4**
CRVS				*i*		10 37 17.6	
KAF	**Kangasniemi**	**72.77**	**333**	*ep*	PcP	10 36 22.3	+0.7
	comp=Z,9.7nm,0.9s						
VYHS	**Vyhne**	**74.38**	**318**	*eP*	**P**	**10 36 13.0**	**-0.8**
VYHS				*i*		10 37 26.9	
OKC	**Ostrava-Krasne**	**74.96**	**319**	*eP*	**P**	**10 36 17.4**	**+0.3**
ARCES	**ARCESS Array B**	**75.25**	**340**	P	**P**	**10 36 17.5**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ARCES	**ARCESS Array B**	**75.25**	**340**	P	**P**	**10 36 17.5**	**-0.9**
	comp=Z,7.0nm,1.1s,mb4.5,baz=90,slow=4.9,SNR=5.1						
MORC	**Moravsky Berou**	**75.35**	**319**	*eP*	**P**	**10 36 19.8**	**+0.5**
MORC				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
MORC	**Moravsky Berou**	**75.35**	**319**	*eP*	**P**	**10 36 19.8**	**+0.4**
	comp=Z,16nm,1.2s,mb4.8						
ZST	**Bratislava**	**75.50**	**318**	*eP*	**P**	**10 36 20.2**	**0.0**
ZST				*e*		10 37 32.8	
DPC	**Dobruska-Polom**	**76.18**	**320**	*eP*	**P**	**10 36 24.3**	**+0.3**
GERES	**GERESS Array B**	**77.80**	**318**	P	**P**	**10 36 24.6**	**-8.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**77.80**	**318**	P	**P**	**10 36 24.6**	**-8.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=124,slow=9.6,SNR=9.5						
KHC	**Kasperske Hory**	**77.89**	**318**	*eP*	**P**	**10 36 34.7**	**+1.2**
KHC				*e*		10 36 38.0	
KHC				*e*		10 37 02.5	
KHC	**Kasperske Hory**	**77.89**	**318**	*eP*	**P**	**10 36 34.7**	**+1.2**
KHC				x	x	10 36 38.0	
KHC				x	x	10 37 02.5	
CLL	**Collm**	**78.33**	**321**	*i *PP*	pP	10 36 42.5	+0.3
MOX	**Moxa**	**79.19**	**320**	*eP*	**P**	**10 36 40.0**	**-0.6**
GRA1	**Grafenberg Arr**	**79.44**	**319**	*eP*	**P**	**10 36 42.8**	**+0.8**
GRA1				*ep*P	pP	10 36 48.9	+0.6
GRF	**Grafenberg Arr**	**79.44**	**319**	*eP*	**P**	**10 36 42.8**	**+0.8**
GRF				*e*PP*	pP	10 36 48.9	+0.6
GRF	**Grafenberg Arr**	**79.44**	**319**	*eP*	**P**	**10 36 42.9**	**+0.9**
GRF				*e*PP*	pP	10 36 48.9	+0.6
GRF	**Grafenberg Arr**	**79.44**	**319**	*eP*	**P**	**10 36 42.9**	**+0.9**
GRF				*ep*P	pP	10 36 48.9	+0.6
NB2	**NORSAR Subarra**	**79.71**	**331**	P	**P**	**10 36 42.1**	**-1.1**
	comp=Z,6.9nm,0.9s,mb4.6,baz=92,slow=5.8						
NB2	**NORSAR Subarra**	**79.71**	**331**	P	**P**	**10 36 42.1**	**-1.1**
NB2				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
NOA	**NORSAR Array B**	**79.71**	**331**	P	**P**	**10 36 44.3**	**+1.1**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NOA	**NORSAR Array B**	**79.71**	**331**	P	**P**	**10 36 44.3**	**+1.1**
	comp=Z,4.5nm,0.8s,mb4.5,baz=93,slow=5.5,SNR=8.6						
LPG	**La Plagne**	**82.59**	**315**	*eP*	**P**	**10 37 00.3**	**+1.7**
	comp=Z,18nm,0.7s,mb4.9						
LPG	**La Plagne**	**82.59**	**315**	*eP*	**P**	**10 37 00.3**	**+1.7**
LPG				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
ESDC	**Sonseca Array**	**91.19**	**310**	P	**P**	**10 37 42.5**	**+1.8**
	comp=Z,0.2nm,0.3s,mb3.9,baz=79,slow=6.5,SNR=4.0						
ILAR	**Eielson Array**	**94.75**	**22**	P	**P**	**10 37 58.3**	**+1.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**94.75**	**22**	P	**P**	**10 37 58.2**	**+1.8**
	comp=Z,0.6nm,0.9s,mb4.0,baz=304,slow=8.8,SNR=5.1						
INK	**Inuvik**	**97.00**	**16**	P	**P**	**10 38 07.7**	**+1.1**
INK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
INK	**Inuvik**	**97.00**	**16**	P	**P**	**10 38 07.7**	**+1.0**
	comp=Z,3.4nm,1.1s,mb4.7,baz=324,slow=5.0,SNR=5.1						
NVAR	**Mina Array Bea**	**124.94**	**31**	PKP	PKPdf	10 43 38.0	-0.9
	comp=Z,1.2nm,0.8s,baz=72,slow=1.3,SNR=6.3						
PDAR	**Pinedale Array**	**125.18**	**21**	PKP	PKPdf	10 43 36.7	-2.6
	comp=Z,1.4nm,0.9s,SNR=9.1						
TXAR	**Lajitas Array**	**139.24**	**24**	PKhKP		10 43 58.8	
	comp=Z,0.2nm,0.7s,baz=160,slow=0.7,SNR=5.2						
TXAR				PKP	PKPdf	10 44 04.3	-1.7
	comp=Z,0.7nm,0.7s,baz=53,slow=0.2,SNR=6.4						
JCT	**Junction City**	**139.59**	**19**	*e*PKIKP	PKPdf	10 44 05.1	-1.5
PLCA	**Paso Flores**	**144.54**	**200**	PKHKP		10 44 04.5	
PLCA						10 44 12.7	
PLCA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PLCA				pmax	pmax		
	comp=Z,11nm,0.9s						
PLCA	**Paso Flores**	**144.54**	**200**	PKhKP		10 44 04.5	
	comp=Z,2.4nm,1.0s,baz=171,slow=3.1,SNR=3.8						
PLCA				PKP	PKPdf	10 44 12.7	-2.4
	comp=Z,11nm,0.9s,baz=151,slow=2.4,SNR=17						

*IDC **27** 10:25:42.1±0.9,7.25N×93.61E,mb4.3/12,mb1 4.5/13,mb1mx4.4/19,mbtmp4.3/13,ML4.3/1,Error ellipse: s-maj=39.3km s-min=18.8km az=48.0,Putative timing error at GERES*
*BJI **27** 10:25:43.3,7.50N×93.90E,h30km,mb4.9*
*MOS **27** 10:25:47.3±2.4,7.64N×93.93E,h33km,mb5.0/22,Error ellipse: s-maj=18.5km s-min=9.5km az=107.8*
*NEIC **27** 10:25:47.3±0.7,7.53N×93.86E,h30km,mb4.9/17,Error ellipse: s-maj=25.0km s-min=13.2km az=50.0*
*HRVD **27** 10:25:47.3±0.5,7.99N×94.26E,h12km,MW5.1/48,Centroid moment Tensor Solution. LP body waves: s4,c5;Mantle waves: s48,c73; Half duration: 1±0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.01±.20; $M_{\theta\theta}$-2.78±.14; $M_{\phi\phi}$3.79±.17; $M_{r\theta}$-2.28±.46; $M_{\theta\phi}$0.52±.16; $M_{\theta r}$-2.60±.56;Best double couple: $M_0$4.84×10^{16} NP1:ϕ_s141°,δ42°, λ-169°. NP2:ϕ_s43°,δ83°,λ-49°. Principal axes: T5.186, Plg26°, Azm102°; N-.692, Plg41°, Azm217°; P-4.494, Plg38°, Azm349°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 27 10:25:45.0±0.7,7.4N±0.1×93.8E±0.1,h30km,n68, σ1§31/65,mb4.7/30,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**12.07**	**24**	P	**P**	**10 28 43.2**	**+5.1**
	45nm,1.4s						
CMAR	**Chiang Mai Arr**	**12.07**	**24**	P	**P**	**10 28 40.1**	**+2.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**12.07**	**24**	Pn	**P**	**10 28 40.1**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=211,slow=16,SNR=3.7						
LSA	**Lhasa**	**22.30**	**354**	*eP*	**P**	**10 30 42.3**	**+0.7**
LSA				pmax	pmax		
	comp=Z,121nm,1.4s,mb5.1						
LSA	**Lhasa**	**22.30**	**354**	*eP*	**P**	**10 30 42.3**	**+0.7**
	comp=Z,121nm,1.4s,mb5.1						
ENH	**Enshi**	**27.09**	**31**	*eP*	**P**	**10 31 25.7**	**-1.6**
	comp=Z,60nm,1.4s,mb4.9						
WMQ	**Urumqi**	**36.65**	**353**	*eP*	**P**	**10 32 50.5**	**-0.3**
AAK	**Ala-Archa**	**38.98**	**337**	*eP*	**P**	**10 33 09.8**	**-0.6**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**38.98**	**337**	*eP*	**P**	**10 33 09.8**	**-0.7**
	comp=Z,8.9nm,1.0s,mb4.5						
SONM	**Songino Array**	**41.68**	**13**	P	**P**	**10 33 33.4**	**+0.7**
	comp=Z,5.1nm,1.0s,mb4.1,baz=198,slow=7.8,SNR=4.4						
ULN	**Ulaanbaatar**	**41.86**	**13**	P	**P**	**10 33 32.4**	**-1.7**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.2						
ULN	**Ulaanbaatar**	**41.86**	**13**	P	**P**	**10 33 32.4**	**-1.6**
	comp=Z,7.7nm,1.3s,mb4.2						
KURK	**Kurchatov**	**44.96**	**346**	*eP*	**P**	**10 33 58.5**	**-0.8**
KURK				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.9						
KURK	**Kurchatov**	**44.96**	**346**	*eP*	**P**	**10 33 58.5**	**-0.8**
	comp=Z,20nm,1.0s,mb4.9						
ZAL	**Zalesovo**	**46.95**	**353**	P	**P**	**10 34 17.2**	**+2.3**
ZAL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ZAL	**Zalesovo**	**46.95**	**353**	P	**P**	**10 34 17.2**	**+2.3**
	comp=Z,8.8nm,1.0s,mb4.7,baz=282,slow=10,SNR=4.8						
ZAL	**Zalesovo**	**46.95**	**353**	P	**P**	**10 34 17.2**	**+2.3**
NVS	**Novosibirsk**	**48.04**	**352**	*eP*	**P**	**10 34 19.5**	**-4.0**
NVS				pmax	pmax		
	comp=N,33nm,1.0s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.3						
WRA	**Warramunga Arr**	**48.29**	**125**	P	**P**	**10 34 26.7**	**+0.8**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**48.29**	**125**	P	**P**	**10 34 26.7**	**+0.8**
	comp=Z,2.3nm,0.6s,mb4.4,baz=305,slow=8.6,SNR=3.0						
WRAB	**Tennant Creek**	**48.30**	**125**	P	**P**	**10 34 20.3**	**-5.7**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
WRAB	**Tennant Creek**	**48.30**	**125**	P	**P**	**10 34 20.3**	**-5.7**
	comp=Z,9.5nm,0.8s,mb4.9						
BVAR	**Borovoye Array**	**49.30**	**342**	P	**P**	**10 34 32.0**	**-1.3**
	comp=Z,1.6nm,0.8s,mb4.1,baz=130,slow=11,SNR=2.1	

comp=Z,18nm,1.6s,mb4.8
BRG Berggiesshubel 77.87 320 *eP* **P 10 37 47.2 +5.7**
comp=Z,18nm,1.6s,mb4.7
GERES GERESS Array B 77.92 318 P **P 10 37 33.7 -8.2**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 77.92 318 P **P 10 37 33.7 -8.2**
comp=Z,1.9nm,0.8s,mb4.1,baz=101,slow=5.0,SNR=2.4
CLL Collm 78.48 321 P **P 10 37 47.0 +2.1**
MOX Moxa 79.34 320 *eP* **P 10 37 56.0 +6.4**
GRA1 Grafenberg Arr 79.57 319 *eP* **P 10 37 55.3 +4.4**
comp=Z,11nm,1.2s,mb4.7
GRF Grafenberg Arr 79.57 319 *eP* **P 10 37 55.3 +4.4**
GRF pmax pmax
comp=Z,11nm,1.2s,mb4.7
GRF Grafenberg Arr 79.57 319 *eP* **P 10 37 55.3 +4.4**
GRF pmax pmax
comp=Z,11nm,1.2s,mb4.7
GRF Grafenberg Arr 79.57 319 *eP* **P 10 37 55.3 +4.4**
comp=Z,11nm,1.2s,mb4.7
NB2 NORSAR Subarra 79.95 331 P **P 10 37 52.9 +0.3**
comp=Z,8.2nm,0.8s,mb4.7,baz=91,slow=5.3
NB2 NORSAR Subarra 79.95 331 P **P 10 37 52.9 +0.3**
NB2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
NOA NORSAR Array B 79.95 331 P **P 10 37 52.8 +0.2**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 79.95 331 P **P 10 37 52.8 +0.2**
comp=Z,1.6nm,0.7s,mb4.1,baz=97,slow=5.3,SNR=2.5
ILAR Eielson Array 95.30 22 P **P 10 39 08.4 +1.3**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 95.30 22 P **P 10 39 08.4 +1.3**
comp=Z,0.5nm,0.7s,mb4.0,baz=309,slow=5.1,SNR=3.4
NVAR Mina Array Bea 125.49 31 PKP PKPdf 10 44 48.0 -1.0
comp=Z,1.1nm,0.8s,baz=262,slow=4.0,SNR=3.9
NVAR Mina Array Bea 125.49 31 PKP PKPdf 10 44 48.0 -1.0
PDAR Pinedale Array 125.72 21 PKP PKPdf 10 44 45.6 -3.7
comp=Z,1.1nm,0.8s,baz=45,slow=2.1,SNR=4.2

IDC 27 10:27:03.4±15.0, 7.23N×94.63E, h65km±79km, mb4.0/6, mb1 4.1/7, mb1mx3.9/17, mbtmp4.3/7, ML4.4/1, Error ellipse: s-maj=207.4km s-min=57.1km az=150.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.93**	**20**	P	P	10 29 51.2	-1.5
	0.7nm,0.3s,baz=211,slow=14,SNR=6.9						
SONM	**Songino Array**	**41.69**	**12**	P	P	10 34 44.4	-2.9
	2.9nm,0.9s,baz=204,slow=4.6,SNR=3.2						
ZAL	**Zalesovo**	**47.25**	**352**	P	P	10 35 31.3	-0.5
BVAR	**Borovoye Array**	**49.76**	**341**	P	P	10 35 48.2	-3.1
	3.6nm,0.9s,baz=180,slow=4.4,SNR=4.1						
BRTR	**Keskin Array B**	**63.22**	**311**	P	P	10 37 24.7	-2.7
	1.8nm,0.9s,baz=111,slow=7.9,SNR=3.5						
AKASG	**Malin Array Be**	**68.96**	**322**	P	P	10 38 01.2	-2.5
	4.0nm,0.9s,baz=92,slow=4.7,SNR=5.3						
FINES	**FINESS Array B**	**73.51**	**332**	P	P	10 38 29.4	-1.3
	4.1nm,0.8s,baz=117,slow=8.5,SNR=4.5						
NOA	**NORSAR Array B**	**80.53**	**331**	P	P	10 39 10.0	+0.1
	2.9nm,0.8s,baz=116,slow=3.8,SNR=3.4						

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*IDC **27** 10:27:58.3±1.1, 7.98N×94.20E, mb4.0/7, mb1 4.2/8, mb1mx4.0/17, mbtmp4.0/8, ML4.3/1, Error ellipse: s-maj=61.1km s-min=23.9km az=49.0*
ISC 27 10:28:00.9±0.9, 7.8N±0.1×94.1E±0.2, h33km, n9, σ0°92/8, mb4.0/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.63**	**24**	Pn	P	10 30 48.2	+0.5
	0.7nm,0.3s,baz=211,slow=14,SNR=3.7						
SONM	**Songino Array**	**41.28**	**13**	P	P	10 35 43.2	-1.6
	1.3nm,0.9s,mb3.5,baz=194,slow=5.9,SNR=2.3						
WRA	**Warramunga Arr**	**48.26**	**125**	P	P	10 36 40.2	-0.9
	0.7nm,0.5s,mb4.0,baz=305,slow=8.6,SNR=2.7						
ASAR	**Alice Springs**	**49.90**	**130**	P	P	10 36 54.5	+0.8
	1.0nm,0.8s,mb3.9,baz=292,slow=4.9,SNR=2.5						
BRTR	**Keskin Array B**	**62.44**	**311**	P	P	10 38 22.2	-1.1
	1.2nm,0.8s,mb4.1,baz=40,slow=35,SNR=3.0						
FINES	**FINESS Array B**	**72.77**	**332**	P	P	10 39 28.1	+0.5
	7.1nm,1.1s,mb4.5,baz=117,slow=3.1,SNR=4.2						
ARCES	**ARCESS Array B**	**75.34**	**340**	P	P	10 39 43.0	+0.7
	3.0nm,0.9s,mb4.2,baz=90,slow=6.3,SNR=4.8						
NOA	**NORSAR Array B**	**79.79**	**331**	P	P	10 40 08.2	+1.0
	1.3nm,0.7s,mb4.0,baz=97,slow=5.2,SNR=3.1						
PLCA	**Paso Flores**	**144.43**	**200**	PKP	PKPdf	10 47 39.1	+5.0
	3.5nm,0.9s,baz=176,slow=12,SNR=4.1						

IDC 27 10:29:26.4±1.2, 7.44N×93.64E, mb4.2/9, mb1 4.4/10, mb1mx4.2/18, mbtmp4.2/10, ML3.9/1, Error ellipse: s-maj=51.6km s-min=26.0km az=52.0, Putative timing error on GERES, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.11**	**25**	Pn	P	10 32 21.5	-1.8
	0.2nm,0.3s,baz=213,slow=15,SNR=3.3						
ZAL	**Zalesovo**	**46.91**	**353**	P	P	10 37 58.2	-2.2
	3.4nm,0.4s,baz=298,slow=8.8,SNR=4.4						
WRA	**Warramunga Arr**	**48.42**	**125**	P	P	10 38 10.3	-2.4
	1.6nm,0.5s,baz=304,slow=8.5,SNR=5.5						
BVAR	**Borovoye Array**	**49.24**	**342**	P	P	10 38 14.9	-3.7
	0.9nm,0.6s,baz=243,slow=45,SNR=3.3						
BRTR	**Keskin Array B**	**62.33**	**311**	P	P	10 39 51.2	-2.0
	0.8nm,0.5s,baz=104,slow=5.9,SNR=3.1						
AKASG	**Malin Array Be**	**68.18**	**322**	P	P	10 40 28.1	-2.7
	2.1nm,0.8s,baz=88,slow=4.9,SNR=4.2						
FINES	**FINESS Array B**	**72.86**	**332**	P	P	10 40 57.2	-1.6
	3.8nm,0.8s,baz=153,slow=9.3,SNR=4.4						
ARCES	**ARCESS Array B**	**75.50**	**340**	P	P	10 41 14.2	+0.2
	2.3nm,0.9s,baz=117,slow=4.0,SNR=4.3						
GERES	**GERESS Array B**	**77.81**	**318**	P	P	10 41 16.3	-11
	1.7nm,0.8s,baz=90,slow=6.7,SNR=4.3						
NOA	**NORSAR Array B**	**79.86**	**331**	P	P	10 41 36.5	-1.7
	2.9nm,0.8s,baz=94,slow=5.5,SNR=3.5						
PDAR	**Pinedale Array**	**125.75**	**21**	PKP	PKPdf	10 48 29.8	-2.6
	0.7nm,0.8s,slow=1.5,SNR=4.4						
TXAR	**Lajitas Array**	**139.82**	**24**	PKP	PKPdf	10 48 58.5	-0.6
	1.0nm,1.1s,baz=356,slow=1.6,SNR=3.6						
PLCA	**Paso Flores**	**143.97**	**201**	PKP	PKPdf	10 49 05.5	-0.5
	5.3nm,0.8s,baz=182,slow=4.7,SNR=7.2						

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*IDC **27** 10:34:04.7±0.9, 7.84N×94.02E, mb3.9/10, mb1 4.1/11, mb1mx4.0/17, mbtmp3.9/11, ML3.9/1, Error ellipse: s-maj=40.6km s-min=20.2km az=53.0, Putative timing error at GERES*
ISC 27 10:34:08.0±0.9, 7.9N±0.1×94.2E±0.2, h33km, n15, σ0°67/12, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.46**	**23**	Pn	P	10 36 52.1	-0.4
	0.2nm,0.3s,baz=210,slow=12,SNR=3.4						
SONM	**Songino Array**	**41.11**	**13**	P	P	10 41 50.1	-0.4
	0.9nm,0.8s,mb3.5,baz=202,slow=6.7,SNR=4.7						
ZAL	**Zalesovo**	**46.50**	**352**	P	P	10 42 35.1	+1.2
	2.1nm,0.6s,mb4.2,baz=296,slow=8.4,SNR=8.3						
WRA	**Warramunga Arr**	**48.28**	**126**	P	P	10 42 48.3	0.0
	0.9nm,0.6s,mb4.0,baz=303,slow=9.0,SNR=6.7						
ASAR	**Alice Springs**	**49.93**	**130**	P	P	10 43 01.1	0.0
	0.8nm,0.9s,mb3.8,baz=314,slow=7.2,SNR=4.9						
BRTR	**Keskin Array B**	**62.41**	**311**	P	P	10 44 29.3	-0.9
	1.2nm,0.9s,mb4.0,baz=112,slow=7.8,SNR=3.2						
AKASG	**Malin Array Be**	**68.12**	**322**	P	P	10 45 06.0	-0.8
	1.0nm,0.7s,mb4.0,baz=87,slow=5.1,SNR=3.2						
FINES	**FINESS Array B**	**72.67**	**332**	P	P	10 45 35.0	+1.0
	2.1nm,0.8s,mb4.1,baz=90,slow=5.7,SNR=4.0						
ARCES	**ARCESS Array B**	**75.22**	**340**	P	P	10 45 48.5	-0.3
	1.7nm,0.9s,mb4.0,baz=68,slow=6.5,SNR=4.6						
GERES	**GERESS Array B**	**77.80**	**318**	P	P	10 45 54.9	-8.9
	1.2nm,0.9s,mb3.8,baz=63,slow=3.0,SNR=4.0						
NB2	**NORSAR Subarra**	**79.70**	**331**	P	P	10 46 14.2	+0.4
	4.4nm,1.1s,mb4.3,baz=93,slow=5.6						
NOA	**NORSAR Array B**	**79.70**	**331**	P	P	10 46 14.7	+0.9
	1.8nm,0.9s,mb4.0,baz=90,slow=6.0,SNR=3.6						
PDAR	**Pinedale Array**	**125.11**	**21**	PKP	PKPdf	10 53 08.4	+2.8
	3.0nm,1.3s,slow=0.9,SNR=3.6						
TXAR	**Lajitas Array**	**139.17**	**24**	PKP	PKPdf	10 53 34.8	+2.5
	0.2nm,0.5s,baz=89,slow=1.6,SNR=4.3						
PLCA	**Paso Flores**	**144.60**	**200**	PKP	PKPdf	10 53 43.0	+1.5
	1.7nm,0.7s,baz=196,slow=12,SNR=3.9						

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*IDC **27** 10:35:28.9±0.8, 7.68N×93.84E, mb4.3/11, mb1 4.5/12, mb1mx4.4/17, mbtmp4.2/12, Error ellipse: s-maj=38.9km s-min=18.5km az=54.0, Putative timing error at GERES*
*BJI **27** 10:35:32.9, 7.55N×93.58E, h45km, mb4.7*
*NEIC **27** 10:35:33.6±0.6, 7.66N×93.89E, h30km, mb4.6/10, Error ellipse: s-maj=18.3km s-min=11.5km az=68.0*
ISC 27 10:35:31.4±0.6, 7.66N±0.09×94.0E±0.1, h30km, n31, σ0°79/27, mb4.4/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.78**	**24**	Pn	P	10 38 19.7	-0.9
	baz=211,slow=14,SNR=2.4						
HYB	**Hyderabad**	**17.88**	**304**	*eP*	P	10 39 44.0	+4.3
HYB	**Hyderabad**	**17.88**	**304**	*i P*	P	10 39 44.0	+4.3
KMI	**Kunming**	**19.29**	**25**	P	P	10 39 59.3	+2.5
	20nm,1.4s						
LSA	**Lhasa**	**22.08**	**353**	*eP*	P	10 40 19.3	-6.4
	25nm,0.7s,mb4.8						
ENH	**Enshi**	**26.80**	**31**	*eP*	P	10 41 10.4	-0.5
	13nm,1.0s,mb4.4						
AAK	**Ala-Archa**	**38.83**	**337**	*eP*	P	10 42 55.9	+0.4
	6.3nm,0.9s,mb4.3						
SONM	**Songino Array**	**41.41**	**13**	P	P	10 43 16.9	+0.2
	1.8nm,0.8s,mb3.8,baz=198,slow=7.8,SNR=7.0						
SONM				PcP	PcP	10 45 13.4	-1.7
	2.2nm,1.1s,baz=218,slow=3.7,SNR=3.8						
ULN	**Ulaanbaatar**	**41.58**	**13**	*eP*	P	10 43 17.8	-0.4
	3.9nm,1.3s,mb3.9						
KURK	**Kurchatov**	**44.77**	**346**	*eP*	P	10 43 44.2	+0.1
	26nm,1.4s,mb4.9						
ZAL	**Zalesovo**	**46.73**	**353**	P	P	10 44 00.5	+0.9
	4.3nm,0.8s,mb4.4,baz=304,slow=6.6,SNR=8.7						
ZAL	**Zalesovo**	**46.73**	**353**	P	P	10 44 00.5	+0.9
WRA	**Warramunga Arr**	**48.29**	**125**	P	P	10 44 12.5	+0.2
	1.8nm,0.6s,mb4.3,baz=302,slow=9.1,SNR=7.7						
WRAB	**Tennant Creek**	**48.29**	**125**	*eP*	P	10 44 11.5	-0.8
	46nm,1.7s,mb5.2						
ASAR	**Alice Springs**	**49.92**	**130**	P	P	10 44 25.1	+0.3
	2.1nm,0.9s,mb4.2,baz=304,slow=7.0,SNR=7.2						
ASAR				PcP	PcP	10 45 46.0	+1.1
	1.3nm,0.9s,baz=308,slow=3.8,SNR=4.9						
KMBO	**Kilima Mbogo**	**57.22**	**264**	*eP*	P	10 45 24.6	+5.8
	11nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**60.09**	**134**	*eP*	P	10 45 39.0	+0.5
BRTR	**Keskin Array B**	**62.43**	**311**	P	P	10 45 53.3	-0.9
	1.5nm,0.5s,mb4.4,baz=121,slow=6.3,SNR=6.2						
AKASG	**Malin Array Be**	**68.20**	**322**	P	P	10 46 30.1	-1.1
	0.7nm,0.4s,mb4.0,baz=89,slow=5.1,SNR=5.7						
FINES	**FINESS Array B**	**72.81**	**332**	P	P	10 46 59.4	+0.5
	2.2nm,0.6s,mb4.3,baz=108,slow=6.0,SNR=8.3						
ARCES	**ARCESS Array B**	**75.40**	**340**	P	P	10 47 13.8	+0.1
	5.0nm,1.0s,mb4.4,baz=90,slow=4.9,SNR=7.4						
GERES	**GERESS Array B**	**77.86**	**318**	P	P	10 47 19.5	-8.4
	2.5nm,0.8s,mb4.2,baz=104,slow=5.5,SNR=6.6						
NB2	**NORSAR Subarra**	**79.82**	**331**	P	P	10 47 38.4	+0.1
	2.7nm,0.7s,mb4.3,baz=91,slow=5.6						
NOA	**NORSAR Array B**	**79.82**	**331**	P	P	10 47 37.5	-0.8
	1.6nm,0.6s,mb4.1,baz=94,slow=5.1,SNR=4.3						
NOA	**NORSAR Array B**	**79.82**	**331**	P	P	10 47 37.5	-0.8
LPG	**La Plagne**	**82.64**	**315**	*eP*	P	10 47 54.2	+0.8
	7.7nm,0.7s,mb4.5						
ILAR	**Eielson Array**	**95.01**	**22**	P	P	10 48 51.5	-0.6
	0.7nm,1.0s,mb4.0,baz=284,slow=3.4,SNR=4.0						
NVAR	**Mina Array Bea**	**125.19**	**31**	PKP	PKPdf	10 54 33.9	-0.9
	0.9nm,0.8s,baz=262,slow=5.4,SNR=4.4						
PDAR	**Pinedale Array**	**125.43**	**21**	PKP	PKPdf	10 54 33.8	-1.3
	1.0nm,0.8s,slow=1.5,SNR=6.0						
TXAR	**Lajitas Array**	**139.49**	**24**	PKP	PKPdf	10 55 00.9	-1.0
	0.3nm,0.6s,baz=225,slow=1.8,SNR=4.5						
PLCA	**Paso Flores**	**144.29**	**200**	PKP	PKPdf	10 55 07.9	-2.1
	9.1nm,1.0s,baz=152,slow=4.4,SNR=9.6						

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*IDC **27** 10:42:32.2±0.6, 7.96N×94.30E, mb4.3/18, mb1 4.4/19, mb1mx4.4/22, mbtmp4.3/19, ML4.1/1, Error ellipse: s-maj=25.4km s-min=14.7km az=52.0, Putative timing error at GERES*
*NEIC **27** 10:42:36.9±0.4, 7.91N×94.20E, h30km, mb4.7/20, MS4.3/1, Error ellipse: s-maj=11.2km s-min=9.0km az=56.0*
*BJI **27** 10:42:37.0, 7.60N×93.98E, h51km, mB5.2, mb4.6, Ms4.8, Msz4.1*
ISC 27 10:42:35.7±0.4, 7.92N±0.06×94.17E±0.07, h33km, n68, σ1°24/61, mb4.6/43, MS4.3/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.46**	**23**	*eP*	P	10 45 21.6	+1.5
	20nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.46**	**23**	Pn	P	10 45 17.9	-2.2
	0.4nm,0.3s,baz=211,slow=14,SNR=19						
HYB	**Hyderabad**	**17.91**	**303**	*eP*	P	10 46 42.0	-2.1
HYB	**Hyderabad**	**17.91**	**303**	*i P*	P	10 46 42.0	-2.1
KMI	**Kunming**	**18.96**	**25**	P	P	10 47 00.6	+3.6
	28nm,1.4s						
JIRN	**Jiri**	**21.04**	**340**	*eP*	P	10 47 18.3	-0.9
	152nm,1.2s,mb5.2						
PKI	**Pulchoki**	**21.23**	**338**	*eP*	P	10 47 21.3	+0.1
	56nm,0.6s,mb5.1						
GUN	**Gumba**	**21.38**	**339**	*eP*	P	10 47 20.6	-2.0
	117nm,0.8s,mb5.2						
DMN	**Daman**	**21.38**	**337**	*eP*	P	10 47 22.4	-0.3
	70nm,0.7s,mb5.1						
KKN	**Kakani**	**21.48**	**338**	*eP*	P	10 47 23.0	-0.6
	39nm,0.7s,mb4.9						
LSA	**Lhasa**	**21.85**	**353**	*eP*	P	10 47 30.5	+3.2
LSA	**Lhasa**	**21.85**	**353**	*eP*	P	10 47 26.6	-0.7
	52nm,0.7s,mb5.1						
GKN	**Gorkha**	**21.92**	**337**	*eP*	P	10 47 25.3	-2.7
	86nm,0.7s,mb5.3						
KOLN	**Koldanda**	**22.13**	**334**	*eP*	P	10 47 28.7	-1.5
	80nm,0.8s,mb5.2						
ENH	**Enshi**	**26.46**	**31**	*eP*	P	10 48 12.4	+0.5
	23nm,1.0s,mb4.7						
WHN	**Wuhan**	**29.38**	**37**	*eP*	P	10 48 40.0	+1.8
LZH	**Lanzhou**	**29.39**	**16**	*eP*	P	10 48 38.5	+0.2
LZH				AMB	AMB		
	comp=Z,14nm,1.5s,mb4.5						
LZH	**Lanzhou**	**29.39**	**16**	*eP*	P	10 48 38.5	+0.2
	comp=Z,14nm,1.5s,mb4.5						
LZH				pP	pP	10 48 44.1	-3.7
LZH				sP	sP	10 48 46.9	-5.3
NJ2	**Nanjing**	**33.21**	**40**	*eP*	P	10 49 12.0	+0.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
WMQ	**Urumqi**	**36.21**	**352**	*eP*	P	10 49 38.3	+0.9
BJI	**Beijing**	**37.55**	**28**	P	P	10 49 51.4	+2.7
	comp=Z,9.0nm,1.4s,mb4.3						
BJI				LR	LR		
	comp=Z,450nm,18.3s,MS4.3						
AAK	**Ala-Archa**	**38.67**	**337**	*eP*	P	10 49 57.8	-0.2
	comp=Z,6.3nm,0.7s,mb4.5						
SONM	**Songino Array**	**41.11**	**13**	P	P	10 50 18.2	0.0
	comp=Z,2.5nm,1.0s,mb3.8,baz=198,slow=7.8,SNR=8.6						
SONM				PcP	PcP	10 52 18.2	+0.3
	comp=Z,0.6nm,0.6s,baz=209,slow=5.6,SNR=2.8						
ULN	**Ulaanbaatar**	**41.28**	**13**	*eP*	P	10 50 20.2	+0.6
	comp=Z,3.9nm,1.0s,mb4.0						
KURK	**Kurchatov**	**44.57**	**346**	*eP*	P	10 50 45.2	-1.2
	comp=Z,15nm,0.9s,mb4.8						
NWAO	**Narrogin (SRO)**	**46.17**	**153**	P	P	10 50 59.5	+0.1
	comp=Z,12nm,0.9s,mb4.8,baz=325,slow=9.3,SNR=3.8						
NWAO	**Narrogin (SRO)**	**46.17**	**153**	P	P	10 50 59.5	+0.1
HIA	**Hailar**	**46.47**	**23**	*eP*	P	10 51 01.8	+0.4
	comp=Z,11nm,1.0s,mb4.8						
ZAL	**Zalesovo**	**46.51**	**352**	P	P	10 51 01.5	-0.2
	comp=Z,2.8nm,0.4s,mb4.5,baz=288,slow=7.7,SNR=8.3						
WRA	**Warramunga Arr**	**48.26**	**126**	P	P	10 51 14.2	-1.7
	comp=Z,3.0nm,1.0s,mb4.3,baz=305,slow=8.9,SNR=8.1						
WRAB	**Tennant Creek**	**48.27**	**126**	*eP*	P	10 51 15.3	-0.7
	comp=Z,30nm,1.4s,mb5.1						
BVAR	**Borovoye Array**	**48.96**	**341**	P	P	10 51 19.2	-1.6
	comp=Z,1.6nm,0.6s,mb4.2,baz=124,slow=16,SNR=8.2						
RAYN	**Ar Rayn**	**49.10**	**294**	P	P	10 51 24.2	+1.9
	comp=Z,105nm,0.8s,SNR=17						
CHKZ	**Chkalovo**	**49.44**	**342**	*eP*	P	10 51 19.2	-5.3
	comp=Z,12nm,0.8s,mb5.0						
ASAR	**Alice Springs**	**49.92**	**130**	P	P	10 51 26.4	-2.3
	comp=Z,2.3nm,0.9s,mb4.2,baz=306,slow=6.8,SNR=11						
KMBO	**Kilima Mbogo**	**57.46**	**264**	P	P	10 52 26.1	+1.7
	comp=Z,5.2nm,1.0s,mb4.5,baz=48,slow=13,SNR=7.9						
ASF	**Jabal al Asfar**	**58.22**	**303**	P	P	10 52 30.2	+0.8
	comp=Z,1.0nm,0.3s,mb4.3,baz=124,slow=7.3,SNR=3.0						
MALT	**Malatya**	**58.46**	**310**	P	P	10 52 30.4	-0.5
	comp=Z,5.0nm,1.1s,mb4.5						
EIL	**Elat**	**59.43**	**300**	P	P	10 52 38.4	+0.5
	comp=Z,4.8nm,1.0s,mb4.5,baz=84,slow=9.2,SNR=2.3						
STKA	**Stephens Creek**	**60.11**	**134**	P	P	10 52 41.8	-0.7
	comp=Z,6.6nm,1.2s,mb4.5,baz=293,slow=9.6,SNR=3.8						
BRTR	**Keskin Array B**	**62.42**	**311**	P	P	10 52 56.8	-1.2
	comp=Z,4.1nm,0.8s,mb4.6,baz=126,slow=6.4,SNR=8.2						
MBAR	**Mbarara**	**63.80**	**265**	*eP*	P	10 53 08.4	+0.9
	comp=Z,9.8nm,1.3s,mb4.7						
MA2	**Magadan**	**66.71**	**28**	*eP*	P	10 53 25.5	0.0
	comp=Z,12nm,0.9s,mb4.9						
AKASG	**Malin Array Be**	**68.14**	**322**	P	P	10 53 33.2	-1.3
	comp=Z,2.8nm,0.7s,mb4.4,baz=91,slow=4.8,SNR=6.5						
JOF	**Joensuu**	**70.82**	**334**	*ep*	P	10 53 50.6	-0.2
	comp=Z,6.8nm,0.8s,mb4.6						
KOLS	**Kolonicke sedl**	**72.19**	**319**	*eP*	pP	10 54 06.4	-3.1
KOLS	**Kolonicke sedl**	**72.19**	**319**	*e*	pP	10 54 06.4	-3.1
FINES	**FINESS Array B**	**72.69**	**332**	P	P	10 54 01.9	0.0
	comp=Z,6.6nm,0.7s,mb4.7,baz=90,slow=5.7,SNR=7.9						
CRVS	**Cervenica-Dubn**	**72.72**	**319**	*i P*	P	10 54 04.7	+2.4
KAF	**Kangasniemi**	**72.77**	**333**	*ep*	P	10 53 55.0	-7.4
VYHS	**Vyhne**	**74.39**	**318**	*i*	P	10 54 18.3	+6.2
ARCES	**ARCESS Array B**	**75.23**	**340**	P	P	10 54 16.4	-0.2
	comp=Z,4.8nm,0.9s,mb4.4,baz=54,slow=7.8,SNR=3.7						
BRG	**Berggiesshubel**	**77.74**	**320**	*i P*	P	10 54 33.1	+2.0
	comp=Z,9.6nm,1.0s,mb4.7						
BRG				*i*		10 54 37.2	
GERES	**GERESS Array B**	**77.81**	**318**	P	P	10 54 21.7	-10
	comp=Z,2.3nm,0.8s,mb4.2,baz=90,slow=5.3,SNR=7.9						
CLL	**Collm**	**78.35**	**321**	P	P	10 54 36.0	+1.6
GRA1	**Grafenberg Arr**	**79.45**	**319**	*eP*	P	10 54 41.9	+1.4
	comp=Z,12nm,1.3s,mb4.7						
GRF	**Grafenberg Arr**	**79.45**	**319**	*eP*	P	10 54 41.9	+1.4
	comp=Z,12nm,1.3s,mb4.7						
NB2	**NORSAR Subarra**	**79.71**	**331**	P	P	10 54 40.8	-0.8
	comp=Z,4.2nm,0.7s,mb4.5,baz=95,slow=5.0						
NOA	**NORSAR Array B**	**79.71**	**331**	P	P	10 54 40.6	-1.0
	comp=Z,7.0nm,1.2s,mb4.5,baz=97,slow=5.5,SNR=4.2						
LPG	**La Plagne**	**82.61**	**315**	*eP*	P	10 54 58.2	+1.1
	comp=Z,18nm,0.7s,mb4.9						
ILAR	**Eielson Array**	**94.69**	**22**	P	P	10 55 54.6	+0.2
	comp=Z,0.2nm,0.7s,mb3.7,baz=315,slow=5.1,SNR=3.7						
INK	**Inuvik**	**96.94**	**16**	P	P	10 56 05.6	+0.9
	comp=Z,4.3nm,1.3s,mb4.7,baz=282,slow=3.5,SNR=3.0						
INK	**Inuvik**	**96.94**	**16**	P	P	10 56 05.6	+0.9
NVAR	**Mina Array Bea**	**124.86**	**31**	PKP	PKPdf	11 01 33.7	+0.7
	comp=Z,0.9nm,0.8s,baz=342,slow=2.9,SNR=4.4						
PDAR	**Pinedale Array**	**125.11**	**21**	PKP	PKPdf	11 01 34.9	+1.6
	comp=Z,0.9nm,0.8s,baz=90,slow=0.9,SNR=5.2						
TXAR	**Lajitas Array**	**139.17**	**24**	PKP	PKPdf	11 02 01.9	+1.8
	comp=Z,0.4nm,0.8s,baz=2.4,slow=1.9,SNR=4.8						
PLCA	**Paso Flores**	**144.60**	**200**	PKP	PKPdf	11 02 10.3	+1.1
	comp=Z,5.9nm,0.9s,baz=116,slow=3.8,SNR=7.5						
PLCA	**Paso Flores**	**144.60**	**200**	PKP	PKPdf	11 02 10.3	+1.0

IDC 27 10:46:53.9±1.5, 7.62N×93.70E, mb3.8/6, mb1 4.0/7, mb1mx3.8/17, mbtmp3.8/7, Error ellipse: s-maj=46.4km s-min=29.5km az=51.0, Putative timing error at GERES, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.91**	**25**	Pn	P	10 49 47.1	-1.1
	baz=214,slow=13,SNR=3.6						
SONM	**Songino Array**	**41.50**	**13**	P	P	10 54 42.2	-2.2
	0.4nm,0.7s,baz=198,slow=9.1,SNR=3.1						
ZAL	**Zalesovo**	**46.74**	**353**	P	P	10 55 24.9	-1.7
	1.1nm,0.6s,baz=304,slow=4.7,SNR=3.0						
WRA	**Warramunga Arr**	**48.47**	**125**	P	P	10 55 38.8	-1.8
	0.

IDC 27 10:48:22.2±3.1, 22.16N×46.49W, mb3.6/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=109.5km s-min=31.9km az=31.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**42.99**	**105**	P	P	10 56 23.4	-1.9
	1.2nm,0.5s,baz=302,slow=9.5,SNR=4.3						
YKA	**Yellowknife Ar**	**60.49**	**330**	P	P	10 58 33.5	-2.5
	0.3nm,0.9s,baz=88,slow=7.6,SNR=5.8						
AKASG	**Malin Array Be**	**64.22**	**43**	P	P	10 58 59.2	-1.9
	0.5nm,0.5s,baz=279,slow=5.7,SNR=4.4						
ILAR	**Eielson Array**	**74.50**	**334**	P	P	11 00 02.4	-1.6
	0.5nm,0.8s,baz=56,slow=4.4,SNR=5.4						

IDC 27 10:49:39.5±9.7, 9.14N×93.88E, mb4.1/3, mb1 4.1/4, mb1mx3.7/17, mbtmp4.0/4, Error ellipse: s-maj=228.3km s-min=54.9km az=147.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.49**	**27**	Pn	P	10 52 10.7	-3.6
	baz=215,slow=14,SNR=4.0						
BRTR	**Keskin Array B**	**61.41**	**310**	P	P	10 59 56.9	-3.1
	0.3nm,0.3s,baz=117,slow=8.3,SNR=4.2						
FINES	**FINESS Array B**	**71.48**	**332**	P	P	11 01 02.2	-1.5
	2.3nm,0.8s,baz=104,slow=7.9,SNR=3.8						
NB2	**NORSAR Subarra**	**78.51**	**330**	P	P	11 01 42.4	-1.5
	0.9nm,0.6s,baz=94,slow=5.3						
NOA	**NORSAR Array B**	**78.51**	**330**	P	P	11 01 43.2	-0.7
	1.2nm,0.7s,baz=91,slow=5.9,SNR=3.7						

*IDC **27** 10:50:10.4±0.7, 7.87N×93.83E, mb4.4/17, mb1 4.5/18, mb1mx4.5/21, mbtmp4.4/18, ML4.3/1, Error ellipse: s-maj=34.4km s-min=13.6km az=55.0, Putative timing error at GERES*
*BJI **27** 10:50:13.5, 7.50N×93.81E, h51km, mB5.2, mb4.7, Ms4.7, Msz4.2*
*NEIC **27** 10:50:15.1±0.4, 7.85N×93.88E, h30km, mb4.8/15, Error ellipse: s-maj=12.9km s-min=7.3km az=67.0*
ISC 27 10:50:14.5±0.5, 7.95N±0.07×94.18E±0.06, h33km, n56, σ1§33/51, mb4.7/38, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.43**	**23**	P	P	10 52 59.2	+0.7
	24nm,1.0s						
CMAR	**Chiang Mai Arr**	**11.43**	**23**	Pn	P	10 52 59.5	+1.0
	0.6nm,0.3s,baz=211,slow=14,SNR=9.3						
HYB	**Hyderabad**	**17.90**	**303**	*eP*	P	10 54 25.0	+2.3
HYB				*eS*	S	10 57 40.0	+1.6
HYB	**Hyderabad**	**17.90**	**303**	*i* P	P	10 54 25.0	+2.3
HYB				*eS*	S	10 57 40.0	+1.6
JIRN	**Jiri**	**21.01**	**340**	*eP*	P	10 54 57.5	-0.2
	112nm,1.1s,mb5.1						
PKI	**Pulchoki**	**21.21**	**338**	*eP*	P	10 55 00.3	+0.6
	106nm,1.0s,mb5.1						
GUN	**Gumba**	**21.35**	**339**	*eP*	P	10 55 00.0	-1.1
	85nm,0.8s,mb5.2						
DMN	**Daman**	**21.36**	**337**	*eP*	P	10 55 01.9	+0.7
	83nm,0.9s,mb5.1						
KKN	**Kakani**	**21.45**	**338**	*eP*	P	10 55 02.1	-0.1
	77nm,1.0s,mb5.0						
LSA	**Lhasa**	**21.82**	**353**	*eP*	P	10 55 08.8	+3.0
LSA	**Lhasa**	**21.82**	**353**	*eP*	P	10 55 07.8	+2.0
	35nm,0.9s,mb4.8						
GKN	**Gorkha**	**21.89**	**337**	*eP*	P	10 55 04.4	-2.1
	190nm,1.2s,mb5.4						
KOLN	**Koldanda**	**22.11**	**334**	*eP*	P	10 55 07.8	-0.9
	188nm,1.3s,mb5.4						
POO	**Poona**	**22.38**	**300**	*eP*	P	10 55 13.5	+2.1
NDI	**New Delhi**	**26.09**	**324**	*e*	P	10 55 51.0	+3.7
WHN	**Wuhan**	**29.36**	**37**	P	P	10 56 18.0	+1.3
NJ2	**Nanjing**	**33.19**	**40**	*eP*	P	10 56 51.0	+0.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
BJI	**Beijing**	**37.52**	**28**	*eP*	P	10 57 29.6	+2.3
	comp=Z,6.0nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**38.65**	**337**	*eP*	P	10 57 36.7	+0.1
	comp=Z,9.3nm,1.0s,mb4.5						
SONM	**Songino Array**	**41.08**	**13**	P	P	10 57 56.8	+0.1
	comp=Z,2.8nm,0.8s,mb3.9,baz=195,slow=5.9,SNR=8.8						
SONM				PcP	PcP	10 59 56.9	+0.2
	comp=Z,3.8nm,1.1s,baz=197,slow=4.9,SNR=3.8						
ULN	**Ulaanbaatar**	**41.26**	**13**	*eP*	P	10 57 57.6	-0.6
	comp=Z,4.0nm,0.9s,mb4.0						
KURK	**Kurchatov**	**44.55**	**346**	*eP*	P	10 58 23.3	-1.7
	comp=Z,14nm,1.1s,mb4.7						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	P	P	10 58 37.9	-0.5
	comp=Z,22nm,1.1s,mb5.0,baz=324,slow=9.2,SNR=5.0						
ZAL	**Zalesovo**	**46.48**	**352**	P	P	10 58 38.8	-1.5
	comp=Z,4.3nm,0.6s,mb4.6,baz=296,slow=8.0,SNR=8.0						
ZAL				PcP	PcP	11 00 05.4	-10
	comp=Z,3.2nm,0.6s,baz=326,slow=6.2,SNR=3.6						
WRA	**Warramunga Arr**	**48.28**	**126**	P	P	10 58 54.1	-0.7
	comp=Z,5.0nm,0.8s,mb4.6,baz=305,slow=9.2,SNR=16						
WRAB	**Tennant Creek**	**48.28**	**126**	*eP*	P	10 58 54.5	-0.3
	comp=Z,14nm,1.0s,mb5.0						
BVAR	**Borovoye Array**	**48.93**	**341**	P	P	10 58 57.5	-1.8
	comp=Z,2.6nm,0.8s,mb4.3,baz=153,slow=6.6,SNR=6.8						
BVAR				PcP	PcP	11 00 22.2	-1.5
	comp=Z,0.8nm,0.6s,baz=135,slow=4.2,SNR=3.6						
BRVK	**Borovoye**	**48.99**	**341**	*eP*	P	10 58 58.2	-1.6
	comp=Z,7.0nm,1.1s,mb4.6						
CHKZ	**Chkalovo**	**49.41**	**342**	*eP*	P	10 59 00.8	-2.3
	comp=Z,17nm,1.1s,mb5.0						
ASAR	**Alice Springs**	**49.94**	**130**	P	P	10 59 07.8	+0.3
	comp=Z,5.0nm,0.9s,mb4.5,baz=308,slow=7.5,SNR=16						
ASAR				PcP	PcP	11 00 28.5	+0.8
	comp=Z,3.0nm,0.8s,baz=308,slow=4.0,SNR=8.9						
PMG	**Port Moresby**	**55.52**	**107**	P	P	10 59 50.8	+1.6
	comp=Z,12nm,0.7s,mb5.0,baz=285,slow=22,SNR=5.4						
PMG	**Port Moresby**	**55.52**	**107**	*eP*	P	10 59 50.5	+1.3
	comp=Z,48nm,1.3s,mb5.4						
KMBO	**Kilima Mbogo**	**57.47**	**264**	P	P	11 00 05.7	+2.5
	comp=Z,5.3nm,0.9s,mb4.6,baz=46,slow=12,SNR=11						
KMBO	**Kilima Mbogo**	**57.47**	**264**	*eP*	P	11 00 06.2	+3.0
STKA	**Stephens Creek**	**60.13**	**134**	P	P	11 00 21.0	-0.4
	comp=Z,6.3nm,0.9s,mb4.6,baz=317,slow=7.5,SNR=5.5						
BRTR	**Keskin Array B**	**62.41**	**311**	P	P	11 00 34.2	-2.4
	comp=Z,1.9nm,0.7s,mb4.3,baz=132,slow=6.7,SNR=6.9						
MA2	**Magadan**	**66.68**	**28**	P	P	11 01 05.8	+1.8
	comp=Z,15nm,1.0s,mb5.0						
AKASG	**Malin Array Be**	**68.12**	**322**	P	P	11 01 10.5	-2.7
	comp=Z,1.6nm,0.6s,mb4.2,baz=87,slow=5.1,SNR=6.9						
FINES	**FINESS Array B**	**72.66**	**332**	P	P	11 01 39.8	-0.7
	comp=Z,4.4nm,0.7s,mb4.5,baz=90,slow=3.8,SNR=8.3						
KAF	**Kangasniemi**	**72.74**	**333**	*ep*	P	11 01 40.9	-0.1
	comp=Z,9.1nm,1.0s,mb4.7						
LBTB	**Lobatse**	**74.31**	**241**	*eP*	P	11 01 52.7	+1.7
	comp=Z,6.2nm,0.7s,mb4.7						
KEV	**Kevo**	**74.78**	**341**	*ep*	P	11 01 48.8	-3.9
	comp=Z,50nm,1.9s,mb5.1						
ARCES	**ARCESS Array B**	**75.21**	**340**	P	P	11 01 55.1	-0.1
	comp=Z,69nm,1.5s,mb5.4,baz=105,slow=3.6,SNR=6.0						
GERES	**GERESS Array B**	**77.79**	**318**	P	P	11 01 59.9	-10
	comp=Z,2.0nm,0.8s,mb4.1,baz=80,slow=8.1,SNR=7.9						
NB2	**NORSAR Subarra**	**79.68**	**331**	P	P	11 02 19.0	-1.3
	comp=Z,2.6nm,0.7s,mb4.3,baz=91,slow=5.6						
NOA	**NORSAR Array B**	**79.68**	**331**	P	P	11 02 19.0	-1.3
	comp=Z,4.7nm,0.9s,mb4.4,baz=93,slow=5.5,SNR=7.8						
LPG	**La Plagne**	**82.59**	**315**	*eP*	P	11 02 35.8	0.0
	comp=Z,13nm,0.7s,mb4.8						
ILAR	**Eielson Array**	**94.66**	**22**	P	P	11 03 32.7	-0.4
	comp=Z,0.6nm,0.8s,mb4.1,baz=289,slow=4.3,SNR=6.7						
INK	**Inuvik**	**96.91**	**16**	P	P	11 03 44.5	+1.2
	comp=Z,4.8nm,1.1s,mb4.8,baz=252,slow=3.2,SNR=5.7						
NVAR	**Mina Array Bea**	**124.84**	**31**	PKP	PKPdf	11 09 13.7	+2.1
	comp=Z,2.5nm,0.9s,baz=272,slow=3.6,SNR=8.6						
PDAR	**Pinedale Array**	**125.08**	**21**	PKP	PKPdf	11 09 14.0	+2.0
	comp=Z,2.0nm,0.9s,baz=90,slow=1.5,SNR=12						
MSU	**Marysvale**	**127.67**	**26**	*eP*	PKPdf	11 09 21.4	+4.2
TXAR	**Lajitas Array**	**139.14**	**24**	PKP	PKPdf	11 09 40.7	+1.9
	comp=Z,0.8nm,0.8s,baz=218,slow=1.0,SNR=6.8						
JCT	**Junction City**	**139.50**	**19**	*e*PKPdf	PKPdf	11 09 41.5	+2.0
PLCA	**Paso Flores**	**144.63**	**200**	PKP	PKPdf	11 09 49.7	+1.6
	comp=Z,8.8nm,0.9s,baz=168,slow=5.2,SNR=17						
PLCA	**Paso Flores**	**144.63**	**200**	PKP	PKPdf	11 09 49.7	+1.6

*IDC **27** 10:51:43.3±5.3, 7.96N×94.28E, h49km±49km, mb4.0/6, mb1 4.2/7, mb1mx3.9/17, mbtmp4.2/7, ML4.1/1, Error ellipse: s-maj=45.5km s-min=26.9km az=39.0, Putative timing error at GERES*
ISC 27 10:51:39.6±1.0, 7.9N±0.2×94.3E±0.2, h33km, n10, σ0§79/8, mb4.2/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.43**	**23**	P	P	10 54 23.7	+0.1
	0.4nm,0.3s,baz=220,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**48.19**	**126**	P	P	11 00 19.1	-0.2
	1.4nm,0.5s,mb4.3,baz=304,slow=8.5,SNR=5.9						
KMBO	**Kilima Mbogo**	**57.54**	**264**	P	P	11 01 29.2	+0.4
	3.4nm,0.9s,mb4.4,baz=44,slow=11,SNR=4.5						
BRTR	**Keskin Array B**	**62.49**	**311**	P	P	11 02 01.1	-1.3
	1.1nm,0.6s,mb4.2,baz=129,slow=7.9,SNR=3.5						
FINES	**FINESS Array B**	**72.73**	**332**	P	P	11 03 05.7	-0.4
	3.5nm,0.8s,mb4.3,baz=117,slow=8.5,SNR=4.2						
GERES	**GERESS Array B**	**77.87**	**318**	P	P	11 03 25.2	-11
	2.0nm,0.8s,mb4.1,baz=90,slow=4.0,SNR=4.7						
NB2	**NORSAR Subarra**	**79.75**	**331**	P	P	11 03 47.3	+1.6
	1.8nm,0.7s,mb4.1,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**79.75**	**331**	P	P	11 03 46.9	+1.2
	2.7nm,0.8s,mb4.3,baz=93,slow=5.7,SNR=4.7						
PDAR	**Pinedale Array**	**125.09**	**21**	PKP	PKPdf	11 10 38.7	+1.6
	0.5nm,0.8s,baz=90,slow=0.9,SNR=2.9						
PLCA	**Paso Flores**	**144.63**	**200**	PKP	PKPdf	11 11 14.9	+1.7
	4.9nm,0.9s,baz=193,slow=4.7,SNR=4.6						

*IDC **27** 10:53:59.1±1.1, 7.56N×93.87E, mb4.0/10, mb1 4.2/11, mb1mx4.1/18, mbtmp4.0/11, ML4.2/1, Error ellipse: s-maj=43.4km s-min=25.7km az=55.0, Putative timing error at GERES*
ISC 27 10:54:03.0±1.0, 7.8N±0.1×94.2E±0.2, h33km, n15, σ0§92/11, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.55**	**23**	Pn	P	10 56 48.8	+0.2
	0.5nm,0.3s,baz=216,slow=14,SNR=5.3						
SONM	**Songino Array**	**41.22**	**12**	P	P	11 01 50.0	+3.7
	1.2nm,0.8s,mb3.5,baz=202,slow=8.3,SNR=3.8						
ZAL	**Zalesovo**	**46.62**	**352**	P	P	11 02 30.2	+0.4
	2.3nm,0.5s,mb4.4,baz=282,slow=6.3,SNR=4.0						
WRA	**Warramunga Arr**	**48.17**	**126**	P	P	11 02 42.2	-0.2
	0.6nm,0.5s,mb3.9,baz=302,slow=9.1,SNR=5.4						
BVAR	**Borovoye Array**	**49.07**	**341**	P	P	11 02 48.8	-0.2
	1.7nm,0.8s,mb4.1,baz=170,slow=9.0,SNR=4.0						
KMBO	**Kilima Mbogo**	**57.47**	**264**	P	P	11 03 54.2	+2.5
	1.6nm,0.8s,mb4.1,baz=234,slow=23,SNR=3.6						
BRTR	**Keskin Array B**	**62.52**	**311**	P	P	11 04 24.7	-1.1
	1.4nm,0.9s,mb4.1,baz=90,slow=2.5,SNR=3.5						
FINES	**FINESS Array B**	**72.80**	**332**	P	P	11 05 29.4	-0.4
	2.7nm,0.8s,mb4.2,baz=106,slow=14,SNR=4.0						
ARCES	**ARCESS Array B**	**75.35**	**340**	P	P	11 05 44.7	+0.2
	1.3nm,0.7s,mb4.0,baz=90,slow=6.1,SNR=4.9						
GERES	**GERESS Array B**	**77.92**	**318**	P	P	11 05 49.7	-10
	0.9nm,0.8s,mb3.8,baz=297,slow=3.0,SNR=3.8						
NOA	**NORSAR Array B**	**79.82**	**331**	P	P	11 06 08.8	-0.6
	1.7nm,0.8s,mb4.0,baz=93,slow=5.5,SNR=3.5						
NVAR	**Mina Array Bea**	**124.95**	**31**	PKP	PKPdf	11 13 01.8	+1.4
	0.4nm,0.6s,baz=259,slow=4.6,SNR=3.2						
PDAR	**Pinedale Array**	**125.21**	**21**	PKP	PKPdf	11 13 02.7	+2.0
	0.6nm,0.8s,slow=3.0,SNR=4.1						
TXAR	**Lajitas Array**	**139.26**	**24**	PKP	PKPdf	11 13 30.2	+2.8
	0.2nm,0.6s,baz=207,slow=2.0,SNR=2.7						
PLCA	**Paso Flores**	**144.51**	**200**	PKP	PKPdf	11 13 38.6	+2.3
	4.0nm,0.9s,baz=71,slow=3.4,SNR=4.5						

*IDC **27** 10:54:35.8±1.2, 7.72N×93.84E, mb4.1/8, mb1 4.3/9, mb1mx4.1/17, mbtmp4.1/9, ML3.9/1, Error ellipse: s-maj=49.5km s-min=26.6km az=50.0, Putative timing error at GERES*
ISC 27 10:54:39.0±1.1, 7.8N±0.2×94.0E±0.2, h33km, n11, σ0§94/9, mb4.2/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.59**	**24**	Pn	P	10 57 25.0	-0.3
	0.2nm,0.3s,baz=219,slow=14,SNR=4.5						
ZAL	**Zalesovo**	**46.57**	**353**	P	P	11 03 04.8	-0.6
	3.6nm,0.7s,mb4.4,baz=300,slow=9.3,SNR=5.3						
WRA	**Warramunga Arr**	**48.34**	**125**	P	P	11 03 19.6	-0.2
	1.5nm,0.6s,mb4.2,baz=304,slow=8.5,SNR=5.2						
BRTR	**Keskin Array B**	**62.36**	**311**	P	P	11 04 59.7	-1.1
	0.9nm,0.5s,mb4.2,baz=127,slow=6.2,SNR=3.5						
AKASG	**Malin Array Be**	**68.11**	**322**	P	P	11 05 36.5	-1.1
	1.6nm,0.7s,mb4.2,baz=92,slow=5.0,SNR=4.2						
FINES	**FINESS Array B**	**72.69**	**332**	P	P	11 06 06.2	+1.0
	2.7nm,0.7s,mb4.3,baz=135,slow=11,SNR=4.6						
ARCES	**ARCESS Array B**	**75.26**	**340**	P	P	11 06 21.7	+1.7
	3.9nm,1.0s,mb4.3,baz=98,slow=8.6,SNR=3.5						
GERES	**GERESS Array B**	**77.77**	**318**	P	P	11 06 26.8	-7.8
	1.1nm,0.7s,mb3.9,baz=135,slow=3.8,SNR=3.7						
NOA	**NORSAR Array B**	**79.70**	**331**	P	P	11 06 45.6	+0.7
	2.0nm,0.8s,mb4.1,baz=94,slow=5.4,SNR=3.3						
PDAR	**Pinedale Array**	**125.25**	**21**	PKP	PKPdf	11 13 39.9	+3.1
	0.4nm,0.7s,baz=225,slow=4.2,SNR=2.9						
PLCA	**Paso Flores**	**144.47**	**200**	PKP	PKPdf	11 14 14.3	+2.0
	1.9nm,0.7s,baz=209,slow=4.2,SNR=5.2						

IDC 27 10:55:28.3±1.7, 7.96N×93.80E, mb4.2/5, mb1 4.4/6, mb1mx4.0/17, mbtmp4.2/6, ML4.6/1, Error ellipse: s-maj=57.5km s-min=31.2km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.57**	**25**	Pn	P	10 58 16.0	-1.8
	1.1nm,0.3s,baz=211,slow=14,SNR=5.4						
SONM	**Songino Array**	**41.15**	**13**	P	P	11 03 13.1	-2.8
	1.3nm,0.8s,baz=191,slow=7.3,SNR=3.2						
ZAL	**Zalesovo**	**46.42**	**353**	P	P	11 03 57.0	-1.4
	4.0nm,0.7s,baz=289,slow=6.2,SNR=4.9						
WRA	**Warramunga Arr**	**48.58**	**125**	P	P	11 04 14.0	-1.9
	0.8nm,0.5s,baz=305,slow=8.6,SNR=3.7						
FINES	**FINESS Array B**	**72.48**	**332**	P	P	11 06 56.5	-1.9
	2.8nm,0.8s,baz=135,slow=14,SNR=3.7						
ARCES	**ARCESS Array B**	**75.07**	**340**	P	P	11 07 11.8	-1.6
	2.4nm,0.8s,baz=100,slow=5.5,SNR=2.2						

IDC 27 10:57:48.5±1.7, 7.71N×93.83E, mb3.9/5, mb1 4.1/6, mb1mx3.8/17, mbtmp3.9/6, MS4.7/1, Ms1 4.8/1, ms1mx3.3/23, Error ellipse: s-maj=57.0km s-min=32.8km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.79**	**24**	Pn	P	11 00 38.8	-2.2
	baz=212,slow=14,SNR=2.9						
SONM	**Songino Array**	**41.39**	**13**	P	P	11 05 36.6	-1.5
	0.7nm,0.7s,baz=202,slow=7.8,SNR=2.8						
ZAL	**Zalesovo**	**46.67**	**353**	P	P	11 06 17.7	-2.9
	1.5nm,0.5s,baz=303,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**48.42**	**125**	P	P	11 06 32.7	-2.1
	0.4nm,0.8s,baz=303,slow=9.1,SNR=2.8						
FINES	**FINESS Array B**	**72.71**	**332**	P	P	11 09 18.5	-1.6
	1.8nm,0.8s,baz=135,slow=8.1,SNR=2.6						
NOA	**NORSAR Array B**	**79.72**	**331**	P	P	11 09 58.4	-1.2
	1.3nm,0.7s,baz=91,slow=5.7,SNR=3.5						
VNDA	**Vanda**	**92.83**	**168**	LR	LR	11 52 06.5	
	comp=Z,334nm,18.7s,baz=175,slow=35						

*BJI **27** 10:57:58.6, 7.15N×93.65E, h30km, mB5.4, mb4.8, Ms5.2, Msz4.9*
*IDC **27** 10:58:02.8±0.5, 7.92N×94.13E, mb4.7/24, mb1 4.8/25, mb1mx4.8/26, mbtmp4.7/25, ML4.3/1, MS4.9/5, Ms1 4.9/5, ms1mx4.5/12, Error ellipse: s-maj=20.1km s-min=12.4km az=40.0, putative timing error at GERES and LPAZ*
*MOS **27** 10:58:07.1±1.2, 8.13N×94.10E, h33km, mb5.3/53, MS5.0/7, Error ellipse: s-maj=9.6km s-min=5.4km az=115.0*
*HRVD **27** 10:58:07.3±0.2, 7.91N×94.11E, h14km±1km, MW5.3/62, Centroid moment Tensor Solution. LP body waves: s32,c47;Mantle waves: s62,c118; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.33±.03; $M_{\theta\theta}$-0.04±.02; $M_{\phi\phi}$0.37±.03; $M_{r\theta}$-0.01±.05; $M_{\theta\phi}$1.00±.03; $M_{\phi r}$-0.01±.06; Best double couple: $M_0$1.021×10^{17} NP1: ϕ_s174°, δ90°, λ180°. NP2:ϕ_D264°, δ90°, λ0°. Principal axes: T 1.187, Plg0°, Azm129°; N -.333, Plg90°, Azm295°; P -.854, Plg0°, Azm39°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 10:58:07.3±0.2, 7.94N×94.17E, h30km, mb5.1/45, MS4.7/1 Error ellipse: s-maj=7.1km s-min=5.7km az=56.0*
*CSEM **27** 10:58:30.1, 11.11N×91.73E, h33km, mb5.5*
ISC 27 10:58:03.6±0.2, 7.93N±0.04×94.17E±0.03, h16km, h16km±1.6km:pP-P, n243, σ1§19/243, mb5.1/87, MS5.0/17, 16C-5D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.96**	**339**	*eP*	Pn	10 59 09.8	+4.7
PBA				*e*SG	Sn	11 00 09.7	+18
CM31	**Chiang Mai Arr**	**11.45**	**23**	*eP*	P	11 00 47.8	-1.9
	60nm,1.0s						
CMAR	**Chiang Mai Arr**	**11.45**	**23**	P	P	11 00 49.7	0.0
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.45**	**23**	Pn	P	11 00 49.6	0.0
	comp=Z,0.7nm,0.3s,baz=211,slow=14,SNR=12						
CHG	**Chiang Mai**	**11.77**	**23**	⇑P	P	11 00 57.0	+3.0
	comp=Z,27nm,1.1s						
NANT	**Nan**	**12.53**	**30**	P	P	11 01 05.0	+0.8
VIS	**Vishakhapatnam**	**14.36**	**314**	*eP*	P	11 01 27.4	-1.0
VIS				*e*		11 01 35.5	
	comp=Z,175nm,1.9s						
VIS				*e*		11 03 56.0	
MDRS	**Chennai**	**14.60**	**292**	*e*	P	11 01 50.0	+18
MDRS				*e*		11 04 33.0	
BWNR	**Bhubaneshwar**	**14.71**	**328**	*eP*	P	11 01 37.2	+4.0
BWNR				*e*		11 04 05.4	
CAL	**Calcutta**	**15.57**	**340**	*e*	P	11 01 49.4	+5.1
CAL				*e*		11 04 53.3	
AGT	**Agartala**	**16.11**	**350**	*eP*	P	11 01 51.0	-0.2
KOD	**Kodaikanal**	**16.65**	**279**	*eP*	P	11 01 59.5	+1.4
KOD				*e*		11 02 08.3	
	comp=Z,78nm,1.8s						
IMP	**Imphal**	**16.76**	**359**	*e*	P	11 01 57.0	-2.4
HYB	**Hyderabad**	**17.90**	**303**	*eP*	P	11 02 13.0	-0.7
HYB				pmax	pmax		
	comp=Z,60nm,1.0s						
HYB	**Hyderabad**	**17.90**	**303**	*i* P	P	11 02 13.0	-0.7
	comp=Z,60nm,1.0s						
HYB				*e*S	S	11 05 30.0	-0.4
QIZ	**Qiongzhong**	**18.80**	**52**	P	P	11 02 26.8	+2.0
QIZ				AMB	AMB		
	comp=Z,1μm,5.2s						
QIZ				LR	LR		
	comp=N,13μm,13.9s						
KMI	**Kunming**	**18.95**	**25**	P	P	11 02 31.5	+4.8
KMI				S	S	11 05 56.6	+2.4
KMI				pmax	pmax		
	comp=Z,82nm,2.0s						
KMI	**Kunming**	**18.95**	**25**	P	P	11 02 31.5	+4.8
	comp=Z,82nm,2.0s						
KMI				pP		11 02 35.2	
KMI				sP		11 02 35.7	
KMI				PP	PP	11 02 49.3	+6.1
KMI				S	S	11 05 56.6	+2.4
KMI				sS		11 06 06.2	
KMI				SS	SS	11 06 38.5	+19
NGP	**Nagpur**	**19.64**	**314**	*eP*	P	11 02 34.9	+0.3
NGP				*e*		11 06 26.0	
MNGI	**Mangalore**	**19.66**	**286**	*i* P	P	11 02 36.5	+1.7
MNGI				*i* S	S	11 06 17.4	+7.4
LATR	**Latur**	**20.04**	**303**	*e*	S	11 06 29.9	+12
COCO	**West Island**	**20.16**	**172**	P	P	11 02 37.7	-2.6
	comp=Z,308nm,1.3s						
JIRN	**Jiri**	**21.02**	**340**	*eP*	P	11 02 47.7	-1.4
	comp=Z,408nm,1.2s,mb5.6						
PKI	**Pulchoki**	**21.22**	**338**	*eP*	P	11 02 50.3	-0.8
	comp=Z,800nm,1.4s,mb5.9						
GOA	**Goa**	**21.27**	**293**	*eP*	P	11 02 51.9	+0.1
GOA				*e*		11 02 59.6	
GOA				*e*		11 03 05.3	
	comp=Z,74nm,1.3s						
GOA				*e*S	S	11 06 43.8	+1.3
GOA				*e*		11 06 58.8	
GUN	**Gumba**	**21.36**	**340**	*eP*	P	11 02 51.7	-0.8
	comp=Z,1μm,1.6s,mb6.0						
DMN	**Daman**	**21.37**	**337**	*eP*	P	11 02 52.2	-0.4
	comp=Z,350nm,1.1s,mb5.6						
KKN	**Kakani**	**21.47**	**338**	*eP*	P	11 02 52.1	-1.5
	comp=Z,420nm,1.2s,mb5.6						
KAD	**Karad**	**21.59**	**297**	*eP*	P	11 02 54.0	-0.9
KAD				*e*		11 03 01.2	
	comp=Z,79nm,1.4s						
LSA

NJ2 AP pP 11 04 50.5 +3.6
NJ2 XP sP 11 04 54.3 +5.3
NJ2 PP PP 11 05 54.5 +1.1
NJ2 AMB AMB
comp=Z,30nm,0.9s,mb5.2
NJ2 AMB AMB
comp=Z,1µm,5.3s
NJ2 LR LR
comp=Z,5µm,19.5s,MS5.2
SSE Sheshan 34.16 44 P **P 11 04 49.5 -0.8**
SSE S **S 11 10 18.3 +3.4**
SSE XS 11 10 32.8
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,1µm,12.0s
SSE LR LR
comp=N,2µm,13.6s,MS5.1
SSE LR LR
comp=E,2µm,13.5s,MS5.1
SSE LR LR
comp=Z,2µm,13.1s,MS5.0
SSE Sheshan 34.16 44 P **P 11 04 49.4 -0.9**
comp=Z,28nm,0.7s,mb5.3
SSE S **S 11 10 18.3 +3.4**
SSE sS 11 10 32.7
SSE LR LR
comp=Z,2µm,13.1s,MS5.0
WMQ Urumqi 36.20 352 P **P 11 05 08.0 +0.5**
JOW Kunigami 37.40 56 LR LR 11 22 50.4
comp=Z,2µm,18.6s,MS4.9,baz=242,slow=40
BJT Baijiatuau 37.52 28 *e*P **P 11 05 18.4 -0.3**
BJT pmax pmax
comp=Z,99nm,1.6s
BJT Baijiatuau 37.52 28 *e*P **P 11 05 18.4 -0.3**
comp=Z,99nm,1.6s,mb5.3
BJI Beijing 37.54 28 P **P 11 05 21.0 +2.1**
BJI 11 06 44.0
BJI SS SS 11 13 44.3 +4.0
BJI pmax pmax
comp=Z,34nm,1.4s,mb4.9
BJI MLR MLR
comp=Z,1µm,20.9s,MS4.7
BJI Beijing 37.54 28 P **P 11 05 21.0 +2.1**
comp=Z,34nm,1.4s,mb4.9
BJI PP PP 11 06 44.0 -3.3
BJI S **S 11 10 53.2 -14**
BJI SS SS 11 13 44.3 +4.0
BJI LR LR
comp=Z,1µm,20.9s,MS4.7
AAK Ala-Archa 38.66 337 *d i*P **P 11 05 26.6 -1.6**
AAK pmax pmax
comp=Z,23nm,1.7s,mb4.6
AAK Ala-Archa 38.66 337 *e*P **P 11 05 26.4 -1.9**
comp=Z,28nm,1.2s,mb4.9
FRU Bishkek 38.78 337 *e*P **P 11 05 29.0 -0.2**
FRU pmax pmax
comp=Z,100nm,2.0s,mb5.2
MKAR Makanchi Array 40.04 347 *i*P **P 11 05 37.1 -2.5**
MKAR pmax pmax
comp=Z,90nm,1.7s
SONM Songino Array 41.10 13 P **P 11 05 49.6 +1.2**
comp=Z,8.8nm,1.2s,mb4.3,baz=202,slow=6.7,SNR=12
SONM PcP PcP 11 07 48.4 -0.1
comp=Z,1.6nm,0.6s,baz=196,slow=3.3,SNR=5.1
ULN Ulaanbaatar 41.27 13 ⇑*i*P **P 11 05 49.1 -0.7**
ULN Ulaanbaatar 41.27 13 *e*P **P 11 05 49.9 +0.1**
comp=Z,14nm,1.3s,mb4.4
SNY Shenyang 42.61 33 ⇓P **P 11 06 02.3 +1.5**
SNY *e*S **S 11 12 34.0 +11**
SNY LR LR
comp=N,950nm,16.0s,MS5.0
SNY LR LR
comp=E,1µm,14.3s,MS5.0
SNY LR LR
comp=Z,1µm,14.3s,MS4.9
MOY Mondy 43.96 6 *e*P **P 11 06 16.7 +5.0**
TLY Talaya 44.31 8 ⇑*i*P **P 11 06 14.4 -0.1**
TLY pmax pmax
comp=Z,5.0nm,1.5s,mb4.0
TLY Talaya 44.31 8 *e*P **P 11 06 14.2 -0.3**
comp=Z,37nm,1.8s,mb4.8
KURK Kurchatov 44.56 346 *i*P **P 11 06 15.3 -1.2**
KURK pmax pmax
comp=Z,57nm,1.4s,mb5.2
KURK Kurchatov 44.56 346 *e*P **P 11 06 14.8 -1.8**
comp=Z,92nm,1.4s,mb5.4
MUN Mundaring 44.92 153 *e*P **P 11 06 21.0 +1.3**
comp=Z,24nm,1.2s,mb4.9
MUN Mundaring 44.92 153 *e*P **P 11 06 21.0 +1.3**
MUN pmax pmax
comp=Z,24nm,1.2s,mb4.9
KLBR Kellerberrin 45.31 151 *e*P **P 11 06 23.6 +0.8**
comp=Z,158nm,1.0s,mb5.8
NWAO Narrogin (SRO) 46.19 153 LR LR 11 24 20.8
comp=Z,7.2nm,18.6s,baz=72,slow=34
HIA Hailar 46.46 23 *e*P **P 11 06 31.4 -0.2**
HIA pmax pmax
comp=Z,48nm,1.4s
HIA Hailar 46.46 23 *e*P **P 11 06 31.4 -0.2**
comp=Z,48nm,1.4s,mb5.2
ZAL Zalesovo 46.49 352 P **P 11 06 30.4 -1.4**
comp=Z,6.2nm,0.6s,mb4.7,baz=291,slow=8.2,SNR=14
ZAL LR LR 11 31 33.6
comp=Z,491nm,18.1s,MS4.5,baz=290,slow=43
NVS Novosibirsk 47.59 351 *e*P **P 11 06 37.5 -3.0**
NVS *i*S **S 11 13 33.0 -1.1**
NVS pmax pmax
comp=N,51nm,1.3s
NVS pmax pmax
comp=E,19nm,1.3s
NVS pmax pmax
comp=Z,58nm,1.3s,mb5.5
NVS smax
comp=N,17nm,2.2s
NVS smax
comp=E,35nm,2.2s
MDJ Mudanjiang 47.75 34 P **P 11 06 43.5 +1.6**
MDJ AP pP 11 06 48.8 +2.0
MDJ XP sP 11 06 51.3 +2.5
MDJ PP PP 11 08 36.8 +3.8
MDJ S **S 11 13 37.0 +0.6**
MDJ SS SS 11 17 03.8 +4.6
MDJ AMB AMB
comp=Z,18nm,1.4s,mb4.9
MDJ AMB AMB
comp=Z,159nm,4.3s
MDJ LR LR
comp=N,768nm,13.7s,MS5.1
MDJ LR LR
comp=E,1µm,13.2s,MS5.1
MDJ LR LR
comp=Z,1µm,16.3s,MS4.9
WRA Warramunga Arr 48.27 126 P **P 11 06 44.6 -1.7**
WRA pmax pmax
comp=Z,4.0nm,0.6s
WRA Warramunga Arr 48.27 126 P **P 11 06 44.6 -1.7**
comp=Z,4.3nm,0.6s,mb4.7,baz=304,slow=8.4,SNR=25
WRAB Tennant Creek 48.28 126 *e*P **P 11 06 43.9 -2.4**
WRAB pmax pmax
comp=Z,51nm,1.4s,mb5.4
WRAB Tennant Creek 48.28 126 *e*P **P 11 06 43.9 -2.4**
comp=Z,51nm,1.4s,mb5.4
WB2 Warramunga Arr 48.28 126 *e*P **P 11 06 45.4 -0.9**
BVA0 Borovoye Array 48.94 341 *i*P **P 11 06 49.1 -1.9**
BVA0 pmax pmax
comp=Z,7.0nm,1.8s,mb4.4
BVAR Borovoye Array 48.94 341 P **P 11 06 49.2 -1.8**
comp=Z,5.8nm,1.0s,mb4.5,baz=153,slow=6.6,SNR=7.8
BVAR PcP PcP 11 08 16.1 +0.6
comp=Z,2.1nm,0.7s,baz=179,slow=5.4,SNR=4.8
BRVK Borovoye 49.01 341 *e*P **P 11 06 49.3 -2.1**
BRVK pmax pmax
comp=Z,37nm,1.6s,mb5.2
BRVK Borovoye 49.01 341 *e*P **P 11 06 49.3 -2.2**
comp=Z,37nm,1.6s,mb5.2
RAYN Ar Rayn 49.08 294 P **P 11 06 53.2 +0.7**
comp=Z,154nm,0.7s,mb6.1,SNR=16
CHKZ Chkalovo 49.43 342 *e*P **P 11 06 51.8 -2.9**
CHKZ pmax pmax
comp=Z,70nm,1.4s,mb5.5
CHKZ Chkalovo 49.43 342 *e*P **P 11 06 51.8 -2.9**
comp=Z,70nm,1.4s,mb5.5
ASAR Alice Springs 49.93 130 P **P 11 06 57.5 -1.5**
comp=Z,4.9nm,0.8s,mb4.6,baz=304,slow=7.6,SNR=20
ASAR PcP PcP 11 08 19.8 +0.3
comp=Z,1.5nm,0.8s,baz=303,slow=3.5,SNR=4.2
KLR Kul'dur 51.82 31 *e*P **P 11 07 14.2 +1.2**
BOD Bodaibo 52.09 13 *e*P **P 11 07 13.2 -1.7**
CLNS Chul'man 54.37 20 *e*P **P 11 07 32.2 +0.4**
CLNS pmax pmax
comp=Z,33nm,1.5s,mb5.0
CLNS pmax pmax
comp=N,17nm,1.4s
CLNS pmax pmax
comp=E,6.0nm,0.7s
GNI Garni 54.41 314 P **P 11 07 33.2 +0.9**
GNI pmax pmax
comp=Z,2.0nm,0.4s
GNI Garni 54.41 314 P **P 11 07 33.2 +0.9**
comp=Z,2.4nm,0.4s,mb4.5,baz=5.7,slow=23,SNR=5.3
SVE Sverdlovsk 55.36 338 *e*P **P 11 07 34.4 -4.6**
SVE *e* 11 08 37.0
SVE pmax pmax
comp=Z,140nm,2.0s,mb5.7
SVE MLR MLR
comp=N,1µm,22.0s,MS5.0
SVE MLR MLR
comp=E,1µm,22.0s,MS5.0
SVE MLR MLR
comp=Z,2µm,22.0s,MS5.2
PMG Port Moresby 55.52 107 P **P 11 07 40.8 0.0**
PMG pmax pmax
comp=Z,15nm,0.7s
PMG Port Moresby 55.52 107 P **P 11 07 40.8 0.0**
comp=Z,14nm,0.7s,mb5.1,baz=358,slow=2.2,SNR=4.6
ARU Arti 55.85 337 P **P 11 07 41.9 -0.6**
comp=Z,30nm,0.2s,mb6.0,SNR=8.1
ARU Arti 55.85 337 *e*P **P 11 07 35.1 -7.4**
ARU *e*S **S 11 15 21.0 -6.3**
ARU *e*SS SS 11 19 09.2 -4.0
ARU MLR MLR
comp=N,2µm,20.0s,MS5.2
ARU MLR MLR
comp=E,1µm,20.0s,MS5.2
ARU MLR MLR
comp=Z,2µm,20.0s,MS5.3
YSS Yuzh-Sakhalins 56.72 38 *e*P **P 11 07 54.0 +5.0**
KIV Kislovodsk 57.29 318 *e*P **P 11 07 51.6 -1.5**
KIV pmax pmax
comp=Z,25nm,1.0s,mb5.2
KIV Kislovodsk 57.29 318 *e*P **P 11 07 51.6 -1.5**
comp=Z,25nm,1.0s,mb5.2
KMBO Kilima Mbogo 57.45 264 P **P 11 07 55.1 +0.5**
KMBO pmax pmax
comp=Z,8.0nm,0.8s
KMBO Kilima Mbogo 57.45 264 P **P 11 07 55.1 +0.5**
comp=Z,8.1nm,0.8s,mb4.8,baz=55,slow=10,SNR=21
ASF Jabal al Asfar 58.21 303 P **P 11 08 00.0 +0.4**
comp=Z,2.6nm,0.5s,mb4.6,baz=201,slow=1.6,SNR=5.2
ASF LR LR 11 36 03.3
comp=Z,978nm,20.7s,MS4.9,baz=326,slow=39
MALT Malatya 58.44 310 *e*P **P 11 07 59.0 -2.2**
MALT pmax pmax
comp=Z,38nm,1.9s,mb5.1
MALT Malatya 58.44 310 *e*P **P 11 07 59.0 -2.2**
comp=Z,38nm,1.9s,mb5.1
SOC Sochi 59.16 316 *e*P **P 11 07 59.3 -6.8**
SOC *e* 11 08 57.5
SOC *e* 11 10 13.3
SOC *e*S **S 11 16 06.7 -4.3**
SOC *e* 11 17 51.8
SOC *e*SS SS 11 19 55.9 -11
SOC pmax pmax
comp=Z,40nm,1.1s,mb5.4
SOC pmax pmax
comp=N,16nm,0.7s
SOC pmax pmax
comp=E,23nm,1.0s
SOC MLR MLR
comp=Z,775nm,20.0s,MS4.8
SOC MLR MLR
comp=E,410nm,23.0s
EIL Elat 59.42 300 P **P 11 08 06.8 -1.3**
comp=E,5.5nm,0.6s,mb4.8,baz=62,slow=20,SNR=6.0
EIL LR LR 11 35 53.4
comp=E,1µm,18.2s,MS5.1,baz=103,slow=38
YAK Yakutsk 59.93 18 *e*P **P 11 08 10.7 -0.5**
YAK pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK MLR MLR
comp=Z,535nm,13.0s,MS4.9
YAK MLR MLR
comp=N,462nm,12.0s,MS4.9
YAK MLR MLR
comp=E,390nm,14.0s,MS4.9
STKA Stephens Creek 60.13 134 *e*P **P 11 08 11.7 -1.2**
comp=E,7.6nm,1.3s,mb4.6
STKA Stephens Creek 60.13 134 P **P 11 08 11.8 -1.2**
comp=E,7.1nm,0.9s,mb4.7,baz=319,slow=8.3,SNR=7.3
STKA LR LR 11 37 26.6
comp=E,2µm,19.6s,MS5.2,baz=295,slow=39
BRTR Keskin Array B 62.41 311 P **P 11 08 26.3 -2.0**
BRTR pmax pmax
comp=Z,8.0nm,1.0s
BRTR Keskin Array B 62.41 311 P **P 11 08 26.3 -2.0**
comp=Z,7.5nm,1.0s,mb4.8,baz=123,slow=8.3,SNR=12
MBAR Mbarara 63.79 265 *e*P **P 11 08 37.6 -0.2**
MBAR pmax pmax
comp=Z,20nm,1.4s,mb5.0
MBAR Mbarara 63.79 265 *e*P **P 11 08 37.6 -0.3**
comp=Z,20nm,1.4s,mb4.9
MOS Moscow 65.04 329 *e*P **P 11 08 43.3 -2.0**
MOS *e* pP 11 08 49.1 -1.3
MOS pmax pmax
comp=Z,61nm,0.7s,mb5.7
OBN Obninsk 65.34 328 *e*P **P 11 08 42.6 -4.6**
OBN *e* pP 11 08 48.9 -3.4
OBN *e*S S 11 17 26.5 -2.3
OBN *e*SS SS 11 21 41.7 -2.1
OBN pmax pmax
comp=Z,73nm,1.6s,mb5.5
OBN MLR MLR
comp=Z,1µm,21.0s,MS5.0
TIXI Tiksi 67.17 11 *e*P **P 11 08 55.8 -2.8**
TIXI pmax pmax
comp=Z,55nm,1.4s,mb5.4
AKASG Malin Array Be 68.12 322 P **P 11 09 03.0 -1.9**
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 68.12 322 P **P 11 09 03.0 -1.9**
comp=Z,6.1nm,0.8s,mb4.7,baz=87,slow=4.8,SNR=13
IDI Anoyia 68.56 305 P **P 11 09 06.2 -1.7**
comp=Z,17nm,0.8s,mb5.0,baz=84,slow=8.0,SNR=5.9
KWP Kalwaria 72.00 320 *e*P **P 11 09 28.6 0.0**
KOLS Kolonicke sedl 72.18 319 *i*P **P 11 09 30.3 +0.7**
KOLS *e**SP sP 11 09 36.2 -0.4
KOLS Kolonicke sedl 72.18 319 *i*P **P 11 09 30.3 +0.7**
KOLS *e* pP 11 09 34.0 -0.8
KOLS *e* pP 11 09 36.2 +1.4
SUW Suwalki 72.47 324 *e*P **P 11 09 30.4 -0.9**
FINES FINESS Array B 72.67 332 P **P 11 09 32.0 -0.3**
FINES pmax pmax
comp=Z,11nm,0.8s
FINES FINESS Array B 72.67 332 P **P 11 09 32.0 -0.3**
comp=Z,11nm,0.8s,mb4.9,baz=101,slow=9.7,SNR=15
CRVS Cervenica-Dubn 72.70 319 *i*P **P 11 09 33.0 +0.2**
OJC Ojcow 73.95 320 *e*P **P 11 09 39.4 -0.6**
LIKS Likavka 74.26 319 *i*P **P 11 09 42.4 +0.6**
LBTB Lobatse 74.29 241 *e*P **P 11 09 42.4 -0.1**
LBTB pmax pmax
comp=Z,11nm,0.7s,mb4.9
LBTB Lobatse 74.29 241 *e*P **P 11 09 42.4 -0.1**
comp=Z,11nm,0.7s,mb4.9
VYHS Vyhne 74.38 318 *i*P **P 11 09 42.7 +0.2**
OKC Ostrava-Krasne 74.96 319 *e*P **P 11 09 46.4 +0.5**
OKC AMS AMS 11 48 40.0
CASY Casey 74.98 173 *e*P **P 11 09 43.9 -1.7**
comp=Z,24nm,1.0s,mb5.1
ARCES ARCESS Array B 75.22 340 P **P 11 09 47.4 +0.4**
ARCES pmax pmax
comp=Z,8.0nm,0.9s
ARCES ARCESS Array B 75.22 340 P **P 11 09 47.4 +0.4**
comp=Z,8.0nm,0.9s,mb4.6,baz=82,slow=6.0,SNR=10
MORC Moravsky Berou 75.35 319 *e*P **P 11 09 47.0 -1.1**
MORC pmax pmax
comp=Z,30nm,1.4s,mb5.0
MORC Moravsky Berou 75.35 319 *e*P **P 11 09 47.0 -1.1**
comp=Z,30nm,1.4s,mb5.0
ZST Bratislava 75.51 318 *i*P **P 11 09 50.5 +1.5**
BOSA Boshof 75.64 238 *e*P **P 11 09 49.6 -0.6**
BOSA pmax pmax
comp=Z,25nm,1.1s,mb5.1
BOSA Boshof 75.64 238 *e*P **P 11 09 49.6 -0.6**
comp=Z,25nm,1.1s,mb5.1
BILL Bilibino 76.03 22 *e*P **P 11 09 50.3 -1.3**
BILL pmax pmax
comp=Z,15nm,1.2s,mb4.8
BILL Bilibino 76.03 22 *e*P **P 11 09 50.3 -1.3**
comp=Z,15nm,1.2s,mb4.8
DPC Dobruska-Polom 76.18 320 *e*P **P 11 09 54.0 +1.2**
DPC AMS AMS 11 49 10.0
comp=Z,500nm,15.8s
KSP Ksiaz 76.23 320 *e*P **P 11 09 53.8 +0.7**
KSP *e* 11 10 03.6
KSP Ksiaz 76.23 320 *e*P **P 11 09 53.8 +0.7**
KSP *e*pP pP 11 09 58.2 0.0
KSP *e*PcP PcP 11 10 03.6 -1.9
KSP Ksiaz 76.23 320 *e*P **P 11 09 53.8 +0.7**
UPC Upice 76.39 320 *e*P **P 11 09 54.8 +0.9**
ARSA Arzberg 76.51 317 ⇑*i*P **P 11 09 53.1 -1.6**
comp=Z,22nm,1.8s,mb4.8
PRU Pruhonice 77.30 319 *e*P **P 11 09 59.3 +0.3**
PRU Pruhonice 77.30 319 *e*P **P 11 09 59.3 +0.3**
PRU AMS AMS 11 49 00.0
comp=Z,300nm,18.3s
PVCC Panska Ves 77.31 320 *e*P **P 11 10 00.2 +1.1**
PVCC AMS AMS 11 49 50.0
comp=Z,600nm,18.7s
BRG Berggiesshubel 77.72 320 *i*P **P 11 10 02.3 +1.0**
BRG *i* pP 11 10 06.6 +0.1
BRG *e* 11 20 14.8
BRG pmax pmax
comp=Z,67nm,1.9s,mb5.2
BRG Berggiesshubel 77.72 320 *i*P **P 11 10 02.3 +1.0**
comp=Z,67nm,1.9s,mb5.2
BRG *i* pP 11 10 06.6 +0.1
BRG *e* 11 20 14.8
GEC2 GERESS Array S 77.80 318 *e*P **P 11 10 01.9 +0.1**
GEC2 pmax pmax
comp=Z,40nm,1.5s,mb5.1
GEC2 GERESS Array S 77.80 318 *e*P **P 11 10 01.9 +0.1**
comp=Z,40nm,1.5s,mb5.1
GERES GERESS Array B 77.80 318 P **P 11 09 50.6 -11**
comp=Z,4.8nm,0.8s,mb4.5,baz=104,slow=5.5,SNR=20
KHC Kasperske Hory 77.89 318 *e*P **P 11 10 01.0 -1.3**
KHC *e* pP 11 10 05.0 -2.5
KHC Kasperske Hory 77.89 318 *e*P **P 11 10 01.0 -1.3**
KHC x x 11 10 05.0
KHC AMS AMS 11 48 30.0
comp=Z,400nm,20.6s
KBA Koelnbreinsper 77.99 316 ⇑*i*P **P 11 10 02.2 -0.7**
comp=Z,18nm,1.2s,mb4.9
KBA Koelnbreinsper 77.99 316 ⇑*i*P **P 11 10 02.2 -0.7**
KBA pmax pmax
comp=Z,18nm,1.2s,mb4.9
CLL Collm 78.33 321 *i*P **P 11 10 04.4 -0.3**
CLL *e* pP 11 10 09.0 -0.8
CLL pmax pmax
comp=Z,14nm,1.3s,mb4.7
CLL Collm 78.33 321 *i*P **P 11 10 04.4 -0.3**
comp=Z,14nm,1.3s,mb4.7
CLL *e* pP 11 10 09.0 -0.8
CLL Collm 78.33 321 P **P 11 10 04.4 -0.3**
comp=Z,logA/T=1.0,mb4.7
CLL *e*PP pP 11 10 09.0 -0.8
WET Wettzell 78.35 318 *e*P **P 11 10 04.4 -0.4**
WET pmax pmax
comp=Z,84nm,2.2s,mb5.3
WET Wettzell 78.35 318 *e*P **P 11 10 04.4 -0.4**
comp=Z,84nm,2.2s,mb5.3
MAW Mawson 78.59 192 P **P 11 10 06.9 +1.1**
MAW pmax pmax
comp=Z,8.0nm,0.8s
MAW Mawson 78.59 192 P **P 11 10 06.9 +1.2**
comp=Z,7.5nm,0.8s,mb4.7,baz=349,slow=10,SNR=3.9
NKC Novy Kostel 78.66 320 *e*P **P 11 10 07.1 +0.6**
NKC AMS AMS 11 50 40.0
comp=Z,500nm,18.3s
WTTA Wattenberg 79.16 317 ⇑*i*P **P 11 10 08.3 -1.0**
comp=Z,27nm,1.3s,mb5.0
WTTA Wattenberg 79.16 317 ⇑*i*P **P 11 10 08.3 -1.0**
WTTA pmax pmax
comp=Z,27nm,1.3s,mb5.0
MOX Moxa 79.19 320 *e*P **P 11 10 10.1 +0.7**
MOX pmax pmax
comp=Z,64nm,2.0s,mb5.2
MOX Moxa 79.19 320 *e*P **P 11 10 10.1 +0.7**
comp=Z,64nm,2.0s,mb5.2
MOX Moxa 79.19 320 *i*P **P 11 10 10.1 +0.7**
comp=Z,logA/T=1.5,mb5.2
GRA1 Grafenberg Arr 79.44 319 *e*P **P 11 10 11.4 +0.7**
comp=Z,57nm,1.5s,mb5.3
GRF Grafenberg Arr 79.44 319 *e*P **P 11 10 11.4 +0.7**
GRF pmax pmax
comp=Z,57nm,1.5s,mb5.3
GRF Grafenberg Arr 79.44 319 *e*P **P 11 10 11.4 +0.7**
GRF pmax pmax
comp=Z,57nm,1.5s,mb5.3
GRF Grafenberg Arr 79.44 319 *e*P **P 11 10 11.4 +0.7**
comp=Z,57nm,1.5s,mb5.3
SQTA Sankt Quirin 79.45 317 ⇑*i*P **P 11 10 10.4 -0.5**
comp=Z,40nm,1.6s,mb5.1
SQTA Sankt Quirin 79.45 317 ⇑*i*P **P 11 10 10.4 -0.5**
SQTA pmax pmax
comp=Z,40nm,1.6s,mb5.1
MOTA Moosalm 79.52 317 ⇑*i*P **P 11 10 10.5 -0.7**
comp=Z,18nm,1.4s,mb4.8
MOTA Moosalm 79.52 317 ⇑*i*P **P 11 10 10.5 -0.7**
MOTA pmax pmax
comp=Z,18nm,1.4s,mb4.8
NB2 NORSAR Subarra 79.69 331 P **P 11 10 10.9 -1.0**
comp=Z,15nm,0.9s,mb4.9,baz=92,slow=5.6
NB2 NORSAR Subarra 79.69 331 P **P 11 10 10.9 -1.0**
baz=92,slow=5.9
NOA NORSAR Array B 79.69 331 P **P 11 10 12.1 +0.2**
NOA pmax pmax
comp=Z,11nm,0.9s
NOA NORSAR Array B 79.69 331 P **P 11 10 12.1 +0.2**
comp=Z,11nm,0.9s,mb4.8,baz=93,slow=5.6,SNR=15
CLZ Clausthal 79.98 321 *e*P **P 11 10 14.0 +0.4**
comp=Z,29nm,1.3s,mb5.0
BSEG Bad Segeberg 80.02 323 *e*P **P 11 10 14.9 +1.1**
DAVA Damuels 80.35 317 ⇓*i*P **P 11 10 15.6 -0.1**
comp=Z,30nm,1.2s,mb5.1
DAVOX Davos 80.36 316 P **P 11 10 16.1 +0.3**
comp=Z,9.8nm,0.8s,mb4.8,baz=98,slow=3.5,SNR=9.4
TNS Taunus Mts 81.22 320 *e*P **P 11 10 21.3 +1.1**
BFO Black Forest 81.37 318 *e*P **P 11 10 21.5 +0.5**
BFO pmax pmax
comp=Z,18nm,1.4s,mb4.8
BFO Black Forest 81.37 318 *e*P **P 11 10 21.5 +0.5**
comp=Z,18nm,1.4s,mb4.8
CDF Champ du Feu 82.06 318 *e*P **P 11 10 25.4 +0.8**
SBF Sospel 82.21 313 *e*P **P 11 10 26.3 +0.8**
LPG La Plagne 82.59 315 ⇑*i*P **P 11 10 28.8 +1.4**
comp=Z,32nm,0.8s,mb5.1
LPG La Plagne 82.59 315 ⇑*i*P **P 11 10 28.8 +1.4**
LPG pmax pmax
comp=Z,16nm,0.8s,mb5.1
LPL La Plagne 82.61 315 *e*P **P 11 10 28.9 +1.4**
comp=Z,51nm,1.0s,mb5.2
LPL La Plagne 82.61 315 *e*P **P 11 10 28.9 +1.4**
LPL pmax pmax
comp=Z,26nm,1.0s,mb5.2
MBDF Montbardon 82.63 314 *e*P **P 11 10 28.1 +0.5**
HAU Haudompre 82.71 317 *e*P **P 11 10 28.8 +0.8**
HAU *e*R
comp=Z,416nm,22.5s
CABF La Chapelle 82.98 316 *e*P **P 11 10 30.6 +1.2**
ORIF Oris-en-Rattie 83.25 314 *e*P **P 11 10 33.4 +2.6**
ORIF *e*R
comp=Z,550nm,22.0s
BAIF Baives 83.96 320 *e*P **P 11 10 35.7 +1.4**
VIVF Saint-Julien-I 84.11 314 *e*P **P 11 10 36.3 +1.1**
SMF Signal de Mont 84.52 316 *e*P **P 11 10 38.0 +0.7**
SSF Saint Saulge 84.71 317 *e*P **P 11 10 39.4 +1.2**
AVF Avril sur Loir 84.84 316 *e*P **P 11 10 39.7 +0.9**
BGF Bois d'Agland 85.21 316 *e*P **P 11 10 42.0 +1.3**
SYO Syowa Base 85.47 197 ⇑P **P 11 10 43.2 +1.7**
SYO Syowa Base 85.47 197 ⇑P pP 11 10 50.3 +3.6
TCF Toulx Ste Croi 85.68 316 *e*P **P 11 10 44.4 +1.4**
FLN La Foliniere 87.15 319 *e*P **P 11 10 51.4 +1.2**

FLN e R
comp=Z,338nm,21.0s
EKA Eskdalemuir Ar 87.69 325 P **P** **11 10 54.0 +1.4**
EKA pmax pmax
comp=Z,7.0nm,0.9s
EKA Eskdalemuir Ar 87.69 325 P **P** **11 10 54.0 +1.3**
comp=Z,7.0nm,0.8s,mb4.9,baz=97,slow=6.7,SNR=7.5
ESDC Sonseca Array 91.20 310 P **P** **11 11 11.3 +1.8**
comp=Z,5.5nm,1.0s,mb4.9,baz=45,slow=4.8,SNR=82
IMA Indian Mountai 91.56 22 *e*P **P** **11 11 10.9 +0.4**
ILAR Eielson Array 94.68 22 P **P** **11 11 26.3 +1.4**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 94.68 22 P **P** **11 11 26.2 +1.3**
comp=Z,0.5nm,0.7s,mb4.1,baz=297,slow=4.0,SNR=6.6
INK Inuvik 96.93 16 P **P** **11 11 35.5 +0.4**
INK pmax pmax
comp=Z,7.0nm,1.2s
INK Inuvik 96.93 16 P **P** **11 11 35.5 +0.4**
comp=Z,6.7nm,1.2s,mb5.0,baz=317,slow=5.7,SNR=6.7
NVAR Mina Array Bea 124.86 31 PKP PKPdf 11 17 05.2 -2.0
comp=Z,1.8nm,0.8s,baz=50,slow=2.0,SNR=9.4
PDAR Pinedale Array 125.11 21 PKP PKPdf 11 17 05.8 -1.8
comp=Z,2.5nm,0.8s,baz=343,slow=0.6,SNR=14
MSU Marysvale 127.69 26 *e*PKIKP PKPdf 11 17 10.9 -1.8
PV10 Paradox Valley 129.11 24 *e*PKP PKPdf 11 17 13.1 -2.3
ANMO Albuquerque 133.11 23 PKIKP PKPdf 11 17 23.3 +0.2
ANMO pmax pmax
comp=Z,1.0nm,0.6s
ANMO Albuquerque 133.11 23 PKP PKPdf 11 17 23.3 +0.3
comp=Z,1.0nm,0.6s,baz=273,slow=3.7,SNR=5.8
GDL2 Guadalupe Moun 136.35 23 *e*PKP PKPdf 11 17 27.1 -1.9
TXAR Lajitas Array 139.16 24 PKP PKPdf 11 17 34.2 -0.1
comp=Z,0.6nm,0.6s,baz=14,slow=1.1,SNR=8.0
JCT Junction City 139.53 19 *e*PKIKP PKPdf 11 17 33.3 -1.6
PLCA Paso Flores 144.61 200 PKIKP PKPdf 11 17 41.0 -2.6
PLCA pmax pmax
comp=Z,21nm,0.9s
PLCA Paso Flores 144.61 200 PKP PKPdf 11 17 41.0 -2.5
comp=Z,20nm,0.9s,baz=147,slow=3.5,SNR=26
SJG San Juan 147.64 323 PKP2 PKPab 11 17 50.5 -2.2
SJG pmax pmax
comp=Z,8.0nm,0.3s
SJG San Juan 147.64 323 PKPbc PKPdf 11 17 50.5 +1.2
comp=Z,7.7nm,0.3s,baz=5.9,slow=21,SNR=3.7
TEIG Tepich 151.92 5 *e*PKP PKPdf 11 17 54.0 -1.9
SDV Santo Domingo 157.45 317 *e*PKPdf PKPdf 11 18 01.5 -2.1
LPAZ La Paz 160.81 243 PKIKP PKPdf 11 18 07.1 -0.2
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
LPAZ La Paz 160.81 243 PKPab PKPab 11 18 07.0 -41
comp=Z,2.0nm,0.8s,baz=80,slow=5.9,SNR=5.4

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*IDC **27** 11:01:00.5±0.7, 7.83N×93.95E, mb4.3/15, mb1 4.5/16, mb1mx4.4/21, mbtmp4.3/16, ML4.4/1, Error ellipse: s-maj=29.8km s-min=16.7km az=57.0*
*BJI **27** 11:01:03.4, 7.55N×93.53E, h57km, mB5.0, mb4.9, Ms5.2, Msz5.0*
*NEIC **27** 11:01:04.8±0.4, 7.86N×93.94E, h30km, mb4.7/10, Error ellipse: s-maj=12.5km s-min=8.5km az=81.0*
ISC 27 11:01:03.3±0.4, 7.80N±0.06×93.96E±0.07, h33km, n53, σ0§98/47, mb4.6/30, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr** 38nm,0.9s	**11.65**	**24**	*e*P	**P**	**11 03 45.6**	**-4.6**
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,baz=211,slow=14,SNR=19	**11.65**	**24**	Pn	**P**	**11 03 49.0**	**-1.3**
HYB	**Hyderabad**	**17.80**	**304**	*i* P	**P**	**11 05 11.0**	**+0.7**
HYB				*e*S	**S**	**11 08 32.0**	**+6.9**
KMI	**Kunming** 52nm,1.4s	**19.16**	**25**	P	**P**	**11 05 28.2**	**+1.4**
COCO	**West Island**	**20.07**	**172**	P	**P**	**11 05 35.4**	**-1.4**
JIRN	**Jiri** 106nm,0.9s,mb5.2	**21.08**	**341**	*e*P	**P**	**11 05 46.7**	**-0.5**
PKI	**Pulchoki** 36nm,0.6s,mb4.9	**21.27**	**339**	*e*P	**P**	**11 05 49.3**	**+0.2**
DMN	**Daman** 60nm,0.9s,mb5.0	**21.41**	**338**	*e*P	**P**	**11 05 50.7**	**+0.2**
GUN	**Gumba** 54nm,0.8s,mb4.9	**21.41**	**340**	*e*P	**P**	**11 05 49.9**	**-0.6**
KKN	**Kakani**	**21.51**	**339**	*e*P	**P**	**11 05 51.2**	**-0.3**
GKN	**Gorkha** 49nm,0.7s,mb5.0	**21.94**	**337**	*e*P	**P**	**11 05 55.9**	**+0.1**
LSA	**Lhasa** 40nm,0.8s,mb4.9	**21.94**	**353**	*e*P	**P**	**11 05 54.8**	**-1.1**
KOLN	**Koldanda** 209nm,1.5s,mb5.4	**22.15**	**335**	*e*P	**P**	**11 05 58.5**	**+0.6**
ENH	**Enshi** 20nm,0.9s,mb4.6	**26.67**	**31**	*e*P	**P**	**11 06 40.2**	**-1.1**
WHN	**Wuhan**	**29.60**	**37**	⇑P	**P**	**11 07 08.0**	**+0.3**
NJ2	**Nanjing**	**33.44**	**40**	*e*P	**P**	**11 07 41.3**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
BJI	**Beijing**	**37.75**	**28**	*e*P	**P**	**11 08 20.1**	**+2.1**
	comp=Z,11nm,1.1s,mb4.5						
AAK	**Ala-Archa**	**38.70**	**337**	*e*P	**P**	**11 08 24.8**	**-1.1**
	comp=Z,8.4nm,1.0s,mb4.4						
SONM	**Songino Array**	**41.27**	**13**	P	**P**	**11 08 47.1**	**0.0**
	comp=Z,3.5nm,0.9s,mb4.0,baz=194,slow=7.8,SNR=5.1						
SONM				PcP	PcP	11 10 46.5	+0.4
	comp=Z,1.2nm,0.6s,baz=217,slow=3.2,SNR=4.4						
KURK	**Kurchatov**	**44.64**	**346**	*e*P	**P**	**11 09 13.5**	**-0.9**
	comp=Z,22nm,1.2s,mb4.9						
NWAO	**Narrogin (SRO)**	**46.16**	**153**	P	**P**	**11 09 28.6**	**+1.7**
	comp=Z,4.8nm,0.8s,mb4.5,baz=338,slow=5.4,SNR=3.2						
ZAL	**Zalesovo**	**46.59**	**353**	P	**P**	**11 09 30.1**	**+0.2**
	comp=Z,5.5nm,0.8s,mb4.5,baz=308,slow=8.9,SNR=7.2						
WRA	**Warramunga Arr**	**48.36**	**125**	P	**P**	**11 09 43.7**	**-0.6**
	comp=Z,2.0nm,0.5s,mb4.4,baz=304,slow=8.5,SNR=9.9						
WRAB	**Tennant Creek**	**48.37**	**125**	*e*P	**P**	**11 09 43.6**	**-0.7**
BVAR	**Borovoye Array**	**49.00**	**341**	P	**P**	**11 09 48.3**	**-0.5**
	comp=Z,1.3nm,0.6s,mb4.1,baz=135,slow=10,SNR=3.4						
CHKZ	**Chkalovo**	**49.48**	**342**	*e*P	**P**	**11 09 51.1**	**-1.4**
	comp=Z,10nm,0.9s,mb4.8						
ASAR	**Alice Springs**	**50.01**	**130**	P	**P**	**11 09 56.6**	**-0.2**
	comp=Z,4.6nm,1.2s,mb4.4,baz=305,slow=7.7,SNR=4.9						
ASAR				PcP	PcP	11 11 16.8	0.0
	comp=Z,1.6nm,0.9s,baz=324,slow=2.4,SNR=3.8						
KMBO	**Kilima Mbogo**	**57.24**	**264**	P	**P**	**11 10 49.5**	**-0.9**
	comp=Z,1.8nm,0.7s,mb4.2,baz=32,slow=18,SNR=3.0						
STKA	**Stephens Creek**	**60.19**	**134**	P	**P**	**11 11 11.2**	**+0.6**
BRTR	**Keskin Array B**	**62.34**	**311**	P	**P**	**11 11 24.6**	**-0.5**
	comp=Z,1.2nm,0.5s,mb4.2,baz=114,slow=6.8,SNR=3.7						
MBAR	**Mbarara**	**63.58**	**265**	*e*P	**P**	**11 11 32.3**	**-1.4**
FINES	**FINESS Array B**	**72.69**	**332**	P	**P**	**11 12 29.9**	**+0.5**
	comp=Z,3.4nm,0.8s,mb4.3,baz=101,slow=9.7,SNR=4.5						
ARCES	**ARCESS Array B**	**75.27**	**340**	P	**P**	**11 12 45.0**	**+0.6**
	comp=Z,14nm,1.3s,mb4.7,baz=82,slow=6.4,SNR=4.8						
ARCES	**ARCESS Array B**	**75.27**	**340**	P	**P**	**11 12 45.0**	**+0.6**
MORC	**Moravsky Berou**	**75.31**	**319**	P	**P**	**11 12 45.3**	**+0.3**
BILL	**Bilibino**	**76.22**	**22**	*e*P	**P**	**11 12 47.8**	**-2.0**
	comp=Z,6.8nm,1.1s,mb4.5						
GERES	**GERESS Array B**	**77.76**	**318**	P	**P**	**11 12 60.0**	**+1.2**
	comp=Z,1.3nm,0.7s,mb4.0,baz=101,slow=5.0,SNR=4.7						
KHC	**Kasperske Hory**	**77.85**	**319**	*e*P	**P**	**11 13 01.5**	**+2.2**
NB2	**NORSAR Subarra**	**79.71**	**331**	P	**P**	**11 13 08.7**	**-0.5**
	comp=Z,8.2nm,1.2s,mb4.5,baz=93,slow=5.6						
NOA	**NORSAR Array B**	**79.71**	**331**	P	**P**	**11 13 09.5**	**+0.3**
	comp=Z,4.2nm,1.0s,mb4.3,baz=92,slow=5.7,SNR=4.6						
LPG	**La Plagne**	**82.54**	**315**	*e*P	**P**	**11 13 24.7**	**+0.3**
	comp=Z,17nm,0.9s,mb4.8						
EKA	**Eskdalemuir Ar**	**87.68**	**325**	P	**P**	**11 13 51.5**	**+1.9**
	comp=Z,1.9nm,0.8s,mb4.4,baz=106,slow=6.1,SNR=3.8						
IMA	**Indian Mountai**	**91.76**	**22**	*e*P	**P**	**11 14 10.0**	**+1.4**
SPU	**Mount Spurr**	**94.43**	**26**	*e*P	**P**	**11 14 21.8**	**+0.9**
ILAR	**Eielson Array**	**94.88**	**22**	P	**P**	**11 14 22.2**	**-0.6**
	comp=Z,1.3nm,1.2s,mb4.2,baz=304,slow=3.4,SNR=4.3						
INK	**Inuvik**	**97.11**	**16**	P	**P**	**11 14 33.9**	**+0.9**
	comp=Z,2.8nm,1.1s,mb4.6,baz=246,slow=9.8,SNR=4.0						
NVAR	**Mina Array Bea**	**125.07**	**31**	PKP	PKPdf	11 20 04.6	+3.7
	comp=Z,0.9nm,0.6s,baz=288,slow=3.1,SNR=6.0						
PDAR	**Pinedale Array**	**125.30**	**21**	PKP	PKPdf	11 20 03.9	+2.6
	comp=Z,1.0nm,0.7s,baz=357,slow=2.2,SNR=6.4						
ANMO	**Albuquerque**	**133.31**	**23**	PKP	PKPdf	11 20 20.2	+3.4
	comp=Z,1.0nm,0.8s,baz=82,slow=3.2,SNR=4.3						
ANMO	**Albuquerque**	**133.31**	**23**	PKP	PKPdf	11 20 20.2	+3.4
TXAR	**Lajitas Array**	**139.36**	**24**	PKP	PKPdf	11 20 28.4	+0.4
	comp=Z,0.5nm,0.9s,slow=1.3,SNR=4.0						
JCT	**Junction City**	**139.71**	**19**	*e*PKP	PKPdf	11 20 30.9	+2.4
PLCA	**Paso Flores**	**144.42**	**200**	PKP	PKPdf	11 20 39.6	+3.1
	comp=Z,8.0nm,0.9s,baz=135,slow=5.5,SNR=8.5						

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*IDC **27** 11:05:16.6±4.3, 24.64N×46.26W, mb4.1/9, mb1 4.2/9, mb1mx4.0/19, mbtmp4.1/9, Error ellipse: s-maj=116.7km s-min=27.3km az=2.0*
*NEIC **27** 11:05:38.0±1.4, 24.19N×46.31W, h210km, mb3.7/3, Error ellipse: s-maj=39.3km s-min=18.0km az=199.0*
ISC 27 11:05:15.1±1.6, 24.4N±0.3×46.3W±0.2, h10km, n13, σ0§82/13, mb4.2/11, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**43.39**	**107**	P	**P**	**11 13 19.2**	**-0.6**
FCC	**Fort Churchill** 2.0nm,0.7s,mb4.3	**47.95**	**329**	*e*P	**P**	**11 13 55.1**	**-0.4**
FFC	**Flin Flon** 1.7nm,0.8s,mb4.0	**50.75**	**322**	*e*P	**P**	**11 14 17.1**	**0.0**
NB2	**NORSAR Subarra** 3.5nm,0.9s,mb4.3,baz=255,slow=7.4	**53.29**	**31**	P	**P**	**11 14 36.4**	**+0.3**
NOA	**NORSAR Array B** 2.0nm,0.7s,mb4.1,baz=255,slow=6.7,SNR=4.8	**53.29**	**31**	P	**P**	**11 14 36.5**	**+0.4**
PDAR	**Pinedale Array** 1.5nm,1.0s,mb4.0,baz=90,slow=7.4,SNR=6.0	**54.57**	**306**	P	**P**	**11 14 46.0**	**+0.2**
YKA	**Yellowknife Ar** 1.0nm,0.9s,mb3.8,baz=98,slow=7.6,SNR=13	**58.65**	**330**	P	**P**	**11 15 13.5**	**-1.0**
FINES	**FINESS Array B** 2.1nm,0.9s,mb4.2,baz=270,slow=3.8,SNR=4.0	**60.42**	**32**	P	**P**	**11 15 26.4**	**-0.5**
ARCES	**ARCESS Array B** 4.7nm,1.0s,mb4.6,baz=288,slow=7.7,SNR=3.8	**60.97**	**22**	P	**P**	**11 15 30.1**	**-0.4**
AKASG	**Malin Array Be** 3.2nm,0.8s,mb4.5,baz=271,slow=6.1,SNR=12	**62.44**	**44**	P	**P**	**11 15 39.6**	**-1.0**
BRTR	**Keskin Array B** 2.9nm,1.0s,mb4.3,baz=263,slow=6.0,SNR=6.4	**67.35**	**55**	P	**P**	**11 16 13.3**	**+0.7**
ILAR	**Eielson Array** 1.4nm,0.9s,mb3.9,baz=70,slow=3.8,SNR=9.1	**72.58**	**334**	P	**P**	**11 16 44.7**	**+0.8**
BVAR	**Borovoye Array** 2.9nm,1.0s,mb4.4,baz=315,slow=13,SNR=3.9	**85.37**	**33**	P	**P**	**11 17 55.7**	**+2.1**

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*IDC **27** 11:07:08.3±0.8, 7.92N×94.05E, mb4.1/11, mb1 4.3/12, mb1mx4.2/17, mbtmp4.1/12, ML4.1/1, Error ellipse: s-maj=29.1km s-min=19.2km az=50.0*
*NEIC **27** 11:07:12.8±0.5, 7.96N×94.15E, h30km, mb4.5/5, Error ellipse: s-maj=15.5km s-min=11.8km az=79.0*
ISC 27 11:07:10.7±0.6, 7.98N±0.09×94.24E±0.10, h30km, n25, σ1§07/22, mb4.2/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.38**	**23**	P	**P**	**11 09 52.8**	**-1.7**
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=214,slow=14,SNR=6.5	**11.38**	**23**	Pn	**P**	**11 09 56.1**	**+1.6**
HYB	**Hyderabad**	**17.93**	**303**	*i* P	**P**	**11 11 21.0**	**+1.3**
LSA	**Lhasa** 11nm,0.9s,mb4.3	**21.80**	**353**	*e*P	**P**	**11 12 00.8**	**-1.5**
ENH	**Enshi**	**26.39**	**31**	P	**P**	**11 12 46.2**	**-0.3**
SONM	**Songino Array** 0.7nm,0.8s,mb3.4,baz=194,slow=10,SNR=3.6	**41.04**	**12**	P	**P**	**11 14 54.8**	**+1.8**
KURK	**Kurchatov** 3.9nm,0.8s,mb4.3	**44.53**	**346**	*e*P	**P**	**11 15 22.0**	**+0.5**
ZAL	**Zalesovo** 2.3nm,0.8s,mb4.1,baz=299,slow=10,SNR=6.3	**46.46**	**352**	P	**P**	**11 15 38.0**	**+1.3**
WRA	**Warramunga Arr** 4.0nm,1.1s,mb4.4,baz=304,slow=9.1,SNR=8.8	**48.24**	**126**	P	**P**	**11 15 51.8**	**+0.6**
WRAB	**Tennant Creek**	**48.25**	**126**	*e*P	**P**	**11 15 50.6**	**-0.6**
CHKZ	**Chkalovo** 4.6nm,0.8s,mb4.6	**49.41**	**342**	*e*P	**P**	**11 15 59.3**	**-0.4**
ASAR	**Alice Springs** 2.3nm,0.9s,mb4.2,baz=305,slow=7.3,SNR=9.3	**49.91**	**130**	P	**P**	**11 16 04.1**	**+0.1**
KMBO	**Kilima Mbogo** 7.0nm,1.0s,mb4.7,baz=53,slow=9.1,SNR=12	**57.53**	**264**	P	**P**	**11 17 00.5**	**+0.3**
BRTR	**Keskin Array B** 4.5nm,1.1s,mb4.5,baz=126,slow=8.9,SNR=5.1	**62.43**	**311**	P	**P**	**11 17 31.9**	**-1.7**
AKASG	**Malin Array Be** 0.2nm,0.3s,mb3.7,baz=88,slow=5.0,SNR=5.2	**68.13**	**322**	P	**P**	**11 18 08.3**	**-1.7**
FINES	**FINESS Array B** 2.8nm,0.8s,mb4.3,baz=90,slow=7.6,SNR=5.6	**72.67**	**332**	P	**P**	**11 18 36.9**	**-0.4**
ARCES	**ARCESS Array B** 3.4nm,0.8s,mb4.3,baz=27,slow=5.4,SNR=4.5	**75.20**	**340**	P	**P**	**11 18 52.1**	**+0.2**
MORC	**Moravsky Berou** 7.4nm,1.3s,mb4.5	**75.36**	**319**	*e*P	**P**	**11 18 52.5**	**-0.7**
GERES	**GERESS Array B** 1.7nm,0.7s,mb4.1,baz=127,slow=6.7,SNR=7.2	**77.81**	**318**	P	**P**	**11 18 56.8**	**-10**
NB2	**NORSAR Subarra** 1.0nm,0.6s,mb3.9,baz=97,slow=5.0	**79.69**	**331**	P	**P**	**11 19 17.2**	**+0.3**
NOA	**NORSAR Array B** 1.6nm,0.7s,mb4.1,baz=92,slow=5.7,SNR=4.5	**79.69**	**331**	P	**P**	**11 19 16.8**	**-0.1**
LPG	**La Plagne** 22nm,1.0s,mb4.8	**82.61**	**315**	*e*P	**P**	**11 19 33.8**	**+1.2**
NVAR	**Mina Array Bea** 0.8nm,0.8s,baz=268,slow=3.0,SNR=3.7	**124.78**	**31**	PKP	PKPdf	11 26 12.5	-0.8
PDAR	**Pinedale Array** 1.3nm,1.0s,baz=45,slow=2.1,SNR=6.1	**125.04**	**21**	PKP	PKPdf	11 26 11.8	-1.9
PLCA	**Paso Flores** 7.2nm,0.9s,baz=211,slow=3.2,SNR=9.2	**144.68**	**200**	PKP	PKPdf	11 26 47.0	-2.9

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*IDC **27** 11:08:14.4±0.8, 7.68N×93.86E, mb4.2/13, mb1 4.3/14, mb1mx4.3/18, mbtmp4.1/14, ML3.8/1, Error ellipse: s-maj=39.0km s-min=17.9km az=52.0*
*BJI **27** 11:08:19.1, 7.80N×94.00E, h30km, mb4.7*
*NEIC **27** 11:08:19.2±0.5, 7.80N×94.02E, h30km, mb4.7/8, Error ellipse: s-maj=16.0km s-min=10.0km az=67.0*
ISC 27 11:08:16.8±5.1, 7.8N±0.1×94.2E±0.1, h24km±35km, n38, σ1§21/30, mb4.4/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.53**	**23**	P	**P**	**11 11 02.9**	**-0.3**
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=215,slow=14,SNR=2.6	**11.53**	**23**	Pn	**P**	**11 11 03.8**	**+0.6**
HYB	**Hyderabad**	**17.95**	**304**	*i* P	**P**	**11 12 27.0**	**+0.4**
LSA	**Lhasa** 36nm,0.7s,mb4.9	**21.93**	**353**	*e*P	**P**	**11 13 10.3**	**-0.1**
LZH	**Lanzhou**	**29.48**	**16**	*e*P	**P**	**11 14 25.0**	**+3.7**
LZH				AP	pP	11 14 30.0	+1.6
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb4.7						
LZH	**Lanzhou** comp=Z,21nm,1.5s,mb4.7	**29.48**	**16**	*e*P	**P**	**11 14 24.9**	**+3.6**
LZH				pP	pP	11 14 30.0	+1.6
WMQ	**Urumqi**	**36.28**	**352**	*e*P	**P**	**11 15 21.3**	**+1.0**
AAK	**Ala-Archa** comp=Z,3.3nm,0.8s,mb4.1	**38.74**	**337**	*e*P	**P**	**11 15 39.1**	**-1.9**
SONM	**Songino Array** comp=Z,2.1nm,0.8s,mb3.8,baz=197,slow=7.7,SNR=5.7	**41.19**	**13**	P	**P**	**11 16 03.1**	**+2.0**
KURK	**Kurchatov** comp=Z,18nm,1.2s,mb4.8	**44.65**	**346**	*e*P	**P**	**11 16 28.3**	**-1.1**
ZAL	**Zalesovo** comp=Z,3.8nm,0.8s,mb4.4,baz=289,slow=7.9,SNR=4.2	**46.58**	**352**	P	**P**	**11 16 44.0**	**-0.5**
WRA	**Warramunga Arr** comp=Z,1.1nm,0.5s,mb4.1,baz=304,slow=8.6,SNR=3.5	**48.22**	**126**	P	**P**	**11 16 58.0**	**0.0**
WRAB	**Tennant Creek**	**48.23**	**126**	P	**P**	**11 16 57.6**	**-0.4**
CHKZ	**Chkalovo** comp=Z,58nm,1.1s,mb5.5	**49.51**	**342**	*e*P	**P**	**11 17 05.9**	**-1.5**
ASAR	**Alice Srpings** comp=Z,3.3nm,1.0s,mb4.3,baz=304,slow=7.1,SNR=6.0	**49.88**	**130**	P	**P**	**11 17 10.0**	**-0.6**
ARU	**Arti** comp=Z,179nm,1.1s,SNR=7.6	**55.93**	**337**	P	**P**	**11 17 56.1**	**+0.9**
KMBO	**Kilima Mbogo** comp=Z,4.2nm,0.9s,mb4.5,baz=52,slow=8.7,SNR=6.1	**57.44**	**264**	P	**P**	**11 18 07.7**	**+1.1**
KMBO	**Kilima Mbogo**	**57.44**	**264**	P	**P**	**11 18 07.7**	**+1.1**
KMBO				*e*P		11 18 09.2	
STKA	**Stephens Creek** comp=Z,1.1nm,0.3s,mb4.3,baz=309,slow=11,SNR=3.0	**60.07**	**134**	P	**P**	**11 18 24.5**	**0.0**
BRTR	**Keskin Array B** comp=Z,2.0nm,0.9s,mb4.2,baz=108,slow=7.8,SNR=4.6	**62.47**	**311**	P	**P**	**11 18 38.6**	**-2.1**
AKASG	**Malin Array Be** comp=Z,1.8nm,0.7s,mb4.2,baz=85,slow=4.4,SNR=5.0	**68.19**	**322**	P	**P**	**11 19 14.5**	**-2.9**
FINES	**FINESS Array B** comp=Z,5.2nm,0.8s,mb4.5,baz=135,slow=14,SNR=5.6	**72.75**	**332**	P	**P**	**11 19 43.6**	**-1.2**
MORC	**Moravsky Berou**	**75.42**	**319**	*e*P	**P**	**11 19 58.8**	**-1.7**
GERES	**GERESS Array B** comp=Z,2.6nm,0.9s,mb4.2,baz=135,slow=1.9,SNR=4.0	**77.87**	**318**	P	**P**	**11 20 03.1**	**-11**
KHC	**Kasperske Hory**	**77.96**	**319**	*e*P	**P**	**11 20 15.5**	**+0.9**
CLL	**Collm** comp=Z,4.0nm,1.0s	**78.40**	**321**	*e*P	pP	11 20 23.0	-1.7
CLL	**Collm**	**78.40**	**321**	*e**PP	pP	11 20 23.0	-1.7
NB2	**NORSAR Subarra** comp=Z,1.6nm,0.6s,mb4.1,baz=95,slow=5.0	**79.77**	**331**	P	**P**	**11 20 25.5**	**+1.2**
NOA	**NORSAR Array B** comp=Z,2.3nm,0.8s,mb4.2,baz=94,slow=5.3,SNR=5.3	**79.77**	**331**	P	**P**	**11 20 25.0**	**+0.7**
LPG	**La Plagne** comp=Z,17nm,0.8s,mb4.8	**82.66**	**315**	*e*P	**P**	**11 20 41.6**	**+1.9**
EKA	**Eskdalemuir Ar** comp=Z,2.7nm,0.8s,mb4.5,baz=96,slow=6.4,SNR=3.8	**87.76**	**325**	P	**P**	**11 21 06.2**	**+1.3**
ESDC	**Sonseca Array** comp=Z,1.4nm,0.8s,mb4.3,baz=90,slow=10,SNR=3.1	**91.26**	**310**	P	**P**	**11 21 22.9**	**+1.1**
NVAR	**Mina Array Bea** comp=Z,0.9nm,0.8s,baz=80,slow=1.6,SNR=5.6	**124.94**	**31**	PKP	PKPdf	11 27 18.4	-1.6
NVAR	**Mina Array Bea**	**124.94**	**31**	PKP	PKPdf	11 27 18.4	-1.6
PDAR	**Pinedale Array** comp=Z,1.4nm,1.0s,slow=1.5,SNR=4.8	**125.19**	**21**	PKP	PKPdf	11 27 18.5	-1.9
TXAR	**Lajitas Array** comp=Z,0.4nm,0.8s,baz=180,slow=0.9,SNR=2.9	**139.25**	**24**	PKP	PKPdf	11 27 45.2	-2.0
TXAR	**Lajitas Array**	**139.25**	**24**	PKP	PKPdf	11 27 45.2	-2.0
PLCA	**Paso Flores** comp=Z,5.9nm,0.9s,baz=177,slow=4.4,SNR=6.5	**144.52**	**200**	PKP	PKPdf	11 27 51.9	-4.2

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*IDC **27** 11:13:40.8±0.9, 7.81N×93.97E, mb3.9/10, mb1 4.1/11, mb1mx4.0/18, mbtmp3.9/11, ML3.9/1, Error ellipse: s-maj=33.1km s-min=20.9km az=51.0*
ISC 27 11:13:41.9±8.6, 7.8N±0.2×94.1E±0.2, h20km±60km, n22, σ0§79/19, mb4.3/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=209,slow=14,SNR=6.8	**11.61**	**24**	Pn	**P**	**11 16 28.7**	**-1.1**
JIRN	**Jiri**	**21.12**	**340**	*e*P	**P**	**11 18 28.8**	**+0.9**
PKI	**Pulchoki** 21nm,0.6s,mb4.7	**21.31**	**338**	*e*P	**P**	**11 18 31.5**	**+1.6**
GUN	**Gumba** 39nm,0.8s,mb4.8	**21.45**	**340**	*e*P	**P**	**11 18 31.9**	**+0.6**
DMN	**Daman** 40nm,0.7s,mb4.8	**21.45**	**338**	*e*P	**P**	**11 18 32.2**	**+0.9**
KKN	**Kakani** 48nm,1.0s,mb4.9	**21.55**	**338**	*e*P	**P**	**11 18 32.7**	**+0.4**
GKN	**Gorkha**	**21.99**	**337**	*e*P	**P**	**11 18 35.5**	**-1.2**
KOLN	**Koldanda** 35nm,0.8s,mb4.8	**22.20**	**335**	*e*P	**P**	**11 18 37.9**	**-0.9**
SONM	**Songino Array** 1.4nm,0.9s,mb3.6,baz=202,slow=6.7,SNR=5.7	**41.26**	**13**	P	**P**	**11 21 28.2**	**+0.8**
WRA	**Warramunga Arr** 0.9nm,0.5s,mb4.1,baz=304,slow=8.4,SNR=6.5	**48.28**	**125**	P	**P**	**11 22 24.4**	**+0.3**
BVAR	**Borovoye Array** 0.7nm,0.6s,mb3.9,baz=135,slow=10,SNR=4.0	**49.04**	**341**	P	**P**	**11 22 29.3**	**-0.2**
ASAR	**Alice Srpings** 1.3nm,1.1s,mb3.9,baz=303,slow=7.0,SNR=4.1	**49.92**	**130**	P	**P**	**11 22 37.0**	**+0.2**
KMBO	**Kilima Mbogo** 2.0nm,1.0s,mb4.1,baz=32,slow=19,SNR=2.3	**57.34**	**264**	P	**P**	**11 23 31.5**	**-0.1**
BRTR	**Keskin Array B** 0.8nm,0.8s,mb3.9,baz=70,slow=7.4,SNR=2.5	**62.42**	**311**	P	**P**	**11 24 05.9**	**-0.2**
AKASG	**Malin Array Be** 0.2nm,0.3s,mb3.6,baz=91,slow=4.6,SNR=3.0	**68.17**	**322**	P	**P**	**11 24 41.8**	**-1.2**
FINES	**FINESS Array B** 3.1nm,0.9s,mb4.3,baz=53,slow=9.5,SNR=5.2	**72.74**	**332**	P	**P**	**11 25 10.2**	**-0.4**
ARCES	**ARCESS Array B** 4.5nm,0.9s,mb4.4,baz=90,slow=7.2,SNR=2.8	**75.31**	**340**	P	**P**	**11 25 25.3**	**0.0**
NB2	**NORSAR Subarra** 4.1nm,1.0s,mb4.3,baz=92,slow=5.8	**79.76**	**331**	P	**P**	**11 25 50.2**	**+0.2**
NOA	**NORSAR Array B** 1.8nm,0.8s,mb4.0,baz=96,slow=5.4,SNR=3.2	**79.76**	**331**	P	**P**	**11 25 48.8**	**-1.3**
PDAR	**Pinedale Array** 0.4nm,0.8s,baz=63,slow=2.0,SNR=3.1	**125.27**	**21**	PKP	PKPdf	11 32 45.3	-0.6
TXAR	**Lajitas Array** 0.1nm,0.6s,baz=90,slow=1.8,SNR=2.5	**139.33**	**24**	PKP	PKPdf	11 33 12.0	-0.7
PLCA	**Paso Flores** 2.8nm,0.9s,baz=196,slow=10,SNR=4.8	**144.45**	**200**	PKP	PKPdf	11 33 19.7	-1.6

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*IDC **27** 11:14:43.4±0.8, 7.75N×93.84E, h22km±4km, mb4.2/15, mb1 4.4/16, mb1mx4.4/19, mbtmp4.4/16, ML4.5/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/31, Error ellipse: s-maj=34.5km s-min=12.6km az=60.0*
*BJI **27** 11:14:44.2, 7.53N×93.90E, h50km, mB5.6, mb4.6, Ms4.9, Msz4.5*
*NEIC **27** 11:14:44.8±0.4, 7.76N×93.95E, h30km, mb4.8/18, Error ellipse: s-maj=12.8km s-min=8.7km az=73.0*
**ISC 27 11:14:42.8±0.4, 7.82N±0.06×94.17E±0.07, h25km,

comp=Z,2.6nm,0.7s,mb4.4,baz=86,slow=5.0,SNR=5.1
JOF Joensuu 70.91 334 ep P 11 25 59.4 -0.3
comp=Z,5.7nm,0.8s,mb4.5
FINES FINESS Array B 72.77 332 P P 11 26 09.9 -0.9
comp=Z,4.5nm,0.7s,mb4.5,baz=112,slow=10,SNR=6.8
KAF Kangasniemi 72.85 333 ep P 11 26 08.0 -3.3
comp=Z,11nm,1.3s,mb4.6
LBTB Lobatse 74.25 241 eP P 11 26 20.3 +0.1
comp=Z,9.8nm,1.0s,mb4.7
ARCES ARCESS Array B 75.33 340 P P 11 26 24.1 -1.3
comp=Z,3.2nm,0.7s,mb4.3,baz=108,slow=3.8,SNR=6.0
GERES GERESS Array B 77.89 318 P P 11 26 29.2 -11
comp=Z,2.6nm,0.6s,mb4.3,baz=90,slow=6.7,SNR=6.5
KHC Kasperske Hory 77.98 319 eP P 11 26 40.0 -0.7
KHC e 11 27 02.5
KHC Kasperske Hory 77.98 319 eP P 11 26 40.0 -0.7
KHC x x 11 27 02.5
GRA1 Grafenberg Arr 79.53 319 eP P 11 26 49.0 -0.1
comp=Z,7.0nm,0.9s,mb4.6
GRF Grafenberg Arr 79.53 319 eP P 11 26 49.0 -0.1
comp=Z,7.0nm,0.9s,mb4.6
NB2 NORSAR Subarra 79.79 331 P P 11 26 49.3 -1.0
comp=Z,5.6nm,0.7s,mb4.6,baz=92,slow=5.6
NOA NORSAR Array B 79.79 331 P P 11 26 49.5 -0.9
comp=Z,5.1nm,0.7s,mb4.6,baz=93,slow=5.5,SNR=12
LPG La Plagne 82.68 315 eP P 11 27 06.5 +0.7
comp=Z,24nm,0.9s,mb4.9
IMA Indian Mountai 91.66 22 eP P 11 27 50.6 +1.8
ILAR Eielson Array 94.78 22 P P 11 28 03.9 +0.7
comp=Z,1.0nm,0.8s,mb4.3,baz=301,slow=4.9,SNR=7.5
INK Inuvik 97.03 16 P P 11 28 14.0 +0.6
comp=Z,8.9nm,1.4s,mb5.0,baz=308,slow=3.5,SNR=2.7
INK Inuvik 97.03 16 P P 11 28 14.0 +0.6
YKA Yellowknife Ar 106.47 13 PP PP 11 33 19.3 -4.3
comp=Z,0.2nm,0.8s,baz=334,slow=8.2,SNR=4.0
NVAR Mina Array Bea 124.95 31 PKP PKPdf 11 33 44.1 -1.9
comp=Z,0.8nm,0.6s,baz=309,slow=2.5,SNR=5.7
PDAR Pinedale Array 125.20 21 PKP PKPdf 11 33 43.6 -2.7
comp=Z,1.2nm,0.8s,slow=3.0,SNR=7.2
PV01 Paradox Valley 129.60 23 ePKPdf PKPdf 11 33 53.4 -1.6
ANMO Albuquerque 133.21 23 PKP PKPdf 11 33 59.8 -2.1
comp=Z,0.7nm,0.6s,baz=112,slow=3.2,SNR=2.8
TXAR Lajitas Array 139.26 24 PKP PKPdf 11 34 08.8 -4.4
comp=Z,0.3nm,0.7s,baz=180,slow=1.8,SNR=3.2
TXAR Lajitas Array 139.26 24 PKP PKPdf 11 34 08.8 -4.4
PLCA Paso Flores 144.51 200 PKP PKPdf 11 34 17.2 -4.8
comp=Z,8.6nm,0.8s,baz=138,slow=3.2,SNR=10

*IDC **27** 11:20:17.4±5.3, 8.08N×94.29E, h44km±49km, mb3.8/8, mb1 4.0/9, mb1mx3.8/18, mbtmp4.0/9, ML3.8/1, Error ellipse: s-maj=33.8km s-min=24.0km az=51.0*

ISC 27 11:20:14.1±5.8, 8.0N±0.2×94.3E±0.2, h33km±51km, n11, σ0§97/9, mb4.0/8, Nicobar Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMAR Chiang Mai Arr 11.29 23 P P 11 22 56.1 -0.1
0.2nm,0.3s,baz=212,slow=15,SNR=6.2
SONM Songino Array 40.96 12 P P 11 27 56.9 +1.7
1.8nm,1.0s,mb3.6,baz=170,slow=7.5,SNR=4.4
ZAL Zalesovo 46.40 352 P P 11 28 39.1 0.0
3.5nm,0.3s,mb4.7,baz=311,slow=4.5,SNR=8.3
WRA Warramunga Arr 48.23 126 P P 11 28 53.5 -0.5
1.1nm,0.8s,mb3.9,baz=303,slow=9.1,SNR=3.8
BVAR Borovoye Array 48.88 341 P P 11 28 57.9 -0.6
2.1nm,1.1s,mb4.1,baz=162,slow=9.1,SNR=3.3
KMBO Kilima Mbogo 57.60 264 P P 11 30 05.0 +1.4
1.6nm,0.6s,mb4.3,baz=49,slow=12,SNR=6.1
BRTR Keskin Array B 62.44 311 P P 11 30 34.7 -1.7
0.7nm,0.6s,mb4.0,baz=121,slow=8.4,SNR=2.9
FINES FINESS Array B 72.64 332 P P 11 31 39.1 -0.7
0.7nm,0.5s,mb3.9,baz=90,slow=7.6,SNR=6.5
NOA NORSAR Array B 79.66 331 P P 11 32 20.1 +0.5
0.9nm,0.6s,mb3.9,baz=96,slow=5.0,SNR=3.0
PDAR Pinedale Array 124.95 21 PKP PKPdf 11 39 14.2 +3.0
0.7nm,0.9s,baz=90,slow=3.0,SNR=4.5
TXAR Lajitas Array 139.01 24 PKP PKPdf 11 39 41.4 +3.3
0.2nm,0.6s,baz=202,slow=1.5,SNR=3.7

IDC 27 11:21:53.3±1.1, 7.71N×93.85E, mb4.0/9, mb1 4.1/10, mb1mx4.0/18, mbtmp3.9/10, ML3.7/1, Error ellipse: s-maj=46.8km s-min=20.9km az=55.0, Nicobar Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMAR Chiang Mai Arr 11.78 24 Pn P 11 24 41.6 -4.0
0.1nm,0.3s,baz=210,slow=12,SNR=3.2
SONM Songino Array 41.38 13 P P 11 29 41.9 -0.9
0.9nm,0.8s,baz=190,slow=8.8,SNR=4.6
ZAL Zalesovo 46.67 353 P P 11 30 24.1 -1.2
2.1nm,0.3s,baz=249,slow=4.6,SNR=5.2
WRA Warramunga Arr 48.40 125 P P 11 30 37.2 -2.3
1.6nm,0.8s,baz=305,slow=8.7,SNR=6.3
BVAR Borovoye Array 49.05 341 P P 11 30 40.9 -3.1
0.9nm,0.9s,baz=140,slow=11,SNR=2.6
ASAR Alice Springs 62.43 130 P P 11 30 49.5 -2.5
1.5nm,0.9s,baz=302,slow=6.8,SNR=5.7
BRTR Keskin Array B 62.31 311 P P 11 32 18.8 -1.1
0.8nm,0.8s,baz=104,slow=5.9,SNR=3.5
FINES FINESS Array B 72.72 332 P P 11 33 21.4 -3.5
2.9nm,0.9s,baz=127,slow=6.9,SNR=4.1
GERES GERESS Array B 77.75 318 P P 11 33 43.5 -10
0.6nm,0.6s,baz=101,slow=6.8,SNR=4.7
NOA NORSAR Array B 79.73 331 P P 11 34 02.3 -2.0
1.5nm,1.0s,baz=135,slow=9.5,SNR=3.1
NVAR Mina Array Bea 125.21 31 PKP PKPdf 11 40 58.0 -0.3
0.6nm,0.9s,baz=214,slow=1.9,SNR=3.6
PDAR Pinedale Array 125.42 21 PKP PKPdf 11 40 57.5 -1.1
0.8nm,1.0s,baz=90,slow=1.5,SNR=4.6

IDC 27 11:22:19.5±1.4, 7.89N×94.38E, mb4.3/10, mb1 4.4/11, mb1mx4.2/18, mbtmp4.2/11, ML3.5/1, Error ellipse: s-maj=45.0km s-min=26.1km az=103.0, Nicobar Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMAR Chiang Mai Arr 11.41 22 Pn P 11 25 03.2 -3.7
0.1nm,0.3s,baz=222,slow=14,SNR=4.8
HYB Hyderabad 18.10 303 eP P 11 26 36.0 +1.7
ZAL Zalesovo 46.57 352 P P 11 30 50.5 -0.4
5.4nm,0.7s,baz=293,slow=8.5,SNR=14
BVAR Borovoye Array 49.05 341 P P 11 31 07.5 -2.7
2.0nm,0.6s,baz=143,slow=7.4,SNR=6.5
KMBO Kilima Mbogo 57.66 264 P P 11 32 13.7 -0.8
2.9nm,0.8s,baz=52,slow=12,SNR=5.2
BRTR Keskin Array B 62.60 311 P P 11 32 45.4 -2.7
1.5nm,0.7s,baz=126,slow=7.4,SNR=5.6
AKASG Malin Array Be 68.29 322 P P 11 33 21.1 -3.4
6.2nm,1.2s,baz=92,slow=4.4,SNR=6.2
FINES FINESS Array B 72.81 332 P P 11 33 50.0 -1.7
11nm,1.0s,baz=76,slow=7.9,SNR=9.8
GERES GERESS Array B 77.98 318 P P 11 34 11.0 -10
4.5nm,1.1s,baz=90,slow=4.0,SNR=5.9
MAW Mawson 78.59 192 P P 11 34 23.0 -1.4
8.6nm,1.0s,baz=103,slow=13,SNR=3.5
NB2 NORSAR Subarra 79.84 331 P P 11 34 29.9 -1.3
2.6nm,0.7s,baz=94,slow=5.3
NOA NORSAR Array B 79.84 331 P P 11 34 30.1 -1.1
3.1nm,0.8s,baz=93,slow=5.5,SNR=7.0
ILAR Eielson Array 94.64 22 P P 11 35 42.6 -0.8
0.4nm,0.9s,baz=280,slow=5.7,SNR=4.4
PLCA Paso Flores 144.64 200 PKP PKPdf 11 41 55.7 -4.6
2.4nm,0.7s,baz=101,slow=3.0,SNR=2.3

*IDC **27** 11:23:55.2±0.6, 7.94N×94.26E, mb4.3/15, mb1 4.4/16, mb1mx4.4/20, mbtmp4.3/16, ML3.6/1, Error ellipse: s-maj=25.7km s-min=16.4km az=53.0*
*BJI **27** 11:23:59.8, 7.90N×94.30E, h30km, mB4.5, mb4.6, Ms4.7, Msz4.4*
*NEIC **27** 11:23:59.9±0.4, 7.92N×94.28E, h30km, mb4.7/12, Error ellipse: s-maj=11.3km s-min=8.8km az=61.0*

ISC 27 11:23:58.6±2.6, 7.88N±0.09×94.28E±0.08, h35km±22km, n47, σ1§03/40, mb4.5/25, Nicobar Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CM31 Chiang Mai Arr 11.45 23 P P 11 26 44.0 +1.3
76nm,1.7s
CMAR Chiang Mai Arr 11.45 23 Pn P 11 26 40.9 -1.9
0.1nm,0.3s,baz=225,slow=13,SNR=2.4

HYB Hyderabad 18.02 303 eP P 11 28 08.0 -0.1
HYB Hyderabad 18.02 303 i P P 11 28 08.0 -0.1
KMI Kunming 18.95 24 P P 11 28 24.5 +4.9
21nm,1.5s
KAD Karad 21.71 297 eP P 11 28 48.7 0.0
LSA Lhasa 21.90 353 eP P 11 28 50.9 +0.4
21nm,0.8s,mb4.6
POO Poona 22.50 300 eP P 11 28 52.0 -4.6
ENH Enshi 26.44 31 eP P 11 29 34.4 +0.1
20nm,1.0s,mb4.6
DDI Dehra Dun 27.01 328 e P 11 29 39.1 -0.4
WHN Wuhan 29.35 37 eP P 11 30 04.0 +3.5
LZH Lanzhou 29.40 16 eP P 11 30 05.0 +4.0
LZH AP pP 11 30 14.5 +3.6
LZH AMB AMB
comp=Z,14nm,1.5s,mb4.5
LZH Lanzhou 29.40 16 eP P 11 30 04.9 +3.9
comp=Z,14nm,1.5s,mb4.5
LZH pP pP 11 30 14.5 +3.6
WMQ Urumqi 36.26 352 eP P 11 31 01.5 +1.0
AAK Ala-Archa 38.75 336 eP P 11 31 19.7 -1.6
comp=Z,20nm,1.4s,mb4.7
SONM Songino Array 41.12 12 P P 11 31 40.8 -0.1
comp=Z,2.0nm,0.8s,mb3.8,baz=211,slow=7.2,SNR=8.0
SONM PcP PcP 11 33 41.8 +1.2
comp=Z,1.0nm,0.6s,baz=208,slow=2.8,SNR=4.3
ULN Ulaanbaatar 41.30 13 P P 11 31 41.9 -0.5
comp=Z,3.8nm,1.1s,mb3.9
KURK Kurchatov 44.63 346 eP P 11 32 09.7 +0.2
comp=Z,27nm,1.1s,mb5.0
NWAO Narrogin (SRO) 46.09 153 P P 11 32 21.0 -0.4
comp=Z,12nm,1.0s,mb4.8,baz=275,slow=9.7,SNR=3.6
ZAL Zalesovo 46.56 352 P P 11 32 24.6 -0.1
comp=Z,8.3nm,1.0s,mb4.6,baz=302,slow=6.7,SNR=12
WRA Warramunga Arr 48.16 126 P P 11 32 37.6 -0.1
comp=Z,2.9nm,1.0s,mb4.3,baz=304,slow=8.5,SNR=10
BVAR Borovoye Array 49.02 341 P P 11 32 43.4 -0.6
comp=Z,6.2nm,1.2s,mb4.5,baz=135,slow=6.3,SNR=5.6
BVAR PcP PcP 11 34 08.1 +0.3
comp=Z,1.1nm,0.7s,baz=108,slow=4.7,SNR=4.0
RAYN Ar Rayn 49.21 294 P P 11 32 47.2 +1.4
comp=Z,105nm,1.1s,mb5.8,SNR=11
ASAR Alice Springs 49.82 130 P P 11 32 50.2 -0.3
comp=Z,3.1nm,1.1s,mb4.2,baz=301,slow=7.5,SNR=4.6
KMBO Kilima Mbogo 57.56 264 P P 11 33 48.4 +0.7
comp=Z,5.2nm,0.9s,mb4.6,baz=52,slow=11,SNR=9.6
EIL Elat 59.54 300 P P 11 34 01.6 +0.4
comp=Z,3.9nm,0.6s,mb4.6,baz=180,slow=1.0,SNR=3.4
BRTR Keskin Array B 62.52 311 P P 11 34 19.8 -1.5
comp=Z,1.4nm,0.5s,mb4.3,baz=128,slow=7.1,SNR=7.0
MA2 Magadan 66.69 28 eP P 11 34 49.3 +1.3
comp=Z,15nm,1.1s,mb4.9
AKASG Malin Array Be 68.23 322 P P 11 34 55.7 -2.1
comp=Z,2.0nm,0.7s,mb4.3,baz=87,slow=5.0,SNR=7.3
FINES FINESS Array B 72.77 332 P P 11 35 24.4 -0.5
comp=Z,4.6nm,0.7s,mb4.5,baz=108,slow=12,SNR=8.3
ARCES ARCESS Array B 75.30 340 P P 11 35 39.2 -0.4
comp=Z,4.2nm,0.9s,mb4.4,baz=108,slow=3.8,SNR=6.0
GERES GERESS Array B 77.91 318 P P 11 35 44.4 -10
comp=Z,2.1nm,0.7s,mb4.2,baz=108,slow=4.2,SNR=7.8
CLL Collm 78.44 321 P P 11 36 01.0 +3.5
GRA1 Grafenberg Arr 79.55 319 eP P 11 36 04.8 +1.2
comp=Z,13nm,1.2s,mb4.7
GRF Grafenberg Arr 79.55 319 eP P 11 36 04.8 +1.2
comp=Z,13nm,1.2s,mb4.7
NB2 NORSAR Subarra 79.79 331 P P 11 36 04.2 -0.5
comp=Z,4.7nm,0.8s,mb4.5,baz=92,slow=5.6
NOA NORSAR Array B 79.79 331 P P 11 36 04.0 -0.7
comp=Z,3.5nm,0.7s,mb4.4,baz=94,slow=5.5,SNR=7.7
NOA NORSAR Array B 79.79 331 P P 11 36 04.0 -0.7
LPG La Plagne 82.71 315 eP P 11 36 21.8 +1.5
comp=Z,19nm,0.9s,mb4.8
ILAR Eielson Array 94.69 22 P P 11 37 16.4 -0.7
comp=Z,0.5nm,0.8s,mb4.0,baz=300,slow=5.8,SNR=5.3
NVAR Mina Array Bea 124.84 31 PKP PKPdf 11 42 58.2 +2.8
comp=Z,1.3nm,0.8s,baz=275,slow=3.5,SNR=5.6
PDAR Pinedale Array 125.11 21 PKP PKPdf 11 42 58.3 +2.4
comp=Z,0.8nm,0.7s,baz=84,slow=1.3,SNR=7.2
ANMO Albuquerque 133.11 23 PKP PKPdf 11 43 14.8 +3.4
comp=Z,1.1nm,0.7s,baz=338,slow=4.7,SNR=6.1
ANMO Albuquerque 133.11 23 PKP PKPdf 11 43 14.8 +3.4
TXAR Lajitas Array 139.16 24 PKP PKPdf 11 43 25.5 +2.8
comp=Z,0.4nm,0.6s,baz=161,slow=0.8,SNR=6.5
PLCA Paso Flores 144.60 200 PKP PKPdf 11 43 33.5 +1.7
comp=Z,5.7nm,0.9s,baz=110,slow=2.1,SNR=5.5
LPAZ La Paz 160.89 242 PKPab PKPab 11 44 01.3 -39
comp=Z,1.8nm,0.9s,baz=92,slow=4.3,SNR=4.4

*IDC **27** 11:32:37.3±0.9, 7.57N×94.29E, mb3.9/11, mb1 4.1/12, mb1mx4.0/18, mbtmp3.9/12, ML3.9/1, Error ellipse: s-maj=33.1km s-min=20.9km az=53.0*

ISC 27 11:32:40.6±0.7, 7.6N±0.1×94.3E±0.2, h33km, n22, σ1§11/21, mb4.4/19, Nicobar Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMAR Chiang Mai Arr 11.73 22 Pn P 11 35 24.7 -4.0
0.2nm,0.3s,baz=212,slow=14,SNR=7.8
JIRN Jiri 21.42 340 eP P 11 37 29.4 +1.5
54nm,0.9s,mb4.9
PKI Pulchoki 21.62 338 eP P 11 37 31.2 +1.4
53nm,0.9s,mb5.0
GUN Gumba 21.76 340 eP P 11 37 31.7 +0.5
52nm,0.9s,mb5.0
DMN Daman 21.76 337 eP P 11 37 31.8 +0.5
65nm,0.9s,mb5.1
KKN Kakani 21.86 338 eP P 11 37 32.3 0.0
33nm,0.8s,mb4.8
GKN Gorkha 22.30 337 eP P 11 37 34.4 -2.2
57nm,0.8s,mb5.1
KOLN Koldanda 22.51 335 eP P 11 37 36.0 -2.8
50nm,0.8s,mb5.0
SONM Songino Array 41.43 12 P P 11 40 25.4 -0.2
0.7nm,0.9s,mb3.3,baz=104,slow=5.9,SNR=2.6
ZAL Zalesovo 46.88 352 P P 11 41 09.1 -0.3
2.5nm,0.8s,mb4.2,baz=289,slow=9.9,SNR=12
WRA Warramunga Arr 47.94 125 P P 11 41 18.2 -0.1
0.4nm,0.55s,mb3.7,baz=304,slow=8.5,SNR=6.7
BVAR Borovoye Array 49.34 341 P P 11 41 28.8 +0.2
2.4nm,0.8s,mb4.3,baz=143,slow=7.4,SNR=12
ASAR Alice Springs 49.59 130 P P 11 41 30.9 0.0
0.4nm,0.8s,mb3.5,baz=305,slow=8.0,SNR=2.7
KMBO Kilima Mbogo 57.55 264 P P 11 42 29.5 -0.3
0.5nm,0.4s,mb3.9,baz=52,slow=19,SNR=2.2
BRTR Keskin Array B 62.76 311 P P 11 43 02.9 -2.2
1.9nm,0.8s,mb4.3,baz=130,slow=11,SNR=3.1
AKASG Malin Array Be 68.50 322 P P 11 43 41.6 0.0
3.0nm,0.8s,mb4.3,baz=89,slow=4.8,SNR=8.3
ARCES ARCESS Array B 75.61 340 P P 11 44 24.2 +0.6
4.2nm,1.0s,mb4.3,baz=80,slow=5.5,SNR=4.6
GERES GERESS Array B 78.17 318 P P 11 44 30.2 -8.1
1.7nm,0.6s,mb4.2,baz=101,slow=6.8,SNR=11
NB2 NORSAR Subarra 80.08 331 P P 11 44 48.8 +0.3
4.4nm,1.1s,mb4.3,baz=97,slow=4.8
NOA NORSAR Array B 80.08 331 P P 11 44 49.3 +0.8
2.1nm,0.8s,mb4.1,baz=93,slow=5.4,SNR=4.3
LPG La Plagne 82.96 315 eP P 11 45 05.0 +1.3
12nm,0.8s,mb4.7
PDAR Pinedale Array 125.40 21 PKP PKPdf 11 51 39.8 +1.2
0.4nm,0.8s,baz=90,slow=4.5,SNR=3.1

*PRU **27** 11:34:22.0, 50.26N×18.96E*
*WAR **27** 11:34:22.0, 50.23N×19.04E, h0km, ML2.4, Mining Induced*

ISC 27 11:34:20.5±0.7, 50.26N±0.05×18.92E±0.04, n10, σ1§23/16, Poland

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OJC Ojcow 0.57 94 ePG Pg 11 34 32.0 +0.2
OJC eSG Sg 11 34 39.0 -0.3
OKC Ostrava-Krasne 0.65 230 ePG Pg 11 34 35.5 +2.0
OKC eSG Sg 11 34 44.1 +1.9
NIE Niedzica 1.23 132 ePG Pg 11 34 45.0 -0.1
NIE eSG Sg 11 35 02.0 +0.4
DPC Dobruska-Polom 1.67 274 ePG Pg 11 34 52.6 -1.1
DPC eSG Sg 11 35 16.0 0.0
4.3nm,0.3s
VYHS Vyhne 1.77 182 ePN Pn 11 34 52.6 +0.1
VYHS eSN Sn 11 35 14.6 -1.5
KSP Ksiaz 1.77 290 ePG Pg 11 34 56.0 +0.1
KSP eSG Sg 11 35 21.0 +1.5
PRU Pruhonice 2.83 266 eSG Sg 11 35 52.6 -2.1
PRU Pruhonice 2.83 266 eSg Sg 11 35 52.6 -2.1

KHC Kasperske Hory 3.65 254 ex x 11 35 55.5
KHC eSG Sg 11 36 18.5 -3.3
KHC Kasperske Hory 3.65 254 eSg Sg 11 36 18.5 -3.3

*IDC **27** 11:34:23.1±5.2, 7.78N×94.18E, h49km±50km, mb3.7/12, mb1 3.9/13, mb1mx3.9/18, mbtmp4.0/13, ML4.1/1, MS3.9/1, Ms1 4.1/1, ms1mx2.9/32, Error ellipse: s-maj=33.2km s-min=18.4km az=54.0*

ISC 27 11:34:21.5±3.4, 7.8N±0.1×94.2E±0.1, h52km±30km, n22, σ1§04/21, mb4.3/19, Nicobar Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMAR Chiang Mai Arr 11.59 23 P P 11 37 06.0 -0.8
0.4nm,0.3s,baz=211,slow=15,SNR=4.9
CMAR LR LR 11 41 32.5
comp=Z,540nm,18.4s,baz=205,slow=37
HYB Hyderabad 18.06 304 eP P 11 38 31.0 +0.4
JIRN Jiri 21.22 340 eP P 11 39 06.3 +1.1
15nm,0.4s,mb4.7
PKI Pulchoki 21.42 338 eP P 11 39 08.8 +1.7
30nm,0.7s,mb4.8
GUN Gumba 21.56 340 eP P 11 39 08.2 -0.3
50nm,0.9s,mb5.0
DMN Daman 21.57 337 eP P 11 39 09.8 +1.2
44nm,0.8s,mb5.0
KKN Kakani 21.66 338 eP P 11 39 09.4 -0.2
18nm,0.8s,mb4.6
GKN Gorkha 22.10 337 eP P 11 39 12.4 -1.5
17nm,0.5s,mb4.7
KOLN Koldanda 22.32 334 eP P 11 39 15.6 -0.4
35nm,1.3s,mb4.6
SONM Songino Array 41.27 12 P P 11 42 04.4 +1.2
1.2nm,0.9s,mb3.5,baz=195,slow=8.6,SNR=4.8
ZAL Zalesovo 46.69 352 P P 11 42 47.2 +0.4
2.3nm,0.4s,mb4.5,baz=309,slow=5.8,SNR=9.8
WRA Warramunga Arr 48.11 126 P P 11 42 58.7 +0.2
1.9nm,1.0s,mb4.1,baz=304,slow=8.7,SNR=6.4
BVAR Borovoye Array 49.14 341 P P 11 43 03.7 -2.3
0.5nm,0.5s,mb3.8,baz=135,slow=2.0,SNR=3.3
ASAR Alice Springs 49.76 130 P P 11 43 11.1 -0.1
0.7nm,0.8s,mb3.7,baz=306,slow=7.7,SNR=6.1
KMBO Kilima Mbogo 57.51 264 P P 11 44 08.8 +0.5
2.1nm,0.8s,mb4.2,baz=56,slow=10,SNR=4.1
BRTR Keskin Array B 62.59 311 P P 11 44 41.2 -1.6
0.9nm,0.6s,mb4.1,baz=118,slow=6.6,SNR=4.1
AKASG Malin Array Be 68.31 322 P P 11 45 17.7 -1.6
0.5nm,0.5s,mb3.9,baz=86,slow=4.9,SNR=4.3
FINES FINESS Array B 72.87 332 P P 11 45 46.4 -0.2
7.6nm,1.1s,mb4.5,baz=104,slow=7.9,SNR=5.0
ARCES ARCESS Array B 75.42 340 P P 11 46 02.7 +1.5
2.6nm,0.7s,mb4.2,baz=90,slow=6.1,SNR=3.9
GERES GERESS Array B 77.99 318 P P 11 46 05.6 -10
1.1nm,0.8s,mb3.8,baz=45,slow=3.8,SNR=3.9
NOA NORSAR Array B 79.89 331 P P 11 46 26.4 +0.3
1.4nm,0.9s,mb3.9,baz=98,slow=5.1,SNR=3.2
PLCA Paso Flores 144.46 200 PKP PKPdf 11 53 54.5 +2.1
2.1nm,0.9s,baz=83,slow=6.8,SNR=3.8

WEL 27 11:35:24.9±0.3, 36.06S×177.89E, h223km±6km, ML3.8/7, Error ellipse: s-maj=8.7km s-min=4.7km az=90.0, Off east coast of North Island

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PUZ Puketiti 2.03 172 PN P 11 36 05.5 -0.3
PUZ SN S 11 36 36.2 -1.2
URZ Urewera 2.29 196 PN P 11 36 08.4 0.0
MWZ Matawai 2.29 187 PN P 11 36 08.4 -0.1
MWZ SN S 11 36 42.0 -0.2
KNZ Kokohu 2.96 183 PN P 11 36 15.4 -0.4
KNZ SN S 11 36 54.6 -0.6
BKZ Black Stump Fm 3.30 199 PN P 11 36 18.8 -0.9
PWZ Pawanui 4.05 191 PN P 11 36 27.4 -1.3
PWZ SN S 11 37 15.0 -3.1
TSZ Takapari Road 4.28 200 PN P 11 36 29.9 -1.6
BFZ Birch Farm 4.79 195 PN P 11 36 36.0 -1.9
BFZ SN S 11 37 31.9 -2.8
MRZ Mangatainoka R 4.94 201 PN P 11 36 37.4 -2.4
MRZ SN S 11 37 34.0 -4.0
KIW Kapiti Island 5.34 205 ePN P 11 36 41.9 -2.9
MTW Mount Morrison 5.43 199 ePN P 11 36 43.1 -2.9
CAW Cannon Point 5.51 203 PN P 11 36 43.9 -3.0
TUWZ Tuamarina 6.19 209 ePN P 11 36 52.1 -3.5
MQZ McQueen's Vall 8.63 206 SN S 11 38 55.4 -7.3

IDC 27 11:37:45.6±0.9, 7.79N×93.99E, mb3.9/10, mb1 4.1/11, mb1mx4.0/18, mbtmp3.9/11, ML3.9/1, Error ellipse: s-maj=40.5km s-min=19.3km az=54.0, Nicobar Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMAR Chiang Mai Arr 11.65 24 Pn P 11 40 34.3 -2.0
0.2nm,0.3s,baz=216,slow=13,SNR=4.2
SONM Songino Array 41.27 13 P P 11 45 32.1 -2.2
0.4nm,0.5s,baz=217,slow=7.2,SNR=3.3
ZAL Zalesovo 46.61 353 P P 11 46 15.8 -1.5
1.7nm,0.8s,baz=321,slow=7.5,SNR=4.5
WRA Warramunga Arr 48.34 125 P P 11 46 29.1 -2.2
1.9nm,0.9s,baz=305,slow=9.2,SNR=7.4
BVAR Borovoye Array 49.02 341 P P 11 46 33.5 -2.5
0.2nm,0.3s,baz=131,slow=13,SNR=2.9
ASAR Alice Springs 49.98 130 P P 11 46 41.6 -2.3
1.6nm,0.9s,baz=315,slow=7.7,SNR=6.2
BRTR Keskin Array B 62.37 311 P P 11 48 09.8 -2.7
0.8nm,0.6s,baz=67,slow=9.4,SNR=3.8
AKASG Malin Array Be 68.12 322 P P 11 48 47.9 -1.6
0.2nm,0.2s,baz=84,slow=5.2,SNR=2.8
FINES FINESS Array B 72.71 332 P P 11 49 14.5 -2.7
3.8nm,0.9s,baz=108,slow=6.0,SNR=3.9
GERES GERESS Array B 77.78 318 P P 11 49 35.2 -11
2.0nm,0.8s,baz=80,slow=8.1,SNR=4.0
NB2 NORSAR Subarra 79.73 331 P P 11 49 54.3 -2.4
1.7nm,0.7s,baz=91,slow=5.0
NOA NORSAR Array B 79.73 331 P P 11 49 55.8 -0.9
1.3nm,0.7s,baz=97,slow=5.6,SNR=3.3
LPG La Plagne 82.57 315 eP P 11 50 12.2 +0.2
23nm,1.1s
NVAR Mina Array Bea 125.07 31 PKP PKPdf 11 56 48.6 -1.8
0.2nm,0.4s,baz=252,slow=2.9,SNR=2.9
PDAR Pinedale Array 125.30 21 PKP PKPdf 11 56 49.7 -1.0
0.8nm,1.0s,baz=45,slow=2.1,SNR=5.0
TXAR Lajitas Array 139.36 24 PKP PKPdf 11 57 16.9 -0.6
0.2nm,0.7s,slow=0.9,SNR=3.4
PLCA Paso Flores 144.42 200 PKP PKPdf 11 57 24.5 -1.5
2.2nm,0.8s,baz=55,slow=0.9,SNR=3.4

*IDC **27** 11:40:45.8±0.8, 7.89N×93.96E, mb4.2/13, mb1 4.3/14, mb1mx4.3/18, mbtmp4.2/14, ML3.8/1, Error ellipse: s-maj=40.2km s-min=18.1km az=53.0*
*NEIC **27** 11:40:51.1±0.5, 7.95N×94.22E, h30km, mb4.6/11, Error ellipse: s-maj=15.9km s-min=11.3km az=71.0*

ISC 27 11:40:49.5±0.6, 8.02N±0.09×94.2E±0.1, h33km, n33, σ1§45/29, mb4.3/23, Nicobar Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CM31 Chiang Mai Arr 11.35 23 P P 11 43 35.9 +3.4
CMAR Chiang Mai Arr 11.35 23 Pn P 11 43 31.2 -1.2
0.2nm,0.3s,baz=205,slow=15,SNR=2.6
LSA Lhasa 21.76 353 eP P 11 45 43.4 +3.2
28nm,0.7s,mb4.8
ENH Enshi 26.36 31 P P 11 46 24.8 +0.1
5.9nm,0.7s,mb4.2
AAK Ala-Archa 38.60 336 eP P 11 48 05.8 -5.4
9.1nm,1.1s,mb4.4
SONM Songino Array 41.01 13 P P 11 48 30.5 -0.6
1.7nm,1.0s,mb3.6,baz=201,slow=7.6,SNR=3.0
ULN Ulaanbaatar 41.18 13 P P 11 48 35.9 +3.3
1.6nm,0.8s,mb3.7
KURK Kurchatov 44.49 346 eP P 11 48 57.0 -2.5
10nm,1.0s,mb4.5
ZAL Zalesovo 46.42 352 P P 11 49 16.3 +1.6
5.6nm,0.9s,mb4.5,baz=297,slow=8.9,SNR=14
WRA Warramunga Arr 48.28 126 P P 11 49 29.6 -0.2
1.6nm,0.6s,mb4.2,baz=304,slow=8.5,SNR=8.3
WRAB Tennant Creek 48.29 126 eP P 11 49 29.7 -0.2
5.2nm,0.8s,mb4.6
BVAR Borovoye Array 48.88 341 P P 11 49 32.7 -1.2
5.1nm,1.2s,mb4.4,baz=141,slow=9.5,SNR=5.7
BRVK Borovoye 48.94 341 eP P 11 49 33.6 -0.9

5.0nm,1.1s,mb4.5
ASAR Alice Springs 49.95 130 P **P 11 49 42.1 -0.5**
1.2nm,0.8s,mb4.0,baz=316,slow=7.4,SNR=5.3
ASAR PcP PcP 11 51 02.9 +0.2
1.0nm,0.7s,baz=303,slow=3.6,SNR=5.3
KMBO Kilima Mbogo 57.51 264 P **P 11 50 39.2 +0.7**
4.1nm,0.8s,mb4.5,baz=38,slow=9.5,SNR=8.4
KMBO Kilima Mbogo 57.51 264 P **P 11 50 39.2 +0.7**
BRTR Keskin Array B 62.39 311 P **P 11 51 08.7 -2.9**
2.1nm,0.9s,mb4.3,baz=126,slow=7.5,SNR=7.1
MA2 Magadan 66.60 28 *e*P **P 11 51 39.9 +1.4**
12nm,1.1s,mb4.9
AKASG Malin Array Be 68.09 322 P **P 11 51 45.5 -2.5**
0.5nm,0.3s,mb4.0,baz=98,slow=6.6,SNR=4.3
FINES FINESS Array B 72.62 332 P **P 11 52 15.5 +0.2**
5.4nm,0.9s,mb4.5,baz=100,slow=8.5,SNR=7.2
ARCES ARCESS Array B 75.16 340 P **P 11 52 30.6 +0.7**
5.1nm,0.9s,mb4.5,baz=108,slow=5.7,SNR=4.0
MORC Moravsky Berou 75.32 319 *e*P **P 11 52 32.6 +1.4**
10nm,1.1s,mb4.7
GERES GERESS Array B 77.77 318 P **P 11 52 34.2 -11**
1.9nm,0.8s,mb4.1,baz=104,slow=5.5,SNR=5.8
CLL Collm 78.30 321 P **P 11 52 50.0 +2.1**
NB2 NORSAR Subarra 79.64 331 P **P 11 52 55.3 +0.3**
1.9nm,0.8s,mb4.1,baz=97,slow=5.0
NOA NORSAR Array B 79.64 331 P **P 11 52 55.4 +0.4**
3.7nm,0.8s,mb4.3,baz=94,slow=5.5,SNR=6.0
NOA NORSAR Array B 79.64 331 P **P 11 52 55.4 +0.4**
LPG La Plagne 82.57 315 *e*P **P 11 53 07.5 -3.2**
20nm,1.0s,mb4.8
ESDC Sonseca Array 91.18 310 P **P 11 53 53.7 +0.9**
0.4nm,0.3s,mb4.2,baz=63,slow=3.3,SNR=4.1
NVAR Mina Array Bea 124.76 31 PKP PKPdf 11 59 49.6 +3.1
1.3nm,0.8s,baz=55,slow=2.4,SNR=7.3
PDAR Pinedale Array 125.01 21 PKP PKPdf 11 59 49.5 +2.7
1.1nm,0.8s,baz=45,slow=2.1,SNR=7.6
TXAR Lajitas Array 139.06 24 PKP PKPdf 12 00 15.8 +2.2
0.6nm,0.9s,baz=208,slow=1.6,SNR=4.4
PLCA Paso Flores 144.71 200 PKP PKPdf 12 00 24.3 +1.1
3.7nm,0.9s,baz=141,slow=5.2,SNR=5.4

IDC ***27*** *11:44:00.2±0.4, 8.06N×94.21E, mb4.7/26, mb1 4.8/27, mb1mx4.8/27, mbtmp4.7/27, ML4.8/1, Error ellipse: s-maj=19.7km s-min=11.5km az=47.0*
MOS ***27*** *11:44:04.3±1.0, 8.01N×94.24E, h37km, mb5.3/64, MS5.0/4, Error ellipse: s-maj=9.7km s-min=5.3km az=117.0*
BJI ***27*** *11:44:04.2, 7.67N×93.87E, h53km, mB5.3, mb4.9, Ms5.4, Msz5.0*
HRVD ***27*** *11:44:05.0±0.5, 8.02N×94.15E, h12km, MW5.2/32, Centroid moment Tensor Solution. LP body waves: s17,c24;Mantle waves: s32,c50; Half duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr-2.79±.46; Mθθ-1.27±.40; Mφφ4.06±.46; Mrθ5.63±1.20; Mθφ4.98±.36; Mφr-3.89±1.33; Best double couple: M0 8.736×10^16 NP1: φs246°, δ58°, λ-29°. NP2:φs353°, δ65°, λ-145°. Principal axes: T 7.077, Plg4°, Azm118°; N 3.317, Plg48°, Azm23°; P -10.395, Plg42°, Azm212°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***27*** *11:44:05.0±0.2, 7.98N×94.18E, h30km, mb5.1/71 Error ellipse: s-maj=5.9km s-min=4.7km az=55.0*
ISC 27 11:44:02.7±0.2, 7.94N±0.03×94.14E±0.03, h25km, h25km±.9km:pP-P,n291,σ1°08/280, mb5.0/106, MS5.2/8, 24C-15D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PBA	**Port Blair**	**3.94**	**340**	*e*PG		**Pn**	**11 45 12.8**	**+10**
PBA				*e*SG		**Sn**	**11 45 54.5**	**+5.3**
NST	**Nakhon Sawan**	**9.67**	**37**	P		**P**	**11 46 22.0**	**-1.6**
CM31	**Chiang Mai Arr**	**11.46**	**24**	*e*P		**P**	**11 46 48.8**	**+0.8**
	30nm,0.6s							
CMAR	**Chiang Mai Arr**	**11.46**	**24**	P		**P**	**11 46 47.4**	**-0.6**
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**11.46**	**24**	Pn		**P**	**11 46 47.4**	**-0.6**
	comp=Z,2.0nm,0.3s,baz=211,slow=14,SNR=64							
CHG	**Chiang Mai**	**11.78**	**23**	⇓P		**P**	**11 46 53.8**	**+1.4**
	comp=Z,48nm,0.9s							
NANT	**Nan**	**12.54**	**30**	P		**P**	**11 47 03.5**	**+0.9**
CHRT	**Chiangrai**	**13.06**	**24**	⇑P		**P**	**11 47 10.5**	**+1.0**
	comp=Z,218nm,1.2s							
PALK	**Pallekele**	**13.33**	**268**	*e*P		**P**	**11 47 13.0**	**-0.1**
	comp=Z,15nm,0.8s							
VIS	**Vishakhapatnam**	**14.33**	**314**	*e*P		**P**	**11 47 25.9**	**-0.4**
VIS				*e*			11 47 32.6	
	comp=Z,86nm,1.4s							
VIS				*e*			11 49 51.2	
BWNR	**Bhubaneshwar**	**14.70**	**328**	*e*P		**P**	**11 47 29.0**	**-2.1**
BWNR				*e*			11 47 34.1	
	comp=Z,65nm,0.7s							
BWNR				*e*			11 50 01.6	
CAL	**Calcutta**	**15.56**	**340**	*e*		**P**	**11 47 41.5**	**-0.8**
CAL				*e*		**S**	**11 50 49.3**	**+15**
CAL				*e*			11 54 22.5	
KOD	**Kodaikanal**	**16.62**	**279**	*e*P		**P**	**11 48 01.4**	**+5.5**
KOD				*e*			11 48 04.5	
	comp=Z,78nm,1.4s							
SHL	**Shillong**	**17.66**	**353**	*e*S		**S**	**11 51 26.4**	**+3.7**
HYB	**Hyderabad**	**17.87**	**303**	*e*P		**P**	**11 48 13.0**	**+1.5**
HYB				*e*S		**S**	**11 51 35.0**	**+7.6**
HYB				pmax		pmax		
	comp=Z,71nm,1.2s							
HYB	**Hyderabad**	**17.87**	**303**	*e*P		**P**	**11 48 13.0**	**+1.5**
	comp=Z,71nm,1.2s							
HYB				*e*S		**S**	**11 51 35.0**	**+7.6**
HYB	**Hyderabad**	**17.87**	**303**	*i* P		**P**	**11 48 13.0**	**+1.5**
	comp=Z,71nm,1.2s							
HYB				*e*S		**S**	**11 51 24.0**	**-3.4**
QIZ	**Qiongzhong**	**18.82**	**53**	P		**P**	**11 48 24.8**	**+1.6**
QIZ				S		**S**	**11 51 50.8**	**+2.0**
QIZ				AMB		AMB		
	comp=Z,964nm,8.6s							
QIZ				LR		LR		
	comp=N,8μm,12.9s							
QIZ				LR		LR		
	comp=Z,2μm,12.9s							
QIZ	**Qiongzhong**	**18.82**	**53**	*e*P		**P**	**11 48 25.4**	**+2.3**
	comp=Z,77nm,1.1s							
KMI	**Kunming**	**18.96**	**25**	⇓P		**P**	**11 48 27.7**	**+2.9**
KMI				S		**S**	**11 51 56.5**	**+4.5**
KMI				pmax		pmax		
	comp=Z,83nm,1.9s							
KMI	**Kunming**	**18.96**	**25**	⇓P		**P**	**11 48 27.7**	**+2.9**
	comp=Z,83nm,1.9s							
KMI				pP			11 48 35.7	
KMI				sP			11 48 38.0	
KMI				PP		PP	11 48 45.5	+4.2
KMI				S		**S**	**11 51 56.5**	**+4.5**
KMI				sS			11 52 08.7	
KMI				SS		SS	11 52 18.9	+1.4
COCO	**West Island**	**20.17**	**172**	P		**P**	**11 48 37.0**	**-1.4**
	comp=Z,89nm,0.8s							
JIRN	**Jiri**	**21.01**	**340**	*e*P		**P**	**11 48 46.9**	**-0.1**
	comp=Z,308nm,1.0s,mb5.6							
PKI	**Pulchoki**	**21.20**	**338**	*e*P		**P**	**11 48 47.2**	**-1.8**
	comp=Z,132nm,0.7s,mb5.4							
GUN	**Gumba**	**21.35**	**340**	*e*P		**P**	**11 48 50.1**	**-0.3**
	comp=Z,284nm,0.8s,mb5.6							
DMN	**Daman**	**21.35**	**338**	*e*P		**P**	**11 48 48.7**	**-1.7**
	comp=Z,274nm,0.8s,mb5.6							
KKN	**Kakani**	**21.45**	**338**	*e*P		**P**	**11 48 50.2**	**-1.2**
	comp=Z,146nm,0.7s,mb5.4							
KAD	**Karad**	**21.56**	**298**	*e*P		**P**	**11 48 54.6**	**+1.9**
KAD				*e*			11 48 57.1	
	comp=Z,60nm,1.5s							
LSA	**Lhasa**	**21.83**	**353**	P		**P**	**11 48 54.8**	**-0.4**
LSA	**Lhasa**	**21.83**	**353**	*e*P		**P**	**11 48 54.4**	**-0.8**
LSA				pmax		pmax		
	comp=Z,75nm,0.7s,mb5.2							
LSA	**Lhasa**	**21.83**	**353**	*e*P		**P**	**11 48 54.4**	**-0.9**
	comp=Z,75nm,0.7s,mb5.2							
GKN	**Gorkha**	**21.89**	**337**	*e*P		**P**	**11 48 55.2**	**-0.6**
	comp=Z,207nm,0.7s,mb5.7							
KOLN	**Koldanda**	**22.10**	**334**	*e*P		**P**	**11 48 58.0**	**0.0**
	comp=Z,266nm,1.2s,mb5.6							
BHPL	**Bhopal**	**22.11**	**315**	*e*P		**P**	**11 48 60.0**	**+1.9**
BHPL				*e*			11 49 05.2	
	comp=Z,116nm,1.3s							
POO	**Poona**	**22.35**	**300**	*e*P		**P**	**11 49 03.0**	**+2.5**
POO				*e*			11 49 04.5	
	comp=Z,45nm,1.4s							
POO	**Poona**	**22.35**	**300**	*e*		**P**	**11 49 01.0**	**+0.5**
POO				*i*			11 52 34.0	
NDI	**New Delhi**	**26.08**	**324**	*e*P		**P**	**11 49 36.6**	**+0.2**
NDI				*e*			11 49 38.5	
	comp=Z,60nm,1.3s							
NDI				*e*			11 53 03.0	
AJM	**Ajmer**	**26.14**	**317**	⇑*i*		**P**	**11 49 38.0**	**+1.1**
ENH	**Enshi**	**26.47**	**31**	*e*P		**P**	**11 49 39.9**	**0.0**
	comp=Z,57nm,1.0s,mb5.1							
SMLA	**Simla**	**27.99**	**328**	*e*		**P**	**11 50 07.4**	**+14**
SMLA				*e*			11 50 09.6	
	comp=Z,28nm,0.6s							
SMLA				*e*			11 53 37.8	
XAN	**Xi'an**	**29.34**	**26**	P		**P**	**11 50 05.3**	**-0.6**
XAN				AMB		AMB		
	comp=Z,21nm,1.1s,mb4.8							
LZH	**Lanzhou**	**29.39**	**16**	⇑P		**P**	**11 50 07.3**	**+1.0**
LZH				AMB		AMB		
	comp=Z,50nm,1.8s,mb4.9							
LZH				AMB		AMB		
	comp=Z,220nm,4.0s							
LZH	**Lanzhou**	**29.39**	**16**	⇑P		**P**	**11 50 07.2**	**+0.9**
LZH				*SP		sP	11 50 19.2	+2.3
LZH				pmax		pmax		
	comp=Z,50nm,1.8s,mb4.9							
LZH	**Lanzhou**	**29.39**	**16**	⇑P		**P**	**11 50 07.2**	**+0.9**
	comp=Z,50nm,1.8s,mb4.9							
LZH				pP		pP	11 50 15.2	+1.5
LZH				sP		sP	11 50 19.2	+2.3
WHN	**Wuhan**	**29.39**	**37**	⇑P		**P**	**11 50 07.5**	**+1.1**
NJ2	**Nanjing**	**33.23**	**40**	*e*P		**P**	**11 50 41.5**	**+1.4**
NJ2				AP		pP	11 50 51.5	+4.0
NJ2				PP		PP	11 51 54.3	+2.7
NJ2				AMB		AMB		
	comp=Z,150nm,1.1s,mb5.8							
NJ2				AMB		AMB		
	comp=Z,1μm,3.9s							
NJ2				LR		LR		
	comp=N,7μm,11.8s,MS5.8							
NJ2				LR		LR		
	comp=E,8μm,13.0s,MS5.8							
NJ2				LR		LR		
	comp=Z,3μm,16.3s,MS5.0							
TIA	**Tai'an**	**35.10**	**33**	*e*P		**P**	**11 50 57.0**	**+0.8**
WMQ	**Urumqi**	**36.19**	**352**	*e*P		**P**	**11 51 05.5**	**+0.2**
WMQ				AP		pP	11 51 15.3	+2.6
WMQ				PP		PP	11 52 28.5	+0.3
WMQ				PCP		PcP	11 53 30.8	0.0
WMQ				AMB		AMB		
	comp=Z,130nm,1.3s,mb5.7							
WMQ				AMB		AMB		
	comp=Z,675nm,5.3s							
WMQ				LR		LR		
	comp=N,2μm,18.0s,MS5.0							
WMQ				LR		LR		
	comp=E,1μm,18.1s,MS5.0							
WMQ				LR		LR		
	comp=Z,3μm,18.2s,MS5.1							
BJT	**Baijiatuan**	**37.53**	**28**	*e*P		**P**	**11 51 18.8**	**+2.1**
BJT				pmax		pmax		
	comp=Z,10.0nm,0.6s							
BJT	**Baijiatuan**	**37.53**	**28**	*e*P		**P**	**11 51 18.8**	**+2.1**
	comp=Z,9.8nm,0.6s,mb4.7							
BJI	**Beijing**	**37.55**	**28**	P		**P**	**11 51 18.7**	**+1.9**
BJI				pmax		pmax		
	comp=Z,28nm,1.4s,mb4.8							
BJI	**Beijing**	**37.55**	**28**	P		**P**	**11 51 18.7**	**+1.9**
	comp=Z,28nm,1.4s,mb4.8							
KZA	**Kyzart**	**37.88**	**337**	P		**P**	**11 51 20.8**	**+1.3**
	SNR=5.9							
UCH	**Uchtor**	**38.30**	**336**	P		**P**	**11 51 24.1**	**+1.0**
	SNR=9.1							
MBWA	**Marble Bar**	**38.31**	**139**	*e*P		**P**	**11 51 25.8**	**+2.4**
	comp=Z,40nm,1.4s,mb5.0							
TKM2	**Tokmak 2**	**38.47**	**338**	P		**P**	**11 51 24.5**	**0.0**
	SNR=8.7							
KBK	**Karagaybulak**	**38.49**	**337**	P		**P**	**11 51 25.2**	**+0.5**
	SNR=12							
AML	**Almayashu**	**38.55**	**335**	P		**P**	**11 51 25.6**	**+0.4**
	SNR=33							
AAK	**Ala-Archa**	**38.65**	**337**	P		**P**	**11 51 27.5**	**+1.5**
	SNR=10							
AAK	**Ala-Archa**	**38.65**	**337**	P		**P**	**11 51 26.5**	**+0.5**
AAK				pmax		pmax		
	comp=Z,24nm,1.1s,mb4.8							
AAK	**Ala-Archa**	**38.65**	**337**	*e*P		**P**	**11 51 25.1**	**-0.9**
	comp=Z,16nm,0.9s,mb4.7							
CHMS	**Chumysh**	**38.86**	**337**	P		**P**	**11 51 28.0**	**+0.3**
	SNR=8.4							
EKS2	**Erkin-Say**	**38.95**	**336**	P		**P**	**11 51 29.2**	**+0.6**
	SNR=7.5							
USP	**Ospenovka**	**39.18**	**337**	P		**P**	**11 51 30.4**	**-0.1**
	SNR=15							
SONM	**Songino Array**	**41.10**	**13**	P		**P**	**11 51 46.0**	**-0.2**
	comp=Z,8.9nm,1.0s,mb4.3,baz=198,slow=7.8,SNR=23							
SONM				PcP		PcP	11 53 46.4	+0.2
	comp=Z,2.2nm,0.6s,baz=192,slow=5.2,SNR=5.2							
ULN	**Ulaanbaatar**	**41.28**	**13**	*e*P		**P**	**11 51 47.7**	**0.0**
ULN				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.3							
ULN	**Ulaanbaatar**	**41.28**	**13**	*e*P		**P**	**11 51 47.6**	**0.0**
	comp=Z,6.3nm,0.8s,mb4.3							
KS15	**Wonju Array Si**	**42.39**	**41**	*e*P		**P**	**11 51 58.0**	**+1.1**
SNY	**Shenyang**	**42.62**	**33**	⇓P		**P**	**11 51 59.8**	**+1.0**
SNY				AMB		AMB		
	comp=Z,30nm,1.6s,mb4.8							
MOY	**Mondy**	**43.96**	**6**	*e*P		**P**	**11 52 04.0**	**-5.5**
TLY	**Talaya**	**44.31**	**8**	*e*P		**P**	**11 52 13.3**	**+0.9**
TLY				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.4							
TLY				MLR		MLR		
	comp=Z,2μm,25.0s,MS4.9							
TLY	**Talaya**	**44.31**	**8**	*e*P		**P**	**11 52 12.9**	**+0.6**
	comp=Z,9.3nm,1.0s,mb4.5							
KURK	**Kurchatov**	**44.55**	**346**	*i* P		**P**	**11 52 13.9**	**-0.4**
KURK				pmax		pmax		
	comp=Z,41nm,1.3s,mb5.1							
KURK	**Kurchatov**	**44.55**	**346**	*e*P		**P**	**11 52 13.4**	**-0.9**
	comp=Z,62nm,1.2s,mb5.3							
MUN	**Mundaring**	**44.94**	**153**	*e*P		**P**	**11 52 18.6**	**+0.9**
	comp=Z,40nm,0.8s,mb5.3							
MUN	**Mundaring**	**44.94**	**153**	*e*P		**P**	**11 52 18.6**	**+0.9**
MUN				pmax		pmax		
	comp=Z,40nm,0.8s,mb5.3							
KLBR	**Kellerberrin**	**45.33**	**151**	*e*P		**P**	**11 52 22.1**	**+1.3**
	comp=Z,399nm,0.9s							
NWAO	**Narrogin (SRO)**	**46.20**	**153**	P		**P**	**11 52 28.0**	**+0.3**
NWAO				pmax		pmax		
	comp=Z,48nm,0.9s							
NWAO	**Narrogin (SRO)**	**46.20**	**153**	P		**P**	**11 52 28.0**	**+0.3**
	comp=Z,48nm,0.9s,mb5.4,baz=311,slow=11,SNR=7.4							
NWAO	**Narrogin (SRO)**	**46.20**	**153**	*e*P		**P**	**11 52 28.1**	**+0.4**
	comp=Z,39nm,0.8s,mb5.4							
HIA	**Hailar**	**46.47**	**23**	*e*P		**P**	**11 52 30.1**	**+0.6**
HIA				pmax		pmax		
	comp=Z,48nm,1.4s							
HIA	**Hailar**	**46.47**	**23**	*e*P		**P**	**11 52 30.1**	**+0.6**
	comp=Z,48nm,1.4s,mb5.2							
ZAL	**Zalesovo**	**46.49**	**352**	P		**P**	**11 52 28.7**	**-0.9**
ZAL				pmax		pmax		
	comp=Z,16nm,1.0s							
ZAL	**Zalesovo**	**46.49**	**352**	P		**P**	**11 52 28.7**	**-0.9**
	comp=Z,16nm,1.0s,mb4.9,baz=295,slow=7.1,SNR=34							
ZAL	**Zalesovo**	**46.49**	**352**	P		**P**	**11 52 28.7**	**-0.9**
NVS	**Novosibirsk**	**47.58**	**351**	*i* P		**P**	**11 52 36.5**	**-1.8**
NVS				pmax		pmax		
	comp=Z,37nm,1.2s,mb5.3							
NVS				pmax		pmax		
	comp=N,38nm,1.8s							
NVS				pmax		pmax		
	comp=E,14nm,1.4s							
MDJ	**Mudanjiang**	**47.76**	**34**	P		**P**	**11 52 40.8**	**+1.0**
MDJ				PP		PP	11 54 33.5	+2.6
MDJ				AMB		AMB		
	comp=Z,17nm,1.0s,mb5.0							
MDJ				AMB		AMB		
	comp=Z,209nm,5.1s							
MDJ				LR		LR		
	comp=N,1μm,14.9s,MS5.3							
MDJ				LR		LR		
	comp=E,2μm,13.1s,MS5.3							
MDJ				LR		LR		
	comp=Z,2μm,13.4s,MS5.2							
MDJ	**Mudanjiang**	**47.76**	**34**	*e*P		**P**	**11 52 37.3**	**-2.6**
	comp=Z,74nm,1.7s,mb5.4							
WRA	**Warramunga Arr**	**48.30**	**126**	P		**P**	**11 52 43.3**	**-1.0**
WRA				pmax		pmax		
	comp=Z,5.0nm,0.8s							
WRA	**Warramunga Arr**	**48.30**	**126**	P		**P**	**11 52 43.3**	**-1.0**
	comp=Z,4.8nm,0.8s,mb4.6,baz=304,slow=8.5,SNR=16							
WRAB	**Tennant Creek**	**48.30**	**126**	*e*P		**P**	**11 52 43.0**	**-1.4**
WRAB				pmax		pmax		
	comp=Z,30nm,0.9s,mb5.3							
WRAB	**Tennant Creek**	**48.30**	**126**	*e*P		**P**	**11 52 43.0**	**-1.4**
	comp=Z,30nm,0.9s,mb5.3							
WB2	**Warramunga Arr**	**48.31**	**126**	*e*P		**P**	**11 52 43.4**	**-1.0**
BVA0	**Borovoye Array**	**48.93**	**341**	*i* P		**P**	**11 52 48.0**	**-0.7**
BVA0				pmax		pmax		
	comp=Z,3.0nm,1.1s,mb4.2							
BVAR	**Borovoye Array**	**48.93**	**341**	P		**P**	**11 52 47.8**	**-0.9**
	comp=Z,8.1nm,1.0s,mb4.7,baz=143,slow=7.4,SNR=21							
BVAR				PcP		PcP	11 54 13.3	+0.2
	comp=Z,3.4nm,0.7s,baz=135,slow=2.0,SNR=2.6							
BRVK	**Borovoye**	**48.99**	**341**	*e*P		**P**	**11 52 47.5**	**-1.7**
BRVK				pmax		pmax		
	comp=Z,15nm,1.1s,mb4.9							
BRVK	**Borovoye**	**48.99**	**341**	*e*P		**P**	**11 52 47.5**	**-1.7**
	comp=Z,15nm,1.1s,mb4.9							
JHJ	**Hachijo jima 2**	**49.03**	**53**	P		**P**	**11 52 48.3**	**-1.5**
	comp=Z,67nm,0.4s,mb6.1,baz=254,slow=21,SNR=4.2							
RAYN	**Ar Rayn**	**49.06**	**294**	P		**P**	**11 52 51.1**	**+1.0**
	comp=Z,190nm,1.1s,mb6.0,SNR=15							
MAJO	**Matsushiro**	**49.12**	**48**	*e*P		**P**	**11 52 49.5**	**-1.0**
MAJO				pmax		pmax		
	comp=Z,19nm,1.0s,mb5.1							
MAJO	**Matsushiro**	**49.12**	**48**	*e*P		**P**	**11 52 49.5**	**-1.0**
	comp=Z,19nm,1.0s,mb5.1							
CHKZ	**Chkalovo**	**49.41**	**342**	P		**P**	**11 52 51.7**	**-0.8**
CHKZ				pmax		pmax		
	comp=Z,29nm,1.0s,mb5.3							
CHKZ	**Chkalovo**	**49.41**	**342**	*e*P		**P**	**11 52 51.4**	**-1.1**
	comp=Z,31nm,0.8s,mb5.4							
ASPA	**Alice Springs**	**49.96**	**130**	*e*P		**P**	**11 52 56.2**	**-0.8**
ASAR	**Alice Springs**	**49.96**	**130**	P		**P**	**11 52 55.8**	**-1.3**
	comp=Z,5.2nm,1.0s,mb4.5,baz=305,slow=7.5,SNR=13							
ASAR				PcP		PcP	11 54 16.4	-0.8
	comp=Z,2.6nm,0.8s,baz=302,slow=5.8,SNR=3.0							
KLR	**Kul'dur**	**51.83**	**31**	*e*P		**P**	**11 53 06.1**	**-4.8**
BOD	**Bodaibo**	**52.09**	**13**	*e*P		**P**	**11 53 11.6**	**-1.2**
CLNS	**Chul'man**	**54.38**	**20**	*e*P		**P**	**11 53 28.8**	**-0.9**
CLNS				pmax		pmax		
	comp=Z,22nm,1.0s,mb5.0							
CLNS				pmax		pmax		
	comp=N,14nm,1.1s							
CLNS				pmax		pmax		
	comp=E,13nm,1.0s							
GNI	**Garni**	**54.39**	**314**	⇓*e*P		**P**	**11 53 30.3**	**+0.3**
GNI				pmax		pmax		
	comp=Z,34nm,1.5s							
GNI	**Garni**	**54.39**	**314**	P		**P**	**11 53 28.3**	**-1.7**
	comp=Z,4.9nm,0.5s,mb4.7,baz=135,slow=9.6,SNR=7.3							
GNI	**Garni**	**54.39**	**314**	*e*P		**P**	**11 53 27.9**	**-2.1**
	comp=Z,25nm,1.0s,mb5.1							
ERM	**Erimo**	**54.86**	**43**	*e*P		**P**	**11 53 29.3**	**-4.2**
ERM				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.7							
ERM	**Erimo**	**54.86**	**43**	*e*P		**P**	**11 53 29.3**	**-4.1**
	comp=Z,4.9nm,0.6s,mb4.7							
SVE	**Sverdlovsk**	**55.34**	**338**	*e*P		**P**	**11 53 32.5**	**-4.3**
PMG	**Port Moresby**	**55.55**	**107**	*e*P		**P**	**11 53 36.5**	**-2.4**
PMG				pmax		pmax		
	comp=Z,46nm,0.9s							
PMG	**Port Moresby**	**55.55**	**107**	P		**P**	**11 53 37.5**	**-1.3**
	comp=Z,15nm,1.0s,mb5.0,baz=279,slow=13,SNR=3.4							
PMG	**Port Moresby**	**55.55**	**107**	*e*P		**P**	**11 53 36.5**	**-2.4**
	comp=Z,46nm,0.9s,mb5.5							
PMG				*e*			11 53 57.3	
ARU	**Arti**	**55.83**	**337**	P		**P**	**11 53 39.9**	**-0.4**
	comp=Z,111nm,0.9s,mb5.9,SNR=8.7							
ARU	**Arti**	**55.83**	**337**	⇑*i* P		**P**	**11 53 32.2**	**-8.1**
ARU				*e*			11 54 33.5	
ARU				*e*S		**S**	**12 01 14.0**	**-10**
ARU				*e*SS		SS	12 05 02.0	-7.9
ARU				pmax		pmax		
	comp=Z,25nm,1.1s,mb5.2							
ARU				MLR		MLR		
	comp=Z,4μm,20.5s,MS5.5							
ARU				MLR		MLR		
	comp=N,2μm,20.0s,MS5.4							
ARU				MLR		MLR		
	comp=E,2μm,20.0s,MS5.4							
YSS	**Yuzh-Sakhalins**	**56.74**	**38**	*e*P		**P**	**11 53 46.4**	**-0.5**
YSS				pmax		pmax		
	comp=Z,36nm,1.2s,mb5.3							
YSS	**Yuzh-Sakhalins**	**56.74**	**38**	*e*P		**P**	**11 53 46.4**	**-0.5**
	comp=Z,36nm,1.2s,mb5.3							
KIV	**Kislovodsk**	**57.27**	**318**	*e*P		**P**	**11 53 50.2**	**-0.5**
KIV				pmax		pmax		
	comp=N,17nm,1.0s							
KIV				pmax		pmax		
	comp=Z,27nm,1.0s,mb5.2							
KIV	**Kislovodsk**	**57.27**	**318**	*e*P		**P**	**11 53 46.9**	**-3.8**
	comp=Z,25nm,0.8s,mb5.3							
KMBO	**Kilima Mbogo**	**57.42**	**264**	*e*P		**P**	**11 53 54.6**	**+2.4**
KMBO				pmax		pmax		
	comp=Z,23nm,1.0s							
KMBO	**Kilima Mbogo**	**57.42**	**264**	P		**P**	**11 53 53.0**	**+0.8**
	comp=Z,14nm,0.9s,mb5.0,baz=54,slow=9.9,SNR=26							
KMBO	**Kilima Mbogo**	**57.42**	**264**	*e*P		**P**	**11 53 54.6**	**+2.4**
	comp=Z,24nm,1.0s,mb5.2							
ASF	**Jabal al Asfar**	**58.18**	**303**	P		**P**	**11 53 57.4**	**+0.1**
	comp=Z,2.1nm,0.3s,mb4.6,baz=92,slow=1.6,SNR=4.6							
CTAO	**Charters Tower**	**58.34**	**119**	P		**P**	**11 53 56.0**	**-2.5**
CTAO				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.7							
CTAO	**Charters Tower**	**58.34**	**119**	P		**P**	**11 53 56.0**	**-2.6**
	comp=Z,

comp=Z,17nm,0.8s,mb5.2
SIM MLR MLR
MBAR Mbarara 63.76 265 *e*P **P 11 54 36.5 +1.0**
MBAR pmax pmax
comp=Z,23nm,1.2s,mb5.1
MBAR Mbarara 63.76 265 *e*P **P 11 54 36.5 +1.0**
comp=Z,23nm,1.2s,mb5.1
MOS Moscow 65.02 329 *e*P **P 11 54 40.8 -2.2**
MOS *e* pP 11 54 49.2 -1.5
MOS *e* 11 55 14.8
MOS pmax pmax
comp=Z,49nm,0.7s,mb5.7
OBN Obninsk 65.32 328⇓*e*P **P 11 54 40.7 -4.2**
OBN *e* 11 55 16.3
OBN *e*S S 12 03 29.3 +3.7
OBN pmax pmax
comp=Z,71nm,1.4s,mb5.5
OBN Obninsk 65.32 328 *e*P **P 11 54 41.2 -3.7**
comp=Z,68nm,1.1s,mb5.6
MA2 Magadan 66.71 28 *e*P **P 11 54 53.8 +0.1**
MA2 *e* 11 55 05.2
MA2 *e* 11 57 17.8
MA2 *e*S S 12 03 40.3 -2.2
MA2 pmax pmax
comp=Z,20nm,1.2s,mb5.0
MA2 MLR MLR
comp=Z,2μm,25.0s,MS5.1
MA2 Magadan 66.71 28 *e*P **P 11 54 51.0 -2.7**
comp=Z,43nm,1.1s,mb5.4
TIXI Tiksi 67.17 11⇓*e*P **P 11 54 54.9 -1.6**
AKASG Malin Array Be 68.10 322 *i* P **P 11 55 00.8 -1.8**
AKASG pmax pmax
comp=Z,14nm,1.1s
AKASG Malin Array Be 68.10 322 P **P 11 54 60.0 -2.6**
comp=Z,14nm,1.1s,mb4.9,baz=88,slow=4.7,SNR=21
IDI Anoyia 68.53 305 P **P 11 55 03.9 -1.6**
comp=Z,26nm,1.1s,mb5.1,baz=116,slow=9.1,SNR=5.3
VRI Vrincioaia 68.65 316 ⇑P **P 11 55 05.9 -0.2**
MLR Muntele Rosu 69.12 316 ⇑P **P 11 55 07.4 -1.6**
LSZ Lusaka 69.28 250 *e*P **P 11 55 10.8 +0.3**
LSZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LSZ Lusaka 69.28 250 *e*P **P 11 55 10.8 +0.3**
comp=Z,8.8nm,0.9s,mb4.7
JOF Joensuu 70.79 334 *e*p **P 11 55 17.5 -1.4**
comp=Z,21nm,1.2s,mb4.9
APA Apatity 71.79 339⇓*i*P **P 11 55 24.8 0.0**
APA *i* pP 11 55 31.4 -1.2
APA pmax pmax
comp=Z,20nm,0.8s,mb5.1
APA MLR MLR
comp=Z,2μm,19.0s,MS5.5
KOLS Kolonicke sedl 72.15 319 *i* P **P 11 55 27.5 +0.2**
KOLS *i* pP 11 55 34.8 -0.3
FINES FINESS Array B 72.65 332 *i* P **P 11 55 29.8 -0.2**
FINES pmax pmax
comp=Z,13nm,0.8s
FINES FINESS Array B 72.65 332 P **P 11 55 28.8 -1.2**
comp=Z,13nm,0.8s,mb4.9,baz=101,slow=9.7,SNR=20
FINES FINESS Array B 72.65 332 P **P 11 55 28.8 -1.2**
CRVS Cervenica-Dubn 72.68 319 *e*P **P 11 55 29.8 -0.6**
KAF Kangasniemi 72.73 333 *e*p **P 11 55 29.5 -1.0**
comp=Z,29nm,1.2s,mb5.1,baz=106,slow=5.6
KAF Kangasniemi 72.73 333 *e*P **P 11 55 29.5 -1.0**
KAF pmax pmax
comp=Z,29nm,1.2s,mb5.1
NIE Niedzica 73.50 319 *e*P **P 11 55 36.2 +1.0**
OJC Ojcow 73.92 320 *e*P **P 11 55 37.5 -0.1**
LBTB Lobatse 74.27 241 *e*P **P 11 55 41.7 +1.6**
LBTB pmax pmax
comp=Z,29nm,0.9s,mb5.2
LBTB Lobatse 74.27 241 *e*P **P 11 55 41.7 +1.5**
comp=Z,29nm,0.9s,mb5.2
VYHS Vyhne 74.36 318 *e*P **P 11 55 39.8 -0.4**
VYHS *e* pP 11 55 47.3 -0.7
KEV Kevo 74.78 341 *e*p **P 11 55 41.0 -1.2**
comp=Z,25nm,1.0s,mb5.1
KEV Kevo 74.78 341 *e*P **P 11 55 41.0 -1.2**
KEV pmax pmax
comp=Z,25nm,1.0s,mb5.1
OKC Ostrava-Krasne 74.94 319 *e*P **P 11 55 43.8 +0.3**
OKC *e*pP pP 11 55 51.2 -0.2
CASY Casey 74.99 173 *e*P **P 11 55 44.4 +0.9**
ARCES ARCESS Array B 75.21 340 P **P 11 55 42.6 -2.1**
ARCES pmax pmax
comp=Z,10.0nm,0.9s
ARCES ARCESS Array B 75.21 340 P **P 11 55 42.6 -2.1**
comp=Z,10nm,0.9s,mb4.7,baz=134,slow=4.0,SNR=12
MORC Moravsky Berou 75.33 319 *e*P **P 11 55 44.8 -0.9**
MORC pmax pmax
comp=Z,18nm,0.9s,mb5.0
MORC Moravsky Berou 75.33 319 *e*P **P 11 55 44.8 -0.9**
comp=Z,18nm,0.9s,mb5.0
ZST Bratislava 75.48 318 *i* P **P 11 55 47.4 +0.7**
ZST *e*pP pP 11 55 54.5 0.0
BOSA Boshof 75.61 238 *e*P **P 11 55 48.8 +1.0**
BOSA pmax pmax
comp=Z,26nm,1.0s,mb5.1
BOSA Boshof 75.61 238 *e*P **P 11 55 48.8 +1.0**
comp=Z,26nm,1.0s,mb5.1
VRAC Vranov 75.90 319 P **P 11 55 48.6 -0.4**
VRAC pmax pmax
comp=Z,3.0nm,0.7s
VRAC Vranov 75.90 319 P **P 11 55 48.6 -0.4**
comp=Z,3.0nm,0.7s,mb4.4,baz=111,slow=8.6,SNR=2.9
BILL Bilibino 76.03 22⇑*e*P **P 11 55 49.3 -0.1**
BILL pmax pmax
comp=Z,18nm,1.3s,mb4.8
BILL Bilibino 76.03 22 *e*P **P 11 55 48.6 -0.7**
comp=Z,10nm,0.8s,mb4.8
DPC Dobruska-Polom 76.16 320 *e*P **P 11 55 50.8 +0.4**
DPC *e*pP pP 11 55 58.4 +0.1
KSP Ksiaz 76.21 320 *e*P **P 11 55 50.9 +0.2**
KSP *e**PP pP 11 55 58.3 -0.3
UPC Upice 76.37 320 *e*P **P 11 55 52.2 +0.6**
UPC *e*pP pP 11 55 59.4 -0.1
ARSA Arzberg 76.49 317⇓*i*P **P 11 55 53.2 +0.8**
comp=Z,13nm,1.3s,mb4.7
OBKA Obir 77.12 316⇑*i*P **P 11 55 56.6 +0.7**
comp=Z,21nm,1.7s,mb4.8
PRU Pruhonice 77.28 319 *e*P **P 11 55 57.4 +0.7**
PRU *e*pP pP 11 56 04.7 +0.1
PVCC Panska Ves 77.29 320 *e*P **P 11 55 57.5 +0.8**
PVCC *e*pP pP 11 56 04.6 0.0
MOA Moln 77.37 317⇑*i*P **P 11 55 57.2 0.0**
comp=Z,11nm,1.0s,mb4.7
BRG Berggiesshubel 77.70 320 *e*P **P 11 55 59.7 +0.7**
BRG *e* pP 11 56 06.8 -0.1
BRG pmax pmax
comp=Z,33nm,1.4s,mb5.1
BRG Berggiesshubel 77.70 320 *e*P **P 11 55 59.7 +0.7**
comp=Z,33nm,1.4s,mb5.1
BRG *e* pP 11 56 06.8 -0.1
GEC2 GERESS Array S 77.78 318 *e*P **P 11 56 00.2 +0.7**
GEC2 pmax pmax
comp=Z,18nm,0.7s,mb5.1
GEC2 GERESS Array S 77.78 318 *e*P **P 11 56 00.2 +0.7**
comp=Z,18nm,0.7s,mb5.1
GERES GERESS Array B 77.78 318 P **P 11 55 49.3 -10**
comp=Z,8.6nm,0.9s,mb4.7,baz=90,slow=4.0,SNR=18
KHC Kasperske Hory 77.87 318 *e*P **P 11 56 00.5 +0.6**
KHC *e**PP pP 11 56 07.8 0.0
KHC *e* 11 56 20.5
KHC Kasperske Hory 77.87 318⇑*i*P **P 11 56 00.4 +0.5**
KHC Kasperske Hory 77.87 318 *e*P **P 11 56 00.5 +0.6**
KHC *e*pP pP 11 56 07.8 0.0
KHC x x 11 56 20.5
KBA Koelnbreinsper 77.97 316⇑*i*P **P 11 56 00.5 0.0**
comp=Z,15nm,1.1s,mb4.8
KBA Koelnbreinsper 77.97 316⇑*i*P **P 11 56 00.5 0.0**
KBA pmax pmax
comp=Z,15nm,1.1s,mb4.8
CLL Collm 78.31 321 *i* P **P 11 56 02.2 -0.1**
CLL *i* pP 11 56 09.7 -0.5
CLL pmax pmax
comp=Z,21nm,1.4s,mb4.9
CLL Collm 78.31 321 *i* P **P 11 56 02.2 -0.1**
comp=Z,21nm,1.4s,mb4.9
CLL *i* pP 11 56 09.7 -0.5
CLL Collm 78.31 321 P **P 11 56 02.2 -0.1**
comp=Z,logA/T=1.2,mb4.9
CLL *i* *PP pP 11 56 09.7 -0.5
CLL *e* 11 56 19.0
WET Wettzell 78.33 318 *e*P **P 11 56 03.1 +0.6**

MAW Mawson 78.59 192 *e*P **P 11 56 04.8 +1.2**
MAW pmax pmax
comp=Z,63nm,1.4s
MAW Mawson 78.59 192 P **P 11 56 04.9 +1.3**
comp=Z,12nm,0.8s,mb4.9,baz=12,slow=2.5,SNR=5.1
MAW Mawson 78.59 192 *e*P **P 11 56 04.8 +1.2**
comp=Z,64nm,1.4s,mb5.4
NKC Novy Kostel 78.63 320 *e*P **P 11 56 05.4 +1.3**
NKC *e*pP pP 11 56 14.5 +2.5
WTTA Wattenberg 79.14 317⇑*i*P **P 11 56 06.9 0.0**
comp=Z,30nm,0.7s,mb5.3
WTTA Wattenberg 79.14 317⇑*i*P **P 11 56 06.9 0.0**
WTTA pmax pmax
comp=Z,30nm,0.7s,mb5.3
MOX Moxa 79.17 320 *e*P **P 11 56 07.6 +0.5**
MOX pmax pmax
comp=Z,23nm,1.5s,mb4.9
MOX Moxa 79.17 320 *e*P **P 11 56 07.6 +0.5**
comp=Z,23nm,1.5s,mb4.9
MOX Moxa 79.17 320 *i* P **P 11 56 07.6 +0.5**
comp=Z,logA/T=1.2,mb4.9
WATA Walderalm 79.18 317⇑*i*P **P 11 56 06.7 -0.5**
comp=Z,14nm,1.1s,mb4.8
WATA Walderalm 79.18 317⇑*i*P **P 11 56 06.7 -0.5**
WATA pmax pmax
comp=Z,14nm,1.1s,mb4.8
FUR Furstenfeldbru 79.38 317 *e*P **P 11 56 08.6 +0.4**
GRA1 Grafenberg Arr 79.42 319 *e*P **P 11 56 08.8 +0.4**
comp=Z,38nm,1.1s,mb5.2
GRA1 *e*pP pP 11 56 16.6 +0.3
GRF Grafenberg Arr 79.42 319 *e*P **P 11 56 08.8 +0.4**
GRF *e**PP pP 11 56 16.6 +0.3
GRF pmax pmax
comp=Z,38nm,1.1s,mb5.2
GRF Grafenberg Arr 79.42 319 *e*P **P 11 56 08.8 +0.4**
GRF *e**PP pP 11 56 16.6 +0.3
GRF pmax pmax
comp=Z,38nm,1.1s,mb5.2
GRF Grafenberg Arr 79.42 319 *e*P **P 11 56 08.8 +0.4**
comp=Z,38nm,1.1s,mb5.2
GRF *e*pP pP 11 56 16.6 +0.3
SQTA Sankt Quirin 79.43 317⇑*i*P **P 11 56 08.3 -0.2**
comp=Z,13nm,1.0s,mb4.8
SQTA Sankt Quirin 79.43 317⇑*i*P **P 11 56 08.3 -0.2**
SQTA pmax pmax
comp=Z,13nm,1.0s,mb4.8
MOTA Moosalm 79.50 317⇑*i*P **P 11 56 08.7 -0.2**
comp=Z,8.3nm,1.0s,mb4.6
MOTA Moosalm 79.50 317⇑*i*P **P 11 56 08.7 -0.2**
MOTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
NB2 NORSAR Subarra 79.67 331 P **P 11 56 08.6 -1.0**
comp=Z,28nm,1.1s,mb5.1,baz=92,slow=5.6
NB2 NORSAR Subarra 79.67 331 P **P 11 56 08.6 -1.0**
baz=92,slow=5.9
NOA NORSAR Array B 79.67 331 P **P 11 56 09.1 -0.5**
NOA pmax pmax
comp=Z,11nm,1.0s
NOA NORSAR Array B 79.67 331 P **P 11 56 09.1 -0.5**
comp=Z,11nm,0.9s,mb4.8,baz=92,slow=5.6,SNR=13
NAO01 NORSAR Array S 79.83 330 *e*P **P 11 56 09.3 -1.1**
comp=Z,17nm,0.9s,mb5.0
CLZ Clausthal 79.96 321 *e*P **P 11 56 12.0 +0.7**
comp=Z,28nm,1.1s,mb5.1
BSEG Bad Segeberg 80.00 323 *e*P **P 11 56 12.1 +0.7**
DAVA Damuels 80.33 317⇑*i*P **P 11 56 14.0 +0.6**
comp=Z,29nm,1.4s,mb5.0
DAVOX Davos 80.34 316 P **P 11 56 13.9 +0.4**
comp=Z,7.1nm,0.6s,mb4.8,baz=122,slow=11,SNR=7.4
SUR Sutherland 80.36 235 *e*P **P 11 56 14.4 +0.6**
comp=Z,29nm,1.0s,mb5.2
TNS Taunus Mts 81.20 320 *e*P **P 11 56 18.7 +0.8**
BFO Black Forest 81.34 318 *e*P **P 11 56 19.1 +0.4**
BFO pmax pmax
comp=Z,11nm,1.1s,mb4.7
BFO Black Forest 81.34 318 *e*P **P 11 56 19.1 +0.4**
comp=Z,11nm,1.1s,mb4.7
LPG La Plagne 82.57 315 *e*P **P 11 56 26.1 +1.0**
comp=Z,39nm,0.7s,mb5.2
LPG La Plagne 82.57 315 *e*P **P 11 56 26.1 +1.0**
LPG pmax pmax
comp=Z,20nm,0.7s,mb5.3
BNI Bardonecchia 82.65 314 *e*P **P 11 56 24.7 -0.8**
BNI pmax pmax
comp=Z,22nm,1.0s,mb5.1
BNI Bardonecchia 82.65 314 *e*P **P 11 56 24.7 -0.8**
comp=Z,22nm,1.0s,mb5.2
SYO Syowa Base 85.46 197⇓P **P 11 56 41.4 +2.2**
SYO Syowa Base 85.46 197⇓PcP PcP 11 56 46.1 +3.4
SYO Syowa Base 85.46 197⇓pP pP 11 56 52.6 +5.4
TNA Tin City 86.11 24 *e*P **P 11 56 43.1 +0.6**
DAG Danmarks Havn 87.42 348⇓*e*P **P 11 56 48.4 -0.3**
DAG pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
DAG Danmarks Havn 87.42 348⇓*e*P **P 11 56 48.4 -0.3**
comp=Z,2.5nm,0.9s,mb4.4
DAG Danmarks Havn 87.42 348⇓*i*P **P 11 56 48.4 -0.3**
comp=Z,2.5nm,0.9s,mb4.4
EKA Eskdalemuir Ar 87.67 325 P **P 11 56 51.2 +0.9**
EKA pmax pmax
comp=Z,17nm,1.1s
EKA Eskdalemuir Ar 87.67 325 P **P 11 56 51.2 +0.9**
comp=Z,17nm,1.1s,mb5.2,baz=108,slow=5.6,SNR=4.1
ESDC Sonseca Array 91.17 310 P **P 11 57 07.7 +0.5**
comp=Z,0.8nm,0.4s,mb4.4,baz=67,slow=4.6,SNR=8.9
IMA Indian Mountai 91.57 22 *e*P **P 11 57 10.0 +1.7**
SBA Scott Base 94.09 168 P **P 11 57 19.2 -0.6**
SBA pmax pmax
comp=Z,103nm,1.8s,mb6.0
SBA Scott Base 94.09 168 P **P 11 57 19.2 -0.6**
comp=Z,103nm,1.8s,mb6.0
SPU Mount Spurr 94.23 26 *e*P **P 11 57 20.8 +0.1**
MCK McKinley 94.40 23 *e*P **P 11 57 21.9 +0.5**
MCK pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
MCK McKinley 94.40 23 *e*P **P 11 57 21.9 +0.4**
comp=Z,4.7nm,1.0s,mb4.9
ILAR Eielson Array 94.69 22 P **P 11 57 21.6 -1.1**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.69 22 P **P 11 57 21.6 -1.2**
comp=Z,1.0nm,0.8s,mb4.3,baz=296,slow=4.4,SNR=12
SML Sawmill 95.55 25 *e*P **P 11 57 27.3 +0.5**
INK Inuvik 96.94 16 *e*P **P 11 57 31.9 -1.0**
INK pmax pmax
comp=Z,13nm,1.2s
INK Inuvik 96.94 16 *e*P **P 11 57 31.9 -0.9**
comp=Z,13nm,1.2s,mb5.2
RES Resolute Bay 97.34 2 *e*P **P 11 57 35.2 +0.6**
RES pmax pmax
comp=Z,14nm,1.0s,mb5.3
RES Resolute Bay 97.34 2 *e*P **P 11 57 35.2 +0.6**
comp=Z,14nm,1.0s,mb5.3
DBIC Dimbokro 97.93 278 *e*P **P 11 57 38.8 +0.2**
DBIC pmax pmax
comp=Z,15nm,1.4s
DBIC Dimbokro 97.93 278 P **P 11 57 38.2 -0.4**
comp=Z,5.7nm,1.2s,mb5.0,baz=90,slow=4.0,SNR=2.7
DBIC Dimbokro 97.93 278 *e*P **P 11 57 38.8 +0.1**
comp=Z,15nm,1.4s,mb5.3
YKA Yellowknife Ar 106.37 13 Pdiff Pdif 11 58 13.0 -2.1
comp=Z,0.4nm,1.0s,baz=318,slow=2.8,SNR=4.7
YKA PKKPbc 12 13 44.7
comp=Z,0.4nm,0.9s,baz=148,slow=2.2,SNR=5.0
YKA PKKP PKKP 12 14 02.0 +10
YKA Yellowknife Ar 106.37 13 Pdif Pdif 11 58 13.0 -2.1
YKA PKKPbc 12 13 44.7
YKA PKKP PKKP 12 14 02.0 +10
SNOW Snow King Moun 124.07 22 *e*PKPdf PKPdf 12 03 02.0 -2.0
NVAR Mina Array Bea 124.87 31 PKP PKPdf 12 03 03.5 -2.3
comp=Z,2.0nm,0.7s,baz=268,slow=4.1,SNR=14
NVAR Mina Array Bea 124.87 31 PKP PKPdf 12 03 03.5 -2.3
PDAR Pinedale Array 125.11 21 PKP PKPdf 12 03 02.3 -3.8
comp=Z,3.3nm,0.9s,baz=49,slow=1.1,SNR=22
MSU Marysvale 127.70 26 *e*PKIKP PKPdf 12 03 09.8 -1.4
KSU1 Kansas State U 132.15 11 *e*PKPdf PKPdf 12 03 17.1 -2.6
ANMO Albuquerque 133.12 23 PKIKP PKPdf 12 03 20.0 -1.6
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 133.12 23 PKP PKPdf 12 03 19.9 -1.7
comp=Z,1.9nm,0.8s,baz=221,slow=1.2,SNR=8.9
TXAR Lajitas Array 139.17 24 PKhKP 12 03 21.5
comp=Z,0.2nm,0.5s,baz=225,slow=0.4,SNR=5.1
TXAR PKP PKPdf 12 03 29.6 -3.2
comp=Z,1.2nm,0.6s,baz=120,slow=0.6,SNR=12

TXAR Lajitas Array 139.17 24 PKP PKPdf 12 03 29.6 -3.2
JCT Junction City 139.53 19 *e*PKIKP PKPdf 12 03 29.8 -3.7
PLCA Paso Flores 144.60 200 PKIKP PKPdf 12 03 38.4 -3.7
PLCA pmax pmax
comp=Z,14nm,0.9s
PLCA Paso Flores 144.60 200 PKP PKPdf 12 03 38.4 -3.8
comp=Z,14nm,0.9s,baz=159,slow=3.6,SNR=24
PLCA Paso Flores 144.60 200 *e*PKPdf PKPdf 12 03 38.4 -3.7
TEIG Tepich 151.91 5 *e*PKPbc PKPdf 12 03 58.0 +3.5
LVC Limon Verde 158.12 226 PKPab PKPab 12 04 35.0 +0.7
comp=Z,4.0nm,0.7s,baz=114,slow=4.2,SNR=4.3
LPAZ La Paz 160.79 243 *e*PKIKP PKPdf 12 04 04.0 -1.9
LPAZ La Paz 160.79 243 PKP PKPdf 12 03 22.6 -43
comp=Z,1.4nm,0.6s,baz=86,slow=5.8,SNR=5.0
LPAZ PKPab PKPab 12 04 05.2 -41
comp=Z,2.5nm,0.8s,baz=72,slow=7.7,SNR=4.2

IDC ***27*** *11:47:31.1±0.5, 7.84N×94.04E, mb4.8/28, mb1 4.9/29, mb1mx4.9/30, mbtmp4.8/29, ML4.9/1, MS5.2/12, Ms1 5.2/12, ms1mx4.8/20, Error ellipse: s-maj=21.5km s-min=11.9km az=46.0*

MOS ***27*** *11:47:36.2±1.1, 7.97N×94.06E, h33km, mb5.6/92, MS5.0/23, Error ellipse: s-maj=8.1km s-min=4.6km az=116.5*

BJI ***27*** *11:47:37.0, 7.92N×93.85E, h46km, mB5.6, mb5.0, Ms5.5, Msz5.3*

CSEM ***27*** *11:47:38.4, 8.35N×93.99E, h33km, mb5.5*

NEIC ***27*** *11:47:38.5±1.1, 8.02N×94.00E, h38km±9km, mb5.4/94, MS5.1/17, Error ellipse: s-maj=6.2km s-min=6.0km az=189.0*

HRVD ***27*** *11:47:38.5±0.2, 7.92N×94.20E, h12km, MW5.5/63, Centroid moment Tensor Solution. LP body waves: s50,c83;Mantle waves: s63,c130; Half duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.47±.04; $M_{\theta\theta}$-0.76±.04; $M_{\phi\phi}$ 1.23±.04; $M_{r\theta}$ 0.02±.11; $M_{\theta\phi}$ 1.83±.03; $M_{\phi r}$0.15±.12; Best double couple: $M_0$2.087×10^{17} NP1: ϕ_s76°, δ86°, λ0°. NP2:ϕ_s346°, δ90°, λ176°. Principal axes: T 2.326, Plg3°, Azm301°; N -.475, Plg86°, Azm160°; P -1.847, Plg2°, Azm31°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 27 11:47:35.5±0.2, 7.90N±0.03×94.09E±0.03, h31km, **h31**km±2.1km**:pP-P, n419,** σ1**s23**/395**, mb5.3**/136**, MS5.2**/45**, 17C-21D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.96**	**341**	*e*P	**Pn**	**11 48 37.4**	**+1.7**
PBA				*e*		11 48 37.4	
PBA				*e*SG	**Sn**	**11 49 27.6**	**+5.9**
CM31	**Chiang Mai Arr**	**11.50**	**24**	*e*P	**P**	**11 50 19.2**	**-1.7**
	86nm,0.9s						
CMAR	**Chiang Mai Arr**	**11.50**	**24**	P	**P**	**11 50 18.2**	**-2.7**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,8μm,18.6s						
CMAR	**Chiang Mai Arr**	**11.50**	**24**	Pn	**P**	**11 50 18.2**	**-2.7**
	comp=Z,2.3nm,0.3s,baz=211,slow=14,SNR=24						
CMAR				LR	LR	11 54 55.2	
	comp=Z,8μm,18.6s,baz=205,slow=38						
NANT	**Nan**	**12.59**	**30**	P	**P**	**11 50 35.0**	**-0.5**
CHRT	**Chiangrai**	**13.12**	**24**	⇑P	**P**	**11 50 41.0**	**-1.4**
	comp=Z,290nm,1.5s						
PALK	**Pallekele**	**13.29**	**268**	*e*P	**P**	**11 50 43.8**	**-0.9**
	comp=Z,54nm,1.0s						
VIS	**Vishakhapatnam**	**14.32**	**314**	*e*P	**P**	**11 50 56.1**	**-2.3**
VIS				*e*		11 51 00.3	
	comp=Z,153nm,0.7s						
VIS				*e*		11 53 24.2	
MDRS	**Chennai**	**14.55**	**292**	*e*	**S**	**11 53 58.0**	**+16**
BWNR	**Bhubaneshwar**	**14.70**	**328**	*e*P	**P**	**11 51 02.1**	**-1.3**
BWNR				*e*		11 51 06.0	
	comp=Z,160nm,0.8s						
BWNR				*e*		11 53 32.2	
KOD	**Kodaikanal**	**16.58**	**279**	*e*P	**P**	**11 51 31.1**	**+3.6**
KOD				*e*		11 51 35.0	
	comp=Z,136nm,1.1s						
KOD				*e*		11 54 50.1	
SHL	**Shillong**	**17.69**	**353**	*e*P	**P**	**11 51 42.6**	**+1.2**
SHL				*e*		11 51 53.2	
	comp=Z,2μm,1.7s						
HYB	**Hyderabad**	**17.85**	**303**	*e*P	**P**	**11 51 45.0**	**+1.5**
HYB				*e*S	**S**	**11 55 04.0**	**+5.2**
HYB				pmax	pmax		
	comp=Z,90nm,1.0s						
HYB	**Hyderabad**	**17.85**	**303**	*e*P	**P**	**11 51 45.0**	**+1.5**
	comp=Z,90nm,1.0s						
HYB				*e*S	**S**	**11 55 04.0**	**+5.2**
HYB	**Hyderabad**	**17.85**	**303**	*i* P	**P**	**11 51 43.5**	**0.0**
	comp=Z,90nm,1.0s						
HYB				*e*S	**S**	**11 55 04.0**	**+5.2**
QIZ	**Qiongzhong**	**18.88**	**53**	P	**P**	**11 51 57.0**	**+1.0**
QIZ				*e*S	**S**	**11 55 22.5**	**+0.6**
QIZ				AMB	AMB		
	comp=Z,2μm,6.0s						
QIZ				LR	LR		
	comp=N,29μm,13.9s						
QIZ				LR	LR		
	comp=Z,8μm,13.6s						
QIZ	**Qiongzhong**	**18.88**	**53**	*e*P	**P**	**11 51 56.6**	**+0.6**
	comp=Z,169nm,1.3s						
KMI	**Kunming**	**19.01**	**25**	⇑P	**P**	**11 51 59.2**	**+1.6**
KMI				S	**S**	**11 55 26.8**	**+1.7**
KMI				pmax	pmax		
	comp=Z,3.0nm,4.0s						
KMI	**Kunming**	**19.01**	**25**	⇑P	**P**	**11 51 59.2**	**+1.6**
	comp=Z,2.6nm,4.0s						
KMI				pP		11 52 07.5	
KMI				PP	PP	11 52 19.2	+5.1
KMI				S	**S**	**11 55 26.8**	**+1.7**
KMI				sS		11 55 39.3	
KMI				SS	SS	11 55 55.4	+4.9
COCO	**West Island**	**20.14**	**172**	*e*P	**P**	**11 52 12.8**	**+2.6**
	comp=Z,301nm,1.0s						
JIRN	**Jiri**	**21.03**	**340**	*e*P	**P**	**11 52 18.3**	**-0.9**
	comp=Z,504nm,0.9s,mb5.8						
GOA	**Goa**	**21.22**	**293**	*e*P	**P**	**11 52 20.6**	**-0.6**
GOA				*e*		11 52 33.2	
	comp=Z,70nm,1.1s						
GOA				*e*		11 56 25.6	
GOA				*e*		11 56 31.7	
PKI	**Pulchoki**	**21.22**	**338**	*e*P	**P**	**11 52 23.3**	**+2.1**
	comp=Z,1μm,1.4s,mb6.1						
GUN	**Gumba**	**21.36**	**340**	*e*P	**P**	**11 52 19.4**	**-3.2**
	comp=Z,1μm,1.3s,mb6.1						
DMN	**Daman**	**21.37**	**338**	*e*P	**P**	**11 52 24.8**	**+2.1**
	comp=Z,640nm,1.0s,mb5.9						
KKN	**Kakani**	**21.47**	**338**	*e*P	**P**	**11 52 22.3**	**-1.4**
	comp=Z,547nm,1.0s,mb5.8						
VLK	**Valmikinagar**	**21.61**	**335**	*i*	**P**	**11 52 27.0**	**+1.9**
VLK				*i*		11 52 33.7	
LSA	**Lhasa**	**21.86**	**353**	P	**P**	**11 52 28.5**	**+0.9**
LSA	**Lhasa**	**21.86**	**353**	*e*P	**P**	**11 52 28.6**	**+1.0**
LSA				pmax	pmax		
	comp=Z,197nm,0.7s,mb5.7						
LSA	**Lhasa**	**21.86**	**353**	*e*P	**P**	**11 52 28.6**	**+1.0**
	comp=Z,197nm,0.7s,mb5.7						
GKN	**Gorkha**	**21.90**	**337**	*e*P	**P**	**11 52 26.4**	**-1.6**
	comp=Z,867nm,1.2s,mb6.0						
BHPL	**Bhopal**	**22.10**	**315**	*e*P	**P**	**11 52 29.1**	**-1.0**
BHPL				*e*		11 52 41.5	
	comp=Z,317nm,1.8s						
KOLN	**Koldanda**	**22.11**	**335**	*e*P	**P**	**11 52 32.8**	**+2.7**
	comp=Z,1μm,1.2s,mb6.2						
BOM	**Bombay**	**23.38**	**300**	*e*	**P**	**11 52 54.6**	**+12**
BOM				*e*		11 52 58.4	
	comp=Z,192nm,1.5s						
BOM				*e*		11 57 01.1	
NDI	**New Delhi**	**26.09**	**325**	*e*P	**P**	**11 53 10.3**	**+1.9**
NDI				*e*	pP	11 53 19.3	+1.9
	comp=Z,347nm,1.2s						
NDI				*e*		11 57 41.5	
ENH	**Enshi**	**26.52**	**31**	*e*P	**P**	**11 53 08.3**	**-4.2**
	comp=Z,88nm,1.0s,mb5.2						
SMLA	**Simla**	**28.00**	**328**	*e*	**P**	**11 53 41.5**	**+16**
SMLA				*e*	pP	11 53 48.7	+14
	comp=Z,86nm,1.3s						
LZH	**Lanzhou**	**29.43**	**16**	⇓P	**P**	**11 53 40.5**	**+1.7**
LZH				AP	pP	11 53 50.8	+3.0
LZH				XP	sP	11 53 53.0	+1.2
LZH				PP	PP	11 54 36.5	+1.9

LZH SS SS 12 00 04.0 +1.5
LZH AMB AMB
comp=Z,40nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,170nm,4.0s
LZH LR LR
comp=E,6μm,15.0s
LZH LR LR
comp=Z,6μm,15.9s,MS5.3
LZH Lanzhou 29.43 16 ⇓P **P 11 53 40.5 +1.7**
LZH *PP pP 11 53 50.7 +2.9
LZH *SP sP 11 53 53.0 +1.2
LZH 11 54 36.5
LZH SS SS 12 00 04.0 +1.5
LZH pmax pmax
comp=Z,40nm,1.0s,mb5.1
LZH MLR MLR
comp=Z,6μm,15.9s,MS5.3
LZH Lanzhou 29.43 16 ⇓P **P 11 53 40.5 +1.7**
comp=Z,40nm,1.0s,mb5.1
LZH pP pP 11 53 50.7 +2.9
LZH sP sP 11 53 53.0 +1.2
LZH PP PP 11 54 36.5 +1.9
LZH S tx 11 57 32.0
LZH sS 11 57 48.0
LZH SS SS 12 00 04.0 +1.5
LZH LR LR
comp=Z,6μm,15.9s,MS5.3
WHN Wuhan 29.44 37 P **P 11 53 39.0 +0.1**
WHN S **S 11 58 30.0 +0.3**
WHN LR LR
comp=Z,8μm,15.4s,MS5.4
NJ2 Nanjing 33.28 40 *e*P **P 11 54 13.5 +0.9**
NJ2 AP pP 11 54 23.0 +1.3
NJ2 XP sP 11 54 27.0 +1.4
NJ2 PP PP 11 55 25.5 +1.1
NJ2 S **S 11 59 29.0 -0.8**
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
NJ2 AMB AMB
comp=Z,1μm,5.9s
NJ2 LR LR
comp=N,7μm,14.0s,MS5.8
NJ2 LR LR
comp=E,10μm,10.6s,MS5.8
NJ2 LR LR
comp=Z,4μm,10.7s,MS5.4
SSE Sheshan 34.24 44 P **P 11 54 22.8 +1.9**
SSE S **S 11 59 45.0 +0.4**
SSE XS 12 00 02.0
SSE AMB AMB
comp=Z,29nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,245nm,5.9s
SSE LR LR
comp=N,2μm,17.9s,MS5.1
SSE LR LR
comp=E,2μm,18.0s,MS5.1
SSE LR LR
comp=Z,2μm,23.3s
SSE Sheshan 34.24 44 P **P 11 54 22.7 +1.8**
comp=Z,29nm,0.7s,mb5.3
SSE S **S 11 59 45.1 +0.5**
SSE sS 12 00 02.0
SSE SS SS 12 02 13.4 +19
SSE LR LR
comp=Z,2μm,23.3s,MS4.7
TIA Tai'an 35.15 33 *e*P **P 11 54 27.3 -1.4**
TIA *e*S **S 12 00 05.0 +6.2**
TIA LR LR
comp=N,1μm,15.3s,MS5.2
TIA LR LR
comp=E,3μm,12.6s,MS5.2
WMQ Urumqi 36.21 352 P **P 11 54 38.0 +0.4**
WMQ AP pP 11 54 47.8 +1.1
WMQ XP sP 11 54 51.5 +0.9
WMQ PP PP 11 56 00.3 -0.3
WMQ PCP PcP 11 57 04.5 +1.7
WMQ S **S 12 00 13.8 -1.2**
WMQ AMB AMB
comp=Z,151nm,0.8s,mb6.0
WMQ AMB AMB
comp=Z,1μm,5.1s
WMQ LR LR
comp=N,4μm,16.0s,MS5.3
WMQ LR LR
comp=E,2μm,15.7s,MS5.3
WMQ LR LR
comp=Z,5μm,16.1s,MS5.3
JOW Kunigami 37.48 56 LR LR 12 12 29.3
comp=Z,4μm,19.0s,MS5.2,baz=265,slow=40
BJT Baijiatuau 37.58 28 *e*P **P 11 54 49.9 +0.8**
BJT pmax pmax
comp=Z,33nm,1.1s
BJT MLR MLR
comp=Z,4μm,22.0s
BJT Baijiatuau 37.58 28 *e*P **P 11 54 49.9 +0.8**
comp=Z,33nm,1.1s,mb5.0
BJT LR LR
comp=Z,4μm,22.0s,MS5.2
BJI Beijing 37.60 28 P **P 11 54 50.3 +1.0**
BJI *SP sP 11 55 02.7 +0.4
BJI 11 56 17.6
BJI pmax pmax
comp=Z,33nm,1.6s,mb4.8
BJI MLR MLR
comp=Z,3μm,23.3s,MS5.1
BJI Beijing 37.60 28 P **P 11 54 50.3 +1.0**
comp=Z,33nm,1.6s,mb4.8
BJI sP sP 11 55 02.7 +0.4
BJI PP PP 11 56 17.6 -0.6
BJI S **S 12 00 46.4 +10**
BJI SS SS 12 03 26.3 +15
BJI LR LR
comp=Z,3μm,23.3s,MS5.1
KZA Kyzart 37.89 337 P **P 11 54 55.0 +3.3**
SNR=9.6
AAA Alma-Ata 38.31 340 *e*P **P 11 54 56.0 +0.8**
AAA MLR MLR
comp=Z,2μm,16.0s,MS5.0
UCH Uchtor 38.31 336 P **P 11 54 55.0 -0.1**
SNR=9.4
MBWA Marble Bar 38.32 139 *e*P **P 11 54 53.1 -2.4**
comp=Z,65nm,1.5s,mb5.1
TKM2 Tokmak 2 38.48 338 P **P 11 54 59.0 +2.3**
SNR=12
KBK Karagaybulak 38.50 337 P **P 11 55 00.4 +3.6**
SNR=5.6
AML Almayashu 38.56 335 P **P 11 54 56.8 -0.5**
SNR=8.9
AAK Ala-Archa 38.66 337 P **P 11 54 56.9 -1.2**
SNR=8.6
AAK Ala-Archa 38.66 337*c* *i*P **P 11 54 57.0 -1.1**
AAK pmax pmax
comp=Z,37nm,1.6s,mb4.9
AAK Ala-Archa 38.66 337 *e*P **P 11 54 56.5 -1.6**
comp=Z,86nm,1.2s,mb5.3
CHMS Chumysh 38.87 337 P **P 11 55 02.5 +2.6**
SNR=7.4
USP Ospenovka 39.20 337 P **P 11 55 02.3 -0.3**
SNR=7.9
SONM Songino Array 41.15 13 P **P 11 55 18.1 -0.5**
comp=Z,10.0nm,0.9s,mb4.5,baz=202,slow=5.6,SNR=11
SONM PcP PcP 11 57 18.4 +0.2
comp=Z,2.4nm,0.7s,baz=188,slow=5.6,SNR=4.1
ULN Ulaanbaatar 41.32 13 *e*P **P 11 55 18.9 -1.1**
ULN pmax pmax
comp=Z,14nm,1.0s,mb4.5
ULN Ulaanbaatar 41.32 13 *e*P **P 11 55 18.9 -1.2**
comp=Z,14nm,1.0s,mb4.5
KS15 Wonju Array Si 42.44 41 *e*P **P 11 55 29.0 -0.4**
SNY Shenyang 42.67 33 PR 11 55 34.0
SNY S **S 12 01 57.5 +5.3**
SNY LR LR
comp=N,3μm,16.4s
SNY LR LR
comp=Z,2μm,16.9s,MS5.1
ZAK Zakamensk 43.03 9 *e*P **P 11 55 33.3 -0.7**
TLY Talaya 44.35 8 *e*P **P 11 55 41.7 -3.0**
TLY pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
TLY Talaya 44.35 8 *e*P **P 11 55 41.7 -2.9**
comp=Z,5.8nm,0.7s,mb4.4
KURK Kurchatov 44.57 346 *e*P **P 11 55 45.3 -1.2**
KURK pmax pmax
comp=Z,497nm,1.8s,mb6.0

KURK Kurchatov 44.57 346 *e*P **P 11 55 45.2 -1.3**
comp=Z,497nm,1.8s,mb6.0
MUN Mundaring 44.93 153 *e*P **P 11 55 50.0 +0.3**
comp=Z,16nm,0.7s,mb5.0
MUN Mundaring 44.93 153 *e*P **P 11 55 50.0 +0.3**
MUN pmax pmax
comp=Z,16nm,0.7s,mb5.0
KLBR Kellerberrin 45.32 151 *e*P **P 11 55 52.8 0.0**
comp=Z,288nm,0.9s,mb6.1
NWAO Narrogin (SRO) 46.19 153 P **P 11 55 59.0 -0.6**
comp=Z,20nm,0.8s,mb5.1,baz=324,slow=8.0,SNR=9.1
NWAO LR LR 12 14 02.6
comp=Z,12nm,18.2s,baz=275,slow=34
NWAO Narrogin (SRO) 46.19 153 *e*P **P 11 55 58.7 -0.9**
comp=Z,121nm,1.5s,mb5.6
ZAL Zalesovo 46.51 352 P **P 11 56 00.9 -0.9**
ZAL pmax pmax
comp=Z,10.0nm,0.8s
ZAL Zalesovo 46.51 352 P **P 11 56 00.9 -1.0**
comp=Z,9.9nm,0.8s,mb4.8,baz=290,slow=8.6,SNR=11
HIA Hailar 46.52 23 *e*P **P 11 56 02.0 +0.1**
HIA pmax pmax
comp=Z,29nm,1.0s
HIA Hailar 46.52 23 *e*P **P 11 56 02.0 +0.1**
comp=Z,29nm,1.0s,mb5.2
NVS Novosibirsk 47.61 352 *i* P **P 11 56 08.4 -2.1**
NVS *i* S **S 12 02 59.3 -3.6**
NVS pmax pmax
comp=Z,49nm,1.0s,mb5.5
NVS pmax pmax
comp=N,42nm,0.7s
NVS pmax pmax
comp=E,22nm,0.8s
MDJ Mudanjiang 47.81 34 P **P 11 56 12.8 +0.6**
MDJ AP pP 11 56 23.5 +1.9
MDJ XP sP 11 56 28.5 +3.2
MDJ PP PP 11 58 06.0 +2.7
MDJ AMB AMB
comp=Z,22nm,1.2s,mb5.1
MDJ AMB AMB
comp=Z,329nm,3.7s
MDJ LR LR
comp=N,1μm,14.5s,MS5.3
MDJ LR LR
comp=E,2μm,14.1s,MS5.3
MDJ LR LR
comp=Z,2μm,12.7s,MS5.2
MDJ Mudanjiang 47.81 34 *e*P **P 11 56 13.2 +0.9**
comp=Z,53nm,1.4s,mb5.4
MDJ LR LR
comp=Z,2μm,21.0s,MS5.0
VLA Vladivostok 48.23 37⇑ *i*P **P 11 56 17.0 +1.5**
VLA *e* 11 58 05.0
VLA *e* 11 59 06.0
VLA pmax pmax
comp=Z,1μm,4.0s
WRA Warramunga Arr 48.32 126 *i* P **P 11 56 18.0 +1.6**
WRA pmax pmax
comp=Z,5.0nm,0.5s
WRA Warramunga Arr 48.32 126 P **P 11 56 13.6 -2.9**
comp=Z,2.3nm,0.5s,mb4.4,baz=305,slow=8.5,SNR=9.1
WRAB Tennant Creek 48.32 126 *e*P **P 11 56 13.2 -3.3**
WRAB pmax pmax
comp=Z,80nm,1.4s,mb5.6
WRAB MLR MLR
comp=Z,409nm,19.0s,MS4.4
WRAB Tennant Creek 48.32 126 *e*P **P 11 56 13.2 -3.2**
comp=Z,80nm,1.4s,mb5.6
WRAB LR LR
comp=Z,409nm,19.0s,MS4.4
WB2 Warramunga Arr 48.33 126 *e*P **P 11 56 14.9 -1.6**
BVAR Borovoye Array 48.95 341 P **P 11 56 18.9 -1.9**
comp=Z,19nm,0.9s,mb5.1,baz=143,slow=7.4,SNR=17
BVAR PcP PcP 11 57 44.1 -0.9
comp=Z,4.2nm,0.7s,baz=90,slow=1.4,SNR=3.3
BRVK Borovoye 49.01 341 *e*P **P 11 56 19.2 -2.1**
BRVK pmax pmax
comp=Z,69nm,1.3s,mb5.5
BRVK Borovoye 49.01 341 *e*P **P 11 56 19.2 -2.2**
comp=Z,69nm,1.3s,mb5.5
RAYN Ar Rayn 49.03 294 P **P 11 56 22.1 +0.2**
comp=Z,334nm,0.9s,mb6.4,SNR=27
MAJO Matsushiro 49.18 48 *e*P **P 11 56 24.4 +1.5**
MAJO pmax pmax
comp=Z,35nm,1.4s,mb5.2
MAJO MLR MLR
comp=Z,2μm,19.0s,MS5.0
MAJO Matsushiro 49.18 48 *e*P **P 11 56 24.4 +1.5**
comp=Z,35nm,1.4s,mb5.2
MAJO LR LR
comp=Z,2μm,19.0s,MS5.0
MAT Matsushiro 49.18 48 PCP PcP 11 57 48.4 +2.3
CHKZ Chkalovo 49.43 342 *e*P **P 11 56 21.9 -2.7**
CHKZ pmax pmax
comp=Z,120nm,1.0s,mb5.9
CHKZ Chkalovo 49.43 342 *e*P **P 11 56 21.9 -2.6**
comp=Z,120nm,1.0s,mb5.9
ASPA Alice Springs 49.97 130 *e*P **P 11 56 28.5 -0.6**
ASAR Alice Springs 49.97 130 P **P 11 56 25.6 -3.5**
comp=Z,2.9nm,0.6s,mb4.5,baz=303,slow=7.7,SNR=7.8
ASAR LR LR 12 22 16.7
comp=Z,1μm,18.3s,MS5.0,baz=293,slow=42
KLR Kul'dur 51.88 31 *e*P **P 11 56 34.2 -9.1**
KLR *e*S **S 12 04 04.5 +2.1**
KLR *e*SS SS 12 07 40.5 +3.2
KLR MLR MLR
comp=E,3μm,13.5s
KLR MLR MLR
comp=Z,4μm,13.5s,MS5.6
BOD Bodaibo 52.13 13 *e*P **P 11 56 43.6 -1.5**
MSL Mosul 54.26 309 *e*P **P 11 57 00.0 -1.1**
GNI Garni 54.38 314*d* *i*P **P 11 57 03.7 +1.8**
GNI pmax pmax
comp=Z,39nm,1.4s
GNI Garni 54.38 314 P **P 11 57 01.3 -0.6**
comp=Z,17nm,0.8s,mb5.0,baz=25,slow=8.6,SNR=6.3
GNI Garni 54.38 314 *e*P **P 11 57 00.7 -1.2**
comp=Z,79nm,1.2s,mb5.5
CLNS Chul'man 54.43 20 *e*P **P 11 57 01.8 -0.2**
CLNS pmax pmax
comp=Z,42nm,1.0s,mb5.3
CLNS pmax pmax
comp=N,23nm,1.1s
CLNS pmax pmax
comp=E,23nm,1.3s
CLNS MLR MLR
comp=Z,2μm,13.0s,MS5.5
CLNS MLR MLR
comp=N,2μm,14.0s,MS5.4
CLNS MLR MLR
comp=E,500nm,13.0s,MS5.4
TI2 Plekhanov 54.99 316 *i* P **P 11 57 11.4 +5.0**
SVE Sverdlovsk 55.36 338 *e*P **P 11 57 04.0 -4.8**
SVE *e* 11 58 12.0
SVE *e* 11 59 17.0
SVE *e*S **S 12 04 46.4 -2.8**
SVE pmax pmax
comp=Z,200nm,1.5s,mb5.9
SVE smax
comp=N,2μm,24.0s
SVE smax
comp=E,2μm,24.0s
SVE smax
comp=Z,5μm,24.0s
ASAJ Asahikawa 55.43 41 LR LR 12 20 28.5
comp=Z,2μm,20.2s,MS5.1,baz=304,slow=36
PMG Port Moresby 55.59 107 P **P 11 57 08.0 -3.1**
PMG pmax pmax
comp=Z,14nm,0.9s
PMG Port Moresby 55.59 107 P **P 11 57 08.0 -3.0**
comp=Z,14nm,0.9s,mb5.0,baz=303,slow=11,SNR=2.8
PMG Port Moresby 55.59 107 *e*P **P 11 57 06.7 -4.4**
comp=Z,38nm,0.9s,mb5.4
ARU Arti 55.84 337 P **P 11 57 13.6 +1.3**
comp=Z,294nm,1.0s,mb6.3,SNR=11
ARU Arti 55.84 337⇓ *i*P **P 11 57 05.4 -6.9**
ARU *e* 11 58 08.7
ARU *e*S **S 12 04 46.8 -9.0**
ARU *e*SS SS 12 08 34.1 -7.4
ARU pmax pmax
comp=Z,63nm,1.2s,mb5.5
ZEI Tsey 55.98 317 *e*P **P 11 57 12.5 -1.0**
ZEI *i* *PP pP 11 57 22.5 -0.5
ZEI *i* 11 59 20.9
ZEI pmax pmax
comp=Z,8.0nm,0.8s,mb4.8

YSS Yuzh-Sakhalins 56.79 38⇑ *e*P **P 11 57 20.8 +1.5**
YSS pmax pmax
comp=Z,36nm,1.4s,mb5.2
YSS Yuzh-Sakhalins 56.79 38 *e*P **P 11 57 16.9 -2.4**
comp=Z,92nm,1.6s,mb5.6
KIV Kislovodsk 57.26 318 *e*P **P 11 57 21.3 -1.4**
KIV *e*S **S 12 05 18.4 +3.7**
KIV pmax pmax
comp=E,23nm,0.8s
KIV pmax pmax
comp=Z,36nm,0.8s,mb5.5
KIV MLR MLR
comp=N,718nm,21.0s,MS5.0
KIV MLR MLR
comp=E,1μm,21.0s,MS5.0
KIV MLR MLR
comp=Z,1μm,21.0s,MS4.9
KIV Kislovodsk 57.26 318 *e*P **P 11 57 19.1 -3.5**
comp=Z,47nm,0.9s,mb5.5
KMBO Kilima Mbogo 57.38 264 *e*P **P 11 57 25.4 +1.5**
KMBO pmax pmax
comp=Z,65nm,1.3s
KMBO Kilima Mbogo 57.38 264 P **P 11 57 22.8 -1.1**
comp=Z,16nm,1.1s,mb5.0,baz=38,slow=19,SNR=4.7
KMBO LR LR 12 19 35.3
comp=Z,2μm,19.1s,MS5.3,baz=88,slow=34
KMBO Kilima Mbogo 57.38 264 *e*P **P 11 57 25.4 +1.5**
comp=Z,65nm,1.3s,mb5.5
ELZG Elazig 58.04 311 *i* P **P 11 57 26.5 -1.6**
ASF Jabal al Asfar 58.16 303 P **P 11 57 25.8 -3.3**
comp=Z,17nm,0.9s,mb5.1,baz=347,slow=3.0,SNR=7.5
ASF LR LR 12 25 00.9
comp=Z,2μm,20.9s,MS5.1,baz=322,slow=39
CTA Charters Tower 58.36 119 LR LR 12 27 30.8
comp=Z,1μm,19.1s,MS5.0,baz=287,slow=41
CTAO Charters Tower 58.36 119 *e*P **P 11 57 30.9 +0.2**
CTAO pmax pmax
comp=Z,21nm,1.2s,mb5.0
CTAO MLR MLR
comp=Z,1μm,21.0s,MS5.1
CTAO Charters Tower 58.36 119 *e*P **P 11 57 30.9 +0.3**
comp=Z,21nm,1.2s,mb5.0
CTAO LR LR
comp=Z,1μm,21.0s,MS5.1
MALT Malatya 58.41 310 *e*P **P 11 57 28.7 -2.0**
MALT pmax pmax
comp=Z,67nm,1.6s,mb5.4
MALT Malatya 58.41 310 *e*P **P 11 57 28.7 -2.0**
comp=Z,67nm,1.6s,mb5.4
GZT Gaziantep 58.81 309 *i* P **P 11 57 32.5 -1.0**
SOC Sochi 59.13 317 *e*P **P 11 57 32.3 -3.4**
SOC *e* 11 58 21.7
SOC *e* 11 59 43.7
SOC *e*PPP PPP 12 01 05.7 -7.1
SOC *e*S **S 12 05 39.9 +0.8**
SOC *e* 12 07 18.5
SOC *e*SS SS 12 09 29.2 -5.9
SOC pmax pmax
comp=Z,46nm,1.1s,mb5.4
SOC pmax pmax
comp=N,15nm,1.0s
SOC pmax pmax
comp=E,21nm,0.9s
SOC MLR MLR
comp=Z,1μm,23.0s,MS5.0
SOC MLR MLR
comp=N,696nm,19.0s,MS4.9
SOC MLR MLR
comp=E,587nm,19.0s,MS4.9
EIL Elat 59.37 300 P **P 11 57 33.9 -3.7**
comp=E,8.0nm,0.8s,mb4.8,baz=90,slow=8.1,SNR=2.3
EIL Elat 59.37 300 *e*P **P 11 57 34.3 -3.2**
comp=E,41nm,1.0s,mb5.4
KAHT Ahir Dag 59.41 309 *i* P **P 11 57 36.6 -1.2**
COBT Iskenderun 59.62 308 *i* P **P 11 57 36.6 -2.6**
YAK Yakutsk 59.98 18 *e*P **P 11 57 40.1 -1.2**
YAK *e**PP pP 11 57 49.9 -1.0
YAK *e* 11 58 25.9
YAK *e* 11 59 51.9
YAK *e*S **S 12 05 51.0 +1.1**
YAK *e*SS SS 12 09 43.8 -3.9
YAK *e*SSS SSS 12 12 26.0 +6.5
YAK pmax pmax
comp=Z,30nm,0.9s,mb5.3
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=E,15nm,1.1s
YAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK smax
comp=E,6.0nm,1.6s
YAK smax
comp=N,4.0nm,1.1s
YAK MLR MLR
comp=Z,849nm,13.0s,MS5.1
YAK MLR MLR
comp=N,393nm,12.0s,MS5.0
YAK MLR MLR
comp=E,663nm,14.0s,MS5.0
YAK Yakutsk 59.98 18 *e*P **P 11 57 39.6 -1.7**
comp=E,80nm,0.9s,mb5.8
STKA Stephens Creek 60.16 134 *e*P **P 11 57 40.9 -2.1**
comp=E,6.9nm,1.0s,mb4.6
STKA Stephens Creek 60.16 134 P **P 11 57 39.4 -3.6**
comp=E,2.7nm,0.6s,mb4.5,baz=298,slow=17,SNR=3.0
STKA LR LR 12 26 55.8
comp=E,2μm,20.1s,MS5.3,baz=298,slow=39
STKA Stephens Creek 60.16 134 *e*P **P 11 57 37.1 -5.8**
ANN Anapa 61.08 317 *e*P **P 11 57 37.6 -11**
ANN *i* *PP pP 11 57 49.8 -8.8
ANN *e*S **S 12 05 55.9 -8.3**
ANN pmax pmax
comp=Z,53nm,1.0s,mb5.6
BRTR Keskin Array B 62.37 311 P **P 11 57 54.2 -3.6**
BRTR pmax pmax
comp=Z,17nm,0.8s
BRTR Keskin Array B 62.37 311 P **P 11 57 54.2 -3.6**
comp=Z,17nm,0.8s,mb5.2,baz=118,slow=7.4,SNR=15
BRTR Keskin Array B 62.37 311 *i* P **P 11 57 58.0 +0.2**
BALT Daday 62.99 313 *i* P **P 11 58 04.6 +2.8**
SIM Simferopol' 63.38 317 *e*P **P 11 58 08.0 +3.7**
SIM *e*S **S 12 06 44.0 +11**
SIM pmax pmax
comp=Z,40nm,0.9s,mb5.5
SIM MLR MLR
comp=Z,2μm,23.4s,MS5.1
MBAR Mbarara 63.72 265 *e*P **P 11 58 08.1 +1.0**
MBAR pmax pmax
comp=Z,41nm,1.2s,mb5.3
MBAR Mbarara 63.72 265 *e*P **P 11 58 08.1 +1.0**
comp=Z,41nm,1.2s,mb5.3
SGKT Sivrigoynuk 63.75 311 *i* P **P 11 58 07.9 +1.0**
MOS Moscow 65.03 329 *e*P **P 11 58 13.9 -1.1**
MOS *e* 12 00 35.6
MOS *e*S S 12 06 53.7 +0.3
MOS pmax pmax
comp=Z,129nm,1.0s,mb5.9
OBN Obninsk 65.33 328*d* *i*P **P 11 58 15.0 -1.9**
OBN *e* 11 58 28.5
OBN *e* 12 00 39.9
OBN *e*S S 12 06 55.7 -1.4
OBN pmax pmax
comp=Z,111nm,1.4s,mb5.7
OBN MLR MLR
comp=Z,2μm,21.0s,MS5.3
OBN Obninsk 65.33 328 *e*P **P 11 58 12.2 -4.7**
comp=Z,146nm,1.0s,mb6.0
MA2 Magadan 66.76 28*c* *i*P **P 11 58 26.7 +0.7**
MA2 pmax pmax
comp=Z,21nm,0.9s,mb5.2
MA2 Magadan 66.76 28 *e*P **P 11 58 25.4 -0.6**
comp=Z,39nm,1.0s,mb5.4
TIXI Tiksi 67.22 11⇓ *e*P **P 11 58 27.0 -1.7**
AKASG Malin Array Be 68.10 322 P **P 11 58 31.3 -3.3**
AKASG pmax pmax
comp=Z,28nm,0.9s
AKASG Malin Array Be 68.10 322 P **P 11 58 31.3 -3.3**
comp=Z,28nm,0.9s,mb5.3,baz=88,slow=4.9,SNR=15
IDI Anoyia 68.51 305 P **P 11 58 35.6 -1.8**
comp=Z,24nm,0.9s,mb5.1,baz=65,slow=8.7,SNR=5.1
SEY Seymchan 68.92 25 *e*P **P 11 58 38.9 -0.5**

SEY 11 58 59.6
SEY *e*S S 12 07 38.9 -1.3
SEY 12 08 30.3
SEY *e*SS SS 12 12 03.8 -3.8
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY pmax pmax
comp=Z,40nm,0.9s,mb5.3
SEY pmax pmax
comp=E,20nm,1.2s
SEY smax
comp=N,1µm,19.7s
SEY smax
comp=E,600nm,19.7s
MLR Muntele Rosu 69.12 316 P **P 11 58 39.3 -1.6**
MLR pmax pmax
comp=Z,69nm,1.1s
MLR Muntele Rosu 69.12 316 P **P 11 58 39.3 -1.6**
comp=Z,69nm,1.1s,mb5.5,baz=153,slow=5.2,SNR=19
LSZ Lusaka 69.23 250 *e*P **P 11 58 42.4 +0.3**
LSZ pmax pmax
comp=Z,20nm,1.0s,mb5.0
LSZ Lusaka 69.23 250 *e*P **P 11 58 42.4 +0.3**
comp=Z,20nm,1.0s,mb5.0
MNK Minsk 69.91 325 *e*P **P 11 58 42.0 -3.6**
TAU Tasmania Unive 69.94 141 *e*P **P 11 58 46.8 +0.8**
TAU pmax pmax
comp=Z,97nm,1.5s,mb5.5
TAU Tasmania Unive 69.94 141 *e*P **P 11 58 46.8 +0.8**
comp=Z,97nm,1.5s,mb5.5
ZAPS Zavoj/Pirot 71.15 313 P/S 11 58 54.1
LVV L'vov 71.16 320 *e*P **P 11 58 54.7 +1.4**
LVV MLR MLR
comp=N,720nm,18.0s,MS5.0
LVV MLR MLR
comp=E,360nm,18.0s,MS5.0
LVV MLR MLR
comp=Z,390nm,18.0s,MS4.7
BOLS Boljevac 71.69 313⇑ *i*P **P 11 58 57.7 +1.2**
APA Apatity 71.81 339⇑ *i*P **P 11 58 56.3 -0.6**
APA *i* 11 59 03.0
APA pmax pmax
comp=Z,36nm,1.1s,mb5.2
APA MLR MLR
comp=Z,5µm,20.0s,MS5.8
KWP Kalwaria 71.98 320 *e*P **P 11 58 59.2 +1.0**
KWP pmax pmax
comp=Z,79nm,1.0s,mb5.6
KWP Kalwaria 71.98 320 *e*P **P 11 58 58.1 -0.1**
KOLS Kolonicke sedl 72.15 319 *e*P **P 11 59 03.1 +3.9**
KOLS *e* 11 59 09.7
KOLS *e* 11 59 25.0
KOLS Kolonicke sedl 72.15 319 *i*P **P 11 59 03.5 +4.3**
KOLS *e* 11 59 09.7
KOLS *e* 11 59 25.0
KOLS Kolonicke sedl 72.15 319 *e* **P 11 59 03.1 +3.9**
KOLS *e*pP pP 11 59 09.7 +0.8
KOLS *e* 11 59 25.0
SUW Suwalki 72.45 324 *e*P **P 11 59 00.0 -0.9**
SUW pmax pmax
comp=Z,240nm,1.0s,mb6.1
SUW Suwalki 72.45 324 *e*P **P 11 58 59.9 -1.0**
SUW Suwalki 72.45 324 *e*P **P 11 58 59.9 -1.0**
GRUS Gruza 72.59 313⇓ *i*P **P 11 59 03.3 +1.4**
FINES FINESS Array B 72.66 332 *i*P **P 11 59 03.6 +1.6**
FINES pmax pmax
comp=Z,29nm,0.8s
FINES FINESS Array B 72.66 332 P **P 11 58 59.9 -2.1**
comp=Z,29nm,0.8s,mb5.2,baz=117,slow=8.5,SNR=21
FINES LR LR 12 37 10.9
comp=Z,2µm,18.9s,MS5.4,baz=279,slow=41
CRVS Cervenica-Dubn 72.68 319 *e*P **P 11 59 02.7 +0.3**
CRVS *e* 11 59 19.1
CRVS Cervenica-Dubn 72.68 319 *e*P **P 11 59 02.9 +0.5**
CRVS *e*sP sP 11 59 19.1 +3.7
KECS Kecovo 73.26 318 *e*P **P 11 59 08.2 +2.4**
KECS Kecovo 73.26 318 *e* **P 11 59 08.2 +2.4**
NIE Niedzica 73.49 319 *e*P **P 11 59 07.0 -0.1**
PSZ Piszkesteto 73.59 318 *e*P **P 11 59 07.2 -0.5**
PSZ pmax pmax
comp=Z,38nm,1.1s,mb5.2
PSZ Piszkesteto 73.59 318 *e*P **P 11 59 09.1 +1.4**
OJC Ojcow 73.92 320 *e*P **P 11 59 09.1 -0.5**
LBTB Lobatse 74.21 241 *e*P **P 11 59 12.5 +0.7**
LBTB pmax pmax
comp=Z,36nm,1.0s,mb5.3
LBTB Lobatse 74.21 241 *e*P **P 11 59 12.5 +0.7**
comp=Z,36nm,1.0s,mb5.3
PKSM Moragy 74.27 316 *e*P **P 11 59 11.0 -0.7**
VYHS Vyhne 74.35 318 *e*P **P 11 59 11.5 -0.6**
VYHS *e* 11 59 25.8
OKC Ostrava-Krasne 74.94 319 *e*P **P 11 59 14.9 -0.6**
OKC *ex* x 11 59 19.6
OKC AMS AMS 12 38 10.0
comp=Z,600nm,16.9s
CASY Casey 74.96 173 *e*P **P 11 59 14.7 -0.5**
comp=Z,35nm,1.3s,mb5.1
ARCES ARCESS Array B 75.22 340 P **P 11 59 15.5 -1.2**
ARCES pmax pmax
comp=Z,27nm,1.1s
ARCES MLR MLR
comp=Z,4µm,20.3s
ARCES ARCESS Array B 75.22 340 P **P 11 59 15.5 -1.2**
comp=Z,27nm,1.1s,mb5.1,baz=80,slow=7.4,SNR=10
ARCES LR LR 12 35 15.0
comp=Z,4µm,20.3s,MS5.7,baz=119,slow=38
ZST Bratislava 75.48 318 *e*P **P 11 59 18.7 +0.1**
ZST *e**SP sP 11 59 25.1 -6.5
ZST *e* 11 59 35.3
ZST Bratislava 75.48 318 *e*P **P 11 59 18.7 +0.1**
ZST *e*pP pP 11 59 22.5 -5.8
ZST *e*sP sP 11 59 25.1 -6.5
ZST *e* 11 59 35.3
ZST Bratislava 75.48 318 *e*P **P 11 59 18.7 +0.1**
ZST *e* 11 59 25.2
ZST *e*sP sP 11 59 35.3 +3.7
BOSA Boshof 75.56 238 *e*P **P 11 59 20.6 +1.1**
BOSA pmax pmax
comp=Z,27nm,0.8s,mb5.2
BOSA Boshof 75.56 238 *e*P **P 11 59 20.6 +1.1**
comp=Z,27nm,0.8s,mb5.2
VRAC Vranov 75.90 319 P **P 11 59 21.2 +0.2**
VRAC pmax pmax
comp=Z,14nm,1.0s
VRAC Vranov 75.90 319 P **P 11 59 21.2 +0.2**
comp=Z,14nm,1.0s,mb4.8,baz=105,slow=12,SNR=8.5
BILL Bilibino 76.08 22*c* *i*P **P 11 59 21.9 +0.3**
BILL pmax pmax
comp=Z,24nm,1.7s,mb4.8
BILL Bilibino 76.08 22 *e*P **P 11 59 19.9 -1.7**
comp=Z,66nm,1.7s,mb5.3
BILL LR LR
comp=Z,2µm,21.0s,MS5.4
DPC Dobruska-Polom 76.15 320 *e*P **P 11 59 22.7 +0.3**
DPC *ex* x 11 59 26.6
DPC AMS AMS 12 36 30.0
comp=Z,700nm,18.3s
KSP Ksiaz 76.21 320 *e*P **P 11 59 22.6 -0.1**
KSP *e*S S 12 09 10.0 +6.6
KSP MLR MLR
comp=Z,2µm,19.9s,MS5.4
KSP Ksiaz 76.21 320 *e*P **P 11 59 22.6 -0.1**
KSP *e*pP pP 11 59 26.3 -6.1
KSP *e*S S 12 09 10.0 +6.6
KSP LR LR
comp=Z,2µm,19.9s,MS5.4
KSP Ksiaz 76.21 320 *e*P **P 11 59 23.1 +0.4**
UPC Upice 76.36 320 *e*P **P 11 59 23.9 +0.4**
UPC *ex* x 11 59 28.1
ARSA Arzberg 76.48 317⇑ *i*P **P 11 59 25.7 +1.4**
comp=Z,46nm,1.1s,mb5.3
LJU Ljubljana 77.12 315 *e*P sP 11 59 40.5 -0.4
PRU Pruhonice 77.27 319 *e*P **P 11 59 28.9 +0.3**
PRU *ex* x 11 59 33.0
PRU AMS AMS 12 38 30.0
comp=Z,700nm,18.2s
PVCC Panska Ves 77.28 320 *e*P **P 11 59 31.7 +3.0**
PVCC *ex* x 11 59 35.5
PVCC AMS AMS 12 39 30.0
comp=Z,1µm,15.1s
MOA Molln 77.36 317⇑ *i*P **P 11 59 29.3 +0.2**
comp=Z,36nm,1.2s,mb5.2
BSD Bornholm Skovb 77.37 325⇓ *i*P **P 11 59 30.2 +1.2**
BSD pmax pmax
comp=Z,48nm,0.9s,mb5.4
BSD Bornholm Skovb 77.37 325⇓ *i*P **P 11 59 30.2 +1.2**
comp=Z,48nm,0.9s,mb5.4
CADS Cadrg 77.67 316 *i*P **P 11 59 30.5 -0.3**
BRG Berggiesshubel 77.70 320 *e*P **P 11 59 30.8 -0.1**
BRG pmax pmax
comp=Z,29nm,0.9s,mb5.2
BRG Berggiesshubel 77.70 320 *e*P **P 11 59 30.8 -0.1**
comp=Z,29nm,0.9s,mb5.2
BRG *e* 12 08 33.4
GERES GERESS Array B 77.77 318 P **P 11 59 20.2 -11**
comp=Z,25nm,0.9s,mb5.1,baz=104,slow=5.5,SNR=22
KHC Kasperske Hory 77.86 318⇑ *i*P **P 11 59 31.4 -0.5**
KHC Kasperske Hory 77.86 318 *e*P **P 11 59 31.3 -0.6**
KHC *ex* x 11 59 35.8
KHC AMS AMS 12 38 10.0
comp=Z,800nm,18.0s
RUE Ruedersdorf 77.88 322 *e*P **P 11 59 30.6 -1.2**
comp=Z,97nm,0.8s,mb5.8
KBA Koelnbreinsper 77.96 316⇑ *i*P **P 11 59 33.8 +1.4**
comp=Z,24nm,1.1s,mb5.0
KBA Koelnbreinsper 77.96 316⇑ *i*P **P 11 59 33.8 +1.4**
KBA pmax pmax
comp=Z,24nm,1.1s,mb5.0
CLL Collm 78.31 321 *i*P **P 11 59 34.0 -0.3**
CLL *i* 11 59 38.0
CLL MLR MLR
comp=Z,800nm,20.3s,MS5.0
CLL Collm 78.31 321 P **P 11 59 34.0 -0.3**
CLL *i* *PP pP 11 59 38.0 -6.0
CLL *i* *SP sP 11 59 40.4 -6.9
HFS Hagfors 78.41 330 P **P 11 59 33.7 -0.9**
HFS pmax pmax
comp=Z,22nm,0.8s
HFS Hagfors 78.41 330 P **P 11 59 33.7 -0.9**
comp=Z,22nm,0.8s,mb5.2,baz=108,slow=4.7,SNR=14
MAW Mawson 78.55 192 *e*P **P 11 59 36.8 +1.5**
MAW pmax pmax
comp=Z,77nm,1.4s
MAW Mawson 78.55 192 LR LR 12 29 59.3
comp=Z,682nm,19.2s,MS5.0,baz=34,slow=32
MAW Mawson 78.55 192 *e*P **P 11 59 36.8 +1.5**
comp=Z,77nm,1.4s,mb5.4
NKC Novy Kostel 78.63 320 *e*P **P 11 59 36.5 +0.4**
NKC *ex* x 11 59 39.9
NKC AMS AMS 12 42 30.0
comp=Z,600nm,23.3s
COP Copenhagen 78.82 325 *e*P **P 11 59 39.8 +2.8**
COP pmax pmax
comp=Z,42nm,0.9s,mb5.4
COP MLR MLR
comp=Z,470nm,20.0s,MS4.8
COP Copenhagen 78.82 325 *e*P **P 11 59 39.8 +2.8**
comp=Z,42nm,0.9s,mb5.4
COP LR LR
comp=Z,470nm,20.0s,MS4.8
COP Copenhagen 78.82 325 *i*P **P 11 59 39.8 +2.8**
comp=Z,42nm,0.9s,mb5.4
comp=Z,460nm,20.0s
WTTA Wattenberg 79.13 317⇓ *i*P **P 11 59 38.5 -0.4**
comp=Z,50nm,1.0s,mb5.4
WTTA Wattenberg 79.13 317⇓ *i*P **P 11 59 38.5 -0.4**
WTTA pmax pmax
comp=Z,50nm,1.0s,mb5.4
MOX Moxa 79.17 320 *e*P **P 11 59 39.4 +0.4**
MOX pmax pmax
comp=Z,44nm,1.4s,mb5.2
MOX MLR MLR
comp=Z,900nm,20.0s,MS5.1
MOX Moxa 79.17 320 *e*P **P 11 59 39.4 +0.4**
comp=Z,44nm,1.4s,mb5.2
MOX LR LR
comp=Z,900nm,20.0s,MS5.1
MOX Moxa 79.17 320 *i*P **P 11 59 39.4 +0.4**
comp=Z,logA/T=1.5,mb5.2
MOX L 12 41 15.0
WATA Walderalm 79.17 317⇓ *i*P **P 11 59 38.3 -0.8**
comp=Z,72nm,1.6s,mb5.3
WATA Walderalm 79.17 317⇓ *i*P **P 11 59 38.3 -0.8**
WATA pmax pmax
comp=Z,72nm,1.6s,mb5.3
GRA1 Grafenberg Arr 79.41 319 *e*P **P 11 59 41.1 +0.8**
comp=Z,71nm,1.4s,mb5.4
GRF Grafenberg Arr 79.41 319 *e*P **P 11 59 41.1 +0.8**
GRF pmax pmax
comp=Z,71nm,1.4s,mb5.4
GRF Grafenberg Arr 79.41 319 *e*P **P 11 59 41.1 +0.8**
GRF pmax pmax
comp=Z,71nm,1.4s,mb5.4
GRF Grafenberg Arr 79.41 319 *e*P **P 11 59 41.1 +0.8**
comp=Z,71nm,1.4s,mb5.4
SQTA Sankt Quirin 79.42 317⇓ *i*P **P 11 59 39.9 -0.5**
comp=Z,32nm,1.0s,mb5.2
SQTA Sankt Quirin 79.42 317⇓ *i*P **P 11 59 39.9 -0.5**
SQTA pmax pmax
comp=Z,32nm,1.0s,mb5.2
MOTA Moosalm 79.49 317⇓ *i*P **P 11 59 40.3 -0.5**
comp=Z,18nm,0.9s,mb5.0
MOTA Moosalm 79.49 317⇓ *i*P **P 11 59 40.3 -0.5**
MOTA pmax pmax
comp=Z,18nm,0.9s,mb5.0
NB2 NORSAR Subarra 79.68 331 P **P 11 59 40.5 -1.0**
comp=Z,38nm,0.9s,mb5.3,baz=91,slow=5.8
NB2 NORSAR Subarra 79.68 331 P **P 11 59 40.5 -1.0**
baz=91,slow=5.9
NOA NORSAR Array B 79.68 331 P **P 11 59 40.0 -1.5**
NOA pmax pmax
comp=Z,30nm,1.0s
NOA NORSAR Array B 79.68 331 P **P 11 59 40.0 -1.5**
comp=Z,30nm,1.0s,mb5.2,baz=92,slow=5.6,SNR=26
NAO01 NORSAR Array S 79.84 330 *e*P **P 11 59 43.0 +0.6**
comp=Z,37nm,0.9s,mb5.3
SARO Sassorosso 80.03 313 P **P 11 59 43.8 +0.1**
VALM 80.13 314 P **P 11 59 44.6 +0.3**
VINC Vinca 80.21 313 P **P 11 59 45.1 +0.3**
GRAM 80.26 314 P **P 11 59 45.2 +0.3**
SUR Sutherland 80.31 235 *e*P **P 11 59 47.4 +1.9**
comp=Z,43nm,1.0s,mb5.3
DAVA Damuels 80.33 317⇓ *i*P **P 11 59 45.5 +0.2**
comp=Z,56nm,1.0s,mb5.5
DAVOX Davos 80.34 316 P **P 11 59 44.5 -0.8**
comp=Z,38nm,0.8s,mb5.4,baz=109,slow=8.9,SNR=18
CODM 80.42 314 P **P 11 59 46.0 +0.2**
MUD Monsted U'grnd 80.66 326⇑ *i*P **P 11 59 51.6 +4.8**
comp=Z,69nm,0.9s,mb5.6
comp=Z,1µm,18.0s
SPAK Spaichingen 81.04 317 *e*P **P 11 59 52.5 +3.5**
PGF Pioggiola 81.10 312 *e*P **P 11 59 49.4 -0.1**
comp=Z,302nm,1.8s,mb5.6
PGF Pioggiola 81.10 312 *e*P **P 11 59 49.4 -0.1**
PGF pmax pmax
comp=Z,151nm,1.8s,mb5.6
PCP Pian Castagno 81.34 314 P **P 11 59 50.2 -0.5**
KTD Kalmit 81.47 319 *e*P **P 11 59 56.8 +5.6**
FELD Feldberg 81.58 317 *e*P **P 11 59 55.1 +3.3**
FIN Finale Ligure 81.60 314 P **P 11 59 51.4 -0.6**
LANF Langenberg 81.66 318 *e*P **P 11 59 55.7 +3.5**
ORX Oropa 81.69 315 P **P 11 59 51.0 -1.5**
ABH Alteburg 81.79 319 *e*P **P 11 59 56.8 +3.9**
ROB Roburent 81.84 314 P **P 11 59 53.2 -0.1**
IMI Imperia 81.85 313 P **P 11 59 53.6 +0.3**
TRAV 81.86 315 P **P 11 59 51.6 -1.8**
CDF Champ du Feu 82.04 318 *e*P **P 11 59 53.9 -0.3**
comp=Z,36nm,1.1s,mb4.9
CDF Champ du Feu 82.04 318 *e*P **P 11 59 53.9 -0.3**
CDF pmax pmax
comp=Z,18nm,1.1s,mb4.9
RUP Ruppelstein 82.11 319 *e*P **P 11 59 56.2 +1.6**
ECH Echery 82.13 318 *e*P **P 12 00 00.3 +5.6**
ENR Entracque 82.17 314 P **P 11 59 54.4 -0.6**
SBF Sospel 82.18 313 *e*P **P 11 59 54.8 -0.2**
comp=Z,112nm,1.0s,mb5.5
SBF Sospel 82.18 313 *e*P **P 11 59 54.8 -0.2**
SBF pmax pmax
comp=Z,56nm,1.0s,mb5.5
RSP Reno Superiore 82.23 315 P **P 11 59 53.9 -1.4**
STV Sta Anna Valdi 82.23 314 P **P 11 59 55.0 -0.3**
BHB Bricherasio 82.24 314 P **P 11 59 54.3 -1.1**
LSD Ceresole Reale 82.28 315 P **P 11 59 54.6 -0.9**
HINF Hinteralfeld 82.35 317 *e*P **P 11 59 56.4 +0.5**
FENE Fenestrelle 82.37 314 P **P 11 59 54.4 -1.6**
LOMF Lomont 82.40 317 *e*P **P 11 59 59.4 +3.3**
LPG La Plagne 82.56 315 *e*P **P 11 59 57.4 +0.4**
comp=Z,83nm,0.9s,mb5.5
LPG La Plagne 82.56 315 *e*P **P 11 59 57.4 +0.4**
LPG pmax pmax
comp=Z,42nm,0.9s,mb5.5
LPL La Plagne 82.58 315 *e*P **P 11 59 57.4 +0.3**
comp=Z,82nm,0.9s,mb5.5
LPL La Plagne 82.58 315 *e*P **P 11 59 57.4 +0.3**
LPL pmax pmax
comp=Z,41nm,0.9s,mb5.5
RRL Cesana Torines 82.58 314 P **P 11 59 56.8 -0.3**
MBDF Montbardon 82.60 314 *e*P **P 11 59 56.5 -0.7**
comp=Z,39nm,0.9s,mb5.1
MBDF Montbardon 82.60 314 *e*P **P 11 59 56.5 -0.7**
MBDF pmax pmax
comp=Z,19nm,0.9s,mb5.1
BNI Bardonecchia 82.64 314 *e*P **P 12 00 00.4 +3.0**
BNI pmax pmax
comp=Z,44nm,0.9s,mb5.5
BNI Bardonecchia 82.64 314 *e*P **P 12 00 00.4 +3.0**
comp=Z,44nm,0.9s,mb5.5
HAU Haudompre 82.68 317 *e*P **P 11 59 57.1 -0.5**
comp=Z,65nm,1.0s,mb5.3
HAU *e*R
comp=Z,850nm,21.8s
HAU Haudompre 82.68 317 *e*P **P 11 59 57.1 -0.5**
HAU pmax pmax
comp=Z,33nm,1.0s,mb5.3
HAU MLR MLR
comp=Z,850nm,21.8s,MS5.1
FRF La Foret Royal 82.77 313 *e*P **P 11 59 58.3 +0.2**
comp=Z,184nm,1.4s,mb5.6
FRF La Foret Royal 82.77 313 *e*P **P 11 59 58.3 +0.2**
FRF pmax pmax
comp=Z,92nm,1.4s,mb5.6
LMR La Mourre 82.88 313 *e*P **P 11 59 58.7 0.0**
THEF They Montfort 82.91 318 *e*P **P 11 59 59.9 +1.2**
CABF La Chapelle 82.95 316 *e*P **P 11 59 59.1 +0.1**
comp=Z,106nm,1.3s,mb5.4
CABF La Chapelle 82.95 316 *e*P **P 11 59 59.1 +0.1**
CABF pmax pmax
comp=Z,53nm,1.3s,mb5.4
ORIF Oris-en-Rattie 83.22 314 *e*P **P 12 00 01.5 +1.1**
comp=Z,35nm,0.9s,mb5.1
ORIF *e*R
comp=Z,1µm,22.2s
OG05 Jujurieux 83.43 315 *e*P **P 12 00 03.7 +2.3**
MEZF Maizieres J'vi 83.51 318 *e*P **P 12 00 01.7 -0.1**
SMRF Simiane la Rot 83.51 313 *e*P **P 12 00 02.4 +0.5**
comp=Z,155nm,1.5s,mb5.6
GIVF Givet 83.53 320 *e*P **P 12 00 01.9 0.0**
BAIF Baives 83.93 320 *e*P **P 12 00 04.1 +0.2**
comp=Z,55nm,1.1s,mb5.3
BAIF Baives 83.93 320 *e*P **P 12 00 04.1 +0.2**
BAIF pmax pmax
comp=Z,28nm,1.1s,mb5.3
VIVF Saint-Julien-l 84.08 314 *e*P **P 12 00 04.7 -0.1**
comp=Z,73nm,1.2s,mb5.4
VIVF Saint-Julien-l 84.08 314 *e*P **P 12 00 04.7 -0.1**
VIVF pmax pmax
comp=Z,37nm,1.2s,mb5.4
SMF Signal de Mont 84.49 316 *e*P **P 12 00 06.5 -0.3**
comp=Z,39nm,0.9s,mb5.2
SMF Signal de Mont 84.49 316 *e*P **P 12 00 06.5 -0.3**
SMF pmax pmax
comp=Z,20nm,0.9s,mb5.2
SSF Saint Saulge 84.68 317 *e*P **P 12 00 07.6 -0.1**
SSF pmax pmax
comp=Z,52nm,1.4s,mb5.5
SSF Saint Saulge 84.68 317 *e*P **P 12 00 07.6 -0.1**
comp=Z,52nm,1.4s,mb5.5
PLDF La Plantade 84.71 316 *e*P **P 12 00 12.0 +4.1**
LASF Ste Croix 84.74 314 *e*P **P 12 00 08.4 +0.3**
comp=Z,232nm,1.7s,mb5.8
AVF Avril sur Loir 84.81 316 *e*P **P 12 00 08.1 -0.3**
comp=Z,46nm,1.1s,mb5.2
AVF Avril sur Loir 84.81 316 *e*P **P 12 00 08.1 -0.3**
AVF pmax pmax
comp=Z,23nm,1.1s,mb5.2
LBL Lubilhac 85.05 315 *e*P **P 12 00 13.7 +4.1**
PYM Petit Puy Mans 85.16 315 *e*P **P 12 00 14.1 +3.9**
BGF Bois d'Agland 85.18 316 *e*P **P 12 00 10.5 +0.2**
comp=Z,117nm,1.3s,mb5.5
BGF Bois d'Agland 85.18 316 *e*P **P 12 00 10.5 +0.2**
BGF pmax pmax
comp=Z,59nm,1.3s,mb5.6
HYF Humbligny 85.24 317 *e*P **P 12 00 11.0 +0.4**
SYO Syowa Base 85.42 197 ⇓P **P 12 00 12.1 +1.2**
SYO Syowa Base 85.42 197 ⇓pP pP 12 00 22.8 +2.0
TCF Toulx Ste Croi 85.65 316 *e*P **P 12 00 12.8 +0.2**
comp=Z,57nm,1.4s,mb5.3
TCF Toulx Ste Croi 85.65 316 *e*P **P 12 00 12.8 +0.2**
TCF pmax pmax
comp=Z,28nm,1.4s,mb5.3
CAF Calviac 85.92 315 *e*P **P 12 00 14.4 +0.4**
comp=Z,39nm,1.1s,mb5.2
CAF Calviac 85.92 315 *e*P **P 12 00 14.4 +0.4**
CAF pmax pmax
comp=Z,20nm,1.1s,mb5.3
MTLF Montolieu 86.00 313 *e*P **P 12 00 14.7 +0.3**
comp=Z,63nm,1.1s,mb5.5
MTLF Montolieu 86.00 313 *e*P **P 12 00 14.7 +0.3**
MTLF pmax pmax
comp=Z,32nm,1.1s,mb5.5
TNA Tin City 86.16 24 *e*P **P 12 00 14.8 +0.1**
RJF Les Rejaudoux 86.25 315 *e*P **P 12 00 16.1 +0.5**
comp=Z,98nm,1.4s,mb5.5
RJF *e*R
comp=Z,625nm,19.8s
RJF Les Rejaudoux 86.25 315 *e*P **P 12 00 16.1 +0.5**
RJF pmax pmax
comp=Z,49nm,1.4s,mb5.5
RJF MLR MLR
comp=Z,630nm,19.8s,MS5.0
JMIC Jan Mayen 86.67 341 LR LR 12 41 36.2
comp=Z,1µm,18.1s,MS5.3,baz=266,slow=37
LDF La Druitiere 86.92 318 *e*P **P 12 00 18.7 -0.1**
comp=Z,100nm,1.3s,mb5.6
LDF La Druitiere 86.92 318 *e*P **P 12 00 18.7 -0.1**
LDF pmax pmax
comp=Z,50nm,1.3s,mb5.6
FLN La Foliniere 87.13 319 *e*P **P 12 00 19.6 -0.2**
comp=Z,117nm,1.4s,mb5.6
FLN *e*R
comp=Z,662nm,19.0s
FLN La Foliniere 87.13 319 *e*P **P 12 00 19.6 -0.2**
FLN pmax pmax
comp=Z,58nm,1.4s,mb5.6
FLN MLR MLR
comp=Z,660nm,19.0s,MS5.1
MFF Saint Martin d 87.22 316 *e*P **P 12 00 20.3 0.0**
comp=Z,59nm,1.3s,mb5.4
MFF Saint Martin d 87.22 316 *e*P **P 12 00 20.3 0.0**
MFF pmax pmax
comp=Z,30nm,1.3s,mb5.4
GRR Gorron 87.43 318 *e*P **P 12 00 21.5 +0.2**
comp=Z,315nm,1.9s,mb5.9
GRR Gorron 87.43 318 *e*P **P 12 00 21.5 +0.2**
GRR pmax pmax
comp=Z,157nm,1.9s,mb5.9
EKA Eskdalemuir Ar 87.67 325 P **P 12 00 22.3 +0.1**
EKA pmax pmax
comp=Z,13nm,0.8s
EKA Eskdalemuir Ar 87.67 325 P **P 12 00 22.2 0.0**
comp=Z,13nm,0.8s,mb5.2,baz=96,slow=5.3,SNR=10
ETSF Etsaut 88.07 313 *e*P **P 12 00 25.3 +0.8**
comp=Z,66nm,1.2s,mb5.5
ETSF Etsaut 88.07 313 *e*P **P 12 00 25.3 +0.8**
ETSF pmax pmax
comp=Z,33nm,1.2s,mb5.4
SJPF Ste Jean 88.52 313 *e*P **P 12 00 27.3 +0.7**
comp=Z,69nm,1.3s,mb5.5
SJPF Ste Jean 88.52 313 *e*P **P 12 00 27.3 +0.7**
SJPF pmax pmax
comp=Z,34nm,1.3s,mb5.5
ROSF Rostrenen 89.03 319 *e*P **P 12 00 29.1 +0.2**
comp=Z,173nm,1.5s,mb5.8
ROSF Rostrenen 89.03 319 *e*P **P 12 00 29.1 +0.2**
ROSF pmax pmax
comp=Z,87nm,1.5s,mb5.9
ESDC Sonseca Array 91.16 310 P **P 12 00 39.5 +0.5**
comp=Z,9.5nm,0.8s,mb5.2,baz=62,slow=4.7,SNR=12
ESLA Sonseca Array 91.16 310 *e*P **P 12 00 40.0 +1.0**
comp=Z,11nm,1.2s,mb5.0
ESLA LR LR
comp=Z,3µm,19.0s,MS5.8
IMA Indian Mountai 91.62 22 *e*P **P 12 00 41.3 +0.8**
SPU Mount Spurr 94.28 26 *e*P **P 12 00 53.0 +0.2**
MCK McKinley 94.45 23 *e*P **P 12 00 52.0 -1.6**

MCK pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
MCK McKinley 94.45 23 *eP* **P 12 00 52.0 -1.6**
comp=Z,4.6nm,0.9s,mb4.9
ILAR Eielson Array 94.74 22 P **P 12 00 54.1 -0.8**
ILAR 12 04 43.7
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR pmax pmax
comp=Z,2.0nm,1.1s
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.74 22 P **P 12 00 54.1 -0.8**
comp=Z,1.0nm,0.7s,mb4.3,baz=306,slow=4.8,SNR=6.6
ILAR PP PP 12 04 43.7 -2.0
comp=Z,1.5nm,1.1s,baz=304,slow=6.2,SNR=4.2
ILAR PKKPbc 12 17 53.9
comp=Z,0.7nm,0.8s,baz=144,slow=2.0,SNR=11
SML Sawmill 95.60 25 *eP* **P 12 01 01.2 +2.3**
INK Inuvik 96.98 16 *eP* **P 12 01 06.4 +1.4**
INK pmax pmax
comp=Z,19nm,1.2s
INK Inuvik 96.98 16 P **P 12 01 05.5 +0.5**
comp=Z,9.8nm,1.1s,mb5.1,baz=319,slow=6.3,SNR=7.6
INK Inuvik 96.98 16 *eP* **P 12 01 06.4 +1.4**
comp=Z,19nm,1.2s,mb5.4
RES Resolute Bay 97.38 2 *eP* **P 12 01 07.9 +1.2**
RES pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
RES Resolute Bay 97.38 2 *eP* **P 12 01 07.9 +1.2**
comp=Z,9.3nm,1.0s,mb5.2
QSPA South Pole Qui 97.80 180 PFAKE 12 01 20.0 +11
QSPA LR LR
comp=Z,1μm,20.0s,MS5.3
DBIC Dimbokro 97.89 278 *eP* **P 12 01 14.3 +3.9**
DBIC pmax pmax
comp=Z,11nm,1.1s
DBIC Dimbokro 97.89 278 P **P 12 01 14.9 +4.6**
comp=Z,6.6nm,0.9s,mb5.1,baz=64,slow=5.1,SNR=5.7
DBIC Dimbokro 97.89 278 *eP* **P 12 01 14.3 +3.9**
comp=Z,11nm,1.1s,mb5.3
YKA Yellowknife Ar 106.41 13 Pdiff Pdif 12 01 48.6 +1.5
comp=Z,0.1nm,0.7s,baz=336,slow=4.3,SNR=3.9
YKA PP PP 12 06 06.5 -8.3
comp=Z,0.5nm,0.7s,baz=336,slow=7.9,SNR=8.0
YKA PKKPbc 12 17 19.0
comp=Z,0.7nm,0.8s,baz=155,slow=2.9,SNR=7.4
YKA PKKP PKKP 12 17 33.0 +10
comp=Z,0.6nm,0.8s,baz=146,slow=3.8,SNR=3.9
SCHQ Schefferville 115.49 348 PKP PKPdf 12 06 15.4 -4.1
comp=Z,3.0nm,1.2s,baz=168,slow=14,SNR=2.6
TBI Tubuai 117.34 112 *e*SP SP 12 17 08.3 -2.6
TBI *e*LR LR 12 41 58.9
comp=Z,806nm,24.2s
PPT Papeete 117.40 106 *e*SP SP 12 17 13.0 +1.5
PPT *e*LR LR 12 42 00.4
comp=Z,661nm,23.2s
MCMT McKenzie Canyo 122.17 22 *e*PKPdf PKPdf 12 06 30.5 -2.3
YMR Madison River 123.00 21 *e*PKPdf PKPdf 12 06 32.7 -1.7
YFT Old Faithful 123.24 21 *e*Pdif Pdif 12 03 02.2 +0.5
YFT *e*PKPdf PKPdf 12 06 32.1 -2.8
MOOW Moose Ponds 123.88 22 *e*PKPdf PKPdf 12 06 33.5 -2.7
TPAW Teton Pass 124.03 22 *e*PKPdf PKPdf 12 06 35.6 -0.8
SNOW Snow King Moun 124.12 22 *e*PKPdf PKPdf 12 06 34.2 -2.4
NVAR Mina Array Bea 124.92 31 PKP PKPdf 12 06 36.0 -2.3
comp=Z,2.9nm,0.9s,baz=84,slow=1.6,SNR=10.0
PDAR Pinedale Array 125.16 21 PKP PKPdf 12 06 35.2 -3.5
comp=Z,5.3nm,0.9s,slow=1.5,SNR=18
HWUT Hardware Ranch 125.40 23 PFAKE 12 06 50.0 +11
HWUT LR LR
comp=Z,788nm,20.0s,MS5.4
SADO Sadowa 127.22 354 PKP PKPdf 12 06 39.0 -3.5
comp=Z,4.5nm,0.6s,baz=34,slow=7.9,SNR=3.3
MSU Marysvale 127.75 26 *e*PKIKP PKPdf 12 06 42.1 -1.7
NEN Nelson 128.82 30 *e*PKPdf PKPdf 12 06 44.9 -1.0
KSU1 Kansas State U 132.19 11 *e*PKPdf PKPdf 12 06 50.3 -1.9
ANMO Albuquerque 133.16 23 PKIKP PKPdf 12 06 50.9 -3.3
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 133.16 23 PKP PKPdf 12 06 50.9 -3.3
comp=Z,2.3nm,0.8s,baz=318,slow=0.5,SNR=8.7
GDL2 Guadalupe Moun 136.41 23 *e*PKPdf PKPdf 12 06 57.3 -2.9
MNTX Cornudas Mount 136.44 24 *e*PKPdf PKPdf 12 06 57.4 -2.8
MIAR Mount Ida 137.17 9 *e*PKIKP PKPdf 12 06 59.2 -2.3
LTX Lajitas 139.22 24 PKIKP PKPdf 12 07 10.0 +4.6
LTX MLR MLR
comp=Z,884nm,20.0s,MS5.5
LTX Lajitas 139.22 24 PFAKE 12 07 10.0 +4.6
LTX LR LR
comp=Z,884nm,20.0s,MS5.5
TXAR Lajitas Array 139.22 24 PKP PKPdf 12 07 00.4 -5.0
comp=Z,2.1nm,1.0s,baz=9.2,slow=1.2,SNR=8.2
JCT Junction City 139.58 19 *e*PKIKP PKPdf 12 06 59.4 -6.6
PLCA Paso Flores 144.56 200 PKIKP PKPdf 12 07 09.1 -5.4
PLCA pmax pmax
comp=Z,19nm,1.0s
PLCA Paso Flores 144.56 200 PKP PKPdf 12 07 09.1 -5.4
comp=Z,19nm,1.0s,baz=145,slow=4.6,SNR=14
PLCA Paso Flores 144.56 200 *e*PKPdf PKPdf 12 07 09.8 -4.6
FDF Fort de France 146.71 312⇑ *e*P PKPbc 12 07 17.7 +2.6
CPUP Villa Florida 147.24 233 PKPdf PKPdf 12 07 18.6 -0.9
SJG San Juan 147.62 323 *e*PKP2 PKPab 12 07 19.5 -2.6
TEIG Tepich 151.95 5 *e*PKPdf PKPdf 12 07 27.4 +0.4
TEIG *e*PKPbc PKPdf 12 07 34.8 +7.8
SDV Santo Domingo 157.42 317 PKP PKPdf 12 07 28.4 -6.2
comp=Z,0.9nm,0.7s,baz=349,slow=16,SNR=1.8
SDV PKPab PKPab 12 08 02.9 -0.4
comp=Z,13nm,0.9s,baz=84,slow=3.3,SNR=6.4
LVC Limon Verde 158.06 226 PKPab PKPab 12 08 05.6 -0.3
comp=Z,7.9nm,0.9s,baz=156,slow=5.2,SNR=4.2
LPAZ La Paz 160.74 243 *e*PKIKP PKPdf 12 07 36.7 -1.6
LPAZ La Paz 160.74 243 PKP PKPdf 12 06 56.0 -42
comp=Z,6.8nm,1.1s,baz=24,slow=1.6,SNR=9.6
LPAZ PKPab PKPab 12 07 36.8 -41
comp=Z,3.6nm,0.9s,baz=159,slow=6.8,SNR=3.2

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*IDC **27** 11:50:03.7±1.0, 7.66N×93.57E, mb4.4/8, mb1 4.5/9, mb1mx4.3/19, mbtmp4.4/9, ML4.2/1, MS4.8/1, Ms1 4.8/1, ms1mx3.3/22, Error ellipse: s-maj=47.0km s-min=18.9km az=47.0*
*NEIC **27** 11:50:09.2±0.6, 7.87N×93.88E, h30km, mb4.8/1, Error ellipse: s-maj=20.6km s-min=15.5km az=51.0*
ISC 27 11:50:07.8±0.7, 7.9N±0.1×93.9E±0.1, h33km, n18, σ1§15/15, mb4.5/9, MS4.8/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.57**	**25**	Pn		P		**11 52 53.8**	**+0.1**
	0.5nm,0.3s,baz=205,slow=13,SNR=3.1								
HYB	**Hyderabad**	**17.69**	**304**	*i* P		**P**		**11 54 12.5**	**-0.9**
ZAL	**Zalesovo**	**46.48**	**353**	P		**P**		**11 58 34.3**	**+0.8**
	6.7nm,0.5s,mb4.9,baz=289,slow=4.5,SNR=7.4								
WRA	**Warramunga Arr**	**48.47**	**125**	P		**P**		**11 58 49.5**	**-0.1**
	1.8nm,0.6s,mb4.3,baz=304,slow=8.5,SNR=5.6								
ASAR	**Alice Springs**	**50.12**	**130**	P		**P**		**11 59 00.6**	**-1.7**
	2.6nm,1.0s,mb4.2,baz=304,slow=6.5,SNR=3.7								
PMG	**Port Moresby**	**55.76**	**107**	P		**P**		**11 59 45.3**	**+1.0**
	10.0nm,0.7s,mb4.9,baz=329,slow=5.9,SNR=4.0								
PMG				LR		LR		12 27 29.9	
	comp=Z,822nm,19.8s,MS4.8,baz=276,slow=40								
PMG	**Port Moresby**	**55.76**	**107**	P		**P**		**11 59 45.3**	**+1.0**
KMBO	**Kilima Mbogo**	**57.20**	**264**	P		**P**		**11 59 56.7**	**+2.2**
	5.3nm,1.2s,mb4.5,baz=57,slow=15,SNR=2.5								
KMBO	**Kilima Mbogo**	**57.20**	**264**	P		**P**		**11 59 56.7**	**+2.1**
BRTR	**Keskin Array B**	**62.23**	**311**	P		**P**		**12 00 26.3**	**-2.4**
	0.9nm,0.6s,mb4.1,baz=146,slow=5.2,SNR=2.9								
FINES	**FINESS Array B**	**72.57**	**332**	P		**P**		**12 01 33.3**	**0.0**
	5.1nm,0.8s,mb4.5,baz=104,slow=7.9,SNR=4.1								
HFS	**Hagfors**	**78.30**	**330**	P		**P**		**12 02 06.2**	**+0.1**
	3.2nm,0.5s,mb4.5,baz=90,slow=5.9,SNR=4.2								
MOX	**Moxa**	**79.04**	**320**	*eP*		**P**		**12 02 16.0**	**+5.7**
KONO	**Kongsberg**	**80.34**	**329**	*eP*		**P**		**12 02 16.4**	**-0.7**
LPG	**La Plagne**	**82.42**	**315**	*eP*		**P**		**12 02 29.5**	**+1.2**
	17nm,0.9s,mb4.7								
PDAR	**Pinedale Array**	**125.21**	**21**	PKP		PKPdf		12 09 07.8	+2.3
	0.7nm,0.6s,baz=20,slow=2.5,SNR=3.4								
TXAR	**Lajitas Array**	**139.28**	**24**	PKP		PKPdf		12 09 34.6	+2.3
	0.5nm,0.9s,baz=225,slow=1.3,SNR=2.4								
PLCA	**Paso Flores**	**144.51**	**201**	PKP		PKPdf		12 09 43.0	+1.8
	7.4nm,0.9s,baz=128,slow=2.9,SNR=6.2								

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*IDC **27** 11:50:03.7±1.0, 7.66N×93.57E, mb4.4/8, mb1 4.5/9, mb1mx4.3/19, mbtmp4.4/9, ML4.2/1, MS4.8/1, Ms1 4.8/1, ms1mx3.3/22, Error ellipse: s-maj=47.0km s-min=18.9km az=47.0*
*NEIC **27** 11:50:09.2±0.6, 7.87N×93.88E, h30km, mb4.8/1, Error ellipse: s-maj=20.6km s-min=15.5km az=51.0*
ISC 27 11:50:07.8±0.7, 7.9N±0.1×93.9E±0.1, h33km, n18, σ1§15/15, mb4.5/9, MS4.8/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.69**	**24**	Pn		P		**11 57 01.5**	**-1.6**
	0.3nm,0.3s,baz=212,slow=14,SNR=5.1								
SONM	**Songino Array**	**41.34**	**13**	P		**P**		**12 02 01.5**	**+1.6**
	1.2nm,0.9s,mb3.5,baz=198,slow=9.1,SNR=2.8								
ZAL	**Zalesovo**	**46.69**	**352**	P		**P**		**12 02 43.9**	**+1.0**
	1.2nm,0.5s,mb4.1,baz=325,slow=9.0,SNR=4.0								
WRA	**Warramunga Arr**	**48.24**	**125**	P		**P**		**12 02 56.5**	**+0.9**
	4.2nm,1.2s,mb4.3,baz=304,slow=8.4,SNR=6.1								
BVAR	**Borovoye Array**	**49.11**	**341**	P		**P**		**12 03 01.5**	**-0.2**
	2.0nm,1.1s,mb4.1,baz=157,slow=11,SNR=2.5								
ASAR	**Alice Springs**	**49.88**	**130**	P		**P**		**12 03 06.8**	**-1.3**
	2.5nm,0.9s,mb4.2,baz=163,slow=7.9,SNR=11								
ASAR				PcP		PcP		12 04 30.9	+2.4
	0.7nm,0.8s,baz=326,slow=3.3,SNR=2.3								
KMBO	**Kilima Mbogo**	**57.32**	**264**	P		**P**		**12 04 02.8**	**-0.3**
	1.1nm,0.3s,mb4.4,baz=66,slow=19,SNR=3.5								
BRTR	**Keskin Array B**	**62.46**	**311**	P		**P**		**12 04 36.4**	**-1.7**
	2.0nm,1.1s,mb4.2,baz=136,slow=5.1,SNR=3.1								
AKASG	**Malin Array Be**	**68.22**	**322**	P		**P**		**12 05 13.4**	**-1.5**
	0.3nm,0.3s,mb3.8,baz=86,slow=5.4,SNR=5.1								
FINES	**FINESS Array B**	**72.81**	**332**	P		**P**		**12 05 42.0**	**-0.4**
	3.5nm,1.0s,mb4.2,baz=72,slow=4.4,SNR=3.0								
ARCES	**ARCESS Array B**	**75.38**	**340**	P		**P**		**12 05 56.8**	**-0.4**
	1.6nm,0.7s,mb4.1,baz=90,slow=6.1,SNR=4.1								
GERES	**GERESS Array B**	**77.89**	**318**	P		**P**		**12 06 12.3**	**+0.6**
	1.6nm,0.8s,mb4.0,baz=90,slow=5.3,SNR=4.5								
HFS	**Hagfors**	**78.55**	**330**	P		**P**		**12 06 16.2**	**+1.2**
	4.7nm,0.8s,mb4.4,baz=101,slow=7.6,SNR=4.6								
NB2	**NORSAR Subarra**	**79.83**	**331**	P		**P**		**12 06 24.0**	**+2.0**
	2.2nm,0.7s,mb4.2,baz=93,slow=5.6								
NOA	**NORSAR Array B**	**79.83**	**331**	P		**P**		**12 06 21.4**	**-0.7**
	2.3nm,1.1s,mb4.0,baz=98,slow=5.2,SNR=3.3								
EKA	**Eskdalemuir Ar**	**87.80**	**325**	P		**P**		**12 07 03.9**	**+1.4**
	1.6nm,1.0s,mb4.2,baz=86,slow=10.0,SNR=2.4								
NVAR	**Mina Array Bea**	**125.10**	**31**	PKP		PKPdf		12 13 16.9	+3.7
	0.2nm,0.3s,slow=3.6,SNR=2.8								
PDAR	**Pinedale Array**	**125.35**	**21**	PKP		PKPdf		12 13 14.2	+0.7
	0.4nm,0.9s,baz=180,slow=4.5,SNR=2.5								
PLCA	**Paso Flores**	**144.37**	**200**	PKP		PKPdf		12 13 52.4	+3.8
	1.5nm,0.6s,baz=152,slow=0.2,SNR=3.4								

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*IDC **27** 11:55:48.2±6.7, 8.21N×94.10E, h64km±51km, mb3.8/6, mb1 4.0/7, mb1mx3.7/18, mbtmp4.1/7, ML3.1/1, Error ellipse: s-maj=53.6km s-min=38.6km az=145.0*
ISC 27 11:55:43.3±4.9, 8.2N±0.6×94.0E±0.6, h33km, n10, σ0§72/8, mb4.2/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.26**	**25**	P		**P**		**11 58 25.1**	**+0.1**
	0.0nm,0.3s,baz=210,slow=14,SNR=2.8								
ZAL	**Zalesovo**	**46.20**	**352**	P		**P**		**12 04 07.5**	**+0.6**
	2.7nm,0.9s,mb4.2,baz=289,slow=8.0,SNR=5.1								
BVAR	**Borovoye Array**	**48.63**	**341**	P		**P**		**12 04 26.9**	**+1.1**
	0.6nm,0.7s,mb3.8,baz=135,slow=6.1,SNR=4.0								
KMBO	**Kilima Mbogo**	**57.33**	**263**	P		**P**		**12 05 31.8**	**+0.8**
	4.2nm,0.2s,mb5.1,baz=60,slow=23,SNR=3.8								
BRTR	**Keskin Array B**	**62.11**	**311**	P		**P**		**12 06 02.6**	**-0.8**
	1.8nm,1.0s,mb4.2,baz=117,slow=6.4,SNR=3.8								
FINES	**FINESS Array B**	**72.35**	**332**	P		**P**		**12 07 06.8**	**-0.7**
	2.8nm,0.8s,mb4.3,baz=90,slow=8.3,SNR=5.2								
ARCES	**ARCESS Array B**	**74.90**	**340**	P		**P**		**12 07 21.4**	**-0.9**
	2.0nm,0.8s,mb4.1,baz=119,slow=11,SNR=5.4								
GERES	**GERESS Array B**	**77.49**	**318**	P		**P**		**12 07 37.2**	**-0.1**
	2.0nm,0.8s,mb4.1,baz=76,slow=5.5,SNR=6.5								
NVAR	**Mina Array Bea**	**124.70**	**31**	PKP		PKPdf		12 14 42.3	+2.1
	0.9nm,0.8s,baz=277,slow=3.2,SNR=4.7								
PDAR	**Pinedale Array**	**124.90**	**21**	PKP		PKPdf		12 14 40.4	-0.1
	0.7nm,0.8s,slow=1.5,SNR=4.4								

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*IDC **27** 11:56:29.4±0.7, 7.75N×93.91E, mb4.4/19, mb1 4.4/20, mb1mx4.4/25, mbtmp4.3/20, ML3.7/1, Error ellipse: s-maj=34.5km s-min=14.1km az=52.0*
*BJI **27** 11:56:32.5, 7.99N×93.50E, h12km, mB5.4, mb4.4*
*HRVD **27** 11:56:34.2±0.4, 7.88N×94.16E, h16km±2km, MW5.0/47, Centroid moment Tensor Solution. LP body waves: s3,c3; Mantle waves: s47,c86; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.38±.29; $M_{\theta\theta}$0.00±.17; $M_{\phi\phi}$2.38±.21; $M_{r\theta}$-1.94±.63; $M_{\theta\phi}$3.15±.16; $M_{\phi r}$-1.29±.56; Best double couple: $M_0$4.35×10^{16} NP1:ϕ_s181°, δ39°, λ-143°. NP2: ϕ_s60°, δ67°, λ-57°. Principal axes: T5.185, Plg16°, Azm127°; N-1.669, Plg30°, Azm226°; P-3.516, Plg55°, Azm12°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 11:56:34.2±0.3, 7.73N×93.97E, h30km, mb4.9/14 Error ellipse: s-maj=11.4km s-min=7.6km az=68.0*
ISC 27 11:56:33.3±0.4, 7.85N±0.06×94.14E±0.07, h33km, (h32km±.8km:pP-P), n65, σ1§08/58, mb4.7/39, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.03**	**340**	*eP*		**P**		**11 57 32.1**	**-2.1**
PBA				*e*				11 57 33.4	
CM31	**Chiang Mai Arr**	**11.54**	**23**	*eP*		**P**		**11 59 19.3**	**+0.6**
	42nm,0.9s								
CMAR	**Chiang Mai Arr**	**11.54**	**23**	Pn		**P**		**11 59 18.2**	**-0.6**
	0.1nm,0.3s,baz=209,slow=12,SNR=5.9								
VIS	**Vishakhapatnam**	**14.40**	**314**	*eP*		**P**		**11 59 57.1**	**+0.2**
VIS				*e*				12 00 11.0	
	comp=Z,78nm,1.5s								
VIS				*e*				12 02 27.9	
SHL	**Shillong**	**17.75**	**353**	*i* P		**P**		**12 00 37.1**	**-2.5**
SHL				*i*				12 00 43.5	
	comp=Z,332nm,1.1s								
NGP	**Nagpur**	**19.68**	**314**	*eP*		**P**		**12 01 02.6**	**0.0**
JIRN	**Jiri**	**21.10**	**340**	*eP*		**P**		**12 01 17.4**	**+0.1**
	comp=Z,134nm,0.9s,mb5.3								
PKI	**Pulchoki**	**21.29**	**338**	*eP*		**P**		**12 01 19.2**	**-0.1**
	comp=Z,224nm,1.1s,mb5.4								
GUN	**Gumba**	**21.43**	**340**	*eP*		**P**		**12 01 21.5**	**+0.8**
	comp=Z,266nm,1.0s,mb5.5								
DMN	**Daman**	**21.44**	**338**	*eP*		**P**		**12 01 20.2**	**-0.6**
	comp=Z,146nm,0.9s,mb5.3								
KKN	**Kakani**	**21.54**	**338**	*eP*		**P**		**12 01 22.3**	**+0.6**
	comp=Z,146nm,1.0s,mb5.4								
LSA	**Lhasa**	**21.92**	**353**	*eP*		**P**		**12 01 28.0**	**+2.4**
	comp=Z,68nm,0.7s,mb5.2								
GKN	**Gorkha**	**21.97**	**337**	*eP*		**P**		**12 01 26.2**	**+0.1**
	comp=Z,180nm,1.0s,mb5.5								
BHPL	**Bhopal**	**22.18**	**316**	*eP*		**P**		**12 01 29.9**	**+1.7**
BHPL				*e*				12 01 35.1	
	comp=Z,50nm,1.1s								
KOLN	**Koldanda**	**22.19**	**335**	*eP*		**P**		**12 01 28.5**	**+0.3**
	comp=Z,97nm,0.7s,mb5.3								
POO	**Poona**	**22.40**	**300**	*eP*		**P**		**12 01 30.5**	**+0.1**
NDI	**New Delhi**	**26.16**	**325**	*eP*		**P**		**12 02 07.1**	**+0.5**
NDI				*e*				12 02 19.9	
	comp=Z,49nm,2.1s								
ENH	**Enshi**	**26.55**	**31**	*eP*		**P**		**12 02 11.0**	**+0.8**
	comp=Z,40nm,1.2s,mb4.8								
AAK	**Ala-Archa**	**38.73**	**337**	*eP*		**P**		**12 03 56.2**	**+0.1**
	comp=Z,13nm,1.0s,mb4.6								
SONM	**Songino Array**	**41.19**	**13**	P		**P**		**12 04 16.9**	**+0.5**
	comp=Z,1.3nm,0.8s,mb3.6,baz=194,slow=5.1,SNR=4.2								
SONM				PcP		PcP		12 06 16.3	+0.5
	comp=Z,1.1nm,0.8s,baz=180,slow=2.9,SNR=3.0								
ULN	**Ulaanbaatar**	**41.36**	**13**	P		**P**		**12 04 18.2**	**+0.4**
	comp=Z,3.5nm,0.8s,mb4.0								
KURK	**Kurchatov**	**44.64**	**346**	*eP*		**P**		**12 04 44.4**	**0.0**
	comp=Z,38nm,1.3s,mb5.1								
NWAO	**Narrogin (SRO)**	**46.12**	**153**	P		**P**		**12 04 55.1**	**-1.4**
	comp=Z,10nm,0.9s,mb4.8,baz=278,slow=7.5,SNR=4.1								
ZAL	**Zalesovo**	**46.58**	**352**	P		**P**		**12 04 58.2**	**-1.6**
	comp=Z,4.0nm,0.9s,mb4.4,baz=295,slow=8.5,SNR=9.5								
WRA	**Warramunga Arr**	**48.24**	**126**	P		**P**		**12 05 12.7**	**-0.7**
	comp=Z,1.6nm,0.7s,mb4.1,baz=30,slow=9.1,SNR=7.8								
WRAB	**Tennant Creek**	**48.25**	**125**	*eP*		**P**		**12 05 13.1**	**-0.3**
	comp=Z,24nm,1.3s,mb5.1								
BVAR	**Borovoye Array**	**49.02**	**341**	P		**P**		**12 05 17.1**	**-1.7**
	comp=Z,1.5nm,0.8s,mb4.0,baz=143,slow=7.4,SNR=4.5								
BVAR	**Borovoye Array**	**49.02**	**341**	P		**P**		**12 05 17.1**	**-1.7**
BRVK	**Borovoye**	**49.08**	**341**	*eP*		**P**		**12 05 18.6**	**-0.7**
	comp=Z,6.3nm,0.9s,mb4.7								
CHKZ	**Chkalovo**	**49.50**	**342**	*eP*		**P**		**12 05 22.2**	**-0.3**
	comp=Z,26nm,1.1s,mb5.2								
CHKZ				*e*		pP		12 05 32.0	-0.4
ASAR	**Alice Springs**	**49.90**	**130**	P		**P**		**12 05 25.4**	**-0.6**
	comp=Z,2.2nm,0.9s,mb4.2,baz=309,slow=8.1,SNR=7.5								
ASAR	**Alice Springs**	**49.90**	**130**	P		**P**		**12 05 25.4**	**-0.6**
PMG	**Port Moresby**	**55.52**	**107**	P		**P**		**12 06 09.2**	**+1.2**
	comp=Z,4.7nm,0.6s,mb4.7,baz=270,slow=19,SNR=3.6								
KMBO	**Kilima Mbogo**	**57.42**	**264**	P		**P**		**12 06 24.2**	**+2.6**
	comp=Z,12nm,0.2s,mb5.6,baz=241,slow=23,SNR=5.9								
KMBO	**Kilima Mbogo**	**57.42**	**264**	P		**P**		**12 06 24.2**	**+2.6**
KMBO				*e*		pP		12 06 34.3	+2.6
YAK	**Yakutsk**	**60.02**	**18**	*eP*		**P**		**12 06 38.5**	**-0.5**
	comp=Z,21nm,0.8s,mb5.2								
STKA	**Stephens Creek**	**60.09**	**134**	P		**P**		**12 06 40.0**	**+0.1**
	comp=Z,2.1nm,0.8s,mb4.2,baz=316,slow=14,SNR=3.4								
STKA	**Stephens Creek**	**60.09**	**134**	P		**P**		**12 06 40.0**	**+0.1**
STKA				*e*		pP		12 06 49.4	-0.6
BRTR	**Keskin Array B**	**62.45**	**311**	P		**P**		**12 06 54.2**	**-1.5**
	comp=Z,0.9nm,0.6s,mb4.0,baz=112,slow=6.7,SNR=4.0								
MBAR	**Mbarara**	**63.76**	**265**	*eP*		**P**		**12 07 05.8**	**+1.0**
	comp=Z,16nm,1.5s,mb4.8								
MA2	**Magadan**	**66.79**	**28**	P		**P**		**12 07 24.7**	**+1.3**
	comp=Z,14nm,0.9s,mb5.0								
AKASG	**Malin Array Be**	**68.18**	**322**	P		**P**		**12 07 29.8**	**-2.6**
	comp=Z,0.3nm,0.3s,mb3.8,baz=89,slow=4.5,SNR=4.9								
MLR	**Muntele Rosu**	**69.19**	**316**	P		**P**		**12 07 38.1**	**-0.6**
	comp=Z,4.4nm,1.0s,mb4.3,baz=240,slow=3.3,SNR=3.1								
FINES	**FINESS Array B**	**72.74**	**332**	P		**P**		**12 07 59.3**	**-0.5**
	comp=Z,3.3nm,0.8s,mb4.3,baz=79,slow=9.7,SNR=5.8								
LBTB	**Lobatse**	**74.23**	**241**	P		**P**		**12 08 05.7**	**-3.5**
	comp=Z,7.1nm,1.0s,mb4.5								
ARCES	**ARCESS Array B**	**75.29**	**340**	P		**P**		**12 08 15.2**	**+0.7**
	comp=Z,5.8nm,1.0s,mb4.5,baz=32,slow=8.5,SNR=3.8								
DPC	**Dobruska-Polom**	**76.23**	**320**	*eP*		**P**		**12 08 24.2**	**+4.0**
GERES	**GERESS Array B**	**77.85**	**318**	P		**P**		**12 08 29.6**	**+0.3**
	comp=Z,2.4nm,0.8s,mb4.2,baz=90,slow=5.3,SNR=8.8								
HFS	**Hagfors**	**78.48**	**330**	P		**P**		**12 08 33.1**	**+0.6**
	comp=Z,2.5nm,0.3s,mb4.5,baz=112,slow=7.8,SNR=6.9								
GRA1	**Grafenberg Arr**	**79.49**	**319**	*eP*		**P**		**12 08 39.5**	**+1.3**
GRF	**Grafenberg Arr**	**79.49**	**319**	*eP*		**P**		**12 08 39.5**	**+1.3**
NB2	**NORSAR Subarra**	**79.76**	**331**	P		**P**		**12 08 39.8**	**+0.4**
	comp=Z,4.2nm,0.7s,mb4.5,baz=91,slow=5.8								
NOA	**NORSAR Array B**	**79.76**	**331**	P		**P**		**12 08 39.2**	**-0.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=96,slow=5.6,SNR=1.8								
LPG	**La Plagne**	**82.64**	**315**	*eP*		**P**		**12 08 50.1**	**-4.7**
	comp=Z,18nm,0.8s,mb4.8								
EKA	**Eskdalemuir Ar**	**87.74**	**325**	P		**P**		**12 09 18.2**	**-1.7**
	comp=Z,1.8nm,0.7s,mb4.4,baz=97,slow=5.7,SNR=2.9								
IMA	**Indian Mountai**	**91.65**	**22**	P		**P**		**12 09 41.1**	**+3.0**
INK	**Inuvik**	**97.02**	**16**	P		**P**		**12 10 02.6**	**+0.1**
	comp=Z,0.9nm,0.7s,mb4.3,baz=256,slow=7.8,SNR=4.1								
EYAK	**Cordova Ski Ar**	**97.34**	**26**	P		**P**		**12 10 04.8**	**+0.7**
NVAR	**Mina Array Bea**	**124.94**	**31**	PKP		PKPdf		12 15 32.7	+2.0
	comp=Z,0.6nm,0.7s,baz=258,slow=4.0,SNR=4.1								
NVAR	**Mina Array Bea**	**124.94**	**31**	PKP		PKPdf		12 15 32.7	+2.0
PDAR	**Pinedale Array**	**125.19**	**21**	PKP		PKPdf		12 15 33.4	+2.4
	comp=Z,0.6nm,0.8s,baz=63,slow=3.3,SNR=4.8								
TXAR	**Lajitas Array**	**139.25**	**24**	PKP		PKPdf		12 15 59.4	+1.6
	comp=Z,0.2nm,0.6s,baz=198,slow=2.9,SNR=3.4								
JCT	**Junction City**	**139.61**	**19**	*e*PKPdf		PKPdf		12 16 00.8	+2.5
PLCA	**Paso Flores**	**144.52**	**200**	PKP		PKPdf		12 16 07.8	+1.1
	comp=Z,5.2nm,0.9

SNR=90
ASK eS Sg 12 00 54.0 +1.4
comp=Z,46nm,0.5s,SNR=90
ODD1 Odda 0.90 92 eP Pg 12 00 49.4 -2.5
ODD1 eS Sg 12 01 03.1 -0.7
ODD1 AML AML 12 01 06.2
comp=Z,114nm,0.6s
ODD1 Odda 0.90 92 eP Pg 12 00 49.3 -2.6
SNR=90
ODD1 eS Sg 12 01 03.2 -0.7
comp=Z,114nm,0.6s,SNR=90
BLS5 Blasjo 0.97 122 eP Pb 12 00 52.8 -0.6
BLS5 eS Sg 12 01 08.2 +1.9
BLS5 AML AML 12 01 09.6
comp=Z,72nm,0.4s
BLS5 Blasjo 0.97 122 eP Pb 12 00 52.8 -0.6
SNR=90
BLS5 eS Sg 12 01 08.2 +1.8
comp=Z,72nm,0.4s,SNR=90
SUE Sulen 1.11 358 eP Pb 12 00 53.0 -2.7
SUE eS Sb 12 01 09.2 -1.4
SUE AML AML 12 01 10.7
comp=Z,42nm,0.4s
SUE Sulen 1.11 358 eP Pb 12 00 53.0 -2.7
SNR=90
SUE eS Sb 12 01 09.2 -1.3
comp=Z,42nm,0.4s,SNR=90
HYA Hoyanger 1.39 28 eP Pb 12 00 58.5 -1.9
HYA eS Sb 12 01 19.2 +0.6
FOO Floro 1.66 3 eP Pn 12 01 01.9 -2.4
SNART Snartemo 2.03 142 eP Pn 12 01 06.5 -3.2
NB2 NORSAR Subarra 3.34 68 Pn Pn 12 01 24.6 -3.8
NB2 Pg Pg 12 01 31.3 -9.2
NB2 Lg 12 02 13.6
NC6 NORSAR Subarra 3.38 73 Pn Pn 12 01 25.1 -3.9
NC6 Pg Pg 12 01 32.2 -9.3
NC6 Lg 12 02 17.7
NC6 NORSAR Subarra 3.38 73 Pn Pn 12 01 25.1 -3.9
HFS Hagfors 4.44 84 Pn Pn 12 01 40.0 -4.1
baz=268,slow=14
HFS Pg Pg 12 01 52.7 -10
baz=283,slow=18
HFS Lg 12 02 51.6
baz=262,slow=37
HFS Hagfors 4.44 84 Pn Pn 12 01 40.0 -4.1
baz=268,slow=14,SNR=4.7
HFS Hagfors 4.44 84 Pg Pg 12 01 52.7 -10
baz=283,slow=16,SNR=3.9

*NAO **27** 12:06:05.9±3.6, 59.92N×4.71E, ML2.7*
*CSEM **27** 12:06:06.8±0.4, 60.07N×4.68E, h2km, ML1.9, Error ellipse: s-maj=8.8km s-min=3.3km az=71.0*
BER 27 12:06:08.7±4.0, 60.04N×4.71E, MD2.1, ML1.9, ML2.7(NAO), Explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EGD	**Espegrend**	**0.35**	**48**	eP		Pg	12 06 14.5	-1.1
BER	**Bergen**	**0.46**	**42**	eP		Pg	12 06 14.2	-3.8
RUND	**Rundenannen**	**0.50**	**41**	eP		Pg	12 06 17.2	-1.5
ASK	**Askoy**	**0.51**	**28**	eP		Pg	12 06 17.4	-1.3
ASK				eSg		Sg	12 06 27.4	+1.8
ASK				AML		AML	12 06 29.1	
comp=Z,74nm,0.4s								
ODD1	**Odda**	**0.97**	**97**	eP		Pb	12 06 25.0	-3.2
ODD1				eS		Sg	12 06 39.5	-1.6
ODD1				AML		AML	12 06 46.0	
comp=Z,45nm,0.3s								
ODD1	**Odda**	**0.97**	**97**	eP		Pb	12 06 25.0	-3.1
SNR=90								
ODD1				eS		Sg	12 06 39.5	-1.6
comp=Z,45nm,0.3s,SNR=90								
SUE	**Sulen**	**1.02**	**1**	eP		Pb	12 06 26.9	-2.0
SUE				AML		AML	12 06 46.7	
comp=Z,58nm,0.4s								
BLS5	**Blasjo**	**1.08**	**124**	eP		Pb	12 06 29.3	-0.6
BLS5				eS		Sb	12 06 45.7	+1.3
BLS5				AML		AML	12 06 50.8	
comp=Z,34nm,0.3s								
BLS5	**Blasjo**	**1.08**	**124**	eP		Pb	12 06 29.3	-0.6
SNR=90								
BLS5				eS		Sb	12 06 45.7	+1.3
comp=Z,34nm,0.3s,SNR=90								
HYA	**Hoyanger**	**1.34**	**32**	eP		Pb	12 06 33.2	-1.3
HYA				AML		AML	12 06 57.4	
comp=Z,37nm,0.3s								
FOO	**Floro**	**1.57**	**6**	eP		Pn	12 06 36.1	-1.8
FOO				AML		AML	12 07 02.1	
comp=Z,17nm,0.3s								
SNART	**Snartemo**	**2.14**	**142**	eP		Pn	12 06 46.2	+0.2
SNART				eSg		Sg	12 07 16.9	-3.0
SNART				AML		AML	12 07 18.5	
comp=Z,33nm,0.5s								
NB2	**NORSAR Subarra**	**3.37**	**70**	Pn		Pn	12 07 00.1	-3.6
NB2				Pg		Pg	12 07 08.5	-7.4
NB2				Lg			12 07 53.8	
NC6	**NORSAR Subarra**	**3.42**	**75**	Pn		Pn	12 07 00.6	-3.8
NC6				Pg		Pg	12 07 09.4	-7.7
NC6				Lg			12 07 54.1	
HFS	**Hagfors**	**4.50**	**85**	Pn		Pn	12 07 15.6	-4.2
baz=271,slow=16								
HFS				Pg		Pg	12 07 26.8	-12
baz=276,slow=18								
HFS				Sn		Sn	12 08 06.3	-7.3
baz=267,slow=28								
HFS	**Hagfors**	**4.50**	**85**	Pg		Pg	12 07 26.8	-12
SNR=5.8								
HFS				Sn		Sn	12 08 06.3	-7.3
SNR=3.2								

*JMA **27** 12:06:56.8±0.4, 24.04N×122.43E, h25km, M2.1*
TAP 27 12:06:55.4, 23.95N×122.35E, h8km±1km, ML2.8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.79**	**50**	P		Pb	12 07 09.6	-1.3
YOJ				S		Sb	12 07 18.5	-3.0
IRIF	**Iriomote-Funau**	**1.32**	**73**	P		Pb	12 07 18.6	-1.4
IRIF				eS		Sb	12 07 34.2	-2.7
HATJ	**Hateruma jima**	**1.33**	**85**	P		Pb	12 07 18.7	-1.6
HATJ				eS		Sb	12 07 34.8	-2.6
JKRS	**Kuro-shima**	**1.54**	**79**	P		Pn	12 07 22.3	-1.1
JKRS				S		Sb	12 07 41.4	-2.0
JIJ	**Ishigaki jima**	**1.69**	**76**	P		Pn	12 07 22.9	-2.5
JIJ				S		Sn	12 07 42.6	-4.8

*IDC **27** 12:06:53.1±26.0, 10.06N×86.12W, mb3.8/5, mb1 4.1/5, mb1mx3.8/17, mbtmp3.8/5, Error ellipse: s-maj=533.0km s-min=55.1km az=178.0*
*CASC **27** 12:07:13.4±1.8, 11.57N×86.94W, h26km±10km, MD4.2, ML4.1*
ISC 27 12:07:13.4±0.5, 11.59N±0.06×86.87W±0.05, h64km±9km, n33, σ0§99/41, mb3.7/5, 7C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.65**	**25**	⇑iP		**P**	**12 07 27.1**	**-0.3**
CRUN	**El Crucero**	**0.69**	**55**	⇑eP		**P**	**12 07 27.1**	**-0.8**
TICN	**Ticuantepe**	**0.77**	**55**	⇓eP		**P**	**12 07 28.1**	**-0.8**
XAVN	**Gruta Xavier**	**0.78**	**44**	⇑eP		**P**	**12 07 28.4**	**-0.5**
APYN	**Apoyeque**	**0.82**	**38**	⇑eP		**P**	**12 07 29.1**	**-0.4**
LEON	**Leon**	**0.83**	**359**	eP		**P**	**12 07 29.6**	**+0.1**
MGAN	**Managua**	**0.83**	**48**	⇑eP		**P**	**12 07 29.2**	**-0.4**
MGAN				eS		**S**	**12 07 42.2**	**+0.5**
MGAN				i			12 07 44.1	
comp=N,2μm,0.4s								
APON	**Apoyo**	**0.86**	**67**	⇓eP		**P**	**12 07 28.6**	**-1.3**
MIRN	**Miramar**	**0.86**	**11**	⇑eP		**P**	**12 07 30.1**	**+0.1**
MOMJ	**Momotombo**	**0.88**	**22**	⇓eP		**P**	**12 07 30.1**	**-0.1**
MOMJ				eS		**S**	**12 07 44.2**	**+1.4**
WILN	**Americas 2**	**0.88**	**49**	⇓eP		**P**	**12 07 29.7**	**-0.6**
WILN				i			12 07 44.5	
comp=N,14μm,0.7s								
CNGN	**Cerro Negro**	**0.93**	**11**	eP		**P**	**12 07 30.9**	**+0.1**
TEL3	**Telica 3**	**0.98**	**2**	eP		**P**	**12 07 31.7**	**+0.1**
TELN	**Telica**	**1.01**	**2**	⇓eP		**P**	**12 07 32.2**	**+0.1**
CRIN	**San Cristobal**	**1.12**	**351**	⇑eP		**P**	**12 07 34.0**	**+0.5**
CRIN				eS		**S**	**12 07 51.2**	**+2.8**
PYTN	**Playitas**	**1.24**	**40**	⇓eP		**P**	**12 07 34.7**	**-0.4**
VCR	**Vista de Mar**	**1.89**	**140**	eP		**P**	**12 07 45.4**	**+1.3**
CNCH	**Conchagua**	**1.93**	**331**	eP		**P**	**12 07 43.9**	**-0.6**
CNCH				eS		**S**	**12 08 08.4**	**+0.8**
BLLM	**Bellamira**	**2.28**	**324**	eP		**P**	**12 07 49.0**	**-0.5**
JCR	**Jicaral**	**2.44**	**135**	eP		**P**	**12 07 53.2**	**+1.3**
LCBS	**La Ceiba**	**2.91**	**315**	eP		**P**	**12 07 57.6**	**-0.8**
LCBS				eS		**S**	**12 08 31.9**	**-0.4**
LFRS	**El Faro**	**2.94**	**314**	eP		**P**	**12 07 57.9**	**-1.1**
LFRS				eS		**S**	**12 08 33.2**	**0.0**
PRS1	**Puriscal**	**2.98**	**122**	eP		**P**	**12 08 00.4**	**+1.0**
BOQS	**Boqueron**	**3.18**	**313**	eP		**P**	**12 08 01.4**	**-0.8**
BOQS				eS		**S**	**12 08 39.5**	**+0.4**
LAJ	**Bijagual**	**3.20**	**122**	eP		**P**	**12 08 00.4**	**-2.1**
TRTC	**Tortuguero**	**3.26**	**108**	eP		**P**	**12 08 04.2**	**+0.9**
LCR2	**La Lucha 2**	**3.36**	**123**	eP		**P**	**12 08 05.8**	**+1.0**
SBLS	**San Blas**	**3.50**	**310**	eP		**P**	**12 08 05.9**	**-0.7**
SBLS				eS		**S**	**12 08 48.1**	**+1.0**
TXAR	**Lajitas Array**	**23.60**	**321**	P		**P**	**12 12 20.5**	**+1.3**
comp=N,1.6nm,0.6s,mb3.6,baz=142,slow=10,SNR=15								
ANMO	**Albuquerque**	**29.29**	**326**	P		**P**	**12 13 14.1**	**+2.1**
comp=N,0.7nm,0.6s,mb3.5,baz=153,slow=4.5,SNR=3.8								
PDAR	**Pinedale Array**	**36.80**	**332**	P		**P**	**12 14 16.1**	**-0.7**
comp=N,0.6nm,0.6s,mb3.6,baz=121,slow=8.6,SNR=3.9								
SCHQ	**Schefferville**	**45.94**	**16**	P		**P**	**12 15 27.9**	**-3.6**
comp=N,2.9nm,1.1s,mb4.1,baz=211,slow=12,SNR=4.2								
YKA	**Yellowknife Ar**	**54.59**	**345**	P		**P**	**12 16 34.4**	**-2.9**
comp=N,0.6nm,0.7s,mb3.7,baz=139,slow=7.5,SNR=15								
YKA				pP		pP	12 16 45.1	-9.0
comp=N,0.3nm,0.6s,baz=136,slow=7.6,SNR=5.7								

*IDC **27** 12:10:15.2±0.8, 8.15N×94.69E, mb4.0/10, mb1 4.1/11, mb1mx3.9/21, mbtmp3.9/11, ML3.8/1, Error ellipse: s-maj=36.4km s-min=17.7km az=58.0*
ISC 27 12:10:18.3±0.7, 8.2N±0.1×94.9E±0.2, h33km, n12, σ0§85/11, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.91**	**21**	Pn		**P**	**12 12 54.2**	**-1.1**
0.2nm,0.3s,baz=239,slow=16,SNR=4.2								
NWAO	**Narrogin (SRO)**	**46.15**	**154**	P		**P**	**12 18 42.4**	**+0.5**
29nm,1.4s,mb5.0,baz=340,slow=14,SNR=2.5								
ZAL	**Zalesovo**	**46.29**	**352**	P		**P**	**12 18 44.0**	**+1.5**
1.5nm,0.6s,mb4.1,baz=314,slow=7.5,SNR=6.1								
WRA	**Warramunga Arr**	**47.90**	**126**	P		**P**	**12 18 55.6**	**-0.1**
0.3nm,0.5s,mb3.6,baz=305,slow=8.6,SNR=3.9								
BVAR	**Borovoye Array**	**48.88**	**341**	P		**P**	**12 19 03.2**	**+0.4**
0.4nm,0.6s,mb3.7,baz=149,slow=8.4,SNR=3.4								
ASAR	**Alice Springs**	**49.61**	**131**	P		**P**	**12 19 08.6**	**-0.3**
0.6nm,0.9s,mb3.6,baz=308,slow=7.1,SNR=3.1								
KMBO	**Kilima Mbogo**	**58.17**	**264**	P		**P**	**12 20 10.7**	**-1.2**
0.5nm,0.5s,mb3.8,baz=235,slow=24,SNR=3.7								
FINES	**FINESS Array B**	**72.72**	**332**	P		**P**	**12 21 44.1**	**-0.6**
0.7nm,0.5s,mb3.9,baz=79,slow=9.7,SNR=3.9								
GERES	**GERESS Array B**	**78.03**	**318**	P		**P**	**12 22 14.5**	**-0.8**
0.8nm,0.6s,mb3.9,baz=112,slow=7.2,SNR=5.1								
HFS	**Hagfors**	**78.50**	**330**	P		**P**	**12 22 18.7**	**+1.0**
1.6nm,0.6s,mb4.1,baz=108,slow=4.7,SNR=6.0								
NOA	**NORSAR Array B**	**79.77**	**331**	P		**P**	**12 22 25.2**	**+0.7**
2.9nm,1.1s,mb4.1,baz=90,slow=5.7,SNR=3.8								
PLCA	**Paso Flores**	**145.13**	**200**	PKP		PKPdf	12 29 55.0	+2.2
1.2nm,0.7s,baz=81,slow=4.2,SNR=2.9								

*NEIC **27** 12:10:57.6±0.4, 7.86N×94.08E, h30km, mb4.5/6, Error ellipse: s-maj=12.3km s-min=8.9km az=73.0*
*IDC **27** 12:11:00.7±5.0, 7.99N×94.24E, h50km±46km, mb3.7/13, mb1 3.9/14, mb1mx3.8/21, mbtmp4.0/14, ML3.4/1, Error ellipse: s-maj=34.5km s-min=20.0km az=52.0*
ISC 27 12:10:56.3±0.6, 7.92N±0.09×94.2E±0.1, h33km, n26, σ0§85/23, mb4.2/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.44**	**23**	P		**P**	**12 13 39.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**11.44**	**23**	P		**P**	**12 13 41.2**	**+0.7**
0.1nm,0.3s,baz=212,slow=14,SNR=5.5								
LSA	**Lhasa**	**21.86**	**353**	eP		**P**	**12 15 48.5**	**+0.5**
14nm,0.8s,mb4.4								
AAK	**Ala-Archa**	**38.69**	**337**	eP		**P**	**12 18 17.5**	**-1.2**
4.7nm,1.0s,mb4.2								
SONM	**Songino Array**	**41.10**	**12**	P		**P**	**12 18 38.9**	**+0.2**
1.0nm,0.8s,mb3.5,baz=187,slow=10.0,SNR=4.6								
KURK	**Kurchatov**	**44.58**	**346**	eP		**P**	**12 19 06.2**	**-0.8**
9.9nm,1.2s,mb4.5								
ZAL	**Zalesovo**	**46.51**	**352**	P		**P**	**12 19 23.3**	**+1.0**
1.8nm,0.8s,mb4.1								
WRA	**Warramunga Arr**	**48.23**	**126**	P		**P**	**12 19 36.8**	**+0.5**
0.6nm,0.6s,mb3.8,baz=304,slow=9.0,SNR=3.4								
WRAB	**Tennant Creek**	**48.24**	**126**	eP		**P**	**12 19 35.9**	**-0.4**
6.6nm,0.9s,mb4.7								
BVAR	**Borovoye Array**	**48.97**	**341**	P		**P**	**12 19 40.8**	**-0.7**
1.2nm,0.9s,mb3.9,baz=297,slow=3.3,SNR=4.2								
CHKZ	**Chkalovo**	**49.45**	**342**	eP		**P**	**12 19 45.3**	**+0.1**
8.3nm,1.0s,mb4.7								
ASAR	**Alice Springs**	**49.89**	**130**	P		**P**	**12 19 48.6**	**-0.4**
0.5nm,0.7s,mb3.6,baz=306,slow=8.1,SNR=3.3								
KMBO	**Kilima Mbogo**	**57.49**	**264**	P		**P**	**12 20 46.8**	**+1.6**
3.2nm,1.0s,mb4.3,baz=44,slow=13,SNR=4.7								
KMBO	**Kilima Mbogo**	**57.49**	**264**	eP		**P**	**12 20 42.5**	**-2.6**
4.7nm,1.1s,mb4.4								
AKASG	**Malin Array Be**	**68.16**	**322**	P		**P**	**12 21 53.5**	**-1.7**
0.5nm,0.4s,mb3.9,baz=83,slow=4.8,SNR=2.9								
MLR	**Muntele Rosu**	**69.18**	**316**	P		**P**	**12 22 01.4**	**-0.3**
18nm,1.4s,mb4.8,baz=197,slow=8.6,SNR=2.5								
FINES	**FINESS Array B**	**72.70**	**332**	P		**P**	**12 22 22.6**	**0.0**
2.0nm,0.8s,mb4.1,baz=108,slow=8.8,SNR=2.7								
ARCES	**ARCESS Array B**	**75.25**	**340**	P		**P**	**12 22 38.0**	**+0.8**
5.3nm,1.0s,mb4.4,baz=90,slow=6.3,SNR=3.2								
GERES	**GERESS Array B**	**77.84**	**318**	P		**P**	**12 22 53.2**	**+1.0**
1.0nm,0.7s,mb3.9,baz=90,slow=5.3,SNR=5.1								
HFS	**Hagfors**	**78.45**	**330**	P		**P**	**12 22 56.0**	**+0.6**
1.7nm,0.5s,mb4.3,baz=90,slow=8.9,SNR=5.2								
NOA	**NORSAR Array B**	**79.72**	**331**	P		**P**	**12 23 02.4**	**0.0**
1.0nm,0.8s,mb3.8,baz=279,slow=8.5,SNR=3.3								
DAVOX	**Davos**	**80.40**	**316**	P		**P**	**12 23 07.5**	**+1.2**
4.3nm,0.8s,mb4.4,baz=157,slow=7.7,SNR=2.6								
DAVOX	**Davos**	**80.40**	**316**	P		**P**	**12 23 07.5**	**+1.2**
NVAR	**Mina Array Bea**	**124.85**	**31**	PKP		PKPdf	12 29 56.3	+2.8
0.2nm,0.4s,slow=0.9,SNR=3.1								
PDAR	**Pinedale Array**	**125.10**	**21**	PKP		PKPdf	12 29 56.9	+3.1
0.8nm,1.0s,baz=90,slow=1.5,SNR=4.0								
PLCA	**Paso Flores**	**144.61**	**200**	PKP		PKPdf	12 30 32.0	+2.1
3.0nm,0.8s,baz=126,slow=4.2,SNR=4.1								

*IDC **27** 12:11:25.9±0.6, 7.98N×94.03E, mb4.4/22, mb1 4.4/23, mb1mx4.4/27, mbtmp4.3/23, ML4.1/1, MS5.0/1, Ms1 5.0/1, ms1mx3.7/9, Error ellipse: s-maj=29.0km s-min=13.2km az=47.0*
*BJI **27** 12:11:30.5, 7.89N×93.55E, h38km, mB5.5, mb4.5, Ms5.6, Msz5.2*
*NEIC **27** 12:11:30.4±0.4, 7.93N×93.96E, h30km, mb4.5/12, Error ellipse: s-maj=11.8km s-min=8.7km az=64.0*
ISC 27 12:11:29.1±0.4, 7.92N±0.07×94.18E±0.07, h33km, n55, σ1§28/49, mb4.4/30, MS5.1/1, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**9.66**	**37**	P		**P**	**12 13 48.0**	**-0.9**
CM31	**Chiang Mai Arr**	**11.45**	**23**	eP		**P**	**12 14 12.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**11.45**	**23**	Pn		**P**	**12 14 14.6**	**+1.2**
0.4nm,0.3s,baz=214,slow=14,SNR=7.6								
HYB	**Hyderabad**	**17.92**	**303**	eP		**P**	**12 15 40.0**	**+2.5**
HYB	**Hyderabad**	**17.92**	**303**	i P		**P**	**12 15 40.0**	**+2.5**
KMI	**Kunming**	**18.96**	**25**	P		**P**	**12 15 56.0**	**+5.7**
26nm,1.6s								
KAD	**Karad**	**21.61**	**297**	e		**P**	**12 16 20.0**	**+1.7**
LSA	**Lhasa**	**21.85**	**353**	eP		**P**	**12 16 22.8**	**+2.1**
43nm,0.7s,mb5.0								
ENH	**Enshi**	**26.46**	**31**	P		**P**	**12 17 05.5**	**+0.3**
12nm,0.9s,mb4.4								
WMQ	**Urumqi**	**36.21**	**352**	eP		**P**	**12 18 31.3**	**+0.6**
AAK	**Ala-Archa**	**38.68**	**337**	eP		**P**	**12 18 49.4**	**-2.1**
7.8nm,1.1s,mb4.3								
SONM	**Songino Array**	**41.11**	**13**	P		**P**	**12 19 11.9**	**+0.3**
0.5nm,0.5s,mb3.4,baz=191,slow=7.3,SNR=2.9								
KURK	**Kurchatov**	**44.58**	**346**	eP		**P**	**12 19 38.4**	**-1.3**
5.1nm,0.8s,mb4.4								
NWAO	**Narrogin (SRO)**	**46.17**	**153**	P		**P**	**12 19 54.3**	**+1.6**
9.0nm,0.9s,mb4.7,baz=256,slow=15,SNR=3.6								
ZAL	**Zalesovo**	**46.51**	**352**	P		**P**	**12 19 54.2**	**-0.8**
2.7nm,0.6s,mb4.4,baz=300,slow=5.7,SNR=3.8								
ZAL	**Zalesovo**	**46.51**	**352**	P		**P**	**12 19 54.2**	**-0.8**
WRA	**Warramunga Arr**	**48.26**	**126**	P		**P**	**12 20 09.0**	**-0.2**
1.7nm,0.5s,mb4.3,baz=304,slow=8.5,SNR=9.7								
WRAB	**Tennant Creek**	**48.26**	**126**	eP		**P**	**12 20 06.3**	**-2.9**
7.6nm,0.9s,mb4.7								
BVAR	**Borovoye Array**	**48.96**	**341**	P		**P**	**12 20 12.9**	**-1.3**
0.9nm,0.6s,mb4.0,baz=143,slow=7.4,SNR=4.6								
CHKZ	**Chkalovo**	**49.44**	**342**	eP		**P**	**12 20 16.4**	**-1.5**
6.2nm,0.8s,mb4.7								
ASAR	**Alice Springs**	**49.91**	**130**	P		**P**	**12 20 21.4**	**-0.6**
1.8nm,0.7s,mb4.2,baz=305,slow=7.6,SNR=7.9								
GNI	**Garni**	**54.43**	**314**	P		**P**	**12 20 52.7**	**-2.8**
2.5nm,0.3s,mb4.6,baz=134,slow=3.5,SNR=2.3								
PMG	**Port Moresby**	**55.51**	**107**	P		**P**	**12 21 04.9**	**+1.2**
8.2nm,0.8s,mb4.8,baz=309,slow=12,SNR=3.1								
KMBO	**Kilima Mbogo**	**57.47**	**264**	P		**P**	**12 21 17.3**	**-0.4**
3.7nm,0.9s,mb4.4,baz=56,slow=12,SNR=6.4								
KMBO	**Kilima Mbogo**	**57.47**	**264**	eP		**P**	**12 21 16.3**	**-1.5**
8.2nm,1.2s,mb4.6								
STKA	**Stephens Creek**	**60.11**	**134**	P		**P**	**12 21 35.5**	**-0.4**
5.0nm,1.1s,mb4.5,baz=18,slow=6.5,SNR=3.1								
STKA	**Stephens Creek**	**60.11**	**134**	P		**P**	**12 21 35.5**	**-0.4**
STKA				eP			12 21 35.6	
BRTR	**Keskin Array B**	**62.43**	**311**	P		**P**	**12 21 48.2**	**-3.1**
2.1nm,0.8s,mb4.3,baz=139,slow=9.1,SNR=4.0								
AKASG	**Malin Array Be**	**68.14**	**322**	P		**P**	**12 22 25.8**	**-2.2**
1.3nm,0.5s,mb4.2,SNR=6.0								
IDI	**Anoyia**	**68.57**	**305**	P		**P**	**12 22 30.0**	**-0.9**
8.3nm,0.8s,mb4.7,baz=330,slow=23,SNR=3.2								
MLR	**Muntele Rosu**	**69.17**	**316**	P		**P**	**12 22 34.5**	**+0.2**
4.4nm,0.7s,mb4.5,baz=191,slow=3.4,SNR=4.7								
MLR	**Muntele Rosu**	**69.17**	**316**	⇑P		**P**	**12 22 37.3**	**+2.9**
JOF	**Joensuu**	**70.82**	**334**	ep		**P**	**12 22 46.0**	**+1.8**
FINES	**FINESS Array B**	**72.69**	**332**	P		**P**	**12 22 54.7**	**-0.6**
4.1nm,0.8s,mb4.4,baz=90,slow=7.6,SNR=7.3								
KAF	**Kangasniemi**	**72.77**	**333**	ep		**P**	**12 22 57.9**	**+2.2**
ARCES	**ARCESS Array B**	**75.23**	**340**	P		**P**	**12 23 10.2**	**+0.3**
4.1nm,0.9s,mb4.4,baz=90,slow=3.6,SNR=5.7								
MORC	**Moravsky Berou**	**75.37**	**319**	eP		**P**	**12 23 11.2**	**+0.1**
5.8nm,1.0s,mb4.5								
BRG	**Berggiesshubel**	**77.74**	**320**	eP		**P**	**12 23 30.1**	**+5.7**
17nm,1.6s,mb4.7								
GERES	**GERESS Array B**	**77.82**	**318**	P		**P**	**12 23 25.1**	**+0.2**
2.1nm,0.7s,mb4.2,baz=90,slow=5.5,SNR=7.1								
KHC	**Kasperske Hory**	**77.91**	**318**	eP		**P**	**12 23 25.5**	**+0.1**
CLL	**Collm**	**78.35**	**321**	P		**P**	**12 23 28.0**	**+0.2**
CLL				e*PP		pP	12 23 34.0	-4.1
HFS	**Hagfors**	**78.44**	**330**	P		**P**	**12 23 27.8**	**-0.2**
5.8nm,0.7s,mb4.6,baz=117,slow=6.6,SNR=9.5								
HFS	**Hagfors**	**78.44**	**330**	P		**P**	**12 23 27.8**	**-0.2**
NB2	**NORSAR Subarra**	**79.71**	**331**	P		**P**	**12 23 33.6**	**-1.4**
1.7nm,0.7s,mb4.1,baz=94,slow=5.0								
NOA	**NORSAR Array B**	**79.71**	**331**	P		**P**	**12 23 34.5**	**-0.5**
3.3nm,0.9s,mb4.3,baz=92,slow=5.6,SNR=7.0								
DAVOX	**Davos**	**80.38**	**316**	P		**P**	**12 23 39.2**	**+0.3**
4.4nm,0.7s,mb4.5,baz=142,slow=11,SNR=4.7								
IMA	**Indian Mountai**	**91.56**	**22**	eP		**P**	**12 24 35.8**	**+2.2**
VNDA	**Vanda**	**92.97**	**168**	LR		LR	13 05 10.1	
comp=Z,593nm,18.4s,MS5.1,baz=298,slow=35								
ILAR	**Eielson Array**	**94.69**	**22**	P		**P**	**12 24 48.5**	**+0.8**
0.4nm,0.8s,mb3.9,baz=297,slow=4.0,SNR=4.6								
INK	**Inuvik**	**96.94**	**16**	P		**P**	**12 24 58.4**	**+0.4**
1.8nm,1.1s,mb4.4,baz=320,slow=11,SNR=2.9								
NVAR	**Mina Array Bea**	**124.86**	**31**	PKP		PKPdf	12 30 30.2	+3.9
0.8nm,0.7s,baz=272,slow=1.9,SNR=5.5								
PDAR	**Pinedale Array**	**125.11**	**21**	PKP		PKPdf	12 30 29.6	+2.9
0.9nm,0.8s,slow=1.5,SNR=7.2								
ANMO	**Albuquerque**	**133.11**	**23**	PKP		PKPdf	12 30 45.8	+3.7
0.9nm,0.8s,baz=85,slow=4.3,SNR=4.0								
TXAR	**Lajitas Array**	**139.17**	**24**	PKP		PKPdf	12 30 56.1	+2.7
0.3nm,0.5s,baz=207,SNR=4.4								
PLCA	**Paso Flores**	**144.61**	**200**	PKP		PKPdf	12 31 04.6	+2.0
2.8nm,0.8s,baz=159,slow=4.9,SNR=4.2								

*IDC **27** 12:11:51.0±0.4, 7.99N×94.35E, mb4.7/26, mb1 4.8/27, mb1mx4.8/28, mbtmp4.7/27, ML4.8/1, Error ellipse: s-maj=23.5km s-min=11.6km az=51.0*
*BJI **27** 12:11:53.6, 7.43N×94.08E, h57km, mB5.7, mb4.9, Ms5.6, Msz5.3*
*MOS **27** 12:11:55.3±1.0, 7.98N×94.23E, h33km, mb5.4/53, MS5.2/11, Error ellipse: s-maj=9.5

NDI comp=Z,91nm,1.1s
eS S 12 21 55.7 -1.6
AJM Ajmer 26.29 317⇑ iP P 12 17 28.0 -0.9
ENH Enshi 26.41 31 eP P 12 17 29.4 -0.6
comp=Z,42nm,1.0s,mb4.9
SMLA Simla 28.12 328 e P 12 17 58.9 +13
SMLA e 12 18 08.2
comp=N,29nm,0.8s
XAN Xi'an 29.29 25 P P 12 17 55.5 -0.6
XAN AMB AMB
comp=Z,16nm,1.0s,mb4.7
WHN Wuhan 29.30 37 P P 12 17 56.5 +0.2
WHN LR LR
comp=Z,11µm,12.9s,MS5.7
LZH Lanzhou 29.37 16 eP P 12 17 57.0 +0.2
LZH PP PP 12 18 53.0 +0.7
LZH eS S 12 22 48.0 -0.2
LZH AMB AMB
comp=Z,140nm,1.8s,mb5.4
LZH AMB AMB
comp=Z,660nm,5.5s
LZH LR LR
comp=E,9µm,14.9s
LZH LR LR
comp=Z,10µm,16.2s,MS5.5
LZH Lanzhou 29.37 16 eP P 12 17 57.1 +0.3
LZH *SP sP 12 18 08.2 +3.6
LZH 12 18 53.0
LZH eS S 12 22 48.0 -0.2
LZH *SS 12 23 04.0
LZH SS SS 12 24 22.0 +1.7
LZH pmax pmax
comp=Z,140nm,1.8s,mb5.4
LZH MLR MLR
comp=Z,10µm,16.2s,MS5.5
LZH Lanzhou 29.37 16 eP P 12 17 57.1 +0.3
comp=Z,140nm,1.8s,mb5.4
LZH pP pP 12 18 05.3 +3.1
LZH sP sP 12 18 08.2 +3.6
LZH PP PP 12 18 53.0 +0.7
LZH eS S 12 22 48.0 -0.2
LZH sS 12 23 04.0
LZH SS SS 12 24 22.0 +1.7
LZH LR LR
comp=Z,10µm,16.2s,MS5.5
NJ2 Nanjing 33.13 40 eP P 12 18 29.5 -0.4
NJ2 PP PP 12 19 40.3 -0.8
NJ2 S S 12 23 44.0 -3.2
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.4
NJ2 AMB AMB
comp=Z,2µm,5.6s
NJ2 LR LR
comp=N,4µm,11.7s,MS5.6
NJ2 LR LR
comp=E,7µm,12.5s,MS5.6
NJ2 LR LR
comp=Z,6µm,16.7s,MS5.4
SSE Sheshan 34.08 44 P P 12 18 35.0 -3.2
SSE S S 12 24 05.5 +3.6
SSE XS 12 24 23.5
SSE AMB AMB
comp=Z,32nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,461nm,9.3s
SSE LR LR
comp=N,2µm,18.5s,MS5.0
SSE LR LR
comp=E,2µm,18.5s,MS5.0
SSE LR LR
comp=Z,2µm,19.4s,MS4.9
SSE Sheshan 34.08 44 P P 12 18 34.9 -3.3
comp=Z,32nm,0.7s,mb5.4
SSE S S 12 24 05.4 +3.5
SSE sS 12 24 23.4
SSE LR LR
comp=Z,2µm,19.4s,MS4.9
TIA Tai'an 35.03 33 eP P 12 18 46.0 -0.3
WMQ Urumqi 36.25 352 eP P 12 18 56.8 +0.3
WMQ AP pP 12 19 06.5 +4.5
WMQ PP PP 12 20 19.8 +0.2
WMQ PCP PcP 12 21 22.0 +0.1
WMQ S S 12 24 34.0 -1.3
WMQ AMB AMB
comp=Z,211nm,1.3s,mb5.9
WMQ AMB AMB
comp=Z,1µm,5.3s
WMQ LR LR
comp=N,3µm,18.0s,MS5.2
WMQ LR LR
comp=E,3µm,18.1s,MS5.2
WMQ LR LR
comp=Z,4µm,18.2s,MS5.3
BJT Baijiatuau 37.48 28 eP P 12 19 07.3 +0.4
BJT pmax pmax
comp=Z,60nm,1.2s
BJT Baijiatuau 37.48 28 eP P 12 19 07.3 +0.4
comp=Z,60nm,1.2s,mb5.3
BJI Beijing 37.50 28 P P 12 19 08.0 +1.0
BJI S S 12 24 53.3 -1.2
BJI pmax pmax
comp=Z,17nm,1.2s,mb4.8
BJI MLR MLR
comp=Z,4µm,21.1s,MS5.2
BJI Beijing 37.50 28 P P 12 19 08.0 +1.0
comp=Z,17nm,1.2s,mb4.8
BJI S S 12 24 53.3 -1.2
BJI SS SS 12 27 42.6 +15
BJI LR LR
comp=Z,4µm,21.1s,MS5.2
MBWA Marble Bar 38.17 140 eP P 12 19 12.9 0.0
comp=Z,23nm,1.2s,mb4.8
AAK Ala-Archa 38.75 336⇑ eP P 12 19 17.5 -0.1
AAK pmax pmax
comp=Z,17nm,1.1s,mb4.7
AAK Ala-Archa 38.75 336 eP P 12 19 16.8 -0.8
comp=Z,34nm,1.0s,mb5.0
SONM Songino Array 41.10 12 P P 12 19 36.9 0.0
comp=Z,7.4nm,0.9s,mb4.3,baz=199,slow=6.2,SNR=9.6
SONM PcP PcP 12 21 37.5 +0.5
comp=Z,1.7nm,0.8s,baz=180,slow=5.8,SNR=2.1
ULN Ulaanbaatar 41.27 13 eP P 12 19 37.5 -0.8
ULN pmax pmax
comp=Z,16nm,1.0s,mb4.6
ULN Ulaanbaatar 41.27 13 eP P 12 19 37.5 -0.8
comp=Z,16nm,1.0s,mb4.6
KS15 Wonju Array Si 42.29 41 P P 12 19 46.1 -0.7
SNY Shenyang 42.55 33 ⇓P P 12 19 49.3 +0.4
SNY LR LR
comp=N,2µm,16.3s
SNY LR LR
comp=Z,2µm,16.7s,MS5.1
ZAK Zakamensk 43.00 8 eP P 12 19 52.9 +0.5
ZAK e 12 21 43.1
MOY Mondy 43.98 6 eP P 12 20 05.9 +5.6
TLY Talaya 44.31 8 eP P 12 20 04.2 +1.1
TLY pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
TLY MLR MLR
comp=Z,874nm,14.0s,MS4.8
TLY Talaya 44.31 8 eP P 12 20 03.4 +0.2
comp=Z,6.7nm,0.8s,mb4.4
KURK Kurchatov 44.63 346 i P P 12 20 05.5 -0.1
KURK Kurchatov 44.63 346 eP P 12 20 04.7 -0.9
comp=Z,97nm,1.1s,mb5.5
MUN Mundaring 44.83 153 eP P 12 20 09.2 +1.7
comp=Z,17nm,0.6s,mb5.0
MUN Mundaring 44.83 153 eP P 12 20 09.2 +1.7
MUN pmax pmax
comp=Z,17nm,0.6s,mb5.0
KLBR Kellerberrin 45.21 151 eP P 12 20 10.6 0.0
comp=Z,155nm,0.6s,mb6.0
NWAO Narrogin (SRO) 46.09 153 P P 12 20 17.5 0.0
NWAO pmax pmax
comp=Z,32nm,0.7s
NWAO Narrogin (SRO) 46.09 153 P P 12 20 17.5 0.0
comp=Z,32nm,0.7s,mb5.4,baz=326,slow=8.1,SNR=19
NWAO Narrogin (SRO) 46.09 153 eP P 12 20 16.9 -0.6
comp=Z,29nm,0.8s,mb5.3
HIA Hailar 46.43 23 eP P 12 20 19.7 -0.2
HIA pmax pmax
comp=Z,52nm,1.3s
HIA Hailar 46.43 23 eP P 12 20 19.6 -0.3
comp=Z,52nm,1.3s,mb5.3
ZAL Zalesovo 46.54 352 P P 12 20 20.1 -0.7
ZAL pmax pmax
comp=Z,5.0nm,0.5s
ZAL Zalesovo 46.54 352 P P 12 20 20.1 -0.7
comp=Z,5.4nm,0.5s,mb4.7,baz=260,slow=5.3,SNR=4.0
MDJ Mudanjiang 47.68 34 P P 12 20 30.5 +0.6
MDJ AMB AMB
comp=Z,16nm,1.1s,mb5.0
MDJ Mudanjiang 47.68 34 eP P 12 20 32.1 +2.2
comp=Z,34nm,1.3s,mb5.2
WRA Warramunga Arr 48.13 126 P P 12 20 32.0 -1.7
WRA pmax pmax
comp=Z,6.0nm,0.8s
WRA Warramunga Arr 48.13 126 P P 12 20 32.0 -1.7
comp=Z,5.7nm,0.8s,mb4.6,baz=305,slow=9.1,SNR=10
WRAB Tennant Creek 48.13 126 eP P 12 20 31.9 -1.8
WRAB pmax pmax
comp=Z,21nm,0.9s,mb5.2
WRAB Tennant Creek 48.13 126 eP P 12 20 31.9 -1.8
comp=Z,21nm,0.9s,mb5.2
WB2 Warrunga Arr 48.14 126 eP P 12 20 32.2 -1.6
MAJO Matsushiro 49.01 48 P P 12 20 39.8 -0.5
MAJO pmax pmax
comp=Z,37nm,1.4s,mb5.2
MAJO Matsushiro 49.01 48 P P 12 20 39.8 -0.5
comp=Z,37nm,1.4s,mb5.2
BVAR Borovoye Array 49.02 341 P P 12 20 37.7 -2.5
comp=Z,7.8nm,0.9s,mb4.7,baz=153,slow=6.6,SNR=15
BVAR PcP PcP 12 22 04.8 +0.5
comp=Z,3.6nm,0.8s,baz=162,slow=4.6,SNR=3.1
BRVK Borovoye 49.08 341 eP P 12 20 39.3 -1.3
BRVK pmax pmax
comp=Z,32nm,1.0s,mb5.3
BRVK Borovoye 49.08 341 eP P 12 20 39.2 -1.4
comp=Z,32nm,1.0s,mb5.3
CHKZ Chkalovo 49.50 342 eP P 12 20 42.2 -1.7
CHKZ pmax pmax
comp=Z,59nm,0.8s,mb5.7
CHKZ Chkalovo 49.50 342 eP P 12 20 42.1 -1.7
comp=Z,59nm,0.8s,mb5.7
ASPA Alice Springs 49.79 130 eP P 12 20 43.4 -3.1
ASAR Alice Springs 49.79 130 P P 12 20 44.4 -2.1
comp=Z,14nm,1.1s,mb4.9,baz=302,slow=7.3,SNR=13
ASAR PcP PcP 12 22 08.4 +0.9
comp=Z,2.7nm,0.8s,baz=305,slow=6.4,SNR=4.3
FORT Forrest 50.25 142 eP P 12 20 51.7 +1.8
comp=Z,48nm,0.7s,mb5.6
KLR Kul'dur 51.77 30 eP P 12 21 04.0 +2.8
CLNS Chul'man 54.35 20 eP P 12 21 19.5 -0.7
CLNS e*PP pP 12 21 25.5 -0.3
CLNS e 12 22 22.2
CLNS e 12 23 17.6
CLNS eS S 12 28 57.2 +1.6
CLNS e 12 31 03.8
CLNS pmax pmax
comp=Z,27nm,1.3s,mb5.0
CLNS pmax pmax
comp=N,21nm,1.5s
CLNS pmax pmax
comp=E,11nm,1.1s
CLNS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CLNS pmax pmax
comp=N,6.0nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS smax
comp=N,654nm,11.3s
CLNS smax
comp=Z,1µm,11.9s
CLNS smax
comp=E,200nm,11.1s
CLNS MLR MLR
comp=Z,2µm,17.0s,MS5.3
CLNS MLR MLR
comp=N,1µm,12.0s,MS5.3
CLNS MLR MLR
comp=E,200nm,11.0s,MS5.3
GNI Garni 54.55 314 i P P 12 21 22.7 +0.8
GNI pmax pmax
comp=Z,56nm,2.2s
GNI Garni 54.55 314 P P 12 21 22.0 +0.2
comp=Z,13nm,0.7s,mb5.1,baz=235,slow=14,SNR=4.2
GNI Garni 54.55 314 eP P 12 21 21.5 -0.3
comp=Z,28nm,0.9s,mb5.3
PMG Port Moresby 55.37 107 P P 12 21 28.1 -0.1
PMG pmax pmax
comp=Z,22nm,1.0s
PMG Port Moresby 55.37 107 P P 12 21 28.1 -0.1
comp=Z,22nm,0.9s,mb5.2,baz=24,slow=10,SNR=7.2
PMG Port Moresby 55.37 107 eP P 12 21 28.5 +0.3
comp=Z,18nm,0.8s,mb5.2
SVE Sverdlovsk 55.44 338 eP P 12 21 23.4 -4.8
SVE pmax pmax
comp=Z,120nm,1.6s,mb5.7
SVE MLR MLR
comp=N,1µm,21.0s,MS5.1
SVE MLR MLR
comp=E,1µm,21.0s,MS5.1
SVE MLR MLR
comp=Z,3µm,21.0s,MS5.3
ARU Arti 55.94 337⇑ iP P 12 21 24.6 -7.1
ARU eS S 12 29 08.2 -8.7
ARU eSS SS 12 33 02.0 -0.9
ARU pmax pmax
comp=Z,31nm,0.9s,mb5.3
ARU MLR MLR
comp=Z,3µm,20.5s,MS5.3
ARU MLR MLR
comp=N,2µm,22.0s
YSS Yuzh-Sakhalins 56.65 38 i P P 12 21 38.4 +1.4
YSS Yuzh-Sakhalins 56.65 38 i P P 12 21 38.5 +1.5
KIV Kislovodsk 57.42 318 eP P 12 21 41.3 -1.2
KIV pmax pmax
comp=N,36nm,1.1s
KIV pmax pmax
comp=Z,51nm,1.1s,mb5.5
KIV MLR MLR
comp=Z,864nm,23.0s,MS4.8
KIV MLR MLR
comp=N,368nm,18.0s,MS4.8
KIV MLR MLR
comp=E,676nm,23.0s,MS4.8
KIV Kislovodsk 57.42 318 eP P 12 21 41.2 -1.3
comp=E,85nm,1.2s,mb5.7
KMBO Kilima Mbogo 57.61 264 eP P 12 21 45.3 +1.1
KMBO pmax pmax
comp=Z,32nm,1.0s
KMBO Kilima Mbogo 57.61 264 P P 12 21 45.1 +0.9
comp=Z,21nm,0.9s,mb5.2,baz=56,slow=11,SNR=20
KMBO Kilima Mbogo 57.61 264 eP P 12 21 45.3 +1.1
comp=Z,32nm,1.0s,mb5.3
MALT Malatya 58.58 310 P P 12 21 50.5 -0.2
MALT pmax pmax
comp=Z,57nm,1.6s,mb5.3
MALT Malatya 58.58 310 P P 12 21 50.5 -0.2
comp=Z,58nm,1.6s,mb5.4
SOKR Solikamsk 58.84 339⇑ iP P 12 21 50.0 -2.2
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.3
SOKR MLR MLR
comp=Z,3µm,22.0s,MS5.4
SOC Sochi 59.29 316 eP P 12 21 51.3 -4.2
SOC e 12 22 43.0
SOC eS S 12 29 59.1 -2.0
SOC e 12 31 35.6
SOC eSS SS 12 33 51.8 -5.7
SOC pmax pmax
comp=Z,47nm,1.2s,mb5.4
SOC pmax pmax
comp=N,42nm,1.1s
SOC pmax pmax
comp=E,21nm,0.9s
YAK Yakutsk 59.91 18 eP P 12 21 58.1 -1.5
YAK e pP 12 22 04.0 -1.3
YAK pmax pmax
comp=Z,16nm,1.0s,mb5.0
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=Z,25nm,0.8s,mb5.3
YAK pmax pmax
comp=N,20nm,1.1s
YAK pmax pmax
comp=E,13nm,1.1s
YAK MLR MLR
comp=N,634nm,14.0s,MS5.2
YAK MLR MLR
comp=Z,897nm,14.0s,MS5.1
YAK MLR MLR
comp=E,836nm,12.0s,MS5.2
YAK Yakutsk 59.91 18 eP P 12 21 56.0 -3.6
comp=E,52nm,0.9s,mb5.6
STKA Stephens Creek 59.99 134 P P 12 21 58.7 -1.9
comp=E,5.1nm,0.9s,mb4.5,baz=324,slow=4.0,SNR=4.4
STKA Stephens Creek 59.99 134 eP P 12 21 58.4 -2.2
BRTR Keskin Array B 62.55 311 P P 12 22 15.5 -2.2
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 62.55 311 P P 12 22 15.5 -2.2
comp=Z,4.8nm,0.8s,mb4.7,baz=116,slow=7.2,SNR=6.2
VOR Voronezh 62.66 325 eP P 12 22 17.0 -1.3
VOR e*PP pP 12 22 23.0 -1.1
VOR e 12 22 30.0
VOR pmax pmax
comp=Z,80nm,1.6s,mb5.6
MBAR Mbarara 63.94 265 eP P 12 22 27.6 +0.2
MBAR pmax pmax
comp=Z,12nm,0.9s,mb4.9
MBAR Mbarara 63.94 265 eP P 12 22 27.6 +0.1
comp=Z,12nm,0.9s,mb4.9
MOS Moscow 65.15 329 eP P 12 22 33.1 -1.4
MOS e 12 22 44.5
MOS e 12 24 59.0
MOS ePPP PPP 12 26 28.9 -5.3
MOS pmax pmax
comp=Z,80nm,0.7s,mb5.9
OBN Obninsk 65.45 328 i P P 12 22 32.4 -4.1
OBN i pP 12 22 38.7 -3.5
OBN e 12 23 04.3
OBN e 12 24 59.2
OBN eS S 12 31 13.5 -5.0
OBN eSS SS 12 35 31.9 -1.9
OBN pmax pmax
comp=Z,111nm,2.0s,mb5.5
OBN MLR MLR
comp=Z,1µm,20.0s,MS5.1
OBN Obninsk 65.45 328 eP P 12 22 32.0 -4.4
comp=Z,46nm,0.8s,mb5.6
MA2 Magadan 66.66 28 eP P 12 22 44.8 +0.7
MA2 pmax pmax
comp=Z,28nm,1.1s,mb5.2
MA2 Magadan 66.66 28 eP P 12 22 44.8 +0.7
comp=Z,28nm,1.1s,mb5.2
TIXI Tiksi 67.17 11⇑ eP P 12 22 46.8 -0.4
AKASG Malin Array Be 68.25 322 P P 12 22 51.3 -2.9
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 68.25 322 P P 12 22 51.3 -2.9
comp=Z,2.7nm,0.6s,mb4.5,baz=89,slow=4.4,SNR=9.0
IDI Anoyia 68.70 305 P P 12 22 56.2 -1.1
comp=Z,17nm,0.7s,mb5.1,baz=106,slow=5.5,SNR=5.6
MLR Muntele Rosu 69.28 316 P P 12 22 59.8 -0.9
MLR pmax pmax
comp=Z,18nm,1.0s
MLR Muntele Rosu 69.28 316 P P 12 22 59.8 -1.0
comp=Z,18nm,1.0s,mb5.0,baz=95,slow=0.6,SNR=8.9
LSZ Lusaka 69.45 250 eP P 12 23 01.4 -0.8
LSZ pmax pmax
comp=Z,20nm,1.1s,mb5.0
LSZ Lusaka 69.45 250 eP P 12 23 01.4 -0.8
comp=Z,20nm,1.1s,mb5.0
IDID Didziasalis 70.85 326 eP P 12 23 09.0 -1.1
IDID AMPb AMB 12 23 17.2
comp=Z,24nm,0.9s,mb5.1
IIGN Ignalina 71.15 326 eP P 12 23 11.3 -0.6
IIGN AMPb AMB 12 23 19.1
comp=Z,19nm,0.9s,mb5.0
IZAR Zarasai 71.23 326 eP P 12 23 11.3 -1.2
ISAL Salakas 71.25 326 eP P 12 23 11.6 -1.0
ISAL AMPb AMB 12 23 19.7
comp=Z,16nm,1.0s,mb4.9
BOLS Boljevac 71.85 313⇓ iP P 12 23 14.5 -1.8
APA Apatity 71.89 339⇓ iP P 12 23 16.0 -0.2
APA pmax pmax
comp=Z,44nm,1.0s,mb5.3
APA MLR MLR
comp=Z,3µm,18.0s,MS5.6
KWP Kalwaria 72.13 320 eP P 12 23 17.0 -0.9
KWP pmax pmax
comp=Z,47nm,1.0s,mb5.4
KWP Kalwaria 72.13 320 eP P 12 23 17.0 -0.8
comp=Z,48nm,1.0s,mb5.4
KOLS Kolonicke sedl 72.30 319 eP P 12 23 24.2 +5.3
KOLS Kolonicke sedl 72.30 319 e P 12 23 24.2 +5.3
SUW Suwalki 72.59 324 eP P 12 23 19.4 -1.1
SUW pmax pmax
comp=Z,183nm,1.1s,mb5.9
SUW Suwalki 72.59 324 eP P 12 23 19.4 -1.1
comp=Z,183nm,1.1s,mb5.9
FINES FINESS Array B 72.77 332 P P 12 23 20.5 -0.9
FINES pmax pmax
comp=Z,8.0nm,0.5s
FINES FINESS Array B 72.77 332 P P 12 23 20.4 -1.0
comp=Z,7.8nm,0.5s,mb4.9,baz=104,slow=6.8,SNR=10
CRVS Cervenica-Dubn 72.83 319 eP P 12 23 23.0 +1.0
CRVS e pP 12 23 29.0 +1.2
CRVS esP sP 12 23 34.9 +5.1
KECS Kecovo 73.42 318 eP P 12 23 31.3 +5.8
KECS Kecovo 73.42 318 e P 12 23 31.3 +5.8
NIE Niedzica 73.64 319 eP P 12 23 27.3 +0.5
PSZ Piszkesteto 73.74 318 eP P 12 23 27.0 -0.4
PSZ pmax pmax
comp=Z,49nm,1.4s,mb5.2
PSZ Piszkesteto 73.74 318 eP P 12 23 27.0 -0.4
comp=Z,49nm,1.4s,mb5.2
OJC Ojcow 74.07 320 eP P 12 23 29.6 +0.4
LBTB Lobatse 74.42 241 eP P 12 23 31.9 +0.1
LBTB pmax pmax
comp=Z,24nm,0.9s,mb5.1
LBTB Lobatse 74.42 241 eP P 12 23 31.9 +0.2
comp=Z,24nm,0.9s,mb5.1
VYHS Vyhne 74.51 318 eP P 12 23 32.0 +0.2
VYHS e pP 12 23 37.1 -0.5
KEV Kevo 74.87 341 ep P 12 23 32.0 -1.5
comp=Z,32nm,1.0s,mb5.2
KEV Kevo 74.87 341 eP P 12 23 32.0 -1.5
KEV pmax pmax
comp=Z,32nm,1.0s,mb5.2
CASY Casey 74.93 173 eP P 12 23 33.3 -0.6
comp=Z,48nm,1.7s,mb5.2
OKC Ostrava-Krasne 75.09 319 eP P 12 23 35.9 +0.8
OKC epP pP 12 23 41.3 +0.4
OKC esP sP 12 23 47.8 +4.9
OKC AMS AMS 13 01 50.0
comp=Z,500nm,16.3s
ARCES ARCESS Array B 75.30 340 P P 12 23 35.3 -0.7
ARCES pmax pmax
comp=Z,10.0nm,0.9s
ARCES ARCESS Array B 75.30 340 P P 12 23 35.3 -0.7
comp=Z,9.6nm,0.9s,mb4.7,baz=68,slow=6.5,SNR=6.5
MORC Moravsky Berou 75.47 319 eP P 12 23 37.8 +0.5
MORC pmax pmax
comp=Z,35nm,1.0s,mb5.2
MORC Moravsky Berou 75.47 319 eP P 12 23 37.8 +0.4
comp=Z,34nm,1.0s,mb5.2
ZST Bratislava 75.64 318 eP P 12 23 39.2 +0.9
ZST e pP 12 23 44.5 +0.4
ZST e 12 24 10.1
BOSA Boshof 75.75 238 eP P 12 23 39.9 +0.5
BOSA pmax pmax
comp=Z,47nm,1.3s,mb5.3
BOSA Boshof 75.75 238 eP P 12 23 39.9 +0.5
comp=Z,47nm,1.3s,mb5.2
BILL Bilibino 76.00 22 P P 12 23 40.3 +0.4
BILL pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BILL Bilibino 76.00 22 P P 12 23 40.2 +0.3
comp=Z,9.3nm,0.9s,mb4.7
VRAC Vranov 76.05 319 P P 12 23 41.5 +0.9
VRAC pmax pmax
comp=Z,2.0nm,0.4s
VRAC Vranov 76.05 319 P P 12 23 41.5 +0.9
comp=Z,2.0nm,0.4s,mb4.4,baz=126,slow=3.9,SNR=5.0
DPC Dobruska-Polom 76.30 320 eP P 12 23 42.2 +0.2
DPC epP pP 12 23 48.6 +0.8
DPC esP sP 12 23 55.7 +5.9
DPC AMS AMS 13 04 10.0
comp=Z,600nm,16.6s
KSP Ksiaz 76.36 320 eP P 12 23 43.1 +0.8

KSP *e*pP pP 12 23 46.9 -1.2
UPC Upice 76.51 320 *e*P **P 12 23 44.1 +0.9**
UPC *e*pP pP 12 23 49.4 +0.4
UPC *e*sP sP 12 23 56.2 +5.2
GROS Grobnik 76.62 316 *e*P **P 12 23 44.2 +0.4**
ARSA Arzberg 76.64 317⇑*i*P **P 12 23 45.0 +1.0**
comp=Z,22nm,1.3s,mb4.9
PRU Pruhonice 77.42 319 *e*P **P 12 23 48.8 +0.5**
PRU *e*pP pP 12 23 54.3 +0.2
PRU *e*sP sP 12 24 02.2 +6.1
PRU AMS AMS 13 06 30.0
comp=Z,700nm,16.4s
PVCC Panska Ves 77.43 320 *e*P **P 12 23 49.3 +1.0**
PVCC *e*pP pP 12 23 54.6 +0.5
PVCC *e*sP sP 12 24 02.0 +5.9
PVCC AMS AMS 13 07 40.0
comp=Z,600nm,17.9s
BSD Bornholm Skovb 77.50 325 *i* P **P 12 23 52.7 +4.1**
BSD pmax pmax
comp=Z,51nm,1.0s,mb5.4
BSD Bornholm Skovb 77.50 325 *i* P **P 12 23 52.7 +4.1**
comp=Z,51nm,1.0s,mb5.4
MOA Molln 77.52 317⇓*i*P **P 12 23 49.6 +0.8**
comp=Z,20nm,1.6s,mb4.8
BRG Berggiesshubel 77.85 320 *e*P **P 12 23 51.5 +1.0**
BRG *i* pP 12 23 56.9 +0.5
BRG pmax pmax
comp=Z,33nm,1.3s,mb5.1
BRG Berggiesshubel 77.85 320 *e*P **P 12 23 51.5 +1.0**
comp=Z,33nm,1.3s,mb5.1
BRG *i* pP 12 23 56.9 +0.5
GERES GERESS Array B 77.93 318 P **P 12 23 50.2 -0.8**
GERES pmax pmax
comp=Z,8.0nm,0.7s
GERES GERESS Array B 77.93 318 P **P 12 23 50.2 -0.9**
comp=Z,8.3nm,0.7s,mb4.8,baz=90,slow=5.3,SNR=14
KHC Kasperske Hory 78.02 318 *e*P **P 12 23 52.1 +0.6**
KHC *e*pP pP 12 23 57.8 +0.5
KHC *e*sP sP 12 24 04.4 +5.1
KHC AMS AMS 12 59 30.0
comp=Z,600nm,20.2s
RUE Ruedersdorf 78.02 322 *e*P **P 12 23 50.4 -1.1**
comp=Z,91nm,0.9s,mb5.7
CLL Collm 78.45 321 *i* P **P 12 23 54.2 +0.3**
CLL *i* pP 12 23 59.7 0.0
CLL Collm 78.45 321 P **P 12 23 47.0 -6.9**
CLL Collm 78.45 321 P **P 12 23 54.2 +0.3**
comp=Z,logA/T=1.5,mb5.2
CLL *i* *PP pP 12 23 59.7 0.0
CLL *e* 12 24 06.0
HFS Hagfors 78.52 330 P **P 12 23 53.3 -0.8**
HFS pmax pmax
comp=Z,6.0nm,0.7s
HFS Hagfors 78.52 330 P **P 12 23 53.3 -0.8**
comp=Z,5.6nm,0.7s,mb4.6,baz=90,slow=8.9,SNR=5.1
HFS Hagfors 78.52 330 P **P 12 23 53.3 -0.8**
MAW Mawson 78.60 192 P **P 12 23 55.8 +1.5**
MAW pmax pmax
comp=Z,7.0nm,0.7s
MAW Mawson 78.60 192 P **P 12 23 55.8 +1.4**
comp=Z,7.3nm,0.7s,mb4.7,baz=55,slow=14,SNR=2.6
NKC Novy Kostel 78.78 320 *e*P **P 12 23 56.4 +0.7**
NKC *e*pP pP 12 24 01.7 +0.2
NKC *e*sP sP 12 24 09.3 +5.8
NKC AMS AMS 13 06 50.0
comp=Z,700nm,17.1s
WTTA Wattenberg 79.29 317⇑*i*P **P 12 23 58.8 +0.3**
comp=Z,31nm,1.1s,mb5.2
WTTA Wattenberg 79.29 317⇑*i*P **P 12 23 58.8 +0.3**
WTTA pmax pmax
comp=Z,31nm,1.1s,mb5.2
MOX Moxa 79.32 320 *e*P **P 12 23 59.4 +0.8**
MOX pmax pmax
comp=Z,19nm,1.1s,mb4.9
MOX MLR MLR
comp=Z,600nm,21.0s,MS4.9
MOX Moxa 79.32 320 *e*P **P 12 23 59.4 +0.8**
comp=Z,19nm,1.1s,mb4.9
MOX LR LR
comp=Z,600nm,21.0s,MS4.9
MOX Moxa 79.32 320 *i* P **P 12 23 59.4 +0.8**
comp=Z,logA/T=1.2,mb4.9
MOX L 13 03 59.0
GRA1 Grafenberg Arr 79.56 319 *e*P **P 12 24 00.7 +0.7**
comp=Z,32nm,1.2s,mb5.1
GRA1 *e*pP pP 12 24 06.4 +0.6
GRF Grafenberg Arr 79.56 319 *e*P **P 12 24 00.7 +0.7**
GRF *e**PP pP 12 24 06.4 +0.6
GRF pmax pmax
comp=Z,32nm,1.2s,mb5.1
GRF Grafenberg Arr 79.56 319 *e*P **P 12 24 00.7 +0.7**
GRF *e**PP pP 12 24 06.4 +0.6
GRF pmax pmax
comp=Z,32nm,1.2s,mb5.1
GRF Grafenberg Arr 79.56 319 *e*P **P 12 24 00.7 +0.7**
comp=Z,32nm,1.2s,mb5.1
GRF *e*pP pP 12 24 06.4 +0.6
SQTA Sankt Quirin 79.58 317⇑*i*P **P 12 23 59.9 -0.2**
comp=Z,16nm,0.9s,mb5.0
SQTA Sankt Quirin 79.58 317⇑*i*P **P 12 23 59.9 -0.2**
SQTA pmax pmax
comp=Z,16nm,0.9s,mb5.0
MOTA Moosalm 79.65 317⇑*i*P **P 12 24 00.8 +0.3**
comp=Z,23nm,1.1s,mb5.0
MOTA Moosalm 79.65 317⇑*i*P **P 12 24 00.8 +0.3**
MOTA pmax pmax
comp=Z,23nm,1.1s,mb5.0
NOA NORSAR Array B 79.80 331 P **P 12 24 00.8 -0.2**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 79.80 331 P **P 12 24 00.8 -0.2**
comp=Z,2.9nm,0.7s,mb4.3,baz=94,slow=5.2,SNR=4.9
NOA NORSAR Array B 79.80 331 P **P 12 24 00.8 -0.2**
NAO01 NORSAR Array S 79.95 330 *e*P **P 12 24 02.0 +0.2**
comp=Z,20nm,1.0s,mb5.0
DAVA Damuels 80.48 317⇑*i*P **P 12 24 06.0 +1.1**
comp=Z,41nm,1.4s,mb5.2
DAVOX Davos 80.50 316 P **P 12 24 05.0 0.0**
comp=Z,16nm,0.7s,mb5.1,baz=111,slow=14,SNR=9.7
SUR Sutherland 80.50 235 *e*P **P 12 24 07.2 +1.9**
comp=Z,29nm,1.0s,mb5.2
LPG La Plagne 82.73 315 *e*P **P 12 24 17.6 +0.9**
comp=Z,50nm,1.0s,mb5.2
LPG La Plagne 82.73 315 *e*P **P 12 24 17.6 +0.9**
LPG pmax pmax
comp=Z,25nm,1.0s,mb5.2
BNI Bardonecchia 82.81 314 *e*P **P 12 24 15.9 -1.2**
BNI pmax pmax
comp=Z,18nm,0.9s,mb5.1
BNI Bardonecchia 82.81 314 *e*P **P 12 24 15.9 -1.2**
comp=Z,18nm,0.9s,mb5.1
SYO Syowa Base 85.48 197⇑P **P 12 24 31.4 +1.3**
SYO Syowa Base 85.48 197⇓PcP PcP 12 24 33.4 -0.2
SYO Syowa Base 85.48 197⇑pP pP 12 24 39.9 +3.9
ANM Nome 87.33 25 *e*P **P 12 24 41.0 +1.8**
ESDC Sonseca Array 91.34 310 P **P 12 24 59.0 +0.3**
comp=Z,1.0nm,0.5s,mb4.5,baz=59,slow=5.0,SNR=5.3
ESLA Sonseca Array 91.34 310 *e*P **P 12 24 58.9 +0.2**
IMA Indian Mountai 91.53 22 *e*P **P 12 24 59.8 +0.9**
VNDA Vanda 92.92 168 P **P 12 25 06.7 +1.5**
VNDA pmax pmax
comp=Z,1.0nm,0.8s
VNDA Vanda 92.92 168 P **P 12 25 06.7 +1.5**
comp=Z,1.2nm,0.8s,mb4.4,baz=264,slow=10,SNR=4.7
SBA Scott Base 94.02 168 *e*P **P 12 25 11.2 +1.0**
SPU Mount Spurr 94.18 26 *e*P **P 12 25 12.3 +1.1**
COLA College 94.24 22 *e*P **P 12 25 11.2 -0.2**
COLA pmax pmax
comp=Z,15nm,1.8s,mb5.1
COLA College 94.24 22 *e*P **P 12 25 11.2 -0.3**
comp=Z,15nm,1.8s,mb5.1
ILAR Eielson Array 94.65 22 P **P 12 25 13.7 +0.4**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 94.65 22 P **P 12 25 13.7 +0.4**
comp=Z,1.1nm,0.7s,mb4.4,baz=291,slow=4.3,SNR=5.0
INK Inuvik 96.92 16 P **P 12 25 24.6 +1.0**
INK pmax pmax
comp=Z,6.0nm,1.0s
INK Inuvik 96.92 16 P **P 12 25 24.6 +1.0**
comp=Z,6.4nm,1.0s,mb5.0,baz=288,slow=4.0,SNR=6.3
RES Resolute Bay 97.37 2 *e*P **P 12 25 24.5 -1.0**
RES pmax pmax
comp=Z,21nm,1.2s,mb5.4
RES Resolute Bay 97.37 2 *e*P **P 12 25 24.5 -1.0**
comp=Z,20nm,1.2s,mb5.4
YKA Yellowknife Ar 106.36 14 Pdiff Pdif 12 26 07.6 +1.8
comp=Z,0.2nm,0.8s,baz=333,slow=3.8,SNR=3.2
YKA PP PP 12 30 26.4 -6.9
comp=Z,0.4nm,0.8s,baz=336,slow=7.5,SNR=4.7
SCHQ Schefferville 115.53 348 PKP PKPdf 12 30 34.6 -2.7
comp=Z,3.2nm,1.2s,baz=358,slow=18,SNR=2.5
SCHQ PP PP 12 31 38.5 -1.9
comp=Z,2.0nm,0.8s,baz=45,slow=11,SNR=2.5
NVAR Mina Array Bea 124.80 31 PKP PKPdf 12 30 53.9 -2.0
comp=Z,4.0nm,1.0s,baz=276,slow=3.4,SNR=4.9
PDAR Pinedale Array 125.08 21 PKP PKPdf 12 30 53.8 -2.4
comp=Z,1.5nm,0.8s,baz=297,slow=3.3,SNR=7.1
MVU Marysvale 127.64 26 *e*PKPdf PKPdf 12 31 00.8 -0.5
MSU Marysvale 127.65 26 *e*PKIKP PKPdf 12 30 58.7 -2.6
ANMO Albuquerque 133.07 24 PKIKP PKPdf 12 31 10.2 -1.5
ANMO pmax pmax
comp=Z,1.0nm,0.8s
ANMO Albuquerque 133.07 24 PKP PKPdf 12 31 10.2 -1.6
comp=Z,1.4nm,0.8s,baz=340,slow=1.6,SNR=2.7
GDL2 Guadalupe Moun 136.32 23 *e*PKPdf PKPdf 12 31 12.3 -5.4
TXAR Lajitas Array 139.13 24 PKP PKPdf 12 31 20.0 -3.0
comp=Z,0.5nm,0.7s,baz=225,slow=1.3,SNR=2.8
TXAR PP PP 12 34 16.0 -0.1
comp=Z,1.2nm,1.0s,slow=5.0,SNR=4.7
TXAR Lajitas Array 139.13 24 PKP PKPdf 12 31 20.0 -3.0
TXAR PP PP 12 34 16.0 -0.1
JCT Junction City 139.50 19 *e*PKIKP PKPdf 12 31 20.0 -3.6
PLCA Paso Flores 144.64 200 PKIKP PKPdf 12 31 29.3 -3.0
PLCA pmax pmax
comp=Z,7.0nm,0.8s
PLCA Paso Flores 144.64 200 PKP PKPdf 12 31 29.3 -3.1
comp=Z,7.0nm,0.8s,baz=210,slow=2.1,SNR=6.8
PLCA Paso Flores 144.64 200 *e*PKPdf PKPdf 12 31 27.3 -5.1
TEIG Tepich 151.93 5 *e*PKPbc PKPdf 12 31 48.5 +3.8
LPAZ La Paz 160.94 242 PKIKP PKPdf 12 31 55.2 -1.0
LPAZ pmax pmax
comp=Z,4.0nm,0.8s
LPAZ La Paz 160.94 242 PKP PKPdf 12 31 55.1 -1.0
comp=Z,3.6nm,0.8s,baz=57,slow=7.3,SNR=7.0
LPAZ La Paz 160.94 242 *e*PKPdf PKPdf 12 31 53.3 -2.9

*IDC **27** 12:12:20.5±0.6, 7.96N×94.20E, mb4.7/16, mb1 4.8/17, mb1mx4.7/23, mbtmp4.7/17, ML4.2/1, Error ellipse: s-maj=28.6km s-min=15.7km az=47.0*
*NEIC **27** 12:12:25.1±0.5, 8.02N×94.32E, h30km, Error ellipse: s-maj=17.7km s-min=11.9km az=58.0*
ISC 27 12:12:23.6±0.6,**7.8N**±0.1×**94.2E**±0.1,**h33**km,**n23,**
σ0§87/18,mb4.6/16,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.56**	**23**	Pn	**P**	**12 15 02.7**	**-6.6**
	0.5nm,0.3s,baz=223,slow=12,SNR=6.3						
LSA	**Lhasa**	**21.95**	**353**	P	**P**	**12 17 18.0**	**+1.8**
SONM	**Songino Array**	**41.22**	**13**	P	**P**	**12 20 06.1**	**-0.8**
	6.0nm,0.9s,mb4.2,baz=180,slow=8.6,SNR=3.3						
NWAO	**Narrogin (SRO)**	**46.09**	**153**	P	**P**	**12 20 46.3**	**-0.3**
	13nm,0.7s,mb5.0,baz=308,slow=9.4,SNR=1.7						
WRA	**Warramunga Arr**	**48.21**	**126**	P	**P**	**12 21 02.8**	**-0.5**
	6.4nm,0.7s,mb4.7,baz=303,slow=8.5,SNR=6.4						
BVAR	**Borovoye Array**	**49.05**	**341**	P	**P**	**12 21 08.0**	**-1.4**
	3.6nm,0.9s,mb4.4,baz=143,slow=7.4,SNR=2.8						
PMG	**Port Moresby**	**55.50**	**107**	P	**P**	**12 21 59.4**	**+1.4**
	11nm,0.6s,mb5.1,baz=275,slow=11,SNR=3.3						
KMBO	**Kilima Mbogo**	**57.44**	**264**	P	**P**	**12 22 12.9**	**+0.9**
	3.7nm,0.8s,mb4.5,baz=56,slow=18,SNR=2.0						
STKA	**Stephens Creek**	**60.05**	**134**	P	**P**	**12 22 29.5**	**-0.5**
	5.3nm,0.8s,mb4.6,baz=11,slow=2.2,SNR=3.6						
BRTR	**Keskin Array B**	**62.48**	**311**	P	**P**	**12 22 45.9**	**-0.3**
	2.9nm,0.6s,mb4.6,baz=109,slow=7.8,SNR=2.3						
AKASG	**Malin Array Be**	**68.21**	**322**	P	**P**	**12 23 21.2**	**-1.6**
	5.1nm,0.8s,mb4.6,baz=90,slow=4.8,SNR=4.1						
MLR	**Muntele Rosu**	**69.23**	**316**	P	**P**	**12 23 28.6**	**-0.6**
	10nm,0.9s,mb4.7,baz=207,slow=14,SNR=1.9						
FINES	**FINESS Array B**	**72.77**	**332**	P	**P**	**12 23 50.5**	**+0.3**
	7.6nm,0.8s,mb4.7,baz=101,slow=7.1,SNR=2.8						
ARCES	**ARCESS Array B**	**75.33**	**340**	P	**P**	**12 24 05.4**	**+0.4**
	6.4nm,0.9s,mb4.5,baz=90,slow=6.3,SNR=2.5						
GERES	**GERESS Array B**	**77.88**	**318**	P	**P**	**12 24 20.3**	**+0.6**
	3.8nm,0.7s,mb4.4,baz=90,slow=4.0,SNR=4.1						
HFS	**Hagfors**	**78.52**	**330**	P	**P**	**12 24 22.7**	**-0.3**
	5.0nm,0.4s,mb4.8,baz=90,slow=4.4,SNR=4.1						
NOA	**NORSAR Array B**	**79.79**	**331**	P	**P**	**12 24 30.1**	**+0.2**
	5.6nm,0.8s,mb4.6,baz=93,slow=5.5,SNR=4.1						
DAVOX	**Davos**	**80.44**	**316**	P	**P**	**12 24 34.4**	**+0.7**
	7.4nm,0.5s,mb4.9,baz=116,slow=9.3,SNR=3.8						
NVAR	**Mina Array Bea**	**124.96**	**31**	PKP	PKPdf	12 31 24.2	+3.3
	1.4nm,0.7s,baz=306,slow=2.1,SNR=4.6						
PDAR	**Pinedale Array**	**125.22**	**21**	PKP	PKPdf	12 31 23.9	+2.6
	1.9nm,0.7s,baz=333,slow=3.3,SNR=4.4						
ANMO	**Albuquerque**	**133.22**	**23**	PKP	PKPdf	12 31 36.8	0.0
	1.0nm,0.9s,baz=351,slow=1.1,SNR=3.1						
PLCA	**Paso Flores**	**144.50**	**200**	PKP	PKPdf	12 31 58.5	+1.6
	10.0nm,0.8s,baz=139,slow=3.1,SNR=5.0						
PLCA	**Paso Flores**	**144.50**	**200**	PKP	PKPdf	12 31 58.5	+1.6

*NAO **27** 12:12:52.4±3.3, 60.29N×4.68E, ML3.3*
*CSEM **27** 12:12:52.6±0.6, 60.04N×4.80E, h2km, ML1.9, Error ellipse: s-maj=14.1km s-min=5.8km az=57.0*
BER 27 12:12:55.4±4.3,**60.07N**×**4.87E,MD1.7,ML1.9,**
ML3.3(NAO),**Explosion,Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGD	**Espegrend**	**0.27**	**41**	*e*P	Pg	12 13 00.2	-0.6
BER	**Bergen**	**0.39**	**36**	*e*P	Pg	12 13 00.3	-3.0
RUND	**Rundenannen**	**0.43**	**35**	*e*P	Pg	12 13 03.2	-0.8
ASK	**Askoy**	**0.45**	**21**	*e*P	Pg	12 13 03.2	-1.2
ODD1	**Odda**	**0.90**	**99**	*e*P	Pg	12 13 10.7	-2.7
SUE	**Sulen**	**0.99**	**357**	*e*P	Pb	12 13 12.7	-2.5
SUE				*e*S	Sg	12 13 26.7	-1.8
SUE				AML	AML	12 13 29.8	
	comp=Z,46nm,0.5s						
SUE	**Sulen**	**0.99**	**357**	*e*P	Pb	12 13 12.7	-2.5
	SNR=90						
SUE				*e*S	Sg	12 13 26.7	-1.8
	comp=Z,46nm,0.5s,SNR=90						
BLS5	**Blasjo**	**1.03**	**128**	*e*P	Pb	12 13 14.2	-1.6
BLS5				*e*S	Sg	12 13 28.6	-1.2
BLS5				AML	AML	12 13 32.8	
	comp=Z,23nm,0.6s						
BLS5	**Blasjo**	**1.03**	**128**	*e*P	Pb	12 13 14.2	-1.6
	SNR=90						
BLS5				*e*S	Sg	12 13 28.6	-1.1
	comp=Z,23nm,0.6s,SNR=90						
HYA	**Hoyanger**	**1.28**	**30**	*e*P	Pb	12 13 19.1	-0.9
HYA				*e*S	Sb	12 13 37.9	+0.9
HYA				AML	AML	12 13 41.5	
	comp=Z,30nm,0.4s						
HYA	**Hoyanger**	**1.28**	**30**	*e*P	Pb	12 13 19.1	-1.0
	SNR=70						
HYA				*e*S	Sb	12 13 37.9	+0.9
	comp=Z,30nm,0.4s,SNR=70						
FOO	**Floro**	**1.54**	**3**	*e*P	Pn	12 13 22.0	-2.2
FOO				*e*S	Sb	12 13 43.0	-1.5
FOO				AML	AML	12 13 46.6	
	comp=Z,16nm,0.3s						
FOO	**Floro**	**1.54**	**3**	*e*P	Pn	12 13 22.0	-2.2
	SNR=50						
FOO				*e*S	Sb	12 13 43.0	-1.5
	comp=Z,16nm,0.3s,SNR=50						
SNART	**Snartemo**	**2.11**	**144**	*e*P	Pn	12 13 33.0	+0.6
SNART				AML	AML	12 14 04.4	
	comp=Z,26nm,0.3s						
NB2	**NORSAR Subarra**	**3.28**	**70**	Pn	Pn	12 13 45.6	-3.5
NB2				Pg	Pg	12 13 51.4	-10
NB2				Lg		12 14 36.6	
NC6	**NORSAR Subarra**	**3.34**	**75**	Pn	Pn	12 13 46.4	-3.6
NC6				Pg	Pg	12 13 52.6	-10
NC6				Lg		12 14 37.8	
NC6	**NORSAR Subarra**	**3.34**	**75**	Pn	Pn	12 13 46.3	-3.6
HFS	**Hagfors**	**4.42**	**85**	Pn	Pn	12 14 01.3	-4.0
	baz=265,slow=12						
HFS				Pg	Pg	12 14 14.1	-10
	baz=259,slow=16						
HFS				Lg		12 15 14.8	
	baz=258,slow=37						
HFS	**Hagfors**	**4.42**	**85**	Pn	Pn	12 14 01.3	-4.0
	baz=265,slow=12,SNR=5.8						

*GRAL **27** 12:16:55.0±1.6, 34.99N×37.57E, h14km±25km, MD4.0*

*IDC **27** 12:16:56.6±3.9, 34.47N×37.77E, mb3.1/1, mb1 3.4/5, mb1mx3.3/17, mbtmp3.3/5, ML3.0/4, Error ellipse: s-maj=70.2km s-min=13.4km az=91.0*
*NEIC **27** 12:16:58.4±0.9, 34.47N×37.60E, h10km, ML4.1(GII), Error ellipse: s-maj=17.0km s-min=5.8km az=102.0*
*CSEM **27** 12:17:00.7±0.1, 34.59N×37.41E, h25km, Mw4.2, Error ellipse: s-maj=3.5km s-min=1.3km az=125.0*
ISC 27 12:16:58.7±0.9,**34.51N**±0.03×**37.41E**±0.04,**h11**km±7km,
n50,σ0§84/65,mb3.1/1,**Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	**Hawqa**	**1.23**	**260**	*i* PG	**Pn**	**12 17 21.1**	**-0.6**
HWQ				*i* SG	**Sg**	**12 17 39.9**	**+0.1**
BHL	**Bhannes**	**1.57**	**248**	*i* PG	**Pn**	**12 17 26.6**	**-0.1**
BHL				*i* SG	**Sg**	**12 17 51.6**	**+0.4**
HRI	**Mount Hermon**	**1.86**	**229**	Pn	**Pn**	**12 17 31.4**	**+0.6**
HTY	**Hatay**	**1.92**	**328**	PN	**Pn**	**12 17 31.7**	**+0.1**
HTY				*e*SN	**Sn**	**12 17 55.7**	**-0.1**
KSDI	**Kefar Szold**	**1.96**	**229**	Pn	**Pn**	**12 17 33.0**	**+0.8**
MATL	**Matirih**	**2.00**	**240**	*i* PG	**Pn**	**12 17 34.1**	**+1.2**
KSHT	**Keshet**	**2.02**	**222**	Pn	**Pn**	**12 17 33.7**	**+0.6**
COBT	**Iskenderun**	**2.22**	**335**	*i* P	**Pn**	**12 17 36.0**	**0.0**
COBT				*i* S	**Sn**	**12 18 05.1**	**+1.6**
GLH	**Golan-Tel Qazi**	**2.31**	**220**	Pn	**Pn**	**12 17 37.5**	**+0.2**
HNTI	**Hanita**	**2.34**	**233**	Pn	**Pn**	**12 17 38.9**	**+1.2**
HNTI				S	**Sn**	**12 18 13.6**	**+7.0**
ASF	**Jabal al Asfar**	**2.37**	**191**	Pn	**Pn**	**12 17 38.2**	**+0.2**
	15nm,0.3s,baz=240,slow=14,SNR=94						
ASF				Lg		12 18 11.8	
	32nm,0.3s,baz=64,slow=22,SNR=10						
HAF	**Haifa**	**2.63**	**230**	Pn	**Pn**	**12 17 43.0**	**+1.2**
MMLI	**Mount Malkishu**	**2.65**	**219**	Pn	**Pn**	**12 17 42.3**	**+0.2**
GAZ	**Gaziantep**	**2.67**	**357**	PN	**Pn**	**12 17 42.2**	**-0.1**
HMDT	**Nahal Hemdat**	**2.74**	**216**	Pn	**Pn**	**12 17 43.6**	**+0.2**
OFRI	**'Ofer**	**2.76**	**228**	Pn	**Pn**	**12 17 43.8**	**+0.1**
CEYT	**Ceyhan**	**2.84**	**332**	*e*PN	**Pn**	**12 17 44.1**	**-0.7**
GZT	**Gaziantep**	**2.85**	**2**	*i* P	**Pn**	**12 17 43.9**	**-1.0**
GZT				*i* S	**Sn**	**12 18 29.9**	**+10**
SLTI	**Sal'it**	**3.00**	**222**	Pn	**Pn**	**12 17 46.5**	**-0.6**
SLTI				S	**Sn**	**12 18 29.9**	**+6.4**
URFA	**Urfa**	**3.15**	**21**	*e*PN	**Pn**	**12 17 49.4**	**+0.2**
KAHT	**Ahir Dag**	**3.15**	**352**	*i* P	**Pn**	**12 17 48.5**	**-0.7**
KAHT				*i* S	**Sn**	**12 18 42.5**	**+15**
DRGI	**Dragot**	**3.36**	**211**	Pn	**Pn**	**12 17 51.5**	**-0.7**
MEST	**Erdemli**	**3.38**	**309**	*i* P	**Pn**	**12 17 51.7**	**-0.7**
MEST				*i* S	**Sn**	**12 18 33.4**	**+0.6**
CSS	**Prodhromos**	**3.39**	**279**	*e*Pn	**Pn**	**12 17 49.9**	**-2.7**
CSS	**Prodhromos**	**3.39**	**279**	*e*Pn	**Pn**	**12 17 49.9**	**-2.7**
MZDA	**Masada**	**3.62**	**209**	Pn	**Pn**	**12 17 54.9**	**-1.0**
MZDA				S	**Sn**	**12 18 45.4**	**+6.3**
LEF	**Lefka**	**3.77**	**281**	*e*PN	**Pn**	**12 17 54.1**	**-3.9**
MALT	**Malatya**	**3.89**	**12**	*e*PN	**Pn**	**12 17 58.1**	**-1.6**
MALT	**Malatya**	**3.89**	**12**	*e*Pn	**Pn**	**12 17 58.1**	**-1.6**
MYA	**Malataya**	**3.90**	**12**	*e*PN	**Pn**	**12 17 59.4**	**-0.4**
DIY	**Diyarbakir**	**4.08**	**33**	*e*PN	**Pn**	**12 18 02.4**	**0.0**
NIG	**Nigde**	**4.25**	**329**	*e*PN	**Pn**	**12 18 14.9**	**+10**
ZFRI	**Zfri**	**4.37**	**206**	Pn	**Pn**	**12 18 05.8**	**-0.7**
BNN	**Bunyan**	**4.52**	**344**	*e*PN	**Pn**	**12 18 08.4**	**-0.2**
PTK	**Pertek**	**4.66**	**19**	*e*PN	**Pn**	**12 18 10.8**	**+0.2**
BTMT	**Batman**	**4.94**	**41**	*e*PN	**Pn**	**12 18 13.0**	**-1.6**
KMTI	**Karmit**	**4.94**	**208**	Pn	**Pn**	**12 18 14.0**	**-0.6**
MSL	**Mosul**	**4.97**	**67**	*e*Pn	**Pn**	**12 18 10.5**	**-4.5**
MSL				*e*Pg	**Pg**	**12 18 38.5**	**+0.6**
MSL				*e*Sn	**Sn**	**12 19 27.0**	**+14**
MSL				*e*Sb	**Sb**	**12 19 43.0**	**+17**
MSL				*i* Sg	**Sg**	**12 19 48.0**	**+3.8**
BINT	**Bingol**	**5.01**	**29**	*e*PN	**Pn**	**12 18 16.8**	**+1.1**
EIL	**Elat**	**5.25**	**204**	Pn	**Pn**	**12 18 17.2**	**-1.8**
	0.3nm,0.3s,baz=16,slow=14,SNR=4.1						
EIL				Pg	**Pg**	**12 18 33.8**	**-10**
	1.9nm,0.3s,baz=26,slow=21,SNR=9.6						
EIL				Lg		12 19 48.9	
	3.0nm,0.3s,baz=97,slow=37,SNR=3.3						
EIL	**Elat**	**5.25**	**204**	*e*Pn	**Pn**	**12 18 15.6**	**-3.4**
	9.2nm,0.8s						
EIL				Pg	**Pg**	**12 18 33.8**	**-10**
EIL				Lg		12 19 48.9	
EIL	**Elat**	**5.25**	**204**	Pg	**Pg**	**12 18 33.8**	**-10**
VRT	**Varto**	**5.68**	**34**	*e*P	**Pn**	**12 18 25.4**	**+0.4**
HKR	**Hakkari**	**5.98**	**57**	*e*P	**Pn**	**12 18 29.7**	**+0.5**
BRTR	**Keskin Array B**	**6.02**	**331**	Pn	**Pn**	**12 18 29.7**	**-0.1**
	0.3nm,0.3s,baz=161,slow=14,SNR=3.2						
BRTR				Lg		12 20 14.2	
	0.1nm,0.3s,baz=163,slow=30,SNR=4.3						
VANB	**Van**	**6.31**	**48**	*e*P	**Pn**	**12 18 34.9**	**+1.0**
GNI	**Garni**	**8.11**	**44**	*e*Pn	**P**	**12 19 03.1**	**+3.9**
AKASG	**Malin Array Be**	**17.25**	**342**	P	**P**	**12 21 01.2**	**+0.3**
	0.3nm,0.3s,baz=160,slow=11,SNR=4.2						
GERES	**GERESS Array B**	**22.65**	**316**	P	**P**	**12 22 01.1**	**+0.2**
	0.5nm,0.6s,mb3.1,baz=126,slow=8.4,SNR=3.5						
KONO	**Kongsberg**	**31.05**	**333**	P	Px	12 23 23.4	
	16nm,1.1s						

*IDC **27** 12:20:14.6±0.6, 7.73N×93.81E, mb4.1/18, mb1 4.2/19, mb1mx4.2/22, mbtmp4.1/19, ML3.9/1, Error ellipse: s-maj=27.7km s-min=13.8km az=47.0*
*BJI **27** 12:20:19.1, 7.80N×93.90E, h30km, mb4.7*
*NEIC **27** 12:20:19.1±0.4, 7.77N×93.90E, h30km, mb4.5/10, Error ellipse: s-maj=11.8km s-min=8.2km az=65.0*
ISC 27 12:20:17.5±0.5,**7.79N**±0.07×**93.99E**±0.08,**h33**km,**n45,**
σ1§05/41,mb4.4/34,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.65**	**24**	*e*P	**P**	**12 23 03.5**	**-1.0**
	11nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.65**	**24**	Pn	**P**	**12 23 04.1**	**-0.4**
	0.2nm,0.3s,baz=211,slow=14,SNR=6.6						
HYB	**Hyderabad**	**17.83**	**304**	*e*P	**P**	**12 24 29.0**	**+4.2**
HYB	**Hyderabad**	**17.83**	**304**	*i* P	**P**	**12 24 24.0**	**-0.8**
HYB				*e*		12 24 29.0	
JIRN	**Jiri**	**21.10**	**340**	*e*P	**P**	**12 25 01.5**	**-0.1**
	68nm,0.9s,mb5.0						
PKI	**Pulchoki**	**21.29**	**339**	*e*P	**P**	**12 25 04.0**	**+0.5**
	32nm,0.6s,mb4.8						
DMN	**Daman**	**21.43**	**338**	*e*P	**P**	**12 25 05.2**	**+0.3**
	61nm,0.8s,mb5.0						
GUN	**Gumba**	**21.44**	**340**	*e*P	**P**	**12 25 04.7**	**-0.2**
	106nm,1.1s,mb5.1						
KKN	**Kakani**	**21.54**	**339**	*e*P	**P**	**12 25 06.5**	**+0.6**
	85nm,1.2s,mb5.0						
LSA	**Lhasa**	**21.96**	**353**	*e*P	**P**	**12 25 10.7**	**+0.5**
	14nm,0.7s,mb4.5						
**GKN

0.9nm,0.5s,mb4.1,baz=53,slow=22,SNR=2.7
STKA Stephens Creek 60.16 134 P **P 12 30 23.4 -1.1**
3.3nm,0.9s,mb4.4,baz=332,slow=3.9,SNR=3.1
BRTR Keskin Array B 62.37 311 P **P 12 30 38.1 -1.2**
1.2nm,0.8s,mb4.1,baz=112,slow=3.8,SNR=4.5
AKASG Malin Array Be 68.13 322 P **P 12 31 14.8 -1.5**
0.8nm,0.5s,mb4.0,baz=87,slow=4.7,SNR=4.3
MLR Muntele Rosu 69.13 311 P **P 12 31 21.5 -1.0**
3.0nm,0.8s,mb4.3,baz=149,slow=16,SNR=2.4
FINES FINESS Array B 72.72 332 P **P 12 31 44.0 +0.2**
2.0nm,0.6s,mb4.2,baz=104,slow=7.9,SNR=6.0
ARCES ARCESS Array B 75.30 340 P **P 12 31 59.2 +0.5**
1.1nm,0.5s,mb4.1,baz=76,slow=5.0,SNR=4.7
GERES GERESS Array B 77.79 318 P **P 12 32 14.4 +1.3**
1.3nm,0.6s,mb4.0,baz=76,slow=5.5,SNR=8.3
HFS Hagfors 78.45 330 P **P 12 32 17.7 +1.2**
2.8nm,0.5s,mb4.4,baz=90,slow=4.3,SNR=6.3
NB2 NORSAR Subarra 79.73 331 P **P 12 32 23.7 +0.2**
1.8nm,0.7s,mb4.1,baz=93,slow=5.6
NOA NORSAR Array B 79.73 331 P **P 12 32 24.4 +0.9**
1.1nm,0.7s,mb3.9,baz=97,slow=5.2,SNR=3.4
DAVOX Davos 80.35 316 P **P 12 32 26.9 -0.2**
2.2nm,0.5s,mb4.3,baz=76,slow=8.3,SNR=2.7
DAVOX Davos 80.35 316 P **P 12 32 26.9 -0.2**
LPG La Plagne 82.57 315 *eP* **P 12 32 40.6 +1.9**
12nm,0.9s,mb4.6
ILAR Eielson Array 94.88 22 P **P 12 33 38.2 +1.2**
0.2nm,0.7s,mb3.7,baz=284,slow=3.7,SNR=2.7
NVAR Mina Array Bea 125.07 31 PKP PKPdf 12 39 19.7 +4.6
0.8nm,0.7s,baz=301,slow=1.8,SNR=6.0
PDAR Pinedale Array 125.30 21 PKP PKPdf 12 39 18.7 +3.3
0.7nm,0.8s,baz=90,slow=1.5,SNR=4.3
TXAR Lajitas Array 139.37 24 PKP PKPdf 12 39 46.3 +4.1
0.3nm,0.6s,baz=215,slow=1.0,SNR=3.4
PLCA Paso Flores 144.41 200 PKP PKPdf 12 39 53.8 +3.1
5.5nm,1.0s,baz=119,slow=4.3,SNR=6.6

IDC 27 12:23:21.2±3.0,31.93S×178.08W,mb3.9/2,mb1 4.2/3, mb1mx3.9/13,mbtmp3.9/3,ML3.4/1,Error ellipse: s-maj=69.1km s-min=36.0km az=115.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.45**	**211**	Pn	Pn	12 25 10.8	-3.1
0.6nm,0.3s,baz=333,slow=11,SNR=6.6							
URZ				Sn	Sn	12 26 35.3	-4.8
2.0nm,0.3s,baz=196,slow=22,SNR=11							
ASAR	**Alice Springs**	**42.98**	**269**	P	P	12 31 22.6	-1.4
0.8nm,0.5s,baz=107,slow=7.7,SNR=12							
WRA	**Warramunga Arr**	**44.11**	**274**	P	P	12 31 31.5	-1.7
1.0nm,0.4s,baz=112,slow=8.0,SNR=14							
FINES	**FINESS Array B**	**146.55**	**339**	PKPbc	PKPbc	12 43 02.8	-0.8
2.4nm,0.8s,baz=45,slow=3.9,SNR=7.2							

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*BJI **27** 12:23:51.1, 12.83N×92.70E, h50km, mb4.4, Ms4.8, Msz4.5*
*IDC **27** 12:23:52.0±0.6, 13.16N×93.13E, mb4.3/17, mb1 4.4/18, mb1mx4.3/24, mbtmp4.3/18, ML4.3/1, Error ellipse: s-maj=24.6km s-min=13.5km az=50.0*
*NEIC **27** 12:23:56.6±0.4, 13.25N×93.19E, h30km, mb4.6/10, Error ellipse: s-maj=11.1km s-min=7.6km az=64.0*
ISC 27 12:23:55.1±0.4,13.23N±0.06×93.19E±0.06,h33km,n42, σ1§02/40,mb4.4/27,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**7.59**	**46**	*eP*	P	**12 25 46.8**	**+0.7**
28nm,0.8s							
CMAR	**Chiang Mai Arr**	**7.59**	**46**	Pn	Pn	**12 25 46.2**	**-0.1**
1.3nm,0.3s,baz=238,slow=15,SNR=13							
CMAR				Sn	Sn	**12 27 11.6**	**-0.6**
0.3nm,0.3s,baz=239,slow=27,SNR=6.0							
CHRT	**Chiangrai**	**9.14**	**43**	P	P	**12 26 09.5**	**+1.9**
179nm,1.1s							
HYB	**Hyderabad**	**14.72**	**288**	*eP*	P	**12 27 28.0**	**+5.2**
HYB	**Hyderabad**	**14.72**	**288**	*i* P	P	**12 27 24.0**	**+1.2**
HYB				*e*		12 27 28.0	
LSA	**Lhasa**	**16.50**	**354**	*eP*	P	**12 27 44.6**	**-1.0**
55nm,1.3s							
ENH	**Enshi**	**22.68**	**39**	*eP*	P	**12 28 53.9**	**-1.0**
72nm,1.3s,mb4.9							
LZH	**Lanzhou**	**24.70**	**21**	*eP*	P	**12 29 15.5**	**+1.0**
LZH				AP		12 29 24.5	
LZH				XP		12 29 28.3	
LZH				AMB	AMB		
comp=Z,23nm,1.2s,mb4.6							
LZH	**Lanzhou**	**24.70**	**21**	*eP*	P	**12 29 15.5**	**+1.0**
comp=Z,23nm,1.2s,mb4.6							
LZH				pP		12 29 24.5	
LZH				sP		12 29 28.2	
XAN	**Xi'an**	**25.17**	**32**	P	P	**12 29 18.0**	**-1.1**
XAN				AMB	AMB		
comp=Z,17nm,1.1s,mb4.5							
AAK	**Ala-Archa**	**33.47**	**335**	P	P	**12 30 29.5**	**-3.8**
comp=Z,10nm,1.4s,mb4.6							
BJI	**Beijing**	**33.49**	**33**	*eP*	P	**12 30 33.4**	**-0.1**
comp=Z,7.0nm,1.1s,mb4.5							
SONM	**Songino Array**	**36.22**	**15**	P	P	**12 30 55.9**	**-0.8**
comp=Z,3.4nm,1.1s,mb4.2,baz=203,slow=9.4,SNR=6.8							
ULN	**Ulaanbaatar**	**36.41**	**16**	*eP*	P	**12 30 56.5**	**-1.9**
comp=Z,8.8nm,1.3s,mb4.5							
KURK	**Kurchatov**	**39.22**	**345**	*eP*	P	**12 31 22.7**	**+0.9**
comp=Z,14nm,1.2s,mb4.5							
BVAR	**Borovoye Array**	**43.66**	**340**	P	P	**12 31 58.1**	**-0.2**
comp=Z,0.7nm,0.4s,mb3.8,baz=141,slow=10,SNR=7.3							
FITZ	**Fitzroy Crossi**	**44.66**	**133**	*eP*	P	**12 32 07.3**	**+0.6**
comp=Z,9.9nm,0.5s,mb4.9							
GNI	**Garni**	**50.12**	**312**	P	P	**12 32 50.2**	**+0.9**
comp=Z,6.6nm,0.7s,mb4.8,baz=162,slow=4.6,SNR=6.0							
NWAO	**Narrogin (SRO)**	**51.33**	**154**	P	P	**12 32 57.2**	**-1.2**
comp=Z,3.5nm,0.5s,mb4.5,baz=306,slow=6.4,SNR=6.5							
ASAJ	**Asahikawa**	**52.11**	**44**	P	P	**12 33 05.9**	**+1.7**
comp=Z,11nm,1.0s,mb4.8,baz=101,slow=28,SNR=2.6							
WRA	**Warramunga Arr**	**52.21**	**128**	P	P	**12 33 04.7**	**-0.6**
comp=Z,4.3nm,0.6s,mb4.6,baz=306,slow=8.2,SNR=21							
WRAB	**Tennant Creek**	**52.22**	**128**	*eP*	P	**12 33 05.5**	**+0.2**
comp=Z,12nm,0.6s,mb5.0							
WB2	**Warramunga Arr**	**52.22**	**128**	*eP*	P	**12 33 05.8**	**+0.4**
ASPA	**Alice Springs**	**54.13**	**132**	*eP*	P	**12 33 19.8**	**+0.3**
ASAR	**Alice Springs**	**54.13**	**132**	P	P	**12 33 19.4**	**0.0**
comp=Z,3.7nm,0.5s,mb4.6,baz=306,slow=6.7,SNR=64							
BRTR	**Keskin Array B**	**58.31**	**309**	P	P	**12 33 47.2**	**-2.0**
comp=Z,2.7nm,0.8s,mb4.3,baz=112,slow=6.7,SNR=8.3							
AKASG	**Malin Array Be**	**63.43**	**320**	P	P	**12 34 23.2**	**-0.5**
comp=Z,0.4nm,0.4s,mb3.9,baz=90,slow=4.7,SNR=5.0							
STKA	**Stephens Creek**	**64.50**	**135**	P	P	**12 34 30.9**	**-0.2**
comp=Z,2.3nm,0.6s,mb4.4,baz=306,slow=5.3,SNR=5.8							
STKA	**Stephens Creek**	**64.50**	**135**	*eP*	P	**12 34 30.6**	**-0.5**
MLR	**Muntele Rosu**	**64.75**	**314**	P	P	**12 34 32.8**	**+0.4**
comp=Z,5.9nm,0.9s,mb4.6,baz=330,slow=12,SNR=3.9							
FINES	**FINESS Array B**	**67.58**	**331**	P	P	**12 34 50.3**	**+0.2**
comp=Z,2.7nm,0.8s,mb4.3,baz=96,slow=7.1,SNR=10							
ARCES	**ARCESS Array B**	**69.94**	**340**	P	P	**12 35 05.0**	**+0.4**
comp=Z,1.3nm,0.5s,mb4.1,baz=63,slow=5.4,SNR=4.8							
GERES	**GERESS Array B**	**73.26**	**317**	P	P	**12 35 26.1**	**+1.3**
comp=Z,1.0nm,0.6s,mb3.9,baz=90,slow=6.7,SNR=7.4							
HFS	**Hagfors**	**73.40**	**329**	P	P	**12 35 26.6**	**+1.2**
comp=Z,2.1nm,0.7s,mb4.2,baz=117,slow=6.6,SNR=7.2							
CLL	**Collm**	**73.67**	**320**	P	P	**12 35 26.0**	**-1.2**
NOA	**NORSAR Array B**	**74.64**	**330**	P	P	**12 35 34.5**	**+1.9**
comp=Z,1.2nm,0.7s,mb3.9,baz=96,slow=5.5,SNR=4.5							
LPG	**La Plagne**	**78.22**	**314**	*eP*	P	**12 35 50.8**	**-2.3**
comp=Z,15nm,0.9s,mb4.6							
SPU	**Mount Spurr**	**89.92**	**26**	*eP*	P	**12 36 51.9**	**0.0**
INK	**Inuvik**	**92.13**	**16**	P	P	**12 37 02.3**	**+0.3**
comp=Z,0.8nm,0.5s,mb4.3,baz=26,slow=2.6,SNR=3.7							
PDAR	**Pinedale Array**	**120.50**	**19**	PKP	PKPdf	12 42 46.0	+2.4
comp=Z,0.4nm,0.8s,slow=0.9,SNR=3.2							
NVAR	**Mina Array Bea**	**120.76**	**29**	PKP	PKPdf	12 42 46.8	+2.5
comp=Z,0.6nm,0.8s,baz=297,slow=2.0,SNR=2.9							
TXAR	**Lajitas Array**	**134.66**	**21**	PKP	PKPdf	12 43 13.1	+2.0
comp=Z,0.3nm,0.5s,baz=223,slow=0.7,SNR=4.9							

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*IDC **27** 12:24:41.8±1.5, 8.13N×94.23E, mb4.3/14, mb1 4.4/14, mb1mx4.3/21, mbtmp4.3/14, Error ellipse: s-maj=40.9km s-min=34.7km az=140.0*
*BJI **27** 12:24:45.1, 8.00N×94.40E, h30km, mb4.8*
*NEIC **27** 12:24:45.1±0.8, 7.97N×94.44E, h30km, mb4.7/8, Error ellipse: s-maj=24.1km s-min=17.8km az=112.0*
ISC 27 12:24:43.4±1.7,8.0N±0.2×94.6E±0.2,h33km,n29, σ1§02/24,mb4.4/21,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYB	**Hyderabad**	**18.20**	**303**	*i* P	P	**12 28 56.0**	**+0.6**
LSA	**Lhasa**	**21.86**	**352**	P	P	**12 29 40.0**	**+4.9**
LSA	**Lhasa**	**21.86**	**352**	*eP*	P	**12 29 37.2**	**+2.2**
54nm,0.9s,mb5.0							
AAK	**Ala-Archa**	**38.78**	**336**	P	P	**12 32 02.2**	**-4.4**
4.7nm,0.9s,mb4.2							
SONM	**Songino Array**	**40.99**	**12**	P	P	**12 32 25.2**	**+0.3**
2.0nm,0.9s,mb3.8,baz=190,slow=8.8,SNR=3.9							
ULN	**Ulaanbaatar**	**41.16**	**13**	*eP*	P	**12 32 25.3**	**-0.9**
6.1nm,1.2s,mb4.1							
KURK	**Kurchatov**	**44.62**	**346**	*eP*	P	**12 32 53.8**	**-0.6**
17nm,1.2s,mb4.8							
BVAR	**Borovoye Array**	**49.03**	**341**	P	P	**12 33 29.1**	**+0.1**
4.1nm,1.1s,mb4.4,baz=146,slow=5.3,SNR=4.9							
BVAR				PcP	PcP	12 34 53.6	+0.7
0.7nm,0.5s,baz=160,slow=2.6,SNR=4.2							
KMBO	**Kilima Mbogo**	**57.84**	**264**	P	P	**12 34 35.2**	**+0.6**
2.0nm,0.6s,mb4.3,baz=51,slow=9.9,SNR=6.1							
BRTR	**Keskin Array B**	**62.68**	**311**	P	P	**12 35 05.2**	**-2.1**
0.9nm,0.5s,mb4.2,baz=126,slow=6.2,SNR=4.1							
AKASG	**Malin Array Be**	**68.33**	**322**	P	P	**12 35 42.0**	**-1.4**
0.3nm,0.3s,mb3.7,baz=78,slow=5.4,SNR=3.1							
IDI	**Anoyia**	**68.85**	**305**	P	P	**12 35 45.8**	**-1.1**
15nm,0.9s,mb4.9,baz=59,slow=12,SNR=4.4							
MLR	**Muntele Rosu**	**69.39**	**316**	P	P	**12 35 49.1**	**-0.9**
3.3nm,0.8s,mb4.3,baz=101,slow=5.2,SNR=3.0							
FINES	**FINESS Array B**	**72.82**	**332**	P	P	**12 36 11.0**	**+0.6**
4.4nm,0.9s,mb4.4,baz=108,slow=6.0,SNR=5.3							
ARCES	**ARCESS Array B**	**75.32**	**340**	P	P	**12 36 26.2**	**+1.5**
1.9nm,0.6s,mb4.2,baz=100,slow=5.6,SNR=7.0							
GERES	**GERESS Array B**	**78.03**	**318**	P	P	**12 36 40.4**	**0.0**
1.9nm,0.9s,mb4.0,baz=90,slow=5.3,SNR=5.6							
HFS	**Hagfors**	**78.58**	**330**	P	P	**12 36 43.7**	**+0.5**
4.3nm,0.5s,mb4.7,baz=104,slow=6.1,SNR=15							
GRA1	**Grafenberg Arr**	**79.66**	**319**	*eP*	P	**12 36 53.8**	**+4.5**
5.0nm,0.8s,mb4.5							
GRF	**Grafenberg Arr**	**79.66**	**319**	*eP*	P	**12 36 53.8**	**+4.5**
5.0nm,0.8s,mb4.5							
NOA	**NORSAR Array B**	**79.85**	**331**	P	P	**12 36 50.8**	**+0.7**
2.0nm,0.7s,mb4.2,baz=97,slow=5.6,SNR=2.3							
DAVOX	**Davos**	**80.60**	**316**	P	P	**12 36 54.9**	**+0.5**
1.9nm,0.5s,mb4.3,baz=159,slow=15,SNR=2.7							
KONO	**Kongsberg**	**80.63**	**329**	P	P	**12 36 53.3**	**-0.9**
16nm,1.0s,mb4.9							
LPG	**La Plagne**	**82.84**	**315**	*eP*	P	**12 37 07.2**	**+1.2**
28nm,1.2s,mb4.9							
ESDC	**Sonseca Array**	**91.47**	**310**	P	P	**12 37 52.0**	**+4.0**
0.4nm,0.4s,mb4.1,baz=72,slow=4.1,SNR=4.1							
NVAR	**Mina Array Bea**	**124.63**	**31**	PKP	PKPdf	12 43 45.5	+5.3
0.4nm,0.5s,baz=219,slow=3.8,SNR=3.8							
PDAR	**Pinedale Array**	**124.93**	**22**	PKP	PKPdf	12 43 43.9	+3.2
0.5nm,0.8s,baz=45,slow=1.3,SNR=2.7							
ANMO	**Albuquerque**	**132.93**	**24**	PKP	PKPdf	12 43 58.9	+2.8
0.8nm,0.8s,baz=45,slow=1.4,SNR=2.3							
TXAR	**Lajitas Array**	**138.97**	**25**	PKP	PKPdf	12 44 09.8	+2.4
0.2nm,0.4s,SNR=2.1							
PLCA	**Paso Flores**	**144.77**	**200**	PKP	PKPdf	12 44 18.7	+1.5
2.7nm,0.9s,baz=153,slow=6.3,SNR=4.8							

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*IDC **27** 12:28:39.8±7.6, 7.68N×93.97E, h76km±64km, mb3.5/8, mb1 3.6/9, mb1mx3.5/19, mbtmp3.8/9, ML3.7/1, Error ellipse: s-maj=59.1km s-min=20.5km az=52.0*
ISC 27 12:28:32.8±0.9,7.5N±0.1×93.8E±0.2,h33km,n11,σ0§68/9, mb3.8/8,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.00**	**24**	P	P	**12 31 25.2**	**+0.7**
0.1nm,0.3s,baz=205,slow=19,SNR=2.9							
SONM	**Songino Array**	**41.61**	**13**	P	P	**12 36 18.3**	**-1.1**
0.5nm,0.5s,mb3.4,baz=198,slow=9.1,SNR=2.5							
WRA	**Warramunga Arr**	**48.33**	**125**	P	P	**12 37 13.8**	**+0.4**
0.3nm,0.4s,mb3.7,baz=304,slow=8.6,SNR=4.7							
BVAR	**Borovoye Array**	**49.24**	**342**	P	P	**12 37 19.0**	**-1.1**
1.0nm,0.9s,mb3.9,baz=135,slow=4.1,SNR=4.0							
BVAR				PcP	PcP	12 38 41.0	-2.0
0.5nm,0.7s,baz=135,slow=2.0,SNR=2.6							
ASAR	**Alice Springs**	**49.94**	**129**	P	P	**12 37 25.4**	**-0.5**
0.4nm,0.6s,mb3.6,baz=311,slow=7.8,SNR=2.8							
BRTR	**Keskin Array B**	**62.41**	**311**	P	P	**12 38 54.9**	**-0.1**
0.7nm,0.8s,mb3.9,baz=90,slow=8.6,SNR=3.4							
GERES	**GERESS Array B**	**77.88**	**318**	P	P	**12 40 29.2**	**+0.3**
0.5nm,0.5s,mb3.7,baz=79,slow=6.8,SNR=5.4							
HFS	**Hagfors**	**78.61**	**330**	P	P	**12 40 33.1**	**+0.4**
1.8nm,0.5s,mb4.2,baz=108,slow=4.7,SNR=5.2							
NOA	**NORSAR Array B**	**79.89**	**331**	P	P	**12 40 40.6**	**+0.9**
0.8nm,0.9s,mb3.6,baz=70,slow=3.5,SNR=2.8							
TXAR	**Lajitas Array**	**139.72**	**24**	PKiKP		12 48 02.3	
0.4nm,1.0s,baz=270,slow=3.6,SNR=2.2							
PLCA	**Paso Flores**	**144.07**	**200**	PKP	PKPdf	12 48 07.6	+2.2
2.5nm,0.9s,baz=63,slow=6.8,SNR=5.0							

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*BJI **27** 12:31:31.2, 24.15N×121.68E, h37km, mB5.2, mb4.2, ML4.4, Ms4.6, Msz4.5*
*NEIC **27** 12:31:32.7±1.1, 24.13N×121.74E, h50km±11km, mb4.5/14, Error ellipse: s-maj=12.5km s-min=7.4km az=59.0*
NEIC Recorded [3 TAP] in Hua-lien and I-lan; [2 TAP] in Nan-t'ou, T'ai-chung and T'ai-pei; [1 TAP] in Chang-hua, Hsin-chu, Miao-li, T'ai-pei and Yun-lin Counties.
*JMA **27** 12:31:34.0±0.2, 24.30N×121.83E, h76km±4km, M4.3*
*IDC **27** 12:31:34.6±3.2, 24.24N×121.96E, h67km±30km, mb3.7/11, mb1 3.9/12, mb1mx3.8/22, mbtmp4.1/12, ML4.9/1, Error ellipse: s-maj=19.3km s-min=14.1km az=78.0*
*TAP **27** 12:31:34.4, 24.22N×121.75E, h46km, ML4.8*
TAP Felt II J at Chiawan, III J at Nanau, II J at Hualien, II J at Suao, II J at Nanshan, III J at Nioudou, II J at Hehuanshan, II J at Shilin, II J at Neicheng, I J at Ilan, II J at Tachien, I J at Sanguang, I J at Mucha, I J at Nanjuang, I J at Santiao Chiao, I J at Hungye, I J at Taipai, I J, I J at Ryuetan, I J at Liyutan, II J at Jungli (National Central University), I J at Hsinchu, I J at Sanyi, I J at Kuangyinshan, I J at Taichung, II J at Mingjian, I J at Alishan, I J at Tsauling, I J at Chenggung, I J at Gukeng, I J at Dacheng, I J at Chiayi, I J at Szhu.
ISC 27 12:31:33.3±0.2,24.24N±0.02×121.80E±0.02,h68km±2km, n116,σ1§09/169,mb4.2/21,28D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.20**	**343**	*i* P	P	**12 31 42.7**	**-0.9**
ENA				S	S	**12 31 50.2**	**-1.2**
TWD	**Chiawan**	**0.25**	**231**	*i* P	P	**12 31 42.5**	**-1.5**
TWD				S	S	**12 31 48.5**	**-3.4**
HWA	**Hwalien**	**0.32**	**215**	*i* P	P	**12 31 43.2**	**-1.2**
HWA				S	S	**12 31 50.9**	**-1.9**
TWC	**Suao**	**0.37**	**6**	‖ *iP*	P	**12 31 44.8**	**0.0**
NNS	**Nan Shan**	**0.44**	**297**	‖ *iP*	P	**12 31 44.7**	**-0.8**
NNS				S	S	**12 31 52.7**	**-1.8**
ENTT	**Nioudou**	**0.46**	**332**	‖ *iP*	P	**12 31 45.2**	**-0.3**
TWE	**Neicheng**	**0.50**	**345**	‖ *iP*	P	**12 31 46.1**	**+0.1**
TWE				S	S	**12 31 54.7**	**-0.6**
WHF	**Hehuan Shan**	**0.50**	**259**	‖ *iP*	P	**12 31 45.3**	**-0.8**
ILA	**Ilan**	**0.53**	**354**	P	P	**12 31 46.8**	**+0.4**
ILA				S	S	**12 31 57.3**	**+1.4**
ESL	**Shilin**	**0.54**	**219**	‖ *iP*	P	**12 31 44.6**	**-1.8**
TWT	**Tachien**	**0.57**	**272**	‖ *iP*	P	**12 31 46.7**	**-0.1**
NSK	**Sanguang**	**0.60**	**317**	‖ *iP*	P	**12 31 46.8**	**-0.3**
NSK				S	S	**12 31 55.2**	**-2.0**
TWA	**Mucha**	**0.77**	**345**	‖ *iP*	P	**12 31 49.6**	**+0.7**
TWA				S	S	**12 32 00.5**	**-0.1**
TWB1	**Santiao Chiao**	**0.79**	**12**	‖ *iP*	P	**12 31 50.5**	**+1.4**
TWB1				S	S	**12 32 02.7**	**+1.6**
TATO	**Taipei**	**0.79**	**339**	*e*Pg	P	**12 31 49.2**	**0.0**
TATO				*e*Sg	S	**12 31 57.4**	**-3.7**
NSTT	**Nanjuang**	**0.83**	**298**	‖ *iP*	P	**12 31 50.3**	**+0.6**
NSTT				S	S	**12 32 01.3**	**-0.7**
NWF	**Wu-fen Shan**	**0.83**	**359**	‖ *iP*	P	**12 31 50.9**	**+1.1**
NWF				S	S	**12 32 02.6**	**+0.7**
TAP1	**Taipei**	**0.84**	**342**	‖ *iP*	P	**12 31 50.0**	**+0.2**
TAP1				S	S	**12 32 01.6**	**-0.6**
TAP	**Taipei**	**0.84**	**341**	‖ *iP*	P	**12 31 50.2**	**+0.3**
TAP				S	S	**12 32 01.9**	**-0.3**
EHY	**Hungye**	**0.85**	**211**	*eP*	P	**12 31 48.1**	**-1.9**
SMLT	**Sun Moon Lake**	**0.90**	**247**	‖ *iP*	P	**12 31 50.4**	**-0.2**
NCU	**National Centr**	**0.92**	**322**	‖ *iP*	P	**12 31 51.4**	**+0.5**
NCU				S	S	**12 32 03.6**	**-0.3**
TWS1	**Kuangyinshan**	**0.93**	**338**	‖ *iP*	P	**12 31 51.5**	**+0.6**
TWS1				S	S	**12 32 04.3**	**+0.1**
TYC	**Yuchr**	**0.93**	**249**	‖ *iP*	P	**12 31 50.8**	**-0.2**
TYC				S	S	**12 32 05.3**	**+1.2**
HSN	**Hsinchu**	**0.95**	**307**	*eP*	P	**12 31 51.6**	**+0.4**
HSN				S	S	**12 32 04.2**	**-0.4**
TWQ1	**Liyutan**	**0.95**	**277**	‖ *iP*	P	**12 31 51.8**	**+0.5**
TWQ1				S	S	**12 32 04.2**	**-0.4**
NSY	**Sanyi**	**0.97**	**281**	‖ *iP*	P	**12 31 52.2**	**+0.7**
NSY				S	S	**12 32 05.2**	**+0.1**
TWF1	**Yuli**	**1.00**	**208**	*eP*	P	**12 31 50.0**	**-1.8**
TCU	**Taichung**	**1.03**	**265**	*eP*	P	**12 31 52.8**	**+0.4**
TCU				S	S	**12 32 06.3**	**-0.3**
TWY	**Chenhua**	**1.05**	**350**	‖ *iP*	P	**12 31 53.2**	**+0.7**
YUS	**Yu-Shan**	**1.08**	**226**	‖ *iP*	P	**12 31 53.1**	**+0.1**
WNT	**Mingjian**	**1.08**	**251**	P	P	**12 31 53.9**	**+0.9**
WNT				S	S	**12 32 08.4**	**+0.7**
YOJ	**Yonaguni jima**	**1.12**	**78**	P	P	**12 31 54.2**	**+0.7**
YOJ				S	S	**12 32 09.2**	**+0.6**
ALS	**Alishan**	**1.17**	**232**	*eP*	P	**12 31 54.6**	**+0.5**
CHKT	**Chengkung**	**1.20**	**200**	*eP*	P	**12 31 53.5**	**-1.1**
CHN5	**Tsauling**	**1.21**	**238**	‖ *iP*	P	**12 31 55.4**	**+0.6**
WGK	**Gukeng**	**1.26**	**244**	*eP*	P	**12 31 56.3**	**+0.9**
WGK				S	S	**12 32 12.4**	**+0.6**
ELDTW	**Lidau**	**1.27**	**215**	*eP*	P	**12 31 54.6**	**-0.9**
CHN2	**Minshiung**	**1.41**	**240**	*eP*	P	**12 31 58.3**	**+0.8**
CHN2				S	S	**12 32 17.6**	**+2.3**
PCYT	**Pengchaiyu**	**1.41**	**10**	P	P	**12 31 58.3**	**+0.8**
PCYT				S	S	**12 32 17.4**	**+2.1**
CHN4	**Tsaushan**	**1.42**	**232**	*eP*	P	**12 31 58.5**	**+0.9**
CHN4				S	S	**12 32 17.4**	**+1.7**
STYT	**Tauyuan**	**1.44**	**222**	*eP*	P	**12 31 57.9**	**0.0**
STYT				S	S	**12 32 16.8**	**+0.7**
WTCT	**Ta-ch'eng**	**1.44**	**255**	*eP*	P	**12 31 57.5**	**-0.5**
WTCT				S	S	**12 32 15.4**	**-0.7**
CHY	**Chiayi**	**1.46**	**240**	*eP*	P	**12 31 58.9**	**+0.7**
CHY				S	S	**12 32 18.4**	**+1.7**
WTP	**Ta-pu**	**1.47**	**228**	*eP*	P	**12 31 58.9**	**+0.6**
WTP				S	S	**12 32 17.8**	**+1.0**
TWK	**Hsinying**	**1.55**	**232**	‖ *iP*	P	**12 31 59.8**	**+0.5**
TWK				S	S	**12 32 19.7**	**+1.2**
TWG	**Pinlang**	**1.56**	**206**	*eP*	P	**12 31 57.7**	**-1.9**
WSF	**Szhu**	**1.57**	**248**	*eP*	P	**12 31 59.7**	**+0.1**
WSF				S	S	**12 32 19.3**	**+0.2**
CHN1	**Nanshi**	**1.57**	**228**	*eP*	P	**12 32 00.3**	**+0.6**
CHN1				S	S	**12 32 20.3**	**+1.2**
TTN	**Taitung**	**1.60**	**202**	*eP*	P	**12 31 59.7**	**-0.3**
SGST	**Jiashian**	**1.61**	**224**	‖ *iP*	P	**12 32 01.0**	**+0.9**
SGST				S	S	**12 32 21.4**	**+1.5**
CHN8	**Yiju**	**1.71**	**239**	*eP*	P	**12 32 02.0**	**+0.5**
CHN3	**Shinhua**	**1.75**	**229**	*eP*	P	**12 32 03.3**	**+1.1**
IRIF	**Iriomote-Funau**	**1.76**	**86**	P	P	**12 32 02.6**	**+0.4**
IRIF				S	S	**12 32 24.1**	**+0.5**
ECL	**Taimali**	**1.81**	**206**	*eP*	P	**12 32 00.9**	**-2.0**
SCLT	**Jiali**	**1.82**	**235**	*eP*	P	**12 32 03.5**	**+0.5**
SSD	**Sandimen**	**1.83**	**216**	*eP*	P	**12 32 04.2**	**+1.0**
HATJ	**Hateruma jima**	**1.84**	**95**	P	P	**12 32 04.2**	**+1.0**
HATJ				S	S	**12 32 26.7**	**+1.3**
TWM1	**Shoushan**	**1.90**	**222**	*eP*	P	**12 32 05.5**	**+1.4**
SGLT	**Jiouru**	**1.93**	**219**	*eP*	P	**12 32 06.0**	**+1.5**
JKRS	**Kuro-shima**	**2.01**	**90**	P	P	**12 32 06.3**	**+0.6**
JKRS				S	S	**12 32 31.2**	**+1.6**
EAST	**Anshuo**	**2.04**	**206**	*eP*	P	**12 32 04.2**	**-2.0**
TAW	**Tawu**	**2.05**	**204**	*eP*	P	**12 32 07.8**	**+1.7**
JIJ	**Ishigaki jima**	**2.14**	**86**	P	P	**12 32 07.6**	**+0.2**
JIJ				S	S	**12 32 32.8**	**0.0**
SCZT	**Fangliau**	**2.15**	**211**	*eP*	P	**12 32 08.5**	**+0.8**
PNG	**Penghu**	**2.16**	**252**	*eP*	P	**12 32 06.3

comp=Z,581nm,14.1s
KURK Kurchatov 42.41 320 *eP* **P 12 39 22.9 +0.4**
comp=Z,6.5nm,1.0s,mb4.3
WRAB Tennant Creek 45.57 163 *eP* **P 12 39 46.8 -1.6**
comp=Z,6.9nm,0.9s,mb4.4
WRA Warramunga Arr 45.58 163 P **P 12 39 47.0 -1.5**
comp=Z,1.8nm,0.5s,mb4.1,baz=346,slow=8.7,SNR=22
WB2 Warramunga Arr 45.58 163 *eP* **P 12 39 47.0 -1.5**
BVAR Borovoye Array 47.99 321 P **P 12 40 07.0 0.0**
comp=Z,1.3nm,0.4s,mb4.1,baz=108,slow=8.6,SNR=12
CHKZ Chkalovo 48.05 321 *eP* **P 12 40 06.6 -0.8**
comp=Z,4.9nm,0.7s,mb4.5
BRVK Borovoye 48.06 321 *eP* **P 12 40 07.8 +0.3**
comp=Z,5.2nm,1.0s,mb4.3
ASAR Alice Springs 49.04 165 P **P 12 40 14.2 -1.3**
comp=Z,0.6nm,0.4s,mb3.9,baz=342,slow=7.2,SNR=12
ASPA Alice Springs 49.04 165 *eP* **P 12 40 14.2 -1.3**
CTA Charters Tower 50.08 150 P **P 12 40 23.4 -0.2**
comp=Z,1.3nm,0.5s,mb4.1,baz=345,slow=6.7,SNR=3.6
CTAO Charters Tower 50.08 150 *eP* **P 12 40 24.0 +0.5**
comp=Z,14nm,1.2s,mb4.8
STKA Stephens Creek 58.92 160 P **P 12 41 26.7 -1.0**
comp=Z,1.0nm,0.5s,mb4.1,baz=230,slow=20,SNR=2.6
ILAR Eielson Array 68.91 27 P **P 12 42 31.7 -0.8**
comp=Z,0.2nm,0.3s,mb3.4,baz=277,slow=5.2,SNR=8.2
FINES FINESS Array B 71.69 330 P **P 12 42 49.9 +0.6**
comp=Z,3.6nm,1.1s,mb4.1,baz=45,slow=5.4,SNR=5.4
INK Inuvik 72.96 22 P **P 12 42 56.9 +0.2**
comp=Z,1.3nm,0.9s,mb3.7,baz=246,slow=9.0,SNR=3.6
INK Inuvik 72.96 22 P **P 12 42 57.2 +0.5**
comp=Z,1.5nm,0.9s,mb3.8
YKA Yellowknife Ar 82.70 23 P **P 12 43 50.9 +0.5**
comp=Z,0.5nm,0.6s,mb3.5,baz=309,slow=5.0,SNR=12
MBAR Mbarara 91.22 270 *eP* **P 12 44 38.9 +6.0**
comp=Z,8.1nm,1.2s,mb4.7
FCC Fort Churchill 92.12 18 *eP* **P 12 44 36.9 +1.0**
comp=Z,2.1nm,1.0s,mb4.3

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*IDC **27** 12:32:21.8±5.9, 7.89N×94.54E, h51km±52km, mb3.6/6, mb1 3.9/7, mb1mx3.7/17, mbtmp3.9/7, ML4.0/1, Error ellipse: s-maj=39.4km s-min=26.9km az=41.0*
ISC 27 12:32:17.8±1.0, 7.8N±0.2×94.5E±0.2, h33km, n10, σ1§02/7, mb3.9/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.42**	**22**	P		**P**		**12 35 02.3**	**+0.6**
	0.3nm,0.3s,baz=211,slow=14,SNR=20								
SONM	**Songino Array**	**41.14**	**12**	P		**P**		**12 39 58.8**	**-1.6**
	1.2nm,0.9s,mb3.5,baz=188,slow=10,SNR=3.0								
WRA	**Warramunga Arr**	**47.94**	**126**	P		**P**		**12 40 55.5**	**0.0**
	1.1nm,0.8s,mb3.9,baz=305,slow=9.2,SNR=5.4								
KMBO	**Kilima Mbogo**	**57.77**	**264**	P		**P**		**12 42 08.5**	**0.0**
	1.0nm,0.6s,mb4.0,baz=49,slow=19,SNR=4.2								
BRTR	**Keskin Array B**	**62.73**	**311**	P		**P**		**12 42 40.7**	**-1.3**
	0.9nm,0.8s,mb4.0,baz=124,slow=5.2,SNR=2.5								
FINES	**FINESS Array B**	**72.92**	**332**	P		**P**		**12 43 46.2**	**+0.9**
	1.3nm,0.8s,mb3.9,baz=124,slow=10.0,SNR=2.7								
GERES	**GERESS Array B**	**78.10**	**318**	P		**P**		**12 44 16.5**	**+1.4**
	1.2nm,0.8s,mb3.9,baz=72,slow=4.2,SNR=5.2								
PDAR	**Pinedale Array**	**125.09**	**22**	PKP		PKPdf		12 51 17.1	+1.9
	0.6nm,1.0s,baz=315,slow=2.1,SNR=3.9								
TXAR	**Lajitas Array**	**139.13**	**25**	PKP		PKPdf		12 51 43.6	+1.7
	0.2nm,0.7s,baz=330,slow=7.3,SNR=3.0								
PLCA	**Paso Flores**	**144.62**	**200**	PKP		PKPdf		12 51 52.8	+1.4
	1.3nm,0.8s,baz=212,slow=16,SNR=2.7								

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*IDC **27** 12:32:50.5±0.9, 7.77N×93.89E, mb4.0/11, mb1 4.1/12, mb1mx4.1/18, mbtmp4.0/12, Error ellipse: s-maj=41.2km s-min=19.7km az=50.0*
ISC 27 12:32:53.7±0.8, 7.8N±0.1×94.0E±0.2, h33km, n17, σ1§00/13, mb4.0/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.59**	**24**	Pn		**P**		**12 35 39.7**	**-0.2**
	baz=210,slow=15,SNR=1.4								
SONM	**Songino Array**	**41.23**	**13**	P		**P**		**12 40 37.9**	**+0.8**
	1.0nm,0.7s,mb3.6,baz=214,slow=5.2,SNR=3.1								
WRA	**Warramunga Arr**	**48.33**	**125**	P		**P**		**12 41 33.3**	**-1.0**
	1.6nm,0.8s,mb4.1,baz=306,slow=9.2,SNR=3.7								
BVAR	**Borovoye Array**	**48.99**	**341**	P		**P**		**12 41 38.0**	**-1.0**
	1.0nm,0.8s,mb3.9,baz=158,slow=8.0,SNR=3.9								
ASAR	**Alice Springs**	**49.97**	**130**	P		**P**		**12 41 47.6**	**+0.6**
	1.7nm,0.9s,mb4.1,baz=304,slow=7.6,SNR=5.4								
KMBO	**Kilima Mbogo**	**57.31**	**264**	P		**P**		**12 42 45.8**	**+4.6**
	1.3nm,0.7s,mb4.1,baz=61,slow=11,SNR=5.7								
BRTR	**Keskin Array B**	**62.37**	**311**	P		**P**		**12 43 15.2**	**-0.4**
	1.0nm,0.7s,mb4.0,baz=121,slow=7.2,SNR=3.7								
AKASG	**Malin Array Be**	**68.12**	**322**	P		**P**		**12 43 50.2**	**-2.2**
	0.3nm,0.4s,mb3.6,baz=85,slow=5.1,SNR=4.7								
FINES	**FINESS Array B**	**72.70**	**332**	P		**P**		**12 44 19.7**	**-0.2**
	2.1nm,0.7s,mb4.2,baz=100,slow=12,SNR=3.8								
GERES	**GERESS Array B**	**77.78**	**318**	P		**P**		**12 44 50.6**	**+1.2**
	4.0nm,1.1s,mb4.3,baz=90,slow=5.3,SNR=6.9								
HFS	**Hagfors**	**78.44**	**330**	P		**P**		**12 44 53.2**	**+0.6**
	9.4nm,1.1s,mb4.6,baz=117,slow=6.6,SNR=4.0								
NB2	**NORSAR Subarra**	**79.72**	**331**	P		**P**		**12 45 00.8**	**+1.2**
	1.0nm,0.6s,mb3.9,baz=98,slow=4.8								
NOA	**NORSAR Array B**	**79.72**	**331**	P		**P**		**12 45 00.9**	**+1.3**
	2.1nm,0.8s,mb4.1,baz=92,slow=5.7,SNR=4.2								
NVAR	**Mina Array Bea**	**125.01**	**31**	PKP		PKPdf		12 51 55.5	+4.3
	0.6nm,0.7s,baz=298,slow=2.8,SNR=4.5								
PDAR	**Pinedale Array**	**125.25**	**21**	PKP		PKPdf		12 51 54.8	+3.3
	0.8nm,1.0s,baz=90,slow=1.5,SNR=4.3								
TXAR	**Lajitas Array**	**139.31**	**24**	PKP		PKPdf		12 52 18.7	+0.5
	0.2nm,0.9s,baz=315,slow=1.3,SNR=2.5								
PLCA	**Paso Flores**	**144.47**	**200**	PKP		PKPdf		12 52 29.1	+2.1
	4.4nm,1.0s,baz=222,slow=4.1,SNR=4.4								

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*IDC **27** 12:34:03.3±0.5, 7.93N×93.98E, mb4.5/21, mb1 4.6/22, mb1mx4.6/24, mbtmp4.5/22, ML4.1/1, Error ellipse: s-maj=27.5km s-min=12.6km az=53.0*
*MOS **27** 12:34:06.9±1.3, 8.03N×94.18E, h33km, mb4.9/34, Error ellipse: s-maj=13.7km s-min=7.4km az=109.3*
*BJI **27** 12:34:07.9, 7.52N×93.83E, h57km, mb4.8*
*NEIC **27** 12:34:08.0±0.3, 7.95N×94.10E, h30km, mb4.8/21, Error ellipse: s-maj=10.8km s-min=7.1km az=62.0*
ISC 27 12:34:09.5±2.1, 8.02N±0.07×94.22E±0.07, h59km±18km, n112, σ0§93/105, mb4.8/48, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.34**	**23**	*eP*		**P**		**12 36 51.7**	**+0.4**
	7.1nm,0.6s								
CMAR	**Chiang Mai Arr**	**11.34**	**23**	Pn		**P**		**12 36 51.1**	**-0.1**
	0.4nm,0.3s,baz=211,slow=14,SNR=10.0								
HYB	**Hyderabad**	**17.89**	**303**	*eP*		**P**		**12 38 17.0**	**+1.0**
HYB	**Hyderabad**	**17.89**	**303**	*i P*		**P**		**12 38 17.0**	**+1.0**
HYB				*e*				12 40 26.5	
JIRN	**Jiri**	**20.96**	**340**	*eP*		**P**		**12 38 49.7**	**-0.1**
	211nm,1.2s								
PKI	**Pulchoki**	**21.15**	**338**	*eP*		**P**		**12 38 51.3**	**-0.5**
	292nm,1.3s,mb5.5								
GUN	**Gumba**	**21.29**	**339**	*eP*		**P**		**12 38 53.4**	**+0.2**
	602nm,1.6s,mb5.7								
DMN	**Daman**	**21.30**	**337**	*eP*		**P**		**12 38 53.2**	**-0.1**
	161nm,1.0s,mb5.3								
KKN	**Kakani**	**21.40**	**338**	*eP*		**P**		**12 38 54.2**	**-0.1**
	222nm,1.3s,mb5.3								
LSA	**Lhasa**	**21.75**	**353**	P		**P**		**12 39 01.5**	**+3.7**
LSA				AMB		AMB			
	comp=Z,40nm,0.9s,mb4.8								
LSA	**Lhasa**	**21.75**	**353**	*eP*		**P**		**12 38 57.9**	**+0.1**
LSA				pmax		pmax			
	comp=Z,45nm,0.8s,mb5.0								
LSA	**Lhasa**	**21.75**	**353**	*eP*		**P**		**12 38 57.9**	**+0.1**
	comp=Z,45nm,0.8s,mb5.0								
GKN	**Gorkha**	**21.84**	**337**	*eP*		**P**		**12 38 58.2**	**-0.4**
	comp=Z,153nm,1.0s,mb5.4								
KOLN	**Koldanda**	**22.06**	**334**	*eP*		**P**		**12 39 01.2**	**+0.4**
	comp=Z,350nm,1.4s,mb5.6								
ENH	**Enshi**	**26.36**	**31**	P		**P**		**12 39 42.9**	**+0.8**
	comp=Z,27nm,0.9s,mb4.8								
LZH	**Lanzhou**	**29.28**	**16**	*eP*		**P**		**12 40 14.0**	**+5.5**
LZH				AP		pP		12 40 23.3	+0.2
LZH				AMB		AMB			
	comp=Z,21nm,1.5s,mb4.7								
LZH	**Lanzhou**	**29.28**	**16**	*eP*		**P**		**12 40 13.9**	**+5.4**
LZH				*PP		pP		12 40 23.2	+0.1
LZH				*SP		sP		12 40 26.6	-3.6
LZH				pmax		pmax			
	comp=Z,21nm,1.5s,mb4.7								
LZH	**Lanzhou**	**29.28**	**16**	*eP*		**P**		**12 40 13.9**	**+5.4**
	comp=Z,21nm,1.5s,mb4.7								
LZH				pP		pP		12 40 23.2	+0.1
LZH				sP		sP		12 40 26.6	-3.6
WMQ	**Urumqi**	**36.11**	**352**	*eP*		**P**		**12 41 09.0**	**+1.3**
BJI	**Beijing**	**37.44**	**28**	*eP*		**P**		**12 41 23.4**	**+4.5**
BJI				pmax		pmax			
	comp=Z,7.0nm,0.8s,mb4.5								
BJI	**Beijing**	**37.44**	**28**	*eP*		**P**		**12 41 23.4**	**+4.5**
	comp=Z,7.0nm,0.8s,mb4.5								
AAK	**Ala-Archa**	**38.60**	**336**	*eP*		**P**		**12 41 26.7**	**-1.8**
AAK				pmax		pmax			
	comp=Z,25nm,1.2s,mb4.8								
AAK	**Ala-Archa**	**38.60**	**336**	*eP*		**P**		**12 41 26.7**	**-1.8**
	comp=Z,25nm,1.2s,mb4.8								
SONM	**Songino Array**	**41.00**	**13**	P		**P**		**12 41 49.4**	**+1.1**
	comp=Z,2.9nm,0.9s,mb3.9,baz=198,slow=7.8,SNR=7.1								
SONM				PcP		PcP		12 43 48.7	+0.6
	comp=Z,1.9nm,0.6s,baz=243,slow=2.8,SNR=4.6								
ULN	**Ulaanbaatar**	**41.17**	**13**	*eP*		**P**		**12 41 50.2**	**+0.4**
ULN				pmax		pmax			
	comp=Z,3.0nm,0.9s,mb3.9								
ULN	**Ulaanbaatar**	**41.17**	**13**	*eP*		**P**		**12 41 50.2**	**+0.4**
	comp=Z,3.4nm,0.9s,mb4.0								
ZAK	**Zakamensk**	**42.89**	**9**	*eP*		**P**		**12 42 04.1**	**+0.2**
KURK	**Kurchatov**	**44.48**	**346**	*eP*		**P**		**12 42 16.0**	**-0.7**
KURK				pmax		pmax			
	comp=Z,30nm,1.2s,mb4.9								
KURK	**Kurchatov**	**44.48**	**346**	*eP*		**P**		**12 42 16.0**	**-0.7**
	comp=Z,30nm,1.2s,mb4.9								
NWAO	**Narrogin (SRO)**	**46.24**	**153**	P		**P**		**12 42 31.4**	**+0.4**
NWAO				pmax		pmax			
	comp=Z,8.0nm,0.9s								
NWAO	**Narrogin (SRO)**	**46.24**	**153**	P		**P**		**12 42 31.4**	**+0.4**
	comp=Z,8.2nm,0.8s,mb4.7,baz=326,slow=7.1,SNR=6.4								
ZAL	**Zalesovo**	**46.41**	**352**	P		**P**		**12 42 32.4**	**+0.4**
ZAL				pmax		pmax			
	comp=Z,10.0nm,1.0s								
ZAL	**Zalesovo**	**46.41**	**352**	P		**P**		**12 42 32.4**	**+0.5**
	comp=Z,9.8nm,1.0s,mb4.7,baz=298,slow=9.4,SNR=13								
ZAL	**Zalesovo**	**46.41**	**352**	P		**P**		**12 42 32.4**	**+0.5**
NVS	**Novosibirsk**	**47.51**	**351**	*i P*		**P**		**12 42 39.5**	**-1.1**
NVS				pmax		pmax			
	comp=N,15nm,1.1s								
NVS				pmax		pmax			
	comp=E,9.0nm,1.1s								
NVS				pmax		pmax			
	comp=Z,13nm,1.1s,mb4.9								
WRA	**Warramunga Arr**	**48.29**	**126**	P		**P**		**12 42 46.3**	**-0.8**
WRA				pmax		pmax			
	comp=Z,4.0nm,0.5s								
WRA	**Warramunga Arr**	**48.29**	**126**	P		**P**		**12 42 46.3**	**-0.9**
	comp=Z,3.5nm,0.5s,mb4.6,baz=304,slow=8.5,SNR=7.3								
WRA	**Warramunga Arr**	**48.29**	**126**	P		**P**		**12 42 46.3**	**-0.9**
WRAB	**Tennant Creek**	**48.29**	**126**	*eP*		**P**		**12 42 46.1**	**-1.1**
WRAB				pmax		pmax			
	comp=Z,14nm,1.0s,mb5.0								
WRAB	**Tennant Creek**	**48.29**	**126**	*eP*		**P**		**12 42 46.1**	**-1.1**
	comp=Z,14nm,1.0s,mb5.0								
WB2	**Warramunga Arr**	**48.30**	**126**	*eP*		**P**		**12 42 46.7**	**-0.5**
BVAR	**Borovoye Array**	**48.87**	**341**	P		**P**		**12 42 50.5**	**-0.7**
	comp=Z,2.3nm,0.7s,mb4.3,baz=149,slow=8.6,SNR=9.0								
BVAR				PcP		PcP		12 44 16.2	+0.9
	comp=Z,1.1nm,0.7s,baz=180,slow=1.5,SNR=4.1								
BRVK	**Borovoye**	**48.93**	**341**	*eP*		**P**		**12 42 50.9**	**-0.8**
BRVK				pmax		pmax			
	comp=Z,7.0nm,1.0s,mb4.7								
BRVK	**Borovoye**	**48.93**	**341**	*eP*		**P**		**12 42 50.9**	**-0.7**
	comp=Z,6.7nm,1.0s,mb4.6								
RAYN	**Ar Rayn**	**49.09**	**294**	P		**P**		**12 42 54.1**	**+0.8**
	comp=Z,91nm,1.4s,mb5.6,SNR=8.2								
CHKZ	**Chkalovo**	**49.35**	**342**	*eP*		**P**		**12 42 54.4**	**-0.5**
CHKZ				pmax		pmax			
	comp=Z,40nm,1.3s,mb5.3								
CHKZ	**Chkalovo**	**49.35**	**342**	*eP*		**P**		**12 42 54.4**	**-0.5**
	comp=Z,40nm,1.3s,mb5.3								
ASAR	**Alice Springs**	**49.95**	**130**	P		**P**		**12 42 59.0**	**-0.9**
	comp=Z,2.4nm,0.8s,mb4.3,baz=310,slow=7.0,SNR=7.1								
ASAR				PcP		PcP		12 44 19.4	-0.2
	comp=Z,1.3nm,0.8s,baz=314,slow=3.6,SNR=4.1								
BOD	**Bodaibo**	**51.99**	**13**	*eP*		**P**		**12 43 15.0**	**+0.2**
GNI	**Garni**	**54.39**	**314**	P		**P**		**12 43 33.6**	**+0.7**
GNI				pmax		pmax			
	comp=Z,4.0nm,0.7s								
GNI	**Garni**	**54.39**	**314**	P		**P**		**12 43 33.6**	**+0.7**
	comp=Z,3.8nm,0.7s,mb4.5,baz=176,slow=19,SNR=3.0								
SVE	**Sverdlovsk**	**55.29**	**338**	*eP*		**P**		**12 43 36.3**	**-2.9**
PMG	**Port Moresby**	**55.50**	**107**	*eP*		**P**		**12 43 43.1**	**+1.8**
PMG				pmax		pmax			
	comp=Z,9.0nm,0.8s								
PMG	**Port Moresby**	**55.50**	**107**	P		**P**		**12 43 43.6**	**+2.3**
	comp=Z,7.6nm,0.7s,mb4.9,baz=249,slow=13,SNR=3.8								
PMG	**Port Moresby**	**55.50**	**107**	*eP*		**P**		**12 43 43.1**	**+1.8**
	comp=Z,9.3nm,0.8s,mb4.9								
ARU	**Arti**	**55.78**	**337**	*eP*		**P**		**12 43 35.9**	**-6.8**
KMBO	**Kilima Mbogo**	**57.51**	**264**	P		**P**		**12 43 57.1**	**+1.4**
KMBO				pmax		pmax			
	comp=Z,3.0nm,0.6s								
KMBO	**Kilima Mbogo**	**57.51**	**264**	P		**P**		**12 43 57.1**	**+1.4**
	comp=Z,2.7nm,0.6s,mb4.4,baz=48,slow=22,SNR=8.1								
KMBO	**Kilima Mbogo**	**57.51**	**264**	*eP*		**P**		**12 43 56.9**	**+1.2**
	comp=Z,5.7nm,0.9s,mb4.6								
CTAO	**Charters Tower**	**58.31**	**119**	*eP*		**P**		**12 44 01.1**	**0.0**
CTAO				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.5								
CTAO	**Charters Tower**	**58.31**	**119**	*eP*		**P**		**12 44 01.1**	**-0.1**
	comp=Z,4.1nm,0.9s,mb4.5								
YAK	**Yakutsk**	**59.83**	**18**	*eP*		**P**		**12 44 11.0**	**0.0**
YAK				pmax		pmax			
	comp=Z,10.0nm,1.1s,mb4.8								
YAK				pmax		pmax			
	comp=N,6.0nm,1.2s								
YAK				pmax		pmax			
	comp=E,4.0nm,1.2s								
STKA	**Stephens Creek**	**60.16**	**134**	P		**P**		**12 44 13.2**	**-0.6**
	comp=E,2.5nm,0.8s,mb4.3,baz=311,slow=8.6,SNR=3.7								
BRTR	**Keskin Array B**	**62.39**	**311**	P		**P**		**12 44 27.0**	**-1.6**
BRTR				pmax		pmax			
	comp=Z,3.0nm,1.0s								
BRTR	**Keskin Array B**	**62.39**	**311**	P		**P**		**12 44 26.9**	**-1.7**
	comp=Z,3.4nm,1.0s,mb4.4,baz=127,slow=6.7,SNR=6.2								
MOS	**Moscow**	**64.99**	**329**	*eP*		**P**		**12 44 44.0**	**-1.5**
OBN	**Obninsk**	**65.29**	**328**	*eP*		**P**		**12 44 44.1**	**-3.3**
OBN				pmax		pmax			
	comp=Z,42nm,1.4s,mb5.3								
MA2	**Magadan**	**66.60**	**28**	*eP*		**P**		**12 44 54.5**	**-1.1**
MA2				pmax		pmax			
	comp=Z,20nm,1.2s,mb5.0								
MA2	**Magadan**	**66.60**	**28**	*eP*		**P**		**12 44 54.5**	**-1.1**
	comp=Z,20nm,1.2s,mb5.0								
TIXI	**Tiksi**	**67.07**	**11**	*eP*		**P**		**12 44 58.7**	**+0.3**
TIXI				pmax		pmax			
	comp=Z,25nm,1.5s,mb5.0								
AKASG	**Malin Array Be**	**68.08**	**322**	P		**P**		**12 45 03.0**	**-2.1**
AKASG				pmax		pmax			
	comp=Z,4.0nm,0.8s								
AKASG	**Malin Array Be**	**68.08**	**322**	P		**P**		**12 45 03.0**	**-2.1**
	comp=Z,3.8nm,0.8s,mb4.5,baz=90,slow=4.8,SNR=10.0								
IDI	**Anoyia**	**68.54**	**305**	P		**P**		**12 45 07.5**	**-0.7**
	comp=Z,10nm,0.8s,mb4.8,baz=106,slow=7.4,SNR=3.8								
FINES	**FINESS Array B**	**72.61**	**332**	P		**P**		**12 45 31.9**	**-0.4**
FINES				pmax		pmax			
	comp=Z,6.0nm,0.7s								
FINES	**FINESS Array B**	**72.61**	**332**	P		**P**		**12 45 31.9**	**-0.4**
	comp=Z,5.5nm,0.7s,mb4.6,baz=112,slow=10,SNR=9.8								
ARCES	**ARCESS Array B**	**75.15**	**340**	P		**P**		**12 45 47.0**	**+0.1**
ARCES				pmax		pmax			
	comp=Z,7.0nm,0.9s								
ARCES	**ARCESS Array B**	**75.15**	**340**	P		**P**		**12 45 47.0**	**+0.1**
	comp=Z,6.6nm,0.9s,mb4.6,baz=56,slow=4.4,SNR=6.4								
BRG	**Berggiesshubel**	**77.69**	**320**	*eP*		**P**		**12 46 02.7**	**+1.2**
BRG				*e*				12 49 23.6	
GERES	**GERESS Array B**	**77.77**	**318**	P		**P**		**12 46 02.2**	**+0.2**
GERES				pmax		pmax			
	comp=Z,5.0nm,0.9s								
GERES	**GERESS Array B**	**77.77**	**318**	P		**P**		**12 46 02.2**	**+0.2**
	comp=Z,5.2nm,0.9s,mb4.5,baz=90,slow=4.0,SNR=15								
CLL	**Collm**	**78.29**	**321**	*i P*		**P**		**12 46 05.5**	**+0.7**
CLL				*e*				12 46 15.0	
CLL				pmax		pmax			
	comp=Z,9.0nm,1.3s,mb4.5								
CLL	**Collm**	**78.29**	**321**	*i P*		**P**		**12 46 05.5**	**+0.7**
	comp=Z,9.0nm,1.3s,mb4.5								
CLL				*e*				12 46 15.0	
CLL	**Collm**	**78.29**	**321**	P		**P**		**12 46 05.5**	**+0.7**
	comp=Z,logA/T=0.8,mb4.5								
CLL				*e*SP		sP		12 46 15.0	-13
HFS	**Hagfors**	**78.36**	**330**	P		**P**		**12 46 05.1**	**0.0**
HFS				pmax		pmax			
	comp=Z,10.0nm,0.9s								
HFS	**Hagfors**	**78.36**	**330**	P		**P**		**12 46 05.1**	**+0.1**
	comp=Z,10nm,0.9s,mb4.8,baz=104,slow=6.1,SNR=10								
MAW	**Mawson**	**78.69**	**192**	P		**P**		**12 46 07.2**	**+0.5**
MAW				pmax		pmax			
	comp=Z,7.0nm,0.8s								
MAW	**Mawson**	**78.69**	**192**	P		**P**		**12 46 07.2**	**+0.5**
	comp=Z,7.1nm,0.8s,mb4.7,baz=45,slow=10.0,SNR=2.9								
GRA1	**Grafenberg Arr**	**79.40**	**319**	*eP*		**P**		**12 46 12.1**	**+1.1**
	comp=Z,12nm,1.1s,mb4.7								
GRF	**Grafenberg Arr**	**79.40**	**319**	*eP*		**P**		**12 46 12.1**	**+1.1**
GRF				pmax		pmax			
	comp=Z,12nm,1.1s,mb4.7								
GRF	**Grafenberg Arr**	**79.40**	**319**	*eP*		**P**		**12 46 12.1**	**+1.1**
GRF				pmax		pmax			
	comp=Z,12nm,1.1s,mb4.7								
GRF	**Grafenberg Arr**	**79.40**	**319**	*eP*		**P**		**12 46 12.1**	**+1.1**
	comp=Z,12nm,1.1s,mb4.7								
NB2	**NORSAR Subarra**	**79.64**	**331**	P		**P**		**12 46 11.8**	**-0.2**
	comp=Z,2.5nm,0.6s,mb4.3,baz=96,slow=5.0								
NB2	**NORSAR Subarra**	**79.64**	**331**	P		**P**		**12 46 11.8**	**-0.2**
NB2				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.4								
NOA	**NORSAR Array B**	**79.64**	**331**	P		**P**		**12 46 11.9**	**-0.1**
NOA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
NOA	**NORSAR Array B**	**79.64**	**331**	P		**P**		**12 46 11.9**	**-0.1**
	comp=Z,4.2nm,0.8s,mb4.4,baz=94,slow=5.3,SNR=8.5								
LPG	**La Plagne**	**82.57**	**315**	*eP*		**P**		**12 46 28.6**	**+0.9**
	comp=Z,26nm,1.1s,mb4.9								
LPG	**La Plagne**	**82.57**	**315**	*eP*		**P**		**12 46 28.6**	**+0.9**
LPG				pmax		pmax			
	comp=Z,13nm,1.1s,mb4.9								
IMA	**Indian Mountai**	**91.46**	**22**	*eP*		**P**		**12 47 13.7**	**+3.4**
ILAR	**Eielson Array**	**94.58**	**22**	P		**P**		**12 47 25.5**	**+0.9**
ILAR				pmax		pmax			
	comp=Z,1.0nm,0.9s								
ILAR	**Eielson Array**	**94.58**	**22**	P		**P**		**12 47 25.5**	**+0.9**
	comp=Z,0.7nm,0.9s,mb4.1,baz=303,slow=4.1,SNR=6.1								
INK	**Inuvik**	**96.83**	**16**	*eP*		**P**		**12 47 35.5**	**+0.7**
INK				pmax		pmax			
	comp=Z,6.0nm,1.1s								
INK	**Inuvik**	**96.83**	**16**	P		**P**		**12 47 35.1**	**+0.4**
	comp=Z,3.4nm,1.0s,mb4.7,baz=262,slow=3.6,SNR=5.6								
INK	**Inuvik**	**96.83**	**16**	*eP*		**P**		**12 47 35.5**	**+0.7**
	comp=Z,5.6nm,1.1s,mb4.9								
RES	**Resolute Bay**	**97.25**	**2**	*eP*		**P**		**12 47 37.8**	**+1.2**
RES				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.8								
RES	**Resolute Bay**	**97.25**	**2**	*eP*		**P**		**12 47 37.8**	**+1.2**
	comp=Z,3.6nm,0.9s,mb4.8								
YKA	**Yellowknife Ar**	**106.26**	**13**	PP		PP		12 52 39.4	-5.2
	comp=Z,0.3nm,1.0s,baz=333,slow=9.7,SNR=2.8								
NVAR	**Mina Array Bea**	**124.75**	**31**	PKP		PKPdf		12 53 07.0	+3.8
	comp=Z,1.6nm,0.8s,baz=302,slow=2.7,SNR=7.2								
PDAR	**Pinedale Array**	**125.00**	**21**	PKP		PKPdf		12 53 06.7	+3.1
	comp=Z,1.8nm,0

*BJI **27** 12:37:27.7, 7.48N×93.45E, h51km, mB5.1, mb4.5, Ms5.2, Ms4.7*
*NEIC **27** 12:37:27.3±0.4, 7.65N×94.05E, h30km, mb4.8/12, Error ellipse: s-maj=10.8km s-min=9.5km az=51.0*
*IDC **27** 12:37:34.1±4.5, 7.90N×94.30E, h80km±39km, mb3.9/18, mb1 4.1/19, mb1mx4.0/23, mbtmp4.2/19, MS4.6/2, Ms1 4.6/2, ms1mx3.6/23, Error ellipse: s-maj=26.9km s-min=15.2km az=52.0*
ISC 27 12:37:27.2±2.4, 7.76N±0.09×94.17E±0.07, h39km±20km, n53, σ1º00/46, mb4.4/28, MS4.7/2, 1C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr 13nm,0.6s	11.61	23	eP	P	12 40 14.0	+0.7
CMAR	Chiang Mai Arr 1.4nm,0.3s,baz=214,slow=15,SNR=12	11.61	23	P	P	12 40 14.1	+0.7
CHG	Chiang Mai 23nm,0.8s	11.93	22	P	P	12 40 17.0	-0.7
CHRT	Chiangrai	13.21	24	⇑P	P	12 40 35.5	+0.7
HYB	Hyderabad	18.00	304	eP	P	12 41 35.0	-1.3
HYB	Hyderabad	18.00	304	i P	P	12 41 35.0	-1.3
HYB				eS	S	12 44 54.0	+1.2
KMI	Kunming 21nm,1.8s	19.11	24	⇓P	P	12 41 55.0	+5.3
LSA	Lhasa 39nm,0.8s,mb4.9	22.01	353	eP	P	12 42 17.0	-2.8
ENH	Enshi 16nm,0.9s,mb4.6	26.61	31	eP	P	12 43 02.1	-2.0
LZH	Lanzhou	29.55	16	eP	P	12 43 36.8	+6.3
LZH				AP	pP	12 43 43.8	+2.5
LZH				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.6						
NJ2	Nanjing	33.34	40	eP	P	12 44 08.8	+5.0
WMQ	Urumqi	36.37	352	eP	P	12 44 30.0	+0.4
BJI	Beijing	37.69	28	eP	P	12 44 46.3	+5.5
AAK	Ala-Archa 5.2nm,0.9s,mb4.3	38.82	337	eP	P	12 44 48.6	-1.5
	comp=Z,37nm,1.5s,mb4.9						
SONM	Songino Array 2.2nm,0.9s,mb3.8,baz=190,slow=7.5,SNR=5.0	41.27	12	P	P	12 45 11.5	+1.2
	comp=Z,1.8nm,1.0s,mb3.7,baz=198,slow=9.1,SNR=2.9						
ULN	Ulaanbaatar 3.4nm,0.8s,mb4.0	41.44	13	eP	P	12 45 13.9	+2.1
	comp=Z,2.5nm,0.8s,mb3.9						
NWAO	Narrogin (SRO) 4.9nm,0.8s,mb4.5,baz=297,slow=6.2,SNR=2.5	46.03	153	P	P	12 45 52.0	+2.9
	comp=Z,4.4nm,0.6s,mb4.5,baz=18,slow=6.4,SNR=3.4						
NWAO	Narrogin (SRO) 4.7nm,0.7s,mb4.5,baz=312,slow=5.0,SNR=16	46.03	153	P	P	12 45 52.0	+2.9
ZAL	Zalesovo 0.9nm,0.3s,baz=304,slow=8.5,SNR=4.6	46.67	352	P	P	12 45 53.8	+0.1
	comp=Z,3.8nm,0.4s,mb4.7,baz=305,slow=8.4						
WRA	Warramunga Arr 0.9nm,0.6s,mb4.3,baz=304,slow=8.8,SNR=4.6	48.17	125	P	P	12 46 05.8	-0.2
	comp=Z,1.9nm,0.6s,mb4.3,baz=304,slow=8.8,SNR=4.6						
WRAB	Tennant Creek 2.4nm,0.6s,mb4.7	48.17	125	P	P	12 46 06.1	+0.1
	comp=Z,4.8nm,0.6s,mb4.7						
BVAR	Borovoye Array 3.4nm,0.8s,mb4.4,baz=143,slow=7.2,SNR=5.5	49.11	341	P	P	12 46 12.5	-0.3
	comp=Z,3.4nm,0.8s,mb4.4,baz=143,slow=7.2,SNR=5.5						
ASAR	Alice Springs 1.6nm,0.9s,mb4.0,baz=306,slow=7.8,SNR=5.5	49.82	130	P	P	12 46 18.1	-0.6
	comp=Z,1.6nm,0.9s,mb4.0,baz=306,slow=7.8,SNR=5.5						
GNI	Garni 0.6nm,0.4s,mb4.4,baz=210,slow=16,SNR=3.5	54.54	314	P	P	12 46 53.5	-0.3
	comp=Z,1.7nm,0.4s,mb4.4,baz=210,slow=16,SNR=3.5						
KMBO	Kilima Mbogo 2.2nm,0.8s,mb4.2,baz=70,slow=11,SNR=6.4	57.44	264	P	P	12 47 16.4	+1.4
	comp=Z,2.1nm,0.8s,mb4.2,baz=70,slow=11,SNR=6.4						
KMBO	Kilima Mbogo 0.6nm,0.3s,mb4.0,baz=62,slow=22,SNR=1.9	57.44	264	P	P	12 47 16.4	+1.4
BRTR	Keskin Array B 0.8nm,0.6s,mb4.0,baz=121,slow=7.2,SNR=4.4	62.53	311	P	P	12 47 48.7	-0.8
MBAR	Mbarara 2.19nm,1.6s,mb4.9	63.78	266	eP	P	12 47 57.4	-0.8
MA2	Magadan 2.12nm,0.9s,mb4.9	66.86	28	eP	P	12 48 17.2	+0.1
AKASG	Malin Array Be 2.0nm,0.8s,mb4.2,baz=89,slow=4.6,SNR=5.9	68.27	322	P	P	12 48 25.5	-0.6
IDI	Anoyia 5.5nm,0.6s,mb4.7,baz=91,slow=18,SNR=3.1	68.66	305	P	P	12 48 31.4	+2.5
FINES	FINESS Array B 2.2nm,0.6s,mb4.4,baz=104,slow=6.1,SNR=8.9	72.83	332	P	P	12 48 53.0	-0.5
FINES	FINESS Array B	72.83	332	P	P	12 48 53.0	-0.5
VYHS	Vyhne	74.52	318	eP	P	12 49 03.2	-0.4
VYHS				e		12 49 31.7	
ARCES	ARCESS Array B 1.0nm,0.8s,mb4.2,baz=103,slow=7.5,SNR=7.1	75.39	340	P	P	12 49 08.1	-0.1
	comp=Z,7.2nm,1.1s,mb4.5,baz=103,slow=7.5,SNR=7.1						
GERES	GERESS Array B 2.5nm,0.8s,mb4.2,baz=76,slow=5.5,SNR=5.1	77.94	318	P	P	12 49 23.7	+0.8
	comp=Z,2.5nm,0.8s,mb4.2,baz=76,slow=5.5,SNR=5.1						
MAW	Mawson 0.9nm,0.7s,mb4.2,baz=172,slow=31	78.42	192	LR	LR	13 18 35.0	
	comp=Z,343nm,18.0s,MS4.7,baz=172,slow=31						
CLL	Collm	78.47	321	P	P	12 49 26.0	+0.2
GRA1	Grafenberg Arr 2.20nm,1.7s,mb4.8	79.58	319	eP	P	12 49 31.9	0.0
	comp=Z,20nm,1.7s,mb4.8						
GRF	Grafenberg Arr 2.20nm,1.7s,mb4.8	79.58	319	eP	P	12 49 31.9	0.0
	comp=Z,20nm,1.7s,mb4.8						
NB2	NORSAR Subarra 2.8nm,1.1s,mb4.6,baz=95,slow=5.0	79.85	331	P	P	12 49 32.3	-0.8
	comp=Z,8.8nm,1.1s,mb4.6,baz=95,slow=5.0						
NOA	NORSAR Array B 1.6nm,0.6s,mb4.1,baz=97,slow=5.2,SNR=3.7	79.85	331	P	P	12 49 32.9	-0.2
	comp=Z,1.6nm,0.6s,mb4.1,baz=97,slow=5.2,SNR=3.7						
LPG	La Plagne 0.39nm,1.1s,mb5.0	82.72	315	eP	P	12 49 56.3	+7.8
	comp=Z,39nm,1.1s,mb5.0						
ESDC	Sonseca Array 1.0nm,0.7s,mb4.3,baz=76,slow=5.3,SNR=3.5	91.32	310	P	P	12 50 29.8	-0.5
	comp=Z,1.0nm,0.7s,mb4.3,baz=76,slow=5.3,SNR=3.5						
VNDA	Vanda 2.227nm,18.6s,MS4.7,baz=312,slow=32	92.81	168	LR	LR	13 26 35.7	
	comp=Z,227nm,18.6s,MS4.7,baz=312,slow=32						
ILAR	Eielson Array 0.7nm,1.1s,mb4.0,baz=292,slow=4.9,SNR=3.1	94.84	22	P	P	12 50 45.9	0.0
	comp=Z,0.7nm,1.1s,mb4.0,baz=292,slow=4.9,SNR=3.1						
INK	Inuvik 0.5nm,0.7s,mb4.1,baz=288,slow=3.2,SNR=2.2	97.10	16	P	P	12 50 55.8	-0.3
	comp=Z,0.5nm,0.7s,mb4.1,baz=288,slow=3.2,SNR=2.2						
YKA	Yellowknife Ar 2.0nm,0.8s,baz=333,slow=7.2,SNR=3.2	106.53	13	PP	PP	12 55 59.7	-6.9
	comp=Z,0.2nm,0.8s,baz=333,slow=7.2,SNR=3.2						
NVAR	Mina Array Bea 0.1nm,0.3s,baz=270,slow=2.7,SNR=2.6	125.00	31	PKP	PKPdf	12 56 24.9	+1.1
	comp=Z,0.1nm,0.3s,baz=270,slow=2.7,SNR=2.6						
PDAR	Pinedale Array 0.5nm,0.8s,baz=45,slow=1.3,SNR=3.0	125.27	21	PKP	PKPdf	12 56 27.4	+3.1
	comp=Z,0.5nm,0.8s,baz=45,slow=1.3,SNR=3.0						
TXAR	Lajitas Array 7.1nm,1.2s,slow=0.9,SNR=2.7	139.32	24	PKhKP		12 56 46.8	
	comp=Z,1.3nm,1.2s,slow=0.9,SNR=2.7						
TXAR				PKP	PKPdf	12 56 53.1	+2.2
	comp=Z,0.1nm,0.3s,baz=288,slow=2.9,SNR=4.9						
PLCA	Paso Flores 2.6nm,0.8s,baz=33,slow=2.9,SNR=3.1	144.45	200	PKP	PKPdf	12 57 00.8	+1.1
	comp=Z,2.6nm,0.8s,baz=33,slow=2.9,SNR=3.1						
PLCA	Paso Flores	144.45	200	PKP	PKPdf	12 57 00.8	+1.1

*IDC **27** 12:42:10.9±0.7, 8.25N×94.36E, mb4.1/13, mb1 4.2/14, mb1mx4.2/20, mbtmp4.1/14, ML3.8/1, Error ellipse: s-maj=33.1km s-min=18.5km az=48.0*
ISC 27 12:42:13.6±0.7, 8.0N±0.1×94.3E±0.1, h33km, n27, σ1º19/23, mb4.5/21, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr 0.2nm,0.3s,baz=217,slow=14,SNR=5.2	11.37	23	Pn	P	12 44 58.0	+1.3
JIRN	Jiri 69nm,0.9s,mb5.0	21.00	340	eP	P	12 46 56.3	-0.5
PKI	Pulchoki 31nm,0.6s,mb4.8	21.20	338	eP	P	12 46 58.0	-0.8
GUN	Gumba 89nm,0.8s,mb5.1	21.34	339	eP	P	12 47 00.7	+0.6
DMN	Daman 112nm,1.2s,mb5.1	21.35	337	eP	P	12 47 01.5	+1.3
KKN	Kakani 131nm,1.3s,mb5.1	21.45	338	eP	P	12 47 01.0	-0.2
GKN	Gorkha 92nm,1.0s,mb5.2	21.89	337	eP	P	12 47 06.9	+1.3
KOLN	Koldanda 126nm,1.3s,mb5.2	22.11	334	eP	P	12 47 09.6	+1.8
SONM	Songino Array 0.8nm,0.5s,mb3.6,baz=194,slow=5.1,SNR=3.9	41.03	12	P	P	12 49 54.9	-0.5
ZAL	Zalesovo 3.1nm,0.8s,mb4.3,baz=310,slow=7.2,SNR=9.3	46.45	352	P	P	12 50 37.0	-2.2
WRA	Warramunga Arr 0.8nm,0.5s,mb4.0,baz=305,slow=8.6,SNR=6.4	48.23	126	P	P	12 50 53.4	-0.2
BVAR	Borovoye Array 0.9nm,0.7s,mb3.9,baz=235,slow=36,SNR=5.1	48.92	341	P	P	12 50 56.0	-2.4
ASAR	Alice Springs 0.6nm,0.6s,mb3.8,baz=310,slow=7.7,SNR=3.4	49.90	130	P	P	12 51 06.8	+0.4
ASAR				PcP	PcP	12 52 28.0	+1.3
	0.7nm,0.8s,baz=307,slow=4.5,SNR=2.5						
KMBO	Kilima Mbogo 3.2nm,0.9s,mb4.4,baz=42,slow=14,SNR=4.7	57.54	264	P	P	12 52 05.4	+2.6
BRTR	Keskin Array B 1.2nm,0.7s,mb4.2,baz=126,slow=1.3,SNR=4.6	62.44	311	P	P	12 52 34.4	-1.6
AKASG	Malin Array Be 1.8nm,0.7s,mb4.2,baz=90,slow=4.8,SNR=5.0	68.14	322	P	P	12 53 10.7	-1.7
IDI	Anoyia 9.6nm,0.8s,mb4.8,baz=316,slow=8.1,SNR=3.1	68.59	305	P	P	12 53 15.0	-0.6
FINES	FINESS Array B 3.5nm,0.8s,mb4.3,baz=106,slow=10,SNR=6.6	72.67	332	P	P	12 53 39.3	-0.4
ARCES	ARCESS Array B 5.1nm,0.9s,mb4.5,baz=90,slow=3.4,SNR=5.7	75.20	340	P	P	12 53 54.5	+0.3
GERES	GERESS Array B 1.6nm,0.6s,mb4.1,baz=90,slow=4.0,SNR=8.8	77.82	318	P	P	12 54 10.7	+1.3
NB2	NORSAR Subarra 2.5nm,0.8s,mb4.2,baz=92,slow=5.8	79.69	331	P	P	12 54 19.4	0.0
NOA	NORSAR Array B 1.3nm,0.7s,mb4.0,baz=96,slow=5.4,SNR=5.2	79.69	331	P	P	12 54 20.2	+0.8
LPG	La Plagne 12nm,0.9s,mb4.7	82.62	315	eP	P	12 54 34.7	-0.4
NVAR	Mina Array Bea 0.4nm,0.7s,baz=270,slow=1.8,SNR=3.2	124.77	31	PKP	PKPdf	13 01 13.8	+3.1
PDAR	Pinedale Array 0.9nm,0.7s,slow=1.5,SNR=4.4	125.03	21	PKP	PKPdf	13 01 13.1	+2.1
TXAR	Lajitas Array 1.4nm,1.3s,baz=27,slow=4.0,SNR=2.6	139.08	24	PKhKP		13 01 37.4	
TXAR				PKiKP		13 01 43.3	
	0.3nm,0.7s,baz=50,slow=2.3,SNR=3.9						
PLCA	Paso Flores 3.0nm,0.9s,baz=22,slow=15,SNR=4.0	144.69	200	PKP	PKPdf	13 01 49.4	+2.0

*NEIC **27** 12:50:48.7±0.4, 7.73N×93.96E, h30km, mb4.5/7, Error ellipse: s-maj=12.3km s-min=8.7km az=77.0*
*IDC **27** 12:50:52.7±5.0, 7.89N×94.08E, h62km±45km, mb3.9/13, mb1 4.0/14, mb1mx3.9/21, mbtmp4.2/14, ML4.2/1, Error ellipse: s-maj=30.8km s-min=17.5km az=62.0*
ISC 27 12:50:49.4±3.7, 7.8N±0.1×94.1E±0.1, h52km±32km, n31, σ0º84/26, mb4.2/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr 8.4nm,0.6s	11.62	24	eP	P	12 53 35.5	+0.4
CMAR	Chiang Mai Arr 0.4nm,0.3s,baz=210,slow=15,SNR=13	11.62	24	P	P	12 53 34.6	-0.5
LSA	Lhasa 20nm,0.8s,mb4.6	21.97	353	eP	P	12 55 40.6	+0.1
ENH	Enshi 12nm,0.9s,mb4.4	26.63	31	P	P	12 56 24.7	-0.5
AAK	Ala-Archa 5.2nm,0.9s,mb4.3	38.75	337	eP	P	12 58 11.0	+0.6
SONM	Songino Array 2.2nm,0.9s,mb3.8,baz=190,slow=7.5,SNR=5.0	41.26	13	P	P	12 58 31.5	+0.4
ULN	Ulaanbaatar 3.4nm,0.8s,mb4.0	41.43	13	eP	P	12 58 32.8	+0.3
KURK	Kurchatov 42nm,1.5s,mb5.0	44.67	346	eP	P	12 58 59.2	+0.3
NWAO	Narrogin (SRO) 4.9nm,0.8s,mb4.5,baz=297,slow=6.2,SNR=2.5	46.11	153	P	P	12 59 11.8	+1.3
NWAO	Narrogin (SRO) 4.7nm,0.7s,mb4.5,baz=312,slow=5.0,SNR=16	46.11	153	P	P	12 59 11.8	+1.3
ZAL	Zalesovo 4.7nm,0.7s,mb4.5,baz=312,slow=5.0,SNR=16	46.62	352	P	P	12 59 14.2	-0.1
MDJ	Mudanjiang	47.92	34	eP	P	12 59 26.3	+1.7
WRA	Warramunga Arr 0.9nm,0.9s,mb3.8,baz=304,slow=8.5,SNR=4.6	48.27	125	P	P	12 59 27.3	-0.3
WRAB	Tennant Creek	48.27	125	P	P	12 59 27.5	-0.2
BVAR	Borovoye Array 1.3nm,0.8s,mb4.0,baz=146,slow=5.3,SNR=6.1	49.05	341	P	P	12 59 32.4	-0.8
CHKZ	Chkalovo 5.5nm,0.8s,mb4.6	49.53	342	eP	P	12 59 36.7	-0.2
KMBO	Kilima Mbogo 0.6nm,0.3s,mb4.0,baz=62,slow=22,SNR=1.9	57.34	264	P	P	13 00 35.8	+0.7
STKA	Stephens Creek	60.10	134	P	P	13 00 52.5	-1.5
BRTR	Keskin Array B 0.8nm,0.6s,mb4.0,baz=121,slow=7.2,SNR=4.4	62.43	311	P	P	13 01 08.5	-1.1
AKASG	Malin Array Be	68.17	322	P	P	13 01 44.7	-1.6
FINES	FINESS Array B 2.3nm,0.6s,mb4.3,baz=101,slow=9.7,SNR=7.2	72.75	332	P	P	13 02 13.7	-0.1
ARCES	ARCESS Array B 4.9nm,0.9s,mb4.4,baz=76,slow=5.0,SNR=3.7	75.32	340	P	P	13 02 27.4	-1.2
GERES	GERESS Array B 1.4nm,0.6s,mb4.1,baz=90,slow=4.0,SNR=7.3	77.84	318	P	P	13 02 43.8	+0.7
NB2	NORSAR Subarra 1.5nm,0.6s,mb4.1,baz=95,slow=5.0	79.77	331	P	P	13 02 53.5	+0.1
NOA	NORSAR Array B 1.8nm,0.7s,mb4.1,baz=91,slow=5.6,SNR=6.1	79.77	331	P	P	13 02 53.6	+0.2
DAVOX	Davos 3.3nm,0.7s,mb4.4,baz=335,slow=21,SNR=3.8	80.40	316	P	P	13 02 58.6	+1.5
YKA	Yellowknife Ar 0.1nm,0.4s,baz=334,slow=8.0,SNR=3.0	106.52	13	PP	PP	13 09 22.2	-5.1
PDAR	Pinedale Array 0.6nm,0.9s,baz=45,slow=4.2,SNR=4.5	125.27	21	PKP	PKPdf	13 09 47.2	+2.4
TXAR	Lajitas Array 0.1nm,0.4s,baz=45,slow=1.3,SNR=3.1	139.33	24	PKP	PKPdf	13 10 15.3	+3.7
PLCA	Paso Flores 2.3nm,0.9s,baz=192,slow=7.2,SNR=3.7	144.45	200	PKP	PKPdf	13 10 21.3	+1.0
PLCA	Paso Flores	144.45	200	PKP	PKPdf	13 10 21.3	+1.0

*IDC **27** 12:52:38.1±0.8, 7.79N×93.94E, mb4.0/10, mb1 4.1/11, mb1mx4.0/19, mbtmp4.0/11, ML3.6/1, Error ellipse: s-maj=38.1km s-min=17.2km az=59.0*
*NEIC **27** 12:52:43.1±0.5, 7.82N×94.09E, h30km, mb4.5/5, Error ellipse: s-maj=18.9km s-min=11.2km az=67.0*
ISC 27 12:52:45.3±3.2, 7.9N±0.1×94.3E±0.1, h64km±29km, n22, σ1º05/20, mb4.1/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr 0.1nm,0.3s,baz=214,slow=14,SNR=4.5	11.42	23	Pn	P	12 55 27.1	-0.8
CMAR	Chiang Mai Arr	11.42	23	Pn	P	12 55 27.1	-0.8
HYB	Hyderabad	17.98	303	i P	P	12 56 53.0	+0.5
LSA	Lhasa 9.0nm,0.6s,mb4.4	21.86	353	eP	P	12 57 36.9	+2.7
SONM	Songino Array 0.9nm,0.8s,mb3.5,baz=180,slow=5.8,SNR=2.4	41.09	12	P	P	13 00 25.1	+0.7
KURK	Kurchatov 7.1nm,1.2s,mb4.4	44.59	346	eP	P	13 00 52.5	-0.3
NWAO	Narrogin (SRO) 7.0nm,1.0s,mb4.5,baz=298,slow=15,SNR=2.7	46.14	153	P	P	13 01 06.3	+1.0
ZAL	Zalesovo 1.5nm,0.8s,mb4.0,baz=277,slow=6.3,SNR=4.2	46.52	352	P	P	13 01 08.1	0.0
ZAL	Zalesovo	46.52	352	P	P	13 01 08.1	0.0
WRA	Warramunga Arr 1.1nm,0.5s,mb4.1,baz=304,slow=8.4,SNR=7.4	48.20	126	P	P	13 01 21.1	-0.5
WRAB	Tennant Creek 4.5nm,0.8s,mb4.5	48.20	126	eP	P	13 01 21.9	+0.2
CHKZ	Chkalovo 4.9nm,1.0s,mb4.5	49.47	342	eP	P	13 01 30.0	-0.9
ASAR	Alice Springs 1.3nm,0.9s,mb4.0,baz=316,slow=8.5,SNR=5.9	49.86	130	P	P	13 01 33.8	-0.6
KMBO	Kilima Mbogo 1.8nm,0.5s,mb4.3,baz=43,slow=9.9,SNR=6.6	57.54	264	P	P	13 02 31.3	+0.3
BRTR	Keskin Array B 0.8nm,0.9s,mb3.9,baz=141,slow=9.2,SNR=2.9	62.48	311	P	P	13 03 01.7	-2.7
MA2	Magadan 11nm,0.9s,mb4.9	66.67	28	P	P	13 03 34.6	+3.3
FINES	FINESS Array B 1.2nm,0.8s,mb3.9,baz=80,slow=8.5,SNR=2.6	72.72	332	P	P	13 04 09.1	+1.0
GERES	GERESS Array B 0.8nm,0.7s,mb3.8,baz=90,slow=6.7,SNR=3.7	77.87	318	P	P	13 04 37.3	-0.4
NOA	NORSAR Array B 0.5nm,0.8s,mb3.5,baz=118,slow=3.8,SNR=2.2	79.75	331	P	P	13 04 46.9	-0.8
NOA	NORSAR Array B	79.75	331	P	P	13 04 46.9	-0.8
PDAR	Pinedale Array 0.5nm,0.8s,baz=297,slow=2.0,SNR=3.5	125.08	21	PKP	PKPdf	13 11 41.7	+2.9
PLCA	Paso Flores 2.0nm,0.7s,baz=138,slow=4.4,SNR=4.5	144.63	200	PKP	PKPdf	13 12 16.8	+1.9

*NIED **27** 12:54:00, 25.70N×126.10E, h104km, Mw5.0 Best double couple: M0:3.32×10^16 NP1:φs220°, δ85°, λ33°. NP2:φs126°, δ57°, λ174°.*
*JMA **27** 12:54:00.9±0.1, 25.73N×126.08E, h69km±3km, M4.0*
*IDC **27** 12:54:01.2±0.8, 25.57N×126.31E, h56km±7km, mb3.8/14, mb1 3.9/15, mb1mx3.8/23, mbtmp4.1/15, Error ellipse: s-maj=14.8km s-min=10.0km az=129.0*
*NEIC **27** 12:54:01.6±1.2, 25.52N×126.19E, h60km±11km, mb4.5/10, MW5.0(NIED), Error ellipse: s-maj=12.2km s-min=10.4km az=80.0*
ISC 27 12:54:00.8±0.3, 25.57N±0.05×126.23E±0.05, h68km±4km, h57km±3.5km: pP-P, n46, σ1º00/60, mb4.1/23, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.90	34	P	P	12 54 17.8	-0.4
JKE				eS	S	12 54 30.4	-0.7
JOGS	Gusukube	1.10	223	P	P	12 54 21.1	+0.3
JOGS				eS	S	12 54 36.1	+0.6
JMJ	Miyako jima 2	1.13	228	P	P	12 54 21.8	+0.6
JMJ				eS	S	12 54 36.6	+0.2
JAGN	Aguni-jima	1.36	42	P	P	12 54 24.1	-0.3
JAGN				S	S	12 54 41.2	-0.7
NAH1	Naha	1.46	64	P	P	12 54 26.7	+1.0
NAH1				eS	S	12 54 45.9	+1.8
JJT2	Tamagusuku 2	1.48	67	P	P	12 54 26.7	+0.7
JJT2				eS	S	12 54 47.9	+3.2
JTJ	Tarama	1.67	236	P	P	12 54 28.5	0.0
JTJ				eS	S	12 54 50.5	+1.6
JIH	Iheya	2.13	47	P	P	12 54 35.3	+0.3
JIH				eS	S	12 55 00.1	-0.2
JOW	Kunigami 30nm,0.3s,baz=211,slow=13,SNR=94	2.23	55	P	P	12 54 36.5	+0.2
JOW				S	S	12 55 01.1	-1.5
	93nm,0.3s,baz=289,slow=30,SNR=7.2						
JOW	Kunigami	2.23	55	P	P	12 54 37.1	+0.8
JOW				eS	S	12 55 02.6	0.0
JIJ	Ishigaki jima	2.24	238	P	P	12 54 35.6	-0.9
JIJ				eS	S	12 55 02.3	-0.7
JKRS	Kuro-shima	2.41	237	P	P	12 54 38.1	-0.8
JKRS				eS	S	12 55 08.8	+1.5
IRIF	Iriomote-Funau	2.58	242	P	P	12 54 40.4	-0.9
IRIF				eS	S	12 55 11.0	-0.5
HATJ	Hateruma jima	2.67	236	P	P	12 54 42.6	+0.1
YOJ	Yonaguni jima	3.12	250	P	P	12 54 48.3	-0.6
JTK	Tokunoshima	3.29	47	P	P	12 54 50.1	-1.1
JAM	Amami Oshima	4.13	46	P	P	12 55 01.3	-1.7
TATO	Taipei	4.33	263	Pn	P	12 55 05.0	-0.8
JMZ	Minamidaito 2	4.51	86	P	P	12 55 04.3	-4.0
JMZ				eS	S	12 55 50.5	-9.5
ASAJ	Asahikawa 5.8nm,0.4s,mb4.3,baz=235,slow=14,SNR=8.4	22.79	32	P	P	12 58 59.5	+1.2
HIA	Hailar 3.3nm,0.7s,mb3.8	24.19	350	P	P	12 59 13.5	+1.7
ULN	Ulaanbaatar 4.9nm,1.2s,mb3.9	26.90	331	eP	P	12 59 37.1	-0.1
SONM	Songino Array 2.3nm,0.5s,mb4.0,baz=146,slow=11,SNR=9.6	27.17	330	P	P	12 59 40.2	+0.4
YAK	Yakutsk 18nm,0.8s,mb5.0	36.52	3	P	P	13 00 53.3	-7.9
ZAL	Zalesovo 1.2nm,0.5s,mb3.9,baz=4.1,slow=9.8,SNR=2.2	41.70	324	P	P	13 01 45.0	+0.7
WRAB	Tennant Creek 3.8nm,0.6s,mb4.3	45.92	169	eP	P	13 02 18.1	-0.6
WRA	Warramunga Arr 1.9nm,0.7s,mb4.0,baz=349,slow=9.0,SNR=15	45.92	169	P	P	13 02 18.1	-0.7
WRA				pP	pP	13 02 33.6	-2.4
	1.2nm,0.5s,baz=351,slow=8.5,SNR=6.6						
PALK	Pallekele 15nm,1.0s,mb4.7	47.02	255	eP	P	13 02 22.0	-5.6
BILL	Bilibino 3.3nm,0.8s,mb4.3	48.86	19	eP	P	13 02 34.2	-7.0
ASAR	Alice Springs 0.8nm,0.5s,mb3.9,baz=355,slow=8.2,SNR=24	49.51	171	P	P	13 02 46.5	-0.2
CHKZ	Chkalovo 9.3nm,1.0s,mb4.7	49.57	320	eP	P	13 02 55.1	+8.4
BVAR	Borovoye Array 0.7nm,0.3s,mb4.1,baz=98,slow=8.9,SNR=5.4	49.57	319	P	P	13 02 46.3	-0.5
BRVK	Borovoye 4.1nm,1.0s,mb4.3	49.64	319	P	P	13 02 44.7	-2.6
STKA	Stephens Creek 1.9nm,0.8s,mb4.2,baz=121,slow=4.0,SNR=4.0	58.98	165	P	P	13 03 54.0	-1.8
STKA	Stephens Creek	58.98	165	P	P	13 03 54.0	-1.8
MCK	McKinley	65.13	29	P	P	13 04 37.6	+1.3
ILAR	Eielson Array 0.5nm,0.9s,mb3.3,baz=253,slow=4.8,SNR=7.6	65.86	28	P	P	13 04 39.4	-1.7
ILAR				pP	pP	13 04 56.3	-2.9
	0.2nm,0.5s,baz=261,slow=4.7,SNR=2.1						
ARCES	ARCESS Array B 7.6nm,1.2s,mb4.4,baz=45,slow=5.1,SNR=3.2	69.95	338	P	P	13 05 06.4	0.0
INK	Inuvik 0.9nm,0.4s,mb4.0,baz=310,slow=7.8,SNR=8.4	70.20	23	P	P	13 05 09.2	+1.3
INK	Inuvik 2.3nm,0.8s,mb4.1	70.20	23	eP	P	13 05 08.2	+0.3
FINES	FINESS Array B 1.2nm,0.4s,mb4.1,baz=65,slow=6.0,SNR=12	72.54	330	P	P	13 05 21.6	-0.3
BRTR	Keskin Array B 1.4nm,0.8s,mb3.8,baz=90,slow=4.9,SNR=4.7	76.00	307	P	P	13 05 43.4	+1.0
NOA	NORSAR Array B 0.8nm,0.9s

*IDC **27** 12:55:18.6±0.8, 7.86N×94.23E, mb4.1/13, mb1 4.2/14, mb1mx4.1/21, mbtmp4.1/14, Error ellipse: s-maj=34.1km s-min=19.7km az=52.0*

ISC 27 12:55:21.9±0.7, 7.8N±0.1×94.2E±0.1, h33km, n17, σ1§05/14, mb4.1/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.56**	**23**	Pn	**P**	**12 58 08.3**	**+0.7**
	baz=214,slow=14,SNR=2.5						
SONM	**Songino Array**	**41.23**	**12**	P	**P**	**13 03 06.2**	**+0.8**
	1.3nm,0.9s,mb3.6,baz=180,slow=5.8,SNR=3.0						
ZAL	**Zalesovo**	**46.64**	**352**	P	**P**	**13 03 48.8**	**-0.1**
	3.0nm,0.7s,mb4.4,baz=292,slow=8.2,SNR=7.1						
WRA	**Warramunga Arr**	**48.15**	**126**	P	**P**	**13 04 02.1**	**+0.8**
	2.1nm,1.0s,mb4.1,baz=305,slow=9.0,SNR=4.6						
BVAR	**Borovoye Array**	**49.09**	**341**	P	**P**	**13 04 05.2**	**-2.8**
	2.0nm,0.9s,mb4.2,baz=124,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**49.81**	**130**	P	**P**	**13 04 12.6**	**-1.3**
	1.4nm,1.0s,mb3.9,baz=307,slow=7.4,SNR=2.7						
KMBO	**Kilima Mbogo**	**57.49**	**264**	P	**P**	**13 05 12.1**	**+1.4**
	2.7nm,0.9s,mb4.3,baz=50,slow=24,SNR=5.2						
AKASG	**Malin Array Be**	**68.26**	**322**	P	**P**	**13 06 19.1**	**-2.4**
	2.8nm,1.0s,mb4.2,baz=85,slow=5.0,SNR=4.4						
FINES	**FINESS Array B**	**72.82**	**332**	P	**P**	**13 06 48.7**	**-0.2**
	5.0nm,1.0s,mb4.4,baz=90,slow=6.9,SNR=4.4						
ARCES	**ARCESS Array B**	**75.37**	**340**	P	**P**	**13 07 03.3**	**-0.3**
	3.8nm,0.9s,mb4.3,baz=90,slow=8.1,SNR=2.9						
GERES	**GERESS Array B**	**77.94**	**318**	P	**P**	**13 07 18.7**	**+0.3**
	2.0nm,0.9s,mb4.0,baz=90,slow=4.0,SNR=5.5						
HFS	**Hagfors**	**78.56**	**330**	P	**P**	**13 07 21.9**	**+0.4**
	3.5nm,1.0s,mb4.2,baz=108,slow=4.6,SNR=4.1						
NOA	**NORSAR Array B**	**79.84**	**331**	P	**P**	**13 07 28.7**	**+0.2**
	1.2nm,1.0s,mb3.8,baz=86,slow=8.2,SNR=2.4						
DAVOX	**Davos**	**80.50**	**316**	P	**P**	**13 07 33.0**	**+0.7**
	3.5nm,0.8s,mb3.8,baz=148,slow=13,SNR=3.1						
PDAR	**Pinedale Array**	**125.22**	**21**	PKP	PKPdf	13 14 21.9	+2.2
	0.5nm,0.8s,slow=3.0,SNR=3.5						
PDAR	**Pinedale Array**	**125.22**	**21**	PKP	PKPdif	13 14 21.9	+2.2
PLCA	**Paso Flores**	**144.50**	**200**	PKP	PKPdif	13 14 56.5	+1.3
	3.2nm,0.8s,baz=180,slow=3.0,SNR=5.1						

*IDC **27** 12:56:59.7±1.1, 7.69N×93.83E, mb4.1/14, mb1 4.3/15, mb1mx4.1/23, mbtmp4.1/15, ML3.6/1, Error ellipse: s-maj=36.6km s-min=24.7km az=41.0*

ISC 27 12:57:03.0±0.9, 7.7N±0.1×94.0E±0.1, h33km, n24, σ1§01/23, mb4.3/20, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.72**	**24**	Pn	**P**	**12 59 49.6**	**-1.4**
	0.1nm,0.3s,baz=213,slow=14,SNR=8.3						
JIRN	**Jiri**	**21.18**	**341**	*eP*	**P**	**13 01 48.1**	**+0.2**
	55nm,1.1s,mb4.8						
PKI	**Pulchoki**	**21.37**	**339**	*eP*	**P**	**13 01 52.3**	**+2.5**
	42nm,0.9s,mb4.8						
DMN	**Daman**	**21.51**	**338**	*eP*	**P**	**13 01 52.9**	**+1.7**
	54nm,1.1s,mb4.9						
GUN	**Gumba**	**21.51**	**340**	*eP*	**P**	**13 01 50.6**	**-0.7**
KKN	**Kakani**	**21.61**	**339**	*eP*	**P**	**13 01 53.2**	**+1.0**
	18nm,0.7s,mb4.6						
GKN	**Gorkha**	**22.04**	**337**	*eP*	**P**	**13 01 56.2**	**-0.3**
	36nm,0.7s,mb4.9						
KOLN	**Koldanda**	**22.25**	**335**	*eP*	**P**	**13 01 59.2**	**+0.6**
	15nm,0.7s,mb4.5						
SONM	**Songino Array**	**41.36**	**13**	P	**P**	**13 04 48.8**	**+1.2**
	2.1nm,1.2s,mb3.6,baz=180,slow=5.8,SNR=2.4						
ZAL	**Zalesovo**	**46.70**	**353**	P	**P**	**13 05 30.1**	**-0.4**
	2.6nm,0.6s,mb4.4,baz=286,slow=7.9,SNR=7.0						
WRA	**Warramunga Arr**	**48.28**	**125**	P	**P**	**13 05 44.0**	**+0.7**
	0.5nm,0.7s,mb3.7,baz=303,slow=9.2,SNR=2.5						
BVAR	**Borovoye Array**	**49.10**	**341**	P	**P**	**13 05 47.6**	**-1.6**
	1.2nm,0.9s,mb3.9,baz=144,slow=12,SNR=3.8						
BRTR	**Keskin Array B**	**62.43**	**311**	P	**P**	**13 07 23.3**	**-2.0**
	1.2nm,0.6s,mb4.2,baz=128,slow=6.7,SNR=6.1						
AKASG	**Malin Array Be**	**68.19**	**322**	P	**P**	**13 08 01.1**	**-1.1**
	1.5nm,0.7s,mb4.1,baz=87,slow=4.7,SNR=4.8						
IDI	**Anoyia**	**68.54**	**305**	P	**P**	**13 08 04.4**	**-0.3**
	5.4nm,0.8s,mb4.6,baz=184,slow=23,SNR=3.1						
MLR	**Muntele Rosu**	**69.19**	**316**	P	**P**	**13 08 08.4**	**0.0**
	3.6nm,0.9s,mb4.3						
FINES	**FINESS Array B**	**72.79**	**332**	P	**P**	**13 08 29.6**	**-0.3**
	3.0nm,0.8s,mb4.3,baz=108,slow=6.0,SNR=5.7						
ARCES	**ARCESS Array B**	**75.37**	**340**	P	**P**	**13 08 44.9**	**+0.3**
	2.4nm,0.8s,mb4.2,baz=83,slow=7.3,SNR=3.0						
GERES	**GERESS Array B**	**77.85**	**318**	P	**P**	**13 08 59.3**	**+0.3**
	1.8nm,0.8s,mb4.1,baz=90,slow=5.3,SNR=6.0						
HFS	**Hagfors**	**78.53**	**330**	P	**P**	**13 09 02.2**	**-0.3**
	2.2nm,0.6s,mb4.3,baz=127,slow=7.4,SNR=6.0						
NB2	**NORSAR Subarra**	**79.81**	**331**	P	**P**	**13 09 09.5**	**+0.1**
	0.2nm,0.8s,baz=90,slow=6.2						
NOA	**NORSAR Array B**	**79.81**	**331**	P	**P**	**13 09 08.3**	**-1.1**
	1.4nm,0.8s,mb4.0,baz=94,slow=5.4,SNR=3.7						
DAVOX	**Davos**	**80.41**	**316**	P	**P**	**13 09 14.0**	**+1.0**
	2.2nm,0.6s,mb4.3,baz=117,slow=15,SNR=3.1						
PDAR	**Pinedale Array**	**125.38**	**21**	PKP	PKPdf	13 16 02.3	+1.2
	0.4nm,0.8s,baz=27,slow=2.0,SNR=3.2						

*MAN **27** 12:57:29.9, 16.50N×122.35E, h11km, mb4.7, ML3.6, MS3.6*

*IDC **27** 12:57:33.4±2.8, 16.53N×122.65E, h53km±28km, mb3.6/7, mb1 3.9/9, mb1mx3.7/22, mbtmp4.0/9, ML4.3/1, Error ellipse: s-maj=33.8km s-min=15.3km az=93.0*

*NEIC **27** 12:57:34.4±2.4, 16.57N×122.91E, h62km±24km, mb4.5/9, Error ellipse: s-maj=15.2km s-min=12.0km az=85.0*

ISC 27 12:57:29.4±0.4, 16.57N±0.04×122.52E±0.05, h33km, n24, σ1§19/29, mb4.2/14, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**1.31**	**329**	*eP*	**P**	**12 57 52.5**	**+1.1**
PCPH	**Palayan**	**1.70**	**234⇑**	*eP*	**P**	**12 57 56.2**	**-0.8**
PCPH				*i* S	**S**	**12 58 17.3**	**-0.5**
BCPH	**Baguio City Da**	**1.87**	**264⇑**	*eP*	**P**	**12 57 59.2**	**-0.3**
BCPH				*i* S	**S**	**12 58 20.9**	**-1.2**
LQP	**Lukban**	**2.62**	**201**	*eP*	**P**	**12 58 16.6**	**+6.3**
GQP	**Guinayangan**	**2.65**	**182⇓**	*eP*	**P**	**12 58 13.0**	**+2.3**
GQP				*eS*	**S**	**12 58 42.4**	**+0.4**
TGY	**Tagaytay City**	**2.89**	**212**	P	**P**	**12 58 19.2**	**+5.1**
	41nm,0.3s,baz=97,slow=18,SNR=3.7						
TGY				S	**S**	**12 58 58.2**	**+10**
	57nm,0.3s,baz=136,slow=21,SNR=5.8						
JOW	**Kunigami**	**11.52**	**27**	P	**P**	**13 00 14.2**	**-0.5**
JOW				S	**S**	**13 02 20.6**	**-2.6**
	1.2nm,0.3s,baz=127,slow=17,SNR=3.9						
MAJO	**Matsushiro**	**24.28**	**32**	P	**P**	**13 02 41.9**	**-2.8**
	19nm,1.2s,mb4.4						
ULN	**Ulaanbaatar**	**33.70**	**341**	*eP*	**P**	**13 04 10.7**	**+1.2**
	2.1nm,0.5s,mb4.3						
SONM	**Songino Array**	**33.88**	**340**	P	**P**	**13 04 12.3**	**+1.2**
	1.0nm,0.4s,mb4.1,baz=155,slow=9.7,SNR=4.0						
WRAB	**Tennant Creek**	**38.09**	**162**	*eP*	**P**	**13 04 45.9**	**-1.2**
	8.0nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**38.10**	**162**	P	**P**	**13 04 46.7**	**-0.4**
	1.4nm,0.7s,mb3.8,baz=344,slow=9.3,SNR=4.9						
TLY	**Talaya**	**38.11**	**341**	P	**P**	**13 04 48.3**	**+1.4**
	6.3nm,1.6s,mb4.1						
ASAR	**Alice Springs**	**41.51**	**164**	P	**P**	**13 05 15.3**	**-0.1**
	0.7nm,0.8s,mb3.3,baz=339,slow=7.7,SNR=2.9						
PALK	**Pallekele**	**41.87**	**262**	P	**P**	**13 05 22.5**	**+4.0**
	17nm,0.8s,mb4.7						
NWAO	**Narrogin (SRO)**	**49.48**	**186**	P	**P**	**13 06 16.8**	**-1.9**
	10nm,1.1s,mb4.8,baz=333,slow=8.0,SNR=2.3						
BVAR	**Borovoye Array**	**54.44**	**324**	P	**P**	**13 06 55.1**	**-0.6**
	0.9nm,0.4s,mb4.0,baz=117,slow=9.7,SNR=4.5						
BVAR	**Borovoye Array**	**54.44**	**324**	P	**P**	**13 06 55.1**	**-0.6**
BRVK	**Borovoye**	**54.51**	**324**	*eP*	**P**	**13 06 55.9**	**-0.3**
	2.8nm,0.7s,mb4.4						
DGAR	**Diego Garcia**	**54.96**	**248**	P	**P**	**13 07 01.0**	**+1.1**
	148nm,0.9s						
TAU	**Tasmania Unive**	**63.43**	**160**	P	**P**	**13 07 57.9**	**-0.3**
	13nm,0.9s,mb5.1						
MCK	**McKinley**	**74.65**	**27**	*eP*	**P**	**13 09 07.1**	**+0.3**
	3.9nm,1.2s,mb4.2						
ILAR	**Eielson Array**	**75.41**	**26**	P	**P**	**13 09 12.1**	**+0.9**
	0.2nm,0.8s,baz=269,slow=4.5,SNR=4.1						
YKA	**Yellowknife Ar**	**89.46**	**23**	P	**P**	**13 10 25.5**	**+1.6**
	0.5nm,0.9s,mb3.8,baz=306,slow=4.3,SNR=6.1						

*IDC **27** 12:58:01.6±8.1, 7.71N×93.96E, h51km±69km, mb3.6/9, mb1 3.8/10, mb1mx3.7/20, mbtmp3.9/10, ML3.8/1, Error ellipse: s-maj=66.3km s-min=18.8km az=53.0*

ISC 27 12:57:58.0±0.9, 7.7N±0.1×94.0E±0.2, h33km, n11, σ0§41/10, mb3.9/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.72**	**24**	P	**P**	**13 00 45.5**	**-0.4**
	0.2nm,0.3s,baz=211,slow=14,SNR=5.4						
SONM	**Songino Array**	**41.35**	**13**	P	**P**	**13 05 43.1**	**+0.7**
	0.5nm,0.4s,mb3.5,baz=202,slow=7.8,SNR=2.8						
ZAL	**Zalesovo**	**46.68**	**353**	P	**P**	**13 06 25.5**	**+0.3**
	2.8nm,0.8s,mb4.2,baz=289,slow=8.2,SNR=6.0						
WRA	**Warramunga Arr**	**48.31**	**125**	P	**P**	**13 06 38.3**	**-0.2**
	0.7nm,0.9s,mb3.7,baz=304,slow=8.7,SNR=3.4						
BVAR	**Borovoye Array**	**49.08**	**341**	P	**P**	**13 06 43.6**	**-0.4**
	1.5nm,0.9s,mb4.0,baz=194,slow=5.9,SNR=3.1						
ASAR	**Alice Springs**	**49.95**	**130**	P	**P**	**13 06 51.1**	**+0.1**
	0.6nm,0.9s,mb3.6,baz=304,slow=7.8,SNR=3.2						
BRTR	**Keskin Array B**	**62.40**	**311**	P	**P**	**13 08 19.5**	**-0.6**
	0.8nm,0.8s,mb3.9,baz=101,slow=7.3,SNR=2.7						
FINES	**FINESS Array B**	**72.77**	**332**	P	**P**	**13 09 25.0**	**+0.4**
	1.5nm,0.6s,mb4.1,baz=108,slow=4.4,SNR=4.0						
GERES	**GERESS Array B**	**77.83**	**318**	P	**P**	**13 09 54.3**	**+0.4**
	1.6nm,0.9s,mb3.9,baz=112,slow=5.3,SNR=3.5						
HFS	**Hagfors**	**78.51**	**330**	P	**P**	**13 09 57.1**	**-0.3**
	1.5nm,0.5s,mb4.2,baz=117,slow=9.7,SNR=3.0						
PDAR	**Pinedale Array**	**125.38**	**21**	PKP	PKPdf	13 16 55.8	-0.2
	0.5nm,0.9s,baz=256,slow=3.7,SNR=2.4						

*IDC **27** 12:58:47.2±0.6, 7.92N×94.17E, mb4.3/22, mb1 4.4/23, mb1mx4.4/27, mbtmp4.3/23, ML4.4/1, Error ellipse: s-maj=28.7km s-min=14.4km az=49.0*

*MOS **27** 12:58:50.3±1.3, 7.88N×94.11E, h33km, mb4.7/29, Error ellipse: s-maj=17.7km s-min=8.9km az=103.2*

*NEIC **27** 12:58:51.9±0.4, 7.89N×94.18E, h30km, mb4.7/11, Error ellipse: s-maj=12.9km s-min=8.8km az=60.0*

*BJI **27** 12:58:53.1, 7.84N×93.55E, h43km, mB5.6, mb4.5*

ISC 27 12:58:50.3±0.4, 7.81N±0.07×94.22E±0.08, h33km, n88, σ1§21/79, mb4.6/41, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.54**	**23**	*eP*	**P**	**13 01 32.7**	**-3.1**
CMAR	**Chiang Mai Arr**	**11.54**	**23**	P	**P**	**13 01 37.5**	**+1.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.54**	**23**	Pn	**P**	**13 01 37.5**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=211,slow=14,SNR=7.7						
JIRN	**Jiri**	**21.16**	**340**	*eP*	**P**	**13 03 37.6**	**+2.6**
	comp=Z,62nm,0.9s,mb5.0						
PKI	**Pulchoki**	**21.35**	**338**	*eP*	**P**	**13 03 38.6**	**+1.7**
	comp=Z,38nm,0.6s,mb4.9						
GUN	**Gumba**	**21.49**	**339**	*eP*	**P**	**13 03 38.6**	**+0.3**
	comp=Z,88nm,1.0s,mb5.1						
DMN	**Daman**	**21.50**	**337**	*eP*	**P**	**13 03 40.4**	**+2.0**
	comp=Z,70nm,0.8s,mb5.1						
KKN	**Kakani**	**21.60**	**338**	*eP*	**P**	**13 03 41.0**	**+1.6**
	comp=Z,62nm,1.0s,mb5.0						
KAD	**Karad**	**21.69**	**298**	*eP*	**P**	**13 03 40.9**	**+0.5**
KAD				*eP*		13 03 40.9	
LSA	**Lhasa**	**21.96**	**353**	*eP*	**P**	**13 03 42.9**	**-0.1**
LSA				pmax	pmax		
	comp=Z,26nm,0.8s,mb4.7						
LSA	**Lhasa**	**21.96**	**353**	*eP*	**P**	**13 03 42.9**	**-0.1**
	comp=Z,26nm,0.8s,mb4.7						
GKN	**Gorkha**	**22.03**	**337**	*eP*	**P**	**13 03 43.5**	**-0.2**
	comp=Z,67nm,0.9s,mb5.1						
KOLN	**Koldanda**	**22.25**	**334**	*eP*	**P**	**13 03 46.4**	**+0.5**
ENH	**Enshi**	**26.53**	**31**	*eP*	**P**	**13 04 27.8**	**+0.7**
	comp=Z,14nm,0.8s,mb4.5						
DDI	**Dehra Dun**	**27.04**	**328**	*e*	**P**	**13 04 43.0**	**+11**
AAK	**Ala-Archa**	**38.79**	**337**	*eP*	**P**	**13 06 13.8**	**+0.2**
AAK				*e*		13 06 26.4	
SONM	**Songino Array**	**41.21**	**12**	P	**P**	**13 06 34.3**	**+0.8**
	comp=Z,2.6nm,0.9s,mb3.9,baz=194,slow=5.1,SNR=5.1						
SONM				PcP	PcP	13 08 33.1	+0.3
	comp=Z,1.9nm,0.8s,baz=180,slow=2.9,SNR=3.2						
KURK	**Kurchatov**	**44.69**	**346**	*eP*	**P**	**13 07 01.0**	**-0.9**
KURK				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.7						
KURK	**Kurchatov**	**44.69**	**346**	*eP*	**P**	**13 07 01.0**	**-0.9**
	comp=Z,15nm,1.2s,mb4.7						
NWAO	**Narrogin (SRO)**	**46.06**	**153**	P	**P**	**13 07 14.4**	**+1.4**
NWAO				pmax	pmax		
	comp=Z,15nm,1.2s						
NWAO	**Narrogin (SRO)**	**46.06**	**153**	P	**P**	**13 07 14.4**	**+1.3**
	comp=Z,15nm,1.2s,mb4.8,baz=278,slow=4.5,SNR=6.5						
ZAL	**Zalesovo**	**46.62**	**352**	P	**P**	**13 07 16.4**	**-0.7**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZAL	**Zalesovo**	**46.62**	**352**	P	**P**	**13 07 16.4**	**-0.7**
	comp=Z,4.1nm,0.5s,mb4.7,baz=293,slow=8.2,SNR=8.2						
NVS	**Novosibirsk**	**47.72**	**351**	*i P*	**P**	**13 07 24.6**	**-1.2**
WRA	**Warramunga Arr**	**48.16**	**126**	P	**P**	**13 07 29.2**	**-0.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**48.16**	**126**	P	**P**	**13 07 29.2**	**-0.5**
	comp=Z,2.1nm,0.9s,mb4.2,baz=304,slow=8.7,SNR=6.4						
WRAB	**Tennant Creek**	**48.16**	**126**	*eP*	**P**	**13 07 30.0**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
WRAB	**Tennant Creek**	**48.16**	**126**	*eP*	**P**	**13 07 30.0**	**+0.2**
	comp=Z,9.0nm,1.1s,mb4.7						
BVAR	**Borovoye Array**	**49.07**	**341**	P	**P**	**13 07 35.3**	**-0.9**
	comp=Z,0.9nm,0.6s,mb4.0,baz=146,slow=10,SNR=2.8						
RAYN	**Ar Rayn**	**49.18**	**294**	P	**P**	**13 07 38.1**	**+0.5**
	comp=Z,55nm,0.9s,mb5.6,SNR=8.5						
CHKZ	**Chkalovo**	**49.56**	**342**	*eP*	**P**	**13 07 36.4**	**-3.6**
CHKZ				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
CHKZ	**Chkalovo**	**49.56**	**342**	*eP*	**P**	**13 07 36.4**	**-3.6**
	comp=Z,11nm,0.9s,mb4.9						
ASAR	**Alice Springs**	**49.81**	**130**	P	**P**	**13 07 41.9**	**-0.5**
	comp=Z,1.7nm,0.8s,mb4.1,baz=307,slow=6.8,SNR=5.9						
BOD	**Bodaibo**	**52.19**	**13**	*eP*	**P**	**13 07 59.2**	**-0.7**
KMBO	**Kilima Mbogo**	**57.49**	**264**	P	**P**	**13 08 40.7**	**+1.5**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KMBO	**Kilima Mbogo**	**57.49**	**264**	P	**P**	**13 08 40.7**	**+1.6**
	comp=Z,1.4nm,0.3s,mb4.4,baz=54,slow=15,SNR=5.3						
KMBO	**Kilima Mbogo**	**57.49**	**264**	*eP*	**P**	**13 08 40.7**	**+1.5**
	comp=Z,4.4nm,0.9s,mb4.5						
EIL	**Elat**	**59.52**	**300**	P	**P**	**13 08 52.8**	**-0.3**
	comp=Z,3.2nm,0.5s,mb4.6,baz=113,slow=35,SNR=3.8						
STKA	**Stephens Creek**	**60.01**	**134**	P	**P**	**13 08 56.6**	**+0.3**
	comp=Z,1.9nm,0.5s,mb4.3,baz=322,slow=19,SNR=2.7						
YAK	**Yakutsk**	**60.03**	**18**	*eP*	**P**	**13 08 55.6**	**-0.5**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
BRTR	**Keskin Array B**	**62.53**	**311**	P	**P**	**13 09 11.0**	**-2.3**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	**62.53**	**311**	P	**P**	**13 09 11.0**	**-2.3**
	comp=Z,1.7nm,0.7s,mb4.3,baz=128,slow=8.0,SNR=6.5						
OBN	**Obninsk**	**65.47**	**328**	*eP*	**P**	**13 09 30.3**	**-1.9**
OBN				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
MA2	**Magadan**	**66.78**	**28**	*eP*	**P**	**13 09 39.7**	**-0.8**
MA2				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
MA2	**Magadan**	**66.78**	**28**	*eP*	**P**	**13 09 39.7**	**-0.7**
	comp=Z,12nm,0.9s,mb4.9						
TIXI	**Tiksi**	**67.28**	**11**	*eP*	**P**	**13 09 42.0**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
AKASG	**Malin Array Be**	**68.25**	**322**	P	**P**	**13 09 47.3**	**-2.5**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**68.25**	**322**	P	**P**	**13 09 47.2**	**-2.6**
	comp=Z,1.5nm,0.6s,mb4.2,baz=88,slow=5.1,SNR=5.5						
IDI	**Anoyia**	**68.67**	**305**	P	**P**	**13 09 51.7**	**-1.0**
	comp=Z,6.4nm,0.6s,mb4.8,baz=70,slow=10,SNR=3.5						
MLR	**Muntele Rosu**	**69.27**	**316**	P	**P**	**13 09 55.0**	**-1.2**
MLR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MLR	**Muntele Rosu**	**69.27**	**316**	P	**P**	**13 09 55.0**	**-1.3**
	comp=Z,3.1nm,0.8s,mb4.3,baz=61,slow=22,SNR=2.9						
FINES	**FINESS Array B**	**72.80**	**332**	P	**P**	**13 10 17.1**	**-0.1**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	**FINESS Array B**	**72.80**	**332**	P	**P**	**13 10 17.1**	**-0.1**
	comp=Z,4.3nm,0.8s,mb4.4,baz=112,slow=7.5,SNR=8.5						
ARCES	**ARCESS Array B**	**75.35**	**340**	P	**P**	**13 10 31.8**	**0.0**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES	**ARCESS Array B**	**75.35**	**340**	P	**P**	**13 10 31.8**	**-0.1**
	comp=Z,6.3nm,1.0s,mb4.5,baz=45,slow=5.1,SNR=5.0						
VRAC	**Vranov**	**76.05**	**319**	P	**P**	**13 10 35.8**	**-0.4**
VRAC				pmax	pmax		
	comp=Z,2.0nm,0.4s						
VRAC	**Vranov**	**76.05**	**319**	P	**P**	**13 10 35.8**	**-0.4**
	comp=Z,2.3nm,0.4s,mb4.5,baz=333,slow=15,SNR=2.9						
BILL	**Bilibino**	**76.11**	**22**	*eP*	**P**	**13 10 36.1**	**-0.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
BILL	**Bilibino**	**76.11**	**22**	*eP*	**P**	**13 10 36.1**	**-0.1**
	comp=Z,2.3nm,0.3s,mb4.6						
GERES	**GERESS Array B**	**77.92**	**318**	P	**P**	**13 10 46.3**	**-0.4**
GERES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GERES	**GERESS Array B**	**77.92**	**318**	P	**P**	**13 10 46.3**	**-0.4**
	comp=Z,2.8nm,0.7s,mb4.3,baz=90,slow=5.3,SNR=3.9						
HFS	**Hagfors**	**78.55**	**330**	P	**P**	**13 10 49.6**	**-0.3**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HFS	**Hagfors**	**78.55**	**330**	P	**P**	**13 10 49.6**	**-0.3**
	comp=Z,4.0nm,0.7s,mb4.4,baz=117,slow=3.3,SNR=6.7						
GRA1	**Grafenberg Arr**	**79.56**	**319**	*eP*	**P**	**13 11 01.3**	**+5.6**
GRF	**Grafenberg Arr**	**79.56**	**319**	*eP*	**P**	**13 11 01.3**	**+5.6**
NB2	**NORSAR Subarra**	**79.82**	**331**	P	**P**	**13 10 56.6**	**-0.2**
	comp=Z,2.3nm,0.8s,mb4.2,baz=97,slow=5.0						
NB2	**NORSAR Subarra**	**79.82**	**331**	P	**P**	**13 10 56.6**	**-0.2**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
NOA	**NORSAR Array B**	**79.82**	**331**	P	**P**	**13 10 55.6**	**-1.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**79.82**	**331**	P	**P**	**13 10 55.6**	**-1.2**
	comp=Z,2.2nm,0.8s,mb4.2,baz=95,slow=5.2,SNR=6.1						
DAVOX	**Davos**	**80.49**	**316**	P	**P**	**13 10 59.5**	**-1.2**
	comp=Z,3.6nm,0.8s,mb4.4,baz=139,slow=11,SNR=2.7						
LPG	**La Plagne**	**82.72**	**315**	*eP*	**P**	**13 11 15.4**	**+3.1**
	comp=Z,16nm,0.8s,mb4.8						
LPG	**La Plagne**	**82.72**	**315**	*eP*	**P**	**13 11 15.4**	**+3.1**
LPG				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
EKA	**Eskdalemuir Ar**	**87.82**	**325**	P	**P**	**13 11 39.6**	**+2.3**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**87.82**	**325**	P	**P**	**13 11 39.6**	**+2.3**
	comp=Z,1.9nm,0.8s,mb4.4,baz=84,slow=7.1,SNR=3.2						
IMA	**Indian Mountai**	**91.65**	**22**	*eP*	**P**	**13 11 57.3**	**+2.2**
ILAR	**Eielson Array**	**94.77**	**22**	P	**P**	**13 12 09.2**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**94.77**	**22**	P	**P**	**13 12 09.2**	**-0.2**
	comp=Z,0.6nm,0.8s,mb4.1,baz=290,slow=3.0,SNR=7.6						
RES	**Resolute Bay**	**97.46**	**2**	*eP*	**P**	**13 12 23.1**	**+1.6**
RES				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
RES	**Resolute Bay**	**97.46**	**2**	*eP*	**P**	**13 12 23.1**	**+1.

comp=Z,2.9nm,0.8s,mb4.3,baz=145,slow=18,SNR=2.2
MLR Muntele Rosu 69.21 316 P **P** **13 10 54.8 -0.1**
FINES FINESS Array B 72.76 332 P **P** **13 11 15.0 -0.9**
comp=Z,3.7nm,0.7s,mb4.4,baz=116,slow=6.9,SNR=5.0
ARCES ARCESS Array B 75.33 340 P **P** **13 11 30.6 0.0**
comp=Z,2.3nm,0.6s,mb4.3,baz=102,slow=4.3,SNR=6.7
VRAC Vranov 75.99 319 P **P** **13 11 35.9 +1.1**
comp=Z,1.9nm,0.4s,mb4.4,baz=269,slow=5.3,SNR=2.7
BRG Berggiesshubel 77.79 320 P pP 13 11 51.5 -0.3
comp=Z,6.0nm,0.8s
GERES GERESS Array B 77.87 318 P **P** **13 11 45.5 +0.3**
comp=Z,1.4nm,0.5s,mb4.2,baz=90,slow=5.3,SNR=5.5
KHC Kasperske Hory 77.96 319 *eP* **P** **13 11 45.0 -0.8**
CLL Collm 78.40 321 *e**PP pP 13 11 54.0 -1.2
HFS Hagfors 78.51 330 P **P** **13 11 48.2 -0.4**
comp=Z,7.0nm,0.5s,mb4.8,baz=118,slow=2.2,SNR=11
NB2 NORSAR Subarra 79.78 331 P **P** **13 11 54.7 -0.8**
comp=Z,2.6nm,0.5s,mb4.4,baz=97,slow=5.0
NOA NORSAR Array B 79.78 331 P **P** **13 11 55.2 -0.3**
comp=Z,2.2nm,0.6s,mb4.3,baz=96,slow=5.3,SNR=4.9
DAVOX Davos 80.43 316 P **P** **13 12 00.1 +0.9**
comp=Z,3.4nm,0.5s,mb4.6,baz=144,slow=19,SNR=2.2
STU Stuttgart 80.84 318 *eP* **P** **13 12 01.4 0.0**
comp=Z,60nm,0.6s
LPG La Plagne 82.65 315 *eP* **P** **13 12 11.8 +0.9**
comp=Z,17nm,0.8s,mb4.8
EKA Eskdalemuir Ar 87.77 325 P **P** **13 12 36.6 +0.5**
comp=Z,2.7nm,0.9s,mb4.5,baz=96,slow=5.9,SNR=3.6
IMA Indian Mountai 91.69 22 *eP* **P** **13 12 55.7 +1.4**
SPU Mount Spurr 94.35 26 *eP* **P** **13 13 07.4 +0.8**
ILAR Eielson Array 94.82 22 P **P** **13 13 07.8 -0.8**
comp=Z,0.3nm,0.8s,mb3.8,baz=297,slow=4.0,SNR=3.1
NVAR Mina Array Bea 124.99 31 PKP PKPdf 13 18 49.4 -1.7
comp=Z,0.5nm,0.6s,baz=270,slow=1.8,SNR=3.1
NVAR Mina Array Bea 124.99 31 PKP PKPdf 13 18 49.4 -1.7
PDAR Pinedale Array 125.24 21 PKP PKPdf 13 18 48.6 -2.8
comp=Z,1.4nm,1.1s,baz=13,slow=1.7,SNR=4.7
SADO Sadowa 127.32 354 PKP PKPdf 13 18 53.8 -1.6
comp=Z,4.4nm,0.8s,baz=115,slow=20,SNR=3.5
MSU Marysvale 127.82 26 *e*PKPdf PKPdf 13 18 55.4 -1.2
ANMO Albuquerque 133.24 23 PKP PKPdf 13 19 03.4 -3.6
comp=Z,0.6nm,0.5s,baz=90,slow=23,SNR=2.1
TXAR Lajitas Array 139.30 24 PKhKP 13 19 09.9
comp=Z,0.2nm,0.3s,slow=0.9,SNR=3.5
PLCA Paso Flores 144.48 200 PKP PKPdf 13 19 23.9 -3.0
comp=Z,7.3nm,1.0s,baz=115,slow=2.6,SNR=5.5
LPAZ La Paz 160.72 242 PKPab PKPab 13 20 32.3 +1.4
comp=Z,0.9nm,0.5s,baz=48,slow=12,SNR=3.1

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*BJI **27** 13:01:12.7, 7.55N×93.93E, h53km, mB5.3, mb4.6, Ms4.9, Msz4.6*
*MOS **27** 13:01:13.0±1.2, 8.03N×94.19E, h33km, mb5.0/39, Error ellipse: s-maj=13.3km s-min=7.3km az=106.7*
*NEIC **27** 13:01:14.2±0.3, 7.95N×94.11E, h30km, mb4.8/38, Error ellipse: s-maj=7.7km s-min=7.2km az=96.0*
*IDC **27** 13:01:16.0±4.1, 8.00N×94.20E, h44km±38km, mb4.4/24, mb1 4.5/25, mb1mx4.4/28, mbtmp4.6/25, ML4.3/1, MS4.4/1, Ms1 4.4/1, ms1mx3.2/27, Error ellipse: s-maj=23.0km s-min=11.4km az=50.0*

ISC 27 13:01:11.4±2.4, 7.96N±0.05×94.14E±0.06, h23km±17km, n149, σ1°13/131, mb4.8/62, MS4.6/2, 1C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.43**	**24**	*eP*	**P**	**13 03 57.5**	**+0.9**
	38nm,1.1s						
CMAR	**Chiang Mai Arr**	**11.43**	**24**	P	**P**	**13 03 57.0**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.43**	**24**	P	**P**	**13 03 57.0**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=210,slow=14,SNR=6.4						
PALK	**Pallekele**	**13.33**	**268**	*eP*	**P**	**13 04 20.1**	**-2.0**
	comp=Z,13nm,0.9s						
QIZ	**Qiongzhong**	**18.80**	**53**	*eP*	**P**	**13 05 35.1**	**+3.1**
	comp=Z,23nm,0.9s						
KMI	**Kunming**	**18.94**	**25**	P	**P**	**13 05 37.1**	**+3.6**
KMI				pmax	pmax		
	comp=Z,20nm,1.1s						
KMI	**Kunming**	**18.94**	**25**	P	**P**	**13 05 37.1**	**+3.6**
	comp=Z,20nm,1.1s						
COCO	**West Island**	**20.20**	**172**	*eP*	**P**	**13 05 49.3**	**+1.6**
	comp=Z,189nm,1.0s						
JIRN	**Jiri**	**20.98**	**340**	*eP*	**P**	**13 05 56.6**	**+0.9**
	comp=Z,127nm,0.9s						
PKI	**Pulchoki**	**21.18**	**338**	*eP*	**P**	**13 05 57.6**	**-0.1**
	comp=Z,217nm,1.1s,mb5.4						
GUN	**Gumba**	**21.32**	**340**	*eP*	**P**	**13 05 59.2**	**+0.1**
	comp=Z,252nm,1.1s,mb5.5						
DMN	**Daman**	**21.33**	**337**	*eP*	**P**	**13 05 59.3**	**+0.1**
	comp=Z,103nm,0.8s,mb5.2						
KKN	**Kakani**	**21.43**	**338**	*eP*	**P**	**13 06 00.0**	**-0.2**
	comp=Z,62nm,0.7s,mb5.0						
LSA	**Lhasa**	**21.80**	**353**	P	**P**	**13 06 07.8**	**+3.8**
LSA	**Lhasa**	**21.80**	**353**	*eP*	**P**	**13 06 02.7**	**-1.3**
LSA				pmax	pmax		
	comp=Z,81nm,0.9s,mb5.2						
LSA	**Lhasa**	**21.80**	**353**	*eP*	**P**	**13 06 02.7**	**-1.3**
	comp=Z,81nm,0.9s,mb5.2						
GKN	**Gorkha**	**21.86**	**337**	*eP*	**P**	**13 06 04.9**	**+0.3**
	comp=Z,152nm,0.7s,mb5.5						
KOLN	**Koldanda**	**22.08**	**334**	*eP*	**P**	**13 06 07.6**	**+0.9**
	comp=Z,295nm,1.2s,mb5.6						
ENH	**Enshi**	**26.45**	**31**	*eP*	**P**	**13 06 47.7**	**-1.0**
	comp=Z,17nm,0.8s,mb4.6						
WMQ	**Urumqi**	**36.16**	**352**	P	**P**	**13 08 15.5**	**+1.4**
WMQ				AP	pP	13 08 25.3	+4.4
WMQ				PP	PP	13 09 38.0	+1.2
WMQ				PCP	PcP	13 10 41.3	+1.4
WMQ				S	**S**	**13 13 52.0**	**+0.1**
WMQ				AMB	AMB		
	comp=Z,43nm,1.0s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,295nm,5.4s						
WMQ				LR	LR		
	comp=N,768nm,16.4s,MS4.7						
WMQ				LR	LR		
	comp=E,625nm,16.2s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,16.5s,MS4.7						
BJT	**Baijiatuau**	**37.51**	**28**	*eP*	**P**	**13 08 20.9**	**-4.6**
BJT				pmax	pmax		
	comp=Z,17nm,1.4s						
BJT	**Baijiatuau**	**37.51**	**28**	*eP*	**P**	**13 08 20.9**	**-4.6**
	comp=Z,17nm,1.4s,mb4.6						
BJI	**Beijing**	**37.53**	**28**	*eP*	**P**	**13 08 21.0**	**-4.7**
BJI				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.1						
BJI	**Beijing**	**37.53**	**28**	*eP*	**P**	**13 08 21.0**	**-4.7**
	comp=Z,6.0nm,1.5s,mb4.1						
AAK	**Ala-Archa**	**38.62**	**337**	*eP*	**P**	**13 08 33.2**	**-1.6**
AAK				pmax	pmax		
	comp=Z,28nm,1.1s,mb4.9						
AAK	**Ala-Archa**	**38.62**	**337**	*eP*	**P**	**13 08 33.2**	**-1.6**
	comp=Z,28nm,1.1s,mb4.9						
SONM	**Songino Array**	**41.08**	**13**	P	**P**	**13 08 56.1**	**+1.0**
	comp=Z,3.8nm,0.9s,mb4.0,baz=211,slow=7.2,SNR=4.7						
ULN	**Ulaanbaatar**	**41.25**	**13**	*eP*	**P**	**13 08 58.0**	**+1.5**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**41.25**	**13**	*eP*	**P**	**13 08 58.0**	**+1.6**
	comp=Z,3.4nm,0.8s,mb4.0						
ULN				*eP*		13 08 59.8	
KS15	**Wonju Array Si**	**42.37**	**41**	*eP*	**P**	**13 09 06.7**	**+0.9**
ZAK	**Zakamensk**	**42.96**	**9**	*eP*	**P**	**13 09 09.7**	**-0.8**
TLY	**Talaya**	**44.28**	**8**	*eP*	**P**	**13 09 21.2**	**0.0**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
TLY	**Talaya**	**44.28**	**8**	*eP*	**P**	**13 09 21.2**	**0.0**
	comp=Z,2.9nm,0.7s,mb4.1						
KURK	**Kurchatov**	**44.52**	**346**	*eP*	**P**	**13 09 22.9**	**-0.2**
KURK				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.0						
KURK	**Kurchatov**	**44.52**	**346**	*eP*	**P**	**13 09 22.9**	**-0.2**
	comp=Z,23nm,0.9s,mb5.0						
NWAO	**Narrogin (SRO)**	**46.23**	**153**	*eP*	**P**	**13 09 36.4**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,18nm,0.9s						
NWAO	**Narrogin (SRO)**	**46.23**	**153**	P	**P**	**13 09 36.9**	**-0.1**
	comp=Z,29nm,1.1s,mb5.1,baz=312,slow=9.2,SNR=6.8						
NWAO	**Narrogin (SRO)**	**46.23**	**153**	*eP*	**P**	**13 09 36.4**	**-0.5**
	comp=Z,18nm,0.9s,mb5.0						
HIA	**Hailar**	**46.44**	**23**	*eP*	**P**	**13 09 38.8**	**+0.4**
HIA				pmax	pmax		
	comp=Z,13nm,1.0s						
HIA	**Hailar**	**46.44**	**23**	*eP*	**P**	**13 09 38.8**	**+0.5**
	comp=Z,13nm,1.0s,mb4.8						
ZAL	**Zalesovo**	**46.46**	**352**	P	**P**	**13 09 39.2**	**+0.8**
ZAL				pmax	pmax		
	comp=Z,12nm,1.0s						
ZAL	**Zalesovo**	**46.46**	**352**	P	**P**	**13 09 39.2**	**+0.8**
	comp=Z,12nm,1.0s,mb4.8,baz=299,slow=8.7,SNR=8.0						
NVS	**Novosibirsk**	**47.55**	**351**	*i P*	**P**	**13 09 45.6**	**-1.5**
WRA	**Warramunga Arr**	**48.32**	**126**	P	**P**	**13 09 51.9**	**-1.6**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WRA	**Warramunga Arr**	**48.32**	**126**	P	**P**	**13 09 51.9**	**-1.6**
	comp=Z,5.2nm,0.6s,mb4.7,baz=304,slow=8.5,SNR=9.3						
WRAB	**Tennant Creek**	**48.32**	**126**	*eP*	**P**	**13 09 51.9**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**48.32**	**126**	*eP*	**P**	**13 09 51.9**	**-1.7**
	comp=Z,12nm,0.8s,mb5.0						
BVAR	**Borovoye Array**	**48.90**	**341**	P	**P**	**13 09 56.9**	**-0.7**
	comp=Z,4.4nm,0.8s,mb4.5,baz=135,slow=8.4,SNR=5.7						
BVAR				PcP	PcP	13 11 22.6	+0.5
	comp=Z,1.2nm,0.6s,baz=153,slow=6.6,SNR=2.6						
BRVK	**Borovoye**	**48.97**	**341**	*eP*	**P**	**13 09 55.9**	**-2.1**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
BRVK	**Borovoye**	**48.97**	**341**	*eP*	**P**	**13 09 55.9**	**-2.2**
	comp=Z,7.5nm,1.0s,mb4.7						
MAJO	**Matsushiro**	**49.10**	**48**	P	pP	13 10 06.3	0.0
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MAJO	**Matsushiro**	**49.10**	**48**	P	pP	13 10 06.3	-0.1
	comp=Z,9.6nm,0.9s						
CHKZ	**Chkalovo**	**49.39**	**342**	*eP*	**P**	**13 10 00.3**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2						
CHKZ	**Chkalovo**	**49.39**	**342**	*eP*	**P**	**13 10 00.3**	**-1.0**
	comp=Z,19nm,0.8s,mb5.2						
ASAR	**Alice Springs**	**49.98**	**130**	P	**P**	**13 10 04.5**	**-1.8**
	comp=Z,3.8nm,0.7s,mb4.5,baz=308,slow=7.6,SNR=8.4						
ASAR				PcP	PcP	13 11 25.6	-0.8
	comp=Z,2.6nm,0.8s,baz=305,slow=3.2,SNR=6.8						
SVE	**Sverdlovsk**	**55.32**	**338**	*eP*	**P**	**13 10 42.0**	**-3.6**
SVE				pmax	pmax		
	comp=Z,60nm,2.0s,mb5.3						
ASAJ	**Asahikawa**	**55.35**	**41**	LR	LR	13 33 43.9	
	comp=Z,346nm,18.8s,MS4.5,baz=352,slow=35						
PMG	**Port Moresby**	**55.56**	**107**	*eP*	**P**	**13 10 47.8**	**-0.2**
PMG				pmax	pmax		
	comp=Z,30nm,0.9s						
PMG	**Port Moresby**	**55.56**	**107**	P	**P**	**13 10 48.1**	**+0.2**
	comp=Z,24nm,0.8s,mb5.3,baz=281,slow=3.7,SNR=7.7						
PMG	**Port Moresby**	**55.56**	**107**	*eP*	**P**	**13 10 47.8**	**-0.2**
	comp=Z,30nm,0.9s,mb5.3						
ARU	**Arti**	**55.80**	**337**	*eP*	**P**	**13 10 41.9**	**-7.2**
KIV	**Kislovodsk**	**57.25**	**318**	*eP*	**P**	**13 10 59.3**	**-0.3**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
KIV	**Kislovodsk**	**57.25**	**318**	*eP*	**P**	**13 10 59.2**	**-0.4**
	comp=Z,9.4nm,0.6s,mb5.0						
KMBO	**Kilima Mbogo**	**57.43**	**264**	*eP*	**P**	**13 11 02.9**	**+1.6**
KMBO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KMBO	**Kilima Mbogo**	**57.43**	**264**	P	**P**	**13 11 02.6**	**+1.3**
	comp=Z,5.6nm,0.9s,mb4.6,baz=57,slow=13,SNR=6.0						
KMBO	**Kilima Mbogo**	**57.43**	**264**	*eP*	**P**	**13 11 02.9**	**+1.5**
	comp=Z,6.7nm,0.9s,mb4.7						
ASF	**Jabal al Asfar**	**58.16**	**303**	P	**P**	**13 11 06.2**	**0.0**
	comp=Z,3.2nm,0.8s,mb4.4,baz=332,slow=7.7,SNR=4.0						
MALT	**Malatya**	**58.40**	**310**	*eP*	**P**	**13 11 06.6**	**-1.2**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
MALT	**Malatya**	**58.40**	**310**	*eP*	**P**	**13 11 06.6**	**-1.2**
	comp=Z,2.2nm,0.7s,mb4.3						
EIL	**Elat**	**59.38**	**300**	P	**P**	**13 11 15.9**	**+1.2**
	comp=Z,4.7nm,0.8s,mb4.6,baz=135,slow=5.7,SNR=3.8						
EIL	**Elat**	**59.38**	**300**	*eP*	**P**	**13 11 14.8**	**+0.1**
	comp=Z,7.1nm,0.9s,mb4.7						
YAK	**Yakutsk**	**59.91**	**18**	*eP*	**P**	**13 11 17.0**	**-0.9**
YAK				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.3						
YAK	**Yakutsk**	**59.91**	**18**	*eP*	**P**	**13 11 16.9**	**-1.0**
	comp=Z,27nm,0.9s,mb5.3						
STKA	**Stephens Creek**	**60.17**	**134**	P	**P**	**13 11 18.7**	**-1.4**
	comp=Z,3.2nm,0.4s,mb4.7,baz=347,slow=15,SNR=3.8						
BRTR	**Keskin Array B**	**62.37**	**311**	P	**P**	**13 11 33.1**	**-1.8**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRTR	**Keskin Array B**	**62.37**	**311**	P	**P**	**13 11 33.0**	**-1.8**
	comp=Z,3.2nm,0.8s,mb4.5,baz=119,slow=6.3,SNR=6.0						
OBN	**Obninsk**	**65.30**	**328**	*eP*	**P**	**13 11 56.0**	**+2.2**
OBN				pmax	pmax		
	comp=Z,67nm,2.1s,mb5.3						
OBN	**Obninsk**	**65.30**	**328**	P	**P**	**13 11 48.7**	**-5.1**
	comp=Z,121nm,1.9s,mb5.6						
MA2	**Magadan**	**66.69**	**28**	P	**P**	**13 12 03.1**	**+0.5**
MA2				pmax	pmax		
	comp=Z,19nm,1.3s,mb5.0						
MA2	**Magadan**	**66.69**	**28**	P	**P**	**13 12 03.1**	**+0.5**
	comp=Z,19nm,1.3s,mb5.0						
TIXI	**Tiksi**	**67.15**	**11**	*eP*	**P**	**13 12 03.0**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
AKASG	**Malin Array Be**	**68.08**	**322**	P	**P**	**13 12 09.3**	**-2.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**68.08**	**322**	P	**P**	**13 12 09.3**	**-2.2**
	comp=Z,2.2nm,0.6s,mb4.4,baz=87,slow=4.9,SNR=6.5						
IDI	**Anoyia**	**68.51**	**305**	P	**P**	**13 12 14.2**	**-0.3**
	comp=Z,11nm,0.7s,mb4.9,baz=95,slow=15,SNR=3.6						
MLR	**Muntele Rosu**	**69.10**	**316**	P	**P**	**13 12 18.2**	**+0.2**
MLR	**Muntele Rosu**	**69.10**	**316**	P	**P**	**13 12 18.1**	**+0.2**
	comp=Z,6.1nm,0.7s,mb4.6,baz=180,slow=6.4,SNR=5.8						
JOF	**Joensuu**	**70.77**	**334**	*ep*	**P**	**13 12 26.4**	**-1.4**
	comp=Z,8.1nm,0.9s,mb4.7						
FINES	**FINESS Array B**	**72.63**	**332**	P	**P**	**13 12 38.5**	**-0.4**
FINES				pmax	pmax		
	comp=Z,8.0nm,0.7s						
FINES	**FINESS Array B**	**72.63**	**332**	P	**P**	**13 12 38.5**	**-0.4**
	comp=Z,8.3nm,0.7s,mb4.8,baz=104,slow=7.9,SNR=10						
KAF	**Kangasniemi**	**72.71**	**333**	*ep*	**P**	**13 12 38.9**	**-0.5**
	baz=104,slow=4.4						
LBTB	**Lobatse**	**74.28**	**241**	*eP*	**P**	**13 12 50.0**	**+0.7**
LBTB				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
LBTB	**Lobatse**	**74.28**	**241**	*eP*	**P**	**13 12 50.0**	**+0.7**
	comp=Z,12nm,0.9s,mb4.8						
KEV	**Kevo**	**74.75**	**341**	*ep*	**P**	**13 12 54.5**	**+3.4**
	comp=Z,17nm,1.1s,mb4.9						
KEV	**Kevo**	**74.75**	**341**	*eP*	**P**	**13 12 54.5**	**+3.4**
KEV				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
CASY	**Casey**	**75.02**	**173**	*eP*	**P**	**13 12 48.9**	**-3.8**
	comp=Z,6.1nm,1.0s,mb4.5						
ARCES	**ARCESS Array B**	**75.18**	**340**	P	**P**	**13 12 53.4**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES	**ARCESS Array B**	**75.18**	**340**	P	**P**	**13 12 53.4**	**-0.2**
	comp=Z,3.3nm,0.7s,mb4.4,baz=90,slow=6.1,SNR=4.4						
BOSA	**Boshof**	**75.63**	**238**	*eP*	**P**	**13 12 57.4**	**+0.4**
BOSA				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
BOSA	**Boshof**	**75.63**	**238**	*eP*	**P**	**13 12 57.4**	**+0.4**
	comp=Z,13nm,1.0s,mb4.8						
BILL	**Bilibino**	**76.01**	**22**	*eP*	**P**	**13 12 58.0**	**-0.3**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
BILL	**Bilibino**	**76.01**	**22**	*eP*	**P**	**13 12 58.0**	**-0.3**
	comp=Z,5.7nm,0.7s,mb4.6						
DPC	**Dobruska-Polom**	**76.14**	**320**	*eP*	**P**	**13 13 00.1**	**+0.7**
KSP	**Ksiaz**	**76.19**	**320**	*eP*	**P**	**13 13 00.4**	**+0.7**
PVCC	**Panska Ves**	**77.27**	**320**	*eP*	pP	13 13 11.8	-1.1
PVCC	**Panska Ves**	**77.27**	**320**	*ep*P	pP	13 13 11.8	-1.1
BRG	**Berggiesshubel**	**77.68**	**320**	*eP*	**P**	**13 13 08.5**	**+0.6**
BRG				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
BRG	**Berggiesshubel**	**77.68**	**320**	*eP*	**P**	**13 13 08.5**	**+0.6**
	comp=Z,6.7nm,0.8s,mb4.6						
GERES	**GERESS Array B**	**77.76**	**318**	P	**P**	**13 13 08.0**	**-0.4**
GERES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GERES	**GERESS Array B**	**77.76**	**318**	P	**P**	**13 13 08.0**	**-0.4**
	comp=Z,4.3nm,0.7s,mb4.5,baz=87,slow=5.4,SNR=9.0						
KHC	**Kasperske Hory**	**77.85**	**318**	*eP*	**P**	**13 13 09.5**	**+0.6**
CLL	**Collm**	**78.29**	**321**	*e**PP	pP	13 13 17.0	-1.5
HFS	**Hagfors**	**78.38**	**330**	P	**P**	**13 13 10.8**	**-0.8**
HFS				pmax	pmax		
	comp=Z,12nm,0.7s						
HFS	**Hagfors**	**78.38**	**330**	P	**P**	**13 13 10.8**	**-0.8**
	comp=Z,12nm,0.7s,mb4.9,baz=108,slow=4.7,SNR=7.2						
MAW	**Mawson**	**78.62**	**192**	*eP*	**P**	**13 13 14.6**	**+1.8**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MAW	**Mawson**	**78.62**	**192**	P	**P**	**13 13 14.4**	**+1.7**
	comp=Z,6.7nm,0.8s,mb4.7,baz=18,slow=3.2,SNR=3.6						
MAW	**Mawson**	**78.62**	**192**	*eP*	**P**	**13 13 14.6**	**+1.8**
	comp=Z,3.3nm,0.5s,mb4.5						
GRA1	**Grafenberg Arr**	**79.40**	**319**	*eP*	**P**	**13 13 18.3**	**+0.9**
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	**Grafenberg Arr**	**79.40**	**319**	*eP*	**P**	**13 13 18.3**	**+0.9**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	**Grafenberg Arr**	**79.40**	**319**	*eP*	**P**	**13 13 18.3**	**+0.9**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	**Grafenberg Arr**	**79.40**	**319**	*eP*	**P**	**13 13 18.3**	**+0.9**
	comp=Z,6.0nm,0.9s,mb4.5						
NB2	**NORSAR Subarra**	**79.65**	**331**	P	**P**	**13 13 18.3**	**-0.2**
	comp=Z,3.3nm,0.7s,mb4.4,baz=96,slow=5.0						
NB2	**NORSAR Subarra**	**79.65**	**331**	P	**P**	**13 13 18.3**	**-0.2**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
NOA	**NORSAR Array B**	**79.65**	**331**	P	**P**	**13 13 17.6**	**-0.9**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NOA	**NORSAR Array B**	**79.65**	**331**	P	**P**	**13 13 17.6**	**-0.9**
	comp=Z,3.9nm,0.7s,mb4.5,baz=92,slow=5.5,SNR=7.9						
DAVOX	**Davos**	**80.32**	**316**	P	**P**	**13 13 23.5**	**+1.1**
	comp=Z,5.4nm,0.6s,mb4.6,baz=122,slow=19,SNR=4.8						
SUR	**Sutherland**	**80.38**	**235**	*eP*	**P**	**13 13 26.0**	**+3.0**
	comp=Z,14nm,0.9s,mb4.9						
LPG	**La Plagne**	**82.55**	**315**	*eP*	**P**	**13 13 35.0**	**+0.9**
	comp=Z,21nm,0.9s,mb4.8						
LPG	**La Plagne**	**82.55**	**315**	*eP*	**P**	**13 13 35.0**	**+0.9**
LPG				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
SYO	**Syowa Base**	**85.49**	**197**	⇑P	**P**	**13 13 49.8**	**+1.4**
SYO	**Syowa Base**	**85.49**	**197**	⇓pP	pP	13 14 02.9	+7.1
EKA	**Eskdalemuir Ar**	**87.64**	**325**	P	**P**	**13 14 00.3**	**+1.0**
EKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**87.64**	**325**	P	**P**	**13 14 00.3**	**+1.0**
	comp=Z,3.4nm,0.7s,mb4.7,baz=95,slow=5.0,SNR=7.3						
IMA	**Indian Mountai**	**91.54**	**22**	*eP*	**P**	**13 14 18.4**	**+1.1**
MCK	**McKinley**	**94.38**	**23**	*eP*	**P**	**13 14 31.0**	**+0.6**
MCK				pmax	pmax		
	comp=Z,12nm,1.6s,mb5.1						
MCK	**McKinley**	**94.38**	**23**	*eP*	**P**	**13 14 31.0**	**+0.6**
	comp=Z,12nm,1.6s,mb5.1						
ILAR	**Eielson Array**	**94.66**	**22**	P	**P**	**13 14 32.4**	**+0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**94.66**	**22**	P	**P**	**13 14 32.4**	**+0.7**
	comp=Z,0.5nm,0.7s,mb4.0,baz=294,slow=4.7,SNR=3.4						
YKA	**Yellowknife Ar**	**106.34**	**13**	PP	PP	13 19 47.1	-4.4
	comp=Z,0.2nm,0.6s,baz=337,slow=7.5,SNR=3.7						
LOHW	**Long Hollow**	**123.97**	**22**	*eP*	PKPdf	13 20 10.0	-2.7
NVAR	**Mina Array Bea**	**124.84**	**31**	PKP	PKPdf	13 20 12.7	-1.9
	comp=Z,2.2nm,0.8s,baz=268,slow=2.7,SNR=9.9						
PDAR	**Pinedale Array**	**125.09**	**21**	PKP	PKPdf	13 20 11.9	-3.1
	comp=Z,1.7nm,0.7s,baz=20,slow=1.7,SNR=10						
ANMO	**Albuquerque**	**133.09**	**23**	PKIKP	PKPdf	13 20 28.8	-1.7
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ANMO	**Albuquerque**	**133.09**	**23**	PKP	PKPdf	13 20 28.8	-1.7
	comp=Z,2.2nm,0.9s,baz=356,slow=2.2,SNR=6.5						
ANMO	**Albuquerque**	**133.09**	**23**	PKP	PKPdf	13 20 28.8	-1.7
TXAR	**Lajitas Array**	**139.15**	**24**	PKP	PKPdf	13 20 39.6	-2.1
	comp=Z,0.8nm,0.7s,baz=245,slow=0.6,SNR=5.0						
PLCA	**Paso Flores**	**144.63**	**200**	PKIKP	PKPdf	13 20 47.4	-3.6
PLCA				pmax	pmax		
	comp=Z,13nm,0.9s						
PLCA	**Paso Flores**	**144.63**	**200**	PK

1.9nm,0.2s
EARI Arriondas 2.23 47 Pn **Pn 13 10 29.0 +1.3**
0.7nm,0.1s,SNR=14
GUD Guadarrama 2.73 114 Pn **Pn 13 10 36.3 +1.5**
0.7nm,0.2s,SNR=7.9
GUD Pg **Pg 13 10 42.2 -2.7**
2.6nm,0.2s,SNR=10
GUD Lg 13 11 17.3
5.2nm,0.3s,SNR=7.1
EBAD Badajoz 3.05 174 Pn **Pn 13 10 39.7 +0.4**
1.0nm,0.1s,SNR=7.9
EBAD Sn **Sn 13 11 15.1 -1.1**
2.0nm,0.1s,SNR=7.9
EBAD Lg 13 11 25.7
3.5nm,0.2s,SNR=7.9
EBAD Badajoz 3.05 174 Pn **Pn 13 10 39.7 +0.3**
1.0nm,0.1s,SNR=7.9
EBAD Sn **Sn 13 11 15.7 -0.5**
2.0nm,0.1s,SNR=7.9
ELAN Lanestosa 3.29 63 Pn **Pn 13 10 43.5 +0.7**
0.2nm,0.1s,SNR=7.9
ELAN Sn **Sn 13 11 21.0 -1.4**
0.5nm,0.1s,SNR=7.9
ELAN Lg 13 11 35.5
1.5nm,0.4s,SNR=7.9
ELAN Lanestosa 3.29 63 Pn **Pn 13 10 43.5 +0.7**
0.2nm,0.1s,SNR=7.9
ELAN Sn **Sn 13 11 21.0 -1.3**
0.5nm,0.1s,SNR=7.9
ESDC Sonseca Array 3.39 128 Pn **Pn 13 10 44.4 +0.3**
2.2nm,0.1s,baz=310,slow=13,SNR=4.3
ESDC Pg **Pg 13 10 54.1 -3.8**
1.1nm,0.1s,baz=308,slow=17,SNR=7.9
ESDC Lg 13 11 34.0
2.6nm,0.3s,baz=312,slow=30,SNR=7.9
ESDC Sonseca Array 3.39 128 Pn **Pn 13 10 44.4 +0.3**
2.2nm,0.1s,baz=310,slow=13,SNR=4.3
ESDC Sonseca Array 3.39 128 Pg **Pg 13 10 54.1 -3.8**
1.1nm,0.1s,baz=308,slow=17,SNR=7.9
EMIN Mina Concepcio 4.06 171 Pn **Pn 13 10 53.6 -0.1**
0.2nm,0.1s,SNR=7.9
EMIN Sn **Sn 13 11 39.2 -2.6**
0.4nm,0.2s,SNR=7.9
EMIN Lg 13 11 58.6
1.3nm,0.3s,SNR=7.9
EMIN Mina Concepcio 4.06 171 Pn **Pn 13 10 53.6 -0.2**
0.2nm,0.1s,SNR=7.9
EMIN Sn **Sn 13 11 39.2 -2.7**
0.4nm,0.2s,SNR=7.9
EADA Adamuz 4.24 148 Pn **Pn 13 10 55.7 -0.5**
0.7nm,0.1s,SNR=7.9
EADA Pg **Pg 13 11 09.7 -5.2**
1.0nm,0.2s,SNR=7.9
EADA Sn **Sn 13 11 43.6 -2.6**
0.8nm,0.2s,SNR=7.9
EADA Lg 13 12 04.3
2.1nm,0.2s,SNR=6.1
EMOS Mosqueruela 5.46 103 Pn **Pn 13 11 14.2 +0.8**
0.2nm,0.2s,SNR=7.9
EBIE Bielsa 5.70 78 Pn **Pn 13 11 16.7 -0.2**
1.3nm,0.2s,SNR=7.6
EBIE Lg 13 12 47.5
0.3nm,0.2s,SNR=4.0

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*BJI **27** 13:11:27.8, 7.59N×94.06E, h52km, mB4.9, mb4.6, Ms4.7, Msz4.4*
*NEIC **27** 13:11:28.6±0.3, 7.90N×94.20E, h30km, mb4.6/15, Error ellipse: s-maj=10.8km s-min=7.8km az=54.0*
*IDC **27** 13:11:30.7±2.8, 7.98N×94.20E, h44km±25km, mb4.1/24, mb1 4.2/25, mb1mx4.2/28, mbtmp4.3/25, ML4.4/1, Error ellipse: s-maj=21.2km s-min=11.1km az=44.0*
ISC 27 13:11:27.8±2.1, 7.93N±0.07×94.15E±0.06, h39km±18km, n77, σ1§25/69, mb4.5/40, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr** 31nm,0.9s	**11.46**	**24**	*e*P	**P**	**13 14 11.9**	**0.0**
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,baz=211,slow=14,SNR=64	**11.46**	**24**	P	**P**	**13 14 11.9**	**-0.1**
CHG	**Chiang Mai** 28nm,0.9s	**11.78**	**23**	P	**P**	**13 14 16.6**	**+0.3**
CHRT	**Chiangrai**	**13.07**	**24**	P	**P**	**13 14 35.0**	**+1.5**
HYB	**Hyderabad**	**17.89**	**303**	*e*P	**P**	**13 15 36.0**	**+0.5**
HYB	**Hyderabad**	**17.89**	**303**	*i* P	**P**	**13 15 36.0**	**+0.5**
HYB				*e*S	**S**	**13 18 55.5**	**+4.6**
KMI	**Kunming** 23nm,1.3s	**18.96**	**25**	⇑P	**P**	**13 15 51.7**	**+3.1**
JIRN	**Jiri** 28nm,0.7s,mb4.7	**21.02**	**340**	*e*P	**P**	**13 16 08.7**	**-1.9**
PKI	**Pulchoki** 90nm,1.0s,mb5.0	**21.22**	**338**	*e*P	**P**	**13 16 11.8**	**-0.8**
GUN	**Gumba** 27nm,0.7s,mb4.7	**21.36**	**340**	*e*P	**P**	**13 16 12.7**	**-1.3**
DMN	**Daman** 58nm,0.8s,mb5.0	**21.36**	**337**	*e*P	**P**	**13 16 13.3**	**-0.7**
KKN	**Kakani**	**21.46**	**338**	*e*P	**P**	**13 16 13.1**	**-1.9**
LSA	**Lhasa**	**21.84**	**353**	P	**P**	**13 16 21.5**	**+2.7**
LSA				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.0						
LSA	**Lhasa**	**21.84**	**353**	*e*P	**P**	**13 16 19.3**	**+0.5**
	comp=Z,14nm,0.8s,mb4.5						
GKN	**Gorkha**	**21.90**	**337**	*e*P	**P**	**13 16 18.3**	**-1.1**
	comp=Z,118nm,1.0s,mb5.3						
KOLN	**Koldanda**	**22.12**	**334**	*e*P	**P**	**13 16 21.6**	**+0.1**
ENH	**Enshi**	**26.47**	**31**	*e*P	**P**	**13 17 02.9**	**-0.6**
	comp=Z,14nm,0.9s,mb4.5						
XAN	**Xi'an**	**29.34**	**26**	P	**P**	**13 17 29.0**	**-0.3**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
WHN	**Wuhan**	**29.39**	**37**	*e*P	**P**	**13 17 30.3**	**+0.5**
PVCP	**Virac**	**29.99**	**77**	*e*P	**P**	**13 17 36.2**	**+0.9**
BJI	**Beijing**	**37.55**	**28**	*e*P	**P**	**13 18 42.6**	**+2.4**
	comp=Z,9.0nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**38.66**	**337**	*e*P	**P**	**13 18 46.9**	**-2.5**
	comp=Z,5.9nm,0.9s,mb4.3						
SONM	**Songino Array**	**41.11**	**13**	P	**P**	**13 19 10.3**	**+0.6**
	comp=Z,0.9nm,0.6s,mb3.6,baz=202,slow=13,SNR=4.5						
ULN	**Ulaanbaatar**	**41.28**	**13**	*e*P	**P**	**13 19 12.2**	**+1.1**
	comp=Z,3.3nm,0.9s,mb4.0						
KURK	**Kurchatov**	**44.56**	**346**	*e*P	**P**	**13 19 37.0**	**-0.7**
	comp=Z,12nm,1.1s,mb4.6						
NWAO	**Narrogin (SRO)**	**46.19**	**153**	P	**P**	**13 19 52.2**	**+1.2**
	comp=Z,11nm,0.9s,mb4.8,baz=331,slow=6.3,SNR=6.5						
ZAL	**Zalesovo**	**46.49**	**352**	P	**P**	**13 19 52.8**	**-0.3**
	comp=Z,2.8nm,0.4s,mb4.6,baz=283,slow=8.4,SNR=10.0						
MDJ	**Mudanjiang**	**47.76**	**34**	P	**P**	**13 20 00.3**	**-2.9**
WRA	**Warramunga Arr**	**48.29**	**126**	P	**P**	**13 20 06.5**	**-1.1**
	comp=Z,2.2nm,0.5s,mb4.4,baz=304,slow=8.5,SNR=17						
WRAB	**Tennant Creek**	**48.29**	**126**	*e*P	**P**	**13 20 06.6**	**-1.0**
	comp=Z,21nm,1.3s,mb5.0						
WB2	**Warramunga Arr**	**48.30**	**126**	*e*P	**P**	**13 20 06.5**	**-1.1**
BVAR	**Borovoye Array**	**48.94**	**341**	P	**P**	**13 20 11.5**	**-0.7**
	comp=Z,1.8nm,0.9s,mb4.1,baz=108,slow=4.6,SNR=3.7						
BVAR				PcP	PcP	13 21 37.5	+1.2
	comp=Z,0.5nm,0.5s,baz=135,slow=4.1,SNR=2.5						
RAYN	**Ar Rayn**	**49.07**	**294**	P	**P**	**13 20 15.1**	**+1.5**
	comp=Z,64nm,0.7s,SNR=8.1						
CHKZ	**Chkalovo**	**49.42**	**342**	*e*P	**P**	**13 20 14.7**	**-1.2**
	comp=Z,5.8nm,0.8s,mb4.7						
ASAR	**Alice Springs**	**49.94**	**130**	P	**P**	**13 20 19.6**	**-0.7**
	comp=Z,1.7nm,0.7s,mb4.2,baz=315,slow=8.0,SNR=12						
ASAR				PcP	PcP	13 21 40.8	+0.4
	comp=Z,0.9nm,0.8s,baz=312,slow=4.3,SNR=4.5						
ASAR				ScP		13 25 32.9	
	comp=Z,6.0nm,0.9s,baz=300,slow=3.0,SNR=7.6						
GNI	**Garni**	**54.40**	**314**	P	**P**	**13 20 55.1**	**+1.7**
	comp=Z,3.1nm,0.4s,mb4.6,baz=61,slow=24,SNR=2.9						
ASAJ	**Asahikawa**	**55.37**	**41**	P	**P**	**13 21 01.6**	**+1.2**
	comp=Z,13nm,1.1s,mb4.9,baz=124,slow=22,SNR=2.5						
PMG	**Port Moresby**	**55.54**	**107**	*e*P	**P**	**13 21 02.8**	**+0.8**
	comp=Z,12nm,0.7s,mb5.0,baz=194,slow=12,SNR=5.4						
PMG	**Port Moresby**	**55.54**	**107**	*e*P	**P**	**13 21 02.2**	**+0.2**
	comp=Z,16nm,0.8s,mb5.1						
PMG				*e*		13 21 08.3	
KMBO	**Kilima Mbogo**	**57.44**	**264**	P	**P**	**13 21 18.0**	**+2.4**
	comp=Z,4.8nm,0.9s,mb4.5,baz=56,slow=11,SNR=12						
KMBO	**Kilima Mbogo**	**57.44**	**264**	*e*P	**P**	**13 21 17.4**	**+1.8**
	comp=Z,6.9nm,0.9s,mb4.7						
ASF	**Jabal al Asfar**	**58.19**	**303**	P	**P**	**13 21 21.6**	**+1.0**
	comp=Z,1.6nm,0.4s,mb4.4,baz=176,slow=6.7,SNR=2.5						
CTA	**Charters Tower**	**58.33**	**119**	P	**P**	**13 21 21.0**	**-0.8**
	comp=Z,4.0nm,0.9s,mb4.5,baz=24,slow=5.4,SNR=2.9						
CTAO	**Charters Tower**	**58.33**	**119**	*e*P	**P**	**13 21 19.4**	**-2.4**
	comp=Z,14nm,1.2s,mb4.9						
STKA	**Stephens Creek**	**60.14**	**134**	P	**P**	**13 21 32.6**	**-1.6**
	comp=Z,1.9nm,0.8s,mb4.2,baz=311,slow=10,SNR=2.6						
BRTR	**Keskin Array B**	**62.40**	**311**	P	**P**	**13 21 47.5**	**-1.7**
	comp=Z,1.7nm,0.7s,mb4.3,baz=126,slow=6.7,SNR=7.8						
AKASG	**Malin Array Be**	**68.12**	**322**	P	**P**	**13 22 24.8**	**-1.1**
	comp=Z,1.5nm,0.8s,mb4.1,baz=90,slow=4.9,SNR=5.1						
IDI	**Anoyia**	**68.54**	**305**	P	**P**	**13 22 28.5**	**-0.3**
	comp=Z,10nm,1.0s,mb4.7,baz=44,slow=20,SNR=3.3						
IDI	**Anoyia**	**68.54**	**305**	P	**P**	**13 22 28.5**	**-0.3**
MLR	**Muntele Rosu**	**69.14**	**316**	P	**P**	**13 22 32.2**	**0.0**
	comp=Z,2.5nm,0.6s,mb4.3,baz=324,slow=17,SNR=3.7						
MLR	**Muntele Rosu**	**69.14**	**316**	P	**P**	**13 22 32.2**	**0.0**
FINES	**FINESS Array B**	**72.67**	**332**	P	**P**	**13 22 52.6**	**-0.6**
	comp=Z,4.0nm,1.0s,mb4.3,baz=120,slow=6.7,SNR=6.2						
LBTB	**Lobatse**	**74.28**	**241**	*e*P	**P**	**13 23 05.0**	**+1.7**
	comp=Z,8.1nm,0.9s,mb4.7						
ARCES	**ARCESS Array B**	**75.22**	**340**	P	**P**	**13 23 07.7**	**-0.2**
	comp=Z,3.3nm,0.9s,mb4.3,baz=63,slow=2.7,SNR=7.4						
ARCES	**ARCESS Array B**	**75.22**	**340**	P	**P**	**13 23 07.7**	**-0.2**
GERES	**GERESS Array B**	**77.79**	**318**	P	**P**	**13 23 22.8**	**0.0**
	comp=Z,2.2nm,0.8s,mb4.2,baz=90,slow=5.3,SNR=9.3						
KHC	**Kasperske Hory**	**77.88**	**318**	*e*P	**P**	**13 23 21.0**	**-2.3**
CLL	**Collm**	**78.33**	**321**	P	**P**	**13 23 26.0**	**+0.3**
GRA1	**Grafenberg Arr**	**79.43**	**319**	*e*P	**P**	**13 23 34.0**	**+2.2**
GRF	**Grafenberg Arr**	**79.43**	**319**	*e*P	**P**	**13 23 34.0**	**+2.2**
NB2	**NORSAR Subarra**	**79.69**	**331**	P	**P**	**13 23 32.2**	**-0.7**
	comp=Z,3.1nm,0.8s,mb4.3,baz=91,slow=5.8						
NOA	**NORSAR Array B**	**79.69**	**331**	P	**P**	**13 23 32.2**	**-0.7**
	comp=Z,2.3nm,0.8s,mb4.2,baz=94,slow=5.4,SNR=5.0						
NOA	**NORSAR Array B**	**79.69**	**331**	P	**P**	**13 23 32.2**	**-0.7**
LPG	**La Plagne**	**82.59**	**315**	*e*P	**P**	**13 23 49.0**	**+0.6**
	comp=Z,16nm,0.9s,mb4.8						
ESDC	**Sonseca Array**	**91.19**	**310**	P	**P**	**13 24 33.4**	**+2.9**
	comp=Z,2.9nm,1.1s,mb4.5,baz=44,slow=1.1,SNR=3.4						
IMA	**Indian Mountai**	**91.57**	**22**	*e*P	**P**	**13 24 33.4**	**+1.8**
ILAR	**Eielson Array**	**94.69**	**22**	P	**P**	**13 24 46.0**	**+0.2**
	comp=Z,0.4nm,0.8s,mb3.9,baz=230,slow=5.9,SNR=6.1						
INK	**Inuvik**	**96.94**	**16**	P	**P**	**13 24 57.3**	**+1.3**
	comp=Z,2.1nm,1.1s,mb4.5,baz=325,slow=4.9,SNR=4.2						
NVAR	**Mina Array Bea**	**124.87**	**31**	PKP	PKPdf	13 30 26.8	+2.5
	comp=Z,1.1nm,0.8s,baz=312,slow=2.3,SNR=7.4						
PDAR	**Pinedale Array**	**125.11**	**21**	PKP	PKPdf	13 30 26.6	+2.0
	comp=Z,1.0nm,0.8s,baz=11,slow=1.0,SNR=8.5						
SADO	**Sadowa**	**127.20**	**354**	PKP	PKPdf	13 30 29.5	+0.9
	comp=Z,1.7nm,0.5s,baz=350,slow=11,SNR=3.1						
ANMO	**Albuquerque**	**133.12**	**23**	PKP	PKPdf	13 30 42.5	+2.3
	comp=Z,0.6nm,0.5s,baz=274,slow=14,SNR=3.6						
ANMO	**Albuquerque**	**133.12**	**23**	PKP	PKPdf	13 30 42.5	+2.3
TXAR	**Lajitas Array**	**139.17**	**24**	PKIKP		13 30 55.7	
	comp=Z,0.5nm,0.6s,baz=6.1,slow=0.8,SNR=7.9						
TXAR	**Lajitas Array**	**139.17**	**24**	PKPdf	PKPdf	13 30 55.7	+4.3
JCT	**Junction City**	**139.53**	**19**	*e*PKPdf	PKPdf	13 30 54.6	+2.5
PLCA	**Paso Flores**	**144.60**	**200**	PKP	PKPdf	13 31 01.9	+1.3
	comp=Z,4.6nm,0.9s,baz=158,slow=1.0,SNR=7.7						

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*BJI **27** 13:13:13.0, 7.57N×93.67E, h56km, mB5.5, mb4.5*
*NEIC **27** 13:13:14.5±0.4, 7.91N×93.92E, h30km, mb4.6/17, Error ellipse: s-maj=10.7km s-min=9.4km az=64.0*
*IDC **27** 13:13:17.3±4.2, 8.06N×94.01E, h47km±39km, mb4.0/16, mb1 4.1/17, mb1mx4.1/21, mbtmp4.2/17, ML4.2/1, Error ellipse: s-maj=27.4km s-min=13.2km az=52.0*
ISC 27 13:13:10.6±3.6, 7.91N±0.07×93.92E±0.08, h16km±25km, n44, σ1§10/39, mb4.5/29, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr** 19nm,0.8s	**11.57**	**24**	*e*P	**P**	**13 15 58.8**	**+0.5**
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=211,slow=14,SNR=11	**11.57**	**24**	P	**P**	**13 15 58.2**	**0.0**
PALK	**Pallekele** 12nm,0.9s	**13.12**	**268**	*e*P	**P**	**13 16 17.8**	**-1.3**
KMI	**Kunming** 28nm,1.2s	**19.08**	**25**	P	**P**	**13 17 37.8**	**+2.7**
LSA	**Lhasa** 42nm,0.8s,mb4.9	**21.83**	**354**	*e*P	**P**	**13 18 04.5**	**+0.2**
ENH	**Enshi** 13nm,0.8s,mb4.5	**26.60**	**31**	*e*P	**P**	**13 18 49.1**	**-1.2**
BJI	**Beijing** 8.0nm,1.0s,mb4.4	**37.68**	**28**	*e*P	**P**	**13 20 27.8**	**+0.8**
AAK	**Ala-Archa** 6.4nm,1.0s,mb4.3	**38.59**	**337**	P	**P**	**13 20 34.5**	**-0.1**
SONM	**Songino Array** 2.4nm,0.9s,mb3.8,baz=188,slow=8.7,SNR=4.0	**41.18**	**13**	P	**P**	**13 20 55.6**	**-0.4**
KURK	**Kurchatov** 17nm,1.2s,mb4.8	**44.52**	**346**	*e*P	**P**	**13 21 23.3**	**0.0**
NWAO	**Narrogin (SRO)** 5.7nm,0.8s,mb4.6,baz=312,slow=11,SNR=2.9	**46.28**	**153**	P	**P**	**13 21 39.3**	**+1.8**
ZAL	**Zalesovo** 4.3nm,0.9s,mb4.4,baz=283,slow=7.8,SNR=6.5	**46.48**	**353**	P	**P**	**13 21 39.1**	**+0.3**
WRA	**Warramunga Arr** 2.5nm,0.9s,mb4.3,baz=304,slow=8.5,SNR=4.5	**48.46**	**125**	P	**P**	**13 21 53.6**	**-1.1**
WRAB	**Tennant Creek** 7.0nm,0.8s,mb4.7	**48.46**	**125**	P	**P**	**13 21 53.7**	**-1.0**
BVAR	**Borovoye Array** 6.8nm,1.2s,mb4.5,baz=141,slow=9.5,SNR=4.2	**48.89**	**341**	P	**P**	**13 21 57.2**	**-0.4**
CHKZ	**Chkalovo** 9.6nm,0.9s,mb4.8	**49.37**	**342**	*e*P	**P**	**13 22 01.1**	**-0.2**
ASAR	**Alice Springs** 4.0nm,1.2s,mb4.3,baz=303,slow=6.4,SNR=3.1	**50.10**	**130**	P	**P**	**13 22 07.2**	**-0.2**
ASAR				PcP	PcP	13 23 26.8	-0.4
	1.0nm,0.8s,baz=297,slow=4.5,SNR=3.2						
PMG	**Port Moresby** 7.7nm,0.7s,mb4.8,baz=164,slow=9.3,SNR=2.8	**55.75**	**107**	P	**P**	**13 22 49.7**	**+0.2**
PMG	**Port Moresby** 9.1nm,0.8s,mb4.9	**55.75**	**107**	*e*P	**P**	**13 22 48.3**	**-1.1**
KMBO	**Kilima Mbogo** 6.4nm,0.2s,mb5.3,baz=59,slow=24,SNR=3.9	**57.21**	**264**	P	**P**	**13 23 01.5**	**+1.6**
KMBO	**Kilima Mbogo** 5.2nm,1.0s,mb4.5	**57.21**	**264**	P	**P**	**13 23 01.4**	**+1.4**
STKA	**Stephens Creek** 3.9nm,1.0s,mb4.4,baz=346,slow=2.1,SNR=2.9	**60.29**	**134**	P	**P**	**13 23 22.9**	**+1.8**
STKA	**Stephens Creek**	**60.29**	**134**	P	**P**	**13 23 21.5**	**+0.4**
BRTR	**Keskin Array B** 1.3nm,0.7s,mb4.2,baz=124,slow=7.2,SNR=4.7	**62.24**	**311**	P	**P**	**13 23 33.4**	**-0.9**
MA2	**Magadan** 8.0nm,0.8s,mb4.8	**66.83**	**28**	*e*P	**P**	**13 24 01.3**	**-2.4**
AKASG	**Malin Array Be** 2.5nm,0.9s,mb4.2,baz=88,slow=5.2,SNR=4.9	**67.99**	**322**	P	**P**	**13 24 09.8**	**-1.3**
MLR	**Muntele Rosu** 2.6nm,0.6s,mb4.3,baz=123,slow=16,SNR=3.1	**68.99**	**316**	P	**P**	**13 24 18.4**	**+0.9**
FINES	**FINESS Array B** 3.7nm,0.8s,mb4.4,baz=90,slow=9.5,SNR=5.4	**72.58**	**332**	P	**P**	**13 24 38.2**	**-0.6**
ARCES	**ARCESS Array B** 2.3nm,0.7s,mb4.2,baz=90,slow=8.1,SNR=3.7	**75.16**	**340**	P	**P**	**13 24 54.5**	**+0.9**
BILL	**Bilibino** 4.1nm,0.8s,mb4.4	**76.13**	**22**	*e*P	**P**	**13 24 56.8**	**-2.4**
BRG	**Berggiesshubel** 8.5nm,0.9s,mb4.7	**77.58**	**320**	*e*P	**P**	**13 25 09.0**	**+1.4**
BRG				*e*		13 27 16.6	
GERES	**GERESS Array B** 5.9nm,1.1s,mb4.4,baz=90,slow=5.3,SNR=6.6	**77.66**	**318**	P	**P**	**13 25 08.9**	**+0.8**
GRA1	**Grafenberg Arr** 4.0nm,0.8s,mb4.4	**79.30**	**319**	*e*P	**P**	**13 25 18.8**	**+1.8**
GRF	**Grafenberg Arr** 4.0nm,0.8s,mb4.4	**79.30**	**319**	*e*P	**P**	**13 25 18.8**	**+1.8**
NB2	**NORSAR Subarra** 2.3nm,0.7s,mb4.2,baz=92,slow=5.8	**79.59**	**331**	P	**P**	**13 25 17.8**	**-0.6**
NOA	**NORSAR Array B** 1.2nm,0.6s,mb4.0,baz=93,slow=5.6,SNR=3.3	**79.59**	**331**	P	**P**	**13 25 18.6**	**+0.3**
LPG	**La Plagne** 23nm,1.0s,mb4.8	**82.44**	**315**	*e*P	**P**	**13 25 32.3**	**-1.4**
IMA	**Indian Mountai**	**91.67**	**22**	*e*P	**P**	**13 26 19.0**	**+0.9**
ILAR	**Eielson Array** 0.5nm,0.9s,mb3.9,baz=306,slow=3.7,SNR=4.1	**94.79**	**22**	P	**P**	**13 26 32.6**	**+0.1**
NVAR	**Mina Array Bea** 0.7nm,0.6s,baz=318,slow=2.2,SNR=5.2	**125.00**	**31**	PKP	PKPdf	13 32 13.6	-0.9
PDAR	**Pinedale Array** 0.9nm,0.8s,baz=90,slow=1.5,SNR=6.2	**125.21**	**21**	PKP	PKPdf	13 32 12.8	-2.0
TXAR	**Lajitas Array** 0.6nm,0.8s,baz=186,slow=2.9,SNR=3.8	**139.28**	**24**	PKIKP		13 32 41.9	
PLCA	**Paso Flores** 4.3nm,1.0s,baz=141,slow=7.0,SNR=3.6	**144.51**	**201**	PKP	PKPdf	13 32 48.4	-2.0
LPAZ	**La Paz** 1.2nm,0.5s,baz=346,slow=19,SNR=5.2	**160.59**	**243**	PKPab	PKPab	13 33 56.3	+1.9

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*IDC **27** 13:15:16.6±5.1, 8.32N×93.85E, h40km±45km, mb4.2/22, mb1 4.3/23, mb1mx4.3/24, mbtmp4.4/23, ML3.7/1, MS4.8/4, Ms1 4.9/4, ms1mx4.2/19, Error ellipse: s-maj=27.9km s-min=13.3km az=49.0*
*MOS **27** 13:15:18.2±1.2, 7.99N×94.17E, h33km, mb5.1/30, MS4.8/4, Error ellipse: s-maj=13.2km s-min=7.6km az=115.6*
*BJI **27** 13:15:19.2, 7.78N×93.71E, h47km, mB5.4, mb4.8, Ms5.3, Msz5.0*
*NEIC **27** 13:15:19.5±0.3, 7.99N×94.10E, h30km, mb5.0/33, Error ellipse: s-maj=9.2km s-min=7.5km az=53.0*
*HRVD **27** 13:15:19.5±0.3, 7.86N×94.14E, h17km±1km, MW5.3/59, Centroid moment Tensor Solution. LP body waves: s38,c60;Mantle waves: s59,c100; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.27±.03; $M_{\theta\theta}$-0.69±.03; $M_{\phi\phi}$0.96±.04; $M_{r\theta}$-0.39±.09; $M_{\theta\phi}$0.59±.03; $M_{\phi r}$-0.41±.10; Best double couple: $M_0$1.15×10^{17} NP1: ϕ_s152°, δ61°, λ-177°. NP2:ϕ_s60°, δ87°, λ-29°. Principal axes: T 1.319, Plg18°, Azm110°; N -.338, Plg61°, Azm235°; P -.981, Plg22°, Azm12°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 27 13:15:19.3±1.5, 8.01N±0.05×94.18E±0.06, h41km±13km, h32km±4.4km; pP-P, n174, σ1§16/165, mb4.8/54, MS4.8/6, 4C-5D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.89**	**339**	*e*P	**P**	**13 16 18.2**	**+0.1**
PBA				*e*SG	**S**	**13 17 20.4**	**+17**
CM31	**Chiang Mai Arr** 33nm,0.9s	**11.37**	**24**	*e*P	**P**	**13 18 01.4**	**-0.7**
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=214,slow=14,SNR=3.1	**11.37**	**24**	P	**P**	**13 17 53.3**	**-8.8**
CMAR				LR	LR	13 22 41.8	
	comp=Z,4μm,18.3s,baz=205,slow=40						
PALK	**Pallekele** 53nm,1.1s	**13.38**	**268**	P	**P**	**13 18 24.7**	**-4.3**
KOD	**Kodaikanal**	**16.65**	**279**	*e*	**P**	**13 19 15.9**	**+4.7**
KOD				*e*		13 19 24.7	
	comp=Z,83nm,1.3s						
KOD				*e*	**S**	**13 22 27.8**	**+14**
SHL	**Shillong**	**17.59**	**353**	*e*P	**P**	**13 19 23.3**	**+0.2**
SHL				*e*		13 19 34.8	
	comp=Z,837nm,1.7s						
HYB	**Hyderabad**	**17.86**	**303**	*e*P	**P**	**13 19 27.0**	**+0.5**
HYB	**Hyderabad**	**17.86**	**303**	*i* P	**P**	**13 19 27.0**	**+0.5**
QIZ	**Qiongzhong**	**18.74**	**53**	*e*P		13 19 45.0	
QIZ				S	**S**	**13 23 10.5**	**+9.2**
QIZ				LR	LR		
	comp=N,11μm,15.0s						
QIZ				LR	LR		
	comp=Z,3μm,18.3s						
QIZ	**Qiongzhong**	**18.74**	**53**	P	**P**	**13 19 38.3**	**+1.0**
	comp=Z,114nm,1.3s						
KMI	**Kunming**	**18.88**	**25**	⇑P	**P**	**13 19 44.1**	**+5.2**
KMI				pmax	pmax		
	comp=Z,27nm,1.5s						
KMI	**Kunming**	**18.88**	**25**	⇑P	**P**	**13 19 44.1**	**+5.2**
	comp=Z,27nm,1.5s						
KMI				pP		13 19 51.2	
KMI				sP		13 19 56.7	
KMI				PP	PP	13 20 02.5	+7.1
KMI				S	**S**	**13 23 18.7**	**+14**
KMI				sS		13 23 31.7	
KMI				SS	SS	13 23 52.7	+23
NGP	**Nagpur**	**19.59**	**313**	*e*P	**P**	**13 19 44.1**	**-2.8**
NGP				*e*P		13 19 44.8	
NGP				*e*		13 20 03.3	
	comp=Z,59nm,1.6s						
NGP				*e*		13 20 03.9	
	comp=Z,52nm,1.8s						
NGP				*e*		13 22 44.0	
MNGI	**Mangalore**	**19.65**	**286**	*i* P	**P**	**13 19 48.6**	**+1.1**
MNGI				*e*		13 22 45.5	
JIRN	**Jiri**	**20.95**	**340**	*e*P	**P**	**13 19 53.5**	**-7.6**
PKI	**Pulchoki**	**21.15**	**338**	*e*P	**P**	**13 19 57.6**	**-5.5**
GOA	**Goa**	**21.25**	**292**	*e*	**P**	**13 20 10.3**	**+6.1**
GOA				*e*		13 20 13.9	
	comp=Z,40nm,1.4s						
GOA				*e*	S	13 24 15.7	+23
GUN	**Gumba**	**21.29**	**339**	*e*P	**P**	**13 19 57.0**	**-7.5**
DMN	**Daman**	**21.30**	**337**	*e*P	**P**	**13 19 58.3**	**-6.3**
KKN	**Kakani**	**21.40**	**338**	*e*P	**P**	**13 19 57.6**	**-8.0**
KAD	**Karad**	**21.56**	**297**	*e*	**P**	**13 20 10.5**	**+3.2**
LSA	**Lhasa**	**21.76**	**353**	P	**P**	**13 20 10.5**	**+1.3**
LSA	**Lhasa**	**21.76**	**353**	*e*P	**P**	**13 20 10.4**	**+1.2**
LSA				pmax	pmax		
	comp=Z,59nm,0.8s,mb5.1						
LSA	**Lhasa**	**21.76**	**353**	*e*P	**P**	**13 20 10.4**	**+1.2**
	comp=Z,59nm,0.8s,mb5.1						
GKN	**Gorkha**	**21.83**	**337**	*e*P	**P**	**13 20 02.0**	**-7.9**
KOLN	**Koldanda**	**22.05**	**334**	*e*P	**P**	**13 20 04.4**	**-7.7**
POO	**Poona**	**22.35**	**300**	*e*	**P**	**13 20 05.0**	**-10**
POO				⇓*i*		13 22 59.0	
NDI	**New Delhi**	**26.05**	**324**	*e*P	**P**	**13 20 50.3**	**-0.5**
NDI				*e*	pP	13 20 58.8	-2.9
	comp=Z,54nm,1.1s						
NDI				*e*S	**S**	**13 25 20.0**	**+

SNY	Shenyang	42.53	33	⇓P	P	13 23 13.5	+0.8
ZAK	Zakamensk	42.91	9	e	P	13 23 17.0	+1.4
ZAK				e		13 25 01.7	
TLY	Talaya	44.23	8	P	P	13 23 21.4	-4.8
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
TLY	Talaya	44.23	8	P	P	13 23 21.4	-4.9
	comp=Z,2.9nm,0.8s,mb4.1						
KURK	Kurchatov	44.48	346	eP	P	13 23 24.6	-3.7
KURK				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.0						
KURK	Kurchatov	44.48	346	eP	P	13 23 24.6	-3.8
	comp=Z,31nm,1.1s,mb5.0						
MUN	Mundaring	44.99	153	eP	P	13 23 34.1	+1.4
	comp=Z,25nm,1.1s,mb5.0						
MUN	Mundaring	44.99	153	eP	P	13 23 34.1	+1.4
MUN				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.0						
KLBR	Kellerberrin	45.38	151	eP	P	13 23 40.7	+4.9
	comp=Z,285nm,1.0s						
NWAO	Narrogin (SRO)	46.25	153	P	P	13 23 42.2	-0.5
NWAO				pmax	pmax		
	comp=Z,61nm,1.4s						
NWAO	Narrogin (SRO)	46.25	153	P	P	13 23 42.2	-0.5
	comp=Z,61nm,1.4s,mb5.3,baz=5.2,slow=7.6,SNR=5.6						
NWAO	Narrogin (SRO)	46.25	153	eP	P	13 23 42.5	-0.2
	comp=Z,58nm,1.3s,mb5.3						
HIA	Hailar	46.38	23	eP	P	13 23 44.6	+1.2
HIA				pmax	pmax		
	comp=Z,17nm,1.0s						
HIA	Hailar	46.38	23	eP	P	13 23 44.6	+1.2
	comp=Z,17nm,1.0s,mb4.9						
ZAL	Zalesovo	46.41	352	P	P	13 23 37.2	-6.4
ZAL				pmax	pmax		
	comp=Z,8.0nm,0.4s						
ZAL	Zalesovo	46.41	352	P	P	13 23 37.2	-6.4
	comp=Z,7.6nm,0.3s,mb5.0,baz=288,slow=7.4,SNR=3.8						
ZAL	Zalesovo	46.41	352	P	P	13 23 37.2	-6.4
NVS	Novosibirsk	47.51	351	i P	P	13 23 50.5	-1.8
WRA	Warramunga Arr	48.31	126	P	P	13 23 57.4	-1.5
WRA				pmax	pmax		
	comp=Z,85nm,1.5s						
WRA	Warramunga Arr	48.31	126	P	P	13 23 57.4	-1.5
	comp=Z,85nm,1.5s,mb5.5,baz=305,slow=8.5,SNR=12						
WRAB	Tennant Creek	48.31	126	eP	P	13 23 58.7	-0.3
WRAB				pmax	pmax		
	comp=Z,108nm,1.5s,mb5.7						
WRAB	Tennant Creek	48.31	126	eP	P	13 23 58.7	-0.3
	comp=Z,108nm,1.5s,mb5.7						
WB2	Warramunga Arr	48.32	126	eP	P	13 23 59.6	+0.6
BVAR	Borovoye Array	48.87	341	P	P	13 23 54.3	-8.5
	comp=Z,3.3nm,1.1s,mb4.3,baz=135,slow=10,SNR=2.3						
BRVK	Borovoye	48.93	341	eP	P	13 24 03.2	-0.1
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
BRVK	Borovoye	48.93	341	eP	P	13 24 03.2	0.0
	comp=Z,4.9nm,0.9s,mb4.5						
CHKZ	Chkalovo	49.35	342	eP	P	13 24 05.6	-0.9
ASPA	Alice Springs	49.97	130	eP	P	13 24 13.3	+1.6
ASAR	Alice Springs	49.98	130	P	P	13 24 10.1	-1.7
	comp=Z,4.3nm,0.8s,mb4.5,baz=304,slow=7.3,SNR=7.3						
ASAR				LR	LR	13 50 25.1	
	comp=Z,517nm,18.0s,MS4.6,baz=299,slow=42						
FORT	Forrest	50.42	142	eP	P	13 24 19.4	+4.3
	comp=Z,53nm,0.6s,mb5.8						
GNI	Garni	54.37	314	P	P	13 24 45.7	+1.3
GNI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GNI	Garni	54.37	314	P	P	13 24 45.7	+1.3
	comp=Z,2.3nm,0.5s,mb4.4,baz=36,slow=16,SNR=3.4						
SVE	Sverdlovsk	55.29	338	eP	P	13 24 47.0	-3.8
PMG	Port Moresby	55.54	107	P	P	13 24 50.9	-2.3
PMG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PMG	Port Moresby	55.54	107	P	P	13 24 50.9	-2.3
	comp=Z,5.3nm,0.6s,mb4.8,baz=11,slow=11,SNR=2.5						
ARU	Arti	55.78	337	eP	P	13 24 49.0	-5.3
KIV	Kislovodsk	57.24	318	eP	P	13 25 04.1	-0.9
KIV				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
KIV				MLR	MLR		
	comp=N,212nm,20.0s,MS4.5						
KIV				MLR	MLR		
	comp=E,326nm,20.0s,MS4.5						
KIV				MLR	MLR		
	comp=Z,435nm,20.0s,MS4.6						
KIV	Kislovodsk	57.24	318	P	P	13 25 03.7	-1.3
	comp=Z,16nm,0.9s,mb5.1						
KMBO	Kilima Mbogo	57.48	264	P	P	13 25 00.8	-6.3
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KMBO	Kilima Mbogo	57.48	264	P	P	13 25 00.8	-6.3
	comp=Z,1.5nm,0.2s,mb4.6,baz=234,slow=24,SNR=2.3						
ASF	Jabal al Asfar	58.17	303	LR	LR	13 52 35.3	
	comp=Z,565nm,21.2s,MS4.7,baz=120,slow=39						
CTAO	Charters Tower	58.34	119	eP	P	13 25 12.6	-0.4
CTAO				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.9						
CTAO	Charters Tower	58.34	119	eP	P	13 25 12.6	-0.5
	comp=Z,18nm,1.3s,mb5.0						
YAK	Yakutsk	59.85	18	eP	P	13 25 25.1	+2.2
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
YAK	Yakutsk	59.85	18	eP	P	13 25 22.2	-0.7
	comp=Z,29nm,0.8s,mb5.4						
STKA	Stephens Creek	60.17	134	P	P	13 25 26.1	+0.5
	comp=Z,13nm,1.1s,mb4.8,baz=294,slow=5.7,SNR=5.5						
STKA	Stephens Creek	60.17	134	eP	P	13 25 27.4	+1.8
BRTR	Keskin Array B	62.37	311	P	P	13 25 33.9	-6.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	62.37	311	P	P	13 25 33.9	-6.3
	comp=Z,1.4nm,0.8s,mb4.1,baz=90,slow=8.6,SNR=2.6						
OBN	Obninsk	65.28	328	eP	P	13 25 55.2	-3.9
OBN				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.1						
OBN	Obninsk	65.28	328	eP	P	13 25 55.2	-3.9
	comp=Z,78nm,1.6s,mb5.5						
MA2	Magadan	66.62	28	eP	P	13 26 08.6	+1.1
MA2				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
MA2	Magadan	66.62	28	eP	P	13 26 07.9	+0.4
	comp=Z,16nm,0.8s,mb5.1						
TIXI	Tiksi	67.09	11	eP	P	13 26 09.0	-1.3
TIXI				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.2						
AKASG	Malin Array Be	68.07	322	P	P	13 26 09.1	-7.6
	comp=Z,0.2nm,0.3s,baz=30,slow=35,SNR=3.9						
IDI	Anoyia	68.52	305	P	P	13 26 11.4	-8.4
	comp=Z,6.2nm,0.6s,mb4.7,baz=5.4,slow=22,SNR=2.2						
SEY	Seymchan	68.79	25	eP	pP	13 26 32.4	-0.8
SEY				e		13 42 56.6	
MLR	Muntele Rosu	69.10	316	P	P	13 26 17.6	-5.6
MLR	Muntele Rosu	69.10	316	P	P	13 26 17.5	-5.7
	comp=Z,1.8nm,0.5s,mb4.3,baz=202,slow=3.6,SNR=2.9						
LSZ	Lusaka	69.35	250	eP	P	13 26 26.1	+0.9
LSZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
LSZ	Lusaka	69.35	250	eP	P	13 26 26.1	+0.9
	comp=Z,5.5nm,0.7s,mb4.6						
JOF	Joensuu	70.74	334	ep	P	13 26 32.5	-0.4
	comp=Z,8.8nm,0.6s,mb4.9						
FINES	FINESS Array B	72.61	332	P	P	13 26 36.0	-8.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	FINESS Array B	72.61	332	P	P	13 26 36.0	-8.0
	comp=Z,2.4nm,0.9s,mb4.1,baz=121,slow=22,SNR=3.1						
CRVS	Cervenica-Dubn	72.65	319	eP	P	13 26 45.8	+1.3
CRVS				e		13 27 02.5	
CRVS	Cervenica-Dubn	72.65	319	eP	P	13 26 45.8	+1.3
CRVS				e		13 27 02.5	
KAF	Kangasniemi	72.69	333	ep	P	13 26 43.7	-0.8
	comp=Z,11nm,0.8s,mb4.8,baz=102,slow=5.1						
KAF	Kangasniemi	72.69	333	eP	P	13 26 43.7	-0.8
KAF				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
VYHS	Vyhne	74.33	318	eP	P	13 26 55.2	+0.8
VYHS	Vyhne	74.33	318	eP	P	13 26 55.2	+0.8
KEV	Kevo	74.72	341	ep	P	13 26 55.7	-0.5
OKC	Ostrava-Krasne	74.91	319	eP	P	13 27 02.2	+4.5
CASY	Casey	75.06	173	eP	P	13 26 58.8	+0.6
	comp=Z,19nm,1.2s,mb4.9						
ARCES	ARCESS Array B	75.15	340	P	P	13 26 52.9	-5.8
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,2μm,20.2s						
ARCES	ARCESS Array B	75.15	340	P	P	13 26 52.9	-5.8
	comp=Z,3.3nm,0.8s,mb4.3,baz=23,slow=16,SNR=2.8						
ARCES				LR	LR	14 03 09.2	
	comp=Z,2μm,20.2s,MS5.3,baz=7.4,slow=38						
BOSA	Boshof	75.69	238	eP	P	13 27 01.4	-1.2
BOSA				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
BOSA	Boshof	75.69	238	eP	P	13 27 01.4	-1.2
	comp=Z,14nm,1.0s,mb4.8						
BILL	Bilibino	75.94	22	eP	P	13 27 03.0	-0.2
BILL				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
BILL	Bilibino	75.94	22	eP	P	13 27 03.0	-0.2
	comp=Z,12nm,1.1s,mb4.7						
DPC	Dobruska-Polom	76.12	320	eP	P	13 27 03.4	-1.2
UPC	Upice	76.33	320	eP	P	13 27 10.7	+4.9
PRU	Pruhonice	77.25	319	eP	P	13 27 10.8	-0.2
GERES	GERESS Array B	77.75	318	P	P	13 27 06.5	-7.2
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	GERESS Array B	77.75	318	P	P	13 27 06.5	-7.2
	comp=Z,0.8nm,0.8s,mb3.7,baz=90,slow=6.7,SNR=2.4						
KHC	Kasperske Hory	77.84	318	eP	P	13 27 12.7	-1.5
CLL	Collm	78.28	321	P	P	13 27 18.0	+1.4
NKC	Novy Kostel	78.60	320	eP	P	13 27 20.5	+2.1
MAW	Mawson	78.68	192	P	P	13 27 17.7	-0.8
MAW				pmax	pmax		
	comp=Z,30nm,1.3s						
MAW	Mawson	78.68	192	P	P	13 27 17.7	-0.7
	comp=Z,30nm,1.3s,mb5.1						
WTTA	Wattenberg	79.11	317	⇓i P	P	13 27 20.0	-1.2
MOX	Moxa	79.14	320	eP	P	13 27 22.0	+0.7
GRA1	Grafenberg Arr	79.39	319	eP	P	13 27 22.7	0.0
	comp=Z,8.0nm,1.1s,mb4.6						
GRF	Grafenberg Arr	79.39	319	eP	P	13 27 22.7	0.0
GRF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
GRF	Grafenberg Arr	79.39	319	eP	P	13 27 22.7	0.0
GRF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
GRF	Grafenberg Arr	79.39	319	eP	P	13 27 22.7	0.0
	comp=Z,8.0nm,1.1s,mb4.6						
MOTA	Moosalm	79.47	317	⇓i P	P	13 27 22.7	-0.5
NB2	NORSAR Subarra	79.63	331	P	P	13 27 23.1	-0.7
	comp=Z,0.5nm,0.6s,baz=95,slow=5.8						
NB2	NORSAR Subarra	79.63	331	P	P	13 27 23.1	-0.7
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	NORSAR Array B	79.63	331	P	P	13 27 15.8	-8.0
NOA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NOA	NORSAR Array B	79.63	331	P	P	13 27 15.8	-8.0
	comp=Z,2.3nm,0.9s,mb4.1,baz=154,slow=21,SNR=2.6						
DAVA	Damuels	80.30	317	⇑i P	P	13 27 33.1	+5.4
SUR	Sutherland	80.44	235	eP	P	13 27 28.2	-0.5
	comp=Z,14nm,1.1s,mb4.8						
LPG	La Plagne	82.55	315	eP	P	13 27 39.1	-0.3
	comp=Z,30nm,0.9s,mb5.0						
LPG	La Plagne	82.55	315	eP	P	13 27 39.1	-0.3
LPG				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
SYO	Syowa Base	85.55	197	⇓PcP	PcP	13 27 58.0	+0.6
SYO	Syowa Base	85.55	197	⇑pP	pP	13 28 04.8	-1.7
ESDC	Sonseca Array	91.16	310	P	P	13 28 21.7	+0.3
	comp=Z,0.6nm,0.4s,mb4.2,baz=45,slow=3.6,SNR=2.6						
IMA	Indian Mountai	91.48	22	eP	P	13 28 23.4	+1.1
VNDA	Vanda	93.06	168	P	P	13 28 32.8	+3.4
VNDA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
VNDA	Vanda	93.06	168	P	P	13 28 32.8	+3.4
	comp=Z,2.9nm,1.2s,mb4.6,baz=42,slow=6.8,SNR=3.1						
SPU	Mount Spurr	94.14	26	eP	P	13 28 33.6	-0.9
MCK	McKinley	94.32	23	P	P	13 28 35.8	+0.5
MCK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.8						
MCK	McKinley	94.32	23	P	P	13 28 35.8	+0.5
	comp=Z,5.1nm,1.3s,mb4.8						
ILAR	Eielson Array	94.60	22	P	P	13 28 36.9	+0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	94.60	22	P	P	13 28 36.9	+0.3
	comp=Z,0.8nm,0.8s,mb4.2,baz=297,slow=5.2,SNR=6.5						
INK	Inuvik	96.85	16	P	P	13 28 47.6	+0.8
INK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
INK	Inuvik	96.85	16	P	P	13 28 47.6	+0.9
	comp=Z,6.6nm,1.2s,mb4.9,baz=303,slow=6.2,SNR=5.1						
RES	Resolute Bay	97.26	2	eP	P	13 28 47.6	-0.9
RES				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.3						
RES	Resolute Bay	97.26	2	eP	P	13 28 47.5	-1.0
	comp=Z,7.6nm,0.7s,mb5.2						
DBIC	Dimbokro	97.96	278	P	P	13 28 54.1	+1.0
DBIC				pmax	pmax		
	comp=Z,2.0nm,1.0s						
DBIC	Dimbokro	97.96	278	P	P	13 28 54.1	+1.1
	comp=Z,1.9nm,1.0s,mb4.6,baz=74,slow=18,SNR=3.7						
NVAR	Mina Array Bea	124.78	31	PKP	PKPdf	13 34 13.5	-1.8
	comp=Z,1.3nm,0.8s,baz=90,slow=3.0,SNR=2.8						
PDAR	Pinedale Array	125.02	21	PKP	PKPdf	13 34 12.4	-3.2
	comp=Z,1.0nm,0.8s,baz=23,slow=1.8,SNR=6.6						
MVU	Marysvale	127.61	26	eP	PKPdf	13 34 22.9	+2.1
MSU	Marysvale	127.61	26	PKIKP	PKPdf	13 34 19.2	-1.5
ANMO	Albuquerque	133.03	23	PKIKP	PKPdf	13 34 33.5	+2.4
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ANMO	Albuquerque	133.03	23	PKP	PKPdf	13 34 33.5	+2.3
	comp=Z,1.0nm,0.8s,baz=270,slow=6.8,SNR=4.1						
GDL2	Guadalupe Moun	136.27	23	eP	PKPdf	13 34 40.3	+3.2
TXAR	Lajitas Array	139.08	24	PKhKP		13 34 34.6	
	comp=Z,0.2nm,0.4s,baz=270,slow=5.0,SNR=2.8						
TXAR				PKP	PKPdf	13 34 43.5	+1.1
	comp=Z,0.3nm,0.4s,baz=243,slow=2.8,SNR=3.8						
TXAR	Lajitas Array	139.08	24	PKP	PKPdf	13 34 43.5	+1.1
PLCA	Paso Flores	144.69	200	PKHKP		13 34 47.9	
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PLCA	Paso Flores	144.69	200	PKP	PKPdf	13 34 47.9	-4.0
	comp=Z,3.3nm,0.9s,baz=248,slow=3.9,SNR=2.6						

IDC ***27*** *13:17:57.2±0.6, 7.76N×93.97E, mb4.5/21, mb1 4.6/22, mb1mx4.6/24, mbtmp4.5/22, ML4.6/1, MS4.7/5, Ms1 4.7/5, ms1mx4.1/26, Error ellipse: s-maj=29.0km s-min=13.0km az=49.0*

MOS ***27*** *13:18:00.7±1.4, 7.74N×94.04E, h33km, mb5.1/45, MS4.7/5, Error ellipse: s-maj=10.1km s-min=5.8km az=109.8*

BJI ***27*** *13:18:01.1, 7.37N×93.87E, h59km, mB5.2, mb4.6, Ms5.3, Msz5.0*

NEIC ***27*** *13:18:01.8±0.2, 7.83N×94.22E, h30km, mb5.0/44, Error ellipse: s-maj=7.3km s-min=5.5km az=56.0*

HRVD ***27*** *13:18:01.8±0.5, 7.92N×94.25E, h23km×2km, MW5.3/54, Centroid moment Tensor Solution. LP body waves: s22, c31; Mantle waves: s54, c90; Half duration: 1s1 Moment tensor: Scale 10^17^Nm; M_{rr}=0.13±.05; $M_{\theta\theta}$=0.73±.04; $M_{\phi\phi}$=0.86±.05; $M_{r\theta}$=0.40±.08; $M_{\theta\phi}$=0.34±.04; $M_{\phi r}$=0.21±.08; Best double couple: M_0=.979×10^17^ NP1: ϕ_s=148°, δ62°, λ=-173°. NP2: ϕ_s=55°, δ84°, λ=-28°. Principal axes: T 1.004, Plg15°, Azm104°; N -.051, Plg61°, Azm223°; P -.954, Plg24°, Azm8°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 27 13:18:03.4±1.2, 7.85N±0.04×94.30E±0.04, h57km±10km, h22km±5.0km: pP-P, n199, σ1s23/194, mb4.9/73, MS4.8/9, 12C-8D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
PBA	Port Blair	4.08	338	eP	P	13 19 06.9		+1.9
CM31	Chiang Mai Arr	11.48	23	eP	P	13 20 44.3		-2.7
CMAR	Chiang Mai Arr	11.48	23	P	P	13 20 47.2		+0.2
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CMAR	Chiang Mai Arr	11.48	23	Pn	P	13 20 47.1		+0.1
	comp=Z,1.1nm,0.3s,baz=211,slow=14,SNR=11							
MDRS	Chennai	14.76	292	e	P	13 21 32.0		+1.6
KOD	Kodaikanal	16.79	279	eP	P	13 21 56.2		-0.1
KOD				e		13 22 01.5		
	comp=Z,138nm,1.8s							
KOD				eS	S	13 24 59.0		-0.8
HYB	Hyderabad	18.05	303	⇑eP	P	13 22 11.0		-1.0
HYB				eS	S	13 25 29.0		+0.7
HYB				pmax	pmax			
	comp=Z,130nm,1.0s							
HYB	Hyderabad	18.05	303	⇑eP	P	13 22 11.0		-1.0
	comp=Z,130nm,1.0s							
HYB				eS	S	13 25 29.0		+0.7
HYB	Hyderabad	18.05	303	⇑i P	P	13 22 11.0		-1.0
	comp=Z,130nm,1.0s							
HYB				eS	S	13 25 29.0		+0.7
QIZ	Qiongzhong	18.75	52	eP	P	13 22 20.2		-0.2
	comp=Z,92nm,1.3s							
KMI	Kunming	18.98	24	P	P	13 22 27.3		+4.3
KMI				pmax	pmax			
	comp=Z,28nm,1.3s							
KMI	Kunming	18.98	24	P	P	13 22 27.3		+4.3
	comp=Z,28nm,1.3s							
KMI				pP		13 22 32.9		
MNGI	Mangalore	19.81	286	i P	P	13 22 29.3		-2.8
MNGI				e	S	13 25 57.9		-9.0
COCO	West Island	20.06	173	eP	P	13 22 29.6		-5.2
	comp=Z,248nm,1.0s							
JIRN	Jiri	21.15	340	eP	P	13 22 45.6		-0.3
	comp=Z,103nm,0.8s,mb5.2							
PKI	Pulchoki	21.35	338	eP	P	13 22 48.5		+0.6
	comp=Z,86nm,0.7s,mb5.2							
GOA	Goa	21.43	293	⇓eP	P	13 22 49.1		+0.4
GOA				e		13 22 58.0		
	comp=Z,77nm,2.0s							
GUN	Gumba	21.49	339	eP	P	13 22 47.4		-1.8
	comp=Z,126nm,0.7s,mb5.4							
DMN	Daman	21.50	337	eP	P	13 22 50.4		+1.1
	comp=Z,80nm,0.7s,mb5.2							
KKN	Kakani	21.59	338	eP	P	13 22 48.7		-1.6
	comp=Z,63nm,0.7s,mb5.1							
KAD	Karad	21.75	298	⇑i P	P	13 22 51.0		-0.9
LSA	Lhasa	21.94	353	eP	P	13 22 54.3		+0.6
LSA				pmax	pmax			
	comp=Z,63nm,0.7s,mb5.2							
LSA	Lhasa	21.94	353	eP	P	13 22 54.3		+0.6
	comp=Z,63nm,0.7s,mb5.2							
GKN	Gorkha	22.03	337	eP	P	13 22 54.0		-0.6
	comp=Z,110nm,0.6s,mb5.5							
KOLN	Koldanda	22.25	334	eP	P	13 22 55.7		-1.1
	comp=Z,164nm,0.8s,mb5.5							
BOM	Bombay	23.58	300	eP	P	13 23 10.4		+0.5
BOM				e		13 23 12.1		
	comp=Z,50nm,1.5s							
BOM				eS	S	13 27 21.6		+4.9
NDI	New Delhi	26.25	324	eP	P	13 23 36.1		+0.9
NDI				e		13 23 40.1		
	comp=Z,84nm,1.1s							
NDI				eS	S	13 28 01.9		+0.5
ENH	Enshi	26.47	31	eP	P	13 23 34.9		-2.4
	comp=Z,23nm,0.9s,mb4.7							
XAN	Xi'an	29.35	25	P	P	13 24 07.8		+4.6
XAN				AMB	AMB			
	comp=Z,7.0nm,0.8s,mb4.4							
WHN	Wuhan	29.36	37	eP	P	13 24 04.0		+0.6
LZH	Lanzhou	29.43	16	eP	P	13 24 04.5		+0.6
LZH				AMB	AMB			
	comp=Z,42nm,1.7s,mb4.9							
LZH				AMB	AMB			
	comp=Z,165nm,4.0s							
LZH				LR	LR			
	comp=E,3μm,12.7s							
LZH				LR	LR			
	comp=Z,3μm,13.8s,MS5.1							
LZH	Lanzhou	29.43	16	eP	P	13 24 04.5		+0.6
	comp=Z,42nm,1.7s,mb4.9							
LZH				pP	pP	13 24 14.0		-4.1
LZH				sP	sP	13 24 20.5		-4.5
LZH				LR	LR			
	comp=Z,3μm,13.8s,MS5.1							
NJ2	Nanjing	33.19	40	eP	P	13 24 39.0		+2.0
NJ2				AMB	AMB			
	comp=Z,30nm,0.5s,mb5.5							
WMQ	Urumqi	36.30	352	P	P	13 25 04.3		+0.9
WMQ				AP	pP	13 25 16.3		-1.7
WMQ				XP	sP	13 25 21.8		-3.2
WMQ				PP	PP	13 26 28.3		+0.5
WMQ				PCP	PcP	13 27 28.5		+0.9
WMQ				S	S	13 30 41.3		+1.9
WMQ				AMB	AMB			
	comp=Z,82nm,1.5s,mb5.4							
WMQ				AMB	AMB			
	comp=Z,390nm,5.6s							
WMQ				LR	LR			
	comp=N,1μm,18.3s,MS4.8							
WMQ				LR	LR			
	comp=E,859nm,18.4s,MS4.8							
WMQ				LR	LR			
	comp=Z,2μm,18.7s,MS4.8							
WBK	Wadi Bani Khal	36.99	297	⇑P	P	13 25 10.7		+1.4
BJT	Baijiatuau	37.54	28	P	P	13 25 15.8		+2.0
BJT				pmax	pmax			
	comp=Z,18nm,0.8s							
BJT	Baijiatuau	37.54	28	P	P	13 25 15.8		+2.0
	comp=Z,18nm,0.8s,mb4.8							
BJI	Beijing	37.56	28	eP	P	13 25 17.6		+3.6
BJI				pmax	pmax			
	comp=Z,10.0nm,1.9s,mb4.2							
BJI				MLR	MLR			
	comp=Z,2μm,27.7s,MS4.7							
BJI	Beijing	37.56	28	eP	P	13 25 17.6		+3.6
	comp=Z,10.0nm,1.9s,mb4.2							
BJI				LR	LR			
	comp=Z,2μm,27.7s,MS4.7							
JMDO	Jabal Madar	37.68	297	⇓P	P	13 25 15.3		+0.1
SMDO	Samad	37.93	298	P	P	13 25 19.4		+2.1
	SNR=5.9							
BIDO	Bidbid	38.01	298	⇓P	P	13 25 20.0		+2.1
MBWA	Marble Bar	38.14	140	eP	P	13 25 19.0		-0.1
	comp=Z,16nm,1.1s,mb4.7							
BSY	Bisya	38.59	297	P	P	13 25 24.8		+2.1
	SNR=5.8							
HOQ	Hoq

ZAL MLR MLR
comp=Z,651nm,18.4s
ZAL Zalesovo 46.60 352 P **P 13 26 27.5 0.0**
comp=Z,10.0nm,0.7s,mb4.8,baz=292,slow=5.7,SNR=12
ZAL LR LR 13 49 57.4
comp=Z,651nm,18.4s,MS4.6,baz=290,slow=41
ZAL Zalesovo 46.60 352 P **P 13 26 27.5 0.0**
ZAL LR LR 13 49 57.4
NVS Novosibirsk 47.70 351 *i P* **P 13 26 34.4 -1.8**
NVS pmax pmax
comp=Z,14nm,0.8s,mb5.0
NVS pmax pmax
comp=N,20nm,1.1s
NVS pmax pmax
comp=E,8.0nm,1.1s
MDJ Mudanjiang 47.74 34 P **P 13 26 37.8 +1.1**
MDJ AMB AMB
comp=Z,3.0nm,0.9s,mb4.3
MDJ AMB AMB
comp=Z,62nm,3.6s
WRA Warramunga Arr 48.12 126 P **P 13 26 39.4 -0.5**
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 48.12 126 P **P 13 26 39.4 -0.5**
comp=Z,3.0nm,0.8s,mb4.4,baz=300,slow=10,SNR=7.0
WRAB Tennant Creek 48.12 126 *eP* **P 13 26 38.2 -1.8**
WRAB pmax pmax
comp=Z,18nm,0.7s,mb5.2
WRAB Tennant Creek 48.12 126 *eP* **P 13 26 38.2 -1.8**
comp=Z,18nm,0.7s,mb5.2
WB2 Warramunga Arr 48.13 126 *eP* **P 13 26 39.2 -0.8**
JHJ Hachijo jima 2 48.95 53 LR LR 13 46 55.6
comp=Z,951nm,19.4s,MS4.8,baz=255,slow=35
BVA0 Borovoye Array 49.07 341 P **P 13 26 46.7 -0.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
BVAR Borovoye Array 49.07 341 P **P 13 26 45.3 -1.5**
comp=Z,3.3nm,0.7s,mb4.5,baz=146,slow=5.3,SNR=5.4
BRVK Borovoye 49.13 341 *eP* **P 13 26 42.3 -5.0**
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
BRVK Borovoye 49.13 341 *eP* **P 13 26 42.3 -5.0**
comp=Z,5.7nm,0.8s,mb4.7
CHKZ Chkalovo 49.55 342 P **P 13 26 48.7 -1.8**
CHKZ pmax pmax
comp=Z,20nm,1.0s,mb5.1
CHKZ Chkalovo 49.55 342 *eP* **P 13 26 46.7 -3.8**
comp=Z,25nm,0.9s,mb5.2
ASPA Alice Springs 49.78 130 *eP* **P 13 26 51.3 -1.4**
ASAR Alice Springs 49.78 130 P **P 13 26 52.0 -0.7**
comp=Z,3.0nm,0.8s,mb4.4,baz=302,slow=7.8,SNR=7.0
ASAR PcP PcP 13 28 16.2 +3.1
comp=Z,3.4nm,0.6s,baz=322,slow=2.9,SNR=6.4
KLR Kul'dur 51.83 30 *eP* **P 13 27 11.2 +3.3**
BOD Bodaibo 52.14 13 *eP* **P 13 27 09.4 -0.7**
CLNS Chul'man 54.41 20 *eP* **P 13 27 32.6 +5.7**
CLNS pmax pmax
comp=Z,19nm,0.8s,mb5.1
CLNS pmax pmax
comp=N,10.0nm,0.7s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS MLR MLR
comp=N,2μm,13.0s,MS5.3
CLNS MLR MLR
comp=Z,2μm,13.0s,MS5.2
CLNS MLR MLR
comp=E,400nm,12.0s,MS5.3
GNI Garni 54.57 314 P **P 13 27 26.8 -1.5**
GNI pmax pmax
comp=Z,3.0nm,0.5s
GNI Garni 54.57 314 P **P 13 27 26.8 -1.5**
comp=Z,3.0nm,0.5s,mb4.6,baz=132,slow=4.9,SNR=2.6
GNI Garni 54.57 314 P **P 13 27 23.6 -4.7**
comp=Z,37nm,1.3s,mb5.2
PMG Port Moresby 55.38 107 P **P 13 27 35.5 +1.0**
PMG pmax pmax
comp=Z,9.0nm,0.6s
PMG MLR MLR
comp=Z,424nm,21.1s
PMG Port Moresby 55.38 107 P **P 13 27 35.5 +1.0**
comp=Z,9.2nm,0.6s,mb5.0,baz=302,slow=12,SNR=3.5
PMG LR LR 13 53 32.2
comp=Z,424nm,21.1s,MS4.5,baz=262,slow=38
PMG Port Moresby 55.38 107 *eP* **P 13 27 34.8 +0.4**
comp=Z,17nm,0.8s,mb5.1
SVE Sverdlovsk 55.48 338 *eP* **P 13 27 30.4 -4.3**
SVE pmax pmax
comp=Z,100nm,2.5s,mb5.4
ARU Arti 55.98 337 *eP* **P 13 27 32.0 -6.2**
YSS Yuzh-Sakhalins 56.71 38 *eP* sP 13 27 56.0 -9.5
KIV Kislovodsk 57.44 318 *eP* **P 13 27 47.1 -1.8**
KIV pmax pmax
comp=N,19nm,1.1s
KIV pmax pmax
comp=Z,18nm,1.1s,mb5.0
KIV Kislovodsk 57.44 318 P **P 13 27 44.1 -4.8**
comp=Z,17nm,0.8s,mb5.1
KMBO Kilima Mbogo 57.57 264 P **P 13 27 50.9 +0.7**
KMBO pmax pmax
comp=Z,10.0nm,0.8s
KMBO Kilima Mbogo 57.57 264 P **P 13 27 50.9 +0.7**
comp=Z,9.8nm,0.8s,mb4.9,baz=55,slow=12,SNR=14
KMBO Kilima Mbogo 57.57 264 *eP* **P 13 27 50.9 +0.8**
comp=Z,11nm,0.8s,mb4.9
ASF Jabal al Asfar 58.36 303 P **P 13 27 54.5 -0.9**
comp=Z,4.7nm,0.7s,mb4.6,baz=76,slow=2.3,SNR=5.6
MALT Malatya 58.60 310 *eP* **P 13 27 53.4 -3.6**
MALT pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
MALT Malatya 58.60 310 *eP* **P 13 27 53.4 -3.6**
comp=Z,6.2nm,0.9s,mb4.6
EIL Elat 59.57 300 *eP* **P 13 27 59.6 -4.2**
comp=Z,14nm,1.0s,mb4.9
YAK Yakutsk 59.97 18 *eP* **P 13 28 10.4 +4.3**
YAK pmax pmax
comp=Z,17nm,0.9s,mb5.1
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK Yakutsk 59.97 18 *eP* **P 13 28 04.5 -1.6**
comp=E,31nm,0.8s,mb5.4
STKA Stephens Creek 59.97 134 P **P 13 28 06.5 0.0**
comp=E,5.4nm,0.9s,mb4.6,baz=314,slow=6.7,SNR=3.8
STKA Stephens Creek 59.97 134 *eP* **P 13 28 04.9 -1.7**
BRTR Keskin Array B 62.56 311 P **P 13 28 21.6 -2.3**
BRTR pmax pmax
comp=Z,4.0nm,0.6s
BRTR Keskin Array B 62.56 311 P **P 13 28 21.6 -2.4**
comp=Z,4.2nm,0.6s,mb4.7,baz=128,slow=7.2,SNR=13
MOS Moscow 65.18 329 *eP* **P 13 28 38.6 -2.2**
MOS pmax pmax
comp=Z,52nm,0.6s,mb5.7
OBN Obninsk 65.49 328 *eP* **P 13 28 38.3 -4.5**
OBN pmax pmax
comp=Z,55nm,1.5s,mb5.4
OBN Obninsk 65.49 328 *eP* **P 13 28 39.1 -3.6**
comp=Z,35nm,1.0s,mb5.3
MA2 Magadan 66.72 28 *eP* **P 13 28 53.0 +2.5**
MA2 pmax pmax
comp=Z,17nm,0.9s,mb5.1
MA2 Magadan 66.72 28 *eP* **P 13 28 53.0 +2.5**
comp=Z,17nm,0.9s,mb5.1
TIXI Tiksi 67.23 11 *eP* **P 13 28 52.7 -0.8**
TIXI pmax pmax
comp=Z,19nm,0.8s,mb5.2
AKASG Malin Array Be 68.27 322 P **P 13 28 57.7 -2.7**
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 68.27 322 P **P 13 28 57.7 -2.6**
comp=Z,6.1nm,0.8s,mb4.7,baz=88,slow=4.7,SNR=6.7
IDI Anoyia 68.71 305 P **P 13 29 02.3 -1.1**
comp=Z,12nm,0.7s,mb5.0,baz=97,slow=10,SNR=8.5
VRI Vrincioaia 68.83 316 ⇑P **P 13 29 02.6 -1.3**
MLR Muntele Rosu 69.30 316 ⇑P **P 13 29 06.3 -0.5**
LSZ Lusaka 69.40 251 *eP* **P 13 29 07.6 -0.3**
LSZ pmax pmax
comp=Z,12nm,1.0s,mb4.8
LSZ Lusaka 69.40 251 *eP* **P 13 29 07.6 -0.3**
comp=Z,12nm,1.0s,mb4.8
JOF Joensuu 70.94 334 *ep* **P 13 29 15.0 -1.5**
comp=Z,9.0nm,0.6s,mb4.9
KOLS Kolonicke sedl 72.33 319 *eP* **P 13 29 25.7 +0.7**
FINES FINESS Array B 72.81 332 P **P 13 29 26.3 -1.2**
FINES pmax pmax
comp=Z,8.0nm,0.8s
FINES FINESS Array B 72.81 332 P **P 13 29 26.3 -1.2**
comp=Z,7.5nm,0.8s,mb4.7,baz=104,slow=7.9,SNR=10
CRVS Cervenica-Dubn 72.85 319 *eP* **P 13 29 28.0 -0.1**
KAF Kangasniemi 72.89 333 *ep* **P 13 29 27.5 -0.5**
comp=Z,16nm,1.1s,mb4.9,baz=119,slow=6.1
KAF Kangasniemi 72.89 333 *eP* **P 13 29 27.5 -0.5**
KAF pmax pmax
comp=Z,16nm,1.1s,mb4.9
OJC Ojcow 74.10 320 *eP* **P 13 29 35.0 -0.3**
VYHS Vyhne 74.53 318 *eP* **P 13 29 37.5 -0.4**
CASY Casey 74.88 173 *eP* **P 13 29 40.1 +0.6**
comp=Z,9.2nm,1.0s,mb4.7
KEV Kevo 74.91 341 *ep* **P 13 29 39.8 +0.2**
comp=Z,43nm,1.7s,mb5.1
KEV Kevo 74.91 341 *eP* **P 13 29 39.8 +0.2**
KEV pmax pmax
comp=Z,43nm,1.7s,mb5.1
OKC Ostrava-Krasne 75.11 319 *eP* **P 13 29 41.4 +0.2**
ARCES ARCESS Array B 75.34 340 P **P 13 29 41.7 -0.4**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 75.34 340 P **P 13 29 41.7 -0.4**
comp=Z,3.3nm,0.6s,mb4.5,baz=106,slow=6.4,SNR=7.9
ARCES ARCESS Array B 75.34 340 P **P 13 29 41.7 -0.4**
ZST Bratislava 75.66 318 *eP* **P 13 29 43.7 -0.6**
ZST *e* 13 38 19.7
BOSA Boshof 75.70 238 *eP* **P 13 29 45.2 +0.2**
BOSA pmax pmax
comp=Z,40nm,1.4s,mb5.2
BOSA Boshof 75.70 238 *eP* **P 13 29 45.2 +0.2**
comp=Z,40nm,1.4s,mb5.2
BILL Bilibino 76.06 22 *eP* **P 13 29 45.8 -0.4**
BILL pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BILL Bilibino 76.06 22 *eP* **P 13 29 45.8 -0.4**
comp=Z,10nm,1.0s,mb4.7
DPC Dobruska-Polom 76.33 320 *eP* **P 13 29 48.2 +0.1**
KSP Ksiaz 76.38 320 *eP* **P 13 29 48.5 +0.1**
KSP *e* 13 29 54.0
KSP *e* 13 29 58.3
UPC Upice 76.54 320 *eP* **P 13 29 49.2 -0.1**
PRU Pruhonice 77.45 319 *eP* **P 13 29 54.6 +0.2**
PRU *epP* pP 13 30 00.8 -10
BRG Berggiesshubel 77.87 320 *eP* **P 13 29 56.1 -0.6**
BRG pmax pmax
comp=Z,22nm,0.2s,mb5.7
BRG Berggiesshubel 77.87 320 *eP* **P 13 29 56.1 -0.6**
comp=Z,22nm,0.2s,mb5.7
GERES GERESS Array B 77.95 318 P **P 13 29 56.3 -0.8**
GERES pmax pmax
comp=Z,4.0nm,0.7s
GERES GERESS Array B 77.95 318 P **P 13 29 56.3 -0.8**
comp=Z,3.8nm,0.7s,mb4.5,baz=90,slow=5.3,SNR=10
KHC Kasperske Hory 78.04 318 *eP* **P 13 29 56.4 -1.2**
KHC *epP* pP 13 30 03.8 -10
CLL Collm 78.48 321 *eP* **P 13 29 59.0 -1.0**
CLL Collm 78.48 321 P **P 13 29 59.0 -1.0**
CLL *e*PP pP 13 30 06.0 -10
MAW Mawson 78.54 192 P **P 13 30 00.6 +0.6**
MAW pmax pmax
comp=Z,22nm,1.0s
MAW Mawson 78.54 192 LR LR 13 59 15.5
comp=Z,457nm,19.1s,MS4.8,baz=182,slow=32
MAW Mawson 78.54 192 P **P 13 30 00.6 +0.6**
comp=Z,22nm,1.0s,mb5.0
NKC Novy Kostel 78.81 320 *eP* **P 13 30 04.4 +2.6**
WTTA Wattenberg 79.31 317 ‖*iP* **P 13 30 04.1 -0.5**
WATA Walderalm 79.35 317 ⇑*iP* **P 13 30 04.0 -0.9**
GRA1 Grafenberg Arr 79.59 319 *eP* **P 13 30 05.9 -0.2**
comp=Z,12nm,1.0s,mb4.8
GRF Grafenberg Arr 79.59 319 *eP* **P 13 30 05.9 -0.2**
GRF pmax pmax
comp=Z,12nm,1.0s,mb4.8
GRF Grafenberg Arr 79.59 319 *eP* **P 13 30 05.9 -0.2**
GRF pmax pmax
comp=Z,12nm,1.0s,mb4.8
GRF Grafenberg Arr 79.59 319 *eP* **P 13 30 05.9 -0.2**
comp=Z,12nm,1.0s,mb4.8
SQTA Sankt Quirin 79.60 317 ‖*iP* **P 13 30 06.1 -0.1**
MOTA Moosalm 79.67 317 ⇑*iP* **P 13 30 05.8 -0.8**
NB2 NORSAR Subarra 79.83 331 P **P 13 30 06.1 -1.1**
comp=Z,6.0nm,0.6s,mb4.7,baz=95,slow=5.0
NB2 NORSAR Subarra 79.83 331 P **P 13 30 06.1 -1.1**
NB2 pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
NOA NORSAR Array B 79.83 331 P **P 13 30 06.7 -0.5**
NOA pmax pmax
comp=Z,2.0nm,0.5s
NOA NORSAR Array B 79.83 331 P **P 13 30 06.7 -0.5**
comp=Z,2.3nm,0.5s,mb4.3,baz=94,slow=5.3,SNR=11
SUR Sutherland 80.44 235 *eP* **P 13 30 12.2 +1.2**
comp=Z,15nm,1.0s,mb4.9
DAVA Damuels 80.51 317 *iP* **P 13 30 11.4 +0.4**
LPG La Plagne 82.75 315 *eP* **P 13 30 19.9 -2.8**
comp=Z,39nm,0.9s,mb5.2
LPG La Plagne 82.75 315 *eP* **P 13 30 19.9 -2.8**
LPG pmax pmax
comp=Z,20nm,0.9s,mb5.2
SYO Syowa Base 85.42 197 ⇑P **P 13 30 36.8 +1.2**
SYO Syowa Base 85.42 197 ‖*pP* pP 13 30 49.9 -2.0
SYO Syowa Base 85.42 197 ⇑PP sP 13 30 59.6 +1.7
ESDC Sonseca Array 91.35 310 P **P 13 31 05.4 +0.8**
comp=Z,1.7nm,0.7s,mb4.5,baz=57,slow=4.4,SNR=5.2
IMA Indian Mountai 91.59 22 *eP* **P 13 31 07.3 +2.2**
COLA College 94.30 22 *eP* **P 13 31 21.3 +3.9**
COLA pmax pmax
comp=Z,4.0nm,1.1s,mb4.8
COLA College 94.30 22 *eP* **P 13 31 21.3 +3.9**
comp=Z,3.6nm,1.1s,mb4.7
MCK McKinley 94.42 23 *eP* **P 13 31 21.4 +3.4**
MCK pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
MCK McKinley 94.42 23 *eP* **P 13 31 21.4 +3.4**
comp=Z,2.6nm,0.9s,mb4.7
ILAR Eielson Array 94.71 22 P **P 13 31 21.4 +2.1**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR MLR MLR
comp=Z,473nm,19.1s
ILAR Eielson Array 94.71 22 P **P 13 31 21.4 +2.1**
comp=Z,0.5nm,0.6s,mb4.1,baz=313,slow=3.9,SNR=6.1
ILAR LR LR 14 15 19.6
comp=Z,473nm,19.1s,MS5.0,baz=130,slow=36
INK Inuvik 96.98 16 P **P 13 31 31.6 +2.0**
INK pmax pmax
comp=Z,2.0nm,1.1s
INK Inuvik 96.98 16 P **P 13 31 31.6 +2.0**
comp=Z,1.8nm,1.1s,mb4.4,baz=209,slow=26,SNR=2.8
RES Resolute Bay 97.42 2 *eP* **P 13 31 32.9 +1.4**
RES pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
RES Resolute Bay 97.42 2 *eP* **P 13 31 32.9 +1.4**
comp=Z,7.7nm,1.1s,mb5.0
NVAR Mina Array Bea 124.86 31 PKP PKPdf 13 37 00.7 +3.2
comp=Z,0.9nm,0.7s,baz=273,slow=2.5,SNR=4.1
PDAR Pinedale Array 125.14 21 PKP PKPdf 13 37 01.2 +3.2
comp=Z,1.5nm,0.8s,baz=88,slow=2.1,SNR=6.6
MVU Marysvale 127.70 26 *e*PKPdf PKPdf 13 37 12.1 +9.0
MSU Marysvale 127.71 26 *e*PKIKP PKPdf 13 37 08.0 +4.9
GDL2 Guadalupe Moun 136.38 23 *e*PKPdf PKPdf 13 37 20.7 +1.2
TXAR Lajitas Array 139.19 24 PKIKP 13 37 29.7
comp=Z,0.3nm,0.5s,baz=225,slow=1.3,SNR=3.1
PLCA Paso Flores 144.57 200 PKIKP PKPdf 13 37 35.0 +1.1
PLCA pmax pmax
comp=Z,5.0nm,0.9s
PLCA Paso Flores 144.57 200 PKP PKPdf 13 37 35.0 +1.1
comp=Z,4.8nm,0.9s,baz=152,slow=2.8,SNR=5.6

IGQ 27 13:21:43.9, 1.50S±81.33W, h19km±7km, mb4.2, 2C, Error ellipse: s-maj=12.8km s-min=3.9km az=6.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.90**	**60**	P	Pb	13 22 00.5	-0.2
JAMA	**Jama**	**1.67**	**42**	P	Pn	13 22 14.2	+1.7
JAMA				S	Sn	13 22 35.4	+1.8
IGUA	**Igualata**	**2.69**	**90**	P	Pn	13 22 28.1	+0.9
CUSU	**Cusua**	**2.85**	**89**	P	Pn	13 22 30.7	+1.3
JUIV	**Juive**	**2.87**	**89**	P	Pn	13 22 31.9	+2.2
ARRY	**Arrayan**	**2.88**	**90**	⇑P	Pn	13 22 30.8	+0.9
RETU	**Refugio**	**2.89**	**89**	P	Pn	13 22 31.5	+1.6
ULBA	**Ulba**	**2.92**	**89**	P	Pn	13 22 32.0	+1.6
PISA	**Pisayambo**	**2.98**	**82**	⇑P	Pn	13 22 34.1	+2.8
NAS1	**Nasa**	**2.98**	**73**	P	Pn	13 22 34.1	+2.8
JUA2	**San Juan 2**	**3.01**	**65**	P	Pn	13 22 33.4	+1.6
PINO	**Pino**	**3.03**	**64**	P	Pn	13 22 33.2	+1.2
VC1	**Cotopaxi 1**	**3.05**	**74**	P	Pn	13 22 35.8	+3.5
TAMB	**Tambo**	**3.07**	**75**	P	Pn	13 22 35.6	+3.1
YANA	**Yana**	**3.08**	**64**	P	Pn	13 22 34.1	+1.3

*CSEM **27** 13:22:28.3, 32.26N×48.36E, h15km, ML3.1, After TEH*
TEH 27 13:22:28.3, 32.26N×48.36E, h15km, Mn3.1, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**2.04**	**340**	Pn	Pn	13 23 02.1	-0.5
IGHG	**Ghaleghazi**	**2.55**	**325**	Pn	Pn	13 23 09.0	-0.9
IVIS	**Veys**	**2.59**	**331**	Pn	Pn	13 23 09.4	-1.0
IDHR	**Dehrash**	**2.94**	**326**	Pn	Pn	13 23 14.2	-1.2
IRAZ	**Razeghan**	**3.40**	**22**	Pn	Pn	13 23 20.7	-1.3
IRAZ				Sn	Sn	13 23 59.2	-3.2
IQOM	**Qom**	**3.43**	**41**	Pn	Pn	13 23 20.9	-1.5
IQOM				Sn	Sn	13 23 59.8	-3.4
IMHD	**Mahdasht**	**3.92**	**29**	Sn	Sn	13 24 11.4	-4.1
IDMV	**Damavand**	**4.50**	**42**	Pn	Pn	13 23 35.4	-2.3
IAFJ	**Afjeh**	**4.54**	**37**	Pn	Pn	13 23 35.9	-2.3
IAFJ				Sn	Sn	13 24 26.1	-5.2
IFIR	**Firoozkooh**	**4.97**	**46**	Pn	Pn	13 23 41.8	-2.5
IFIR				Sn	Sn	13 24 36.4	-5.8

*IDC **27** 13:22:30.3±0.7, 7.66N×93.92E, mb4.2/15, mb1 4.3/16, mb1mx4.3/21, mbtmp4.2/16, ML4.1/1, Error ellipse: s-maj=34.0km s-min=15.9km az=55.0*
ISC 27 13:22:33.6±0.6, 7.7N±0.1×94.0E±0.1, h33km, n19, σ1§17/18, mb4.2/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.70**	**24**	Pn	**P**	**13 25 21.4**	**+0.2**
	0.4nm,0.3s,baz=216,slow=14,SNR=4.7						
GOA	**Goa**	**21.25**	**293**	*e*	**P**	**13 27 22.6**	**+3.4**
SONM	**Songino Array**	**41.35**	**13**	P	**P**	**13 30 19.1**	**+1.1**
	1.7nm,0.7s,mb3.8,baz=190,slow=7.5,SNR=4.3						
NWAO	**Narrogin (SRO)**	**46.05**	**153**	P	**P**	**13 30 57.5**	**+1.2**
	5.3nm,0.7s,mb4.6,baz=212,slow=4.5,SNR=6.0						
ZAL	**Zalesovo**	**46.70**	**353**	P	**P**	**13 31 00.7**	**-0.4**
	4.8nm,0.8s,mb4.5,baz=298,slow=8.6,SNR=13						
WRA	**Warramunga Arr**	**48.24**	**125**	P	**P**	**13 31 12.3**	**-1.4**
	0.6nm,0.4s,mb4.0,baz=299,slow=9.8,SNR=8.2						
BVAR	**Borovoye Array**	**49.12**	**341**	P	**P**	**13 31 19.1**	**-0.8**
	2.7nm,0.8s,mb4.3,baz=153,slow=9.9,SNR=6.0						
ASAR	**Alice Springs**	**49.88**	**130**	P	**P**	**13 31 25.9**	**-0.4**
	1.2nm,0.9s,mb3.9,baz=306,slow=7.7,SNR=6.5						
KMBO	**Kilima Mbogo**	**57.30**	**264**	P	**P**	**13 32 25.2**	**+4.2**
	1.1nm,0.6s,mb4.1,baz=51,slow=24,SNR=2.4						
BRTR	**Keskin Array B**	**62.46**	**311**	P	**P**	**13 32 55.2**	**-0.8**
	1.8nm,0.8s,mb4.3,baz=121,slow=7.2,SNR=5.5						
AKASG	**Malin Array Be**	**68.22**	**322**	P	**P**	**13 33 31.8**	**-1.2**
	3.0nm,0.8s,mb4.4,baz=90,slow=4.9,SNR=7.4						
IDI	**Anoyia**	**68.58**	**305**	P	**P**	**13 33 35.0**	**-0.5**
	6.6nm,0.8s,mb4.6,baz=321,slow=14,SNR=2.9						
FINES	**FINESS Array B**	**72.81**	**332**	P	**P**	**13 34 00.1**	**-0.4**
	4.5nm,0.7s,mb4.5,baz=112,slow=10,SNR=8.5						
ARCES	**ARCESS Array B**	**75.39**	**340**	P	**P**	**13 34 15.0**	**-0.3**
	1.2nm,0.6s,mb4.0,baz=90,slow=6.1,SNR=6.2						
GERES	**GERESS Array B**	**77.88**	**318**	P	**P**	**13 34 31.1**	**+1.3**
	2.9nm,0.8s,mb4.3,baz=90,slow=4.0,SNR=12						
NB2	**NORSAR Subarra**	**79.83**	**331**	P	**P**	**13 34 38.1**	**-2.0**
	3.9nm,0.7s,mb4.5,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**79.83**	**331**	P	**P**	**13 34 40.5**	**+0.4**
	3.9nm,0.8s,mb4.4,baz=93,slow=5.5,SNR=7.3						
INK	**Inuvik**	**97.18**	**16**	P	**P**	**13 36 06.1**	**+2.5**
	0.6nm,0.8s,mb4.0,baz=142,slow=4.6,SNR=2.6						
PLCA	**Paso Flores**	**144.36**	**200**	PKP	PKPdf	13 42 09.4	+2.8
	1.8nm,0.8s,baz=184,slow=9.5,SNR=3.4						

*IDC **27** 13:25:13.6±0.6, 7.86N×94.20E, mb4.7/22, mb1 4.8/23, mb1mx4.8/24, mbtmp4.7/23, ML4.5/1, Error ellipse: s-maj=25.8km s-min=13.5km az=49.0*
*MOS **27** 13:25:17.1±1.1, 7.86N×94.15E, h33km, mb5.2/43, Error ellipse: s-maj=9.8km s-min=5.8km az=110.9*
*BJI **27** 13:25:17.0, 7.48N×93.79E, h52km, mB5.3, mb4.7, Ms5.3, Msz5.0*
*NEIC **27** 13:25:18.0±0.2, 7.79N×94.12E, h30km, mb5.0/41, Error ellipse: s-maj=5.8km s-min=5.1km az=54.0*
*HRVD **27** 13:25:18.0±0.5, 7.77N×94.20E, h18km±2km, MW5.2/58, Centroid moment Tensor Solution. LP body waves: s9,c9; Mantle waves: s58,c98; Half duration: 1s0 Moment tensor: Scale 10^16Nm; M_{rr}-1.48±.51; $M_{\theta\theta}$-4.89±.35; $M_{\phi\phi}$6.37±.40; $M_{r\theta}$-1.72±.86; $M_{\theta\phi}$3.66±.30; $M_{r\phi}$-2.28±1.01; Best double couple: $M_0$7.206×10^16 NP1:φ₀150°,δ69°, λ178°. NP2:φ₀241°,δ88°,λ21°. Principal axes: T 8.2, Plg16°, Azm108°; N -1.987, Plg69°, Azm245°; P -6.213, Plg13°, Azm14°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 27 13:25:17.3±0.3, 7.82N±0.04×94.18E±0.04, h36km, h36km±4.7km: pP-P, n205, σ1§08/199, mb5.0/74, MS5.1/4, 5C-14D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.06**	**340**	*eP*	**P**	**13 26 19.9**	**+1.2**
PBA				*e*SG	**S**	**13 27 19.2**	**+14**
CM31	**Chiang Mai Arr**	**11.54**	**23**	*eP*	**P**	**13 27 59.8**	**-2.9**
	14nm,0.6s						
CMAR	**Chiang Mai Arr**	**11.54**	**23**	P	**P**	**13 28 03.0**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.54**	**23**	Pn	**P**	**13 28 03.0**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=211,slow=14,SNR=16						
PALK	**Pallekele**	**13.38**	**269**	P	**P**	**13 28 22.9**	**-4.3**
KOD	**Kodaikanal**	**16.68**	**280**	*eP*	**P**	**13 29 12.2**	**+2.1**
KOD				*e*		13 29 16.3	
	comp=Z,60nm,1.4s						
SHL	**Shillong**	**17.78**	**353**	*eP*	**P**	**13 29 26.5**	**+2.7**
SHL				*e*		13 29 27.8	
	comp=Z,732nm,1.3s						
HYB	**Hyderabad**	**17.97**	**304**	*eP*	**P**	**13 29 24.0**	**-2.2**
HYB				pmax	pmax		
	comp=Z,71nm,1.2s						
HYB	**Hyderabad**	**17.97**	**304**	*eP*	**P**	**13 29 24.0**	**-2.2**
	comp=Z,71nm,1.2s						
HYB	**Hyderabad**	**17.97**	**304**	*i P*	**P**	**13 29 24.0**	**-2.2**
	comp=Z,71nm,1.2s						
QIZ	**Qiongzhong**	**18.85**	**52**	*eP*	**P**	**13 29 38.8**	**+1.8**
	comp=Z,77nm,1.4s						
KMI	**Kunming**	**19.05**	**24**	P	**P**	**13 29 43.4**	**+4.2**
KMI				pmax	pmax		
	comp=Z,39nm,1.1s						
KMI	**Kunming**	**19.05**	**24**	P	**P**	**13 29 43.4**	**+4.2**
	comp=Z,39nm,1.1s						
MNGI	**Mangalore**	**19.70**	**287**	*i P*	**P**	**13 29 46.0**	**-0.6**
MNGI				*e*S	**S**	**13 33 25.0**	**+3.6**
COCO	**West Island**	**20.06**	**172**	P	**P**	**13 29 47.7**	**-2.7**
	comp=Z,146nm,1.0s						
JIRN	**Jiri**	**21.13**	**340**	*eP*	**P**	**13 30 01.0**	**-0.4**
	comp=Z,158nm,1.0s,mb5.3						
PKI	**Pulchoki**	**21.33**	**338**	*eP*	**P**	**13 30 03.1**	**-0.3**
	comp=Z,171nm,1.0s,mb5.3						
GUN	**Gumba**	**21.47**	**340**	*eP*	**P**	**13 30 04.1**	**-0.7**
	comp=Z,286nm,1.2s,mb5.5						
DMN	**Daman**	**21.47**	**338**	*eP*	**P**	**13 30 05.1**	**+0.3**
	comp=Z,149nm,0.9s,mb5.3						
KKN	**Kakani**	**21.57**	**338**	*eP*	**P**	**13 30 05.1**	**-0.7**
	comp=Z,260nm,1.3s,mb5.5						
LSA	**Lhasa**	**21.95**	**353**	P	**P**	**13 30 09.3**	**-0.2**
LSA	**Lhasa**	**21.95**	**353**	*eP*	**P**	**13 30 08.7**	**-0.8**
LSA				pmax	pmax		
	comp=Z,71nm,0.8s,mb5.2						
LSA	**Lhasa**	**21.95**	**353**	*eP*	**P**	**13 30 08.7**	**-0.8**
	comp=Z,71nm,0.8s,mb5.2						
GKN	**Gorkha**	**22.01**	**337**	*eP*	**P**	**13 30 09.4**	**-0.7**
	comp=Z,202nm,0.9s,mb5.6						
KOLN	**Koldanda**	**22.22**	**335**	*eP*	**P**	**13 30 11.9**	**-0.4**
	comp=Z,383nm,1.4s,mb5.6						
POO	**Poona**	**22.45**	**300**	‖*iP*	**P**	**13 30 15.0**	**+0.4**
BOM	**Bombay**	**23.49**	**300**	*eP*	**P**	**13 30 24.6**	**-0.3**
NDI	**New Delhi**	**26.20**	**324**	*eP*	**P**	**13 30 50.5**	**-0.2**
NDI				*e*		13 30 56.3	
	comp=Z,97nm,1.8s						
ENH	**Enshi**	**26.54**	**31**	*eP*	**P**	**13 30 54.7**	**+0.8**

comp=Z,19nm,1.0s,mb4.6
SMLA Simla 28.11 328 *e* **P 13 31 21.6 +13**
SMLA *e* 13 31 27.8
comp=Z,34nm,0.8s
LZH Lanzhou 29.48 16 *e*P **P 13 31 21.5 +1.2**
LZH AP pP 13 31 34.5 +4.0
LZH XP sP 13 31 40.0 +4.7
LZH AMB AMB
comp=Z,43nm,1.6s,mb4.9
LZH LR LR
comp=E,2µm,12.0s
LZH LR LR
comp=Z,2µm,13.2s,MS5.0
LZH Lanzhou 29.48 16 *e*P **P 13 31 21.5 +1.2**
LZH *PP pP 13 31 34.5 +4.0
LZH 13 32 28.0
LZH pmax pmax
comp=Z,43nm,1.6s,mb4.9
LZH MLR MLR
comp=Z,2µm,13.2s,MS5.0
LZH Lanzhou 29.48 16 *e*P **P 13 31 21.5 +1.2**
comp=Z,43nm,1.6s,mb4.9
LZH pP pP 13 31 34.5 +4.0
LZH sP sP 13 31 40.0 +4.7
LZH PP PP 13 32 28.0 +11
LZH LR LR
comp=Z,2µm,13.2s,MS5.0
NJ2 Nanjing 33.28 40 *e*P **P 13 31 54.8 +1.1**
NJ2 AP pP 13 32 04.3 +0.2
NJ2 PP PP 13 33 05.5 -0.2
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,2µm,6.7s
NJ2 LR LR
comp=N,4µm,11.5s,MS5.5
NJ2 LR LR
comp=E,4µm,12.4s,MS5.5
NJ2 LR LR
comp=Z,4µm,19.3s
SSE Sheshan 34.23 44 *e*P **P 13 32 00.5 -1.4**
SSE AMB AMB
comp=Z,20nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,259nm,10.6s
SSE Sheshan 34.23 44 *e*P **P 13 32 00.6 -1.3**
comp=Z,20nm,0.8s,mb5.1
WMQ Urumqi 36.30 352 P **P 13 32 20.3 +0.9**
WMQ AMB AMB
comp=Z,18nm,0.6s,mb5.2
WMQ AMB AMB
comp=Z,178nm,4.8s
WMQ LR LR
comp=N,1µm,16.4s,MS4.9
WMQ LR LR
comp=E,1µm,15.6s,MS4.9
WMQ LR LR
comp=Z,2µm,18.2s,MS4.9
BJT Baijiatuau 37.61 28 *e*P **P 13 32 29.3 -1.1**
BJT pmax pmax
comp=Z,17nm,1.4s
BJT Baijiatuau 37.61 28 *e*P **P 13 32 29.3 -1.1**
comp=Z,17nm,1.4s,mb4.6
BJI Beijing 37.63 28 *e*P **P 13 32 31.9 +1.3**
BJI pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
BJI Beijing 37.63 28 *e*P **P 13 32 31.9 +1.3**
comp=Z,7.0nm,1.0s,mb4.3
UCH Uchtor 38.42 336 P **P 13 32 37.5 +0.3**
SNR=10
KBK Karagaybulak 38.61 337 P **P 13 32 39.5 +0.8**
SNR=12
AML Almayashu 38.67 335 P **P 13 32 39.8 +0.5**
SNR=20
AAK Ala-Archa 38.77 337 P **P 13 32 40.3 +0.3**
SNR=12
AAK Ala-Archa 38.77 337 P **P 13 32 40.0 0.0**
AAK pmax pmax
comp=Z,23nm,1.1s,mb4.8
AAK Ala-Archa 38.77 337⇓*e*P **P 13 32 39.5 -0.5**
CHMS Chumysh 38.98 337 P **P 13 32 41.5 -0.3**
SNR=8.8
EKS2 Erkin-Say 39.08 336 P **P 13 32 39.7 -2.9**
SNR=8.7
USP Ospenovka 39.30 337 P **P 13 32 44.4 -0.1**
SNR=14
MKAR Makanchi Array 40.15 347 *i* P **P 13 32 50.6 -0.8**
SONM Songino Array 41.20 12 P **P 13 33 00.9 +0.7**
comp=Z,8.1nm,1.0s,mb4.3,baz=198,slow=7.8,SNR=16
ULN Ulaanbaatar 41.38 13 *e*P **P 13 33 01.2 -0.4**
ULN pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
ULN Ulaanbaatar 41.38 13 *e*P **P 13 33 01.2 -0.3**
comp=Z,6.6nm,0.9s,mb4.3
KS15 Wonju Array Si 42.44 41 P **P 13 33 11.6 +1.0**
ZAK Zakamensk 43.09 9 *e*P **P 13 33 16.3 +0.7**
TLY Talaya 44.41 8 *e*P **P 13 33 26.7 +0.4**
TLY pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
TLY Talaya 44.41 8 *e*P **P 13 33 26.6 +0.4**
comp=Z,3.7nm,0.9s,mb4.1
KURK Kurchatov 44.67 346 *i* P **P 13 33 27.7 -0.6**
KURK pmax pmax
comp=Z,35nm,1.2s,mb5.1
KURK Kurchatov 44.67 346 *e*P **P 13 33 26.8 -1.6**
comp=Z,92nm,1.3s,mb5.5
NWAO Narrogin (SRO) 46.08 153 P **P 13 33 40.0 +0.1**
NWAO pmax pmax
comp=Z,23nm,1.2s
NWAO Narrogin (SRO) 46.08 153 P **P 13 33 40.0 +0.1**
comp=Z,23nm,1.2s,mb5.0,baz=301,slow=14,SNR=7.1
NWAO Narrogin (SRO) 46.08 153 *e*P **P 13 33 40.1 +0.2**
comp=Z,33nm,1.4s,mb5.1
HIA Hailar 46.55 23 *e*P **P 13 33 44.0 +0.7**
HIA pmax pmax
comp=Z,27nm,1.2s
HIA Hailar 46.55 23 *e*P **P 13 33 44.0 +0.7**
comp=Z,27nm,1.2s,mb5.0
ZAL Zalesovo 46.60 352 P **P 13 33 43.0 -0.6**
ZAL pmax pmax
comp=Z,28nm,1.0s
ZAL Zalesovo 46.60 352 P **P 13 33 43.0 -0.7**
comp=Z,28nm,1.0s,mb5.2,baz=295,slow=9.5,SNR=46
NVS Novosibirsk 47.70 351 *i* P **P 13 33 50.8 -1.5**
NVS pmax pmax
comp=N,22nm,0.8s
NVS pmax pmax
comp=E,13nm,0.8s
NVS pmax pmax
comp=Z,29nm,0.8s,mb5.4
MDJ Mudanjiang 47.83 34 P **P 13 33 54.5 +1.1**
MDJ S **S 13 40 49.5 +2.8**
MDJ AMB AMB
comp=Z,7.0nm,1.2s,mb4.6
MDJ AMB AMB
comp=Z,328nm,5.3s
MDJ LR LR
comp=N,1µm,15.0s,MS5.1
MDJ LR LR
comp=E,1µm,14.7s,MS5.1
MDJ LR LR
comp=Z,1µm,13.7s,MS5.0
MDJ Mudanjiang 47.83 34 P **P 13 33 53.3 -0.1**
comp=Z,22nm,1.3s,mb5.0
WRA Warramunga Arr 48.20 126 P **P 13 33 55.7 -0.9**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 48.20 126 P **P 13 33 55.7 -0.9**
comp=Z,2.0nm,0.8s,mb4.2,baz=299,slow=10,SNR=14
WRAB Tennant Creek 48.20 126 *e*P **P 13 33 55.7 -1.0**
WRAB pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
WRAB Tennant Creek 48.20 126 *e*P **P 13 33 55.7 -0.9**
comp=Z,8.1nm,0.7s,mb4.9
WB2 Warramunga Arr 48.21 126 *e*P **P 13 33 55.4 -1.3**
BVA0 Borovoye Array 49.05 341 *i* P **P 13 34 01.4 -1.3**
BVA0 pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
BVAR Borovoye Array 49.05 341 P **P 13 34 01.6 -1.1**
comp=Z,9.6nm,1.0s,mb4.8,baz=143,slow=7.4,SNR=22
BRVK Borovoye 49.11 341⇓*e*P **P 13 34 02.2 -1.0**
BRVK pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
BRVK Borovoye 49.11 341⇓*e*P **P 13 34 02.2 -1.0**
comp=Z,1.9nm,1.2s,mb4.0
RAYN Ar Rayn 49.15 294 P **P 13 34 04.1 +0.2**

comp=Z,170nm,0.9s,mb6.1,SNR=30
CHKZ Chkalovo 49.53 342 P **P 13 34 05.6 -0.9**
CHKZ pmax pmax
comp=Z,34nm,1.0s,mb5.3
CHKZ Chkalovo 49.53 342 *e*P **P 13 34 05.5 -0.9**
comp=Z,50nm,1.1s,mb5.5
ASPA Alice Springs 49.85 130 *e*P **P 13 34 08.7 -0.6**
ASAR Alice Springs 49.85 130 P **P 13 34 08.2 -1.1**
comp=Z,3.7nm,0.9s,mb4.4,baz=304,slow=7.2,SNR=11
KLR Kul'dur 51.91 31 *e*P **P 13 34 26.3 +1.8**
BOD Bodaibo 52.19 13 *e*P **P 13 34 25.0 -1.5**
GNI Garni 54.50 314 P **P 13 34 43.3 -0.6**
GNI pmax pmax
comp=Z,8.0nm,0.8s
GNI Garni 54.50 314 P **P 13 34 43.3 -0.6**
comp=Z,8.2nm,0.8s,mb4.8,baz=278,slow=5.5,SNR=6.7
SVE Sverdlovsk 55.46 338 *e*P **P 13 34 46.7 -3.9**
SVE pmax pmax
comp=Z,64nm,2.0s,mb5.3
PMG Port Moresby 55.48 107 P **P 13 34 51.5 +0.2**
PMG pmax pmax
comp=Z,36nm,1.3s
PMG Port Moresby 55.48 107 P **P 13 34 54.1 +2.8**
comp=Z,6.9nm,0.7s,mb4.8,baz=261,slow=7.0,SNR=3.3
PMG Port Moresby 55.48 107 P **P 13 34 51.5 +0.2**
comp=Z,36nm,1.3s,mb5.2
ARU Arti 55.95 337 P **P 13 34 53.1 -1.0**
comp=Z,106nm,0.9s,mb5.9,SNR=8.8
ARU Arti 55.95 337⇓*i*P **P 13 34 46.4 -7.7**
ARU *e* 13 35 45.0
ARU *e*S **S 13 42 28.7 -9.1**
ARU *e* 13 44 32.1
ARU pmax pmax
comp=Z,20nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 56.80 38 *e*P **P 13 35 00.4 0.0**
YSS pmax pmax
comp=Z,25nm,1.2s,mb5.1
YSS Yuzh-Sakhalins 56.80 38 *e*P **P 13 35 00.4 0.0**
comp=Z,25nm,1.2s,mb5.1
KIV Kislovodsk 57.38 318 *e*P **P 13 35 03.0 -1.6**
KIV pmax pmax
comp=Z,41nm,1.0s,mb5.4
KIV Kislovodsk 57.38 318 *e*P **P 13 35 03.0 -1.6**
comp=Z,41nm,1.0s,mb5.4
KMBO Kilima Mbogo 57.46 264 *e*P **P 13 35 07.3 +1.8**
KMBO pmax pmax
comp=Z,20nm,1.2s
KMBO Kilima Mbogo 57.46 264 P **P 13 35 07.0 +1.5**
comp=Z,23nm,1.3s,mb5.1,baz=45,slow=10,SNR=12
KMBO Kilima Mbogo 57.46 264 *e*P **P 13 35 07.3 +1.7**
comp=Z,20nm,1.2s,mb5.0
ASF Jabal al Asfar 58.28 303 P **P 13 35 10.6 -0.4**
comp=Z,5.2nm,0.9s,mb4.6,baz=266,slow=1.6,SNR=4.4
MALT Malatya 58.53 310 *e*P **P 13 35 10.9 -1.7**
MALT pmax pmax
comp=Z,18nm,1.4s,mb4.9
MALT Malatya 58.53 310 *e*P **P 13 35 10.9 -1.7**
comp=Z,18nm,1.4s,mb4.9
SOC Sochi 59.24 317 *e*P **P 13 35 13.4 -4.2**
SOC *e* 13 35 57.8
SOC *e* 13 37 26.6
SOC *e*S **S 13 43 19.6 -1.6**
SOC *e* 13 45 02.2
SOC *e*SS SS 13 47 13.3 -4.2
SOC pmax pmax
comp=Z,58nm,1.3s,mb5.5
SOC pmax pmax
comp=N,21nm,1.0s
SOC pmax pmax
comp=E,46nm,1.0s
EIL Elat 59.49 300 *e*P **P 13 35 18.7 -0.7**
comp=E,15nm,1.1s,mb4.9
YAK Yakutsk 60.03 18 *e*P **P 13 35 22.1 -0.6**
YAK pmax pmax
comp=Z,17nm,0.9s,mb5.1
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK Yakutsk 60.03 18 *e*P **P 13 35 21.2 -1.5**
comp=E,49nm,1.1s,mb5.5
STKA Stephens Creek 60.04 134 P **P 13 35 21.9 -1.4**
comp=E,2.9nm,0.9s,mb4.3,baz=328,slow=6.2,SNR=3.5
STKA Stephens Creek 60.04 134 *e*P **P 13 35 21.1 -2.2**
ANN Anapa 61.20 317 *e*P **P 13 35 38.9 +8.0**
ANN *e**PP pP 13 35 49.5 +7.7
ANN *i* 13 35 56.6
ANN *e*S **S 13 44 05.3 +19**
ANN pmax pmax
comp=Z,60nm,1.3s,mb5.6
BRTR Keskin Array B 62.49 311 P **P 13 35 37.4 -2.2**
BRTR pmax pmax
comp=Z,13nm,1.2s
BRTR Keskin Array B 62.49 311 P **P 13 35 37.4 -2.3**
comp=Z,13nm,1.2s,mb5.0,baz=117,slow=5.5,SNR=17
MBAR Mbarara 63.80 265 *e*P **P 13 35 49.9 +1.2**
MBAR pmax pmax
comp=Z,24nm,1.3s,mb5.1
MBAR Mbarara 63.80 265 *e*P **P 13 35 49.9 +1.1**
comp=Z,24nm,1.3s,mb5.1
MOS Moscow 65.14 329 *e*P **P 13 35 53.7 -3.0**
MOS *e* pP 13 36 04.7 -3.1
OBN Obninsk 65.44 328⇓*e*P **P 13 35 54.8 -3.8**
OBN *e* 13 36 24.8
OBN *e* 13 38 19.2
OBN pmax pmax
comp=Z,42nm,0.8s,mb5.5
OBN Obninsk 65.44 328 *e*P **P 13 35 54.8 -3.8**
comp=Z,146nm,1.3s,mb5.8
MA2 Magadan 66.79 28 *e*P **P 13 36 06.7 -0.4**
MA2 pmax pmax
comp=Z,57nm,1.6s,mb5.3
MA2 Magadan 66.79 28 *e*P **P 13 36 06.7 -0.4**
comp=Z,57nm,1.6s,mb5.3
TIXI Tiksi 67.27 11⇑*e*P **P 13 36 09.4 -0.6**
AKASG Malin Array Be 68.22 322 P **P 13 36 14.2 -2.0**
AKASG pmax pmax
comp=Z,9.0nm,1.0s
AKASG Malin Array Be 68.22 322 P **P 13 36 14.2 -2.0**
comp=Z,8.6nm,1.0s,mb4.7,baz=87,slow=4.6,SNR=5.6
IDI Anoyia 68.63 305 P **P 13 36 18.4 -0.6**
comp=Z,22nm,1.1s,mb5.0,baz=90,slow=4.0,SNR=4.0
VRI Vrincioaia 68.77 316 ⇑P **P 13 36 19.3 -0.4**
MLR Muntele Rosu 69.24 316 ⇑P **P 13 36 22.1 -0.5**
LSZ Lusaka 69.29 250 *e*P **P 13 36 23.9 +0.5**
LSZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LSZ Lusaka 69.29 250 *e*P **P 13 36 23.9 +0.5**
comp=Z,7.3nm,1.0s,mb4.6
JOF Joensuu 70.91 334 *e*p **P 13 36 31.6 -0.9**
comp=Z,19nm,1.1s,mb4.9
KWP Kalwaria 72.09 320 *e*P **P 13 36 40.0 +0.3**
KOLS Kolonicke sedl 72.27 319 *e*P **P 13 36 41.3 +0.5**
SUW Suwalki 72.57 324 *e*P **P 13 36 41.9 -0.6**
FINES FINESS Array B 72.77 332 P **P 13 36 43.1 -0.5**
FINES pmax pmax
comp=Z,11nm,0.9s
FINES FINESS Array B 72.77 332 P **P 13 36 43.1 -0.5**
comp=Z,11nm,0.8s,mb4.8,baz=90,slow=7.6,SNR=14
CRVS Cervenica-Dubn 72.79 319 *e*P **P 13 36 44.4 +0.4**
CRVS *e* 13 37 06.0
CRVS *e* 13 38 02.1
KAF Kangasniemi 72.85 333 *e*p **P 13 36 44.2 +0.1**
comp=Z,22nm,1.2s,mb5.0,baz=106,slow=4.4
KAF Kangasniemi 72.85 333 *e*P **P 13 36 44.2 +0.1**
KAF pmax pmax
comp=Z,22nm,1.2s,mb5.0
NIE Niedzica 73.61 319 *e*P **P 13 36 49.5 +0.7**
OJC Ojcow 74.04 320 *e*P **P 13 36 51.0 -0.2**
VYHS Vyhne 74.47 318 *i* P **P 13 36 53.8 0.0**
VYHS *e* 13 38 12.7
CASY Casey 74.87 173 *e*P **P 13 36 55.9 +0.1**
comp=Z,12nm,1.1s,mb4.7
KEV Kevo 74.90 341 *e*p **P 13 36 52.0 -3.8**
OKC Ostrava-Krasne 75.06 319 *e*P **P 13 36 57.8 +0.7**
OKC AMS AMS 14 05 50.0
ARCES ARCESS Array B 75.33 340 P **P 13 36 58.4 +0.1**
ARCES pmax pmax
comp=Z,8.0nm,0.9s
ARCES ARCESS Array B 75.33 340 P **P 13 36 58.4 +0.1**
comp=Z,8.3nm,0.9s,mb4.7,baz=98,slow=6.3,SNR=10
ARCES ARCESS Array B 75.33 340 P **P 13 36 58.4 +0.1**
BOSA Boshof 75.59 238 *e*P **P 13 37 01.3 +0.7**
BOSA pmax pmax
comp=Z,18nm,1.1s,mb4.9

BOSA Boshof 75.59 238 *e*P **P 13 37 01.3 +0.7**
comp=Z,18nm,1.1s,mb4.9
BILL Bilibino 76.12 22⇓*e*P **P 13 37 03.0 +0.2**
BILL pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
BILL Bilibino 76.12 22 *e*P **P 13 37 02.7 -0.1**
comp=Z,7.1nm,0.9s,mb4.6
DPC Dobruska-Polom 76.27 320 *e*P **P 13 37 05.0 +1.0**
DPC AMS AMS 14 06 30.0
comp=Z,500nm,16.2s
KSP Ksiaz 76.33 320 *e*P **P 13 37 04.4 +0.1**
UPC Upice 76.48 320 *e*P **P 13 37 06.2 +1.0**
PRU Pruhonice 77.39 319 *e*P **P 13 37 11.1 +0.7**
PRU AMS AMS 14 10 00.0
comp=Z,400nm,17.5s
PVCC Panska Ves 77.40 320 *e*P **P 13 37 11.3 +0.9**
PVCC AMS AMS 14 07 00.0
comp=Z,500nm,19.3s
BRG Berggiesshubel 77.82 320 *e*P **P 13 37 12.9 +0.2**
BRG pmax pmax
comp=Z,26nm,1.5s,mb4.9
BRG Berggiesshubel 77.82 320 *e*P **P 13 37 12.9 +0.2**
comp=Z,26nm,1.5s,mb4.9
BRG *e* 13 38 31.5
GERES GERESS Array B 77.89 318 P **P 13 37 13.7 +0.6**
GERES pmax pmax
comp=Z,7.0nm,0.8s
GERES GERESS Array B 77.89 318 P **P 13 37 13.7 +0.6**
comp=Z,6.7nm,0.8s,mb4.7,baz=90,slow=5.3,SNR=30
KHC Kasperske Hory 77.98 319 *e*P **P 13 37 13.8 +0.2**
KHC AMS AMS 14 06 00.0
comp=Z,400nm,18.8s
CLL Collm 78.43 321⇓*i*P **P 13 37 15.7 -0.3**
CLL *e* pP 13 37 26.0 -1.2
CLL pmax pmax
comp=Z,23nm,1.4s,mb4.9
CLL Collm 78.43 321⇓*i*P **P 13 37 15.7 -0.3**
comp=Z,23nm,1.4s,mb4.9
CLL *e* pP 13 37 26.0 -1.2
CLL *e* 13 37 37.0
CLL Collm 78.43 321 ⇓P **P 13 37 15.7 -0.3**
comp=Z,logA/T=1.2,mb4.9
CLL *e**SP sP 13 37 26.0 -5.2
CLL *e* 13 37 37.0
NKC Novy Kostel 78.75 320 *e*P **P 13 37 18.8 +1.0**
NKC AMS AMS 14 01 50.0
comp=Z,500nm,26.1s
WTTA Wattenberg 79.25 317⇓*i*P **P 13 37 20.4 -0.2**
MOX Moxa 79.29 320 *e*P **P 13 37 21.2 +0.5**
MOX pmax pmax
comp=Z,22nm,1.5s,mb4.9
MOX Moxa 79.29 320 *e*P **P 13 37 21.2 +0.5**
comp=Z,22nm,1.5s,mb4.9
MOX Moxa 79.29 320 *i* P **P 13 37 21.2 +0.5**
comp=Z,logA/T=1.2,mb4.9
GRA1 Grafenberg Arr 79.53 319 *e*P **P 13 37 22.5 +0.4**
comp=Z,26nm,1.2s,mb5.0
GRF Grafenberg Arr 79.53 319 *e*P **P 13 37 22.5 +0.4**
GRF pmax pmax
comp=Z,26nm,1.2s,mb5.0
GRF Grafenberg Arr 79.53 319 *e*P **P 13 37 22.5 +0.4**
GRF pmax pmax
comp=Z,26nm,1.2s,mb5.0
GRF Grafenberg Arr 79.53 319 *e*P **P 13 37 22.5 +0.4**
comp=Z,26nm,1.2s,mb5.0
SQTA Sankt Quirin 79.54 317⇓*i*P **P 13 37 22.5 +0.3**
MOTA Moosalm 79.61 317⇓*i*P **P 13 37 22.7 +0.1**
NB2 NORSAR Subarra 79.80 331 P **P 13 37 22.6 -0.7**
comp=Z,28nm,1.2s,mb5.1,baz=92,slow=5.6
NB2 NORSAR Subarra 79.80 331 P **P 13 37 22.6 -0.7**
baz=92,slow=5.6
NOA NORSAR Array B 79.80 331 P **P 13 37 23.4 +0.1**
NOA pmax pmax
comp=Z,11nm,1.0s
NOA NORSAR Array B 79.80 331 P **P 13 37 23.4 +0.1**
comp=Z,11nm,0.9s,mb4.8,baz=95,slow=4.9,SNR=12
SUR Sutherland 80.34 235 *e*P **P 13 37 29.6 +2.8**
comp=Z,23nm,1.1s,mb5.0
DAVA Damuels 80.44 317⇑*i*P **P 13 37 27.5 +0.5**
LPG La Plagne 82.68 315 *e*P **P 13 37 39.1 +0.4**
comp=Z,42nm,1.2s,mb5.0
LPG La Plagne 82.68 315 *e*P **P 13 37 39.1 +0.4**
LPG pmax pmax
comp=Z,21nm,1.2s,mb5.0
SYO Syowa Base 85.37 197 ⇓P **P 13 37 53.5 +1.8**
SYO Syowa Base 85.37 197 ⇑PcP PcP 13 37 56.6 +1.4
ESDC Sonseca Array 91.28 310 P **P 13 38 22.3 +1.6**
comp=Z,3.4nm,0.9s,mb4.7,baz=60,slow=5.3,SNR=7.7
ESLA Sonseca Array 91.28 310 P **P 13 38 21.7 +1.1**
comp=Z,6.9nm,1.3s,mb4.8
IMA Indian Mountai 91.65 22 *e*P **P 13 38 23.9 +2.2**
ILAR Eielson Array 94.78 22 P **P 13 38 37.8 +1.8**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 94.78 22 P **P 13 38 37.8 +1.8**
comp=Z,0.8nm,0.9s,mb4.2,baz=302,slow=4.8,SNR=6.3
INK Inuvik 97.03 16 P **P 13 38 46.9 +0.7**
INK pmax pmax
comp=Z,5.0nm,1.1s
INK Inuvik 97.03 16 P **P 13 38 46.9 +0.7**
comp=Z,4.9nm,1.1s,mb4.8,baz=300,slow=3.5,SNR=7.3
DBIC Dimbokro 97.99 278 P **P 13 38 54.4 +2.6**
DBIC pmax pmax
comp=Z,2.0nm,0.9s
DBIC Dimbokro 97.99 278 P **P 13 38 54.4 +2.6**
comp=Z,2.2nm,0.8s,mb4.7,baz=86,slow=2.8,SNR=3.1
DBIC Dimbokro 97.99 278 P **P 13 38 54.4 +2.6**
NVAR Mina Array Bea 124.94 31 PKP PKPdf 13 44 17.1 +2.9
comp=Z,1.8nm,0.9s,baz=257,slow=2.8,SNR=9.3
PDAR Pinedale Array 125.20 21 PKP PKPdf 13 44 16.6 +2.1
comp=Z,1.9nm,0.9s,baz=44,slow=1.9,SNR=12
ANMO Albuquerque 133.20 23 PKIKP PKPdf 13 44 32.7 +2.6
ANMO pmax pmax
comp=Z,1.0nm,0.9s
ANMO Albuquerque 133.20 23 PKP PKPdf 13 44 32.7 +2.6
comp=Z,1.4nm,0.9s,baz=318,slow=0.5,SNR=4.4
ANMO Albuquerque 133.20 23 PKP PKPdf 13 44 32.7 +2.6
TXAR Lajitas Array 139.25 24 PKP PKPdf 13 44 43.0 +1.7
comp=Z,0.3nm,0.4s,baz=315,slow=3.5,SNR=3.8
PLCA Paso Flores 144.52 200 PKIKP PKPdf 13 44 51.5 +1.3
PLCA pmax pmax
comp=Z,13nm,1.0s
PLCA Paso Flores 144.52 200 PKP PKPdf 13 44 51.5 +1.3
comp=Z,13nm,1.0s,baz=155,slow=4.5,SNR=16
PLCA Paso Flores 144.52 200 *e*P PKPbc 13 44 51.1 +1.1
TEIG Tepich 152.02 5 *e*P PKPdf 13 45 11.9 +9.0
JTS JuntasAbangare 161.98 357 *e*PKIKP PKPdf 13 45 13.9 -1.5

MOS ***27*** *13:26:32.2±2.8, 7.74N×94.23E, h33^{km}, mb5.0/24, Error ellipse: s-maj=11.8km s-min=6.8km az=109.8*
BJI ***27*** *13:26:33.5, 8.25N×93.55E, h17^{km}, mB5.5, mb4.6, Ms5.4, Msz5.0*
HRVD ***27*** *13:26:33.9±0.3, 7.84N×94.24E, h22^{km}±2^{km}, MW5.3/61, Centroid moment Tensor Solution. LP body waves: s14,c14;Mantle waves: s61,c117; Half duration: 1.1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.26±.06; $M_{\theta\theta}$-0.54±.04; $M_{\phi\phi}$0.79±.04; $M_{r\theta}$-0.27±.06; $M_{\theta\phi}$0.61±.03; $M_{\phi r}$-0.40±.08; Best double couple: $M_0 1\times10^{17}$ NP1:ϕ_s154°, δ67°,λ177°. NP2:ϕ_s245°,δ87°,λ23°. Principal axes: T 1.191, Plg18°, Azm112°; N -.382, Plg67°, Azm252°; P -.808, Plg14°, Azm18°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***27*** *13:26:33.9±0.5, 7.87N×94.12E, h30^{km}, mb5.0/23 Error ellipse: s-maj=13.3km s-min=11.3km az=79.0*
IDC ***27*** *13:26:34.9±4.7, 7.98N×94.03E, h47^{km}±44^{km}, mb4.2/21, mb1 4.3/22, mb1mx4.3/25, mbtmp4.4/22, ML4.5/1, Error ellipse: s-maj=31.3km s-min=13.4km az=47.0*
ISC 27 13:26:32.4±0.3,**7.81N**±0.06×**94.11E**±0.06,**h33^{km}, (h13^{km}**±8.0^{km}**:pP-P),n131,**σ**1.83**/122,**mb4.7**/44,**MS5.1**/2,**
6C-3D, Nicobar Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CM31 Chiang Mai Arr 11.58 23 P **P 13 29 15.5 -2.9**
41nm,0.6s
CMAR Chiang Mai Arr 11.58 23 P **P 13 29 15.7 -2.7**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 11.58 23 P **P 13 29 15.7 -2.7**
comp=Z,0.9nm,0.3s,baz=209,slow=15,SNR=4.9
PALK Pallekele 13.30 269 *e*P **P 13 29 42.4 +0.9**
MDRS Chennai 14.59 292 *e* **P 13 30 05.0 +6.4**

HYB Hyderabad 17.91 304 *eP* **P 13 30 34.0 -6.8**
HYB pmax pmax
comp=Z,120nm,1.0s
HYB Hyderabad 17.91 304 *eP* **P 13 30 34.0 -6.8**
comp=Z,120nm,1.0s
HYB Hyderabad 17.91 304 *i* P **P 13 30 47.0 +6.2**
comp=Z,120nm,1.0s
HYB *eS* **S 13 34 03.0 +6.3**
QIZ Qiongzhong 18.91 52 *eP* **P 13 31 01.0 +7.9**
KMI Kunming 19.09 25 P **P 13 30 56.5 +1.4**
KMI pmax pmax
comp=Z,22nm,1.3s
KMI Kunming 19.09 25 P **P 13 30 56.5 +1.4**
comp=Z,22nm,1.3s
COCO West Island 20.06 172 *eP* **P 13 31 05.9 +0.2**
comp=Z,320nm,1.2s
LSA Lhasa 21.95 353 *eP* **P 13 31 24.2 -0.8**
LSA pmax pmax
comp=Z,75nm,0.8s,mb5.2
LSA Lhasa 21.95 353 *eP* **P 13 31 24.2 -0.8**
comp=Z,75nm,0.8s,mb5.2
NDI New Delhi 26.16 325 *e* **S 13 36 49.3 +16**
ENH Enshi 26.59 31 P **P 13 32 09.2 -0.4**
comp=Z,38nm,1.1s,mb4.8
NJ2 Nanjing 33.34 40 *eP* **P 13 33 11.5 +1.9**
NJ2 AP pP 13 33 21.0 +1.7
NJ2 XP sP 13 33 25.5 +1.9
NJ2 PP PP 13 34 21.0 -0.7
NJ2 S **S 13 38 26.0 -1.1**
NJ2 XS 13 38 42.0
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.4
NJ2 AMB AMB
comp=Z,2μm,6.2s
NJ2 LR LR
comp=N,3μm,14.5s,MS5.3
NJ2 LR LR
comp=E,3μm,13.5s,MS5.3
NJ2 LR LR
comp=Z,2μm,14.4s,MS5.0
WMQ Urumqi 36.30 352 P **P 13 33 38.0 +3.2**
AAK Ala-Archa 38.75 337 *d i P* **P 13 34 00.2 +4.9**
AAK pmax pmax
comp=Z,13nm,0.7s,mb4.8
AAK Ala-Archa 38.75 337 *eP* **P 13 33 51.9 -3.4**
comp=Z,15nm,0.9s,mb4.7
SONM Songino Array 41.23 13 P **P 13 34 14.9 -0.9**
comp=Z,2.9nm,0.8s,mb4.0,baz=194,slow=9.1,SNR=2.6
ULN Ulaanbaatar 41.40 13 *eP* **P 13 34 15.2 -2.1**
ULN pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
ULN Ulaanbaatar 41.40 13 *eP* **P 13 34 15.2 -2.1**
comp=Z,7.7nm,0.8s,mb4.4
SNY Shenyang 42.74 33 ⇑P **P 13 34 30.8 +2.5**
SNY LR LR
comp=N,2μm,15.5s
SNY LR LR
comp=Z,2μm,14.3s,MS5.1
TLY Talaya 44.43 8 *eP* **P 13 34 46.4 +4.5**
TLY pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
TLY Talaya 44.43 8 *eP* **P 13 34 46.4 +4.5**
comp=Z,3.9nm,0.7s,mb4.2
KURK Kurchatov 44.66 346 *eP* **P 13 34 40.9 -2.8**
KURK *e* 13 34 48.2
KURK pmax pmax
comp=Z,37nm,1.0s,mb5.2
KURK Kurchatov 44.66 346 *eP* **P 13 34 40.9 -2.8**
comp=Z,37nm,1.0s,mb5.2
KURK *e* 13 34 48.1
NWAO Narrogin (SRO) 46.11 153 P **P 13 34 54.2 -1.3**
NWAO pmax pmax
comp=Z,9.0nm,0.8s
NWAO Narrogin (SRO) 46.11 153 P **P 13 34 54.2 -1.3**
comp=Z,8.5nm,0.8s,mb4.7,baz=283,slow=8.0,SNR=2.5
NWAO Narrogin (SRO) 46.11 153 P **P 13 34 54.2 -1.3**
ZAL Zalesovo 46.60 352 P **P 13 34 57.3 -1.8**
ZAL pmax pmax
comp=Z,8.0nm,0.8s
ZAL Zalesovo 46.60 352 P **P 13 34 57.3 -1.8**
comp=Z,7.7nm,0.8s,mb4.7,baz=286,slow=7.2,SNR=5.2
NVS Novosibirsk 47.70 352 *i* P **P 13 35 04.0 -3.7**
MDJ Mudanjiang 47.88 34 P **P 13 35 08.5 -0.8**
comp=Z,20nm,1.2s,mb5.0
WRA Warramunga Arr 48.25 125 P **P 13 35 12.1 -0.4**
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 48.25 125 P **P 13 35 12.1 -0.4**
comp=Z,2.2nm,0.7s,mb4.3,baz=305,slow=8.6,SNR=2.8
WRAB Tennant Creek 48.26 125 *eP* **P 13 35 08.7 -3.8**
WRAB pmax pmax
comp=Z,15nm,0.9s,mb5.0
WRAB Tennant Creek 48.26 125 *eP* **P 13 35 08.7 -3.9**
comp=Z,15nm,0.9s,mb5.0
BVAR Borovoye Array 49.03 341 P **P 13 35 16.0 -2.1**
comp=Z,3.5nm,0.9s,mb4.4,baz=149,slow=8.4,SNR=2.8
BVAR PcP PcP 13 36 46.1 +4.2
comp=Z,2.3nm,0.6s,baz=162,slow=4.6,SNR=2.8
BRVK Borovoye 49.10 341 *i* P **P 13 35 23.7 +5.1**
CHKZ Chkalovo 49.52 342 *eP* **P 13 35 18.5 -3.3**
CHKZ pmax pmax
comp=Z,45nm,1.0s,mb5.5
CHKZ Chkalovo 49.52 342 *eP* **P 13 35 18.5 -3.3**
comp=Z,45nm,1.0s,mb5.5
ASAR Alice Springs 49.90 130 P **P 13 35 25.0 -0.2**
comp=Z,2.1nm,0.7s,mb4.3,baz=304,slow=7.2,SNR=2.5
ASAR PcP PcP 13 36 56.1 +11
comp=Z,7.3nm,1.0s,baz=305,slow=4.0,SNR=6.4
BOD Bodaibo 52.22 13 *eP* **P 13 35 45.3 +3.2**
GNI Garni 54.45 314 P **P 13 36 03.9 +4.9**
GNI pmax pmax
comp=Z,7.0nm,0.6s
GNI Garni 54.45 314 P **P 13 36 03.9 +4.9**
comp=Z,6.7nm,0.6s,mb4.7,baz=190,slow=15,SNR=3.6
SVE Sverdlovsk 55.44 338 *eP* **P 13 36 07.0 +1.0**
SVE pmax pmax
comp=Z,40nm,1.5s,mb5.2
PMG Port Moresby 55.55 107 *eP* **P 13 36 04.8 -2.5**
PMG pmax pmax
comp=Z,35nm,0.9s
PMG Port Moresby 55.55 107 P **P 13 36 05.6 -1.7**
comp=Z,8.8nm,0.9s,mb4.8,baz=25,slow=13,SNR=2.1
PMG Port Moresby 55.55 107 *eP* **P 13 36 04.8 -2.5**
comp=Z,35nm,0.9s,mb5.4
ARU Arti 55.93 337 *eP* **P 13 35 59.6 -10**
YSS Yuzh-Sakhalins 56.85 38 *i* P **P 13 36 11.4 -4.8**
YSS pmax pmax
comp=Z,50nm,2.4s,mb5.1
KIV Kislovodsk 57.34 318 ‖ *i P* **P 13 36 23.8 +4.1**
KMBO Kilima Mbogo 57.38 264 P **P 13 36 20.4 -0.1**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO Kilima Mbogo 57.38 264 P **P 13 36 20.4 -0.1**
comp=Z,2.0nm,0.7s,mb4.3,baz=53,slow=11,SNR=2.2
KMBO Kilima Mbogo 57.38 264 *eP* **P 13 36 20.2 -0.3**
comp=Z,12nm,0.9s,mb4.9
ASF Jabal al Asfar 58.22 303 P **P 13 36 24.0 -2.1**
comp=Z,2.0nm,0.7s,mb4.3,baz=139,slow=9.3,SNR=3.6
CTA Charters Tower 58.31 119 P **P 13 36 27.3 +0.5**
CTA pmax pmax
comp=Z,6.0nm,1.1s
CTA Charters Tower 58.31 119 P **P 13 36 27.2 +0.5**
comp=Z,5.8nm,1.1s,mb4.5,baz=273,slow=5.3,SNR=2.4
CTAO Charters Tower 58.31 119 P **P 13 36 27.3 +0.5**
YAK Yakutsk 60.06 18 *i* P **P 13 36 39.0 +0.6**
STKA Stephens Creek 60.09 134 P **P 13 36 40.3 +1.3**
comp=Z,3.5nm,1.0s,mb4.3,baz=310,slow=16,SNR=2.1
BRTR Keskin Array B 62.44 311 P **P 13 36 50.9 -3.9**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 62.44 311 P **P 13 36 50.9 -3.8**
comp=Z,1.2nm,0.7s,mb4.1,baz=118,slow=6.5,SNR=2.5
MBAR Mbarara 63.72 265 *eP* **P 13 37 02.3 -1.4**
MBAR pmax pmax
comp=Z,17nm,1.3s,mb4.9
MBAR Mbarara 63.72 265 *eP* **P 13 37 02.3 -1.4**
comp=Z,17nm,1.3s,mb4.9
MOS Moscow 65.11 329 *eP* **P 13 37 10.1 -1.9**
MOS pmax pmax
comp=Z,77nm,1.4s,mb5.5
OBN Obninsk 65.41 328⇑ *eP* **P 13 37 12.7 -1.2**
OBN *e* 13 39 37.0
OBN pmax pmax
comp=Z,46nm,1.1s,mb5.4
OBN Obninsk 65.41 328⇑ *eP* **P 13 37 15.1 +1.2**
MA2 Magadan 66.83 28 *eP* **P 13 37 24.0 +1.1**
MA2 pmax pmax
comp=Z,13nm,0.8s,mb5.0
MA2 Magadan 66.83 28 *eP* **P 13 37 24.0 +1.1**
comp=Z,13nm,0.8s,mb5.0
TIXI Tiksi 67.30 11 *i P* **P 13 37 26.5 +0.9**
AKASG Malin Array Be 68.18 322 P **P 13 37 29.7 -1.8**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 68.18 322 P **P 13 37 29.6 -1.8**
comp=Z,0.6nm,0.5s,mb3.9,baz=94,slow=3.9,SNR=2.6
IDI Anoyia 68.57 305 P **P 13 37 32.0 -2.2**
comp=Z,10.0nm,0.9s,mb4.7,baz=65,slow=17,SNR=2.8
KOLS Kolonicke sedl 72.23 319 *eP* **P 13 37 54.6 -1.4**
FINES FINESS Array B 72.75 332 P **P 13 37 55.1 -3.8**
FINES pmax pmax
comp=Z,6.0nm,0.9s
FINES FINESS Array B 72.75 332 P **P 13 37 55.1 -3.8**
comp=Z,5.7nm,0.9s,mb4.5,baz=93,slow=6.0,SNR=4.8
OKC Ostrava-Krasne 75.02 319 *eP* **P 13 38 13.0 +0.6**
OKC *epP* pP 13 38 17.7 -5.0
ARCES ARCESS Array B 75.31 340 P **P 13 38 11.0 -2.7**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 75.31 340 P **P 13 38 10.9 -2.7**
comp=Z,4.5nm,0.9s,mb4.4,baz=98,slow=6.3,SNR=4.1
BOSA Boshof 75.52 238 *eP* **P 13 38 13.6 -2.1**
BOSA pmax pmax
comp=Z,13nm,0.8s,mb4.9
BOSA Boshof 75.52 238 *eP* **P 13 38 13.6 -2.2**
comp=Z,13nm,0.8s,mb4.9
BILL Bilibino 76.16 22⇑ *eP* **P 13 38 20.5 +2.0**
DPC Dobruska-Polom 76.23 320 *eP* **P 13 38 17.4 -1.9**
DPC *ex* x 13 38 22.7
KSP Ksiaz 76.29 320 *eP* **P 13 38 21.6 +2.0**
UPC Upice 76.44 320 *eP* **P 13 38 25.7 +5.2**
PRU Pruhonice 77.35 319 *eP* **P 13 38 28.3 +2.7**
PVCC Panska Ves 77.36 320 *eP* **P 13 38 28.8 +3.1**
GERES GERESS Array B 77.85 318 P **P 13 38 25.8 -2.6**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES GERESS Array B 77.85 318 P **P 13 38 25.8 -2.6**
comp=Z,1.5nm,0.6s,mb4.1,baz=90,slow=5.3,SNR=2.7
KHC Kasperske Hory 77.94 319 *eP* **P 13 38 30.0 +1.1**
KHC *epP* pP 13 38 34.2 -5.0
CLL Collm 78.39 321 *i P* **P 13 38 34.7 +3.4**
CLL Collm 78.39 321 P **P 13 38 34.7 +3.4**
comp=Z,logA/T=1.2,mb4.9
NKC Novy Kostel 78.71 320 *eP* pP 13 38 39.3 -4.1
NKC Novy Kostel 78.71 320 *epP* pP 13 38 39.3 -4.1
WTTA Wattenberg 79.20 317⇑ *i P* **P 13 38 40.3 +4.5**
MOX Moxa 79.25 320 *eP* **P 13 38 34.4 -1.6**
MOX pmax pmax
comp=Z,25nm,1.5s,mb4.9
MOX Moxa 79.25 320 *eP* **P 13 38 34.4 -1.6**
comp=Z,25nm,1.5s,mb4.9
MOX Moxa 79.25 320 *i P* **P 13 38 34.4 -1.6**
comp=Z,logA/T=1.2,mb4.9
GRA1 Grafenberg Arr 79.49 319 *eP* **P 13 38 40.6 +3.3**
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 79.49 319 *eP* **P 13 38 40.6 +3.3**
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 79.49 319 *eP* **P 13 38 40.6 +3.3**
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 79.49 319 *eP* **P 13 38 40.6 +3.3**
comp=Z,12nm,0.9s,mb4.8
MOTA Moosalm 79.57 317 ‖ *i P* **P 13 38 43.0 +5.2**
NB2 NORSAR Subarra 79.77 331 P **P 13 38 35.8 -2.8**
comp=Z,22nm,1.0s,mb5.0,baz=92,slow=5.6
NB2 NORSAR Subarra 79.77 331 P **P 13 38 35.8 -2.8**
baz=92,slow=5.9
NOA NORSAR Array B 79.77 331 P **P 13 38 36.6 -2.0**
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA NORSAR Array B 79.77 331 P **P 13 38 36.6 -2.0**
comp=Z,2.6nm,0.9s,mb4.2,baz=216,slow=19,SNR=2.6
DAVA Damuels 80.40 317⇑ *i P* **P 13 38 45.2 +2.9**
DAVOX Davos 80.41 316 P **P 13 38 42.5 +0.2**
MUD Monsted U'grnd 80.74 326 *eP* **P 13 38 46.4 +2.5**
MUD pmax pmax
comp=Z,27nm,1.1s,mb5.1
MUD Monsted U'grnd 80.74 326 *eP* **P 13 38 46.4 +2.5**
comp=Z,27nm,1.1s,mb5.1
MUD Monsted U'grnd 80.74 326 *i P* **P 13 38 46.4 +2.5**
comp=Z,27nm,1.1s,mb5.1
LPG La Plagne 82.64 315 *eP* **P 13 38 57.4 +3.5**
comp=Z,19nm,0.7s,mb4.9
LPG La Plagne 82.64 315 *eP* **P 13 38 57.4 +3.5**
LPG pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
ESDC Sonseca Array 91.23 310 P **P 13 39 39.0 +3.1**
comp=Z,5.8nm,1.0s,mb4.9,baz=50,slow=4.8,SNR=5.5
ESLA Sonseca Array 91.23 310 *eP* **P 13 39 40.4 +4.5**
comp=Z,4.7nm,1.2s,mb4.7
IMA Indian Mountai 91.69 22 *eP* **P 13 39 39.2 +1.8**
INK Inuvik 97.06 16 P **P 13 40 04.1 +2.3**
INK pmax pmax
comp=Z,4.0nm,1.2s
INK Inuvik 97.06 16 P **P 13 40 04.1 +2.3**
comp=Z,3.7nm,1.2s,mb4.7,baz=293,slow=6.2,SNR=4.2
POHA Pohakuloa 106.22 67 P Pdif 13 40 40.5 -3.3
comp=Z,722nm,1.1s
NVAR Mina Array Bea 124.99 31 PKP PKPdf 13 45 30.2 +0.4
comp=Z,0.2nm,0.3s,baz=315,slow=52,SNR=2.4
PDAR Pinedale Array 125.23 21 PKP PKPdf 13 45 31.1 +1.0
comp=Z,1.5nm,1.1s,slow=0.9,SNR=2.2
ANMO Albuquerque 133.24 23 PKIKP PKPdf 13 45 54.0 +8.3
ANMO pmax pmax
comp=Z,1.0nm,0.5s
ANMO Albuquerque 133.24 23 PKP PKPdf 13 45 54.0 +8.3
comp=Z,1.0nm,0.5s,baz=51,slow=4.8,SNR=4.1
TXAR Lajitas Array 139.29 24 PKP PKPdf 13 45 58.7 +1.7
comp=Z,0.4nm,0.3s,baz=27,slow=4.0,SNR=3.0
PLCA Paso Flores 144.48 200 PKIKP PKPdf 13 46 05.0 -0.7
PLCA pmax pmax
comp=Z,2.0nm,0.8s
PLCA Paso Flores 144.48 200 PKP PKPdf 13 46 05.0 -0.7
comp=Z,2.1nm,0.8s,baz=173,slow=4.0,SNR=2.1
PLCA Paso Flores 144.48 200 PKP PKPdf 13 46 05.0 -0.7

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*IDC **27** 13:31:03.3±0.6, 8.01N×94.16E, mb4.3/17, mb1 4.4/18, mb1mx4.3/24, mbtmp4.3/18, Error ellipse: s-maj=26.5km s-min=14.6km az=48.0*
*NEIC **27** 13:31:08.0±0.4, 8.04N×94.21E, h30km, mb4.5/10, Error ellipse: s-maj=11.9km s-min=8.4km az=63.0*
*BJI **27** 13:31:08.4, 7.70N×93.47E, h55km, mb4.6*
ISC 27 13:31:06.4±0.5,**8.04N**±0.08×**94.23E**±0.09,**h33**km,**n34**, σ0:**96**/30,**mb4.3**/24,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.33**	**23**	Pn	**P**	**13 33 48.5**	**-0.5**
baz=196,slow=30,SNR=3.7							
KMI	**Kunming**	**18.83**	**25**	P		13 35 35.6	
24nm,1.1s							
LSA	**Lhasa**	**21.74**	**353**	*eP*	**P**	**13 35 58.1**	**+1.2**
15nm,0.7s,mb4.5							
ENH	**Enshi**	**26.34**	**31**	*eP*	**P**	**13 36 42.9**	**+1.6**
12nm,0.8s,mb4.5							
AAK	**Ala-Archa**	**38.59**	**336**	*eP*	**P**	**13 38 26.3**	**-1.7**
5.3nm,0.9s,mb4.3							
SONM	**Songino Array**	**40.98**	**13**	P	**P**	**13 38 47.6**	**-0.2**
1.3nm,0.7s,mb3.7,baz=214,slow=5.2,SNR=4.1							
ULN	**Ulaanbaatar**	**41.16**	**13**	*eP*	**P**	**13 38 47.9**	**-1.4**
3.2nm,1.0s,mb3.9							
KURK	**Kurchatov**	**44.47**	**346**	*eP*	**P**	**13 39 16.0**	**-0.2**
11nm,1.0s,mb4.5							
NWAO	**Narrogin (SRO)**	**46.25**	**153**	P	**P**	**13 39 31.4**	**+0.8**
7.8nm,1.0s,mb4.6,baz=328,slow=12,SNR=3.1							
ZAL	**Zalesovo**	**46.40**	**352**	P	**P**	**13 39 32.0**	**+0.5**
4.7nm,0.8s,mb4.5,baz=290,slow=7.3,SNR=8.7							
WRA	**Warramunga Arr**	**48.28**	**126**	P	**P**	**13 39 45.7**	**-1.0**
1.1nm,0.7s,mb4.0,baz=304,slow=8.6,SNR=4.9							
BVAR	**Borovoye Array**	**48.86**	**341**	P	**P**	**13 39 50.9**	**+0.2**
1.0nm,0.6s,mb4.0,baz=149,slow=8.4,SNR=3.1							
ASAR	**Alice Springs**	**49.95**	**130**	P	**P**	**13 39 58.3**	**-1.2**
1.5nm,0.8s,mb4.1,baz=315,slow=7.1,SNR=6.2							
PMG	**Port Moresby**	**55.50**	**107**	P	**P**	**13 40 41.7**	**+0.8**
10nm,0.9s,mb4.8,baz=1.6,slow=22,SNR=2.6							
KMBO	**Kilima Mbogo**	**57.53**	**264**	P	**P**	**13 40 55.3**	**-0.1**
1.9nm,0.6s,mb4.3,baz=40,slow=22,SNR=2.4							
KMBO	**Kilima Mbogo**	**57.53**	**264**	*eP*	**P**	**13 40 55.1**	**-0.3**
5.5nm,0.9s,mb4.6							
STKA	**Stephens Creek**	**60.16**	**134**	P	**P**	**13 41 13.7**	**+0.3**
BRTR	**Keskin Array B**	**62.39**	**311**	P	**P**	**13 41 27.2**	**-1.2**
2.2nm,1.0s,mb4.3,baz=134,slow=8.5,SNR=4.9							
MBAR	**Mbarara**	**63.86**	**265**	*eP*	**P**	**13 41 39.5**	**+0.9**
4.4nm,1.0s,mb4.4							
AKASG	**Malin Array Be**	**68.08**	**322**	P	**P**	**13 42 03.5**	**-1.4**
1.1nm,0.6s,mb4.1,baz=87,slow=4.9,SNR=4.0							
IDI	**Anoyia**	**68.55**	**305**	P	**P**	**13 42 08.3**	**+0.3**
11nm,1.0s,mb4.7,baz=143,slow=20,SNR=3.0							
MLR	**Muntele Rosu**	**69.12**	**316**	P	**P**	**13 42 11.4**	**0.0**
8.8nm,1.1s,mb4.6,baz=299,slow=7.9,SNR=3.7							
FINES	**FINESS Array B**	**72.61**	**332**	P	**P**	**13 42 32.4**	**+0.4**
3.8nm,0.8s,mb4.4,baz=127,slow=9.5,SNR=6.1							
ARCES	**ARCESS Array B**	**75.14**	**340**	P	**P**	**13 42 47.0**	**+0.3**
3.8nm,1.0s,mb4.3,slow=2.4,SNR=4.1							
GERES	**GERESS Array B**	**77.76**	**318**	P	**P**	**13 43 03.0**	**+1.1**
2.2nm,0.7s,mb4.2,baz=90,slow=4.0,SNR=9.5							
HFS	**Hagfors**	**78.36**	**330**	P	**P**	**13 43 05.9**	**+1.0**
3.6nm,0.8s,mb4.4,baz=117,slow=6.6,SNR=9.0							
GRA1	**Grafenberg Arr**	**79.40**	**319**	*eP*	**P**	**13 43 12.0**	**+1.2**
GRF	**Grafenberg Arr**	**79.40**	**319**	*eP*	**P**	**13 43 12.0**	**+1.2**
NB2	**NORSAR Subarra**	**79.63**	**331**	P	**P**	**13 43 11.8**	**0.0**
1.8nm,0.7s,mb4.1,baz=96,slow=5.0							
NOA	**NORSAR Array B**	**79.63**	**331**	P	**P**	**13 43 12.1**	**+0.2**
2.9nm,0.8s,mb4.3,baz=91,slow=5.7,SNR=5.9							
LPG	**La Plagne**	**82.56**	**315**	*eP*	**P**	**13 43 25.4**	**-2.1**
35nm,1.2s,mb5.0							
NVAR	**Mina Array Bea**	**124.73**	**31**	PKP	PKPdf	13 50 06.5	+3.2
0.4nm,0.5s,baz=275,slow=3.7,SNR=4.1							
PDAR	**Pinedale Array**	**124.98**	**21**	PKP	PKPdf	13 50 06.8	+3.1
0.6nm,0.8s,baz=45,slow=2.1,SNR=3.7							
PLCA	**Paso Flores**	**144.73**	**200**	PKP	PKPdf	13 50 41.6	+1.5
3.7nm,0.9s,baz=163,slow=9.9,SNR=2.8							

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*BJI **27** 13:35:58.5, 8.23N×93.31E, h9km, mB5.4, mb4.4*
*NEIC **27** 13:35:58.2±0.4, 7.80N×94.14E, h30km, mb4.6/12, Error ellipse: s-maj=8.8km s-min=8.1km az=72.0*
*IDC **27** 13:36:01.4±5.2, 7.88N×94.21E, h57km±47km, mb3.9/18, mb1 4.1/19, mb1mx4.0/24, mbtmp4.2/19, ML4.4/1, MS4.3/1, Ms1 4.5/1, ms1mx3.1/25, Error ellipse: s-maj=32.0km s-min=14.7km az=56.0*
ISC 27 13:35:56.9±2.0,**7.79N**±0.08×**94.21E**±0.08,**h34**km±17km, **n47**, σ0:**98**/45,**mb4.5**/31,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.56**	**23**	*eP*	**P**	**13 38 41.2**	**-1.4**
8.4nm,0.6s							
CMAR	**Chiang Mai Arr**	**11.56**	**23**	P	**P**	**13 38 42.8**	**+0.2**
0.8nm,0.3s,baz=211,slow=14,SNR=17							
CMAR				LR	LR	13 43 02.0	
comp=Z,1μm,18.9s,baz=203,slow=37							
PALK	**Pallekele**	**13.40**	**269**	P	**P**	**13 39 05.7**	**-1.5**
HYB	**Hyderabad**	**18.01**	**304**	*i P*	**P**	**13 40 08.0**	**+1.6**
KMI	**Kunming**	**19.06**	**24**	P	**P**	**13 40 23.3**	**+4.0**
14nm,1.1s							
JIRN	**Jiri**	**21.17**	**340**	*eP*	**P**	**13 40 42.4**	**+0.8**
98nm,1.0s,mb5.1							
PKI	**Pulchoki**	**21.36**	**338**	*eP*	**P**	**13 40 44.4**	**+0.8**
68nm,0.9s,mb5.0							
GUN	**Gumba**	**21.50**	**340**	*eP*	**P**	**13 40 45.4**	**+0.4**
DMN	**Daman**	**21.51**	**337**	*eP*	**P**	**13 40 46.9**	**+1.8**
KKN	**Kakani**	**21.61**	**338**	*eP*	**P**	**13 40 46.6**	**+0.6**
LSA	**Lhasa**	**21.98**	**353**	*eP*	**P**	**13 40 51.8**	**+2.1**
LSA	**Lhasa**	**21.98**	**353**	*eP*	**P**	**13 40 51.6**	**+1.9**
30nm,0.7s,mb4.8							
GKN	**Gorkha**	**22.05**	**337**	*eP*	**P**	**13 40 50.5**	**+0.1**
45nm,0.6s,mb5.1							
KOLN	**Koldanda**	**22.26**	**334**	*eP*	**P**	**13 40 51.3**	**-1.2**
ENH	**Enshi**	**26.56**	**31**	*eP*	**P**	**13 41 33.5**	**-0.4**
12nm,0.9s,mb4.4							
AAK	**Ala-Archa**	**38.80**	**337**	*eP*	**P**	**13 43 20.4**	**+0.2**
4.5nm,0.8s,mb4.2							
SONM	**Songino Array**	**41.23**	**12**	P	**P**	**13 43 40.7**	**+0.4**
1.8nm,0.8s,mb3.8,baz=190,slow=7.5,SNR=5.3							
ULN	**Ulaanbaatar**	**41.40**	**13**	P	**P**	**13 43 42.1**	**+0.5**
2.3nm,0.7s,mb3.9							
KURK	**Kurchatov**	**44.70**	**346**	*eP*	**P**	**13 44 07.9**	**-0.6**
8.1nm,0.9s,mb4.5							
NWAO	**Narrogin (SRO)**	**46.05**	**153**	P	**P**	**13 44 21.1**	**+1.6**
10nm,1.0s,mb4.7,baz=341,slow=16,SNR=5.8							
ZAL	**Zalesovo**	**46.64**	**352**	P	**P**	**13 44 22.6**	**-1.2**
5.5nm,0.7s,mb4.6,baz=304,slow=7.6,SNR=11							
WRA	**Warramunga Arr**	**48.16**	**126**	P	**P**	**13 44 35.8**	**-0.5**
2.1nm,0.8s,mb4.2,baz=305,slow=8.4,SNR=11							
WRAB	**Tennant Creek**	**48.16**	**126**	*eP*	**P**	**13 44 36.4**	**+0.1**
8.9nm,1.0s,mb4.8							
BVAR	**Borovoye Array**	**49.09**	**341**	P	**P**	**13 44 42.3**	**-0.6**
2.0nm,0.8s,mb4.2,baz=158,slow=8.0,SNR=8.7							
BRVK	**Borovoye**	**49.15**	**341**	*eP*	**P**	**13 44 42.6**	**-0.8**
4.6nm,0.9s,mb4.5							
CHKZ	**Chkalovo**	**49.57**	**342**	*eP*	**P**	**13 44 45.8**	**-0.8**
13nm,1.0s,mb4.9							
ASAR	**Alice Springs**	**49.81**	**130**	P	**P**	**13 44 48.8**	**-0.1**
1.7nm,1.0s,mb4.0,baz=303,slow=8.1,SNR=5.8							
KMBO	**Kilima Mbogo**	**57.48**	**264**	P	**P**	**13 45 46.6**	**+1.0**
0.7nm,0.4s,mb4.0,baz=37,slow=23,SNR=3.3							
BRTR	**Keskin Array B**	**62.53**	**311**	P	**P**	**13 46 17.4**	**-2.4**
1.8nm,0.8s,mb4.2,baz=113,slow=7.7,SNR=3.8							
MA2	**Magadan**	**66.81**	**28**	*eP*	**P**	**13 46 46.8**	**-0.3**
16nm,1.2s,mb4.9							
AKASG	**Malin Array Be**	**68.26**	**322**	P	**P**	**13 46 55.8**	**-0.6**
1.9nm,0.9s,mb4.1,baz=91,slow=4.2,SNR=3.6							
IDI	**Anoyia**	**68.67**	**305**	P	**P**	**13 46 58.4**	**-0.8**
7.1nm,0.7s,mb4.7,baz=86,slow=13,SNR=2.6							
IDI	**Anoyia**	**68.67**	**305**	P	**P**	**13 46 58.4**	**-0.8**
MLR	**Muntele Rosu**	**69.28**	**316**	P	**P**	**13 47 02.7**	**-0.1**
7.2nm,1.0s,mb4.6,baz=101,slow=9.2,SNR=4.1							
FINES	**FINESS Array B**	**72.81**	**332**	P	**P**	**13 47 23.1**	**-0.6**
3.0nm,0.7s,mb4.3,baz=104,slow=7.9,SNR=10							
ARCES	**ARCESS Array B**	**75.36**	**340**	P	**P**	**13 47 40.0**	**+1.6**
4.6nm,1.0s,mb4.4,baz=104,slow=5.0,SNR=7.1							
VRAC	**Vranov**	**76.06**	**319**	P	**P**	**13 47 43.1**	**+0.4**
1.1nm,0.3s,mb4.2,baz=100,slow=18,SNR=3.1							
GERES	**GERESS Array B**	**77.93**	**318**	P	**P**	**13 47 52.6**	**-0.7**
2.5nm,0.8s,mb4.2,baz=72,slow=4.2,SNR=7.6							
HFS	**Hagfors**	**78.56**	**330**	P	**P**	**13 47 56.4**	**-0.1**
2.2nm,0.5s,mb4.3,baz=90,slow=5.9,SNR=11							
GRA1	**Grafenberg Arr**	**79.57**	**319**	*eP*	**P**	**13 48 07.3**	**+5.1**
GRF	**Grafenberg Arr**	**79.57**	**319**	*eP*	**P**	**13 48 07.3**	**+5.1**
NB2	**NORSAR Subarra**	**79.83**	**331**	P	**P**	**13 48 02.5**	**-0.9**
1.6nm,0.6s,mb4.1,baz=97,slow=5.0							
NOA	**NORSAR Array B**	**79.83**	**331**	P	**P**	**13 48 03.1**	**-0.3**
3.7nm,0.9s,mb4.3,baz=92,slow=5.7,SNR=5.9							
DAVOX	**Davos**	**80.49**	**316**	P	**P**	**13 48 07.4**	**+0.2**
1.9nm,0.6s,mb4.2,baz=146,slow=22,SNR=2.2							
LPG	**La Plagne**	**82.72**	**315**	*eP*	**P**	**13 48 22.2**	**+3.4**
9.7nm,0.7s,mb4.6							
PDAR	**Pinedale Array**	**125.22**	**21**	PKP	PKPdf	13 54 56.0	+1.4
0.4nm,0.8s,baz=180,slow=1.5,SNR=3.8							
PLCA	**Paso Flores**	**144.50**	**200**	PKP	PKPdf	13 55 37.6	+7.5
2.2nm,0.7s,baz=36,slow=10,SNR=6.0							

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*BJI **27** 13:37:17.0, 7.48N×93.95E, h54km, mb4.2*
*NEIC **27** 13:37:17.9±0.5, 7.83N×94.00E, h30km, mb4.6/10, Error ellipse: s-maj=11.2km s-min=10.2km az=76.0*
*IDC **27** 13:37:22.3±5.2, 8

2.3nm,0.6s,mb4.3,baz=298,slow=6.3,SNR=2.9
WRA Warramunga Arr 48.19 126 P **P 13 45 56.8 +0.1**
1.5nm,0.6s,mb4.2,baz=303,slow=9.0,SNR=3.4
WRAB Tennant Creek 48.20 126 *eP* **P 13 45 56.7 -0.1**
24nm,1.3s,mb5.1
ASAR Alice Springs 49.86 130 P **P 13 46 09.1 -0.6**
1.9nm,0.9s,mb4.1,baz=310,slow=7.1,SNR=3.4
KMBO Kilima Mbogo 57.61 264 P **P 13 47 08.2 +1.5**
4.1nm,0.9s,mb4.4,baz=41,slow=15,SNR=4.5
KMBO Kilima Mbogo 57.61 264 *eP* **P 13 47 07.6 +0.9**
6.9nm,1.0s,mb4.6
BRTR Keskin Array B 62.48 311 P **P 13 47 37.8 -1.8**
1.2nm,0.8s,mb4.1,baz=100,slow=7.5,SNR=3.1
MA2 Magadan 66.57 28 P **P 13 48 06.3 +0.5**
12nm,1.0s,mb4.9
IDI Anoyia 68.64 305 P **P 13 48 19.1 -0.1**
6.9nm,0.7s,mb4.7,baz=58,slow=3.2,SNR=2.7
MLR Muntele Rosu 69.20 316 P **P 13 48 22.4 -0.1**
5.0nm,0.9s,mb4.4,baz=79,slow=9.5,SNR=2.4
FINES FINESS Array B 72.68 332 P **P 13 48 44.4 +1.4**
3.3nm,0.7s,mb4.3,baz=124,slow=6.9,SNR=4.0
ARCES ARCESS Array B 75.21 340 P **P 13 48 58.9 +1.4**
3.2nm,0.8s,mb4.3,baz=90,slow=7.3,SNR=3.6
GERES GERESS Array B 77.85 318 P **P 13 49 12.5 -0.3**
1.6nm,0.7s,mb4.1,baz=76,slow=5.5,SNR=4.8
HFS Hagfors 78.43 330 P **P 13 49 15.6 -0.2**
1.7nm,0.5s,mb4.2,baz=127,slow=7.2,SNR=3.5
GRA1 Grafenberg Arr 79.48 319 *eP* **P 13 49 21.7 0.0**
GRF Grafenberg Arr 79.48 319 *eP* **P 13 49 21.7 0.0**
NB2 NORSAR Subarra 79.71 331 P **P 13 49 22.2 -0.5**
9.4nm,1.4s,mb4.5,baz=97,slow=5.0
NOA NORSAR Array B 79.71 331 P **P 13 49 22.8 +0.2**
3.9nm,1.1s,mb4.2,baz=96,slow=5.6,SNR=2.9
DAVOX Davos 80.42 316 P **P 13 49 30.9 +4.2**
3.1nm,0.6s,mb4.4,baz=344,slow=20,SNR=4.0
LPG La Plagne 82.65 315 *eP* **P 13 49 36.1 -2.3**
8.4nm,0.7s,mb4.6
PDAR Pinedale Array 124.99 21 PKP PKPdf 13 56 16.2 +2.4
1.1nm,0.9s,baz=254,slow=0.4,SNR=5.4
PLCA Paso Flores 144.73 200 PKP PKPdf 13 56 52.9 +2.6
10.0nm,1.1s,baz=129,slow=3.5,SNR=7.3

*NEIC **27** 13:38:38.8±0.6, 7.80N×93.93E, h30km, mb4.6/1, Error ellipse: s-maj=18.6km s-min=13.7km az=66.0*
*IDC **27** 13:38:39.8±7.1, 7.84N×93.99E, h36km±57km, mb3.8/13, mb1 4.0/14, mb1mx3.9/21, mbtmp4.0/14, ML3.3/1, Error ellipse: s-maj=34.2km s-min=15.0km az=51.0*
ISC 27 13:38:37.5±0.6, 7.8N±0.1×94.0E±0.1, h33km, n22, σ1§14/16, mb4.0/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.59**	**24**	Pn	**P**	**13 41 22.5**	**-1.1**
	0.1nm,0.3s,baz=215,slow=13,SNR=4.0						
ENH	**Enshi**	**26.61**	**31**	*eP*	**P**	**13 44 17.2**	**+2.3**
AAK	**Ala-Archa**	**38.69**	**337**	P	**P**	**13 45 59.2**	**-0.7**
SONM	**Songino Array**	**41.22**	**13**	P	**P**	**13 46 22.6**	**+1.7**
	2.9nm,1.1s,mb3.8,baz=180,slow=5.8,SNR=3.2						
ZAL	**Zalesovo**	**46.56**	**352**	P	**P**	**13 47 03.3**	**-0.5**
	1.8nm,0.4s,mb4.3,baz=274,slow=8.4,SNR=2.6						
WRA	**Warramunga Arr**	**48.34**	**125**	P	**P**	**13 47 18.9**	**+0.7**
	0.8nm,0.6s,mb3.9,baz=304,slow=8.2,SNR=2.6						
WRAB	**Tennant Creek**	**48.34**	**125**	P	pP	13 47 24.4	-3.7
	5.6nm,0.9s						
BVAR	**Borovoye Array**	**48.98**	**341**	P	**P**	**13 47 23.2**	**+0.5**
	1.1nm,0.7s,mb4.0,baz=158,slow=8.0,SNR=2.7						
ASAR	**Alice Springs**	**49.98**	**130**	P	**P**	**13 47 29.6**	**-1.2**
	1.5nm,0.9s,mb4.0,baz=307,slow=6.4,SNR=3.3						
KMBO	**Kilima Mbogo**	**57.30**	**264**	P	**P**	**13 48 26.5**	**+1.5**
	1.8nm,0.7s,mb4.2,baz=59,slow=10,SNR=3.6						
STKA	**Stephens Creek**	**60.17**	**134**	P	**P**	**13 48 44.4**	**-0.2**
	2.0nm,0.8s,mb4.2,baz=337,slow=7.7,SNR=2.5						
BRTR	**Keskin Array B**	**62.36**	**311**	P	**P**	**13 48 57.6**	**-1.7**
	0.7nm,0.5s,mb4.0,baz=126,slow=6.7,SNR=2.5						
AKASG	**Malin Array Be**	**68.11**	**322**	P	**P**	**13 49 37.3**	**+1.2**
	0.7nm,0.7s,mb3.8,baz=95,slow=4.5,SNR=2.8						
FINES	**FINESS Array B**	**72.69**	**332**	P	**P**	**13 50 03.8**	**+0.1**
	2.5nm,0.8s,mb4.2,baz=100,slow=8.5,SNR=2.8						
GERES	**GERESS Array B**	**77.77**	**318**	P	**P**	**13 50 33.4**	**+0.3**
	0.9nm,0.7s,mb3.8,baz=90,slow=3.9,SNR=3.1						
KHC	**Kasperske Hory**	**77.86**	**319**	*ep*P	pP	13 50 41.5	-2.4
KHC				x	x	13 51 13.5	
HFS	**Hagfors**	**78.43**	**330**	P	**P**	**13 50 35.0**	**-1.3**
	2.5nm,0.8s,mb4.2,baz=101,slow=7.3,SNR=2.3						
NOA	**NORSAR Array B**	**79.70**	**331**	P	**P**	**13 50 42.3**	**-1.0**
	1.6nm,0.8s,mb4.0,baz=95,slow=5.8,SNR=3.1						
NVAR	**Mina Array Bea**	**125.01**	**31**	PKP	PKPdf	13 57 37.8	+2.9
	0.2nm,0.4s,baz=243,slow=2.0,SNR=3.2						
PDAR	**Pinedale Array**	**125.24**	**21**	PKP	PKPdf	13 57 38.0	+2.8
	0.4nm,0.8s,baz=284,slow=3.7,SNR=3.4						
PDAR	**Pinedale Array**	**125.24**	**21**	PKP	PKPdf	13 57 38.0	+2.8
PLCA	**Paso Flores**	**144.48**	**200**	PKP	PKPdf	13 58 11.0	+0.2
	3.0nm,0.9s,baz=122,slow=5.7,SNR=3.6						

*IDC **27** 13:38:48.1±0.8, 7.47N×93.72E, mb4.2/16, mb1 4.3/17, mb1mx4.3/23, mbtmp4.2/17, ML3.3/1, Error ellipse: s-maj=34.1km s-min=17.1km az=48.0*
ISC 27 13:38:51.1±0.6, 7.5N±0.1×93.9E±0.1, h33km, n22, σ0§80/18, mb4.2/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.93**	**24**	Pn	**P**	**13 41 41.2**	**-0.6**
	0.1nm,0.3s,baz=216,slow=13,SNR=4.0						
SONM	**Songino Array**	**41.55**	**13**	P	**P**	**13 46 39.5**	**+2.3**
	2.4nm,1.1s,mb3.8,baz=194,slow=5.9,SNR=3.9						
ZAL	**Zalesovo**	**46.84**	**353**	P	**P**	**13 47 19.1**	**-0.6**
	9.0nm,1.1s,mb4.6,baz=294,slow=6.1,SNR=5.0						
WRA	**Warramunga Arr**	**48.29**	**125**	P	**P**	**13 47 31.8**	**+0.3**
	1.2nm,0.6s,mb4.1,baz=305,slow=8.4,SNR=5.0						
BVAR	**Borovoye Array**	**49.22**	**341**	P	**P**	**13 47 37.0**	**-1.2**
	1.3nm,0.7s,mb4.1,baz=135,slow=6.1,SNR=2.8						
ASAR	**Alice Springs**	**49.91**	**130**	P	**P**	**13 47 43.2**	**-0.7**
	1.0nm,0.7s,mb4.0,baz=306,slow=7.2,SNR=3.7						
KMBO	**Kilima Mbogo**	**57.12**	**264**	P	**P**	**13 48 42.4**	**+5.2**
	1.7nm,0.6s,mb4.3,baz=241,slow=23,SNR=2.7						
EIL	**Elat**	**59.35**	**300**	P	**P**	**13 48 52.6**	**-0.1**
	4.1nm,0.8s,mb4.5,baz=352,slow=16,SNR=3.0						
STKA	**Stephens Creek**	**60.07**	**133**	P	**P**	**13 48 57.7**	**+0.1**
	2.5nm,1.0s,mb4.2,baz=288,slow=4.4,SNR=3.0						
BRTR	**Keskin Array B**	**62.44**	**311**	P	**P**	**13 49 12.9**	**-0.6**
	6.4nm,1.2s,mb4.6,baz=115,slow=7.6,SNR=4.7						
AKASG	**Malin Array Be**	**68.25**	**322**	P	**P**	**13 49 49.5**	**-1.1**
	1.1nm,0.6s,mb4.1,baz=88,slow=5.0,SNR=4.7						
MLR	**Muntele Rosu**	**69.22**	**316**	P	**P**	**13 49 57.0**	**+0.3**
	3.2nm,0.8s,mb4.3,baz=155,slow=9.4,SNR=3.0						
FINES	**FINESS Array B**	**72.88**	**332**	P	**P**	**13 50 18.9**	**+0.5**
	2.3nm,0.8s,mb4.2,baz=104,slow=7.9,SNR=4.6						
ARCES	**ARCESS Array B**	**75.49**	**340**	P	**P**	**13 50 33.6**	**+0.2**
	7.3nm,1.1s,mb4.5,baz=82,slow=6.4,SNR=2.7						
GERES	**GERESS Array B**	**77.89**	**318**	P	**P**	**13 50 48.2**	**+0.9**
	2.6nm,0.8s,mb4.2,baz=76,slow=5.5,SNR=5.5						
HFS	**Hagfors**	**78.61**	**330**	P	**P**	**13 50 51.9**	**+0.9**
	4.2nm,0.9s,mb4.4,baz=72,slow=4.6,SNR=3.4						
NB2	**NORSAR Subarra**	**79.89**	**331**	P	**P**	**13 50 58.1**	**+0.2**
	1.4nm,0.7s,mb4.0,baz=91,slow=4.8						
NOA	**NORSAR Array B**	**79.89**	**331**	P	**P**	**13 50 57.9**	**-0.1**
	1.8nm,0.8s,mb4.1,baz=92,slow=5.8,SNR=3.7						
NVAR	**Mina Array Bea**	**125.34**	**31**	PKP	PKPdf	13 57 54.1	+4.9
	0.4nm,0.6s,baz=276,slow=4.2,SNR=3.1						
PDAR	**Pinedale Array**	**125.58**	**21**	PKP	PKPdf	13 57 51.7	+2.2
	0.3nm,0.7s,baz=27,slow=3.3,SNR=4.0						
TXAR	**Lajitas Array**	**139.64**	**24**	PKiKP		13 58 21.5	
	0.7nm,1.0s,baz=315,slow=1.3,SNR=2.6						
PLCA	**Paso Flores**	**144.14**	**200**	PKP	PKPdf	13 58 26.4	+2.6
	2.7nm,0.8s,baz=176,slow=3.0,SNR=3.9						

*IDC **27** 13:39:12.2±0.8, 8.17N×93.73E, mb4.4/19, mb1 4.5/20, mb1mx4.4/25, mbtmp4.3/20, ML3.8/1, Error ellipse: s-maj=33.1km s-min=18.9km az=46.0*
ISC 27 13:39:16.0±0.7, 8.4N±0.1×94.0E±0.1, h33km, n22, σ1§24/20, mb4.4/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.11**	**25**	Pn	**P**	**13 41 54.8**	**-1.0**
	0.2nm,0.3s,baz=222,slow=13,SNR=3.3						
SONM	**Songino Array**	**40.71**	**13**	P	**P**	**13 46 56.8**	**+1.6**
	5.0nm,0.9s,mb4.1,baz=198,slow=7.8,SNR=5.7						
ZAL	**Zalesovo**	**46.04**	**352**	P	**P**	**13 47 38.1**	**-0.3**
	1.8nm,0.6s,mb4.2,baz=296,slow=12,SNR=2.5						
BVAR	**Borovoye Array**	**48.48**	**341**	P	**P**	**13 47 56.2**	**-1.2**
	4.0nm,1.0s,mb4.4,baz=139,slow=14,SNR=4.8						
WRA	**Warramunga Arr**	**48.65**	**126**	P	**P**	**13 47 58.4**	**-0.8**
	2.6nm,0.8s,mb4.3,baz=305,slow=8.6,SNR=4.4						
ASAR	**Alice Springs**	**50.33**	**130**	P	**P**	**13 48 11.8**	**-0.3**
	1.2nm,0.7s,mb4.0,baz=314,slow=7.5,SNR=3.0						
KMBO	**Kilima Mbogo**	**57.35**	**263**	P	**P**	**13 49 06.4**	**+2.6**
	12nm,0.8s,mb5.0,baz=49,slow=8.6,SNR=14						
BRTR	**Keskin Array B**	**62.01**	**311**	P	**P**	**13 49 32.9**	**-2.6**
	2.1nm,0.7s,mb4.4,baz=127,slow=7.6,SNR=4.5						
AKASG	**Malin Array Be**	**67.69**	**322**	P	**P**	**13 50 12.5**	**+0.5**
	5.3nm,1.0s,mb4.5,baz=88,slow=4.6,SNR=5.7						
IDI	**Anoyia**	**68.18**	**305**	P	**P**	**13 50 14.1**	**-1.2**
	11nm,0.7s,mb5.0,baz=109,slow=4.2,SNR=2.8						
MLR	**Muntele Rosu**	**68.73**	**316**	P	**P**	**13 50 17.7**	**-0.9**
	6.0nm,0.8s,mb4.5,baz=109,slow=2.8,SNR=3.3						
FINES	**FINESS Array B**	**72.21**	**332**	P	**P**	**13 50 40.7**	**+1.4**
	3.6nm,0.8s,mb4.4,baz=101,slow=7.1,SNR=3.4						
ARCES	**ARCESS Array B**	**74.76**	**340**	P	**P**	**13 50 55.8**	**+1.7**
	3.2nm,0.8s,mb4.3,baz=90,slow=1.2,SNR=3.9						
GERES	**GERESS Array B**	**77.37**	**318**	P	**P**	**13 51 08.5**	**-0.9**
	5.7nm,1.0s,mb4.5,baz=90,slow=5.3,SNR=6.4						
HFS	**Hagfors**	**77.97**	**330**	P	**P**	**13 51 12.0**	**-0.4**
	5.8nm,0.8s,mb4.6,baz=112,slow=8.0,SNR=3.6						
NOA	**NORSAR Array B**	**79.24**	**331**	P	**P**	**13 51 19.5**	**+0.1**
	1.6nm,0.7s,mb4.1,baz=95,slow=5.1,SNR=3.6						
DAVOX	**Davos**	**79.94**	**316**	P	**P**	**13 51 24.4**	**+0.9**
	3.5nm,0.7s,mb4.4,baz=106,slow=16,SNR=3.1						
EKA	**Eskdalemuir Ar**	**87.24**	**325**	P	**P**	**13 51 59.3**	**-0.9**
	2.4nm,0.8s,mb4.5,baz=97,slow=5.7,SNR=3.2						
ILAR	**Eielson Array**	**94.34**	**22**	P	**P**	**13 52 36.2**	**+3.1**
	0.6nm,1.0s,mb4.0,baz=297,slow=3.6,SNR=3.4						
INK	**Inuvik**	**96.55**	**16**	P	**P**	**13 52 44.2**	**+1.1**
	3.9nm,1.1s,mb4.8,baz=319,slow=2.2,SNR=4.2						
PDAR	**Pinedale Array**	**124.75**	**21**	PKP	PKPdf	13 58 16.4	+3.5
	0.9nm,0.9s,slow=1.5,SNR=3.6						
PLCA	**Paso Flores**	**144.97**	**201**	PKP	PKPdf	13 58 49.9	-0.3
	5.4nm,1.1s,baz=243,slow=2.3,SNR=2.4						

*CASC **27** 13:43:36.7±2.0, 13.90N×90.84W, h82km±13km, MD3.9, ML3.8*
*IDC **27** 13:44:07.7±15.0, 15.28N×90.69W, h319km±108km, mb3.3/6, mb1 3.4/7, mb1mx3.2/17, mbtmp3.9/7, Error ellipse: s-maj=115.2km s-min=28.8km az=167.0*
ISC 27 13:43:35.3±0.6, 13.96N±0.08×90.86W±0.05, h103km±4km, n36, σ0§78/51, mb3.9/6, 13C-12D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.45**	**62⇑**	*eP*	**P**	**13 43 50.5**	**-0.7**
IXG				*eS*	**S**	**13 44 01.2**	**-1.9**
FUG	**Fuego 3**	**0.48**	**2⇑**	*eP*	**P**	**13 43 51.0**	**-0.4**
PCG	**Pacaya**	**0.49**	**30⇑**	*eP*	**P**	**13 43 51.5**	**0.0**
PCG				*eS*	**S**	**13 44 02.4**	**-1.2**
NBG	**Las Nubes**	**0.80**	**39⇑**	*eP*	**P**	**13 43 54.8**	**+0.6**
NBG				*eS*	**S**	**13 44 09.9**	**+1.8**
JAT	**Jato**	**0.83**	**295⇑**	*eP*	**P**	**13 43 54.8**	**+0.4**
JAT				*eS*	**S**	**13 44 09.7**	**+0.9**
RBDL	**Robledal**	**1.15**	**82⇑**	*eP*	**P**	**13 43 57.7**	**-0.3**
RTR	**El Retiro**	**1.18**	**93⇓**	*eP*	**P**	**13 43 58.0**	**-0.4**
SBLS	**San Blas**	**1.21**	**96⇓**	*eP*	**P**	**13 43 58.5**	**-0.2**
SBLS				*eS*	**S**	**13 44 16.6**	**+0.3**
SNJE	**San Jose**	**1.23**	**94⇓**	*eP*	**P**	**13 43 58.4**	**-0.5**
SNJE				*eS*	**S**	**13 44 16.9**	**+0.4**
MTO2	**Montecristo 2**	**1.52**	**73⇓**	*eP*	**P**	**13 44 02.5**	**+0.1**
MTO2				*eS*	**S**	**13 44 23.7**	**+1.1**
BOQS	**Boqueron**	**1.55**	**98⇓**	*eP*	**P**	**13 44 02.6**	**-0.2**
BOQS				*eS*	**S**	**13 44 23.7**	**+0.3**
SNET	**Serv Nac Est T**	**1.61**	**100**	*eP*	**P**	**13 44 02.7**	**-0.8**
SNET				*eS*	**S**	**13 44 24.1**	**-0.4**
SNET				*i*		13 44 26.0	
	comp=Z,2μm,0.3s						
LFU	**La Fuente**	**1.71**	**97⇑**	*eP*	**P**	**13 44 04.7**	**-0.1**
LBRS	**Las Brisas**	**1.78**	**97⇑**	*eP*	**P**	**13 44 05.7**	**+0.1**
LFRS	**El Faro**	**1.78**	**101⇓**	*eP*	**P**	**13 44 05.2**	**-0.4**
LFRS				*eS*	**S**	**13 44 28.2**	**0.0**
LCBS	**La Ceiba**	**1.86**	**99⇓**	*eP*	**P**	**13 44 06.2**	**-0.4**
LCBS				*eS*	**S**	**13 44 29.3**	**-0.6**
SNVI	**San Vicente**	**2.00**	**100⇑**	*eP*	**P**	**13 44 08.7**	**+0.3**
SNVI				*eS*	**S**	**13 44 33.5**	**+0.4**
CNCH	**Conchagua**	**3.02**	**103⇓**	*eP*	**P**	**13 44 22.1**	**-0.4**
CNCH				*eS*	**S**	**13 44 57.9**	**-0.1**
CRIN	**San Cristobal**	**3.92**	**108⇑**	*eP*	**P**	**13 44 36.2**	**+1.5**
TEL3	**Telica 3**	**4.15**	**109⇑**	*eP*	**P**	**13 44 38.4**	**+0.6**
TEL3				*eS*	**S**	**13 45 23.3**	**-2.2**
TELN	**Telica**	**4.15**	**109⇓**	*eP*	**P**	**13 44 38.8**	**+1.0**
LEON	**Leon**	**4.16**	**111**	*eP*	**P**	**13 44 38.2**	**+0.2**
MIRN	**Miramar**	**4.32**	**110⇑**	*eP*	**P**	**13 44 41.0**	**+0.9**
MOMU	**Momotombo**	**4.49**	**110⇓**	*eP*	**P**	**13 44 43.4**	**+1.0**
COPN	**Copaltepe**	**4.52**	**113⇑**	*eP*	**P**	**13 44 43.0**	**0.0**
APYN	**Apyeque**	**4.72**	**111⇓**	*eP*	**P**	**13 44 46.4**	**+0.8**
MGAN	**Managua**	**4.85**	**111**	*eP*	**P**	**13 44 47.1**	**-0.2**
MGAN				*i*		13 45 39.6	
	comp=N,153nm,0.6s						
MGAN				*eS*	**S**	**13 45 43.3**	**+0.7**
TICN	**Ticuantepe**	**4.91**	**113⇓**	*eP*	**P**	**13 44 48.7**	**+0.6**
SSNN	**San Juan del S**	**5.57**	**118**	*eP*	**P**	**13 44 55.2**	**-1.9**
TXAR	**Lajitas Array**	**19.35**	**324**	P	**P**	**13 47 59.7**	**+4.4**
	comp=N,0.0nm,0.3s,baz=164,slow=13,SNR=3.4						
SADO	**Sadowa**	**32.28**	**16**	P	**P**	**13 49 56.0**	**-0.4**
	comp=N,5.5nm,0.4s,mb4.6,baz=212,slow=10,SNR=10						
NVAR	**Mina Array Bea**	**34.40**	**320**	P	**P**	**13 50 19.1**	**+4.4**
	comp=N,1.2nm,0.7s,mb3.8,baz=139,slow=8.3,SNR=7.9						
NVAR				PcP	PcP	13 52 50.8	+2.5
	comp=N,0.5nm,0.6s,baz=135,slow=2.1,SNR=4.4						
SCHQ	**Schefferville**	**44.88**	**20**	P	**P**	**13 51 40.9**	**-0.1**
	comp=N,4.6nm,0.6s,mb4.4,baz=221,slow=7.3,SNR=22						
YKA	**Yellowknife Ar**	**51.32**	**346**	P	**P**	**13 52 30.8**	**0.0**
	comp=N,0.2nm,0.3s,mb3.6,baz=148,slow=8.0,SNR=6.7						
YKA				PcP	PcP	13 53 44.4	-0.1
	comp=N,0.1nm,0.4s,baz=148,slow=3.7,SNR=4.4						
INK	**Inuvik**	**60.79**	**343**	P	**P**	**13 53 38.0**	**-0.5**
	comp=N,0.8nm,0.5s,mb4.0,baz=134,slow=7.8,SNR=5.7						
ILAR	**Eielson Array**	**63.31**	**337**	P	**P**	**13 53 54.9**	**-0.5**
	comp=N,0.1nm,0.5s,mb3.0,baz=117,slow=5.9,SNR=6.9						

*BJI **27** 13:45:34.9, 7.79N×93.70E, h41km, mb4.7*
*NEIC **27** 13:45:35.9±0.5, 7.94N×94.01E, h30km, mb4.6/9, Error ellipse: s-maj=14.7km s-min=10.5km az=67.0*
*IDC **27** 13:45:40.0±5.0, 8.03N×94.22E, h68km±46km, mb3.9/18, mb1 4.0/19, mb1mx4.0/26, mbtmp4.2/19, ML4.1/1, MS4.1/1, Ms1 4.1/1, ms1mx2.3/23, Error ellipse: s-maj=30.2km s-min=14.5km az=55.0*
ISC 27 13:45:34.0±0.5, 7.96N±0.07×94.09E±0.08, h30km, n44, σ1§22/39, mb4.3/27, MS4.1/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.45**	**24**	*eP*	**P**	**13 48 19.2**	**+0.4**
	22nm,0.9s						
CMAR	**Chiang Mai Arr**	**11.45**	**24**	P	**P**	**13 48 19.9**	**+1.0**
	0.4nm,0.3s,baz=211,slow=14,SNR=19						
HYB	**Hyderabad**	**17.82**	**303**	*i* P	**P**	**13 49 44.0**	**+2.3**
JIRN	**Jiri**	**20.97**	**340**	*eP*	**P**	**13 50 17.5**	**+0.2**
PKI	**Pulchoki**	**21.17**	**338**	*eP*	**P**	**13 50 21.8**	**+2.6**
	21nm,0.5s,mb4.7						
GUN	**Gumba**	**21.31**	**340**	*eP*	**P**	**13 50 21.0**	**+0.3**
KKN	**Kakani**	**21.41**	**338**	*eP*	**P**	**13 50 22.0**	**+0.3**
LSA	**Lhasa**	**21.80**	**353**	*eP*	**P**	**13 50 24.1**	**-1.5**
	21nm,0.7s,mb4.7						
GKN	**Gorkha**	**21.85**	**337**	*eP*	**P**	**13 50 24.5**	**-1.6**
KOLN	**Koldanda**	**22.06**	**335**	*eP*	**P**	**13 50 26.3**	**-1.9**
ENH	**Enshi**	**26.48**	**31**	*eP*	**P**	**13 51 11.3**	**+0.6**
	15nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**38.61**	**337**	*eP*	**P**	**13 53 01.5**	**+5.2**
	6.9nm,1.0s,mb4.3						
SONM	**Songino Array**	**41.09**	**13**	P	**P**	**13 53 15.7**	**-1.0**
	2.2nm,1.0s,mb3.8,baz=201,slow=11,SNR=3.9						
ULN	**Ulaanbaatar**	**41.27**	**13**	*eP*	**P**	**13 53 18.6**	**+0.5**
	4.5nm,1.2s,mb4.0						
KURK	**Kurchatov**	**44.52**	**346**	*eP*	**P**	**13 53 43.9**	**-0.8**
	7.8nm,0.8s,mb4.6						
NWAO	**Narrogin (SRO)**	**46.24**	**153**	P	**P**	**13 53 59.9**	**+1.3**
	4.0nm,0.7s,mb4.5,baz=341,slow=8.3,SNR=3.0						
ZAL	**Zalesovo**	**46.46**	**352**	P	**P**	**13 54 01.4**	**+1.4**
	2.5nm,0.6s,mb4.3,baz=278,slow=6.5,SNR=7.5						
WRA	**Warramunga Arr**	**48.35**	**126**	P	**P**	**13 54 14.0**	**-1.3**
	0.7nm,0.7s,mb3.8,baz=304,slow=8.5,SNR=3.9						
WRAB	**Tennant Creek**	**48.35**	**126**	*eP*	**P**	**13 54 15.8**	**+0.4**
	8.0nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**48.36**	**126**	*eP*	**P**	**13 54 15.8**	**+0.4**
WB2				*eS*	tx	13 56 50.7	
BVAR	**Borovoye Array**	**48.89**	**341**	P	**P**	**13 54 18.5**	**-0.6**
	1.0nm,0.7s,mb4.0,baz=127,slow=7.4,SNR=3.9						
BVAR				PcP	PcP	13 55 49.0	+5.5
	1.0nm,0.6s,baz=174,slow=3.2,SNR=4.5						
CBIJ	**Chichi jima**	**49.30**	**61**	LR	LR	14 13 39.1	
	comp=Z,193nm,19.7s,MS4.1,baz=112,slow=34						
CHKZ	**Chkalovo**	**49.38**	**342**	*eP*	**P**	**13 54 21.8**	**-1.0**
	7.4nm,0.9s,mb4.7						
ASAR	**Alice Springs**	**50.01**	**130**	P	**P**	**13 54 26.1**	**-1.9**
	0.8nm,0.7s,mb3.9,baz=313,slow=9.3,SNR=3.2						
KMBO	**Kilima Mbogo**	**57.38**	**264**	P	**P**	**13 55 24.1**	**+1.5**
	2.5nm,0.6s,mb4.4,baz=226,slow=24,SNR=7.1						
BRTR	**Keskin Array B**	**62.34**	**311**	P	**P**	**13 55 54.7**	**-1.5**
	1.0nm,0.7s,mb4.1,baz=100,slow=7.5,SNR=4.0						
IDI	**Anoyia**	**68.48**	**305**	P	**P**	**13 56 35.3**	**-0.5**
	8.4nm,0.8s,mb4.8,baz=208,slow=22,SNR=2.1						
MLR	**Muntele Rosu**	**69.08**	**316**	P	**P**	**13 56 38.3**	**-1.1**
	7.6nm,1.2s,mb4.5,baz=216,slow=6.8,SNR=3.4						
FINES	**FINESS Array B**	**72.61**	**332**	P	**P**	**13 56 59.9**	**-0.4**
	3.1nm,0.6s,mb4.4,baz=121,slow=11,SNR=6.3						
GERES	**GERESS Array B**	**77.73**	**318**	P	**P**	**13 57 30.6**	**+0.8**
	1.5nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=6.6						
KHC	**Kasperske Hory**	**77.82**	**318**	*eP*	**P**	**13 57 30.0**	**-0.3**
KHC				*e*	pP	13 57 38.5	-1.3
KHC	**Kasperske Hory**	**77.82**	**318**	*eP*	**P**	**13 57 30.0**	**-0.3**
KHC				pP	pP	13 57 38.5	-1.3
HFS	**Hagfors**	**78.36**	**330**	P	**P**	**13 57 33.1**	**+0.2**
	1.8nm,0.5s,mb4.3,baz=113,slow=11,SNR=5.1						
NB2	**NORSAR Subarra**	**79.63**	**331**	P	**P**	**13 57 39.2**	**-0.7**
	5.2nm,1.1s,mb4.4,baz=92,slow=5.8						
NOA	**NORSAR Array B**	**79.63**	**331**	P	**P**	**13 57 39.6**	**-0.3**
	1.0nm,0.8s,mb3.8,baz=96,slow=5.2,SNR=2.9						
DAVOX	**Davos**	**80.29**	**316**	P	**P**	**13 57 43.9**	**+0.1**
	3.2nm,0.9s,mb4.2,baz=37,slow=13,SNR=2.3						
LPG	**La Plagne**	**82.52**	**315**	*eP*	**P**	**13 57 52.2**	**-3.2**
	15nm,1.0s,mb4.7						
EKA	**Eskdalemuir Ar**	**87.62**	**325**	P	**P**	**13 58 22.2**	**+1.6**
	0.8nm,0.6s,mb4.1,baz=79,slow=8.5,SNR=2.7						
ILAR	**Eielson Array**	**94.69**	**22**	P	**P**	**13 58 56.3**	**+3.0**
	0.2nm,0.7s,mb3.7,baz=329,slow=5.3,SNR=2.7						
INK	**Inuvik**	**96.93**	**16**	P	**P**	**13 59 06.8**	**+3.5**
	0.8nm,0.8s,mb4.2,baz=324,slow=29,SNR=2.3						
NVAR	**Mina Array Bea**	**124.87**	**31**	PKP	PKPdf	14 04 35.9	-0.9
	0.6nm,0.9s,baz=314,slow=2.3,SNR=3.6						
PDAR	**Pinedale Array**	**125.11**

CMAR Chiang Mai Arr 11.71 22 P P 13 53 53.2 -2.5
0.2nm,0.3s,baz=219,slow=13,SNR=4.9
SONM Songino Array 41.42 12 P P 13 58 50.2 -1.5
0.4nm,0.4s,baz=202,slow=7.8,SNR=2.8
ZAL Zalesovo 46.92 352 P P 13 59 33.8 -2.0
1.2nm,0.3s,baz=63,slow=11,SNR=2.3
FINES FINESS Array B 73.14 332 P P 14 02 33.5 -1.8
7.8nm,1.2s,baz=191,slow=31,SNR=1.6
GERES GERESS Array B 78.27 318 P P 14 03 03.6 -1.1
0.1nm,0.3s,baz=68,slow=5.3,SNR=1.7
NOA NORSAR Array B 80.17 331 P P 14 03 13.0 -1.8
1.0nm,0.7s,baz=234,slow=8.3,SNR=1.3

IDC 27 13:51:37.7±4.9, 8.16N×94.48E, h98km±43km, mb3.6/10, mb1 3.8/11, mb1mx3.7/19, mbtmp3.9/11, Error ellipse: s-maj=33.6km s-min=16.6km az=48.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.11**	**23**	P	P	13 54 13.9	-0.9
	0.2nm,0.3s,baz=206,slow=15,SNR=2.9						
ZAL	**Zalesovo**	**46.31**	**352**	P	P	13 59 52.0	-3.2
	1.7nm,0.4s,baz=302,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**48.15**	**126**	P	P	14 00 08.0	-2.1
	1.3nm,0.8s,baz=304,slow=8.4,SNR=4.4						
BVAR	**Borovoye Array**	**48.83**	**341**	P	P	14 00 13.8	-1.0
	0.6nm,0.6s,baz=124,slow=5.2,SNR=3.3						
ASAR	**Alice Springs**	**49.84**	**130**	P	P	14 00 21.1	-2.0
	1.2nm,0.8s,baz=297,slow=6.0,SNR=4.5						
KMBO	**Kilima Mbogo**	**57.79**	**264**	P	P	14 01 19.4	-2.1
	1.2nm,0.7s,baz=42,slow=23,SNR=3.0						
BRTR	**Keskin Array B**	**62.50**	**311**	P	P	14 01 52.3	-0.9
	0.8nm,0.7s,baz=127,slow=5.3,SNR=3.3						
AKASG	**Malin Array Be**	**68.14**	**322**	P	P	14 02 26.3	-2.9
	0.2nm,0.3s,baz=88,slow=5.4,SNR=3.4						
FINES	**FINESS Array B**	**72.61**	**332**	P	P	14 02 54.9	-1.1
	2.4nm,0.8s,baz=80,slow=8.5,SNR=3.5						
GERES	**GERESS Array B**	**77.84**	**318**	P	P	14 03 22.9	-3.1
	0.7nm,0.7s,baz=101,slow=5.0,SNR=3.5						
NOA	**NORSAR Array B**	**79.65**	**331**	P	P	14 03 35.1	-0.5
	1.5nm,0.9s,baz=125,slow=3.2,SNR=3.3						
NVAR	**Mina Array Bea**	**124.50**	**31**	PKP	PKPdf	14 10 25.4	-0.5
	0.9nm,0.9s,baz=272,slow=2.9,SNR=4.7						
PDAR	**Pinedale Array**	**124.78**	**21**	PKP	PKPdf	14 10 26.7	+0.4
	0.8nm,0.9s,baz=27,slow=3.3,SNR=5.8						
PLCA	**Paso Flores**	**144.94**	**200**	PKP	PKPdf	14 11 04.5	+0.9
	2.9nm,0.8s,baz=158,slow=6.7,SNR=4.6						

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*NEIC **27** 13:52:48.3±0.4, 8.28N×93.75E, h30km, mb4.4/4, Error ellipse: s-maj=14.8km s-min=9.3km az=60.0*
*IDC **27** 13:52:52.5±4.9, 8.41N×93.86E, h65km±44km, mb3.9/16, mb1 4.0/17, mb1mx3.9/23, mbtmp4.2/17, ML3.8/1, Error ellipse: s-maj=28.5km s-min=13.5km az=47.0*
ISC 27 13:52:47.7±4.9, 8.3N±0.1×93.8E±0.2, h40km±43km, n27, σ0§94/24, mb4.2/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.22**	**26**	P	P	13 55 28.1	-0.6
	0.2nm,0.3s,baz=211,slow=14,SNR=4.3						
LSA	**Lhasa**	**21.40**	**354**	*eP*	P	13 57 35.8	+1.5
	8.0nm,0.6s,mb4.2						
SONM	**Songino Array**	**40.78**	**13**	P	P	14 00 28.0	+1.2
	1.5nm,0.9s,mb3.6,baz=211,slow=8.4,SNR=2.4						
KURK	**Kurchatov**	**44.09**	**346**	*eP*	P	14 00 50.6	-3.1
	6.3nm,1.1s,mb4.3						
ZAL	**Zalesovo**	**46.05**	**353**	P	P	14 01 09.8	+0.5
	1.5nm,0.3s,mb4.3,baz=300,slow=8.9,SNR=4.0						
NWAO	**Narrogin (SRO)**	**46.70**	**153**	P	P	14 01 14.3	-0.5
	11nm,1.1s,mb4.7,baz=334,slow=7.7,SNR=3.4						
NWAO	**Narrogin (SRO)**	**46.70**	**153**	P	P	14 01 14.3	-0.5
BVAR	**Borovoye Array**	**48.45**	**341**	P	P	14 01 28.9	+0.7
	0.3nm,0.5s,mb3.6,baz=124,slow=5.2,SNR=2.5						
WRA	**Warramunga Arr**	**48.78**	**126**	P	P	14 01 31.2	0.0
	2.2nm,1.2s,mb4.1,baz=305,slow=8.5,SNR=3.8						
WRA	**Warramunga Arr**	**48.78**	**126**	P	P	14 01 31.2	0.0
ASAR	**Alice Springs**	**50.45**	**130**	P	P	14 01 44.6	+0.7
	0.7nm,0.6s,mb3.9,baz=301,slow=7.6,SNR=4.5						
PMG	**Port Moresby**	**55.96**	**107**	P	P	14 02 24.3	-0.6
	9.9nm,0.8s,mb4.9,baz=173,slow=22,SNR=2.8						
PMG	**Port Moresby**	**55.96**	**107**	*eP*	P	14 02 23.8	-1.0
	17nm,1.1s,mb5.0						
KMBO	**Kilima Mbogo**	**57.17**	**263**	P	P	14 02 35.1	+1.6
	3.3nm,0.8s,mb4.4,baz=54,slow=17,SNR=6.5						
KMBO	**Kilima Mbogo**	**57.17**	**263**	*eP*	P	14 02 34.5	+0.9
	4.9nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**60.65**	**134**	P	P	14 02 57.8	+0.4
	1.6nm,0.8s,mb4.2,baz=341,slow=10,SNR=2.9						
BRTR	**Keskin Array B**	**61.89**	**311**	P	P	14 03 04.7	-1.0
	0.8nm,0.8s,mb3.9,baz=112,slow=4.4,SNR=2.8						
IDI	**Anoyia**	**68.05**	**305**	P	P	14 03 45.5	-0.1
	9.7nm,0.9s,mb4.8,baz=359,slow=17,SNR=2.2						
MLR	**Muntele Rosu**	**68.62**	**316**	P	P	14 03 48.4	-0.5
	1.5nm,0.5s,mb4.2,baz=329,slow=12,SNR=2.9						
FINES	**FINESS Array B**	**72.16**	**332**	P	P	14 04 08.2	-1.8
	2.0nm,0.8s,mb4.1,slow=3.8,SNR=3.8						
ARCES	**ARCESS Array B**	**74.73**	**340**	P	P	14 04 25.0	+0.2
	3.5nm,1.0s,mb4.2,baz=100,slow=5.5,SNR=4.8						
ARCES	**ARCESS Array B**	**74.73**	**340**	P	P	14 04 25.0	+0.2
GERES	**GERESS Array B**	**77.28**	**318**	P	P	14 04 40.0	+0.2
	1.1nm,0.6s,mb4.0,baz=90,slow=5.3,SNR=4.9						
NOA	**NORSAR Array B**	**79.18**	**331**	P	P	14 04 49.4	-0.5
	0.6nm,0.6s,mb3.7,baz=123,slow=5.4,SNR=2.8						
NVAR	**Mina Array Bea**	**124.68**	**31**	PKP	PKPdf	14 11 45.8	+2.1
	0.5nm,0.8s,baz=270,slow=0.9,SNR=3.2						
PDAR	**Pinedale Array**	**124.85**	**21**	PKP	PKPdf	14 11 44.8	+0.9
	0.4nm,0.8s,slow=1.8,SNR=2.9						
PLCA	**Paso Flores**	**144.87**	**201**	PKP	PKPdf	14 12 19.4	-1.4
	4.9nm,1.1s,baz=186,slow=2.5,SNR=4.9						

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*BJI **27** 13:54:14.9, 7.54N×94.04E, h53km, mB5.5, mb4.9, Ms5.6, Msz5.3*
*MOS **27** 13:54:15.0±1.4, 7.93N×94.28E, h33km, mb5.3/57, MS5.3/8, Error ellipse: s-maj=10.3km s-min=5.5km az=113.3*
*HRVD **27** 13:54:16.0±0.3, 7.92N×94.17E, h20km±1km, MW5.4/60, Centroid moment Tensor Solution. LP body waves: s40,c70;Mantle waves: s60,c108; Half duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.02±.04; $M_{\theta\theta}$-0.66±.04; $M_{\phi\phi}$0.64±.04; $M_{r\theta}$-0.28±.09; $M_{\theta\phi}$1.21±.04; $M_{r\phi}$0.02±.09; Best double couple: $M_0$1.403×10^{17} NP1: ϕ_s166°, δ79°, λ-177°. NP2:ϕ_s76°, δ87°, λ-11°. Principal axes: T 1.377, Plg5°, Azm121°; N .052, Plg79°, Azm240°; P -1.429, Plg10°, Azm30°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 13:54:16.0±0.3, 7.94N×94.27E, h30km, mb5.1/60 Error ellipse: s-maj=8.4km s-min=6.4km az=48.0*
*IDC **27** 13:54:18.7±3.7, 7.96N×94.22E, h48km±35km, mb4.4/27, mb1 4.5/28, mb1mx4.5/29, mbtmp4.7/28, ML4.8/1, MS5.4/2, Ms1 5.4/2, ms1mx4.0/18, Error ellipse: s-maj=19.7km s-min=9.8km az=47.0*
ISC 27 13:54:15.8±1.0, 7.95N±0.04×94.29E±0.04, h40km±8km, h25km±5.3km: pP-P, n254, σ1§34/243, mb5.0/91, MS5.4/14, 15C-10D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.99**	**338**	*eP*	P	13 55 18.3	+2.3
PBA				*e*SG	S	13 56 09.9	+7.7
NST	**Nakhon Sawan**	**9.57**	**36**	P	P	13 56 33.0	-1.1
CM31	**Chiang Mai Arr**	**11.38**	**23**	*eP*	P	13 56 59.4	+0.5
	75nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.38**	**23**	P	P	13 56 58.9	0.0
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.38**	**23**	P	P	13 56 58.9	0.0
	comp=Z,1.7nm,0.3s,baz=211,slow=14,SNR=50						
CHG	**Chiang Mai**	**11.71**	**22**	⇑P	P	13 57 04.1	+0.8
	comp=Z,74nm,1.0s						
CHRT	**Chiangrai**	**12.99**	**24**	⇓P	P	13 57 22.0	+1.5
	comp=Z,353nm,1.2s						
PALK	**Pallekele**	**13.49**	**268**	*eP*	P	13 57 26.6	-0.4
	comp=Z,41nm,1.2s						
IMP	**Imphal**	**16.75**	**359**	*e*	P	13 58 07.3	-1.8
KOD	**Kodaikanal**	**16.77**	**279**	*eP*	P	13 58 11.3	+1.9
KOD				*e*		13 58 28.8	
	comp=Z,76nm,1.7s						
SHL	**Shillong**	**17.67**	**353**	*eP*	P	13 58 24.6	+3.9
SHL				*e*		13 58 26.9	
	comp=Z,2μm,1.4s						
HYB	**Hyderabad**	**18.00**	**303**	*eP*	P	13 58 25.0	+0.3
HYB				pmax	pmax		
	comp=Z,71nm,1.2s						
HYB	**Hyderabad**	**18.00**	**303**	*eP*	P	13 58 25.0	+0.3
	comp=Z,71nm,1.2s						
HYB	**Hyderabad**	**18.00**	**303**	*i* P	P	13 58 25.0	+0.3
QIZ	**Qiongzhong**	**18.69**	**52**	*eP*	P	13 58 34.0	+0.7
QIZ				AMB	AMB		
	comp=Z,1μm,9.0s						
QIZ				LR	LR		
	comp=N,19μm,14.2s						
QIZ				LR	LR		
	comp=Z,5μm,16.4s						
QIZ	**Qiongzhong**	**18.69**	**52**	*eP*	P	13 58 34.8	+1.5
	comp=Z,113nm,1.2s						
KMI	**Kunming**	**18.89**	**24**	⇑P	P	13 58 39.7	+4.1
KMI				S	S	14 02 04.2	+2.9
KMI				pmax	pmax		
	comp=Z,106nm,1.3s						
KMI	**Kunming**	**18.89**	**24**	⇑P	P	13 58 39.7	+4.1
	comp=Z,106nm,1.3s						
KMI				pP		13 58 44.9	
KMI				sP		13 58 49.3	
KMI				PP	PP	13 59 05.0	+13
KMI				S	S	14 02 04.2	+2.9
KMI				sS		14 02 17.3	
KMI				SS	SS	14 02 31.4	+4.4
COCO	**West Island**	**20.16**	**173**	*eP*	P	13 58 51.7	+2.1
	comp=Z,683nm,1.4s						
JIRN	**Jiri**	**21.05**	**340**	*eP*	P	13 58 57.4	-1.4
	comp=Z,383nm,1.4s,mb5.5						
PKI	**Pulchoki**	**21.25**	**338**	*eP*	P	13 58 58.9	-1.9
GOA	**Goa**	**21.38**	**292**	*eP*	P	13 59 08.0	+5.9
GOA				*e*		13 59 13.9	
	comp=Z,49nm,1.8s						
GUN	**Gumba**	**21.39**	**339**	*eP*	P	13 59 00.8	-1.4
DMN	**Daman**	**21.40**	**337**	*eP*	P	13 59 00.7	-1.6
	comp=Z,140nm,1.0s,mb5.3						
KKN	**Kakani**	**21.50**	**338**	*eP*	P	13 59 01.2	-2.0
LSA	**Lhasa**	**21.84**	**353**	P	P	13 59 09.0	+2.4
LSA	**Lhasa**	**21.84**	**353**	*eP*	P	13 59 05.9	-0.7
LSA				pmax	pmax		
	comp=Z,187nm,1.1s,mb5.4						
LSA	**Lhasa**	**21.84**	**353**	*eP*	P	13 59 05.8	-0.8
	comp=Z,187nm,1.1s,mb5.4						
GKN	**Gorkha**	**21.94**	**337**	*eP*	P	13 59 05.6	-2.0
	comp=Z,209nm,0.8s,mb5.6						
KOLN	**Koldanda**	**22.16**	**334**	*eP*	P	13 59 07.3	-2.5
	comp=Z,281nm,1.2s,mb5.5						
BOM	**Bombay**	**23.53**	**300**	*eP*	P	13 59 25.3	+2.0
BOM				*e*		13 59 37.5	
	comp=Z,113nm,0.4s						
BOM				*e*		14 00 59.2	
BOM				*e*S	S	14 03 40.1	+9.1
NDI	**New Delhi**	**26.16**	**324**	*eP*	P	13 59 52.9	+4.4
NDI				*e*		13 59 59.5	
	comp=Z,105nm,1.2s						
ENH	**Enshi**	**26.38**	**31**	*eP*	P	13 59 50.2	-0.3
	comp=Z,106nm,1.0s,mb5.3						
DDI	**Dehra Dun**	**26.96**	**328**	*e*	P	13 59 56.7	+0.9
DDI				*eP*		14 02 44.4	
SMLA	**Simla**	**28.07**	**328**	*e*	P	14 00 20.6	+15
SMLA				*e*	pP	14 00 29.1	+13
	comp=Z,71nm,2.0s						
XAN	**Xi'an**	**29.26**	**25**	P	P	14 00 16.0	-0.5
XAN				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.7						
WHN	**Wuhan**	**29.29**	**37**	P	P	14 00 17.5	+0.8
WHN				LR	LR		
	comp=Z,14μm,13.1s,MS5.8						
LZH	**Lanzhou**	**29.34**	**16**	*eP*	P	14 00 18.3	+1.2
LZH				AP	pP	14 00 27.8	-0.2
LZH				PP	PP	14 01 14.3	+1.3
LZH				AMB	AMB		
	comp=Z,45nm,1.7s,mb4.9						
LZH				AMB	AMB		
	comp=Z,130nm,4.0s						
LZH				LR	LR		
	comp=E,4μm,10.9s						
LZH				LR	LR		
	comp=Z,5μm,13.0s,MS5.3						
LZH	**Lanzhou**	**29.34**	**16**	*eP*	P	14 00 18.3	+1.2
LZH				*PP	pP	14 00 27.8	-0.2
LZH				*SP	sP	14 00 32.0	-1.0
LZH						14 01 14.2	
LZH				*e*S	S	14 05 08.5	+2.0
LZH				*SS		14 05 24.1	
LZH				SS	SS	14 06 44.0	+4.5
LZH				pmax	pmax		
	comp=Z,45nm,1.7s,mb4.9						
LZH				MLR	MLR		
	comp=Z,5μm,13.0s,MS5.3						
LZH	**Lanzhou**	**29.34**	**16**	*eP*	P	14 00 18.3	+1.2
	comp=Z,45nm,1.7s,mb4.9						
LZH				pP	pP	14 00 27.8	-0.2
LZH				sP	sP	14 00 32.0	-1.0
LZH				PP	PP	14 01 14.2	+1.2
LZH				*e*S	S	14 05 08.5	+2.0
LZH				sS		14 05 24.1	
LZH				SS	SS	14 06 44.0	+4.5
LZH				LR	LR		
	comp=Z,5μm,13.0s,MS5.3						
NJ2	**Nanjing**	**33.12**	**40**	*eP*	P	14 00 48.5	-1.9
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,2μm,5.7s						
NJ2				LR	LR		
	comp=N,9μm,11.2s,MS5.8						
NJ2				LR	LR		
	comp=E,9μm,14.0s,MS5.8						
NJ2				LR	LR		
	comp=Z,9μm,11.9s,MS5.7						
TIA	**Tai'an**	**35.01**	**33**	*eP*	P	14 01 08.0	+1.4
WMQ	**Urumqi**	**36.20**	**352**	P	P	14 01 16.8	+0.2
WMQ				AP	pP	14 01 26.5	-1.2
WMQ				PP	PP	14 02 40.0	0.0
WMQ				PCP	PcP	14 03 42.0	+0.2
WMQ				AMB	AMB		
	comp=Z,130nm,1.3s,mb5.7						
WMQ				AMB	AMB		
	comp=Z,675nm,5.3s						
WMQ				LR	LR		
	comp=N,2μm,18.0s,MS5.0						
WMQ				LR	LR		
	comp=E,1μm,18.1s,MS5.0						
WMQ				LR	LR		
	comp=Z,3μm,18.2s,MS5.1						
JOW	**Kunigami**	**37.29**	**56**	P	P	14 01 27.8	+1.8
	comp=Z,14nm,0.8s,mb4.8,baz=336,slow=20,SNR=2.8						
BJT	**Baijiatuau**	**37.45**	**28**	*eP*	P	14 01 28.5	+1.3
BJT				pmax	pmax		
	comp=Z,40nm,1.1s						
BJT	**Baijiatuau**	**37.45**	**28**	*eP*	P	14 01 28.5	+1.3
	comp=Z,40nm,1.1s,mb5.2						
BJI	**Beijing**	**37.47**	**28**	P	P	14 01 29.8	+2.4
BJI				*SP	sP	14 01 42.5	-1.0
BJI				SS	rx	14 10 15.4	
BJI				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.9						
BJI				MLR	MLR		
	comp=Z,3μm,24.4s,MS5.0						
BJI	**Beijing**	**37.47**	**28**	P	P	14 01 29.8	+2.4
	comp=Z,25nm,1.2s,mb4.9						
BJI				sP	sP	14 01 42.5	-1.0
BJI				PP	PP	14 03 03.4	+7.4
BJI				S	S	14 07 25.7	+13
BJI				SS	rx	14 10 15.4	
BJI				LR	LR		
	comp=Z,3μm,24.4s,MS5.0						
MBWA	**Marble Bar**	**38.22**	**140**	*eP*	P	14 01 33.8	0.0
	comp=Z,56nm,1.5s,mb5.1						
UCH	**Uchtor**	**38.35**	**336**	P	P	14 01 37.5	+2.8
	SNR=5.8						
KBK	**Karagaybulak**	**38.54**	**337**	P	P	14 01 37.4	+1.2
	SNR=7.6						
AML	**Almayashu**	**38.60**	**335**	P	P	14 01 35.9	-0.9
	SNR=12						
AAK	**Ala-Archa**	**38.70**	**336**	P	P	14 01 39.1	+1.5
	SNR=7.2						
AAK	**Ala-Archa**	**38.70**	**336**	P	P	14 01 40.5	+2.9
AAK				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.0						
AAK	**Ala-Archa**	**38.70**	**336**	*eP*	P	14 01 37.7	+0.1
	comp=Z,24nm,0.9s,mb4.9						
CHMS	**Chumysh**	**38.91**	**337**	P	P	14 01 39.5	+0.3
	SNR=6.0						
USP	**Ospenovka**	**39.23**	**337**	P	P	14 01 42.3	+0.4
	SNR=9.2						
MKAR	**Makanchi Array**	**40.05**	**347**	*i* P	P	14 01 48.0	-0.7
MKAR				pmax	pmax		
	comp=Z,68nm,1.3s						
FITZ	**Fitzroy Crossi**	**40.34**	**130**	*eP*	P	14 01 51.0	-0.5
	comp=Z,12nm,1.0s,mb4.6						
SONM	**Songino Array**	**41.06**	**12**	P	P	14 01 57.9	+0.8
	comp=Z,4.2nm,0.8s,mb4.1,baz=198,slow=7.8,SNR=10						
SONM				PcP	PcP	14 03 56.8	-0.2
	comp=Z,1.7nm,0.6s,baz=225,slow=4.1,SNR=2.7						
ULN	**Ulaanbaatar**	**41.23**	**13**	⇓*eP*	P	14 01 57.5	-1.0
ULN	**Ulaanbaatar**	**41.23**	**13**	*eP*	P	14 01 56.9	-1.6
	comp=Z,6.8nm,0.8s,mb4.3						
KS15	**Wonju Array Si**	**42.28**	**41**	*eP*	P	14 02 04.9	-2.4
SNY	**Shenyang**	**42.53**	**33**	⇓P	P	14 02 10.5	+1.2
SNY				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.4						
SNY				LR	LR		
	comp=N,2μm,15.7s,MS5.2						
SNY				LR	LR		
	comp=E,1μm,13.7s,MS5.2						
SNY				LR	LR		
	comp=Z,3μm,17.0s,MS5.2						
ZAK	**Zakamensk**	**42.96**	**8**	*eP*	P	14 02 12.5	-0.1
ZAK				*e*		14 03 59.2	
TLY	**Talaya**	**44.28**	**8**	*eP*	P	14 02 28.9	+5.6
TLY				*e*	pP	14 02 38.9	+4.3
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
TLY	**Talaya**	**44.28**	**8**	*eP*	P	14 02 22.1	-1.2
	comp=Z,4.9nm,0.8s,mb4.3						
KURK	**Kurchatov**	**44.58**	**346**	*eP*	P	14 02 23.6	-2.1
KURK				pmax	pmax		
	comp=Z,53nm,1.1s,mb5.3						
KURK	**Kurchatov**	**44.58**	**346**	*eP*	P	14 02 23.6	-2.1
	comp=Z,53nm,1.1s,mb5.3						
MUN	**Mundaring**	**44.88**	**153**	*eP*	P	14 02 29.2	+0.8
	comp=Z,46nm,0.8s,mb5.4						
MUN	**Mundaring**	**44.88**	**153**	*eP*	P	14 02 29.2	+0.8
MUN				pmax	pmax		
	comp=Z,46nm,0.8s,mb5.4						
KLBR	**Kellerberrin**	**45.27**	**151**	*eP*	P	14 02 32.2	+0.7
	comp=Z,672nm,1.0s						
NWAO	**Narrogin (SRO)**	**46.14**	**153**	*eP*	P	14 02 37.2	-1.2
NWAO				pmax	pmax		
	comp=Z,45nm,0.8s						
NWAO	**Narrogin (SRO)**	**46.14**	**153**	P	P	14 02 39.2	+0.8
	comp=Z,30nm,0.8s,mb5.3,baz=326,slow=9.0,SNR=15						
NWAO	**Narrogin (SRO)**	**46.14**	**153**	*eP*	P	14 02 37.2	-1.3
	comp=Z,45nm,0.8s,mb5.5						
HIA	**Hailar**	**46.40**	**23**	*eP*	P	14 02 40.6	+0.4
HIA				pmax	pmax		
	comp=Z,23nm,1.0s						
HIA	**Hailar**	**46.40**	**23**	*eP*	P	14 02 40.6	+0.4
	comp=Z,23nm,1.0s,mb5.1						
ZAL	**Zalesovo**	**46.50**	**352**	P	P	14 02 40.7	-0.2
ZAL				pmax	pmax		
	comp=Z,11nm,0.5s						
ZAL	**Zalesovo**	**46.50**	**352**	P	P	14 02 40.7	-0.2
	comp=Z,11nm,0.5s,mb5.1,baz=305,slow=6.8,SNR=19						
ZAL	**Zalesovo**	**46.50**	**352**	P	P	14 02 40.7	-0.2
NVS	**Novosibirsk**	**47.60**	**351**	*i* P	P	14 02 47.6	-1.9
NVS				pmax	pmax		
	comp=N,53nm,1.6s						
NVS				pmax	pmax		
	comp=Z,53nm,1.6s,mb5.3						
NVS				pmax	pmax		
	comp=E,16nm,1.1s						
MDJ	**Mudanjiang**	**47.66**	**34**	P	P	14 02 52.0	+1.8
MDJ				PP	PP	14 04 42.5	+1.2
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,50nm,3.3s						
MDJ				LR	LR		
	comp=E,3μm,15.2s						
MDJ				LR	LR		
	comp=Z,3μm,15.2s,MS5.3						
MDJ	**Mudanjiang**	**47.66**	**34**	*eP*	P	14 02 51.1	+0.9
	comp=Z,19nm,1.1s,mb5.0						
WRA	**Warramunga Arr**	**48.18**	**126**	P	P	14 02 54.1	-0.5
WRA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WRA	**Warramunga Arr**	**48.18**	**126**	P	P	14 02 54.1	-0.5
	comp=Z,6.3nm,0.6s,mb4.8,baz=304,slow=9.1,SNR=19						
WRAB	**Tennant Creek**	**48.19**	**126**	*eP*	P	14 02 53.3	-1.3
WRAB				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.3						
WRAB	**Tennant Creek**	**48.19**	**126**	*eP*	P	14 02 53.3	-1.3
	comp=Z,27nm,0.9s,mb5.3						
WB2	**Warramunga Arr**	**48.19**	**126**	*eP*	P	14 02 54.2	-0.5
BVA0	**Borovoye Array**	**48.97**	**341**	*i* P	P	14 03 00.8	+0.6
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
BVAR	**Borovoye Array**	**48.97**	**341**	P	P	14 02 59.7	-0.5
	comp=Z,8.3nm,1.0s,mb4.7,baz=143,slow=7.4,SNR=12						
BVAR				PcP	PcP	14 04 25.1	+0.9
	comp=Z,3.1nm,0.6s,baz=166,slow=5.8,SNR=6.8						
MAJO	**Matsushiro**	**49.00**	**48**	P	P	14 02 56.5	-4.2
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
MAJO	**Matsushiro**	**49.00**	**48**	P	P	14 02 56.5	-4.2
	comp=Z,9.7nm,0.8s,mb4.9						
BRVK	**Borovoye**	**49.03**	**341**	*eP*	P	14 02 58.3	-2.4
BRVK				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1						
BRVK	**Borovoye**	**49.03**	**341**	*eP*	P	14 02 58.3	-2.3
	comp=Z,21nm,1.0s,mb5.1						
RAYN	**Ar Rayn**	**49.19**	**294**	P	P	14 03 01.7	-0.7
	comp=Z,221nm,0.8s,SNR=13						
CHKZ	**Chkalovo**	**49.45**	**342**	P	P	14 03 03.4	-0.5
CHKZ				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.4						
CHKZ	**Chkalovo**	**49.45**	**342**	*eP*	P	14 03 01.7	-2.2
	comp=Z,33nm,0.9s,mb5.4						
ASPA	**Alice Springs**	**49.84**	**130**	*eP*	P	14 03 06.5	-0.9
ASAR	**Alice Springs**	**49.85**	**130**	P	P	14 03

comp=E,2μm,13.0s
YSS Yuzh-Sakhalins 56.63 38 eP P 14 03 55.3 -2.0
comp=E,28nm,1.0s,mb5.2
KIV Kislovodsk 57.37 318⇓eP P 14 04 02.7 +0.2
KIV pmax pmax
comp=Z,17nm,1.0s,mb5.0
KIV Kislovodsk 57.37 318 eP P 14 04 02.0 -0.5
comp=Z,50nm,1.1s,mb5.5
KMBO Kilima Mbogo 57.58 264 i P P 14 04 09.5 +5.0
KMBO pmax pmax
comp=Z,17nm,0.9s
KMBO Kilima Mbogo 57.58 264 P P 14 04 04.9 +0.4
comp=Z,12nm,0.9s,mb4.9,baz=63,slow=15,SNR=5.7
KMBO Kilima Mbogo 57.58 264 eP P 14 04 04.2 -0.2
comp=Z,19nm,0.9s,mb5.1
CTA Charters Tower 58.21 119 P P 14 04 08.9 +0.1
CTA pmax pmax
comp=Z,3.0nm,0.9s
CTA Charters Tower 58.21 119 P P 14 04 08.9 +0.2
comp=Z,3.4nm,0.9s,mb4.4,baz=285,slow=14,SNR=2.7
ASF Jabal al Asfar 58.30 303 P P 14 04 09.9 +0.7
comp=Z,6.3nm,0.9s,mb4.7,baz=335,slow=4.8,SNR=6.9
MALT Malatya 58.53 310 eP P 14 04 09.7 -1.1
MALT pmax pmax
comp=Z,12nm,1.1s,mb4.8
MALT Malatya 58.53 310 eP P 14 04 09.7 -1.1
comp=Z,12nm,1.1s,mb4.8
SOKR Solikamsk 58.79 339⇑iP P 14 04 13.1 +0.9
SOKR pmax pmax
comp=Z,30nm,0.9s,mb5.3
SOC Sochi 59.23 316 eP P 14 04 12.0 -3.6
SOC e 14 05 01.3
SOC eS S 14 12 20.4 +1.5
SOC e 14 14 02.2
SOC eSS SS 14 16 15.0 -0.2
SOC pmax pmax
comp=N,26nm,1.0s
SOC pmax pmax
comp=Z,45nm,1.0s,mb5.5
SOC pmax pmax
comp=E,17nm,0.7s
SOC MLR MLR
comp=Z,898nm,18.0s,MS4.9
SOC MLR MLR
comp=N,1μm,20.0s,MS5.1
SOC MLR MLR
comp=E,953nm,21.0s,MS5.1
EIL Elat 59.52 300 P P 14 04 18.3 +0.5
comp=E,5.9nm,0.6s,mb4.8,baz=301,slow=2.7,SNR=6.9
EIL Elat 59.52 300 eP P 14 04 17.4 -0.4
comp=E,34nm,1.3s,mb5.2
YAK Yakutsk 59.88 18d iP P 14 04 18.9 -0.9
YAK pmax pmax
comp=Z,40nm,1.8s,mb5.2
YAK Yakutsk 59.88 18 eP P 14 04 18.6 -1.2
comp=Z,49nm,0.8s,mb5.6
STKA Stephens Creek 60.05 134 eP P 14 04 20.3 -1.0
comp=Z,11nm,0.9s,mb4.9
STKA Stephens Creek 60.05 134 P P 14 04 20.9 -0.5
comp=Z,6.6nm,0.8s,mb4.7,baz=328,slow=7.8,SNR=9.6
BRTR Keskin Array B 62.49 311 P P 14 04 36.7 -1.0
BRTR pmax pmax
comp=Z,9.0nm,0.7s
BRTR Keskin Array B 62.49 311 P P 14 04 36.7 -1.0
comp=Z,8.5nm,0.7s,mb5.0,baz=122,slow=7.4,SNR=17
MBAR Mbarara 63.92 265 eP P 14 04 46.1 -1.5
MBAR pmax pmax
comp=Z,37nm,1.6s,mb5.2
MBAR Mbarara 63.92 265 eP P 14 04 46.1 -1.5
comp=Z,37nm,1.6s,mb5.2
MOS Moscow 65.10 329 eP P 14 04 51.7 -2.8
MOS pmax pmax
comp=Z,116nm,1.3s,mb5.8
MOS MLR MLR
comp=Z,3μm,20.0s,MS5.5
OBN Obninsk 65.40 328⇓eP P 14 04 56.0 -0.4
OBN e 14 05 27.3
OBN pmax pmax
comp=Z,48nm,1.4s,mb5.3
OBN Obninsk 65.40 328 eP P 14 04 53.3 -3.1
comp=Z,68nm,1.1s,mb5.6
MA2 Magadan 66.63 28 eP P 14 05 02.4 -1.8
MA2 pmax pmax
comp=Z,18nm,0.9s,mb5.1
MA2 Magadan 66.63 28 eP P 14 05 02.4 -1.8
comp=Z,18nm,0.9s,mb5.1
TIXI Tiksi 67.13 11⇓eP P 14 05 05.8 -1.4
TIXI pmax pmax
comp=Z,35nm,1.6s,mb5.1
KIS Kishinev 67.57 318 eP P 14 05 15.0 +4.7
KIS e pP 14 05 24.0 +1.8
AKASG Malin Array Be 68.19 322 P P 14 05 13.2 -0.9
AKASG pmax pmax
comp=Z,12nm,0.8s
AKASG Malin Array Be 68.19 322 P P 14 05 13.2 -1.0
comp=Z,12nm,0.8s,mb5.0,baz=87,slow=4.9,SNR=14
SANT Santorini 68.30 306 P P 14 05 13.4 -1.7
comp=Z,108nm,1.1s,mb5.8
IDI Anoyia 68.65 305 P P 14 05 17.0 -0.3
comp=Z,13nm,0.6s,mb5.1,baz=82,slow=9.0,SNR=8.2
IDI Anoyia 68.65 305 P P 14 05 17.0 -0.3
SEY Seymchan 68.80 25 eP P 14 05 17.2 -0.5
MLR Muntele Rosu 69.22 316 P P 14 05 21.8 +1.2
MLR pmax pmax
comp=Z,20nm,0.8s
MLR Muntele Rosu 69.22 316 P P 14 05 21.8 +1.2
comp=Z,20nm,0.8s,mb5.1,baz=160,slow=3.7,SNR=9.5
LSZ Lusaka 69.43 250 eP P 14 05 21.2 -1.2
LSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LSZ Lusaka 69.43 250 eP P 14 05 21.2 -1.2
comp=Z,5.8nm,0.8s,mb4.6
JOF Joensuu 70.85 334 ep P 14 05 28.5 -1.7
comp=Z,15nm,0.8s,mb5.0
APA Apatity 71.83 339⇑iP P 14 05 39.5 +3.5
APA pmax pmax
comp=Z,31nm,1.0s,mb5.2
APA MLR MLR
comp=Z,2μm,20.0s,MS5.5
KWP Kalwaria 72.07 320 eP P 14 05 37.9 +0.2
KWP pmax pmax
comp=Z,41nm,0.9s,mb5.4
KWP Kalwaria 72.07 320 eP P 14 05 37.9 +0.2
comp=Z,41nm,0.9s,mb5.3
KOLS Kolonicke sedl 72.25 319 eP P 14 05 37.3 -1.5
KOLS e pP 14 05 47.7 -3.0
KOLS Kolonicke sedl 72.25 319 eP P 14 05 37.3 -1.5
KOLS e 14 05 41.2
KOLS epP pP 14 05 47.7 -3.0
FINES FINESS Array B 72.72 332 P P 14 05 39.5 -1.8
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 72.72 332 P P 14 05 39.5 -1.8
comp=Z,5.9nm,0.8s,mb4.6,baz=104,slow=7.9,SNR=6.1
CRVS Cervenica-Dubn 72.77 319 eP P 14 05 46.2 +4.3
CRVS e 14 05 52.0
CRVS e pP 14 05 58.9 +5.1
CRVS Cervenica-Dubn 72.77 319 e P 14 05 46.2 +4.3
CRVS epP pP 14 05 52.0 -1.8
CRVS e pP 14 05 58.9 +5.1
KAF Kangasniemi 72.80 333 ep P 14 05 39.9 -1.9
baz=103,slow=4.8
NIE Niedzica 73.59 319 eP P 14 05 48.8 +2.1
PSZ Piszkesteto 73.69 318 eP P 14 05 48.0 +0.7
PSZ pmax pmax
comp=Z,11nm,0.9s,mb4.8
PSZ Piszkesteto 73.69 318 eP P 14 05 48.0 +0.7
comp=Z,11nm,0.9s,mb4.8
OJC Ojcow 74.02 320 eP P 14 05 50.4 +1.2
PKSM Moragy 74.38 316 eP P 14 05 51.8 +0.5
VYHS Vyhne 74.45 318 eP P 14 05 50.9 -0.8
VYHS e 14 05 56.5
VYHS e 14 06 08.1
KEV Kevo 74.82 341 ep P 14 05 53.7 +0.3
comp=Z,17nm,0.8s,mb5.0
KEV Kevo 74.82 341 eP P 14 05 53.7 +0.3
KEV pmax pmax
comp=Z,17nm,0.8s,mb5.0
CASY Casey 74.98 173 eP P 14 05 53.3 -1.1
comp=Z,55nm,1.4s,mb5.3
OKC Ostrava-Krasne 75.03 319 eP P 14 05 56.9 +1.9
OKC epP pP 14 06 01.0 -6.0
OKC AMS AMS 14 45 40.0
comp=Z,600nm,18.1s
ARCES ARCESS Array B 75.25 340 P P 14 05 56.1 +0.2
ARCES pmax pmax
comp=Z,7.0nm,0.7s
ARCES MLR MLR
comp=Z,3μm,21.2s
ARCES ARCESS Array B 75.25 340 P P 14 05 56.0 +0.1
comp=Z,7.3nm,0.7s,mb4.7,baz=93,slow=6.9,SNR=11
ARCES LR LR 14 41 53.8
comp=Z,3μm,21.2s,MS5.6,baz=117,slow=38
MORC Moravsky Berou 75.42 319 eP P 14 05 54.9 -2.4
MORC pmax pmax
comp=Z,16nm,0.9s,mb5.0
MORC Moravsky Berou 75.42 319 eP P 14 05 54.9 -2.4
comp=Z,16nm,0.9s,mb5.0
ZST Bratislava 75.58 318 eP P 14 05 59.5 +1.3
ZST esP sP 14 06 14.9 +0.4
BOSA Boshof 75.75 238 eP P 14 05 59.1 -0.5
BOSA pmax pmax
comp=Z,26nm,0.8s,mb5.2
BOSA Boshof 75.75 238 eP P 14 05 59.1 -0.5
comp=Z,26nm,0.8s,mb5.2
BILL Bilibino 75.97 22⇑eP P 14 06 00.3 +0.3
BILL pmax pmax
comp=Z,11nm,1.1s,mb4.7
BILL Bilibino 75.97 22 eP P 14 05 57.8 -2.2
comp=Z,25nm,1.3s,mb5.0
DPC Dobruska-Polom 76.25 320 eP P 14 06 03.5 +1.5
DPC epP pP 14 06 08.8 -5.1
DPC AMS AMS 14 46 20.0
comp=Z,800nm,18.8s
KSP Ksiaz 76.30 320 eP P 14 06 03.6 +1.3
KSP epP pP 14 06 06.2 -8.0
UPC Upice 76.46 320 eP P 14 06 05.5 +2.4
UPC epP pP 14 06 09.7 -5.4
ARSA Arzberg 76.59 317⇑iP P 14 06 03.5 -0.5
comp=Z,16nm,1.5s,mb4.7
PRU Pruhonice 77.37 319 eP P 14 06 10.3 +2.0
PRU epP pP 14 06 14.8 -5.4
PRU AMS AMS 14 47 00.0
comp=Z,700nm,22.3s
PVCC Panska Ves 77.38 320 eP P 14 06 10.5 +2.2
PVCC AMS AMS 14 46 00.0
comp=Z,1μm,17.3s
MOA Molln 77.46 317⇓iP P 14 06 04.8 -4.1
comp=Z,12nm,1.1s,mb4.8
BRG Berggiesshubel 77.79 320 eP P 14 06 11.7 +1.1
BRG e pP 14 06 24.4 +1.9
BRG pmax pmax
comp=Z,46nm,1.6s,mb5.2
BRG Berggiesshubel 77.79 320 eP P 14 06 11.7 +1.1
comp=Z,46nm,1.6s,mb5.2
BRG e pP 14 06 24.4 +1.9
GERES GERESS Array B 77.87 318 P P 14 06 09.5 -1.6
GERES pmax pmax
comp=Z,8.0nm,0.6s
GERES GERESS Array B 77.87 318 P P 14 06 09.5 -1.6
comp=Z,7.5nm,0.6s,mb4.8,baz=90,slow=5.3,SNR=19
KHC Kasperske Hory 77.96 318 eP P 14 06 11.9 +0.3
KHC e 14 06 15.5
KHC e 14 07 45.0
KHC Kasperske Hory 77.96 318 eP P 14 06 11.9 +0.3
KHC ex x 14 06 15.5
KHC x x 14 07 45.0
KHC AMS AMS 14 44 40.0
comp=Z,700nm,22.2s
CLL Collm 78.40 321 eP P 14 06 12.0 -1.9
CLL i 14 06 17.8
CLL i 14 06 31.7
CLL Collm 78.40 321 P P 14 06 12.0 -1.9
CLL i *PP pP 14 06 17.8 -8.1
CLL i 14 06 31.7
CLL i 14 06 41.2
MAW Mawson 78.63 192 eP P 14 06 17.1 +2.2
comp=Z,16nm,1.0s,mb4.9
MAW Mawson 78.63 192 P P 14 06 14.4 -0.5
MAW pmax pmax
comp=Z,6.0nm,0.7s
MAW Mawson 78.63 192 P P 14 06 14.4 -0.5
comp=Z,5.7nm,0.7s,mb4.6,baz=9.1,slow=9.3,SNR=4.4
NKC Novy Kostel 78.72 320 eP P 14 06 17.6 +1.9
NKC AMS AMS 14 48 10.0
comp=Z,600nm,18.0s
WTTA Wattenberg 79.23 317⇑iP P 14 06 17.4 -1.2
comp=Z,29nm,1.2s,mb5.1
WTTA Wattenberg 79.23 317⇑iP P 14 06 17.4 -1.2
WTTA pmax pmax
comp=Z,29nm,1.2s,mb5.1
MOX Moxa 79.26 320 eP P 14 06 20.0 +1.3
GRA1 Grafenberg Arr 79.51 319 eP P 14 06 21.8 +1.8
comp=Z,21nm,1.0s,mb5.0
GRF Grafenberg Arr 79.51 319 eP P 14 06 21.8 +1.8
GRF pmax pmax
comp=Z,21nm,1.0s,mb5.0
GRF Grafenberg Arr 79.51 319 eP P 14 06 21.8 +1.8
GRF pmax pmax
comp=Z,21nm,1.0s,mb5.0
GRF Grafenberg Arr 79.51 319 eP P 14 06 21.8 +1.8
comp=Z,21nm,1.0s,mb5.0
SQTA Sankt Quirin 79.53 317⇑iP P 14 06 20.2 0.0
comp=Z,8.2nm,1.0s,mb4.6
SQTA Sankt Quirin 79.53 317⇑iP P 14 06 20.2 0.0
SQTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MOTA Moosalm 79.60 317⇑iP P 14 06 20.9 +0.4
comp=Z,10nm,1.0s,mb4.7
MOTA Moosalm 79.60 317⇑iP P 14 06 20.9 +0.4
MOTA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
NB2 NORSAR Subarra 79.74 331 P P 14 06 19.4 -1.6
comp=Z,7.5nm,0.7s,mb4.7,baz=92,slow=5.8
NB2 NORSAR Subarra 79.74 331 P P 14 06 19.4 -1.6
NB2 pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
NOA NORSAR Array B 79.74 331 P P 14 06 19.8 -1.2
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA NORSAR Array B 79.74 331 P P 14 06 19.8 -1.2
comp=Z,6.4nm,0.7s,mb4.7,baz=92,slow=5.7,SNR=13
DAVA Damuels 80.43 317⇑iP P 14 06 27.0 +2.0
comp=Z,34nm,1.1s,mb5.2
SUR Sutherland 80.50 235 eP P 14 06 27.1 +1.4
comp=Z,46nm,1.4s,mb5.2
LPG La Plagne 82.67 315 eP P 14 06 38.1 +1.4
comp=Z,32nm,0.7s,mb5.1
LPG La Plagne 82.67 315 eP P 14 06 38.1 +1.4
LPG pmax pmax
comp=Z,16nm,0.7s,mb5.2
BNI Bardonecchia 82.75 314 eP P 14 06 38.9 +1.8
BNI pmax pmax
comp=Z,20nm,0.8s,mb5.2
BNI Bardonecchia 82.75 314 eP P 14 06 38.9 +1.8
comp=Z,20nm,0.8s,mb5.2
SYO Syowa Base 85.52 197 ⇓P P 14 06 52.0 +1.5
SYO Syowa Base 85.52 197 ⇓PcP PcP 14 06 58.4 +4.5
TNA Tin City 86.04 24 eP P 14 06 53.4 +0.3
EKA Eskdalemuir Ar 87.75 325 P P 14 07 01.1 -0.5
EKA pmax pmax
comp=Z,9.0nm,1.0s
EKA Eskdalemuir Ar 87.75 325 P P 14 07 01.1 -0.5
comp=Z,8.7nm,1.0s,mb5.0,baz=100,slow=5.1,SNR=8.5
ESDC Sonseca Array 91.29 310 P P 14 07 19.4 +0.7
comp=Z,0.8nm,0.4s,mb4.4,baz=53,slow=3.6,SNR=5.3
IMA Indian Mountai 91.50 22 eP P 14 07 20.5 +1.4
VNDA Vanda 92.97 168 P P 14 07 26.0 +0.4
VNDA pmax pmax
comp=Z,2.0nm,0.8s
VNDA Vanda 92.97 168 P P 14 07 26.0 +0.3
comp=Z,1.5nm,0.8s,mb4.5,baz=306,slow=3.7,SNR=4.6
VNDA Vanda 92.97 168 P P 14 07 23.5 -2.1
comp=Z,4.0nm,1.0s,mb4.8
MCK McKinley 94.33 23 eP P 14 07 31.4 -0.6
MCK pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
MCK McKinley 94.33 23 eP P 14 07 31.4 -0.6
comp=Z,3.5nm,0.9s,mb4.8
ILAR Eielson Array 94.62 22 P P 14 07 33.6 +0.3
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 94.62 22 P P 14 07 33.5 +0.2
comp=Z,0.7nm,0.7s,mb4.2,baz=301,slow=5.1,SNR=4.3
YKA Yellowknife Ar 106.32 14 PP PP 14 12 52.1 -1.3
comp=Z,0.6nm,0.8s,baz=334,slow=7.8,SNR=6.3
YFT Old Faithful 123.12 21 ePKPdf PKPdf 14 13 09.6 +1.0
SNOW Snow King Moun 124.01 22 ePKPdf PKPdf 14 13 12.5 +2.2
NVAR Mina Array Bea 124.78 31 PKP PKPdf 14 13 14.3 +2.3
comp=Z,1.9nm,0.8s,baz=262,slow=3.1,SNR=9.6
NVAR Mina Array Bea 124.78 31 PKP PKPdf 14 13 14.3 +2.3
PDAR Pinedale Array 125.05 21 PKP PKPdf 14 13 14.0 +1.7
comp=Z,1.1nm,0.8s,baz=32,slow=1.1,SNR=8.2
SADO Sadowa 127.20 354 PKP PKPdf 14 13 19.9 +3.5
comp=Z,2.0nm,0.5s,baz=317,slow=10,SNR=2.8
SADO Sadowa 127.20 354 PKP PKPdf 14 13 19.9 +3.5
MSU Marysvale 127.62 26 ePKIKP PKPdf 14 13 20.7 +3.3
ANMO Albuquerque 133.04 23 PKIKP PKPdf 14 13 32.2 +4.4
ANMO pmax pmax
comp=Z,2.0nm,0.7s
ANMO Albuquerque 133.04 23 PKP PKPdf 14 13 32.2 +4.4
comp=Z,1.7nm,0.7s,baz=141,slow=2.2,SNR=4.5
GDL2 Guadalupe Moun 136.29 23 ePKPpre 14 13 32.4
TXAR Lajitas Array 139.10 24 PKhKP 14 13 38.3
comp=Z,0.3nm,0.5s,baz=334,slow=1.6,SNR=2.9
JCT Junction City 139.47 19 ePKIKP PKPdf 14 13 42.0 +2.3
PLCA Paso Flores 144.67 200 PKIKP PKPdf 14 13 49.6 +1.1
PLCA pmax pmax
comp=Z,14nm,1.1s
PLCA Paso Flores 144.67 200 PKP PKPdf 14 13 49.6 +1.1
comp=Z,14nm,1.1s,baz=188,slow=1.9,SNR=16
PLCA Paso Flores 144.67 200 ePKPdf PKPdf 14 13 48.8 +0.3
TEIG Tepich 151.89 5 ePKPbc PKPdf 14 14 09.9 +9.2

*IDC **27** 13:57:02.2±0.4, 8.19N×94.25E, mb4.8/26, mb1 4.9/27, mb1mx4.9/28, mbtmp4.8/27, ML4.9/1, MS5.0/9, Ms1 5.1/9, ms1mx4.7/17, Error ellipse: s-maj=20.8km s-min=11.0km az=45.0*

*MOS **27** 13:57:05.5±1.1, 8.06N×94.19E, h33^{km}, mb5.3/68, MS4.9/11, Error ellipse: s-maj=9.0km s-min=5.0km az=118.5*

*BJI **27** 13:57:05.4, 7.72N×93.98E, h48^{km}, mB5.5, mb4.8, Ms5.6, Msz5.3*

*HRVD **27** 13:57:06.4±0.2, 7.97N×94.16E, h16^{km}±1^{km}, MW5.5/62, Centroid moment Tensor Solution. LP body waves: s39,c60;Mantle waves: s62,c130; Half duration: 1^{s}4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.11±.05; $M_{\theta\theta}$-1.38±.05; $M_{\phi\phi}$1.49±.05; $M_{r\theta}$-0.87±.15; $M_{\theta\phi}$1.06±.04; $M_{\phi r}$-0.02±.12; Best double couple: $M_0$1.981×10^{17} NP1: ϕ_s155°, δ67°, λ-170°. NP2: ϕ_s62°, δ81°, λ-23°. Principal axes: T 1.886, Plg9°, Azm110°; N .193, Plg65°, Azm221°; P -2.075, Plg23°, Azm16°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **27** 13:57:06.5±0.2, 7.99N×94.16E, h30^{km}, mb5.2/74, MS5.0/4 Error ellipse: s-maj=5.8km s-min=4.5km az=50.0*

ISC 27 13:57:02.8±1.2, **8.01N**±0.03×**94.18E**±0.03, **h16**^{km}±8^{km}, **h19**^{km}±3.1^{km}**:pP-P, n282,** σ**1^{s}09**/281, **mb5.1**/102, **MS5.2**/19, **16C-15D, Nicobar Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PBA Port Blair 3.89 339 eP Pn 13 58 00.8 -2.6
PBA eSG Sn 13 59 01.3 +12
CM31 Chiang Mai Arr 11.37 24 eP P 13 59 49.1 +1.2
73nm,0.9s
CMAR Chiang Mai Arr 11.37 24 P P 13 59 48.9 +1.0
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR MLR MLR
comp=Z,8μm,19.7s
CMAR Chiang Mai Arr 11.37 24 Pn P 13 59 48.9 +0.9
comp=Z,2.4nm,0.3s,baz=212,slow=14,SNR=35
CMAR LR LR 14 04 24.0
comp=Z,8μm,19.7s,baz=210,slow=40
PALK Pallekele 13.38 268 eP P 14 00 15.0 +0.2
comp=Z,75nm,1.2s
MDRS Chennai 14.59 291 e P 14 00 32.0 +1.2
KOD Kodaikanal 16.65 279 eP P 14 00 59.3 +1.9
KOD e 14 01 07.1
comp=Z,140nm,1.7s
KOD eS S 14 04 04.9 +3.8
SHL Shillong 17.60 353 eP P 14 01 09.7 +0.5
SHL e S 14 04 26.6 +3.8
HYB Hyderabad 17.87 303 eP P 14 01 12.0 -0.6
HYB pmax pmax
comp=Z,86nm,1.2s
HYB Hyderabad 17.87 303 eP P 14 01 12.0 -0.6
comp=Z,86nm,1.2s
HYB Hyderabad 17.87 303 i P P 14 01 12.0 -0.6
comp=Z,86nm,1.2s
HYB e 14 04 21.0
HYB eS S 14 04 31.0 +2.0
QIZ Qiongzhong 18.74 53 P P 14 01 25.5 +2.1
QIZ eS S 14 04 51.8 +3.1
QIZ LR LR
comp=N,26μm,13.8s
QIZ LR LR
comp=Z,8μm,15.3s
QIZ Qiongzhong 18.74 53 eP P 14 01 25.6 +2.2
comp=Z,226nm,1.3s
KMI Kunming 18.88 25 ⇑P P 14 01 29.0 +4.0
KMI S S 14 04 59.9 +8.1
KMI pmax pmax
comp=Z,70nm,1.7s
KMI Kunming 18.88 25 ⇑P P 14 01 29.0 +4.0
comp=Z,70nm,1.7s
KMI pP 14 01 34.7
KMI sP 14 01 38.1
KMI PP PP 14 01 44.6 +3.1
KMI S S 14 04 59.9 +8.1
KMI sS 14 05 07.9
KMI SS SS 14 05 22.8 +5.5
NGP Nagpur 19.60 313 e P 14 01 42.5 +9.1
LATR Latur 20.01 303 e PcP 14 05 52.7 -0.8
COCO West Island 20.24 172 P P 14 01 40.0 -0.4
comp=Z,203nm,0.9s
JIRN Jiri 20.96 340 eP P 14 01 47.6 -0.1
PKI Pulchoki 21.16 338 eP P 14 01 48.0 -1.7
comp=Z,751nm,1.4s,mb5.8
GOA Goa 21.26 292 eP P 14 01 56.1 +5.3
GOA e 14 02 01.9
comp=Z,93nm,1.3s
GOA eS S 14 05 46.8 +5.3
GUN Gumba 21.30 339 eP P 14 01 51.1 -0.1
DMN Daman 21.30 337 eP P 14 01 50.3 -0.9
comp=Z,374nm,0.9s,mb5.7
KKN Kakani 21.40 338 eP P 14 01 51.7 -0.5
KAD Karad 21.57 297 e P 14 01 52.8 -1.2
LSA Lhasa 21.77 353 eP P 14 01 55.4 -0.5
LSA pmax pmax
comp=Z,114nm,0.8s,mb5.3
LSA Lhasa 21.77 353 eP P 14 01 55.4 -0.5
comp=Z,114nm,0.8s,mb5.3
GKN Gorkha 21.84 337 eP P 14 01 55.8 -0.8
KOLN Koldanda 22.06 334 eP P 14 01 59.1 +0.3
comp=Z,340nm,1.0s,mb5.7
BOM Bombay 23.40 300 eP P 14 02 18.7 +6.5
BOM e 14 02 22.0
comp=Z,136nm,1.9s
BOM i 14 03 52.3
BOM e 14 05 42.8
NDI New Delhi 26.05 324 eP P 14 02 42.2 +4.8
NDI e 14 02 49.6
comp=Z,118nm,1.6s
NDI eS S 14 07 06.5 +1.0
ENH Enshi 26.39 31 eP P 14 02 40.9 +0.3
comp=Z,71nm,1.0s,mb5.2
TGY Tagaytay City 26.94 75 LR LR 14 12 55.8
comp=Z,3μm,18.1s,MS4.9,baz=18,slow=36
SMLA Simla 27.95 328 e P 14 03 10.5 +16
SMLA e 14 03 20.2
comp=Z,68nm,0.8s
WHN Wuhan 29.31 37 ⇑P P 14 03 08.0 +1.0
LZH Lanzhou 29.31 16 eP P 14 03 07.5 +0.5
LZH AP pP 14 03 16.3 +4.7
LZH PP PP 14 04 03.5 +1.3
LZH eS S 14 07 58.5 +0.3
LZH SS SS 14 09 32.8 +3.2
LZH AMB AMB
comp=Z,59nm,1.7s,mb5.0
LZH AMB AMB
comp=Z,203nm,4.0s
LZH LR LR
comp=E,3μm,11.5s
LZH LR LR
comp=Z,3μm,13.0s,MS5.2
LZH Lanzhou 29.31 16 eP P 14 03 07.5 +0.5
LZH *PP pP 14 03 16.3 +4.7
LZH *SP sP 14 03 20.6 +6.9
LZH 14 04 03.5
LZH eS S 14 07 58.5 +0.3

LZH *SS 14 08 14.5
LZH SS SS 14 09 32.8 +3.2
LZH pmax pmax
comp=Z,59nm,1.7s,mb5.0
LZH MLR MLR
comp=Z,3µm,13.0s,MS5.2
LZH Lanzhou 29.31 16 *eP* **P 14 03 07.5 +0.5**
comp=Z,59nm,1.7s,mb5.0
LZH pP pP 14 03 16.3 +4.7
LZH sP sP 14 03 20.6 +6.9
LZH PP PP 14 04 03.5 +1.3
LZH *eS* **S 14 07 58.5 +0.3**
LZH sS 14 08 14.5
LZH SS SS 14 09 32.8 +3.2
LZH LR LR
comp=Z,3µm,13.0s,MS5.2
NJ2 Nanjing 33.15 40 *eP* **P 14 03 40.5 -0.3**
NJ2 AP pP 14 03 50.3 +4.9
NJ2 PP PP 14 04 52.0 +0.1
NJ2 S **S 14 08 56.0 -2.4**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
NJ2 AMB AMB
comp=Z,2µm,5.6s
NJ2 LR LR
comp=Z,8µm,11.6s,MS5.7
TIA Tai'an 35.02 33 *eP* **P 14 03 57.5 +0.6**
TIA S **S 14 09 25.0 -2.4**
TIA LR LR
comp=E,5µm,13.0s
WMQ Urumqi 36.12 352 *eP* **P 14 04 07.5 +1.3**
WMQ AP pP 14 04 17.3 +6.4
WMQ XP sP 14 04 21.0 +8.1
WMQ PP PP 14 05 30.5 +1.9
WMQ PCP PcP 14 06 32.8 +0.5
WMQ S **S 14 09 44.8 +0.5**
WMQ AMB AMB
comp=Z,211nm,1.3s,mb5.9
WMQ AMB AMB
comp=Z,1µm,5.3s
WMQ LR LR
comp=N,3µm,18.0s,MS5.2
WMQ LR LR
comp=E,3µm,18.1s,MS5.2
WMQ LR LR
comp=Z,4µm,18.2s,MS5.3
BJT Baijiatuau 37.45 28 *eP* **P 14 04 18.6 +1.2**
BJT pmax pmax
comp=Z,30nm,0.9s
BJT Baijiatuau 37.45 28 *eP* **P 14 04 18.6 +1.2**
comp=Z,30nm,0.9s,mb5.1
BJI Beijing 37.47 28 P **P 14 04 19.2 +1.7**
BJI pmax pmax
comp=Z,19nm,1.8s,mb4.6
BJI Beijing 37.47 28 P **P 14 04 19.2 +1.7**
comp=Z,19nm,1.8s,mb4.6
MBWA Marble Bar 38.34 140 *eP* **P 14 04 23.4 -1.6**
comp=Z,76nm,1.4s,mb5.2
AAK Ala-Archa 38.60 337⇑ *eP* **P 14 04 27.2 +0.2**
AAK pmax pmax
comp=Z,18nm,1.5s,mb4.6
AAK Ala-Archa 38.60 337 *eP* **P 14 04 26.6 -0.4**
comp=Z,26nm,1.0s,mb4.9
MKAR Makanchi Array 39.97 347 *i P* **P 14 04 37.2 -1.1**
SONM Songino Array 41.02 13 P **P 14 04 46.8 -0.2**
comp=Z,13nm,1.3s,mb4.4,baz=207,slow=8.3,SNR=4.3
SONM PcP PcP 14 06 47.5 0.0
comp=Z,2.6nm,0.7s,baz=210,slow=2.6,SNR=3.4
ULN Ulaanbaatar 41.20 13 *i P* **P 14 04 49.4 +1.0**
ULN Ulaanbaatar 41.20 13 *eP* **P 14 04 49.3 +0.9**
comp=Z,13nm,1.1s,mb4.5
KS15 Wonju Array Si 42.31 41 *eP* **P 14 04 56.5 -1.2**
SNY Shenyang 42.54 33⇑P **P 14 05 01.0 +1.5**
SNY S **S 14 11 22.5 +1.5**
SNY AMB AMB
comp=Z,20nm,1.4s,mb4.7
SNY LR LR
comp=N,3µm,18.4s
SNY LR LR
comp=Z,3µm,15.5s,MS5.3
TLY Talaya 44.23 8 *eP* **P 14 05 11.0 -2.1**
TLY *eS* **S 14 11 35.6 -10**
TLY pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
TLY MLR MLR
comp=Z,2µm,23.0s,MS4.9
TLY Talaya 44.23 8 P **P 14 05 11.1 -2.0**
comp=Z,3.6nm,0.6s,mb4.3
KURK Kurchatov 44.49 346 P **P 14 05 14.3 -1.0**
KURK pmax pmax
comp=Z,19nm,1.0s,mb4.8
KURK Kurchatov 44.49 346 *eP* **P 14 05 13.9 -1.4**
comp=Z,85nm,1.3s,mb5.3
MUN Mundaring 44.98 153 *eP* **P 14 05 21.3 +1.8**
comp=Z,28nm,0.7s,mb5.2
MUN Mundaring 44.98 153 *eP* **P 14 05 21.3 +1.8**
MUN pmax pmax
comp=Z,28nm,0.7s,mb5.2
KLBR Kellerberrin 45.37 151 *eP* **P 14 05 22.5 -0.1**
comp=Z,160nm,0.6s,mb6.0
NWAO Narrogin (SRO) 46.25 153 *eP* **P 14 05 28.4 -1.1**
NWAO pmax pmax
comp=Z,48nm,0.9s
NWAO Narrogin (SRO) 46.25 153 P **P 14 05 30.2 +0.8**
comp=Z,28nm,0.8s,mb5.2,baz=317,slow=8.6,SNR=6.7
NWAO LR LR 14 23 36.2
comp=Z,8.4nm,19.3s,baz=290,slow=34
NWAO Narrogin (SRO) 46.25 153 *eP* **P 14 05 28.4 -1.0**
comp=Z,48nm,0.9s,mb5.4
HIA Hailar 46.38 23 *eP* **P 14 05 30.4 +0.1**
HIA pmax pmax
comp=Z,42nm,1.3s
HIA Hailar 46.38 23 *eP* **P 14 05 30.4 +0.1**
comp=Z,42nm,1.3s,mb5.2
ZAL Zalesovo 46.42 352 *i P* **P 14 05 31.8 +1.3**
ZAL pmax pmax
comp=Z,14nm,0.6s
ZAL Zalesovo 46.42 352 P **P 14 05 29.8 -0.7**
comp=Z,14nm,0.6s,mb5.1,baz=295,slow=7.8,SNR=9.4
ZAL LR LR 14 27 36.4
comp=Z,2µm,19.3s,MS5.0,baz=290,slow=40
ZAL Zalesovo 46.42 352 P **P 14 05 29.8 -0.8**
ZAL LR LR 14 27 36.4
NVS Novosibirsk 47.52 351 *i P* **P 14 05 37.0 -2.2**
NVS *i S* **S 14 12 29.6 -2.8**
NVS pmax pmax
comp=N,33nm,1.4s
NVS pmax pmax
comp=E,17nm,1.4s
NVS pmax pmax
comp=Z,34nm,1.4s,mb5.2
NVS smax
comp=N,12nm,1.2s
NVS smax
comp=E,33nm,1.7s
MDJ Mudanjiang 47.68 34 P **P 14 05 41.0 +0.4**
MDJ AP pP 14 05 50.5 +5.1
MDJ XP sP 14 05 55.0 +7.7
MDJ PP PP 14 07 30.3 -1.4
MDJ S **S 14 12 35.8 +1.0**
MDJ AMB AMB
comp=Z,16nm,1.3s,mb4.9
MDJ AMB AMB
comp=Z,296nm,4.8s
MDJ LR LR
comp=N,2µm,13.1s,MS5.4
MDJ LR LR
comp=E,2µm,16.4s,MS5.4
MDJ LR LR
comp=Z,3µm,15.6s,MS5.3
MDJ Mudanjiang 47.68 34 *eP* **P 14 05 41.1 +0.5**
comp=Z,24nm,1.2s,mb5.1
VLA Vladivostok 48.09 37 *eP* **P 14 05 45.0 +1.1**
VLA *e* 14 07 31.0
VLA MLR MLR
comp=E,3µm,12.0s,MS5.5
VLA MLR MLR
comp=Z,4µm,12.0s,MS5.6
VLA MLR MLR
comp=N,1µm,10.0s,MS5.5
WRA Warramunga Arr 48.31 126 P **P 14 05 44.7 -1.1**
WRA 14 07 14.3
WRA pmax pmax
comp=Z,12nm,0.7s
WRA pmax pmax
comp=Z,3.0nm,0.8s

WRA Warramunga Arr 48.31 126 P **P 14 05 44.7 -1.1**
comp=Z,12nm,0.7s,mb5.0,baz=305,slow=8.5,SNR=19
WRA PcP PcP 14 07 14.3 +1.4
comp=Z,3.2nm,0.8s,baz=316,slow=3.1,SNR=3.6
WRAB Tennant Creek 48.31 126 *eP* **P 14 05 45.0 -0.8**
WRAB pmax pmax
comp=Z,48nm,1.0s,mb5.5
WRAB Tennant Creek 48.31 126 *eP* **P 14 05 45.0 -0.9**
comp=Z,48nm,1.0s,mb5.5
WB2 Warramunga Arr 48.32 126 *eP* **P 14 05 46.8 +0.9**
BVA0 Borovoye Array 48.88 341 *i P* **P 14 05 49.0 -0.7**
BVA0 pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
BVAR Borovoye Array 48.88 341 P **P 14 05 47.7 -2.1**
comp=Z,3.2nm,0.7s,mb4.5,baz=144,slow=9.1,SNR=5.1
BVAR PcP PcP 14 07 13.9 -0.6
comp=Z,3.4nm,0.7s,baz=156,slow=2.2,SNR=5.4
BRVK Borovoye 48.94 341 *eP* **P 14 05 47.2 -3.0**
BRVK pmax pmax
comp=Z,12nm,0.8s,mb5.0
BRVK Borovoye 48.94 341 *eP* **P 14 05 47.2 -3.0**
comp=Z,12nm,0.8s,mb5.0
MAJO Matsushiro 49.04 48 *eP* **P 14 05 52.0 +0.7**
MAJO pmax pmax
comp=Z,79nm,1.8s,mb5.4
MAJO Matsushiro 49.04 48 *eP* **P 14 05 52.0 +0.7**
comp=Z,80nm,1.8s,mb5.5
MAT Matsushiro 49.04 48 PCP PcP 14 07 16.1 +0.7
RAYN Ar Rayn 49.07 294 P **P 14 05 53.1 +1.5**
comp=Z,373nm,0.8s,SNR=29
CBIJ Chichi jima 49.20 61 P **P 14 05 52.6 0.0**
comp=Z,75nm,0.8s,mb5.8,baz=118,slow=21,SNR=2.8
CHKZ Chkalovo 49.36 342 P **P 14 05 51.9 -1.6**
CHKZ pmax pmax
comp=Z,22nm,0.8s,mb5.2
CHKZ Chkalovo 49.36 342 *eP* **P 14 05 51.7 -1.7**
comp=Z,50nm,0.9s,mb5.5
ASPA Alice Springs 49.97 130 *eP* **P 14 05 57.0 -1.6**
ASAR Alice Springs 49.97 130 P **P 14 05 58.0 -0.6**
comp=Z,9.0nm,1.0s,mb4.8,baz=306,slow=7.7,SNR=7.6
ASAR PcP PcP 14 07 19.1 +0.2
comp=Z,5.6nm,0.8s,baz=306,slow=3.9,SNR=6.0
ASAR LR LR 14 28 38.3
comp=Z,1µm,19.1s,MS5.0,baz=294,slow=38
FORT Forrest 50.42 141 *eP* **P 14 06 00.8 -1.1**
comp=Z,79nm,0.7s,mb5.8
BOD Bodaibo 52.01 13 *eP* **P 14 06 12.9 -0.7**
GNI Garni 54.37 314 P **P 14 06 32.5 +1.2**
GNI pmax pmax
comp=Z,10.0nm,0.8s
GNI Garni 54.37 314 P **P 14 06 32.5 +1.2**
comp=Z,10nm,0.8s,mb4.8,baz=346,slow=20,SNR=4.8
GNI Garni 54.37 314 *eP* **P 14 06 31.8 +0.5**
comp=Z,27nm,0.9s,mb5.2
SVE Sverdlovsk 55.29 338 *eP* **P 14 06 34.0 -3.8**
SVE pmax pmax
comp=Z,80nm,2.0s,mb5.4
SVE MLR MLR
comp=N,1µm,20.0s,MS5.2
SVE MLR MLR
comp=E,2µm,20.0s,MS5.2
SVE MLR MLR
comp=Z,2µm,20.0s,MS5.3
PMG Port Moresby 55.53 107 *eP* **P 14 06 40.0 -0.2**
PMG pmax pmax
comp=Z,52nm,1.0s
PMG Port Moresby 55.53 107 P **P 14 06 41.3 +1.2**
comp=Z,22nm,0.6s,mb5.3,baz=287,slow=8.2,SNR=9.4
PMG Port Moresby 55.53 107 *eP* **P 14 06 40.0 -0.2**
comp=Z,52nm,1.0s,mb5.5
ARU Arti 55.78 337⇓ *i P* **P 14 06 35.6 -5.8**
ARU *e* 14 07 32.6
ARU *eS* **S 14 14 18.1 -7.7**
ARU *eSS* SS 14 18 08.3 -3.2
ARU pmax pmax
comp=Z,26nm,1.1s,mb5.2
YSS Yuzh-Sakhalins 56.66 38 *eP* **P 14 06 49.0 +1.2**
YSS *e* 14 06 57.0
YSS Yuzh-Sakhalins 56.66 38 *eP* **P 14 06 48.8 +1.0**
comp=Z,39nm,1.2s,mb5.3
KIV Kislovodsk 57.24 318⇓ *eP* **P 14 06 51.3 -0.7**
KIV pmax pmax
comp=Z,27nm,1.2s,mb5.2
KIV Kislovodsk 57.24 318 *eP* **P 14 06 51.2 -0.8**
comp=Z,52nm,0.9s,mb5.6
KMBO Kilima Mbogo 57.48 264 P **P 14 06 56.3 +2.3**
comp=Z,19nm,0.9s,mb5.1,baz=52,slow=10.0,SNR=15
KMBO LR LR 14 26 32.4
comp=Z,2µm,21.9s,MS5.2,baz=90,slow=31
ASF Jabal al Asfar 58.18 303 P **P 14 06 59.1 +0.4**
comp=Z,4.2nm,0.6s,mb4.7,baz=326,slow=4.5,SNR=4.5
ASF LR LR 14 35 12.1
comp=Z,1µm,19.1s,MS5.0,baz=141,slow=39
ASF Jabal al Asfar 58.18 303 P **P 14 06 59.1 +0.4**
ASF LR LR 14 35 12.1
CTA Charters Tower 58.34 119 P **P 14 06 57.9 -2.1**
CTA pmax pmax
comp=Z,6.0nm,1.1s
CTA MLR MLR
comp=Z,2µm,21.9s
CTA Charters Tower 58.34 119 P **P 14 06 57.9 -2.1**
comp=Z,5.9nm,1.1s,mb4.5,baz=35,slow=11,SNR=3.1
CTA LR LR 14 32 46.4
comp=Z,2µm,21.9s,MS5.1,baz=286,slow=37
CTAO Charters Tower 58.34 119 *eP* **P 14 06 57.1 -2.9**
CTAO pmax pmax
comp=Z,30nm,1.3s,mb5.2
CTAO Charters Tower 58.34 119 *eP* **P 14 06 57.1 -2.8**
comp=Z,30nm,1.3s,mb5.2
MALT Malatya 58.41 310 *eP* **P 14 06 59.5 -0.7**
MALT pmax pmax
comp=Z,11nm,1.0s,mb4.8
MALT Malatya 58.41 310 *eP* **P 14 06 59.5 -0.7**
comp=Z,11nm,1.0s,mb4.8
SOKR Solikamsk 58.69 339⇓ *i P* **P 14 07 00.3 -1.6**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.3
SOC Sochi 59.11 316 *eP* **P 14 07 01.0 -4.1**
SOC *e* 14 07 51.1
SOC *eS* **S 14 15 09.2 -0.6**
SOC pmax pmax
comp=Z,29nm,0.7s,mb5.4
SOC pmax pmax
comp=N,26nm,0.6s
SOC pmax pmax
comp=E,6.0nm,0.4s
SOC MLR MLR
comp=Z,1µm,21.0s,MS5.0
SOC MLR MLR
comp=N,1µm,22.0s,MS5.1
SOC MLR MLR
comp=E,1µm,22.0s,MS5.1
EIL Elat 59.39 300 P **P 14 07 06.5 -0.7**
comp=E,2.8nm,0.4s,mb4.6,baz=102,slow=11,SNR=4.4
EIL Elat 59.39 300 *eP* **P 14 07 06.5 -0.7**
comp=E,57nm,1.5s,mb5.4
YAK Yakutsk 59.86 18 *eP* **P 14 07 08.7 -1.2**
YAK *e* 14 07 22.8
YAK pmax pmax
comp=Z,16nm,0.9s,mb5.0
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=Z,20nm,0.9s,mb5.2
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK Yakutsk 59.86 18 *eP* **P 14 07 07.0 -3.0**
comp=E,71nm,0.9s,mb5.7
STKA Stephens Creek 60.17 134 *eP* **P 14 07 12.9 +0.4**
comp=E,7.6nm,0.9s,mb4.7
STKA Stephens Creek 60.17 134 P **P 14 07 11.9 -0.6**
comp=E,12nm,1.0s,mb4.9,baz=326,slow=6.4,SNR=6.5
BRTR Keskin Array B 62.37 311 P **P 14 07 25.1 -2.2**
BRTR pmax pmax
comp=Z,5.0nm,0.6s
BRTR Keskin Array B 62.37 311 P **P 14 07 25.1 -2.2**
comp=Z,5.1nm,0.6s,mb4.8,baz=131,slow=6.6,SNR=11
VOR Voronezh 62.49 325 P **P 14 07 28.0 +0.1**
VOR pmax pmax
comp=Z,80nm,1.5s,mb5.6
MBAR Mbarara 63.81 265 *eP* **P 14 07 37.6 +0.3**
MBAR pmax pmax
comp=Z,56nm,1.4s,mb5.4

MBAR Mbarara 63.81 265 *eP* **P 14 07 37.6 +0.4**
comp=Z,56nm,1.4s,mb5.4
MOS Moscow 64.99 329 *eP* **P 14 07 42.1 -2.1**
MOS pmax pmax
comp=Z,98nm,1.7s,mb5.6
OBN Obninsk 65.29 328 *d i P* **P 14 07 42.9 -3.2**
OBN *e* 14 08 17.5
OBN *eS* S 14 16 27.8 +0.3
OBN pmax pmax
comp=Z,24nm,0.7s,mb5.3
OBN Obninsk 65.29 328 *eP* **P 14 07 40.9 -5.2**
comp=Z,93nm,1.2s,mb5.7
MA2 Magadan 66.63 28 *eP* **P 14 07 55.2 +0.6**
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.2
MA2 Magadan 66.63 28 *eP* **P 14 07 54.7 0.0**
comp=Z,35nm,1.0s,mb5.3
TIXI Tiksi 67.09 11⇑ *eP* **P 14 07 56.1 -1.3**
AKASG Malin Array Be 68.07 322 P **P 14 08 01.4 -2.5**
AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKASG Malin Array Be 68.07 322 P **P 14 08 01.4 -2.5**
comp=Z,8.3nm,0.8s,mb4.8,baz=89,slow=4.9,SNR=9.8
IDI Anoyia 68.52 305 P **P 14 08 06.5 -0.5**
comp=Z,23nm,0.7s,mb5.2,baz=84,slow=12,SNR=9.2
VRI Vrincioaia 68.63 316⇓ P **P 14 08 06.9 -0.6**
MLR Muntele Rosu 69.10 316⇑ P **P 14 08 10.3 -0.1**
MLR Muntele Rosu 69.10 316 P **P 14 08 10.2 -0.1**
comp=Z,21nm,1.0s,mb5.0,baz=331,slow=3.1,SNR=7.0
LSZ Lusaka 69.35 250 *eP* **P 14 08 11.7 -0.7**
LSZ pmax pmax
comp=Z,20nm,1.2s,mb4.9
LSZ Lusaka 69.35 250 *eP* **P 14 08 11.7 -0.7**
comp=Z,20nm,1.2s,mb4.9
ZAPS Zavoj/Pirot 71.14 313⇓ *i P* **P 14 08 20.8 -2.0**
APA Apatity 71.74 339⇑ *i P* **P 14 08 25.0 -1.0**
APA pmax pmax
comp=Z,29nm,1.0s,mb5.2
KWP Kalwaria 71.95 320 *eP* **P 14 08 25.4 -2.2**
KWP pmax pmax
comp=Z,51nm,1.1s,mb5.4
KWP Kalwaria 71.95 320 *eP* **P 14 08 25.4 -2.2**
comp=Z,51nm,1.1s,mb5.4
KOLS Kolonicke sedl 72.13 319 *eP* **P 14 08 29.3 +0.7**
KOLS *e* pP 14 08 36.0 +2.4
FINES FINESS Array B 72.61 332 P **P 14 08 30.2 -1.0**
FINES pmax pmax
comp=Z,16nm,0.8s
FINES FINESS Array B 72.61 332 P **P 14 08 30.1 -1.1**
comp=Z,16nm,0.8s,mb5.0,baz=108,slow=6.0,SNR=16
CRVS Cervenica-Dubn 72.65 319 *eP* **P 14 08 33.1 +1.3**
KAF Kangasniemi 72.69 333 *ep* **P 14 08 30.4 -1.3**
comp=Z,25nm,1.0s,mb5.1,baz=4.6,slow=3.9
KAF Kangasniemi 72.69 333 *eP* **P 14 08 30.4 -1.3**
KAF pmax pmax
comp=Z,25nm,1.0s,mb5.1
PSZ Piszkesteto 73.57 318 *eP* **P 14 08 40.1 +3.0**
PSZ pmax pmax
comp=Z,21nm,1.1s,mb5.0
PSZ Piszkesteto 73.57 318 *eP* **P 14 08 40.1 +3.0**
comp=Z,21nm,1.1s,mb5.0
OJC Ojcow 73.90 320 *eP* **P 14 08 38.8 -0.2**
VYHS Vyhne 74.33 318 *eP* **P 14 08 40.3 -1.2**
VYHS *i* pP 14 08 45.6 -0.9
KEV Kevo 74.72 341 *ep* **P 14 08 43.6 +0.2**
comp=Z,33nm,1.3s,mb5.1
KEV Kevo 74.72 341 *eP* **P 14 08 43.6 +0.2**
KEV pmax pmax
comp=Z,33nm,1.3s,mb5.1
OKC Ostrava-Krasne 74.92 319 *eP* **P 14 08 45.6 +0.7**
CASY Casey 75.06 173 *eP* **P 14 08 45.4 0.0**
comp=Z,30nm,1.2s,mb5.1
ARCES ARCESS Array B 75.15 340 P **P 14 08 45.3 -0.6**
ARCES pmax pmax
comp=Z,5.0nm,0.6s
ARCES ARCESS Array B 75.15 340 P **P 14 08 45.3 -0.5**
comp=Z,5.4nm,0.6s,mb4.6,baz=97,slow=4.1,SNR=13
MORC Moravsky Berou 75.30 319 *eP* **P 14 08 46.9 -0.2**
MORC pmax pmax
comp=Z,46nm,1.2s,mb5.3
MORC Moravsky Berou 75.30 319 *eP* **P 14 08 46.9 -0.2**
comp=Z,46nm,1.2s,mb5.3
ZST Bratislava 75.46 318 *eP* **P 14 08 48.6 +0.6**
ZST *e* pP 14 08 53.1 +0.1
BOSA Boshof 75.69 238 *eP* **P 14 08 49.7 0.0**
BOSA pmax pmax
comp=Z,24nm,1.2s,mb5.0
BOSA Boshof 75.69 238 *eP* **P 14 08 49.7 0.0**
comp=Z,24nm,1.2s,mb5.0
BILL Bilibino 75.95 22 *c i P* **P 14 08 50.4 0.0**
BILL pmax pmax
comp=Z,18nm,1.3s,mb4.8
BILL Bilibino 75.95 22 *eP* **P 14 08 49.5 -0.9**
comp=Z,32nm,1.3s,mb5.1
DPC Dobruska-Polom 76.13 320 *eP* **P 14 08 51.9 +0.1**
DPC *ex* x 14 08 56.8
KSP Ksiaz 76.18 320 *eP* **P 14 08 51.7 -0.4**
KSP *epP* pP 14 08 55.8 -1.3
UPC Upice 76.34 320 *eP* **P 14 08 53.5 +0.6**
ARSA Arzberg 76.47 317⇓ *i P* **P 14 08 53.9 +0.2**
comp=Z,20nm,1.1s,mb5.0
PRU Pruhonice 77.25 319 *eP* **P 14 09 02.6 +4.6**
PVCC Panska Ves 77.26 320 *eP* **P 14 08 59.2 +1.1**
PVCC *epP* pP 14 09 03.3 +0.2
MOA Moln 77.34 317⇑ *i P* **P 14 08 54.4 -4.2**
comp=Z,21nm,1.2s,mb4.9
GERES GERESS Array B 77.75 318 P **P 14 09 00.6 -0.2**
GERES pmax pmax
comp=Z,7.0nm,0.7s
GERES GERESS Array B 77.75 318 P **P 14 09 00.6 -0.2**
comp=Z,7.1nm,0.7s,mb4.7,baz=91,slow=5.2,SNR=13
KHC Kasperske Hory 77.84 318 *i P* **P 14 09 02.1 +0.8**
KHC Kasperske Hory 77.84 318 *eP* **P 14 09 01.8 +0.5**
KHC *epP* pP 14 09 05.8 -0.5
RUE Ruedersdorf 77.85 322 *eP* **P 14 09 01.4 +0.1**
comp=Z,126nm,1.4s,mb5.7
KBA Koelnbreinsper 77.94 316⇓ *i P* **P 14 08 55.9 -6.0**
comp=Z,17nm,1.1s,mb4.9
KBA Koelnbreinsper 77.94 316⇓ *i P* **P 14 08 55.9 -6.0**
KBA pmax pmax
comp=Z,17nm,1.1s,mb4.9
CLL Collm 78.28 321 *i P* **P 14 09 03.8 +0.1**
CLL *i* pP 14 09 07.0 -1.7
CLL pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CLL Collm 78.28 321 *i P* **P 14 09 03.8 +0.1**
comp=Z,7.0nm,0.9s,mb4.6
CLL *i* pP 14 09 07.0 -1.7
CLL Collm 78.28 321 P **P 14 09 03.8 +0.1**
comp=Z,logA/T=0.9,mb4.6
CLL *i* *PP pP 14 09 07.0 -1.7
CLL *i* 14 09 18.9
NKC Novy Kostel 78.61 320 *eP* **P 14 09 06.0 +0.5**
NKC *epP* pP 14 09 10.6 +0.1
MAW Mawson 78.67 192 P **P 14 09 07.6 +2.1**
comp=Z,10nm,0.9s,mb4.8,baz=100,slow=3.9,SNR=4.3
MAW LR LR 14 39 26.9
comp=Z,1µm,18.1s,MS5.2,baz=31,slow=32
WTTA Wattenberg 79.11 317⇑ *i P* **P 14 09 06.6 -1.7**
comp=Z,46nm,1.1s,mb5.3
WTTA Wattenberg 79.11 317⇑ *i P* **P 14 09 06.6 -1.7**
WTTA pmax pmax
comp=Z,46nm,1.1s,mb5.3
MOX Moxa 79.14 320 *eP* **P 14 09 09.4 +1.0**
MOX pmax pmax
comp=Z,58nm,1.8s,mb5.2
MOX MLR MLR
comp=Z,600nm,19.0s,MS5.0
MOX Moxa 79.14 320 *eP* **P 14 09 09.4 +1.0**
comp=Z,58nm,1.8s,mb5.2
MOX LR LR
comp=Z,600nm,19.0s,MS5.0
MOX Moxa 79.14 320 *i P* **P 14 09 09.4 +1.0**
comp=Z,logA/T=1.5,mb5.2
MOX L 14 47 23.0
WATA Walderalm 79.15 317⇓ *i P* **P 14 09 08.5 0.0**
comp=Z,20nm,1.2s,mb4.9
WATA Walderalm 79.15 317⇓ *i P* **P 14 09 08.5 0.0**
WATA pmax pmax
comp=Z,20nm,1.2s,mb4.9
GRA1 Grafenberg Arr 79.39 319 *eP* **P 14 09 10.4 +0.6**
comp=Z,42nm,1.2s,mb5.2
GRF Grafenberg Arr 79.39 319 *eP* **P 14 09 10.4 +0.6**
GRF pmax pmax
comp=Z,42nm,1.2s,mb5.2

GRF	Grafenberg Arr	79.39	319	eP	P	14 09 10.4	+0.6
GRF				pmax	pmax		
comp=Z,42nm,1.2s,mb5.2							
GRF	Grafenberg Arr	79.39	319	eP	P	14 09 10.4	+0.6
comp=Z,42nm,1.2s,mb5.2							
SQTA	Sankt Quirin	79.40	317	⇓iP	P	14 09 09.3	-0.6
comp=Z,17nm,1.0s,mb4.9							
SQTA	Sankt Quirin	79.40	317	⇓iP	P	14 09 09.3	-0.6
SQTA				pmax	pmax		
comp=Z,17nm,1.0s,mb4.9							
MOTA	Moosalm	79.47	317	⇑iP	P	14 09 10.2	-0.1
comp=Z,10nm,1.0s,mb4.7							
MOTA	Moosalm	79.47	317	iP	P	14 09 10.2	-0.1
MOTA				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.7							
NB2	NORSAR Subarra	79.63	331	P	P	14 09 09.3	-1.5
comp=Z,7.6nm,0.7s,mb4.7,baz=96,slow=5.0							
NB2	NORSAR Subarra	79.63	331	P	P	14 09 09.3	-1.5
NB2				pmax	pmax		
comp=Z,8.0nm,0.7s,mb4.8							
NOA	NORSAR Array B	79.63	331	P	P	14 09 09.5	-1.3
NOA				pmax	pmax		
comp=Z,10.0nm,0.8s							
NOA	NORSAR Array B	79.63	331	P	P	14 09 09.4	-1.4
comp=Z,10nm,0.8s,mb4.8,baz=94,slow=5.5,SNR=12							
NAO01	NORSAR Array S	79.79	330	eP	P	14 09 11.2	-0.5
comp=Z,34nm,1.0s,mb5.2							
DAVA	Damuels	80.31	317	⇑iP	P	14 09 15.6	+0.9
comp=Z,37nm,1.2s,mb5.2							
SUR	Sutherland	80.44	235	eP	P	14 09 14.4	-1.3
comp=Z,16nm,0.9s,mb5.0							
MUD	Monsted U'grnd	80.62	326	eP	P	14 09 17.3	+1.1
MUD				pmax	pmax		
comp=Z,46nm,0.9s,mb5.4							
MUD	Monsted U'grnd	80.62	326	eP	P	14 09 17.3	+1.1
comp=Z,46nm,0.9s,mb5.4							
MUD	Monsted U'grnd	80.62	326	iP	P	14 09 17.3	+1.1
comp=Z,46nm,0.9s,mb5.4							
PGF	Pioggiola	81.10	312	eP	P	14 09 18.8	-0.2
CDF	Champ du Feu	82.02	318	eP	P	14 09 23.5	-0.2
SBF	Sospel	82.17	313	eP	P	14 09 24.6	0.0
comp=Z,55nm,0.7s,mb5.3							
SBF	Sospel	82.17	313	eP	P	14 09 24.6	0.0
SBF				pmax	pmax		
comp=Z,28nm,0.7s,mb5.3							
LPG	La Plagne	82.55	315	eP	P	14 09 27.0	+0.5
comp=Z,54nm,0.8s,mb5.3							
LPG	La Plagne	82.55	315	eP	P	14 09 27.0	+0.5
LPG				pmax	pmax		
comp=Z,27nm,0.8s,mb5.3							
LPL	La Plagne	82.56	315	eP	P	14 09 26.9	+0.3
MBDF	Montbardon	82.59	314	eP	P	14 09 26.6	-0.1
BNI	Bardonecchia	82.63	314	eP	P	14 09 29.8	+2.9
BNI				pmax	pmax		
comp=Z,42nm,1.3s,mb5.3							
BNI	Bardonecchia	82.63	314	eP	P	14 09 29.8	+2.8
comp=Z,42nm,1.3s,mb5.3							
HAU	Haudompre	82.66	317	eP	P	14 09 26.7	-0.3
comp=Z,78nm,1.2s,mb5.3							
HAU				eR			
comp=Z,613nm,19.2s							
HAU	Haudompre	82.66	317	eP	P	14 09 26.7	-0.3
HAU				pmax	pmax		
comp=Z,39nm,1.2s,mb5.3							
HAU				MLR	MLR		
comp=Z,610nm,19.3s,MS5.0							
LMR	La Mourre	82.88	313	eP	P	14 09 28.3	+0.1
CABF	La Chapelle	82.94	316	eP	P	14 09 28.8	+0.3
comp=Z,94nm,1.3s,mb5.3							
CABF	La Chapelle	82.94	316	eP	P	14 09 28.8	+0.3
CABF				pmax	pmax		
comp=Z,47nm,1.3s,mb5.4							
ORIF	Oris-en-Rattie	83.21	314	eP	P	14 09 31.0	+1.1
comp=Z,23nm,0.8s,mb5.0							
ORIF				eR			
comp=Z,926nm,21.8s							
GIVF	Givet	83.51	320	eP	P	14 09 31.5	+0.1
BAIF	Baives	83.91	320	eP	P	14 09 33.8	+0.4
VIVF	Saint-Julien-l	84.07	314	eP	P	14 09 34.4	+0.1
SMF	Signal de Mont	84.47	316	eP	P	14 09 36.1	-0.2
SSF	Saint Saulge	84.66	317	eP	P	14 09 37.1	-0.1
LASF	Ste Croix	84.73	314	eP	P	14 09 38.1	+0.5
AVF	Avril sur Loir	84.79	316	eP	P	14 09 37.7	-0.2
comp=Z,42nm,1.2s,mb5.1							
AVF	Avril sur Loir	84.79	316	eP	P	14 09 37.7	-0.2
AVF				pmax	pmax		
comp=Z,21nm,1.2s,mb5.1							
BGF	Bois d'Agland	85.17	316	eP	P	14 09 40.1	+0.3
SYO	Syowa Base	85.54	197	⇓P	P	14 09 43.3	+2.2
SYO	Syowa Base	85.54	197	⇑PcP	PcP	14 09 47.0	+2.3
SYO	Syowa Base	85.54	197	⇓sP	sP	14 09 58.7	+11
TCF	Toulx Ste Croi	85.64	316	eP	P	14 09 42.6	+0.5
CAF	Calviac	85.90	315	eP	P	14 09 44.0	+0.5
MTLF	Montolieu	85.99	313	eP	P	14 09 44.2	+0.2
TNA	Tin City	86.03	24	eP	P	14 09 43.8	+0.1
RJF	Les Rejaudoux	86.24	315	eP	P	14 09 45.7	+0.6
RJF				eR			
comp=Z,422nm,19.2s							
LDF	La Druitiere	86.89	318	eP	P	14 09 48.3	0.0
FLN	La Foliniere	87.11	319	eP	P	14 09 49.5	+0.2
FLN				eR			
comp=Z,747nm,21.2s							
MFF	Saint Martin d	87.21	316	eP	P	14 09 49.9	+0.1
ESK	Eskdalemuir	87.66	325	eP	P	14 09 47.3	-4.5
ESK				pmax	pmax		
comp=Z,88nm,1.4s,mb5.8							
ESK	Eskdalemuir	87.66	325	eP	P	14 09 47.3	-4.5
comp=Z,88nm,1.4s,mb5.8							
ETSF	Etsaut	88.07	313	eP	P	14 09 54.7	+0.7
comp=Z,12nm,0.7s,mb4.9							
ETSF	Etsaut	88.07	313	eP	P	14 09 54.7	+0.7
ETSF				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.9							
SJPF	Ste Jean	88.51	313	eP	P	14 09 57.1	+0.9
ESLA	Sonseca Array	91.16	310	eP	P	14 10 10.1	+1.5
comp=Z,2.8nm,0.8s,mb4.6							
IMA	Indian Mountai	91.49	22	eP	P	14 10 11.0	+1.5
VNDA	Vanda	93.05	168	P	P	14 10 17.5	+1.0
VNDA				pmax	pmax		
comp=Z,2.0nm,0.9s							
VNDA	Vanda	93.05	168	P	P	14 10 17.4	+0.9
comp=Z,1.7nm,0.9s,mb4.5,baz=314,slow=6.4,SNR=3.0							
VNDA	Vanda	93.05	168	P	P	14 10 19.0	+2.5
comp=Z,2.5nm,0.9s,mb4.6							
SPU	Mount Spurr	94.15	26	eP	P	14 10 22.2	+0.3
MCK	McKinley	94.32	23	eP	P	14 10 22.9	+0.3
MCK				pmax	pmax		
comp=Z,6.0nm,1.1s,mb4.9							
MCK	McKinley	94.32	23	eP	P	14 10 22.9	+0.3
comp=Z,6.3nm,1.1s,mb5.0							
ILAR	Eielson Array	94.61	22	P	P	14 10 23.0	-0.9
ILAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
ILAR				MLR	MLR		
comp=Z,575nm,21.4s							
ILAR	Eielson Array	94.61	22	P	P	14 10 23.0	-0.9
comp=Z,1.0nm,0.8s,mb4.3,baz=295,slow=3.6,SNR=10.0							
ILAR				LR	LR	14 55 39.1	
comp=Z,575nm,21.4s,MS5.0,baz=323,slow=37							
DBIC	Dimbokro	97.96	278	P	P	14 10 42.1	+1.8
DBIC				pmax	pmax		
comp=Z,4.0nm,0.9s							
DBIC	Dimbokro	97.96	278	P	P	14 10 42.1	+1.8
comp=Z,3.5nm,0.9s,mb4.9,baz=111,slow=3.8,SNR=3.4							
YKA	Yellowknife Ar	106.29	13	P	Pdif	14 11 16.5	+0.1
YKA						14 15 44.3	
YKA				pmax	pmax		
comp=Z,1.0nm,0.9s							
YKA				pmax	pmax		
comp=Z,1.0nm,1.1s							
YKA	Yellowknife Ar	106.29	13	Pdiff	Pdif	14 11 16.5	+0.1
comp=Z,0.5nm,0.9s,baz=327,slow=4.4,SNR=4.7							
YKA				PP	PP	14 15 44.3	+0.7
comp=Z,1.2nm,1.1s,baz=335,slow=7.9,SNR=6.0							
TBI	Tubuai	117.30	112	eLR	LR	14 12 22.9	
comp=Z,425nm,28.5s							
PPT	Papeete	117.34	106	eLR	LR	14 12 06.5	
comp=Z,495nm,28.0s							
YFT	Old Faithful	123.11	21	ePKPdf	PKPdf	14 16 02.9	+0.1
SNOW	Snow King Moun	123.99	22	ePKPdf	PKPdf	14 16 02.6	-2.0
NVAR	Mina Array Bea	124.79	31	PKP	PKPdf	14 16 05.3	-1.0
comp=Z,2.0nm,0.7s,baz=266,slow=2.7,SNR=10							
PDAR	Pinedale Array	125.03	21	PKP	PKPdf	14 16 04.5	-2.1
comp=Z,3.7nm,0.9s,baz=25,slow=1.5,SNR=14							
ANMO	Albuquerque	133.03	23	PKIKP	PKPdf	14 16 20.7	-1.5
ANMO				pmax	pmax		
comp=Z,2.0nm,0.9s							
ANMO	Albuquerque	133.03	23	PKP	PKPdf	14 16 20.7	-1.4
comp=Z,2.2nm,0.9s,baz=269,slow=0.3,SNR=5.4							
GDL2	Guadalupe Moun	136.28	23	ePKPdf	PKPdf	14 16 25.3	-2.9
TXAR	Lajitas Array	139.09	24	PKhKP		14 16 26.6	
comp=Z,0.2nm,0.5s,baz=90,slow=2.5,SNR=3.3							
TXAR				PKP	PKPdf	14 16 32.4	-1.1
comp=Z,0.8nm,0.5s,baz=187,slow=1.9,SNR=7.3							
TXAR				PP	PP	14 19 26.5	-0.2
comp=Z,1.5nm,1.0s,baz=342,slow=4.0,SNR=4.6							
JCT	Junction City	139.45	19	ePKIKP	PKPdf	14 16 27.3	-6.7
PLCA	Paso Flores	144.69	200	ePKIKP	PKPdf	14 16 40.6	-2.3
PLCA	Paso Flores	144.69	200	PKP	PKPdf	14 16 40.4	-2.5
comp=Z,24nm,0.8s,baz=139,slow=5.3,SNR=23							
CPUP	Villa Florida	147.37	233	PKPdf	PKPdf	14 16 48.6	+0.6
CPUP				PKPdf	PKPdf	14 16 48.6	+0.7
TEIG	Tepich	151.84	5	ePKPdf	PKPdf	14 16 54.0	-1.1

IGQ 27 14:01:52.1, 1.17S×81.70W, h12km±9km, mb4.4, 6D, Error ellipse: s-maj=11.5km s-min=6.9km az=30.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	1.16	84	⇓P	Pb	14 02 11.9	-1.7
JAMA	Jama	1.74	59	P	Pn	14 02 23.6	+1.1
JAMA				S	Sn	14 02 45.0	+0.2
CUSU	Cusua	3.23	95	P	Pn	14 02 44.1	+0.4
JUA2	San Juan 2	3.23	73	P	Pn	14 02 45.2	+1.4
JUIV	Juive	3.24	94	P	Pn	14 02 44.2	+0.3
TERV	Terraza Guagua	3.25	72	P	Pn	14 02 46.0	+2.0
PINO	Pino	3.25	72	P	Pn	14 02 44.9	+0.9
RETU	Refugio	3.26	95	P	Pn	14 02 45.9	+1.7
NAS1	Nasa	3.26	81	P	Pn	14 02 45.6	+1.4
YANA	Yana	3.30	71	⇓P	Pn	14 02 45.6	+0.9
ULBA	Ulba	3.30	95	⇓P	Pn	14 02 45.6	+0.9
PISA	Pisayambo	3.31	88	P	Pn	14 02 46.2	+1.3
VC1	Cotopaxi 1	3.33	81	P	Pn	14 02 47.6	+2.3
TAMB	Tambo	3.36	82	P	Pn	14 02 48.0	+2.4
ANTI	Antisana	3.61	79	⇓P	Pn	14 02 51.6	+2.5
ANTI				S	Sn	14 03 35.5	+3.5
COTA	Cotacachi	3.68	66	P	Pn	14 02 50.8	+0.7
CAYR	Refugio Cayamb	3.87	72	⇓P	Pn	14 02 56.1	+3.2
CAYA	Cayambe	3.91	72	⇓P	Pn	14 02 56.1	+2.8

*IDC **27** 14:04:21.3±12.0, 8.05N×94.32E, h116km±119km, mb3.6/11, mb1 3.8/11, mb1mx3.7/17, mbtmp4.0/11, Error ellipse: s-maj=36.1km s-min=17.8km az=57.0*

ISC 27 14:04:10.3±0.8, 8.0N±0.2×94.3E±0.2, h33km, n12, σ0°94/11, mb4.0/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	41.01	12	P	P	14 11 52.8	+0.8
0.8nm,0.8s,mb3.4,baz=187,slow=10.0,SNR=3.8							
ZAL	Zalesovo	46.43	352	P	P	14 12 36.6	+1.0
3.0nm,0.8s,mb4.2,baz=298,slow=6.4,SNR=9.3							
WRA	Warramunga Arr	48.25	126	P	P	14 12 49.3	-1.0
0.3nm,0.5s,mb3.6,baz=306,slow=8.5,SNR=4.0							
BVAR	Borovoye Array	48.90	341	P	P	14 12 54.2	-0.7
2.7nm,1.1s,mb4.2,baz=141,slow=9.5,SNR=3.7							
ASAR	Alice Springs	49.91	130	P	P	14 13 03.9	+0.7
0.5nm,0.7s,mb3.6,baz=306,slow=7.8,SNR=3.6							
KMBO	Kilima Mbogo	57.55	264	P	P	14 14 00.8	+1.3
1.3nm,0.2s,mb4.6,baz=55,slow=16,SNR=3.7							
BRTR	Keskin Array B	62.43	311	P	P	14 14 31.1	-1.5
0.7nm,0.7s,mb3.9,baz=124,slow=10,SNR=3.0							
FINES	FINESS Array B	72.65	332	P	P	14 15 35.9	-0.3
3.2nm,0.8s,mb4.3,baz=124,slow=6.9,SNR=5.1							
ARCES	ARCESS Array B	75.18	340	P	P	14 15 51.5	+0.7
1.8nm,0.7s,mb4.1,baz=102,slow=8.3,SNR=2.8							
GERES	GERESS Array B	77.80	318	P	P	14 16 06.4	+0.3
1.1nm,0.7s,mb3.9,baz=72,slow=4.2,SNR=6.7							
NOA	NORSAR Array B	79.67	331	P	P	14 16 14.7	-1.3
1.1nm,0.7s,mb3.9,baz=90,slow=5.8,SNR=3.5							
PLCA	Paso Flores	144.71	200	PKP	PKPdf	14 23 44.9	+0.9
2.1nm,1.1s,baz=159,slow=6.9,SNR=2.8							

IDC 27 14:08:29.1±0.9, 7.68N×93.98E, mb4.0/9, mb1 4.1/10, mb1mx4.0/18, mbtmp3.9/10, ML3.7/1, Error ellipse: s-maj=45.8km s-min=20.5km az=47.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.75	24	Pn	P	14 11 18.9	-2.2
0.1nm,0.3s,baz=214,slow=14,SNR=4.6							
ZAL	Zalesovo	46.72	353	P	P	14 16 59.4	-2.2
0.9nm,0.7s,baz=322,slow=9.0,SNR=3.5							
WRA	Warramunga Arr	48.27	125	P	P	14 17 12.4	-1.9
0.7nm,0.5s,baz=304,slow=8.5,SNR=7.9							
ASAR	Alice Springs	49.91	130	P	P	14 17 24.3	-2.6
0.7nm,0.7s,baz=294,slow=7.7,SNR=4.0							
BRTR	Keskin Array B	62.44	311	P	P	14 18 54.1	-2.4
0.6nm,0.7s,baz=108,slow=9.1,SNR=2.5							
IDI	Anoyia	68.55	305	P	P	14 19 34.4	-1.6
7.8nm,0.9s,baz=99,slow=14,SNR=2.5							
FINES	FINESS Array B	72.81	332	P	P	14 19 59.2	-2.1
1.3nm,0.7s,baz=330,slow=38,SNR=3.1							
ARCES	ARCESS Array B	75.40	340	P	P	14 20 14.8	-1.3
1.1nm,0.7s,baz=101,slow=9.2,SNR=3.2							
GERES	GERESS Array B	77.87	318	P	P	14 20 29.4	-0.9
0.3nm,0.4s,baz=90,slow=5.3,SNR=4.5							
NOA	NORSAR Array B	79.82	331	P	P	14 20 38.3	-2.4
1.1nm,0.8s,baz=173,slow=3.6,SNR=3.3							
PDAR	Pinedale Array	125.40	21	PKP	PKPdf	14 27 33.0	-1.4
0.2nm,0.5s,baz=297,slow=3.3,SNR=3.7							
PLCA	Paso Flores	144.31	200	PKP	PKPdf	14 28 08.2	-1.1
2.0nm,0.8s,baz=201,slow=6.4,SNR=5.0							

*MOS **27** 14:13:13.7±1.1, 7.87N×93.98E, h33km, mb5.0/35, Error ellipse: s-maj=12.1km s-min=6.7km az=103.7*

*BJI **27** 14:13:13.8, 7.42N×93.76E, h58km, mB5.6, mb4.8, Ms5.0, Msz4.8*

*HRVD **27** 14:13:15.0±0.4, 7.95N×94.14E, h17km±2km, MW5.1/49, Centroid moment Tensor Solution. LP body waves: s8,c8; Mantle waves: s49,c79; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.52±.33; $M_{\theta\theta}$-1.91±.15; $M_{\phi\phi}$4.43±.25; $M_{r\theta}$-3.01±.73; $M_{\theta\phi}$1.09±.12; $M_{\phi r}$-2.73±.58; Best double couple: $M_0$5.685×10^{16} NP1:ϕ_s155°, δ35°, λ-151°. NP2: ϕ_s41°, δ74°, λ-58°. Principal axes: T 5.938, Plg22°, Azm107°; N -.506, Plg30°, Azm211°; P -5.432, Plg51°, Azm347°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **27** 14:13:15.0±0.3, 7.84N×93.98E, h30km, mb4.9/27 Error ellipse: s-maj=9.8km s-min=7.3km az=61.0*

*IDC **27** 14:13:17.0±4.2, 7.89N×94.01E, h44km±38km, mb4.3/20, mb1 4.4/21, mb1mx4.4/23, mbtmp4.5/21, ML4.7/1, MS4.6/1, Ms1 4.6/1, ms1mx3.2/25, Error ellipse: s-maj=25.6km s-min=12.0km az=48.0*

ISC 27 14:13:13.7±0.3, 7.87N±0.05×94.05E±0.06, h33km, n138, σ1°94/131, mb4.8/57, MS4.7/2, 6C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.55	24	eP	P	14 16 01.0	+1.6
33nm,0.7s							
CMAR	Chiang Mai Arr	11.55	24	P	P	14 16 01.2	+1.8
CMAR				pmax	pmax		
comp=Z,2.0nm,0.3s							
CMAR	Chiang Mai Arr	11.55	24	P	P	14 16 01.1	+1.8
comp=Z,1.6nm,0.3s,baz=213,slow=14,SNR=68							
SHL	Shillong	17.72	354	eP	P	14 17 17.3	-2.3
SHL				eS	S	14 20 47.2	+14
HYB	Hyderabad	17.83	304	iP	P	14 17 24.0	+2.9
KMI	Kunming	19.06	25	⇑P	P	14 17 39.7	+3.6
KMI				pmax	pmax		
comp=Z,52nm,1.5s							
KMI	Kunming	19.06	25	⇑P	P	14 17 39.7	+3.6
comp=Z,52nm,1.5s							
JIRN	Jiri	21.04	340	eP	P	14 17 56.1	-1.1
comp=Z,329nm,1.2s,mb5.5							
PKI	Pulchoki	21.23	338	eP	P	14 17 58.9	-0.2
comp=Z,215nm,1.2s,mb5.3							
GUN	Gumba	21.38	340	eP	P	14 17 59.8	-0.8
comp=Z,149nm,0.9s,mb5.3							
DMN	Daman	21.38	338	eP	P	14 18 00.0	-0.6
comp=Z,164nm,1.0s,mb5.3							
KKN	Kakani	21.48	338	eP	P	14 18 00.9	-0.7
LSA	Lhasa	21.88	353	eP	P	14 18 05.5	-0.1
LSA				pmax	pmax		
comp=Z,95nm,0.8s,mb5.3							
LSA	Lhasa	21.88	353	eP	P	14 18 05.5	-0.2
comp=Z,95nm,0.8s,mb5.3							
GKN	Gorkha	21.91	337	eP	P	14 18 05.6	-0.3
comp=Z,219nm,1.2s,mb5.5							
KOLN	Koldanda	22.12	335	eP	P	14 18 08.2	+0.2
comp=Z,270nm,1.3s,mb5.5							
ENH	Enshi	26.57	31	eP	P	14 18 50.9	+0.1
comp=Z,24nm,0.9s,mb4.7							
XAN	Xi'an	29.43	26	P	P	14 19 16.3	-0.3
XAN				AMB	AMB		
comp=Z,9.0nm,0.8s,mb4.5							
LZH	Lanzhou	29.48	16	⇑P	P	14 19 17.5	+0.5
LZH				AMB	AMB		
comp=Z,33nm,1.5s,mb4.8							
LZH				AMB	AMB		
comp=Z,132nm,4.5s							
LZH				LR	LR		
comp=E,1μm,13.2s							
LZH				LR	LR		
comp=Z,2μm,14.5s,MS4.8							
LZH	Lanzhou	29.48	16	⇑P	P	14 19 17.6	+0.6
LZH				*PP	pP	14 19 26.0	-0.5
LZH				*SP	sP	14 19 30.0	-0.9
LZH				pmax	pmax		
comp=Z,33nm,1.5s,mb4.8							
LZH				MLR	MLR		
comp=Z,2μm,14.5s,MS4.8							
LZH	Lanzhou	29.48	16	⇑P	P	14 19 17.6	+0.6
comp=Z,33nm,1.5s,mb4.8							
LZH				pP	pP	14 19 26.0	-0.5
LZH				sP	sP	14 19 30.0	-0.9
LZH				LR	LR		
comp=Z,2μm,14.5s,MS4.8							
WMQ	Urumqi	36.24	352	P	P	14 20 16.3	+0.7
JOW	Kunigami	37.53	56	LR	LR	14 37 23.8	
comp=Z,826nm,19.4s,MS4.5,baz=286,slow=38							
BJI	Beijing	37.65	28	eP	P	14 20 29.6	+2.0
BJI				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.6							
BJI	Beijing	37.65	28	eP	P	14 20 29.6	+2.0
comp=Z,10.0nm,0.8s,mb4.6							
UCH	Uchtor	38.32	336	P	P	14 20 34.0	+0.8
SNR=7.8							
KBK	Karagaybulak	38.51	337	P	P	14 20 36.0	+1.3
SNR=13							
AML	Almayashu	38.57	335	P	P	14 20 36.4	+1.2
SNR=16							
AAK	Ala-Archa	38.67	337	P	P	14 20 37.1	+1.1
SNR=7.9							
AAK	Ala-Archa	38.67	337	eP	P	14 20 35.8	-0.2
AAK				pmax	pmax		
comp=Z,15nm,0.9s,mb4.7							
AAK	Ala-Archa	38.67	337	eP	P	14 20 35.8	-0.2
comp=Z,15nm,0.9s,mb4.7							
CHMS	Chumysh	38.88	337	P	P	14 20 38.1	+0.3
SNR=6.9							
EKS2	Erkin-Say	38.98	336	P	P	14 20 39.6	+1.0
SNR=6.7							
USP	Ospenovka	39.20	337	P	P	14 20 40.6	+0.2
SNR=9.9							
MKAR	Makanchi Array	40.07	347	iP	P	14 20 47.3	-0.3
MKAR				pmax	pmax		
comp=Z,25nm,1.0s							
SONM	Songino Array	41.18	13	P	P	14 20 57.5	+0.7
comp=Z,8.2nm,0.8s,mb4.4,baz=198,slow=7.8,SNR=28							
SONM				PcP	PcP	14 22 56.8	+0.6
comp=Z,1.9nm,0.7s,baz=190,slow=3.5,SNR=3.7							
ULN	Ulaanbaatar	41.36	13	eP	P	14 20 57.8	-0.4
ULN				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.3							
ULN	Ulaanbaatar	41.36	13	eP	P	14 20 57.8	-0.4
comp=Z,8.5nm,0.9s,mb4.4							
ZAK	Zakamensk	43.07	9	eP	P	14 21 10.7	-1.5
ZAK				e		14 23 01.4	
KURK	Kurchatov	44.59	346	P	P	14 21 24.6	+0.1
KURK				pmax	pmax		
comp=Z,24nm,1.1s,mb4.9							
KURK	Kurchatov	44.59	346	eP	P	14 21 24.4	-0.1
comp=Z,51nm,1.2s,mb5.2							
NWAO	Narrogin (SRO)	46.19	153	P	P	14 21 37.1	-0.4
NWAO				pmax	pmax		
comp=Z,11nm,1.1s							
NWAO	Narrogin (SRO)	46.19	153	P	P	14 21 37.0	-0.4
comp=Z,11nm,1.1s,mb4.7,baz=349,slow=16,SNR=2.9							
ZAL	Zalesovo	46.54	352	P	P	14 21 39.9	0.0
ZAL				pmax	pmax		
comp=Z,17nm,0.6s							
ZAL	Zalesovo	46.54	352	P	P	14 21 39.9	0.0
comp=Z,17nm,0.6s,mb5.1,baz=305,slow=5.4,SNR=73							
HIA	Hailar	46.56	23	eP	P	14 21 40.5	+0.4
HIA				pmax	pmax		
comp=Z,32nm,1.0s							
HIA	Hailar	46.56	23	eP	P	14 21 40.5	+0.3
comp=Z,32nm,1.0s,mb5.2							
NVS	Novosibirsk	47.63	352	iP	P	14 21 46.5	-2.0
NVS				pmax	pmax		
comp=N,29nm,1.0s							
NVS				pmax	pmax		
comp=E,12nm,1.0s							
NVS				pmax	pmax		
comp=Z,36nm,1.0s,mb5.4							
WRA	Warramunga Arr	48.33	125	P	P	14 21 53.1	-1.4
WRA				pmax	pmax		
comp=Z,3.0nm,0.5s							
WRA	Warramunga Arr	48.33	125	P	P	14 21 53.1	-1.3
comp=Z,2.6nm,0.5s,mb4.5,baz=304,slow=8.6,SNR=23							
WRAB	Tennant Creek	48.34	125	eP	P	14 21 53.5	-1.0
WRAB				pmax	pmax		
comp=Z,22nm,1.1s,mb5.1							
WRAB	Tennant Creek	48.34	125	eP	P	14 21 53.5	-1.0
comp=

KMBO **Kilima Mbogo** 57.33 264 P P 14 23 02.8 +1.4
KMBO pmax pmax
comp=Z,2.0nm,0.4s
KMBO **Kilima Mbogo** 57.33 264 P P 14 23 02.8 +1.3
comp=Z,1.8nm,0.4s,mb4.5,baz=58,slow=13,SNR=4.1
ASF **Jabal al Asfar** 58.14 303 P P 14 23 07.8 +0.9
comp=Z,1.7nm,0.4s,mb4.4,baz=338,slow=4.1,SNR=4.8
YAK **Yakutsk** 60.02 18 *eP* P 14 23 18.6 -0.9
YAK pmax pmax
comp=Z,59nm,0.8s,mb5.7
YAK **Yakutsk** 60.02 18 *eP* P 14 23 18.6 -0.9
comp=Z,59nm,0.8s,mb5.7
STKA **Stephens Creek** 60.17 134 P P 14 23 22.2 +1.3
comp=Z,2.1nm,0.7s,mb4.3,baz=260,slow=0.2,SNR=3.8
STKA **Stephens Creek** 60.17 134 P P 14 23 22.2 +1.3
BRTR **Keskin Array B** 62.36 311 P P 14 23 33.9 -1.7
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR **Keskin Array B** 62.36 311 P P 14 23 33.9 -1.7
comp=Z,2.3nm,0.7s,mb4.4,baz=129,slow=7.9,SNR=10
MBAR **Mbarara** 63.67 265 *eP* P 14 23 45.0 +0.3
MBAR pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
MBAR **Mbarara** 63.67 265 *eP* P 14 23 45.0 +0.2
comp=Z,8.5nm,1.2s,mb4.7
MOS **Moscow** 65.03 329 *eP* P 14 23 51.1 -1.7
MOS pmax pmax
comp=Z,57nm,1.0s,mb5.6
OBN **Obninsk** 65.33 328 *eP* P 14 23 50.9 -3.8
OBN pmax pmax
comp=Z,22nm,1.1s,mb5.1
MA2 **Magadan** 66.81 28 *eP* P 14 24 03.9 -0.1
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.2
MA2 **Magadan** 66.81 28 *eP* P 14 24 03.8 -0.2
comp=Z,34nm,1.0s,mb5.3
TIXI **Tiksi** 67.25 11⇑ *iP* P 14 24 06.0 -0.6
TIXI pmax pmax
comp=Z,44nm,1.2s,mb5.4
AKASG **Malin Array Be** 68.10 322 P P 14 24 10.5 -1.8
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG **Malin Array Be** 68.10 322 P P 14 24 10.5 -1.8
comp=Z,2.3nm,0.7s,mb4.3,baz=85,slow=4.7,SNR=9.7
IDI **Anoyia** 68.49 305 P P 14 24 14.8 -0.2
comp=Z,11nm,0.8s,mb5.0,baz=108,slow=6.4,SNR=4.1
JOF **Joensuu** 70.81 334 *ep* P 14 24 27.7 -1.0
comp=Z,16nm,1.0s,mb4.9
FINES **FINESS Array B** 72.67 332 P P 14 24 39.6 -0.2
FINES pmax pmax
comp=Z,11nm,0.9s
FINES **FINESS Array B** 72.67 332 P P 14 24 39.6 -0.2
comp=Z,11nm,0.9s,mb4.8,baz=104,slow=7.9,SNR=17
KAF **Kangasniemi** 72.75 333 *ep* P 14 24 38.9 -1.4
comp=Z,15nm,1.0s,mb4.9,baz=126,slow=6.2
KAF **Kangasniemi** 72.75 333 *eP* P 14 24 38.9 -1.4
KAF pmax pmax
comp=Z,15nm,1.0s,mb4.9
KEV **Kevo** 74.81 341 *ep* P 14 24 42.5 -10
comp=Z,25nm,1.2s,mb5.0
KEV **Kevo** 74.81 341 *eP* P 14 24 42.5 -10
KEV pmax pmax
comp=Z,25nm,1.2s,mb5.0
ARCES **ARCESS Array B** 75.24 340 P P 14 24 54.4 -0.2
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES **ARCESS Array B** 75.24 340 P P 14 24 54.4 -0.2
comp=Z,2.8nm,0.8s,mb4.3,baz=90,slow=6.1,SNR=6.1
MORC **Moravsky Berou** 75.32 319 *eP* P 14 24 55.5 +0.1
MORC pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MORC **Moravsky Berou** 75.32 319 *eP* P 14 24 55.5 +0.1
comp=Z,10nm,1.1s,mb4.7
BOSA **Boshof** 75.51 238 *eP* P 14 24 54.6 -2.4
BOSA pmax pmax
comp=Z,20nm,1.2s,mb4.9
BOSA **Boshof** 75.51 238 *eP* P 14 24 54.6 -2.4
comp=Z,20nm,1.2s,mb4.9
BILL **Bilibino** 76.12 22 *eP* P 14 24 59.4 -0.3
BILL pmax pmax
comp=Z,14nm,1.0s,mb4.8
BILL **Bilibino** 76.12 22 *eP* P 14 24 59.4 -0.3
comp=Z,14nm,1.0s,mb4.8
DPC **Dobruska-Polom** 76.15 320 *eP* P 14 25 01.0 +0.8
PRU **Pruhonice** 77.27 319 *eP* P 14 25 07.5 +1.0
PVCC **Panska Ves** 77.28 320 *eP* P 14 25 07.3 +0.7
BRG **Berggiesshubel** 77.69 320 *eP* P 14 25 09.1 +0.3
BRG pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
BRG **Berggiesshubel** 77.69 320 *eP* P 14 25 09.1 +0.3
comp=Z,9.7nm,1.4s,mb4.5
GERES **GERESS Array B** 77.77 318 P P 14 25 09.7 +0.4
GERES pmax pmax
comp=Z,4.0nm,0.8s
GERES **GERESS Array B** 77.77 318 P P 14 25 09.7 +0.5
comp=Z,4.1nm,0.8s,mb4.4,baz=90,slow=5.3,SNR=22
KHC **Kasperske Hory** 77.86 319 *eP* P 14 25 10.3 +0.5
CLL **Collm** 78.30 321 P P 14 25 14.0 +1.8
GRA1 **Grafenberg Arr** 79.41 319 *eP* P 14 25 18.8 +0.6
comp=Z,11nm,1.1s,mb4.7
GRF **Grafenberg Arr** 79.41 319 *eP* P 14 25 18.8 +0.6
GRF pmax pmax
comp=Z,11nm,1.1s,mb4.7
GRF **Grafenberg Arr** 79.41 319 *eP* P 14 25 18.8 +0.6
GRF pmax pmax
comp=Z,11nm,1.1s,mb4.7
GRF **Grafenberg Arr** 79.41 319 *eP* P 14 25 18.8 +0.6
comp=Z,11nm,1.1s,mb4.7
NB2 **NORSAR Subarra** 79.69 331 P P 14 25 18.9 -0.6
comp=Z,3.5nm,0.8s,mb4.3,baz=92,slow=5.6
NB2 **NORSAR Subarra** 79.69 331 P P 14 25 18.9 -0.6
NB2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
NOA **NORSAR Array B** 79.69 331 P P 14 25 19.2 -0.3
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA **NORSAR Array B** 79.69 331 P P 14 25 19.2 -0.3
comp=Z,5.1nm,0.8s,mb4.5,baz=93,slow=5.5,SNR=13
LPG **La Plagne** 82.55 315 *eP* P 14 25 35.8 +0.9
comp=Z,28nm,1.1s,mb4.9
LPG **La Plagne** 82.55 315 *eP* P 14 25 35.8 +0.9
LPG pmax pmax
comp=Z,14nm,1.1s,mb4.9
TNA **Tin City** 86.21 24 *eP* P 14 25 51.6 -1.1
ESDC **Sonseca Array** 91.15 310 P P 14 26 17.9 +1.0
comp=Z,0.8nm,0.5s,mb4.3,baz=45,slow=4.2,SNR=5.1
IMA **Indian Mountai** 91.66 22 *eP* P 14 26 20.4 +1.8
SPU **Mount Spurr** 94.33 26 *eP* P 14 26 31.9 +1.0
ILAR **Eielson Array** 94.78 22 P P 14 26 33.4 +0.5
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR **Eielson Array** 94.78 22 P P 14 26 33.4 +0.5
comp=Z,1.1nm,0.8s,mb4.3,baz=295,slow=5.0,SNR=11
YKA **Yellowknife Ar** 106.45 13 PP PP 14 31 47.1 -6.0
comp=Z,0.8nm,1.0s,baz=333,slow=7.6,SNR=6.6
YKA PKKPbc 14 42 56.5
comp=Z,0.1nm,0.4s,baz=153,slow=3.1,SNR=4.0
NVAR **Mina Array Bea** 124.97 31 PKP PKPdf 14 32 14.6 +3.4
comp=Z,5.7nm,1.2s,baz=258,slow=4.0,SNR=11
PDAR **Pinedale Array** 125.20 21 PKP PKPdf 14 32 13.7 +2.2
comp=Z,1.5nm,0.8s,baz=28,slow=2.0,SNR=12
TXAR **Lajitas Array** 139.26 24 PKP PKPdf 14 32 41.1 +2.9
comp=Z,0.4nm,0.5s,baz=9.5,slow=1.1,SNR=4.2
PLCA **Paso Flores** 144.51 200 PKIKP PKPdf 14 32 49.2 +2.1
PLCA pmax pmax
comp=Z,5.0nm,0.9s
PLCA **Paso Flores** 144.51 200 PKP PKPdf 14 32 49.2 +2.1
comp=Z,4.9nm,0.8s,baz=144,slow=1.7,SNR=8.8
PLCA **Paso Flores** 144.51 200 PKP PKPdf 14 32 49.2 +2.1

*IDC **27** 14:16:51.1±1.1, 7.58N×94.84E, mb4.0/9, mb1 4.2/10, mb1mx4.0/17, mbtmp3.9/10, ML3.6/1, Error ellipse: s-maj=32.5km s-min=27.8km az=52.0*

ISC 27 14:16:54.2±0.9, 7.6N±0.1×94.9E±0.2, h33km, n12, σ1§12/10, mb4.0/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.50	20	P	P	14 19 39.0	-0.2
0.1nm,0.3s,baz=215,slow=14,SNR=4.0							
SONM	**Songino Array**	41.28	12	P	P	14 24 38.6	+0.5
1.1nm,0.9s,mb3.5,baz=203,slow=11,SNR=2.0							
ZAL	**Zalesovo**	46.93	352	P	P	14 25 21.7	-1.8
1.3nm,0.7s,mb4.0,baz=333,slow=6.5,SNR=3.3							
WRA	**Warramunga Arr**	47.49	126	P	P	14 25 27.7	-0.6
0.6nm,1.0s,mb3.5,baz=306,slow=8.6,SNR=3.9							
KMBO	**Kilima Mbogo**	58.14	264	P	P	14 26 47.4	-0.2
2.9nm,1.0s,mb4.2,baz=46,slow=6.9,SNR=3.1							
BRTR	**Keskin Array B**	63.18	311	P	P	14 27 21.4	-0.2
1.4nm,0.9s,mb4.1,baz=90,slow=8.6,SNR=3.8							
ARCES	**ARCESS Array B**	75.79	340	P	P	14 28 36.9	-1.4
2.2nm,0.9s,mb4.1,baz=112,slow=4.9,SNR=2.9							
GERES	**GERESS Array B**	78.54	318	P	P	14 28 54.4	+0.4
2.8nm,1.0s,mb4.2,baz=104,slow=4.0,SNR=5.8							
NOA	**NORSAR Array B**	80.34	331	P	P	14 29 05.3	+1.8
1.3nm,0.8s,mb3.9,baz=95,slow=5.5,SNR=3.1							
ILAR	**Eielson Array**	94.72	22	P	P	14 30 15.2	+2.1
1.0nm,1.2s,mb4.1,baz=288,slow=5.7,SNR=3.0							
PDAR	**Pinedale Array**	125.15	22	PKP	PKPdf	14 35 55.2	+3.3
0.6nm,1.0s,baz=18,slow=2.9,SNR=3.4							
PLCA	**Paso Flores**	144.53	199	PKP	PKPdf	14 36 29.4	+1.7
2.7nm,0.9s,baz=117,slow=2.3,SNR=3.0							

*IDC **27** 14:17:37.1±5.5, 8.30N×94.20E, h102km±50km, mb3.6/8, mb1 3.8/9, mb1mx3.6/17, mbtmp3.9/9, Error ellipse: s-maj=31.4km s-min=22.7km az=60.0, Nicobar Islands region*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.10	24	P	P	14 20 11.6	-2.4
0.1nm,0.3s,baz=212,slow=14,SNR=4.9							
SONM	**Songino Array**	40.74	13	P	P	14 25 08.6	-0.8
0.8nm,0.7s,baz=194,slow=12,SNR=2.2							
ZAL	**Zalesovo**	46.14	352	P	P	14 25 52.3	-0.6
2.2nm,0.7s,baz=288,slow=9.1,SNR=4.4							
WRA	**Warramunga Arr**	48.46	126	P	P	14 26 09.7	-1.9
0.6nm,0.7s,baz=305,slow=8.6,SNR=3.3							
KMBO	**Kilima Mbogo**	57.53	263	P	P	14 27 17.4	-1.3
0.7nm,0.5s,baz=41,slow=23,SNR=2.4							
FINES	**FINESS Array B**	72.37	332	P	P	14 28 51.7	-1.9
1.9nm,0.8s,baz=117,slow=3.1,SNR=2.2							
ARCES	**ARCESS Array B**	74.89	340	P	P	14 29 06.2	-1.9
1.1nm,0.6s,baz=90,slow=7.2,SNR=2.4							
GERES	**GERESS Array B**	77.55	318	P	P	14 29 21.3	-2.1
0.3nm,0.4s,baz=79,slow=5.0,SNR=2.9							
NOA	**NORSAR Array B**	79.39	331	P	P	14 29 31.6	-1.6
1.3nm,0.8s,baz=100,slow=3.3,SNR=2.6							
PLCA	**Paso Flores**	144.96	200	PKP	PKPdf	14 37 01.8	-0.8
2.5nm,1.0s,baz=74,slow=6.5,SNR=2.9							

*IDC **27** 14:18:05.2±5.4, 7.95N×94.24E, h77km±49km, mb3.7/10, mb1 3.9/11, mb1mx3.7/18, mbtmp4.0/11, ML4.1/1, Error ellipse: s-maj=30.7km s-min=17.5km az=49.0*

ISC 27 14:18:00.5±5.4, 7.9N±0.2×94.2E±0.2, h50km±48km, n12, σ0§57/11, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.45	23	P	P	14 20 43.9	-0.2
0.4nm,0.3s,baz=211,slow=14,SNR=5.1							
SONM	**Songino Array**	41.12	12	P	P	14 25 42.3	+1.1
1.1nm,0.8s,mb3.5,baz=198,slow=9.1,SNR=2.0							
ZAL	**Zalesovo**	46.52	352	P	P	14 26 24.8	0.0
2.0nm,0.8s,mb4.1,baz=296,slow=7.2,SNR=3.5							
WRA	**Warramunga Arr**	48.23	126	P	P	14 26 38.1	-0.5
0.8nm,0.8s,mb3.8,baz=305,slow=8.7,SNR=2.8							
ASAR	**Alice Springs**	49.89	130	P	P	14 26 51.7	+0.3
0.3nm,0.5s,mb3.6,baz=305,slow=7.0,SNR=2.4							
KMBO	**Kilima Mbogo**	57.49	264	P	P	14 27 48.1	+0.7
2.0nm,0.9s,mb4.2,baz=235,slow=24,SNR=3.1							
BRTR	**Keskin Array B**	62.46	311	P	P	14 28 20.8	-0.3
0.7nm,0.5s,mb4.0,baz=113,slow=9.9,SNR=3.2							
IDI	**Anoyia**	68.60	305	P	P	14 29 00.3	-0.3
14nm,1.2s,mb4.8,baz=51,slow=9.9,SNR=2.1							
ARCES	**ARCESS Array B**	75.26	340	P	P	14 29 39.3	-0.2
2.5nm,0.8s,mb4.2,baz=96,slow=9.1,SNR=2.6							
GERES	**GERESS Array B**	77.84	318	P	P	14 29 54.8	+0.3
1.0nm,0.8s,mb3.8,baz=74,slow=7.1,SNR=2.9							
NOA	**NORSAR Array B**	79.73	331	P	P	14 30 03.4	-1.1
1.5nm,0.8s,mb4.0,baz=98,slow=5.6,SNR=2.5							
PLCA	**Paso Flores**	144.60	200	PKP	PKPdf	14 37 31.4	-0.4
1.4nm,0.9s,baz=62,slow=12,SNR=2.2							

*IDC **27** 14:18:43.0±9.3, 7.70N×94.21E, h60km±78km, mb3.7/7, mb1 3.9/8, mb1mx3.7/18, mbtmp4.0/8, ML4.1/1, Error ellipse: s-maj=75.1km s-min=24.5km az=49.0*

ISC 27 14:18:37.9±1.2, 7.6N±0.2×94.1E±0.2, h33km, n8, σ0§50/8, mb4.0/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.74	23	P	P	14 21 26.4	+0.2
0.4nm,0.3s,baz=211,slow=15,SNR=4.6							
SONM	**Songino Array**	41.40	13	P	P	14 26 23.0	+0.2
0.9nm,0.6s,mb3.6,baz=190,slow=8.8,SNR=2.7							
ZAL	**Zalesovo**	46.79	352	P	P	14 27 05.7	-0.4
3.0nm,0.6s,mb4.4,baz=271,slow=6.0,SNR=4.9							
WRA	**Warramunga Arr**	48.13	125	P	P	14 27 17.0	-0.1
0.8nm,0.8s,mb3.8,baz=305,slow=8.8,SNR=2.8							
BVAR	**Borovoye Array**	49.21	341	P	P	14 27 24.5	-0.5
1.2nm,0.8s,mb4.0,baz=146,slow=5.2,SNR=2.2							
FINES	**FINESS Array B**	72.92	332	P	P	14 30 04.9	-0.6
2.6nm,0.7s,mb4.3,baz=76,slow=7.9,SNR=4.4							
GERES	**GERESS Array B**	78.00	318	P	P	14 30 35.8	+1.1
0.8nm,0.7s,mb3.8,baz=76,slow=4.0,SNR=2.2							
NOA	**NORSAR Array B**	79.94	331	P	P	14 30 45.1	+0.1
1.1nm,0.7s,mb3.9,baz=92,slow=5.6,SNR=3.3							

*IDC **27** 14:19:24.2±0.7, 7.69N×93.99E, mb4.1/15, mb1 4.2/16, mb1mx4.2/20, mbtmp4.1/16, ML4.0/1, Error ellipse: s-maj=34.9km s-min=17.3km az=55.0*

ISC 27 14:19:27.4±0.6, 7.7N±0.1×94.1E±0.1, h33km, n20, σ0§67/17, mb4.1/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.66	23	Pn	P	14 22 14.2	-0.3
0.3nm,0.3s,baz=211,slow=14,SNR=4.2							
SONM	**Songino Array**	41.31	11	P	P	14 27 11.1	-0.4
2.0nm,0.3s,mb3.7,baz=196,slow=8.7,SNR=3.8							
NWAO	**Narrogin (SRO)**	46.04	153	P	P	14 27 50.5	+0.4
4.8nm,0.7s,mb4.5,baz=310,slow=10,SNR=5.0							
ZAL	**Zalesovo**	46.68	352	P	P	14 27 55.1	+0.4
5.5nm,1.0s,mb4.4,baz=287,slow=10,SNR=5.8							
WRA	**Warramunga Arr**	48.22	125	P	P	14 28 06.1	-1.1
0.7nm,0.6s,mb3.9,baz=305,slow=8.6,SNR=4.0							
BVAR	**Borovoye Array**	49.11	341	P	P	14 28 14.0	+0.3
1.4nm,0.7s,mb4.1,baz=127,slow=7.2,SNR=4.3							
ASAR	**Alice Springs**	49.86	130	P	P	14 28 20.2	+0.3
0.6nm,0.5s,mb3.9,baz=298,slow=7.6,SNR=3.2							
KMBO	**Kilima Mbogo**	57.36	264	P	P	14 29 21.7	+6.3
1.8nm,0.6s,mb4.3,baz=61,slow=18,SNR=5.6							
BRTR	**Keskin Array B**	62.49	311	P	P	14 29 49.1	-1.0
0.5nm,0.7s,mb3.8,baz=127,slow=6.2,SNR=3.8							
AKASG	**Malin Array Be**	68.24	322	P	P	14 30 25.8	-1.1
0.2nm,0.2s,mb3.7,baz=84,slow=5.4,SNR=2.7							
IDI	**Anoyia**	68.61	305	P	P	14 30 29.3	-0.1
8.9nm,0.8s,mb4.8,baz=333,slow=16,SNR=3.5							
FINES	**FINESS Array B**	72.82	332	P	P	14 30 54.5	+0.1
1.4nm,0.5s,mb4.2,baz=72,slow=6.0,SNR=6.1							
ARCES	**ARCESS Array B**	75.39	340	P	P	14 31 09.8	+0.7
5.0nm,1.0s,mb4.4,baz=92,slow=6.9,SNR=5.2							
GERES	**GERESS Array B**	77.90	318	P	P	14 31 24.5	+0.8
0.9nm,0.6s,mb3.9,baz=90,slow=5.3,SNR=4.0							
NB2	**NORSAR Subarra**	79.83	331	P	P	14 31 33.9	-0.1
1.6nm,0.7s,mb4.1,baz=97,slow=5.0							
NOA	**NORSAR Array B**	79.83	331	P	P	14 31 34.1	+0.1
1.8nm,0.7s,mb4.1,baz=92,slow=5.6,SNR=5.2							
ILAR	**Eielson Array**	94.90	22	P	P	14 32 48.3	+1.2
0.2nm,0.8s,mb3.6,baz=297,slow=4.0,SNR=3.1							
NVAR	**Mina Array Bea**	125.07	31	PKP	PKPdf	14 38 28.0	+3.0
0.4nm,0.6s,baz=349,slow=4.6,SNR=3.6							
PDAR	**Pinedale Array**	125.32	21	PKP	PKPdf	14 38 28.1	+2.7
0.5nm,0.9s,SNR=3.1							
PLCA	**Paso Flores**	144.40	200	PKP	PKPdf	14 39 02.1	+1.5
2.3nm,1.0s,baz=153,slow=6.6,SNR=3.1							

*IDC **27** 14:20:09.2±7.1, 7.76N×93.68E, h66km±66km, mb3.7/8, mb1 3.8/9, mb1mx3.6/19, mbtmp4.0/9, ML3.3/1, Error ellipse: s-maj=55.4km s-min=22.3km az=68.0*

ISC 27 14:20:03.8±1.0, 7.7N±0.1×93.5E±0.2, h33km, n9, σ0§97/9, mb4.0/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.95	26	P	P	14 22 55.5	+0.6
0.1nm,0.3s,baz=221,slow=14,SNR=2.9							
SONM	**Songino Array**	41.50	13	P	P	14 27 49.5	+0.1
0.9nm,0.6s,mb3.6,baz=207,slow=6.4,SNR=2.5							
NWAO	**Narrogin (SRO)**	46.26	152	P	P	14 28 27.9	-0.2
5.1nm,0.8s,mb4.5,baz=87,slow=8.8,SNR=2.1							
ZAL	**Zalesovo**	46.66	353	P	P	14 28 29.7	-1.3
1.2nm,0.7s,mb3.9,baz=287,slow=7.1,SNR=2.0							
BVAR	**Borovoye Array**	48.98	342	P	P	14 28 47.7	-1.4
1.1nm,0.8s,mb4.0,baz=153,slow=9.7,SNR=3.1							
BRTR	**Keskin Array B**	62.08	311	P	P	14 30 24.5	+0.7
1.0nm,0.8s,mb4.0,baz=117,slow=6.4,SNR=2.8							
AKASG	**Malin Array Be**	67.92	322	P	P	14 31 00.3	-1.0
0.3nm,0.5s,mb3.6,baz=98,slow=4.3,SNR=3.4							
FINES	**FINESS Array B**	72.59	332	P	P	14 31 30.5	+1.1
2.7nm,0.9s,mb4.2,baz=120,slow=11,SNR=2.7							
GERES	**GERESS Array B**	77.56	318	P	P	14 31 59.5	+1.3
1.3nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=4.7							

IDC 27 14:20:35.4±7.5, 21.81S×176.57W, h289km±69km, mb3.2/4, mb1 3.4/5, mb1mx3.3/15, mbtmp4.0/5, Error ellipse: s-maj=52.5km s-min=29.5km az=72.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	17.28	197	P	P	14 24 17.5	-2.5
0.7nm,0.3s,baz=257,slow=3.9,SNR=5.1							
URZ				S	S	14 27 21.9	+1.2
0.4nm,0.3s,baz=5.6,slow=16,SNR=5.3							
CTA	**Charters Tower**	34.71	266	P	P	14 26 58.0	-2.2
1.2nm,0.5s,baz=61,slow=14,SNR=3.2							
STKA	**Stephens Creek**	38.45	246	P	P	14 27 31.2	-0.1
2.9nm,1.0s,baz=90,slow=6.1,SNR=4.0							
ASAR	**Alice Springs**	45.53	258	P	P	14 28 27.4	-1.1
1.6nm,0.8s,baz=90,slow=8.3,SNR=12							
WRA	**Warramunga Arr**	45.76	263	P	P	14 28 28.2	-2.1
0.4nm,0.5s,baz=96,slow=7.9,SNR=5.9							
AKASG	**Malin Array Be**	144.80	331	PKP	PKPdf	14 39 37.0	-0.6
0.7nm,0.4s,baz=36,slow=4.1,SNR=5.5							

IDC 27 14:22:33.1±1.1, 7.79N×93.88E, mb3.9/9, mb1 4.1/10, mb1mx4.0/18, mbtmp3.9/10, ML3.8/1, Error ellipse: s-maj=50.8km s-min=20.6km az=51.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.69	24	Pn	P	14 25 20.4	-3.8
0.2nm,0.3s,baz=212,slow=15,SNR=5.8							
ZAL	**Zalesovo**	46.59	353	P	P	14 31 02.5	-2.0
1.8nm,0.7s,baz=296,slow=9.8,SNR=6.2							
WRA	**Warramunga Arr**	48.42	125	P	P	14 31 18.0	-1.4
0.5nm,0.7s,baz=302,slow=9.8,SNR=4.6							
BVAR	**Borovoye Array**	48.98	341	P	P	14 31 20.7	-2.5
0.6nm,0.6s,baz=150,slow=12,SNR=2.7							
ASAR	**Alice Springs**	50.06	130	P	P	14 31 29.4	-2.6
0.6nm,0.8s,baz=309,slow=5.8,SNR=3.1							
BRTR	**Keskin Array B**	62.29	311	P	P	14 32 56.8	-2.7
1.7nm,1.0s,baz=129,slow=7.9,SNR=3.6							
FINES	**FINESS Array B**	72.66	332	P	P	14 34 02.7	-1.6
2.4nm,0.7s,baz=126,slow=16,SNR=4.0							
ARCES	**ARCESS Array B**	75.25	340	P	P	14 34 18.9	-0.4
2.8nm,1.1s,baz=117,slow=8.1,SNR=2.7							
GERES	**GERESS Array B**	77.72	318	P	P	14 34 32.2	-1.2
1.0nm,0.7s,baz=76,slow=5.5,SNR=5.5							
NB2	**NORSAR Subarra**	79.67	331	P	P	14 34 42.1	-1.8
0.8nm,0.6s,baz=97,slow=4.8							
NOA	**NORSAR Array B**	79.67	331	P	P	14 34 41.7	-2.2
1.3nm,0.7s,baz=93,slow=5.6,SNR=4.3							

*NEIC **27** 14:24:11.7±0.6, 5.14N×78.00W, h35km, mb4.4/2, Error ellipse: s-maj=16.4km s-min=11.8km az=81.0*
*IDC **27** 14:24:16.3±5.9, 5.25N×78.03W, h69km±57km, mb3.6/6, mb1 3.9/7, mb1mx3.7/16, mbtmp3.9/7, ML3.9/1, Error ellipse: s-maj=41.0km s-min=22.8km az=79.0*

ISC 27 14:24:10.1±0.7, 5.16N±0.08×78.08W±0.07, h33km, n15, σ1§12/16, mb4.0/7, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	4.90	184	*e*Pn	Pn	14 25 23.3	-0.2
SDV	**Santo Domingo**	8.27	63	P	P	14 26 12.3	+1.8
1.7nm,0.3s,baz=216,slow=5.1,SNR=12							
SDV				S	S	14 27 43.8	0.0
1.7nm,0.3s,baz=52,slow=19,SNR=3.0							
SDV	**Santo Domingo**	8.27	63	*e*Pn	P	14 26 08.4	-2.2
SDV				P		14 26 12.3	
SDV				S	S	14 27 43.9	+0.1
TXAR	**Lajitas Array**	34.11	318	P	P	14 30 54.1	0.0
0.3nm,0.4s,mb3.6,baz=142,slow=10,SNR=3.0							
ANMO	**Albuquerque**	39.58	322	P	P	14 31 42.1	+2.1
SRU	**San Rafael**	44.76	324	P	P	14 32 20.9	-1.5
PLCA	**Paso Flores**	46.19	172	P	P	14 32 35.4	+1.6
1.8nm,0.6s,mb4.2,baz=348,slow=9.1,SNR=6.9							
PLCA	**Paso Flores**	46.19	172	P	P	14 32 33.0	-0.8
11nm,1.1s,mb4.7							
PLCA				*e*		14 32 48.0	
NVAR	**Mina Array Bea**	49.26	318	P	P	14 32 58.7	+1.0
0.7nm,0.7s,mb3.8,baz=135,slow=6.4,SNR=3.5							
NVAR	**Mina Array Bea**	49.26	318	P	P	14 32 58.7	+1.0
HLID	**Hailey**	49.86	326	*e*P	P	14 33 01.4	-1.0
1.7nm,1.0s,mb4.0							
SCHQ	**Schefferville**	50.35	8	P	P	14 33 06.4	+0.5
8.1nm,1.2s,mb4.6,baz=233,slow=7.4,SNR=2.4							
YKA	**Yellowknife Ar**	63.21	342	P	P	14 34 35.9	-1.4
0.8nm,0.6s,mb4.0,baz=134,slow=6.3,SNR=20							
ILAR	**Eielson Array**	76.41	336	P	P	14 35 58.0	+0.3
0.4nm,0.6s,mb3.5,baz=120,slow=3.2,SNR=1.8							
ASAR	**Alice Springs**	144.12	236	PKP	PKPdf	14 43 42.5	-0.7
5.8nm,0.5s,baz=119,slow=3.7,SNR=116							

IGQ 27 14:24:33.1, 1.41S×81.50W, h9km±5km, mb4.5, 8C-2D, Error ellipse: s-maj=8.1km s-min=4.9km az=14.3, Off coast of Ecuador

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time

GERES	GERESS Array B	78.24	318	P	P	14 38 35.9	-0.2
	0.5nm,0.6s,baz=100,slow=6.0,SNR=3.2						
NOA	NORSAR Array B	79.95	331	P	P	14 38 45.4	+0.3
	0.9nm,0.8s,baz=96,slow=4.9,SNR=3.4						
PDAR	Pinedale Array	124.59	22	PKP	PKPdf	14 45 33.8	0.0
	0.3nm,0.9s,baz=270,slow=3.6,SNR=2.4						
PDAR	Pinedale Array	124.59	22	PKP	PKPdf	14 45 33.8	0.0
PLCA	Paso Flores	145.10	199	PKPbc	PKPbc	14 46 10.3	-1.8
	1.9nm,0.8s,baz=178,slow=7.3,SNR=3.3						

IDC ***27*** *14:29:33.0±9.0, 8.18N×93.93E, h69km±76km, mb3.4/7, mb1 3.7/8, mb1mx3.5/18, mbtmp3.7/8, ML4.0/1, Error ellipse: s-maj=73.4km s-min=18.4km az=56.0*

ISC 27 14:29:27.6±0.9, 8.1N±0.1×94.13E±0.09, h33km, n9, σ1§28/10, mb3.7/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.28	24	P	P	14 32 11.8	+2.2
	0.3nm,0.3s,baz=212,slow=14,SNR=5.4						
MNGI	Mangalore	19.57	286	*i* P	P	14 33 55.9	+0.2
MNGI				*e*S	S	14 37 30.4	+1.2
SONM	Songino Array	40.91	13	P	P	14 37 08.4	0.0
	0.5nm,0.7s,mb3.3,baz=202,slow=7.8,SNR=2.2						
ZAL	Zalesovo	46.29	352	P	P	14 37 51.8	-0.1
	1.9nm,0.8s,mb4.1,baz=287,slow=5.8,SNR=6.6						
WRA	Warramunga Arr	48.42	126	P	P	14 38 08.4	-0.6
	0.3nm,0.6s,mb3.5,baz=305,slow=8.5,SNR=4.5						
BVAR	Borovoye Array	48.74	341	P	P	14 38 09.4	-1.6
	0.4nm,0.7s,mb3.6,baz=135,slow=6.1,SNR=3.4						
ASAR	Alice Springs	50.09	130	P	P	14 38 24.2	+2.4
	0.9nm,1.2s,mb3.7,baz=303,slow=7.6,SNR=2.9						
GERES	GERESS Array B	77.62	318	P	P	14 41 21.3	-1.1
	0.6nm,0.6s,mb3.7,baz=80,slow=6.0,SNR=3.4						
NOA	NORSAR Array B	79.50	331	P	P	14 41 30.8	-1.6
	1.1nm,0.7s,mb3.9,baz=97,slow=5.1,SNR=2.8						

BJI ***27*** *14:29:51.2, 7.42N×93.75E, h57km, mB5.7, mb4.7, Ms5.2, Msz4.6*
NEIC ***27*** *14:29:53.1±0.6, 7.84N×93.93E, h30km, mb4.6/7, Error ellipse: s-maj=17.6km s-min=11.9km az=84.0*
IDC ***27*** *14:29:57.7±4.4, 8.09N×94.23E, h66km±39km, mb3.8/15, mb1 4.0/16, mb1mx4.0/19, mbtmp4.1/16, ML3.9/1, Error ellipse: s-maj=27.1km s-min=13.4km az=56.0*

ISC 27 14:29:55.2±3.3, 7.99N±0.10×94.2E±0.1, h62km±29km, n33, σ1§28/29, mb4.4/21, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.40	24	*e*P	P	14 32 37.4	-0.2
	9.5nm,0.7s						
CMAR	Chiang Mai Arr	11.40	24	P	P	14 32 37.1	-0.5
	0.3nm,0.3s,baz=211,slow=14,SNR=17						
KMI	Kunming	18.91	25	⇑P	P	14 34 16.8	+3.2
	17nm,1.3s						
KMI				pP		14 34 30.8	
KMI				S	rx	14 38 54.3	
LSA	Lhasa	21.78	353	*e*P	P	14 34 46.3	+2.8
	22nm,0.7s,mb4.7						
ENH	Enshi	26.42	31	*e*P	P	14 35 27.9	-0.2
	12nm,0.9s,mb4.4						
NJ2	Nanjing	33.18	40	*e*P	P	14 36 29.0	+0.8
NJ2				AMB	AMB		
	comp=Z,1μm,8.4s						
NJ2				LR	LR		
	comp=N,3μm,12.0s						
NJ2				LR	LR		
	comp=E,3μm,12.0s						
NJ2				LR	LR		
	comp=Z,2μm,19.9s						
SONM	Songino Array	41.05	13	P	P	14 37 34.6	+0.5
	comp=Z,1.7nm,0.8s,mb3.7,baz=191,slow=6.3,SNR=6.8						
SONM				PcP	PcP	14 39 33.7	0.0
	comp=Z,0.7nm,0.5s,baz=198,slow=4.6,SNR=2.7						
NWAO	Narrogin (SRO)	46.24	153	P	P	14 38 17.6	+1.3
	comp=Z,4.4nm,0.7s,mb4.5,baz=225,slow=2.9,SNR=3.2						
ZAL	Zalesovo	46.44	352	P	P	14 38 17.6	0.0
	comp=Z,3.5nm,0.9s,mb4.3,baz=309,slow=7.2,SNR=9.9						
WRA	Warramunga Arr	48.31	126	P	P	14 38 31.3	-1.4
	comp=Z,0.9nm,0.6s,mb4.0,baz=304,slow=8.5,SNR=7.6						
BVAR	Borovoye Array	48.89	341	P	P	14 38 35.7	-1.0
	comp=Z,0.9nm,0.6s,mb4.0,baz=158,slow=8.0,SNR=7.0						
BVAR				PcP	PcP	14 40 00.3	-0.3
	comp=Z,0.6nm,0.6s,baz=146,slow=5.2,SNR=2.5						
RAYN	Ar Rayn	50.05	294	P	P	14 38 39.0	+0.7
	comp=Z,44nm,1.1s,mb5.4,SNR=7.8						
CHKZ	Chkalovo	49.37	342	*e*P	P	14 38 39.3	-1.1
	comp=Z,16nm,1.1s,mb5.0						
ASAR	Alice Springs	49.98	130	P	P	14 38 43.6	-1.9
	comp=Z,4.1nm,1.3s,mb4.3,baz=301,slow=7.4,SNR=6.0						
ASAR				PcP	PcP	14 40 04.8	-0.1
	comp=Z,0.5nm,0.6s,baz=308,slow=3.7,SNR=4.5						
KMBO	Kilima Mbogo	57.45	264	P	P	14 39 43.0	+2.4
	comp=Z,3.5nm,0.8s,mb4.4,baz=46,slow=11,SNR=8.0						
KMBO	Kilima Mbogo	57.45	264	P	P	14 39 43.0	+2.4
STKA	Stephens Creek	60.17	134	P	P	14 40 00.2	+1.0
	comp=Z,2.7nm,0.9s,mb4.3,baz=342,slow=7.4,SNR=3.1						
STKA	Stephens Creek	60.17	134	P	P	14 40 00.2	+1.0
BRTR	Keskin Array B	62.37	311	P	P	14 40 12.0	-1.8
	comp=Z,1.2nm,0.7s,mb4.1,baz=146,slow=4.5,SNR=4.4						
AKASG	Malin Array Be	68.07	322	P	P	14 40 48.1	-2.2
	comp=Z,1.0nm,0.6s,mb4.0,baz=86,slow=5.3,SNR=6.5						
FINES	FINESS Array B	72.62	332	P	P	14 41 17.4	-0.3
	comp=Z,3.6nm,0.8s,mb4.4,baz=101,slow=9.7,SNR=6.4						
ARCES	ARCESS Array B	75.17	340	P	P	14 41 32.5	+0.2
	comp=Z,7.0nm,1.0s,mb4.5,baz=95,slow=4.1,SNR=8.2						
BOSA	Boshof	75.65	238	P	P	14 41 35.3	-0.6
	comp=Z,13nm,1.3s,mb4.7						
GERES	GERESS Array B	77.75	318	P	P	14 41 47.6	+0.4
	comp=Z,1.4nm,0.6s,mb4.1,baz=108,slow=4.2,SNR=7.8						
NB2	NORSAR Subarra	79.64	331	P	P	14 41 56.4	-0.9
	comp=Z,0.9nm,0.5s,mb4.0,baz=95,slow=5.0						
NOA	NORSAR Array B	79.64	331	P	P	14 41 55.9	-1.4
	comp=Z,4.9nm,1.1s,mb4.3,baz=95,slow=5.4,SNR=3.7						
NOA	NORSAR Array B	79.64	331	P	P	14 41 55.9	-1.4
LPG	La Plagne	82.55	315	*e*P	P	14 42 15.5	+2.6
	comp=Z,14nm,0.8s,mb4.7						
ILAR	Eielson Array	94.64	22	P	P	14 43 11.0	+0.8
	comp=Z,0.4nm,0.9s,mb3.9,baz=310,slow=5.6,SNR=4.3						
NVAR	Mina Array Bea	124.82	31	PKP	PKPdf	14 48 52.2	+3.6
	comp=Z,0.6nm,0.7s,baz=288,slow=2.9,SNR=4.4						
PDAR	Pinedale Array	125.06	21	PKP	PKPdf	14 48 51.0	+2.1
	comp=Z,0.6nm,0.9s,baz=56,slow=0.7,SNR=4.5						
PDAR	Pinedale Array	125.06	21	PKP	PKPdf	14 48 51.0	+2.1
PLCA	Paso Flores	144.66	200	PKP	PKPdf	14 49 26.9	+1.7
	comp=Z,3.6nm,0.9s,baz=95,slow=1.0,SNR=6.1						

IDC ***27*** *14:34:49.1±1.3, 7.60N×93.74E, mb3.7/7, mb1 3.9/8, mb1mx3.8/17, mbtmp3.7/8, ML3.9/1, Error ellipse: s-maj=42.6km s-min=26.6km az=47.0*

ISC 27 14:34:52.3±1.0, 7.7N±0.1×94.1E±0.2, h33km, n9, σ1§19/9, mb3.7/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.73	23	Pn	P	14 37 40.0	-0.5
	0.2nm,0.3s,baz=212,slow=14,SNR=4.3						
SONM	Songino Array	41.39	13	P	P	14 42 37.9	+0.9
	1.0nm,0.7s,mb3.5,baz=214,slow=5.2,SNR=2.9						
WRA	Warramunga Arr	48.18	125	P	P	14 43 33.3	+1.5
	0.3nm,0.7s,mb3.5,baz=304,slow=8.8,SNR=2.7						
BVAR	Borovoye Array	49.18	341	P	P	14 43 38.2	-0.9
	0.8nm,0.9s,mb3.8,baz=153,slow=6.4,SNR=3.1						
ASPA	Alice Springs	49.82	130	*e*P	P	14 43 42.3	-2.1
BRTR	Keskin Array B	62.53	311	P	P	14 45 11.9	-3.3
	0.4nm,0.5s,mb3.8,baz=100,slow=8.8,SNR=2.4						
FINES	FINESS Array B	72.88	332	P	P	14 46 20.0	+0.4
	0.9nm,0.6s,mb3.9,baz=189,slow=37,SNR=3.2						
GERES	GERESS Array B	77.95	318	P	P	14 46 49.5	+0.7
	0.6nm,0.6s,mb3.7,baz=117,slow=6.0,SNR=3.8						
NOA	NORSAR Array B	79.89	331	P	P	14 46 59.7	+0.5
	0.8nm,0.8s,mb3.7,baz=88,slow=5.9,SNR=2.8						

IDC ***27*** *14:35:02.1±0.5, 7.95N×94.01E, mb4.5/19, mb1 4.5/20, mb1mx4.5/22, mbtmp4.4/20, ML4.3/1, Error ellipse: s-maj=28.2km s-min=13.1km az=46.0*
MOS ***27*** *14:35:06.5±1.5, 8.01N×94.16E, h35km, mb5.0/36, Error ellipse: s-maj=11.3km s-min=6.2km az=110.3*
BJI ***27*** *14:35:06.3, 7.60N×93.78E, h54km, mB5.2, mb4.8, Ms5.0, Msz4.7*
HRVD ***27*** *14:35:07.1±0.3, 7.95N×94.20E, h22km±2km, MW5.1/57, Centroid moment Tensor Solution. LP body waves: s17,c29;Mantle waves: s57,c98; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.85±.26; $M_{\theta\theta}$-2.77±.21; $M_{\phi\phi}$3.63±.22; $M_{r\theta}$-2.26±.44; $M_{r\phi}$3.57±.18; $M_{\theta\phi}$-1.01±.38; Best double couple: $M_0$5.413×10^{16} NP1:φs160°,δ62°, λ-175°. NP2:φs67°,δ85°,λ-28°. Principal axes: T 5.76, Plg16°, Azm117°; N -.687, Plg61°, Azm239°; P -5.067, Plg23°, Azm20°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***27*** *14:35:07.1±0.3, 7.98N×94.12E, h30km, mb5.0/31, MS4.4/1 Error ellipse: s-maj=10.2km s-min=7.6km az=52.0*

ISC 27 14:35:05.5±0.3, 7.88N±0.05×94.08E±0.04, h33km, n160, σ1§28/160, mb4.8/58, MS4.7/3, 6C-4D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	3.98	341	*e*P	P	14 36 09.7	+3.9
PBA				*e*S	S	14 36 55.8	+3.8
CM31	Chiang Mai Arr	11.53	24	*e*P	P	14 37 46.3	-4.6
	6.7nm,0.5s						
CMAR	Chiang Mai Arr	11.53	24	P	P	14 37 50.8	-0.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	11.53	24	Pn	P	14 37 50.8	-0.2
	comp=Z,0.6nm,0.3s,baz=212,slow=14,SNR=16						
KOD	Kodaikanal	16.58	279	*e*P	P	14 38 55.2	-1.9
KOD				*e*		14 39 04.3	
	comp=Z,42nm,1.1s						
KOD				*e*S	S	14 41 59.3	0.0
SHL	Shillong	17.72	353	*i* P	P	14 39 09.3	-2.1
SHL				*e*S	S	14 42 29.2	+3.8
SHL	Shillong	17.72	353	*e*	P	14 39 10.6	-0.8
	comp=Z,448nm,0.2s						
SHL				*e*P		14 39 13.8	
HYB	Hyderabad	17.86	304	*e*P	P	14 39 14.0	+0.7
HYB				*e*S	S	14 42 24.0	-4.6
HYB	Hyderabad	17.86	304	*i* P	P	14 39 14.0	+0.7
HYB				*e*		14 42 24.0	
HYB				*e*S	S	14 42 34.0	+5.4
KMI	Kunming	19.04	25	⇑P	P	14 39 31.2	+3.5
KMI				pmax	pmax		
	comp=Z,56nm,1.2s						
KMI	Kunming	19.04	25	⇑P	P	14 39 31.2	+3.5
	comp=Z,56nm,1.2s						
KMI				pP		14 39 35.5	
KMI				PP	PP	14 39 51.0	+6.7
KMI				S	S	14 43 09.1	+14
KMI				sS		14 43 18.2	
KMI				SS	SS	14 43 40.2	+19
COCO	West Island	20.12	172	*e*P	P	14 39 39.1	-0.5
	comp=Z,233nm,1.3s						
JIRN	Jiri	21.05	340	*e*P	P	14 39 48.6	-0.5
GOA	Goa	21.22	293	*e*P	P	14 39 50.3	-0.6
GOA				*e*		14 40 01.9	
	comp=Z,43nm,1.1s						
PKI	Pulchoki	21.24	338	*e*P	P	14 39 50.3	-0.8
	comp=Z,279nm,1.1s,mb5.5						
DMN	Daman	21.39	338	*e*P	P	14 39 53.8	+1.3
	comp=Z,114nm,0.8s,mb5.2						
KKN	Kakani	21.49	338	*e*P	P	14 39 52.9	-0.6
	comp=Z,225nm,1.3s,mb5.3						
LSA	Lhasa	21.89	353	P	P	14 39 57.3	-0.2
LSA				AMB	AMB		
	comp=Z,80nm,0.8s,mb5.2						
LSA	Lhasa	21.89	353	*e*P	P	14 39 56.3	-1.2
LSA				pmax	pmax		
	comp=Z,80nm,0.8s,mb5.2						
LSA	Lhasa	21.89	353	*e*P	P	14 39 56.3	-1.1
	comp=Z,80nm,0.8s,mb5.2						
GKN	Gorkha	21.92	337	*e*P	P	14 39 57.0	-0.8
	comp=Z,130nm,0.8s,mb5.4						
KOLN	Koldanda	22.14	335	*e*P	P	14 39 59.6	-0.4
	comp=Z,503nm,1.6s,mb5.7						
BOM	Bombay	23.38	300	*e*P	P	14 40 11.9	-0.5
BOM				*e*		14 40 13.8	
	comp=Z,71nm,1.3s						
NDI	New Delhi	26.10	325	*e*P	P	14 40 39.2	+0.8
NDI				*e*		14 40 44.9	
	comp=Z,75nm,1.4s						
NDI				*e*S	S	14 45 09.5	+4.2
ENH	Enshi	26.55	31	*e*P	P	14 40 41.4	-1.1
	comp=Z,55nm,1.1s,mb5.0						
SMLA	Simla	28.02	328	*e*	P	14 41 10.7	+15
SMLA				*e*		14 41 24.8	
	comp=Z,50nm,1.6s						
XAN	Xi'an	29.42	26	P	P	14 41 07.8	-0.5
XAN				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.5						
LZH	Lanzhou	29.46	16	⇑P	P	14 41 09.8	+1.1
LZH				AMB	AMB		
	comp=Z,33nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,103nm,4.5s						
LZH				LR	LR		
	comp=E,1μm,11.2s						
LZH				LR	LR		
	comp=Z,1μm,12.5s,MS4.8						
LZH	Lanzhou	29.46	16	⇑P	P	14 41 09.7	+1.0
LZH				*SP	sP	14 41 21.0	-1.6
LZH				pmax	pmax		
	comp=Z,33nm,1.5s,mb4.8						
LZH				MLR	MLR		
	comp=Z,1μm,12.5s,MS4.8						
LZH	Lanzhou	29.46	16	⇑P	P	14 41 09.7	+1.0
	comp=Z,33nm,1.5s,mb4.8						
LZH				pP	pP	14 41 18.0	-0.2
LZH				sP	sP	14 41 21.0	-1.6
LZH				LR	LR		
	comp=Z,1μm,12.5s,MS4.8						
WHN	Wuhan	29.47	37	*e*P	P	14 41 09.5	+0.7
NJ2	Nanjing	33.31	40	*e*P	P	14 41 44.3	+1.8
NJ2				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.5						
WMQ	Urumqi	36.24	352	P	P	14 42 07.8	+0.3
WMQ				PP	PP	14 43 30.0	-0.8
WMQ				PCP	PcP	14 44 33.8	+1.2
WMQ				S	S	14 47 46.0	+1.1
WMQ				AMB	AMB		
	comp=Z,12nm,0.5s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,165nm,5.6s						
WMQ				LR	LR		
	comp=N,1μm,16.2s,MS4.8						
WMQ				LR	LR		
	comp=E,922nm,15.4s,MS4.8						
WMQ				LR	LR		
	comp=Z,2μm,18.0s,MS4.9						
BJT	Baijiatuau	37.61	28	P	P	14 42 17.3	-1.7
BJT				pmax	pmax		
	comp=Z,13nm,1.0s						
BJT	Baijiatuau	37.61	28	P	P	14 42 17.3	-1.8
	comp=Z,13nm,1.0s,mb4.6						
BJI	Beijing	37.63	28	P	P	14 42 21.3	+2.1
BJI				S	S	14 48 13.3	+7.0
BJI				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.4						
BJI				MLR	MLR		
	comp=Z,670nm,20.6s,MS4.4						
BJI	Beijing	37.63	28	P	P	14 42 21.3	+2.1
	comp=Z,13nm,1.5s,mb4.4						
BJI				S	S	14 48 13.3	+7.0
BJI				LR	LR		
	comp=Z,670nm,20.6s,MS4.4						
AAK	Ala-Archa	38.68	337	P	P	14 42 28.4	+0.5
AAK				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.8						
AAK	Ala-Archa	38.68	337	*e*P	P	14 42 27.1	-0.8
	comp=Z,32nm,1.2s,mb4.9						
MKAR	Makanchi Array	40.07	347	*i* P	P	14 42 38.1	-1.3
MKAR				pmax	pmax		
	comp=Z,19nm,1.0s						
SONM	Songino Array	41.17	13	P	P	14 42 49.1	+0.6
	comp=Z,5.8nm,0.9s,mb4.2,baz=207,slow=8.3,SNR=16						
ULN	Ulaanbaatar	41.35	13	*e*P	P	14 42 47.6	-2.4
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
ULN	Ulaanbaatar	41.35	13	*e*P	P	14 42 47.6	-2.3
	comp=Z,6.5nm,1.0s,mb4.2						
KS15	Wonju Array Si	42.47	41	*e*P	P	14 42 59.7	+0.3
ZAK	Zakamensk	43.06	9	*e*P	P	14 43 04.2	+0.2
TLY	Talaya	44.38	9	*e*P	P	14 43 09.4	-5.2
TLY				pmax	pmax		
	comp=Z,19nm,2.0s,mb4.5						
TLY	Talaya	44.38	9	*e*P	P	14 43 09.4	-5.2
	comp=Z,19nm,2.0s,mb4.5						
KURK	Kurchatov	44.59	346	*i* P	P	14 43 15.9	-0.4
KURK				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.8						
KURK	Kurchatov	44.59	346	*e*P	P	14 43 14.7	-1.6
NWAO	Narrogin (SRO)	46.17	153	P	P	14 43 30.7	+1.5
NWAO				pmax	pmax		
	comp=Z,19nm,0.9s						
NWAO	Narrogin (SRO)	46.17	153	P	P	14 43 30.6	+1.5
	comp=Z,19nm,0.9s,mb5.0,baz=18,slow=8.8,SNR=3.1						
HIA	Hailar	46.54	23	*e*P	P	14 43 32.1	+0.3
HIA				pmax	pmax		
	comp=Z,39nm,1.3s						
HIA	Hailar	46.54	23	*e*P	P	14 43 32.1	+0.2
	comp=Z,39nm,1.3s,mb5.2						
NVS	Novosibirsk	47.63	352	*i* P	P	14 43 38.5	-1.9
MDJ	Mudanjiang	47.84	34	P	P	14 43 43.0	+0.9
MDJ				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.8						
MDJ	Mudanjiang	47.84	34	P	P	14 43 43.8	+1.6
	comp=Z,12nm,1.0s,mb4.9						
WRA	Warramunga Arr	48.31	125	P	P	14 43 45.0	-1.1
WRA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WRA	Warramunga Arr	48.31	125	P	P	14 43 45.0	-1.1
	comp=Z,6.2nm,1.1s,mb4.6,baz=305,slow=8.5,SNR=19						
WRAB	Tennant Creek	48.31	125	*e*P	P	14 43 45.4	-0.7
WRAB				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
WRAB	Tennant Creek	48.31	125	*e*P	P	14 43 45.4	-0.8
	comp=Z,13nm,0.9s,mb5.0						
WB2	Warramunga Arr	48.32	125	*e*P	P	14 43 45.9	-0.2
BVA0	Borovoye Array	48.97	341	*i* P	P	14 43 48.8	-1.9
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.8						
BVAR	Borovoye Array	48.97	341	P	P	14 43 48.7	-2.0
	comp=Z,6.7nm,1.1s,mb4.6,baz=143,slow=7.4,SNR=14						
BRVK	Borovoye	49.03	341	*e*P	P	14 43 48.9	-2.3
BRVK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
BRVK	Borovoye	49.03	341	*e*P	P	14 43 48.9	-2.3
	comp=Z,11nm,1.1s,mb4.8						
CHKZ	Chkalovo	49.45	342	P	P	14 43 52.9	-1.6
CHKZ				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
CHKZ	Chkalovo	49.45	342	*e*P	P	14 43 51.5	-2.9
	comp=Z,26nm,0.9s,mb5.3						
ASAR	Alice Springs	49.96	130	P	P	14 43 58.1	-0.6
	comp=Z,3.4nm,0.9s,mb4.4,baz=310,slow=7.2,SNR=12						
ASAR				PcP	PcP	14 45 19.5	+0.7
	comp=Z,2.1nm,0.7s,baz=308,slow=3.6,SNR=5.9						
BOD	Bodaibo	52.16	13	*e*P	P	14 44 13.8	-1.1
GNI	Garni	54.39	314	P	P	14 44 32.0	+0.3
GNI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GNI	Garni	54.39	314	P	P	14 44 32.0	+0.2
	comp=Z,1.7nm,0.5s,mb4.3,baz=100,slow=4.1,SNR=4.1						
GNI	Garni	54.39	314	*e*P	P	14 44 31.4	-0.3
	comp=Z,31nm,1.3s,mb5.1						
SVE	Sverdlovsk	55.38	338	*e*P	P	14 44 34.3	-4.3
SVE				pmax	pmax		
	comp=Z,100nm,2.0s,mb5.5						
PMG	Port Moresby	55.59	107	P	P	14 44 41.3	+0.6
PMG				pmax	pmax		
	comp=Z,12nm,0.8s						
PMG	Port Moresby	55.59	107	P	P	14 44 41.3	+0.6
	comp=Z,12nm,0.8s,mb5.0,baz=311,slow=8.4,SNR=4.7						
ARU	Arti	55.87	337	*e*P	P	14 44 34.2	-7.9
YSS	Yuzh-Sakhalins	56.82	38	P	P	14 44 48.2	-0.9
YSS				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.1						
YSS	Yuzh-Sakhalins	56.82	38	P	P	14 44 48.1	-1.0
	comp=Z,21nm,1.1s,mb5.1						
KIV	Kislovodsk	57.28	318	*e*P	P	14 44 55.4	+2.9
KIV				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1						
KIV				pmax	pmax		
	comp=N,16nm,1.1s						
KIV				pmax	pmax		
	comp=E,19nm,1.1s						
KIV	Kislovodsk	57.28	318	*e*P	P	14 44 54.5	+2.1
	comp=E,28nm,1.2s,mb5.2						
KMBO	Kilima Mbogo	57.37	264	*e*P	P	14 44 55.2	+1.7
KMBO				pmax	pmax		
	comp=Z,13nm,1.1s						
KMBO	Kilima Mbogo	57.37	264	P	P	14 44 53.9	+0.4
	comp=Z,5.2nm,0.9s,mb4.5,baz=239,slow=24,SNR=9.7						
KMBO	Kilima Mbogo	57.37	264	*e*P	P	14 44 55.2	+1.7
	comp=Z,13nm,1.1s,mb4.9						
ASF	Jabal al Asfar	58.17	303	P	P	14 45 00.7	+1.8
	comp=Z,6.4nm,1.1s,mb4.6,baz=337,slow=2.9,SNR=4.5						
MALT	Malatya	58.42	310	*e*P	P	14 45 01.3	+0.8
MALT				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
MALT	Malatya	58.42	310	*e*P	P	14 45 01.3	+0.8
	comp=Z,12nm,1.3s,mb4.8						
EIL	Elat	59.38	300	*e*P	P	14 45 06.5	-0.8
	comp=Z,17nm,1.3s,mb4.9						
YAK	Yakutsk	60.01	18	*e*P	P	14 45 10.3	-0.9
YAK				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.4						
YAK	Yakutsk	60.01	18	*e*P	P	14 45 10.3	-0.9
	comp=Z,38nm,0.9s,mb5.4						
STKA	Stephens Creek	60.15	134	P	P	14 45 12.2	-0.3
	comp=Z,4.1nm,0.9s,mb4.5,baz=326,slow=4.7,SNR=3.8						
BRTR	Keskin Array B	62.38	311	P	P	14 45 25.2	-2.3
BRTR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRTR	Keskin Array B	62.38	311	P	P	14 45 25.2	-2.3
	comp=Z,4.6nm,0.9s,mb4.6,baz=124,slow=8.3,SNR=9.5						
MOS	Moscow	65.05	329	*e*P	P	14 45 44.4	-0.3
MOS				pmax	pmax		
	comp=Z,60nm,0.6s,mb5.8						
OBN

ZST	Bratislava	75.49	318	eP	P	14 46 49.5	+1.2
BILL	Bilibino	76.11	22	eP	P	14 46 51.0	-0.4
BILL				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
BILL	Bilibino	76.11	22	eP	P	14 46 51.0	-0.4
	comp=Z,7.5nm,0.9s,mb4.6						
DPC	Dobruska-Polom	76.17	320	eP	P	14 46 53.2	+1.1
UPC	Upice	76.38	320	eP	P	14 46 55.7	+2.4
PRU	Pruhonice	77.29	319	eP	P	14 47 01.8	+3.4
PVCC	Panska Ves	77.30	320	eP	P	14 47 01.8	+3.3
BRG	Berggiesshubel	77.71	320	eP	P	14 47 02.1	+1.3
BRG				pmax	pmax		
	comp=Z,22nm,1.7s,mb4.8						
BRG	Berggiesshubel	77.71	320	eP	P	14 47 02.1	+1.3
	comp=Z,22nm,1.7s,mb4.8						
GERES	GERESS Array B	77.79	318	P	P	14 47 01.1	-0.1
GERES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GERES	GERESS Array B	77.79	318	P	P	14 47 01.1	-0.1
	comp=Z,2.7nm,0.7s,mb4.3,baz=90,slow=6.7,SNR=11						
KHC	Kasperske Hory	77.88	318	eP	P	14 47 00.8	-0.9
KHC				e		14 47 06.5	
KHC	Kasperske Hory	77.88	318	eP	P	14 47 00.8	-0.9
KHC				pP	pP	14 47 06.5	-5.5
CLL	Collm	78.32	321	eP	P	14 47 06.0	+1.9
CLL	Collm	78.32	321	P	P	14 47 06.0	+1.9
NKC	Novy Kostel	78.64	320	eP	P	14 47 08.4	+2.5
MOX	Moxa	79.18	320	eP	P	14 47 10.0	+1.2
GRA1	Grafenberg Arr	79.43	319	eP	P	14 47 10.9	+0.7
	comp=Z,29nm,1.5s,mb5.0						
GRF	Grafenberg Arr	79.43	319	eP	P	14 47 10.9	+0.7
GRF				pmax	pmax		
	comp=Z,29nm,1.5s,mb5.0						
GRF	Grafenberg Arr	79.43	319	eP	P	14 47 10.9	+0.7
GRF				pmax	pmax		
	comp=Z,29nm,1.5s,mb5.0						
GRF	Grafenberg Arr	79.43	319	eP	P	14 47 10.9	+0.7
	comp=Z,29nm,1.5s,mb5.0						
NB2	NORSAR Subarra	79.70	331	P	P	14 47 10.1	-1.3
	comp=Z,2.9nm,0.6s,mb4.4,baz=96,slow=5.0						
NB2	NORSAR Subarra	79.70	331	P	P	14 47 10.1	-1.3
NB2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
NOA	NORSAR Array B	79.70	331	P	P	14 47 10.6	-0.8
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NOA	NORSAR Array B	79.70	331	P	P	14 47 10.6	-0.8
	comp=Z,3.5nm,0.7s,mb4.4,baz=94,slow=5.1,SNR=12						
LPG	La Plagne	82.58	315	eP	P	14 47 27.4	+0.6
	comp=Z,35nm,1.1s,mb5.0						
LPG	La Plagne	82.58	315	eP	P	14 47 27.4	+0.6
LPG				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
SYO	Syowa Base	85.39	197	⇓PcP	PcP	14 47 48.5	+4.6
SYO	Syowa Base	85.39	197	⇑PP	PP	14 51 09.5	+9.2
ESDC	Sonseca Array	91.17	310	P	P	14 48 08.0	-0.8
	comp=Z,0.9nm,0.6s,mb4.2,baz=30,slow=10,SNR=3.1						
IMA	Indian Mountai	91.64	22	eP	P	14 48 12.4	+2.1
SPU	Mount Spurr	94.31	26	eP	P	14 48 23.7	+1.2
ILAR	Eielson Array	94.77	22	P	P	14 48 26.6	+2.0
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	Eielson Array	94.77	22	P	P	14 48 26.6	+2.0
	comp=Z,0.5nm,0.7s,mb4.0,baz=293,slow=4.2,SNR=5.7						
YKA	Yellowknife Ar	106.44	13	PP	PP	14 53 38.8	-6.0
	comp=Z,0.3nm,0.9s,baz=335,slow=8.0,SNR=4.6						
YKA				PKKPbc		15 04 49.0	
	comp=Z,0.2nm,0.6s,baz=158,slow=3.1,SNR=4.2						
YKA				PKKPab		15 05 04.9	
	comp=Z,0.2nm,0.8s,baz=145,slow=4.2,SNR=4.1						
PPT	Papeete	117.40	106	eLR	LR	14 50 54.8	
	comp=Z,669nm,24.2s						
NVAR	Mina Array Bea	124.95	31	PKP	PKPdf	14 54 06.2	+3.3
	comp=Z,1.6nm,0.7s,baz=318,slow=2.1,SNR=9.7						
PDAR	Pinedale Array	125.19	21	PKP	PKPdf	14 54 04.0	+0.8
	comp=Z,1.1nm,0.8s,baz=110,slow=0.8,SNR=7.4						
MSU	Marysvale	127.78	26	ePKIKP	PKPdf	14 54 11.9	+3.5
TXAR	Lajitas Array	139.25	24	PKP	PKPdf	14 54 32.9	+2.9
	comp=Z,0.4nm,0.4s,baz=180,slow=1.3,SNR=3.8						
PLCA	Paso Flores	144.53	200	PKIKP	PKPdf	14 54 41.0	+2.1
PLCA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PLCA	Paso Flores	144.53	200	PKP	PKPdf	14 54 41.0	+2.0
	comp=Z,7.1nm,0.8s,baz=167,slow=2.4,SNR=13						

MAN 27 14:35:16.4, 16.99N×121.76E, h6km, mb4.0, ML2.8, MS2.5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CVP	Callao Caves	0.72	5	eP	Pg	14 35 29.5	-1.2

*IDC **27** 14:38:32.3±0.8, 7.64N×93.90E, mb3.9/8, mb1 4.1/9, mb1mx3.9/16, mbtmp3.9/9, ML3.3/1, Error ellipse: s-maj=32.1km s-min=21.9km az=48.0*
*NEIC **27** 14:38:36.8±0.5, 7.77N×94.03E, h30km, mb4.2/3, Error ellipse: s-maj=15.6km s-min=11.1km az=75.0*
ISC 27 14:38:31.9±0.7, **7.76N**±0.09×**94.1E**±0.1, **h10**km, **n21**, σ**1ş10**/18, **mb3.9**/11, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.65	24	P	P	14 41 20.0	-1.3
CMAR	Chiang Mai Arr	11.65	24	Pn	P	14 41 21.4	+0.1
	0.1nm,0.3s,baz=209,slow=15,SNR=4.6						
LSA	Lhasa	22.00	353	eP	P	14 43 29.6	+1.4
	10.0nm,0.6s,mb4.4						
AAK	Ala-Archa	38.78	337	P	P	14 45 58.0	-0.5
SONM	Songino Array	41.30	13	P	P	14 46 19.5	+0.4
	1.0nm,0.9s,mb3.5,baz=231,slow=9.2,SNR=2.6						
KURK	Kurchatov	44.71	346	eP	P	14 46 46.1	-0.8
	2.3nm,0.7s,mb4.1						
WRA	Warramunga Arr	48.25	125	P	P	14 47 15.6	+0.3
	1.1nm,0.9s,mb3.9,baz=302,slow=8.6,SNR=5.5						
WRAB	Tennant Creek	48.26	125	P	P	14 47 14.7	-0.7
CHKZ	Chkalovo	49.56	342	eP	P	14 47 22.9	-2.0
	1.8nm,0.7s,mb4.2						
ASAR	Alice Springs	49.90	130	P	P	14 47 28.4	+0.5
	0.6nm,0.8s,mb3.7,baz=301,slow=7.2,SNR=3.2						
KMBO	Kilima Mbogo	57.34	264	P	P	14 48 20.9	-2.1
	0.7nm,0.5s,mb4.0,baz=59,slow=23,SNR=2.3						
FINES	FINESS Array B	72.78	332	P	P	14 50 04.0	+1.8
	1.3nm,0.6s,mb4.0,baz=90,slow=3.8,SNR=3.7						
FINES	FINESS Array B	72.78	332	P	P	14 50 04.0	+1.8
ARCES	ARCESS Array B	75.35	340	P	P	14 50 17.9	+0.9
	3.5nm,0.9s,mb4.3,baz=63,slow=5.4,SNR=3.7						
MORC	Moravsky Berou	75.42	319	eP	P	14 50 18.0	+0.3
GERES	GERESS Array B	77.86	318	P	P	14 50 32.3	+0.9
	0.5nm,0.6s,mb3.6,baz=72,slow=6.2,SNR=3.9						
NB2	NORSAR Subarra	79.80	331	P	P	14 50 45.2	+3.5
	0.2nm,0.6s,mb3.2,baz=95,slow=5.8						
NOA	NORSAR Array B	79.80	331	P	P	14 50 41.8	+0.1
	1.7nm,1.2s,mb3.9,baz=130,slow=5.4,SNR=3.0						
NVAR	Mina Array Bea	125.06	31	PKP	PKPdf	14 57 35.9	-0.3
	0.3nm,0.7s,baz=315,slow=2.6,SNR=2.7						
PDAR	Pinedale Array	125.31	21	PKP	PKPdf	14 57 36.3	-0.2
	0.4nm,0.9s,baz=333,slow=2.0,SNR=2.3						
PLCA	Paso Flores	144.41	200	PKP	PKPdf	14 58 11.0	-0.8
	2.8nm,1.0s,baz=68,slow=2.9,SNR=3.2						

*BJI **27** 14:39:49.8, 7.21N×93.97E, h30km, mb4.8*
*IDC **27** 14:39:52.0±0.7, 7.94N×94.05E, mb4.2/18, mb1 4.3/19, mb1mx4.3/21, mbtmp4.2/19, ML4.1/1, Error ellipse: s-maj=36.3km s-min=14.2km az=49.0*
*NEIC **27** 14:39:56.3±0.4, 7.99N×94.12E, h30km, mb4.6/10, Error ellipse: s-maj=13.2km s-min=8.3km az=64.0*
ISC 27 14:39:51.4±0.4, **7.86N**±0.07×**94.06E**±0.09, **h10**km, **n48**, σ**1ş08**/45, **mb4.4**/29, **1C, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.56	24	eP	P	14 42 36.0	-3.6
	12nm,0.8s						
CMAR	Chiang Mai Arr	11.56	24	Pn	P	14 42 40.5	+1.0
	0.4nm,0.3s,baz=212,slow=14,SNR=17						
HYB	Hyderabad	17.85	304	eP	P	14 44 07.0	+5.3
HYB				eS	S	14 47 03.0	-15
HYB	Hyderabad	17.85	304	iP	P	14 44 07.0	+5.3
KMI	Kunming	19.06	25	⇑P	P	14 44 20.1	+3.6
	36nm,1.0s						
JIRN	Jiri	21.06	340	eP	P	14 44 38.2	+0.1
PKI	Pulchoki	21.25	338	eP	P	14 44 41.2	+1.2
	37nm,0.6s,mb4.9						
DMN	Daman	21.39	338	eP	P	14 44 42.6	+1.1
KKN	Kakani	21.50	338	eP	P	14 44 42.7	+0.2
LSA	Lhasa	21.90	353	P	P	14 44 49.5	+2.9
LSA	Lhasa	21.90	353	eP	P	14 44 46.7	+0.1
	22nm,0.7s,mb4.7						
GKN	Gorkha	21.93	337	eP	P	14 44 47.4	+0.5
	46nm,0.7s,mb5.0						
KOLN	Koldanda	22.14	335	eP	P	14 44 49.9	+0.9
	62nm,1.0s,mb5.0						
NDI	New Delhi	26.10	325	e	P	14 45 23.1	-4.2
ENH	Enshi	26.57	31	eP	P	14 45 30.8	-0.8
	22nm,1.1s,mb4.6						
AAK	Ala-Archa	38.69	337	eP	P	14 47 14.8	-2.3
	2.9nm,0.7s,mb4.1						
SONM	Songino Array	41.20	13	P	P	14 47 37.6	-0.2
	2.3nm,0.9s,mb3.8,baz=191,slow=6.3,SNR=6.1						
KURK	Kurchatov	44.61	346	eP	P	14 48 04.9	-0.7
	12nm,1.0s,mb4.7						
NWAO	Narrogin (SRO)	46.17	153	P	P	14 48 18.9	+0.6
	4.0nm,0.6s,mb4.5,baz=353,slow=13,SNR=3.2						
ZAL	Zalesovo	46.55	352	P	P	14 48 21.1	+0.1
	2.9nm,0.8s,mb4.3,baz=298,slow=7.6						
HIA	Hailar	46.57	23	eP	P	14 48 20.9	-0.2
	3.0nm,0.8s,mb4.3						
WRA	Warramunga Arr	48.32	125	P	P	14 48 34.9	-0.4
	5.7nm,1.3s,mb4.5,baz=303,slow=8.8,SNR=5.1						
WRAB	Tennant Creek	48.32	125	eP	P	14 48 34.8	-0.6
BVAR	Borovoye Array	48.98	341	P	P	14 48 39.3	-0.6
	4.0nm,1.1s,mb4.3,baz=143,slow=7.4,SNR=4.5						
BVAR				PcP	PcP	14 50 03.9	-0.5
	0.6nm,0.6s,baz=146,slow=5.2,SNR=3.0						
CHKZ	Chkalovo	49.46	342	eP	P	14 48 41.7	-1.9
	22nm,1.4s,mb5.0						
ASAR	Alice Springs	49.97	130	P	P	14 48 47.5	-0.5
	1.6nm,0.9s,mb4.1,baz=299,slow=6.8,SNR=5.3						
ASAR				PcP	PcP	14 50 09.4	+1.1
	0.6nm,0.8s,baz=288,slow=2.9,SNR=2.8						
PMG	Port Moresby	55.60	107	P	P	14 49 31.2	+1.1
	4.2nm,0.6s,mb4.7,baz=301,slow=13,SNR=2.8						
KMBO	Kilima Mbogo	57.34	264	P	P	14 49 46.8	+4.2
	1.5nm,0.5s,mb4.2,baz=66,slow=9.8,SNR=7.0						
YAK	Yakutsk	60.03	18	eP	P	14 49 59.2	-1.4
	5.7nm,0.6s,mb4.8						
STKA	Stephens Creek	60.15	134	P	P	14 50 03.1	+1.2
	1.6nm,0.8s,mb4.1,slow=4.0,SNR=2.5						
BRTR	Keskin Array B	62.38	311	P	P	14 50 15.8	-0.9
	1.7nm,0.8s,mb4.2,baz=122,slow=6.7,SNR=4.9						
MBAR	Mbarara	63.68	265	eP	P	14 50 25.6	-0.3
AKASG	Malin Array Be	68.12	322	P	P	14 50 52.5	-1.1
	0.5nm,0.3s,mb4.0,baz=88,slow=4.5,SNR=4.3						
IDI	Anoyia	68.51	305	P	P	14 50 56.9	+0.5
	6.8nm,0.8s,mb4.6,baz=240,slow=15,SNR=2.8						
FINES	FINESS Array B	72.69	332	P	P	14 51 20.6	-0.5
	1.4nm,0.5s,mb4.2,baz=108,slow=6.0,SNR=6.2						
CASY	Casey	74.92	173	P	P	14 51 33.3	-0.8
ARCES	ARCESS Array B	75.25	340	P	P	14 51 36.3	+0.4
	5.0nm,0.9s,mb4.4,baz=102,slow=4.5,SNR=5.1						
MORC	Moravsky Berou	75.33	319	eP	P	14 51 35.0	-1.8
GERES	GERESS Array B	77.78	318	P	P	14 51 51.6	+1.2
	1.7nm,0.8s,mb4.1,baz=89,slow=5.6,SNR=6.5						
CLL	Collm	78.32	321	e*PP	pP	14 52 02.0	+5.5
NB2	NORSAR Subarra	79.70	331	P	P	14 52 00.6	-0.1
	0.9nm,0.6s,mb3.9,baz=95,slow=5.0						
NOA	NORSAR Array B	79.70	331	P	P	14 51 60.0	-0.8
	1.6nm,0.7s,mb4.0,baz=94,slow=5.2,SNR=4.3						
LPG	La Plagne	82.57	315	eP	P	14 52 18.3	+2.2
	15nm,0.9s,mb4.7						
ESDC	Sonseca Array	91.17	310	P	P	14 53 00.1	+2.0
	0.2nm,0.3s,mb3.9,baz=57,slow=2.6,SNR=2.4						
ILAR	Eielson Array	94.79	22	P	P	14 53 14.7	+0.5
	0.4nm,0.7s,mb3.9,baz=307,slow=4.5,SNR=5.4						
NVAR	Mina Array Bea	124.97	31	PKP	PKPdf	14 58 55.9	+0.4
	0.4nm,0.5s,baz=321,slow=2.9,SNR=3.9						
PDAR	Pinedale Array	125.21	21	PKP	PKPdf	14 58 55.0	-0.9
	0.7nm,0.8s,baz=40,slow=2.0,SNR=5.5						
PLCA	Paso Flores	144.51	200	PKP	PKPdf	14 59 30.2	-1.2
	6.7nm,1.2s,baz=64,slow=2.5,SNR=4.3						

*IDC **27** 14:42:48.7±0.6, 7.91N×94.00E, mb4.5/23, mb1 4.6/24, mb1mx4.5/26, mbtmp4.5/24, ML4.4/1, MS4.5/5, Ms1 4.6/5, ms1mx3.8/29, Error ellipse: s-maj=29.2km s-min=13.6km az=48.0*
*MOS **27** 14:42:51.8±1.3, 7.96N×94.01E, h33km, mb4.9/36, Error ellipse: s-maj=12.5km s-min=6.8km az=102.9*
*BJI **27** 14:42:51.8, 7.76N×93.82E, h42km, mB5.3, mb4.7, Ms4.9, Msz4.6*
*NEIC **27** 14:42:53.0±0.3, 7.94N×94.07E, h30km, mb4.7/19, Error ellipse: s-maj=10.2km s-min=8.0km az=66.0*
ISC 27 14:42:51.9±0.4, **8.02N**±0.06×**94.21E**±0.06, **h33**km, **n116**, σ**1ş22**/109, **mb4.6**/46, **MS4.5**/5, **3C-3D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.35	23	eP	P	14 45 33.4	-1.5
	21nm,0.8s						
CMAR	Chiang Mai Arr	11.35	23	P	P	14 45 36.5	+1.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,2μm,18.3s						
CMAR	Chiang Mai Arr	11.35	23	Pn	P	14 45 36.5	+1.6
	comp=Z,0.8nm,0.3s,baz=212,slow=14,SNR=30						
CMAR				LR	LR	14 50 12.9	
	comp=Z,2μm,18.2s,baz=210,slow=38						
SHL	Shillong	17.59	353	eP	P	14 46 54.2	-2.0
HYB	Hyderabad	17.89	303	iP	P	14 47 02.5	+2.5
KMI	Kunming	18.85	25	⇓P	P	14 47 16.0	+4.1
KMI				pmax	pmax		
	comp=Z,45nm,1.3s						
KMI	Kunming	18.85	25	⇓P	P	14 47 16.0	+4.1
	comp=Z,45nm,1.3s						
KMI				S		14 51 11.5	
JIRN	Jiri	20.95	340	eP	P	14 47 34.7	+0.1
PKI	Pulchoki	21.15	338	eP	P	14 47 36.5	-0.1
DMN	Daman	21.30	337	eP	P	14 47 38.0	0.0
KKN	Kakani	21.40	338	eP	P	14 47 38.7	-0.3
LSA	Lhasa	21.76	353	P	P	14 47 42.8	+0.2
LSA				AMB	AMB		
	comp=Z,40nm,0.9s,mb4.8						
LSA	Lhasa	21.76	353	eP	P	14 47 42.7	+0.1
LSA				pmax	pmax		
	comp=Z,31nm,0.7s,mb4.8						
LSA	Lhasa	21.76	353	eP	P	14 47 42.7	+0.1
	comp=Z,31nm,0.7s,mb4.8						
GKN	Gorkha	21.84	337	eP	P	14 47 43.5	+0.1
	comp=Z,104nm,0.8s,mb5.3						
KOLN	Koldanda	22.06	334	eP	P	14 47 46.0	+0.4
	comp=Z,98nm,0.8s,mb5.3						
WHN	Wuhan	29.28	37	P	P	14 48 55.5	+2.1
WMQ	Urumqi	36.11	352	P	P	14 49 53.5	+0.7
BJT	Baijiatuau	37.42	28	eP	P	14 50 05.0	+1.2
BJT				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BJT	Baijiatuau	37.42	28	eP	P	14 50 05.0	+1.1
	comp=Z,9.9nm,0.9s,mb4.6						
BJI	Beijing	37.44	28	P	P	14 50 06.8	+2.8
BJI				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.7						
BJI				MLR	MLR		
	comp=Z,620nm,22.6s,MS4.3						
BJI	Beijing	37.44	28	P	P	14 50 06.8	+2.8
	comp=Z,12nm,0.9s,mb4.7						
BJI				LR	LR		
	comp=Z,620nm,22.6s,MS4.3						
AAK	Ala-Archa	38.60	336	eP	P	14 50 12.5	-1.1
AAK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.5						
AAK	Ala-Archa	38.60	336	eP	P	14 50 12.5	-1.1
	comp=Z,12nm,1.1s,mb4.5						
MKAR	Makanchi Array	39.96	347	iP	P	14 50 24.2	-0.7
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SONM	Songino Array	41.00	13	P	P	14 50 34.9	+1.4
	comp=Z,4.7nm,1.0s,mb4.1,baz=198,slow=7.8,SNR=11						
SONM				PcP	PcP	14 52 34.6	+0.8
	comp=Z,1.3nm,0.7s,baz=210,slow=4.3,SNR=3.6						
ULN	Ulaanbaatar	41.18	13	eP	P	14 50 33.6	-1.3
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
ULN	Ulaanbaatar	41.18	13	eP	P	14 50 33.6	-1.3
	comp=Z,5.3nm,1.0s,mb4.1						
ZAK	Zakamensk	42.89	9	eP	P	14 50 48.7	-0.3
ZAK				e		14 52 34.4	
KURK	Kurchatov	44.48	346	iP	P	14 51 01.9	+0.1
KURK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
KURK	Kurchatov	44.48	346	eP	P	14 51 01.5	-0.4
	comp=Z,26nm,1.0s,mb4.9						
NWAO	Narrogin (SRO)	46.25	153	P	P	14 51 17.2	+1.1
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NWAO	Narrogin (SRO)	46.25	153	P	P	14 51 17.2	+1.1
	comp=Z,8.1nm,0.8s,mb4.7,baz=340,slow=13,SNR=4.2						
ZAL	Zalesovo	46.41	352	P	P	14 51 17.6	+0.5
ZAL				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ZAL	Zalesovo	46.41	352	P	P	14 51 17.6	+0.5
	comp=Z,9.4nm,1.0s,mb4.7,baz=297,slow=9.1,SNR=23						
NVS	Novosibirsk	47.51	351	iP	P	14 51 24.4	-1.4
WRA	Warramunga Arr	48.29	126	P	P	14 51 31.9	-0.4
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA	Warramunga Arr	48.29	126	P	P	14 51 31.9	-0.4
	comp=Z,2.0nm,0.5s,mb4.4,baz=304,slow=8.5,SNR=17						
WRAB	Tennant Creek	48.29	126	eP	P	14 51 31.4	-0.9
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
WRAB	Tennant Creek	48.29	126	eP	P	14 51 31.4	-1.0
	comp=Z,4.7nm,0.6s,mb4.7						
WB2	Warramunga Arr	48.30	126	eP	P	14 51 31.5	-0.9
BVA0	Borovoye Array	48.87	341	iP	P	14 51 35.6	-0.7
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.0						
BVAR	Borovoye Array	48.87	341	P	P	14 51 35.8	-0.6
	comp=Z,3.2nm,0.9s,mb4.3,baz=149,slow=8.6,SNR=8.9						
BVAR				PcP	PcP	14 53 01.0	+0.1
	comp=Z,1.2nm,0.7s,baz=180,slow=5.8,SNR=3.8						
JHJ	Hachijo jima 2	48.91	53	LR	LR	15 13 25.9	
	comp=Z,367nm,18.3s,MS4.4,baz=32,slow=37						
BRVK	Borovoye	48.93	341	eP	P	14 51 34.7	-2.1
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
BRVK	Borovoye	48.93	341	eP	P	14 51 34.7	-2.1
	comp=Z,7.8nm,1.1s,mb4.7						
RAYN	Ar Rayn	49.09	294	P	P	14 51 40.0	+1.6
	comp=Z,99nm,0.9s,SNR=20						
CHKZ	Chkalovo	49.35	342	P	P	14 51 39.3	-0.8
CHKZ				pmax	pmax		
	comp=Z,26nm,1.4s,mb5.1						
CHKZ	Chkalovo	49.35	342	eP	P	14 51 38.6	-1.4
	comp=Z,22nm,1.1s,mb5.1						
ASAR	Alice Springs	49.96	130	P	P	14 51 44.2	-0.9
	comp=Z,1.1nm,0.6s,mb4.0,baz=305,slow=7.7,SNR=7.1						
ASAR				PcP	PcP	14 53 05.7	+0.5
	comp=Z,1.6nm,0.7s,baz=318,slow=3.9,SNR=6.2						
BOD	Bodaibo	51.99	13	eP	P	14 51 59.6	-0.4
GNI	Garni	54.38	314	P	P	14 52 19.1	+1.1
GNI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GNI				MLR	MLR		
	comp=Z,201nm,19.1s						
GNI	Garni	54.38	314	P	P	14 52 19.1	+1.0
	comp=Z,3.4nm,0.5s,mb4.5,baz=349,slow=20,SNR=2.5						
GNI				LR	LR	15 20 35.1	
	comp=Z,201nm,19.1s,MS4.2,baz=290,slow=42						
SVE	Sverdlovsk	55.29	338	eP	P	14 52 21.0	-3.4
PMG	Port Moresby	55.51	107	P	P	14 52 28.2	+1.7
PMG				pmax	pmax		
	comp=Z,11nm,0.9s						
PMG	Port Moresby	55.51	107	P	P	14 52 28.2	+1.6
	comp=Z,11nm,0.9s,mb4.9,baz=270,slow=11,SNR=3.7						
ARU	Arti	55.78	337	eP	P	14 52 20.8	-7.1
KMBO	Kilima Mbogo	57.51	264	P	P	14 52 43.5	+2.6
	comp=Z,7.1nm,0.8s,mb4.7,baz=54,slow=10,SNR=15						
KMBO				LR	LR	15 14 31.6	
	comp=Z,532nm,19.4s,MS4.7,baz=278,slow=33						
ASF	Jabal al Asfar	58.20	303	P	P	14 52 48.0	+2.6
	comp=Z,1.3nm,0.4s,mb4.3,baz=327,slow=14,SNR=2.5						
SOKR	Solikamsk	58.69	339	⇓iP	P	14 52 46.1	-2.4
SOKR				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
YAK	Yakutsk	59.83	18	eP	P	14 52 55.6	-0.8
YAK				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
YAK	Yakutsk	59.83	18	eP	P	14 52 55.6	-0.7
	comp=Z,12nm,0.7s,mb5.0						
STKA	Stephens Creek	60.16	134	P	P	14 53 03.1	+4.1
	comp=Z,2.3nm,0.8s,mb4.2,baz=343,slow=15,SNR=4.0						
BRTR	Keskin Array B	62.39	311	P	P	14 53 12.1	-1.8
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	Keskin Array B	62.39	311	P	P	14 53 12.1	-1.9
	comp=Z,2.4nm,0.7s,mb4.4,baz=126,slow=6.7,SNR=9.3						
MBAR	Mbarara	63.84	265	eP	P	14 53 21.3	-2.7
MBAR				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
MBAR	Mbarara	63.84	265	eP	P	14 53 21.3	-2.7
	comp=Z,9.9nm,1.3s,mb4.7						
OBN	Obninsk	65.29	328	eP	P	14 53 29.5	-3.2
OBN				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
TIXI	Tiksi	67.07	11	⇑iP	P	14 53 43.6	-0.1
TIXI				pmax	pmax		
	comp=Z,32nm,1.5s,mb5.1						
AKASG	Malin Array Be	68.08	322	P	P	14 53 48.2	-2.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	68.08	322	P	P	14 53 48.2	-2.2
	comp=Z,1.3nm,0.5s,mb4.2,baz=86,slow=5.5,SNR=6.9						
IDI	Anoyia	68.54	305	P	P	14 53 54.0	+0.4
	comp=Z,7.0nm,0.6s,mb4.8,baz=109,slow=14,SNR=4.5						
MLR	Muntele Rosu	69.11	316	P	P	14 53 56.6	-0.3
MLR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MLR	Muntele Rosu	69.11	316	P	P	14 53 56.6	-0.2
	comp=Z,4.0nm,0.6s,mb4.5						
JOF	Joensuu	70.75	334	ep	P	14 54 05.8	-0.7
	comp=Z,9.0nm,1.1s,mb4.6						
FINES	FINESS Array B	72.61	332	P	P	14 54 17.4	-0.2
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FINES	FINESS Array B	72.61	332	P	P	14 54 17.4	-0.3
	comp=Z,3.9nm,0.7s,mb4.5,baz=107,slow=3.9,SNR=9.7						
KAF	Kangasniemi	72.69	333	ep	P	14 54 17.8	-0.3
	baz=107,slow=5.2						
LBTB	Lobatse	74.38	241	eP	P	14 54 26.3	-2.4
LBTB				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
LBTB	Lobatse	74.38	241	eP	P	14 54 26.3	-2.4
	comp=Z,6.4nm,0.7s,mb4.7						
KEV	Kevo	74.72	341	ep	P	14 54 30.9	+1.1
ARCES	ARCESS Array B	75.15	340	P	P	14 54 32.7	+0.4
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,673nm,20.3s						
ARCES	ARCESS Array B	75.15	340	P	P	14 54 32.7	+0.4
	comp=Z,4.3nm,0.8s,mb4.4,baz=102,slow=5.2,SNR=9.3						
ARCES				LR	LR	15 30 41.2	
	comp=Z,673nm,20.2s,MS4.9,baz=272,slow=38						
ARCES	ARCESS Array B	75.15	340	P	P	14 54 32.7	+0.4
ARCES				LR	LR	15 30 41.2	
BOSA	Boshof	75.72	238	eP	P	14 54 34.1	-2.3
BOSA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
BOSA	Boshof	75.72	238	eP	P	14 54 34.1	-2.3
	comp=Z,7.6nm,0.8s,mb4.7						
DPC	Dobruska-Polom	76.14	320	eP	P	14 54 39.9	+1.6
BRG	Berggiesshubel	77.68	320	eP	P	14 54 47.8	+0.8
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
BRG	Berggiesshubel	77.68	320	eP	P	14 54 47.8	+0.8
	comp=Z,5.0nm,1.0s,mb4.4						
GERES	GERESS Array B	77.76	318	P	P	14 54 47.9	+0.5
GERES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GERES	GERESS Array B	77.76	318	P	P	14 54 47.9	+0.4
	comp=Z,2.6nm,0.6s,mb4.3,baz=89,slow=5.3,SNR=15						
KHC	Kasperske Hory	77.85	318	eP	P	14 54 48.5	+0.6
KBA	Koelnbreinsper	77.96	316	⇑iP	P	14 54 49.4	+0.9
CLL	Collm	78.29	321	P	P	14 54 51.0	+0.7
HFS	Hagfors	78.36	330	P	P	14 54 50.8	+0.3
HFS				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HFS	Hagfors	78.36	330	P	P	14 54 50.8	+0.3
	comp=Z,8.1nm,0.5s,mb4.9,baz=104,slow=5.9,SNR=8.1						
GRA1	Grafenberg Arr	79.40	319	eP	P	14 54 57.3	+0.9
	comp=Z,11nm,1.3s,mb4.6						

GRF **Grafenberg Arr 79.40 319** *eP* **P 14 54 57.3 +0.9**
GRF pmax pmax
comp=Z,11nm,1.3s,mb4.6
GRF **Grafenberg Arr 79.40 319** *eP* **P 14 54 57.3 +0.9**
GRF pmax pmax
comp=Z,11nm,1.3s,mb4.6
GRF **Grafenberg Arr 79.40 319** *eP* **P 14 54 57.3 +0.9**
comp=Z,11nm,1.3s,mb4.6
SQTA **Sankt Quirin 79.42 317** ⇑ *iP* **P 14 54 56.9 +0.4**
NB2 **NORSAR Subarra 79.64 331** P **P 14 54 56.7 -0.7**
comp=Z,5.1nm,0.8s,mb4.5,baz=91,slow=5.8
NB2 **NORSAR Subarra 79.64 331** P **P 14 54 56.7 -0.7**
NB2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
NOA **NORSAR Array B 79.64 331** P **P 14 54 57.1 -0.3**
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA **NORSAR Array B 79.64 331** P **P 14 54 57.1 -0.3**
comp=Z,3.6nm,0.7s,mb4.4,baz=94,slow=5.2,SNR=8.1
DAVOX **Davos 80.33 316** P **P 14 55 01.9 +0.4**
comp=Z,4.4nm,0.6s,mb4.6,baz=178,slow=12
LPG **La Plagne 82.56 315** *eP* **P 14 55 13.9 +0.8**
comp=Z,8.7nm,0.5s,mb4.8
LPG **La Plagne 82.56 315** *eP* **P 14 55 13.9 +0.8**
LPG pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
ESDC **Sonseca Array 91.18 310** P **P 14 55 55.6 +0.4**
comp=Z,0.5nm,0.5s,mb4.2,baz=63,slow=3.3,SNR=5.4
ILAR **Eielson Array 94.58 22** P **P 14 56 11.2 +1.0**
comp=Z,0.4nm,0.7s,mb4.0,baz=292,slow=4.9,SNR=4.0
YKA **Yellowknife Ar 106.27 13** PP PP 15 01 25.4 -4.4
comp=Z,0.2nm,0.8s,baz=333,slow=8.2,SNR=3.4
YKA PKKPab 15 12 51.2
comp=Z,0.1nm,0.4s,baz=147,slow=3.8,SNR=4.9
NVAR **Mina Array Bea 124.76 31** PKP PKPdf 15 01 52.3 +3.4
comp=Z,1.2nm,0.7s,baz=318,slow=2.2,SNR=6.4
PDAR **Pinedale Array 125.00 21** PKP PKPdf 15 01 51.4 +2.1
comp=Z,0.9nm,0.7s,baz=5.6,slow=0.9,SNR=6.6
MSU **Marysvale 127.59 26** *e*PKIKP PKPdf 15 01 56.3 +1.9
PLCA **Paso Flores 144.71 200** PKIKP PKPdf 15 02 26.8 +1.2
PLCA pmax pmax
comp=Z,9.0nm,0.9s
PLCA **Paso Flores 144.71 200** PKP PKPdf 15 02 26.8 +1.1
comp=Z,9.1nm,0.9s,baz=178,slow=4.1,SNR=12

*IDC **27** 14:47:48.8±1.0, 7.70N×93.70E, mb3.8/7, mb1 3.9/8, mb1mx3.8/17, mbtmp3.8/8, ML4.0/1, Error ellipse: s-maj=55.8km s-min=21.0km az=47.0*
*NEIC **27** 14:47:53.0±0.6, 7.74N×93.80E, h30km, mb3.9/2, Error ellipse: s-maj=22.7km s-min=12.8km az=55.0*
ISC 27 14:47:51.9±0.7, 7.8N±0.1×93.9E±0.2, h33km, n13, σ0 92/12, mb3.8/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.65	24	Pn	P	14 50 39.2	+0.3
0.3nm,0.3s,baz=213,slow=14,SNR=5.4							
AAK	Ala-Archa	38.66	337	*eP*	P	14 55 12.8	-1.3
1.7nm,0.9s,mb3.8							
WRA	Warramunga Arr	48.42	125	P	P	14 56 32.8	-0.5
0.4nm,0.6s,mb3.6,baz=304,slow=8.8,SNR=4.9							
WRAB	Tennant Creek	48.42	125	P	P	14 56 32.0	-1.3
CHKZ	Chkalovo	49.45	342	*eP*	P	14 56 40.4	-0.4
1.0nm,0.6s,mb4.0							
ASAR	Alice Springs	50.06	130	P	P	14 56 47.4	+1.5
0.4nm,0.8s,mb3.5,baz=298,slow=8.0,SNR=4.1							
BRTR	Keskin Array B	62.29	311	P	P	14 58 12.4	-0.9
0.4nm,0.4s,mb3.9,baz=124,slow=10,SNR=3.0							
FINES	FINESS Array B	72.65	332	P	P	14 59 17.4	-0.5
2.3nm,0.7s,mb4.2,baz=121,slow=8.1,SNR=4.9							
MORC	Moravsky Berou	75.27	319	P	P	14 59 33.6	+0.3
GERES	GERESS Array B	77.71	318	P	P	14 59 48.4	+1.2
0.4nm,0.6s,mb3.6,baz=82,slow=6.9,SNR=2.0							
HFS	Hagfors	78.39	330	P	P	14 59 51.6	+1.0
1.5nm,0.8s,mb4.0,baz=82,slow=10,SNR=4.7							
NOA	NORSAR Array B	79.66	331	P	P	14 59 58.2	+0.6
0.8nm,0.9s,mb3.6,baz=104,slow=7.6,SNR=2.3							
PLCA	Paso Flores	144.42	200	PKP	PKPdf	15 07 25.6	+0.5
1.6nm,0.8s,baz=320,slow=18,SNR=2.7							

*NEIC **27** 14:48:10.1±0.6, 7.77N×93.85E, h30km, mb4.4/1, Error ellipse: s-maj=20.8km s-min=11.2km az=64.0*
*IDC **27** 14:48:12.6±9.0, 7.85N×93.96E, h46km±80km, mb3.6/8, mb1 3.8/9, mb1mx3.6/19, mbtmp3.9/9, ML3.8/1, Error ellipse: s-maj=81.9km s-min=19.3km az=56.0*
ISC 27 14:48:08.4±0.9, 7.8N±0.1×93.9E±0.2, h30km, n12, σ0 74/11, mb3.9/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.62	24	P	P	14 50 55.7	+0.2
0.2nm,0.3s,baz=214,slow=14,SNR=4.5							
SONM	Songino Array	41.24	13	P	P	14 55 52.6	+0.2
1.7nm,1.1s,mb3.6,baz=196,slow=9.0,SNR=3.9							
ZAL	Zalesovo	46.56	353	P	P	14 56 35.4	+0.2
3.1nm,0.9s,mb4.2							
WRA	Warramunga Arr	48.40	125	P	P	14 56 50.9	+0.8
0.5nm,0.5s,mb3.8,baz=304,slow=8.6,SNR=5.1							
WRAB	Tennant Creek	48.40	125	P	P	14 56 49.3	-0.8
BVAR	Borovoye Array	48.96	341	P	P	14 56 53.8	-0.3
0.7nm,0.6s,mb3.9,baz=135,slow=6.3,SNR=4.3							
CHKZ	Chkalovo	49.45	342	*eP*	P	14 56 55.9	-1.8
2.7nm,0.7s,mb4.4							
ASAR	Alice Springs	50.04	130	P	P	14 57 02.5	-0.2
0.7nm,0.9s,mb3.7,baz=305,slow=7.1,SNR=3.6							
FINES	FINESS Array B	72.66	332	P	P	14 59 36.1	+1.1
2.1nm,0.9s,mb4.0,baz=90,slow=5.6,SNR=3.4							
GERES	GERESS Array B	77.73	318	P	P	15 00 04.2	0.0
0.9nm,0.8s,mb3.8,baz=90,slow=3.9,SNR=4.0							
HFS	Hagfors	78.39	330	P	P	15 00 08.1	+0.5
1.6nm,0.6s,mb4.1,baz=104,slow=12,SNR=3.2							
PLCA	Paso Flores	144.44	200	PKP	PKPdf	15 07 43.6	-3.7
1.1nm,0.8s,baz=348,slow=18,SNR=2.3							

*NEIC **27** 14:48:22.5±0.8, 7.69N×93.65E, h30km, mb4.2/2, Error ellipse: s-maj=24.5km s-min=11.0km az=64.0*
*IDC **27** 14:48:28.5±9.6, 7.90N×94.00E, h73km±80km, mb3.4/6, mb1 3.5/7, mb1mx3.4/19, mbtmp3.7/7, ML3.9/1, Error ellipse: s-maj=86.3km s-min=18.7km az=58.0*
ISC 27 14:48:20.8±1.0, 7.8N±0.1×93.7E±0.2, h30km, n10, σ0 60/10, mb3.8/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.79	25	P	P	14 51 10.3	+0.2
0.2nm,0.3s,baz=211,slow=14,SNR=4.1							
SONM	Songino Array	41.37	13	P	P	14 56 05.6	-0.2
0.4nm,0.5s,mb3.3,baz=105,slow=19,SNR=2.3							
KURK	Kurchatov	44.64	346	P	P	14 56 32.3	-0.2
3.1nm,0.9s,mb4.1							
ZAL	Zalesovo	46.62	353	P	P	14 56 48.9	+0.8
1.0nm,0.7s,mb3.9							
WRA	Warramunga Arr	48.51	125	P	P	14 57 03.0	-0.4
0.5nm,0.8s,mb3.6,baz=304,slow=8.8,SNR=3.2							
WRAB	Tennant Creek	48.51	125	*eP*	P	14 57 02.9	-0.4
BVAR	Borovoye Array	48.98	341	P	P	14 57 06.4	-0.2
1.0nm,0.9s,mb3.9,baz=146,slow=5.2,SNR=3.0							
CHKZ	Chkalovo	49.47	342	P	P	14 57 09.1	-1.2
1.6nm,0.7s,mb4.2							
ASAR	Alice Springs	50.13	130	P	P	14 57 16.4	+0.7
0.4nm,0.6s,mb3.6,baz=305,slow=7.5,SNR=3.0							
HFS	Hagfors	78.37	330	P	P	15 00 20.7	+0.9
1.2nm,0.6s,mb4.0,baz=121,slow=8.4,SNR=2.5							

*IDC **27** 14:48:58.4±0.9, 7.68N×93.88E, mb4.1/14, mb1 4.2/15, mb1mx4.1/22, mbtmp4.0/15, Error ellipse: s-maj=35.0km s-min=20.5km az=47.0*
*NEIC **27** 14:49:02.6±0.6, 7.68N×93.88E, h30km, mb4.1/4, Error ellipse: s-maj=17.6km s-min=12.2km az=58.0*
ISC 27 14:49:01.4±0.6, 7.7N±0.1×94.0E±0.1, h33km, n27, σ1 07/24, mb4.0/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.70	24	Pn	P	14 51 48.4	-0.8
baz=207,slow=14,SNR=2.4							
KMI	Kunming	19.21	25	P	P	14 53 26.5	+1.0
12nm,0.9s							
AAK	Ala-Archa	38.76	337	P	P	14 56 24.6	+0.1
1.5nm,0.7s,mb3.8							
SONM	Songino Array	41.33	13	P	P	14 56 45.4	-0.3
0.8nm,0.8s,mb3.4,baz=214,slow=10,SNR=2.8							
KURK	Kurchatov	44.70	346	*eP*	P	14 57 13.2	+0.1
1.7nm,0.6s,mb4.0							
ZAL	Zalesovo	46.66	353	P	P	14 57 29.1	+0.6
1.9nm,0.6s,mb4.2,baz=306,slow=11,SNR=2.7							
WRA	Warramunga Arr	48.32	125	P	P	14 57 42.0	0.0
0.8nm,0.6s,mb4.0,baz=304,slow=8.5,SNR=4.9							
WRAB	Tennant Creek	48.33	125	*eP*	P	14 57 41.5	-0.6
BVAR	Borovoye Array	49.06	341	P	P	14 57 46.4	-0.9
0.5nm,0.6s,mb3.7,baz=112,slow=7.8,SNR=2.3							
CHKZ	Chkalovo	49.55	342	*eP*	P	14 57 49.1	-1.9
2.4nm,0.7s,mb4.3							
ASAR	Alice Springs	49.96	130	P	P	14 57 54.8	+0.2
0.8nm,0.7s,mb3.9,baz=302,slow=7.0,SNR=3.2							
ASAR	Alice Springs	49.96	130	P	P	14 57 54.8	+0.2
BRTR	Keskin Array B	62.39	311	P	P	14 59 22.2	-1.2
1.3nm,0.9s,mb4.0,baz=124,slow=4.5,SNR=4.0							
IDI	Anoyia	68.50	305	P	P	15 00 01.5	-1.3
14nm,1.1s,mb4.8,baz=64,slow=16,SNR=2.3							
MLR	Muntele Rosu	69.15	316	P	P	15 00 07.5	+1.0
1.7nm,0.7s,mb4.1,baz=178,slow=10,SNR=3.4							
FINES	FINESS Array B	72.75	332	P	P	15 00 28.5	+0.5
1.5nm,0.7s,mb4.0,baz=163,slow=14,SNR=2.6							
FINES	FINESS Array B	72.75	332	P	P	15 00 28.4	+0.5
ARCES	ARCESS Array B	75.33	340	P	P	15 00 44.8	+2.0
1.8nm,0.7s,mb4.1,baz=106,slow=6.6,SNR=2.6							
ARCES	ARCESS Array B	75.33	340	P	P	15 00 44.8	+2.0
MORC	Moravsky Berou	75.37	319	*eP*	P	15 00 40.7	-2.8
GERES	GERESS Array B	77.81	318	P	P	15 00 58.1	+0.9
0.8nm,0.6s,mb3.8,baz=72,slow=4.2,SNR=3.8							
HFS	Hagfors	78.49	330	P	P	15 01 00.6	0.0
2.4nm,0.7s,mb4.2,baz=135,slow=4.1,SNR=3.1							
NOA	NORSAR Array B	79.76	331	P	P	15 01 08.1	+0.4
1.3nm,0.7s,mb3.9,baz=95,slow=5.8,SNR=3.6							
DAVOX	Davos	80.37	316	P	P	15 01 13.3	+2.1
2.8nm,0.6s,mb4.3,baz=20,slow=23,SNR=3.3							
PDAR	Pinedale Array	125.36	21	PKP	PKPdf	15 08 02.5	+3.1
0.5nm,0.8s,baz=27,slow=3.3,SNR=3.9							
PLCA	Paso Flores	144.36 200		PKP	PKPdf	15 08 35.0	+0.4
4.3nm,1.1s,baz=225,slow=10.0,SNR=3.0							
PLCA	Paso Flores	144.36 200		PKP	PKPdf	15 08 35.0	+0.4

*IDC **27** 14:50:17.7±0.8, 9.23N×92.89E, mb4.1/13, mb1 4.2/14, mb1mx4.1/21, mbtmp4.1/14, ML3.8/1, Error ellipse: s-maj=27.3km s-min=18.1km az=47.0*
ISC 27 14:50:20.9±0.7, 9.3N±0.1×93.0E±0.1, h33km, n14, σ0 90/14, mb4.1/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.76	32	Pn	P	14 52 54.2	-1.7
0.2nm,0.3s,baz=156,slow=28,SNR=2.6							
SONM	Songino Array	40.04	14	P	P	14 57 55.1	+0.7
0.7nm,0.9s,mb3.4,baz=207,slow=6.4,SNR=2.8							
ZAL	Zalesovo	45.00	353	P	P	14 58 35.6	+0.7
1.7nm,0.7s,mb4.0,baz=300,slow=9.9,SNR=4.9							
BVAR	Borovoye Array	47.29	342	P	P	14 58 53.6	+0.6
0.6nm,0.6s,mb3.7,baz=158,slow=7.8,SNR=4.0							
WRA	Warramunga Arr	49.99	126	P	P	14 59 14.4	0.0
2.0nm,0.5s,mb4.4,baz=300,slow=10.0,SNR=16							
ASAR	Alice Springs	51.67	130	P	P	14 59 27.5	+0.4
0.9nm,0.6s,mb3.9,baz=306,slow=7.0,SNR=12							
KMBO	Kilima Mbogo	56.50	262	P	P	15 00 01.4	-1.2
1.0nm,0.7s,mb4.0,baz=46,slow=22,SNR=3.1							
IDI	Anoyia	66.85	304	P	P	15 01 12.1	+0.2
9.7nm,0.8s,mb4.9,baz=335,slow=20,SNR=2.5							
MLR	Muntele Rosu	67.38	315	P	P	15 01 15.8	+0.8
3.4nm,1.0s,mb4.3,baz=176,slow=20,SNR=2.7							
FINES	FINESS Array B	70.94	332	P	P	15 01 36.8	+0.1
0.6nm,0.5s,mb3.8,baz=101,slow=9.7,SNR=3.4							
ARCES	ARCESS Array B	73.56	340	P	P	15 01 53.6	+1.6
5.3nm,0.9s,mb4.5,baz=106,slow=6.6,SNR=2.9							
GERES	GERESS Array B	76.03	318	P	P	15 02 05.2	-1.4
1.0nm,0.8s,mb3.8,baz=90,slow=4.9,SNR=3.8							
HFS	Hagfors	76.67	330	P	P	15 02 09.7	-0.4
9.6nm,1.2s,mb4.6,baz=101,slow=7.3,SNR=3.7							
NOA	NORSAR Array B	77.95	330	P	P	15 02 16.6	-0.6
1.1nm,0.8s,mb3.9,baz=106,slow=5.4,SNR=2.3							

IDC 27 14:54:33.0±9.3, 8.76N×93.74E, h81km±76km, mb3.4/5, mb1 3.6/6, mb1mx3.3/18, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=80.8km s-min=25.0km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.89	27	P	P	14 57 05.6	-2.2
0.1nm,0.3s,baz=211,slow=15,SNR=4.5							
ALBI	Allahabad	20.00	327	*eP*	P	14 59 00.0	-1.6
SONM	Songino Array	40.40	13	P	P	15 02 03.3	-1.3
0.3nm,0.4s,baz=225,slow=4.1,SNR=2.5							
ZAL	Zalesovo	45.63	353	P	P	15 02 45.5	-1.5
0.6nm,0.7s,baz=278,slow=5.3,SNR=3.1							
WRA	Warramunga Arr	49.09	126	P	P	15 03 12.9	-1.6
0.4nm,0.9s,baz=304,slow=9.0,SNR=2.6							
HFS	Hagfors	77.50	330	P	P	15 06 19.1	-2.1
1.7nm,0.8s,baz=97,slow=24,SNR=2.6							
NOA	NORSAR Array B	78.77	331	P	P	15 06 26.8	-1.4
1.0nm,0.9s,baz=157,slow=20,SNR=2.7							

*IDC **27** 14:54:45.6±0.9, 8.17N×94.43E, mb4.0/9, mb1 4.1/10, mb1mx3.9/18, mbtmp3.9/10, ML3.7/1, Error ellipse: s-maj=37.0km s-min=21.4km az=49.0*
ISC 27 14:54:48.8±0.8, 8.2N±0.1×94.5E±0.1, h33km, n11, σ0 56/10, mb4.0/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.03	22	Pn	P	14 57 27.1	-0.3
0.2nm,0.3s,baz=228,slow=13,SNR=3.7							
ZAL	Zalesovo	46.24	352	P	P	15 03 12.2	-0.4
1.0nm,0.4s,mb4.1,baz=291,slow=9.8,SNR=4.5							
WRA	Warramunga Arr	48.16	126	P	P	15 03 28.2	0.0
2.1nm,1.1s,mb4.1,baz=302,slow=9.0,SNR=5.7							
ASAR	Alice Springs	49.86	130	P	P	15 03 41.1	-0.1
1.0nm,0.9s,mb3.8,baz=310,slow=6.9,SNR=4.3							
KMBO	Kilima Mbogo	57.84	263	P	P	15 04 39.5	-0.5
0.7nm,0.4s,mb4.0,baz=62,slow=22,SNR=3.6							
BRTR	Keskin Array B	62.48	311	P	P	15 05 10.4	-1.0
0.8nm,0.6s,mb4.0,baz=135,slow=8.2,SNR=2.9							
FINES	FINESS Array B	72.57	332	P	P	15 06 14.5	+0.3
2.9nm,0.9s,mb4.2,baz=146,slow=5.0,SNR=3.0							
GERES	GERESS Array B	77.81	318	P	P	15 06 45.5	+1.0
1.0nm,0.7s,mb3.9,baz=76,slow=5.5,SNR=4.5							
HFS	Hagfors	78.34	330	P	P	15 06 48.0	+0.8
4.3nm,1.1s,mb4.3,baz=315,slow=2.1,SNR=3.1							
NOA	NORSAR Array B	79.60	331	P	P	15 06 54.2	+0.1
1.1nm,0.8s,mb3.9,baz=93,slow=5.5,SNR=3.3							
PLCA	Paso Flores	145.02 200		PKP	PKPdf	15 14 24.2	+1.2
3.4nm,0.9s,baz=171,slow=6.0,SNR=5.0							

*MOS **27** 14:55:25.1±1.0, 8.05N×94.17E, h33km, mb4.8/24, Error ellipse: s-maj=18.3km s-min=9.5km az=105.1*
*BJI **27** 14:55:25.0, 7.58N×93.83E, h54km, mb4.7, Ms4.5, Msz4.1*
*NEIC **27** 14:55:26.1±0.4, 7.91N×94.14E, h30km, mb4.7/11, Error ellipse: s-maj=11.0km s-min=9.0km az=73.0*
*IDC **27** 14:55:30.3±4.5, 8.04N×94.27E, h65km±40km, mb4.1/21, mb1 4.2/22, mb1mx4.1/26, mbtmp4.4/22, ML3.9/1, Error ellipse: s-maj=25.3km s-min=13.1km az=51.0*
ISC 27 14:55:28.1±2.4, 8.01N±0.09×94.29E±0.09, h63km±21km, n69, σ1 05/65, mb4.5/32, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.32	23	*eP*	P	14 58 08.4	-1.0
36nm,1.1s							
CMAR	Chiang Mai Arr	11.32	23	P	P	14 58 09.5	+0.1
0.3nm,0.3s,baz=213,slow=14,SNR=9.9							
HYB	Hyderabad	17.96	303	*iP*	P	14 59 36.0	+0.8
LSA	Lhasa	21.77	353	*eP*	P	15 00 18.9	+2.7
LSA pmax pmax							
comp=Z,40nm,0.9s,mb4.8							
LSA	Lhasa	21.77	353	*eP*	P	15 00 18.9	+2.7
comp=Z,40nm,0.9s,mb4.8							
NDI	New Delhi	26.11	324	*e*	P	15 00 54.0	-4.1
ENH	Enshi	26.33	31	*eP*	P	15 01 01.3	+1.2
comp=Z,18nm,0.9s,mb4.6							
SONM	Songino Array	40.99	12	P	P	15 03 07.6	+1.1
comp=Z,3.1nm,0.9s,mb4.0,baz=191,slow=6.3,SNR=9.2							
ZAK	Zakamensk	42.89	8	*eP*	P	15 03 22.4	+0.4
KURK	Kurchatov	44.51	346	*eP*	P	15 03 33.7	-1.4
KURK pmax pmax							
comp=Z,23nm,1.2s,mb4.9							
KURK	Kurchatov	44.51	346	*eP*	P	15 03 33.7	-1.4
comp=Z,23nm,1.2s,mb4.9							
NWAO	Narrogin (SRO)	46.20	153	P	P	15 03 49.8	+1.0
NWAO pmax pmax							
comp=Z,12nm,0.9s							
NWAO	Narrogin (SRO)	46.20	153	P	P	15 03 49.8	+1.0
comp=Z,12nm,0.9s,mb4.8,baz=355,slow=11,SNR=4.0							
HIA	Hailar	46.34	23	*eP*	P	15 03 51.0	+1.4
HIA pmax pmax							
comp=Z,8.0nm,1.0s							
HIA	Hailar	46.34	23	*eP*	P	15 03 51.0	+1.3
comp=Z,8.2nm,1.0s,mb4.6							
ZAL	Zalesovo	46.43	352	P	P	15 03 50.7	+0.4
ZAL pmax pmax							
comp=Z,4.0nm,0.6s							
ZAL	Zalesovo	46.43	352	P	P	15 03 50.7	+0.4
comp=Z,3.9nm,0.6s,mb4.5,baz=300,slow=7.4,SNR=12							
ZAL	Zalesovo	46.43	352	P	P	15 03 50.7	+0.4
NVS	Novosibirsk	47.53	351	*iP*	P	15 03 57.7	-1.2
WRA	Warramunga Arr	48.22	126	P	P	15 04 04.7	-0.1
WRA pmax pmax							
comp=Z,2.0nm,1.0s							
WRA	Warramunga Arr	48.22	126	P	P	15 04 04.7	-0.1
comp=Z,2.3nm,0.9s,mb4.2,baz=307,slow=9.1,SNR=7.5							
BVAR	Borovoye Array	48.91	341	P	P	15 04 08.7	-0.9
comp=Z,3.7nm,0.9s,mb4.4,baz=143,slow=7.4,SNR=8.5							
CHKZ	Chkalovo	49.39	342	*eP*	P	15 04 11.6	-1.7
CHKZ pmax pmax							
comp=Z,16nm,1.0s,mb5.0							
CHKZ	Chkalovo	49.39	342	*eP*	P	15 04 11.6	-1.8
comp=Z,16nm,1.0s,mb5.0							
ASAR	Alice Springs	49.89	130	P	P	15 04 16.9	-0.6
comp=Z,1.9nm,0.8s,mb4.2,baz=308,slow=7.4,SNR=7.7							
BOD	Bodaibo	51.98	13	*eP*	P	15 04 32.1	-0.8
ARU	Arti	55.82	337	*eP*	P	15 04 53.8	-7.4
KIV	Kislovodsk	57.32	318	*eP*	P	15 05 13.2	+1.2
KIV pmax pmax							
comp=Z,10.0nm,0.9s,mb4.8							
KMBO	Kilima Mbogo	57.59	264	P	P	15 05 15.0	+0.7
KMBO pmax pmax							
comp=Z,3.0nm,0.8s							
KMBO	Kilima Mbogo	57.59	264	P	P	15 05 14.9	+0.6
comp=Z,3.3nm,0.8s,mb4.4,baz=56,slow=11,SNR=7.9							
ASF	Jabal al Asfar	58.27	303	P	P	15 05 19.9	+1.1
comp=Z,1.3nm,0.5s,mb4.3,baz=131,slow=10,SNR=2.2							
EIL	Elat	59.49	300	P	P	15 05 26.9	-0.4
comp=Z,2.7nm,0.6s,mb4.5,baz=164,slow=38,SNR=2.4							
STKA	Stephens Creek	60.09	134	P	P	15 05 30.4	-1.0
comp=Z,3.9nm,1.0s,mb4.4,baz=348,slow=14,SNR=3.0							
BRTR	Keskin Array B	62.45	311	P	P	15 05 45.0	-2.2
BRTR pmax pmax							
comp=Z,2.0nm,0.7s							
BRTR	Keskin Array B	62.45	311	P	P	15 05 45.0	-2.2
comp=Z,1.7nm,0.7s,mb4.3,baz=124,slow=8.9,SNR=4.4							
TIXI	Tiksi	67.07	11	⇑ *iP*	P	15 06 16.4	-0.1
TIXI pmax pmax							
comp=Z,20nm,1.1s,mb5.1							
AKASG	Malin Array Be	68.14 322		P	P	15 06 21.5	-2.0
AKASG pmax pmax							
comp=Z,2.0nm,0.7s							
AKASG	Malin Array Be	68.14 322		P	P	15 06 21.5	-2.1
comp=Z,2.0nm,0.7s,mb4.3,baz=87,slow=4.7,SNR=7.3							
IDI	Anoyia	68.61 305		P	P	15 06 25.8	-0.9
comp=Z,8.0nm,0.9s,mb4.6,baz=105,slow=12,SNR=2.9							
MLR	Muntele Rosu	69.18 316		P	P	15 06 29.9	-0.2
MLR pmax pmax							
comp=Z,7.0nm,0.9s							
MLR	Muntele Rosu	69.18 316		P	P	15 06 29.9	-0.2
comp=Z,6.7nm,0.9s,mb4.6,baz=222,slow=15,SNR=4.4							
FINES	FINESS Array B	72.66 332		P	P	15 06 50.4	-0.3
FINES pmax pmax							
comp=Z,4.0nm,0.7s							
FINES	FINESS Array B	72.66 332		P	P	15 06 50.4	-0.3
comp=Z,3.9nm,0.7s,mb4.5,baz=108,slow=6.0,SNR=8.2							
ARCES	ARCESS Array B	75.19 340		P	P	15 07 05.8	+0.6
ARCES pmax pmax							
comp=Z,6.0nm,1.1s							
ARCES	ARCESS Array B	75.19 340		P	P	15 07 05.8	+0.6
comp=Z,6.3nm,1.1s,mb4.5,baz=118,slow=3.8,SNR=7.8							
BILL	Bilibino	75.90	22	*eP*	P	15 07 09.8	+0.5
BILL pmax pmax							
comp=Z,7.0nm,1.0s,mb4.5							
BILL	Bilibino	75.90	22	*eP*	P	15 07 09.8	+0.5
comp=Z,7.3nm,1.0s,mb4.6							
BRG	Berggiesshubel	77.74 320		*eP*	P	15 07 16.9	-3.0
BRG pmax pmax							
comp=Z,5.0nm,0.9s,mb4.4							
BRG	Berggiesshubel	77.74 320		*eP*	P	15 07 16.9	-3.0
comp=Z,4.7nm,0.9s,mb4.4							
GERES	GERESS Array B	77.82 318		P	P	15 07 20.8	+0.4
GERES pmax pmax							
comp=Z,3.0nm,0.7s							
GERES	GERESS Array B	77.82 318		P	P	15 07 20.8	+0.4
comp=Z,2.7nm,0.7s,mb4.3,baz=90,slow=5.3,SNR=15							
KHC

60nm,0.9s,mb4.9
ENH Enshi 26.42 31 *eP* **P 15 02 23.5 -1.8**
31nm,1.1s,mb4.7
WMQ Urumqi 36.20 352 P **P 15 03 52.3 +1.3**
AAK Ala-Archa 38.68 336 *eP* **P 15 04 11.2 -0.5**
11nm,1.0s,mb4.7
SONM Songino Array 41.08 12 P **P 15 04 32.6 +1.1**
3.9nm,0.9s,mb4.2,baz=191,slow=6.3,SNR=7.2
KURK Kurchatov 44.57 346 *eP* **P 15 04 59.3 -0.6**
17nm,0.9s,mb4.8
NWAO Narrogin (SRO) 46.16 153 P **P 15 05 13.0 +0.2**
14nm,1.1s,mb4.6,baz=312,slow=11,SNR=3.0
NWAO Narrogin (SRO) 46.16 153 P **P 15 05 13.0 +0.2**
ZAL Zalesovo 46.50 352 P **P 15 05 16.1 +0.9**
8.7nm,0.8s,mb4.6,baz=294,slow=7.6,SNR=16
WRA Warramunga Arr 48.23 126 P **P 15 05 28.2 -0.9**
2.3nm,0.9s,mb4.0,baz=307,slow=9.3,SNR=5.4
BVAR Borovoye Array 48.96 341 P **P 15 05 33.6 -0.7**
4.3nm,0.8s,mb4.4,baz=143,slow=7.4,SNR=11
RAYN Ar Rayn 49.14 294 P **P 15 05 37.0 +0.8**
62nm,0.7s,SNR=8.5
CHKZ Chkalovo 49.44 342 *eP* **P 15 05 37.3 -0.8**
21nm,0.9s,mb5.1
ASAR Alice Springs 49.89 130 P **P 15 05 41.8 -0.1**
1.1nm,0.9s,mb3.8,baz=314,slow=6.5,SNR=3.4
PMG Port Moresby 55.47 107 P **P 15 06 24.2 +0.7**
4.6nm,0.7s,mb4.6,baz=356,slow=17,SNR=2.1
KMBO Kilima Mbogo 57.52 264 P **P 15 06 39.3 +1.1**
3.5nm,1.0s,mb4.3,baz=50,slow=14,SNR=4.2
KMBO Kilima Mbogo 57.52 264 *eP* **P 15 06 39.2 +1.0**
4.7nm,1.1s,mb4.4
ASF Jabal al Asfar 58.26 303 P **P 15 06 43.4 +0.3**
2.1nm,0.6s,mb4.3,baz=187,slow=5.8,SNR=3.5
BRTR Keskin Array B 62.45 311 P **P 15 07 09.5 -2.1**
2.3nm,0.9s,mb4.2,baz=129,slow=7.9,SNR=5.1
MBAR Mbarara 63.85 265 *eP* **P 15 07 20.9 -0.4**
4.7nm,1.0s,mb4.3
MA2 Magadan 66.67 28 P **P 15 07 36.9 -1.7**
31nm,1.4s,mb4.9
AKASG Malin Array Be 68.16 322 P **P 15 07 46.4 -1.6**
4.4nm,0.9s,mb4.3,baz=88,slow=4.6,SNR=5.5
IDI Anoyia 68.61 305 P **P 15 07 50.7 -0.4**
9.1nm,0.8s,mb4.7,baz=28,slow=9.8,SNR=2.5
MLR Muntele Rosu 69.19 316 P **P 15 07 54.4 -0.1**
5.3nm,0.9s,mb4.4,baz=115,slow=6.4,SNR=4.2
KOLS Kolonicke sedl 72.22 319 *eP* **P 15 08 13.7 +1.0**
FINES FINESS Array B 72.70 332 P **P 15 08 14.8 -0.4**
7.4nm,0.8s,mb4.6,baz=101,slow=9.7,SNR=11
CRVS Cervenica-Dubn 72.74 319 *eP* **P 15 08 16.9 +1.1**
VYHS Vyhne 74.42 318 *eP* **P 15 08 25.7 +0.1**
ARCES ARCESS Array B 75.24 340 P **P 15 08 29.8 0.0**
3.5nm,0.8s,mb4.1,baz=104,slow=7.4,SNR=4.3
VRAC Vranov 75.96 319 P **P 15 08 33.1 -1.2**
1.8nm,0.5s,mb4.1,baz=99,slow=4.9,SNR=2.9
GERES GERESS Array B 77.84 318 P **P 15 08 44.9 0.0**
3.8nm,0.9s,mb4.2,baz=90,slow=5.3,SNR=10
KHC Kasperske Hory 77.93 318 *eP* **P 15 08 46.0 +0.7**
CLL Collm 78.37 321 P **P 15 08 49.0 +1.3**
HFS Hagfors 78.45 330 P **P 15 08 48.3 +0.3**
6.3nm,0.8s,mb4.4,baz=117,slow=3.3,SNR=5.6
GRA1 Grafenberg Arr 79.48 319 *eP* **P 15 08 54.0 +0.2**
7.0nm,1.1s,mb4.4
GRF Grafenberg Arr 79.48 319 *eP* **P 15 08 54.0 +0.2**
7.0nm,1.1s,mb4.4
NB2 NORSAR Subarra 79.72 331 P **P 15 08 54.5 -0.4**
2.9nm,0.8s,mb4.2,baz=96,slow=5.0
NOA NORSAR Array B 79.72 331 P **P 15 08 54.8 -0.1**
4.5nm,0.9s,mb4.3,baz=93,slow=5.5,SNR=8.3
DAVOX Davos 80.41 316 P **P 15 08 57.8 -1.1**
2.8nm,0.5s,mb4.3,baz=93,slow=10,SNR=3.6
EKA Eskdalemuir Ar 87.72 325 P **P 15 09 36.1 +0.7**
2.1nm,0.8s,mb4.2,baz=41,slow=27,SNR=4.1
ESDC Sonseca Array 91.25 310 P **P 15 09 53.4 +1.0**
0.7nm,0.6s,mb4.0,baz=72,slow=4.7,SNR=4.1
ILAR Eielson Array 94.65 22 P **P 15 10 08.3 +1.0**
0.7nm,1.0s,mb4.0,baz=297,slow=4.0,SNR=4.6
YKA Yellowknife Ar 106.34 13 PP PP 15 15 22.4 -5.3
0.1nm,0.5s,baz=336,slow=7.8,SNR=3.7
PDAR Pinedale Array 125.08 21 PKP PKPdf 15 15 49.0 +2.9
1.0nm,1.1s,baz=27,slow=3.3,SNR=4.3
PLCA Paso Flores 144.64 200 PKP PKPdf 15 16 23.8 +1.6
4.2nm,0.9s,baz=121,slow=6.0,SNR=5.0

IGQ 27 15:00:32.3, 1.19S×81.47W, h5km±3km, mb4.5, 8C-2D, Error ellipse: s-maj=4.3km s-min=2.9km az=13.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.93**	**81**	⇑P	Pb	15 00 49.5	-1.0
JAMA	**Jama**	**1.56**	**54**	P	Pn	15 01 01.9	+1.1
JAMA				S	Sb	15 01 21.7	+0.5
MAGD	**Magdalena**	**2.03**	**57**	P	Pn	15 01 09.8	+2.3
IGUA	**Igualata**	**2.84**	**96**	⇑P	Pn	15 01 20.2	+1.1
IGUA				S	Sn	15 01 56.0	+1.9
CUSU	**Cusua**	**3.00**	**95**	P	Pn	15 01 24.2	+2.9
JUIV	**Juive**	**3.01**	**94**	P	Pn	15 01 23.5	+2.0
JUA2	**San Juan 2**	**3.02**	**71**	⇑P	Pn	15 01 23.4	+1.7
ARRY	**Arrayan**	**3.03**	**96**	⇑P	Pn	15 01 22.9	+1.2
ARRY				S	Sn	15 01 57.1	-1.7
RETU	**Refugio**	**3.03**	**95**	P	Pn	15 01 24.2	+2.4
RETU				S	Sn	15 02 02.9	+4.0
TERV	**Terraza Guagua**	**3.04**	**71**	⇓P	Pn	15 01 23.1	+1.2
PINO	**Pino**	**3.04**	**70**	P	Pn	15 01 23.1	+1.2
NAS1	**Nasa**	**3.04**	**80**	P	Pn	15 01 23.8	+1.9
ULBA	**Ulba**	**3.07**	**95**	P	Pn	15 01 24.6	+2.2
PISA	**Pisayambo**	**3.08**	**88**	P	Pn	15 01 24.3	+1.7
YANA	**Yana**	**3.09**	**70**	⇑P	Pn	15 01 23.8	+1.2
VC1	**Cotopaxi 1**	**3.11**	**80**	P	Pn	15 01 24.9	+2.0
TAMB	**Tambo**	**3.14**	**81**	⇑P	Pn	15 01 26.7	+3.4
ANTI	**Antisana**	**3.39**	**77**	⇑P	Pn	15 01 28.9	+2.0
COTA	**Cotacachi**	**3.48**	**64**	P	Pn	15 01 29.6	+1.5
COTA				S	Sn	15 02 14.9	+4.7
CAYR	**Refugio Cayamb**	**3.66**	**71**	⇓P	Pn	15 01 34.3	+3.5
CAYR				S	Sn	15 02 24.5	+10
CAYA	**Cayambe**	**3.70**	**70**	⇑P	Pn	15 01 34.3	+3.1
CONE	**Cono NE Rev Vo**	**3.98**	**74**	P	Pn	15 01 41.5	+6.2

*BJI **27** 15:01:15.9, 4.20N×97.40E, h30km, mB5.3, mb4.5, Ms4.5, Msz4.2*
*NEIC **27** 15:01:15.9±0.5, 4.22N×97.37E, h30km, mb4.6/9, Error ellipse: s-maj=19.9km s-min=10.2km az=47.0*
*IDC **27** 15:01:38.3±6.2, 4.42N×97.55E, h243km±63km, mb3.8/13, mb1 3.9/14, mb1mx3.8/20, mbtmp4.4/14, MS3.3/1, Ms1 3.5/1, ms1mx2.6/26, Error ellipse: s-maj=26.1km s-min=10.5km az=56.0*
ISC 27 15:01:14.3±0.5, 4.22N±0.09×97.36E±0.09, h30km, n35, σ1§41/35, mb4.5/22, MS4.5/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**14.23**	**6**	P	**P**	**15 04 36.9**	**+0.7**
CM31	35nm,1.0s			*e*		15 04 48.1	
CMAR	**Chiang Mai Arr**	**14.23**	**6**	P	**P**	**15 04 47.5**	**+11**
CMAR	0.8nm,0.3s,baz=196,slow=11,SNR=31			LR	LR	15 11 23.2	
PALK	**Pallekele**	**16.84**	**281**	*eP*	**P**	**15 05 10.6**	**+0.7**
PALK	comp=Z,124nm,18.1s,baz=210,slow=42 36nm,1.0s			*e*		15 05 25.4	
HYB	**Hyderabad**	**22.61**	**307**	*i* P	**P**	**15 06 17.5**	**+3.3**
LSA	**Lhasa**	**26.01**	**348**	*eP*	**P**	**15 06 39.7**	**-7.0**
XAN	**Xi'an**	**31.56**	**19**	P	**P**	**15 07 38.8**	**+2.3**
XAN	7.3nm,0.6s,mb4.4			AP	pP	15 07 44.3	-1.0
XAN	comp=Z,9.0nm,1.3s,mb4.4			AMB	AMB		
LZH	**Lanzhou**	**32.27**	**10**	*eP*	**P**	**15 07 48.5**	**+5.8**
LZH				AP	pP	15 07 56.0	+4.5
LZH				XP	sP	15 07 58.0	+2.6
LZH	comp=Z,25nm,1.5s,mb4.8			AMB	AMB		
LZH	comp=E,512nm,15.0s			LR	LR		
LZH	comp=Z,869nm,16.3s,MS4.5			LR	LR		
FITZ	**Fitzroy Crossi**	**35.64**	**129**	*eP*	**P**	**15 08 11.2**	**-0.7**
BJT	comp=Z,14nm,1.4s,mb4.7 **Baijiatuau**	**39.48**	**23**	*eP*	**P**	**15 08 48.6**	**+4.7**
NWAO	comp=Z,19nm,0.8s,mb4.9 **Narrogin (SRO)**	**41.48**	**154**	P	**P**	**15 09 03.6**	**+3.2**
	comp=Z,8.7nm,0.7s,mb4.5,baz=326,slow=10,SNR=7.0						

AAK	**Ala-Archa**	**43.32**	**335**	P	**P**	**15 09 16.4**	**+1.0**
	comp=Z,3.2nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**43.56**	**125**	P	**P**	**15 09 17.4**	**-0.2**
	comp=Z,11nm,0.6s,mb4.8,baz=301,slow=9.2,SNR=67						
WRAB	**Tennant Creek**	**43.56**	**125**	*eP*	**P**	**15 09 18.1**	**+0.4**
	comp=Z,19nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**43.57**	**125**	*eP*	**P**	**15 09 17.9**	**+0.2**
SONM	**Songino Array**	**44.14**	**9**	P	**P**	**15 09 22.6**	**+0.6**
	comp=Z,0.8nm,0.4s,mb3.8,baz=198,slow=9.1,SNR=5.9						
ASPA	**Alice Springs**	**45.13**	**130**	*eP*	**P**	**15 09 30.5**	**+0.2**
ASAR	**Alice Springs**	**45.14**	**130**	P	**P**	**15 09 30.4**	**+0.1**
	comp=Z,2.9nm,0.4s,mb4.4,baz=300,slow=7.5,SNR=24						
KURK	**Kurchatov**	**48.94**	**344**	*eP*	**P**	**15 09 58.0**	**-1.8**
	comp=Z,3.7nm,0.7s,mb4.5						
ZAL	**Zalesovo**	**50.61**	**350**	P	**P**	**15 10 11.0**	**-1.5**
	comp=Z,1.4nm,0.6s,mb4.1,baz=311,slow=5.0						
BVAR	**Borovoye Array**	**53.47**	**340**	P	**P**	**15 10 31.2**	**-2.9**
	comp=Z,1.9nm,0.7s,mb4.2,baz=135,slow=6.3,SNR=8.4						
STKA	**Stephens Creek**	**55.29**	**134**	*eP*	**P**	**15 10 48.1**	**+0.4**
	comp=Z,4.9nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**55.29**	**134**	P	**P**	**15 10 47.0**	**-0.7**
	comp=Z,4.0nm,0.7s,mb4.6,baz=303,slow=5.7,SNR=8.6						
STKA	**Stephens Creek**	**55.29**	**134**	*eP*	**P**	**15 10 45.1**	**-2.6**
KMBO	**Kilima Mbogo**	**60.29**	**266**	P	**P**	**15 11 23.9**	**+0.9**
	comp=Z,2.7nm,0.9s,mb4.3,baz=75,slow=12,SNR=6.8						
KMBO	**Kilima Mbogo**	**60.29**	**266**	*eP*	**P**	**15 11 23.2**	**+0.2**
	comp=Z,3.5nm,0.9s,mb4.4						
EIL	**Elat**	**64.02**	**301**	P	**P**	**15 11 47.0**	**-0.8**
	comp=Z,8.0nm,0.9s,mb4.8,baz=66,slow=6.3,SNR=5.7						
BRTR	**Keskin Array B**	**67.22**	**311**	P	**P**	**15 12 06.0**	**-2.3**
	comp=Z,1.6nm,0.6s,mb4.2,baz=124,slow=7.7,SNR=7.6						
ARCES	**ARCESS Array B**	**79.76**	**340**	P	**P**	**15 13 19.9**	**-0.9**
	comp=Z,9.7nm,1.1s,mb4.7,baz=39,slow=7.8,SNR=3.9						
ARCES	**ARCESS Array B**	**79.76**	**340**	P	**P**	**15 13 19.9**	**-0.9**
GERES	**GERESS Array B**	**82.66**	**319**	P	**P**	**15 13 35.0**	**-1.4**
	comp=Z,0.8nm,0.7s,mb3.9,baz=90,slow=2.9,SNR=3.5						
HFS	**Hagfors**	**83.20**	**330**	P	**P**	**15 13 37.5**	**-1.4**
	comp=Z,1.1nm,0.6s,mb4.0,baz=117,slow=6.4,SNR=3.0						
HFS	**Hagfors**	**83.20**	**330**	P	**P**	**15 13 37.5**	**-1.4**
GRA1	**Grafenberg Arr**	**84.30**	**319**	*eP*	**P**	**15 13 47.2**	**+2.4**
GRF	**Grafenberg Arr**	**84.30**	**319**	*eP*	**P**	**15 13 47.2**	**+2.4**
LPG	**La Plagne**	**87.44**	**315**	*eP*	**P**	**15 14 03.1**	**+2.7**
	comp=Z,16nm,1.0s,mb4.9						

*BJI **27** 15:10:25.4, 8.10N×94.40E, h30km, mb4.5*
*NEIC **27** 15:10:25.4±0.5, 8.10N×94.40E, h30km, mb4.5/5, Error ellipse: s-maj=13.6km s-min=11.4km az=78.0*
*IDC **27** 15:10:34.9±5.8, 8.15N×94.44E, h112km±53km, mb3.9/11, mb1 4.0/12, mb1mx3.9/19, mbtmp4.2/12, Error ellipse: s-maj=31.4km s-min=24.0km az=57.0*
ISC 27 15:10:23.6±0.7, 8.11N±0.10×94.4E±0.1, h30km, n27, σ0§87/27, mb4.3/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.18**	**23**	*eP*	**P**	**15 13 03.9**	**-0.7**
	5.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.18**	**23**	P	**P**	**15 13 10.4**	**+5.8**
	0.3nm,0.3s,baz=210,slow=14,SNR=12						
HYB	**Hyderabad**	**18.03**	**302**	*i* P	**P**	**15 14 34.0**	**+0.1**
LSA	**Lhasa**	**21.70**	**352**	P	**P**	**15 15 15.5**	**+1.4**
LSA	**Lhasa**	**21.70**	**352**	*eP*	**P**	**15 15 14.9**	**+0.8**
	13nm,0.7s,mb4.5						
AAK	**Ala-Archa**	**38.60**	**336**	*eP*	**P**	**15 17 45.8**	**0.0**
	3.4nm,0.8s,mb4.1						
SONM	**Songino Array**	**40.87**	**12**	P	**P**	**15 18 06.2**	**+1.8**
	2.0nm,1.0s,mb3.7,baz=207,slow=8.3,SNR=6.6						
KURK	**Kurchatov**	**44.45**	**346**	*eP*	**P**	**15 18 33.7**	**-0.1**
	15nm,1.1s,mb4.6						
ZAL	**Zalesovo**	**46.35**	**352**	P	**P**	**15 18 49.7**	**+1.0**
ZAL	**Zalesovo**	**46.35**	**352**	P	**P**	**15 18 49.7**	**+1.0**
WRA	**Warramunga Arr**	**48.16**	**126**	P	**P**	**15 19 04.2**	**+0.7**
	1.5nm,0.7s,mb4.1,baz=301,slow=9.8,SNR=5.0						
WRAB	**Tennant Creek**	**48.16**	**126**	*eP**	**P**	**15 19 02.4**	**-1.1**
BVAR	**Borovoye Array**	**48.86**	**341**	P	**P**	**15 19 08.7**	**+0.4**
	2.4nm,0.9s,mb4.2,baz=149,slow=8.6,SNR=5.8						
CHKZ	**Chkalovo**	**49.34**	**342**	*eP*	**P**	**15 19 11.2**	**-0.9**
	7.8nm,0.9s,mb4.7						
GNI	**Garni**	**54.48**	**314**	P	**P**	**15 19 49.3**	**-1.6**
KMBO	**Kilima Mbogo**	**57.74**	**264**	P	**P**	**15 20 15.6**	**+0.9**
	2.7nm,0.9s,mb4.3,baz=57,slow=16,SNR=5.9						
BRTR	**Keskin Array B**	**62.50**	**311**	P	**P**	**15 20 45.8**	**-1.0**
	0.8nm,0.6s,mb4.1,baz=114,slow=8.2,SNR=3.4						
IDI	**Anoyia**	**68.67**	**305**	P	**P**	**15 21 26.4**	**-0.2**
	9.3nm,0.9s,mb4.7,baz=38,slow=17,SNR=3.3						
MLR	**Muntele Rosu**	**69.21**	**316**	P	**P**	**15 21 30.3**	**+0.7**
	11nm,1.2s,mb4.6,baz=191,slow=5.2,SNR=3.9						
MLR	**Muntele Rosu**	**69.21**	**316**	P	**P**	**15 21 30.3**	**+0.7**
LSZ	**Lusaka**	**69.62**	**250**	P	**P**	**15 21 33.2**	**+0.5**
FINES	**FINESS Array B**	**72.64**	**332**	P	**P**	**15 21 49.1**	**-0.9**
	2.6nm,0.8s,mb4.2,baz=112,slow=10,SNR=4.4						
FINES				pP	pP	15 22 16.3	+17
	1.1nm,0.6s,baz=117,slow=4.3,SNR=1.7						
MORC	**Moravsky Berou**	**75.39**	**319**	P	**P**	**15 22 05.8**	**-0.5**
GERES	**GERESS Array B**	**77.84**	**318**	P	**P**	**15 22 21.2**	**+1.2**
	1.4nm,0.6s,mb4.1,baz=94,slow=5.5,SNR=9.1						
HFS	**Hagfors**	**78.40**	**330**	P	**P**	**15 22 22.2**	**-0.6**
	1.8nm,0.5s,mb4.3,baz=117,slow=3.3,SNR=6.3						
HFS				pP	pP	15 22 49.4	+17
	1.4nm,0.4s,baz=108,slow=4.7,SNR=2.2						
NB2	**NORSAR Subarra**	**79.67**	**331**	P	**P**	**15 22 28.7**	**-1.0**
	4.4nm,1.0s,mb4.3,baz=93,slow=5.8						
NOA	**NORSAR Array B**	**79.67**	**331**	P	**P**	**15 22 29.2**	**-0.4**
	0.6nm,0.6s,mb3.7,baz=86,slow=7.2,SNR=2.7						

*IDC **27** 15:13:16.3±0.6, 7.73N×94.03E, mb4.6/20, mb1 4.7/21, mb1mx4.6/23, mbtmp4.5/21, ML4.6/1, MS4.7/2, Ms1 4.9/2, ms1mx3.6/23, Error ellipse: s-maj=29.5km s-min=13.9km az=47.0*
*MOS **27** 15:13:19.3±1.3, 7.66N×94.00E, h33km, mb5.0/34, Error ellipse: s-maj=12.1km s-min=6.7km az=110.2*
*BJI **27** 15:13:20.5, 7.90N×93.67E, h23km, mB5.2, mb4.6, Ms5.2, Msz4.9*
*NEIC **27** 15:13:20.6±0.3, 7.73N×94.12E, h30km, mb4.8/24, Error ellipse: s-maj=8.3km s-min=7.9km az=214.0*
ISC 27 15:13:20.0±1.7, 7.70N±0.06×94.14E±0.05, h39km±14km, n129, σ1§22/132, mb4.7/50, MS4.7/4, 2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.67**	**23**	*eP*	**P**	**15 16 03.6**	**-3.3**
	34nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.67**	**23**	P	**P**	**15 16 06.7**	**-0.2**
CMAR				pmax	pmax		
CMAR	comp=Z,1.0nm,0.3s			MLR	MLR		
	comp=Z,4μm,18.1s						
CMAR	**Chiang Mai Arr**	**11.67**	**23**	Pn	**P**	**15 16 06.7**	**-0.2**
CMAR	comp=Z,1.3nm,0.3s,baz=213,slow=14,SNR=32			LR	LR	15 20 42.9	
	comp=Z,4μm,18.1s,baz=205,slow=38						
PALK	**Pallekele**	**13.33**	**269**	P	**P**	**15 16 29.5**	**+0.4**
	comp=Z,39nm,1.1s						
HYB	**Hyderabad**	**18.00**	**304**	*i* P	**P**	**15 17 28.0**	**-1.1**
HYB				*e*S	**S**	**15 20 47.0**	**+1.4**
QIZ	**Qiongzhong**	**18.96**	**52**	*eP*	**P**	**15 17 42.5**	**+1.8**
QIZ				S	**S**	**15 21 15.0**	**+7.9**
QIZ	comp=N,8μm,12.1s			LR	LR		
MNGI	**Mangalore**	**19.70**	**287**	*i* P	**P**	**15 17 49.5**	**+0.5**
MNGI				*i* S	**S**	**15 21 34.9**	**+11**
NGP	**Nagpur**	**19.78**	**314**	*eP*	**P**	**15 17 51.1**	**+1.3**
NGP				*e*S	**S**	**15 21 40.7**	**+15**
GOA	**Goa**	**21.34**	**293**	*eP*	**P**	**15 18 14.3**	**+8.3**
GOA				*e*S	**S**	**15 22 13.3**	**+18**
KAD	**Karad**	**21.68**	**298**	*eP*	**P**	**15 18 09.6**	**+0.3**
KAD				*i* S	**S**	**15 22 00.0**	**-1.9**
LSA	**Lhasa**	**22.06**	**353**	P	**P**	**15 18 12.0**	**-1.1**
LSA	**Lhasa**	**22.06**	**353**	*eP*	**P**	**15 18 13.1**	**0.0**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
LSA	**Lhasa**	**22.06**	**353**	*eP*	**P**	**15 18 13.1**	**0.0**
	comp=Z,6.3nm,0.6s,mb4.2						
POO	**Poona**	**22.47**	**301**	⇓*iP*	**P**	**15 18 19.0**	**+1.7**
	comp=Z,68nm,1.2s,mb5.0						
POO				*i* S	**S**	**15 22 08.0**	**-8.6**
NDI	**New Delhi**	**26.27**	**325**	*eP*	**P**	**15 18 54.0**	**+0.2**
NDI				*e*		15 22 41.0	
ENH	**Enshi**	**26.67**	**31**	*eP*	**P**	**15 18 55.2**	**-2.2**
	comp=Z,20nm,1.2s,mb4.5						
TGY	**Tagaytay City**	**27.05**	**74**	LR	LR	15 29 22.0	
	comp=Z,2μm,19.4s,MS4.6,baz=94,slow=36						
LZH	**Lanzhou**	**29.61**	**16**	*eP*	**P**	**15 19 27.0**	**+3.2**
LZH				AMB	AMB		
	comp=Z,33nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,203nm,4.8s						
LZH				LR	LR		
	comp=E,2μm,13.0s						
LZH				LR	LR		
	comp=Z,2μm,14.3s,MS4.9						
LZH	**Lanzhou**	**29.61**	**16**	*eP*	**P**	**15 19 27.0**	**+3.2**
	comp=Z,33nm,1.5s,mb4.8						
LZH				pP	pP	15 19 42.0	+7.4
LZH				sP	sP	15 19 47.0	+7.4
LZH				LR	LR		
	comp=Z,2μm,14.3s,MS4.9						
WMQ	**Urumqi**	**36.42**	**352**	*eP*	**P**	**15 20 24.0**	**+1.2**
BJI	**Beijing**	**37.76**	**28**	P	**P**	**15 20 37.5**	**+3.5**
BJI						15 22 05.9	
BJI				S	**S**	**15 26 28.7**	**+7.2**
BJI				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.5						
BJI				MLR	MLR		
	comp=Z,940nm,23.5s,MS4.5						
BJI	**Beijing**	**37.76**	**28**	P	**P**	**15 20 37.5**	**+3.5**
	comp=Z,11nm,1.2s,mb4.5						
BJI				PP	PP	15 22 05.9	+2.3
BJI				S	**S**	**15 26 28.7**	**+7.2**
BJI				SS	SS	15 29 11.1	+13
BJI				LR	LR		
	comp=Z,940nm,23.5s,MS4.5						
AAK	**Ala-Archa**	**38.86**	**337**	*eP*	**P**	**15 20 42.2**	**-1.0**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**38.86**	**337**	*eP*	**P**	**15 20 42.2**	**-1.0**
	comp=Z,9.4nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**40.25**	**347**	*i* P	**P**	**15 20 54.4**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,15nm,1.1s						
SONM	**Songino Array**	**41.33**	**13**	P	**P**	**15 21 04.2**	**+0.6**
	comp=Z,4.0nm,0.9s,mb4.0,baz=195,slow=7.4,SNR=13						
SONM				PcP	PcP	15 23 03.2	+1.0
	comp=Z,1.4nm,0.8s,baz=199,slow=5.3,SNR=3.5						
ULN	**Ulaanbaatar**	**41.50**	**13**	*eP*	**P**	**15 21 04.7**	**-0.3**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**41.50**	**13**	*eP*	**P**	**15 21 04.7**	**-0.3**
	comp=Z,3.0nm,0.8s,mb4.0						
SNY	**Shenyang**	**42.81**	**33**	⇓P	**P**	**15 21 17.8**	**+1.9**
SNY				*e*S	**S**	**15 27 32.8**	**-4.2**
SNY				LR	LR		
	comp=N,1μm,19.8s						
SNY				LR	LR		
	comp=Z,1μm,16.5s,MS4.8						
ZAK	**Zakamensk**	**43.22**	**9**	*eP*	**P**	**15 21 20.4**	**+1.3**
KURK	**Kurchatov**	**44.78**	**346**	*i* P	**P**	**15 21 31.8**	**+0.2**
KURK				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.8						
KURK	**Kurchatov**	**44.78**	**346**	*eP*	**P**	**15 21 31.1**	**-0.4**
	comp=Z,37nm,1.3s,mb5.1						
NWAO	**Narrogin (SRO)**	**45.99**	**153**	P	**P**	**15 21 43.4**	**+1.8**
NWAO				pmax	pmax		
	comp=Z,13nm,0.6s						
NWAO	**Narrogin (SRO)**	**45.99**	**153**	P	**P**	**15 21 43.4**	**+1.8**
	comp=Z,13nm,0.6s,mb5.0,baz=297,slow=8.3,SNR=10.0						
NWAO	**Narrogin (SRO)**	**45.99**	**153**	P	**P**	**15 21 43.4**	**+1.8**
HIA	**Hailar**	**46.68**	**23**	*eP*	**P**	**15 21 47.3**	**+0.6**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HIA	**Hailar**	**46.68**	**23**	*eP*	**P**	**15 21 47.3**	**+0.6**
	comp=Z,4.2nm,0.6s,mb4.5						
NVS	**Novosibirsk**	**47.81**	**352**	*i* P	**P**	**15 21 54.7**	**-0.8**
WRA	**Warramunga Arr**	**48.16**	**125**	P	**P**	**15 21 58.1**	**-0.6**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**48.16**	**125**	P	**P**	**15 21 58.1**	**-0.6**
	comp=Z,3.2nm,0.8s,mb4.4,baz=305,slow=8.5,SNR=14						
WRAB	**Tennant Creek**	**48.17**	**125**	*eP*	**P**	**15 21 58.2**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.0						
WRAB	**Tennant Creek**	**48.17**	**125**	*eP*	**P**	**15 21 58.1**	**-0.6**
	comp=Z,22nm,1.3s,mb5.0						
BVA0	**Borovoye Array**	**49.15**	**341**	*i* P	**P**	**15 22 05.2**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.0						
BVAR	**Borovoye Array**	**49.15**	**341**	P	**P**	**15 22 04.5**	**-1.4**
	comp=Z,2.8nm,0.7s,mb4.4,baz=153,slow=3.3,SNR=12						
BVAR				PcP	PcP	15 23 29.9	+0.7
	comp=Z,1.9nm,0.7s,baz=162,slow=4.6,SNR=4.2						
RAYN	**Ar Rayn**	**49.16**	**294**	P	**P**	**15 22 08.0**	**+1.6**
	comp=Z,122nm,0.7s,SNR=12						
CHKZ	**Chkalovo**	**49.63**	**342**	P	**P**	**15 22 09.4**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
CHKZ	**Chkalovo**	**49.63**	**342**	*eP*	**P**	**15 22 08.9**	**-0.

MLR Muntele Rosu 69.29 316 P P 15 24 25.1 -0.2
MLR pmax pmax
comp=Z,10.0nm,0.9s
MLR Muntele Rosu 69.29 316 P P 15 24 25.1 -0.2
comp=Z,10nm,0.9s,mb4.8,baz=127,slow=4.7,SNR=9.0
MLR Muntele Rosu 69.29 316 P P 15 24 25.1 -0.2
JOF Joensuu 71.00 334 *ep* **P 15 24 36.8 +1.4**
comp=Z,8.8nm,0.7s,mb4.8
FINES FINESS Array B 72.86 332 P P 15 24 46.2 -0.3
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 72.86 332 P P 15 24 46.2 -0.3
comp=Z,4.4nm,0.5s,mb4.7,baz=111,slow=7.1,SNR=16
FINES FINESS Array B 72.86 332 P P 15 24 46.2 -0.3
KAF Kangasniemi 72.94 333 *ep* **P 15 24 47.0 +0.1**
comp=Z,8.2nm,0.7s,mb4.8,baz=118,slow=5.8
KAF Kangasniemi 72.94 333 *eP* **P 15 24 47.0 +0.1**
KAF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
LBTB Lobatse 74.16 241 *eP* **P 15 24 53.4 -1.4**
LBTB pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LBTB Lobatse 74.16 241 *eP* **P 15 24 53.4 -1.4**
comp=Z,8.7nm,0.9s,mb4.7
KEV Kevo 75.00 341 *ep* **P 15 24 56.9 -1.9**
comp=Z,41nm,2.1s,mb5.0
KEV Kevo 75.00 341 *eP* **P 15 24 56.9 -1.9**
KEV pmax pmax
comp=Z,41nm,2.1s,mb5.0
OKC Ostrava-Krasne 75.12 319 *eP* **P 15 25 01.2 +1.4**
ARCES ARCESS Array B 75.43 340 P P 15 25 01.3 +0.1
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 75.43 340 P P 15 25 01.3 +0.1
comp=Z,3.7nm,0.7s,mb4.4,baz=102,slow=6.8,SNR=17
ARCES ARCESS Array B 75.43 340 P P 15 25 01.3 +0.1
BOSA Boshof 75.49 238 *eP* **P 15 25 00.3 -2.1**
BOSA pmax pmax
comp=Z,83nm,2.0s,mb5.3
BOSA Boshof 75.49 238 *eP* **P 15 25 00.2 -2.2**
comp=Z,83nm,2.0s,mb5.3
MORC Moravsky Berou 75.50 319 *eP* **P 15 25 01.8 -0.2**
MORC pmax pmax
comp=Z,13nm,1.1s,mb4.8
MORC Moravsky Berou 75.50 319 *eP* **P 15 25 01.8 -0.2**
comp=Z,13nm,1.1s,mb4.8
DPC Dobruska-Polom 76.34 320 *eP* **P 15 25 08.2 +1.4**
UPC Upice 76.55 320 *eP* **P 15 25 09.2 +1.2**
PVCC Panska Ves 77.47 320 *eP* **P 15 25 17.2 +4.1**
BRG Berggiesshubel 77.88 320 *eP* **P 15 25 16.4 +1.0**
BRG pmax pmax
comp=Z,11nm,1.4s,mb4.6
BRG Berggiesshubel 77.88 320 *eP* **P 15 25 16.4 +1.0**
comp=Z,11nm,1.4s,mb4.6
BRG *e* 15 29 03.9
GERES GERESS Array B 77.95 318 P P 15 25 16.1 +0.3
GERES pmax pmax
comp=Z,6.0nm,0.9s
GERES GERESS Array B 77.95 318 P P 15 25 16.1 +0.3
comp=Z,5.5nm,0.9s,mb4.5,baz=90,slow=6.7,SNR=14
KHC Kasperske Hory 78.05 319 *eP* **P 15 25 17.4 +1.1**
CLL Collm 78.49 321 P P 15 25 19.0 +0.3
HFS Hagfors 78.60 330 P P 15 25 19.2 +0.1
HFS pmax pmax
comp=Z,8.0nm,0.7s
HFS Hagfors 78.60 330 P P 15 25 19.2 +0.1
comp=Z,8.3nm,0.7s,mb4.8,baz=104,slow=6.1,SNR=13
MOX Moxa 79.35 320 *eP* pP 15 25 32.0 -3.3
GRA1 Grafenberg Arr 79.60 319 *eP* **P 15 25 25.8 +1.0**
comp=Z,14nm,1.2s,mb4.8
GRF Grafenberg Arr 79.60 319 *eP* **P 15 25 25.8 +1.0**
GRF pmax pmax
comp=Z,14nm,1.2s,mb4.8
GRF Grafenberg Arr 79.60 319 *eP* **P 15 25 25.8 +1.0**
GRF pmax pmax
comp=Z,14nm,1.2s,mb4.8
GRF Grafenberg Arr 79.60 319 *eP* **P 15 25 25.8 +1.0**
comp=Z,14nm,1.2s,mb4.8
NB2 NORSAR Subarra 79.88 331 P P 15 25 26.2 +0.1
comp=Z,7.9nm,0.8s,mb4.7,baz=92,slow=5.8
NB2 NORSAR Subarra 79.88 331 P P 15 25 26.2 +0.1
NB2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
NOA NORSAR Array B 79.88 331 P P 15 25 26.5 +0.4
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA NORSAR Array B 79.88 331 P P 15 25 26.4 +0.4
comp=Z,5.5nm,0.7s,mb4.6,baz=92,slow=5.6,SNR=12
LPG La Plagne 82.74 315 *eP* **P 15 25 41.8 +0.5**
comp=Z,24nm,0.9s,mb4.9
LPG La Plagne 82.74 315 *eP* **P 15 25 41.8 +0.5**
LPG pmax pmax
comp=Z,12nm,0.9s,mb4.9
TNA Tin City 86.32 24 *eP* **P 15 25 59.4 +0.6**
ESDC Sonseca Array 91.33 310 P P 15 26 24.8 +1.6
comp=Z,1.3nm,0.7s,mb4.4,baz=56,slow=5.3,SNR=4.3
IMA Indian Mountai 91.78 22 *eP* **P 15 26 25.9 +1.2**
ILAR Eielson Array 94.90 22 P P 15 26 39.5 +0.6
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 94.90 22 P P 15 26 39.5 +0.5
comp=Z,0.5nm,0.9s,mb3.9,baz=291,slow=3.5,SNR=4.6
NVAR Mina Array Bea 125.06 31 PKP PKPdf 15 32 19.9 +3.1
comp=Z,1.2nm,0.7s,baz=284,slow=2.1,SNR=6.7
PDAR Pinedale Array 125.33 21 PKP PKPdf 15 32 19.7 +2.6
comp=Z,1.2nm,0.8s,baz=16,slow=0.5,SNR=9.1
TXAR Lajitas Array 139.38 24 PKiKP 15 32 49.3
comp=Z,0.3nm,0.3s,baz=104,slow=7.7,SNR=3.5
PLCA Paso Flores 144.39 200 PKIKP PKPdf 15 32 54.1 +1.8
PLCA pmax pmax
comp=Z,5.0nm,0.8s
PLCA Paso Flores 144.39 200 PKP PKPdf 15 32 54.1 +1.8
comp=Z,4.8nm,0.8s,baz=101,slow=2.3,SNR=9.1

IGQ 27 15:16:22.8, 1.57S×81.24W, h10km±6km, mb4.0, 3C, Error ellipse: s-maj=9.8km s-min=4.8km az=9.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.86**	**54**	⇑P	Pb	15 16 38.9	-0.5
HOJA				S	Sb	15 16 50.8	0.0
JAMA	**Jama**	**1.66**	**39**	P	Pn	15 16 52.9	+0.8
JAMA				S	Sn	15 17 14.4	+0.8
MAGD	**Magdalena**	**2.09**	**45**	P	Pn	15 17 00.5	+2.2
IGUA	**Igualata**	**2.60**	**88**	P	Pn	15 17 06.3	+0.7
JUIV	**Juive**	**2.78**	**87**	P	Pn	15 17 10.2	+2.0
ARRY	**Arrayan**	**2.79**	**89**	⇑P	Pn	15 17 09.2	+0.9
ULBA	**Ulba**	**2.84**	**88**	P	Pn	15 17 10.5	+1.5
PISA	**Pisayambo**	**2.90**	**80**	P	Pn	15 17 11.4	+1.6
NAS1	**Nasa**	**2.92**	**72**	P	Pn	15 17 12.6	+2.5
JUA2	**San Juan 2**	**2.96**	**63**	P	Pn	15 17 11.4	+0.7
TERV	**Terraza Guagua**	**2.98**	**62**	P	Pn	15 17 14.4	+3.4
PINO	**Pino**	**2.98**	**62**	P	Pn	15 17 11.9	+0.8
VC1	**Cotopaxi 1**	**2.98**	**72**	P	Pn	15 17 13.6	+2.5
TAMB	**Tambo**	**3.00**	**73**	⇑P	Pn	15 17 14.7	+3.3
YANA	**Yana**	**3.03**	**62**	P	Pn	15 17 12.6	+0.8
ANTI	**Antisana**	**3.27**	**70**	P	Pn	15 17 17.6	+2.4
ANTI				S	Sn	15 17 59.7	+5.1
COTA	**Cotacachi**	**3.46**	**57**	P	Pn	15 17 18.6	+0.7
CAYR	**Refugio Cayambo**	**3.60**	**64**	P	Pn	15 17 23.5	+3.7
CAYA	**Cayambe**	**3.64**	**63**	P	Pn	15 17 19.0	-1.4

*BJI **27** 15:16:43.6, 7.90N×93.90E, h30km, mB4.9, mb4.4*
*NEIC **27** 15:16:43.7±0.5, 7.90N×93.91E, h30km, mb4.5/5, Error ellipse: s-maj=15.5km s-min=10.9km az=116.0*
*IDC **27** 15:16:46.6±6.1, 8.03N×93.81E, h49km±49km, mb3.9/8, mb1 4.1/9, mb1mx3.9/17, mbtmp4.1/9, ML3.9/1, Error ellipse: s-maj=48.5km s-min=37.5km az=157.0*
ISC 27 15:16:42.0±0.7, 7.87N±0.09×94.0E±0.1, h33km, n32, σ1§07/29, mb4.4/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.56**	**24**	P	**P**	**15 19 27.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**11.56**	**24**	Pn	**P**	**15 19 28.5**	**+0.7**
	0.3nm,0.3s,baz=207,slow=14,SNR=4.4						
HYB	**Hyderabad**	**17.83**	**304**	*eP*	**P**	**15 20 51.0**	**+1.7**
KMI	**Kunming**	**19.07**	**25**	P	**P**	**15 21 11.6**	**+7.2**
	0.4nm,7.1s						
KMI				pP		15 21 23.3	
JIRN	**Jiri**	**21.04**	**340**	*eP*	**P**	**15 21 26.9**	**+1.4**
	59nm,1.0s,mb4.9						
PKI	**Pulchoki**	**21.23**	**338**	*eP*	**P**	**15 21 30.0**	**+2.6**
	38nm,0.8s,mb4.8						
DMN	**Daman**	**21.38**	**338**	*eP*	**P**	**15 21 32.4**	**+3.5**
KKN	**Kakani**	**21.48**	**338**	*eP*	**P**	**15 21 29.5**	**-0.4**
LSA	**Lhasa**	**21.89**	**353**	*eP*	**P**	**15 21 34.0**	**0.0**
	21nm,0.9s,mb4.6						
GKN	**Gorkha**	**21.91**	**337**	*eP*	**P**	**15 21 30.8**	**-3.4**
KOLN	**Koldanda**	**22.12**	**335**	*eP*	**P**	**15 21 36.1**	**-0.2**
	261nm,1.6s,mb5.4						
AAK	**Ala-Archa**	**38.67**	**337**	*eP*	**P**	**15 24 03.7**	**-0.6**
	2.4nm,0.7s,mb4.0						
KURK	**Kurchatov**	**44.59**	**346**	*eP*	**P**	**15 24 51.7**	**-1.1**
	4.6nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**48.34**	**125**	P	**P**	**15 25 23.6**	**+0.9**
BVAR	**Borovoye Array**	**48.96**	**341**	P	**P**	**15 25 26.5**	**-0.6**
	1.8nm,0.9s,mb4.1,baz=135,slow=8.2,SNR=3.9						
CHKZ	**Chkalovo**	**49.45**	**342**	*eP*	**P**	**15 25 28.5**	**-2.3**
	9.1nm,1.0s,mb4.8						
KMBO	**Kilima Mbogo**	**57.32**	**264**	P	**P**	**15 26 28.7**	**-0.9**
	3.5nm,0.9s,mb4.4,baz=252,slow=16,SNR=4.6						
MBAR	**Mbarara**	**63.66**	**265**	P	**P**	**15 27 13.1**	**+0.2**
	2.1nm,0.4s,mb4.5						
AKASG	**Malin Array Be**	**68.10**	**322**	P	**P**	**15 27 39.0**	**-1.5**
	1.4nm,0.7s,mb4.1,baz=90,slow=4.6,SNR=3.7						
FINES	**FINESS Array B**	**72.67**	**332**	P	**P**	**15 28 07.8**	**-0.2**
	3.0nm,0.8s,mb4.3,baz=135,slow=5.4,SNR=4.4						
LBTB	**Lobatse**	**74.15**	**241**	*eP*	**P**	**15 28 17.4**	**-0.1**
GERES	**GERESS Array B**	**77.76**	**318**	P	**P**	**15 28 38.0**	**+0.5**
	2.5nm,0.9s,mb4.1,baz=90,slow=5.3,SNR=5.6						
HFS	**Hagfors**	**78.41**	**330**	P	**P**	**15 28 40.2**	**-0.6**
	4.1nm,0.8s,mb4.4,baz=63,slow=3.2,SNR=3.9						
GRA1	**Grafenberg Arr**	**79.41**	**319**	*eP*	**P**	**15 28 48.0**	**+1.5**
GRF	**Grafenberg Arr**	**79.41**	**319**	*eP*	**P**	**15 28 48.0**	**+1.5**
NOA	**NORSAR Array B**	**79.69**	**331**	P	**P**	**15 28 47.5**	**-0.2**
	2.0nm,0.8s,mb4.1,baz=93,slow=5.6,SNR=3.7						
IMA	**Indian Mountai**	**91.67**	**22**	*eP*	**P**	**15 29 47.2**	**+0.3**
ILAR	**Eielson Array**	**94.79**	**22**	P	**P**	**15 30 01.2**	**0.0**
	0.6nm,0.8s,mb4.0,baz=295,slow=3.7,SNR=4.6						
ILAR	**Eielson Array**	**94.79**	**22**	P	**P**	**15 30 01.1**	**0.0**
NVAR	**Mina Array Bea**	**124.98**	**31**	PKP	PKPdf	15 35 43.0	+3.6
	1.1nm,0.8s,baz=277,slow=3.5,SNR=4.8						
PDAR	**Pinedale Array**	**125.21**	**21**	PKP	PKPdf	15 35 42.0	+2.4
	1.3nm,0.9s,SNR=5.6						
PLCA	**Paso Flores**	**144.50**	**200**	PKP	PKPdf	15 36 17.2	+1.9
	4.5nm,1.0s,baz=125,slow=2.1,SNR=5.0						

*IDC **27** 15:17:08.2±0.9, 8.08N×93.95E, mb4.5/16, mb1 4.6/17, mb1mx4.5/22, mbtmp4.5/17, ML4.2/1, Error ellipse: s-maj=29.5km s-min=22.2km az=65.0*
*BJI **27** 15:17:11.2, 7.92N×93.86E, h44km, mB5.2, mb4.8, Ms4.9, Msz4.5*
*NEIC **27** 15:17:12.1±0.5, 8.10N×94.02E, h30km, mb4.8/11, Error ellipse: s-maj=13.8km s-min=10.9km az=118.0*
ISC 27 15:17:07.2±0.5, 8.05N±0.08×94.05E±0.08, h10km, (h16km±3.9km:pP-P), n47, σ1§12/44, mb4.6/25, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.39**	**24**	*eP*	**P**	**15 19 53.0**	**-0.1**
	26nm,0.6s						
CMAR	**Chiang Mai Arr**	**11.39**	**24**	Pn	**P**	**15 19 52.6**	**-0.5**
	0.4nm,0.3s,baz=203,slow=11,SNR=4.8						
HYB	**Hyderabad**	**17.74**	**303**	*i* P	**P**	**15 21 18.5**	**+2.4**
KMI	**Kunming**	**18.90**	**25**	sP	**P**	**15 21 31.7**	**+1.4**
LSA	**Lhasa**	**21.71**	**353**	*eP*	**P**	**15 22 01.2**	**+0.8**
ENH	**Enshi**	**26.42**	**31**	*eP*	**P**	**15 22 46.2**	**+0.2**
	23nm,0.8s,mb4.8						
LZH	**Lanzhou**	**29.31**	**16**	*eP*	**P**	**15 23 16.0**	**+3.8**
LZH				AP	pP	15 23 23.0	+7.9
LZH				XP	sP	15 23 28.0	+12
LZH				AMB	AMB		
	comp=Z,33nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,112nm,4.0s						
LZH	**Lanzhou**	**29.31**	**16**	*eP*	**P**	**15 23 16.0**	**+3.8**
	comp=Z,33nm,1.5s,mb4.8						
LZH				pP	pP	15 23 23.0	+7.9
LZH				sP	sP	15 23 28.0	+12
AAK	**Ala-Archa**	**38.51**	**337**	*eP*	**P**	**15 24 28.8**	**-2.7**
	comp=Z,5.6nm,0.8s,mb4.3						
SONM	**Songino Array**	**41.01**	**13**	P	**P**	**15 24 53.0**	**+0.9**
	comp=Z,3.3nm,0.9s,mb4.0,baz=191,slow=9.3,SNR=3.4						
KURK	**Kurchatov**	**44.42**	**346**	*eP*	**P**	**15 25 17.6**	**-2.3**
	comp=Z,30nm,1.2s,mb4.9						
NWAO	**Narrogin (SRO)**	**46.34**	**153**	P	**P**	**15 25 35.8**	**+0.4**
	comp=Z,12nm,0.9s,mb4.8,baz=330,slow=14,SNR=5.4						
HIA	**Hailar**	**46.40**	**23**	*eP*	**P**	**15 25 34.6**	**-1.0**
WRAB	**Tennant Creek**	**48.44**	**126**	P	**P**	**15 25 52.7**	**+0.7**
BVAR	**Borovoye Array**	**48.80**	**341**	P	**P**	**15 25 54.8**	**+0.5**
	comp=Z,2.4nm,0.9s,mb4.2,baz=143,slow=7.4,SNR=3.6						
CHKZ	**Chkalovo**	**49.28**	**342**	*eP*	**P**	**15 25 55.4**	**-2.7**
GNI	**Garni**	**54.25**	**314**	P	**P**	**15 26 35.2**	**-0.4**
	comp=Z,2.3nm,0.4s,mb4.5,baz=167,slow=2.7,SNR=3.2						
KMBO	**Kilima Mbogo**	**57.35**	**263**	P	**P**	**15 26 59.1**	**+0.7**
	comp=Z,4.5nm,0.8s,mb4.6,baz=46,slow=9.3,SNR=6.2						
ASF	**Jabal al Asfar**	**58.05**	**303**	P	**P**	**15 27 03.7**	**+0.6**
	comp=Z,1.8nm,0.4s,mb4.4,baz=330,slow=5.2,SNR=3.8						
EIL	**Elat**	**59.26**	**300**	*eP*	**P**	**15 27 10.1**	**-1.5**
YAK	**Yakutsk**	**59.86**	**19**	*eP*	**P**	**15 27 14.5**	**-0.7**
	comp=Z,17nm,0.6s,mb5.3						
BRTR	**Keskin Array B**	**62.25**	**311**	P	**P**	**15 27 30.6**	**-1.2**
	comp=Z,3.3nm,0.6s,mb4.6,baz=128,slow=6.8,SNR=7.2						
AKASG	**Malin Array Be**	**67.96**	**322**	P	**P**	**15 28 07.0**	**-1.5**
	comp=Z,3.0nm,0.7s,mb4.4,baz=87,slow=4.9,SNR=7.3						
IDI	**Anoyia**	**68.39**	**305**	P	**P**	**15 28 11.7**	**+0.2**
	comp=Z,11nm,0.7s,mb5.0,baz=80,slow=11,SNR=5.8						
MLR	**Muntele Rosu**	**68.98**	**316**	P	**P**	**15 28 15.7**	**+0.8**
	comp=Z,8.7nm,0.9s,mb4.7,baz=97,slow=4.2,SNR=5.8						
LSZ	**Lusaka**	**69.24**	**250**	*eP*	**P**	**15 28 15.1**	**-1.9**
	comp=Z,12nm,1.1s,mb4.7						
JOF	**Joensuu**	**70.65**	**334**	*epkp*	**P**	**15 28 25.6**	**+0.8**
FINES	**FINESS Array B**	**72.52**	**332**	P	**P**	**15 28 36.2**	**+0.2**
	comp=Z,6.1nm,0.7s,mb4.6,baz=101,slow=6.1,SNR=12						
FINES	**FINESS Array B**	**72.52**	**332**	P	**P**	**15 28 36.2**	**+0.2**
KAF	**Kangasniemi**	**72.60**	**333**	*epkp*	**P**	**15 28 36.5**	**+0.1**
	baz=334,slow=2.4						
LBTB	**Lobatse**	**74.25**	**241**	*eP*	**P**	**15 28 46.3**	**-0.5**
ARCES	**ARCESS Array B**	**75.07**	**340**	P	**P**	**15 28 51.7**	**+1.0**
	comp=Z,3.0nm,0.6s,mb4.4,baz=94,slow=5.8,SNR=11						
ARCES	**ARCESS Array B**	**75.07**	**340**	P	**P**	**15 28 51.7**	**+1.0**
MORC	**Moravsky Berou**	**75.19**	**319**	*eP*	**P**	**15 28 52.0**	**+0.4**
	comp=Z,5.4nm,0.9s,mb4.5						
GERES	**GERESS Array B**	**77.64**	**318**	P	**P**	**15 29 06.3**	**+0.8**
	comp=Z,12nm,1.1s,mb4.8,baz=90,slow=5.3,SNR=7.9						
CLL	**Collm**	**78.17**	**321**	P	**P**	**15 29 09.0**	**+0.7**
HFS	**Hagfors**	**78.26**	**330**	P	**P**	**15 29 09.5**	**+0.8**
	comp=Z,4.4nm,0.5s,mb4.7,baz=104,slow=6.1,SNR=13						
GRA1	**Grafenberg Arr**	**79.28**	**319**	*eP*	**P**	**15 29 15.9**	**+1.5**
	comp=Z,11nm,1.2s,mb4.7						
GRA1				*ep*P	pP	15 29 20.1	+2.5
GRF	**Grafenberg Arr**	**79.28**	**319**	*eP*	**P**	**15 29 15.9**	**+1.5**
	comp=Z,11nm,1.2s,mb4.7						
GRF				*ep*P	pP	15 29 20.1	+2.5
NB2	**NORSAR Subarra**	**79.54**	**331**	P	**P**	**15 29 15.5**	**-0.1**
	comp=Z,2.6nm,0.6s,mb4.3,baz=94,slow=5.0						
NOA	**NORSAR Array B**	**79.54**	**331**	P	**P**	**15 29 15.9**	**+0.3**
	comp=Z,4.2nm,0.7s,mb4.5,baz=95,slow=4.9,SNR=6.3						
LPG	**La Plagne**	**82.43**	**315**	*eP*	**P**	**15 29 29.6**	**-1.5**
	comp=Z,27nm,0.9s,mb4.9						
ESDC	**Sonseca Array**	**91.04**	**310**	P	**P**	**15 30 14.5**	**+1.2**
	comp=Z,0.3nm,0.3s,mb4.0,baz=56,slow=5.3,SNR=4.5						
IMA	**Indian Mountai**	**91.50**	**22**	*eP*	**P**	**15 30 13.3**	**-1.5**
NVAR	**Mina Array Bea**	**124.82**	**31**	PKP	PKPdf	15 36 11.2	+0.2
	comp=Z,1.6nm,0.8s,baz=279,slow=2.0,SNR=3.7						
PDAR	**Pinedale Array**	**125.04**	**21**	PKP	PKPdf	15 36 12.6	+1.3
	comp=Z,1.7nm,0.8s,slow=1.5,SNR=5.6						
PLCA	**Paso Flores**	**144.68**	**200**	PKP	PKPdf	15 36 46.9	-0.7
	comp=Z,3.0nm,0.8s,baz=172,slow=5.9,SNR=3.6						

*IDC **27** 15:24:45.2±0.7, 7.92N×94.22E, mb4.5/18, mb1 4.6/19, mb1mx4.5/22, mbtmp4.4/19, ML4.1/1, Error ellipse: s-maj=28.0km s-min=17.6km az=49.0*
*MOS **27** 15:24:47.4±1.5, 7.63N×94.22E, h33km, mb5.0/45, Error ellipse: s-maj=10.6km s-min=6.4km az=102.4*
*BJI **27** 15:24:48.4, 7.50N×93.89E, h45km, mB5.3, mb4.7, Ms4.9, Msz4.7*
*HRVD **27** 15:24:49.0±0.9, 7.66N×94.21E, h25km±3km, MW5.2/39, Centroid moment Tensor Solution. LP body waves: s8,c8; Mantle waves: s39,c55; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.95±.61; $M_{\theta\theta}$0.15±.47; $M_{\phi\phi}$1.80±.48; $M_{r\theta}$-1.99±1.02; $M_{\theta\phi}$5.69±.51; M_{rr}-4.11±1.36; Best double couple: $M_0$7.041×10^{16} NP1:ϕ_s268°, δ51°, λ-6°. NP2:ϕ_s2°, δ85°, λ-140°. Principal axes: T 8.588, Plg23°, Azm129°; N -3.096, Plg50°, Azm8°; P -5.495, Plg31°, Azm233°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 15:24:49.0±0.3, 7.69N×94.24E, h30km, mb4.9/35 Error ellipse: s-maj=8.9km s-min=7.2km az=72.0*
ISC 27 15:24:47.8±0.3, 7.72N±0.05×94.24E±0.05, h33km, n152, σ1§22/148, mb4.8/61, MS4.7/1, 1C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.61**	**23**	*eP*	**P**	**15 27 33.0**	**-1.4**
	20nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.61**	**23**	Pn	**P**	**15 27 35.5**	**+1.1**
	0.4nm,0.3s,baz=211,slow=14,SNR=11						
PALK	**Pallekele**	**13.43**	**269**	P	**P**	**15 27 55.7**	**-2.9**
	18nm,0.8s						
VIS	**Vishakhapatnam**	**14.55**	**314**	*eP*	**P**	**15 28 14.0**	**+0.6**
VIS				*e*		15 28 22.9	
	comp=Z,75nm,1.3s						
VIS				*e*S	**S**	**15 31 14.7**	**+20**
BWNR	**Bhubaneshwar**	**14.93**	**328**	*eP*	**P**	**15 28 16.3**	**-2.0**
BWNR				*e*		15 28 34.1	
	comp=Z,72nm,1.0s						
BWNR				*e*S	**S**	**15 31 16.2**	**+13**
AGT	**Agartala**	**16.32**	**350**	*e*	**P**	**15 28 50.0**	**+14**
HYB	**Hyderabad**	**18.07**	**304**	*eP*	**P**	**15 29 00.0**	**+1.8**
HYB	**Hyderabad**	**18.07**	**304**	*i* P	**P**	**15 29 00.0**	**+1.8**
BLSP	**Bilaspur**	**18.47**	**322**	*eP*	**P**	**15 29 02.7**	**-0.5**
BLSP				*e*		15 32 05.7	
KMI	**Kunming**	**19.11**	**24**	P	**P**	**15 29 14.4**	**+3.6**
KMI				pmax	pmax		
	comp=Z,20nm,1.6s						
KMI	**Kunming**	**19.11**	**24**	P	**P**	**15 29 14.4**	**+3.6**
	comp=Z,20nm,1.6s						
KMI				pP		15 29 24.9	
MNGI	**Mangalore**	**19.78**	**287**	*eP*	**P**	**15 29 20.7**	**+2.5**
COCO	**West Island**	**19.95**	**173**	P	**P**	**15 29 20.0**	**-0.1**
	comp=Z,101nm,1.0s						
JIRN	**Jiri**	**21.24**	**340**	*eP*	**P**	**15 29 32.3**	**-1.1**
	comp=Z,122nm,0.9s,mb5.2						
PKI	**Pulchoki**	**21.44**	**338**	*eP*	**P**	**15 29 35.1**	**-0.2**
	comp=Z,131nm,1.0s,mb5.2						
KKN	**Kakani**	**21.68**	**338**	*eP*	**P**	**15 29 37.5**	**-0.3**
KAD	**Karad**	**21.75**	**298**	*eP*	**P**	**15 29 38.8**	**+0.3**
KAD				*e*		15 29 44.0	
	comp=Z,38nm,0.7s						
LSA	**Lhasa**	**22.05**	**353**	P	**P**	**15 29 41.5**	**0.0**
LSA				AMB	AMB		
	comp=Z,40nm,0.9s,mb4.8						
LSA	**Lhasa**	**22.05**	**353**	*eP*	**P**	**15 29 41.8**	**+0.3**
LSA				pmax	pmax		
	comp=Z,73nm,0.9s,mb5.1						
LSA	**Lhasa**	**22.05**	**353**	*eP*	**P**	**15 29 41.8**	**+0.3**
	comp=Z,73nm,0.9s,mb5.1						
GKN	**Gorkha**	**22.12**	**337**	*eP*	**P**	**15 29 41.9**	**-0.2**
	comp=Z,81nm,0.7s,mb5.2						
KOLN	**Koldanda**	**22.34**	**335**	*eP*	**P**	**15 29 44.6**	**+0.3**
	comp=Z,91nm,0.8s,mb5.2						
POO	**Poona**	**22.55**	**300**	*eP*	**P**	**15 29 48.0**	**+1.5**
NDI	**New Delhi**	**26.31**	**325**	*e*	**P**	**15 30 22.0**	**-0.6**
ENH	**Enshi**	**26.60**	**31**	*eP*	**P**	**15 30 26.3**	**+1.0**
	comp=Z,23nm,1.1s,mb4.6						
WHN	**Wuhan**	**29.50**	**37**	P	**P**	**15 30 53.5**	**+2.2**
LZH	**Lanzhou**	**29.57**	**16**	*eP*	**P**	**15 30 52.5**	**+0.6**
LZH				AP	pP	15 31 03.0	+1.5
LZH				XP	sP	15 31 08.5	+2.7
LZH				AMB	AMB		
	comp=Z,29nm,1.6s,mb4.8						
LZH	**Lanzhou**	**29.57**	**16**	*eP*	**P**	**15 30 52.5**	**+0.6**
LZH				*PP	pP	15 31 03.0	+1.5
LZH				*SP	sP	15 31 08.5	+2.7
LZH				pmax	pmax		
	comp=Z,29nm,1.6s,mb4.8						
LZH	**Lanzhou**	**29.57**	**16**	*eP*	**P**	**15 30 52.5**	**+0.6**
	comp=Z,29nm,1.6s,mb4.8						
LZH				pP	pP	15 31 03.0	+1.5
LZH				sP	sP	15 31 08.5	+2.7
NJ2	**Nanjing**	**33.33**	**40**	*eP*	**P**	**15 31 26.5**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,130nm,1.0s,mb5.8						
WMQ	**Urumqi**	**36.41**	**352**	*eP*	**P**	**15 31 51.0**	**-0.2**
WMQ				AP	pP	15 32 00.8	-0.1
WMQ				PP	PP	15 33 14.5	-0.8
WMQ				PCP	PcP	15 34 15.8	+0.4
WMQ				AMB	AMB		
	comp=Z,64nm,1.5s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,302nm,5.6s						
WMQ				LR	LR		
	comp=N,721nm,18.3s,MS4.7						
WMQ				LR	LR		
	comp=E,819nm,18.4s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,18.7s,MS4.7						
BJT	**Baijiatuau**	**37.67**	**28**	P	**P**	**15 32 02.0**	**+0.1**
BJT				pmax	pmax		
	comp=Z,24nm,1.1s						
BJT	**Baijiatuau**	**37.67**	**28**	P	**P**	**15 32 02.0**	**+0.2**
	comp=Z,24nm,1.1s,mb4.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,12nm,0.9s,mb4.9						
WB2	**Warramunga Arr**	**48.11**	**125**	*e*P	**P**	**15 33 26.2**	**-0.6**
BVA0	**Borovoye Array**	**49.16**	**341**	*i* P	**P**	**15 33 33.8**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
BVAR	**Borovoye Array**	**49.16**	**341**	P	**P**	**15 33 33.5**	**-1.0**
	comp=Z,6.3nm,0.9s,mb4.6,baz=149,slow=8.6,SNR=9.4						
BVAR				PcP	PcP	15 34 58.5	+0.7
	comp=Z,3.6nm,0.8s,baz=153,slow=3.2,SNR=2.6						
BRVK	**Borovoye**	**49.22**	**341**	*e*P	**P**	**15 33 34.2**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
BRVK	**Borovoye**	**49.22**	**341**	*e*P	**P**	**15 33 34.1**	**-0.8**
	comp=Z,12nm,1.0s,mb4.9						
RAYN	**Ar Rayn**	**49.23**	**294**	P	**P**	**15 33 37.0**	**+1.5**
	comp=Z,162nm,0.9s,SNR=24						
CHKZ	**Chkalovo**	**49.65**	**342**	*e*P	**P**	**15 33 37.9**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.2						
CHKZ	**Chkalovo**	**49.65**	**342**	*e*P	**P**	**15 33 37.9**	**-0.4**
	comp=Z,25nm,0.9s,mb5.2						
BOD	**Bodaibo**	**52.27**	**13**	*e*P	**P**	**15 33 57.9**	**-0.1**
MSL	**Mosul**	**54.48**	**309**	*e*P	**P**	**15 34 15.0**	**+0.3**
GNI	**Garni**	**54.61**	**314**	*e*P	**P**	**15 34 13.3**	**-2.3**
GNI				pmax	pmax		
	comp=Z,38nm,1.4s						
GNI	**Garni**	**54.61**	**314**	*e*P	**P**	**15 34 13.3**	**-2.3**
	comp=Z,38nm,1.4s,mb5.2						
SVE	**Sverdlovsk**	**55.58**	**338**	*e*P	**P**	**15 34 19.0**	**-3.4**
SVE				pmax	pmax		
	comp=Z,60nm,1.5s,mb5.4						
ARU	**Arti**	**56.06**	**337**	*e*P	**P**	**15 34 18.6**	**-7.3**
KIV	**Kislovodsk**	**57.49**	**318**	*e*P	**P**	**15 34 38.3**	**+2.0**
KIV				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
KIV	**Kislovodsk**	**57.49**	**318**	*e*P	**P**	**15 34 35.9**	**-0.3**
	comp=Z,17nm,0.8s,mb5.1						
KMBO	**Kilima Mbogo**	**57.50**	**264**	*e*P	**P**	**15 34 38.7**	**+2.0**
KMBO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KMBO	**Kilima Mbogo**	**57.50**	**264**	P	**P**	**15 34 38.1**	**+1.4**
	comp=Z,4.1nm,0.9s,mb4.5,baz=48,slow=12,SNR=7.9						
KMBO	**Kilima Mbogo**	**57.50**	**264**	*e*P	**P**	**15 34 38.7**	**+2.0**
	comp=Z,8.4nm,1.0s,mb4.7						
CTAO	**Charters Tower**	**58.15**	**119**	P	**P**	**15 34 38.1**	**-3.1**
CTAO				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
CTAO	**Charters Tower**	**58.15**	**119**	P	**P**	**15 34 38.1**	**-3.0**
	comp=Z,4.7nm,1.0s,mb4.5						
ASF	**Jabal al Asfar**	**58.38**	**303**	P	**P**	**15 34 43.3**	**+0.7**
	comp=Z,2.0nm,0.5s,mb4.4,baz=344,slow=7.4,SNR=3.3						
MALT	**Malatya**	**58.63**	**310**	*e*P	**P**	**15 34 44.3**	**0.0**
MALT				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
MALT	**Malatya**	**58.63**	**310**	*e*P	**P**	**15 34 44.3**	**0.0**
	comp=Z,9.4nm,1.3s,mb4.7						
SOKR	**Solikamsk**	**58.97**	**339**	⇓*i*P	**P**	**15 34 44.8**	**-1.6**
SOKR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
STKA	**Stephens Creek**	**59.93**	**134**	P	**P**	**15 34 51.9**	**-1.5**
YAK	**Yakutsk**	**60.11**	**18**	*e*P	**P**	**15 34 52.5**	**-1.7**
YAK				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.2						
YAK	**Yakutsk**	**60.11**	**18**	*e*P	**P**	**15 34 52.5**	**-1.7**
	comp=Z,21nm,0.8s,mb5.2						
BRTR	**Keskin Array B**	**62.60**	**311**	P	**P**	**15 35 09.5**	**-1.8**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRTR	**Keskin Array B**	**62.60**	**311**	P	**P**	**15 35 09.5**	**-1.8**
	comp=Z,4.4nm,0.7s,mb4.7,baz=120,slow=5.7,SNR=14						
MBAR	**Mbarara**	**63.84**	**266**	*e*P	**P**	**15 35 18.8**	**-1.1**
MBAR				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
MBAR	**Mbarara**	**63.84**	**266**	*e*P	**P**	**15 35 18.8**	**-1.1**
	comp=Z,9.7nm,1.2s,mb4.7						
MOS	**Moscow**	**65.26**	**329**	*e*P	**P**	**15 35 31.1**	**+2.7**
MOS				pmax	pmax		
	comp=Z,62nm,0.6s,mb5.8						
OBN	**Obninsk**	**65.56**	**328**	⇓*i*P	**P**	**15 35 27.2**	**-3.1**
OBN				pmax	pmax		
	comp=Z,12nm,0.5s,mb5.2						
MA2	**Magadan**	**66.86**	**27**	*e*P	**P**	**15 35 38.9**	**+0.5**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MA2	**Magadan**	**66.86**	**27**	*e*P	**P**	**15 35 38.9**	**+0.5**
	comp=Z,10.0nm,0.9s,mb4.8						
TIXI	**Tiksi**	**67.36**	**11**	⇑*i*P	**P**	**15 35 40.6**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
AKASG	**Malin Array Be**	**68.33**	**322**	P	**P**	**15 35 46.3**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AKASG	**Malin Array Be**	**68.33**	**322**	P	**P**	**15 35 46.3**	**-1.6**
	comp=Z,5.6nm,0.8s,mb4.7,baz=88,slow=4.9,SNR=11						
IDI	**Anoyia**	**68.73**	**305**	P	**P**	**15 35 50.5**	**-0.1**
	comp=Z,15nm,0.7s,mb5.0,baz=84,slow=13,SNR=5.0						
LSZ	**Lusaka**	**69.31**	**251**	*e*P	**P**	**15 35 55.7**	**+1.3**
LSZ				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9						
LSZ	**Lusaka**	**69.31**	**251**	*e*P	**P**	**15 35 55.7**	**+1.3**
	comp=Z,22nm,1.4s,mb4.9						
MLR	**Muntele Rosu**	**69.34**	**316**	P	**P**	**15 35 54.5**	**+0.3**
MLR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MLR	**Muntele Rosu**	**69.34**	**316**	P	**P**	**15 35 54.5**	**+0.3**
	comp=Z,9.1nm,0.9s,mb4.7,baz=249,slow=3.9,SNR=4.2						
JOF	**Joensuu**	**71.03**	**334**	*e*p	**P**	**15 36 02.5**	**-1.6**
	comp=Z,11nm,0.8s,mb4.8						
KOLS	**Kolonicke sedl**	**72.38**	**319**	*e*P	**P**	**15 36 12.3**	**-0.1**
FINES	**FINESS Array B**	**72.89**	**332**	P	**P**	**15 36 14.1**	**-1.1**
FINES				pmax	pmax		
	comp=Z,11nm,0.7s						
FINES	**FINESS Array B**	**72.89**	**332**	P	**P**	**15 36 14.1**	**-1.1**
	comp=Z,11nm,0.7s,mb4.9,baz=104,slow=7.9,SNR=19						
FINES	**FINESS Array B**	**72.89**	**332**	P	**P**	**15 36 14.1**	**-1.1**
KAF	**Kangasniemi**	**72.97**	**333**	*e*p	**P**	**15 36 15.2**	**-0.5**
	baz=101,slow=5.0						
LBTB	**Lobatse**	**74.25**	**241**	*e*P	**P**	**15 36 22.2**	**-1.7**
LBTB				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
LBTB	**Lobatse**	**74.25**	**241**	*e*P	**P**	**15 36 22.2**	**-1.7**
	comp=Z,9.6nm,0.8s,mb4.8						
VYHS	**Vyhne**	**74.58**	**318**	*e*P	**P**	**15 36 29.5**	**+4.2**
VYHS	**Vyhne**	**74.58**	**318**	*e*	**P**	**15 36 29.5**	**+4.2**
KEV	**Kevo**	**75.01**	**341**	*e*p	**P**	**15 36 17.8**	**-10**
	comp=Z,46nm,1.6s,mb5.2						
KEV	**Kevo**	**75.01**	**341**	*e*P	**P**	**15 36 17.8**	**-10**
KEV				pmax	pmax		
	comp=Z,46nm,1.6s,mb5.2						
ARCES	**ARCESS Array B**	**75.44**	**340**	P	**P**	**15 36 29.2**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES	**ARCESS Array B**	**75.44**	**340**	P	**P**	**15 36 29.2**	**-0.7**
	comp=Z,3.1nm,0.7s,mb4.3,baz=90,slow=4.9,SNR=9.8						
BOSA	**Boshof**	**75.58**	**238**	*e*P	**P**	**15 36 32.7**	**+1.2**
BOSA				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
BOSA	**Boshof**	**75.58**	**238**	*e*P	**P**	**15 36 32.7**	**+1.2**
	comp=Z,9.8nm,0.9s,mb4.7						
ZST	**Bratislava**	**75.71**	**318**	*e*P	**P**	**15 36 36.0**	**+4.2**
ZST	**Bratislava**	**75.71**	**318**	*e*	**P**	**15 36 36.0**	**+4.2**
BILL	**Bilibino**	**76.19**	**22**	*e*P	**P**	**15 36 32.4**	**-1.8**
BILL				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.8						
BILL	**Bilibino**	**76.19**	**22**	*e*P	**P**	**15 36 32.4**	**-1.8**
	comp=Z,19nm,1.5s,mb4.8						
BRG	**Berggiesshubel**	**77.93**	**320**	*e*P	**P**	**15 36 48.9**	**+4.7**
BRG				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.8						
BRG	**Berggiesshubel**	**77.93**	**320**	*e*P	**P**	**15 36 48.9**	**+4.7**
	comp=Z,16nm,1.5s,mb4.7						
GERES	**GERESS Array B**	**78.00**	**318**	P	**P**	**15 36 45.0**	**+0.3**
GERES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GERES	**GERESS Array B**	**78.00**	**318**	P	**P**	**15 36 45.0**	**+0.4**
	comp=Z,5.2nm,0.8s,mb4.5,baz=90,slow=4.0,SNR=20						
KHC	**Kasperske Hory**	**78.09**	**319**	*e*P	**P**	**15 36 45.5**	**+0.4**
KHC				*e*		15 36 49.5	
KHC	**Kasperske Hory**	**78.09**	**319**	*e*P	**P**	**15 36 45.5**	**+0.4**
KHC				x	x	15 36 49.5	
CLL	**Collm**	**78.54**	**321**	P	**P**	**15 36 51.0**	**+3.5**
HFS	**Hagfors**	**78.63**	**330**	P	**P**	**15 36 47.4**	**-0.5**
HFS				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HFS	**Hagfors**	**78.63**	**330**	P	**P**	**15 36 47.4**	**-0.4**
	comp=Z,5.7nm,0.6s,mb4.7,baz=104,slow=6.1,SNR=20						
GRA1	**Grafenberg Arr**	**79.64**	**319**	*e*P	**P**	**15 36 54.1**	**+0.5**
	comp=Z,9.0nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	**79.64**	**319**	*e*P	**P**	**15 36 54.1**	**+0.5**
GRF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	**79.64**	**319**	*e*P	**P**	**15 36 54.1**	**+0.5**
GRF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	**79.64**	**319**	*e*P	**P**	**15 36 54.1**	**+0.5**
	comp=Z,9.0nm,1.1s,mb4.6						
NB2	**NORSAR Subarra**	**79.91**	**331**	P	**P**	**15 36 54.0**	**-0.8**
	comp=Z,5.3nm,0.7s,mb4.6,baz=96,slow=5.0						
NB2	**NORSAR Subarra**	**79.91**	**331**	P	**P**	**15 36 54.0**	**-0.8**
NB2				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
NOA	**NORSAR Array B**	**79.91**	**331**	P	**P**	**15 36 54.4**	**-0.4**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NOA	**NORSAR Array B**	**79.91**	**331**	P	**P**	**15 36 54.4**	**-0.4**
	comp=Z,4.0nm,0.8s,mb4.4,baz=97,slow=5.1,SNR=9.1						
SUR	**Sutherland**	**80.32**	**235**	P	**P**	**15 36 58.6**	**+0.9**
	comp=Z,20nm,1.2s,mb4.9						
LPG	**La Plagne**	**82.79**	**315**	*e*P	**P**	**15 37 11.2**	**+1.0**
	comp=Z,23nm,0.9s,mb4.9						
LPG	**La Plagne**	**82.79**	**315**	*e*P	**P**	**15 37 11.2**	**+1.0**
LPG				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
SYO	**Syowa Base**	**85.29**	**197**	⇓PcP	PcP	15 37 25.2	-0.6
TNA	**Tin City**	**86.27**	**24**	*e*P	**P**	**15 37 28.2**	**+1.2**
ESDC	**Sonseca Array**	**91.39**	**310**	P	**P**	**15 37 53.6**	**+1.5**
	comp=Z,2.2nm,0.6s,mb4.7,baz=38,slow=3.9,SNR=2.6						
IMA	**Indian Mountai**	**91.73**	**22**	*e*P	**P**	**15 37 55.0**	**+2.0**
ILAR	**Eielson Array**	**94.85**	**22**	P	**P**	**15 38 08.2**	**+0.9**
	comp=Z,0.4nm,0.8s,mb3.9,baz=270,slow=4.5,SNR=3.6						
INK	**Inuvik**	**97.11**	**16**	P	**P**	**15 38 19.0**	**+1.5**
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
INK	**Inuvik**	**97.11**	**16**	P	**P**	**15 38 18.9**	**+1.4**
	comp=Z,1.6nm,1.0s,mb4.4,baz=342,slow=3.2,SNR=2.8						
YKA	**Yellowknife Ar**	**106.55**	**14**	PP	PP	15 43 23.8	-4.2
	comp=Z,0.6nm,0.8s,baz=335,slow=7.6,SNR=6.6						
NVAR	**Mina Array Bea**	**125.00**	**31**	PKP	PKPdf	15 43 49.0	+3.7
	comp=Z,0.7nm,0.7s,baz=304,slow=3.3,SNR=6.4						
PDAR	**Pinedale Array**	**125.27**	**21**	PKP	PKPdf	15 43 48.4	+2.7
	comp=Z,2.1nm,0.9s,baz=90,slow=1.5,SNR=12						
TXAR	**Lajitas Array**	**139.32**	**24**	PKP	PKPdf	15 44 13.9	+1.5
	comp=Z,0.1nm,0.4s,baz=295,slow=15,SNR=2.6						
PLCA	**Paso Flores**	**144.44**	**200**	PKP	PKPdf	15 44 22.8	+1.8
	comp=Z,3.3nm,0.8s,baz=211,slow=5.4,SNR=6.1						

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*BJI **27** 15:27:26.0, 7.02N×93.59E, h30km, mb4.8, Ms5.1, Msz4.7*
*IDC **27** 15:27:30.2±0.7, 7.94N×94.19E, mb4.6/18, mb1 4.7/19, mb1mx4.7/23, mbtmp4.6/19, ML4.6/1, Error ellipse: s-maj=29.9km s-min=18.2km az=48.0*
*MOS **27** 15:27:34.0±1.0, 7.92N×94.25E, h39km, mb5.1/33, Error ellipse: s-maj=14.9km s-min=6.5km az=120.4*
*NEIC **27** 15:27:34.6±0.3, 7.92N×94.26E, h30km, mb5.0/23, MS4.5/1, Error ellipse: s-maj=8.2km s-min=6.8km az=211.0*

ISC 27 15:27:32.6±2.4**, 7.96N**±0.06×**94.36E**±0.05**, h28**km±16km**, n132, σ0.99**/134**, mb4.8**/43**, MS4.5**/1**, 5C-3D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.00**	**337**	⇓*i*P	**Pn**	**15 28 33.1**	**-0.6**
PBA				*e*S	**Sn**	**15 29 19.5**	**-0.7**
CM31	**Chiang Mai Arr**	**11.35**	**23**	P	**P**	**15 30 15.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**11.35**	**23**	P	**P**	**15 30 19.8**	**+3.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.35**	**23**	Pn	**P**	**15 30 19.8**	**+3.7**
	comp=Z,1.2nm,0.3s,baz=211,slow=14,SNR=12						
KOD	**Kodaikanal**	**16.83**	**279**	*e*P	**P**	**15 31 30.5**	**+2.4**
KOD				*e*		15 31 32.6	
	comp=Z,42nm,1.5s						
KOD				*e*S	**S**	**15 34 35.8**	**+2.7**
SHL	**Shillong**	**17.66**	**353**	*e*	**P**	**15 31 27.9**	**-11**
HYB	**Hyderabad**	**18.04**	**303**	*e*P	**P**	**15 31 44.0**	**+0.7**
HYB				pmax	pmax		
	comp=Z,86nm,1.2s						
HYB	**Hyderabad**	**18.04**	**303**	*e*P	**P**	**15 31 44.0**	**+0.7**
	comp=Z,86nm,1.2s						
HYB				*e*S	**S**	**15 35 14.0**	**+13**
HYB	**Hyderabad**	**18.04**	**303**	*i* P	**P**	**15 31 44.0**	**+0.7**
	comp=Z,86nm,1.2s						
HYB				*e*S	**S**	**15 35 14.0**	**+13**
QIZ	**Qiongzhong**	**18.63**	**52**	*e*P	**P**	**15 31 50.8**	**+0.3**
	comp=Z,148nm,1.5s						
MNGI	**Mangalore**	**19.83**	**286**	*i*	**S**	**15 35 51.8**	**+11**
GOA	**Goa**	**21.43**	**292**	*e*	**P**	**15 32 30.5**	**+10**
	comp=Z,32nm,0.9s,mb4.7						
GOA				*e*		15 32 30.6	
GOA				*e*S	**S**	**15 36 20.0**	**+7.9**
LSA	**Lhasa**	**21.83**	**352**	P	**P**	**15 32 25.5**	**+0.7**
LSA	**Lhasa**	**21.83**	**352**	*e*P	**P**	**15 32 24.7**	**-0.1**
LSA				pmax	pmax		
	comp=Z,59nm,0.8s,mb5.1						
LSA	**Lhasa**	**21.83**	**352**	*e*P	**P**	**15 32 24.7**	**0.0**
	comp=Z,59nm,0.8s,mb5.1						
BOM	**Bombay**	**23.57**	**300**	*e*	**P**	**15 32 53.4**	**+11**
BOM				*e*		15 33 09.2	
	comp=Z,132nm,1.4s						
BOM				*e*S	**S**	**15 36 55.6**	**+4.8**
NDI	**New Delhi**	**26.19**	**324**	*e*P	**P**	**15 33 06.7**	**-0.2**
NDI				*e*S	**S**	**15 37 40.6**	**+5.8**
NDI	**New Delhi**	**26.19**	**324**	*e*	**P**	**15 33 06.5**	**-0.4**
ENH	**Enshi**	**26.34**	**31**	*e*P	**P**	**15 33 10.2**	**+1.9**
	comp=Z,43nm,0.8s,mb5.0						
WHN	**Wuhan**	**29.24**	**37**	⇑P	**P**	**15 33 38.0**	**+3.5**
SSE	**Sheshan**	**34.01**	**44**	P	**P**	**15 34 17.6**	**+1.2**
	comp=Z,36nm,0.7s,mb5.4						
SSE				S	**S**	**15 39 39.4**	**+0.6**
SSE				sS		15 39 54.9	
SSE				LR	LR		
	comp=Z,940nm,20.1s,MS4.5						
KBK	**Karagaybulak**	**38.55**	**337**	P	**P**	**15 34 55.8**	**+1.1**
	SNR=7.3						
AML	**Almayashu**	**38.61**	**335**	P	**P**	**15 34 55.8**	**+0.5**
	SNR=9.7						
AAK	**Ala-Archa**	**38.71**	**336**	P	**P**	**15 34 57.6**	**+1.6**
	SNR=5.9						
AAK	**Ala-Archa**	**38.71**	**336**	*i* P	**P**	**15 34 55.4**	**-0.6**
AAK				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
AAK	**Ala-Archa**	**38.71**	**336**	*e*P	**P**	**15 34 55.2**	**-0.8**
	comp=Z,140nm,1.6s,mb5.4						
CHMS	**Chumysh**	**38.91**	**337**	P	**P**	**15 34 58.5**	**+0.7**
	SNR=5.9						
EKS2	**Erkin-Say**	**39.02**	**336**	P	**P**	**15 34 59.6**	**+1.0**
	SNR=5.7						
USP	**Ospenovka**	**39.24**	**337**	P	**P**	**15 35 00.8**	**+0.4**
	SNR=7.8						
MKAR	**Makanchi Array**	**40.05**	**347**	*i* P	**P**	**15 35 07.0**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,48nm,1.0s						
SONM	**Songino Array**	**41.03**	**12**	P	**P**	**15 35 17.3**	**+2.2**
	comp=Z,4.3nm,0.8s,mb4.1,baz=193,slow=6.8,SNR=7.3						
SONM				PcP	PcP	15 37 16.5	+1.2
	comp=Z,2.6nm,0.9s,baz=198,slow=5.1,SNR=4.0						
ULN	**Ulaanbaatar**	**41.20**	**13**	*e*P	**P**	**15 35 18.1**	**+1.6**
KURK	**Kurchatov**	**44.58**	**346**	*e*P	**P**	**15 35 44.1**	**+0.1**
KURK				pmax	pmax		
	comp=Z,55nm,1.2s,mb5.3						
KURK	**Kurchatov**	**44.58**	**346**	*e*P	**P**	**15 35 44.1**	**0.0**
	comp=Z,55nm,1.2s,mb5.3						
NWAO	**Narrogin (SRO)**	**46.13**	**153**	P	**P**	**15 35 57.4**	**+0.8**
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**46.13**	**153**	P	**P**	**15 35 57.4**	**+0.7**
	comp=Z,6.4nm,0.7s,mb4.6,baz=340,slow=14,SNR=4.1						
NVS	**Novosibirsk**	**47.59**	**351**	*i* P	**P**	**15 36 06.7**	**-1.1**
NVS				*i*		15 36 25.2	
NVS				pmax	pmax		
	comp=N,21nm,1.2s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.2						
WRA	**Warramunga Arr**	**48.14**	**126**	P	**P**	**15 36 12.2**	**-0.4**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**48.14**	**126**	P	**P**	**15 36 12.2**	**-0.4**
	comp=Z,2.5nm,0.9s,mb4.2,baz=300,slow=10.0,SNR=7.3						
WRAB	**Tennant Creek**	**48.14**	**126**	*e*P	**P**	**15 36 11.1**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**48.14**	**126**	*e*P	**P**	**15 36 11.1**	**-1.5**
	comp=Z,10nm,1.0s,mb4.8						
WB2	**Warramunga Arr**	**48.15**	**126**	*e*P	**P**	**15 36 12.5**	**-0.2**
BVA0	**Borovoye Array**	**48.97**	**341**	*i* P	**P**	**15 36 18.2**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.5						
BVAR	**Borovoye Array**	**48.97**	**341**	P	**P**	**15 36 17.8**	**-0.8**
	comp=Z,7.7nm,0.9s,mb4.8,baz=135,slow=6.3,SNR=11						
BRVK	**Borovoye**	**49.04**	**341**	*e*P	**P**	**15 36 17.4**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
BRVK	**Borovoye**	**49.04**	**341**	*e*P	**P**	**15 36 17.4**	**-1.6**
	comp=Z,6.5nm,0.8s,mb4.7						
RAYN	**Ar Rayn**	**49.24**	**294**	P	**P**	**15 36 21.0**	**-0.1**
	comp=Z,138nm,0.9s,SNR=14						
CHKZ	**Chkalovo**	**49.46**	**342**	P	**P**	**15 36 21.7**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,59nm,1.2s,mb5.5						
CHKZ	**Chkalovo**	**49.46**	**342**	*e*P	**P**	**15 36 20.9**	**-1.3**
	comp=Z,28nm,0.9s,mb5.3						
BOD	**Bodaibo**	**52.01**	**13**	*e*P	**P**	**15 36 42.5**	**+0.8**
BOD				*e*		15 36 59.7	
GNI	**Garni**	**54.53**	**314**	*i* P	**P**	**15 37 00.6**	**+0.1**
GNI				pmax	pmax		
	comp=Z,26nm,1.7s						
GNI	**Garni**	**54.53**	**314**	P	**P**	**15 36 60.0**	**-0.5**
	comp=Z,1.6nm,0.4s,mb4.4,baz=63,slow=7.5,SNR=4.6						
TI2	**Plekhanov**	**55.13**	**316**	*e*P	**P**	**15 37 02.4**	**-2.5**
TI2				*e*		15 37 23.2	
ARU	**Arti**	**55.89**	**337**	⇑*i*P	**P**	**15 37 03.4**	**-6.8**
ARU				*e*		15 38 03.5	
ARU				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**57.39**	**318**	*e*P	**P**	**15 37 19.9**	**-1.2**
KIV				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**57.39**	**318**	*e*P	**P**	**15 37 19.0**	**-2.1**
	comp=Z,13nm,0.8s,mb5.0						
KMBO	**Kilima Mbogo**	**57.64**	**264**	P	**P**	**15 37 23.3**	**0.0**
KMBO				pmax	pmax		
	comp=Z,11nm,1.2s						
KMBO	**Kilima Mbogo**	**57.64**	**264**	P	**P**	**15 37 23.3**	**+0.1**
	comp=Z,10nm,1.2s,mb4.7,baz=53,slow=11,SNR=6.8						
ASF	**Jabal al Asfar**	**58.35**	**303**	P	**P**	**15 37 28.1**	**+0.2**
	comp=Z,1.7nm,0.4s,mb4.4,baz=296,slow=5.6,SNR=4.7						
MALT	**Malatya**	**58.57**	**310**	*e*P	**P**	**15 37 28.2**	**-1.2**
MALT				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
MALT	**Malatya**	**58.57**	**310**	*e*P	**P**	**15 37 28.2**	**-1.2**
	comp=Z,3.0nm,0.7s,mb4.4						
SOKR	**Solikamsk**	**58.79**	**339**	⇓*i*P	**P**	**15 37 29.2**	**-1.4**
SOKR				*e*		15 37 48.9	
SOKR				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
YAK	**Yakutsk**	**59.84**	**18***c*	*i*P	**P**	**15 37 38.1**	**+0.2**
YAK				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.2						
YAK	**Yakutsk**	**59.84**	**18**	*e*P	**P**	**15 37 37.9**	**0.0**
	comp=Z,14nm,0.6s,mb5.2						
BRTR	**Keskin Array B**	**62.53**	**311**	P	**P**	**15 37 53.8**	**-2.6**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRTR	**Keskin Array B**	**62.53**	**311**	P	**P**	**15 37 53.8**	**-2.6**
	comp=Z,3.5nm,0.7s,mb4.6,baz=121,slow=7.2,SNR=10						
MBAR	**Mbarara**	**63.98**	**265**	*e*P	**P**	**15 38 05.4**	**-1.0**
MBAR				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
MBAR	**Mbarara**	**63.98**	**265**	*e*P	**P**	**15 38 05.4**	**-1.0**
	comp=Z,6.7nm,1.0s,mb4.6						
OBN	**Obninsk**	**65.42**	**328**	*e*P	**P**	**15 38 10.5**	**-4.5**
TIXI	**Tiksi**	**67.10**	**11**	⇓*i*P	**P**	**15 38 25.9**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.1						
AKASG	**Malin Array Be**	**68.22**	**322**	P	**P**	**15 38 30.8**	**-2.0**
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AKASG	**Malin Array Be**	**68.22**	**322**	P	**P**	**15 38 30.8**	**-2.0**
	comp=Z,6.5nm,0.8s,mb4.7,baz=89,slow=4.8,SNR=15						
VRI	**Vrincioaia**	**68.78**	**316**	⇑P	**P**	**15 38 36.1**	**-0.3**
MLR	**Muntele Rosu**	**69.26**	**316**	P	**P**	**15 38 39.0**	**-0.3**
MLR				pmax	pmax		
	comp=Z,14nm,1.0s						
MLR	**Muntele Rosu**	**69.26**	**316**	P	**P**	**15 38 39.0**	**-0.3**
	comp=Z,14nm,1.0s,mb4.8,baz=93,slow=3.2,SNR=8.6						
MLR	**Muntele Rosu**	**69.26**	**316**	⇑P	**P**	**15 38 39.0**	**-0.3**
KWP	**Kalwaria**	**72.10**	**320**	*e*P	**P**	**15 38 54.8**	**-1.6**
KWP				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
KWP	**Kalwaria**	**72.10**	**320**	*e*P	**P**	**15 38 54.8**	**-1.6**
	comp=Z,18nm,1.0s,mb5.0						
KOLS	**Kolonicke sedl**	**72.28**	**319**	*e*P	**P**	**15 38 57.1**	**-0.4**
SUW	**Suwalki**	**72.56**	**324**	*e*P	**P**	**15 38 57.9**	**-1.2**
SUW				pmax	pmax		
	comp=Z,62nm,0.9s,mb5.5						
SUW	**Suwalki**	**72.56**	**324**	*e*P	**P**	**15 38 57.9**	**-1.2**
	comp=Z,62nm,0.9s,mb5.5						
FINES	**FINESS Array B**	**72.73**	**332**	P	**P**	**15 38 59.8**	**-0.1**
FINES				pmax	pmax		
	comp=Z,12nm,0.8s						
FINES	**FINESS Array B**	**72.73**	**332**	P	**P**	**15 38 59.8**	**-0.1**
	comp=Z,12nm,0.8s,mb4.9,baz=101,slow=9.7,SNR=15						
CRVS	**Cervenica-Dubn**	**72.80**	**319**	*e*P	**P**	**15 39 00.0**	**-0.6**
KAF	**Kangasniemi**	**72.81**	**333**	*e*p	**P**	**15 39 00.3**	**-0.1**
	baz=91,slow=3.8						
OJC	**Ojcow**	**74.04**	**320**	*e*P	**P**	**15 39 07.6**	**-0.2**
VYHS	**Vyhne**	**74.48**	**318**	*e*P	**P**	**15 39 09.7**	**-0.7**
VYHS	**Vyhne**	**74.48**	**318**	*e*	**P**	**15 39 09.7**	**-0.7**
OKC	**Ostrava-Krasne**	**75.06**	**319**	*e*P	**P**	**15 39 14.2**	**+0.5**
ARCES	**ARCESS Array B**	**75.25**	**340**	P	**P**	**15 39 14.7**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ARCES	**ARCESS Array B**	**75.25**	**340**	P	**P**	**15 39 14.7**	**+0.2**
	comp=Z,6.1nm,0.9s,mb4.5,baz=76,slow=5.0,SNR=4.8						
MORC	**Moravsky Berou**	**75.45**	**319**	*e*P	**P**	**15 39 15.0**	**-0.9**
MORC				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
MORC	**Moravsky Berou**	**75.45**	**319**	*e*P	**P**	**15 39 15.0**	**-0.9**
	comp=Z,11nm,0.9s,mb4.8						
DPC	**Dobruska-Polom**	**76.28**	**320**	*e*P	**P**	**15 39 20.9**	**+0.3**
KSP	**Ksiaz**	**76.33**	**320**	*e*P	**P**	**15 39 21.1**	**+0.2**
UPC	**Upice**	**76.48**	**320**	*e*P	**P**	**15 39 22.6**	**+0.9**
PRU	**Pruhonice**	**77.40**	**319**	*e*P	**P**	**15 39 27.9**	**+1.1**
PVCC	**Panska Ves**	**77.41**	**320**	*e*P	**P**	**15 39 27.2**	**+0.4**
BRG	**Berggiesshubel**	**77.82**	**320**	*e*P	**P**	**15 39 29.7**	**+0.6**
BRG				*i*		15 39 49.0	
BRG				pmax	pmax		
	comp=Z,83nm,1.7s,mb5.4						
BRG	**Berggiesshubel**	**77.82**	**320**	*e*P	**P**	**15 39 29.7**	**+0.6**
	comp=Z,83nm,1.7s,mb5.4						
BRG				*i*		15 39 49.0	
GERES	**GERESS Array B**	**77.90**	**318**	P	**P**	**15 39 29.6**	**0.0**
GERES				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GERES	**GERESS Array B**	**77.90**	**318**	P	**P**	**15 39 29.6**	**0.0**
	comp=Z,7.9nm,0.9s,mb4.7,baz=90,slow=4.0,SNR=22						
KHC	**Kasperske Hory**	**77.99**	**318**	*e*P	**P**	**15 39 30.4**	**+0.3**
CLL	**Collm**	**78.43**	**321**	*e*P	**P**	**15 39 32.0**	**-0.4**
CLL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
CLL	**Collm**	**78.43**	**321**	*e*P	**P**	**15 39 32.0**	**-0.4**
	comp=Z,8.0nm,1.0s,mb4.6						
CLL	**Collm**	**78.43**	**321**	P	**P**	**15 39 32.0**	**-0.4**
	comp=Z,logA/T=0.9,mb4.6						
HFS	**Hagfors**	**78.49**	**330**	P	**P**	**15 39 32.7**	**+0.1**
HFS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HFS	**Hagfors**	**78.49**	**330**	P	**P**	**15 39 32.7**	**+0.1**
	comp=Z,9.9nm,0.8s,mb4.8,baz=108,slow=4.7,SNR=9.3						
NKC	**Novy Kostel**	**78.75**	**320**	*e*P	**P**	**15 39 35.6**	**+1.3**
MOX	**Moxa**	**79.29**	**320**	*e*P	**P**	**15 39 37.3**	**+0.1**
MOX	**Moxa**	**79.29**	**320**	*i* P	**P**	**15 39 37.3**	**+0.1**
GRA1	**Grafenberg Arr**	**79.54**	**319**	*e*P	**P**	**15 39 38.9**	**+0.4**
	comp=Z,14nm,1.1s,mb4.8						
GRF	**Grafenberg Arr**	**79.54**	**319**	*e*P	**P**	**15 39 38.9**	**+0.4**
GRF				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
GRF	**Grafenberg Arr**	**79.54**	**319**	*e*P	**P**	**15 39 38.9**	**+0.4**
GRF				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
GRF	**Grafenberg Arr**	**79.54**	**319**	*e*P	**P**	**15 39 38.9**	**+0.4**
	comp=Z,14nm,1.1s,mb4.8						
NB2	**NORSAR Subarra**	**79.76**	**331**	P	**P**	**15 39 38.9**	**-0.6**

comp=Z,9.5nm,0.8s,mb4.8,baz=91,slow=5.8
NB2 NORSAR Subarra 79.76 331 P **P** **15 39 38.9 -0.6**
NB2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
NOA NORSAR Array B 79.76 331 P **P** **15 39 39.3 -0.2**
NOA pmax pmax
comp=Z,8.0nm,0.8s
NOA NORSAR Array B 79.76 331 P **P** **15 39 39.3 -0.2**
comp=Z,7.6nm,0.8s,mb4.7,baz=93,slow=5.5,SNR=12
DAVOX Davos 80.47 316 P **P** **15 39 43.9 +0.3**
comp=Z,11nm,0.9s,mb4.8,baz=106,slow=15,SNR=1.9
LPG La Plagne 82.71 315 *eP* **P** **15 39 55.3 0.0**
comp=Z,17nm,0.9s,mb4.8
LPG La Plagne 82.71 315 *eP* **P** **15 39 55.3 0.0**
LPG pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ESDC Sonseca Array 91.32 310 P **P** **15 40 37.9 +0.6**
comp=Z,6.2nm,1.1s,mb4.8,baz=50,slow=3.7,SNR=6.6
INK Inuvik 96.85 16 P **P** **15 41 03.4 +1.4**
INK pmax pmax
comp=Z,7.0nm,1.3s
INK Inuvik 96.85 16 P **P** **15 41 03.4 +1.5**
comp=Z,7.3nm,1.2s,mb5.0,baz=296,slow=6.5,SNR=5.6
INK Inuvik 96.85 16 P **P** **15 41 03.4 +1.5**
NVAR Mina Array Bea 124.73 31 PKP PKPdf 15 46 33.5 -1.8
comp=Z,0.9nm,0.8s,baz=334,slow=2.1,SNR=5.1
NVAR Mina Array Bea 124.73 31 PKP PKPdf 15 46 33.5 -1.8
PDAR Pinedale Array 125.01 21 PKP PKPdf 15 46 32.6 -3.0
comp=Z,1.1nm,0.8s,baz=90,slow=1.5,SNR=6.1
JCT Junction City 139.43 19 P Pdif 15 44 15.7 +4.8
PLCA Paso Flores 144.71 200 PKIKP PKPdf 15 47 08.2 -3.8
PLCA pmax pmax
comp=Z,9.0nm,0.9s
PLCA Paso Flores 144.71 200 PKP PKPdf 15 47 08.2 -3.8
comp=Z,8.7nm,0.9s,baz=131,slow=1.9,SNR=11

MOS ***27*** *15:27:51.9±0.9, 7.94N×94.21E, h31km, mb5.5/76, MS4.9/12, Error ellipse: s-maj=9.3km s-min=4.9km az=122.1*
BJI ***27*** *15:27:52.6, 7.67N×93.91E, h50km, mB5.4, mb4.8, Ms5.4, Msz5.1*
IDC ***27*** *15:27:52.8±4.6, 8.09N×94.32E, h24km±29km, mb4.9/24, mb1 4.9/25, mb1mx4.9/26, mbtmp5.0/25, ML4.6/1, Error ellipse: s-maj=22.3km s-min=11.5km az=46.0, Putative timing error at LPAZ*
CSEM ***27*** *15:27:53.2, 8.96N×95.17E, h33km, mb5.5*
NEIC ***27*** *15:27:53.4±0.2, 7.96N×94.21E, h30km, mb5.3/82, MS4.8/2, Error ellipse: s-maj=6.0km s-min=4.9km az=53.0*
HRVD ***27*** *15:27:53.4±0.2, 7.94N×94.16E, h12km, MW5.3/59, Centroid moment Tensor Solution. LP body waves: s24,c33;Mantle waves: s59,c124; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.55±.03; $M_{\theta\theta}$0.09±.02; $M_{\phi\phi}$0.45±.03; $M_{r\theta}$-0.17±.07; $M_{\theta\phi}$0.93±.02; $M_{\phi r}$-0.31±.07; Best double couple: $M_0$1.003×10^{17} NP1: ϕ_s263°, δ61°, λ-15°. NP2:ϕ_s1°, δ77°, λ-150°. Principal axes: T 1.29, Plg11°, Azm129°; N -.574, Plg57°, Azm22°; P -.716, Plg31°, Azm226°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 27 15:27:52.2±0.2, 7.90N±0.04×94.21E±0.04, h33km, (h24km±2.9km:pP-P), n319, σ1§03/305, mb5.2/107, MS5.0/15, 21C-17D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.46**	**23**	*eP*	**P**	**15 30 35.0**	**-1.6**
CMAR	**Chiang Mai Arr**	**11.46**	**23**	P	**P**	**15 30 36.6**	**0.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.46**	**23**	Pn	**P**	**15 30 36.5**	**0.0**
	comp=Z,1.2nm,0.3s,baz=210,slow=14,SNR=10.0						
CAL	**Calcutta**	**15.61**	**339**	*e*	**S**	**15 34 34.2**	**+11**
KOD	**Kodaikanal**	**16.70**	**279**	*e*	**P**	**15 31 54.0**	**+8.6**
KOD				*e*		15 31 54.0	
HYB	**Hyderabad**	**17.95**	**303**	*i P*	**P**	**15 32 02.0**	**+1.0**
HYB				*eS*	**S**	**15 35 20.5**	**+3.2**
QIZ	**Qiongzhong**	**18.78**	**52**	P	**P**	**15 32 13.5**	**+2.2**
QIZ				*eS*	**S**	**15 35 37.8**	**+1.8**
QIZ				LR	LR		
	comp=N,13μm,14.5s						
QIZ				LR	LR		
	comp=Z,4μm,14.4s						
QIZ	**Qiongzhong**	**18.78**	**52**	P	**P**	**15 32 12.1**	**+0.7**
	comp=Z,78nm,1.1s						
KMI	**Kunming**	**18.96**	**24**	P	**P**	**15 32 17.2**	**+3.7**
KMI				pmax	pmax		
	comp=Z,46nm,1.5s						
KMI	**Kunming**	**18.96**	**24**	P	**P**	**15 32 17.2**	**+3.7**
	comp=Z,46nm,1.5s						
KMI				pP		15 32 22.5	
KMI				sP		15 32 24.2	
KMI				PP	PP	15 32 36.0	+6.1
KMI				S	**S**	**15 35 57.3**	**+17**
KMI				sS		15 36 06.5	
KMI				SS	SS	15 36 19.0	+13
NGP	**Nagpur**	**19.69**	**314**	*e*	**P**	**15 32 23.7**	**+2.1**
COCO	**West Island**	**20.13**	**173**	*eP*	**P**	**15 32 26.3**	**0.0**
	comp=Z,452nm,1.3s						
LSA	**Lhasa**	**21.87**	**353**	*eP*	**P**	**15 32 43.3**	**-0.7**
LSA				pmax	pmax		
	comp=Z,123nm,0.8s,mb5.4						
LSA	**Lhasa**	**21.87**	**353**	*eP*	**P**	**15 32 43.2**	**-0.8**
	comp=Z,123nm,0.8s,mb5.4						
POO	**Poona**	**22.43**	**300**	*i*	**P**	**15 32 54.0**	**+4.3**
ENH	**Enshi**	**26.46**	**31**	*eP*	**P**	**15 33 28.1**	**-0.2**
	comp=Z,71nm,1.0s,mb5.2						
SMLA	**Simla**	**28.06**	**328**	*e*	**P**	**15 33 57.2**	**+14**
SMLA				*e*	pP	15 34 05.7	+13
	comp=Z,113nm,1.7s						
SMLA				*e*		15 40 33.7	
LZH	**Lanzhou**	**29.40**	**16**	*eP*	**P**	**15 33 54.5**	**-0.3**
LZH				AMB	AMB		
	comp=Z,43nm,1.6s,mb4.9						
LZH				AMB	AMB		
	comp=Z,200nm,5.7s						
LZH				LR	LR		
	comp=E,3μm,15.0s						
LZH				LR	LR		
	comp=Z,3μm,16.3s,MS5.0						
LZH	**Lanzhou**	**29.40**	**16**	*eP*	**P**	**15 33 54.5**	**-0.3**
	comp=Z,43nm,1.6s,mb4.9						
LZH				pP	pP	15 34 01.0	-3.3
LZH				sP	sP	15 34 04.0	-4.7
LZH				LR	LR		
	comp=Z,3μm,16.3s,MS5.0						
NJ2	**Nanjing**	**33.20**	**40**	*eP*	**P**	**15 34 30.0**	**+1.7**
NJ2				AP	pP	15 34 39.5	+1.5
NJ2				PP	PP	15 35 43.5	+3.6
NJ2				S	**S**	**15 39 50.0**	**+5.2**
NJ2				XS		15 40 06.0	
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,1μm,4.9s						
NJ2				LR	LR		
	comp=N,4μm,12.3s						
NJ2				LR	LR		
	comp=E,6μm,19.1s						
NJ2				LR	LR		
	comp=Z,5μm,11.8s,MS5.5						
WMQ	**Urumqi**	**36.23**	**352**	P	**P**	**15 34 55.3**	**+1.3**
WMQ				AP	pP	15 35 05.0	+1.2
WMQ				PP	PP	15 36 18.3	+1.0
WMQ				PCP	PcP	15 37 20.5	+1.3
WMQ				S	**S**	**15 40 32.5**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,145nm,1.3s,mb5.8						
WMQ				AMB	AMB		
	comp=Z,749nm,5.3s						
WMQ				LR	LR		
	comp=N,2μm,18.0s,MS5.1						
WMQ				LR	LR		
	comp=E,1μm,18.1s,MS5.1						
WMQ				LR	LR		
	comp=Z,3μm,18.2s,MS5.1						
BJT	**Baijiatuau**	**37.53**	**28**	*eP*	**P**	**15 35 04.2**	**-0.8**
BJT				pmax	pmax		
	comp=Z,25nm,0.9s						
BJT	**Baijiatuau**	**37.53**	**28**	*eP*	**P**	**15 35 04.2**	**-0.8**
	comp=Z,25nm,0.9s,mb4.9						
BJI	**Beijing**	**37.55**	**28**	P	**P**	**15 35 06.8**	**+1.6**
BJI				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.0						
BJI				MLR	MLR		
	comp=Z,1μm,21.7s,MS4.7						
BJI	**Beijing**	**37.55**	**28**	P	**P**	**15 35 06.8**	**+1.6**
	comp=Z,33nm,1.0s,mb5.0						
BJI				LR	LR		
	comp=Z,1μm,21.7s,MS4.7						
JMDO	**Jabal Madar**	**37.58**	**297**	⇑P	**P**	**15 35 07.9**	**+2.3**
SMDO	**Samad**	**37.83**	**298**	⇓P	**P**	**15 35 10.2**	**+2.5**
BIDO	**Bidbid**	**37.90**	**298**	⇓P	**P**	**15 35 10.7**	**+2.4**
MBWA	**Marble Bar**	**38.24**	**139**	P	**P**	**15 35 10.6**	**-0.6**
	comp=Z,26nm,1.3s,mb4.8						
BSY	**Bisya**	**38.48**	**297**	⇑P	**P**	**15 35 14.6**	**+1.4**
HOQ	**Hoqain**	**38.63**	**298**	⇓P	**P**	**15 35 14.7**	**+0.3**
AAK	**Ala-Archa**	**38.70**	**337**	⇓*eP*	**P**	**15 35 14.1**	**-0.7**
AAK				pmax	pmax		
	comp=Z,58nm,1.6s,mb5.1						
AAK	**Ala-Archa**	**38.70**	**337**	*eP*	**P**	**15 35 13.4**	**-1.4**
	comp=Z,136nm,1.5s,mb5.5						
AAK	**Ala-Archa**	**38.70**	**337**	*i* *PP	**P**	**15 35 14.3**	**-0.5**
ARQ	**Araqi**	**39.25**	**297**	⇓P	**P**	**15 35 21.0**	**+1.5**
ABTO	**Aybut**	**40.94**	**287**	⇑P	**P**	**15 35 34.3**	**+0.7**
SONM	**Songino Array**	**41.12**	**12**	P	**P**	**15 35 34.7**	**-0.1**
	comp=Z,6.3nm,1.0s,baz=199,slow=6.7,SNR=6.3						
SONM				PcP	PcP	15 37 34.1	-0.3
	comp=Z,1.5nm,0.5s,baz=194,slow=3.9,SNR=7.7						
ULN	**Ulaanbaatar**	**41.29**	**13**	*eP*	**P**	**15 35 36.9**	**+0.7**
ULN				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.7						
ULN	**Ulaanbaatar**	**41.29**	**13**	*eP*	**P**	**15 35 36.9**	**+0.7**
	comp=Z,22nm,1.2s,mb4.7						
KS15	**Wonju Array Si**	**42.36**	**41**	*eP*	**P**	**15 35 46.0**	**+0.9**
SNY	**Shenyang**	**42.61**	**33**	⇓P	**P**	**15 35 48.8**	**+1.7**
ZAK	**Zakamensk**	**43.01**	**9**	*eP*	**P**	**15 35 49.9**	**-0.3**
TLY	**Talaya**	**44.33**	**8**	*eP*	**P**	**15 36 01.7**	**+0.8**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
TLY				MLR	MLR		
	comp=Z,605nm,16.0s,MS4.6						
TLY	**Talaya**	**44.33**	**8**	*eP*	**P**	**15 36 00.1**	**-0.8**
	comp=Z,7.9nm,0.9s,mb4.4						
KURK	**Kurchatov**	**44.60**	**346**	*eP*	**P**	**15 36 01.3**	**-1.7**
KURK				pmax	pmax		
	comp=Z,378nm,1.6s,mb6.0						
KURK	**Kurchatov**	**44.60**	**346**	*eP*	**P**	**15 36 01.3**	**-1.8**
	comp=Z,378nm,1.6s,mb6.0						
NWAO	**Narrogin (SRO)**	**46.14**	**153**	*eP*	**P**	**15 36 15.4**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,43nm,1.0s						
NWAO	**Narrogin (SRO)**	**46.14**	**153**	P	**P**	**15 36 16.4**	**+0.8**
	comp=Z,32nm,0.9s,mb5.2,baz=328,slow=9.6,SNR=9.6						
NWAO	**Narrogin (SRO)**	**46.14**	**153**	*eP*	**P**	**15 36 15.4**	**-0.2**
	comp=Z,43nm,1.0s,mb5.3						
HIA	**Hailar**	**46.47**	**23**	*eP*	**P**	**15 36 19.0**	**+1.1**
HIA				pmax	pmax		
	comp=Z,27nm,1.0s						
HIA	**Hailar**	**46.47**	**23**	*eP*	**P**	**15 36 19.0**	**+1.1**
	comp=Z,27nm,1.0s,mb5.1						
MDJ	**Mudanjiang**	**47.74**	**34**	P	**P**	**15 36 29.8**	**+1.8**
MDJ				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,175nm,3.1s						
MDJ				LR	LR		
	comp=E,1μm,10.6s						
MDJ				LR	LR		
	comp=Z,997nm,11.6s,MS5.0						
MDJ	**Mudanjiang**	**47.74**	**34**	*eP*	**P**	**15 36 26.4**	**-1.7**
	comp=Z,72nm,1.6s,mb5.5						
WRA	**Warramunga Arr**	**48.22**	**126**	P	**P**	**15 36 31.0**	**-1.1**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**48.22**	**126**	P	**P**	**15 36 31.0**	**-1.0**
	comp=Z,8.9nm,0.7s,mb4.9,baz=305,slow=9.2,SNR=10						
WRA				ScP		15 41 52.4	
	comp=Z,1.1nm,0.9s,baz=320,slow=3.0,SNR=5.0						
WRAB	**Tennant Creek**	**48.23**	**126**	*eP*	**P**	**15 36 30.7**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.3						
WRAB	**Tennant Creek**	**48.23**	**126**	*eP*	**P**	**15 36 30.6**	**-1.5**
	comp=Z,23nm,0.8s,mb5.3						
BVAR	**Borovoye Array**	**48.98**	**341**	P	**P**	**15 36 36.6**	**-0.9**
	comp=Z,9.8nm,0.9s,mb4.8,baz=149,slow=8.6,SNR=11						
BVAR				PcP	PcP	15 37 59.8	-1.7
	comp=Z,3.6nm,0.7s,baz=135,slow=2.0,SNR=3.8						
BRVK	**Borovoye**	**49.05**	**341**	*eP*	**P**	**15 36 35.1**	**-2.9**
BRVK				pmax	pmax		
	comp=Z,37nm,1.2s,mb5.3						
BRVK	**Borovoye**	**49.05**	**341**	*eP*	**P**	**15 36 35.1**	**-2.9**
	comp=Z,37nm,1.2s,mb5.3						
MAT	**Matsushiro**	**49.09**	**48**	PCP	PcP	15 38 01.9	-0.3
CHKZ	**Chkalovo**	**49.47**	**342**	*eP*	**P**	**15 36 38.1**	**-3.1**
CHKZ				pmax	pmax		
	comp=Z,53nm,1.0s,mb5.5						
CHKZ	**Chkalovo**	**49.47**	**342**	*eP*	**P**	**15 36 38.1**	**-3.1**
	comp=Z,53nm,1.0s,mb5.5						
FORT	**Forrest**	**50.32**	**141**	*eP*	**P**	**15 36 48.0**	**-0.1**
	comp=Z,67nm,0.7s,mb5.8						
KLR	**Kul'dur**	**51.82**	**31**	*eP*	**P**	**15 37 00.0**	**+0.8**
KLR				MLR	MLR		
	comp=E,1μm,13.5s						
KLR				MLR	MLR		
	comp=Z,2μm,13.5s,MS5.4						
CLNS	**Chul'man**	**54.38**	**20**	*eP*	**P**	**15 37 18.1**	**0.0**
CLNS				pmax	pmax		
	comp=N,11nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
CLNS				pmax	pmax		
	comp=E,12nm,0.9s						
GNI	**Garni**	**54.47**	**314**	P	**P**	**15 37 18.8**	**-0.1**
GNI				pmax	pmax		
	comp=Z,14nm,0.7s						
GNI	**Garni**	**54.47**	**314**	P	**P**	**15 37 18.8**	**-0.1**
	comp=Z,14nm,0.7s,mb5.0,baz=301,slow=2.6,SNR=8.7						
GNI	**Garni**	**54.47**	**314**	*eP*	**P**	**15 37 16.6**	**-2.3**
	comp=Z,159nm,1.6s,mb5.7						
SVE	**Sverdlovsk**	**55.40**	**338**	*eP*	**P**	**15 37 20.5**	**-4.9**
SVE				pmax	pmax		
	comp=Z,120μm,1.8s						
PMG	**Port Moresby**	**55.47**	**107**	P	**P**	**15 37 26.2**	**-0.4**
PMG				pmax	pmax		
	comp=Z,20nm,0.7s						
PMG	**Port Moresby**	**55.47**	**107**	P	**P**	**15 37 26.2**	**-0.4**
	comp=Z,20nm,0.7s,mb5.3,baz=237,slow=1.6,SNR=7.5						
PMG	**Port Moresby**	**55.47**	**107**	*eP*	**P**	**15 37 26.3**	**-0.3**
	comp=Z,49nm,0.8s,mb5.6						
ARU	**Arti**	**55.89**	**337**	⇑*iP*	**P**	**15 37 21.4**	**-7.6**
ARU				*e*		15 38 23.2	
ARU				*eS*	**S**	**15 45 04.8**	**-7.8**
ARU				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.3						
ARU				MLR	MLR		
	comp=Z,2μm,20.5s,MS5.3						
ARU				MLR	MLR		
	comp=N,1μm,18.5s,MS5.2						
ARU				MLR	MLR		
	comp=E,1μm,20.0s,MS5.2						
BEST	**Besiri**	**56.23**	**311**	P	**P**	**15 37 31.1**	**-0.6**
YSS	**Yuzh-Sakhalins**	**56.72**	**38**	*i P*	**P**	**15 37 37.9**	**+2.8**
ERZM	**Erzurum**	**56.80**	**313**	P	**P**	**15 37 36.3**	**+0.5**
KIV	**Kislovodsk**	**57.34**	**318**	*eP*	**P**	**15 37 39.1**	**-0.5**
KIV				*e*		15 39 46.0	
KIV				*eS*	**S**	**15 45 35.0**	**+3.1**
KIV				pmax	pmax		
	comp=Z,63nm,1.0s,mb5.6						
KIV				pmax	pmax		
	comp=N,25nm,0.9s						
KIV				pmax	pmax		
	comp=E,29nm,1.0s						
KIV				MLR	MLR		
	comp=Z,773nm,22.0s,MS4.8						
KIV				MLR	MLR		
	comp=N,254nm,17.0s,MS4.8						
KIV				MLR	MLR		
	comp=E,727nm,22.0s,MS4.8						
KIV	**Kislovodsk**	**57.34**	**318**	*eP*	**P**	**15 37 38.5**	**-1.1**
	comp=E,101nm,1.1s,mb5.8						
KMBO	**Kilima Mbogo**	**57.49**	**264**	P	**P**	**15 37 42.5**	**+1.4**
KMBO				pmax	pmax		
	comp=Z,16nm,1.0s						
KMBO	**Kilima Mbogo**	**57.49**	**264**	P	**P**	**15 37 42.5**	**+1.5**
	comp=Z,16nm,1.0s,mb5.0,baz=58,slow=9.9,SNR=16						
KMBO	**Kilima Mbogo**	**57.49**	**264**	*eP*	**P**	**15 37 41.8**	**+0.8**
	comp=Z,59nm,1.3s,mb5.5						
ELZG	**Elazig**	**58.13**	**311**	P	**P**	**15 37 43.1**	**-2.0**
ASF	**Jabal al Asfar**	**58.26**	**303**	P	**P**	**15 37 46.2**	**+0.1**
	comp=Z,17nm,1.0s,mb5.0,baz=335,slow=4.1,SNR=17						
CTA	**Charters Tower**	**58.26**	**119**	P	**P**	**15 37 45.5**	**-0.8**
CTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CTA	**Charters Tower**	**58.26**	**119**	P	**P**	**15 37 45.5**	**-0.8**
	comp=Z,3.6nm,0.9s,mb4.4,baz=290,slow=12,SNR=3.0						
CTAO	**Charters Tower**	**58.26**	**119**	*eP*	**P**	**15 37 45.1**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.1						
CTAO	**Charters Tower**	**58.26**	**119**	*eP*	**P**	**15 37 45.1**	**-1.2**
	comp=Z,30nm,1.4s,mb5.1						
MALT	**Malatya**	**58.50**	**310**	*eP*	**P**	**15 37 47.2**	**-0.5**
MALT				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
MALT	**Malatya**	**58.50**	**310**	*eP*	**P**	**15 37 47.2**	**-0.5**
	comp=Z,18nm,1.0s,mb5.1						
GZT	**Gaziantep**	**58.90**	**309**	P	**P**	**15 37 49.4**	**-1.2**
SOC	**Sochi**	**59.21**	**316**	*eP*	**P**	**15 37 47.3**	**-5.3**
SOC				*e*		15 38 39.5	
SOC				*e*		15 40 04.4	
SOC				*e*		15 41 29.3	
SOC				*eS*	**S**	**15 45 52.3**	**-4.0**
SOC				pmax	pmax		
	comp=Z,50μm,1.0s						
EIL	**Elat**	**59.47**	**300**	*eP*	**P**	**15 37 55.0**	**+0.3**
	comp=Z,49nm,1.1s,mb5.5						
KAHT	**Ahir Dag**	**59.50**	**309**	P	**P**	**15 37 52.8**	**-1.9**
COBT	**Iskenderun**	**59.71**	**308**	P	**P**	**15 37 55.9**	**-0.3**
YAK	**Yakutsk**	**59.94**	**18**	*eP*	**P**	**15 38 00.1**	**+2.7**
YAK				pmax	pmax		
	comp=N,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
YAK				pmax	pmax		
	comp=E,9.0nm,1.1s						
YAK	**Yakutsk**	**59.94**	**18**	*eP*	**P**	**15 37 56.1**	**-1.3**
	comp=E,100nm,1.0s,mb5.8						
STKA	**Stephens Creek**	**60.08**	**134**	P	**P**	**15 37 58.2**	**-0.6**
	comp=E,9.0nm,0.9s,mb4.8,baz=324,slow=9.8,SNR=5.9						
STKA	**Stephens Creek**	**60.08**	**134**	*eP*	**P**	**15 37 57.2**	**-1.6**
ANN	**Anapa**	**61.16**	**317**	*eP*	**P**	**15 38 05.2**	**-0.7**
ANN				*e*		15 38 41.5	
ANN				*eS*	**S**	**15 46 28.2**	**+6.8**
ANN				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.7						
AVNT	**Avonos**	**61.32**	**310**	P	**P**	**15 38 05.3**	**-1.8**
BOYT	**Boyabat**	**61.94**	**313**	P	**P**	**15 38 10.7**	**-0.5**
VRSR	**Storozhevoye**	**62.39**	**324**	*eP*	**P**	**15 38 12.6**	**-1.5**
VRSR				pmax	pmax		
	comp=Z,40μm,0.8s						
BRTR	**Keskin Array B**	**62.46**	**311**	P	**P**	**15 38 13.3**	**-1.4**
BRTR				pmax	pmax		
	comp=Z,16nm,0.7s						
BRTR	**Keskin Array B**	**62.46**	**311**	P	**P**	**15 38 13.3**	**-1.4**
	comp=Z,16nm,0.7s,mb5.2,baz=124,slow=7.3,SNR=31						
VOR	**Voronezh**	**62.60**	**325**	*eP*	**P**	**15 38 15.0**	**-0.4**
VOR				*e*	pP	15 38 25.5	-0.1
VOR				pmax	pmax		
	comp=N,150nm,1.2s						
VOR				pmax	pmax		
	comp=E,50nm,1.2s						
VOR				pmax	pmax		
	comp=Z,80nm,1.2s,mb5.7						
ELDT	**Eldivan**	**62.80**	**312**	P	**P**	**15 38 15.8**	**-1.1**
SIM	**Simferopol'**	**63.45**	**317**	*d iP*	**P**	**15 38 21.0**	**-0.2**
SIM				pmax	pmax		
	comp=Z,34nm,0.7s,mb5.6						
SIM				MLR	MLR		
	comp=Z,860nm,24.8s,MS4.8						
MBAR	**Mbarara**	**63.83**	**265**	*eP*	**P**	**15 38 23.8**	**-0.4**
MBAR				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.3						
MBAR	**Mbarara**	**63.83**	**265**	*eP*	**P**	**15 38 23.8**	**-0.4**
	comp=Z,43nm,1.2s,mb5.3						
SGKT	**Sivrigoynuk**	**63.83**	**311**	P	**P**	**15 38 23.1**	**-0.6**
MOS	**Moscow**	**65.09**	**329**	*eP*	**P**	**15 38 31.5**	**-0.2**
MOS				*e*		15 39 02.8	
MOS				pmax	pmax		
	comp=Z,140nm,0.7s,mb6.1						
MOS				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.3						
MOS	**Moscow**	**65.09**	**329**	*eP*	**P**	**15 38 28.6**	**-3.1**
OBN	**Obninsk**	**65.39**	**328**	*d iP*	**P**	**15 38 30.4**	**-3.2**
OBN				*i*		15 40 54.2	
OBN				*eS*	S	15 47 14.5	+0.5
OBN				pmax	pmax		
	comp=Z,83nm,0.9s,mb5.8						
OBN				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.0						
OBN	**Obninsk**	**65.39**	**328**	*eP*	**P**	**15 38 29.8**	**-3.8**
	comp=Z,132nm,1.1s,mb5.9						
MA2	**Magadan**	**66.71**	**28**	*eP*	**P**	**15 38 42.3**	**+0.4**
MA2				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
MA2	**Magadan**	**66.71**	**28**	*eP*	**P**	**15 38 42.0**	**+0.1**
	comp=Z,26nm,1.0s,mb5.2						
TIXI	**Tiksi**	**67.19**	**11**	⇓*eP*	**P**	**15 38 44.2**	**-0.5**
KIS	**Kishinev**	**67.55**	**318**	*eP*	**P**	**15 38 45.0**	**-2.4**
KIS				*e*		15 38 52.0	
AKASG	**Malin Array Be**	**68.17**	**322**	P	**P**	**15 38 49.6**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,14nm,0.7s						
AKASG	**Malin Array Be**	**68.17**	**322**	P	**P**	**15 38 49.6**	**-1.7**
	comp=Z,14nm,0.7s,mb5.1,baz=87,slow=5.0,SNR=28						
IDI	**Anoyia**	**68.61**	**305**	P	**P**	**15 38 54.1**	**-0.1**
	comp=Z,48nm,0.7s,mb5.5,baz=81,slow=7.3,SNR=22						
SEY	**Seymchan**	**68.87**	**25**	*eP*	**P**	**15 38 51.9**	**-3.5**
MLR	**Muntele Rosu**	**69.20**	**316**	P	**P**	**15 38 57.9**	**+0.2**
MLR				pmax	pmax		
	comp=Z,37nm,0.9s						
MLR	**Muntele Rosu**	**69.20**	**316**	P	**P**	**15 38 57.9**	**+0.2**
	comp=Z,37nm,0.9s,mb5.3,baz=118,slow=2.5,SNR=21						
LSZ	**Lusaka**	**69.34**	**250**	*eP*	**P**	**15 38 59.1**	**+0.1**
LSZ				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
LSZ	**Lusaka**	**69.34**	**250**	*eP*	**P**	**15 38 59.0**	**0.0**
	comp=Z,19nm,1.2s,mb4.9						
MNK	**Minsk**	**69.97**	**325**	*eP*	**P**	**15 38 58.0**	**-4.2**
JOF	**Joensuu**	**70.85**	**334**	*ep*	**P**	**15 39 06.5**	**-0.9**
	comp=Z,34nm,1.1s,mb5.2						
ZAPS	**Zavoj/Pirot**	**71.23**	**313**	⇓*iP*	**P**	**15 39 09.4**	**-0.6**
LVV	**L'vov**	**71.24**	**320**	*eP*	**P**	**15 39 10.3**	**+0.3**
APA	**Apatity**	**71.84**	**339**	⇑*iP*	**P**	**15 39 12.4**	**-0.9**
APA	

KEV pmax pmax
comp=Z,23nm,1.0s,mb5.1
CASY Casey 74.95 173 *e*P **P 15 39 31.7 +0.2**
comp=Z,14nm,0.9s,mb4.9
OKC Ostrava-Krasne 75.01 319 *e*P **P 15 39 31.9 -0.3**
OKC *ex* x 15 39 33.3
OKC AMS AMS 16 18 20.0
comp=Z,500nm,17.2s
ARCES ARCESS Array B 75.26 340 P **P 15 39 32.8 -0.4**
ARCES pmax pmax
comp=Z,10.0nm,0.7s
ARCES ARCESS Array B 75.26 340 P **P 15 39 32.8 -0.5**
comp=Z,9.6nm,0.7s,mb4.8,baz=90,slow=4.9,SNR=12
MORC Moravsky Berou 75.40 319 *e*P **P 15 39 33.7 -0.7**
MORC pmax pmax
comp=Z,56nm,1.1s,mb5.4
MORC Moravsky Berou 75.40 319 *e*P **P 15 39 33.7 -0.7**
comp=Z,56nm,1.1s,mb5.4
ZST Bratislava 75.56 318 *e*P **P 15 39 35.2 -0.1**
ZST *e* 15 39 41.6
ZST Bratislava 75.56 318 *e*P **P 15 39 35.2 -0.1**
ZST *e* 15 39 39.5
ZST *e* 15 39 41.6
BOSA Boshof 75.66 238 *e*P **P 15 39 37.1 +0.8**
BOSA pmax pmax
comp=Z,28nm,1.0s,mb5.2
BOSA Boshof 75.66 238 *e*P **P 15 39 37.1 +0.8**
comp=Z,28nm,1.0s,mb5.2
GKP Gorka Klasztor 75.92 323 *e*P **P 15 39 37.8 +0.5**
BILL Bilibino 76.03 22 *i* P **P 15 39 37.5 -0.1**
BILL pmax pmax
comp=Z,22nm,2.0s,mb4.7
BILL Bilibino 76.03 22 *e*P **P 15 39 37.0 -0.6**
comp=Z,20nm,1.1s,mb5.0
DPC Dobruska-Polom 76.23 320 *e*P **P 15 39 38.8 -0.3**
DPC *ex* x 15 39 40.7
DPC AMS AMS 16 18 40.0
comp=Z,700nm,15.6s
KSP Ksiaz 76.28 320 *e*P **P 15 39 40.7 +1.3**
KSP Ksiaz 76.28 320 *e**PP **P 15 39 40.4 +1.0**
UPC Upice 76.44 320 *e*P **P 15 39 40.2 -0.1**
UPC *ex* x 15 39 41.7
GROS Grobnik 76.54 316 *e*P **P 15 39 41.3 +0.4**
ARSA Arzberg 76.56 317⇑*i*P **P 15 39 41.7 +0.6**
comp=Z,23nm,1.1s,mb5.0
LEGS Legarje 76.64 315 *e*P **P 15 39 41.8 +0.3**
OBKA Obir 77.20 316⇑*i*P **P 15 39 45.9 +1.2**
comp=Z,49nm,1.4s,mb5.2
PRU Pruhonice 77.35 319 *ex* x 15 39 46.7
PRU AMS AMS 16 18 50.0
comp=Z,400nm,15.9s
PVCC Panska Ves 77.36 320 *e*P **P 15 39 44.4 -1.1**
PVCC *ex* x 15 39 46.7
PVCC AMS AMS 16 19 30.0
comp=Z,700nm,18.3s
MOA Molln 77.44 317⇑*i*P **P 15 39 46.6 +0.6**
comp=Z,28nm,1.2s,mb5.1
CADS Cadrg 77.75 316 *e*P **P 15 39 48.0 +0.3**
GERES GERESS Array B 77.85 318 P **P 15 39 47.3 -0.9**
GERES pmax pmax
comp=Z,23nm,0.7s
GERES GERESS Array B 77.85 318 P **P 15 39 47.3 -0.9**
comp=Z,23nm,0.7s,mb5.2,baz=95,slow=4.5,SNR=40
KHC Kasperske Hory 77.94 318 *e*P **P 15 39 47.4 -1.3**
KHC MLR MLR
comp=Z,500nm,16.5s,MS4.9
KHC Kasperske Hory 77.94 318 *i* Pr 15 39 49.2
KHC Kasperske Hory 77.94 318 *e*P **P 15 39 47.4 -1.3**
KHC *ex* x 15 39 49.7
KHC AMS AMS 16 18 20.0
comp=Z,500nm,16.5s
RUE Ruedersdorf 77.95 322 *e*P **P 15 39 47.7 -1.0**
comp=Z,89nm,0.7s,mb5.8
KBA Koelnbreinsper 78.04 316⇑*i*P **P 15 39 50.0 +0.7**
comp=Z,21nm,0.9s,mb5.1
KBA Koelnbreinsper 78.04 316⇑*i*P **P 15 39 50.0 +0.7**
KBA pmax pmax
comp=Z,21nm,0.9s,mb5.1
CLL Collm 78.38 321⇑*i*P **P 15 39 51.9 +0.8**
CLL *i* 15 39 57.8
CLL pmax pmax
comp=Z,29nm,1.2s,mb5.1
CLL Collm 78.38 321⇑*i*P **P 15 39 51.9 +0.8**
comp=Z,29nm,1.2s,mb5.1
CLL *i* 15 39 57.8
CLL Collm 78.38 321 ⇑P **P 15 39 51.9 +0.8**
comp=Z,logA/T=1.4,mb5.1
CLL *i* *SP pP 15 39 57.8 -3.6
HFS Hagfors 78.47 330 P **P 15 39 50.5 -0.8**
HFS pmax pmax
comp=Z,23nm,0.8s
HFS Hagfors 78.47 330 P **P 15 39 50.5 -0.8**
comp=Z,23nm,0.8s,mb5.2,baz=108,slow=4.7,SNR=12
HFS Hagfors 78.47 330 P **P 15 39 50.5 -0.8**
MAW Mawson 78.58 192 P **P 15 39 53.1 +1.3**
MAW pmax pmax
comp=Z,11nm,0.7s
MAW Mawson 78.58 192 P **P 15 39 53.1 +1.3**
comp=Z,11nm,0.7s,mb4.9,baz=38,slow=12,SNR=2.9
NKC Novy Kostel 78.70 320 *ex* x 15 39 54.2
NKC AMS AMS 16 18 40.0
comp=Z,400nm,17.2s
WTTA Wattenberg 79.21 317⇑*i*P **P 15 39 55.8 +0.1**
comp=Z,63nm,1.3s,mb5.4
WTTA Wattenberg 79.21 317⇑*i*P **P 15 39 55.8 +0.1**
WTTA pmax pmax
comp=Z,63nm,1.3s,mb5.4
MOX Moxa 79.24 320 *e*P **P 15 39 56.9 +1.1**
MOX pmax pmax
comp=Z,64nm,1.8s,mb5.2
MOX MLR MLR
comp=Z,500nm,21.0s,MS4.8
MOX Moxa 79.24 320 *e*P **P 15 39 56.9 +1.1**
comp=Z,64nm,1.8s,mb5.2
MOX LR LR
comp=Z,500nm,21.0s,MS4.8
MOX Moxa 79.24 320 *i* P **P 15 39 56.9 +1.1**
comp=Z,logA/T=1.6,mb5.3
MOX L 16 21 27.0
WATA Walderalm 79.25 317⇓*i*P **P 15 39 55.9 0.0**
comp=Z,25nm,1.1s,mb5.0
WATA Walderalm 79.25 317⇓*i*P **P 15 39 55.9 0.0**
WATA pmax pmax
comp=Z,25nm,1.1s,mb5.1
GRA1 Grafenberg Arr 79.49 319 *e*P **P 15 39 56.8 -0.4**
comp=Z,47nm,1.1s,mb5.3
GRF Grafenberg Arr 79.49 319 *e*P **P 15 39 56.8 -0.4**
GRF pmax pmax
comp=Z,47nm,1.1s,mb5.3
GRF Grafenberg Arr 79.49 319 *e*P **P 15 39 56.8 -0.4**
GRF pmax pmax
comp=Z,47nm,1.1s,mb5.3
GRF Grafenberg Arr 79.49 319 *e*P **P 15 39 56.8 -0.4**
comp=Z,47nm,1.1s,mb5.3
SQTA Sankt Quirin 79.50 317⇓*i*P **P 15 39 57.6 +0.3**
comp=Z,25nm,0.9s,mb5.2
SQTA Sankt Quirin 79.50 317⇓*i*P **P 15 39 57.6 +0.3**
SQTA pmax pmax
comp=Z,25nm,0.9s,mb5.1
MOTA Moosalm 79.57 317⇓*i*P **P 15 39 57.8 +0.2**
comp=Z,22nm,1.1s,mb5.0
MOTA Moosalm 79.57 317⇓*i*P **P 15 39 57.8 +0.2**
MOTA pmax pmax
comp=Z,22nm,1.1s,mb5.0
NOA NORSAR Array B 79.74 331 P **P 15 39 57.1 -1.2**
NOA pmax pmax
comp=Z,18nm,0.9s
NOA NORSAR Array B 79.74 331 P **P 15 39 57.1 -1.1**
comp=Z,18nm,0.9s,mb5.0,baz=93,slow=5.5,SNR=16
NAO01 NORSAR Array S 79.89 330 *e*P **P 15 39 57.7 -1.4**
comp=Z,33nm,0.9s,mb5.3
DAVA Damuels 80.40 317⇑*i*P **P 15 40 03.4 +1.3**
comp=Z,70nm,1.3s,mb5.4
SUR Sutherland 80.41 235 *e*P **P 15 40 04.2 +1.7**
comp=Z,31nm,1.1s,mb5.2
MUD Monsted U'grnd 80.72 326 *i* P **P 15 40 03.2 -0.4**
TOD Tromm 81.06 319 *e*P **P 15 40 05.9 +0.4**
SPAK Spaichingen 81.12 317 *e*P **P 15 40 06.1 +0.2**
PGF Ploggiola 81.19 312 *e*P **P 15 40 05.8 -0.6**
KTD Kalmit 81.54 319 *e*P **P 15 40 09.4 +1.4**
FELD Feldberg 81.66 317 *e*P **P 15 40 08.7 0.0**
LANF Langenberg 81.74 318 *e*P **P 15 40 09.6 +0.5**
ABH Alteburg 81.87 319 *e*P **P 15 40 10.2 +0.5**
CDF Champ du Feu 82.12 318 *e*P **P 15 40 10.2 -0.8**
comp=Z,24nm,0.9s,mb4.8
CDF Champ du Feu 82.12 318 *e*P **P 15 40 10.2 -0.8**
CDF pmax pmax
comp=Z,12nm,0.9s,mb4.8
RUP Ruppelstein 82.19 319 *e*P **P 15 40 12.0 +0.6**
ECH Echery 82.20 318 *e*P **P 15 40 11.1 -0.4**
MOF Molkenrain 82.24 317 *e*P **P 15 40 11.8 +0.1**
SBF Sospel 82.26 313 *e*P **P 15 40 11.4 -0.5**
comp=Z,112nm,0.9s,mb5.5
SBF Sospel 82.26 313 *e*P **P 15 40 11.4 -0.5**
SBF pmax pmax
comp=Z,56nm,0.9s,mb5.5
LOMF Lomont 82.48 317 *e*P **P 15 40 13.1 +0.2**
OG01 Vacheresse 82.64 316 *e*P **P 15 40 12.3 -1.4**
LPG La Plagne 82.65 315 *e*P **P 15 40 13.8 0.0**
comp=Z,64nm,0.9s,mb5.4
LPG La Plagne 82.65 315 *e*P **P 15 40 13.8 0.0**
LPG pmax pmax
comp=Z,32nm,0.9s,mb5.3
LPL La Plagne 82.66 315 *e*P **P 15 40 13.9 0.0**
comp=Z,86nm,0.8s,mb5.5
LPL La Plagne 82.66 315 *e*P **P 15 40 13.9 0.0**
LPL pmax pmax
comp=Z,43nm,0.8s,mb5.5
MBDF Montbardon 82.68 314 *e*P **P 15 40 13.1 -0.9**
comp=Z,30nm,0.9s,mb5.0
MBDF Montbardon 82.68 314 *e*P **P 15 40 13.1 -0.9**
MBDF pmax pmax
comp=Z,15nm,0.9s,mb5.0
BNI Bardonecchia 82.73 314 *e*P **P 15 40 15.2 +1.0**
BNI pmax pmax
comp=Z,36nm,1.1s,mb5.3
BNI Bardonecchia 82.73 314 *e*P **P 15 40 15.2 +0.9**
comp=Z,36nm,1.1s,mb5.3
HAU Haudompre 82.76 317 *e*P **P 15 40 13.6 -0.7**
comp=Z,80nm,1.0s,mb5.4
HAU Haudompre 82.76 317 *e*P **P 15 40 13.6 -0.7**
HAU pmax pmax
comp=Z,40nm,1.0s,mb5.4
WLF Walferdange 82.78 319 *e*P **P 15 40 15.2 +0.8**
WLF pmax pmax
comp=Z,53nm,1.4s,mb5.4
WLF Walferdange 82.78 319 *e*P **P 15 40 15.2 +0.8**
comp=Z,53nm,1.4s,mb5.4
FRF La Foret Royal 82.85 313 *e*P **P 15 40 14.5 -0.4**
comp=Z,395nm,1.8s,mb5.8
FRF La Foret Royal 82.85 313 *e*P **P 15 40 14.5 -0.4**
FRF pmax pmax
comp=Z,198nm,1.8s,mb5.8
LMR La Mourre 82.97 313 *e*P **P 15 40 15.0 -0.5**
THEF They Montfort 82.99 318 *e*P **P 15 40 16.1 +0.6**
CABF La Chapelle 83.03 316 *e*P **P 15 40 15.6 -0.1**
comp=Z,34nm,0.9s,mb5.0
CABF La Chapelle 83.03 316 *e*P **P 15 40 15.6 -0.1**
CABF pmax pmax
comp=Z,17nm,0.9s,mb5.1
ORIF Oris-en-Rattie 83.30 314 *e*P **P 15 40 17.6 +0.5**
comp=Z,29nm,1.0s,mb5.0
ORIF Oris-en-Rattie 83.30 314 *e*P **P 15 40 17.6 +0.5**
ORIF pmax pmax
comp=Z,15nm,1.0s,mb5.0
OG05 Jujurieux 83.51 316 *e*P **P 15 40 19.6 +1.4**
SMRF Simiane la Rot 83.59 313 *e*P **P 15 40 18.9 +0.2**
comp=Z,110nm,1.4s,mb5.5
GIVF Givet 83.61 320 *e*P **P 15 40 18.4 -0.2**
BAIF Baives 84.01 320 *e*P **P 15 40 20.5 -0.1**
VIVF Saint-Julien-l 84.16 314 *e*P **P 15 40 21.1 -0.5**
comp=Z,74nm,1.2s,mb5.4
VIVF Saint-Julien-l 84.16 314 *e*P **P 15 40 21.1 -0.5**
VIVF pmax pmax
comp=Z,37nm,1.2s,mb5.4
SMF Signal de Mont 84.57 316 *e*P **P 15 40 23.0 -0.6**
comp=Z,61nm,1.3s,mb5.3
SMF Signal de Mont 84.57 316 *e*P **P 15 40 23.0 -0.6**
SMF pmax pmax
comp=Z,30nm,1.3s,mb5.3
SSF Saint Saulge 84.76 317 *e*P **P 15 40 24.3 -0.2**
SSF pmax pmax
comp=Z,63nm,1.6s,mb5.5
SSF Saint Saulge 84.76 317 *e*P **P 15 40 24.3 -0.2**
comp=Z,63nm,1.6s,mb5.5
PLDF La Plantade 84.79 316 *e*P **P 15 40 25.2 +0.5**
LASF Ste Croix 84.82 314 *e*P **P 15 40 24.8 -0.1**
comp=Z,152nm,1.4s,mb5.6
AVF Avril sur Loir 84.89 316 *e*P **P 15 40 24.5 -0.6**
comp=Z,55nm,1.2s,mb5.2
AVF Avril sur Loir 84.89 316 *e*P **P 15 40 24.5 -0.6**
AVF pmax pmax
comp=Z,27nm,1.2s,mb5.2
BGF Bois d'Agland 85.26 316 *e*P **P 15 40 26.9 -0.1**
SYO Syowa Base 85.45 197 ⇑P **P 15 40 28.9 +1.5**
SYO Syowa Base 85.45 197 ⇑PcP PcP 15 40 33.0 +2.1
TCF Toulx Ste Croi 85.73 316 *e*P **P 15 40 29.2 -0.1**
comp=Z,48nm,1.3s,mb5.3
TCF Toulx Ste Croi 85.73 316 *e*P **P 15 40 29.2 -0.1**
TCF pmax pmax
comp=Z,24nm,1.3s,mb5.3
MTLF Montolieu 86.08 313 *e*P **P 15 40 31.0 -0.1**
comp=Z,79nm,1.3s,mb5.5
MTLF Montolieu 86.08 313 *e*P **P 15 40 31.0 -0.1**
MTLF pmax pmax
comp=Z,40nm,1.3s,mb5.5
TNA Tin City 86.11 24 *e*P **P 15 40 30.1 -0.6**
RJF Les Rejaudoux 86.33 315 *e*P **P 15 40 32.5 +0.2**
comp=Z,64nm,1.3s,mb5.4
RJF Les Rejaudoux 86.33 315 *e*P **P 15 40 32.5 +0.2**
RJF pmax pmax
comp=Z,32nm,1.3s,mb5.4
LDF La Druitiere 86.99 318 *e*P **P 15 40 35.2 -0.2**
comp=Z,218nm,1.6s,mb5.8
LDF La Druitiere 86.99 318 *e*P **P 15 40 35.2 -0.2**
LDF pmax pmax
comp=Z,109nm,1.6s,mb5.8
FLN La Foliniere 87.20 319 *e*P **P 15 40 36.3 -0.1**
comp=Z,48nm,1.0s,mb5.4
FLN La Foliniere 87.20 319 *e*P **P 15 40 36.3 -0.1**
FLN pmax pmax
comp=Z,24nm,1.0s,mb5.4
MFF Saint Martin d 87.30 317 *e*P **P 15 40 36.7 -0.3**
comp=Z,136nm,1.6s,mb5.6
MFF Saint Martin d 87.30 317 *e*P **P 15 40 36.7 -0.3**
MFF pmax pmax
comp=Z,68nm,1.6s,mb5.6
ANM Nome 87.37 25 *e*P **P 15 40 37.7 +0.8**
GRR Gorron 87.51 318 *e*P **P 15 40 37.9 0.0**
comp=Z,90nm,1.3s,mb5.5
GRR Gorron 87.51 318 *e*P **P 15 40 37.9 0.0**
GRR pmax pmax
comp=Z,45nm,1.3s,mb5.5
ETSF Etsaut 88.16 313 *e*P **P 15 40 41.5 +0.3**
comp=Z,38nm,1.1s,mb5.2
ETSF Etsaut 88.16 313 *e*P **P 15 40 41.5 +0.3**
ETSF pmax pmax
comp=Z,19nm,1.1s,mb5.2
SJPF Ste Jean 88.61 313 *e*P **P 15 40 43.6 +0.3**
comp=Z,91nm,1.5s,mb5.6
SJPF Ste Jean 88.61 313 *e*P **P 15 40 43.6 +0.3**
SJPF pmax pmax
comp=Z,46nm,1.5s,mb5.6
ESDC Sonseca Array 91.25 310 P **P 15 40 55.5 -0.3**
comp=Z,8.6nm,0.8s,mb5.1,baz=59,slow=4.4,SNR=14
ESLA Sonseca Array 91.25 310 *e*P **P 15 40 56.8 +1.0**
comp=Z,3.3nm,0.9s,mb4.7
IMA Indian Mountai 91.57 22 *e*P **P 15 40 57.8 +1.1**
SVW2 Sparrevohn 92.69 27 *e*P **P 15 41 04.3 +2.4**
MCK McKinley 94.40 23 *e*P **P 15 41 07.9 -1.7**
MCK pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
MCK McKinley 94.40 23 *e*P **P 15 41 07.9 -1.7**
comp=Z,4.1nm,0.8s,mb4.9
ILAR Eielson Array 94.69 22 P **P 15 41 08.3 -2.6**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 94.69 22 P **P 15 41 08.2 -2.7**
comp=Z,0.8nm,0.6s,mb4.3,baz=292,slow=3.9,SNR=7.1
ILAR PP PP 15 44 53.8 -8.0
comp=Z,0.8nm,0.8s,baz=301,slow=7.2,SNR=3.4
SML Sawmill 95.55 25 *e*P **P 15 41 16.8 +1.9**
INK Inuvik 96.94 16 P **P 15 41 22.0 +0.9**
INK pmax pmax
comp=Z,7.0nm,1.2s
INK Inuvik 96.94 16 P **P 15 41 22.0 +0.9**
comp=Z,6.7nm,1.2s,mb4.9,baz=339,slow=3.9,SNR=5.7
DBIC Dimbokro 98.01 278 P **P 15 41 29.3 +2.1**
DBIC pmax pmax
comp=Z,8.0nm,1.1s
DBIC Dimbokro 98.01 278 P **P 15 41 29.3 +2.1**
comp=Z,7.8nm,1.1s,mb5.2,baz=139,slow=2.1,SNR=5.9
YKA Yellowknife Ar 106.38 13 PP PP 15 46 22.5 -8.5
comp=Z,0.3nm,0.7s,baz=332,slow=7.6,SNR=5.2
MCMT McKenzie Canyo 122.13 22 *e*PKPdf PKPdf 15 46 48.1 +4.3
LOHW Long Hollow 124.00 22 *e*PKPdf PKPdf 15 46 49.4 +1.8
SNOW Snow King Moun 124.08 22 *e*PKPdf PKPdf 15 46 49.5 +1.8
NVAR Mina Array Bea 124.86 31 PKP PKPdf 15 46 51.1 +1.8
comp=Z,2.9nm,0.9s,baz=336,slow=1.6,SNR=9.4
PDAR Pinedale Array 125.11 21 PKP PKPdf 15 46 50.5 +0.8
comp=Z,3.7nm,0.7s,baz=90,slow=1.6,SNR=12
MSU Marysvale 127.70 26 *e*PKIKP PKPdf 15 46 57.7 +2.8
GDL2 Guadalupe Moun 136.36 23 *e*PKPdf PKPdf 15 47 14.7 +3.3
TXAR Lajitas Array 139.17 24 PKiKP 15 47 20.6
comp=Z,0.7nm,0.5s,baz=45,slow=2.6,SNR=4.3
JCT Junction City 139.54 19 *e*PKIKP PKPdf 15 47 19.0 +1.9
PLCA Paso Flores 144.60 200 PKIKP PKPdf 15 47 26.5 +0.8
PLCA pmax pmax
comp=Z,24nm,0.9s
PLCA Paso Flores 144.60 200 PKP PKPdf 15 47 26.5 +0.8
comp=Z,24nm,0.9s,baz=190,slow=2.5,SNR=24
PLCA Paso Flores 144.60 200 *e*PKPdf PKPdf 15 47 26.5 +0.8
SJG San Juan 147.69 323 *e*PKIKP PKPdf 15 47 33.5 +1.9
TEIG Tepich 151.94 5 *e*PKPbc PKPdf 15 47 45.2 +7.1
LVC Limon Verde 158.15 226 PKPab PKPab 15 48 23.9 +1.3
comp=Z,7.2nm,0.8s,baz=242,slow=1.5,SNR=8.1
LPAZ La Paz 160.84 243 PKP PKPdf 15 47 06.3 -43
comp=Z,4.0nm,1.1s,baz=51,slow=4.4,SNR=6.4
LPAZ PKPab PKPab 15 47 49.5 -45
comp=Z,2.7nm,0.7s,baz=46,slow=4.0,SNR=5.9
OTAV Otavalo 169.09 318 *e*PKPdf PKPdf 15 48 00.1 +3.4
OTAV *e*PKPab PKPab 15 49 10.0 -0.5

THE ***27*** *15:30:04.2, 40.33N×25.90E, h13km, ML3.3*
ATH ***27*** *15:30:04.1, 40.37N×25.84E, h26km±3km, MD3.1/4*
CSEM ***27*** *15:30:04.7±0.1, 40.36N×25.83E, h12km, ML3.3, Error ellipse: s-maj=3.6km s-min=2.2km az=102.0*
NEIC ***27*** *15:30:04.1, 40.37N×25.84E, h26km, MD3.1(ATH), After ATH.*
ISC 27 15:30:04.7±0.5, 40.38N±0.03×25.79E±0.04, h20km±7km, n17, σ0=93/28, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALN	**Alexandroupoli**	**0.55**	**21**	*e*Pg	**Pb**	**15 30 15.3**	**-0.2**
ALN				*e*Sg	**Sb**	**15 30 23.3**	**+0.4**
BOZC	**Bozcaada**	**0.57**	**159**	*i* P	**Pb**	**15 30 15.2**	**-0.7**
BOZC				*i* S	**Sb**	**15 30 22.1**	**-1.5**
LIA	**Limnos Island**	**0.67**	**224**	*e*PN	**Pn**	**15 30 17.9**	**-1.1**
LOS	**Limnos**	**0.70**	**231**	*e*Pg	**Pb**	**15 30 18.2**	**+0.1**
LOS				*e*Sg	**Sb**	**15 30 29.4**	**+2.1**
RDO	**Rodhopi**	**0.79**	**346**	*e*PN	**Pn**	**15 30 20.1**	**-0.6**
RDO				*e*SN	**Sn**	**15 30 31.0**	**-0.9**
SART	**Tekirdag**	**1.10**	**73**	*i* P	**Pb**	**15 30 24.6**	**-0.4**
SART				*i* S	**Sb**	**15 30 40.4**	**+1.5**
PRK	**Paraskevi**	**1.19**	**162**	*e*PN	**Pn**	**15 30 26.8**	**+0.3**
PRK				*e*SN	**Sn**	**15 30 42.5**	**+0.3**
AYVA	**Ayvalik**	**1.28**	**147**	*i* P	**Pn**	**15 30 27.6**	**0.0**
AYVA				*i* S	**Sb**	**15 30 44.1**	**+0.2**
AYVA	**Ayvalik**	**1.28**	**147**	*i* P	**Pn**	**15 30 21.9**	**-5.7**
AYVA				*i* S	**Sb**	**15 30 38.5**	**-5.3**
OUR	**Ouranopolis**	**1.38**	**269**	*e*Pb	**Pb**	**15 30 29.0**	**-0.7**
PLG	**Polygyros**	**1.79**	**271**	*e*PN	**Pn**	**15 30 35.5**	**+0.5**
SRS	**Serrai**	**1.82**	**294**	*e*Pb	**Pb**	**15 30 35.5**	**-1.7**
SRS				*e*Sb	**Sb**	**15 31 00.5**	**+0.8**
BTOK	**Tokmak**	**1.83**	**109**	P	**Pn**	**15 30 37.1**	**+1.6**
BTOK				*i* S	**Sn**	**15 30 59.1**	**+0.8**
BTOK	**Tokmak**	**1.83**	**109**	P	**Pn**	**15 30 36.6**	**+1.0**
BTOK				*i* S	**Sn**	**15 30 56.4**	**-1.9**
SOH	**Sokhos**	**1.91**	**284**	*e*Pn	**Pn**	**15 30 36.8**	**+0.2**
KNT	**Kendrikon**	**2.33**	**291**	*e*Pn	**Pn**	**15 30 43.2**	**+0.5**
GRG	**Griva**	**2.64**	**284**	*e*Pn	**Pn**	**15 30 47.7**	**+0.5**

IDC ***27*** *15:32:01.5±0.8, 7.92N×94.13E, mb4.3/10, mb1 4.4/10, mb1mx4.3/16, mbtmp4.3/10, Error ellipse: s-maj=36.0km s-min=19.6km az=52.0*
NEIC ***27*** *15:32:06.0±0.4, 7.95N×94.22E, h30km, mb4.5/6, Error ellipse: s-maj=22.4km s-min=10.7km az=55.0*
ISC 27 15:32:01.0±0.6, 7.9N±0.1×94.2E±0.2, h10km, n25, σ0=95/20, mb4.3/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**38.67**	**337**	*e*P	**P**	**15 39 26.3**	**-0.3**
	3.9nm,0.7s,mb4.2						
SONM	**Songino Array**	**41.10**	**13**	P	**P**	**15 39 48.5**	**+1.9**
	1.8nm,0.8s,mb3.7,baz=202,slow=6.2,SNR=4.3						
KURK	**Kurchatov**	**44.57**	**346**	*e*P	**P**	**15 40 14.0**	**-0.9**
	8.8nm,0.9s,mb4.6						
NWAO	**Narrogin (SRO)**	**46.17**	**153**	P	**P**	**15 40 28.7**	**+0.9**
	8.7nm,0.8s,mb4.7,baz=331,slow=13,SNR=4.8						
WRA	**Warramunga Arr**	**48.25**	**126**	P	**P**	**15 40 43.9**	**-0.4**
	2.1nm,0.6s,mb4.3,baz=304,slow=8.5,SNR=9.8						
WRAB	**Tennant Creek**	**48.25**	**126**	*e*P	**P**	**15 40 43.4**	**-1.0**
BVAR	**Borovoye Array**	**48.95**	**341**	P	**P**	**15 40 49.6**	**+0.2**
	1.4nm,0.9s,mb4.0,baz=162,slow=9.4,SNR=3.6						
CHKZ	**Chkalovo**	**49.44**	**342**	*e*P	**P**	**15 40 53.0**	**-0.1**
	7.0nm,0.8s,mb4.7						
KMBO	**Kilima Mbogo**	**57.48**	**264**	P	**P**	**15 41 54.1**	**+0.9**
	1.8nm,0.6s,mb4.2,baz=68,slow=13,SNR=5.1						
BRTR	**Keskin Array B**	**62.44**	**311**	P	**P**	**15 42 25.4**	**-1.3**
	1.5nm,0.7s,mb4.2,baz=119,slow=6.4,SNR=5.2						
AKASG	**Malin Array Be**	**68.14**	**322**	P	**P**	**15 43 02.0**	**-1.3**
	0.3nm,0.3s,mb3.8,baz=88,slow=5.0,SNR=4.1						
FINES	**FINESS Array B**	**72.69**	**332**	P	**P**	**15 43 31.3**	**+0.6**
	5.8nm,0.8s,mb4.5,baz=101,slow=9.7,SNR=6.5						
KEV	**Kevo**	**74.80**	**341**	*e*p	**P**	**15 43 47.1**	**+4.2**
MORC	**Moravsky Berou**	**75.37**	**319**	*e*P	**P**	**15 43 45.8**	**-0.8**
	2.2nm,0.8s,mb4.1						
GERES	**GERESS Array B**	**77.82**	**318**	P	**P**	**15 44 00.8**	**+0.6**
	2.3nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=8.6						
KHC	**Kasperske Hory**	**77.91**	**318**	*e*P	**P**	**15 44 00.0**	**-0.7**
GRA1	**Grafenberg Arr**	**79.46**	**319**	*e*P	**P**	**15 44 10.9**	**+1.7**
	7.0nm,1.1s,mb4.5						
GRF	**Grafenberg Arr**	**79.46**	**319**	*e*P	**P**	**15 44 10.9**	**+1.7**
	7.0nm,1.1s,mb4.5						
NB2	**NORSAR Subarra**	**79.71**	**331**	P	**P**	**15 44 10.3**	**0.0**
	0.3nm,0.7s,mb3.3,baz=94,slow=6.2						
NOA	**NORSAR Array B**	**79.71**	**331**	P	**P**	**15 44 10.6**	**+0.3**
	5.8nm,1.0s,mb4.5,baz=92,slow=5.6,SNR=5.7						
NVAR	**Mina Array Bea**	**124.84**	**31**	PKP	PKPdf	15 51 05.2	+0.4
	1.6nm,1.1s,baz=294,slow=1.9,SNR=5.2						
NVAR	**Mina Array Bea**	**124.84**	**31**	PKP	PKPdf	15 51 05.2	+0.4
PDAR	**Pinedale Array**	**125.09**	**21**	PKP	PKPdf	15 51 04.5	-0.7
	1.7nm,1.1s,slow=1.5,SNR=4.2						
PLCA	**Paso Flores**	**144.62**	**200**	PKP	PKPdf	15 51 40.0	-1.3
	9.7nm,1.0s,baz=158,slow=3.5,SNR=11						
PLCA	**Paso Flores**	**144.62**	**200**	PKP	PKPdf	15 51 40.0	-1.3

IDC ***27*** *15:34:24.8±0.6, 7.61N×93.99E, mb4.6/19, mb1 4.7/20, mb1mx4.7/24, mbtmp4.6/20, ML5.2/1, Error ellipse: s-maj=28.2km s-min=13.8km az=49.0, Putative timing error at LPAZ*
MOS ***27*** *15:34:28.8±1.2, 7.76N×94.17E, h33km, mb5.2/46, Error ellipse: s-maj=9.7km s-min=6.2km az=106.1*
BJI ***27*** *15:34:29.1, 7.43N×93.99E, h47km, mB5.5, mb4.9, Ms5.2, Msz4.9*
NEIC ***27*** *15:34:30.0±0.3, 7.71N×94.12E, h30km, mb5.1/47, Error ellipse: s-maj=7.6km s-min=6.4km az=64.0*
HRVD ***27*** *15:34:30.0±0.4, 7.74N×94.25E, h23km±2km, MW5.2/54, Centroid moment Tensor Solution. LP body waves: s11,c12; Mantle waves: s54,c89; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.48±.07; $M_{\theta\theta}$-0.33±.04; $M_{\phi\phi}$0.80±.05; $M_{r\theta}$-0.28±.06; $M_{\theta\phi}$0.55±.03; $M_{\phi r}$-0.22±.07; Best double couple: M_0.905×10^{17} NP1: ϕ_s163°, δ52°, λ-154°. NP2: ϕ_s56°, δ70°, λ-41°. Principal axes: T 1.09, Plg11°, Azm113°; N -.37, Plg45°, Azm215°; P -.72, Plg43°, Azm13°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 27 15:34:26.4±2.0, 7.70N±0.04×94.18E±0.04, h18km±14km, h17km±1.1km: pP-P, n191, σ1=18/184, mb5.0/72, MS4.9/2, 4C-5D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.18**	**340**	*e*PG	**Pn**	**15 35 35.5**	**+4.5**
PBA				*e*SG	**Sn**	**15 36 23.0**	**+3.0**

CM31 Chiang Mai Arr 11.65 23 *eP* **P 15 37 14.5 -0.6**
38nm,0.6s
CMAR Chiang Mai Arr 11.65 23 P **P 15 37 15.6 +0.5**
CMAR pmax pmax
comp=Z,4.0nm,0.3s
CMAR Chiang Mai Arr 11.65 23 Pn **P 15 37 15.6 +0.4**
comp=Z,4.1nm,0.3s,baz=211,slow=14,SNR=48
PALK Pallekele 13.37 269 *eP* **P 15 37 36.4 -1.7**
comp=Z,66nm,1.1s
VIS Vishakhapatnam 14.53 314 *eP* **P 15 37 52.2 -1.2**
VIS *e* 15 37 55.6
comp=Z,103nm,0.7s
VIS *e* 15 40 16.2
SALM Salem 16.24 285 *eP* **P 15 38 20.0 +4.5**
KOD Kodaikanal 16.70 280 *eP* **P 15 38 26.7 +5.3**
KOD *e* 15 38 28.1
comp=Z,122nm,0.8s
KOD *eS* **S 15 41 31.3 +5.6**
SHL Shillong 17.91 353 *eP* **P 15 38 35.5 -0.9**
HYB Hyderabad 18.04 304 *eP* **P 15 38 38.0 -0.2**
HYB *eS* **S 15 42 02.0 +5.8**
HYB pmax pmax
comp=Z,100nm,1.0s
HYB Hyderabad 18.04 304 *eP* **P 15 38 38.0 -0.2**
comp=Z,100nm,1.0s
HYB *eS* **S 15 42 02.0 +5.8**
HYB Hyderabad 18.04 304 *i* P **P 15 38 38.0 -0.2**
comp=Z,100nm,1.0s
HYB *eS* **S 15 42 02.0 +5.8**
QIZ Qiongzhong 18.93 52 P **P 15 38 50.0 +1.0**
comp=Z,146nm,1.6s
KMI Kunming 19.16 24 ⇓P **P 15 38 54.3 +2.6**
KMI pmax pmax
comp=Z,46nm,1.3s
KMI Kunming 19.16 24 ⇓P **P 15 38 54.3 +2.6**
comp=Z,46nm,1.3s
COCO West Island 19.93 172 *eP* **P 15 39 02.1 +1.6**
comp=Z,257nm,1.0s
JIRN Jiri 21.25 340 *eP* **P 15 39 13.5 -0.5**
comp=Z,143nm,0.8s,mb5.3
GOA Goa 21.38 293 *e* **P 15 39 24.2 +8.8**
GOA *e* 15 39 26.3
comp=Z,115nm,1.6s
PKI Pulchoki 21.44 338 *eP* **P 15 39 15.3 -0.7**
comp=Z,244nm,1.2s,mb5.4
DMN Daman 21.59 338 *eP* **P 15 39 18.0 +0.5**
KKN Kakani 21.69 338 *eP* **P 15 39 18.4 -0.1**
comp=Z,88nm,0.8s,mb5.2
KAD Karad 21.71 298 *eP* **P 15 39 19.9 +1.2**
KAD *e* 15 39 24.1
comp=Z,103nm,0.8s
LSA Lhasa 22.07 353 P **P 15 39 24.8 +2.5**
LSA Lhasa 22.07 353 *eP* **P 15 39 22.1 -0.2**
LSA pmax pmax
comp=Z,136nm,0.9s,mb5.4
LSA Lhasa 22.07 353 *eP* **P 15 39 22.1 -0.2**
comp=Z,136nm,0.9s,mb5.4
GKN Gorkha 22.12 337 *eP* **P 15 39 22.4 -0.4**
comp=Z,130nm,0.6s,mb5.5
BHPL Bhopal 22.31 316 *eP* **P 15 39 27.1 +2.4**
BHPL *e* 15 39 31.6
comp=Z,147nm,0.8s
BHPL *e* **S 15 43 33.0 +8.7**
KOLN Koldanda 22.34 335 *eP* **P 15 39 24.7 -0.2**
comp=Z,261nm,1.1s,mb5.6
POO Poona 22.51 301 *eP* **P 15 39 28.2 +1.4**
POO *e* 15 39 34.4
comp=Z,90nm,1.1s
BOM Bombay 23.56 300 *eP* **P 15 39 41.7 +4.7**
NDI New Delhi 26.30 325 *eP* **P 15 40 03.8 +0.7**
NDI *e* 15 40 12.5
comp=Z,86nm,1.3s
DGAR Diego Garcia 26.36 236 P **P 15 40 06.4 +2.7**
DGAR pmax pmax
comp=Z,105nm,1.0s,mb5.3
DGAR Diego Garcia 26.36 236 P **P 15 40 06.4 +2.7**
comp=Z,105nm,1.0s,mb5.3
ENH Enshi 26.65 31 *eP* **P 15 40 05.1 -1.2**
comp=Z,51nm,1.2s,mb4.9
XAN Xi'an 29.53 25 P **P 15 40 31.8 -0.5**
XAN AMB AMB
comp=Z,9.0nm,0.7s,mb4.6
WHN Wuhan 29.55 37 ⇑P **P 15 40 33.8 +1.3**
LZH Lanzhou 29.61 16 *eP* **P 15 40 33.3 +0.3**
LZH AP pP 15 40 44.0 +5.8
LZH XP sP 15 40 49.0 +8.5
LZH AMB AMB
comp=Z,28nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,113nm,4.5s
LZH LR LR
comp=E,2μm,12.5s
LZH LR LR
comp=Z,2μm,13.3s,MS4.9
LZH Lanzhou 29.61 16 *eP* **P 15 40 33.2 +0.2**
LZH *PP pP 15 40 44.0 +5.8
LZH *SP sP 15 40 49.0 +8.5
LZH pmax pmax
comp=Z,28nm,1.5s,mb4.8
LZH MLR MLR
comp=Z,2μm,13.3s,MS4.9
LZH Lanzhou 29.61 16 *eP* **P 15 40 33.2 +0.2**
comp=Z,28nm,1.5s,mb4.8
LZH pP pP 15 40 44.0 +5.8
LZH sP sP 15 40 49.0 +8.5
LZH LR LR
comp=Z,2μm,13.3s,MS4.9
NJ2 Nanjing 33.38 40 *eP* **P 15 41 07.3 +1.2**
NJ2 AMB AMB
comp=Z,40nm,0.8s,mb5.4
WMQ Urumqi 36.43 352 *eP* **P 15 41 32.8 +0.8**
WMQ PP PP 15 42 56.5 +0.6
WMQ PCP PcP 15 43 57.0 +0.5
WMQ S **S 15 47 12.5 +0.3**
WMQ AMB AMB
comp=Z,101nm,1.5s,mb5.5
WMQ AMB AMB
comp=Z,477nm,5.6s
WMQ LR LR
comp=N,1μm,18.3s,MS4.9
WMQ LR LR
comp=E,1μm,18.4s,MS4.9
WMQ LR LR
comp=Z,2μm,18.7s,MS4.9
BJT Baijiatuau 37.72 28 *eP* **P 15 41 43.7 +0.8**
BJT pmax pmax
comp=Z,30nm,1.1s
BJT Baijiatuau 37.72 28 *eP* **P 15 41 43.7 +0.8**
comp=Z,30nm,1.1s,mb4.9
BJI Beijing 37.74 28 *eP* **P 15 41 45.4 +2.3**
BJI pmax pmax
comp=Z,13nm,0.6s,mb4.8
BJI Beijing 37.74 28 *eP* **P 15 41 45.4 +2.3**
comp=Z,13nm,0.6s,mb4.8
MBWA Marble Bar 38.10 139 *eP* **P 15 41 45.6 -0.7**
comp=Z,36nm,1.3s,mb4.9
AAK Ala-Archa 38.88 337 *eP* **P 15 41 51.3 -1.4**
AAK pmax pmax
comp=Z,28nm,1.1s,mb4.9
AAK Ala-Archa 38.88 337 *eP* **P 15 41 51.3 -1.4**
comp=Z,28nm,1.1s,mb4.9
FITZ Fitzroy Crossi 40.27 130 *eP* **P 15 42 02.3 -2.1**
comp=Z,6.6nm,0.5s,mb4.6
SONM Songino Array 41.33 12 P **P 15 42 13.3 +0.5**
comp=Z,3.4nm,0.6s,mb4.2,baz=196,slow=9.0,SNR=13
SONM PcP PcP 15 44 12.4 +0.6
comp=Z,2.1nm,0.8s,baz=205,slow=5.0,SNR=3.5
ULN Ulaanbaatar 41.50 13 *eP* **P 15 42 13.9 -0.3**
ULN pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
ULN Ulaanbaatar 41.50 13 *eP* **P 15 42 13.9 -0.3**
comp=Z,8.7nm,0.9s,mb4.4
KS15 Wonju Array Si 42.54 41 *eP* **P 15 42 24.0 +1.1**
SNY Shenyang 42.80 33 ⇓P **P 15 42 27.0 +2.1**
SNY AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
ZAK Zakamensk 43.22 9 *eP* **P 15 42 27.3 -0.9**
MUN Mundaring 44.71 153 *eP* **P 15 42 41.8 +1.2**
comp=Z,24nm,0.8s,mb5.1
MUN Mundaring 44.71 153 *eP* **P 15 42 41.8 +1.2**
MUN pmax pmax
comp=Z,24nm,0.8s,mb5.1
KURK Kurchatov 44.79 346 *eP* **P 15 42 40.5 -0.5**
KURK pmax pmax
comp=Z,29nm,0.9s,mb5.1
KURK Kurchatov 44.79 346 *eP* **P 15 42 40.5 -0.5**
comp=Z,29nm,0.9s,mb5.1
KLBR Kellerberrin 45.10 151 *eP* **P 15 42 44.2 +0.5**
comp=Z,186nm,0.8s,mb6.0
NWAO Narrogin (SRO) 45.97 153 P **P 15 42 50.5 -0.1**
NWAO pmax pmax
comp=Z,26nm,0.9s
NWAO Narrogin (SRO) 45.97 153 P **P 15 42 50.5 -0.1**
comp=Z,26nm,0.9s,mb5.2,baz=326,slow=9.6,SNR=11
NWAO Narrogin (SRO) 45.97 153 *eP* **P 15 42 50.8 +0.2**
comp=Z,31nm,0.9s,mb5.2
HIA Hailar 46.67 23 *eP* **P 15 42 56.3 +0.5**
HIA pmax pmax
comp=Z,20nm,0.8s
HIA Hailar 46.67 23 *eP* **P 15 42 56.3 +0.5**
comp=Z,20nm,0.8s,mb5.1
ZAL Zalesovo 46.73 352 P **P 15 42 55.7 -0.5**
ZAL pmax pmax
comp=Z,6.0nm,0.5s
ZAL Zalesovo 46.73 352 P **P 15 42 55.7 -0.5**
comp=Z,5.9nm,0.5s,mb4.7,baz=302,slow=3.8,SNR=17
ZAL Zalesovo 46.73 352 P **P 15 42 55.7 -0.5**
NVS Novosibirsk 47.83 351 *eP* **P 15 43 02.2 -2.7**
NVS pmax pmax
comp=N,11nm,0.8s
NVS pmax pmax
comp=E,8.0nm,0.8s
NVS pmax pmax
comp=Z,19nm,0.8s,mb5.2
MDJ Mudanjiang 47.93 34 P **P 15 43 05.0 -0.9**
MDJ AMB AMB
comp=Z,9.0nm,1.3s,mb4.6
MDJ AMB AMB
comp=Z,400nm,4.8s
WRA Warramunga Arr 48.12 125 P **P 15 43 06.4 -1.3**
WRA pmax pmax
comp=Z,6.0nm,0.8s
WRA Warramunga Arr 48.12 125 P **P 15 43 06.4 -1.3**
comp=Z,6.2nm,0.8s,mb4.7,baz=305,slow=8.5,SNR=15
WRAB Tennant Creek 48.13 125 *eP* **P 15 43 06.1 -1.6**
WRAB pmax pmax
comp=Z,23nm,0.7s,mb5.3
WRAB Tennant Creek 48.13 125 *eP* **P 15 43 06.1 -1.6**
comp=Z,24nm,0.7s,mb5.3
WB2 Warramunga Arr 48.13 125 *eP* **P 15 43 06.8 -1.0**
BVAR Borovoye Array 49.17 341 P **P 15 43 13.6 -1.7**
comp=Z,2.6nm,0.7s,mb4.4,baz=153,slow=6.6,SNR=8.2
RAYN Ar Rayn 49.20 294 P **P 15 43 17.0 +1.1**
comp=Z,193nm,0.6s,SNR=18
BRVK Borovoye 49.23 341 *eP* **P 15 43 12.8 -3.0**
BRVK pmax pmax
comp=Z,11nm,0.9s,mb4.9
BRVK Borovoye 49.23 341 *eP* **P 15 43 12.8 -3.0**
comp=Z,11nm,0.9s,mb4.9
CHKZ Chkalovo 49.65 342 *eP* **P 15 43 18.1 -0.9**
CHKZ pmax pmax
comp=Z,35nm,0.9s,mb5.4
CHKZ Chkalovo 49.65 342 *eP* **P 15 43 18.1 -0.9**
comp=Z,35nm,0.9s,mb5.4
FORT Forrest 50.17 141 *eP* **P 15 43 24.5 +1.2**
comp=Z,92nm,0.8s,mb5.9
KLR Kul'dur 52.01 30 *eP* **P 15 43 41.2 +4.2**
KLR *e* 15 53 15.0
BOD Bodaibo 52.31 13 *eP* **P 15 43 37.9 -1.3**
CLNS Chul'man 54.59 20 *eP* pP 15 44 02.8 +1.4
CLNS pmax pmax
comp=Z,37nm,0.9s,mb5.4
CLNS pmax pmax
comp=N,19nm,1.0s
CLNS pmax pmax
comp=E,19nm,1.0s
GNI Garni 54.59 314 *eP* **P 15 43 55.4 -0.8**
GNI pmax pmax
comp=Z,47nm,1.2s
GNI Garni 54.59 314 P **P 15 43 55.3 -0.9**
comp=Z,3.1nm,0.5s,mb4.6,baz=177,slow=19,SNR=4.5
GNI Garni 54.59 314 *eP* **P 15 43 55.4 -0.8**
comp=Z,47nm,1.2s,mb5.4
PMG Port Moresby 55.44 107 P **P 15 44 02.7 -0.1**
PMG pmax pmax
comp=Z,12nm,0.8s
PMG Port Moresby 55.44 107 P **P 15 44 02.7 -0.1**
comp=Z,12nm,0.8s,mb5.0,baz=299,slow=8.8,SNR=5.6
PMG Port Moresby 55.44 107 *eP* **P 15 44 02.7 -0.1**
comp=Z,24nm,0.9s,mb5.2
SVE Sverdlovsk 55.58 338 *eP* **P 15 43 58.5 -4.7**
SVE pmax pmax
comp=Z,60nm,2.0s,mb5.3
ARU Arti 56.07 337 *eP* **P 15 43 59.8 -6.9**
YSS Yuzh-Sakhalins 56.90 38 *eP* **P 15 44 17.5 +4.7**
YSS *e* pP 15 44 24.2 +5.9
KMBO Kilima Mbogo 57.45 264 *eP* **P 15 44 18.9 +1.8**
KMBO pmax pmax
comp=Z,15nm,1.0s
KMBO Kilima Mbogo 57.45 264 *eP* **P 15 44 18.9 +1.8**
comp=Z,15nm,1.0s,mb5.0
KIV Kislovodsk 57.48 318 *eP* **P 15 44 15.6 -1.3**
KIV pmax pmax
comp=N,22nm,1.1s
KIV pmax pmax
comp=E,14nm,1.1s
KIV pmax pmax
comp=Z,27nm,1.1s,mb5.2
KIV Kislovodsk 57.48 318 *eP* **P 15 44 14.9 -2.0**
comp=Z,25nm,0.9s,mb5.2
MALT Malatya 58.61 310 *eP* **P 15 44 23.1 -1.8**
MALT pmax pmax
comp=Z,20nm,1.3s,mb5.0
MALT Malatya 58.61 310 *eP* **P 15 44 23.1 -1.8**
comp=Z,20nm,1.3s,mb5.0
SOKR Solikamsk 58.98 339 ⇑*iP* **P 15 44 26.9 -0.3**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
EIL Elat 59.55 300 *eP* **P 15 44 31.1 -0.5**
comp=Z,38nm,1.3s,mb5.3
STKA Stephens Creek 59.95 134 P **P 15 44 33.0 -1.3**
comp=Z,6.3nm,1.0s,mb4.6,baz=301,slow=13,SNR=4.5
STKA Stephens Creek 59.95 134 *eP* **P 15 44 32.2 -2.1**
YAK Yakutsk 60.15 18 *eP* **P 15 44 33.5 -1.7**
YAK *e* pP 15 44 40.5 -0.3
YAK pmax pmax
comp=Z,13nm,1.0s,mb4.9
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,29nm,0.9s,mb5.3
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK Yakutsk 60.15 18 *eP* **P 15 44 33.8 -1.4**
comp=E,72nm,0.9s,mb5.7
BRTR Keskin Array B 62.58 311 P **P 15 44 49.5 -2.4**
BRTR pmax pmax
comp=Z,4.0nm,0.6s
BRTR Keskin Array B 62.58 311 P **P 15 44 49.5 -2.4**
comp=Z,4.0nm,0.6s,mb4.8,baz=128,slow=7.3,SNR=18
MBAR Mbarara 63.79 266 *eP* **P 15 45 01.2 +0.8**
MBAR pmax pmax
comp=Z,18nm,1.2s,mb5.0
MBAR Mbarara 63.79 266 *eP* **P 15 45 01.2 +0.8**
comp=Z,18nm,1.2s,mb5.0
OBN Obninsk 65.55 328 *eP* **P 15 45 11.4 +0.3**
OBN pmax pmax
comp=Z,66nm,1.5s,mb5.4
OBN Obninsk 65.55 328 *eP* **P 15 45 11.6 +0.5**
comp=Z,127nm,1.4s,mb5.8
MA2 Magadan 66.90 28 *eP* **P 15 45 19.3 -0.4**
MA2 pmax pmax
comp=Z,39nm,1.0s,mb5.4
MA2 Magadan 66.90 28 *eP* **P 15 45 19.3 -0.4**
comp=Z,39nm,1.0s,mb5.4
TIXI Tiksi 67.40 11 ⇑*iP* **P 15 45 21.6 -1.0**
TIXI pmax pmax
comp=Z,40nm,1.0s,mb5.4
IDI Anoyia 68.70 305 P **P 15 45 30.2 -1.2**
comp=Z,13nm,0.6s,mb5.0,baz=109,slow=5.3,SNR=13
VRI Vrincioaia 68.86 316 ⇑P **P 15 45 31.6 -0.6**
LSZ Lusaka 69.25 251 *eP* **P 15 45 34.6 -0.4**
LSZ pmax pmax
comp=Z,33nm,1.4s,mb5.1
LSZ Lusaka 69.25 251 *eP* **P 15 45 34.6 -0.4**
comp=Z,33nm,1.4s,mb5.1
MLR Muntele Rosu 69.33 316 P **P 15 45 33.6 -1.4**
MLR pmax pmax
comp=Z,9.0nm,0.9s
MLR Muntele Rosu 69.33 316 P **P 15 45 33.6 -1.4**
comp=Z,8.9nm,0.9s,mb4.7,baz=183,slow=4.3,SNR=8.0
MLR Muntele Rosu 69.33 316 ⇓P **P 15 45 33.6 -1.4**
MNK Minsk 70.12 325 *eP* **P 15 45 36.0 -3.7**
KOLS Kolonicke sedl 72.36 319 *eP* **P 15 45 51.7 -1.6**
FINES FINESS Array B 72.89 332 P **P 15 45 55.0 -1.1**
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES FINESS Array B 72.89 332 P **P 15 45 55.0 -1.1**
comp=Z,5.6nm,0.6s,mb4.7,baz=109,slow=7.5,SNR=25
CRVS Cervenica-Dubn 72.89 319 *eP* **P 15 45 57.1 +0.7**
CRVS *e* pP 15 46 03.5 +1.5
OJC Ojcow 74.14 320 *eP* **P 15 46 03.4 -0.2**
LBTB Lobatse 74.19 241 *eP* **P 15 46 06.0 +1.5**
LBTB pmax pmax
comp=Z,17nm,0.9s,mb5.0
LBTB Lobatse 74.19 241 *eP* **P 15 46 06.0 +1.5**
comp=Z,17nm,0.9s,mb5.0
VYHS Vyhne 74.57 318 *eP* **P 15 46 05.3 -0.9**
VYHS *e* pP 15 46 10.3 -1.5
CASY Casey 74.75 173 *eP* **P 15 46 04.7 -2.1**
comp=Z,19nm,1.1s,mb4.9
OKC Ostrava-Krasne 75.15 319 *eP* **P 15 46 09.7 +0.2**
OKC *e*pP pP 15 46 15.0 -0.1
ARCES ARCESS Array B 75.45 340 P **P 15 46 10.7 -0.1**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 75.45 340 P **P 15 46 10.7 -0.1**
comp=Z,2.4nm,0.6s,mb4.3,baz=106,slow=6.2,SNR=15
BOSA Boshof 75.53 238 *eP* **P 15 46 13.4 +1.3**
BOSA pmax pmax
comp=Z,12nm,0.7s,mb4.9
BOSA Boshof 75.53 238 *eP* **P 15 46 13.4 +1.3**
comp=Z,12nm,0.7s,mb4.9
ZST Bratislava 75.69 318 *eP* **P 15 46 12.3 -0.3**
ZST *e* pP 15 46 17.9 -0.3
BILL Bilibino 76.23 22 *eP* **P 15 46 14.0 -1.3**
BILL pmax pmax
comp=Z,11nm,0.9s,mb4.8
BILL Bilibino 76.23 22 *eP* **P 15 46 14.0 -1.3**
comp=Z,11nm,0.9s,mb4.8
DPC Dobruska-Polom 76.37 320 *eP* **P 15 46 16.7 +0.3**
DPC *e*pP pP 15 46 21.3 -0.7
KSP Ksiaz 76.42 320 *eP* **P 15 46 17.8 +1.1**
KSP *e* pP 15 46 21.8 -0.5
UPC Upice 76.58 320 *eP* **P 15 46 18.9 +1.3**
UPC *e*pP pP 15 46 22.0 -1.2
PRU Pruhonice 77.49 319 *eP* **P 15 46 23.3 +0.7**
PRU *e*pP pP 15 46 27.6 -0.6
PVCC Panska Ves 77.50 320 *eP* **P 15 46 23.6 +0.9**
PVCC *e*pP pP 15 46 28.6 +0.3
BRG Berggiesshubel 77.91 320 *eP* **P 15 46 25.5 +0.6**
BRG *e* pP 15 46 29.8 -0.8
BRG *e* 16 01 19.8
BRG pmax pmax
comp=Z,14nm,1.3s,mb4.7
BRG Berggiesshubel 77.91 320 *eP* **P 15 46 25.5 +0.6**
comp=Z,14nm,1.3s,mb4.7
BRG *e* pP 15 46 29.8 -0.8
BRG *e* 15 52 04.7
BRG *e* 16 01 19.8
GERES GERESS Array B 77.99 318 P **P 15 46 25.2 -0.2**
GERES pmax pmax
comp=Z,4.0nm,0.7s
GERES GERESS Array B 77.99 318 P **P 15 46 25.2 -0.2**
comp=Z,3.8nm,0.7s,mb4.4,baz=90,slow=5.3,SNR=16
KHC Kasperske Hory 78.08 319 *eP* **P 15 46 25.6 -0.3**
KHC *e*pP pP 15 46 31.4 -0.1
CLL Collm 78.52 321 P pP 15 46 32.9 -1.0
CLL pmax pmax
comp=Z,15nm,1.2s,mb4.8
CLL Collm 78.52 321 P pP 15 46 32.9 -1.0
comp=Z,15nm,1.2s
CLL Collm 78.52 321 *i* *PP pP 15 46 32.9 -1.0
NKC Novy Kostel 78.84 320 *eP* **P 15 46 35.2 +5.1**
NKC *e*pP pP 15 46 39.2 +3.5
GRA1 Grafenberg Arr 79.63 319 *eP* **P 15 46 34.4 +0.1**
comp=Z,19nm,1.2s,mb4.9
GRA1 *e*pP pP 15 46 39.9 -0.1
GRF Grafenberg Arr 79.63 319 *eP* **P 15 46 34.4 +0.1**
GRF *e*PP pP 15 46 39.9 -0.1
GRF pmax pmax
comp=Z,19nm,1.2s,mb4.9
GRF Grafenberg Arr 79.63 319 *eP* **P 15 46 34.4 +0.1**
GRF *e*PP pP 15 46 39.9 -0.1
GRF pmax pmax
comp=Z,19nm,1.2s,mb4.9
GRF Grafenberg Arr 79.63 319 *eP* **P 15 46 34.4 +0.1**
comp=Z,19nm,1.2s,mb4.9
GRF *e*pP pP 15 46 39.9 -0.1
NB2 NORSAR Subarra 79.91 331 P **P 15 46 34.5 -1.1**
comp=Z,1.1nm,0.7s,mb3.9,baz=95,slow=5.8
NB2 NORSAR Subarra 79.91 331 P **P 15 46 34.5 -1.1**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
NOA NORSAR Array B 79.91 331 P **P 15 46 34.9 -0.7**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 79.91 331 P **P 15 46 34.9 -0.7**
comp=Z,2.4nm,0.6s,mb4.3,baz=94,slow=5.2,SNR=9.6
SUR Sutherland 80.27 235 *eP* pP 15 46 44.2 +0.5
comp=Z,12nm,0.9s
DAVOX Davos 80.55 316 P **P 15 46 39.4 +0.1**
comp=Z,3.7nm,0.5s,mb4.6,baz=73,slow=10,SNR=4.0
LPG La Plagne 82.77 315 *eP* **P 15 46 51.4 +0.5**
comp=Z,32nm,1.0s,mb5.0
LPG La Plagne 82.77 315 *eP* **P 15 46 51.4 +0.5**
LPG pmax pmax
comp=Z,16nm,1.0s,mb5.0
SYO Syowa Base 85.25 197 ⇓P **P 15 47 07.1 +4.2**
TNA Tin City 86.31 24 *eP* **P 15 47 09.1 +0.8**
ANM Nome 87.57 25 *eP* **P 15 47 17.5 +3.1**
ESDC Sonseca Array 91.36 310 P **P 15 47 33.1 +0.2**
comp=Z,1.6nm,0.6s,mb4.5,baz=70,slow=4.4,SNR=6.0
ESLA Sonseca Array 91.36 310 P **P 15 47 32.6 -0.3**
comp=Z,4.5nm,1.2s,mb4.7
IMA Indian Mountai 91.77 22 *eP* **P 15 47 35.8 +1.7**
SVW2 Sparrevohn 92.88 27 *eP* **P 15 47 41.7 +2.4**
SPU Mount Spurr 94.42 26 *eP* **P 15 47 47.0 +0.6**
SPU *e* pP 15 47 54.3 +2.3
MCK McKinley 94.60 23 *eP* **P 15 47 46.4 -0.8**
MCK pmax pmax
comp=Z,4.0nm,1.1s,mb4.8
MCK McKinley 94.60 23 *eP* **P 15 47 46.4 -0.8**
comp=Z,4.4nm,1.1s,mb4.8
ILAR Eielson Array 94.89 22 P **P 15 47 49.5 +1.0**
ILAR 15 51 37.3
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 94.89 22 P **P 15 47 49.5 +1.0**
comp=Z,0.5nm,0.8s,mb4.0,baz=289,slow=4.4,SNR=5.4
ILAR PP PP 15 51 37.2 -2.5
comp=Z,0.5nm,0.7s,baz=285,slow=6.9,SNR=4.9
INK Inuvik 97.15 16 P **P 15 47 59.4 +0.7**
INK pmax pmax
comp=Z,3.0nm,1.2s
INK Inuvik 97.15 16 P **P 15 47 59.4 +0.7**
comp=Z,2.9nm,1.2s,mb4.6,baz=166,slow=4.2,SNR=2.6
RES Resolute Bay 97.58 2 *eP* **P 15 48 02.1 +1.6**
RES pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
RES Resolute Bay 97.58 2 *eP* **P 15 48 02.1 +1.6**
comp=Z,8.9nm,1.0s,mb5.2
RES *e* pP 15 48 07.1 +0.9
YKA Yellowknife Ar 106.59 13 PP PP 15 53 03.8 -5.4
comp=Z,0.5nm,0.8s,baz=328,slow=7.6,SNR=5.1
NVAR Mina Array Bea 125.05 31 PKP PKPdf 15 53 29.8 -0.5
comp=Z,0.6nm,0.6s,baz=279,slow=3.8,SNR=6.1
PDAR Pinedale Array 125.32 21 PKP PKPdf 15 53 28.9 -1.8
comp=Z,1.0nm,0.9s,baz=45,slow=2.1,SNR=6.5
MSU Marysvale 127.89 26 *e*PKIKP PKPdf 15 53 35.6 -0.2
TXAR Lajitas Array 139.37 24 PKIKP 15 53 56.9
comp=Z,0.3nm,0.4s,baz=297,slow=2.0,SNR=2.4
PLCA Paso Flores 144.40 200 *e*PKIKP PKPdf 15 54 03.4 -2.5
PLCA *e* 15 54 10.3
PLCA Paso Flores 144.40 200 PKP PKPdf 15 54 03.5 -2.3
comp=Z,4.1nm,0.8s,baz=177,slow=1.3,SNR=6.6
TEIG Tepich 152.15 5 *e*PKPdf PKPdf 15 54 19.3 +0.4
TEIG *e*PKPbc PKPdf 15 54 24.7 +5.7
TEIG *e*PKPab PKPab 15 54 31.1 -2.8
LPAZ La Paz 160.72 242 PKP PKPdf 15 53 52.4 -38
comp=Z,2.8nm,0.9s,baz=308,slow=2.5,SNR=6.9

LPAZ PKPab PKPab 15 54 33.6 -37
comp=Z,2.0nm,0.8s,baz=79,slow=6.4,SNR=3.7

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*BJI **27** 15:38:23.3, 7.21N×93.59E, h30km, mb4.7*
*IDC **27** 15:38:24.1±0.8, 7.69N×93.84E, mb4.2/10, mb1 4.4/11, mb1mx4.2/18, mbtmp4.2/11, ML4.5/1, Error ellipse: s-maj=38.2km s-min=18.8km az=61.0*
*NEIC **27** 15:38:28.8±0.4, 7.76N×93.96E, h30km, mb4.4/8, Error ellipse: s-maj=11.7km s-min=8.1km az=73.0*
ISC 27 15:38:23.7±0.6,**7.73N**±0.09×**94.0E**±0.1,**h10km,n31,**
σ0°81/27,mb4.3/16,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.71**	**24**	*eP*	**P**	**15 41 13.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**11.71**	**24**	Pn	**P**	**15 41 14.2**	**+0.2**
	1.0nm,0.3s,baz=212,slow=14,SNR=5.7						
KMI	**Kunming**	**19.22**	**25**	P	**P**	**15 42 54.5**	**+3.8**
	13nm,1.3s						
LSA	**Lhasa**	**22.02**	**353**	P	**P**	**15 43 23.0**	**+2.8**
LSA	**Lhasa**	**22.02**	**353**	*eP*	**P**	**15 43 20.2**	**0.0**
	27nm,0.9s,mb4.7						
AAK	**Ala-Archa**	**38.77**	**337**	*eP*	**P**	**15 45 50.1**	**-0.2**
	3.5nm,0.8s,mb4.1						
SONM	**Songino Array**	**41.34**	**13**	P	**P**	**15 46 11.6**	**+0.2**
	1.7nm,0.9s,mb3.7,baz=202,slow=7.8,SNR=3.3						
KURK	**Kurchatov**	**44.71**	**346**	*eP*	**P**	**15 46 38.3**	**-0.5**
	4.1nm,0.7s,mb4.4						
NWAO	**Narrogin (SRO)**	**46.09**	**153**	P	**P**	**15 46 50.5**	**+0.4**
	4.2nm,0.5s,mb4.6,baz=319,slow=15,SNR=7.4						
ZAL	**Zalesovo**	**46.67**	**353**	P	**P**	**15 46 54.3**	**0.0**
	7.7nm,0.5s,mb4.9,baz=303,slow=3.7,SNR=12						
HIA	**Hailar**	**46.72**	**23**	*eP*	**P**	**15 46 55.0**	**+0.2**
	6.1nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**48.31**	**125**	P	**P**	**15 47 07.5**	**-0.1**
	1.1nm,0.4s,mb4.2,baz=306,slow=8.5,SNR=6.1						
WRAB	**Tennant Creek**	**48.31**	**125**	*eP*	**P**	**15 47 07.2**	**-0.4**
BVAR	**Borovoye Array**	**49.08**	**341**	P	**P**	**15 47 14.3**	**+1.2**
	2.1nm,0.9s,mb4.2,baz=135,slow=2.0,SNR=4.4						
CHKZ	**Chkalovo**	**49.56**	**342**	*eP*	**P**	**15 47 15.9**	**-0.9**
	4.7nm,0.8s,mb4.6						
MALT	**Malatya**	**58.43**	**310**	P	**P**	**15 48 21.7**	**-0.5**
YAK	**Yakutsk**	**60.19**	**18**	*eP*	**P**	**15 48 33.7**	**-0.3**
BRTR	**Keskin Array B**	**62.40**	**311**	P	**P**	**15 48 48.3**	**-1.0**
	1.9nm,1.0s,mb4.2,baz=119,slow=8.4,SNR=3.6						
JOF	**Joensuu**	**70.91**	**335**	*ep*	**P**	**15 49 39.1**	**-3.8**
FINES	**FINESS Array B**	**72.77**	**332**	P	**P**	**15 49 54.1**	**+0.2**
	3.8nm,0.8s,mb4.4,baz=92,slow=6.2,SNR=9.2						
KAF	**Kangasniemi**	**72.85**	**333**	*ep*	**P**	**15 49 55.2**	**+0.8**
ARCES	**ARCESS Array B**	**75.35**	**340**	P	**P**	**15 50 08.7**	**-0.1**
	2.6nm,0.7s,mb4.2,baz=101,slow=6.2,SNR=6.0						
MORC	**Moravsky Berou**	**75.38**	**319**	P	**P**	**15 50 08.9**	**-0.5**
GERES	**GERESS Array B**	**77.83**	**318**	P	**P**	**15 50 23.1**	**0.0**
	1.1nm,0.8s,mb3.8,baz=117,slow=4.4,SNR=4.7						
NB2	**NORSAR Subarra**	**79.78**	**331**	P	**P**	**15 50 33.1**	**-0.4**
	1.7nm,0.7s,mb4.1,baz=91,slow=5.8						
NOA	**NORSAR Array B**	**79.78**	**331**	P	**P**	**15 50 33.0**	**-0.5**
	1.9nm,0.7s,mb4.2,baz=94,slow=5.2,SNR=5.7						
LPG	**La Plagne**	**82.61**	**315**	*eP*	**P**	**15 50 51.1**	**+2.5**
	10nm,0.7s,mb4.7						
NVAR	**Mina Array Bea**	**125.13**	**31**	PKP	PKPdf	15 57 28.6	+0.5
	0.3nm,0.4s,baz=243,slow=4.1,SNR=3.6						
PDAR	**Pinedale Array**	**125.36**	**21**	PKP	PKPdf	15 57 28.1	-0.4
	0.6nm,0.8s,baz=90,slow=3.0,SNR=3.6						
TXAR	**Lajitas Array**	**139.43**	**24**	PKP	PKPdf	15 57 54.1	-1.1
	0.2nm,0.4s,baz=225,slow=1.8,SNR=3.5						
PLCA	**Paso Flores**	**144.35**	**200**	PKP	PKPdf	15 58 03.2	-0.3
	1.6nm,0.7s,baz=176,slow=2.6,SNR=3.1						

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*BJI **27** 15:40:03.8, 7.34N×93.57E, h30km, mB5.5, mb4.4*
*IDC **27** 15:40:05.9±0.8, 7.92N×94.21E, mb4.3/12, mb1 4.4/13, mb1mx4.3/19, mbtmp4.3/13, ML4.5/1, Error ellipse: s-maj=29.0km s-min=20.4km az=61.0*
*NEIC **27** 15:40:10.4±0.5, 7.98N×94.29E, h30km, mb4.6/10, Error ellipse: s-maj=14.1km s-min=10.9km az=80.0*
ISC 27 15:40:04.2±6.3,**7.9N**±0.1×**94.3E**±0.1,**h3km**±38km,**n35,**
σ0°96/33,mb4.5/21,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.40**	**23**	P	**P**	**15 42 50.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**11.40**	**23**	Pn	**P**	**15 42 52.4**	**+1.2**
	0.8nm,0.3s,baz=213,slow=14,SNR=4.8						
HYB	**Hyderabad**	**17.98**	**303**	*i* P	**P**	**15 44 17.0**	**0.0**
KMI	**Kunming**	**18.91**	**24**	P	**P**	**15 44 34.7**	**+6.3**
	29nm,1.5s						
KMI				pP		15 44 41.4	
LSA	**Lhasa**	**21.85**	**353**	*eP*	**P**	**15 44 59.6**	**-0.3**
	20nm,0.7s,mb4.7						
ENH	**Enshi**	**26.40**	**31**	*eP*	**P**	**15 45 44.3**	**+0.4**
	13nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**38.70**	**336**	*eP*	**P**	**15 47 31.2**	**+0.1**
	6.7nm,0.8s,mb4.4						
SONM	**Songino Array**	**41.08**	**12**	P	**P**	**15 47 50.3**	**-0.5**
	1.4nm,0.6s,mb3.8,baz=193,slow=7.7,SNR=4.3						
KURK	**Kurchatov**	**44.58**	**346**	*eP*	**P**	**15 48 17.5**	**-1.8**
	8.2nm,0.8s,mb4.6						
NWAO	**Narrogin (SRO)**	**46.15**	**153**	P	**P**	**15 48 32.6**	**+0.6**
	20nm,1.1s,mb5.0,baz=321,slow=11,SNR=3.5						
ZAL	**Zalesovo**	**46.50**	**352**	P	**P**	**15 48 35.7**	**+1.2**
	6.7nm,1.0s,mb4.5,baz=283,slow=6.7,SNR=6.8						
ZAL	**Zalesovo**	**46.50**	**352**	P	**P**	**15 48 35.7**	**+1.2**
WRA	**Warramunga Arr**	**48.20**	**126**	P	**P**	**15 48 47.5**	**-0.8**
	2.0nm,0.7s,mb4.2,baz=304,slow=8.8,SNR=3.9						
WRAB	**Tennant Creek**	**48.20**	**126**	*eP*	**P**	**15 48 48.2**	**-0.2**
	5.1nm,0.6s,mb4.7						
BVAR	**Borovoye Array**	**48.97**	**341**	P	**P**	**15 48 53.8**	**0.0**
	1.1nm,0.6s,mb4.0,baz=164,slow=10,SNR=3.6						
CHKZ	**Chkalovo**	**49.45**	**342**	*eP*	**P**	**15 48 56.6**	**-1.0**
	6.4nm,0.7s,mb4.8						
KMBO	**Kilima Mbogo**	**57.55**	**264**	P	**P**	**15 49 57.8**	**-0.2**
	2.5nm,0.7s,mb4.4,baz=31,slow=10,SNR=6.7						
BRTR	**Keskin Array B**	**62.48**	**311**	P	**P**	**15 50 30.2**	**-1.2**
	1.6nm,0.7s,mb4.2,baz=120,slow=7.4,SNR=5.2						
AKASG	**Malin Array Be**	**68.18**	**322**	P	**P**	**15 51 06.9**	**-1.1**
	1.3nm,0.6s,mb4.1,baz=86,slow=5.1,SNR=4.9						
IDI	**Anoyia**	**68.63**	**305**	P	**P**	**15 51 11.8**	**+0.7**
	9.9nm,0.7s,mb4.8,baz=70,slow=10.0,SNR=6.1						
JOF	**Joensuu**	**70.84**	**334**	*ep*	**P**	**15 51 19.9**	**-4.2**
	4.7nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**72.71**	**332**	P	**P**	**15 51 36.3**	**+1.0**
	4.4nm,0.7s,mb4.5,baz=104,slow=7.9,SNR=7.0						
KAF	**Kangasniemi**	**72.79**	**333**	*ep*	**P**	**15 51 36.6**	**+0.9**
	4.3nm,0.7s,mb4.5						
MORC	**Moravsky Berou**	**75.41**	**319**	P	**P**	**15 51 49.3**	**-1.9**
GERES	**GERESS Array B**	**77.86**	**318**	P	**P**	**15 52 05.4**	**+0.6**
	2.0nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=7.9						
KHC	**Kasperske Hory**	**77.95**	**318**	*eP*	**P**	**15 52 05.5**	**+0.1**
CLL	**Collm**	**78.39**	**321**	P	**P**	**15 52 07.0**	**-0.7**
CLL				*e*		15 52 23.0	
GRA1	**Grafenberg Arr**	**79.50**	**319**	*eP*	**P**	**15 52 15.4**	**+1.6**
GRF	**Grafenberg Arr**	**79.50**	**319**	*eP*	**P**	**15 52 15.4**	**+1.6**
NB2	**NORSAR Subarra**	**79.74**	**331**	P	**P**	**15 52 10.5**	**-4.4**
	4.2nm,0.8s,mb4.4,baz=92,slow=5.8						
NOA	**NORSAR Array B**	**79.74**	**331**	P	**P**	**15 52 15.6**	**+0.7**
	3.0nm,0.8s,mb4.3,baz=92,slow=5.6,SNR=5.3						
LPG	**La Plagne**	**82.66**	**315**	*eP*	**P**	**15 52 32.7**	**+2.2**
	14nm,0.8s,mb4.8						
IMA	**Indian Mountai**	**91.52**	**22**	*eP*	**P**	**15 53 12.8**	**-0.4**
PDAR	**Pinedale Array**	**125.06**	**21**	PKP	PKPdf	15 59 10.3	+1.7
	1.1nm,0.7s,baz=127,slow=1.2,SNR=7.1						
PLCA	**Paso Flores**	**144.65**	**200**	PKP	PKPdf	15 59 45.8	+1.0
	5.9nm,0.9s,baz=159,slow=3.1,SNR=7.5						

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*IDC **27** 15:44:09.5±2.0, 7.74N×93.98E, mb4.0/6, mb1 4.2/6, mb1mx4.0/15, mbtmp4.0/6, Error ellipse: s-maj=82.7km s-min=33.4km az=55.0*
*NEIC **27** 15:44:13.4±0.9, 7.65N×94.00E, h30km, mb4.4/4, Error ellipse: s-maj=30.2km s-min=12.0km az=57.0*
ISC 27 15:44:11.5±1.2,**7.6N**±0.2×**94.0E**±0.2,**h30km,n14,**
σ0°74/14,mb4.1/10,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**22.11**	**353**	*eP*	**P**	**15 49 07.4**	**+1.3**
	10nm,0.8s,mb4.3						
ENH	**Enshi**	**26.79**	**31**	P	**P**	**15 49 50.6**	**-0.4**
AAK	**Ala-Archa**	**38.86**	**337**	*eP*	**P**	**15 51 35.8**	**-0.1**
	1.9nm,0.7s,mb3.9						
SONM	**Songino Array**	**41.42**	**13**	P	**P**	**15 51 57.3**	**+0.4**
	0.7nm,0.8s,mb3.4,baz=200,slow=4.6,SNR=2.5						
KURK	**Kurchatov**	**44.80**	**346**	*eP*	**P**	**15 52 23.9**	**-0.5**
	3.7nm,0.7s,mb4.3						
ZAL	**Zalesovo**	**46.76**	**353**	P	**P**	**15 52 39.4**	**-0.5**
	1.2nm,0.5s,mb4.1,baz=162,slow=6.4,SNR=3.3						
WRA	**Warramunga Arr**	**48.24**	**125**	P	**P**	**15 52 52.9**	**+1.0**
	0.8nm,0.7s,mb3.9,baz=306,slow=8.3,SNR=2.7						
WRAB	**Tennant Creek**	**48.24**	**125**	*eP*	**P**	**15 52 51.0**	**-0.9**
CHKZ	**Chkalovo**	**49.65**	**342**	*eP*	**P**	**15 53 01.4**	**-1.0**
	3.5nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**72.85**	**332**	P	**P**	**15 55 39.5**	**+0.3**
	3.3nm,1.0s,mb4.2,baz=102,slow=13,SNR=2.5						
FINES	**FINESS Array B**	**72.85**	**332**	*eP*	**P**	**15 55 39.5**	**+0.3**
GERES	**GERESS Array B**	**77.91**	**318**	P	**P**	**15 56 14.1**	**+5.9**
	1.9nm,0.8s,mb4.0,baz=90,slow=4.0,SNR=8.4						
NB2	**NORSAR Subarra**	**79.87**	**331**	P	**P**	**15 56 23.5**	**+4.9**
	1.0nm,0.7s,mb3.9,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.87**	**331**	P	**P**	**15 56 19.6**	**+0.9**
	1.8nm,0.8s,mb4.1,baz=93,slow=5.5,SNR=3.6						

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*IDC **27** 15:48:56.2±1.7, 7.41N×94.16E, mb3.7/5, mb1 4.0/6, mb1mx3.9/16, mbtmp3.8/6, ML4.2/1, Error ellipse: s-maj=53.9km s-min=32.7km az=60.0*
*NEIC **27** 15:48:59.9±0.9, 7.38N×94.22E, h30km, mb4.1/2, Error ellipse: s-maj=21.9km s-min=15.5km az=71.0*
ISC 27 15:48:57.0±5.9,**7.4N**±0.1×**94.4E**±0.1,**h20km**±40km,**n17,**
σ1°19/17,mb3.9/8,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.85**	**22**	P	**P**	**15 51 46.2**	**-1.8**
	3.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**11.85**	**22**	Pn	**P**	**15 51 48.5**	**+0.4**
	0.4nm,0.3s,baz=209,slow=14,SNR=6.7						
HYB	**Hyderabad**	**18.34**	**304**	*i* P	**P**	**15 53 13.0**	**+0.8**
LSA	**Lhasa**	**22.37**	**353**	*eP*	**P**	**15 53 56.5**	**+1.0**
	5.5nm,0.6s,mb4.2						
ENH	**Enshi**	**26.81**	**30**	P	**P**	**15 54 40.5**	**+2.6**
AAK	**Ala-Archa**	**39.20**	**337**	P	**P**	**15 56 25.4**	**-0.2**
SONM	**Songino Array**	**41.56**	**12**	P	**P**	**15 56 45.5**	**+0.6**
	0.4nm,0.5s,mb3.3,baz=203,slow=6.8,SNR=3.5						
KURK	**Kurchatov**	**45.10**	**346**	*eP*	**P**	**15 57 12.2**	**-1.5**
ZAL	**Zalesovo**	**47.02**	**352**	P	**P**	**15 57 29.3**	**+0.5**
	1.0nm,0.4s,mb4.1,baz=344,slow=6.6,SNR=3.4						
WRA	**Warramunga Arr**	**47.83**	**125**	P	**P**	**15 57 37.1**	**+1.5**
	0.3nm,0.7s,mb3.4,baz=300,slow=9.5,SNR=2.5						
WRAB	**Tennant Creek**	**47.83**	**125**	P	**P**	**15 57 34.0**	**-1.7**
CHKZ	**Chkalovo**	**49.97**	**342**	*eP*	**P**	**15 57 50.9**	**-0.8**
	1.2nm,0.6s,mb4.1						
FINES	**FINESS Array B**	**73.21**	**332**	P	**P**	**16 00 28.2**	**-0.1**
	1.9nm,0.7s,mb4.1,baz=90,slow=2.8,SNR=3.4						
FINES	**FINESS Array B**	**73.21**	**332**	P	**P**	**16 00 28.2**	**-0.1**
MORC	**Moravsky Berou**	**75.86**	**319**	P	**P**	**16 00 41.8**	**-2.0**
GERES	**GERESS Array B**	**78.31**	**318**	P	**P**	**16 00 58.1**	**+0.7**
	0.4nm,0.6s,mb3.5,baz=80,slow=6.0,SNR=2.9						
NB2	**NORSAR Subarra**	**80.23**	**331**	P	**P**	**16 01 08.0**	**+0.4**
	2.9nm,0.7s,mb4.3,baz=95,slow=5.0						

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*IDC **27** 15:49:16.1±1.2, 7.71N×93.82E, mb4.2/9, mb1 4.4/10, mb1mx4.2/17, mbtmp4.2/10, ML4.1/1, Error ellipse: s-maj=38.9km s-min=26.3km az=53.0*
*BJI **27** 15:49:20.9, 7.36N×93.49E, h60km, mB5.5, mb4.3*
*NEIC **27** 15:49:20.5±0.6, 7.70N×93.97E, h30km, mb4.8/10, Error ellipse: s-maj=13.5km s-min=11.4km az=103.0*
ISC 27 15:49:15.4±0.7,**7.66N**±0.10×**94.0E**±0.1,**h10km,n31,**
σ1°05/28,mb4.5/16,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.76**	**24**	P	**P**	**15 52 04.9**	**-1.4**
CMAR	**Chiang Mai Arr**	**11.76**	**24**	Pn	**P**	**15 52 06.1**	**-0.2**
	0.4nm,0.3s,baz=225,slow=13,SNR=4.9						
HYB	**Hyderabad**	**17.92**	**304**	*eP*	**P**	**15 53 30.0**	**+3.5**
HYB	**Hyderabad**	**17.92**	**304**	*i* P	**P**	**15 53 30.0**	**+3.5**
KMI	**Kunming**	**19.27**	**25**	P	**P**	**15 53 45.4**	**+2.5**
	10.0nm,1.5s						
LSA	**Lhasa**	**22.09**	**353**	P	**P**	**15 54 13.0**	**+0.5**
LSA	**Lhasa**	**22.09**	**353**	*eP*	**P**	**15 54 12.5**	**+0.1**
	21nm,0.7s,mb4.7						
ENH	**Enshi**	**26.77**	**31**	*eP*	**P**	**15 54 57.8**	**+0.4**
	11nm,0.8s,mb4.5						
WMQ	**Urumqi**	**36.44**	**352**	*eP*	**P**	**15 56 23.5**	**+1.2**
AAK	**Ala-Archa**	**38.85**	**337**	*eP*	**P**	**15 56 41.8**	**-0.7**
	5.2nm,0.8s,mb4.3						
SONM	**Songino Array**	**41.40**	**13**	P	**P**	**15 57 03.3**	**-0.2**
	1.8nm,0.8s,mb3.8,baz=195,slow=8.9,SNR=6.6						
KURK	**Kurchatov**	**44.78**	**346**	*eP*	**P**	**15 57 30.6**	**-0.4**
	15nm,1.0s,mb4.8						
ZAL	**Zalesovo**	**46.74**	**353**	P	**P**	**15 57 47.2**	**+0.7**
	6.7nm,0.9s,mb4.6,baz=295,slow=8.8,SNR=20						
ZAL	**Zalesovo**	**46.74**	**353**	P	**P**	**15 57 47.2**	**+0.7**
WRA	**Warramunga Arr**	**48.25**	**125**	P	**P**	**15 58 00.3**	**+1.5**
	0.6nm,0.4s,mb4.0,baz=305,slow=8.3,SNR=5.6						
WRAB	**Tennant Creek**	**48.25**	**125**	*eP*	**P**	**15 57 57.2**	**-1.6**
BVAR	**Borovoye Array**	**49.15**	**341**	P	**P**	**15 58 05.0**	**-0.3**
	4.2nm,1.0s,mb4.4,baz=143,slow=7.4,SNR=8.8						
CHKZ	**Chkalovo**	**49.63**	**342**	*eP*	**P**	**15 58 08.2**	**-0.8**
	9.2nm,0.8s,mb4.9						
BRTR	**Keskin Array B**	**62.47**	**311**	P	**P**	**15 59 40.3**	**-1.1**
	1.5nm,0.8s,mb4.2,baz=143,slow=6.2,SNR=4.7						
MBAR	**Mbarara**	**63.61**	**266**	P	**P**	**15 59 49.8**	**+0.3**
AKASG	**Malin Array Be**	**68.24**	**322**	P	**P**	**16 00 16.2**	**-2.2**
	0.7nm,0.4s,mb4.0,baz=88,slow=4.9,SNR=5.9						
FINES	**FINESS Array B**	**72.84**	**332**	P	**P**	**16 00 45.8**	**-0.3**
	5.7nm,0.8s,mb4.5,baz=117,slow=8.5,SNR=7.4						
MORC	**Moravsky Berou**	**75.45**	**319**	*eP*	**P**	**16 01 01.1**	**-0.3**
	53nm,2.0s,mb5.1						
GERES	**GERESS Array B**	**77.90**	**318**	P	**P**	**16 01 15.9**	**+0.8**
	2.1nm,0.8s,mb4.1,baz=90,slow=5.3,SNR=8.2						
KHC	**Kasperske Hory**	**77.99**	**319**	*eP*	**P**	**16 01 20.5**	**+4.9**
GRA1	**Grafenberg Arr**	**79.54**	**319**	*eP*	**P**	**16 01 24.6**	**+0.5**
	37nm,2.2s,mb4.9						
GRA1				*ep*P	pP	16 01 31.7	+4.4
GRF	**Grafenberg Arr**	**79.54**	**319**	*eP*	**P**	**16 01 24.6**	**+0.5**
	37nm,2.2s,mb4.9						
GRF				*ep*P	pP	16 01 31.7	+4.4
NOA	**NORSAR Array B**	**79.85**	**331**	P	**P**	**16 01 26.1**	**+0.6**
	7.0nm,1.2s,mb4.5,baz=97,slow=5.1,SNR=3.7						
LPG	**La Plagne**	**82.67**	**315**	*eP*	pP	16 01 47.4	+3.6
	17nm,0.9s						
PLCA	**Paso Flores**	**144.30**	**200**	PKP	PKPdf	16 08 55.2	+0.1
	8.4nm,1.2s,baz=67,slow=6.6,SNR=5.5						
PLCA	**Paso Flores**	**144.30**	**200**	PKP	PKPdf	16 08 55.2	+0.1

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*IDC **27** 15:51:32.4±2.2, 7.96N×94.28E, mb4.1/4, mb1 4.3/4, mb1mx3.9/14, mbtmp4.1/4, Error ellipse: s-maj=181.6km s-min=31.2km az=46.0*
*NEIC **27** 15:51:37.0±0.8, 8.00N×94.28E, h30km, mb4.4/1, Error ellipse: s-maj=31.0km s-min=12.3km az=51.0*
ISC 27 15:51:35.1±1.1,**8.0N**±0.2×**94.3E**±0.2,**h30km,n10,**
σ0°49/10,mb4.2/5,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**26.33**	**31**	P	**P**	**15 57 10.9**	**+0.5**
AAK	**Ala-Archa**	**38.65**	**336**	*eP*	**P**	**15 58 57.7**	**-0.1**
KURK	**Kurchatov**	**44.53**	**346**	*eP*	**P**	**15 59 45.4**	**-0.6**
WRA	**Warramunga Arr**	**48.20**	**126**	P	**P**	**16 00 14.9**	**-0.4**
	0.7nm,0.5s,mb4.0,baz=305,slow=8.5,SNR=4.8						
WRAB	**Tennant Creek**	**48.20**	**126**	P	**P**	**16 00 15.5**	**+0.1**
CHKZ	**Chkalovo**	**49.40**	**342**	*eP*	**P**	**16 00 23.4**	**-0.7**
	2.4nm,0.6s,mb4.4						
FINES	**FINESS Array B**	**72.68**	**332**	P	**P**	**16 03 01.7**	**-0.2**
	2.5nm,0.9s,mb4.1,baz=124,slow=6.9,SNR=5.2						
FINES	**FINESS Array B**	**72.68**	**332**	P	**P**	**16 03 01.7**	**-0.2**
ARCES	**ARCESS Array B**	**75.20**	**340**	P	**P**	**16 03 16.9**	**+0.6**
	4.5nm,0.9s,mb4.4,slow=3.6,SNR=3.6						
GERES	**GERESS Array B**	**77.84**	**318**	P	**P**	**16 03 32.3**	**+0.8**
	1.1nm,0.7s,mb3.9,baz=90,slow=6.7,SNR=4.5						

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*BJI **27** 15:56:54.1, 7.27N×93.89E, h30km, mB5.3, mb4.8, Ms4.7, Msz4.2*
*IDC **27** 15:56:57.1±0.7, 8.14N×94.20E, mb4.5/21, mb1 4.7/22, mb1mx4.6/25, mbtmp4.5/22, ML4.2/1, Error ellipse: s-maj=26.0km s-min=17.4km az=48.0*
*MOS **27** 15:57:00.5±1.0, 8.08N×94.18E, h33km, mb4.9/34, Error ellipse: s-maj=12.6km s-min=6.4km az=113.6*
*NEIC **27** 15:57:01.7±0.3, 8.07N×94.21E, h30km, mb4.7/19, Error ellipse: s-maj=8.6km s-min=7.8km az=115.0*
ISC 27 15:56:57.6±0.5,**8.00N**±0.07×**94.22E**±0.07,**h15km,**
h15km±7km**:pP-P,n135,σ1°00/129,mb4.7/47,1C-1D,**
Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.37**	**23**	P	**P**	**15 59 40.8**	**-1.8**
	21nm,0.9s						
CMAR	**Chiang Mai Arr**	**11.37**	**23**	P	**P**	**15 59 44.5**	**+1.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.37**	**23**	Pn	**P**	**15 59 44.5**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=211,slow=14,SNR=44						
HYB	**Hyderabad**	**17.90**	**303**	*eP*	**P**	**16 01 10.0**	**+2.2**
HYB				*eS*	**S**	**16 04 28.0**	**+3.5**
HYB	**Hyderabad**	**17.90**	**303**	*i* P	**P**	**16 01 10.0**	**+2.2**
HYB				*eS*	**S**	**16 04 28.0**	**+3.5**
KMI	**Kunming**	**18.87**	**25**	P	**P**	**16 01 24.2**	**+4.5**
KMI				pmax	pmax		
	comp=Z,40nm,1.3s						
KMI	**Kunming**	**18.87**	**25**	P	**P**	**16 01 24.2**	**+4.5**
	comp=Z,40nm,1.3s						
JIRN	**Jiri**	**20.98**	**340**	*eP*	**P**	**16 01 42.7**	**0.0**
	comp=Z,82nm,0.7s						
PKI	**Pulchoki**	**21.18**	**338**	*eP*	**P**	**16 01 45.1**	**+0.4**
	comp=Z,68nm,0.5s,mb5.2						
DMN	**Daman**	**21.32**	**337**	*eP*	**P**	**16 01 46.3**	**+0.1**
	comp=Z,98nm,0.7s,mb5.3						
KKN	**Kakani**	**21.42**	**338**	*eP*	**P**	**16 01 47.1**	**-0.1**
LSA	**Lhasa**	**21.78**	**353**	*eP*	**P**	**16 01 50.6**	**-0.2**
LSA				pmax	pmax		
	comp=Z,66nm,0.6s,mb5.2						
LSA	**Lhasa**	**21.78**	**353**	*eP*	**P**	**16 01 50.6**	**-0.2**
	comp=Z,66nm,0.6s,mb5.2						
GKN	**Gorkha**	**21.86**	**337**	*eP*	**P**	**16 01 51.2**	**-0.4**
	comp=Z,108nm,0.7s,mb5.4						
KOLN	**Koldanda**	**22.08**	**334**	*eP*	**P**	**16 01 54.3**	**+0.5**
	comp=Z,109nm,0.8s,mb5.3						
ENH	**Enshi**	**26.38**	**31**	*eP*	**P**	**16 02 35.6**	**+0.4**
	comp=Z,27nm,0.9s,mb4.8						
XAN	**Xi'an**	**29.25**	**26**	P	**P**	**16 03 01.5**	**+0.3**
XAN				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.7						
WHN	**Wuhan**	**29.29**	**37**	⇑P	**P**	**16 03 03.3**	**+1.7**
LZH	**Lanzhou**	**29.31**	**16**	*eP*	**P**	**16 03 03.0**	**+1.3**
LZH				AP	pP	16 03 09.0	+2.7
LZH				XP	sP	16 03 14.0	+5.7
LZH				AMB	AMB		
	comp=Z,29nm,1.6s,mb4.8						
LZH	**Lanzhou**	**29.31**	**16**	*eP*	**P**	**16 03 03.0**	**+1.3**
LZH				*SP	sP	16 03 14.0	+5.7
LZH				pmax	pmax		
	comp=Z,29nm,1.6s,mb4.8						
LZH	**Lanzhou**	**29.31**	**16**	*eP*	**P**	**16 03 03.0**	**+1.3**
	comp=Z,29nm,1.6s,mb4.8						
LZH				pP	pP	16 03 09.0	+2.7
LZH				sP	sP	16 03 14.0	+5.7
WMQ	**Urumqi**	**36.13**	**352**	*eP*	**P**	**16 04 02.5**	**+1.5**
BJI	**Beijing**	**37.46**	**28**	*eP*	**P**	**16 04 15.3**	**+3.1**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
BJI	**Beijing**	**37.46**	**28**	*eP*	**P**	**16 04 15.3**	**+3.1**
	comp=Z,9.0nm,0.8s,mb4.7						
KBK	**Karagaybulak**	**38.46**	**337**	P	**P**	**16 04 22.1**	**+1.5**
	SNR=9.5

comp=Z,3.0nm,1.0s,mb4.3
MBAR Mbarara 63.84 265 P **P 16 07 31.3 -1.0**
comp=Z,2.6nm,1.0s,mb4.2
OBN Obninsk 65.31 328 *e*P **P 16 07 37.4 -3.7**
OBN pmax pmax
comp=Z,28nm,1.5s,mb5.1
TIXI Tiksi 67.09 11 *e*P **P 16 07 50.4 -1.8**
TIXI pmax pmax
comp=Z,29nm,1.3s,mb5.2
AKASG Malin Array Be 68.10 322 P **P 16 07 56.5 -2.4**
AKASG pmax pmax
comp=Z,7.0nm,0.9s
AKASG Malin Array Be 68.10 322 P **P 16 07 56.5 -2.4**
comp=Z,6.7nm,0.8s,mb4.7,baz=88,slow=5.0,SNR=16
IDI Anoyia 68.56 305 P **P 16 08 01.5 -0.5**
comp=Z,12nm,0.6s,mb5.0,baz=139,slow=14,SNR=6.9
LSZ Lusaka 69.38 250 P **P 16 08 07.2 -0.1**
JOF Joensuu 70.77 334 *e*p **P 16 08 12.6 -2.4**
comp=Z,5.6nm,0.6s,mb4.7
APA Apatity 71.76 339 ⇓*i*P **P 16 08 20.9 0.0**
KOLS Kolonicke sedl 72.16 319 *e*P **P 16 08 24.6 +1.0**
FINES FINESS Array B 72.64 332 P **P 16 08 25.3 -0.9**
FINES pmax pmax
comp=Z,8.0nm,0.8s
FINES FINESS Array B 72.64 332 P **P 16 08 25.3 -0.9**
comp=Z,7.7nm,0.8s,mb4.7,baz=104,slow=6.8,SNR=20
FINES FINESS Array B 72.64 332 P **P 16 08 25.3 -0.9**
CRVS Cervenica-Dubn 72.68 319 *e*P **P 16 08 27.2 +0.5**
KAF Kangasniemi 72.71 333 *e*p **P 16 08 26.0 -0.6**
baz=101,slow=6.0
OJC Ojcow 73.93 320 *e*P **P 16 08 33.5 -0.4**
VYHS Vyhne 74.36 318 *e*P **P 16 08 35.9 -0.6**
LBTB Lobatse 74.37 241 *e*P **P 16 08 37.1 +0.1**
KEV Kevo 74.74 341 *e*p **P 16 08 37.1 -1.2**
OKC Ostrava-Krasne 74.94 319 *e*P **P 16 08 40.1 +0.3**
OKC *e*pP pP 16 08 44.5 -0.2
ARCES ARCESS Array B 75.17 340 P **P 16 08 40.7 0.0**
ARCES pmax pmax
comp=Z,5.0nm,0.6s
ARCES ARCESS Array B 75.17 340 P **P 16 08 40.7 0.0**
comp=Z,5.0nm,0.6s,mb4.6,baz=97,slow=6.7,SNR=17
ARCES ARCESS Array B 75.17 340 P **P 16 08 40.7 0.0**
MORC Moravsky Berou 75.33 319 *e*P **P 16 08 41.1 -0.9**
MORC pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MORC Moravsky Berou 75.33 319 *e*P **P 16 08 41.1 -0.9**
comp=Z,7.2nm,1.0s,mb4.6
ZST Bratislava 75.49 318 *e*P **P 16 08 38.9 -4.1**
VRAC Vranov 75.91 319 P **P 16 08 45.2 -0.1**
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC Vranov 75.91 319 P **P 16 08 45.2 -0.1**
comp=Z,1.2nm,0.3s,mb4.3,baz=26,slow=8.5,SNR=2.7
BILL Bilibino 75.94 22 *e*P **P 16 08 44.3 -0.9**
BILL pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BILL Bilibino 75.94 22 *e*P **P 16 08 44.3 -0.8**
comp=Z,4.1nm,0.7s,mb4.5
DPC Dobruska-Polom 76.16 320 *e*P **P 16 08 47.3 +0.6**
DPC *e*pP pP 16 08 52.2 +0.6
KSP Ksiaz 76.21 320 *e*P **P 16 08 47.5 +0.5**
UPC Upice 76.37 320 *e*P **P 16 08 48.4 +0.5**
UPC *e*pP pP 16 08 53.3 +0.5
PRU Pruhonice 77.28 319 *e*P **P 16 08 53.5 +0.5**
PRU *e*pP pP 16 08 58.1 +0.2
PVCC Panska Ves 77.29 320 *e*P **P 16 08 53.5 +0.5**
PVCC *e*pP pP 16 08 58.6 +0.7
BRG Berggiesshubel 77.70 320 *e*P **P 16 08 55.9 +0.6**
BRG pmax pmax
comp=Z,25nm,1.4s,mb5.0
BRG Berggiesshubel 77.70 320 *e*P **P 16 08 55.9 +0.6**
comp=Z,25nm,1.4s,mb4.9
GERES GERESS Array B 77.78 318 P **P 16 08 55.8 0.0**
GERES pmax pmax
comp=Z,4.0nm,0.5s
GERES GERESS Array B 77.78 318 P **P 16 08 55.8 +0.1**
comp=Z,4.2nm,0.5s,mb4.6,baz=84,slow=5.7,SNR=38
KHC Kasperske Hory 77.87 318 *e*P **P 16 08 56.3 +0.1**
KHC *e*pP pP 16 09 01.3 +0.2
CLL Collm 78.31 321 *e*P **P 16 08 58.0 -0.6**
CLL *e* pP 16 09 03.0 -0.5
CLL Collm 78.31 321 P **P 16 08 58.0 -0.6**
CLL *e**PP pP 16 09 03.0 -0.5
HFS Hagfors 78.39 330 P **P 16 08 58.9 +0.1**
HFS pmax pmax
comp=Z,12nm,0.7s
HFS Hagfors 78.39 330 P **P 16 08 58.9 +0.1**
comp=Z,12nm,0.7s,mb4.9,baz=104,slow=6.1,SNR=39
NKC Novy Kostel 78.64 320 *e*P **P 16 08 58.3 -2.1**
GRA1 Grafenberg Arr 79.42 319 *e*P **P 16 09 05.4 +0.7**
comp=Z,7.0nm,0.9s,mb4.6
GRA1 *e*pP pP 16 09 10.0 +0.4
GRF Grafenberg Arr 79.42 319 *e*P **P 16 09 05.4 +0.7**
GRF *e**PP pP 16 09 10.0 +0.4
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GRF Grafenberg Arr 79.42 319 *e*P **P 16 09 05.4 +0.7**
GRF *e**PP pP 16 09 10.0 +0.4
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GRF Grafenberg Arr 79.42 319 *e*P **P 16 09 05.4 +0.7**
comp=Z,7.0nm,0.9s,mb4.6
GRF *e*pP pP 16 09 10.0 +0.4
NB2 NORSAR Subarra 79.66 331 P **P 16 09 05.2 -0.6**
comp=Z,8.1nm,0.8s,mb4.7,baz=97,slow=4.8
NB2 NORSAR Subarra 79.66 331 P **P 16 09 05.2 -0.6**
NB2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
NOA NORSAR Array B 79.66 331 P **P 16 09 05.5 -0.3**
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA NORSAR Array B 79.66 331 P **P 16 09 05.5 -0.3**
comp=Z,5.8nm,0.8s,mb4.6,baz=92,slow=5.7,SNR=13
DAVOX Davos 80.35 316 P **P 16 09 09.4 -0.3**
comp=Z,8.0nm,0.7s,mb4.8,baz=119,slow=5.4,SNR=8.5
LPG La Plagne 82.58 315 *e*P **P 16 09 21.4 0.0**
comp=Z,15nm,0.7s,mb4.8
LPG La Plagne 82.58 315 *e*P **P 16 09 21.4 0.0**
LPG pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
EKA Eskdalemuir Ar 87.66 325 P **P 16 09 47.5 +0.9**
EKA pmax pmax
comp=Z,3.0nm,0.6s
EKA Eskdalemuir Ar 87.66 325 P **P 16 09 47.5 +0.9**
comp=Z,3.3nm,0.6s,mb4.7,baz=88,slow=4.9,SNR=7.5
ESDC Sonseca Array 91.19 310 P **P 16 10 04.0 +0.5**
comp=Z,2.1nm,0.8s,mb4.5,baz=50,slow=5.0,SNR=4.1
IMA Indian Mountai 91.48 22 *e*P **P 16 10 06.0 +1.8**
ILAR Eielson Array 94.60 22 P **P 16 10 18.8 +0.2**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.60 22 P **P 16 10 18.8 +0.1**
comp=Z,0.7nm,0.8s,mb4.2,baz=309,slow=5.4,SNR=8.8
YKA Yellowknife Ar 106.29 13 PP PP 16 15 31.8 -6.5
comp=Z,0.5nm,0.9s,baz=334,slow=7.7,SNR=4.8
NVAR Mina Array Bea 124.77 31 PKP PKPdf 16 16 00.5 -0.6
comp=Z,1.6nm,0.7s,baz=359,slow=2.4,SNR=11
PDAR Pinedale Array 125.02 21 PKP PKPdf 16 15 59.8 -1.6
comp=Z,1.3nm,0.7s,baz=200,slow=0.3,SNR=14
MSU Marysvale 127.61 26 *e*PKIKP PKPdf 16 16 05.2 -1.3
TXAR Lajitas Array 139.08 24 PKiKP 16 16 28.8
comp=Z,0.8nm,0.5s,baz=141,slow=4.9,SNR=5.3
JCT Junction City 139.44 19 *e*PKIKP PKPdf 16 16 27.0 -1.8
PLCA Paso Flores 144.69 200 PKIKP PKPdf 16 16 35.2 -2.5
PLCA pmax pmax
comp=Z,6.0nm,0.9s
PLCA Paso Flores 144.69 200 PKP PKPdf 16 16 35.2 -2.5
comp=Z,5.5nm,0.8s,baz=144,slow=2.9,SNR=8.5

IDC 27 15:59:55.2±3.2,8.10N×94.30E,mb4.0/4,mb1 4.1/5, mb1mx3.8/17,mbtmp3.9/5,ML3.4/1,Error ellipse: s-maj=96.2km s-min=65.4km az=94.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.24**	**23**	Pn	P	16 02 43.9	+3.6
	0.1nm,0.3s,baz=218,slow=15,SNR=2.8						
ZAL	**Zalesovo**	**46.35**	**352**	P	P	16 08 22.7	-2.0
	0.9nm,0.5s,baz=306,slow=9.6,SNR=2.4						
BRTR	**Keskin Array B**	**62.40**	**311**	P	P	16 10 20.2	-2.2
	0.5nm,0.5s,baz=130,slow=8.5,SNR=3.6						
GERES	**GERESS Array B**	**77.76**	**318**	P	P	16 11 54.5	-1.3
	0.7nm,0.6s,baz=79,slow=5.0,SNR=3.8						
HFS	**Hagfors**	**78.34**	**330**	P	P	16 11 57.3	-1.4
	2.6nm,0.7s,baz=102,slow=13,SNR=3.5						
PLCA	**Paso Flores**	**144.81**	**200**	PKP	PKPdf	16 19 34.0	-2.2
	2.2nm,0.9s,baz=90,slow=1.0,SNR=3.0						

IDC 27 16:00:11.0±8.7,7.32N×93.87E,mb3.9/3,mb1 4.1/4, mb1mx3.8/16,mbtmp3.9/4,ML3.8/1,Error ellipse: s-maj=210.0km s-min=57.6km az=141.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.12**	**24**	Pn	P	16 03 04.9	-3.2
	0.2nm,0.3s,baz=215,slow=14,SNR=4.0						
SONM	**Songino Array**	**41.76**	**13**	P	P	16 08 02.1	-1.6
	1.5nm,1.0s,baz=198,slow=7.8,SNR=3.6						
ZAL	**Zalesovo**	**47.06**	**353**	P	P	16 08 44.5	-1.8
	2.1nm,0.8s,baz=282,slow=8.0,SNR=4.8						
GERES	**GERESS Array B**	**78.06**	**318**	P	P	16 12 11.8	-1.4
	1.5nm,1.1s,baz=90,slow=3.9,SNR=2.1						

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*IDC **27** 16:00:42.5±8.0,7.87N×94.14E,h45km±71km,mb3.9/8, mb1 4.1/9,mb1mx3.9/17,mbtmp4.1/9,ML3.6/1,Error ellipse: s-maj=69.3km s-min=24.2km az=51.0*

ISC 27 16:00:39.3±1.1,7.9N±0.2×94.2E±0.2,h33km,n10, σ0°68/10,mb4.1/8,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.48**	**23**	P	P	**16 03 23.5**	**-0.5**
	0.1nm,0.3s,baz=214,slow=14,SNR=4.2						
SONM	**Songino Array**	**41.14**	**13**	P	P	**16 08 23.3**	**+1.3**
	1.3nm,1.0s,mb3.5,baz=198,slow=9.1,SNR=2.7						
ZAL	**Zalesovo**	**46.53**	**352**	P	P	**16 09 05.7**	**+0.2**
	3.1nm,0.8s,mb4.3,baz=289,slow=9.8,SNR=5.6						
WRA	**Warramunga Arr**	**48.24**	**126**	P	P	**16 09 19.3**	**0.0**
	4.7nm,0.8s,mb4.6,baz=303,slow=9.2,SNR=12						
BRTR	**Keskin Array B**	**62.45**	**311**	P	P	**16 11 02.5**	**+0.8**
	0.9nm,0.6s,mb4.0,baz=124,slow=6.9,SNR=3.5						
FINES	**FINESS Array B**	**72.71**	**332**	P	P	**16 12 04.8**	**-0.8**
	3.7nm,0.8s,mb4.3,baz=121,slow=11,SNR=3.3						
GERES	**GERESS Array B**	**77.84**	**318**	P	P	**16 12 35.3**	**+0.1**
	1.1nm,0.8s,mb3.9,baz=90,slow=5.3,SNR=3.9						
HFS	**Hagfors**	**78.46**	**330**	P	P	**16 12 38.4**	**0.0**
	4.7nm,0.9s,mb4.4,baz=108,slow=4.7,SNR=3.6						
NB2	**NORSAR Subarra**	**79.73**	**331**	P	P	**16 12 44.3**	**-1.0**
	0.8nm,0.6s,mb3.8,baz=93,slow=4.8						
NOA	**NORSAR Array B**	**79.73**	**331**	P	P	**16 12 44.4**	**-1.0**
	2.4nm,1.0s,mb4.1,baz=95,slow=4.9,SNR=4.2						

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*IDC **27** 16:00:52.0±0.6,7.99N×94.06E,mb4.6/23,mb1 4.7/24, mb1mx4.7/26,mbtmp4.6/24,ML4.4/1,Error ellipse: s-maj=31.1km s-min=14.9km az=48.0*
*MOS **27** 16:00:56.4±1.1,8.02N×94.16E,h42km,mb5.1/36,Error ellipse: s-maj=11.0km s-min=6.5km az=113.3*
*BJI **27** 16:00:56.1,7.74N×93.61E,h56km,mB5.3,mb4.7,Ms5.0, Msz4.7*
*NEIC **27** 16:00:56.8±0.2,8.08N×94.20E,h30km,mb5.0/38,Error ellipse: s-maj=7.2km s-min=6.2km az=53.0*
*HRVD **27** 16:00:56.8±0.7,7.76N×94.18E,h32km±2km,MW5.0/43, Centroid moment Tensor Solution. LP body waves: s8,c8; Mantle waves: s43,c62; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.61±.61; $M_{\theta\theta}$-1.80±.35; $M_{\phi\phi}$1.18±.38; $M_{r\theta}$-1.36±.38; $M_{\theta\phi}$3.01±.22; $M_{\phi r}$-1.75±.52; Best double couple: $M_0$4.017×10^{16} NP1:ϕ_s162°,δ66°,λ160°. NP2: ϕ_s261°,δ72°,λ25°. Principal axes: T 4.351, Plg31°, Azm123°; N -.674, Plg59°, Azm294°; P -3.684, Plg4°, Azm31°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 27 16:00:57.8±1.4,8.01N±0.05×94.15E±0.05,h54km±12km, h30km±5.5km:pP-P,n161,σ1°04/156,mb4.9/58,MS4.8/2, 2C-6D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.88**	**339**	*e*	P	**16 01 48.1**	**-8.3**
PBA				*e*SG	S	**16 02 44.9**	**+3.7**
CM31	**Chiang Mai Arr**	**11.38**	**24**	*e*P	P	**16 03 34.5**	**-5.8**
	20nm,0.9s						
CMAR	**Chiang Mai Arr**	**11.38**	**24**	P	P	**16 03 41.6**	**+1.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.38**	**24**	Pn	P	**16 03 41.6**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=214,slow=14,SNR=6.5						
NANT	**Nan**	**12.47**	**30**	P	P	**16 04 05.0**	**+10**
CHRT	**Chiangrai**	**13.00**	**24**	⇑P	P	**16 04 02.5**	**+0.7**
	comp=Z,174nm,1.2s						
PALK	**Pallekele**	**13.35**	**268**	*e*P	P	**16 04 06.1**	**-0.4**
	comp=Z,45nm,1.5s						
KOD	**Kodaikanal**	**16.62**	**279**	*e*P	P	**16 04 50.8**	**+2.1**
KOD				*e*		16 05 07.2	
	comp=Z,81nm,1.7s						
KOD				*e*		16 06 19.7	
SHL	**Shillong**	**17.59**	**353**	*e*P	P	**16 04 59.8**	**-1.0**
SHL				*e*		16 05 05.4	
	comp=Z,2μm,1.6s						
HYB	**Hyderabad**	**17.84**	**303**	*e*P	P	**16 05 04.0**	**0.0**
HYB	**Hyderabad**	**17.84**	**303**	*i* P	P	**16 05 04.0**	**0.0**
HYB				*e*S	S	**16 08 26.5**	**+8.3**
QIZ	**Qiongzhong**	**18.77**	**53**	*e*P	P	**16 05 19.2**	**+4.1**
	comp=Z,98nm,1.3s						
KMI	**Kunming**	**18.89**	**25**	⇓P	P	**16 05 19.8**	**+3.2**
KMI				pmax	pmax		
	comp=Z,43nm,1.6s						
KMI	**Kunming**	**18.89**	**25**	⇓P	P	**16 05 19.8**	**+3.2**
	comp=Z,43nm,1.6s						
KMI				pP		16 05 26.6	
KMI				sP		16 05 28.9	
KMI				PP	PP	16 05 39.0	+5.4
KMI				S	S	**16 08 54.4**	**+13**
KMI				sS		16 09 07.3	
KMI				SS	SS	16 09 22.2	+14
COCO	**West Island**	**20.24**	**172**	*e*P	P	**16 05 31.8**	**+0.6**
	comp=Z,294nm,1.0s						
GOA	**Goa**	**21.23**	**292**	*e*	P	**16 05 49.6**	**+8.3**
GOA				*e*		16 05 50.9	
	comp=Z,41nm,1.8s						
GOA				*e*S	S	**16 09 37.0**	**+8.0**
LSA	**Lhasa**	**21.76**	**353**	*e*P	P	**16 05 46.8**	**+0.2**
LSA				pmax	pmax		
	comp=Z,84nm,1.0s,mb5.1						
LSA	**Lhasa**	**21.76**	**353**	*e*P	P	**16 05 46.8**	**+0.2**
	comp=Z,84nm,1.0s,mb5.1						
BOM	**Bombay**	**23.37**	**300**	*e*P	P	**16 06 01.7**	**-0.8**
BOM				*e*		16 06 03.1	
	comp=Z,73nm,1.5s						
NDI	**New Delhi**	**26.03**	**324**	*e*P	P	**16 06 27.9**	**0.0**
NDI				*e*		16 06 32.6	
	comp=Z,89nm,1.5s						
NDI				*e*		16 11 10.3	
ENH	**Enshi**	**26.40**	**31**	*e*P	P	**16 06 31.8**	**+0.6**
	comp=Z,38nm,1.0s,mb4.9						
SMLA	**Simla**	**27.94**	**328**	*e*	P	**16 06 58.2**	**+13**
SMLA				*e*		16 07 06.2	
	comp=Z,56nm,1.9s						
WHN	**Wuhan**	**29.33**	**37**	⇑P	P	**16 06 59.5**	**+1.8**
WMQ	**Urumqi**	**36.12**	**352**	P	P	**16 07 56.5**	**0.0**
WMQ				PP	PP	16 09 18.5	-1.5
WMQ				PCP	PcP	16 10 23.3	+1.5
WMQ				S	S	**16 13 33.3**	**+1.9**
WMQ				AMB	AMB		
	comp=Z,57nm,0.9s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,423nm,5.3s						
WMQ				LR	LR		
	comp=N,1μm,16.3s,MS4.8						
WMQ				LR	LR		
	comp=E,916nm,16.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,2μm,16.6s,MS4.9						
BJT	**Baijiatuau**	**37.46**	**28**	P	P	**16 08 09.4**	**+1.6**
BJT				pmax	pmax		
	comp=Z,33nm,1.4s						
BJT	**Baijiatuau**	**37.46**	**28**	P	P	**16 08 09.4**	**+1.5**
	comp=Z,33nm,1.4s,mb5.0						
MBWA	**Marble Bar**	**38.36**	**139**	*e*P	P	**16 08 16.3**	**+0.9**
	comp=Z,44nm,1.4s,mb5.0						
AAK	**Ala-Archa**	**38.59**	**337**	*e*P	P	**16 08 16.0**	**-1.1**
AAK				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.8						
AAK	**Ala-Archa**	**38.59**	**337**	*e*P	P	**16 08 16.0**	**-1.1**
	comp=Z,24nm,1.1s,mb4.8						
SONM	**Songino Array**	**41.03**	**13**	P	P	**16 08 37.6**	**+0.3**
	comp=Z,5.5nm,1.0s,mb4.2,baz=196,slow=9.0,SNR=13						
ULN	**Ulaanbaatar**	**41.21**	**13**	*e*P	P	**16 08 35.1**	**-3.7**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
ULN	**Ulaanbaatar**	**41.21**	**13**	*e*P	P	**16 08 35.1**	**-3.6**
	comp=Z,4.8nm,1.0s,mb4.1						
KS15	**Wonju Array Si**	**42.33**	**41**	P	P	**16 08 45.7**	**-2.5**
ZAK	**Zakamensk**	**42.92**	**9**	*e*P	P	**16 08 52.1**	**-0.7**
TLY	**Talaya**	**44.24**	**8**	P	P	**16 09 02.1**	**-1.4**
KURK	**Kurchatov**	**44.48**	**346**	*e*P	P	**16 09 04.7**	**-0.7**
KURK				pmax	pmax		
	comp=Z,56nm,1.3s,mb5.1						
KURK	**Kurchatov**	**44.48**	**346**	*e*P	P	**16 09 04.7**	**-0.8**
	comp=Z,56nm,1.3s,mb5.1						
NWAO	**Narrogin (SRO)**	**46.26**	**153**	P	P	**16 09 19.8**	**0.0**
NWAO				pmax	pmax		
	comp=Z,15nm,0.8s						
NWAO	**Narrogin (SRO)**	**46.26**	**153**	P	P	**16 09 19.8**	**0.0**
	comp=Z,15nm,0.8s,mb5.0,baz=298,slow=3.3,SNR=6.0						
NWAO	**Narrogin (SRO)**	**46.26**	**153**	*e*P	P	**16 09 19.2**	**-0.6**
	comp=Z,18nm,0.8s,mb5.0						
HIA	**Hailar**	**46.40**	**23**	*e*P	P	**16 09 18.2**	**-2.5**
HIA				pmax	pmax		
	comp=Z,27nm,1.1s						
HIA	**Hailar**	**46.40**	**23**	*e*P	P	**16 09 18.2**	**-2.5**
	comp=Z,27nm,1.1s,mb5.1						
ZAL	**Zalesovo**	**46.42**	**352**	P	P	**16 09 20.8**	**0.0**
ZAL				pmax	pmax		
	comp=Z,11nm,0.9s						
ZAL	**Zalesovo**	**46.42**	**352**	P	P	**16 09 20.8**	**0.0**
	comp=Z,10nm,0.9s,mb4.8,baz=297,slow=9.7,SNR=15						
NVS	**Novosibirsk**	**47.51**	**351**	*i* P	P	**16 09 28.0**	**-1.4**
MDJ	**Mudanjiang**	**47.69**	**34**	P	P	**16 09 30.8**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,216nm,5.8s						
MDJ				LR	LR		
	comp=E,712nm,13.5s						
MDJ				LR	LR		
	comp=Z,606nm,13.9s,MS4.7						
MDJ	**Mudanjiang**	**47.69**	**34**	*e*P	P	**16 09 30.7**	**-0.3**
	comp=Z,29nm,1.4s,mb5.1						
WRA	**Warramunga Arr**	**48.33**	**126**	P	P	**16 09 35.0**	**-1.2**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WRA	**Warramunga Arr**	**48.33**	**126**	P	P	**16 09 35.0**	**-1.2**
	comp=Z,2.5nm,0.5s,mb4.5,baz=304,slow=8.7,SNR=11						
WRAB	**Tennant Creek**	**48.34**	**126**	*e*P	P	**16 09 34.5**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,159nm,2.1s,mb5.7						
WRAB	**Tennant Creek**	**48.34**	**126**	*e*P	P	**16 09 34.5**	**-1.7**
	comp=Z,159nm,2.1s,mb5.7						
BVAR	**Borovoye Array**	**48.87**	**341**	P	P	**16 09 38.5**	**-1.4**
	comp=Z,2.1nm,0.7s,mb4.3,baz=158,slow=8.0,SNR=9.1						
BRVK	**Borovoye**	**48.93**	**341**	*e*P	P	**16 09 38.6**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,26nm,1.5s,mb5.0						
BRVK	**Borovoye**	**48.93**	**341**	*e*P	P	**16 09 38.6**	**-1.7**
	comp=Z,26nm,1.5s,mb5.0						
RAYN	**Ar Rayn**	**49.04**	**294**	P	P	**16 09 42.0**	**+0.4**
	comp=Z,163nm,1.3s,mb5.9,SNR=9.1						
CHKZ	**Chkalovo**	**49.35**	**342**	*e*P	P	**16 09 42.6**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.3						
CHKZ	**Chkalovo**	**49.35**	**342**	*e*P	P	**16 09 42.6**	**-1.0**
	comp=Z,36nm,1.1s,mb5.3						
BOD	**Bodaibo**	**52.02**	**13**	*e*P	P	**16 10 02.9**	**-0.9**
GNI	**Garni**	**54.35**	**314**	*e*P	P	**16 10 20.9**	**-0.4**
GNI				pmax	pmax		
	comp=Z,53nm,1.7s						
GNI	**Garni**	**54.35**	**314**	P	P	**16 10 20.7**	**-0.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=172,slow=20,SNR=5.5						
GNI	**Garni**	**54.35**	**314**	*e*P	P	**16 10 20.9**	**-0.4**
	comp=Z,53nm,1.7s,mb5.2						
SVE	**Sverdlovsk**	**55.28**	**338**	*e*P	P	**16 10 21.5**	**-6.4**
SVE				pmax	pmax		
	comp=Z,100nm,2.0s,mb5.5						
PMG	**Port Moresby**	**55.56**	**107**	P	P	**16 10 30.6**	**+0.1**
PMG				pmax	pmax		
	comp=Z,36nm,1.2s						
PMG	**Port Moresby**	**55.56**	**107**	P	P	**16 10 30.6**	**+0.1**
	comp=Z,36nm,1.2s,mb5.3						
ARU	**Arti**	**55.77**	**337**	*e*P	P	**16 10 23.3**	**-8.1**
KIV	**Kislovodsk**	**57.22**	**318**	*e*P	P	**16 10 41.3**	**-0.7**
KIV				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.2						
KIV	**Kislovodsk**	**57.22**	**318**	*e*P	P	**16 10 41.3**	**-0.7**
	comp=Z,21nm,0.9s,mb5.2						
KMBO	**Kilima Mbogo**	**57.45**	**264**	P	P	**16 10 45.8**	**+1.9**
KMBO				pmax	pmax		
	comp=Z,8.0nm,1.2s						
KMBO	**Kilima Mbogo**	**57.45**	**264**	P	P	**16 10 45.8**	**+1.8**
	comp=Z,7.5nm,1.1s,mb4.6,baz=60,slow=11,SNR=7.6						
KMBO	**Kilima Mbogo**	**57.45**	**264**	*e*P	P	**16 10 44.5**	**+0.6**
	comp=Z,14nm,1.2s,mb4.9						
ASF	**Jabal al Asfar**	**58.15**	**303**	P	P	**16 10 48.4**	**-0.2**
	comp=Z,2.3nm,0.6s,mb4.4,baz=330,slow=2.4,SNR=2.5						
CTAO	**Charters Tower**	**58.37**	**119**	P	P	**16 10 49.5**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.8						
CTAO	**Charters Tower**	**58.37**	**119**	P	P	**16 10 49.5**	**-0.7**
	comp=Z,15nm,1.4s,mb4.8						
MALT	**Malatya**	**58.38**	**310**	*e*P	P	**16 10 46.9**	**-3.2**
MALT				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
MALT	**Malatya**	**58.38**	**310**	*e*P	P	**16 10 46.9**	**-3.2**
	comp=Z,13nm,1.3s,mb4.8						
EIL	**Elat**	**59.37**	**300**	P	P	**16 10 56.9**	**-0.2**
	comp=Z,6.2nm,0.9s,mb4.6,baz=114,slow=15,SNR=6.0						
EIL	**Elat**	**59.37**	**300**	*e*P	P	**16 10 53.6**	**-3.5**
	comp=Z,16nm,1.1s,mb5.0						
YAK	**Yakutsk**	**59.87**	**18**	*e*P	P	**16 10 59.6**	**-0.5**
YAK				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
YAK				pmax	pmax		
	comp=N,12nm,1.2s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.2s						
YAK	**Yakutsk**	**59.87**	**18**	*e*P	P	**16 10 59.2**	**-0.8**
	comp=E,64nm,1.1s,mb5.6						
STKA	**Stephens Creek**	**60.19**	**134**	P	P	**16 11 02.5**	**-0.2**
	comp=E,6.5nm,1.2s,mb4.5,baz=281,slow=11,SNR=4.3						
STKA	**Stephens Creek**	**60.19**	**134**	P	P	**16 10 58.1**	**-4.6**
BRTR	**Keskin Array B**	**62.35**	**311**	P	P	**16 11 14.9**	**-2.2**
BRTR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRTR	**Keskin Array B**	**62.35**	**311**	P	P	**16 11 14.9**	**-2.2**
	comp=Z,4.6nm,1.0s,mb4.5,baz=126,slow=7.0,SNR=7.0						
MBAR	**Mbarara**	**63.78**	**265**	*e*P	P	**16 11 27.5**	**+0.4**
MBAR				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
MBAR	**Mbarara**	**63.78**	**265**	*e*P	P	**16 11 27.5**	**+0.4**
	comp=Z,9.9nm,1.3s,mb4.7						
MOS	**Moscow**	**64.97**	**329**	*e*P	P	**16 11 32.8**	**-1.3**

LSZ pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
LSZ Lusaka 69.32 250 *eP* **P 16 12 02.3 +0.3**
comp=Z,8.7nm,1.2s,mb4.6
KOLS Kolonicke sedl 72.11 319 *eP* **P 16 12 18.6 +0.3**
FINES FINESS Array B 72.60 332 P **P 16 12 20.6 -0.4**
FINES pmax pmax
comp=Z,9.0nm,0.9s
FINES FINESS Array B 72.60 332 P **P 16 12 20.6 -0.4**
comp=Z,9.4nm,0.9s,mb4.7,baz=101,slow=7.1,SNR=11
CRVS Cervenica-Dubn 72.63 319 *eP* **P 16 12 21.5 +0.1**
CRVS *ep*P pP 16 12 31.5 -5.3
NIE Niedzica 73.45 319 *eP* **P 16 12 26.5 +0.3**
OJC Ojcow 73.88 320 *eP* **P 16 12 28.5 -0.2**
LBTB Lobatse 74.31 241 *eP* **P 16 12 32.4 +0.6**
LBTB pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LBTB Lobatse 74.31 241 *eP* **P 16 12 32.4 +0.6**
comp=Z,9.2nm,0.9s,mb4.7
VYHS Vyhne 74.31 318 *eP* **P 16 12 30.7 -0.6**
VYHS *ep*P pP 16 12 39.1 -7.5
OKC Ostrava-Krasne 74.89 319 *eP* **P 16 12 34.7 +0.1**
CASY Casey 75.06 173 P **P 16 12 33.1 -2.1**
comp=Z,15nm,1.2s,mb4.8
ARCES ARCESS Array B 75.14 340 P **P 16 12 36.1 +0.5**
ARCES pmax pmax
comp=Z,13nm,1.1s
ARCES ARCESS Array B 75.14 340 P **P 16 12 36.1 +0.5**
comp=Z,13nm,1.1s,mb4.8,baz=93,slow=6.4,SNR=6.8
MORC Moravsky Berou 75.28 319 *eP* **P 16 12 35.7 -1.1**
MORC pmax pmax
comp=Z,27nm,1.3s,mb5.0
MORC Moravsky Berou 75.28 319 *eP* **P 16 12 35.6 -1.1**
comp=Z,28nm,1.3s,mb5.0
ZST Bratislava 75.44 318 *eP* **P 16 12 38.6 +0.9**
BILL Bilibino 75.96 22 *eP* **P 16 12 40.4 +0.1**
BILL pmax pmax
comp=Z,12nm,1.1s,mb4.7
BILL Bilibino 75.96 22 *eP* **P 16 12 40.4 +0.1**
comp=Z,12nm,1.1s,mb4.7
DPC Dobruska-Polom 76.11 320 *eP* **P 16 12 41.7 +0.2**
KSP Ksiaz 76.17 320 *eP* **P 16 12 42.5 +0.7**
UPC Upice 76.32 320 *eP* **P 16 12 43.2 +0.5**
PRU Pruhonice 77.23 319 *eP* **P 16 12 48.5 +0.7**
PVCC Panska Ves 77.24 320 *eP* **P 16 12 48.1 +0.2**
GERES GERESS Array B 77.73 318 P **P 16 12 50.6 0.0**
GERES pmax pmax
comp=Z,4.0nm,0.7s
GERES GERESS Array B 77.73 318 P **P 16 12 50.6 0.0**
comp=Z,4.2nm,0.7s,mb4.5,baz=90,slow=4.0,SNR=3.6
KHC Kasperske Hory 77.82 318 *eP* **P 16 12 52.2 +1.1**
CLL Collm 78.26 321 ⇓*iP* **P 16 12 53.3 -0.2**
CLL *e* 16 12 57.0
CLL pmax pmax
comp=Z,29nm,1.6s,mb5.0
CLL Collm 78.26 321 ⇓*iP* **P 16 12 53.3 -0.2**
comp=Z,29nm,1.6s,mb5.0
CLL *e* 16 12 57.0
CLL Collm 78.26 321 ⇓P **P 16 12 53.3 -0.2**
comp=Z,logA/T=1.3,mb5.0
CLL *e**PP pP 16 12 57.0 -12
CLL *e* pP 16 13 05.0 -3.9
HFS Hagfors 78.34 330 P **P 16 12 53.5 -0.2**
HFS pmax pmax
comp=Z,8.0nm,0.6s
HFS Hagfors 78.34 330 P **P 16 12 53.5 -0.2**
comp=Z,8.4nm,0.6s,mb4.9,baz=104,slow=6.1,SNR=13
NKC Novy Kostel 78.59 320 *eP* **P 16 12 56.4 +1.1**
GRA1 Grafenberg Arr 79.37 319 *eP* **P 16 13 00.0 +0.4**
comp=Z,31nm,1.5s,mb5.0
GRF Grafenberg Arr 79.37 319 *eP* **P 16 13 00.0 +0.4**
GRF pmax pmax
comp=Z,31nm,1.5s,mb5.0
GRF Grafenberg Arr 79.37 319 *eP* **P 16 13 00.0 +0.4**
GRF pmax pmax
comp=Z,31nm,1.5s,mb5.0
GRF Grafenberg Arr 79.37 319 *eP* **P 16 13 00.0 +0.4**
comp=Z,31nm,1.5s,mb5.0
NOA NORSAR Array B 79.62 331 P **P 16 13 00.3 -0.4**
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA NORSAR Array B 79.62 331 P **P 16 13 00.3 -0.4**
comp=Z,4.6nm,0.7s,mb4.5,baz=93,slow=5.5,SNR=10
DAVOX Davos 80.30 316 P **P 16 13 05.0 +0.4**
comp=Z,11nm,0.8s,mb4.8,baz=14,slow=4.8,SNR=7.1
LPG La Plagne 82.53 315 *eP* **P 16 13 16.3 0.0**
comp=Z,31nm,1.1s,mb5.0
LPG La Plagne 82.53 315 *eP* **P 16 13 16.3 0.0**
LPG pmax pmax
comp=Z,16nm,1.1s,mb5.0
SYO Syowa Base 85.53 197 ⇓P **P 16 13 31.4 +0.6**
TNA Tin City 86.04 24 *eP* **P 16 13 35.1 +1.7**
EKA Eskdalemuir Ar 87.62 325 P **P 16 13 42.2 +0.9**
EKA pmax pmax
comp=Z,6.0nm,0.8s
EKA Eskdalemuir Ar 87.62 325 P **P 16 13 42.2 +0.9**
comp=Z,5.5nm,0.8s,mb4.8,baz=96,slow=5.2,SNR=6.5
ESDC Sonseca Array 91.14 310 P **P 16 13 59.4 +1.1**
comp=Z,2.2nm,0.8s,mb4.5,baz=66,slow=4.6,SNR=5.5
ESLA Sonseca Array 91.14 310 P **P 16 13 58.8 +0.5**
comp=Z,3.4nm,1.1s,mb4.6
IMA Indian Mountai 91.50 22 *eP* **P 16 14 01.5 +2.2**
SPU Mount Spurr 94.16 26 *eP* **P 16 14 13.1 +1.5**
MCK McKinley 94.33 23 *eP* **P 16 14 13.6 +1.3**
MCK pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
MCK McKinley 94.33 23 *eP* **P 16 14 13.6 +1.3**
comp=Z,3.5nm,1.0s,mb4.7
ILAR Eielson Array 94.62 22 P **P 16 14 15.1 +1.5**
ILAR 16 18 03.0
ILAR pmax pmax
comp=Z,2.0nm,0.9s
ILAR Eielson Array 94.62 22 P **P 16 14 15.1 +1.5**
comp=Z,1.5nm,0.9s,mb4.4,baz=295,slow=4.5,SNR=11
ILAR PP PP 16 18 03.0 -1.5
comp=Z,0.3nm,0.9s,baz=300,slow=7.3,SNR=2.9
YKA Yellowknife Ar 106.30 13 PKiKP 16 19 19.5
comp=Z,0.1nm,0.3s,baz=288,slow=1.9,SNR=3.6
YKA PP PP 16 19 28.6 -5.0
comp=Z,0.1nm,0.4s,baz=337,slow=7.4,SNR=4.1
YKA PKKPbc 16 30 39.1
comp=Z,0.1nm,0.4s,baz=153,slow=3.7,SNR=4.1
YKA PKKPab 16 30 55.3
comp=Z,0.3nm,0.8s,baz=140,slow=4.5,SNR=5.3
NVAR Mina Array Bea 124.80 31 PKP PKPdf 16 19 55.1 +3.0
comp=Z,2.8nm,0.9s,baz=273,slow=2.5,SNR=12
PDAR Pinedale Array 125.04 21 PKP PKPdf 16 19 54.9 +2.4
comp=Z,2.6nm,0.8s,baz=56,slow=1.6,SNR=15
MDV Middlebury 126.98 349 *e*PKPdf PKPdf 16 19 59.1 +3.0
MSU Marysvale 127.63 26 *e*PKIKP PKPdf 16 20 01.1 +3.5
TXAR Lajitas Array 139.10 24 PKiKP 16 20 25.0
comp=Z,0.8nm,0.6s,baz=298,slow=1.1,SNR=4.8
TXAR Lajitas Array 139.10 24 PKPdf PKPdf 16 20 25.0 +5.8
JCT Junction City 139.46 19 *e*PKIKP PKPdf 16 20 22.3 +2.4
PLCA Paso Flores 144.68 200 PKIKP PKPdf 16 20 30.0 +1.3
PLCA pmax pmax
comp=Z,6.0nm,1.0s
PLCA Paso Flores 144.68 200 PKP PKPdf 16 20 30.0 +1.3
comp=Z,6.4nm,0.9s,baz=209,slow=2.8,SNR=7.5

*IDC **27** 16:01:49.7±0.9, 7.85N×93.98E, mb4.3/9, mb1 4.5/9, mb1mx4.2/18, mbtmp4.3/9, Error ellipse: s-maj=73.0km s-min=19.5km az=56.0*
ISC 27 16:01:53.0±0.8, 7.9N±0.3×94.1E±0.4, h33km, n12, σ0°70/10, mb4.3/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LATR	**Latur**	**20.01**	**303**	*e*	**S**	**16 10 12.8**	**+8.7**
NWAO	**Narrogin (SRO)**	**46.17**	**153**	P	**P**	**16 10 16.9**	**+0.3**
	8.8nm,0.8s,mb4.7,baz=310,slow=7.5,SNR=2.8						
ZAL	**Zalesovo**	**46.54**	**352**	P	**P**	**16 10 19.3**	**+0.1**
	2.4nm,0.4s,mb4.5,baz=287,slow=6.0,SNR=2.3						
WRA	**Warramunga Arr**	**48.30**	**126**	P	**P**	**16 10 33.0**	**-0.4**
	4.7nm,1.1s,mb4.4,baz=303,slow=8.7,SNR=3.8						
AKASG	**Malin Array Be**	**68.12**	**322**	P	**P**	**16 12 50.1**	**-1.7**
	1.3nm,0.6s,mb4.2,baz=86,slow=6.1,SNR=5.2						
FINES	**FINESS Array B**	**72.69**	**332**	P	**P**	**16 13 19.1**	**-0.1**
	3.3nm,0.9s,mb4.3,baz=105,slow=7.4,SNR=5.9						
ARCES	**ARCESS Array B**	**75.25**	**340**	P	**P**	**16 13 34.6**	**+0.7**
	6.2nm,0.9s,mb4.5,baz=90,slow=7.2,SNR=5.5						
GERES	**GERESS Array B**	**77.80**	**318**	P	**P**	**16 13 49.6**	**+0.9**
	1.4nm,0.7s,mb4.0,baz=104,slow=5.2,SNR=4.8						
HFS	**Hagfors**	**78.43**	**330**	P	**P**	**16 13 52.4**	**+0.4**
	2.7nm,0.5s,mb4.4,baz=90,slow=3.0,SNR=7.5						
NOA	**NORSAR Array B**	**79.71**	**331**	P	**P**	**16 13 58.5**	**-0.4**
	0.8nm,0.5s,mb3.9,baz=97,slow=5.6,SNR=2.7						
PDAR	**Pinedale Array**	**125.18**	**21**	PKP	PKPdf	16 20 53.0	+2.4
	0.9nm,0.8s,baz=49,slow=1.6,SNR=4.1						
PLCA	**Paso Flores**	**144.53**	**200**	PKP	PKPdf	16 21 28.4	+2.0
	5.1nm,0.9s,baz=138,slow=6.0,SNR=3.9						

*BJI **27** 16:02:22.1, 7.59N×93.81E, h56km, mB4.2, mb4.8, Ms5.0, Ms2.4*
*HRVD **27** 16:02:23.9±0.5, 8.04N×94.25E, h32km±2km, MW5.0/51, Centroid moment Tensor Solution. LP body waves: s12,c17;Mantle waves: s51,c82; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.55±.33; Mθθ=1.09±.21; Mφφ=1.64±.24; Mrθ=0.86±.27; Mrφ=4.10±.18; Mθφ=0.11±.32; Best double couple: M=4.418×1016 NP1:φs=171°, δ78°, λ=-175°. NP2:φs=80°, δ85°, λ=-12°. Principal axes: T 4.63, Plg5°, Azm126°; N -.423, Plg77°, Azm237°; P -4.206, Plg12°, Azm35°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 16:02:23.9±0.4, 7.99N×93.90E, h30km, mb4.9/16 Error ellipse: s-maj=13.4km s-min=9.7km az=102.0*
*IDC **27** 16:02:32.0±5.1, 8.42N×93.84E, h84km±44km, mb4.1/14, mb1 4.3/15, mb1mx4.2/21, mbtmp4.5/15, MS4.5/1, Ms1 4.5/1, ms1mx3.1/19, Error ellipse: s-maj=39.7km s-min=17.5km az=58.0*
ISC 27 16:02:23.0±0.5, 8.07N±0.08×93.97E±0.10, h33km, n48, σ1°11/41, mb4.7/26, MS4.4/1, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.40**	**25**	*eP*	**P**	**16 05 06.3**	**-0.3**
	42nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.40**	**25**	P	**P**	**16 05 07.2**	**+0.6**
	1.2nm,0.3s,baz=212,slow=14,SNR=15						
KMI	**Kunming**	**18.91**	**25**	⇑P	**P**	**16 06 46.5**	**+2.8**
	66nm,1.1s						
KMI				S	rx	16 10 35.8	
COCO	**West Island**	**20.33**	**172**	*eP*	**P**	**16 06 58.9**	**-0.4**
	300nm,1.4s						
LSA	**Lhasa**	**21.68**	**353**	*eP*	**P**	**16 07 16.4**	**+3.5**
	103nm,0.9s,mb5.3						
ENH	**Enshi**	**26.44**	**31**	*eP*	**P**	**16 07 56.1**	**-2.9**
	71nm,1.2s,mb5.1						
JOW	**Kunigami**	**37.48**	**56**	LR	LR	16 29 22.2	
	comp=Z,604nm,18.4s,MS4.4,baz=271,slow=43						
BJI	**Beijing**	**37.51**	**28**	*eP*	**P**	**16 09 36.4**	**+0.7**
	11nm,0.9s,mb4.6						
AAK	**Ala-Archa**	**38.45**	**337**	*eP*	**P**	**16 09 43.6**	**+0.1**
	51nm,1.5s,mb5.0						
SONM	**Songino Array**	**41.01**	**13**	P	**P**	**16 10 04.3**	**-0.3**
	6.5nm,0.9s,mb4.3,baz=199,slow=7.6,SNR=8.2						
ULN	**Ulaanbaatar**	**41.18**	**13**	*eP*	**P**	**16 10 06.0**	**-0.1**
	4.6nm,0.9s,mb4.1						
ULN				*e*		16 10 31.9	
KURK	**Kurchatov**	**44.38**	**346**	*eP*	**P**	**16 10 32.0**	**-0.1**
	3.8nm,1.2s,mb4.0						
ZAL	**Zalesovo**	**46.33**	**353**	P	**P**	**16 10 47.5**	**-0.1**
	10.0nm,0.9s,mb4.7,baz=292,slow=9.4,SNR=4.9						
ZAL	**Zalesovo**	**46.33**	**353**	P	**P**	**16 10 47.5**	**-0.1**
NWAO	**Narrogin (SRO)**	**46.40**	**153**	P	**P**	**16 10 53.8**	**+5.3**
	20nm,0.8s,mb5.1,baz=330,slow=6.7,SNR=6.7						
HIA	**Hailar**	**46.41**	**23**	*eP*	**P**	**16 10 48.5**	**+0.3**
MDJ	**Mudanjiang**	**47.74**	**34**	P	**P**	**16 10 58.5**	**-0.3**
MDJ				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.9						
MDJ	**Mudanjiang**	**47.74**	**34**	*eP*	**P**	**16 10 58.7**	**-0.1**
	comp=Z,15nm,1.1s,mb4.9						
WRA	**Warramunga Arr**	**48.52**	**126**	P	**P**	**16 11 09.2**	**+4.0**
	comp=Z,5.4nm,1.1s,mb4.5,baz=300,slow=8.6,SNR=4.6						
WRAB	**Tennant Creek**	**48.52**	**126**	P	**P**	**16 11 03.2**	**-2.0**
BVAR	**Borovoye Array**	**48.75**	**341**	P	**P**	**16 11 02.8**	**-3.7**
	comp=Z,1.8nm,0.8s,mb4.2,baz=127,slow=7.2,SNR=3.5						
PMG	**Port Moresby**	**55.75**	**107**	*eP*	**P**	**16 12 01.7**	**+2.3**
KMBO	**Kilima Mbogo**	**57.27**	**263**	*eP*	**P**	**16 12 13.4**	**+3.1**
	comp=Z,10nm,0.9s,mb4.9						
YAK	**Yakutsk**	**59.86**	**19**	*eP*	**P**	**16 12 25.9**	**-1.7**
	comp=Z,40nm,0.9s,mb5.5						
BRTR	**Keskin Array B**	**62.17**	**311**	P	**P**	**16 12 41.9**	**-1.7**
	comp=Z,1.2nm,0.7s,mb4.1,baz=79,slow=7.3,SNR=2.9						
MA2	**Magadan**	**66.67**	**28**	*eP*	**P**	**16 13 12.0**	**-0.5**
	comp=Z,27nm,1.1s,mb5.2						
AKASG	**Malin Array Be**	**67.89**	**322**	P	**P**	**16 13 18.8**	**-1.5**
	comp=Z,2.2nm,0.7s,mb4.3,baz=88,slow=5.0,SNR=4.2						
FINES	**FINESS Array B**	**72.46**	**332**	P	**P**	**16 13 47.6**	**-0.2**
	comp=Z,13nm,1.1s,mb4.8,baz=127,slow=9.5,SNR=5.0						
ARCES	**ARCESS Array B**	**75.02**	**340**	P	**P**	**16 14 02.8**	**+0.1**
	comp=Z,7.3nm,0.9s,mb4.6,baz=84,slow=11,SNR=4.7						
GERES	**GERESS Array B**	**77.56**	**318**	P	**P**	**16 14 17.7**	**+0.2**
	comp=Z,3.3nm,0.9s,mb4.3,baz=90,slow=5.3,SNR=4.4						
KHC	**Kasperske Hory**	**77.66**	**318**	*eP*	**P**	**16 14 18.5**	**+0.5**
CLL	**Collm**	**78.10**	**321**	*e**PP	pP	16 14 27.0	-3.7
HFS	**Hagfors**	**78.20**	**330**	P	**P**	**16 14 20.5**	**-0.2**
	comp=Z,13nm,1.1s,mb4.8,baz=90,slow=5.9,SNR=3.6						
GRA1	**Grafenberg Arr**	**79.20**	**319**	*eP*	**P**	**16 14 27.4**	**+1.0**
	comp=Z,8.0nm,1.2s,mb4.5						
GRF	**Grafenberg Arr**	**79.20**	**319**	*eP*	**P**	**16 14 27.4**	**+1.0**
	comp=Z,8.0nm,1.2s,mb4.5						
NB2	**NORSAR Subarra**	**79.47**	**331**	P	**P**	**16 14 26.8**	**-0.9**
	comp=Z,8.9nm,1.1s,mb4.6,baz=91,slow=5.6						
NOA	**NORSAR Array B**	**79.47**	**331**	P	**P**	**16 14 27.1**	**-0.5**
	comp=Z,10.0nm,1.2s,mb4.6,baz=97,slow=5.3,SNR=4.4						
LPG	**La Plagne**	**82.36**	**315**	*eP*	**P**	**16 14 44.0**	**+0.9**
	comp=Z,24nm,0.9s,mb4.8						
TNA	**Tin City**	**86.06**	**24**	*eP*	**P**	**16 15 01.3**	**0.0**
EKA	**Eskdalemuir Ar**	**87.46**	**325**	P	**P**	**16 15 09.3**	**+1.0**
	comp=Z,4.2nm,0.9s,mb4.7,baz=83,slow=6.7,SNR=3.9						
IMA	**Indian Mountai**	**91.50**	**22**	*eP*	**P**	**16 15 28.3**	**+1.1**
SPU	**Mount Spurr**	**94.18**	**26**	*eP*	**P**	**16 15 39.2**	**-0.3**
ILAR	**Eielson Array**	**94.63**	**22**	P	**P**	**16 15 41.0**	**-0.5**
	comp=Z,7.7nm,0.7s,mb4.2,baz=294,slow=4.0,SNR=4.5						
POHA	**Pohakuloa**	**106.25**	**67**	*eP*		16 20 42.4	
NVAR	**Mina Array Bea**	**124.84**	**31**	PKP	PKPdf	16 21 22.7	+2.5
	comp=Z,1.2nm,0.7s,baz=73,slow=2.6,SNR=5.0						
PDAR	**Pinedale Array**	**125.05**	**21**	PKP	PKPdf	16 21 21.6	+1.2
	comp=Z,1.1nm,0.8s,baz=45,slow=2.1,SNR=4.3						
TXAR	**Lajitas Array**	**139.12**	**24**	PKiKP		16 21 50.2	
	comp=Z,0.8nm,0.8s,baz=315,slow=1.3,SNR=2.9						
PLCA	**Paso Flores**	**144.67**	**201**	PKP	PKPdf	16 21 57.1	+0.4
	comp=Z,5.2nm,0.8s,baz=142,slow=9.3,SNR=3.5						

IDC 27 16:02:45.6±1.3, 5.62N×74.40W, h98km±20km, mb3.3/1, mb1 3.6/2, mb1mx3.2/17, mbtmp3.7/2, Error ellipse: s-maj=60.8km s-min=13.4km az=127.0, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**0.77**	**175**	P	P	16 03 04.4	+0.7
	59nm,0.3s,baz=304,slow=2.7,SNR=58						
ROSC				S	S	16 03 18.9	+1.8
	25nm,0.3s,baz=105,slow=20,SNR=8.2						
SDV	**Santo Domingo**	**4.94**	**49**	P	P	16 03 59.2	+0.4
	2.8nm,0.3s,baz=204,slow=7.0,SNR=7.4						
SDV				S	S	16 04 53.7	-1.5
	3.6nm,0.3s,baz=88,slow=23,SNR=10						
YKA	**Yellowknife Ar**	**63.95**	**341**	P	P	16 13 08.0	-2.3
	0.3nm,0.4s,baz=135,slow=6.7,SNR=9.3						
ASAR	**Alice Springs**	**147.39**	**234**	PKPbc	PKPdf	16 22 18.0	+1.9
	0.3nm,0.4s,baz=116,slow=3.7,SNR=8.2						
WRA	**Warramunga Arr**	**148.65**	**240**	PKPbc	PKPdf	16 22 21.8	+3.6
	0.3nm,0.4s,baz=108,slow=2.9,SNR=6.7						

*BJI **27** 16:08:01.7, 6.75N×93.59E, h30km, mB5.3, mb4.7, Ms4.7, Msz4.5*
*IDC **27** 16:08:06.7±0.6, 7.72N×93.85E, mb4.4/20, mb1 4.5/21, mb1mx4.5/23, mbtmp4.4/21, ML4.1/1, Error ellipse: s-maj=36.4km s-min=14.3km az=53.0*
*NEIC **27** 16:08:11.1±0.3, 7.71N×93.95E, h30km, mb4.6/18, Error ellipse: s-maj=11.5km s-min=6.8km az=49.0*
ISC 27 16:08:06.4±0.4, 7.67N±0.07×94.02E±0.07, h10km, (h18km±4.4km:pP-P), n60, σ1°22/55, mb4.5/37, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.74**	**24**	*eP*	**P**	**16 11 00.7**	**+3.6**
	17nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.74**	**24**	Pn	**P**	**16 11 01.7**	**+4.6**
	0.4nm,0.3s,baz=217,slow=14,SNR=8.8						
PALK	**Pallekele**	**13.21**	**269**	*eP*	**P**	**16 11 14.7**	**-2.0**
HYB	**Hyderabad**	**17.92**	**304**	*eP*	**P**	**16 12 21.0**	**+3.5**
HYB	**Hyderabad**	**17.92**	**304**	*i*P	**P**	**16 12 21.0**	**+3.5**
HYB				*e*S	**S**	**16 15 37.0**	**+2.1**
JIRN	**Jiri**	**21.22**	**340**	*eP*	**P**	**16 12 55.6**	**+0.9**
PKI	**Pulchoki**	**21.41**	**339**	*eP*	**P**	**16 12 59.4**	**+2.8**
	27nm,0.5s,mb4.8						
DMN	**Daman**	**21.55**	**338**	*eP*	**P**	**16 13 00.3**	**+2.2**
	38nm,0.8s,mb4.9						
KKN	**Kakani**	**21.65**	**339**	*eP*	**P**	**16 12 58.9**	**-0.2**
LSA	**Lhasa**	**22.08**	**353**	P	**P**	**16 13 04.0**	**+0.6**
LSA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
LSA	**Lhasa**	**22.08**	**353**	*eP*	**P**	**16 13 03.0**	**-0.3**
	comp=Z,34nm,0.6s,mb5.0						
GKN	**Gorkha**	**22.08**	**337**	*eP*	**P**	**16 13 03.4**	**0.0**
	comp=Z,21nm,0.5s,mb4.8						
KOLN	**Koldanda**	**22.29**	**335**	*eP*	**P**	**16 13 04.2**	**-1.3**
ENH	**Enshi**	**26.75**	**31**	P	**P**	**16 13 46.4**	**-1.9**
	comp=Z,8.1nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**38.84**	**337**	*eP*	**P**	**16 15 33.2**	**-0.2**
	comp=Z,7.6nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**40.38**	**130**	*eP*	**P**	**16 15 47.6**	**+1.2**
	comp=Z,16nm,1.4s,mb4.5						
SONM	**Songino Array**	**41.38**	**13**	P	**P**	**16 15 54.9**	**+0.5**
	comp=Z,4.2nm,0.8s,mb4.1,baz=196,slow=7.8,SNR=18						
SONM				PcP	PcP	16 17 53.7	+0.5
	comp=Z,0.9nm,0.6s,baz=207,slow=2.8,SNR=3.6						
ULN	**Ulaanbaatar**	**41.56**	**13**	*eP*	**P**	**16 15 56.3**	**+0.5**
	comp=Z,6.2nm,0.9s,mb4.2						
KURK	**Kurchatov**	**44.78**	**346**	*eP*	**P**	**16 16 21.3**	**-0.7**
	comp=Z,5.2nm,0.9s,mb4.4						
NWAO	**Narrogin (SRO)**	**46.02**	**153**	P	**P**	**16 16 34.0**	**+1.9**
	comp=Z,7.0nm,0.6s,mb4.8,baz=309,slow=5.9,SNR=9.3						
ZAL	**Zalesovo**	**46.73**	**353**	P	**P**	**16 16 37.6**	**+0.2**
	comp=Z,5.8nm,0.4s,mb4.9,baz=302,slow=5.8,SNR=13						
HIA	**Hailar**	**46.75**	**23**	*eP*	**P**	**16 16 38.7**	**+1.0**
	comp=Z,25nm,1.1s,mb5.1						
MDJ	**Mudanjiang**	**48.04**	**34**	P	**P**	**16 16 43.4**	**-4.5**
WRA	**Warramunga Arr**	**48.24**	**125**	P	**P**	**16 16 50.0**	**+0.2**
	comp=Z,3.6nm,0.6s,mb4.6,baz=306,slow=8.4,SNR=36						
WRA				PcP	PcP	16 18 17.4	+0.2
	comp=Z,0.8nm,0.5s,baz=315,slow=2.8,SNR=7.3						
WRAB	**Tennant Creek**	**48.25**	**125**	*eP*	**P**	**16 16 49.6**	**-0.2**
	comp=Z,8.9nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**48.25**	**125**	*eP*	**P**	**16 16 50.1**	**+0.3**
RAYN	**Ar Rayn**	**49.06**	**294**	P	**P**	**16 16 57.0**	**+1.0**
	comp=Z,118nm,0.8s,SNR=16						
BVAR	**Borovoye Array**	**49.14**	**341**	P	**P**	**16 16 54.2**	**-2.0**
	comp=Z,0.9nm,0.8s,mb3.9,baz=143,slow=7.2,SNR=3.6						
BVAR				PcP	PcP	16 18 20.1	+0.1
	comp=Z,1.2nm,0.6s,baz=144,slow=6.3,SNR=4.6						
CHKZ	**Chkalovo**	**49.63**	**342**	*eP*	**P**	**16 16 58.4**	**-1.5**
	comp=Z,3.6nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**49.88**	**130**	P	**P**	**16 17 00.1**	**-2.2**
	comp=Z,1.6nm,0.5s,mb4.3,baz=304,slow=13,SNR=33						
PMG	**Port Moresby**	**55.59**	**107**	*eP*	**P**	**16 17 45.6**	**+0.6**
	comp=Z,16nm,0.9s,mb5.1						
KMBO	**Kilima Mbogo**	**57.28**	**264**	P	**P**	**16 17 59.8**	**+2.7**
	comp=Z,3.4nm,0.8s,mb4.4,baz=47,slow=12,SNR=7.2						
KMBO	**Kilima Mbogo**	**57.28**	**264**	*eP*	**P**	**16 17 59.6**	**+2.5**
	comp=Z,5.4nm,1.0s,mb4.5						
ASF	**Jabal al Asfar**	**58.23**	**303**	P	**P**	**16 18 04.5**	**+1.1**
	comp=Z,2.8nm,1.1s,mb4.2,baz=54,slow=2.3,SNR=3.6						
STKA	**Stephens Creek**	**60.05**	**134**	P	**P**	**16 18 16.5**	**+0.3**
	comp=Z,2.3nm,0.6s,mb4.4,baz=324,slow=7.2,SNR=12						
STKA	**Stephens Creek**	**60.05**	**134**	*eP*	**P**	**16 18 16.1**	**-0.1**
BRTR	**Keskin Array B**	**62.47**	**311**	P	**P**	**16 18 30.2**	**-2.2**
	comp=Z,2.0nm,0.7s,mb4.4,baz=124,slow=6.9,SNR=11						
BRTR				pP	pP	16 18 38.0	+2.5
	comp=Z,1.7nm,0.7s,baz=119,slow=7.3,SNR=6.6						
MA2	**Magadan**	**67.00**	**28**	*eP*	**P**	**16 19 02.0**	**+0.6**
	comp=Z,20nm,0.9s,mb5.1						
AKASG	**Malin Array Be**	**68.24**	**322**	P	**P**	**16 19 07.4**	**-2.0**
	comp=Z,0.7nm,0.6s,mb3.9,baz=89,slow=5.1,SNR=4.7						
MLR	**Muntele Rosu**	**69.23**	**316**	P	**P**	**16 19 15.7**	**+0.1**
	comp=Z,4.7nm,0.8s,mb4.5,baz=195,slow=3.5,SNR=8.7						
JOF	**Joensuu**	**70.98**	**335**	*ep*	**P**	**16 19 25.1**	**-0.9**
	comp=Z,8.9nm,0.7s,mb4.8						
FINES	**FINESS Array B**	**72.83**	**332**	P	**P**	**16 19 36.5**	**-0.5**
	comp=Z,7.7nm,0.8s,mb4.7,baz=89,slow=6.3,SNR=21						
KAF	**Kangasniemi**	**72.91**	**333**	*ep*	**P**	**16 19 36.5**	**-1.0**
	comp=Z,1.7nm,0.4s,mb4.3,baz=114,slow=5.6						
ARCES	**ARCESS Array B**	**75.41**	**340**	P	**P**	**16 19 51.7**	**-0.1**
	comp=Z,4.7nm,1.0s,mb4.4,baz=99,slow=4.7,SNR=11						
BRG	**Berggiesshubel**	**77.83**	**320**	P	pP	16 20 11.9	+3.1
	comp=Z,5.7nm,1.3s						
GERES	**GERESS Array B**	**77.89**	**318**	P	**P**	**16 20 06.2**	**+0.2**
	comp=Z,3.4nm,0.8s,mb4.4,baz=86,slow=5.5,SNR=17						
GERES				pP	pP	16 20 12.3	+3.1
	comp=Z,2.2nm,0.7s,baz=90,slow=4.0,SNR=8.3						
GERES				sP	sP	16 20 14.3	+3.9
	comp=Z,2.9nm,0.9s,baz=101,slow=6.8,SNR=5.9						
KHC	**

2.9nm,1.1s,baz=101,slow=9.7,SNR=4.0
GERES GERESS Array B 77.63 318 P P 16 26 09.1 +5.3
0.5nm,0.6s,baz=121,slow=7.8,SNR=4.8

IDC 27 16:14:41.0±6.7,5.37N×76.66W,h179km±77km,mb3.0/1, mb1 3.1/3,mb1mx3.0/18,mbtmp3.5/3,Error ellipse: s-maj=122.4km s-min=34.5km az=95.0,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.38**	**102**	P	P	16 15 22.8	+0.1
	1.7nm,0.3s,baz=98,slow=23,SNR=4.3						
SDV	**Santo Domingo**	**6.93**	**59**	P	P	16 16 20.4	-0.6
	0.7nm,0.3s,baz=236,slow=12,SNR=6.9						
SDV				S	S	16 17 49.7	+11
	0.7nm,0.3s,baz=320,slow=17,SNR=2.2						
YKA	**Yellowknife Ar**	**63.46**	**341**	P	P	16 24 51.5	-2.3
	0.3nm,0.6s,baz=134,slow=6.3,SNR=7.0						
ASAR	**Alice Springs**	**145.40**	**235**	PKPbc	PKPbc	16 33 57.8	-1.2
	0.8nm,0.5s,baz=118,slow=3.7,SNR=13						
WRA	**Warramunga Arr**	**146.56**	**242**	PKPbc	PKPbc	16 34 01.7	-0.1
	0.4nm,0.6s,baz=102,slow=2.8,SNR=4.6						

*IDC **27** 16:16:59.4±0.7,8.00N×94.18E,mb4.1/12,mb1 4.3/13, mb1mx4.2/18,mbtmp4.1/13,ML4.5/1,Error ellipse: s-maj=32.6km s-min=17.6km az=50.0*
*BJI **27** 16:17:03.0,7.91N×93.20E,h27km,mb4.2,Ms4.7,Msz4.2*
*NEIC **27** 16:17:03.0±0.5,7.73N×93.99E,h30km,mb4.5/11,Error ellipse: s-maj=14.5km s-min=9.3km az=68.0*

ISC 27 16:17:01.6±0.6,7.77N±0.08×94.1E±0.1,h33km,n33, σ1§20/28,mb4.2/20,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.62**	**23**	*eP*	**P**	**16 19 48.1**	**-0.1**
	19nm,1.2s						
CMAR	**Chiang Mai Arr**	**11.62**	**23**	Pn	**P**	**16 19 49.0**	**+0.8**
	0.9nm,0.3s,baz=211,slow=14,SNR=9.2						
HYB	**Hyderabad**	**17.93**	**304**	*i* P	**P**	**16 21 14.0**	**+3.8**
KMI	**Kunming**	**19.13**	**25**	P		16 21 30.9	
	12nm,1.1s						
LSA	**Lhasa**	**21.99**	**353**	*eP*	**P**	**16 21 56.8**	**+2.2**
	20nm,0.9s,mb4.5						
ENH	**Enshi**	**26.63**	**31**	P	**P**	**16 22 41.0**	**+1.8**
	12nm,1.1s,mb4.3						
AAK	**Ala-Archa**	**38.78**	**337**	*eP*	**P**	**16 24 25.1**	**+0.3**
	4.3nm,0.8s,mb4.2						
SONM	**Songino Array**	**41.27**	**13**	P	**P**	**16 24 45.4**	**0.0**
	1.3nm,0.9s,mb3.6,baz=195,slow=6.8,SNR=4.3						
SONM				PcP	PcP	16 26 46.2	+1.9
	0.5nm,0.5s,baz=211,slow=3.1,SNR=3.9						
ULN	**Ulaanbaatar**	**41.45**	**13**	P	**P**	**16 24 44.1**	**-2.7**
	1.7nm,1.0s,mb3.6						
KURK	**Kurchatov**	**44.70**	**346**	*eP*	**P**	**16 25 12.1**	**-1.1**
	12nm,1.2s,mb4.6						
ZAL	**Zalesovo**	**46.64**	**352**	P	**P**	**16 25 28.4**	**-0.2**
	3.7nm,0.5s,mb4.6,baz=293,slow=6.8,SNR=15						
WRA	**Warramunga Arr**	**48.23**	**125**	P	**P**	**16 25 42.5**	**+0.9**
	1.6nm,0.8s,mb4.1,baz=304,slow=9.4,SNR=7.8						
WRAB	**Tennant Creek**	**48.24**	**125**	*eP*	**P**	**16 25 41.0**	**-0.5**
BVAR	**Borovoye Array**	**49.07**	**341**	P	**P**	**16 25 46.4**	**-1.1**
	1.2nm,0.8s,mb4.0,baz=153,slow=9.9,SNR=5.7						
BVAR				PcP	PcP	16 27 12.5	+1.2
	0.5nm,0.5s,baz=153,slow=3.2,SNR=3.3						
BVAR	**Borovoye Array**	**49.07**	**341**	P	**P**	**16 25 46.4**	**-1.1**
BVAR				PcP	PcP	16 27 12.5	+1.2
CHKZ	**Chkalovo**	**49.56**	**342**	*eP*	**P**	**16 25 50.3**	**-1.0**
	7.7nm,0.8s,mb4.8						
ASAR	**Alice Springs**	**49.88**	**130**	P	**P**	**16 25 54.4**	**+0.2**
	2.3nm,1.0s,mb4.2,baz=308,slow=7.8,SNR=8.5						
ASAR				PcP	PcP	16 27 15.9	+1.3
	0.8nm,0.7s,baz=323,slow=3.9,SNR=4.8						
KMBO	**Kilima Mbogo**	**57.37**	**264**	P	**P**	**16 26 52.8**	**+3.2**
	1.8nm,0.6s,mb4.3,baz=52,slow=14,SNR=6.8						
KMBO	**Kilima Mbogo**	**57.37**	**264**	*eP*	**P**	**16 26 52.6**	**+3.1**
	3.2nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**60.06**	**134**	P	**P**	**16 27 07.2**	**-0.9**
BRTR	**Keskin Array B**	**62.47**	**311**	P	**P**	**16 27 22.9**	**-1.2**
	0.7nm,0.6s,mb4.0,baz=133,slow=8.2,SNR=3.4						
MA2	**Magadan**	**66.88**	**28**	*eP*	**P**	**16 27 51.6**	**-0.7**
	13nm,1.1s,mb4.9						
AKASG	**Malin Array Be**	**68.21**	**322**	P	**P**	**16 27 59.3**	**-1.5**
	2.2nm,0.9s,mb4.2,baz=90,slow=4.7,SNR=5.5						
FINES	**FINESS Array B**	**72.78**	**332**	P	**P**	**16 28 28.2**	**-0.1**
	3.5nm,0.8s,mb4.4,baz=129,slow=12,SNR=8.2						
ARCES	**ARCESS Array B**	**75.35**	**340**	P	**P**	**16 28 43.3**	**+0.2**
	2.0nm,0.8s,mb4.1,baz=108,slow=3.8,SNR=4.0						
GERES	**GERESS Array B**	**77.88**	**318**	P	**P**	**16 28 58.6**	**+0.9**
	1.4nm,0.8s,mb4.0,baz=90,slow=4.0,SNR=8.9						
NB2	**NORSAR Subarra**	**79.80**	**331**	P	**P**	**16 29 07.7**	**-0.3**
	1.4nm,0.7s,mb4.0,baz=94,slow=5.0						
NOA	**NORSAR Array B**	**79.80**	**331**	P	**P**	**16 29 07.5**	**-0.4**
	1.9nm,0.7s,mb4.1,baz=92,slow=5.6,SNR=6.0						
LPG	**La Plagne**	**82.66**	**315**	*eP*	**P**	**16 29 25.8**	**+2.6**
	16nm,1.0s,mb4.7						
NVAR	**Mina Array Bea**	**125.03**	**31**	PKP	PKPdf	16 36 02.4	+3.3
	0.2nm,0.4s,baz=302,slow=1.7,SNR=3.7						
NVAR	**Mina Array Bea**	**125.03**	**31**	PKP	PKPdf	16 36 02.4	+3.3
PDAR	**Pinedale Array**	**125.28**	**21**	PKP	PKPdf	16 36 01.9	+2.5
	0.6nm,0.7s,baz=180,slow=1.5,SNR=5.1						
PLCA	**Paso Flores**	**144.44**	**200**	PKP	PKPdf	16 36 38.8	+4.0
	1.3nm,0.6s,baz=119,slow=6.9,SNR=4.0						

*IDC **27** 16:21:07.8±1.0,7.71N×93.95E,mb4.0/9,mb1 4.1/10, mb1mx4.0/18,mbtmp3.9/10,Error ellipse: s-maj=40.0km s-min=20.4km az=54.0*

ISC 27 16:21:07.7±0.8,7.7N±0.1×94.1E±0.2,h10km,n19, σ0§81/17,mb4.1/11,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.68**	**23**	Pn	**P**	**16 23 57.1**	**-0.5**
	baz=219,slow=12,SNR=3.9						
JIRN	**Jiri**	**21.20**	**340**	*eP*	**P**	**16 25 56.3**	**+0.4**
PKI	**Pulchoki**	**21.39**	**338**	*eP*	**P**	**16 25 58.2**	**+0.4**
DMN	**Daman**	**21.54**	**338**	*eP*	**P**	**16 26 00.7**	**+1.4**
	39nm,1.2s,mb4.7						
KKN	**Kakani**	**21.64**	**338**	*eP*	**P**	**16 26 01.0**	**+0.7**
GKN	**Gorkha**	**22.07**	**337**	*eP*	**P**	**16 26 04.3**	**-0.3**
KOLN	**Koldanda**	**22.28**	**335**	*eP*	**P**	**16 26 06.2**	**-0.5**
	53nm,1.3s,mb4.8						
SONM	**Songino Array**	**41.34**	**13**	P	**P**	**16 28 55.0**	**-0.3**
	1.1nm,0.9s,mb3.5,baz=198,slow=7.8,SNR=5.9						
ZAL	**Zalesovo**	**46.70**	**352**	P	**P**	**16 29 38.4**	**0.0**
	3.9nm,1.0s,mb4.3,baz=296,slow=9.2,SNR=13						
WRA	**Warramunga Arr**	**48.22**	**125**	P	**P**	**16 29 50.8**	**0.0**
	1.0nm,0.7s,mb4.0,baz=304,slow=8.8,SNR=4.8						
BVAR	**Borovoye Array**	**49.12**	**341**	P	**P**	**16 29 57.1**	**-0.3**
	0.9nm,0.8s,mb3.9,baz=141,slow=9.5,SNR=5.1						
ASAR	**Alice Springs**	**49.86**	**130**	P	**P**	**16 30 03.9**	**+0.5**
	1.6nm,1.0s,mb4.0,baz=306,slow=6.9,SNR=5.6						
BRTR	**Keskin Array B**	**62.49**	**311**	P	**P**	**16 31 31.6**	**-2.2**
	1.0nm,0.7s,mb4.0,baz=90,slow=7.4,SNR=5.4						
FINES	**FINESS Array B**	**72.83**	**332**	P	**P**	**16 32 37.0**	**-1.3**
	3.3nm,0.8s,mb4.3,baz=131,slow=13,SNR=4.9						
GERES	**GERESS Array B**	**77.91**	**318**	P	**P**	**16 33 08.4**	**+1.0**
	1.5nm,0.8s,mb4.0,baz=90,slow=4.0,SNR=8.1						
NB2	**NORSAR Subarra**	**79.84**	**331**	P	**P**	**16 33 18.1**	**+0.4**
	1.0nm,0.8s,mb3.8,baz=95,slow=5.3						
NOA	**NORSAR Array B**	**79.84**	**331**	P	**P**	**16 33 18.4**	**+0.7**
	1.4nm,0.8s,mb4.0,baz=91,slow=5.7,SNR=3.6						
PDAR	**Pinedale Array**	**125.34**	**21**	PKP	PKPdf	16 40 11.6	-0.8
	0.7nm,0.9s,baz=90,slow=1.5,SNR=4.0						
PLCA	**Paso Flores**	**144.37**	**200**	PKP	PKPdf	16 40 46.7	-0.8
	3.2nm,1.0s,baz=196,slow=8.9,SNR=4.9						

IDC 27 16:21:36.8±3.0,7.68N×94.01E,mb4.0/8,mb1 4.2/9, mb1mx4.0/18,mbtmp4.0/9,ML4.1/1,Error ellipse: s-maj=72.0km s-min=41.1km az=144.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.74**	**24**	Pn	P	16 24 26.5	-2.1
	0.3nm,0.3s,baz=222,slow=14,SNR=5.1						
SONM	**Songino Array**	**41.38**	**13**	P	P	16 29 24.3	-1.9
	1.5nm,0.9s,baz=203,slow=9.4,SNR=5.2						
ZAL	**Zalesovo**	**46.72**	**353**	P	P	16 30 07.5	-1.8
	2.5nm,1.0s,baz=304,slow=12,SNR=4.0						
BVAR	**Borovoye Array**	**49.13**	**341**	P	P	16 30 25.5	-2.6
	0.7nm,0.8s,baz=144,slow=13,SNR=4.1						
BRTR	**Keskin Array B**	**62.46**	**311**	P	P	16 32 02.5	-1.8
	0.8nm,0.8s,baz=142,slow=10,SNR=2.6						
AKASG	**Malin Array Be**	**68.22**	**322**	P	P	16 32 38.3	-3.0
	0.1nm,0.3s,baz=88,slow=4.9,SNR=3.2						
FINES	**FINESS Array B**	**72.82**	**332**	P	P	16 33 07.3	-1.6
	4.7nm,1.1s,baz=153,slow=6.2,SNR=3.2						
ARCES	**ARCESS Array B**	**75.40**	**340**	P	P	16 33 22.5	-1.3
	5.1nm,1.1s,baz=68,slow=4.9,SNR=4.3						
GERES	**GERESS Array B**	**77.88**	**318**	P	P	16 33 37.5	-0.5
	0.9nm,0.7s,baz=76,slow=5.5,SNR=4.0						
PDAR	**Pinedale Array**	**125.39**	**21**	PKP	PKPdf	16 40 40.0	-2.1
	0.7nm,0.9s,baz=45,slow=2.1,SNR=3.8						
PDAR	**Pinedale Array**	**125.39**	**21**	PKP	PKPdf	16 40 40.0	-2.1

*BJI **27** 16:21:51.9,8.20N×94.10E,h30km,mB5.3,mb4.7*
*IDC **27** 16:21:52.2±0.7,8.10N×93.87E,h15km±3km,mb4.2/15, mb1 4.3/16,mb1mx4.3/21,mbtmp4.2/16,ML4.0/1,Error ellipse: s-maj=30.9km s-min=17.2km az=44.0*
*NEIC **27** 16:21:55.0±0.4,8.25N×94.06E,h30km,mb4.7/16,Error ellipse: s-maj=12.7km s-min=11.0km az=68.0*

ISC 27 16:21:55.7±2.5,8.26N±0.09×94.18E±0.09,h52km±21km, h13km±3.1km:pP-P,n48,σ1§11/41,mb4.5/28,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.14**	**24**	P	**P**	**16 24 33.4**	**-1.7**
	31nm,1.2s						
CMAR	**Chiang Mai Arr**	**11.14**	**24**	Pn	**P**	**16 24 35.5**	**+0.4**
	0.3nm,0.3s,baz=222,slow=13,SNR=7.2						
HYB	**Hyderabad**	**17.73**	**302**	*i* P	**P**	**16 26 02.5**	**+1.8**
LSA	**Lhasa**	**21.52**	**353**	*eP*	**P**	**16 26 45.9**	**+3.6**
	30nm,0.7s,mb4.8						
ENH	**Enshi**	**26.17**	**31**	*eP*	**P**	**16 27 18.0**	**-9.3**
AAK	**Ala-Archa**	**38.37**	**336**	*eP*	**P**	**16 29 14.1**	**+0.6**
	8.0nm,0.9s,mb4.5						
SONM	**Songino Array**	**40.78**	**13**	P	**P**	**16 29 34.2**	**+0.8**
	2.2nm,0.9s,mb3.8,baz=193,slow=6.4,SNR=5.7						
SONM				PcP	PcP	16 31 35.1	+0.6
	0.8nm,0.5s,baz=202,slow=3.5,SNR=5.4						
ULN	**Ulaanbaatar**	**40.96**	**13**	*eP*	**P**	**16 29 33.2**	**-1.7**
	3.8nm,0.9s,mb4.0						
KURK	**Kurchatov**	**44.25**	**346**	*eP*	**P**	**16 30 02.6**	**+0.8**
	34nm,1.4s,mb4.9						
HIA	**Hailar**	**46.16**	**23**	*eP*	**P**	**16 30 17.6**	**+0.7**
	9.0nm,1.0s,mb4.7						
ZAL	**Zalesovo**	**46.17**	**352**	P	**P**	**16 30 18.2**	**+1.2**
	5.6nm,1.0s,mb4.5,baz=288,slow=9.2,SNR=6.2						
MDJ	**Mudanjiang**	**47.47**	**34**	*eP*	**P**	**16 30 26.8**	**-0.6**
	18nm,1.2s,mb4.9						
WRA	**Warramunga Arr**	**48.45**	**126**	P	**P**	**16 30 36.6**	**+1.3**
	1.8nm,0.5s,mb4.4,baz=304,slow=8.6,SNR=5.5						
WRAB	**Tennant Creek**	**48.45**	**126**	*eP*	**P**	**16 30 32.7**	**-2.6**
	11nm,1.0s,mb4.9						
BVAR	**Borovoye Array**	**48.64**	**341**	P	**P**	**16 30 35.8**	**-0.5**
	3.8nm,1.1s,mb4.4,baz=135,slow=6.3,SNR=6.7						
CHKZ	**Chkalovo**	**49.12**	**342**	*eP*	**P**	**16 30 39.8**	**-0.2**
	20nm,1.0s,mb5.1						
ASAR	**Alice Springs**	**50.13**	**130**	P	**P**	**16 30 47.7**	**-0.5**
	1.3nm,0.7s,mb4.1,baz=308,slow=7.5,SNR=5.5						
PMG	**Port Moresby**	**55.61**	**107**	*eP*	**P**	**16 31 33.3**	**+4.3**
	10nm,0.7s,mb5.0						
KMBO	**Kilima Mbogo**	**57.51**	**263**	P	**P**	**16 31 43.5**	**+1.0**
	5.3nm,1.0s,mb4.5,baz=51,slow=11,SNR=6.5						
KMBO	**Kilima Mbogo**	**57.51**	**263**	*eP*	**P**	**16 31 43.3**	**+0.7**
	8.8nm,1.1s,mb4.7						
EIL	**Elat**	**59.27**	**300**	P	**P**	**16 31 53.2**	**-1.3**
	2.1nm,0.6s,mb4.4,baz=36,slow=6.6,SNR=4.3						
STKA	**Stephens Creek**	**60.34**	**134**	*eP*	**P**	**16 32 03.5**	**+1.5**
BRTR	**Keskin Array B**	**62.21**	**311**	P	**P**	**16 32 12.0**	**-2.4**
	3.0nm,0.8s,mb4.5,baz=125,slow=7.2,SNR=5.8						
BRTR				pP	pP	16 32 17.7	-11
	2.6nm,0.7s,baz=149,slow=5.5,SNR=6.8						
AKASG	**Malin Array Be**	**67.88**	**322**	P	**P**	**16 32 48.9**	**-1.8**
	3.4nm,0.8s,mb4.4,baz=85,slow=5.2,SNR=7.3						
AKASG				pP	pP	16 32 54.0	-11
	2.0nm,0.6s,baz=87,slow=5.0,SNR=5.0						
FINES	**FINESS Array B**	**72.39**	**332**	P	**P**	**16 33 17.6**	**-0.3**
	3.5nm,0.7s,mb4.4,baz=101,slow=9.7,SNR=5.8						
OJC	**Ojcow**	**73.71**	**320**	*eP*	**P**	**16 33 25.9**	**0.0**
LBTB	**Lobatse**	**74.46**	**241**	*eP*	**P**	**16 33 29.2**	**-1.6**
	5.2nm,0.8s,mb4.5						
BRG	**Berggiesshubel**	**77.48**	**320**	*eP*	**P**	**16 33 48.0**	**+0.6**
	3.3nm,0.9s,mb4.3						
GERES	**GERESS Array B**	**77.57**	**318**	P	**P**	**16 33 47.8**	**-0.1**
	3.5nm,0.7s,mb4.4,baz=90,slow=5.3,SNR=12						
KHC	**Kasperske Hory**	**77.66**	**318**	P	**P**	**16 33 48.0**	**-0.4**
CLL	**Collm**	**78.09**	**321**	P	**P**	**16 33 51.0**	**+0.3**
GRA1	**Grafenberg Arr**	**79.20**	**319**	*eP*	**P**	**16 33 57.4**	**+0.5**
	6.0nm,0.8s,mb4.6						
GRA1				*e*pP	pP	16 34 03.8	-7.9
GRF	**Grafenberg Arr**	**79.20**	**319**	*eP*	**P**	**16 33 57.4**	**+0.5**
	6.0nm,0.8s,mb4.6						
GRF				*e*pP	pP	16 34 03.8	-7.9
NB2	**NORSAR Subarra**	**79.42**	**331**	P	**P**	**16 33 57.5**	**-0.3**
	3.4nm,0.7s,mb4.4,baz=92,slow=5.8						
NOA	**NORSAR Array B**	**79.42**	**331**	P	**P**	**16 33 57.5**	**-0.3**
	0.8nm,0.7s,mb3.8,baz=118,slow=3.8,SNR=4.6						
NOA				pP	pP	16 34 02.9	-10
	3.3nm,0.8s,baz=91,slow=5.7,SNR=5.4						
NOA	**NORSAR Array B**	**79.42**	**331**	P	**P**	**16 33 57.5**	**-0.3**
NOA				pP	pP	16 34 02.9	-10
DAVOX	**Davos**	**80.14**	**316**	P	**P**	**16 34 02.5**	**+0.5**
	3.6nm,0.6s,mb4.5,baz=97,slow=6.8,SNR=3.9						
LPG	**La Plagne**	**82.38**	**315**	*eP*	**P**	**16 34 13.8**	**+0.1**
	15nm,0.8s,mb4.7						
EKA	**Eskdalemuir Ar**	**87.43**	**325**	P	**P**	**16 34 38.2**	**-0.4**
	3.9nm,1.0s,mb4.6,baz=98,slow=5.0						
IMA	**Indian Mountai**	**91.25**	**22**	*eP*	**P**	**16 34 58.4**	**+2.0**
ILAR	**Eielson Array**	**94.38**	**22**	P	**P**	**16 35 11.1**	**+0.4**
	0.4nm,0.9s,mb3.9,baz=279,slow=4.5,SNR=4.2						
ILAR				pP	pP	16 35 16.7	-9.2
	0.4nm,0.7s,baz=279,slow=4.2,SNR=3.1						
YKA	**Yellowknife Ar**	**106.05**	**13**	PP	PP	16 40 26.3	-3.4
	0.2nm,0.8s,baz=324,slow=7.5,SNR=4.7						
NVAR	**Mina Array Bea**	**124.57**	**31**	PKP	PKPdf	16 40 52.6	+2.7
	0.7nm,0.7s,baz=308,slow=1.9,SNR=3.2						
NVAR				pPKP		16 40 58.2	
	0.4nm,0.5s,baz=352,slow=1.0,SNR=3.1						
PDAR	**Pinedale Array**	**124.80**	**21**	PKP	PKPdf	16 40 51.9	+1.7
	0.8nm,0.7s,baz=45,slow=2.1,SNR=5.9						
PDAR				pPKP		16 40 57.5	
	0.9nm,0.8s,slow=1.5,SNR=4.1						
PDAR	**Pinedale Array**	**124.80**	**21**	PKP	PKPdf	16 40 51.9	+1.7
PDAR				pPKP		16 40 57.5	
TXAR	**Lajitas Array**	**138.86**	**24**	PKiKP		16 41 21.1	
	0.2nm,0.4s,slow=1.8,SNR=2.9						
TXAR				pPKiKP		16 41 26.8	
	0.2nm,0.4s,baz=90,slow=1.3,SNR=2.9						
PLCA	**Paso Flores**	**144.92**	**200**	PKP	PKPdf	16 41 27.3	-0.1
	4.7nm,0.8s,baz=179,slow=4.2,SNR=5.6						
PLCA				pPKP		16 41 33.2	
	9.9nm,0.9s,baz=207,slow=2.1,SNR=7.2						
PLCA	**Paso Flores**	**144.92**	**200**	PKP	PKPdf	16 41 27.3	-0.1
PLCA				pPKP		16 41 33.2	

IDC 27 16:27:49.4±6.2,7.37N×94.18E,mb4.0/6,mb1 4.1/7, mb1mx3.8/19,mbtmp3.9/7,ML3.5/1,Error ellipse: s-maj=156.5km s-min=48.6km az=139.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.95**	**22**	Pn	P	16 30 42.3	-1.9
	0.1nm,0.3s,baz=213,slow=14,SNR=4.9						
SONM	**Songino Array**	**41.64**	**12**	P	P	16 35 39.2	-1.9
	0.8nm,0.8s,baz=191,slow=6.3,SNR=4.1						
ZAL	**Zalesovo**	**47.05**	**352**	P	P	16 36 22.2	-2.3
	3.1nm,0.9s,baz=292,slow=7.6,SNR=7.7						
FINES	**FINESS Array B**	**73.17**	**332**	P	P	16 39 24.9	+1.2
	2.4nm,1.0s,baz=90,slow=3.8,SNR=3.4						
GERES	**GERESS Array B**	**78.23**	**318**	P	P	16 39 51.7	-0.9
	0.5nm,0.6s,baz=90,slow=5.3,SNR=4.2						
HFS	**Hagfors**	**78.91**	**330**	P	P	16 39 54.6	-1.5
	2.3nm,0.8s,baz=112,slow=7.8,SNR=4.7						
NOA	**NORSAR Array B**	**80.19**	**331**	P	P	16 40 01.6	-1.3
	1.1nm,0.8s,baz=98,slow=3.9,SNR=3.4						

*NEIC **27** 16:28:27.3,39.35S×174.57E,h219km,After WEL.*

WEL 27 16:28:29.4±0.3,39.38S×174.60E,h199km±2km,ML3.8/5, 7C-6D,Error ellipse: s-maj=2.0km s-min=1.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAEZ	**Rainy Point**	**0.19**	**300**	P	P	16 28 55.5	-0.4
RAEZ	**Rainy Point**	**0.19**	**300**	PN	P	16 28 55.5	-0.5
DFE	**Dawson Falls**	**0.39**	**278**	PN	P	16 28 56.0	-0.4
NEZ	**North Egmont**	**0.41**	**286**	P	P	16 28 56.1	-0.4
NEZ	**North Egmont**	**0.41**	**286**	PN	P	16 28 56.0	-0.4
WAZ	**Wanganui**	**0.48**	**142**	P	P	16 28 56.9	+0.2
WAZ				S	S	16 29 18.4	+0.6
WAZ	**Wanganui**	**0.48**	**142**	PN	P	16 28 56.8	+0.1
WAZ				SN	S	16 29 18.3	+0.5
PKE	**Pukeiti**	**0.51**	**291**	P	P	16 28 56.0	-0.8
PKE	**Pukeiti**	**0.51**	**291**	PN	P	16 28 56.0	-0.8
NRZ	**Ngariki Road**	**0.52**	**275**	P	P	16 28 56.3	-0.6
NRZ	**Ngariki Road**	**0.52**	**275**	PN	P	16 28 56.2	-0.6
NWEZ	**Newall Road**	**0.58**	**280**	P	P	16 28 56.4	-0.7
NWEZ	**Newall Road**	**0.58**	**280**	PN	P	16 28 56.4	-0.7
TWVZ	**Taurewa**	**0.72**	**65**	P	P	16 28 57.0	-0.7
TWVZ	**Taurewa**	**0.72**	**65**	PN	P	16 28 57.0	-0.7
FWVZ	**Far West T-bar**	**0.75**	**81**	P	P	16 28 57.7	-0.1
FWVZ	**Far West T-bar**	**0.75**	**81**	PN	P	16 28 57.6	-0.2
WPVZ	**Whakapapa**	**0.75**	**77**	P	P	16 28 57.6	-0.3
WPVZ	**Whakapapa**	**0.75**	**77**	PN	P	16 28 57.6	-0.2
CNZ	**Chateau**	**0.76**	**76**	P	P	16 28 57.6	-0.3
CNZ	**Chateau**	**0.76**	**76**	PN	P	16 28 57.6	-0.3
WNVZ	**Wahianoa**	**0.77**	**86**	P	P	16 28 56.4	-1.6
NGZ	**Ngauruhoe**	**0.80**	**75**	P	P	16 28 57.9	-0.2
NGZ	**Ngauruhoe**	**0.80**	**75**	⇓PN	P	16 28 57.9	-0.2
WTVZ	**West Tongariro**	**0.81**	**71**	P	P	16 28 57.8	-0.4
WTVZ	**West Tongariro**	**0.81**	**71**	⇓PN	P	16 28 57.8	-0.3
WTVZ				SN	S	16 29 19.5	-0.9
MGZ	**Maungaku**	**0.82**	**63**	PN	P	16 28 57.7	-0.5
TUVZ	**Tukino**	**0.82**	**82**	P	P	16 28 58.3	+0.1
TUVZ	**Tukino**	**0.82**	**82**	PN	P	16 28 58.2	0.0
OTVZ	**Oturere**	**0.85**	**76**	PN	P	16 28 58.2	-0.2
KRVZ	**Karewarewa**	**0.86**	**71**	PN	P	16 28 57.9	-0.5
KRVZ				SN	S	16 29 20.0	-0.8
HIZ	**Hauiti**	**0.89**	**13**	SN	S	16 29 19.1	-2.1
MOVZ	**Moawhango**	**0.89**	**92**	P	P	16 28 58.1	-0.5
MOVZ	**Moawhango**	**0.89**	**92**	⇓PN	P	16 28 58.1	-0.5
MOVZ				SN	S	16 29 19.3	-1.9
KATZ	**Kakaramea**	**0.94**	**65**	P	P	16 28 58.4	-0.5
KATZ	**Kakaramea**	**0.94**	**65**	PN	P	16 28 58.3	-0.6
KATZ				SN	S	16 29 20.9	-0.9
WATZ	**Wairara**	**1.11**	**53**	P	P	16 28 59.4	-0.7
WATZ	**Wairara**	**1.11**	**53**	PN	P	16 28 59.4	-0.7
WATZ				SN	S	16 29 22.4	-1.4
TSZ	**Takapari Road**	**1.25**	**123**	P	P	16 29 01.3	0.0
TSZ	**Takapari Road**	**1.25**	**123**	PN	P	16 29 01.2	0.0
TSZ				SN	S	16 29 25.1	-0.8
BKZ	**Black Stump Fm**	**1.48**	**82**	⇓PN	P	16 29 02.2	-1.1
MRZ	**Mangatainoka R**	**1.48**	**150**	P	P	16 29 02.8	-0.5
MRZ	**Mangatainoka R**	**1.48**	**150**	⇑PN	P	16 29 02.7	-0.6
MRZ				SN	S	16 29 27.9	-1.5
KIW	**Kapiti Island**	**1.50**	**171**	P	P	16 29 02.8	-0.6
KIW	**Kapiti Island**	**1.50**	**171**	⇑PN	P	16 29 02.8	-0.6
CAW	**Cannon Point**	**1.76**	**168**	P	P	16 29 05.1	-0.8
CAW	**Cannon Point**	**1.76**	**168**	PN	P	16 29 05.1	-0.8
BFZ	**Birch Farm**	**1.81**	**136**	*eP*	P	16 29 04.9	-1.4
BFZ	**Birch Farm**	**1.81**	**136**	SN	S	16 29 33.4	-1.4
MRW	**Makara Radio**	**1.85**	**178**	P	P	16 29 05.8	-0.9
MRW	**Makara Radio**	**1.85**	**178**	PN	P	16 29 05.8	-0.9
PWZ	**Pawanui**	**1.86**	**111**	P	P	16 29 06.5	-0.3
PWZ	**Pawanui**	**1.86**	**111**	⇓PN	P	16 29 06.4	-0.4
MTW	**Mount Morrison**	**1.90**	**159**	P	P	16 29 06.3	-1.0
MTW	**Mount Morrison**	**1.90**	**159**	⇑PN

FINES	FINESS Array B	72.98 332	P	P	16 41 31.9	-0.9
	1.7nm,0.7s,mb4.1,baz=108,slow=6.0,SNR=5.8					
ARCES	ARCESS Array B	75.54 340	P	P	16 41 47.5	-0.1
	3.9nm,0.8s,mb4.4,baz=108,slow=5.7,SNR=3.5					
GERES	GERESS Array B	78.08 318	P	P	16 42 02.4	+0.2
	0.5nm,0.7s,mb3.5,baz=76,slow=4.0,SNR=3.0					
HFS	Hagfors	78.72 330	P	P	16 42 05.2	-0.3
	3.1nm,0.9s,mb4.2,baz=101,slow=7.6,SNR=5.6					

*IDC **27** 16:33:01.1±0.8, 7.80N×93.93E, mb4.2/15, mb1 4.3/16, mb1mx4.2/23, mbtmp4.1/16, ML4.0/1, Error ellipse: s-maj=34.5km s-min=18.2km az=47.0*
*BJI **27** 16:33:04.6, 7.49N×93.71E, h56km, mb4.3*
*NEIC **27** 16:33:05.5±0.5, 7.83N×94.05E, h30km, mb4.5/11, Error ellipse: s-maj=15.1km s-min=11.6km az=63.0*

ISC 27 16:33:00.4±0.6, 7.78N±0.08×94.01E±0.10, h10km, n47, σ1º07/41, mb4.4/30, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.65	24	eP	P	16 35 50.1	+0.2
CMAR	Chiang Mai Arr	11.65	24	Pn	P	16 35 50.3	+0.4
	0.3nm,0.3s,baz=212,slow=14,SNR=8.1						
JIRN	Jiri	21.11	340	eP	P	16 37 48.0	+0.3
	70nm,1.1s,mb4.9						
PKI	Pulchoki	21.30	339	eP	P	16 37 49.9	+0.2
	40nm,0.5s,mb5.0						
DMN	Daman	21.45	338	eP	P	16 37 51.3	+0.2
	35nm,0.7s,mb4.8						
KKN	Kakani	21.55	339	eP	P	16 37 51.6	-0.5
LSA	Lhasa	21.97	353	eP	P	16 37 55.7	-0.6
	12nm,0.6s,mb4.5						
GKN	Gorkha	21.98	337	eP	P	16 37 56.6	+0.1
KOLN	Koldanda	22.19	335	eP	P	16 37 58.4	-0.2
	123nm,1.3s,mb5.2						
ENH	Enshi	26.67	31	eP	P	16 38 44.4	+2.8
	14nm,1.1s,mb4.4						
AAK	Ala-Archa	38.74	337	eP	P	16 40 25.3	-1.3
	5.8nm,1.0s,mb4.3						
SONM	Songino Array	41.28	13	P	P	16 40 48.0	+0.4
	1.2nm,0.9s,mb3.5,baz=199,slow=7.3,SNR=5.9						
SONM				PcP	PcP	16 42 47.8	+0.9
	0.8nm,0.7s,baz=199,slow=3.5,SNR=5.0						
ULN	Ulaanbaatar	41.46	13	P	P	16 40 50.8	+1.8
	2.7nm,1.1s,mb3.8						
KURK	Kurchatov	44.67	346	eP	P	16 41 13.3	-1.9
	11nm,1.2s,mb4.6						
ZAL	Zalesovo	46.62	353	P	P	16 41 30.9	+0.3
	2.5nm,0.5s,mb4.4,baz=292,slow=8.9,SNR=8.7						
ZAL	Zalesovo	46.62	353	P	P	16 41 30.9	+0.3
WRA	Warramunga Arr	48.31	125	P	P	16 41 44.3	0.0
	0.9nm,0.5s,mb4.1,baz=304,slow=8.5,SNR=8.2						
WRAB	Tennant Creek	48.31	125	eP	P	16 41 42.7	-1.6
BVAR	Borovoye Array	49.04	341	P	P	16 41 48.7	-0.7
	1.0nm,0.7s,mb3.9,baz=143,slow=10.0,SNR=5.9						
CHKZ	Chkalovo	49.52	342	eP	P	16 41 51.9	-1.3
	7.8nm,0.9s,mb4.7						
ASAR	Alice Springs	49.95	130	P	P	16 41 57.4	+0.5
	1.4nm,1.0s,mb4.0,baz=300,slow=7.7,SNR=5.6						
GNI	Garni	54.41	314	eP	P	16 42 36.8	+6.7
	45nm,0.7s,mb5.5						
ERM	Erimo	55.06	43	eP	P	16 42 31.9	-3.0
	5.1nm,0.8s,mb4.6						
KMBO	Kilima Mbogo	57.28	264	eP	P	16 42 55.0	+3.8
	8.3nm,1.1s,mb4.7						
EIL	Elat	59.36	300	P	P	16 43 06.2	+0.7
	3.0nm,0.9s,mb4.3,baz=88,slow=18,SNR=4.1						
BRTR	Keskin Array B	62.39	311	P	P	16 43 24.5	-1.4
	0.9nm,0.5s,mb4.1,baz=128,slow=6.9,SNR=4.1						
AKASG	Malin Array Be	68.15	322	P	P	16 44 01.4	-1.5
	0.6nm,0.5s,mb3.9,baz=22,slow=1.3,SNR=6.0						
MLR	Muntele Rosu	69.15	316	P	P	16 44 09.6	+0.4
	2.3nm,0.7s,mb4.2,baz=288,slow=23,SNR=3.1						
JOF	Joensuu	70.88	335	ep	P	16 44 18.7	-0.7
	8.1nm,1.4s,mb4.5						
FINES	FINESS Array B	72.73	332	P	P	16 44 30.3	-0.2
	4.4nm,1.0s,mb4.4,baz=109,slow=7.2,SNR=8.3						
FINES	FINESS Array B	72.73	332	P	P	16 44 30.3	-0.2
KAF	Kangasniemi	72.82	333	ep	P	16 44 30.6	-0.4
	baz=103,slow=5.0						
ARCES	ARCESS Array B	75.31	340	P	P	16 44 45.8	+0.5
	2.6nm,0.8s,mb4.2,baz=88,slow=5.7,SNR=8.6						
GERES	GERESS Array B	77.81	318	P	P	16 45 00.7	+1.1
	1.4nm,0.6s,mb4.1,baz=104,slow=5.4,SNR=15						
KHC	Kasperske Hory	77.90	319	eP	P	16 45 01.5	+1.3
HFS	Hagfors	78.47	330	P	P	16 45 03.5	+0.4
	3.0nm,0.4s,mb4.5,baz=104,slow=6.1,SNR=20						
GRA1	Grafenberg Arr	79.45	319	eP	P	16 45 10.6	+2.0
	5.0nm,1.0s,mb4.4						
GRF	Grafenberg Arr	79.45	319	eP	P	16 45 10.6	+2.0
	5.0nm,1.0s,mb4.4						
NB2	NORSAR Subarra	79.75	331	P	P	16 45 09.4	-0.6
	3.9nm,0.9s,mb4.3,baz=94,slow=5.8						
NOA	NORSAR Array B	79.75	331	P	P	16 45 09.8	-0.2
	1.2nm,0.6s,mb4.0,baz=95,slow=5.0,SNR=4.7						
EKA	Eskdalemuir Ar	87.73	325	P	P	16 45 52.4	+1.7
	1.5nm,0.8s,mb4.3,baz=117,slow=5.6,SNR=3.6						
YKA	Yellowknife Ar	106.55	13	PP	PP	16 51 40.7	-3.3
	0.1nm,0.4s,baz=149,slow=2.2,SNR=4.3						
NVAR	Mina Array Bea	125.07	31	PKP	PKPdf	16 52 04.9	+0.2
	0.2nm,0.3s,baz=355,slow=3.5,SNR=4.5						
PDAR	Pinedale Array	125.30	21	PKP	PKPdf	16 52 04.4	-0.7
	0.3nm,0.6s,baz=108,slow=4.7,SNR=4.2						
TXAR	Lajitas Array	139.37	24	PKiKP		16 52 35.4	
	0.9nm,0.4s,baz=138,slow=32,SNR=7.2						
PLCA	Paso Flores	144.41	200	PKP	PKPdf	16 52 41.0	+0.6
	3.9nm,0.9s,baz=130,slow=2.0,SNR=5.8						
PLCA	Paso Flores	144.41	200	PKP	PKPdf	16 52 41.0	+0.6

*IDC **27** 16:36:17.0±1.1, 7.71N×93.95E, mb4.0/8, mb1 4.2/9, mb1mx4.0/19, mbtmp4.0/9, ML3.8/1, Error ellipse: s-maj=46.5km s-min=21.3km az=55.0*

ISC 27 16:36:17.0±0.9, 7.8N±0.1×94.1E±0.2, h10km, n16, σ0º37/15, mb4.2/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.65	24	Pn	P	16 39 06.4	0.0
	0.2nm,0.3s,baz=212,slow=14,SNR=15						
JIRN	Jiri	21.15	340	eP	P	16 41 04.1	-0.5
	23nm,0.8s,mb4.6						
PKI	Pulchoki	21.34	338	eP	P	16 41 06.3	-0.3
	21nm,0.6s,mb4.6						
KKN	Kakani	21.59	338	eP	P	16 41 09.4	+0.3
	14nm,0.8s,mb4.5						
GKN	Gorkha	22.02	337	eP	P	16 41 13.2	-0.2
	26nm,0.7s,mb4.8						
KOLN	Koldanda	22.23	335	eP	P	16 41 15.9	+0.4
SONM	Songino Array	41.29	13	P	P	16 44 04.1	-0.1
	0.8nm,0.9s,mb3.3,baz=197,slow=8.9,SNR=4.1						
ZAL	Zalesovo	46.65	352	P	P	16 44 48.0	+0.7
	2.4nm,0.5s,mb4.4,baz=300,slow=7.5,SNR=5.9						
WRA	Warramunga Arr	48.26	125	P	P	16 45 00.3	-0.2
	0.8nm,0.6s,mb4.0,baz=304,slow=8.5,SNR=8.1						
ASAR	Alice Springs	49.90	130	P	P	16 45 13.2	+0.2
	0.7nm,0.8s,mb3.8,baz=302,slow=7.7,SNR=5.0						
FINES	FINESS Array B	72.78	332	P	P	16 47 46.8	-0.5
	2.0nm,0.9s,mb4.0,baz=90,slow=11,SNR=3.3						
GERES	GERESS Array B	77.86	318	P	P	16 48 16.9	+0.4
	0.8nm,0.7s,mb3.8,baz=90,slow=5.3,SNR=5.0						
HFS	Hagfors	78.51	330	P	P	16 48 19.9	+0.1
	1.6nm,0.6s,mb4.2,baz=108,slow=4.7,SNR=6.4						
NB2	NORSAR Subarra	79.79	331	P	P	16 48 26.2	-0.6
	2.2nm,0.9s,mb4.1,baz=92,slow=5.8						
NOA	NORSAR Array B	79.79	331	P	P	16 48 26.6	-0.1
	1.4nm,0.8s,mb4.0,baz=94,slow=5.8,SNR=3.6						
PDAR	Pinedale Array	125.30	21	PKP	PKPdf	16 55 21.2	-0.3
	0.4nm,0.7s,slow=0.9,SNR=3.3						

*IDC **27** 16:39:19.9±0.7, 8.03N×93.69E, mb4.2/16, mb1 4.3/17, mb1mx4.3/21, mbtmp4.2/17, ML4.1/1, Error ellipse: s-maj=35.1km s-min=14.0km az=56.0*
*BJI **27** 16:39:24.1, 7.66N×93.53E, h56km, mb4.6, Ms4.6, Msz4.1*
*NEIC **27** 16:39:24.2±0.5, 7.97N×93.67E, h30km, mb4.6/13, Error ellipse: s-maj=13.6km s-min=9.1km az=76.0*

ISC 27 16:39:19.0±0.6, 7.89N±0.08×93.85E±0.09, h10km, n48, σ1º02/45, mb4.4/30, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.62	25	eP	P	16 42 08.3	+0.3
	3.8nm,0.6s						
CMAR	Chiang Mai Arr	11.62	25	Pn	P	16 42 08.2	+0.1
	0.4nm,0.3s,baz=211,slow=15,SNR=13						
HYB	Hyderabad	17.66	304	eP	P	16 43 31.0	+4.0
HYB	Hyderabad	17.66	304	i P	P	16 43 31.0	+4.0
HYB				eS	S	16 46 54.5	+13
KMI	Kunming	19.13	25	P	P	16 43 48.1	+3.2
	10.0nm,1.3s						
KMI				pP		16 43 52.3	
KMI				S	S	16 47 20.9	+6.0
JIRN	Jiri	20.96	341	eP	P	16 44 05.3	+0.5
	42nm,0.9s						
PKI	Pulchoki	21.15	339	eP	P	16 44 07.3	+0.6
	51nm,1.0s,mb4.8						
DMN	Daman	21.29	338	eP	P	16 44 10.2	+2.1
	46nm,0.8s,mb4.8						
KKN	Kakani	21.39	339	eP	P	16 44 09.5	+0.3
GKN	Gorkha	21.82	338	eP	P	16 44 14.1	+0.6
	28nm,0.5s,mb4.9						
LSA	Lhasa	21.85	354	eP	P	16 44 13.7	-0.1
	21nm,0.8s,mb4.6						
KOLN	Koldanda	22.03	335	eP	P	16 44 16.9	+1.4
	50nm,1.0s,mb4.9						
ENH	Enshi	26.66	31	eP	P	16 45 00.0	0.0
	16nm,1.1s,mb4.5						
AAK	Ala-Archa	38.58	337	eP	P	16 46 42.7	-1.1
	16nm,1.4s,mb4.6						
SONM	Songino Array	41.21	13	P	P	16 47 05.3	-0.3
	1.4nm,0.8s,mb3.6,baz=197,slow=7.8,SNR=9.3						
SONM				PcP	PcP	16 49 04.7	-0.6
	0.9nm,0.7s,baz=204,slow=4.0,SNR=5.0						
SONM	Songino Array	41.21	13	P	P	16 47 05.3	-0.3
SONM				PcP	PcP	16 49 04.7	-0.6
ULN	Ulaanbaatar	41.39	13	eP	P	16 47 06.7	-0.4
	1.3nm,0.7s,mb3.7						
KURK	Kurchatov	44.53	346	eP	P	16 47 32.5	-0.2
	21nm,1.2s,mb4.8						
NWAO	Narrogin (SRO)	46.29	152	P	P	16 47 50.5	+3.6
	3.9nm,0.5s,mb4.6,baz=326,slow=6.8,SNR=5.6						
ZAL	Zalesovo	46.50	353	P	P	16 47 48.0	-0.1
	21nm,1.2s,mb5.0,baz=294,slow=6.4,SNR=21						
HIA	Hailar	46.62	23	P	P	16 47 48.2	-1.0
	9.9nm,1.5s,mb4.5						
WRA	Warramunga Arr	48.50	125	P	P	16 48 05.1	+0.7
	1.0nm,0.5s,mb4.1,baz=305,slow=8.4,SNR=11						
WRAB	Tennant Creek	48.51	125	eP	P	16 48 02.3	-2.1
	7.6nm,1.0s,mb4.7						
BVAR	Borovoye Array	48.88	341	P	P	16 48 06.2	-0.7
	7.5nm,1.3s,mb4.6,baz=141,slow=9.5,SNR=6.2						
BVAR				PcP	PcP	16 49 31.4	-0.3
	0.6nm,0.5s,baz=137,slow=6.5,SNR=4.2						
CHKZ	Chkalovo	49.37	342	eP	P	16 48 09.8	-0.8
	13nm,1.0s,mb4.9						
ASAR	Alice Springs	50.14	130	P	P	16 48 17.4	+0.5
	0.7nm,0.6s,mb3.9,baz=304,slow=8.3,SNR=13						
ASAR				PcP	PcP	16 49 38.4	+1.7
	0.6nm,0.5s,baz=313,slow=2.5,SNR=5.9						
KMBO	Kilima Mbogo	57.14	264	P	P	16 49 12.2	+3.4
	1.2nm,0.6s,mb4.1,baz=62,slow=11,SNR=4.6						
KMBO	Kilima Mbogo	57.14	264	eP	P	16 49 11.6	+2.8
	7.7nm,1.3s,mb4.6						
STKA	Stephens Creek	60.32	134	P	P	16 49 33.5	+2.9
	1.8nm,0.7s,mb4.2,baz=97,slow=3.0,SNR=4.1						
STKA	Stephens Creek	60.32	134	eP	P	16 49 31.7	+1.0
BRTR	Keskin Array B	62.20	311	P	P	16 49 41.8	-1.5
	1.2nm,0.7s,mb4.1,baz=149,slow=7.2,SNR=4.7						
MA2	Magadan	66.89	28	eP	P	16 50 06.9	-6.5
	13nm,1.1s,mb4.9						
AKASG	Malin Array Be	67.97	322	P	P	16 50 18.6	-1.8
	0.8nm,0.6s,mb3.9,baz=86,slow=4.5,SNR=5.2						
FINES	FINESS Array B	72.57	332	P	P	16 50 47.6	-0.5
	1.9nm,0.8s,mb4.1,baz=100,slow=8.5,SNR=6.8						
KAF	Kangasniemi	72.65	333	ep	P	16 50 48.5	-0.1
	9.4nm,1.3s,mb4.6						
ARCES	ARCESS Array B	75.16	340	P	P	16 51 03.0	+0.1
	4.4nm,0.9s,mb4.4,baz=90,slow=4.9,SNR=6.5						
GERES	GERESS Array B	77.63	318	P	P	16 51 17.5	+0.2
	1.3nm,0.6s,mb4.0,baz=96,slow=5.9,SNR=8.2						
CLL	Collm	78.17	321	P	P	16 51 20.0	-0.2
CLL				e*PP	pP	16 51 27.0	+3.7
HFS	Hagfors	78.30	330	P	P	16 51 20.4	-0.3
	3.3nm,0.6s,mb4.5,baz=100,slow=9.0,SNR=9.4						
NB2	NORSAR Subarra	79.58	331	P	P	16 51 26.2	-1.5
	2.8nm,0.8s,mb4.2,baz=94,slow=5.6						
NOA	NORSAR Array B	79.58	331	P	P	16 51 27.0	-0.6
	1.6nm,0.8s,mb4.0,baz=96,slow=5.7,SNR=4.6						
NOA	NORSAR Array B	79.58	331	P	P	16 51 27.0	-0.7
ILAR	Eielson Array	94.84	22	P	P	16 52 42.1	0.0
	0.3nm,0.8s,mb3.8,baz=297,slow=6.0,SNR=3.0						
NVAR	Mina Array Bea	125.06	31	PKP	PKPdf	16 58 23.9	+0.6
	0.5nm,0.6s,baz=357,slow=3.2,SNR=3.7						
NVAR	Mina Array Bea	125.06	31	PKP	PKPdf	16 58 23.9	+0.6
PDAR	Pinedale Array	125.26	21	PKP	PKPdf	16 58 22.5	-1.1
	0.5nm,0.7s,baz=135,slow=2.1,SNR=4.3						
PLCA	Paso Flores	144.46	201	PKP	PKPdf	16 58 58.4	-0.6
	3.4nm,0.8s,baz=178,slow=3.9,SNR=5.2						
PLCA	Paso Flores	144.46	201	PKP	PKPdf	16 58 58.4	-0.6

*CSEM **27** 16:41:47.7±0.2, 37.83N×44.08E, h15km, MD3.8, Error ellipse: s-maj=5.2km s-min=2.8km az=105.0*
*ISK **27** 16:41:48.8, 37.75N×43.98E, h26km, MD3.8*
*NEIC **27** 16:41:48.8, 37.82N×44.03E, h10km, ML3.7(ISK), After ISK.*

ISC 27 16:41:48.0±1.2, 37.79N±0.04×44.12E±0.09, h10km, n30, σ1º04/40, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	Hakkari	0.37	236	i PG	Pg	16 41 56.2	+0.7
HKR				i SG	Sg	16 41 59.8	-0.8
HKR	Hakkari	0.37	236	Pg	Pg	16 41 55.8	+0.3
HKR				Sg	Sg	16 42 01.8	+1.2
HKR	Hakkari	0.37	236	i Pg	Pg	16 41 56.2	+0.7
HKR				Sg	Sg	16 42 01.8	+1.2
VANT	Van	0.88	319	i PG	Pg	16 42 05.7	+0.1
VANT				i SG	Sg	16 42 18.5	+1.2
VANT	Van	0.88	319	Pg	Pg	16 42 05.8	+0.2
TVAN	Van	0.93	323	i P	Pb	16 42 06.8	+1.0
TVAN				i S	Sb	16 42 18.4	+0.5
VANB	Van	0.99	325	i PG	Pg	16 42 06.5	-1.4
VANB				i SG	Sg	16 42 19.8	-1.4
BTMT	Batman	2.12	282	PN	Pn	16 42 24.8	+0.8
BEST	Besiri	2.26	274	i P	Pn	16 42 26.5	+0.5
BEST				i S	Sn	16 42 54.9	+0.6
GNI	Garni	2.41	11	Pn	Pn	16 42 29.6	+1.5
GNI	Garni	2.41	11	Pn	Pn	16 42 29.6	+1.5
VRT	Varto	2.44	304	ePN	Pn	16 42 27.9	-0.7
VRT	Varto	2.44	304	Pn	Pn	16 42 28.6	+0.1
ERZM	Erzurum	3.02	315	P	Pn	16 42 41.6	+4.8
ERZM				eS	Sn	16 43 18.8	+5.4
EZM	Erzurum	3.02	315	ePN	Pn	16 42 36.5	-0.4
BINT	Bingol	3.06	292	ePN	Pn	16 42 36.4	-1.0
BINT	Bingol	3.06	292	Pn	Pn	16 42 38.2	+0.9
DIY	Diyarbakir	3.09	273	ePN	Pn	16 42 36.2	-1.6
DIY	Diyarbakir	3.09	273	Pn	Pn	16 42 38.8	+1.0
PTK	Pertek	3.88	288	ePN	Pn	16 42 48.1	-1.0
EZC	Erzincan	3.90	302	Pn	Pn	16 42 54.0	+4.7
ELZG	Elazig	4.11	282	P	Pn	16 42 53.0	+0.6
ELZG				S	Sn	16 43 56.6	+16
MALT	Malatya	4.53	278	Pn	Pn	16 42 58.5	+0.3
MALT	Malatya	4.53	278	P	Pn	16 42 59.4	+1.1
MALT				S	Sn	16 44 06.8	+15
MALT	Malatya	4.53	278	Pn	Pn	16 42 58.5	+0.2
MYA	Malataya	4.53	279	ePN	Pn	16 42 55.6	-2.7
MYA	Malataya	4.53	279	Pn	Pn	16 42 58.0	-0.3
MYA	Malataya	4.53	279	Pn	Pn	16 42 58.0	-0.3
GZT	Gaziantep	5.23	267	P	Pn	16 43 05.8	-2.4
GZT				S	Sn	16 44 40.2	+31
KAHT	Ahir Dag	5.75	271	P	Pn	16 43 14.4	-1.1
KAHT				S	Sn	16 44 50.8	+28

*IDC **27** 16:44:38.5±1.1, 7.89N×93.82E, mb3.9/9, mb1 4.1/10, mb1mx3.9/19, mbtmp3.9/10, ML3.7/1, Error ellipse: s-maj=41.2km s-min=21.0km az=53.0*

ISC 27 16:44:41.8±0.9, 7.9N±0.1×93.9E±0.2, h33km, n16, σ0º80/16, mb4.1/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.54	24	Pn	P	16 47 27.1	-0.2
	0.1nm,0.3s,baz=211,slow=14,SNR=6.9						
JIRN	Jiri	20.95	340	eP	P	16 49 24.8	+0.5
	21nm,0.7s						
PKI	Pulchoki	21.14	339	eP	P	16 49 26.1	-0.1
	22nm,0.6s,mb4.7						
DMN	Daman	21.28	338	eP	P	16 49 28.0	+0.3
	18nm,0.6s,mb4.6						
KKN	Kakani	21.38	339	eP	P	16 49 28.3	-0.4
GKN	Gorkha	21.81	337	eP	P	16 49 33.2	+0.2
	25nm,0.7s,mb4.8						
KOLN	Koldanda	22.02	335	eP	P	16 49 35.9	+0.8
	23nm,0.8s,mb4.7						
SONM	Songino Array	41.15	13	P	P	16 52 24.7	+0.1
	0.8nm,0.7s,mb3.5,baz=199,slow=7.1,SNR=7.2						
ZAL	Zalesovo	46.46	353	P	P	16 53 07.7	+0.3
	2.0nm,0.9s,mb4.0,baz=298,slow=9.6,SNR=10						
WRA	Warramunga Arr	48.46	125	P	P	16 53 22.2	-1.3
	0.3nm,0.5s,mb3.6,baz=305,slow=8.5,SNR=5.0						
BVAR	Borovoye Array	48.87	341	P	P	16 53 24.5	-1.7
	1.1nm,0.8s,mb3.9,baz=135,slow=8.4,SNR=6.9						
ASAR	Alice Springs	50.10	130	P	P	16 53 37.5	+1.4
	0.7nm,0.9s,mb3.7,baz=309,slow=7.8,SNR=4.5						
BRTR	Keskin Array B	62.24	311	P	P	16 55 01.5	-1.3
	0.7nm,0.6s,mb4.0,baz=135,slow=8.7,SNR=4.3						
FINES	FINESS Array B	72.57	332	P	P	16 56 07.1	-0.1
	4.4nm,1.1s,mb4.3,baz=90,slow=5.7,SNR=4.0						
ARCES	ARCESS Array B	75.14	340	P	P	16 56 22.7	+0.6
	1.8nm,0.6s,mb4.2,baz=72,slow=7.7,SNR=5.3						
GERES	GERESS Array B	77.65	318	P	P	16 56 37.6	+0.9
	0.9nm,0.5s,mb4.0,baz=90,slow=5.3,SNR=12						

IDC 27 16:45:22.7±8.5, 6.60N×94.95E, mb3.8/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, Error ellipse: s-maj=211.0km s-min=43.2km az=140.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.41	18	Pn	P	16 48 21.1	-2.7
	baz=207,slow=15,SNR=4.2						
SONM	Songino Array	42.24	11	P	P	16 53 18.4	-0.8
	0.6nm,0.9s,baz=202,slow=7.8,SNR=3.1						
ZAL	Zalesovo	47.92	352	P	P	16 54 01.9	-2.8
	2.1nm,1.0s,baz=300,slow=7.0,SNR=3.8						
BRTR	Keskin Array B	63.87	311	P	P	16 55 58.3	-1.3
	0.3nm,0.5s,baz=288,slow=3.9,SNR=2.0						
FINES	FINESS Array B	74.21	332	P	P	16 57 00.3	-2.7
	1.8nm,0.9s,baz=39,slow=8.9,SNR=2.8						
GERES	GERESS Array B	79.31	318	P	P	16 57 31.0	-0.8
	0.3nm,0.5s,baz=76,slow=4.0,SNR=3.0						
NOA	NORSAR Array B	81.23	331	P	P	16 57 39.9	-1.9
	0.8nm,0.8s,baz=140,slow=2.5,SNR=3.3						

*IDC **27** 16:47:45.3±0.9, 7.85N×93.84E, mb4.0/11, mb1 4.2/12, mb1mx4.1/19, mbtmp4.0/12, ML3.9/1, Error ellipse: s-maj=38.1km s-min=19.5km az=53.0*
*BJI **27** 16:47:49.5, 7.60N×93.65E, h58km, mb4.4*
*NEIC **27** 16:47:50.4±0.6, 7.97N×93.98E, h30km, mb4.5/10, Error ellipse: s-maj=14.0km s-min=12.0km az=96.0*

ISC 27 16:47:45.4±0.7, 7.92N±0.09×94.01E±0.10, h10km, n38, σ0º99/37, mb4.3/23, 2C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.52	24	eP	P	16 50 33.6	+0.6
	20nm,1.4s						
CMAR	Chiang Mai Arr	11.52	24	Pn	P	16 50 34.1	+1.1
	0.2nm,0.3s,baz=212,slow=14,SNR=15						
IMP	Imphal	16.77	360	e	P	16 51 42.5	+0.5
HYB	Hyderabad	17.78	304	i P	P	16 51 59.0	+4.2
KMI	Kunming	19.02	25	P	P	16 52 14.5	+4.4
	20nm,1.1s						
AKL	Akola	20.77	309	e	P	16 52 35.8	+6.6
AKL				e		16 52 46.8	
	comp=Z,63nm,1.1s						
AKL				e		16 56 22.6	
JIRN	Jiri	20.98	340	eP	P	16 52 30.9	-0.4
PKI	Pulchoki	21.17	338	eP	P	16 52 33.7	+0.4
	comp=Z,28nm,0.5s,mb4.8						
DMN	Daman	21.32	338	eP	P	16 52 36.2	+1.5
KKN	Kakani	21.42	338	eP	P	16 52 35.8	0.0
LSA	Lhasa	21.83	353	eP	P	16 52 39.8	-0.1
	comp=Z,26nm,0.8s,mb4.7						
GKN	Gorkha	21.85	337	eP	P	16 52 40.3	+0.2
	comp=Z,24nm,0.7s,mb4.7						
KOLN	Koldanda	22.06	335	eP	P	16 52 43.5	+1.3
	comp=Z,58nm,1.1s,mb4.9						
ENH	Enshi	26.54	31	eP	P	16 53 25.0	-0.3
	comp=Z,22nm,1.2s,mb4.6						
AAK	Ala-Archa	38.61	337	eP	P	16 55 08.6	-1.9
	comp=Z,8.7nm,1.2s,mb4.4						

0.4nm,0.3s,baz=210,slow=14,SNR=11
KOD Kodaikanal 16.66 279 *e*P P 16 52 16.6 -1.0
KOD *e* 16 52 35.1
comp=Z,53nm,1.5s
HYB Hyderabad 17.88 303 *e*P P 16 52 34.0 +1.2
HYB Hyderabad 17.88 303 *i* P P 16 52 34.0 +1.2
HYB *e*S S 16 55 51.0 +2.7
KMI Kunming 18.87 25 ⇑P P 16 52 48.6 +3.5
KMI pmax pmax
comp=Z,19nm,1.3s
KMI Kunming 18.87 25 ⇑P P 16 52 48.6 +3.5
comp=Z,19nm,1.3s
NGP Nagpur 19.60 313 *e*P P 16 52 52.8 -0.5
NGP *e* 16 53 04.8
comp=Z,49nm,1.3s
NGP *e* 16 57 00.3
COCO West Island 20.24 173 *e*P P 16 53 06.4 +6.1
comp=Z,158nm,1.0s
GOA Goa 21.27 292 *e*P P 16 53 12.1 +1.4
GOA *e* 16 53 31.2
comp=Z,39nm,0.3s
GOA *e* 16 57 22.9
KAD Karad 21.57 297 *e*P P 16 53 11.5 -2.3
LSA Lhasa 21.76 353 *e*P P 16 53 14.7 -0.9
LSA pmax pmax
comp=Z,37nm,0.7s,mb4.9
LSA Lhasa 21.76 353 *e*P P 16 53 14.7 -1.0
comp=Z,37nm,0.7s,mb4.9
BOM Bombay 23.41 300 *e*P P 16 53 33.0 +1.0
BOM *e* 16 53 47.6
comp=Z,88nm,1.9s
NDI New Delhi 26.05 324 *e*P P 16 54 00.0 +2.7
NDI *e* 16 54 06.0
comp=Z,76nm,2.1s
NDI *e*S S 16 58 23.9 0.0
ENH Enshi 26.38 31 P P 16 53 58.9 -1.4
comp=Z,20nm,1.0s,mb4.6
DDI Dehra Dun 26.85 328 *e* P 16 54 13.3 +8.7
SMLA Simla 27.96 328 *e* P 16 54 34.3 +20
SMLA *e* 16 54 40.5
comp=Z,52nm,1.9s
XAN Xi'an 29.25 26 P P 16 54 29.3 +3.2
XAN AP pP 16 54 37.5 +1.8
XAN AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
WHN Wuhan 29.30 37 *e*P P 16 54 27.5 +0.9
LZH Lanzhou 29.30 16 *e*P P 16 54 32.0 +5.4
LZH AP pP 16 54 44.0 +7.8
LZH XP sP 16 54 48.0 +7.5
LZH AMB AMB
comp=Z,37nm,1.6s,mb4.9
WMQ Urumqi 36.12 352 *e*P P 16 55 27.0 +1.2
AAK Ala-Archa 38.60 337 *e*P P 16 55 45.3 -1.3
AAK pmax pmax
comp=Z,34nm,1.4s,mb4.9
AAK Ala-Archa 38.60 337 *e*P P 16 55 45.3 -1.3
comp=Z,34nm,1.4s,mb4.9
SONM Songino Array 41.02 13 P P 16 56 06.9 +0.3
comp=Z,4.8nm,1.0s,mb4.1,baz=201,slow=7.9,SNR=5.6
ULN Ulaanbaatar 41.19 13 *e*P P 16 56 10.8 +2.8
ULN pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
ULN Ulaanbaatar 41.19 13 *e*P P 16 56 10.8 +2.7
comp=Z,5.9nm,1.0s,mb4.2
KURK Kurchatov 44.49 346 *e*P P 16 56 33.6 -1.3
KURK pmax pmax
comp=Z,41nm,1.3s,mb5.0
KURK Kurchatov 44.49 346 *e*P P 16 56 33.6 -1.2
comp=Z,41nm,1.3s,mb5.0
NWAO Narrogin (SRO) 46.25 153 P P 16 56 51.7 +2.6
NWAO pmax pmax
comp=Z,13nm,0.7s
NWAO Narrogin (SRO) 46.25 153 P P 16 56 51.6 +2.5
comp=Z,13nm,0.7s,mb5.0,baz=342,slow=9.8,SNR=7.1
HIA Hailar 46.38 23 *e*P P 16 56 51.2 +1.3
HIA pmax pmax
comp=Z,10.0nm,1.0s
HIA Hailar 46.38 23 *e*P P 16 56 51.2 +1.3
comp=Z,9.8nm,1.0s,mb4.7
ZAL Zalesovo 46.42 352 P P 16 56 49.1 -1.1
ZAL pmax pmax
comp=Z,5.0nm,0.6s
ZAL Zalesovo 46.42 352 P P 16 56 49.0 -1.1
comp=Z,4.6nm,0.6s,mb4.6,baz=298,slow=8.9,SNR=8.5
NVS Novosibirsk 47.51 351 *i* P P 16 56 51.0 -7.8
MDJ Mudanjiang 47.66 34 P P 16 56 59.0 -1.1
WRA Warramunga Arr 48.30 126 P P 16 57 05.4 0.0
WRA pmax pmax
comp=Z,5.0nm,1.1s
WRA Warramunga Arr 48.30 126 P P 16 57 05.4 0.0
comp=Z,5.4nm,1.1s,mb4.5,baz=297,slow=11,SNR=13
WRAB Tennant Creek 48.30 126 *e*P P 16 57 04.0 -1.4
WRAB pmax pmax
comp=Z,19nm,1.1s,mb5.0
WRAB Tennant Creek 48.30 126 *e*P P 16 57 04.0 -1.4
comp=Z,19nm,1.1s,mb5.0
BVAR Borovoye Array 48.87 341 P P 16 57 08.8 -0.6
comp=Z,2.7nm,0.7s,mb4.4,baz=135,slow=8.4,SNR=6.8
BVAR Borovoye Array 48.87 341 P P 16 57 08.8 -0.6
BRVK Borovoye 48.94 341 *e*P P 16 57 08.9 -0.9
BRVK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BRVK Borovoye 48.94 341 *e*P P 16 57 08.9 -1.0
comp=Z,8.7nm,1.0s,mb4.7
CHKZ Chkalovo 49.36 342 *e*P P 16 57 11.0 -2.1
CHKZ pmax pmax
comp=Z,11nm,0.8s,mb4.9
CHKZ Chkalovo 49.36 342 *e*P P 16 57 10.9 -2.1
comp=Z,11nm,0.8s,mb4.9
ASAR Alice Springs 49.97 130 P P 16 57 18.0 -0.2
comp=Z,2.1nm,1.0s,mb4.1,baz=308,slow=6.6,SNR=8.9
BOD Bodaibo 52.00 13 *e*P P 16 57 32.5 -0.6
GNI Garni 54.38 314 *e*P P 16 57 51.9 +0.9
GNI pmax pmax
comp=Z,36nm,1.5s
GNI Garni 54.38 314 *e*P P 16 57 51.9 +0.9
comp=Z,36nm,1.5s,mb5.1
SVE Sverdlovsk 55.29 338 *e*P P 16 57 54.0 -3.4
SVE pmax pmax
comp=Z,80nm,2.0s,mb5.4
PMG Port Moresby 55.52 107 *e*P P 16 57 58.1 -1.5
PMG Port Moresby 55.52 107 P P 16 58 02.4 +2.8
comp=Z,17nm,1.0s,mb5.0,baz=280,slow=11,SNR=3.6
ARU Arti 55.78 337 *e*P P 16 57 58.5 -2.4
KMBO Kilima Mbogo 57.49 264 P P 16 58 14.6 +0.9
KMBO pmax pmax
comp=Z,8.0nm,0.8s
KMBO Kilima Mbogo 57.49 264 P P 16 58 14.6 +0.8
comp=Z,7.9nm,0.8s,mb4.8,baz=52,slow=11,SNR=12
KMBO Kilima Mbogo 57.49 264 *e*P P 16 58 13.8 0.0
comp=Z,14nm,1.0s,mb4.9
YAK Yakutsk 59.85 18 *e*P P 16 58 31.6 +2.1
YAK pmax pmax
comp=Z,12nm,0.9s,mb4.9
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK Yakutsk 59.85 18 *e*P P 16 58 28.2 -1.3
comp=E,25nm,0.8s,mb5.3
STKA Stephens Creek 60.17 134 P P 16 58 34.2 +2.1
comp=E,5.0nm,0.9s,mb4.5,baz=326,slow=6.7,SNR=3.9
STKA Stephens Creek 60.17 134 *e*P P 16 58 31.3 -0.8
BRTR Keskin Array B 62.38 311 P P 16 58 44.7 -2.1
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 62.38 311 P P 16 58 44.6 -2.2
comp=Z,1.9nm,0.7s,mb4.3,baz=121,slow=6.0,SNR=6.5
MBAR Mbarara 63.82 265 *e*P P 16 58 55.9 -1.0
MBAR pmax pmax
comp=Z,11nm,1.2s,mb4.8
MBAR Mbarara 63.82 265 *e*P P 16 58 55.9 -1.0
comp=Z,11nm,1.2s,mb4.8
MOS Moscow 64.99 329 *e*P P 16 58 58.0 -5.7
MOS pmax pmax
comp=Z,41nm,0.6s,mb5.6
OBN Obninsk 65.29 328 ⇓ *i*P P 16 59 05.3 -0.3
OBN pmax pmax
comp=Z,45nm,1.3s,mb5.3
MA2 Magadan 66.62 28 *e*P P 16 59 15.3 +1.3
MA2 pmax pmax
comp=Z,30nm,1.6s,mb5.1
MA2 Magadan 66.62 28 *e*P P 16 59 12.9 -1.1
comp=Z,18nm,0.9s,mb5.1
TIXI Tiksi 67.09 11 ⇓ *i*P P 16 59 15.8 -1.0
TIXI pmax pmax

comp=Z,30nm,1.2s,mb5.2
AKASG Malin Array Be 68.08 322 P P 16 59 21.4 -1.9
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 68.08 322 P P 16 59 21.4 -1.9
comp=Z,2.6nm,0.6s,mb4.4,baz=87,slow=5.0,SNR=8.5
MLR Muntele Rosu 69.11 316 P P 16 59 29.8 0.0
MLR pmax pmax
comp=Z,3.0nm,0.7s
MLR Muntele Rosu 69.11 316 P P 16 59 29.8 0.0
comp=Z,3.2nm,0.7s,mb4.4,baz=123,slow=8.7,SNR=4.8
LSZ Lusaka 69.36 250 *e*P P 16 59 32.1 +0.2
LSZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
LSZ Lusaka 69.36 250 *e*P P 16 59 32.1 +0.3
comp=Z,5.9nm,1.0s,mb4.5
JOF Joensuu 70.75 334 *e*p P 16 59 45.2 +5.7
comp=Z,6.6nm,0.7s,mb4.7
SUW Suwalki 72.42 324 *e*P P 16 59 48.8 -0.8
SUW pmax pmax
comp=Z,92nm,1.4s,mb5.5
SUW Suwalki 72.42 324 *e*P P 16 59 48.8 -0.9
comp=Z,92nm,1.4s,mb5.5
FINES FINESS Array B 72.61 332 P P 16 59 49.7 -0.9
FINES pmax pmax
comp=Z,7.0nm,0.9s
FINES FINESS Array B 72.61 332 P P 16 59 49.7 -0.9
comp=Z,7.2nm,0.9s,mb4.6,baz=124,slow=6.9,SNR=6.7
KAF Kangasniemi 72.69 333 *e*p P 16 59 54.9 +3.8
comp=Z,19nm,1.6s,mb4.8
KAF Kangasniemi 72.69 333 *e*P P 16 59 54.9 +3.8
KAF pmax pmax
comp=Z,19nm,1.6s,mb4.8
LBTB Lobatse 74.35 241 *e*P P 17 00 00.9 -0.7
LBTB pmax pmax
comp=Z,15nm,0.9s,mb4.9
LBTB Lobatse 74.35 241 *e*P P 17 00 00.9 -0.7
comp=Z,15nm,0.9s,mb4.9
OKC Ostrava-Krasne 74.92 319 *e*P P 17 00 06.9 +2.6
MORC Moravsky Berou 75.30 319 *e*P P 17 00 05.8 -0.7
MORC pmax pmax
comp=Z,22nm,1.4s,mb4.9
MORC Moravsky Berou 75.30 319 *e*P P 17 00 05.8 -0.7
comp=Z,22nm,1.4s,mb4.9
BOSA Boshof 75.70 238 *e*P P 17 00 07.8 -1.5
BOSA pmax pmax
comp=Z,18nm,1.0s,mb5.0
BOSA Boshof 75.70 238 *e*P P 17 00 07.8 -1.4
comp=Z,18nm,1.0s,mb5.0
BILL Bilibino 75.94 22 *e*P P 17 00 12.1 +2.3
BILL pmax pmax
comp=Z,20nm,1.4s,mb4.8
BILL Bilibino 75.94 22 *e*P P 17 00 12.1 +2.3
comp=Z,20nm,1.4s,mb4.9
DPC Dobruska-Polom 76.13 320 *e*P P 17 00 12.0 +0.8
UPC Upice 76.34 320 *e*P P 17 00 18.4 +6.0
PRU Pruhonice 77.25 319 *e*P P 17 00 20.8 +3.2
PVCC Panska Ves 77.26 320 *e*P P 17 00 20.7 +3.0
BRG Berggiesshubel 77.68 320 *e*P P 17 00 20.3 +0.4
BRG pmax pmax
comp=Z,34nm,1.6s,mb5.0
BRG Berggiesshubel 77.68 320 *e*P P 17 00 20.3 +0.4
comp=Z,34nm,1.6s,mb5.0
BRG *e* 17 08 23.6
GERES GERESS Array B 77.76 318 P P 17 00 20.4 0.0
GERES pmax pmax
comp=Z,5.0nm,0.7s
GERES GERESS Array B 77.76 318 P P 17 00 20.4 -0.1
comp=Z,5.2nm,0.7s,mb4.6,baz=90,slow=4.0,SNR=10
KHC Kasperske Hory 77.85 318 *e*P P 17 00 21.0 +0.1
KHC *e* 17 00 23.8
KHC Kasperske Hory 77.85 318 *e*P P 17 00 21.0 +0.1
KHC x x 17 00 23.8
CLL Collm 78.28 321 *e*P P 17 00 20.0 -3.2
CLL *e* 17 00 26.0
CLL *i* pP 17 00 30.1 -3.5
CLL Collm 78.28 321 P P 17 00 20.0 -3.2
CLL *e**PP pP 17 00 26.0 -7.6
CLL *i* *SP sP 17 00 30.1 -7.1
NKC Novy Kostel 78.61 320 *e*P P 17 00 17.8 -7.2
MOX Moxa 79.15 320 *e*P P 17 00 26.7 -1.3
MOX pmax pmax
comp=Z,35nm,1.9s,mb5.0
MOX Moxa 79.15 320 *e*P P 17 00 26.7 -1.3
comp=Z,35nm,1.9s,mb5.0
MOX Moxa 79.15 320 *i* P P 17 00 26.7 -1.3
comp=Z,logA/T=1.3,mb5.0
GRA1 Grafenberg Arr 79.39 319 *e*P P 17 00 32.4 +3.0
comp=Z,26nm,1.4s,mb5.0
GRF Grafenberg Arr 79.39 319 *e*P P 17 00 32.4 +3.0
GRF pmax pmax
comp=Z,26nm,1.4s,mb5.0
GRF Grafenberg Arr 79.39 319 *e*P P 17 00 32.4 +3.0
GRF pmax pmax
comp=Z,26nm,1.4s,mb5.0
GRF Grafenberg Arr 79.39 319 *e*P P 17 00 32.4 +3.0
comp=Z,26nm,1.4s,mb5.0
NB2 NORSAR Subarra 79.64 331 P P 17 00 29.4 -1.0
comp=Z,15nm,1.1s,mb4.8,baz=92,slow=5.8
NB2 NORSAR Subarra 79.64 331 P P 17 00 29.4 -1.0
NB2 pmax pmax
comp=Z,15nm,1.1s,mb4.8
NOA NORSAR Array B 79.64 331 P P 17 00 30.2 -0.2
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA NORSAR Array B 79.64 331 P P 17 00 30.2 -0.2
comp=Z,3.8nm,0.7s,mb4.4,baz=95,slow=4.9,SNR=6.6
DAVOX Davos 80.32 316 P P 17 00 35.3 +0.9
comp=Z,3.6nm,0.7s,mb4.4,baz=128,slow=14,SNR=4.2
LPG La Plagne 82.56 315 *e*P P 17 00 46.9 +0.9
comp=Z,21nm,0.9s,mb4.9
LPG La Plagne 82.56 315 *e*P P 17 00 46.9 +0.9
LPG pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TNA Tin City 86.02 24 *e*P P 17 01 01.8 -1.2
EKA Eskdalemuir Ar 87.64 325 P P 17 01 11.9 +0.9
EKA pmax pmax
comp=Z,2.0nm,0.8s
EKA Eskdalemuir Ar 87.64 325 P P 17 01 11.9 +0.9
comp=Z,2.4nm,0.8s,mb4.5,baz=135,slow=3.0,SNR=2.9
IMA Indian Mountai 91.48 22 *e*P P 17 01 29.5 +0.6
ILAR Eielson Array 94.60 22 P P 17 01 44.3 +1.1
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR Eielson Array 94.60 22 P P 17 01 44.3 +1.1
comp=Z,0.8nm,1.0s,mb4.1,baz=298,slow=3.8,SNR=6.2
RES Resolute Bay 97.26 2 *e*P P 17 01 57.1 +1.9
RES pmax pmax
comp=Z,6.0nm,1.2s,mb4.9
RES Resolute Bay 97.26 2 *e*P P 17 01 57.1 +1.9
comp=Z,6.4nm,1.2s,mb4.9
YKA Yellowknife Ar 106.28 13 PP PP 17 07 02.0 -1.0
comp=Z,0.4nm,0.8s,baz=333,slow=7.9,SNR=3.9
NVAR Mina Array Bea 124.78 31 PKP PKPdf 17 07 25.4 +3.5
comp=Z,1.4nm,0.7s,baz=265,slow=2.0,SNR=9.9
PDAR Pinedale Array 125.02 21 PKP PKPdf 17 07 24.6 +2.4
comp=Z,1.5nm,0.8s,baz=55,slow=1.1,SNR=9.6
MSU Marysvale 127.61 26 *e*PKIKP PKPdf 17 07 29.1 +1.7
BLO Bloomington 133.05 1 *e*PKIKP PKPdf 17 07 33.6 -4.2
JCT Junction City 139.44 19 *e*PKIKP PKPdf 17 07 51.8 +2.1
PLCA Paso Flores 144.70 200 PKIKP PKPdf 17 08 00.0 +1.4
PLCA pmax pmax
comp=Z,5.0nm,0.9s
PLCA Paso Flores 144.70 200 PKP PKPdf 17 07 60.0 +1.3
comp=Z,4.8nm,0.8s,baz=84,slow=2.1,SNR=7.3
TEIG Tepich 151.83 5 *e*P PKPdf 17 08 12.3 +1.6
LPAZ La Paz 160.87 243 PKP PKPdf 17 07 45.4 -37
comp=Z,2.1nm,1.1s,baz=13,slow=4.4,SNR=4.7
LPAZ PKPab PKPab 17 08 30.5 -37
comp=Z,1.1nm,0.7s,baz=118,slow=6.7,SNR=4.6

*IDC **27** 16:53:30.7±0.7, 7.85N×94.01E, h14km±3km, mb4.3/16, mb1 4.4/17, mb1mx4.4/21, mbtmp4.3/17, ML3.9/1, Error ellipse: s-maj=25.3km s-min=14.9km az=49.0*
*BJI **27** 16:53:32.9, 7.90N×94.10E, h30km, mB5.1, mb4.5, Ms5.1, Msz4.7*
*NEIC **27** 16:53:33.0±0.3, 7.87N×94.08E, h30km, mb4.7/21, Error ellipse: s-maj=10.4km s-min=8.1km az=57.0*
ISC 27 16:53:28.0±0.5, 7.82N±0.07×94.08E±0.07, h10km, (h15km±.4km:pP-P), n61, σ0§93/54, mb4.6/41, 1C, Nicobar Islands region

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

CM31 Chiang Mai Arr 11.59 24 P P 16 56 09.8 -6.9
CMAR Chiang Mai Arr 11.59 24 Pn P 16 56 17.2 +0.5
0.3nm,0.3s,baz=208,slow=15,SNR=7.1
HYB Hyderabad 17.89 304 *i* P P 16 57 43.0 +4.2
KMI Kunming 19.10 25 ⇑P P 16 57 56.9 +3.4
27nm,1.2s
JIRN Jiri 21.10 340 *e*P P 16 58 16.0 +0.8
58nm,0.7s,mb5.0
PKI Pulchoki 21.30 338 *e*P P 16 58 17.4 +0.3
90nm,1.0s,mb5.1
DMN Daman 21.44 338 *e*P P 16 58 20.3 +1.7
72nm,0.9s,mb5.0
KKN Kakani 21.54 338 *e*P P 16 58 19.1 -0.5
42nm,0.8s,mb4.9
LSA Lhasa 21.94 353 *e*P P 16 58 23.4 -0.2
40nm,0.7s,mb5.0
GKN Gorkha 21.97 337 *e*P P 16 58 23.8 -0.2
44nm,0.6s,mb5.0
KOLN Koldanda 22.19 335 *e*P P 16 58 26.6 +0.5
125nm,1.2s,mb5.2
ENH Enshi 26.60 31 *e*P P 16 59 08.5 0.0
21nm,1.0s,mb4.6
WHN Wuhan 29.52 37 *e*P P 16 59 35.5 +0.5
AAK Ala-Archa 38.73 337 *e*P P 17 00 50.3 -3.8
7.0nm,1.0s,mb4.3
SONM Songino Array 41.23 13 P P 17 01 15.2 +0.4
3.9nm,1.0s,mb4.0,baz=198,slow=5.9,SNR=18
SONM pcP PcP 17 03 15.5 +1.1
1.0nm,0.6s,baz=198,slow=3.1,SNR=4.1
ULN Ulaanbaatar 41.41 13 *e*P P 17 01 15.8 -0.4
3.9nm,1.0s,mb4.0
KURK Kurchatov 44.65 346 *e*P P 17 01 41.5 -1.1
36nm,1.4s,mb5.0
ZAL Zalesovo 46.60 352 P P 17 01 57.9 -0.1
5.2nm,0.9s,mb4.5,baz=294,slow=6.9,SNR=21
HIA Hailar 46.60 23 *e*P P 17 01 58.5 +0.4
10.0nm,1.0s,mb4.7
WRA Warramunga Arr 48.28 125 P P 17 02 11.7 +0.1
2.0nm,0.6s,mb4.3,baz=304,slow=9.2,SNR=15
WRAB Tennant Creek 48.28 125 *e*P P 17 02 11.5 -0.2
7.3nm,0.8s,mb4.8
BVAR Borovoye Array 49.02 341 P P 17 02 16.2 -0.7
3.1nm,0.9s,mb4.3,baz=149,slow=8.6,SNR=12
RAYN Ar Rayn 49.05 294 P P 17 02 19.0 +1.4
64nm,0.8s,mb5.7,SNR=9.8
BRVK Borovoye 49.09 341 *e*P P 17 02 16.3 -1.1
6.5nm,1.1s,mb4.6
ASAR Alice Springs 49.93 130 P P 17 02 24.1 -0.1
2.0nm,0.8s,mb4.2,baz=309,slow=7.3,SNR=12
PMG Port Moresby 55.58 107 *e*P P 17 03 07.2 +0.7
17nm,0.9s,mb5.1
KMBO Kilima Mbogo 57.35 264 P P 17 03 19.8 +0.5
5.0nm,1.0s,mb4.5,baz=48,slow=12,SNR=9.8
KMBO Kilima Mbogo 57.35 264 *e*P P 17 03 19.9 +0.6
10.0nm,1.1s,mb4.8
YAK Yakutsk 60.07 18 *e*P P 17 03 36.0 -1.5
48nm,1.2s,mb5.4
STKA Stephens Creek 60.11 134 P P 17 03 37.9 -0.3
2.3nm,1.0s,mb4.2,baz=276,slow=5.9,SNR=3.5
STKA Stephens Creek 60.11 134 *e*P P 17 03 36.6 -1.6
BRTR Keskin Array B 62.42 311 P P 17 03 52.0 -1.7
2.0nm,0.7s,mb4.3,baz=120,slow=7.1,SNR=7.5
MBAR Mbarara 63.69 265 *e*P P 17 04 04.4 +1.8
5.6nm,1.2s,mb4.5
MA2 Magadan 66.85 28 *e*P P 17 04 22.4 +0.3
12nm,1.0s,mb4.9
AKASG Malin Array Be 68.16 322 P P 17 04 28.6 -1.9
2.4nm,0.7s,mb4.3,baz=88,slow=4.8,SNR=9.0
AKASG pP pP 17 04 33.5 -0.2
2.3nm,0.8s,baz=86,slow=4.7,SNR=3.6
MLR Muntele Rosu 69.17 316 P P 17 04 37.3 +0.4
4.2nm,0.8s,mb4.4,baz=138,slow=1.0,SNR=5.7
JOF Joensuu 70.87 334 *e*p P 17 04 46.8 -0.2
10nm,1.0s,mb4.7
FINES FINESS Array B 72.73 332 P P 17 04 57.7 -0.3
4.9nm,0.8s,mb4.5,baz=117,slow=8.5,SNR=9.6
FINES FINESS Array B 72.73 332 P P 17 04 57.7 -0.3
KAF Kangasniemi 72.81 333 *e*p P 17 04 56.0 -2.5
9.9nm,1.0s,mb4.7
ARCES ARCESS Array B 75.30 340 P P 17 05 13.2 +0.4
2.2nm,0.7s,mb4.2,baz=108,slow=3.8,SNR=4.6
MORC Moravsky Berou 75.38 319 *e*P P 17 05 13.1 -0.5
12nm,1.2s,mb4.7
BILL Bilibino 76.17 22 *e*P P 17 05 16.4 -1.3
3.8nm,0.8s,mb4.4
GERES GERESS Array B 77.83 318 P P 17 05 27.7 +0.4
3.5nm,0.8s,mb4.4,baz=90,slow=4.0,SNR=23
GERES pP pP 17 05 32.6 +2.1
2.2nm,0.6s,baz=90,slow=5.3,SNR=9.1
KHC Kasperske Hory 77.92 319 *e*P P 17 05 27.0 -0.8
GRA1 Grafenberg Arr 79.47 319 *e*P P 17 05 37.3 +1.0
7.0nm,1.0s,mb4.5
GRF Grafenberg Arr 79.47 319 *e*P P 17 05 37.3 +1.0
7.0nm,1.0s,mb4.5
NB2 NORSAR Subarra 79.75 331 P P 17 05 37.2 -0.4
5.5nm,0.8s,mb4.5,baz=92,slow=5.8
NOA NORSAR Array B 79.75 331 P P 17 05 37.5 -0.1
3.7nm,0.8s,mb4.4,baz=92,slow=5.4,SNR=8.7
NOA pP pP 17 05 42.0 +1.2
2.6nm,0.7s,baz=92,slow=5.7,SNR=4.6
LPG La Plagne 82.61 315 *e*P P 17 05 53.1 +0.2
25nm,1.2s,mb4.8
TNA Tin City 86.25 24 *e*P P 17 06 11.5 +0.7
IMA Indian Mountai 91.70 22 *e*P P 17 06 38.4 +1.8
ILAR Eielson Array 94.82 22 P P 17 06 51.1 +0.1
0.5nm,0.7s,mb4.0,baz=301,slow=4.8,SNR=5.5
INK Inuvik 97.07 16 P P 17 07 01.4 +0.2
3.2nm,1.1s,mb4.7,baz=316,slow=3.1,SNR=4.8
YKA Yellowknife Ar 106.50 13 PP PP 17 12 04.8 -6.4
0.1nm,0.4s,baz=336,slow=7.6,SNR=3.2
NVAR Mina Array Bea 125.00 31 PKP PKPdf 17 12 32.2 0.0
1.1nm,0.7s,baz=284,slow=2.7,SNR=5.8
NVAR pPKP 17 12 37.9
1.2nm,0.7s,baz=330,slow=2.1,SNR=5.0
NVAR Mina Array Bea 125.00 31 PKP PKPdf 17 12 32.2 0.0
NVAR pPKP 17 12 37.9
PDAR Pinedale Array 125.24 21 PKP PKPdf 17 12 31.7 -0.8
1.2nm,0.7s,baz=17,slow=2.0,SNR=11
PDAR pPKP 17 12 36.7
0.9nm,0.7s,baz=27,slow=1.8,SNR=6.7
TXAR Lajitas Array 139.30 24 PKP PKPdf 17 12 59.5 +0.2
0.3nm,0.3s,slow=5.0,SNR=2.6
TXAR Lajitas Array 139.30 24 PKP PKPdf 17 12 59.5 +0.2
PLCA Paso Flores 144.47 200 PKP PKPdf 17 13 06.8 -1.2
7.2nm,0.9s,baz=157,slow=3.0,SNR=9.9

*IDC **27** 16:54:30.4±1.2, 7.64N×94.03E, mb4.0/6, mb1 4.2/7, mb1mx4.0/18, mbtmp4.0/7, ML3.8/1, Error ellipse: s-maj=45.9km s-min=21.9km az=59.0*
ISC 27 16:54:33.7±1.1, 7.7N±0.1×94.1E±0.2, h33km, n8, σ0§68/7, mb4.0/6, Nicobar Islands region

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

CMAR Chiang Mai Arr 11.71 23 Pn P 16 57 21.9 +0.3
0.2nm,0.3s,baz=211,slow=14,SNR=4.0
SONM Songino Array 41.37 13 P P 17 02 18.4 +0.1
1.0nm,1.0s,mb3.4,baz=198,slow=9.1,SNR=2.7
ZAL Zalesovo 46.75 352 P P 17 03 00.7 -0.8
2.0nm,0.4s,mb4.4,baz=295,slow=2.4,SNR=5.8
WRA Warramunga Arr 48.16 125 P P 17 03 13.0 0.0
1.3nm,0.8s,mb4.0,baz=300,slow=10.0,SNR=4.8
ASAR Alice Springs 49.80 130 P P 17 03 25.6 -0.1
1.1nm,0.9s,mb3.9,baz=306,slow=7.8,SNR=6.4
FINES FINESS Array B 72.88 332 P P 17 06 00.2 -0.8
2.6nm,0.8s,mb4.2,baz=101,slow=7.1,SNR=3.1
GERES GERESS Array B 77.96 318 P P 17 06 31.6 +1.3
0.8nm,0.7s,mb3.8,baz=90,slow=7.8,SNR=2.2
PLCA Paso Flores 144.34 200 PKP PKPdf 17 14 08.7 +1.9
2.8nm,0.8s,baz=207,slow=4.5,SNR=2.4

*IDC **27** 16:54:43.2±1.3, 7.97N×93.85E, mb4.2/6, mb1 4.4/7, mb1mx4.1/19, mbtmp4.2/7, ML3.9/1, Error ellipse: s-maj=49.0km s-min=27.1km az=59.0*
ISC 27 16:54:46.7±1.2, 8.0N±0.2×93.9E±0.2, h33km, n9, σ0§50/7, mb4.1/6, Nicobar Islands region

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

CMAR Chiang Mai Arr 11.46 25 Pn P 16 57 31.6 +0.5
0.2nm,0.3s,baz=209,slow=14,SNR=5.1
SONM Songino Array 41.06 13 P P 17 02 28.3 -0.5
3.3nm,1.0s,mb3.9,baz=196,slow=9.0,SNR=6.0
ZAL Zalesovo 46.37 353 P P 17 03 11.4 -0.1
5.0nm,1.0s,mb4.4,baz=289,slow=5.2,SNR=4.8

WRA	**Warramunga Arr**	**48.51**	**126**	P	**P**	**17 03 28.7**	**-0.1**
	1.4nm,0.6s,mb4.2,baz=304,slow=8.5,SNR=6.0						
BVAR	**Borovoye Array**	**48.78**	**341**	P	**P**	**17 03 29.5**	**-0.9**
	1.3nm,0.7s,mb4.1,baz=146,slow=5.3,SNR=3.9						
FINES	**FINESS Array B**	**72.48**	**332**	P	**P**	**17 06 12.1**	**+0.5**
	1.9nm,0.7s,mb4.1,baz=107,slow=4.7,SNR=3.4						
GERES	**GERESS Array B**	**77.58**	**318**	P	**P**	**17 06 41.8**	**+0.6**
	1.1nm,0.6s,mb4.0,baz=80,slow=6.4,SNR=5.5						
NVAR	**Mina Array Bea**	**124.90**	**31**	PKP	PKPdf	17 13 46.3	+2.3
	0.8nm,0.7s,baz=281,slow=3.0,SNR=3.9						
PDAR	**Pinedale Array**	**125.10**	**21**	PKP	PKPdf	17 13 45.5	+1.3
	0.7nm,0.7s,baz=72,slow=4.7,SNR=4.3						

*IDC **27** 16:56:22.9±1.2, 7.60N×93.63E, mb4.0/7, mb1 4.2/8, mb1mx4.0/19, mbtmp4.0/8, ML3.7/1, Error ellipse: s-maj=45.2km s-min=26.0km az=60.0*

ISC 27 16:56:26.5±1.2, 7.7N±0.2×93.7E±0.2, h33km, n11, σ0°70/9, mb4.0/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.85**	**25**	Pn	**P**	**16 59 16.6**	**+0.4**
	0.1nm,0.3s,baz=214,slow=15,SNR=2.8						
HYB	**Hyderabad**	**17.69**	**305**	*e*P	**P**	**17 00 39.0**	**+6.9**
SONM	**Songino Array**	**41.44**	**13**	P	**P**	**17 04 12.0**	**+0.3**
	1.3nm,1.0s,mb3.5,baz=207,slow=6.4,SNR=3.7						
ZAL	**Zalesovo**	**46.69**	**353**	P	**P**	**17 04 52.8**	**-1.1**
	2.9nm,0.8s,mb4.3,baz=294,slow=7.0,SNR=5.0						
WRA	**Warramunga Arr**	**48.47**	**125**	P	**P**	**17 05 08.1**	**-0.2**
	1.3nm,0.9s,mb4.0,baz=304,slow=8.7,SNR=4.2						
BVAR	**Borovoye Array**	**49.05**	**342**	P	**P**	**17 05 11.6**	**-0.7**
	1.7nm,0.9s,mb4.1,baz=140,slow=12,SNR=2.6						
FINES	**FINESS Array B**	**72.70**	**332**	P	**P**	**17 07 53.2**	**+0.4**
	2.3nm,0.7s,mb4.2,baz=80,slow=8.5,SNR=4.2						
GERES	**GERESS Array B**	**77.71**	**318**	P	**P**	**17 08 23.0**	**+1.3**
	1.2nm,0.6s,mb4.0,baz=90,slow=5.3,SNR=4.3						
NOA	**NORSAR Array B**	**79.71**	**331**	P	**P**	**17 08 31.9**	**-0.5**
	1.3nm,0.7s,mb4.0,baz=92,slow=5.7,SNR=4.0						
PDAR	**Pinedale Array**	**125.50**	**21**	PKP	PKPdf	17 15 26.7	+2.0
	0.7nm,0.8s,baz=270,slow=3.0,SNR=4.1						
PLCA	**Paso Flores**	**144.22**	**201**	PKP	PKPdf	17 15 60.0	+0.6
	2.3nm,0.9s,baz=205,slow=2.8,SNR=2.7						

*IDC **27** 16:57:36.7±0.9, 7.68N×93.85E, mb4.1/10, mb1 4.3/11, mb1mx4.2/19, mbtmp4.1/11, ML3.5/1, Error ellipse: s-maj=39.0km s-min=20.1km az=53.0*

ISC 27 16:57:39.8±0.8, 7.7N±0.1×94.0E±0.2, h33km, n15, σ0°62/13, mb4.1/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.72**	**24**	Pn	**P**	**17 00 27.4**	**-0.3**
	0.1nm,0.3s,baz=214,slow=13,SNR=3.0						
SONM	**Songino Array**	**41.34**	**13**	P	**P**	**17 05 25.1**	**+1.0**
	1.2nm,1.0s,mb3.5,baz=202,slow=7.8,SNR=2.4						
ZAL	**Zalesovo**	**46.67**	**353**	P	**P**	**17 06 06.9**	**-0.1**
	3.9nm,0.8s,mb4.4,baz=300,slow=9.0,SNR=5.2						
WRA	**Warramunga Arr**	**48.33**	**125**	P	**P**	**17 06 19.9**	**-0.6**
	2.0nm,0.8s,mb4.2,baz=307,slow=8.8,SNR=4.7						
BVAR	**Borovoye Array**	**49.06**	**341**	P	**P**	**17 06 24.8**	**-0.9**
	1.4nm,0.9s,mb4.0,baz=146,slow=10,SNR=2.8						
ASAR	**Alice Springs**	**49.97**	**130**	P	**P**	**17 06 33.4**	**+0.3**
	2.4nm,0.9s,mb4.2,baz=304,slow=7.1,SNR=5.4						
BRTR	**Keskin Array B**	**62.38**	**311**	P	**P**	**17 08 01.2**	**-0.5**
	1.5nm,0.7s,mb4.2,baz=124,slow=8.9,SNR=4.3						
AKASG	**Malin Array Be**	**68.15**	**322**	P	**P**	**17 08 38.3**	**-0.4**
	1.5nm,0.7s,mb4.1,baz=90,slow=5.0,SNR=5.0						
FINES	**FINESS Array B**	**72.75**	**332**	P	**P**	**17 09 06.6**	**+0.3**
	3.9nm,0.7s,mb4.4,baz=112,slow=10,SNR=6.3						
GERES	**GERESS Array B**	**77.81**	**318**	P	**P**	**17 09 36.6**	**+1.1**
	1.7nm,0.7s,mb4.1,baz=90,slow=4.0,SNR=7.0						
KHC	**Kasperske Hory**	**77.90**	**319**	*e*P	**P**	**17 09 35.5**	**-0.5**
NB2	**NORSAR Subarra**	**79.76**	**331**	P	**P**	**17 09 46.5**	**+0.6**
	2.8nm,0.8s,mb4.2,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**79.76**	**331**	P	**P**	**17 09 46.8**	**+0.8**
	1.7nm,0.6s,mb4.1,baz=92,slow=5.7,SNR=5.1						
PDAR	**Pinedale Array**	**125.37**	**21**	PKP	PKPdf	17 16 40.9	+3.1
	0.6nm,0.7s,baz=270,slow=0.9,SNR=3.6						
PLCA	**Paso Flores**	**144.35**	**200**	PKP	PKPdf	17 17 15.3	+2.5
	6.1nm,1.0s,baz=149,slow=5.1,SNR=6.5						

*IDC **27** 16:58:46.0±0.5, 7.88N×94.11E, mb4.9/26, mb1 5.0/27, mb1mx5.0/28, mbtmp4.9/27, ML5.1/1, MS5.5/4, Ms1 5.5/4, ms1mx4.7/9, Error ellipse: s-maj=27.4km s-min=11.6km az=53.0, Putative timing error at LPAZ*

*MOS **27** 16:58:50.0±1.0, 7.88N×94.07E, h33km, mb5.6/90, MS5.4/45, Error ellipse: s-maj=8.0km s-min=4.3km az=117.9*

*BJI **27** 16:58:50.1, 7.84N×93.86E, h36km, mB5.6, mb5.0, Ms5.9, Msz5.7*

*HRVD **27** 16:58:51.1±0.2, 7.81N×94.24E, h20km, MW5.7/68, Centroid moment Tensor Solution. LP body waves: s56,c103; Mantle waves: s68,c143; Half duration: 1s8 Moment tensor: Scale 10^{17}Nm; M_{rr}0.17±.08; $M_{\theta\theta}$-4.42±.08; $M_{\phi\phi}$4.26±.08; $M_{r\theta}$-1.23±.18; $M_{\theta\phi}$2.18±.07; $M_{\phi r}$-0.05±.17; Best double couple: $M_0$5×10^{17} NP1:ϕ_s149°, δ78°, λ-174°. NP2:ϕ_s58°, δ84°, λ-12°. Principal axes: T 4.802, Plg4°, Azm104°; N .405, Plg77°, Azm212°; P -5.199, Plg12°, Azm13°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **27** 16:58:51.1±0.2, 7.88N×94.09E, h30km, mb5.5/105, MS5.5/47, MW5.9 Error ellipse: s-maj=6.0km s-min=4.5km az=48.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^{17}Nm; M_{rr}0.50; $M_{\theta\theta}$-6.15; $M_{\phi\phi}$5.65; $M_{r\theta}$-0.90; $M_{\theta\phi}$2.77; $M_{\phi r}$0.98; Best double couple: $M_0$6.7×10^{17} NP1: ϕ_s57°, δ79°, λ-1°. NP2:ϕ_s148°, δ89°, λ-169°. Principal axes: T 6.37, Plg7°, Azm282°; N .56, Plg79°, Azm151°; P -6.93, Plg8°, Azm13°;*

*CSEM **27** 16:58:52.0, 8.30N×94.33E, h33km, mb5.7*

ISC 27 16:58:49.8±0.2, 7.84N±0.03×94.14E±0.03, h33km, (h22km±2.8km:pP-P), n471, σ1°16/444, mb5.3/144, MS5.5/77, 35C-15D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.03**	**340**	*e*P	Px	16 59 51.8	
PBA				*i* SG	Sx	17 00 51.2	
NNT	**Nongplab**	**7.25**	**49**	P	**P**	**17 00 33.6**	**-2.4**
NST	**Nakhon Sawan**	**9.74**	**36**	P	**P**	**17 01 08.0**	**-2.8**
	83nm,0.5s						
CM31	**Chiang Mai Arr**	**11.54**	**23**	*e*P	**P**	**17 01 35.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**11.54**	**23**	P	**P**	**17 01 34.8**	**-0.5**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.54**	**23**	Pn	**P**	**17 01 34.8**	**-0.5**
	comp=Z,4.1nm,0.3s,baz=210,slow=14,SNR=46						
CHG	**Chiang Mai**	**11.86**	**23**	⇑P	**P**	**17 01 39.4**	**-0.3**
	comp=Z,22nm,0.8s						
KKTK	**Khon Kaen**	**11.97**	**44**	P	**P**	**17 01 43.5**	**+2.4**
	comp=Z,432nm,0.9s						
NANT	**Nan**	**12.62**	**30**	⇑P	**P**	**17 01 50.0**	**+0.1**
	comp=Z,100nm,1.0s						
PALK	**Pallekele**	**13.34**	**268**	*e*P	**P**	**17 01 58.7**	**-0.6**
	comp=Z,91nm,0.9s						
VIS	**Vishakhapatnam**	**14.40**	**314**	*e*P	**P**	**17 02 13.2**	**-0.2**
VIS				*e*		17 02 18.7	
	comp=Z,81nm,0.9s						
MDRS	**Chennai**	**14.62**	**292**	*e*P	**P**	**17 02 17.7**	**+1.5**
MDRS				*e*		17 02 24.7	
	comp=Z,208nm,0.9s						
KOD	**Kodaikanal**	**16.64**	**279**	*e*P	**P**	**17 02 46.6**	**+4.4**
KOD				*e*		17 02 51.6	
	comp=Z,216nm,1.6s						
TRD	**Trivandrum**	**17.02**	**273**	*e*	**P**	**17 02 46.9**	**-0.2**
BOK	**Bokaro**	**17.73**	**334**	*e*P	**P**	**17 02 55.2**	**-0.6**
BOK				*e*		17 03 01.9	
	comp=Z,434nm,1.5s						
SHL	**Shillong**	**17.76**	**353**	*e*P	**P**	**17 02 53.3**	**-2.9**
SHL				*e*		17 03 00.1	
	comp=Z,7μm,1.4s						
SHL				*e*S	**S**	**17 06 12.5**	**+2.0**
HYB	**Hyderabad**	**17.93**	**304**	*e*P	**P**	**17 02 58.0**	**-0.4**
HYB				pmax	pmax		
	comp=Z,567nm,1.6s						
HYB	**Hyderabad**	**17.93**	**304**	*e*P	**P**	**17 02 58.0**	**-0.4**
	comp=Z,567nm,1.6s						
HYB				*e*S	**S**	**17 06 24.0**	**+10**
HYB	**Hyderabad**	**17.93**	**304**	*i* P	**P**	**17 02 58.0**	**-0.4**
	comp=Z,567nm,1.6s						
HYB				*e*S	**S**	**17 06 20.0**	**+5.6**
HYB				LR	LR	17 13 20.0	
	comp=Z,13nm,16.0s						
QIZ	**Qiongzhong**	**18.87**	**52**	P	**P**	**17 03 11.8**	**+1.8**
QIZ				LR	LR		
	comp=N,54μm,11.5s						
QIZ	**Qiongzhong**	**18.87**	**52**	*e*P	**P**	**17 03 12.4**	**+2.4**
	comp=N,343nm,1.6s						
KMI	**Kunming**	**19.04**	**25**	⇑P	**P**	**17 03 14.5**	**+2.5**
KMI				S	**S**	**17 06 42.7**	**+3.2**
KMI				pmax	pmax		
	comp=Z,86nm,1.7s						
KMI	**Kunming**	**19.04**	**25**	⇑P	**P**	**17 03 14.5**	**+2.5**
	comp=Z,86nm,1.7s						
KMI				pP		17 03 21.4	
KMI				sP		17 03 25.0	
KMI				PP	PP	17 03 30.9	+2.3
KMI				PPP	PPP	17 03 39.3	+1.7
KMI				S	**S**	**17 06 42.7**	**+3.2**
KMI				sS		17 06 52.5	
KMI				SS	SS	17 07 26.5	+21
COCO	**West Island**	**20.08**	**172**	*e*P	**P**	**17 03 23.9**	**+0.5**
	comp=Z,1μm,1.6s						
JIRN	**Jiri**	**21.10**	**340**	*e*P	**P**	**17 03 34.0**	**+0.1**
GOA	**Goa**	**21.29**	**293**	*e*	**P**	**17 03 45.0**	**+9.2**
GOA				*e*		17 03 47.7	
	comp=Z,206nm,1.7s						
GOA				*e*		17 07 49.5	
PKI	**Pulchoki**	**21.29**	**338**	*e*P	**P**	**17 03 36.9**	**+1.1**
	comp=Z,633nm,1.1s,mb5.9						
DMN	**Daman**	**21.44**	**338**	*e*P	**P**	**17 03 38.7**	**+1.4**
	comp=Z,857nm,1.2s,mb6.0						
KKN	**Kakani**	**21.54**	**338**	*e*P	**P**	**17 03 37.9**	**-0.4**
	comp=Z,822nm,1.2s,mb6.0						
KAD	**Karad**	**21.61**	**298**	*e*P	**P**	**17 03 40.6**	**+1.5**
KAD				*e*		17 03 43.3	
	comp=Z,225nm,1.6s						
LSA	**Lhasa**	**21.92**	**353**	P	**P**	**17 03 42.5**	**+0.4**
LSA				AMB	AMB		
	comp=Z,40nm,1.1s,mb4.8						
LSA				LR	LR		
	comp=N,16μm,23.2s						
LSA				LR	LR		
	comp=E,68μm,16.7s						
LSA				LR	LR		
	comp=Z,213μm,21.9s,MS6.5						
LSA	**Lhasa**	**21.92**	**353**	*e*P	**P**	**17 03 42.0**	**-0.1**
LSA				pmax	pmax		
	comp=Z,264nm,1.0s,mb5.6						
LSA	**Lhasa**	**21.92**	**353**	*e*P	**P**	**17 03 42.0**	**-0.1**
	comp=Z,264nm,1.0s,mb5.6						
GKN	**Gorkha**	**21.97**	**337**	*e*P	**P**	**17 03 41.8**	**-0.8**
BHPL	**Bhopal**	**22.18**	**316**	*e*P	**P**	**17 03 46.2**	**+1.5**
KOLN	**Koldanda**	**22.19**	**335**	*e*P	**P**	**17 03 45.1**	**+0.3**
	comp=Z,1μm,1.4s,mb6.1						
POO	**Poona**	**22.41**	**300**	*e*P	**P**	**17 03 48.9**	**+1.9**
POO				*e*		17 03 53.6	
	comp=Z,165nm,1.1s						
BOM	**Bombay**	**23.45**	**300**	*e*P	**P**	**17 03 59.1**	**+1.8**
BOM				*e*		17 04 07.2	
	comp=Z,169nm,1.4s						
BOM				*e*S	**S**	**17 08 16.6**	**+12**
ASOR	**Ausora**	**25.90**	**325**	*e*P	**P**	**17 04 21.0**	**+0.2**
ASOR				*e*	pP	17 04 30.8	+0.6
	comp=Z,238nm,0.4s						
SONA	**Sohna**	**25.91**	**324**	*e*P	**P**	**17 04 21.1**	**+0.2**
AYAN	**Aya Nagar**	**26.06**	**324**	*e*P	**P**	**17 04 22.2**	**0.0**
AYAN				*e*		17 04 29.0	
	comp=Z,120nm,1.7s						
NDI	**New Delhi**	**26.16**	**325**	*e*P	**P**	**17 04 24.2**	**+1.0**
NDI				*e*		17 04 29.4	
	comp=Z,234nm,1.5s						
NDI				*e*S	**S**	**17 08 55.5**	**+5.0**
KUDL	**Kundal**	**26.19**	**323**	*e*P	**P**	**17 04 24.1**	**+0.6**
AJM	**Ajmer**	**26.21**	**317**	*e*P	**P**	**17 04 24.4**	**+0.8**
AJM				*e*		17 04 29.3	
	comp=Z,98nm,1.2s						
BHGR	**Bahadurgarh**	**26.33**	**324**	*e*P	**P**	**17 04 24.6**	**-0.1**
DGAR	**Diego Garcia**	**26.41**	**236**	PFAKE		17 04 40.0	+14
DGAR				LR	LR		
	comp=Z,2μm,20.0s,MS4.6						
ENH	**Enshi**	**26.55**	**31**	*e*P	**P**	**17 04 25.6**	**-1.1**
	comp=Z,92nm,1.1s,mb5.2						
ENH				LR	LR		
	comp=Z,15μm,21.0s,MS5.5						
KHET	**Khetri**	**26.55**	**322**	*e*P	**P**	**17 04 27.9**	**+1.1**
KHET				*e*		17 04 33.0	
	comp=Z,250nm,1.5s						
KKR	**Kurukshetra**	**27.36**	**326**	*e*P	**P**	**17 04 33.8**	**-0.4**
SMLA	**Simla**	**28.07**	**328**	*e*	**P**	**17 04 54.6**	**+14**
SMLA				*e*		17 05 07.3	
	comp=Z,186nm,1.7s						
JASL	**Jaisalmer**	**29.09**	**314**	*e*P	**P**	**17 04 52.1**	**+2.4**
JASL				*e*		17 04 56.7	
XAN	**Xi'an**	**29.42**	**26**	P	**P**	**17 04 52.0**	**-0.6**
XAN				AP	pP	17 04 59.0	-3.1
XAN				AMB	AMB		
	comp=Z,22nm,0.8s,mb4.9						
WHN	**Wuhan**	**29.46**	**37**	*e*P	**P**	**17 04 52.5**	**-0.5**
WHN				S	**S**	**17 09 39.0**	**-4.7**
WHN				LR	LR		
	comp=Z,30μm,12.8s,MS6.1						
LZH	**Lanzhou**	**29.48**	**16**	⇑P	**P**	**17 04 54.0**	**+0.9**
LZH				AP	pP	17 05 03.3	+0.7
LZH				XP	sP	17 05 07.5	+0.5
LZH				PP	PP	17 05 50.0	+0.8
LZH				S	**S**	**17 09 46.0**	**+2.1**
LZH				XS		17 10 02.0	
LZH				SS	SS	17 11 19.0	+1.5
LZH				AMB	AMB		
	comp=Z,98nm,1.6s,mb5.3						
LZH				AMB	AMB		
	comp=Z,361nm,4.0s						
LZH				LR	LR		
	comp=E,10μm,13.0s						
LZH				LR	LR		
	comp=Z,11μm,13.8s,MS5.6						
LZH	**Lanzhou**	**29.48**	**16**	⇑P	**P**	**17 04 54.0**	**+0.9**
LZH				*PP	pP	17 05 03.2	+0.6
LZH				*SP	sP	17 05 07.6	+0.6
LZH						17 05 50.0	
LZH				S	**S**	**17 09 46.0**	**+2.1**
LZH				*SS		17 10 02.0	
LZH				SS	SS	17 11 19.0	+1.5
LZH				pmax	pmax		
	comp=Z,98nm,1.6s,mb5.3						
LZH				MLR	MLR		
	comp=Z,11μm,13.8s,MS5.6						
LZH	**Lanzhou**	**29.48**	**16**	⇑P	**P**	**17 04 54.0**	**+0.9**
	comp=Z,98nm,1.6s,mb5.3						
LZH				pP	pP	17 05 03.2	+0.6
LZH				sP	sP	17 05 07.6	+0.6
LZH				PP	PP	17 05 50.0	+0.8
LZH				S	**S**	**17 09 46.0**	**+2.1**
LZH				sS		17 10 02.0	
LZH				SS	SS	17 11 19.0	+1.5
LZH				LR	LR		
	comp=Z,11μm,13.8s,MS5.6						
NJ2	**Nanjing**	**33.29**	**40**	*e*P	**P**	**17 05 29.0**	**+2.3**
NJ2				AP	pP	17 05 38.5	+2.2
NJ2				XP	sP	17 05 42.5	+1.8
NJ2				PP	PP	17 06 41.5	+2.9
NJ2				S	**S**	**17 10 47.0**	**+3.2**
NJ2				XS		17 11 05.0	
	comp=Z,20nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,1μm,4.8s						
NJ2				LR	LR		
	comp=N,23μm,15.0s,MS6.1						
NJ2				LR	LR		
	comp=E,24μm,18.0s,MS6.1						
NJ2				LR	LR		
	comp=Z,21μm,13.6s,MS6.0						
SSE	**Sheshan**	**34.24**	**44**	P	**P**	**17 05 31.1**	**-3.8**
	comp=Z,27nm,0.7s,mb5.3						
SSE				S	**S**	**17 10 57.3**	**-1.2**
SSE				sS		17 11 14.1	
SSE				SS	SS	17 13 26.2	+18
SSE				LR	LR		
	comp=Z,4μm,15.3s,MS5.3						
TIA	**Tai'an**	**35.17**	**33**	*e*P	**P**	**17 05 43.5**	**+0.7**
TIA				S	**S**	**17 11 19.5**	**+6.6**
TIA				LR	LR		
	comp=N,4μm,13.4s,MS5.6						
TIA				LR	LR		
	comp=E,6μm,12.5s,MS5.6						
WMQ	**Urumqi**	**36.28**	**352**	⇑*i*P	**P**	**17 05 52.5**	**+0.4**
WMQ				AP	pP	17 06 02.3	+0.5
WMQ				XP	sP	17 06 06.0	-0.1
WMQ				PP	PP	17 07 15.5	0.0
WMQ				PCP	PcP	17 08 17.8	+0.8
WMQ				S	**S**	**17 11 29.8**	**0.0**
WMQ				AMB	AMB		
	comp=Z,3μm,5.5s						
WMQ				LR	LR		
	comp=N,7μm,18.2s,MS5.6						
WMQ				LR	LR		
	comp=E,6μm,18.3s,MS5.6						
WMQ				LR	LR		
	comp=Z,10μm,18.6s,MS5.6						
WBK	**Wadi Bani Khal**	**36.85**	**297**	⇓P	**P**	**17 06 00.1**	**+3.0**
BJT	**Baijiatuau**	**37.61**	**28**	*e*P	**P**	**17 06 04.7**	**+1.4**
BJT				pmax	pmax		
	comp=Z,69nm,1.4s						
BJT				MLR	MLR		
	comp=Z,8μm,20.0s						
BJT	**Baijiatuau**	**37.61**	**28**	*e*P	**P**	**17 06 04.7**	**+1.3**
	comp=Z,69nm,1.4s,mb5.2						
BJT				LR	LR		
	comp=Z,8μm,20.0s,MS5.5						
BJI	**Beijing**	**37.63**	**28**	P	**P**	**17 06 04.9**	**+1.4**
BJI						17 07 33.8	
BJI				S	**S**	**17 11 55.6**	**+5.0**
BJI				SS	SS	17 14 49.8	+24
BJI				pmax	pmax		
	comp=Z,30nm,1.9s,mb4.7						
BJI				MLR	MLR		
	comp=Z,6μm,22.1s,MS5.3						
BJI	**Beijing**	**37.63**	**28**	P	**P**	**17 06 04.9**	**+1.4**
	comp=Z,30nm,1.9s,mb4.7						
BJI				PP	PP	17 07 33.8	+1.3
BJI				S	**S**	**17 11 55.6**	**+5.0**
BJI				SS	SS	17 14 49.8	+24
BJI				LR	LR		
	comp=Z,6μm,22.1s,MS5.3						
SMDO	**Samad**	**37.80**	**298**	⇓P	**P**	**17 06 08.7**	**+3.6**
	SNR=5.9						
BIDO	**Bidbid**	**37.87**	**298**	⇓P	**P**	**17 06 09.4**	**+3.7**
KZA	**Kyzart**	**37.97**	**337**	P	**P**	**17 06 07.4**	**+1.1**
	SNR=5.1						
MBWA	**Marble Bar**	**38.24**	**139**	*e*P	**P**	**17 06 10.4**	**+1.7**
	comp=Z,32nm,1.0s,mb5.0						
AAA	**Alma-Ata**	**38.38**	**340**	P	**P**	**17 06 14.0**	**+4.3**
AAA				MLR	MLR		
	comp=Z,3μm,16.0s,MS5.2						
UCH	**Uchtor**	**38.38**	**336**	P	**P**	**17 06 10.6**	**+0.9**
	SNR=8.2						
BSY	**Bisya**	**38.45**	**297**	⇑P	**P**	**17 06 12.6**	**+2.1**
	SNR=13						
KBK	**Karagaybulak**	**38.58**	**337**	P	**P**	**17 06 11.8**	**+0.5**
	SNR=18						
HOQ	**Hoqain**	**38.60**	**298**	P	**P**	**17 06 14.9**	**+3.2**
	SNR=12						
AML	**Almayashu**	**38.63**	**335**	P	**P**	**17 06 12.1**	**+0.3**
	SNR=16						
AAK	**Ala-Archa**	**38.73**	**337**	P	**P**	**17 06 08.9**	**-3.7**
	SNR=13						
AAK	**Ala-Archa**	**38.73**	**337**	P	**P**	**17 06 12.9**	**+0.3**
AAK				pmax	pmax		
	comp=Z,81nm,1.3s,mb5.3						
AAK	**Ala-Archa**	**38.73**	**337**	*e*P	**P**	**17 06 11.4**	**-1.2**
	comp=Z,122nm,1.5s,mb5.4						
AAK				LR	LR		
	comp=Z,2μm,21.0s,MS4.9						
CHMS	**Chumysh**	**38.94**	**337**	P	**P**	**17 06 14.1**	**-0.2**
	SNR=10						
EKS2	**Erkin-Say**	**39.04**	**336**	P	**P**	**17 06 16.1**	**+0.9**
	SNR=7.9						
ARQ	**Araqi**	**39.22**	**297**	⇑P	**P**	**17 06 20.1**	**+3.2**
	SNR=11						
USP	**Ospenovka**	**39.27**	**337**	P	**P**	**17 06 17.3**	**+0.3**
	SNR=16						
RBK	**Rabkut**	**40.05**	**288**	⇓P	**P**	**17 06 24.9**	**+1.0**
MKAR	**Makanchi Array**	**40.12**	**347**	*i* P	**P**	**17 06 22.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**40.39**	**130**	*e*P	**P**	**17 06 28.4**	**+1.8**
	comp=Z,20nm,0.7s,mb5.0						
ABTO	**Aybut**	**40.89**	**287**	⇑P	**P**	**17 06 31.8**	**+1.0**
	SNR=8.1						
SONM	**Songino Array**	**41.19**	**13**	P	**P**	**17 06 33.0**	**+0.1**
	comp=Z,6.3nm,0.9s,mb4.3,baz=198,slow=8.7,SNR=14						
ULN	**Ulaanbaatar**	**41.37**	**13**	*e*P	**P**	**17 06 33.4**	**-1.0**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.5						
ULN				MLR	MLR		
	comp=Z,5μm,21.0s,MS5.3						
ULN	**Ulaanbaatar**	**41.37**	**13**	*e*P	**P**	**17 06 33.4**	**-1.0**
	comp=Z,8.0nm,0.7s,mb4.5						
ULN				LR	LR		
	comp=Z,5μm,21.0s,MS5.3						
KS15	**Wonju Array Si**	**42.45**	**41**	*e*P	**P**	**17 06 40.7**	**-2.8**
SNY	**Shenyang**	**42.70**	**33**	P	**P**	**17 06 47.0**	**+1.6**
SNY				S	**S**	**17 13 11.8**	**+5.5**
SNY				LR	LR		
	comp=N,6μm,18.0s,MS5.6						
SNY				LR	LR		
	comp=E,3μm,15.3s,MS5.6						
SNY				LR	LR		
	comp=Z,8μm,17.0s,MS5.7						
MOY	**Mondy**	**44.05**	**6**	*e*P	**P**	**17 06 55.7**	**-0.6**
TLY	**Talaya**	**44.40**	**8**	*e*P	**P**	**17 06 59.3**	**+0.3**
TLY				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.5						
TLY				MLR	MLR		
	comp=Z,4μm,18.0s,MS5.4						
TLY	**Talaya**	**44.40**	**8**	*e*P	**P**	**17 06 58.8**	**-0.3**
	comp=Z,13nm,1.0s,mb4.6						
KURK	**Kurchatov**	**44.64**	**346**	*i* P	**P**	**17 07 00.4**	**-0.6**
KURK				pmax	pmax		
	comp=Z,67nm,1.2s,mb5.3						
KURK	**Kurchatov**	**44.64**	**346**	*e*P	**P**	**17 06 59.8**	**-1.2**
	comp=Z,231nm,1.4s,mb5.8						
KURK				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
MUN	**Mundaring**	**44.86**	**153**	*e*P	**P**	**17 07 03.7**	**+0.7**
	comp=Z,33nm,0.8s,mb5.2						
MUN	**Mundaring**	**44.86**	**153**	*e*P	**P**	**17 07 03.7**	**+0.7**
MUN				pmax	pmax		
	comp=Z,33nm,0.8s,mb5.2

MDJ LR LR
comp=E,7μm,16.2s
MDJ LR LR
comp=Z,5μm,16.8s,MS5.6
MDJ Mudanjiang 47.83 34 *e*P **P 17 07 28.2 +1.8**
MDJ LR LR
comp=Z,28nm,1.1s,mb5.2
MDJ LR LR
comp=Z,4μm,20.0s,MS5.4
WRA Warramunga Arr 48.24 126 *i* P **P 17 07 27.6 -2.2**
WRA pmax pmax
comp=Z,10.0nm,1.0s
WRA Warramunga Arr 48.24 126 P **P 17 07 27.8 -2.1**
comp=Z,10.0nm,0.9s,mb4.8,baz=305,slow=9.3,SNR=14
WRAB Tennant Creek 48.24 125 *e*P **P 17 07 27.8 -2.1**
WRAB pmax pmax
comp=Z,46nm,1.1s,mb5.4
WRAB MLR MLR
comp=Z,2μm,21.0s,MS5.0
WRAB Tennant Creek 48.24 125 *e*P **P 17 07 27.8 -2.1**
comp=Z,46nm,1.1s,mb5.4
WRAB LR LR
comp=Z,2μm,21.0s,MS5.0
VLA Vladivostok 48.25 37 *e*P **P 17 07 39.0 +9.4**
VLA *e*S **S 17 14 34.0 +8.2**
VLA pmax pmax
comp=Z,500nm,7.0s
VLA pmax pmax
comp=Z,800nm,6.0s
VLA smax
comp=N,1μm,11.0s
VLA smax
comp=E,2μm,12.0s
VLA MLR MLR
comp=N,6μm,14.0s,MS6.0
VLA MLR MLR
comp=Z,10μm,14.0s,MS6.0
VLA MLR MLR
comp=E,8μm,13.0s,MS6.0
WB2 Warramunga Arr 48.25 126 *e*P **P 17 07 27.5 -2.4**
BVA0 Borovoye Array 49.02 341 *i* P **P 17 07 34.1 -1.3**
BVA0 pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
BVAR Borovoye Array 49.02 341 P **P 17 07 34.0 -1.4**
comp=Z,13nm,1.0s,mb4.9,baz=143,slow=7.4,SNR=22
RAYN Ar Rayn 49.10 294 P **P 17 07 36.0 -0.4**
comp=Z,620nm,1.0s,SNR=27
MAJO Matsushiro 49.18 48 P **P 17 07 36.2 -0.7**
MAJO MLR MLR
comp=Z,3μm,20.0s,MS5.2
MAT Matsushiro 49.18 48 *e*P **P 17 07 41.0 +4.1**
MAT MLR MLR
comp=Z,3μm,20.0s,MS5.3
MAT Matsushiro 49.18 48 P **P 17 07 41.0 +4.1**
CHKZ Chkalovo 49.50 342 P **P 17 07 37.9 -1.2**
CHKZ pmax pmax
comp=Z,60nm,1.1s,mb5.5
CHKZ Chkalovo 49.50 342 *e*P **P 17 07 37.6 -1.5**
comp=Z,98nm,1.1s,mb5.8
ASPA Alice Springs 49.89 130 *e*P **P 17 07 41.8 -0.7**
ASAR Alice Springs 49.89 130 P **P 17 07 40.4 -2.1**
comp=Z,7.9nm,0.8s,mb4.8,baz=303,slow=7.6,SNR=15
FORT Forrest 50.31 141 *e*P **P 17 07 46.8 +1.2**
comp=Z,154nm,1.0s,mb6.0
KLR Kul'dur 51.91 31 *e*P **P 17 08 00.0 +2.6**
KLR MLR MLR
comp=E,4μm,13.0s
KLR MLR MLR
comp=Z,7μm,13.0s,MS5.9
BOD Bodaibo 52.18 13 *e*P **P 17 07 57.5 -1.8**
GNI Garni 54.46 314 P **P 17 08 17.2 +0.7**
GNI pmax pmax
comp=Z,9.0nm,0.7s
GNI Garni 54.46 314 P **P 17 08 17.2 +0.7**
comp=Z,9.4nm,0.7s,mb4.8,baz=183,slow=3.5,SNR=11
GNI Garni 54.46 314 *e*P **P 17 08 16.6 +0.1**
comp=Z,103nm,1.2s,mb5.6
CLNS Chul'man 54.46 20 *e*P **P 17 08 16.2 -0.1**
CLNS pmax pmax
comp=Z,60nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,29nm,1.0s
CLNS pmax pmax
comp=E,36nm,0.9s
CLNS MLR MLR
comp=Z,8μm,16.0s,MS5.9
CLNS MLR MLR
comp=N,6μm,14.0s,MS5.9
CLNS MLR MLR
comp=E,800nm,10.0s,MS5.9
TI2 Plekhanov 55.07 316 *e*P pP 17 08 31.2 +0.2
SVE Sverdlovsk 55.43 338 *e*P **P 17 08 19.7 -3.6**
SVE *e* 17 09 20.0
SVE *e*S **S 17 16 00.0 -4.0**
SVE pmax pmax
comp=Z,160nm,2.0s,mb5.7
SVE MLR MLR
comp=N,2μm,20.0s,MS5.5
SVE MLR MLR
comp=E,3μm,20.0s,MS5.5
SVE MLR MLR
comp=Z,3μm,20.0s,MS5.4
PMG Port Moresby 55.52 107 *e*P **P 17 08 24.2 -0.3**
PMG pmax pmax
comp=Z,36nm,0.8s
PMG MLR MLR
comp=Z,2μm,20.0s
PMG Port Moresby 55.52 107 P **P 17 08 26.1 +1.6**
comp=Z,34nm,0.7s,mb5.5,baz=312,slow=6.4,SNR=9.6
PMG Port Moresby 55.52 107 *e*P **P 17 08 24.2 -0.3**
comp=Z,36nm,0.8s,mb5.5
PMG LR LR
comp=Z,2μm,20.0s,MS5.1
ARU Arti 55.92 337 P **P 17 08 26.3 -0.5**
comp=Z,148nm,1.3s,mb5.9,SNR=20
ARU Arti 55.92 337⇑ *i*P **P 17 08 19.5 -7.3**
ARU *e*S **S 17 16 01.9 -8.7**
ARU *e* 17 18 05.2
ARU *e*SSS SSS 17 22 03.4 -0.6
ARU pmax pmax
comp=Z,69nm,1.3s,mb5.5
ARU MLR MLR
comp=N,4μm,21.0s,MS5.5
ARU MLR MLR
comp=Z,5μm,21.0s,MS5.6
ARU MLR MLR
comp=E,2μm,20.0s,MS5.5
BEST Besiri 56.22 311 P **P 17 08 28.3 -0.9**
ERZM Erzurum 56.79 313 P **P 17 08 33.6 +0.3**
YSS Yuzh-Sakhalins 56.80 38⇑ *e*P **P 17 08 41.0 +7.7**
YSS *e* pP 17 08 52.0 +8.6
YSS *e* 17 09 33.0
YSS *e*S **S 17 16 34.0 +12**
YSS *e* 17 18 16.0
YSS pmax pmax
comp=Z,50nm,1.2s,mb5.4
YSS MLR MLR
comp=N,3μm,14.0s,MS5.7
YSS MLR MLR
comp=E,3μm,14.0s,MS5.7
YSS MLR MLR
comp=Z,3μm,14.0s,MS5.5
YSS Yuzh-Sakhalins 56.80 38 *e*P **P 17 08 37.8 +4.5**
comp=Z,66nm,1.3s,mb5.5
YSS LR LR
comp=Z,3μm,20.0s,MS5.4
KIV Kislovodsk 57.34 318 *c e*P **P 17 08 35.9 -1.3**
KIV *i* S **S 17 16 30.4 +0.9**
KIV pmax pmax
comp=N,45nm,1.0s
KIV pmax pmax
comp=Z,72nm,1.0s,mb5.7
KIV smax
comp=E,85nm,2.1s
KIV MLR MLR
comp=N,740nm,23.0s
KIV MLR MLR
comp=Z,2μm,23.0s,MS5.1
KIV MLR MLR
comp=E,1μm,17.0s
KIV Kislovodsk 57.34 318 *e*P **P 17 08 36.2 -1.0**
comp=E,145nm,1.3s,mb5.8
KIV LR LR
comp=Z,479nm,22.0s,MS4.6
KMBO Kilima Mbogo 57.42 264 P **P 17 08 39.4 +1.2**
KMBO pmax pmax
comp=Z,14nm,0.8s
KMBO MLR MLR
comp=Z,5μm,19.9s
KMBO Kilima Mbogo 57.42 264 P **P 17 08 39.4 +1.2**
comp=Z,14nm,0.8s,mb5.0,baz=56,slow=9.6,SNR=13
KMBO LR LR 17 30 20.1
comp=Z,5μm,19.9s,MS5.6,baz=85,slow=33
KMBO Kilima Mbogo 57.42 264 *e*P **P 17 08 39.0 +0.8**
comp=Z,59nm,1.0s,mb5.6
KMBO LR LR
comp=Z,5μm,20.0s,MS5.6
GOF Gofitskoye 57.55 319 *e*P **P 17 08 43.0 +4.4**
GOF pmax pmax
comp=Z,70nm,1.5s,mb5.5
GOF MLR MLR
comp=Z,4μm,16.0s,MS5.6
ELZG Elazig 58.12 311 P **P 17 08 41.7 -1.0**
ASF Jabal al Asfar 58.23 303 P **P 17 08 43.7 +0.1**
comp=Z,2.4nm,0.5s,mb4.5,baz=306,slow=4.2,SNR=5.6
CTA Charters Tower 58.29 119 P **P 17 08 43.6 -0.5**
CTA pmax pmax
comp=Z,5.0nm,1.1s
CTA Charters Tower 58.29 119 P **P 17 08 43.5 -0.6**
comp=Z,5.2nm,1.1s,mb4.5,baz=264,slow=7.7,SNR=3.1
CTAO Charters Tower 58.29 119 *e*P **P 17 08 42.9 -1.2**
CTAO pmax pmax
comp=Z,23nm,1.3s,mb5.0
CTAO MLR MLR
comp=Z,3μm,21.0s,MS5.4
CTAO Charters Tower 58.29 119 *e*P **P 17 08 42.9 -1.2**
comp=Z,23nm,1.3s,mb5.0
CTAO LR LR
comp=Z,3μm,21.0s,MS5.4
MALT Malatya 58.48 310 *e*P **P 17 08 42.5 -2.7**
MALT pmax pmax
comp=Z,51nm,1.3s,mb5.4
MALT Malatya 58.48 310 *e*P **P 17 08 42.5 -2.7**
comp=Z,51nm,1.3s,mb5.4
SOKR Solikamsk 58.83 339⇓ *i*P **P 17 08 45.8 -1.5**
SOKR pmax pmax
comp=Z,50nm,1.0s,mb5.5
SOKR MLR MLR
comp=Z,6μm,21.0s,MS5.7
GZT Gaziantep 58.88 309 P **P 17 08 46.5 -1.6**
SOC Sochi 59.20 317 *e*P **P 17 08 47.3 -2.9**
SOC *e* 17 09 35.1
SOC *e* 17 10 58.7
SOC *e*PPP PPP 17 12 20.2 -7.4
SOC *e*S **S 17 16 51.9 -2.0**
SOC *e*SS SS 17 20 47.0 -3.0
SOC pmax pmax
comp=N,35nm,0.9s
SOC pmax pmax
comp=Z,46nm,0.9s,mb5.5
SOC pmax pmax
comp=E,26nm,1.1s
SOC MLR MLR
comp=Z,2μm,20.0s,MS5.2
SOC MLR MLR
comp=N,3μm,21.0s,MS5.5
SOC MLR MLR
comp=E,2μm,22.0s,MS5.5
EIL Elat 59.44 300 LR LR 17 36 31.9
comp=E,4μm,18.2s,MS5.6,baz=96,slow=38
EIL Elat 59.44 300 *e*P **P 17 08 50.7 -1.4**
comp=E,93nm,1.4s,mb5.6
KAHT Ahir Dag 59.49 309 P **P 17 08 51.4 -0.8**
COBT Iskenderun 59.70 308 P **P 17 08 56.2 +2.5**
YAK Yakutsk 60.02 18 *e*P **P 17 08 56.0 +0.4**
YAK *e**PP pP 17 09 04.3 -1.4
YAK *e* 17 09 42.0
YAK *e*S **S 17 17 03.3 -0.9**
YAK *e*SS SS 17 21 03.5 +1.4
YAK *e*SSS SSS 17 23 34.3 +0.1
YAK pmax pmax
comp=Z,23nm,0.8s,mb5.3
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
YAK smax
comp=N,138nm,12.4s
YAK smax
comp=E,161nm,12.7s
YAK MLR MLR
comp=Z,3μm,14.0s,MS5.5
YAK MLR MLR
comp=N,2μm,13.0s,MS5.5
YAK MLR MLR
comp=E,2μm,14.0s,MS5.5
YAK Yakutsk 60.02 18 *e*P **P 17 08 53.2 -2.3**
comp=E,132nm,1.0s,mb5.9
YAK LR LR
comp=Z,6μm,19.0s,MS5.7
STKA Stephens Creek 60.08 134 *e*P **P 17 08 54.0 -2.4**
comp=Z,9.1nm,0.9s,mb4.8
STKA Stephens Creek 60.08 134 P **P 17 08 54.5 -2.0**
comp=Z,9.3nm,0.9s,mb4.8,baz=309,slow=6.5,SNR=11
ANN Anapa 61.16 317 *e*P **P 17 09 02.4 -1.1**
ANN *i* *PP pP 17 09 12.4 -1.3
ANN *e* 17 09 43.6
ANN *e*S **S 17 17 20.3 +1.3**
ANN pmax pmax
comp=Z,31nm,0.9s,mb5.4
AVNT Avonos 61.31 310 P **P 17 09 03.5 -1.1**
CSS Prodhromos 61.69 305 *e*P **P 17 09 07.7 +0.5**
comp=Z,45nm,1.1s,mb5.5
BOYT Boyabat 61.94 313 P **P 17 09 07.4 -1.4**
VRSR Storozhevoye 62.40 324 *e*P **P 17 09 10.2 -1.6**
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=Z,20nm,0.9s,mb5.2
VRSR pmax pmax
comp=E,20nm,1.0s
VRSR MLR MLR
comp=Z,3μm,20.0s,MS5.4
VRSR MLR MLR
comp=N,1μm,19.0s,MS5.3
VRSR MLR MLR
comp=E,2μm,20.0s,MS5.3
BRTR Keskin Array B 62.45 311 P **P 17 09 09.2 -3.0**
BRTR pmax pmax
comp=Z,6.0nm,0.7s
BRTR Keskin Array B 62.45 311 P **P 17 09 09.2 -3.1**
comp=Z,5.8nm,0.7s,mb4.8,baz=130,slow=7.0,SNR=17
VOR Voronezh 62.61 325 *e*P **P 17 09 12.0 -1.1**
VOR *e**PP pP 17 09 21.0 -2.3
VOR pmax pmax
comp=Z,100nm,1.4s,mb5.8
ELDT Eldivan 62.79 312 P **P 17 09 12.5 -2.0**
BALT Daday 63.07 313 P **P 17 09 16.4 +0.1**
SIM Simferopol' 63.45 317 *e*P **P 17 09 24.0 +5.2**
SIM *e*S **S 17 17 58.0 +10**
SIM *e*SSS SSS 17 24 43.0 -0.5
SIM pmax pmax
comp=Z,34nm,1.1s,mb5.4
SIM MLR MLR
comp=Z,2μm,22.0s,MS5.3
SIM Simferopol' 63.45 317 P **P 17 09 19.7 +0.9**
MBAR Mbarara 63.76 265 *e*P **P 17 09 22.1 +0.7**
MBAR pmax pmax
comp=Z,61nm,1.2s,mb5.5
MBAR Mbarara 63.76 265 *e*P **P 17 09 22.1 +0.7**
comp=Z,61nm,1.2s,mb5.5
ISP Isparta 64.46 308 *e*P **P 17 09 25.0 -0.5**
ISP pmax pmax
comp=Z,46nm,1.0s,mb5.5
ISP Isparta 64.46 308 *e*P **P 17 09 25.0 -0.5**
comp=Z,46nm,1.0s,mb5.5
ESKT Eskisehir 64.51 310 P **P 17 09 23.5 -2.3**
MOS Moscow 65.11 329κ *i*P **P 17 09 29.5 +0.1**
MOS *e* 17 10 04.6
MOS *e* 17 11 54.1
MOS *e*S S 17 18 09.7 +1.6
MOS *e* 17 19 23.0
MOS pmax pmax
comp=Z,241nm,1.3s,mb6.1
MOS MLR MLR
comp=Z,5μm,19.9s,MS5.7
MOS MLR MLR
comp=N,4μm,20.8s
OBN Obninsk 65.41 328 *c i*P **P 17 09 28.0 -3.3**
OBN *e* 17 11 50.7
OBN *e* 17 18 09.4
OBN pmax pmax
comp=Z,126nm,1.4s,mb5.8
OBN MLR MLR
comp=Z,3μm,21.0s,MS5.4
OBN Obninsk 65.41 328 *e*P **P 17 09 27.5 -3.8**
comp=Z,190nm,1.3s,mb6.0
ULDT Uludag 65.92 310 P **P 17 09 33.6 -1.3**
MA2 Magadan 66.79 28 *e*P **P 17 09 40.1 +0.1**
MA2 *e* 17 12 15.7
MA2 *e*PPP PPP 17 13 46.0 +0.4
MA2 *e*S S 17 18 28.3 -0.2
MA2 *e*PS PS 17 18 51.8 -3.5
MA2 *e*SS SS 17 22 44.1 -4.3
MA2 pmax pmax
comp=Z,40nm,1.2s,mb5.3
MA2 pmax pmax
comp=E,20nm,1.3s
MA2 pmax pmax
comp=N,10.0nm,1.2s
MA2 MLR MLR
comp=Z,6μm,20.0s,MS5.8
MA2 Magadan 66.79 28 *e*P **P 17 09 39.6 -0.4**
comp=Z,92nm,1.2s,mb5.7
MA2 LR LR
comp=Z,2μm,19.0s,MS5.4
TIXI Tiksi 67.26 11⇑ *e*P **P 17 09 40.9 -1.9**
TIXI pmax pmax
comp=Z,29nm,1.2s,mb5.2
TIXI Tiksi 67.26 11⇑ *e*P **P 17 09 40.0 -2.8**
TIRR Tirgusor 67.28 315 ⇓P **P 17 09 42.3 -1.0**
KIS Kishinev 67.55 318 *e*P **P 17 09 47.0 +2.0**
KIS *e* 17 09 53.0
KIS *e* 17 10 05.0
KIS *e*S S 17 18 40.0 +2.2
AKASG Malin Array Be 68.18 322 P **P 17 09 46.3 -2.6**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 68.18 322 P **P 17 09 46.3 -2.6**
comp=Z,5.5nm,0.7s,mb4.7,baz=86,slow=5.0,SNR=25
SANT Santorini 68.24 306 *e*P **P 17 09 48.1 -1.4**
comp=Z,160nm,1.3s,mb5.9
IDI Anoyia 68.59 305 P **P 17 09 50.6 -1.1**
comp=Z,17nm,0.6s,mb5.2,baz=110,slow=7.6,SNR=11
VRI Vrincioaia 68.72 316 ⇓P **P 17 09 51.2 -1.2**
SEY Seymchan 68.95 25 *e*P **P 17 09 54.3 +0.8**
SEY 17 10 16.7
SEY *e*PPP PPP 17 13 59.8 -6.4
SEY *e*S S 17 18 56.5 +2.2
SEY 17 19 44.6
SEY *e*SS SS 17 23 26.4 +4.5
SEY SSS SSS 17 26 28.9 +5.1
SEY pmax pmax
comp=E,50nm,1.2s
SEY pmax pmax
comp=Z,90nm,1.2s,mb5.6
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY smax
comp=N,730nm,22.8s
SEY smax
comp=E,2μm,21.5s
SEY MLR MLR
comp=Z,17μm,18.0s,MS6.3
SEY MLR MLR
comp=N,17μm,19.0s,MS6.4
SEY MLR MLR
comp=E,4μm,15.0s,MS6.4
MLR Muntele Rosu 69.19 316 P **P 17 09 54.3 -1.0**
MLR pmax pmax
comp=Z,29nm,1.1s
MLR Muntele Rosu 69.19 316 P **P 17 09 54.3 -0.9**
comp=Z,29nm,1.1s,mb5.1,baz=42,slow=2.1,SNR=14
MLR Muntele Rosu 69.19 316 ⇓P **P 17 09 54.1 -1.2**
LSZ Lusaka 69.26 250 *e*P **P 17 09 56.2 +0.1**
LSZ pmax pmax
comp=Z,29nm,1.0s,mb5.2
LSZ MLR MLR
comp=Z,4μm,20.0s,MS5.7
LSZ Lusaka 69.26 250 *e*P **P 17 09 56.2 0.0**
comp=Z,29nm,1.0s,mb5.2
LSZ LR LR
comp=Z,4μm,20.0s,MS5.7
TAU Tasmania Unive 69.86 141 P **P 17 10 01.0 +1.6**
TAU pmax pmax
comp=Z,69nm,1.4s,mb5.4
TAU MLR MLR
comp=Z,531nm,19.0s,MS4.8
TAU Tasmania Unive 69.86 141 P **P 17 10 01.0 +1.6**
comp=Z,69nm,1.4s,mb5.4
TAU LR LR
comp=Z,531nm,19.0s,MS4.8
MNK Minsk 69.98 325 *e*P **P 17 09 53.0 -6.9**
PUL Pulkovo 70.24 331 *e*P **P 17 10 00.0 -1.4**
PUL pmax pmax
comp=N,19nm,0.5s
PUL pmax pmax
comp=Z,79nm,0.5s,mb5.9
PUL pmax pmax
comp=E,112nm,1.1s
SRS Serrai 70.24 311 *e*P **P 17 09 59.0 -2.7**
THE Thessaloniki 70.66 310 *e*P **P 17 10 09.7 +5.5**
KNT Kendrikon 70.77 311 *e*P **P 17 10 04.3 -0.7**
JOF Joensuu 70.88 334 *e*p **P 17 10 04.6 -0.6**
comp=E,67nm,1.4s,mb5.4
LIT Litokhoron 70.96 310 *e*P **P 17 10 03.5 -2.6**
AGG Agios Georgios 70.98 308 *e*P **P 17 10 02.9 -3.3**
GRG Griva 71.12 311 *e*P **P 17 10 05.1 -2.0**
LVV L'vov 71.24 320 *e*P **P 17 10 07.6 0.0**
LVV *e* 17 19 57.0
LVZ Lovozero 71.59 340 *e*P **P 17 10 15.2 +5.8**
LVZ *e*S S 17 19 22.2 -2.8
LVZ pmax pmax
comp=Z,55nm,1.2s,mb5.4
LVZ pmax pmax
comp=N,23nm,1.5s
LVZ pmax pmax
comp=E,10.0nm,1.2s
LVZ smax
comp=Z,249nm,12.0s
LVZ smax
comp=N,591nm,14.6s
LVZ smax
comp=E,339nm,9.8s
LVZ MLR MLR
comp=N,3μm,19.0s,MS5.8
LVZ MLR MLR
comp=Z,5μm,19.0s,MS5.8
LVZ MLR MLR
comp=E,4μm,20.0s,MS5.8
LVZ MLR MLR
comp=Z,2μm,19.0s
LVZ MLR MLR
comp=N,860nm,16.0s
LVZ MLR MLR
comp=E,1μm,20.0s
BOLS Boljevac 71.76 313⇑ *i*P **P 17 10 10.0 -0.8**
SKO Skopje 71.94 312 *e*P **P 17 10 08.0 -3.9**
SKO *i* 17 10 13.5
KWP Kalwaria 72.06 320 *e*P **P 17 10 12.5 +0.1**
JAN Janina 72.18 309⇑ *i*P **P 17 10 10.7 -2.6**
JAN *i* 17 10 28.0
JAN pmax pmax
comp=Z,61nm,1.2s,mb5.4
JAN MLR MLR
comp=Z,4μm,20.0s,MS5.7
KOLS Kolonicke sedl 72.23 319 *e*PP PP 17 12 57.8 +1.8
KOLS Kolonicke sedl 72.23 319 *e*PP PP 17 12 57.8 +1.8
SUW Suwalki 72.53 324 *e*P **P 17 10 14.8 -0.3**
IGT Igoumenitsa 72.57 309 *e*P **P 17 10 14.7 -1.1**
GRUS Gruza 72.66 313⇑ *i*P **P 17 10 18.6 +2.4**
FINES FINESS Array B 72.74 332 P **P 17 10 15.1 -1.2**
FINES pmax pmax
comp=Z,19nm,0.8s
FINES FINESS Array B 72.74 332 P **P 17 10 15.1 -1.2**
comp=Z,19nm,0.8s,mb5.1,baz=92,slow=6.0,SNR=25
CRVS Cervenica-Dubn 72.75 319 *e*P **P 17 10 17.0 +0.4**
CRVS *e**PP pP 17 10 23.5 -3.4
CRVS *e* 17 10 38.7
CRVS *e* 17 12 55.8
CRVS Cervenica-Dubn 72.75 319 *e*P **P 17 10 17.0 +0.4**
CRVS *e*pP pP 17 10 23.5 -3.4

CRVS e 17 10 38.7
CRVS e 17 10 39.3
CRVS ePP PP 17 12 55.8 -4.9
CRVS Cervenica-Dubn 72.75 319 eP P 17 10 17.0 +0.4
CRVS e 17 10 17.1
CRVS i pP pP 17 10 23.5 -3.4
CRVS e 17 10 38.7
CRVS e 17 10 39.3
CRVS ePP PP 17 12 55.8 -4.9
KAF Kangasniemi 72.82 333 ep P 17 10 15.7 -1.1
comp=Z,57nm,1.1s,mb5.4,baz=107,slow=6.5
KAF Kangasniemi 72.82 333 eP P 17 10 15.7 -1.1
KAF pmax pmax
comp=Z,57nm,1.1s,mb5.4
DIVS Divcibare 73.20 314 eP P 17 10 15.1 -4.3
NIE Niedzica 73.57 319 eP P 17 10 22.7 +1.3
PSZ Piszkesteto 73.67 318 eP P 17 10 22.1 +0.1
OJC Ojcow 74.00 320⇑ eP P 17 10 24.4 +0.5
LBTB Lobatse 74.23 241 eP P 17 10 25.7 -0.1
LBTB pmax pmax
comp=Z,46nm,1.1s,mb5.3
LBTB MLR MLR
comp=Z,3μm,20.0s,MS5.5
LBTB Lobatse 74.23 241 eP P 17 10 25.7 0.0
comp=Z,46nm,1.1s,mb5.3
LBTB LR LR
comp=Z,3μm,20.0s,MS5.5
LIKS Likavka 74.31 319 eP P 17 10 25.3 -0.4
PKSM Moragy 74.35 316⇑ eP P 17 10 25.6 -0.4
VYHS Vyhne 74.43 318 eP P 17 10 26.5 +0.1
VYHS e 17 10 32.0
VYHS e 17 10 44.6
VYHS ePP PP 17 13 08.1 -6.7
SRO1 Iza 74.76 317 eP P 17 10 28.6 +0.2
KEV Kevo 74.86 341 ep P 17 10 27.4 -1.1
comp=Z,32nm,1.1s,mb5.2
KEV Kevo 74.86 341 eP P 17 10 27.4 -1.1
KEV pmax pmax
comp=Z,32nm,1.1s,mb5.2
OKC Ostrava-Krasne 75.02 319 eP P 17 10 30.3 +0.5
OKC epP pP 17 10 36.2 -3.9
OKC eS S 17 20 08.1 +4.0
OKC ex x 17 28 33.8
OKC AMS AMS 17 50 40.0
comp=Z,1μm,17.1s
ARCES ARCESS Array B 75.30 340 P P 17 10 30.3 -0.7
ARCES pmax pmax
comp=Z,10.0nm,0.9s
ARCES MLR MLR
comp=Z,6μm,20.5s
ARCES ARCESS Array B 75.30 340 P P 17 10 30.3 -0.7
comp=Z,10nm,0.9s,mb4.8,baz=93,slow=5.5,SNR=25
ARCES LR LR 17 46 34.3
comp=Z,6μm,20.5s,MS5.9,baz=117,slow=38
SMOL Smolenice 75.36 318 eP pP 17 10 38.0 -4.1
SMOL Smolenice 75.36 318 e pP 17 10 38.0 -4.1
MORC Moravsky Berou 75.40 319 eP P 17 10 31.0 -1.0
MORC pmax pmax
comp=Z,141nm,1.5s,mb5.7
MORC Moravsky Berou 75.40 319 eP P 17 10 31.0 -1.0
comp=Z,141nm,1.5s,mb5.7
ZST Bratislava 75.56 318 eP P 17 10 34.0 +1.1
ZST e*PP pP 17 10 39.2 -4.0
ZST e pP 17 10 44.3 +1.1
ZST e 17 13 16.8
ZST Bratislava 75.56 318 eP P 17 10 34.0 +1.1
ZST e 17 10 39.2
ZST esP sP 17 10 44.3 -2.6
ZST e 17 10 55.7
ZST ePP PP 17 13 16.8 -7.6
BOSA Boshof 75.57 238 eP P 17 10 33.0 -0.4
BOSA pmax pmax
comp=Z,36nm,1.0s,mb5.3
BOSA Boshof 75.57 238 eP P 17 10 33.0 -0.5
comp=Z,36nm,1.0s,mb5.3
GKP Gorka Klasztor 75.92 323 eP P 17 10 35.5 +0.6
BILL Bilibino 76.11 22 i P P 17 10 35.2 -0.5
BILL Bilibino 76.11 22 eP P 17 10 34.3 -1.4
comp=Z,31nm,1.2s,mb5.1
BILL LR LR
comp=Z,5μm,21.0s,MS5.8
DPC Dobruska-Polom 76.23 320 eP P 17 10 36.4 -0.3
DPC epP pP 17 10 43.5 -3.5
DPC eS S 17 20 17.3 -0.1
DPC ex x 17 28 41.1
DPC AMS AMS 17 53 00.0
comp=Z,2μm,16.3s
KSP Ksiaz 76.29 320 eP P 17 10 37.2 +0.2
KSP e*PP pP 17 10 43.1 -4.2
KSP e pP 17 10 48.2 +0.9
KSP eS S 17 20 16.0 -2.0
KSP MLR MLR
comp=Z,3μm,18.5s,MS5.7
KSP Ksiaz 76.29 320 eP P 17 10 37.2 +0.2
KSP epP pP 17 10 43.1 -4.2
KSP ePcP PcP 17 10 48.2 -1.0
KSP eS S 17 20 16.0 -2.0
KSP eSSS SSS 17 28 37.0 +6.5
KSP LR LR
comp=Z,3μm,18.5s,MS5.7
KSP Ksiaz 76.29 320 eP P 17 10 38.0 +1.0
UPC Upice 76.44 320 eP P 17 10 38.7 +0.8
UPC epP pP 17 10 44.3 -3.9
GROS Grobnik 76.53 316 eP P 17 10 38.7 +0.2
comp=Z,144nm,2.0s,mb5.6
ARSA Arzberg 76.56 317⇑ iP P 17 10 39.9 +1.2
comp=Z,54nm,1.4s,mb5.3
PERS Pernice 76.81 316 eP P 17 10 40.5 +0.4
VAE Valguarnera 77.14 307 LR LR 17 48 16.5
comp=Z,1μm,19.4s,MS5.2,baz=92,slow=38
LJU Ljubljana 77.19 315 eP P 17 10 43.5 +1.2
PRU Pruhonice 77.35 319 eP P 17 10 44.1 +1.0
PRU epP pP 17 10 49.4 -4.0
PRU eS S 17 20 33.2 +3.6
PRU ex x 17 29 55.1
PRU AMS AMS 17 51 40.0
comp=Z,1μm,18.4s
PVCC Panska Ves 77.36 320 eP P 17 10 43.9 +0.8
PVCC epP pP 17 10 49.7 -3.7
PVCC eS S 17 20 39.0 +9.3
PVCC AMS AMS 17 50 50.0
comp=Z,2μm,16.9s
MOA Molln 77.44 317⇓ iP P 17 10 44.2 +0.6
comp=Z,39nm,1.2s,mb5.2
VOY Vojsko 77.63 315 eP P 17 10 44.7 0.0
VOY e 17 10 50.2
BRG Berggiesshubel 77.78 320 eP P 17 10 45.0 -0.4
BRG eS S 17 20 38.0 +3.8
BRG pmax pmax
comp=Z,70nm,1.4s,mb5.4
BRG MLR MLR
comp=Z,2μm,17.5s,MS5.6
BRG Berggiesshubel 77.78 320 eP P 17 10 45.0 -0.4
comp=Z,70nm,1.4s,mb5.4
BRG eS S 17 20 38.0 +3.8
BRG eP'P' 17 36 57.7
BRG LR LR
comp=Z,2μm,17.5s,MS5.6
GEC2 GERESS Array S 77.85 318 eP P 17 10 45.9 +0.1
GEC2 pmax pmax
comp=Z,36nm,1.2s,mb5.2
GEC2 GERESS Array S 77.85 318 eP P 17 10 45.9 +0.1
comp=Z,36nm,1.2s,mb5.2
GERES GERESS Array B 77.85 318 P P 17 10 45.2 -0.6
GERES pmax pmax
comp=Z,9.0nm,0.8s
GERES GERESS Array B 77.85 318 P P 17 10 45.2 -0.7
comp=Z,8.5nm,0.8s,mb4.7,baz=90,slow=4.0,SNR=24
KHC Kasperske Hory 77.94 319 eP P 17 10 47.2 +0.9
KHC epP pP 17 10 52.5 -4.2
KHC eS S 17 20 36.0 0.0
KHC ePKKP PKKP 17 29 32.3 +6.1
KHC AMS AMS 17 52 40.0
comp=Z,1μm,16.4s
RUE Ruedersdorf 77.95 322 eP P 17 10 45.7 -0.6
comp=Z,100nm,1.2s,mb5.6
KBA Koelnbreinsper 78.04 316⇑ iP P 17 10 46.6 -0.3
comp=Z,35nm,1.1s,mb5.2
KBA Koelnbreinsper 78.04 316⇑ iP P 17 10 46.6 -0.3
KBA pmax pmax
comp=Z,35nm,1.1s,mb5.2
CLL Collm 78.39 321⇑ iP P 17 10 48.9 +0.2
CLL i 17 10 54.6
CLL pmax pmax
comp=Z,27nm,1.3s,mb5.0
CLL MLR MLR
comp=Z,2μm,17.7s,MS5.4
CLL Collm 78.39 321⇑ iP P 17 10 48.9 +0.2
comp=Z,27nm,1.3s,mb5.0
CLL i 17 10 54.6
CLL LR LR
comp=Z,2μm,17.7s,MS5.4
CLL Collm 78.39 321 ⇑P P 17 10 48.9 +0.2
comp=Z,logA/T=1.3,mb5.0
CLL i *PP pP 17 10 54.6 -4.5
CLL i *SP sP 17 10 59.3 -3.4
CLL ePP PP 17 13 46.0 -2.0
CLL eS S 17 20 38.0 -2.7
CLL ePS PS 17 21 11.0 -16
WET Wettzell 78.40 319 eP P 17 10 49.0 +0.2
WET pmax pmax
comp=Z,29nm,1.3s,mb5.0
WET Wettzell 78.40 319 eP P 17 10 49.0 +0.2
comp=Z,29nm,1.3s,mb5.0
MAW Mawson 78.50 192 eP P 17 10 50.4 +1.4
MAW pmax pmax
comp=Z,66nm,1.4s
MAW Mawson 78.50 192 P P 17 10 50.6 +1.5
comp=Z,12nm,1.0s,mb4.8,baz=63,slow=9.0,SNR=3.2
MAW Mawson 78.50 192 eP P 17 10 50.4 +1.4
comp=Z,66nm,1.4s,mb5.4
NKC Novy Kostel 78.71 320 eP P 17 10 51.3 +0.8
NKC epP pP 17 10 57.1 -3.7
NKC eS S 17 20 52.5 +8.4
NKC ePKKP PKKP 17 29 51.7 +27
NKC AMS AMS 17 50 40.0
comp=Z,1μm,17.2s
WTTA Wattenberg 79.21 317⇓ iP P 17 10 52.9 -0.4
comp=Z,70nm,1.3s,mb5.4
WTTA Wattenberg 79.21 317⇓ iP P 17 10 52.9 -0.4
WTTA pmax pmax
comp=Z,70nm,1.3s,mb5.4
MOX Moxa 79.25 320 eP P 17 10 53.1 -0.3
MOX pmax pmax
comp=Z,76nm,1.7s,mb5.3
MOX MLR MLR
comp=Z,2μm,19.0s,MS5.5
MOX Moxa 79.25 320 eP P 17 10 53.1 -0.3
comp=Z,76nm,1.7s,mb5.3
MOX LR LR
comp=Z,2μm,19.0s,MS5.5
MOX Moxa 79.25 320 i P P 17 10 53.1 -0.3
comp=Z,logA/T=1.6,mb5.3
MOX L 17 52 30.0
WATA Walderalm 79.25 317⇑ iP P 17 10 53.3 -0.2
comp=Z,41nm,1.2s,mb5.2
WATA Walderalm 79.25 317⇑ iP P 17 10 53.3 -0.2
WATA pmax pmax
comp=Z,41nm,1.2s,mb5.2
GRA1 Grafenberg Arr 79.49 319 eP P 17 10 55.3 +0.5
comp=Z,77nm,1.2s,mb5.5
GRA1 LR LR
comp=Z,1μm,20.3s,MS5.2
GRF Grafenberg Arr 79.49 319 eP P 17 10 55.3 +0.5
GRF pmax pmax
comp=Z,77nm,1.2s,mb5.5
GRF MLR MLR
comp=Z,1μm,20.3s,MS5.2
GRF Grafenberg Arr 79.49 319 eP P 17 10 55.3 +0.5
GRF pmax pmax
comp=Z,77nm,1.2s,mb5.5
GRF MLR MLR
comp=Z,1μm,20.3s,MS5.2
GRF Grafenberg Arr 79.49 319 eP P 17 10 55.3 +0.5
comp=Z,77nm,1.2s,mb5.5
GRF LR LR
comp=Z,1μm,20.3s,MS5.2
SQTA Sankt Quirin 79.50 317⇑ iP P 17 10 53.6 -1.3
comp=Z,56nm,1.3s,mb5.3
SQTA Sankt Quirin 79.50 317⇑ iP P 17 10 53.6 -1.3
SQTA pmax pmax
comp=Z,56nm,1.3s,mb5.3
MOTA Moosalm 79.57 317⇓ iP P 17 10 54.5 -0.7
comp=Z,35nm,1.2s,mb5.2
MOTA Moosalm 79.57 317⇓ iP P 17 10 54.5 -0.7
MOTA pmax pmax
comp=Z,35nm,1.2s,mb5.2
NB2 NORSAR Subarra 79.76 331 P P 17 10 54.4 -1.6
comp=Z,113nm,1.7s,mb5.5,baz=96,slow=5.0
NB2 NORSAR Subarra 79.76 331 P P 17 10 54.4 -1.6
baz=96,slow=5.1
NOA NORSAR Array B 79.76 331 P P 17 10 55.4 -0.6
NOA pmax pmax
comp=Z,10.0nm,0.7s
NOA NORSAR Array B 79.76 331 P P 17 10 55.4 -0.6
comp=Z,10nm,0.7s,mb4.9,baz=92,slow=5.7,SNR=15
NAO01 NORSAR Array S 79.91 330 eP P 17 10 55.1 -1.7
comp=Z,42nm,1.0s,mb5.3
CLZ Clausthal 80.04 321 eP P 17 10 58.2 +0.5
comp=Z,66nm,1.3s,mb5.4
BSEG Bad Segeberg 80.08 323 eP P 17 10 58.8 +1.0
SUR Sutherland 80.32 235 eP P 17 11 01.0 +1.4
comp=Z,37nm,1.1s,mb5.2
SUR LR LR
comp=Z,409nm,19.0s,MS4.8
DAVA Damuels 80.40 317⇑ iP P 17 11 00.2 +0.5
comp=Z,90nm,1.4s,mb5.5
DAVOX Davos 80.41 316 P P 17 11 00.6 +0.8
comp=Z,8.8nm,0.6s,mb4.9,baz=169,slow=3.0,SNR=13
MUD Monsted U'grnd 80.74 326 eP P 17 11 06.6 +5.3
MUD eS S 17 21 15.7 +10
MUD pmax pmax
comp=Z,64nm,1.1s,mb5.5
MUD Monsted U'grnd 80.74 326 i P P 17 11 06.6 +5.3
comp=Z,64nm,1.1s,mb5.5
MUD Monsted U'grnd 80.74 326 eS S 17 21 15.7 +10
STU Stuttgart 80.83 318 eP P 17 11 02.3 +0.4
STU pmax pmax
comp=Z,63nm,1.4s,mb5.3
STU Stuttgart 80.83 318 eP P 17 11 02.3 +0.4
comp=Z,64nm,1.4s,mb5.4
TOD Tromm 81.06 319 eP P 17 11 04.2 +1.1
PGF Pioggiola 81.18 312 eP P 17 11 03.2 -0.7
comp=Z,230nm,1.7s,mb5.5
PGF Pioggiola 81.18 312 eP P 17 11 03.2 -0.7
PGF pmax pmax
comp=Z,115nm,1.7s,mb5.5
TNS Taunus Mts 81.28 320 eP P 17 11 05.4 +1.2
TNS pmax pmax
comp=Z,36nm,1.3s,mb5.1
TNS Taunus Mts 81.28 320 eP P 17 11 05.4 +1.2
comp=Z,36nm,1.3s,mb5.1
DRV Dumont d'Urvil 81.34 163 S S 17 21 08.0 -3.3
BFO Black Forest 81.42 318 eP P 17 11 05.3 +0.3
BFO pmax pmax
comp=Z,40nm,1.2s,mb5.2
BFO Black Forest 81.42 318 eP P 17 11 05.3 +0.3
comp=Z,40nm,1.2s,mb5.2
FELD Feldberg 81.65 317 eP P 17 11 07.4 +1.1
LANF Langenberg 81.74 318 eP P 17 11 08.1 +1.4
WLS Welschbruch 82.06 318 eP P 17 11 09.6 +1.2
CDF Champ du Feu 82.11 318 eP P 17 11 07.8 -0.8
comp=Z,68nm,1.3s,mb5.1
CDF Champ du Feu 82.11 318 eP P 17 11 07.8 -0.8
CDF pmax pmax
comp=Z,34nm,1.3s,mb5.1
RUP Ruppelstein 82.19 319 eP P 17 11 10.5 +1.5
ECH Echery 82.20 318 eP P 17 11 08.9 -0.2
MOF Molkenrain 82.24 317 eP P 17 11 10.2 +0.9
WTSB Winterswijk 82.25 321 eP P 17 11 10.2 +1.0
comp=Z,35nm,5.2s
WTSB Winterswijk 82.25 321 eS S 17 21 24.7 +3.9
SBF Sospel 82.25 313 eP P 17 11 08.6 -0.8
comp=Z,204nm,1.3s,mb5.6
SBF Sospel 82.25 313 eP P 17 11 08.6 -0.8
SBF pmax pmax
comp=Z,102nm,1.3s,mb5.6
HINF Hinteralfeld 82.43 317 eP P 17 11 09.3 -1.0
LOMF Lomont 82.47 317 eP P 17 11 11.1 +0.6
OG01 Vacheresse 82.64 316 eP P 17 11 11.6 +0.3
LPG La Plagne 82.64 315 eP P 17 11 11.3 -0.1
comp=Z,110nm,1.1s,mb5.5
LPG La Plagne 82.64 315 eP P 17 11 11.3 -0.1
LPG pmax pmax
comp=Z,55nm,1.1s,mb5.5
LPL La Plagne 82.65 315 eP P 17 11 11.3 -0.1
comp=Z,135nm,1.2s,mb5.6
LPL La Plagne 82.65 315 eP P 17 11 11.3 -0.1
LPL pmax pmax
comp=Z,68nm,1.2s,mb5.5
MBDF Montbardon 82.68 314 eP P 17 11 10.5 -1.1
comp=Z,116nm,1.4s,mb5.4
MBDF Montbardon 82.68 314 eP P 17 11 10.5 -1.1
MBDF pmax pmax
comp=Z,58nm,1.4s,mb5.4
BNI Bardonecchia 82.72 314 eP P 17 11 13.8 +2.0
BNI pmax pmax
comp=Z,45nm,1.1s,mb5.4
BNI Bardonecchia 82.72 314 eP P 17 11 13.8 +2.0
comp=Z,45nm,1.1s,mb5.4
HAU Haudompre 82.76 317 eP P 17 11 11.0 -0.9
comp=Z,91nm,1.1s,mb5.4
HAU eR
comp=Z,923nm,21.5s
HAU Haudompre 82.76 317 eP P 17 11 11.0 -0.9
HAU pmax pmax
comp=Z,45nm,1.1s,mb5.4
HAU MLR MLR
comp=Z,920nm,21.5s,MS5.1
FRF La Foret Royal 82.84 313 eP P 17 11 12.0 -0.5
comp=Z,181nm,1.3s,mb5.6
FRF La Foret Royal 82.84 313 eP P 17 11 12.0 -0.5
FRF pmax pmax
comp=Z,91nm,1.3s,mb5.7
HGN Heimansgroeve 82.86 320 eP P 17 11 10.7 -1.7
LMR La Mourre 82.96 313 eP P 17 11 12.5 -0.6
comp=Z,237nm,1.7s,mb5.6
LMR La Mourre 82.96 313 eP P 17 11 12.5 -0.6
LMR pmax pmax
comp=Z,118nm,1.7s,mb5.6
THEF They Montfort 82.99 318 eP P 17 11 14.3 +1.2
CABF La Chapelle 83.03 316 eP P 17 11 12.9 -0.4
comp=Z,31nm,0.8s,mb5.1
CABF La Chapelle 83.03 316 eP P 17 11 12.9 -0.4
CABF pmax pmax
comp=Z,15nm,0.8s,mb5.1
OG05 Jujurieux 83.50 316 eP P 17 11 19.3 +3.5
MEZF Maizieres J'vi 83.59 318 eP P 17 11 15.7 -0.4
SMRF Simiane la Rot 83.59 313 eP P 17 11 16.2 -0.1
comp=Z,256nm,1.7s,mb5.8
GIVF Givet 83.61 320 eP P 17 11 15.8 -0.4
comp=Z,69nm,1.2s,mb5.3
GIVF Givet 83.61 320 eP P 17 11 15.8 -0.4
GIVF pmax pmax
comp=Z,34nm,1.3s,mb5.3
BAIF Baives 84.01 320 eP P 17 11 18.0 -0.3
comp=Z,168nm,1.5s,mb5.7
BAIF Baives 84.01 320 eP P 17 11 18.0 -0.3
BAIF pmax pmax
comp=Z,84nm,1.5s,mb5.7
VIVF Saint-Julien-l 84.16 314 eP P 17 11 18.6 -0.5
comp=Z,105nm,1.4s,mb5.5
VIVF Saint-Julien-l 84.16 314 eP P 17 11 18.6 -0.5
VIVF pmax pmax
comp=Z,53nm,1.4s,mb5.5
SMF Signal de Mont 84.57 316 eP P 17 11 20.3 -0.9
comp=Z,77nm,1.3s,mb5.4
SMF Signal de Mont 84.57 316 eP P 17 11 20.3 -0.9
SMF pmax pmax
comp=Z,38nm,1.3s,mb5.4
SSF Saint Saulge 84.75 317 eP P 17 11 21.5 -0.6
SSF pmax pmax
comp=Z,38nm,1.3s,mb5.4
SSF Saint Saulge 84.75 317 eP P 17 11 21.5 -0.6
comp=Z,38nm,1.3s,mb5.4
PLDF La Plantade 84.79 316 eP P 17 11 26.6 +4.3
AVF Avril sur Loir 84.89 316 eP P 17 11 22.0 -0.7
comp=Z,117nm,1.5s,mb5.5
AVF Avril sur Loir 84.89 316 eP P 17 11 22.0 -0.7
AVF pmax pmax
comp=Z,58nm,1.5s,mb5.5
BGF Bois d'Agland 85.26 316 eP P 17 11 24.2 -0.4
comp=Z,138nm,1.4s,mb5.6
BGF Bois d'Agland 85.26 316 eP P 17 11 24.2 -0.4
BGF pmax pmax
comp=Z,69nm,1.4s,mb5.6
HYF Humbligny 85.32 317 eP P 17 11 25.0 +0.1
SYO Syowa Base 85.38 197 ⇑P P 17 11 26.2 +1.6
SYO Syowa Base 85.38 197 ⇑PcP PcP 17 11 28.7 +0.6
TCF Toulx Ste Croi 85.73 316 eP P 17 11 26.8 -0.1
comp=Z,72nm,1.4s,mb5.4
TCF Toulx Ste Croi 85.73 316 eP P 17 11 26.8 -0.1
TCF pmax pmax
comp=Z,36nm,1.4s,mb5.4
CAF Calviac 85.99 315 eP P 17 11 28.3 +0.1
comp=Z,89nm,1.6s,mb5.5
CAF Calviac 85.99 315 eP P 17 11 28.3 +0.1
CAF pmax pmax
comp=Z,45nm,1.6s,mb5.5
MTLF Montolieu 86.08 313 eP P 17 11 28.5 -0.2
comp=Z,88nm,1.3s,mb5.5
MTLF Montolieu 86.08 313 eP P 17 11 28.5 -0.2
MTLF pmax pmax
comp=Z,44nm,1.3s,mb5.5
RJF Les Rejaudoux 86.33 315 eP P 17 11 30.0 +0.1
comp=Z,178nm,1.6s,mb5.8
RJF eR
comp=Z,1μm,21.8s
RJF Les Rejaudoux 86.33 315 eP P 17 11 30.0 +0.1
RJF pmax pmax
comp=Z,89nm,1.6s,mb5.8
RJF MLR MLR
comp=Z,1μm,21.8s,MS5.3
LDF La Druitiere 86.99 318 eP P 17 11 32.7 -0.3
MFF Saint Martin d 87.30 317 eP P 17 11 34.1 -0.5
comp=Z,183nm,1.8s,mb5.7
MFF Saint Martin d 87.30 317 eP P 17 11 34.1 -0.5
MFF pmax pmax
comp=Z,92nm,1.8s,mb5.7
LHO Holmfirth 87.31 324 i P P 17 11 34.6 +0.2
ANM Nome 87.45 25 eP P 17 11 36.4 +1.5
DAG Danmarks Havn 87.51 348 eP P 17 11 35.0 +0.1
DAG Danmarks Havn 87.51 348 i P P 17 11 35.0 +0.1
ESK Eskdalemuir 87.78 325 PFAKE 17 11 50.0 +13
ESK LR LR
comp=Z,467nm,20.0s,MS4.9
ETSF Etsaut 88.15 313 eP P 17 11 39.2 +0.5
comp=Z,49nm,1.1s,mb5.3
ETSF Etsaut 88.15 313 eP P 17 11 39.2 +0.5
ETSF pmax pmax
comp=Z,24nm,1.1s,mb5.3
ROSF Rostrenen 89.10 319 eP P 17 11 43.0 -0.1
comp=Z,144nm,1.4s,mb5.8
ROSF Rostrenen 89.10 319 eP P 17 11 43.0 -0.1
ROSF pmax pmax
comp=Z,72nm,1.4s,mb5.8
ESDC Sonseca Array 91.24 310 P P 17 11 54.4 +1.0
comp=Z,10nm,1.0s,mb5.1,baz=65,slow=4.4,SNR=8.7
ESLA Sonseca Array 91.24 310 eP P 17 11 52.8 -0.6
comp=Z,21nm,1.4s,mb5.3
ESLA LR LR
comp=Z,6μm,22.0s,MS6.0
IMA Indian Mountai 91.65 22 eP P 17 11 55.4 +0.8
IMA pmax pmax
comp=Z,30nm,0.7s,mb5.7
VNDA Vanda 92.90 168 eP P 17 12 01.3 +1.1
VNDA pmax pmax
comp=Z,4.0nm,0.9s
VNDA Vanda 92.90 168 P P 17 12 02.3 +2.1
comp=Z,1.8nm,0.9s,mb4.5,baz=286,slow=7.3,SNR=5.1
VNDA Vanda 92.90 168 eP P 17 12 01.3 +1.1
comp=Z,3.7nm,0.9s,mb4.8
SBA Scott Base 94.00 168 PFAKE 17 12 20.0 +15
SBA LR LR
comp=Z,2μm,22.0s,MS5.4
SPU Mount Spurr 94.31 26 eP P 17 12 08.4 +1.6
MCK McKinley 94.49 23 eP P 17 12 07.9 +0.3
MCK pmax pmax
comp=Z,10.0nm,1.2s,mb5.1
MCK MLR MLR
comp=Z,826nm,19.0s,MS5.2
MCK McKinley 94.49 23 eP P 17 12 07.9 +0.3
comp=Z,9.9nm,1.2s,mb5.1
MCK LR LR
comp=Z,826nm,19.0s,MS5.2
ILAR Eielson Array 94.77 22 P P 17 12 10.1 +1.2
ILAR 17 15 55.5
ILAR pmax pmax
comp=Z,2.0nm,0.6s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 94.77 22 P P 17 12 10.1 +1.2
comp=Z,1.9nm,0.6s,mb4.7,baz=297,slow=4.1,SNR=7.6
ILAR PP PP 17 15 55.5 -4.5
comp=Z,1.2nm,0.9s,baz=300,slow=7.2,SNR=4.3
FIB Fire Island 95.14 26 eP P 17 12 11.5 +0.8

PMR Palmer 95.39 25 *eP* **P 17 12 13.2 +1.4**
PMR MLR MLR
comp=Z,1μm,17.0s,MS5.5
SLKM Skilak Lake 95.41 27 *eP* **P 17 12 12.1 +0.2**
INK Inuvik 97.02 16 P **P 17 12 20.0 +0.9**
INK pmax pmax
comp=Z,3.0nm,0.8s
INK Inuvik 97.02 16 P **P 17 12 19.9 +0.9**
comp=Z,3.2nm,0.8s,mb4.8,baz=3.1,slow=4.4,SNR=6.6
INK Inuvik 97.02 16 *eP* **P 17 12 19.5 +0.4**
comp=Z,20nm,1.1s,mb5.5
RES Resolute Bay 97.43 2 *eP* **P 17 12 21.0 +0.2**
RES pmax pmax
comp=Z,17nm,1.0s,mb5.4
RES Resolute Bay 97.43 2 *eP* **P 17 12 21.0 +0.2**
comp=Z,17nm,1.0s,mb5.4
QSPA South Pole Qui 97.75 180 *eP* **P 17 12 29.0 +6.8**
QSPA LR LR
comp=Z,9.5nm,1.3s,mb5.2
QSPA LR LR
comp=Z,3μm,19.0s,MS5.7
DAWY Dawson 97.89 21 *eP* **P 17 12 25.4 +2.3**
DBIC Dimbokro 97.95 278 *eP* **P 17 12 30.0 +5.5**
DBIC pmax pmax
comp=Z,23nm,1.2s
DBIC MLR MLR
comp=Z,3μm,20.0s
DBIC Dimbokro 97.95 278 *eP* **P 17 12 30.0 +5.5**
comp=Z,24nm,1.2s,mb5.6
DBIC LR LR
comp=Z,3μm,20.0s,MS5.7
YKA Yellowknife Ar 106.45 13 PP PP 17 17 22.6 -6.7
comp=Z,0.6nm,0.8s,baz=334,slow=7.3,SNR=6.2
SCHQ Schefferville 115.55 348 PFAKE
SCHQ LR LR
comp=Z,3μm,20.0s,MS5.9
TBI Tubuai 117.28 112 *eP* PP 17 18 50.7 +2.2
TBI *eS* SP 17 28 26.6 +2.6
TBI *eS* SS 17 35 10.5 +18
TBI *eL* LR 17 53 13.6
comp=Z,2μm,34.0s
PPT Papeete 117.33 106 *eS* SP 17 28 27.1 +2.4
PPT *eS* SS 17 35 06.4 +13
PPT *eL* LR 17 53 04.2
comp=Z,3μm,33.5s
NEW Newport 117.71 23 PFAKE 17 17 50.0 +17
NEW LR LR
comp=Z,2μm,21.0s,MS5.6
PMSA Palmer Station 121.11 191 PFAKE 17 17 50.0 +11
PMSA LR LR
comp=Z,1μm,20.0s,MS5.6
MCMT McKenzie Canyo 122.21 22 *e*PKPdf PKPdf 17 17 44.7 +3.0
QLMT Earthquake Lak 122.73 21 *e*PKPdf PKPdf 17 17 47.5 +4.8
YMR Madison River 123.04 21 *e*PKPdf PKPdf 17 17 46.3 +2.9
YFT Old Faithful 123.27 21 *e*PKPdf PKPdf 17 17 47.8 +4.1
LKWY Lake 123.33 21 *e*PKIKP PKPdf 17 17 47.7 +3.8
WUWY Wally Ulrich 124.09 22 *e*PKPdf PKPdf 17 17 47.6 +2.3
SNOW Snow King Moun 124.16 22 *e*PKPdf PKPdf 17 17 50.3 +4.8
NVAR Mina Array Bea 124.94 31 PKP PKPdf 17 17 49.8 +2.6
comp=Z,4.3nm,0.9s,baz=273,slow=2.1,SNR=11
PDAR Pinedale Array 125.19 21 PKP PKPdf 17 17 49.2 +1.7
comp=Z,6.8nm,1.1s,baz=21,slow=1.5,SNR=18
HWUT Hardware Ranch 125.44 24 PFAKE 17 18 00.0 +12
HWUT LR LR
comp=Z,2μm,22.0s,MS5.8
TRCR Troy Canyon 126.35 29 *e*PKPdf PKPdf 17 17 54.0 +4.1
MSU Marysvale 127.78 26 *e*PKIKP PKPdf 17 17 54.9 +2.2
NEN Nelson 128.84 30 *e*PKPdf PKPdf 17 17 57.1 +2.4
ACSO Alum Creek Sta 132.09 357 PFAKE 17 18 10.0 +9.2
ACSO LR LR
comp=Z,2μm,19.0s,MS5.9
ANMO Albuquerque 133.20 23 PFAKE 17 18 20.0 +17
ANMO LR LR
comp=Z,1μm,22.0s,MS5.6
LAZ Ladron 133.40 24 *e*PKPdf PKPdf 17 18 07.2 +3.7
LPM Los Pinos Moun 133.69 24 *e*PKPpre 17 18 06.5
WMOK Wichita Mounta 135.92 15 PFAKE 17 18 20.0 +12
WMOK LR LR
comp=Z,2μm,21.0s,MS5.8
GDL2 Guadalupe Moun 136.44 23 *e*PKPdf PKPdf 17 18 12.3 +3.3
MIAR Mount Ida 137.22 9 PFAKE 17 18 20.0 +10
MIAR LR LR
comp=Z,3μm,21.0s,MS6.0
TXAR Lajitas Array 139.25 24 PKiKP 17 18 18.4
comp=Z,2.0nm,0.7s,baz=162,slow=1.4,SNR=7.3
TXAR PP PP 17 21 12.4 +0.4
comp=Z,32nm,1.6s,baz=270,slow=2.5,SNR=3.8
JCT Junction City 139.62 19 *e*PKIKP PKPdf 17 18 15.2 +0.3
BAO Brasilia Array 142.18 255 P PKPdf 17 18 26.0 +2.2
BAO *e* 17 18 29.1
TRQA Tornquist 142.98 212 PFAKE 17 18 30.0 +9.4
TRQA LR LR
comp=Z,2μm,19.0s,MS5.8
PLCA Paso Flores 144.52 200 PKIKP PKPdf 17 18 23.9 +0.7
PLCA pmax pmax
comp=Z,16nm,1.1s
PLCA Paso Flores 144.52 200 PKP PKPdf 17 18 23.9 +0.7
comp=Z,16nm,1.1s,baz=183,slow=1.1,SNR=9.1
PLCA Paso Flores 144.52 200 *e*PKPdf PKPdf 17 18 23.1 -0.1
PLCA LR LR
comp=Z,2μm,20.0s,MS5.8
SJG San Juan 147.69 323 *e*PKP2 PKPab 17 18 33.3 -3.1
SJG MLR MLR
comp=Z,1μm,22.0s
FCH Farellones 150.83 207 *eP* PKPdf 17 18 41.7 +7.9
TEIG Tepich 152.01 5 *e*PKPdf PKPdf 17 18 41.0 +5.2
SDV Santo Domingo 157.50 317 *e*PKPdf PKPdf 17 18 46.1 +2.6
SDV LR LR
comp=Z,806nm,20.0s,MS5.5
LVC Limon Verde 158.06 226 PFAKE 17 19 00.0 +16
LVC LR LR
comp=Z,915nm,21.0s,MS5.6
LPAZ La Paz 160.75 243 PKP PKPdf 17 18 12.7 -34
comp=Z,5.4nm,1.0s,baz=46,slow=7.2,SNR=8.3
LPAZ PKPab PKPab 17 18 53.7 -38
comp=Z,5.8nm,1.0s,baz=87,slow=14,SNR=5.0
LPAZ La Paz 160.75 243 PFAKE 17 19 00.0 +13
LPAZ LR LR
comp=Z,897nm,19.0s

MAN 27 16:58:49.4, 11.31N×126.63E, h1km, mb4.7, ML3.6, MS3.5, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.63**	**265**	*eP*	Pn	16 59 18.4	-0.9
SCPH	**Surigao**	**1.89**	**217**	||*eP*	Pn	16 59 22.7	-0.4

*BJI **27** 17:01:31.2, 7.30N×94.09E, h49km, mB5.4, mb4.8, Ms5.5, Msz5.2*
*NEIC **27** 17:01:32.1±0.4, 7.64N×94.13E, h30km, mb5.1/18, Error ellipse: s-maj=12.2km s-min=9.8km az=58.0*
*IDC **27** 17:01:33.8±6.4, 7.70N×94.04E, h41km±57km, mb4.4/14, mb1 4.5/15, mb1mx4.4/23, mbtmp4.6/15, ML4.4/1, MS5.3/2, Ms1 5.3/2, ms1mx4.2/25, Error ellipse: s-maj=44.8km s-min=16.0km az=54.0*
ISC 27 17:01:31.1±0.4, 7.71N±0.07×94.17E±0.08, h33km, n53, σ1°§15/49, mb4.8/26, MS5.3/2, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.65**	**23**	*eP*	**P**	**17 04 17.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**11.65**	**23**	P	**P**	**17 04 17.8**	**-0.4**
0.8nm,0.3s,baz=211,slow=14,SNR=4.5
QIZ Qiongzhong 18.93 52 P **P 17 05 53.0 +1.0**
QIZ Qiongzhong 18.93 52 *eP* **P 17 05 53.8 +1.8**
287nm,1.7s
KMI Kunming 19.15 24 P **P 17 05 59.2 +4.7**
42nm,1.8s
LSA Lhasa 22.06 353 P **P 17 06 29.3 +4.5**
LSA Lhasa 22.06 353 *eP* **P 17 06 26.5 +1.7**
80nm,0.8s,mb5.2
ENH Enshi 26.65 31 *eP* **P 17 07 07.5 -1.4**
68nm,1.4s,mb5.0
AAK Ala-Archa 38.86 337 *eP* **P 17 08 55.9 +0.8**
33nm,1.1s,mb5.0
SONM Songino Array 41.31 12 P **P 17 09 16.1 +0.9**
4.9nm,0.6s,mb4.3,baz=193,slow=8.5,SNR=3.7
KURK Kurchatov 44.77 346 *eP* **P 17 09 41.3 -2.0**
36nm,0.8s,mb5.2
NWAO Narrogin (SRO) 45.99 153 P **P 17 09 54.0 +0.7**
14nm,0.8s,mb5.0,baz=256,slow=4.4,SNR=5.1
NWAO Narrogin (SRO) 45.99 153 *eP* **P 17 09 52.0 -1.3**
52nm,1.1s,mb5.4

ZAL Zalesovo 46.71 352 P **P 17 09 58.4 -0.3**
5.6nm,0.6s,mb4.7,baz=270,slow=7.9,SNR=2.4
ZAL LR LR 17 32 08.6
comp=Z,5μm,20.0s,MS5.5,baz=291,slow=39
MDJ Mudanjiang 47.93 34 P **P 17 10 10.3 +1.9**
MDJ AMB AMB
comp=Z,14nm,1.2s,mb4.9
MDJ AMB AMB
comp=Z,208nm,4.5s
MDJ Mudanjiang 47.93 34 *eP* **P 17 10 07.8 -0.6**
comp=Z,51nm,1.6s,mb5.3
WRA Warramunga Arr 48.15 125 P **P 17 10 09.8 -0.6**
comp=Z,15nm,1.3s,mb4.9,baz=303,slow=9.0,SNR=3.2
WRAB Tennant Creek 48.15 125 P **P 17 10 06.0 -4.4**
comp=Z,11nm,0.8s,mb4.9
BVAR Borovoye Array 49.15 341 P **P 17 10 17.8 +0.1**
comp=Z,5.8nm,0.8s,mb4.7,baz=162,slow=9.1,SNR=2.6
CHKZ Chkalovo 49.63 342 *eP* **P 17 10 20.0 -1.4**
comp=Z,29nm,0.8s,mb5.4
ASAR Alice Springs 49.79 130 P **P 17 10 23.4 +0.3**
comp=Z,5.9nm,1.0s,mb4.6,baz=302,slow=7.1,SNR=3.1
PMG Port Moresby 55.46 107 P **P 17 11 06.2 +0.9**
comp=Z,9.3nm,0.9s,mb4.8,baz=302,slow=13,SNR=2.4
PMG LR LR 17 34 39.4
comp=Z,2μm,20.4s,MS5.2,baz=261,slow=36
PMG Port Moresby 55.46 107 *eP* **P 17 11 02.3 -3.1**
comp=Z,25nm,0.9s,mb5.2
KMBO Kilima Mbogo 57.43 264 P **P 17 11 18.3 -1.2**
comp=Z,18nm,1.2s,mb5.0
CTAO Charters Tower 58.20 119 P **P 17 11 23.6 -1.2**
comp=Z,15nm,1.3s,mb4.9
STKA Stephens Creek 59.98 134 *eP* **P 17 11 37.9 +0.9**
BRTR Keskin Array B 62.55 311 P **P 17 11 53.7 -0.5**
comp=Z,2.6nm,0.7s,mb4.5,baz=108,slow=9.1,SNR=4.1
MA2 Magadan 66.90 28 *eP* **P 17 12 21.8 -0.2**
comp=Z,26nm,1.2s,mb5.1
IDI Anoyia 68.68 305 P **P 17 12 32.4 -1.2**
comp=Z,4.9nm,0.7s,mb4.6,baz=270,slow=19,SNR=2.3
KOLS Kolonicke sedl 72.34 319 *eP* **P 17 12 56.3 +0.8**
FINES FINESS Array B 72.87 332 P **P 17 12 56.7 -1.7**
comp=Z,2.7nm,0.5s,mb4.4,baz=101,slow=7.1,SNR=4.5
FINES PP PP 17 15 41.7 -1.1
comp=Z,4.7nm,0.7s,baz=90,slow=7.6,SNR=4.1
CRVS Cervenica-Dubn 72.87 319 *eP* **P 17 13 01.8 +3.2**
CRVS *e* 17 13 05.9
KECS Kecovo 73.45 318 *eP* **P 17 13 02.2 +0.1**
VYHS Vyhne 74.55 318 *eP* **P 17 13 07.7 -0.7**
ARCES ARCESS Array B 75.43 340 P **P 17 13 12.9 -0.1**
comp=Z,4.8nm,0.8s,mb4.5,baz=96,slow=8.2,SNR=5.0
ZST Bratislava 75.67 318 *eP* **P 17 13 16.7 +1.8**
GERES GERESS Array B 77.97 318 P **P 17 13 27.7 -0.1**
comp=Z,4.0nm,0.8s,mb4.4,baz=72,slow=9.3,SNR=3.9
KHC Kasperske Hory 78.06 319 *eP* **P 17 13 28.0 -0.2**
KHC *e* 17 13 46.0
KHC Kasperske Hory 78.06 319 *eP* **P 17 13 28.0 -0.2**
KHC x x 17 13 46.0
CLL Collm 78.50 321 P **P 17 13 31.0 +0.4**
CLL *e**PP pP 17 13 37.0 -4.0
GRA1 Grafenberg Arr 79.61 319 *eP* **P 17 13 39.0 +2.3**
comp=Z,24nm,1.6s,mb4.9
GRF Grafenberg Arr 79.61 319 *eP* **P 17 13 39.0 +2.3**
comp=Z,24nm,1.6s,mb4.9
NB2 NORSAR Subarra 79.89 331 P **P 17 13 36.9 -1.1**
comp=Z,3.3nm,0.7s,mb4.4,baz=91,slow=5.6
NOA NORSAR Array B 79.89 331 P **P 17 13 37.2 -0.7**
comp=Z,7.0nm,0.9s,mb4.6,baz=93,slow=5.6,SNR=5.2
NOA NORSAR Array B 79.89 331 P **P 17 13 37.2 -0.7**
DAVOX Davos 80.53 316 P **P 17 13 42.9 +1.2**
comp=Z,8.3nm,1.0s,mb4.6,baz=127,slow=5.1,SNR=3.1
LPG La Plagne 82.75 315 *eP* **P 17 13 53.7 +0.5**
comp=Z,23nm,0.9s,mb4.9
TNA Tin City 86.30 24 *eP* **P 17 14 02.1 -8.4**
IMA Indian Mountai 91.76 22 *eP* **P 17 14 38.9 +2.5**
YKA Yellowknife Ar 106.58 13 PP PP 17 20 07.8 -3.7
comp=Z,0.4nm,0.7s,baz=335,slow=7.7,SNR=3.8
PDAR Pinedale Array 125.31 21 PKP PKPdf 17 20 30.9 +1.9
comp=Z,2.2nm,1.1s,SNR=3.2
PLCA Paso Flores 144.41 200 PKP PKPdf 17 21 04.1 -0.2
comp=Z,7.4nm,1.0s,baz=192,slow=4.0,SNR=3.5
PLCA Paso Flores 144.41 200 PKP PKPdf 17 21 04.1 -0.2

*NIED **27** 17:02:00, 33.90N×142.50E, h5km, Mw4.1 Best double couple: Mo1.65×10^15 NP1:φs336°, δ48°, λ-96°. NP2: φs165°, δ42°, λ-83°.*
*IDC **27** 17:02:06.4±1.1, 34.01N×142.44E, mb4.0/4, mb1 4.3/7, mb1mx4.0/21, mbtmp4.2/7, ML3.9/3, Error ellipse: s-maj=37.0km s-min=19.3km az=126.0*
*JMA **27** 17:02:08.3±0.3, 33.90N×142.46E, h23km, M3.9*
ISC 27 17:02:07.9±1.7, 33.91N±0.05×142.53E±0.05, h26km±15km, n22, σ0°§93/39, mb4.0/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.48**	**300**	P	**Pn**	**17 02 33.4**	**+0.1**
BSO1 S **Sn** **17 02 52.5** **+0.5**
BSO3 Boso 3 1.89 299 P **Pn 17 02 39.8 +0.6**
BSO3 S **Sn** **17 03 02.0** **-0.4**
BSO4 Boso 4 2.10 301 P **Pn 17 02 43.6 +1.4**
BSO4 S **Sn** **17 03 07.8** **0.0**
KTR Katsuura 2.20 305 S **Sn 17 03 11.0 +0.7**
CHOJ Chosi 2.25 323 P **Pn 17 02 45.1 +0.7**
CHOJ S **Sn** **17 03 12.8** **+1.2**
JHJ2 Mitsune 2.40 251 P **Pn 17 02 47.4 +0.9**
JHJ2 *eS* **Sn** **17 03 15.6** **+0.2**
JHJ Hachijo jima 2 2.43 252 Pn **Pn 17 02 47.1 +0.3**
125nm,0.3s,baz=97,slow=6.5,SNR=54
JHJ Sn **Sn** **17 03 15.9** **-0.1**
180nm,0.3s,baz=60,slow=21,SNR=14
JIM2 Oshima 3 2.69 288 P **Pn 17 02 50.2 -0.3**
JIM2 *eS* **Sn** **17 03 22.4** **-0.2**
JIZS Izushimoda 3.12 286 P **Pn 17 02 56.5 -0.3**
JIZS S **Sn** **17 03 31.8** **-1.9**
JOD2 Odawara 2 3.14 296 P **Pn 17 02 56.7 -0.3**
JOD2 S **Sn** **17 03 33.7** **-0.4**
JAG Ashikaga 3.55 316 P **Pn 17 03 02.6 -0.2**
JAG *eS* **Sn** **17 03 44.1** **-0.4**
JRY Ryogami san 3.64 306 P **Pn 17 03 03.9 -0.2**
JRY S **Sn** **17 03 46.6** **-0.2**
JYN Shimob 3.64 297 P **Pn 17 03 04.3 +0.2**
JYN S **Sn** **17 03 47.6** **+0.8**
JMM Marumori 4.19 341 P **Pn 17 03 09.8 -2.1**
JMM *eS* **Sn** **17 03 54.6** **-6.0**
MAT Matsushiro 4.40 308 P **Pn 17 03 15.7 +0.8**
MAT S **Sn** **17 04 03.8** **-2.3**
MAT Matsushiro 4.40 308 P **Pn 17 03 16.8 +1.9**
MAT *eS* **Sn** **17 04 05.1** **-1.0**
CBIJ Chichi jima 6.80 183 Pn **Pn 17 03 47.2 -1.6**
6.3nm,0.3s,baz=297,slow=20,SNR=7.7
CBIJ Sn **Sn** **17 04 58.9** **-7.3**
24nm,0.3s,baz=286,slow=23,SNR=7.7
ASAJ Asahikawa 10.19 0 Pn **P 17 04 31.8 -4.0**
0.8nm,0.3s,baz=300,slow=11,SNR=5.0
ASAJ Sn **S** **17 06 21.6** **-8.6**
0.3nm,0.3s,baz=17,slow=19,SNR=3.1
ILAR Eielson Array 51.67 31 P **P 17 11 13.3 -1.1**
0.7nm,0.9s,mb3.6,baz=248,slow=4.9,SNR=3.6
ASAR Alice Springs 57.85 189 P **P 17 12 00.6 +0.6**
5.1nm,0.8s,mb4.6,baz=7.3,slow=6.4,SNR=4.4
YKA Yellowknife Ar 66.05 30 P **P 17 12 54.4 +0.2**
0.5nm,0.8s,mb3.6,baz=299,slow=6.5,SNR=5.9
TXAR Lajitas Array 91.28 53 P **P 17 15 15.2 +2.5**
0.8nm,0.7s,mb4.2,baz=293,slow=3.2,SNR=5.2

*IDC **27** 17:02:25.0±5.8, 9.05N×92.97E, mb4.8/9, mb1 4.9/10, mb1mx4.6/21, mbtmp4.7/10, ML4.6/1, Error ellipse: s-maj=148.7km s-min=36.0km az=137.0*
ISC 27 17:02:27.6±3.3, 9.0N±0.5×93.1E±0.3, h33km, n11, σ0°§28/11, mb4.6/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.01**	**31**	Pn	**P**	**17 05 06.0**	**+0.1**
1.3nm,0.3s,baz=213,slow=14,SNR=4.1
KOD Kodaikanal 15.45 276 *e* **P 17 06 04.9 -0.1**
KMBO Kilima Mbogo 56.51 263 P **P 17 12 09.5 0.0**
6.5nm,0.7s,mb4.8,baz=59,slow=12,SNR=5.6
BRTR Keskin Array B 60.92 311 P **P 17 12 39.5 -0.4**
4.5nm,0.6s,mb4.8,baz=125,slow=7.0,SNR=3.9
IDI Anoyia 67.08 304 P **P 17 13 20.5 +0.4**
12nm,0.6s,mb5.1,baz=63,slow=5.7,SNR=3.6
MLR Muntele Rosu 67.66 316 P **P 17 13 23.9 +0.4**
5.6nm,0.9s,mb4.6,baz=88,slow=16,SNR=3.1

FINES FINESS Array B 71.25 332 P **P 17 13 45.4 0.0**
6.2nm,0.6s,mb4.7,baz=90,slow=9.5,SNR=3.7
ARCES ARCESS Array B 73.88 340 P **P 17 14 00.7 0.0**
7.6nm,0.9s,mb4.6,baz=100,slow=5.5,SNR=2.6
GERES GERESS Array B 76.31 318 P **P 17 14 15.3 +0.3**
4.8nm,0.7s,mb4.5,baz=100,slow=6.0,SNR=3.0
HFS Hagfors 76.98 330 P **P 17 14 18.3 -0.3**
5.5nm,0.6s,mb4.7,baz=127,slow=7.2,SNR=3.6
NOA NORSAR Array B 78.26 331 P **P 17 14 25.1 -0.5**
2.1nm,0.9s,mb4.1,baz=118,slow=3.8,SNR=2.8

IDC 27 17:04:08.2±2.6, 7.64N×93.96E, mb4.4/11, mb1 4.5/12, mb1mx4.4/21, mbtmp4.4/12, ML4.2/1, Error ellipse: s-maj=67.1km s-min=37.9km az=146.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.79**	**24**	Pn	P	17 06 58.5	-2.4
0.4nm,0.3s,baz=212,slow=14,SNR=5.7
SONM Songino Array 41.43 13 P P 17 11 56.5 -1.6
2.1nm,0.9s,baz=198,slow=8.6,SNR=2.4
ZAL Zalesovo 46.75 353 P P 17 12 39.2 -1.8
5.5nm,0.6s,baz=292,slow=8.5,SNR=4.1
BRTR Keskin Array B 62.45 311 P P 17 14 33.8 -2.0
7.4nm,1.2s,baz=124,slow=6.9,SNR=4.7
AKASG Malin Array Be 68.23 322 P P 17 15 09.5 -3.3
3.2nm,0.9s,baz=93,slow=4.5,SNR=5.8
MLR Muntele Rosu 69.22 316 P P 17 15 17.4 -1.6
5.5nm,0.9s,baz=90,slow=10,SNR=3.8
FINES FINESS Array B 72.83 332 P P 17 15 38.4 -2.1
3.3nm,0.6s,baz=101,slow=7.1,SNR=6.6
ARCES ARCESS Array B 75.42 340 P P 17 15 53.4 -2.0
7.0nm,1.1s,baz=97,slow=7.3,SNR=6.3
GERES GERESS Array B 77.88 318 P P 17 16 09.2 -0.3
2.8nm,0.7s,baz=90,slow=5.3,SNR=4.9
KHC Kasperske Hory 77.97 319 *eP* P 17 16 09.0 -1.0
KHC x x 17 16 13.5
HFS Hagfors 78.57 330 P P 17 16 11.9 -1.1
4.2nm,0.5s,baz=100,slow=9.0,SNR=6.2
NB2 NORSAR Subarra 79.85 331 P P 17 16 18.3 -1.7
2.2nm,0.7s,baz=92,slow=5.3
NOA NORSAR Array B 79.85 331 P P 17 16 18.6 -1.4
2.3nm,0.7s,baz=92,slow=5.7,SNR=4.4
EKA Eskdalemuir Ar 87.81 325 P P 17 16 60.0 -0.6
1.3nm,0.6s,baz=101,slow=4.9,SNR=4.8
PDAR Pinedale Array 125.45 21 PKP PKPdf 17 23 11.6 -2.1
0.9nm,0.9s,baz=18,slow=2.8,SNR=3.4

JMA 27 17:04:09.1±0.3, 33.93N×142.39E, h85km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO4	**Boso 4**	**2.00**	**303**	P	P	17 04 41.2	-0.5
KTR Katsuura 2.10 306 *eS* S 17 05 09.8 +1.6
CHOJ Chosi 2.17 325 P P 17 04 44.4 +0.3
CHOJ *eS* S 17 05 10.5 +0.5
JHJ2 Mitsune 2.30 250 P P 17 04 46.1 +0.2
JHJ2 *eS* S 17 05 14.0 +0.8
JIM2 Oshima 3 2.57 289 P P 17 04 48.7 -1.0
JIM2 *eS* S 17 05 20.2 +0.3
JOD2 Odawara 2 3.03 297 P P 17 04 56.1 0.0
JOD2 *eS* S 17 05 31.2 -0.2
JYN Shimob 3.53 297 P P 17 05 03.5 +0.5
JYN S S 17 05 44.2 +0.4
JRY Ryogami san 3.54 307 S S 17 05 44.8 +0.8
JMM Marumori 4.14 342 P P 17 05 08.6 -2.7
JMM *eS* S 17 05 55.0 -3.8
MAT Matsushiro 4.30 308 P P 17 05 13.9 +0.3
MAT *eS* S 17 06 03.2 +0.3
JMK Ichinoseki 5.10 350 P P 17 05 22.0 -2.6
JMK S S 17 06 15.9 -6.8
JYK Kaneyama 5.24 342 *eS* S 17 06 25.7 -0.5

IGQ 27 17:04:16.0, 1.48S×81.08W, h12km±16km, mb4.0, Error ellipse: s-maj=18.1km s-min=6.0km az=2.3, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**1.49**	**36**	P	Pn	17 04 43.4	+0.6
JAMA S Sb 17 05 02.5 +0.6
IGUA Igualata 2.44 90 P Pn 17 04 55.8 -0.6
ARRY Arrayan 2.62 91 P Pn 17 04 59.5 +0.6
RETU Refugio 2.63 89 P Pn 17 05 00.6 +1.5
ULBA Ulba 2.67 89 P Pn 17 05 00.9 +1.3
PISA Pisayambo 2.72 81 P Pn 17 05 03.0 +2.5
NAS1 Nasa 2.73 72 P Pn 17 05 03.6 +3.1
JUA2 San Juan 2 2.77 63 P Pn 17 05 02.2 +1.1
TERV Terraza Guagua 2.79 62 P Pn 17 05 03.8 +2.5
PINO Pino 2.79 62 P Pn 17 05 02.2 +0.7
VC1 Cotopaxi 1 2.80 73 P Pn 17 05 03.9 +2.4
TAMB Tambo 2.82 74 P Pn 17 05 05.0 +3.2
YANA Yana 2.85 62 P Pn 17 05 03.4 +1.2
ANTI Antisana 3.09 71 P Pn 17 05 08.3 +2.6
COTA Cotacachi 3.28 57 P Pn 17 05 10.7 +2.4
CAYR Refugio Cayamb 3.41 64 P Pn 17 05 14.2 +4.1
CAYA Cayambe 3.45 64 P Pn 17 05 14.3 +3.6

IDC 27 17:04:42.9±16.0, 7.30N×94.55E, mb4.3/6, mb1 4.4/7, mb1mx4.1/19, mbtmp4.3/7, ML4.2/1, Error ellipse: s-maj=459.1km s-min=59.2km az=132.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.88**	**21**	Pn	P	17 07 33.2	-3.6
0.5nm,0.3s,baz=211,slow=14,SNR=3.7
ZAL Zalesovo 47.16 352 P P 17 13 17.6 -1.3
2.9nm,0.7s,baz=292,slow=5.3,SNR=2.5
FINES FINESS Array B 73.40 332 P P 17 16 15.6 -2.9
2.4nm,0.7s,baz=106,slow=10,SNR=3.8
ARCES ARCESS Array B 75.94 340 P P 17 16 31.6 -1.4
1.1nm,0.5s,baz=100,slow=5.5,SNR=5.0
GERES GERESS Array B 78.52 318 P P 17 16 46.4 -1.2
1.1nm,0.5s,baz=106,slow=5.7,SNR=4.7
HFS Hagfors 79.15 330 P P 17 16 49.5 -1.4
3.2nm,0.5s,baz=90,slow=1.5,SNR=6.9
NOA NORSAR Array B 80.42 331 P P 17 16 56.7 -1.0
0.6nm,0.6s,baz=107,slow=6.4,SNR=2.4

*IDC **27** 17:11:09.8±1.3, 5.41N×94.48E, mb4.2/8, mb1 4.4/9, mb1mx4.1/19, mbtmp4.2/9, ML4.5/1, Error ellipse: s-maj=61.3km s-min=19.2km az=54.0*
ISC 27 17:11:13.1±1.2, 5.5N±0.3×94.6E±0.3, h33km, n9, σ0°§54/9, mb4.2/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.61**	**18**	Pn	**P**	**17 14 32.8**	**+6.5**
0.8nm,0.3s,baz=209,slow=14,SNR=15
SONM Songino Array 43.42 12 P **P 17 19 14.4 -0.1**
1.8nm,0.6s,mb4.0,baz=190,slow=7.9,SNR=14
SONM PcP PcP 17 21 02.7 -0.4
0.3nm,0.5s,baz=200,slow=4.5,SNR=4.2
WRA Warramunga Arr 46.54 124 P **P 17 19 39.8 0.0**
3.0nm,0.7s,mb4.4,baz=301,slow=9.2,SNR=26
ASAR Alice Springs 48.06 129 P **P 17 19 51.8 +0.1**
1.5nm,0.7s,mb4.1,baz=302,slow=8.1,SNR=13
ZAL Zalesovo 48.98 352 P **P 17 19 58.9 +0.4**
2.2nm,0.3s,mb4.6,baz=305,slow=6.9,SNR=9.7
BVAR Borovoye Array 51.40 342 P **P 17 20 17.2 +0.3**
1.0nm,0.3s,mb4.2,baz=135,slow=8.4,SNR=10
FINES FINESS Array B 75.04 332 P **P 17 22 51.9 -1.1**
1.5nm,0.8s,mb4.0,baz=108,slow=6.0,SNR=4.3
ARCES ARCESS Array B 77.67 340 P **P 17 23 07.6 -0.2**
2.2nm,0.7s,mb4.2,baz=68,slow=6.5,SNR=5.7
GERES GERESS Array B 79.91 319 P **P 17 23 21.0 +0.7**
1.0nm,0.6s,mb3.9,baz=117,slow=6.0,SNR=7.5

*IDC **27** 17:12:04.4±1.1, 7.44N×93.95E, mb4.0/10, mb1 4.2/11, mb1mx4.0/20, mbtmp4.1/11, ML4.5/1, Error ellipse: s-maj=46.6km s-min=21.8km az=55.0*
ISC 27 17:12:08.0±0.8, 7.6N±0.1×94.2E±0.2, h33km, n14, σ0°§81/13, mb4.1/10, Nicobar Islands region

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

CMAR Chiang Mai Arr 11.77 23 Pn **P 17 14 55.9 -0.8**
0.9nm,0.3s,baz=210,slow=14,SNR=7.8
SONM Songino Array 41.45 12 P **P 17 19 54.7 +1.5**
1.6nm,0.7s,mb3.8,baz=199,slow=7.5,SNR=6.0
ZAL Zalesovo 46.84 352 P **P 17 20 36.6 +0.1**
1.7nm,0.3s,mb4.5,baz=307,slow=5.9,SNR=3.2
WRA Warramunga Arr 48.07 125 P **P 17 20 46.4 -0.3**
1.4nm,0.9s,mb4.0,baz=304,slow=8.8,SNR=3.0
ASAR Alice Springs 49.71 130 P **P 17 20 59.4 +0.1**
1.1nm,0.9s,mb3.9,baz=308,slow=7.2,SNR=7.0
AKASG Malin Array Be 68.40 322 P **P 17 23 07.2 -1.2**
0.4nm,0.5s,mb3.8,baz=86,slow=5.4,SNR=2.9
FINES FINESS Array B 72.98 332 P **P 17 23 35.8 -0.1**
2.9nm,0.8s,mb4.2,baz=104,slow=7.9,SNR=4.1
ARCES ARCESS Array B 75.55 340 P **P 17 23 51.0 +0.3**
1.9nm,0.8s,mb4.1,baz=98,slow=6.4,SNR=2.7
KHC Kasperske Hory 78.15 319 *eP* **P 17 24 11.5 +5.9**
HFS Hagfors 78.72 330 P **P 17 24 08.5 0.0**
1.8nm,0.6s,mb4.2,baz=104,slow=6.1,SNR=4.2
NB2 NORSAR Subarra 80.00 331 P **P 17 24 13.7 -1.7**
3.6nm,0.9s,mb4.3,baz=93,slow=5.8
NOA NORSAR Array B 80.00 331 P **P 17 24 15.4 0.0**
0.7nm,0.6s,mb3.8,baz=94,slow=5.1,SNR=3.2
EKA Eskdalemuir Ar 87.98 325 P **P 17 24 57.0 +1.3**
1.3nm,0.7s,mb4.2,baz=90,slow=4.3,SNR=3.1
PDAR Pinedale Array 125.43 21 PKP PKPdf 17 31 08.4 +2.3
0.1nm,0.4s,baz=246,slow=40,SNR=2.8

*IDC **27** 17:14:05.9±1.7, 8.07N×94.07E, mb4.2/10, mb1 4.3/11, mb1mx4.2/20, mbtmp4.1/11, Error ellipse: s-maj=47.1km s-min=28.0km az=130.0*
*NEIC **27** 17:14:11.1±0.9, 8.05N×93.96E, h30km, mb4.6/9, Error ellipse: s-maj=24.6km s-min=11.4km az=132.0*
*BJI **27** 17:14:12.1, 8.12N×93.24E, h33km, mb4.2*
ISC 27 17:14:04.4±1.2, 7.8N±0.1×94.3E±0.1, h10km, n33, σ1º01/29, mb4.5/21, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.51**	**23**	P	**P**	**17 16 53.3**	**+1.3**
	8.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.51**	**23**	Pn	**P**	**17 16 51.6**	**-0.3**
	baz=212,slow=15,SNR=2.9						
HYB	**Hyderabad**	**18.11**	**303**	*i* P	**P**	**17 18 20.0**	**+2.1**
JIRN	**Jiri**	**21.21**	**340**	*eP*	**P**	**17 18 53.2**	**+0.6**
	72nm,1.1s,mb4.9						
PKI	**Pulchoki**	**21.41**	**338**	*eP*	**P**	**17 18 54.8**	**+0.1**
	96nm,1.0s,mb5.1						
DMN	**Daman**	**21.56**	**337**	*eP*	**P**	**17 18 56.8**	**+0.6**
	81nm,0.8s,mb5.2						
KKN	**Kakani**	**21.65**	**338**	*eP*	**P**	**17 18 57.0**	**-0.1**
LSA	**Lhasa**	**22.00**	**353**	*eP*	**P**	**17 19 00.5**	**0.0**
	52nm,1.0s,mb4.9						
GKN	**Gorkha**	**22.09**	**337**	*eP*	**P**	**17 19 01.1**	**-0.4**
	140nm,1.2s,mb5.3						
KOLN	**Koldanda**	**22.31**	**334**	*eP*	**P**	**17 19 03.0**	**-0.7**
	163nm,1.1s,mb5.4						
ENH	**Enshi**	**26.49**	**30**	P	**P**	**17 19 47.9**	**+4.0**
	14nm,1.1s,mb4.4						
AAK	**Ala-Archa**	**38.85**	**336**	*eP*	**P**	**17 21 31.7**	**+0.2**
	11nm,1.1s,mb4.5						
SONM	**Songino Array**	**41.20**	**12**	P	**P**	**17 21 49.7**	**-1.1**
	0.5nm,0.7s,mb3.2,baz=196,slow=7.5,SNR=2.4						
SONM				PcP	PcP	17 23 51.0	+0.4
	0.4nm,0.6s,baz=195,slow=6.3,SNR=2.9						
KURK	**Kurchatov**	**44.73**	**346**	*eP*	**P**	**17 22 18.5**	**-1.1**
	15nm,1.1s,mb4.7						
ZAL	**Zalesovo**	**46.65**	**352**	P	**P**	**17 22 34.8**	**0.0**
	4.5nm,0.9s,mb4.4,baz=295,slow=9.9,SNR=5.5						
BVAR	**Borovoye Array**	**49.12**	**341**	P	**P**	**17 22 51.8**	**-2.3**
	3.1nm,1.0s,mb4.3,baz=135,slow=6.3,SNR=5.5						
KMBO	**Kilima Mbogo**	**57.60**	**264**	P	**P**	**17 23 57.5**	**+0.1**
	3.8nm,1.0s,mb4.4,baz=53,slow=19,SNR=4.1						
KMBO	**Kilima Mbogo**	**57.60**	**264**	P	**P**	**17 23 57.5**	**+0.1**
BRTR	**Keskin Array B**	**62.62**	**311**	P	**P**	**17 24 29.4**	**-2.0**
	1.6nm,0.6s,mb4.3,baz=101,slow=7.3,SNR=3.2						
MBAR	**Mbarara**	**63.94**	**266**	*eP*	**P**	**17 24 40.9**	**+0.3**
	6.8nm,1.2s,mb4.5						
MA2	**Magadan**	**66.75**	**27**	P	**P**	**17 24 59.7**	**+1.8**
FINES	**FINESS Array B**	**72.87**	**332**	P	**P**	**17 25 35.0**	**-0.2**
	2.4nm,0.9s,mb4.2,baz=90,slow=7.6,SNR=4.3						
ARCES	**ARCESS Array B**	**75.40**	**340**	P	**P**	**17 25 49.3**	**-0.4**
	3.1nm,0.7s,mb4.3,baz=45,slow=3.4,SNR=4.3						
GERES	**GERESS Array B**	**78.01**	**318**	P	**P**	**17 26 04.5**	**-0.2**
	2.2nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=8.5						
KHC	**Kasperske Hory**	**78.10**	**319**	*eP*	**P**	**17 26 08.5**	**+3.3**
HFS	**Hagfors**	**78.62**	**330**	P	**P**	**17 26 07.5**	**-0.3**
	2.9nm,0.7s,mb4.3,baz=104,slow=6.1,SNR=6.1						
GRA1	**Grafenberg Arr**	**79.65**	**319**	*eP*	PcP	17 26 17.7	-4.2
	11nm,1.5s						
GRF	**Grafenberg Arr**	**79.65**	**319**	*eP*	PcP	17 26 17.7	-4.2
	11nm,1.5s						
NB2	**NORSAR Subarra**	**79.89**	**331**	P	**P**	**17 26 14.7**	**0.0**
	1.9nm,0.8s,mb4.1,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**79.89**	**331**	P	**P**	**17 26 14.0**	**-0.7**
	2.9nm,1.1s,mb4.1,baz=95,slow=6.5,SNR=3.7						
LPG	**La Plagne**	**82.81**	**315**	*eP*	**P**	**17 26 31.4**	**+1.1**
	10nm,0.9s,mb4.6						
PDAR	**Pinedale Array**	**125.17**	**21**	PKP	PKPdf	17 33 08.3	-0.4
	0.6nm,0.8s,baz=333,slow=2.0,SNR=3.8						
PLCA	**Paso Flores**	**144.54**	**200**	PKP	PKPdf	17 33 44.6	+0.1
	4.0nm,0.8s,baz=176,slow=3.0,SNR=6.9						

*IDC **27** 17:17:11.4±1.0, 7.86N×93.98E, mb4.3/13, mb1 4.5/14, mb1mx4.4/22, mbtmp4.3/14, ML4.2/1, Error ellipse: s-maj=36.5km s-min=25.0km az=49.0*
*BJI **27** 17:17:15.5, 7.76N×93.64E, h43km, mb4.5*
*NEIC **27** 17:17:15.7±0.5, 7.82N×94.19E, h30km, mb4.7/14, Error ellipse: s-maj=13.5km s-min=11.5km az=66.0*
ISC 27 17:17:16.3±2.8, 7.9N±0.1×94.22E±0.09, h46km±23km, n44, σ0º88/42, mb4.6/30, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.42**	**23**	*eP*	**P**	**17 20 00.2**	**+0.6**
	9.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.42**	**23**	Pn	**P**	**17 19 59.9**	**+0.2**
	0.4nm,0.3s,baz=215,slow=15,SNR=11						
HYB	**Hyderabad**	**17.94**	**303**	*i* P	**P**	**17 21 24.0**	**-0.2**
KMI	**Kunming**	**18.93**	**24**	⇑P	**P**	**17 21 40.4**	**+4.3**
	18nm,1.3s						
JIRN	**Jiri**	**21.04**	**340**	*eP*	**P**	**17 21 58.1**	**-0.5**
	56nm,0.8s,mb4.9						
PKI	**Pulchoki**	**21.24**	**338**	*eP*	**P**	**17 22 00.9**	**+0.3**
	36nm,0.6s,mb4.9						
DMN	**Daman**	**21.39**	**337**	*eP*	**P**	**17 22 02.7**	**+0.7**
	58nm,0.8s,mb5.0						
KKN	**Kakani**	**21.48**	**338**	*eP*	**P**	**17 22 03.3**	**+0.3**
	31nm,0.7s,mb4.7						
LSA	**Lhasa**	**21.84**	**353**	*eP*	**P**	**17 22 05.6**	**-1.0**
	17nm,0.6s,mb4.7						
GKN	**Gorkha**	**21.92**	**337**	*eP*	**P**	**17 22 06.4**	**-1.0**
	41nm,0.6s,mb5.0						
KOLN	**Koldanda**	**22.14**	**334**	*eP*	**P**	**17 22 09.8**	**+0.3**
	36nm,0.8s,mb4.9						
ENH	**Enshi**	**26.43**	**31**	*eP*	**P**	**17 22 51.7**	**+0.9**
	13nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**38.68**	**337**	*eP*	**P**	**17 24 36.9**	**-0.4**
	5.7nm,0.9s,mb4.3						
SONM	**Songino Array**	**41.09**	**12**	P	**P**	**17 24 56.9**	**-0.2**
	1.8nm,1.0s,mb3.6,baz=202,slow=7.6,SNR=5.9						
SONM				PcP	PcP	17 26 57.9	+1.1
	1.1nm,0.9s,baz=188,slow=3.3,SNR=5.5						
KURK	**Kurchatov**	**44.57**	**346**	*eP*	**P**	**17 25 24.6**	**-0.9**
	7.5nm,1.0s,mb4.5						
ZAL	**Zalesovo**	**46.50**	**352**	P	**P**	**17 25 40.8**	**+0.1**
	4.1nm,0.5s,mb4.7,baz=314,slow=5.0,SNR=9.4						
WRA	**Warramunga Arr**	**48.23**	**126**	P	**P**	**17 25 54.7**	**-0.1**
	2.6nm,0.6s,mb4.5,baz=302,slow=8.9,SNR=4.8						
WRAB	**Tennant Creek**	**48.23**	**126**	P	**P**	**17 25 51.6**	**-3.3**
	15nm,1.0s,mb5.0						
BVAR	**Borovoye Array**	**48.96**	**341**	P	**P**	**17 25 58.9**	**-1.0**
	0.7nm,0.5s,mb4.0,baz=143,slow=9.6,SNR=5.5						
BVAR				PcP	PcP	17 27 24.1	+0.2
	1.4nm,1.0s,baz=180,slow=1.4,SNR=3.3						
RAYN	**Ar Rayn**	**49.13**	**294**	P	**P**	**17 26 02.0**	**+0.3**
	95nm,1.0s,SNR=12						
PMG	**Port Moresby**	**55.47**	**107**	P	**P**	**17 26 49.7**	**+0.5**
	17nm,0.8s,mb5.1						
KMBO	**Kilima Mbogo**	**57.51**	**264**	*eP*	**P**	**17 27 03.8**	**+0.1**
	21nm,1.4s,mb5.0						
MALT	**Malatya**	**58.48**	**310**	*eP*	**P**	**17 27 10.0**	**-0.2**
	3.1nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**60.09**	**134**	P	**P**	**17 27 17.9**	**-3.6**

BRTR Keskin Array B 62.45 311 P **P 17 27 35.5 -1.8**
2.0nm,0.7s,mb4.4,baz=120,slow=7.1,SNR=5.3
MBAR Mbarara 63.85 265 *eP* **P 17 27 47.9 +1.0**
10nm,1.3s,mb4.7
AKASG Malin Array Be 68.16 322 P **P 17 28 11.8 -1.9**
1.9nm,0.7s,mb4.2,baz=89,slow=4.9,SNR=7.2
MLR Muntele Rosu 69.18 316 P **P 17 28 20.4 +0.3**
14nm,1.2s,mb4.8,baz=100,slow=2.0,SNR=5.6
FINES FINESS Array B 72.69 332 P **P 17 28 40.5 -0.5**
5.5nm,0.8s,mb4.5,baz=104,slow=7.9,SNR=9.1
FINES FINESS Array B 72.69 332 P **P 17 28 40.5 -0.5**
ARCES ARCESS Array B 75.24 340 P **P 17 28 55.9 +0.3**
2.3nm,0.6s,mb4.3,baz=90,slow=6.1,SNR=7.5
GERES GERESS Array B 77.83 318 P **P 17 29 10.9 +0.3**
2.2nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=14
KHC Kasperske Hory 77.93 318 *eP* **P 17 29 12.0 +0.9**
CLL Collm 78.36 321 *eP* **P 17 29 15.0 +1.5**
CLL *e* 17 29 20.0
CLL Collm 78.36 321 P **P 17 29 15.0 +1.5**
CLL *e*PP pP 17 29 20.0 -7.0
HFS Hagfors 78.44 330 P **P 17 29 13.7 0.0**
2.5nm,0.4s,mb4.5,baz=104,slow=6.1,SNR=14
GRA1 Grafenberg Arr 79.47 319 *eP* **P 17 29 20.8 +1.2**
10.0nm,1.2s,mb4.6
GRF Grafenberg Arr 79.47 319 *eP* **P 17 29 20.8 +1.2**
10.0nm,1.2s,mb4.6
NB2 NORSAR Subarra 79.72 331 P **P 17 29 19.0 -1.7**
13nm,1.1s,mb4.8,baz=91,slow=5.0
NOA NORSAR Array B 79.72 331 P **P 17 29 20.6 0.0**
4.1nm,0.9s,mb4.4,baz=94,slow=5.5,SNR=7.5
LPG La Plagne 82.63 315 *eP* **P 17 29 37.3 +1.1**
18nm,1.0s,mb4.8
EKA Eskdalemuir Ar 87.72 325 P **P 17 30 02.0 +0.8**
1.9nm,0.7s,mb4.4,baz=90,slow=5.0,SNR=3.4
PDAR Pinedale Array 125.08 21 PKP PKPdf 17 36 14.8 +2.7
0.6nm,0.6s,SNR=5.2
PLCA Paso Flores 144.63 200 PKP PKPdf 17 36 50.4 +2.2
8.0nm,0.9s,baz=148,slow=2.2,SNR=11

*BJI **27** 17:17:11.3, 8.96S×121.04E, h20km, mb4.5, Ms5.3, Msz5.0*
*NEIC **27** 17:17:20.0±0.6, 8.14S×120.60E, h20km, mb4.5/6, Error ellipse: s-maj=15.4km s-min=7.2km az=211.0*
*IDC **27** 17:17:23.3±3.5, 8.76S×120.86E, mb4.3/1, mb1 4.7/3, mb1mx4.1/14, mbtmp4.5/3, ML4.3/2, Error ellipse: s-maj=128.6km s-min=30.1km az=48.0*
ISC 27 17:17:18.5±2.0, 8.21S±0.07×120.58E±0.04, h25km±16km, n20, σ1º13/29, mb4.5/6, 4D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**4.42**	**266**	⇓*e*Pn	**Pn**	**17 18 25.3**	**-0.6**
RATI	**Rata**	**5.01**	**264**	⇓*e*Pn	**Pn**	**17 18 33.8**	**-0.4**
RATI				*e*Sn	**Sn**	**17 19 32.0**	**-0.1**
KELI	**Kelakatan**	**6.02**	**270**	⇓*e*Pn	**Pn**	**17 18 49.0**	**+0.5**
SRDI	**Scrawed**	**6.37**	**267**	⇓*e*Pn	**Pn**	**17 18 53.8**	**+0.4**
SRDI				*e*Sn	**Sn**	**17 20 04.5**	**-1.6**
FITZ	**Fitzroy Crossi**	**10.99**	**154**	*eP*	**P**	**17 19 57.8**	**+0.3**
	19nm,0.8s						
FITZ				*e*S	**S**	**17 22 00.1**	**-0.6**
KAKA	**Kakadu**	**12.49**	**112**	*eP*	**P**	**17 20 19.2**	**+1.4**
	10nm,0.6s						
KAKA				*e*S	**S**	**17 22 34.9**	**-2.3**
MBWA	**Marble Bar**	**12.89**	**184**	*eP*	**P**	**17 20 23.3**	**+0.1**
WRA	**Warramunga Arr**	**17.71**	**133**	P	**P**	**17 21 24.7**	**-0.6**
	1.2nm,0.3s,baz=306,slow=12,SNR=46						
WRA				S	**S**	**17 24 33.1**	**-6.4**
	0.2nm,0.3s,baz=306,slow=20,SNR=5.0						
WRAB	**Tennant Creek**	**17.71**	**133**	*eP*	**P**	**17 21 24.1**	**-1.3**
	24nm,0.7s						
WRAB				*e*S	**S**	**17 24 31.9**	**-7.6**
WB2	**Warramunga Arr**	**17.72**	**133**	*eP*	**P**	**17 21 26.4**	**+1.0**
WB2				*e*S	**S**	**17 24 32.2**	**-7.5**
ASPA	**Alice Springs**	**19.98**	**142**	*eP*	**P**	**17 21 53.2**	**+1.0**
ASPA				*e*S	**S**	**17 25 30.2**	**0.0**
ASAR	**Alice Springs**	**19.98**	**142**	P	**P**	**17 21 52.0**	**-0.3**
	1.6nm,0.3s,baz=316,slow=10,SNR=32						
ASAR				S	**S**	**17 25 31.4**	**+1.2**
	0.1nm,0.3s,baz=315,slow=22,SNR=7.0						
NWAO	**Narrogin (SRO)**	**24.79**	**187**	P	**P**	**17 22 33.6**	**-6.4**
	65nm,1.5s,mb4.9						
CTAO	**Charters Tower**	**27.51**	**118**	P	**P**	**17 23 02.4**	**-2.9**
	6.1nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**30.60**	**143**	P	**P**	**17 23 33.4**	**+0.4**
	2.1nm,0.6s,mb4.2,baz=323,slow=9.9,SNR=9.0						
PALK	**Pallekele**	**42.62**	**290**	P	**P**	**17 25 16.6**	**+1.6**
	10nm,1.0s,mb4.5						
LZH	**Lanzhou**	**46.79**	**341**	*eP*	**P**	**17 25 49.5**	**+1.4**
LZH				AP	pP	17 25 58.5	+2.8
LZH				XP	sP	17 26 03.0	+4.3
LZH				AMB	AMB		
	comp=Z,33nm,1.5s,mb5.0						
LZH	**Lanzhou**	**46.79**	**341**	*eP*	**P**	**17 25 49.6**	**+1.5**
	comp=Z,33nm,1.5s,mb5.0						
LZH				pP	pP	17 25 58.5	+2.8
LZH				sP	sP	17 26 03.0	+4.3
BJT	**Baijiatuan**	**48.16**	**355**	P	**P**	**17 25 56.9**	**-1.9**
VNDA	**Vanda**	**72.52**	**171**	P	**P**	**17 28 46.3**	**+1.4**
	comp=Z,1.9nm,1.0s,mb4.0						

*NEIC **27** 17:17:34.0, 31.42S×119.24E, h5km, ML3.5(AUST), After AUST.*
AUST 27 17:17:34.2, 31.42S×119.24E, h5km, ML3.5, 1D, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLBR	**Kellerberrin**	**1.28**	**262**	⇓*i*P	Pb	17 17 56.9	-1.4
KLBR				*e*S	Sb	17 18 13.1	-1.8
	7μm,0.3s						
KMBL	**Kambalda**	**2.26**	**89**	*eP*	Pn	17 18 10.8	-2.0
KMBL				*e*S	Sn	17 18 38.3	-3.1
	315nm,0.3s						
NWAO	**Narrogin (SRO)**	**2.27**	**228**	*eP*	Pn	17 18 10.6	-2.3
NWAO				*e*S	Sn	17 18 38.0	-3.5
	904nm,0.3s						
BLDU	**Ballidu**	**2.31**	**290**	*eP*	Pn	17 18 10.2	-3.3
BLDU				*e*S	Sn	17 18 43.9	+1.3
	40nm,0.3s						
MUN	**Mundaring**	**2.64**	**257**	*eP*	Pn	17 18 15.6	-2.6
MUN				*e*S	Sn	17 18 46.3	-4.7
	30nm,0.3s						
MORW	**Morawa**	**3.62**	**309**	*eP*	Pn	17 18 28.6	-3.5
MORW				*e*S	Sn	17 19 10.5	-5.3
RKGY	**Rocky Gully**	**3.71**	**210**	*eP*	Pn	17 18 30.5	-2.8
RKGY				*e*S	Sn	17 19 08.2	-10
	3.2nm,0.1s						
MEEK	**Meekatharra**	**4.79**	**353**	*eP*	Pn	17 18 45.4	-3.3
MEEK				*e*S	Sn	17 19 36.5	-8.9
	107nm,0.2s						
FORT	**Forrest**	**7.59**	**87**	*eP*	Pn	17 19 22.9	-5.3
FORT				*e*S	Sn	17 20 43.1	-12
	16nm,0.3s						
FORT	**Forrest**	**7.59**	**87**	*eP*	Pn	17 19 22.9	-5.3
	16nm,0.3s						
FORT				*e*S	Sn	17 20 43.1	-12

JMA 27 17:21:23.3±0.4, 44.16N×148.17E, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.93**	**247**	P	Pn	17 21 57.9	+0.2
NEM2				*e*S	Sn	17 22 23.3	+0.3
JRA	**Rausu**	**2.21**	**265**	P	Pn	17 22 02.0	+0.3
JRA				*e*S	Sn	17 22 30.4	+0.3
JNK	**Nakash**	**2.56**	**258**	P	Pn	17 22 07.0	+0.3
JNK				*e*S	Sn	17 22 38.9	-0.2
JAK	**Akkeshi**	**2.78**	**246**	P	Pn	17 22 09.8	-0.1
JAK				*e*S	Sn	17 22 44.9	+0.3
JAR	**Ashorobuto**	**3.30**	**256**	P	Pn	17 22 19.2	+1.9
JAR				*e*S	Sn	17 22 59.3	+1.4
JCH	**Churui**	**3.83**	**248**	P	Pn	17 22 26.6	+1.8
JCH				*e*S	Sn	17 23 11.3	+0.1
JNBK	**Urakawa-nobuka**	**4.38**	**246**	P	Pn	17 22 32.8	+0.2
JNBK				*e*S	Sn	17 23 25.7	+0.5
JKB	**Kayabe**	**5.70**	**249**	P	Pn	17 22 51.2	-0.1
JKB				*e*S	Sn	17 23 55.3	-3.2

IDC 27 17:23:10.3±1.5, 7.66N×94.16E, mb3.9/5, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, ML4.1/1, Error ellipse: s-maj=50.2km s-min=28.8km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.69**	**23**	Pn	P	17 26 00.1	-1.6
	0.3nm,0.3s,baz=214,slow=15,SNR=12						
SONM	**Songino Array**	**41.36**	**12**	P	P	17 30 57.7	-2.0
	0.8nm,0.8s,baz=207,slow=5.5,SNR=4.7						
ZAL	**Zalesovo**	**46.76**	**352**	P	P	17 31 40.4	-2.8
	1.4nm,0.6s,baz=272,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**48.12**	**125**	P	P	17 31 52.3	-2.0
	0.5nm,0.5s,baz=304,slow=8.5,SNR=6.4						
FINES	**FINESS Array B**	**72.91**	**332**	P	P	17 34 41.9	-1.1
	2.1nm,0.8s,baz=90,slow=8.3,SNR=3.6						
GERES	**GERESS Array B**	**78.00**	**318**	P	P	17 35 10.7	-1.5
	0.4nm,0.5s,baz=108,slow=4.2,SNR=4.3						

*IDC **27** 17:24:55.8±0.5, 7.63N×94.13E, mb4.7/25, mb1 4.8/26, mb1mx4.8/30, mbtmp4.7/26, ML4.7/1, Error ellipse: s-maj=26.3km s-min=11.9km az=46.0, Putative timing error at LPAZ*
*BJI **27** 17:24:58.6, 7.70N×93.84E, h24km, mB6.0, mb4.8, Ms5.4, Msz5.1*
*MOS **27** 17:24:59.5±1.4, 7.66N×94.22E, h33km, mb5.3/50, MS4.9/4, Error ellipse: s-maj=9.3km s-min=5.3km az=112.2*
*NEIC **27** 17:24:59.7±2.8, 7.60N×94.21E, h25km±19km, mb5.1/52, Error ellipse: s-maj=8.3km s-min=7.2km az=55.0*
*HRVD **27** 17:24:59.7±0.2, 7.78N×94.25E, h19km±1km, MW5.3/52, Centroid moment Tensor Solution. LP body waves: s25,c39;Mantle waves: s52,c96; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.09±.04; $M_{\theta\theta}$-0.87±.03; $M_{\phi\phi}$0.77±.03; $M_{r\theta}$-0.55±.08; $M_{\theta\phi}$0.74±.03; $M_{\phi r}$-0.20±.07; Best double couple: $M_0$1.25×10^{17} NP1: ϕ_s156°, δ62°, λ178°. NP2:ϕ_s247°, δ88°, λ28°. Principal axes: T 1.202, Plg20°, Azm115°; N .094, Plg62°, Azm250°; P -1.297, Plg18°, Azm18°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 27 17:24:56.9±0.2, 7.61N±0.04×94.26E±0.04, h18km, h18km±2.7km: pP-P, n233, σ1º32/233, mb5.1/86, MS5.0/9, 7C-10D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.29**	**340**	*eP*	**Pn**	**17 26 05.0**	**+1.9**
PBA				*e*S	**Sn**	**17 26 44.4**	**-8.8**
CM31	**Chiang Mai Arr**	**11.71**	**22**	*eP*	**P**	**17 27 46.6**	**+0.3**
	14nm,0.6s						
CMAR	**Chiang Mai Arr**	**11.71**	**22**	P	**P**	**17 27 46.1**	**-0.2**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.71**	**22**	Pn	**P**	**17 27 46.1**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=213,slow=14,SNR=27						
CHG	**Chiang Mai**	**12.03**	**22**	⇓P	**P**	**17 27 51.4**	**+0.7**
	comp=Z,39nm,1.2s						
CHRT	**Chiangrai**	**13.31**	**23**	P	**P**	**17 28 08.5**	**+0.8**
	comp=Z,132nm,1.4s						
PALK	**Pallekele**	**13.45**	**269**	*eP*	**P**	**17 28 09.7**	**+0.1**
	comp=Z,59nm,1.1s						
KOD	**Kodaikanal**	**16.80**	**280**	*eP*	**P**	**17 28 55.8**	**+2.7**
KOD				*e*		17 29 00.2	
	comp=Z,69nm,1.5s						
KOD				*e*S	**S**	**17 32 00.6**	**+2.4**
SHL	**Shillong**	**18.00**	**353**	*eP*	**P**	**17 29 08.4**	**+0.3**
SHL				*e*		17 29 19.6	
	comp=Z,1μm,1.9s						
HYB	**Hyderabad**	**18.16**	**304**	*eP*	**P**	**17 29 09.0**	**-1.1**
HYB				*e*S	**S**	**17 32 25.0**	**-4.2**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s						
HYB	**Hyderabad**	**18.16**	**304**	*eP*	**P**	**17 29 09.0**	**-1.1**
	comp=Z,50nm,1.0s						
HYB				*e*S	**S**	**17 32 25.0**	**-4.2**
HYB	**Hyderabad**	**18.16**	**304**	*i* P	**P**	**17 29 09.0**	**-1.1**
	comp=Z,50nm,1.0s						
HYB				*e*		17 32 21.5	
HYB				*e*S	**S**	**17 32 28.5**	**-0.7**
QIZ	**Qiongzhong**	**18.92**	**52**	P	**P**	**17 29 24.0**	**+4.6**
QIZ				*e*S	**S**	**17 32 51.0**	**+4.6**
QIZ				LR	LR		
	comp=N,12μm,14.0s						
QIZ	**Qiongzhong**	**18.92**	**52**	*eP*	**P**	**17 29 23.1**	**+3.7**
	comp=N,211nm,1.6s						
KMI	**Kunming**	**19.21**	**24**	P	**P**	**17 29 25.3**	**+2.5**
KMI				S	**S**	**17 32 56.7**	**+3.7**
KMI				pmax	pmax		
	comp=Z,58nm,1.4s						
KMI	**Kunming**	**19.21**	**24**	P	**P**	**17 29 25.3**	**+2.5**
	comp=Z,58nm,1.4s						
KMI				pP		17 29 30.7	
KMI				PP	PP	17 29 46.8	+7.0
KMI				S	**S**	**17 32 56.7**	**+3.7**
COCO	**West Island**	**19.84**	**173**	*eP*	**P**	**17 29 28.7**	**-1.2**
	comp=Z,243nm,1.3s						
JIRN	**Jiri**	**21.36**	**340**	*eP*	**P**	**17 29 45.4**	**-0.2**
	comp=Z,377nm,1.1s,mb5.7						
GOA	**Goa**	**21.49**	**293**	*e*	**P**	**17 29 40.8**	**-6.2**
GOA				*eP*		17 29 50.4	
GOA				*e*		17 30 01.5	
	comp=Z,95nm,1.2s						
PKI	**Pulchoki**	**21.55**	**338**	*eP*	**P**	**17 29 46.8**	**-0.8**
	comp=Z,152nm,0.9s,mb5.4						
DMN	**Daman**	**21.70**	**338**	*eP*	**P**	**17 29 48.5**	**-0.6**
	comp=Z,178nm,0.7s,mb5.6						
KKN	**Kakani**	**21.80**	**338**	*eP*	**P**	**17 29 48

SSE S **S** **17 37 06.0 -4.3**
SSE sS 17 37 19.4
SSE SS SS 17 39 34.9 +14
SSE LR LR
comp=Z,1µm,14.7s,MS4.8
WMQ Urumqi 36.52 352 P **P** **17 32 04.3 +1.0**
WMQ AP pP 17 32 08.8 +0.1
WMQ XP sP 17 32 11.3 +0.4
WMQ PP PP 17 33 28.3 +0.6
WMQ PCP PcP 17 34 28.3 +1.1
WMQ S **S** **17 37 45.5 +1.4**
WMQ AMB AMB
comp=Z,149nm,1.5s,mb5.6
WMQ AMB AMB
comp=Z,708nm,5.6s
WMQ LR LR
comp=N,2µm,18.3s,MS5.0
WMQ LR LR
comp=E,2µm,18.4s,MS5.0
WMQ LR LR
comp=Z,3µm,18.7s,MS5.1
BJT Baijiatuau 37.76 28 *e*P **P** **17 32 16.0 +2.2**
BJT pmax pmax
comp=Z,32nm,1.1s
BJT Baijiatuau 37.76 28 *e*P **P** **17 32 16.0 +2.2**
comp=Z,32nm,1.1s,mb5.0
BJI Beijing 37.78 28 *e*P **P** **17 32 16.5 +2.6**
BJI pmax pmax
comp=Z,18nm,1.3s,mb4.6
BJI MLR MLR
comp=Z,2µm,23.9s,MS4.8
BJI Beijing 37.78 28 *e*P **P** **17 32 16.5 +2.6**
comp=Z,18nm,1.3s,mb4.6
BJI LR LR
comp=Z,2µm,23.9s,MS4.8
MBWA Marble Bar 37.99 139 P **P** **17 32 14.7 -1.1**
comp=Z,21nm,1.1s,mb4.8
AAK Ala-Archa 38.99 337 *i* P **P** **17 32 24.4 +0.3**
MKAR Makanchi Array 40.37 347 *i* P **P** **17 32 33.9 -1.5**
MKAR pmax pmax
comp=Z,31nm,0.9s
MKAR Makanchi Array 40.37 347 *i* P **P** **17 32 33.0 -2.4**
SONM Songino Array 41.39 12 P **P** **17 32 44.0 +0.2**
comp=Z,9.2nm,0.9s,mb4.4,baz=196,slow=7.5,SNR=26
SONM PcP PcP 17 34 43.8 +1.3
comp=Z,4.4nm,0.9s,baz=162,slow=4.6,SNR=4.2
ULN Ulaanbaatar 41.56 13 *e*P **P** **17 32 44.8 -0.4**
ULN pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
ULN Ulaanbaatar 41.56 13 *e*P **P** **17 32 44.8 -0.5**
comp=Z,10.0nm,0.9s,mb4.5
KS15 Wonju Array Si 42.55 41 *e*P **P** **17 32 55.7 +2.2**
SNY Shenyang 42.83 33 ⇓P **P** **17 32 59.3 +3.6**
SNY LR LR
comp=N,2µm,16.8s
SNY LR LR
comp=Z,2µm,16.2s,MS5.2
ZAK Zakamensk 43.29 8 *e*P **P** **17 32 58.7 -0.6**
TLY Talaya 44.61 8 *e*P **P** **17 33 08.7 -1.3**
TLY pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
TLY Talaya 44.61 8 *e*P **P** **17 33 08.7 -1.3**
comp=Z,6.0nm,0.9s,mb4.4
KURK Kurchatov 44.89 346 *i* P **P** **17 33 11.2 -1.1**
KURK pmax pmax
comp=Z,46nm,1.2s,mb5.2
KURK Kurchatov 44.89 346 *e*P **P** **17 33 10.8 -1.5**
comp=Z,111nm,1.2s,mb5.6
NWAO Narrogin (SRO) 45.86 153 P **P** **17 33 19.2 -1.0**
NWAO pmax pmax
comp=Z,39nm,1.2s
NWAO Narrogin (SRO) 45.86 153 P **P** **17 33 21.0 +0.8**
comp=Z,13nm,0.6s,mb5.0,baz=353,slow=8.1,SNR=3.2
NWAO Narrogin (SRO) 45.86 153 P **P** **17 33 19.2 -0.9**
comp=Z,39nm,1.2s,mb5.2
HIA Hailar 46.72 23 *e*P **P** **17 33 28.4 +1.7**
HIA pmax pmax
comp=Z,47nm,1.2s
HIA Hailar 46.72 23 *e*P **P** **17 33 28.4 +1.7**
comp=Z,47nm,1.2s,mb5.3
ZAL Zalesovo 46.82 352 P **P** **17 33 27.0 -0.5**
ZAL pmax pmax
comp=Z,9.0nm,0.7s
ZAL Zalesovo 46.82 352 P **P** **17 33 27.0 -0.5**
comp=Z,9.3nm,0.7s,mb4.8,baz=293,slow=8.3,SNR=33
ZAL Zalesovo 46.82 352 P **P** **17 33 27.0 -0.5**
NVS Novosibirsk 47.92 351 *e*P **P** **17 33 34.6 -1.6**
NVS pmax pmax
comp=N,95nm,1.8s
NVS pmax pmax
comp=Z,95nm,1.8s,mb5.5
NVS pmax pmax
comp=E,19nm,1.2s
MDJ Mudanjiang 47.96 34 P **P** **17 33 39.5 +2.9**
MDJ AMB AMB
comp=Z,13nm,1.2s,mb4.8
WRA Warramunga Arr 48.01 125 P **P** **17 33 37.6 +0.3**
WRA pmax pmax
comp=Z,10.0nm,1.2s
WRA Warramunga Arr 48.01 125 P **P** **17 33 37.6 +0.3**
comp=Z,9.9nm,1.1s,mb4.7,baz=304,slow=9.1,SNR=16
WRAB Tennant Creek 48.01 125 *e*P **P** **17 33 37.2 -0.1**
WRAB pmax pmax
comp=Z,12nm,0.8s,mb5.0
WRAB Tennant Creek 48.01 125 *e*P **P** **17 33 37.2 -0.1**
comp=Z,12nm,0.8s,mb5.0
WB2 Warramunga Arr 48.02 125 *e*P **P** **17 33 37.7 +0.3**
MAJO Matsushiro 49.25 48 P **P** **17 33 49.4 +2.8**
MAJO pmax pmax
comp=Z,65nm,1.7s,mb5.4
MAJO Matsushiro 49.25 48 P **P** **17 33 49.4 +2.8**
comp=Z,65nm,1.7s,mb5.4
BVA0 Borovoye Array 49.28 341 *i* P **P** **17 33 45.6 -1.0**
BVA0 pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
BVAR Borovoye Array 49.28 341 P **P** **17 33 44.8 -1.8**
comp=Z,14nm,0.9s,mb5.0,baz=143,slow=7.4,SNR=24
BVAR PcP PcP 17 35 08.8 -1.0
comp=Z,3.5nm,0.9s,baz=162,slow=4.6,SNR=2.8
RAYN Ar Rayn 49.30 294 P **P** **17 33 48.9 +1.7**
comp=Z,166nm,1.3s,mb5.9,SNR=27
BRVK Borovoye 49.34 341 *e*P **P** **17 33 45.2 -1.9**
BRVK pmax pmax
comp=Z,31nm,1.1s,mb5.2
BRVK Borovoye 49.34 341 *e*P **P** **17 33 45.2 -1.9**
comp=Z,31nm,1.1s,mb5.2
ASAR Alice Springs 49.65 130 P **P** **17 33 50.4 +0.5**
comp=Z,10nm,1.2s,mb4.7,baz=302,slow=7.0,SNR=14
ASAR PcP PcP 17 35 13.2 +1.7
comp=Z,2.3nm,0.7s,baz=307,slow=2.8,SNR=4.6
CHKZ Chkalovo 49.76 342 P **P** **17 33 49.0 -1.3**
CHKZ pmax pmax
comp=Z,61nm,1.2s,mb5.5
CHKZ Chkalovo 49.76 342 *e*P **P** **17 33 48.5 -1.8**
comp=Z,68nm,1.0s,mb5.6
KLR Kul'dur 52.05 30 *e*P **P** **17 34 04.2 -3.6**
BOD Bodaibo 52.38 13 *e*P **P** **17 34 09.5 -0.6**
GNI Garni 54.71 314⇓*e*P **P** **17 34 28.0 +0.4**
GNI pmax pmax
comp=Z,26nm,0.9s
GNI Garni 54.71 314 P **P** **17 34 27.3 -0.3**
comp=Z,10nm,0.8s,mb4.9,baz=186,slow=1.3,SNR=11
GNI Garni 54.71 314 *e*P **P** **17 34 26.1 -1.5**
comp=Z,49nm,1.2s,mb5.4
TI2 Plekhanov 55.32 316 *e*P **P** **17 34 32.6 +0.6**
PMG Port Moresby 55.34 107 *e*P **P** **17 34 30.2 -2.3**
PMG pmax pmax
comp=Z,17nm,0.9s
PMG Port Moresby 55.34 107 P **P** **17 34 31.5 -1.1**
comp=Z,12nm,0.8s,mb5.0,baz=349,slow=1.8,SNR=4.4
PMG Port Moresby 55.34 107 *e*P **P** **17 34 30.2 -2.3**
comp=Z,18nm,0.9s,mb5.1
ARU Arti 56.18 337 P **P** **17 34 37.7 -0.3**
comp=Z,155nm,1.0s,mb6.0,SNR=10
ARU Arti 56.18 337⇑*i*P **P** **17 34 29.8 -8.2**
ARU *e* 17 35 31.7
ARU pmax pmax
comp=Z,27nm,1.0s,mb5.2
KMBO Kilima Mbogo 57.51 264 P **P** **17 34 49.7 +1.6**
KMBO pmax pmax
comp=Z,14nm,1.1s
KMBO Kilima Mbogo 57.51 264 P **P** **17 34 49.6 +1.5**
comp=Z,14nm,1.1s,mb4.9,baz=44,slow=8.0,SNR=13
KMBO Kilima Mbogo 57.51 264 *e*P **P** **17 34 49.6 +1.5**
comp=Z,19nm,1.1s,mb5.0
KIV Kislovodsk 57.59 318 *e*P **P** **17 34 48.8 +0.6**
KIV pmax pmax
comp=N,19nm,1.0s
KIV pmax pmax
comp=Z,31nm,1.0s,mb5.3
KIV Kislovodsk 57.59 318 *e*P **P** **17 34 46.9 -1.3**
comp=Z,36nm,0.9s,mb5.4
CTAO Charters Tower 58.07 119 P **P** **17 34 51.8 -0.1**
CTAO pmax pmax
comp=Z,17nm,1.5s,mb4.8
CTAO Charters Tower 58.07 119 P **P** **17 34 51.8 -0.1**
comp=Z,17nm,1.5s,mb4.8
ELZG Elazig 58.36 311 P **P** **17 34 53.2 -0.4**
ASF Jabal al Asfar 58.46 303 P **P** **17 34 54.2 -0.3**
comp=Z,3.4nm,0.9s,mb4.4,baz=90,slow=4.0,SNR=3.2
MALT Malatya 58.73 310 *e*P **P** **17 34 53.4 -2.8**
MALT pmax pmax
comp=Z,11nm,1.0s,mb4.8
MALT Malatya 58.73 310 *e*P **P** **17 34 53.4 -2.9**
comp=Z,11nm,1.0s,mb4.8
SOKR Solikamsk 59.09 339⇓*i*P **P** **17 34 57.4 -1.0**
SOKR pmax pmax
comp=Z,50nm,1.0s,mb5.5
SOKR MLR MLR
comp=Z,1µm,20.0s,MS5.1
GZT Gaziantep 59.12 309 P **P** **17 34 52.1 -6.9**
SOC Sochi 59.45 317 *e*P **P** **17 35 01.7 +0.5**
SOC *e*PPP PPP 17 38 37.4 -2.1
SOC *e*S **S** **17 43 08.4 +0.6**
SOC *e*SS SS 17 46 55.9 -8.6
SOC pmax pmax
comp=Z,29nm,0.8s,mb5.4
SOC pmax pmax
comp=N,24nm,1.0s
SOC pmax pmax
comp=E,45nm,1.2s
EIL Elat 59.66 300 P **P** **17 35 02.2 -0.7**
comp=E,3.5nm,0.5s,mb4.7,baz=135,slow=2.9,SNR=6.0
EIL Elat 59.66 300 *e*P **P** **17 34 59.9 -2.9**
comp=E,13nm,0.9s,mb5.0
KAHT Ahir Dag 59.73 309 P **P** **17 35 02.9 -0.3**
STKA Stephens Creek 59.84 134 P **P** **17 35 02.9 -1.1**
comp=E,3.6nm,1.0s,mb4.4,baz=319,slow=8.5,SNR=5.1
YAK Yakutsk 60.21 18*c* *i*P **P** **17 35 05.2 -0.9**
YAK pmax pmax
comp=Z,44nm,1.0s,mb5.4
YAK Yakutsk 60.21 18 *e*P **P** **17 35 04.5 -1.6**
comp=Z,63nm,1.0s,mb5.6
BRTR Keskin Array B 62.69 311 P **P** **17 35 20.8 -2.4**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 62.69 311 P **P** **17 35 20.8 -2.4**
comp=Z,4.1nm,0.8s,mb4.6,baz=132,slow=7.8,SNR=8.8
VOR Voronezh 62.87 325 *e*P **P** **17 35 24.5 +0.4**
VOR pmax pmax
comp=N,70nm,1.3s
VOR pmax pmax
comp=E,100nm,1.3s
VOR pmax pmax
comp=Z,80nm,1.3s,mb5.7
ELDT Eldivan 63.03 312 P **P** **17 35 23.4 -2.0**
MBAR Mbarara 63.86 266⇑*e*P **P** **17 35 33.4 +2.0**
MOS Moscow 65.37 329 *e*P **P** **17 35 39.3 -1.1**
MOS pmax pmax
comp=Z,113nm,1.2s,mb5.8
OBN Obninsk 65.67 328*d* *i*P **P** **17 35 39.5 -2.8**
OBN *e* 17 36 08.7
OBN *e* 17 38 05.1
OBN *e*S S 17 44 22.9 -2.8
OBN pmax pmax
comp=Z,97nm,1.3s,mb5.7
OBN MLR MLR
comp=Z,600nm,18.0s,MS4.8
OBN Obninsk 65.67 328 *e*P **P** **17 35 38.5 -3.9**
comp=Z,114nm,1.2s,mb5.8
MA2 Magadan 66.94 27 *e*P **P** **17 35 51.9 +1.5**
MA2 pmax pmax
comp=Z,29nm,1.1s,mb5.2
MA2 Magadan 66.94 27 *e*P **P** **17 35 51.9 +1.5**
comp=Z,29nm,1.1s,mb5.2
TIXI Tiksi 67.47 11⇓*i*P **P** **17 35 52.7 -0.9**
TIXI pmax pmax
comp=Z,59nm,1.3s,mb5.5
TIXI Tiksi 67.47 11⇑*e*P **P** **17 35 52.3 -1.3**
KIS Kishinev 67.80 318 *e*P **P** **17 35 57.0 +1.0**
KIS MLR MLR
comp=Z,700nm,16.0s,MS5.0
KIS MLR MLR
comp=Z,400nm,16.0s
AKASG Malin Array Be 68.44 322 P **P** **17 35 57.1 -2.8**
AKASG pmax pmax
comp=Z,11nm,0.9s
AKASG Malin Array Be 68.44 322 P **P** **17 35 57.1 -2.8**
comp=Z,11nm,0.9s,mb4.9,baz=87,slow=4.7,SNR=16
IDI Anoyia 68.82 305 P **P** **17 36 01.2 -1.4**
comp=Z,7.5nm,0.8s,mb4.7,baz=78,slow=13,SNR=5.1
VRI Vrincioaia 68.97 316 ⇓P **P** **17 36 03.5 +0.1**
LSZ Lusaka 69.30 251 *e*P **P** **17 36 06.6 +0.8**
LSZ pmax pmax
comp=Z,21nm,1.2s,mb4.9
LSZ Lusaka 69.30 251 *e*P **P** **17 36 06.6 +0.8**
comp=Z,21nm,1.2s,mb5.0
MLR Muntele Rosu 69.44 316 ⇓P **P** **17 36 05.7 -0.6**
comp=Z,19nm,1.1s,mb4.9,baz=148,slow=1.8,SNR=3.7
MLR Muntele Rosu 69.44 316 ⇓P **P** **17 36 06.3 0.0**
MNK Minsk 70.24 325 *e*P **P** **17 36 09.0 -1.9**
KWP Kalwaria 72.31 320 *e*P **P** **17 36 24.7 +1.2**
JAN Janina 72.42 309⇑*i*P **P** **17 36 26.0 +1.7**
JAN *i* 17 36 38.6
JAN pmax pmax
comp=Z,47nm,1.2s,mb5.3
KOLS Kolonicke sedl 72.48 319 *e*P **P** **17 36 25.6 +1.1**
KOLS *e* pP 17 36 33.2 +3.1
KOLS Kolonicke sedl 72.48 319 *e*P **P** **17 36 25.6 +1.1**
KOLS *e* 17 36 28.8
KOLS *e* pP 17 36 33.2 +3.1
SUW Suwalki 72.79 324 *e*P **P** **17 36 27.0 +0.8**
SUW Suwalki 72.79 324 *e*P **P** **17 36 27.0 +0.8**
FINES FINESS Array B 73.00 332 P **P** **17 36 26.0 -1.3**
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 73.00 332 P **P** **17 36 26.0 -1.3**
comp=Z,6.4nm,0.8s,mb4.6,baz=110,slow=6.1,SNR=14
CRVS Cervenica-Dubn 73.01 319 *e*P **P** **17 36 28.0 +0.4**
CRVS *e* 17 36 40.1
CRVS Cervenica-Dubn 73.01 319 *e*P **P** **17 36 28.0 +0.4**
CRVS *e* pP 17 36 32.8 -0.4
CRVS *e* 17 36 40.1
KAF Kangasniemi 73.08 333 *e*p **P** **17 36 25.5 -2.3**
comp=Z,28nm,1.0s,mb5.2,baz=141,slow=9.7
KAF Kangasniemi 73.08 333 *e*P **P** **17 36 25.5 -2.3**
KAF pmax pmax
comp=Z,28nm,1.0s,mb5.2
PSZ Piszkesteto 73.92 318 *e*P **P** **17 36 31.8 -1.1**
PSZ pmax pmax
comp=Z,26nm,1.3s,mb5.0
PSZ Piszkesteto 73.92 318 *e*P **P** **17 36 31.8 -1.1**
comp=Z,26nm,1.3s,mb5.0
LBTB Lobatse 74.22 241 *e*P **P** **17 36 36.4 +1.2**
LBTB pmax pmax
comp=Z,12nm,0.9s,mb4.8
LBTB Lobatse 74.22 241 *e*P **P** **17 36 36.4 +1.2**
comp=Z,12nm,0.9s,mb4.8
VYHS Vyhne 74.68 318 *e*P **P** **17 36 36.3 -1.0**
VYHS *e* 17 36 57.4
VYHS Vyhne 74.68 318 *e*P **P** **17 36 36.3 -1.0**
VYHS *e* pP 17 36 41.0 -2.0
VYHS *e* 17 36 57.4
KEV Kevo 75.12 341 *e*p **P** **17 36 37.5 -2.0**
comp=Z,18nm,0.9s,mb5.0
KEV Kevo 75.12 341 *e*P **P** **17 36 37.5 -2.0**
KEV pmax pmax
comp=Z,18nm,0.9s,mb5.0
OKC Ostrava-Krasne 75.27 319 *e*P **P** **17 36 41.4 +0.7**
OKC *ex* x 17 36 45.4
BOSA Boshof 75.55 238 *e*P **P** **17 36 42.1 -0.6**
BOSA pmax pmax
comp=Z,22nm,1.1s,mb5.0
BOSA Boshof 75.55 238 *e*P **P** **17 36 42.1 -0.6**
comp=Z,22nm,1.1s,mb5.0
ARCES ARCESS Array B 75.55 340 P **P** **17 36 41.5 -0.4**
ARCES pmax pmax
comp=Z,40nm,1.3s
ARCES ARCESS Array B 75.55 340 P **P** **17 36 41.5 -0.4**
comp=Z,40nm,1.3s,mb5.2,baz=63,slow=5.4,SNR=8.1
SMOL Smolenice 75.62 318 *e*P **P** **17 36 42.5 -0.2**
MORC Moravsky Berou 75.65 319 *e*P **P** **17 36 42.5 -0.4**
MORC pmax pmax
comp=Z,44nm,1.3s,mb5.2
MORC Moravsky Berou 75.65 319 *e*P **P** **17 36 42.5 -0.3**
comp=Z,44nm,1.3s,mb5.2
ZST Bratislava 75.81 318 *e*P **P** **17 36 45.1 +1.3**
ZST *e* 17 36 53.9
ZST Bratislava 75.81 318 *e*P **P** **17 36 45.1 +1.3**
ZST *e* 17 36 48.5
ZST *e*sP sP 17 36 53.9 +2.5
VRAC Vranov 76.23 319 P **P** **17 36 46.9 +0.8**
VRAC pmax pmax
comp=Z,5.0nm,1.0s
VRAC Vranov 76.23 319 P **P** **17 36 46.9 +0.8**
comp=Z,4.5nm,0.9s,mb4.4,baz=108,slow=3.2,SNR=3.1
BILL Bilibino 76.29 22 *e*P **P** **17 36 45.8 -0.3**
BILL pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
BILL Bilibino 76.29 22 *e*P **P** **17 36 45.8 -0.2**
comp=Z,6.0nm,0.7s,mb4.6
DPC Dobruska-Polom 76.48 320 *e*P **P** **17 36 47.7 +0.2**
DPC *ex* x 17 36 52.2
KSP Ksiaz 76.54 320 *e*P **P** **17 36 47.4 -0.5**
KSP *e*pP pP 17 36 51.5 -2.0
KSP Ksiaz 76.54 320 *e*P **P** **17 36 48.0 +0.1**
UPC Upice 76.69 320 *e*P **P** **17 36 50.9 +2.2**
UPC *ex* x 17 36 53.9
GROS Grobnik 76.78 316 *e*P **P** **17 36 52.3 +3.0**
PRU Pruhonice 77.60 319 *e*P **P** **17 36 55.7 +1.9**
PRU *ex* x 17 36 58.6
PVCC Panska Ves 77.61 320 *e*P **P** **17 36 55.5 +1.7**
PVCC *ex* x 17 36 57.9
GERES GERESS Array B 78.10 318 P **P** **17 36 56.5 0.0**
GERES pmax pmax
comp=Z,11nm,1.0s
GERES GERESS Array B 78.10 318 P **P** **17 36 56.5 0.0**
comp=Z,11nm,1.0s,mb4.8,baz=90,slow=5.3,SNR=14
GERES GERESS Array B 78.10 318 P **P** **17 36 56.5 0.0**
KHC Kasperske Hory 78.19 319⇓*e*P **P** **17 36 58.3 +1.3**
KHC Kasperske Hory 78.19 319 *e*P **P** **17 36 57.3 +0.3**
KHC *ex* x 17 37 01.5
RUE Ruedersdorf 78.21 322 *e*P **P** **17 36 58.9 +1.9**
comp=Z,136nm,1.3s,mb5.7
MAW Mawson 78.30 192 P **P** **17 36 56.2 -1.0**
MAW pmax pmax
comp=Z,46nm,1.4s
MAW Mawson 78.30 192 P **P** **17 36 56.1 -1.1**
comp=Z,46nm,1.4s,mb5.2
CLL Collm 78.64 321 *i* P **P** **17 36 59.2 -0.2**
CLL *i* pP 17 37 03.6 -1.5
CLL pmax pmax
comp=Z,21nm,1.6s,mb4.8
CLL Collm 78.64 321 *i* P **P** **17 36 59.2 -0.2**
comp=Z,21nm,1.6s,mb4.8
CLL *i* pP 17 37 03.6 -1.5
CLL Collm 78.64 321 P **P** **17 36 59.2 -0.2**
comp=Z,logA/T=1.1,mb4.8
CLL *i* *PP pP 17 37 03.6 -1.5
CLL *e*SP sP 17 37 06.0 -1.0
CLL *e* 17 37 27.0
NKC Novy Kostel 78.96 320 *e*P **P** **17 37 01.9 +0.7**
NKC *ex* x 17 37 06.5
MOX Moxa 79.50 320 *e*P **P** **17 37 06.1 +2.0**
MOX pmax pmax
comp=Z,27nm,1.7s,mb4.9
MOX Moxa 79.50 320 *e*P **P** **17 37 06.1 +2.0**
comp=Z,27nm,1.7s,mb4.9
MOX Moxa 79.50 320 *i* P **P** **17 37 06.1 +2.0**
comp=Z,logA/T=1.2,mb4.9
GRA1 Grafenberg Arr 79.74 319 *e*P **P** **17 37 06.1 +0.7**
comp=Z,29nm,1.2s,mb5.1
GRF Grafenberg Arr 79.74 319 *e*P **P** **17 37 06.1 +0.7**
GRF pmax pmax
comp=Z,29nm,1.2s,mb5.1
GRF Grafenberg Arr 79.74 319 *e*P **P** **17 37 06.1 +0.7**
GRF pmax pmax
comp=Z,29nm,1.2s,mb5.1
GRF Grafenberg Arr 79.74 319 *e*P **P** **17 37 06.1 +0.7**
comp=Z,29nm,1.2s,mb5.1
NB2 NORSAR Subarra 80.02 331 P **P** **17 37 05.9 -0.8**
comp=Z,0.7nm,0.8s,baz=94,slow=6.2
NB2 NORSAR Subarra 80.02 331 P **P** **17 37 05.9 -0.8**
NB2 pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 80.02 331 P **P** **17 37 06.4 -0.3**
NOA pmax pmax
comp=Z,11nm,1.1s
NOA NORSAR Array B 80.02 331 P **P** **17 37 06.4 -0.3**
comp=Z,11nm,1.1s,mb4.7,baz=92,slow=5.7,SNR=8.9
NAO01 NORSAR Array S 80.17 330 *e*P **P** **17 37 03.4 -4.1**
comp=Z,22nm,1.0s,mb5.0
SUR Sutherland 80.28 235 P **P** **17 37 07.3 -1.4**
comp=Z,42nm,1.2s,mb5.2
DAVOX Davos 80.66 316 P **P** **17 37 10.7 +0.3**
comp=Z,11nm,1.1s,mb4.7,baz=145,slow=9.8,SNR=5.6
MUD Monsted U'grnd 80.99 326 *e*P **P** **17 37 16.2 +4.3**
MUD pmax pmax
comp=Z,28nm,1.0s,mb5.2
MUD Monsted U'grnd 80.99 326 *e*P **P** **17 37 16.2 +4.3**
comp=Z,28nm,1.0s,mb5.1
MUD Monsted U'grnd 80.99 326 *i* P **P** **17 37 16.2 +4.3**
comp=Z,28nm,1.0s,mb5.1
LPG La Plagne 82.89 315 *e*P **P** **17 37 26.5 +4.5**
comp=Z,35nm,1.1s,mb5.0
LPG La Plagne 82.89 315 *e*P **P** **17 37 26.5 +4.5**
LPG pmax pmax
comp=Z,18nm,1.1s,mb5.0
SYO Syowa Base 85.19 197 ⇓P **P** **17 37 35.6 +2.5**
SYO Syowa Base 85.19 197 ⇑sP sP 17 37 44.0 +3.3
SYO Syowa Base 85.19 197 ⇑PP PP 17 40 53.4 +1.0
TNA Tin City 86.36 24 *e*P **P** **17 37 39.3 +0.3**
EKA Eskdalemuir Ar 88.01 325 P **P** **17 37 47.0 -0.2**
EKA pmax pmax
comp=Z,11nm,1.0s
EKA Eskdalemuir Ar 88.01 325 P **P** **17 37 47.0 -0.2**
comp=Z,11nm,1.0s,mb5.0,baz=86,slow=5.3,SNR=5.2
ESDC Sonseca Array 91.48 310 P **P** **17 38 04.5 +0.7**
comp=Z,6.2nm,1.0s,mb4.9,baz=56,slow=4.0,SNR=12
ESLA Sonseca Array 91.48 310 P **P** **17 38 09.2 +5.3**
comp=Z,11nm,1.4s,mb5.0
IMA Indian Mountai 91.82 22 *e*P **P** **17 38 06.2 +1.4**
SPU Mount Spurr 94.47 26 *e*P **P** **17 38 17.5 +0.5**
MCK McKinley 94.65 23 *e*P **P** **17 38 19.1 +1.2**
MCK pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
MCK McKinley 94.65 23 *e*P **P** **17 38 19.1 +1.2**
comp=Z,5.2nm,1.0s,mb4.9
SML Sawmill 95.79 25 *e*P **P** **17 38 26.6 +3.5**
INK Inuvik 97.21 16 P **P** **17 38 31.2 +1.8**
INK pmax pmax
comp=Z,5.0nm,0.8s
INK Inuvik 97.21 16 P **P** **17 38 31.1 +1.7**
comp=Z,4.7nm,0.8s,mb5.0,baz=305,slow=4.6,SNR=13
INK Inuvik 97.21 16 *e*P **P** **17 38 31.3 +1.9**
comp=Z,12nm,1.1s,mb5.2
DBIC Dimbokro 98.10 278 P **P** **17 38 39.7 +5.0**
DBIC pmax pmax
comp=Z,12nm,1.2s
DBIC Dimbokro 98.10 278 P **P** **17 38 39.7 +5.0**
comp=Z,12nm,1.2s,mb5.3
YKA Yellowknife Ar 106.65 14 PP PP 17 43 32.9 -7.3
comp=Z,0.5nm,0.8s,baz=337,slow=7.1,SNR=4.9
PDAR Pinedale Array 125.37 21 PKP PKPdf 17 44 00.2 -1.1
comp=Z,2.9nm,0.8s,baz=90,slow=1.5,SNR=12
MVU Marysvale 127.93 26 *e*PKPdf PKPdf 17 44 06.2 -0.1
MSU Marysvale 127.94 26 *e*PKIKP PKPdf 17 44 05.7 -0.7
JCT Junction City 139.80 19 *e*PKIKP PKPdf 17 44 27.4 -1.2
PLCA Paso Flores 144.34 200 PKIKP PKPdf 17 44 34.1 -2.2
PLCA pmax pmax
comp=Z,10.0nm,1.2s
PLCA Paso Flores 144.34 200 PKP PKPdf 17 44 34.0 -2.2
comp=Z,10nm,1.2s,baz=140,slow=5.4,SNR=5.2
PLCA Paso Flores 144.34 200 *e*PKPdf PKPdf 17 44 32.2 -4.1
TEIG Tepich 152.23 5 *e*PKPdf PKPdf 17 44 49.9 +0.3
TEIG *e*PKPbc PKPdf 17 44 55.1 +5.6
LPAZ La Paz 160.75 242 PKP PKPdf 17 44 20.0 -40
comp=Z,1.7nm,0.8s,baz=21,slow=6.3,SNR=5.0
LPAZ PKPab PKPab 17 45 01.6 -39
comp=Z,3.7nm,1.1s,baz=69,slow=7.2,SNR=5.7

*IDC **27** 17:30:57.7±0.9,7.75N×93.89E,mb4.1/12,mb1 4.3/13, mb1mx4.2/21,mbtmp4.1/13,ML4.2/1,Error ellipse: s-maj=36.0km s-min=20.1km az=48.0*

ISC 27 17:31:01.1±0.8, 7.8N±0.1×94.2E±0.1, h33km, n22, σ1§22/21, mb4.4/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.59	23	Pn	P	17 33 46.1	-1.2
	0.4nm,0.3s,baz=212,slow=14,SNR=12						
HYB	Hyderabad	17.98	304	eP	P	17 35 12.0	+1.7
JIRN	Jiri	21.16	340	eP	P	17 35 46.8	+1.0
	36nm,0.8s,mb4.8						
PKI	Pulchoki	21.36	338	eP	P	17 35 49.0	+1.2
	100nm,1.3s,mb5.0						
DMN	Daman	21.50	338	eP	P	17 35 51.1	+1.8
	46nm,0.8s,mb4.9						
KKN	Kakani	21.60	338	eP	P	17 35 52.0	+1.8
GKN	Gorkha	22.04	337	eP	P	17 35 53.8	-0.8
	30nm,0.6s,mb4.9						
KOLN	Koldanda	22.25	335	eP	P	17 35 56.5	-0.2
	38nm,0.8s,mb4.9						
SONM	Songino Array	41.25	13	P	P	17 38 45.4	+0.7
	1.3nm,0.7s,mb3.7,baz=197,slow=7.1,SNR=6.7						
ZAL	Zalesovo	46.64	352	P	P	17 39 28.1	0.0
	3.4nm,0.7s,mb4.4,baz=298,slow=9.4,SNR=11						
WRA	Warramunga Arr	48.19	125	P	P	17 39 40.7	0.0
	1.6nm,1.0s,mb4.0,baz=304,slow=8.7,SNR=4.9						
BVAR	Borovoye Array	49.08	341	P	P	17 39 46.7	-0.4
	1.6nm,0.8s,mb4.1,baz=146,slow=5.3,SNR=5.1						
ASAR	Alice Springs	49.84	130	P	P	17 39 55.2	+1.9
	1.0nm,0.8s,mb3.9,baz=300,slow=7.8,SNR=4.8						
BRTR	Keskin Array B	62.50	311	P	P	17 41 21.6	-2.2
	1.4nm,0.7s,mb4.2,baz=132,slow=6.6,SNR=5.9						
AKASG	Malin Array Be	68.24	322	P	P	17 41 58.6	-1.9
	2.5nm,0.9s,mb4.2,baz=91,slow=4.7,SNR=6.0						
IDI	Anoyia	68.64	305	P	P	17 42 02.7	-0.6
	6.1nm,0.7s,mb4.6,baz=81,slow=14,SNR=3.3						
MLR	Muntele Rosu	69.25	316	P	P	17 42 06.7	-0.2
	6.5nm,1.1s,mb4.5,baz=100,slow=1.9,SNR=3.9						
FINES	FINESS Array B	72.80	332	P	P	17 42 26.1	-1.9
	2.5nm,0.8s,mb4.2,baz=153,slow=4.3,SNR=5.4						
GERES	GERESS Array B	77.91	318	P	P	17 42 57.6	+0.2
	1.3nm,0.7s,mb4.0,baz=101,slow=6.8,SNR=9.4						
NB2	NORSAR Subarra	79.82	331	P	P	17 43 06.6	-1.0
	0.9nm,0.6s,mb3.9,baz=98,slow=4.8						
NOA	NORSAR Array B	79.82	331	P	P	17 43 06.6	-1.0
	1.2nm,0.7s,mb3.9,baz=90,slow=5.8,SNR=4.3						
PDAR	Pinedale Array	125.25	21	PKP	PKPdf	17 50 01.3	+2.4
	0.4nm,1.0s,baz=56,slow=3.3,SNR=2.6						

*IDC **27** 17:31:42.7±0.8, 7.84N×93.95E, mb4.3/13, mb1 4.5/14, mb1mx4.4/20, mbtmp4.3/14, ML4.1/1, Error ellipse: s-maj=36.5km s-min=19.3km az=50.0*
*BJI **27** 17:31:47.1, 7.62N×93.67E, h59km, mb4.8, Ms5.1, Msz4.6*
*NEIC **27** 17:31:47.9±0.3, 7.95N×94.01E, h30km, mb4.8/17, Error ellipse: s-maj=9.1km s-min=7.1km az=84.0*

ISC 27 17:31:42.9±6.3, 7.94N±0.08×94.0E±0.1, h9km±39km, n47, σ0§98/44, mb4.5/28, 1C-2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.52	24	eP	P	17 34 30.7	0.0
	20nm,0.9s						
CMAR	Chiang Mai Arr	11.52	24	Pn	P	17 34 30.3	-0.4
	0.4nm,0.3s,baz=212,slow=14,SNR=8.9						
HYB	Hyderabad	17.74	304	eP		17 36 05.0	
KMI	Kunming	19.03	25	⇑P	P	17 36 11.1	+3.4
	45nm,1.3s						
COCO	West Island	20.20	172	P	P	17 36 21.6	+0.7
	97nm,1.0s						
LSA	Lhasa	21.81	353	eP	P	17 36 38.4	+1.0
	54nm,0.9s,mb5.0						
ENH	Enshi	26.55	31	eP	P	17 37 22.7	-0.4
	27nm,0.9s,mb4.8						
WHN	Wuhan	29.48	38	P	P	17 37 50.5	+0.9
BJI	Beijing	37.63	28	eP	P	17 39 01.6	+1.7
	12nm,1.4s,mb4.4						
AAK	Ala-Archa	38.58	337	eP	P	17 39 05.3	-2.6
	15nm,1.1s,mb4.6						
SONM	Songino Array	41.14	13	P	P	17 39 29.4	+0.4
	3.5nm,0.9s,mb4.0,baz=196,slow=9.0,SNR=6.8						
ULN	Ulaanbaatar	41.31	13	P	P	17 39 29.9	-0.5
	3.3nm,0.9s,mb4.0						
KURK	Kurchatov	44.51	346	eP	P	17 39 55.8	-0.7
	32nm,1.3s,mb5.0						
ZAL	Zalesovo	46.46	353	P	P	17 40 12.8	+0.9
	4.3nm,0.9s,mb4.4,baz=321,slow=6.6,SNR=5.1						
ZAL	Zalesovo	46.46	353	P	P	17 40 12.8	+0.8
WRA	Warramunga Arr	48.43	125	P	P	17 40 26.8	-1.0
	3.0nm,0.7s,mb4.4,baz=304,slow=8.6,SNR=6.8						
BVAR	Borovoye Array	48.88	341	P	P	17 40 29.6	-1.2
	2.5nm,0.9s,mb4.2,baz=149,slow=8.6,SNR=4.7						
BVAR				PcP	PcP	17 41 55.5	-0.2
	1.1nm,0.7s,baz=135,slow=4.1,SNR=3.1						
CHKZ	Chkalovo	49.36	342	eP	P	17 40 33.4	-1.1
	12nm,0.8s,mb5.0						
ASAR	Alice Springs	50.08	130	P	P	17 40 39.2	-1.2
	3.0nm,1.0s,mb4.3,baz=311,slow=7.3,SNR=5.4						
PMG	Port Moresby	55.70	107	eP	P	17 41 22.7	+0.2
	23nm,1.1s,mb5.1						
KMBO	Kilima Mbogo	57.27	264	P	P	17 41 34.3	+0.6
	7.0nm,0.9s,mb4.7						
BRTR	Keskin Array B	62.27	311	P	P	17 42 07.1	-0.6
	2.3nm,0.7s,mb4.4,baz=123,slow=7.0,SNR=6.9						
MA2	Magadan	66.78	28	eP	P	17 42 35.5	-1.3
	10nm,0.9s,mb4.8						
AKASG	Malin Array Be	68.00	322	P	P	17 42 43.1	-1.5
	1.8nm,0.7s,mb4.2,baz=88,slow=4.9,SNR=7.4						
JOF	Joensuu	70.72	334	ep	P	17 43 00.8	-0.3
	10.0nm,1.3s,mb4.6						
FINES	FINESS Array B	72.58	332	P	P	17 43 11.7	-0.5
	3.4nm,0.7s,mb4.4,baz=126,slow=8.4,SNR=6.1						
FINES	FINESS Array B	72.58	332	P	P	17 43 11.7	-0.5
KAF	Kangasniemi	72.66	333	ep	P	17 43 12.2	-0.4
	11nm,1.1s,mb4.7						
ARCES	ARCESS Array B	75.15	340	P	P	17 43 27.3	+0.3
	2.8nm,0.6s,mb4.3,baz=118,slow=4.6,SNR=8.7						
DPC	Dobruska-Polom	76.05	320	eP	P	17 43 32.5	0.0
PVCC	Panska Ves	77.19	320	eP	P	17 43 36.6	-2.2
GERES	GERESS Array B	77.67	318	P	P	17 43 42.7	+1.2
	2.7nm,0.6s,mb4.3,baz=90,slow=4.0,SNR=9.4						
KHC	Kasperske Hory	77.76	318	eP	P	17 43 42.2	+0.2
KHC				e	pP	17 43 46.5	+1.7
KHC	Kasperske Hory	77.76	318	eP	P	17 43 42.2	+0.2
KHC				x	x	17 43 46.5	
CLL	Collm	78.21	321	⇓iP	P	17 43 45.5	+1.1
CLL				e		17 44 01.0	
CLL	Collm	78.21	321	⇓P	P	17 43 45.5	+1.1
	logA/T=1.2,mb4.9						
GRA1	Grafenberg Arr	79.31	319	eP	P	17 43 51.4	+0.9
	16nm,1.5s,mb4.7						
GRF	Grafenberg Arr	79.31	319	eP	P	17 43 51.4	+0.9
	16nm,1.5s,mb4.7						
NB2	NORSAR Subarra	79.60	331	P	P	17 43 51.3	-0.5
	11nm,1.2s,mb4.7,baz=92,slow=5.8						
NOA	NORSAR Array B	79.60	331	P	P	17 43 51.9	+0.1
	3.3nm,0.8s,mb4.3,baz=91,slow=5.7,SNR=5.7						
DAVOX	Davos	80.23	316	P	P	17 43 56.1	+0.6
	7.1nm,1.0s,mb4.5,baz=17,slow=19,SNR=3.2						
LPG	La Plagne	82.46	315	eP	P	17 44 08.6	+1.4
	24nm,0.9s,mb4.8						
TNA	Tin City	86.18	24	eP	P	17 44 25.5	0.0
ESDC	Sonseca Array	91.05	310	P	P	17 44 50.0	+0.8
	0.8nm,0.5s,mb4.3,baz=77,slow=3.3,SNR=4.5						
IMA	Indian Mountai	91.62	22	eP	P	17 44 52.3	+1.1
PDAR	Pinedale Array	125.17	21	PKP	PKPdf	17 50 45.4	-1.9
	1.4nm,0.9s,baz=180,slow=3.0,SNR=6.3						
PLCA	Paso Flores	144.55	200	PKP	PKPdf	17 51 21.4	-1.6
	7.5nm,1.0s,baz=157,slow=7.7,SNR=6.2						

IGQ 27 17:32:01.1, 1.73S×81.78W, h12km±7km, mb4.2, 1C-4D, Error ellipse: s-maj=8.9km s-min=6.4km az=3.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	1.41	61	⇑P	Pn	17 32 25.1	-1.6
JAMA	Jama	2.15	47	P	Pn	17 32 38.9	+1.6
JAMA				S	Sn	17 33 00.6	-3.4
MAGD	Magdalena	2.60	51	P	Pn	17 32 46.4	+2.7
MAGD				S	Sn	17 33 13.8	-1.6
IGUA	Igualata	3.15	86	P	Pn	17 32 52.4	+0.9
CUSU	Cusua	3.31	85	P	Pn	17 32 55.7	+1.8
JUIV	Juive	3.33	85	P	Pn	17 32 55.7	+1.6
ARRY	Arrayan	3.33	86	P	Pn	17 32 55.1	+0.9
RETU	Refugio	3.34	85	P	Pn	17 32 56.1	+1.8
ULBA	Ulba	3.38	85	⇓P	Pn	17 32 56.4	+1.5
ULBA				S	Sn	17 33 34.2	-1.1
PISA	Pisayambo	3.46	79	P	Pn	17 32 57.1	+1.1
NAS1	Nasa	3.48	72	P	Pn	17 32 57.9	+1.7
JUA2	San Juan 2	3.51	65	⇓P	Pn	17 32 57.6	+0.9
JUA2				S	Sn	17 33 37.5	-1.1
TERV	Terraza Guagua	3.53	64	P	Pn	17 32 58.6	+1.6
PINO	Pino	3.53	64	⇓P	Pn	17 32 58.1	+1.0
PINO				S	Sn	17 33 39.1	-0.1
VC1	Cotopaxi 1	3.54	72	P	Pn	17 32 59.1	+2.0
TAMB	Tambo	3.56	73	P	Pn	17 32 59.1	+1.6
TAMB				S	Sn	17 33 42.2	+2.3
YANA	Yana	3.58	63	⇓P	Pn	17 32 58.6	+0.8
ANTI	Antisana	3.83	71	P	Pn	17 33 03.7	+2.4
ANTI				S	Sn	17 33 47.6	+0.8
COTA	Cotacachi	4.00	59	P	Pn	17 33 05.6	+1.8
COTA				S	Sn	17 33 51.5	+0.3
CAYR	Refugio Cayamb	4.15	65	P	Pn	17 33 09.2	+3.4
CAYA	Cayambe	4.19	65	P	Pn	17 33 09.3	+2.9

*IDC **27** 17:33:39.8±1.2, 7.82N×94.08E, mb4.0/7, mb1 4.2/8, mb1mx4.1/18, mbtmp4.0/8, ML4.1/1, Error ellipse: s-maj=42.2km s-min=27.6km az=53.0*

ISC 27 17:33:43.3±1.1, 7.9N±0.2×94.2E±0.2, h33km, n10, σ0§53/8, mb4.0/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.42	23	Pn	P	17 36 26.7	-0.5
	0.3nm,0.3s,baz=212,slow=14,SNR=8.7						
SONM	Songino Array	41.08	12	P	P	17 41 26.5	+0.9
	5.1nm,1.3s,mb4.0,baz=211,slow=7.2,SNR=3.5						
ZAL	Zalesovo	46.49	352	P	P	17 42 09.1	-0.1
	2.0nm,0.8s,mb4.1,baz=289,slow=9.9,SNR=3.1						
WRA	Warramunga Arr	48.23	126	P	P	17 42 23.1	-0.1
	1.2nm,0.7s,mb4.0,baz=305,slow=8.4,SNR=4.8						
BRTR	Keskin Array B	62.45	311	P	P	17 44 05.2	-0.5
	0.8nm,0.7s,mb4.0,baz=121,slow=8.4,SNR=2.5						
AKASG	Malin Array Be	68.15	322	P	P	17 44 41.5	-0.7
	0.9nm,0.7s,mb3.9,baz=90,slow=5.7,SNR=4.4						
FINES	FINESS Array B	72.69	332	P	P	17 45 10.0	+0.5
	2.4nm,0.8s,mb4.2,baz=135,slow=9.8,SNR=3.9						
GERES	GERESS Array B	77.83	318	P	P	17 45 39.6	+0.4
	0.5nm,0.6s,mb3.6,baz=100,slow=6.0,SNR=4.1						
PDAR	Pinedale Array	125.08	21	PKP	PKPdf	17 52 42.9	+2.1
	0.5nm,0.7s,SNR=4.1						
PLCA	Paso Flores	144.63	200	PKP	PKPdf	17 53 17.8	+0.9
	2.0nm,0.9s,baz=180,slow=16,SNR=2.4						

*IDC **27** 17:40:44.1±0.4, 8.06N×94.23E, mb5.2/28, mb1 5.2/29, mb1mx5.2/29, mbtmp5.1/29, ML4.7/1, MS5.0/18, Ms1 5.0/18, ms1mx4.8/28, Error ellipse: s-maj=19.3km s-min=10.4km az=46.0, Putative timing error at LPAZ*
*BJI **27** 17:40:47.6, 7.65N×93.92E, h51km, mB5.8, mb5.3, Ms5.4, Msz5.2*
*MOS **27** 17:40:48.1±0.9, 8.03N×94.11E, h33km, mb5.8/100, MS5.1/13, Error ellipse: s-maj=7.5km s-min=3.9km az=120.3*
*HRVD **27** 17:40:48.9±0.2, 7.92N×94.17E, h13km, MW5.4/53, Centroid moment Tensor Solution. LP body waves: s30,c38;Mantle waves: s53,c112; Half duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.09±.04; $M_{\theta\theta}$-0.06±.03; $M_{\phi\phi}$1.14±.04; $M_{r\theta}$-0.58±.09; $M_{\theta\phi}$1.02±.03; $M_{\phi r}$-0.46±.09; Best double couple: $M_0$1.615×10^{17} NP1: ϕ_s187°, δ36°, λ-125°. NP2:ϕ_s48°, δ61°, λ-67°. Principal axes: T 1.883, Plg13°, Azm121°; N -.54, Plg20°, Azm216°; P -1.348, Plg66°, Azm360°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 17:40:48.9±0.1, 7.97N×94.12E, h30km, mb5.6/122, MS4.8/4 Error ellipse: s-maj=4.7km s-min=3.6km az=215.0*
*BGS **27** 17:40:50.7, 7.79N×93.44E, h33km, mb5.6*

ISC 27 17:40:44.8±0.2, 7.98N±0.03×94.17E±0.03, h13km, h13km±1.4km: pP-P, n554, σ1§02/524, mb5.5/163, MS5.1/41, 52C-26D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	3.91	339	iPG	Pg	17 41 53.4	-10
PBA				e		17 42 35.5	
PBA				eSG	Sg	17 42 43.4	-12
NST	Nakhon Sawan	9.62	37	P	P	17 43 05.0	-1.2
CM31	Chiang Mai Arr	11.40	24	eP	P	17 43 30.7	+0.1
	121nm,0.9s						
CMAR	Chiang Mai Arr	11.40	24	Pn	P	17 43 32.0	+1.4
	1.5nm,0.3s,baz=212,slow=14,SNR=72						
CMAR				LR	LR	17 48 07.5	
	comp=Z,5μm,18.8s,baz=215,slow=39						
KKTK	Khon Kaen	11.85	45	P	P	17 43 38.5	+1.8
	617nm,1.0s						
CHRT	Chiangrai	13.01	24	⇑P	P	17 43 54.5	+2.3
	500nm,1.5s						
PALK	Pallekele	13.37	268	eP	P	17 43 55.7	-1.3
	99nm,1.2s						
PALK				eS	Sx	17 46 04.5	
VIS	Vishakhapatnam	14.32	314	eP	P	17 44 09.0	-0.6
VIS				e		17 44 15.3	
	comp=Z,272nm,1.2s						
VIS				e	S	17 46 38.8	-10
AGT	Agartala	16.06	350	iP	P	17 44 35.0	+2.8
AGT				i		17 44 45.0	
KOD	Kodaikanal	16.64	279	eP	P	17 44 44.6	+5.0
KOD				e		17 44 52.1	
	comp=Z,107nm,1.2s						
KOD				e	S	17 48 00.1	+16
IMP	Imphal	16.71	359	e	P	17 44 35.8	-4.6
TRD	Trivandrum	17.04	273	e	Px	17 45 23.4	
TRD				iS	S	17 48 05.4	+13
SHL	Shillong	17.62	353	eP	P	17 44 50.5	-1.4
SHL				e		17 44 54.4	
	comp=Z,4μm,1.2s						
SHL				eS	S	17 47 58.9	-7.0
HYB	Hyderabad	17.87	303	eP	P	17 44 55.0	-0.1
HYB				eS	S	17 48 12.0	+0.3
HYB				pmax	pmax		
	comp=Z,50nm,1.0s						
HYB	Hyderabad	17.87	303	eP	P	17 44 55.0	-0.1
	comp=Z,50nm,1.0s						
HYB				eS	S	17 48 12.0	+0.3
HYB	Hyderabad	17.87	303	iP	P	17 44 55.0	-0.1
	comp=Z,50nm,1.0s						
HYB				eS	S	17 48 12.0	+0.3
BLSP	Bilaspur	18.23	322	⇑iP	P	17 45 00.4	+0.9
BLSP				e		17 48 33.1	
SHBG	Sahibganj	18.23	341	eP	P	17 45 00.0	+0.5
QIZ	Qiongzhong	18.77	53	P	P	17 45 07.0	+0.9
QIZ				PP	PP	17 45 23.5	+1.3
QIZ				S	S	17 48 34.8	+2.9
QIZ				AMB	AMB		
	comp=Z,2μm,5.3s						
QIZ				LR	LR		
	comp=N,20μm,13.4s						
QIZ				LR	LR		
	comp=E,5μm,13.8s						
QIZ	Qiongzhong	18.77	53	eP	P	17 45 06.2	+0.2
	comp=E,231nm,1.2s						
KMI	Kunming	18.91	25	⇓P	P	17 45 11.2	+3.5
KMI				S	S	17 48 39.4	+4.3
KMI				pmax	pmax		
	comp=Z,248nm,1.6s						
KMI	Kunming	18.91	25	⇓P	P	17 45 11.2	+3.5
	comp=Z,248nm,1.6s						
KMI				sP		17 45 15.1	
KMI				PP	PP	17 45 29.2	+5.0
KMI				S	S	17 48 39.4	+4.3
KMI				sS		17 48 43.4	
KMI				SS	SS	17 49 05.3	+4.8
MNGI	Mangalore	19.65	286	e	S	17 48 44.7	-7.0
GTK	Gangtok	19.95	345	eP	P	17 45 16.0	-3.7
LATR	Latur	20.02	303	eP	P	17 45 19.5	-0.9
LATR				e		17 50 04.8	
LATR				e		17 57 29.7	
COCO	West Island	20.21	172	eP	P	17 45 24.5	+2.0
	comp=Z,720nm,1.3s						
ALBI	Allahabad	20.88	327	eP	P	17 45 28.0	-1.4
JIRN	Jiri	20.98	340	eP	P	17 45 29.8	-0.6
	comp=Z,493nm,0.9s						
PKI	Pulchoki	21.18	338	eP	P	17 45 31.3	-1.1
	comp=Z,1μm,1.2s,mb6.2						
GOA	Goa	21.26	292	e	S	17 49 36.7	+12
DMN	Daman	21.32	337	eP	P	17 45 33.3	-0.6
	comp=Z,668nm,0.9s,mb6.0						
KKN	Kakani	21.42	338	eP	P	17 45 33.7	-1.2
	comp=Z,712nm,1.1s,mb5.9						
VLK	Valmikinagar	21.57	334	iP	P	17 45 36.0	-0.3
VLK				i		17 45 41.0	
KAD	Karad	21.57	297	eP	P	17 45 37.1	+0.7
LSA	Lhasa	21.79	353	P	P	17 45 39.8	+1.2
LSA	Lhasa	21.79	353	eP	P	17 45 37.8	-0.8
LSA				e		17 45 46.1	
LSA				eS	S	17 49 30.9	-3.2
LSA				pmax	pmax		
	comp=Z,584nm,1.0s,mb6.0						
LSA	Lhasa	21.79	353	eP	P	17 45 37.8	-0.7
	comp=Z,584nm,1.0s,mb6.0						
LSA				e		17 45 46.0	
LSA				eS	S	17 49 30.9	-3.3
GKN	Gorkha	21.86	337	eP	P	17 45 38.6	-0.6
	comp=Z,809nm,0.8s,mb6.2						
KOLN	Koldanda	22.08	334	eP	P	17 45 40.7	-0.7
	comp=Z,469nm,0.8s,mb6.0						
BHPL	Bhopal	22.10	315	eP	P	17 45 43.0	+1.3
BHPL				e		17 45 47.7	
	comp=Z,235nm,1.0s						
POO	Poona	22.36	300	eP	P	17 45 45.5	+1.2
POO				e		17 45 50.0	
	comp=Z,95nm,0.9s						
POO				i		17 50 24.0	
BOM	Bombay	23.40	300	eP	P	17 45 56.3	+1.7
BOM				e		17 46 01.9	
	comp=Z,142nm,1.4s						
BOM				eS	S	17 50 10.6	+7.2
NDI	New Delhi	26.07	324	eP	P	17 46 20.6	+0.6
NDI				e		17 46 27.3	
	comp=Z,259nm,1.6s						
NDI				e	S	17 51 05.1	+17
AJM	Ajmer	26.12	317	eP	P	17 46 22.3	+1.8
ENH	Enshi	26.42	31	eP	P	17 46 23.3	+0.1
	comp=Z,289nm,1.2s,mb5.7						
DDI	Dehra Dun	26.87	328	eP	P	17 46 28.4	+1.0
DDI				e	S	17 51 08.5	+6.8
SMLA	Simla	27.97	328	e	P	17 46 51.4	+14
SMLA				e		17 47 02.2	
	comp=Z,176nm,1.1s						
SMLA				e		17 51 51.4	
WHN	Wuhan	29.33	37	⇓P	P	17 46 50.5	+0.8
WHN				AMB	AMB		
	comp=Z,64nm,1.0s,mb5.3						
WHN				LR	LR		
	comp=Z,10μm,12.4s,MS5.6						
LZH	Lanzhou	29.34	16	⇑iP	P	17 46 50.8	+1.1
LZH				PP	PP	17 47 46.8	+1.9
LZH				eS	S	17 51 41.0	-0.3
LZH				SS	SS	17 53 13.8	+1.0
LZH				AMB	AMB		
	comp=Z,208nm,1.7s,mb5.6						
LZH				AMB	AMB		
	comp=Z,696nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,12.0s						
LZH				LR	LR		
	comp=Z,3μm,13.2s,MS5.1						
LZH	Lanzhou	29.34	16	⇑iP	P	17 46 50.8	+1.1
LZH				*SP	sP	17 47 00.1	+5.0
LZH						17 47 46.8	
LZH				eS	S	17 51 41.0	-0.3
LZH				*SS		17 51 54.0	
LZH				SS	SS	17 53 13.8	+1.0
LZH				pmax	pmax		
	comp=Z,208nm,1.7s,mb5.6						
LZH				MLR	MLR		
	comp=Z,3μm,13.2s,MS5.1						
LZH	Lanzhou	29.34	16	⇑iP	P	17 46 50.8	+1.1
	comp=Z,208nm,1.7s,mb5.6						
LZH				pP	pP	17 46 57.0	+3.6
LZH				sP	sP	17 47 00.1	+5.0
LZH				PP	PP	17 47 46.8	+1.9
LZH				eS	S	17 51 41.0	-0.3
LZH				sS		17 51 54.0	
LZH				SS	SS	17 53 13.8	+1.0
LZH				LR	LR		
	comp=Z,3μm,13.2s,MS5.1						
NJ2	Nanjing	33.17	40	eP	P	17 47 24.3	+0.9
NJ2				AP	pP	17 47 33.5	+6.3
NJ2				PP	PP	17 48 35.5	+0.9
NJ2				S	S	17 52 39.0	-2.5
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,1μm,4.1s						
NJ2				LR	LR		
	comp=N,3μm,12.2s						
NJ2				LR	LR		
	comp=E,4μm,20.4s						
NJ2				LR	LR		
	comp=Z,2μm,13.0s,MS5.1						
SSE	Sheshan	34.13	44	P	P	17 47 28.8	-2.9
SSE				S	S	17 52 55.3	-1.1
SSE				AMB	AMB		
	comp=Z,42nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,2μm,11.0s						
SSE				LR	LR		
	comp=N,1μm,22.8s,MS4.7						
SSE				LR	LR		
	comp=E,1μm,22.8s,MS4.7						
SSE				LR	LR		
	comp=Z,1μm,15.8s						
SSE	Sheshan	34.13	44	P	P	17 47 28.8	-2.9
	comp=Z,42nm,0.7s,mb5.5						
SSE				S	S	17 52 55.3	-1.1
SSE				sS		17 53 11.5	
SSE				SS	SS	17 55 24.0	+19
SSE				LR	LR		
	comp=Z,1μm,15.8s,MS4.8						
WMQ	Urumqi	36.15	352	⇑iP	P	17 47 49.3	+0.5
WMQ				PP	PP	17 49 11.5	+0.2
WMQ				PCP	PcP	17 50 15.3	+0.5
WMQ				S	S	17 53 27.5	0.0
WMQ				AMB	AMB		
	comp=Z,143nm,0.6s,mb6.1						
WMQ				AMB	AMB		
	comp=Z,1μm,4.8s						
WMQ				LR	LR		
	comp=Z,19μm,18.3s,MS5.9						
WBK	Wadi Bani Khal	36.81	297	⇓P	P	17 47 58.1	+3.5
JOW	Kunigami	37.37	56	P	P	17 47 58.6	-0.7
	comp=Z,35nm,1.0s,mb5.1,baz=302,slow=15,SNR=2.3						
BJT	Baijiatuau	37.48	28	eP	P	17 48 01.7	+1.7
BJT				pmax	pmax		
	comp=Z,175nm,1.4s						
BJT	Baijiatuau	37.48	28	eP	P	17 48 01.7	+1.6
	comp=Z,175nm,1.4s,m

AAK **Ala-Archa** 38.62 337 P P 17 48 09.5 -0.1
SNR=30
AAK **Ala-Archa** 38.62 337*d* iP P 17 48 09.4 -0.2
AAK pmax pmax
comp=Z,73nm,1.2s,mb5.3
AAK **Ala-Archa** 38.62 337 *e*P P 17 48 08.6 -1.0
comp=Z,71nm,1.1s,mb5.3
CHMS **Chumysh** 38.83 337 P P 17 48 11.8 +0.5
SNR=26
EKS2 **Erkin-Say** 38.93 336 P P 17 48 13.5 +1.3
SNR=18
USP **Ospenovka** 39.15 337 P P 17 48 14.6 +0.5
SNR=36
ARQ **Araqi** 39.18 297 ⇑P P 17 48 16.9 +2.4
RBK **Rabkut** 40.04 288 ⇑P P 17 48 24.0 +2.4
FITZ **Fitzroy Crossi** 40.46 130 *e*P P 17 48 24.1 -1.0
comp=Z,22nm,1.4s,mb4.7
ABTO **Aybut** 40.87 287 ⇑P P 17 48 30.2 +1.8
SONM **Songino Array** 41.05 13 P P 17 48 29.8 +0.2
comp=Z,23nm,0.9s,mb4.8,baz=197,slow=5.7,SNR=104
SONM PcP PcP 17 50 30.6 +0.5
comp=Z,5.9nm,0.6s,baz=202,slow=3.7,SNR=9.1
ULN **Ulaanbaatar** 41.23 13 P P 17 48 30.5 -0.6
ULN pmax pmax
comp=Z,25nm,1.0s,mb4.8
ULN **Ulaanbaatar** 41.23 13 *e*P P 17 48 30.0 -1.1
comp=Z,30nm,1.0s,mb4.9
ULN LR LR
comp=Z,1μm,21.0s,MS4.8
KS15 **Wonju Array Si** 42.33 41 *e*P P 17 48 41.1 +0.8
SNY **Shenyang** 42.57 33 ⇓P P 17 48 43.0 +0.8
ZAK **Zakamensk** 42.94 9 *e*P P 17 48 44.9 -0.2
ZAK *e* 17 50 31.8
MOY **Mondy** 43.91 6 *e*P P 17 48 53.6 +0.6
TLY **Talaya** 44.26 8 P P 17 48 56.5 +0.7
comp=Z,107nm,0.8s,mb5.6,SNR=14
TLY **Talaya** 44.26 8 *e*P P 17 48 55.7 -0.1
TLY *e* 17 50 40.4
TLY pmax pmax
comp=Z,19nm,0.9s,mb4.8
TLY **Talaya** 44.26 8 *e*P P 17 48 55.6 -0.2
comp=Z,19nm,0.9s,mb4.8
TLY *e* 17 50 40.4
KURK **Kurchatov** 44.51 346 P P 17 48 57.2 -0.7
KURK pmax pmax
comp=Z,140nm,1.0s,mb5.8
KURK **Kurchatov** 44.51 346 *e*P P 17 48 56.8 -1.1
comp=Z,244nm,1.3s,mb5.9
IRK **Irkutsk** 44.90 9 *e*P P 17 49 01.7 +0.7
IRK *e* 17 50 42.5
IRK pmax pmax
comp=Z,49nm,2.0s,mb5.0
MUN **Mundaring** 44.97 153 *e*P P 17 49 03.4 +1.6
comp=Z,34nm,0.9s,mb5.2
MUN **Mundaring** 44.97 153 *e*P P 17 49 03.4 +1.6
MUN pmax pmax
comp=Z,34nm,0.9s,mb5.2
KLBR **Kellerberrin** 45.36 151 *e*P P 17 49 06.5 +1.6
comp=Z,208nm,0.6s,mb6.1
NWAO **Narrogin (SRO)** 46.23 153 *e*P P 17 49 12.2 +0.4
NWAO pmax pmax
comp=Z,70nm,1.0s
NWAO **Narrogin (SRO)** 46.23 153 P P 17 49 12.5 +0.8
comp=Z,41nm,1.1s,mb5.3,baz=326,slow=9.6,SNR=15
NWAO LR LR 18 07 15.8
comp=Z,10nm,19.2s,baz=333,slow=34
NWAO **Narrogin (SRO)** 46.23 153 *e*P P 17 49 12.2 +0.5
comp=Z,70nm,1.0s,mb5.5
HIA **Hailar** 46.41 23 *e*P P 17 49 13.4 +0.4
HIA *e* 17 50 47.2
HIA *e* 17 51 02.3
HIA pmax pmax
comp=Z,161nm,1.3s
HIA **Hailar** 46.41 23 *e*P P 17 49 13.3 +0.4
comp=Z,161nm,1.3s,mb5.8
HIA *e*PcP PcP 17 50 47.2 -1.1
HIA *e*PP PP 17 51 02.3 +0.2
ZAL **Zalesovo** 46.45 352 *i* P P 17 49 12.9 -0.3
ZAL pmax pmax
comp=Z,37nm,0.9s
ZAL **Zalesovo** 46.45 352 P P 17 49 12.6 -0.5
comp=Z,37nm,0.9s,mb5.3,baz=301,slow=6.9,SNR=95
NVS **Novosibirsk** 47.54 351 *i* P P 17 49 19.7 -2.1
NVS *i* 17 50 50.7
NVS *i* S S 17 56 12.2 -3.3
NVS pmax pmax
comp=N,79nm,1.0s
NVS pmax pmax
comp=E,45nm,1.0s
NVS pmax pmax
comp=Z,122nm,1.0s,mb5.9
NVS smax
comp=N,30nm,1.8s
NVS smax
comp=E,24nm,1.8s
MDJ **Mudanjiang** 47.70 34 P P 17 49 24.5 +1.2
MDJ PP PP 17 51 16.0 +1.6
MDJ S S 17 56 21.0 +3.1
MDJ AMB AMB
comp=Z,47nm,1.7s,mb5.2
MDJ AMB AMB
comp=Z,425nm,3.9s
MDJ LR LR
comp=N,1μm,14.9s,MS5.3
MDJ LR LR
comp=E,2μm,14.4s,MS5.3
MDJ LR LR
comp=Z,1μm,15.4s,MS5.0
MDJ **Mudanjiang** 47.70 34 *e*P P 17 49 24.7 +1.5
comp=Z,165nm,1.7s,mb5.8
VLA **Vladivostok** 48.12 37⇑ *i*P P 17 49 27.0 +0.5
VLA *i* 17 49 43.0
VLA *e* 17 52 15.0
VLA *e* 17 56 17.0
VLA *e* 17 59 21.0
VLA pmax pmax
comp=Z,500nm,8.0s
VLA pmax pmax
comp=E,1μm,11.0s
VLA MLR MLR
comp=N,2μm,12.0s,MS5.6
VLA MLR MLR
comp=E,3μm,12.0s,MS5.6
VLA MLR MLR
comp=Z,3μm,12.0s,MS5.5
WRA **Warramunga Arr** 48.30 126 P P 17 49 26.3 -1.9
comp=Z,8.5nm,0.7s,mb4.9,baz=306,slow=8.5,SNR=23
WRAB **Tennant Creek** 48.30 126 *e*P P 17 49 26.0 -2.2
WRAB pmax pmax
comp=Z,92nm,1.3s,mb5.7
WRAB **Tennant Creek** 48.30 126 *e*P P 17 49 26.0 -2.2
comp=Z,92nm,1.3s,mb5.7
WB2 **Warramunga Arr** 48.31 126 *e*P P 17 49 26.5 -1.8
LBOS 48.32 281⇓ *e*P P 17 49 30.0 +1.6
BVAR **Borovoye Array** 48.90 341 P P 17 49 30.7 -1.6
comp=Z,16nm,0.7s,mb5.1,baz=143,slow=7.4,SNR=81
BVAR PcP PcP 17 50 56.4 -0.8
comp=Z,16nm,1.0s,baz=150,slow=1.8,SNR=4.2
BRVK **Borovoye** 48.96 341 P P 17 49 30.8 -2.0
BRVK pmax pmax
comp=Z,50nm,1.0s,mb5.5
BRVK **Borovoye** 48.96 341 *e*P P 17 49 30.6 -2.2
comp=Z,67nm,1.0s,mb5.6
BRVK LR LR
comp=Z,263nm,20.0s,MS4.2
JHJ **Hachijo jima 2** 48.97 53 LR LR 18 09 51.2
comp=Z,925nm,20.3s,MS4.8,baz=279,slow=36
RAYN **Ar Rayn** 49.07 294 P P 17 49 35.3 +1.2
comp=Z,861nm,1.0s
MAJO **Matsushiro** 49.07 48 *e*P P 17 49 35.2 +1.3
MAJO *e* 17 50 58.1
MAJO pmax pmax
comp=Z,514nm,2.4s,mb6.1
MAJO **Matsushiro** 49.07 48 *e*P P 17 49 35.2 +1.3
comp=Z,514nm,2.4s,mb6.1
MAJO *e*PcP PcP 17 50 58.1 +0.1
MAT **Matsushiro** 49.07 48 *e*P P 17 49 35.0 +1.1
MAT pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MAT **Matsushiro** 49.07 48 *e*P P 17 49 35.0 +1.1
comp=Z,9.0nm,0.8s,mb4.8
MAT **Matsushiro** 49.07 48 P P 17 49 35.2 +1.3
DHBB **Dhamar BB** 49.17 282⇑ *e*P P 17 49 38.5 +3.5
CBIJ **Chichi jima** 49.22 61 LR LR 18 12 41.3
comp=Z,360nm,18.2s,MS4.4,baz=278,slow=39
CHKZ **Chkalovo** 49.38 342 *e*P P 17 49 33.9 -2.2
CHKZ pmax pmax
comp=Z,245nm,1.2s,mb6.1
CHKZ **Chkalovo** 49.38 342 *e*P P 17 49 33.9 -2.2
comp=Z,245nm,1.2s,mb6.1
ASPA **Alice Springs** 49.96 130 *e*P P 17 49 40.3 -0.7
ASAR **Alice Springs** 49.96 130 P P 17 49 39.1 -1.8
comp=Z,9.4nm,0.9s,mb4.8,baz=305,slow=6.8,SNR=22
ASAR PcP PcP 17 51 01.2 -0.2
comp=Z,9.4nm,1.0s,baz=308,slow=2.9,SNR=4.8
ASAR LR LR 18 13 44.1
comp=Z,948nm,19.1s,MS4.8,baz=295,slow=40
FORT **Forrest** 50.40 141 *e*P P 17 49 43.1 -1.1
comp=Z,70nm,0.8s,mb5.7
KLR **Kul'dur** 51.78 31 *e*P P 17 49 50.7 -3.7
KLR *e* 17 51 13.0
KLR *e* 17 51 48.0
KLR pmax pmax
comp=N,95nm,2.6s
KLR pmax pmax
comp=E,150nm,2.6s
KLR pmax pmax
comp=Z,220nm,2.6s,mb5.6
KLR MLR MLR
comp=E,2μm,13.0s
KLR MLR MLR
comp=Z,3μm,13.0s,MS5.6
BOD **Bodaibo** 52.04 13 *e*P P 17 49 55.2 -1.1
CLNS **Chul'man** 54.33 20 *e*P P 17 50 13.0 -0.2
CLNS pmax pmax
comp=N,32nm,0.9s
CLNS pmax pmax
comp=E,29nm,0.9s
CLNS pmax pmax
comp=Z,64nm,0.9s,mb5.5
CLNS MLR MLR
comp=Z,3μm,17.0s,MS5.4
GNI **Garni** 54.38 314 P P 17 50 14.2 +0.4
GNI pmax pmax
comp=Z,72nm,1.2s
GNI **Garni** 54.38 314 P P 17 50 13.3 -0.5
comp=Z,22nm,0.8s,mb5.1,baz=32,slow=1.3,SNR=13
GNI LR LR 18 15 40.1
comp=Z,1μm,21.9s,MS4.9,baz=292,slow=38
GNI **Garni** 54.38 314 *e*P P 17 50 13.2 -0.7
comp=Z,72nm,1.2s,mb5.5
SVE **Sverdlovsk** 55.31 338 *e*P P 17 50 16.0 -4.4
SVE *e* 17 51 19.0
SVE *e* 17 52 21.0
SVE pmax pmax
comp=Z,320nm,2.0s,mb6.0
SVE MLR MLR
comp=N,1μm,22.0s,MS5.1
SVE MLR MLR
comp=E,1μm,22.0s,MS5.1
SVE MLR MLR
comp=Z,3μm,22.0s,MS5.3
ASAJ **Asahikawa** 55.32 41 LR LR 18 13 29.9
comp=Z,923nm,20.0s,MS4.9,baz=12,slow=36
PMG **Port Moresby** 55.54 107 *e*P P 17 50 21.9 -0.7
PMG pmax pmax
comp=Z,43nm,0.8s
PMG **Port Moresby** 55.54 107 P P 17 50 22.2 -0.5
comp=Z,29nm,0.7s,mb5.4,baz=223,slow=2.1,SNR=9.7
PMG **Port Moresby** 55.54 107 *e*P P 17 50 21.9 -0.8
comp=Z,43nm,0.8s,mb5.5
ARU **Arti** 55.80 337 P P 17 50 23.9 -0.1
comp=Z,335nm,0.9s,mb6.4,SNR=39
ARU **Arti** 55.80 337⇑ *i*P P 17 50 17.3 -6.7
ARU *e*S S 17 57 58.3 -11
ARU *e*SS SS 18 01 48.4 -6.1
ARU pmax pmax
comp=Z,62nm,1.0s,mb5.6
ARU MLR MLR
comp=Z,3μm,21.0s,MS5.4
ARU MLR MLR
comp=N,2μm,20.0s,MS5.3
ARU MLR MLR
comp=E,2μm,20.0s,MS5.3
ZEI **Tsey** 55.98 317 *e*P P 17 50 22.6 -2.8
ZEI *i* *PP pP 17 50 32.6 +3.2
ZEI *i* 17 52 30.1
ZEI pmax pmax
comp=Z,15nm,0.9s,mb5.0
BEST **Besiri** 56.15 311 P P 17 50 25.9 -0.8
YSS **Yuzh-Sakhalins** 56.68 38⇑ *e*P P 17 50 31.0 +0.6
YSS *e* 17 50 42.5
YSS pmax pmax
comp=Z,60nm,1.3s,mb5.5
YSS MLR MLR
comp=N,1μm,14.0s,MS5.3
YSS MLR MLR
comp=E,1μm,14.0s,MS5.3
YSS MLR MLR
comp=Z,1μm,14.0s,MS5.1
YSS **Yuzh-Sakhalins** 56.68 38 *e*P P 17 50 30.9 +0.4
comp=Z,71nm,1.2s,mb5.6
ERZM **Erzurum** 56.72 313 P P 17 50 30.1 -0.7
KIV **Kislovodsk** 57.26 318 P P 17 50 34.9 +0.3
comp=Z,518nm,1.0s,mb6.5,SNR=17
KIV **Kislovodsk** 57.26 318*c* *i*P P 17 50 34.2 -0.4
KIV pmax pmax
comp=Z,100nm,1.0s,mb5.8
KIV **Kislovodsk** 57.26 318 *e*P P 17 50 33.3 -1.3
comp=Z,138nm,1.1s,mb5.9
KMBO **Kilima Mbogo** 57.46 264 *i* P P 17 50 38.5 +2.1
KMBO pmax pmax
comp=Z,36nm,0.9s
KMBO **Kilima Mbogo** 57.46 264 P P 17 50 37.3 +0.9
comp=Z,36nm,0.9s,mb5.4,baz=55,slow=10,SNR=51
KMBO LR LR 18 11 01.6
comp=Z,2μm,20.0s,MS5.1,baz=92,slow=32
KMBO **Kilima Mbogo** 57.46 264 *e*P P 17 50 36.9 +0.5
comp=Z,47nm,0.9s,mb5.5
ELZG **Elazig** 58.05 311 P P 17 50 39.1 -1.0
ASF **Jabal al Asfar** 58.18 303 P P 17 50 41.4 +0.2
comp=Z,21nm,0.9s,mb5.1,baz=350,slow=3.6,SNR=18
ASF LR LR 18 15 21.4
comp=Z,1μm,20.9s,MS5.0,baz=318,slow=36
CTA **Charters Tower** 58.34 119 *e*P P 17 50 42.3 -0.1
comp=Z,10nm,1.3s,mb4.7
CTA **Charters Tower** 58.34 119 *e*P P 17 50 42.3 -0.1
CTA pmax pmax
comp=Z,10.0nm,1.3s
CTA **Charters Tower** 58.34 119 P P 17 50 42.0 -0.4
comp=Z,35nm,1.3s,mb5.2,baz=294,slow=10,SNR=5.5
CTA LR LR 18 21 33.8
comp=Z,564nm,18.4s,MS4.7,baz=289,slow=42
CTAO **Charters Tower** 58.34 119 *e*P P 17 50 42.2 -0.2
CTAO pmax pmax
comp=Z,36nm,1.4s,mb5.2
CTAO **Charters Tower** 58.34 119 *e*P P 17 50 42.2 -0.2
comp=Z,36nm,1.4s,mb5.2
MALT **Malatya** 58.41 310 P P 17 50 42.0 -0.7
MALT pmax pmax
comp=Z,26nm,1.1s,mb5.2
MALT **Malatya** 58.41 310 *e*P P 17 50 41.5 -1.2
comp=Z,31nm,1.1s,mb5.2
SOKR **Solikamsk** 58.71 339⇑ *i*P P 17 50 42.9 -1.6
SOKR pmax pmax
comp=Z,160nm,1.0s,mb6.0
SOKR MLR MLR
comp=Z,3μm,21.0s,MS5.5
GZT **Gaziantep** 58.82 309 P P 17 50 45.1 -0.5
SOC **Sochi** 59.12 316 *e*P P 17 50 44.7 -2.9
SOC *e* 17 51 33.7
SOC *e* 17 52 57.8
SOC *e*S S 17 58 49.2 -3.5
SOC *e*SS SS 18 02 44.4 -4.3
SOC pmax pmax
comp=Z,53nm,1.2s,mb5.5
SOC pmax pmax
comp=N,30nm,0.8s
SOC pmax pmax
comp=E,11nm,0.7s
EIL **Elat** 59.40 300 *e*P P 17 50 49.7 0.0
comp=E,48nm,1.0s,mb5.5
KAHT **Ahir Dag** 59.42 309 P P 17 50 49.4 -0.4
COBT **Iskenderun** 59.63 308 P P 17 50 50.8 -0.4
YAK **Yakutsk** 59.88 18*d* *i*P P 17 50 51.0 -1.6
YAK *e*PP pP 17 51 00.8 +4.2
YAK *e* 18 00 44.3
YAK pmax pmax
comp=Z,67nm,0.9s,mb5.7
YAK pmax pmax
comp=N,28nm,1.2s
YAK pmax pmax
comp=E,20nm,1.2s
YAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK MLR MLR
comp=Z,996nm,14.0s,MS5.1
YAK MLR MLR
comp=N,670nm,10.0s,MS5.1
YAK MLR MLR
comp=E,449nm,14.0s,MS5.1
YAK **Yakutsk** 59.88 18 *e*P P 17 50 51.1 -1.5
comp=E,179nm,1.0s,mb6.0
STKA **Stephens Creek** 60.16 134 *e*P P 17 50 54.0 -0.9
comp=E,13nm,1.0s,mb4.9
STKA **Stephens Creek** 60.16 134 P P 17 50 53.2 -1.7
comp=E,19nm,1.1s,mb5.1,baz=301,slow=7.2,SNR=8.3
STKA LR LR 18 20 09.3
comp=E,2μm,19.9s,MS5.2,baz=303,slow=39
ANN **Anapa** 61.08 317 *e*P P 17 51 03.6 +2.7
ANN *i* *PP pP 17 51 16.6 +12
ANN *e* 17 51 43.3
ANN *e*S S 17 59 23.5 +5.7
ANN pmax pmax
comp=Z,60nm,1.5s,mb5.5
CSS **Prodhromos** 61.63 305 *e*P P 17 51 03.5 -1.4
comp=Z,26nm,0.9s,mb5.3
CTKT **Corum** 61.74 312 P P 17 51 04.9 -0.7
BOYT **Boyabat** 61.86 313 P P 17 51 05.2 -1.1
VRSR **Storozhevoye** 62.31 324 *e*P P 17 51 07.7 -1.5
VRSR pmax pmax
comp=Z,40nm,1.0s,mb5.5
VRSR pmax pmax
comp=N,20nm,0.9s
VRSR pmax pmax
comp=E,30nm,0.9s
BRTR **Keskin Array B** 62.38 311 P P 17 51 07.7 -2.2
comp=E,25nm,0.9s,mb5.4,baz=122,slow=7.3,SNR=50
VOR **Voronezh** 62.51 325 *e*P P 17 51 10.0 -0.5
VOR pmax pmax
comp=Z,170nm,1.8s,mb5.9
ELDT **Eldivan** 62.72 312 P P 17 51 11.2 -0.8
SIM **Simferopol'** 63.37 317*c* *i*P P 17 51 16.0 -0.3
SIM pmax pmax
comp=Z,44nm,1.0s,mb5.5
SIM MLR MLR
comp=Z,980nm,19.8s,MS5.0
MBAR **Mbarara** 63.80 265 P P 17 51 20.7 +1.1
MBAR pmax pmax
comp=Z,50nm,1.1s,mb5.5
MBAR **Mbarara** 63.80 265 *e*P P 17 51 20.5 +0.8
comp=Z,51nm,1.1s,mb5.5
MOS **Moscow** 65.00 329κ *i*P P 17 51 25.9 -0.9
MOS *e* 17 53 46.0
MOS *e*PPP PPP 17 55 20.3 -5.6
MOS *e*S S 18 00 05.3 -1.5
MOS pmax pmax
comp=Z,301nm,1.8s,mb6.0
OBN **Obninsk** 65.30 328*d* *i*P P 17 51 25.0 -3.7
OBN *e* 17 52 01.1
OBN *e* 17 53 50.9
OBN *e* 18 00 02.4
OBN *e*SS SS 18 04 19.0 -6.3
OBN pmax pmax
comp=Z,188nm,1.7s,mb5.8
OBN MLR MLR
comp=Z,2μm,21.0s,MS5.2
OBN **Obninsk** 65.30 328 *e*P P 17 51 24.6 -4.1
comp=Z,207nm,1.3s,mb6.0
TOO **Toolangi** 65.92 137 *e*P P 17 51 32.9 0.0
comp=Z,0.6nm,1.4s
TOO **Toolangi** 65.92 137 *e*P P 17 51 32.9 0.0
TOO pmax pmax
comp=Z,1.0nm,1.4s
MA2 **Magadan** 66.66 28 *e*P P 17 51 37.3 0.0
MA2 pmax pmax
comp=Z,50nm,1.0s,mb5.5
MA2 **Magadan** 66.66 28 *e*P P 17 51 37.1 -0.2
comp=Z,70nm,1.0s,mb5.7
TIXI **Tiksi** 67.12 11⇓ *e*P P 17 51 38.3 -1.8
KIS **Kishinev** 67.46 318 *e*P P 17 51 40.0 -2.6
KIS *e* 17 51 56.0
KIS MLR MLR
comp=Z,500nm,16.0s,MS4.8
KIS MLR MLR
comp=Z,300nm,16.0s
CNB **Canberra Magne** 67.48 133 *e*P P 17 51 44.9 +1.9
comp=Z,217nm,1.3s,mb6.0
AKASG **Malin Array Be** 68.09 322 P P 17 51 44.4 -2.1
comp=Z,21nm,0.8s,mb5.2,baz=88,slow=4.7,SNR=58
AKASG PP PP 17 54 14.8 -3.9
comp=Z,4.4nm,1.0s,baz=97,slow=7.4,SNR=6.3
SANT **Santorini** 68.18 306 *e*P P 17 51 47.3 0.0
comp=Z,146nm,1.2s,mb5.9
IDI **Anoyia** 68.53 305 P P 17 51 48.1 -1.4
comp=Z,45nm,0.9s,mb5.4,baz=101,slow=6.4,SNR=14
VRI **Vrincioaia** 68.64 316 P P 17 51 50.0 0.0
SEY **Seymchan** 68.82 25 *e*P P 17 51 50.4 -0.4
SEY *e* 17 52 16.5
SEY *e* 18 01 09.9
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY pmax pmax
comp=E,40nm,0.9s
SEY pmax pmax
comp=Z,110nm,0.9s,mb5.8
MLR **Muntele Rosu** 69.11 316 P P 17 51 53.0 +0.1
MLR **Muntele Rosu** 69.11 316 P P 17 51 52.8 -0.1
comp=Z,52nm,0.9s,mb5.4,baz=70,slow=9.4
MLR LR LR 18 27 36.9
comp=Z,1μm,18.7s,MS5.1,baz=67,slow=41
LSZ **Lusaka** 69.33 250 *e*P P 17 51 54.2 -0.5
LSZ pmax pmax
comp=Z,29nm,1.1s,mb5.1
LSZ **Lusaka** 69.33 250 *e*P P 17 51 54.2 -0.6
comp=Z,29nm,1.1s,mb5.1
SNX **Sinaia** 69.39 315 P P 17 51 54.4 -0.2
MTUR **Matau** 69.68 315 P P 17 51 56.0 -0.4
VTS **Vitosha** 70.63 312 P P 17 52 02.1 -0.1
JOF **Joensuu** 70.76 334 *e*p P 17 52 02.1 -0.6
comp=Z,51nm,0.9s,mb5.5
VAY **Valandovo** 70.96 311 *i* P P 17 52 01.3 -3.0
ZAPS **Zavoj/Pirot** 71.15 313⇑ *i*P P 17 52 03.9 -1.5
LVV **L'vov** 71.15 320 *i* P P 17 52 04.6 -0.7
LVV *e* 17 54 40.2
LVV *e* 17 56 28.2
LVV *e*S S 18 01 18.0 -2.4
SKO **Skopje** 71.87 311 *i* P P 17 52 08.0 -1.7
KWP **Kalwaria** 71.97 320 P P 17 52 09.8 -0.3
KWP pmax pmax
comp=Z,73nm,1.0s,mb5.6
KWP **Kalwaria** 71.97 320 *e*P P 17 52 09.3 -0.8
KWP **Kalwaria** 71.97 320 *e*P P 17 52 09.3 -0.8
JAN **Janina** 72.11 309⇓ *i*P P 17 52 08.6 -2.6
JAN *i* 17 52 20.0
JAN pmax pmax
comp=Z,57nm,1.0s,mb5.5
JAN MLR MLR
comp=Z,4μm,19.0s,MS5.7
KOLS **Kolonicke sedl** 72.14 319 *e*P P 17 52 11.3 +0.1
SVIS **Svilajnac** 72.27 314⇑ *i*P P 17 52 11.1 -0.9
SUW **Suwalki** 72.44 324 *e*P P 17 52 12.1 -0.7
GRUS **Gruza** 72.59 313⇓ *i*P P 17 52 13.0 -0.9
FINES **FINESS Array B** 72.63 332 P P 17 52 12.7 -1.1
comp=Z,43nm,0.8s,mb5.4,baz=104,slow=7.9,SNR=49
FINES LR LR 18 30 30.9
comp=Z,965nm,18.4s,MS5.1,baz=106,slow=41
CRVS **Cervenica-Dubn** 72.67 319 *e*P P 17 52 14.2 -0.1
KAF **Kangasniemi** 72.71 333 *e*p P 17 52 12.5 -1.8
comp=Z,74nm,1.0s,mb5.6,baz=104,slow=5.4
KAF **Kangasniemi** 72.71 333 *e*P P 17 52 12.5 -1.8
KAF pmax pmax
comp=Z,74nm,1.0s,mb5.6
DIVS **Divcibare** 73.13 314⇓ *i*P P 17 52 16.3 -0.8
KECS **Kecovo** 73.25 318 *e*P P 17 52 17.8 0.0
NIE **Niedzica** 73.48 319 *e*P P 17 52 19.5 +0.4
PSZ **Piszkesteto** 73.58 318⇑ *e*P P 17 52 19.6 -0.1
OJC **Ojcow** 73.91 320⇓ *i*P P 17 52 21.6 +0.1
PKSM **Moragy** 74.27 316⇑ *e*P P 17 52 23.2 -0.5
LBTB **Lobatse** 74.32 241 P P 17 52 25.5 +1.1
LBTB pmax pmax
comp=Z,23nm,0.9s,mb5.1
LBTB **Lobatse** 74.32 241 *e*P P 17 52 24.4 0.0

comp=Z,37nm,1.0s,mb5.3
VYHS Vyhne 74.35 318 *eP* **P 17 52 23.6 -0.5**
VYHS *e* pP 17 52 27.5 -0.6
SRO Srobarova 74.63 317 *eP* **P 17 52 26.5 +0.8**
KEV Kevo 74.74 341 *ep* **P 17 52 25.7 -0.3**
comp=Z,1.3nm,0.5s
KEV Kevo 74.74 341 *eP* **P 17 52 25.7 -0.3**
KEV pmax pmax
comp=Z,1.0nm,0.5s
OKC Ostrava-Krasne 74.93 319 *eP* **P 17 52 27.7 +0.3**
OKC *ep*P pP 17 52 31.6 +0.1
CASY Casey 75.03 173 *eP* **P 17 52 26.6 -1.1**
comp=Z,63nm,1.5s,mb5.3
ARCES ARCESS Array B 75.17 340 P **P 17 52 26.6 -1.8**
comp=Z,21nm,0.8s,mb5.1,baz=76,slow=5.0,SNR=28
ARCES LR LR 18 28 35.8
comp=Z,3µm,19.9s,MS5.6,baz=116,slow=38
ARE0 ARCESS Array S 75.17 340 *eP* **P 17 52 28.1 -0.3**
TIP Timpagrande 75.25 308 *eP* **P 17 52 28.7 -0.8**
SMOL Smolenice 75.28 318 *eP* **P 17 52 29.1 -0.4**
MORC Moravsky Berou 75.31 319 P **P 17 52 29.1 -0.5**
MORC pmax pmax
comp=Z,55nm,1.0s,mb5.4
MORC Moravsky Berou 75.31 319 *eP* **P 17 52 29.0 -0.6**
comp=Z,99nm,1.3s,mb5.6
ZST Bratislava 75.47 318 *eP* **P 17 52 31.0 +0.4**
ZST *e* pP 17 52 34.8 +0.2
BOSA Boshof 75.66 238 P **P 17 52 33.2 +1.1**
BOSA pmax pmax
comp=Z,37nm,1.0s,mb5.3
BOSA Boshof 75.66 238 *eP* **P 17 52 32.8 +0.7**
comp=Z,40nm,1.1s,mb5.3
KTK1 Kautokeino 75.80 339 *eP* **P 17 52 32.6 +0.5**
comp=Z,124nm,2.2s,mb5.5
KTK1 Kautokeino 75.80 339 *eP* **P 17 52 32.6 +0.5**
KTK1 AMb AMB 17 52 36.0
comp=Z,124nm,2.2s,mb5.5
GKP Gorka Klasztor 75.83 323 *eP* **P 17 52 33.2 +0.7**
VRAC Vranov 75.89 319 P **P 17 52 33.6 +0.7**
BILL Bilibino 75.98 22⇑ *eP* **P 17 52 32.7 -0.4**
BILL pmax pmax
comp=Z,23nm,0.6s,mb5.3
BILL Bilibino 75.98 22 *eP* **P 17 52 32.5 -0.5**
comp=Z,29nm,0.8s,mb5.2
DPC Dobruska-Polom 76.14 320 *eP* **P 17 52 35.1 +0.8**
DPC *ep*P pP 17 52 38.7 +0.3
KSP Ksiaz 76.20 320 *eP* **P 17 52 35.0 +0.4**
KSP *ep*P pP 17 52 39.0 +0.3
KSP Ksiaz 76.20 320 *eP* **P 17 52 35.9 +1.3**
UPC Upice 76.35 320 *eP* **P 17 52 35.9 +0.4**
UPC *ep*P pP 17 52 38.5 -1.0
ARSA Arzberg 76.48 317⇑ *iP* **P 17 52 36.8 +0.5**
comp=Z,404nm,2.8s,mb5.9
PERS Pernice 76.73 316 *eP* **P 17 52 37.8 +0.1**
VAE Valguarnera 77.07 307 P **P 17 52 41.5 +1.7**
comp=Z,34nm,0.9s,mb5.3,baz=171,slow=13,SNR=3.1
LJU Ljubljana 77.11 315 *eP* **P 17 52 40.1 +0.3**
OBKA Obir 77.11 316⇓ *iP* **P 17 52 39.6 -0.2**
comp=Z,439nm,3.0s
PRU Pruhonice 77.26 319 *eP* **P 17 52 41.1 +0.5**
PRU *ep*P pP 17 52 45.0 +0.4
PVCC Panska Ves 77.27 320 *eP* **P 17 52 41.3 +0.7**
PVCC *ep*P pP 17 52 44.8 +0.1
MOA Molln 77.36 317⇓ *iP* **P 17 52 41.1 0.0**
comp=Z,94nm,1.9s,mb5.4
TRO Tromso 77.44 340 *eP* **P 17 52 40.2 -1.0**
comp=Z,83nm,1.4s,mb5.5
TRO Tromso 77.44 340 *eP* **P 17 52 40.2 -1.0**
TRO AMb AMB 17 52 44.7
comp=Z,83nm,1.4s,mb5.5
VOY Vojsko 77.55 315 *eP* **P 17 52 41.8 -0.5**
CADS Cadrg 77.67 316 *iP* **P 17 52 42.7 -0.2**
BRG Berggiesshubel 77.69 320 *iP* **P 17 52 43.4 +0.5**
BRG pmax pmax
comp=Z,140nm,1.8s,mb5.6
BRG Berggiesshubel 77.69 320 *iP* **P 17 52 43.4 +0.5**
comp=Z,140nm,1.8s,mb5.6
GEC2 GERESS Array S 77.77 318 *eP* **P 17 52 43.1 -0.3**
GEC2 pmax pmax
comp=Z,78nm,1.2s,mb5.5
GEC2 GERESS Array S 77.77 318 *eP* **P 17 52 43.1 -0.3**
comp=Z,78nm,1.2s,mb5.5
GERES GERESS Array B 77.77 318 P **P 17 52 43.1 -0.3**
comp=Z,18nm,0.7s,mb5.1,baz=90,slow=5.3,SNR=95
KHC Kasperske Hory 77.86 318 *iPr* **P 17 52 44.1 +0.2**
KHC Kasperske Hory 77.86 318 *eP* **P 17 52 44.2 +0.3**
KHC *ep*P pP 17 52 48.1 +0.2
KHC x x 17 53 42.5
RUE Ruedersdorf 77.86 322 *eP* **P 17 52 43.4 -0.4**
comp=Z,232nm,1.0s,mb6.1
KBA Koelnbreinsper 77.96 316⇑ *iP* **P 17 52 44.5 0.0**
comp=Z,138nm,2.3s,mb5.5
KBA Koelnbreinsper 77.96 316⇑ *iP* **P 17 52 44.5 0.0**
KBA pmax pmax
comp=Z,138nm,2.3s,mb5.5
CLL Collm 78.30 321 *iP* **P 17 52 46.4 +0.2**
CLL *i* pP 17 52 49.8 -0.5
CLL pmax pmax
comp=Z,64nm,1.5s,mb5.3
CLL Collm 78.30 321 *iP* **P 17 52 46.4 +0.2**
comp=Z,64nm,1.5s,mb5.3
CLL *i* pP 17 52 49.8 -0.5
CLL Collm 78.30 321 P **P 17 52 46.4 +0.2**
comp=Z,logA/T=1.6,mb5.3
CLL *i* *PP pP 17 52 49.8 -0.5
WET Wettzell 78.32 318 *eP* **P 17 52 46.1 -0.3**
WET pmax pmax
comp=Z,56nm,1.3s,mb5.3
WET Wettzell 78.32 318 *eP* **P 17 52 46.1 -0.3**
comp=Z,56nm,1.3s,mb5.3
MOR8 Moi Rana 78.59 336 *eP* **P 17 52 47.2 -0.3**
comp=Z,102nm,1.4s,mb5.6
MOR8 Moi Rana 78.59 336 *eP* **P 17 52 47.2 -0.3**
MOR8 AMb AMB 17 52 51.8
comp=Z,102nm,1.4s,mb5.5
NKC Novy Kostel 78.62 320 *eP* **P 17 52 48.9 +0.9**
NKC *ep*P pP 17 52 52.2 +0.1
MAW Mawson 78.64 192 *eP* **P 17 52 48.9 +1.1**
MAW pmax pmax
comp=Z,66nm,1.3s
MAW Mawson 78.64 192 P **P 17 52 47.9 +0.1**
comp=Z,13nm,0.8s,mb4.9,baz=1.5,slow=5.9,SNR=5.2
MAW Mawson 78.64 192 *eP* **P 17 52 48.9 +1.1**
comp=Z,66nm,1.3s,mb5.4
COP Copenhagen 78.80 325⇑ *iP* **P 17 52 49.8 +0.9**
COP pmax pmax
comp=Z,47nm,0.7s,mb5.5
COP Copenhagen 78.80 325⇑ *iP* **P 17 52 49.8 +0.9**
comp=Z,47nm,0.7s,mb5.5
WTTA Wattenberg 79.12 317⇑ *iP* **P 17 52 50.8 -0.1**
comp=Z,149nm,1.5s,mb5.7
WTTA Wattenberg 79.12 317⇑ *iP* **P 17 52 50.8 -0.1**
WTTA pmax pmax
comp=Z,149nm,1.5s,mb5.7
MOX Moxa 79.16 320 *eP* **P 17 52 51.3 +0.3**
MOX pmax pmax
comp=Z,119nm,2.0s,mb5.5
MOX Moxa 79.16 320 *eP* **P 17 52 51.3 +0.3**
comp=Z,119nm,2.0s,mb5.5
MOX Moxa 79.16 320 *iP* **P 17 52 51.3 +0.3**
comp=Z,logA/T=1.8,mb5.5
WATA Walderalm 79.17 317⇑ *iP* **P 17 52 49.8 -1.3**
comp=Z,40nm,1.1s,mb5.3
WATA Walderalm 79.17 317⇑ *iP* **P 17 52 49.8 -1.3**
WATA pmax pmax
comp=Z,40nm,1.1s,mb5.3
FUR Furstenfeldbru 79.37 317 *eP* **P 17 52 51.4 -0.8**
FUR pmax pmax
comp=Z,77nm,1.4s,mb5.4
FUR Furstenfeldbru 79.37 317 *eP* **P 17 52 51.4 -0.8**
comp=Z,77nm,1.4s,mb5.4
GRA1 Grafenberg Arr 79.40 319 *eP* **P 17 52 52.4 +0.1**
comp=Z,120nm,1.4s,mb5.6
GRF Grafenberg Arr 79.40 319 *eP* **P 17 52 52.4 +0.1**
GRF pmax pmax
comp=Z,120nm,1.4s,mb5.6
GRF Grafenberg Arr 79.40 319 *eP* **P 17 52 52.4 +0.1**
GRF pmax pmax
comp=Z,120nm,1.4s,mb5.6
GRF Grafenberg Arr 79.40 319 *eP* **P 17 52 52.4 +0.1**
comp=Z,120nm,1.4s,mb5.6
GRFO Grafenberg 79.41 319 *eP* **P 17 52 52.4 +0.1**
comp=Z,2µm,1.4s
SQTA Sankt Quirin 79.42 317⇑ *iP* **P 17 52 52.4 0.0**
comp=Z,43nm,1.3s,mb5.2
SQTA Sankt Quirin 79.42 317⇑ *iP* **P 17 52 52.4 0.0**
SQTA pmax pmax
comp=Z,43nm,1.3s,mb5.2
NSS Namsos 79.48 334 *eP* **P 17 52 51.6 -0.8**
comp=Z,100nm,1.3s,mb5.6
NSS Namsos 79.48 334 *eP* **P 17 52 51.6 -0.8**
NSS AMb AMB 17 52 56.1
comp=Z,100nm,1.3s,mb5.6
MOTA Moosalm 79.49 317⇓ *iP* **P 17 52 52.5 -0.3**
comp=Z,41nm,1.1s,mb5.3
MOTA Moosalm 79.49 317⇓ *iP* **P 17 52 52.5 -0.3**
MOTA pmax pmax
comp=Z,41nm,1.1s,mb5.3
NB2 NORSAR Subarra 79.65 331 P **P 17 52 52.1 -1.3**
comp=Z,25nm,0.8s,mb5.2,baz=96,slow=5.3
NB2 NORSAR Subarra 79.65 331 P **P 17 52 52.1 -1.3**
baz=96,slow=5.3
NOA NORSAR Array B 79.65 331 P **P 17 52 52.1 -1.3**
comp=Z,26nm,0.9s,mb5.2,baz=93,slow=5.5,SNR=41
NOA LR LR 18 31 48.6
comp=Z,935nm,21.6s,MS5.1,baz=120,slow=38
NAO01 NORSAR Array S 79.81 330 *eP* **P 17 52 54.2 0.0**
comp=Z,101nm,1.1s,mb5.7
CLZ Clausthal 79.94 321 *eP* **P 17 52 54.9 -0.3**
comp=Z,103nm,1.4s,mb5.6
BSEG Bad Segeberg 79.98 323 *eP* **P 17 52 55.3 0.0**
SARO Sassorosso 80.03 313 P **P 17 52 56.2 +0.4**
HDH Heidenheim 80.08 318⇑ *eP* **P 17 52 56.1 +0.1**
VALM 80.13 314 P **P 17 52 56.9 +0.5**
UBR Uberruh 80.16 317⇑ *eP* **P 17 52 56.6 +0.2**
VINC Vinca 80.21 313 P **P 17 52 57.0 +0.2**
GRAM 80.26 314 P **P 17 52 57.6 +0.5**
DAVA Damuels 80.32 317⇑ *iP* **P 17 52 57.7 +0.4**
comp=Z,242nm,2.4s,mb5.7
DAVOX Davos 80.33 316 P **P 17 52 58.1 +0.8**
comp=Z,48nm,0.9s,mb5.4,baz=107,slow=5.5,SNR=20
SUR Sutherland 80.42 235 *eP* **P 17 53 00.4 +2.3**
comp=Z,50nm,1.0s,mb5.4
CODM 80.42 314 P **P 17 52 57.8 -0.1**
SIND Sindeldorf 80.46 319⇑ *eP* **P 17 52 58.8 +0.8**
MUD Monsted U'grnd 80.64 326⇑ *iP* **P 17 53 03.3 +4.5**
comp=Z,103nm,1.0s,mb5.7
comp=Z,1µm,18.0s
BUCH Bad Urach 80.65 318⇑ *eP* **P 17 52 59.5 +0.5**
STU Stuttgart 80.74 318 P **P 17 52 59.6 +0.1**
STU pmax pmax
comp=Z,171nm,1.9s,mb5.7
STU Stuttgart 80.74 318 P **P 17 52 59.6 +0.1**
comp=Z,171nm,1.9s,mb5.7
GUT Gutenstein 80.82 317⇑ *eP* **P 17 53 00.2 +0.3**
VSL Villasalto 80.97 309 *eP* **P 17 52 59.3 -1.6**
comp=Z,65nm,1.2s,mb5.4
TOD Tromm 80.98 319 *eP* **P 17 53 00.7 0.0**
TOD Tromm 80.98 319 *eP* **P 17 53 01.2 +0.5**
LBG Lerchenberg 81.01 318⇑ *eP* **P 17 53 01.4 +0.5**
SPAK Spaichingen 81.04 317⇑ *eP* **P 17 53 01.6 +0.6**
SWS Schriesheim 81.05 319⇑ *eP* **P 17 53 01.7 +0.6**
PGF Pioggiola 81.11 312 *eP* **P 17 53 00.9 -0.7**
comp=Z,150nm,1.3s,mb5.5
PGF Pioggiola 81.11 312 *eP* **P 17 53 00.9 -0.7**
PGF pmax pmax
comp=Z,75nm,1.3s,mb5.5
TNS Taunus Mts 81.19 320 *eP* **P 17 53 01.7 -0.1**
TNS pmax pmax
comp=Z,54nm,1.4s,mb5.3
TNS Taunus Mts 81.19 320 *eP* **P 17 53 01.7 -0.1**
comp=Z,54nm,1.4s,mb5.3
BFO Black Forest 81.33 318 *eP* **P 17 53 01.8 -0.8**
BFO pmax pmax
comp=Z,75nm,1.7s,mb5.3
BFO Black Forest 81.33 318 *eP* **P 17 53 01.8 -0.8**
comp=Z,75nm,1.7s,mb5.3
PCP Pian Castagno 81.35 314 P **P 17 53 02.1 -0.6**
KTD Kalmit 81.46 319 *eP* **P 17 53 03.7 +0.5**
FELD Feldberg 81.57 317⇑ *eP* **P 17 53 04.5 +0.7**
FIN Finale Ligure 81.60 314 P **P 17 53 04.3 +0.2**
KIZ Kirchzarten 81.62 317⇑ *eP* **P 17 53 04.6 +0.5**
LANF Langenberg 81.65 318 *eP* **P 17 53 04.4 +0.2**
ORX Oropa 81.69 315 P **P 17 53 02.7 -1.8**
ABH Alteburg 81.78 319 *eP* **P 17 53 05.9 +1.0**
ABH Alteburg 81.78 319⇑ *eP* **P 17 53 06.0 +1.1**
LIBD Limburg 81.83 318 *eP* **P 17 53 05.7 +0.5**
LIBD Limburg 81.83 318 *eP* **P 17 53 05.6 +0.4**
ROB Roburent 81.84 314 P **P 17 53 05.1 -0.2**
IMI Imperia 81.85 313 P **P 17 53 05.8 +0.4**
TRAV 81.86 315 P **P 17 53 04.5 -0.9**
BBS Basel-Blauen 81.92 317 *eP* **P 17 53 06.6 +0.9**
BBS Basel-Blauen 81.92 317⇑ *eP* **P 17 53 06.7 +1.0**
MONE Monesi 81.94 313 P **P 17 53 06.0 +0.2**
WLS Welschbruch 81.98 318 *eP* **P 17 53 06.1 +0.2**
NEGI Negi 81.99 313 P **P 17 53 06.4 +0.3**
CDF Champ du Feu 82.03 318 *eP* **P 17 53 05.5 -0.7**
comp=Z,82nm,1.3s,mb5.2
CDF Champ du Feu 82.03 318 *eP* **P 17 53 05.5 -0.7**
CDF pmax pmax
comp=Z,41nm,1.3s,mb5.2
SAOF Saorge 82.08 313 *eP* **P 17 53 09.2 +2.6**
RUP Ruppelstein 82.11 319 *eP* **P 17 53 07.4 +0.8**
RUP Ruppelstein 82.11 319⇑ *eP* **P 17 53 07.6 +1.0**
ECH Echery 82.12 318 *eP* **P 17 53 07.0 +0.3**
WTSB Winterswijk 82.16 321 *eP* **P 17 53 07.5 +0.7**
MOF Molkenrain 82.16 317 *eP* **P 17 53 07.0 +0.1**
ENR Entracque 82.17 314 P **P 17 53 06.7 -0.3**
SBF Sospel 82.18 313 *eP* **P 17 53 06.6 -0.5**
comp=Z,180nm,0.9s,mb5.7
SBF Sospel 82.18 313 *eP* **P 17 53 06.6 -0.5**
SBF pmax pmax
comp=Z,90nm,0.9s,mb5.7
RSP Reno Superiore 82.23 315 P **P 17 53 06.4 -0.9**
STV Sta Anna Valdi 82.24 314 P **P 17 53 07.6 +0.2**
BHB Bricherasio 82.24 314 P **P 17 53 06.2 -1.2**
LSD Ceresole Reale 82.28 315 P **P 17 53 07.8 +0.2**
TOUF Mont Tournerai 82.31 313 *eP* **P 17 53 08.6 +0.9**
HINF Hinteralfeld 82.35 317 *eP* **P 17 53 08.1 +0.2**
FENE Fenestrelle 82.37 314 P **P 17 53 08.0 0.0**
PZZ Prazzo 82.38 314 P **P 17 53 07.9 -0.2**
LOMF Lomont 82.39 317 *eP* **P 17 53 08.7 +0.6**
OG01 Vacheresse 82.56 316 *eP* **P 17 53 06.7 -2.3**
LPG La Plagne 82.56 315 *eP* **P 17 53 09.1 +0.1**
comp=Z,98nm,0.9s,mb5.6
LPG La Plagne 82.56 315 *eP* **P 17 53 09.1 +0.1**
LPG pmax pmax
comp=Z,49nm,0.9s,mb5.5
LPL La Plagne 82.57 315 *eP* **P 17 53 09.0 -0.1**
comp=Z,198nm,0.9s,mb5.8
LPL La Plagne 82.57 315 *eP* **P 17 53 09.0 -0.1**
LPL pmax pmax
comp=Z,99nm,0.9s,mb5.8
RRL Cesana Torines 82.58 314 P **P 17 53 09.2 +0.1**
MBDF Montbardon 82.60 314 *eP* **P 17 53 08.3 -1.0**
comp=Z,70nm,1.1s,mb5.3
MBDF Montbardon 82.60 314 *eP* **P 17 53 08.3 -1.0**
MBDF pmax pmax
comp=Z,35nm,1.1s,mb5.3
BNI Bardonecchia 82.64 314 P **P 17 53 09.9 +0.4**
BNI pmax pmax
comp=Z,49nm,0.9s,mb5.5
BNI Bardonecchia 82.64 314 *eP* **P 17 53 09.6 +0.1**
comp=Z,81nm,1.0s,mb5.7
HAU Haudompre 82.67 317 *eP* **P 17 53 08.8 -0.8**
comp=Z,109nm,1.0s,mb5.5
HAU Haudompre 82.67 317 *eP* **P 17 53 08.8 -0.8**
HAU pmax pmax
comp=Z,55nm,1.0s,mb5.5
WLF Walferdange 82.70 319 P **P 17 53 11.2 +1.6**
WLF pmax pmax
comp=Z,40nm,1.1s,mb5.4
WLF Walferdange 82.70 319 *eP* **P 17 53 10.2 +0.5**
comp=Z,176nm,1.8s,mb5.8
HGN Heimansgroeve 82.77 320 *eP* **P 17 53 10.5 +0.6**
comp=Z,29nm,2.3s,mb4.9
FRF La Foret Royal 82.77 313 *eP* **P 17 53 09.9 -0.3**
comp=Z,122nm,1.1s,mb5.5
FRF La Foret Royal 82.77 313 *eP* **P 17 53 09.9 -0.3**
FRF pmax pmax
comp=Z,61nm,1.1s,mb5.5
LMR La Mourre 82.89 313 *eP* **P 17 53 10.4 -0.4**
comp=Z,75nm,1.1s,mb5.3
LMR La Mourre 82.89 313 *eP* **P 17 53 10.4 -0.4**
LMR pmax pmax
comp=Z,37nm,1.1s,mb5.3
THEF They Montfort 82.90 318 *eP* **P 17 53 09.4 -1.3**
CABF La Chapelle 82.95 316 *eP* **P 17 53 10.8 -0.2**
ORIF Oris-en-Rattie 83.22 314 *eP* **P 17 53 11.8 -0.6**
comp=Z,46nm,1.0s,mb5.2
ORIF Oris-en-Rattie 83.22 314 *eP* **P 17 53 11.8 -0.6**
ORIF pmax pmax
comp=Z,23nm,1.0s,mb5.2
OG05 Jujurieux 83.42 315 *eP* **P 17 53 14.1 +0.6**
MEZF Maizieres J'vi 83.50 318 *eP* **P 17 53 13.5 -0.3**
SMRF Simiane la Rot 83.51 313 *eP* **P 17 53 14.1 +0.1**
comp=Z,88nm,1.2s,mb5.5
GIVF Givet 83.52 320 *eP* **P 17 53 13.6 -0.3**
comp=Z,30nm,0.9s,mb5.1
GIVF Givet 83.52 320 *eP* **P 17 53 13.6 -0.3**
GIVF pmax pmax
comp=Z,15nm,0.9s,mb5.1
BAIF Baives 83.92 320 *eP* **P 17 53 15.8 -0.1**
comp=Z,136nm,1.1s,mb5.7
BAIF Baives 83.92 320 *eP* **P 17 53 15.8 -0.1**
BAIF pmax pmax
comp=Z,68nm,1.1s,mb5.7
VIVF Saint-Julien-l 84.08 314 *eP* **P 17 53 16.5 -0.4**
comp=Z,53nm,1.0s,mb5.3
VIVF Saint-Julien-l 84.08 314 *eP* **P 17 53 16.5 -0.4**
VIVF pmax pmax
comp=Z,26nm,1.0s,mb5.3
SMF Signal de Mont 84.49 316 *eP* **P 17 53 18.2 -0.7**
comp=Z,112nm,1.3s,mb5.5
SMF Signal de Mont 84.49 316 *eP* **P 17 53 18.2 -0.7**
SMF pmax pmax
comp=Z,56nm,1.3s,mb5.5
SSF Saint Saulge 84.67 317 *eP* **P 17 53 19.1 -0.7**
SSF pmax pmax
comp=Z,59nm,1.6s,mb5.5
SSF Saint Saulge 84.67 317 *eP* **P 17 53 19.1 -0.7**
comp=Z,58nm,1.6s,mb5.5
PLDF La Plantade 84.71 316 *eP* **P 17 53 20.4 +0.4**
AVF Avril sur Loir 84.81 316 *eP* **P 17 53 19.8 -0.6**
comp=Z,49nm,1.0s,mb5.3
AVF Avril sur Loir 84.81 316 *eP* **P 17 53 19.8 -0.6**
AVF pmax pmax
comp=Z,24nm,1.0s,mb5.3
BGF Bois d'Agland 85.18 316 *eP* **P 17 53 22.1 -0.2**
comp=Z,182nm,1.6s,mb5.7
BGF Bois d'Agland 85.18 316 *eP* **P 17 53 22.1 -0.2**
BGF pmax pmax
comp=Z,91nm,1.6s,mb5.7
HYF Humbligny 85.24 317 *eP* **P 17 53 22.7 +0.1**
SYO Syowa Base 85.52 197 ⇓P **P 17 53 24.4 +0.9**
SYO Syowa Base 85.52 197 ⇓PcP PcP 17 53 27.6 +0.6
TCF Toulx Ste Croi 85.65 316 *eP* **P 17 53 24.3 -0.4**
comp=Z,72nm,1.2s,mb5.5
TCF Toulx Ste Croi 85.65 316 *eP* **P 17 53 24.3 -0.4**
TCF pmax pmax
comp=Z,36nm,1.2s,mb5.5
CAF Calviac 85.91 315 *eP* **P 17 53 26.0 0.0**
comp=Z,208nm,1.9s,mb5.8
CAF Calviac 85.91 315 *eP* **P 17 53 26.0 0.0**
CAF pmax pmax
comp=Z,104nm,1.9s,mb5.7
MTLF Montolieu 86.00 313 *eP* **P 17 53 26.3 -0.2**
comp=Z,88nm,1.2s,mb5.6
MTLF Montolieu 86.00 313 *eP* **P 17 53 26.3 -0.2**
MTLF pmax pmax
comp=Z,44nm,1.2s,mb5.6
TNA Tin City 86.06 24 *eP* **P 17 53 25.8 -0.5**
RPZ Rata Peaks 86.10 135 LR LR 18 28 49.3
comp=Z,1µm,21.6s,MS5.3,baz=278,slow=34
RJF Les Rejaudoux 86.25 315 *eP* **P 17 53 27.9 +0.2**
comp=Z,62nm,1.1s,mb5.5
RJF Les Rejaudoux 86.25 315 *eP* **P 17 53 27.9 +0.2**
RJF pmax pmax
comp=Z,31nm,1.1s,mb5.5
JMIC Jan Mayen 86.61 341 LR LR 18 33 57.4
comp=Z,1µm,20.0s,MS5.2,baz=72,slow=37
LCP Cassop 86.80 325 *eP* **P 17 53 30.2 +0.1**
LFF La Frestale 86.84 315 *eP* **P 17 53 30.9 +0.3**
LDF La Druitiere 86.91 318 *eP* **P 17 53 30.4 -0.4**
comp=Z,126nm,1.3s,mb5.7
LDF La Druitiere 86.91 318 *eP* **P 17 53 30.4 -0.4**
LDF pmax pmax
comp=Z,63nm,1.3s,mb5.7
HPK Haverah Park 87.01 324 *eP* **P 17 53 32.1 +1.0**
KBI1 Birley Grange 87.06 323 *eP* **P 17 53 32.3 +0.8**
FLN La Foliniere 87.12 319 *eP* **P 17 53 31.6 -0.2**
comp=Z,78nm,1.0s,mb5.6
FLN La Foliniere 87.12 319 *eP* **P 17 53 31.6 -0.2**
FLN pmax pmax
comp=Z,39nm,1.0s,mb5.6
LHO Holmfirth 87.21 324 *iP* **P 17 53 31.9 -0.2**
LHO Holmfirth 87.21 324 *eP* **P 17 53 32.1 -0.1**
MFF Saint Martin d 87.22 316 *eP* **P 17 53 32.1 -0.3**
comp=Z,60nm,1.1s,mb5.5
MFF Saint Martin d 87.22 316 *eP* **P 17 53 32.1 -0.3**
MFF pmax pmax
comp=Z,30nm,1.1s,mb5.4
KWE Weaver Farm 87.29 323 *eP* **P 17 53 32.8 +0.3**
ANM Nome 87.32 25 *eP* **P 17 53 34.0 +1.6**
DAG Danmarks Havn 87.38 348⇓ *eP* **P 17 53 31.7 -0.8**
DAG pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
DAG Danmarks Havn 87.38 348⇓ *eP* **P 17 53 31.7 -0.8**
comp=Z,10.0nm,1.0s,mb5.0
DAG Danmarks Havn 87.38 348⇓ *iP* **P 17 53 31.7 -0.8**
comp=Z,10.0nm,1.0s,mb5.0
GRR Gorron 87.42 318 *eP* **P 17 53 33.2 -0.1**
comp=Z,72nm,1.2s,mb5.5
GRR Gorron 87.42 318 *eP* **P 17 53 33.2 -0.1**
GRR pmax pmax
comp=Z,36nm,1.2s,mb5.5
ESK Eskdalemuir 87.68 325 P **P 17 53 35.5 +1.2**
ESK pmax pmax
comp=Z,39nm,0.9s,mb5.6
ESK Eskdalemuir 87.68 325 *eP* **P 17 53 34.9 +0.5**
comp=Z,49nm,0.9s,mb5.7
ESK Eskdalemuir 87.68 325 *eP* **P 17 53 35.1 +0.7**
ESK AMb AMB 17 53 44.0
comp=Z,85nm,1.6s,mb5.7
EAU Auchinoon 87.72 326 *eP* **P 17 53 35.6 +1.1**
EAU AMb AMB 17 53 37.1
comp=Z,103nm,1.2s,mb5.9
ETSF Etsaut 88.08 313 *eP* **P 17 53 37.0 +0.4**
comp=Z,48nm,1.1s,mb5.3
ETSF Etsaut 88.08 313 *eP* **P 17 53 37.0 +0.4**
ETSF pmax pmax
comp=Z,24nm,1.1s,mb5.3
EAB Aberfoyle 88.14 326 *eP* **P 17 53 36.9 +0.4**
EAB AMb AMB 17 53 41.6
comp=Z,80nm,1.5s,mb5.7
SJPF Ste Jean 88.52 313 *eP* **P 17 53 39.0 +0.3**
ROSF Rostrenen 89.02 319 *eP* **P 17 53 40.7 -0.2**
ESDC Sonseca Array 91.17 310 P **P 17 53 51.9 +0.8**
comp=Z,12nm,0.9s,mb5.2,baz=56,slow=4.1,SNR=20
ESLA Sonseca Array 91.17 310 *eP* **P 17 53 51.9 +0.7**
comp=Z,9.4nm,1.1s,mb5.0
IMA Indian Mountai 91.51 22 P **P 17 53 53.0 +0.9**
IMA pmax pmax
comp=Z,170nm,0.9s,mb6.4
IMA Indian Mountai 91.51 22 *eP* **P 17 53 52.7 +0.6**
SVW2 Sparrevohn 92.64 27 *eP* **P 17 53 59.3 +1.9**
VNDA Vanda 93.03 168 *eP* **P 17 53 57.9 -1.0**
VNDA pmax pmax
comp=Z,42nm,1.9s
VNDA Vanda 93.03 168 P **P 17 53 58.5 -0.4**
comp=Z,3.7nm,1.2s,mb4.7,baz=301,slow=2.5,SNR=4.8
VNDA LR LR 18 31 11.5
comp=Z,578nm,18.1s,MS5.1,baz=290,slow=32
VNDA Vanda 93.03 168 *eP* **P 17 53 57.9 -1.0**
comp=Z,42nm,1.9s,mb5.5
SBA Scott Base 94.13 168 *eP* **P 17 54 02.4 -1.6**
SBA pmax pmax
comp=Z,62nm,1.6s,mb5.8
SBA Scott Base 94.13 168 *eP* **P 17 54 02.4 -1.5**
comp=Z,62nm,1.6s,mb5.8
RSO Redoubt South 94.16 27 *eP* **P 17 54 00.8 -3.6**
SPU Mount Spurr 94.18 26 *eP* **P 17 54 04.7 +0.3**
COLA College 94.22 22 P **P 17 54 05.8 +1.2**
COLA pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
COLA College 94.22 22 P **P 17 54 05.8 +1.2**
comp=Z,7.5nm,0.9s,mb5.1
MCK McKinley 94.35 23 P **P 17 54 06.6 +1.4**
MCK pmax pmax
comp=Z,45nm,1.6s,mb5.7
MCK McKinley 94.35 23 *eP* **P 17 54 05.6 +0.4**
comp=Z,16nm,1.2s,mb5.3
ILAR Eielson Array 94.64 22 P **P 17 54 05.8 -0.7**
comp=Z,3.3nm,0.9s,mb4.8,baz=299,slow=4.3,SNR=33
ILAR PP PP 17 57 51.0 -6.0

comp=Z,1.4nm,1.0s,baz=304,slow=5.4,SNR=4.3
FIB Fire Island 95.00 26 eP P 17 54 09.1 +0.8
PMR Palmer 95.26 25 eP P 17 54 09.8 +0.4
PMR MLR MLR
comp=Z,400nm,17.0s,MS5.0
SLKM Skilak Lake 95.28 27 P P 17 54 10.6 +1.1
SLKM Skilak Lake 95.28 27 eP P 17 54 10.1 +0.5
SML Sawmill 95.50 25 P P 17 54 12.0 +1.5
SML Sawmill 95.50 25 eP P 17 54 09.9 -0.6
MENT Mentasta 96.79 23 eP P 17 54 17.5 +1.2
INK Inuvik 96.88 16 P P 17 54 17.5 +0.8
INK pmax pmax
comp=Z,27nm,1.0s
INK Inuvik 96.88 16 eP P 17 54 16.9 +0.2
comp=Z,36nm,1.1s,mb5.7
RES Resolute Bay 97.29 2 P P 17 54 19.0 +0.6
RES pmax pmax
comp=Z,16nm,0.9s,mb5.5
RES Resolute Bay 97.29 2 eP P 17 54 17.8 -0.6
comp=Z,22nm,1.0s,mb5.5
DAWY Dawson 97.75 21 eP P 17 54 20.9 +0.2
QSPA South Pole Qui 97.88 180 P P 17 54 21.3 +0.3
comp=Z,4.7nm,0.9s,mb5.0
DBIC Dimbokro 97.96 278 P P 17 54 25.5 +2.7
DBIC pmax pmax
comp=Z,8.0nm,0.8s
DBIC Dimbokro 97.96 278 P P 17 54 24.6 +1.9
comp=Z,10nm,1.0s,mb5.3,baz=10,slow=6.5,SNR=3.8
DBIC LR LR 18 38 48.2
comp=Z,891nm,19.2s,MS5.3,baz=206,slow=36
DBIC Dimbokro 97.96 278 P P 17 54 25.5 +2.7
comp=Z,7.7nm,0.8s,mb5.3
YKA Yellowknife Ar 106.31 13 PP PP 17 59 18.4 -7.8
comp=Z,0.5nm,0.8s,baz=333,slow=7.6,SNR=4.5
YKA PKKPbc 18 10 30.7
comp=Z,0.4nm,0.5s,baz=152,slow=3.3,SNR=8.0
YKA PKKP PKKP 18 10 46.5 +8.8
comp=Z,3.3nm,1.2s,baz=144,slow=3.8,SNR=9.1
SCHQ Schefferville 115.42 348 PKP PKPdf 17 59 27.4 -2.4
comp=Z,2.7nm,0.9s,baz=53,slow=6.9,SNR=4.0
CHMT Chamberlain Mo 120.15 21 ePKPdf PKPdf 17 59 36.5 -2.6
MOD Modoc 121.18 30 ePKPdf PKPdf 17 59 39.7 -1.6
MCMT McKenzie Canyo 122.07 22 ePKPdf PKPdf 17 59 42.1 -0.8
QLMT Earthquake Lak 122.59 21 ePKPdf PKPdf 17 59 43.6 -0.3
YMR Madison River 122.90 21 ePKPdf PKPdf 17 59 43.5 -0.9
YFT Old Faithful 123.14 21 ePKPdf PKPdf 17 59 44.6 -0.3
LKWY Lake 123.19 21 ePKIKP PKPdf 17 59 45.1 0.0
LOHW Long Hollow 123.94 22 ePKPdf PKPdf 17 59 44.2 -2.4
WUWY Wally Ulrich 123.96 22 ePKPdf PKPdf 17 59 45.0 -1.7
SNOW Snow King Moun 124.02 22 ePKPdf PKPdf 17 59 46.1 -0.7
PDAR Pinedale Array 125.06 21 PKP PKPdf 17 59 46.3 -2.6
comp=Z,6.2nm,0.8s,baz=179,slow=0.6,SNR=44
TRCR Troy Canyon 126.22 29 ePKPdf PKPdf 17 59 50.6 -0.5
NLU North Lily Min 126.49 25 ePKPdf PKPdf 17 59 50.0 -1.6
PTN Potsdam (NY) 126.78 350 PKIKP PKPdf 17 59 54.4 +2.4
SADO Sadowa 127.15 354 PKP PKPdf 17 59 51.3 -1.4
comp=Z,11nm,0.9s,baz=359,slow=4.3,SNR=5.9
MVU Marysvale 127.64 26 ePKPdf PKPdf 17 59 53.4 -0.5
MSU Marysvale 127.65 26 PKIKP PKPdf 17 59 53.1 -0.9
MSU Marysvale 127.65 26 ePKPdf PKPdf 17 59 53.0 -1.0
NEN Nelson 128.71 30 ePKPdf PKPdf 17 59 55.5 -0.7
PV10 Paradox Valley 129.06 24 ePKPdf PKPdf 17 59 56.0 -0.7
PV01 Paradox Valley 129.46 23 ePKPdf PKPdf 17 59 56.2 -1.2
ACSO Alum Creek Sta 131.96 357 ePKPdf PKPdf 18 00 00.4 -1.7
KSU1 Kansas State U 132.10 11 ePKPdf PKPdf 17 59 59.7 -2.8
LAZ Ladron 133.27 24 ePKPdf PKPdf 18 00 04.3 -0.5
LENM Lemitar 133.54 24 ePKPdf PKPdf 18 00 04.4 -0.8
LPM Los Pinos Moun 133.55 24 ePKPdf PKPdf 18 00 04.6 -0.6
GDL2 Guadalupe Moun 136.30 23 ePKPpre 18 00 03.7
GDL2 ePKPdf PKPdf 18 00 09.2 -1.1
MNTX Cornudas Mount 136.34 24 ePKPdf PKPdf 18 00 05.1 -5.3
TXAR Lajitas Array 139.12 24 PKP PKPdf 18 00 14.8 -0.8
comp=Z,1.9nm,0.4s,baz=236,slow=1.6,SNR=11
JCT Junction City 139.48 19 ePKIKP PKPdf 18 00 14.0 -2.2
BAO Brasilia Array 142.24 255 P PKPdf 18 00 16.5 -5.0
BAO e 18 00 22.1
BAO e 18 00 23.1
TRQA Tornquist 143.11 212 ePKPpre 18 00 16.4
PLCA Paso Flores 144.66 200 PKIKP PKPdf 18 00 21.8 -3.2
PLCA Paso Flores 144.66 200 PKP PKPdf 18 00 22.1 -2.9
comp=Z,32nm,1.0s,baz=158,slow=4.1,SNR=39
PLCA Paso Flores 144.66 200 ePKPdf PKPdf 18 00 21.3 -3.7
CRM Caraveller 146.52 312 eP PKPbc 18 00 28.3 +1.4
MVM Montagne Vaucl 146.64 312 eP PKPbc 18 00 29.0 +1.8
FDF Fort de France 146.71 313 eP PKPbc 18 00 29.5 +2.2
SFJM Santa Fe 147.03 31 i P PKPdf 18 00 30.0 +0.3
CPUP Villa Florida 147.35 233 PKPdf PKPdf 18 00 29.3 -0.8
SJG San Juan 147.60 323 ePKP2 PKPdf 18 00 30.1 -0.5
COLM Colima 147.78 33 eP PKPdf 18 00 33.6 +2.7
PPM Popocatepetl 150.31 25 ePKIKP PKPdf 18 00 30.0 -4.9
PLIG Platanillo 150.53 27 i P PKPdf 18 00 35.3 +0.1
TEIG Tepich 151.87 5 ePKPdf PKPdf 18 00 35.8 -1.5
TEIG e 18 00 42.8
CMIG Matias Romero 153.53 20 eP PKPdf 18 00 38.5 -1.1
SDV Santo Domingo 157.41 318 ePKPdf PKPdf 18 00 43.6 -1.3
LPAZ La Paz 160.84 243 ePKIKP PKPdf 18 00 46.5 -2.2
LPAZ La Paz 160.84 243 PKP PKPdf 18 00 03.6 -45
comp=Z,8.2nm,1.0s,baz=168,slow=1.6,SNR=16
LPAZ PKPab PKPab 18 00 46.1 -44
comp=Z,4.7nm,0.9s,baz=120,slow=8.2,SNR=6.5
OTAV Otavalo 169.01 318 ePKPdf PKPdf 18 00 56.0 +0.1

*IDC **27** 17:45:27.1±0.7, 7.74N×93.96E, mb4.4/15, mb1 4.6/16, mb1mx4.5/22, mbtmp4.4/16, ML4.6/1, Error ellipse: s-maj=34.3km s-min=15.5km az=53.0*
*BJI **27** 17:45:31.9, 7.80N×94.10E, h30km, mb4.6*
*NEIC **27** 17:45:31.9±0.4, 7.80N×94.11E, h30km, mb4.8/17, Error ellipse: s-maj=10.7km s-min=8.6km az=77.0*
ISC 27 17:45:27.0±0.5, 7.78N±0.07×94.10E±0.08, h10km, n47, σ1§06/42, mb4.6/29, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.62	23	eP	P	17 48 17.1	+1.0
	31nm,0.9s						
CMAR	Chiang Mai Arr	11.62	23	Pn	P	17 48 16.4	+0.4
	1.1nm,0.3s,baz=211,slow=14,SNR=11						
LSA	Lhasa	21.98	353	eP	P	17 50 24.9	+1.8
	36nm,0.8s,mb4.9						
ENH	Enshi	26.63	31	P	P	17 51 08.0	+0.3
	32nm,1.3s,mb4.7						
WHN	Wuhan	29.54	37	P	P	17 51 34.5	+0.3
AAK	Ala-Archa	38.78	337	eP	P	17 52 52.7	-0.9
	12nm,1.0s,mb4.6						
SONM	Songino Array	41.27	13	P	P	17 53 14.7	+0.7
	2.6nm,1.2s,mb3.8,baz=202,slow=7.8,SNR=3.6						
SONM				PcP	PcP	17 55 13.8	+0.3
	1.4nm,0.7s,baz=198,slow=3.3,SNR=4.4						
ULN	Ulaanbaatar	41.44	13	eP	P	17 53 16.0	+0.6
	3.6nm,0.8s,mb4.0						
KURK	Kurchatov	44.70	346	eP	P	17 53 41.0	-1.0
	22nm,1.2s,mb4.9						
NWAO	Narrogin (SRO)	46.08	153	P	P	17 53 54.5	+1.2
	8.7nm,0.8s,mb4.8,baz=323,slow=9.4,SNR=5.7						
HIA	Hailar	46.63	23	eP	P	17 53 55.4	-1.9
	14nm,1.1s,mb4.8						
ZAL	Zalesovo	46.64	352	P	P	17 53 57.4	+0.1
	11nm,1.1s,mb4.7,baz=300,slow=6.1,SNR=8.8						
ZAL	Zalesovo	46.64	352	P	P	17 53 57.4	+0.1
WRA	Warramunga Arr	48.24	125	P	P	17 54 09.8	-0.6
	2.7nm,0.7s,mb4.4,baz=306,slow=9.3,SNR=6.4						
WRAB	Tennant Creek	48.24	125	eP	P	17 54 09.9	-0.5
	15nm,1.0s,mb5.0						
BVAR	Borovoye Array	49.07	341	P	P	17 54 15.9	-0.4
	1.6nm,0.7s,mb4.2,baz=146,slow=5.2,SNR=4.4						
CHKZ	Chkalovo	49.55	342	eP	P	17 54 19.0	-1.0
	11nm,0.8s,mb4.9						
ASAR	Alice Springs	49.88	130	P	P	17 54 22.5	-0.5
	3.0nm,0.9s,mb4.3,baz=306,slow=7.9,SNR=6.4						
ASAR				PcP	PcP	17 55 42.5	-1.2
	1.8nm,1.1s,baz=315,slow=2.6,SNR=4.3						
KMBO	Kilima Mbogo	57.37	264	P	P	17 55 21.2	+2.8
	5.6nm,0.8s,mb4.7,baz=54,slow=11,SNR=11						
KMBO	Kilima Mbogo	57.37	264	eP	P	17 55 20.5	+2.1
	7.0nm,0.8s,mb4.5						
CTAO	Charters Tower	58.30	119	P	P	17 55 20.9	-3.9
	5.5nm,1.0s,mb4.5						
YAK	Yakutsk	60.10	18	eP	P	17 55 35.2	-1.5
	19nm,0.8s,mb5.2						
BRTR	Keskin Array B	62.46	311	P	P	17 55 51.4	-1.6
	3.3nm,0.8s,mb4.5,baz=128,slow=6.6,SNR=7.8						
MBAR	Mbarara	63.71	265	eP	P	17 56 01.4	-0.3
	8.3nm,1.2s,mb4.6						
AKASG	Malin Array Be	68.20	322	P	P	17 56 27.9	-2.0
	2.4nm,0.7s,mb4.3,baz=88,slow=5.0,SNR=6.7						
IDI	Anoyia	68.59	305	P	P	17 56 32.3	-0.2
	7.3nm,0.7s,mb4.8,baz=92,slow=9.5,SNR=5.3						
MLR	Muntele Rosu	69.21	316	P	P	17 56 36.2	0.0
	5.5nm,1.0s,mb4.5,baz=173,slow=21,SNR=4.2						
JOF	Joensuu	70.92	334	ep	P	17 56 45.0	-1.3
	8.1nm,1.1s,mb4.6						
FINES	FINESS Array B	72.78	332	P	P	17 56 57.0	-0.4
	5.0nm,0.8s,mb4.5,baz=104,slow=8.0,SNR=9.9						
KAF	Kangasniemi	72.86	333	ep	P	17 56 57.2	-0.6
	14nm,1.4s,mb4.7,baz=99,slow=5.8						
OJC	Ojcow	74.02	320	eP	P	17 57 05.5	+0.7
KEV	Kevo	74.91	341	ep	sP	17 57 27.1	+13
ARCES	ARCESS Array B	75.34	340	P	P	17 57 11.8	-0.3
	5.1nm,0.8s,mb4.5,baz=97,slow=5.9,SNR=6.5						
DPC	Dobruska-Polom	76.25	320	eP	P	17 57 18.5	+0.9
PVCC	Panska Ves	77.38	320	eP	P	17 57 27.1	+3.2
GERES	GERESS Array B	77.87	318	P	P	17 57 27.3	+0.7
	2.6nm,0.7s,mb4.3,baz=90,slow=5.3,SNR=9.9						
KHC	Kasperske Hory	77.96	319	eP	P	17 57 27.5	+0.4
GRA1	Grafenberg Arr	79.51	319	eP	P	17 57 37.5	+1.9
	52nm,3.0s						
GRF	Grafenberg Arr	79.51	319	eP	P	17 57 37.5	+1.9
	52nm,3.0s						
NB2	NORSAR Subarra	79.80	331	P	P	17 57 36.5	-0.3
	1.8nm,0.6s,mb4.2,baz=97,slow=5.0						
NOA	NORSAR Array B	79.80	331	P	P	17 57 36.4	-0.4
	2.0nm,0.7s,mb4.2,baz=94,slow=5.2,SNR=6.0						
LPG	La Plagne	82.66	315	eP	P	17 57 52.3	+0.1
	16nm,0.9s,mb4.8						
IMA	Indian Mountai	91.73	22	eP	P	17 58 37.4	+1.7
NVAR	Mina Array Bea	125.03	31	PKP	PKPdf	18 04 31.3	+0.1
	1.0nm,0.7s,baz=271,slow=2.0,SNR=4.4						
PDAR	Pinedale Array	125.27	21	PKP	PKPdf	18 04 30.6	-1.0
	1.5nm,0.9s,baz=54,slow=0.8,SNR=7.0						
PLCA	Paso Flores	144.44	200	PKP	PKPdf	18 05 06.0	-1.0
	9.0nm,1.0s,baz=149,slow=5.4,SNR=8.6						
PLCA	Paso Flores	144.44	200	PKP	PKPdf	18 05 06.0	-1.0

GUC 27 17:50:34.3±0.7, 24.16S×68.27W, h99km±15km, MD3.6, ML3.7, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.25	3	⇓ iP	P	17 50 58.5	+0.7
SPCH				i S	S	17 51 17.1	+1.5
SPCH				AMP		17 51 18.3	
	comp=E,1μm,0.3s						
LVC	Limon Verde	1.65	339	eP	P	17 51 03.4	+0.6
LVC				i S	S	17 51 25.4	+1.6
CPN1	Cerro Paranal	2.00	256	eP	P	17 51 08.1	+0.8
CPN1				i S	S	17 51 33.9	+2.3
CPN1				AMP		17 51 35.5	
	comp=E,521nm,0.4s						
ANCH	Antofagasta	2.01	283	eP	P	17 51 08.3	+0.8
ANCH				eS	S	17 51 33.2	+1.1
ANCH				AMP		17 51 36.0	
	comp=N,931nm,0.1s						

IDC 27 17:51:15.9±1.9, 7.87N×93.99E, mb3.6/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=68.6km s-min=31.1km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	41.20	13	P	P	17 59 03.2	-0.7
	0.4nm,0.8s,baz=217,slow=7.2,SNR=3.2						
ZAL	Zalesovo	46.53	353	P	P	17 59 43.9	-3.1
	0.9nm,0.7s,baz=267,slow=8.5,SNR=3.4						
WRA	Warramunga Arr	48.38	125	P	P	17 59 59.8	-2.2
	0.4nm,0.7s,baz=305,slow=8.5,SNR=4.6						
GERES	GERESS Array B	77.73	318	P	P	18 03 15.5	-0.9
	0.6nm,0.6s,baz=90,slow=5.3,SNR=4.5						

IDC 27 17:51:49.1±1.2, 7.87N×94.12E, mb3.8/8, mb1 4.0/9, mb1mx3.9/19, mbtmp3.8/9, ML4.1/1, Error ellipse: s-maj=48.0km s-min=21.2km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.52	24	Pn	P	17 54 35.3	-2.7
	0.4nm,0.3s,baz=216,slow=16,SNR=4.6						
SONM	Songino Array	41.17	13	P	P	17 59 35.1	-1.7
	0.6nm,0.7s,baz=196,slow=9.0,SNR=4.3						
ZAL	Zalesovo	46.55	352	P	P	18 00 18.4	-1.8
	1.4nm,0.7s,baz=292,slow=7.3,SNR=5.2						
WRA	Warramunga Arr	48.27	126	P	P	18 00 32.5	-1.8
	1.2nm,0.8s,baz=304,slow=9.4,SNR=6.0						
BVAR	Borovoye Array	48.98	341	P	P	18 00 37.1	-2.2
	1.1nm,1.0s,baz=127,slow=7.2,SNR=3.1						
ASAR	Alice Springs	49.93	130	P	P	18 00 44.8	-2.2
	0.7nm,0.7s,baz=311,slow=8.3,SNR=4.9						
FINES	FINESS Array B	72.70	332	P	P	18 03 19.1	-1.5
	1.6nm,0.7s,baz=135,slow=8.1,SNR=3.4						
GERES	GERESS Array B	77.82	318	P	P	18 03 48.9	-1.1
	0.7nm,0.6s,baz=90,slow=5.3,SNR=5.0						
NOA	NORSAR Array B	79.72	331	P	P	18 03 58.4	-1.7
	0.8nm,0.8s,baz=354,slow=5.2,SNR=2.7						

*IDC **27** 17:52:07.3±0.7, 7.74N×94.01E, mb4.3/14, mb1 4.4/15, mb1mx4.4/20, mbtmp4.3/15, ML4.8/1, Error ellipse: s-maj=37.0km s-min=14.8km az=57.0*
*BJI **27** 17:52:12.6, 7.42N×94.04E, h56km, mB5.7, mb4.5, Ms5.0, Msz4.6*
*NEIC **27** 17:52:12.2±0.4, 7.84N×94.22E, h30km, mb4.7/22, Error ellipse: s-maj=12.4km s-min=7.6km az=59.0*
ISC 27 17:52:07.3±0.4, 7.80N±0.07×94.27E±0.07, h10km, n59, σ1§14/52, mb4.5/32, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.53	23	eP	P	17 54 57.0	+1.9
	16nm,0.5s						
CMAR	Chiang Mai Arr	11.53	23	Pn	P	17 54 57.1	+2.0
	1.7nm,0.3s,baz=211,slow=14,SNR=12						
CMAR	Chiang Mai Arr	11.53	23	Pn	P	17 54 57.1	+2.0
HYB	Hyderabad	18.06	303	eP	P	17 56 17.0	-3.2
HYB				eS	S	17 59 40.0	+1.0
HYB	Hyderabad	18.06	303	i P	P	17 56 19.0	-1.2
HYB				eS	S	17 59 40.0	+1.0
KMI	Kunming	19.03	24	P	P	17 56 36.8	+4.7
	22nm,1.4s						
KMI				pP		17 56 49.6	
LSA	Lhasa	21.98	353	eP	P	17 57 07.8	+4.4
LSA	Lhasa	21.98	353	eP	P	17 57 03.7	+0.3
	28nm,0.8s,mb4.8						
NDI	New Delhi	26.27	324	eP	P	17 57 47.0	+2.2
ENH	Enshi	26.52	31	eP	P	17 57 46.5	-0.5
	19nm,0.9s,mb4.6						
DDI	Dehra Dun	27.07	328	e	pP	17 57 59.1	+4.0
WMQ	Urumqi	36.34	352	eP	P	17 59 14.5	+1.2
AAK	Ala-Archa	38.82	337	eP	P	17 59 33.3	-1.0
	10nm,1.0s,mb4.5						
SONM	Songino Array	41.21	12	P	P	17 59 54.3	+0.5
	4.1nm,1.0s,mb4.0,baz=196,slow=7.0,SNR=9.5						
SONM				PcP	PcP	18 01 53.3	-0.3
	1.1nm,0.7s,baz=225,slow=4.1,SNR=2.8						
ULN	Ulaanbaatar	41.38	13	P	P	17 59 55.3	+0.1
	6.5nm,1.1s,mb4.2						
KURK	Kurchatov	44.72	346	eP	P	18 00 22.1	-0.3
	7.5nm,0.6s,mb4.7						
NWAO	Narrogin (SRO)	46.02	153	P	P	18 00 34.6	+1.6
	10nm,1.0s,mb4.7,baz=298,slow=13,SNR=5.7						
HIA	Hailar	46.54	23	eP	P	18 00 36.8	-0.1
	15nm,1.1s,mb4.8						
ZAL	Zalesovo	46.64	352	P	P	18 00 38.5	+0.9
	3.6nm,0.4s,mb4.6,baz=292,slow=6.9,SNR=8.6						
WRA	Warramunga Arr	48.11	126	P	P	18 00 49.3	-0.4
	1.7nm,0.6s,mb4.3,baz=305,slow=8.5,SNR=10						
WRAB	Tennant Creek	48.12	126	eP	P	18 00 48.9	-0.8
	9.0nm,0.7s,mb4.9						
BVAR	Borovoye Array	49.10	341	P	P	18 00 54.8	-2.0
	1.7nm,0.8s,mb4.1,baz=135,slow=8.2,SNR=4.0						
BRVK	Borovoye	49.16	341	eP	P	18 00 56.0	-1.4
	5.8nm,0.9s,mb4.6						
CHKZ	Chkalovo	49.59	342	eP	P	18 00 59.3	-1.3
	7.9nm,0.8s,mb4.8						
ASAR	Alice Springs	49.77	130	P	P	18 01 02.2	-0.2
	1.4nm,0.5s,mb4.2,baz=304,slow=6.9,SNR=9.7						
PMG	Port Moresby	55.39	107	P	P	18 01 43.6	-0.8
	12nm,0.8s,mb5.0						
KIV	Kislovodsk	57.46	318	P	P	18 01 57.9	-1.0
	14nm,0.9s,mb5.0						
KMBO	Kilima Mbogo	57.54	264	P	P	18 02 01.9	+2.0
	5.6nm,0.8s,mb4.6,baz=50,slow=10,SNR=5.6						
KMBO	Kilima Mbogo	57.54	264	eP	P	18 02 01.5	+1.6
	9.4nm,1.0s,mb4.8						
CTAO	Charters Tower	58.16	119	eP	P	18 02 05.0	+0.9
	5.9nm,1.0s,mb4.6						
STKA	Stephens Creek	59.96	134	P	P	18 02 16.7	+0.2
	1.7nm,0.7s,mb4.2,baz=293,slow=14,SNR=3.3						
STKA	Stephens Creek	59.96	134	P	P	18 02 16.5	0.0
YAK	Yakutsk	60.03	18	eP	P	18 02 15.4	-1.1
	20nm,0.9s,mb5.1						
BRTR	Keskin Array B	62.57	311	P	P	18 02 32.1	-1.9
	7.4nm,1.2s,mb4.7,baz=108,slow=7.8,SNR=3.8						
MBAR	Mbarara	63.88	266	eP	P	18 02 45.1	+2.0
	5.7nm,1.1s,mb4.5						
MA2	Magadan	66.77	28	eP	P	18 03 01.1	+0.2
	9.3nm,0.9s,mb4.8						
AKASG	Malin Array Be	68.29	322	P	P	18 03 08.4	-2.2
	0.5nm,0.5s,mb3.8,baz=87,slow=3.8,SNR=5.4						
FINES	FINESS Array B	72.84	332	P	P	18 03 37.2	-0.7
	3.0nm,0.6s,mb4.4,baz=102,slow=6.7,SNR=12						
FINES	FINESS Array B	72.84	332	P	P	18 03 37.2	-0.8
CRVS	Cervenica-Dubn	72.87	319	e	P	18 03 44.2	+5.8
KAF	Kangasniemi	72.92	333	ep	P	18 03 37.6	-0.8
	10nm,1.1s,mb4.7						
OKC	Ostrava-Krasne	75.13	319	eP	pP	18 03 59.6	+4.9
ARCES	ARCESS Array B	75.38	340	P	P	18 03 52.0	-0.5
	16nm,1.2s,mb4.8,baz=87,slow=4.9,SNR=8.3						
DPC	Dobruska-Polom	76.35	320	eP	P	18 03 59.0	+0.6
PRU	Pruhonice	77.47	319	epP	pP	18 04 12.6	+4.8
GERES	GERESS Array B	77.97	318	P	P	18 04 07.7	+0.3
	1.6nm,0.7s,mb4.0,baz=90,slow=4.0,SNR=6.1						
KHC	Kasperske Hory	78.06	319	eP	P	18 04 07.9	0.0
CLL	Collm	78.50	321	eP	pP	18 04 20.0	+6.6
CLL	Collm	78.50	321	e*SP	pP	18 04 20.0	+6.6
GRA1	Grafenberg Arr	79.61	319	eP	P	18 04 16.8	+0.5
	4.0nm,1.0s,mb4.3						
GRF	Grafenberg Arr	79.61	319	eP	P	18 04 16.8	+0.5
	4.0nm,1.0s,mb4.3						
NB2	NORSAR Subarra	79.86	331	P	P	18 04 16.8	-0.7
	5.0nm,0.9s,mb4.4,baz=95,slow=5.0						
NOA	NORSAR Array B	79.86	331	P	P	18 04 16.9	-0.5
	2.1nm,0.7s,mb4.2,baz=94,slow=5.2,SNR=8.7						
NOA	NORSAR Array B	79.86	331	P	P	18 04 16.9	-0.5
LPG	La Plagne	82.76	315	eP	P	18 04 34.2	+1.2
	13nm,0.8s,mb4.7						
NVAR	Mina Array Bea	124.92	31	PKP	PKPdf	18 11 11.9	+0.6
	0.4nm,0.4s,baz=332,slow=1.2,SNR=2.7						
TXAR	Lajitas Array	139.24	24	PKiKP		18 11 40.8	
	0.4nm,0.6s,SNR=3.8						
JCT	Junction City	139.62	19	eP	PKPdf	18 11 42.1	+3.0
PLCA	Paso Flores	144.52	200	PKP	PKPdf	18 11 46.6	-0.8
	10nm,1.1s,baz=149,slow=2.0,SNR=7.4						

IDC 27 17:55:23.4±1.2, 7.63N×93.98E, mb4.1/5, mb1 4.3/6, mb1mx4.0/18, mbtmp4.1/6, ML3.7/1, Error ellipse: s-maj=55.4km s-min=23.3km az=55.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.80	24	Pn	P	17 58 13.6	-2.5
	0.1nm,0.3s,baz=209,slow=14,SNR=4.2						
ZAL	Zalesovo	46.77	353	P	P	18 03 54.1	-2.2
	3.2nm,0.9s,baz=292,slow=8.8,SNR=7.1						
WRA	Warramunga Arr	48.24	125	P	P	18 04 06.3	-2.0
	0.7nm,0.5s,baz=304,slow=8.5,SNR=5.3						
ASAR	Alice Springs	49.88	130	P	P	18 04 18.9	-2.0
	0.9nm,0.8s,baz=309,slow=8.1,SNR=4.7						
FINES	FINESS Array B	72.86	332	P	P	18 06 53.9	-1.9
	2.5nm,0.8s,baz=68,slow=10,SNR=4.1						
GERES	GERESS Array B	77.91	318	P	P	18 07 23.7	-1.1
	1.5nm,0.8s,baz=90,slow=4.0,SNR=5.8						
PLCA	Paso Flores	144.26	200	PKP	PKPdf	18 15 01.3	-2.2
	6.1nm,0.9s,baz=181,slow=3.7,SNR=6.7						

*NEIC **27** 18:00:56.7, 37.63N×22.07E, h6km, MD3.0(ATH), After ATH.*
*CSEM **27** 18:00:57.2±0.2, 37.61N×22.11E, h2km, MD3.0, Error ellipse: s-maj=4.6km s-min=3.0km az=179.0*
ATH 27 18:00:56.7, 37.63N×22.07E, h6km, MD3.0/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.46	194	ePB	Pb	18 01 05.2	-1.7
ITM				eSB	Sb	18 01 12.0	-1.7
MGER	Gerania Oros	1.01	69	ePN	Pn	18 01 16.5	-0.7
NAIG	Nisos Aigina	1.13	83	ePN	Pn	18 01 18.0	-1.0
VLI	Veliai	1.14	142	ePB	Pb	18 01 18.5	0.0
VLS	Valsamata	1.29	295	ePB	Pb	18 01 22.0	+1.0
EVR	Evrytania	1.30	351	ePN	Pn	18 01 20.5	-0.9
PTL	Penteli	1.48	73	ePB	Pb	18 01 24.0	-0.3
PTL				eSN	Sn	18 01 45.5	+1.6

*IDC **27** 18:03:21.2±2.1, 33.76N×142.39E, mb4.0/3, mb1 4.2/4, mb1mx3.7/19, mbtmp4.1/4, ML4.1/1, Error ellipse: s-maj=42.7km s-min=27.8km az=43.0*
*JMA **27** 18:03:22.6±0.3, 33.95N×142.48E, h57km, M3.6*
ISC 27 18:03:23.3±1.4, 33.96N±0.06×142.42E±0.09, h39km±15km, n14, σ6§72/22, mb4.0/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.38	301	P	P	18 03 46.5	-0.1
BSO1				S	S	18 04 05.4	+1.5
BSO3	Boso 3	1.79	299	P

PKI	**Pulchoki**	**21.10**	**337**	*eP*	**P**	**18 09 28.6**	**-0.1**
	comp=Z,96nm,0.9s,mb5.1						
DMN	**Daman**	**21.25**	**337**	*eP*	**P**	**18 09 30.5**	**+0.3**
KKN	**Kakani**	**21.35**	**337**	*eP*	**P**	**18 09 31.2**	**0.0**
	comp=Z,70nm,0.9s,mb5.0						
KAD	**Karad**	**21.66**	**297**	*eP*	**P**	**18 09 39.4**	**+5.1**
LSA	**Lhasa**	**21.67**	**352**	*eP*	**P**	**18 09 33.3**	**-1.0**
	comp=Z,34nm,0.8s,mb4.8						
GKN	**Gorkha**	**21.79**	**336**	*eP*	**P**	**18 09 34.2**	**-1.4**
	comp=Z,54nm,0.7s,mb5.1						
KOLN	**Koldanda**	**22.02**	**334**	*eP*	**P**	**18 09 36.5**	**-1.3**
	comp=Z,163nm,1.2s,mb5.3						
BHPL	**Bhopal**	**22.12**	**315**	*eP*	**P**	**18 09 44.6**	**+5.7**
BHPL				*e*		18 09 50.9	
	comp=Z,66nm,1.0s						
POO	**Poona**	**22.43**	**299**	*eP*	**P**	**18 09 47.5**	**+5.5**
POO				*e*		18 09 58.2	
	comp=Z,27nm,1.4s						
ENH	**Enshi**	**26.20**	**31**	*eP*	**P**	**18 10 23.1**	**+4.8**
	comp=Z,8.5nm,0.7s,mb4.4						
DDI	**Dehra Dun**	**26.84**	**328**	*e*	**P**	**18 10 27.2**	**+3.1**
LZH	**Lanzhou**	**29.15**	**16**	*eP*	**P**	**18 10 55.5**	**+11**
LZH				AP	pP	18 11 02.5	+8.1
LZH				XP	sP	18 11 07.0	+8.2
LZH				AMB	AMB		
	comp=Z,33nm,1.5s,mb4.8						
LZH				LR	LR		
	comp=E,798nm,13.2s						
LZH				LR	LR		
	comp=Z,1μm,14.4s,MS4.6						
WMQ	**Urumqi**	**36.02**	**352**	*eP*	**P**	**18 11 48.5**	**+3.8**
AAK	**Ala-Archa**	**38.55**	**336**	*eP*	**P**	**18 12 03.7**	**-2.2**
	comp=Z,12nm,1.2s,mb4.5						
SONM	**Songino Array**	**40.87**	**12**	P	**P**	**18 12 24.8**	**-0.3**
	comp=Z,2.2nm,0.9s,mb3.8,baz=199,slow=6.9,SNR=12						
ULN	**Ulaanbaatar**	**41.04**	**13**	*eP*	**P**	**18 12 28.0**	**+1.5**
	comp=Z,2.8nm,0.8s,mb3.9						
SNY	**Shenyang**	**42.35**	**33**	⇑P	**P**	**18 12 39.3**	**+2.0**
KURK	**Kurchatov**	**44.41**	**346**	*eP*	**P**	**18 12 51.9**	**-2.0**
	comp=Z,37nm,1.4s,mb4.9						
HIA	**Hailar**	**46.21**	**23**	P	**P**	**18 13 08.1**	**-0.1**
	comp=Z,10nm,1.3s,mb4.6						
NWAO	**Narrogin (SRO)**	**46.28**	**153**	P	**P**	**18 13 11.5**	**+2.4**
	comp=Z,8.8nm,0.9s,mb4.7,baz=327,slow=8.5,SNR=3.9						
ZAL	**Zalesovo**	**46.32**	**352**	P	**P**	**18 13 06.7**	**-2.4**
	comp=Z,1.9nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**48.25**	**126**	P	**P**	**18 13 26.0**	**+1.3**
	comp=Z,1.1nm,0.6s,mb4.1,baz=306,slow=9.1,SNR=7.7						
WRAB	**Tennant Creek**	**48.25**	**126**	*eP*	**P**	**18 13 24.3**	**-0.3**
	comp=Z,5.6nm,0.7s,mb4.7						
BVAR	**Borovoye Array**	**48.81**	**341**	P	**P**	**18 13 25.8**	**-2.7**
	comp=Z,2.0nm,0.8s,mb4.2,baz=162,slow=4.7,SNR=6.9						
CHKZ	**Chkalovo**	**49.30**	**342**	*eP*	**P**	**18 13 28.9**	**-3.4**
	comp=Z,20nm,1.1s,mb5.1						
ASAR	**Alice Springs**	**49.92**	**130**	P	**P**	**18 13 38.5**	**+1.0**
	comp=Z,1.7nm,0.9s,mb4.1,baz=302,slow=8.0,SNR=7.5						
GNI	**Garni**	**54.40**	**314**	P	**P**	**18 14 10.0**	**-0.8**
	comp=Z,1.1nm,0.4s,mb4.1,baz=135,slow=13,SNR=1.8						
PMG	**Port Moresby**	**55.41**	**107**	P	**P**	**18 14 18.2**	**-0.3**
	comp=Z,8.0nm,0.7s,mb4.8,baz=162,slow=22,SNR=2.4						
PMG	**Port Moresby**	**55.41**	**107**	*eP*	**P**	**18 14 15.8**	**-2.7**
	comp=Z,14nm,0.8s,mb5.0						
KMBO	**Kilima Mbogo**	**57.65**	**263**	P	**P**	**18 14 36.6**	**+2.1**
	comp=Z,3.4nm,1.0s,mb4.3,baz=68,slow=13,SNR=6.7						
KMBO	**Kilima Mbogo**	**57.65**	**263**	*eP*	**P**	**18 14 34.8**	**+0.3**
	comp=Z,3.8nm,0.8s,mb4.5						
ASF	**Jabal al Asfar**	**58.25**	**303**	P	**P**	**18 14 39.1**	**+0.7**
	comp=Z,2.1nm,0.9s,mb4.2,baz=11,slow=10,SNR=2.9						
CTAO	**Charters Tower**	**58.26**	**120**	P	**P**	**18 14 37.8**	**-0.8**
	comp=Z,5.6nm,1.1s,mb4.5						
EIL	**Elat**	**59.47**	**300**	P	**P**	**18 14 47.3**	**+0.3**
	comp=Z,1.0nm,0.3s,mb4.3,baz=45,slow=17,SNR=2.3						
STKA	**Stephens Creek**	**60.14**	**134**	P	**P**	**18 14 49.9**	**-1.6**
	comp=Z,2.6nm,1.1s,mb4.2,baz=150,slow=14,SNR=2.1						
STKA	**Stephens Creek**	**60.14**	**134**	P	**P**	**18 14 48.2**	**-3.3**
BRTR	**Keskin Array B**	**62.41**	**311**	P	**P**	**18 15 05.7**	**-1.1**
	comp=Z,1.6nm,0.7s,mb4.3,baz=112,slow=6.7,SNR=5.3						
MA2	**Magadan**	**66.45**	**28**	*eP*	**P**	**18 15 36.6**	**+4.1**
	comp=Z,11nm,0.9s,mb4.9						
AKASG	**Malin Array Be**	**68.08**	**322**	P	**P**	**18 15 40.7**	**-2.3**
	comp=Z,1.2nm,0.7s,mb4.1,baz=88,slow=4.7,SNR=7.2						
IDI	**Anoyia**	**68.59**	**305**	P	**P**	**18 15 44.7**	**-1.7**
	comp=Z,4.6nm,0.8s,mb4.5,baz=355,slow=12,SNR=2.3						
JOF	**Joensuu**	**70.71**	**334**	*ep*	**P**	**18 16 04.8**	**+5.9**
	comp=Z,12nm,1.7s,mb4.5						
FINES	**FINESS Array B**	**72.58**	**332**	P	**P**	**18 16 07.1**	**-3.0**
	comp=Z,3.3nm,0.9s,mb4.2,baz=144,slow=16,SNR=3.5						
KAF	**Kangasniemi**	**72.66**	**333**	*ep*	**P**	**18 16 11.9**	**+1.4**
	comp=Z,10nm,1.1s,mb4.7						
ARCES	**ARCESS Array B**	**75.09**	**340**	P	**P**	**18 16 22.1**	**-2.6**
	comp=Z,9.5nm,1.1s,mb4.6,baz=37,slow=4.5,SNR=3.5						
DPC	**Dobruska-Polom**	**76.14**	**320**	*eP*	**P**	**18 16 33.8**	**+2.9**
UPC	**Upice**	**76.35**	**320**	*ep*	pP	18 16 43.9	+1.5
PVCC	**Panska Ves**	**77.27**	**320**	*ep*	pP	18 16 46.4	-1.3
GERES	**GERESS Array B**	**77.77**	**318**	P	**P**	**18 16 38.3**	**-1.8**
	comp=Z,1.8nm,0.7s,mb4.1,slow=1.3,SNR=11						
KHC	**Kasperske Hory**	**77.86**	**318**	*eP*	**P**	**18 16 40.0**	**-0.6**
KHC				*e*	pP	18 16 51.5	+0.6
KHC	**Kasperske Hory**	**77.86**	**318**	*eP*	**P**	**18 16 40.0**	**-0.6**
KHC				pP	pP	18 16 51.5	+0.6
GRA1	**Grafenberg Arr**	**79.41**	**319**	*eP*	**P**	**18 16 51.4**	**+2.3**
	comp=Z,5.0nm,0.9s,mb4.4						
GRF	**Grafenberg Arr**	**79.41**	**319**	*eP*	**P**	**18 16 51.4**	**+2.3**
	comp=Z,5.0nm,0.9s,mb4.4						
NB2	**NORSAR Subarra**	**79.61**	**331**	P	**P**	**18 16 47.1**	**-2.8**
	comp=Z,11nm,1.4s,mb4.6,baz=92,slow=5.8						
NOA	**NORSAR Array B**	**79.61**	**331**	P	**P**	**18 16 47.2**	**-2.7**
	comp=Z,0.6nm,0.8s,mb3.6,baz=73,slow=5.1,SNR=4.1						
LPG	**La Plagne**	**82.58**	**315**	*eP*	**P**	**18 17 08.6**	**+2.8**
	comp=Z,11nm,0.8s,mb4.6						
SML	**Sawmill**	**95.29**	**25**	P	**P**	**18 18 06.2**	**+0.1**
PDAR	**Pinedale Array**	**124.86**	**21**	PKP	PKPdf	18 23 41.5	-0.2
	comp=Z,0.4nm,0.9s,baz=63,slow=2.0,SNR=2.8						
TXAR	**Lajitas Array**	**138.91**	**24**	PKP	PKPdf	18 24 07.8	-0.6
	comp=Z,0.8nm,1.1s,slow=1.8,SNR=2.7						
PLCA	**Paso Flores**	**144.86**	**200**	PKPbc	PKPbc	18 24 18.4	-0.1
	comp=Z,2.5nm,0.8s,baz=202,slow=5.6,SNR=5.4						

IGQ 27 18:06:16.0, 1.21S×81.38W, h12km±10km, mb4.1, 2C-1D, Error ellipse: s-maj=13.0km s-min=5.8km az=2.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**1.51**	**51**	P	Pn	18 06 42.6	-0.5
JAMA				S	Sb	18 07 00.4	-2.1
MAGD	**Magdalena**	**1.97**	**55**	P	Pn	18 06 51.2	+1.6
MAGD				S	Sn	18 07 16.3	+1.9
IGUA	**Igualata**	**2.75**	**96**	P	Pn	18 07 01.6	+0.7
IGUA				S	Sn	18 07 32.5	-1.9
ARRY	**Arrayan**	**2.94**	**96**	P	Pn	18 07 02.7	-0.8
ARRY				S	Sn	18 07 38.7	-0.3
JUA2	**San Juan 2**	**2.95**	**70**	P	Pn	18 07 04.3	+0.8
NAS1	**Nasa**	**2.96**	**79**	P	Pn	18 07 05.2	+1.5
TERV	**Terraza Guagua**	**2.96**	**70**	P	Pn	18 07 06.0	+2.2
PINO	**Pino**	**2.96**	**69**	P	Pn	18 07 03.9	+0.1
ULBA	**Ulba**	**2.98**	**95**	P	Pn	18 07 06.2	+2.1
PISA	**Pisayambo**	**3.00**	**87**	P	Pn	18 07 05.8	+1.5
VC1	**Cotopaxi 1**	**3.03**	**79**	P	Pn	18 07 06.2	+1.4
TAMB	**Tambo**	**3.06**	**80**	⇑P	Pn	18 07 08.1	+3.0
ANTI	**Antisana**	**3.31**	**77**	⇓P	Pn	18 07 11.7	+3.0
COTA	**Cotacachi**	**3.41**	**63**	P	Pn	18 07 10.7	+0.6
CAYR	**Refugio Cayamb**	**3.59**	**70**	⇑P	Pn	18 07 15.1	+2.5
CAYR				S	Sn	18 07 56.7	+1.2

*IDC **27** 18:08:02.9±5.8, 8.06N×94.17E, h70km±52km, mb3.7/10, mb1 3.9/11, mb1mx3.8/18, mbtmp4.0/11, ML4.1/1, Error ellipse: s-maj=36.7km s-min=20.0km az=52.0*

ISC 27 18:07:56.9±0.8, 8.0N±0.1×94.1E±0.1, h33km, n13, σ0561/12, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.45**	**24**	P	**P**	**18 10 41.7**	**+0.5**
	0.4nm,0.3s,baz=211,slow=14,SNR=7.8						
SONM	**Songino Array**	**41.09**	**13**	P	**P**	**18 15 39.4**	**+0.3**
	1.9nm,1.0s,mb3.7,baz=198,slow=7.8,SNR=3.7						
ZAL	**Zalesovo**	**46.45**	**352**	P	**P**	**18 16 22.3**	**-0.1**
	1.8nm,0.5s,mb4.3,baz=289,slow=7.4,SNR=4.1						
WRA	**Warramunga Arr**	**48.36**	**126**	P	**P**	**18 16 37.9**	**+0.1**
	1.0nm,0.6s,mb4.0,baz=304,slow=8.6,SNR=5.5						
ASAR	**Alice Springs**	**50.01**	**130**	P	**P**	**18 16 50.1**	**-0.4**
	0.8nm,0.8s,mb3.8,baz=302,slow=8.5,SNR=3.2						
KMBO	**Kilima Mbogo**	**57.38**	**264**	P	**P**	**18 17 46.2**	**+1.3**
	1.0nm,0.5s,mb4.1,baz=40,slow=24,SNR=3.9						
BRTR	**Keskin Array B**	**62.33**	**311**	P	**P**	**18 18 17.9**	**-0.6**
	2.2nm,1.0s,mb4.2,baz=117,slow=8.3,SNR=4.6						
FINES	**FINESS Array B**	**72.61**	**332**	P	**P**	**18 19 21.6**	**-1.0**
	2.6nm,0.8s,mb4.2,baz=108,slow=6.0,SNR=4.4						
ARCES	**ARCESS Array B**	**75.16**	**340**	P	**P**	**18 19 37.7**	**+0.4**
	5.4nm,1.0s,mb4.4,baz=90,slow=4.9,SNR=5.6						
GERES	**GERESS Array B**	**77.72**	**318**	P	**P**	**18 19 52.2**	**0.0**
	0.7nm,0.6s,mb3.8,baz=104,slow=5.5,SNR=5.4						
NB2	**NORSAR Subarra**	**79.63**	**331**	P	**P**	**18 20 01.4**	**-0.9**
	1.1nm,0.6s,mb4.0,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**79.63**	**331**	P	**P**	**18 20 02.0**	**-0.3**
	1.1nm,0.8s,mb3.9,baz=98,slow=5.0,SNR=2.8						
PLCA	**Paso Flores**	**144.61**	**200**	PKP	PKPdf	18 27 31.8	+1.4
	3.5nm,1.0s,baz=165,slow=12,SNR=2.7						

*IDC **27** 18:11:52.0±0.9, 7.88N×93.70E, mb4.0/12, mb1 4.1/13, mb1mx4.0/20, mbtmp4.0/13, ML4.2/1, MS3.5/1, Ms1 3.7/1, ms1mx2.7/25, Error ellipse: s-maj=38.0km s-min=19.3km az=51.0*

ISC 27 18:11:56.1±0.8, 8.0N±0.1×94.1E±0.2, h33km, n22, σ0573/20, mb4.1/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.45**	**24**	Pn	**P**	**18 14 40.2**	**-0.1**
	0.5nm,0.3s,baz=208,slow=15,SNR=8.1						
CMAR				LR	LR	18 20 22.6	
	comp=Z,216nm,18.6s,baz=220,slow=44						
JIRN	**Jiri**	**20.94**	**340**	*eP*	**P**	**18 16 37.7**	**-0.9**
PKI	**Pulchoki**	**21.14**	**338**	*eP*	**P**	**18 16 41.5**	**+1.0**
	44nm,0.9s,mb4.8						
DMN	**Daman**	**21.28**	**338**	*eP*	**P**	**18 16 43.2**	**+1.2**
KKN	**Kakani**	**21.38**	**338**	*eP*	**P**	**18 16 43.0**	**0.0**
	59nm,1.2s,mb4.8						
GKN	**Gorkha**	**21.82**	**337**	*eP*	**P**	**18 16 47.9**	**+0.6**
KOLN	**Koldanda**	**22.03**	**335**	*eP*	**P**	**18 16 50.4**	**+0.9**
SONM	**Songino Array**	**41.08**	**13**	P	**P**	**18 19 37.7**	**-0.6**
	1.4nm,0.8s,mb3.6,baz=198,slow=7.8,SNR=6.5						
ZAL	**Zalesovo**	**46.43**	**352**	P	**P**	**18 20 21.7**	**+0.2**
	1.2nm,0.7s,mb3.9,baz=293,slow=7.8,SNR=6.4						
WRA	**Warramunga Arr**	**48.39**	**126**	P	**P**	**18 20 37.3**	**0.0**
	1.5nm,1.1s,mb4.0,baz=306,slow=8.5,SNR=5.1						
BVAR	**Borovoye Array**	**48.86**	**341**	P	**P**	**18 20 39.3**	**-1.1**
	3.2nm,1.1s,mb4.3,baz=135,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**50.05**	**130**	P	**P**	**18 20 50.6**	**+0.7**
	0.7nm,0.9s,mb3.7,baz=302,slow=7.3,SNR=4.9						
BRTR	**Keskin Array B**	**62.30**	**311**	P	**P**	**18 22 13.6**	**-3.9**
	0.8nm,0.8s,mb3.9,baz=101,slow=7.3,SNR=2.3						
AKASG	**Malin Array Be**	**68.02**	**322**	P	**P**	**18 22 50.4**	**-3.8**
	0.1nm,0.2s,mb3.4,baz=333,slow=10,SNR=3.0						
FINES	**FINESS Array B**	**72.58**	**332**	P	**P**	**18 23 21.2**	**-0.4**
	5.6nm,1.1s,mb4.4,baz=117,slow=8.5,SNR=4.0						
ARCES	**ARCESS Array B**	**75.14**	**340**	P	**P**	**18 23 36.5**	**0.0**
	6.4nm,1.1s,mb4.5,baz=90,slow=2.4,SNR=4.1						
GERES	**GERESS Array B**	**77.69**	**318**	P	**P**	**18 23 51.2**	**0.0**
	1.3nm,0.9s,mb3.9,baz=72,slow=4.2,SNR=7.1						
HFS	**Hagfors**	**78.32**	**330**	P	**P**	**18 23 53.8**	**-0.6**
	1.1nm,0.4s,mb4.1,baz=108,slow=4.7,SNR=7.1						
NB2	**NORSAR Subarra**	**79.60**	**331**	P	**P**	**18 24 01.0**	**-0.4**
	4.4nm,1.1s,mb4.3,baz=94,slow=5.8						
NOA	**NORSAR Array B**	**79.60**	**331**	P	**P**	**18 24 01.4**	**+0.1**
	1.7nm,0.9s,mb4.0,baz=94,slow=5.0,SNR=4.2						
PDAR	**Pinedale Array**	**125.10**	**21**	PKP	PKPdf	18 30 55.1	+1.5
	0.6nm,0.8s,slow=1.5,SNR=4.2						
PLCA	**Paso Flores**	**144.62**	**200**	PKP	PKPdf	18 31 31.7	+2.0
	1.3nm,0.7s,baz=218,slow=0.6,SNR=2.7						

MAN 27 18:13:19.5, 18.87N×121.26E, h12km, mb3.8, ML2.6, MS2.6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**1.27**	**155**	*eP*	Pb	18 13 43.0	0.0
CVP				*eS*	Sb	18 14 01.0	+1.8

IGQ 27 18:14:10.4, 1.17S×81.39W, h12km±7km, mb4.5, 3C-4D, Error ellipse: s-maj=9.5km s-min=4.2km az=18.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.85**	**82**	P	Pb	18 14 24.7	-1.9
JAMA	**Jama**	**1.49**	**53**	P	Pn	18 14 37.5	+0.3
JAMA				S	Sb	18 14 56.5	+0.2
MAGD	**Magdalena**	**1.95**	**56**	P	Pn	18 14 45.7	+2.0
IGUA	**Igualata**	**2.77**	**97**	P	Pn	18 14 56.4	+1.0
CUSU	**Cusua**	**2.92**	**95**	P	Pn	18 15 00.6	+3.0
JUIV	**Juive**	**2.93**	**95**	P	Pn	18 14 58.8	+1.0
MARY	**Rancho Maria**	**2.93**	**81**	P	Pn	18 15 00.2	+2.4
JUA2	**San Juan 2**	**2.94**	**71**	P	Pn	18 14 59.1	+1.2
ARRY	**Arrayan**	**2.95**	**96**	⇑P	Pn	18 14 59.1	+1.1
ARRY				S	Sn	18 15 32.6	-1.1
RETU	**Refugio**	**2.95**	**95**	P	Pn	18 14 59.9	+1.8
TERV	**Terraza Guagua**	**2.96**	**70**	⇓P	Pn	18 14 59.2	+1.1
PINO	**Pino**	**2.96**	**70**	⇓P	Pn	18 14 59.0	+0.8
NAS1	**Nasa**	**2.96**	**80**	P	Pn	18 14 59.7	+1.5
PATA	**Patacocha**	**2.97**	**96**	P	Pn	18 14 59.7	+1.4
ULBA	**Ulba**	**2.99**	**95**	P	Pn	18 15 00.7	+2.1
PISA	**Pisayambo**	**3.00**	**88**	P	Pn	18 15 00.2	+1.4
YANA	**Yana**	**3.00**	**70**	P	Pn	18 14 59.5	+0.7
VC1	**Cotopaxi 1**	**3.03**	**80**	P	Pn	18 15 01.9	+2.7
TAMB	**Tambo**	**3.06**	**81**	P	Pn	18 15 02.3	+2.7
ANTI	**Antisana**	**3.31**	**77**	⇑P	Pn	18 15 05.4	+2.3
COTA	**Cotacachi**	**3.40**	**64**	⇓P	Pn	18 15 05.6	+1.2
COTA				S	Sn	18 15 47.6	+2.6
CAYR	**Refugio Cayamb**	**3.58**	**71**	⇑P	Pn	18 15 09.8	+2.8
CAYA	**Cayambe**	**3.62**	**70**	⇓P	Pn	18 15 10.2	+2.7

IDC 27 18:15:07.9±1.4, 7.63N×93.80E, mb3.8/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=45.9km s-min=29.0km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.87**	**24**	Pn	P	18 17 58.6	-3.0
	0.1nm,0.3s,baz=207,slow=14,SNR=4.6						
SONM	**Songino Array**	**41.47**	**13**	P	P	18 22 57.1	-1.1
	0.7nm,0.9s,baz=214,slow=5.2,SNR=3.3						
ZAL	**Zalesovo**	**46.74**	**353**	P	P	18 23 37.5	-3.0
	1.0nm,0.5s,baz=300,slow=8.1,SNR=5.2						
WRA	**Warramunga Arr**	**48.40**	**125**	P	P	18 23 52.2	-1.9
	0.3nm,0.5s,baz=304,slow=8.5,SNR=5.2						
GERES	**GERESS Array B**	**77.78**	**318**	P	P	18 27 07.8	-0.8
	0.6nm,0.6s,baz=90,slow=5.3,SNR=6.4						
HFS	**Hagfors**	**78.49**	**330**	P	P	18 27 11.0	-1.3
	1.6nm,0.6s,baz=90,slow=2.9,SNR=5.0						
PLCA	**Paso Flores**	**144.20**	**201**	PKP	PKPdf	18 34 44.5	-3.5
	1.6nm,0.9s,baz=154,slow=9.9,SNR=3.1						

*NEIC **27** 18:16:07.5±0.5, 7.96N×93.98E, h30km, mb4.5/7, Error ellipse: s-maj=12.1km s-min=9.6km az=104.0*
*IDC **27** 18:16:11.6±5.3, 8.07N×94.07E, h64km±47km, mb3.8/16, mb1 3.9/17, mb1mx3.9/23, mbtmp4.1/17, ML3.7/1, Error ellipse: s-maj=32.1km s-min=17.2km az=49.0*

ISC 27 18:16:09.2±3.5, 8.0N±0.1×94.1E±0.1, h59km±30km, n36, σ0578/33, mb4.3/26, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.37**	**24**	*eP*	**P**	**18 18 50.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**11.37**	**24**	P	**P**	**18 18 51.2**	**0.0**
	0.2nm,0.3s,baz=209,slow=15,SNR=4.5						
JIRN	**Jiri**	**20.90**	**340**	*eP*	**P**	**18 20 48.8**	**-0.1**
PKI	**Pulchoki**	**21.10**	**338**	*eP*	**P**	**18 20 50.9**	**0.0**
	26nm,0.6s,mb4.8						
DMN	**Daman**	**21.25**	**337**	*eP*	**P**	**18 20 53.5**	**+1.2**
KKN	**Kakani**	**21.34**	**338**	*eP*	**P**	**18 20 53.9**	**+0.6**
	30nm,1.0s,mb4.6						
LSA	**Lhasa**	**21.72**	**353**	*eP*	**P**	**18 20 57.2**	**+0.2**
	18nm,0.7s,mb4.6						
GKN	**Gorkha**	**21.78**	**337**	*eP*	**P**	**18 20 57.9**	**+0.2**
	50nm,0.8s,mb5.0						
KOLN	**Koldanda**	**22.00**	**334**	*eP*	**P**	**18 21 00.4**	**+0.6**
	25nm,0.7s,mb4.7						
ENH	**Enshi**	**26.39**	**31**	P	**P**	**18 21 41.3**	**-0.8**
	16nm,1.2s,mb4.4						
AAK	**Ala-Archa**	**38.54**	**337**	*eP*	**P**	**18 23 26.2**	**-1.4**
	3.4nm,0.9s,mb4.1						
SONM	**Songino Array**	**41.00**	**13**	P	**P**	**18 23 48.8**	**+0.9**
	1.0nm,0.8s,mb3.5,baz=201,slow=6.3,SNR=4.6						
ULN	**Ulaanbaatar**	**41.18**	**13**	*eP*	**P**	**18 23 50.0**	**+0.6**
	1.5nm,0.8s,mb3.7						
KURK	**Kurchatov**	**44.44**	**346**	*eP*	**P**	**18 24 16.0**	**+0.1**
	15nm,1.4s,mb4.5						
ZAL	**Zalesovo**	**46.38**	**352**	P	**P**	**18 24 31.4**	**+0.1**
	2.2nm,0.8s,mb4.1,baz=298,slow=7.9,SNR=7.3						
ZAL	**Zalesovo**	**46.38**	**352**	P	**P**	**18 24 31.4**	**+0.1**
WRA	**Warramunga Arr**	**48.38**	**126**	P	**P**	**18 24 46.0**	**-1.5**
	1.0nm,0.8s,mb3.9,baz=305,slow=8.5,SNR=4.9						
BVAR	**Borovoye Array**	**48.82**	**341**	P	**P**	**18 24 49.9**	**-0.5**
	0.7nm,0.5s,mb4.0,baz=148,slow=9.6,SNR=4.9						
ASAR	**Alice Springs**	**50.04**	**130**	P	**P**	**18 25 01.9**	**+1.7**
	1.3nm,0.9s,mb4.0,baz=308,slow=8.0,SNR=6.8						
GNI	**Garni**	**54.30**	**314**	P	**P**	**18 25 31.7**	**-0.1**
	0.9nm,0.4s,mb4.1,baz=340,slow=19,SNR=1.6						
KMBO	**Kilima Mbogo**	**57.42**	**264**	P	**P**	**18 25 55.1**	**+0.6**
	1.6nm,0.6s,mb4.2,baz=51,slow=14,SNR=4.4						
KMBO	**Kilima Mbogo**	**57.42**	**264**	P	**P**	**18 25 54.6**	**+0.1**
	2.2nm,0.7s,mb4.3						
BRTR	**Keskin Array B**	**62.30**	**311**	P	**P**	**18 26 26.2**	**-1.4**
	0.9nm,0.5s,mb4.1,baz=136,slow=7.0,SNR=4.6						
AKASG	**Malin Array Be**	**68.00**	**322**	P	**P**	**18 27 02.2**	**-1.9**
	1.2nm,0.6s,mb4.1,baz=88,slow=4.6,SNR=4.1						
IDI	**Anoyia**	**68.45**	**305**	P	**P**	**18 27 06.8**	**-0.4**
	5.1nm,0.6s,mb4.7,baz=89,slow=15,SNR=3.2						
MLR	**Muntele Rosu**	**69.03**	**316**	P	**P**	**18 27 10.3**	**-0.3**
	3.7nm,0.9s,mb4.3,baz=242,slow=9.9,SNR=4.8						
FINES	**FINESS Array B**	**72.55**	**332**	P	**P**	**18 27 31.3**	**-0.2**
	6.3nm,1.0s,mb4.5,baz=90,slow=5.7,SNR=7.5						
ARCES	**ARCESS Array B**	**75.10**	**340**	P	**P**	**18 27 46.8**	**+0.7**
	1.1nm,0.5s,mb4.0,baz=90,slow=6.1,SNR=6.5						
GERES	**GERESS Array B**	**77.68**	**318**	P	**P**	**18 28 02.0**	**+0.9**
	1.6nm,0.6s,mb4.2,baz=90,slow=5.3,SNR=11						
HFS	**Hagfors**	**78.30**	**330**	P	**P**	**18 28 04.7**	**+0.5**
	2.9nm,0.4s,mb4.5,baz=104,slow=6.1,SNR=15						
NB2	**NORSAR Subarra**	**79.57**	**331**	P	**P**	**18 28 10.8**	**-0.4**
	1.5nm,0.6s,mb4.1,baz=92,slow=5.8						
NOA	**NORSAR Array B**	**79.57**	**331**	P	**P**	**18 28 11.1**	**-0.1**
	1.6nm,0.7s,mb4.0,baz=95,slow=5.1,SNR=6.6						
SUR	**Sutherland**	**80.41**	**235**	*eP*	**P**	**18 28 16.6**	**+0.3**
	26nm,1.3s,mb5.0						
PDAR	**Pinedale Array**	**125.02**	**21**	PKP	PKPdf	18 35 05.4	+2.2
	0.6nm,0.8s,baz=45,slow=2.1,SNR=5.0						
PLCA	**Paso Flores**	**144.70**	**200**	PKP	PKPdf	18 35 41.0	+1.6
	3.2nm,0.8s,baz=170,slow=4.4,SNR=6.5						
LPAZ	**La Paz**	**160.82**	**243**	PKP	PKPdf	18 36 05.5	+2.5
	0.7nm,0.3s,baz=328,slow=6.3,SNR=3.4						

IDC 27 18:20:38.4±1.0, 7.96N×93.48E, mb3.9/8, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, ML4.2/1, Error ellipse: s-maj=39.5km s-min=21.0km az=53.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.71**	**26**	Pn	P	18 23 26.9	-3.0
	0.5nm,0.3s,baz=213,slow=15,SNR=14						
SONM	**Songino Array**	**41.22**	**13**	P

KAD	Karad	21.55	297	eP	P	18 34 24.3	+0.3
LSA	Lhasa	21.79	353	eP	P	18 34 26.6	+0.3
	33nm,0.8s,mb4.8						
GKN	Gorkha	21.85	337	eP	P	18 34 26.0	-1.0
	30nm,0.4s,mb5.1						
KOLN	Koldanda	22.07	334	eP	P	18 34 28.9	-0.2
	282nm,1.5s,mb5.5						
ENH	Enshi	26.43	31	eP	P	18 35 12.3	+1.3
	9.9nm,1.0s,mb4.3						
LZH	Lanzhou	29.35	16	eP	P	18 35 40.0	+2.7
LZH				AP	pP	18 35 49.5	-1.9
LZH				XP	sP	18 35 53.0	-5.3
LZH				AMB	AMB		
	comp=Z,31nm,1.6s,mb4.8						
LZH				AMB	AMB		
	comp=Z,122nm,4.5s						
LZH				LR	LR		
	comp=E,935nm,11.9s						
LZH				LR	LR		
	comp=Z,1μm,13.0s,MS4.7						
LZH	Lanzhou	29.35	16	eP	P	18 35 40.0	+2.7
	comp=Z,31nm,1.6s,mb4.8						
LZH				pP	pP	18 35 49.5	-1.9
LZH				sP	sP	18 35 53.0	-5.3
LZH				LR	LR		
	comp=Z,1μm,13.0s,MS4.7						
BJI	Beijing	37.51	28	eP	P	18 36 51.8	+4.1
	comp=Z,11nm,0.9s,mb4.6						
AAK	Ala-Archa	38.61	337	eP	P	18 36 55.4	-1.4
	comp=Z,6.6nm,0.9s,mb4.4						
SONM	Songino Array	41.06	13	P	P	18 37 17.3	+0.2
	comp=Z,2.0nm,0.9s,mb3.8,baz=200,slow=8.1,SNR=7.0						
SONM				PcP	PcP	18 39 17.1	+0.4
	comp=Z,0.8nm,0.5s,baz=197,slow=4.1,SNR=5.2						
SNY	Shenyang	42.58	33	⇑P	P	18 37 35.3	+5.6
KURK	Kurchatov	44.51	346	eP	P	18 37 44.5	-0.6
	comp=Z,14nm,1.1s,mb4.7						
NWAO	Narrogin (SRO)	46.23	153	P	P	18 38 01.4	+2.3
	comp=Z,8.6nm,0.8s,mb4.7,baz=336,slow=11,SNR=6.5						
NWAO	Narrogin (SRO)	46.23	153	P	P	18 38 01.4	+2.3
HIA	Hailar	46.43	23	eP	P	18 38 01.4	+1.0
	comp=Z,9.8nm,1.1s,mb4.7						
ZAL	Zalesovo	46.45	352	P	P	18 38 00.7	+0.2
	comp=Z,6.6nm,1.0s,mb4.5,baz=281,slow=1.7,SNR=12						
WRA	Warramunga Arr	48.32	126	P	P	18 38 14.7	-0.8
	comp=Z,2.2nm,0.9s,mb4.2,baz=304,slow=8.7,SNR=12						
WRAB	Tennant Creek	48.32	126	eP	P	18 38 14.2	-1.4
	comp=Z,42nm,1.6s,mb5.2						
BVAR	Borovoye Array	48.89	341	P	P	18 38 18.3	-1.2
	comp=Z,0.6nm,0.4s,mb4.0,baz=136,slow=8.2,SNR=6.3						
RAYN	Ar Rayn	49.05	294	P	P	18 38 22.9	+1.7
	comp=Z,89nm,0.9s,SNR=8.7						
CHKZ	Chkalovo	49.38	342	eP	P	18 38 22.0	-1.3
	comp=Z,13nm,1.0s,mb4.9						
ASAR	Alice Springs	49.98	130	P	P	18 38 27.2	-1.1
	comp=Z,1.8nm,0.9s,mb4.1,baz=299,slow=6.2,SNR=7.5						
PMG	Port Moresby	55.56	107	P	P	18 39 10.4	+0.5
	comp=Z,6.4nm,0.7s,mb4.8,baz=20,slow=5.1,SNR=3.9						
PMG	Port Moresby	55.56	107	eP	P	18 39 08.9	-1.0
	comp=Z,15nm,0.9s,mb5.0						
KMBO	Kilima Mbogo	57.44	264	P	P	18 39 25.5	+2.2
	comp=Z,4.4nm,0.8s,mb4.5,baz=47,slow=13,SNR=5.8						
KMBO	Kilima Mbogo	57.44	264	eP	P	18 39 24.8	+1.4
	comp=Z,14nm,1.2s,mb4.9						
YAK	Yakutsk	59.90	18	eP	P	18 39 39.1	-0.6
	comp=Z,15nm,0.9s,mb5.0						
STKA	Stephens Creek	60.17	134	P	P	18 39 41.1	-1.0
	comp=Z,4.6nm,1.2s,mb4.4,baz=22,slow=9.0,SNR=3.6						
STKA	Stephens Creek	60.17	134	P	P	18 39 40.9	-1.1
BRTR	Keskin Array B	62.37	311	P	P	18 39 55.0	-1.8
	comp=Z,2.1nm,0.7s,mb4.4,baz=125,slow=6.7,SNR=9.1						
AKASG	Malin Array Be	68.08	322	P	P	18 40 31.2	-2.0
	comp=Z,1.4nm,0.6s,mb4.2,baz=90,slow=4.8,SNR=8.2						
MLR	Muntele Rosu	69.10	316	P	P	18 40 40.1	+0.4
	comp=Z,4.0nm,0.6s,mb4.5,baz=118,slow=6.8,SNR=11						
JOF	Joensuu	70.76	334	ep	P	18 40 48.5	-1.0
	comp=Z,0.6nm,0.4s,mb3.9						
FINES	FINESS Array B	72.62	332	P	P	18 41 00.2	-0.4
	comp=Z,4.4nm,0.8s,mb4.4,baz=88,slow=6.7,SNR=10						
FINES	FINESS Array B	72.62	332	P	P	18 41 00.2	-0.4
KAF	Kangasniemi	72.70	333	ep	P	18 41 00.0	-1.0
	comp=Z,9.1nm,1.1s,mb4.6						
OJC	Ojcow	73.90	320	eP	P	18 41 08.7	+0.4
ARCES	ARCESS Array B	75.17	340	P	P	18 41 15.7	+0.5
	comp=Z,1.8nm,0.6s,mb4.2,baz=90,slow=4.9,SNR=11						
MORC	Moravsky Berou	75.30	319	eP	P	18 41 16.7	+0.3
	comp=Z,6.3nm,1.1s,mb4.5						
VRAC	Vranov	75.88	319	P	P	18 41 19.9	+0.2
	comp=Z,2.3nm,0.9s,mb4.1,baz=300,slow=20,SNR=2.6						
GERES	GERESS Array B	77.75	318	P	P	18 41 30.7	+0.6
	comp=Z,1.9nm,0.5s,mb4.3,baz=83,slow=6.0,SNR=16						
KHC	Kasperske Hory	77.84	318	eP	P	18 41 30.5	-0.2
KHC				e	pP	18 41 43.5	-3.1
KHC	Kasperske Hory	77.84	318	eP	P	18 41 30.5	-0.2
KHC				pP	pP	18 41 43.5	-3.1
CLL	Collm	78.28	321	e*PP	pP	18 41 42.0	-7.0
HFS	Hagfors	78.37	330	P	P	18 41 33.5	+0.2
	comp=Z,6.3nm,0.7s,mb4.7,baz=117,slow=6.6,SNR=17						
GRA1	Grafenberg Arr	79.39	319	eP	P	18 41 40.2	+1.1
	comp=Z,5.0nm,0.9s,mb4.4						
GRF	Grafenberg Arr	79.39	319	eP	P	18 41 40.2	+1.1
	comp=Z,5.0nm,0.9s,mb4.4						
NB2	NORSAR Subarra	79.64	331	P	P	18 41 39.8	-0.5
	comp=Z,2.8nm,0.8s,mb4.2,baz=90,slow=5.8						
NOA	NORSAR Array B	79.64	331	P	P	18 41 40.1	-0.1
	comp=Z,3.0nm,0.7s,mb4.3,baz=92,slow=5.6,SNR=9.9						
LPG	La Plagne	82.55	315	eP	P	18 41 56.8	+1.0
	comp=Z,12nm,0.7s,mb4.7						
ESDC	Sonseca Array	91.16	310	P	P	18 42 38.9	+1.1
	comp=Z,0.6nm,0.6s,mb4.1,baz=295,slow=36,SNR=3.9						
IMA	Indian Mountai	91.53	22	eP	P	18 42 41.2	+2.3
NVAR	Mina Array Bea	124.83	31	PKP	PKPdf	18 48 34.8	+3.2
	comp=Z,0.6nm,0.5s,baz=313,slow=1.9,SNR=4.3						
PDAR	Pinedale Array	125.07	21	PKP	PKPdf	18 48 34.5	+2.5
	comp=Z,0.6nm,0.7s,baz=4.9,slow=1.2,SNR=5.3						
TXAR	Lajitas Array	139.13	24	PKIKP		18 49 02.9	
	comp=Z,0.6nm,0.4s,baz=190,slow=2.0,SNR=4.8						
PLCA	Paso Flores	144.65	200	PKP	PKPdf	18 49 09.8	+1.7
	comp=Z,5.4nm,0.9s,baz=142,slow=2.3,SNR=9.3						

IGQ 27 18:29:53.6, 1.18S×81.44W, h12km±10km, mb4.1, 2D, Error ellipse: s-maj=9.6km s-min=5.0km az=29.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	Jama	1.54	53	P	Pn	18 30 21.6	+0.6
JAMA				S	Sb	18 30 40.9	0.0
MAGD	Magdalena	2.00	56	P	Pn	18 30 29.7	+2.1
IGUA	Igualata	2.82	96	P	Pn	18 30 40.4	+1.1
IGUA				S	Sn	18 31 15.1	+1.6
CUSU	Cusua	2.97	95	P	Pn	18 30 45.1	+3.6
JUA2	San Juan 2	2.99	71	P	Pn	18 30 43.3	+1.5
ARRY	Arrayan	3.00	96	P	Pn	18 30 42.3	+0.4
ARRY				S	Sn	18 31 18.2	+0.1
RETU	Refugio	3.00	95	P	Pn	18 30 44.5	+2.5
TERV	Terraza Guagua	3.01	71	P	Pn	18 30 43.0	+1.0
PINO	Pino	3.01	70	⇓P	Pn	18 30 43.0	+1.0
NAS1	Nasa	3.01	80	P	Pn	18 30 44.7	+2.6
PISA	Pisayambo	3.06	88	P	Pn	18 30 44.2	+1.5
YANA	Yana	3.06	70	P	Pn	18 30 43.5	+0.7
VC1	Cotopaxi 1	3.08	80	P	Pn	18 30 45.8	+2.7
TAMB	Tambo	3.11	81	P	Pn	18 30 46.1	+2.6
COTA	Cotacachi	3.45	64	P	Pn	18 30 49.3	+1.0
CAYR	Refugio Cayamb	3.63	71	⇓P	Pn	18 30 53.8	+2.9
CAYR				S	Sn	18 31 36.2	+2.1
CAYA	Cayambe	3.67	70	P	Pn	18 30 53.7	+2.3

BJI 27 18:35:07.9, 8.30N×94.10E, h30km, mb4.4, Ms4.9, Msz4.8
NEIC 27 18:35:08.0±0.3, 8.26N×94.12E, h30km, mb4.6/17, MS4.5/1, Error ellipse: s-maj=12.5km s-min=7.4km az=53.0
IDC 27 18:35:13.4±4.5, 8.31N×94.07E, h75km±40km, mb4.1/18, mb1 4.2/19, mb1mx4.2/23, mbtmp4.4/19, ML4.1/1, Error ellipse: s-maj=26.1km s-min=11.6km az=52.0
ISC 27 18:35:06.8±0.5, 8.21N±0.07×94.09E±0.08, h33km, n56, σ1§02/54, mb4.5/36, MS4.5/1, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.22	24	eP	P	18 37 49.1	+1.0
CMAR	Chiang Mai Arr	11.22	24	P	P	18 37 49.9	+1.8
	0.4nm,0.3s,baz=211,slow=14,SNR=9.2						
HYB	Hyderabad	17.69	303	eP	P	18 39 17.0	+4.6
HYB	Hyderabad	17.69	303	i P	P	18 39 17.0	+4.6
HYB				eS	S	18 42 32.5	+6.5
KMI	Kunming	18.73	25	⇑P	P	18 39 30.5	+5.1
	17nm,1.0s						
KMI				sP		18 39 39.6	
JIRN	Jiri	20.74	340	eP	P	18 39 46.7	-0.6
	140nm,1.2s						
PKI	Pulchoki	20.94	338	eP	P	18 39 50.3	+1.0
	78nm,0.8s						
DMN	Daman	21.09	337	eP	P	18 39 51.5	+0.7
	75nm,0.9s,mb5.0						
KKN	Kakani	21.18	338	eP	P	18 39 52.2	+0.4
	57nm,0.8s,mb5.0						
LSA	Lhasa	21.56	353	eP	P	18 39 54.8	-0.7
	44nm,0.8s,mb4.9						
GKN	Gorkha	21.62	337	eP	P	18 39 56.5	+0.4
	68nm,0.5s,mb5.3						
KOLN	Koldanda	21.84	334	eP	P	18 39 59.3	+1.0
	58nm,0.7s,mb5.1						
ENH	Enshi	26.26	31	eP	P	18 40 39.7	-1.4
	24nm,1.1s,mb4.6						
WHN	Wuhan	29.20	38	P	P	18 41 06.8	-0.9
WMQ	Urumqi	35.91	352	eP	P	18 42 09.5	+3.5
BJI	Beijing	37.33	28	eP	P	18 42 18.5	+0.5
	5.0nm,1.2s,mb4.2						
BJI				LR	LR		
	comp=Z,800nm,21.2s,MS4.5						
AAK	Ala-Archa	38.38	337	eP	P	18 42 26.2	-0.5
	comp=Z,7.1nm,0.9s,mb4.4						
SONM	Songino Array	40.85	13	P	P	18 42 47.2	0.0
	comp=Z,2.2nm,1.1s,mb3.7,baz=200,slow=7.8,SNR=5.8						
SONM				PcP	PcP	18 44 47.7	-0.5
	comp=Z,0.7nm,0.6s,baz=214,slow=4.5,SNR=3.7						
ULN	Ulaanbaatar	41.02	13	P	P	18 42 47.0	-1.6
	comp=Z,4.3nm,1.0s,mb4.0						
KURK	Kurchatov	44.28	346	eP	P	18 43 15.0	-0.1
	comp=Z,22nm,1.3s,mb4.7						
ZAL	Zalesovo	46.21	352	P	P	18 43 30.6	+0.2
	comp=Z,3.1nm,0.4s,mb4.6,baz=292,slow=9.6,SNR=9.2						
NWAO	Narrogin (SRO)	46.46	153	P	P	18 43 35.2	+2.4
	comp=Z,30nm,1.3s,mb5.1,baz=296,slow=3.3,SNR=8.0						
NWAO	Narrogin (SRO)	46.46	153	P	P	18 43 35.2	+2.4
WRA	Warramunga Arr	48.49	126	P	P	18 43 48.8	0.0
	comp=Z,2.0nm,0.5s,mb4.5,baz=305,slow=8.4,SNR=23						
WRAB	Tennant Creek	48.50	126	eP	P	18 43 47.6	-1.2
	comp=Z,5.9nm,0.5s,mb4.9						
BVAR	Borovoye Array	48.66	341	P	P	18 43 48.8	-0.8
	comp=Z,2.6nm,0.9s,mb4.3,baz=135,slow=6.3,SNR=6.6						
BRVK	Borovoye	48.72	341	P	P	18 43 48.4	-1.7
	comp=Z,7.3nm,1.2s,mb4.6						
CHKZ	Chkalovo	49.14	342	eP	P	18 43 52.5	-0.8
	comp=Z,14nm,0.9s,mb5.0						
ASAR	Alice Springs	50.16	130	P	P	18 44 01.2	-0.4
	comp=Z,2.3nm,0.7s,mb4.3,baz=301,slow=7.3,SNR=12						
PMG	Port Moresby	55.67	107	P	P	18 44 42.8	+0.2
	comp=Z,15nm,1.0s,mb5.0,baz=350,slow=5.2,SNR=6.1						
PMG	Port Moresby	55.67	107	eP	P	18 44 41.6	-1.0
	comp=Z,11nm,0.7s,mb5.0						
KMBO	Kilima Mbogo	57.41	263	P	P	18 44 55.6	+0.5
	comp=Z,6.0nm,1.1s,mb4.5,baz=48,slow=9.1,SNR=7.3						
STKA	Stephens Creek	60.37	134	P	P	18 45 15.8	+0.5
	comp=Z,2.7nm,0.8s,mb4.3,baz=331,slow=6.7,SNR=4.8						
BRTR	Keskin Array B	62.18	311	P	P	18 45 25.4	-2.0
	comp=Z,2.5nm,0.7s,mb4.4,baz=117,slow=5.5,SNR=8.1						
AKASG	Malin Array Be	67.86	322	P	P	18 46 01.7	-2.2
	comp=Z,4.8nm,0.9s,mb4.5,baz=90,slow=4.9,SNR=10						
MLR	Muntele Rosu	68.90	316	P	P	18 46 10.8	+0.3
	comp=Z,3.7nm,0.6s,mb4.5,baz=199,slow=9.3,SNR=11						
JOF	Joensuu	70.53	334	ep	P	18 46 24.5	+4.4
	comp=Z,0.6nm,0.4s,mb3.9						
FINES	FINESS Array B	72.39	332	P	P	18 46 30.8	-0.5
	comp=Z,6.3nm,0.7s,mb4.6,baz=101,slow=9.7,SNR=13						
KAF	Kangasniemi	72.47	333	ep	P	18 46 32.1	+0.4
	comp=Z,9.4nm,1.0s,mb4.7						
ARCES	ARCESS Array B	74.94	340	P	P	18 46 45.9	-0.1
	comp=Z,3.6nm,0.9s,mb4.3,baz=153,slow=2.7,SNR=5.0						
MORC	Moravsky Berou	75.09	319	eP	P	18 46 48.8	+1.5
	comp=Z,4.4nm,0.9s,mb4.4						
GERES	GERESS Array B	77.55	318	P	P	18 47 00.7	-0.5
	comp=Z,7.0nm,1.0s,mb4.5,baz=90,slow=5.3,SNR=16						
KHC	Kasperske Hory	77.64	318	eP	P	18 47 01.5	-0.2
KHC				e		18 47 04.0	
KHC	Kasperske Hory	77.64	318	eP	P	18 47 01.5	-0.2
KHC				x	x	18 47 04.0	
CLL	Collm	78.08	321	e*PP	pP	18 47 13.0	-1.3
HFS	Hagfors	78.15	330	P	P	18 47 04.3	+0.1
GRA1	Grafenberg Arr	79.19	319	eP	P	18 47 12.6	+2.5
	comp=Z,3.0nm,0.8s,mb4.3						
GRF	Grafenberg Arr	79.19	319	eP	P	18 47 12.6	+2.5
	comp=Z,3.0nm,0.8s,mb4.3						
NB2	NORSAR Subarra	79.42	331	P	P	18 47 10.6	-0.6
	comp=Z,3.0nm,0.7s,mb4.3,baz=96,slow=5.0						
NOA	NORSAR Array B	79.42	331	P	P	18 47 10.5	-0.6
	comp=Z,3.5nm,0.7s,mb4.4,baz=92,slow=5.7,SNR=11						
NOA	NORSAR Array B	79.42	331	P	P	18 47 10.5	-0.6
LPG	La Plagne	82.35	315	eP	P	18 47 27.5	+0.6
	comp=Z,24nm,1.0s,mb4.8						
IMA	Indian Mountai	91.33	22	eP	P	18 48 10.8	+0.6
ILAR	Eielson Array	94.45	22	P	P	18 48 25.2	+0.7
	comp=Z,0.3nm,0.6s,mb3.9,baz=308,slow=5.0,SNR=3.6						
PDAR	Pinedale Array	124.87	21	PKP	PKPdf	18 54 04.8	+0.9
	comp=Z,0.9nm,0.9s,baz=225,slow=2.1,SNR=5.4						
PLCA	Paso Flores	144.84	200	PKP	PKPdf	18 54 41.5	+0.7
	comp=Z,6.6nm,0.8s,baz=164,slow=3.4,SNR=14						

IDC 27 18:39:06.3±1.0, 7.84N×93.80E, mb3.6/8, mb1 3.8/9, mb1mx3.8/19, mbtmp3.6/9, ML3.9/1, Error ellipse: s-maj=39.3km s-min=20.0km az=50.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.68	25	Pn	P	18 41 55.0	-2.3
	0.2nm,0.3s,baz=211,slow=14,SNR=10.0						
SONM	Songino Array	41.27	13	P	P	18 46 53.8	-1.0
	0.3nm,0.7s,baz=202,slow=7.8,SNR=2.4						
ZAL	Zalesovo	46.54	353	P	P	18 47 34.9	-2.4
	1.2nm,0.8s,baz=319,slow=12,SNR=3.5						
WRA	Warramunga Arr	48.51	125	P	P	18 47 49.6	-3.7
	0.6nm,0.8s,baz=309,slow=9.6,SNR=4.8						
ASAR	Alice Springs	50.15	130	P	P	18 48 05.5	-0.3
	0.3nm,0.5s,baz=300,slow=7.6,SNR=3.6						
BRTR	Keskin Array B	62.20	311	P	P	18 49 31.4	-0.6
	0.6nm,0.6s,baz=121,slow=8.4,SNR=2.9						
AKASG	Malin Array Be	67.97	322	P	P	18 50 05.9	-3.4
	0.1nm,0.3s,baz=97,slow=5.2,SNR=2.8						
GERES	GERESS Array B	77.63	318	P	P	18 51 04.9	-1.3
	1.0nm,0.9s,baz=104,slow=5.5,SNR=3.7						
HFS	Hagfors	78.32	330	P	P	18 51 07.9	-1.8
	2.1nm,0.8s,baz=143,slow=7.2						

IDC 27 18:41:16.3±1.2, 8.18N×94.28E, mb4.0/9, mb1 4.1/10, mb1mx4.0/19, mbtmp3.9/10, ML3.6/1, Error ellipse: s-maj=37.7km s-min=28.6km az=45.0
ISC 27 18:41:19.4±1.0, 8.2N±0.2×94.3E±0.2, h33km, n10, σ1§04/10, mb3.9/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.19	23	Pn	P	18 44 06.7	+6.5
	0.1nm,0.3s,baz=220,slow=14,SNR=3.8						
SONM	Songino Array	40.86	12	P	P	18 48 59.6	-0.2
	0.4nm,0.6s,mb3.2,baz=192,slow=6.4,SNR=3.8						
ZAL	Zalesovo	46.30	352	P	P	18 49 45.1	+1.4
	1.6nm,0.9s,mb4.0,baz=291,slow=11,SNR=4.5						
WRA	Warramunga Arr	48.29	126	P	P	18 49 59.6	-0.2
	0.5nm,0.7s,mb3.6,baz=303,slow=8.8,SNR=4.8						
KMBO	Kilima Mbogo	57.62	263	P	P	18 51 10.0	+0.9
	1.5nm,0.7s,mb4.1,baz=52,slow=16,SNR=3.9						
BRTR	Keskin Array B	62.37	311	P	P	18 51 39.8	-1.6
	0.8nm,0.7s,mb4.0,baz=123,slow=8.1,SNR=3.9						
AKASG	Malin Array Be	68.04	322	P	P	18 52 15.7	-2.0
	0.2nm,0.3s,mb3.6,baz=90,slow=4.8,SNR=5.6						
FINES	FINESS Array B	72.54	332	P	P	18 52 44.6	-0.1
	5.5nm,1.0s,mb4.4,baz=146,slow=6.9,SNR=4.0						
GERES	GERESS Array B	77.73	318	P	P	18 53 15.7	+0.9
	0.8nm,0.6s,mb3.9,baz=90,slow=4.0,SNR=8.1						
HFS	Hagfors	78.30	330	P	P	18 53 18.2	+0.6
	3.6nm,0.9s,mb4.3,baz=117,slow=3.3,SNR=5.4						

IDC 27 18:48:25.4±0.7, 7.64N×93.81E, mb4.2/16, mb1 4.3/17, mb1mx4.3/22, mbtmp4.2/17, ML3.7/1, Error ellipse: s-maj=35.9km s-min=14.1km az=55.0
BJI 27 18:48:29.1, 7.89N×93.45E, h19km, mb4.4
NEIC 27 18:48:29.6±0.5, 7.69N×93.84E, h30km, mb4.6/12, Error ellipse: s-maj=14.3km s-min=9.2km az=71.0
ISC 27 18:48:28.2±0.5, 7.73N±0.07×93.9E±0.1, h33km, n41, σ1§19/33, mb4.4/24, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.73	24	eP	P	18 51 16.7	+0.4
CMAR	Chiang Mai Arr	11.73	24	Pn	P	18 51 16.1	-0.3
	0.1nm,0.3s,baz=220,slow=14,SNR=6.2						
IMP	Imphal	16.95	0	e	P	18 52 22.5	-2.1
HYB	Hyderabad	17.80	304	i P	P	18 52 40.5	+5.3
KMI	Kunming	19.24	25	⇑P	P	18 52 54.7	+2.1
	12nm,1.3s						
KMI				pP		18 52 58.0	
KMI				sP		18 52 59.3	
LSA	Lhasa	22.00	354	P	P	18 53 23.6	+2.3
ENH	Enshi	26.76	31	P	P	18 54 05.5	-1.5
	9.0nm,0.9s,mb4.3						
LZH	Lanzhou	29.65	16	eP	P	18 54 40.0	+7.0
LZH				AP	pP	18 54 46.0	+3.4
LZH				PP	PP	18 55 32.0	+2.2
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.8						
AAK	Ala-Archa	38.74	337	P	P	18 55 50.2	-0.9
	comp=Z,7.3nm,1.0s,mb4.4						
SONM	Songino Array	41.35	13	P	P	18 56 12.6	-0.1
	comp=Z,1.7nm,0.9s,mb3.7,baz=199,slow=6.0,SNR=8.2						
KURK	Kurchatov	44.69	346	eP	P	18 56 39.3	-0.5
	comp=Z,21nm,1.5s,mb4.8						
NWAO	Narrogin (SRO)	46.13	152	P	P	18 56 49.8	-1.7
	comp=Z,7.1nm,0.9s,mb4.6,baz=193,slow=9.9,SNR=2.6						
ZAL	Zalesovo	46.66	353	P	P	18 56 56.2	+0.9
	comp=Z,4.3nm,0.5s,mb4.6,baz=300,slow=7.2,SNR=9.5						
MDJ	Mudanjiang	48.05	34	P	P	18 57 07.6	+1.1
WRA	Warramunga Arr	48.37	125	P	P	18 57 10.0	+0.8
	comp=Z,2.0nm,0.7s,mb4.3,baz=305,slow=9.0,SNR=12						
WRAB	Tennant Creek	48.37	125	P	P	18 57 09.8	+0.5
	comp=Z,4.9nm,0.8s,mb4.6						
BVAR	Borovoye Array	49.05	341	P	P	18 57 13.8	-0.2
	comp=Z,2.4nm,0.9s,mb4.2,baz=117,slow=3.3,SNR=6.1						
BRVK	Borovoye	49.11	341	P	P	18 57 13.0	-1.5
	comp=Z,7.2nm,1.1s,mb4.6						
CHKZ	Chkalovo	49.53	342	eP	P	18 57 16.6	-1.2
	comp=Z,36nm,0.9s,mb5.4						
ASAR	Alice Springs	50.00	130	P	P	18 57 21.6	-0.1
	comp=Z,1.7nm,0.9s,mb4.1,baz=304,slow=6.6,SNR=8.9						
KMBO	Kilima Mbogo	57.18	264	P	P	18 58 19.4	+4.5
	comp=Z,3.2nm,0.8s,mb4.4,baz=48,slow=15,SNR=4.5						
STKA	Stephens Creek	60.17	134	P	P	18 58 35.4	-0.1
	comp=Z,3.1nm,0.8s,mb4.4,baz=21,slow=9.2,SNR=5.0						
STKA	Stephens Creek	60.17	134	eP	P	18 58 35.1	-0.4
YAK	Yakutsk	60.20	19	eP	P	18 58 33.2	-2.0
	comp=Z,8.8nm,0.8s,mb4.8						
BRTR	Keskin Array B	62.35	311	P	P	18 58 49.9	-0.1
	comp=Z,0.9nm,0.6s,mb4.1,baz=128,slow=6.1,SNR=3.6						
AKASG	Malin Array Be	68.12	322	P	P	18 59 25.6	-1.3
	comp=Z,0.6nm,0.5s,mb3.9,baz=86,slow=4.9,SNR=4.7						
MLR	Muntele Rosu	69.11	316	P	P	18 59 34.3	+1.1
	comp=Z,1.9nm,0.7s,mb4.2,baz=76,slow=18,SNR=4.3						
FINES	FINESS Array B	72.73	332	P	P	18 59 55.0	+0.4
	comp=Z,1.5nm,0.7s,mb4.1,baz=146,slow=14,SNR=3.7						
ARCES	ARCESS Array B	75.32	340	P	P	19 00 12.2	+2.6
	comp=Z,2.5nm,0.7s,mb4.3,baz=101,slow=5.6,SNR=8.1						
BRG	Berggiesshubel	77.71	320	eP	pP	19 00 31.3	-2.5
	comp=Z,8.9nm,1.2s						
BRG				e		19 02 25.7	
GERES	GERESS Array B	77.78	318	P	P	19 00 25.4	+1.5
	comp=Z,2.7nm,1.0s,mb4.1,baz=76,slow=5.5,SNR=8.3						
KHC	Kasperske Hory	77.87	319	pP	pP	19 00 31.0	-3.7
CLL	Collm	78.32

KS15	Wonju Array Si	42.23	41	eP		P	18 58 25.3 +3.2
SNY	Shenyang	42.45	33	⇓P		P	18 58 24.5 +0.7
TLY	Talaya	44.12	8	eP		P	18 58 38.6 +1.4
	comp=Z,3.3nm,1.0s,mb4.0						
KURK	Kurchatov	44.37	346	eP		P	18 58 37.6 -1.6
	comp=Z,45nm,1.2s,mb5.1						
HIA	Hailar	46.28	23	eP		P	18 58 54.8 +0.3
	comp=Z,15nm,1.1s,mb4.8						
ZAL	Zalesovo	46.30	352	P		P	18 58 54.5 -0.1
	comp=Z,12nm,0.9s,mb4.8,baz=295,slow=9.1,SNR=14						
NWAO	Narrogin (SRO)	46.37	153	P		P	18 58 54.0 -1.4
	comp=Z,9.0nm,1.0s,mb4.7,baz=172,slow=6.9,SNR=3.3						
NWAO	Narrogin (SRO)	46.37	153	eP		P	18 58 55.3 -0.1
	comp=Z,26nm,1.2s,mb5.0						
MDJ	Mudanjiang	47.59	34	eP		P	18 59 05.6 +0.7
	comp=Z,47nm,1.6s,mb5.3						
WRA	Warramunga Arr	48.40	126	P		P	18 59 10.3 -1.2
	comp=Z,4.6nm,1.1s,mb4.4,baz=305,slow=9.2,SNR=6.5						
WRAB	Tennant Creek	48.40	126	eP		P	18 59 10.4 -1.1
	comp=Z,9.2nm,0.8s,mb4.9						
BVAR	Borovoye Array	48.75	341	P		P	18 59 12.8 -0.9
	comp=Z,5.2nm,0.8s,mb4.6,baz=149,slow=8.4,SNR=14						
BRVK	Borovoye	48.81	341	eP		P	18 59 13.7 -0.6
	comp=Z,12nm,0.9s,mb4.9						
RAYN	Ar Rayn	48.99	294	P		P	18 59 17.9 +1.9
	comp=Z,96nm,1.0s,mb5.8,SNR=7.5						
CHKZ	Chkalovo	49.23	342	eP		P	18 59 15.5 -1.9
	comp=Z,33nm,1.1s,mb5.3						
ASAR	Alice Springs	50.07	130	P		P	18 59 23.9 -0.3
	comp=Z,1.7nm,0.8s,mb4.2,baz=305,slow=7.1,SNR=5.9						
ASAR				PcP		PcP	19 00 43.5 -0.3
	comp=Z,1.6nm,0.7s,baz=308,slow=3.7,SNR=6.9						
GNI	Garni	54.27	314	P		P	18 59 56.1 +0.6
	comp=Z,1.7nm,0.4s,mb4.3,baz=161,slow=23,SNR=3.8						
GNI	Garni	54.27	314	eP		P	18 59 55.9 +0.4
	comp=Z,21nm,1.3s,mb4.9						
PMG	Port Moresby	55.59	107	P		P	19 00 06.3 +0.8
	comp=Z,15nm,0.8s,mb5.1,baz=260,slow=6.2,SNR=5.3						
KIV	Kislovodsk	57.14	318	eP		P	19 00 15.2 -0.9
	comp=Z,18nm,1.1s,mb5.0						
KMBO	Kilima Mbogo	57.46	263	P		P	19 00 20.3 +1.4
	comp=Z,6.4nm,1.0s,mb4.6,baz=58,slow=10,SNR=11						
KMBO	Kilima Mbogo	57.46	263	eP		P	19 00 20.1 +1.2
	comp=Z,8.4nm,0.9s,mb4.8						
ASF	Jabal al Asfar	58.09	303	P		P	19 00 23.6 +0.6
	comp=Z,1.5nm,0.4s,mb4.3,baz=283,slow=4.6,SNR=3.3						
MALT	Malatya	58.31	310	eP		P	19 00 23.9 -0.5
	comp=Z,7.6nm,1.2s,mb4.6						
EIL	Elat	59.31	300	eP		P	19 00 31.8 +0.3
	comp=Z,25nm,1.4s,mb5.0						
YAK	Yakutsk	59.75	18	eP		P	19 00 32.6 -1.5
	comp=Z,17nm,0.9s,mb5.1						
STKA	Stephens Creek	60.27	134	P		P	19 00 37.1 -1.0
	comp=Z,2.0nm,0.9s,mb4.2,baz=32,slow=14,SNR=3.5						
STKA	Stephens Creek	60.27	134	P		P	19 00 37.4 -0.7
BRTR	Keskin Array B	62.27	311	P		P	19 00 49.5 -2.0
	comp=Z,2.3nm,0.8s,mb4.4,baz=119,slow=7.0,SNR=7.2						
MBAR	Mbarara	63.79	265	eP		P	19 01 02.8 +0.8
	comp=Z,7.9nm,1.2s,mb4.6						
AKASG	Malin Array Be	67.96	322	P		P	19 01 25.6 -2.3
	comp=Z,2.5nm,0.7s,mb4.3,baz=86,slow=4.9,SNR=10						
SANT	Santorini	68.08	306	eP		P	19 01 28.5 -0.4
	comp=Z,182nm,1.4s,mb5.9						
IDI	Anoyia	68.43	305	P		P	19 01 30.5 -0.7
	comp=Z,11nm,1.0s,mb4.8,baz=135,slow=2.9,SNR=3.0						
MLR	Muntele Rosu	69.00	316	P		P	19 01 34.8 +0.3
	comp=Z,9.2nm,0.9s,mb4.7,baz=118,slow=5.0						
KWP	Kalwaria	71.84	320	eP		P	19 01 50.7 -0.9
	comp=Z,28nm,1.4s,mb5.0						
KOLS	Kolonicke sedl	72.02	319	eP		P	19 01 53.3 +0.7
FINES	FINESS Array B	72.49	332	P		P	19 01 53.8 -1.4
	comp=Z,6.2nm,0.8s,mb4.6,baz=104,slow=7.9,SNR=7.4						
CRVS	Cervenica-Dubn	72.55	319	eP		P	19 01 56.0 +0.2
OJC	Ojcow	73.79	320	eP		P	19 02 02.5 -0.6
VYHS	Vyhne	74.23	318	eP		P	19 02 04.4 -1.2
OKC	Ostrava-Krasne	74.81	319	eP		P	19 02 10.1 +1.1
ARCES	ARCESS Array B	75.03	340	P		P	19 02 09.2 -0.7
	comp=Z,5.8nm,0.9s,mb4.5,baz=76,slow=5.0,SNR=6.2						
MORC	Moravsky Berou	75.19	319	eP		P	19 02 10.2 -0.9
	comp=Z,12nm,1.1s,mb4.7						
ZST	Bratislava	75.35	318	eP		P	19 02 12.1 0.0
ZST				e			19 02 15.3
BILL	Bilibino	75.85	22	eP		P	19 02 14.4 -0.1
	comp=Z,18nm,1.4s,mb4.8						
DPC	Dobruska-Polom	76.02	320	eP		P	19 02 15.9 0.0
UPC	Upice	76.23	320	eP		P	19 02 19.1 +2.0
PRU	Pruhonice	77.14	319	eP		P	19 02 23.4 +1.1
GERES	GERESS Array B	77.64	318	P		P	19 02 25.1 0.0
	comp=Z,6.0nm,0.8s,mb4.5,baz=90,slow=5.3,SNR=17						
KHC	Kasperske Hory	77.73	318	eP		P	19 02 26.5 +1.0
RUE	Ruedersdorf	77.74	322	eP		P	19 02 23.8 -1.6
	comp=Z,24nm,0.6s,mb5.3						
CLL	Collm	78.17	321	i P		P	19 02 29.0 +1.1
	comp=Z,12nm,1.3s,mb4.7						
CLL	Collm	78.17	321	P		P	19 02 29.0 +1.1
	comp=Z,logA/T=1.0,mb4.7						
HFS	Hagfors	78.24	330	P		P	19 02 27.7 -0.4
	comp=Z,13nm,1.0s,mb4.8,baz=90,slow=1.5,SNR=7.1						
GRA1	Grafenberg Arr	79.28	319	eP		P	19 02 34.0 0.0
	comp=Z,12nm,1.1s,mb4.7						
GRF	Grafenberg Arr	79.28	319	eP		P	19 02 34.0 0.0
	comp=Z,12nm,1.1s,mb4.7						
NB2	NORSAR Subarra	79.52	331	P		P	19 02 33.7 -1.3
	comp=Z,11nm,1.0s,mb4.7,baz=95,slow=5.3						
NOA	NORSAR Array B	79.52	331	P		P	19 02 34.3 -0.7
	comp=Z,4.5nm,0.8s,mb4.5,baz=93,slow=5.5,SNR=8.2						
LPG	La Plagne	82.45	315	⇑i P		P	19 02 51.3 +0.5
	comp=Z,20nm,0.7s,mb4.8						
BNI	Bardonecchia	82.53	314	eP		P	19 02 52.3 +1.1
	comp=Z,12nm,0.8s,mb5.0						
SYO	Syowa Base	85.65	197	⇓P		P	19 03 08.2 +1.9
SYO	Syowa Base	85.65	197	⇓sP		sP	19 03 30.3 +7.9
TNA	Tin City	85.93	24	eP		P	19 03 08.5 +0.8
ESDC	Sonseca Array	91.06	310	P		P	19 03 33.5 +0.6
	comp=Z,1.3nm,0.6s,mb4.5,baz=65,slow=4.1,SNR=6.0						
IMA	Indian Mountai	91.38	22	eP		P	19 03 35.0 +1.2
ILAR	Eielson Array	94.50	22	P		P	19 03 47.3 -0.7
	comp=Z,4.2nm,1.4s,mb4.7,baz=291,slow=4.1,SNR=5.3						
INK	Inuvik	96.74	16	P		P	19 03 58.4 +0.2
	comp=Z,5.4nm,1.2s,mb4.9,baz=254,slow=5.4,SNR=5.7						
NVAR	Mina Array Bea	124.69	31	PKP		PKPdf	19 09 29.5 +2.5
	comp=Z,0.4nm,0.5s,baz=328,slow=1.8,SNR=3.6						
PDAR	Pinedale Array	124.92	21	PKP		PKPdf	19 09 28.3 +1.0
	comp=Z,1.8nm,1.1s,slow=1.5,SNR=4.8						
PLCA	Paso Flores	144.79	200	PKP		PKPdf	19 10 03.9 -0.1
	comp=Z,6.6nm,1.0s,baz=208,slow=2.1,SNR=6.5						

*BJI **27** 18:52:31.2, 7.05N×93.76E, h30km, mB5.4, mb5.0, Ms5.7, Msz5.4*
*IDC **27** 18:52:34.2±0.5, 7.90N×94.17E, mb5.0/26, mb1 5.0/27, mb1mx5.0/29, mbtmp5.0/27, ML5.2/1, MS5.2/8, Ms1 5.2/8, ms1mx4.4/18, Error ellipse: s-maj=21.0km s-min=11.0km az=43.0, Putative timing error at LPAZ*
*MOS **27** 18:52:38.2±1.0, 7.87N×94.02E, h33km, mb5.5/94, MS5.2/23, Error ellipse: s-maj=8.1km s-min=4.5km az=118.1*
*NEIC **27** 18:52:38.9±0.2, 7.86N×94.11E, h30km, mb5.3/104, MS5.2/2, Error ellipse: s-maj=5.7km s-min=4.2km az=224.0*
*HRVD **27** 18:52:38.9±0.2, 7.85N×94.24E, h16km±1km, MW5.6/63, Centroid moment Tensor Solution. LP body waves: s44,c77;Mantle waves: s63,c126; Half duration: 1s5 Moment tensor: Scale 1017Nm; Mrr-0.26±.05; Mθθ-2.21±.05; Mφφ2.47±.05; Mrθ-1.06±.18; Mθφ0.80±.04; Mφr-0.48±.16; Best double couple: M0 2.742×1017 NP1: φs146°, δ65°, λ-173°. NP2:φs53°, δ84°, λ-25°. Principal axes: T 2.75, Plg13°, Azm102°; N -.018, Plg64°, Azm220°; P -2.733, Plg22°, Azm7°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 27 18:52:38.5±0.8, 7.81N±0.03×94.14E±0.03, h40km±6km, h31km±3.2km:pP-P, n393, σ1§13/398, mb5.3/140, MS5.3/34, 22C-17D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	Port Blair	4.07	340	eP		P	18 53 42.1 +2.2
PBA				eSG		S	18 54 42.2 +15
CM31	Chiang Mai Arr	11.57	23	eP		P	18 55 12.8 -11
CMAR	Chiang Mai Arr	11.57	23	P		P	18 55 23.2 -0.9
CMAR				pmax		pmax	
	comp=Z,4.0nm,0.3s						
CMAR				MLR		MLR	
	comp=Z,13μm,18.1s						
CMAR	Chiang Mai Arr	11.57	23	Pn		P	18 55 23.1 -1.0
	comp=Z,4.3nm,0.3s,baz=212,slow=14,SNR=34						
CMAR				LR		LR	18 59 59.4
	comp=Z,13μm,18.1s,baz=210,slow=39						
KKTK	Khon Kaen	11.99	44	P		P	18 55 30.0 +0.2
	comp=Z,370nm,0.9s						
CHRT	Chiangrai	13.18	24	⇓P		P	18 55 45.5 -0.1
	comp=Z,303nm,1.2s						
PALK	Pallekele	13.34	269	eP		P	18 55 43.6 -4.1
	comp=Z,21nm,0.9s						
VIS	Vishakhapatnam	14.43	314	eP		P	18 56 01.6 -0.4
VIS				e			18 56 22.4
	comp=Z,138nm,1.3s						
VIS				e			18 58 30.8
CAL	Calcutta	15.68	340	e		S	18 59 25.9 +15
AGT	Agartala	16.22	350	eP		P	18 56 25.0 -0.2
KOD	Kodaikanal	16.65	280	eP		P	18 56 33.3 +2.7
KOD				e			18 56 39.5
	comp=Z,181nm,1.6s						
KOD				e		S	18 59 49.3 +16
TRD	Trivandrum	17.03	274	e		P	18 56 46.4 +11
TRD				i			19 00 31.4
SHL	Shillong	17.79	353	eP		P	18 56 45.9 +1.0
SHL				eS		S	19 00 05.3 +6.0
HYB	Hyderabad	17.95	304	eP		P	18 56 45.0 -1.9
HYB				pmax		pmax	
	comp=Z,143nm,1.2s						
HYB	Hyderabad	17.95	304	i P		P	18 56 45.0 -1.9
	comp=Z,143nm,1.2s						
HYB				eS		S	19 00 07.0 +4.1
HYB				LR		LR	19 04 32.0
	comp=Z,7.4nm,16.0s						
QIZ	Qiongzhong	18.89	52	P		P	18 57 00.3 +1.9
QIZ				LR		LR	
	comp=N,35μm,11.6s						
QIZ				LR		LR	
	comp=E,10μm,11.8s						
QIZ	Qiongzhong	18.89	52	eP		P	18 57 00.6 +2.2
	comp=E,175nm,1.2s						
KMI	Kunming	19.07	24	⇑P		P	18 57 03.5 +3.0
KMI				S		S	19 00 38.2 +10
KMI				pmax		pmax	
	comp=Z,35nm,1.4s						
KMI	Kunming	19.07	24	⇑P		P	18 57 03.5 +3.0
	comp=Z,35nm,1.4s						
KMI				pP			18 57 13.4
KMI				sP			18 57 18.5
KMI				PP		PP	18 57 21.6 +4.1
KMI				S		S	19 00 38.2 +10
KMI				SS		SS	19 01 11.8 +17
MNGI	Mangalore	19.67	287	i P		P	18 57 06.0 -1.2
NGP	Nagpur	19.71	314	eP		P	18 57 08.1 +0.6
NGP				eS		S	19 00 47.6 +5.3
COCO	West Island	20.05	172	eP		P	18 57 11.5 +0.4
	comp=Z,294nm,1.1s						
ALBI	Allahabad	21.01	327	eP		P	18 57 21.0 -0.1
JIRN	Jiri	21.13	340	eP		P	18 57 21.7 -0.6
	comp=Z,664nm,1.1s,mb5.9						
GOA	Goa	21.30	293	e		P	18 57 31.6 +7.5
GOA				e			18 57 36.6
	comp=Z,137nm,1.0s						
GOA				eS		S	19 01 23.3 +10
PKI	Pulchoki	21.33	338	eP		P	18 57 24.8 +0.5
	comp=Z,384nm,1.0s,mb5.7						
DMN	Daman	21.47	338	eP		P	18 57 26.6 +0.9
	comp=Z,482nm,0.9s,mb5.8						
KKN	Kakani	21.57	338	eP		P	18 57 27.0 +0.3
	comp=Z,536nm,1.3s,mb5.8						
KAD	Karad	21.63	298	eP		P	18 57 27.8 +0.4
KAD				e			18 57 31.5
	comp=Z,141nm,1.1s						
LSA	Lhasa	21.96	353	P		P	18 57 33.3 +2.7
LSA				AMB		AMB	
	comp=Z,80nm,0.7s,mb5.3						
LSA	Lhasa	21.96	353	eP		P	18 57 30.3 -0.3
LSA				pmax		pmax	
	comp=Z,184nm,1.0s,mb5.5						
LSA	Lhasa	21.96	353	eP		P	18 57 30.2 -0.3
	comp=Z,184nm,1.0s,mb5.5						
GKN	Gorkha	22.01	337	eP		P	18 57 30.7 -0.4
	comp=Z,418nm,0.9s,mb5.9						
BHPL	Bhopal	22.21	316	eP		P	18 57 34.3 +1.2
BHPL				e			18 57 39.6
	comp=Z,292nm,1.4s						
KOLN	Koldanda	22.22	335	eP		P	18 57 33.6 +0.4
	comp=Z,242nm,0.8s,mb5.7						
POO	Poona	22.42	300	eP		P	18 57 36.1 +0.9
POO				e			18 57 44.6
	comp=Z,151nm,1.4s						
BOM	Bombay	23.47	300	e		P	18 57 41.8 -3.8
BOM				e			18 57 53.2
	comp=Z,111nm,1.4s						
BOM				eS		S	19 02 01.6 +8.8
NDI	New Delhi	26.19	325	eP		P	18 58 10.8 -0.7
NDI				e		pP	18 58 18.8 -3.4
	comp=Z,156nm,2.1s						
NDI				eS		S	19 02 41.5 +3.0
ENH	Enshi	26.58	31	eP		P	18 58 15.3 +0.2
	comp=Z,71nm,1.1s,mb5.1						
DDI	Dehra Dun	27.00	328	eP		P	18 58 18.2 -0.7
DDI				e			19 02 38.6
TGY	Tagaytay City	27.02	74	P		P	18 58 16.7 -2.5
TGY				pmax		pmax	
	comp=Z,68nm,0.5s						
TGY				MLR		MLR	
	comp=Z,4μm,18.9s						
TGY	Tagaytay City	27.02	74	P		P	18 58 16.7 -2.5
	comp=Z,68nm,0.5s,mb5.4,baz=202,slow=19,SNR=3.4						
TGY				LR		LR	19 09 33.4
	comp=Z,4μm,18.9s,MS5.0,baz=75,slow=38						
SMLA	Simla	28.10	328	e		P	18 58 44.3 +15
SMLA				e			18 58 48.4
	comp=Z,61nm,0.7s						
WHN	Wuhan	29.49	37	eP		P	18 58 41.5 +0.3
WHN				S		S	19 03 36.0 +4.4
WHN				LR		LR	
	comp=Z,19μm,12.4s,MS5.9						
LZH	Lanzhou	29.51	16	eP		P	18 58 41.5 +0.1
LZH				AP		pP	18 58 50.5 -1.8
LZH				XP		sP	18 58 54.3 -3.0
LZH				PP		PP	18 59 37.5 -0.5
LZH				S		S	19 03 32.5 +0.5
LZH				AMB		AMB	
	comp=Z,56nm,1.5s,mb5.1						
LZH				AMB		AMB	
	comp=Z,175nm,4.0s						
LZH				LR		LR	
	comp=E,6μm,12.5s						
LZH				LR		LR	
	comp=Z,7μm,13.3s,MS5.5						
LZH	Lanzhou	29.51	16	eP		P	18 58 41.5 +0.1
LZH				*PP		pP	18 58 50.6 -1.7
LZH				*SP		sP	18 58 54.3 -3.0
LZH							18 59 37.5
LZH				S		S	19 03 32.5 +0.5
LZH				*SS			19 03 48.0
LZH				SS		SS	19 05 06.5 +0.1
LZH				pmax		pmax	
	comp=Z,56nm,1.5s,mb5.1						
LZH				MLR		MLR	
	comp=Z,7μm,13.3s,MS5.5						
LZH	Lanzhou	29.51	16	eP		P	18 58 41.5 +0.1
	comp=Z,56nm,1.5s,mb5.1						
LZH				pP		pP	18 58 50.6 -1.7
LZH				sP		sP	18 58 54.3 -3.0
LZH				PP		PP	18 59 37.5 -0.5
LZH				S		S	19 03 32.5 +0.5
LZH				sS			19 03 48.0
LZH				SS		SS	19 05 06.5 +0.1
LZH				LR		LR	
	comp=Z,7μm,13.3s,MS5.5						
NJ2	Nanjing	33.32	40	eP		P	18 59 16.0 +1.1
NJ2				AP		pP	18 59 25.5 -0.4
NJ2				XP		sP	18 59 29.5 -1.5
NJ2				PP		PP	19 00 28.0 +0.9
NJ2				S		S	19 04 33.0 +1.3
NJ2				AMB		AMB	
	comp=Z,120nm,1.4s,mb5.6						
NJ2				AMB		AMB	
	comp=Z,1μm,6.0s						
NJ2				LR		LR	
	comp=N,3μm,22.2s,MS5.1						
NJ2				LR		LR	
	comp=E,4μm,20.4s,MS5.1						
NJ2				LR		LR	
	comp=Z,2μm,13.5s						
SSE	Sheshan	34.27	44	P		P	18 59 22.5 -0.6
SSE				S		S	19 04 46.5 +0.1
SSE				SS		SS	19 07 14.3 +17
SSE				AMB		AMB	
	comp=Z,42nm,0.7s,mb5.5						
SSE				AMB		AMB	
	comp=Z,377nm,7.9s						
SSE				LR		LR	
	comp=N,4μm,24.6s,MS5.2						
SSE				LR		LR	
	comp=E,4μm,24.7s,MS5.2						
SSE				LR		LR	
	comp=Z,2μm,14.6s						
SSE	Sheshan	34.27	44	P		P	18 59 22.4 -0.7
	comp=Z,42nm,0.7s,mb5.5						
SSE				S		S	19 04 46.5 +0.1
SSE				sS			19 05 00.2
SSE				SS		SS	19 07 14.3 +17
SSE				LR		LR	
	comp=Z,2μm,14.6s,MS5.0						
WMQ	Urumqi	36.31	352	⇑i P		P	18 59 40.0 -0.4
WMQ				AP		pP	18 59 49.8 -1.7
WMQ				XP		sP	18 59 53.5 -3.0
WMQ				PP		PP	19 01 03.0 -1.2
WMQ				PCP		PcP	19 02 05.3 +0.4
WMQ				S		S	19 05 17.3 -0.6
WMQ				AMB		AMB	
	comp=Z,274nm,1.4s,mb6.0						
WMQ				AMB		AMB	
	comp=Z,1μm,5.5s						
WMQ				LR		LR	
	comp=N,4μm,18.2s,MS5.3						
WMQ				LR		LR	
	comp=E,3μm,18.3s,MS5.3						
WMQ				LR		LR	
	comp=Z,5μm,18.6s,MS5.3						
JOW	Kunigami	37.49	55	LR		LR	19 15 33.3
	comp=Z,3μm,18.3s,MS5.1,baz=44,slow=37						
JMDO	Jabal Madar	37.56	297	⇑P		P	18 59 52.3 +1.2
BJT	Baijiatuau	37.64	28	eP		P	18 59 54.1 +2.5
BJT				pmax		pmax	
	comp=Z,20nm,0.7s						
BJT	Baijiatuau	37.64	28	eP		P	18 59 54.1 +2.5
	comp=Z,20nm,0.7s,mb5.0						
BJI	Beijing	37.66	28	P		P	18 59 54.5 +2.8
BJI							19 01 22.3
BJI				S		S	19 05 44.6 +6.1
BJI				pmax		pmax	
	comp=Z,17nm,1.2s,mb4.7						
BJI				MLR		MLR	
	comp=Z,3μm,23.4s,MS5.0						
BJI	Beijing	37.66	28	P		P	18 59 54.5 +2.8
	comp=Z,17nm,1.2s,mb4.7						
BJI				PP		PP	19 01 22.3 +1.3
BJI				S		S	19 05 44.6 +6.1
BJI				SS		SS	19 08 36.6 +22
BJI				LR		LR	
	comp=Z,3μm,23.4s,MS5.0						
SMDO	Samad	37.81	298	⇑P		P	18 59 55.5 +2.3
BIDO	Bidbid	37.89	298	P		P	18 59 56.6 +2.8
	SNR=7.0						
MBWA	Marble Bar	38.21	139	eP		P	18 59 55.9 -0.6
	comp=Z,21nm,1.1s,mb4.8						
UCH	Uchtor	38.41	336	P		P	18 59 58.6 +0.7
	SNR=13						
BSY	Bisya	38.47	297	⇑P		P	19 00 01.1 +2.5
KBK	Karagaybulak	38.61	337	P		P	18 59 59.5 -0.1
	SNR=15						
HOQ	Hoqain	38.62	298	P		P	19 00 03.0 +3.2
	SNR=13						
AML	Almayashu	38.67	335	P		P	19 00 01.0 +1.0
	SNR=20						
AAK	Ala-Archa	38.77	337	P		P	18 59 59.0 -1.9
	SNR=17						
AAK	Ala-Archa	38.77	337	c i P		P	19 00 02.0 +1.1
AAK				pmax		pmax	
	comp=Z,61nm,1.4s,mb5.1						
AAK	Ala-Archa	38.77	337	eP		P	19 00 00.1 -0.8
	comp=Z,58nm,1.1s,mb5.2						
CHMS	Chumysh	38.98	337	P		P	19 00 02.5 -0.2
	SNR=16						
ARQ	Araqi	39.24	297	⇓P		P	19 00 07.9 +2.9
USP	Ospenovka	39.30	337	P		P	19 00 05.3 -0.1
	SNR=21						
RBK	Rabkut	40.07	288	⇑P		P	19 00 14.1 +2.2
MKAR	Makanchi Array	40.15	347	i P		P	19 00 11.6 -0.8
MKAR				pmax		pmax	
	comp=Z,69nm,1.1s						
ABTO	Aybut	40.90	287	⇓P		P	19 00 20.9 +2.0
SONM	Songino Array	41.23	13	P		P	19 00 21.3 +0.1
	comp=Z,14nm,0.9s,mb4.6,baz=195,slow=8.0,SNR=13						
SONM				PcP		PcP	19 02 19.2 -1.1
	comp=Z,3.4nm,0.8s,baz=196,slow=3.5,SNR=4.6						
SONM				ScP			19 06 08.3
	comp=Z,1.3nm,1.1s,baz=214,slow=4.5,SNR=3.9						
ULN	Ulaanbaatar	41.40	13	eP		P	19 00 22.3 -0.3
ULN				pmax		pmax	
	comp=Z,13nm,1.0s,mb4.5						
ULN	Ulaanbaatar	41.40	13	eP		P	19 00 22.3 -0.3
	comp=Z,13nm,1.0s,mb4.5						
KS15	Wonju Array Si	42.48	41	eP		P	19 00 29.4 -2.3
SNY	Shenyang	42.73	33	⇓P		P	19 00 35.5 +1.9
SNY				S		S	19 06 57.8 +3.7
SNY				LR		LR	
	comp=N,3μm,18.9s						
SNY				LR		LR	
	comp=Z,4μm,16.5s,MS5.4						
MOY	Mondy	44.09	6	eP		P	19 00 46.3 +1.8
TLY	Talaya	44.43	8	eP		P	19 00 47.5 +0.2
TLY				eS		S	19 07 13.3 -5.5
TLY				eSS		SS	19 10 37.5 +7.6
TLY				pmax		pmax	
	comp=Z,6.0nm,0.8s,mb4.4						
TLY				MLR		MLR	
	comp=Z,3μm,20.0s,MS5.2						
TLY	Talaya	44.43	8	eP		P	19 00 46.9 -0.4
	comp=Z,21nm,1.5s,mb4.7						
KURK	Kurchatov	44.67	346	d i P		P	19 00 49.3 0.0
KURK	Kurchatov	44.67	346	eP		P	19 00 48.3 -0.9
	comp=Z,188nm,1.3s,mb5.8						
MUN	Mundaring	44.82	153	eP		P	19 00 52.0 +1.3
	comp=Z,62nm,1.1s,mb5.3						
MUN	Mundaring	44.82	153	eP		P	19 00 52.0 +1.3
MUN				pmax		pmax	
	comp=Z,62nm,1.1s,mb5.3						
IRK	Irkutsk	45.07	9	eP		P	19 00 43.2 -9.2
KLBR	Kellerberrin	45.22	151	eP		P	19 00 53.4 -0.5
	comp=Z,331nm,0.8s,mb6.2						
NWAO	Narrogin (SRO)	46.09	153	eP		P	19 01 01.0 +0.2
NWAO				pmax		pmax	
	comp=Z,100nm,1.2s						
NWAO	Narrogin (SRO)	46.09	153	P		P	19 01 01.3 +0.5
	comp=Z,32nm

comp=Z,14nm,1.0s,mb5.0
MDJ AMB AMB
comp=Z,108nm,3.3s
MDJ LR LR
comp=E,4µm,14.2s
MDJ LR LR
comp=Z,3µm,14.2s,MS5.5
MDJ Mudanjiang 47.86 34 *e*P **P 19 01 13.2 -1.3**
comp=Z,26nm,1.3s,mb5.1
WRA Warramunga Arr 48.22 125 P **P 19 01 16.0 -1.6**
WRA pmax pmax
comp=Z,10.0nm,1.0s
WRA Warramunga Arr 48.22 125 P **P 19 01 16.0 -1.6**
comp=Z,10.0nm,1.0s,mb4.8,baz=299,slow=10,SNR=18
WRAB Tennant Creek 48.22 125 *e*P **P 19 01 16.4 -1.3**
WRAB pmax pmax
comp=Z,46nm,1.1s,mb5.4
WRAB Tennant Creek 48.22 125 *e*P **P 19 01 16.4 -1.2**
comp=Z,46nm,1.1s,mb5.4
WB2 Warramunga Arr 48.23 125 *e*P **P 19 01 16.7 -1.0**
BVA0 Borovoye Array 49.05 341 *i* P **P 19 01 22.2 -1.4**
BVA0 pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
BVAR Borovoye Array 49.05 341 P **P 19 01 22.3 -1.3**
comp=Z,21nm,1.0s,mb5.1,baz=143,slow=7.4,SNR=13
BVAR PcP PcP 19 02 47.3 0.0
comp=Z,2.9nm,0.6s,baz=111,slow=3.3,SNR=4.9
BVAR ScP 19 06 41.4
comp=Z,3.2nm,0.9s,baz=153,slow=6.6,SNR=6.6
BRVK Borovoye 49.11 341 *e*P **P 19 01 23.5 -0.6**
BRVK pmax pmax
comp=Z,30nm,1.1s,mb5.2
BRVK Borovoye 49.11 341 *e*P **P 19 01 23.5 -0.6**
comp=Z,30nm,1.1s,mb5.2
RAYN Ar Rayn 49.12 294 P **P 19 01 25.9 +1.4**
comp=Z,282nm,0.9s,mb6.3,SNR=24
MAJO Matsushiro 49.20 48 *e*P **P 19 01 26.8 +1.8**
MAJO pmax pmax
comp=Z,28nm,1.3s,mb5.1
MAJO Matsushiro 49.20 48 *e*P **P 19 01 26.8 +1.8**
comp=Z,28nm,1.3s,mb5.1
MAT Matsushiro 49.20 48 P **P 19 01 25.9 +0.9**
CHKZ Chkalovo 49.54 342 P **P 19 01 26.4 -0.9**
CHKZ pmax pmax
comp=Z,49nm,0.9s,mb5.5
CHKZ Chkalovo 49.54 342 *e*P **P 19 01 26.1 -1.3**
comp=Z,69nm,0.9s,mb5.7
ASPA Alice Springs 49.87 130 *e*P **P 19 01 30.2 -0.1**
ASAR Alice Springs 49.87 130 P **P 19 01 29.1 -1.3**
comp=Z,4.2nm,0.7s,mb4.6,baz=306,slow=8.0,SNR=14
ASAR LR LR 19 24 28.0
comp=Z,1µm,19.3s,MS5.0,baz=297,slow=38
GUMO Guam 50.10 79 *e*P **P 19 01 33.2 +1.0**
GUMO pmax pmax
comp=Z,292nm,1.3s,mb6.2
GUMO Guam 50.10 79 *e*P **P 19 01 33.2 +1.0**
comp=Z,292nm,1.3s,mb6.2
FORT Forrest 50.28 141 *e*P **P 19 01 34.0 +0.6**
comp=Z,104nm,0.8s,mb5.9
KLR Kul'dur 51.94 31 *e*P **P 19 01 45.0 -0.6**
KLR MLR MLR
comp=E,3µm,12.5s
KLR MLR MLR
comp=Z,4µm,12.5s,MS5.7
BOD Bodaibo 52.21 13 *e*P **P 19 01 46.4 -1.1**
GNI Garni 54.48 314 P **P 19 02 04.7 +0.1**
GNI pmax pmax
comp=Z,35nm,1.2s
GNI Garni 54.48 314 P **P 19 02 04.7 +0.1**
comp=Z,35nm,1.2s,mb5.2,baz=345,slow=12,SNR=8.3
GNI Garni 54.48 314 *e*P **P 19 02 03.8 -0.9**
comp=Z,49nm,1.1s,mb5.3
CLNS Chul'man 54.49 20 *e*P **P 19 02 04.2 -0.3**
CLNS *e**PP pP 19 02 10.4 -5.6
CLNS *e* 19 03 07.6
CLNS *e* 19 04 02.9
CLNS *e*S **S 19 09 38.9 0.0**
CLNS *e*SS SS 19 13 24.2 +3.0
CLNS pmax pmax
comp=Z,33nm,0.8s,mb5.3
CLNS pmax pmax
comp=N,24nm,0.9s
CLNS pmax pmax
comp=E,25nm,1.0s
CLNS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CLNS pmax pmax
comp=N,4.0nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS smax
comp=N,1µm,14.7s
CLNS smax
comp=Z,1µm,13.5s
CLNS smax
comp=E,200nm,11.4s
CLNS MLR MLR
comp=Z,4µm,14.0s,MS5.6
CLNS MLR MLR
comp=N,3µm,12.0s,MS5.6
CLNS MLR MLR
comp=E,700nm,12.0s,MS5.6
TI2 Plekhanov 55.10 316 *i* P **P 19 02 08.0 -1.1**
ASAJ Asahikawa 55.46 41 LR LR 19 26 26.8
comp=E,1µm,18.4s,MS5.0,baz=212,slow=37
SVE Sverdlovsk 55.46 338 *e*P **P 19 02 08.0 -3.5**
SVE *e*S **S 19 09 44.0 -7.9**
SVE pmax pmax
comp=Z,120nm,1.5s,mb5.7
SVE MLR MLR
comp=N,1µm,21.0s,MS5.1
SVE MLR MLR
comp=E,2µm,21.0s,MS5.1
SVE MLR MLR
comp=Z,2µm,21.0s,MS5.2
PMG Port Moresby 55.51 107 *e*P **P 19 02 11.9 -0.5**
PMG pmax pmax
comp=Z,48nm,1.0s
PMG Port Moresby 55.51 107 P **P 19 02 13.0 +0.6**
comp=Z,31nm,0.9s,mb5.3,baz=341,slow=10,SNR=11
PMG Port Moresby 55.51 107 *e*P **P 19 02 11.8 -0.5**
comp=Z,48nm,1.0s,mb5.5
ARU Arti 55.95 337 P **P 19 02 14.0 -1.0**
comp=Z,219nm,1.0s,mb6.1,SNR=12
ARU Arti 55.95 337⇑ *i*P **P 19 02 09.6 -5.4**
ARU *e* 19 03 08.6
ARU *e* 19 04 13.5
ARU *e*S **S 19 09 53.1 -5.3**
ARU *e* 19 11 54.4
ARU *e*SSS SSS 19 15 44.4 -8.3
ARU pmax pmax
comp=Z,46nm,1.1s,mb5.4
ARU MLR MLR
comp=Z,2µm,20.0s,MS5.3
ARU MLR MLR
comp=N,2µm,21.0s,MS5.2
ARU MLR MLR
comp=E,700nm,20.0s,MS5.2
ERZM Erzurum 56.82 313 P **P 19 02 21.5 0.0**
YSS Yuzh-Sakhalins 56.83 38 *e*P **P 19 02 21.2 -0.3**
YSS Yuzh-Sakhalins 56.83 38 *e*P pP 19 02 29.1 -3.9
comp=E,38nm,1.1s
KIV Kislovodsk 57.37 318 P **P 19 02 24.4 -0.9**
comp=E,255nm,1.0s,mb6.2,SNR=9.4
KIV Kislovodsk 57.37 318 *d i*P **P 19 02 24.4 -0.9**
KIV *e* 19 04 30.6
KIV *e*S **S 19 10 17.8 +0.5**
KIV pmax pmax
comp=Z,50nm,1.0s,mb5.5
KIV MLR MLR
comp=Z,715nm,20.0s,MS4.8
KIV MLR MLR
comp=N,370nm,18.0s,MS4.9
KIV MLR MLR
comp=E,813nm,20.0s,MS4.9
KIV Kislovodsk 57.37 318 *e*P **P 19 02 22.8 -2.6**
comp=E,76nm,1.2s,mb5.6
KMBO Kilima Mbogo 57.42 264 P **P 19 02 27.6 +1.5**
KMBO pmax pmax
comp=Z,8.0nm,0.7s
KMBO Kilima Mbogo 57.42 264 P **P 19 02 27.6 +1.5**
comp=Z,8.2nm,0.7s,mb4.9,baz=49,slow=9.6,SNR=16
KMBO Kilima Mbogo 57.42 264 *e*P **P 19 02 25.7 -0.4**
comp=Z,47nm,1.2s,mb5.4
ELZG Elazig 58.14 311 P **P 19 02 29.0 -1.8**
ASF Jabal al Asfar 58.26 303 P **P 19 02 31.1 -0.6**
comp=Z,21nm,1.2s,mb5.0,baz=328,slow=2.9,SNR=6.6
CTA Charters Tower 58.27 119 P **P 19 02 33.0 +1.1**
CTA pmax pmax
comp=Z,10.0nm,1.1s
CTA MLR MLR
comp=Z,2µm,19.0s
CTA Charters Tower 58.27 119 P **P 19 02 33.0 +1.0**
comp=Z,9.6nm,1.1s,mb4.8,baz=306,slow=7.7,SNR=5.0
CTA LR LR 19 29 26.2
comp=Z,2µm,19.0s,MS5.2,baz=188,slow=38
CTA Charters Tower 58.27 119 P **P 19 02 33.0 +1.0**
CTA LR LR 19 29 26.2
CTAO Charters Tower 58.27 119 *e*P **P 19 02 33.0 +1.1**
CTAO pmax pmax
comp=Z,19nm,1.1s,mb5.0
CTAO Charters Tower 58.27 119 *e*P **P 19 02 33.0 +1.0**
comp=Z,19nm,1.1s,mb5.0
MALT Malatya 58.51 310 *e*P **P 19 02 31.8 -1.6**
MALT pmax pmax
comp=Z,39nm,1.4s,mb5.2
MALT Malatya 58.51 310 *e*P **P 19 02 31.8 -1.6**
comp=Z,39nm,1.4s,mb5.2
SOKR Solíkamsk 58.86 339⇓ *i*P **P 19 02 36.0 +0.5**
SOKR pmax pmax
comp=Z,80nm,0.9s,mb5.8
SOKR MLR MLR
comp=Z,3µm,21.0s,MS5.3
GZT Gaziantep 58.91 309 P **P 19 02 31.8 -4.3**
SOC Sochi 59.23 317 *e*P **P 19 02 35.1 -3.2**
SOC *e* 19 03 21.5
SOC *e* 19 04 46.3
SOC *e*PPP PPP 19 06 11.0 -5.0
SOC *e*S **S 19 10 41.8 +0.2**
SOC *e* 19 12 14.8
SOC pmax pmax
comp=N,30nm,1.0s
SOC pmax pmax
comp=Z,38nm,1.0s,mb5.4
SOC pmax pmax
comp=E,14nm,0.7s
SOC MLR MLR
comp=Z,1µm,22.0s,MS4.9
SOC MLR MLR
comp=N,1µm,18.0s,MS5.1
SOC MLR MLR
comp=E,798nm,20.0s,MS5.1
EIL Elat 59.46 300 *e*P **P 19 02 38.2 -1.9**
comp=E,16nm,0.8s,mb5.1
KAHT Ahir Dag 59.51 309 P **P 19 02 37.5 -2.9**
YAK Yakutsk 60.06 18 *e*P **P 19 02 44.1 +0.4**
YAK *e**PP pP 19 02 54.3 -1.0
YAK *e* 19 03 30.6
YAK *e* 19 04 53.4
YAK *e*S **S 19 10 53.5 +1.5**
YAK *e*SSS SSS 19 17 29.6 +6.8
YAK pmax pmax
comp=Z,27nm,0.9s,mb5.3
YAK pmax pmax
comp=N,14nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,2.0nm,1.0s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK smax
comp=N,32nm,7.4s
YAK smax
comp=E,46nm,5.9s
YAK MLR MLR
comp=Z,1µm,13.0s,MS5.2
YAK MLR MLR
comp=N,831nm,14.0s,MS5.2
YAK MLR MLR
comp=E,630nm,12.0s,MS5.2
YAK Yakutsk 60.06 18 *e*P **P 19 02 42.0 -1.7**
comp=E,59nm,0.8s,mb5.7
STKA Stephens Creek 60.06 134 *e*P **P 19 02 42.6 -1.6**
comp=E,9.2nm,1.0s,mb4.8
STKA Stephens Creek 60.06 134 P **P 19 02 42.7 -1.5**
comp=E,25nm,1.2s,mb5.1,baz=294,slow=7.5,SNR=8.8
STKA LR LR 19 33 46.8
comp=E,2µm,18.5s,MS5.3,baz=302,slow=41
ANN Anapa 61.19 317 *e*P **P 19 02 41.2 -10**
ANN *e* 19 02 49.2
ANN pmax pmax
comp=Z,35nm,0.9s,mb5.5
BOYT Boyabat 61.96 313 P **P 19 02 55.3 -1.6**
BRTR Keskin Array B 62.47 311 P **P 19 02 58.3 -2.1**
BRTR pmax pmax
comp=Z,10.0nm,0.9s
BRTR Keskin Array B 62.47 311 P **P 19 02 58.3 -2.1**
comp=Z,9.7nm,0.9s,mb4.9,baz=127,slow=6.2,SNR=15
VOR Voronezh 62.64 325 *e*P **P 19 03 02.0 +0.7**
VOR pmax pmax
comp=Z,150nm,1.3s,mb6.0
ELDT Eldivan 62.81 312 P **P 19 03 01.4 -1.2**
BALT Daday 63.09 313 P **P 19 03 03.1 -1.3**
SIM Simferopol' 63.48 317 *e*P **P 19 03 07.0 +0.1**
SIM pmax pmax
comp=Z,22nm,0.9s,mb5.3
SIM MLR MLR
comp=Z,1µm,22.4s,MS5.0
MBAR Mbarara 63.76 265 *d i*P **P 19 03 10.5 +1.2**
MBAR Mbarara 63.76 265 *e*P **P 19 03 09.2 -0.1**
comp=Z,25nm,1.2s,mb5.1
ESKT Eskisehir 64.53 310 P **P 19 03 11.5 -2.4**
MOS Moscow 65.14 329 *e*P **P 19 03 16.7 -0.8**
MOS *e* 19 03 43.4
MOS *e*S S 19 11 55.8 0.0
MOS pmax pmax
comp=Z,183nm,1.2s,mb6.0
MOS MLR MLR
comp=Z,2µm,20.3s,MS5.3
OBN Obninsk 65.44 328⇓ *e*P **P 19 03 15.7 -3.8**
OBN *e* 19 03 51.2
OBN *e* 19 05 40.2
OBN *e*S S 19 11 57.2 -2.3
OBN pmax pmax
comp=Z,122nm,1.5s,mb5.7
OBN MLR MLR
comp=Z,2µm,23.0s,MS5.1
OBN Obninsk 65.44 328 *e*P **P 19 03 14.8 -4.7**
comp=Z,145nm,1.3s,mb5.8
MA2 Magadan 66.82 28 *e*P **P 19 03 30.3 +2.1**
MA2 *e*S S 19 12 20.9 +4.7
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MA2 MLR MLR
comp=Z,4µm,22.0s,MS5.6
MA2 Magadan 66.82 28 *e*P **P 19 03 25.2 -2.9**
comp=Z,30nm,1.1s,mb5.2
TIXI Tiksi 67.30 11⇑ *e*P **P 19 03 29.4 -1.6**
TIXI pmax pmax
comp=Z,55nm,1.2s,mb5.5
KIS Kishinev 67.57 318 *e*P **P 19 03 31.0 -2.1**
KIS *e* 19 03 48.0
AKASG Malin Array Be 68.21 322 P **P 19 03 34.7 -2.3**
AKASG pmax pmax
comp=Z,11nm,0.8s
AKASG Malin Array Be 68.21 322 P **P 19 03 34.7 -2.3**
comp=Z,11nm,0.8s,mb5.0,baz=86,slow=4.7,SNR=15
SANT Santorini 68.26 306 *e*P **P 19 03 37.4 -0.3**
comp=Z,153nm,1.3s,mb5.9
IDI Anoyia 68.61 305 P **P 19 03 38.3 -1.4**
comp=Z,9.1nm,0.5s,mb4.9,baz=41,slow=7.3,SNR=12
VRI Vrincioaia 68.75 316⇓ P **P 19 03 40.2 -0.3**
SEY Seymchan 68.98 25 *e*P **P 19 03 41.5 -0.1**
SEY 19 04 01.7
SEY 19 06 18.8
SEY PPP PPP 19 07 58.2 +3.6
SEY *e*S S 19 12 43.0 +0.9
SEY 19 13 34.0
SEY SS SS 19 17 14.5 +4.5
SEY pmax pmax
comp=Z,20nm,1.1s,mb5.0
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY pmax pmax
comp=E,10.0nm,0.9s
SEY smax
comp=N,2µm,29.1s
SEY smax
comp=E,2µm,20.8s
SEY MLR MLR
comp=Z,9µm,18.0s,MS6.1
SEY MLR MLR
comp=N,8µm,20.0s,MS6.0
SEY MLR MLR
comp=E,2µm,17.0s,MS6.0
MLR Muntele Rosu 69.22 316⇓ P **P 19 03 43.3 -0.1**
MLR Muntele Rosu 69.22 316 P **P 19 03 43.2 -0.2**
comp=E,38nm,1.1s,mb5.2,baz=23,slow=0.9,SNR=10
LSZ Lusaka 69.25 250 *e*P **P 19 03 44.9 +0.9**
LSZ pmax pmax
comp=Z,29nm,1.4s,mb5.0
LSZ Lusaka 69.25 250 *e*P **P 19 03 44.9 +0.9**
comp=Z,29nm,1.4s,mb5.0
MNK Minsk 70.01 325 *e*P **P 19 03 44.0 -4.0**
PUL Pulkovo 70.27 331 *e*P **P 19 03 51.0 +1.5**
PUL pmax pmax
comp=Z,69nm,0.8s,mb5.6
PUL pmax pmax
comp=N,76nm,0.6s
PUL pmax pmax
comp=E,90nm,0.7s
JOF Joensuu 70.91 334 *e*p **P 19 03 52.4 -0.9**
comp=E,1.8nm,0.4s,mb4.3
KWP Kalwaria 72.08 320 *e*P **P 19 04 00.0 -0.5**
KWP Kalwaria 72.08 320 *e*P **P 19 03 60.0 -0.5**
JAN Janina 72.20 309⇓ *i*P **P 19 03 59.0 -2.4**
JAN pmax pmax
comp=Z,30nm,0.8s,mb5.3
JAN MLR MLR
comp=Z,2µm,20.0s,MS5.5
KOLS Kolonicke sedl 72.26 319 *e*P **P 19 04 01.3 -0.3**
KOLS *e* pP 19 04 13.5 0.0
SUW Suwalki 72.56 324 *e*P **P 19 04 02.5 -0.8**
FINES FINESS Array B 72.77 332 P **P 19 04 03.6 -0.8**
FINES pmax pmax
comp=Z,18nm,0.8s
FINES FINESS Array B 72.77 332 P **P 19 04 03.6 -0.8**
comp=Z,18nm,0.8s,mb5.0,baz=108,slow=6.0,SNR=15
CRVS Cervenica-Dubn 72.78 319 *e*P **P 19 04 04.8 +0.1**
KAF Kangasniemi 72.85 333 *e*p **P 19 04 03.6 -1.3**
comp=Z,29nm,0.9s,mb5.2,baz=124,slow=5.7
KAF Kangasniemi 72.85 333 *e*P **P 19 04 03.6 -1.3**
KAF pmax pmax
comp=Z,29nm,0.9s,mb5.2
NIE Niedzica 73.60 319 *e*P **P 19 04 09.2 -0.3**
PSZ Piszkesteto 73.69 318⇑ *e*P **P 19 04 09.4 -0.7**
OJC Ojcow 74.03 320 *e*P **P 19 04 11.7 -0.3**
LBTB Lobatse 74.21 241 *e*P **P 19 04 14.5 +0.9**
LBTB pmax pmax
comp=Z,21nm,0.9s,mb5.1
LBTB Lobatse 74.21 241 *e*P **P 19 04 14.4 +0.8**
comp=Z,21nm,0.9s,mb5.1
VYHS Vyhne 74.46 318 *e*P **P 19 04 13.6 -0.9**
VYHS *e* 19 04 30.6
KEV Kevo 74.90 341 *e*p **P 19 04 17.8 +1.1**
comp=Z,27nm,1.2s,mb5.1
KEV Kevo 74.90 341 *e*P **P 19 04 17.8 +1.1**
KEV pmax pmax
comp=Z,27nm,1.2s,mb5.0
OKC Ostrava-Krasne 75.04 319 *e*P **P 19 04 17.4 -0.5**
OKC *e*x x 19 04 21.0
OKC AMS AMS 19 44 30.0
comp=Z,600nm,19.7s
ARCES ARCESS Array B 75.33 340 P **P 19 04 19.3 +0.2**
ARCES pmax pmax
comp=Z,14nm,0.8s
ARCES ARCESS Array B 75.33 340 P **P 19 04 19.3 +0.2**
comp=Z,14nm,0.8s,mb4.9,baz=100,slow=7.4,SNR=11
MORC Moravsky Berou 75.43 319 *e*P **P 19 04 18.5 -1.6**
MORC pmax pmax
comp=Z,60nm,1.3s,mb5.4
MORC Moravsky Berou 75.43 319 *e*P **P 19 04 18.5 -1.6**
comp=Z,60nm,1.3s,mb5.4
BOSA Boshof 75.55 238 *e*P **P 19 04 21.8 +0.6**
BOSA pmax pmax
comp=Z,32nm,1.0s,mb5.2
BOSA Boshof 75.55 238 *e*P **P 19 04 21.8 +0.6**
comp=Z,32nm,1.0s,mb5.2
ZST Bratislava 75.58 318 *e*P **P 19 04 20.5 -0.5**
ZST *e* 19 04 24.6
GKP Gorka Klasztor 75.95 323 *e*P **P 19 04 22.9 -0.1**
BILL Bilibino 76.15 22 *i* P **P 19 04 24.6 +0.8**
BILL pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BILL Bilibino 76.15 22 *e*P **P 19 04 23.7 -0.1**
comp=Z,7.0nm,0.8s,mb4.6
DPC Dobruska-Polom 76.26 320 *e*P **P 19 04 24.5 -0.3**
DPC *e*x x 19 04 27.3
DPC *e*S S 19 14 12.0 +7.0
DPC AMS AMS 19 46 40.0
comp=Z,700nm,16.2s
KSP Ksiaz 76.32 320 *e*P **P 19 04 25.3 +0.2**
KSP Ksiaz 76.32 320 *e*P **P 19 04 26.0 +0.9**
UPC Upice 76.47 320 *e*P **P 19 04 26.4 +0.4**
ARSA Arzberg 76.59 317⇑ *i*P **P 19 04 27.0 +0.3**
comp=Z,27nm,1.2s,mb5.0
PERS Pernice 76.83 316 *e*P **P 19 04 27.8 -0.3**
PRU Pruhonice 77.38 319 *e*P **P 19 04 31.1 0.0**
PRU *e*x x 19 04 34.5
PRU *e*S S 19 14 20.9 +3.7
PRU AMS AMS 19 45 30.0
comp=Z,600nm,17.8s
PVCC Panska Ves 77.39 320 *e*P **P 19 04 31.5 +0.3**
PVCC AMS AMS 19 44 30.0
comp=Z,900nm,20.9s
MOA Molln 77.47 317⇓ *i*P **P 19 04 31.3 -0.3**
comp=Z,22nm,1.5s,mb4.9
BSD Bornholm Skovb 77.48 325 *e*P **P 19 04 35.3 +3.8**
BSD pmax pmax
comp=Z,52nm,1.0s,mb5.4
BSD Bornholm Skovb 77.48 325 *e*P **P 19 04 35.3 +3.8**
comp=Z,52nm,1.0s,mb5.4
BSD Bornholm Skovb 77.48 325 *i* P **P 19 04 35.3 +3.8**
comp=Z,52nm,1.0s,mb5.4
BRG Berggiesshubel 77.80 320 *e*P **P 19 04 33.6 +0.2**
BRG pmax pmax
comp=Z,48nm,1.6s,mb5.2
BRG Berggiesshubel 77.80 320 *e*P **P 19 04 33.6 +0.2**
comp=Z,48nm,1.6s,mb5.2
GEC2 GERESS Array S 77.88 318 *e*P **P 19 04 34.0 +0.1**
GEC2 pmax pmax
comp=Z,43nm,1.2s,mb5.2
GEC2 GERESS Array S 77.88 318 *e*P **P 19 04 34.0 +0.1**
comp=Z,43nm,1.2s,mb5.2
GERES GERESS Array B 77.88 318 P **P 19 04 34.1 +0.2**
GERES pmax pmax
comp=Z,13nm,0.8s
GERES GERESS Array B 77.88 318 P **P 19 04 34.1 +0.2**
comp=Z,13nm,0.8s,mb4.9,baz=90,slow=5.3,SNR=16
KHC Kasperske Hory 77.97 319 *e*P **P 19 04 34.1 -0.3**
KHC *e*x x 19 04 37.4
KHC *e*S S 19 14 24.5 +0.9
KHC AMS AMS 19 42 40.0
comp=Z,600nm,18.5s
RUE Ruedersdorf 77.98 322 *e*P **P 19 04 34.1 -0.2**
comp=Z,171nm,1.3s,mb5.8
KBA Koelnbreinsper 78.07 316⇑ *i*P **P 19 04 33.4 -1.5**
comp=Z,30nm,1.2s,mb5.1
KBA Koelnbreinsper 78.07 316⇑ *i*P **P 19 04 33.4 -1.5**
KBA pmax pmax
comp=Z,30nm,1.2s,mb5.1
CLL Collm 78.41 321 *i* P **P 19 04 36.7 -0.1**
CLL *i* 19 04 41.6
CLL Collm 78.41 321 P **P 19 04 36.7 -0.1**
CLL *i **PP pP 19 04 41.6 -7.1
WET Wettzell 78.43 319 *e*P **P 19 04 37.0 +0.1**
WET pmax pmax
comp=Z,34nm,1.3s,mb5.1
WET Wettzell 78.43 319 *e*P **P 19 04 37.0 +0.1**
comp=Z,34nm,1.3s,mb5.1
MAW Mawson 78.47 192 *e*P **P 19 04 36.3 -0.4**
MAW pmax pmax
comp=Z,80nm,1.7s
MAW Mawson 78.47 192 LR LR 19 34 46.4
comp=Z,982nm,18.1s,MS5.2,baz=42,slow=32
MAW Mawson 78.47 192 *e*P **P 19 04 36.3 -0.4**
comp=Z,80nm,1.7s,mb5.4
HFS Hagfors 78.52 330 P **P 19 04 36.5 -0.6**
HFS pmax pmax
comp=Z,20nm,0.7s
HFS Hagfors 78.52 330 P **P 19 04 36.5 -0.6**
comp=Z,20nm,0.7s,mb5.2,baz=96,slow=4.9,SNR=19
HFS Hagfors 78.52 330 P **P 19 04 36.5 -0.6**
NKC Novy Kostel 78.73 320 *e*P **P 19 04 39.0 +0.5**
NKC *e*x x 19 04 41.7
NKC *e*S S 19 14 35.8 +4.1

NKC AMS AMS 19 44 20.0
comp=Z,700nm,20.7s
WTTA Wattenberg 79.23 317⇑ *i*P P 19 04 40.7 -0.6
comp=Z,41nm,1.2s,mb5.2
WTTA Wattenberg 79.23 317⇑ *i*P P 19 04 40.7 -0.6
WTTA pmax pmax
comp=Z,41nm,1.2s,mb5.2
MOX Moxa 79.28 320 *e*P P 19 04 42.2 +0.7
MOX pmax pmax
comp=Z,37nm,1.4s,mb5.1
MOX MLR MLR
comp=Z,1μm,19.0s,MS5.2
MOX Moxa 79.28 320 *e*P P 19 04 42.2 +0.7
comp=Z,37nm,1.4s,mb5.1
MOX LR LR
comp=Z,1μm,19.0s,MS5.2
MOX Moxa 79.28 320 *i* P P 19 04 42.2 +0.7
comp=Z,logA/T=1.4,mb5.1
MOX L 19 46 14.0
WATA Walderalm 79.28 317⇓ *i*P P 19 04 40.9 -0.7
comp=Z,24nm,1.1s,mb5.0
WATA Walderalm 79.28 317⇓ *i*P P 19 04 40.9 -0.7
WATA pmax pmax
comp=Z,24nm,1.1s,mb5.0
FUR Furstenfeldbru 79.48 317 *e*P P 19 04 42.3 -0.3
FUR pmax pmax
comp=Z,35nm,1.0s,mb5.2
FUR Furstenfeldbru 79.48 317 *e*P P 19 04 42.3 -0.3
comp=Z,35nm,1.0s,mb5.2
GRA1 Grafenberg Arr 79.52 319 *e*P P 19 04 43.3 +0.5
comp=Z,42nm,1.1s,mb5.3
GRF Grafenberg Arr 79.52 319 *e*P P 19 04 43.3 +0.5
GRF pmax pmax
comp=Z,42nm,1.1s,mb5.3
GRF Grafenberg Arr 79.52 319 *e*P P 19 04 43.3 +0.5
GRF pmax pmax
comp=Z,42nm,1.1s,mb5.3
GRF Grafenberg Arr 79.52 319 *e*P P 19 04 43.3 +0.5
comp=Z,42nm,1.1s,mb5.3
SQTA Sankt Quirin 79.53 317⇑ *i*P P 19 04 42.2 -0.7
comp=Z,38nm,1.4s,mb5.1
SQTA Sankt Quirin 79.53 317⇑ *i*P P 19 04 42.2 -0.7
SQTA pmax pmax
comp=Z,38nm,1.4s,mb5.1
MOTA Moosalm 79.60 317⇑ *i*P P 19 04 42.1 -1.2
comp=Z,21nm,1.1s,mb5.0
MOTA Moosalm 79.60 317⇑ *i*P P 19 04 42.1 -1.2
MOTA pmax pmax
comp=Z,21nm,1.1s,mb5.0
NB2 NORSAR Subarra 79.79 331 P P 19 04 42.6 -1.5
comp=Z,6.3nm,0.7s,mb4.7,baz=95,slow=5.0
NB2 NORSAR Subarra 79.79 331 P P 19 04 42.6 -1.5
NB2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
NOA NORSAR Array B 79.79 331 P P 19 04 42.9 -1.2
NOA pmax pmax
comp=Z,12nm,0.8s
NOA NORSAR Array B 79.79 331 P P 19 04 42.9 -1.2
comp=Z,12nm,0.8s,mb4.9,baz=92,slow=5.7,SNR=16
NAO01 NORSAR Array S 79.94 330 *e*P P 19 04 42.1 -2.8
comp=Z,12nm,0.7s,mb4.9
CLZ Clausthal 80.06 321 *e*P P 19 04 45.9 +0.2
comp=Z,51nm,1.2s,mb5.3
BSEG Bad Segeberg 80.11 323 *e*P P 19 04 46.2 +0.3
SUR Sutherland 80.30 235 *e*P P 19 04 49.7 +2.3
comp=Z,49nm,1.3s,mb5.3
DAVA Damuels 80.43 317⇑ *i*P P 19 04 47.7 -0.1
comp=Z,34nm,1.1s,mb5.2
MUD Monsted U'grnd 80.77 326 *e*P P 19 04 51.3 +2.0
MUD pmax pmax
comp=Z,67nm,1.2s,mb5.5
MUD Monsted U'grnd 80.77 326 *e*P P 19 04 51.3 +2.0
comp=Z,67nm,1.2s,mb5.4
MUD Monsted U'grnd 80.77 326 *i* P P 19 04 51.3 +2.0
comp=Z,67nm,1.2s,mb5.4
STU Stuttgart 80.86 318 *e*P P 19 04 50.5 +0.5
STU pmax pmax
comp=Z,39nm,1.3s,mb5.2
STU Stuttgart 80.86 318 *e*P P 19 04 50.5 +0.5
comp=Z,39nm,1.3s,mb5.2
TOD Tromm 81.09 319 *e*P P 19 04 54.0 +2.8
SPAK Spaichingen 81.15 317 *e*P P 19 04 54.5 +3.0
PGF Pioggiola 81.20 312 *e*P P 19 04 51.3 -0.7
TNS Taunus Mts 81.30 320 *e*P P 19 04 52.5 +0.2
TNS pmax pmax
comp=Z,26nm,1.4s,mb5.0
TNS Taunus Mts 81.30 320 *e*P P 19 04 52.5 +0.2
comp=Z,26nm,1.4s,mb5.0
BFO Black Forest 81.44 318 *e*P P 19 04 52.7 -0.4
BFO pmax pmax
comp=Z,29nm,1.3s,mb5.0
BFO Black Forest 81.44 318 *e*P P 19 04 52.7 -0.4
comp=Z,29nm,1.3s,mb5.0
FELD Feldberg 81.68 317 *e*P P 19 04 55.1 +0.8
LANF Langenberg 81.77 318 *e*P P 19 04 57.7 +3.0
CDF Champ du Feu 82.14 318 *e*P P 19 04 56.2 -0.5
comp=Z,28nm,1.1s,mb4.8
CDF Champ du Feu 82.14 318 *e*P P 19 04 56.2 -0.5
CDF pmax pmax
comp=Z,14nm,1.1s,mb4.8
RUP Ruppelstein 82.22 319 *e*P P 19 05 00.3 +3.3
ECH Echery 82.23 318 *e*P P 19 04 59.9 +2.8
MOF Molkenrain 82.27 317 *e*P P 19 04 58.1 +0.8
SBF Sospel 82.28 313 *e*P P 19 04 57.4 -0.1
comp=Z,96nm,1.0s,mb5.4
SBF Sospel 82.28 313 *e*P P 19 04 57.4 -0.1
SBF pmax pmax
comp=Z,48nm,1.0s,mb5.4
HINF Hinteralfeld 82.46 317 *e*P P 19 04 57.5 -0.8
LOMF Lomont 82.50 317 *e*P P 19 05 01.4 +2.9
LPG La Plagne 82.67 315 *e*P P 19 04 59.7 +0.3
comp=Z,65nm,1.1s,mb5.3
LPG La Plagne 82.67 315 *e*P P 19 04 59.7 +0.3
LPG pmax pmax
comp=Z,32nm,1.1s,mb5.3
LPL La Plagne 82.68 315 *e*P P 19 04 59.8 +0.3
comp=Z,90nm,1.1s,mb5.4
LPL La Plagne 82.68 315 *e*P P 19 04 59.8 +0.3
LPL pmax pmax
comp=Z,45nm,1.1s,mb5.4
MBDF Montbardon 82.70 314 *e*P P 19 04 58.8 -0.8
comp=Z,21nm,0.9s,mb4.9
MBDF Montbardon 82.70 314 *e*P P 19 04 58.8 -0.8
MBDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BNI Bardonecchia 82.75 314 *e*P P 19 04 59.5 -0.3
BNI pmax pmax
comp=Z,39nm,1.2s,mb5.3
BNI Bardonecchia 82.75 314 *e*P P 19 04 59.5 -0.3
comp=Z,39nm,1.2s,mb5.3
HAU Haudompre 82.79 317 *e*P P 19 04 59.4 -0.6
comp=Z,84nm,1.2s,mb5.3
HAU *e*R
comp=Z,739nm,22.2s
HAU Haudompre 82.79 317 *e*P P 19 04 59.4 -0.6
HAU pmax pmax
comp=Z,42nm,1.2s,mb5.3
HAU MLR MLR
comp=Z,740nm,22.3s,MS5.0
WLF Walferdange 82.81 319 *e*P P 19 04 56.8 -3.3
WLF pmax pmax
comp=Z,88nm,1.6s,mb5.5
WLF Walferdange 82.81 319 *e*P P 19 04 56.8 -3.2
comp=Z,88nm,1.6s,mb5.5
FRF La Foret Royal 82.87 313 *e*P P 19 05 00.5 0.0
comp=Z,141nm,1.5s,mb5.5
FRF La Foret Royal 82.87 313 *e*P P 19 05 00.5 0.0
FRF pmax pmax
comp=Z,71nm,1.5s,mb5.5
CABF La Chapelle 83.06 316 *e*P P 19 05 01.6 +0.2
comp=Z,78nm,1.3s,mb5.3
CABF La Chapelle 83.06 316 *e*P P 19 05 01.6 +0.2
CABF pmax pmax
comp=Z,39nm,1.3s,mb5.3
MEZF Maizieres J'vi 83.61 318 *e*P P 19 05 04.2 0.0
GIVF Givet 83.64 320 *e*P P 19 05 04.4 +0.1
BAIF Baives 84.04 320 *e*P P 19 05 06.7 +0.4
comp=Z,70nm,1.3s,mb5.3
BAIF Baives 84.04 320 *e*P P 19 05 06.7 +0.4
BAIF pmax pmax
comp=Z,35nm,1.3s,mb5.3
VIVF Saint-Julien-l 84.18 314 *e*P P 19 05 07.1 -0.1
comp=Z,63nm,1.3s,mb5.3
VIVF Saint-Julien-l 84.18 314 *e*P P 19 05 07.1 -0.1
VIVF pmax pmax
comp=Z,32nm,1.3s,mb5.3

SMF Signal de Mont 84.59 316 *e*P P 19 05 08.8 -0.4
comp=Z,76nm,1.3s,mb5.3
SMF Signal de Mont 84.59 316 *e*P P 19 05 08.8 -0.4
SMF pmax pmax
comp=Z,38nm,1.3s,mb5.4
SSF Saint Saulge 84.78 317 *e*P P 19 05 09.8 -0.3
SSF pmax pmax
comp=Z,26nm,1.4s,mb5.2
SSF Saint Saulge 84.78 317 *e*P P 19 05 09.8 -0.3
comp=Z,26nm,1.4s,mb5.2
PLDF La Plantade 84.81 316 *e*P P 19 05 13.7 +3.4
AVF Avril sur Loir 84.91 316 *e*P P 19 05 10.4 -0.4
comp=Z,23nm,1.1s,mb4.9
AVF Avril sur Loir 84.91 316 *e*P P 19 05 10.4 -0.4
AVF pmax pmax
comp=Z,12nm,1.1s,mb4.9
BGF Bois d'Agland 85.29 316 *e*P P 19 05 12.8 +0.2
comp=Z,79nm,1.4s,mb5.3
BGF Bois d'Agland 85.29 316 *e*P P 19 05 12.8 +0.2
BGF pmax pmax
comp=Z,40nm,1.4s,mb5.4
SYO Syowa Base 85.34 197 ⇓P P 19 05 14.7 +2.3
SYO Syowa Base 85.34 197 ⇓PcP PcP 19 05 18.5 +2.6
SYO Syowa Base 85.34 197 ⇑pP pP 19 05 25.4 +0.9
HYF Humbligny 85.35 317 *e*P P 19 05 13.4 +0.5
TCF Toulx Ste Croi 85.75 316 *e*P P 19 05 15.3 +0.4
comp=Z,64nm,1.5s,mb5.3
TCF Toulx Ste Croi 85.75 316 *e*P P 19 05 15.3 +0.4
TCF pmax pmax
comp=Z,32nm,1.5s,mb5.3
CAF Calviac 86.02 315 *e*P P 19 05 16.6 +0.4
comp=Z,109nm,1.7s,mb5.5
CAF Calviac 86.02 315 *e*P P 19 05 16.6 +0.4
CAF pmax pmax
comp=Z,55nm,1.7s,mb5.5
TNA Tin City 86.22 24 *e*P P 19 05 17.3 +0.5
RJF Les Rejaudoux 86.36 315 *e*P P 19 05 18.4 +0.5
comp=Z,99nm,1.5s,mb5.5
RJF *e*R
comp=Z,703nm,22.8s
RJF Les Rejaudoux 86.36 315 *e*P P 19 05 18.4 +0.5
RJF pmax pmax
comp=Z,50nm,1.5s,mb5.5
RJF MLR MLR
comp=Z,700nm,22.8s,MS5.0
LDF La Druitiere 87.02 318 *e*P P 19 05 21.2 +0.2
comp=Z,58nm,1.2s,mb5.4
LDF La Druitiere 87.02 318 *e*P P 19 05 21.2 +0.2
LDF pmax pmax
comp=Z,29nm,1.2s,mb5.4
FLN La Foliniere 87.23 319 *e*P P 19 05 22.3 +0.2
comp=Z,201nm,1.8s,mb5.8
FLN *e*R
comp=Z,852nm,22.0s
FLN La Foliniere 87.23 319 *e*P P 19 05 22.3 +0.2
FLN pmax pmax
comp=Z,100nm,1.8s,mb5.7
FLN MLR MLR
comp=Z,850nm,22.0s,MS5.1
MFF Saint Martin d 87.33 317 *e*P P 19 05 22.6 0.0
comp=Z,80nm,1.5s,mb5.4
MFF Saint Martin d 87.33 317 *e*P P 19 05 22.6 0.0
MFF pmax pmax
comp=Z,40nm,1.5s,mb5.4
GRR Gorron 87.53 318 *e*P P 19 05 23.6 +0.1
comp=Z,196nm,1.8s,mb5.7
GRR Gorron 87.53 318 *e*P P 19 05 23.6 +0.1
GRR pmax pmax
comp=Z,98nm,1.8s,mb5.7
DAG Danmarks Havn 87.54 348 *e*P P 19 05 23.0 0.0
DAG pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
DAG Danmarks Havn 87.54 348 *e*P P 19 05 23.0 0.0
comp=Z,2.5nm,0.9s,mb4.4
DAG Danmarks Havn 87.54 348 *i* P P 19 05 23.0 0.0
comp=Z,2.5nm,0.9s,mb4.4
ETSF Etsaut 88.18 313 *e*P P 19 05 27.9 +1.2
comp=Z,54nm,1.3s,mb5.3
ETSF Etsaut 88.18 313 *e*P P 19 05 27.9 +1.2
ETSF pmax pmax
comp=Z,27nm,1.3s,mb5.3
ESDC Sonseca Array 91.26 310 P P 19 05 41.3 -0.1
comp=Z,9.3nm,1.1s,mb5.0,baz=51,slow=4.7,SNR=7.2
ESLA Sonseca Array 91.26 310 *e*P P 19 05 40.8 -0.6
comp=Z,9.9nm,1.3s,mb5.0
IMA Indian Mountai 91.68 22 *e*P P 19 05 44.0 +1.3
VNDA Vanda 92.86 168 *e*P P 19 05 54.2 +6.3
VNDA pmax pmax
comp=Z,5.0nm,0.9s
VNDA Vanda 92.86 168 *e*P P 19 05 54.2 +6.3
comp=Z,4.7nm,0.9s,mb4.9
SPU Mount Spurr 94.34 26 *e*P P 19 05 54.7 -0.2
MCK McKinley 94.52 23 *e*P P 19 05 58.1 +2.5
MCK pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
MCK McKinley 94.52 23 *e*P P 19 05 58.1 +2.4
comp=Z,3.0nm,0.8s,mb4.8
ILAR Eielson Array 94.80 22 P P 19 05 57.0 +0.1
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 94.80 22 P P 19 05 57.0 +0.1
comp=Z,1.0nm,0.7s,mb4.3,baz=312,slow=4.3,SNR=9.6
INK Inuvik 97.06 16 P P 19 06 07.1 0.0
INK pmax pmax
comp=Z,10.0nm,1.2s
INK Inuvik 97.06 16 P P 19 06 07.1 0.0
comp=Z,10nm,1.2s,mb5.1,baz=317,slow=7.2,SNR=7.8
RES Resolute Bay 97.47 2 *e*P P 19 06 09.4 +0.5
RES pmax pmax
comp=Z,15nm,1.0s,mb5.4
RES Resolute Bay 97.47 2 *e*P P 19 06 09.4 +0.5
comp=Z,15nm,1.0s,mb5.4
QSPA South Pole Qui 97.71 180 P P 19 06 14.1 +4.2
comp=Z,5.6nm,1.1s,mb5.0
DBIC Dimbokro 97.96 278 *e*P P 19 06 14.2 +1.7
DBIC pmax pmax
comp=Z,25nm,1.4s
DBIC Dimbokro 97.96 278 P P 19 06 14.1 +1.6
comp=Z,6.3nm,1.1s,mb5.0,baz=104,slow=11,SNR=3.0
DBIC Dimbokro 97.96 278 *e*P P 19 06 14.2 +1.7
comp=Z,25nm,1.4s,mb5.6
TBI Tubuai 117.26 112 *e*SS SS 19 28 42.1 +2.8
TBI *e*LR LR 19 46 22.5
comp=Z,910nm,34.2s
PPT Papeete 117.32 106 *e*PS PS 19 22 19.1 +2.5
PPT *e*SS SS 19 28 44.3 +4.1
PPT *e*LR LR 19 46 41.1
comp=Z,1μm,34.0s
MNV Mina 125.05 31 *e*PKIKP PKPdf 19 11 38.3 +3.1
PDAR Pinedale Array 125.23 21 PKP PKPdf 19 11 37.2 +1.8
comp=Z,2.4nm,0.7s,baz=135,slow=2.1,SNR=5.5
HWUT Hardware Ranch 125.47 24 *e*PKPdf PKPdf 19 11 35.8 -0.1
MSU Marysvale 127.81 26 *e*PKIKP PKPdf 19 11 44.3 +3.7
ANMO Albuquerque 133.23 23 PKIKP PKPdf 19 11 53.2 +2.2
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 133.23 23 PKP PKPdf 19 11 53.2 +2.2
comp=Z,1.8nm,0.8s,baz=343,slow=0.5,SNR=5.5
TXAR Lajitas Array 139.28 24 PKP PKPdf 19 12 02.9 +0.7
comp=Z,0.7nm,0.4s,baz=180,slow=1.3,SNR=4.3
LRAL Lakeview Retre 139.37 1 *e*PKPdf PKPdf 19 12 08.3 +6.0
JCT Junction City 139.65 19 *e*PKIKP PKPdf 19 12 05.9 +3.1
BAO Brasilia Array 142.17 255 P PKPdf 19 12 09.0 +1.3
PLCA Paso Flores 144.49 200 PKIKP PKPdf 19 12 12.3 +1.3
PLCA pmax pmax
comp=Z,16nm,0.9s
PLCA Paso Flores 144.49 200 PKP PKPdf 19 12 12.3 +1.3
comp=Z,16nm,0.9s,baz=149,slow=3.3,SNR=15
PLCA Paso Flores 144.49 200 *e*PKPdf PKPdf 19 12 11.5 +0.5
TEIG Tepich 152.04 5 *e*PKPdf PKPdf 19 12 25.6 +1.8
SDV Santo Domingo 157.53 317 PKP PKPdf 19 12 35.2 +3.9
comp=Z,2.4nm,0.5s,baz=272,slow=5.2,SNR=3.2
LVC Limon Verde 158.04 226 PKPab PKPab 19 13 06.2 -1.4
comp=Z,11nm,1.1s,baz=229,slow=0.7,SNR=5.8
LPAZ La Paz 160.74 242 PKP PKPdf 19 11 53.5 -41
comp=Z,3.0nm,1.1s,baz=64,slow=6.6,SNR=4.7

*IDC **27** 19:01:48.4±0.9, 7.70N×93.94E, mb4.1/9, mb1 4.3/10, mb1mx4.1/19, mbtmp4.1/10, Error ellipse: s-maj=39.6km s-min=19.3km az=54.0*
ISC 27 19:01:51.7±0.9, 7.8N±0.1×94.1E±0.2, h33km, n14, σ0°76/11, mb4.1/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.60**	**23**	Pn	P	19 04 37.1	-0.8
	baz=211,slow=14,SNR=5.7						
SONM	**Songino Array**	**41.25**	**13**	P	P	19 09 35.8	+0.6
	3.2nm,1.2s,mb3.8,baz=198,slow=7.8,SNR=7.5						
SONM				PcP	PcP	19 11 32.8	-1.5
	0.7nm,0.9s,baz=180,slow=4.3,SNR=3.1						
ZAL	**Zalesovo**	**46.62**	**352**	P	P	19 10 19.8	+1.3
	3.0nm,0.9s,mb4.2,baz=290,slow=11,SNR=14						
WRA	**Warramunga Arr**	**48.24**	**125**	P	P	19 10 31.9	+0.2
	1.5nm,0.7s,mb4.1,baz=304,slow=9.3,SNR=7.3						
BVAR	**Borovoye Array**	**49.05**	**341**	P	P	19 10 37.5	+0.1
	1.5nm,0.9s,mb4.0,baz=146,slow=5.3,SNR=5.3						
ASAR	**Alice Springs**	**49.89**	**130**	P	P	19 10 44.1	-0.2
	2.5nm,1.0s,mb4.2,baz=301,slow=7.0,SNR=7.4						
BRTR	**Keskin Array B**	**62.45**	**311**	P	P	19 12 12.9	-1.1
	1.4nm,0.8s,mb4.1,baz=117,slow=6.3,SNR=4.8						
FINES	**FINESS Array B**	**72.76**	**332**	P	P	19 13 17.2	-1.1
	3.5nm,0.8s,mb4.3,baz=108,slow=12,SNR=5.7						
GERES	**GERESS Array B**	**77.86**	**318**	P	P	19 13 48.3	+0.6
	1.9nm,0.8s,mb4.0,baz=90,slow=4.0,SNR=10.0						
NB2	**NORSAR Subarra**	**79.78**	**331**	P	P	19 13 58.5	+0.6
	1.1nm,0.7s,mb3.9,baz=96,slow=5.3						
NOA	**NORSAR Array B**	**79.78**	**331**	P	P	19 13 58.5	+0.5
	1.6nm,0.7s,mb4.0,baz=93,slow=5.6,SNR=5.0						
NVAR	**Mina Array Bea**	**125.00**	**31**	PKP	PKPdf	19 20 52.7	+3.6
	0.3nm,0.4s,baz=324,slow=1.7,SNR=3.7						
PDAR	**Pinedale Array**	**125.25**	**21**	PKP	PKPdf	19 20 52.9	+3.4
	0.6nm,0.8s,baz=45,slow=4.2,SNR=4.4						
PLCA	**Paso Flores**	**144.46**	**200**	PKP	PKPdf	19 21 27.1	+2.1
	6.2nm,1.0s,baz=144,slow=3.2,SNR=7.5						

IDC 27 19:04:24.3±1.3, 7.92N×93.71E, mb4.1/6, mb1 4.2/7, mb1mx3.9/19, mbtmp4.0/7, ML3.6/1, Error ellipse: s-maj=54.7km s-min=27.3km az=51.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.64**	**25**	Pn	P	19 07 12.6	-2.3
	0.1nm,0.3s,baz=212,slow=15,SNR=8.0						
ZAL	**Zalesovo**	**46.44**	**353**	P	P	19 12 52.5	-2.1
	2.1nm,0.9s,baz=302,slow=6.8,SNR=6.1						
WRA	**Warramunga Arr**	**48.64**	**125**	P	P	19 13 10.2	-2.0
	1.1nm,0.6s,baz=305,slow=8.5,SNR=9.0						
FINES	**FINESS Array B**	**72.47**	**332**	P	P	19 15 51.7	-2.7
	3.0nm,1.0s,baz=79,slow=9.7,SNR=5.4						
GERES	**GERESS Array B**	**77.50**	**318**	P	P	19 16 23.1	-0.4
	1.0nm,0.7s,baz=90,slow=5.3,SNR=5.7						
HFS	**Hagfors**	**78.20**	**330**	P	P	19 16 24.7	-2.3
	1.8nm,0.7s,baz=180,slow=1.5,SNR=5.6						
NOA	**NORSAR Array B**	**79.48**	**331**	P	P	19 16 33.5	-0.5
	1.2nm,0.9s,baz=98,slow=5.1,SNR=2.7						

*IDC **27** 19:07:01.4±7.9, 8.36N×93.85E, h70km±70km, mb3.7/8, mb1 3.8/9, mb1mx3.6/21, mbtmp4.0/9, ML3.7/1, Error ellipse: s-maj=68.7km s-min=19.0km az=64.0*
ISC 27 19:06:55.6±0.8, 8.2N±0.1×93.8E±0.2, h33km, n17, σ1°00/16, mb4.1/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.32**	**26**	P	P	19 09 38.2	+0.2
	0.1nm,0.3s,baz=212,slow=14,SNR=13						
JIRN	**Jiri**	**20.62**	**340**	*e*P	P	19 11 37.6	+2.8
	32nm,0.9s						
PKI	**Pulchoki**	**20.81**	**339**	*e*P	P	19 11 36.6	-0.1
	50nm,1.1s						
DMN	**Daman**	**20.96**	**338**	*e*P	P	19 11 37.9	-0.3
	47nm,0.9s						
KKN	**Kakani**	**21.06**	**339**	*e*P	P	19 11 39.2	0.0
GKN	**Gorkha**	**21.49**	**337**	*e*P	P	19 11 43.8	+0.2
KOLN	**Koldanda**	**21.70**	**335**	*e*P	P	19 11 47.3	+1.6
	23nm,0.7s,mb4.7						
SONM	**Songino Array**	**40.88**	**13**	P	P	19 14 35.8	-0.4
	1.6nm,1.0s,mb3.6,baz=213,slow=6.5,SNR=6.3						
ZAL	**Zalesovo**	**46.15**	**353**	P	P	19 15 19.0	+0.3
	2.2nm,0.9s,mb4.1,baz=298,slow=9.1,SNR=7.3						
NWAO	**Narrogin (SRO)**	**46.62**	**153**	P	P	19 15 24.2	+1.6
	7.0nm,0.8s,mb4.7,baz=354,slow=8.5,SNR=4.0						
BVAR	**Borovoye Array**	**48.54**	**341**	P	P	19 15 36.4	-1.1
	2.7nm,1.1s,mb4.2,baz=135,slow=4.2,SNR=4.8						
ASAR	**Alice Springs**	**50.39**	**130**	P	P	19 15 51.5	-0.7
	1.1nm,0.8s,mb3.9,baz=306,slow=7.7,SNR=5.5						
GERES	**GERESS Array B**	**77.34**	**318**	P	P	19 18 48.8	0.0
	0.5nm,0.5s,mb3.7,baz=76,slow=5.5,SNR=4.6						
HFS	**Hagfors**	**77.98**	**330**	P	P	19 18 50.8	-1.3
	1.0nm,0.6s,mb3.9,baz=101,slow=7.3,SNR=2.9						
NB2	**NORSAR Subarra**	**79.26**	**331**	P	P	19 18 57.4	-1.6
	2.0nm,0.8s,mb4.1,baz=91,slow=5.8						
NOA	**NORSAR Array B**	**79.26**	**331**	P	P	19 18 58.1	-0.9
	0.6nm,0.8s,mb3.6,baz=230,slow=24,SNR=3.3						
PLCA	**Paso Flores**	**144.77**	**201**	PKP	PKPdf	19 26 31.6	+2.1
	1.5nm,0.8s,baz=357,slow=2.2,SNR=3.6						

*IDC **27** 19:07:58.6±6.0, 8.90N×93.42E, h66km±55km, mb3.8/9, mb1 4.0/10, mb1mx3.8/20, mbtmp4.1/10, ML3.8/1, Error ellipse: s-maj=56.8km s-min=36.7km az=106.0*
ISC 27 19:07:54.3±4.3, 9.0N±0.6×93.2E±0.5, h33km, n12, σ0°74/11, mb4.2/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.93**	**30**	P	P	19 10 31.4	-0.1
	0.2nm,0.3s,baz=210,slow=14,SNR=5.9						
ZAL	**Zalesovo**	**45.32**	**353**	P	P	19 16 12.5	+1.6
	1.1nm,0.3s,mb4.1,baz=286,slow=9.0,SNR=3.2						
KMBO	**Kilima Mbogo**	**56.64**	**263**	P	P	19 17 37.6	+0.6
	1.8nm,0.7s,mb4.2,baz=57,slow=14,SNR=5.4						
BRTR	**Keskin Array B**	**61.00**	**311**	P	P	19 18 06.7	-0.3
	1.1nm,0.7s,mb4.1,baz=128,slow=8.2,SNR=4.2						
AKASG	**Malin Array Be**	**66.70**	**322**	P	P	19 18 42.9	-1.2
	2.4nm,0.9s,mb4.2,baz=89,slow=4.9,SNR=4.5						
MLR	**Muntele Rosu**	**67.73**	**315**	P	P	19 18 50.9	+0.3
	3.5nm,0.8s,mb4.4,baz=251,slow=6.1,SNR=3.9						
FINES	**FINESS Array B**	**71.29**	**332**	P	P	19 19 12.0	-0.2
	2.9nm,0.8s,mb4.3,baz=106,slow=14,SNR=4.9						
GERES	**GERESS Array B**	**76.38**	**318**	P	P	19 19 42.5	+0.4
	3.2nm,1.0s,mb4.2,baz=90,slow=5.3,SNR=7.5						
HFS	**Hagfors**	**77.03**	**330**	P	P	19 19 45.4	-0.1
	1.5nm,0.4s,mb4.2,baz=90,slow=3.0,SNR=5.0						
NB2	**NORSAR Subarra**	**78.31**	**331**	P	P	19 19 51.5	-1.0
	1.7nm,0.7s,mb4.1,baz=91,slow=5.8						
NOA	**NORSAR Array B**	**78.31**	**331**	P	P	19 19 51.7	-0.8
	1.5nm,0.9s,mb3.9,baz=94,slow=5.3,SNR=4.3						
PLCA	**Paso Flores**	**145.26**	**202**	PKPbc	PKPbc	19 27 28.1	-1.3
	3.4nm,0.9s,baz=108,slow=3.2,SNR=5.8						

IDC 27 19:09:21.3±3.5, 7.74N×93.72E, mb4.1/5, mb1 4.2/6, mb1mx3.8/19, mbtmp4.0/6, ML4.2/1, Error ellipse: s-maj=90.3km s-min=50.0km az=128.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.80**	**25**	Pn	P	19 12 11.2	-2.9
	0.4nm,0.3s,baz=210,slow=15,SNR=6.7						
ZAL	**Zalesovo**	**46.62**	**353**	P	P	19 17 50.9	-2.1
	1.4nm,0.4s,baz=327,slow=5.9,SNR=3.1						
BRTR	**Keskin Array B**	**62.20**	**311**	P	P	19 19 44.5	-2.6
	0.6nm,0.6s,baz=135,slow=5.2,SNR=3.7						
FINES	**FINESS Array B**	**72.63**	**332**	P	P	19 20 50.0	-2.4
	1.9nm,0.7s,baz=129,slow=8.9,SNR=3.7						
GERES	**GERESS Array B**	**77.64**	**318**	P	P	19 21 20.8	-0.5
	1.0nm,0.8s,baz=63,slow=6.0,SNR=3.7						
HFS	**Hagfors**	**78.36**	**330**	P	P	19 21 24.0	-1.0
	1.8nm,0.7s,baz=117,slow=6.6,SNR=4.2						
PLCA	**Paso Flores**	**144.28**	**201**	PKP	PKPdf	19 28 58.9	-2.5
	2.1nm,0.9s,baz=105,slow=3.4,SNR=3.2						

*IDC **27** 19:09:51.9±0.7, 50.16S×161.82E, mb4.7/7, mb1 4.9/9, mb1mx4.8/12, mbtmp4.8/9, ML4.4/2, MS4.3/2, Ms1 4.3/2, ms1mx3.5/16, Error ellipse: s-maj=26.2km s-min=21.0km az=42.0*
*BJI **27** 19:09:53.5, 50.20S×161.80E, h10km, mB5.8, mb5.3, Ms6.1, Msz5.5*
*NEIC **27** 19:09:53.6±0.4, 50.16S×161.77E, h10km, mb4.9/13, Error ellipse: s-maj=10.6km s-min=8.8km az=49.0*
ISC 27 19:09:51.8±0.5, 50.09S±0.06×161.95E±0.07, h10km, n60, σ1°15/49, mb4.8/15, MS4.0/1, 3C-4D, North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	5.79	39	P	Pn	19 11 20.1	+0.2
WHZ	**Wether Hill Ro**	5.81	46	⇓P	Pn	19 11 21.3	+1.1
WHZ				S	Sn	19 12 27.5	-0.2
MLZ	**Mavora Lakes**	6.33	44	P	Pn	19 11 28.6	+1.1
MLZ				S	Sn	19 12 39.6	-1.1
TUZ	**Tuapeka**	6.60	54	P	Pn	19 11 32.5	+1.1
TUZ				S	Sn	19 12 47.7	+0.2
MSZ	**Milford Sound**	6.76	39	*e*P	Pn	19 11 34.8	+1.2
EAZ	**Earnscleugh**	6.95	48	P	Pn	19 11 36.1	-0.1
WKZ	**Wanaka**	7.11	45	*e*P	Pn	19 11 39.9	+1.4
WKZ				S	Sn	19 13 01.0	+0.8
JCZ	**Jackson Bay**	7.60	40	P	Pn	19 11 46.8	+1.5
ODZ	**Otahua Downs**	7.74	53	P	Pn	19 11 46.2	-1.1
LBZ	**Lake Benmore**	7.99	48	P	Pn	19 11 48.8	-2.0
FOZ	**Fox Glacier**	8.40	42	P	P	19 11 57.4	+0.8
RPZ	**Rata Peaks**	8.91	48	Pn	P	19 12 03.3	-0.3
	5.2nm,0.3s,baz=215,slow=5.8,SNR=16						
RPZ				Sn	Sn	19 13 43.1	-1.9
	1.7nm,0.3s,baz=277,slow=17,SNR=1.9						
DSZ	**Denniston Nort**	10.79	43	*e*P	P	19 12 26.9	-2.5
THZ	**Tophouse**	11.28	47	P	P	19 12 35.0	-1.0
QRZ	**Quartz Range**	11.86	43	P	P	19 12 43.1	-0.8
TAU	**Tasmania Unive**	12.36	300	*e*P	P	19 12 44.5	-6.2
	81nm,0.9s						
TAU				*e*S	S	19 14 53.3	-16
URZ	**Urewera**	16.03	48	Pn	P	19 13 42.1	+3.4
	1.1nm,0.3s,baz=220,slow=7.0,SNR=14						
URZ				LR	LR	19 20 14.3	
	comp=Z,2μm,19.1s,baz=223,slow=39						
TOO	**Toolangi**	17.20	310	*e*P	P	19 13 55.1	+1.5
	1.1nm,0.6s						
CNB	**Canberra Magne**	17.38	323	*e*P	P	19 13 57.4	+1.5
	370nm,0.9s						
STKA	**Stephens Creek**	23.68	313	*e*P	P	19 15 05.8	+1.6
	29nm,0.6s,mb4.8						
STKA	**Stephens Creek**	23.68	313	P	P	19 15 06.5	+2.3
	32nm,0.7s,mb4.9,baz=140,slow=9.9,SNR=53						
VNDA	**Vanda**	27.54	180	P	P	19 15 40.2	+0.1
	4.5nm,1.1s,mb4.0,baz=16,slow=10,SNR=4.8						
VNDA				LR	LR	19 25 42.7	
	comp=Z,378nm,19.5s,MS4.0,baz=54,slow=35						
VNDA	**Vanda**	27.54	180	*e*P	P	19 15 39.6	-0.5
	9.3nm,1.1s,mb4.3						
SBA	**Scott Base**	27.93	178	*e*P	P	19 15 43.5	-0.1
	38nm,1.4s,mb4.8						
CTA	**Charters Tower**	32.43	332	*e*P	P	19 16 26.5	+2.4
	8.3nm,1.0s,mb4.5						
CTA	**Charters Tower**	32.43	332	P	P	19 16 23.6	-0.5
	4.1nm,0.8s,mb4.3,baz=129,slow=5.5,SNR=5.1						
CTAO	**Charters Tower**	32.43	332	*e*P	P	19 16 24.7	+0.6
	25nm,1.3s,mb4.9						
ASAR	**Alice Springs**	34.25	310	P	P	19 16 39.4	-0.5
	26nm,0.8s,mb5.2,baz=147,slow=8.5,SNR=134						
ASAR				PcP	PcP	19 19 15.6	-1.0
	1.6nm,0.9s,baz=143,slow=2.1,SNR=4.0						
ASPA	**Alice Springs**	34.25	310	⇓*i*P	P	19 16 39.4	-0.5
NWAO	**Narrogin (SRO)**	36.99	280	P	P	19 17 01.3	-1.7
	12nm,0.7s,mb4.8,baz=133,slow=7.2,SNR=4.2						
NWAO	**Narrogin (SRO)**	36.99	280	*e*P	P	19 17 00.7	-2.3
	46nm,1.4s,mb5.1						
WB2	**Warramunga Arr**	37.21	314	⇑*i*P	P	19 17 04.4	-0.6
WRA	**Warramunga Arr**	37.22	314	P	P	19 17 04.1	-0.9
	17nm,0.9s,mb4.9,baz=147,slow=8.1,SNR=50						
WRA				PcP	PcP	19 19 24.7	-0.6
	1.9nm,0.6s,baz=149,slow=2.7,SNR=9.0						
WRAB	**Tennant Creek**	37.22	314	*e*P	P	19 17 04.5	-0.6
	71nm,1.3s,mb5.3						
KLBR	**Kellerberrin**	37.55	283	*e*P	P	19 17 06.5	-1.2
	363nm,1.1s						
QSPA	**South Pole Qui**	40.03	180	⇑*i*P	P	19 17 29.4	+1.4
	23nm,1.1s,mb4.8						
FITZ	**Fitzroy Crossi**	43.12	305	*e*P	P	19 17 53.6	-0.3
	13nm,0.6s,mb4.8						
MBWA	**Marble Bar**	43.97	295	*e*P	P	19 17 59.8	-0.9
	26nm,0.7s,mb5.1						
KAKA	**Kakadu**	44.42	317	*e*P	P	19 18 04.0	-0.5
	7.7nm,0.6s,mb4.6						
SYO	**Syowa Base**	53.90	202	⇓P	P	19 19 11.9	-4.9
CMAR	**Chiang Mai Arr**	87.89	302	P	P	19 22 43.8	+1.0
	4.5nm,0.9s,mb4.7,baz=152,slow=3.0,SNR=13						
KMI	**Kunming**	91.38	309	P	P	19 23 03.2	+4.2
	7.0nm,1.7s,mb4.7						
MDJ	**Mudanjiang**	98.44	337	P	P	19 23 35.3	+4.5
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb5.0						
ILAR	**Eielson Array**	121.19	23	PKP	PKPdf	19 28 45.5	-1.6
	comp=Z,0.9nm,0.8s,baz=293,slow=3.0,SNR=8.4						
ZAL	**Zalesovo**	122.15	317	PKP	PKPdf	19 28 45.3	-3.8
	comp=Z,13nm,0.8s,baz=298,slow=6.6,SNR=48						
INK	**Inuvik**	127.38	25	PKP	PKPdf	19 28 56.6	-2.1
	comp=Z,2.8nm,0.9s,baz=190,slow=2.6,SNR=7.2						
YKA	**Yellowknife Ar**	130.04	37	PKP	PKPdf	19 29 01.2	-2.8
	comp=Z,0.4nm,0.8s,baz=218,slow=1.8,SNR=7.9						
DBIC	**Dimbokro**	135.34	199	PKP	PKPdf	19 29 13.3	-1.9
	comp=Z,3.3nm,0.9s,baz=122,slow=4.5,SNR=3.7						
DBIC	**Dimbokro**	135.34	199	PKP	PKPdf	19 29 13.3	-1.9
BRTR	**Keskin Array B**	142.64	274	PKhKP		19 29 22.2	
	comp=Z,1.5nm,0.9s,baz=45,slow=3.5,SNR=4.0						
IDI	**Anoyia**	145.66	261	PKPbc	PKPbc	19 29 30.6	0.0
	comp=Z,12nm,0.9s,baz=58,slow=13,SNR=5.2						
VRI	**Vrincioaia**	150.07	279	⇑P	PKPdf	19 29 43.9	+4.1
AKASG	**Malin Array Be**	150.25	290	PKPbc	PKPdf	19 29 43.2	+3.3
	comp=Z,2.9nm,0.7s,baz=82,slow=2.5,SNR=14						
SCHQ	**Schefferville**	150.39	62	PKPbc	PKPdf	19 29 44.1	+4.2
	comp=Z,7.3nm,1.1s,baz=33,slow=3.9,SNR=3.8						
MLR	**Muntele Rosu**	150.42	278	PKPbc	PKPdf	19 29 43.6	+3.3
	comp=Z,9.0nm,1.1s,baz=263,slow=5.5,SNR=6.4						
MLR	**Muntele Rosu**	150.42	278	⇓P	PKPdf	19 29 44.1	+3.8
ARCES	**ARCESS Array B**	151.67	329	PKPbc	PKPdf	19 29 47.2	+5.8
	comp=Z,9.9nm,0.7s,baz=70,slow=2.5,SNR=22						
FINES	**FINESS Array B**	153.25	312	PKPbc	PKPdf	19 29 50.0	+6.1
	comp=Z,3.2nm,0.6s,baz=91,slow=4.7,SNR=14						
GERES	**GERESS Array B**	159.40	279	PKPab	PKPab	19 30 29.6	+0.2
	comp=Z,1.8nm,0.9s,baz=135,slow=3.8,SNR=10						
KHC	**Kasperske Hory**	159.56	280	*e*PKPab	PKPab	19 30 30.0	0.0

*IDC **27** 19:11:09.8±6.9, 7.99N×93.91E, h50km±60km, mb3.8/10, mb1 4.0/11, mb1mx3.8/20, mbtmp4.0/11, ML4.0/1, Error ellipse: s-maj=58.9km s-min=26.3km az=47.0*

ISC 27 19:11:06.0±1.0, 7.9N±0.2×93.9E±0.2, h33km, n13, σ0§67/12, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.55	25	P	P	19 13 52.0	+0.3
	0.3nm,0.3s,baz=211,slow=14,SNR=7.7						
SONM	**Songino Array**	41.15	13	P	P	19 18 47.8	-1.0
	0.9nm,0.8s,mb3.4,baz=194,slow=10,SNR=3.8						
ZAL	**Zalesovo**	46.45	353	P	P	19 19 31.6	+0.1
	2.2nm,0.6s,mb4.3,baz=303,slow=7.7,SNR=4.4						
WRA	**Warramunga Arr**	48.51	125	P	P	19 19 48.0	-0.1
	0.7nm,0.5s,mb3.9,baz=305,slow=8.4,SNR=4.6						
BRTR	**Keskin Array B**	62.19	311	P	P	19 21 25.2	-1.4
	0.7nm,0.6s,mb4.0,baz=109,slow=5.9,SNR=4.2						
MLR	**Muntele Rosu**	68.94	316	P	P	19 22 10.3	+0.5
	1.9nm,0.7s,mb4.1,baz=104,slow=22,SNR=4.2						
FINES	**FINESS Array B**	72.53	332	P	P	19 22 30.7	-0.5
	1.3nm,0.6s,mb4.0,baz=76,slow=7.9,SNR=4.5						
ARCES	**ARCESS Array B**	75.11	340	P	P	19 22 46.5	+0.4
	3.7nm,0.9s,mb4.3,baz=90,slow=4.9,SNR=4.3						
GERES	**GERESS Array B**	77.61	318	P	P	19 23 01.4	+0.8
	1.0nm,0.7s,mb3.9,baz=90,slow=5.3,SNR=5.1						
HFS	**Hagfors**	78.27	330	P	P	19 23 04.1	+0.1
	1.4nm,0.5s,mb4.2,baz=112,slow=8.0,SNR=7.1						
NB2	**NORSAR Subarra**	79.55	331	P	P	19 23 11.5	+0.5
	2.4nm,0.9s,mb4.1,baz=92,slow=5.8						
NOA	**NORSAR Array B**	79.55	331	P	P	19 23 12.0	+1.0
	1.2nm,0.7s,mb4.0,baz=92,slow=5.6,SNR=3.6						
PDAR	**Pinedale Array**	125.19	21	PKP	PKPdf	19 30 05.3	+1.7
	0.7nm,1.0s,baz=90,slow=3.0,SNR=4.0						

*BJI **27** 19:12:09.3, 6.96N×93.53E, h30km, mb4.6, Ms5.1, Msz4.8*
*NEIC **27** 19:12:17.7±0.5, 7.84N×94.05E, h30km, mb4.7/15, Error ellipse: s-maj=13.5km s-min=10.3km az=70.0*
*IDC **27** 19:12:19.3±5.8, 7.88N×94.00E, h38km±49km, mb4.0/16, mb1 4.2/17, mb1mx4.2/22, mbtmp4.3/17, ML4.4/1, Error ellipse: s-maj=29.8km s-min=14.9km az=50.0*

ISC 27 19:12:12.7±0.5, 7.74N±0.07×94.07E±0.09, h10km, n50, σ1§28/47, mb4.5/33, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	11.66	23	*e*P	P	19 15 01.6	-0.7
	26nm,1.0s						
CMAR	**Chiang Mai Arr**	11.66	23	Pn	P	19 15 03.3	+1.0
	0.7nm,0.3s,baz=212,slow=14,SNR=11						
HYB	**Hyderabad**	17.93	304	*e*P	P	19 16 28.0	+4.0
HYB	**Hyderabad**	17.93	304	*i*P	P	19 16 28.0	+4.0
KMI	**Kunming**	19.17	25	P	P	19 16 44.2	+5.1
	19nm,1.0s						
JIRN	**Jiri**	21.17	340	*e*P	P	19 17 01.5	+0.9
	22nm,0.5s,mb4.8						
PKI	**Pulchoki**	21.36	338	*e*P	P	19 17 04.3	+1.7
	50nm,0.9s,mb4.8						
DMN	**Daman**	21.51	338	*e*P	P	19 17 06.2	+2.2
	70nm,0.9s,mb5.1						
KKN	**Kakani**	21.61	338	*e*P	P	19 17 06.8	+1.8
	117nm,1.4s,mb5.1						
LSA	**Lhasa**	22.02	353	*e*P	P	19 17 09.6	+0.4
	21nm,0.7s,mb4.7						
GKN	**Gorkha**	22.04	337	*e*P	P	19 17 09.7	+0.3
	55nm,0.8s,mb5.0						
KOLN	**Koldanda**	22.25	335	*e*P	P	19 17 12.0	+0.5
ENH	**Enshi**	26.67	31	*e*P	P	19 17 53.0	-0.9
	13nm,1.0s,mb4.4						
LZH	**Lanzhou**	29.59	16	*e*P	P	19 18 24.0	+3.7
LZH				AP	pP	19 18 31.0	+7.8
LZH				XP	sP	19 18 35.0	+10
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.6						
LZH	**Lanzhou**	29.59	16	*e*P	P	19 18 24.0	+3.7
	comp=Z,19nm,1.5s,mb4.6						
LZH				pP	pP	19 18 31.0	+7.8
LZH				sP	sP	19 18 35.0	+10
AAK	**Ala-Archa**	38.80	337	*e*P	P	19 19 37.8	-1.7
	comp=Z,20nm,1.4s,mb4.6						
SONM	**Songino Array**	41.31	13	P	P	19 20 00.2	+0.1
	comp=Z,2.5nm,0.9s,mb3.8,baz=192,slow=7.4,SNR=7.3						
SONM				PcP	PcP	19 21 57.8	-1.5
	comp=Z,0.7nm,0.7s,baz=180,slow=4.3,SNR=2.7						
ULN	**Ulaanbaatar**	41.48	13	*e*P	P	19 20 00.1	-1.4
	comp=Z,4.0nm,0.8s,mb4.1						
KURK	**Kurchatov**	44.73	346	*e*P	P	19 20 25.0	-2.9
	comp=Z,14nm,1.0s,mb4.8						
ZAL	**Zalesovo**	46.67	352	P	P	19 20 43.4	+0.2
	comp=Z,4.5nm,0.8s,mb4.4,baz=294,slow=9.0,SNR=11						
ZAL	**Zalesovo**	46.67	352	P	P	19 20 43.4	+0.1
WRA	**Warramunga Arr**	48.24	125	P	P	19 20 55.9	-0.1
	comp=Z,1.1nm,0.6s,mb4.1,baz=304,slow=8.7,SNR=4.1						
WRAB	**Tennant Creek**	48.24	125	*e*P	P	19 20 55.2	-0.9
	comp=Z,18nm,1.2s,mb5.0						
BVAR	**Borovoye Array**	49.09	341	P	P	19 21 01.1	-1.1
	comp=Z,1.8nm,0.8s,mb4.2,baz=170,slow=9.0,SNR=5.9						
BVAR				PcP	PcP	19 22 25.3	-0.9
	comp=Z,1.0nm,0.6s,baz=135,slow=4.1,SNR=2.2						
CHKZ	**Chkalovo**	49.58	342	*e*P	P	19 21 04.1	-1.9
	comp=Z,13nm,1.0s,mb4.9						
ASAR	**Alice Springs**	49.88	130	P	P	19 21 09.7	+1.0
	comp=Z,1.8nm,0.7s,mb4.2,baz=306,slow=6.9,SNR=4.8						
ASAR				PcP	PcP	19 22 31.6	+2.2
	comp=Z,1.1nm,0.8s,baz=326,slow=3.3,SNR=3.3						
KMBO	**Kilima Mbogo**	57.34	264	P	P	19 22 04.5	+0.6
	comp=Z,0.8nm,0.6s,mb4.0,baz=231,slow=23,SNR=2.5						
KMBO	**Kilima Mbogo**	57.34	264	P	P	19 22 04.5	+0.6
KMBO				*e*P	pP	19 22 07.3	+0.3
STKA	**Stephens Creek**	60.06	134	P	P	19 22 24.5	+1.9
	comp=Z,1.8nm,0.7s,mb4.2,baz=313,slow=12,SNR=3.9						
STKA	**Stephens Creek**	60.06	134	P	P	19 22 24.5	+1.9
STKA				P		19 22 24.9	
YAK	**Yakutsk**	60.14	18	*e*P	P	19 22 20.3	-2.4
	comp=Z,13nm,0.8s,mb5.0						
BRTR	**Keskin Array B**	62.47	311	P	P	19 22 37.1	-1.6
	comp=Z,3.8nm,1.1s,mb4.5,baz=115,slow=8.2,SNR=7.7						
MA2	**Magadan**	66.91	28	*e*P	P	19 23 09.0	+1.7
	comp=Z,13nm,1.1s,mb4.9						
AKASG	**Malin Array Be**	68.22	322	P	P	19 23 13.8	-1.8
	comp=Z,2.4nm,0.8s,mb4.3,baz=91,slow=4.6,SNR=7.5						
MLR	**Muntele Rosu**	69.22	316	P	P	19 23 21.3	-0.6
	comp=Z,6.1nm,1.0s,mb4.5,baz=334,slow=2.9,SNR=5.6						
MLR	**Muntele Rosu**	69.22	316	P	P	19 23 21.3	-0.6
FINES	**FINESS Array B**	72.80	332	P	P	19 23 42.3	-0.8
	comp=Z,2.4nm,0.5s,mb4.3,baz=82,slow=5.7,SNR=8.7						
FINES	**FINESS Array B**	72.80	332	P	P	19 23 42.3	-0.8
ARCES	**ARCESS Array B**	75.37	340	P	P	19 23 57.8	-0.1
	comp=Z,4.8nm,1.0s,mb4.4,baz=97,slow=7.3,SNR=4.0						
BOSA	**Boshof**	75.46	238	P	P	19 23 56.0	-3.2
	comp=Z,8.9nm,1.1s,mb4.6						
GERES	**GERESS Array B**	77.88	318	P	P	19 24 13.0	+0.7
	comp=Z,3.1nm,0.9s,mb4.3,baz=90,slow=5.3,SNR=10.0						
HFS	**Hagfors**	78.54	330	P	P	19 24 15.8	0.0
	comp=Z,2.9nm,0.6s,mb4.4,baz=90,slow=5.9,SNR=6.0						
GRA1	**Grafenberg Arr**	79.53	319	*e*P	P	19 24 23.0	+1.7
	comp=Z,7.0nm,1.2s,mb4.5						
GRF	**Grafenberg Arr**	79.53	319	*e*P	P	19 24 23.0	+1.7
	comp=Z,7.0nm,1.2s,mb4.5						
NB2	**NORSAR Subarra**	79.82	331	P	P	19 24 22.1	-0.5
	comp=Z,6.7nm,1.1s,mb4.5,baz=97,slow=5.0						
NOA	**NORSAR Array B**	79.82	331	P	P	19 24 22.8	+0.2
	comp=Z,3.5nm,1.0s,mb4.3,baz=97,slow=5.3,SNR=3.6						
DAVOX	**Davos**	80.44	316	P	P	19 24 27.0	+0.7
	comp=Z,5.0nm,0.8s,mb4.5,baz=132,slow=7.2,SNR=3.9						
PDAR	**Pinedale Array**	125.32	21	PKP	PKPdf	19 31 16.6	-0.7
	comp=Z,1.0nm,0.8s,baz=135,slow=2.1,SNR=7.0						
PV10	**Paradox Valley**	129.32	24	*e*P	Pdif	19 28 12.5	+3.3
PLCA	**Paso Flores**	144.40	200	PKP	PKPdf	19 31 51.5	-1.1
	comp=Z,2.4nm,0.9s,baz=194,slow=3.4,SNR=3.9						

*IDC **27** 19:14:31.9±1.2, 8.10N×93.63E, mb4.0/6, mb1 4.2/7, mb1mx3.9/19, mbtmp4.0/7, ML4.0/1, Error ellipse: s-maj=53.2km s-min=27.9km az=45.0*

ISC 27 19:14:35.4±1.1, 8.3N±0.2×93.8E±0.2, h33km, n8, σ0§55/7, mb4.0/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.30	26	Pn	P	19 17 17.5	-0.1
	0.3nm,0.3s,baz=212,slow=14,SNR=6.3						
WRA	**Warramunga Arr**	48.74	126	P	P	19 23 19.2	-0.1
	1.4nm,0.7s,mb4.1,baz=304,slow=8.6,SNR=5.0						
BRTR	**Keskin Array B**	61.94	311	P	P	19 24 53.4	-1.0
	0.9nm,0.9s,mb3.9,baz=135,slow=8.2,SNR=2.9						
FINES	**FINESS Array B**	72.22	332	P	P	19 25 58.5	-0.3
	1.6nm,0.8s,mb4.0,baz=122,slow=13,SNR=3.2						
GERES	**GERESS Array B**	77.33	318	P	P	19 26 28.6	+0.1
	1.0nm,0.8s,mb3.8,baz=90,slow=2.9,SNR=4.2						
HFS	**Hagfors**	77.97	330	P	P	19 26 32.7	+0.9
	1.6nm,0.5s,mb4.2,baz=101,slow=7.6,SNR=5.9						
NOA	**NORSAR Array B**	79.24	331	P	P	19 26 39.3	+0.5
	0.8nm,0.9s,mb3.7,baz=87,slow=7.4,SNR=2.9						
PLCA	**Paso Flores**	144.79	201	PKP	PKPdf	19 34 10.0	+0.7
	1.8nm,0.8s,baz=270,slow=3.0,SNR=3.0						

*IDC **27** 19:20:15.4±0.5, 7.88N×94.04E, mb4.8/26, mb1 4.9/27, mb1mx4.8/30, mbtmp4.8/27, ML4.6/1, MS4.9/17, Ms1 4.9/17, ms1mx4.6/31, Error ellipse: s-maj=26.2km s-min=11.1km az=45.0*
*BJI **27** 19:20:18.4, 7.68N×93.87E, h46km, mB5.6, mb4.8, Ms5.2, Msz5.0*
*MOS **27** 19:20:19.0±1.1, 7.97N×94.16E, h33km, mb5.2/59, MS5.0/14, Error ellipse: s-maj=9.0km s-min=5.4km az=113.3*
*HRVD **27** 19:20:20.1±0.2, 7.91N×94.17E, h12km, MW5.3/59, Centroid moment Tensor Solution. LP body waves: s13,c20;Mantle waves: s59,c108; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.81±.04; $M_{\theta\theta}$0.03±.03; $M_{\phi\phi}$0.78±.03; $M_{r\theta}$-0.31±.10; $M_{\phi\phi}$0.78±.02; $M_{\phi r}$-0.13±.09; Best double couple: $M_0$1.119×10^{17} NP1: ϕ_s189°,δ42°,λ-125°. NP2:ϕ_s52°,δ56°,λ-63°. Principal axes: T 1.31, Plg8°, Azm123°; N -.382, Plg23°, Azm216°; P -.928, Plg66°, Azm16°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 19:20:20.1±0.2, 7.90N×94.11E, h30km, mb5.1/55, MS4.7/1 Error ellipse: s-maj=6.1km s-min=4.9km az=52.0*

ISC 27 19:20:16.3±0.2, 7.89N±0.04×94.14E±0.03, h16km, h16km±2.0km:pP-P, n261, σ1§11/258, mb5.0/89, MS5.0/27, 20C-10D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	3.99	340	*e*P	Pn	19 21 20.9	+2.6
PBA				*e*		19 22 09.7	
PBA				*e*SG	Sn	19 22 15.6	+10
CM31	**Chiang Mai Arr**	11.49	24	*e*P	P	19 23 03.7	+0.7
	67nm,1.0s						
CMAR	**Chiang Mai Arr**	11.49	24	P	P	19 23 03.3	+0.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,3μm,19.3s						
CMAR	**Chiang Mai Arr**	11.49	24	Pn	P	19 23 03.3	+0.3
	comp=Z,1.1nm,0.3s,baz=211,slow=14,SNR=32						
CMAR				LR	LR	19 27 39.8	
	comp=Z,3μm,19.3s,baz=220,slow=38						
CHG	**Chiang Mai**	11.82	23	⇑P	P	19 23 09.3	+1.9
	comp=Z,36nm,1.1s						
CHRT	**Chiangrai**	13.10	24	⇓P	P	19 23 25.5	+0.9
	comp=Z,263nm,1.3s						
PALK	**Pallekele**	13.34	268	*e*P	P	19 23 31.6	+3.9
	comp=Z,40nm,1.3s						
VIS	**Vishakhapatnam**	14.37	314	*e*P	P	19 23 44.7	+3.4
VIS				*e*		19 23 47.8	
	comp=Z,93nm,1.1s						
VIS				*e*		19 26 09.5	
AGT	**Agartala**	16.14	350	*e*P	P	19 24 06.0	+1.6
KOD	**Kodaikanal**	16.63	279	*e*P	P	19 24 15.5	+4.9
KOD				*e*		19 24 19.4	
	comp=Z,25nm,1.1s						
KOD				*e*	S	19 27 12.8	-1.4
IMP	**Imphal**	16.80	359	*e*P	P	19 24 10.7	-2.0
SHL	**Shillong**	17.71	353	*e*P	P	19 24 22.8	-1.3
SHL				*e*	S	19 27 46.0	+7.2
HYB	**Hyderabad**	17.90	303	*e*P	P	19 24 28.0	+1.5
HYB				*e*S	S	19 27 46.0	+2.8
HYB				pmax	pmax		
	comp=Z,50nm,1.0s						
HYB	**Hyderabad**	17.90	303	*e*P	P	19 24 28.0	+1.5
	comp=Z,50nm,1.0s						
HYB				*e*S	S	19 27 46.0	+2.8
HYB	**Hyderabad**	17.90	303	*i*P	P	19 24 28.0	+1.5
	comp=Z,50nm,1.0s						
HYB				*e*S	S	19 27 46.0	+2.8
QIZ	**Qiongzhong**	18.84	52	P	P	19 24 39.0	+0.9
QIZ				*e*S	S	19 28 06.8	+2.3
QIZ				LR	LR		
	comp=N,14μm,13.8s						
QIZ	**Qiongzhong**	18.84	52	*e*P	P	19 24 38.4	+0.3
	comp=N,90nm,1.3s						
KMI	**Kunming**	19.00	25	⇑P	P	19 24 43.4	+3.4
KMI				pmax	pmax		
	comp=Z,53nm,1.1s						
KMI	**Kunming**	19.00	25	⇑P	P	19 24 43.4	+3.4
	comp=Z,53nm,1.1s						
KMI				pP		19 24 48.4	
KMI				S	S	19 28 22.4	+14
COCO	**West Island**	20.13	172	*e*P	P	19 24 57.7	+5.0
	comp=Z,297nm,1.2s						
JIRN	**Jiri**	21.05	340	*e*P	P	19 25 01.4	-0.8
	comp=Z,283nm,1.1s,mb5.5						
PKI	**Pulchoki**	21.25	338	*e*P	P	19 25 03.7	-0.5
	comp=Z,341nm,1.1s,mb5.6						
GOA	**Goa**	21.27	293	*e*	P	19 25 14.7	+10
GOA				*e*		19 25 21.9	
	comp=Z,63nm,0.0s						
GOA				*e*		19 29 31.9	
DMN	**Daman**	21.40	338	*e*P	P	19 25 05.5	-0.2
	comp=Z,567nm,1.0s,mb5.8						
KKN	**Kakani**	21.49	338	*e*P	P	19 25 06.3	-0.4
	comp=Z,110nm,0.7s,mb5.3						
KAD	**Karad**	21.59	298	*e*P	P	19 25 09.7	+2.0
LSA	**Lhasa**	21.88	353	P	P	19 25 11.3	+0.8
LSA				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.7						
LSA	**Lhasa**	21.88	353	*e*P	P	19 25 08.1	-2.4
LSA				pmax	pmax		
	comp=Z,90nm,0.7s,mb5.3						
LSA	**Lhasa**	21.88	353	*e*P	P	19 25 08.1	-2.4
	comp=Z,90nm,0.7s,mb5.3						
GKN	**Gorkha**	21.93	337	*e*P	P	19 25 10.3	-0.7
	comp=Z,151nm,0.6s,mb5.6

comp=Z,109nm,1.4s,mb5.6
WMQ AMB AMB
comp=Z,542nm,5.5s
WMQ LR LR
comp=N,1μm,18.2s,MS4.9
WMQ LR LR
comp=E,2μm,18.3s,MS4.9
WMQ LR LR
comp=Z,2μm,18.6s,MS5.0
JOW Kunigami 37.45 56 LR LR 19 45 13.5
comp=Z,1μm,18.9s,MS4.8,baz=55,slow=40
BJT Baijiatuau 37.57 28 *e*P **P 19 27 33.7 +1.8**
BJT pmax pmax
comp=Z,38nm,1.2s
BJT Baijiatuau 37.57 28 *e*P **P 19 27 33.7 +1.9**
comp=Z,38nm,1.2s,mb5.0
BJI Beijing 37.59 28 P **P 19 27 33.9 +1.9**
BJI pmax pmax
comp=Z,23nm,1.6s,mb4.7
BJI MLR MLR
comp=Z,1μm,18.0s,MS4.7
BJI Beijing 37.59 28 P **P 19 27 33.9 +1.9**
comp=Z,23nm,1.6s,mb4.7
BJI LR LR
comp=Z,1μm,18.0s,MS4.7
MBWA Marble Bar 38.28 139 *e*P **P 19 27 35.5 -2.5**
UCH Uchtor 38.34 336 P **P 19 27 39.2 +0.9**
SNR=9.8
KBK Karagaybulak 38.53 337 P **P 19 27 40.2 +0.3**
SNR=23
AML Almayashu 38.59 335 P **P 19 27 40.9 +0.5**
SNR=21
AAK Ala-Archa 38.69 337 P **P 19 27 41.7 +0.5**
SNR=9.3
AAK Ala-Archa 38.69 337 P **P 19 27 41.6 +0.4**
AAK pmax pmax
comp=Z,21nm,1.0s,mb4.8
AAK Ala-Archa 38.69 337 *e*P **P 19 27 40.7 -0.6**
comp=Z,25nm,1.0s,mb4.9
CHMS Chumysh 38.90 337 P **P 19 27 42.5 -0.5**
SNR=12
EKS2 Erkin-Say 39.00 336 P **P 19 27 44.1 +0.2**
SNR=16
USP Ospenovka 39.22 337 P **P 19 27 45.0 -0.7**
SNR=19
MKAR Makanchi Array 40.07 347 *i* P **P 19 27 51.5 -1.2**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
SONM Songino Array 41.15 13 P **P 19 28 02.1 +0.6**
comp=Z,8.1nm,0.9s,mb4.4,baz=195,slow=6.7,SNR=34
SONM PcP PcP 19 30 01.6 +0.2
comp=Z,3.2nm,0.6s,baz=190,slow=3.8,SNR=6.3
ULN Ulaanbaatar 41.32 13 *e*P **P 19 28 02.2 -0.7**
ULN pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
ULN Ulaanbaatar 41.32 13 *e*P **P 19 28 02.2 -0.7**
comp=Z,8.3nm,0.9s,mb4.4
KS15 Wonju Array Si 42.42 41 *e*P **P 19 28 12.6 +0.5**
SNY Shenyang 42.66 33 ||P **P 19 28 14.5 +0.5**
SNY AMB AMB
comp=Z,30nm,1.8s,mb4.7
ZAK Zakamensk 43.03 9 *e*P **P 19 28 15.2 -1.7**
TLY Talaya 44.35 8 *e*P **P 19 28 27.9 +0.3**
TLY *e* 19 30 12.3
TLY pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
TLY Talaya 44.35 8 *e*P **P 19 28 27.8 +0.2**
comp=Z,6.9nm,0.9s,mb4.4
KURK Kurchatov 44.59 346 *d i*P **P 19 28 29.1 -0.5**
KURK Kurchatov 44.59 346 *e*P **P 19 28 28.1 -1.5**
comp=Z,68nm,1.2s,mb5.4
MUN Mundaring 44.90 153 *e*P **P 19 28 33.0 +0.7**
comp=Z,28nm,1.0s,mb5.0
MUN Mundaring 44.90 153 *e*P **P 19 28 33.0 +0.7**
MUN pmax pmax
comp=Z,28nm,1.0s,mb5.0
KLBR Kellerberrin 45.29 151 *e*P **P 19 28 36.1 +0.7**
comp=Z,227nm,0.8s,mb6.0
NWAO Narrogin (SRO) 46.16 153 *e*P **P 19 28 42.7 +0.4**
NWAO pmax pmax
comp=Z,26nm,0.9s
NWAO Narrogin (SRO) 46.16 153 P **P 19 28 43.2 +0.9**
comp=Z,31nm,0.9s,mb5.2,baz=323,slow=9.4,SNR=10
NWAO LR LR 19 51 05.9
comp=Z,4.7nm,18.1s,baz=154,slow=40
NWAO Narrogin (SRO) 46.16 153 *e*P **P 19 28 42.7 +0.4**
comp=Z,26nm,0.9s,mb5.2
HIA Hailar 46.51 23 *e*P **P 19 28 45.3 +0.5**
HIA pmax pmax
comp=Z,24nm,1.0s
HIA Hailar 46.51 23 *e*P **P 19 28 45.3 +0.6**
comp=Z,24nm,1.0s,mb5.1
NVS Novosibirsk 47.63 351 *i* P **P 19 28 51.7 -1.9**
NVS *i* S **S 19 35 43.3 -4.1**
NVS pmax pmax
comp=N,23nm,1.0s
NVS pmax pmax
comp=E,10.0nm,1.0s
NVS pmax pmax
comp=Z,34nm,1.0s,mb5.3
NVS smax
comp=N,10.0nm,1.5s
NVS smax
comp=E,20nm,2.1s
MDJ Mudanjiang 47.79 34 P **P 19 28 55.5 +0.5**
MDJ AMB AMB
comp=Z,14nm,1.7s,mb4.7
MDJ AMB AMB
comp=Z,470nm,5.8s
MDJ Mudanjiang 47.79 34 *e*P **P 19 28 56.0 +1.0**
comp=Z,17nm,1.2s,mb5.0
WRA Warramunga Arr 48.27 126 P **P 19 28 58.1 -0.9**
WRA pmax pmax
comp=Z,8.0nm,0.7s
WRA Warramunga Arr 48.27 126 P **P 19 28 58.1 -0.9**
comp=Z,7.8nm,0.7s,mb4.8,baz=304,slow=9.2,SNR=28
WRAB Tennant Creek 48.27 126 *e*P **P 19 28 58.0 -1.1**
WRAB pmax pmax
comp=Z,23nm,0.8s,mb5.3
WRAB Tennant Creek 48.27 126 *e*P **P 19 28 58.0 -1.0**
comp=Z,23nm,0.8s,mb5.3
WB2 Warramunga Arr 48.28 126 *e*P **P 19 28 58.1 -1.0**
BVA0 Borovoye Array 48.97 341 P **P 19 29 03.1 -0.9**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
BVAR Borovoye Array 48.97 341 P **P 19 29 03.3 -0.7**
comp=Z,6.9nm,0.7s,mb4.8,baz=135,slow=8.4,SNR=28
BVAR PcP PcP 19 30 28.2 -0.2
comp=Z,3.8nm,0.7s,baz=153,slow=3.3,SNR=5.0
BRVK Borovoye 49.03 341 *e*P **P 19 29 02.4 -2.1**
BRVK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BRVK Borovoye 49.03 341 *e*P **P 19 29 02.4 -2.1**
comp=Z,8.6nm,0.8s,mb4.8
RAYN Ar Rayn 49.08 294 P **P 19 29 06.9 +1.7**
comp=Z,227nm,0.8s,SNR=16
MAT Matsushiro 49.15 48 *e*P **P 19 29 08.0 +2.4**
MAT Matsushiro 49.15 48 P **P 19 29 08.0 +2.4**
CHKZ Chkalovo 49.46 342 *e*P **P 19 29 06.5 -1.2**
CHKZ pmax pmax
comp=Z,51nm,1.0s,mb5.5
CHKZ Chkalovo 49.46 342 *e*P **P 19 29 06.5 -1.2**
comp=Z,51nm,1.0s,mb5.5
ASPA Alice Springs 49.92 130 *e*P **P 19 29 10.7 -1.0**
ASAR Alice Springs 49.93 130 P **P 19 29 10.8 -0.9**
comp=Z,4.7nm,0.7s,mb4.6,baz=308,slow=7.5,SNR=26
ASAR PcP PcP 19 30 31.9 -0.3
comp=Z,3.6nm,0.8s,baz=313,slow=5.2,SNR=5.0
ASAR LR LR 19 50 46.2
comp=Z,711nm,20.2s,MS4.7,baz=294,slow=37
KLR Kul'dur 51.87 31 *e*P **P 19 29 22.5 -3.6**
BOD Bodaibo 52.13 13 *e*P **P 19 29 26.7 -1.3**
CLNS Chul'man 54.42 20 *e*P **P 19 29 44.7 -0.2**
CLNS pmax pmax
comp=Z,31nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,17nm,0.8s
CLNS pmax pmax
comp=E,13nm,0.8s
GNI Garni 54.42 314 *d i*P **P 19 29 49.6 +4.4**
GNI pmax pmax
comp=Z,21nm,1.4s
GNI Garni 54.42 314 P **P 19 29 45.1 0.0**
comp=Z,10nm,0.9s,mb4.8,baz=112,slow=5.4,SNR=4.4
GNI LR LR 19 54 59.8
comp=Z,688nm,21.9s,MS4.7,baz=292,slow=38
GNI Garni 54.42 314 *e*P **P 19 29 44.8 -0.4**
comp=Z,22nm,1.1s,mb5.0
SVE Sverdlovsk 55.38 338⇑ *e*P **P 19 29 48.5 -3.5**
SVE pmax pmax
comp=Z,100nm,2.0s,mb5.5
SVE MLR MLR
comp=N,1μm,22.0s,MS5.0
SVE MLR MLR
comp=E,1μm,22.0s,MS5.0
SVE MLR MLR
comp=Z,3μm,22.0s,MS5.3
PMG Port Moresby 55.54 107 *i* P **P 19 29 54.0 +0.3**
PMG Port Moresby 55.54 107 P **P 19 29 54.4 +0.7**
comp=Z,22nm,0.7s,mb5.3,baz=282,slow=4.4,SNR=13
PMG Port Moresby 55.54 107 *e*P **P 19 29 54.2 +0.5**
comp=Z,43nm,0.9s,mb5.5
ARU Arti 55.87 337 P **P 19 29 54.4 -1.1**
comp=Z,105nm,0.7s,mb6.0,SNR=10
ARU Arti 55.87 337⇑ *i*P **P 19 29 48.7 -6.8**
ARU *e*S **S 19 37 30.5 -10**
ARU *e* 19 39 34.4
ARU pmax pmax
comp=Z,15nm,0.8s,mb5.1
ARU MLR MLR
comp=N,1μm,20.0s,MS5.2
ARU MLR MLR
comp=E,1μm,20.0s,MS5.2
ARU MLR MLR
comp=Z,2μm,20.0s,MS5.3
YSS Yuzh-Sakhalins 56.77 38 *e*P **P 19 30 02.5 +0.4**
YSS *e* 19 30 16.0
YSS MLR MLR
comp=Z,900nm,16.0s,MS5.0
YSS Yuzh-Sakhalins 56.77 38 *e*P **P 19 29 58.6 -3.5**
comp=Z,42nm,1.2s,mb5.3
KIV Kislovodsk 57.30 318 *e*P **P 19 30 05.6 -0.3**
KIV pmax pmax
comp=N,13nm,1.0s
KIV pmax pmax
comp=Z,27nm,1.0s,mb5.2
KIV pmax pmax
comp=E,9.0nm,0.8s
KIV MLR MLR
comp=Z,831nm,23.0s,MS4.8
KIV MLR MLR
comp=N,289nm,18.0s,MS4.7
KIV MLR MLR
comp=E,618nm,23.0s,MS4.7
KIV Kislovodsk 57.30 318 *e*P **P 19 30 04.3 -1.7**
comp=E,33nm,1.0s,mb5.3
KMBO Kilima Mbogo 57.42 264 P **P 19 30 10.3 +3.1**
KMBO pmax pmax
comp=Z,9.0nm,0.9s
KMBO MLR MLR
comp=Z,1μm,19.1s
KMBO Kilima Mbogo 57.42 264 P **P 19 30 10.3 +3.1**
comp=Z,9.3nm,0.9s,mb4.8,baz=44,slow=8.9,SNR=15
KMBO LR LR 19 52 17.9
comp=Z,1μm,19.1s,MS5.0,baz=92,slow=34
KMBO Kilima Mbogo 57.42 264 *e*P **P 19 30 09.5 +2.3**
comp=Z,19nm,1.0s,mb5.1
ASF Jabal al Asfar 58.21 303 LR LR 19 57 42.9
comp=Z,786nm,20.1s,MS4.8,baz=148,slow=39
CTA Charters Tower 58.32 119 P **P 19 30 12.5 -0.8**
CTA pmax pmax
comp=Z,4.0nm,0.8s
CTA MLR MLR
comp=Z,831nm,21.3s
CTA Charters Tower 58.32 119 P **P 19 30 12.5 -0.8**
comp=Z,3.5nm,0.8s,mb4.4,baz=256,slow=9.9,SNR=4.3
CTA LR LR 19 53 37.3
comp=Z,831nm,21.3s,MS4.8,baz=281,slow=34
CTA Charters Tower 58.32 119 P **P 19 30 12.5 -0.8**
CTAO Charters Tower 58.32 119 *e*P **P 19 30 12.4 -0.9**
CTAO pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
CTAO Charters Tower 58.32 119 *e*P **P 19 30 12.3 -1.0**
comp=Z,9.2nm,1.1s,mb4.7
MALT Malatya 58.45 310 *e*P **P 19 30 13.2 -0.8**
MALT pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
MALT Malatya 58.45 310 *e*P **P 19 30 13.2 -0.8**
comp=Z,5.7nm,0.9s,mb4.6
SOKR Solikamsk 58.78 339⇑ *i*P **P 19 30 15.3 -0.7**
SOKR pmax pmax
comp=Z,30nm,0.8s,mb5.4
SOKR MLR MLR
comp=Z,3μm,22.0s,MS5.3
SOC Sochi 59.17 317 *e*P **P 19 30 16.0 -3.0**
SOC *e* 19 30 59.4
SOC *e* 19 32 25.2
SOC *e*PPP PPP 19 33 52.6 -3.5
SOC *e*S **S 19 38 19.2 -4.9**
SOC *e* 19 40 00.1
SOC *e*SS SS 19 42 21.4 +1.2
SOC pmax pmax
comp=Z,21nm,0.6s,mb5.3
SOC pmax pmax
comp=N,25nm,0.9s
SOC pmax pmax
comp=E,46nm,1.0s
EIL Elat 59.42 300 P **P 19 30 20.1 -0.8**
comp=E,3.4nm,0.5s,mb4.6,baz=12,slow=5.3,SNR=7.2
EIL Elat 59.42 300 *e*P **P 19 30 18.5 -2.3**
comp=E,15nm,1.0s,mb5.0
YAK Yakutsk 59.98 18 *e*P **P 19 30 23.4 -0.9**
YAK pmax pmax
comp=Z,24nm,0.8s,mb5.3
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK Yakutsk 59.98 18 *e*P **P 19 30 23.3 -0.9**
comp=E,76nm,0.9s,mb5.7
STKA Stephens Creek 60.12 134 *e*P **P 19 30 24.6 -1.1**
comp=E,8.0nm,0.9s,mb4.8
STKA Stephens Creek 60.12 134 P **P 19 30 24.9 -0.7**
comp=E,8.9nm,0.9s,mb4.8,baz=290,slow=9.0,SNR=7.7
STKA LR LR 19 59 40.7
comp=E,1μm,18.7s,MS5.0,baz=295,slow=39
ANN Anapa 61.12 317 *e*P **P 19 30 27.3 -5.0**
ANN *i* 19 30 35.8
ANN *i* 19 31 08.6
ANN *e*S **S 19 38 45.3 -3.8**
ANN pmax pmax
comp=Z,42nm,1.0s,mb5.5
BRTR Keskin Array B 62.42 311 P **P 19 30 39.2 -1.9**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
BRTR Keskin Array B 62.42 311 P **P 19 30 39.2 -1.9**
comp=Z,5.8nm,0.8s,mb4.8,baz=126,slow=7.3,SNR=14
MBAR Mbarara 63.76 265⇑ *e*P **P 19 30 52.2 +1.8**
MOS Moscow 65.06 329 *e*P **P 19 30 57.2 -1.0**
MOS *e* 19 31 07.0
MOS *e* 19 34 54.7
MOS pmax pmax
comp=Z,39nm,0.7s,mb5.5
OBN Obninsk 65.36 328⇑ *e*P **P 19 30 59.6 -0.5**
OBN *e* 19 31 31.3
OBN *e* 19 33 24.0
OBN pmax pmax
comp=Z,33nm,0.9s,mb5.4
OBN Obninsk 65.36 328 *e*P **P 19 30 55.6 -4.5**
comp=Z,62nm,1.4s,mb5.5
MA2 Magadan 66.75 28 *e*P **P 19 31 09.2 +0.3**
MA2 pmax pmax
comp=Z,35nm,1.0s,mb5.3
MA2 Magadan 66.75 28 *e*P **P 19 31 09.2 +0.2**
comp=Z,35nm,1.0s,mb5.3
TIXI Tiksi 67.22 11⇑ *e*P **P 19 31 10.7 -1.0**
AKASG Malin Array Be 68.14 322 P **P 19 31 15.8 -2.0**
AKASG 19 33 43.1
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 68.14 322 P **P 19 31 15.8 -2.1**
comp=Z,3.4nm,0.6s,mb4.6,baz=86,slow=4.9,SNR=15
AKASG PP PP 19 33 43.0 -7.2
comp=Z,0.8nm,0.7s,baz=91,slow=8.2,SNR=4.2
SANT Santorini 68.21 306 *e*P **P 19 31 17.4 -1.2**
comp=Z,64nm,1.0s,mb5.6
IDI Anoyia 68.56 305 P **P 19 31 19.9 -0.8**
comp=Z,17nm,0.8s,mb5.1,baz=76,slow=7.6,SNR=9.7
MLR Muntele Rosu 69.16 316 P **P 19 31 24.1 -0.1**
MLR pmax pmax
comp=Z,6.0nm,0.6s
MLR MLR MLR
comp=Z,911nm,19.1s
MLR Muntele Rosu 69.16 316 P **P 19 31 24.1 -0.2**
comp=Z,6.1nm,0.6s,mb4.7,baz=175,slow=6.2,SNR=12
MLR LR LR 20 07 08.7
comp=Z,911nm,19.1s,MS5.0,baz=297,slow=41
LSZ Lusaka 69.27 250 *e*P **P 19 31 26.2 +0.8**
LSZ pmax pmax
comp=Z,29nm,1.5s,mb5.0
LSZ Lusaka 69.27 250 *e*P **P 19 31 26.2 +0.8**
comp=Z,29nm,1.5s,mb5.0
KWP Kalwaria 72.02 320 *e*P **P 19 31 40.9 -0.5**
JAN Janina 72.15 309⇑ *i*P **P 19 31 39.2 -3.2**
JAN pmax pmax
comp=Z,23nm,1.0s,mb5.1
JAN MLR MLR
comp=Z,2μm,20.0s,MS5.4
KOLS Kolonicke sedl 72.19 319 *e*P **P 19 31 42.2 -0.3**
KOLS *e* pP 19 31 48.1 +0.7
SUW Suwalki 72.49 324 *e*P **P 19 31 43.6 -0.6**
FINES FINESS Array B 72.70 332 P **P 19 31 44.4 -0.8**
FINES pmax pmax
comp=Z,15nm,0.8s
FINES MLR MLR
comp=Z,820nm,19.4s
FINES FINESS Array B 72.70 332 P **P 19 31 44.4 -0.8**
comp=Z,15nm,0.8s,mb5.0,baz=104,slow=7.9,SNR=24
FINES LR LR 20 09 53.9
comp=Z,820nm,19.4s,MS5.0,baz=268,slow=41
FINES FINESS Array B 72.70 332 P **P 19 31 44.4 -0.8**
CRVS Cervenica-Dubn 72.72 319 *e*P **P 19 31 45.7 +0.1**
CRVS *e* pP 19 31 51.1 +0.6
NIE Niedzica 73.53 319 *e*P **P 19 31 51.0 +0.6**
OJC Ojcow 73.96 320 *e*P **P 19 31 52.7 -0.1**
LBTB Lobatse 74.25 241 *e*P **P 19 31 56.8 +1.8**
LBTB pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LBTB Lobatse 74.25 241 *e*P **P 19 31 56.8 +1.7**
comp=Z,8.6nm,0.8s,mb4.7
VYHS Vyhne 74.39 318 *e*P **P 19 31 54.6 -0.8**
VYHS *e* 19 32 10.8
VYHS Vyhne 74.39 318 *e*P **P 19 31 54.6 -0.8**
VYHS *e* pP 19 31 59.5 -0.8
VYHS *e* 19 32 10.8
OKC Ostrava-Krasne 74.98 319 *e*P **P 19 31 58.9 +0.2**
OKC *e*pP pP 19 32 02.7 -0.9
OKC AMS AMS 20 15 50.0
comp=Z,500nm,17.5s
ARCES ARCESS Array B 75.25 340 P **P 19 31 59.7 -0.2**
ARCES pmax pmax
comp=Z,6.0nm,0.7s
ARCES MLR MLR
comp=Z,2μm,20.6s
ARCES ARCESS Array B 75.25 340 P **P 19 31 59.7 -0.2**
comp=Z,5.6nm,0.7s,mb4.6,baz=93,slow=6.4,SNR=16
ARCES LR LR 20 07 47.4
comp=Z,2μm,20.6s,MS5.4,baz=124,slow=38
ARCES ARCESS Array B 75.25 340 P **P 19 31 59.7 -0.2**
MORC Moravsky Berou 75.36 319 *e*P **P 19 32 01.0 +0.1**
MORC pmax pmax
comp=Z,18nm,1.1s,mb4.9
MORC Moravsky Berou 75.36 319 *e*P **P 19 32 01.0 +0.1**
comp=Z,18nm,1.1s,mb4.9
BOSA Boshof 75.59 238 *e*P **P 19 32 03.9 +1.2**
BOSA pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
BOSA Boshof 75.59 238 *e*P **P 19 32 03.9 +1.2**
comp=Z,7.3nm,0.7s,mb4.7
VRAC Vranov 75.94 319 P **P 19 32 03.5 -0.7**
VRAC pmax pmax
comp=Z,4.0nm,0.7s
VRAC Vranov 75.94 319 P **P 19 32 03.5 -0.7**
comp=Z,4.0nm,0.7s,mb4.5,baz=86,slow=9.2,SNR=5.9
BILL Bilibino 76.07 22 *c i*P **P 19 32 04.6 0.0**
BILL pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BILL Bilibino 76.07 22 *e*P **P 19 32 03.9 -0.7**
comp=Z,9.9nm,0.8s,mb4.8
DPC Dobruska-Polom 76.19 320 *e*P **P 19 32 05.9 +0.3**
DPC *e*pP pP 19 32 09.9 -0.6
DPC AMS AMS 20 11 00.0
comp=Z,500nm,16.6s
KSP Ksiaz 76.25 320 *e*P **P 19 32 06.0 +0.1**
KSP *e*pP pP 19 32 09.4 -1.5
KSP Ksiaz 76.25 320 *e*P **P 19 32 06.5 +0.5**
UPC Upice 76.40 320 *e*P **P 19 32 07.3 +0.5**
UPC *e*pP pP 19 32 12.1 +0.4
PERS Pernice 76.77 316 *e*P **P 19 32 09.4 +0.4**
PRU Pruhonice 77.31 319 *e*P **P 19 32 12.1 +0.2**
PRU *e*pP pP 19 32 16.2 -0.6
PRU AMS AMS 20 13 50.0
comp=Z,400nm,15.8s
PVCC Panska Ves 77.32 320 *e*P **P 19 32 12.4 +0.5**
PVCC *e*x x 19 32 15.8
PVCC AMS AMS 20 11 50.0
comp=Z,800nm,17.8s
BSD Bornholm Skovb 77.41 325 *e*P **P 19 32 11.5 -0.8**
BSD pmax pmax
comp=Z,26nm,0.7s,mb5.3
BSD Bornholm Skovb 77.41 325 *e*P **P 19 32 11.5 -0.8**
comp=Z,26nm,0.7s,mb5.3
BSD Bornholm Skovb 77.41 325 *i* P **P 19 32 11.5 -0.8**
comp=Z,26nm,0.7s,mb5.3
GERES GERESS Array B 77.81 318 P **P 19 32 14.5 -0.2**
GERES pmax pmax
comp=Z,6.0nm,0.6s
GERES GERESS Array B 77.81 318 P **P 19 32 14.5 -0.1**
comp=Z,6.3nm,0.6s,mb4.7,baz=86,slow=5.5,SNR=37
KHC Kasperske Hory 77.91 318 *e*P **P 19 32 15.4 +0.3**
KHC *e*pP pP 19 32 19.5 -0.6
KHC AMS AMS 20 10 50.0
comp=Z,600nm,18.4s
CLL Collm 78.35 321 *i* P **P 19 32 17.7 +0.2**
CLL *i* 19 32 20.2
CLL Collm 78.35 321 P **P 19 32 17.7 +0.2**
CLL *i* *PP pP 19 32 20.2 -2.3
HFS Hagfors 78.44 330 P **P 19 32 17.8 -0.1**
HFS pmax pmax
comp=Z,9.0nm,0.5s
HFS Hagfors 78.44 330 P **P 19 32 17.8 -0.1**
comp=Z,9.2nm,0.5s,mb5.0,baz=111,slow=3.2,SNR=25
NKC Novy Kostel 78.67 320 *e*P **P 19 32 20.4 +1.1**
NKC AMS AMS 20 12 50.0
comp=Z,600nm,16.5s
WTTA Wattenberg 79.17 317⇑ *i*P **P 19 32 21.8 -0.3**
comp=Z,24nm,1.0s,mb5.1
WTTA Wattenberg 79.17 317⇑ *i*P **P 19 32 21.8 -0.3**
WTTA pmax pmax
comp=Z,24nm,1.0s,mb5.1
MOX Moxa 79.21 320 *e*P **P 19 32 22.8 +0.5**
MOX Moxa 79.21 320 *i* P **P 19 32 22.8 +0.5**
WATA Walderalm 79.21 317⇓ *i*P **P 19 32 21.9 -0.5**
comp=Z,6.2nm,0.9s,mb4.5
WATA Walderalm 79.21 317⇓ *i*P **P 19 32 21.9 -0.5**
WATA pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
GRA1 Grafenberg Arr 79.45 319 *e*P **P 19 32 24.3 +0.7**
comp=Z,16nm,0.9s,mb5.0
GRF Grafenberg Arr 79.45 319 *e*P **P 19 32 24.3 +0.7**
GRF pmax pmax
comp=Z,16nm,0.9s,mb5.0
GRF Grafenberg Arr 79.45 319 *e*P **P 19 32 24.3 +0.7**
GRF pmax pmax
comp=Z,16nm,0.9s,mb5.0
GRF Grafenberg Arr 79.45 319 *e*P **P 19 32 24.3 +0.7**
comp=Z,16nm,0.9s,mb5.0
SQTA Sankt Quirin 79.46 317⇑ *i*P **P 19 32 23.3 -0.4**
comp=Z,12nm,1.0s,mb4.8
SQTA Sankt Quirin 79.46 317⇑ *i*P **P 19 32 23.3 -0.4**
SQTA pmax pmax
comp=Z,12nm,1.0s,mb4.8
MOTA Moosalm 79.53 317⇓ *i*P **P 19 32 23.8 -0.3**
comp=Z,8.4nm,1.0s,mb4.6
MOTA Moosalm 79.53 317⇓ *i*P **P 19 32 23.8 -0.3**
MOTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
NB2 NORSAR Subarra 79.72 331 P **P 19 32 23.9 -0.9**
comp=Z,7.1nm,0.7s,mb4.7,baz=93,slow=5.6
NB2 NORSAR Subarra 79.72 331 P **P 19 32 23.9 -0.9**
NB2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
NOA NORSAR Array B 79.72 331 P **P 19 32 24.4 -0.4**
NOA pmax pmax
comp=Z,7.0nm,0.7s
NOA MLR MLR

comp=Z,611nm,19.8s
NOA NORSAR Array B 79.72 331 P **P 19 32 24.4 -0.4**
NOA LR LR 20 10 06.2
comp=Z,6.6nm,0.7s,mb4.7,baz=92,slow=5.6,SNR=23
NOA NORSAR Array B 79.72 331 P **P 19 32 24.4 -0.4**
NAO01 NORSAR Array S 79.87 330 *eP* **P 19 32 25.1 -0.5**
comp=Z,35nm,1.0s,mb5.2
SUR Sutherland 80.34 235 *eP* **P 19 32 31.1 +2.4**
comp=Z,21nm,1.1s,mb5.0
DAVA Damuels 80.37 317 ⇑*iP* **P 19 32 27.5 -1.1**
comp=Z,25nm,1.1s,mb5.0
DAVOX Davos 80.38 316 P **P 19 32 29.2 +0.6**
comp=Z,7.8nm,0.5s,mb4.9,baz=118,slow=7.4,SNR=9.6
MUD Monsted U'grnd 80.69 326 *iP* **P 19 32 30.5 +0.4**
MUD pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
MUD Monsted U'grnd 80.69 326 *iP* **P 19 32 30.5 +0.4**
comp=Z,9.9nm,0.6s,mb4.9
LPG La Plagne 82.61 315 *eP* **P 19 32 40.6 +0.3**
comp=Z,29nm,0.8s,mb5.0
LPG La Plagne 82.61 315 *eP* **P 19 32 40.6 +0.3**
LPG pmax pmax
comp=Z,14nm,0.8s,mb5.0
BNI Bardonecchia 82.69 314 *eP* **P 19 32 42.2 +1.5**
BNI pmax pmax
comp=Z,29nm,1.0s,mb5.3
BNI Bardonecchia 82.69 314 *eP* **P 19 32 42.2 +1.5**
comp=Z,30nm,1.0s,mb5.3
SYO Syowa Base 85.42 197 ⇓P **P 19 32 56.5 +2.5**
SYO Syowa Base 85.42 197 ⇓PcP PcP 19 32 59.6 +2.0
RPZ Rata Peaks 86.06 135 LR LR 20 11 32.4
comp=Z,904nm,18.6s,MS5.2,baz=282,slow=36
TNA Tin City 86.15 24 *eP* **P 19 32 58.5 +0.7**
JMIC Jan Mayen 86.69 341 LR LR 20 13 50.2
comp=Z,826nm,20.1s,MS5.1,baz=269,slow=37
URZ Urewera 89.35 129 LR LR 20 15 19.6
comp=Z,947nm,18.9s,MS5.2,baz=333,slow=37
ESDC Sonseca Array 91.21 310 P **P 19 33 23.3 +1.0**
comp=Z,4.2nm,0.9s,mb4.8,baz=63,slow=4.3,SNR=7.4
IMA Indian Mountai 91.61 22 *eP* **P 19 33 25.2 +1.7**
VNDA Vanda 92.95 168 P **P 19 33 31.1 +1.6**
VNDA pmax pmax
comp=Z,2.0nm,1.0s
VNDA Vanda 92.95 168 P **P 19 33 31.1 +1.5**
comp=Z,2.3nm,1.0s,mb4.6
MCK McKinley 94.44 23 P **P 19 33 35.6 -1.0**
MCK pmax pmax
comp=Z,8.0nm,1.2s,mb5.0
MCK McKinley 94.44 23 P **P 19 33 35.6 -1.0**
comp=Z,8.4nm,1.2s,mb5.0
ILAR Eielson Array 94.73 22 P **P 19 33 37.8 -0.1**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 94.73 22 P **P 19 33 37.8 -0.1**
comp=Z,1.8nm,0.8s,mb4.6,baz=294,slow=4.5,SNR=19
FIB Fire Island 95.10 26 *eP* **P 19 33 39.1 -0.6**
INK Inuvik 96.98 16 P **P 19 33 47.7 -0.4**
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 96.98 16 P **P 19 33 47.7 -0.4**
comp=Z,9.3nm,1.1s,mb5.1,baz=310,slow=5.9,SNR=13
INK Inuvik 96.98 16 P **P 19 33 47.7 -0.4**
DBIC Dimbokro 97.94 278 P **P 19 33 54.5 +0.8**
DBIC pmax pmax
comp=Z,3.0nm,1.1s
DBIC MLR MLR
comp=Z,523nm,19.1s
DBIC Dimbokro 97.94 278 P **P 19 33 54.5 +0.7**
comp=Z,3.2nm,1.1s,mb4.8,baz=53,slow=10,SNR=2.8
DBIC LR LR 20 18 58.7
comp=Z,522nm,19.1s,MS5.0,baz=199,slow=36
DBIC Dimbokro 97.94 278 P **P 19 33 54.1 +0.4**
SNAA Sanae 99.64 199 *eP* **P 19 33 59.9 -0.2**
SNAA pmax pmax
comp=Z,133nm,1.2s
SNAA Sanae 99.64 199 *eP* **P 19 33 59.9 -0.2**
comp=Z,132nm,1.2s
YFT Old Faithful 123.23 21 *e*PKPdf PKPdf 19 39 13.7 -2.8
NVAR Mina Array Bea 124.90 31 PKP PKPdf 19 39 19.1 -0.9
comp=Z,2.3nm,0.7s,baz=284,slow=0.5,SNR=17
MSU Marysvale 127.74 26 *e*PKIKP PKPdf 19 39 24.9 -0.6
ANMO Albuquerque 133.15 23 PKIKP PKPdf 19 39 35.1 -0.7
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO Albuquerque 133.15 23 PKP PKPdf 19 39 35.1 -0.7
comp=Z,3.5nm,0.9s,baz=254,slow=0.2,SNR=7.8
TXAR Lajitas Array 139.21 24 PKhKP 19 39 36.8
comp=Z,0.2nm,0.3s,slow=4.5,SNR=2.8
TXAR PKP PKPdf 19 39 46.4 -0.7
comp=Z,0.6nm,0.4s,baz=225,slow=1.8,SNR=6.3
TXAR Lajitas Array 139.21 24 PKP PKPdf 19 39 46.4 -0.7
JCT Junction City 139.57 19 *e*PKIKP PKPdf 19 39 45.5 -2.2
PLCA Paso Flores 144.56 200 PKIKP PKPdf 19 39 53.9 -2.3
PLCA pmax pmax
comp=Z,14nm,0.9s
PLCA Paso Flores 144.56 200 PKP PKPdf 19 39 53.9 -2.3
comp=Z,14nm,0.9s,baz=129,slow=3.6,SNR=22
PLCA Paso Flores 144.56 200 *e*PKPdf PKPdf 19 39 53.3 -2.9
TEIG Tepich 151.96 5 *e*PKPdf PKPdf 19 40 13.3 +4.6

IDC 27 19:24:12.1±3.5,7.76N×93.58E,mb4.2/7,mb1 4.3/8, mb1mx4.0/19,mbtmp4.2/8,ML3.8/1,Error ellipse: s-maj=99.4km s-min=51.1km az=123.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.84**	**26**	Pn	P	19 27 02.8	-2.5
	0.2nm,0.3s,baz=213,slow=16,SNR=3.9						
ZAL	**Zalesovo**	**46.59**	**353**	P	P	19 32 41.5	-2.0
	2.4nm,0.9s,baz=304,slow=8.6,SNR=3.7						
KMBO	**Kilima Mbogo**	**56.86**	**264**	P	P	19 34 05.2	+3.8
	2.6nm,0.9s,baz=46,slow=12,SNR=5.3						
FINES	**FINESS Array B**	**72.55**	**332**	P	P	19 35 39.9	-2.7
	4.2nm,1.1s,baz=129,slow=8.9,SNR=3.7						
ARCES	**ARCESS Array B**	**75.19**	**340**	P	P	19 35 56.5	-1.4
	0.9nm,0.6s,baz=56,slow=4.4,SNR=3.6						
GERES	**GERESS Array B**	**77.54**	**318**	P	P	19 36 11.0	-0.4
	1.0nm,0.5s,baz=91,slow=6.1,SNR=6.5						
HFS	**Hagfors**	**78.28**	**330**	P	P	19 36 13.5	-1.8
	1.8nm,0.5s,baz=104,slow=6.1,SNR=8.5						
NB2	**NORSAR Subarra**	**79.56**	**331**	P	P	19 36 20.3	-1.9
	3.9nm,1.0s,baz=93,slow=5.8						
NOA	**NORSAR Array B**	**79.56**	**331**	P	P	19 36 20.7	-1.5
	1.1nm,0.6s,baz=95,slow=4.9,SNR=3.5						
PLCA	**Paso Flores**	**144.25**	**201**	PKP	PKPdf	19 43 49.9	-2.2
	2.2nm,0.8s,baz=60,slow=3.1,SNR=4.0						

IDC 27 19:24:26.9±2.1,7.95N×94.10E,mb4.3/5,mb1 4.4/5, mb1mx4.0/18,mbtmp4.3/5,Error ellipse: s-maj=66.4km s-min=56.2km az=107.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.10**	**13**	P	P	19 32 12.5	-1.5
	1.7nm,1.0s,baz=182,slow=9.3,SNR=4.0						
FINES	**FINESS Array B**	**72.62**	**332**	P	P	19 35 55.8	-2.1
	2.4nm,0.7s,baz=121,slow=11,SNR=3.7						
GERES	**GERESS Array B**	**77.74**	**318**	P	P	19 36 26.5	-0.8
	3.7nm,0.9s,baz=90,slow=5.3,SNR=6.8						
HFS	**Hagfors**	**78.37**	**330**	P	P	19 36 28.9	-1.7
	4.9nm,0.7s,baz=117,slow=6.4,SNR=4.5						
NOA	**NORSAR Array B**	**79.64**	**331**	P	P	19 36 35.9	-1.6
	4.7nm,1.1s,baz=93,slow=5.5,SNR=4.3						
PDAR	**Pinedale Array**	**125.11**	**21**	PKP	PKPdf	19 43 30.0	-1.6
	0.5nm,0.6s,baz=297,slow=2.0,SNR=3.6						
PLCA	**Paso Flores**	**144.60**	**200**	PKP	PKPdf	19 44 04.9	-2.7
	2.2nm,0.7s,baz=7.0,slow=4.7,SNR=3.6						

MAN 27 19:27:31.2,8.17N×124.45E,h1km,mb4.0,ML2.8,MS2.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.37**	**40**	*eP*	Pg	19 27 37.3	-1.3
CGP				*i* S	Sg	19 27 42.5	-1.1

*ATH **27** 19:30:28.2,38.83N×25.59E,h20km±6km,MD3.3/11, ML3.4*
*CSEM **27** 19:30:28.2±0.1,38.84N×25.71E,h10km,ML3.4,Error ellipse: s-maj=2.2km s-min=1.9km az=30.0*

*NEIC **27** 19:30:28.2,38.83N×25.59E,h20km,MD3.4(ISK), ML3.4(ATH),After ATH.*
*ISK **27** 19:30:34.0,38.91N×26.12E,h78km,MD3.4*
ISC 27 19:30:28.8±0.4,38.80N±0.03×25.62E±0.04,h20km,n39, σ1§11/48,1C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.68**	**49**	⇑*i*PB	Pb	19 30 40.9	-0.9
AYVA	**Ayvalik**	**0.98**	**59**	*i* P	Pb	19 30 46.5	-0.4
AYVA				*i* S	Sb	19 31 00.8	+1.5
BOZC	**Bozcaada**	**1.09**	**18**	*i* P	Pb	19 30 48.4	-0.5
BOZC				*i* S	Sb	19 31 05.7	+3.0
LIA	**Limnos Island**	**1.14**	**343**	*e*PN	Pn	19 30 49.8	-0.1
LIA				*e*SN	Sn	19 31 04.8	-0.3
BLCB	**Balcova**	**1.19**	**110**	PG	Pn	19 30 51.9	+1.3
BLCB				SG	Sb	19 31 06.4	+0.8
BLCB	**Balcova**	**1.19**	**110**	Pg	Pn	19 30 52.2	+1.6
BLCB				Sg	Sb	19 31 04.2	-1.5
IZM	**Izmir**	**1.35**	**107**	PG	Pn	19 30 53.4	+0.5
KDAG	**Bornova**	**1.35**	**107**	*i* P	Pn	19 30 53.4	+0.5
KDAG				S	Sb	19 31 09.0	-1.2
SMG	**Samos**	**1.46**	**138**	*e*PN	Pn	19 30 57.0	+2.7
PTL	**Penteli**	**1.57**	**242**	*e*PB	Pb	19 30 56.0	-1.0
MPAR	**Parnis Oros**	**1.61**	**247**	*e*PN	Pn	19 30 58.3	+1.7
CANB	**Canakkale**	**1.65**	**42**	PN	Pn	19 30 57.9	+0.8
ATH	**Athens Observa**	**1.71**	**242**	*e*PN	Pn	19 30 59.5	+1.6
AKS	**Akhisar**	**1.72**	**87**	PN	Pn	19 30 57.9	-0.2
APE	**Apeiranthos**	**1.73**	**182**	*e*PN	Pn	19 31 06.2	+7.9
APE	**Apeiranthos**	**1.73**	**182**	*e*Pb	Pb	19 30 59.2	-0.6
APE				Pn	Pn	19 31 06.2	+7.9
NEO	**Neokhori**	**1.93**	**286**	*e*PN	Pn	19 31 02.0	+0.9
BALB	**Balikesir**	**1.95**	**64**	*e*PN	Pn	19 31 01.3	-0.1
BALB	**Balikesir**	**1.95**	**64**	Pn	Pn	19 30 60.0	-1.4
MGER	**Gerania Oros**	**2.02**	**247**	*e*PB	Pb	19 31 03.0	-1.8
BTOK	**Tokmak**	**2.10**	**62**	P	Pn	19 31 07.8	+4.1
BTOK				S	Sn	19 31 36.0	+6.5
EDC	**Edincik**	**2.32**	**48**	Pn	Pn	19 31 06.8	+0.1
RDO	**Rodhopi**	**2.34**	**359**	*e*PB	Pb	19 31 07.6	-2.6
MRMT	**Marmara Adasi**	**2.36**	**40**	*e*PN	Pn	19 31 07.2	-0.1
MRMT	**Marmara Adasi**	**2.36**	**40**	Pn	Pn	19 31 07.3	0.0
MFT	**Murefte**	**2.36**	**32**	*e*PN	Pn	19 31 08.8	+1.5
MFT	**Murefte**	**2.36**	**32**	Pn	Pn	19 31 08.9	+1.6
BNT	**Bandirma**	**2.36**	**48**	Pn	Pn	19 31 07.2	-0.1
DST	**Dursunbey**	**2.47**	**70**	Pn	Pn	19 31 07.8	-1.1
KCT	**Karacabey**	**2.57**	**55**	*e*PN	Pn	19 31 09.3	-1.0
KCT	**Karacabey**	**2.57**	**55**	Pn	Pn	19 31 09.4	-1.0
KCT	**Karacabey**	**2.57**	**55**	Pn	Pn	19 31 09.4	-0.9
ORLT	**Orhaneli**	**2.83**	**63**	*e*PN	Pn	19 31 13.5	-0.5
ORLT	**Orhaneli**	**2.83**	**63**	Pn	Pn	19 31 13.6	-0.4
ORLT	**Orhaneli**	**2.83**	**63**	Pn	Pn	19 31 13.6	-0.4
VLI	**Veliai**	**2.97**	**226**	*e*PN	Pn	19 31 15.6	-0.4
ULDT	**Uludag**	**3.04**	**63**	P	Pn	19 31 25.0	+8.1
ULDT				S	Sn	19 32 03.9	+11
YLV	**Yalova**	**3.39**	**58**	*e*PN	Pn	19 31 21.9	-0.1
HRT	**Hereke**	**3.71**	**56**	*e*PN	Pn	19 31 26.0	-0.6

*BJI **27** 19:31:02.7,7.34N×93.83E,h30km,mB5.2,mb4.7,Ms5.0, Msz4.7*
*IDC **27** 19:31:04.9±0.6,7.96N×93.96E,mb4.6/23,mb1 4.6/24, mb1mx4.6/27,mbtmp4.6/24,ML4.5/1,Error ellipse: s-maj=26.5km s-min=12.4km az=47.0,Putative timing error at LPAZ*
*MOS **27** 19:31:09.1±0.9,8.12N×93.97E,h33km,mb5.0/41,Error ellipse: s-maj=11.9km s-min=6.3km az=106.7*
*NEIC **27** 19:31:09.6±0.3,8.01N×94.08E,h30km,mb4.9/30, MS4.6/1,Error ellipse: s-maj=8.2km s-min=6.5km az=62.0*
*HRVD **27** 19:31:09.6±0.4,8.00N×94.20E,h19km±2km,MW5.2/47, Centroid moment Tensor Solution. LP body waves: s7,c8; Mantle waves: s47,c81; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.48±.47; $M_{\theta\theta}$-2.10±.25; $M_{\phi\phi}$5.58±.34; $M_{r\theta}$-2.46±.64; $M_{r\phi}$4.05±.22; $M_{\theta r}$-1.63±.60; Best double couple: $M_0$6.692×10^{16} NP1:ϕ_s165°,δ49°,λ-152°. NP2: ϕ_s56°,δ69°,λ-45°. Principal axes: T 7.869, Plg13°, Azm115°; N -2.354, Plg42°, Azm216°; P -5.515, Plg45°, Azm12°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 27 19:31:08.6±0.3,8.04N±0.04×94.14E±0.04,h33km, (h25km±2.5km:pP-P),n167,σ1§13/166,mb4.8/62,MS4.8/5, 6C-7D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**9.59**	**37**	P	P	19 33 27.0	-0.4
CM31	**Chiang Mai Arr**	**11.36**	**24**	*eP*	P	19 33 52.2	+0.5
CMAR	**Chiang Mai Arr**	**11.36**	**24**	P	P	19 33 52.5	+0.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.36**	**24**	Pn	P	19 33 52.5	+0.8
	comp=Z,0.9nm,0.3s,baz=215,slow=15,SNR=51						
CHG	**Chiang Mai**	**11.68**	**23**	⇓P	P	19 33 57.9	+1.9
	comp=Z,29nm,1.0s						
PALK	**Pallekele**	**13.35**	**268**	P	P	19 34 21.5	+3.2
	comp=Z,31nm,1.1s						
HYB	**Hyderabad**	**17.82**	**303**	*eP*	P	19 35 18.0	+2.2
HYB	**Hyderabad**	**17.82**	**303**	*i* P	P	19 35 18.0	+2.2
HYB				*e*S	S	19 38 31.5	+0.7
KMI	**Kunming**	**18.87**	**25**	⇑P	P	19 35 33.1	+4.4
KMI				pmax	pmax		
	comp=Z,32nm,1.1s						
KMI	**Kunming**	**18.87**	**25**	⇑P	P	19 35 33.1	+4.4
	comp=Z,32nm,1.1s						
KMI				pP		19 35 38.9	
NGP	**Nagpur**	**19.55**	**313**	*eP*	P	19 35 37.5	+1.0
MNGI	**Mangalore**	**19.61**	**286**	*i* P	P	19 35 38.0	+0.9
MNGI				*i* S	S	19 39 20.7	+10
JIRN	**Jiri**	**20.92**	**340**	*eP*	P	19 35 51.1	+0.3
	comp=Z,218nm,1.1s						
PKI	**Pulchoki**	**21.11**	**338**	*eP*	P	19 35 52.8	0.0
	comp=Z,150nm,0.8s,mb5.4						
DMN	**Daman**	**21.26**	**337**	*eP*	P	19 35 54.0	-0.3
	comp=Z,200nm,0.9s,mb5.5						
KKN	**Kakani**	**21.36**	**338**	*eP*	P	19 35 54.6	-0.7
	comp=Z,106nm,0.8s,mb5.2						
LSA	**Lhasa**	**21.73**	**353**	P	P	19 36 02.5	+3.5
LSA	**Lhasa**	**21.73**	**353**	*eP*	P	19 35 58.3	-0.7
LSA				pmax	pmax		
	comp=Z,63nm,0.7s,mb5.2						
LSA	**Lhasa**	**21.73**	**353**	*eP*	P	19 35 58.3	-0.7
	comp=Z,63nm,0.7s,mb5.2						
GKN	**Gorkha**	**21.80**	**337**	*eP*	P	19 35 59.9	+0.2
	comp=Z,156nm,0.8s,mb5.5						
KOLN	**Koldanda**	**22.02**	**334**	*eP*	P	19 36 02.1	+0.3
	comp=Z,88nm,0.8s,mb5.2						
ENH	**Enshi**	**26.38**	**31**	*eP*	P	19 36 44.1	+0.1
	comp=Z,31nm,1.0s,mb4.8						
XAN	**Xi'an**	**29.25**	**26**	P	P	19 37 09.8	0.0
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.7						
LZH	**Lanzhou**	**29.29**	**16**	⇓P	P	19 37 12.3	+2.1
LZH				AP	pP	19 37 20.0	+0.3
LZH				AMB	AMB		
	comp=Z,51nm,1.7s,mb5.0						
LZH				AMB	AMB		
	comp=Z,172nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,11.5s						
LZH				LR	LR		
	comp=Z,2μm,12.9s,MS4.9						
LZH	**Lanzhou**	**29.29**	**16**	⇓P	P	19 37 12.3	+2.1
	comp=Z,51nm,1.7s,mb5.0						
LZH				pP	pP	19 37 20.0	+0.3
LZH				sP	sP	19 37 25.0	+0.9
LZH				LR	LR		
	comp=Z,2μm,12.9s,MS4.9						
WHN	**Wuhan**	**29.30**	**38**	*eP*	P	19 37 10.0	-0.3
NJ2	**Nanjing**	**33.14**	**40**	*eP*	P	19 37 46.0	+1.8
NJ2				AP	pP	19 37 55.5	+1.7
NJ2				XP	sP	19 37 59.5	+1.3
NJ2				PP	PP	19 38 58.0	+2.5
NJ2				S	S	19 43 02.0	+1.7
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,2μm,5.2s						
NJ2				LR	LR		
	comp=N,3μm,12.8s,MS5.3						
NJ2				LR	LR		
	comp=E,3μm,13.2s,MS5.3						
NJ2				LR	LR		
	comp=Z,3μm,11.1s,MS5.2						
SSE	**Sheshan**	**34.10**	**44**	*eP*	P	19 37 51.8	-0.6
SSE				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,579nm,12.0s						
SSE				LR	LR		
	comp=N,581nm,22.8s,MS4.4						
SSE				LR	LR		
	comp=E,683nm,23.0s,MS4.4						
SSE				LR	LR		
	comp=Z,557nm,14.8s						
SSE	**Sheshan**	**34.10**	**44**	*eP*	P	19 37 51.8	-0.6
	comp=Z,44nm,0.7s,mb5.5						
SSE				LR	LR		
	comp=Z,560nm,14.8s,MS4.4						
WMQ	**Urumqi**	**36.09**	**352**	P	P	19 38 09.8	+0.6
BJT	**Baijiatuau**	**37.44**	**28**	*eP*	P	19 38 21.9	+1.3
BJT				pmax	pmax		
	comp=Z,11nm,0.8s						
BJT	**Baijiatuau**	**37.44**	**28**	*eP*	P	19 38 21.9	+1.2
	comp=Z,11nm,0.8s,mb4.8						
BJI	**Beijing**	**37.46**	**28**	*eP*	P	19 38 23.1	+2.3
BJI				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.7						
BJI				MLR	MLR		
	comp=Z,870nm,19.3s,MS4.6						
BJI	**Beijing**	**37.46**	**28**	*eP*	P	19 38 23.1	+2.3
	comp=Z,18nm,1.4s,mb4.7						
BJI				LR	LR		
	comp=Z,870nm,19.3s,MS4.6						
KBK	**Karagaybulak**	**38.40**	**337**	P	P	19 38 29.8	+1.2
	SNR=7.7						
AML	**Almayashu**	**38.46**	**335**	P	P	19 38 30.1	+1.0
	SNR=7.6						
AAK	**Ala-Archa**	**38.56**	**337**	P	P	19 38 30.9	+0.9
	SNR=5.1						
AAK	**Ala-Archa**	**38.56**	**337**	*d iP*	P	19 38 28.7	-1.2
AAK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.5						
AAK	**Ala-Archa**	**38.56**	**337**	*eP*	P	19 38 28.6	-1.3
	comp=Z,17nm,1.1s,mb4.7						
CHMS	**Chumysh**	**38.77**	**337**	P	P	19 38 31.8	+0.1
	SNR=5.2						
USP	**Ospenovka**	**39.09**	**337**	P	P	19 38 34.7	+0.3
	SNR=7.6						
SONM	**Songino Array**	**41.00**	**13**	P	P	19 38 50.8	+0.6
	comp=Z,3.0nm,0.7s,mb4.0,baz=196,slow=6.8,SNR=20						
SONM				PcP	PcP	19 40 50.8	+0.3
	comp=Z,1.5nm,0.7s,baz=218,slow=4.5,SNR=3.1						
ULN	**Ulaanbaatar**	**41.18**	**13**	*eP*	P	19 38 50.4	-1.2
ULN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
ULN	**Ulaanbaatar**	**41.18**	**13**	*eP*	P	19 38 50.4	-1.2
	comp=Z,5.2nm,0.9s,mb4.2						
ZAK	**Zakamensk**	**42.89**	**9**	*eP*	P	19 39 04.0	-1.6
TLY	**Talaya**	**44.21**	**8**	*i* P	P	19 39 17.7	+1.4
KURK	**Kurchatov**	**44.45**	**346**	*c iP*	P	19 39 18.0	-0.3
KURK	**Kurchatov**	**44.45**	**346**	*eP*	P	19 39 17.7	-0.5
	comp=Z,30nm,1.2s,mb4.9						
MUN	**Mundaring**	**45.03**	**153**	*eP*	P	19 39 24.6	+1.5
	comp=Z,20nm,1.1s,mb4.8						
MUN	**Mundaring**	**45.03**	**153**	*eP*	P	19 39 24.6	+1.5
MUN				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.9						
KLBR	**Kellerberrin**	**45.42**	**151**	*eP*	P	19 39 26.8	+0.5
	comp=Z,110nm,0.8s,mb5.7						
NWAO	**Narrogin (SRO)**	**46.29**	**153**	P	P	19 39 34.5	+1.4
NWAO				pmax	pmax		
	comp=Z,16nm,0.7s						
NWAO	**Narrogin (SRO)**	**46.29**	**153**	P	P	19 39 34.5	+1.3
	comp=Z,16nm,0.7s,mb5.1,baz=336,slow=8.2,SNR=7.1						
ZAL	**Zalesovo**	**46.39**	**352**	P	P	19 39 34.1	+0.5
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZAL	**Zalesovo**	**46.39**	**352**	P	P	19 39 34.0	+0.5
	comp=Z,4.9nm,0.5s,mb4.7,baz=295,slow=6.6,SNR=17						
NVS	**Novosibirsk**	**47.48**	**351**	*i* P	P	19 39 40.8	-1.4
NVS				pmax	pmax		
	comp=N,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
NVS				pmax	pmax		
	comp=E,5.0nm,0.8s						
MDJ	**Mudanjiang**	**47.67**	**34**	P	P	19 39 44.3	+0.5
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,74nm,3.3s						
MDJ	**Mudanjiang**	**47.67**	**34**	P	P	19 39 43.9	0.0
	comp=Z,14nm,1.1s,mb4.9						
WRA	**Warramunga Arr**	**48.35**	**126**	P	P	19 39 48.3	-1.2
WRA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WRA	**Warramunga Arr**	**48.35**	**126**	P	P	19 39 48.3	-1.2
	comp=Z,4.0nm,0.9s,mb4.4,baz=304,slow=8.5,SNR=16						
WRAB	**Tennant Creek**	**48.36**	**126**	*d iP*	P	19 39 51.1	+1.6
WRAB	**Tennant Creek**	**48.36**	**126**	*eP*	P	19 39 46.9	-2.6
	comp=Z,16nm,0.8s,mb5.1						
WB2	**Warramunga Arr**	**48.36**	**126**	*eP*	P	19 39 47.5	-2.0
BVAR	**Borovoye Array**	**48.84**	**341**	P	P	19 39 50.9	-1.9
	comp=Z,3.4nm,0.8s,mb4.4,baz=135,slow=8.4,SNR=16						
BVAR				PcP	PcP	19 41 18.0	+0.6
	comp=Z,1.2nm,0.6s,baz=135,slow=4.1,SNR=2.6						
BRVK	**Borovoye**	**48.90**	**341**	*eP*	P	19 39 51.7	-1.5
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
BRVK	**Borovoye**	**48.90**	**341**	*eP*	P	19 39 51.7	-1.5
	comp=Z,8.6nm,1.0s,mb4.7						
RAYN	**Ar Rayn**	**49.02**	**294**	P	P	19 39 56.9	+2.3
	comp=Z,120nm,0.7s,SNR=8.3						
CHKZ	**Chkalovo**	**49.32**	**342**	*eP*	P	19 39 55.8	-0.7
CHKZ				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1						
CHKZ	**Chkalovo**	**49.32**	**342**	*eP*	P	19 39 55.8	-0.7
	comp=Z,19nm,0.9s,mb5.1						
ASPA	**Alice Springs**	**50.01**	**130**	*eP*	P	19 40 03.4	+1.2
ASAR	**Alice Springs**	**50.02**	**130**	P	P	19 40 01.0	-1.2
	comp=Z,3.2nm,1.0s,mb4.3,baz=309,slow=7.2,SNR=12						
BOD	**Bodaibo**	**51.99**	**13**	*eP*	P	19 40 14.6	-2.1
GNI	**Garni**	**54.33**	**314**	*i* P	P	19 40 34.5	+0.2
GNI				pmax	pmax		
	comp=Z,14nm,1.6s						
GNI	**Garni**	**54.33**	**314**	P	P	19 40 31.6	-2.6
	comp=Z,2.6nm,0.6s,mb4.3,baz=272,slow=7.0,SNR=2.9						
SVE	**Sverdlovsk**	**55.25**	**338**	*eP*	P	19 40 37.0	-3.8
SVE				MLR	MLR		
	comp=N,200nm,19.0s,MS4.6						
SVE				MLR	MLR		
	comp=E,500nm,19.0s,MS4.6						
SVE				MLR	MLR		
	comp=Z,1μm,19.0s,MS5

SOC *e* 19 41 56.8
SOC *e*S **S** **19 49 05.0 -5.9**
SOC *e* 19 50 50.8
SOC *e*SS SS 19 52 59.3 -7.4
SOC *e*SSS SSS 19 55 32.1 -0.5
SOC pmax pmax
comp=Z,27nm,0.8s,mb5.3
SOC pmax pmax
comp=N,19nm,0.9s
SOC pmax pmax
comp=E,33nm,0.9s
EIL Elat 59.35 300 P **P** **19 41 09.1 -1.1**
comp=E,3.5nm,0.6s,mb4.6,baz=40,slow=4.7,SNR=6.1
EIL Elat 59.35 300 P **P** **19 41 09.1 -1.1**
YAK Yakutsk 59.84 18*c i*P **P** **19 41 12.0 -1.1**
YAK pmax pmax
comp=Z,12nm,0.7s,mb5.0
YAK Yakutsk 59.84 18 *e*P **P** **19 41 11.0 -2.1**
comp=Z,14nm,0.7s,mb5.1
STKA Stephens Creek 60.22 134 P **P** **19 41 15.6 -0.5**
comp=Z,7.6nm,1.1s,mb4.7,baz=305,slow=8.7,SNR=4.4
STKA Stephens Creek 60.22 134 *e*P **P** **19 41 15.1 -1.0**
BRTR Keskin Array B 62.33 311 P **P** **19 41 28.2 -2.0**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR Keskin Array B 62.33 311 P **P** **19 41 28.1 -2.0**
comp=Z,3.9nm,0.7s,mb4.7,baz=120,slow=7.5,SNR=17
MBAR Mbarara 63.78 265 *e*P **P** **19 41 40.9 +0.6**
MBAR pmax pmax
comp=Z,12nm,1.2s,mb4.8
MBAR Mbarara 63.78 265 *e*P **P** **19 41 40.9 +0.6**
comp=Z,12nm,1.2s,mb4.8
OBN Obninsk 65.24 328⇓*e*P **P** **19 41 45.0 -4.0**
OBN *e* 19 44 10.2
OBN *e*S S 19 50 21.4 -7.1
OBN pmax pmax
comp=Z,17nm,1.1s,mb5.0
MA2 Magadan 66.62 28 *e*P **P** **19 41 56.7 -1.0**
MA2 pmax pmax
comp=Z,18nm,1.0s,mb5.1
MA2 Magadan 66.62 28 *e*P **P** **19 41 56.7 -1.0**
comp=Z,18nm,1.0s,mb5.0
TIXI Tiksi 67.07 11⇓*i*P **P** **19 41 59.7 -0.7**
TIXI pmax pmax
comp=Z,13nm,0.7s,mb5.1
AKASG Malin Array Be 68.03 322 P **P** **19 42 04.8 -1.9**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 68.03 322 P **P** **19 42 04.8 -1.9**
comp=Z,4.7nm,0.7s,mb4.6,baz=88,slow=5.0,SNR=17
IDI Anoyia 68.48 305 P **P** **19 42 09.0 -0.8**
comp=Z,11nm,0.8s,mb5.0,baz=104,slow=10,SNR=2.7
JOF Joensuu 70.70 334 *ep* **P** **19 42 21.7 -1.2**
comp=Z,11nm,1.2s,mb4.7
KOLS Kolonicke sedl 72.08 319 *e*P **P** **19 42 31.2 -0.2**
KOLS *ep*P pP 19 42 39.8 -1.9
SUW Suwalki 72.38 324 *e*P **P** **19 42 31.9 -1.1**
FINES FINESS Array B 72.57 332 P **P** **19 42 33.7 -0.3**
FINES pmax pmax
comp=Z,9.0nm,0.8s
FINES FINESS Array B 72.57 332 P **P** **19 42 33.6 -0.4**
comp=Z,8.8nm,0.8s,mb4.8,baz=112,slow=10,SNR=18
CRVS Cervenica-Dubn 72.61 319 *e*P **P** **19 42 34.2 -0.3**
KAF Kangasniemi 72.65 333 *ep* **P** **19 42 34.6 +0.1**
comp=Z,14nm,1.1s,mb4.8,baz=114,slow=5.2
KAF Kangasniemi 72.65 333 *e*P **P** **19 42 34.6 +0.1**
KAF pmax pmax
comp=Z,14nm,1.1s,mb4.8
OJC Ojcow 73.85 320 *e*P **P** **19 42 41.8 0.0**
VYHS Vyhne 74.29 318 *e*P **P** **19 42 43.8 -0.6**
LBTB Lobatse 74.32 241 *e*P **P** **19 42 45.6 +0.5**
LBTB pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LBTB Lobatse 74.32 241 *e*P **P** **19 42 45.6 +0.6**
comp=Z,8.5nm,0.9s,mb4.7
KEV Kevo 74.68 341 *ep* **P** **19 42 46.2 -0.1**
OKC Ostrava-Krasne 74.87 319 *e*P **P** **19 42 47.6 -0.1**
ARCES ARCESS Array B 75.11 340 P **P** **19 42 49.0 +0.3**
ARCES pmax pmax
comp=Z,6.0nm,0.8s
ARCES ARCESS Array B 75.11 340 P **P** **19 42 49.0 +0.2**
comp=Z,6.3nm,0.8s,mb4.6,baz=101,slow=6.2,SNR=12
ZST Bratislava 75.42 318 *e*P **P** **19 42 49.9 -1.0**
BOSA Boshof 75.67 238 *e*P **P** **19 42 52.9 +0.1**
BOSA pmax pmax
comp=Z,16nm,1.1s,mb4.9
BOSA Boshof 75.67 238 *e*P **P** **19 42 52.9 +0.2**
comp=Z,16nm,1.1s,mb4.9
BILL Bilibino 75.94 22⇑*e*P **P** **19 42 54.9 +1.5**
BILL pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BILL Bilibino 75.94 22 *e*P **P** **19 42 52.1 -1.4**
comp=Z,14nm,1.2s,mb4.8
DPC Dobruska-Polom 76.08 320 *e*P **P** **19 42 55.3 +0.7**
KSP Ksiaz 76.14 320 *e*P **P** **19 42 54.8 -0.1**
UPC Upice 76.29 320 *e*P **P** **19 42 56.1 +0.3**
PRU Pruhonice 77.21 319 *e*P **P** **19 42 59.2 -1.8**
PVCC Panska Ves 77.22 320 *e*P **P** **19 43 01.4 +0.3**
BRG Berggiesshubel 77.63 320 *e*P **P** **19 43 03.2 -0.1**
BRG *e* 19 43 15.7
BRG pmax pmax
comp=Z,1.0nm,1.9s
BRG Berggiesshubel 77.63 320 *e*P **P** **19 43 03.2 -0.1**
comp=Z,0.7nm,1.9s
BRG *e* 19 43 15.7
GERES GERESS Array B 77.71 318 P **P** **19 43 04.0 +0.2**
GERES pmax pmax
comp=Z,6.0nm,0.7s
GERES GERESS Array B 77.71 318 P **P** **19 43 04.0 +0.2**
comp=Z,5.8nm,0.7s,mb4.6,baz=90,slow=5.3,SNR=47
KHC Kasperske Hory 77.80 318 *e*P **P** **19 43 03.4 -0.9**
CLL Collm 78.24 321 *e*P **P** **19 43 06.0 -0.6**
CLL *i* 19 43 13.2
CLL Collm 78.24 321 P **P** **19 43 06.0 -0.6**
CLL *i* *PP pP 19 43 13.2 -3.8
CLL *e*SP sP 19 43 16.0 -4.6
HFS Hagfors 78.32 330 P **P** **19 43 06.8 -0.1**
HFS pmax pmax
comp=Z,8.0nm,0.7s
HFS Hagfors 78.32 330 P **P** **19 43 06.8 -0.1**
comp=Z,7.5nm,0.7s,mb4.8,baz=104,slow=6.1,SNR=14
NKC Novy Kostel 78.56 320 *e*P **P** **19 43 05.0 -3.5**
MOX Moxa 79.10 320 *e*P **P** **19 43 14.0 +2.6**
GRA1 Grafenberg Arr 79.35 319 *e*P **P** **19 43 13.3 +0.5**
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 79.35 319 *e*P **P** **19 43 13.3 +0.5**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 79.35 319 *e*P **P** **19 43 13.3 +0.5**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 79.35 319 *e*P **P** **19 43 13.3 +0.5**
comp=Z,8.0nm,0.9s,mb4.7
NB2 NORSAR Subarra 79.59 331 P **P** **19 43 13.1 -0.7**
comp=Z,3.7nm,0.7s,mb4.4,baz=98,slow=4.8
NB2 NORSAR Subarra 79.59 331 P **P** **19 43 13.1 -0.7**
NB2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
NOA NORSAR Array B 79.59 331 P **P** **19 43 13.4 -0.4**
NOA pmax pmax
comp=Z,8.0nm,0.9s
NOA NORSAR Array B 79.59 331 P **P** **19 43 13.4 -0.4**
comp=Z,7.6nm,0.9s,mb4.6,baz=93,slow=5.6,SNR=14
MUD Monsted U'grnd 80.58 326 *e*P **P** **19 43 19.7 +0.5**
MUD Monsted U'grnd 80.58 326 *i*P **P** **19 43 19.7 +0.5**
LPG La Plagne 82.51 315 *e*P **P** **19 43 29.8 +0.3**
comp=Z,19nm,0.7s,mb4.9
LPG La Plagne 82.51 315 *e*P **P** **19 43 29.8 +0.3**
LPG pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
TNA Tin City 86.02 24 *e*P **P** **19 43 46.0 -0.7**
ESDC Sonseca Array 91.12 310 P **P** **19 44 12.1 +0.5**
comp=Z,2.9nm,0.8s,mb4.7,baz=57,slow=4.3,SNR=5.1
IMA Indian Mountai 91.47 22 *e*P **P** **19 44 14.3 +1.7**
ILAR Eielson Array 94.59 22 P **P** **19 44 27.5 +0.7**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.59 22 P **P** **19 44 27.4 +0.6**
comp=Z,0.7nm,0.8s,mb4.1,baz=296,slow=4.4,SNR=6.3
INK Inuvik 96.84 16 P **P** **19 44 37.7 +0.7**
INK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 96.84 16 P **P** **19 44 37.7 +0.7**
comp=Z,4.3nm,1.1s,mb4.8,baz=300,slow=3.6,SNR=6.4
INK Inuvik 96.84 16 P **P** **19 44 37.7 +0.7**

NVAR Mina Array Bea 124.78 31 PKP PKPdf 19 50 09.0 +3.4
comp=Z,1.4nm,0.8s,baz=336,slow=0.7,SNR=6.2
PDAR Pinedale Array 125.01 21 PKP PKPdf 19 50 07.8 +1.8
comp=Z,1.5nm,0.8s,baz=1.7,slow=1.7,SNR=8.4
PLCA Paso Flores 144.70 200 PKIKP PKPdf 19 50 43.0 +0.7
PLCA pmax pmax
comp=Z,10.0nm,1.0s
PLCA Paso Flores 144.70 200 PKP PKPdf 19 50 43.0 +0.7
comp=Z,10nm,1.0s,baz=114,slow=5.8,SNR=11
PLCA Paso Flores 144.70 200 PKP PKPdf 19 50 43.0 +0.7
LPAZ La Paz 160.84 243 PKP PKPdf 19 50 26.5 -39
comp=Z,1.4nm,0.8s,baz=358,slow=3.6,SNR=4.2
LPAZ PKPab PKPab 19 51 11.2 -40
comp=Z,3.5nm,1.1s,baz=68,slow=4.3,SNR=4.1

IGQ 27 19:37:03.5,1.61S±81.25W,h6km±8km,mb4.2,1C,Error ellipse: s-maj=9.6km s-min=6.2km az=164.1,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.90**	**52**	⇑P	Pb	19 37 20.6	-0.5
HOJA				S	Sb	19 37 32.2	-0.9
JAMA	**Jama**	**1.70**	**38**	P	Pn	19 37 34.4	+0.4
MAGD	**Magdalena**	**2.13**	**44**	P	Pn	19 37 42.5	+2.4
MAGD				S	Sn	19 38 00.6	-6.5
IGUA	**Igualata**	**2.62**	**88**	P	Pn	19 37 48.2	+1.1
CUSU	**Cusua**	**2.78**	**87**	P	Pn	19 37 51.4	+2.0
JUIV	**Juive**	**2.79**	**86**	P	Pn	19 37 50.1	+0.4
ARRY	**Arrayan**	**2.80**	**88**	P	Pn	19 37 50.8	+1.1
RETU	**Refugio**	**2.81**	**87**	P	Pn	19 37 52.0	+2.1
ULBA	**Ulba**	**2.85**	**87**	P	Pn	19 37 52.3	+1.9
PISA	**Pisayambo**	**2.92**	**79**	P	Pn	19 37 53.4	+1.9
NAS1	**Nasa**	**2.94**	**71**	P	Pn	19 37 53.8	+2.1
JUA2	**San Juan 2**	**2.99**	**62**	P	Pn	19 37 53.3	+0.9
TERV	**Terraza Guagua**	**3.01**	**62**	P	Pn	19 37 54.7	+2.0
VC1	**Cotopaxi 1**	**3.01**	**71**	P	Pn	19 37 55.2	+2.5
PINO	**Pino**	**3.01**	**61**	P	Pn	19 37 53.2	+0.5
TAMB	**Tambo**	**3.02**	**73**	P	Pn	19 37 56.2	+3.3
YANA	**Yana**	**3.06**	**61**	P	Pn	19 37 54.1	+0.7
ANTI	**Antisana**	**3.30**	**70**	P	Pn	19 37 60.0	+3.2
COTA	**Cotacachi**	**3.50**	**57**	P	Pn	19 38 01.6	+2.0
CAYR	**Refugio Cayamb**	**3.62**	**64**	P	Pn	19 38 05.2	+3.8

IDC 27 19:37:05.1±8.9,7.67N×94.47E,h61km±75km,mb3.6/5, mb1 3.7/6,mb1mx3.5/19,mbtmp3.9/6,ML4.1/1,Error ellipse: s-maj=74.5km s-min=25.5km az=55.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.57**	**22**	P	P	19 39 47.4	-2.4
	0.4nm,0.3s,baz=211,slow=14,SNR=8.5						
SONM	**Songino Array**	**41.29**	**12**	P	P	19 44 44.7	-1.3
	0.3nm,0.5s,baz=198,slow=9.1,SNR=2.7						
ASAR	**Alice Springs**	**49.54**	**130**	P	P	19 45 50.1	-2.0
	0.3nm,0.7s,baz=298,slow=5.9,SNR=2.8						
FINES	**FINESS Array B**	**73.04**	**332**	P	P	19 48 28.1	-2.0
	2.2nm,0.8s,baz=90,slow=5.7,SNR=3.3						
GERES	**GERESS Array B**	**78.19**	**318**	P	P	19 48 58.7	-1.0
	1.1nm,0.7s,baz=108,slow=4.2,SNR=6.1						
HFS	**Hagfors**	**78.79**	**330**	P	P	19 49 00.9	-1.8
	1.9nm,0.7s,baz=100,slow=9.0,SNR=5.6						

IDC 27 19:37:23.9±9.3,7.38N×94.12E,mb4.2/4,mb1 4.3/5, mb1mx3.9/19,mbtmp4.2/5,ML4.2/1,Error ellipse: s-maj=239.1km s-min=49.6km az=141.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.97**	**23**	Pn	P	19 40 16.6	-2.3
	0.5nm,0.3s,baz=210,slow=15,SNR=7.1						
SONM	**Songino Array**	**41.65**	**12**	P	P	19 45 13.8	-1.8
	1.3nm,0.9s,baz=180,slow=3.7,SNR=3.7						
FINES	**FINESS Array B**	**73.14**	**332**	P	P	19 48 55.2	-2.7
	4.6nm,1.1s,baz=90,slow=9.7,SNR=2.8						
GERES	**GERESS Array B**	**78.18**	**318**	P	P	19 49 25.7	-1.0
	1.0nm,0.7s,baz=108,slow=4.2,SNR=4.5						
HFS	**Hagfors**	**78.87**	**330**	P	P	19 49 29.5	-0.8
	3.3nm,0.8s,baz=121,slow=8.4,SNR=3.8						

MAN 27 19:38:53.1,13.27N×122.22E,h3km,mb3.7,ML2.4,MS2.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.41**	**297**	*e*P	Pg	19 39 01.6	+0.3
BOAC				*e*S	Sg	19 39 09.3	+2.5
AUQP	**San Andres**	**0.45**	**83**	*e*P	Pg	19 39 02.5	+0.5
AUQP				*e*S	Sg	19 39 11.7	+3.8
OTRP	**Odiongan**	**0.92**	**192**	*e*P	Pb	19 39 10.2	-1.1
OTRP				*e*S	Sg	19 39 22.6	-1.2
SJMP	**San Jose**	**1.34**	**233**	*e*P	Pb	19 39 17.8	-0.7
SJMP				*e*S	Sb	19 39 38.0	+2.0
POLP	**Polilio Island**	**1.48**	**349**	*e*P	Pn	19 39 19.6	-1.0
POLP				*e*S	Sb	19 39 40.6	+0.6
BALP	**Baler**	**2.54**	**346**	*e*P	Pn	19 39 36.1	+0.3

*CSEM **27** 19:39:01.0,35.78N×27.64E,h13km,MD3.5/4,After ATH*
*NEIC **27** 19:39:01.0,35.78N×27.64E,h13km,MD3.5(ATH),After ATH.*

ATH 27 19:39:01.0,35.78N×27.64E,h13km,MD3.5/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.45**	**239**	*e*PB	Pb	19 39 10.0	-0.3
ARG	**Arkhangelos**	**0.59**	**42**	*e*PB	Pb	19 39 12.5	-0.1
FETY	**Fethiye**	**1.45**	**53**	PN	Pn	19 39 23.8	-3.2
NPS	**Neapolis**	**1.73**	**253**	*e*PN	Pn	19 39 32.5	+1.4
ELL	**Elmali**	**2.07**	**62**	*e*PN	Pn	19 39 32.6	-3.4
APE	**Apeiranthos**	**2.13**	**308**	*e*PN	Pn	19 39 39.0	+2.2
DENT	**Denizli**	**2.27**	**29**	*e*PN	Pn	19 39 42.6	+3.9

*BJI **27** 19:40:28.1,7.36N×93.75E,h30km,mB5.4,mb4.8,Ms4.9, Msz4.5*
*HRVD **27** 19:40:36.3±0.3,8.16N×94.07E,h15km±1km,MW5.2/51, Centroid moment Tensor Solution. LP body waves: s18,c22;Mantle waves: s51,c99; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.72±.05; $M_{\theta\theta}$0.28±.03; $M_{\phi\phi}$0.43±.03; $M_{r\theta}$-0.43±.10; $M_{r\phi}$0.40±.02; $M_{\theta\phi}$=0.07±.08; Best double couple: M_0.859×10^{17} NP1: ϕ_s202°,δ36°,λ-121°. NP2:ϕ_s58°,δ60°,λ-70°. Principal axes: T.839, Plg13°, Azm133°; N.04, Plg17°, Azm227°; P -.88, Plg68°, Azm9°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 19:40:36.3±0.3,8.13N×94.05E,h30km,mb5.0/33 Error ellipse: s-maj=7.5km s-min=6.5km az=56.0*
*IDC **27** 19:40:37.4±4.5,8.11N×94.09E,h41km±40km,mb4.4/25, mb1 4.5/26,mb1mx4.5/29,mbtmp4.6/26,ML4.3/1,MS4.5/8, Ms1 4.5/8,ms1mx4.0/28,Error ellipse: s-maj=27.3km s-min=12.0km az=49.0*

ISC 27 19:40:33.0±0.3,8.12N±0.04×94.16E±0.05,h19km, h19km±2.9km:pP-P,n121,σ1§09/118,mb4.9/66,MS4.6/8, 8C-7D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.78**	**338**	*e*P	**Pn**	**19 41 35.8**	**+4.2**
PBA				*e*S	**Sn**	**19 42 18.7**	**+2.7**
CM31	**Chiang Mai Arr**	**11.28**	**24**	*e*P	**P**	**19 43 16.7**	**+0.3**
	33nm,0.9s						
CMAR	**Chiang Mai Arr**	**11.28**	**24**	P	**P**	**19 43 16.9**	**+0.6**
	0.6nm,0.3s,baz=212,slow=14,SNR=16						
CMAR				LR	LR	19 47 50.7	
	comp=Z,878nm,21.8s,baz=210,slow=38						
KOD	**Kodaikanal**	**16.61**	**279**	*e*P	**P**	**19 44 28.1**	**+1.4**
KOD				*e*		19 44 44.6	
	comp=Z,51nm,1.8s						
KOD				*e*		19 47 18.6	
SHL	**Shillong**	**17.48**	**353**	*e*	**P**	**19 44 37.3**	**-0.3**
SHL				*e*		19 44 46.9	
	comp=Z,1μm,2.3s						
SHL				*e*	**S**	**19 47 49.0**	**-0.7**
HYB	**Hyderabad**	**17.79**	**303**	*i*P	**P**	**19 44 42.0**	**+0.6**

HYB *e*S **S** **19 48 01.5 +4.8**
KMI Kunming 18.78 25⇑P **P** **19 44 57.4 +3.8**
comp=Z,15nm,2.0s
KMI pP 19 45 05.0
KMI sP 19 45 09.0
NGP Nagpur 19.50 313 *e*P **P** **19 45 05.1 +3.0**
NGP *e* 19 45 08.6
comp=Z,47nm,2.5s
NGP *e*S **S** **19 48 39.7 +4.3**
MNGI Mangalore 19.60 286 *i*P **P** **19 45 04.0 +0.8**
MNGI *e* **S** **19 48 33.6 -3.9**
JIRN Jiri 20.84 340 *e*P **P** **19 45 15.9 -0.3**
comp=Z,820nm,1.8s
PKI Pulchoki 21.04 338 *e*P **P** **19 45 18.0 -0.3**
comp=Z,134nm,1.0s,mb5.2
DMN Daman 21.19 337 *e*P **P** **19 45 19.8 0.0**
comp=Z,247nm,1.0s,mb5.5
GOA Goa 21.19 292 *e* **P** **19 45 31.4 +11**
GOA *e* 19 45 42.6
comp=Z,63nm,1.1s
GOA *e*S **S** **19 49 16.6 +6.9**
KKN Kakani 21.29 338 *e*P **P** **19 45 19.8 -1.0**
comp=Z,104nm,0.9s,mb5.2
KAD Karad 21.50 297 *e*P **P** **19 45 25.7 +2.8**
LSA Lhasa 21.65 353 *e*P **P** **19 45 24.0 -0.4**
LSA Lhasa 21.65 353 *e*P **P** **19 45 23.5 -0.9**
comp=Z,82nm,1.2s,mb5.0
GKN Gorkha 21.72 337 *e*P **P** **19 45 24.1 -1.1**
comp=Z,248nm,1.0s,mb5.6
KOLN Koldanda 21.94 334 *e*P **P** **19 45 27.3 -0.1**
comp=Z,352nm,1.4s,mb5.6
POO Poona 22.28 300 *e* **P** **19 45 33.0 +2.3**
NDI New Delhi 25.94 324 *e*P **P** **19 46 06.0 -0.1**
NDI *e* pP 19 46 10.8 -0.9
comp=Z,70nm,0.8s
ENH Enshi 26.30 31 *e*P **P** **19 46 09.9 +0.5**
comp=Z,41nm,0.9s,mb5.0
SMLA Simla 27.84 328 *e* **P** **19 46 37.3 +14**
SMLA *e* 19 46 53.6
comp=Z,68nm,1.8s
XAN Xi'an 29.16 26 P **P** **19 46 35.0 -0.3**
XAN AP pP 19 46 42.3 +1.3
XAN AMB AMB
comp=Z,15nm,1.1s,mb4.6
LZH Lanzhou 29.20 16⇑P **P** **19 46 36.8 +1.1**
LZH AP pP 19 46 45.0 +3.6
LZH XP sP 19 46 49.0 +5.1
LZH PP PP 19 47 32.0 +1.5
LZH AMB AMB
comp=Z,51nm,1.7s,mb5.0
LZH AMB AMB
comp=Z,172nm,4.0s
LZH LR LR
comp=E,1μm,13.5s
LZH LR LR
comp=Z,2μm,14.3s,MS4.8
LZH Lanzhou 29.20 16⇑P **P** **19 46 36.7 +1.0**
comp=Z,51nm,1.7s,mb5.0
LZH pP pP 19 46 45.1 +3.7
LZH sP sP 19 46 49.1 +5.2
LZH PP PP 19 47 32.1 +1.6
LZH LR LR
comp=Z,2μm,14.3s,MS4.8
WHN Wuhan 29.23 38⇑P **P** **19 46 37.5 +1.5**
NJ2 Nanjing 33.07 41 *e*P **P** **19 47 07.5 -2.3**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
WMQ Urumqi 36.00 352 P **P** **19 47 35.5 +0.7**
JOW Kunigami 37.30 56 LR LR 20 05 37.0
comp=Z,915nm,18.1s,MS4.6,baz=337,slow=40
BJT Baijiatuau 37.36 28 *e*P **P** **19 47 47.8 +1.6**
comp=Z,50nm,1.4s,mb5.2
BJI Beijing 37.38 28 *e*P **P** **19 47 48.4 +2.0**
comp=Z,22nm,1.3s,mb4.8
AAK Ala-Archa 38.48 336 *e*P **P** **19 47 54.8 -0.9**
comp=Z,24nm,1.2s,mb4.8
SONM Songino Array 40.92 13 P **P** **19 48 16.0 +0.2**
comp=Z,7.1nm,1.0s,mb4.2,baz=204,slow=5.3,SNR=14
SONM PcP PcP 19 50 17.1 +0.4
comp=Z,1.2nm,0.5s,baz=203,slow=3.9,SNR=9.2
SNY Shenyang 42.45 33⇓P **P** **19 48 30.0 +1.5**
KURK Kurchatov 44.37 346 *e*P **P** **19 48 42.9 -1.1**
comp=Z,44nm,1.1s,mb5.1
MUN Mundaring 45.10 153 *e*P **P** **19 48 52.0 +2.0**
comp=Z,13nm,0.8s,mb4.8
HIA Hailar 46.29 23 *e*P **P** **19 48 59.9 +0.8**
comp=Z,13nm,1.0s,mb4.8
ZAL Zalesovo 46.30 352 P **P** **19 48 58.9 -0.3**
comp=Z,10nm,0.8s,mb4.8,baz=307,slow=5.7,SNR=18
NWAO Narrogin (SRO) 46.36 153 P **P** **19 48 59.1 -0.9**
comp=Z,33nm,1.2s,mb5.1,baz=322,slow=12,SNR=7.3
WRA Warramunga Arr 48.39 126 P **P** **19 49 16.3 +0.2**
comp=Z,2.3nm,0.6s,mb4.4,baz=306,slow=8.6,SNR=11
WRAB Tennant Creek 48.40 126 *e*P **P** **19 49 15.7 -0.5**
BVAR Borovoye Array 48.76 341 P **P** **19 49 16.6 -1.8**
comp=Z,3.7nm,0.8s,mb4.4,baz=149,slow=8.6,SNR=14
BRVK Borovoye 48.82 341 *e*P **P** **19 49 17.3 -1.6**
comp=Z,15nm,1.2s,mb4.9
JHJ Hachijo jima 2 48.90 53 LR LR 20 10 14.5
comp=Z,265nm,18.9s,MS4.2,baz=220,slow=36
RAYN Ar Rayn 49.00 294 P **P** **19 49 22.9 +2.2**
comp=Z,128nm,0.8s,mb6.0,SNR=17
CHKZ Chkalovo 49.24 342 *e*P **P** **19 49 20.7 -1.5**
comp=Z,29nm,1.0s,mb5.3
ASAR Alice Springs 50.06 130 P **P** **19 49 28.8 -0.2**
comp=Z,3.9nm,0.9s,mb4.5,baz=304,slow=7.3,SNR=11
ASAR PcP PcP 19 50 45.3 -3.5
comp=Z,0.8nm,0.4s,baz=312,slow=3.3,SNR=6.9
ASAR LR LR 20 11 20.9
comp=Z,366nm,20.0s,MS4.4,baz=301,slow=37
GNI Garni 54.27 314 P **P** **19 50 00.8 +0.6**
comp=Z,3.2nm,0.6s,mb4.5,baz=318,slow=5.9,SNR=5.3
KIV Kislovodsk 57.14 318 *e*P **P** **19 50 19.1 -1.8**
comp=Z,16nm,0.9s,mb5.0
KMBO Kilima Mbogo 57.47 263 P **P** **19 50 26.5 +2.9**
comp=Z,14nm,0.9s,mb5.0,baz=52,slow=12,SNR=21
KMBO LR LR 20 10 40.3
comp=Z,748nm,21.0s,MS4.8,baz=280,slow=31
KMBO Kilima Mbogo 57.47 263 P **P** **19 50 26.5 +2.9**
KMBO LR LR 20 10 40.4
ASF Jabal al Asfar 58.09 303 P **P** **19 50 27.9 +0.2**
comp=Z,2.7nm,0.6s,mb4.4,baz=190,slow=4.4,SNR=6.4
ASF LR LR 20 18 16.7
comp=Z,419nm,21.0s,MS4.5,baz=316,slow=39
CTA Charters Tower 58.41 119 LR LR 20 14 53.7
comp=Z,628nm,21.4s,MS4.7,baz=292,slow=35
EIL Elat 59.32 300 P **P** **19 50 35.7 -0.6**
comp=Z,7.0nm,1.1s,mb4.6,baz=67,slow=11,SNR=6.0
EIL Elat 59.32 300 P **P** **19 50 35.7 -0.6**
YAK Yakutsk 59.75 18 *e*P **P** **19 50 37.1 -1.7**
comp=Z,24nm,0.9s,mb5.2
STKA Stephens Creek 60.27 134 P **P** **19 50 42.6 -0.2**
comp=Z,7.5nm,1.1s,mb4.7,baz=322,slow=16,SNR=3.9
STKA LR LR 20 17 25.4
comp=Z,777nm,20.9s,MS4.8,baz=286,slow=37
BRTR Keskin Array B 62.28 311 P **P** **19 50 54.3 -2.0**
comp=Z,4.3nm,0.8s,mb4.6,baz=124,slow=7.1,SNR=12
MBAR Mbarara 63.80 265 *e*P **P** **19 51 05.9 -0.9**
comp=Z,14nm,1.3s,mb4.8
OBN Obninsk 65.18 328 *e*P **P** **19 51 11.4 -3.6**
comp=Z,104nm,1.5s,mb5.6
AKASG Malin Array Be 67.97 322 P **P** **19 51 30.6 -2.3**
comp=Z,5.5nm,0.8s,mb4.7,baz=88,slow=4.9,SNR=14
IDI Anoyia 68.44 305 P **P** **19 51 33.4 -2.7**
comp=Z,16nm,1.1s,mb5.0,baz=88,slow=3.7,SNR=6.8
VRI Vrincioaia 68.53 316⇑P **P** **19 51 36.2 -0.3**
MLR Muntele Rosu 69.00 316 P **P** **19 51 38.7 -0.7**
comp=Z,16nm,1.0s,mb4.9,baz=101,slow=8.3,SNR=13
MLR Muntele Rosu 69.00 316⇑P **P** **19 51 39.0 -0.4**
LSZ Lusaka 69.37 250 *e*P **P** **19 51 41.7 -0.4**
comp=Z,29nm,1.7s,mb4.9
JOF Joensuu 70.63 334 *ep* **P** **19 51 47.9 -1.1**
comp=Z,12nm,0.8s,mb4.9
KOLS Kolonicke sedl 72.03 319 *e*P **P** **19 51 54.1 -3.6**
FINES FINESS Array B 72.50 332 P **P** **19 51 59.5 -0.7**
comp=Z,9.9nm,0.9s,mb4.7,baz=101,slow=6.9,SNR=24
CRVS Cervenica-Dubn 72.55 319 *e*P **P** **19 52 00.9 +0.1**
CRVS *e* 19 52 18.6
KAF Kangasniemi 72.58 333 *ep* **P** **19 51 59.3 -1.4**
comp=Z,19nm,1.2s,mb4.9,baz=110,slow=6.1
OJC Ojcow 73.80 320 *e*P **P** **19 52 07.6 -0.4**
VYHS Vyhne 74.23 318 *e*P **P** **19 52 10.3 -0.3**
LBTB Lobatse 74.38 241 *e*P **P** **19 52 12.6 +0.7**
comp=Z,17nm,1.3s,mb4.8
KEV Kevo 74.61 341 *ep* **P** **19 52 11.4 -0.9**
comp=Z,33nm,1.4s,mb5.1

OKC Ostrava-Krasne 74.81 319 *e*P **P 19 52 14.0 +0.1**
OKC *ep*P *p*P 19 52 20.4 +0.4
ARCES ARCESS Array B 75.04 340 P **P 19 52 13.8 -1.1**
comp=Z,6.2nm,0.8s,mb4.6,baz=95,slow=5.5,SNR=19
MORC Moravsky Berou 75.20 319 *e*P **P 19 52 15.8 -0.3**
comp=Z,24nm,1.3s,mb5.0
ZST Bratislava 75.36 318 *e*P **P 19 52 17.6 +0.5**
VRAC Vranov 75.78 319 P **P 19 52 18.6 -0.9**
comp=Z,3.9nm,0.7s,mb4.4,baz=90,slow=7.4,SNR=5.4
DPC Dobruska-Polom 76.03 320 *e*P **P 19 52 21.2 +0.4**
KSP Ksiaz 76.08 320 *e*P **P 19 52 21.0 -0.1**
KSP *e* 19 52 24.3
UPC Upice 76.24 320 *e*P **P 19 52 21.7 -0.3**
UPC *ep*P *p*P 19 52 26.0 -2.1
ARSA Arzberg 76.37 317 ⇓*i*P **P 19 52 22.7 -0.1**
comp=Z,16nm,1.4s,mb4.8
PRU Pruhonice 77.15 319 *e*P **P 19 52 27.5 +0.4**
PRU *ep*P *p*P 19 52 34.7 +1.5
PVCC Panska Ves 77.16 320 *e*P **P 19 52 27.7 +0.6**
BRG Berggiesshubel 77.57 320 *e*P **P 19 52 29.6 +0.2**
comp=Z,9.7nm,1.0s,mb4.7
GERES GERESS Array B 77.65 318 P **P 19 52 30.0 +0.1**
comp=Z,8.3nm,0.9s,mb4.7,baz=88,slow=6.0,SNR=25
KHC Kasperske Hory 77.74 318 *e*P **P 19 52 30.2 -0.2**
CLL Collm 78.18 321 ⇓*i*P **P 19 52 32.6 -0.1**
CLL *i* 19 52 35.2
CLL Collm 78.18 321 ⇓P **P 19 52 32.6 -0.1**
comp=Z,logA/T=1.1,mb4.8
CLL *i* *PP *p*P 19 52 35.2 -3.6
HFS Hagfors 78.25 330 P **P 19 52 32.9 0.0**
comp=Z,4.6nm,0.5s,mb4.6,baz=108,slow=4.7,SNR=22
NKC Novy Kostel 78.50 320 *e*P **P 19 52 35.0 +0.5**
WTTA Wattenberg 79.01 317 ⇓*i*P **P 19 52 36.8 -0.6**
comp=Z,18nm,1.0s,mb5.0
MOX Moxa 79.04 320 *e*P **P 19 52 38.3 +0.8**
comp=Z,32nm,1.6s,mb5.0
MOX Moxa 79.04 320 *i* P **P 19 52 38.3 +0.8**
comp=Z,logA/T=1.3,mb5.0
WATA Walderalm 79.06 317 ⇑*i*P **P 19 52 37.1 -0.5**
comp=Z,32nm,1.5s,mb5.0
GRA1 Grafenberg Arr 79.29 319 *e*P **P 19 52 39.1 +0.3**
comp=Z,22nm,1.1s,mb5.0
GRF Grafenberg Arr 79.29 319 *e*P **P 19 52 39.1 +0.3**
comp=Z,22nm,1.1s,mb5.0
SQTA Sankt Quirin 79.31 316 ⇓*i*P **P 19 52 38.2 -0.8**
comp=Z,15nm,1.1s,mb4.8
MOTA Moosalm 79.38 317 ⇓*i*P **P 19 52 38.6 -0.8**
comp=Z,12nm,1.1s,mb4.7
NB2 NORSAR Subarra 79.52 331 P **P 19 52 39.1 -0.8**
comp=Z,29nm,1.2s,mb5.1,baz=93,slow=5.6
NB2 NORSAR Subarra 79.52 331 P **P 19 52 39.1 -0.8**
baz=92,slow=5.9
NOA NORSAR Array B 79.52 331 P **P 19 52 39.1 -0.8**
comp=Z,4.1nm,0.7s,mb4.5,baz=92,slow=5.6,SNR=11
DAVA Damuels 80.21 317 ⇑*i*P **P 19 52 44.3 +0.5**
comp=Z,34nm,1.6s,mb5.0
MUD Monsted U'grnd 80.51 326 *i* P **P 19 52 45.7 +0.5**
comp=Z,20nm,0.9s,mb5.0
LPG La Plagne 82.45 315 *e*P **P 19 52 56.1 +0.5**
comp=Z,39nm,0.8s,mb5.1
EKA Eskdalemuir Ar 87.53 325 P **P 19 53 21.4 +0.7**
comp=Z,7.3nm,0.7s,mb5.0,baz=104,slow=5.9,SNR=11
ESDC Sonseca Array 91.07 310 P **P 19 53 39.0 +1.2**
comp=Z,8.8nm,1.0s,mb5.0,baz=65,slow=3.9,SNR=20
IMA Indian Mountai 91.39 22 *e*P **P 19 53 40.5 +1.9**
SVW2 Sparrevohn 92.52 27 *e*P **P 19 53 46.8 +2.9**
SPU Mount Spurr 94.05 26 *e*P **P 19 53 51.6 +0.6**
ILAR Eielson Array 94.51 22 P **P 19 53 53.0 0.0**
comp=Z,1.7nm,1.1s,mb4.4,baz=290,slow=4.2,SNR=8.0
INK Inuvik 96.75 16 P **P 19 54 04.1 +0.9**
comp=Z,4.4nm,1.0s,mb4.8,baz=308,slow=4.4,SNR=6.1
YKA Yellowknife Ar 106.18 13 Pdiff Pdif 19 54 48.0 +2.6
comp=Z,0.5nm,0.9s,baz=322,slow=4.3,SNR=5.5
YKA Yellowknife Ar 106.18 13 Pdif Pdif 19 54 48.0 +2.6
PDAR Pinedale Array 124.93 21 PKP PKPdf 19 59 32.9 -3.5
comp=Z,0.9nm,0.9s,baz=246,slow=1.1,SNR=6.8
TXAR Lajitas Array 138.99 24 PKP PKPdf 20 00 01.0 -2.2
comp=Z,0.7nm,0.3s,baz=186,slow=32,SNR=5.2
TXAR Lajitas Array 138.99 24 PKP PKPdf 20 00 01.0 -2.2
PLCA Paso Flores 144.79 200 PKP PKPdf 20 00 10.9 -2.2
comp=Z,19nm,1.1s,baz=150,slow=4.0,SNR=13

IDC 27 19:41:24.3±1.6, 5.13N×127.38E, mb4.2/4, mb1 4.4/4, mb1mx4.0/17, mbtmp4.2/4, Error ellipse: s-maj=142.2km s-min=23.3km az=69.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.84**	**165**	P	P	19 46 57.5	-1.8
2.9nm,0.5s,baz=344,slow=10,SNR=17							
WB2	**Warramunga Arr**	**25.84**	**165**	*e*P	P	19 46 58.5	-0.9
ASAR	**Alice Springs**	**29.32**	**168**	P	P	19 47 28.9	-2.2
2.5nm,0.9s,baz=356,slow=7.2,SNR=16							
STKA	**Stephens Creek**	**39.21**	**161**	*e*P	P	19 48 54.5	-1.6
1.4nm,0.3s							
STKA	**Stephens Creek**	**39.21**	**161**	P	P	19 48 54.4	-1.7
1.9nm,0.4s,baz=324,slow=9.2,SNR=11							
ZAL	**Zalesovo**	**59.65**	**332**	P	P	19 51 30.2	-2.4
2.2nm,0.6s,baz=283,slow=6.8,SNR=3.9							

IDC 27 19:47:58.2±6.2, 7.11N×94.41E, mb4.1/4, mb1 4.2/5, mb1mx3.8/18, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=155.1km s-min=57.1km az=135.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.12**	**21**	Pn	P	19 50 52.9	-2.4
0.3nm,0.3s,baz=211,slow=14,SNR=6.6							
ZAL	**Zalesovo**	**47.34**	**352**	P	P	19 56 33.1	-2.5
1.3nm,0.6s,baz=319,slow=11,SNR=3.1							
FINES	**FINESS Array B**	**73.51**	**332**	P	P	19 59 33.4	-1.1
0.8nm,0.6s,baz=117,slow=8.5,SNR=3.6							
GERES	**GERESS Array B**	**78.57**	**318**	P	P	20 00 01.7	-1.5
1.1nm,1.0s,baz=76,slow=5.5,SNR=4.9							
HFS	**Hagfors**	**79.25**	**330**	P	P	20 00 05.3	-1.4
3.0nm,0.9s,baz=90,slow=4.4,SNR=4.3							

NIED ***27*** *19:49:00, 42.90N×145.10E, h44km, Mw4.7 Best double couple: M0.19×10¹⁶ NP1:φs29°, δ70°, λ84°. NP2:φs227°, δ21°, λ107°.*
MOS ***27*** *19:49:13.7±1.0, 42.82N×145.11E, h42km, mb5.0/23, Error ellipse: s-maj=9.5km s-min=6.4km az=95.4*
MOS Felt (II) at Yuzhno-Kuril'sk.
BJI ***27*** *19:49:14.4, 42.92N×145.24E, h57km, mB5.5, mb4.7, Ms4.6, Msz4.4*
SKHL ***27*** *19:49:16.0±2.4, 42.97N×145.20E, h50km±15km, mb4.7/8, msh5.5/1*
SKHL Felt (II) at Yushno-Kurilsk.
NEIC ***27*** *19:49:16.0±0.3, 42.87N×145.05E, mb4.7/32, MW4.7(NIED), Error ellipse: s-maj=7.1km s-min=4.4km az=150.0*
NEIC Felt [II] at Yuzhno-Kuril'sk, Kunashir. Recorded [2 JMA] in eastern Hokkaido.
IDC ***27*** *19:49:16.4±0.5, 42.84N×145.21E, h50km±4km, mb4.2/24, mb1 4.3/25, mb1mx4.3/28, mbtmp4.5/25, MS3.4/2, Ms1 3.4/2, ms1mx3.0/28, Error ellipse: s-maj=12.0km s-min=8.4km az=27.0*
JMA ***27*** *19:49:16.1±0.1, 42.88N×145.09E, h48km±1km, M4.5 Broadband fault plane solution: P waves. NP1:φs225°, δ17°, λ105°. NP2:φs29°, δ74°, λ86°. Principal axes: T Plg61°, Azm293°; N Plg4°, Azm31°; P Plg29°, Azm123°;*
JMA Felt II J1.
ISC 27 19:49:15.0±0.5, 42.88N±0.04×145.09E±0.04, h51km±3km, h43km±2.9km: pP-P, n152, σ0 99/159, mb4.6/59, MS4.0/3, 1C-14D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.31**	**292**	⇓P	**P**	**19 49 25.1**	**+0.7**
JAK				*e*S	**S**	**19 49 31.7**	**+0.5**
NEM2	**Nemuro 2**	**0.68**	**44**	P	**P**	**19 49 29.1**	**+0.5**
NEM2				*e*S	**S**	**19 49 38.3**	**-0.4**
JNK	**Nakash**	**0.76**	**339**	⇓P	**P**	**19 49 30.4**	**+0.8**
JNK				*e*S	**S**	**19 49 40.4**	**0.0**
JOB	**Onbets**	**0.92**	**272**	⇓P	**P**	**19 49 32.6**	**+0.7**
JAR	**Ashorobuto**	**1.05**	**294**	⇓P	**P**	**19 49 34.6**	**+0.9**
JAR				*e*S	**S**	**19 49 48.1**	**+0.5**
JRA	**Rausu**	**1.06**	**1**	⇓P	**P**	**19 49 34.6**	**+0.8**
JRA				*e*S	**S**	**19 49 48.1**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**1.29**	**26**	*e*PN	**P**	**19 49 36.5**	**-0.5**
YUK				*i* S	**S**	**19 49 51.9**	**-1.5**
YUK				pmax	pmax		
comp=Z,3μm,0.3s							
YUK				pmax	pmax		
comp=N,960nm,0.5s							
YUK				pmax	pmax		
comp=E,470nm,0.2s							
YUK				pmax	pmax		
comp=Z,5μm,0.4s							
YUK				smax			
comp=N,100μm,0.4s							
YUK				smax			
comp=E,100μm,0.4s							
YUK				smax			
comp=N,110μm,1.5s							
YUK				smax			
comp=E,69μm,1.1s							
YUK	**Yuzh-Kuril'sk**	**1.29**	**26**	*e*P	**P**	**19 49 36.5**	**-0.5**
YUK				AMB	AMB	19 49 38.0	
comp=E,5μm,0.4s							
YUK				AMB	AMB	19 49 38.0	
comp=E,960nm,0.3s							
YUK				AMB	AMB	19 49 38.0	
comp=E,470nm,0.3s							
YUK				AMB	AMB	19 49 38.0	
comp=E,3μm,0.3s							
YUK				*i* rx	rx	19 49 45.3	
YUK				*i* S	**S**	**19 49 51.9**	**-1.5**
YUK				A		19 49 55.0	
comp=E,110μm,1.0s							
YUK				A		19 49 55.0	
comp=E,69μm,1.0s							
JCH	**Churui**	**1.30**	**259**	⇓P	**P**	**19 49 37.3**	**+0.1**
JTKR	**Abashiri--Toko**	**1.39**	**322**	⇓P	**P**	**19 49 39.8**	**+1.2**
JTKR				*e*S	**S**	**19 49 57.5**	**+1.5**
ASAJ	**Asahikawa**	**2.20**	**305**	PN	**P**	**19 49 51.7**	**+1.9**
ASAJ				S	**S**	**19 50 20.6**	**+4.7**
ASAJ				pmax	pmax		
comp=Z,343nm,0.3s							
ASAJ				smax			
comp=E,135nm,0.3s							
ASAJ	**Asahikawa**	**2.20**	**305**	P	**P**	**19 49 51.6**	**+1.8**
comp=E,343nm,0.3s,baz=82,slow=5.6,SNR=186							
ASAJ				S	**S**	**19 50 20.6**	**+4.7**
comp=E,135nm,0.3s,baz=359,slow=29,SNR=8.9							
KUR	**Kuril'sk**	**3.09**	**39**	PN	**P**	**19 50 00.5**	**-2.1**
KUR				*e*		19 50 37.0	
KUR				pmax	pmax		
comp=Z,290nm,0.4s							
KUR				pmax	pmax		
comp=N,900nm,0.6s							
KUR				pmax	pmax		
comp=E,2μm,0.6s							
KUR				pmax	pmax		
comp=N,8μm,3.0s							
KUR				pmax	pmax		
comp=E,7μm,3.0s							
KUR	**Kuril'sk**	**3.09**	**39**	*e*P	**P**	**19 50 00.5**	**-2.1**
KUR				AMB	AMB	19 50 01.8	
comp=E,290nm,0.5s							
KUR				*i* S	**S**	**19 50 37.0**	**-1.5**
KUR				A		19 50 51.6	
comp=E,900nm,0.6s							
KUR				A		19 50 51.6	
comp=E,2μm,0.6s							
KUR				A		19 50 52.8	
comp=E,8μm,3.0s							
KUR				A		19 50 52.8	
comp=E,7μm,3.0s							
YSS	**Yuzh-Sakhalins**	**4.40**	**339**	*e*Pn	**P**	**19 50 21.1**	**+0.1**
YSS	**Yuzh-Sakhalins**	**4.40**	**339**	⇑*e*P	**P**	**19 50 21.0**	**0.0**
YSS				AMB	AMB	19 50 22.8	
comp=E,30nm,0.4s							
YSS				*e*rx	rx	19 50 41.0	
YSS				*e*rx	rx	19 50 48.0	
YSS				*e*rx	rx	19 50 57.0	
YSS				*i* S	**S**	**19 51 08.5**	**-3.1**
YSS				A		19 51 14.5	
comp=E,110nm,0.9s							
TEY	**Ternei**	**6.50**	**292**	*e*P	**P**	**19 50 51.0**	**+0.7**
UGL	**Uglegorsk**	**6.55**	**342**	*e*P	**P**	**19 50 50.0**	**-1.1**
UGL				AMB	AMB	19 50 54.0	
comp=E,31nm,0.5s							
UGL				*e*rx	rx	19 51 02.5	
UGL				*e*rx	rx	19 51 24.7	
TYV	**Tymovskoe**	**8.16**	**349**	*e*P	**P**	**19 51 11.2**	**-2.2**
TYV				AMB	AMB	19 51 15.8	
comp=E,50nm,1.2s							
MAJO	**Matsushiro**	**8.25**	**222**	*e*PN	**P**	**19 51 13.1**	**-1.6**
MAT	**Matsushiro**	**8.25**	**222**	P	**P**	**19 51 13.0**	**-1.7**
MAT				*e*S	**S**	**19 52 43.4**	**-4.1**
GRNR	**Gornyy**	**9.87**	**326**	*e*rx	rx	19 51 38.2	
JHJ	**Hachijo jima 2**	**10.60**	**205**	LR	LR	19 55 26.6	
comp=E,508nm,21.5s,baz=9.2,slow=35							
SKR	**Severo-Kuril's**	**10.86**	**40**	*e*rx	rx	19 51 50.5	
MDJ	**Mudanjiang**	**11.35**	**284**	P	**P**	**19 51 54.3**	**-2.6**
MDJ				AMB	AMB		
comp=Z,13nm,1.1s							
MDJ				AMB	AMB		
comp=Z,790nm,7.5s							
MDJ	**Mudanjiang**	**11.35**	**284**	*e*P	**P**	**19 51 55.3**	**-1.6**
EKMR	**Ekimchan**	**13.02**	**326**	*e*P	**P**	**19 52 17.6**	**-1.7**
EKMR				AMB	AMB	19 52 20.5	
comp=Z,31nm,1.2s							
ZEA	**Zeya**	**16.04**	**319**	*e*P	**P**	**19 52 57.4**	**-0.9**
ZEA				AMB	AMB	19 52 59.5	
comp=Z,14nm,1.2s							
KROS	**Kirovskiy**	**16.59**	**320**	*e*P	**P**	**19 53 05.6**	**+0.4**
KROS				AMB	AMB	19 53 07.2	
comp=Z,2.0nm,0.5s							
MA2	**Magadan**	**17.08**	**10**	*e*P	**P**	**19 53 13.0**	**+1.6**
MA2				pmax	pmax		
comp=Z,7.0nm,0.8s							
MA2	**Magadan**	**17.08**	**10**	*e*P	**P**	**19 53 13.0**	**+1.6**
comp=Z,7.3nm,0.8s							
HIA	**Hailar**	**18.66**	**299**	*e*P	**P**	**19 53 29.1**	**-1.8**
HIA				pmax	pmax		
comp=Z,9.0nm,0.4s							
HIA	**Hailar**	**18.66**	**299**	*e*P	**P**	**19 53 29.1**	**-1.8**
comp=Z,8.9nm,0.4s							
JOW	**Kunigami**	**21.07**	**226**	P	**P**	**19 53 59.9**	**+2.9**
comp=Z,8.0nm,0.4s,mb4.4,baz=12,slow=6.3,SNR=5.7							
FX1	**Attu Island--F**	**21.20**	**52**	LR	LR	20 01 37.5	
comp=Z,14nm,21.2s,baz=53,slow=35							
YAK	**Yakutsk**	**21.25**	**340**	P	**P**	**19 53 53.9**	**-4.6**
YAK				pmax	pmax		
comp=Z,8.0nm,0.7s,mb4.2							
YAK	**Yakutsk**	**21.25**	**340**	P	**P**	**19 53 53.9**	**-4.6**
comp=Z,7.8nm,0.7s,mb4.2							
BJI	**Beijing**	**21.81**	**272**	*e*P	**P**	**19 54 03.7**	**-0.5**
BJI				pmax	pmax		
comp=Z,29nm,1.0s,mb4.7							
BJI	**Beijing**	**21.81**	**272**	*e*P	**P**	**19 54 03.7**	**-0.5**
comp=Z,29nm,1.0s,mb4.7							
BJT	**Baijiatuau**	**21.82**	**272**	*e*P	**P**	**19 54 03.5**	**-0.9**
BJT				*e*		19 54 18.1	
BJT				pmax	pmax		
comp=Z,45nm,0.9s							
BJT	**Baijiatuau**	**21.82**	**272**	*e*P	**P**	**19 54 03.5**	**-0.9**
comp=Z,45nm,0.9s,mb4.9							
BJT				*e*		19 54 18.1	
TIA	**Tai'an**	**22.51**	**262**	*e*P	**P**	**19 54 11.0**	**-0.1**
NJ2	**Nanjing**	**23.37**	**251**	*e*P	**P**	**19 54 19.3**	**-0.3**
NJ2				AMB	AMB		
comp=Z,20nm,0.5s,mb4.8							
ULN	**Ulaanbaatar**	**26.99**	**294**	*e*P	**P**	**19 54 53.5**	**-0.2**
ULN				pmax	pmax		
comp=Z,4.0nm,0.5s,mb4.2							
ULN	**Ulaanbaatar**	**26.99**	**294**	*e*P	**P**	**19 54 53.5**	**-0.2**
comp=Z,3.8nm,0.5s,mb4.2							
WHN	**Wuhan**	**27.39**	**253**	⇓P	**P**	**19 54 58.0**	**+0.5**
SONM	**Songino Array**	**27.43**	**294**	P	**P**	**19 54 57.9**	**+0.1**
comp=Z,7.1nm,0.7s,mb4.3,baz=82,slow=8.5,SNR=45							
TLY	**Talaya**	**29.12**	**302**	*e*P	**P**	**19 55 14.4**	**+1.6**
TLY				pmax	pmax		
comp=Z,3.0nm,1.1s,mb3.9							
TLY	**Talaya**	**29.12**	**302**	*e*P	**P**	**19 55 14.4**	**+1.6**
comp=Z,2.9nm,1.1s,mb3.9							
ZAK	**Zakamensk**	**29.36**	**299**	*e*P	**P**	**19 55 14.0**	**-0.9**
ZAK				*e*		19 58 20.5	
XAN	**Xi'an**	**29.48**	**265**	P	**P**	**19 55 15.5**	**-0.7**
XAN				AMB	AMB		
comp=Z,8.0nm,1.3s,mb4.3							
ENH	**Enshi**	**31.01**	**258**	*e*P	**P**	**19 55 27.5**	**-2.3**
comp=Z,15nm,0.9s,mb4.8							
LZH	**Lanzhou**	**32.30**	**272**	⇓P	**P**	**19 55 42.0**	**+0.9**
LZH				AP	pP	19 55 50.0	-4.4
LZH				AMB	AMB		
comp=Z,33nm,1.5s,mb4.9							
LZH				AMB	AMB		
comp=Z,150nm,5.2s							
LZH				LR	LR		
comp=E,695nm,14.0s							
LZH				LR	LR		
comp=Z,923nm,14.8s,MS4.6							
LZH	**Lanzhou**	**32.30**	**272**	⇓P	**P**	**19 55 42.0**	**+0.9**
LZH				*SP	sP	19 55 55.5	-5.3
LZH				pmax	pmax		
comp=Z,33nm,1.5s,mb4.9							
LZH				MLR	MLR		
comp=Z,920nm,14.8s,MS4.6							
LZH	**Lanzhou**	**32.30**	**272**	⇓P	**P**	**19 55 42.0**	**+0.9**
comp=Z,33nm,1.5s,mb4.9							
LZH				pP	pP	19 55 50.0	-4.4
LZH				sP	sP	19 55 55.5	-5.3
LZH				LR	LR		
comp=Z,920nm,14.8s,MS4.6							
KMI	**Kunming**	**38.86**	**257**	P	**P**	**19 56 38.4**	**+1.6**
KMI				*PP	pP	19 56 50.0	-0.4
KMI				*SP	sP	19 56 55.9	-0.7
KMI				pmax	pmax		
comp=Z,18nm,0.9s,mb4.8							
KMI	**Kunming**	**38.86**	**257**	P	**P**	**19 56 38.4**	**+1.6**
comp=Z,18nm,0.9s,mb4.8							
KMI				pP	pP	19 56 50.0	-0.4
KMI				sP	sP	19 56 55.9	-0.7
IMA	**Indian Mountai**	**40.24**	**34**	*e*P	**P**	**19 56 49.1**	**+1.2**
WMQ	**Urumqi**	**41.02**	**292**	*e*P	**P**	**19 56 55.0**	**+0.5**
WMQ				AP	pP	19 57 10.3	+2.2
WMQ				XP	sP	19 57 17.5	+3.2
WMQ				PP	PP	19 58 33.5	+0.9
WMQ				PCP	PcP	19 58 54.8	+0.4
WMQ				S	**S**	**20 03 02.5**	**-0.5**
WMQ				AMB	AMB		
comp=Z,9.0nm,1.5s,mb4.2							
WMQ				AMB	AMB		
comp=Z,40nm,5.6s							
WMQ				LR	LR		
comp=N,562nm,20.0s,MS4.5							
WMQ				LR	LR		
comp=E,461nm,24.2s,MS4.5							
WMQ				LR	LR		
comp=Z,660nm,18.8s							
MCK	**McKinley**	**42.24**	**37**	*e*P	**P**	**19 57 05.4**	**+1.2**
MCK				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.1							
MCK	**McKinley**	**42.24**	**37**	*e*P	**P**	**19 57 05.4**	**+1.2**
comp=Z,3.6nm,0.8s,mb4.0							
SML	**Sawmill**	**42.66**	**40**	*e*P	**P**	**19 57 08.6**	**+0.9**
COLA	**College**	**42.66**	**35**	*e*P	**P**	**19 57 08.2**	**+0.6**
COLA				pmax	pmax		
comp=Z,12nm,0.8s,mb4.7							
COLA	**College**	**42.66**	**35**	*e*P	**P**	**19 57 08.2**	**+0.5**
comp=Z,12nm,0.8s,mb4.7							
ILAR	**Eielson Array**	**43.08**	**36**	P	**P**	**19 57 11.5**	**+0.5**
comp=Z,3.0nm,0.5s,mb4.3,baz=263,slow=6.1,SNR=46							
ILAR				pP	pP	19 57 24.4	-0.4
comp=Z,5.9nm,0.8s,baz=281,slow=9.2,SNR=12							
MKAR	**Makanchi Array**	**43.66**	**298**	*e*P	**P**	**19 57 15.9**	**-0.1**
MKAR				pmax	pmax		
comp=Z,20μm,0.8s							
LSA	**Lhasa**	**44.71**	**271**	*e*P	**P**	**19 57 25.3**	**+0.6**
LSA				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.5							
LSA	**Lhasa**	**44.71**	**271**	*e*P	**P**	**19 57 25.3**	**+0.6**
comp=Z,7.6nm,0.9s,mb4.5							
KURK	**Kurchatov**	**44.77**	**304**	*i* P	**P**	**19 57 24.4**	**-0.5**
KURK				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.3							
KURK	**Kurchatov**	**44.77**	**304**	*e*P	**P**	**19 57 24.2**	**-0.7**
comp=Z,12nm,0.9s,mb4.7							
CM31	**Chiang Mai Arr**	**45.83**	**253**	*e*P	**P**	**19 57 33.4**	**-0.4**
comp=Z,6.2nm,0.8s,mb4.6							
CMAR	**Chiang Mai Arr**	**45.83**	**253**	P	**P**	**19 57 34.8**	**+1.0**
comp=Z,3.2nm,0.7s,mb4.3,baz=44,slow=7.5,SNR=19							
INK	**Inuvik**	**47.91**	**30**	P	**P**	**19 57 49.9**	**+0.4**
INK				pmax	pmax		
comp=Z,6.0nm,0.4s							
INK	**Inuvik**	**47.91**	**30**	P	**P**	**19 57 49.9**	**+0.4**
comp=Z,6.1nm,0.4s,mb5.0,baz=275,slow=5.6,SNR=114							
INK	**Inuvik**	**47.91**	**30**	*e*P	**P**	**19 57 49.3**	**-0.2**
comp=Z,7.7nm,0.4s,mb5.1							
CHKZ	**Chkalovo**	**48.55**	**310**	P	**P**	**19 57 52.6**	**-2.0**
CHKZ				pmax	pmax		
comp=Z,15nm,1.7s,mb4.8							
CHKZ	**Chkalovo**	**48.55**	**310**	*e*P	**P**	**19 57 53.1**	**-1.4**
comp=Z,7.4nm,0.8s,mb4.8							
BVAR	**Borovoye Array**	**48.89**	**309**	P	**P**	**19 57 57.1**	**-0.2**
comp=Z,4.4nm,0.3s,mb4.9,baz=84,slow=9.0,SNR=53							
BVAR				PcP	PcP	19 59 21.2	-0.2
comp=Z,1.7nm,0.5s,baz=103,slow=2.4,SNR=4.5							
BRVK	**Borovoye**	**48.94**	**309**	*e*P	**P**	**19 57 57.3**	**-0.3**
BRVK				pmax	pmax		
comp=Z,13nm,1.0s,mb4.9							
BRVK	**Borovoye**	**48.94**	**309**	*e*P	**P**	**19 57 57.3**	**-0.3**
comp=Z,13nm,1.0s,mb4.9							
JIRN	**Jiri**	**49.47**	**272**	*e*P	**P**	**19 58 01.0**	**-1.1**
KKN	**Kakani**	**50.06**	**273**	*e*P	**P**	**19 58 06.2**	**-0.4**
comp=Z,12nm,0.7s,mb5.0							
PKI	**Pulchoki**	**50.09**	**273**	*e*P	**P**	**19 58 07.1**	**+0.3**
comp=Z,11nm,0.6s,mb5.0							
DMN	**Daman**	**50.29**	**273**	*e*P	**P**	**19 58 08.2**	**-0.2**
comp=Z,20nm,0.9s,mb5.1							
AAK	**Ala-Archa**	**50.38**	**295**	*e*P	**P**	**19 58 07.4**	**-1.4**
AAK				pmax	pmax		
comp=Z,3μm,0.5s							
AAK	**Ala-Archa**	**50.38**	**295**	*e*P	**P**	**19 58 07.4**	**-1.4**
comp=Z,3.5nm,0.5s,mb4.7							
GKN	**Gorkha**	**50.42**	**274**	*e*P	**P**	**19 58 08.8**	**-0.5**
comp=Z,15nm,0.5s,mb5.3							
KOLN	**Koldanda**	**51.31**	**274**	*e*P	**P**	**19 58 15.9**	**-0.2**
ARU	**Arti**	**53.95**	**317**	*e*P	**P**	**19 58 28.5**	**-6.8**
RES	**Resolute Bay**	**56.23**	**16**	*e*P	**P**	**19 58 50.1**	**-1.5**
RES				pmax	pmax		
comp=Z,13nm,0.5s,mb5.2							
RES	**Resolute Bay**	**56.23**	**16**	*e*P	**P**	**19 58 50.1**	**-1.5**
comp=Z,12nm,0.5s,mb5.2							
YKA	**Yellowknife Ar**	**57.36**	**33**	P	**P**	**19 58 59.4**	**-0.4**
comp=Z,2.0nm,0.8s,mb4.2,baz=300,slow=6.9,SNR=23							
ARCES	**ARCESS Array B**	**59.54**	**339**	P	**P**	**19 59 15.8**	**+1.0**
comp=Z,2.5nm,0.8s,mb4.3,baz=39,slow=7.8,SNR=7.5							
WRA	**Warramunga Arr**	**63.28**	**191**	P	**P**	**19 59 39.5**	**-1.3**
comp=Z,2.0nm,1.1s,mb4.2,baz=8.7,slow=7.1,SNR=8.3							
WRA				pP	pP	19 59 54.1	-1.0
comp=Z,2.7nm,0.8s,baz=10.0,slow=6.9,SNR=9.2							
FINES	**FINESS Array B**	**64.96**	**332**	P	**P**	**19 59 49.7**	**-1.3**
comp=Z,4.8nm,0.4s,mb4.9,baz=52,slow=8.2,SNR=56							
OBN	**

comp=Z,4.3nm0.4s,mb4.7,baz=34,slow=6.3,SNR=25
HFS Hagfors 69.90 336 P **P 20 00 21.3 -0.7**
comp=Z,7.6nm0.4s,mb5.0,baz=53,slow=7.4,SNR=47
FRB Frobisher Bay 70.43 15 P **P 20 00 24.2 -0.8**
comp=Z,2.6nm0.5s,mb4.5,baz=358,slow=4.1,SNR=7.0
HWUT Hardware Ranch 71.26 50 P **P 20 00 31.3 +0.8**
comp=Z,1nm0.9s,mb4.1
AKASG Malin Array Be 71.38 323 P **P 20 00 30.4 -0.6**
AKASG pmax pmax
comp=Z,4.0nm0.4s
AKASG Malin Array Be 71.38 323 P **P 20 00 30.4 -0.7**
comp=Z,4.0nm0.4s,mb4.7,baz=41,slow=6.4,SNR=38
SUW Suwalki 71.46 328 P **P 20 00 27.4 -4.1**
SUW pmax pmax
comp=Z,18nm0.9s,mb5.0
SUW Suwalki 71.46 328 P **P 20 00 27.4 -4.1**
comp=Z,18nm0.9s,mb5.0
BW06 Boulder Array 71.62 48 *e*P **P 20 00 32.9 +0.3**
comp=Z,9.8nm1.3s,mb4.6
PDAR Pinedale Array 71.62 48 P **P 20 00 33.2 +0.6**
comp=Z,2.8nm,1.0s,mb4.2,baz=8.9,slow=1.3,SNR=12
PDAR pP pP 20 00 45.4 -1.8
comp=Z,2.1nm,0.7s,baz=274,slow=1.9,SNR=6.2
SRU San Rafael 73.51 52 P **P 20 00 43.7 -0.1**
PV10 Paradox Valley 74.86 52 *e*P **P 20 00 52.9 +1.3**
MALT Malatya 75.36 309 *e*P **P 20 00 55.4 +0.9**
MALT pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
MALT Malatya 75.36 309 *e*P **P 20 00 55.4 +0.9**
comp=Z,7.0nm,1.2s,mb4.5
OJC Ojcow 75.72 327 *e*P **P 20 00 57.1 +0.9**
CRVS Cervenica-Dubn 76.07 326 *e*P **P 20 00 59.0 +0.7**
OKC Ostrava-Krasne 76.67 328 *e*P **P 20 01 02.7 +1.0**
MORC Moravsky Berou 76.95 328 *e*P **P 20 01 03.6 +0.3**
MORC pmax pmax
comp=Z,11nm,1.1s,mb4.7
MORC Moravsky Berou 76.95 328 *e*P **P 20 01 03.6 +0.3**
comp=Z,12nm,1.1s,mb4.7
DPC Dobruska-Polom 76.96 329 *e*P **P 20 01 04.2 +0.9**
BRTR Keskin Array B 77.04 313 P **P 20 01 04.5 +0.5**
comp=Z,0.6nm,0.4s,mb3.9,baz=63,slow=5.5,SNR=3.8
CLL Collm 77.38 331 ⇓*i*P **P 20 01 06.1 +0.5**
CLL *i* pP 20 01 17.6 -2.7
CLL *i* 20 01 26.6
CLL pmax pmax
comp=Z,12nm,1.1s,mb4.7
CLL Collm 77.38 331 ⇓⇓*i*P **P 20 01 06.1 +0.5**
comp=Z,12nm,1.1s,mb4.7
CLL *i* pP 20 01 17.6 -2.7
CLL *i* 20 01 26.6
CLL Collm 77.38 331 ⇓P **P 20 01 06.1 +0.5**
comp=Z,logA/T=1.0,mb4.7
CLL *i* *PP pP 20 01 17.6 -2.7
CLL *i* *SP sP 20 01 26.6 +0.6
PVCC Panska Ves 77.46 330 *e*P **P 20 01 05.9 -0.2**
VYHS Vyhne 77.47 327 *e*P **P 20 01 07.0 +0.9**
PSZ Piszkesteto 77.49 326 *e*P **P 20 01 06.8 +0.5**
PSZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
PSZ Piszkesteto 77.49 326 *e*P **P 20 01 06.8 +0.5**
comp=Z,8.9nm,0.9s,mb4.7
VRAC Vranov 77.70 328 P **P 20 01 07.8 +0.4**
comp=Z,3.7nm,0.5s,mb4.6,baz=114,slow=16,SNR=4.7
PRU Pruhonice 77.92 330 *e*P **P 20 01 09.1 +0.5**
NKC Novy Kostel 78.47 331 *e*P **P 20 01 10.6 -1.0**
SCHQ Schefferville 78.93 18 P **P 20 01 14.2 +0.1**
comp=Z,1.2nm,0.5s,mb4.1,baz=291,slow=13,SNR=5.8
KHC Kasperske Hory 78.98 330 *e*P **P 20 01 15.1 +0.7**
GERES GERESS Array B 79.17 330 P **P 20 01 15.5 0.0**
comp=Z,1.2nm,0.4s,mb4.2,baz=38,slow=5.7,SNR=19
GRA1 Grafenberg Arr 79.36 332 *e*P **P 20 01 17.3 +0.8**
comp=Z,10.0nm,1.0s,mb4.7
GRF Grafenberg Arr 79.36 332 *e*P **P 20 01 17.3 +0.8**
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GRF Grafenberg Arr 79.36 332 *e*P **P 20 01 17.3 +0.8**
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GRF Grafenberg Arr 79.36 332 *e*P **P 20 01 17.3 +0.8**
comp=Z,10.0nm,1.0s,mb4.7
NWAO Narrogin (SRO) 79.64 204 LR LR 20 37 04.4
comp=Z,7.5nm,18.9s,MS3.0,baz=157,slow=36
GDL2 Guadalupe Moun 81.91 53 P **P 20 01 30.0 -0.4**
TXAR Lajitas Array 84.38 55 P **P 20 01 44.7 +1.8**
comp=Z,1.9nm,1.0s,mb4.2,baz=297,slow=2.8,SNR=5.5
TXAR pP pP 20 01 57.4 -0.5
comp=Z,2.8nm,0.7s,baz=294,slow=3.4,SNR=9.0
TXAR Lajitas Array 84.38 55 P **P 20 01 44.7 +1.7**
TXAR pP pP 20 01 57.4 -0.5
IDI Anoyia 84.99 315 P **P 20 01 45.8 0.0**
comp=Z,7.2nm,0.4s,mb5.1,baz=14,slow=18,SNR=15
ESDC Sonseca Array 93.18 337 P **P 20 02 25.1 +0.6**
comp=Z,0.6nm,0.5s,mb4.3,baz=15,slow=4.5,SNR=5.6
LVC Limon Verde 145.32 65 *e*PKPdf PKPdf 20 08 50.5 +3.4
LVC *e* 20 09 03.8
LVC *e* 20 09 03.9
PLCA Paso Flores 153.47 98 PKPbc PKPdf 20 09 09.6 +10
comp=Z,2.8nm,0.9s,baz=292,slow=2.9,SNR=4.9

IDC 27 19:54:21.0±7.0, 7.74N×94.30E, mb3.7/3, mb1 3.9/4, mb1mx3.6/17, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=167.6km s-min=52.2km az=141.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.57**	**23**	Pn	P	19 57 09.1	-1.4
	0.1nm,0.3s,baz=219,slow=14,SNR=4.8						
SONM	**Songino Array**	**41.26**	**12**	P	P	20 02 06.6	-2.8
	0.5nm,0.7s,baz=203,slow=9.4,SNR=3.6						
ZAL	**Zalesovo**	**46.70**	**352**	P	P	20 02 51.7	-1.5
	1.4nm,0.7s,baz=281,slow=8.7,SNR=4.7						
GERES	**GERESS Array B**	**78.03**	**318**	P	P	20 06 21.9	-1.1
	0.8nm,0.6s,baz=76,slow=4.0,SNR=7.1						

IDC 27 19:56:21.3±7.0, 7.35N×94.38E, mb4.0/3, mb1 4.1/4, mb1mx3.6/17, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=169.4km s-min=59.9km az=137.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.90**	**21**	Pn	P	19 59 12.3	-3.1
	0.2nm,0.3s,baz=212,slow=14,SNR=6.0						
ZAL	**Zalesovo**	**47.13**	**352**	P	P	20 04 54.2	-2.6
	1.1nm,0.3s,baz=322,slow=5.1,SNR=3.3						
FINES	**FINESS Array B**	**73.29**	**332**	P	P	20 07 56.1	-0.1
	1.1nm,0.7s,baz=90,slow=5.7,SNR=3.4						
GERES	**GERESS Array B**	**78.38**	**318**	P	P	20 08 22.8	-2.5
	0.8nm,1.0s,baz=104,slow=5.5,SNR=3.8						

*IDC **27** 19:57:03.9±0.9, 7.69N×93.84E, mb4.0/12, mb1 4.1/13, mb1mx4.1/18, mbtmp4.0/13, ML3.6/1, Error ellipse: s-maj=40.1km s-min=19.6km az=51.0*
*BJI **27** 19:57:06.4, 7.41N×93.96E, h47km, mb4.3*
*NEIC **27** 19:57:08.2±0.5, 7.65N×93.82E, h30km, mb4.3/5, Error ellipse: s-maj=16.0km s-min=9.6km az=62.0*
ISC 27 19:57:06.4±0.7, 7.7N±0.1×93.9E±0.1, h30km, n23, σ0§87/22, mb4.1/16, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.80**	**24**	Pn	P	**19 59 55.0**	**-0.8**
	0.1nm,0.3s,baz=213,slow=14,SNR=3.7						
KMI	**Kunming**	**19.31**	**25**	⇑P	P	**20 01 32.8**	**+0.8**
	12nm,1.2s						
LSA	**Lhasa**	**22.05**	**354**	*e*P	P	**20 02 01.9**	**+1.4**
	11nm,0.7s,mb4.4						
AAK	**Ala-Archa**	**38.77**	**337**	*e*P	P	**20 04 30.1**	**0.0**
	2.1nm,0.6s,mb4.0						
SONM	**Songino Array**	**41.41**	**13**	P	P	**20 04 51.5**	**-0.2**
	1.7nm,1.0s,mb3.6,baz=198,slow=7.8,SNR=5.4						
KURK	**Kurchatov**	**44.73**	**346**	*e*P	P	**20 05 17.6**	**-1.2**
	6.8nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**46.70**	**353**	P	P	**20 05 34.5**	**+0.2**
	3.3nm,1.0s,mb4.2,baz=297,slow=9.9,SNR=7.3						
WRA	**Warramunga Arr**	**48.37**	**125**	P	P	**20 05 47.5**	**-0.4**
	1.2nm,0.6s,mb4.1,baz=305,slow=9.0,SNR=5.0						
WRAB	**Tennant Creek**	**48.38**	**125**	*e*P	P	**20 05 47.2**	**-0.7**
BVAR	**Borovoye Array**	**49.08**	**341**	P	P	**20 05 51.6**	**-1.3**
	1.5nm,0.9s,mb4.0,baz=135,slow=8.4,SNR=4.6						
BVAR				PcP	PcP	20 07 16.8	+0.3
	0.4nm,0.7s,baz=117,slow=6.6,SNR=3.6						
CHKZ	**Chkalovo**	**49.57**	**342**	*e*P	P	**20 05 55.8**	**-0.9**
	3.9nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**50.00**	**130**	P	P	**20 06 00.8**	**+0.5**
	1.0nm,0.9s,mb3.8,baz=306,slow=7.8,SNR=3.9						
KMBO	**Kilima Mbogo**	**57.13**	**264**	P	P	**20 06 57.8**	**+4.6**
	1.6nm,0.6s,mb4.2,baz=65,slow=12,SNR=4.9						
BRTR	**Keskin Array B**	**62.35**	**311**	P	P	**20 07 28.2**	**-0.4**
	1.0nm,0.7s,mb4.0,baz=117,slow=5.5,SNR=4.7						
AKASG	**Malin Array Be**	**68.14**	**322**	P	P	**20 08 05.3**	**-0.5**
	1.0nm,0.6s,mb4.0,baz=90,slow=4.8,SNR=4.8						
FINES	**FINESS Array B**	**72.75**	**332**	P	P	**20 08 33.2**	**-0.4**
	2.1nm,0.8s,mb4.1,baz=63,slow=8.5,SNR=4.4						
FINES	**FINESS Array B**	**72.75**	**332**	P	P	**20 08 33.2**	**-0.4**
ARCES	**ARCESS Array B**	**75.35**	**340**	P	P	**20 08 49.2**	**+0.8**
	1.7nm,0.7s,mb4.1,baz=73,slow=9.4,SNR=2.8						
GERES	**GERESS Array B**	**77.79**	**318**	P	P	**20 09 04.2**	**+1.7**
	1.7nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=8.9						
NB2	**NORSAR Subarra**	**79.76**	**331**	P	P	**20 09 12.9**	**-0.1**
	2.3nm,0.8s,mb4.2,baz=93,slow=5.6						
NOA	**NORSAR Array B**	**79.76**	**331**	P	P	**20 09 13.7**	**+0.7**
	1.7nm,0.8s,mb4.0,baz=97,slow=5.3,SNR=3.5						
IMA	**Indian Mountai**	**91.91**	**22**	P	P	**20 10 14.3**	**+1.4**
PDAR	**Pinedale Array**	**125.45**	**21**	PKP	PKPdf	20 16 07.7	-2.4
	0.5nm,0.7s,slow=1.5,SNR=4.5						

IDC 27 19:58:57.5±7.6, 8.19N×93.83E, h46km±69km, mb3.6/6, mb1 3.8/7, mb1mx3.6/17, mbtmp3.8/7, ML3.9/1, Error ellipse: s-maj=63.8km s-min=26.6km az=49.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.35**	**25**	P	P	20 01 37.5	-2.4
	0.2nm,0.3s,baz=211,slow=14,SNR=7.2						
SONM	**Songino Array**	**40.92**	**13**	P	P	20 06 34.1	-2.9
	1.4nm,1.1s,baz=196,slow=9.0,SNR=3.7						
ZAL	**Zalesovo**	**46.19**	**353**	P	P	20 07 18.6	-1.0
	1.1nm,0.7s,baz=290,slow=8.6,SNR=3.4						
WRA	**Warramunga Arr**	**48.70**	**126**	P	P	20 07 37.6	-2.1
	0.9nm,0.5s,baz=304,slow=8.5,SNR=6.0						
BRTR	**Keskin Array B**	**61.99**	**311**	P	P	20 09 12.3	-3.1
	0.7nm,0.7s,baz=105,slow=7.9,SNR=3.7						
FINES	**FINESS Array B**	**72.29**	**332**	P	P	20 10 18.4	-1.4
	1.4nm,0.7s,baz=56,slow=5.0,SNR=3.1						
GERES	**GERESS Array B**	**77.39**	**318**	P	P	20 10 48.6	-0.8
	0.7nm,0.6s,baz=76,slow=5.5,SNR=4.6						

*NEIC **27** 20:00:14.5±0.7, 7.60N×93.73E, h30km, mb4.3/2, Error ellipse: s-maj=20.8km s-min=13.3km az=55.0*
*IDC **27** 20:00:18.2±8.2, 7.70N×93.80E, h58km±71km, mb3.6/11, mb1 3.9/12, mb1mx3.8/19, mbtmp3.9/12, ML3.8/1, Error ellipse: s-maj=62.5km s-min=19.8km az=53.0*
ISC 27 20:00:12.5±0.7, 7.6N±0.1×93.7E±0.1, h30km, n18, σ0§90/17, mb4.0/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.97**	**25**	P	P	**20 03 04.9**	**+0.7**
	0.2nm,0.3s,baz=212,slow=15,SNR=4.3						
BWNR	**Bhubaneshwar**	**14.79**	**330**	*e*P	P	**20 03 42.0**	**+0.4**
BWNR				*e*S	rx	20 05 58.0	
AAK	**Ala-Archa**	**38.82**	**337**	P	P	**20 07 35.8**	**-0.8**
	1.6nm,0.5s,mb4.0						
SONM	**Songino Array**	**41.56**	**13**	P	P	**20 07 58.2**	**-0.9**
	0.8nm,0.8s,mb3.4,baz=196,slow=7.9,SNR=3.3						
ZAL	**Zalesovo**	**46.80**	**353**	P	P	**20 08 41.9**	**+0.7**
	1.9nm,0.5s,mb4.3,baz=309,slow=6.7,SNR=5.8						
WRA	**Warramunga Arr**	**48.43**	**125**	P	P	**20 08 53.9**	**-0.5**
	0.9nm,0.6s,mb4.0,baz=305,slow=8.5,SNR=4.5						
WRAB	**Tennant Creek**	**48.44**	**125**	P	P	**20 08 53.7**	**-0.8**
BVAR	**Borovoye Array**	**49.14**	**342**	P	P	**20 08 57.3**	**-2.1**
	0.7nm,0.7s,mb3.8,baz=146,slow=5.2,SNR=3.3						
CHKZ	**Chkalovo**	**49.63**	**342**	*e*P	P	**20 09 02.9**	**-0.4**
	4.0nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**50.05**	**129**	P	P	**20 09 08.0**	**+1.1**
	0.7nm,0.8s,mb3.8,baz=306,slow=7.3,SNR=4.1						
BRTR	**Keskin Array B**	**62.30**	**311**	P	P	**20 10 33.5**	**-0.9**
	0.7nm,0.7s,mb3.9,baz=143,slow=8.4,SNR=3.2						
BRTR	**Keskin Array B**	**62.30**	**311**	P	P	**20 10 33.5**	**-1.0**
MLR	**Muntele Rosu**	**69.09**	**316**	P	P	**20 11 18.4**	**+0.5**
	1.8nm,0.9s,mb4.0,baz=148,slow=19,SNR=2.4						
FINES	**FINESS Array B**	**72.78**	**332**	P	P	**20 11 39.7**	**-0.2**
	1.3nm,0.7s,mb4.0,baz=117,slow=8.5,SNR=3.9						
ARCES	**ARCESS Array B**	**75.41**	**340**	P	P	**20 11 55.2**	**+0.4**
	1.6nm,0.8s,mb4.0,baz=143,slow=4.5,SNR=2.6						
GERES	**GERESS Array B**	**77.77**	**318**	P	P	**20 12 09.8**	**+1.4**
	0.7nm,0.6s,mb3.8,baz=90,slow=5.9,SNR=3.9						
NOA	**NORSAR Array B**	**79.73**	**331**	P	P	**20 12 20.2**	**+1.0**
	1.7nm,0.9s,mb4.0,baz=98,slow=5.2,SNR=2.9						
PLCA	**Paso Flores**	**144.11**	**201**	PKP	PKPdf	20 19 49.6	-1.1
	4.7nm,1.1s,baz=194,slow=8.6,SNR=4.2						

*BJI **27** 20:01:05.9, 6.94N×93.38E, h30km, mb4.3*
*IDC **27** 20:01:10.3±0.9, 7.74N×93.87E, mb4.2/12, mb1 4.3/13, mb1mx4.2/19, mbtmp4.1/13, ML4.0/1, Error ellipse: s-maj=39.1km s-min=17.6km az=48.0*
*NEIC **27** 20:01:14.8±0.5, 7.78N×94.01E, h30km, mb4.4/5, Error ellipse: s-maj=19.2km s-min=10.1km az=59.0*
ISC 27 20:01:09.5±0.7, 7.7N±0.1×94.0E±0.1, h10km, n24, σ0§92/21, mb4.3/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.71**	**24**	Pn	P	**20 03 59.5**	**-0.4**
	0.3nm,0.3s,baz=212,slow=15,SNR=5.7						
HYB	**Hyderabad**	**17.86**	**304**	*i* P	P	**20 05 24.5**	**+4.5**
KMI	**Kunming**	**19.22**	**25**	P		20 05 43.2	
	12nm,1.2s						
LSA	**Lhasa**	**22.02**	**353**	*e*P	P	**20 06 06.5**	**+0.5**
	21nm,0.6s,mb4.8						
AAK	**Ala-Archa**	**38.78**	**337**	P	P	**20 08 36.1**	**+0.1**
	3.9nm,0.8s,mb4.2						
SONM	**Songino Array**	**41.34**	**13**	P	P	**20 08 57.0**	**-0.2**
	2.2nm,1.1s,mb3.7,baz=207,slow=8.3,SNR=3.8						
SONM				PcP	PcP	20 10 57.5	+1.3
	0.6nm,0.7s,baz=207,slow=3.9,SNR=3.3						
ZAL	**Zalesovo**	**46.67**	**353**	P	P	**20 09 40.4**	**+0.3**
	3.4nm,0.8s,mb4.3,baz=306,slow=7.7,SNR=5.1						
ZAL	**Zalesovo**	**46.67**	**353**	P	P	**20 09 40.4**	**+0.3**
WRA	**Warramunga Arr**	**48.30**	**125**	P	P	**20 09 54.4**	**+1.0**
	1.5nm,0.6s,mb4.2,baz=304,slow=8.5,SNR=6.3						
WRAB	**Tennant Creek**	**48.31**	**125**	P	P	**20 09 51.8**	**-1.6**
BVAR	**Borovoye Array**	**49.08**	**341**	P	P	**20 09 58.7**	**-0.2**
	2.6nm,1.1s,mb4.2,baz=135,slow=8.2,SNR=3.7						
CHKZ	**Chkalovo**	**49.57**	**342**	*e*P	P	**20 10 01.2**	**-1.4**
	4.8nm,0.8s,mb4.6						
PMG	**Port Moresby**	**55.64**	**107**	P	P	**20 10 50.1**	**+1.6**
	7.9nm,0.7s,mb4.8,baz=294,slow=5.3,SNR=3.8						
PMG	**Port Moresby**	**55.64**	**107**	P	P	**20 10 50.1**	**+1.6**
STKA	**Stephens Creek**	**60.12**	**134**	P	P	**20 11 18.8**	**-0.9**
	2.1nm,0.8s,mb4.2,baz=284,slow=4.2,SNR=2.9						
BRTR	**Keskin Array B**	**62.41**	**311**	P	P	**20 11 34.5**	**-0.6**
	1.4nm,0.8s,mb4.1,baz=121,slow=7.2,SNR=4.5						
AKASG	**Malin Array Be**	**68.17**	**322**	P	P	**20 12 11.0**	**-1.1**
	0.9nm,0.6s,mb4.0,baz=87,slow=5.1,SNR=4.5						
FINES	**FINESS Array B**	**72.77**	**332**	P	P	**20 12 40.6**	**+0.8**
	3.4nm,0.8s,mb4.3,baz=135,slow=8.1,SNR=4.5						
ARCES	**ARCESS Array B**	**75.35**	**340**	P	P	**20 12 54.6**	**0.0**
	4.5nm,1.1s,mb4.3,baz=127,slow=4.5,SNR=2.9						
GERES	**GERESS Array B**	**77.83**	**318**	P	P	**20 13 10.2**	**+1.3**
	1.1nm,0.6s,mb4.0,baz=90,slow=4.0,SNR=5.6						
NB2	**NORSAR Subarra**	**79.78**	**331**	P	P	**20 13 20.0**	**+0.7**
	5.2nm,1.1s,mb4.4,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**79.78**	**331**	P	P	**20 13 19.8**	**+0.6**
	1.6nm,0.7s,mb4.0,baz=94,slow=5.5,SNR=4.9						
PDAR	**Pinedale Array**	**125.36**	**21**	PKP	PKPdf	20 20 14.6	+0.3
	0.7nm,0.7s,baz=180,slow=1.5,SNR=4.7						
PLCA	**Paso Flores**	**144.35**	**200**	PKP	PKPdf	20 20 49.5	+0.2
	2.2nm,0.9s,baz=181,slow=3.4,SNR=3.5						

*NEIC **27** 20:02:56.4±0.6, 11.25N×140.88E, h10km, mb4.3/1, Error ellipse: s-maj=19.2km s-min=12.4km az=94.0*
*IDC **27** 20:03:03.4±7.3, 11.22N×141.15E, h66km±68km, mb3.9/15, mb1 4.1/16, mb1mx4.0/22, mbtmp4.3/16, MS3.5/1, Ms1 3.5/1, ms1mx2.8/25, Error ellipse: s-maj=27.5km s-min=15.6km az=69.0*
ISC 27 20:03:00.3±2.3, 11.20N±0.08×141.0E±0.1, h53km±21km, n20, σ1§04/19, mb4.2/16, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.43**	**57**	*e*P	P	**20 04 06.9**	**+0.1**
CBIJ	**Chichi jima**	**15.85**	**4**	LR	LR	20 11 43.4	
	comp=Z,178nm,20.4s,baz=10,slow=33						
JOW	**Kunigami**	**19.66**	**324**	P	P	**20 07 27.8**	**+0.1**
PMG	**Port Moresby**	**21.35**	**163**	P	P	**20 07 44.7**	**-0.6**
	15nm,0.9s,mb4.3,baz=7.6,slow=15,SNR=4.5						
WRA	**Warramunga Arr**	**31.64**	**192**	P	P	**20 09 20.6**	**-0.3**
	1.1nm,0.6s,mb3.9,baz=9.1,slow=9.7,SNR=11						
ASAR	**Alice Springs**	**35.34**	**191**	P	P	**20 09 52.9**	**+0.1**
	0.6nm,0.5s,mb3.8,baz=21,slow=12,SNR=6.0						
CMAR	**Chiang Mai Arr**	**41.25**	**285**	P	P	**20 10 44.0**	**+1.9**
	2.6nm,0.7s,mb4.0,baz=85,slow=6.9,SNR=12						
STKA	**Stephens Creek**	**42.83**	**179**	P	P	**20 10 55.1**	**+0.1**
	3.7nm,1.0s,mb4.1,baz=324,slow=4.2,SNR=5.3						
SONM	**Songino Array**	**46.65**	**328**	P	P	**20 11 25.9**	**+0.6**
	1.0nm,0.7s,mb3.8,baz=141,slow=6.7,SNR=5.8						
ZAL	**Zalesovo**	**61.45**	**326**	P	P	**20 13 13.4**	**-0.2**
	0.9nm,0.5s,mb4.2,baz=357,slow=8.2,SNR=3.2						
CHKZ	**Chkalovo**	**69.47**	**323**	*e*P	P	**20 14 03.1**	**-1.9**
	1.5nm,0.6s,mb4.1						
BVAR	**Borovoye Array**	**69.50**	**323**	P	P	**20 14 05.0**	**-0.3**
	2.1nm,0.6s,mb4.2,baz=108,slow=8.1,SNR=13						
MCK	**McKinley**	**71.22**	**26**	*e*P	P	**20 14 14.8**	**-0.7**
ILAR	**Eielson Array**	**72.32**	**25**	P	P	**20 14 19.9**	**-2.0**
	2.3nm,0.6s,mb4.3,baz=259,slow=6.2,SNR=31						
INK	**Inuvik**	**77.99**	**22**	P	P	**20 14 53.8**	**-0.5**
	2.6nm,0.8s,mb4.2,baz=277,slow=5.0,SNR=8.4						
YKA	**Yellowknife Ar**	**86.68**	**27**	P	P	**20 15 40.1**	**+0.9**
	1.3nm,0.5s,mb4.4,baz=290,slow=5.2,SNR=34						
YBH	**Yreka Blue Hor**	**87.25**	**48**	P	P	**20 15 44.4**	**+1.9**
	2.2nm,0.8s,mb4.4,baz=247,slow=8.3,SNR=3.3						
ARCES	**ARCESS Array B**	**88.17**	**341**	P	P	**20 15 46.4**	**+0.1**
	4.0nm,0.8s,mb4.7,baz=59,slow=7.1,SNR=8.6						
NVAR	**Mina Array Bea**	**91.32**	**51**	P	P	**20 16 03.8**	**+1.9**
	2.4nm,0.6s,mb4.7,baz=273,slow=4.7,SNR=12						
FINES	**FINESS Array B**	**91.71**	**334**	P	P	**20 16 01.9**	**-1.1**
	1.5nm,0.5s,mb4.6,baz=88,slow=5.3,SNR=11						

*IDC **27** 20:03:49.7±1.8, 7.95N×93.47E, mb4.1/3, mb1 4.2/4, mb1mx3.8/17, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=62.2km s-min=47.0km az=99.0*
*NEIC **27** 20:03:52.3±0.9, 7.75N×93.90E, h30km, mb4.3/2, Error ellipse: s-maj=29.1km s-min=19.3km az=78.0*
ISC 27 20:03:51.1±1.2, 7.8N±0.2×94.0E±0.2, h33km, n11, σ0§83/8, mb4.1/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.61**	**24**	Pn	P	**20 06 37.9**	**+0.4**
	0.1nm,0.3s,baz=215,slow=14,SNR=3.4						
KURK	**Kurchatov**	**44.65**	**346**	*e*P	P	**20 12 01.4**	**-0.9**
	5.4nm,1.1s,mb4.3						
ZAL	**Zalesovo**	**46.60**	**352**	P	P	**20 12 17.9**	**+0.2**
	3.1nm,1.0s,mb4.2,baz=295,slow=9.5,SNR=7.5						
WRAB	**Tennant Creek**	**48.30**	**125**	P	P	**20 12 31.4**	**-0.1**
CHKZ	**Chkalovo**	**49.51**	**342**	*e*P	P	**20 12 40.0**	**-0.4**
	2.2nm,0.8s,mb4.2						
GERES	**GERESS Array B**	**77.81**	**318**	P	P	**20 15 48.3**	**+1.4**
	0.9nm,0.7s,mb3.8,baz=90,slow=6.7,SNR=5.7						
NB2	**NORSAR Subarra**	**79.74**	**331**	P	P	**20 15 57.7**	**+0.6**
	7.2nm,1.2s,mb4.5,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**79.74**	**331**	P	P	**20 15 55.4**	**-1.8**
	0.8nm,0.7s,mb3.8,baz=98,slow=3.8,SNR=3.4						
NVAR	**Mina Array Bea**	**125.03**	**31**	PKP	PKPdf	20 22 54.3	+5.8
	0.3nm,0.3s,SNR=4.2						
PDAR	**Pinedale Array**	**125.27**	**21**	PKP	PKPdf	20 22 52.5	+3.6
	0.3nm,0.7s,baz=45,slow=2.1,SNR=3.5						
PLCA	**Paso Flores**	**144.45**	**200**	PKP	PKPdf	20 23 25.9	+1.6
	2.3nm,0.9s,baz=116,slow=7.7,SNR=3.8						

*NEIC **27** 20:06:43.8±0.5, 8.22N×93.88E, h30km, mb4.4/2, Error ellipse: s-maj=14.6km s-min=10.7km az=60.0*
*IDC **27** 20:06:48.9±5.5, 8.33N×94.00E, h74km±48km, mb3.6/13, mb1 3.8/14, mb1mx3.8/19, mbtmp3.9/14, ML3.7/1, Error ellipse: s-maj=33.0km s-min=18.3km az=51.0*
ISC 27 20:06:46.2±4.8, 8.3N±0.1×94.0E±0.2, h67km±42km, n25, σ0§76/23, mb3.9/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.17**	**25**	P	P	**20 09 24.9**	**-0.3**
	0.2nm,0.3s,baz=212,slow=14,SNR=4.7						
LSA	**Lhasa**	**21.44**	**353**	*e*P	P	**20 11 32.3**	**+1.6**
	11nm,0.7s,mb4.3						
ENH	**Enshi**	**26.22**	**32**	*e*P	P	**20 12 16.4**	**-0.4**
AAK	**Ala-Archa**	**38.25**	**337**	*e*P	P	**20 14 01.0**	**-0.4**
SONM	**Songino Array**	**40.77**	**13**	P	P	**20 14 22.8**	**+0.5**
	0.8nm,0.8s,mb3.6,baz=198,slow=8.6,SNR=3.6						
KURK	**Kurchatov**	**44.15**	**346**	P	P	**20 14 50.0**	**+0.1**
ZAL	**Zalesovo**	**46.09**	**352**	P	P	**20 15 05.2**	**-0.1

az=210.0
IDC 27 20:09:54.7±0.6, 5.52N×94.33E, h50km±4km, mb4.9/31, mb1 5.0/32, mb1mx4.9/34, mbtmp5.2/32, MS4.9/18, Ms1 4.9/18, ms1mx4.7/26, Error ellipse: s-maj=13.9km s-min=7.4km az=44.0
ISC 27 20:09:52.6±0.7, 5.50N±0.03×94.32E±0.03, h47km±6km, h44km±1.9km:pP-P, n626, σ0.984/552, mb5.6/179, MS5.1/122, 109C-18D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**6.32**	**346**	*eP*			**P**	**20 11 20.3**	**-5.1**
PBA				*eS*			**S**	**20 12 25.7**	**-11**
NNT	**Nongplab**	**8.85**	**37**	P			**P**	**20 12 02.6**	**+2.0**
NST	**Nakhon Sawan**	**11.61**	**29**	P			**P**	**20 12 40.0**	**+1.5**
KKTK	**Khon Kaen**	**13.62**	**37**	P			**P**	**20 13 08.0**	**+2.7**
	4μm,0.5s								
PALK	**Pallekele**	**13.65**	**278**	*eP*			**P**	**20 13 04.0**	**-1.6**
	39nm,1.0s								
PALK				*eS*			rx	20 15 01.1	
CM31	**Chiang Mai Arr**	**13.65**	**19**	*eP*			**P**	**20 13 07.6**	**+1.9**
	783nm,1.1s								
CMAR	**Chiang Mai Arr**	**13.65**	**19**	P			**P**	**20 13 06.2**	**+0.6**
	13nm,0.3s,baz=205,slow=14,SNR=170								
CMAR				LR			LR	20 18 09.5	
	comp=Z,3μm,20.3s,baz=190,slow=36								
CMAR				ScP				20 21 58.8	
	baz=231,slow=3.2,SNR=5.3								
CHG	**Chiang Mai**	**13.98**	**18**	⇑P			**P**	**20 13 10.9**	**+0.9**
	40nm,1.1s								
CHRT	**Chiangrai**	**15.24**	**20**	⇑P			**P**	**20 13 26.0**	**-0.4**
	540nm,1.3s								
VIS	**Vishakhapatnam**	**16.22**	**319**	*eP*			**P**	**20 13 38.2**	**-0.7**
VIS				*e*				20 14 02.1	
	comp=Z,245nm,0.8s								
VIS				*e*				20 16 23.0	
KOD	**Kodaikanal**	**17.34**	**287**	*eP*			**P**	**20 13 53.4**	**+0.4**
KOD				*e*				20 13 57.5	
	comp=Z,69nm,1.4s								
KOD				*e*				20 16 47.6	
TRD	**Trivandrum**	**17.49**	**281**	*e*			**S**	**20 17 00.6**	**-5.3**
	comp=Z,180nm,1.1s								
COCO	**West Island**	**17.75**	**172**	*eP*			**P**	**20 13 58.0**	**-0.1**
	comp=Z,1μm,1.7s								
HYB	**Hyderabad**	**19.45**	**309⇑**	*eP*			**P**	**20 14 18.0**	**-0.2**
HYB					pmax		pmax		
	comp=Z,70nm,1.0s								
HYB	**Hyderabad**	**19.45**	**309⇑**	*eP*			**P**	**20 14 18.0**	**-0.2**
	comp=Z,70nm,1.0s								
HYB				*eS*			**S**	**20 17 35.0**	**-15**
HYB	**Hyderabad**	**19.45**	**309⇑**	*iP*			**P**	**20 14 18.0**	**-0.2**
	comp=Z,70nm,1.0s								
HYB				*eS*			**S**	**20 17 35.0**	**-15**
HYB				*e*				20 17 53.0	
SHL	**Shillong**	**20.09**	**354**	*eP*			**P**	**20 14 22.0**	**-3.1**
SHL				*e*				20 14 29.1	
	comp=Z,1μm,0.9s								
SHL				*eS*			**S**	**20 18 08.2**	**+4.9**
QIZ	**Qiongzhong**	**20.25**	**47**	P			**P**	**20 14 26.5**	**-0.2**
QIZ				XP				20 14 39.8	
QIZ				S			**S**	**20 18 06.8**	**+0.5**
QIZ				AMB			AMB		
	comp=Z,131nm,1.4s								
QIZ				LR			LR		
	comp=N,5μm,15.6s,MS5.1								
QIZ				LR			LR		
	comp=E,5μm,15.8s,MS5.1								
QIZ				LR			LR		
	comp=Z,6μm,20.4s,MS4.9								
QIZ	**Qiongzhong**	**20.25**	**47**	*e*Pn			**P**	**20 14 27.6**	**+0.9**
	comp=Z,332nm,1.3s								
KMI	**Kunming**	**21.12**	**22**	⇑P			**P**	**20 14 37.5**	**+1.8**
KMI				*SP				20 14 50.0	
KMI								20 15 03.2	
KMI				S			**S**	**20 18 26.4**	**+3.4**
KMI				*SS				20 18 41.6	
KMI				SS			SS	20 19 02.3	+4.2
KMI				pmax			pmax		
	comp=Z,201nm,1.3s,mb5.3								
KMI				MLR			MLR		
	comp=Z,4μm,23.9s,MS4.7								
KMI	**Kunming**	**21.12**	**22**	⇑P			**P**	**20 14 37.5**	**+1.8**
	comp=Z,201nm,1.3s,mb5.3								
KMI				pP				20 14 45.9	
KMI				sP				20 14 50.0	
KMI				PP			PP	20 15 03.2	+3.5
KMI				S			**S**	**20 18 26.4**	**+3.4**
KMI				sS				20 18 41.6	
KMI				SS			SS	20 19 02.3	+4.2
KMI				LR			LR		
	comp=Z,4μm,23.9s,MS4.7								
GOA	**Goa**	**22.44**	**298**	*e*			**P**	**20 14 59.0**	**+10**
GOA				*e*				20 15 02.2	
	comp=Z,106nm,1.2s								
GOA				*eS*			**S**	**20 18 56.2**	**+8.8**
JIRN	**Jiri**	**23.36**	**342**	*eP*			**P**	**20 14 57.1**	**-0.7**
	comp=Z,499nm,0.9s,mb5.9								
PKI	**Pulchoki**	**23.53**	**340**	*eP*			**P**	**20 14 59.1**	**-0.4**
	comp=Z,822nm,1.3s,mb6.0								
DMN	**Daman**	**23.67**	**339**	*eP*			**P**	**20 15 00.0**	**-0.9**
	comp=Z,565nm,1.0s,mb5.9								
KKN	**Kakani**	**23.78**	**340**	*eP*			**P**	**20 15 01.2**	**-0.7**
	comp=Z,665nm,1.1s,mb6.0								
POO	**Poona**	**23.81**	**305**	*eP*			**P**	**20 15 05.8**	**+3.6**
POO				*e*				20 15 27.9	
	comp=Z,149nm,1.6s								
BHPL	**Bhopal**	**24.01**	**319**	*eP*			**P**	**20 15 06.0**	**+1.9**
BHPL				*e*				20 15 09.2	
	comp=Z,139nm,0.8s								
GKN	**Gorkha**	**24.20**	**339**	*eP*			**P**	**20 15 05.6**	**-0.4**
	comp=Z,1μm,1.0s,mb6.2								
LSA	**Lhasa**	**24.26**	**353**	P			**P**	**20 15 07.8**	**+1.2**
LSA				S			**S**	**20 19 20.5**	**+1.3**
LSA				AMB			AMB		
	comp=Z,300nm,1.0s,mb5.7								
LSA				LR			LR		
	comp=N,11μm,26.6s,MS6.0								
LSA				LR			LR		
	comp=E,62μm,28.1s,MS6.0								
LSA				LR			LR		
	comp=Z,63μm,28.1s,MS6.0								
LSA	**Lhasa**	**24.26**	**353**	*eP*			**P**	**20 15 06.2**	**-0.4**
LSA				pmax			pmax		
	comp=Z,470nm,1.1s,mb5.8								
LSA	**Lhasa**	**24.26**	**353**	*eP*			**P**	**20 15 06.2**	**-0.3**
	comp=Z,470nm,1.1s,mb5.8								
KOLN	**Koldanda**	**24.39**	**336**	*eP*			**P**	**20 15 06.9**	**-0.9**
	comp=Z,2μm,1.6s,mb6.3								
BOM	**Bombay**	**24.84**	**304**	*eP*			**P**	**20 15 13.2**	**+0.9**
BOM				*e*				20 15 18.1	
	comp=Z,153nm,1.3s								
BOM				*eS*			**S**	**20 19 33.3**	**+4.2**
DGAR	**Diego Garcia**	**25.31**	**240**	P			**P**	**20 15 12.5**	**-4.3**
DGAR				MLR			MLR		
	comp=Z,1μm,20.0s,MS4.3								
TGY	**Tagaytay City**	**27.56**	**70**	P			**P**	**20 15 37.9**	**+0.4**
	comp=Z,197nm,0.6s,mb5.9,baz=239,slow=14,SNR=11								
TGY				LR			LR	20 25 58.8	
	comp=Z,2μm,19.6s,MS4.7,baz=75,slow=35								
AJM	**Ajmer**	**28.08**	**320**	*eP*			**P**	**20 15 42.5**	**+0.4**
AJM				*e*				20 15 46.4	
	comp=Z,88nm,1.4s								
NDI	**New Delhi**	**28.19**	**327**	*eP*			**P**	**20 15 42.1**	**-1.0**
NDI				*e*				20 15 43.6	
	comp=Z,74nm,1.5s								
NDI				*e*			**S**	**20 20 30.6**	**+6.8**
ENH	**Enshi**	**28.49**	**28**	*eP*			**P**	**20 15 44.4**	**-1.4**
	comp=Z,118nm,0.7s,mb5.6								
RCP	**Roxas**	**28.73**	**76⇑**	*eP*			**P**	**20 15 49.1**	**+1.1**
CVP	**Callao Caves**	**29.49**	**63**	*eP*			**P**	**20 15 56.0**	**+1.2**
SMLA	**Simla**	**30.16**	**330**	*e*			pP	20 16 13.6	+0.7
SMLA				*e*				20 16 16.4	
	comp=Z,100nm,1.1s								
QZH	**Quanzhou**	**30.27**	**48**	*eP*			**P**	**20 16 02.0**	**+0.4**
QZH				LR			LR		
	comp=N,2μm,12.1s,MS5.5								
QZH				LR			LR		
	comp=E,6μm,12.4s,MS5.5								
QZH				LR			LR		
	comp=Z,9μm,15.0s,MS5.5								
WHN	**Wuhan**	**31.24**	**35**	⇑P			**P**	**20 16 10.5**	**+0.3**
WHN				AMB			AMB		
	comp=Z,203nm,1.5s,mb5.7								
WHN				LR			LR		
	comp=Z,9μm,15.6s,MS5.5								
XAN	**Xi'an**	**31.47**	**24**	P			**P**	**20 16 11.0**	**-1.1**
XAN				AP			pP	20 16 21.5	-3.0
XAN				S			**S**	**20 21 15.8**	**+0.2**
XAN				AMB			AMB		
	comp=Z,128nm,1.3s,mb5.6								
XAN				LR			LR		
	comp=N,1μm,23.2s,MS4.8								
XAN				LR			LR		
	comp=E,2μm,21.0s,MS4.8								
XAN				LR			LR		
	comp=Z,4μm,21.0s,MS5.1								
LZH	**Lanzhou**	**31.68**	**15⇑**	*iP*			**P**	**20 16 13.0**	**-1.0**
LZH				AP			pP	20 16 21.8	-4.5
LZH				XP			sP	20 16 25.5	-6.7
LZH				PP			PP	20 17 18.5	-1.3
LZH				*eS*			**S**	**20 21 19.3**	**+0.4**
LZH				XS				20 21 36.0	
LZH				SS			SS	20 23 10.0	-0.8
LZH				AMB			AMB		
	comp=Z,301nm,1.6s,mb5.9								
LZH				AMB			AMB		
	comp=Z,790nm,4.0s								
LZH				LR			LR		
	comp=E,2μm,14.0s								
LZH				LR			LR		
	comp=Z,3μm,16.1s,MS5.1								
LZH	**Lanzhou**	**31.68**	**15⇑**	*iP*			**P**	**20 16 13.0**	**-1.0**
LZH				*SP			sP	20 16 25.6	-6.6
LZH								20 17 18.5	
LZH				*eS*			**S**	**20 21 19.3**	**+0.4**
LZH				*SS				20 21 36.0	
LZH				SS			SS	20 23 10.0	-0.8
LZH				pmax			pmax		
	comp=Z,301nm,1.6s,mb5.9								
LZH				MLR			MLR		
	comp=Z,3μm,16.1s,MS5.1								
LZH	**Lanzhou**	**31.68**	**15⇑**	*iP*			**P**	**20 16 13.0**	**-1.0**
	comp=Z,301nm,1.6s,mb5.9								
LZH				pP			pP	20 16 21.7	-4.6
LZH				sP			sP	20 16 25.6	-6.6
LZH				PP			PP	20 17 18.5	-1.3
LZH				*eS*			**S**	**20 21 19.3**	**+0.4**
LZH				sS				20 21 36.0	
LZH				SS			SS	20 23 10.0	-0.8
LZH				LR			LR		
	comp=Z,3μm,16.1s,MS5.1								
TATO	**Taipei**	**32.47**	**51**	PFAKE				20 16 30.0	+9.1
TATO				LR			LR		
	comp=Z,3μm,20.0s,MS5.0								
NJ2	**Nanjing**	**34.99**	**38**	*eP*			**P**	**20 16 43.0**	**+0.4**
NJ2				AP			pP	20 16 52.8	-2.3
NJ2				XP			sP	20 16 56.8	-4.2
NJ2				S			**S**	**20 22 08.0**	**-2.4**
NJ2				AMB			AMB		
	comp=Z,50nm,0.6s,mb5.6								
NJ2				AMB			AMB		
	comp=Z,1μm,3.7s								
NJ2				LR			LR		
	comp=N,6μm,15.5s,MS5.6								
NJ2				LR			LR		
	comp=E,7μm,15.4s,MS5.6								
NJ2				LR			LR		
	comp=Z,10μm,14.0s,MS5.7								
SSE	**Sheshan**	**35.84**	**41**	P			**P**	**20 16 48.3**	**-1.6**
SSE				S			**S**	**20 22 24.8**	**+1.3**
SSE				PCS				20 23 02.8	
SSE				AMB			AMB		
	comp=Z,44nm,0.8s,mb5.4								
SSE				AMB			AMB		
	comp=Z,224nm,5.0s								
SSE				LR			LR		
	comp=N,1μm,23.2s,MS4.7								
SSE				LR			LR		
	comp=E,1μm,23.2s,MS4.7								
SSE				LR			LR		
	comp=Z,2μm,22.7s,MS4.9								
SSE	**Sheshan**	**35.84**	**41**	P			**P**	**20 16 48.3**	**-1.6**
	comp=Z,44nm,0.8s,mb5.4								
SSE				S			**S**	**20 22 24.7**	**+1.2**
SSE				sS				20 22 37.8	
SSE				PcS				20 23 02.7	
SSE				LR			LR		
	comp=Z,2μm,22.7s,MS4.9								
MBWA	**Marble Bar**	**36.38**	**138**	*eP*			**P**	**20 16 51.7**	**-2.8**
	comp=Z,54nm,1.4s,mb5.3								
MBWA				LR			LR		
	comp=Z,1μm,19.0s,MS4.7								
TIA	**Tai'an**	**37.05**	**31**	⇑P			**P**	**20 17 00.3**	**+0.3**
TIA				AMB			AMB		
	comp=Z,160nm,1.2s,mb5.7								
WMQ	**Urumqi**	**38.61**	**352⇑**	*iP*			**P**	**20 17 13.5**	**+0.6**
WMQ				AP			pP	20 17 23.3	-2.2
WMQ				XP			sP	20 17 27.3	-4.0
WMQ				PP			PP	20 18 46.0	+0.5
WMQ				PCP			PcP	20 19 26.0	+0.8
WMQ				S			**S**	**20 23 07.3**	**+1.6**
WMQ				AMB			AMB		
	comp=Z,583nm,1.5s,mb6.1								
WMQ				AMB			AMB		
	comp=Z,3μm,5.6s								
WMQ				LR			LR		
	comp=N,7μm,18.4s,MS5.6								
WMQ				LR			LR		
	comp=E,5μm,18.6s,MS5.6								
WMQ				LR			LR		
	comp=Z,10μm,18.8s,MS5.7								
JOW	**Kunigami**	**38.69**	**53**	P			**P**	**20 17 15.1**	**+1.4**
	comp=Z,62nm,0.6s,mb5.5,baz=245,slow=8.3,SNR=37								
JOW				LR			LR	20 33 11.9	
	comp=Z,3μm,20.6s,MS5.0,baz=244,slow=36								
FITZ	**Fitzroy Crossi**	**38.79**	**128⇑**	*iP*			**P**	**20 17 14.0**	**-0.6**
	comp=Z,43nm,0.9s,mb5.2								
BJT	**Baijiatuau**	**39.60**	**27**	*eP*			**P**	**20 17 22.4**	**+1.2**
BJT				*e*			pP	20 17 35.2	+1.4
BJT				pmax			pmax		
	comp=Z,221nm,1.2s								
BJT	**Baijiatuau**	**39.60**	**27**	*eP*			**P**	**20 17 22.4**	**+1.3**
	comp=Z,221nm,1.2s,mb5.8								
BJT				*e*			pP	20 17 35.1	+1.4
BJI	**Beijing**	**39.62**	**27**	*eP*			**P**	**20 17 22.7**	**+1.3**
BJI				*SP			sP	20 17 38.3	-1.4
BJI				SS			tx	20 26 50.5	
BJI				pmax			pmax		
	comp=Z,163nm,1.4s,mb5.6								
BJI				MLR			MLR		
	comp=Z,2μm,25.6s,MS4.9								
BJI	**Beijing**	**39.62**	**27**	*eP*			**P**	**20 17 22.7**	**+1.3**
	comp=Z,163nm,1.4s,mb5.6								
BJI				sP			sP	20 17 38.3	-1.4
BJI				PP			PP	20 19 09.0	+12
BJI				S			S	20 23 47.1	+26
BJI				SS			tx	20 26 50.5	
BJI				LR			LR		
	comp=Z,2μm,25.6s,MS4.9								
KZA	**Kyzart**	**40.19**	**338**	P			**P**	**20 17 27.0**	**+1.0**
	SNR=7.8								
UCH	**Uchtor**	**40.59**	**337**	P			**P**	**20 17 30.4**	**+1.0**
	SNR=23								
AAA	**Alma-Ata**	**40.63**	**340**	*eP*			**P**	**20 17 29.0**	**-0.7**
AAA				MLR			MLR		
	comp=Z,500nm,20.0s,MS4.4								
TKM2	**Tokmak 2**	**40.79**	**339**	P			**P**	**20 17 31.5**	**+0.5**
	SNR=13								
KBK	**Karagaybulak**	**40.80**	**338**	P			**P**	**20 17 32.3**	**+1.2**
	SNR=51								
AML	**Almayashu**	**40.83**	**336**	P			**P**	**20 17 32.5**	**+1.1**
	SNR=39								
AAK	**Ala-Archa**	**40.95**	**338**	P			**P**	**20 17 33.2**	**+0.9**
	SNR=20								
AAK	**Ala-Archa**	**40.95**	**338⇑**	*eP*			**P**	**20 17 32.0**	**-0.3**
AAK				pmax			pmax		
	comp=Z,225nm,1.5s,mb5.6								
AAK				MLR			MLR		
	comp=Z,469nm,20.0s,MS4.3								
AAK	**Ala-Archa**	**40.95**	**338⇑**	*eP*			**P**	**20 17 32.0**	**-0.3**
	comp=Z,225nm,1.5s,mb5.6								
AAK				LR			LR		
	comp=Z,469nm,20.0s,MS4.3								
FRU	**Bishkek**	**41.08**	**338**	*iP*			**P**	**20 17 33.0**	**-0.3**
FRU				*i*			pP	20 17 45.0	-1.0
FRU				pmax			pmax		
	comp=Z,200nm,2.0s,mb5.4								
CHMS	**Chumysh**	**41.17**	**338**	P			**P**	**20 17 34.1**	**+0.1**
	SNR=15								
EKS2	**Erkin-Say**	**41.25**	**337**	P			**P**	**20 17 35.8**	**+1.0**
	SNR=10								
USP	**Ospenovka**	**41.49**	**338**	P			**P**	**20 17 37.1**	**+0.3**
	SNR=34								
KAKA	**Kakadu**	**41.98**	**116**	*eP*			**P**	**20 17 40.0**	**-1.1**
	comp=Z,17nm,0.4s,mb5.0								
MKAR	**Makanchi Array**	**42.43**	**348**	*iP*			**P**	**20 17 44.6**	**+0.1**
MKAR				pmax			pmax		
	comp=Z,64nm,0.6s								
SONM	**Songino Array**	**43.44**	**12**	P			**P**	**20 17 52.4**	**-0.2**
	comp=Z,98nm,1.1s,mb5.4,baz=198,slow=7.8,SNR=194								
SONM				pP			pP	20 18 05.2	-0.1
	comp=Z,28nm,0.9s,baz=192,slow=8.2,SNR=4.8								
SONM				PcP			PcP	20 19 40.6	-0.2
	comp=Z,6.6nm,0.5s,baz=206,slow=3.5,SNR=8.9								
SONM				ScP				20 23 28.7	
	comp=Z,1.5nm,0.8s,baz=205,slow=3.2,SNR=4.3								
ULN	**Ulaanbaatar**	**43.60**	**12⇑**	*iP*			**P**	**20 17 53.5**	**-0.5**
ULN				pmax			pmax		
	comp=Z,82nm,1.1s,mb5.4								
ULN				MLR			MLR		
	comp=Z,1μm,19.0s,MS4.8								
ULN	**Ulaanbaatar**	**43.60**	**12⇑**	*iP*			**P**	**20 17 53.5**	**-0.5**
	comp=Z,82nm,1.1s,mb5.4								
ULN				LR			LR		
	comp=Z,1μm,19.0s,MS4.8								
NWAO	**Narrogin (SRO)**	**43.97**	**152**	P			**P**	**20 17 56.5**	**-0.7**
NWAO				pmax			pmax		
	comp=Z,17nm,0.9s								
NWAO				MLR			MLR		
	comp=Z,821nm,20.0s								
NWAO	**Narrogin (SRO)**	**43.97**	**152**	P			**P**	**20 17 57.2**	**0.0**
	comp=Z,5.5nm,0.9s,slow=2.0,SNR=2.5								
NWAO	**Narrogin (SRO)**	**43.97**	**152**	P			**P**	**20 17 56.5**	**-0.7**
	comp=Z,17nm,0.9s,mb4.8								
NWAO				LR			LR		
	comp=Z,821nm,20.0s,MS4.6								
KS15	**Wonju Array Si**	**44.13**	**39**	*eP*			**P**	**20 17 58.7**	**+0.3**
ZAK	**Zakamensk**	**45.36**	**8⇓**	*iP*			**P**	**20 18 07.2**	**-0.9**
ZAK				*e*				20 19 57.5	
MOY	**Mondy**	**46.35**	**6**	*eP*			**P**	**20 18 15.7**	**-0.2**
TLY	**Talaya**	**46.68**	**8**	P			**P**	**20 18 18.6**	**+0.1**
	comp=Z,205nm,1.7s,mb5.8,SNR=16								
TLY	**Talaya**	**46.68**	**8**	*eP*			**P**	**20 18 18.4**	**-0.1**
TLY				pmax			pmax		
	comp=Z,108nm,1.4s,mb5.6								
TLY				MLR			MLR		
	comp=Z,404nm,21.0s,MS4.3								
TLY	**Talaya**	**46.68**	**8**	*eP*			**P**	**20 18 18.4**	**-0.1**
	comp=Z,108nm,1.4s,mb5.6								
TLY				LR			LR		
	comp=Z,404nm,21.0s,MS4.3								
WRA	**Warramunga Arr**	**46.77**	**124**	P			**P**	**20 18 19.5**	**-0.1**
	comp=Z,48nm,0.8s,mb5.5,baz=302,slow=9.4,SNR=183								
WRA				S			**S**	**20 25 04.1**	**-1.3**
	comp=Z,9.9nm,1.4s,baz=296,slow=15,SNR=5.0								
WRAB	**Tennant Creek**	**46.77**	**124**	P			**P**	**20 18 19.7**	**+0.1**
WRAB				pmax			pmax		
	comp=Z,87nm,0.8s,mb5.7								
WRAB				MLR			MLR		
	comp=Z,340nm,20.0s,MS4.3								
WRAB	**Tennant Creek**	**46.77**	**124**	*eP*			**P**	**20 18 19.4**	**-0.2**
	comp=Z,100nm,0.8s,mb5.8								
WRAB				LR			LR		
	comp=Z,336nm,20.0s,MS4.3								
WB2	**Warramunga Arr**	**46.78**	**124⇓**	*iP*			**P**	**20 18 19.6**	**-0.1**
KURK	**Kurchatov**	**46.95**	**346**	P			**P**	**20 18 20.7**	**+0.1**
KURK				pmax			pmax		
	comp=Z,440nm,1.4s,mb6.2								
KURK				MLR			MLR		
	comp=Z,420nm,22.0s,MS4.4								
KURK	**Kurchatov**	**46.95**	**346**	*eP*			**P**	**20 18 20.9**	**+0.3**
	comp=Z,371nm,1.3s,mb6.2								
KURK				LR			LR		
	comp=Z,423nm,22.0s,MS4.4								
IRK	**Irkutsk**	**47.32**	**8**	*eP*			**P**	**20 18 23.1**	**-0.4**
IRK				*e*			pP	20 18 36.8	+0.6
IRK				*e*				20 20 06.4	
IRK				pmax			pmax		
	comp=Z,139nm,2.3s,mb5.5								
ASPA	**Alice Springs**	**48.28**	**128⇑**	*iP*			**P**	**20 18 31.2**	**-0.2**
ASPA				*eS*			**S**	**20 25 24.7**	**-2.0**
ASAR	**Alice Springs**	**48.28**	**128**	P			**P**	**20 18 31.2**	**-0.2**
	comp=Z,22nm,0.6s,mb5.4,baz=300,slow=7.4,SNR=147								
ASAR				pP			pP	20 18 46.2	+2.1
	comp=Z,36nm,0.5s,baz=302,slow=8.1,SNR=14								
ASAR				S			**S**	**20 25 27.2**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=290,slow=11,SNR=6.5								
ASAR				LR			LR	20 43 07.7	
	comp=Z,525nm,19.0s,MS4.5,baz=298,slow=41								
FORT	**Forrest**	**48.39**	**140**	*eP*			**P**	**20 18 32.5**	**+0.3**
	comp=Z,59nm,0.6s,mb5.8								
HIA	**Hailar**	**48.64**	**22**	*eP*			**P**	**20 18 33.0**	**-0.8**
HIA				pmax			pmax		
	comp=Z,151nm,1.4s								
HIA	**Hailar**	**48.64**	**22**	*eP*			**P**	**20 18 33.0**	**-0.7**
	comp=Z,151nm,1.4s,mb5.8								
ZAL	**Zalesovo**	**48.91**	**353**	P			**P**	**20 18 36.0**	**+0.2**
	comp=Z,89nm,0.6s,mb6.0,baz=300,slow=5.9,SNR=245								
ZAL				S			**S**	**20 25 35.0**	**-0.1**
	comp=Z,4.5nm,1.1s,baz=229,slow=23,SNR=9.9								
ZAL				LR			LR	20 43 50.8	
	comp=Z,1μm,21.8s,MS4.9,baz=292,slow=42								
MDJ	**Mudanjiang**	**49.68**	**33**	P			**P**	**20 18 42.0**	**+0.1**
MDJ				AP			pP	20 18 50.5	-4.2
MDJ				XP			sP	20 18 54.3	-5.9
MDJ				PP			PP	20 20 37.0	-0.2
MDJ				S			**S**	**20 25 51.0**	**+5.0**
MDJ				AMB			AMB		
	comp=Z,99nm,1.0s,mb5.8								
MDJ				AMB			AMB		
	comp=Z,201nm,3.6s								
MDJ				LR			LR		
	comp=E,1μm,20.0s								
MDJ				LR			LR		
	comp=Z,2μm,17.6s,MS5.1								
MDJ	**Mudanjiang**	**49.68**	**33**	*eP*			**P**	**20 18 41.9**	**0.0**
	comp=Z,87nm,1.0s,mb5.7								
MDJ				*e*			pP	20 18 54.5	-0.2
NVS	**Novosibirsk**	**50.01**	**352**	*iP*			**P**	**20 18 42.8**	**-1.5**
NVS				*iS*			**S**	**20 25 50.1**	**-0.2**
NVS				pmax			pmax		
	comp=N,136nm,1.1s								
NVS				pmax			pmax		
	comp=E,71nm,1.1s								
NVS				pmax			pmax		
	comp=Z,187nm,1.1s,mb6.0								
NVS				smax					
	comp=N,92nm,1.8s								
NVS

MAT MLR MLR
comp=Z,2µm,20.0s,MS5.2
MAT Matsushiro 50.64 46 *eP* **P 20 18 49.0 -0.4**
comp=Z,205nm,1.9s,mb5.7
MAT LR LR
comp=Z,2µm,20.0s,MS5.2
MAT Matsushiro 50.64 46 P **P 20 18 48.6 -0.8**
BVA0 Borovoye Array 51.28 342 *i P* **P 20 18 53.2 -0.8**
BVA0 pmax pmax
comp=Z,19nm,1.1s,mb4.9
BVAR Borovoye Array 51.28 342 P **P 20 18 53.2 -0.8**
comp=Z,33nm,0.7s,mb5.4,baz=143,slow=12,SNR=133
BVAR pP pP 20 19 08.1 +1.2
comp=Z,31nm,0.7s,baz=146,slow=11,SNR=8.5
BVAR S **S 20 26 08.6 +0.6**
comp=Z,1.3nm,0.7s,baz=135,slow=23,SNR=3.6
BRVK Borovoye 51.35 342⇑ *i P* **P 20 18 53.7 -0.7**
BRVK pmax pmax
comp=Z,115nm,1.1s,mb5.7
BRVK MLR MLR
comp=Z,209nm,20.0s,MS4.2
BRVK Borovoye 51.35 342⇑ *i P* **P 20 18 53.7 -0.7**
comp=Z,115nm,1.1s,mb5.7
BRVK LR LR
comp=Z,209nm,20.0s,MS4.2
CHKZ Chkalovo 51.77 342 *eP* **P 20 18 57.2 -0.4**
CHKZ pmax pmax
comp=Z,572nm,1.4s,mb6.3
CHKZ Chkalovo 51.77 342 *eP* **P 20 18 57.2 -0.4**
comp=Z,572nm,1.4s,mb6.3
KLR Kul'dur 53.84 30⇓ *i P* **P 20 19 09.8 -3.3**
KLR *e* pP 20 19 20.8 -5.3
KLR *e*S **S 20 26 48.5 +5.6**
KLR pmax pmax
comp=N,76nm,2.0s
KLR pmax pmax
comp=E,130nm,2.0s
KLR pmax pmax
comp=Z,150nm,2.0s,mb5.6
BOD Bodaibo 54.41 13 *eP* **P 20 19 15.1 -2.0**
PMG Port Moresby 54.70 106 P **P 20 19 19.3 -0.5**
PMG pmax pmax
comp=Z,35nm,0.7s
PMG MLR MLR
comp=Z,560nm,22.0s
PMG Port Moresby 54.70 106 P **P 20 19 19.4 -0.4**
comp=Z,41nm,0.8s,mb5.5,baz=306,slow=2.7,SNR=22
PMG Port Moresby 54.70 106 *eP* **P 20 19 19.1 -0.7**
comp=Z,48nm,0.8s,mb5.6
PMG LR LR
comp=Z,559nm,22.0s,MS4.6
GNI Garni 56.23 315 *eP* **P 20 19 29.8 -0.7**
GNI pmax pmax
comp=Z,93nm,1.2s
GNI MLR MLR
comp=Z,640nm,22.0s
GNI Garni 56.23 315 P **P 20 19 30.2 -0.3**
comp=Z,4.7nm,0.5s,mb4.8,baz=150,slow=1.7,SNR=16
GNI Garni 56.23 315 *eP* **P 20 19 29.8 -0.8**
comp=Z,93nm,1.2s,mb5.7
GNI LR LR
comp=Z,640nm,22.0s,MS4.7
CLNS Chul'man 56.60 20 *eP* **P 20 19 32.0 -0.9**
CLNS pmax pmax
comp=Z,87nm,1.2s,mb5.7
CLNS pmax pmax
comp=N,66nm,1.5s
CLNS pmax pmax
comp=E,48nm,1.3s
CLNS MLR MLR
comp=Z,2µm,20.0s,MS5.2
CLNS MLR MLR
comp=N,1µm,18.0s,MS5.0
CLNS MLR MLR
comp=E,200nm,19.0s,MS5.0
MTA Mtatsminda 56.84 317 P **P 20 19 33.8 -1.1**
TI2 Plekhanov 56.89 317 *eP* **P 20 19 34.6 -0.6**
CTA Charters Tower 57.02 118 *eP* **P 20 19 35.6 -0.8**
comp=E,22nm,1.6s,mb4.9
CTA Charters Tower 57.02 118 *eP* **P 20 19 35.6 -0.8**
CTA pmax pmax
comp=Z,22nm,1.6s
CTA Charters Tower 57.02 118 P **P 20 19 35.5 -1.0**
comp=Z,9.4nm,0.8s,mb4.9,baz=298,slow=9.0,SNR=10
CTA LR LR 20 46 19.8
comp=Z,1µm,21.0s,MS5.0,baz=23,slow=38
CTAO Charters Tower 57.02 118 *eP* **P 20 19 35.2 -1.2**
CTAO pmax pmax
comp=Z,59nm,1.5s,mb5.4
CTAO MLR MLR
comp=Z,1µm,22.0s,MS5.0
CTAO Charters Tower 57.02 118 *eP* **P 20 19 35.2 -1.3**
comp=Z,59nm,1.5s,mb5.4
CTAO LR LR
comp=Z,1µm,22.0s,MS5.0
ASAJ Asahikawa 57.10 40 P **P 20 19 36.9 +0.1**
comp=Z,20nm,0.7s,mb5.2,baz=238,slow=17,SNR=8.9
ASAJ LR LR 20 45 20.5
comp=Z,1µm,19.3s,MS5.1,baz=85,slow=37
KMBO Kilima Mbogo 57.37 265 *eP* **P 20 19 40.3 +1.3**
KMBO *e* pP 20 19 52.6 +0.4
KMBO pmax pmax
comp=Z,16nm,1.0s
KMBO MLR MLR
comp=Z,2µm,22.0s
KMBO Kilima Mbogo 57.37 265 P **P 20 19 38.6 -0.4**
comp=Z,9.5nm,1.1s,mb4.8,baz=61,slow=11,SNR=11
KMBO LR LR 20 40 12.2
comp=Z,2µm,21.6s,MS5.1,baz=96,slow=32
KMBO Kilima Mbogo 57.37 265 *eP* **P 20 19 40.3 +1.3**
comp=Z,16nm,1.0s,mb5.0
KMBO *e* pP 20 19 52.6 +0.4
KMBO LR LR
comp=Z,2µm,22.0s,MS5.2
AKH Akhalkalaki 57.61 316 P **P 20 19 40.1 -0.2**
SVE Sverdlovsk 57.67 339⇑ *eP* **P 20 19 37.0 -3.5**
SVE *e*S **S 20 27 31.0 -2.7**
SVE pmax pmax
comp=Z,340nm,2.0s,mb6.0
SVE MLR MLR
comp=N,200nm,22.0s,MS4.8
SVE MLR MLR
comp=E,800nm,22.0s,MS4.8
SVE MLR MLR
comp=Z,1µm,22.0s,MS5.0
ZEI Tsey 57.90 318 *eP* **P 20 19 41.3 -1.0**
ZEI *i* *PP pP 20 19 51.4 -4.1
ZEI pmax pmax
comp=Z,11nm,0.7s,mb5.0
ONI Oni 58.12 318 P **P 20 19 43.2 -0.7**
ARU Arti 58.14 338 P **P 20 19 42.1 -1.7**
comp=Z,365nm,1.6s,mb6.2,SNR=37
ARU Arti 58.14 338⇑ *i P* **P 20 19 36.7 -7.1**
ARU *e* 20 20 28.2
ARU *e*S **S 20 27 32.3 -7.5**
ARU *e* 20 29 21.0
ARU *e*SSS SSS 20 33 50.4 -4.6
ARU pmax pmax
comp=Z,86nm,1.2s,mb5.7
STKA Stephens Creek 58.36 133⇑ *i P* **P 20 19 45.2 -0.5**
comp=Z,28nm,1.1s,mb5.2
STKA Stephens Creek 58.36 133 P **P 20 19 45.3 -0.4**
comp=Z,14nm,0.8s,mb5.1,baz=310,slow=6.1,SNR=41
ERZM Erzurum 58.53 314 P **P 20 19 46.8 +0.1**
YSS Yuzh-Sakhalins 58.55 37⇑ *i P* **P 20 19 46.0 -0.8**
YSS *e* pP 20 19 58.5 -1.5
YSS pmax pmax
comp=Z,140nm,1.2s,mb5.9
YSS Yuzh-Sakhalins 58.55 37 *eP* **P 20 19 46.2 -0.6**
comp=Z,288nm,1.5s,mb6.1
YSS *e* pP 20 19 59.3 -0.6
YSS LR LR
comp=Z,1µm,20.0s,MS5.1
KIV Kislovodsk 59.20 319 P **P 20 19 50.8 -0.6**
comp=Z,283nm,1.6s,mb6.0,SNR=13
KIV Kislovodsk 59.20 319 *c i P* **P 20 19 50.1 -1.3**
KIV *i* S **S 20 27 53.0 -0.9**
KIV *e*SS SS 20 31 51.3 +1.0
KIV pmax pmax
comp=Z,48nm,1.0s,mb5.5
KIV smax
comp=N,266nm,3.7s
KIV smax
comp=E,273nm,3.7s
KIV MLR MLR
comp=N,190nm,18.0s,MS4.5
KIV MLR MLR
comp=E,304nm,18.0s,MS4.5
KIV MLR MLR
comp=Z,301nm,18.0s,MS4.5
KIV Kislovodsk 59.20 319 *eP* **P 20 19 50.0 -1.4**
comp=Z,111nm,1.1s,mb5.8
KIV *e* pP 20 20 04.6 +0.1
KIV LR LR
comp=Z,91nm,21.0s
ASF Jabal al Asfar 59.67 304 P **P 20 19 55.6 +0.9**
comp=Z,21nm,1.2s,mb5.0,baz=338,slow=2.8,SNR=19
ELZG Elazig 59.78 312 P **P 20 19 55.1 -0.4**
MALT Malatya 60.14 311 *eP* **P 20 19 57.2 -0.7**
MALT pmax pmax
comp=Z,56nm,1.5s,mb5.4
MALT Malatya 60.14 311 *eP* **P 20 19 57.2 -0.8**
comp=Z,56nm,1.5s,mb5.4
EIL Elat 60.77 301 P **P 20 20 02.6 +0.3**
comp=Z,7.9nm,0.7s,mb4.9,baz=110,slow=8.3,SNR=13
EIL Elat 60.77 301 *eP* **P 20 20 02.5 +0.2**
comp=Z,66nm,1.3s,mb5.6
EIL *e* pP 20 20 15.1 -0.4
SOC Sochi 61.03 317 *eP* **P 20 20 00.3 -3.6**
SOC *e* 20 20 47.0
SOC *e*S **S 20 28 11.2 -6.2**
SOC *e*SS SS 20 32 20.3 +1.5
SOC pmax pmax
comp=Z,31nm,0.7s,mb5.5
SOC pmax pmax
comp=N,58nm,1.0s
SOC pmax pmax
comp=E,24nm,0.8s
SOKR Solikamsk 61.07 339⇓ *i P* **P 20 20 01.9 -2.0**
SOKR *e* pP 20 20 19.9 +2.8
SOKR pmax pmax
comp=Z,60nm,1.4s,mb5.5
SOKR MLR MLR
comp=Z,1µm,22.0s,MS5.0
BHL Bhannes 61.09 306 *eP* **P 20 20 04.8 +0.3**
KAHT Ahir Dag 61.11 310 P **P 20 20 04.6 +0.1**
COBT Iskenderun 61.28 309 P **P 20 20 05.8 +0.2**
YAK Yakutsk 62.18 18 P **P 20 20 09.7 -1.7**
YAK pmax pmax
comp=Z,90nm,0.5s,mb6.2
YAK MLR MLR
comp=Z,2µm,19.0s,MS5.3
YAK Yakutsk 62.18 18 *eP* **P 20 20 09.5 -1.9**
comp=Z,103nm,0.5s,mb6.2
YAK LR LR
comp=Z,2µm,19.0s,MS5.3
MEST Erdemli 62.94 308 P **P 20 20 15.6 -1.2**
AVNT Avonos 62.96 311 P **P 20 20 15.8 -1.1**
ANN Anapa 63.00 318 *eP* **P 20 20 11.5 -5.6**
ANN *e* 20 20 49.1
ANN pmax pmax
comp=Z,47nm,1.2s,mb5.5
CSS Prodhromos 63.20 306 *eP* **P 20 20 17.9 -0.7**
comp=Z,188nm,1.5s,mb6.0
CSS *e* pP 20 20 31.3 -0.6
CTKT Corum 63.52 313 P **P 20 20 19.8 -0.8**
BOYT Boyabat 63.66 314 P **P 20 20 21.0 -0.5**
MBAR Mbarara 63.77 267 *eP* **P 20 20 23.6 +0.9**
MBAR pmax pmax
comp=Z,27nm,1.2s,mb5.2
MBAR MLR MLR
comp=Z,569nm,21.0s,MS4.7
MBAR Mbarara 63.77 267 *eP* **P 20 20 23.6 +0.8**
comp=Z,27nm,1.2s,mb5.2
MBAR LR LR
comp=Z,569nm,21.0s,MS4.7
BR131 Keskin Array S 64.12 312 PFAKE 20 20 40.0 +16
BR131 LR LR
comp=Z,424nm,20.0s,MS4.6
BRTR Keskin Array B 64.12 312 P **P 20 20 23.0 -1.5**
comp=Z,9.3nm,0.7s,mb4.9,baz=127,slow=7.0,SNR=39
ELDT Eldivan 64.48 312 P **P 20 20 26.1 -0.7**
VOR Voronezh 64.62 326 *eP* **P 20 20 25.5 -2.0**
VOR pmax pmax
comp=Z,160nm,1.6s,mb5.8
BALT Daday 64.79 314 P **P 20 20 28.4 -0.4**
SIM Simferopol' 65.28 317 *c i P* **P 20 20 31.0 -0.9**
SIM pmax pmax
comp=Z,40nm,1.1s,mb5.4
SGKT Sivrigoynuk 65.51 312 P **P 20 20 32.4 -1.1**
ISP Isparta 66.05 309 *eP* **P 20 20 36.5 -0.5**
ISP pmax pmax
comp=Z,454nm,1.7s,mb6.2
ISP Isparta 66.05 309 *eP* **P 20 20 36.5 -0.5**
comp=Z,454nm,1.7s,mb6.2
ESKT Eskisehir 66.16 311 P **P 20 20 37.0 -0.6**
HENT Hendek 66.42 312 P **P 20 20 37.9 -1.3**
MOS Moscow 67.19 329 *α i P* **P 20 20 42.8 -1.0**
MOS *e* pP 20 20 59.6 +2.3
MOS *e* 20 21 10.2
MOS *e* 20 23 10.1
MOS *e*S S 20 29 28.3 -5.2
MOS pmax pmax
comp=Z,600nm,1.9s,mb6.3
MOS pmax pmax
comp=Z,255nm,1.5s,mb6.0
OBN Obninsk 67.48 328 *c i P* **P 20 20 41.5 -4.1**
OBN *e* pP 20 20 59.8 +0.7
OBN *e* 20 21 09.6
OBN *e* 20 23 11.6
OBN *e*S S 20 29 32.2 -4.7
OBN pmax pmax
comp=Z,179nm,1.3s,mb5.9
OBN Obninsk 67.48 328 *eP* **P 20 20 41.2 -4.4**
comp=Z,528nm,1.6s,mb6.3
OBN LR LR
comp=Z,183nm,19.0s,MS4.3
ULDT Uludag 67.58 311 P **P 20 20 46.1 -0.5**
TAU Tasmania Unive 67.94 141 *eP* **P 20 20 49.1 +0.4**
TAU pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
TAU Tasmania Unive 67.94 141 *eP* **P 20 20 49.1 +0.4**
comp=Z,3.8nm,0.6s,mb4.6
BTOK Tokmak 68.33 311 P **P 20 20 50.6 -0.6**
LSZ Lusaka 68.66 251 P **P 20 20 54.4 +0.7**
LSZ pmax pmax
comp=Z,13nm,1.1s,mb4.8
LSZ MLR MLR
comp=Z,2µm,20.0s,MS5.5
LSZ Lusaka 68.66 251 *eP* **P 20 20 54.1 +0.4**
comp=Z,36nm,1.4s,mb5.1
LSZ LR LR
comp=Z,3µm,20.0s,MS5.5
MA2 Magadan 68.78 27 *eP* **P 20 20 53.2 -0.5**
MA2 *e*PPP PPP 20 24 59.6 -6.4
MA2 *e*S S 20 29 51.6 -0.8
MA2 *e*SS SS 20 34 11.4 -8.2
MA2 *e*SSS SSS 20 37 26.4 +5.0
MA2 pmax pmax
comp=Z,30nm,0.6s,mb5.4
MA2 MLR MLR
comp=Z,2µm,22.0s,MS5.4
MA2 Magadan 68.78 27 *eP* **P 20 20 53.0 -0.6**
comp=Z,36nm,0.6s,mb5.5
MA2 LR LR
comp=Z,1µm,19.0s,MS5.1
TIRR Tirgusor 69.06 316 ⇑P **P 20 20 54.3 -1.4**
TIRR Tirgusor 69.06 316 P **P 20 20 55.1 -0.6**
TIXI Tiksi 69.52 11⇑ *i P* **P 20 20 56.6 -1.4**
TIXI pmax pmax
comp=N,32nm,0.6s
TIXI pmax pmax
comp=Z,146nm,0.6s,mb6.1
TIXI pmax pmax
comp=E,25nm,0.5s
TIXI pmax pmax
comp=Z,155nm,0.6s,mb6.1
TIXI MLR MLR
comp=Z,2µm,18.0s,MS5.3
TIXI Tiksi 69.52 11⇑ *i P* **P 20 20 56.7 -1.3**
TIXI LR LR
comp=Z,2µm,20.0s,MS5.3
SANT Santorini 69.76 307 *eP* **P 20 20 58.9 -1.2**
comp=Z,177nm,1.1s,mb5.9
ALN Alexandroupoli 70.04 311 *eP* **P 20 21 01.2 -0.5**
IDI Anoyia 70.07 305 P **P 20 21 02.2 +0.2**
comp=Z,25nm,0.6s,mb5.3,baz=77,slow=7.3,SNR=30
AKASG Malin Array Be 70.12 322 *i P* **P 20 21 00.3 -1.7**
AKASG pmax pmax
comp=Z,9.0nm,0.6s
AKASG Malin Array Be 70.12 322 P **P 20 21 00.2 -1.8**
comp=Z,9.1nm,0.6s,mb4.9,baz=88,slow=4.7,SNR=59
AKASG pP pP 20 21 14.6 -0.9
comp=Z,13nm,0.7s,baz=88,slow=4.8,SNR=9.2
AKASG PP PP 20 23 37.3 -2.1
comp=Z,0.4nm,0.4s,baz=96,slow=7.8,SNR=4.5
PET Petropavlovsk 70.35 35 PFAKE 20 21 20.0 +17
PET LR LR
comp=Z,1µm,21.0s,MS5.1
VRI Vrincioaia 70.54 317 P **P 20 21 04.6 0.0**
BUC1 Bucharest 70.70 315 P **P 20 21 06.0 +0.3**
MLR Muntele Rosu 70.99 316 ⇑P **P 20 21 07.2 -0.2**
MLR Muntele Rosu 70.99 316 P **P 20 21 07.3 -0.1**
comp=Z,110nm,1.3s,mb5.6,baz=97,slow=3.1,SNR=42
MLR Muntele Rosu 70.99 316 P **P 20 21 07.5 +0.1**
SEY Seymchan 71.00 24 *eP* **P 20 21 05.7 -1.5**
SEY *e* pP 20 21 18.1 -2.6
SEY *e* 20 34 56.3
SEY pmax pmax
comp=Z,30nm,0.9s,mb5.2
WAKE Wake Island 71.54 72 PFAKE 20 21 20.0 +8.9
WAKE LR LR
comp=Z,49µm,21.0s
MTUR Matau 71.55 316 P **P 20 21 10.8 +0.1**
SRS Serrai 71.91 311 *eP* **P 20 21 11.7 -1.2**
SOH Sokhos 72.04 311 *eP* **P 20 21 12.3 -1.4**
THE Thessaloniki 72.31 311 *eP* **P 20 21 13.9 -1.3**
PUL Pulkovo 72.37 331 *eP* **P 20 21 14.1 -1.2**
PUL pmax pmax
comp=N,93nm,0.6s
PUL pmax pmax
comp=Z,155nm,0.6s,mb6.1
PUL pmax pmax
comp=E,159nm,0.9s
PUL MLR MLR
comp=Z,664nm,19.0s,MS4.9
PUL Pulkovo 72.37 331⇓ *eP* **P 20 21 15.1 -0.2**
KNT Kendrikon 72.43 311 *eP* **P 20 21 14.8 -1.2**
CASY Casey 72.56 173 P **P 20 21 13.4 -2.9**
comp=Z,72nm,1.5s,mb5.4
CASY LR LR
comp=Z,2µm,20.0s,MS5.3
AGG Agios Georgios 72.58 309 *eP* **P 20 21 14.9 -2.1**
GRG Griva 72.78 311 *eP* **P 20 21 16.8 -1.3**
JOF Joensuu 73.06 335 *ep* **P 20 21 18.5 -0.8**
comp=Z,26nm,0.8s,mb5.2
LVV L'vov 73.14 320 *i P* **P 20 21 19.0 -1.1**
LBTB Lobatse 73.28 242 P **P 20 21 22.8 +1.4**
LBTB pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LBTB MLR MLR
comp=Z,2µm,20.0s,MS5.3
LBTB Lobatse 73.28 242 *eP* **P 20 21 22.0 +0.6**
comp=Z,28nm,1.1s,mb5.1
LBTB LR LR
comp=Z,2µm,20.0s,MS5.3
BOLS Boljevac 73.50 314⇑ *i P* **P 20 21 21.3 -1.1**
FNA Florina 73.52 311 *eP* **P 20 21 20.9 -1.6**
SKO Skopje 73.63 312 *i P* **P 20 21 21.4 -1.7**
JAN Janina 73.79 310⇓ *i P* **P 20 21 25.2 +1.1**
JAN *i* pP 20 21 35.5 -2.2
JAN pmax pmax
comp=Z,16nm,0.8s,mb5.0
KWP Kalwaria 73.95 320 *eP* **P 20 21 25.0 +0.2**
KOLS Kolonicke sedl 74.11 319 *eP* **P 20 21 26.1 +0.4**
KOLS *e* pP 20 21 40.9 +1.6
KOLS *e* 20 29 28.0
IGT Igoumenitsa 74.18 309 *eP* **P 20 21 25.0 -1.3**
BOSA Boshof 74.49 238 P **P 20 21 29.5 +1.1**
BOSA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BOSA MLR MLR
comp=Z,1µm,22.0s,MS5.2
BOSA Boshof 74.49 238 *eP* **P 20 21 28.5 +0.1**
comp=Z,55nm,1.4s,mb5.3
BOSA LR LR
comp=Z,1µm,22.0s,MS5.2
SUW Suwalki 74.53 325 P **P 20 21 26.5 -1.6**
SUW pmax pmax
comp=Z,230nm,1.1s,mb6.0
SUW Suwalki 74.53 325 *eP* **P 20 21 27.2 -0.9**
SUW Suwalki 74.53 325 *eP* **P 20 21 27.2 -0.9**
CRVS Cervenica-Dubn 74.63 319 *eP* **P 20 21 29.5 +0.8**
FINES FINESS Array B 74.89 332 P **P 20 21 29.3 -0.7**
comp=Z,11nm,0.4s,mb5.2,baz=99,slow=6.3,SNR=156
FINES LR LR 20 58 31.0
comp=Z,690nm,21.8s,MS4.9,baz=280,slow=39
FINES FINESS Array B 74.89 332 P **P 20 21 29.3 -0.7**
FINES LR LR 20 58 31.0
KAF Kangasniemi 74.98 333 *ep* **P 20 21 29.4 -1.1**
comp=Z,18nm,0.4s,mb5.4,baz=111,slow=6.1
KAF Kangasniemi 74.98 333 *eP* **P 20 21 29.4 -1.1**
KAF pmax pmax
comp=Z,18nm,0.4s,mb5.3
KECS Kecovo 75.20 319 *eP* **P 20 21 31.9 -0.1**
KECS *e* pP 20 21 43.4 -2.2
PKSN Nyarlorinc 75.39 317 *eP* **P 20 21 33.5 +0.3**
NIE Niedzica 75.45 320⇑ *eP* **P 20 21 33.8 +0.3**
PSZ Piszkesteto 75.51 318 P **P 20 21 33.5 -0.3**
PSZ pmax pmax
comp=Z,250nm,2.0s,mb5.8
PSZ Piszkesteto 75.51 318⇑ *i P* **P 20 21 33.7 -0.1**
PKS7 Kunszentmiklos 75.89 317⇑ *eP* **P 20 21 35.8 -0.2**
OJC Ojcow 75.90 320 *eP* **P 20 21 36.1 +0.1**
PKSM Moragy 76.15 316⇑ *i P* **P 20 21 37.0 -0.5**
MAW Mawson 76.26 192 LR LR 20 49 52.4
comp=Z,983nm,20.6s,MS5.1,baz=42,slow=31
MAW Mawson 76.26 192 PFAKE 20 21 50.0 +12
MAW LR LR
comp=Z,1µm,20.0s,MS5.2
VYHS Vyhne 76.29 318 *i P* **P 20 21 38.2 0.0**
SRO Srobarova 76.55 318 *eP* **P 20 21 40.6 +0.8**
KOLL Kolacno 76.59 319 *i P* **P 20 21 39.9 0.0**
OKC Ostrava-Krasne 76.91 320 *eP* **P 20 21 42.0 +0.3**
OKC *ex* x 20 21 55.2
KEV Kevo 77.12 341 *ep* **P 20 21 41.2 -1.4**
comp=Z,25nm,1.0s,mb5.1
KEV Kevo 77.12 341 *eP* **P 20 21 41.2 -1.4**
KEV pmax pmax
comp=Z,25nm,1.0s,mb5.1
MORC Moravsky Berou 77.29 320 *eP* **P 20 21 43.7 -0.1**
MORC pmax pmax
comp=Z,232nm,1.5s,mb5.9
MORC Moravsky Berou 77.29 320 *eP* **P 20 21 43.7 -0.2**
comp=Z,232nm,1.5s,mb5.9
ZST Bratislava 77.40 318 *i P* **P 20 21 44.8 +0.3**
ZST *e* pP 20 21 57.1 -1.0
ARCES ARCESS Array B 77.55 340 P **P 20 21 44.8 -0.2**
comp=Z,5.9nm,0.5s,mb4.8,baz=89,slow=5.5,SNR=60
ARCES LR LR 20 58 29.9
comp=Z,1µm,21.9s,MS5.2,baz=115,slow=38
ARE0 ARCESS Array S 77.55 340 *eP* **P 20 21 44.7 -0.2**
GKP Gorka Klasztor 77.89 323 *eP* **P 20 21 47.1 0.0**
VKA Vienna 77.93 318⇑ *i P* **P 20 21 47.1 -0.3**
DPC Dobruska-Polom 78.13 320 *eP* **P 20 21 49.4 +0.9**
DPC *ep*P pP 20 22 02.2 +0.1
KSP Ksiaz 78.20 321⇑ *eP* **P 20 21 49.2 +0.4**
KSP *e**PP pP 20 21 58.8 -3.6
KSP *e* 20 24 49.0
KSP Ksiaz 78.20 321 *eP* **P 20 21 49.3 +0.5**
BILL Bilibino 78.22 21 *eP* **P 20 21 48.1 -0.5**
BILL pmax pmax
comp=Z,98nm,1.3s,mb5.6
BILL Bilibino 78.22 21 *eP* **P 20 21 48.1 -0.5**
comp=Z,98nm,1.3s,mb5.6
GROS Grobnik 78.33 316⇑ *eP* **P 20 21 49.7 0.0**
comp=Z,263nm,1.8s,mb5.9
UPC Upice 78.34 320 *eP* **P 20 21 50.4 +0.8**
UPC *ex* x 20 22 06.0
ARSA Arzberg 78.38 317⇑ *i P* **P 20 21 50.3 +0.4**
comp=Z,381nm,1.9s,mb6.0
PERS Pernice 78.61 316 *eP* **P 20 21 51.5 +0.4**
comp=Z,248nm,1.7s,mb5.9
FX1 Attu Island--F 78.91 37 P **P 20 21 52.3 -0.4**
comp=Z,68nm,0.6s,mb5.8,baz=248,slow=2.1,SNR=20
FX1 LR LR 20 55 48.6
comp=Z,22nm,20.7s,baz=297,slow=35
LJU Ljubljana 78.98 316⇑ *eP* **P 20 21 53.4 +0.2**
LJU *e* pP 20 22 07.6 +0.7
LJU pmax pmax
comp=Z,465nm,1.8s,mb6.1
LJU Ljubljana 78.98 316⇑ *eP* **P 20 21 53.4 +0.1**
comp=Z,465nm,1.8s,mb6.1
LJU *e* pP 20 22 07.6 +0.7
OBKA Obir 79.00 316⇑ *i P* **P 20 21 53.7 +0.4**

comp=Z,405nm,2.0s,mb6.0
DRV Dumont d'Urvil 79.06 163 S S 20 32 00.0 +13
DRV SS SS 20 36 54.0 -2.7
SUR Sutherland 79.14 236 *eP* **P 20 21 56.4 +2.0**
comp=Z,33nm,1.0s,mb5.2
SUR LR LR
comp=Z,281nm,20.0s,MS4.6
PRU Pruhonice 79.24 320 *eP* **P 20 21 54.9 +0.3**
PRU *ex* x 20 22 09.1
PVCC Panska Ves 79.26 320 *eP* **P 20 21 55.2 +0.5**
PVCC *ex* x 20 22 10.2
MOA Molln 79.27 318⇑*iP* **P 20 21 54.6 -0.2**
comp=Z,150nm,1.9s,mb5.6
VOY Vojsko 79.42 316 *eP* **P 20 21 52.4 -3.2**
VOY *e* 20 21 55.5
BSD Bornholm Skovb 79.45 325⇑*iP* **P 20 21 54.8 -0.8**
BSD pmax pmax
comp=Z,57nm,0.6s,mb5.7
BSD Bornholm Skovb 79.45 325⇑*iP* **P 20 21 54.8 -0.8**
comp=Z,57nm,0.6s,mb5.7
BRG Berggiesshubel 79.69 321⇑*iP* **P 20 21 57.3 +0.4**
BRG pmax pmax
comp=Z,89nm,1.3s,mb5.5
BRG MLR MLR
comp=Z,530nm,27.4s,MS4.7
BRG Berggiesshubel 79.69 321⇑*iP* **P 20 21 57.3 +0.4**
comp=Z,89nm,1.3s,mb5.5
BRG *e* 20 29 32.2
BRG *e* 20 35 14.4
BRG *e* 20 39 44.4
BRG LR LR
comp=Z,530nm,27.4s,MS4.7
GEC2 GERESS Array S 79.71 319 *eP* **P 20 21 57.7 +0.6**
GEC2 pmax pmax
comp=Z,220nm,1.5s,mb5.9
GEC2 GERESS Array S 79.71 319 *eP* **P 20 21 57.7 +0.6**
comp=Z,220nm,1.5s,mb5.9
GERES GERESS Array B 79.71 319 P **P 20 21 57.6 +0.4**
comp=Z,24nm,0.8s,mb5.2,baz=102,slow=4.5,SNR=133
KHC Kasperske Hory 79.81 319⇑*iP* **P 20 21 57.0 -0.6**
KHC Kasperske Hory 79.81 319 *eP* **P 20 21 57.7 +0.1**
KHC *e*pP pP 20 22 05.7 -5.6
KHC *ex* x 20 22 11.9
KBA Koelnbreinsper 79.85 317⇑*iP* **P 20 21 57.7 -0.2**
comp=Z,137nm,1.8s,mb5.6
KBA Koelnbreinsper 79.85 317⇑*iP* **P 20 21 57.7 -0.2**
KBA pmax pmax
comp=Z,137nm,1.8s,mb5.6
RUE Ruedersdorf 79.90 322 *eP* **P 20 21 58.0 -0.1**
comp=Z,362nm,1.2s,mb6.2
WET Wettzell 80.27 319 *eP* **P 20 22 00.6 +0.5**
WET pmax pmax
comp=Z,101nm,1.4s,mb5.6
WET Wettzell 80.27 319 *eP* **P 20 22 00.6 +0.5**
comp=Z,101nm,1.4s,mb5.6
CLL Collm 80.31 321⇑*iP* **P 20 22 00.1 -0.2**
CLL *i* pP 20 22 15.2 +1.3
CLL pmax pmax
comp=Z,81nm,1.4s,mb5.5
CLL Collm 80.31 321⇑*iP* **P 20 22 00.1 -0.2**
comp=Z,81nm,1.4s,mb5.5
CLL *i* pP 20 22 15.2 +1.3
CLL Collm 80.31 321 ⇑P **P 20 22 00.1 -0.2**
comp=Z,logA/T=1.8,mb5.5
CLL *e**PP pP 20 22 04.0 -10
CLL *i* pP 20 22 15.2 +1.3
CLL *e* 20 22 36.0
NKC Novy Kostel 80.60 320 *eP* **P 20 22 02.2 +0.4**
NKC *ex* x 20 22 16.9
WTTA Wattenberg 81.03 317⇑*iP* **P 20 22 03.9 -0.2**
comp=Z,297nm,1.8s,mb5.9
WTTA Wattenberg 81.03 317⇑*iP* **P 20 22 03.9 -0.2**
WTTA pmax pmax
comp=Z,297nm,1.8s,mb5.9
WATA Walderalm 81.07 317⇑*iP* **P 20 22 03.9 -0.5**
comp=Z,92nm,1.4s,mb5.5
WATA Walderalm 81.07 317⇑*iP* **P 20 22 03.9 -0.5**
WATA pmax pmax
comp=Z,92nm,1.4s,mb5.5
MOX Moxa 81.15 320 *eP* **P 20 22 05.8 +1.1**
MOX pmax pmax
comp=Z,138nm,1.9s,mb5.6
MOX Moxa 81.15 320 *eP* **P 20 22 05.8 +1.1**
comp=Z,138nm,1.9s,mb5.6
MOX Moxa 81.15 320 *i* P **P 20 22 05.8 +1.1**
comp=Z,logA/T=1.9,mb5.6
FUR Furstenfeldbru 81.29 318 *eP* **P 20 22 05.6 +0.1**
FUR pmax pmax
comp=Z,123nm,1.5s,mb5.6
FUR Furstenfeldbru 81.29 318 *eP* **P 20 22 05.6 +0.1**
comp=Z,123nm,1.5s,mb5.6
SQTA Sankt Quirin 81.31 317⇑*iP* **P 20 22 05.4 -0.3**
comp=Z,34nm,1.0s,mb5.2
SQTA Sankt Quirin 81.31 317⇑*iP* **P 20 22 05.4 -0.3**
SQTA pmax pmax
comp=Z,34nm,1.0s,mb5.2
GRA1 Grafenberg Arr 81.37 319 *eP* **P 20 22 06.7 +0.8**
comp=Z,123nm,1.2s,mb5.7
GRF Grafenberg Arr 81.37 319 *eP* **P 20 22 06.7 +0.8**
GRF pmax pmax
comp=Z,123nm,1.2s,mb5.7
GRF Grafenberg Arr 81.37 319 *eP* **P 20 22 06.7 +0.8**
GRF pmax pmax
comp=Z,123nm,1.2s,mb5.7
GRF Grafenberg Arr 81.37 319 *eP* **P 20 22 06.7 +0.8**
comp=Z,123nm,1.2s,mb5.7
GRFO Grafenberg 81.37 319 *eP* **P 20 22 06.7 +0.8**
MOTA Moosalm 81.39 317⇑*iP* **P 20 22 05.7 -0.3**
comp=Z,52nm,1.3s,mb5.3
MOTA Moosalm 81.39 317⇑*iP* **P 20 22 05.7 -0.3**
MOTA pmax pmax
comp=Z,52nm,1.3s,mb5.3
SARO Sassorosso 81.84 314 P **P 20 22 08.5 +0.1**
NB2 NORSAR Subarra 81.88 331 P **P 20 22 07.4 -0.9**
comp=Z,13nm,0.8s,mb4.9,baz=94,slow=5.8
NB2 NORSAR Subarra 81.88 331 P **P 20 22 07.4 -0.9**
baz=94,slow=5.9
NOA NORSAR Array B 81.88 331 P **P 20 22 07.6 -0.7**
comp=Z,5.4nm,0.6s,mb4.7,baz=94,slow=5.7,SNR=21
NOA LR LR 21 01 32.8
comp=Z,654nm,20.7s,MS5.0,baz=90,slow=38
VALM 81.95 314 P **P 20 22 09.1 +0.1**
FUORN Ofenpass 81.95 316⇑*iP* **P 20 22 09.7 +0.7**
CLZ Clausthal 81.97 321 *eP* **P 20 22 09.3 +0.4**
comp=Z,90nm,1.2s,mb5.6
HDH Heidenheim 82.01 318⇑*eP* **P 20 22 09.1 -0.2**
VINC Vinca 82.02 314 P **P 20 22 09.0 -0.4**
NAO01 NORSAR Array S 82.03 331 *eP* **P 20 22 08.2 -0.9**
comp=Z,10.0nm,0.9s,mb4.8
BSEG Bad Segeberg 82.06 324 *eP* **P 20 22 09.8 +0.5**
UBR Uberruh 82.07 317⇑*eP* **P 20 22 09.5 -0.1**
GRAM 82.08 314 P **P 20 22 10.4 +0.7**
BERNI Berninapass 82.12 316⇑*iP* **P 20 22 10.9 +1.1**
DAVOX Davos 82.22 316⇑*iP* **P 20 22 11.2 +0.9**
DAVA Damuels 82.22 317⇑*iP* **P 20 22 10.8 +0.5**
comp=Z,205nm,1.6s,mb5.8
CODM 82.23 314 P **P 20 22 10.1 -0.4**
SIND Sindeldorf 82.42 319⇑*eP* **P 20 22 11.7 +0.4**
LIENZ Alp Oberkamor 82.48 317⇑*iP* **P 20 22 12.3 +0.6**
VDL Val di Lei 82.50 316⇑*iP* **P 20 22 12.3 +0.5**
PLONS Plons 82.56 317⇑*iP* **P 20 22 12.6 +0.5**
BUCH Bad Urach 82.58 318⇑*eP* **P 20 22 12.3 +0.1**
KONO Kongsberg 82.62 329 PFAKE 20 22 20.0 +7.9
KONO LR LR
comp=Z,669nm,19.0s,MS5.0
STU Stuttgart 82.69 318 *eP* **P 20 22 12.8 +0.1**
STU pmax pmax
comp=Z,25nm,0.6s,mb5.4
STU Stuttgart 82.69 318 *eP* **P 20 22 12.8 +0.1**
comp=Z,25nm,0.6s,mb5.4
GUT Gutenstein 82.74 318⇑*eP* **P 20 22 13.1 +0.1**
MUD Monsted U'grnd 82.77 326 *eP* pP 20 22 28.6 +1.9
MUD Monsted U'grnd 82.77 326 *i* P pP 20 22 28.6 +1.9
comp=Z,13nm,0.9s
MUGIO Muggio 82.80 315⇑*iP* **P 20 22 12.8 -0.5**
LLS Linth-Limmern 82.82 316⇑*iP* **P 20 22 13.9 +0.5**
WEIN Weingarten 82.83 317⇑*iP* **P 20 22 13.6 +0.2**
PGF Pioggiola 82.87 312 *eP* **P 20 22 14.3 +0.5**
comp=Z,21nm,0.8s,mb5.0
PGF Pioggiola 82.87 312 *eP* **P 20 22 14.3 +0.5**
PGF pmax pmax
comp=Z,11nm,0.8s,mb4.9
WILA Wila 82.88 317⇑*iP* **P 20 22 14.0 +0.3**
STEIN Stein am Rhein 82.91 317⇑*iP* **P 20 22 14.1 +0.3**
TOD Tromm 82.94 319 *eP* **P 20 22 14.1 +0.1**
TOD Tromm 82.94 319 *eP* **P 20 22 14.4 +0.4**
LBG Lerchenberg 82.95 318 *eP* **P 20 22 14.2 +0.2**
SPAK Spaichingen 82.96 318 *eP* **P 20 22 14.1 0.0**
SPAK Spaichingen 82.96 318 *eP* **P 20 22 14.6 +0.5**
SWS Schriesheim 83.01 319⇑*eP* **P 20 22 14.4 +0.1**
TRULL Truellikon 83.03 317⇑*iP* **P 20 22 14.3 -0.2**
MUO Muotathal 83.07 317⇑*iP* **P 20 22 15.5 +0.8**
SLE Schleitheim 83.16 317⇑*iP* **P 20 22 15.1 0.0**
PCP Pian Castagno 83.17 314 P **P 20 22 15.4 +0.2**
TNS Taunus Mts 83.17 320 *eP* **P 20 22 15.6 +0.5**
TNS pmax pmax
comp=Z,42nm,1.0s,mb5.4
TNS Taunus Mts 83.17 320 *eP* **P 20 22 15.6 +0.5**
comp=Z,42nm,1.0s,mb5.4
SYO Syowa Base 83.20 197 ⇓P **P 20 22 16.8 +1.9**
BNALP Bannalp 83.22 316⇑*iP* **P 20 22 16.1 +0.7**
BFO Black Forest 83.26 318 *eP* **P 20 22 15.6 0.0**
BFO pmax pmax
comp=Z,38nm,1.0s,mb5.4
BFO Black Forest 83.26 318 *eP* **P 20 22 15.6 0.0**
comp=Z,38nm,1.0s,mb5.4
HASLI Hasliberg 83.41 316⇑*iP* **P 20 22 16.9 +0.5**
KTD Kalmit 83.41 319 *eP* **P 20 22 16.3 -0.1**
FIN Finale Ligure 83.42 314 P **P 20 22 16.9 +0.4**
SULZ Sulz-Cheisache 83.42 317⇑*iP* **P 20 22 16.5 +0.1**
FELD Feldberg 83.49 317 *eP* **P 20 22 16.9 +0.1**
KIZ Kirchzarten 83.54 318⇑*eP* **P 20 22 17.1 0.0**
ORX Oropa 83.55 315 P **P 20 22 15.9 -1.3**
LANF Langenberg 83.60 319⇓*eP* **P 20 22 17.8 +0.5**
IMI Imperia 83.65 313 P **P 20 22 17.3 -0.5**
ROB Roburent 83.66 314 P **P 20 22 17.9 +0.2**
BALST Balsthal 83.71 317⇑*iP* **P 20 22 18.1 +0.2**
TRAV 83.71 315 P **P 20 22 16.9 -1.2**
MONE Monesi 83.75 314 P **P 20 22 17.9 -0.4**
LIBD Limburg 83.75 318⇓*eP* **P 20 22 18.5 +0.4**
LIBD Limburg 83.75 318 *eP* **P 20 22 18.8 +0.7**
ABH Alteburg 83.75 319⇑*eP* **P 20 22 18.7 +0.6**
WIMIS Wimmis 83.77 316⇑*iP* **P 20 22 18.7 +0.4**
LKBD Leukerbad 83.78 316⇑*iP* **P 20 22 18.8 +0.5**
NEGI Negi 83.79 313 P **P 20 22 18.1 -0.3**
BBS Basel-Blauen 83.83 317 *eP* **P 20 22 18.5 0.0**
SAOF Saorge 83.89 314 *eP* **P 20 22 19.2 +0.3**
WLS Welschbruch 83.91 318⇓*eP* **P 20 22 18.9 0.0**
DIX Grande Dixence 83.93 316⇑*iP* **P 20 22 20.3 +1.2**
CDF Champ du Feu 83.96 318 *eP* **P 20 22 19.2 0.0**
comp=Z,28nm,0.7s,mb5.2
CDF Champ du Feu 83.96 318 *eP* **P 20 22 19.2 0.0**
CDF pmax pmax
comp=Z,14nm,0.7s,mb5.2
ENR Entracque 83.98 314 P **P 20 22 19.1 -0.3**
SBF Sospel 83.98 313 *eP* **P 20 22 19.8 +0.4**
comp=Z,102nm,0.9s,mb5.7
SBF Sospel 83.98 313 *eP* **P 20 22 19.8 +0.4**
SBF pmax pmax
comp=Z,51nm,0.9s,mb5.7
AUTN L'Aution 83.98 314 *eP* **P 20 22 23.1 +3.7**
SENIN Lac Senin 84.00 316⇑*iP* **P 20 22 20.3 +0.9**
BOURR Bourrignon 84.02 317⇑*iP* **P 20 22 19.6 +0.1**
ECH Echery 84.05 318⇓*eP* **P 20 22 19.5 -0.1**
STV Sta Anna Valdi 84.05 314 P **P 20 22 19.1 -0.6**
RSP Reno Superiore 84.07 315 P **P 20 22 19.2 -0.6**
RUP Ruppelstein 84.07 319 *eP* **P 20 22 20.2 +0.5**
RUP Ruppelstein 84.07 319 *eP* **P 20 22 20.4 +0.7**
BHB Bricherasio 84.08 314 P **P 20 22 19.5 -0.4**
MOF Molkenrain 84.08 317⇓*eP* **P 20 22 19.5 -0.3**
TOUF Mont Tournerai 84.11 314 *eP* **P 20 22 20.5 +0.4**
LSD Ceresole Reale 84.13 315 P **P 20 22 20.9 +0.8**
WTSB Winterswijk 84.18 322⇑*iP* **P 20 22 19.8 -0.3**
comp=Z,98nm,2.2s,mb5.6
MVIF Mont Vial 84.19 313 *eP* **P 20 22 20.7 +0.3**
PZZ Prazzo 84.20 314 P **P 20 22 19.3 -1.2**
FENE Fenestrelle 84.21 315 P **P 20 22 20.6 0.0**
TORNY Torny 84.23 316⇑*iP* **P 20 22 21.2 +0.6**
SALAN Lac Salanfe 84.24 316⇑*iP* **P 20 22 21.5 +0.9**
WIT Witteveen 84.24 322 *eP* **P 20 22 21.8 +1.3**
AIGLE Aigle 84.24 316⇑*iP* **P 20 22 21.1 +0.4**
RPZ Rata Peaks 84.25 135 LR LR 21 00 15.3
comp=Z,771nm,19.6s,MS5.1,baz=178,slow=36
HINF Hinteralfeld 84.26 317 *eP* **P 20 22 20.4 -0.3**
comp=Z,17nm,0.7s,mb5.0
HINF Hinteralfeld 84.26 317 *eP* **P 20 22 20.4 -0.3**
HINF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
EMV Vieux Emosson 84.29 316⇑*iP* **P 20 22 21.7 +0.8**
LOMF Lomont 84.30 317⇓*eP* **P 20 22 20.6 -0.3**
RRL Cesana Torines 84.41 315 P **P 20 22 21.3 -0.2**
LPG La Plagne 84.41 315 *eP* **P 20 22 22.3 +0.8**
comp=Z,63nm,0.8s,mb5.5
LPG La Plagne 84.41 315 *eP* **P 20 22 22.3 +0.8**
LPG pmax pmax
comp=Z,32nm,0.8s,mb5.5
LPL La Plagne 84.43 315 *eP* **P 20 22 22.4 +0.8**
comp=Z,65nm,0.8s,mb5.5
LPL La Plagne 84.43 315 *eP* **P 20 22 22.4 +0.8**
LPL pmax pmax
comp=Z,33nm,0.8s,mb5.5
MBDF Montbardon 84.43 314 *eP* **P 20 22 21.5 -0.1**
comp=Z,26nm,0.7s,mb5.2
MBDF Montbardon 84.43 314 *eP* **P 20 22 21.5 -0.1**
MBDF pmax pmax
comp=Z,13nm,0.7s,mb5.2
OG01 Vacheresse 84.43 316 *eP* **P 20 22 19.1 -2.5**
BNI Bardonecchia 84.48 315 *eP* **P 20 22 21.9 0.0**
BNI pmax pmax
comp=Z,61nm,1.3s,mb5.6
BNI Bardonecchia 84.48 315 *eP* **P 20 22 21.9 0.0**
comp=Z,61nm,1.3s,mb5.6
FRF La Foret Royal 84.56 313 *eP* **P 20 22 22.9 +0.6**
comp=Z,109nm,0.8s,mb5.7
FRF La Foret Royal 84.56 313 *eP* **P 20 22 22.9 +0.6**
FRF pmax pmax
comp=Z,54nm,0.8s,mb5.7
HAU Haudompre 84.60 318 *eP* **P 20 22 22.0 -0.4**
comp=Z,84nm,0.8s,mb5.6
HAU *e*R
comp=Z,316nm,22.2s
HAU Haudompre 84.60 318 *eP* **P 20 22 22.0 -0.4**
HAU pmax pmax
comp=Z,42nm,0.8s,mb5.6
HAU MLR MLR
comp=Z,320nm,22.3s,MS4.7
LMR La Mourre 84.67 313 *eP* **P 20 22 23.4 +0.5**
HGN Heimansgroeve 84.76 320 *i* P **P 20 22 23.3 +0.2**
comp=Z,46nm,0.9s,mb5.6
CABF La Chapelle 84.83 316 *eP* **P 20 22 24.3 +0.7**
comp=Z,47nm,0.7s,mb5.4
CABF La Chapelle 84.83 316 *eP* **P 20 22 24.3 +0.7**
CABF pmax pmax
comp=Z,24nm,0.7s,mb5.4
THEF They Montfort 84.83 318⇓*eP* **P 20 22 23.7 +0.2**
ORIF Oris-en-Rattie 85.06 315 *eP* **P 20 22 25.0 +0.3**
comp=Z,26nm,0.7s,mb5.2
ORIF *e*R
comp=Z,420nm,22.8s
OG05 Jujurieux 85.29 316 *eP* **P 20 22 26.3 +0.4**
SMRF Simiane la Rot 85.32 314 *eP* **P 20 22 27.2 +1.1**
MEZF Maizieres J'vi 85.44 318 *eP* **P 20 22 26.7 +0.2**
GIVF Givet 85.50 320 *eP* **P 20 22 27.1 +0.3**
comp=Z,77nm,1.3s,mb5.5
GIVF Givet 85.50 320 *eP* **P 20 22 27.1 +0.3**
GIVF pmax pmax
comp=Z,39nm,1.3s,mb5.5
BAIF Baives 85.90 320 *eP* **P 20 22 29.2 +0.4**
comp=Z,58nm,0.8s,mb5.6
BAIF Baives 85.90 320 *eP* **P 20 22 29.2 +0.4**
BAIF pmax pmax
comp=Z,29nm,0.8s,mb5.6
VIVF Saint-Julien-l 85.92 315 *eP* **P 20 22 29.5 +0.5**
comp=Z,122nm,1.3s,mb5.7
VIVF Saint-Julien-l 85.92 315 *eP* **P 20 22 29.5 +0.5**
VIVF pmax pmax
comp=Z,61nm,1.3s,mb5.7
SMF Signal de Mont 86.38 316 *eP* **P 20 22 31.4 +0.2**
comp=Z,58nm,0.8s,mb5.5
SMF Signal de Mont 86.38 316 *eP* **P 20 22 31.4 +0.2**
SMF pmax pmax
comp=Z,29nm,0.8s,mb5.6
LASF Ste Croix 86.55 314 *eP* **P 20 22 33.1 +1.0**
comp=Z,218nm,1.6s,mb5.8
COLF Collangettes 86.56 315 *eP* **P 20 22 32.8 +0.7**
SSF Saint Saulge 86.57 317 *eP* **P 20 22 32.5 +0.4**
SSF pmax pmax
comp=Z,125nm,1.7s,mb5.9
SSF Saint Saulge 86.57 317 *eP* **P 20 22 32.5 +0.4**
comp=Z,125nm,1.7s,mb5.9
PLDF La Plantade 86.58 316 *eP* **P 20 22 32.9 +0.7**
AVF Avril sur Loir 86.70 317 *eP* **P 20 22 32.9 +0.1**
comp=Z,152nm,1.4s,mb5.7
AVF Avril sur Loir 86.70 317 *eP* **P 20 22 32.9 +0.1**
AVF pmax pmax
comp=Z,76nm,1.4s,mb5.7
AGO Saint Agoulin 86.91 316 *eP* **P 20 22 34.1 +0.3**
PYM Petit Puy Mans 87.02 315 *eP* **P 20 22 35.0 +0.6**
BGF Bois d'Agland 87.06 316 *eP* **P 20 22 35.1 +0.5**
comp=Z,258nm,1.5s,mb5.9
BGF Bois d'Agland 87.06 316 *eP* **P 20 22 35.1 +0.5**
BGF pmax pmax
comp=Z,129nm,1.5s,mb5.9
HYF Humbligny 87.15 317 *eP* **P 20 22 35.7 +0.8**
TCF Toulx Ste Croi 87.53 316 *eP* **P 20 22 37.5 +0.7**
comp=Z,91nm,1.4s,mb5.5
TCF Toulx Ste Croi 87.53 316 *eP* **P 20 22 37.5 +0.7**
TCF pmax pmax
comp=Z,45nm,1.4s,mb5.5
URZ Urewera 87.73 129 P **P 20 22 37.6 -0.3**
comp=Z,27nm,1.2s,mb5.3,baz=276,slow=0.8,SNR=5.0
CAF Calviac 87.76 315 *eP* **P 20 22 38.8 +0.9**
comp=Z,197nm,1.8s,mb5.8
CAF Calviac 87.76 315 *eP* **P 20 22 38.8 +0.9**
CAF pmax pmax
comp=Z,98nm,1.8s,mb5.7
MTLF Montolieu 87.80 313 *eP* **P 20 22 39.0 +0.8**
RJF Les Rejaudoux 88.11 315 *eP* **P 20 22 40.6 +1.0**
comp=Z,172nm,1.4s,mb5.8
RJF Les Rejaudoux 88.11 315 *eP* **P 20 22 40.6 +1.0**
RJF pmax pmax
comp=Z,86nm,1.4s,mb5.8
TNA Tin City 88.25 24 *eP* **P 20 22 40.0 +0.3**
TNA LR LR
comp=Z,846nm,20.0s,MS5.2
LFF La Frestale 88.69 315 *eP* **P 20 22 43.5 +1.1**
comp=Z,40nm,0.8s,mb5.5
LFF La Frestale 88.69 315 *eP* **P 20 22 43.5 +1.1**
LFF pmax pmax
comp=Z,20nm,0.8s,mb5.5
LDF La Druitiere 88.86 319 *eP* **P 20 22 43.4 +0.3**
comp=Z,66nm,1.0s,mb5.6
LDF La Druitiere 88.86 319 *eP* **P 20 22 43.4 +0.3**
LDF pmax pmax
comp=Z,33nm,1.0s,mb5.6
LCP Cassop 88.90 325⇑*eP* **P 20 22 44.2 +1.1**
LCP AMb AMB 20 22 44.8
comp=Z,173nm,0.6s,mb6.5
FLN La Foliniere 89.07 319 *eP* **P 20 22 44.4 +0.3**
comp=Z,43nm,0.8s,mb5.5
FLN *e*R
comp=Z,259nm,22.2s
FLN La Foliniere 89.07 319 *eP* **P 20 22 44.4 +0.3**
FLN pmax pmax
comp=Z,21nm,0.8s,mb5.5
FLN MLR MLR
comp=Z,260nm,22.3s,MS4.6
HPK Haverah Park 89.09 324⇑*eP* **P 20 22 44.7 +0.6**
HPK AMb AMB 20 22 45.7
comp=Z,236nm,1.5s,mb6.3
MFF Saint Martin d 89.11 317 *eP* **P 20 22 44.9 +0.6**
comp=Z,56nm,0.8s,mb5.7
MFF Saint Martin d 89.11 317 *eP* **P 20 22 44.9 +0.6**
MFF pmax pmax
comp=Z,28nm,0.8s,mb5.6
KBI1 Birley Grange 89.13 323⇑*eP* **P 20 22 44.3 0.0**
EPF Esparros 89.20 313 *eP* **P 20 22 45.0 +0.2**
LHO Holmfirth 89.29 324⇑*eP* **P 20 22 45.8 +0.8**
LHO AMb AMB 20 22 47.3
comp=Z,89nm,1.2s,mb6.0
KWE Weaver Farm 89.36 323⇑*eP* **P 20 22 45.9 +0.6**
GRR Gorron 89.37 318 *eP* **P 20 22 46.1 +0.6**
comp=Z,103nm,1.2s,mb5.7
GRR Gorron 89.37 318 *eP* **P 20 22 46.1 +0.6**
GRR pmax pmax
comp=Z,51nm,1.2s,mb5.7
ANM Nome 89.49 25 *eP* **P 20 22 46.3 +0.6**
ESK Eskdalemuir 89.80 325⇑*eP* **P 20 22 47.9 +0.6**
ESK AMb AMB 20 22 49.6
comp=Z,27nm,1.0s,mb5.5
DAG Danmarks Havn 89.82 348⇓*eP* **P 20 22 46.3 -0.7**
DAG pmax pmax
comp=Z,6.0nm,1.2s,mb4.8
DAG Danmarks Havn 89.82 348⇓*eP* **P 20 22 46.3 -0.7**
comp=Z,6.3nm,1.2s,mb4.8
DAG Danmarks Havn 89.82 348⇓*iP* **P 20 22 46.3 -0.7**
comp=Z,6.3nm,1.2s,mb4.8
EAU Auchinoon 89.85 326 *eP* **P 20 22 48.9 +1.4**
EAU AMb AMB 20 22 55.7
comp=Z,53nm,1.6s,mb5.6
ETSF Etsaut 89.87 313 *eP* **P 20 22 49.3 +1.3**
comp=Z,15nm,0.6s,mb5.2
ETSF Etsaut 89.87 313 *eP* **P 20 22 49.3 +1.3**
ETSF pmax pmax
comp=Z,8.0nm,0.6s,mb5.2
EAB Aberfoyle 90.28 326 *eP* **P 20 22 50.2 +0.6**
EAB AMb AMB 20 22 52.3
comp=Z,29nm,1.2s,mb5.5
SJPF Ste Jean 90.32 313 *eP* **P 20 22 51.4 +1.3**
comp=Z,75nm,1.2s,mb5.6
SJPF Ste Jean 90.32 313 *eP* **P 20 22 51.4 +1.3**
SJPF pmax pmax
comp=Z,37nm,1.2s,mb5.6
SGMF Saint Gilles 90.51 318 *eP* **P 20 22 51.5 +0.6**
comp=Z,130nm,1.2s,mb5.8
SGMF Saint Gilles 90.51 318 *eP* **P 20 22 51.5 +0.6**
SGMF pmax pmax
comp=Z,65nm,1.2s,mb5.8
VNDA Vanda 90.58 168 P **P 20 22 52.1 +1.6**
comp=Z,2.8nm,1.0s,mb4.5,baz=314,slow=10.0,SNR=5.8
RAO Raoul Island 90.70 119 PFAKE 20 23 00.0 +7.8
RAO LR LR
comp=Z,3μm,19.0s,MS5.7
QUIF Quistinic 90.97 318 *eP* **P 20 22 53.4 +0.4**
comp=Z,39nm,0.7s,mb5.6
QUIF Quistinic 90.97 318 *eP* **P 20 22 53.4 +0.4**
QUIF pmax pmax
comp=Z,19nm,0.7s,mb5.5
ROSF Rostrenen 90.97 319 *eP* **P 20 22 53.3 +0.3**
comp=Z,133nm,1.3s,mb5.8
ROSF Rostrenen 90.97 319 *eP* **P 20 22 53.3 +0.3**
ROSF pmax pmax
comp=Z,67nm,1.3s,mb5.8
UNV Unalaska Valle 91.00 36 PFAKE 20 23 00.0 +7.0
UNV LR LR
comp=Z,1μm,20.0s,MS5.3
DLF Lyons Farm 92.09 324 *eP* **P 20 22 58.0 0.0**
DCN Croghan 92.51 324 *eP* **P 20 23 00.0 0.0**
ESDC Sonseca Array 92.88 310 P **P 20 23 02.9 +0.9**
comp=Z,3.8nm,0.6s,mb5.0,baz=61,slow=4.1,SNR=18
ESLA Sonseca Array 92.88 310 *eP* **P 20 23 02.3 +0.3**
comp=Z,10nm,1.3s,mb5.1
ESLA LR LR
comp=Z,3μm,20.0s,MS5.7
IMA Indian Mountai 93.74 22 P **P 20 23 06.8 +1.5**
IMA pmax pmax
comp=Z,130nm,0.7s,mb6.5
IMA Indian Mountai 93.74 22 *eP* **P 20 23 06.5 +1.2**
SVW2 Sparrevohn 94.76 27 *eP* **P 20 23 11.4 +1.4**
SPU Mount Spurr 96.32 27 *eP* **P 20 23 17.0 -0.1**
COLA College 96.45 22 P **P 20 23 18.7 +1.1**
COLA pmax pmax
comp=Z,10.0nm,1.6s,mb5.0
COLA MLR MLR
comp=Z,1μm,22.0s,MS5.3
COLA College 96.45 22 P **P 20 23 18.6 +1.0**
comp=Z,10nm,1.6s,mb5.0
COLA LR LR
comp=Z,1μm,22.0s,MS5.3
MCK McKinley 96.55 24 *eP* **P 20 23 17.6 -0.5**
MCK pmax pmax
comp=Z,23nm,1.4s,mb5.4
MCK MLR MLR
comp=Z,639nm,21.0s,MS5.1
MCK McKinley 96.55 24 *eP* **P 20 23 17.6 -0.6**
comp=Z,23nm,1.4s,mb5.4
MCK LR LR
comp=Z,639nm,21.0s,MS5.1
ILAR Eielson Array 96.87 22 P **P 20 23 18.4 -1.2**
comp=Z,5.0nm,0.5s,mb5.2,baz=292,slow=3.6,SNR=82
ILAR PP PP 20 27 15.1 -2.7
comp=Z,0.8nm,0.6s,baz=308,slow=7.3,SNR=4.0
ILAR LR LR 21 12 00.8
comp=Z,942nm,20.6s,MS5.3,baz=324,slow=38
FIB Fire Island 97.16 26 PFAKE 20 23 30.0 +9.0

FIB				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
KDAK	**Kodiak Island**	**97.40**	**30**	PFAKE		20 23 30.0	+7.9
KDAK				LR	LR		
	comp=Z,329nm,20.0s,MS4.8						
SLKM	**Skilak Lake**	**97.42**	**27**	*e*P	**P**	**20 23 21.3**	**-0.8**
SML	**Sawmill**	**97.67**	**25**	*e*P	**P**	**20 23 23.4**	**+0.2**
DBIC	**Dimbokro**	**98.44**	**278**	LR	LR	21 05 42.9	
	comp=Z,470nm,21.7s,MS4.9,baz=70,slow=34						
DBIC	**Dimbokro**	**98.44**	**278**	PFAKE		20 23 40.0	+12
DBIC				LR	LR		
	comp=Z,628nm,22.0s,MS5.1						
MENT	**Mentasta**	**99.00**	**23**	*e*P	**P**	**20 23 31.7**	**+2.5**
DIV	**Divide**	**99.08**	**25**	PFAKE		20 23 40.0	+10
DIV				LR	LR		
	comp=Z,3μm,21.0s,MS5.7						
INK	**Inuvik**	**99.21**	**16**	*e*P	**P**	**20 23 29.9**	**-0.2**
INK				pmax	pmax		
	comp=Z,28nm,1.3s						
INK	**Inuvik**	**99.21**	**16**	P	**P**	**20 23 30.4**	**+0.3**
	comp=Z,4.3nm,0.6s,mb5.2,baz=328,slow=7.0,SNR=19						
INK				LR	LR	21 12 44.2	
	comp=Z,1μm,21.6s,MS5.3,baz=294,slow=38						
INK	**Inuvik**	**99.21**	**16**	*e*P	**P**	**20 23 29.9**	**-0.2**
	comp=Z,28nm,1.3s,mb5.6						
DAWY	**Dawson**	**100.00**	**21**	*e*P	**P**	**20 23 33.9**	**+0.1**
YKA	**Yellowknife Ar**	**108.68**	**14**	P	Pdif	20 24 13.4	+1.2
YKA						20 28 39.9	
YKA	**Yellowknife Ar**	**108.68**	**14**	Pdiff	Pdif	20 24 13.4	+1.2
	comp=Z,0.2nm,0.5s,baz=258,slow=3.8,SNR=6.4						
YKA				PKiKP		20 28 17.3	
	comp=Z,0.3nm,0.9s,baz=342,slow=4.4,SNR=3.9						
YKA				PP	PP	20 28 39.9	-7.4
	comp=Z,1.8nm,0.7s,baz=334,slow=7.5,SNR=11						
YKA				PKKPbc		20 39 26.4	
	comp=Z,0.3nm,0.9s,baz=150,slow=3.0,SNR=4.5						
YKA				PKKPab		20 39 40.3	
	comp=Z,0.5nm,0.7s,baz=148,slow=3.5,SNR=7.9						
YKA	**Yellowknife Ar**	**108.68**	**14**	Pdif	Pdif	20 24 13.4	+1.2
YKA				PKPdf		20 28 17.3	
YKA				PP	PP	20 28 39.9	-7.4
YKA				PKKPbc		20 39 26.4	
YKA				PKKPab		20 39 40.4	
SCHQ	**Schefferville**	**117.87**	**348**	PKP	PKPdf	20 28 35.3	+1.3
	comp=Z,2.6nm,0.5s,baz=36,slow=5.4,SNR=9.8						
SCHQ				PP	PP	20 29 46.0	-7.2
	comp=Z,3.0nm,1.1s,slow=7.1,SNR=2.2						
FFC	**Flin Flon**	**118.47**	**11**	*e*PKIKP	PKPdf	20 28 35.2	0.0
FFC				MLR	MLR		
	comp=Z,278nm,19.0s,MS4.9						
MSO	**Missoula**	**122.20**	**23**	PFAKE		20 29 00.0	+17
MSO				LR	LR		
	comp=Z,855nm,22.0s,MS5.3						
CHMT	**Chamberlain Mo**	**122.39**	**22**	*e*PKPdf	PKPdf	20 28 43.5	+0.6
BMO	**Blue Mountains**	**122.42**	**26**	*e*PKIKP	PKPdf	20 28 44.2	+1.1
BMO				MLR	MLR		
	comp=Z,583nm,20.0s,MS5.2						
MOD	**Modoc**	**123.25**	**30**	PFAKE		20 29 00.0	+15
MOD				LR	LR		
	comp=Z,345nm,19.0s,MS5.0						
WVOR	**Wild Horse Val**	**123.67**	**29**	PFAKE		20 29 00.0	+14
WVOR				LR	LR		
	comp=Z,626nm,19.0s,MS5.3						
DGMT	**Dagmar**	**123.86**	**15**	PFAKE		20 29 00.0	+14
DGMT				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
BOZ	**Bozeman (W)**	**124.06**	**22**	PFAKE		20 29 00.0	+14
BOZ				LR	LR		
	comp=Z,963nm,19.0s,MS5.5						
MCMT	**McKenzie Canyo**	**124.29**	**23**	*e*PKPdf	PKPdf	20 28 48.6	+1.9
HLID	**Hailey**	**124.69**	**25**	PFAKE		20 29 00.0	+12
HLID				LR	LR		
	comp=Z,587nm,20.0s,MS5.2						
QLMT	**Earthquake Lak**	**124.83**	**22**	*e*PKPdf	PKPdf	20 28 50.2	+2.5
LAO	**LASA Array**	**124.94**	**17**	PFAKE		20 29 00.0	+12
LAO				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
YMR	**Madison River**	**125.14**	**22**	*e*PKPdf	PKPdf	20 28 50.8	+2.4
YFT	**Old Faithful**	**125.38**	**22**	*e*PKPdf	PKPdf	20 28 52.0	+3.1
LKWY	**Lake**	**125.44**	**22**	PFAKE		20 29 00.0	+11
LKWY				LR	LR		
	comp=Z,1μm,22.0s,MS5.5						
PQI	**Presque Isle**	**125.75**	**345**	PFAKE		20 29 00.0	+11
PQI				LR	LR		
	comp=Z,9μm,20.0s						
BMN	**Battle Mountai**	**125.89**	**30**	PFAKE		20 29 00.0	+10
BMN				LR	LR		
	comp=Z,659nm,21.0s,MS5.3						
AHID	**Auburn Hatcher**	**126.71**	**23**	PFAKE		20 29 00.0	+8.5
AHID				LR	LR		
	comp=Z,575nm,19.0s,MS5.3						
NVAR	**Mina Array Bea**	**126.84**	**32**	PKP	PKPdf	20 28 55.0	+3.2
	comp=Z,4.5nm,0.6s,baz=357,slow=2.2,SNR=30						
NVAR				pPKP		20 29 08.7	
	comp=Z,3.1nm,0.7s,baz=354,slow=1.9,SNR=5.7						
MNV	**Mina**	**126.92**	**32**	PFAKE		20 29 10.0	+18
MNV				LR	LR		
	comp=Z,376nm,19.0s,MS5.1						
BW06	**Boulder Array**	**127.30**	**22**	PFAKE		20 29 10.0	+17
BW06				LR	LR		
	comp=Z,655nm,19.0s,MS5.3						
PDAR	**Pinedale Array**	**127.30**	**22**	PKP	PKPdf	20 28 54.6	+2.0
	comp=Z,5.9nm,1.0s,baz=270,slow=1.5,SNR=31						
PDAR				pPKP		20 29 07.6	
	comp=Z,28nm,1.3s,SNR=14						
PDAR	**Pinedale Array**	**127.30**	**22**	PKP	PKPdf	20 28 54.6	+2.0
PDAR				pPKP		20 29 07.6	
EMMW	**East Machias**	**127.41**	**344**	PFAKE		20 29 10.0	+17
EMMW				LR	LR		
	comp=Z,5μm,19.0s,MS6.2						
MTUM	**Tungsten Hills**	**127.50**	**33**	*e*PKPdf	PKPdf	20 28 55.2	+2.0
HWUT	**Hardware Ranch**	**127.50**	**24**	PFAKE		20 29 10.0	+17
HWUT				LR	LR		
	comp=Z,1μm,22.0s,MS5.5						
TPH	**Tonopah**	**127.67**	**31**	PFAKE		20 29 10.0	+17
TPH				LR	LR		
	comp=Z,429nm,19.0s,MS5.2						
RSSD	**Black Hills**	**127.91**	**17**	PFAKE		20 29 10.0	+16
RSSD				LR	LR		
	comp=Z,1.0nm,20.0s						
WVL	**Waterville**	**128.13**	**345**	PFAKE		20 29 10.0	+16
WVL				LR	LR		
	comp=Z,10μm,20.0s						
TRCR	**Troy Canyon**	**128.29**	**30**	*e*PKPdf	PKPdf	20 28 57.6	+2.9
DAU	**Daniels Canyon**	**128.62**	**25**	*e*PKIKP	PKPdf	20 28 57.8	+2.6
DAC	**Darwin (Calif)**	**128.81**	**33**	PFAKE		20 29 10.0	+14
DAC				LR	LR		
	comp=Z,467nm,19.0s,MS5.2						
TMUT	**Trail Mountain**	**129.57**	**26**	*e*PKPdf	PKPdf	20 28 59.5	+2.4
MVU	**Marysvale**	**129.78**	**27**	*e*PKPdf	PKPdf	20 29 00.8	+3.3
MVU				LR	LR		
	comp=Z,728nm,22.0s,MS5.3						
MSU	**Marysvale**	**129.79**	**27**	*e*PKIKP	PKPdf	20 29 00.6	+3.1
SRU	**San Rafael**	**130.02**	**25**	*e*PKIKP	PKPdf	20 29 00.3	+2.4
RCBR	**Riachuelo**	**130.48**	**267**	PFAKE		20 29 10.0	+11
RCBR				LR	LR		
	comp=Z,783nm,20.0s,MS5.4						
WES	**Weston**	**130.59**	**346**	PFAKE		20 29 10.0	+11
WES				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
NEN	**Nelson**	**130.75**	**32**	*e*PKPdf	PKPdf	20 29 02.5	+3.1
PV10	**Paradox Valley**	**131.26**	**24**	*e*PKP	PKPdf	20 29 03.2	+2.9
ISCO	**Idaho Springs**	**131.32**	**20**	PFAKE		20 29 10.0	+10
ISCO				LR	LR		
	comp=Z,562nm,20.0s,MS5.3						
PFO	**Pinyon Flat Ob**	**131.40**	**35**	PFAKE		20 29 10.0	+9.3
PFO				LR	LR		
	comp=Z,125nm,20.0s,MS4.6						
PV01	**Paradox Valley**	**131.66**	**24**	*e*PKPdf	PKPdf	20 29 03.9	+2.8
ERPA	**Erie**	**132.33**	**354**	PFAKE		20 29 20.0	+18
ERPA				LR	LR		
	comp=Z,532nm,19.0s,MS5.3						
AAM	**Ann Arbor**	**132.40**	**358**	PFAKE		20 29 20.0	+18
AAM				LR	LR		
	comp=Z,608nm,22.0s,MS5.3						
SDCO	**Great Sand Dun**	**133.19**	**22**	PFAKE		20 29 20.0	+16
SDCO				LR	LR		
	comp=Z,932nm,20.0s,MS5.5						
SSPA	**Standing Stone**	**133.54**	**352**	PFAKE		20 29 20.0	+15
SSPA				LR	LR		
	comp=Z,293nm,22.0s,MS5.0						
ACSO	**Alum Creek Sta**	**134.43**	**357**	PFAKE		20 29 20.0	+14
ACSO				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
ANMO	**Albuquerque**	**135.26**	**24**	*e*PKIKP	PKPdf	20 29 10.3	+2.5
ANMO				MLR	MLR		
	comp=Z,545nm,19.0s						
ANMO	**Albuquerque**	**135.26**	**24**	PKP	PKPdf	20 29 10.9	+3.1
	comp=Z,5.3nm,0.8s,baz=245,slow=7.9,SNR=5.7						
TUC	**Tucson**	**135.46**	**31**	PFAKE		20 29 20.0	+12
TUC				LR	LR		
	comp=Z,356nm,20.0s,MS5.1						
AMTX	**Amarillo**	**137.10**	**19**	PFAKE		20 29 20.0	+8.8
AMTX				LR	LR		
	comp=Z,990nm,20.0s,MS5.5						
BLA	**Blacksburg**	**137.23**	**354**	PFAKE		20 29 20.0	+8.6
BLA				LR	LR		
	comp=Z,918nm,21.0s,MS5.5						
WMOK	**Wichita Mounta**	**138.12**	**16**	PFAKE		20 29 30.0	+17
WMOK				LR	LR		
	comp=Z,865nm,19.0s,MS5.5						
GDL2	**Guadalupe Moun**	**138.51**	**24**	*e*PKPpre		20 29 06.2	
GDL2				*e*PKPdf	PKPdf	20 29 15.6	+1.8
MNTX	**Cornudas Mount**	**138.51**	**26**	*e*PKPdf	PKPdf	20 29 14.9	+1.0
MNTX				LR	LR		
	comp=Z,533nm,21.0s,MS5.3						
WVT	**Waverly**	**138.55**	**3**	PFAKE		20 29 30.0	+16
WVT				LR	LR		
	comp=Z,630nm,21.0s,MS5.3						
MIAR	**Mount Ida**	**139.48**	**10**	PFAKE		20 29 30.0	+14
MIAR				LR	LR		
	comp=Z,625nm,19.0s,MS5.4						
TRQA	**Tornquist**	**141.07**	**210**	PFAKE		20 29 30.0	+12
TRQA				LR	LR		
	comp=Z,897nm,20.0s,MS5.5						
LTX	**Lajitas**	**141.29**	**26**	PFAKE		20 29 30.0	+11
LTX				LR	LR		
	comp=Z,420nm,22.0s,MS5.2						
TXAR	**Lajitas Array**	**141.29**	**26**	PKhKP		20 29 14.3	
	comp=Z,1.7nm,0.8s,baz=278,slow=0.9,SNR=5.9						
TXAR				PKP	PKPdf	20 29 21.5	+2.4
	comp=Z,3.7nm,0.6s,baz=186,slow=0.8,SNR=13						
TXAR				PP	PP	20 32 21.7	-3.7
	comp=Z,1.4nm,0.7s,slow=5.0,SNR=4.5						
TXAR	**Lajitas Array**	**141.29**	**26**	PKP	PKPdf	20 29 14.3	-4.8
TXAR				PKP	PKPdf	20 29 21.5	+2.5
TXAR				PP	PP	20 32 21.7	-3.7
LRAL	**Lakeview Retre**	**141.66**	**2**	PFAKE		20 29 30.0	+10
LRAL				LR	LR		
	comp=Z,1μm,21.0s,MS5.6						
JCT	**Junction City**	**141.76**	**20**	*e*PKHKP		20 29 15.5	
JCT				*e*		20 29 21.8	
JCT				MLR	MLR		
	comp=Z,967nm,21.0s,MS5.5						
NATX	**Nacogdoches**	**141.98**	**12**	PFAKE		20 29 30.0	+10
NATX				LR	LR		
	comp=Z,956nm,20.0s,MS5.5						
PLCA	**Paso Flores**	**142.38**	**199**	*e*PKIKP	PKPdf	20 29 17.8	-2.7
PLCA				MLR	MLR		
	comp=Z,804nm,20.0s						
PLCA	**Paso Flores**	**142.38**	**199**	PKhKP		20 29 16.0	
	comp=Z,1.5nm,0.8s,baz=233,slow=5.1,SNR=2.8						
PLCA				PKP	PKPdf	20 29 23.1	+2.6
	comp=Z,1.3nm,0.7s,baz=146,slow=6.4,SNR=3.9						
PLCA	**Paso Flores**	**142.38**	**199**	*e*PKPpre		20 29 17.8	
PLCA				PKP	PKPdf	20 29 23.1	+2.6
PLCA				LR	LR		
	comp=Z,804nm,20.0s,MS5.5						
HKT	**Hockley**	**143.44**	**15**	PFAKE		20 29 40.0	+19
HKT				LR	LR		
	comp=Z,274nm,19.0s,MS5.0						
DWPF	**Disney**	**146.34**	**353**	PFAKE		20 29 40.0	+12
DWPF				LR	LR		
	comp=Z,185nm,19.0s,MS4.9						
SJG	**San Juan**	**149.64**	**321**	*e*PKHKP		20 29 34.9	
SJG				MLR	MLR		
	comp=Z,700nm,22.0s						
SJG	**San Juan**	**149.64**	**321**	PKP	PKPdf	20 29 35.4	+2.0
	comp=Z,14nm,0.6s,baz=22,slow=11,SNR=5.7						
SJG				PKPbc	PKPdf	20 29 39.8	+6.5
	comp=Z,28nm,0.8s,baz=24,slow=12,SNR=5.7						
TEIG	**Tepich**	**154.31**	**6**	PFAKE		20 29 50.0	+10
TEIG				LR	LR		
	comp=Z,310nm,20.0s,MS5.1						
LVC	**Limon Verde**	**156.51**	**222**	PFAKE		20 30 00.0	+17
LVC				LR	LR		
	comp=Z,588nm,21.0s,MS5.4						
SDV	**Santo Domingo**	**159.28**	**314**	PKP	PKPdf	20 29 48.8	+2.1
	comp=Z,4.3nm,0.6s,baz=266,slow=10,SNR=8.6						
SDV				PKPab	PKPab	20 30 25.6	-0.9
	comp=Z,6.2nm,0.8s,baz=36,slow=3.0,SNR=9.6						
SDV	**Santo Domingo**	**159.28**	**314**	*e*PKPdf	PKPdf	20 29 46.6	0.0
SDV				LR	LR		
	comp=Z,515nm,22.0s,MS5.3						
LPAZ	**La Paz**	**159.72**	**237**	PKP	PKPdf	20 29 05.8	-41
	comp=Z,2.4nm,1.0s,baz=33,slow=4.1,SNR=9.4						
JTS	**JuntasAbangare**	**164.30**	**357**	PFAKE		20 30 00.0	+8.3
JTS				LR	LR		
	comp=Z,502nm,20.0s						
NNA	**Nana**	**169.14**	**233**	PFAKE		20 30 10.0	+15
NNA				LR	LR		
	comp=Z,165nm,19.0s						
OTAV	**Otavalo**	**170.81**	**308**	*e*PKPdf	PKPdf	20 29 59.2	+2.8
OTAV				*e*PKPab	PKPab	20 31 17.8	+1.0
OTAV				LR	LR		
	comp=Z,2μm,19.0s						
PAYG	**Puerto Ayora**	**173.36**	**44**	PFAKE		20 30 10.0	+12
PAYG				LR	LR		
	comp=Z,2μm,19.0s						

WEL 27 20:11:23.6±0.1, 40.83S×174.70E, h52km±1km, ML3.6/11, 9C-1D, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.16**	**102**	⇓PN	P	20 11 31.7	-0.2
KIW				SN	S	20 11 37.7	-0.2
CAW	**Cannon Point**	**0.40**	**135**	⇑PN	P	20 11 33.7	-0.1
CAW				SN	S	20 11 41.6	+0.4
MRW	**Makara Radio**	**0.40**	**180**	⇑PN	P	20 11 33.7	-0.3
MRW				SN	S	20 11 41.2	-0.2
WEL	**Wellington**	**0.46**	**174**	PN	P	20 11 34.2	-0.4
WEL				SN	S	20 11 42.4	-0.1
BHW	**Baring Head**	**0.59**	**168**	⇑PN	P	20 11 35.7	-0.5
BHW				SN	S	20 11 44.7	-0.7
MRZ	**Mangatainoka R**	**0.69**	**76**	⇑PN	P	20 11 37.0	-0.3
MTW	**Mount Morrison**	**0.69**	**119**	⇑PN	P	20 11 36.9	-0.5
MSWZ	**Moikau Station**	**0.72**	**145**	⇑PN	P	20 11 37.3	-0.4
PAWZ	**Paruwai Farm**	**0.78**	**136**	⇑PN	P	20 11 38.0	-0.6
TUWZ	**Tuamarina**	**0.83**	**223**	PN	P	20 11 38.7	-0.6
NNZ	**Nelson**	**1.07**	**248**	⇑PN	P	20 11 41.7	-0.9
NNZ				SN	S	20 11 56.6	-0.1
BSWZ	**Blackbirch Sta**	**1.08**	**215**	PN	P	20 11 42.2	-0.6
BFZ	**Birch Farm**	**1.18**	**83**	PN	P	20 11 43.0	-1.1
TSZ	**Takapari Road**	**1.23**	**52**	PN	P	20 11 43.8	-1.0
NRZ	**Ngariki Road**	**1.60**	**338**	*e*PN	P	20 11 49.6	-0.5
MOVZ	**Moawhango**	**1.63**	**30**	PN	P	20 11 49.4	-1.1
THZ	**Tophouse**	**1.65**	**235**	PN	P	20 11 49.3	-1.4
QRZ	**Quartz Range**	**1.65**	**269**	⇑PN	P	20 11 49.1	-1.7
NWEZ	**Newall Road**	**1.68**	**337**	*e*PN	P	20 11 50.6	-0.6
FWVZ	**Far West T-bar**	**1.70**	**23**	PN	P	20 11 51.3	-0.2
PKE	**Pukeiti**	**1.72**	**341**	PN	P	20 11 51.0	-0.7
TUVZ	**Tukino**	**1.72**	**25**	PN	P	20 11 51.2	-0.5
WPVZ	**Whakapapa**	**1.75**	**22**	PN	P	20 11 52.0	-0.1
CNZ	**Chateau**	**1.75**	**22**	PN	P	20 11 51.9	-0.3
NGZ	**Ngauruhoe**	**1.79**	**23**	PN	P	20 11 52.4	-0.3
KHZ	**Kahutara**	**1.81**	**208**	PN	P	20 11 51.5	-1.6
OTVZ	**Oturere**	**1.82**	**24**	PN	P	20 11 52.9	-0.3
PWZ	**Pawanui**	**1.83**	**65**	SN	S	20 12 14.0	-1.4
WTVZ	**West Tongariro**	**1.84**	**22**	PN	P	20 11 52.9	-0.5
TWVZ	**Taurewa**	**1.84**	**18**	PN	P	20 11 52.7	-0.7
KRVZ	**Karewarewa**	**1.87**	**23**	PN	P	20 11 53.4	-0.6
MGZ	**Maungaku**	**1.93**	**20**	PN	P	20 11 54.1	-0.6
KATZ	**Kakaramea**	**2.00**	**23**	*e*PN	P	20 11 55.2	-0.5
BKZ	**Black Stump Fm**	**2.15**	**40**	*e*PN	P	20 11 55.5	-2.4
HIZ	**Hauiti**	**2.31**	**3**	*e*PN	P	20 11 59.7	-0.4
DSZ	**Denniston Nort**	**2.37**	**246**	*e*PN	P	20 11 58.5	-2.5
LTZ	**Lake Taylor**	**2.67**	**222**	*e*PN	P	20 12 02.5	-2.7
URZ	**Urewera**	**3.17**	**37**	PN	P	20 12 08.1	-4.2
MQZ	**McQueen's Vall**	**3.25**	**207**	PN	P	20 12 08.8	-4.7
MWZ	**Matawai**	**3.31**	**42**	PN	P	20 12 09.8	-4.5
WVZ	**Waitaha Valley**	**3.71**	**231**	*e*PN	P	20 12 16.6	-3.3
FOZ	**Fox Glacier**	**4.62**	**232**	*e*PN	P	20 12 27.4	-5.3
ODZ	**Otahua Downs**	**5.16**	**214**	*e*PN	P	20 12 34.6	-5.6

BJI ***27*** *20:17:37.3, 7.64N×93.94E, h53km, mB5.3, mb4.9, Ms5.0, Msz4.9*

HRVD ***27*** *20:17:38.5±0.5, 8.01N×94.19E, h23km±2km, MW5.1/44, Centroid moment Tensor Solution. LP body waves: s4,c4; Mantle waves: s44,c72; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.15±.51; Mθθ=2.51±.28; Mφφ=4.66±.37; Mrθ=2.12±.53; Mθφ=3.51±.24; Mφr=1.28±.53; Best double couple: M=5.713×10^16 NP1:φs159°, δ58°, λ-165°. NP2: φs62°, δ78°, λ-33°. Principal axes: T 6.556, Plg13°, Azm114°; N -1.687, Plg55°, Azm223°; P -4.87, Plg32°, Azm16°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***27*** *20:17:38.5±0.3, 7.97N×94.06E, h30km, mb5.0/42 Error ellipse: s-maj=8.5km s-min=7.4km az=125.0*

IDC ***27*** *20:17:41.4±4.2, 8.09N×94.17E, h52km±37km, mb4.3/22, mb1 4.4/23, mb1mx4.4/25, mbtmp4.5/23, ML4.4/1, Error ellipse: s-maj=21.2km s-min=11.8km az=47.0*

ISC 27 20:17:36.2±0.3, 8.01N±0.05×94.14E±0.05, h25km, h25km±1.4km:pP-P, n122, σ1¶16/111, mb4.8/62, MS4.9/2, 5C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.88**	**339**	*e*PG	**Pn**	**20 18 48.4**	**+13**
PBA				*e*SG	**Sn**	**20 19 35.0**	**+14**
CM31	**Chiang Mai Arr**	**11.39**	**24**	*e*P	**P**	**20 20 21.3**	**+0.6**
	58nm,0.9s						
CMAR	**Chiang Mai Arr**	**11.39**	**24**	P	**P**	**20 20 21.6**	**+0.9**
	0.7nm,0.3s,baz=212,slow=14,SNR=46						
PALK	**Pallekele**	**13.34**	**268**	*e*P	**P**	**20 20 50.4**	**+3.6**
	50nm,1.3s						
VIS	**Vishakhapatnam**	**14.29**	**314**	*e*P	**P**	**20 20 58.1**	**-1.2**
VIS				*e*		20 21 08.6	
	comp=Z,76nm,0.8s						
VIS				*e*		20 23 25.3	
KOD	**Kodaikanal**	**16.61**	**279**	*e*P	**P**	**20 21 34.1**	**+4.7**
KOD				*e*		20 21 38.5	
	comp=Z,66nm,1.3s						
TRD	**Trivandrum**	**17.01**	**273**	*e*	**S**	**20 24 36.8**	**-4.6**
	comp=Z,48nm,1.1s						
SHL	**Shillong**	**17.59**	**353**	*e*P	**P**	**20 21 39.9**	**-1.7**
SHL				*e*	S	20 25 21.0	+26
QIZ	**Qiongzhong**	**18.77**	**53**	P	**P**	**20 21 58.0**	**+1.8**
QIZ	**Qiongzhong**	**18.77**	**53**	*e*P	**P**	**20 21 58.4**	**+2.2**
	comp=Z,115nm,1.3s						
KMI	**Kunming**	**18.89**	**25**	⇓P	**P**	**20 22 00.6**	**+3.0**
	comp=Z,90nm,1.3s						
COCO	**West Island**	**20.24**	**172**	*e*P	**P**	**20 22 16.2**	**+3.5**
	comp=Z,182nm,1.2s						
JIRN	**Jiri**	**20.94**	**340**	*e*P	**P**	**20 22 18.8**	**-1.1**
	comp=Z,310nm,1.0s						
PKI	**Pulchoki**	**21.14**	**338**	*e*P	**P**	**20 22 21.6**	**-0.3**
	comp=Z,174nm,1.0s,mb5.3						
GOA	**Goa**	**21.22**	**292**	*e*P	**P**	**20 22 25.8**	**+3.0**
GOA				*e*		20 22 32.1	
	comp=Z,74nm,1.5s						
DMN	**Daman**	**21.29**	**337**	*e*P	**P**	**20 22 24.0**	**+0.6**
	comp=Z,170nm,0.9s,mb5.4						
KKN	**Kakani**	**21.39**	**338**	*e*P	**P**	**20 22 24.6**	**+0.2**
	comp=Z,104nm,0.8s,mb5.2						
LSA	**Lhasa**	**21.76**	**353**	P	**P**	**20 22 31.5**	**+3.4**
LSA	**Lhasa**	**21.76**	**353**	*e*P	**P**	**20 22 27.5**	**-0.6**
	comp=Z,69nm,0.8s,mb5.1						
GKN	**Gorkha**	**21.82**	**337**	*e*P	**P**	**20 22 27.7**	**-1.0**
	comp=Z,86nm,0.6s,mb5.3						
KOLN	**Koldanda**	**22.04**	**334**	*e*P	**P**	**20 22 31.0**	**+0.1**
	comp=Z,452nm,1.6s,mb5.7						
BHPL	**Bhopal**	**22.06**	**315**	*e*P	**P**	**20 22 32.2**	**+1.0**
BHPL				*e*		20 22 35.3	
	comp=Z,70nm,1.3s						
NDI	**New Delhi**	**26.03**	**324**	*e*P	**P**	**20 23 09.5**	**0.0**
NDI				*e*		20 23 11.4	
	comp=Z,50nm,0.8s						
ENH	**Enshi**	**26.41**	**31**	*e*P	**P**	**20 23 12.7**	**-0.2**
	comp=Z,28nm,0.8s,mb4.8						
WHN	**Wuhan**	**29.33**	**37**	⇑P	**P**	**20 23 40.5**	**+1.1**
NJ2	**Nanjing**	**33.17**	**40**	*e*P	**P**	**20 24 14.5**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.7						
WMQ	**Urumqi**	**36.12**	**352**	*e*P	**P**	**20 24 38.8**	**+0.5**
WMQ				AP	pP	20 24 48.5	+2.8
WMQ				PP	PP	20 26 01.0	+0.2
WMQ				PCP	PcP	20 27 05.3	+1.1
WMQ				S	**S**	**20 30 14.5**	**-1.1**
WMQ				AMB	AMB		
	comp=Z,57nm,0.9s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,417nm,5.2s						
WMQ				LR	LR		
	comp=N,1μm,16.1s,MS4.8						
WMQ				LR	LR		
	comp=E,844nm,15.8s,MS4.8						
WMQ				LR	LR		
	comp=Z,2μm,16.3s,MS4.9						
BJT	**Baijiatuau**	**37.47**	**28**	*e*P	**P**	**20 24 51.2**	**+1.5**
	comp=Z,67nm,1.4s,mb5.3						
JMDO	**Jabal Madar**	**37.47**	**296**	⇑P	**P**	**20 24 51.9**	**+2.0**
BJI	**Beijing**	**37.49**	**28**	*e*P	**P**	**20 24 51.3**	**+1.4**
	comp=Z,26nm,1.1s,mb5.0						
BIDO	**Bidbid**	**37.79**	**298**	P	**P**	**20 24 55.

comp=Z,18nm,0.9s,mb5.1
PMG e 20 27 17.9
KIV Kislovodsk 57.22 318 *eP* **P 20 27 22.6 -1.3**
comp=Z,19nm,0.8s,mb5.2
KMBO Kilima Mbogo 57.44 264 P **P 20 27 27.1 +1.2**
comp=Z,12nm,1.0s,mb4.9,baz=64,slow=10,SNR=28
KMBO Kilima Mbogo 57.44 264 *eP* **P 20 27 27.1 +1.2**
comp=Z,11nm,0.8s,mb4.9
ASF Jabal al Asfar 58.15 303 P **P 20 27 30.3 -0.3**
comp=Z,2.4nm,0.6s,mb4.4,baz=312,slow=3.7,SNR=4.3
MALT Malatya 58.38 310 *eP* **P 20 27 30.3 -1.8**
comp=Z,4.3nm,1.0s,mb4.4
EIL Elat 59.36 300 P **P 20 27 38.4 -0.7**
comp=Z,4.6nm,0.7s,mb4.6,baz=298,slow=7.9,SNR=5.0
EIL Elat 59.36 300 *eP* **P 20 27 38.1 -1.0**
comp=Z,9.1nm,1.0s,mb4.8
YAK Yakutsk 59.87 18 *eP* **P 20 27 40.7 -1.4**
comp=Z,43nm,0.9s,mb5.5
STKA Stephens Creek 60.20 134 P **P 20 27 43.7 -1.1**
comp=Z,5.8nm,1.1s,mb4.5,baz=311,slow=7.0,SNR=3.1
STKA Stephens Creek 60.20 134 *eP* **P 20 27 42.3 -2.5**
BRTR Keskin Array B 62.34 311 P **P 20 27 56.7 -2.5**
comp=Z,2.8nm,0.5s,mb4.6,baz=127,slow=6.6,SNR=9.0
MBAR Mbarara 63.77 265 *eP* **P 20 28 08.5 -0.6**
comp=Z,13nm,1.2s,mb4.8
OBN Obninsk 65.27 328 *eP* **P 20 28 13.3 -4.8**
comp=Z,33nm,0.9s,mb5.4
MA2 Magadan 66.65 28 *eP* **P 20 28 24.3 -2.5**
comp=Z,35nm,1.1s,mb5.3
AKASG Malin Array Be 68.05 322 P **P 20 28 33.5 -2.4**
comp=Z,4.4nm,0.8s,mb4.5,baz=88,slow=5.0,SNR=12
SANT Santorini 68.14 306 P **P 20 28 32.0 -4.7**
comp=Z,58nm,1.1s,mb5.5
IDI Anoyia 68.49 305 P **P 20 28 38.3 -0.6**
comp=Z,6.5nm,0.5s,mb4.9,baz=98,slow=10,SNR=7.1
MLR Muntele Rosu 69.08 316 P **P 20 28 42.1 -0.3**
comp=Z,4.8nm,0.6s,mb4.6,baz=143,slow=4.9,SNR=9.5
LSZ Lusaka 69.31 250 *eP* **P 20 28 44.1 -0.1**
comp=Z,5.2nm,0.9s,mb4.5
FINES FINESS Array B 72.59 332 P **P 20 29 03.0 -0.2**
comp=Z,7.1nm,0.8s,mb4.6,baz=104,slow=7.9,SNR=12
CRVS Cervenica-Dubn 72.63 319 *eP* **P 20 29 04.8 +1.1**
KAF Kangasniemi 72.67 333 *ep* **P 20 29 02.4 -1.3**
comp=Z,9.7nm,0.9s,mb4.7,baz=106,slow=6.3
OJC Ojcow 73.87 320 *eP* **P 20 29 10.4 -0.5**
LBTB Lobatse 74.31 241 *eP* **P 20 29 14.1 +0.2**
comp=Z,8.1nm,0.8s,mb4.7
VYHS Vyhne 74.31 318 *eP* **P 20 29 12.0 -1.5**
OKC Ostrava-Krasne 74.89 319 *eP* **P 20 29 16.5 -0.3**
OKC *epP* pP 20 29 24.0 -0.6
ARCES ARCESS Array B 75.14 340 P **P 20 29 18.0 +0.1**
comp=Z,1.6nm,0.6s,mb4.1,baz=90,slow=4.9,SNR=8.0
ZST Bratislava 75.44 318 *eP* **P 20 29 20.3 +0.3**
BOSA Boshof 75.66 238 *eP* **P 20 29 22.0 +0.3**
comp=Z,38nm,1.5s,mb5.1
BILL Bilibino 75.96 22 *eP* **P 20 29 21.5 -1.1**
comp=Z,8.2nm,0.8s,mb4.7
DPC Dobruska-Polom 76.11 320 *eP* **P 20 29 23.9 +0.2**
DPC *epP* pP 20 29 31.6 0.0
KSP Ksiaz 76.16 320 *eP* **P 20 29 24.0 0.0**
KSP *e* pP 20 29 31.1 -0.8
UPC Upice 76.31 320 *eP* **P 20 29 24.9 0.0**
UPC *epP* pP 20 29 32.5 -0.2
PRU Pruhonice 77.23 319 *eP* **P 20 29 30.0 0.0**
PRU *epP* pP 20 29 37.3 -0.5
PVCC Panska Ves 77.23 320 *eP* **P 20 29 30.3 +0.3**
GERES GERESS Array B 77.73 318 P **P 20 29 32.7 -0.1**
comp=Z,3.9nm,0.7s,mb4.5,baz=81,slow=5.6,SNR=23
KHC Kasperske Hory 77.82 318 *eP* **P 20 29 32.9 -0.4**
KHC *e* 20 29 37.7
CLL Collm 78.26 321 *i P* pP 20 29 41.8 -1.7
comp=Z,7.0nm,1.0s
CLL Collm 78.26 321 *i* *PP pP 20 29 41.8 -1.7
MAW Mawson 78.67 192 *eP* **P 20 29 38.9 +1.4**
comp=Z,61nm,1.4s,mb5.3
MOX Moxa 79.12 320 *eP* pP 20 29 48.0 -0.3
MOX Moxa 79.12 320 *i P* pP 20 29 48.0 -0.3
GRA1 Grafenberg Arr 79.37 319 *eP* **P 20 29 41.7 0.0**
comp=Z,6.0nm,0.9s,mb4.5
GRF Grafenberg Arr 79.37 319 *eP* **P 20 29 41.7 0.0**
comp=Z,6.0nm,0.9s,mb4.5
NB2 NORSAR Subarra 79.61 331 P **P 20 29 41.9 -0.9**
comp=Z,3.6nm,0.8s,mb4.3,baz=95,slow=5.0
NOA NORSAR Array B 79.61 331 P **P 20 29 42.5 -0.3**
comp=Z,4.2nm,0.7s,mb4.5,baz=92,slow=5.6,SNR=11
MUD Monsted U'grnd 80.60 326 *i P* **P 20 29 48.9 +0.7**
comp=Z,12nm,0.9s,mb4.8
LPG La Plagne 82.52 315 *eP* **P 20 29 59.1 +0.7**
comp=Z,43nm,1.1s,mb5.1
SYO Syowa Base 85.53 197 ⇓P **P 20 30 18.8 +5.7**
ESDC Sonseca Array 91.13 310 P **P 20 30 41.1 +0.5**
comp=Z,1.9nm,0.6s,mb4.6,baz=56,slow=4.2,SNR=5.8
ESLA Sonseca Array 91.13 310 P **P 20 30 45.0 +4.4**
comp=Z,1.6nm,1.0s,mb4.3
IMA Indian Mountai 91.50 22 *eP* **P 20 30 42.8 +1.2**
SPU Mount Spurr 94.16 26 *eP* **P 20 30 54.2 +0.2**
MCK McKinley 94.34 23 *eP* **P 20 30 54.3 -0.4**
comp=Z,4.6nm,1.1s,mb4.8
ILAR Eielson Array 94.62 22 P **P 20 30 55.4 -0.6**
comp=Z,0.8nm,0.8s,mb4.2,baz=306,slow=5.0,SNR=5.0
INK Inuvik 96.86 16 P **P 20 31 05.6 -0.6**
comp=Z,3.7nm,1.1s,mb4.7,baz=313,slow=6.4,SNR=5.0
YKA Yellowknife Ar 106.30 13 PKiKP 20 36 00.6
comp=Z,0.2nm,0.8s,baz=333,slow=2.8,SNR=2.7
YKA PP PP 20 36 10.0 -5.6
comp=Z,0.2nm,0.5s,baz=332,slow=7.5,SNR=4.0
YKA PKKPbc 20 47 25.2
comp=Z,0.4nm,0.9s,baz=156,slow=2.8,SNR=4.7
YKA PKKPab 20 47 36.6
comp=Z,0.3nm,0.7s,baz=149,slow=4.6,SNR=5.5
YKA Yellowknife Ar 106.30 13 PKPdf 20 36 00.6
YKA PP PP 20 36 10.1 -5.6
YKA PKKPbc 20 47 25.2
YKA PKKPab 20 47 36.6
NVAR Mina Array Bea 124.80 31 PKP PKPdf 20 36 37.2 -2.0
comp=Z,1.3nm,0.7s,baz=357,slow=2.1,SNR=5.4
PDAR Pinedale Array 125.04 21 PKP PKPdf 20 36 36.2 -3.3
comp=Z,1.5nm,0.7s,baz=135,slow=2.1,SNR=7.4
TXAR Lajitas Array 139.10 24 PKP PKPdf 20 37 04.4 -1.9
comp=Z,0.3nm,0.3s,baz=117,slow=2.0,SNR=2.4
TXAR PP PP 20 39 59.4 +0.6
comp=Z,0.9nm,0.9s,baz=333,slow=2.8,SNR=4.0
PLCA Paso Flores 144.67 200 PKP PKPdf 20 37 12.6 -3.3
comp=Z,9.4nm,0.9s,baz=185,slow=3.9,SNR=14
PLCA Paso Flores 144.67 200 *e*PKPdf PKPdf 20 37 12.4 -3.4
LVC Limon Verde 158.17 226 PKPab PKPab 20 38 09.1 +1.0
comp=Z,3.4nm,0.9s,baz=127,slow=10,SNR=3.3
LPAZ La Paz 160.83 243 PKP PKPdf 20 36 52.6 -47
comp=Z,0.9nm,0.7s,baz=89,slow=7.2,SNR=3.2
LPAZ PKPab PKPab 20 37 34.5 -45
comp=Z,0.9nm,0.8s,baz=67,slow=8.8,SNR=3.6

*IDC **27** 20:23:08.2±0.8, 7.88N×93.94E, mb3.8/8, mb1 4.0/9, mb1mx4.0/19, mbtmp3.8/9, ML3.6/1, MS2.4/1, Ms1 2.4/1, ms1mx2.2/25, Error ellipse: s-maj=37.9km s-min=17.3km az=55.0*
*NEIC **27** 20:23:12.7±0.6, 7.97N×94.04E, h30km, mb4.1/5, Error ellipse: s-maj=19.6km s-min=10.7km az=73.0*
ISC 27 20:23:09.5±5.7, 8.0N±0.1×94.1E±0.1, h22km±41km, n21, σ1§00/17, mb4.0/12, MS2.4/1, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.46**	**24**	P	**P**	**20 25 53.5**	**-1.6**
CMAR	**Chiang Mai Arr**	**11.46**	**24**	Pn	**P**	**20 25 55.8**	**+0.7**
	0.1nm,0.3s,baz=211,slow=14,SNR=7.0						
HYB	**Hyderabad**	**17.81**	**303**	*i P*	**P**	**20 27 18.5**	**+0.6**
KMI	**Kunming**	**18.96**	**25**	⇑P	**P**	**20 27 35.9**	**+3.9**
	13nm,1.7s						
KMI				pP		20 27 43.4	
LSA	**Lhasa**	**21.80**	**353**	*eP*	**P**	**20 28 02.6**	**+0.5**
	4.6nm,0.6s,mb4.1						
AAK	**Ala-Archa**	**38.60**	**337**	*eP*	**P**	**20 30 32.1**	**-0.8**
	2.0nm,0.8s,mb3.9						
SONM	**Songino Array**	**41.09**	**13**	P	**P**	**20 30 54.2**	**+0.9**
	0.6nm,0.8s,mb3.3,baz=190,slow=7.5,SNR=3.8						
JNU	**Nakatsue**	**42.23**	**48**	LR	LR	20 50 15.4	
	comp=Z,4.5nm,19.7s,MS2.4,baz=74,slow=38						
KURK	**Kurchatov**	**44.51**	**346**	*eP*	**P**	**20 31 20.3**	**-1.0**
	14nm,1.1s,mb4.7						
NWAO	**Narrogin (SRO)**	**46.25**	**153**	P	**P**	**20 31 35.6**	**+0.3**
	3.0nm,0.7s,mb4.3,baz=336,slow=18,SNR=2.2						
ZAL	**Zalesovo**	**46.45**	**352**	P	**P**	**20 31 38.0**	**+1.3**
	1.3nm,0.7s,mb4.0,baz=315,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**48.36**	**126**	P	**P**	**20 31 51.0**	**-1.0**
	0.5nm,0.6s,mb3.8,baz=304,slow=8.6,SNR=4.4						
WRAB	**Tennant Creek**	**48.36**	**126**	P	**P**	**20 31 51.6**	**-0.4**
CHKZ	**Chkalovo**	**49.37**	**342**	*eP*	**P**	**20 31 59.1**	**-0.2**
	1.9nm,0.7s,mb4.2						
ASAR	**Alice Springs**	**50.02**	**130**	P	**P**	**20 32 06.0**	**+1.2**
	0.6nm,0.9s,mb3.6,baz=309,slow=7.5,SNR=2.7						
BRTR	**Keskin Array B**	**62.33**	**311**	P	**P**	**20 33 30.9**	**-2.0**
	0.8nm,0.8s,mb3.9,baz=73,slow=5.8,SNR=3.1						
AKASG	**Malin Array Be**	**68.05**	**322**	P	**P**	**20 34 09.6**	**0.0**
	0.2nm,0.3s,mb3.6,baz=86,slow=5.5,SNR=3.1						
MLR	**Muntele Rosu**	**69.07**	**316**	P	**P**	**20 34 16.9**	**+0.9**
	1.8nm,0.9s,mb4.0,baz=162,slow=20,SNR=2.8						
CLL	**Collm**	**78.26**	**321**	P	pP	20 35 17.0	+0.7
PDAR	**Pinedale Array**	**125.11**	**21**	PKP	PKPdf	20 42 11.1	-2.0
	0.3nm,0.9s,baz=228,slow=13,SNR=2.3						
PLCA	**Paso Flores**	**144.61**	**200**	PKP	PKPdf	20 42 48.9	-0.3
	3.9nm,0.7s,baz=152,slow=3.3,SNR=7.1						

*IDC **27** 20:23:14.5±0.7, 7.83N×93.86E, mb4.3/15, mb1 4.4/16, mb1mx4.3/22, mbtmp4.3/16, ML3.8/1, Error ellipse: s-maj=32.9km s-min=15.4km az=55.0*
*BJI **27** 20:23:17.4, 8.31N×94.10E, h7km, mB5.0, mb4.3*
*NEIC **27** 20:23:19.2±0.3, 7.85N×93.97E, h30km, mb4.6/6, Error ellipse: s-maj=12.9km s-min=8.1km az=58.0*
ISC 27 20:23:14.2±0.5, 7.90N±0.08×93.9E±0.1, h10km, n43, σ0§89/39, mb4.5/24, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.57**	**24**	Pn	**P**	**20 26 03.0**	**+0.5**
	0.2nm,0.3s,baz=212,slow=13,SNR=9.5						
CMAR	**Chiang Mai Arr**	**11.57**	**24**	Pn	**P**	**20 26 03.0**	**+0.5**
HYB	**Hyderabad**	**17.73**	**304**	*i P*	**P**	**20 27 23.5**	**+0.5**
JIRN	**Jiri**	**20.98**	**340**	*eP*	**P**	**20 27 59.1**	**-1.1**
	82nm,0.9s						
PKI	**Pulchoki**	**21.17**	**339**	*eP*	**P**	**20 28 00.4**	**-1.7**
	68nm,0.9s,mb5.0						
DMN	**Daman**	**21.31**	**338**	*eP*	**P**	**20 28 03.1**	**-0.5**
	87nm,1.0s,mb5.0						
KKN	**Kakani**	**21.41**	**339**	*eP*	**P**	**20 28 03.1**	**-1.5**
	56nm,0.9s,mb4.9						
GKN	**Gorkha**	**21.84**	**337**	*eP*	**P**	**20 28 07.9**	**-1.0**
	76nm,0.8s,mb5.2						
KOLN	**Koldanda**	**22.05**	**335**	*eP*	**P**	**20 28 10.4**	**-0.6**
	108nm,1.1s,mb5.2						
AAK	**Ala-Archa**	**38.60**	**337**	*eP*	**P**	**20 30 40.0**	**+0.7**
	7.1nm,0.9s,mb4.4						
SONM	**Songino Array**	**41.18**	**13**	P	**P**	**20 31 01.7**	**+1.2**
	2.5nm,0.9s,mb3.9,baz=199,slow=8.0,SNR=12						
SONM				PcP	PcP	20 33 00.8	+0.4
	1.3nm,0.7s,baz=196,slow=4.6,SNR=6.0						
SONM	**Songino Array**	**41.18**	**13**	P	**P**	**20 31 01.7**	**+1.2**
SONM				PcP	PcP	20 33 00.8	+0.4
NWAO	**Narrogin (SRO)**	**46.26**	**153**	P	**P**	**20 31 42.0**	**+0.1**
	9.1nm,0.9s,mb4.7,slow=3.0,SNR=3.2						
NWAO	**Narrogin (SRO)**	**46.26**	**153**	P	**P**	**20 31 42.0**	**+0.1**
ZAL	**Zalesovo**	**46.50**	**353**	P	**P**	**20 31 42.6**	**-0.8**
	3.4nm,0.6s,mb4.5,baz=294,slow=9.0,SNR=12						
ZAL	**Zalesovo**	**46.50**	**353**	P	**P**	**20 31 42.6**	**-0.8**
WRA	**Warramunga Arr**	**48.44**	**125**	P	**P**	**20 31 58.6**	**-0.5**
	1.0nm,0.6s,mb4.0,baz=304,slow=8.5,SNR=5.0						
WRA	**Warramunga Arr**	**48.44**	**125**	P	**P**	**20 31 58.6**	**-0.5**
WRAB	**Tennant Creek**	**48.44**	**125**	P	**P**	**20 31 58.1**	**-1.0**
BVAR	**Borovoye Array**	**48.90**	**341**	P	**P**	**20 32 02.5**	**+0.3**
	5.4nm,1.0s,mb4.5,baz=143,slow=7.4,SNR=7.7						
CHKZ	**Chkalovo**	**49.39**	**342**	*eP*	**P**	**20 32 06.5**	**+0.5**
	8.9nm,0.8s,mb4.8						
ASAR	**Alice Springs**	**50.08**	**130**	P	**P**	**20 32 11.3**	**-0.4**
	1.1nm,0.9s,mb3.9,baz=301,slow=7.8,SNR=5.1						
ASAR				PcP	PcP	20 33 30.6	-1.0
	1.1nm,0.7s,baz=301,slow=4.3,SNR=4.9						
ASAR	**Alice Springs**	**50.08**	**130**	P	**P**	**20 32 11.3**	**-0.4**
ASAR				PcP	PcP	20 33 30.6	-1.0
GNI	**Garni**	**54.28**	**314**	P	**P**	**20 32 43.3**	**+0.5**
	2.9nm,0.6s,mb4.4,baz=33,slow=17,SNR=3.0						
KMBO	**Kilima Mbogo**	**57.23**	**264**	*eP*	**P**	**20 33 04.0**	**-0.6**
	4.1nm,0.9s,mb4.5						
BRTR	**Keskin Array B**	**62.26**	**311**	P	**P**	**20 33 37.6**	**-1.2**
	1.5nm,0.6s,mb4.3,baz=129,slow=7.9,SNR=7.5						
BRTR	**Keskin Array B**	**62.26**	**311**	P	**P**	**20 33 37.6**	**-1.2**
AKASG	**Malin Array Be**	**68.01**	**322**	P	**P**	**20 34 15.6**	**-0.2**
	1.7nm,0.6s,mb4.3,baz=88,slow=4.9,SNR=6.1						
MLR	**Muntele Rosu**	**69.02**	**316**	P	**P**	**20 34 22.8**	**+0.7**
	4.5nm,0.9s,mb4.4,baz=158,slow=11,SNR=5.2						
MLR	**Muntele Rosu**	**69.02**	**316**	P	**P**	**20 34 22.8**	**+0.7**
FINES	**FINESS Array B**	**72.60**	**332**	P	**P**	**20 34 44.1**	**+0.6**
	4.4nm,0.8s,mb4.4,baz=90,slow=5.7,SNR=5.5						
OJC	**Ojcow**	**73.83**	**320**	*eP*	**P**	**20 34 52.1**	**+1.2**
ARCES	**ARCESS Array B**	**75.17**	**340**	P	**P**	**20 34 58.5**	**+0.2**
	5.8nm,1.0s,mb4.5,baz=104,slow=5.0,SNR=2.4						
GERES	**GERESS Array B**	**77.68**	**318**	P	**P**	**20 35 12.6**	**-0.1**
	2.2nm,0.6s,mb4.3,baz=104,slow=4.0,SNR=15						
GRA1	**Grafenberg Arr**	**79.32**	**319**	*eP*	**P**	**20 35 23.8**	**+2.1**
	12nm,1.5s,mb4.6						
GRF	**Grafenberg Arr**	**79.32**	**319**	*eP*	**P**	**20 35 23.8**	**+2.1**
	12nm,1.5s,mb4.6						
NB2	**NORSAR Subarra**	**79.61**	**331**	P	**P**	**20 35 23.7**	**+0.6**
	2.0nm,0.6s,mb4.2,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**79.61**	**331**	P	**P**	**20 35 24.3**	**+1.3**
	2.9nm,0.7s,mb4.3,baz=93,slow=5.6,SNR=8.8						
INK	**Inuvik**	**97.02**	**16**	P	**P**	**20 36 48.5**	**+1.3**
	2.1nm,1.0s,mb4.5,baz=301,slow=5.9,SNR=4.3						
PDAR	**Pinedale Array**	**125.22**	**21**	PKP	PKPdf	20 42 18.6	-0.1
	0.7nm,0.7s,baz=220,slow=0.5,SNR=5.0						
PDAR	**Pinedale Array**	**125.22**	**21**	PKP	PKPdf	20 42 18.6	-0.1
PLCA	**Paso Flores**	**144.50**	**200**	PKP	PKPdf	20 42 53.6	-0.7
	4.8nm,0.9s,baz=112,slow=5.1,SNR=8.8						
PLCA	**Paso Flores**	**144.50**	**200**	PKP	PKPdf	20 42 53.6	-0.7

*BJI **27** 20:27:47.7, 8.21N×93.55E, h39km, mB5.6, mb4.6, Ms5.0, Msz4.6*
*NEIC **27** 20:27:47.5±0.3, 8.27N×93.80E, h30km, mb4.6/14, Error ellipse: s-maj=10.3km s-min=8.5km az=72.0*
*IDC **27** 20:27:52.3±4.4, 8.37N×93.88E, h68km±39km, mb4.0/16, mb1 4.1/17, mb1mx4.1/21, mbtmp4.3/17, ML4.1/1, Error ellipse: s-maj=24.7km s-min=12.7km az=51.0*
ISC 27 20:27:46.2±0.4, 8.23N±0.06×93.85E±0.07, h33km, n60, σ0§98/53, mb4.5/32, 2C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.31**	**25**	*eP*	**P**	**20 30 27.3**	**-1.3**
	66nm,1.3s						
CMAR	**Chiang Mai Arr**	**11.31**	**25**	P	**P**	**20 30 29.2**	**+0.6**
	0.4nm,0.3s,baz=212,slow=14,SNR=27						
HYB	**Hyderabad**	**17.47**	**303**	*i P*	**P**	**20 31 53.5**	**+4.4**
KMI	**Kunming**	**18.82**	**26**	⇑P	**P**	**20 32 08.5**	**+2.7**
	26nm,1.3s						
KMI				pP		20 32 15.3	
KMI				sP		20 32 20.6	
KMI				S	**S**	**20 35 34.9**	**+4.0**
JIRN	**Jiri**	**20.64**	**340**	*eP*	**P**	**20 32 26.1**	**+0.5**
	134nm,1.0s						
PKI	**Pulchoki**	**20.83**	**339**	*eP*	**P**	**20 32 28.5**	**+1.0**
	169nm,1.1s						
DMN	**Daman**	**20.97**	**338**	*eP*	**P**	**20 32 29.6**	**+0.6**
	125nm,0.9s						
KKN	**Kakani**	**21.07**	**338**	*eP*	**P**	**20 32 30.7**	**+0.7**
	70nm,0.9s,mb5.0						
GKN	**Gorkha**	**21.51**	**337**	*eP*	**P**	**20 32 34.8**	**+0.4**
	63nm,0.5s,mb5.3						
KOLN	**Koldanda**	**21.72**	**335**	*eP*	**P**	**20 32 38.1**	**+1.6**
	54nm,0.7s,mb5.1						
ENH	**Enshi**	**26.37**	**32**	*eP*	**P**	**20 33 19.7**	**-1.8**
	37nm,1.2s,mb4.8						
LZH	**Lanzhou**	**29.19**	**17**	*eP*	**P**	**20 33 45.0**	**-1.9**
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.6						
LZH	**Lanzhou**	**29.19**	**17**	*eP*	**P**	**20 33 45.0**	**-1.9**
	comp=Z,19nm,1.5s,mb4.6						
LZH				pP	pP	20 33 54.0	-2.5
LZH				sP	sP	20 33 59.0	-1.8
XAN	**Xi'an**	**29.20**	**26**	P	**P**	**20 33 46.3**	**-0.7**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.3						
WHN	**Wuhan**	**29.33**	**38**	⇑P	pP	20 33 54.5	-3.3
NJ2	**Nanjing**	**33.19**	**41**	*eP*	**P**	**20 34 22.5**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.5						
WMQ	**Urumqi**	**35.86**	**352**	*eP*	**P**	**20 34 46.0**	**+1.1**
BJI	**Beijing**	**37.43**	**29**	*eP*	**P**	**20 35 00.6**	**+2.4**
	comp=Z,14nm,1.4s,mb4.6						
AAK	**Ala-Archa**	**38.26**	**337**	*eP*	**P**	**20 35 03.8**	**-1.3**
	comp=Z,4.8nm,0.9s,mb4.2						
SONM	**Songino Array**	**40.88**	**13**	P	**P**	**20 35 26.8**	**0.0**
	comp=Z,4.7nm,1.1s,mb4.0,baz=200,slow=7.2,SNR=16						
ULN	**Ulaanbaatar**	**41.06**	**14**	*eP*	**P**	**20 35 27.2**	**-1.1**
	comp=Z,2.3nm,0.8s,mb3.9						
KURK	**Kurchatov**	**44.20**	**346**	*eP*	**P**	**20 35 53.3**	**-0.5**
	comp=Z,5.8nm,0.8s,mb4.4						
KURK				*e*		20 36 00.5	
ZAL	**Zalesovo**	**46.16**	**353**	P	**P**	**20 36 09.9**	**+0.5**
	comp=Z,3.3nm,0.5s,mb4.5,baz=288,slow=6.0,SNR=15						
NWAO	**Narrogin (SRO)**	**46.59**	**153**	P	**P**	**20 36 14.2**	**+1.0**
	comp=Z,11nm,0.8s,mb4.8,baz=319,slow=5.3,SNR=6.6						
BVAR	**Borovoye Array**	**48.56**	**341**	P	**P**	**20 36 27.7**	**-0.5**
	comp=Z,2.9nm,0.9s,mb4.3,baz=127,slow=7.4,SNR=7.6						
WRA	**Warramunga Arr**	**48.70**	**126**	P	**P**	**20 36 29.9**	**+0.2**
	comp=Z,3.5nm,0.9s,mb4.4,baz=305,slow=9.1,SNR=10						
WRAB	**Tennant Creek**	**48.71**	**126**	*eP*	**P**	**20 36 29.5**	**-0.3**
CHKZ	**Chkalovo**	**49.05**	**342**	*eP*	**P**	**20 36 31.1**	**-0.9**
	comp=Z,8.1nm,0.8s,mb4.8						
ASAR	**Alice Springs**	**50.37**	**130**	P	**P**	**20 36 42.5**	**-0.1**
	comp=Z,2.9nm,0.9s,mb4.3,baz=315,slow=8.9,SNR=6.5						
ASAR				PcP	PcP	20 38 02.5	+1.6
	comp=Z,2.1nm,1.1s,baz=304,slow=3.3,SNR=2.9						
GNI	**Garni**	**53.98**	**314**	P	**P**	**20 37 09.4**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=342,slow=19,SNR=2.1						
PMG	**Port Moresby**	**55.91**	**107**	P	**P**	**20 37 24.9**	**+1.2**
	comp=Z,11nm,0.8s,mb4.9,baz=314,slow=2.5,SNR=5.4						
KMBO	**Kilima Mbogo**	**57.17**	**263**	P	**P**	**20 37 34.6**	**+1.8**
	comp=Z,3.4nm,0.8s,mb4.5,baz=58,slow=10,SNR=10						
STKA	**Stephens Creek**	**60.56**	**134**	P	**P**	**20 37 54.9**	**-1.2**
BRTR	**Keskin Array B**	**61.98**	**311**	P	**P**	**20 38 03.8**	**-1.7**
	comp=Z,1.3nm,0.8s,mb4.1,baz=119,slow=6.9,SNR=5.4						
MBAR	**Mbarara**	**63.50**	**265**	*eP*	**P**	**20 38 15.1**	**-0.8**
	comp=Z,7.7nm,1.4s,mb4.6						
AKASG	**Malin Array Be**	**67.70**	**322**	P	**P**	**20 38 40.6**	**-1.6**
	comp=Z,0.6nm,0.4s,mb4.0,baz=85,slow=5.0,SNR=6.7						
LSZ	**Lusaka**	**69.11**	**250**	*eP*	**P**	**20 38 52.2**	**+0.6**
FINES	**FINESS Array B**	**72.26**	**332**	P	**P**	**20 39 09.3**	**-0.5**
	comp=Z,3.0nm,0.8s,mb4.3,baz=104,slow=6.8,SNR=7.8						
FINES	**FINESS Array B**	**72.26**	**332**	P	**P**	**20 39 09.3**	**-0.5**
OKC	**Ostrava-Krasne**	**74.53**	**319**	*eP*	**P**	**20 39 23.0**	**-0.4**
ARCES	**ARCESS Array B**	**74.83**	**340**	P	**P**	**20 39 24.7**	**-0.1**
	comp=Z,3.9nm,0.8s,mb4.4,baz=90,slow=4.9,SNR=8.5						
MORC	**Moravsky Berou**	**74.92**	**319**	*eP*	**P**	**20 39 25.2**	**-0.4**
	comp=Z,6.3nm,1.0s,mb4.5						
DPC	**Dobruska-Polom**	**75.75**	**320**	*eP*	**P**	**20 39 31.0**	**+0.6**
UPC	**Upice**	**75.96**	**320**	*epP*	pP	20 39 39.2	-2.7
GERES	**GERESS Array B**	**77.37**	**318**	P	**P**	**20 39 39.8**	**+0.2**
	comp=Z,3.2nm,0.9s,mb4.2,baz=92,slow=4.9,SNR=15						
KHC	**Kasperske Hory**	**77.46**	**318**	*eP*	**P**	**20 39 40.1**	**0.0**
CLL	**Collm**	**77.90**	**321**	P	pP	20 39 48.0	-4.8
CLL	**Collm**	**77.90**	**321**	*e*PP	pP	20 39 48.0	-4.8
GRA1	**Grafenberg Arr**	**79.01**	**319**	*eP*	**P**	**20 39 48.8**	**+0.3**
	comp=Z,10.0nm,1.4s,mb4.5						
GRF	**Grafenberg Arr**	**79.01**	**319**	*eP*	**P**	**20 39 48.8**	**+0.3**
	comp=Z,10.0nm,1.4s,mb4.5						
NB2	**NORSAR Subarra**	**79.28**	**331**	P	**P**	**20 39 48.9**	**-0.9**
	comp=Z,6.2nm,1.1s,mb4.5,baz=91,slow=5.3						
NOA	**NORSAR Array B**	**79.28**	**331**	P	**P**	**20 39 49.2**	**-0.6**
	comp=Z,2.4nm,0.9s,mb4.1,baz=91,slow=6.0,SNR=5.8						
NOA	**NORSAR Array B**	**79.28**	**331**	P	**P**	**20 39 49.2**	**-0.6**
LPG	**La Plagne**	**82.16**	**315**	*eP*	**P**	**20 40 05.0**	**-0.3**
	comp=Z,20nm,0.8s,mb4.8						
IMA	**Indian Mountai**	**91.41**	**22**	*eP*	**P**	**20 40 49.9**	**0.0**
ILAR	**Eielson Array**	**94.53**	**22**	P	**P**	**20 41 04.8**	**+0.6**
	comp=Z,0.9nm,1.1s,mb4.1,baz=289,slow=4.6,SNR=4.8						
YKA	**Yellowknife Ar**	**106.15**	**13**	PP	PP	20 46 17.3	-5.8
	comp=Z,0.4nm,1.0s,baz=330,slow=7.0,SNR=3.0						
NVAR	**Mina Array Bea**	**124.76**	**31**	PKP	PKPdf	20 46 44.0	+0.8
	comp=Z,0.3nm,0.5s,baz=45,slow=2.6,SNR=2.8						
PDAR	**Pinedale Array**	**124.94**	**21**	PKP	PKPdf	20 46

XAN Xi'an 29.27 26 P **P 20 37 01.8 -0.7**
XAN AMB AMB
comp=Z,11nm,1.2s,mb4.5
LZH Lanzhou 29.29 16 *e*P **P 20 37 04.5 +1.8**
LZH AMB AMB
comp=Z,36nm,1.7s,mb4.8
LZH AMB AMB
comp=Z,120nm,4.0s
LZH LR LR
comp=E,1μm,13.0s
LZH LR LR
comp=Z,2μm,14.3s,MS4.8
LZH Lanzhou 29.29 16 *e*P **P 20 37 04.5 +1.8**
comp=Z,36nm,1.7s,mb4.8
LZH pP pP 20 37 12.5 +5.1
LZH sP sP 20 37 16.0 +6.4
LZH LR LR
comp=Z,2μm,14.3s,MS4.8
WHN Wuhan 29.37 38 *e*P **P 20 37 02.8 -0.6**
NJ2 Nanjing 33.22 41 *e*P **P 20 37 37.5 +0.3**
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
WMQ Urumqi 36.01 352 P **P 20 38 02.0 +0.9**
BJI Beijing 37.49 28 *e*P **P 20 38 14.8 +1.2**
BJI pmax pmax
comp=Z,9.0nm,1.2s,mb4.5
BJI Beijing 37.49 28 *e*P **P 20 38 14.8 +1.2**
comp=Z,9.0nm,1.2s,mb4.5
AAK Ala-Archa 38.44 337 *e*P **P 20 38 20.4 -1.1**
AAK pmax pmax
comp=Z,19nm,1.1s,mb4.7
AAK Ala-Archa 38.44 337 *e*P **P 20 38 20.4 -1.1**
comp=Z,19nm,1.1s,mb4.7
SONM Songino Array 40.99 13 P **P 20 38 42.9 +0.3**
comp=Z,6.4nm,1.0s,mb4.2,baz=207,slow=8.3,SNR=5.1
SONM PcP PcP 20 40 42.3 -1.0
comp=Z,2.1nm,1.0s,baz=201,slow=5.0,SNR=4.5
ZAK Zakamensk 42.86 9 *e*P **P 20 38 57.1 -0.8**
KURK Kurchatov 44.36 346 *e*P **P 20 39 08.6 -1.5**
KURK pmax pmax
comp=Z,36nm,1.1s,mb5.0
KURK Kurchatov 44.36 346 *e*P **P 20 39 08.6 -1.4**
comp=Z,36nm,1.1s,mb5.0
ZAL Zalesovo 46.31 353 P **P 20 39 25.6 +0.1**
ZAL pmax pmax
comp=Z,8.0nm,1.0s
ZAL MLR MLR
comp=Z,383nm,19.0s
ZAL Zalesovo 46.31 353 P **P 20 39 25.6 +0.1**
comp=Z,8.3nm,1.0s,mb4.6,baz=295,slow=10,SNR=15
ZAL LR LR 21 04 23.3
comp=Z,383nm,19.0s,MS4.4,baz=288,slow=43
NWAO Narrogin (SRO) 46.42 153 P **P 20 39 26.4 -0.3**
NWAO pmax pmax
comp=Z,15nm,0.7s
NWAO Narrogin (SRO) 46.42 153 P **P 20 39 26.4 -0.3**
comp=Z,14nm,0.7s,mb5.0,baz=308,slow=8.4,SNR=8.1
NVS Novosibirsk 47.41 352 *i* P **P 20 39 32.6 -1.6**
MDJ Mudanjiang 47.72 34 P **P 20 39 36.8 0.0**
MDJ AMB AMB
comp=Z,15nm,1.4s,mb4.8
WRA Warramunga Arr 48.52 126 P **P 20 39 42.6 -0.8**
WRA pmax pmax
comp=Z,5.0nm,0.8s
WRA Warramunga Arr 48.52 126 P **P 20 39 42.6 -0.7**
comp=Z,5.1nm,0.8s,mb4.6,baz=305,slow=9.1,SNR=9.5
WRAB Tennant Creek 48.53 126 *e*P **P 20 39 42.2 -1.2**
WRAB pmax pmax
comp=Z,37nm,1.4s,mb5.2
WRAB Tennant Creek 48.53 126 *e*P **P 20 39 42.2 -1.2**
comp=Z,37nm,1.4s,mb5.2
BVAR Borovoye Array 48.73 341 P **P 20 39 43.9 -0.6**
comp=Z,5.6nm,0.9s,mb4.6,baz=153,slow=6.6,SNR=8.7
BRVK Borovoye 48.79 341 *e*P **P 20 39 42.8 -2.2**
BRVK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BRVK Borovoye 48.79 341 *e*P **P 20 39 42.8 -2.1**
comp=Z,6.2nm,0.9s,mb4.6
CHKZ Chkalovo 49.21 342 *e*P **P 20 39 47.3 -0.9**
CHKZ pmax pmax
comp=Z,21nm,0.9s,mb5.2
CHKZ Chkalovo 49.21 342 *e*P **P 20 39 47.3 -0.9**
comp=Z,22nm,0.9s,mb5.2
ASAR Alice Springs 50.18 130 P **P 20 39 57.7 +1.6**
comp=Z,6.3nm,1.0s,mb4.6,baz=301,slow=7.0,SNR=12
GNI Garni 54.16 314 P **P 20 40 25.6 0.0**
GNI pmax pmax
comp=Z,3.0nm,0.7s
GNI Garni 54.16 314 P **P 20 40 25.6 0.0**
comp=Z,3.0nm,0.7s,mb4.3,baz=130,slow=7.9,SNR=2.5
SVE Sverdlovsk 55.14 338 *e*P **P 20 40 29.5 -3.1**
SVE MLR MLR
comp=N,100nm,23.0s,MS4.5
SVE MLR MLR
comp=E,500nm,23.0s,MS4.5
SVE MLR MLR
comp=Z,1μm,23.0s,MS4.8
ARU Arti 55.62 337⇑ *i*P **P 20 40 30.7 -5.4**
ARU *e* 20 41 30.6
ARU *e*S **S 20 48 10.9 -8.6**
ARU *e*SS SS 20 52 06.6 +1.8
ARU pmax pmax
comp=Z,20nm,1.3s,mb5.0
PMG Port Moresby 55.76 107 P **P 20 40 38.8 +1.2**
PMG pmax pmax
comp=Z,12nm,0.8s
PMG Port Moresby 55.76 107 P **P 20 40 38.8 +1.1**
comp=Z,12nm,0.8s,mb5.0,baz=284,slow=5.2,SNR=5.4
KIV Kislovodsk 57.04 318 *e*P **P 20 40 48.2 +1.7**
KIV pmax pmax
comp=Z,17nm,1.0s,mb5.0
KIV pmax pmax
comp=N,11nm,0.9s
KMBO Kilima Mbogo 57.28 263 P **P 20 40 51.1 +2.5**
KMBO pmax pmax
comp=Z,4.0nm,0.7s
KMBO MLR MLR
comp=Z,511nm,19.1s
KMBO Kilima Mbogo 57.28 263 P **P 20 40 51.1 +2.5**
comp=Z,3.5nm,0.7s,mb4.5,baz=60,slow=12,SNR=9.3
KMBO LR LR 21 03 10.1
comp=Z,511nm,19.1s,MS4.7,baz=287,slow=34
ASF Jabal al Asfar 57.96 303 P **P 20 40 54.7 +1.7**
comp=Z,2.5nm,0.9s,mb4.3,baz=309,slow=11,SNR=3.9
ASF LR LR 21 08 46.4
comp=Z,379nm,19.8s,MS4.5,baz=144,slow=39
CTA Charters Tower 58.56 119 LR LR 21 07 01.9
comp=Z,300nm,20.7s,MS4.4,baz=292,slow=37
STKA Stephens Creek 60.38 134 P **P 20 41 11.9 +2.1**
comp=Z,7.7nm,1.1s,mb4.7,baz=291,slow=8.5,SNR=5.2
BRTR Keskin Array B 62.16 311 P **P 20 41 20.2 -1.6**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 62.16 311 P **P 20 41 20.1 -1.6**
comp=Z,2.5nm,0.8s,mb4.4,baz=127,slow=6.2,SNR=7.0
MBAR Mbarara 63.61 265 *e*P **P 20 41 31.1 -0.7**
MBAR pmax pmax
comp=Z,14nm,1.4s,mb4.8
MBAR Mbarara 63.61 265 *e*P **P 20 41 31.1 -0.8**
comp=Z,14nm,1.4s,mb4.8
OBN Obninsk 65.11 328 *e*P **P 20 41 38.1 -2.7**
OBN pmax pmax
comp=Z,29nm,1.1s,mb5.2
AKASG Malin Array Be 67.88 322 P **P 20 41 56.8 -1.8**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 67.88 322 P **P 20 41 56.8 -1.8**
comp=Z,3.7nm,0.7s,mb4.5,baz=88,slow=4.9,SNR=11
LSZ Lusaka 69.18 250 *e*P **P 20 42 06.8 -0.4**
LSZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
LSZ Lusaka 69.18 250 *e*P **P 20 42 06.8 -0.4**
comp=Z,4.8nm,0.9s,mb4.4
JOF Joensuu 70.58 334 *e*p **P 20 42 13.5 -1.4**
KOLS Kolonicke sedl 71.93 319 *e*P **P 20 42 24.7 +1.4**
KOLS *e* pP 20 42 29.9 +1.5
FINES FINESS Array B 72.44 332 P **P 20 42 25.3 -0.8**
FINES pmax pmax
comp=Z,9.0nm,0.8s
FINES FINESS Array B 72.44 332 P **P 20 42 25.2 -0.9**
comp=Z,8.7nm,0.8s,mb4.7,baz=100,slow=12,SNR=11
CRVS Cervenica-Dubn 72.45 319 *e*P **P 20 42 31.0 +4.6**
CRVS *e* pP 20 42 34.9 +3.4
CRVS Cervenica-Dubn 72.45 319 *e* **P 20 42 31.0 +4.6**
CRVS *e*pP pP 20 42 34.9 +3.4
KAF Kangasniemi 72.52 333 *e*p **P 20 42 26.9 +0.3**
comp=Z,16nm,1.0s,mb4.9
KAF Kangasniemi 72.52 333 *e*P **P 20 42 26.9 +0.3**
KAF pmax pmax
comp=Z,16nm,1.0s,mb4.9
VYHS Vyhne 74.13 318 *e*P **P 20 42 37.7 +1.5**
LBTB Lobatse 74.20 241 *e*P **P 20 42 37.5 +0.4**
KEV Kevo 74.58 341 *e*p **P 20 42 27.9 -10**
OKC Ostrava-Krasne 74.72 319 *e*P **P 20 42 41.4 +1.8**
OKC *e*pP pP 20 42 46.4 +1.7
ARCES ARCESS Array B 75.00 340 P **P 20 42 40.7 -0.2**
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 75.00 340 P **P 20 42 40.7 -0.2**
comp=Z,4.0nm,0.7s,mb4.4,baz=106,slow=6.6,SNR=5.6
ARCES ARCESS Array B 75.00 340 P **P 20 42 40.7 -0.2**
MORC Moravsky Berou 75.10 319 *e*P **P 20 42 41.5 -0.3**
MORC pmax pmax
comp=Z,18nm,1.1s,mb4.9
MORC Moravsky Berou 75.10 319 *e*P **P 20 42 41.5 -0.3**
comp=Z,18nm,1.1s,mb4.9
DPC Dobruska-Polom 75.93 320 *e*P **P 20 42 47.2 +0.7**
KSP Ksiaz 75.99 320 *e*P **P 20 42 48.8 +2.0**
UPC Upice 76.14 320 *e*P **P 20 42 49.5 +1.8**
PRU Pruhonice 77.05 319 *e*P **P 20 42 55.0 +2.2**
PRU *e*pP pP 20 42 59.8 +1.8
PVCC Panska Ves 77.06 320 *e*P **P 20 42 55.1 +2.2**
GERES GERESS Array B 77.55 318 P **P 20 42 55.8 +0.2**
GERES pmax pmax
comp=Z,6.0nm,0.8s
GERES GERESS Array B 77.55 318 P **P 20 42 55.8 +0.2**
comp=Z,5.7nm,0.8s,mb4.6,baz=90,slow=4.0,SNR=16
KHC Kasperske Hory 77.64 318 *e*P **P 20 42 55.7 -0.4**
KHC *e*pP pP 20 43 02.9 +1.7
CLL Collm 78.09 321 *e*P **P 20 43 00.0 +1.5**
CLL *i* pP 20 43 04.2 +0.6
CLL Collm 78.09 321 P **P 20 43 00.0 +1.5**
CLL *i* *PP pP 20 43 04.2 +0.6
CLL *e* 20 43 18.0
NKC Novy Kostel 78.41 320 *e*P **P 20 43 02.3 +2.0**
GRA1 Grafenberg Arr 79.19 319 *e*P **P 20 43 07.1 +2.5**
comp=Z,16nm,1.1s,mb4.9
GRA1 *e*pP pP 20 43 11.2 +1.5
GRF Grafenberg Arr 79.19 319 *e*P **P 20 43 07.1 +2.5**
GRF *e**PP pP 20 43 11.2 +1.5
GRF pmax pmax
comp=Z,16nm,1.1s,mb4.9
GRF Grafenberg Arr 79.19 319 *e*P **P 20 43 07.1 +2.5**
GRF *e**PP pP 20 43 11.2 +1.5
GRF pmax pmax
comp=Z,16nm,1.1s,mb4.9
GRF Grafenberg Arr 79.19 319 *e*P **P 20 43 07.1 +2.5**
comp=Z,16nm,1.1s,mb4.9
GRF *e*pP pP 20 43 11.2 +1.5
NB2 NORSAR Subarra 79.46 331 P **P 20 43 03.7 -2.1**
comp=Z,3.9nm,0.7s,mb4.5,baz=95,slow=5.0
NB2 NORSAR Subarra 79.46 331 P **P 20 43 03.7 -2.1**
NB2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
NOA NORSAR Array B 79.46 331 P **P 20 43 06.0 +0.2**
NOA pmax pmax
comp=Z,4.0nm,0.9s
NOA NORSAR Array B 79.46 331 P **P 20 43 06.0 +0.3**
comp=Z,4.3nm,0.9s,mb4.4,baz=101,slow=5.7,SNR=8.4
PGF Pioggiola 80.89 312 *e*P **P 20 43 13.8 0.0**
CDF Champ du Feu 81.82 318 *e*P **P 20 43 17.6 -0.9**
comp=Z,33nm,1.4s,mb4.8
CDF Champ du Feu 81.82 318 *e*P **P 20 43 17.6 -0.9**
CDF pmax pmax
comp=Z,17nm,1.4s,mb4.8
SBF Sospel 81.96 313 *e*P **P 20 43 19.6 +0.3**
LPG La Plagne 82.34 315 *e*P **P 20 43 21.9 +0.6**
comp=Z,25nm,0.9s,mb4.9
LPG La Plagne 82.34 315 *e*P **P 20 43 21.9 +0.6**
LPG pmax pmax
comp=Z,12nm,0.9s,mb4.8
LPL La Plagne 82.36 315 *e*P **P 20 43 22.0 +0.6**
comp=Z,33nm,0.9s,mb5.0
LPL La Plagne 82.36 315 *e*P **P 20 43 22.0 +0.6**
LPL pmax pmax
comp=Z,17nm,0.9s,mb5.0
MBDF Montbardon 82.38 314 *e*P **P 20 43 20.7 -0.8**
comp=Z,19nm,1.0s,mb4.7
MBDF Montbardon 82.38 314 *e*P **P 20 43 20.7 -0.8**
MBDF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
HAU Haudompre 82.46 317 *e*P **P 20 43 21.6 -0.2**
comp=Z,20nm,0.9s,mb4.8
HAU Haudompre 82.46 317 *e*P **P 20 43 21.6 -0.2**
HAU pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CABF La Chapelle 82.73 316 *e*P **P 20 43 21.7 -1.6**
ORIF Oris-en-Rattie 83.00 314 *e*P **P 20 43 23.8 -0.9**
MEZF Maizieres J'vi 83.29 318 *e*P **P 20 43 24.4 -1.7**
GIVF Givet 83.31 320 *e*P **P 20 43 24.5 -1.7**
BAIF Baives 83.71 320 *e*P **P 20 43 26.8 -1.4**
comp=Z,64nm,1.5s,mb5.2
BAIF Baives 83.71 320 *e*P **P 20 43 26.8 -1.4**
BAIF pmax pmax
comp=Z,32nm,1.5s,mb5.2
SMF Signal de Mont 84.27 316 *e*P **P 20 43 31.0 -0.2**
comp=Z,33nm,1.1s,mb5.1
SMF Signal de Mont 84.27 316 *e*P **P 20 43 31.0 -0.2**
SMF pmax pmax
comp=Z,16nm,1.1s,mb5.1
SSF Saint Saulge 84.46 317 *e*P **P 20 43 30.6 -1.5**
AVF Avril sur Loir 84.59 316 *e*P **P 20 43 31.8 -1.0**
comp=Z,55nm,1.5s,mb5.2
AVF Avril sur Loir 84.59 316 *e*P **P 20 43 31.8 -1.0**
AVF pmax pmax
comp=Z,27nm,1.5s,mb5.2
MFF Saint Martin d 87.00 316 *e*P **P 20 43 44.8 +0.1**
comp=Z,71nm,1.5s,mb5.4
MFF Saint Martin d 87.00 316 *e*P **P 20 43 44.8 +0.1**
MFF pmax pmax
comp=Z,36nm,1.5s,mb5.4
ESDC Sonseca Array 90.95 310 P **P 20 44 04.4 +0.9**
comp=Z,1.4nm,0.6s,mb4.5,baz=63,slow=3.3,SNR=4.3
IMA Indian Mountai 91.49 22 *e*P **P 20 44 05.4 0.0**
BORG Borgarnes 93.16 337 LR LR 21 27 46.6
comp=Z,450nm,19.0s,MS4.9,baz=69,slow=36
ILAR Eielson Array 94.61 22 P **P 20 44 19.2 -0.5**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.61 22 P **P 20 44 19.1 -0.6**
comp=Z,0.5nm,0.8s,mb4.0,baz=289,slow=5.2,SNR=4.3
INK Inuvik 96.83 16 P **P 20 44 29.8 0.0**
INK pmax pmax
comp=Z,4.0nm,1.2s
INK Inuvik 96.83 16 P **P 20 44 29.8 0.0**
comp=Z,3.7nm,1.2s,mb4.7,baz=302,slow=5.9,SNR=4.2
YKA Yellowknife Ar 106.25 13 PP PP 20 49 32.3 -6.8
comp=Z,0.4nm,0.9s,baz=333,slow=6.9,SNR=3.6
YKA PKKPbc 21 00 49.4
comp=Z,0.3nm,0.7s,baz=153,slow=2.6,SNR=7.3
YKA PKKPab 21 01 05.8
comp=Z,0.4nm,0.8s,baz=149,slow=3.9,SNR=7.8
NVAR Mina Array Bea 124.82 31 PKP PKPdf 20 50 00.9 -1.4
comp=Z,0.8nm,0.7s,baz=315,slow=1.3,SNR=4.8
PDAR Pinedale Array 125.03 21 PKP PKPdf 20 49 59.5 -3.0
comp=Z,1.2nm,0.8s,baz=90,slow=3.0,SNR=7.0
PLCA Paso Flores 144.69 201 PKIKP PKPdf 20 50 37.5 -1.4
PLCA pmax pmax
comp=Z,13nm,0.9s
PLCA Paso Flores 144.69 201 PKP PKPdf 20 50 37.5 -1.3
comp=Z,13nm,0.9s,baz=184,slow=2.5,SNR=14
LPAZ La Paz 160.71 243 PKP PKPdf 20 50 16.4 -46
comp=Z,0.5nm,0.5s,baz=73,slow=4.6,SNR=3.3
LPAZ PKPab PKPab 20 51 04.4 -39
comp=Z,2.0nm,1.0s,baz=99,slow=9.6,SNR=4.3

*ATH **27** 20:36:25.4, 38.96N×25.69E, h28km±4km, MD3.2/8, ML3.3*
*CSEM **27** 20:36:25.5±0.1, 38.87N×25.71E, h25km, ML3.3, Error ellipse: s-maj=3.0km s-min=2.5km az=36.0*
*ISK **27** 20:36:25.9, 38.88N×25.66E, h43km, MD3.4*
*NEIC **27** 20:36:25.4, 38.96N×25.69E, h28km, ML3.4(ISK), ML3.3(ATH), After ATH.*
ISC 27 20:36:25.7±0.8, 38.89N±0.04×25.65E±0.04, h28km±9km, n39, σ0§86/48, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.60**	**53**	*e*PN	**Pn**	**20 36 36.5**	**-1.9**
AYVA	**Ayvalik**	**0.91**	**62**	*i* P	**Pb**	**20 36 42.2**	**-0.7**
AYVA				*i* S	**Sb**	**20 36 56.1**	**+1.4**
BOZC	**Bozcaada**	**1.00**	**18**	*i* P	**Pn**	**20 36 43.4**	**-0.7**
BOZC				*i* S	**Sb**	**20 37 01.5**	**+4.2**
LIA	**Limnos Island**	**1.07**	**340**	*e*PN	**Pn**	**20 36 45.4**	**+0.3**
LIA				*e*SN	**Sn**	**20 37 00.3**	**+1.1**
EZN	**Ezine**	**1.07**	**29**	*i* PN	**Pn**	**20 36 45.0**	**-0.1**
EZN				*i* SN	**Sn**	**20 36 59.5**	**+0.3**
BLCB	**Balcova**	**1.20**	**114**	PN	**Pn**	**20 36 47.6**	**+0.7**
BLCB				SN	**Sn**	**20 37 01.9**	**-0.5**
BLCB	**Balcova**	**1.20**	**114**	Pn	**Pn**	**20 36 46.0**	**-0.9**
BLCB	**Balcova**	**1.20**	**114**	Pn	**Pn**	**20 36 46.0**	**-0.9**
BLCB				*e*Sn	**Sn**	**20 37 01.9**	**-0.5**
IZM	**Izmir**	**1.35**	**111**	PN	**Pn**	**20 36 48.5**	**-0.6**
IZM	**Izmir**	**1.35**	**111**	Pn	**Pn**	**20 36 48.6**	**-0.5**
KDAG	**Bornova**	**1.36**	**110**	*i* P	**Pn**	**20 36 48.8**	**-0.4**
KDAG				*i* S	**Sn**	**20 37 09.3**	**+3.0**
SMG	**Samos**	**1.50**	**141**	*e*PN	**Pn**	**20 36 53.0**	**+1.7**
CANB	**Canakkale**	**1.57**	**44**	*e*PN	**Pn**	**20 36 52.8**	**+0.5**
MPAR	**Parnis Oros**	**1.67**	**245**	*e*PB	**Pb**	**20 36 55.0**	**-0.7**
AKS	**Akhisar**	**1.69**	**90**	*e*PN	**Pn**	**20 36 53.9**	**0.0**
AKS	**Akhisar**	**1.69**	**90**	Pn	**Pn**	**20 36 53.9**	**0.0**
ATH	**Athens Observa**	**1.77**	**240**	*e*PB	**Pb**	**20 36 58.0**	**+0.6**
BALB	**Balikesir**	**1.89**	**66**	*e*PN	**Pn**	**20 36 56.9**	**+0.1**
BALB	**Balikesir**	**1.89**	**66**	Pn	**Pn**	**20 36 56.9**	**+0.1**
NEO	**Neokhori**	**1.93**	**283**	*e*PN	**Pn**	**20 36 57.0**	**-0.4**
BTOK	**Tokmak**	**2.04**	**64**	P	**Pn**	**20 37 05.5**	**+6.5**
BTOK				*e*S	**Sn**	**20 37 31.4**	**+7.6**
MGER	**Gerania Oros**	**2.08**	**245**	*e*PN	**Pn**	**20 37 00.0**	**+0.5**
SART	**Tekirdag**	**2.15**	**33**	P	**Pn**	**20 37 04.3**	**+3.8**
EDC	**Edincik**	**2.25**	**49**	*e*PN	**Pn**	**20 37 01.3**	**-0.6**
EDC	**Edincik**	**2.25**	**49**	Pn	**Pn**	**20 37 01.4**	**-0.6**
EDC	**Edincik**	**2.25**	**49**	Pn	**Pn**	**20 37 01.4**	**-0.5**
RDO	**Rodhopi**	**2.26**	**358**	*e*PN	**Pn**	**20 37 01.6**	**-0.5**
MFT	**Murefte**	**2.28**	**33**	*e*PN	**Pn**	**20 37 02.8**	**+0.5**
MFT	**Murefte**	**2.28**	**33**	Pn	**Pn**	**20 37 02.9**	**+0.5**
MRMT	**Marmara Adasi**	**2.28**	**41**	*e*PN	**Pn**	**20 37 02.3**	**-0.1**
MRMT	**Marmara Adasi**	**2.28**	**41**	Pn	**Pn**	**20 37 02.4**	**0.0**
BNT	**Bandirma**	**2.29**	**49**	*e*PN	**Pn**	**20 37 02.0**	**-0.5**
DST	**Dursunbey**	**2.42**	**72**	*e*PN	**Pn**	**20 37 03.3**	**-1.1**
DST	**Dursunbey**	**2.42**	**72**	Pn	**Pn**	**20 37 03.4**	**-1.1**
KCT	**Karacabey**	**2.50**	**56**	*e*PN	**Pn**	**20 37 05.3**	**-0.3**
KCT	**Karacabey**	**2.50**	**56**	Pn	**Pn**	**20 37 05.3**	**-0.3**
ORLT	**Orhaneli**	**2.77**	**64**	*e*PN	**Pn**	**20 37 09.3**	**0.0**
ORLT	**Orhaneli**	**2.77**	**64**	Pn	**Pn**	**20 37 09.4**	**0.0**
ULDT	**Uludag**	**2.98**	**64**	P	**Pn**	**20 37 13.2**	**+0.9**
ULDT				S	**Sn**	**20 38 00.9**	**+13**

*IDC **27** 20:36:40.8±1.4, 7.60N×94.08E, mb3.7/5, mb1 4.0/6, mb1mx3.7/17, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=49.0km s-min=27.6km az=62.0*
*NEIC **27** 20:36:44.9±0.8, 7.60N×94.14E, h30km, mb4.0/1, Error ellipse: s-maj=24.5km s-min=14.3km az=71.0*
ISC 27 20:36:44.2±1.1, 7.7N±0.1×94.3E±0.2, h33km, n10, σ0§66/9, mb3.7/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.60**	**23**	Pn	**P**	**20 39 30.3**	**-0.2**
	0.1nm,0.3s,baz=212,slow=14,SNR=4.4						
SONM	**Songino Array**	**41.29**	**12**	P	**P**	**20 44 28.8**	**+0.7**
	0.6nm,0.9s,mb3.2,baz=196,slow=10,SNR=3.2						
ZAL	**Zalesovo**	**46.72**	**352**	P	**P**	**20 45 12.1**	**+0.3**
	1.7nm,1.0s,mb4.0,baz=293,slow=9.7,SNR=4.5						
ZAL	**Zalesovo**	**46.72**	**352**	P	**P**	**20 45 12.1**	**+0.3**
WRA	**Warramunga Arr**	**48.05**	**126**	P	**P**	**20 45 23.3**	**+0.5**
	0.9nm,1.1s,mb3.7,baz=305,slow=8.4,SNR=3.3						
WRAB	**Tennant Creek**	**48.06**	**125**	P	**P**	**20 45 22.1**	**-0.7**
CHKZ	**Chkalovo**	**49.67**	**342**	*e*P	**P**	**20 45 33.5**	**-1.3**
	1.1nm,0.6s,mb4.1						
FINES	**FINESS Array B**	**72.92**	**332**	P	**P**	**20 48 12.4**	**+0.7**
	1.0nm,0.8s,mb3.8,baz=97,slow=11,SNR=3.5						
GERES	**GERESS Array B**	**78.04**	**318**	P	**P**	**20 48 41.2**	**0.0**
	0.7nm,0.8s,mb3.6,baz=117,slow=3.0,SNR=3.7						
PLCA	**Paso Flores**	**144.45**	**200**	PKP	PKPdf	20 56 17.1	-0.3
	2.6nm,1.1s,baz=186,slow=10,SNR=3.4						

*NEIC **27** 20:40:10.1±1.0, 7.66N×93.97E, h30km, mb4.1/2, Error ellipse: s-maj=26.0km s-min=16.8km az=72.0*
*IDC **27** 20:40:14.2±11.0, 7.93N×94.00E, h50km±80km, mb3.3/3, mb1 3.6/4, mb1mx3.3/17, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=110.2km s-min=75.3km az=172.0*
ISC 27 20:40:08.5±1.3, 7.7N±0.2×94.1E±0.2, h30km, n7, σ0§70/7, mb3.8/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.68**	**23**	P	**P**	**20 42 56.2**	**-0.2**
	0.1nm,0.3s,baz=214,slow=14,SNR=4.7						
LSA	**Lhasa**	**22.05**	**353**	*e*P	**P**	**20 45 03.7**	**+1.1**
	6.0nm,0.6s,mb4.2						
SONM	**Songino Array**	**41.33**	**13**	P	**P**	**20 47 53.2**	**-0.1**
	0.4nm,0.7s,mb3.2,baz=200,slow=7.1,SNR=3.6						
SONM				PcP	PcP	20 49 52.3	+0.4
	0.6nm,1.0s,baz=180,slow=1.4,SNR=3.3						
ZAL	**Zalesovo**	**46.70**	**352**	P	**P**	**20 48 36.5**	**+0.1**
	1.0nm,0.9s,mb3.7,baz=326,slow=6.8,SNR=3.3						
WRAB	**Tennant Creek**	**48.22**	**125**	P	**P**	**20 48 48.9**	**+0.1**
CHKZ	**Chkalovo**	**49.61**	**342**	*e*P	**P**	**20 48 57.7**	**-1.4**
	1.4nm,0.7s,mb4.1						
GERES	**GERESS Array B**	**77.91**	**318**	P	**P**	**20 52 05.6**	**+0.3**
	0.5nm,0.6s,mb3.6,baz=90,slow=5.3,SNR=4.0						

IDC 27 20:41:59.1±4.3, 30.34S×178.58W, mb3.6/2, mb1 3.9/2, mb1mx3.7/12, mbtmp3.6/2, Error ellipse: s-maj=215.5km s-min=68.7km az=166.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.62**	**267**	P	P	20 49 56.9	-2.0
	0.3nm,0.5s,baz=109,slow=7.6,SNR=5.8						
WRA	**Warramunga Arr**	**43.60**	**272**	P	P	20 50 05.6	-1.3
	0.5nm,0.3s,baz=112,slow=7.9,SNR=11						
FINES	**FINESS Array B**	**144.91**	**340**	PKP	PKPdf	21 01 36.7	-2.6
	0.9nm,0.7s,baz=66,slow=4.9,SNR=6.0						

*BJI **27** 20:42:53.1, 7.29N×93.69E, h30km, mb4.4*
*IDC **27** 20:42:57.6±0.9, 8.18N×93.66E, mb4.0/12, mb1 4.2/13, mb1mx4.1/18, mbtmp4.0/13, ML4.0/1, Error ellipse: s-maj=38.3km s-min=17.3km az=53.0*
*NEIC **27** 20:43:02.5±0.6, 8.22N×93.71E, h30km, mb4.4/5, Error ellipse: s-maj=15.8km s-min=10.0km az=67.0*
ISC 27 20:43:01.4±5.3, 8.3N±0.2×93.9E±0.2, h34km±44km, n27, σ1§05/27, mb4.2/19, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.28**	**25**	P	**P**	**20 45 41.9**	**-1.4**
	4.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**11.28**	**25**	Pn	**P**	**20 45 41.7**	**-1.6**
	0.3nm,0.3s,baz=212,slow=14,SNR=12						
KMI	**Kunming**	**18.79**	**26**	⇑P	**P**	**20 47 23.8**	**+3.2**
	14nm,1.2s						
JIRN	**Jiri**	**20.63**	**340**	*e*P	**P**	**20 47 42.2**	**+1.6**
	12nm,0.5s						
PKI	**Pulchoki**	**20.82**	**338**	*e*P	**P**	**20 47 43.5**	**+0.9**
	31nm,0.6s						
DMN	**Daman**	**20.97**	**338**	*e*P	**P**	**20 47 44.4**	**+0.3**
	26nm,0.7s						
KKN	**Kakani**	**21.07**	**338**	*e*P	**P**	**20 47 45.3**	**+0.2**
	7.4nm,0.5s,mb4.3						
LSA	**Lhasa**	**21.49**	**354**	*e*P	**P**	**20 47 49.8**	**+0.5**
	21nm,0.8s,mb4.5						
GKN	**Gorkha**	**21.50**	**337**	*e*P	**P**	**20 47 50.7**	**+1.3**
	28nm,0.5s,mb4.9						
KOLN	**Koldanda**	**21.71**	**335**	*e*P	**P**	**20 47 53.2**	**+1.7**
	38nm,0.9s,mb4.8						
AAK	**Ala-Archa**	**38.26**	**337**	*e*P	**P**	**20 50 19.4**	**-0.8**
	1.5nm,0.6s,mb3.9						
SONM	**Songino Array**	**40.86**	**13**	P	**P**	**20 50 41.9**	**+0.2**
	1.3nm,0.8s,mb3.6,baz=196,slow=8.2,SNR=9.0						
KURK	**Kurchatov**	**44.19**	**346**	*e*P	**P**	**20 51 08.3**	**-0.5**
	5.7nm,0.9s,mb4.3						
ZAL	**Zalesovo**	**46.15**	**353**	P	**P**	**20 51 24.9**	**+0.5**
	2.0nm,0.6s,mb4.3,baz=291,slow=6.9,SNR=9.4						
BVAR	**Borovoye Array**	**48.55**	**341**	P	**P**	**20 51 42.9**	**-0.3**
	0.6nm,0.5s,mb3.9,baz=149,slow=8.6,SNR=6.5						
WRA	**Warramunga Arr**	**48.69**	**126**	P	**P**	**20 51 45.0**	**+0.3**
	0.7nm,0.7s,mb3.8,baz=303,slow=9.1,SNR=5.7						

WRAB Tennant Creek 48.70 126 P P 20 51 45.8 +1.0
CHKZ Chkalovo 49.04 342 *e*P **P 20 51 46.2 -0.8**
3.7nm,0.6s,mb4.6
ASAR Alice Springs 50.35 130 P **P 20 51 57.0 -0.5**
1.1nm,0.8s,mb3.9,baz=307,slow=8.0,SNR=6.2
STKA Stephens Creek 60.55 134 P **P 20 53 11.6 +0.6**
2.0nm,0.8s,mb4.3,baz=283,slow=18,SNR=3.5
BRTR Keskin Array B 61.99 311 P **P 20 53 18.9 -1.8**
1.2nm,0.8s,mb4.0,baz=132,slow=9.0,SNR=4.9
AKASG Malin Array Be 67.70 322 P **P 20 53 55.6 -1.7**
1.2nm,0.6s,mb4.1,baz=90,slow=4.9,SNR=4.0
FINES FINESS Array B 72.26 332 P **P 20 54 24.5 -0.4**
2.2nm,0.6s,mb4.2,baz=105,slow=7.7,SNR=6.9
FINES FINESS Array B 72.26 332 P **P 20 54 24.5 -0.4**
ARCES ARCESS Array B 74.83 340 P **P 20 54 39.8 0.0**
3.8nm,1.1s,mb4.2,baz=83,slow=2.7,SNR=5.2
GERES GERESS Array B 77.38 318 P **P 20 54 54.9 +0.2**
1.7nm,0.6s,mb4.1,baz=87,slow=5.0,SNR=12
NOA NORSAR Array B 79.28 331 P **P 20 55 03.7 -1.2**
0.5nm,0.6s,mb3.6,baz=118,slow=3.7,SNR=3.2

NEIC ***27*** *20:44:19.2±0.7, 7.56N×94.00E, h30km, mb4.4/6, Error ellipse: s-maj=20.7km s-min=11.8km az=67.0*
IDC ***27*** *20:44:27.4±6.0, 7.89N×94.48E, h92km±55km, mb3.6/8, mb1 3.8/9, mb1mx3.7/18, mbtmp3.9/9, ML3.7/1, Error ellipse: s-maj=36.8km s-min=18.5km az=50.0*
ISC 27 20:44:14.4±0.8, 7.6N±0.1×94.0E±0.1, h10km, n19, σ0:89/15, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.85**	**23**	P	**P**	**20 47 05.8**	**-0.7**
0.2nm,0.3s,baz=211,slow=14,SNR=4.2							
CMAR	**Chiang Mai Arr**	**11.85**	**23**	P	**P**	**20 47 05.8**	**-0.7**
KMI	**Kunming**	**19.35**	**24**	P	**P**	**20 48 45.0**	**+2.1**
15nm,1.1s							
LSA	**Lhasa**	**22.20**	**353**	*e*P	**P**	**20 49 12.1**	**-0.5**
AAK	**Ala-Archa**	**38.95**	**337**	*e*P	**P**	**20 51 43.0**	**+0.6**
2.6nm,0.7s,mb4.1							
SONM	**Songino Array**	**41.50**	**13**	P	**P**	**20 52 03.0**	**-0.3**
1.0nm,0.8s,mb3.5,baz=200,slow=7.4,SNR=3.9							
KURK	**Kurchatov**	**44.89**	**346**	P	**P**	**20 52 30.9**	**-0.1**
5.0nm,0.9s,mb4.3							
ZAL	**Zalesovo**	**46.85**	**353**	P	**P**	**20 52 45.8**	**-0.6**
1.6nm,0.6s,mb4.2,baz=312,slow=9.7,SNR=4.8							
WRA	**Warramunga Arr**	**48.16**	**125**	P	**P**	**20 52 57.5**	**+0.4**
0.7nm,0.7s,mb3.8,baz=305,slow=8.6,SNR=3.4							
WRAB	**Tennant Creek**	**48.17**	**125**	P	**P**	**20 52 56.8**	**-0.4**
BVAR	**Borovoye Array**	**49.26**	**341**	P	**P**	**20 53 05.8**	**+0.7**
2.2nm,1.1s,mb4.1,baz=158,slow=7.8,SNR=3.5							
CHKZ	**Chkalovo**	**49.74**	**342**	*e*P	**P**	**20 53 06.4**	**-2.4**
5.6nm,0.9s,mb4.6							
ASAR	**Alice Springs**	**49.80**	**130**	P	**P**	**20 53 09.4**	**-0.2**
0.9nm,0.7s,mb3.9,baz=306,slow=7.8,SNR=4.0							
KMBO	**Kilima Mbogo**	**57.28**	**264**	P	pP	20 54 11.1	+2.9
2.1nm,1.0s,baz=63,slow=11,SNR=3.6							
BRTR	**Keskin Array B**	**62.55**	**311**	P	**P**	**20 54 41.5**	**+0.5**
0.8nm,0.5s,mb4.1,baz=107,slow=7.5,SNR=3.4							
GERES	**GERESS Array B**	**77.99**	**318**	P	**P**	**20 56 15.1**	**+0.5**
1.4nm,0.8s,mb4.0,baz=90,slow=4.0,SNR=4.9							
GRA1	**Grafenberg Arr**	**79.64**	**319**	*e*P	pP	20 56 27.7	+0.9
5.0nm,1.0s							
GRF	**Grafenberg Arr**	**79.64**	**319**	*e*P	pP	20 56 27.7	+0.9
5.0nm,1.0s							
PLCA	**Paso Flores**	**144.21**	**200**	PKP	PKPdf	21 03 53.0	-0.9
2.1nm,0.8s,baz=192,slow=4.6,SNR=3.1							

BJI ***27*** *20:45:06.2, 7.01N×93.78E, h16km, mB5.4, mb4.7, Ms4.9, Msz4.4*
IDC ***27*** *20:45:12.8±0.5, 7.93N×94.10E, mb4.8/22, mb1 4.8/23, mb1mx4.8/25, mbtmp4.7/23, ML4.1/1, Error ellipse: s-maj=29.3km s-min=11.3km az=47.0*
HRVD ***27*** *20:45:15.2±0.8, 7.89N×94.19E, h15km±3km, MW5.0/29, Centroid moment Tensor Solution. LP body waves: s7,c7; Mantle waves: s29,c39; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.39±.40; Mθθ0.57±.21; Mφφ1.82±.25; Mrθ-3.10±1.20; Mφθ1.36±.15; Mφr-0.78±.58; Best double couple: M=4.062×10^16 NP1:φs191°, δ27°, λ-138°. NP2: φs63°, δ72°, λ-69°. Principal axes: T 3.779, Plg24°, Azm137°; N .568, Plg20°, Azm236°; P -4.345, Plg58°, Azm1°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***27*** *20:45:15.2±0.2, 7.93N×94.05E, mb5.2/57, MS4.8/2 Error ellipse: s-maj=6.6km s-min=5.4km az=222.0*
MOS ***27*** *20:45:16.8±1.0, 7.98N×94.07E, h37km, mb5.3/67, Error ellipse: s-maj=9.7km s-min=4.9km az=117.7*
ISC 27 20:45:13.8±0.3, 7.95N±0.04×94.11E±0.04, h17km, h17km±1.0km: pP-P, n267, σ0:95/256, mb5.0/101, MS4.5/4, 12C-15D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.92**	**340**	*e*P	**Pn**	**20 46 12.9**	**-1.8**
PBA				*e*		20 47 12.7	
PBA				*i* SG	**Sn**	**20 47 13.8**	**+13**
CM31	**Chiang Mai Arr**	**11.45**	**24**	*e*P	**P**	**20 48 00.3**	**+0.4**
6.7nm,0.6s							
CMAR	**Chiang Mai Arr**	**11.45**	**24**	Pn	**P**	**20 48 01.2**	**+1.4**
0.4nm,0.3s,baz=209,slow=14,SNR=6.6							
CHG	**Chiang Mai**	**11.78**	**23**	⇓P	**P**	**20 48 13.5**	**+9.3**
22nm,1.0s							
NANT	**Nan**	**12.54**	**30**	P	**P**	**20 48 22.0**	**+7.5**
VIS	**Vishakhapatnam**	**14.30**	**314**	*e*P	**P**	**20 48 38.2**	**+0.3**
VIS				*e*		20 48 50.0	
comp=Z,123nm,0.9s							
VIS				*e*		20 51 04.4	
VIS				*e*		20 51 17.4	
comp=E,24nm,0.5s							
VIS				*e*		20 51 19.5	
comp=N,12nm,0.6s							
KOD	**Kodaikanal**	**16.59**	**279**	*e*P	**P**	**20 49 12.3**	**+4.9**
KOD				*e*		20 49 19.5	
comp=Z,43nm,1.1s							
SHL	**Shillong**	**17.65**	**353**	*e*P	**P**	**20 49 18.8**	**-1.9**
SHL				*e*		20 49 38.1	
comp=Z,1μm,0.3s							
HYB	**Hyderabad**	**17.84**	**303**	*i* P	**P**	**20 49 26.0**	**+2.9**
QIZ	**Qiongzhong**	**18.83**	**53**	P	**P**	**20 49 42.5**	**+7.2**
KMI	**Kunming**	**18.96**	**25**	⇑P	**P**	**20 49 40.9**	**+4.1**
KMI				pmax	pmax		
comp=Z,21nm,1.2s							
KMI	**Kunming**	**18.96**	**25**	⇑P	**P**	**20 49 40.9**	**+4.1**
comp=Z,21nm,1.2s							
JIRN	**Jiri**	**20.99**	**340**	*e*P	**P**	**20 49 58.0**	**-0.8**
comp=Z,705nm,1.5s							
PKI	**Pulchoki**	**21.18**	**338**	*e*P	**P**	**20 49 59.6**	**-1.2**
comp=Z,252nm,0.9s,mb5.5							
GOA	**Goa**	**21.21**	**293**	*e*P	**P**	**20 50 02.9**	**+1.7**
GOA				*e*		20 50 17.8	
comp=Z,62nm,1.3s							
DMN	**Daman**	**21.33**	**338**	*e*P	**P**	**20 50 01.7**	**-0.6**
comp=Z,269nm,0.9s,mb5.6							
KKN	**Kakani**	**21.43**	**338**	*e*P	**P**	**20 50 02.6**	**-0.7**
comp=Z,116nm,0.7s,mb5.3							
KAD	**Karad**	**21.53**	**298**	*e*P	**P**	**20 50 06.4**	**+2.0**
KAD				*e*		20 50 13.4	
comp=Z,60nm,1.1s							
LSA	**Lhasa**	**21.82**	**353**	*e*P	**P**	**20 50 06.9**	**-0.3**
LSA				pmax	pmax		
comp=Z,104nm,0.8s,mb5.3							
LSA	**Lhasa**	**21.82**	**353**	*e*P	**P**	**20 50 06.9**	**-0.3**
comp=Z,104nm,0.8s,mb5.3							
GKN	**Gorkha**	**21.86**	**337**	*e*P	**P**	**20 50 07.7**	**0.0**
comp=Z,142nm,0.6s,mb5.6							
KOLN	**Koldanda**	**22.08**	**335**	*e*P	**P**	**20 50 10.0**	**+0.2**
comp=Z,338nm,1.1s,mb5.7							
BHPL	**Bhopal**	**22.08**	**315**	*e*P	**P**	**20 50 12.3**	**+2.4**
BHPL				*e*		20 50 21.5	
comp=Z,85nm,0.4s							
BOM	**Bombay**	**23.37**	**300**	*e*S	**S**	**20 54 37.4**	**+6.6**
NDI	**New Delhi**	**26.06**	**324**	*e*P	**P**	**20 50 49.0**	**+0.8**
NDI				*e*		20 50 59.3	
comp=Z,106nm,1.6s							
ENH	**Enshi**	**26.47**	**31**	*e*P	**P**	**20 50 51.4**	**-0.7**
comp=Z,38nm,1.0s,mb4.9							
SMLA	**Simla**	**27.97**	**328**	*e*P	**P**	**20 51 05.0**	**-0.7**
SMLA				*e*		20 51 26.4	
comp=Z,35nm,1.4s							
XAN	**Xi'an**	**29.34**	**26**	P	**P**	**20 51 17.8**	**-0.3**
XAN				AP	pP	20 51 22.5	-0.6
XAN				AMB	AMB		
comp=Z,15nm,1.0s,mb4.7							
LZH	**Lanzhou**	**29.39**	**16**	*e*P	**P**	**20 51 19.3**	**+0.9**
LZH				AP	pP	20 51 28.0	+4.5
LZH				XP	sP	20 51 31.0	+5.2
LZH				AMB	AMB		
comp=Z,28nm,1.5s,mb4.8							
LZH				AMB	AMB		
comp=Z,109nm,4.5s							
LZH	**Lanzhou**	**29.39**	**16**	*e*P	**P**	**20 51 19.3**	**+0.9**
LZH				*SP	sP	20 51 31.0	+5.2
LZH				pmax	pmax		
comp=Z,28nm,1.5s,mb4.8							
LZH	**Lanzhou**	**29.39**	**16**	*e*P	**P**	**20 51 19.3**	**+0.9**
comp=Z,28nm,1.5s,mb4.8							
LZH				pP	pP	20 51 28.0	+4.5
LZH				sP	sP	20 51 31.0	+5.2
WHN	**Wuhan**	**29.40**	**37**	⇑P	**P**	**20 51 20.0**	**+1.4**
NJ2	**Nanjing**	**33.23**	**40**	*e*P	**P**	**20 51 53.3**	**+1.0**
NJ2				AP	pP	20 52 03.0	+5.6
NJ2				XP	sP	20 52 07.0	+7.4
NJ2				PP	PP	20 53 05.3	+1.5
NJ2				S	**S**	**20 57 12.0**	**+1.6**
NJ2				XS		20 57 28.0	
NJ2				AMB	AMB		
comp=Z,30nm,0.8s,mb5.3							
NJ2				AMB	AMB		
comp=Z,1μm,3.8s							
NJ2				LR	LR		
comp=N,2μm,21.7s							
NJ2				LR	LR		
comp=E,1μm,13.9s							
NJ2				LR	LR		
comp=Z,1μm,11.4s							
SSE	**Sheshan**	**34.19**	**44**	P	**P**	**20 51 59.0**	**-1.6**
SSE				S	**S**	**20 57 25.5**	**+0.3**
SSE				XS		20 57 42.0	
SSE				AMB	AMB		
comp=Z,25nm,0.7s,mb5.2							
SSE				AMB	AMB		
comp=Z,300nm,12.0s							
SSE				LR	LR		
comp=N,231nm,29.5s,MS3.9							
SSE				LR	LR		
comp=E,250nm,29.5s,MS3.9							
SSE				LR	LR		
comp=Z,152nm,23.4s							
SSE	**Sheshan**	**34.19**	**44**	P	**P**	**20 51 59.1**	**-1.5**
comp=Z,25nm,0.7s,mb5.2							
SSE				S	**S**	**20 57 25.6**	**+0.4**
SSE				sS		20 57 42.1	
SSE				LR	LR		
comp=Z,150nm,23.4s,MS3.6							
WMQ	**Urumqi**	**36.17**	**352**	*e*P	**P**	**20 52 18.5**	**+1.2**
BJT	**Baijiatuan**	**37.53**	**28**	*e*P	**P**	**20 52 29.1**	**+0.3**
BJT				pmax	pmax		
comp=Z,26nm,1.0s							
BJT	**Baijiatuan**	**37.53**	**28**	*e*P	**P**	**20 52 29.1**	**+0.3**
comp=Z,26nm,1.0s,mb4.9							
BJI	**Beijing**	**37.55**	**28**	*e*P	**P**	**20 52 30.7**	**+1.7**
BJI				pmax	pmax		
comp=Z,13nm,1.1s,mb4.6							
BJI	**Beijing**	**37.55**	**28**	*e*P	**P**	**20 52 30.7**	**+1.7**
comp=Z,13nm,1.1s,mb4.6							
UCH	**Uchtor**	**38.27**	**336**	P	**P**	**20 52 36.0**	**+1.0**
SNR=5.7							
KBK	**Karagaybulak**	**38.47**	**337**	P	**P**	**20 52 37.8**	**+1.1**
SNR=6.7							
AML	**Almayashu**	**38.52**	**335**	P	**P**	**20 52 38.3**	**+1.1**
SNR=9.0							
AAK	**Ala-Archa**	**38.62**	**337**	P	**P**	**20 52 39.2**	**+1.2**
SNR=7.6							
AAK	**Ala-Archa**	**38.62**	**337**	P	**P**	**20 52 39.0**	**+1.0**
AAK				pmax	pmax		
comp=Z,28nm,1.1s,mb4.9							
AAK	**Ala-Archa**	**38.62**	**337**	*e*P	**P**	**20 52 36.9**	**-1.1**
comp=Z,27nm,1.1s,mb4.9							
CHMS	**Chumysh**	**38.83**	**337**	P	**P**	**20 52 40.0**	**+0.3**
SNR=7.1							
USP	**Ospenovka**	**39.16**	**337**	P	**P**	**20 52 42.8**	**+0.4**
SNR=7.8							
MKAR	**Makanchi Array**	**40.01**	**347**	*i* P	**P**	**20 52 48.9**	**-0.5**
MKAR				pmax	pmax		
comp=Z,19nm,0.9s							
SONM	**Songino Array**	**41.10**	**13**	P	**P**	**20 52 59.1**	**+0.7**
comp=Z,7.5nm,0.9s,mb4.3,baz=199,slow=6.9,SNR=15							
SONM				PcP	PcP	20 54 58.7	+0.2
comp=Z,3.2nm,0.7s,baz=204,slow=2.7,SNR=9.2							
ULN	**Ulaanbaatar**	**41.27**	**13**	*e*P	**P**	**20 52 59.4**	**-0.4**
ULN				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.3							
ULN	**Ulaanbaatar**	**41.27**	**13**	*e*P	**P**	**20 52 59.4**	**-0.4**
comp=Z,8.5nm,0.9s,mb4.4							
ZAK	**Zakamensk**	**42.98**	**9**	*e*P	**P**	**20 53 13.4**	**-0.4**
TLY	**Talaya**	**44.30**	**8**	*c i*P	**P**	**20 53 25.6**	**+1.1**
TLY				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.2							
KURK	**Kurchatov**	**44.53**	**346**	*i* P	**P**	**20 53 26.3**	**0.0**
KURK				pmax	pmax		
comp=Z,37nm,1.3s,mb5.0							
KURK	**Kurchatov**	**44.53**	**346**	*e*P	**P**	**20 53 25.4**	**-1.0**
comp=Z,50nm,1.1s,mb5.3							
MUN	**Mundaring**	**44.97**	**153**	*e*P	**P**	**20 53 31.7**	**+1.6**
comp=Z,14nm,0.8s,mb4.8							
MUN	**Mundaring**	**44.97**	**153**	*e*P	**P**	**20 53 31.7**	**+1.6**
MUN				pmax	pmax		
comp=Z,14nm,0.8s,mb4.8							
NWAO	**Narrogin (SRO)**	**46.23**	**153**	P	**P**	**20 53 40.7**	**+0.6**
NWAO				pmax	pmax		
comp=Z,17nm,0.8s							
NWAO	**Narrogin (SRO)**	**46.23**	**153**	P	**P**	**20 53 40.7**	**+0.6**
comp=Z,17nm,0.8s,mb5.0,baz=328,slow=9.1,SNR=9.8							
NWAO	**Narrogin (SRO)**	**46.23**	**153**	P	**P**	**20 53 40.7**	**+0.6**
HIA	**Hailar**	**46.47**	**23**	*e*P	**P**	**20 53 41.6**	**-0.1**
HIA				pmax	pmax		
comp=Z,29nm,1.2s							
HIA	**Hailar**	**46.47**	**23**	*e*P	**P**	**20 53 41.6**	**-0.1**
comp=Z,29nm,1.2s,mb5.1							
ZAL	**Zalesovo**	**46.47**	**352**	P	**P**	**20 53 42.0**	**+0.3**
ZAL				pmax	pmax		
comp=Z,6.0nm,0.8s							
ZAL	**Zalesovo**	**46.47**	**352**	P	**P**	**20 53 42.0**	**+0.3**
comp=Z,5.5nm,0.8s,mb4.5,baz=296,slow=9.8,SNR=10							
NVS	**Novosibirsk**	**47.57**	**351**	*e*P	**P**	**20 53 49.0**	**-1.3**
NVS				pmax	pmax		
comp=N,14nm,0.7s							
NVS				pmax	pmax		
comp=Z,20nm,0.7s,mb5.3							
NVS				pmax	pmax		
comp=E,9.0nm,1.1s							
MDJ	**Mudanjiang**	**47.76**	**34**	P	**P**	**20 53 53.5**	**+1.5**
MDJ				AP	pP	20 54 00.3	+3.0
MDJ				XP	sP	20 54 03.0	+3.6
MDJ				PP	PP	20 55 41.0	-2.2
MDJ				AMB	AMB		
comp=Z,11nm,1.4s,mb4.7							
MDJ				AMB	AMB		
comp=Z,133nm,3.4s							
MDJ				LR	LR		
comp=E,930nm,16.2s							
MDJ				LR	LR		
comp=Z,729nm,16.2s,MS4.7							
WRA	**Warramunga Arr**	**48.33**	**126**	P	**P**	**20 53 55.6**	**-1.2**
WRA				pmax	pmax		
comp=Z,8.0nm,0.8s							
WRA	**Warramunga Arr**	**48.33**	**126**	P	**P**	**20 53 55.6**	**-1.2**
comp=Z,7.5nm,0.8s,mb4.8,baz=304,slow=9.2,SNR=21							
WRAB	**Tennant Creek**	**48.33**	**126**	⇓*e*P	**P**	**20 53 55.3**	**-1.5**
BVA0	**Borovoye Array**	**48.91**	**341**	*i* P	**P**	**20 53 59.8**	**-1.0**
BVA0				pmax	pmax		
comp=Z,3.0nm,1.1s,mb4.2							
BVAR	**Borovoye Array**	**48.91**	**341**	P	**P**	**20 54 00.2**	**-0.6**
comp=Z,4.4nm,0.7s,mb4.6,baz=143,slow=7.4,SNR=16							
BVAR				PcP	PcP	20 55 25.5	0.0
comp=Z,4.5nm,0.7s,baz=153,slow=3.3,SNR=7.4							
BRVK	**Borovoye**	**48.97**	**341**	*e*P	**P**	**20 54 00.0**	**-1.2**
BRVK				pmax	pmax		
comp=Z,18nm,1.0s,mb5.1							
BRVK	**Borovoye**	**48.97**	**341**	*e*P	**P**	**20 53 60.0**	**-1.3**
comp=Z,18nm,1.0s,mb5.1							
MAT	**Matsushiro**	**49.13**	**48**	PCP	PcP	20 55 26.0	-0.5
CHKZ	**Chkalovo**	**49.39**	**342**	P	**P**	**20 54 04.1**	**-0.4**
CHKZ				pmax	pmax		
comp=Z,43nm,1.1s,mb5.4							
ASAR	**Alice Springs**	**49.99**	**130**	P	**P**	**20 54 08.2**	**-1.3**
comp=Z,6.2nm,0.8s,mb4.7,baz=308,slow=7.4,SNR=19							
ASAR				PcP	PcP	20 55 29.3	-0.4
comp=Z,2.5nm,0.9s,baz=311,slow=4.2,SNR=5.1							
KLR	**Kul'dur**	**51.84**	**31**	*e*P	**P**	**20 54 19.2**	**-4.0**
BOD	**Bodaibo**	**52.08**	**13**	*e*P	**P**	**20 54 23.7**	**-1.2**
GNI	**Garni**	**54.36**	**314**	P	**P**	**20 54 42.5**	**+0.5**
GNI				pmax	pmax		
comp=Z,3.0nm,0.6s							
GNI	**Garni**	**54.36**	**314**	P	**P**	**20 54 42.5**	**+0.5**
comp=Z,3.3nm,0.6s,mb4.5,baz=34,slow=5.1,SNR=6.6							
TI2	**Plekhanov**	**54.97**	**316**	*e*P	**P**	**20 54 46.4**	**-0.1**
SVE	**Sverdlovsk**	**55.32**	**338**	*e*P	**P**	**20 54 45.0**	**-3.8**
SVE				pmax	pmax		
comp=Z,80nm,1.5s,mb5.5							
PMG	**Port Moresby**	**55.58**	**107**	*d i*P	**P**	**20 54 51.4**	**+0.1**
PMG	**Port Moresby**	**55.58**	**107**	P	**P**	**20 54 51.8**	**+0.5**
comp=Z,40nm,1.0s,mb5.4,baz=294,slow=3.6,SNR=12							
ARU	**Arti**	**55.81**	**337**	⇑*i*P	**P**	**20 54 44.6**	**-7.7**
ARU				*e*S	**S**	**21 02 25.0**	**-12**
ARU				pmax	pmax		
comp=Z,28nm,1.1s,mb5.2							
ERZM	**Erzurum**	**56.70**	**313**	P	**P**	**20 54 59.3**	**+0.4**
YSS	**Yuzh-Sakhalins**	**56.74**	**38**	‖*e*P	**P**	**20 55 00.4**	**+1.2**
YSS				pmax	pmax		
comp=Z,71nm,2.6s,mb5.2							
KIV	**Kislovodsk**	**57.24**	**318**	*e*P	**P**	**20 55 02.6**	**-0.2**
KIV				pmax	pmax		
comp=N,25nm,1.1s							
KIV				pmax	pmax		
comp=E,17nm,1.1s							
KIV				pmax	pmax		
comp=Z,36nm,1.1s,mb5.3							
KIV	**Kislovodsk**	**57.24**	**318**	*e*P	**P**	**20 55 01.5**	**-1.2**
comp=Z,37nm,1.1s,mb5.3							
KMBO	**Kilima Mbogo**	**57.40**	**264**	P	**P**	**20 55 07.2**	**+2.9**
comp=Z,13nm,0.8s,mb5.0,baz=58,slow=10,SNR=21							
KMBO	**Kilima Mbogo**	**57.40**	**264**	P	**P**	**20 55 07.2**	**+2.9**
KMBO				LR	LR		
comp=Z,505nm,20.0s,MS4.6							
ELZG	**Elazig**	**58.02**	**311**	P	**P**	**20 55 08.0**	**-0.3**
ASF	**Jabal al Asfar**	**58.15**	**303**	P	**P**	**20 55 10.2**	**+1.0**
comp=Z,7.0nm,0.8s,mb4.7,baz=345,slow=2.1,SNR=10							
CTA	**Charters Tower**	**58.37**	**119**	P	**P**	**20 55 10.2**	**-0.8**
CTA				pmax	pmax		
comp=Z,3.0nm,0.9s							
CTA	**Charters Tower**	**58.37**	**119**	P	**P**	**20 55 10.2**	**-0.8**
comp=Z,2.8nm,0.9s,mb4.3,baz=278,slow=16,SNR=3.1							
MALT	**Malatya**	**58.39**	**310**	*e*P	**P**	**20 55 09.8**	**-1.1**
MALT				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.8							
MALT	**Malatya**	**58.39**	**310**	*e*P	**P**	**20 55 09.8**	**-1.1**
comp=Z,8.8nm,1.0s,mb4.7							
GZT	**Gaziantep**	**58.79**	**309**	P	**P**	**20 55 13.6**	**-0.1**
SOC	**Sochi**	**59.10**	**316**	*e*P	**P**	**20 55 11.8**	**-4.0**
SOC				*e*		20 56 00.1	
SOC				*e*		20 57 22.5	
SOC				*e*PPP	PPP	20 58 49.3	-3.4
SOC				*e*S	**S**	**21 03 18.4**	**-2.0**
SOC				*e*		21 04 52.8	
SOC				*e*SSS	SSS	21 09 37.1	-4.7
SOC				pmax	pmax		
comp=N,37nm,1.0s							
SOC				pmax	pmax		
comp=Z,35nm,1.0s,mb5.3							
SOC				pmax	pmax		
comp=E,38nm,0.9s							
EIL	**Elat**	**59.36**	**300**	*e*P	**P**	**20 55 16.3**	**-1.4**
comp=E,20nm,1.2s,mb5.0							
KAHT	**Ahir Dag**	**59.39**	**309**	P	**P**	**20 55 17.7**	**-0.2**
YAK	**Yakutsk**	**59.93**	**18**	*i* P	**P**	**20 55 20.3**	**-0.9**
YAK				pmax	pmax		
comp=Z,32nm,0.8s,mb5.4							
YAK	**Yakutsk**	**59.93**	**18**	*e*P	**P**	**20 55 20.2**	**-1.0**
comp=Z,53nm,0.9s,mb5.6							
STKA	**Stephens Creek**	**60.18**	**134**	P	**P**	**20 55 22.2**	**-1.1**
comp=Z,8.2nm,1.0s,mb4.7,baz=314,slow=7.1,SNR=9.7							
ANN	**Anapa**	**61.06**	**317**	*e*P	**P**	**20 55 27.4**	**-1.7**
ANN				*i* *PP	pP	20 55 37.8	+3.3
ANN				*e*S	**S**	**21 03 49.2**	**+3.8**
ANN				pmax	pmax		
comp=Z,67nm,1.3s,mb5.6							
BRTR	**Keskin Array B**	**62.36**	**311**	P	**P**	**20 55 36.3**	**-1.7**
BRTR				pmax	pmax		
comp=Z,7.0nm,0.8s							
BRTR	**Keskin Array B**	**62.36**	**311**	P	**P**	**20 55 36.3**	**-1.7**
comp=Z,7.4nm,0.8s,mb4.9,baz=124,slow=7.5,SNR=22							
SIM	**Simferopol'**	**63.35**	**317**	*e*P	**P**	**20 55 42.0**	**-2.4**
SIM				pmax	pmax		
comp=Z,15nm,0.8s,mb5.2							
MBAR	**Mbarara**	**63.74**	**265**	*d i*P	**P**	**20 55 49.1**	**+1.6**
MOS	**Moscow**	**65.00**	**329**	*e*P	**P**	**20 55 54.1**	**-0.9**
MOS				pmax	pmax		
comp=Z,88nm,1.1s,mb5.7							
OBN	**Obninsk**	**65.30**	**328**	*de*P	**P**	**20 55 53.5**	**-3.5**
OBN				*e*		20 56 22.4	
OBN				*e*		20 58 15.7	
OBN				pmax	pmax		
comp=Z,37nm,0.9s,mb5.4							
OBN	**Obninsk**	**65.30**	**328**	*e*P	**P**	**20 55 53.2**	**-3.7**
comp=Z,54nm,1.0s,mb5.5							
MA2	**Magadan**	**66.71**	**28**	*e*P	**P**	**20 56 06.3**	**+0.4**
MA2				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.9							
TIXI	**Tiksi**	**67.17**	**11**	‖*e*P	**P**	**20 56 07.6**	**-1.0**
TIXI				pmax	pmax		
comp=Z,39nm,1.3s,mb5.3							
KIS	**Kishinev**	**67.44**	**318**	*e*P	**P**	**20 56 09.0**	**-1.8**
KIS				*e*		20 56 40.0	
AKASG	**Malin Array Be**	**68.08**	**322**	P	**P**	**20 56 12.9**	**-1.8**
AKASG				pmax	pmax		
comp=Z,9.0nm,0.8s							
AKASG	**Malin Array Be**	**68.08**	**322**	P	**P**	**20 56 12.9**	**-1.8**
comp=Z,9.3nm,0.8s,mb4.9,baz=88,slow=4.8,SNR=24							
IDI	**Anoyia**	**68.50**	**305**	P	**P**	**20 56 17.8**	**+0.

VYHS e pP 20 56 56.9 -0.8
OKC Ostrava-Krasne 74.91 319 eP **P 20 56 56.2 +0.6**
OKC epP pP 20 57 01.3 +0.2
ARCES ARCESS Array B 75.19 340 P **P 20 56 57.2 +0.4**
ARCES pmax pmax
comp=Z,10.0nm,0.7s
ARCES ARCESS Array B 75.19 340 P **P 20 56 57.2 +0.4**
comp=Z,10nm,0.7s,mb4.8,baz=90,slow=6.1,SNR=10
ARCES ARCESS Array B 75.19 340 P **P 20 56 57.2 +0.4**
MORC Moravsky Berou 75.30 319 eP **P 20 56 57.7 -0.1**
MORC pmax pmax
comp=Z,31nm,1.2s,mb5.1
MORC Moravsky Berou 75.30 319 eP **P 20 56 57.7 -0.1**
comp=Z,31nm,1.2s,mb5.1
MORC epP pP 20 57 02.5 -0.8
ZST Bratislava 75.46 318 i P **P 20 56 59.1 +0.3**
ZST epP pP 20 57 04.2 0.0
GKP Gorka Klasztor 75.82 323 eP **P 20 57 00.6 -0.1**
BILL Bilibino 76.03 22⇑ eP **P 20 57 01.8 +0.2**
BILL pmax pmax
comp=Z,13nm,1.4s,mb4.7
DPC Dobruska-Polom 76.13 320 eP **P 20 57 03.3 +0.8**
DPC epP pP 20 57 08.4 +0.4
KSP Ksiaz 76.19 320 eP **P 20 57 03.5 +0.7**
KSP e*PP pP 20 57 08.2 -0.1
KSP Ksiaz 76.19 320 eP **P 20 57 03.5 +0.7**
KSP e pP 20 57 09.4 +1.1
UPC Upice 76.34 320 eP **P 20 57 04.6 +0.9**
UPC epP pP 20 57 09.8 +0.6
ARSA Arzberg 76.46 317⇓ i P **P 20 57 04.9 +0.4**
comp=Z,18nm,1.2s,mb4.9
LJU Ljubljana 77.09 315 eP pP 20 57 13.6 +0.1
PRU Pruhonice 77.25 319 eP **P 20 57 09.6 +0.8**
PRU epP pP 20 57 14.6 +0.3
PVCC Panska Ves 77.26 320 eP **P 20 57 09.7 +0.9**
PVCC epP pP 20 57 15.0 +0.7
BRG Berggiesshubel 77.67 320 i P **P 20 57 11.9 +0.8**
BRG i pP 20 57 16.7 +0.1
BRG pmax pmax
comp=Z,46nm,1.8s,mb5.1
BRG Berggiesshubel 77.67 320 i P **P 20 57 11.9 +0.8**
comp=Z,46nm,1.8s,mb5.1
BRG i pP 20 57 16.7 +0.1
GERES GERESS Array B 77.75 318 P **P 20 57 12.1 +0.5**
GERES pmax pmax
comp=Z,12nm,0.8s
GERES GERESS Array B 77.75 318 P **P 20 57 12.1 +0.5**
comp=Z,12nm,0.8s,mb4.9,baz=90,slow=5.3,SNR=34
KHC Kasperske Hory 77.84 318 eP **P 20 57 12.3 +0.2**
KHC epP pP 20 57 17.7 +0.2
RUE Ruedersdorf 77.85 322 eP **P 20 57 11.9 -0.1**
comp=Z,83nm,1.0s,mb5.6
KBA Koelnbreinsper 77.94 316⇓ i P **P 20 57 12.6 0.0**
comp=Z,14nm,0.9s,mb4.9
KBA Koelnbreinsper 77.94 316⇓ i P **P 20 57 12.6 0.0**
KBA pmax pmax
comp=Z,14nm,0.9s,mb4.9
CLL Collm 78.28 321 i P **P 20 57 14.5 +0.1**
CLL i pP 20 57 18.8 -1.1
CLL pmax pmax
comp=Z,15nm,1.2s,mb4.8
CLL Collm 78.28 321 i P **P 20 57 14.5 +0.1**
comp=Z,15nm,1.2s,mb4.8
CLL i pP 20 57 18.8 -1.1
CLL Collm 78.28 321 P **P 20 57 14.5 +0.1**
comp=Z,logA/T=1.1,mb4.8
CLL i *PP pP 20 57 18.8 -1.1
NKC Novy Kostel 78.61 320 eP **P 20 57 17.2 +1.0**
NKC epP pP 20 57 22.2 +0.5
COP Copenhagen 78.79 325 eP **P 20 57 18.4 +1.3**
COP pmax pmax
comp=Z,33nm,0.9s,mb5.3
COP Copenhagen 78.79 325 eP **P 20 57 18.4 +1.3**
comp=Z,33nm,0.9s,mb5.3
COP Copenhagen 78.79 325 i P **P 20 57 18.4 +1.3**
comp=Z,33nm,0.9s,mb5.3
WTTA Wattenberg 79.11 317⇑ i P **P 20 57 19.0 -0.1**
comp=Z,26nm,1.3s,mb5.0
WTTA Wattenberg 79.11 317⇑ i P **P 20 57 19.0 -0.1**
WTTA pmax pmax
comp=Z,27nm,1.3s,mb5.0
MOX Moxa 79.14 320 eP **P 20 57 17.8 -1.4**
MOX pmax pmax
comp=Z,15nm,1.3s,mb4.8
MOX Moxa 79.14 320 eP **P 20 57 17.8 -1.4**
comp=Z,15nm,1.3s,mb4.8
MOX Moxa 79.14 320 i P **P 20 57 17.8 -1.4**
comp=Z,logA/T=1.1,mb4.8
WATA Walderalm 79.15 317⇑ i P **P 20 57 19.1 -0.2**
comp=Z,28nm,1.4s,mb5.0
WATA Walderalm 79.15 317⇑ i P **P 20 57 19.1 -0.2**
WATA pmax pmax
comp=Z,28nm,1.4s,mb5.0
GRA1 Grafenberg Arr 79.39 319 eP **P 20 57 21.4 +0.9**
comp=Z,23nm,1.0s,mb5.1
GRA1 epP pP 20 57 26.5 +0.5
GRF Grafenberg Arr 79.39 319 eP **P 20 57 21.4 +0.9**
GRF e*PP pP 20 57 26.5 +0.5
GRF pmax pmax
comp=Z,23nm,1.0s,mb5.1
GRF Grafenberg Arr 79.39 319 eP **P 20 57 21.4 +0.9**
GRF e pP 20 57 26.5 +0.5
GRF pmax pmax
comp=Z,23μm,1.0s
GRF Grafenberg Arr 79.39 319 eP **P 20 57 21.4 +0.9**
comp=Z,23nm,1.0s,mb5.1
GRF epP pP 20 57 26.5 +0.5
SQTA Sankt Quirin 79.40 317⇓ i P **P 20 57 20.4 -0.2**
comp=Z,17nm,1.1s,mb4.9
SQTA Sankt Quirin 79.40 317⇓ i P **P 20 57 20.4 -0.2**
SQTA pmax pmax
comp=Z,17nm,1.1s,mb4.9
MOTA Moosalm 79.47 317⇓ i P **P 20 57 20.8 -0.2**
comp=Z,17nm,1.1s,mb4.9
MOTA Moosalm 79.47 317⇓ i P **P 20 57 20.8 -0.2**
MOTA pmax pmax
comp=Z,17nm,1.1s,mb4.9
NB2 NORSAR Subarra 79.65 331 P **P 20 57 21.3 -0.4**
comp=Z,27nm,1.1s,mb5.1,baz=92,slow=5.6
NB2 NORSAR Subarra 79.65 331 P **P 20 57 21.3 -0.4**
baz=92,slow=5.9
NOA NORSAR Array B 79.65 331 P **P 20 57 21.5 -0.2**
NOA pmax pmax
comp=Z,9.0nm,0.8s
NOA NORSAR Array B 79.65 331 P **P 20 57 21.5 -0.2**
comp=Z,8.7nm,0.8s,mb4.7,baz=92,slow=5.5,SNR=14
NOA NORSAR Array B 79.65 331 P **P 20 57 21.5 -0.2**
DAVA Damuels 80.30 317⇑ i P **P 20 57 26.3 +0.8**
comp=Z,24nm,1.1s,mb5.0
MUD Monsted U'grnd 80.63 326⇓ i P **P 20 57 28.0 +1.0**
PGF Pioggiola 81.08 312 eP **P 20 57 29.3 -0.4**
comp=Z,138nm,1.4s,mb5.4
PGF Pioggiola 81.08 312 eP **P 20 57 29.3 -0.4**
PGF pmax pmax
comp=Z,69nm,1.4s,mb5.4
CDF Champ du Feu 82.02 318 eP **P 20 57 33.9 -0.5**
comp=Z,20nm,1.1s,mb4.6
CDF Champ du Feu 82.02 318 eP **P 20 57 33.9 -0.5**
CDF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SBF Sospel 82.16 313 eP **P 20 57 35.0 -0.3**
comp=Z,77nm,1.0s,mb5.3
SBF Sospel 82.16 313 eP **P 20 57 35.0 -0.3**
SBF pmax pmax
comp=Z,39nm,1.0s,mb5.3
HINF Hinteralfeld 82.33 317 eP **P 20 57 35.7 -0.4**
LPG La Plagne 82.54 315 eP **P 20 57 37.5 +0.3**
comp=Z,46nm,0.9s,mb5.2
LPG La Plagne 82.54 315 eP **P 20 57 37.5 +0.3**
LPG pmax pmax
comp=Z,23nm,0.9s,mb5.2
LPL La Plagne 82.56 315 eP **P 20 57 37.5 +0.2**
comp=Z,45nm,0.8s,mb5.2
LPL La Plagne 82.56 315 eP **P 20 57 37.5 +0.2**
LPL pmax pmax
comp=Z,22nm,0.8s,mb5.2
MBDF Montbardon 82.58 314 eP **P 20 57 36.7 -0.7**
comp=Z,12nm,0.7s,mb4.7
MBDF Montbardon 82.58 314 eP **P 20 57 36.7 -0.7**
MBDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
HAU Haudompre 82.66 317 eP **P 20 57 37.3 -0.5**
comp=Z,36nm,0.9s,mb5.1
HAU Haudompre 82.66 317 eP **P 20 57 37.3 -0.5**
HAU pmax pmax
comp=Z,18nm,0.9s,mb5.1
FRF La Foret Royal 82.75 313 eP **P 20 57 38.1 -0.2**
comp=Z,47nm,1.0s,mb5.2
FRF La Foret Royal 82.75 313 eP **P 20 57 38.1 -0.2**
FRF pmax pmax
comp=Z,23nm,1.0s,mb5.2
LMR La Mourre 82.86 313 eP **P 20 57 38.4 -0.5**
CABF La Chapelle 82.93 316 eP **P 20 57 39.3 +0.1**
comp=Z,67nm,1.4s,mb5.2
CABF La Chapelle 82.93 316 eP **P 20 57 39.3 +0.1**
CABF pmax pmax
comp=Z,33nm,1.4s,mb5.2
ORIF Oris-en-Rattie 83.20 314 eP **P 20 57 40.8 +0.2**
comp=Z,32nm,1.1s,mb5.0
ORIF Oris-en-Rattie 83.20 314 eP **P 20 57 40.8 +0.2**
ORIF pmax pmax
comp=Z,16nm,1.1s,mb5.0
MEZF Maizieres J'vi 83.49 318 eP **P 20 57 42.0 0.0**
SMRF Simiane la Rot 83.49 313 eP **P 20 57 42.6 +0.5**
GIVF Givet 83.51 320 eP **P 20 57 42.1 0.0**
BAIF Baives 83.91 320 eP **P 20 57 44.2 +0.1**
comp=Z,36nm,1.1s,mb5.1
BAIF Baives 83.91 320 eP **P 20 57 44.2 +0.1**
BAIF pmax pmax
comp=Z,18nm,1.1s,mb5.1
VIVF Saint-Julien-l 84.06 314 eP **P 20 57 44.9 -0.1**
SMF Signal de Mont 84.47 316 eP **P 20 57 46.4 -0.6**
comp=Z,39nm,1.1s,mb5.2
SMF Signal de Mont 84.47 316 eP **P 20 57 46.4 -0.6**
SMF pmax pmax
comp=Z,19nm,1.1s,mb5.1
SSF Saint Saulge 84.66 317 eP **P 20 57 48.0 0.0**
SSF pmax pmax
comp=Z,12nm,1.2s,mb4.9
SSF Saint Saulge 84.66 317 eP **P 20 57 48.0 0.0**
comp=Z,12nm,1.2s,mb4.9
AVF Avril sur Loir 84.79 316 eP **P 20 57 48.3 -0.3**
comp=Z,56nm,1.4s,mb5.2
AVF Avril sur Loir 84.79 316 eP **P 20 57 48.3 -0.3**
AVF pmax pmax
comp=Z,28nm,1.4s,mb5.2
BGF Bois d'Agland 85.16 316 eP **P 20 57 50.5 0.0**
comp=Z,94nm,1.5s,mb5.4
BGF Bois d'Agland 85.16 316 eP **P 20 57 50.5 0.0**
BGF pmax pmax
comp=Z,47nm,1.5s,mb5.4
TCF Toulx Ste Croi 85.63 316 eP **P 20 57 52.9 +0.1**
comp=Z,37nm,1.3s,mb5.1
TCF Toulx Ste Croi 85.63 316 eP **P 20 57 52.9 +0.1**
TCF pmax pmax
comp=Z,18nm,1.3s,mb5.1
MTLF Montolieu 85.98 313 eP **P 20 57 54.7 0.0**
RJF Les Rejaudoux 86.23 315 eP **P 20 57 56.1 +0.2**
comp=Z,79nm,1.6s,mb5.4
RJF Les Rejaudoux 86.23 315 eP **P 20 57 56.1 +0.2**
RJF pmax pmax
comp=Z,40nm,1.6s,mb5.4
LDF La Druitiere 86.89 318 eP **P 20 57 58.9 -0.1**
comp=Z,83nm,1.4s,mb5.5
LDF La Druitiere 86.89 318 eP **P 20 57 58.9 -0.1**
LDF pmax pmax
comp=Z,41nm,1.4s,mb5.5
FLN La Foliniere 87.10 319 eP **P 20 57 59.9 -0.1**
MFF Saint Martin d 87.20 316 eP **P 20 58 00.4 -0.2**
comp=Z,48nm,1.4s,mb5.2
MFF Saint Martin d 87.20 316 eP **P 20 58 00.4 -0.2**
MFF pmax pmax
comp=Z,24nm,1.4s,mb5.2
GRR Gorron 87.41 318 eP **P 20 58 00.3 -1.2**
comp=Z,65nm,1.4s,mb5.4
GRR Gorron 87.41 318 eP **P 20 58 00.3 -1.2**
GRR pmax pmax
comp=Z,32nm,1.4s,mb5.4
ETSF Etsaut 88.06 313 eP **P 20 58 05.2 +0.5**
ESDC Sonseca Array 91.14 310 P **P 20 58 20.5 +1.1**
comp=Z,3.3nm,0.7s,mb4.8,baz=76,slow=4.1,SNR=11
IMA Indian Mountai 91.57 22 eP **P 20 58 22.1 +1.5**
SPU Mount Spurr 94.23 26 eP **P 20 58 33.6 +0.6**
ILAR Eielson Array 94.69 22 P **P 20 58 34.8 -0.2**
ILAR pmax pmax
comp=Z,2.0nm,1.0s
ILAR Eielson Array 94.69 22 P **P 20 58 34.8 -0.2**
comp=Z,1.6nm,0.9s,mb4.4,baz=301,slow=5.0,SNR=11
INK Inuvik 96.93 16 P **P 20 58 46.0 +0.9**
INK pmax pmax
comp=Z,7.0nm,1.1s
INK Inuvik 96.93 16 P **P 20 58 46.0 +0.9**
comp=Z,6.9nm,1.1s,mb5.0,baz=298,slow=6.2,SNR=10
YKA Yellowknife Ar 106.36 13 Pdiff Pdif 20 59 27.6 +0.2
comp=Z,1.0nm,1.2s,baz=326,slow=5.1,SNR=3.6
YKA PP PP 21 03 49.6 -5.3
comp=Z,0.3nm,0.7s,baz=333,slow=7.8,SNR=5.2
YKA PKKP PKKP 21 15 12.9 +7.5
comp=Z,0.5nm,0.8s,baz=144,slow=4.1,SNR=8.1
YKA Yellowknife Ar 106.36 13 Pdif Pdif 20 59 27.6 +0.2
YKA PP PP 21 03 49.6 -5.3
YKA PKKP PKKP 21 15 12.9 +7.5
TBI Tubuai 117.34 112 eLR LR 21 04 03.0
comp=Z,698nm,24.2s
PPT Papeete 117.39 106 eLR LR 21 03 45.4
comp=Z,453nm,24.2s
NVAR Mina Array Bea 124.87 31 PKP PKPdf 21 04 16.3 -1.0
comp=Z,2.6nm,0.7s,baz=349,slow=1.8,SNR=15
PDAR Pinedale Array 125.11 21 PKP PKPdf 21 04 15.7 -2.0
comp=Z,3.1nm,0.7s,baz=354,slow=1.1,SNR=11
MSU Marysvale 127.70 26 ePKIKP PKPdf 21 04 21.5 -1.3
TXAR Lajitas Array 139.17 24 PKP PKPdf 21 04 43.3 -1.2
comp=Z,1.3nm,0.6s,baz=178,slow=0.5,SNR=11
JCT Junction City 139.53 19 ePKIKP PKPdf 21 04 43.2 -1.9
PLCA Paso Flores 144.61 200 PKIKP PKPdf 21 04 51.4 -2.3
PLCA pmax pmax
comp=Z,16nm,0.9s
PLCA Paso Flores 144.61 200 PKP PKPdf 21 04 51.4 -2.3
comp=Z,16nm,0.9s,baz=149,slow=3.3,SNR=20
SDV Santo Domingo 157.40 317 PKPab PKPab 21 05 43.8 0.0
comp=Z,16nm,1.1s,baz=158,slow=1.5,SNR=4.3
LPAZ La Paz 160.77 243 ePKIKP PKPdf 21 05 14.0 -3.4
LPAZ La Paz 160.77 243 PKP PKPdf 21 04 32.4 -45
comp=Z,1.4nm,0.8s,baz=137,slow=1.5,SNR=4.8
LPAZ PKPab PKPab 21 05 14.3 -44
comp=Z,4.6nm,1.1s,baz=234,slow=1.9,SNR=6.4

MOS ***27*** *20:51:10.4±0.9, 8.21N×94.17E, h33km, mb5.1/50, Error ellipse: s-maj=10.2km s-min=5.7km az=118.3*
BJI ***27*** *20:51:10.4, 7.90N×93.88E, h46km, mB5.2, mb4.8, Ms5.1, Msz4.8*
IDC ***27*** *20:51:10.8±0.5, 8.26N×94.21E, h21km±2km, mb4.6/22, mb1 4.7/23, mb1mx4.7/25, mbtmp4.7/23, ML4.9/1, Error ellipse: s-maj=20.4km s-min=9.7km az=50.0*
NEIC ***27*** *20:51:10.9±0.2, 8.18N×94.16E, mb4.9/41, MS4.7/1, Error ellipse: s-maj=6.5km s-min=4.5km az=56.0*
HRVD ***27*** *20:51:10.9±0.3, 8.11N×94.18E, h17km±1km, MW5.2/54, Centroid moment Tensor Solution. LP body waves: s28,c38;Mantle waves: s54,c107; Half duration: 1s0 Moment tensor: Scale 1016Nm; Mrr=1.68±.30; Mθθ=1.80±.24; Mφφ=-0.12±.30; Mrθ=-0.89±.68; Mθφ=8.24±.24; Mφr=0.86±.75; Best double couple: M0=8.423×10^16 NP1: φs=184°, s81°, λ=-172°. NP2:φs=93°, s82°, λ=-9°. Principal axes: T 9.135, Plg0°, Azm138°; N -1.428, Plg78°, Azm231°; P -7.711, Plg12°, Azm48°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 27 20:51:08.9±0.2, 8.13N±0.04×94.18E±0.03, h23km, h23km±.8km:pP-P, n219, σ1s05/208, mb4.9/75, MS4.7/5, 15C-16D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**3.77**	**338**	*i* PG	**Pn**	**20 52 15.1**	**+7.9**
PBA				*i* SG	**Sn**	**20 53 00.5**	**+9.0**
NST	**Nakhon Sawan**	**9.49**	**37**	P	**P**	**20 53 27.0**	**-0.4**
CM31	**Chiang Mai Arr**	**11.26**	**24**	*e*P	**P**	**20 53 50.5**	**-1.2**
33nm,0.8s							
CMAR	**Chiang Mai Arr**	**11.26**	**24**	P	**P**	**20 53 52.6**	**+0.8**
CMAR				pmax	pmax		
comp=Z,2.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**11.26**	**24**	Pn	**P**	**20 53 52.5**	**+0.8**
comp=Z,2.4nm,0.3s,baz=211,slow=14,SNR=38							
CHG	**Chiang Mai**	**11.58**	**23**	⇓P	**P**	**20 53 57.5**	**+1.4**
comp=Z,60nm,0.8s							
KOD	**Kodaikanal**	**16.63**	**278**	*e*P	**P**	**20 55 00.9**	**-1.5**
KOD				*e*		20 55 09.7	
comp=Z,74nm,1.2s							
KOD				*e*S	**S**	**20 58 02.9**	**-2.7**
HYB	**Hyderabad**	**17.80**	**303**	*i* P	**P**	**20 55 17.0**	**-0.1**
comp=Z,70nm,1.0s							
HYB				*e*S	**S**	**20 58 34.0**	**+1.7**
QIZ	**Qiongzhong**	**18.67**	**53**	P	**P**	**20 55 30.0**	**+2.2**
KMI	**Kunming**	**18.77**	**25**	⇓P	**P**	**20 55 32.2**	**+3.2**
KMI				S	**S**	**20 59 00.0**	**+5.8**
KMI				pmax	pmax		
comp=Z,65nm,1.3s							
KMI	**Kunming**	**18.77**	**25**	⇓P	**P**	**20 55 32.2**	**+3.2**
comp=Z,65nm,1.3s							
KMI				pP		20 55 38.2	
KMI				sP		20 55 40.5	
KMI				PP	PP	20 55 48.6	+3.5
KMI				S	**S**	**20 59 00.0**	**+5.8**
KMI				sS		20 59 12.7	
KMI				SS	SS	20 59 28.3	+9.1
NGP	**Nagpur**	**19.51**	**313**	*e*P	**P**	**20 55 37.9**	**+0.2**
COCO	**West Island**	**20.36**	**173**	P	**P**	**20 55 47.9**	**+1.1**
comp=Z,111nm,0.9s							
JIRN	**Jiri**	**20.84**	**340**	*e*P	**P**	**20 55 51.7**	**0.0**
comp=Z,469nm,1.2s							
PKI	**Pulchoki**	**21.04**	**338**	*e*P	**P**	**20 55 53.8**	**+0.1**
comp=Z,130nm,0.7s,mb5.4							
DMN	**Daman**	**21.19**	**337**	*e*P	**P**	**20 55 55.3**	**+0.1**
comp=Z,238nm,0.8s,mb5.5							
GOA	**Goa**	**21.21**	**292**	*e*	**P**	**20 56 03.8**	**+8.3**
GOA				*e*		20 56 05.8	
comp=Z,67nm,1.6s							
KKN	**Kakani**	**21.28**	**338**	*e*P	**P**	**20 55 55.7**	**-0.5**
comp=Z,286nm,1.2s,mb5.5							
LSA	**Lhasa**	**21.64**	**353**	P	**P**	**20 56 00.5**	**+0.7**
LSA	**Lhasa**	**21.64**	**353**	*e*P	**P**	**20 55 58.0**	**-1.8**
LSA				pmax	pmax		
comp=Z,30nm,0.6s,mb4.9							
LSA	**Lhasa**	**21.64**	**353**	*e*P	**P**	**20 55 58.0**	**-1.9**
comp=Z,30nm,0.6s,mb4.9							
GKN	**Gorkha**	**21.72**	**337**	*e*P	**P**	**20 56 00.3**	**-0.3**
comp=Z,174nm,0.6s,mb5.6							
KOLN	**Koldanda**	**21.94**	**334**	*e*P	**P**	**20 56 02.9**	**0.0**
comp=Z,233nm,0.9s,mb5.6							
NDI	**New Delhi**	**25.95**	**324**	*e*P	**P**	**20 56 42.1**	**+0.5**
NDI				*e*		20 56 45.4	
comp=Z,84nm,0.7s							
NDI				*e*S	**S**	**21 01 09.0**	**+0.7**
ENH	**Enshi**	**26.28**	**31**	*e*P	**P**	**20 56 44.6**	**-0.1**
comp=Z,49nm,1.0s,mb5.0							
SMLA	**Simla**	**27.85**	**328**	*e*	**P**	**20 57 03.3**	**+4.4**
SMLA				*e*		20 57 19.8	
comp=Z,46nm,1.7s							
XAN	**Xi'an**	**29.14**	**26**	P	**P**	**20 57 09.5**	**-1.2**
XAN				AMB	AMB		
comp=Z,16nm,1.1s,mb4.7							
LZH	**Lanzhou**	**29.19**	**16**	*e*P	**P**	**20 57 12.0**	**+1.0**
LZH				AP	pP	20 57 22.0	+4.2
LZH				XP	sP	20 57 27.0	+6.2
LZH				AMB	AMB		
comp=Z,29nm,1.6s,mb4.8							
LZH				AMB	AMB		
comp=Z,117nm,4.4s							
LZH				LR	LR		
comp=E,2μm,12.9s							
LZH				LR	LR		
comp=Z,3μm,13.9s,MS5.0							
LZH	**Lanzhou**	**29.19**	**16**	*e*P	**P**	**20 57 12.0**	**+1.0**
comp=Z,29nm,1.6s,mb4.8							
LZH				pP	pP	20 57 22.0	+4.2
LZH				sP	sP	20 57 27.0	+6.2
LZH				LR	LR		
comp=Z,3μm,13.9s,MS5.0							
WHN	**Wuhan**	**29.21**	**38**	⇑P	**P**	**20 57 12.5**	**+1.2**
WHN				AMB	AMB		
comp=Z,50nm,1.0s,mb5.2							
WHN				LR	LR		
comp=Z,2μm,17.4s,MS4.8							
NJ2	**Nanjing**	**33.05**	**41**	*e*P	**P**	**20 57 46.5**	**+1.4**
NJ2				AMB	AMB		
comp=Z,140nm,1.0s,mb5.8							
WMQ	**Urumqi**	**36.00**	**352**	*e*P	**P**	**20 58 11.0**	**+0.8**
WBK	**Wadi Bani Khal**	**36.75**	**297**	⇓P	**P**	**20 58 19.7**	**+2.9**
BJT	**Baijiatuau**	**37.34**	**28**	*e*P	**P**	**20 58 21.7**	**+0.1**
BJT				pmax	pmax		
comp=Z,14nm,0.7s							
BJT	**Baijiatuau**	**37.34**	**28**	*e*P	**P**	**20 58 21.6**	**+0.1**
comp=Z,14nm,0.7s,mb4.9							
BJI	**Beijing**	**37.36**	**28**	P	**P**	**20 58 24.2**	**+2.5**
BJI				pmax	pmax		
comp=Z,22nm,1.0s,mb4.9							
BJI				MLR	MLR		
comp=Z,900nm,23.5s,MS4.5							
BJI	**Beijing**	**37.36**	**28**	P	**P**	**20 58 24.2**	**+2.5**
comp=Z,22nm,1.0s,mb4.9							
BJI				LR	LR		
comp=Z,900nm,23.5s,MS4.5							
SMDO	**Samad**	**37.69**	**297**	⇑P	**P**	**20 58 27.3**	**+2.7**
BIDO	**Bidbid**	**37.76**	**298**	⇓P	**P**	**20 58 27.9**	**+2.7**
UCH	**Uchtor**	**38.13**	**336**	P	**P**	**20 58 29.0**	**+0.8**
SNR=6.0							
KBK	**Karagaybulak**	**38.32**	**337**	P	**P**	**20 58 31.2**	**+1.4**
SNR=9.3							
BSY	**Bisya**	**38.35**	**297**	⇓P	**P**	**20 58 33.2**	**+2.9**
AML	**Almayashu**	**38.38**	**335**	P	**P**	**20 58 30.8**	**+0.5**
SNR=13							
MBWA	**Marble Bar**	**38.44**	**140**	P	**P**	**20 58 30.1**	**-0.9**
AAK	**Ala-Archa**	**38.48**	**336**	P	**P**	**20 58 31.9**	**+0.8**
SNR=7.9							
AAK	**Ala-Archa**	**38.48**	**336**	*e*P	**P**	**20 58 29.7**	**-1.4**
AAK				pmax	pmax		
comp=Z,20nm,1.1s,mb4.8							
AAK	**Ala-Archa**	**38.48**	**336**	*e*P	**P**	**20 58 29.7**	**-1.4**
comp=Z,20nm,1.1s,mb4.8							
HOQ	**Hoqain**	**38.50**	**298**	⇑P	**P**	**20 58 33.9**	**+2.5**
CHMS	**Chumysh**	**38.69**	**337**	P	**P**	**20 58 33.3**	**+0.4**
SNR=5.6							
USP	**Ospenovka**	**39.02**	**337**	P	**P**	**20 58 35.6**	**0.0**
SNR=11							
ARQ	**Araqi**	**39.12**	**297**	⇑P	**P**	**20 58 39.1**	**+2.4**
ABTO	**Aybut**	**40.84**	**287**	⇓P	**P**	**20 58 53.4**	**+2.6**
SONM	**Songino Array**	**40.90**	**13**	P	**P**	**20 58 51.5**	**+0.5**
comp=Z,3.5nm,0.8s,mb4.0,baz=194,slow=9.1,SNR=16							
SONM				PcP	PcP	21 00 52.2	+0.2
comp=Z,2.0nm,0.6s,baz=235,slow=2.7,SNR=4.0							
ULN	**Ulaanbaatar**	**41.08**	**13**	*e*P	**P**	**20 58 52.6**	**+0.1**
ULN				pmax	pmax		
comp=Z,2.0nm,0.8s							
ULN	**Ulaanbaatar**	**41.08**	**13**	*e*P	**P**	**20 58 52.6**	**+0.1**
comp=Z,2.3nm,0.8s,mb3.9							
SNY	**Shenyang**	**42.44**	**33**	⇓P	**P**	**20 59 05.0**	**+1.2**
SNY				AMB	AMB		
comp=Z,20nm,1.1s,mb4.7							
ZAK	**Zakamensk**	**42.79**	**9**	*e*P	**P**	**20 59 05.8**	**-0.8**
TLY	**Talaya**	**44.11**	**8**	*e*P	pP	20 59 23.9	-0.3
TLY				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.2							
TLY				MLR	MLR		
comp=Z,288nm,13.0s,MS4.4							
KURK	**Kurchatov**	**44.37**	**346**	*e*P	**P**	**20 59 18.4**	**-1.0**
KURK				pmax	pmax		
comp=Z,38nm,1.1s,mb5.0							
KURK	**Kurchatov**	**44.37**	**346**	*e*P	**P**	**20 59 18.4**	**-1.0**
comp=Z,38nm,1.1s,mb5.0							
MUN	**Mundaring**	**45.10**	**153**	*e*P	**P**	**20 59 26.3**	**+0.8**
comp=Z,21nm,1.0s,mb4.9							
MUN	**Mundaring**	**45.10**	**153**	*e*P	**P**	**20 59 26.3**	**+0.8**
MUN				pmax	pmax		
comp=Z,21nm,1.0s,mb4.9							
KLBR	**Kellerberrin**	**45.48**	**151**	⇓*i*P	**P**	**20 59 28.9**	**+0.4**
comp=Z,268nm,0.7s							
HIA	**Hailar**	**46.27**	**23**	*e*P	**P**	**20 59 34.4**	**-0.1**
HIA				pmax	pmax		
comp=Z,9.0nm,0.9s							
HIA	**Hailar**	**46.27**	**23**	*e*P	**P**	**20 59 34.4**	**-0.1**
comp=Z,8.9nm,0.9s,mb4.7							
ZAL	**Zalesovo**	**46.30**	**352**	P	**P**	**20 59 34.6**	**0.0**
ZAL				pmax	pmax		
comp=Z,9.0nm,0.9s							
ZAL	**Zalesovo**	**46.30**	**352**	P	**P**	**20 59 34.6**	**0.0**
comp=Z,8.9nm,0.9s,mb4.7,baz=296,slow=8.2,SNR=22							
NWAO	**Narrogin (SRO)**	**46.36**	**153**	P	**P**	**20 59 36.3**	**+0.9**
NWAO				*PP	pP	20 59 44.4	+2.0
NWAO				pmax	pmax		
comp=Z,51nm,1.1s							
NWAO				pmax	pmax		
comp=Z,24nm,0.6s							
NWAO	**Narrogin (SRO)**	**46.36**	**153**	P	**P**	**20 59 36.2**	**+0.8**

comp=Z,51nm,1.1s,mb5.4,baz=317,slow=9.5,SNR=16
NWAO pP pP 20 59 44.4 +2.0
comp=Z,24nm,0.6s,baz=307,slow=9.7,SNR=5.4
NVS Novosibirsk 47.39 351 *i* P **P 20 59 41.8 -1.5**
NVS *i* S **S 21 06 31.8 -3.2**
NVS pmax pmax
comp=N,24nm,1.2s
NVS pmax pmax
comp=E,10.0nm,1.2s
NVS pmax pmax
comp=Z,28nm,1.2s,mb5.1
NVS smax
comp=N,25nm,1.9s
NVS smax
comp=E,16nm,1.9s
MDJ Mudanjiang 47.57 34 P **P 20 59 45.5 +0.6**
MDJ XP sP 20 59 58.8 +4.1
MDJ AMB AMB
comp=Z,15nm,1.5s,mb4.8
MDJ AMB AMB
comp=Z,40nm,3.2s
MDJ Mudanjiang 47.57 34 *e*P **P 20 59 45.0 +0.1**
comp=Z,17nm,1.0s,mb5.0
WRA Warramunga Arr 48.38 126 P **P 20 59 50.7 -0.8**
WRA pmax pmax
comp=Z,13nm,0.8s
WRA Warramunga Arr 48.38 126 P **P 20 59 50.7 -0.7**
comp=Z,12nm,0.8s,mb5.0,baz=306,slow=9.0,SNR=44
WRAB Tennant Creek 48.39 126 *e*P **P 20 59 50.0 -1.5**
WRAB pmax pmax
comp=Z,22nm,0.8s,mb5.2
WRAB Tennant Creek 48.39 126 *e*P **P 20 59 50.0 -1.6**
comp=Z,22nm,0.8s,mb5.2
WB2 Warramunga Arr 48.39 126⇓ *i*P **P 20 59 50.8 -0.8**
BVAR Borovoye Array 48.76 341 P **P 20 59 53.4 -0.5**
comp=Z,4.5nm,0.9s,mb4.5,baz=144,slow=8.8,SNR=9.9
BVAR pP pP 21 00 00.1 -0.8
comp=Z,11nm,1.0s,baz=135,slow=8.2,SNR=11
BVAR PcP PcP 21 01 18.9 -0.1
comp=Z,2.8nm,0.7s,baz=135,slow=4.2,SNR=4.7
BRVK Borovoye 48.82 341 *e*P **P 20 59 52.6 -1.8**
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
BRVK Borovoye 48.82 341 *e*P **P 20 59 52.6 -1.8**
comp=Z,4.1nm,0.7s,mb4.6
MAT Matsushiro 48.96 48 *e*P **P 20 59 56.0 +0.3**
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.7
MAT Matsushiro 48.96 48 P **P 20 59 56.2 +0.5**
RAYN Ar Rayn 49.01 294 P **P 20 59 57.8 +1.5**
comp=Z,140nm,1.6s,mb5.7,SNR=21
CHKZ Chkalovo 49.24 342 *e*P **P 20 59 56.6 -1.0**
CHKZ *e**PP pP 21 00 04.1 -0.6
CHKZ pmax pmax
comp=Z,12nm,0.8s,mb5.0
CHKZ Chkalovo 49.24 342 *e*P **P 20 59 56.6 -1.0**
comp=Z,12nm,0.8s,mb5.0
CHKZ *e*pP pP 21 00 04.1 -0.6
ASPA Alice Springs 50.05 130⇓ *i*P **P 21 00 03.2 -1.1**
ASAR Alice Springs 50.05 130 P **P 21 00 03.3 -1.0**
comp=Z,7.6nm,0.6s,mb4.9,baz=306,slow=7.1,SNR=36
ASAR PcP PcP 21 01 23.6 -0.5
comp=Z,3.9nm,0.8s,baz=313,slow=4.4,SNR=6.7
KLR Kul'dur 51.64 31 *e*P **P 21 00 12.8 -3.2**
BOD Bodaibo 51.89 13 *e*P **P 21 00 16.6 -1.2**
GNI Garni 54.28 314 P **P 21 00 34.3 -1.4**
GNI pmax pmax
comp=Z,7.0nm,1.0s
GNI Garni 54.28 314 P **P 21 00 34.3 -1.4**
comp=Z,7.0nm,1.0s,mb4.5,baz=180,slow=12,SNR=5.1
SVE Sverdlovsk 55.17 338 *e*P **P 21 00 38.0 -4.1**
SVE pmax pmax
comp=Z,2.0nm,20.0s
SVE pmax pmax
comp=N,500nm,20.0s
SVE pmax pmax
comp=E,1μm,20.0s
PMG Port Moresby 55.57 107 P **P 21 00 46.2 +0.7**
PMG pmax pmax
comp=Z,24nm,0.7s
PMG Port Moresby 55.57 107 P **P 21 00 46.2 +0.6**
comp=Z,24nm,0.7s,mb5.3,baz=302,slow=4.4,SNR=11
ARU Arti 55.67 337 P **P 21 00 44.7 -0.9**
comp=Z,74nm,0.8s,mb5.8,SNR=7.9
ARU Arti 55.67 337 *e*P **P 21 00 39.2 -6.4**
YSS Yuzh-Sakhalins 56.56 38 *e*P **P 21 00 53.0 +0.9**
KIV Kislovodsk 57.15 318 *e*P **P 21 00 55.1 -1.3**
KIV pmax pmax
comp=Z,15nm,0.8s,mb5.1
KIV Kislovodsk 57.15 318 *e*P **P 21 00 55.0 -1.4**
comp=Z,15nm,0.8s,mb5.1
KMBO Kilima Mbogo 57.49 263 P **P 21 01 01.3 +2.1**
KMBO pmax pmax
comp=Z,20nm,1.0s
KMBO Kilima Mbogo 57.49 263 P **P 21 01 01.3 +2.1**
comp=Z,20nm,1.0s,mb5.1,baz=55,slow=10,SNR=20
ASF Jabal al Asfar 58.11 303 P **P 21 01 02.8 -0.5**
comp=Z,3.6nm,1.0s,mb4.3,baz=345,slow=4.4,SNR=5.5
CTA Charters Tower 58.40 119 P **P 21 01 05.2 -0.3**
CTA 21 01 56.1
CTA pmax pmax
comp=Z,5.0nm,1.0s
CTA pmax pmax
comp=Z,2.0nm,0.7s
CTA Charters Tower 58.40 119 P **P 21 01 05.2 -0.3**
comp=Z,4.6nm,0.9s,mb4.5,baz=297,slow=6.8,SNR=5.0
CTA PcP PcP 21 01 56.0 +0.1
comp=Z,2.1nm,0.7s,baz=324,slow=9.5,SNR=5.2
CTA Charters Tower 58.40 119 P **P 21 01 05.2 -0.3**
CTA PcP PcP 21 01 56.0 +0.1
EIL Elat 59.33 300 *e*P **P 21 01 10.9 -0.9**
YAK Yakutsk 59.74 18 *e*P **P 21 01 13.3 -0.9**
YAK *e**PP pP 21 01 19.7 -1.7
YAK pmax pmax
comp=Z,22nm,0.8s,mb5.2
YAK Yakutsk 59.74 18 *e*P **P 21 01 13.3 -0.9**
comp=Z,22nm,0.8s,mb5.2
YAK *e*pP pP 21 01 19.7 -1.7
STKA Stephens Creek 60.26 134 *e*P **P 21 01 17.0 -1.2**
comp=Z,8.4nm,0.9s,mb4.8
STKA Stephens Creek 60.26 134 P **P 21 01 17.1 -1.0**
comp=Z,10.0nm,0.9s,mb4.8,baz=308,slow=6.5,SNR=14
BRTR Keskin Array B 62.29 311 P **P 21 01 30.0 -1.8**
BRTR *PP pP 21 01 37.3 -1.7
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR pmax pmax
comp=Z,5.0nm,0.7s
BRTR Keskin Array B 62.29 311 P **P 21 01 29.9 -1.9**
comp=Z,3.6nm,0.8s,mb4.5,baz=125,slow=7.7,SNR=14
BRTR pP pP 21 01 37.2 -1.8
comp=Z,5.3nm,0.7s,baz=121,slow=6.8,SNR=10
SIM Simferopol' 63.27 316 *e*P **P 21 01 43.0 +4.8**
SIM pmax pmax
comp=Z,16nm,0.9s,mb5.2
MBAR Mbarara 63.82 265 *e*P **P 21 01 42.8 +0.4**
MBAR pmax pmax
comp=Z,15nm,1.1s,mb4.9
MBAR Mbarara 63.82 265 *e*P **P 21 01 42.8 +0.4**
comp=Z,15nm,1.1s,mb4.9
MOS Moscow 64.88 329 *e*P **P 21 01 47.9 -0.6**
MOS pmax pmax
comp=Z,66nm,1.3s,mb5.5
OBN Obninsk 65.18 328⇓ *i*P **P 21 01 46.6 -3.9**
OBN pmax pmax
comp=Z,38nm,1.3s,mb5.3
TIXI Tiksi 66.97 11⇑ *i*P **P 21 02 00.8 -0.9**
TIXI pmax pmax
comp=Z,42nm,1.1s,mb5.4
TIRR Tirgusor 67.10 315 ⇑P **P 21 02 01.5 -1.4**
AKASG Malin Array Be 67.97 322 P **P 21 02 06.2 -2.1**
AKASG *PP pP 21 02 12.9 -2.6
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKASG Malin Array Be 67.97 322 P **P 21 02 06.2 -2.1**
comp=Z,4.8nm,0.8s,mb4.6,baz=88,slow=4.8,SNR=11
AKASG pP pP 21 02 12.9 -2.7
comp=Z,6.8nm,0.8s,baz=90,slow=4.8,SNR=6.6
IDI Anoyia 68.45 305 P **P 21 02 11.2 -0.4**
comp=Z,21nm,1.1s,mb5.1,baz=90,slow=6.0,SNR=5.8
IDI pP pP 21 02 18.1 -0.7
comp=Z,10nm,0.6s,baz=69,slow=15,SNR=2.8
VRI Vrincioaia 68.54 316 ⇑P **P 21 02 11.7 -0.2**
MLR Muntele Rosu 69.01 316 ⇑P **P 21 02 14.2 -0.7**

LSZ Lusaka 69.39 250 *e*P **P 21 02 18.1 +0.5**
LSZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
LSZ Lusaka 69.39 250 *e*P **P 21 02 18.1 +0.4**
comp=Z,6.2nm,1.0s,mb4.5
JOF Joensuu 70.63 334 *ep* **P 21 02 23.7 -0.7**
comp=Z,9.7nm,0.7s,mb4.8
KWP Kalwaria 71.86 320 *e*P **P 21 02 31.7 -0.3**
JAN Janina 72.02 309⇓ *i*P **P 21 02 30.3 -2.9**
JAN *i* pP 21 02 36.0 -4.4
JAN pmax pmax
comp=Z,16nm,1.0s,mb4.9
KOLS Kolonicke sedl 72.03 319 *e*P **P 21 02 32.9 -0.2**
SUW Suwalki 72.32 324 *e*P **P 21 02 34.0 -0.7**
SUW Suwalki 72.32 324 *e*P **P 21 02 34.0 -0.6**
FINES FINESS Array B 72.50 332 P **P 21 02 35.0 -0.6**
FINES pmax pmax
comp=Z,7.0nm,0.7s
FINES FINESS Array B 72.50 332 P **P 21 02 35.0 -0.6**
comp=Z,6.8nm,0.7s,mb4.7,baz=90,slow=6.6,SNR=15
CRVS Cervenica-Dubn 72.56 319 *e*P **P 21 02 37.9 +1.7**
KAF Kangasniemi 72.58 333 *ep* **P 21 02 35.6 -0.5**
comp=Z,8.5nm,0.7s,mb4.8,baz=110,slow=5.6
KAF Kangasniemi 72.58 333 *e*P **P 21 02 35.6 -0.5**
KAF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
NIE Niedzica 73.37 319 *e*P **P 21 02 41.0 0.0**
PSZ Piszkesteto 73.47 318⇑ *e*P **P 21 02 41.3 -0.3**
OJC Ojcow 73.80 320 *e*P **P 21 02 42.9 -0.5**
VYHS Vyhne 74.24 318 *i* P **P 21 02 45.9 -0.1**
LBTB Lobatse 74.40 241 *e*P **P 21 02 48.0 +0.6**
LBTB pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LBTB Lobatse 74.40 241 *e*P **P 21 02 48.0 +0.6**
comp=Z,4.9nm,0.8s,mb4.5
KEV Kevo 74.60 341 *ep* **P 21 02 47.4 -0.3**
comp=Z,13nm,0.7s,mb5.0
KEV Kevo 74.60 341 *e*P **P 21 02 47.4 -0.3**
KEV pmax pmax
comp=Z,13nm,0.7s,mb5.0
OKC Ostrava-Krasne 74.82 319 *e*P **P 21 02 49.5 +0.2**
OKC *e*pP pP 21 02 56.5 -0.1
ARCES ARCESS Array B 75.03 340 P **P 21 02 50.7 +0.5**
ARCES pmax pmax
comp=Z,6.0nm,0.7s
ARCES ARCESS Array B 75.03 340 P **P 21 02 50.7 +0.5**
comp=Z,6.1nm,0.7s,mb4.6,baz=79,slow=5.8,SNR=15
MORC Moravsky Berou 75.20 319 *e*P **P 21 02 50.5 -1.1**
MORC pmax pmax
comp=Z,13nm,1.0s,mb4.8
MORC Moravsky Berou 75.20 319 *e*P **P 21 02 50.5 -1.1**
comp=Z,13nm,1.0s,mb4.8
ZST Bratislava 75.37 318 *i* P **P 21 02 52.6 +0.1**
ZST *e*pP pP 21 02 59.7 -0.1
BOSA Boshof 75.75 238 *e*P **P 21 02 55.6 +0.5**
BOSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BOSA Boshof 75.75 238 *e*P **P 21 02 55.6 +0.5**
comp=Z,5.4nm,0.6s,mb4.7
DPC Dobruska-Polom 76.03 320 *e*P **P 21 02 56.7 +0.4**
DPC *ex* x 21 03 03.6
KSP Ksiaz 76.09 320 *e*P **P 21 02 56.5 -0.1**
UPC Upice 76.24 320 *e*P **P 21 02 57.1 -0.3**
UPC *e*pP pP 21 03 05.3 +0.6
PRU Pruhonice 77.15 319 *e*P **P 21 03 02.5 0.0**
PRU *e*pP pP 21 03 09.8 0.0
PVCC Panska Ves 77.16 320 *e*P **P 21 03 02.6 0.0**
PVCC *e*pP pP 21 03 09.4 -0.5
BRG Berggiesshubel 77.58 320 *e*P **P 21 03 05.1 +0.3**
BRG pmax pmax
comp=Z,11nm,1.1s,mb4.7
BRG Berggiesshubel 77.58 320 *e*P **P 21 03 05.1 +0.3**
comp=Z,10nm,1.1s,mb4.7
GERES GERESS Array B 77.66 318 P **P 21 03 05.3 0.0**
GERES *PP pP 21 03 12.9 +0.3
GERES pmax pmax
comp=Z,7.0nm,0.8s
GERES pmax pmax
comp=Z,9.0nm,0.9s
GERES GERESS Array B 77.66 318 P **P 21 03 05.3 0.0**
comp=Z,7.4nm,0.8s,mb4.7,baz=90,slow=4.0,SNR=45
GERES pP pP 21 03 12.9 +0.2
comp=Z,9.3nm,0.9s,baz=90,slow=4.9,SNR=14
KHC Kasperske Hory 77.75 318 *e*P **P 21 03 06.1 +0.3**
KHC *e*pP pP 21 03 12.7 -0.4
RUE Ruedersdorf 77.75 322 *e*P **P 21 03 05.4 -0.3**
CLL Collm 78.18 321 *i* P **P 21 03 07.8 -0.4**
CLL *e* pP 21 03 15.0 -0.5
CLL pmax pmax
comp=Z,20nm,1.6s,mb4.8
CLL Collm 78.18 321 *i* P **P 21 03 07.8 -0.4**
comp=Z,20nm,1.6s,mb4.8
CLL *e* pP 21 03 15.0 -0.5
CLL Collm 78.18 321 P **P 21 03 07.8 -0.4**
comp=Z,logA/T=1.1,mb4.8
CLL *e**PP pP 21 03 15.0 -0.5
NKC Novy Kostel 78.51 320 *e*P **P 21 03 10.2 +0.2**
NKC *e*pP pP 21 03 17.3 0.0
COP Copenhagen 78.68 325 *i* P **P 21 03 10.9 +0.1**
MAW Mawson 78.79 192 P **P 21 03 12.9 +1.7**
MAW pmax pmax
comp=Z,10.0nm,0.7s
MAW Mawson 78.79 192 P **P 21 03 12.9 +1.7**
comp=Z,6.6nm,0.7s,mb4.8,baz=57,slow=3.7,SNR=6.4
WTTA Wattenberg 79.02 317⇑ *i*P **P 21 03 12.1 -0.7**
comp=Z,22nm,1.2s,mb5.0
WTTA Wattenberg 79.02 317⇑ *i*P **P 21 03 12.1 -0.7**
WTTA pmax pmax
comp=Z,22nm,1.2s,mb5.0
MOX Moxa 79.05 320 *e*P **P 21 03 12.0 -0.9**
WATA Walderalm 79.06 317⇓ *i*P **P 21 03 12.5 -0.6**
comp=Z,9.8nm,1.0s,mb4.7
WATA Walderalm 79.06 317⇓ *i*P **P 21 03 12.5 -0.6**
WATA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GRA1 Grafenberg Arr 79.30 319 *e*P **P 21 03 14.7 +0.4**
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 79.30 319 *e*P **P 21 03 14.7 +0.4**
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 79.30 319 *e*P **P 21 03 14.7 +0.4**
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 79.30 319 *e*P **P 21 03 14.7 +0.4**
comp=Z,18nm,1.0s,mb5.0
SQTA Sankt Quirin 79.31 316⇑ *i*P **P 21 03 13.9 -0.5**
comp=Z,11nm,1.0s,mb4.7
SQTA Sankt Quirin 79.31 316⇑ *i*P **P 21 03 13.9 -0.5**
SQTA pmax pmax
comp=Z,11nm,1.0s,mb4.7
MOTA Moosalm 79.38 317⇑ *i*P **P 21 03 14.6 -0.2**
comp=Z,9.5nm,1.0s,mb4.7
MOTA Moosalm 79.38 317⇑ *i*P **P 21 03 14.6 -0.2**
MOTA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
NB2 NORSAR Subarra 79.52 331 P **P 21 03 14.6 -0.7**
comp=Z,6.4nm,0.7s,mb4.7,baz=91,slow=5.6
NB2 NORSAR Subarra 79.52 331 P **P 21 03 14.6 -0.7**
NB2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
NOA NORSAR Array B 79.52 331 P **P 21 03 14.9 -0.4**
NOA *PP pP 21 03 22.0 -0.6
NOA pmax pmax
comp=Z,7.0nm,0.7s
NOA pmax pmax
comp=Z,9.0nm,0.8s
NOA NORSAR Array B 79.52 331 P **P 21 03 14.9 -0.4**
comp=Z,6.6nm,0.7s,mb4.7,baz=92,slow=5.6,SNR=19
NOA pP pP 21 03 21.9 -0.7
comp=Z,8.5nm,0.8s,baz=96,slow=5.6,SNR=12
NAO01 NORSAR Array S 79.68 330 *e*P **P 21 03 15.6 -0.5**
comp=Z,16nm,0.9s,mb5.0
DAVA Damuels 80.22 317⇓ *i*P **P 21 03 19.6 +0.3**
comp=Z,20nm,1.1s,mb5.0
MUD Monsted U'grnd 80.52 326 *e*P **P 21 03 21.9 +1.2**
MUD pmax pmax
comp=Z,21nm,0.8s,mb5.1
MUD Monsted U'grnd 80.52 326 *e*P **P 21 03 21.9 +1.2**
comp=Z,21nm,0.8s,mb5.1
MUD Monsted U'grnd 80.52 326 *i* P **P 21 03 21.9 +1.2**
comp=Z,21nm,0.8s,mb5.1
LPG La Plagne 82.46 315 *e*P **P 21 03 30.5 -0.6**
comp=Z,41nm,0.9s,mb5.1
LPG La Plagne 82.46 315 *e*P **P 21 03 30.5 -0.6**
LPG pmax pmax
comp=Z,20nm,0.9s,mb5.0
BNI Bardonecchia 82.54 314 *e*P **P 21 03 31.3 -0.2**
BNI pmax pmax
comp=Z,232nm,0.4s
BNI Bardonecchia 82.54 314 *e*P **P 21 03 31.3 -0.2**
comp=Z,232nm,0.4s
TNA Tin City 85.92 24 *e*P **P 21 03 48.0 -0.1**
TNA *ep*P pP 21 03 55.7 +0.2
ESDC Sonseca Array 91.08 310 P **P 21 04 14.5 +1.2**
comp=Z,5.2nm,0.8s,mb4.9,baz=61,slow=4.3,SNR=13
IMA Indian Mountai 91.37 22 *e*P **P 21 04 15.1 +1.1**
IMA *e**PP pP 21 04 22.7 +1.3
INK Inuvik 96.73 16 P **P 21 04 39.0 +0.5**
INK pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 96.73 16 P **P 21 04 39.0 +0.4**
comp=Z,2.7nm,0.8s,mb4.7,baz=294,slow=8.4,SNR=3.7
YKA Yellowknife Ar 106.17 13 PP 21 09 32.3
comp=Z,0.3nm,0.6s,baz=132,slow=6.7,SNR=8.1
YKA PKKP PKKP 21 21 10.5 +11
comp=Z,0.8nm,1.0s,baz=144,slow=3.9,SNR=6.2
MCMT McKenzie Canyo 121.93 22 PKP PKPdf 21 10 05.2 -1.0
NVAR Mina Array Bea 124.68 31 PKP PKPdf 21 10 10.2 -1.6
comp=Z,1.9nm,0.7s,baz=358,slow=1.2,SNR=13
NVAR pPKP 21 10 17.8
comp=Z,1.6nm,0.8s,baz=358,slow=3.0,SNR=5.6
BW06 Boulder Array 124.91 21 *e*PKP PKPdf 21 10 08.7 -3.4
PDAR Pinedale Array 124.91 21 PKP PKPdf 21 10 09.6 -2.6
comp=Z,2.0nm,0.7s,baz=359,slow=0.4,SNR=18
PDAR pPKP 21 10 17.2
comp=Z,1.8nm,0.7s,baz=161,slow=0.7,SNR=9.2
TXAR Lajitas Array 138.97 24 PKhKP 21 10 28.9
comp=Z,0.2nm,0.7s,baz=270,slow=0.9,SNR=3.2
TXAR PKP PKPdf 21 10 36.4 -2.5
comp=Z,0.5nm,0.6s,baz=169,slow=1.5,SNR=5.8
TXAR pPKP 21 10 44.9
comp=Z,0.5nm,0.5s,baz=212,slow=0.7,SNR=5.3
TXAR Lajitas Array 138.97 24 PKP 21 10 28.9
TXAR PKP PKPdf 21 10 36.4 -2.5
TXAR pPKP 21 10 44.9
PLCA Paso Flores 144.80 200 PKIKP PKPdf 21 10 46.0 -2.8
PLCA pmax pmax
comp=Z,24nm,0.9s
PLCA Paso Flores 144.80 200 PKP PKPdf 21 10 46.0 -2.9
comp=Z,24nm,0.9s,baz=160,slow=2.9,SNR=31
PLCA Paso Flores 144.80 200 PKP PKPdf 21 10 46.0 -2.9
SJG San Juan 147.48 323 PKP2 PKPab 21 10 55.3 -1.0
SJG pmax pmax
comp=Z,25nm,0.3s
SJG San Juan 147.48 323 PKPbc PKPdf 21 10 55.3 +1.3
comp=Z,25nm,0.3s,baz=309,slow=14,SNR=7.3
SJG San Juan 147.48 323 PKPbc PKPdf 21 10 55.3 +1.3
TEIG Tepich 151.72 5 PKP PKPdf 21 10 58.7 -1.9
SDV Santo Domingo 157.31 318 PKPab PKPab 21 11 37.5 0.0
comp=Z,3.9nm,0.6s,baz=69,slow=2.2,SNR=6.3
LVC Limon Verde 158.28 227 PKPab PKPab 21 11 43.2 +1.7
comp=Z,5.1nm,0.8s,baz=132,slow=5.5,SNR=4.8
LPAZ La Paz 160.91 243 PKP PKPdf 21 10 26.2 -46
comp=Z,1.1nm,0.6s,baz=59,slow=2.0,SNR=4.2
LPAZ PKPab PKPab 21 11 08.6 -44
comp=Z,1.2nm,0.8s,baz=111,slow=6.4,SNR=4.6

NEIC ***27*** *20:53:05.7±0.5, 8.46N×94.06E, h30km, mb4.6/6, Error ellipse: s-maj=15.1km s-min=11.4km az=59.0*
IDC ***27*** *20:53:08.7±4.7, 8.48N×93.99E, h54km±42km, mb4.1/14, mb1 4.2/15, mb1mx4.1/21, mbtmp4.4/15, Error ellipse: s-maj=27.4km s-min=17.0km az=56.0*
ISC 27 20:53:05.2±4.6, 8.5N±0.1×94.1E±0.2, h40km±41km, n32, σ0 95/29, mb4.4/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.97**	**25**	P	**P**	**20 55 42.7**	**0.0**
	baz=212,slow=12,SNR=2.2						
ENH	**Enshi**	**26.02**	**32**	P	**P**	**20 58 34.6**	**-1.9**
	13nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**38.12**	**336**	*e*P	**P**	**21 00 21.1**	**-1.0**
	5.0nm,0.7s,mb4.3						
SONM	**Songino Array**	**40.57**	**13**	P	**P**	**21 00 43.4**	**+1.0**
	1.8nm,0.8s,mb3.8,baz=194,slow=6.6,SNR=2.9						
SONM				PcP	PcP	21 02 44.0	-0.8
	1.7nm,0.7s,baz=193,slow=3.8,SNR=5.0						
KURK	**Kurchatov**	**44.00**	**346**	P	**P**	**21 01 10.6**	**+0.1**
	8.2nm,0.7s,mb4.6						
ZAL	**Zalesovo**	**45.93**	**352**	P	**P**	**21 01 27.6**	**+1.8**
	5.0nm,0.9s,mb4.5,baz=298,slow=7.2,SNR=3.2						
NWAO	**Narrogin (SRO)**	**46.72**	**153**	P	**P**	**21 01 33.1**	**+0.8**
	10nm,0.8s,mb4.8,baz=320,slow=7.9,SNR=3.6						
BVAR	**Borovoye Array**	**48.39**	**341**	P	**P**	**21 01 45.8**	**+0.7**
	2.8nm,0.8s,mb4.3,baz=135,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**48.66**	**126**	P	**P**	**21 01 48.0**	**+0.4**
	1.6nm,0.6s,mb4.3,baz=304,slow=8.9,SNR=3.1						
WRAB	**Tennant Creek**	**48.66**	**126**	P	**P**	**21 01 46.9**	**-0.8**
CHKZ	**Chkalovo**	**48.88**	**342**	*e*P	**P**	**21 01 49.1**	**+0.3**
GNI	**Garni**	**53.37**	**314**	P	**P**	**21 02 29.6**	**+2.1**
	2.7nm,0.6s,mb4.3,baz=12,slow=9.3,SNR=2.4						
KMBO	**Kilima Mbogo**	**57.45**	**263**	P	**P**	**21 02 52.9**	**0.0**
	2.9nm,0.7s,mb4.4,baz=52,slow=14,SNR=4.8						
KMBO	**Kilima Mbogo**	**57.45**	**263**	P	**P**	**21 02 52.9**	**0.0**
BRTR	**Keskin Array B**	**61.99**	**311**	P	**P**	**21 03 21.9**	**-1.8**
	2.0nm,0.7s,mb4.4,baz=130,slow=8.0,SNR=4.5						
AKASG	**Malin Array Be**	**67.64**	**322**	P	**P**	**21 03 58.7**	**-1.3**
	1.8nm,0.6s,mb4.3,baz=89,slow=5.0,SNR=4.2						
IDI	**Anoyia**	**68.18**	**305**	P	**P**	**21 04 03.0**	**-0.8**
	7.0nm,0.7s,mb4.8,baz=94,slow=14,SNR=3.8						
FINES	**FINESS Array B**	**72.14**	**332**	P	**P**	**21 04 27.4**	**+0.1**
	4.5nm,0.7s,mb4.5,baz=117,slow=8.5,SNR=5.0						
FINES	**FINESS Array B**	**72.14**	**332**	P	**P**	**21 04 27.4**	**+0.1**
ARCES	**ARCESS Array B**	**74.67**	**340**	P	**P**	**21 04 42.8**	**+0.9**
	3.9nm,0.8s,mb4.4,baz=108,slow=2.9,SNR=4.1						
MORC	**Moravsky Berou**	**74.88**	**319**	*e*P	**P**	**21 04 42.9**	**-0.6**
GERES	**GERESS Array B**	**77.34**	**318**	P	**P**	**21 04 58.0**	**+0.5**
	5.3nm,0.8s,mb4.5,baz=94,slow=5.9,SNR=7.2						
KHC	**Kasperske Hory**	**77.43**	**318**	*e*P	**P**	**21 04 57.5**	**-0.5**
CLL	**Collm**	**77.86**	**321**	*e*P	**P**	**21 05 00.0**	**-0.3**
CLL	**Collm**	**77.86**	**321**	P	**P**	**21 05 00.0**	**-0.3**
GRA1	**Grafenberg Arr**	**78.97**	**319**	*e*P	**P**	**21 05 07.1**	**+0.6**
	6.0nm,0.9s,mb4.5						
GRF	**Grafenberg Arr**	**78.97**	**319**	*e*P	**P**	**21 05 07.1**	**+0.6**
	6.0nm,0.9s,mb4.5						
NB2	**NORSAR Subarra**	**79.17**	**331**	P	**P**	**21 05 07.1**	**-0.2**
	2.2nm,0.6s,mb4.3,baz=95,slow=5.0						
NOA	**NORSAR Array B**	**79.17**	**331**	P	**P**	**21 05 07.1**	**-0.2**
	4.7nm,0.9s,mb4.4,baz=91,slow=5.7,SNR=3.9						
NVAR	**Mina Array Bea**	**124.42**	**31**	PKP	PKPdf	21 12 02.4	+1.9
	1.3nm,0.8s,baz=1.0,slow=2.0,SNR=4.5						
PDAR	**Pinedale Array**	**124.61**	**21**	PKP	PKPdf	21 12 01.4	+0.6
	1.3nm,0.8s,baz=94,slow=1.0,SNR=5.7						
ANMO	**Albuquerque**	**132.62**	**23**	PKP	PKPdf	21 12 19.1	+2.7
	1.7nm,0.8s,baz=357,slow=8.2,SNR=3.5						

IGQ 27 20:55:15.8, 1.55S×81.54W, h12km±8km, mb4.3, 2C-2D, Error ellipse: s-maj=11.3km s-min=6.6km az=1.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.11**	**64**	⇑P	Pb	20 55 35.5	-0.8
JAMA	**Jama**	**1.85**	**46**	P	Pn	20 55 49.6	+2.0
JAMA				S	Sn	20 56 11.4	+0.4
MAGD	**Magdalena**	**2.29**	**50**	P	Pn	20 55 58.3	+4.3
IGUA	**Igualata**	**2.90**	**89**	P	Pn	20 56 02.9	+0.2
JUIV	**Juive**	**3.08**	**88**	P	Pn	20 56 07.7	+2.6
ARRY	**Arrayan**	**3.08**	**89**	P	Pn	20 56 05.2	-0.1
RETU	**Refugio**	**3.09**	**88**	P	Pn	20 56 06.7	+1.3
ULBA	**Ulba**	**3.13**	**88**	P	Pn	20 56 07.1	+1.1
PISA	**Pisayambo**	**3.19**	**81**	P	Pn	20 56 07.9	+1.1
NAS1	**Nasa**	**3.19**	**74**	P	Pn	20 56 09.8	+3.0
NAS1				S	Sn	20 56 47.5	+2.3
JUA2	**San Juan 2**	**3.22**	**66**	⇓P	Pn	20 56 09.3	+2.1
TERV	**Terraza Guagua**	**3.23**	**65**	P	Pn	20 56 09.2	+1.7
PINO	**Pino**	**3.24**	**65**	⇑P	Pn	20 56 09.0	+1.5
VC1	**Cotopaxi 1**	**3.26**	**74**	P	Pn	20 56 10.5	+2.7
TAMB	**Tambo**	**3.28**	**75**	P	Pn	20 56 10.7	+2.6
YANA	**Yana**	**3.29**	**64**	P	Pn	20 56 09.4	+1.2
COTA	**Cotacachi**	**3.71**	**60**	P	Pn	20 56 16.5	+2.3
CAYR	**Refugio Cayamb**	**3.86**	**66**	⇓P	Pn	20 56 19.9	+3.6
CAYA	**Cayambe**	**3.90**	**66**	P	Pn	20 56 20.1	+3.3

IDC ***27*** *21:00:08.2±1.0, 8.20N×94.18E, mb3.7/9, mb1 3.9/9, mb1mx3.8/17, mbtmp3.7/9, Error ellipse: s-maj=50.4km*

s-min=20.1km az=52.0
NEIC ***27*** *21:00:12.3±0.5,8.16N×94.11E,h30km,mb4.1/1,Error ellipse: s-maj=26.5km s-min=10.3km az=58.0*
ISC 27 21:00:07.5±0.8,8.1N±0.2×94.1E±0.2,h10km,n16, σ0:75/14,mb3.8/10,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**21.63**	**353**	P	**P**	**21 04 60.0**	**-0.1**
SONM	**Songino Array**	**40.92**	**13**	P	**P**	**21 07 52.9**	**+1.2**
0.7nm,1.0s,mb3.3,baz=146,slow=4.5,SNR=3.7							
KURK	**Kurchatov**	**44.35**	**346**	P	**P**	**21 08 19.5**	**-0.2**
ZAL	**Zalesovo**	**46.29**	**352**	P	**P**	**21 08 34.6**	**-0.4**
0.6nm,0.8s,mb3.6,baz=108,slow=9.7,SNR=2.4							
WRA	**Warramunga Arr**	**48.45**	**126**	P	**P**	**21 08 52.5**	**+0.1**
0.8nm,0.6s,mb3.9,baz=307,slow=8.4,SNR=6.4							
WRAB	**Tennant Creek**	**48.45**	**126**	P	**P**	**21 08 52.4**	**-0.1**
BVAR	**Borovoye Array**	**48.73**	**341**	P	**P**	**21 08 54.3**	**+0.1**
0.2nm,0.6s,mb3.4,baz=140,slow=11,SNR=2.3							
CHKZ	**Chkalovo**	**49.22**	**342**	*e*P	**P**	**21 08 57.0**	**-0.9**
1.4nm,0.7s,mb4.1							
ASAR	**Alice Springs**	**50.12**	**130**	P	**P**	**21 09 05.2**	**-0.1**
0.9nm,0.9s,mb3.8,baz=296,slow=6.3,SNR=5.0							
BRTR	**Keskin Array B**	**62.23**	**311**	P	**P**	**21 10 33.1**	**+1.2**
0.9nm,0.9s,mb3.9,baz=139,slow=15,SNR=2.5							
FINES	**FINESS Array B**	**72.46**	**332**	P	**P**	**21 11 35.4**	**-0.6**
1.7nm,0.8s,mb4.0,baz=153,slow=8.5,SNR=3.1							
ARCES	**ARCESS Array B**	**75.01**	**340**	P	**P**	**21 11 50.5**	**-0.1**
2.9nm,0.9s,mb4.2,baz=83,slow=7.3,SNR=2.9							
MORC	**Moravsky Berou**	**75.15**	**319**	P	**P**	**21 11 50.4**	**-1.4**
GERES	**GERESS Array B**	**77.60**	**318**	P	**P**	**21 12 06.9**	**+1.3**
0.3nm,0.6s,mb3.4,baz=90,slow=2.0,SNR=3.1							
PLCA	**Paso Flores**	**144.77**	**200**	PKP	PKPdf	21 19 47.5	-0.5
2.2nm,0.8s,baz=323,slow=22,SNR=4.2							
LPAZ	**La Paz**	**160.84**	**243**	*e*PKP	PKPdf	21 20 10.3	-1.2

BJI ***27*** *21:00:43.2,9.49N×93.22E,h47km,mB5.4,mb4.8,Ms5.2, Msz4.9*
IDC ***27*** *21:00:43.1±2.4,9.80N×93.59E,h19km±14km,mb4.6/25, mb1 4.7/26,mb1mx4.7/26,mbtmp4.8/26,ML5.0/1,MS4.9/5, Ms1 5.0/5,ms1mx4.3/18,Error ellipse: s-maj=21.0km s-min=11.2km az=45.0,Putative timing error at LPAZ*
MOS ***27*** *21:00:44.4±1.0,9.86N×93.41E,h33km,mb5.3/70, MS4.7/9,Error ellipse: s-maj=8.1km s-min=4.6km az=117.5*
NEIC ***27*** *21:00:44.6±0.2,9.70N×93.47E,h30km,mb5.1/65, MS4.8/1,Error ellipse: s-maj=6.3km s-min=5.5km az=190.0*
HRVD ***27*** *21:00:44.6±0.4,9.74N×93.70E,h12km±1km,MW5.3/55, Centroid moment Tensor Solution. LP body waves: s32,c41;Mantle waves: s55,c105; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.01±.04; $M_{\theta\theta}$-1.01±.04; $M_{\phi\phi}$1.02±.04; $M_{r\theta}$-0.11±.09; $M_{\theta\phi}$0.45±.03; $M_{\phi r}$0.12±.11; Best double couple: $M_0$1.122×10^{17} NP1: ϕ_s57°,δ82°,λ-1°. NP2:ϕ_s147°,δ89°,λ-172°. Principal axes: T 1.123, Plg5°, Azm282°; N -.007, Plg82°, Azm157°; P -1.121, Plg7°, Azm12°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 27 21:00:41.7±1.3,9.71N±0.04×93.54E±0.03,h22km±8km, h26km±2.0km:pP-P,n317,σ1§10/302,mb5.0/98,MS4.8/16, 28C-14D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.09**	**338**	*e*SG	**Sn**	**21 01 50.8**	**+9.1**
PBA				*e*		21 02 04.3	
PBA				*i*		21 02 06.1	
NNT	**Nongplab**	**6.72**	**64**	P	**Pn**	**21 02 19.5**	**-2.2**
NNT				S	Sn	21 03 13.0	-25
NST	**Nakhon Sawan**	**8.74**	**47**	P	**P**	**21 02 49.0**	**-1.0**
CM31	**Chiang Mai Arr**	**10.15**	**30**	*e*Pn	**P**	**21 03 11.2**	**+1.7**
121nm,0.8s							
CMAR	**Chiang Mai Arr**	**10.15**	**30**	P	**P**	**21 03 10.5**	**+1.0**
CMAR				pmax	pmax		
comp=Z,4.0nm,0.3s							
CMAR				MLR	MLR		
comp=Z,5μm,19.4s							
CMAR	**Chiang Mai Arr**	**10.15**	**30**	Pn	**P**	**21 03 10.4**	**+1.0**
comp=Z,4.1nm,0.3s,baz=217,slow=14,SNR=215							
CMAR				LR	LR	21 07 36.0	
comp=Z,5μm,19.4s,baz=220,slow=41							
KKTK	**Khon Kaen**	**11.19**	**53**	P	**P**	**21 03 24.0**	**+0.4**
comp=Z,432nm,0.5s							
NANT	**Nan**	**11.39**	**37**	⇑P	**P**	**21 03 27.0**	**+0.6**
comp=Z,81nm,1.0s							
CHRT	**Chiangrai**	**11.76**	**30**	⇑P	**P**	**21 03 31.5**	**0.0**
comp=Z,290nm,0.9s							
VIS	**Vishakhapatnam**	**12.72**	**310**	*e*P	**P**	**21 03 42.3**	**-2.0**
VIS				*e*	**S**	**21 05 56.0**	**-10**
VIS				*e*		21 06 01.1	
comp=N,393nm,0.8s							
VIS				*e*		21 06 01.2	
comp=E,377nm,0.6s							
PALK	**Pallekele**	**12.93**	**260**	*e*P	**P**	**21 03 46.8**	**-0.3**
comp=E,54nm,1.2s							
PALK				*e*S	**S**	**21 06 01.2**	**-10**
KOD	**Kodaikanal**	**15.84**	**273**	*e*P	**P**	**21 04 25.8**	**+0.5**
KOD				*e*		21 04 34.4	
comp=Z,264nm,1.0s							
KOD				*e*S	**S**	**21 07 20.5**	**+0.1**
SHL	**Shillong**	**15.85**	**355**	*e*P	**P**	**21 04 23.6**	**-1.8**
HYB	**Hyderabad**	**16.45**	**299**	*e*P	**P**	**21 04 32.0**	**-1.1**
HYB				*e*S	**S**	**21 07 36.0**	**+1.5**
HYB				pmax	pmax		
comp=Z,114nm,1.2s							
HYB	**Hyderabad**	**16.45**	**299**	*e*P	**P**	**21 04 32.0**	**-1.1**
comp=Z,114nm,1.2s							
HYB				*e*S	**S**	**21 07 36.0**	**+1.5**
HYB	**Hyderabad**	**16.45**	**299**	*i* P	**P**	**21 04 32.0**	**-1.1**
comp=Z,114nm,1.2s							
HYB				*e*S	**S**	**21 07 36.0**	**+1.5**
KMI	**Kunming**	**17.65**	**29**	⇑P	**P**	**21 04 52.3**	**+4.2**
KMI				pmax	pmax		
comp=Z,25nm,1.1s							
KMI	**Kunming**	**17.65**	**29**	⇑P	**P**	**21 04 52.3**	**+4.2**
comp=Z,25nm,1.1s							
KMI				pP		21 04 56.1	
KMI				PP	PP	21 05 09.5	+6.8
KMI				S	**S**	**21 08 19.7**	**+18**
KMI				sS		21 08 32.0	
KMI				SS	SS	21 08 44.2	+20
QIZ	**Qiongzhong**	**18.29**	**58**	P	**P**	**21 04 58.5**	**+2.3**
QIZ	**Qiongzhong**	**18.29**	**58**	*e*P	**P**	**21 04 56.8**	**+0.6**
comp=Z,46nm,1.1s							
JIRN	**Jiri**	**19.15**	**340**	*e*P	**P**	**21 05 07.1**	**+0.6**
comp=Z,490nm,1.0s							
PKI	**Pulchoki**	**19.35**	**338**	*e*P	**P**	**21 05 09.6**	**+0.8**
comp=Z,425nm,1.1s							
DMN	**Daman**	**19.50**	**337**	*e*P	**P**	**21 05 10.4**	**-0.1**
comp=Z,242nm,0.9s							
KKN	**Kakani**	**19.60**	**338**	*e*P	**P**	**21 05 10.0**	**-1.5**
comp=Z,234nm,1.1s							
LSA	**Lhasa**	**20.01**	**354**	P	**P**	**21 05 18.0**	**+2.0**
LSA	**Lhasa**	**20.01**	**354**	*e*P	**P**	**21 05 15.4**	**-0.6**
LSA				pmax	pmax		
comp=Z,92nm,0.8s							
LSA	**Lhasa**	**20.01**	**354**	*e*P	**P**	**21 05 15.4**	**-0.6**
comp=Z,92nm,0.8s							
GKN	**Gorkha**	**20.04**	**336**	*e*P	**P**	**21 05 15.8**	**-0.5**
comp=Z,253nm,0.7s							
GOA	**Goa**	**20.07**	**289**	*e*	**P**	**21 05 24.5**	**+7.8**
GOA				*e*		21 05 31.5	
comp=Z,62nm,1.4s							
KOLN	**Koldanda**	**20.26**	**334**	*e*P	**P**	**21 05 17.3**	**-1.3**
comp=Z,467nm,1.2s							
BHPL	**Bhopal**	**20.46**	**313**	*e*P	**P**	**21 05 21.3**	**+0.6**
BHPL				*e*		21 05 36.1	
comp=Z,148nm,0.9s							
POO	**Poona**	**21.00**	**297**	*e*P	**P**	**21 05 27.0**	**+0.7**
POO				*e*		21 05 36.8	
comp=Z,96nm,1.0s							
NDI	**New Delhi**	**24.31**	**323**	*e*P	**P**	**21 06 00.5**	**+1.4**
NDI				*e*		21 06 06.0	
comp=Z,122nm,1.3s							
NDI				*e*S	**S**	**21 10 18.7**	**+4.8**
ENH	**Enshi**	**25.30**	**34**	*e*P	**P**	**21 06 08.4**	**-0.1**
comp=Z,91nm,1.0s,mb5.3							
SMLA	**Simla**	**26.19**	**327**	*e*	**P**	**21 06 31.7**	**+15**
SMLA				*e*		21 06 34.6	
comp=Z,100nm,1.4s							
TGY	**Tagaytay City**	**27.15**	**78**	LR	LR	21 16 25.4	
comp=Z,4μm,20.4s,MS5.0,baz=90,slow=35							
LZH	**Lanzhou**	**27.88**	**18**	*e*P	**P**	**21 06 32.3**	**+0.2**
LZH				AMB	AMB		
comp=Z,38nm,1.4s,mb4.8							
LZH				AMB	AMB		
comp=Z,123nm,4.5s							
LZH				LR	LR		
comp=E,2μm,11.9s							
LZH				LR	LR		
comp=Z,3μm,13.9s,MS5.0							
LZH	**Lanzhou**	**27.88**	**18**	*e*P	**P**	**21 06 32.2**	**+0.1**
LZH				*SP	sP	21 06 42.0	+0.5
LZH				pmax	pmax		
comp=Z,38nm,1.4s,mb4.8							
LZH				MLR	MLR		
comp=Z,3μm,13.9s,MS5.0							
LZH	**Lanzhou**	**27.88**	**18**	*e*P	**P**	**21 06 32.2**	**+0.1**
comp=Z,38nm,1.4s,mb4.8							
LZH				pP	pP	21 06 39.0	+0.4
LZH				sP	sP	21 06 42.0	+0.5
LZH				LR	LR		
comp=Z,3μm,13.9s,MS5.0							
XAN	**Xi'an**	**28.03**	**28**	P	**P**	**21 06 32.8**	**-0.7**
XAN				AMB	AMB		
comp=Z,14nm,1.0s,mb4.5							
WHN	**Wuhan**	**28.38**	**40**	⇓P	**P**	**21 06 39.0**	**+2.3**
NJ2	**Nanjing**	**32.30**	**43**	*e*P	**P**	**21 07 12.5**	**+1.1**
NJ2				AP	pP	21 07 22.3	+4.3
NJ2				XP	sP	21 07 26.3	+5.5
NJ2				PP	PP	21 08 24.5	+5.3
NJ2				S	**S**	**21 12 20.0**	**-2.7**
NJ2				AMB	AMB		
comp=Z,20nm,1.0s,mb4.9							
NJ2				AMB	AMB		
comp=Z,1μm,5.3s							
NJ2				LR	LR		
comp=Z,440nm,18.0s,MS4.2							
SSE	**Sheshan**	**33.35**	**46**	P	**P**	**21 07 19.3**	**-1.4**
SSE				S	**S**	**21 12 38.0**	**-1.1**
SSE				AMB	AMB		
comp=Z,26nm,0.7s,mb5.3							
SSE				AMB	AMB		
comp=Z,80nm,12.0s							
SSE				LR	LR		
comp=N,1μm,23.0s,MS4.8							
SSE				LR	LR		
comp=E,1μm,23.0s,MS4.8							
SSE				LR	LR		
comp=Z,813nm,23.7s,MS4.4							
SSE	**Sheshan**	**33.35**	**46**	P	**P**	**21 07 19.2**	**-1.5**
comp=Z,26nm,0.7s,mb5.3							
SSE				S	**S**	**21 12 38.0**	**-1.1**
SSE				sS		21 12 54.1	
SSE				SS	SS	21 15 00.6	+18
SSE				LR	LR		
comp=Z,810nm,23.7s,MS4.4							
WMQ	**Urumqi**	**34.36**	**352**	P	**P**	**21 07 30.8**	**+1.6**
WMQ				AP	pP	21 07 40.5	+4.7
WMQ				XP	sP	21 07 44.3	+5.7
WMQ				PP	PP	21 08 46.8	+1.9
WMQ				PCP	PcP	21 10 06.0	+1.0
WMQ				AMB	AMB		
comp=Z,40nm,0.6s,mb5.5							
WMQ				AMB	AMB		
comp=Z,368nm,4.4s							
WMQ				LR	LR		
comp=N,1μm,15.4s,MS4.8							
WMQ				LR	LR		
comp=E,921nm,15.0s,MS4.8							
WMQ				LR	LR		
comp=Z,2μm,15.3s,MS4.9							
KZA	**Kyzart**	**36.03**	**337**	P	**P**	**21 07 45.4**	**+1.9**
SNR=16							
BJT	**Baijiatuau**	**36.28**	**30**	*e*P	**P**	**21 07 45.5**	**-0.1**
BJT				pmax	pmax		
comp=Z,23nm,0.9s							
BJT	**Baijiatuau**	**36.28**	**30**	*e*P	**P**	**21 07 45.5**	**0.0**
comp=Z,23nm,0.9s,mb5.1							
BJI	**Beijing**	**36.30**	**30**	P	**P**	**21 07 47.3**	**+1.6**
BJI				pmax	pmax		
comp=Z,14nm,0.8s,mb4.9							
BJI				MLR	MLR		
comp=Z,2μm,21.3s,MS4.8							
BJI	**Beijing**	**36.30**	**30**	P	**P**	**21 07 47.3**	**+1.6**
comp=Z,14nm,0.8s,mb4.9							
BJI				LR	LR		
comp=Z,2μm,21.3s,MS4.8							
SMDO	**Samad**	**36.43**	**296**	P	**P**	**21 07 49.7**	**+2.6**
SNR=7.4							
UCH	**Uchtor**	**36.45**	**336**	P	**P**	**21 07 47.9**	**+1.0**
SNR=16							
TKM2	**Tokmak 2**	**36.62**	**338**	P	**P**	**21 07 50.0**	**+1.6**
SNR=9.1							
KBK	**Karagaybulak**	**36.64**	**337**	P	**P**	**21 07 49.8**	**+1.2**
SNR=45							
AML	**Almayashu**	**36.70**	**335**	P	**P**	**21 07 50.0**	**+0.9**
SNR=55							
AAK	**Ala-Archa**	**36.80**	**336**	P	**P**	**21 07 51.0**	**+1.1**
SNR=30							
AAK	**Ala-Archa**	**36.80**	**336**	P	**P**	**21 07 50.5**	**+0.6**
AAK				pmax	pmax		
comp=Z,58nm,1.0s,mb5.4							
AAK	**Ala-Archa**	**36.80**	**336**	*i* Pr		21 07 49.7	
FRU	**Bishkek**	**36.91**	**337**	*e*P	**P**	**21 07 52.0**	**+1.1**
FRU				pmax	pmax		
comp=Z,60nm,1.4s,mb5.2							
JOW	**Kunigami**	**36.95**	**58**	LR	LR	21 25 36.3	
comp=Z,2μm,19.1s,MS4.9,baz=75,slow=40							
CHMS	**Chumysh**	**37.00**	**337**	P	**P**	**21 07 52.3**	**+0.7**
SNR=32							
EKS2	**Erkin-Say**	**37.11**	**336**	P	**P**	**21 07 53.4**	**+0.9**
SNR=34							
BSY	**Bisya**	**37.11**	**295**	P	**P**	**21 07 56.1**	**+3.4**
SNR=13							
HOQ	**Hoqain**	**37.23**	**296**	P	**P**	**21 07 56.7**	**+3.0**
SNR=7.2							
USP	**Ospenovka**	**37.33**	**337**	P	**P**	**21 07 54.9**	**+0.5**
SNR=46							
ARQ	**Araqi**	**37.86**	**296**	P	**P**	**21 08 02.1**	**+3.1**
SNR=7.9							
MKAR	**Makanchi Array**	**38.18**	**347**	*i* P	**P**	**21 08 00.6**	**-0.9**
SONM	**Songino Array**	**39.52**	**14**	P	**P**	**21 08 11.7**	**-0.9**
comp=Z,11nm,0.9s,mb4.6,baz=198,slow=7.8,SNR=28							
SONM				PcP	PcP	21 10 20.3	-0.3
comp=Z,2.5nm,0.7s,baz=225,slow=4.1,SNR=4.4							
ULN	**Ulaanbaatar**	**39.70**	**14**	*e*P	**P**	**21 08 13.7**	**-0.5**
ULN				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.5							
ULN	**Ulaanbaatar**	**39.70**	**14**	*e*P	**P**	**21 08 13.7**	**-0.4**
comp=Z,9.7nm,0.9s,mb4.5							
ZAK	**Zakamensk**	**41.34**	**9**	*e*P	**P**	**21 08 27.0**	**-0.6**
ZAK				*e*		21 10 27.2	
KS15	**Wonju Array Si**	**41.47**	**43**	*e*P	**P**	**21 08 31.4**	**+2.7**
SNY	**Shenyang**	**41.48**	**34**	⇑P	**P**	**21 08 29.5**	**+0.7**
SNY				AMB	AMB		
comp=Z,10.0nm,1.1s,mb4.4							
SNY				AMB	AMB		
comp=Z,300nm,10.2s							
SNY				LR	LR		
comp=N,2μm,16.3s							
SNY				LR	LR		
comp=Z,2μm,14.2s,MS5.0							
MOY	**Mondy**	**42.28**	**7**	*e*P	**P**	**21 08 37.4**	**+2.1**
TLY	**Talaya**	**42.66**	**9**	*e*P	**P**	**21 08 38.5**	**+0.1**
KURK	**Kurchatov**	**42.70**	**346**	*i* P	**P**	**21 08 38.6**	**-0.1**
KURK				pmax	pmax		
comp=Z,27nm,1.3s,mb4.8							
KURK	**Kurchatov**	**42.70**	**346**	*e*P	**P**	**21 08 38.5**	**-0.2**
comp=Z,40nm,1.1s,mb5.1							
ZAL	**Zalesovo**	**44.66**	**353**	P	**P**	**21 08 54.5**	**-0.1**
ZAL				pmax	pmax		
comp=Z,10.0nm,0.6s							
ZAL	**Zalesovo**	**44.66**	**353**	P	**P**	**21 08 54.5**	**-0.1**
comp=Z,9.9nm,0.6s,mb4.8,baz=300,slow=7.2,SNR=22							
HIA	**Hailar**	**45.09**	**24**	*e*P	**P**	**21 08 57.9**	**-0.2**
HIA				pmax	pmax		
comp=Z,20nm,1.1s							
HIA	**Hailar**	**45.09**	**24**	*e*P	**P**	**21 08 57.9**	**-0.1**
comp=Z,20nm,1.1s,mb4.9							
NVS	**Novosibirsk**	**45.75**	**352**	*e*P	**P**	**21 09 02.1**	**-1.2**
NVS				pmax	pmax		
comp=N,12nm,1.2s							
NVS				pmax	pmax		
comp=E,6.0nm,1.2s							
NVS				pmax	pmax		
comp=Z,14nm,1.2s,mb4.8							
BVA0	**Borovoye Array**	**47.07**	**341**	*i* P	**P**	**21 09 13.1**	**-0.6**
BVA0				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.3							
BVAR	**Borovoye Array**	**47.07**	**341**	P	**P**	**21 09 12.8**	**-0.9**
comp=Z,7.0nm,0.5s,mb4.9,baz=143,slow=7.4,SNR=52							
BVAR				PcP	PcP	21 10 45.5	-0.5
comp=Z,15nm,1.0s,baz=146,slow=5.3,SNR=4.1							
BRVK	**Borovoye**	**47.13**	**341**	*e*P	**P**	**21 09 12.8**	**-1.4**
BRVK				pmax	pmax		
comp=Z,21nm,0.8s,mb5.1							
BRVK	**Borovoye**	**47.13**	**341**	*e*P	**P**	**21 09 12.8**	**-1.4**
comp=Z,21nm,0.8s,mb5.1							
CHKZ	**Chkalovo**	**47.55**	**342**	*e*P	**P**	**21 09 16.5**	**-1.0**
CHKZ				pmax	pmax		
comp=Z,92nm,1.0s,mb5.8							
CHKZ	**Chkalovo**	**47.55**	**342**	*e*P	**P**	**21 09 16.5**	**-1.0**
comp=Z,92nm,1.0s,mb5.8							
RAYN	**Ar Rayn**	**47.81**	**293**	P	**P**	**21 09 21.8**	**+1.8**
comp=Z,348nm,1.0s,SNR=45							
NWAO	**Narrogin (SRO)**	**48.04**	**153**	P	**P**	**21 09 19.9**	**-1.7**
NWAO				pmax	pmax		
comp=Z,7.0nm,0.7s							
NWAO	**Narrogin (SRO)**	**48.04**	**153**	P	**P**	**21 09 19.9**	**-1.7**
comp=Z,7.2nm,0.7s,mb4.8,baz=302,slow=13,SNR=4.0							
NWAO	**Narrogin (SRO)**	**48.04**	**153**	*e*P	**P**	**21 09 18.9**	**-2.8**
comp=Z,22nm,1.1s,mb5.1							
MAJO	**Matsushiro**	**48.39**	**49**	*e*P	**P**	**21 09 26.5**	**+2.2**
MAJO				pmax	pmax		
comp=Z,19nm,1.2s,mb5.0							
MAJO	**Matsushiro**	**48.39**	**49**	*e*P	**P**	**21 09 26.5**	**+2.2**
comp=Z,19nm,1.2s,mb5.0							
WRA	**Warramunga Arr**	**49.81**	**126**	P	**P**	**21 09 33.5**	**-1.9**
WRA				pmax	pmax		
comp=Z,5.0nm,0.7s							
WRA	**Warramunga Arr**	**49.81**	**126**	P	**P**	**21 09 33.5**	**-1.9**
comp=Z,4.5nm,0.7s,mb4.6,baz=305,slow=8.6,SNR=21							
WRAB	**Tennant Creek**	**49.82**	**126**	*i* P	**P**	**21 09 36.3**	**+0.9**
WRAB	**Tennant Creek**	**49.82**	**126**	*e*P	**P**	**21 09 33.2**	**-2.2**
comp=Z,40nm,0.7s,mb5.6							
WB2	**Warramunga Arr**	**49.82**	**126**	*e*P	**P**	**21 09 33.6**	**-1.9**
BOD	**Bodaibo**	**50.52**	**14**	*e*P	**P**	**21 09 39.4**	**-0.9**
KLR	**Kul'dur**	**50.63**	**32**	*e*P	**P**	**21 09 41.0**	**-0.2**
ASPA	**Alice Springs**	**51.55**	**131**	*e*P	**P**	**21 09 50.1**	**+1.5**
ASAR	**Alice Springs**	**51.55**	**131**	P	**P**	**21 09 47.0**	**-1.6**
comp=Z,3.6nm,0.8s,mb4.3,baz=304,slow=6.8,SNR=19							
GNI	**Garni**	**52.74**	**314**	P	**P**	**21 09 57.8**	**+0.4**
GNI				pmax	pmax		
comp=Z,20nm,0.9s							
GNI	**Garni**	**52.74**	**314**	P	**P**	**21 09 57.8**	**+0.5**
comp=Z,20nm,0.9s,mb5.0,baz=159,slow=2.5,SNR=20							
GNI	**Garni**	**52.74**	**314**	*e*P	**P**	**21 09 56.6**	**-0.8**
comp=Z,147nm,1.3s,mb5.8							
CLNS	**Chul'man**	**52.94**	**21**	*e*P	**P**	**21 09 59.7**	**+1.1**
CLNS				pmax	pmax		
comp=Z,32nm,1.2s,mb5.1							
CLNS				pmax	pmax		
comp=N,12nm,0.9s							
CLNS				pmax	pmax		
comp=E,16nm,1.3s							
CLNS				MLR	MLR		
comp=Z,1μm,14.0s,MS5.2							
CLNS				MLR	MLR		
comp=N,1μm,13.0s,MS5.2							
CLNS				MLR	MLR		
comp=E,300nm,15.0s,MS5.2							
TI2	**Plekhanov**	**53.33**	**315**	*e*P	**P**	**21 10 01.6**	**-0.1**
SVE	**Sverdlovsk**	**53.49**	**338**	*e*P	**P**	**21 09 59.0**	**-3.6**
SVE				pmax	pmax		
comp=N,300nm,20.0s							
SVE				pmax	pmax		
comp=E,2μm,20.0s							
SVE				pmax	pmax		
comp=Z,2μm,20.0s							
ARU	**Arti**	**53.98**	**337**	P	**P**	**21 10 05.8**	**-0.4**
comp=Z,185nm,0.8s,mb6.1,SNR=15							
ARU	**Arti**	**53.98**	**337**	⇓*i* P	**P**	**21 09 59.2**	**-7.0**
ARU				*e*S	**S**	**21 17 28.1**	**-11**
ARU				*e*		21 19 42.6	
ARU				*e*SS	SS	21 21 12.3	-7.7
ARU				pmax	pmax		
comp=Z,29nm,0.9s,mb5.2							
ARU				MLR	MLR		
comp=Z,2μm,20.0s,MS5.0							
ARU				MLR	MLR		
comp=N,500nm,18.0s,MS5.0							
ARU				MLR	MLR		
comp=E,1μm,20.0s,MS5.0							
ASAJ	**Asahikawa**	**54.44**	**42**	LR	LR	21 34 38.9	
comp=E,739nm,19.1s,MS4.8,baz=17,slow=38							
KIV	**Kislovodsk**	**55.57**	**317**	P	**P**	**21 10 17.1**	**-0.9**
comp=E,473nm,0.9s,SNR=19							
KIV	**Kislovodsk**	**55.57**	**317**	*e*P	**P**	**21 10 17.3**	**-0.7**
KIV				*e*PPP	PPP	21 13 32.4	-5.7
KIV				*e*S	**S**	**21 18 02.7**	**+2.1**
KIV				pmax	pmax		
comp=N,43nm,1.1s							
KIV				pmax	pmax		
comp=E,31nm,1.1s							
KIV				pmax	pmax		
comp=Z,90nm,1.1s,mb5.7							
KIV				MLR	MLR		
comp=E,284nm,18.0s							
KIV				MLR	MLR		
comp=Z,565nm,18.0s,MS4.7							
KIV	**Kislovodsk**	**55.57**	**317**	*e*P	**P**	**21 10 17.0**	**-1.1**
comp=Z,85nm,0.9s,mb5.8							
YSS	**Yuzh-Sakhalins**	**55.72**	**39**	*e*P	**P**	**21 10 20.0**	**+0.9**
YSS				*e*	pP	21 10 28.0	+2.2
GOF	**Gofitskoye**	**55.76**	**319**	⇑*i* P	**P**	**21 10 19.0**	**-0.4**
GOF				pmax	pmax		
comp=Z,70nm,1.4s,mb5.5							
PMG	**Port Moresby**	**56.65**	**108**	P	**P**	**21 10 26.7**	**+0.6**
PMG				pmax	pmax		
comp=Z,12nm,0.8s							
PMG	**Port Moresby**	**56.65**	**108**	P	**P**	**21 10 26.7**	**+0.5**
comp=Z,12nm,0.8s,mb5.0,baz=280,slow=10,SNR=5.1							
PMG	**Port Moresby**	**56.65**	**108**	*e*P	**P**	**21 10 21.9**	**-4.3**
comp=Z,36nm,0.9s,mb5.4							
ASF	**Jabal al Asfar**	**56.74**	**302**	P	**P**	**21 10 26.6**	**0.0**
comp=Z,18nm,1.0s,mb5.1,baz=354,slow=1.8,SNR=18							
MALT	**Malatya**	**56.84**	**310**	*e*P	**P**	**21 10 25.7**	**-1.5**
MALT				pmax	pmax		
comp=Z,21nm,1.2s,mb5.0							
MALT	**Malatya**	**56.84**	**310**	*e*P	**P**	**21 10 25.7**	**-1.5**
comp=Z,21nm,1.2s,mb5.0							
SOKR	**Solikamsk**	**56.88**	**339**	⇓*i* P

CTA Charters Tower 59.73 120 P **P** **21 10 48.5 +0.9**
comp=Z,12nm,1.2s,mb4.8,baz=321,slow=10.0,SNR=4.1
CTA Charters Tower 59.73 120 P **P** **21 10 48.5 +0.9**
CTAO Charters Tower 59.73 120 *eP* **P** **21 10 49.1 +1.5**
CTAO pmax pmax
comp=Z,28nm,1.2s,mb5.2
CTAO Charters Tower 59.73 120 *eP* **P** **21 10 49.1 +1.5**
comp=Z,28nm,1.2s,mb5.2
VRSR Storozhevoye 60.55 324 *eP* **P** **21 10 51.0 -1.8**
VRSR pmax pmax
comp=Z,20nm,1.0s,mb5.2
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,20nm,0.9s
BRTR Keskin Array B 60.79 310 P **P** **21 10 52.3 -2.3**
BRTR pmax pmax
comp=Z,16nm,0.8s
BRTR Keskin Array B 60.79 310 P **P** **21 10 52.3 -2.3**
comp=Z,16nm,0.8s,mb5.2,baz=127,slow=6.4,SNR=54
SIM Simferopol' **61.70 316** *eP* **P** **21 10 59.0 -1.7**
SIM *eS* **S** **21 19 22.0 +1.7**
SIM pmax pmax
comp=Z,25nm,1.0s,mb5.3
STKA Stephens Creek 61.80 134 *eP* **P** **21 11 00.7 -0.9**
comp=Z,4.7nm,0.8s,mb4.7
STKA Stephens Creek 61.80 134 P **P** **21 11 00.8 -0.7**
comp=Z,8.0nm,1.0s,mb4.8,baz=301,slow=5.5,SNR=7.7
MOS Moscow 63.21 328 *eP* **P** **21 11 08.9 -1.7**
MOS *e* 21 11 46.7
MOS *e* 21 13 28.0
MOS pmax pmax
comp=Z,50nm,0.8s,mb5.7
MBAR Mbarara 63.33 264 *d iP* **P** **21 11 13.2 +1.2**
MBAR Mbarara 63.33 264 *eP* **P** **21 11 11.3 -0.6**
comp=Z,24nm,1.4s,mb5.1
OBN Obninsk 63.52 327⇑ *eP* **P** **21 11 09.1 -3.5**
OBN *e* 21 11 48.3
OBN *i* 21 13 27.1
OBN *eS* **S** **21 19 41.4 -1.7**
OBN pmax pmax
comp=Z,53nm,1.4s,mb5.4
OBN MLR MLR
comp=Z,600nm,21.0s,MS4.8
OBN Obninsk 63.52 327⇑ *eP* **P** **21 11 09.2 -3.4**
MA2 Magadan 65.43 28 *eP* **P** **21 11 30.4 +5.5**
MA2 *e* 21 21 20.5
MA2 *e* 21 24 17.4
MA2 pmax pmax
comp=Z,20nm,1.3s,mb5.0
MA2 Magadan 65.43 28 *eP* **P** **21 11 27.3 +2.3**
comp=Z,32nm,1.2s,mb5.2
TIRR Tirgusor 65.55 314 ⇑P **P** **21 11 24.7 -1.3**
TIXI Tiksi 65.56 12 *eP* **P** **21 11 24.7 -0.9**
TIXI pmax pmax
comp=Z,47nm,1.2s,mb5.4
TIXI MLR MLR
comp=Z,554nm,15.0s,MS4.9
TIXI Tiksi 65.56 12⇓ *eP* **P** **21 11 24.6 -1.0**
AKASG Malin Array Be 66.36 321 P **P** **21 11 28.8 -2.2**
AKASG pmax pmax
comp=Z,12nm,1.0s
AKASG Malin Array Be 66.36 321 P **P** **21 11 28.8 -2.3**
comp=Z,12nm,1.0s,mb4.8,baz=88,slow=4.6,SNR=29
VRI Vrincioaia 66.98 316 ⇓P **P** **21 11 34.6 -0.5**
IDI Anoyia 67.05 304 P **P** **21 11 33.9 -1.8**
comp=Z,13nm,0.7s,mb5.1,baz=342,slow=4.4,SNR=11
MLR Muntele Rosu 67.45 315 ⇑P **P** **21 11 37.9 -0.2**
JOF Joensuu 68.95 334 *ep* **P** **21 11 45.8 -1.3**
comp=Z,1.6nm,0.4s,mb4.3
LSZ Lusaka 69.33 250 *eP* **P** **21 11 51.0 +0.8**
LSZ pmax pmax
comp=Z,11nm,1.0s,mb4.7
LSZ Lusaka 69.33 250 *eP* **P** **21 11 51.0 +0.8**
comp=Z,11nm,1.0s,mb4.7
BOLS Boljevac 70.06 313⇓ *iP* **P** **21 11 51.8 -2.4**
KWP Kalwaria 70.26 319 *eP* **P** **21 11 54.8 -0.5**
KOLS Kolonicke sedl 70.44 318 *i* P **P** **21 11 56.0 -0.5**
KOLS *e* pP 21 12 01.3 -2.1
SUW Suwalki 70.68 324 *eP* **P** **21 11 56.0 -1.8**
FINES FINESS Array B 70.82 332 *i* P **P** **21 11 58.4 -0.2**
FINES pmax pmax
comp=Z,7.0nm,0.8s
FINES FINESS Array B 70.82 332 P **P** **21 11 57.5 -1.0**
comp=Z,6.9nm,0.8s,mb4.6,baz=107,slow=7.9,SNR=18
KAF Kangasniemi 70.90 333 *ep* **P** **21 11 58.8 -0.2**
comp=Z,15nm,1.0s,mb4.9,baz=91,slow=4.8
KAF Kangasniemi 70.90 333 *eP* **P** **21 11 58.8 -0.2**
KAF pmax pmax
comp=Z,15nm,1.0s,mb4.9
CRVS Cervenica-Dubn 70.97 318 *eP* **P** **21 12 01.7 +2.0**
NIE Niedzica 71.78 319 *eP* **P** **21 12 04.0 -0.5**
PSZ Piszkesteto 71.90 317⇑ *eP* **P** **21 12 04.9 -0.4**
OJC Ojcow 72.20 320 *eP* **P** **21 12 06.3 -0.7**
PKSM Moragy 72.61 315⇑ *eP* **P** **21 12 09.0 -0.5**
VYHS Vyhne 72.66 318 *eP* **P** **21 12 08.6 -1.2**
KEV Kevo 72.92 340 *ep* **P** **21 12 10.4 -0.5**
comp=Z,27nm,1.1s,mb5.1
KEV Kevo 72.92 340 *eP* **P** **21 12 10.4 -0.5**
KEV pmax pmax
comp=Z,27nm,1.1s,mb5.1
OKC Ostrava-Krasne 73.22 319 *eP* **P** **21 12 13.3 +0.3**
OKC AMS AMS 21 49 20.0
ARCES ARCESS Array B 73.35 340 P **P** **21 12 12.7 -0.7**
ARCES pmax pmax
comp=Z,6.0nm,0.7s
ARCES ARCESS Array B 73.35 340 P **P** **21 12 12.7 -0.7**
comp=Z,5.7nm,0.7s,mb4.6,baz=93,slow=5.5,SNR=27
MORC Moravsky Berou 73.61 319 *eP* **P** **21 12 14.5 -0.8**
MORC pmax pmax
comp=Z,35nm,1.2s,mb5.2
MORC Moravsky Berou 73.61 319 *eP* **P** **21 12 14.5 -0.7**
comp=Z,35nm,1.2s,mb5.2
ZST Bratislava 73.79 317 *eP* **P** **21 12 16.2 -0.1**
ZST *ep*P pP 21 12 24.2 +0.9
ZST *e* 21 12 32.7
DPC Dobruska-Polom 74.43 320 *eP* **P** **21 12 19.9 -0.1**
DPC AMS AMS 21 43 30.0
comp=Z,500nm,16.8s
KSP Ksiaz 74.48 320 *eP* **P** **21 12 20.6 +0.3**
KSP Ksiaz 74.48 320 *eP* **P** **21 12 21.2 +0.9**
LBTB Lobatse 74.61 241 *eP* **P** **21 12 22.4 +0.8**
LBTB pmax pmax
comp=Z,17nm,1.0s,mb4.9
LBTB Lobatse 74.61 241 *eP* **P** **21 12 22.4 +0.8**
comp=Z,16nm,1.0s,mb4.9
BILL Bilibino 74.61 22⇓ *eP* **P** **21 12 23.1 +2.4**
UPC Upice 74.64 320 *eP* **P** **21 12 21.5 +0.3**
ARSA Arzberg 74.81 316⇓ *iP* **P** **21 12 22.0 -0.3**
comp=Z,25nm,1.7s,mb4.9
OBKA Obir 75.45 316⇑ *iP* **P** **21 12 25.9 -0.1**
comp=Z,18nm,0.8s,mb5.0
LJU Ljubljana 75.46 315 *eP* **P** **21 12 26.0 0.0**
VAE Valguarnera 75.56 306 P **P** **21 12 26.9 +0.1**
comp=Z,18nm,0.9s,mb5.0,baz=196,slow=19,SNR=3.3
PRU Pruhonice 75.56 319 *eP* **P** **21 12 27.1 +0.6**
PRU AMS AMS 21 42 10.0
comp=Z,400nm,18.9s
PVCC Panska Ves 75.56 320 *eP* **P** **21 12 27.5 +1.0**
PVCC AMS AMS 21 51 30.0
comp=Z,400nm,22.6s
MOA Molln 75.67 317⇓ *iP* **P** **21 12 27.2 0.0**
comp=Z,16nm,1.1s,mb4.9
BRG Berggiesshubel 75.97 320 *eP* **P** **21 12 28.8 0.0**
BRG pmax pmax
comp=Z,45nm,1.8s,mb5.1
BRG Berggiesshubel 75.97 320 *eP* **P** **21 12 28.8 0.0**
comp=Z,45nm,1.8s,mb5.1
BRG *e* 21 16 57.8
BRG *e* 21 28 24.7
BOSA Boshof 76.06 237 *eP* **P** **21 12 30.9 +1.1**
BOSA pmax pmax
comp=Z,43nm,1.4s,mb5.2
BOSA Boshof 76.06 237 *eP* **P** **21 12 30.9 +1.1**
comp=Z,44nm,1.4s,mb5.2
GERES GERESS Array B 76.07 318 P **P** **21 12 29.1 -0.4**
GERES pmax pmax
comp=Z,8.0nm,0.8s
GERES GERESS Array B 76.07 318 P **P** **21 12 29.1 -0.3**
comp=Z,8.3nm,0.8s,mb4.7,baz=86,slow=5.1,SNR=44
KHC Kasperske Hory 76.16 318⇑ *eP* **P** **21 12 29.6 -0.3**
KHC Kasperske Hory 76.16 318 *eP* **P** **21 12 29.7 -0.2**
KHC AMS AMS 21 44 50.0
comp=Z,400nm,17.6s
KBA Koelnbreinsper 76.29 316⇑ *iP* **P** **21 12 30.1 -0.6**
comp=Z,21nm,1.6s,mb4.8
KBA Koelnbreinsper 76.29 316⇑ *iP* **P** **21 12 30.1 -0.6**
KBA pmax pmax
comp=Z,21nm,1.6s,mb4.8
CLL Collm 76.58 320 P **P** **21 12 30.9 -1.3**
CLL *i* pP 21 12 39.5 +0.3
CLL pmax pmax
comp=Z,25nm,1.5s,mb4.9
CLL Collm 76.58 320 P **P** **21 12 30.9 -1.3**
comp=Z,logA/T=1.2,mb4.9
CLL *i* *SP sP 21 12 39.5 -2.1
NKC Novy Kostel 76.91 319 *eP* **P** **21 12 34.8 +0.7**
NKC AMS AMS 21 52 20.0
comp=Z,600nm,18.6s
MOX Moxa 77.44 320 *eP* **P** **21 12 36.0 -1.1**
WTTA Wattenberg 77.45 316⇑ *iP* **P** **21 12 36.7 -0.5**
comp=Z,20nm,0.8s,mb5.1
WTTA Wattenberg 77.45 316⇑ *iP* **P** **21 12 36.7 -0.5**
WTTA pmax pmax
comp=Z,20nm,0.8s,mb5.1
GRA1 Grafenberg Arr 77.70 319 *eP* **P** **21 12 38.8 +0.3**
comp=Z,21nm,1.2s,mb4.9
GRF Grafenberg Arr 77.70 319 *eP* **P** **21 12 38.8 +0.3**
GRF pmax pmax
comp=Z,21nm,1.2s,mb4.9
GRF Grafenberg Arr 77.70 319 *eP* **P** **21 12 38.8 +0.3**
GRF pmax pmax
comp=Z,21nm,1.2s,mb4.9
GRF Grafenberg Arr 77.70 319 *eP* **P** **21 12 38.8 +0.3**
comp=Z,21nm,1.2s,mb4.9
SQTA Sankt Quirin 77.75 316⇑ *iP* **P** **21 12 38.3 -0.5**
comp=Z,18nm,1.0s,mb4.9
SQTA Sankt Quirin 77.75 316⇑ *iP* **P** **21 12 38.3 -0.5**
SQTA pmax pmax
comp=Z,18nm,1.0s,mb5.0
MOTA Moosalm 77.81 316⇓ *iP* **P** **21 12 37.8 -1.4**
comp=Z,11nm,1.0s,mb4.8
MOTA Moosalm 77.81 316⇓ *iP* **P** **21 12 37.8 -1.4**
MOTA pmax pmax
comp=Z,11μm,1.0s
NB2 NORSAR Subarra 77.85 330 P **P** **21 12 39.0 -0.1**
comp=Z,2.8nm,0.7s,mb4.3,baz=95,slow=5.3
NB2 NORSAR Subarra 77.85 330 P **P** **21 12 39.0 -0.1**
NB2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
NOA NORSAR Array B 77.85 330 P **P** **21 12 38.7 -0.4**
NOA pmax pmax
comp=Z,6.0nm,0.9s
NOA NORSAR Array B 77.85 330 P **P** **21 12 38.7 -0.4**
comp=Z,6.2nm,0.9s,mb4.5,baz=92,slow=5.7,SNR=8.0
NOA NORSAR Array B 77.85 330 P **P** **21 12 38.7 -0.4**
NAO01 NORSAR Array S 78.00 330 *eP* **P** **21 12 38.5 -1.4**
comp=Z,19nm,1.0s,mb5.0
DAVA Damuels 78.65 316⇑ *iP* **P** **21 12 43.7 0.0**
comp=Z,24nm,0.9s,mb5.1
PGF Pioggiola 79.50 312 *eP* **P** **21 12 48.6 +0.1**
MAW Mawson 80.20 191 *eP* **P** **21 12 51.8 +0.1**
MAW pmax pmax
comp=Z,14nm,0.9s
MAW Mawson 80.20 191 P **P** **21 12 55.3 +3.6**
comp=Z,7.3nm,0.8s,mb4.6,baz=335,slow=4.3,SNR=4.7
MAW Mawson 80.20 191 *eP* **P** **21 12 51.8 0.0**
comp=Z,14nm,0.9s,mb4.9
CDF Champ du Feu 80.34 318 *eP* **P** **21 12 52.6 -0.3**
comp=Z,19nm,1.0s,mb4.7
CDF Champ du Feu 80.34 318 *eP* **P** **21 12 52.6 -0.3**
CDF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SBF Sospel 80.55 313 *eP* **P** **21 12 53.6 -0.5**
comp=Z,64nm,0.8s,mb5.3
SBF Sospel 80.55 313 *eP* **P** **21 12 53.6 -0.5**
SBF pmax pmax
comp=Z,32nm,0.8s,mb5.3
LPG La Plagne 80.91 315 *eP* **P** **21 12 56.6 +0.7**
comp=Z,59nm,0.9s,mb5.2
LPG La Plagne 80.91 315 *eP* **P** **21 12 56.6 +0.7**
LPG pmax pmax
comp=Z,30nm,0.9s,mb5.2
LPL La Plagne 80.92 315 *eP* **P** **21 12 56.5 +0.5**
comp=Z,69nm,0.9s,mb5.3
LPL La Plagne 80.92 315 *eP* **P** **21 12 56.5 +0.5**
LPL pmax pmax
comp=Z,34nm,0.9s,mb5.3
MBDF Montbardon 80.96 314 *eP* **P** **21 12 55.9 -0.3**
HAU Haudompre 80.99 317 *eP* **P** **21 12 56.1 -0.2**
comp=Z,39nm,0.9s,mb5.0
HAU Haudompre 80.99 317 *eP* **P** **21 12 56.1 -0.2**
HAU pmax pmax
comp=Z,19nm,0.9s,mb5.0
BNI Bardonecchia 81.00 314 *eP* **P** **21 12 56.3 -0.1**
BNI pmax pmax
comp=Z,41nm,1.1s,mb5.3
BNI Bardonecchia 81.00 314 *eP* **P** **21 12 56.3 -0.1**
comp=Z,41nm,1.1s,mb5.3
FRF La Foret Royal 81.15 313 *eP* **P** **21 12 57.3 +0.1**
comp=Z,61nm,1.2s,mb5.1
FRF La Foret Royal 81.15 313 *eP* **P** **21 12 57.3 +0.1**
FRF pmax pmax
comp=Z,30nm,1.2s,mb5.1
LMR La Mourre 81.27 313 *eP* **P** **21 12 57.9 +0.1**
CABF La Chapelle 81.28 316 *eP* **P** **21 12 58.3 +0.5**
comp=Z,69nm,1.3s,mb5.1
CABF La Chapelle 81.28 316 *eP* **P** **21 12 58.3 +0.5**
CABF pmax pmax
comp=Z,34nm,1.3s,mb5.1
ORIF Oris-en-Rattie 81.58 314 *eP* **P** **21 13 00.2 +0.8**
comp=Z,28nm,1.0s,mb4.8
ORIF Oris-en-Rattie 81.58 314 *eP* **P** **21 13 00.2 +0.8**
ORIF pmax pmax
comp=Z,14nm,1.0s,mb4.8
MEZF Maizieres J'vi 81.81 318 *eP* **P** **21 13 00.8 +0.2**
SMRF Simiane la Rot 81.88 313 *eP* **P** **21 13 01.8 +0.8**
BAIF Baives 82.21 319 *eP* **P** **21 13 03.0 +0.4**
comp=Z,55nm,1.3s,mb5.0
BAIF Baives 82.21 319 *eP* **P** **21 13 03.0 +0.4**
BAIF pmax pmax
comp=Z,27nm,1.3s,mb5.0
VIVF Saint-Julien-I 82.44 314 *eP* **P** **21 13 04.2 +0.3**
comp=Z,31nm,1.1s,mb4.9
VIVF Saint-Julien-I 82.44 314 *eP* **P** **21 13 04.2 +0.3**
VIVF pmax pmax
comp=Z,16nm,1.1s,mb4.9
SMF Signal de Mont 82.82 316 *eP* **P** **21 13 05.8 0.0**
comp=Z,20nm,0.8s,mb4.9
SMF Signal de Mont 82.82 316 *eP* **P** **21 13 05.8 0.0**
SMF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
SSF Saint Saulge 83.00 316 *eP* **P** **21 13 06.9 +0.1**
LASF Ste Croix 83.10 313 *eP* **P** **21 13 07.2 -0.2**
AVF Avril sur Loir 83.14 316 *eP* **P** **21 13 07.4 -0.1**
comp=Z,53nm,1.3s,mb5.1
AVF Avril sur Loir 83.14 316 *eP* **P** **21 13 07.4 -0.1**
AVF pmax pmax
comp=Z,26nm,1.3s,mb5.1
BGF Bois d'Agland 83.51 316 *eP* **P** **21 13 09.9 +0.5**
TCF Toulx Ste Croi 83.98 316 *eP* **P** **21 13 12.2 +0.4**
MTLF Montolieu 84.38 313 *eP* **P** **21 13 14.3 +0.4**
comp=Z,36nm,1.0s,mb5.2
MTLF Montolieu 84.38 313 *eP* **P** **21 13 14.3 +0.4**
MTLF pmax pmax
comp=Z,18nm,1.0s,mb5.2
RJF Les Rejaudoux 84.60 315 *eP* **P** **21 13 15.6 +0.7**
LDF La Druitiere 85.21 318 *eP* **P** **21 13 18.2 +0.3**
comp=Z,41nm,1.1s,mb5.2
LDF La Druitiere 85.21 318 *eP* **P** **21 13 18.2 +0.3**
LDF pmax pmax
comp=Z,21nm,1.1s,mb5.2
FLN La Foliniere 85.42 319 *eP* **P** **21 13 19.2 +0.3**
MFF Saint Martin d 85.55 316 *eP* **P** **21 13 19.8 +0.2**
DAG Danmarks Havn 85.57 348⇑ *eP* **P** **21 13 19.5 +0.4**
DAG pmax pmax
comp=Z,10.0nm,1.6s,mb4.8
DAG Danmarks Havn 85.57 348⇑ *eP* **P** **21 13 19.5 +0.4**
comp=Z,10.0nm,1.6s,mb4.8
DAG Danmarks Havn 85.57 348⇑ *iP* **P** **21 13 19.5 +0.4**
comp=Z,10.0nm,1.6s,mb4.8
ETSF Etsaut 86.45 313 *iP* **P** **21 13 25.1 +0.9**
comp=Z,37nm,1.1s,mb5.2
ETSF Etsaut 86.45 313 *eP* **P** **21 13 25.1 +0.9**
ETSF pmax pmax
comp=Z,19nm,1.1s,mb5.2
SYO Syowa Base 86.98 197 ⇑P **P** **21 13 27.6 +1.5**
SYO Syowa Base 86.98 197 ⇓pP pP 21 13 38.3 +5.1
SYO Syowa Base 86.98 197 ⇑sP sP 21 13 43.6 +8.1
SYO Syowa Base 86.98 197 ⇑PP PP 21 16 52.8 +1.0
ESDC Sonseca Array 89.59 310 P **P** **21 13 39.5 +0.2**
comp=Z,2.4nm,0.7s,mb4.6,baz=72,slow=4.6,SNR=9.4
IMA Indian Mountai 90.16 22 *eP* **P** **21 13 43.2 +1.9**
SPU Mount Spurr 92.91 26 *eP* **P** **21 13 54.5 +0.4**
ILAR Eielson Array 93.28 22 P **P** **21 13 56.2 +0.5**
comp=Z,1.7nm,0.8s,mb4.5,baz=310,slow=4.5,SNR=19
ILAR PP PP 21 17 38.0 -4.3
comp=Z,0.2nm,0.6s,baz=310,slow=7.0,SNR=3.5
ILAR PKKPbc 21 31 03.8
comp=Z,0.2nm,0.5s,baz=145,slow=1.1,SNR=5.3
ILAR LR LR 21 55 51.6
comp=Z,514nm,21.2s,MS5.0,baz=147,slow=36
SLKM Skilak Lake 94.02 26 *eP* **P** **21 14 00.7 +1.5**
INK Inuvik 95.40 16 P **P** **21 14 05.9 +0.5**
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 95.40 16 P **P** **21 14 05.9 +0.5**
comp=Z,2.2nm,0.7s,mb4.7,baz=343,slow=5.3,SNR=8.2
DAWY Dawson 96.36 21 *eP* **P** **21 14 10.0 +0.1**
DBIC Dimbokro 97.11 278 P **P** **21 14 15.9 +1.5**
DBIC pmax pmax
comp=Z,4.0nm,1.0s
DBIC Dimbokro 97.11 278 P **P** **21 14 15.9 +1.5**
comp=Z,3.9nm,1.0s,mb4.8,baz=92,slow=12,SNR=2.9
YKA Yellowknife Ar 104.79 13 Pdiff Pdif 21 14 49.2 +1.6
comp=Z,0.4nm,1.0s,baz=329,slow=3.6,SNR=3.5
YKA PP PP 21 19 05.7 -4.7
comp=Z,0.4nm,0.7s,baz=335,slow=7.9,SNR=4.7
YKA PKKPbc 21 30 32.8
comp=Z,0.1nm,0.4s,baz=158,slow=3.1,SNR=4.3
YKA Yellowknife Ar 104.79 13 Pdif Pdif 21 14 49.2 +1.6
YKA PP PP 21 19 05.7 -4.7
YKA PKKPbc 21 30 32.9
NVAR Mina Array Bea 123.64 30 PKP PKPdf 21 19 40.2 -2.4
comp=Z,1.4nm,0.6s,baz=345,slow=1.3,SNR=9.2
NVAR Mina Array Bea 123.64 30 PKP PKPdf 21 19 40.2 -2.4
PDAR Pinedale Array 123.67 20 PKP PKPdf 21 19 40.1 -2.4
comp=Z,1.6nm,0.8s,baz=90,slow=1.5,SNR=5.1
SADO Sadowa 125.38 354 PKP PKPdf 21 19 44.3 -1.4
comp=Z,4.9nm,0.9s,baz=17,slow=6.6,SNR=3.1
MVU Marysvale 126.36 25 *e*PKPdf PKPdf 21 19 45.7 -2.1
MSU Marysvale 126.36 25 *e*PKIKP PKPdf 21 19 46.6 -1.2
ANMO Albuquerque 131.72 22 PKIKP PKPdf 21 19 57.3 -0.9
ANMO pmax pmax
comp=Z,3.0nm,1.1s
ANMO pmax pmax
comp=E,4.0nm,0.9s
ANMO Albuquerque 131.72 22 PKP PKPdf 21 19 57.3 -0.9
comp=E,2.6nm,1.1s,baz=339,slow=8.7,SNR=4.1
ANMO SKPbc 21 23 19.4
comp=E,3.6nm,0.9s,baz=308,slow=4.9,SNR=6.4
WVT Waverly 134.39 2 *e*PKIKP PKPdf 21 20 01.0 -2.1
TXAR Lajitas Array 137.79 23 PKhKP 21 19 59.1
comp=E,0.5nm,0.8s,baz=300,slow=1.1,SNR=4.0
TXAR PKP PKPdf 21 20 07.8 -1.7
comp=E,0.6nm,0.5s,baz=7.2,slow=1.0,SNR=5.9
TXAR SKPbc 21 23 38.2
comp=E,2.6nm,0.9s,baz=283,slow=1.9,SNR=9.5
JCT Junction City 138.03 17 *e*PKIKP PKPdf 21 20 08.4 -1.6
SJG San Juan 145.85 324 PKP2 PKPab 21 20 22.0 -0.9
SJG pmax pmax
comp=Z,12nm,0.3s
SJG San Juan 145.85 324 PKPbc PKPbc 21 20 22.0 +1.4
comp=Z,12nm,0.3s,baz=321,slow=21,SNR=5.7
SJG San Juan 145.85 324 *e*PKPdf PKPdf 21 20 19.1 -5.0
PLCA Paso Flores 146.04 202 PKPbc PKPbc 21 20 22.8 +2.3
comp=Z,8.7nm,0.8s,baz=136,slow=4.7,SNR=6.8
PLCA Paso Flores 146.04 202 *e*PKPbc PKPbc 21 20 23.1 +2.6
TEIG Tepich 150.20 3 *e*PKPbc PKPdf 21 20 34.6 +3.4
SDV Santo Domingo 155.72 319 *e*PKPbc PKPab 21 21 02.7 -1.0
comp=Z,3.9nm,0.6s,baz=28,slow=2.7,SNR=6.8
SDV Santo Domingo 155.72 319 *e*PKPbc PKPdf 21 20 46.2 +7.2
SDV PKPab PKPab 21 21 02.7 -1.0
SDV *e*PKPab PKPab 21 21 02.9 -0.8
LVC Limon Verde 158.85 231 PKPab PKPab 21 21 17.5 +0.6
comp=Z,24nm,1.3s,baz=149,slow=1.0,SNR=6.4
LPAZ La Paz 160.99 248 PKIKP PKPdf 21 20 41.8 -3.5
LPAZ pmax pmax
comp=Z,5.0nm,0.9s
LPAZ La Paz 160.99 248 PKPab PKPab 21 20 41.8 -44
comp=Z,4.8nm,0.9s,baz=84,slow=8.2,SNR=8.0
LPAZ La Paz 160.99 248 *e*PKPdf PKPdf 21 20 41.5 -3.8

NEIC ***27*** *21:01:54.1±0.4, 7.79N×93.99E, h30km, mb4.8/5, Error ellipse: s-maj=13.3km s-min=9.3km az=83.0*
BJI ***27*** *21:01:55.3, 7.91N×94.71E, h16km, mb4.5, Ms5.5, Msz5.2*
IDC ***27*** *21:01:56.9±5.0, 7.87N×94.12E, h54km±44km, mb4.2/18, mb1 4.4/19, mb1mx4.4/21, mbtmp4.5/19, ML5.2/1, MS4.7/2, Ms1 4.7/2, ms1mx3.8/18, Error ellipse: s-maj=29.1km s-min=17.5km az=69.0*
ISC 27 21:01:53.1±3.5, 7.83N±0.09×94.0E±0.1, h34km±30km, n34, σ1°13/32, mb4.5/21, MS4.7/2, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.60**	**24**	*eP*	**P**	**21 04 38.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**11.60**	**24**	P	**P**	**21 04 39.6**	**+0.3**
4.9nm,0.3s,baz=212,slow=14,SNR=10							
KMI	**Kunming**	**19.11**	**25**	P	**P**	**21 06 17.6**	**+1.7**
18nm,1.2s							
LSA	**Lhasa**	**21.92**	**353**	*eP*	**P**	**21 06 45.2**	**0.0**
MBWA	**Marble Bar**	**38.31**	**139**	P	**P**	**21 09 13.2**	**+0.7**
AAK	**Ala-Archa**	**38.69**	**337**	*eP*	**P**	**21 09 16.8**	**+1.4**
12nm,0.8s,mb4.7							
SONM	**Songino Array**	**41.23**	**13**	P	**P**	**21 09 37.1**	**+0.7**
6.8nm,1.0s,mb4.2,baz=192,slow=8.4,SNR=2.9							
KURK	**Kurchatov**	**44.62**	**346**	*eP*	**P**	**21 10 02.1**	**-1.8**
15nm,0.8s,mb4.9							
NWAO	**Narrogin (SRO)**	**46.17**	**153**	P	**P**	**21 10 14.7**	**-1.8**
15nm,1.0s,mb4.9,baz=339,slow=4.8,SNR=2.5							
ZAL	**Zalesovo**	**46.57**	**353**	P	**P**	**21 10 18.9**	**-0.4**
11nm,0.9s,mb4.8,baz=295,slow=8.3,SNR=7.2							
ZAL				LR	LR	21 32 21.0	
comp=Z,1μm,20.8s,MS4.8,baz=293,slow=39							
ZAL	**Zalesovo**	**46.57**	**353**	P	**P**	**21 10 18.9**	**-0.4**
WRA	**Warramunga Arr**	**48.34**	**125**	P	**P**	**21 10 33.2**	**-0.5**
6.1nm,0.9s,mb4.6,baz=304,slow=9.0,SNR=2.8							
WRAB	**Tennant Creek**	**48.34**	**125**	*eP*	**P**	**21 10 32.6**	**-1.1**
BVAR	**Borovoye Array**	**48.99**	**341**	P	**P**	**21 10 36.3**	**-1.9**
3.0nm,0.7s,mb4.4,baz=128,slow=24,SNR=1.7							
CHKZ	**Chkalovo**	**49.47**	**342**	*eP*	**P**	**21 10 41.9**	**-0.1**
14nm,0.7s,mb5.1							
ASAR	**Alice Springs**	**49.98**	**130**	P	**P**	**21 10 49.1**	**+2.8**
3.8nm,0.5s,mb4.7,baz=302,slow=8.0,SNR=5.2							
ASAR				LR	LR	21 32 04.4	
comp=Z,662nm,21.6s,MS4.6,baz=301,slow=36							
KMBO	**Kilima Mbogo**	**57.29**	**264**	P	**P**	**21 11 41.9**	**+1.5**
2.9nm,0.7s,mb4.4,baz=66,slow=18,SNR=2.8							
BRTR	**Keskin Array B**	**62.36**	**311**	P	**P**	**21 12 13.3**	**-1.5**
2.0nm,0.5s,mb4.5,baz=121,slow=6.1,SNR=2.7							
AKASG	**Malin Array Be**	**68.11**	**322**	P	**P**	**21 12 50.9**	**-0.7**
0.9nm,0.7s,mb3.9,baz=87,slow=5.4,SNR=2.3							
IDI	**Anoyia**	**68.49**	**305**	P	**P**	**21 12 54.8**	**+0.7**
10nm,0.7s,mb5.0,baz=94,slow=11,SNR=3.7							
LSZ	**Lusaka**	**69.14**	**250**	*eP*	**P**	**21 12 58.0**	**-0.4**
FINES	**FINESS Array B**	**72.69**	**332**	P	**P**	**21 13 19.0**	**-0.1**
6.4nm,0.8s,mb4.6,baz=104,slow=8.5,SNR=5.3							
ARCES	**ARCESS Array B**	**75.26**	**340**	P	**P**	**21 13 34.7**	**+0.8**
4.9nm,0.8s,mb4.5,baz=98,slow=6.4,SNR=2.6							
MORC	**Moravsky Berou**	**75.32**	**319**	*eP*	**P**	**21 13 34.5**	**-0.1**
GERES	**GERESS Array B**	**77.77**	**318**	P	**P**	**21 13 49.3**	**+0.8**
1.7nm,0.6s,mb4.2,baz=112,slow=5.3,SNR=2.1							
MAW	**Mawson**	**78.47**	**192**	P	**P**	**21 13 52.5**	**+0.6**
6.7nm,0.9s,mb4.5,baz=38,slow=12,SNR=1.9							
NB2	**NORSAR Subarra**	**79.70**	**331**	P	**P**	**21 13 58.4**	**-0.4**
8.6nm,0.8s,mb4.7,baz=91,slow=5.3							
NOA	**NORSAR Array B**	**79.70**	**331**	P	**P**	**21 13 59.0**	**+0.3**
1.4nm,0.9s,mb3.9,baz=82,slow=7.3,SNR=3.1							
ESDC	**Sonseca Array**	**91.15**	**310**	P	**P**	**21 14 60.0**	**+3.9**
1.0nm,0.6s,mb4.3,baz=67,slow=4.1,SNR=3.4							
ILAR	**Eielson Array**	**94.83**	**22**	P	**P**	**21 15 10.6**	**-1.7**
0.4nm,0.9s,mb3.9,baz=293,slow=6.9,SNR=2.1							
INK	**Inuvik**	**97.07**	**16**	P	**P**	**21 15 24.0**	**+1.6**
1.8nm,0.9s,mb4.5,baz=4.1,slow=4.2,SNR=1.3							
INK	**Inuvik**	**97.07**	**16**	P	**P**	**21 15 24.0**	**+1.6**
PDAR	**Pinedale Array**	**125.25**	**21**	PKP	PKPdf	21 20 52.4	+1.8
1.0nm,0.9s,baz=248,slow=4.9,SNR=2.0							
PLCA	**Paso Flores**	**144.47**	**200**	PKP	PKPdf	21 21 27.9	+1.7
5.8nm,0.8s,baz=183,slow=7.5,SNR=1.8							

HRVD ***27*** *21:05:02.5±0.6, 7.99N×94.26E, h15km±2km, MW5.1/50, Centroid moment Tensor Solution. LP body waves: s5,c5; Mantle waves: s50,c77; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.42±.29; $M_{\theta\theta}$-3.72±.24; $M_{\phi\phi}$4.14±.28;*

M_{r0}-2.19±1.07; M_{b0}-1.73±.25; $M_{b/r}$-3.05±1.13; Best double couple: $M_0$5.715×10^{16} NP1:$\phi_0$125°, δ49°, λ-176°. NP2: $\phi_0$32°, δ87°, λ-41°. Principal axes: T 5.707, Plg25°, Azm86°; N .022, Plg49°, Azm208°; P -5.724, Plg30°, Azm340°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **27** 21:05:02.5±0.3, 7.80N×94.18E, h30^{km}, mb4.9/17 Error ellipse: s-maj=10.9km s-min=8.2km az=51.0*

*BJI **27** 21:05:04.3, 7.53N×93.48E, h58^{km}, mB5.2, mb4.7, Ms5.1, Msz4.9*

*IDC **27** 21:05:09.0±4.6, 7.90N×94.31E, h86^{km}±42^{km}, mb4.1/23, mb1 4.2/24, mb1mx4.2/27, mbtmp4.4/24, Error ellipse: s-maj=28.2km s-min=12.4km az=51.0*

ISC 27 21:05:00.6±0.4, 7.78N±0.06×94.15E±0.07, h29^{km}, h29^{km}±6.2km: pP-P, n79, σ1°12/63, mb4.6/38, MS5.0/1, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.59**	**23**	*eP*	**P**	**21 07 48.2**	**+0.9**
CMAR	**Chiang Mai Arr**	**11.59**	**23**	P	**P**	**21 07 48.8**	**+1.4**
	1.1nm,0.3s,baz=211,slow=14,SNR=8.2						
KMI	**Kunming**	**19.10**	**24**	⇑P		21 09 32.0	
	33nm,1.6s						
LSA	**Lhasa**	**21.99**	**353**	*eP*	**P**	**21 09 53.1**	**-1.1**
ENH	**Enshi**	**26.59**	**31**	*eP*	**P**	**21 10 37.1**	**-1.3**
LZH	**Lanzhou**	**29.53**	**16**	*eP*	**P**	**21 11 09.3**	**+4.3**
LZH				AP	pP	21 11 23.0	+9.4
LZH				XP	sP	21 11 28.5	+11
LZH				AMB	AMB		
	comp=Z,66nm,1.6s,mb5.1						
LZH				AMB	AMB		
	comp=Z,222nm,4.4s						
LZH				LR	LR		
	comp=E,2μm,11.5s						
LZH				LR	LR		
	comp=Z,2μm,13.0s,MS5.0						
LZH	**Lanzhou**	**29.53**	**16**	*eP*	**P**	**21 11 09.2**	**+4.2**
	comp=Z,66nm,1.6s,mb5.1						
LZH				pP	pP	21 11 23.0	+9.4
LZH				sP	sP	21 11 28.5	+11
LZH				LR	LR		
	comp=Z,2μm,13.0s,MS5.0						
WMQ	**Urumqi**	**36.34**	**352**	*eP*	**P**	**21 12 05.0**	**+1.0**
BJT	**Baijiatuan**	**37.66**	**28**	*eP*	**P**	**21 12 14.0**	**-1.1**
BJI	**Beijing**	**37.68**	**28**	*eP*	**P**	**21 12 15.6**	**+0.3**
	comp=Z,16nm,1.5s,mb4.5						
AAK	**Ala-Archa**	**38.79**	**337**	*eP*	**P**	**21 12 24.1**	**-0.5**
	comp=Z,8.6nm,0.9s,mb4.5						
SONM	**Songino Array**	**41.25**	**13**	P	**P**	**21 12 45.3**	**+0.6**
	comp=Z,1.4nm,0.8s,mb3.6,baz=198,slow=9.1,SNR=2.2						
KURK	**Kurchatov**	**44.70**	**346**	*eP*	**P**	**21 13 12.3**	**-0.5**
KLBR	**Kellerberrin**	**45.19**	**151**	*eP*	**P**	**21 13 20.7**	**+3.7**
	comp=Z,443nm,1.2s						
NWAO	**Narrogin (SRO)**	**46.06**	**153**	P	**P**	**21 13 25.0**	**+1.1**
	comp=Z,28nm,0.9s,mb5.2,baz=310,slow=11,SNR=9.0						
HIA	**Hailar**	**46.60**	**23**	*eP*	**P**	**21 13 27.0**	**-0.9**
ZAL	**Zalesovo**	**46.64**	**352**	P	**P**	**21 13 29.3**	**+1.1**
	comp=Z,2.8nm,0.4s,mb4.5,baz=291,slow=10,SNR=5.1						
MDJ	**Mudanjiang**	**47.88**	**34**	P	**P**	**21 13 39.5**	**+1.4**
MDJ				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,90nm,3.7s						
WRA	**Warramunga Arr**	**48.20**	**125**	P	**P**	**21 13 40.2**	**-0.7**
	comp=Z,4.1nm,0.9s,mb4.4,baz=305,slow=8.4,SNR=4.6						
WRAB	**Tennant Creek**	**48.20**	**125**	*eP*	**P**	**21 13 39.6**	**-1.3**
BVAR	**Borovoye Array**	**49.08**	**341**	P	**P**	**21 13 47.3**	**+0.1**
	comp=Z,2.5nm,0.9s,mb4.2,baz=141,slow=9.2,SNR=3.0						
BVAR				PcP	PcP	21 15 08.5	-2.4
	comp=Z,2.9nm,1.1s,baz=146,slow=5.2,SNR=2.2						
CHKZ	**Chkalovo**	**49.56**	**342**	*eP*	**P**	**21 13 49.2**	**-1.8**
	comp=Z,17nm,1.1s,mb5.0						
ASAR	**Alice Springs**	**49.85**	**130**	P	**P**	**21 13 52.6**	**-0.9**
	comp=Z,2.7nm,0.8s,mb4.3,baz=300,slow=6.3,SNR=4.3						
GNI	**Garni**	**54.51**	**314**	P	**P**	**21 14 28.4**	**+0.2**
	comp=Z,1.6nm,0.5s,mb4.3,baz=191,slow=5.2,SNR=2.4						
PMG	**Port Moresby**	**55.49**	**107**	P	**P**	**21 14 37.6**	**+1.8**
	comp=Z,17nm,0.8s,mb5.1,baz=281,slow=4.3,SNR=5.4						
KIV	**Kislovodsk**	**57.39**	**318**	*eP*	**P**	**21 14 47.1**	**-1.8**
	comp=Z,16nm,0.9s,mb5.0						
KMBO	**Kilima Mbogo**	**57.42**	**264**	P	**P**	**21 14 52.2**	**+2.7**
	comp=Z,3.2nm,0.9s,mb4.3,baz=50,slow=9.8,SNR=5.0						
CTA	**Charters Tower**	**58.25**	**119**	P	**P**	**21 14 55.2**	**0.0**
	comp=Z,3.3nm,0.9s,mb4.3,baz=267,slow=6.7,SNR=3.1						
CTA	**Charters Tower**	**58.25**	**119**	P	**P**	**21 14 55.2**	**0.0**
ASF	**Jabal al Asfar**	**58.28**	**303**	P	**P**	**21 14 56.1**	**+0.9**
	comp=Z,2.2nm,0.8s,mb4.2,baz=292,slow=9.7,SNR=3.5						
MALT	**Malatya**	**58.53**	**310**	P	**P**	**21 14 56.0**	**-1.0**
	comp=Z,6.7nm,1.1s,mb4.6						
EIL	**Elat**	**59.48**	**300**	*eP*	**P**	**21 15 01.9**	**-1.7**
STKA	**Stephens Creek**	**60.03**	**134**	P	**P**	**21 15 05.7**	**-1.8**
	comp=Z,3.8nm,0.9s,mb4.4,baz=344,slow=7.4,SNR=2.3						
STKA	**Stephens Creek**	**60.03**	**134**	*eP*	**P**	**21 15 04.9**	**-2.5**
BRTR	**Keskin Array B**	**62.50**	**311**	P	**P**	**21 15 22.4**	**-1.5**
	comp=Z,2.1nm,0.7s,mb4.4,baz=135,slow=7.0,SNR=4.0						
MBAR	**Mbarara**	**63.77**	**265**	*eP*	**P**	**21 15 33.4**	**+0.6**
	comp=Z,15nm,1.4s,mb4.8						
AKASG	**Malin Array Be**	**68.23**	**322**	P	**P**	**21 15 58.8**	**-1.9**
	comp=Z,1.3nm,0.6s,mb4.1,baz=86,slow=4.5,SNR=4.6						
IDI	**Anoyia**	**68.63**	**305**	P	**P**	**21 16 03.2**	**-0.2**
	comp=Z,11nm,0.7s,mb4.9,baz=141,slow=8.5,SNR=6.0						
MLR	**Muntele Rosu**	**69.25**	**316**	P	**P**	**21 16 07.2**	**+0.1**
	comp=Z,11nm,1.1s,mb4.7,baz=110,slow=2.5,SNR=4.6						
JOF	**Joensuu**	**70.94**	**334**	*ep*	**P**	**21 16 16.0**	**-1.1**
	comp=Z,13nm,1.1s,mb4.8						
KOLS	**Kolonicke sedl**	**72.28**	**319**	*eP*	pP	21 16 33.6	-1.0
KOLS	**Kolonicke sedl**	**72.28**	**319**	*ep*P	pP	21 16 33.6	-1.0
FINES	**FINESS Array B**	**72.80**	**332**	P	**P**	**21 16 27.6**	**-0.6**
	comp=Z,6.1nm,0.8s,mb4.6,baz=98,slow=7.6,SNR=4.2						
CRVS	**Cervenica-Dubn**	**72.81**	**319**	*eP*	**P**	**21 16 30.8**	**+2.3**
KAF	**Kangasniemi**	**72.88**	**333**	*ep*	**P**	**21 16 28.1**	**-0.5**
	comp=Z,18nm,1.2s,mb4.9,baz=122,slow=5.9						
VYHS	**Vyhne**	**74.48**	**318**	*eP*	**P**	**21 16 43.2**	**+5.0**
VYHS	**Vyhne**	**74.48**	**318**	*e*	**P**	**21 16 43.2**	**+5.0**
KEV	**Kevo**	**74.93**	**341**	*ep*	**P**	**21 16 36.5**	**-3.9**
	comp=Z,44nm,1.7s,mb5.1						
OKC	**Ostrava-Krasne**	**75.07**	**319**	*ep*P	pP	21 16 49.6	-1.2
ARCES	**ARCESS Array B**	**75.36**	**340**	P	**P**	**21 16 42.9**	**+0.1**
	comp=Z,2.0nm,0.5s,mb4.3,baz=79,slow=4.6,SNR=5.5						
MORC	**Moravsky Berou**	**75.45**	**319**	*eP*	**P**	**21 16 42.5**	**-1.2**
	comp=Z,22nm,1.3s,mb4.9						
BOSA	**Boshof**	**75.55**	**238**	*eP*	**P**	**21 16 45.2**	**+0.4**
ZST	**Bratislava**	**75.61**	**318**	*eP*	pP	21 16 52.9	-1.1
ZST	**Bratislava**	**75.61**	**318**	*ep*P	pP	21 16 52.9	-1.1
DPC	**Dobruska-Polom**	**76.28**	**320**	*eP*	**P**	**21 16 49.0**	**+0.6**
DPC				*ep*P	pP	21 16 57.6	-0.2
UPC	**Upice**	**76.49**	**320**	*ep*P	pP	21 16 57.1	-1.8
PRU	**Pruhonice**	**77.40**	**319**	*ep*P	pP	21 17 03.6	-0.4
PRU				*ex*	x	21 17 12.9	
PVCC	**Panska Ves**	**77.42**	**320**	*ep*P	pP	21 17 04.2	+0.2
GERES	**GERESS Array B**	**77.90**	**318**	P	**P**	**21 16 57.7**	**+0.3**
	comp=Z,2.2nm,0.6s,mb4.2,baz=90,slow=4.0,SNR=5.9						
KHC	**Kasperske Hory**	**77.99**	**319**	*eP*	**P**	**21 16 58.0**	**+0.1**
KHC				*ep*P	pP	21 17 06.5	-0.8
KHC				*ex*	x	21 17 18.0	
CLL	**Collm**	**78.44**	**321**	*i* P	pP	21 17 08.9	-0.8
	comp=Z,21nm,1.4s						
CLL	**Collm**	**78.44**	**321**	*i* *SP	pP	21 17 08.9	-0.8
HFS	**Hagfors**	**78.54**	**330**	P	**P**	**21 17 01.0**	**+0.3**
	comp=Z,2.9nm,0.5s,mb4.5,baz=109,slow=4.0,SNR=11						
NKC	**Novy Kostel**	**78.76**	**320**	*eP*	**P**	**21 17 02.8**	**+0.7**
MOX	**Moxa**	**79.30**	**320**	*eP*	pP	21 17 14.3	-0.1
	comp=Z,21nm,1.7s						
MOX	**Moxa**	**79.30**	**320**	*i* P	pP	21 17 14.3	-0.1
	comp=Z,logA/T=1.1						
GRA1	**Grafenberg Arr**	**79.54**	**319**	*eP*	**P**	**21 17 07.3**	**+0.9**
	comp=Z,11nm,1.4s,mb4.6						
GRF	**Grafenberg Arr**	**79.54**	**319**	*eP*	**P**	**21 17 07.3**	**+0.9**
	comp=Z,11nm,1.4s,mb4.6						
NB2	**NORSAR Subarra**	**79.82**	**331**	P	**P**	**21 17 07.3**	**-0.3**
	comp=Z,40nm,1.7s,mb5.1,baz=95,slow=5.0						
NB2	**NORSAR Subarra**	**79.82**	**331**	P	**P**	**21 17 07.3**	**-0.3**
	baz=95,slow=5.1						
NOA	**NORSAR Array B**	**79.82**	**331**	P	**P**	**21 17 07.5**	**-0.2**
	comp=Z,1.6nm,0.7s,mb4.1,baz=96,slow=5.6,SNR=4.7						
DAVOX	**Davos**	**80.46**	**316**	P	**P**	**21 17 11.9**	**+0.6**
	comp=Z,2.5nm,0.6s,mb4.3,baz=167,slow=22,SNR=3.4						
MUD	**Monsted U'grnd**	**80.79**	**326**	*i* P	**P**	**21 17 16.3**	**+3.4**
	comp=Z,14nm,0.9s,mb4.9						
LPG	**La Plagne**	**82.69**	**315**	*eP*	**P**	**21 17 24.3**	**+1.3**
	comp=Z,22nm,0.8s,mb4.9						
ESDC	**Sonseca Array**	**91.29**	**310**	P	**P**	**21 18 06.1**	**+1.1**
	comp=Z,1.5nm,0.7s,mb4.4,baz=83,slow=4.5,SNR=3.5						
IMA	**Indian Mountai**	**91.70**	**22**	*eP*	**P**	**21 18 06.9**	**+0.7**
PDAR	**Pinedale Array**	**125.25**	**21**	PKP	PKPdf	21 24 01.0	-3.1
	comp=Z,0.4nm,0.8s,baz=162,slow=5.7,SNR=2.0						
PLCA	**Paso Flores**	**144.47**	**200**	PKP	PKPdf	21 24 36.7	-2.8
	comp=Z,2.9nm,0.8s,baz=192,slow=2.0,SNR=3.7						
PLCA	**Paso Flores**	**144.47**	**200**	*e*PKP	PKPdf	21 24 35.0	-4.6
PLCA				PKP	PKPdf	21 24 36.7	-2.8

*NEIC **27** 21:06:33.0±0.5, 7.89N×93.94E, h30^{km}, mb4.5/5, Error ellipse: s-maj=16.4km s-min=10.6km az=66.0*

*IDC **27** 21:06:37.1±6.8, 7.95N×94.01E, h63^{km}±61^{km}, mb4.1/10, mb1 4.2/11, mb1mx4.0/20, mbtmp4.4/11, ML4.5/1, Error ellipse: s-maj=49.8km s-min=18.0km az=62.0*

ISC 27 21:06:31.2±0.7, 7.91N±0.10×94.0E±0.1, h30^{km}, n19, σ0°80/19, mb4.3/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.53**	**24**	P	**P**	**21 09 18.1**	**+1.0**
	0.9nm,0.3s,baz=211,slow=15,SNR=5.0						
LSA	**Lhasa**	**21.84**	**353**	*eP*	**P**	**21 11 23.4**	**+0.1**
	12nm,0.6s,mb4.5						
ENH	**Enshi**	**26.56**	**31**	P	**P**	**21 12 08.8**	**+0.1**
AAK	**Ala-Archa**	**38.61**	**337**	P	**P**	**21 13 54.0**	**+0.5**
	2.9nm,0.7s,mb4.1						
SONM	**Songino Array**	**41.16**	**13**	P	**P**	**21 14 15.1**	**+0.6**
	1.6nm,0.8s,mb3.7,baz=198,slow=5.2,SNR=2.0						
KURK	**Kurchatov**	**44.54**	**346**	*eP*	**P**	**21 14 41.0**	**-1.1**
	4.9nm,0.9s,mb4.3						
NWAO	**Narrogin (SRO)**	**46.25**	**153**	P	**P**	**21 14 57.0**	**+1.1**
	7.0nm,0.8s,mb4.7,baz=290,slow=7.9,SNR=3.0						
ZAL	**Zalesovo**	**46.49**	**353**	P	**P**	**21 14 58.2**	**+0.8**
	2.8nm,0.5s,mb4.5,baz=284,slow=12,SNR=2.3						
HIA	**Hailar**	**46.54**	**23**	P	**P**	**21 14 56.5**	**-1.5**
	5.7nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**48.40**	**125**	P	**P**	**21 15 12.8**	**-0.2**
	1.7nm,0.8s,mb4.2,baz=302,slow=8.8,SNR=3.1						
WRAB	**Tennant Creek**	**48.41**	**125**	P	**P**	**21 15 12.1**	**-0.9**
CHKZ	**Chkalovo**	**49.39**	**342**	*eP*	**P**	**21 15 18.5**	**-1.6**
	4.5nm,0.7s,mb4.6						
IDI	**Anoyia**	**68.43**	**305**	P	**P**	**21 17 32.4**	**-0.3**
	8.5nm,0.8s,mb4.8,baz=21,slow=16,SNR=2.7						
FINES	**FINESS Array B**	**72.61**	**332**	P	**P**	**21 17 57.1**	**-0.4**
	3.1nm,0.7s,mb4.3,baz=97,slow=11,SNR=2.9						
ARCES	**ARCESS Array B**	**75.18**	**340**	P	**P**	**21 18 11.8**	**-0.5**
	7.4nm,1.1s,mb4.5,baz=84,slow=8.2,SNR=2.5						
MORC	**Moravsky Berou**	**75.25**	**319**	*eP*	**P**	**21 18 13.3**	**+0.2**
GERES	**GERESS Array B**	**77.70**	**318**	P	**P**	**21 18 28.0**	**+1.1**
	1.6nm,0.7s,mb4.1,baz=90,slow=4.9,SNR=3.0						
HFS	**Hagfors**	**78.35**	**330**	P	**P**	**21 18 30.7**	**+0.5**
	2.4nm,0.5s,mb4.4,baz=108,slow=4.6,SNR=4.6						
NOA	**NORSAR Array B**	**79.63**	**331**	P	**P**	**21 18 37.4**	**+0.3**
	1.9nm,1.0s,mb4.0,baz=86,slow=7.1,SNR=2.9						

*IDC **27** 21:08:59.7±1.1, 7.92N×94.15E, mb4.0/12, mb1 4.2/12, mb1mx4.1/20, mbtmp4.0/12, Error ellipse: s-maj=45.7km s-min=25.1km az=47.0*

*NEIC **27** 21:09:03.5±0.6, 7.85N×94.26E, h30^{km}, mb4.4/4, Error ellipse: s-maj=24.8km s-min=11.9km az=56.0*

ISC 27 21:09:02.3±0.8, 7.9N±0.2×94.3E±0.2, h33^{km}, n17, σ0°84/16, mb4.1/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**21.92**	**353**	*eP*	**P**	**21 13 55.0**	**+0.4**
	9.3nm,0.6s,mb4.4						
SONM	**Songino Array**	**41.15**	**12**	P	**P**	**21 16 45.0**	**0.0**
	0.7nm,0.7s,mb3.4,baz=182,slow=9.5,SNR=3.1						
KURK	**Kurchatov**	**44.65**	**346**	*eP*	**P**	**21 17 13.1**	**-0.5**
	2.6nm,0.6s,mb4.2						
ZAL	**Zalesovo**	**46.58**	**352**	P	**P**	**21 17 29.5**	**+0.7**
	1.7nm,0.4s,mb4.3,baz=289,slow=4.0,SNR=5.4						
WRA	**Warramunga Arr**	**48.15**	**126**	P	**P**	**21 17 43.2**	**+1.6**
	0.5nm,0.7s,mb3.7,baz=305,slow=8.7,SNR=2.9						
WRAB	**Tennant Creek**	**48.15**	**126**	*eP*	**P**	**21 17 39.4**	**-2.2**
	3.1nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**49.04**	**341**	P	**P**	**21 17 47.4**	**-0.6**
	0.7nm,0.7s,mb3.8,baz=158,slow=7.8,SNR=2.7						
CHKZ	**Chkalovo**	**49.52**	**342**	*eP*	**P**	**21 17 50.9**	**-0.8**
	2.6nm,0.6s,mb4.4						
BRTR	**Keskin Array B**	**62.53**	**311**	P	**P**	**21 19 24.1**	**-1.2**
	0.5nm,0.4s,mb4.0,baz=122,slow=8.6,SNR=2.4						
IDI	**Anoyia**	**68.68**	**305**	P	**P**	**21 20 04.8**	**+0.1**
	10nm,1.0s,mb4.7,baz=22,slow=13,SNR=2.6						
MLR	**Muntele Rosu**	**69.27**	**316**	P	**P**	**21 20 09.1**	**+0.9**
	1.6nm,0.8s,mb4.0,baz=325,slow=16,SNR=3.6						
FINES	**FINESS Array B**	**72.78**	**332**	P	**P**	**21 20 29.1**	**+0.1**
	1.0nm,0.7s,mb3.9,baz=117,slow=8.5,SNR=4.0						
ARCES	**ARCESS Array B**	**75.32**	**340**	P	**P**	**21 20 43.5**	**-0.1**
	4.2nm,1.1s,mb4.3,baz=90,slow=8.1,SNR=4.5						
GERES	**GERESS Array B**	**77.92**	**318**	P	**P**	**21 20 59.3**	**+0.7**
	1.2nm,0.6s,mb4.0,baz=84,slow=6.8,SNR=7.2						
HFS	**Hagfors**	**78.53**	**330**	P	**P**	**21 21 02.1**	**+0.3**
	1.5nm,0.5s,mb4.1,baz=104,slow=5.9,SNR=5.5						
NOA	**NORSAR Array B**	**79.80**	**331**	P	**P**	**21 21 08.9**	**+0.2**
	1.1nm,0.8s,mb3.9,baz=98,slow=5.2,SNR=2.6						
PLCA	**Paso Flores**	**144.58**	**200**	PKP	PKPdf	21 28 37.3	+1.5
	2.7nm,1.1s,baz=216,slow=8.7,SNR=2.5						

IGQ 27 21:11:24.5, 1.62S×81.49W, h12^{km}±6^{km}, mb4.5, 3C-7D, Error ellipse: s-maj=7.4km s-min=4.6km az=165.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.10**	**59**	⇑P	Pb	21 11 44.4	-0.6
JAMA	**Jama**	**1.86**	**44**	⇓P	Pn	21 11 58.4	+1.8
JAMA				S	Sn	21 12 20.3	+0.1
IGUA	**Igualata**	**2.86**	**88**	⇑P	Pn	21 12 11.4	+0.6
CUSU	**Cusua**	**3.02**	**87**	P	Pn	21 12 14.9	+1.8
JUIV	**Juive**	**3.03**	**86**	⇓P	Pn	21 12 14.9	+1.6
ARRY	**Arrayan**	**3.04**	**88**	P	Pn	21 12 14.0	+0.6
ARRY				S	Sn	21 12 48.9	-1.2
RETU	**Refugio**	**3.05**	**87**	P	Pn	21 12 15.6	+2.0
RETU				S	Sn	21 12 51.8	+1.4
PATA	**Patacocha**	**3.06**	**88**	P	Pn	21 12 15.5	+1.8
ULBA	**Ulba**	**3.09**	**87**	P	Pn	21 12 15.1	+0.9
PISA	**Pisayambo**	**3.16**	**80**	⇓P	Pn	21 12 16.6	+1.6
PISA				S	Sn	21 12 55.1	+2.1
NAS1	**Nasa**	**3.17**	**72**	⇓P	Pn	21 12 17.7	+2.4
JUA2	**San Juan 2**	**3.21**	**64**	P	Pn	21 12 17.3	+1.5
TERV	**Terraza Guagua**	**3.23**	**64**	⇓P	Pn	21 12 18.1	+2.0
PINO	**Pino**	**3.23**	**63**	⇓P	Pn	21 12 17.6	+1.5
VC1	**Cotopaxi 1**	**3.24**	**73**	⇑P	Pn	21 12 18.5	+2.2
TAMB	**Tambo**	**3.26**	**74**	P	Pn	21 12 18.4	+1.9
YANA	**Yana**	**3.28**	**63**	P	Pn	21 12 17.9	+1.0
ANTI	**Antisana**	**3.53**	**71**	P	Pn	21 12 23.1	+2.7
COTA	**Cotacachi**	**3.70**	**58**	⇓P	Pn	21 12 25.0	+2.2
CAYR	**Refugio Cayamb**	**3.84**	**65**	P	Pn	21 12 28.4	+3.5
CAYR				S	Sn	21 13 16.3	+5.8
CAYA	**Cayambe**	**3.88**	**64**	P	Pn	21 12 28.2	+2.8
CONE	**Cono NE Rev Vo**	**4.15**	**68**	P	Pn	21 12 34.4	+5.3

*BJI **27** 21:12:07.8, 15.63N×145.72E, h266^{km}, mB4.9, mb4.4*

*NEIC **27** 21:12:09.0±0.6, 15.64N×145.39E, h245^{km}±5^{km}, mb4.5/40, Error ellipse: s-maj=7.1km s-min=5.2km az=98.0*

*IDC **27** 21:12:11.9±1.6, 15.62N×145.37E, h273^{km}±14^{km}, mb4.2/24, mb1 4.2/27, mb1mx4.2/30, mbtmp4.8/27, Error ellipse: s-maj=13.4km s-min=7.2km az=97.0, Putative timing error at LPAZ*

ISC 27 21:12:08.3±0.7, 15.61N±0.04×145.35E±0.06, h252^{km}±6^{km}, n101, σ0°94/100, mb4.5/62, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**1.16**	**20**	*eP*	**P**	**21 12 44.6**	**-0.2**
GUMO	**Guam**	**2.06**	**193**	*eP*	**P**	**21 12 50.8**	**-1.0**
CBIJ	**Chichi jima**	**11.81**	**346**	P	**P**	**21 14 52.5**	**+2.1**
	7.0nm,0.3s,baz=259,slow=20,SNR=2.7						
JHJ	**Hachijo jima 2**	**18.15**	**345**	P	**P**	**21 16 04.2**	**-0.3**
	14nm,0.3s,baz=213,slow=16,SNR=3.0						
JOW	**Kunigami**	**19.42**	**308**	P	**P**	**21 16 18.5**	**+1.1**
	17nm,0.3s,baz=129,slow=13,SNR=48						
TBP	**Tagbilaran**	**21.77**	**257**	⇓*eP*	**P**	**21 16 41.4**	**+0.9**
MAJO	**Matsushiro**	**21.80**	**344**	*eP*	**P**	**21 16 40.0**	**-0.7**
	14nm,0.7s,mb4.6						
MAT	**Matsushiro**	**21.80**	**344**	*eP*	**P**	**21 16 40.0**	**-0.7**
	10nm,0.7s,mb4.5						
MAT	**Matsushiro**	**21.80**	**344**	P	**P**	**21 16 40.1**	**-0.6**
TGY	**Tagaytay City**	**23.64**	**270**	P	**P**	**21 16 59.4**	**+0.9**
	34nm,0.3s,mb5.5,baz=67,slow=15,SNR=2.9						
PMG	**Port Moresby**	**24.91**	**176**	P	**P**	**21 17 11.0**	**+0.7**
	6.1nm,0.4s,mb4.6,baz=277,slow=8.1,SNR=4.2						
PMG	**Port Moresby**	**24.91**	**176**	*eP*	**P**	**21 17 08.8**	**-1.4**
	14nm,0.8s,mb4.7						
KS15	**Wonju Array Si**	**26.69**	**328**	*eP*	**P**	**21 17 25.7**	**-0.6**
ASAJ	**Asahikawa**	**28.51**	**356**	P	**P**	**21 17 41.6**	**-1.0**
	8.1nm,0.6s,mb4.5,baz=222,slow=15,SNR=3.4						
MDJ	**Mudanjiang**	**31.85**	**338**	P	**P**	**21 18 11.5**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,81nm,4.4s						
MDJ	**Mudanjiang**	**31.85**	**338**	*eP*	**P**	**21 18 11.3**	**-0.5**
	comp=Z,6.4nm,0.8s,mb4.2						
BJT	**Baijiatuan**	**35.18**	**319**	*eP*	**P**	**21 18 40.0**	**-0.2**
	comp=Z,19nm,0.8s,mb4.7						
BJI	**Beijing**	**35.19**	**320**	*eP*	**P**	**21 18 40.0**	**-0.3**
	comp=Z,19nm,1.3s,mb4.5						
CTA	**Charters Tower**	**35.48**	**179**	P	**P**	**21 18 44.6**	**+1.8**
	comp=Z,3.9nm,1.0s,mb3.9,baz=7.1,slow=6.9,SNR=3.3						
CTAO	**Charters Tower**	**35.48**	**179**	P	**P**	**21 18 44.1**	**+1.2**
	comp=Z,3.4nm,0.8s,mb3.9						
ENH	**Enshi**	**35.94**	**300**	*eP*	**P**	**21 18 47.1**	**+0.5**
	comp=Z,22nm,1.0s,mb4.7						
WRAB	**Tennant Creek**	**36.94**	**197**	*eP*	**P**	**21 18 54.9**	**-0.2**
	comp=Z,19nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**36.94**	**197**	*eP*	**P**	**21 18 55.1**	**-0.1**
WRA	**Warramunga Arr**	**36.95**	**197**	P	**P**	**21 18 55.0**	**-0.2**
	comp=Z,7.8nm,0.6s,mb4.4,baz=18,slow=9.6,SNR=47						
WRA				PcP	PcP	21 21 11.8	+0.6
	comp=Z,1.5nm,0.5s,baz=16,slow=3.3,SNR=33						
WRA				S	**S**	**21 24 18.3**	**-2.8**
	comp=Z,0.6nm,0.8s,baz=30,slow=16,SNR=4.1						
WRA				ScP		21 24 33.1	
	comp=Z,0.9nm,0.6s,baz=17,slow=4.2,SNR=6.9						
FITZ	**Fitzroy Crossi**	**38.72**	**211**	*eP*	**P**	**21 19 06.4**	**-3.5**
	comp=Z,13nm,0.7s,mb4.6						
HIA	**Hailar**	**39.54**	**334**	*eP*	**P**	**21 19 15.4**	**-0.9**
	comp=Z,23nm,1.1s,mb4.5						
ASAR	**Alice Springs**	**40.60**	**196**	P	**P**	**21 19 24.9**	**-0.4**
	comp=Z,3.1nm,0.6s,mb3.9,baz=17,slow=12,SNR=27						
ASAR				ScP		21 24 47.5	
	comp=Z,0.8nm,0.6s,baz=12,slow=3.7,SNR=9.3						
ASAR				S	**S**	**21 25 14.6**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=25,slow=21,SNR=4.9						
ASPA	**Alice Springs**	**40.60**	**196**	*eP*	**P**	**21 19 25.3**	**0.0**
KMI	**Kunming

HWUT **Hardware Ranch** 89.24 47 *eP* P 21 24 38.2 +1.3
comp=Z,14nm,1.0s,mb4.8
FINES **FINESS Array B** 89.54 335 P P 21 24 36.9 -0.9
comp=Z,11nm,0.8s,mb4.8,baz=65,slow=5.7,SNR=37
JLU **Jordanelle** 89.67 48 *eP* P 21 24 40.5 +1.5
PDAR **Pinedale Array** 90.22 45 P P 21 24 42.1 +0.6
comp=Z,0.9nm,0.5s,mb3.9,baz=304,slow=3.3,SNR=9.8
SRU **San Rafael** 90.86 49 *eP* P 21 24 45.6 +1.1
FCC **Fort Churchill** 91.56 27 *eP* P 21 24 46.6 -0.6
comp=Z,4.7nm,1.0s,mb4.4
PV10 **Paradox Valley** 92.21 49 *eP* P 21 24 52.3 +1.4
PV01 **Paradox Valley** 92.64 49 P P 21 24 51.3 -1.5
ISCO **Idaho Springs** 94.11 47 *eP* P 21 25 01.0 +1.6
HFS **Hagfors** 95.11 338 P P 21 25 02.2 -1.3
comp=Z,1.4nm,0.4s,mb4.4,baz=117,slow=3.3,SNR=11
NB2 **NORSAR Subarra** 95.34 339 P P 21 25 03.5 -1.0
comp=Z,1.0nm,0.6s,mb4.1,baz=54,slow=4.8
NOA **NORSAR Array B** 95.34 339 P P 21 25 03.8 -0.7
comp=Z,2.0nm,0.8s,mb4.3,baz=45,slow=4.4,SNR=6.2
BRTR **Keskin Array B** 96.01 314 P P 21 25 08.2 +0.2
comp=Z,1.6nm,0.7s,mb4.4,baz=95,slow=4.6,SNR=6.9
MVL **Millersville** 112.43 34 *eP* PKPdf 21 30 13.5 -0.8
PLCA **Paso Flores** 140.08 136 PKP PKPdf 21 31 08.9 +2.0
comp=Z,1.2nm,0.7s,baz=267,slow=8.5,SNR=3.2
LPAZ **La Paz** 147.82 96 PKPbc PKPdf 21 30 43.0 -38
comp=Z,1.9nm,0.5s,baz=17,slow=5.7,SNR=5.9

*BJI **27** 21:16:24.3, 7.38N×93.69E, h30km, mB5.4, mb4.6*
*NEIC **27** 21:16:31.3±0.3, 8.14N×94.11E, h30km, mb4.6/16, Error ellipse: s-maj=9.2km s-min=6.7km az=65.0*
*IDC **27** 21:16:35.6±4.0, 8.15N×94.08E, h67km±35km, mb4.1/26, mb1 4.2/27, mb1mx4.2/29, mbtmp4.4/27, ML4.2/1, Error ellipse: s-maj=21.7km s-min=11.2km az=44.0, Putative timing error at LPAZ*
ISC 27 21:16:30.8±2.3, 8.10N±0.06×94.13E±0.08, h40km±21km, n86, σ1§00/75, mb4.5/44, 2C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	11.31	24	*eP*	P	21 19 10.4	-2.5
	22nm,0.9s						
CMAR	**Chiang Mai Arr**	11.31	24	P	P	21 19 14.3	+1.4
	0.4nm,0.3s,baz=212,slow=14,SNR=32						
KMI	**Kunming**	18.82	25	⇑P	P	21 20 54.6	+4.7
	28nm,1.2s						
COCO	**West Island**	20.33	172	P	P	21 21 06.5	0.0
JIRN	**Jiri**	20.86	340	*eP*	P	21 21 11.7	-0.1
	50nm,0.8s						
PKI	**Pulchoki**	21.06	338	*eP*	P	21 21 13.5	-0.3
	49nm,0.6s,mb5.0						
DMN	**Daman**	21.20	337	*eP*	P	21 21 15.4	+0.1
	71nm,0.7s,mb5.1						
KKN	**Kakani**	21.30	338	*eP*	P	21 21 15.5	-0.8
	41nm,0.9s,mb4.8						
LSA	**Lhasa**	21.67	353	*eP*	P	21 21 23.3	+3.3
LSA	**Lhasa**	21.67	353	*eP*	P	21 21 19.8	-0.2
	30nm,0.8s,mb4.8						
GKN	**Gorkha**	21.74	337	*eP*	P	21 21 20.6	-0.1
	43nm,0.5s,mb5.1						
KOLN	**Koldanda**	21.96	334	*eP*	P	21 21 23.3	+0.5
	55nm,0.8s,mb5.0						
ENH	**Enshi**	26.34	31	*eP*	P	21 22 04.8	-0.3
	10nm,0.8s,mb4.4						
WHN	**Wuhan**	29.27	38	⇑P	P	21 22 33.5	+1.9
WMQ	**Urumqi**	36.03	352	*eP*	P	21 23 31.5	+1.2
SONM	**Songino Array**	40.95	13	P	P	21 24 12.1	+0.9
	3.4nm,0.9s,mb4.0,baz=195,slow=7.0,SNR=12						
SONM				PcP	PcP	21 26 11.2	-0.5
	1.1nm,0.6s,baz=199,slow=3.9,SNR=4.9						
ULN	**Ulaanbaatar**	41.12	13	*eP*	P	21 24 13.2	+0.5
	4.0nm,1.0s,mb4.0						
KURK	**Kurchatov**	44.39	346	*eP*	P	21 24 38.3	-1.0
	15nm,1.1s,mb4.6						
ZAL	**Zalesovo**	46.33	352	P	P	21 24 54.7	+0.1
	5.5nm,0.9s,mb4.5,baz=291,slow=8.9,SNR=16						
NWAO	**Narrogin (SRO)**	46.35	153	P	P	21 24 54.6	-0.4
	9.1nm,1.0s,mb4.7,baz=265,slow=9.5,SNR=3.4						
WRA	**Warramunga Arr**	48.40	126	P	P	21 25 11.7	+0.4
	3.3nm,0.9s,mb4.4,baz=305,slow=8.5,SNR=19						
WRAB	**Tennant Creek**	48.40	126	*eP*	P	21 25 10.0	-1.4
BVAR	**Borovoye Array**	48.78	341	P	P	21 25 13.5	-0.3
	2.3nm,0.8s,mb4.3,baz=143,slow=7.4,SNR=5.6						
BVAR				PcP	PcP	21 26 37.6	-1.0
	1.4nm,0.8s,baz=124,slow=5.2,SNR=2.9						
BRVK	**Borovoye**	48.84	341	*eP*	P	21 25 13.2	-1.1
	4.9nm,0.9s,mb4.5						
RAYN	**Ar Rayn**	48.98	294	P	P	21 25 16.8	+1.0
	56nm,0.8s,SNR=12						
CHKZ	**Chkalovo**	49.26	342	*eP*	P	21 25 16.4	-1.1
	36nm,1.1s,mb5.3						
ASAR	**Alice Springs**	50.06	130	P	P	21 25 23.9	-0.2
	2.3nm,0.7s,mb4.3,baz=306,slow=7.1,SNR=11						
ASAR				PcP	PcP	21 26 42.0	-1.7
	1.8nm,1.0s,baz=297,slow=2.0,SNR=2.6						
GNI	**Garni**	54.27 314		P	P	21 25 57.0	+1.7
	1.4nm,0.4s,mb4.2,baz=358,slow=14,SNR=3.0						
PMG	**Port Moresby**	55.61 107		P	P	21 26 06.0	+0.6
	7.5nm,0.8s,mb4.8,baz=293,slow=6.3,SNR=2.6						
KMBO	**Kilima Mbogo**	57.44 263		P	P	21 26 19.6	+1.1
	10.0nm,1.1s,mb4.8,baz=54,slow=12,SNR=12						
KMBO	**Kilima Mbogo**	57.44 263		*eP*	P	21 26 18.3	-0.2
	9.7nm,1.0s,mb4.8						
ASF	**Jabal al Asfar**	58.09 303		P	P	21 26 23.3	+0.6
	3.1nm,1.1s,mb4.3,baz=205,slow=8.8,SNR=3.5						
EIL	**Elat**	59.31 300		P	P	21 26 31.1	-0.3
	3.4nm,0.8s,mb4.4						
YAK	**Yakutsk**	59.79 18		*eP*	P	21 26 33.0	-1.2
STKA	**Stephens Creek**	60.27 134		P	P	21 26 38.0	+0.1
	2.6nm,0.9s,mb4.3,baz=328,slow=9.5,SNR=3.2						
STKA	**Stephens Creek**	60.27 134		P	P	21 26 38.0	+0.1
BRTR	**Keskin Array B**	62.28 311		P	P	21 26 48.7	-2.6
	1.5nm,0.6s,mb4.3,baz=120,slow=6.4,SNR=8.1						
MBAR	**Mbarara**	63.77 265		*eP*	P	21 27 03.5	+1.9
AKASG	**Malin Array Be**	67.97 322		P	P	21 27 25.5	-2.4
	0.9nm,0.5s,mb4.1,baz=87,slow=5.0,SNR=9.2						
IDI	**Anoyia**	68.43 305		P	P	21 27 30.2	-0.8
	14nm,1.1s,mb4.9,baz=76,slow=11,SNR=5.8						
MLR	**Muntele Rosu**	69.01 316		P	P	21 27 33.6	-0.8
	4.6nm,0.8s,mb4.5,baz=127,slow=9.7,SNR=12						
LSZ	**Lusaka**	69.33 250		*eP*	P	21 27 36.0	-0.8
JOF	**Joensuu**	70.64 334		*ep*	P	21 27 42.7	-1.3
	6.8nm,0.8s,mb4.6						
KOLS	**Kolonicke sedl**	72.03 319		*eP*	P	21 27 53.1	+0.6
FINES	**FINESS Array B**	72.51 332		P	P	21 27 54.3	-0.8
	3.4nm,0.6s,mb4.4,baz=117,slow=13,SNR=9.5						
CRVS	**Cervenica-Dubn**	72.56 319		*e*	pP	21 28 01.8	-5.7
KAF	**Kangasniemi**	72.59 333		*ep*	P	21 27 50.3	-5.3
	11nm,1.3s,mb4.6						
VYHS	**Vyhne**	74.24 318		*eP*	P	21 28 04.8	-0.7
LBTB	**Lobatse**	74.34 241		*eP*	P	21 28 06.5	0.0
	4.5nm,0.8s,mb4.5						
KEV	**Kevo**	74.62 341		*ep*	P	21 28 03.1	-4.2
	27nm,1.7s,mb4.9						
OKC	**Ostrava-Krasne**	74.82 319		*eP*	P	21 28 11.1	+2.3
ARCES	**ARCESS Array B**	75.05 340		P	P	21 28 09.8	-0.1
	5.5nm,0.8s,mb4.5,baz=63,slow=8.1,SNR=6.4						
MORC	**Moravsky Berou**	75.20 319		*eP*	P	21 28 09.7	-1.4
	6.9nm,1.1s,mb4.5						
ZST	**Bratislava**	75.36 318		*eP*	P	21 28 13.0	+1.0
VRAC	**Vranov**	75.78 319		P	P	21 28 15.0	+0.6
	2.6nm,0.7s,mb4.3,baz=335,slow=18,SNR=2.9						
DPC	**Dobruska-Polom**	76.03 320		*eP*	P	21 28 16.0	+0.2
PRU	**Pruhonice**	77.15 319		*eP*	P	21 28 16.0	-6.1
PVCC	**Panska Ves**	77.16 320		*eP*	P	21 28 23.1	+0.9
GERES	**GERESS Array B**	77.66 318		P	P	21 28 24.6	-0.3
	2.3nm,0.6s,mb4.3,baz=90,slow=5.3,SNR=20						
KHC	**Kasperske Hory**	77.75 318		*eP*	P	21 28 24.9	-0.5
CLL	**Collm**	78.18 321		*i* P	P	21 28 30.7	+2.9
CLL	**Collm**	78.18 321		P	P	21 28 30.7	+2.9
HFS	**Hagfors**	78.26 330		P	P	21 28 27.5	-0.5
	9.4nm,0.9s,mb4.7,baz=108,slow=4.7,SNR=17						
NKC	**Novy Kostel**	78.51 320		*eP*	P	21 28 31.3	+1.7
GRA1	**Grafenberg Arr**	79.29 319		*eP*	P	21 28 34.4	+0.5
	5.0nm,0.9s,mb4.4						
GRF	**Grafenberg Arr**	79.29 319		*eP*	P	21 28 34.4	+0.5
	5.0nm,0.9s,mb4.4						
NB2	**NORSAR Subarra**	79.53 331		P	P	21 28 34.0	-1.0
	4.9nm,0.9s,mb4.4,baz=96,slow=5.0						
NOA	**NORSAR Array B**	79.53 331		P	P	21 28 33.9	-1.0
	2.4nm,0.7s,mb4.2,baz=92,slow=5.6,SNR=8.5						
NOA	**NORSAR Array B**	79.53 331		P	P	21 28 33.9	-1.0
DAVOX	**Davos**	80.22 316		P	P	21 28 38.6	-0.4
	5.3nm,0.7s,mb4.6,baz=121,slow=9.6,SNR=5.7						
LPG	**La Plagne**	82.45 315		*eP*	P	21 28 50.4	-0.2
	12nm,0.7s,mb4.6						
BNI	**Bardonecchia**	82.54 314		P	P	21 28 51.2	+0.1
ESDC	**Sonseca Array**	91.07 310		P	P	21 29 33.3	+0.5
	0.3nm,0.5s,mb3.9,baz=69,slow=4.9,SNR=4.0						
IMA	**Indian Mountai**	91.42 22		*eP*	P	21 29 34.7	+1.0
ILAR	**Eielson Array**	94.55 22		P	P	21 29 47.4	-0.6
	0.6nm,0.8s,mb4.1,baz=294,slow=3.5,SNR=8.1						
INK	**Inuvik**	96.78 16		P	P	21 29 58.5	+0.4
	1.3nm,0.8s,mb4.4,baz=2.5,slow=3.6,SNR=3.1						
NVAR	**Mina Array Bea**	124.73 31		PKP	PKPdf	21 35 29.9	+3.0
	0.3nm,0.3s,baz=297,slow=2.0,SNR=3.1						
NVAR	**Mina Array Bea**	124.73 31		PKP	PKPdf	21 35 29.9	+3.0
PDAR	**Pinedale Array**	124.97 21		PKP	PKPdf	21 35 28.6	+1.4
	0.8nm,0.8s,baz=30,slow=2.0,SNR=7.5						
ANMO	**Albuquerque**	132.97 23		PKP	PKPdf	21 35 46.0	+3.3
	0.7nm,0.5s,baz=14,slow=5.5,SNR=2.4						
TXAR	**Lajitas Array**	139.03 24		PKP	PKPdf	21 35 56.5	+2.6
	0.3nm,0.6s,baz=111,slow=0.7,SNR=4.3						
PLCA	**Paso Flores**	144.75 200		PKP	PKPdf	21 36 03.9	+0.2
	5.9nm,0.9s,baz=167,slow=5.9,SNR=8.1						
PLCA	**Paso Flores**	144.75 200		PKP	PKPdf	21 36 03.9	+0.2
SJG	**San Juan**	147.49 323		PKPbc	PKPdf	21 36 12.2	+3.2
	17nm,0.2s,baz=327,slow=19,SNR=5.4						
SJG	**San Juan**	147.49 323		PKPbc	PKPdf	21 36 12.2	+3.2
LPAZ	**La Paz**	160.86 243		PKP	PKPdf	21 35 44.0	-43
	0.6nm,0.5s,baz=114,slow=2.4,SNR=2.9						
LPAZ				PKPab	PKPab	21 36 29.0	-43
	0.7nm,0.7s,baz=92,slow=4.2,SNR=2.6						

*NEIC **27** 21:20:03.6±0.7, 8.04N×93.75E, h30km, mb4.1/2, Error ellipse: s-maj=28.9km s-min=13.3km az=53.0*
*IDC **27** 21:20:19.9±7.3, 8.31N×94.02E, h174km±66km, mb3.4/8, mb1 3.6/9, mb1mx3.4/20, mbtmp3.8/9, Error ellipse: s-maj=46.6km s-min=20.6km az=51.0*
ISC 27 21:20:01.4±0.8, 7.9N±0.1×93.6E±0.1, h30km, n15, σ1§13/15, mb3.9/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	11.76	26	P	P	21 22 52.2	+1.8
CMAR	**Chiang Mai Arr**	11.76	26	P	P	21 22 55.0	+4.7
	0.2nm,0.3s,baz=207,slow=13,SNR=2.9						
HYB	**Hyderabad**	17.46	304	*i* P	P	21 24 05.5	+0.9
LSA	**Lhasa**	21.85	354	*eP*	P	21 24 54.2	+0.6
	3.9nm,0.5s,mb4.1						
SONM	**Songino Array**	41.31	13	P	P	21 27 43.5	-2.5
	0.2nm,0.6s,mb3.0,baz=198,slow=4.6,SNR=2.4						
ZAL	**Zalesovo**	46.50	353	P	P	21 28 26.4	-1.3
	0.9nm,0.8s,mb3.8,baz=275,slow=9.2,SNR=2.8						
WRA	**Warramunga Arr**	48.70	125	P	P	21 28 46.2	+0.8
	0.3nm,0.6s,mb3.5,baz=304,slow=8.5,SNR=2.7						
WRAB	**Tennant Creek**	48.71	125	P	P	21 28 45.0	-0.4
CHKZ	**Chkalovo**	49.32	342	*eP*	P	21 28 48.2	-1.6
	1.2nm,0.6s,mb4.1						
IDI	**Anoyia**	68.12	305	P	P	21 31 01.4	+0.4
	4.4nm,0.8s,mb4.5,baz=0.6,slow=21,SNR=2.1						
MLR	**Muntele Rosu**	68.80	316	P	P	21 31 05.4	+0.4
	1.0nm,0.6s,mb3.9,baz=144,slow=13,SNR=2.9						
FINES	**FINESS Array B**	72.47	332	P	P	21 31 26.0	-0.9
	2.8nm,0.8s,mb4.2,baz=117,slow=9.3,SNR=4.3						
MORC	**Moravsky Berou**	75.03	319	P	P	21 31 46.4	+4.4
GERES	**GERESS Array B**	77.47	318	P	P	21 31 56.7	+1.0
	0.6nm,0.5s,mb3.8,baz=90,slow=3.9,SNR=5.2						
HFS	**Hagfors**	78.19	330	P	P	21 31 59.2	-0.3
	1.5nm,0.5s,mb4.2,baz=90,slow=4.3,SNR=4.7						

*NEIC **27** 21:20:19.0±0.8, 8.23N×93.69E, h30km, mb4.3/1, Error ellipse: s-maj=28.0km s-min=15.5km az=51.0*
*IDC **27** 21:20:29.7±9.0, 8.18N×93.66E, h127km±80km, mb3.6/6, mb1 3.7/7, mb1mx3.4/19, mbtmp3.9/7, Error ellipse: s-maj=56.3km s-min=22.7km az=51.0*
ISC 27 21:20:17.0±0.9, 8.2N±0.2×93.7E±0.1, h30km, n11, σ0§87/11, mb4.0/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.40	26	P	P	21 23 10.4	+9.4
	0.1nm,0.3s,baz=225,slow=13,SNR=4.3						
HYB	**Hyderabad**	17.32	303	*i* P	P	21 24 18.0	-0.5
ENH	**Enshi**	26.48	32	*eP*	P	21 25 53.0	-0.7
SONM	**Songino Array**	40.93	13	P	P	21 27 58.1	-0.4
	1.3nm,1.1s,mb3.5,baz=192,slow=7.0,SNR=3.6						
ZAL	**Zalesovo**	46.15	353	P	P	21 28 41.5	+1.0
	1.0nm,0.8s,mb3.8,baz=292,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	48.85	125	P	P	21 29 02.3	+0.2
	0.4nm,0.7s,mb3.6,baz=303,slow=8.9,SNR=4.2						
WRAB	**Tennant Creek**	48.85	125	P	P	21 29 01.9	-0.3
CHKZ	**Chkalovo**	49.00	342	*eP*	P	21 29 02.7	-0.2
	2.7nm,0.8s,mb4.3						
IDI	**Anoyia**	67.98	305	P	P	21 31 14.1	-1.6
	6.5nm,0.8s,mb4.7,baz=273,slow=21,SNR=2.3						
GERES	**GERESS Array B**	77.25	318	P	P	21 32 11.7	+1.6
	0.8nm,0.8s,mb3.7,baz=90,slow=5.9,SNR=4.1						
HFS	**Hagfors**	77.92	330	P	P	21 32 14.5	+0.9
	2.2nm,0.8s,mb4.2,baz=157,slow=11,SNR=3.0						

*NEIC **27** 21:21:59.0±0.4, 7.71N×94.06E, h30km, mb4.3/3, Error ellipse: s-maj=12.8km s-min=8.4km az=64.0*
*IDC **27** 21:22:03.6±5.7, 7.86N×94.26E, h68km±51km, mb3.9/16, mb1 4.0/17, mb1mx3.9/24, mbtmp4.2/17, ML4.0/1, Error ellipse: s-maj=40.0km s-min=14.6km az=55.0*
ISC 27 21:21:54.1±0.5, 7.71N±0.08×94.1E±0.1, h10km, n31, σ0§69/29, mb4.3/25, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	11.69	23	*eP*	P	21 24 44.5	+0.3
CMAR	**Chiang Mai Arr**	11.69	23	P	P	21 24 44.9	+0.8
	0.3nm,0.3s,baz=210,slow=14,SNR=11						
JIRN	**Jiri**	21.20	340	*eP*	P	21 26 42.0	-0.3
	41nm,1.0s,mb4.7						
PKI	**Pulchoki**	21.39	339	*eP*	P	21 26 44.5	+0.3
	17nm,0.5s,mb4.6						
DMN	**Daman**	21.54	338	*eP*	P	21 26 45.2	-0.5
	33nm,0.9s,mb4.8						
KKN	**Kakani**	21.64	338	*eP*	P	21 26 46.4	-0.3
	20nm,0.7s,mb4.6						
GKN	**Gorkha**	22.07	337	*eP*	P	21 26 50.9	-0.1
	25nm,0.7s,mb4.8						
KOLN	**Koldanda**	22.28	335	*eP*	P	21 26 53.3	+0.2
	30nm,0.8s,mb4.8						
AAK	**Ala-Archa**	38.83	337	*eP*	P	21 29 21.2	+0.2
	1.5nm,0.6s,mb3.9						
SONM	**Songino Array**	41.34	13	P	P	21 29 41.3	-0.4
	1.3nm,1.0s,mb3.5,baz=191,slow=6.3,SNR=5.1						
KURK	**Kurchatov**	44.75	346	*eP*	P	21 30 10.0	+0.5
	7.6nm,1.1s,mb4.4						
NWAO	**Narrogin (SRO)**	46.03	153	P	P	21 30 21.0	+1.1
	2.1nm,0.6s,mb4.2,baz=52,slow=20,SNR=2.4						
ZAL	**Zalesovo**	46.70	352	P	P	21 30 24.9	0.0
	2.0nm,0.5s,mb4.3,baz=300,slow=6.5,SNR=7.5						
WRA	**Warramunga Arr**	48.23	125	P	P	21 30 36.9	-0.4
	0.6nm,0.4s,mb3.9,baz=305,slow=8.5,SNR=7.1						
WRAB	**Tennant Creek**	48.23	125	*eP*	P	21 30 36.5	-0.8
BVAR	**Borovoye Array**	49.12	341	P	P	21 30 42.8	-0.9
	0.6nm,0.5s,mb3.9,baz=146,slow=10,SNR=3.9						
CHKZ	**Chkalovo**	49.61	342	*eP*	P	21 30 46.6	-0.9
	2.9nm,0.7s,mb4.4						
ASAR	**Alice Springs**	49.87	130	P	P	21 30 49.9	-0.1
	1.0nm,1.0s,mb3.8,baz=307,slow=8.3,SNR=4.4						
GNI	**Garni**	54.50	314	P	P	21 31 25.5	+1.1
	2.0nm,0.8s,mb4.1,baz=150,slow=9.0,SNR=2.6						
BRTR	**Keskin Array B**	62.48	311	P	P	21 32 19.2	-1.0
	0.4nm,0.4s,mb3.9,baz=128,slow=5.3,SNR=2.9						
IDI	**Anoyia**	68.60	305	P	P	21 32 59.9	+0.2
	10nm,0.9s,mb4.7,baz=307,slow=17,SNR=2.6						
MLR	**Muntele Rosu**	69.24	316	P	P	21 33 03.7	+0.4
	14nm,1.5s,mb4.7,baz=109,slow=18,SNR=3.9						
FINES	**FINESS Array B**	72.82	332	P	P	21 33 23.9	-0.7
	1.8nm,0.7s,mb4.1,baz=95,slow=7.7,SNR=8.5						
ARCES	**ARCESS Array B**	75.40	340	P	P	21 33 39.5	0.0
	4.7nm,0.8s,mb4.5,baz=80,slow=7.4,SNR=6.3						
MORC	**Moravsky Berou**	75.45	319	*eP*	P	21 33 39.3	-0.8
GERES	**GERESS Array B**	77.90	318	P	P	21 33 54.2	+0.4
	0.6nm,0.5s,mb3.8,baz=90,slow=4.0,SNR=5.7						
HFS	**Hagfors**	78.56	330	P	P	21 33 57.6	+0.4
	15nm,1.2s,mb4.8,baz=104,slow=6.1,SNR=14						
NOA	**NORSAR Array B**	79.84	331	P	P	21 34 03.6	-0.6
	1.2nm,0.7s,mb3.9,baz=95,slow=5.1,SNR=4.0						
DAVOX	**Davos**	80.46	316	P	P	21 34 10.3	+2.6
	2.2nm,0.8s,mb4.2,baz=114,slow=14,SNR=2.2						
TXAR	**Lajitas Array**	139.41	24	PKiKP		21 41 25.6	
	0.2nm,0.7s,slow=2.7,SNR=2.6						
PLCA	**Paso Flores**	144.37	200	PKP	PKPdf	21 41 33.4	-0.5
	1.0nm,0.5s,baz=80,slow=2.3,SNR=3.0						

*NEIC **27** 21:25:54.9±0.8, 7.80N×94.13E, h30km, mb4.1/2, Error ellipse: s-maj=20.3km s-min=13.8km az=69.0*
*IDC **27** 21:25:58.1±10.0, 7.86N×94.20E, h53km±87km, mb3.5/7, mb1 3.7/8, mb1mx3.5/19, mbtmp3.8/8, ML3.4/1, Error ellipse: s-maj=89.1km s-min=26.4km az=54.0*
ISC 27 21:25:53.3±0.9, 7.9N±0.1×94.2E±0.2, h30km, n14, σ0§99/14, mb3.8/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	11.48	23	P	P	21 28 37.0	-1.5
CMAR	**Chiang Mai Arr**	11.48	23	P	P	21 28 39.4	+1.0
	0.1nm,0.3s,baz=214,slow=14,SNR=5.4						
LSA	**Lhasa**	21.91	353	*eP*	P	21 30 48.8	+2.8
	5.3nm,0.7s,mb4.1						
AAK	**Ala-Archa**	38.74	337	P	P	21 33 16.1	-0.6
SONM	**Songino Array**	41.15	12	P	P	21 33 36.5	0.0
	0.4nm,0.8s,mb3.1,baz=196,slow=10,SNR=2.9						
KURK	**Kurchatov**	44.63	346	*eP*	P	21 34 03.9	-1.0
ZAL	**Zalesovo**	46.56	352	P	P	21 34 20.6	+0.4
	0.9nm,0.7s,mb3.8,baz=291,slow=10,SNR=3.4						
WRA	**Warramunga Arr**	48.19	126	P	P	21 34 33.8	+0.4
	0.4nm,0.5s,mb3.7,baz=305,slow=8.5,SNR=5.4						
WRAB	**Tennant Creek**	48.19	126	P	P	21 34 33.1	-0.4
BVAR	**Borovoye Array**	49.02	341	P	P	21 34 40.4	+1.0
	0.8nm,0.9s,mb3.7,baz=146,slow=5.2,SNR=2.6						
CHKZ	**Chkalovo**	49.50	342	*eP*	P	21 34 41.8	-1.2
	1.3nm,0.7s,mb4.1						
FINES	**FINESS Array B**	72.75	332	P	P	21 37 20.5	0.0
	2.4nm,0.8s,mb4.2,baz=121,slow=8.1,SNR=3.1						
GERES	**GERESS Array B**	77.89	318	P	P	21 37 49.1	-0.8
	0.9nm,1.0s,mb3.6,baz=90,slow=5.3,SNR=3.5						
HFS	**Hagfors**	78.50	330	P	P	21 37 54.0	+1.0
	2.7nm,0.9s,mb4.2,baz=90,slow=10,SNR=3.8						

IDC 27 21:31:58.9±1.5, 7.20N×94.47E, mb4.0/7, mb1 4.2/8, mb1mx3.8/20, mbtmp3.9/8, ML3.9/1, MS4.6/1, Ms1 4.6/1, ms1mx2.8/25, Error ellipse: s-maj=44.2km s-min=27.7km az=37.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	12.01	21	Pn	P	21 34 50.3	-4.1
	0.2nm,0.3s,baz=211,slow=14,SNR=7.5						
SONM	**Songino Array**	41.74	12	P	P	21 39 50.0	-1.4
	0.6nm,0.9s,baz=198,slow=9.1,SNR=4.1						
ZAL	**Zalesovo**	47.25	352	P	P	21 40 33.2	-2.3
	1.5nm,0.5s,baz=298,slow=5.7,SNR=8.0						
ZAL				LR	LR	22 05 23.5	
	comp=Z,664nm,19.2s,baz=290,slow=42						
BVAR	**Borovoye Array**	49.72	341	P	P	21 40 53.2	-1.6
	0.9nm,0.8s,baz=166,slow=6.1,SNR=4.5						
PMG	**Port Moresby**	55.03	107	P	P	21 41 32.6	-2.4
	2.1nm,0.3s,baz=54,slow=18,SNR=2.1						
MLR	**Muntele Rosu**	69.87	316	P	P	21 43 11.6	-2.1
	3.6nm,1.1s,baz=157,slow=21,SNR=2.6						
GERES	**GERESS Array B**	78.54	318	P	P	21 44 01.5	-2.3
	0.6nm,0.8s,baz=60,slow=7.9,SNR=3.6						
NOA	**NORSAR Array B**	80.47	331	P	P	21 44 14.1	+0.1
	1.3nm,0.9s,baz=117,slow=3.8,SNR=2.7						

*BJI **27** 21:32:19.8, 7.69N×93.71E, h58km, mB5.2, mb4.7, Ms5.2, Msz4.8*
*MOS **27** 21:32:20.0±1.

comp=Z,72nm,0.8s
POO Poona 22.23 300 *e*P **P 21 37 13.5 -2.4**
POO *e* 21 37 29.8
comp=Z,40nm,1.0s
BHV Bhavnagar 25.12 305 *e* **S 21 42 19.5 +18**
BHV *e* 21 42 41.0
NDI New Delhi 25.89 324 *e*P **P 21 37 50.0 -1.1**
ENH Enshi 26.27 31 *e*P **P 21 37 54.8 +0.1**
comp=Z,36nm,1.2s,mb4.8
DDI Dehra Dun 26.69 328 *e* **P 21 37 59.0 +0.6**
XAN Xi'an 29.13 26 P **P 21 38 20.0 -0.4**
XAN AMB AMB
comp=Z,11nm,1.5s,mb4.4
LZH Lanzhou 29.17 16 ⇓P **P 21 38 21.3 +0.6**
LZH AMB AMB
comp=Z,49nm,1.6s,mb5.0
LZH AMB AMB
comp=Z,200nm,4.0s
LZH LR LR
comp=E,2μm,13.1s
LZH LR LR
comp=Z,2μm,14.4s
LZH Lanzhou 29.17 16 ⇓P **P 21 38 21.2 +0.5**
LZH *PP pP 21 38 30.0 -5.7
LZH *SP sP 21 38 35.0 -8.1
LZH pmax pmax
comp=Z,49nm,1.6s,mb5.0
LZH MLR MLR
comp=Z,2μm,14.4s
LZH Lanzhou 29.17 16 ⇓P **P 21 38 21.2 +0.5**
comp=Z,49nm,1.6s,mb5.0
LZH pP pP 21 38 30.0 -5.7
LZH sP sP 21 38 35.0 -8.1
LZH LR LR
comp=Z,2μm,14.4s
WHN Wuhan 29.21 38 P **P 21 38 22.5 +1.3**
WMQ Urumqi 35.95 352 P **P 21 39 20.5 +0.9**
JOW Kunigami 37.30 56 P **P 21 39 30.8 -0.3**
comp=Z,9.0nm,0.8s,mb4.7,baz=65,slow=14,SNR=2.8
BJT Baijiatuau 37.33 28 *e*P **P 21 39 31.3 +0.1**
BJI Beijing 37.35 28 P **P 21 39 33.8 +2.4**
BJI pmax pmax
comp=Z,14nm,1.5s,mb4.6
BJI MLR MLR
comp=Z,730nm,21.3s
BJI Beijing 37.35 28 P **P 21 39 33.8 +2.4**
comp=Z,14nm,1.5s,mb4.6
BJI S Sx 21 44 53.6
BJI LR LR
comp=Z,730nm,21.3s
KBK Karagaybulak 38.27 337 P **P 21 39 40.3 +1.3**
SNR=6.4
AML Almayashu 38.33 335 P **P 21 39 41.1 +1.6**
SNR=8.4
AAK Ala-Archa 38.43 336 P **P 21 39 41.9 +1.6**
SNR=7.0
AAK Ala-Archa 38.43 336 P **P 21 39 40.6 +0.3**
AAK pmax pmax
comp=Z,28nm,1.3s,mb4.8
AAK Ala-Archa 38.43 336 *e*P **P 21 39 39.1 -1.2**
comp=Z,21nm,1.2s,mb4.7
CHMS Chumysh 38.64 337 P **P 21 39 42.9 +0.8**
SNR=6.2
USP Ospenovka 38.96 337 P **P 21 39 45.6 +0.9**
SNR=8.5
MKAR Makanchi Array 39.80 347 *i* P **P 21 39 51.4 -0.3**
MKAR pmax pmax
comp=Z,21nm,1.1s
SONM Songino Array 40.88 13 P **P 21 40 00.9 +0.3**
comp=Z,5.8nm,1.0s,mb4.2,baz=198,slow=7.8,SNR=28
SONM PcP PcP 21 42 00.8 -0.2
comp=Z,1.4nm,0.6s,baz=205,slow=3.5,SNR=4.5
ULN Ulaanbaatar 41.05 13 *e*P **P 21 40 01.5 -0.5**
ULN pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
ULN Ulaanbaatar 41.05 13 *e*P **P 21 40 01.5 -0.5**
comp=Z,4.5nm,1.0s,mb4.0
SNY Shenyang 42.43 33 ⇓P **P 21 40 14.5 +1.1**
SNY AMB AMB
comp=Z,20nm,1.5s,mb4.5
ZAK Zakamensk 42.76 9 *e*P **P 21 40 16.6 +0.6**
ZAK *e* 21 42 06.9
TLY Talaya 44.08 9 *e*P **P 21 40 27.7 +1.0**
TLY pmax pmax
comp=Z,6.0nm,1.3s,mb4.2
KURK Kurchatov 44.32 346 P **P 21 40 21.0 -7.7**
KURK pmax pmax
comp=Z,38nm,1.3s,mb5.0
HIA Hailar 46.25 23 *e*P **P 21 40 43.4 -0.6**
HIA pmax pmax
comp=Z,27nm,1.3s
HIA Hailar 46.25 23 *e*P **P 21 40 43.4 -0.7**
comp=Z,26nm,1.3s,mb5.0
ZAL Zalesovo 46.25 352 P **P 21 40 43.5 -0.5**
ZAL pmax pmax
comp=Z,9.0nm,1.0s
ZAL Zalesovo 46.25 352 P **P 21 40 43.5 -0.5**
comp=Z,9.3nm,0.9s,mb4.7,baz=300,slow=8.3,SNR=29
NWAO Narrogin (SRO) 46.41 153 P **P 21 40 44.4 -1.1**
NWAO pmax pmax
comp=Z,16nm,0.8s
NWAO Narrogin (SRO) 46.41 153 P **P 21 40 44.4 -1.2**
comp=Z,16nm,0.8s,mb5.0,baz=319,slow=8.6,SNR=5.8
NVS Novosibirsk 47.35 351 *i* P **P 21 40 52.1 -0.5**
NVS *i* S **S 21 47 39.3 -1.6**
NVS pmax pmax
comp=N,23nm,1.5s
NVS pmax pmax
comp=E,12nm,1.5s
NVS smax
comp=N,11nm,1.5s
NVS smax
comp=E,14nm,1.5s
WRA Warramunga Arr 48.44 126 P **P 21 41 01.4 -0.1**
WRA 21 42 26.9
WRA pmax pmax
comp=Z,9.0nm,0.8s
WRA pmax pmax
comp=Z,2.0nm,1.0s
WRA Warramunga Arr 48.44 126 P **P 21 41 01.4 -0.1**
comp=Z,9.4nm,0.8s,mb4.9,baz=304,slow=9.1,SNR=14
WRA PcP PcP 21 42 26.9 -0.4
comp=Z,2.0nm,1.0s,baz=304,slow=8.8,SNR=2.9
WRAB Tennant Creek 48.44 126 *e*P **P 21 40 58.8 -2.8**
WRAB pmax pmax
comp=Z,21nm,0.9s,mb5.2
WRAB Tennant Creek 48.44 126 *e*P **P 21 40 58.8 -2.8**
comp=Z,21nm,0.9s,mb5.2
BVA0 Borovoye Array 48.71 341 *i* P **P 21 41 02.1 -1.0**
BVA0 pmax pmax
comp=Z,4.0nm,1.4s,mb4.3
BVAR Borovoye Array 48.71 341 P **P 21 41 02.1 -1.0**
comp=Z,6.8nm,1.1s,mb4.6,baz=149,slow=8.6,SNR=19
BVAR PcP PcP 21 42 27.0 -0.9
comp=Z,1.7nm,0.8s,baz=207,slow=3.2,SNR=2.1
BVAR Borovoye Array 48.71 341 P **P 21 41 02.1 -1.0**
BVAR PcP PcP 21 42 27.0 -0.9
BRVK Borovoye 48.77 341 *e*P **P 21 41 01.1 -2.5**
BRVK pmax pmax
comp=Z,12nm,1.1s,mb4.8
BRVK Borovoye 48.77 341 *e*P **P 21 41 01.1 -2.5**
comp=Z,12nm,1.1s,mb4.8
RAYN Ar Rayn 48.96 294 P **P 21 41 06.8 +1.3**
comp=Z,161nm,0.8s,SNR=15
CHKZ Chkalovo 49.19 342 P **P 21 41 06.1 -0.8**
CHKZ pmax pmax
comp=Z,41nm,1.3s,mb5.3
CHKZ Chkalovo 49.19 342 *e*P **P 21 41 05.9 -1.0**
ASAR Alice Springs 50.11 130 P **P 21 41 14.8 +0.4**
comp=Z,6.6nm,0.9s,mb4.7,baz=306,slow=8.1,SNR=4.4
ASAR PcP PcP 21 42 34.4 +1.0
comp=Z,4.4nm,0.8s,baz=309,slow=4.0,SNR=9.3
BOD Bodaibo 51.86 13 *e*P **P 21 41 25.6 -1.5**
CLNS Chul'man 54.16 20 *e*P **P 21 41 44.5 +0.3**
CLNS pmax pmax
comp=Z,18nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,14nm,1.1s
CLNS pmax pmax
comp=E,13nm,1.3s
GNI Garni 54.22 314 P **P 21 41 44.0 -0.9**
GNI pmax pmax
comp=Z,6.0nm,1.0s
GNI Garni 54.22 314 P **P 21 41 44.0 -0.9**
comp=Z,6.0nm,0.9s,mb4.5,baz=178,slow=9.4,SNR=5.3
SVE Sverdlovsk 55.12 338 *e*P **P 21 41 48.0 -3.2**
SVE pmax pmax
comp=Z,120nm,1.8s,mb5.6
SVE MLR MLR
comp=E,500nm,18.0s
SVE MLR MLR
comp=Z,600nm,18.0s
ARU Arti 55.62 337 P **P 21 41 54.3 -0.5**
comp=Z,82nm,1.3s,mb5.6,SNR=8.1
ARU Arti 55.62 337 ⇓*i*P **P 21 41 47.2 -7.6**
ARU *e*S **S 21 49 28.6 -5.6**
ARU *e*SS SS 21 53 14.4 -5.5
ARU pmax pmax
comp=Z,22nm,1.3s,mb5.0
PMG Port Moresby 55.63 107 P **P 21 41 56.2 +0.8**
PMG pmax pmax
comp=Z,16nm,0.7s
PMG Port Moresby 55.63 107 P **P 21 41 56.2 +0.8**
comp=Z,16nm,0.7s,mb5.2,baz=326,slow=7.5,SNR=5.1
KIV Kislovodsk 57.09 318 *e*P **P 21 42 04.3 -1.2**
KIV pmax pmax
comp=Z,14nm,1.0s,mb5.0
KMBO Kilima Mbogo 57.45 263 P **P 21 42 10.0 +1.6**
KMBO pmax pmax
comp=Z,9.0nm,0.8s
KMBO Kilima Mbogo 57.45 263 P **P 21 42 10.0 +1.6**
comp=Z,8.8nm,0.8s,mb4.8,baz=54,slow=10,SNR=24
KMBO Kilima Mbogo 57.45 263 P **P 21 42 10.0 +1.6**
ASF Jabal al Asfar 58.05 303 P **P 21 42 12.0 -0.4**
comp=Z,3.7nm,0.9s,mb4.4,baz=108,slow=6.4,SNR=3.5
MALT Malatya 58.27 310 *e*P **P 21 42 12.8 -1.0**
MALT pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
MALT Malatya 58.27 310 *e*P **P 21 42 12.8 -1.0**
comp=Z,6.9nm,1.2s,mb4.6
CTA Charters Tower 58.46 119 P **P 21 42 16.4 +1.0**
CTA pmax pmax
comp=Z,5.0nm,0.9s
CTA Charters Tower 58.46 119 P **P 21 42 16.4 +1.0**
comp=Z,4.5nm,0.9s,mb4.5,baz=305,slow=7.6,SNR=3.6
SOKR Solikamsk 58.52 339 ⇓*i*P **P 21 42 13.4 -1.8**
SOKR pmax pmax
comp=Z,30nm,1.3s,mb5.2
SOKR MLR MLR
comp=Z,620nm,19.0s
YAK Yakutsk 59.72 19 *e*P **P 21 42 22.7 -0.8**
YAK pmax pmax
comp=Z,17nm,0.7s,mb5.2
YAK Yakutsk 59.72 19 *e*P **P 21 42 22.7 -0.8**
comp=Z,17nm,0.7s,mb5.2
STKA Stephens Creek 60.32 134 P **P 21 42 27.8 -0.3**
comp=Z,8.7nm,1.0s,mb4.7,baz=305,slow=7.7,SNR=9.2
STKA Stephens Creek 60.32 134 P **P 21 42 27.8 -0.3**
BRTR Keskin Array B 62.23 311 P **P 21 42 38.8 -2.0**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 62.23 311 P **P 21 42 38.8 -2.0**
comp=Z,4.0nm,0.9s,mb4.5,baz=120,slow=7.0,SNR=11
MOS Moscow 64.82 329 *e*P **P 21 42 57.9 +0.3**
MOS pmax pmax
comp=Z,96nm,1.5s,mb5.6
OBN Obninsk 65.12 328 *e*P **P 21 42 56.1 -3.4**
OBN pmax pmax
comp=Z,51nm,1.5s,mb5.3
TIXI Tiksi 66.94 11 ⇑*i*P **P 21 43 10.4 -0.4**
TIXI pmax pmax
comp=Z,40nm,1.4s,mb5.3
AKASG Malin Array Be 67.92 322 P **P 21 43 15.3 -1.9**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 67.92 322 P **P 21 43 15.3 -1.9**
comp=Z,2.5nm,0.7s,mb4.3,baz=90,slow=4.7,SNR=12
IDI Anoyia 68.39 305 P **P 21 43 20.0 -0.5**
comp=Z,13nm,0.9s,mb5.0,baz=117,slow=2.6,SNR=4.4
VRI Vrincioaia 68.48 316 ⇓P **P 21 43 20.8 -0.1**
MLR Muntele Rosu 68.95 316 ⇓P **P 21 43 23.8 0.0**
MLR Muntele Rosu 68.95 316 P **P 21 43 23.3 -0.5**
comp=Z,9.3nm,1.0s,mb4.7,baz=52,slow=2.9,SNR=8.6
LSZ Lusaka 69.36 250 *e*P **P 21 43 27.3 +0.6**
LSZ pmax pmax
comp=Z,11nm,1.2s,mb4.7
LSZ Lusaka 69.36 250 *e*P **P 21 43 27.3 +0.5**
comp=Z,11nm,1.2s,mb4.7
KWP Kalwaria 71.80 320 *e*P **P 21 43 40.0 -0.9**
KWP pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
KWP Kalwaria 71.80 320 *e*P **P 21 43 40.0 -0.9**
comp=Z,6.5nm,0.8s,mb4.6
KOLS Kolonicke sedl 71.98 319 *e*P **P 21 43 43.3 +1.3**
KOLS *e* 21 44 07.6
FINES FINESS Array B 72.45 332 P **P 21 43 43.5 -1.0**
FINES pmax pmax
comp=Z,6.0nm,0.9s
FINES FINESS Array B 72.45 332 P **P 21 43 43.5 -1.0**
comp=Z,5.7nm,0.9s,mb4.5,baz=109,slow=7.4,SNR=9.6
CRVS Cervenica-Dubn 72.50 319 *e*P **P 21 43 51.8 +6.7**
CRVS Cervenica-Dubn 72.50 319 *e*pP **P 21 43 51.8 +6.7**
PSZ Piszkesteto 73.42 318 *e*P **P 21 43 49.5 -1.0**
OJC Ojcow 73.74 320 *e*P **P 21 43 52.4 +0.1**
VYHS Vyhne 74.18 318 *i* P **P 21 43 55.0 +0.1**
VYHS *e* pP 21 44 10.4 -1.5
LBTB Lobatse 74.38 241 *e*P **P 21 43 56.2 -0.4**
LBTB pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LBTB Lobatse 74.38 241 *e*P **P 21 43 56.2 -0.3**
comp=Z,7.7nm,0.8s,mb4.7
OKC Ostrava-Krasne 74.76 319 *e*P **P 21 43 58.8 +0.6**
ARCES ARCESS Array B 74.98 340 P **P 21 43 59.7 +0.6**
ARCES pmax pmax
comp=Z,7.0nm,1.1s
ARCES ARCESS Array B 74.98 340 P **P 21 43 59.7 +0.5**
comp=Z,7.2nm,1.1s,mb4.5,baz=105,slow=6.7,SNR=9.2
ARCES ARCESS Array B 74.98 340 P **P 21 43 59.7 +0.5**
MORC Moravsky Berou 75.15 319 *e*P **P 21 44 00.1 -0.3**
MORC pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MORC Moravsky Berou 75.15 319 *e*P **P 21 44 00.1 -0.4**
comp=Z,6.5nm,0.9s,mb4.6
ZST Bratislava 75.31 318 *e*P **P 21 44 01.9 +0.5**
ZST *e* pP 21 44 18.1 -0.3
BOSA Boshof 75.73 238 *e*P **P 21 44 04.0 -0.3**
BOSA pmax pmax
comp=Z,13nm,1.1s,mb4.8
BOSA Boshof 75.73 238 *e*P **P 21 44 04.0 -0.3**
comp=Z,13nm,1.1s,mb4.8
DPC Dobruska-Polom 75.98 320 *e*P **P 21 44 06.2 +1.0**
UPC Upice 76.19 320 *e*P **P 21 44 06.8 +0.5**
PRU Pruhonice 77.10 319 *e*P **P 21 44 12.0 +0.5**
PVCC Panska Ves 77.11 320 *e*P **P 21 44 11.9 +0.4**
BSD Bornholm Skovb 77.17 325 *e*P **P 21 44 17.3 +5.5**
BSD pmax pmax
comp=Z,34nm,0.8s,mb5.3
BSD Bornholm Skovb 77.17 325 *e*P **P 21 44 17.3 +5.5**
comp=Z,34nm,0.8s,mb5.3
BSD Bornholm Skovb 77.17 325 *i* P **P 21 44 17.3 +5.5**
comp=Z,34nm,0.8s,mb5.3
BRG Berggiesshubel 77.52 320 *e*P **P 21 44 14.5 +0.7**
BRG pmax pmax
comp=Z,23nm,1.5s,mb4.9
BRG Berggiesshubel 77.52 320 *e*P **P 21 44 14.5 +0.7**
comp=Z,23nm,1.5s,mb4.9
GERES GERESS Array B 77.60 318 P **P 21 44 15.0 +0.7**
GERES pmax pmax
comp=Z,7.0nm,1.0s
GERES GERESS Array B 77.60 318 P **P 21 44 15.0 +0.7**
comp=Z,6.8nm,1.0s,mb4.5,baz=90,slow=5.3,SNR=17
KHC Kasperske Hory 77.69 318 *e*P **P 21 44 15.1 +0.3**
KHC *e* 21 44 18.5
KHC Kasperske Hory 77.69 318 *e*P **P 21 44 15.1 +0.3**
KHC pP Px 21 44 18.5
RUE Ruedersdorf 77.69 322 P **P 21 44 14.1 -0.6**
comp=Z,22nm,0.8s,mb5.2
CLL Collm 78.13 321 *e*PP **P 21 44 23.0 +5.9**
GRA1 Grafenberg Arr 79.24 319 *e*P **P 21 44 24.1 +0.8**
comp=Z,33nm,1.7s,mb5.0
GRF Grafenberg Arr 79.24 319 *e*P **P 21 44 24.1 +0.8**
GRF pmax pmax
comp=Z,33nm,1.7s,mb5.0
GRF Grafenberg Arr 79.24 319 *e*P **P 21 44 24.1 +0.8**
GRF pmax pmax
comp=Z,33nm,1.7s,mb5.0
GRF Grafenberg Arr 79.24 319 *e*P **P 21 44 24.1 +0.8**
comp=Z,33nm,1.7s,mb5.0
NB2 NORSAR Subarra 79.47 331 P **P 21 44 23.7 -0.6**
comp=Z,10nm,0.9s,mb4.8,baz=92,slow=5.6
NB2 NORSAR Subarra 79.47 331 P **P 21 44 23.7 -0.6**
NB2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
NOA NORSAR Array B 79.47 331 P **P 21 44 24.3 0.0**
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 79.47 331 P **P 21 44 24.3 0.0**
comp=Z,3.2nm,0.8s,mb4.3,baz=96,slow=5.5,SNR=6.9
MUD Monsted U'grnd 80.46 326 *i* P **P 21 44 37.0 +7.3**
MUD pmax pmax
comp=Z,16nm,0.9s,mb5.0
MUD Monsted U'grnd 80.46 326 *i* P **P 21 44 37.0 +7.3**
comp=Z,16nm,0.9s,mb5.0
LPG La Plagne 82.40 315 *e*P **P 21 44 39.3 -0.7**
comp=Z,37nm,0.8s,mb5.1
LPG La Plagne 82.40 315 *e*P **P 21 44 39.3 -0.7**
LPG pmax pmax
comp=Z,19nm,0.8s,mb5.1
BNI Bardonecchia 82.49 314 *e*P **P 21 44 39.6 -0.9**
BNI pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BNI Bardonecchia 82.49 314 *e*P **P 21 44 39.6 -0.8**
comp=Z,8.3nm,0.8s,mb4.7
ESDC Sonseca Array 91.02 310 P **P 21 45 22.8 +0.6**
comp=Z,1.6nm,0.9s,mb4.3,baz=56,slow=9.3,SNR=3.9
IMA Indian Mountai 91.35 22 *e*P **P 21 45 24.8 +1.8**
VNDA Vanda 93.22 168 LR LR 22 26 42.9
comp=Z,285nm,19.1s,baz=345,slow=35
SPU Mount Spurr 94.02 26 *e*P **P 21 45 36.0 +0.7**
ILAR Eielson Array 94.47 22 P **P 21 45 38.8 +1.5**
comp=Z,0.4nm,0.8s,mb3.9,baz=307,slow=4.5,SNR=4.8
INK Inuvik 96.71 16 P **P 21 45 48.0 +0.6**
INK pmax pmax
comp=Z,5.0nm,1.2s
INK Inuvik 96.71 16 P **P 21 45 48.0 +0.6**
comp=Z,4.9nm,1.1s,mb4.8,baz=307,slow=4.3,SNR=5.1
NVAR Mina Array Bea 124.67 31 PKP PKPdf 21 51 15.9 -0.3
comp=Z,0.3nm,0.5s,baz=270,slow=2.7,SNR=3.2
PDAR Pinedale Array 124.89 21 PKP PKPdf 21 51 17.8 +1.2
comp=Z,1.1nm,0.8s,baz=108,slow=2.9,SNR=3.6
TXAR Lajitas Array 138.96 24 PKP PKPdf 21 51 44.9 +1.6
comp=Z,0.8nm,0.7s,baz=147,slow=0.7,SNR=7.3
TXAR Lajitas Array 138.96 24 PKP PKPdf 21 51 44.9 +1.6
JCT Junction City 139.31 19 *e*PKIKP PKPdf 21 51 46.2 +2.3
PLCA Paso Flores 144.82 200 PKIKP PKPdf 21 51 54.1 +0.8
PLCA pmax pmax
comp=Z,11nm,0.9s
PLCA Paso Flores 144.82 200 PKP PKPdf 21 51 54.0 +0.7
comp=Z,11nm,0.9s,baz=189,slow=2.8,SNR=17
SJG San Juan 147.43 323 PKP2 PKPab 21 52 04.4 -0.7
SJG pmax pmax
comp=Z,9.0nm,0.2s
SJG San Juan 147.43 323 PKPbc PKPdf 21 52 04.4 +6.1
comp=Z,8.7nm,0.2s,baz=355,slow=18,SNR=2.7
SJG San Juan 147.43 323 PKPbc PKPdf 21 52 04.4 +6.1
LPAZ La Paz 160.89 243 PKP PKPdf 21 51 39.2 -38
comp=Z,3.0nm,1.1s,baz=50,slow=5.2,SNR=5.3
LPAZ PKPab PKPab 21 52 19.9 -42
comp=Z,0.8nm,0.5s,baz=19,slow=4.2,SNR=3.0

IGQ 27 21:33:50.2, 1.50S×81.39W, h12km±7km, mb4.2, 3C, Error ellipse: s-maj=10.2km s-min=4.0km az=13.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.95**	**62**	⇑P	Pb	21 34 08.2	+0.1
JAMA	**Jama**	**1.71**	**44**	P	Pn	21 34 22.0	+2.0
JAMA				S	Sn	21 34 41.9	+0.1
IGUA	**Igualata**	**2.75**	**90**	P	Pn	21 34 35.1	+0.2
JUIV	**Juive**	**2.93**	**89**	P	Pn	21 34 37.6	+0.2
ARRY	**Arrayan**	**2.94**	**90**	⇑P	Pn	21 34 38.0	+0.4
RETU	**Refugio**	**2.94**	**89**	P	Pn	21 34 39.3	+1.6
ULBA	**Ulba**	**2.98**	**89**	P	Pn	21 34 40.0	+1.7
NAS1	**Nasa**	**3.04**	**74**	P	Pn	21 34 41.9	+2.9
PISA	**Pisayambo**	**3.04**	**82**	P	Pn	21 34 41.2	+2.2
JUA2	**San Juan 2**	**3.06**	**65**	P	Pn	21 34 41.0	+1.6
TERV	**Terraza Guagua**	**3.08**	**65**	P	Pn	21 34 42.6	+3.0
PINO	**Pino**	**3.08**	**65**	P	Pn	21 34 41.1	+1.5
VC1	**Cotopaxi 1**	**3.10**	**74**	P	Pn	21 34 43.4	+3.4
TAMB	**Tambo**	**3.12**	**75**	P	Pn	21 34 43.6	+3.3
YANA	**Yana**	**3.13**	**64**	P	Pn	21 34 41.7	+1.3
YANA				S	Sn	21 35 15.5	-2.6
ANTI	**Antisana**	**3.39**	**72**	⇑P	Pn	21 34 47.4	+3.4
ANTI				S	Sn	21 35 26.6	+2.0
COTA	**Cotacachi**	**3.55**	**59**	P	Pn	21 34 49.5	+3.1
CAYR	**Refugio Cayamb**	**3.70**	**66**	P	Pn	21 34 52.7	+4.2
CAYR				S	Sn	21 35 36.4	+4.0
CAYA	**Cayambe**	**3.74**	**65**	P	Pn	21 34 52.5	+3.5

*IDC **27** 21:39:11.6±0.9, 7.71N×94.06E, mb4.0/14, mb1 4.1/14, mb1mx4.1/19, mbtmp4.0/14, Error ellipse: s-maj=37.1km s-min=19.3km az=49.0*
*BJI **27** 21:39:16.2, 7.80N×94.10E, h30km, mb4.4*
*NEIC **27** 21:39:16.3±0.5, 7.79N×94.12E, h30km, mb4.3/5, Error ellipse: s-maj=14.4km s-min=10.2km az=69.0*

ISC 27 21:39:11.9±9.9, 7.7N±0.2×94.1E±0.2, h14km±60km, n32, σ0.9±94/30, mb4.2/23, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.67**	**23**	P	**P**	**21 41 58.4**	**-2.7**
CMAR	**Chiang Mai Arr**	**11.67**	**23**	Pn	**P**	**21 42 01.6**	**+0.4**
	baz=216,slow=12,SNR=0.9						
KMI	**Kunming**	**19.17**	**24**	⇑P	**P**	**21 43 41.3**	**+3.5**
	16nm,1.1s						
JIRN	**Jiri**	**21.20**	**340**	*e*P	**P**	**21 44 00.3**	**+0.8**
	27nm,0.9s,mb4.6						
PKI	**Pulchoki**	**21.39**	**338**	*e*P	**P**	**21 44 02.7**	**+1.2**
	28nm,0.9s,mb4.6						
DMN	**Daman**	**21.54**	**338**	*e*P	**P**	**21 44 03.8**	**+0.9**
	35nm,1.0s,mb4.8						
KKN	**Kakani**	**21.64**	**338**	*e*P	**P**	**21 44 04.2**	**+0.3**
LSA	**Lhasa**	**22.04**	**353**	*e*P	**P**	**21 44 07.6**	**-0.3**
	6.7nm,0.7s,mb4.2						
GKN	**Gorkha**	**22.07**	**337**	*e*P	**P**	**21 44 08.2**	**-0.1**
	27nm,0.9s,mb4.7						
KOLN	**Koldanda**	**22.28**	**335**	*e*P	**P**	**21 44 10.2**	**-0.2**
	12nm,0.7s,mb4.4						
ENH	**Enshi**	**26.68**	**31**	*e*P	**P**	**21 44 52.8**	**+0.3**
	7.6nm,0.9s,mb4.2						
SONM	**Songino Array**	**41.32**	**13**	P	**P**	**21 46 59.2**	**+0.5**
	1.3nm,0.9s,mb3.5,baz=206,slow=7.2,SNR=6.6						
KURK	**Kurchatov**	**44.75**	**346**	*e*P	**P**	**21 47 25.8**	**-0.9**
	4.6nm,0.9s,mb4.3						
ZAL	**Zalesovo**	**46.70**	**352**	P	**P**	**21 47 42.3**	**+0.3**
	2.4nm,0.9s,mb4.1,baz=300,slow=10,SNR=7.0						
WRA	**Warramunga Arr**	**48.20**	**125**	P	**P**	**21 47 55.4**	**+1.1**
	1.8nm,1.1s,mb4.0,baz=305,slow=8.5,SNR=5.6						
WRAB	**Tennant Creek**	**48.21**	**125**	P	**P**	**21 47 54.7**	**+0.3**
BVAR	**Borovoye Array**	**49.12**	**341**	P	**P**	**21 47 59.4**	**-1.6**
	0.8nm,0.8s,mb3.8,baz=141,slow=9.5,SNR=4.3						
CHKZ	**Chkalovo**	**49.61**	**342**	*e*P	**P**	**21 48 03.2**	**-1.5**
	4.1nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**49.85**	**130**	P	**P**	**21 48 05.6**	**-1.4**
	0.8nm,0.8s,mb3.8,baz=316,slow=8.2,SNR=5.3						
GNI	**Garni**	**54.52**	**314**	P	**P**	**21 48 42.5**	**+0.8**
	2.1nm,0.8s,mb4.2,baz=219,slow=12,SNR=2.9						
KMBO	**Kilima Mbogo**	**57.37**	**264**	P	**P**	**21 49 07.9**	**+5.3**
	2.9nm,1.0s,mb4.3,baz=53,slow=14,SNR=4.7						
BRTR	**Keskin Array B**	**62.50**	**311**	P	**P**	**21 49 37.1**	**-0.4**
	0.9nm,0.7s,mb4.0,baz=115,slow=5.8,SNR=4.6						
AKASG	**Malin Array Be**	**68.25**	**322**	P	**P**	**21 50 13.1**	**-1.2**
	0.5nm,0.5s,mb3.8,baz=89,slow=4.5,SNR=4.2						
FINES	**FINESS Array B**	**72.83**	**332**	P	**P**	**21 50 42.1**	**+0.3**
	4.6nm,1.1s,mb4.3,baz=108,slow=12,SNR=4.5						
ARCES	**ARCESS Array B**	**75.40**	**340**	P	**P**	**21 50 56.4**	**-0.2**
	4.3nm,0.9s,mb4.4,baz=90,slow=5.4,SNR=2.9						
MORC	**Moravsky Berou**	**75.47**	**319**	*e*P	**P**	**21 50 56.6**	**-0.8**
GERES	**GERESS Array B**	**77.92**	**318**	P	**P**	**21 51 12.3**	**+1.2**
	1.3nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=17						
NB2	**NORSAR Subarra**	**79.85**	**331**	P	**P**	**21 51 22.1**	**+0.8**
	1.0nm,0.8s,mb3.8,baz=89,slow=5.6						
NOA	**NORSAR Array B**	**79.85**	**331**	P	**P**	**21 51 21.2**	**-0.1**
	1.9nm,0.8s,mb4.1,baz=93,slow=5.5,SNR=4.5						
INK	**Inuvik**	**97.15**	**16**	P	**P**	**21 52 45.5**	**+0.7**
	0.6nm,0.8s,mb4.1,baz=69,slow=9.3,SNR=2.3						
PDAR	**Pinedale Array**	**125.33**	**21**	PKP	PKPdf	21 58 15.8	-0.6
	0.5nm,0.8s,baz=90,slow=3.0,SNR=3.8						
PLCA	**Paso Flores**	**144.39**	**200**	PKP	PKPdf	21 58 50.7	-0.8
	2.9nm,1.0s,baz=198,slow=7.3,SNR=4.4						

*NEIC **27** 21:41:23.3±0.6, 7.82N×94.25E, h30km, mb4.5/6, Error*

ellipse: s-maj=18.0km s-min=11.8km az=70.0

*IDC **27** 21:41:28.5±5.5, 7.93N×94.43E, h70km±51km, mb3.7/11, mb1 3.8/11, mb1mx3.7/18, mbtmp4.0/11, Error ellipse: s-maj=32.6km s-min=16.3km az=62.0*

ISC 27 21:41:21.5±0.6, 7.85N±0.08×94.3E±0.1, h30km, n26, σ1§21/23, mb4.1/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.47	23	P	P	21 44 06.0	-0.5
CMAR	Chiang Mai Arr	11.47	23	P	P	21 44 07.7	+1.2
	baz=212,slow=13,SNR=0.5						
LSA	Lhasa	21.94	353	eP	P	21 46 16.3	+1.8
	17nn,0.8s,mb4.5						
AAK	Ala-Archa	38.80	336	eP	P	21 48 45.7	+0.3
	1.7nm,0.7s,mb3.9						
SONM	Songino Array	41.15	12	P	P	21 49 05.7	+1.0
	1.1nm,0.7s,mb3.6,baz=203,slow=7.5,SNR=3.4						
ULN	Ulaanbaatar	41.32	13	eP	P	21 49 01.9	-4.3
	8.2nm,0.6s,mb4.5						
KURK	Kurchatov	44.68	346	eP	P	21 49 31.0	-2.5
	6.0nm,1.1s,mb4.3						
NWAO	Narrogin (SRO)	46.05	153	P	P	21 49 45.6	+1.1
	3.9nm,0.6s,mb4.5,baz=336,slow=1.8,SNR=2.9						
ZAL	Zalesovo	46.59	352	P	P	21 49 48.0	-0.6
	2.1nm,0.7s,mb4.2,baz=298,slow=7.3,SNR=8.2						
ZAL	Zalesovo	46.59	352	P	P	21 49 48.0	-0.6
WRA	Warramunga Arr	48.11	126	P	P	21 50 01.0	0.0
	1.0nm,0.9s,mb3.8,baz=304,slow=8.6,SNR=4.8						
WRAB	Tennant Creek	48.11	126	eP	P	21 49 59.5	-1.5
BVAR	Borovoye Array	49.07	341	P	P	21 50 08.9	+1.0
	1.5nm,0.8s,mb4.0,baz=135,slow=6.3,SNR=5.5						
CHKZ	Chkalovo	49.55	342	eP	P	21 50 09.4	-2.2
	5.4nm,0.9s,mb4.6						
ASAR	Alice Springs	49.77	130	P	P	21 50 13.8	0.0
	0.8nm,0.9s,mb3.8,baz=312,slow=7.8,SNR=4.2						
KMBO	Kilima Mbogo	57.59	264	P	P	21 51 13.0	+1.5
	3.1nm,1.1s,mb4.3,baz=49,slow=12,SNR=3.7						
KMBO	Kilima Mbogo	57.59	264	P	P	21 51 13.0	+1.5
BRTR	Keskin Array B	62.58	311	P	P	21 51 43.3	-2.0
	0.8nm,0.9s,mb3.9,baz=104,slow=5.9,SNR=3.4						
FINES	FINESS Array B	72.81	332	P	P	21 52 48.4	-0.7
	2.1nm,0.8s,mb4.1,baz=162,slow=8.8,SNR=4.1						
MORC	Moravsky Berou	75.51	319	P	P	21 53 04.9	+0.1
GERES	GERESS Array B	77.96	318	P	P	21 53 18.7	+0.2
	1.2nm,0.8s,mb3.9,baz=90,slow=4.0,SNR=5.9						
NB2	NORSAR Subarra	79.84	331	P	P	21 53 28.5	0.0
	3.5nm,0.9s,mb4.3,baz=91,slow=5.6						
NOA	NORSAR Array B	79.84	331	P	P	21 53 30.4	+1.9
	2.2nm,0.8s,mb4.1,baz=93,slow=5.4,SNR=5.4						
TBI	Tubuai	117.12	112	eLR	LR	21 56 33.8	
	434nm,26.5s						
PPT	Papeete	117.17	106	eLR	LR	21 56 34.5	
	425nm,25.2s						
PLCA	Paso Flores	144.58	200	PKP	PKPdf	22 01 00.9	+0.3
	3.1nm,0.9s,baz=202,slow=7.4,SNR=3.1						

*IDC **27** 21:43:10.1±1.2, 7.89N×93.76E, mb3.8/10, mb1 4.0/11, mb1mx3.9/18, mbtmp3.8/11, ML3.7/1, Error ellipse: s-maj=41.0km s-min=25.6km az=52.0*

*NEIC **27** 21:43:14.5±0.6, 7.94N×93.91E, h30km, mb4.2/3, Error ellipse: s-maj=16.7km s-min=12.4km az=74.0*

ISC 27 21:43:14.4±5.8, 8.0N±0.2×94.0E±0.2, h43km±48km, n27, σ0§89/25, mb4.1/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.50	24	P	P	21 45 55.3	-3.6
CMAR	Chiang Mai Arr	11.50	24	Pn	P	21 45 58.4	-0.6
	0.1nm,0.3s,baz=211,slow=15,SNR=7.9						
JIRN	Jiri	20.94	340	eP	P	21 47 55.6	-0.4
	19nm,0.7s						
PKI	Pulchoki	21.13	338	eP	P	21 47 58.5	+0.6
	12nm,0.4s,mb4.5						
DMN	Daman	21.28	338	eP	P	21 48 00.7	+1.3
	22nm,0.7s,mb4.6						
KKN	Kakani	21.38	338	eP	P	21 48 00.9	+0.5
	44nm,1.3s,mb4.6						
LSA	Lhasa	21.80	353	eP	P	21 48 06.8	+2.2
	5.2nm,0.6s,mb4.1						
GKN	Gorkha	21.81	337	eP	P	21 48 04.8	+0.1
	15nm,0.6s,mb4.6						
KOLN	Koldanda	22.02	335	eP	P	21 48 07.5	+0.7
	49nm,1.3s,mb4.8						
AAK	Ala-Archa	38.57	337	P	P	21 50 33.8	-1.0
SONM	Songino Array	41.12	13	P	P	21 50 56.5	+0.6
	0.8nm,0.9s,mb3.3,baz=194,slow=9.0,SNR=3.9						
KURK	Kurchatov	44.49	346	eP	P	21 51 22.6	-0.7
	1.5nm,0.6s,mb3.9						
ZAL	Zalesovo	46.45	353	P	P	21 51 39.4	+0.5
	1.6nm,0.9s,mb3.9,baz=292,slow=9.0,SNR=3.3						
WRA	Warramunga Arr	48.44	125	P	P	21 51 55.8	+0.9
	0.7nm,0.5s,mb4.0,baz=305,slow=8.5,SNR=7.7						
WRAB	Tennant Creek	48.44	125	P	P	21 51 54.6	-0.3
BVAR	Borovoye Array	48.86	341	P	P	21 51 57.0	-0.7
	0.6nm,0.7s,mb3.7,baz=146,slow=10,SNR=3.4						
CHKZ	Chkalovo	49.35	342	eP	P	21 52 00.7	-0.8
	1.7nm,0.5s,mb4.3						
BRTR	Keskin Array B	62.26	311	P	P	21 53 33.4	-1.1
	0.5nm,0.7s,mb3.8,baz=104,slow=5.9,SNR=2.2						
AKASG	Malin Array Be	67.99	322	P	P	21 54 10.0	-1.2
	0.2nm,0.4s,mb3.5,baz=90,slow=5.6,SNR=3.5						
FINES	FINESS Array B	72.57	332	P	P	21 54 38.9	+0.1
	1.4nm,0.7s,mb4.0,baz=90,slow=3.8,SNR=5.0						
ARCES	ARCESS Array B	75.14	340	P	P	21 54 52.9	-0.6
	4.7nm,1.1s,mb4.3,baz=98,slow=8.6,SNR=3.8						
ARCES	ARCESS Array B	75.14	340	P	P	21 54 52.9	-0.6
MORC	Moravsky Berou	75.21	319	P	P	21 54 54.0	-0.3
GERES	GERESS Array B	77.66	318	P	P	21 55 09.4	+1.2
	0.4nm,0.5s,mb3.6,baz=108,slow=4.2,SNR=5.8						
NOA	NORSAR Array B	79.58	331	P	P	21 55 18.6	+0.1
	0.7nm,0.7s,mb3.7,baz=110,slow=6.5,SNR=2.9						
PLCA	Paso Flores	144.57	200	PKP	PKPdf	22 02 47.7	+1.1
	1.2nm,0.6s,baz=74,slow=6.6,SNR=2.6						
PLCA	Paso Flores	144.57	200	PKP	PKPdf	22 02 47.7	+1.1

*IDC **27** 21:47:48.8±0.5, 7.82N×93.87E, mb4.5/23, mb1 4.6/24, mb1mx4.6/26, mbtmp4.5/24, ML4.4/1, MS4.6/13, Ms1 4.6/13, ms1mx4.3/26, Error ellipse: s-maj=28.3km s-min=11.7km az=50.0, Putative timing error at LPAZ*

*MOS **27** 21:47:52.7±1.4, 7.88N×93.99E, h33km, mb5.0/39, MS4.8/8, Error ellipse: s-maj=11.4km s-min=6.1km az=110.4*

*BJI **27** 21:47:52.3, 7.47N×93.93E, h49km, mB5.1, mb4.7, Ms5.0, Msz4.4*

*HRVD **27** 21:47:53.5±0.3, 7.95N×94.17E, h12km, MW5.1/52, Centroid moment Tensor Solution. LP body waves: s15,c20;Mantle waves: s52,c86; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.84±.20; $M_{\theta\theta}$-0.13±.14; $M_{\phi\phi}$3.96±.17; $M_{r\theta}$-1.82±.55; $M_{\theta\phi}$3.71±.14; $M_{\phi r}$-3.08±.49; Best double couple: $M_0$6.145×10^{16} NP1:ϕ_s211°, δ27°, λ-90°. NP2:ϕ_s31°, δ63°, λ-90°. Principal axes: T 7.301, Plg18°, Azm121°; N -2.32, Plg0°, Azm211°; P -4.989, Plg72°, Azm301°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **27** 21:47:53.5±0.3, 7.85N×93.92E, h30km, mb4.9/32 Error ellipse: s-maj=8.6km s-min=7.0km az=54.0*

ISC 27 21:47:52.5±0.3, 7.91N±0.04×94.06E±0.04, h33km, (h14km±12.0km:pP-P), n184, σ1§26/170, mb4.8/68, MS4.7/15, 5C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.51	24	eP	P	21 50 37.7	0.0
	5.3nm,0.4s						
CMAR	Chiang Mai Arr	11.51	24	P	P	21 50 38.2	+0.5
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,1μm,19.1s						
CMAR	Chiang Mai Arr	11.51	24	Pn	P	21 50 38.2	+0.5
	comp=Z,0.7nm,0.3s,baz=211,slow=14,SNR=18						
CMAR				LR	LR	21 55 12.3	
	comp=Z,1μm,19.1s,baz=220,slow=38						
VIS	Vishakhapatnam	14.29	314	eP	P	21 51 13.9	-0.8
VIS				e		21 51 26.3	
	comp=Z,94nm,1.1s						
VIS				e		21 53 39.3	
IMP	Imphal	16.78	360	e	P	21 51 46.3	-0.4
SHL	Shillong	17.68	354	eP	P	21 51 56.5	-1.5
BLSP	Bilaspur	18.21	322	eP	P	21 52 06.5	+1.8
BLSP				e		21 52 11.0	
	comp=Z,78nm,1.1s						
QIZ	Qiongzhong	18.90	53	P	P	21 52 14.5	+1.4
QIZ	Qiongzhong	18.90	53	eP	P	21 52 13.4	+0.3
KMI	Kunming	19.02	25	⇑P	P	21 52 16.7	+2.2
KMI				S	S	21 55 40.9	-0.8
KMI				pmax	pmax		
	comp=Z,24nm,1.6s						
KMI	Kunming	19.02	25	⇑P	P	21 52 16.7	+2.2
	comp=Z,24nm,1.6s						
KMI				pP		21 52 21.9	
KMI				sP		21 52 25.5	
KMI				S	S	21 55 40.9	-0.8
MNGI	Mangalore	19.56	286	iP	P	21 52 21.8	+1.2
JIRN	Jiri	21.01	340	eP	P	21 52 35.7	0.0
	comp=Z,403nm,1.4s,mb5.5						
GOA	Goa	21.18	293	e	P	21 52 44.4	+6.8
	comp=Z,40nm,1.8s,mb4.4						
GOA				eS	S	21 56 41.0	+15
PKI	Pulchoki	21.20	338	eP	P	21 52 37.1	-0.5
	comp=Z,348nm,1.2s,mb5.5						
DMN	Daman	21.35	338	eP	P	21 52 38.3	-0.8
	comp=Z,118nm,0.7s,mb5.3						
KKN	Kakani	21.45	338	eP	P	21 52 39.4	-0.7
	comp=Z,246nm,1.3s,mb5.4						
KAD	Karad	21.51	298	eP	P	21 52 42.2	+1.4
LSA	Lhasa	21.85	353	P	P	21 52 47.3	+3.2
LSA	Lhasa	21.85	353	eP	P	21 52 43.5	-0.6
LSA				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.7						
LSA	Lhasa	21.85	353	eP	P	21 52 43.5	-0.6
	comp=Z,18nm,0.6s,mb4.7						
GKN	Gorkha	21.88	337	eP	P	21 52 44.2	-0.2
	comp=Z,231nm,0.9s,mb5.6						
BHPL	Bhopal	22.08	316	eP	P	21 52 47.5	+1.1
BHPL				e		21 52 53.6	
	comp=Z,94nm,0.7s						
KOLN	Koldanda	22.09	335	eP	P	21 52 47.1	+0.5
	comp=Z,506nm,1.3s,mb5.8						
POO	Poona	22.30	300	e	P	21 52 44.0	-4.7
ENH	Enshi	26.53	31	eP	P	21 53 28.2	-1.2
	comp=Z,12nm,0.8s,mb4.5						
DDI	Dehra Dun	26.87	328	e	P	21 53 31.0	-1.4
XAN	Xi'an	29.40	26	P	P	21 53 55.5	+0.4
XAN				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.8						
LZH	Lanzhou	29.44	16	eP	P	21 53 57.5	+2.1
LZH				AP	pP	21 54 07.0	+2.0
LZH				XP	sP	21 54 12.5	+3.1
LZH				AMB	AMB		
	comp=Z,34nm,1.6s,mb4.8						
LZH				AMB	AMB		
	comp=Z,121nm,4.0s						
LZH	Lanzhou	29.44	16	eP	P	21 53 57.5	+2.1
	comp=Z,34nm,1.6s,mb4.8						
LZH				pP	pP	21 54 07.0	+2.0
LZH				sP	sP	21 54 12.5	+3.1
WHN	Wuhan	29.46	37	eP	P	21 53 57.0	+1.3
WMQ	Urumqi	36.20	352	P	P	21 54 55.8	+1.7
JOW	Kunigami	37.50	56	LR	LR	22 12 57.1	
	comp=Z,459nm,19.5s,MS4.3,baz=272,slow=40						
AAK	Ala-Archa	38.64	337	eP	P	21 55 13.4	-1.2
AAK				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
AAK	Ala-Archa	38.64	337	eP	P	21 55 13.4	-1.2
	comp=Z,18nm,1.0s,mb4.7						
SONM	Songino Array	41.15	13	P	P	21 55 35.5	+0.2
	comp=Z,2.4nm,0.8s,mb3.9,baz=198,slow=7.3,SNR=16						
SONM				PcP	PcP	21 57 34.9	0.0
	comp=Z,1.5nm,0.6s,baz=191,slow=3.6,SNR=8.5						
ULN	Ulaanbaatar	41.32	13	eP	P	21 55 36.1	-0.6
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
ULN	Ulaanbaatar	41.32	13	eP	P	21 55 36.1	-0.7
	comp=Z,2.3nm,0.8s,mb3.9						
SNY	Shenyang	42.69	33	⇓P	P	21 55 49.5	+1.4
ZAK	Zakamensk	43.03	9	eP	P	21 55 51.8	+1.1
TLY	Talaya	44.35	9	eP	P	21 56 01.7	+0.4
TLY				pmax	pmax		
	comp=Z,11nm,2.1s,mb4.2						
TLY	Talaya	44.35	9	eP	P	21 56 02.1	+0.8
	comp=Z,9.0nm,1.4s,mb4.3						
KURK	Kurchatov	44.56	346	eP	P	21 56 01.8	-1.2
KURK				pmax	pmax		
	comp=Z,70nm,1.4s,mb5.3						
KURK	Kurchatov	44.56	346	eP	P	21 56 01.8	-1.2
	comp=Z,70nm,1.4s,mb5.3						
MUN	Mundaring	44.95	153	eP	P	21 56 10.8	+4.3
	comp=Z,20nm,0.9s,mb5.0						
MUN	Mundaring	44.95	153	eP	P	21 56 10.8	+4.3
MUN				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
KLBR	Kellerberrin	45.35	151	eP	P	21 56 13.1	+3.4
	comp=Z,254nm,0.9s						
NWAO	Narrogin (SRO)	46.22	153	P	P	21 56 17.0	+0.5
NWAO				pmax	pmax		
	comp=Z,24nm,0.8s						
NWAO				MLR	MLR		
	comp=Z,5.0nm,19.9s						
NWAO	Narrogin (SRO)	46.22	153	P	P	21 56 17.0	+0.5
	comp=Z,24nm,0.8s,mb5.2,baz=328,slow=8.5,SNR=12						
NWAO				LR	LR	22 13 46.5	
	comp=Z,4.9nm,19.9s,baz=253,slow=34						
NWAO	Narrogin (SRO)	46.22	153	P	P	21 56 17.0	+0.5
NWAO				LR	LR	22 13 46.5	
ZAL	Zalesovo	46.50	352	P	P	21 56 18.5	+0.1
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ZAL				MLR	MLR		
	comp=Z,335nm,18.6s						
ZAL	Zalesovo	46.50	352	P	P	21 56 18.4	0.0
	comp=Z,6.4nm,0.6s,mb4.7,baz=297,slow=9.7,SNR=23						
ZAL				LR	LR	22 19 15.9	
	comp=Z,335nm,18.6s,MS4.3,baz=290,slow=40						
HIA	Hailar	46.52	23	eP	P	21 56 19.2	+0.5
HIA				pmax	pmax		
	comp=Z,20nm,1.2s						
HIA	Hailar	46.52	23	eP	P	21 56 19.2	+0.6
	comp=Z,20nm,1.2s,mb4.9						
NVS	Novosibirsk	47.60	352	eP	P	21 56 26.0	-1.1
NVS				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.2						
NVS				pmax	pmax		
	comp=N,38nm,1.6s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.2s						
MDJ	Mudanjiang	47.82	34	P	P	21 56 28.5	-0.5
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,122nm,4.1s						
WRA	Warramunga Arr	48.35	126	P	P	21 56 31.9	-1.5
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRA	Warramunga Arr	48.35	126	P	P	21 56 31.9	-1.5
	comp=Z,2.9nm,0.6s,mb4.5,baz=305,slow=8.5,SNR=25						
WRAB	Tennant Creek	48.35	125	eP	P	21 56 31.7	-1.7
WRAB				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
WRAB	Tennant Creek	48.35	125	eP	P	21 56 31.7	-1.7
	comp=Z,11nm,0.8s,mb4.9						
WB2	Warramunga Arr	48.36	126	eP	P	21 56 32.4	-1.1
BVAR	Borovoye Array	48.93	341	P	P	21 56 35.9	-1.5
	comp=Z,9.8nm,1.1s,mb4.7,baz=141,slow=9.5,SNR=10						
BVAR				PcP	PcP	21 58 00.5	-1.2
	comp=Z,1.3nm,0.7s,baz=162,slow=4.6,SNR=3.0						
BRVK	Borovoye	48.99	341	eP	P	21 56 36.2	-1.7
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
BRVK	Borovoye	48.99	341	eP	P	21 56 36.2	-1.7
	comp=Z,7.9nm,1.0s,mb4.7						
RAYN	Ar Rayn	49.00	294	P	P	21 56 40.8	+2.5
	comp=Z,153nm,1.1s,mb5.9,SNR=25						
CHKZ	Chkalovo	49.41	342	eP	P	21 56 39.9	-1.2
CHKZ				pmax	pmax		
	comp=Z,37nm,1.2s,mb5.3						
CHKZ	Chkalovo	49.41	342	eP	P	21 56 39.9	-1.2
	comp=Z,37nm,1.2s,mb5.3						
ASAR	Alice Springs	50.00	130	P	P	21 56 44.3	-1.8
	comp=Z,2.9nm,1.0s,mb4.3,baz=300,slow=7.0,SNR=11						
ASAR				PcP	PcP	21 58 05.7	-0.3
	comp=Z,3.0nm,0.8s,baz=307,slow=3.6,SNR=5.0						
ASAR				LR	LR	22 22 34.5	
	comp=Z,351nm,18.3s,MS4.4,baz=296,slow=42						
BOD	Bodaibo	52.13	13	eP	P	21 57 00.2	-1.5
GNI	Garni	54.35	314	P	P	21 57 17.8	-0.6
	comp=Z,3.1nm,0.8s,mb4.3,baz=132,slow=5.5,SNR=3.4						
GNI				LR	LR	22 22 45.8	
	comp=Z,341nm,22.0s,MS4.4,baz=293,slow=39						
SVE	Sverdlovsk	55.34	338	eP	P	21 57 22.0	-3.3
SVE				e		21 58 25.0	
SVE				pmax	pmax		
	comp=Z,100nm,2.0s,mb5.5						
SVE				MLR	MLR		
	comp=N,500nm,20.0s,MS4.8						
SVE				MLR	MLR		
	comp=E,600nm,20.0s,MS4.8						
SVE				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.9						
PMG	Port Moresby	55.62	107	P	P	21 57 27.7	-0.3
PMG				pmax	pmax		
	comp=Z,14nm,0.7s						
PMG	Port Moresby	55.62	107	P	P	21 57 27.7	-0.2
	comp=Z,14nm,0.7s,mb5.1,baz=339,slow=5.7,SNR=7.7						
ARU	Arti	55.83	337	eP	P	21 57 22.8	-6.0
ARU				e		21 58 23.6	
ARU				eS	S	22 05 07.3	-4.8
ARU				eSS	SS	22 09 00.9	+3.2
ARU				MLR	MLR		
	comp=Z,1μm,21.0s,MS5.0						
ARU				MLR	MLR		
	comp=N,600nm,20.0s,MS4.8						
ARU				MLR	MLR		
	comp=E,600nm,19.0s,MS4.8						
KIV	Kislovodsk	57.24	318	eP	P	21 57 41.1	+1.9
KIV				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
KIV	Kislovodsk	57.24	318	eP	P	21 57 38.2	-0.9
	comp=Z,16nm,0.8s,mb5.1						
KMBO	Kilima Mbogo	57.34	264	P	P	21 57 42.5	+2.2
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KMBO				MLR	MLR		
	comp=Z,552nm,18.6s						
KMBO	Kilima Mbogo	57.34	264	P	P	21 57 42.5	+2.2
	comp=Z,4.3nm,0.7s,mb4.6,baz=56,slow=12,SNR=9.1						
KMBO				LR	LR	22 19 41.2	
	comp=Z,552nm,18.6s,MS4.7,baz=282,slow=34						
ASF	Jabal al Asfar	58.13	303	P	P	21 57 47.0	+1.4
	comp=Z,1.3nm,0.3s,mb4.4,baz=76,slow=17,SNR=2.8						
ASF				LR	LR	22 25 49.8	
	comp=Z,407nm,20.3s,MS4.5,baz=315,slow=39						
MALT	Malatya	58.38	310	eP	P	21 57 45.1	-2.1
MALT				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
MALT	Malatya	58.38	310	eP	P	21 57 45.1	-2.1
	comp=Z,3.6nm,0.8s,mb4.5						
CTA	Charters Tower	58.40	119	P	P	21 57 48.9	+1.3
CTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CTA				MLR	MLR		
	comp=Z,430nm,20.4s						
CTA	Charters Tower	58.40	119	P	P	21 57 48.9	+1.4
	comp=Z,1.8nm,0.6s,mb4.3,baz=180,slow=9.8,SNR=2.6						
CTA				LR	LR	22 23 16.7	
	comp=Z,430nm,20.4s,MS4.5,baz=282,slow=36						
CTA	Charters Tower	58.40	119	P	P	21 57 48.9	+1.3
CTA				LR	LR	22 23 16.7	
SOKR	Solikamsk	58.74	339	⇓iP	P	21 57 50.1	+0.7
SOKR				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.1						
SOKR				MLR	MLR		
	comp=Z,1μm,21.0s,MS5.0						
EIL	Elat	59.34	300	P	P	21 57 51.7	-2.3
	comp=Z,7.9nm,0.9s,mb4.7						
YAK	Yakutsk	59.99	18	eP	P	21 58 01.4	+3.4
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK	Yakutsk	59.99	18	eP	P	21 57 57.2	-0.9
	comp=N,19nm,0.6s,mb5.3						
STKA	Stephens Creek	60.19	134	eP	P	21 58 00.7	+0.8
	comp=N,5.3nm,0.9s,mb4.6						
STKA	Stephens Creek	60.19	134	P	P	21 57 58.4	-1.5
	comp=N,6.7nm,0.9s,mb4.7,baz=330,slow=6.4,SNR=6.5						
STKA				LR	LR	22 24 47.6	
	comp=N,677nm,19.7s,MS4.8,baz=114,slow=37						
BRTR	Keskin Array B	62.34	311	P	P	21 58 12.5	-1.7
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRTR	Keskin Array B	62.34	311	P	P	21 58 12.5	-1.7
	comp=Z,3.6nm,0.6s,mb4.7,baz=127,slow=7.4,SNR=9.2						
MOS	Moscow	65.01	329	eP	P	21 58 32.4	+1.0
MOS				e		21 59 06.7	
MOS				pmax	pmax		
	comp=Z,96nm,1.4s,mb5.6						
OBN	Obninsk	65.31	328	eP	P	21 58 29.8	-3.6
OBN				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.3						
TIRR	Tirgusor	67.17	315	⇓P	P	21 58 43.6	-1.8
TIXI	Tiksi	67.21	11	eP	P	21 58 44.4	-0.8
TIXI				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.1						
AKASG	Malin Array Be	68.08	322	P	P	21 58 48.9	-2.1
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	Malin Array Be	68.08	322	P	P	21 58 48.9	-2.0
	comp=Z,3.1nm,0.6s,mb4.5,baz=87,slow=4.9,SNR=12						
IDI	Anoyia	68.48	305	P	P	21 58 52.7	-1.0
	comp=Z,12nm,0.7s,mb5.0,baz=88,slow=12,SNR=6.1						
VRI	Vrincioaia	68.62	316	⇑P	P	21 58 54.2	-0.2
MLR	Muntele Rosu	69.09	316	⇑P	P	21 58 56.6	-0.7
MLR	Muntele Rosu	69.09	316	LR	LR	22 34 33.8	
	comp=Z,464nm,19.8s,MS4.7,baz=282,slow=41						
LSZ	Lusaka	69.20	250	P	P	21 58 57.9	-0.6
LSZ				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
LSZ	Lusaka	69.20	250	P	P	21 58 57.9	-0.7
	comp=Z,11nm,1.3s,mb4.6						
JOF	Joensuu	70.78	334	ep	P	21 59 06.3	-1.1
	comp=Z,11nm,0.9s,mb4.8						
ZAPS	Zavoj/Pirot	71.12	313	⇑iP	P	21 59 08.6	-1.1
KWP	Kalwaria	71.95	320	P	P	21 59 13.5	-1.0
KOLS	Kolonicke sedl	72.12	319	eP	P	21 59 16.7

MORC pmax pmax
comp=Z,22nm,1.2s,mb5.0
MORC Moravsky Berou 75.30 319 *eP* **P 21 59 33.4 -0.7**
comp=Z,22nm,1.2s,mb5.0
ZST Bratislava 75.45 318 *eP* **P 21 59 36.9 +1.9**
BOSA Boshof 75.53 238 *eP* **P 21 59 34.2 -1.7**
BOSA pmax pmax
comp=Z,11nm,1.1s,mb4.7
BOSA Boshof 75.53 238 *eP* **P 21 59 34.1 -1.8**
comp=Z,11nm,1.1s,mb4.7
DPC Dobruska-Polom 76.13 320 *eP* **P 21 59 39.5 +0.7**
KSP Ksiaz 76.18 320 *eP* **P 21 59 39.3 +0.2**
UPC Upice 76.34 320 *eP* **P 21 59 42.3 +2.3**
PRU Pruhonice 77.25 319 *eP* **P 21 59 47.3 +2.1**
PVCC Panska Ves 77.26 320 *eP* **P 21 59 50.2 +5.0**
BRG Berggiesshubel 77.67 320 *eP* **P 21 59 48.2 +0.7**
BRG pmax pmax
comp=Z,16nm,1.3s,mb4.8
BRG Berggiesshubel 77.67 320 *eP* **P 21 59 48.2 +0.7**
comp=Z,16nm,1.3s,mb4.8
GERES GERESS Array B 77.75 318 P **P 21 59 47.9 -0.1**
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 77.75 318 P **P 21 59 47.9 -0.1**
comp=Z,3.4nm,0.8s,mb4.4,baz=87,slow=5.9,SNR=20
KHC Kasperske Hory 77.84 318 *eP* **P 21 59 48.6 +0.1**
KHC *e* 21 59 52.5
KHC Kasperske Hory 77.84 318 *eP* **P 21 59 48.6 +0.1**
KHC pP pP 21 59 52.5 -6.3
RUE Ruedersdorf 77.85 322 *eP* **P 21 59 47.9 -0.5**
comp=Z,54nm,1.1s,mb5.4
CLL Collm 78.28 321 *i P* **P 21 59 51.5 +0.7**
CLL *i* 21 59 55.0
CLL Collm 78.28 321 P **P 21 59 51.5 +0.7**
CLL *e**PP pP 21 59 55.0 -6.2
CLL *e* pP 22 00 02.0 +0.8
CLL *e* 22 00 17.0
HFS Hagfors 78.38 330 P **P 21 59 51.1 -0.1**
HFS pmax pmax
comp=Z,4.0nm,0.5s
HFS Hagfors 78.38 330 P **P 21 59 51.1 -0.2**
comp=Z,4.1nm,0.5s,mb4.7,baz=117,slow=6.4,SNR=4.1
NKC Novy Kostel 78.60 320 *eP* **P 21 59 56.3 +3.7**
MOX Moxa 79.14 320 *eP* **P 21 59 56.0 +0.4**
GRA1 Grafenberg Arr 79.39 319 *eP* **P 21 59 58.9 +2.0**
comp=Z,23nm,1.2s,mb5.0
GRF Grafenberg Arr 79.39 319 *eP* **P 21 59 58.9 +2.0**
GRF pmax pmax
comp=Z,23nm,1.2s,mb5.0
GRF Grafenberg Arr 79.39 319 *eP* **P 21 59 58.9 +2.0**
GRF pmax pmax
comp=Z,23nm,1.2s,mb5.0
GRF Grafenberg Arr 79.39 319 *eP* **P 21 59 58.9 +2.0**
comp=Z,23nm,1.2s,mb5.0
NB2 NORSAR Subarra 79.66 331 P **P 21 59 57.4 -0.8**
comp=Z,5.9nm,0.8s,mb4.6,baz=96,slow=5.0
NB2 NORSAR Subarra 79.66 331 P **P 21 59 57.4 -0.8**
NB2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
NOA NORSAR Array B 79.66 331 P **P 21 59 57.7 -0.5**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 79.66 331 P **P 21 59 57.7 -0.5**
comp=Z,2.4nm,0.6s,mb4.3,baz=97,slow=5.2,SNR=6.6
NAO01 NORSAR Array S 79.81 330 P **P 21 59 52.7 -6.3**
MUD Monsted U'grnd 80.63 326 *eP* **P 22 00 07.9 +4.4**
MUD pmax pmax
comp=Z,21nm,0.9s,mb5.1
MUD Monsted U'grnd 80.63 326 *eP* **P 22 00 07.9 +4.4**
comp=Z,21nm,0.9s,mb5.1
MUD Monsted U'grnd 80.63 326 *i P* **P 22 00 07.9 +4.4**
comp=Z,21nm,0.9s,mb5.1
LPG La Plagne 82.53 315 *eP* **P 22 00 14.4 +0.8**
comp=Z,23nm,0.9s,mb4.9
LPG La Plagne 82.53 315 *eP* **P 22 00 14.4 +0.8**
LPG pmax pmax
comp=Z,12nm,0.9s,mb4.9
ESDC Sonseca Array 91.13 310 P **P 22 00 56.7 +1.1**
comp=Z,2.5nm,0.8s,mb4.6,baz=55,slow=4.8,SNR=9.1
IMA Indian Mountai 91.62 22 *eP* **P 22 00 58.4 +1.2**
SPU Mount Spurr 94.29 26 *eP* **P 22 01 10.8 +1.4**
ILAR Eielson Array 94.74 22 P **P 22 01 12.6 +1.1**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.74 22 P **P 22 01 12.6 +1.1**
comp=Z,0.6nm,0.8s,mb4.1,baz=285,slow=3.3,SNR=7.3
INK Inuvik 96.98 16 P **P 22 01 23.6 +2.0**
INK pmax pmax
comp=Z,5.0nm,1.1s
INK Inuvik 96.98 16 P **P 22 01 23.6 +2.0**
comp=Z,4.9nm,1.1s,mb4.9,baz=285,slow=5.8,SNR=8.4
DBIC Dimbokro 97.86 278 LR LR 22 46 22.9
comp=Z,346nm,18.6s,MS4.9,baz=206,slow=36
HLID Hailey 122.63 24 PKP PKPdf 22 06 47.2 +1.9
NVAR Mina Array Bea 124.93 31 PKP PKPdf 22 06 53.4 +3.5
comp=Z,0.9nm,0.6s,baz=358,slow=0.7,SNR=5.3
PDAR Pinedale Array 125.16 21 PKP PKPdf 22 06 52.6 +2.4
comp=Z,1.7nm,0.8s,slow=1.5,SNR=9.9
ANMO Albuquerque 133.17 23 PKIKP PKPdf 22 07 10.6 +4.9
ANMO pmax pmax
comp=Z,1.0nm,0.6s
ANMO Albuquerque 133.17 23 PKP PKPdf 22 07 10.6 +4.9
comp=Z,0.9nm,0.6s,baz=286,slow=4.4,SNR=3.1
TXAR Lajitas Array 139.23 24 PKP PKPdf 22 07 20.4 +3.5
comp=Z,0.5nm,0.5s,baz=105,slow=0.8,SNR=6.5
JCT Junction City 139.58 19 *e*PKIKP PKPdf 22 07 19.6 +2.0
PLCA Paso Flores 144.55 200 PKIKP PKPdf 22 07 27.1 +1.1
PLCA pmax pmax
comp=Z,6.0nm,1.0s
PLCA Paso Flores 144.55 200 PKP PKPdf 22 07 27.1 +1.1
comp=Z,6.1nm,0.9s,baz=207,slow=3.1,SNR=9.1
PLCA Paso Flores 144.55 200 *e*PKP PKPdf 22 07 26.6 +0.6
SJG San Juan 147.59 323 PKP2 PKPab 22 07 38.8 +0.1
SJG pmax pmax
comp=Z,7.0nm,0.4s
SJG San Juan 147.59 323 PKPbc PKPdf 22 07 38.8 +7.0
comp=Z,6.9nm,0.4s,baz=327,slow=21,SNR=3.1
SJG San Juan 147.59 323 PKPbc PKPdf 22 07 38.8 +7.0
TEIG Tepich 151.95 5 *e*PKP PKPdf 22 07 40.8 +2.3
LPAZ La Paz 160.71 243 PKP PKPdf 22 07 12.4 -37
comp=Z,2.7nm,1.1s,baz=85,slow=5.6,SNR=4.5
LPAZ PKPab PKPab 22 07 53.1 -41
comp=Z,3.6nm,1.1s,baz=96,slow=10,SNR=2.6

NIED ***27*** *21:48:00,35.60N×140.10E,h74km,Mw3.9 Best double couple: M0:8.26×10¹⁴ NP1:φs228°,δ83°,λ-119°. NP2: φs126°,δ30°,λ-14°.*
JMA ***27*** *21:48:12.1±0.2,35.66N×140.06E,h74km±2km,M3.7*
JMA Felt II J1.
ISC 27 21:48:11.7±1.0,35.57N±0.05×140.02E±0.06,h82km±9km,
n12,σ0°46/21,6C-3D,Near east coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.21**	**135**	↑P	**P**	**21 48 24.1**	**+0.3**
JCN				S	**S**	**21 48 33.2**	**+0.4**
TOK	**Tokyo**	**0.24**	**299**	P	**P**	**21 48 24.0**	**+0.1**
TOK				S	**S**	**21 48 32.9**	**-0.2**
JOD2	**Odawara 2**	**0.82**	**248**	↑P	**P**	**21 48 29.1**	**+0.1**
JOD2				S	**S**	**21 48 41.0**	**-0.9**
BSO3	**Boso 3**	**0.87**	**152**	↑P	**P**	**21 48 29.5**	**0.0**
BSO3				*e*S	**S**	**21 48 43.5**	**+0.6**
JAG	**Ashikaga**	**0.97**	**332**	↓P	**P**	**21 48 30.0**	**-0.7**
JIM2	**Oshima 3**	**0.98**	**210**	P	**P**	**21 48 30.6**	**-0.2**
JIM2				S	**S**	**21 48 44.7**	**-0.5**
JRY	**Ryogami san**	**1.01**	**296**	↓P	**P**	**21 48 31.6**	**+0.4**
JYN	**Shimob**	**1.20**	**267**	↑P	**P**	**21 48 34.1**	**+0.4**
JYN				S	**S**	**21 48 50.3**	**+0.2**
BSO1	**Boso 1**	**1.21**	**139**	↑P	**P**	**21 48 33.1**	**-0.6**
BSO1				S	**S**	**21 48 50.2**	**0.0**
JIZS	**Izushimoda**	**1.26**	**228**	↑P	**P**	**21 48 34.9**	**+0.5**
JIZS				S	**S**	**21 48 51.6**	**+0.1**
JKT	**Katashina**	**1.34**	**333**	↓P	**P**	**21 48 34.8**	**-0.8**
MAT	**Matsushiro**	**1.76**	**304**	P	**P**	**21 48 41.5**	**+0.5**
MAT				S	**S**	**21 49 03.1**	**+0.6**

NEIC ***27*** *21:51:12.8±0.3,4.95N×82.54W,h10km,mb4.7/9,Error ellipse: s-maj=10.9km s-min=6.7km az=64.0*
IDC ***27*** *21:51:17.7±5.5,5.08N×82.57W,h36km±44km,mb4.2/19, mb1 4.3/20,mb1mx4.3/24,mbtmp4.4/20,ML3.9/1,MS4.0/4,*

Ms1 4.0/4,ms1mx3.7/20,Error ellipse: s-maj=23.3km s-min=16.0km az=36.0,Putative timing error at LPAZ
ISC 27 21:51:12.4±1.4,4.96N±0.04×82.51W±0.05,h20km±11km,
n78,σ1°22/79,mb4.4/24,MS3.9/2,1C-1D,South of
Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**3.72**	**350**	*e*P	**Pn**	**21 52 09.2**	**-1.1**
BUS	**Buena Vista**	**4.73**	**345**	*e*P	**Pn**	**21 52 24.1**	**-0.4**
BUS				*e*S	**Sn**	**21 53 19.6**	**+0.2**
LCR2	**La Lucha 2**	**4.97**	**343**	*e*P	**Pn**	**21 52 26.9**	**-1.1**
LCR2				*e*S	**Sn**	**21 53 24.1**	**-1.6**
LIO	**Limon**	**5.04**	**354**	*e*P	**Pn**	**21 52 30.6**	**+1.7**
ICR	**Volcan Irazu**	**5.15**	**345**	↓*e*P	**Pn**	**21 52 31.2**	**+0.7**
SJS	**Escuela Geolog**	**5.17**	**343**	↑*i*P	**Pn**	**21 52 30.0**	**-0.8**
SJS				*e*S	**Sn**	**21 53 29.4**	**-1.3**
PRS1	**Puriscal**	**5.30**	**340**	*e*P	**Pn**	**21 52 29.6**	**-3.0**
CGA2	**Cerro Gallo 2**	**5.38**	**339**	*e*P	**Pn**	**21 52 32.7**	**-1.0**
VPS2	**Volcan Poas 2**	**5.47**	**342**	*e*P	**Pn**	**21 52 34.9**	**0.0**
VPS2				*e*S	**Sn**	**21 53 38.5**	**+0.5**
TRTC	**Torturgero**	**5.70**	**348**	*e*P	**Pn**	**21 52 39.0**	**+0.7**
JTS	**JuntasAbangare**	**5.82**	**336**	*e*Pn	**Pn**	**21 52 36.8**	**-3.2**
	143nm,0.6s						
JTS				*e*S	**Sn**	**21 53 31.0**	**-16**
FORC	**Fortuna**	**5.87**	**339**	*e*P	**Pn**	**21 52 40.8**	**+0.1**
FORC				*e*S	**Sn**	**21 53 47.9**	**-0.4**
VCR	**Vista de Mar**	**5.99**	**329**	*e*P	**Pn**	**21 52 40.6**	**-1.7**
OTAV	**Otavalo**	**6.20**	**139**	*e*P	**Pn**	**21 52 42.6**	**-2.8**
ROSC	**El Rosal**	**8.15**	**90**	LR	LR	21 55 54.3	
	comp=Z,873nm,20.2s,baz=14,slow=34						
PAYG	**Puerto Ayora**	**9.57**	**234**	*e*P	**P**	**21 53 30.5**	**-2.0**
CNCH	**Conchagua**	**9.79**	**328**	*e*P	**P**	**21 53 35.4**	**0.0**
BLLM	**Bellamira**	**10.14**	**327**	*e*P	**P**	**21 53 40.9**	**+0.6**
LCBS	**La Ceiba**	**10.73**	**324**	*e*P	**P**	**21 53 49.2**	**+0.8**
LFRS	**El Faro**	**10.76**	**324**	*e*P	**P**	**21 53 49.2**	**+0.5**
BOQS	**Boqueron**	**10.98**	**323**	*e*P	**P**	**21 53 52.9**	**+1.2**
SBLS	**San Blas**	**11.27**	**322**	*e*P	**P**	**21 53 57.8**	**+2.2**
SNJE	**San Jose**	**11.28**	**322**	*e*P	**P**	**21 53 57.0**	**+1.2**
RTR	**El Retiro**	**11.32**	**322**	*e*P	**P**	**21 53 57.8**	**+1.3**
RBDL	**Robledal**	**11.52**	**323**	*e*P	**P**	**21 54 00.9**	**+1.9**
SDV	**Santo Domingo**	**12.42**	**71**	Pn	**P**	**21 54 12.5**	**+1.3**
	0.7nm,0.3s,baz=263,slow=12,SNR=13						
SDV				Sn	**S**	**21 56 30.4**	**+0.4**
	1.1nm,0.3s,baz=55,slow=12,SNR=2.4						
SDV				LR	LR	21 58 49.8	
	comp=Z,473nm,21.2s,baz=106,slow=36						
SDV	**Santo Domingo**	**12.42**	**71**	*e*P	**P**	**21 54 11.9**	**+0.7**
	30nm,0.9s						
TEIG	**Tepich**	**16.17**	**340**	P	**P**	**21 55 00.7**	**+0.2**
NNA	**Nana**	**17.76**	**162**	*e*P	**P**	**21 55 19.9**	**-0.6**
	39nm,1.2s						
SJG	**San Juan**	**20.65**	**49**	P	**P**	**21 55 55.8**	**+2.1**
	35nm,0.8s,baz=253,slow=9.7,SNR=11						
SJG				LR	LR	22 03 02.3	
	comp=Z,338nm,18.5s,MS3.8,baz=22,slow=34						
SJG	**San Juan**	**20.65**	**49**	*e*P	**P**	**21 55 53.7**	**-0.1**
	25nm,0.7s						
ARE	**Arequipa**	**23.92**	**153**	*e*P	**P**	**21 56 29.0**	**+2.7**
LPAZ	**La Paz**	**25.46**	**146**	P	Px	21 55 56.7	
	5.9nm,1.0s,baz=320,slow=13,SNR=13						
LPAZ				LR	LR	22 07 06.3	
	comp=Z,525nm,18.4s,MS4.1,baz=178,slow=37						
LRAL	**Lakeview Retre**	**28.24**	**352**	*e*P	**P**	**21 57 06.3**	**-0.1**
PLAL	**Pickwick Lake**	**30.31**	**351**	*e*P	**P**	**21 57 21.2**	**-3.8**
CPCT	**Cooper Cave**	**30.39**	**357**	*e*P	**P**	**21 57 25.2**	**-0.5**
LVC	**Limon Verde**	**30.46**	**155**	P	**P**	**21 57 27.7**	**+1.3**
	8.1nm,1.2s,mb4.3,baz=306,slow=4.0,SNR=2.6						
WVT	**Waverly**	**31.40**	**352**	*e*P	**P**	**21 57 32.8**	**-1.8**
	9.4nm,0.8s,mb4.7						
TXAR	**Lajitas Array**	**31.44**	**323**	P	**P**	**21 57 34.8**	**-0.2**
	1.0nm,0.9s,mb3.6,baz=144,slow=11,SNR=7.5						
CCM	**Cathedral Cave**	**33.89**	**348**	*e*P	**P**	**21 57 54.4**	**-1.8**
	10.0nm,0.8s,mb4.8						
MNTX	**Cornudas Mount**	**34.16**	**324**	*e*P	**P**	**21 57 58.2**	**-0.4**
	20nm,1.5s,mb4.8						
ANMO	**Albuquerque**	**37.16**	**326**	P	**P**	**21 58 25.1**	**+1.1**
	6.2nm,0.9s,mb4.4,baz=146,slow=8.7,SNR=11						
ANMO	**Albuquerque**	**37.16**	**326**	*e*P	**P**	**21 58 24.7**	**+0.7**
	18nm,1.3s,mb4.7						
SDCO	**Great Sand Dun**	**38.79**	**330**	*e*P	**P**	**21 58 39.1**	**+1.4**
	22nm,1.3s,mb4.7						
SADO	**Sadowa**	**39.76**	**4**	P	**P**	**21 58 44.5**	**-1.2**
	4.9nm,0.9s,mb4.2,baz=240,slow=8.1,SNR=2.6						
SADO	**Sadowa**	**39.76**	**4**	P	**P**	**21 58 44.5**	**-1.2**
PV10	**Paradox Valley**	**41.08**	**328**	*e*P	**P**	**21 58 57.4**	**+0.8**
SRU	**San Rafael**	**42.41**	**327**	*e*P	**P**	**21 59 08.2**	**+0.7**
NEN	**Nelson**	**42.65**	**320**	*e*P	**P**	**21 59 10.8**	**+1.2**
MSU	**Marysvale**	**42.91**	**325**	*e*P	**P**	**21 59 13.1**	**+1.4**
PDAR	**Pinedale Array**	**44.63**	**332**	P	**P**	**21 59 26.4**	**+0.8**
	1.9nm,0.9s,mb3.9,baz=141,slow=9.5,SNR=9.7						
HWUT	**Hardware Ranch**	**44.76**	**329**	*e*P	**P**	**21 59 27.0**	**+0.3**
	5.3nm,0.8s,mb4.4						
NVAR	**Mina Array Bea**	**46.53**	**321**	P	**P**	**21 59 41.9**	**+1.2**
	5.4nm,0.8s,mb4.5,baz=127,slow=8.4,SNR=34						
NVAR	**Mina Array Bea**	**46.53**	**321**	P	**P**	**21 59 41.9**	**+1.2**
PLCA	**Paso Flores**	**46.78**	**168**	P	**P**	**21 59 40.2**	**-2.4**
	1.8nm,0.7s,mb4.1,baz=22,slow=9.5,SNR=2.6						
PLCA	**Paso Flores**	**46.78**	**168**	P	**P**	**21 59 40.3**	**-2.3**
TRQA	**Tornquist**	**46.86**	**158**	P	**P**	**21 59 41.6**	**-1.7**
QLMT	**Earthquake Lak**	**47.08**	**332**	*e*P	**P**	**21 59 46.5**	**+1.6**
OHCM	**Honcut**	**49.08**	**320**	*e*P	**P**	**21 59 59.3**	**-1.3**
YBH	**Yreka Blue Hor**	**51.20**	**322**	P	**P**	**22 00 15.8**	**-0.9**
	3.0nm,0.8s,mb4.3,baz=205,slow=3.1,SNR=5.3						
SCHQ	**Schefferville**	**51.31**	**12**	P	**P**	**22 00 16.4**	**-1.0**
	14nm,1.0s,mb4.9,baz=179,slow=5.8,SNR=12						
FFC	**Flin Flon**	**52.05**	**346**	P	**P**	**22 00 22.3**	**-0.7**
EDM	**Edmonton**	**54.33**	**338**	*e*P	**P**	**22 00 38.9**	**-1.0**
FCC	**Fort Churchill**	**54.41**	**353**	*e*P	**P**	**22 00 39.0**	**-1.3**
	9.6nm,1.0s,mb4.7						
YKA	**Yellowknife Ar**	**62.09**	**344**	P	**P**	**22 01 32.8**	**-1.4**
	2.6nm,0.7s,mb4.5,baz=140,slow=6.3,SNR=27						
YKA				PcP	PcP	22 02 16.2	+2.1
	0.8nm,0.8s,baz=141,slow=5.9,SNR=4.3						
YKA	**Yellowknife Ar**	**62.09**	**344**	P	**P**	**22 01 32.8**	**-1.4**
YKA				PcP	PcP	22 02 16.2	+2.1
INK	**Inuvik**	**71.77**	**342**	P	**P**	**22 02 35.5**	**+0.2**
	9.1nm,0.9s,mb4.7,baz=123,slow=6.4,SNR=16						
ILAR	**Eielson Array**	**74.79**	**336**	P	**P**	**22 02 53.4**	**+0.5**
	3.2nm,0.8s,mb4.3,baz=117,slow=4.1,SNR=26						
DBIC	**Dimbokro**	**77.20**	**84**	P	**P**	**22 03 10.7**	**+3.1**
	3.4nm,0.9s,mb4.3,baz=328,slow=3.1,SNR=2.9						
ESDC	**Sonseca Array**	**78.03**	**51**	P	**P**	**22 03 12.2**	**+0.6**
	1.7nm,0.8s,mb4.0,baz=270,slow=4.7,SNR=6.7						
EKA	**Eskdalemuir Ar**	**79.88**	**35**	P	**P**	**22 03 21.1**	**-0.2**
	3.7nm,1.0s,mb4.3,baz=252,slow=5.3,SNR=5.3						
RAR	**Rarotonga**	**79.97**	**248**	P	**P**	**22 03 23.2**	**+0.6**
	40nm,1.0s,mb5.3,baz=96,slow=9.1,SNR=3.2						
NOA	**NORSAR Array B**	**87.50**	**29**	P	**P**	**22 04 02.9**	**+2.9**
	0.7nm,0.8s,mb3.9,baz=285,slow=16,SNR=2.6						
ARCES	**ARCESS Array B**	**91.60**	**20**	P	**P**	**22 04 18.4**	**-0.6**
	3.7nm,0.9s,mb4.7,baz=45,slow=8.6,SNR=3.8						
SONM	**Songino Array**	**126.84**	**353**	PKP	PKPdf	22 10 17.4	-1.9
	1.3nm,1.1s,baz=311,slow=1.0,SNR=4.4						
ASAR	**Alice Springs**	**140.30**	**238**	PKP	PKPdf	22 10 44.1	-1.0
	0.5nm,0.6s,baz=124,slow=2.1,SNR=4.3						
WRA	**Warramunga Arr**	**141.18**	**244**	PKhKP		22 10 40.2	
	0.4nm,0.8s,baz=106,slow=2.5,SNR=4.1						
WRA				PKP	PKPdf	22 10 46.3	-0.5
	0.6nm,0.6s,baz=102,slow=2.4,SNR=7.3						
WRA	**Warramunga Arr**	**141.18**	**244**	PKP	PKPdf	22 10 46.3	-0.5

NEIC ***27*** *21:56:04.0±0.4,8.00N×94.06E,h30km,mb4.5/9,Error ellipse: s-maj=11.3km s-min=8.6km az=69.0*
BJI ***27*** *21:56:04.1,7.66N×93.83E,h56km,mb4.6,Ms4.6,Msz4.4*
IDC ***27*** *21:56:08.3±5.1,8.14N×94.20E,h65km±46km,mb3.8/19, mb1 3.9/20,mb1mx3.9/24,mbtmp4.1/20,ML4.0/1,Error ellipse: s-maj=31.1km s-min=14.0km az=54.0*
ISC 27 21:55:59.4±0.4,7.98N±0.07×94.11E±0.08,h10km,n53,
σ1°02/50,mb4.4/30,1C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.43**	**24**	*e*P	**P**	**21 58 46.4**	**+0.6**
	4.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**11.43**	**24**	P	**P**	**21 58 47.2**	**+1.4**
	0.3nm,0.3s,baz=212,slow=14,SNR=15						
HYB	**Hyderabad**	**17.83**	**303**	*e*P	**P**	**22 00 18.0**	**+8.6**
HYB	**Hyderabad**	**17.83**	**303**	*i* P	**P**	**22 00 18.0**	**+8.6**
HYB				*e*S	**S**	**22 03 29.5**	**+3.6**
KMI	**Kunming**	**18.94**	**25**	↑P	**P**	**22 00 27.5**	**+4.5**
	27nm,1.2s						
JIRN	**Jiri**	**20.97**	**340**	*e*P	**P**	**22 00 45.4**	**+0.2**
	73nm,1.1s						
PKI	**Pulchoki**	**21.16**	**338**	*e*P	**P**	**22 00 47.7**	**+0.6**
	74nm,1.0s,mb5.0						
DMN	**Daman**	**21.31**	**338**	*e*P	**P**	**22 00 49.5**	**+0.9**
	65nm,1.1s,mb4.9						
KKN	**Kakani**	**21.41**	**338**	*e*P	**P**	**22 00 50.1**	**+0.5**
	86nm,1.4s,mb4.9						
LSA	**Lhasa**	**21.79**	**353**	*e*P	**P**	**22 00 53.7**	**+0.3**
	23nm,0.8s,mb4.7						
GKN	**Gorkha**	**21.84**	**337**	*e*P	**P**	**22 00 54.0**	**0.0**
	59nm,1.1s,mb4.9						
KOLN	**Koldanda**	**22.06**	**334**	*e*P	**P**	**22 00 57.2**	**+1.0**
	79nm,1.2s,mb5.0						
ENH	**Enshi**	**26.45**	**31**	*e*P	**P**	**22 01 39.1**	**+0.6**
	13nm,1.1s,mb4.4						
AAK	**Ala-Archa**	**38.60**	**337**	*e*P	**P**	**22 03 23.9**	**-0.5**
SONM	**Songino Array**	**41.07**	**13**	P	**P**	**22 03 44.0**	**-0.7**
	1.4nm,0.8s,mb3.6,baz=196,slow=9.0,SNR=7.5						
ULN	**Ulaanbaatar**	**41.24**	**13**	P	**P**	**22 03 45.0**	**-1.1**
KURK	**Kurchatov**	**44.51**	**346**	*e*P	**P**	**22 04 12.2**	**-0.6**
	11nm,1.1s,mb4.6						
NWAO	**Narrogin (SRO)**	**46.25**	**153**	P	**P**	**22 04 27.4**	**+0.5**
	7.7nm,1.1s,mb4.5,baz=346,slow=14,SNR=2.6						
ZAL	**Zalesovo**	**46.44**	**352**	P	**P**	**22 04 26.5**	**-1.6**
	1.5nm,0.8s,mb4.0,baz=326,slow=7.3,SNR=7.0						
ZAL	**Zalesovo**	**46.44**	**352**	P	**P**	**22 04 26.5**	**-1.6**
WRA	**Warramunga Arr**	**48.34**	**126**	P	**P**	**22 04 42.7**	**-0.8**
	2.2nm,1.1s,mb4.1,baz=305,slow=8.5,SNR=6.1						
WRAB	**Tennant Creek**	**48.34**	**126**	*e*P	**P**	**22 04 41.7**	**-1.8**
	3.1nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**48.89**	**341**	P	**P**	**22 04 45.8**	**-1.4**
	1.4nm,0.8s,mb4.1,baz=146,slow=5.3,SNR=4.8						
BRVK	**Borovoye**	**48.95**	**341**	*e*P	**P**	**22 04 46.7**	**-1.0**
CHKZ	**Chkalovo**	**49.37**	**342**	*e*P	**P**	**22 04 50.5**	**-0.5**
	6.8nm,0.8s,mb4.7						
ASAR	**Alice Springs**	**50.00**	**130**	P	**P**	**22 04 57.9**	**+1.6**
	1.3nm,0.8s,mb4.0,baz=302,slow=7.6,SNR=6.5						
PMG	**Port Moresby**	**55.59**	**107**	P	**P**	**22 05 38.0**	**0.0**
	9.6nm,0.8s,mb4.9,baz=214,slow=6.6,SNR=3.8						
KMBO	**Kilima Mbogo**	**57.41**	**264**	P	**P**	**22 05 51.2**	**+0.2**
	0.9nm,0.8s,mb3.9,baz=49,slow=19,SNR=2.1						
KMBO	**Kilima Mbogo**	**57.41**	**264**	P	**P**	**22 05 51.2**	**+0.2**
MALT	**Malatya**	**58.38**	**310**	*e*P	**P**	**22 05 56.5**	**-0.9**
CTA	**Charters Tower**	**58.38**	**119**	P	**P**	**22 06 00.1**	**+2.5**
	2.7nm,0.9s,mb4.2,baz=273,slow=13,SNR=2.8						
STKA	**Stephens Creek**	**60.19**	**134**	P	**P**	**22 06 13.9**	**+3.8**
	4.6nm,1.1s,mb4.4,baz=308,slow=12,SNR=2.7						
BRTR	**Keskin Array B**	**62.34**	**311**	P	**P**	**22 06 27.3**	**+2.8**
	1.5nm,0.7s,mb4.3,baz=133,slow=6.5,SNR=6.6						
AKASG	**Malin Array Be**	**68.06**	**322**	P	**P**	**22 07 01.7**	**+0.4**
	0.3nm,0.4s,mb3.7,baz=83,slow=5.6,SNR=4.1						
IDI	**Anoyia**	**68.49**	**305**	P	**P**	**22 07 04.5**	**+0.3**
	24nm,1.3s,mb5.1,baz=180,slow=16,SNR=1.8						
MLR	**Muntele Rosu**	**69.08**	**316**	P	**P**	**22 07 08.4**	**+0.7**
	3.4nm,1.0s,mb4.2,baz=24,slow=10.0,SNR=3.4						
LSZ	**Lusaka**	**69.28**	**250**	P	**P**	**22 07 09.6**	**+0.2**
FINES	**FINESS Array B**	**72.61**	**332**	P	**P**	**22 07 28.0**	**-0.7**
	1.8nm,0.6s,mb4.2,baz=90,slow=9.5,SNR=4.4						
FINES	**FINESS Array B**	**72.61**	**332**	P	**P**	**22 07 28.0**	**-0.7**
ARCES	**ARCESS Array B**	**75.16**	**340**	P	**P**	**22 07 43.2**	**-0.1**
	3.8nm,0.9s,mb4.3,baz=90,slow=3.6,SNR=3.5						
ARCES	**ARCESS Array B**	**75.16**	**340**	P	**P**	**22 07 43.2**	**-0.1**
MORC	**Moravsky Berou**	**75.28**	**319**	P	**P**	**22 07 45.4**	**+1.0**
GERES	**GERESS Array B**	**77.73**	**318**	P	**P**	**22 07 57.8**	**-0.3**
	1.0nm,0.6s,mb3.9,baz=79,slow=6.8,SNR=4.3						
CLL	**Collm**	**78.27**	**321**	P	**P**	**22 08 01.0**	**0.0**
HFS	**Hagfors**	**78.36**	**330**	P	**P**	**22 07 59.9**	**-1.5**
	1.5nm,0.6s,mb4.1,baz=117,slow=16,SNR=4.7						
GRA1	**Grafenberg Arr**	**79.37**	**319**	*e*P	**P**	**22 08 05.6**	**-1.5**
	8.0nm,1.5s,mb4.4						
GRF	**Grafenberg Arr**	**79.37**	**319**	*e*P	**P**	**22 08 05.6**	**-1.5**
	8.0nm,1.5s,mb4.4						
NB2	**NORSAR Subarra**	**79.63**	**331**	P	**P**	**22 08 08.2**	**-0.1**
	1.6nm,0.8s,mb4.0,baz=91,slow=4.8						
NOA	**NORSAR Array B**	**79.63**	**331**	P	**P**	**22 08 07.0**	**-1.3**
	0.9nm,0.8s,mb3.7,baz=153,slow=8.5,SNR=2.9						
PDAR	**Pinedale Array**	**125.08**	**21**	PKP	PKPdf	22 15 01.5	-2.0
	0.5nm,1.0s,slow=1.8,SNR=3.9						
PDAR	**Pinedale Array**	**125.08**	**21**	PKP	PKPd

JIRN	Jiri	21.02 340	*e*P	P	22 09 23.4	-0.1
PKI	Pulchoki	21.22 338	*e*P	P	22 09 25.1	-0.4
	33nm,0.6s,mb4.8					
DMN	Daman	21.37 337	*e*P	P	22 09 26.2	-0.8
	28nm,0.7s,mb4.7					
KKN	Kakani	21.47 338	*e*P	P	22 09 27.1	-0.9
	46nm,1.1s,mb4.7					
LSA	Lhasa	21.80 353	*e*P	P	22 09 30.6	-0.6
	11nm,0.6s,mb4.5					
GKN	Gorkha	21.91 337	*e*P	P	22 09 31.8	-0.5
	27nm,0.7s,mb4.8					
KOLN	Koldanda	22.13 334	*e*P	P	22 09 34.0	-0.6
	20nm,0.6s,mb4.7					
AAK	Ala-Archa	38.66 336	P	P	22 12 02.2	0.0
SONM	Songino Array	41.01 12	P	P	22 12 23.4	+1.8
	0.7nm,0.6s,mb3.5,baz=202,slow=6.7,SNR=3.7					
SONM			PcP	PcP	22 14 21.4	-0.1
	0.4nm,0.6s,baz=270,slow=1.4,SNR=3.3					
KURK	Kurchatov	44.54 346	*e*P	P	22 12 51.0	+0.8
	2.4nm,0.6s,mb4.2					
NWAO	Narrogin (SRO)	46.17 153	P	P	22 13 04.5	+1.0
	4.6nm,0.9s,mb4.4,baz=97,slow=6.0,SNR=2.5					
ZAL	Zalesovo	46.45 352	P	P	22 13 06.0	+0.6
	1.8nm,0.4s,mb4.3,baz=298,slow=7.2,SNR=11					
WRA	Warramunga Arr	48.19 126	P	P	22 13 18.9	-0.6
	0.6nm,0.4s,mb3.9,baz=304,slow=8.5,SNR=7.3					
WRAB	Tennant Creek	48.19 126	*e*P	P	22 13 17.7	-1.9
BVAR	Borovoye Array	48.93 341	P	P	22 13 24.3	-0.5
	0.9nm,0.7s,mb3.9,baz=135,slow=10,SNR=5.7					
BVAR			PcP	PcP	22 14 49.8	+1.0
	0.6nm,0.7s,baz=166,slow=5.9,SNR=4.3					
CHKZ	Chkalovo	49.41 342	*e*P	P	22 13 27.7	-0.8
	3.4nm,0.8s,mb4.4					
ASAR	Alice Springs	49.86 130	P	P	22 13 32.0	-0.3
	1.0nm,0.9s,mb3.8,baz=303,slow=7.2,SNR=6.2					
KMBO	Kilima Mbogo	57.61 264	P	P	22 14 31.6	+2.1
	2.3nm,0.7s,mb4.3,baz=52,slow=12,SNR=7.9					
BRTR	Keskin Array B	62.48 311	P	P	22 15 00.8	-1.6
	0.9nm,0.7s,mb4.0,baz=135,slow=8.7,SNR=4.8					
AKASG	Malin Array Be	68.17 322	P	P	22 15 37.0	-1.8
	0.2nm,0.3s,mb3.6,baz=87,slow=4.9,SNR=5.4					
IDI	Anoyia	68.64 305	P	P	22 15 42.6	+0.6
	4.5nm,0.8s,mb4.5,baz=57,slow=15,SNR=2.4					
MLR	Muntele Rosu	69.21 316	P	P	22 15 46.4	+1.1
	4.2nm,1.1s,mb4.3,baz=235,slow=22,SNR=3.3					
FINES	FINESS Array B	72.69 332	P	P	22 16 05.7	-0.2
	2.5nm,0.7s,mb4.3,baz=121,slow=11,SNR=6.9					
FINES	FINESS Array B	72.69 332	P	P	22 16 05.7	-0.2
ARCES	ARCESS Array B	75.21 340	P	P	22 16 21.1	+0.7
	6.6nm,1.1s,mb4.5,baz=56,slow=4.4,SNR=4.2					
MORC	Moravsky Berou	75.40 319	P	P	22 16 22.4	+0.5
GERES	GERESS Array B	77.85 318	P	P	22 16 36.4	+0.8
	1.4nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=14					
HFS	Hagfors	78.44 330	P	P	22 16 39.1	+0.4
	2.0nm,0.5s,mb4.3,baz=117,slow=6.6,SNR=12					
NB2	NORSAR Subarra	79.71 331	P	P	22 16 45.7	+0.1
	1.1nm,0.8s,mb3.8,baz=92,slow=5.6					
NOA	NORSAR Array B	79.71 331	P	P	22 16 45.7	+0.1
	1.2nm,0.7s,mb3.9,baz=92,slow=5.7,SNR=4.2					
PDAR	Pinedale Array	125.00 21	PKP	PKPdf	22 23 39.3	+2.5
	0.6nm,0.9s,slow=1.5,SNR=4.1					
PLCA	Paso Flores	144.72 200	PKP	PKPdf	22 24 15.8	+2.5
	3.4nm,0.9s,baz=178,slow=9.7,SNR=4.3					

IGQ 27 22:05:15.2, 1.24S±81.52W, h4km±6km, mb4.2, 2C, Error ellipse: s-maj=7.9km s-min=5.0km az=24.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.99	79	⇑P	Pb	22 05 33.4	-1.1
HOJA				S	Sb	22 05 47.4	-0.3
JAMA	Jama	1.63	54	P	Pn	22 05 45.2	+0.4
JAMA				S	Sb	22 06 05.9	-0.4
IGUA	Igualata	2.89	95	P	Pn	22 06 03.4	+0.6
JUIV	Juive	3.06	94	P	Pn	22 06 05.7	+0.5
ARRY	Arrayan	3.07	95	P	Pn	22 06 05.7	+0.2
NAS1	Nasa	3.10	79	P	Pn	22 06 08.2	+2.4
TERV	Terraza Guagua	3.10	70	P	Pn	22 06 10.0	+4.2
PINO	Pino	3.10	70	P	Pn	22 06 06.5	+0.7
ULBA	Ulba	3.11	94	P	Pn	22 06 08.0	+1.9
PISA	Pisayambo	3.13	87	P	Pn	22 06 08.5	+2.1
YANA	Yana	3.15	69	P	Pn	22 06 08.7	+2.2
VC1	Cotopaxi 1	3.17	79	P	Pn	22 06 09.6	+2.8
TAMB	Tambo	3.19	80	P	Pn	22 06 09.7	+2.5
ANTI	Antisana	3.44	77	⇑P	Pn	22 06 12.7	+1.9
COTA	Cotacachi	3.54	64	P	Pn	22 06 11.7	-0.4
CAYR	Refugio Cayamb	3.72	71	P	Pn	22 06 17.0	+2.3
CAYA	Cayambe	3.76	70	P	Pn	22 06 17.2	+2.0

*NEIC **27** 22:05:35.5±0.5, 7.77N×94.02E, h30km, mb4.0/2, Error ellipse: s-maj=14.0km s-min=9.7km az=73.0*
*IDC **27** 22:05:37.0±7.9, 7.74N×93.97E, h40km±7km, mb3.9/11, mb1 4.0/12, mb1mx3.8/20, mbtmp4.1/12, ML4.0/1, Error ellipse: s-maj=56.6km s-min=20.0km az=62.0*
ISC 27 22:05:33.8±0.6, 7.76N±0.09×94.1E±0.1, h30km, n22, σ0§87/22, mb4.0/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.65	24	P	P	22 08 18.0	-3.3
CMAR	Chiang Mai Arr	11.65	24	Pn	P	22 08 21.4	+0.2
	0.3nm,0.3s,baz=212,slow=14,SNR=9.5						
KMI	Kunming	19.16	25	P	P	22 10 01.7	+4.0
	9.0nm,1.3s						
LSA	Lhasa	22.00	353	*e*P	P	22 10 27.5	+0.1
ENH	Enshi	26.66	31	P	P	22 11 12.9	+0.8
AAK	Ala-Archa	38.78	337	P	P	22 12 57.9	+0.3
SONM	Songino Array	41.29	13	P	P	22 13 18.3	0.0
	0.3nm,0.6s,mb3.1,baz=207,slow=6.4,SNR=2.4						
KURK	Kurchatov	44.70	346	P	P	22 13 44.6	-1.4
NWAO	Narrogin (SRO)	46.08	153	P	P	22 13 57.5	+0.4
	4.7nm,0.9s,mb4.4,baz=37,slow=16,SNR=2.8						
ZAL	Zalesovo	46.65	352	P	P	22 14 02.2	+0.9
	2.2nm,0.9s,mb4.1,baz=275,slow=11,SNR=3.1						
WRA	Warramunga Arr	48.26	125	P	P	22 14 14.5	0.0
	0.4nm,0.4s,mb3.8,baz=304,slow=8.9,SNR=3.1						
WRAB	Tennant Creek	48.27	125	P	P	22 14 13.8	-0.6
CHKZ	Chkalovo	49.56	342	*e*P	P	22 14 22.9	-1.1
	1.2nm,0.5s,mb4.2						
BRTR	Keskin Array B	62.44	311	P	P	22 15 59.4	+2.7
	1.1nm,1.0s,mb3.9,baz=106,slow=10,SNR=3.2						
IDI	Anoyia	68.56	305	P	P	22 16 35.4	-0.7
	6.7nm,0.8s,mb4.7,baz=288,slow=21,SNR=2.6						
FINES	FINESS Array B	72.77	332	P	P	22 17 00.6	-0.5
	1.8nm,0.7s,mb4.1,baz=108,slow=6.0,SNR=3.8						
ARCES	ARCESS Array B	75.34	340	P	P	22 17 16.2	+0.4
	2.0nm,0.8s,mb4.1,baz=106,slow=6.6,SNR=3.2						
MORC	Moravsky Berou	75.41	319	P	P	22 17 15.8	-0.7
GERES	GERESS Array B	77.86	318	P	P	22 17 30.5	+0.2
	0.7nm,0.7s,mb3.7,baz=117,slow=4.4,SNR=2.5						
HFS	Hagfors	78.51	330	P	P	22 17 33.7	+0.1
	3.2nm,0.8s,mb4.3,baz=90,slow=4.3,SNR=3.7						
NOA	NORSAR Array B	79.79	331	P	P	22 17 41.0	+0.5
	3.2nm,1.1s,mb4.1,baz=99,slow=4.9,SNR=2.6						
NOA	NORSAR Array B	79.79	331	P	P	22 17 41.0	+0.5

*NEIC **27** 22:08:03.7±0.5, 7.91N×94.13E, h30km, mb4.3/2, Error ellipse: s-maj=17.0km s-min=11.5km az=62.0*
*IDC **27** 22:08:10.4±5.2, 8.11N×94.36E, h88km±47km, mb3.6/15, mb1 3.7/16, mb1mx3.7/21, mbtmp3.9/16, Error ellipse: s-maj=31.4km s-min=18.0km az=51.0*
ISC 27 22:07:58.7±0.6, 7.88N±0.09×94.1E±0.1, h10km, n32, σ0§99/31, mb4.2/22, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.51	24	P	P	22 10 48.2	+1.8
	0.3nm,0.3s,baz=62,slow=16,SNR=5.8						
HYB	Hyderabad	17.89	303	*i* P	P	22 12 14.0	+4.5
JIRN	Jiri	21.05	340	*e*P	P	22 12 46.9	+1.5
	28nm,0.8s,mb4.7						
PKI	Pulchoki	21.25	338	*e*P	P	22 12 47.5	+0.1
	18nm,0.7s,mb4.5						
DMN	Daman	21.39	338	*e*P	P	22 12 48.5	-0.4
	40nm,0.9s,mb4.8						
KKN	Kakani	21.49	338	*e*P	P	22 12 51.0	+1.1
	26nm,0.9s,mb4.6						
LSA	Lhasa	21.88	353	*e*P	P	22 12 55.0	+1.2
	11nm,0.7s,mb4.4						
GKN	Gorkha	21.93	337	*e*P	P	22 12 52.7	-1.6
	23nm,0.7s,mb4.8						
KOLN	Koldanda	22.14	335	*e*P	P	22 12 56.7	+0.3
	23nm,0.8s,mb4.6						
AAK	Ala-Archa	38.69	337	P	P	22 15 23.5	-1.0
SONM	Songino Array	41.16	13	P	P	22 15 42.4	-2.5
	0.1nm,0.4s,baz=308,slow=20,SNR=3.0						
KURK	Kurchatov	44.60	346	P	P	22 16 12.1	-0.8
ZAL	Zalesovo	46.54	352	P	P	22 16 28.9	+0.7
	1.6nm,0.3s,mb4.4,baz=284,slow=8.3,SNR=3.3						
WRA	Warramunga Arr	48.28	126	P	P	22 16 42.6	+0.2
	0.7nm,0.6s,mb3.9,baz=304,slow=8.4,SNR=5.9						
WRAB	Tennant Creek	48.29	126	*e*P	P	22 16 42.4	-0.1
BVAR	Borovoye Array	48.97	341	P	P	22 16 47.0	-0.3
	0.9nm,0.9s,mb3.8,baz=127,slow=7.4,SNR=3.7						
CHKZ	Chkalovo	49.46	342	*e*P	P	22 16 50.3	-0.7
	1.6nm,0.7s,mb4.2						
ASAR	Alice Springs	49.94	130	P	P	22 16 55.1	0.0
	0.6nm,0.7s,mb3.7,baz=311,slow=8.3,SNR=4.0						
KMBO	Kilima Mbogo	57.40	264	P	P	22 17 52.7	+2.3
	0.4nm,0.3s,mb3.9,baz=211,slow=24,SNR=2.3						
KMBO	Kilima Mbogo	57.40	264	P	P	22 17 52.7	+2.3
BRTR	Keskin Array B	62.41	311	P	P	22 18 23.3	-1.0
	0.7nm,0.6s,mb4.0,baz=121,slow=6.7,SNR=3.1						
AKASG	Malin Array Be	68.13	322	P	P	22 18 59.8	-1.3
	0.6nm,0.6s,mb3.8,baz=89,slow=5.2,SNR=3.6						
IDI	Anoyia	68.54	305	P	P	22 19 04.1	+0.2
	8.4nm,0.8s,mb4.7,baz=192,slow=2.7,SNR=3.0						
MLR	Muntele Rosu	69.15	316	P	P	22 19 08.1	+0.6
	0.9nm,0.6s,mb3.9,baz=279,slow=15,SNR=3.0						
FINES	FINESS Array B	72.69	332	P	P	22 19 28.6	+0.1
	1.1nm,0.8s,mb3.9,baz=162,slow=30,SNR=5.1						
ARCES	ARCESS Array B	75.25	340	P	P	22 19 42.9	-0.4
	2.4nm,0.8s,mb4.2,baz=9.9,slow=28,SNR=2.9						
MORC	Moravsky Berou	75.35	319	P	P	22 19 43.4	-0.8
GERES	GERESS Array B	77.80	318	P	P	22 19 58.9	+0.9
	1.3nm,0.9s,mb3.9,baz=76,slow=5.5,SNR=6.3						
HFS	Hagfors	78.44	330	P	P	22 20 01.1	-0.1
	2.5nm,0.6s,mb4.4,baz=124,slow=5.3,SNR=7.9						
NB2	NORSAR Subarra	79.71	331	P	P	22 20 07.9	-0.2
	2.1nm,0.8s,mb4.1,baz=91,slow=4.8						
NOA	NORSAR Array B	79.71	331	P	P	22 20 08.3	+0.2
	1.2nm,0.9s,mb3.8,baz=220,slow=18,SNR=2.9						
PLCA	Paso Flores	144.55	200	PKP	PKPdf	22 27 37.9	-1.0
	1.6nm,1.0s,baz=153,slow=4.5,SNR=2.0						

*CSEM **27** 22:08:59.6±0.3, 40.43N×14.67E, h5km, MD2.8/5, After ROM*
ROM 27 22:08:59.6±0.3, 40.43N×14.67E, h5km, MD2.8/3, ML2.1/6, 1D, Error ellipse: s-maj=2.5km s-min=1.2km az=0.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISOR	Termini	0.30	302	*e*PG	Pg	22 09 06.3	+0.7
ISOR				SG	Sg	22 09 11.8	+2.2
OVO	Vesuviano	0.45	333	*i*PG	Pg	22 09 08.9	+0.3
SGO	Sicignano	0.51	74	*e*PG	Pg	22 09 10.4	+0.6
SGO				SG	Sg	22 09 18.6	+2.1
	125nm,0.4s						
SGO	Sicignano	0.51	74	*e*Pg	Pg	22 09 10.4	+0.6
	125nm,0.4s						
SGO				Sg	Sg	22 09 18.6	+2.1
MRLC	Muro Lucano	0.71	62	*e*PG	Pg	22 09 13.9	+0.1
MRLC				SG	Sg	22 09 25.9	+2.7
	46nm,0.3s						
MRLC	Muro Lucano	0.71	62	*e*Pg	Pg	22 09 13.9	+0.1
	46nm,0.3s						
MRLC				Sg	Sg	22 09 25.9	+2.7
MGR	Morigerati	0.74	113	*e*PG	Pg	22 09 14.4	+0.1
MGR				SG	Sg	22 09 26.7	+2.5
	69nm,0.3s						
MGR	Morigerati	0.74	113	*e*Pg	Pg	22 09 14.4	+0.1
	69nm,0.3s						
MGR				Sg	Sg	22 09 26.7	+2.5
MSC	Monte Massico	0.93	326	*e*PG	Pg	22 09 18.4	+0.2
FG4	Candela	0.96	42	*e*PG	Pg	22 09 19.0	+0.3
	34nm,0.6s						
FG4	Candela	0.96	42	*e*Pg	Pg	22 09 19.0	+0.3
	34nm,0.6s						
FG5	Orsara di Pugl	0.97	28	*e*PG	Pg	22 09 19.9	+0.9
	75nm,0.5s						
FG5	Orsara di Pugl	0.97	28	*e*Pg	Pg	22 09 19.9	+0.9
	75nm,0.5s						
SGG	Gregorio Mates	0.98	347	*e*PG	Pg	22 09 18.7	-0.6
RFI	Roccamonfina	1.02	330	*e*PG	Pg	22 09 20.1	+0.2
RGNG	Rignano Grg	1.43	29	*e*PN	Pn	22 09 25.9	-0.4
SDI	San Donato	1.44	333	*e*PN	Pn	22 09 27.5	+1.1
	23nm,0.5s						
SDI	San Donato	1.44	333	*e*Pn	Pn	22 09 27.5	+1.1
	23nm,0.5s						

*BJI **27** 22:18:38.2, 7.19N×93.85E, h30km, mB5.3, mb4.7, Ms5.1, Msz4.5*
*IDC **27** 22:18:39.5±0.6, 7.74N×93.97E, mb4.4/26, mb1 4.5/27, mb1mx4.5/29, mbtmp4.4/27, ML4.4/1, MS4.2/3, Ms1 4.2/3, ms1mx3.5/25, Error ellipse: s-maj=27.5km s-min=12.5km az=45.0*
*NEIC **27** 22:18:44.1±2.3, 7.77N±0.05×94.12E±0.05, h22km±15km, n94, σ1§03/94, mb4.5/51, MS4.4/5, 2C, Nicobar Islands region*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	Nongplab	7.31	49	P	Pn	22 20 19.5	-10
NST	Nakhon Sawan	9.81	36	P	P	22 20 55.0	-9.3
CMAR	Chiang Mai Arr	11.61	23	Pn	P	22 21 29.1	+0.2
	0.7nm,0.3s,baz=211,slow=14,SNR=61						
CHG	Chiang Mai	11.93	23	⇑P	P	22 21 34.0	+0.8
	16nm,0.8s						
PALK	Pallekele	13.31	269	P	P	22 21 51.2	-0.3
	10nm,0.8s						
VIS	Vishakhapatnam	14.43	314	*e*P	P	22 22 07.0	+0.6
VIS				AMb	AMB	22 22 10.2	
	comp=Z,39nm,1.0s						
VIS				*e*		22 24 32.7	
SHL	Shillong	17.82	353	*e*P	P	22 22 48.0	-1.7
SHL				*e*S	S	22 26 05.0	-0.2
HYB	Hyderabad	17.95	304	*i* P	P	22 22 52.0	+0.7
HYB				*e*S	S	22 26 09.0	+0.9
BLSP	Bilaspur	18.36	322	*e*P	P	22 22 57.1	+0.7
BLSP				AMb	AMB	22 22 58.8	
	comp=Z,34nm,1.2s						
KMI	Kunming	19.12	25	⇑P	P	22 23 09.0	+3.5
	comp=Z,18nm,1.5s						
MNGI	Mangalore	19.66	287	*i* P	P	22 23 11.5	-0.2
MNGI				*i* S	S	22 26 55.0	+8.4
JIRN	Jiri	21.16	340	*e*P	P	22 23 26.8	-0.5
	comp=Z,71nm,1.1s,mb4.9						
GOA	Goa	21.29	293	*e*P	P	22 23 37.7	+8.9
	comp=Z,36nm,1.3s,mb4.5						
GOA				*e*S	S	22 27 35.6	+16
PKI	Pulchoki	21.35	338	*e*P	P	22 23 29.4	+0.1
	comp=Z,58nm,0.8s,mb5.0						
DMN	Daman	21.50	338	*e*P	P	22 23 31.0	+0.3
	comp=Z,54nm,0.8s,mb4.9						
KKN	Kakani	21.59	338	*e*P	P	22 23 30.6	-1.1
	comp=Z,128nm,1.5s,mb5.1						
KAD	Karad	21.62	298	*e*P	P	22 23 33.4	+1.3
LSA	Lhasa	21.99	353	P	P	22 23 39.3	+3.6
LSA	Lhasa	21.99	353	*e*P	P	22 23 35.3	-0.4
	comp=Z,31nm,0.8s,mb4.8						
GKN	Gorkha	22.03	337	*e*P	P	22 23 35.2	-0.9
	comp=Z,50nm,0.7s,mb5.0						
BHPL	Bhopal	22.21	316	*e*P	P	22 23 38.7	+0.7
BHPL				*e*		22 23 45.3	
	comp=Z,67nm,1.1s						
KOLN	Koldanda	22.24	335	*e*P	P	22 23 38.5	+0.3
	comp=Z,81nm,1.1s,mb5.1						
ENH	Enshi	26.62	31	*e*P	P	22 24 20.1	-0.1
	comp=Z,16nm,1.0s,mb4.5						
DDI	Dehra Dun	27.02	328	*e*	P	22 24 23.3	-0.5
TGY	Tagaytay City	27.05	74	LR	LR	22 34 16.2	
	comp=Z,477nm,19.7s,MS4.1,baz=171,slow=34						
WHN	Wuhan	29.53	37	*e*P	P	22 24 45.8	-0.7
WHN				S	S	22 29 46.0	+7.3
WHN				LR	LR		
	comp=Z,3μm,11.9s,MS5.1						
LZH	Lanzhou	29.55	16	*e*P	P	22 24 48.5	+1.8
LZH				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.6						
LZH	Lanzhou	29.55	16	*e*P	P	22 24 48.5	+1.8
	comp=Z,19nm,1.4s,mb4.6						
LZH				pP	pP	22 24 58.0	+5.0
LZH				sP	sP	22 25 03.0	+7.1
WMQ	Urumqi	36.34	352	P	P	22 25 46.3	+0.8
BJI	Beijing	37.70	28	P	P	22 26 00.6	+3.6
	comp=Z,7.0nm,1.4s,mb4.2						
BJI				S	S	22 31 53.7	+8.1
BJI				SS	SS	22 34 47.9	+27
BJI				LR	LR		
	comp=Z,570nm,23.8s,MS4.3						
AAK	Ala-Archa	38.79	337	*e*P	P	22 26 05.7	-0.4
	comp=Z,7.3nm,0.9s,mb4.4						
SONM	Songino Array	41.27	13	P	P	22 26 26.4	0.0
	comp=Z,1.3nm,0.8s,mb3.6,SNR=4.0						
ULN	Ulaanbaatar	41.44	13	*e*P	P	22 26 26.8	-1.0
	comp=Z,1.6nm,0.3s,mb4.1						
TLY	Talaya	44.47	8	*e*P	P	22 26 52.2	-0.4
	comp=Z,3.4nm,1.0s,mb4.0						
KURK	Kurchatov	44.70	346	*e*P	P	22 26 54.1	-0.4
	comp=Z,2.6nm,0.4s,mb4.4						
NWAO	Narrogin (SRO)	46.07	153	P	P	22 27 07.3	+1.8
	comp=Z,13nm,0.9s,mb4.9,baz=301,slow=7.8,SNR=4.6						
HIA	Hailar	46.62	23	*e*P	P	22 27 10.4	+0.7
	comp=Z,11nm,1.1s,mb4.7						
ZAL	Zalesovo	46.64	352	P	P	22 27 10.2	+0.5
	comp=Z,8.2nm,0.8s,mb4.7,baz=294,slow=9.2,SNR=54						
WRA	Warramunga Arr	48.22	125	P	P	22 27 21.7	-1.0
	comp=Z,1.5nm,0.7s,mb4.2,baz=304,slow=8.7,SNR=13						
WRAB	Tennant Creek	48.22	125	*e*P	P	22 27 21.6	-1.1
BVAR	Borovoye Array	49.08	341	P	P	22 27 28.4	-0.4
	comp=Z,3.4nm,0.9s,mb4.4,baz=143,slow=7.4,SNR=15						
BVAR				ScP		22 32 47.1	
	comp=Z,0.7nm,0.8s,baz=135,slow=6.1,SNR=3.6						
RAYN	Ar Rayn	49.11	294	P	P	22 27 30.8	+1.4
	comp=Z,105nm,1.1s,SNR=22						
BRVK	Borovoye	49.14	341	*e*P	P	22 27 27.4	-1.8
	comp=Z,6.1nm,1.1s,mb4.5						
CHKZ	Chkalovo	49.56	342	*e*P	P	22 27 31.3	-1.2
	comp=Z,16nm,1.0s,mb5.0						
ASAR	Alice Springs	49.87	130	P	P	22 27 34.6	-0.7
	comp=Z,1.9nm,0.8s,mb4.2,baz=311,slow=7.3,SNR=13						
ASAR				LR	LR	22 50 23.5	
	comp=Z,164nm,18.1s,MS4.1,baz=118,slow=38						
ASAR	Alice Springs	49.87	130	P	P	22 27 34.6	-0.7
ASAR				LR	LR	22 50 23.5	
GNI	Garni	54.49	314	P	P	22 28 08.8	-0.9
	comp=Z,3.3nm,0.8s,mb4.3,baz=146,slow=2.5,SNR=3.6						
PMG	Port Moresby	55.52	107	P	P	22 28 18.3	+0.8
	comp=Z,9.0nm,0.7s,mb4.9,baz=304,slow=5.2,SNR=5.5						
KMBO	Kilima Mbogo	57.39	264	P	P	22 28 33.4	+2.5
	comp=Z,4.2nm,0.9s,mb4.5,baz=55,slow=8.7,SNR=7.4						
ASF	Jabal al Asfar	58.25	303	P	P	22 28 34.9	-1.8
	comp=Z,1.8nm,0.8s,mb4.2,baz=261,slow=5.2,SNR=4.7						
EIL	Elat	59.46	300	P	P	22 28 42.9	-2.2
	comp=Z,7.9nm,1.1s,mb4.6,baz=49,slow=15,SNR=2.6						
STKA	Stephens Creek	60.05	134	P	P	22 28 49.4	+0.2
	comp=Z,2.1nm,0.8s,mb4.2,baz=283,slow=3.2,SNR=3.6						
BRTR	Keskin Array B	62.48	311	P	P	22 29 03.5	-2.0
	comp=Z,1.7nm,0.7s,mb4.3,baz=129,slow=6.3,SNR=7.7						
MBAR	Mbarara	63.73	265	*e*P	P	22 29 10.9	-3.3
AKASG	Malin Array Be	68.22	322	P	P	22 29 41.2	-1.1
	comp=Z,1.6nm,0.7s,mb4.2,baz=91,slow=4.7,SNR=12						
IDI	Anoyia	68.61	305	P	P	22 29 44.6	-0.4
	comp=Z,15nm,1.0s,mb4.9,baz=159,slow=9.0,SNR=3.6						
LSZ	Lusaka	69.22	250	*e*P	P	22 29 47.8	-1.2
	comp=Z,26nm,1.8s,mb4.9						
MLR	Muntele Rosu	69.23	316	P	P	22 29 48.8	+0.2
	comp=Z,5.5nm,0.9s,mb4.5,baz=12,slow=4.6,SNR=8.0						
JOF	Joensuu	70.93	334	*ep*	P	22 29 57.3	-1.4
	comp=Z,0.7nm,0.3s,mb4.1						
KOLS	Kolonicke sedl	72.27	319	*e*P	P	22 30 07.6	+0.7
FINES	FINESS Array B	72.79	332	P	P	22 30 09.4	-0.3
	comp=Z,4.9nm,0.8s,mb4.5,baz=87,slow=8.6,SNR=12						
CRVS	Cervenica-Dubn	72.79	319	*e*P	P	22 30 10.2	+0.2
KAF	Kangasniemi	72.87	333	*ep*	P	22 30 08.9	-1.3
	comp=Z,14nm,1.3s,mb4.7						
LBTB	Lobatse	74.18	241	P	P	22 30 17.5	-1.0
VYHS	Vyhne	74.47	318	*e*P	P	22 30 19.0	-0.7
VYHS				*e*		22 30 46.2	
OKC	Ostrava-Krasne	75.05	319	*e*P	P	22 30 22.7	-0.4
ARCES	ARCESS Array B	75.35	340	P	P	22 30 24.3	-0.1
	comp=Z,3.3nm,0.8s,mb4.3,baz=88,slow=2.2,SNR=7.1						
MORC	Moravsky Berou	75.44	319	*e*P	P	22 30 24.6	-0.7
	comp=Z,29nm,1.8s,mb4.9						
ZST	Bratislava	75.59	318	*e*P	P	22 30 26.2	0.0
VRAC	Vranov	76.01	319	P

WRAB Tennant Creek 48.66 126 P **P** **22 27 52.3 -5.3**
ASAR Alice Springs 50.34 130 P **P** **22 28 09.9 -0.6**
2.1nm,0.7s,mb4.2,baz=304,slow=7.5,SNR=3.9
GNI Garni 53.98 314 P **P** **22 28 37.9 +0.5**
2.9nm,0.7s,mb4.4,baz=332,slow=4.2,SNR=3.3
KMBO Kilima Mbogo 57.45 263 P **P** **22 29 02.6 -0.1**
1.8nm,0.7s,mb4.2,baz=209,slow=24,SNR=2.2
ASF Jabal al Asfar 57.85 303 P **P** **22 29 05.3 +0.1**
3.0nm,1.0s,mb4.3,baz=285,slow=6.1,SNR=3.0
YAK Yakutsk 59.43 19 *eP* **P** **22 29 15.3 -0.4**
STKA Stephens Creek 60.56 134 P **P** **22 29 20.0 -3.9**
4.7nm,0.9s,mb4.5,baz=319,slow=9.4,SNR=4.2
BRTR Keskin Array B 62.00 311 P **P** **22 29 31.5 -2.0**
2.1nm,0.7s,mb4.3,baz=129,slow=7.2,SNR=5.1
AKASG Malin Array Be 67.65 322 P **P** **22 30 08.1 -1.7**
2.7nm,0.7s,mb4.2,baz=90,slow=4.6,SNR=7.5
IDI Anoyia 68.18 305 P **P** **22 30 11.9 -1.5**
8.6nm,0.8s,mb4.6,baz=344,slow=9.2,SNR=2.5
MLR Muntele Rosu 68.70 316 P **P** **22 30 16.2 -0.2**
9.9nm,1.0s,mb4.6,baz=148,slow=6.8,SNR=5.6
FINES FINESS Array B 72.15 332 P **P** **22 30 36.8 -0.1**
4.4nm,0.7s,mb4.4,baz=113,slow=14,SNR=5.6
OKC Ostrava-Krasne 74.50 319 *eP* **P** **22 30 52.1 +1.2**
ARCES ARCESS Array B 74.68 340 P **P** **22 30 52.1 +0.6**
4.8nm,0.7s,mb4.3,baz=90,slow=7.3,SNR=4.7
MORC Moravsky Berou 74.88 319 *eP* **P** **22 30 52.1 -1.0**
5.4nm,0.8s,mb4.3
VRAC Vranov 75.47 319 P **P** **22 30 56.6 +0.2**
1.9nm,0.7s,mb3.9,baz=111,slow=4.4,SNR=3.3
DPC Dobruska-Polom 75.71 320 *eP* **P** **22 30 58.6 +0.8**
UPC Upice 75.92 320 *eP* **P** **22 30 59.5 +0.6**
PRU Pruhonice 76.83 319 *eP* **P** **22 31 04.4 +0.3**
GERES GERESS Array B 77.34 318 P **P** **22 31 06.9 0.0**
4.9nm,0.7s,mb4.3,baz=90,slow=5.3,SNR=12
KHC Kasperske Hory 77.43 318 *eP* **P** **22 31 07.3 -0.1**
CLL Collm 77.86 321 P **P** **22 31 08.9 -0.8**
CLL *e**SP PcP 22 31 21.0 +1.4
MOX Moxa 78.73 320 *eP* **P** **22 31 14.0 -0.5**
GRA1 Grafenberg Arr 78.98 319 *eP* **P** **22 31 16.5 +0.6**
9.0nm,0.9s,mb4.6
GRF Grafenberg Arr 78.98 319 *eP* **P** **22 31 16.5 +0.6**
9.0nm,0.9s,mb4.6
NOA NORSAR Array B 79.18 331 P **P** **22 31 16.8 0.0**
5.7nm,0.8s,mb4.4,baz=92,slow=5.7,SNR=5.4
NOA NORSAR Array B 79.18 331 P **P** **22 31 16.8 0.0**
DAVOX Davos 79.92 316 P **P** **22 31 21.4 +0.4**
8.6nm,0.8s,mb4.6,baz=114,slow=8.9,SNR=5.0
EKA Eskdalemuir Ar 87.19 325 P **P** **22 31 58.8 +1.1**
2.2nm,0.7s,mb4.2,baz=121,slow=4.9,SNR=4.1
INK Inuvik 96.42 16 P **P** **22 32 40.3 +0.2**
2.8nm,1.1s,mb4.6,baz=293,slow=7.3,SNR=4.8
NVAR Mina Array Bea 124.42 31 PKP PKPdf 22 38 12.2 +2.7
1.0nm,0.5s,baz=269,slow=3.2,SNR=3.8
PDAR Pinedale Array 124.62 21 PKP PKPdf 22 38 10.1 +0.3
1.3nm,0.8s,SNR=4.6
TXAR Lajitas Array 138.69 24 PKP PKPdf 22 38 36.8 +0.1
0.4nm,0.5s,SNR=3.4
PLCA Paso Flores 145.10 201 PKPbc PKPbc 22 38 47.3 -0.7
3.6nm,0.9s,baz=128,slow=3.8,SNR=4.3

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*IDC **27** 22:22:48.2±1.8, 7.58N×94.10E, mb3.8/4, mb1 4.0/5, mb1mx3.7/17, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=54.6km s-min=32.8km az=61.0*
*NEIC **27** 22:22:52.8±1.4, 7.69N×94.17E, h30km, mb4.2/1, Error ellipse: s-maj=35.6km s-min=24.0km az=74.0*
ISC 27 22:22:51.2±1.4, 7.8N±0.2×94.3E±0.2, h30km, n7, σ1§24/7, mb3.8/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.56**	**23**	Pn	**P**	**22 25 36.7**	**-0.8**
	0.1nm,0.3s,baz=212,slow=14,SNR=4.0						
SONM	**Songino Array**	**41.24**	**12**	P	**P**	**22 30 36.6**	**+1.3**
	0.6nm,0.9s,mb3.2,baz=180,slow=5.8,SNR=2.7						
ZAL	**Zalesovo**	**46.68**	**352**	P	**P**	**22 31 20.9**	**+1.9**
	1.3nm,0.5s,mb4.2,baz=313,slow=9.7,SNR=4.7						
WRA	**Warramunga Arr**	**48.08**	**126**	P	**P**	**22 31 30.4**	**-0.2**
	0.9nm,1.0s,mb3.8,baz=305,slow=8.3,SNR=3.1						
WRA	**Warramunga Arr**	**48.08**	**126**	P	**P**	**22 31 30.4**	**-0.2**
CHKZ	**Chkalovo**	**49.62**	**342**	*eP*	**P**	**22 31 40.0**	**-2.0**
	1.7nm,0.7s,mb4.2						
GERES	**GERESS Array B**	**78.00**	**318**	P	**P**	**22 34 48.3**	**-0.2**
	0.9nm,0.7s,mb3.8,baz=90,slow=4.0,SNR=5.5						

BJI 27 22:29:40.8, 24.30N×102.77E, h15km, ML3.5, Ms4.5, Msz4.0, Yunnan

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*NIED **27** 22:33:00, 42.90N×145.10E, h50km, Mw3.8 Best double couple: M0:6.04×10^14 NP1:ϕs=24°, δ71°, λ70°. NP2:ϕs=253°, δ27°, λ135°.*
*MOS **27** 22:33:40.4±1.0, 42.76N×145.11E, h57km, mb4.1/1, Error ellipse: s-maj=21.8km s-min=13.4km az=91.0*
*SKHL **27** 22:33:41.9±2.5, 42.77N×145.34E, h43km±7km, mb5.0/1*
*JMA **27** 22:33:42.3±0.1, 42.87N×145.10E, h47km±1km, M3.8*
JMA Felt I J1.
*IDC **27** 22:33:42.2±6.8, 42.52N×145.05E, h63km±42km, mb3.6/11, mb1 3.7/12, mb1mx3.5/25, mbtmp3.9/12, ML4.2/1, Error ellipse: s-maj=63.3km s-min=22.5km az=175.0*
*NEIC **27** 22:33:45.0±3.1, 42.64N×144.99E, h84km±46km, mb4.1/1, Error ellipse: s-maj=52.5km s-min=13.0km az=168.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
ISC 27 22:33:40.9±0.8, 42.85N±0.07×145.12E±0.07, h55km±4km, n30, σ0§75/41, mb3.8/12, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.35**	**295**	P	**P**	**22 33 51.4**	**+0.4**
JAK				*e*S	**S**	**22 33 57.9**	**-0.4**
NEM2	**Nemuro 2**	**0.69**	**41**	P	**P**	**22 33 55.4**	**+0.6**
NEM2				*e*S	**S**	**22 34 04.3**	**-0.8**
JNK	**Nakash**	**0.79**	**338**	P	**P**	**22 33 56.7**	**+0.5**
JNK				*e*S	**S**	**22 34 06.9**	**-0.6**
JOB	**Onbets**	**0.95**	**274**	P	**P**	**22 33 58.9**	**+0.6**
JOB				*e*S	**S**	**22 34 11.3**	**+0.1**
JAR	**Ashorobuto**	**1.09**	**295**	P	**P**	**22 34 00.8**	**+0.5**
JAR				*e*S	**S**	**22 34 13.7**	**-0.9**
JRA	**Rausu**	**1.09**	**360**	P	**P**	**22 34 01.0**	**+0.7**
JRA				*e*S	**S**	**22 34 14.4**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**1.30**	**24**	⇑*i*PN	**P**	**22 34 03.0**	**-0.3**
YUK				*i* S	**S**	**22 34 18.8**	**-1.2**
YUK				pmax	pmax		
	comp=Z,430nm,0.3s						
YUK				pmax	pmax		
	comp=N,260nm,0.2s						
YUK				pmax	pmax		
	comp=E,110nm,0.2s						
YUK				smax			
	comp=N,5μm,0.5s						
YUK				smax			
	comp=E,6μm,0.7s						
YUK				smax			
	comp=N,4μm,0.3s						
YUK				smax			
	comp=E,1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.30**	**24**	*i* P	**P**	**22 34 03.0**	**-0.3**
YUK				AMB	AMB	22 34 05.3	
	comp=E,260nm,0.3s						
YUK				AMB	AMB	22 34 05.3	
	comp=E,110nm,0.3s						
YUK				AMB	AMB	22 34 05.3	
	comp=E,430nm,0.3s						
YUK				*i* rx	rx	22 34 08.0	
YUK				*i* S	**S**	**22 34 18.8**	**-1.2**
YUK				A		22 34 19.0	
	comp=E,5μm,1.0s						
YUK				A		22 34 19.0	
	comp=E,6μm,1.0s						
YUK				A		22 34 22.2	
	comp=E,4μm,0.3s						
YUK				A		22 34 22.2	
	comp=E,1μm,0.3s						
JCH	**Churui**	**1.32**	**260**	P	**P**	**22 34 03.6**	**0.0**
JCH				*e*S	**S**	**22 34 20.5**	**+0.1**
JTKR	**Abashiri--Toko**	**1.43**	**322**	P	**P**	**22 34 06.2**	**+1.1**
ASAJ	**Asahikawa**	**2.23**	**305**	PN	**P**	**22 34 18.2**	**+1.9**
ASAJ				S	**S**	**22 34 48.1**	**+5.4**
ASAJ				pmax	pmax		
	comp=Z,37nm,0.3s						
ASAJ				smax			
	comp=E,17nm,0.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**2.23**	**305**	P	**P**	**22 34 18.1**	**+1.8**
	comp=E,37nm,0.3s,baz=133,slow=10.0,SNR=49						
ASAJ				S	**S**	**22 34 48.0**	**+5.3**
	comp=E,17nm,0.3s,baz=40,slow=33,SNR=6.9						
MAJO	**Matsushiro**	**8.25**	**223**	PN	**P**	**22 35 38.9**	**-1.6**
SONM	**Songino Array**	**27.47**	**294**	P	**P**	**22 39 23.5**	**-0.1**
	comp=E,1.1nm,0.8s,mb3.4,baz=74,slow=8.6,SNR=7.3						
ILAR	**Eielson Array**	**43.09**	**36**	P	**P**	**22 41 38.0**	**+1.3**
	comp=E,0.3nm,0.5s,mb3.3,baz=266,slow=6.3,SNR=7.1						
KURK	**Kurchatov**	**44.81**	**304**	P	**P**	**22 41 49.9**	**-0.9**
INK	**Inuvik**	**47.92**	**30**	P	**P**	**22 42 15.9**	**+0.7**
	comp=E,0.8nm,0.4s,mb4.1,baz=255,slow=8.3,SNR=3.8						
CHKZ	**Chkalovo**	**48.59**	**310**	P	**P**	**22 42 19.9**	**-0.5**
CHKZ				*e*	pP	22 42 33.2	-1.7
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**48.59**	**310**	P	**P**	**22 42 19.9**	**-0.6**
	comp=Z,1.3nm,0.6s,mb4.1						
CHKZ				*e*	pP	22 42 33.2	-1.7
BVAR	**Borovoye Array**	**48.93**	**309**	P	**P**	**22 42 23.4**	**+0.3**
	comp=Z,0.5nm,0.3s,mb4.0,baz=79,slow=8.9,SNR=8.6						
AAK	**Ala-Archa**	**50.41**	**295**	P	**P**	**22 42 33.3**	**-1.3**
YKA	**Yellowknife Ar**	**57.37**	**33**	P	**P**	**22 43 25.9**	**+0.5**
	comp=Z,0.1nm,0.4s,mb3.2,baz=304,slow=6.8,SNR=3.1						
FINES	**FINESS Array B**	**65.00**	**332**	P	**P**	**22 44 16.2**	**-0.5**
	comp=Z,1.2nm,0.7s,mb4.1,baz=45,slow=8.1,SNR=8.5						
NB2	**NORSAR Subarra**	**69.90**	**338**	P	**P**	**22 44 47.2**	**-0.3**
	comp=Z,0.2nm,0.5s,mb3.3,baz=35,slow=5.8						
NOA	**NORSAR Array B**	**69.90**	**338**	P	**P**	**22 44 47.6**	**+0.2**
	comp=Z,0.7nm,0.5s,mb3.8,baz=34,slow=6.1,SNR=3.3						
HFS	**Hagfors**	**69.94**	**336**	P	**P**	**22 44 47.5**	**-0.2**
	comp=Z,2.4nm,0.7s,mb4.2,baz=45,slow=4.2,SNR=7.3						
AKASG	**Malin Array Be**	**71.42**	**323**	P	**P**	**22 44 56.6**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.42**	**323**	P	**P**	**22 44 56.5**	**-0.3**
	comp=Z,0.5nm,0.4s,mb3.8,baz=38,slow=5.7,SNR=4.5						
GERES	**GERESS Array B**	**79.21**	**330**	P	**P**	**22 45 40.9**	**-0.4**
	comp=Z,0.6nm,0.7s,mb3.6,baz=90,slow=5.3,SNR=4.8						
IDI	**Anoyia**	**85.03**	**315**	P	**P**	**22 46 12.3**	**+0.8**
	comp=Z,3.0nm,0.5s,mb4.7,baz=29,slow=10,SNR=2.2						

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*IDC **27** 22:38:50.2±0.8, 7.92N×93.87E, mb3.9/13, mb1 4.1/14, mb1mx4.0/21, mbtmp3.9/14, ML3.9/1, MS4.8/1, Ms1 4.8/1, ms1mx3.3/21, Error ellipse: s-maj=38.2km s-min=16.9km az=51.0*
*NEIC **27** 22:38:55.0±0.5, 7.98N×93.90E, h30km, mb4.2/2, Error ellipse: s-maj=20.0km s-min=10.9km az=59.0*
ISC 27 22:38:55.8±6.0, 8.0N±0.2×94.1E±0.2, h50km±51km, n28, σ1§22/25, mb4.0/17, MS4.9/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.39**	**24**	Pn	**P**	**22 41 37.2**	**-1.3**
	0.2nm,0.3s,baz=209,slow=14,SNR=6.9						
JIRN	**Jiri**	**20.91**	**340**	*eP*	**P**	**22 43 36.1**	**-0.2**
	16nm,0.7s						
PKI	**Pulchoki**	**21.10**	**338**	*eP*	**P**	**22 43 39.9**	**+1.6**
DMN	**Daman**	**21.25**	**338**	*eP*	**P**	**22 43 42.4**	**+2.6**
	22nm,0.7s,mb4.6						
KKN	**Kakani**	**21.34**	**338**	*eP*	**P**	**22 43 42.2**	**+1.4**
LSA	**Lhasa**	**21.73**	**353**	*eP*	**P**	**22 43 44.3**	**-0.3**
	7.1nm,0.8s,mb4.2						
GKN	**Gorkha**	**21.78**	**337**	*eP*	**P**	**22 43 45.0**	**-0.1**
	21nm,0.7s,mb4.7						
AAK	**Ala-Archa**	**38.54**	**337**	P	**P**	**22 46 14.5**	**-0.7**
SONM	**Songino Array**	**41.02**	**13**	P	**P**	**22 46 37.7**	**+2.0**
	0.4nm,0.6s,mb3.2,baz=252,slow=3.9,SNR=3.6						
ZAL	**Zalesovo**	**46.39**	**352**	P	**P**	**22 47 18.3**	**-0.7**
	1.5nm,0.8s,mb4.0,baz=306,slow=8.5,SNR=7.3						
ZAL	**Zalesovo**	**46.39**	**352**	P	**P**	**22 47 18.3**	**-0.7**
WRA	**Warramunga Arr**	**48.40**	**126**	P	**P**	**22 47 33.5**	**-1.7**
	0.4nm,0.5s,mb3.8,baz=304,slow=8.6,SNR=4.5						
WRAB	**Tennant Creek**	**48.40**	**126**	*eP*	**P**	**22 47 37.1**	**+1.9**
CHKZ	**Chkalovo**	**49.31**	**342**	*eP*	**P**	**22 47 41.0**	**-0.8**
	2.5nm,0.9s,mb4.2						
ASAR	**Alice Springs**	**50.06**	**130**	P	**P**	**22 47 48.1**	**+0.3**
	0.6nm,0.7s,mb3.7,baz=293,slow=6.9,SNR=5.4						
STKA	**Stephens Creek**	**60.25**	**134**	P	**P**	**22 49 01.9**	**+0.3**
	0.9nm,0.7s,mb3.9,baz=310,slow=7.9,SNR=2.1						
BRTR	**Keskin Array B**	**62.28**	**311**	P	**P**	**22 49 15.1**	**-0.1**
	0.7nm,0.8s,mb3.9,baz=117,slow=9.7,SNR=4.0						
MLR	**Muntele Rosu**	**69.02**	**316**	P	**P**	**22 49 56.4**	**-1.8**
	2.0nm,0.9s,mb4.0,baz=98,slow=15,SNR=2.8						
FINES	**FINESS Array B**	**72.55**	**332**	P	**P**	**22 50 17.6**	**-1.5**
	2.6nm,0.8s,mb4.2,baz=117,slow=8.5,SNR=5.8						
ARCES	**ARCESS Array B**	**75.10**	**340**	P	**P**	**22 50 33.4**	**-0.5**
	2.2nm,0.8s,mb4.2,baz=112,slow=4.9,SNR=2.9						
MORC	**Moravsky Berou**	**75.22**	**319**	P	**P**	**22 50 33.6**	**-1.3**
GERES	**GERESS Array B**	**77.67**	**318**	P	**P**	**22 50 48.4**	**-0.3**
	0.9nm,0.7s,mb3.8,baz=90,slow=5.3,SNR=6.1						
HFS	**Hagfors**	**78.29**	**330**	P	**P**	**22 50 51.3**	**-0.6**
	1.1nm,0.5s,mb4.0,baz=108,slow=9.4,SNR=5.8						
NOA	**NORSAR Array B**	**79.57**	**331**	P	**P**	**22 51 00.9**	**+2.0**
	0.8nm,0.7s,mb3.7,baz=96,slow=5.4,SNR=3.1						
DAVOX	**Davos**	**80.24**	**316**	P	**P**	**22 51 04.0**	**+1.3**
	3.4nm,0.9s,mb4.3,baz=162,slow=18,SNR=2.5						
VNDA	**Vanda**	**93.09**	**168**	LR	LR	23 31 37.1	
	comp=Z,396nm,18.1s,MS4.9,baz=305,slow=34						
PLCA	**Paso Flores**	**144.67**	**200**	PKP	PKPdf	22 58 28.8	+1.6
	2.2nm,1.0s,baz=337,slow=7.0,SNR=2.6						
PLCA	**Paso Flores**	**144.67**	**200**	PKP	PKPdf	22 58 28.8	+1.5

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*IDC **27** 22:40:42.7±0.4, 8.15N×94.23E, mb5.0/33, mb1 5.1/34, mb1mx5.1/34, mbtmp5.0/34, ML4.3/1, MS4.9/11, Ms1 4.9/11, ms1mx4.5/18, Error ellipse: s-maj=20.9km s-min=10.0km az=47.0, Putative timing error at LPAZ*
*BJI **27** 22:40:45.6, 7.78N×93.80E, h46km, mB5.5, mb5.1, Ms5.3, Msz5.1*
*MOS **27** 22:40:46.4±1.0, 8.08N×94.07E, h33km, mb5.6/74, MS4.9/36, Error ellipse: s-maj=7.6km s-min=4.0km az=118.6*
*HRVD **27** 22:40:47.3±0.2, 8.00N×94.18E, h12km, MW5.3/55, Centroid moment Tensor Solution. LP body waves: s36,c58; Mantle waves: s55,c102; Half duration: 1§1 Moment tensor: Scale 10^17Nm; Mrr-0.94±.03; Mθθ0.15±.03; Mϕϕ0.78±.03; Mrθ0.18±.09; Mϕθ0.73±.02; Mϕr-0.33±.07; Best double couple: M0:1.186×10^17 NP1: ϕs:235°, δ45°, λ-56°. NP2:ϕs:12°, δ54°, λ-119°. Principal axes: T 1.279, Plg5°, Azm122°; N -.187, Plg23°, Azm30°; P -1.092, Plg66°, Azm223°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 22:40:47.3±0.1, 8.04N×94.11E, h30km, mb5.5/91, MS4.8/29 Error ellipse: s-maj=5.4km s-min=4.2km az=220.0*
*BGS **27** 22:40:48.4, 8.04N×94.11E, h33km, mb5.8*
ISC 27 22:40:43.7±0.2, 8.02N±0.03×94.12E±0.03, h16km, h16km±2.1km: pP-P, n456, σ1§05/437, mb5.4/143, MS4.9/62, 38C-15D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.86**	**339**	*eP*	**Pn**	**22 41 45.0**	**+1.2**
PBA				*e*SG	**Sn**	**22 42 36.7**	**+7.5**
NNT	**Nongplab**	**7.14**	**50**	P	**Pn**	**22 42 29.0**	**-1.2**
NST	**Nakhon Sawan**	**9.61**	**37**	P	**P**	**22 42 51.0**	**-14**
CMAR	**Chiang Mai Arr**	**11.38**	**24**	Pn	**P**	**22 43 28.9**	**+0.1**
	0.6nm,0.3s,baz=211,slow=14,SNR=18						
CMAR				LR	LR	22 48 15.6	
	comp=Z,2μm,18.1s,baz=220,slow=40						
CHG	**Chiang Mai**	**11.70**	**23**	⇓P	**P**	**22 43 34.7**	**+1.5**
	38nm,1.1s						
KKTK	**Khon Kaen**	**11.85**	**45**	P	**P**	**22 43 36.3**	**+1.1**
	432nm,0.9s						
NANT	**Nan**	**12.47**	**30**	⇑P	**P**	**22 43 43.5**	**-0.1**
	78nm,1.0s						
CHRT	**Chiangrai**	**12.99**	**24**	⇑P	**P**	**22 43 52.0**	**+1.5**
	395nm,1.6s						
PALK	**Pallekele**	**13.32**	**268**	*eP*	**P**	**22 43 57.1**	**+2.2**
	123nm,1.4s						
VIS	**Vishakhapatnam**	**14.26**	**314**	*eP*	**P**	**22 44 07.4**	**+0.1**
VIS				*e*		22 44 20.5	
	comp=Z,228nm,1.2s						
VIS				*e*		22 46 33.4	
CAL	**Calcutta**	**15.47**	**340**	*e*	**P**	**22 44 29.2**	**+6.1**
CAL				*e*	**S**	**22 47 31.7**	**+17**
KOD	**Kodaikanal**	**16.59**	**279**	*eP*	**P**	**22 44 43.5**	**+6.1**
KOD				*e*		22 44 48.5	
	comp=Z,175nm,1.2s						
KOD				*e*	**S**	**22 47 53.2**	**+13**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**17.58**	**353**	*eP*	**P**	**22 44 49.3**	**-0.5**
HYB	**Hyderabad**	**17.81**	**303**	*eP*	**P**	**22 44 53.0**	**+0.2**
HYB				*e*S	**S**	**22 48 05.0**	**-3.5**
HYB				pmax	pmax		
	comp=Z,157nm,1.2s						
HYB	**Hyderabad**	**17.81**	**303**	*eP*	**P**	**22 44 53.0**	**+0.2**
	comp=Z,157nm,1.2s						
HYB				*e*S	**S**	**22 48 05.0**	**-3.5**
HYB	**Hyderabad**	**17.81**	**303**	*i* P	**P**	**22 44 53.0**	**+0.2**
	comp=Z,157nm,1.2s						
HYB				*e*		22 48 05.0	
HYB				*e*S	**S**	**22 48 14.0**	**+5.5**
QIZ	**Qiongzhong**	**18.77**	**53**	P	**P**	**22 45 07.0**	**+2.4**
QIZ				S	**S**	**22 48 30.3**	**0.0**
QIZ				AMB	AMB		
	comp=Z,2μm,8.4s						
QIZ				LR	LR		
	comp=N,15μm,13.0s						
QIZ				LR	LR		
	comp=E,4μm,13.7s						
NGP	**Nagpur**	**19.55**	**313**	*eP*	**P**	**22 45 15.1**	**+1.4**
NGP				*e*		22 45 29.8	
	comp=Z,123nm,1.6s						
COCO	**West Island**	**20.26**	**172**	*eP*	**P**	**22 45 20.7**	**-0.7**
	comp=Z,692nm,1.3s						
JIRN	**Jiri**	**20.92**	**340**	*eP*	**P**	**22 45 28.0**	**-0.2**
	comp=Z,710nm,1.1s						
PKI	**Pulchoki**	**21.12**	**338**	*eP*	**P**	**22 45 30.0**	**-0.2**
	comp=Z,1μm,1.2s,mb6.1						
GOA	**Goa**	**21.20**	**292**	*eP*	**P**	**22 45 37.9**	**+6.8**
GOA				*e*		22 45 46.3	
	comp=Z,146nm,1.4s						
GOA				*e*	**S**	**22 49 36.5**	**+15**
DMN	**Daman**	**21.27**	**337**	*eP*	**P**	**22 45 31.4**	**-0.3**
	comp=Z,695nm,1.1s,mb5.9						
KKN	**Kakani**	**21.37**	**338**	*eP*	**P**	**22 45 32.3**	**-0.4**
	comp=Z,618nm,1.1s,mb5.8						
LSA	**Lhasa**	**21.74**	**353**	P	**P**	**22 45 37.0**	**+0.5**
LSA	**Lhasa**	**21.74**	**353**	*eP*	**P**	**22 45 35.5**	**-1.0**
LSA				pmax	pmax		
	comp=Z,229nm,0.8s,mb5.7						
LSA	**Lhasa**	**21.74**	**353**	*eP*	**P**	**22 45 35.5**	**-0.9**
	comp=Z,229nm,0.8s,mb5.7						
GKN	**Gorkha**	**21.80**	**337**	*eP*	**P**	**22 45 36.6**	**-0.5**
	comp=Z,2μm,1.4s,mb6.2						
KOLN	**Koldanda**	**22.02**	**334**	*eP*	**P**	**22 45 39.5**	**+0.2**
	comp=Z,2μm,1.6s,mb6.4						
BHPL	**Bhopal**	**22.04**	**315**	*eP*	**P**	**22 45 40.5**	**+1.0**
BHPL				*e*		22 45 50.0	
	comp=Z,388nm,0.7s						
POO	**Poona**	**22.30**	**300**	*eP*	**P**	**22 45 44.2**	**+2.1**
POO				*e*		22 45 53.0	
	comp=Z,157nm,1.9s						
BOM	**Bombay**	**23.34**	**300**	*eP*	**P**	**22 45 59.7**	**+7.2**
BOM				*e*	**S**	**22 50 03.8**	**+3.4**
NDI	**New Delhi**	**26.00**	**324**	*eP*	**P**	**22 46 18.3**	**+0.5**
NDI				*e*		22 46 27.6	
	comp=Z,240nm,1.1s						
NDI				*e*	**S**	**22 51 03.5**	**+18**
ENH	**Enshi**	**26.40**	**31**	*eP*	**P**	**22 46 21.0**	**-0.5**
	comp=Z,109nm,1.0s,mb5.3						
DGAR	**Diego Garcia**	**26.49**	**235**	PFAKE		22 46 30.0	+7.5
DGAR				LR	LR		
	comp=Z,563nm,19.0s,MS4.1						
TGY	**Tagaytay City**	**26.98**	**75**	LR	LR	22 57 31.2	
	comp=Z,2μm,18.5s,MS4.7,baz=5.1,slow=38						
SMLA	**Simla**	**27.91**	**328**	*e*	**P**	**22 46 49.6**	**+14**
SMLA				*e*		22 46 57.8	
	comp=Z,142nm,1.6s						
XAN	**Xi'an**	**29.27**	**26**	P	**P**	**22 46 46.0**	**-1.4**
XAN				AP	pP	22 46 58.3	+6.1
XAN				AMB	AMB		
	comp=Z,53nm,1.3s,mb5.1						
LZH	**Lanzhou**	**29.31**	**16**	⇑P	**P**	**22 46 47.5**	**-0.3**
LZH				AP	pP	22 46 56.3	+3.7
LZH				PP	PP	22 47 43.5	+0.5
LZH				S	**S**	**22 51 38.0**	**-0.9**
LZH				SS	SS	22 53 13.0	+2.6
LZH				AMB	AMB		
	comp=Z,74nm,1.7s,mb5.1						
LZH				AMB	AMB		
	comp=Z,290nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,11.2s						
LZH				LR	LR		
	comp=Z,3μm,13.7s,MS5.1						
LZH	**Lanzhou**	**29.31**	**16**	⇑P	**P**	**22 46 47.5**	**-0.3**
LZH				*PP	pP	22 46 56.2	+3.6
LZH				*SP	sP	22 46 59.0	+4.2
LZH						22 47 43.5	
LZH				S	**S**	**22 51 38.0**	**-0.9**
LZH				*SS		22 51 52.5	
LZH				SS	SS	22 53 13.0	+2.6
LZH				pmax	pmax		
	comp=Z,74nm,1.7s,mb5.1						
LZH				MLR	MLR		
	comp=Z,3μm,13.7s,MS5.0						
LZH	**Lanzhou**	**29.31**	**16**	⇑P	**P**	**22 46 47.5**	**-0.3**
	comp=Z,74nm,1.7s,mb5.1						
LZH				pP	pP	22 46 56.2	+3.6
LZH				sP	sP	22 46 59.0	+4.2
LZH				PP	PP	22 47 43.5	+0.5
LZH				S	**S**	**22 51 38.0**	**-0.9**
LZH				sS		22 51 52.5	
LZH				SS	SS	22 53 13.0	+2.6
LZH				LR	LR		
	comp=Z,3μm,13.7s,MS5.0						
WHN	**Wuhan**	**29.33**	**38**	⇑P	**P**	**22 46 49.0**	**+1.0**
WHN				S	**S**	**22 51 38.0**	**-1.3**
WHN				LR	LR		
	comp=Z,7μm,12.6s,MS5.5						
NJ2	**Nanjing**	**33.17**	**40**	*eP*	**P**	**22 47 22.0**	**+0.2**
NJ2				AP	pP	22 47 31.8	+5.2
NJ2				XP	sP	22 47

comp=Z,126nm,1.3s,mb5.6
BJI Beijing 37.48 28 P **P 22 47 59.7 +1.2**
BJI 22 49 28.0
BJI S **S 22 53 50.4 +4.4**
BJI pmax pmax
comp=Z,58nm,1.4s,mb5.2
BJI MLR MLR
comp=Z,1μm,19.6s,MS4.7
BJI Beijing 37.48 28 P **P 22 47 59.7 +1.2**
comp=Z,58nm,1.4s,mb5.2
BJI PP PP 22 49 28.0 +1.3
BJI S **S 22 53 50.4 +4.4**
BJI SS SS 22 56 29.9 +11
BJI LR LR
comp=Z,1μm,19.6s,MS4.7
SMDO Samad 37.70 298 ⇓P **P 22 48 03.7 +3.2**
BIDO Bidbid 37.77 298 ⇓P **P 22 48 03.9 +2.9**
KZA Kyzart 37.79 337 P **P 22 48 03.3 +2.3**
SNR=8.9
AAA Alma-Ata 38.20 340 *e*P **P 22 48 04.0 -0.5**
AAA MLR MLR
comp=Z,200nm,18.0s,MS4.0
UCH Uchtor 38.21 336 P **P 22 48 05.5 +0.9**
SNR=21
BSY Bisya 38.35 297 ⇓P **P 22 48 08.8 +2.8**
MBWA Marble Bar 38.39 139 *e*P **P 22 48 09.1 +2.8**
comp=Z,86nm,1.6s,mb5.2
KBK Karagaybulak 38.40 337 P **P 22 48 07.3 +1.1**
SNR=25
AML Almayashu 38.46 335 P **P 22 48 07.8 +1.1**
SNR=31
HOQ Hoqain 38.50 298 ⇑P **P 22 48 10.2 +3.0**
AAK Ala-Archa 38.56 337 P **P 22 48 09.0 +1.5**
SNR=24
AAK Ala-Archa 38.56 337 P **P 22 48 08.1 +0.6**
AAK pmax pmax
comp=Z,113nm,1.3s,mb5.4
AAK Ala-Archa 38.56 337 *e*P **P 22 48 06.9 -0.6**
comp=Z,101nm,1.2s,mb5.4
AAK LR LR
comp=Z,904nm,20.0s,MS4.6
FRU Bishkek 38.68 337 *e*P **P 22 48 13.0 +4.5**
FRU *e* 22 49 44.0
FRU pmax pmax
comp=Z,140nm,1.6s,mb5.4
FRU MLR MLR
comp=Z,4μm,18.0s,MS5.2
CHMS Chumysh 38.77 337 P **P 22 48 09.4 +0.1**
SNR=21
EKS2 Erkin-Say 38.87 336 P **P 22 48 10.5 +0.4**
SNR=18
USP Ospenovka 39.09 337 P **P 22 48 12.2 +0.3**
SNR=28
ARQ Araqi 39.12 297 ⇑P **P 22 48 15.4 +3.0**
SNR=8.8
MKAR Makanchi Array 39.94 347 *i* P **P 22 48 17.9 -1.0**
FITZ Fitzroy Crossi 40.52 130 *e*P **P 22 48 22.5 -1.5**
comp=Z,13nm,1.1s,mb4.5
SONM Songino Array 41.02 13 P **P 22 48 27.8 0.0**
comp=Z,18nm,0.9s,mb4.7,baz=196,slow=6.5,SNR=54
SONM PcP PcP 22 50 27.6 -0.7
comp=Z,6.3nm,0.7s,baz=197,slow=3.4,SNR=8.5
ULN Ulaanbaatar 41.20 13 *e*P **P 22 48 28.6 -0.6**
ULN pmax pmax
comp=Z,15nm,0.9s,mb4.6
ULN MLR MLR
comp=Z,759nm,20.0s,MS4.6
ULN Ulaanbaatar 41.20 13 *e*P **P 22 48 28.6 -0.6**
comp=Z,15nm,0.9s,mb4.6
ULN LR LR
comp=Z,759nm,20.0s,MS4.6
KS15 Wonju Array Si 42.33 41 *e*P **P 22 48 39.2 +0.5**
SNY Shenyang 42.55 33 ⇓P **P 22 48 41.3 +0.8**
SNY LR LR
comp=N,904nm,12.3s,MS5.0
SNY LR LR
comp=E,1μm,14.4s,MS5.0
SNY LR LR
comp=Z,1μm,14.4s,MS4.9
ZAK Zakamensk 42.91 9 *e*P **P 22 48 42.8 -0.4**
MOY Mondy 43.88 6 *e*P **P 22 48 52.1 +1.1**
TLY Talaya 44.22 8 *e*P **P 22 48 55.8 +1.9**
TLY *e*S **S 22 55 17.0 -9.1**
TLY pmax pmax
comp=Z,27nm,1.5s,mb4.8
TLY MLR MLR
comp=Z,595nm,14.0s,MS4.7
TLY Talaya 44.22 8 *e*P **P 22 48 54.2 +0.3**
comp=Z,31nm,1.3s,mb4.9
TLY LR LR
comp=Z,78nm,20.0s
KURK Kurchatov 44.46 346 *d i*P **P 22 48 54.8 -1.0**
KURK pmax pmax
comp=Z,115nm,1.4s,mb5.4
KURK Kurchatov 44.46 346 *e*P **P 22 48 54.7 -1.2**
comp=Z,242nm,1.3s,mb5.8
KURK LR LR
comp=Z,436nm,20.0s,MS4.4
IRK Irkutsk 44.86 9 *e*P **P 22 48 59.2 +0.1**
IRK pmax pmax
comp=Z,32nm,2.1s,mb4.8
MUN Mundaring 45.02 153 *e*P **P 22 49 01.4 +0.8**
comp=Z,28nm,0.9s,mb5.1
MUN Mundaring 45.02 153 *e*P **P 22 49 01.4 +0.8**
MUN pmax pmax
comp=Z,28nm,0.9s,mb5.1
KLBR Kellerberrin 45.41 151 *e*P **P 22 49 03.1 -0.6**
comp=Z,530nm,1.2s,mb6.2
NWAO Narrogin (SRO) 46.29 153 *e*P **P 22 49 09.8 -0.8**
NWAO pmax pmax
comp=Z,96nm,1.3s
NWAO MLR MLR
comp=Z,1μm,20.0s
NWAO Narrogin (SRO) 46.29 153 P **P 22 49 10.5 -0.1**
comp=Z,30nm,1.0s,mb5.2,baz=317,slow=7.7,SNR=12
NWAO LR LR 23 06 52.5
comp=Z,9.4nm,19.8s,baz=161,slow=34
NWAO Narrogin (SRO) 46.29 153 *e*P **P 22 49 09.8 -0.8**
comp=Z,96nm,1.3s,mb5.6
NWAO LR LR
comp=Z,1μm,20.0s,MS4.9
HIA Hailar 46.39 23 *e*P **P 22 49 11.9 +0.7**
HIA pmax pmax
comp=Z,86nm,1.3s
HIA Hailar 46.39 23 *e*P **P 22 49 11.9 +0.8**
comp=Z,86nm,1.3s,mb5.5
ZAL Zalesovo 46.40 352 P **P 22 49 10.3 -0.9**
comp=Z,28nm,0.9s,mb5.2,baz=294,slow=7.8,SNR=74
NVS Novosibirsk 47.49 351 *i* P **P 22 49 18.6 -1.2**
NVS *e*S **S 22 56 06.3 -6.5**
NVS pmax pmax
comp=Z,75nm,0.9s,mb5.6
NVS pmax pmax
comp=N,96nm,0.9s
NVS pmax pmax
comp=E,50nm,1.2s
NVS smax
comp=N,10.0nm,1.3s
NVS smax
comp=E,22nm,1.7s
MDJ Mudanjiang 47.69 34 P **P 22 49 21.5 0.0**
MDJ PP PP 22 51 14.5 +1.9
MDJ S **S 22 56 15.0 -0.8**
MDJ SS SS 22 59 42.0 +3.6
MDJ AMB AMB
comp=Z,41nm,1.1s,mb5.4
MDJ AMB AMB
comp=Z,193nm,3.8s
MDJ LR LR
comp=E,1μm,12.0s
MDJ LR LR
comp=Z,1μm,11.6s,MS5.1
MDJ Mudanjiang 47.69 34 *e*P **P 22 49 20.4 -1.1**
comp=Z,82nm,1.4s,mb5.6
VLA Vladivostok 48.11 37 *e*P **P 22 49 25.0 +0.2**
VLA *e* 22 49 43.0
VLA *e* 22 50 51.0
VLA MLR MLR
comp=Z,2μm,13.0s,MS5.3
WRA Warramunga Arr 48.36 126 P **P 22 49 24.9 -2.2**
comp=Z,5.1nm,0.6s,mb4.8,baz=304,slow=8.5,SNR=30
WRAB Tennant Creek 48.37 126 *c i*P **P 22 49 26.4 -0.7**
WRAB Tennant Creek 48.37 126 *e*P **P 22 49 25.2 -1.9**
comp=Z,21nm,0.7s,mb5.3
WRAB LR LR
comp=Z,250nm,19.0s,MS4.2

WB2 Warramunga Arr 48.37 126 *e*P **P 22 49 25.9 -1.2**
BVA0 Borovoye Array 48.84 341 *i* P **P 22 49 29.2 -1.1**
BVA0 pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
BVAR Borovoye Array 48.84 341 P **P 22 49 29.0 -1.3**
comp=Z,18nm,0.9s,mb5.1,baz=143,slow=7.4,SNR=54
BVAR PcP PcP 22 50 54.2 -1.1
comp=Z,6.6nm,0.7s,baz=135,slow=4.2,SNR=5.4
BVAR ScP 22 54 49.0
comp=Z,1.3nm,0.8s,baz=135,slow=2.1,SNR=5.3
BRVK Borovoye 48.90 341 *e*P **P 22 49 29.9 -0.9**
BRVK pmax pmax
comp=Z,47nm,1.1s,mb5.4
BRVK Borovoye 48.90 341 *e*P **P 22 49 29.9 -0.9**
comp=Z,47nm,1.1s,mb5.4
RAYN Ar Rayn 49.01 294 P **P 22 49 33.8 +1.8**
comp=Z,346nm,0.7s,SNR=34
MAJO Matsushiro 49.07 48 *e*P **P 22 49 33.7 +1.4**
MAJO pmax pmax
comp=Z,47nm,1.3s,mb5.4
MAJO MLR MLR
comp=Z,654nm,19.0s,MS4.6
MAJO Matsushiro 49.07 48 *e*P **P 22 49 33.7 +1.4**
comp=Z,47nm,1.3s,mb5.4
MAJO LR LR
comp=Z,654nm,19.0s,MS4.6
MAT Matsushiro 49.07 48 *e*P **P 22 49 33.0 +0.7**
MAT pmax pmax
comp=Z,53nm,1.5s,mb5.3
MAT Matsushiro 49.07 48 *e*P **P 22 49 33.0 +0.7**
comp=Z,53nm,1.5s,mb5.3
MAT Matsushiro 49.07 48 P **P 22 49 32.6 +0.3**
CHKZ Chkalovo 49.33 342 P **P 22 49 33.3 -0.7**
CHKZ pmax pmax
comp=Z,173nm,1.4s,mb5.9
CHKZ Chkalovo 49.33 342 *e*P **P 22 49 32.4 -1.7**
comp=Z,181nm,1.2s,mb6.0
ASPA Alice Springs 50.02 130 *e*P **P 22 49 39.5 -0.3**
ASAR Alice Springs 50.02 130 P **P 22 49 37.7 -2.1**
comp=Z,7.5nm,0.8s,mb4.8,baz=310,slow=7.6,SNR=16
ASAR PcP PcP 22 50 59.3 -0.6
comp=Z,1.4nm,0.6s,baz=308,slow=3.6,SNR=3.9
GUMO Guam 50.08 79 PFAKE 22 49 50.0 +10
GUMO LR LR
comp=Z,862nm,22.0s,MS4.7
KLR Kul'dur 51.76 31 *e*P **P 22 49 49.2 -3.5**
KLR MLR MLR
comp=E,2μm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.3
BOD Bodaibo 52.01 13 *e*P **P 22 49 52.2 -2.2**
CLNS Chul'man 54.30 20 *e*P **P 22 50 10.1 -1.3**
CLNS *e**PP pP 22 50 15.7 -0.7
CLNS *e* 22 51 15.4
CLNS *e* 22 52 10.1
CLNS *e*PPP PPP 22 53 18.9 -6.4
CLNS *e*S **S 22 57 49.1 +2.4**
CLNS *e* 22 59 58.9
CLNS *e*SS SS 23 01 29.7 +1.2
CLNS pmax pmax
comp=Z,40nm,0.7s,mb5.5
CLNS pmax pmax
comp=N,28nm,0.8s
CLNS pmax pmax
comp=E,23nm,0.8s
CLNS pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
CLNS pmax pmax
comp=N,7.0nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS smax
comp=N,187nm,13.6s
CLNS smax
comp=Z,109nm,14.1s
CLNS smax
comp=E,68nm,13.0s
CLNS MLR MLR
comp=Z,1μm,13.0s,MS5.1
CLNS MLR MLR
comp=N,1μm,16.0s,MS5.1
CLNS MLR MLR
comp=E,300nm,12.0s,MS5.1
GNI Garni 54.32 314 ⇓*e*P **P 22 50 12.3 +0.6**
GNI pmax pmax
comp=Z,28nm,1.0s
GNI Garni 54.32 314 P **P 22 50 11.6 -0.1**
comp=Z,11nm,0.7s,mb4.9,baz=166,slow=13,SNR=14
GNI LR LR 23 18 00.0
comp=Z,431nm,18.0s,MS4.6,baz=292,slow=41
GNI Garni 54.32 314 *e*P **P 22 50 11.1 -0.6**
comp=Z,165nm,1.6s,mb5.7
TI2 Plekhanov 54.93 316 *e*P **P 22 50 15.2 -1.0**
PMG Port Moresby 55.59 107 *c i*P **P 22 50 22.4 +1.0**
PMG Port Moresby 55.59 107 P **P 22 50 20.5 -0.8**
comp=Z,31nm,0.8s,mb5.4,baz=299,slow=2.3,SNR=8.6
PMG Port Moresby 55.59 107 *e*P **P 22 50 19.9 -1.5**
comp=Z,47nm,0.9s,mb5.5
PMG LR LR
comp=Z,619nm,22.0s,MS4.7
ARU Arti 55.75 337 ⇑*i*P **P 22 50 15.1 -6.8**
ARU *e*S **S 22 57 57.0 -9.1**
ARU *e*SS SS 23 01 42.8 -8.9
ARU pmax pmax
comp=Z,70nm,1.0s,mb5.7
ARU MLR MLR
comp=Z,3μm,20.5s,MS5.3
ARU MLR MLR
comp=N,2μm,20.0s,MS5.2
ARU MLR MLR
comp=E,1μm,20.0s,MS5.2
ZEI Tsey 55.92 317 *e*P **P 22 50 22.9 -0.4**
ZEI *i* *PP pP 22 50 37.0 +8.6
ZEI *i* 22 52 28.1
ZEI pmax pmax
comp=Z,11nm,0.8s,mb4.9
BEST Besiri 56.09 311 P **P 22 50 23.6 -1.0**
ERZM Erzurum 56.66 313 P **P 22 50 29.3 +0.6**
YSS Yuzh-Sakhalins 56.67 38 *e*P **P 22 50 30.1 +1.4**
YSS pmax pmax
comp=Z,132nm,1.3s,mb5.8
YSS Yuzh-Sakhalins 56.67 38 *e*P **P 22 50 30.1 +1.3**
comp=Z,132nm,1.3s,mb5.8
KIV Kislovodsk 57.20 318 P **P 22 50 32.7 +0.2**
comp=Z,226nm,0.8s,mb6.2,SNR=10
KIV Kislovodsk 57.20 318 *e*P **P 22 50 31.8 -0.7**
KIV pmax pmax
comp=Z,44nm,0.9s,mb5.5
KIV Kislovodsk 57.20 318 *e*P **P 22 50 31.8 -0.7**
comp=Z,44nm,0.9s,mb5.5
KMBO Kilima Mbogo 57.42 264 *e*P **P 22 50 36.3 +1.8**
KMBO pmax pmax
comp=Z,104nm,1.3s
KMBO MLR MLR
comp=Z,1μm,20.0s
KMBO Kilima Mbogo 57.42 264 P **P 22 50 36.3 +1.8**
comp=Z,61nm,1.2s,mb5.5,baz=55,slow=9.9,SNR=42
KMBO LR LR 23 12 43.5
comp=Z,1μm,19.3s,MS5.0,baz=93,slow=33
KMBO Kilima Mbogo 57.42 264 *e*P **P 22 50 36.3 +1.8**
comp=Z,104nm,1.3s,mb5.7
KMBO LR LR
comp=Z,1μm,20.0s,MS5.0
ELZG Elazig 57.98 311 P **P 22 50 36.8 -1.3**
ASF Jabal al Asfar 58.12 303 P **P 22 50 39.7 +0.6**
comp=Z,9.7nm,0.8s,mb4.9,baz=327,slow=3.0,SNR=21
ASF LR LR 23 18 19.7
comp=Z,915nm,20.7s,MS4.9,baz=321,slow=39
MALT Malatya 58.35 310 *e*P **P 22 50 39.2 -1.5**
MALT pmax pmax
comp=Z,35nm,1.4s,mb5.2
MALT Malatya 58.35 310 *e*P **P 22 50 39.2 -1.5**
comp=Z,35nm,1.4s,mb5.2
CTA Charters Tower 58.40 119 P **P 22 50 40.3 -0.9**
comp=Z,4.1nm,0.8s,mb4.5,baz=306,slow=12,SNR=3.0
CTAO Charters Tower 58.40 119 *e*P **P 22 50 40.2 -1.0**
CTAO pmax pmax
comp=Z,190nm,2.3s,mb5.7
CTAO MLR MLR
comp=Z,910nm,20.0s,MS4.9
CTAO Charters Tower 58.40 119 *e*P **P 22 50 40.2 -1.0**
comp=Z,190nm,2.3s,mb5.7
CTAO LR LR
comp=Z,910nm,20.0s,MS4.9
SOKR Solikamsk 58.65 339 ⇓*i*P **P 22 50 40.9 -1.6**
SOKR pmax pmax

comp=Z,80nm,0.9s,mb5.8
SOKR MLR MLR
comp=Z,3μm,21.0s,MS5.4
GZT Gaziantep 58.76 309 P **P 22 50 42.7 -0.8**
SOC Sochi 59.06 316 *e*P **P 22 50 42.5 -3.0**
SOC *e* 22 51 30.6
SOC *e* 22 52 56.0
SOC *e*PPP PPP 22 54 24.6 +2.3
SOC *e*S **S 22 58 47.9 -2.0**
SOC *e* 23 00 27.3
SOC *e*SS SS 23 02 40.9 -4.9
SOC pmax pmax
comp=Z,29nm,0.9s,mb5.3
SOC pmax pmax
comp=N,14nm,0.6s
SOC pmax pmax
comp=E,25nm,1.0s
SOC MLR MLR
comp=Z,674nm,20.0s,MS4.8
SOC MLR MLR
comp=N,689nm,24.0s,MS4.8
SOC MLR MLR
comp=E,676nm,25.0s,MS4.8
EIL Elat 59.34 300 P **P 22 50 47.1 -0.5**
comp=E,9.4nm,0.6s,mb5.0,baz=87,slow=4.7,SNR=10
EIL Elat 59.34 300 *e*P **P 22 50 45.6 -2.1**
comp=E,72nm,1.4s,mb5.5
KAHT Ahir Dag 59.36 309 P **P 22 50 47.8 +0.1**
YAK Yakutsk 59.86 18 *e*P **P 22 50 49.1 -1.7**
YAK *e**PP pP 22 50 59.4 +3.5
YAK *e* 22 51 36.9
YAK *e* 22 52 59.4
YAK *e*S **S 22 58 56.2 -3.7**
YAK pmax pmax
comp=Z,54nm,0.9s,mb5.6
YAK pmax pmax
comp=N,12nm,0.8s
YAK pmax pmax
comp=E,13nm,0.9s
YAK smax
comp=E,64nm,4.4s
YAK smax
comp=N,22nm,1.8s
YAK MLR MLR
comp=N,581nm,13.0s,MS5.0
YAK MLR MLR
comp=E,352nm,13.0s,MS5.0
YAK MLR MLR
comp=Z,611nm,13.0s,MS4.9
YAK Yakutsk 59.86 18 *e*P **P 22 50 49.3 -1.5**
comp=Z,220nm,1.2s,mb6.1
YAK LR LR
comp=Z,699nm,19.0s,MS4.8
STKA Stephens Creek 60.22 134 *e*P **P 22 50 53.0 -0.7**
comp=Z,5.4nm,0.8s,mb4.6
STKA Stephens Creek 60.22 134 P **P 22 50 52.6 -1.1**
comp=Z,6.1nm,0.7s,mb4.7,baz=319,slow=6.9,SNR=10
STKA LR LR 23 20 07.0
comp=Z,1μm,18.8s,MS5.1,baz=302,slow=39
ANN Anapa 61.02 317 *e*P **P 22 51 02.7 +3.8**
ANN *i* *PP pP 22 51 13.4 +9.4
ANN *e* 22 51 41.9
ANN *e*S **S 22 59 25.5 +11**
ANN pmax pmax
comp=Z,31nm,1.0s,mb5.4
ANN MLR MLR
comp=N,614nm,16.0s,MS4.9
ANN MLR MLR
comp=E,502nm,18.0s,MS4.9
BRTR Keskin Array B 62.32 311 P **P 22 51 05.6 -2.2**
comp=E,12nm,0.7s,mb5.1,baz=128,slow=5.9,SNR=42
VOR Voronezh 62.45 325 P **P 22 51 07.0 -1.5**
VOR pmax pmax
comp=Z,270nm,1.8s,mb6.1
ELDT Eldivan 62.65 312 P **P 22 51 09.6 -0.4**
SIM Simferopol' 63.31 316 *e*P **P 22 51 14.0 -0.2**
SIM *e*S **S 22 59 41.0 -2.9**
SIM pmax pmax
comp=Z,22nm,0.9s,mb5.3
SIM MLR MLR
comp=Z,670nm,22.0s,MS4.8
MBAR Mbarara 63.76 265 *e*P **P 22 51 18.1 +0.4**
MBAR pmax pmax
comp=Z,76nm,1.4s,mb5.5
MBAR Mbarara 63.76 265 *e*P **P 22 51 18.1 +0.4**
comp=Z,76nm,1.4s,mb5.5
MOS Moscow 64.94 329 *i* P **P 22 51 24.0 -0.7**
MOS *e* 22 52 00.5
MOS *e* 22 53 48.4
MOS *e*S **S 23 00 01.3 -2.7**
MOS pmax pmax
comp=Z,246nm,1.3s,mb6.1
MOS pmax pmax
comp=Z,500nm,1.6s,mb6.3
MOS MLR MLR
comp=Z,2μm,19.6s,MS5.3
MOS MLR MLR
comp=E,2μm,20.5s
OBN Obninsk 65.24 328 *c i*P **P 22 51 23.1 -3.6**
OBN *i* 22 51 59.5
OBN *e* 22 53 46.2
OBN *e*S S 23 00 03.9 -3.8
OBN pmax pmax
comp=Z,77nm,0.9s,mb5.7
OBN Obninsk 65.24 328 *e*P **P 22 51 22.6 -4.1**
comp=Z,329nm,1.6s,mb6.1
MA2 Magadan 66.64 28 *e*P **P 22 51 36.7 +1.2**
MA2 *e* 22 54 02.6
MA2 *e*S S 23 00 27.7 +3.0
MA2 pmax pmax
comp=Z,30nm,0.9s,mb5.3
MA2 MLR MLR
comp=Z,1μm,22.0s,MS5.0
MA2 Magadan 66.64 28 *e*P **P 22 51 34.6 -0.9**
comp=Z,36nm,0.8s,mb5.5
TIXI Tiksi 67.09 11 ⇑*e*P **P 22 51 37.2 -1.0**
TIRR Tirgusor 67.14 315 ⇑P **P 22 51 37.1 -1.9**
KIS Kishinev 67.40 318 *e*P **P 22 51 38.0 -2.6**
KIS *e* 22 51 56.0
KIS MLR MLR
comp=E,500nm,16.0s
KIS MLR MLR
comp=Z,500nm,16.0s,MS4.8
KIS MLR MLR
comp=Z,300nm,16.0s
AKASG Malin Array Be 68.03 322 P **P 22 51 42.2 -2.2**
comp=Z,14nm,0.7s,mb5.1,baz=89,slow=4.8,SNR=43
AKASG PP PP 22 54 10.0 -6.6
comp=Z,4.0nm,0.9s,baz=91,slow=6.7,SNR=5.3
IDI Anoyia 68.47 305 P **P 22 51 46.6 -0.9**
comp=Z,29nm,0.6s,mb5.5,baz=85,slow=6.1,SNR=17
VRI Vrincioaia 68.58 316 ⇓P **P 22 51 47.2 -0.8**
SEY Seymchan 68.80 25 *e*P **P 22 51 47.8 -1.2**
SEY 22 52 21.2
SEY *e* 22 54 27.3
SEY *e*S S 23 00 48.0 -2.5
SEY 23 01 39.6
SEY *e*SS SS 23 05 19.4 +2.0
SEY *e*SSS SSS 23 08 12.3 -6.7
SEY pmax pmax
comp=Z,200nm,1.4s,mb5.8
SEY pmax pmax
comp=E,70nm,1.5s
SEY MLR MLR
comp=Z,1μm,16.0s,MS5.3
SEY MLR MLR
comp=N,700nm,15.0s,MS5.2
SEY MLR MLR
comp=E,800nm,17.0s,MS5.2
MLR Muntele Rosu 69.05 316 ⇓P **P 22 51 50.7 -0.2**
MLR Muntele Rosu 69.05 316 P **P 22 51 50.4 -0.5**
comp=E,28nm,0.8s,mb5.2,baz=76,slow=3.0,SNR=39
LSZ Lusaka 69.30 250 *e*P **P 22 51 52.6 -0.3**
LSZ pmax pmax
comp=Z,19nm,0.9s,mb5.0
LSZ MLR MLR
comp=Z,1μm,20.0s,MS5.1
LSZ Lusaka 69.30 250 *e*P **P 22 51 52.6 -0.3**
comp=Z,19nm,0.9s,mb5.0
LSZ LR LR
comp=Z,1μm,20.0s,MS5.1
MNK Minsk 69.82 325 *e*P **P 22 51 50.0 -5.4**
PUL Pulkovo 70.07 331 *e*P **P 22 51 57.2 +0.3**
PUL pmax pmax
comp=Z,134nm,0.8s,mb5.9
PUL pmax pmax

comp=N,29nm,0.6s
PUL pmax pmax
comp=E,91nm,0.6s
PUL MLR MLR
comp=Z,1µm,19.0s,MS5.2
PUL Pulkovo 70.07 331⇓ *eP* **P 22 51 55.8 -1.1**
SRS Serrai 70.11 311 *eP* **P 22 51 58.5 +1.1**
SOH Sokhos 70.25 310 *eP* **P 22 51 57.0 -1.3**
THE Thessaloniki 70.53 310 *eP* **P 22 51 58.6 -1.4**
KNT Kendrikon 70.64 311 *eP* **P 22 52 01.4 +0.8**
JOF Joensuu 70.71 334 *ep* **P 22 51 59.9 -0.8**
comp=Z,32nm,0.8s,mb5.3
LIT Litokhoron 70.83 310 *eP* **P 22 51 59.0 -2.8**
AGG Agios Georgios 70.85 308 *eP* **P 22 51 59.0 -3.0**
GRG Griva 70.99 310 *eP* **P 22 52 00.8 -2.0**
ZAPS Zavoj/Pirot 71.09 313⇑ *iP* **P 22 52 01.7 -1.6**
LVV L'vov 71.09 320 *eP* **P 22 52 02.8 -0.4**
LVV *e* 22 54 41.2
LVV *e* 22 56 22.6
FNA Florina 71.74 310 *eP* **P 22 52 05.5 -1.9**
SKO Skopje 71.81 311 *eP* **P 22 52 06.0 -1.7**
KWP Kalwaria 71.91 320 *eP* **P 22 52 07.7 -0.4**
JAN Janina 72.05 309 *i P* **P 22 52 06.5 -2.7**
JAN pmax pmax
comp=Z,31nm,0.7s,mb5.3
JAN MLR MLR
comp=Z,2µm,19.0s,MS5.5
KOLS Kolonicke sedl 72.08 319 *eP* **P 22 52 08.7 -0.5**
KOLS *e* pP 22 52 13.5 -0.8
SUW Suwalki 72.38 324 *eP* **P 22 52 09.5 -1.3**
IGT Igoumenitsa 72.44 309 *eP* **P 22 52 06.0 -5.5**
FINES FINESS Array B 72.57 332 P **P 22 52 10.4 -1.4**
comp=Z,29nm,0.8s,mb5.3,baz=104,slow=7.9,SNR=43
FINES LR LR 23 30 09.5
comp=Z,883nm,18.7s,MS5.1,baz=350,slow=41
CRVS Cervenica-Dubn 72.61 319 *eP* **P 22 52 11.7 -0.6**
CRVS *e* pP 22 52 16.3 -1.1
KAF Kangasniemi 72.65 333 *ep* **P 22 52 11.7 -0.6**
comp=Z,40nm,0.9s,mb5.3,baz=103,slow=5.8
KAF Kangasniemi 72.65 333 *eP* **P 22 52 11.7 -0.6**
KAF pmax pmax
comp=Z,40nm,0.9s,mb5.3
NIE Niedzica 73.42 319 *eP* **P 22 52 17.9 +0.9**
PSZ Piszkesteto 73.52 318 P **P 22 52 17.9 +0.2**
PSZ pmax pmax
comp=Z,62nm,1.4s,mb5.3
PSZ Piszkesteto 73.52 318⇑ *iP* **P 22 52 17.5 -0.2**
PSZ Piszkesteto 73.52 318⇑ *iP* **P 22 52 17.2 -0.5**
OJC Ojcow 73.85 320 *eP* **P 22 52 19.1 -0.4**
PKSM Moragy 74.21 316⇑ *eP* **P 22 52 21.0 -0.7**
VYHS Vyhne 74.28 318 *eP* **P 22 52 21.5 -0.6**
VYHS *e* pP 22 52 25.4 -1.8
LBTB Lobatse 74.30 241 *eP* **P 22 52 23.2 +0.6**
LBTB pmax pmax
comp=Z,28nm,0.9s,mb5.2
LBTB Lobatse 74.30 241 *eP* **P 22 52 23.2 +0.5**
comp=Z,28nm,0.9s,mb5.2
KEV Kevo 74.69 341 *ep* **P 22 52 23.5 -0.5**
comp=Z,33nm,0.9s,mb5.3
KEV Kevo 74.69 341 *eP* **P 22 52 23.5 -0.5**
KEV pmax pmax
comp=Z,33nm,0.9s,mb5.3
OKC Ostrava-Krasne 74.87 319 *eP* **P 22 52 26.3 +0.9**
OKC MLR MLR
comp=Z,400nm,13.6s,MS4.9
OKC Ostrava-Krasne 74.87 319 *eP* **P 22 52 26.3 +0.9**
OKC *ep*P pP 22 52 30.2 -0.4
OKC AMS AMS 23 32 20.0
comp=Z,400nm,13.6s
ARCES ARCESS Array B 75.12 340 P **P 22 52 25.5 -1.0**
comp=Z,14nm,0.7s,mb5.0,baz=83,slow=3.4,SNR=27
ARCES LR LR 23 28 23.8
comp=Z,2µm,20.5s,MS5.5,baz=158,slow=38
SMOL Smolenice 75.22 318 *eP* **P 22 52 29.0 +1.5**
MORC Moravsky Berou 75.25 319 P **P 22 52 27.2 -0.4**
MORC pmax pmax
comp=Z,83nm,1.4s,mb5.5
MORC Moravsky Berou 75.25 319 *eP* **P 22 52 26.9 -0.7**
comp=Z,82nm,1.3s,mb5.5
ZST Bratislava 75.41 318 *eP* **P 22 52 28.9 +0.3**
ZST *e* pP 22 52 32.7 -1.0
BOSA Boshof 75.65 238 *eP* **P 22 52 30.8 +0.5**
BOSA pmax pmax
comp=Z,37nm,0.8s,mb5.4
BOSA Boshof 75.65 238 *eP* **P 22 52 30.8 +0.4**
comp=Z,37nm,0.8s,mb5.4
KTK1 Kautokeino 75.75 339 *eP* **P 22 52 30.4 +0.3**
comp=Z,84nm,2.3s,mb5.3
KTK1 Kautokeino 75.75 339 *eP* **P 22 52 30.4 +0.3**
KTK1 AMb AMB 22 52 38.8
comp=Z,84nm,2.3s,mb5.3
GKP Gorka Klasztor 75.77 323 *eP* **P 22 52 30.1 -0.4**
VRAC Vranov 75.83 319 P **P 22 52 31.2 +0.3**
comp=Z,6.5nm,0.7s,mb4.7,baz=96,slow=7.8,SNR=14
BILL Bilibino 75.95 22⇑ *eP* **P 22 52 31.2 -0.1**
BILL pmax pmax
comp=Z,15nm,0.8s,mb5.0
BILL Bilibino 75.95 22 *eP* **P 22 52 30.5 -0.7**
comp=Z,91nm,1.5s,mb5.5
DPC Dobruska-Polom 76.08 320 *eP* **P 22 52 32.2 -0.1**
DPC *ep*P pP 22 52 37.6 +0.1
DPC AMS AMS 23 31 40.0
comp=Z,600nm,15.5s
KSP Ksiaz 76.14 320 *eP* **P 22 52 32.9 +0.3**
KSP MLR MLR
comp=Z,1µm,19.3s,MS5.2
KSP Ksiaz 76.14 320 *eP* **P 22 52 32.9 +0.3**
KSP *ep*P pP 22 52 36.8 -1.0
KSP LR LR
comp=Z,1µm,19.3s,MS5.2
KSP Ksiaz 76.14 320 *eP* **P 22 52 33.3 +0.7**
UPC Upice 76.29 320 *eP* **P 22 52 34.5 +1.0**
ARSA Arzberg 76.42 317⇑ *iP* **P 22 52 33.9 -0.4**
comp=Z,51nm,1.4s,mb5.3
PERS Pernice 76.67 316 *eP* **P 22 52 35.8 +0.1**
VAE Valguarnera 77.01 307 P **P 22 52 40.3 +2.5**
comp=Z,12nm,0.9s,mb4.8,baz=268,slow=20,SNR=3.4
FX1 Attu Island--F 77.03 38 LR LR 23 26 42.2
comp=Z,11nm,21.5s,baz=15,slow=36
LJU Ljubljana 77.05 315 *i P* **P 22 52 37.9 +0.1**
PRU Pruhonice 77.20 319 *eP* **P 22 52 38.9 +0.3**
PRU *ep*P pP 22 52 43.7 -0.1
PRU AMS AMS 23 31 50.0
comp=Z,300nm,17.1s
PVCC Panska Ves 77.21 320 *eP* **P 22 52 38.9 +0.3**
PVCC AMS AMS 23 32 40.0
comp=Z,700nm,20.8s
BSD Bornholm Skovb 77.29 325 *i P* **P 22 52 39.2 +0.2**
BSD pmax pmax
comp=Z,56nm,0.7s,mb5.6
BSD Bornholm Skovb 77.29 325 *i P* **P 22 52 39.2 +0.2**
comp=Z,56nm,0.7s,mb5.6
MOA Molln 77.29 317⇑ *iP* **P 22 52 38.6 -0.5**
comp=Z,37nm,1.5s,mb5.1
TRO Tromso 77.38 340 *eP* **P 22 52 38.0 -1.2**
CADS Cadrg 77.61 316 *eP* **P 22 52 40.5 -0.4**
GERES GERESS Array B 77.70 318 P **P 22 52 40.6 -0.8**
comp=Z,20nm,0.7s,mb5.2,baz=88,slow=5.0,SNR=75
KHC Kasperske Hory 77.80 318 *eP* **P 22 52 41.3 -0.6**
KHC *e* pP 22 52 45.0 -2.1
KHC MLR MLR
comp=Z,500nm,19.4s,MS4.8
KHC Kasperske Hory 77.80 318⇓ *eP* **P 22 52 42.9 +1.0**
KHC Kasperske Hory 77.80 318 *eP* **P 22 52 41.3 -0.6**
KHC x x 22 52 45.0
KHC AMS AMS 23 31 20.0
comp=Z,500nm,19.4s
RUE Ruedersdorf 77.80 322 *eP* **P 22 52 41.0 -0.8**
comp=Z,104nm,0.9s,mb5.8
KBA Koelnbreinsper 77.90 316⇑ *iP* **P 22 52 40.7 -1.8**
comp=Z,25nm,1.2s,mb5.0
KBA Koelnbreinsper 77.90 316⇑ *iP* **P 22 52 40.7 -1.8**
KBA pmax pmax
comp=Z,25nm,1.2s,mb5.0
CLL Collm 78.23 321⇑ *iP* **P 22 52 43.8 -0.4**
CLL *i* pP 22 52 48.0 -1.4
CLL pmax pmax
comp=Z,34nm,1.4s,mb5.1
CLL Collm 78.23 321⇑ *iP* **P 22 52 43.8 -0.4**
comp=Z,34nm,1.4s,mb5.1
CLL *i* pP 22 52 48.0 -1.4
CLL Collm 78.23 321 ⇑P **P 22 52 43.8 -0.4**
comp=Z,logA/T=1.4,mb5.1
CLL *i* *PP pP 22 52 48.0 -1.4

HFS Hagfors 78.32 330 P **P 22 52 43.9 -0.6**
comp=Z,18nm,0.6s,mb5.2,baz=108,slow=4.7,SNR=36
MOR8 Moi Rana 78.53 336 *eP* **P 22 52 45.3 -0.3**
comp=Z,83nm,1.6s,mb5.4
MOR8 Moi Rana 78.53 336 *eP* **P 22 52 45.3 -0.3**
MOR8 AMb AMB 22 52 51.3
comp=Z,83nm,1.6s,mb5.4
NKC Novy Kostel 78.56 320 *eP* **P 22 52 46.3 +0.3**
NKC *ep*P pP 22 52 50.9 -0.3
NKC AMS AMS 23 33 00.0
comp=Z,600nm,15.8s
MAW Mawson 78.68 192 *eP* **P 22 52 47.0 +0.7**
MAW pmax pmax
comp=Z,53nm,1.3s
MAW Mawson 78.68 192 P **P 22 52 48.0 +1.6**
comp=Z,28nm,1.1s,mb5.1,baz=36,slow=5.1,SNR=4.1
MAW Mawson 78.68 192 *eP* **P 22 52 47.0 +0.7**
comp=Z,53nm,1.3s,mb5.3
COP Copenhagen 78.73 325 *i P* **P 22 52 48.7 +1.8**
COP pmax pmax
comp=Z,36nm,0.6s,mb5.5
COP Copenhagen 78.73 325 *i P* **P 22 52 48.7 +1.8**
comp=Z,36nm,0.6s,mb5.5
WTTA Wattenberg 79.06 317⇑ *iP* **P 22 52 47.9 -1.0**
comp=Z,37nm,0.7s,mb5.4
WTTA Wattenberg 79.06 317⇑ *iP* **P 22 52 47.9 -1.0**
WTTA pmax pmax
comp=Z,37nm,0.7s,mb5.4
MOX Moxa 79.10 320 *eP* **P 22 52 48.9 -0.1**
MOX pmax pmax
comp=Z,94nm,1.8s,mb5.4
MOX Moxa 79.10 320 *eP* **P 22 52 48.9 -0.1**
comp=Z,94nm,1.8s,mb5.4
MOX Moxa 79.10 320 *i P* **P 22 52 48.9 -0.1**
comp=Z,logA/T=1.7,mb5.4
WATA Walderalm 79.10 317⇑ *iP* **P 22 52 48.3 -0.8**
comp=Z,80nm,1.6s,mb5.4
WATA Walderalm 79.10 317⇑ *iP* **P 22 52 48.3 -0.8**
WATA pmax pmax
comp=Z,80nm,1.6s,mb5.4
GRA1 Grafenberg Arr 79.34 319 *eP* **P 22 52 50.2 -0.1**
comp=Z,82nm,1.3s,mb5.5
GRF Grafenberg Arr 79.34 319 *eP* **P 22 52 50.2 -0.1**
GRF pmax pmax
comp=Z,82nm,1.3s,mb5.5
GRF Grafenberg Arr 79.34 319 *eP* **P 22 52 50.2 -0.1**
GRF pmax pmax
comp=Z,82nm,1.3s,mb5.5
GRF Grafenberg Arr 79.34 319 *eP* **P 22 52 50.2 -0.1**
comp=Z,82nm,1.3s,mb5.5
SQTA Sankt Quirin 79.36 317⇓ *iP* **P 22 52 48.8 -1.6**
comp=Z,57nm,1.4s,mb5.3
SQTA Sankt Quirin 79.36 317⇓ *iP* **P 22 52 48.8 -1.6**
SQTA pmax pmax
comp=Z,57nm,1.4s,mb5.3
MOTA Moosalm 79.43 317⇑ *iP* **P 22 52 50.1 -0.7**
comp=Z,25nm,1.2s,mb5.0
MOTA Moosalm 79.43 317⇑ *iP* **P 22 52 50.1 -0.7**
MOTA pmax pmax
comp=Z,25nm,1.2s,mb5.0
NSS Namsos 79.43 334 *eP* **P 22 52 49.7 -0.8**
comp=Z,117nm,1.4s,mb5.6
NSS Namsos 79.43 334 *eP* **P 22 52 49.7 -0.8**
NSS AMb AMB 22 52 55.4
comp=Z,117nm,1.4s,mb5.6
NB2 NORSAR Subarra 79.59 331 P **P 22 52 50.2 -1.2**
comp=Z,13nm,0.7s,mb5.0,baz=94,slow=5.0
NB2 NORSAR Subarra 79.59 331 P **P 22 52 50.2 -1.2**
baz=94,slow=5.3
NOA NORSAR Array B 79.59 331 P **P 22 52 50.8 -0.6**
comp=Z,22nm,0.8s,mb5.1,baz=93,slow=5.5,SNR=45
NOA LR LR 23 31 46.5
comp=Z,726nm,21.2s,MS5.0,baz=115,slow=38
NAO01 NORSAR Array S 79.75 330 *eP* **P 22 52 51.5 -0.7**
comp=Z,38nm,1.0s,mb5.3
VALM 80.07 314 P **P 22 52 53.6 -0.7**
VINC Vinca 80.15 313 P **P 22 52 55.0 +0.2**
GRAM 80.20 314 P **P 22 52 55.0 -0.1**
DAVA Damuels 80.26 317⇑ *iP* **P 22 52 55.3 0.0**
comp=Z,77nm,1.8s,mb5.3
DAVOX Davos 80.27 316 P **P 22 52 54.8 -0.5**
comp=Z,26nm,0.7s,mb5.3,baz=118,slow=6.8,SNR=22
CODM 80.36 314 P **P 22 52 55.6 -0.2**
SUR Sutherland 80.40 235 *eP* **P 22 52 58.4 +2.0**
comp=Z,88nm,1.2s,mb5.6
SUR LR LR
comp=Z,122nm,20.0s,MS4.2
TOD Tromm 80.92 319 *eP* **P 22 52 58.8 +0.1**
PGF Pioggiola 81.05 312 *eP* **P 22 52 59.5 -0.1**
comp=Z,42nm,1.1s,mb5.0
PGF Pioggiola 81.05 312 *eP* **P 22 52 59.5 -0.1**
PGF pmax pmax
comp=Z,21nm,1.1s,mb5.0
PCP Pian Castagno 81.28 314 P **P 22 53 00.1 -0.7**
FELD Feldberg 81.51 317 *eP* **P 22 53 02.0 +0.1**
FIN Finale Ligure 81.54 314 P **P 22 53 02.0 -0.1**
LANF Langenberg 81.59 318 *eP* **P 22 53 02.5 +0.2**
ORX Oropa 81.63 315 P **P 22 53 01.5 -1.0**
ABH Alteburg 81.72 319 *eP* **P 22 53 03.5 +0.6**
ROB Roburent 81.78 314 P **P 22 53 03.1 -0.2**
TRAV 81.80 315 P **P 22 53 02.2 -1.2**
BBS Basel-Blauen 81.86 317 *eP* **P 22 53 03.5 -0.2**
MONE Monesi 81.88 313 P **P 22 53 04.0 +0.2**
WLS Welschbruch 81.92 318 *eP* **P 22 53 03.7 -0.3**
NEGI Negi 81.92 313 P **P 22 53 04.4 +0.3**
CDF Champ du Feu 81.97 318 *eP* **P 22 53 04.1 -0.1**
comp=Z,37nm,1.1s,mb4.9
CDF Champ du Feu 81.97 318 *eP* **P 22 53 04.1 -0.1**
CDF pmax pmax
comp=Z,18nm,1.1s,mb4.9
RUP Ruppelstein 82.04 319 *eP* **P 22 53 05.3 +0.7**
ENR Entracque 82.11 314 P **P 22 53 05.4 +0.4**
SBF Sospel 82.12 313 *eP* **P 22 53 05.2 +0.1**
comp=Z,47nm,0.8s,mb5.1
SBF Sospel 82.12 313 *eP* **P 22 53 05.2 +0.1**
SBF pmax pmax
comp=Z,23nm,0.8s,mb5.2
RSP Reno Superiore 82.17 315 P **P 22 53 04.9 -0.4**
STV Sta Anna Valdi 82.17 314 P **P 22 53 05.4 0.0**
LSD Ceresole Reale 82.22 315 P **P 22 53 06.3 +0.7**
HINF Hinteralfeld 82.29 317 *eP* **P 22 53 06.7 +0.8**
FENE Fenestrelle 82.31 314 P **P 22 53 05.8 -0.3**
PZZ Prazzo 82.32 314 P **P 22 53 06.2 +0.1**
LPG La Plagne 82.50 315 *eP* **P 22 53 07.6 +0.5**
comp=Z,96nm,1.1s,mb5.5
LPG La Plagne 82.50 315 *eP* **P 22 53 07.6 +0.5**
LPG pmax pmax
comp=Z,48nm,1.1s,mb5.4
LPL La Plagne 82.51 315 *eP* **P 22 53 07.6 +0.5**
comp=Z,60nm,0.7s,mb5.4
LPL La Plagne 82.51 315 *eP* **P 22 53 07.6 +0.5**
LPL pmax pmax
comp=Z,30nm,0.7s,mb5.4
RRL Cesana Torines 82.52 314 P **P 22 53 07.7 +0.6**
MBDF Montbardon 82.54 314 *eP* **P 22 53 06.9 -0.4**
BNI Bardonecchia 82.58 314 P **P 22 53 08.7 +1.2**
BNI pmax pmax
comp=Z,32nm,0.9s,mb5.3
BNI Bardonecchia 82.58 314 *eP* **P 22 53 07.7 +0.2**
comp=Z,42nm,0.9s,mb5.5
HAU Haudompre 82.61 317 *eP* **P 22 53 07.4 -0.2**
comp=Z,86nm,1.1s,mb5.4
HAU *e*R
comp=Z,477nm,21.8s
HAU Haudompre 82.61 317 *eP* **P 22 53 07.4 -0.2**
HAU pmax pmax
comp=Z,43nm,1.1s,mb5.4
HAU MLR MLR
comp=Z,480nm,21.8s,MS4.8
WLF Walferdange 82.64 319 *eP* **P 22 53 06.3 -1.4**
WLF pmax pmax
comp=Z,113nm,1.7s,mb5.6
WLF Walferdange 82.64 319 *eP* **P 22 53 06.3 -1.4**
comp=Z,113nm,1.7s,mb5.6
FRF La Foret Royal 82.71 313 *eP* **P 22 53 08.4 +0.2**
LMR La Mourre 82.83 313 *eP* **P 22 53 09.1 +0.3**
comp=Z,72nm,1.3s,mb5.2
LMR La Mourre 82.83 313 *eP* **P 22 53 09.1 +0.3**
LMR pmax pmax
comp=Z,36nm,1.3s,mb5.2
THEF They Montfort 82.84 318 *eP* **P 22 53 08.7 -0.1**
CABF La Chapelle 82.89 316 *eP* **P 22 53 09.6 +0.6**
ORIF Oris-en-Rattie 83.16 314 *eP* **P 22 53 11.6 +1.1**
ORIF *e*R
comp=Z,507nm,22.2s

MEZF Maizieres J'vi 83.44 318 *eP* **P 22 53 11.9 +0.1**
SMRF Simiane la Rot 83.45 313 *eP* **P 22 53 12.6 +0.6**
GIVF Givet 83.46 320 *eP* **P 22 53 12.1 +0.2**
BAIF Baives 83.86 320 *eP* **P 22 53 14.4 +0.5**
comp=Z,131nm,1.6s,mb5.5
BAIF Baives 83.86 320 *eP* **P 22 53 14.4 +0.5**
BAIF pmax pmax
comp=Z,66nm,1.6s,mb5.5
VIVF Saint-Julien-I 84.02 314 *eP* **P 22 53 15.1 +0.2**
comp=Z,145nm,1.6s,mb5.6
VIVF Saint-Julien-I 84.02 314 *eP* **P 22 53 15.1 +0.2**
VIVF pmax pmax
comp=Z,72nm,1.6s,mb5.5
SMF Signal de Mont 84.42 316 *eP* **P 22 53 16.7 -0.2**
comp=Z,84nm,1.3s,mb5.4
SMF Signal de Mont 84.42 316 *eP* **P 22 53 16.7 -0.2**
SMF pmax pmax
comp=Z,42nm,1.3s,mb5.4
SSF Saint Saulge 84.61 317 *eP* **P 22 53 18.0 +0.2**
SSF pmax pmax
comp=Z,63nm,1.6s,mb5.5
SSF Saint Saulge 84.61 317 *eP* **P 22 53 18.0 +0.2**
comp=Z,63nm,1.6s,mb5.5
PLDF La Plantade 84.64 316 *eP* **P 22 53 19.2 +1.2**
LASF Ste Croix 84.67 314 *eP* **P 22 53 18.6 +0.4**
comp=Z,135nm,1.5s,mb5.6
AVF Avril sur Loir 84.75 316 *eP* **P 22 53 18.4 -0.1**
comp=Z,123nm,1.5s,mb5.5
AVF Avril sur Loir 84.75 316 *eP* **P 22 53 18.4 -0.1**
AVF pmax pmax
comp=Z,61nm,1.5s,mb5.5
AGO Saint Agoulin 84.98 316 *eP* **P 22 53 20.6 +1.0**
PYM Petit Puy Mans 85.09 315 *eP* **P 22 53 21.3 +1.1**
BGF Bois d'Agland 85.12 316 *eP* **P 22 53 20.7 +0.4**
comp=Z,158nm,1.7s,mb5.6
BGF Bois d'Agland 85.12 316 *eP* **P 22 53 20.7 +0.4**
BGF pmax pmax
comp=Z,79nm,1.7s,mb5.6
HYF Humbligny 85.18 317 *eP* **P 22 53 21.2 +0.6**
SYO Syowa Base 85.54 197 ⇓P **P 22 53 23.1 +1.2**
SYO Syowa Base 85.54 197 ⇑PcP PcP 22 53 26.6 +1.1
TCF Toulx Ste Croi 85.58 316 *eP* **P 22 53 23.2 +0.5**
comp=Z,103nm,1.7s,mb5.5
TCF Toulx Ste Croi 85.58 316 *eP* **P 22 53 23.2 +0.5**
TCF pmax pmax
comp=Z,52nm,1.7s,mb5.5
CAF Calviac 85.85 315 *eP* **P 22 53 24.8 +0.7**
MTLF Montolieu 85.94 313 *eP* **P 22 53 25.0 +0.5**
comp=Z,71nm,1.4s,mb5.4
MTLF Montolieu 85.94 313 *eP* **P 22 53 25.0 +0.5**
MTLF pmax pmax
comp=Z,35nm,1.4s,mb5.4
TNA Tin City 86.04 24 *eP* **P 22 53 24.6 +0.1**
RPZ Rata Peaks 86.17 135 P **P 22 53 26.3 +0.7**
comp=Z,12nm,1.2s,mb5.0,baz=319,slow=7.5,SNR=2.6
RJF Les Rejaudoux 86.19 315 *eP* **P 22 53 26.4 +0.7**
RJF *e*R
comp=Z,318nm,18.2s
JMIC Jan Mayen 86.56 341 LR LR 23 33 55.8
comp=Z,910nm,19.9s,MS5.2,baz=78,slow=37
LCP Cassop 86.73 325 *eP* **P 22 53 29.8 +1.6**
LCP AMb AMB 22 53 35.1
comp=Z,168nm,1.3s,mb6.1
LDF La Druitiere 86.85 318 *eP* **P 22 53 28.9 +0.1**
comp=Z,48nm,1.2s,mb5.3
LDF La Druitiere 86.85 318 *eP* **P 22 53 28.9 +0.1**
LDF pmax pmax
comp=Z,24nm,1.2s,mb5.3
HPK Haverah Park 86.95 324 *eP* **P 22 53 29.6 +0.4**
HPK AMb AMB 22 53 31.8
comp=Z,275nm,1.1s,mb6.4
KBI1 Birley Grange 87.00 323 *eP* **P 22 53 30.3 +0.8**
FLN La Foliniere 87.06 319 *eP* **P 22 53 29.8 -0.1**
FLN *e*R
comp=Z,365nm,20.5s
LHO Holmfirth 87.15 324 *i P* **P 22 53 31.7 +1.5**
LHO Holmfirth 87.15 324 *eP* **P 22 53 31.4 +1.2**
LHO AMb AMB 22 53 37.0
comp=Z,144nm,1.5s,mb6.0
MFF Saint Martin d 87.16 316 *eP* **P 22 53 30.5 +0.1**
comp=Z,153nm,1.6s,mb5.7
MFF Saint Martin d 87.16 316 *eP* **P 22 53 30.5 +0.1**
MFF pmax pmax
comp=Z,76nm,1.6s,mb5.7
KWE Weaver Farm 87.23 323 *eP* **P 22 53 31.0 +0.4**
ANM Nome 87.30 25 *eP* **P 22 53 32.4 +1.7**
DAG Danmarks Havn 87.33 348⇑ *eP* **P 22 53 29.1 -1.5**
DAG pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
DAG Danmarks Havn 87.33 348⇑ *eP* **P 22 53 29.1 -1.5**
comp=Z,5.0nm,0.9s,mb4.7
DAG Danmarks Havn 87.33 348⇑ *iP* **P 22 53 29.1 -1.5**
comp=Z,5.0nm,0.9s,mb4.7
EPF Esparros 87.34 313 *eP* **P 22 53 33.0 +1.6**
comp=Z,23nm,1.1s,mb5.0
EPF Esparros 87.34 313 *eP* **P 22 53 33.0 +1.6**
EPF pmax pmax
comp=Z,12nm,1.1s,mb5.0
GRR Gorron 87.36 318 *eP* **P 22 53 31.8 +0.5**
EKA Eskdalemuir Ar 87.59 325 P **P 22 53 32.8 +0.5**
comp=Z,17nm,0.8s,mb5.3,baz=99,slow=5.0,SNR=22
ESK Eskdalemuir 87.62 325 P **P 22 53 40.0 +7.6**
ESK MLR MLR
comp=Z,163nm,19.0s,MS4.5
ESK Eskdalemuir 87.62 325 PFAKE 22 53 40.0 +7.6
ESK LR LR
comp=Z,163nm,19.0s,MS4.5
EAU Auchinoon 87.66 326 *eP* **P 22 53 34.7 +2.1**
EAU AMb AMB 22 53 39.8
comp=Z,68nm,1.6s,mb5.6
ETSF Etsaut 88.02 313 *eP* **P 22 53 35.4 +0.8**
SJPF Ste Jean 88.46 313 *eP* **P 22 53 37.4 +0.7**
comp=Z,46nm,1.2s,mb5.3
SJPF Ste Jean 88.46 313 *eP* **P 22 53 37.4 +0.7**
SJPF pmax pmax
comp=Z,23nm,1.2s,mb5.3
ROSF Rostrenen 88.96 319 *eP* **P 22 53 39.4 +0.4**
comp=Z,116nm,1.4s,mb5.7
ROSF Rostrenen 88.96 319 *eP* **P 22 53 39.4 +0.4**
ROSF pmax pmax
comp=Z,58nm,1.4s,mb5.7
ESDC Sonseca Array 91.11 310 P **P 22 53 49.4 +0.2**
comp=Z,5.3nm,0.7s,mb5.0,baz=59,slow=4.5,SNR=18
ESLA Sonseca Array 91.11 310 *eP* **P 22 53 47.3 -1.9**
comp=Z,2.6nm,0.9s,mb4.6
IMA Indian Mountai 91.49 22 *eP* **P 22 53 51.8 +1.5**
SVW2 Sparrevohn 92.62 27 *eP* **P 22 53 58.4 +2.8**
VNDA Vanda 93.08 168 P **P 22 53 58.6 +1.2**
comp=Z,1.9nm,0.8s,mb4.5,baz=267,slow=5.2,SNR=3.2
RSO Redoubt South 94.14 27 *eP* **P 22 54 04.2 +1.6**
SPU Mount Spurr 94.16 26 *eP* **P 22 54 04.1 +1.4**
COLA College 94.20 22 PFAKE 22 54 10.0 +7.2
COLA LR LR
comp=Z,382nm,21.0s,MS4.8
MCK McKinley 94.33 23 P **P 22 54 05.3 +1.9**
MCK pmax pmax
comp=Z,16nm,1.3s,mb5.3
MCK MLR MLR
comp=Z,140nm,19.0s,MS4.5
MCK McKinley 94.33 23 *eP* **P 22 54 04.8 +1.4**
comp=Z,32nm,1.6s,mb5.5
MCK LR LR
comp=Z,143nm,19.0s,MS4.5
ILAR Eielson Array 94.61 22 P **P 22 54 04.2 -0.6**
comp=Z,2.8nm,0.8s,mb4.7,baz=299,slow=5.2,SNR=23
PWA Palmer West 94.90 26 *eP* **P 22 54 06.9 +0.8**
FIB Fire Island 94.99 26 *eP* **P 22 54 07.5 +1.0**
PMR Palmer 95.24 25 *eP* **P 22 54 08.5 +0.8**
SLKM Skilak Lake 95.26 27 P **P 22 54 09.2 +1.4**
SLKM Skilak Lake 95.26 27 *eP* **P 22 54 06.2 -1.6**
SML Sawmill 95.48 25 *eP* **P 22 54 10.6 +1.9**
INK Inuvik 96.85 16 *eP* **P 22 54 15.7 +0.8**
INK pmax pmax
comp=Z,44nm,1.4s
INK Inuvik 96.85 16 P **P 22 54 15.8 +0.9**
comp=Z,14nm,1.1s,mb5.3,baz=300,slow=6.9,SNR=22
INK Inuvik 96.85 16 *eP* **P 22 54 15.7 +0.8**
comp=Z,44nm,1.4s,mb5.7
DAWY Dawson 97.72 21 *eP* **P 22 54 19.4 +0.5**
DBIC Dimbokro 97.91 278 P **P 22 54 24.4 +3.5**
comp=Z,7.6nm,1.2s,mb5.1,baz=58,slow=8.9,SNR=3.8
DBIC LR LR 23 37 58.0
comp=Z,722nm,19.3s,MS5.2,baz=70,slow=35
YKA Yellowknife Ar 106.28 13 P Pdif 22 54 58.6 +1.4
YKA 22 59 19.3

YKA	**Yellowknife Ar**	**106.28**	**13**	Pdiff	Pdif	22 54 58.6	+1.4
	comp=Z,0.5nm,0.8s,baz=332,slow=4.6,SNR=7.7						
YKA				PKiKP		22 59 08.4	
	comp=Z,0.7nm,1.1s,baz=328,slow=2.0,SNR=4.0						
YKA				PP	PP	22 59 19.2	-5.1
	comp=Z,1.1nm,0.9s,baz=333,slow=7.7,SNR=7.6						
YKA				PKKPbc		23 10 29.1	
	comp=Z,0.4nm,0.8s,baz=156,slow=2.9,SNR=7.8						
YKA	**Yellowknife Ar**	**106.28**	**13**	Pdif	Pdif	22 54 58.6	+1.4
YKA				PKPdf		22 59 08.4	
YKA				PP	PP	22 59 19.2	-5.1
YKA				PKKPbc		23 10 29.1	
SCHQ	**Schefferville**	**115.37**	**348**	PKP	PKPdf	22 59 27.2	-1.2
	comp=Z,2.0nm,0.7s,baz=59,slow=5.9,SNR=4.6						
YBH	**Yreka Blue Hor**	**120.09**	**31**	PKP	PKPdf	22 59 37.2	-0.7
	comp=Z,3.4nm,0.9s,baz=343,slow=1.5,SNR=2.9						
CHMT	**Chamberlain Mo**	**120.13**	**21**	*e*PKPdf	PKPdf	22 59 33.7	-4.1
MCMT	**McKenzie Canyo**	**122.05**	**22**	*e*PKPdf	PKPdf	22 59 39.3	-2.4
GCMT	**Greycliff**	**122.34**	**20**	*e*PKPdf	PKPdf	22 59 38.2	-3.9
HLID	**Hailey**	**122.50**	**24**	PFAKE		22 59 50.0	+7.5
HLID				LR	LR		
	comp=Z,372nm,19.0s,MS5.1						
QLMT	**Earthquake Lak**	**122.57**	**21**	*e*PKPdf	PKPdf	22 59 39.8	-2.8
YFT	**Old Faithful**	**123.11**	**21**	*e*PKPdf	PKPdf	22 59 42.4	-1.3
LKWY	**Lake**	**123.17**	**21**	*e*PKIKP	PKPdf	22 59 44.3	+0.5
NVAR	**Mina Array Bea**	**124.80**	**31**	PKP	PKPdf	22 59 46.1	-1.1
	comp=Z,4.1nm,0.7s,baz=288,slow=1.8,SNR=21						
PDAR	**Pinedale Array**	**125.03**	**21**	PKP	PKPdf	22 59 44.8	-2.8
	comp=Z,5.5nm,0.8s,baz=125,slow=0.2,SNR=37						
TRCR	**Troy Canyon**	**126.20**	**29**	*e*PKPdf	PKPdf	22 59 48.0	-1.8
DAU	**Daniels Canyon**	**126.42**	**24**	*e*PKIKP	PKPdf	22 59 47.1	-3.1
MSU	**Marysvale**	**127.63**	**26**	*e*PKIKP	PKPdf	22 59 51.0	-1.6
NEN	**Nelson**	**128.70**	**30**	*e*PKPdf	PKPdf	22 59 53.2	-1.6
PV10	**Paradox Valley**	**129.04**	**23**	*e*PKPdf	PKPdf	22 59 55.3	-0.1
ACSO	**Alum Creek Sta**	**131.91**	**357**	PFAKE		23 00 10.0	+9.2
ACSO				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
ANMO	**Albuquerque**	**133.04**	**23**	PKP	PKPdf	23 00 02.2	-0.9
	comp=Z,3.7nm,0.7s,baz=28,slow=1.4,SNR=10						
GDL2	**Guadalupe Moun**	**136.28**	**23**	*e*PKPdf	PKPdf	23 00 08.1	-0.9
OXF	**Oxford**	**137.56**	**4**	PFAKE		23 00 20.0	+8.6
OXF				LR	LR		
	comp=Z,671nm,20.0s,MS5.4						
TXAR	**Lajitas Array**	**139.10**	**24**	PKP	PKPdf	23 00 13.1	-1.2
	comp=Z,2.5nm,0.7s,baz=138,slow=1.4,SNR=7.3						
TXAR				PP	PP	23 03 05.6	-1.9
	comp=Z,3.7nm,1.1s,baz=11,slow=4.6,SNR=9.9						
TXAR				SKPbc		23 03 46.4	
	comp=Z,0.2nm,0.5s,baz=205,slow=33,SNR=2.9						
TXAR	**Lajitas Array**	**139.10**	**24**	PKP	PKPdf	23 00 13.1	-1.2
TXAR				PP	PP	23 03 05.6	-1.9
TXAR				SKPbc		23 03 46.4	
JCT	**Junction City**	**139.45**	**19**	PKIKP	PKPdf	23 00 12.5	-2.4
JCT	**Junction City**	**139.45**	**19**	*e*PKPpre		23 00 05.2	
BAO	**Brasilia Array**	**142.21**	**255**	P	PKPdf	23 00 15.1	-5.1
TRQA	**Tornquist**	**143.12**	**212**	PFAKE		23 00 30.0	+15
TRQA				LR	LR		
	comp=Z,361nm,19.0s,MS5.2						
PLCA	**Paso Flores**	**144.68**	**200**	*e*PKIKP	PKPdf	23 00 19.7	-4.1
PLCA	**Paso Flores**	**144.68**	**200**	PKP	PKPdf	23 00 20.4	-3.4
	comp=Z,20nm,0.8s,baz=149,slow=2.7,SNR=35						
CPUP	**Villa Florida**	**147.34**	**233**	PKPdf	PKPdf	23 00 28.7	-0.1
SJG	**San Juan**	**147.54**	**323**	*e*PKPdf	PKPdf	23 00 29.6	+0.4
SJG				LR	LR		
	comp=Z,401nm,20.0s,MS5.2						
TEIG	**Tepich**	**151.83**	**5**	*e*PKPdf	PKPdf	23 00 35.1	-0.8
TEIG				*e*PKPbc	PKPdf	23 00 41.4	+5.5
SDV	**Santo Domingo**	**157.35**	**318**	PKP	PKPdf	23 00 42.7	-0.9
	comp=Z,5.6nm,0.8s,baz=321,slow=3.3,SNR=2.6						
SDV				PKPab	PKPab	23 01 13.5	-0.1
	comp=Z,9.2nm,0.8s,baz=9.7,slow=4.2,SNR=5.9						
SDV	**Santo Domingo**	**157.35**	**318**	PKP	PKPdf	23 00 42.7	-0.9
SDV				PKPab	PKPab	23 01 13.6	-0.1
SDV				LR	LR		
	comp=Z,320nm,21.0s,MS5.1						
LVC	**Limon Verde**	**158.17**	**226**	PFAKE		23 00 50.0	+5.6
LVC				LR	LR		
	comp=Z,240nm,19.0s,MS5.0						
LPAZ	**La Paz**	**160.82**	**243**	PKP	PKPdf	23 00 01.4	-46
	comp=Z,2.9nm,0.8s,baz=49,slow=4.9,SNR=7.9						
LPAZ				PKPab	PKPab	23 00 44.6	-44
	comp=Z,4.1nm,0.7s,baz=92,slow=6.4,SNR=5.2						
JTS	**JuntasAbangare**	**161.78**	**357**	PFAKE		23 01 00.0	+12
JTS				LR	LR		
	comp=Z,79nm,19.0s						
ROSC	**El Rosal**	**162.78**	**318**	PKP	PKPdf	23 00 49.5	0.0
	comp=Z,4.1nm,0.5s,baz=267,slow=23,SNR=3.6						
OTAV	**Otavalo**	**168.95**	**318**	*e*PKPdf	PKPdf	23 00 51.7	-2.9
OTAV				LR	LR		
	comp=Z,307nm,21.0s						

*CSEM **27** 22:44:38.7±0.5, 39.04N×43.72E, h54km±9km, MD3.5, Error ellipse: s-maj=11.4km s-min=8.6km az=46.0*

ISK 27 22:44:39.8, 39.00N×43.83E, h62km, MD3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.53**	**220**	*i* PG	P	22 44 52.2	-0.2
VANB				*i* SG	S	22 45 02.7	+1.1
TVAN	**Van**	**0.58**	**215**	P	P	22 44 52.2	-0.7
TVAN				S	S	22 45 03.4	+1.0
VANT	**Van**	**0.66**	**212**	*i* PG	P	22 44 54.6	+0.9
GNI	**Garni**	**1.34**	**31**	PN	P	22 45 03.5	+0.5
HKR	**Hakkari**	**1.43**	**183**	*e*PN	P	22 45 05.2	+1.1
VRT	**Varto**	**1.79**	**275**	*e*PN	P	22 45 10.1	+1.0
ERZM	**Erzurum**	**2.11**	**296**	P	P	22 45 18.6	+5.2
EZM	**Erzurum**	**2.11**	**296**	*e*PN	P	22 45 14.1	+0.6
BEST	**Besiri**	**2.29**	**242**	P	P	22 45 21.7	+5.6
BEST				S	S	22 45 53.6	+10

IDC 27 22:46:12.2±5.0, 19.05S×178.45W, mb3.8/2, mb1 4.1/2, mb1mx3.7/13, mbtmp3.8/2, Error ellipse: s-maj=268.6km s-min=69.9km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.40**	**261**	P	P	22 54 24.7	-1.9
	0.5nm,0.3s,baz=98,slow=7.5,SNR=19						
ASAR	**Alice Springs**	**44.45**	**255**	P	P	22 54 25.4	-1.7
	0.5nm,0.3s,baz=86,slow=8.4,SNR=13						
FINES	**FINESS Array B**	**134.27**	**344**	PKP	PKPdf	23 05 31.1	-2.4
	1.7nm,0.8s,baz=90,slow=2.8,SNR=3.6						

*LDG **27** 22:46:54.0±0.1, 49.39N×6.91E, h1km, Md2.6/1, Ml2.7/9, Error ellipse: s-maj=1.4km s-min=1.2km az=111.0, Suspected Mining induced.*
*CSEM **27** 22:46:54.1±0.1, 49.39N×6.92E, h2km, ML2.6/8, Error ellipse: s-maj=1.1km s-min=0.8km az=106.0*
*BGR **27** 22:46:54.3±0.4, 49.37N×6.86E, h1km, ML2.0/2, Error ellipse: s-maj=6.7km s-min=4.4km az=35.0*
*NEIC **27** 22:46:54.0, 49.39N×6.91E, h1km, ML2.7(LDG), ML2.2(STR), After LDG.*

ISC 27 22:46:52.5±0.3, 49.37N±0.02×6.86E±0.03, n29, σ0°84/50, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.36**	**22**	Pg	**Pg**	**22 47 00.4**	**+0.7**
RUP				Sg	**Sg**	**22 47 05.5**	**+1.1**
WLF	**Walferdange**	**0.55**	**303**	*e*Pg	**Pg**	**22 47 05.3**	**+1.9**
	SNR=4.8						
WLF				*e*Sg	**Sg**	**22 47 11.0**	**+0.4**
	SNR=4.2						
WLF	**Walferdange**	**0.55**	**303**	*e*P	**Pg**	**22 47 05.1**	**+1.8**
WLF	**Walferdange**	**0.55**	**303**	*e*P	**Pg**	**22 47 05.1**	**+1.7**
WLF				Sg	**Sg**	**22 47 11.0**	**+0.4**
	SNR=4.2						
ABH	**Alteburg**	**0.68**	**41**	Pg	**Pg**	**22 47 06.0**	**-0.1**
ABH				Sg	**Sg**	**22 47 15.0**	**-0.2**
LANF	**Langenberg**	**0.73**	**122**	Pg	**Pg**	**22 47 07.3**	**+0.1**
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pg	**Pg**	**22 47 12.8**	**+0.4**
CDF				*e*Sg	**Sg**	**22 47 26.3**	**+0.6**
	19nm,0.2s						
WLS	**Welschbruch**	**1.01**	**161**	Pg	**Pg**	**22 47 13.5**	**+0.8**
WLS				Sg	**Sg**	**22 47 27.3**	**+1.1**
ECH	**Echery**	**1.17**	**170**	Pg	**Pg**	**22 47 16.1**	**+0.2**
RFYF	**Reffroy**	**1.17**	**231**	*e*Pg	**Pg**	**22 47 16.8**	**+0.9**
	baz=46						
RFYF				*e*Sg	**Sg**	**22 47 32.9**	**+1.3**
	27nm,0.3s,baz=58						
THEF	**They Montfort**	**1.28**	**207**	Pg	**Pg**	**22 47 18.3**	**+0.3**
THEF				Sg	**Sg**	**22 47 34.9**	**-0.2**
TOD	**Tromm**	**1.29**	**79**	Pg	**Pg**	**22 47 17.5**	**-0.8**
LIBD	**Limburg**	**1.32**	**158**	Pg	**Pg**	**22 47 19.0**	**+0.2**
LIBD				Sg	**Sg**	**22 47 37.5**	**+1.2**
TNS	**Taunus Mts**	**1.34**	**50**	*e*Pg	**Pg**	**22 47 19.0**	**-0.2**
	SNR=5.1						
TNS				*e*Sg	**Sg**	**22 47 36.6**	**-0.5**
	SNR=3.1						
HAU	**Haudompre**	**1.41**	**194**	*e*Pg	**Pg**	**22 47 20.9**	**+0.3**
HAU				*e*Sg	**Sg**	**22 47 39.6**	**+0.3**
	9.8nm,0.2s						
BFO	**Black Forest**	**1.43**	**136**	*e*Pn	**Pn**	**22 47 20.2**	**+0.5**
	SNR=1.0						
BFO				*e*Pg	**Pg**	**22 47 20.8**	**-0.1**
	SNR=22						
BFO				*e*Sg	**Sg**	**22 47 38.9**	**-1.0**
	SNR=5.6						
BFO	**Black Forest**	**1.43**	**136**	Pg	**Pg**	**22 47 20.8**	**-0.1**
	SNR=22						
BFO				Sg	**Sg**	**22 47 38.9**	**-1.0**
	SNR=5.6						
MEZF	**Maizieres J'vi**	**1.47**	**235**	*e*Pg	**Pg**	**22 47 22.5**	**+0.6**
MEZF				*e*Sg	**Sg**	**22 47 42.0**	**+0.5**
	16nm,0.5s						
GIVF	**Givet**	**1.51**	**300**	*e*Pn	**Pn**	**22 47 20.7**	**-0.2**
GIVF				*e*Sg	**Sg**	**22 47 42.4**	**-0.3**
	20nm,0.5s						
MOF	**Molkenrain**	**1.53**	**173**	Pg	**Pg**	**22 47 22.7**	**-0.3**
MOF				Sg	**Sg**	**22 47 43.1**	**-0.3**
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**22 47 23.3**	**-0.2**
HINF				*e*Sg	**Sg**	**22 47 43.7**	**-0.5**
	22nm,0.3s						
DOU	**Dourbes**	**1.64**	**297**	P	**Pn**	**22 47 23.5**	**+0.8**
BAIF	**Baives**	**1.85**	**293**	*e*Pn	**Pn**	**22 47 25.7**	**-0.1**
BAIF				*e*Sg	**Sg**	**22 47 53.3**	**-0.8**
	2.7nm,0.2s						
SSF	**Saint Saulge**	**3.22**	**225**	*e*Pn	**Pn**	**22 47 43.9**	**-1.4**
SSF				*e*Sn	**Sn**	**22 48 22.3**	**-2.6**
SSF				*e*Sg	**Sg**	**22 48 36.3**	**-3.3**
	1.8nm,0.3s						
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pn	**Pn**	**22 47 46.8**	**-1.0**
AVF	**Avril sur Loir**	**3.49**	**224**	*e*Pn	**Pn**	**22 47 47.9**	**-1.2**
HYF	**Humbligny**	**3.51**	**235**	*e*Pg	**Pg**	**22 47 59.1**	**-3.5**
WET	**Wettzell**	**3.95**	**91**	*e*Pn	**Pn**	**22 47 55.3**	**-0.4**
	SNR=1.7						
GEC2	**GERESS Array S**	**4.53**	**94**	*e*Pn	**Pn**	**22 48 03.2**	**-0.7**
	SNR=7.3						

*BJI **27** 22:48:21.5, 5.21N×94.58E, h19km, mb4.8*
*NEIC **27** 22:48:23.4±0.3, 5.01N×94.43E, h30km, mb4.5/7, Error ellipse: s-maj=12.3km s-min=7.3km az=55.0*
*IDC **27** 22:48:25.8±0.8, 5.07N×94.45E, h49km±7km, mb4.0/19, mb1 4.1/20, mb1mx4.0/25, mbtmp4.2/20, Error ellipse: s-maj=23.5km s-min=11.6km az=43.0*

ISC 27 22:48:23.6±0.5, 5.01N±0.08×94.49E±0.09, h47km, h47km±1.1km: pP-P, n41, σ0°81/37, mb4.4/32, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.06**	**18**	P	**P**	**22 51 43.5**	**+1.5**
	0.6nm,0.3s,baz=212,slow=16,SNR=6.3						
JIRN	**Jiri**	**23.87**	**342**	*e*P	**P**	**22 53 34.3**	**+0.6**
	46nm,0.9s,mb4.9						
PKI	**Pulchoki**	**24.05**	**340**	*e*P	**P**	**22 53 36.3**	**+0.9**
	46nm,0.9s,mb4.9						
DMN	**Daman**	**24.18**	**339**	*e*P	**P**	**22 53 37.8**	**+1.0**
	38nm,0.8s,mb4.9						
KKN	**Kakani**	**24.29**	**340**	*e*P	**P**	**22 53 38.5**	**+0.6**
	23nm,0.7s,mb4.7						
GKN	**Gorkha**	**24.71**	**339**	*e*P	**P**	**22 53 42.1**	**+0.1**
	43nm,0.8s,mb5.1						
LSA	**Lhasa**	**24.76**	**353**	*e*P	**P**	**22 53 44.0**	**+1.6**
	13nm,0.7s,mb4.6						
KOLN	**Koldanda**	**24.89**	**337**	*e*P	**P**	**22 53 44.3**	**+0.6**
	40nm,0.8s,mb5.0						
ENH	**Enshi**	**28.84**	**28**	*e*P	**P**	**22 54 17.8**	**-2.0**
SONM	**Songino Array**	**43.88**	**12**	P	**P**	**22 56 26.7**	**-0.5**
	3.6nm,0.8s,mb4.2,baz=190,slow=7.7,SNR=20						
SONM				PcP	PcP	22 58 13.6	+0.3
	1.4nm,0.5s,baz=192,slow=3.7,SNR=6.8						
ULN	**Ulaanbaatar**	**44.04**	**12**	*e*P	**P**	**22 56 27.3**	**-1.2**
	2.5nm,0.9s,mb3.9						
WRA	**Warramunga Arr**	**46.36**	**124**	P	**P**	**22 56 47.9**	**+0.5**
	9.2nm,0.6s,mb4.9,baz=303,slow=9.2,SNR=49						
WRAB	**Tennant Creek**	**46.37**	**124**	*e*P	**P**	**22 56 47.7**	**+0.3**
	16nm,0.8s,mb5.0						
WB2	**Warramunga Arr**	**46.37**	**124**	⇑*i*P	**P**	**22 56 48.0**	**+0.5**
KURK	**Kurchatov**	**47.46**	**346**	*e*P	**P**	**22 56 55.6**	**0.0**
	2.9nm,0.5s,mb4.5						
ASAR	**Alice Springs**	**47.85**	**128**	P	**P**	**22 56 59.4**	**+0.3**
	1.7nm,0.5s,mb4.3,baz=300,slow=7.9,SNR=13						
ASAR				PcP	PcP	22 58 28.1	+0.5
	5.4nm,1.2s,baz=320,slow=4.2,SNR=5.2						
HIA	**Hailar**	**49.02**	**22**	*e*P	**P**	**22 57 06.1**	**-1.6**
	2.5nm,0.6s,mb4.4						
ZAL	**Zalesovo**	**49.41**	**352**	P	**P**	**22 57 10.5**	**-0.2**
	2.8nm,0.3s,mb4.7,baz=292,slow=6.5,SNR=13						
ZAL	**Zalesovo**	**49.41**	**352**	P	**P**	**22 57 10.5**	**-0.2**
BVAR	**Borovoye Array**	**51.80**	**342**	P	**P**	**22 57 28.1**	**-0.7**
	3.5nm,0.9s,mb4.3,baz=141,slow=9.5,SNR=11						
CHKZ	**Chkalovo**	**52.29**	**342**	*e*P	**P**	**22 57 31.7**	**-0.8**
	4.4nm,0.6s,mb4.6						
PMG	**Port Moresby**	**54.41**	**105**	P	**P**	**22 57 49.0**	**+0.3**
	4.3nm,0.6s,mb4.6,baz=180,slow=12,SNR=2.6						
CTA	**Charters Tower**	**56.64**	**118**	P	**P**	**22 58 04.5**	**-0.3**
	2.2nm,0.9s,mb4.2,baz=256,slow=19,SNR=2.1						
GNI	**Garni**	**56.69**	**316**	P	**P**	**22 58 04.0**	**-0.8**
	1.6nm,0.7s,mb4.2,baz=212,slow=18,SNR=2.4						
KMBO	**Kilima Mbogo**	**57.49**	**265**	P	**P**	**22 58 10.9**	**0.0**
	0.6nm,0.5s,mb3.9,baz=64,slow=20,SNR=3.0						
STKA	**Stephens Creek**	**57.91**	**133**	P	**P**	**22 58 13.7**	**+0.1**
	2.1nm,0.9s,mb4.1,baz=266,slow=18,SNR=2.3						
BRTR	**Keskin Array B**	**64.56**	**312**	P	**P**	**22 58 57.8**	**-0.6**
	1.6nm,0.9s,mb4.0,baz=123,slow=8.1,SNR=4.7						
IDI	**Anoyia**	**70.49**	**306**	P	**P**	**22 59 35.0**	**-0.5**
	2.5nm,0.6s,mb4.3,baz=54,slow=22,SNR=1.7						
AKASG	**Malin Array Be**	**70.61**	**322**	P	**P**	**22 59 34.2**	**-1.7**
	0.6nm,0.3s,mb3.9,baz=82,slow=5.9,SNR=6.5						
FINES	**FINESS Array B**	**75.39**	**333**	P	**P**	**23 00 03.8**	**-0.1**
	0.9nm,0.6s,mb3.9,baz=90,slow=5.7,SNR=6.6						
FINES				pP	pP	23 00 17.1	-0.4
	5.8nm,1.1s,baz=103,slow=7.0,SNR=1.7						
KAF	**Kangasniemi**	**75.48**	**333**	*e*p	pP	23 00 17.9	-0.2
	7.5nm,1.1s						
MORC	**Moravsky Berou**	**77.76**	**320**	*e*P	**P**	**23 00 17.8**	**+0.4**
	1.5nm,0.6s,mb4.1						
ARCES	**ARCESS Array B**	**78.06**	**340**	P	**P**	**23 00 18.9**	**+0.2**
	3.2nm,0.9s,mb4.3,baz=59,slow=7.1,SNR=4.6						
ARCES				pP	pP	23 00 33.3	+0.8
	4.5nm,1.0s,baz=102,slow=6.6,SNR=2.0						
FX1	**Attu Island--F**	**79.19**	**37**	P	**P**	**23 00 24.8**	**-0.4**
	14nm,0.6s,mb5.0,baz=104,slow=24,SNR=3.0						
GERES	**GERESS Array B**	**80.18**	**319**	P	**P**	**23 00 31.8**	**+1.2**
	2.6nm,0.5s,mb4.4,baz=101,slow=5.0,SNR=31						
GERES				pP	pP	23 00 45.4	+1.0
	0.7nm,0.6s,baz=118,slow=5.3,SNR=3.3						
KHC	**Kasperske Hory**	**80.28**	**319**	*e*P	**P**	**23 00 30.5**	**-0.6**
NOA	**NORSAR Array B**	**82.38**	**331**	P	**P**	**23 00 42.0**	**+0.2**
	0.7nm,0.7s,mb3.7,baz=99,slow=6.7,SNR=2.8						
EKA	**Eskdalemuir Ar**	**90.26**	**326**	P	**P**	**23 01 20.9**	**+0.5**
	1.3nm,0.6s,mb4.5,baz=100,slow=5.1,SNR=4.8						
NVAR	**Mina Array Bea**	**127.16**	**32**	PKP	PKPdf	23 07 27.1	+3.6
	0.4nm,0.3s,baz=288,slow=2.9,SNR=4.8						
PDAR	**Pinedale Array**	**127.68**	**22**	PKP	PKPdf	23 07 26.4	+2.1
	0.3nm,0.5s,baz=135,slow=2.1,SNR=3.7						
USHA	**Ushuaia**	**128.44**	**193**	PKP	PKPdf	23 07 26.5	+1.1
	6.7nm,0.9s						

IDC 27 22:53:27.5±11.0, 8.42N×93.59E, h48km±71km, mb3.5/7, mb1 3.6/8, mb1mx3.4/19, mbtmp3.7/8, ML4.0/1, Error ellipse: s-maj=177.1km s-min=63.9km az=148.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.25**	**27**	P	P	22 56 05.8	-2.7
	0.3nm,0.3s,baz=204,slow=18,SNR=3.7						
SONM	**Songino Array**	**40.75**	**13**	P	P	23 01 03.7	-1.7
	0.3nm,0.6s,baz=198,slow=9.1,SNR=3.0						
ZAL	**Zalesovo**	**45.94**	**353**	P	P	23 01 45.9	-1.5
	0.5nm,0.8s,baz=301,slow=9.0,SNR=3.3						
BVAR	**Borovoye Array**	**48.30**	**341**	P	P	23 02 03.3	-2.6
	0.5nm,0.8s,baz=149,slow=8.4,SNR=2.9						
BRTR	**Keskin Array B**	**61.66**	**311**	P	P	23 03 41.0	-2.0
	0.4nm,0.7s,baz=138,slow=50,SNR=3.0						
FINES	**FINESS Array B**	**71.97**	**332**	P	P	23 04 46.3	-1.5
	1.8nm,0.8s,baz=63,slow=8.5,SNR=2.5						
GERES	**GERESS Array B**	**77.06**	**318**	P	P	23 05 15.7	-1.7
	0.3nm,0.6s,baz=90,slow=4.0,SNR=4.5						
HFS	**Hagfors**	**77.71**	**330**	P	P	23 05 18.9	-1.8
	1.8nm,0.7s,baz=63,slow=3.3,SNR=2.5						

JMA 27 22:54:03.3±0.3, 43.97N×147.93E, M4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.70**	**250**	P	Pn	22 54 34.3	-0.1
NEM2				*e*S	Sb	22 54 56.7	-0.3
JRA	**Rausu**	**2.03**	**270**	P	Pn	22 54 39.5	+0.4
JRA				*e*S	Sn	22 55 05.9	+0.4
JNK	**Nakash**	**2.36**	**262**	P	Pn	22 54 43.8	0.0
JNK				*e*S	Sn	22 55 13.7	-0.2
JAK	**Akkeshi**	**2.55**	**249**	P	Pn	22 54 46.4	-0.1
JAK				*e*S	Sn	22 55 18.5	-0.2
JTKR	**Abashiri--Toko**	**2.90**	**271**	P	Pn	22 54 52.1	+0.5
JTKR				*e*S	Sn	22 55 31.3	+3.5
JAR	**Ashorobuto**	**3.10**	**259**	P	Pn	22 54 54.7	+0.4
JAR				*e*S	Sn	22 55 32.7	+0.1
JOB	**Onbets**	**3.17**	**252**	P	Pn	22 54 55.6	+0.2
JOB				*e*S	Sn	22 55 34.2	-0.2
JCH	**Churui**	**3.60**	**249**	P	Pn	22 55 01.0	-0.5
JCH				*e*S	Sn	22 55 44.8	-0.6
JNBK	**Urakawa-nobuka**	**4.15**	**248**	P	Pn	22 55 09.8	+0.5
JKB	**Kayabe**	**5.47**	**250**	P	Pn	22 55 27.8	-0.3
JKB				*e*S	Sn	22 56 29.2	-3.5

IDC 27 22:54:05.7±2.0, 7.72N×94.41E, mb4.1/5, mb1 4.1/6, mb1mx3.8/19, mbtmp4.0/6, ML3.9/1, Error ellipse: s-maj=59.2km s-min=29.1km az=48.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.55**	**22**	Pn	P	22 56 52.7	-2.3
	0.2nm,0.3s,baz=212,slow=14,SNR=3.1						
SONM	**Songino Array**	**41.26**	**12**	P	P	23 01 52.6	-1.6
	0.4nm,0.6s,baz=207,slow=6.4,SNR=5.0						
ZAL	**Zalesovo**	**46.73**	**352**	P	P	23 02 36.2	-2.0
	1.2nm,0.5s,baz=323,slow=6.6,SNR=4.8						
BVAR	**Borovoye Array**	**49.22**	**341**	P	P	23 02 54.5	-3.2
	0.9nm,1.0s,baz=153,slow=6.6,SNR=3.6						
PMG	**Port Moresby**	**55.23**	**107**	P	P	23 03 40.9	-2.4
	4.7nm,0.7s,baz=260,slow=17,SNR=2.4						
FINES	**FINESS Array B**	**72.97**	**332**	P	P	23 05 37.6	-1.2
	1.7nm,0.8s,baz=108,slow=8.8,SNR=3.6						

IDC 27 22:55:56.7±10.0, 7.99N×94.12E, h51km±84km, mb3.6/7, mb1 3.8/8, mb1mx3.6/18, mbtmp3.9/8, Error ellipse: s-maj=82.6km s-min=29.8km az=55.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.42**	**24**	P	P	22 58 37.3	-2.6
	baz=211,slow=14,SNR=4.1						
SONM	**Songino Array**	**41.06**	**13**	P	P	23 03 35.2	-1.7
	1.9nm,1.1s,baz=194,slow=5.9,SNR=4.5						
ZAL	**Zalesovo**	**46.43**	**352**	P	P	23 04 18.2	-2.0
	1.2nm,0.4s,baz=290,slow=4.9,SNR=5.2						
WRA	**Warramunga Arr**	**48.34**	**126**	P	P	23 04 33.6	-2.0
	0.1nm,0.4s,baz=304,slow=8.9,SNR=3.3						
FINES	**FINESS Array B**	**72.60**	**332**	P	P	23 07 18.6	-1.8
	5.3nm,1.1s,baz=108,slow=4.4,SNR=2.7						
ARCES	**ARCESS Array B**	**75.15**	**340**	P	P	23 07 33.7	-1.4
	1.8nm,0.8s,baz=97,slow=7.3,SNR=3.2						
GERES	**GERESS Array B**	**77.73**	**318**	P	P	23 07 48.5	-1.5
	0.4nm,0.5s,baz=90,slow=5.3,SNR=5.1						
HFS	**Hagfors**	**78.35**	**330**	P	P	23 07 51.5	-1.

comp=Z,22nm,1.1s,mb4.8
LZH Lanzhou 29.41 16 *e*P **P 23 02 49.5 +0.5**
LZH AMB AMB
comp=Z,36nm,1.7s,mb4.8
LZH AMB AMB
comp=Z,122nm,4.8s
LZH LR LR
comp=E,1μm,13.3s
LZH LR LR
comp=Z,2μm,14.5s,MS4.8
LZH Lanzhou 29.41 16 *e*P **P 23 02 49.5 +0.5**
comp=Z,36nm,1.7s,mb4.8
LZH pP pP 23 02 57.0 +5.1
LZH sP sP 23 03 02.0 +8.8
LZH LR LR
comp=Z,2μm,14.5s,MS4.8
WHN Wuhan 29.41 37 ⇑P **P 23 02 50.3 +1.2**
NJ2 Nanjing 33.25 40 *e*P **P 23 03 23.5 +0.7**
NJ2 PP PP 23 04 35.5 +1.3
NJ2 S **S 23 08 40.0 -1.8**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,1μm,5.8s
NJ2 LR LR
comp=N,3μm,11.8s,MS5.3
NJ2 LR LR
comp=E,2μm,15.0s,MS5.3
NJ2 LR LR
comp=Z,3μm,12.6s,MS5.2
WMQ Urumqi 36.19 352⇑*i*P **P 23 03 48.5 +0.6**
BJT Baijiatuan 37.55 28 *e*P **P 23 04 00.5 +1.1**
BJT pmax pmax
comp=Z,13nm,0.8s
BJT Baijiatuan 37.55 28 *e*P **P 23 04 00.5 +1.1**
comp=Z,13nm,0.8s,mb4.7
BJI Beijing 37.57 28 P **P 23 04 01.7 +2.1**
BJI pmax pmax
comp=Z,24nm,1.2s,mb4.8
BJI Beijing 37.57 28 P **P 23 04 01.7 +2.1**
comp=Z,24nm,1.2s,mb4.8
UCH Uchtor 38.29 336 P **P 23 04 06.7 +1.1**
SNR=7.6
KBK Karagaybulak 38.48 337 P **P 23 04 08.6 +1.4**
SNR=14
AML Almayashu 38.54 335 P **P 23 04 08.8 +1.0**
SNR=23
AAK Ala-Archa 38.64 337 P **P 23 04 09.6 +1.1**
SNR=9.9
AAK Ala-Archa 38.64 337 P **P 23 04 09.1 +0.6**
AAK pmax pmax
comp=Z,18nm,1.0s,mb4.8
AAK Ala-Archa 38.64 337 *e*P **P 23 04 07.0 -1.5**
comp=Z,20nm,1.1s,mb4.8
CHMS Chumysh 38.85 337 P **P 23 04 10.8 +0.5**
SNR=9.8
EKS2 Erkin-Say 38.95 336 P **P 23 04 11.9 +0.7**
SNR=7.3
USP Ospenovka 39.18 337 P **P 23 04 13.3 +0.3**
SNR=12
MKAR Makanchi Array 40.03 347 *i* P **P 23 04 19.4 -0.6**
MKAR pmax pmax
comp=Z,12nm,0.7s
SONM Songino Array 41.12 13 P **P 23 04 28.9 0.0**
comp=Z,7.7nm,0.8s,mb4.4,baz=198,slow=8.7,SNR=33
SONM PcP PcP 23 06 29.6 +0.5
comp=Z,2.9nm,0.6s,baz=208,slow=2.7,SNR=13
ULN Ulaanbaatar 41.29 13*d*/*i*P **P 23 04 30.5 +0.1**
ULN Ulaanbaatar 41.29 13 *e*P **P 23 04 29.5 -0.9**
comp=Z,6.3nm,0.9s,mb4.2
SNY Shenyang 42.64 33 ⇑P **P 23 04 43.0 +1.4**
ZAK Zakamensk 43.00 9 *e*P **P 23 04 44.0 -0.4**
TLY Talaya 44.32 8*d*/*i*P **P 23 04 55.9 +0.9**
KURK Kurchatov 44.55 346*d*/*i*P **P 23 04 56.8 -0.1**
KURK Kurchatov 44.55 346 *e*P **P 23 04 56.4 -0.5**
comp=Z,56nm,1.2s,mb5.3
NWAO Narrogin (SRO) 46.21 153 P **P 23 05 12.1 +1.8**
NWAO pmax pmax
comp=Z,7.0nm,0.9s
NWAO Narrogin (SRO) 46.21 153 P **P 23 05 12.1 +1.7**
comp=Z,6.8nm,0.9s,mb4.6,baz=320,slow=11,SNR=3.9
NWAO Narrogin (SRO) 46.21 153 P **P 23 05 12.1 +1.7**
HIA Hailar 46.48 23 *e*P **P 23 05 12.6 +0.3**
ZAL Zalesovo 46.49 352 P **P 23 05 12.1 -0.1**
ZAL pmax pmax
comp=Z,10.0nm,0.5s
ZAL Zalesovo 46.49 352 P **P 23 05 12.1 -0.2**
comp=Z,9.5nm,0.5s,mb5.0,baz=301,slow=6.1,SNR=32
NVS Novosibirsk 47.59 352 *i* P **P 23 05 19.5 -1.4**
NVS pmax pmax
comp=N,18nm,0.9s
NVS pmax pmax
comp=E,10.0nm,0.9s
NVS pmax pmax
comp=Z,24nm,0.9s,mb5.2
WRA Warramunga Arr 48.32 126 P **P 23 05 25.9 -1.2**
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 48.32 126 P **P 23 05 25.9 -1.2**
comp=Z,2.1nm,0.8s,mb4.2,baz=304,slow=9.2,SNR=11
WRAB Tennant Creek 48.32 126 *e*P **P 23 05 26.2 -0.9**
BVA0 Borovoye Array 48.93 341 *i* P **P 23 05 30.4 -0.9**
BVA0 pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
BVAR Borovoye Array 48.93 341 P **P 23 05 30.5 -0.8**
comp=Z,11nm,1.0s,mb4.9,baz=143,slow=7.4,SNR=29
BVAR PcP PcP 23 06 56.1 +0.1
comp=Z,2.8nm,0.7s,baz=153,slow=3.3,SNR=6.8
BRVK Borovoye 48.99 341 *e*P **P 23 05 30.8 -1.0**
BRVK pmax pmax
comp=Z,13nm,1.0s,mb4.9
BRVK Borovoye 48.99 341 *e*P **P 23 05 30.8 -1.0**
comp=Z,13nm,1.0s,mb4.9
RAYN Ar Rayn 49.03 294 P **P 23 05 35.8 +3.2**
comp=Z,153nm,0.6s,SNR=21
CHKZ Chkalovo 49.41 342 P **P 23 05 34.3 -0.8**
CHKZ pmax pmax
comp=Z,25nm,0.9s,mb5.2
CHKZ Chkalovo 49.41 342 *e*P **P 23 05 33.7 -1.4**
comp=Z,39nm,0.9s,mb5.4
ASAR Alice Springs 49.97 130 P **P 23 05 39.2 -0.6**
comp=Z,1.7nm,0.7s,mb4.2,baz=304,slow=7.4,SNR=9.8
ASAR PcP PcP 23 07 00.5 +0.3
comp=Z,0.9nm,0.8s,baz=311,slow=4.6,SNR=5.0
BOD Bodaibo 52.10 13 *e*P **P 23 05 53.1 -2.4**
GNI Garni 54.38 314 P **P 23 06 12.8 +0.3**
GNI pmax pmax
comp=Z,4.0nm,0.7s
GNI Garni 54.38 314 P **P 23 06 12.8 +0.2**
comp=Z,4.1nm,0.7s,mb4.5,baz=345,slow=5.4,SNR=6.1
SVE Sverdlovsk 55.34 338⇑*i*P **P 23 06 16.0 -3.4**
SVE pmax pmax
comp=Z,80nm,1.4s,mb5.6
PMG Port Moresby 55.58 107 P **P 23 06 21.6 -0.1**
PMG pmax pmax
comp=Z,12nm,0.8s
PMG Port Moresby 55.58 107 P **P 23 06 21.6 -0.1**
comp=Z,12nm,0.8s,mb5.0,baz=273,slow=3.9,SNR=4.4
ARU Arti 55.83 337⇓*i*P **P 23 06 15.4 -7.5**
ARU *e*S **S 23 13 58.8 -9.4**
ARU *e*SS SS 23 17 44.2 -10
ARU pmax pmax
comp=Z,19nm,0.9s,mb5.1
KMBO Kilima Mbogo 57.40 264 *i* P **P 23 06 38.2 +3.5**
KMBO pmax pmax
comp=Z,8.0nm,1.1s
KMBO Kilima Mbogo 57.40 264 P **P 23 06 36.9 +2.2**
comp=Z,7.8nm,1.1s,mb4.7,baz=62,slow=11,SNR=15
ASF Jabal al Asfar 58.16 303 P **P 23 06 40.8 +1.0**
comp=Z,3.9nm,0.8s,mb4.5,baz=28,slow=2.9,SNR=9.3
MALT Malatya 58.40 310 *e*P **P 23 06 39.1 -2.3**
SOC Sochi 59.12 316 *e*P **P 23 06 42.1 -4.2**
SOC *e* 23 07 32.3
SOC *e* 23 08 56.3
SOC *e*S **S 23 14 49.9 -1.9**
SOC *e* 23 16 33.8
SOC *e*SS SS 23 18 42.0 -5.7
SOC pmax pmax
comp=Z,26nm,0.6s,mb5.4
SOC pmax pmax
comp=N,26nm,1.0s
SOC pmax pmax
comp=E,10.0nm,0.7s
YAK Yakutsk 59.95 18*d*/*i*P **P 23 06 50.8 -1.0**
YAK pmax pmax
comp=Z,54nm,0.9s,mb5.6
YAK Yakutsk 59.95 18 *e*P **P 23 06 50.7 -1.1**
comp=Z,23nm,0.7s,mb5.3
STKA Stephens Creek 60.17 134 P **P 23 06 52.4 -1.3**
comp=Z,3.4nm,1.0s,mb4.3,baz=280,slow=5.8,SNR=4.2
STKA Stephens Creek 60.17 134 P **P 23 06 52.4 -1.3**
ANN Anapa 61.08 317 *e*P **P 23 06 52.5 -7.2**
ANN *i* 23 07 06.0
ANN *e* 23 07 35.8
ANN *e*S **S 23 15 04.9 -12**
ANN pmax pmax
comp=Z,76nm,1.9s,mb5.5
BRTR Keskin Array B 62.37 311 P **P 23 07 06.6 -1.9**
BRTR pmax pmax
comp=Z,6.0nm,0.7s
BRTR Keskin Array B 62.37 311 P **P 23 07 06.6 -1.9**
comp=Z,5.7nm,0.7s,mb4.8,baz=126,slow=7.3,SNR=28
MBAR Mbarara 63.73 265 *e*P **P 23 07 18.7 +0.7**
MBAR pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
MBAR Mbarara 63.73 265 *e*P **P 23 07 18.7 +0.8**
comp=Z,2.6nm,0.8s,mb4.3
MOS Moscow 65.02 329 *e*P **P 23 07 23.9 -1.7**
MOS pmax pmax
comp=Z,89nm,1.0s,mb5.8
OBN Obninsk 65.32 328⇓*e*P **P 23 07 24.0 -3.5**
OBN *e* 23 09 46.2
OBN *e*SS SS 23 20 22.5 -1.9
OBN pmax pmax
comp=Z,35nm,1.0s,mb5.3
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.3
MA2 Magadan 66.73 28 *e*P **P 23 07 36.4 -0.1**
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MA2 Magadan 66.73 28 *e*P **P 23 07 36.2 -0.3**
TIXI Tiksi 67.19 11⇑*i*P **P 23 07 38.4 -0.8**
TIXI pmax pmax
comp=Z,30nm,0.7s,mb5.4
AKASG Malin Array Be 68.09 322 P **P 23 07 43.7 -1.5**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 68.09 322 P **P 23 07 43.7 -1.5**
comp=Z,5.2nm,0.7s,mb4.7,baz=89,slow=4.9,SNR=24
LSZ Lusaka 69.25 250 *e*P **P 23 07 53.9 +0.9**
JOF Joensuu 70.79 334 *e*p **P 23 07 59.9 -1.7**
comp=Z,22nm,1.0s,mb5.0
KWP Kalwaria 71.97 320 *e*P **P 23 08 08.9 0.0**
KWP Kalwaria 71.97 320 *e*P **P 23 08 08.9 +0.1**
JAN Janina 72.10 309⇑*i*P **P 23 08 07.6 -2.3**
JAN pmax pmax
comp=Z,31nm,1.0s,mb5.2
KOLS Kolonicke sedl 72.14 319 *e*P **P 23 08 09.8 -0.1**
KOLS *e* pP 23 08 13.7 +0.6
SUW Suwalki 72.44 324 *e*P **P 23 08 11.0 -0.6**
SUW Suwalki 72.44 324 *e*P **P 23 08 11.0 -0.7**
FINES FINESS Array B 72.65 332 *i* P **P 23 08 12.2 -0.5**
FINES pmax pmax
comp=Z,11nm,0.8s
FINES FINESS Array B 72.65 332 P **P 23 08 11.4 -1.3**
comp=Z,10nm,0.8s,mb4.8,baz=100,slow=6.4,SNR=28
CRVS Cervenica-Dubn 72.67 319 *e*P **P 23 08 14.0 +0.9**
CRVS *e* 23 08 19.2
KAF Kangasniemi 72.73 333 *e*p **P 23 08 11.9 -1.2**
comp=Z,17nm,1.0s,mb4.9,baz=108,slow=5.3
KAF Kangasniemi 72.73 333 *e*P **P 23 08 11.9 -1.2**
KAF pmax pmax
comp=Z,17nm,1.0s,mb4.9
NIE Niedzica 73.48 319 *e*P **P 23 08 18.5 +0.7**
OJC Ojcow 73.91 320 *e*P **P 23 08 20.3 0.0**
VYHS Vyhne 74.35 318 *e*P **P 23 08 22.3 -0.5**
KEV Kevo 74.78 341 *e*p **P 23 08 22.8 -2.1**
comp=Z,44nm,1.5s,mb5.2
KEV Kevo 74.78 341 *e*P **P 23 08 22.8 -2.1**
KEV pmax pmax
comp=Z,44nm,1.5s,mb5.2
OKC Ostrava-Krasne 74.93 319 *e*P **P 23 08 25.7 -0.5**
ARCES ARCESS Array B 75.20 340 P **P 23 08 27.5 +0.1**
ARCES pmax pmax
comp=Z,14nm,0.9s
ARCES ARCESS Array B 75.20 340 P **P 23 08 27.4 +0.1**
comp=Z,14nm,0.9s,mb4.9,baz=90,slow=6.1,SNR=26
MORC Moravsky Berou 75.31 319 *e*P **P 23 08 27.6 -0.8**
MORC pmax pmax
comp=Z,19nm,1.2s,mb4.9
MORC Moravsky Berou 75.31 319 *e*P **P 23 08 27.6 -0.8**
comp=Z,19nm,1.2s,mb4.9
ZST Bratislava 75.47 318 *e*P **P 23 08 29.5 +0.2**
ZST *e* pP 23 08 34.2 +1.7
GKP Gorka Klasztor 75.84 323 *e*P **P 23 08 31.4 +0.1**
GKP Gorka Klasztor 75.84 323 *e*P **P 23 08 31.4 +0.2**
BILL Bilibino 76.05 22⇑*e*P **P 23 08 32.3 +0.1**
BILL pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
DPC Dobruska-Polom 76.14 320 *e*P **P 23 08 33.6 +0.5**
KSP Ksiaz 76.20 320 *e*P **P 23 08 33.5 +0.1**
KSP Ksiaz 76.20 320 *e*P **P 23 08 34.2 +0.8**
UPC Upice 76.35 320 *e*P **P 23 08 35.0 +0.7**
PRU Pruhonice 77.27 319 *e*P **P 23 08 40.1 +0.8**
PVCC Panska Ves 77.28 320 *e*P **P 23 08 40.3 +0.9**
BSD Bornholm Skovb 77.36 325⇑*i*P **P 23 08 39.5 -0.2**
BSD pmax pmax
comp=Z,22nm,0.7s,mb5.2
BSD Bornholm Skovb 77.36 325⇑*i*P **P 23 08 39.5 -0.2**
comp=Z,22nm,0.7s,mb5.2
BRG Berggiesshubel 77.69 320 *e*P **P 23 08 42.5 +0.8**
GERES GERESS Array B 77.77 318 P **P 23 08 42.2 +0.1**
GERES pmax pmax
comp=Z,9.0nm,0.6s
GERES GERESS Array B 77.77 318 P **P 23 08 42.2 0.0**
comp=Z,8.7nm,0.6s,mb4.8,baz=86,slow=5.6,SNR=62
KHC Kasperske Hory 77.86 318 *e*P **P 23 08 43.2 +0.6**
KHC *e* 23 08 51.0
KHC Kasperske Hory 77.86 318 *e*P **P 23 08 43.2 +0.6**
KHC pP pP 23 08 51.0 +5.2
RUE Ruedersdorf 77.87 322 *e*P **P 23 08 42.7 +0.1**
comp=Z,32nm,0.6s,mb5.4
CLL Collm 78.30 321 P **P 23 08 45.5 +0.5**
CLL *e**SP sP 23 08 54.0 +4.8
HFS Hagfors 78.39 330 P **P 23 08 44.8 -0.5**
HFS pmax pmax
comp=Z,11nm,0.6s
HFS Hagfors 78.39 330 P **P 23 08 44.8 -0.5**
comp=Z,11nm,0.6s,mb5.0,baz=104,slow=6.1,SNR=35
HFS Hagfors 78.39 330 P **P 23 08 44.8 -0.5**
NKC Novy Kostel 78.62 320 *e*P **P 23 08 47.7 +0.9**
COP Copenhagen 78.81 325 *e*P **P 23 08 48.0 +0.3**
COP pmax pmax
comp=Z,36nm,0.9s,mb5.3
COP Copenhagen 78.81 325 *e*P **P 23 08 48.0 +0.3**
comp=Z,36nm,0.9s,mb5.3
COP Copenhagen 78.81 325 *i* P **P 23 08 48.0 +0.3**
comp=Z,36nm,0.9s,mb5.3
WTTA Wattenberg 79.12 317⇑*i*P **P 23 08 49.5 -0.1**
comp=Z,14nm,0.6s,mb5.1
WTTA Wattenberg 79.12 317⇑*i*P **P 23 08 49.5 -0.1**
WTTA pmax pmax
comp=Z,14nm,0.6s,mb5.1
MOX Moxa 79.16 320 *e*P **P 23 08 49.5 -0.2**
MOX Moxa 79.16 320 *i* P **P 23 08 49.5 -0.2**
WATA Walderalm 79.16 317⇓*i*P **P 23 08 49.1 -0.7**
comp=Z,7.4nm,1.0s,mb4.6
WATA Walderalm 79.16 317⇓*i*P **P 23 08 49.1 -0.7**
WATA pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GRA1 Grafenberg Arr 79.41 319 *e*P **P 23 08 52.2 +1.1**
comp=Z,16nm,1.0s,mb4.9
GRF Grafenberg Arr 79.41 319 *e*P **P 23 08 52.2 +1.1**
GRF pmax pmax
comp=Z,16nm,1.0s,mb4.9
GRF Grafenberg Arr 79.41 319 *e*P **P 23 08 52.2 +1.1**
GRF pmax pmax
comp=Z,16nm,1.0s,mb4.9
GRF Grafenberg Arr 79.41 319 *e*P **P 23 08 52.2 +1.1**
comp=Z,16nm,1.0s,mb4.9
SQTA Sankt Quirin 79.41 317⇑*i*P **P 23 08 50.5 -0.7**
comp=Z,7.3nm,0.8s,mb4.7
SQTA Sankt Quirin 79.41 317⇑*i*P **P 23 08 50.5 -0.7**
SQTA pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MOTA Moosalm 79.48 317⇑*i*P **P 23 08 51.1 -0.5**
comp=Z,8.0nm,1.0s,mb4.6
MOTA Moosalm 79.48 317⇑*i*P **P 23 08 51.1 -0.5**
MOTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
NB2 NORSAR Subarra 79.67 331 P **P 23 08 52.0 -0.3**
comp=Z,17nm,0.9s,mb5.0,baz=96,slow=4.8
NB2 NORSAR Subarra 79.67 331 P **P 23 08 52.0 -0.3**
baz=96,slow=5.1
NOA NORSAR Array B 79.67 331 P **P 23 08 51.8 -0.5**
NOA pmax pmax
comp=Z,7.0nm,0.7s
NOA NORSAR Array B 79.67 331 P **P 23 08 51.8 -0.4**
comp=Z,7.1nm,0.7s,mb4.7,baz=92,slow=5.6,SNR=20
NAO01 NORSAR Array S 79.82 330 *e*P **P 23 08 52.4 -0.7**
DAVA Damuels 80.32 317⇑*i*P **P 23 08 56.5 +0.5**
comp=Z,22nm,1.3s,mb4.9
LPG La Plagne 82.56 315 *e*P **P 23 09 08.5 +0.7**
comp=Z,24nm,0.7s,mb5.0
LPG La Plagne 82.56 315 *e*P **P 23 09 08.5 +0.7**
LPG pmax pmax
comp=Z,12nm,0.7s,mb5.0
BNI Bardonecchia 82.64 314 P **P 23 09 08.0 -0.2**
ESDC Sonseca Array 91.16 310 P **P 23 09 51.3 +1.4**
comp=Z,1.9nm,0.6s,mb4.6,baz=62,slow=4.2,SNR=13
IMA Indian Mountai 91.59 22 *e*P **P 23 09 52.7 +1.5**
ILAR Eielson Array 94.71 22 P **P 23 10 05.3 -0.3**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.71 22 P **P 23 10 05.3 -0.3**
comp=Z,1.0nm,0.8s,mb4.3,baz=294,slow=4.0,SNR=12
INK Inuvik 96.95 16 P **P 23 10 16.6 +0.9**
INK pmax pmax
comp=Z,9.0nm,1.2s
INK Inuvik 96.95 16 P **P 23 10 16.6 +0.8**
comp=Z,8.9nm,1.2s,mb5.1,baz=306,slow=4.4,SNR=10
SCHQ Schefferville 115.46 348 PKP PKPdf 23 15 27.8 -0.6
comp=Z,1.3nm,0.7s,baz=110,slow=4.2,SNR=3.5
NVAR Mina Array Bea 124.89 31 PKP PKPdf 23 15 47.5 +0.4
comp=Z,3.0nm,0.8s,baz=342,slow=2.9,SNR=12
PDAR Pinedale Array 125.13 21 PKP PKPdf 23 15 46.0 -1.4
comp=Z,2.2nm,0.7s,baz=69,slow=0.3,SNR=21
SADO Sadowa 127.20 354 PKP PKPdf 23 15 49.9 -1.3
comp=Z,2.2nm,0.5s,baz=307,slow=5.3,SNR=5.3
SADO Sadowa 127.20 354 PKP PKPdf 23 15 49.9 -1.3
ANMO Albuquerque 133.13 23 PKIKP PKPdf 23 16 03.4 +0.5
ANMO pmax pmax
comp=Z,3.0nm,0.8s
ANMO Albuquerque 133.13 23 PKP PKPdf 23 16 03.4 +0.5
comp=Z,2.7nm,0.8s,baz=338,slow=5.4,SNR=5.5
TXAR Lajitas Array 139.19 24 PKP PKPdf 23 16 14.2 0.0
comp=Z,1.9nm,0.8s,baz=167,slow=0.5,SNR=8.7
PLCA Paso Flores 144.59 200 PKIKP PKPdf 23 16 22.4 -1.0
PLCA pmax pmax
comp=Z,9.0nm,0.9s
PLCA Paso Flores 144.59 200 PKP PKPdf 23 16 22.4 -1.0
comp=Z,9.1nm,0.9s,baz=162,slow=3.1,SNR=13
SJG San Juan 147.61 323 PKPbc PKPdf 23 16 30.9 +1.8
comp=Z,5.5nm,0.4s,baz=31,slow=20,SNR=2.7
TEIG Tepich 151.93 5 *e*PKPdf PKPdf 23 16 34.8 -1.0
TEIG *e*PKPbc PKPdf 23 16 41.1 +5.3
SDV Santo Domingo 157.41 317 PKPab PKPab 23 17 14.0 -0.3
comp=Z,3.1nm,0.8s,baz=14,slow=3.7,SNR=5.3
LVC Limon Verde 158.09 226 PKPab PKPab 23 17 15.8 -1.2
comp=Z,4.4nm,1.1s,baz=285,slow=11,SNR=3.1
LPAZ La Paz 160.76 243 PKP PKPdf 23 16 03.0 -44
comp=Z,1.5nm,1.1s,baz=308,slow=2.4,SNR=3.8
LPAZ PKPab PKPab 23 16 45.6 -43
comp=Z,1.1nm,0.7s,baz=122,slow=3.7,SNR=4.3

IDC ***27*** *23:00:51.7±0.7, 8.33N×94.48E, mb4.0/13, mb1 4.0/14, mb1mx4.0/21, mbtmp3.9/14, ML3.9/1, Error ellipse: s-maj=31.1km s-min=17.1km az=61.0*
NEIC ***27*** *23:00:56.0±0.6, 8.37N×94.65E, h30km, mb4.5/3, Error ellipse: s-maj=21.5km s-min=12.1km az=67.0*
ISC 27 23:00:54.2±0.6, 8.40N±0.09×94.7E±0.1, h30km, n23, σ1§21/22, mb4.0/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.83**	**22**	Pn	**P**	**23 03 29.0**	**-1.5**
	0.3nm,0.3s,baz=209,slow=13,SNR=4.0						
LSA	**Lhasa**	**21.44**	**352**	*e*P	**P**	**23 05 40.8**	**-1.4**
	21nm,1.1s,mb4.4						
AAK	**Ala-Archa**	**38.43**	**336**	*e*P	**P**	**23 08 13.7**	**-1.3**
SONM	**Songino Array**	**40.54**	**12**	P	**P**	**23 08 33.9**	**+1.4**
	0.5nm,0.6s,mb3.3,baz=194,slow=5.9,SNR=4.2						
KURK	**Kurchatov**	**44.23**	**345**	*e*P	**P**	**23 09 02.1**	**-0.5**
ZAL	**Zalesovo**	**46.10**	**352**	P	**P**	**23 09 19.7**	**+2.4**
	1.2nm,0.4s,mb4.2,baz=307,slow=6.4,SNR=3.5						
NWAO	**Narrogin (SRO)**	**46.38**	**154**	P	**P**	**23 09 20.9**	**+1.0**
	3.3nm,0.8s,mb4.3,baz=347,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**48.15**	**126**	P	**P**	**23 09 34.1**	**+0.1**
	0.6nm,0.6s,mb3.8,baz=305,slow=8.4,SNR=4.9						
WRAB	**Tennant Creek**	**48.16**	**126**	P	**P**	**23 09 30.8**	**-3.2**
BVAR	**Borovoye Array**	**48.66**	**341**	P	**P**	**23 09 37.2**	**-0.2**
	1.3nm,1.1s,mb3.9,baz=144,slow=12,SNR=2.7						
CHKZ	**Chkalovo**	**49.14**	**341**	*e*P	**P**	**23 09 42.6**	**+1.5**
	3.1nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**49.86**	**131**	P	**P**	**23 09 46.6**	**-0.5**
	0.7nm,0.9s,mb3.7,baz=304,slow=8.8,SNR=3.9						
KMBO	**Kilima Mbogo**	**57.99**	**263**	P	**P**	**23 10 45.7**	**-1.3**
	1.6nm,0.8s,mb4.1,baz=47,slow=15,SNR=3.5						
KMBO	**Kilima Mbogo**	**57.99**	**263**	P	**P**	**23 10 45.7**	**-1.3**
BRTR	**Keskin Array B**	**62.48**	**310**	P	**P**	**23 11 15.4**	**-1.9**
	0.5nm,0.5s,mb3.9,baz=115,slow=5.0,SNR=3.8						
FINES	**FINESS Array B**	**72.49**	**332**	P	**P**	**23 12 19.9**	**+0.1**
	3.2nm,0.9s,mb4.2,baz=108,slow=6.0,SNR=3.8						
FINES	**FINESS Array B**	**72.49**	**332**	P	**P**	**23 12 19.9**	**+0.1**
KAF	**Kangasniemi**	**72.56**	**333**	*e*p	**P**	**23 12 21.4**	**+1.2**
	6.5nm,1.1s,mb4.5						
ARCES	**ARCESS Array B**	**74.95**	**340**	P	**P**	**23 12 35.3**	**+1.4**
	6.6nm,1.1s,mb4.5,baz=112,slow=6.5,SNR=3.6						
GERES	**GERESS Array B**	**77.78**	**318**	P	**P**	**23 12 50.6**	**+0.4**
	0.7nm,0.6s,mb3.8,baz=90,slow=4.0,SNR=6.4						
HFS	**Hagfors**	**78.26**	**330**	P	**P**	**23 12 53.3**	**+0.7**
	3.0nm,1.0s,mb4.2,baz=108,slow=4.7,SNR=5.7						
NOA	**NORSAR Array B**	**79.53**	**331**	P	**P**	**23 12 59.4**	**-0.2**
	0.8nm,0.8s,mb3.7,baz=113,slow=4.3,SNR=2.9						
PLCA	**Paso Flores**	**145.22**	**200**	PKPbc	PKPbc	23 20 31.7	+2.1
	2.1nm,0.8s,baz=189,slow=2.9,SNR=3.1						

IDC ***27*** *23:03:27.8±1.0, 7.75N×94.07E, mb3.7/10, mb1 3.9/11, mb1mx3.8/20, mbtmp3.7/11, ML3.9/1, Error ellipse: s-maj=41.7km s-min=21.1km az=53.0*
NEIC ***27*** *23:03:32.2±0.6, 7.77N×94.08E, h30km, mb3.9/1, Error ellipse: s-maj=19.5km s-min=12.3km az=64.0*
ISC 27 23:03:27.5±0.8, 7.8N±0.1×94.1E±0.2, h10km, n16, σ0§79/15, mb3.7/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.62**	**23**	Pn	**P**	**23 06 16.8**	**+0.3**
	0.3nm,0.3s,baz=210,slow=14,SNR=4.0						
AAK	**Ala-Archa**	**38.78**	**337**	P	**P**	**23 10 53.9**	**-0.1**
SONM	**Songino Array**	**41.27**	**13**	P	**P**	**23 11 14.9**	**+0.4**
	1.7nm,1.2s,mb3.5,baz=190,slow=8.8,SNR=3.6						
ZAL	**Zalesovo**	**46.64**	**352**	P	**P**	**23 11 57.5**	**-0.2**
	0.7nm,0.3s,mb4.0,baz=302,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**48.24**	**125**	P	**P**	**23 12 10.7**	**-0.1**
	0.4nm,0.7s,mb3.6,baz=305,slow=8.6,SNR=5.9						
BVAR	**Borovoye Array**	**49.07**	**341**	P	**P**	**23 12 15.5**	**-1.2**
	0.2nm,0.6s,mb3.4,baz=151,slow=15,SNR=1.9						
CHKZ	**Chkalovo**	**49.55**	**342**	P	**P**	**23 12 18.9**	**-1.6**
	0.6nm,0.5s,mb3.9						
ASAR	**Alice Springs**	**49.88**	**130**	P	**P**	**23 12 23.1**	**-0.3**
	0.4nm,1.0s,mb3.4,baz=306,slow=7.7,SNR=2.1						
ASAR	**Alice Springs**	**49.88**	**130**	P	**P**	**23 12 23.1**	**-0.3**
BRTR	**Keskin Array B**	**62.46**	**311**	P	**P**	**23 13 54.0**	**+0.5**
	0.3nm,0.4s,mb3.8,baz=101,slow=7.3,SNR=2.7						
ARCES	**ARCESS Array B**	**75.34**	**340**	P	**P**	**23 15 14.2**	**+1.7**
	2.9nm,0.9s,mb4.2,baz=96,slow=8.2,SNR=2.5						
GERES	**GERESS Array B**	**77.87**	**318**	P	**P**	**23 15 27.0**	**0.0**
	0.7nm,0.7s,mb3.7,baz=90,slow=4.0,SNR=4.9						
HFS	**Hagfors**	**78.52**	**330**	P	**P**	**23 15 30.0**	**-0.3**
	0.8nm,0.6s,mb3.8,baz=79,slow=7.3,SNR=2.0						
NOA	**NORSAR Array B**	**79.80**	**331**	P	**P**	**23 15 38.2**	**+0.9**
	1.0nm,0.8s,mb3.8,baz=97,slow=5.3,SNR=3.0						
NOA	**NORSAR Array B**	**79.80**	**331**	P	**P**	**23 15 38.2**	**+0.9**
PLCA	**Paso Flores**	**144.44**	**200**	PKP	PKPdf	23 23 06.2	-1.2
	2.6nm,1.1s,baz=186,slow=6.5,SNR=3.1						

BJI ***27*** *23:05:04.5, 5.10N×94.70E, h50km, mb4.5*
IDC ***27*** *23:05:04.7±0.9, 5.15N×94.70E, h51km±7km, mb4.0/14, mb1 4.1/14, mb1mx3.9/22, mbtmp4.3/14, Error ellipse: s-maj=37.4km s-min=13.2km az=46.0*
NEIC ***27*** *23:05:04.5±0.4, 5.10N×94.69E, mb4.7/7, Error ellipse: s-maj=18.1km s-min=6.9km az=49.0*

ISC 27 23:05:02.5±0.6,5.1N±0.1×94.7E±0.1,h50km,
h50km±1.4km:pP-P,n31,σ0°71/31,mb4.5/26,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**23.88**	**341**	*eP*	**P**	**23 10 13.5**	**+1.1**
	23nm,0.6s,mb4.8						
PKI	**Pulchoki**	**24.05**	**340**	*eP*	**P**	**23 10 13.3**	**-0.9**
	24nm,0.6s,mb4.8						
DMN	**Daman**	**24.20**	**339**	*eP*	**P**	**23 10 14.8**	**-0.8**
KKN	**Kakani**	**24.30**	**339**	*eP*	**P**	**23 10 16.3**	**-0.3**
	24nm,0.7s,mb4.7						
GKN	**Gorkha**	**24.73**	**338**	*eP*	**P**	**23 10 21.1**	**+0.4**
	38nm,0.7s,mb5.1						
LSA	**Lhasa**	**24.73**	**353**	*eP*	**P**	**23 10 21.6**	**+0.8**
	12nm,0.6s,mb4.6						
KOLN	**Koldanda**	**24.91**	**336**	*eP*	**P**	**23 10 23.1**	**+0.6**
	34nm,0.7s,mb5.0						
BJI	**Beijing**	**39.86**	**26**	P	**P**	**23 12 33.8**	**+0.8**
	13nm,0.7s,mb4.8						
AAK	**Ala-Archa**	**41.48**	**337**	*eP*	**P**	**23 12 46.7**	**+0.4**
	2.2nm,0.6s,mb4.0						
SONM	**Songino Array**	**43.79**	**11**	P	**P**	**23 13 04.2**	**-1.0**
	2.4nm,0.6s,mb4.1,baz=192,slow=8.3,SNR=20						
SONM				PcP	PcP	23 14 51.5	-0.1
	1.3nm,0.5s,baz=198,slow=4.2,SNR=7.7						
SONM				pPcP		23 15 06.0	
	1.1nm,0.5s,baz=190,slow=3.9,SNR=7.7						
WRA	**Warramunga Arr**	**46.25**	**124**	P	**P**	**23 13 25.1**	**-0.1**
	7.7nm,0.5s,mb4.9,baz=302,slow=9.2,SNR=55						
WRAB	**Tennant Creek**	**46.26**	**124**	*eP*	**P**	**23 13 25.2**	**0.0**
	14nm,0.5s,mb5.1						
WB2	**Warramunga Arr**	**46.26**	**124**	⇑*iP*	**P**	**23 13 25.4**	**+0.2**
KURK	**Kurchatov**	**47.45**	**346**	*eP*	**P**	**23 13 33.9**	**-0.2**
	5.4nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**47.76**	**128**	P	**P**	**23 13 37.0**	**+0.1**
	1.6nm,0.4s,mb4.4,baz=298,slow=7.8,SNR=14						
ASAR				pP	pP	23 13 51.2	+0.8
	2.3nm,0.6s,baz=298,slow=7.9,SNR=8.1						
ZAL	**Zalesovo**	**49.39**	**352**	P	**P**	**23 13 48.9**	**-0.2**
	5.3nm,0.6s,mb4.7,baz=301,slow=6.0,SNR=29						
BVAR	**Borovoye Array**	**51.80**	**342**	P	**P**	**23 14 06.9**	**-0.6**
	1.8nm,0.6s,mb4.2,baz=141,slow=9.5,SNR=16						
BVAR				pP	pP	23 14 20.6	-0.5
	2.7nm,0.7s,baz=135,slow=8.4,SNR=9.1						
CHKZ	**Chkalovo**	**52.29**	**342**	*eP*	**P**	**23 14 10.4**	**-0.6**
	4.8nm,0.6s,mb4.6						
CHKZ				*e*pP	pP	23 14 23.2	-1.6
PMG	**Port Moresby**	**54.27**	**105**	P	**P**	**23 14 25.7**	**-0.5**
	3.7nm,0.6s,mb4.5,baz=240,slow=9.9,SNR=2.0						
GNI	**Garni**	**56.77**	**315**	P	**P**	**23 14 48.6**	**+4.6**
	2.7nm,0.8s,mb4.3,baz=143,slow=10.0,SNR=2.4						
BRTR	**Keskin Array B**	**64.65**	**312**	P	**P**	**23 15 36.4**	**-1.1**
	1.2nm,0.6s,mb4.1,baz=139,slow=8.0,SNR=6.9						
IDI	**Anoyia**	**70.59**	**306**	P	**P**	**23 16 15.6**	**+0.9**
	15nm,1.1s,mb4.8,baz=320,slow=11,SNR=3.8						
AKASG	**Malin Array Be**	**70.67**	**322**	P	**P**	**23 16 13.6**	**-1.4**
	0.5nm,0.6s,mb3.6,baz=18,slow=1.9,SNR=5.5						
FINES	**FINESS Array B**	**75.42**	**332**	P	**P**	**23 16 42.1**	**-0.5**
	0.8nm,0.8s,mb3.7,baz=90,slow=5.7,SNR=5.4						
FINES				pP	pP	23 16 56.7	-0.3
	1.0nm,0.5s,baz=109,slow=5.7,SNR=2.2						
FINES	**FINESS Array B**	**75.42**	**332**	P	**P**	**23 16 42.1**	**-0.5**
FINES				pP	pP	23 16 56.7	-0.3
MORC	**Moravsky Berou**	**77.83**	**320**	P	**P**	**23 16 56.9**	**+0.6**
	0.8nm,0.5s,mb3.9						
ARCES	**ARCESS Array B**	**78.07**	**340**	P	**P**	**23 16 57.9**	**+0.6**
	4.4nm,0.9s,mb4.4,baz=96,slow=7.0,SNR=8.0						
GERES	**GERESS Array B**	**80.25**	**319**	P	**P**	**23 17 10.6**	**+1.1**
	3.4nm,0.7s,mb4.4,baz=102,slow=5.2,SNR=22						
KHC	**Kasperske Hory**	**80.35**	**319**	*eP*	**P**	**23 17 09.5**	**-0.6**
KHC	**Kasperske Hory**	**80.35**	**319**	*eP*	**P**	**23 17 09.5**	**-0.6**
HFS	**Hagfors**	**81.13**	**330**	P	**P**	**23 17 15.1**	**+1.1**
	0.7nm,0.5s,mb3.8,baz=90,slow=8.6,SNR=4.7						

*IDC **27** 23:05:04.5±0.8, 6.67N×72.86W, h161km±10km, mb3.2/7, mb1 3.4/9, mb1mx3.3/22, mbtmp3.7/9, Error ellipse: s-maj=31.5km s-min=7.8km az=131.0, Putative timing error at LPAZ*

*NEIC **27** 23:05:04.8±0.9, 6.68N×72.91W, h166km±11km, mb3.4/1, Error ellipse: s-maj=29.2km s-min=12.5km az=124.0*

ISC 27 23:05:03.7±1.3,6.6N±0.3×72.8W±0.3,h177km±20km,n13,
σ0°91/12,mb3.5/7,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.32**	**221**	P	**P**	**23 05 45.2**	**+0.6**
	30nm,0.3s,baz=91,slow=23,SNR=54						
ROSC				S	**S**	**23 06 15.7**	**-0.4**
	66nm,0.3s,baz=112,slow=21,SNR=15						
SDV	**Santo Domingo**	**3.11**	**44**	P	**P**	**23 05 54.7**	**+0.6**
	44nm,0.3s,baz=238,slow=10,SNR=312						
SDV				S	**S**	**23 06 32.4**	**-0.6**
	31nm,0.3s,baz=278,slow=21,SNR=22						
OTAV	**Otavalo**	**8.48**	**222**	*eP*	**P**	**23 07 04.2**	**0.0**
LPAZ	**La Paz**	**23.24**	**169**	P	Px	23 09 14.3	
	0.4nm,0.4s,baz=36,slow=19,SNR=2.4						
LPAZ				pP		23 09 48.7	
	1.7nm,0.7s,baz=345,slow=14,SNR=7.7						
TXAR	**Lajitas Array**	**36.81**	**312**	P	**P**	**23 11 56.9**	**+0.6**
	0.3nm,0.4s,mb3.3,baz=128,slow=10,SNR=3.8						
SADO	**Sadowa**	**38.38**	**353**	P	**P**	**23 12 10.3**	**+1.0**
	1.2nm,0.7s,mb3.7,baz=263,slow=8.3,SNR=1.8						
ANMO	**Albuquerque**	**41.86**	**317**	P	**P**	**23 12 39.5**	**+1.5**
	0.8nm,0.6s,mb3.5,baz=264,slow=8.8,SNR=2.3						
SDCO	**Great Sand Dun**	**42.88**	**321**	P	**P**	**23 12 44.3**	**-2.1**
	0.6nm,0.6s,mb3.4						
PDAR	**Pinedale Array**	**48.41**	**324**	P	**P**	**23 13 30.1**	**+0.3**
	0.3nm,0.8s,mb3.0,baz=112,slow=9.7,SNR=3.5						
YBH	**Yreka Blue Hor**	**56.28**	**317**	P	**P**	**23 14 26.9**	**-1.2**
	1.4nm,0.7s,mb3.9,baz=203,slow=13,SNR=2.3						
YKA	**Yellowknife Ar**	**63.54**	**340**	P	**P**	**23 15 16.7**	**-0.5**
	0.6nm,0.6s,mb3.6,baz=131,slow=7.0,SNR=13						
ASAR	**Alice Springs**	**149.25**	**234**	PKPbc	PKPdf	23 24 34.5	+7.0
	0.6nm,0.6s,baz=118,slow=2.4,SNR=5.7						
WRA	**Warramunga Arr**	**150.51**	**241**	PKPbc	PKPdf	23 24 38.2	+8.6
	0.6nm,0.6s,baz=107,slow=2.7,SNR=4.5						

*NEIC **27** 23:05:43.4±0.5, 8.22N×93.86E, h30km, mb4.4/3, Error ellipse: s-maj=17.2km s-min=13.6km az=65.0*

*IDC **27** 23:05:48.9±4.8, 8.41N×93.93E, h73km±41km, mb3.9/14, mb1 4.1/15, mb1mx4.0/20, mbtmp4.2/15, ML3.8/1, Error ellipse: s-maj=27.3km s-min=20.3km az=35.0*

ISC 27 23:05:42.7±4.4,8.3N±0.1×93.9E±0.1,h34km±37km,n32,
σ0°98/26,mb4.3/16,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.20**	**26**	P	**P**	**23 08 23.3**	**-0.4**
	0.2nm,0.3s,baz=217,slow=14,SNR=4.3						
LSA	**Lhasa**	**21.41**	**353**	*eP*	**P**	**23 10 32.7**	**+2.9**
AAK	**Ala-Archa**	**38.18**	**337**	P	**P**	**23 13 01.0**	**+0.1**
SONM	**Songino Array**	**40.77**	**13**	P	**P**	**23 13 23.2**	**+0.9**
	1.4nm,0.7s,mb3.7,baz=194,slow=5.9,SNR=4.9						
SONM				PcP	PcP	23 15 22.7	-1.0
	1.0nm,0.5s,baz=193,slow=3.3,SNR=4.4						
KURK	**Kurchatov**	**44.10**	**346**	*eP*	**P**	**23 13 49.2**	**-0.3**
ZAL	**Zalesovo**	**46.06**	**353**	P	**P**	**23 14 05.3**	**+0.2**
	8.5nm,1.1s,mb4.6,baz=272,slow=5.7,SNR=11						
WRA	**Warramunga Arr**	**48.74**	**126**	P	**P**	**23 14 27.0**	**+0.5**
	0.8nm,0.6s,mb4.0,baz=303,slow=8.9,SNR=3.2						
WRAB	**Tennant Creek**	**48.74**	**126**	P	**P**	**23 14 25.7**	**-0.8**
	2.1nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**48.96**	**342**	*eP*	**P**	**23 14 24.4**	**-3.3**
	5.5nm,0.7s,mb4.7						
KMBO	**Kilima Mbogo**	**57.22**	**263**	P	**P**	**23 15 31.0**	**+1.4**
	3.2nm,0.8s,mb4.4,baz=60,slow=10.0,SNR=7.9						
BRTR	**Keskin Array B**	**61.94**	**311**	P	**P**	**23 15 59.8**	**-1.8**
	1.7nm,0.6s,mb4.4,baz=120,slow=8.1,SNR=7.5						
AKASG	**Malin Array Be**	**67.64**	**322**	P	**P**	**23 16 37.0**	**-1.3**
	1.9nm,0.7s,mb4.3,baz=88,slow=5.0,SNR=8.0						
IDI	**Anoyia**	**68.10**	**305**	P	**P**	**23 16 40.8**	**-0.7**
	3.5nm,0.5s,mb4.7,baz=86,slow=12,SNR=5.9						
FINES	**FINESS Array B**	**72.19**	**332**	P	**P**	**23 17 05.7**	**-0.1**
	4.6nm,0.8s,mb4.5,baz=114,slow=8.2,SNR=7.9						
ARCES	**ARCESS Array B**	**74.75**	**340**	P	**P**	**23 17 21.3**	**+0.7**
	1.0nm,0.5s,mb4.0,baz=124,slow=4.4,SNR=6.7						
MORC	**Moravsky Berou**	**74.86**	**319**	*eP*	**P**	**23 17 21.1**	**-0.6**
GERES	**GERESS Array B**	**77.31**	**318**	P	**P**	**23 17 36.1**	**+0.4**
	3.1nm,0.7s,mb4.4,baz=84,slow=5.1,SNR=12						
KHC	**Kasperske Hory**	**77.41**	**318**	*e*	**P**	**23 17 36.5**	**+0.3**
KHC	**Kasperske Hory**	**77.41**	**318**	x	**P**	**23 17 36.5**	**+0.3**
HFS	**Hagfors**	**77.93**	**330**	P	**P**	**23 17 39.1**	**+0.3**
	4.7nm,0.7s,mb4.6,baz=104,slow=6.1,SNR=12						
NB2	**NORSAR Subarra**	**79.21**	**331**	P	**P**	**23 17 45.8**	**0.0**
	1.1nm,0.5s,mb4.0,baz=94,slow=5.0						
NOA	**NORSAR Array B**	**79.21**	**331**	P	**P**	**23 17 45.7**	**-0.1**
	2.5nm,0.8s,mb4.2,baz=93,slow=5.5,SNR=5.7						
NOA	**NORSAR Array B**	**79.21**	**331**	P	**P**	**23 17 45.7**	**-0.1**
ESDC	**Sonseca Array**	**90.73**	**310**	P	**P**	**23 18 44.6**	**+0.8**
	0.7nm,0.6s,mb4.2,baz=58,slow=4.2,SNR=4.0						
IMA	**Indian Mountai**	**91.30**	**22**	*eP*	**P**	**23 18 46.8**	**+1.0**
ILAR	**Eielson Array**	**94.42**	**22**	P	**P**	**23 18 58.5**	**-1.5**
	0.4nm,0.7s,mb3.9,baz=294,slow=4.2,SNR=4.4						
NVAR	**Mina Array Bea**	**124.66**	**31**	PKP	PKPdf	23 24 40.6	+1.2
	0.5nm,0.6s,baz=306,slow=1.6,SNR=5.2						
PDAR	**Pinedale Array**	**124.83**	**21**	PKP	PKPdf	23 24 40.1	+0.5
	1.0nm,0.8s,slow=1.5,SNR=8.1						
ANMO	**Albuquerque**	**132.85**	**23**	PKP	PKPdf	23 24 56.1	+0.9
	0.8nm,0.6s,baz=50,slow=5.6,SNR=2.2						
TXAR	**Lajitas Array**	**138.91**	**24**	PKiKP		23 25 09.2	
	0.5nm,0.5s,baz=11,slow=1.3,SNR=6.1						
PLCA	**Paso Flores**	**144.89**	**201**	PKP	PKPdf	23 25 15.3	-1.3
	3.3nm,0.9s,baz=171,slow=4.1,SNR=5.6						
PLCA	**Paso Flores**	**144.89**	**201**	PKP	PKPdf	23 25 15.3	-1.3

MAN 27 23:13:15.5,17.45N×119.85E,h31km,mb3.9,ML2.7,
MS2.3,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**1.89**	**82**	*eP*	Pn	23 13 46.0	-0.4

*IDC **27** 23:14:33.1±0.5, 7.77N×94.09E, mb4.2/20, mb1 4.3/21, mb1mx4.3/25, mbtmp4.2/21, ML4.1/1, Error ellipse: s-maj=23.9km s-min=12.9km az=48.0*

*BJI **27** 23:14:36.2, 7.87N×93.69E, h23km, mB4.5, mb4.6, Ms4.9, Msz4.5*

*NEIC **27** 23:14:37.6±0.4, 7.73N×94.06E, h30km, mb4.7/15, Error ellipse: s-maj=11.6km s-min=8.7km az=50.0*

ISC 27 23:14:32.4±5.1,7.74N±0.08×94.09E±0.07,h7km±31km,
n72,σ1°03/65,mb4.6/40,1D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**9.85**	**36**	P	**P**	**23 16 57.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**11.65**	**23**	Pn	**P**	**23 17 22.0**	**-0.2**
	0.3nm,0.3s,baz=210,slow=14,SNR=23						
CMAR	**Chiang Mai Arr**	**11.65**	**23**	Pn	**P**	**23 17 21.9**	**-0.2**
CHG	**Chiang Mai**	**11.97**	**23**	⇓P	**P**	**23 17 26.8**	**+0.2**
	13nm,1.0s						
HYB	**Hyderabad**	**17.95**	**304**	*eP*	**P**	**23 18 46.0**	**+1.8**
HYB	**Hyderabad**	**17.95**	**304**	*i* P	**P**	**23 18 46.0**	**+1.8**
KMI	**Kunming**	**19.16**	**25**	P	**P**	**23 19 01.9**	**+2.9**
	27nm,1.4s						
JIRN	**Jiri**	**21.18**	**340**	*eP*	**P**	**23 19 19.0**	**-1.7**
	156nm,1.3s,mb5.2						
PKI	**Pulchoki**	**21.37**	**338**	*eP*	**P**	**23 19 22.4**	**-0.3**
	90nm,1.0s,mb5.0						
DMN	**Daman**	**21.52**	**338**	*eP*	**P**	**23 19 24.7**	**+0.5**
	89nm,0.9s,mb5.2						
KKN	**Kakani**	**21.62**	**338**	*eP*	**P**	**23 19 24.8**	**-0.4**
	315nm,1.7s,mb5.5						
LSA	**Lhasa**	**22.02**	**353**	*eP*	**P**	**23 19 28.6**	**-0.6**
	27nm,0.9s,mb4.7						
GKN	**Gorkha**	**22.05**	**337**	*eP*	**P**	**23 19 28.8**	**-0.7**
	155nm,1.2s,mb5.3						
KOLN	**Koldanda**	**22.26**	**335**	*eP*	**P**	**23 19 31.6**	**0.0**
	119nm,1.2s,mb5.2						
ENH	**Enshi**	**26.66**	**31**	*eP*	**P**	**23 20 14.2**	**+0.3**
	22nm,1.1s,mb4.6						
XAN	**Xi'an**	**29.53**	**26**	P	**P**	**23 20 40.0**	**+0.2**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.5						
WHN	**Wuhan**	**29.57**	**37**	P	**P**	**23 20 41.5**	**+1.3**
LZH	**Lanzhou**	**29.59**	**16**	*eP*	**P**	**23 20 38.5**	**-1.8**
LZH				AP	pP	23 20 45.0	+2.6
LZH				XP	sP	23 20 50.0	+6.6
LZH				AMB	AMB		
	comp=Z,21nm,1.7s,mb4.6						
LZH	**Lanzhou**	**29.59**	**16**	*eP*	**P**	**23 20 38.5**	**-1.8**
	comp=Z,21nm,1.7s,mb4.6						
LZH				pP	pP	23 20 45.0	+2.6
LZH				sP	sP	23 20 50.0	+6.6
BJI	**Beijing**	**37.74**	**28**	*eP*	**P**	**23 21 53.3**	**+2.6**
	comp=Z,8.0nm,1.2s,mb4.3						
AAK	**Ala-Archa**	**38.81**	**337**	*eP*	**P**	**23 21 58.8**	**-0.8**
	comp=Z,7.3nm,1.0s,mb4.4						
SONM	**Songino Array**	**41.30**	**13**	P	**P**	**23 22 20.8**	**+0.7**
	comp=Z,3.3nm,0.9s,mb4.0,baz=197,slow=7.7,SNR=18						
SONM				PcP	PcP	23 24 19.8	+0.5
	comp=Z,1.6nm,1.0s,baz=180,slow=4.3,SNR=3.3						
KURK	**Kurchatov**	**44.73**	**346**	*eP*	**P**	**23 22 47.2**	**-0.8**
	comp=Z,17nm,1.1s,mb4.8						
NWAO	**Narrogin (SRO)**	**46.05**	**153**	P	**P**	**23 22 58.8**	**+0.1**
	comp=Z,5.2nm,0.8s,mb4.5,baz=342,slow=13,SNR=2.0						
HIA	**Hailar**	**46.66**	**23**	*eP*	**P**	**23 23 04.6**	**+1.2**
	comp=Z,23nm,1.3s,mb5.0						
ZAL	**Zalesovo**	**46.67**	**352**	P	**P**	**23 23 02.4**	**-1.0**
	comp=Z,3.9nm,0.6s,mb4.5,baz=288,slow=6.1,SNR=23						
WRA	**Warramunga Arr**	**48.22**	**125**	P	**P**	**23 23 14.6**	**-1.4**
	comp=Z,1.4nm,0.7s,mb4.1,baz=303,slow=8.9,SNR=11						
WRAB	**Tennant Creek**	**48.23**	**125**	*eP*	**P**	**23 23 14.9**	**-1.1**
RAYN	**Ar Rayn**	**49.10**	**294**	P	**P**	**23 23 24.7**	**+2.0**
	comp=Z,68nm,1.3s,mb5.5,SNR=7.3						
BVAR	**Borovoye Array**	**49.10**	**341**	P	**P**	**23 23 21.9**	**-0.5**
	comp=Z,1.2nm,0.7s,mb4.0,baz=149,slow=8.6,SNR=9.2						
BVAR				PcP	PcP	23 24 46.6	+0.3
	comp=Z,1.5nm,0.9s,baz=117,slow=6.6,SNR=3.7						
CHKZ	**Chkalovo**	**49.59**	**342**	*eP*	**P**	**23 23 24.6**	**-1.5**
	comp=Z,25nm,1.4s,mb5.0						
ASAR	**Alice Springs**	**49.87**	**130**	P	**P**	**23 23 28.4**	**-0.2**
	comp=Z,2.6nm,0.9s,mb4.3,baz=306,slow=7.3,SNR=11						
ASAR				PcP	PcP	23 24 49.9	+0.4
	comp=Z,1.3nm,0.9s,baz=314,slow=5.1,SNR=3.2						
GNI	**Garni**	**54.50**	**314**	P	**P**	**23 24 03.3**	**+0.2**
	comp=Z,6.5nm,0.9s,mb4.5,baz=168,slow=10,SNR=5.0						
PMG	**Port Moresby**	**55.54**	**107**	P	**P**	**23 24 11.4**	**+0.3**
	comp=Z,6.1nm,0.7s,mb4.8,baz=274,slow=13,SNR=2.5						
KMBO	**Kilima Mbogo**	**57.36**	**264**	P	**P**	**23 24 25.1**	**+1.0**
	comp=Z,2.9nm,0.8s,mb4.3,baz=53,slow=22,SNR=2.1						
ASF	**Jabal al Asfar**	**58.25**	**303**	P	**P**	**23 24 31.2**	**+1.1**
	comp=Z,0.9nm,0.4s,mb4.2,baz=106,slow=3.4,SNR=3.0						
MALT	**Malatya**	**58.51**	**310**	*eP*	**P**	**23 24 30.7**	**-1.2**
STKA	**Stephens Creek**	**60.05**	**134**	P	**P**	**23 24 42.7**	**+0.1**
	comp=Z,4.6nm,1.2s,mb4.4,baz=297,slow=6.8,SNR=3.0						
BRTR	**Keskin Array B**	**62.48**	**311**	P	**P**	**23 24 57.4**	**-1.6**
	comp=Z,1.7nm,0.9s,mb4.2,baz=117,slow=2.8,SNR=6.5						
AKASG	**Malin Array Be**	**68.23**	**322**	P	**P**	**23 25 34.3**	**-1.5**
	comp=Z,3.1nm,0.9s,mb4.3,baz=92,slow=4.4,SNR=11						
IDI	**Anoyia**	**68.61**	**305**	P	**P**	**23 25 38.4**	**0.0**
	comp=Z,6.8nm,0.7s,mb4.7,baz=48,slow=7.2,SNR=3.5						
KWP	**Kalwaria**	**72.10**	**320**	*eP*	**P**	**23 25 58.9**	**-0.5**
KOLS	**Kolonicke sedl**	**72.27**	**319**	*eP*	pP	23 26 10.1	+7.4
KOLS	**Kolonicke sedl**	**72.27**	**319**	*e*pP	pP	23 26 10.1	+7.4
FINES	**FINESS Array B**	**72.81**	**332**	P	**P**	**23 26 02.5**	**-0.8**
	comp=Z,3.4nm,0.9s,mb4.3,baz=90,slow=5.7,SNR=6.2						
KAF	**Kangasniemi**	**72.89**	**333**	*ep*	**P**	**23 25 57.2**	**-6.6**
	comp=Z,8.2nm,1.2s,mb4.5						
VYHS	**Vyhne**	**74.48**	**318**	*eP*	**P**	**23 26 12.9**	**-0.4**
KEV	**Kevo**	**74.95**	**341**	*ep*	**P**	**23 26 17.5**	**+1.9**
	comp=Z,32nm,1.8s,mb4.9						
OKC	**Ostrava-Krasne**	**75.06**	**319**	*eP*	**P**	**23 26 18.4**	**+1.8**
ARCES	**ARCESS Array B**	**75.38**	**340**	P	**P**	**23 26 17.5**	**-0.6**
	comp=Z,4.6nm,0.9s,mb4.4,baz=90,slow=7.3,SNR=5.4						
MORC	**Moravsky Berou**	**75.45**	**319**	*eP*	**P**	**23 26 17.3**	**-1.5**
	comp=Z,7.7nm,1.1s,mb4.5						
ZST	**Bratislava**	**75.60**	**318**	*eP*	**P**	**23 26 20.4**	**+0.7**
DPC	**Dobruska-Polom**	**76.28**	**320**	*eP*	**P**	**23 26 23.6**	**+0.1**
UPC	**Upice**	**76.49**	**320**	*eP*	**P**	**23 26 23.7**	**-1.0**
PRU	**Pruhonice**	**77.40**	**319**	*eP*	**P**	**23 26 30.4**	**+0.6**
GERES	**GERESS Array B**	**77.89**	**318**	P	**P**	**23 26 32.5**	**0.0**
	comp=Z,4.7nm,1.1s,mb4.3,baz=104,slow=5.5,SNR=15						
KHC	**Kasperske Hory**	**77.99**	**319**	*eP*	**P**	**23 26 33.4**	**+0.4**
CLL	**Collm**	**78.44**	**321**	P	**P**	**23 26 30.0**	**-5.4**
CLL	**Collm**	**78.44**	**321**	P	**P**	**23 26 37.0**	**+1.6**
GRA1	**Grafenberg Arr**	**79.54**	**319**	*eP*	**P**	**23 26 41.8**	**+0.3**
	comp=Z,9.0nm,1.3s,mb4.5						
GRF	**Grafenberg Arr**	**79.54**	**319**	*eP*	**P**	**23 26 41.8**	**+0.3**
	comp=Z,9.0nm,1.3s,mb4.5						
NB2	**NORSAR Subarra**	**79.82**	**331**	P	**P**	**23 26 42.4**	**-0.4**
	comp=Z,16nm,1.4s,mb4.8,baz=91,slow=5.3						
NOA	**NORSAR Array B**	**79.82**	**331**	P	**P**	**23 26 42.4**	**-0.4**
	comp=Z,1.2nm,0.8s,mb3.9,baz=98,slow=5.5,SNR=4.2						
NOA	**NORSAR Array B**	**79.82**	**331**	P	**P**	**23 26 42.4**	**-0.4**
IMA	**Indian Mountai**	**91.76**	**22**	*eP*	**P**	**23 27 41.8**	**+0.1**
ILAR	**Eielson Array**	**94.89**	**22**	P	**P**	**23 27 56.6**	**+0.6**
	comp=Z,0.3nm,0.7s,mb3.8,baz=270,slow=5.4,SNR=3.8						
INK	**Inuvik**	**97.13**	**16**	P	**P**	**23 28 08.2**	**+2.0**
	comp=Z,1.3nm,1.0s,mb4.3,baz=277,slow=10,SNR=3.1						
YKA	**Yellowknife Ar**	**106.56**	**13**	PP	PP	23 33 13.8	-2.8
	comp=Z,0.1nm,0.7s,baz=312,slow=8.5,SNR=4.8						
NVAR	**Mina Array Bea**	**125.06**	**31**	PKP	PKPdf	23 33 37.9	+1.1
	comp=Z,1.0nm,0.9s,baz=249,slow=8.3,SNR=4.3						
TXAR	**Lajitas Array**	**139.37**	**24**	PKP	PKPdf	23 34 04.3	+0.5
	comp=Z,0.8nm,1.1s,baz=270,slow=1.8,SNR=3.0						
TXAR	**Lajitas Array**	**139.37**	**24**	PKP	PKPdf	23 34 04.3	+0.5
PLCA	**Paso Flores**	**144.41**	**200**	PKP	PKPdf	23 34 10.6	-1.9
	comp=Z,5.4nm,0.9s,baz=200,slow=3.4,SNR=7.4						

*IDC **27** 23:20:02.4±0.5, 8.07N×94.00E, mb4.7/22, mb1 4.8/23, mb1mx4.8/25, mbtmp4.7/23, ML4.5/1, MS4.8/21, Ms1 4.8/21, ms1mx4.7/28, Error ellipse: s-maj=23.8km s-min=11.4km az=49.0, Putative timing error at LPAZ*

*MOS **27** 23:20:06.2±1.2, 8.14N×94.10E, h33km, mb5.3/54, MS4.9/15, Error ellipse: s-maj=8.5km s-min=5.4km az=109.8*

*BJI **27** 23:20:06.2, 7.75N×93.77E, h54km, mB5.5, mb5.0, Ms5.4, Msz5.1*

*HRVD **27** 23:20:07.2±0.2, 8.02N×94.20E, h12km, MW5.3/60, Centroid moment Tensor Solution. LP body waves: s31,c46;Mantle waves: s60,c111; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.35±.02; $M_{\theta\theta}$-0.68±.02; $M_{\phi\phi}$1.03±.02; $M_{r\theta}$-0.72±.06; $M_{\theta\phi}$0.48±.02; $M_{\phi r}$-0.21±.06; Best double couple: $M_0$1.272×10^{17} NP1: ϕ_s155°, δ53°, λ-163°. NP2:ϕ_s54°, δ77°, λ-39°. Principal axes: T 1.261, Plg15°, Azm110°; N .023, Plg49°, Azm218°; P -1.283, Plg36°, Azm8°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **27** 23:20:07.2±0.2, 8.09N×94.12E, h30km, mb5.1/64 Error ellipse: s-maj=7.0km s-min=5.8km az=51.0*

ISC 27 23:20:06.0±0.2,8.04N±0.03×94.10E±0.03,h33km,
h33km±2.3km:pP-P,n267,σ1°18/256,mb5.1/94,MS5.0/35,
20C-6D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.83**	**340**	*eP*	**P**	**23 21 04.8**	**+0.7**
PBA				*e*SG	**S**	**23 21 58.5**	**+10**
CMAR	**Chiang Mai Arr**	**11.37**	**24**	P	**P**	**23 22 49.1**	**-0.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,5μm,18.3s						
CMAR	**Chiang Mai Arr**	**11.37**	**24**	Pn	**P**	**23 22 49.0**	**-0.2**
	comp=Z,0.

comp=Z,89nm,1.7s,mb5.2
LZH AMB AMB
comp=Z,360nm,4.0s
LZH LR LR
comp=E,3µm,12.3s
LZH LR LR
comp=Z,3µm,13.5s,MS5.1
LZH Lanzhou 29.30 16 ⇑P P 23 26 08.0 +0.3
LZH *PP pP 23 26 17.0 -0.3
LZH *SP sP 23 26 20.7 -0.9
LZH 23 27 04.0
LZH *e*S **S 23 30 58.0 +0.8**
LZH *SS 23 31 14.0
LZH SS SS 23 32 33.0 +3.6
LZH pmax pmax
comp=Z,89nm,1.7s,mb5.2
LZH MLR MLR
comp=Z,3µm,13.5s,MS5.1
LZH Lanzhou 29.30 16 ⇑P P 23 26 08.0 +0.3
comp=Z,89nm,1.7s,mb5.2
LZH pP pP 23 26 17.0 -0.3
LZH sP sP 23 26 20.7 -0.9
LZH PP PP 23 27 04.0 +0.9
LZH *e*S **S 23 30 58.0 +0.8**
LZH sS 23 31 14.0
LZH SS SS 23 32 33.0 +3.6
LZH LR LR
comp=Z,3µm,13.5s,MS5.1
WHN Wuhan 29.33 38 ⇑P P 23 26 08.5 +0.5
WHN LR LR
comp=Z,8µm,12.7s,MS5.5
NJ2 Nanjing 33.17 41 *e*P P 23 26 43.3 +1.5
NJ2 AP pP 23 26 53.3 +1.8
NJ2 PP PP 23 27 55.3 +2.0
NJ2 S **S 23 32 00.0 +2.0**
NJ2 AMB AMB
comp=Z,50nm,0.9s,mb5.4
NJ2 AMB AMB
comp=Z,1µm,5.1s
NJ2 LR LR
comp=N,4µm,15.7s,MS5.5
NJ2 LR LR
comp=E,5µm,14.5s,MS5.5
NJ2 LR LR
comp=Z,5µm,14.6s,MS5.3
WMQ Urumqi 36.08 352 P P 23 27 06.5 -0.1
WMQ AP pP 23 27 21.5 +5.2
WMQ XP sP 23 27 28.8 +8.2
WMQ PP PP 23 28 29.8 +0.7
WMQ PCP PcP 23 29 32.3 -0.2
WMQ S **S 23 32 40.3 -2.6**
WMQ AMB AMB
comp=Z,64nm,1.0s,mb5.5
WMQ AMB AMB
comp=Z,441nm,5.4s
WMQ LR LR
comp=N,1µm,16.4s,MS4.8
WMQ LR LR
comp=E,988nm,16.2s,MS4.8
WMQ LR LR
comp=Z,2µm,16.8s,MS4.9
JOW Kunigami 37.39 56 LR LR 23 44 02.2
comp=Z,974nm,18.7s,MS4.6,baz=57,slow=38
BJT Baijiatuau 37.45 28 *e*P P 23 27 18.8 +0.6
BJT pmax pmax
comp=Z,147nm,1.7s
BJT Baijiatuau 37.45 28 *e*P P 23 27 18.8 +0.6
comp=Z,147nm,1.7s,mb5.5
BJI Beijing 37.48 28 P **P 23 27 18.9 +0.5**
BJI 23 28 51.4
BJI S **S 23 33 09.2 +4.8**
BJI SS SS 23 36 01.2 +23
BJI pmax pmax
comp=Z,31nm,1.5s,mb4.9
BJI MLR MLR
comp=Z,1µm,22.3s,MS4.7
BJI Beijing 37.48 28 P **P 23 27 18.9 +0.5**
comp=Z,31nm,1.5s,mb4.9
BJI PP PP 23 28 51.4 +4.5
BJI S **S 23 33 09.2 +4.8**
BJI SS SS 23 36 01.2 +23
BJI LR LR
comp=Z,1µm,22.3s,MS4.7
UCH Uchtor 38.18 336 P **P 23 27 26.7 +2.4**
SNR=6.1
KBK Karagaybulak 38.38 337 P **P 23 27 26.0 +0.2**
SNR=14
MBWA Marble Bar 38.42 139 P **P 23 27 25.7 -0.8**
comp=Z,21nm,1.1s,mb4.8
AML Almayashu 38.44 335 P **P 23 27 27.0 +0.6**
SNR=16
AAK Ala-Archa 38.53 337 P **P 23 27 27.0 -0.2**
SNR=10
AAK Ala-Archa 38.53 337 *e*P P 23 27 25.1 -2.1
AAK pmax pmax
comp=Z,29nm,1.1s,mb4.9
AAK Ala-Archa 38.53 337 *e*P P 23 27 25.1 -2.1
comp=Z,29nm,1.1s,mb4.9
CHMS Chumysh 38.74 337 P **P 23 27 28.6 -0.3**
SNR=10
USP Ospenovka 39.07 337 P **P 23 27 30.9 -0.7**
SNR=16
SONM Songino Array 41.01 13 P **P 23 27 47.4 -0.2**
comp=Z,11nm,1.0s,mb4.4,baz=196,slow=7.0,SNR=25
SONM PcP PcP 23 29 47.8 -0.1
comp=Z,2.3nm,0.8s,baz=204,slow=3.7,SNR=5.4
SONM ScP 23 33 35.6
comp=Z,0.6nm,0.7s,baz=51,slow=7.9,SNR=3.8
ULN Ulaanbaatar 41.18 13 *e*P P 23 27 48.2 -0.9
ULN pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
ULN Ulaanbaatar 41.18 13 *e*P P 23 27 48.2 -0.9
comp=Z,8.9nm,1.0s,mb4.3
KS15 Wonju Array Si 42.33 41 *e*P P 23 27 59.8 +1.1
SNY Shenyang 42.55 33 ⇓P P 23 28 01.5 +1.1
SNY S **S 23 34 24.8 +4.5**
SNY LR LR
comp=N,1µm,14.7s,MS5.2
SNY LR LR
comp=E,2µm,13.5s,MS5.2
SNY LR LR
comp=Z,2µm,16.5s,MS5.1
ZAK Zakamensk 42.89 9 *e*P P 23 28 02.4 -0.7
ZAK *e* 23 29 45.7
MOY Mondy 43.86 6 *e*P P 23 28 11.7 +0.8
TLY Talaya 44.21 9 *e*P P 23 28 12.3 -1.4
TLY *e*S **S 23 34 48.2 +3.9**
TLY pmax pmax
comp=Z,15nm,1.7s,mb4.5
TLY MLR MLR
comp=Z,972nm,19.0s,MS4.7
TLY Talaya 44.21 9 *e*P P 23 28 14.0 +0.3
comp=Z,6.6nm,0.9s,mb4.4
KURK Kurchatov 44.44 346 *e*P P 23 28 14.7 -0.9
KURK pmax pmax
comp=Z,135nm,1.4s,mb5.5
KURK Kurchatov 44.44 346 *e*P P 23 28 14.7 -0.9
comp=Z,135nm,1.4s,mb5.5
MUN Mundaring 45.05 153 *e*P P 23 28 23.3 +2.5
comp=Z,14nm,0.8s,mb4.8
MUN Mundaring 45.05 153 *e*P P 23 28 23.3 +2.5
MUN pmax pmax
comp=Z,14nm,0.8s,mb4.8
KLBR Kellerberrin 45.44 151 *e*P P 23 28 24.3 +0.4
comp=Z,207nm,0.8s,mb6.0
NWAO Narrogin (SRO) 46.31 153 P **P 23 28 30.4 -0.4**
NWAO pmax pmax
comp=Z,27nm,1.1s
NWAO Narrogin (SRO) 46.31 153 P **P 23 28 30.4 -0.4**
comp=Z,27nm,1.1s,mb5.1,baz=338,slow=9.3,SNR=9.7
NWAO Narrogin (SRO) 46.31 153 *e*P P 23 28 29.9 -0.9
comp=Z,29nm,0.9s,mb5.2
ZAL Zalesovo 46.38 352 P **P 23 28 29.7 -1.2**
ZAL pmax pmax
comp=Z,27nm,1.1s
ZAL Zalesovo 46.38 352 P **P 23 28 29.7 -1.3**
comp=Z,27nm,1.1s,mb5.1,baz=292,slow=7.8,SNR=21
ZAL Zalesovo 46.38 352 P **P 23 28 29.7 -1.3**
HIA Hailar 46.38 23 *e*P P 23 28 31.1 +0.1
HIA pmax pmax
comp=Z,80nm,1.5s
HIA Hailar 46.38 23 *e*P P 23 28 31.1 +0.1
comp=Z,80nm,1.5s,mb5.4
NVS Novosibirsk 47.47 351 *i*P P 23 28 37.2 -2.4
NVS pmax pmax
comp=N,44nm,1.4s
NVS pmax pmax
comp=E,13nm,1.3s
MDJ Mudanjiang 47.69 34 *e*P P 23 28 42.3 +0.9
comp=E,37nm,1.2s,mb5.3
WRA Warramunga Arr 48.39 126 P **P 23 28 45.3 -1.9**
WRA 23 30 15.1
WRA pmax pmax
comp=Z,4.0nm,0.7s
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 48.39 126 P **P 23 28 45.3 -1.9**
comp=Z,4.4nm,0.7s,mb4.6,baz=305,slow=9.2,SNR=15
WRA PcP PcP 23 30 15.1 +1.4
comp=Z,1.7nm,0.8s,baz=313,slow=3.4,SNR=3.0
WRAB Tennant Creek 48.39 126 *e*P P 23 28 45.7 -1.5
WRAB pmax pmax
comp=Z,13nm,0.7s,mb5.1
WRAB Tennant Creek 48.39 126 *e*P P 23 28 45.7 -1.5
comp=Z,13nm,0.7s,mb5.1
WB2 Warramunga Arr 48.40 126 *e*P P 23 28 46.2 -1.1
BVAR Borovoye Array 48.82 341 P **P 23 28 47.7 -2.4**
comp=Z,4.1nm,0.8s,mb4.5,baz=143,slow=7.4,SNR=16
BVAR PcP PcP 23 30 12.5 -2.3
comp=Z,1.8nm,0.7s,baz=180,slow=4.3,SNR=1.9
BVAR ScP 23 34 09.3
comp=Z,2.1nm,0.8s,baz=146,slow=5.3,SNR=6.1
BRVK Borovoye 48.88 341 *e*P P 23 28 47.5 -3.0
BRVK pmax pmax
comp=Z,24nm,1.2s,mb5.1
BRVK Borovoye 48.88 341 *e*P P 23 28 47.5 -3.0
comp=Z,24nm,1.2s,mb5.1
RAYN Ar Rayn 48.98 294 P **P 23 28 52.7 +1.0**
comp=Z,140nm,1.0s,mb5.9,SNR=18
JHJ Hachijo jima 2 48.99 53 LR LR 23 49 08.7
comp=Z,815nm,19.6s,MS4.7,baz=151,slow=36
MAJO Matsushiro 49.08 48 *e*P P 23 28 53.2 +0.9
MAJO pmax pmax
comp=Z,15nm,1.0s,mb5.0
MAJO Matsushiro 49.08 48 *e*P P 23 28 53.2 +0.9
comp=Z,15nm,1.0s,mb5.0
CHKZ Chkalovo 49.30 342 *e*P P 23 28 52.6 -1.1
CHKZ pmax pmax
comp=Z,100nm,1.4s,mb5.7
CHKZ Chkalovo 49.30 342 *e*P P 23 28 52.6 -1.2
comp=Z,100nm,1.4s,mb5.7
ASPA Alice Springs 50.05 130 *e*P P 23 28 59.8 -0.1
ASAR Alice Springs 50.05 130 P **P 23 28 58.0 -2.0**
comp=Z,6.7nm,1.0s,mb4.6,baz=306,slow=7.2,SNR=18
ASAR PcP PcP 23 30 22.0 +2.4
comp=Z,3.9nm,0.7s,baz=304,slow=3.4,SNR=8.9
ASAR LR LR 23 52 00.9
comp=Z,616nm,19.7s,MS4.6,baz=295,slow=38
KLR Kul'dur 51.76 31 *e*P P 23 29 10.2 -2.3
KLR MLR MLR
comp=E,2µm,13.0s
KLR MLR MLR
comp=Z,2µm,13.0s,MS5.3
BOD Bodaibo 51.99 13 *e*P P 23 29 11.9 -2.2
GNI Garni 54.29 314 LR LR 23 57 01.9
comp=Z,331nm,18.5s,MS4.4,baz=99,slow=41
TI2 Plekhanov 54.90 316 *e*P P 23 29 37.4 +1.5
SVE Sverdlovsk 55.23 338 *e*P P 23 29 35.0 -3.0
SVE pmax pmax
comp=Z,120nm,1.6s,mb5.7
SVE MLR MLR
comp=N,400nm,21.0s,MS4.8
SVE MLR MLR
comp=E,700nm,21.0s,MS4.8
SVE MLR MLR
comp=Z,1µm,21.0s,MS4.9
ASAJ Asahikawa 55.31 41 P **P 23 29 40.1 +1.3**
ASAJ pmax pmax
comp=Z,12nm,1.0s
ASAJ Asahikawa 55.31 41 P **P 23 29 40.1 +1.3**
comp=Z,12nm,1.0s,mb4.9,baz=262,slow=7.1,SNR=2.4
PMG Port Moresby 55.62 107 P **P 23 29 42.2 +0.8**
PMG pmax pmax
comp=Z,15nm,0.8s
PMG Port Moresby 55.62 107 P **P 23 29 42.2 +0.8**
comp=Z,15nm,0.8s,mb5.1,baz=282,slow=11,SNR=6.3
PMG Port Moresby 55.62 107 *e*P P 23 29 39.2 -2.3
comp=Z,16nm,0.8s,mb5.1
ARU Arti 55.72 337 P **P 23 29 40.0 -1.6**
comp=Z,127nm,1.0s,mb5.9,SNR=12
ARU Arti 55.72 337 ⇑*i*P P 23 29 34.4 -7.2
ARU *e* 23 30 36.0
ARU *e*SS SS 23 41 02.5 -7.0
ARU pmax pmax
comp=Z,33nm,1.4s,mb5.2
ARU MLR MLR
comp=N,900nm,20.0s,MS4.9
ARU MLR MLR
comp=Z,1µm,20.0s,MS5.0
ARU MLR MLR
comp=E,600nm,19.0s,MS4.9
YSS Yuzh-Sakhalins 56.67 38 *e*P P 23 29 50.0 +1.4
YSS pmax pmax
comp=Z,103nm,1.7s,mb5.6
YSS Yuzh-Sakhalins 56.67 38 *e*P P 23 29 50.0 +1.4
comp=Z,103nm,1.7s,mb5.6
KIV Kislovodsk 57.17 318 *e*P P 23 29 50.6 -1.5
KIV pmax pmax
comp=Z,21nm,0.9s,mb5.2
KIV Kislovodsk 57.17 318 *e*P P 23 29 50.6 -1.5
comp=Z,21nm,0.9s,mb5.2
KMBO Kilima Mbogo 57.40 264 P **P 23 29 56.2 +2.0**
KMBO pmax pmax
comp=Z,8.0nm,0.7s
KMBO MLR MLR
comp=Z,1µm,20.8s
KMBO Kilima Mbogo 57.40 264 P **P 23 29 56.2 +2.0**
comp=Z,8.4nm,0.7s,mb4.9,baz=54,slow=12,SNR=28
KMBO LR LR 23 50 21.1
comp=Z,1µm,20.8s,MS4.9,baz=92,slow=32
KMBO Kilima Mbogo 57.40 264 *e*P P 23 29 55.9 +1.7
comp=Z,10nm,0.8s,mb4.9
ASF Jabal al Asfar 58.09 303 P **P 23 29 58.6 -0.2**
comp=Z,4.1nm,0.8s,mb4.5,baz=25,slow=2.0,SNR=6.6
ASF LR LR 23 57 30.7
comp=Z,432nm,20.5s,MS4.5,baz=126,slow=39
CTA Charters Tower 58.42 119 P **P 23 30 01.6 +0.4**
CTA pmax pmax
comp=Z,2.0nm,0.9s
CTA MLR MLR
comp=Z,643nm,22.0s
CTA Charters Tower 58.42 119 P **P 23 30 01.6 +0.4**
comp=Z,2.3nm,0.9s,mb4.2,baz=330,slow=12,SNR=2.4
CTA LR LR 23 57 11.3
comp=Z,642nm,22.0s,MS4.7,baz=290,slow=38
SOKR Solikamsk 58.63 339 ⇑*i*P P 23 29 59.8 -2.3
SOKR pmax pmax
comp=Z,30nm,0.9s,mb5.3
SOKR MLR MLR
comp=Z,2µm,20.0s,MS5.2
EIL Elat 59.31 300 *e*P P 23 30 07.1 -0.2
comp=Z,7.9nm,0.7s,mb4.8
YAK Yakutsk 59.85 18 *e*P P 23 30 07.9 -2.7
YAK *e*PP pP 23 30 18.7 -2.0
YAK *e* 23 32 26.5
YAK *e*S **S 23 38 29.1 +11**
YAK pmax pmax
comp=Z,22nm,0.9s,mb5.2
YAK pmax pmax
comp=N,15nm,1.3s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
YAK smax
comp=E,5.0nm,1.3s
YAK MLR MLR
comp=N,715nm,15.0s,MS5.1
YAK MLR MLR
comp=Z,678nm,15.0s,MS4.9
YAK MLR MLR
comp=E,827nm,14.0s,MS5.1
YAK Yakutsk 59.85 18 *e*P P 23 30 09.3 -1.3
comp=E,54nm,0.9s,mb5.6
STKA Stephens Creek 60.25 134 *e*P P 23 30 13.6 -0.1
comp=E,5.4nm,0.9s,mb4.6
STKA Stephens Creek 60.25 134 P **P 23 30 12.7 -1.0**
comp=E,6.8nm,1.0s,mb4.6,baz=308,slow=9.3,SNR=9.4
STKA LR LR 23 56 51.9
comp=E,1µm,19.9s,MS5.0,baz=86,slow=37
BRTR Keskin Array B 62.29 311 P **P 23 30 25.6 -1.8**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BRTR Keskin Array B 62.29 311 P **P 23 30 25.6 -1.8**
comp=Z,3.1nm,0.6s,mb4.6,baz=122,slow=7.0,SNR=15
MBAR Mbarara 63.74 265 *e*P P 23 30 37.1 -0.3
MBAR pmax pmax
comp=Z,18nm,1.4s,mb4.9
MBAR Mbarara 63.74 265 *e*P P 23 30 37.1 -0.3
comp=Z,18nm,1.4s,mb4.9
MOS Moscow 64.92 329 *e*P P 23 30 43.9 -0.4
MOS pmax pmax
comp=Z,99nm,1.3s,mb5.7
OBN Obninsk 65.22 328 *e*P P 23 30 41.6 -4.7
OBN pmax pmax
comp=Z,41nm,0.8s,mb5.5
OBN Obninsk 65.22 328 *e*P P 23 30 42.1 -4.2
comp=Z,56nm,1.0s,mb5.5
MA2 Magadan 66.63 28 *e*P P 23 30 54.6 -0.6
MA2 pmax pmax
comp=Z,19µm,0.9s
MA2 Magadan 66.63 28 *e*P P 23 30 54.6 -0.6
comp=Z,19nm,0.9s,mb5.1
TIXI Tiksi 67.08 11 ⇑*i*P P 23 30 56.4 -1.4
TIXI pmax pmax
comp=Z,80nm,1.5s,mb5.5
TIXI MLR MLR
comp=Z,745nm,13.7s,MS5.1
AKASG Malin Array Be 68.00 322 P **P 23 31 02.6 -1.4**
AKASG pmax pmax
comp=Z,9.0nm,1.0s
AKASG Malin Array Be 68.00 322 P **P 23 31 02.6 -1.3**
comp=Z,9.3nm,0.9s,mb4.8,baz=88,slow=4.8,SNR=22
IDI Anoyia 68.44 305 P **P 23 31 06.0 -0.9**
comp=Z,28nm,1.0s,mb5.2,baz=76,slow=5.3,SNR=10
VRI Vrincioaia 68.55 316 ⇓P P 23 31 07.5 0.0
MLR Muntele Rosu 69.02 316 ⇓P P 23 31 10.1 -0.3
MLR Muntele Rosu 69.02 316 LR LR 00 07 45.7
comp=Z,570nm,18.5s,MS4.8,baz=301,slow=42
LSZ Lusaka 69.29 250 *e*P P 23 31 13.1 +0.6
LSZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LSZ Lusaka 69.29 250 *e*P P 23 31 13.1 +0.6
comp=Z,4.2nm,0.6s,mb4.5
TAU Tasmania Unive 70.04 141 *e*P P 23 31 17.9 +1.2
TAU pmax pmax
comp=Z,61nm,1.4s,mb5.3
TAU Tasmania Unive 70.04 141 *e*P P 23 31 17.9 +1.2
comp=Z,61nm,1.4s,mb5.3
JOF Joensuu 70.68 334 *e*p P 23 31 17.8 -2.4
comp=Z,25nm,1.2s,mb5.0
JAN Janina 72.02 309 ⇑*i*P P 23 31 28.7 +0.1
JAN pmax pmax
comp=Z,29nm,1.0s,mb5.2
JAN MLR MLR
comp=Z,2µm,20.0s,MS5.3
KOLS Kolonicke sedl 72.05 319 *e*P P 23 31 29.9 +1.3
SUW Suwalki 72.35 324 *e*pP P 23 31 29.3 -1.0
FINES FINESS Array B 72.54 332 P **P 23 31 30.4 -0.9**
comp=Z,13nm,0.9s,mb4.9,baz=124,slow=6.9,SNR=12
FINES LR LR 00 09 40.2
comp=Z,540nm,20.0s,MS4.8,baz=282,slow=41
CRVS Cervenica-Dubn 72.58 319 *e*P P 23 31 31.3 -0.5
CRVS *e*pP pP 23 31 40.9 -1.2
KAF Kangasniemi 72.62 333 *e*p P 23 31 30.9 -0.9
comp=Z,3.6nm,0.5s,mb4.6,baz=108,slow=6.4
KAF Kangasniemi 72.62 333 *e*P P 23 31 30.9 -0.9
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
NIE Niedzica 73.39 319 *e*P P 23 31 36.2 -0.4
PSZ Piszkesteto 73.49 318 *e*P P 23 31 35.8 -1.4
PSZ pmax pmax
comp=Z,35nm,1.6s,mb5.0
PSZ Piszkesteto 73.49 318 *e*P P 23 31 35.8 -1.4
comp=Z,35nm,1.6s,mb5.0
OJC Ojcow 73.82 320 *e*P P 23 31 39.0 -0.1
VYHS Vyhne 74.26 318 *e*P P 23 31 40.9 -0.7
VYHS *e*pP pP 23 31 49.9 -2.1
LBTB Lobatse 74.29 241 *e*P P 23 31 43.8 +1.5
LBTB pmax pmax
comp=Z,13nm,0.8s,mb4.9
LBTB Lobatse 74.29 241 *e*P P 23 31 43.8 +1.5
comp=Z,13nm,0.8s,mb4.9
KEV Kevo 74.66 341 *e*p P 23 31 42.6 -1.0
comp=Z,28nm,1.6s,mb4.9
KEV Kevo 74.66 341 *e*P P 23 31 42.6 -1.0
KEV pmax pmax
comp=Z,28nm,1.6s,mb4.9
OKC Ostrava-Krasne 74.84 319 *e*P P 23 31 44.6 -0.4
ARCES ARCESS Array B 75.09 340 P **P 23 31 45.6 -0.5**
ARCES pmax pmax
comp=Z,114nm,1.5s
ARCES MLR MLR
comp=Z,1µm,20.2s
ARCES ARCESS Array B 75.09 340 P **P 23 31 45.6 -0.5**
comp=Z,114nm,1.4s,mb5.6,baz=90,slow=4.9,SNR=9.4
ARCES LR LR 00 07 33.5
comp=Z,1µm,20.2s,MS5.2,baz=246,slow=38
MORC Moravsky Berou 75.22 319 *e*P P 23 31 46.7 -0.5
MORC pmax pmax
comp=Z,34nm,1.3s,mb5.1
MORC Moravsky Berou 75.22 319 *e*P P 23 31 46.7 -0.5
comp=Z,34nm,1.3s,mb5.1
ZST Bratislava 75.38 318 *e*P P 23 31 48.3 +0.2
ZST *e* 23 31 55.4
BOSA Boshof 75.64 238 *e*P P 23 31 50.1 +0.1
BOSA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BOSA Boshof 75.64 238 *e*P P 23 31 50.1 0.0
comp=Z,10.0nm,0.8s,mb4.8
BILL Bilibino 75.94 22 *e*P P 23 31 51.0 +0.1
BILL pmax pmax
comp=Z,17nm,1.1s,mb4.9
BILL Bilibino 75.94 22 *e*P P 23 31 51.0 +0.1
comp=Z,17nm,1.1s,mb4.9
DPC Dobruska-Polom 76.05 320 *e*P P 23 31 52.5 +0.6
KSP Ksiaz 76.11 320 *e*P P 23 31 52.3 +0.1
UPC Upice 76.26 320 *e*P P 23 31 54.2 +1.1
ARSA Arzberg 76.39 317 ⇑*i*P P 23 31 53.6 -0.3
comp=Z,12nm,1.2s,mb4.7
VISS Visnje 76.80 315 *e*P P 23 31 54.9 -1.3
PRU Pruhonice 77.17 319 *e*P P 23 31 58.5 +0.2
PVCC Panska Ves 77.18 320 *e*P P 23 31 59.4 +1.1
MOA Molln 77.26 317 ⇑*i*P P 23 31 59.2 +0.4
comp=Z,14nm,1.2s,mb4.8
BRG Berggiesshubel 77.60 320 *e*P P 23 32 01.5 +0.9
BRG pmax pmax
comp=Z,46nm,1.6s,mb5.2
BRG Berggiesshubel 77.60 320 *e*P P 23 32 01.5 +0.9
comp=Z,46nm,1.6s,mb5.2
GERES GERESS Array B 77.67 318 P **P 23 32 00.0 -1.1**
GERES pmax pmax
comp=Z,14nm,1.0s
GERES GERESS Array B 77.67 318 P **P 23 31 60.0 -1.1**
comp=Z,14nm,1.0s,mb4.8,baz=90,slow=5.3,SNR=25
KHC Kasperske Hory 77.77 318 *e*P P 23 32 01.6 +0.1
RUE Ruedersdorf 77.77 322 *e*P P 23 31 60.0 -1.5
comp=Z,64nm,1.0s,mb5.5
KBA Koelnbreinsper 77.87 316 ⇑*i*P P 23 32 03.0 +0.9
comp=Z,13nm,1.1s,mb4.8
KBA Koelnbreinsper 77.87 316 ⇑*i*P P 23 32 03.0 +0.9
KBA pmax pmax
comp=Z,13nm,1.1s,mb4.8
CLL Collm 78.21 321 *i*P **P 23 32 04.7 +0.8**
CLL *e* pP 23 32 15.0 +0.7
CLL pmax pmax
comp=Z,21nm,1.4s,mb4.9
CLL Collm 78.21 321 *i*P **P 23 32 04.7 +0.8**
comp=Z,21nm,1.4s,mb4.9
CLL *e* pP 23 32 15.0 +0.7
CLL Collm 78.21 321 P **P 23 32 04.7 +0.8**
comp=Z,logA/T=1.2,mb4.9
CLL *e*SP sP 23 32 15.0 -3.0
CLL *e* 23 32 23.0
CLL *e* 23 32 29.0
NKC Novy Kostel 78.53 320 *e*P P 23 32 07.1 +1.4
MAW Mawson 78.69 192 *e*P P 23 32 07.0 +0.8
MAW pmax pmax
comp=Z,15nm,0.9s
MAW Mawson 78.69 192 LR LR 00 02 28.0
comp=Z,549nm,19.1s,MS4.9,baz=59,slow=32
MAW Mawson 78.69 192 *e*P P 23 32 07.0 +0.8
comp=Z,15nm,0.9s,mb4.9
COP Copenhagen 78.71 325 *e*P P 23 32 08.6 +2.0
COP pmax pmax
comp=Z,29nm,0.8s,mb5.3
COP Copenhagen 78.71 325 *e*P P 23 32 08.6 +2.0
comp=Z,29nm,0.8s,mb5.3
COP Copenhagen 78.71 325 *i*P **P 23 32 08.6 +2.0**

	comp=Z,29nm,0.8s,mb5.3							
WTTA	**Wattenberg**	**79.03 317**	⇓*i*	P	**P**	**23 32 07.8**	**-0.7**	
	comp=Z,35nm,1.4s,mb5.1							
WTTA	**Wattenberg**	**79.03 317**	⇓*i*	P	**P**	**23 32 07.8**	**-0.7**	
WTTA				pmax	pmax			
	comp=Z,35nm,1.4s,mb5.1							
MOX	**Moxa**	**79.07 320**	*e*	P	**P**	**23 32 09.0**	**+0.3**	
MOX				pmax	pmax			
	comp=Z,38nm,1.9s,mb5.0							
MOX	**Moxa**	**79.07 320**	*e*	P	**P**	**23 32 09.0**	**+0.3**	
	comp=Z,38nm,1.9s,mb5.0							
MOX	**Moxa**	**79.07 320**	*i*	P	**P**	**23 32 09.0**	**+0.3**	
	comp=Z,logA/T=1.3,mb5.0							
MOX				L		00 13 18.0		
WATA	**Walderalm**	**79.08 317**	⇑*i*	P	**P**	**23 32 07.8**	**-1.0**	
	comp=Z,15nm,1.2s,mb4.8							
WATA	**Walderalm**	**79.08 317**	⇑*i*	P	**P**	**23 32 07.8**	**-1.0**	
WATA				pmax	pmax			
	comp=Z,15nm,1.2s,mb4.8							
GRA1	**Grafenberg Arr**	**79.31 319**	*e*	P	**P**	**23 32 10.3**	**+0.3**	
	comp=Z,39nm,1.5s,mb5.1							
GRF	**Grafenberg Arr**	**79.31 319**	*e*	P	**P**	**23 32 10.3**	**+0.3**	
GRF				pmax	pmax			
	comp=Z,39nm,1.5s,mb5.1							
GRF	**Grafenberg Arr**	**79.31 319**	*e*	P	**P**	**23 32 10.3**	**+0.3**	
GRF				pmax	pmax			
	comp=Z,39nm,1.5s,mb5.1							
GRF	**Grafenberg Arr**	**79.31 319**	*e*	P	**P**	**23 32 10.3**	**+0.3**	
	comp=Z,39nm,1.5s,mb5.1							
SQTA	**Sankt Quirin**	**79.33 317**	⇑*i*	P	**P**	**23 32 09.2**	**-0.9**	
	comp=Z,16nm,1.2s,mb4.8							
SQTA	**Sankt Quirin**	**79.33 317**	⇑*i*	P	**P**	**23 32 09.2**	**-0.9**	
SQTA				pmax	pmax			
	comp=Z,17nm,1.2s,mb4.8							
NB2	**NORSAR Subarra**	**79.56 331**		P	**P**	**23 32 10.4**	**-0.7**	
	comp=Z,40nm,1.4s,mb5.2,baz=97,slow=5.0							
NB2	**NORSAR Subarra**	**79.56 331**		P	**P**	**23 32 10.4**	**-0.7**	
	baz=96,slow=5.1							
NOA	**NORSAR Array B**	**79.56 331**		P	**P**	**23 32 10.2**	**-0.9**	
NOA				pmax	pmax			
	comp=Z,12nm,0.9s							
NOA				MLR	MLR			
	comp=Z,391nm,18.6s							
NOA	**NORSAR Array B**	**79.56 331**		P	**P**	**23 32 10.2**	**-0.9**	
	comp=Z,12nm,0.9s,mb4.8,baz=93,slow=5.6,SNR=14							
NOA				LR	LR	00 12 19.1		
	comp=Z,391nm,18.6s,MS4.8,baz=100,slow=40							
NAO01	**NORSAR Array S**	**79.72 330**	*e*	P	**P**	**23 32 09.4**	**-2.5**	
	comp=Z,18nm,0.9s,mb5.0							
DAVA	**Damuels**	**80.23 317**	⇑*i*	P	**P**	**23 32 15.0**	**0.0**	
	comp=Z,25nm,1.2s,mb5.0							
SUR	**Sutherland**	**80.39 235**	*e*	P	**P**	**23 32 19.3**	**+3.1**	
	comp=Z,9.5nm,0.8s,mb4.8							
MUD	**Monsted U'grnd**	**80.55 326**	*e*	P	**P**	**23 32 19.8**	**+3.3**	
MUD	**Monsted U'grnd**	**80.55 326**	*i*	P	**P**	**23 32 19.8**	**+3.3**	
LPG	**La Plagne**	**82.47 315**	*e*	P	**P**	**23 32 27.2**	**+0.5**	
	comp=Z,36nm,0.9s,mb5.0							
LPG	**La Plagne**	**82.47 315**	*e*	P	**P**	**23 32 27.2**	**+0.5**	
LPG				pmax	pmax			
	comp=Z,18nm,0.9s,mb5.0							
BNI	**Bardonecchia**	**82.55 314**	*e*	P	**P**	**23 32 28.0**	**+0.9**	
BNI				pmax	pmax			
	comp=Z,18nm,0.9s,mb5.1							
BNI	**Bardonecchia**	**82.55 314**	*e*	P	**P**	**23 32 28.0**	**+0.9**	
	comp=Z,18nm,0.9s,mb5.1							
SYO	**Syowa Base**	**85.56 197**	⇑	P	**P**	**23 32 41.9**	**+0.2**	
SYO	**Syowa Base**	**85.56 197**	⇓	pP	pP	23 32 56.7	+4.4	
TNA	**Tin City**	**86.03 24**	*e*	P	**P**	**23 32 43.9**	**-0.1**	
RPZ	**Rata Peaks**	**86.19 135**		LR	LR	00 14 38.2		
	comp=Z,628nm,18.5s,MS5.0,baz=182,slow=38							
JMIC	**Jan Mayen**	**86.54 341**		LR	LR	00 18 11.0		
	comp=Z,502nm,20.5s,MS4.9,baz=12,slow=40							
ANM	**Nome**	**87.29 25**	*e*	P	**P**	**23 32 51.2**	**+0.9**	
URZ	**Urewera**	**89.47 129**		LR	LR	00 15 58.6		
	comp=Z,563nm,19.1s,MS5.0,baz=278,slow=38							
ESDC	**Sonseca Array**	**91.08 310**		P	**P**	**23 33 08.9**	**+0.1**	
	comp=Z,1.3nm,0.5s,mb4.5,baz=65,slow=4.5,SNR=10							
ESLA	**Sonseca Array**	**91.08 310**	*e*	P	**P**	**23 33 09.3**	**+0.4**	
	comp=Z,3.9nm,1.2s,mb4.6							
IMA	**Indian Mountai**	**91.48 22**	*e*	P	**P**	**23 33 11.2**	**+1.1**	
SVW2	**Sparrevohn**	**92.61 27**	*e*	P	**P**	**23 33 18.5**	**+3.2**	
VNDA	**Vanda**	**93.10 168**		LR	LR	00 14 10.2		
	comp=Z,350nm,18.7s,MS4.8,baz=314,slow=35							
SPU	**Mount Spurr**	**94.15 26**	*e*	P	**P**	**23 33 21.1**	**-1.3**	
MCK	**McKinley**	**94.32 23**	*e*	P	**P**	**23 33 22.8**	**-0.2**	
MCK				pmax	pmax			
	comp=Z,8.0nm,1.3s,mb5.0							
MCK	**McKinley**	**94.32 23**	*e*	P	**P**	**23 33 22.8**	**-0.3**	
	comp=Z,7.7nm,1.3s,mb5.0							
ILAR	**Eielson Array**	**94.60 22**		P	**P**	**23 33 24.5**	**+0.2**	
	comp=Z,1.0nm,0.9s,mb4.2,baz=305,slow=4.1,SNR=6.0							
ILAR				PP	PP	23 37 15.5	+0.5	
	comp=Z,0.3nm,0.7s,baz=295,slow=5.5,SNR=4.4							
ILAR				LR	LR	00 20 02.4		
	comp=Z,396nm,18.8s,MS4.9,baz=148,slow=38							
INK	**Inuvik**	**96.84 16**		P	**P**	**23 33 34.6**	**+0.1**	
INK				pmax	pmax			
	comp=Z,7.0nm,1.1s							
INK	**Inuvik**	**96.84 16**		P	**P**	**23 33 34.5**	**+0.1**	
	comp=Z,7.2nm,1.1s,mb5.0,baz=299,slow=6.9,SNR=8.3							
DBIC	**Dimbokro**	**97.88 278**	*e*	P	**P**	**23 33 41.9**	**+1.5**	
DBIC				pmax	pmax			
	comp=Z,15nm,1.3s							
DBIC	**Dimbokro**	**97.88 278**	LR		LR	00 18 54.5		
	comp=Z,563nm,19.2s,MS5.1,baz=68,slow=36							
DBIC	**Dimbokro**	**97.88 278**	*e*	P	**P**	**23 33 41.9**	**+1.5**	
	comp=Z,15nm,1.3s,mb5.3							
YKA	**Yellowknife Ar**	**106.27 13**	PP		PP	23 38 36.9	-7.1	
	comp=Z,0.1nm,0.5s,baz=333,slow=7.7,SNR=5.4							
TBI	**Tubuai**	**117.39 112**	*e*	LR	LR	23 35 04.6		
	comp=Z,464nm,24.8s							
NVAR	**Mina Array Bea**	**124.79 31**	PKP		PKPdf	23 39 06.7	+3.6	
	comp=Z,1.8nm,0.7s,baz=308,slow=1.7,SNR=9.2							
PDAR	**Pinedale Array**	**125.02 21**	PKP		PKPdf	23 39 04.6	+1.2	
	comp=Z,3.1nm,0.9s,baz=114,slow=0.9,SNR=12							
SADO	**Sadowa**	**127.08 354**	PKP		PKPdf	23 39 08.0	+0.6	
	comp=Z,4.2nm,0.8s,baz=21,slow=3.9,SNR=4.0							
MSU	**Marysvale**	**127.62 26**	*e*	PKIKP	PKPdf	23 39 11.6	+3.1	
USHA	**Ushuaia**	**131.29 193**	PKP		PKPdf	23 39 14.7	-0.3	
	comp=Z,8.4nm,0.9s,baz=15,slow=8.0,SNR=3.3							
ANMO	**Albuquerque**	**133.03 23**	PKIKP		PKPdf	23 39 21.4	+2.5	
ANMO				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ANMO	**Albuquerque**	**133.03 23**	PKP		PKPdf	23 39 21.4	+2.5	
	comp=Z,1.4nm,0.7s,baz=344,slow=4.4,SNR=3.4							
GDL2	**Guadalupe Moun**	**136.27 23**	*e*	PKPdf	PKPdf	23 39 28.9	+3.9	
TXAR	**Lajitas Array**	**139.09 24**	PKhKP			23 39 23.4		
	comp=Z,0.1nm,0.5s,baz=346,slow=3.7,SNR=2.8							
TXAR				PKP	PKPdf	23 39 33.4	+3.3	
	comp=Z,0.8nm,0.6s,baz=200,slow=0.6,SNR=8.6							
TXAR				PP	PP	23 42 25.0	-2.2	
	comp=Z,0.9nm,0.9s,slow=3.8,SNR=5.9							
TXAR	**Lajitas Array**	**139.09 24**	PKP		PKPdf	23 39 33.4	+3.2	
TXAR				PP	PP	23 42 25.0	-2.2	
JCT	**Junction City**	**139.44 19**	*e*	PKIKP	PKPdf	23 39 30.7	-0.1	
PLCA	**Paso Flores**	**144.69 200**	*e*	PKIKP	PKPdf	23 39 41.0	+1.3	
PLCA	**Paso Flores**	**144.69 200**	PKP		PKPdf	23 39 40.2	+0.5	
	comp=Z,17nm,0.8s,baz=176,slow=2.7,SNR=27							
SJG	**San Juan**	**147.51 323**	PKP2		PKPab	23 39 49.7	-2.2	
SJG				pmax	pmax			
	comp=Z,14nm,0.9s							
SJG	**San Juan**	**147.51 323**	PKPbc		PKPdf	23 39 49.7	+4.6	
	comp=Z,14nm,0.9s,baz=95,slow=6.7,SNR=2.5							
SDV	**Santo Domingo**	**157.32 318**	PKP		PKPdf	23 40 02.4	+3.0	
	comp=Z,1.8nm,0.6s,baz=356,slow=7.3,SNR=3.7							
SDV				PKPab	PKPab	23 40 32.4	-0.7	
	comp=Z,5.4nm,1.0s,baz=343,slow=5.7,SNR=3.6							
LVC	**Limon Verde**	**158.17 227**	PKP		PKPdf	23 40 04.3	+4.0	
	comp=Z,2.5nm,1.0s,baz=293,slow=11,SNR=2.6							
LVC				PKPab	PKPab	23 40 37.8	+1.3	
	comp=Z,3.7nm,0.8s,baz=221,slow=4.4,SNR=4.9							
LVC	**Limon Verde**	**158.17 227**	PKP		PKPdf	23 40 04.3	+4.0	
LVC				PKPab	PKPab	23 40 37.8	+1.3	
LPAZ	**La Paz**	**160.81 243**	PKP		PKPdf	23 39 21.4	-42	
	comp=Z,2.0nm,0.8s,baz=53,slow=4.4,SNR=9.2							
LPAZ				PKPab	PKPab	23 40 04.7	-43	
	comp=Z,1.7nm,0.7s,baz=96,slow=8.7,SNR=5.8							

IDC 27 23:25:17.7±1.4, 7.69N×93.81E, mb3.8/5, mb1 4.1/6, mb1mx3.8/18, mbtmp3.8/6, ML4.1/1, Error ellipse: s-maj=50.7km s-min=31.1km az=52.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.81**	**25**	Pn	P	23 28 08.2	-2.3
	0.4nm,0.3s,baz=212,slow=14,SNR=3.1						
ZAL	**Zalesovo**	**46.69**	**353**	P	P	23 33 47.5	-2.4
	1.2nm,0.7s,baz=303,slow=7.2,SNR=3.1						
WRA	**Warramunga Arr**	**48.42**	**125**	P	P	23 34 01.6	-2.4
	1.1nm,1.0s,baz=306,slow=8.3,SNR=3.3						
BRTR	**Keskin Array B**	**62.30**	**311**	P	P	23 35 41.5	-2.7
	0.8nm,0.8s,baz=110,slow=6.0,SNR=2.9						
GERES	**GERESS Array B**	**77.75**	**318**	P	P	23 37 17.0	-1.2
	0.7nm,0.8s,baz=72,slow=6.2,SNR=3.9						
NOA	**NORSAR Array B**	**79.73**	**331**	P	P	23 37 27.9	-0.9
	1.6nm,0.9s,baz=98,slow=5.1,SNR=2.7						
PLCA	**Paso Flores**	**144.26**	**201**	PKP	PKPdf	23 44 57.1	-0.7
	2.0nm,1.1s,baz=46,slow=8.3,SNR=2.4						

*IDC **27** 23:26:48.6±3.4, 55.84N×160.07E, h137km±35km, mb3.5/10, mb1 3.8/11, mb1mx3.6/24, mbtmp4.0/11, Error ellipse: s-maj=40.1km s-min=14.6km az=5.0*
*KRSC **27** 23:26:50.9±0.6, 55.60N×160.29E, h195km±1km, ML4.5*
*NEIC **27** 23:26:50.0±1.1, 55.78N×160.07E, h155km±14km, mb3.8/3, Error ellipse: s-maj=17.2km s-min=8.7km az=174.0*
*MOS **27** 23:26:51.1±0.8, 55.60N×160.24E, h191km, mb3.9/5, Error ellipse: s-maj=27.0km s-min=11.6km az=77.4*
ISC 27 23:26:51.6±0.3, 55.60N±0.03×160.33E±0.07, h192km±2km, n61, σ1$00/93, mb3.6/13, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	**Kamenistaya**	**0.17**	**342**	*i* P	**P**	**23 27 17.6**	**+0.4**
KMNR				*i* S	**S**	**23 27 36.9**	**0.0**
TUMR	**Tumrok**	**0.33**	**198**	*i* P	**P**	**23 27 18.4**	**+0.8**
TUMR				*i* S	**S**	**23 27 38.3**	**+0.7**
KPT	**Kopyto**	**0.38**	**351**	*e* P	**P**	**23 27 17.9**	**+0.2**
KPT				*e* S	**S**	**23 27 37.4**	**-0.5**
ZLN	**Zelenaya**	**0.50**	**32**	*e* P	**P**	**23 27 19.1**	**+0.9**
ZLN				*e* S	**S**	**23 27 39.8**	**+1.2**
LGNR	**Loginova**	**0.53**	**22**	*e* P	**P**	**23 27 19.3**	**+1.0**
LGNR				*e* S	**S**	**23 27 40.0**	**+1.2**
KOZ	**Kozyrevsk**	**0.53**	**331**	P	**P**	**23 27 18.6**	**+0.3**
KOZ				S	**S**	**23 27 38.5**	**-0.3**
KOZ	**Kozyrevsk**	**0.53**	**331**	*e* P	**P**	**23 27 18.6**	**+0.3**
KOZ				*e* S	**S**	**23 27 38.7**	**-0.1**
KOZR	**Kozyr**	**0.53**	**333**	PN	**P**	**23 27 18.6**	**+0.3**
KOZR				S	**S**	**23 27 38.5**	**-0.4**
CIRR	**Tsirk**	**0.57**	**24**	*i* P	**P**	**23 27 19.3**	**+0.9**
CIRR				*e* S	**S**	**23 27 40.5**	**+1.3**
KRSR	**Krestovskiy**	**0.64**	**12**	*e* P	**P**	**23 27 18.8**	**+0.1**
KRSR				*e* S	**S**	**23 27 39.2**	**-0.5**
KLY	**Klyuchi**	**0.74**	**14**	P	**P**	**23 27 19.6**	**+0.4**
KLY				S	**S**	**23 27 41.3**	**+0.7**
KLY	**Klyuchi**	**0.74**	**14**	*i* P	**P**	**23 27 19.6**	**+0.4**
KLY				*i* S	**S**	**23 27 40.5**	**-0.1**
SRDR	**Sredinnyy**	**0.80**	**335**	*i* P	**P**	**23 27 19.5**	**0.0**
SRDR				*i* S	**S**	**23 27 40.2**	**-0.9**
ESO	**Esso**	**0.98**	**290**	*e* P	**P**	**23 27 20.0**	**-0.6**
ESO				*e* S	**S**	**23 27 41.5**	**-1.5**
ESO				Smax			
	340nm,0.9s						
SVLR	**Shiveluch**	**1.10**	**27**	*i* P	**P**	**23 27 22.2**	**+0.7**
SVLR				*i* S	**S**	**23 27 45.3**	**+0.6**
KBG	**Krutoberegovo**	**1.49**	**63**	*i* P	**P**	**23 27 24.7**	**-0.2**
KBG				*i* S	**S**	**23 27 48.7**	**-1.9**
KBG				Smax			
	4μm,0.7s						
KBTR	**Krutoberegovo**	**1.53**	**65**	P	**P**	**23 27 24.9**	**-0.4**
KBTR				S	**S**	**23 27 49.6**	**-1.6**
KBTR	**Krutoberegovo**	**1.53**	**65**	*i* P	**P**	**23 27 25.0**	**-0.3**
KBTR				*i* S	**S**	**23 27 49.9**	**-1.3**
GNL	**Ganaly**	**2.36**	**217**	*e* P	**P**	**23 27 34.6**	**+0.7**
GNL				*e* S	**S**	**23 28 06.5**	**0.0**
NLC	**Nalytchevo**	**2.50**	**194**	*e* P	**P**	**23 27 35.0**	**-0.5**
NLC				*e* S	**S**	**23 28 07.4**	**-2.0**
SMAR	**Somma**	**2.50**	**202**	*e* P	**P**	**23 27 36.4**	**+0.8**
SPN	**Mys Shipunski**	**2.51**	**184**	P	**P**	**23 27 34.2**	**-1.5**
SPN				S	**S**	**23 28 05.8**	**-3.8**
SPN	**Mys Shipunski**	**2.51**	**184**	*i* P	**P**	**23 27 34.1**	**-1.6**
SPN				*e* S	**S**	**23 28 06.2**	**-3.4**
KOK	**Koryaka**	**2.51**	**204**	*e* P	**P**	**23 27 36.8**	**+1.1**
AVH	**Avacha**	**2.52**	**202**	*i* P	**P**	**23 27 37.0**	**+1.3**
AVH				*e* S	**S**	**23 28 10.7**	**+1.0**
UGLR	**Uglovaya**	**2.55**	**201**	*e* P	**P**	**23 27 36.7**	**+0.6**
PET	**Petropavlovsk**	**2.76**	**202**	P	**P**	**23 27 38.9**	**+0.4**
PET				S	**S**	**23 28 13.4**	**-1.3**
PET	**Petropavlovsk**	**2.76**	**202**	*e* PN	**P**	**23 27 39.1**	**+0.6**
PET				*e* S	**S**	**23 28 13.6**	**-1.1**
PET				pmax	pmax		
	comp=Z,102nm,0.5s						
PET				smax			
	comp=E,193nm,0.6s						
PET				smax			
	comp=N,283nm,0.6s						
PET	**Petropavlovsk**	**2.76**	**202**	*e* P	**P**	**23 27 35.9**	**-2.6**
PET	**Petropavlovsk**	**2.76**	**202**	*e* P	**P**	**23 27 38.9**	**+0.4**
PET				*e* S	**S**	**23 28 14.0**	**-0.7**
BKI	**Bering**	**3.24**	**95**	*i* P	**P**	**23 27 44.7**	**+0.4**
BKI				*i* S	**S**	**23 28 23.6**	**-1.4**
APC	**Apacha**	**3.26**	**216**	*i* P	**P**	**23 27 45.0**	**+0.4**
GRL	**Gorelyy**	**3.33**	**204**	*e* P	**P**	**23 27 46.4**	**+1.0**
GRL				*e* S	**S**	**23 28 27.3**	**+0.4**
RUS	**Russkaya**	**3.35**	**199**	P	**P**	**23 27 44.7**	**-0.9**
RUS				S	**S**	**23 28 23.8**	**-3.5**
RUS	**Russkaya**	**3.35**	**199**	*e* P	**P**	**23 27 44.9**	**-0.7**
RUS				*e* S	**S**	**23 28 24.6**	**-2.7**
OSSR	**Ossora**	**3.95**	**21**	*i* P	**P**	**23 27 50.5**	**-2.6**
FX1	**Attu Island--F**	**8.00**	**105**	PN	**P**	**23 28 45.9**	**+0.2**
FX1				S	**S**	**23 30 13.9**	**-0.9**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FX1				smax			
	comp=E,4.0nm,0.3s						
FX1	**Attu Island--F**	**8.00**	**105**	P	**P**	**23 28 45.9**	**+0.2**
	comp=E,2.1nm,0.3s,baz=322,slow=19,SNR=3.6						
FX1				S	**S**	**23 30 13.9**	**-0.9**
	comp=E,4.4nm,0.3s,baz=302,slow=20,SNR=3.9						
TNA	**Tin City**	**18.29**	**44**	*e* P	**P**	**23 30 51.7**	**-1.3**
IMA	**Indian Mountai**	**24.14**	**46**	*e* P	**P**	**23 31 51.1**	**+0.5**
BOD	**Bodaibo**	**25.14**	**294**	*e* P	**P**	**23 31 59.7**	**-0.4**
ILAR	**Eielson Array**	**27.00**	**49**	P	**P**	**23 32 16.5**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ILAR	**Eielson Array**	**27.00**	**49**	P	**P**	**23 32 16.5**	**-0.5**
	comp=Z,0.9nm,0.4s,mb3.7,baz=259,slow=7.8,SNR=27						
INK	**Inuvik**	**31.83**	**40**	P	**P**	**23 32 59.0**	**-0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	**Inuvik**	**31.83**	**40**	P	**P**	**23 32 59.0**	**-0.8**
	comp=Z,0.6nm,0.3s,mb3.5,baz=285,slow=7.2,SNR=6.5						
SONM	**Songino Array**	**33.54**	**280**	P	**P**	**23 33 14.0**	**-0.6**
	comp=Z,0.2nm,0.4s,mb3.0,baz=72,slow=4.6,SNR=3.6						
BBB	**Bella Bella**	**40.60**	**64**	P	**P**	**23 34 14.9**	**+1.4**
	baz=315,slow=14						
YKA	**Yellowknife Ar**	**41.25**	**45**	P	**P**	**23 34 19.3**	**+0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**41.25**	**45**	P	**P**	**23 34 19.3**	**+0.5**
	comp=Z,1.3nm,0.6s,mb3.6,baz=301,slow=8.0,SNR=24						
BVAR	**Borovoye Array**	**48.97**	**307**	P	**P**	**23 35 18.1**	**-1.6**
	comp=Z,1.8nm,0.6s,mb3.6,baz=68,slow=8.0,SNR=11						
NVAR	**Mina Array Bea**	**54.79**	**72**	P	**P**	**23 36 04.0**	**+0.7**
	comp=Z,0.6nm,0.4s,mb3.4,baz=306,slow=6.9,SNR=6.1						
BW06	**Boulder Array**	**56.21**	**62**	*e* P	**P**	**23 36 13.9**	**+0.6**
	comp=Z,1.1nm,0.4s,mb3.7						
PDAR	**Pinedale Array**	**56.21**	**62**	P	**P**	**23 36 14.6**	**+1.3**
	comp=Z,1.2nm,0.5s,mb3.6,baz=354,slow=1.7,SNR=11						
KAF	**Kangasniemi**	**57.24**	**336**	*ep*	**P**	**23 36 18.5**	**-1.8**
FINES	**FINESS Array B**	**57.88**	**336**	P	**P**	**23 36 23.1**	**-1.7**
	comp=Z,1.0nm,0.4s,mb3.8,baz=38,slow=8.1,SNR=12						
ANMO	**Albuquerque**	**63.68**	**66**	P	**P**	**23 37 05.7**	**+1.6**
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ANMO	**Albuquerque**	**63.68**	**66**	P	**P**	**23 37 05.7**	**+1.6**
	comp=Z,0.5nm,0.5s,mb3.5,baz=346,slow=8.3,SNR=2.5						
MNTX	**Cornudas Mount**	**66.78**	**68**	*e* P	**P**	**23 37 24.8**	**+0.8**
	comp=Z,0.6nm,0.5s,mb3.5						
WMOK	**Wichita Mounta**	**67.75**	**61**	*e* P	**P**	**23 37 29.8**	**-0.2**
WMOK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
WMOK	**Wichita Mounta**	**67.75**	**61**	*e* P	**P**	**23 37 29.8**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.5						
TXAR	**Lajitas Array**	**69.55**	**68**	P	**P**	**23 37 42.7**	**+1.6**
	comp=Z,1.3nm,0.7s,mb3.7,baz=304,slow=4.5,SNR=14						

*MOS **27** 23:26:59.7±0.9, 7.84N×94.18E, h33km, mb5.4/52, Error ellipse: s-maj=10.5km s-min=5.4km az=119.2*
*BJI **27** 23:27:00.1, 7.60N×93.86E, h46km, mB5.4, mb4.8, Ms5.2, Msz4.9*
*IDC **27** 23:27:00.3±4.3, 7.78N×94.04E, h26km±28km, mb4.6/24, mb1 4.7/25, mb1mx4.7/26, mbtmp4.8/25, ML4.9/1, Error ellipse: s-maj=21.9km s-min=10.6km az=51.0, Putative timing error at LPAZ*
*HRVD **27** 23:27:01.0±0.4, 7.89N×94.23E, h23km±1km, MW5.0/48, Centroid moment Tensor Solution. LP body waves: s12,c12;Mantle waves: s48,c78; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.90±.48; Mθθ-4.61±.30; Mφφ2.71±.26; Mrθ-1.25±.32; Mrφ1.52±.16; Mθφ-1.10±.43; Best double couple: M0=4.496×10^16 NP1:φs142°, δ60°, λ160°. NP2:φs243°, δ73°, λ32°. Principal axes: T 3.928, Plg35°, Azm106°; N 1.136, Plg54°, Azm268°; P -5.064, Plg9°, Azm10°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 23:27:01.0±0.2, 7.79N×94.11E, h30km, mb5.1/60 Error ellipse: s-maj=6.5km s-min=4.4km az=48.0*
ISC 27 23:26:58.4±0.2, 7.83N±0.04×94.19E±0.04, h23km, h23km±1.5km: pP-P, n261, σ1$07/243, mb5.1/91, MS4.9/1, 15C-20D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.06**	**340**	*e* PG	**Pn**	**23 28 10.1**	**+9.3**
PBA				*e* SG	**Sn**	**23 29 04.4**	**+16**
CMAR	**Chiang Mai Arr**	**11.54**	**23**	P	**P**	**23 29 45.3**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.54**	**23**	Pn	**P**	**23 29 45.3**	**+0.3**
	comp=Z,2.2nm,0.3s,baz=211,slow=15,SNR=47						
PALK	**Pallekele**	**13.38**	**269**	*e* P	**P**	**23 30 02.2**	**-7.5**
VIS	**Vishakhapatnam**	**14.44**	**314**	*e* P	**P**	**23 30 23.1**	**-0.6**
VIS				*e*		23 30 34.4	
	comp=Z,154nm,1.1s						
VIS				*e*		23 32 46.7	
KOD	**Kodaikanal**	**16.69**	**279**	*e* P	**P**	**23 30 55.8**	**+3.1**
KOD				*e*		23 30 59.3	
	comp=Z,67nm,0.9s						
SHL	**Shillong**	**17.78**	**353**	*e* P	**P**	**23 31 08.4**	**+2.2**
HYB	**Hyderabad**	**17.98**	**304**	*e* P	**P**	**23 31 10.0**	**+1.3**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s						
HYB	**Hyderabad**	**17.98**	**304**	*i* P	**P**	**23 31 10.0**	**+1.3**
	comp=Z,50nm,1.0s						
HYB				*e* S	**S**	**23 34 26.0**	**+0.2**
QIZ	**Qiongzhong**	**18.84**	**52**	P	**P**	**23 31 21.8**	**+2.4**
QIZ	**Qiongzhong**	**18.84**	**52**	*e* P	**P**	**23 31 20.5**	**+1.1**
	comp=Z,85nm,1.2s						
KMI	**Kunming**	**19.04**	**24**	P	**P**	**23 31 26.0**	**+4.3**
KMI				pmax	pmax		
	comp=Z,48nm,1.2s						
KMI	**Kunming**	**19.04**	**24**	P	**P**	**23 31 26.0**	**+4.3**
	comp=Z,48nm,1.2s						
KMI				sP		23 31 38.9	
COCO	**West Island**	**20.06**	**172**	*e* P	**P**	**23 31 36.2**	**+3.1**
	comp=Z,382nm,1.3s						
LATR	**Latur**	**20.12**	**303**	*e*	**S**	**23 35 31.5**	**+18**
JIRN	**Jiri**	**21.13**	**340**	*e* P	**P**	**23 31 43.0**	**-1.1**
	comp=Z,222nm,1.0s,mb5.5						
PKI	**Pulchoki**	**21.33**	**338**	*e* P	**P**	**23 31 45.8**	**-0.3**
	comp=Z,126nm,0.7s,mb5.4						
GOA	**Goa**	**21.34**	**293**	*e*	**P**	**23 31 51.5**	**+5.3**
GOA				*e*		23 31 56.7	
	comp=Z,52nm,1.3s						
DMN	**Daman**	**21.47**	**338**	*e* P	**P**	**23 31 48.0**	**+0.4

comp=Z,3.2nm,0.7s,baz=197,slow=3.2,SNR=7.0
SONM ScP 23 40 28.4
comp=Z,0.6nm,0.7s,baz=180,slow=5.8,SNR=3.8
ULN Ulaanbaatar 41.37 13 *e*P **P 23 34 44.6 +0.2**
ULN pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
ULN Ulaanbaatar 41.37 13 *e*P **P 23 34 44.6 +0.2**
comp=Z,6.3nm,0.7s,mb4.3
ZAK Zakamensk 43.09 9 *e*P **P 23 34 58.9 +0.4**
ZAK *e* 23 36 48.5
KURK Kurchatov 44.67 346 *i* P **P 23 35 10.9 -0.3**
KURK pmax pmax
comp=Z,58nm,1.3s,mb5.2
KURK Kurchatov 44.67 346 *e*P **P 23 35 10.7 -0.5**
comp=Z,108nm,1.3s,mb5.5
KLBR Kellerberrin 45.21 151 *e*P **P 23 35 16.2 +0.4**
comp=Z,86nm,0.7s,mb5.7
NWAO Narrogin (SRO) 46.08 153 *e*P **P 23 35 23.2 +0.5**
NWAO pmax pmax
comp=Z,23nm,1.1s
NWAO Narrogin (SRO) 46.08 153 P **P 23 35 23.1 +0.3**
comp=Z,31nm,1.2s,mb5.1,baz=324,slow=12,SNR=7.3
NWAO Narrogin (SRO) 46.08 153 *e*P **P 23 35 23.2 +0.5**
comp=Z,23nm,1.1s,mb5.0
HIA Hailar 46.55 23 *e*P **P 23 35 27.5 +1.4**
HIA pmax pmax
comp=Z,36nm,1.1s
HIA Hailar 46.55 23 *e*P **P 23 35 27.5 +1.4**
comp=Z,36nm,1.1s,mb5.2
ZAL Zalesovo 46.60 352 P **P 23 35 26.4 -0.1**
ZAL pmax pmax
comp=Z,29nm,0.9s
ZAL Zalesovo 46.60 352 P **P 23 35 26.4 -0.1**
comp=Z,29nm,0.9s,mb5.2,baz=297,slow=6.6,SNR=68
NVS Novosibirsk 47.70 351 *i* P **P 23 35 33.3 -1.9**
NVS pmax pmax
comp=N,25nm,0.8s
NVS pmax pmax
comp=E,15nm,0.8s
NVS pmax pmax
comp=Z,34nm,0.8s,mb5.4
MDJ Mudanjiang 47.82 34 P **P 23 35 32.1 -4.1**
WRA Warramunga Arr 48.19 126 P **P 23 35 38.4 -1.1**
WRA pmax pmax
comp=Z,5.0nm,1.0s
WRA Warramunga Arr 48.19 126 P **P 23 35 38.4 -1.1**
comp=Z,5.1nm,1.0s,mb4.5,baz=306,slow=9.1,SNR=14
WRAB Tennant Creek 48.20 126 *e*P **P 23 35 38.2 -1.3**
WRAB pmax pmax
comp=Z,18nm,0.9s,mb5.1
WRAB Tennant Creek 48.20 126 *e*P **P 23 35 38.2 -1.3**
comp=Z,18nm,0.9s,mb5.1
WB2 Warramunga Arr 48.20 126 *e*P **P 23 35 39.2 -0.4**
BVA0 Borovoye Array 49.05 341 *i* P **P 23 35 44.7 -0.9**
BVA0 pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
BVAR Borovoye Array 49.05 341 P **P 23 35 44.5 -1.1**
comp=Z,12nm,0.9s,mb4.9,baz=143,slow=7.4,SNR=28
BVAR PcP PcP 23 37 07.9 -1.7
comp=Z,3.7nm,0.9s,baz=194,slow=12,SNR=2.9
BRVK Borovoye 49.11 341 *e*P **P 23 35 44.7 -1.4**
BRVK pmax pmax
comp=Z,43nm,1.4s,mb5.3
BRVK Borovoye 49.11 341 *e*P **P 23 35 44.7 -1.4**
comp=Z,43nm,1.4s,mb5.3
RAYN Ar Rayn 49.15 294 P **P 23 35 47.7 +0.9**
comp=Z,285nm,0.8s,mb6.3,SNR=47
CHKZ Chkalovo 49.53 342 *e*P **P 23 35 48.2 -1.2**
CHKZ pmax pmax
comp=Z,82nm,1.1s,mb5.7
CHKZ Chkalovo 49.53 342 *e*P **P 23 35 48.2 -1.2**
comp=Z,82nm,1.1s,mb5.7
ASPA Alice Springs 49.85 130 *e*P **P 23 35 52.2 0.0**
ASAR Alice Springs 49.85 130 P **P 23 35 50.9 -1.3**
comp=Z,2.7nm,0.7s,mb4.4,baz=305,slow=6.8,SNR=13
ASAR PcP PcP 23 37 12.2 -0.7
comp=Z,2.4nm,0.8s,baz=305,slow=2.7,SNR=4.9
GUMO Guam 50.05 79 P **P 23 35 48.2 -5.7**
GUMO pmax pmax
comp=Z,225nm,1.3s,mb6.0
GUMO Guam 50.05 79 P **P 23 35 48.2 -5.7**
comp=Z,225nm,1.3s,mb6.0
BOD Bodaibo 52.18 13 *e*P **P 23 36 08.8 -0.7**
CLNS Chul'man 54.46 20 *e*P **P 23 36 26.4 +0.1**
CLNS pmax pmax
comp=Z,36nm,0.8s,mb5.3
CLNS pmax pmax
comp=N,18nm,1.0s
CLNS pmax pmax
comp=E,14nm,0.8s
GNI Garni 54.50 314 *e*P **P 23 36 25.5 -1.3**
GNI pmax pmax
comp=Z,47nm,1.3s
GNI Garni 54.50 314 P **P 23 36 24.6 -2.2**
comp=Z,17nm,1.0s,mb5.0,baz=342,slow=10,SNR=10
GNI Garni 54.50 314 *e*P **P 23 36 25.5 -1.3**
comp=Z,47nm,1.3s,mb5.4
TI2 Plekhanov 55.11 316 *e*P **P 23 36 30.6 -0.7**
SVE Sverdlovsk 55.46 338 *e*P **P 23 36 28.0 -5.6**
SVE pmax pmax
comp=Z,80nm,1.5s,mb5.5
PMG Port Moresby 55.47 107 *e*P **P 23 36 34.2 0.0**
PMG pmax pmax
comp=Z,16nm,0.8s
PMG Port Moresby 55.47 107 P **P 23 36 34.9 +0.6**
comp=Z,35nm,1.2s,mb5.3,baz=286,slow=5.9,SNR=6.2
PMG Port Moresby 55.47 107 *e*P **P 23 36 34.2 0.0**
comp=Z,16nm,0.8s,mb5.1
ARU Arti 55.95 337 P **P 23 36 36.1 -1.0**
comp=Z,130nm,1.0s,mb5.9,SNR=11
ARU Arti 55.95 337 ⇓*i*P **P 23 36 29.5 -7.6**
ARU *e* 23 37 28.7
ARU *e*S **S 23 44 11.3 -11**
ARU *e*SS SS 23 48 01.8 -6.2
ARU pmax pmax
comp=Z,24nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 56.79 38 P **P 23 36 43.1 -0.2**
YSS pmax pmax
comp=Z,11nm,0.6s,mb5.1
YSS Yuzh-Sakhalins 56.79 38 P **P 23 36 43.1 -0.2**
comp=Z,11nm,0.6s,mb5.1
ERZM Erzurum 56.84 313 P **P 23 36 43.2 -0.6**
KIV Kislovodsk 57.38 318 P **P 23 36 46.1 -1.4**
comp=Z,226nm,0.9s,mb6.2,SNR=12
KIV Kislovodsk 57.38 318 *e*P **P 23 36 46.1 -1.4**
KIV pmax pmax
comp=Z,46nm,1.0s,mb5.5
KIV Kislovodsk 57.38 318 *e*P **P 23 36 46.1 -1.5**
comp=Z,46nm,1.0s,mb5.5
KMBO Kilima Mbogo 57.47 264 *e*P **P 23 36 50.3 +1.8**
KMBO pmax pmax
comp=Z,27nm,1.2s
KMBO Kilima Mbogo 57.47 264 P **P 23 36 50.2 +1.7**
comp=Z,17nm,1.0s,mb5.0,baz=50,slow=9.3,SNR=22
KMBO Kilima Mbogo 57.47 264 *e*P **P 23 36 50.3 +1.8**
comp=Z,27nm,1.2s,mb5.2
ELZG Elazig 58.16 311 P **P 23 36 51.8 -1.2**
CTA Charters Tower 58.24 119 P **P 23 36 53.8 0.0**
CTA pmax pmax
comp=Z,3.0nm,0.9s
CTA Charters Tower 58.24 119 P **P 23 36 53.8 0.0**
comp=Z,2.8nm,0.9s,mb4.3,baz=258,slow=6.9,SNR=2.4
CTAO Charters Tower 58.24 119 *e*P **P 23 36 53.6 -0.2**
CTAO pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
CTAO Charters Tower 58.24 119 *e*P **P 23 36 53.6 -0.3**
comp=Z,9.3nm,1.2s,mb4.7
ASF Jabal al Asfar 58.28 303 P **P 23 36 53.4 -0.6**
comp=Z,5.4nm,0.8s,mb4.6,baz=330,slow=3.4,SNR=11
MALT Malatya 58.53 310 *e*P **P 23 36 53.8 -1.8**
MALT pmax pmax
comp=Z,21nm,1.2s,mb5.0
MALT Malatya 58.53 310 *e*P **P 23 36 53.8 -1.8**
comp=Z,21nm,1.2s,mb5.0
SOKR Solikamsk 58.86 339 ⇑*i*P **P 23 36 56.1 -1.5**
SOKR pmax pmax
comp=Z,50nm,1.0s,mb5.5
GZT Gaziantep 58.93 309 P **P 23 36 57.6 -0.8**
EIL Elat 59.49 300 *e*P **P 23 37 00.7 -1.7**
comp=Z,25nm,1.1s,mb5.2
KAHT Ahir Dag 59.53 309 P **P 23 37 01.6 -1.0**
YAK Yakutsk 60.02 18 *e*P **P 23 37 04.4 -1.2**
YAK pmax pmax
comp=Z,30nm,1.0s,mb5.3
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK Yakutsk 60.02 18 *e*P **P 23 37 04.1 -1.5**
comp=E,70nm,1.0s,mb5.7
STKA Stephens Creek 60.04 134 *e*P **P 23 37 05.8 -0.3**
comp=E,3.9nm,0.9s,mb4.4
STKA Stephens Creek 60.04 134 P **P 23 37 05.1 -1.1**
comp=E,4.9nm,1.0s,mb4.5,baz=269,slow=6.8,SNR=5.6
BRTR Keskin Array B 62.50 311 P **P 23 37 20.3 -2.3**
BRTR pmax pmax
comp=Z,6.0nm,0.7s
BRTR Keskin Array B 62.50 311 P **P 23 37 20.3 -2.3**
comp=Z,6.3nm,0.7s,mb4.8,baz=122,slow=7.1,SNR=29
MBAR Mbarara 63.80 265 *e*P **P 23 37 32.8 +1.1**
MBAR pmax pmax
comp=Z,25nm,1.2s,mb5.1
MBAR Mbarara 63.80 265 *e*P **P 23 37 32.8 +1.0**
comp=Z,25nm,1.2s,mb5.1
MOS Moscow 65.14 329 *e*P **P 23 37 38.9 -0.8**
MOS pmax pmax
comp=Z,90nm,1.2s,mb5.7
OBN Obninsk 65.44 328 *e*P **P 23 37 37.9 -3.8**
OBN pmax pmax
comp=Z,64nm,1.1s,mb5.6
OBN Obninsk 65.44 328 *e*P **P 23 37 37.0 -4.6**
comp=Z,81nm,1.1s,mb5.7
OBN *e* pP 23 37 44.2 -4.7
MA2 Magadan 66.78 28 *e*P **P 23 37 51.2 +1.1**
MA2 pmax pmax
comp=Z,23nm,1.0s,mb5.2
MA2 Magadan 66.78 28 *e*P **P 23 37 51.2 +1.1**
comp=Z,23nm,1.0s,mb5.2
TIXI Tiksi 67.27 11 ⇑*i*P **P 23 37 52.1 -0.9**
TIXI pmax pmax
comp=Z,40nm,0.8s,mb5.5
AKASG Malin Array Be 68.22 322 P **P 23 37 57.5 -1.8**
AKASG pmax pmax
comp=Z,13nm,0.9s
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 68.22 322 P **P 23 37 57.5 -1.8**
comp=Z,13nm,0.9s,mb5.0,baz=89,slow=4.6,SNR=36
AKASG PP PP 23 40 20.3 -12
comp=Z,0.5nm,0.6s,baz=95,slow=6.5,SNR=5.0
SANT Santorini 68.29 306 *e*P **P 23 37 59.3 -0.7**
comp=Z,67nm,1.0s,mb5.6
IDI Anoyia 68.63 305 P **P 23 38 00.6 -1.6**
comp=Z,14nm,0.6s,mb5.1,baz=89,slow=6.1,SNR=11
VRI Vrincioaia 68.77 316 ⇓P **P 23 38 02.4 -0.4**
MLR Muntele Rosu 69.24 316 ⇓P **P 23 38 05.4 -0.3**
LSZ Lusaka 69.30 250 *e*P **P 23 38 07.3 +0.8**
LSZ pmax pmax
comp=Z,22nm,1.4s,mb4.9
LSZ Lusaka 69.30 250 *e*P **P 23 38 07.3 +0.8**
comp=Z,22nm,1.4s,mb4.9
TAU Tasmania Unive 69.82 141 P **P 23 38 08.3 -1.0**
TAU pmax pmax
comp=Z,27nm,1.2s,mb5.0
TAU Tasmania Unive 69.82 141 P **P 23 38 08.3 -1.0**
comp=Z,27nm,1.2s,mb5.0
JOF Joensuu 70.91 334 *ep* **P 23 38 15.4 -0.2**
comp=Z,27nm,1.1s,mb5.1
ZAPS Zavoj/Pirot 71.27 313 ⇓*i*P **P 23 38 15.2 -2.9**
KWP Kalwaria 72.10 320 *e*P **P 23 38 22.9 0.0**
JAN Janina 72.22 309 ⇓*i*P **P 23 38 21.8 -2.1**
JAN *i* pP 23 38 28.2 -3.0
JAN pmax pmax
comp=Z,34nm,1.0s,mb5.2
KOLS Kolonicke sedl 72.27 319 *e*P **P 23 38 23.8 -0.2**
SUW Suwalki 72.57 324 *e*P **P 23 38 24.1 -1.6**
FINES FINESS Array B 72.78 332 P **P 23 38 26.4 -0.3**
FINES pmax pmax
comp=Z,16nm,0.8s
FINES FINESS Array B 72.78 332 P **P 23 38 26.4 -0.3**
comp=Z,16nm,0.8s,mb5.0,baz=90,slow=7.6,SNR=21
CRVS Cervenica-Dubn 72.80 319 *i* P **P 23 38 27.7 +0.6**
CRVS *e* pP 23 38 34.5 +0.1
CRVS *e*PP PP 23 41 12.1 +0.9
KAF Kangasniemi 72.86 333 *ep* **P 23 38 27.0 -0.2**
comp=Z,37nm,1.0s,mb5.3,baz=107,slow=6.1
KAF Kangasniemi 72.86 333 *e*P **P 23 38 27.0 -0.2**
KAF pmax pmax
comp=Z,37nm,1.0s,mb5.3
NIE Niedzica 73.61 319 *e*P **P 23 38 31.9 +0.1**
PSZ Piszkesteto 73.71 318 ⇑*e*P **P 23 38 31.8 -0.6**
PSZ *i* 23 41 02.7
OJC Ojcow 74.04 320 *e*P **P 23 38 34.2 -0.1**
VYHS Vyhne 74.47 318 *e*P **P 23 38 36.1 -0.7**
VYHS *e*pP pP 23 38 44.2 0.0
VYHS *e* 23 41 03.0
KEV Kevo 74.90 341 *e*P **P 23 38 38.2 -0.7**
comp=Z,16nm,1.0s,mb4.9
KEV Kevo 74.90 341 *e*P **P 23 38 38.2 -0.7**
KEV pmax pmax
comp=Z,16nm,1.0s,mb4.9
OKC Ostrava-Krasne 75.06 319 *e*P **P 23 38 40.7 +0.5**
OKC *e*pP pP 23 38 48.7 +1.1
ARCES ARCESS Array B 75.33 340 P **P 23 38 41.6 +0.3**
ARCES pmax pmax
comp=Z,8.0nm,0.8s
ARCES ARCESS Array B 75.33 340 P **P 23 38 41.5 +0.2**
comp=Z,8.3nm,0.8s,mb4.7,baz=92,slow=6.2,SNR=14
SMOL Smolenice 75.41 318 *e*P **P 23 38 40.7 -1.5**
MORC Moravsky Berou 75.44 319 *e*P **P 23 38 41.9 -0.5**
MORC pmax pmax
comp=Z,45nm,1.2s,mb5.3
MORC Moravsky Berou 75.44 319 *e*P **P 23 38 41.9 -0.5**
comp=Z,45nm,1.2s,mb5.3
BOSA Boshof 75.60 238 *e*P **P 23 38 44.3 +0.6**
BOSA pmax pmax
comp=Z,17nm,0.9s,mb5.0
BOSA Boshof 75.60 238 *e*P **P 23 38 44.3 +0.6**
comp=Z,17nm,0.9s,mb5.0
ZST Bratislava 75.60 318 *e*P **P 23 38 43.2 -0.1**
ZST *e* pP 23 38 50.1 -0.6
ZST *e* 23 39 03.6
BILL Bilibino 76.11 22 *e*P **P 23 38 46.4 +0.6**
BILL Bilibino 76.11 22 *e*P **P 23 38 46.4 +0.5**
DPC Dobruska-Polom 76.27 320 *e*P **P 23 38 47.4 +0.3**
KSP Ksiaz 76.33 320 *e*P **P 23 38 47.3 -0.1**
KSP *e* pP 23 38 53.1 -1.7
KSP Ksiaz 76.33 320 *e*P **P 23 38 47.7 +0.3**
UPC Upice 76.48 320 *e*P **P 23 38 48.7 +0.5**
ARSA Arzberg 76.60 317 ⇑*i*P **P 23 38 48.7 -0.3**
comp=Z,19nm,1.1s,mb4.9
PERS Pernice 76.85 316 *e*P **P 23 38 50.7 +0.3**
PRU Pruhonice 77.39 319 *e*P **P 23 38 53.6 +0.3**
PVCC Panska Ves 77.40 320 *e*P **P 23 38 54.0 +0.6**
MOA Molln 77.48 317 ⇑*i*P **P 23 38 54.3 +0.5**
comp=Z,19nm,1.1s,mb4.9
BRG Berggiesshubel 77.82 320 *e*P **P 23 38 56.0 +0.4**
BRG pmax pmax
comp=Z,25nm,1.3s,mb5.0
BRG Berggiesshubel 77.82 320 *e*P **P 23 38 56.0 +0.4**
comp=Z,25nm,1.3s,mb5.0
GERES GERESS Array B 77.89 318 P **P 23 38 55.9 -0.2**
GERES pmax pmax
comp=Z,15nm,0.9s
GERES GERESS Array B 77.89 318 P **P 23 38 55.9 -0.1**
comp=Z,15nm,0.9s,mb4.9,baz=90,slow=5.3,SNR=50
KHC Kasperske Hory 77.98 319 *e*P **P 23 38 57.0 +0.4**
KHC *e*pP pP 23 39 05.3 +1.3
RUE Ruedersdorf 78.00 322 *e*P **P 23 38 56.1 -0.5**
comp=Z,77nm,1.0s,mb5.6
KBA Koelnbreinsper 78.08 316 ⇓*i*P **P 23 38 57.2 0.0**
comp=Z,18nm,1.0s,mb5.0
KBA Koelnbreinsper 78.08 316 ⇓*i*P **P 23 38 57.2 0.0**
KBA pmax pmax
comp=Z,18nm,1.0s,mb5.0
CLL Collm 78.43 321 ⇓*i*P **P 23 38 59.1 +0.1**
CLL *e* pP 23 39 08.0 +1.6
CLL pmax pmax
comp=Z,21nm,1.3s,mb4.9
CLL Collm 78.43 321 ⇓*i*P **P 23 38 59.1 +0.1**
comp=Z,21nm,1.3s,mb4.9
CLL *e* pP 23 39 08.0 +1.6
CLL Collm 78.43 321 ⇓P **P 23 38 59.1 +0.1**
comp=Z,logA/T=1.2,mb4.9
CLL *e**PP pP 23 39 06.0 -0.4
CLL *e* 23 39 13.0
MAW Mawson 78.50 192 *e*P **P 23 38 57.6 -1.4**
MAW pmax pmax
comp=Z,23nm,1.1s
MAW Mawson 78.50 192 P **P 23 38 57.4 -1.6**
comp=Z,15nm,1.1s,mb4.9,baz=268,slow=11,SNR=4.3
MAW Mawson 78.50 192 *e*P **P 23 38 57.6 -1.4**
comp=Z,23nm,1.1s,mb5.0
NKC Novy Kostel 78.75 320 *e*P **P 23 39 01.2 +0.4**
WTTA Wattenberg 79.25 317 ⇑*i*P **P 23 39 03.2 -0.4**
comp=Z,38nm,1.1s,mb5.2
WTTA Wattenberg 79.25 317 ⇑*i*P **P 23 39 03.2 -0.4**
WTTA pmax pmax
comp=Z,38nm,1.1s,mb5.2
MOX Moxa 79.29 320 *e*P **P 23 39 01.4 -2.3**
MOX pmax pmax
comp=Z,16nm,1.3s,mb4.8
MOX Moxa 79.29 320 *e*P **P 23 39 01.4 -2.3**
comp=Z,16nm,1.3s,mb4.8
MOX Moxa 79.29 320 *i* P **P 23 39 01.4 -2.3**
comp=Z,logA/T=1.1,mb4.8
WATA Walderalm 79.29 317 ⇑*i*P **P 23 39 03.2 -0.6**
comp=Z,19nm,1.1s,mb4.9
WATA Walderalm 79.29 317 ⇑*i*P **P 23 39 03.2 -0.6**
WATA pmax pmax
comp=Z,19nm,1.1s,mb4.9
GRA1 Grafenberg Arr 79.53 319 *e*P **P 23 39 05.4 +0.4**
comp=Z,31nm,1.1s,mb5.2
GRF Grafenberg Arr 79.53 319 *e*P **P 23 39 05.4 +0.4**
GRF pmax pmax
comp=Z,31nm,1.1s,mb5.2
GRF Grafenberg Arr 79.53 319 *e*P **P 23 39 05.4 +0.4**
GRF pmax pmax
comp=Z,31nm,1.1s,mb5.2
GRF Grafenberg Arr 79.53 319 *e*P **P 23 39 05.4 +0.4**
comp=Z,31nm,1.1s,mb5.2
SQTA Sankt Quirin 79.54 317 ⇑*i*P **P 23 39 04.9 -0.2**
comp=Z,16nm,1.0s,mb4.9
SQTA Sankt Quirin 79.54 317 ⇑*i*P **P 23 39 04.9 -0.2**
SQTA pmax pmax
comp=Z,16nm,1.0s,mb4.9
MOTA Moosalm 79.61 317 ⇓*i*P **P 23 39 05.1 -0.4**
comp=Z,15nm,1.0s,mb4.9
NB2 NORSAR Subarra 79.80 331 P **P 23 39 05.7 -0.5**
comp=Z,38nm,1.2s,mb5.2,baz=94,slow=5.0
NB2 NORSAR Subarra 79.80 331 P **P 23 39 05.7 -0.5**
baz=94,slow=5.3
NOA NORSAR Array B 79.80 331 P **P 23 39 05.4 -0.8**
NOA pmax pmax
comp=Z,12nm,0.8s
NOA NORSAR Array B 79.80 331 P **P 23 39 05.4 -0.8**
comp=Z,12nm,0.8s,mb4.9,baz=93,slow=5.5,SNR=20
NAO01 NORSAR Array S 79.95 330 *e*P **P 23 39 06.5 -0.5**
comp=Z,35nm,1.1s,mb5.2
SUR Sutherland 80.34 235 *e*P **P 23 39 10.8 +1.1**
comp=Z,24nm,1.1s,mb5.0
DAVA Damuels 80.45 317 ⇑*i*P **P 23 39 10.0 0.0**
comp=Z,29nm,1.1s,mb5.1
MUD Monsted U'grnd 80.78 326 ⇓*i*P **P 23 39 13.0 +1.5**
MUD pmax pmax
comp=Z,48nm,1.0s,mb5.4
MUD Monsted U'grnd 80.78 326 ⇓*i*P **P 23 39 13.0 +1.5**
comp=Z,48nm,1.0s,mb5.4
LPG La Plagne 82.69 315 *e*P **P 23 39 21.8 +0.1**
comp=Z,37nm,0.9s,mb5.1
LPG La Plagne 82.69 315 *e*P **P 23 39 21.8 +0.1**
LPG pmax pmax
comp=Z,19nm,0.9s,mb5.1
BNI Bardonecchia 82.77 314 *e*P **P 23 39 22.4 +0.3**
BNI pmax pmax
comp=Z,33nm,1.1s,mb5.3
BNI Bardonecchia 82.77 314 *e*P **P 23 39 22.4 +0.3**
comp=Z,33nm,1.1s,mb5.3
SYO Syowa Base 85.37 197 ⇑P **P 23 39 37.0 +2.2**
SYO Syowa Base 85.37 197 ⇓pP pP 23 39 47.9 +5.6
TNA Tin City 86.19 24 *e*P **P 23 39 40.0 +1.1**
ESDC Sonseca Array 91.28 310 P **P 23 40 04.0 +0.3**
comp=Z,6.1nm,0.9s,mb4.9,baz=57,slow=4.5,SNR=12
ESLA Sonseca Array 91.28 310 *e*P **P 23 40 03.5 -0.2**
comp=Z,6.0nm,1.2s,mb4.8
IMA Indian Mountai 91.65 22 *e*P **P 23 40 07.0 +2.3**
VNDA Vanda 92.87 168 P **P 23 40 10.0 -0.2**
VNDA pmax pmax
comp=Z,1.0nm,1.0s
VNDA Vanda 92.87 168 P **P 23 40 10.0 -0.1**
comp=Z,1.1nm,1.0s,mb4.2,baz=307,slow=5.1,SNR=2.7
VNDA Vanda 92.87 168 P **P 23 40 10.0 -0.1**
SPU Mount Spurr 94.31 26 *e*P **P 23 40 18.1 +1.0**
MCK McKinley 94.48 23 *e*P **P 23 40 18.6 +0.8**
MCK pmax pmax
comp=Z,7.0nm,1.2s,mb5.0
MCK McKinley 94.48 23 *e*P **P 23 40 18.6 +0.8**
comp=Z,6.6nm,1.2s,mb4.9
ILAR Eielson Array 94.77 22 P **P 23 40 18.7 -0.4**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.77 22 P **P 23 40 18.7 -0.4**
comp=Z,1.3nm,0.8s,mb4.4,baz=282,slow=4.1,SNR=11
INK Inuvik 97.03 16 P **P 23 40 29.3 0.0**
INK pmax pmax
comp=Z,7.0nm,1.1s
INK Inuvik 97.03 16 P **P 23 40 29.3 0.0**
comp=Z,7.4nm,1.1s,mb5.0,baz=304,slow=5.1,SNR=11
INK Inuvik 97.03 16 P **P 23 40 29.3 0.0**
YKA Yellowknife Ar 106.46 13 PP PP 23 45 32.7 -6.7
comp=Z,0.5nm,0.6s,baz=332,slow=8.0,SNR=6.8
NVAR Mina Array Bea 124.94 31 PKP PKPdf 23 46 00.3 -1.4
comp=Z,2.2nm,0.8s,baz=321,slow=1.2,SNR=6.9
PDAR Pinedale Array 125.19 21 PKP PKPdf 23 45 59.5 -2.7
comp=Z,2.7nm,0.8s,baz=71,slow=1.8,SNR=18
SADO Sadowa 127.31 354 PKP PKPdf 23 46 03.4 -2.7
comp=Z,2.3nm,0.7s,baz=4.4,slow=16,SNR=2.4
MVU Marysvale 127.77 26 *e*PKPdf PKPdf 23 46 06.2 -1.0
MSU Marysvale 127.78 26 *e*PKIKP PKPdf 23 46 06.8 -0.4
ANMO Albuquerque 133.19 23 PKIKP PKPdf 23 46 16.3 -1.3
ANMO pmax pmax
comp=Z,1.0nm,0.8s
ANMO Albuquerque 133.19 23 PKP PKPdf 23 46 16.3 -1.3
comp=Z,1.3nm,0.8s,baz=21,slow=8.5,SNR=4.7
TXAR Lajitas Array 139.25 24 PKP PKPdf 23 46 26.7 -2.2
comp=Z,1.1nm,0.7s,baz=143,slow=1.0,SNR=5.5
TXAR PP PP 23 49 19.1 -3.0
comp=Z,1.3nm,1.0s,baz=333,slow=2.8,SNR=3.5
JCT Junction City 139.62 19 *e*PKIKP PKPdf 23 46 27.2 -2.3
BAO Brasilia Array 142.22 255 P PKPdf 23 46 26.0 -8.5
PLCA Paso Flores 144.52 200 *e*PKIKP PKPdf 23 46 34.4 -3.4
PLCA Paso Flores 144.52 200 PKP PKPdf 23 46 34.2 -3.6
comp=Z,14nm,1.0s,baz=160,slow=4.6,SNR=14
SJG San Juan 147.74 323 PKP2 PKPdf 23 46 42.8 -1.1
SJG pmax pmax
comp=Z,11nm,0.6s
SJG San Juan 147.74 323 PKPbc PKPdf 23 46 42.8 -1.1
comp=Z,11nm,0.6s,baz=22,slow=6.3,SNR=3.7
SJG San Juan 147.74 323 PKPbc PKPdf 23 46 42.8 -1.1
TEIG Tepich 152.02 5 *e*PKPdf PKPdf 23 46 46.3 -4.2
TEIG *e*PKPbc PKPdf 23 46 53.8 +3.3
SDV Santo Domingo 157.54 317 PKP PKPdf 23 46 56.1 -2.0
comp=Z,4.5nm,1.1s,baz=349,slow=6.3,SNR=3.3
SDV PKPab PKPab 23 47 27.3 -0.7
comp=Z,6.1nm,0.8s,baz=49,slow=0.9,SNR=5.8
LVC Limon Verde 158.08 226 PKPab PKPab 23 47 30.7 +0.6
comp=Z,3.3nm,0.7s,baz=63,slow=2.3,SNR=4.5
LPAZ La Paz 160.79 242 PKP PKPdf 23 46 16.1 -46
comp=Z,2.5nm,1.1s,baz=339,slow=7.5,SNR=5.3
LPAZ PKPab PKPab 23 46 55.3 -47
comp=Z,1.2nm,0.6s,baz=83,slow=9.3,SNR=3.8
ROSC El Rosal 162.97 317 PKP PKPdf 23 47 03.6 -0.4
comp=Z,4.1nm,0.6s,baz=95,slow=23,SNR=5.0

BJI ***27*** *23:30:38.7, 7.64N×93.70E, h34km, mb4.3*
NEIC ***27*** *23:30:40.2±0.5, 7.66N×93.85E, h30km, mb4.4/6, Error ellipse: s-maj=14.6km s-min=10.6km az=65.0*
IDC ***27*** *23:30:42.5±4.5, 7.74N×93.96E, h46km±42km, mb3.9/15, mb1 4.0/16, mb1mx4.0/21, mbtmp4.1/16, ML4.5/1, Error ellipse: s-maj=27.9km s-min=16.8km az=54.0*
ISC 27 23:30:39.3±3.6, 7.7N±0.1×93.9E±0.1, h39km±31km, n35, σ1§00/32, mb4.2/20, 2C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.82**	**24**	P	**P**	**23 33 27.9**	**-0.5**
	0.9nm,0.3s,baz=211,slow=14,SNR=9.7						
CHG	**Chiang Mai**	**12.14**	**24**	⇑P	**P**	**23 33 33.1**	**+0.4**
	13nm,1.3s						
KMI	**Kunming**	**19.33**	**25**	⇑P	**P**	**23 35 06.1**	**+1.9**
	24nm,1.6s						
LSA	**Lhasa**	**22.07**	**354**	*e*P	**P**	**23 35 32.1**	**-0.5**
	18nm,0.6s,mb4.7						
AAK	**Ala-Archa**	**38.79**	**337**	*e*P	**P**	**23 38 02.3**	**+0.3**
	2.5nm,0.8s,mb4.0						
SONM	**Songino Array**	**41.43**	**13**	P	**P**	**23 38 23.4**	**-0.4**

1.8nm,0.7s,mb3.8,baz=193,slow=9.8,SNR=3.7
KURK Kurchatov 44.75 346 *eP* **P 23 38 50.3 -0.4**
8.6nm,1.0s,mb4.5
NWAO Narrogin (SRO) 46.09 152 P **P 23 39 03.6 +2.0**
3.8nm,0.5s,mb4.5,baz=345,slow=12,SNR=4.1
ZAL Zalesovo 46.72 353 P **P 23 39 06.0 -0.4**
3.3nm,0.5s,mb4.5,baz=299,slow=6.6,SNR=6.5
ZAL Zalesovo 46.72 353 P **P 23 39 06.0 -0.4**
HIA Hailar 46.83 23 *eP* **P 23 39 07.1 -0.2**
WRA Warramunga Arr 48.37 125 P **P 23 39 18.8 -0.9**
0.7nm,0.5s,mb4.0,baz=306,slow=8.5,SNR=4.6
WRAB Tennant Creek 48.37 125 P **P 23 39 18.8 -0.9**
BVAR Borovoye Array 49.10 341 P **P 23 39 24.6 -0.3**
2.6nm,1.0s,mb4.2,baz=135,slow=6.1,SNR=3.5
CHKZ Chkalovo 49.59 342 *eP* **P 23 39 27.2 -1.4**
7.2nm,1.1s,mb4.6
ASAR Alice Springs 49.99 130 P **P 23 39 31.9 -0.2**
1.2nm,1.0s,mb3.9,baz=304,slow=6.5,SNR=3.1
GNI Garni 54.38 315 P **P 23 40 04.4 -0.4**
0.4nm,0.3s,mb3.8,baz=130,slow=7.9,SNR=1.6
KMBO Kilima Mbogo 57.12 264 P **P 23 40 24.4 -0.5**
1.3nm,0.8s,mb4.0,baz=234,slow=22,SNR=2.8
KMBO Kilima Mbogo 57.12 264 P **P 23 40 24.4 -0.5**
EIL Elat 59.29 300 *eP* **P 23 40 38.2 -1.6**
BRTR Keskin Array B 62.36 311 P **P 23 40 59.8 -0.7**
0.6nm,0.5s,mb4.0,baz=123,slow=7.3,SNR=3.4
IDI Anoyia 68.46 305 P **P 23 41 42.3 +2.5**
5.1nm,0.7s,mb4.7,baz=148,slow=17,SNR=2.5
FINES FINESS Array B 72.77 332 P **P 23 42 05.7 +0.3**
1.5nm,0.7s,mb4.1,baz=72,slow=6.0,SNR=4.8
MORC Moravsky Berou 75.36 319 P **P 23 42 20.6 0.0**
ARCES ARCESS Array B 75.37 340 P **P 23 42 21.2 +0.9**
1.3nm,0.6s,mb4.0,baz=90,slow=2.4,SNR=4.1
ARCES ARCESS Array B 75.37 340 P **P 23 42 21.2 +0.9**
GERES GERESS Array B 77.80 318 P **P 23 42 36.8 +2.5**
1.0nm,0.7s,mb3.9,baz=117,slow=2.2,SNR=3.4
NB2 NORSAR Subarra 79.78 331 P **P 23 42 46.2 +1.3**
1.7nm,0.8s,mb4.0,baz=97,slow=4.8
NOA NORSAR Array B 79.78 331 P **P 23 42 46.2 +1.3**
1.1nm,0.8s,mb3.8,baz=98,slow=5.6,SNR=3.3
NOA NORSAR Array B 79.78 331 P **P 23 42 46.2 +1.3**
ILAR Eielson Array 95.05 22 P **P 23 43 58.7 -0.3**
0.4nm,0.9s,mb3.9,baz=315,slow=6.4,SNR=4.3
INK Inuvik 97.28 16 P **P 23 44 08.4 -0.7**
6.5nm,1.4s,mb4.9,baz=302,slow=1.3,SNR=2.7
PDAR Pinedale Array 125.47 21 PKP PKPdf 23 49 39.3 +2.5
0.4nm,0.8s,baz=18,slow=2.9,SNR=3.6
TXAR Lajitas Array 139.54 24 PKhKP 23 49 59.4
0.9nm,1.0s,slow=0.9,SNR=3.0
PLCA Paso Flores 144.25 200 PKP PKPdf 23 50 14.6 +3.1
6.1nm,1.1s,baz=232,slow=7.5,SNR=3.9

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*IDC **27** 23:31:02.4±0.6, 4.57S×10.48W, mb4.4/20, mb1 4.5/21, mb1mx4.4/24, mbtmp4.4/21, ML3.5/1, Error ellipse: s-maj=21.3km s-min=14.6km az=120.0*
*NEIC **27** 23:31:03.6±0.3, 4.62S×10.39W, h10km, mb4.8/7, Error ellipse: s-maj=12.1km s-min=9.2km az=103.0*
ISC 27 23:31:01.9±0.4, 4.57S±0.07×10.37W±0.09, h10km, n35, σ1º02/34, mb4.5/25, 1C, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**12.44**	**26**	Pn	**P**	**23 34 00.1**	**-2.0**
	0.3nm,0.3s,baz=164,slow=14,SNR=13						
DBIC				Sn	**S**	**23 36 10.8**	**-11**
	baz=2.4,slow=23,SNR=1.9						
DBIC				T		23 44 59.8	
	0.6nm,0.3s,baz=305,slow=20,SNR=4.3						
DBIC	**Dimbokro**	**12.44**	**26**	Pn	**P**	**23 34 00.1**	**-2.0**
DBIC				Sn	**S**	**23 36 10.8**	**-11**
LBTB	**Lobatse**	**40.06**	**124**	*eP*	**P**	**23 38 37.3**	**-2.0**
	14nm,0.8s,mb4.8						
SUR	**Sutherland**	**40.20**	**137**	*eP*	**P**	**23 38 39.3**	**-1.0**
ESDC	**Sonseca Array**	**44.42**	**7**	P	**P**	**23 39 13.4**	**-1.3**
	1.6nm,0.8s,mb3.8,baz=214,slow=6.0,SNR=3.9						
KMBO	**Kilima Mbogo**	**47.67**	**87**	P	**P**	**23 39 41.8**	**+0.9**
	0.8nm,0.8s,mb3.8,baz=328,slow=4.4,SNR=3.3						
IDI	**Anoyia**	**51.65**	**37**	P	**P**	**23 40 12.5**	**+1.4**
	12nm,0.9s,mb4.8,baz=232,slow=12,SNR=3.5						
GERES	**GERESS Array B**	**57.19**	**19**	P	**P**	**23 40 51.4**	**-0.1**
	4.7nm,0.7s,mb4.6,baz=187,slow=6.4,SNR=15						
GRA1	**Grafenberg Arr**	**57.19**	**17**	*eP*	**P**	**23 40 51.5**	**0.0**
	8.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**57.19**	**17**	*eP*	**P**	**23 40 51.5**	**0.0**
	8.0nm,1.0s,mb4.7						
ASF	**Jabal al Asfar**	**57.87**	**47**	P	**P**	**23 40 57.7**	**+1.2**
	4.3nm,1.0s,mb4.4,baz=102,slow=5.8,SNR=5.4						
MOX	**Moxa**	**58.16**	**16**	*eP*	**P**	**23 40 57.0**	**-1.3**
BRTR	**Keskin Array B**	**59.83**	**38**	P	**P**	**23 41 11.7**	**+1.7**
	3.2nm,0.8s,mb4.4,baz=211,slow=8.1,SNR=12						
SDV	**Santo Domingo**	**61.55**	**283**	P	**P**	**23 41 21.1**	**-0.9**
	9.3nm,1.1s,mb4.8,baz=69,slow=8.6,SNR=2.6						
ROSC	**El Rosal**	**64.57**	**278**	P	**P**	**23 41 43.4**	**+1.2**
	5.8nm,0.5s,mb4.9,baz=101,slow=18,SNR=5.0						
PLCA	**Paso Flores**	**64.66**	**227**	P	**P**	**23 41 40.9**	**-1.4**
	4.2nm,1.1s,mb4.4,baz=249,slow=2.0,SNR=2.4						
AKASG	**Malin Array Be**	**64.69**	**27**	P	**P**	**23 41 41.9**	**-0.4**
	2.0nm,0.5s,mb4.4,baz=227,slow=6.7,SNR=8.3						
SNAA	**Sanae**	**67.19**	**177**	P	**P**	**23 41 57.5**	**-0.4**
	1.6nm,0.8s,mb4.1,baz=330,slow=7.3,SNR=3.7						
NB2	**NORSAR Subarra**	**67.54**	**11**	P	**P**	**23 42 00.4**	**+0.1**
	7.2nm,1.2s,mb4.6,baz=199,slow=6.5						
NOA	**NORSAR Array B**	**67.54**	**11**	P	**P**	**23 42 00.3**	**0.0**
	2.3nm,0.9s,mb4.2,baz=204,slow=6.4,SNR=4.0						
NOA	**NORSAR Array B**	**67.54**	**11**	P	**P**	**23 42 00.3**	**0.0**
USHA	**Ushuaia**	**68.31**	**212**	P	**P**	**23 42 04.8**	**-0.4**
	4.6nm,0.7s,mb4.6,baz=41,slow=9.3,SNR=2.6						
FINES	**FINESS Array B**	**71.58**	**18**	P	**P**	**23 42 25.1**	**-0.1**
	3.0nm,0.5s,mb4.4,baz=214,slow=5.0,SNR=7.7						
SCHQ	**Schefferville**	**75.28**	**330**	P	**P**	**23 42 47.6**	**+0.8**
	1.3nm,0.7s,mb4.1,baz=162,slow=9.6,SNR=3.3						
ARCES	**ARCESS Array B**	**77.88**	**12**	P	**P**	**23 43 01.6**	**+0.6**
	5.2nm,0.7s,mb4.6,baz=236,slow=4.4,SNR=11						
SADO	**Sadowa**	**78.37**	**317**	P	**P**	**23 43 04.5**	**+0.2**
	2.6nm,0.7s,mb4.3,baz=189,slow=6.8,SNR=3.8						
MAW	**Mawson**	**79.44**	**158**	P	**P**	**23 43 11.0**	**+1.4**
	4.7nm,0.7s,mb4.6,baz=312,slow=7.5,SNR=2.7						
FRB	**Frobisher Bay**	**80.62**	**337**	P	**P**	**23 43 16.9**	**+0.8**
	4.8nm,1.0s,mb4.4,baz=113,slow=2.8,SNR=3.2						
FVM	**French Village**	**84.98**	**309**	*eP*	**P**	**23 43 38.4**	**-0.6**
	13nm,0.7s,mb5.2						
QSPA	**South Pole Qui**	**85.53**	**180**	⇑*iP*	**P**	**23 43 42.4**	**+1.6**
	19nm,0.7s,mb5.4						
FCC	**Fort Churchill**	**90.61**	**329**	*eP*	**P**	**23 44 05.8**	**+0.2**
	5.2nm,1.0s,mb4.8						
TXAR	**Lajitas Array**	**95.09**	**299**	P	**P**	**23 44 26.8**	**-0.1**
	0.5nm,0.8s,mb4.0,baz=108,slow=7.9,SNR=3.9						
YKA	**Yellowknife Ar**	**100.60**	**333**	P	P	23 44 51.3	+0.2
	0.3nm,0.7s,baz=76,slow=5.1,SNR=3.3						
ASAR	**Alice Springs**	**135.27**	**130**	PKP	PKPdf	23 50 25.1	-0.8
	2.9nm,0.8s,baz=265,slow=2.0,SNR=8.3						
CTA	**Charters Tower**	**146.41**	**138**	PKPbc	PKPbc	23 50 45.8	+1.8
	5.8nm,0.6s,baz=203,slow=3.7,SNR=16						

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*IDC **27** 23:34:03.0±7.5, 7.12N×94.71E, h54km±66km, mb3.7/9, mb1 3.9/10, mb1mx3.6/20, mbtmp4.0/10, ML4.2/1, Error ellipse: s-maj=55.8km s-min=24.3km az=50.0*
ISC 27 23:33:58.6±1.0, 7.1N±0.2×94.7E±0.2, h33km, n10, σ0º83/10, mb4.0/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.06**	**20**	P	**P**	**23 36 51.6**	**+0.4**
	0.5nm,0.3s,baz=211,slow=14,SNR=9.3						
SONM	**Songino Array**	**41.84**	**12**	P	**P**	**23 41 45.9**	**-1.2**
	0.6nm,0.8s,mb3.3,baz=194,slow=7.1,SNR=2.7						
WRA	**Warramunga Arr**	**47.39**	**125**	P	**P**	**23 42 32.0**	**0.0**
	1.0nm,1.2s,mb3.6,baz=304,slow=9.0,SNR=2.5						
ZAL	**Zalesovo**	**47.41**	**352**	P	**P**	**23 42 32.1**	**+0.5**
	2.0nm,0.4s,mb4.4,baz=286,slow=2.4,SNR=6.3						
BVAR	**Borovoye Array**	**49.91**	**341**	P	**P**	**23 42 50.4**	**-0.7**
	3.5nm,1.3s,mb4.2,baz=135,slow=8.2,SNR=3.0						
BRTR	**Keskin Array B**	**63.33**	**311**	P	**P**	**23 44 26.0**	**-0.9**
	0.5nm,0.6s,mb3.8,baz=126,slow=6.4,SNR=3.1						
IDI	**Anoyia**	**69.44**	**305**	P	**P**	**23 45 06.8**	**+1.0**
	5.9nm,0.8s,mb4.6,baz=49,slow=8.9,SNR=3.2						
FINES	**FINESS Array B**	**73.65**	**332**	P	**P**	**23 45 30.8**	**+0.4**
	1.7nm,0.8s,mb4.0,baz=80,slow=8.5,SNR=3.6						
ARCES	**ARCESS Array B**	**76.19**	**340**	P	**P**	**23 45 46.4**	**+1.4**
	2.6nm,0.9s,mb4.2,baz=72,slow=3.8,SNR=4.1						
GERES	**GERESS Array B**	**78.76**	**318**	P	**P**	**23 45 58.8**	**-0.8**
	0.5nm,0.6s,mb3.6,baz=82,slow=6.9,SNR=4.4						

IDC 27 23:35:04.4±7.5, 7.88N×94.69E, mb3.8/4, mb1 4.0/5, mb1mx3.7/19, mbtmp3.8/5, Error ellipse: s-maj=178.2km s-min=54.7km az=139.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.30**	**21**	Pn	P	23 37 46.7	-3.5
	baz=215,slow=14,SNR=4.2						
BVAR	**Borovoye Array**	**49.16**	**341**	P	P	23 43 54.7	-1.2
	1.9nm,1.1s,baz=154,slow=9.7,SNR=4.2						
BRTR	**Keskin Array B**	**62.83**	**311**	P	P	23 45 31.9	-2.5
	0.5nm,0.5s,baz=108,slow=4.6,SNR=3.2						
ARCES	**ARCESS Array B**	**75.44**	**340**	P	P	23 46 49.5	-2.2
	1.5nm,0.9s,baz=98,slow=6.4,SNR=3.6						
GERES	**GERESS Array B**	**78.18**	**318**	P	P	23 47 06.5	-0.8
	0.4nm,0.8s,baz=79,slow=5.0,SNR=2.8						

IDC 27 23:35:42.3±9.3, 8.82N×95.61E, h42km±83km, mb3.5/5, mb1 3.8/6, mb1mx3.5/19, mbtmp3.7/6, ML3.9/1, Error ellipse: s-maj=86.5km s-min=24.7km az=50.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.12**	**18**	P	P	23 38 04.8	-3.2
	0.3nm,0.3s,baz=226,slow=15,SNR=4.6						
ZAL	**Zalesovo**	**45.83**	**351**	P	P	23 44 00.7	-1.3
	0.6nm,0.4s,baz=235,slow=3.2,SNR=2.0						
WRA	**Warramunga Arr**	**47.65**	**127**	P	P	23 44 14.6	-2.1
	0.5nm,0.6s,baz=303,slow=9.1,SNR=3.9						
BVAR	**Borovoye Array**	**48.59**	**340**	P	P	23 44 20.1	-3.5
	0.7nm,0.6s,baz=143,slow=7.4,SNR=3.5						
BRTR	**Keskin Array B**	**62.92**	**310**	P	P	23 46 05.2	-1.7
	0.8nm,0.7s,baz=216,slow=26,SNR=3.4						
GERES	**GERESS Array B**	**78.10**	**318**	P	P	23 47 37.1	-1.4
	0.9nm,0.7s,baz=90,slow=4.0,SNR=4.7						

IGQ 27 23:38:05.7, 1.54S×81.04W, h9km±5km, mb4.0, 1C, Error ellipse: s-maj=9.5km s-min=4.2km az=8.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.69**	**46**	⇑P	Pb	23 38 18.3	-1.2
HOJA				S	Sg	23 38 28.5	-0.4
JAMA	**Jama**	**1.52**	**34**	P	Pn	23 38 34.1	+0.8
JAMA				S	Sb	23 38 52.8	-0.1
IGUA	**Igualata**	**2.40**	**89**	P	Pn	23 38 46.9	+0.9
CUSU	**Cusua**	**2.56**	**88**	P	Pn	23 38 54.3	+6.1
ARRY	**Arrayan**	**2.59**	**89**	P	Pn	23 38 48.5	-0.1
ULBA	**Ulba**	**2.64**	**88**	P	Pn	23 38 50.5	+1.2
PISA	**Pisayambo**	**2.70**	**80**	P	Pn	23 38 52.4	+2.2
NAS1	**Nasa**	**2.72**	**71**	P	Pn	23 38 52.2	+1.8
JUA2	**San Juan 2**	**2.77**	**62**	P	Pn	23 38 52.2	+1.1
VC1	**Cotopaxi 1**	**2.79**	**71**	P	Pn	23 38 54.1	+2.8
TERV	**Terraza Guagua**	**2.79**	**61**	P	Pn	23 38 54.6	+3.2
PINO	**Pino**	**2.79**	**61**	P	Pn	23 38 51.5	0.0
TAMB	**Tambo**	**2.80**	**73**	P	Pn	23 38 54.5	+2.9
YANA	**Yana**	**2.84**	**60**	P	Pn	23 38 53.0	+0.8
ANTI	**Antisana**	**3.08**	**70**	P	Pn	23 38 57.7	+2.2
CAYR	**Refugio Cayamb**	**3.41**	**63**	P	Pn	23 39 02.4	+2.2
CAYA	**Cayambe**	**3.44**	**62**	P	Pn	23 39 03.1	+2.3

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*BJI **27** 23:40:42.0, 7.29N×93.72E, h30km, mB5.3, mb4.8, Ms4.6, Msz4.5*
*IDC **27** 23:40:44.8±0.6, 7.98N×94.08E, mb4.6/21, mb1 4.7/22, mb1mx4.6/25, mbtmp4.6/22, ML4.2/1, MS4.3/2, Ms1 4.3/2, ms1mx3.4/25, Error ellipse: s-maj=31.7km s-min=14.3km az=49.0*
*MOS **27** 23:40:48.9±1.1, 8.08N×94.11E, h33km, mb5.1/30, Error ellipse: s-maj=11.6km s-min=6.4km az=112.5*
*HRVD **27** 23:40:49.9±0.5, 8.00N×94.25E, h22km±2km, MW4.9/42, Centroid moment Tensor Solution. LP body waves: s4,c5; Mantle waves: s42,c62; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.73±.36; $M_{\theta\theta}$-0.82±.16; $M_{\phi\phi}$2.56±.24; $M_{r\theta}$-0.98±.29; $M_{\theta\phi}$1.11±.11; $M_{\phi r}$-0.36±.25; Best double couple: $M_0$2.679×10^{16} NP1:ϕ_s166°,δ47°,λ-139°. NP2: ϕ_s45°,δ61°,λ-51°. Principal axes: T 2.978, Plg8°, Azm108°; N -.592, Plg34°, Azm204°; P -2.379, Plg55°, Azm7°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 23:40:49.9±0.3, 8.06N×94.14E, h30km, mb4.9/21 Error ellipse: s-maj=9.5km s-min=6.7km az=52.0*
ISC 27 23:40:50.5±1.6, 8.03N±0.06×94.23E±0.05, h50km±13km, n153, σ0º98/148, mb4.9/53, MS4.4/3, 9C-10D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.06**	**50**	P	**P**	**23 42 32.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**11.33**	**23**	P	**P**	**23 43 33.0**	**+0.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.33**	**23**	Pn	**P**	**23 43 33.0**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=212,slow=14,SNR=45						
CHG	**Chiang Mai**	**11.65**	**23**	⇓P	**P**	**23 43 37.8**	**+1.0**
	comp=Z,23nm,0.8s						
VIS	**Vishakhapatnam**	**14.33**	**313**	*eP*	**P**	**23 44 07.2**	**-5.0**
VIS				*eP*		23 44 07.2	
VIS				*e*		23 44 16.8	
	comp=Z,68nm,0.7s						
VIS				*e*		23 46 35.6	
VIS				*e*		23 46 35.6	
SHL	**Shillong**	**17.58**	**353**	*eP*	**P**	**23 44 52.0**	**-1.6**
SHL				*eP*		23 44 52.0	
HYB	**Hyderabad**	**17.89**	**303**	*eP*	**P**	**23 44 59.0**	**+1.5**
HYB	**Hyderabad**	**17.89**	**303**	*iP*	**P**	**23 44 59.0**	**+1.5**
HYB				*eS*	**S**	**23 48 15.5**	**+3.1**
KMI	**Kunming**	**18.84**	**25**	⇑P	**P**	**23 45 13.3**	**+4.4**
KMI				pmax	pmax		
	comp=Z,67nm,1.1s						
KMI	**Kunming**	**18.84**	**25**	⇑P	**P**	**23 45 13.3**	**+4.4**
	comp=Z,67nm,1.1s						
KMI				sP		23 45 23.0	
MNGI	**Mangalore**	**19.69**	**286**	*i*	**P**	**23 45 24.0**	**+5.6**
MNGI				*eS*	**S**	**23 48 52.5**	**+0.1**
JIRN	**Jiri**	**20.95**	**340**	*eP*	**P**	**23 45 30.8**	**-0.7**
	comp=Z,168nm,1.1s						
PKI	**Pulchoki**	**21.15**	**338**	*eP*	**P**	**23 45 32.9**	**-0.6**
	comp=Z,138nm,0.8s,mb5.3						
DMN	**Daman**	**21.30**	**337**	*eP*	**P**	**23 45 34.3**	**-0.7**
	comp=Z,179nm,0.9s,mb5.4						
KKN	**Kakani**	**21.39**	**338**	*eP*	**P**	**23 45 35.2**	**-0.8**
	comp=Z,112nm,0.8s,mb5.2						
KAD	**Karad**	**21.60**	**297**	*eP*	**P**	**23 45 38.1**	**+0.1**
KAD				*eP*		23 45 38.1	
KAD				*eP*		23 45 38.7	
KAD				*e*		23 45 47.7	
	comp=Z,36nm,1.3s						
LSA	**Lhasa**	**21.75**	**353**	P	**P**	**23 45 39.3**	**-0.2**
LSA	**Lhasa**	**21.75**	**353**	*eP*	**P**	**23 45 38.8**	**-0.7**
LSA				pmax	pmax		
	comp=Z,95nm,0.8s,mb5.3						
LSA	**Lhasa**	**21.75**	**353**	*eP*	**P**	**23 45 38.8**	**-0.7**
	comp=Z,95nm,0.8s,mb5.3						
GKN	**Gorkha**	**21.83**	**337**	*eP*	**P**	**23 45 39.9**	**-0.4**
	comp=Z,201nm,0.9s,mb5.5						
KOLN	**Koldanda**	**22.05**	**334**	*eP*	**P**	**23 45 42.7**	**+0.2**
	comp=Z,382nm,1.2s,mb5.7						
BHPL	**Bhopal**	**22.11**	**315**	*eP*	**P**	**23 45 44.1**	**+1.1**
BHPL				*eP*		23 45 44.1	
BHPL				*e*		23 45 48.4	
	comp=Z,48nm,0.8s						
BHV	**Bhavnagar**	**25.27**	**305**	*eS*	**S**	**23 50 33.0**	**-0.6**
NDI	**New Delhi**	**26.06**	**324**	*eP*	**P**	**23 46 22.0**	**+0.8**
NDI				*e*		23 53 21.0	
AJM	**Ajmer**	**26.12**	**317**	*eP*	**P**	**23 46 22.7**	**+0.9**
AJM				*eP*		23 46 22.7	
AJM				*e*		23 46 27.3	
	comp=Z,49nm,0.9s						
ENH	**Enshi**	**26.34**	**31**	*eP*	**P**	**23 46 23.6**	**-0.2**
	comp=Z,32nm,1.0s,mb4.8						
DDI	**Dehra Dun**	**26.85**	**328**	*e*	**P**	**23 46 29.0**	**+0.5**
XAN	**Xi'an**	**29.21**	**26**	P	**P**	**23 46 49.8**	**+0.1**
XAN				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.7						
WHN	**Wuhan**	**29.26**	**37**	⇑P	**P**	**23 46 52.0**	**+1.9**
LZH	**Lanzhou**	**29.27**	**16**	⇑P	**P**	**23 46 51.3**	**+1.1**
LZH				AP	pP	23 46 57.5	-5.6
LZH				XP	sP	23 47 03.0	-6.3
LZH				AMB	AMB		
	comp=Z,34nm,1.6s,mb4.8						
LZH				AMB	AMB		
	comp=Z,120nm,4.4s						
LZH				LR	LR		
	comp=E,526nm,10.5s						
LZH				LR	LR		
	comp=Z,896nm,12.0s,MS4.6						
LZH	**Lanzhou**	**29.27**	**16**	⇑P	**P**	**23 46 51.2**	**+1.0**
LZH				*SP	sP	23 47 03.0	-6.3
LZH				pmax	pmax		
	comp=Z,34nm,1.6s,mb4.8						
LZH				MLR	MLR		
	comp=Z,900nm,12.0s,MS4.6						
LZH	**Lanzhou**	**29.27**	**16**	⇑P	**P**	**23 46 51.2**	**+1.0**
	comp=Z,34nm,1.6s,mb4.8						
LZH				pP	pP	23 46 57.5	-5.6
LZH				sP	sP	23 47 03.0	-6.3
LZH				LR	LR		
	comp=Z,900nm,12.0s,MS4.6						
NJ2	**Nanjing**	**33.09**	**40**	*eP*	**P**	**23 47 25.8**	**+1.9**
NJ2				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.4						
WMQ	**Urumqi**	**36.10**	**352**	P	**P**	**23 47 50.5**	**+1.0**
BJI	**Beijing**	**37.43**	**28**	P	**P**	**23 48 03.2**	**+2.6**
BJI				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.7						
BJI	**Beijing**	**37.43**	**28**	P	**P**	**23 48 03.2**	**+2.6**
	comp=Z,17nm,1.3s,mb4.7						
UCH	**Uchtor**	**38.24**	**336**	P	**P**	**23 48 08.1**	**+0.7**
	SNR=6.3						
KBK	**Karagaybulak**	**38.44**	**337**	P	**P**	**23 48 09.8**	**+0.9**
	SNR=12						
AML	**Almayashu**	**38.50**	**335**	P	**P**	**23 48 10.4**	**+0.9**
	SNR=15						
AAK	**Ala-Archa**	**38.59**	**336**	P	**P**	**23 48 11.3**	**+1.0**
	SNR=10						
AAK	**Ala-Archa**	**38.59**	**336**	P	**P**	**23 48 10.9**	**+0.6**
AAK				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.8						
AAK	**Ala-Archa**	**38.59**	**336**	*eP*	**P**	**23 48 08.7**	**-1.6**
	comp=Z,24nm,1.1s,mb4.8						
CHMS	**Chumysh**	**38.80**	**337**	P	**P**	**23 48 12.1**	**+0.1**
	SNR=6.8						
USP	**Ospenovka**	**39.13**	**337**	P	**P**	**23 48 14.8**	**+0.1**
	SNR=15						
MKAR	**Makanchi Array**	**39.95**	**347**	*iP*	**P**	**23 48 21.2**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,18nm,0.9s						
SONM	**Songino Array**	**40.99**	**13**	P	**P**	**23 48 30.6**	**+0.5**
	comp=Z,9.2nm,1.0s,mb4.4,baz=200,slow=7.2,SNR=41						
SONM				PcP	PcP	23 50 30.7	+0.6
	comp=Z,1.0nm,0.7s,baz=196,slow=4.4,SNR=5.4						
SNY	**Shenyang**	**42.49**	**33**	⇓P	**P**	**23 48 44.3**	**+1.7**
ZAK	**Zakamensk**	**42.88**	**9**	*eP*	**P**	**23 48 45.7**	**+0.1**
ZAK				*e*		23 50 34.1	
KURK	**Kurchatov**	**44.48**	**346**	P	**P**	**23 48 58.3**	**-0.2**
KURK				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.0						
KURK	**Kurchatov**	**44.48**	**346**	*eP*	**P**	**23 48 57.9**	**-0.6**
	comp=Z,61nm,1.3s,mb5.2						
NWAO	**Narrogin (SRO)**	**46.25**	**153**	P	**P**	**23 49 13.0**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
NWAO	**Narrogin (SRO)**	**46.25**	**153**	P	**P**	**23 49 13.0**	**+0.1**
	comp=Z,8.5nm,0.9s,mb4.7,baz=291,slow=7.6,SNR=3.2						
HIA	**Hailar**	**46.34**	**23**	*eP*	**P**	**23 49 13.7**	**+0.3**
HIA				pmax	pmax		
	comp=Z,27nm,1.3s						
HIA	**Hailar**	**46.34**	**23**	*eP*	**P**	**23 49 13.7**	**+0.4**
	comp=Z,27nm,1.3s,mb5.0						
ZAL	**Zalesovo**	**46.40**	**352**	P	**P**	**23 49 13.6**	**-0.2**
ZAL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ZAL	**Zalesovo**	**46.40**	**352**	P	**P**	**23 49 13.6**	**-0.1**
	comp=Z,9.4nm,0.9s,mb4.7,baz=299,slow=7.4,SNR=48						
NVS	**Novosibirsk**	**47.50**	**351**	*iP*	**P**	**23 49 21.3**	**-1.1**
NVS				*i*		23 50 47.8	
NVS				pmax	pmax		
	comp=N,21nm,1.0s						
NVS				pmax	pmax		
	comp=E,11nm,1.0s						
WRA	**Warramunga Arr**	**48.28**	**126**	P	**P**	**23 49 28.0**	**-1.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**48.28**	**126**	P	**P**	**23 49 28.0**	**-1.0**
	comp=Z,1.6nm,0.6s,mb4.2,baz=304,slow=8.5,SNR=8.0						
WRAB	**Tennant Creek**	**48.29**	**126**	*eP*	**P**	**23 49 27.8**	**-1.2**
BVA0	**Borovoye Array**	**48.87**	**341**	*iP*	**P**	**23 49 32.0**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
BVAR	**Borovoye Array**	**48.87**	**341**	P	**P**	**23 49 31.4**	**-1.6**
	comp=Z,10nm,1.0s,mb4.8,baz=143,slow=7.4,SNR=23						
BV

comp=Z,53nm,1.3s,mb5.4
TIXI Tiksi 67.06 11⇓ *iP* **P 23 51 39.8 -0.5**
TIXI pmax pmax
comp=Z,43nm,1.3s,mb5.3
TIRR Tirgusor 67.20 315⇓P P 23 51 40.2 -1.4
AKASG Malin Array Be 68.08 322 P **P 23 51 45.0 -2.0**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 68.08 322 P **P 23 51 45.0 -2.0**
comp=Z,5.4nm,0.7s,mb4.7,baz=87,slow=4.8,SNR=23
IDI Anoyia 68.55 305 P **P 23 51 49.0 -1.1**
comp=Z,14nm,0.7s,mb5.0,baz=105,slow=11,SNR=3.4
VRI Vrincioaia 68.64 316⇑P P 23 51 50.5 -0.1
MLR Muntele Rosu 69.12 316⇑P P 23 51 53.5 0.0
LSZ Lusaka 69.40 250 *eP* **P 23 51 55.9 +0.2**
KWP Kalwaria 71.97 320 *eP* **P 23 52 10.6 0.0**
SUW Suwalki 72.43 324 *eP* **P 23 52 11.6 -1.6**
FINES FINESS Array B 72.61 332 P **P 23 52 13.8 -0.4**
FINES pmax pmax
comp=Z,11nm,0.8s
FINES FINESS Array B 72.61 332 P **P 23 52 13.8 -0.4**
comp=Z,11nm,0.8s,mb4.8,baz=101,slow=9.7,SNR=23
FINES FINESS Array B 72.61 332 P **P 23 52 13.8 -0.4**
OJC Ojcow 73.91 320 *eP* **P 23 52 22.1 +0.1**
LBTB Lobatse 74.39 241 *eP* **P 23 52 26.1 +0.7**
OKC Ostrava-Krasne 74.93 319 *eP* **P 23 52 28.3 +0.4**
ARCES ARCESS Array B 75.15 340 P **P 23 52 29.2 +0.4**
ARCES pmax pmax
comp=Z,7.0nm,0.8s
ARCES ARCESS Array B 75.15 340 P **P 23 52 29.2 +0.4**
comp=Z,6.7nm,0.8s,mb4.7,baz=80,slow=7.4,SNR=12
MORC Moravsky Berou 75.31 319 *eP* **P 23 52 29.7 -0.4**
MORC pmax pmax
comp=Z,21nm,1.3s,mb4.9
MORC Moravsky Berou 75.31 319 *eP* **P 23 52 29.7 -0.4**
comp=Z,20nm,1.3s,mb4.9
BOSA Boshof 75.74 238 P **P 23 52 33.4 +0.4**
DPC Dobruska-Polom 76.14 320 *eP* **P 23 52 35.6 +0.8**
UPC Upice 76.35 320 *eP* **P 23 52 36.7 +0.7**
PERS Pernice 76.73 316 *eP* **P 23 52 38.3 0.0**
PRU Pruhonice 77.26 319 *eP* **P 23 52 41.8 +0.6**
PVCC Panska Ves 77.27 320 *eP* **P 23 52 41.5 +0.3**
BRG Berggiesshubel 77.68 320 *eP* **P 23 52 44.2 +0.7**
BRG pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BRG Berggiesshubel 77.68 320 *eP* **P 23 52 44.2 +0.7**
comp=Z,8.5nm,0.9s,mb4.7
GERES GERESS Array B 77.77 318 P **P 23 52 44.0 0.0**
GERES pmax pmax
comp=Z,9.0nm,0.8s
GERES GERESS Array B 77.77 318 P **P 23 52 44.0 +0.1**
comp=Z,9.0nm,0.8s,mb4.8,baz=90,slow=5.3,SNR=58
KHC Kasperske Hory 77.86 318 *eP* **P 23 52 44.8 +0.4**
CLL Collm 78.29 321⇓ *iP* **P 23 52 46.7 -0.1**
CLL pmax pmax
comp=Z,17nm,1.3s,mb4.8
CLL Collm 78.29 321⇓ *iP* **P 23 52 46.7 -0.1**
comp=Z,17nm,1.3s,mb4.8
CLL Collm 78.29 321⇓P P 23 52 46.7 -0.1
comp=Z,logA/T=1.1,mb4.8
NKC Novy Kostel 78.62 320 *eP* **P 23 52 49.2 +0.6**
GRA1 Grafenberg Arr 79.40 319 *eP* **P 23 52 53.7 +0.8**
comp=Z,22nm,1.2s,mb5.0
GRF Grafenberg Arr 79.40 319 *eP* **P 23 52 53.7 +0.8**
GRF pmax pmax
comp=Z,22nm,1.2s,mb5.0
GRF Grafenberg Arr 79.40 319 *eP* **P 23 52 53.7 +0.8**
GRF pmax pmax
comp=Z,22nm,1.2s,mb5.0
GRF Grafenberg Arr 79.40 319 *eP* **P 23 52 53.7 +0.8**
comp=Z,22nm,1.2s,mb5.0
NB2 NORSAR Subarra 79.64 331 P **P 23 52 53.6 -0.3**
comp=Z,5.2nm,0.8s,mb4.5,baz=92,slow=5.6
NB2 NORSAR Subarra 79.64 331 P **P 23 52 53.6 -0.3**
NB2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
NOA NORSAR Array B 79.64 331 P **P 23 52 53.4 -0.5**
NOA pmax pmax
comp=Z,9.0nm,0.9s
NOA NORSAR Array B 79.64 331 P **P 23 52 53.4 -0.6**
comp=Z,8.5nm,0.9s,mb4.7,baz=92,slow=5.7,SNR=16
MUD Monsted U'grnd 80.63 326 *iP* **P 23 52 59.8 +0.5**
MUD pmax pmax
comp=Z,16nm,0.8s,mb5.0
MUD Monsted U'grnd 80.63 326 *iP* **P 23 52 59.8 +0.5**
comp=Z,16nm,0.8s,mb5.0
LPG La Plagne 82.57 315 *eP* **P 23 53 10.2 +0.6**
comp=Z,30nm,0.9s,mb5.0
LPG La Plagne 82.57 315 *eP* **P 23 53 10.2 +0.6**
LPG pmax pmax
comp=Z,15nm,0.9s,mb5.0
BNI Bardonecchia 82.65 314 *eP* **P 23 53 10.0 0.0**
BNI pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BNI Bardonecchia 82.65 314 *eP* **P 23 53 10.0 -0.1**
comp=Z,10nm,0.8s,mb4.9
ESDC Sonseca Array 91.18 310 P **P 23 53 51.7 0.0**
comp=Z,1.4nm,0.6s,mb4.5,baz=61,slow=4.5,SNR=5.9
IMA Indian Mountai 91.44 22 *eP* **P 23 53 54.0 +1.7**
ILAR Eielson Array 94.57 22 P **P 23 54 06.4 -0.1**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 94.57 22 P **P 23 54 06.3 -0.2**
comp=Z,1.0nm,0.9s,mb4.2,baz=303,slow=4.3,SNR=9.1
INK Inuvik 96.82 16 P **P 23 54 17.9 +1.2**
INK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 96.82 16 P **P 23 54 17.9 +1.2**
comp=Z,4.4nm,1.1s,mb4.8,baz=298,slow=4.2,SNR=9.1
YKA Yellowknife Ar 106.25 13 PP PP 23 59 20.6 -5.8
comp=Z,0.3nm,0.7s,baz=333,slow=7.9,SNR=6.0
NVAR Mina Array Bea 124.74 31 PKP PKPdf 23 59 47.4 +2.1
comp=Z,1.1nm,0.7s,baz=308,slow=1.7,SNR=7.0
PDAR Pinedale Array 124.99 21 PKP PKPdf 23 59 47.5 +1.9
comp=Z,1.4nm,0.7s,baz=23,slow=0.7,SNR=11
ANMO Albuquerque 132.99 23 PKP PKPdf 00 00 03.7 +2.6
comp=Z,0.4nm,0.3s,baz=298,slow=3.7,SNR=2.6
TXAR Lajitas Array 139.05 24 PKP PKPdf 00 00 15.5 +3.2
comp=Z,0.6nm,0.7s,baz=280,slow=0.9,SNR=5.8
TXAR Lajitas Array 139.05 24 PKP PKPdf 00 00 15.5 +3.2
PLCA Paso Flores 144.73 200 PKIKP PKPdf 00 00 24.0 +2.0
PLCA pmax pmax
comp=Z,8.0nm,0.9s
PLCA Paso Flores 144.73 200 PKP PKPdf 00 00 23.9 +1.9
comp=Z,7.7nm,0.9s,baz=172,slow=4.4,SNR=10.0

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*BJI **27** 23:46:52.4, 7.31N×93.71E, h30km, mB5.2, mb4.5*
*IDC **27** 23:46:59.2±8.3, 7.91N×94.07E, h31km±59km, mb4.2/23, mb1 4.3/24, mb1mx4.3/27, mbtmp4.4/24, ML4.2/1, Error ellipse: s-maj=27.6km s-min=12.3km az=47.0*
*NEIC **27** 23:46:59.1±0.2, 7.92N×94.12E, h30km, mb4.8/17, Error ellipse: s-maj=8.8km s-min=6.3km az=54.0*
ISC 27 23:46:57.8±0.4, 7.95N±0.06×94.17E±0.07, h33km, n69, σ0°89/66, mb4.6/44, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.43**	**23**	Pn	**P**	**23 49 43.0**	**+1.1**
	0.5nm,0.3s,baz=209,slow=15,SNR=11						
HYB	**Hyderabad**	**17.89**	**303**	*iP*	**P**	**23 51 00.0**	**-6.0**
HYB				*e*		23 53 55.0	
HYB				*eS*	**S**	**23 54 03.0**	**-19**
KMI	**Kunming**	**18.94**	**25**	⇑P	**P**	**23 51 23.1**	**+4.3**
	17nm,1.2s						
JIRN	**Jiri**	**21.01**	**340**	*eP*	**P**	**23 51 41.1**	**+0.1**
	74nm,0.8s,mb5.1						
PKI	**Pulchoki**	**21.21**	**338**	*eP*	**P**	**23 51 42.5**	**-0.5**
	30nm,0.4s,mb4.9						
DMN	**Daman**	**21.36**	**337**	*eP*	**P**	**23 51 44.3**	**-0.2**
	133nm,1.0s,mb5.2						
KKN	**Kakani**	**21.45**	**338**	*eP*	**P**	**23 51 45.0**	**-0.5**
	50nm,0.8s,mb4.9						
LSA	**Lhasa**	**21.82**	**353**	*eP*	**P**	**23 51 52.5**	**+3.3**
LSA	**Lhasa**	**21.82**	**353**	*eP*	**P**	**23 51 49.0**	**-0.1**
	30nm,0.7s,mb4.8						
GKN	**Gorkha**	**21.89**	**337**	*eP*	**P**	**23 51 49.5**	**-0.3**
	59nm,0.7s,mb5.2						
KOLN	**Koldanda**	**22.11**	**334**	*eP*	**P**	**23 51 52.2**	**+0.2**
	111nm,1.2s,mb5.2						
ENH	**Enshi**	**26.44**	**31**	*eP*	**P**	**23 52 33.9**	**+0.1**
	17nm,1.0s,mb4.5						
DDI	**Dehra Dun**	**26.90**	**328**	*e*	**P**	**23 52 38.0**	**+0.1**
SONM	**Songino Array**	**41.09**	**13**	P	**P**	**23 54 40.3**	**+0.2**
	1.9nm,0.6s,mb3.9,baz=197,slow=8.2,SNR=12						
SONM				PcP	PcP	23 56 40.7	+0.7
	1.1nm,0.5s,baz=201,slow=4.2,SNR=8.6						
KURK	**Kurchatov**	**44.55**	**346**	*eP*	**P**	**23 55 07.4**	**-0.8**
	24nm,1.2s,mb4.9						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	P	**P**	**23 55 22.3**	**+0.6**
	8.1nm,1.1s,mb4.6,baz=4.8,slow=12,SNR=3.5						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	P	**P**	**23 55 22.3**	**+0.6**
ZAL	**Zalesovo**	**46.48**	**352**	P	**P**	**23 55 23.6**	**+0.1**
	6.3nm,0.9s,mb4.5,baz=298,slow=7.3,SNR=17						
WRA	**Warramunga Arr**	**48.28**	**126**	P	**P**	**23 55 37.5**	**-0.6**
	1.4nm,0.6s,mb4.1,baz=305,slow=8.5,SNR=9.1						
WRAB	**Tennant Creek**	**48.28**	**126**	*eP*	**P**	**23 55 37.5**	**-0.7**
BVAR	**Borovoye Array**	**48.93**	**341**	P	**P**	**23 55 41.7**	**-1.0**
	2.4nm,0.7s,mb4.3,baz=149,slow=8.6,SNR=12						
BVAR				PcP	PcP	23 57 06.1	-0.9
	1.2nm,0.7s,baz=135,slow=4.2,SNR=4.1						
BRVK	**Borovoye**	**48.99**	**341**	*eP*	**P**	**23 55 42.0**	**-1.1**
	7.1nm,1.2s,mb4.6						
RAYN	**Ar Rayn**	**49.08**	**294**	P	**P**	**23 55 46.7**	**+2.4**
	104nm,0.9s,SNR=9.2						
CHKZ	**Chkalovo**	**49.41**	**342**	*eP*	**P**	**23 55 45.8**	**-0.7**
	14nm,0.9s,mb5.0						
ASAR	**Alice Springs**	**49.94**	**130**	P	**P**	**23 55 50.0**	**-0.9**
	1.1nm,0.8s,mb3.9,baz=317,slow=7.3,SNR=5.7						
GNI	**Garni**	**54.41**	**314**	P	**P**	**23 56 24.1**	**0.0**
	2.3nm,0.6s,mb4.3,baz=88,slow=2.2,SNR=3.9						
PMG	**Port Moresby**	**55.52**	**107**	P	**P**	**23 56 33.3**	**+0.8**
	8.1nm,0.8s,mb4.8,baz=322,slow=12,SNR=2.3						
KMBO	**Kilima Mbogo**	**57.46**	**264**	P	**P**	**23 56 48.8**	**+2.4**
	6.1nm,0.8s,mb4.7,baz=54,slow=12,SNR=17						
ASF	**Jabal al Asfar**	**58.20**	**303**	P	**P**	**23 56 51.8**	**+0.5**
	2.2nm,0.6s,mb4.4,baz=332,slow=4.1,SNR=5.9						
EIL	**Elat**	**59.41**	**300**	P	**P**	**23 56 59.3**	**-0.6**
	4.7nm,0.7s,mb4.6,baz=24,slow=8.6,SNR=5.4						
STKA	**Stephens Creek**	**60.13**	**134**	P	**P**	**23 57 04.0**	**-0.8**
	1.4nm,0.9s,mb4.0,baz=162,slow=23,SNR=2.4						
BRTR	**Keskin Array B**	**62.40**	**311**	P	**P**	**23 57 17.6**	**-2.3**
	3.1nm,0.6s,mb4.6,baz=121,slow=7.3,SNR=14						
MBAR	**Mbarara**	**63.80**	**265**	*eP*	**P**	**23 57 30.7**	**+1.1**
	15nm,1.6s,mb4.8						
AKASG	**Malin Array Be**	**68.11**	**322**	P	**P**	**23 57 54.5**	**-2.1**
	2.1nm,0.5s,mb4.4,baz=89,slow=4.9,SNR=16						
IDI	**Anoyia**	**68.55**	**305**	P	**P**	**23 57 59.0**	**-0.5**
	5.0nm,0.5s,mb4.7,baz=110,slow=12,SNR=7.4						
MLR	**Muntele Rosu**	**69.14**	**316**	P	**P**	**23 58 02.7**	**-0.3**
	7.8nm,0.8s,mb4.7,baz=156,slow=2.1,SNR=5.9						
LSZ	**Lusaka**	**69.32**	**250**	*eP*	**P**	**23 58 03.4**	**-1.1**
JOF	**Joensuu**	**70.80**	**334**	*ep*	**P**	**23 58 10.9**	**-1.8**
	9.0nm,0.9s,mb4.7						
KOLS	**Kolonicke sedl**	**72.17**	**319**	*eP*	**P**	**23 58 21.6**	**+0.5**
FINES	**FINESS Array B**	**72.66**	**332**	P	**P**	**23 58 23.4**	**-0.5**
	6.5nm,0.8s,mb4.6,baz=101,slow=9.7,SNR=14						
CRVS	**Cervenica-Dubn**	**72.69**	**319**	*eP*	**P**	**23 58 25.2**	**+0.9**
CRVS				*e*		23 58 54.4	
KAF	**Kangasniemi**	**72.74**	**333**	*ep*	**P**	**23 58 23.1**	**-1.2**
	8.9nm,0.9s,mb4.7,baz=114,slow=6.7						
OJC	**Ojcow**	**73.94**	**320**	*eP*	**P**	**23 58 31.7**	**+0.1**
LBTB	**Lobatse**	**74.30**	**241**	*eP*	**P**	**23 58 34.0**	**-0.2**
	5.2nm,0.8s,mb4.5						
VYHS	**Vyhne**	**74.37**	**318**	*eP*	**P**	**23 58 34.2**	**+0.1**
KEV	**Kevo**	**74.78**	**341**	*ep*	**P**	**23 58 36.3**	**+0.3**
	24nm,1.4s,mb4.9						
ARCES	**ARCESS Array B**	**75.21**	**340**	P	**P**	**23 58 39.1**	**+0.6**
	4.7nm,0.8s,mb4.5,baz=98,slow=6.6,SNR=15						
MORC	**Moravsky Berou**	**75.34**	**319**	*eP*	**P**	**23 58 38.9**	**-0.7**
	10.0nm,1.1s,mb4.7						
DPC	**Dobruska-Polom**	**76.17**	**320**	*eP*	**P**	**23 58 45.3**	**+0.9**
PRU	**Pruhonice**	**77.29**	**319**	*eP*	**P**	**23 58 51.5**	**+0.8**
GERES	**GERESS Array B**	**77.79**	**318**	P	**P**	**23 58 53.7**	**+0.2**
	4.6nm,0.6s,mb4.6,baz=91,slow=4.9,SNR=32						
KHC	**Kasperske Hory**	**77.88**	**318**	*eP*	**P**	**23 58 54.3**	**+0.3**
KHC				*e*	pP	23 59 03.5	-0.8
KHC	**Kasperske Hory**	**77.88**	**318**	*eP*	**P**	**23 58 54.3**	**+0.3**
KHC				pP	pP	23 59 03.5	-0.8
CLL	**Collm**	**78.32**	**321**	*iP*	**P**	**23 58 56.1**	**-0.3**
	13nm,1.3s,mb4.7						
CLL	**Collm**	**78.32**	**321**	P	**P**	**23 58 56.1**	**-0.3**
	logA/T=1.0,mb4.7						
GRA1	**Grafenberg Arr**	**79.43**	**319**	*eP*	**P**	**23 59 03.4**	**+0.9**
	16nm,1.3s,mb4.8						
GRF	**Grafenberg Arr**	**79.43**	**319**	*eP*	**P**	**23 59 03.4**	**+0.9**
	16nm,1.3s,mb4.8						
NB2	**NORSAR Subarra**	**79.68**	**331**	P	**P**	**23 59 03.1**	**-0.5**
	2.5nm,0.7s,mb4.2,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.68**	**331**	P	**P**	**23 59 03.3**	**-0.3**
	4.9nm,0.8s,mb4.5,baz=93,slow=5.5,SNR=13						
MUD	**Monsted U'grnd**	**80.67**	**326**	*iP*	**P**	**23 59 09.6**	**+0.7**
	12nm,0.9s,mb4.8						
LPG	**La Plagne**	**82.59**	**315**	*eP*	**P**	**23 59 19.5**	**+0.4**
	16nm,0.8s,mb4.8						
ESDC	**Sonseca Array**	**91.19**	**310**	P	**P**	**00 00 01.9**	**+0.7**
	1.0nm,0.7s,mb4.3,baz=45,slow=6.3,SNR=4.6						
IMA	**Indian Mountai**	**91.55**	**22**	*eP*	**P**	**00 00 04.0**	**+1.8**
ILAR	**Eielson Array**	**94.67**	**22**	P	**P**	**00 00 16.9**	**+0.4**
	0.4nm,0.8s,mb3.9,baz=246,slow=4.9,SNR=5.0						
INK	**Inuvik**	**96.92**	**16**	P	**P**	**00 00 27.5**	**+0.9**
	3.2nm,1.1s,mb4.7,baz=307,slow=5.4,SNR=3.5						
NVAR	**Mina Array Bea**	**124.84**	**31**	PKP	PKPdf	00 05 57.0	+2.1
	1.1nm,0.8s,baz=4.8,slow=1.4,SNR=6.0						
PDAR	**Pinedale Array**	**125.09**	**21**	PKP	PKPdf	00 05 57.2	+1.9
	1.3nm,0.8s,baz=48,slow=1.6,SNR=11						
TXAR	**Lajitas Array**	**139.15**	**24**	PKP	PKPdf	00 06 24.0	+1.9
	0.4nm,0.5s,baz=262,slow=6.4,SNR=2.4						
PLCA	**Paso Flores**	**144.63**	**200**	PKP	PKPdf	00 06 33.0	+1.5
	5.6nm,0.9s,baz=190,slow=3.7,SNR=7.9						

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*BJI **27** 23:48:33.7, 7.01N×94.14E, h30km, mb4.3*
*NEIC **27** 23:48:40.8±0.5, 7.91N×94.04E, h30km, mb4.3/4, Error ellipse: s-maj=18.5km s-min=8.9km az=57.0*
*IDC **27** 23:48:47.6±5.3, 8.12N×94.22E, h84km±47km, mb3.7/13, mb1 3.9/14, mb1mx3.8/20, mbtmp4.0/14, ML4.1/1, Error ellipse: s-maj=32.7km s-min=18.5km az=51.0*
ISC 27 23:48:39.1±0.7, 7.8N±0.1×94.0E±0.1, h33km, n25, σ0°95/22, mb4.2/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.61**	**24**	P	**P**	**23 51 25.7**	**+0.1**
	0.4nm,0.3s,baz=209,slow=15,SNR=3.4						
KMI	**Kunming**	**19.12**	**25**	P	**P**	**23 53 05.2**	**+3.0**
	11nm,1.5s						
LSA	**Lhasa**	**21.90**	**353**	*eP*	**P**	**23 53 32.1**	**+0.9**
	20nm,0.7s,mb4.7						
ENH	**Enshi**	**26.64**	**31**	P	**P**	**23 54 15.8**	**-1.1**
AAK	**Ala-Archa**	**38.66**	**337**	*eP*	**P**	**23 55 58.5**	**-2.9**
	5.8nm,1.2s,mb4.2						
SONM	**Songino Array**	**41.23**	**13**	P	**P**	**23 56 22.0**	**-0.6**
	1.2nm,0.8s,mb3.5,baz=270,slow=1.2,SNR=3.8						
KURK	**Kurchatov**	**44.59**	**346**	*eP*	**P**	**23 56 49.8**	**-0.1**
	5.6nm,0.9s,mb4.4						
ZAL	**Zalesovo**	**46.55**	**353**	P	**P**	**23 57 05.8**	**+0.4**
	2.7nm,0.9s,mb4.2,baz=284,slow=10,SNR=4.9						
WRA	**Warramunga Arr**	**48.40**	**125**	P	**P**	**23 57 20.5**	**+0.1**
	1.5nm,0.8s,mb4.1,baz=305,slow=8.6,SNR=4.6						
WRAB	**Tennant Creek**	**48.40**	**125**	P	**P**	**23 57 19.6**	**-0.8**
BVAR	**Borovoye Array**	**48.96**	**341**	P	**P**	**23 57 23.5**	**-0.7**
	1.6nm,0.8s,mb4.1,baz=135,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**50.04**	**130**	P	**P**	**23 57 33.6**	**+0.6**
	1.5nm,0.9s,mb4.0,baz=310,slow=6.3,SNR=3.7						
KMBO	**Kilima Mbogo**	**57.23**	**264**	P	**P**	**23 58 30.4**	**+4.2**
	2.8nm,0.9s,mb4.3,baz=44,slow=10.0,SNR=5.3						
BRTR	**Keskin Array B**	**62.31**	**311**	P	**P**	**23 58 59.6**	**-1.0**
	1.1nm,0.8s,mb4.1,baz=122,slow=7.1,SNR=4.1						
AKASG	**Malin Array Be**	**68.06**	**322**	P	**P**	**23 59 36.9**	**-0.5**
	0.8nm,0.6s,mb3.9,baz=85,slow=4.8,SNR=4.3						
MLR	**Muntele Rosu**	**69.06**	**316**	P	**P**	**23 59 45.0**	**+1.2**
	2.3nm,0.8s,mb4.2,baz=205,slow=3.5,SNR=3.4						
FINES	**FINESS Array B**	**72.65**	**332**	P	**P**	**00 00 05.3**	**+0.2**
	7.8nm,1.1s,mb4.5,baz=112,slow=7.9,SNR=6.2						
ARCES	**ARCESS Array B**	**75.23**	**340**	P	**P**	**00 00 20.4**	**+0.5**
	1.5nm,0.6s,mb4.1,baz=147,slow=3.1,SNR=6.2						
GERES	**GERESS Array B**	**77.72**	**318**	P	**P**	**00 00 35.8**	**+1.3**
	1.6nm,0.7s,mb4.1,baz=90,slow=4.0,SNR=6.0						
KHC	**Kasperske Hory**	**77.81**	**319**	P	**P**	**00 00 34.5**	**-0.4**
NB2	**NORSAR Subarra**	**79.67**	**331**	P	**P**	**00 00 45.1**	**+0.3**
	6.5nm,1.2s,mb4.4,baz=90,slow=5.3						
NOA	**NORSAR Array B**	**79.67**	**331**	P	**P**	**00 00 44.6**	**-0.1**
	1.0nm,0.9s,mb3.8,baz=104,slow=6.2,SNR=3.5						
PDAR	**Pinedale Array**	**125.26**	**21**	PKP	PKPdf	00 07 39.3	+2.3
	0.7nm,0.9s,baz=315,slow=1.3,SNR=3.9						
PLCA	**Paso Flores**	**144.46**	**200**	PKP	PKPdf	00 08 14.6	+2.2
	1.4nm,0.8s,baz=174,slow=6.0,SNR=2.3						
PLCA	**Paso Flores**	**144.46**	**200**	PKP	PKPdf	00 08 14.6	+2.2

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*IDC **27** 23:57:07.0±1.1, 7.75N×94.04E, mb3.7/8, mb1 3.8/9, mb1mx3.7/19, mbtmp3.7/9, ML3.8/1, Error ellipse: s-maj=43.3km s-min=21.5km az=55.0*
ISC 27 23:57:10.3±0.9, 7.8N±0.1×94.2E±0.2, h33km, n10, σ0°83/9, mb3.7/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.53**	**23**	Pn	**P**	**23 59 55.2**	**-0.4**
	0.2nm,0.3s,baz=211,slow=15,SNR=4.3						
SONM	**Songino Array**	**41.19**	**12**	P	**P**	**00 04 53.9**	**+0.4**
	0.5nm,0.7s,mb3.3,baz=207,slow=5.5,SNR=3.8						
ZAL	**Zalesovo**	**46.59**	**352**	P	**P**	**00 05 36.2**	**-0.7**
	1.3nm,0.6s,mb4.0,baz=300,slow=8.2,SNR=7.1						
WRA	**Warramunga Arr**	**48.20**	**126**	P	**P**	**00 05 50.0**	**0.0**
	0.4nm,0.6s,mb3.6,baz=304,slow=8.4,SNR=4.6						
BVAR	**Borovoye Array**	**49.04**	**341**	P	**P**	**00 05 57.2**	**+1.2**
	1.3nm,1.0s,mb3.9,baz=90,slow=5.9,SNR=4.5						
ASAR	**Alice Springs**	**49.86**	**130**	P	**P**	**00 06 02.7**	**-0.1**
	0.6nm,0.9s,mb3.6,baz=316,slow=8.7,SNR=4.3						
BRTR	**Keskin Array B**	**62.48**	**311**	P	**P**	**00 07 31.1**	**-1.9**
	0.4nm,0.7s,mb3.6,baz=108,slow=9.1,SNR=2.6						
GERES	**GERESS Array B**	**77.88**	**318**	P	**P**	**00 09 07.2**	**+0.7**
	0.3nm,0.7s,mb3.4,baz=90,slow=4.0,SNR=3.6						
HFS	**Hagfors**	**78.51**	**330**	P	**P**	**00 09 10.3**	**+0.6**
	0.8nm,0.5s,mb3.9,baz=90,slow=7.2,SNR=2.9						
PLCA	**Paso Flores**	**144.53**	**200**	PKP	PKPdf	00 16 45.8	+2.0
	3.2nm,1.1s,baz=48,slow=5.0,SNR=3.0						

IDC 27 23:58:34.2±7.9, 8.39N×93.73E, mb3.7/6, mb1 3.9/7, mb1mx3.7/19, mbtmp3.7/7, ML4.3/1, Error ellipse: s-maj=186.6km s-min=43.0km az=143.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.21**	**26**	Pn	**P**	00 01 16.6	-2.5
	0.6nm,0.3s,baz=210,slow=14,SNR=4.5						
SONM	**Songino Array**	**40.75**	**13**	P	P	00 06 16.5	-2.0
	0.3nm,0.4s,baz=198,slow=7.8,SNR=4.3						
ZAL	**Zalesovo**	**45.98**	**353**	P	P	00 06 60.0	-1.0
	0.8nm,0.8s,baz=303,slow=10.0,SNR=3.5						
BVAR	**Borovoye Array**	**48.37**	**341**	P	P	00 07 16.9	-2.9
	0.8nm,0.8s,baz=146,slow=5.3,SNR=4.0						
BRTR	**Keskin Array B**	**61.79**	**311**	P	P	00 08 55.2	-2.1
	0.6nm,0.7s,baz=121,slow=8.4,SNR=2.8						
GERES	**GERESS Array B**	**77.17**	**318**	P	P	00 10 30.6	-1.0
	1.1nm,0.8s,baz=104,slow=5.5,SNR=7.8						
NOA	**NORSAR Array B**	**79.08**	**331**	P	P	00 10 40.2	-1.6
	0.8nm,0.8s,baz=98,slow=5.7,SNR=3.0						

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*IDC **28** 00:00:10.8±0.7, 7.96N×94.13E, mb4.3/19, mb1 4.4/20, mb1mx4.3/26, mbtmp4.3/20, ML4.0/1, MS3.8/1, Ms1 4.0/1, ms1mx2.8/25, Error ellipse: s-maj=25.4km s-min=16.5km az=45.0*
*BJI **28** 00:00:15.3, 8.36N×93.58E, h8km, mB4.9, mb4.4, Ms4.7, Msz4.1*
*NEIC **28** 00:00:15.1±4.5, 7.97N×94.17E, h28km±30km, mb4.5/8, Error ellipse: s-maj=14.7km s-min=8.4km az=45.0*
ISC 28 00:00:15.1±2.8, 8.0N±0.1×94.26E±0.09, h41km±24km, n48, σ0°90/42, mb4.4/31, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.35**	**23**	Pn	**P**	**00 02 56.9**	**-0.8**
	0.3nm,0.3s,baz=210,slow=14,SNR=11						
CMAR				LR	LR	00 07 33.2	
	comp=Z,440nm,19.7s,baz=210,slow=39						
HYB	**Hyderabad**	**17.94**	**303**	*iP*	**P**	**00 04 24.5**	**+1.2**
KMI	**Kunming**	**18.86**	**24**	⇑P	**P**	**00 04 40.1**	**+5.6**
	14nm,0.9s						
LKP	**Lekhapani**	**19.31**	**5**	*eP*	**P**	**00 04 42.0**	**+2.4**
LKP				*eS*	rx	00 07 12.0	
JIRN	**Jiri**	**20.99**	**340**	*eP*	**P**	**00 04 57.2**	**-0.2**
	98nm,1.2s						
PKI	**Pulchoki**	**21.19**	**338**	*eP*	**P**	**00 04 59.8**	**+0.4**
	63nm,0.9s,mb4.9						
DMN	**Daman**	**21.34**	**337**	*eP*	**P**	**00 05 00.9**	**0.0**
	55nm,0.7s,mb5.0						
GKN	**Gorkha**	**21.88**	**337**	*eP*	**P**	**00 05 05.4**	**-0.8**
	57nm,0.7s,mb5.1						
KOLN	**Koldanda**	**22.10**	**334**	*eP*	**P**	**00 05 08.6**	**+0.2**
	133nm,1.3s,mb5.2						
ENH	**Enshi**	**26.36**	**31**	*eP*	**P**	**00 05 48.6**	**-0.8**
	9.3nm,0.8s,mb4.4						
LZH	**Lanzhou**	**29.30**	**16**	*eP*	pP

*IDC **28** 00:07:49.0±0.8, 7.81N×94.04E, mb4.0/13, mb1 4.1/14, mb1mx4.1/21, mbtmp3.9/14, ML4.3/1, Error ellipse: s-maj=29.4km s-min=19.0km az=50.0*
*BJI **28** 00:07:53.3, 7.47N×93.78E, h61km, mb4.4*
*NEIC **28** 00:07:54.0±0.4, 7.87N×94.18E, h30km, mb4.4/6, Error ellipse: s-maj=13.8km s-min=9.9km az=65.0*
ISC 28 00:07:52.5±0.6, 7.88N±0.09×94.2E±0.1, h33km, n35, σ0§91/32, mb4.2/25, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.50	23	Pn	P	00 10 36.9	-0.6
0.5nm,0.3s,baz=212,slow=14,SNR=8.8							
KMI	Kunming	19.01	25	⇑P	P	00 12 18.4	+4.1
14nm,1.0s							
JIRN	Jiri	21.07	340	*e*P	P	00 12 35.7	-0.6
24nm,0.7s,mb4.6							
PKI	Pulchoki	21.27	338	*e*P	P	00 12 38.6	+0.4
22nm,0.5s,mb4.7							
DMN	Daman	21.41	338	*e*P	P	00 12 39.6	-0.1
23nm,0.7s,mb4.7							
KKN	Kakani	21.51	338	*e*P	P	00 12 40.2	-0.5
13nm,0.6s,mb4.5							
KAD	Karad	21.61	298	*e*	S	00 16 49.9	+16
LSA	Lhasa	21.89	353	*e*P	P	00 12 45.0	+0.5
12nm,0.7s,mb4.4							
GKN	Gorkha	21.95	337	*e*P	P	00 12 44.7	-0.3
20nm,0.5s,mb4.8							
KOLN	Koldanda	22.16	335	*e*P	P	00 12 47.3	+0.1
75nm,1.2s,mb5.0							
ENH	Enshi	26.51	31	*e*P	P	00 13 28.9	-0.2
7.7nm,0.8s,mb4.3							
SONM	Songino Array	41.15	13	P	P	00 15 36.0	+0.6
1.2nm,0.9s,mb3.5,baz=201,slow=6.2,SNR=7.0							
SONM				PcP	PcP	00 17 35.4	+0.5
0.7nm,0.6s,baz=208,slow=3.4,SNR=4.9							
KURK	Kurchatov	44.61	346	*e*P	P	00 16 03.3	-0.1
5.8nm,0.9s,mb4.4							
ZAL	Zalesovo	46.54	352	P	P	00 16 19.3	+0.6
1.6nm,0.8s,mb4.0,baz=306,slow=10,SNR=8.5							
WRA	Warramunga Arr	48.25	126	P	P	00 16 32.1	-0.5
0.9nm,0.6s,mb4.0,baz=305,slow=8.6,SNR=7.6							
WRAB	Tennant Creek	48.26	126	*e*P	P	00 16 32.7	+0.1
11nm,1.1s,mb4.8							
BVAR	Borovoye Array	48.99	341	P	P	00 16 37.3	-0.5
1.3nm,0.8s,mb4.0,baz=143,slow=7.4,SNR=5.0							
ASAR	Alice Springs	49.91	130	P	P	00 16 44.8	-0.5
0.7nm,0.8s,mb3.8,baz=307,slow=8.5,SNR=5.2							
KMBO	Kilima Mbogo	57.44	264	P	P	00 17 40.7	-0.2
1.8nm,0.8s,mb4.1,baz=74,slow=13,SNR=4.5							
KMBO	Kilima Mbogo	57.44	264	*e*P	P	00 17 43.1	+2.1
BRTR	Keskin Array B	62.44	311	P	P	00 18 12.8	-2.0
0.8nm,0.7s,mb4.0,baz=117,slow=8.3,SNR=4.7							
AKASG	Malin Array Be	68.16	322	P	P	00 18 49.2	-2.2
0.6nm,0.5s,mb3.9,baz=90,slow=5.3,SNR=5.2							
MLR	Muntele Rosu	69.18	316	P	P	00 18 58.0	+0.2
1.8nm,0.8s,mb4.0,baz=315,slow=14,SNR=3.7							
JOF	Joensuu	70.85	334	*e*p	P	00 19 11.5	+3.8
0.5nm,0.4s,mb3.8							
FINES	FINESS Array B	72.71	332	P	P	00 19 18.3	-0.5
3.4nm,0.9s,mb4.3,baz=90,slow=7.6,SNR=5.5							
KAF	Kangasniemi	72.79	333	*e*p	P	00 19 21.2	+1.9
0.3nm,0.4s,mb3.6							
GERES	GERESS Array B	77.83	318	P	P	00 19 49.0	+0.6
2.0nm,0.9s,mb4.0,baz=90,slow=4.0,SNR=11							
HFS	Hagfors	78.46	330	P	P	00 19 52.0	+0.5
2.1nm,0.6s,mb4.3,baz=101,slow=7.6,SNR=6.0							
HFS	Hagfors	78.46	330	P	P	00 19 52.0	+0.5
NB2	NORSAR Subarra	79.73	331	P	P	00 19 53.9	-4.6
5.7nm,1.1s,mb4.4,baz=93,slow=5.6							
NOA	NORSAR Array B	79.73	331	P	P	00 19 58.4	-0.1
1.2nm,0.8s,mb3.9,baz=98,slow=5.5,SNR=3.5							
IMA	Indian Mountai	91.61	22	*e*P	P	00 20 58.8	+1.7
PDAR	Pinedale Array	125.16	21	PKP	PKPdf	00 26 52.1	+2.0
0.6nm,0.8s,baz=27,slow=3.3,SNR=5.7							
TXAR	Lajitas Array	139.22	24	PKP	PKPdf	00 27 18.9	+2.1
0.3nm,0.5s,baz=283,slow=1.0,SNR=3.8							
PLCA	Paso Flores	144.56	200	PKP	PKPdf	00 27 27.5	+1.5
2.9nm,0.9s,baz=359,slow=2.6,SNR=4.9							

*IDC **28** 00:11:27.2±0.7, 7.84N×94.24E, mb4.2/11, mb1 4.4/12, mb1mx4.3/19, mbtmp4.2/12, ML4.1/1, Error ellipse: s-maj=28.9km s-min=17.2km az=57.0*
*BJI **28** 00:11:31.9, 7.53N×93.94E, h56km, mB4.9, mb4.4*
*NEIC **28** 00:11:31.9±0.5, 7.87N×94.26E, h30km, mb4.5/7, Error ellipse: s-maj=15.7km s-min=10.2km az=70.0*
ISC 28 00:11:26.7±0.6, 7.81N±0.09×94.2E±0.1, h10km, n36, σ0§83/30, mb4.5/23, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.53	23	Pn	P	00 14 14.7	+0.2
0.4nm,0.3s,baz=212,slow=14,SNR=8.4							
HYB	Hyderabad	18.02	303	*e*P	P	00 15 33.0	-6.2
HYB	Hyderabad	18.02	303	*i*P	P	00 15 33.0	-6.2
KMI	Kunming	19.03	24	⇑P	P	00 15 56.5	+5.0
19nm,1.1s							
JIRN	Jiri	21.16	340	*e*P	P	00 16 13.8	-0.7
162nm,1.4s,mb5.2							
PKI	Pulchoki	21.36	338	*e*P	P	00 16 16.3	-0.2
42nm,0.7s,mb4.9							
DMN	Daman	21.51	337	*e*P	P	00 16 18.0	0.0
52nm,0.6s,mb5.1							
KKN	Kakani	21.60	338	*e*P	P	00 16 18.5	-0.5
36nm,0.9s,mb4.8							
LSA	Lhasa	21.97	353	*e*P	P	00 16 25.5	+2.9
LSA	Lhasa	21.97	353	*e*P	P	00 16 22.6	0.0
18nm,0.8s,mb4.6							
GKN	Gorkha	22.04	337	*e*P	P	00 16 22.9	-0.4
41nm,0.7s,mb5.0							
KOLN	Koldanda	22.26	334	*e*P	P	00 16 25.6	+0.1
128nm,1.2s,mb5.2							
ENH	Enshi	26.52	31	*e*P	P	00 17 07.2	+0.7
16nm,1.0s,mb4.5							
DDI	Dehra Dun	27.05	328	*e*	P	00 17 14.0	+2.7
DDI				*e*		00 21 29.0	
AAK	Ala-Archa	38.80	337	*e*P	P	00 18 53.2	-0.2
5.4nm,0.8s,mb4.3							
SONM	Songino Array	41.20	12	P	P	00 19 13.9	+0.8
2.2nm,0.7s,mb3.9,baz=194,slow=10,SNR=9.0							
KURK	Kurchatov	44.69	346	*e*P	P	00 19 41.5	-0.1
9.1nm,0.9s,mb4.6							
ZAL	Zalesovo	46.62	352	P	P	00 19 57.4	+0.5
4.6nm,1.0s,mb4.3,baz=291,slow=9.1,SNR=12							
WRA	Warramunga Arr	48.15	126	P	P	00 20 09.6	+0.3
2.5nm,0.9s,mb4.3,baz=304,slow=8.5,SNR=11							
BVAR	Borovoye Array	49.08	341	P	P	00 20 15.1	-1.0
1.8nm,0.8s,mb4.2,baz=143,slow=7.4,SNR=6.2							
ASAR	Alice Springs	49.80	130	P	P	00 20 22.1	+0.1
1.3nm,0.7s,mb4.1,baz=310,slow=7.5,SNR=8.0							
KMBO	Kilima Mbogo	57.51	264	P	P	00 21 19.8	+0.7
2.9nm,0.8s,mb4.4,baz=58,slow=11,SNR=8.6							
KMBO	Kilima Mbogo	57.51	264	*e*P	P	00 21 21.3	+2.2
5.9nm,1.1s,mb4.5							
STKA	Stephens Creek	59.99	134	P	P	00 21 35.2	-0.8
1.8nm,0.6s,mb4.3,baz=32,slow=7.3,SNR=4.2							
JOF	Joensuu	70.95	334	*e*p	P	00 22 44.2	-1.9
0.5nm,0.4s,mb3.8							
FINES	FINESS Array B	72.81	332	P	P	00 22 57.0	-0.2
5.4nm,0.8s,mb4.6,baz=108,slow=12,SNR=7.7							
KAF	Kangasniemi	72.89	333	*e*p	P	00 22 57.7	0.0
0.4nm,0.4s,mb3.7							
ARCES	ARCESS Array B	75.36	340	P	P	00 23 11.2	-0.6
4.5nm,1.0s,mb4.4,baz=90,slow=4.9,SNR=5.4							
GERES	GERESS Array B	77.94	318	P	P	00 23 27.3	+0.7
2.3nm,0.7s,mb4.2,baz=80,slow=6.0,SNR=4.6							
ILAR	Eielson Array	94.77	22	P	P	00 24 49.0	-0.5
0.6nm,1.0s,mb4.0,baz=309,slow=5.4,SNR=5.6							
NVAR	Mina Array Bea	124.92	31	PKP	PKPdf	00 30 31.5	+0.8
1.2nm,0.8s,baz=354,slow=1.7,SNR=5.9							
PDAR	Pinedale Array	125.19	21	PKP	PKPdf	00 30 30.7	-0.4
0.8nm,0.7s,baz=90,slow=3.0,SNR=8.3							
TXAR	Lajitas Array	139.24	24	PKP	PKPdf	00 30 57.2	-0.6
0.4nm,0.6s,baz=149,slow=1.1,SNR=5.8							
TXAR	Lajitas Array	139.24	24	PKP	PKPdf	00 30 57.2	-0.6
PLCA	Paso Flores	144.52	200	PKP	PKPdf	00 31 06.1	-0.7
4.3nm,0.9s,baz=214,slow=4.4,SNR=7.2							
PLCA	Paso Flores	144.52	200	PKP	PKPdf	00 31 06.1	-0.7

*IDC **28** 00:15:41.3±0.5, 7.89N×94.10E, mb4.6/20, mb1 4.7/21, mb1mx4.6/25, mbtmp4.5/21, ML4.6/1, MS4.6/16, Ms1 4.6/16, ms1mx4.4/28, Error ellipse: s-maj=25.0km s-min=12.9km az=49.0*
*BJI **28** 00:15:44.7, 7.71N×93.76E, h35km, mB5.2, mb4.7, Ms5.2, Msz4.9*
*HRVD **28** 00:15:44.8±0.2, 7.84N×94.21E, h18km±1km, MW5.2/55, Centroid moment Tensor Solution. LP body waves: s31,c48;Mantle waves: s55,c109; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.05±.02; $M_{\theta\theta}$-0.59±.02; $M_{\phi\phi}$0.64±.02; $M_{r\theta}$-0.39±.07; $M_{\theta\phi}$0.44±.02; $M_{\phi r}$-0.12±.05; Best double couple: M_0.862×10^{17} NP1: ϕ_s154°, δ62°, λ-175°. NP2:ϕ_s62°, δ85°, λ-28°. Principal axes: T.848, Plg16°, Azm111°; N.027, Plg62°, Azm233°; P-.875, Plg23°, Azm14°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 00:15:44.8±3.9, 7.89N×94.10E, h20km±26km, mb4.9/21 Error ellipse: s-maj=11.4km s-min=8.6km az=221.0*
*MOS **28** 00:15:45.3±1.3, 7.95N×94.10E, h33km, mb5.0/30, MS4.6/6, Error ellipse: s-maj=11.3km s-min=6.5km az=112.4*
ISC 28 00:15:41.3±2.1, 7.87N±0.06×94.21E±0.05, h9km±13km, n147, σ1§31/141, mb4.9/56, MS4.7/21, 5C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	Songkhla	6.39	96	P	Pn	00 17 08.0	-10
360nm,0.8s							
NNT	Nongplab	7.18	49	P	Pn	00 17 29.0	-0.1
NST	Nakhon Sawan	9.68	36	P	P	00 18 02.0	-2.0
CMAR	Chiang Mai Arr	11.49	23	P	P	00 18 28.8	+0.1
CMAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
CMAR				MLR	MLR		
comp=Z,3μm,19.7s							
CMAR	Chiang Mai Arr	11.49	23	Pn	P	00 18 28.8	+0.1
comp=Z,1.2nm,0.3s,baz=211,slow=14,SNR=12							
CMAR				LR	LR	00 22 58.4	
comp=Z,3μm,19.7s,baz=210,slow=38							
NANT	Nan	12.56	29	P	P	00 18 47.0	+3.8
KOD	Kodaikanal	16.70	279	*e*P	P	00 19 42.0	+4.7
TRD	Trivandrum	17.09	273	*e*P	P	00 19 47.4	+5.2
TRD				*i*S	S	00 22 29.4	-22
SHL	Shillong	17.74	353	*e*P	P	00 19 49.0	-1.3
HYB	Hyderabad	17.97	303	*e*P	P	00 19 52.0	-1.2
HYB	Hyderabad	17.97	303	*i*P	P	00 19 52.0	-1.2
QIZ	Qiongzhong	18.80	52	P	P	00 20 08.3	+4.9
QIZ				S	S	00 23 39.0	+9.0
QIZ				LR	LR		
comp=N,8μm,12.0s							
QIZ				LR	LR		
comp=E,3μm,13.7s							
QIZ				LR	LR		
comp=Z,3μm,9.2s							
KMI	Kunming	18.99	24	⇑P	P	00 20 10.8	+5.1
KMI				pmax	pmax		
comp=Z,17nm,1.9s							
KMI	Kunming	18.99	24	⇑P	P	00 20 10.8	+5.1
comp=Z,17nm,1.9s							
KMI				pP		00 20 15.5	
KMI				sP		00 20 18.2	
KMI				PP	PP	00 20 28.0	+5.7
KMI				S	S	00 23 43.8	+10
KMI				sS		00 23 54.9	
KMI				SS	SS	00 24 17.8	+18
NGP	Nagpur	19.71	314	*e*P	P	00 20 17.8	+3.7
NGP				*e*	S	00 23 55.5	+5.1
MNGI	Mangalore	19.72	286	*i*P	P	00 20 16.6	+2.4
MNGI				*e*	S	00 23 55.3	+4.8
JIRN	Jiri	21.10	340	*e*P	P	00 20 29.2	+0.6
comp=Z,552nm,1.6s,mb5.6							
PKI	Pulchoki	21.29	338	*e*P	P	00 20 32.4	+1.8
comp=Z,565nm,1.6s,mb5.7							
GOA	Goa	21.34	293	*e*P	P	00 20 37.6	+6.6
comp=Z,102nm,0.6s,mb5.3							
GOA				*e*	S	00 24 37.3	+14
DMN	Daman	21.44	337	*e*P	P	00 20 33.9	+1.8
comp=Z,465nm,1.5s,mb5.6							
KKN	Kakani	21.54	338	*e*P	P	00 20 34.5	+1.5
comp=Z,355nm,1.5s,mb5.6							
LSA	Lhasa	21.91	353	*e*P	P	00 20 39.5	+2.8
LSA	Lhasa	21.91	353	*e*P	P	00 20 36.8	+0.1
LSA				pmax	pmax		
comp=Z,48nm,0.8s,mb5.0							
LSA	Lhasa	21.91	353	*e*P	P	00 20 36.8	+0.1
comp=Z,48nm,0.8s,mb5.0							
GKN	Gorkha	21.98	337	*e*P	P	00 20 37.7	+0.3
comp=Z,178nm,1.1s,mb5.4							
KOLN	Koldanda	22.19	334	*e*P	P	00 20 41.4	+1.8
comp=Z,276nm,1.4s,mb5.5							
POO	Poona	22.45	300	*e*	P	00 20 43.0	+0.8
NDI	New Delhi	26.18	324	*e*	P	00 21 18.0	-0.1
TGY	Tagaytay City	26.94	74	LR	LR	00 32 39.9	
comp=Z,1μm,19.5s,MS4.5,baz=128,slow=38							
XAN	Xi'an	29.37	25	P	P	00 21 51.3	+4.3
XAN				AMB	AMB		
comp=Z,11nm,0.8s,mb4.6							
LZH	Lanzhou	29.43	16	*e*P	P	00 21 49.5	+1.9
LZH				AP	pP	00 22 01.0	+11
LZH				XP	sP	00 22 06.5	+15
LZH				*e*S	S	00 26 41.0	+0.7
LZH				XS		00 26 58.5	
LZH				AMB	AMB		
comp=Z,42nm,1.7s,mb4.9							
LZH				AMB	AMB		
comp=Z,150nm,4.0s							
LZH				LR	LR		
comp=E,2μm,13.7s							
LZH				LR	LR		
comp=Z,2μm,14.8s,MS4.9							
LZH	Lanzhou	29.43	16	*e*P	P	00 21 49.5	+1.9
LZH				*PP	pP	00 22 01.0	+11
LZH				*SP	sP	00 22 06.5	+15
LZH						00 22 56.0	
LZH				*e*S	S	00 26 41.0	+0.7
LZH				*SS		00 26 58.6	
LZH				SS	SS	00 28 14.0	+1.7
LZH				pmax	pmax		
comp=Z,42nm,1.7s,mb4.9							
LZH				MLR	MLR		
comp=Z,2μm,14.8s,MS4.9							
LZH	Lanzhou	29.43	16	*e*P	P	00 21 49.5	+1.9
comp=Z,42nm,1.7s,mb4.9							
LZH				pP	pP	00 22 01.0	+11
LZH				sP	sP	00 22 06.5	+15
LZH				PP	PP	00 22 56.0	+13
LZH				*e*S	S	00 26 41.0	+0.7
LZH				sS		00 26 58.6	
LZH				SS	SS	00 28 14.0	+1.7
LZH				LR	LR		
comp=Z,2μm,14.8s,MS4.9							
WMQ	Urumqi	36.26	352	*e*P	P	00 22 47.3	+0.5
WMQ				AP	pP	00 22 57.0	+7.5
WMQ				XP	sP	00 23 01.0	+10
WMQ				PP	PP	00 24 09.3	-0.4
WMQ				PCP	PcP	00 25 14.3	+2.1
WMQ				AMB	AMB		
comp=Z,28nm,0.6s,mb5.4							
WMQ				AMB	AMB		
comp=Z,290nm,4.9s							
WMQ				LR	LR		
comp=N,754nm,15.7s,MS4.7							
WMQ				LR	LR		
comp=E,699nm,15.2s,MS4.7							
WMQ				LR	LR		
comp=Z,1μm,15.3s,MS4.8							
JOW	Kunigami	37.40	55	LR	LR	00 40 51.7	
comp=Z,649nm,19.1s,MS4.4,baz=298,slow=40							
BJI	Beijing	37.58	28	P	P	00 22 59.2	+1.3
BJI				S	S	00 28 46.4	-0.5
BJI				pmax	pmax		
comp=Z,10.0nm,2.0s,mb4.2							
BJI				MLR	MLR		
comp=Z,980nm,27.6s,MS4.5							
BJI	Beijing	37.58	28	P	P	00 22 59.2	+1.3
comp=Z,10.0nm,2.0s,mb4.2							
BJI				S	S	00 28 46.4	-0.5
BJI				LR	LR		
comp=Z,980nm,27.6s,MS4.5							
AAK	Ala-Archa	38.73	337	*e*P	P	00 23 06.2	-1.4
AAK				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.5							
AAK	Ala-Archa	38.73	337	*e*P	P	00 23 06.2	-1.4
comp=Z,7.7nm,0.8s,mb4.5							
SONM	Songino Array	41.15	12	P	P	00 23 27.4	-0.1
comp=Z,5.3nm,1.0s,mb4.1,baz=197,slow=7.2,SNR=8.5							
SONM				PcP	PcP	00 25 28.0	+0.5
comp=Z,1.5nm,0.8s,baz=225,slow=2.3,SNR=3.0							
SNY	Shenyang	42.64	33	⇑P	P	00 23 44.3	+4.5
SNY				AMB	AMB		
comp=Z,10.0nm,1.4s,mb4.3							
SNY				LR	LR		
comp=N,680nm,15.6s,MS5.0							
SNY				LR	LR		
comp=E,1μm,13.5s,MS5.0							
SNY				LR	LR		
comp=Z,1μm,16.1s,MS4.9							
ZAK	Zakamensk	43.05	9	*e*P	P	00 23 42.3	-0.7
ZAK				*e*		00 25 36.5	
KURK	Kurchatov	44.63	346	*e*P	P	00 23 54.7	-1.2
KURK				pmax	pmax		
comp=Z,67nm,1.5s,mb5.2							
KURK	Kurchatov	44.63	346	*e*P	P	00 23 54.7	-1.2
comp=Z,67nm,1.5s,mb5.2							
NWAO	Narrogin (SRO)	46.11	153	P	P	00 24 08.9	+1.0
NWAO				pmax	pmax		
comp=Z,25nm,1.1s							
NWAO	Narrogin (SRO)	46.11	153	P	P	00 24 08.9	+1.0
comp=Z,25nm,1.1s,mb5.0,baz=319,slow=6.9,SNR=6.3							
HIA	Hailar	46.50	23	P	P	00 24 12.6	+1.9
HIA				pmax	pmax		
comp=Z,12nm,0.9s							
HIA	Hailar	46.50	23	P	P	00 24 12.6	+1.9
comp=Z,12nm,0.9s,mb4.8							
ZAL	Zalesovo	46.56	352	P	P	00 24 10.9	-0.2
ZAL				pmax	pmax		
comp=Z,9.0nm,0.6s							
ZAL	Zalesovo	46.56	352	P	P	00 24 10.9	-0.2
comp=Z,8.5nm,0.6s,mb4.9,baz=294,slow=7.1,SNR=18							
NVS	Novosibirsk	47.66	351	*i*P	P	00 24 17.6	-2.2
NVS				*i*		00 24 34.4	
NVS				pmax	pmax		
comp=Z,26nm,1.0s,mb5.2							
NVS				pmax	pmax		
comp=N,22nm,1.1s							
NVS				pmax	pmax		
comp=E,11nm,1.0s							
WRA	Warramunga Arr	48.20	126	P	P	00 24 23.8	-0.7
WRA				pmax	pmax		
comp=Z,4.0nm,0.9s							
WRA	Warramunga Arr	48.20	126	P	P	00 24 23.8	-0.7
comp=Z,4.3nm,0.9s,mb4.5,baz=305,slow=8.7,SNR=10.0							
BVAR	Borovoye Array	49.02	341	P	P	00 24 29.2	-1.1
comp=Z,8.2nm,1.0s,mb4.7,baz=135,slow=8.4,SNR=11							
BRVK	Borovoye	49.08	341	*e*P	P	00 24 28.3	-2.5
BRVK				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.8							
BRVK	Borovoye	49.08	341	*e*P	P	00 24 28.3	-2.5
comp=Z,9.7nm,1.1s,mb4.8							
ASAR	Alice Springs	49.86	130	P	P	00 24 36.5	-0.7
comp=Z,4.1nm,1.0s,mb4.4,baz=300,slow=7.0,SNR=11							
ASAR				PcP	PcP	00 25 58.9	+0.8
comp=Z,3.0nm,0.7s,baz=305,slow=3.6,SNR=9.2							
ASAR				LR	LR	00 47 56.5	
comp=Z,382nm,19.9s,MS4.4,baz=295,slow=39							
KLR	Kul'dur	51.85	31	*e*P	P	00 24 52.0	0.0
BOD	Bodaibo	52.14	13	*e*P	P	00 24 53.7	-0.3
GNI	Garni	54.49	314	*e*P	P	00 25 10.3	-1.4
GNI				pmax	pmax		
comp=Z,69nm,1.8s							
GNI	Garni	54.49	314	LR	LR	00 50 15.7	
comp=Z,286nm,21.6s,MS4.3,baz=98,slow=38							
GNI	Garni	54.49	314	*e*P	P	00 25 10.3	-1.4
comp=Z,69nm,1.8s,mb5.3							
ASAJ	Asahikawa	55.37	41	LR	LR	00 48 30.1	
comp=Z,513nm,21.1s,MS4.6,baz=219,slow=36							
SVE	Sverdlovsk	55.43	338	*e*P	P	00 25 17.0	-1.3
SVE				pmax	pmax		
comp=Z,80nm,1.5s,mb5.5							
SVE				MLR	MLR		
comp=N,400nm,22.0s,MS4.7							
SVE				MLR	MLR		
comp=E,500nm,22.0s,MS4.7							
SVE				MLR	MLR		
comp=Z,1μm,22.0s,MS4.9							
PMG	Port Moresby	55.47	107	P	P	00 25 18.8	-0.4
PMG				pmax	pmax		
comp=Z,10.0nm,0.9s							
PMG	Port Moresby	55.47	107	P	P	00 25 18.8	-0.3
comp=Z,10nm,0.9s,mb4.9,baz=281,slow=16,SNR=3.0							
KIV	Kislovodsk	57.37	318	*e*P	P	00 25 32.9	+0.5
KIV				*e*		00 25 48.8	
KIV				pmax	pmax		
comp=Z,24nm,1.2s,mb5.1							
KIV	Kislovodsk	57.37	318	*e*P	P	00 25 31.6	-0.8
KMBO	Kilima Mbogo	57.49	264	P	P	00 25 33.6	-0.1
comp=Z,2.9nm,0.7s,mb4.4,baz=50,slow=10.0,SNR=8.3							
KMBO				LR	LR	00 47 13.9	
comp=Z,683nm,19.8s,MS4.8,baz=92,slow=33							
KMBO	Kilima Mbogo	57.49	264	*e*P	P	00 25 34.9	+1.2
comp=Z,12nm,1.0s,mb4.9							
CTA	Charters Tower	58.25	119	LR	LR	00 51 32.3	
comp=Z,398nm,21.8s,MS4.5,baz=288,slow=37							
ASF	Jabal al Asfar	58.28	303	LR	LR	00 53 43.9	
comp=Z,546nm,20.1s,MS4.7,baz=311,slow=39							
MALT	Malatya	58.52	310	*e*P	P	00 25 39.4	-1.1
MALT				pmax	pmax		
comp=Z,7.0nm,1.1s,mb4.6							
MALT	Malatya	58.52	310	*e*P	P	00 25 39.4	-1.1
comp=Z,7.2nm,1.1s,mb4.6							
YAK	Yakutsk	59.98	18	*e*P	P	00 25 52.5	+2.2
YAK				pmax	pmax		
comp=Z,13nm,0.9s,mb5.0							
YAK				pmax	pmax		
comp=N,5.0nm,1.1s							
YAK				pmax	pmax		
comp=E,4.0nm,1.1s							
STKA	Stephens Creek	60.05	134	P	P	00 25 50.4	-0.9
comp=E,3.6nm,0.9s,mb4.4,baz=314,slow=7.9,SNR=5.0							
STKA				LR	LR	00 56 53.8	
comp=E,667nm,18.5s,MS4.8,baz=38,slow=41							
BRTR	Keskin Array B	62.48	311	P	P	00 26 05.9	-1.7
BRTR				pmax	pmax		
comp=Z,3.0nm,0.8s							
BRTR	Keskin Array B	62.48	311	P	P	00 26 05.8	-1.7
comp=Z,2.7nm,0.8s,mb4.4,baz=121,slow=6.8,SNR=6.4							
MBAR	Mbarara	63.83	265	*e*P	P	00 26 16.9	0.0
MBAR				pmax	pmax		
comp=

LBTB	Lobatse	74.30	241	*e*P		P	00 27 22.2	+0.8
	comp=Z,10nm,0.8s,mb4.8							
VYHS	Vyhne	74.46	318	*e*P		P	00 27 21.4	-0.4
OKC	Ostrava-Krasne	75.04	319	*e*P		P	00 27 25.0	-0.1
ARCES	ARCESS Array B	75.29	340	LR		LR	01 03 26.7	
	comp=Z,1μm,19.8s,MS5.1,baz=30,slow=38							
MORC	Moravsky Berou	75.42	319	*e*P		P	00 27 27.6	+0.3
MORC				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.7							
MORC	Moravsky Berou	75.42	319	*e*P		P	00 27 27.6	+0.3
	comp=Z,12nm,1.1s,mb4.7							
BOSA	Boshof	75.64	238	*e*P		P	00 27 29.8	+0.8
DPC	Dobruska-Polom	76.25	320	*e*P		P	00 27 34.2	+2.2
KSP	Ksiaz	76.31	320	*e*P		P	00 27 32.2	-0.1
KSP				*e*		pP	00 27 34.8	-0.4
UPC	Upice	76.46	320	*e*P		P	00 27 33.8	+0.6
PRU	Pruhonice	77.37	319	*e*P		P	00 27 36.4	-1.9
PVCC	Panska Ves	77.38	320	*e*P		P	00 27 40.4	+2.1
BRG	Berggiesshubel	77.80	320	*e*P		P	00 27 43.4	+2.8
BRG				*e*			00 27 56.3	
BRG				pmax		pmax		
	comp=Z,18nm,1.6s,mb4.8							
BRG	Berggiesshubel	77.80	320	*e*P		P	00 27 43.4	+2.8
	comp=Z,18nm,1.6s,mb4.7							
BRG				*e*			00 27 56.3	
GERES	GERESS Array B	77.88	318	P		P	00 27 39.8	-1.2
GERES				pmax		pmax		
	comp=Z,6.0nm,1.0s							
GERES	GERESS Array B	77.88	318	P		P	00 27 39.8	-1.2
	comp=Z,6.2nm,1.0s,mb4.5,baz=90,slow=5.3,SNR=13							
KHC	Kasperske Hory	77.97	318	*e*P		P	00 27 40.2	-1.3
RUE	Ruedersdorf	77.97	322	P		P	00 27 40.2	-1.2
	comp=Z,32nm,1.1s,mb5.2							
CLL	Collm	78.41	321	P		P	00 27 47.0	+3.1
HFS	Hagfors	78.50	330	P		P	00 27 44.2	0.0
HFS				pmax		pmax		
	comp=Z,13nm,0.9s							
HFS	Hagfors	78.50	330	P		P	00 27 44.2	0.0
	comp=Z,13nm,0.9s,mb4.9,baz=101,slow=7.6,SNR=7.3							
MAW	Mawson	78.54	192	LR		LR	00 57 53.8	
	comp=Z,300nm,19.8s,MS4.6,baz=174,slow=32							
NKC	Novy Kostel	78.73	320	*e*P		P	00 27 47.1	+1.4
MOX	Moxa	79.27	320	*e*P		P	00 27 46.0	-2.6
MOX				MLR		MLR		
	comp=Z,300nm,18.0s,MS4.7							
GRA1	Grafenberg Arr	79.52	319	*e*P		P	00 27 49.7	-0.3
GRF	Grafenberg Arr	79.52	319	*e*P		P	00 27 49.7	-0.3
NB2	NORSAR Subarra	79.77	331	P		P	00 27 51.2	+0.1
	comp=Z,7.7nm,0.8s,mb4.7,baz=91,slow=5.8							
NOA	NORSAR Array B	79.77	331	P		P	00 27 50.9	-0.2
NOA				pmax		pmax		
	comp=Z,5.0nm,0.8s							
NOA				MLR		MLR		
	comp=Z,332nm,20.7s							
NOA	NORSAR Array B	79.77	331	P		P	00 27 50.9	-0.2
	comp=Z,4.7nm,0.8s,mb4.5,baz=92,slow=5.6,SNR=7.4							
NOA				LR		LR	01 06 49.4	
	comp=Z,332nm,20.7s,MS4.7,baz=105,slow=38							
DAVOX	Davos	80.44	316	P		P	00 27 55.9	+0.9
	comp=Z,7.1nm,0.9s,mb4.6,baz=187,slow=14,SNR=3.7							
LPG	La Plagne	82.67	315	*e*P		P	00 28 07.9	+1.2
	comp=Z,22nm,1.0s,mb4.8							
LPG	La Plagne	82.67	315	*e*P		P	00 28 07.9	+1.2
LPG				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.8							
SYO	Syowa Base	85.42	197	⇑P		P	00 28 25.5	+5.4
SYO	Syowa Base	85.42	197	⇓sP		sP	00 28 38.2	+14
ESDC	Sonseca Array	91.27	310	P		P	00 28 48.1	-0.6
	comp=Z,1.6nm,0.8s,mb4.4,baz=51,slow=4.2,SNR=4.0							
IMA	Indian Mountai	91.60	22	*e*P		P	00 28 51.1	+1.5
VNDA	Vanda	92.91	168	LR		LR	01 08 07.3	
	comp=Z,288nm,18.1s,MS4.8,baz=319,slow=34							
MCK	McKinley	94.44	23	*e*P		P	00 29 05.2	+2.5
MCK				pmax		pmax		
	comp=Z,4.0nm,1.3s,mb4.7							
MCK	McKinley	94.44	23	*e*P		P	00 29 05.2	+2.6
	comp=Z,4.4nm,1.3s,mb4.7							
ILAR	Eielson Array	94.72	22	P		P	00 29 04.7	+0.7
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ILAR	Eielson Array	94.72	22	P		P	00 29 04.7	+0.7
	comp=Z,0.5nm,0.7s,mb4.1,baz=307,slow=4.5,SNR=3.7							
INK	Inuvik	96.98	16	*e*P		P	00 29 16.0	+1.8
INK				pmax		pmax		
	comp=Z,12nm,1.0s							
INK	Inuvik	96.98	16	LR		LR	01 19 17.2	
	comp=Z,422nm,18.6s,MS5.0,baz=135,slow=39							
INK	Inuvik	96.98	16	*e*P		P	00 29 16.0	+1.8
	comp=Z,12nm,1.0s,mb5.3							
NVAR	Mina Array Bea	124.89	31	PKP		PKPdf	00 34 44.7	-0.6
	comp=Z,0.3nm,0.6s,baz=157,slow=31,SNR=3.1							
PDAR	Pinedale Array	125.15	21	PKP		PKPdf	00 34 44.7	-1.0
	comp=Z,0.9nm,0.7s,baz=297,slow=2.0,SNR=3.5							
TXAR	Lajitas Array	139.20	24	PKP		PKPdf	00 35 11.0	-1.4
	comp=Z,0.5nm,1.1s,baz=76,slow=7.4,SNR=3.3							
PLCA	Paso Flores	144.57	200	PKIKP		PKPdf	00 35 19.7	-1.8
PLCA				pmax		pmax		
	comp=Z,9.0nm,1.0s							
PLCA	Paso Flores	144.57	200	PKP		PKPdf	00 35 19.7	-1.8
	comp=Z,8.5nm,1.0s,baz=152,slow=3.1,SNR=7.9							

BJI ***28*** *00:17:37.9, 34.55N×23.06E, h15km, mB5.2, mb5.0, Ms5.3, Msz5.2*

ATH ***28*** *00:17:38.8, 34.37N×23.10E, h18km±7km, MD4.4/19, ML4.6*

ZUR_RM ***28*** *00:17:38, 34.37N×23.10E, h48km, Mw4.9/18, Moment Tensor Solution. s18 Moment tensor: Scale 10^{16}Nm; M_{rr}1.34; $M_{\theta\theta}$-1.18; $M_{\phi\phi}$-0.16; $M_{r\theta}$0.23; $M_{\theta\phi}$2.32; $M_{\phi r}$-0.60; Best double couple: $M_0$2.52×10^{16} NP1:ϕ_s168°, δ73°, λ151°. NP2:ϕ_s267°, δ62°, λ19°. Principal axes: T 1.913, Plg32°, Azm125°; N 1.205, Plg57°, Azm320°; P -3.118, Plg7°, Azm219°;*

NEIC ***28*** *00:17:38.8, 34.37N×23.10E, h18km, mb4.7/99, MS4.7/44, ML4.6(ATH), ML4.3(ISK), After ATH.*

NEIC Felt on Crete and Gavdos.

PDG ***28*** *00:17:43.0±0.9, 34.60N×23.02E, h40km±11km*

HLW ***28*** *00:17:43.9, 34.77N×23.43E, h33km, Mb4.3*

CSEM ***28*** *00:17:44.1, 34.55N×23.28E, h55km, mb4.7*

MOS ***28*** *00:17:45.1±1.1, 34.84N×23.38E, h46km, mb5.0/44, Error ellipse: s-maj=4.6km s-min=2.2km az=106.8*

IDC ***28*** *00:17:45.0±2.0, 34.77N×23.36E, h33km±12km, mb4.5/17, mb1 4.5/27, mb1mx4.4/31, mbtmp4.5/27, ML4.1/9, MS4.3/5, Ms1 4.4/5, ms1mx3.6/31, Error ellipse: s-maj=18.7km s-min=11.9km az=4.0*

UPP ***28*** *00:17:50.1, 33.76N×24.08E, h32km*

ISC 28 00:17:42.9±0.3, 34.66N±0.02×23.40E±0.02, h34km±3km, n578, σ1§36/585, mb4.8/77, MS4.7/50, 41C-26D, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
GVD	Gavdhos	0.59	72	*e*Pg		P	00 17 57.4	+2.8
GVD	Gavdhos	0.59	72	*e*Pg		P	00 17 57.4	+2.7
VAM	Vamos	0.99	41	⇑*i*PN		P	00 18 04.5	+4.1
VAM				*e*SN		S	00 18 24.2	+11
IDI	Anoyia	1.37	62	Pg		P	00 18 10.1	+4.2
	129nm,0.3s,baz=229,slow=13,SNR=548							
IDI				Lg			00 18 29.9	
	172nm,0.3s,baz=273,slow=20,SNR=7.9							
KYTH	Kithira	1.64	350	*e*PN		P	00 18 13.0	+3.2
XRY	Khrisi	1.90	83	*e*PN		P	00 18 17.0	+3.6
NPS	Neapolis	1.91	71	⇑*i*PB		P	00 18 18.3	+4.7
VLI	Veliai	2.09	350	⇑*i*PN		P	00 18 19.0	+2.9
SANT	Santorini	2.39	44	*e*Pn		P	00 18 22.6	+2.1
SANT	Santorini	2.39	44	*e*Pn		P	00 18 22.5	+2.0
ITM	Ithomi	2.78	335	*e*PB		P	00 18 29.0	+2.9
APE	Apeiranthos	2.96	35	PN		P	00 18 29.1	+0.5
APE	Apeiranthos	2.96	35	Pn		P	00 18 29.0	+0.4
NAIG	Nisos Aigina	3.09	1	*e*PN		P	00 18 32.5	+2.0
KARP	Karpathos	3.21	73	*e*PN		P	00 18 34.8	+2.7
ATH	Athens Observa	3.31	4	⇑*i*PN		P	00 18 35.8	+2.2
PTL	Penteli	3.40	6	*e*PN		P	00 18 37.0	+2.1
MPAR	Parnis Oros	3.49	4	*e*PN		P	00 18 38.5	+2.3
SLUM		3.51	154	P		P	00 18 37.3	+0.9
SLUM				S		S	00 19 16.5	-0.8
NISR	Nisiros	3.60	56	*e*PN		P	00 18 41.0	+3.2
RLS	Riolos of Patr	3.73	336	*e*PN		P	00 18 42.0	+2.4
LKR	Lokris	3.99	355	*e*PN		P	00 18 45.0	+1.7
BDRM	Kayabasi	4.07	53	P		P	00 18 47.7	+3.4
SMG	Samos	4.12	41	Pn		P	00 18 48.2	+3.1
ARG	Arkhangelos	4.16	67	*e*PN		P	00 18 48.5	+2.9
VLS	Valsamata	4.18	328	*e*PN		P	00 18 46.0	+0.1
EVR	Evrytania	4.43	344	⇓*i*PN		P	00 18 51.9	+2.3
AGG	Agios Georgios	4.44	349	*e*P		P	00 18 51.3	+1.7
AGG	Agios Georgios	4.44	349	P		P	00 18 51.3	+1.7
AGG				S		S	00 19 42.2	+1.5
AGG	Agios Georgios	4.44	349	S		S	00 19 42.2	+1.4
AOS	Alonnisos	4.52	5	*e*P		P	00 18 51.5	+0.8
NEO	Neokhori	4.64	358	Pn		P	00 18 54.0	+1.5
AYDN	Tasoluk	4.70	49	P		P	00 18 57.6	+4.3
XOR	Xorichti	4.70	358	*e*P		P	00 18 54.0	+0.6
HMAT	Matruh	4.72	138	P		P	00 18 54.0	+0.3
HMAT	Matruh	4.72	138	P		P	00 18 54.4	+0.7
BLCB	Balcova	4.73	37	PN		P	00 18 53.4	-0.4
KDAG	Bornova	4.86	39	P		P	00 18 57.2	+1.7
FETY	Fethiye	5.03	65	*e*PN		P	00 18 58.0	+0.1
PAIG	Paliouri	5.26	2	*e*P		P	00 19 01.4	+0.2
AYVA	Ayvalik	5.33	29	P		P	00 19 03.5	+1.3
JAN	Janina	5.39	339	*e*PN		P	00 19 03.3	+0.3
LIA	Limnos Island	5.42	15	Pn		P	00 19 04.2	+0.8
IGT	Igoumenitsa	5.45	334	*e*P		P	00 19 02.8	-1.0
DNZL	Cakiroluk	5.47	55	P		P	00 19 07.6	+3.4
LIT	Litokhoron	5.48	353	*e*P		P	00 19 03.6	-0.6
DABA	Dabaa	5.49	130	P		P	00 19 04.9	+0.5
DABA	Dabaa	5.49	130	P		P	00 19 05.0	+0.6
AKS	Akhisar	5.50	39	PN		P	00 19 04.3	-0.3
DENT	Denizli	5.50	54	PN		P	00 19 03.7	-0.8
MANT	Manisa	5.64	46	P		P	00 19 08.7	+2.2
SWA2		5.68	162	P		P	00 19 07.3	+0.3
OUR	Ouranopolis	5.68	4	*e*P		P	00 19 07.3	+0.2
ELL	Elmali	5.69	67	*e*PN		P	00 19 07.9	+0.7
PLG	Polygyros	5.70	0	⇑*i*PN		P	00 19 06.0	-1.4
SWA1		5.73	159	P		P	00 19 08.4	+0.7
KZN	Kozani	5.78	349	Pn		P	00 19 11.0	+2.5
THE	Thessaloniki	5.97	357	*e*P		P	00 19 10.8	-0.3
BALB	Balikesir	6.12	34	*e*PN		P	00 19 12.5	-0.7
SOH	Sokhos	6.15	360	*e*P		P	00 19 13.7	0.0
FNA	Florina	6.32	346	*e*P		P	00 19 15.2	-0.9
FNA	Florina	6.32	346	P		P	00 19 15.2	-0.9
FNA				S		S	00 20 23.9	-4.1
FNA	Florina	6.32	346	P		P	00 19 15.2	-0.9
FNA				S		S	00 20 23.9	-4.1
GRG	Griva	6.33	353	*e*P		P	00 19 14.8	-1.5
SRS	Serrai	6.45	1	*e*P		P	00 19 17.4	-0.5
BCK	Bucak	6.46	62	PN		P	00 19 18.2	+0.2
KNT	Kendrikon	6.50	357	*e*P		P	00 19 18.0	-0.6
BIA	Bitola	6.56	346	*i*Pn		P	00 19 20.1	+0.7
BIA				*i*			00 19 22.9	
BIA				*i*			00 19 28.8	
BIA				*i*Sn		S	00 20 31.6	-2.3
ISP	Isparta	6.56	59	P		P	00 19 20.2	+0.7
ISP				pmax		pmax		
	comp=Z,33nm,0.9s							
ISP	Isparta	6.56	59	Pn		P	00 19 20.2	+0.7
	comp=Z,33nm,0.9s							
ISP	Isparta	6.56	59	Pn		P	00 19 20.2	+0.7
	comp=Z,33nm,0.9s							
NVR	Nevrokopi	6.69	3	Pn		P	00 19 22.0	+0.7
SART	Tekirdag	6.72	25	P		P	00 19 23.2	+1.5
OHR	Ohrid	6.76	343	*e*Pn		P	00 19 14.4	-7.9
OHR				*e*Sn		S	00 20 34.5	-4.5
HBRG	Burj al 'Arab	6.79	125	P		P	00 19 22.9	+0.2
HBRG	Burj al 'Arab	6.79	125	P		P	00 19 22.3	-0.4
TIP	Timpagrande	6.97	312	*e*Pn		P	00 19 22.9	-2.4
TIP				*e*Sn		S	00 20 31.5	-13
TIP	Timpagrande	6.97	312	*e*Pn		P	00 19 22.9	-2.4
TIP				*e*Sn		S	00 20 31.5	-13
GMB	Gambarie	7.04	302	P		P	00 19 25.7	-0.5
ULDT	Uludag	7.12	38	P		P	00 19 29.9	+2.5
SSY	Sortino	7.20	293	P		P	00 19 27.8	-0.7
TIR	Tirane	7.23	338	*e*Pn		P	00 19 28.0	-0.9
PPCY	Paphos	7.36	86	P		P	00 19 32.3	+1.6
SKO	Skopje	7.46	349	*i*Pn		P	00 19 30.5	-1.6
SKO				*i*			00 19 33.0	
SKO				*i*			00 19 41.0	
SKO				*i*			00 19 52.0	
SKO				*i*Sn		S	00 20 54.0	-2.4
YLV	Yalova	7.56	37	*e*PN		P	00 19 32.7	-0.7
ALFC	Alevga	7.57	84	P		P	00 19 32.5	-1.1
ORI	Oriolo Calabro	7.73	316	P		P	00 19 35.8	0.0
VAE	Valguarnera	7.80	294	Pn		P	00 19 36.8	0.0
	comp=Z,2.6nm,0.3s,baz=94,slow=10,SNR=11							
VAE				Sn		S	00 20 56.7	-8.2
	comp=Z,15nm,0.3s,baz=354,slow=11,SNR=6.5							
SZAC	Souni-Zanaja	7.81	87	P		P	00 19 35.8	-1.1
PUK	Puka	7.87	341	*i*Pn		P	00 19 35.8	-1.9
PUK	Puka	7.87	341	*e*Pn		P	00 19 35.8	-1.9
LTRZ	Laterza	7.90	321	P		P	00 19 40.9	+2.7
HMYD	Mayadein	7.92	126	⇑P		P	00 19 38.3	-0.2
ULC	Ulcinj	7.99	337	⇓*i*Pn		P	00 19 36.4	-3.0
ULC				*e*Sn		S	00 21 01.9	-7.6
KIZT	Kizilcal	8.00	56	P		P	00 19 40.0	+0.4
MAMC	Mammari	8.08	84	⇓P		P	00 19 41.3	+0.6
CSS	Prodhromos	8.17	85	*e*Pn		P	00 19 39.8	-2.2
	comp=Z,21nm,0.6s							
CSS				*e*Sn		S	00 21 02.8	-11
CSS	Prodhromos	8.17	85	*e*Pn		P	00 19 39.8	-2.1
	comp=Z,21nm,0.6s							
CSS				*e*Sn		S	00 21 02.8	-11
CSS	Prodhromos	8.17	85	P		P	00 19 43.4	+1.4
AYT	Al 'Ayyat	8.22	125	⇑P		P	00 19 42.0	-0.6
BARS	Barje	8.24	352	⇓*i*P		P	00 19 40.2	-2.7
PVY	Plav	8.36	342	⇓*i*Pn		P	00 19 42.3	-2.3
PVY				*e*Sn		S	00 21 12.1	-6.8
BUM	Brajici-Budva	8.40	337	⇑*i*Pn		P	00 19 42.1	-3.1
BUM				*e*Sn		S	00 21 12.0	-8.0
TTG	Podgorica	8.41	339	⇑*i*Pn		P	00 19 42.6	-2.6
TTG				*e*Sn		S	00 21 12.1	-7.8
MDU	Mudurnu	8.48	45	*e*P		P	00 19 45.2	-1.1
HSAF	As Saff	8.54	124	⇑P		P	00 19 46.1	-1.1
HENT	Hendek	8.55	42	P		P	00 19 48.1	+0.9
IVA	Berane	8.64	343	⇓*i*Pn		P	00 19 46.2	-2.2
IVA				*e*Sn		S	00 21 19.3	-6.6
IVA	Berane	8.64	343	⇓*i*Pn		P	00 19 46.2	-2.3
IVA				*e*Sn		S	00 21 19.3	-6.5
ZAPS	Zavoj/Pirot	8.64	356	⇑*i*P		P	00 19 47.8	-0.7
HCY	Herceg Novi	8.67	335	⇑*i*Pn		P	00 19 45.8	-3.1
HCY				*e*Sn		S	00 21 18.0	-8.5
GLL	Jalalah	8.68	123	⇑P		P	00 19 47.2	-1.8
HHAG	Hagoal	8.73	120	⇑P		P	00 19 49.3	-0.4
NKY	Niksic	8.83	338	⇓*i*Pn		P	00 19 48.1	-3.0
NKY				*e*Sn		S	00 21 22.5	-8.1
MEST	Erdemli	8.96	75	P		P	00 19 53.3	+0.4
BRY	Bratogost	9.06	337	⇑*i*Pn		P	00 19 51.5	-2.8
BRY				*e*Sn		S	00 21 27.0	-9.1
PLE	Pljevlja	9.20	341	⇑*i*Pn		P	00 19 53.4	-2.8
PLE				*e*Sn		S	00 21 32.3	-7.4
UPM	Unac-Piva	9.22	339	⇑*i*Pn		P	00 19 53.8	-2.6
UPM				*e*Sn		S	00 21 31.9	-8.3
BOLS	Boljevac	9.22	353	⇓*i*P		P	00 19 53.5	-3.1
NVSS	Nova Varos 2	9.29	343	⇓*i*P		S	00 21 28.6	-13
GRUS	Gruza	9.45	348	⇓*i*P		P	00 19 55.9	-3.8
BRTR	Keskin Array B	9.60	55	Pn		P	00 20 02.1	+0.3
	comp=Z,0.6nm,0.3s,baz=226,slow=8.8,SNR=76							
BRTR				Sn		S	00 21 47.4	-2.2
	baz=228,slow=19,SNR=1.9							
BRTR	Keskin Array B	9.60	55	Pn		P	00 20 02.1	+0.3
BRTR				Sn		S	00 21 47.4	-2.2
SVIS	Svilajnac	9.77	351	⇑*i*P		P	00 20 00.3	-3.8
DIVS	Divcibare	9.79	345	⇑*i*Pn		P	00 20 00.2	-4.0
DIVS				Sn		S	00 21 43.1	-11
ELDT	Eldivan	9.85	51	P		P	00 20 06.6	+1.4
OFRI	'Ofer	9.87	99	Pn		P	00 20 04.3	-1.2
KZIT	Kziot	9.98	109	Pn		P	00 20 04.1	-2.9
KZIT				Sn		S	00 21 48.4	-11
SLTI	Sal'it	10.02	101	Pn		P	00 20 03.8	-3.7
SLTI				Sn		S	00 21 48.7	-11
CII	Carovilli	10.04	317	*e*Pn		P	00 20 06.2	-1.7
	comp=Z,14nm,0.6s							
CII	Carovilli	10.04	317	*e*Pn		P	00 20 06.2	-1.6
	comp=Z,14nm,0.6s							
AVNT	Avonos	10.07	63	P		P	00 20 11.7	+3.5
RTMM	Retamin	10.15	108	Pn		P	00 20 06.7	-2.6
MASH	Mash'abbe Sade	10.25	108	Pn		P	00 20 08.0	-2.7
MMLI	Mount Malkishu	10.27	99	Pn		P	00 20 09.1	-1.9
KSDI	Kefar Szold	10.29	95	Pn		P	00 20 09.1	-2.2
SDI	San Donato	10.31	316	P		P	00 20 11.9	+0.3
HMDT	Nahal Hemdat	10.41	100	Pn		P	00 20 10.2	-2.7
BALT	Daday	10.43	46	P		P	00 20 13.6	+0.4
KSHT	Keshet	10.46	96	Pn		P	00 20 11.7	-1.9
DRGI	Dragot	10.51	104	Pn		P	00 20 11.5	-2.8
TIRR	Tirgusor	10.52	20	⇓P		P	00 20 12.7	-1.6
TIRR	Tirgusor	10.52	20	P		P	00 20 12.7	-1.6
MZDA	Masada	10.59	105	Pn		P	00 20 12.6	-2.7
MZDA				Sn		S	00 22 04.2	-10
KMTI	Karmit	10.59	112	Sn		S	00 22 03.7	-10
COBT	Iskenderun	10.63	76	P		P	00 20 14.6	-1.3
MBH	Mount Berech	10.89	113	Pn		P	00 20 17.6	-1.9
EIL	Elat	10.98	114	Pn		P	00 20 19.6	-1.0
	comp=Z,1.4nm,0.3s,baz=328,slow=15,SNR=14							
EIL				Sn		S	00 22 15.2	-8.1
	comp=Z,4.4nm,0.3s,baz=46,slow=27,SNR=5.2							
EIL	Elat	10.98	114	*e*Pn		P	00 20 18.6	-2.1
	comp=Z,8.2nm,0.6s							
EIL	Elat	10.98	114	Pn		P	00 20 18.9	-1.8
MLR	Muntele Rosu	10.99	9	Pn		P	00 20 19.5	-1.3
	comp=Z,0.3nm,0.3s,baz=206,slow=6.4,SNR=9.3							
MLR				LR		LR	00 25 30.5	
	comp=Z,2μm,18.1s,baz=190,slow=43							
MLR	Muntele Rosu	10.99	9	⇑P		P	00 20 20.0	-0.8
AQBJ	Aqaba	11.02	113	*e*P		P	00 20 36.3	+15
	SNR=96							
KAHT	Ahir Dag	11.29	71	P		P	00 20 23.2	-1.7
BOYT	Boyabat	11.30	50	P		P	00 20 30.1	+5.2
NRCA	Norcia	11.44	319	P		P	00 20 27.3	+0.4
VRI	Vrincioaia	11.47	12	⇓P		P	00 20 26.3	-1.0
ASF	Jabal al Asfar	11.55	99	Pn		P	00 20 25.5	-2.8
	comp=Z,0.8nm,0.3s,baz=160,slow=5.0,SNR=9.3							
ASF				Sn		S	00 22 31.4	-5.8
	comp=Z,0.6nm,0.3s,baz=217,slow=22,SNR=2.1							
GZT	Gaziantep	11.78	73	P		P	00 20 30.3	-1.2
NVLJ	Novalja	11.87	329	*i*Pn		P	00 20 29.6	-3.1
NVLJ				*i*Sn		S	00 22 32.3	-13
PKSM	Moragy	12.09	344	⇓*e*P		P	00 20 30.4	-5.2
PKSM				*i*			00 22 38.7	
RHK1	Bakonya	12.12	342	⇓*e*P		P	00 20 30.9	-5.1
BOJS	Bojanci	12.49	333	*e*Pn		P	00 20 38.0	-3.1
BOJS				*e*Sn		S	00 22 46.0	-14
MALT	Malatya	12.63	69	*e*P		P	00 20 44.2	+1.3
MALT				pmax		pmax		
	comp=Z,11nm,0.8s							
MALT	Malatya	12.63	69	*e*Pn		P	00 20 44.2	+1.3
	comp=Z,11nm,0.8s							
MALT	Malatya	12.63	69	*e*Pn		P	00 20 44.2	+1.3
	comp=Z,11nm,0.8s							
KIS	Kishinev	12.98	17	*e*P		P	00 20 48.0	+0.4
KIS				MLR		MLR		
	comp=N,700nm,15.0s							
KIS				MLR		MLR		
	comp=E,500nm,15.0s							
KIS				MLR		MLR		
	comp=Z,700nm,15.0s							
KIS				MLR		MLR		
	comp=Z,500nm,15.0s							
CEY	Cerknica	13.01	331	*e*Pn		P	00 20 44.6	-3.3
ELZG	Elazig	13.09	68	P		P	00 20 49.1	0.0
SIM	Simferopol'	13.15	35	P		P	00 20 57.8	+8.0
SIM				pmax		pmax		
	comp=Z,13nm,1.0s							
SIM				MLR		MLR		
	comp=Z,420nm,17.0s							
JAVS	Javornik	13.28	330	*e*Pn		P	00 20 48.5	-2.9
VOY	Vojsko	13.46	330	*e*Pn		P	00 20 51.8	-2.1
VOY				*e*			00 21 03.1	
VOY				*e*Sn		S	00 23 11.6	-12
PSZ	Piszkesteto	13.50	350	*e*P		P	00 20 50.9	-3.4
PGF	Pioggiola	13.73	309	*e*P		P	00 20 55.6	-1.8
	comp=Z,40nm,0.9s							
PGF	Pioggiola	13.73	309	*e*P		P	00 20 55.6	-1.8
PGF				pmax		pmax		
	comp=Z,20nm,0.9s							
PTCC	Patocco-Chiusa	13.98	330	P		P	00 21 00.0	-0.7
SOP	Sopron	13.98	341	*e*P		P	00 21 03.0	+2.3
KMPD	K-Podol'skiy	14.07

FUR **Furstenfeldbru** 16.24 330 *e*P P 00 21 31.8 +1.9
FUR pmax pmax
comp=Z,96nm,1.3s
FUR **Furstenfeldbru** 16.24 330 *e*P P 00 21 31.8 +1.9
comp=Z,96nm,1.3s
MBDF **Montbardon** 16.25 313 *e*P P 00 21 30.1 +0.1
comp=Z,122nm,1.2s
MBDF **Montbardon** 16.25 313 *e*P P 00 21 30.1 +0.1
MBDF pmax pmax
comp=Z,61nm,1.2s
WET **Wettzell** 16.43 335 *e*P P 00 21 31.0 -1.3
WET pmax pmax
comp=Z,92nm,1.0s
WET **Wettzell** 16.43 335 *e*P P 00 21 31.0 -1.3
comp=Z,92nm,1.0s
BNI **Bardonecchia** 16.48 314 *e*P P 00 21 33.5 +0.6
BNI pmax pmax
comp=Z,22nm,1.3s
BNI **Bardonecchia** 16.48 314 *e*P P 00 21 33.5 +0.5
comp=Z,22nm,1.3s
BNI **Bardonecchia** 16.48 314 *e*P P 00 21 33.5 +0.6
comp=Z,22nm,1.3s
DPC **Dobruska-Polom** 16.51 344 *e*P P 00 21 32.2 -1.1
DPC *e*x x 00 21 36.3
DPC **Dobruska-Polom** 16.51 344 P P 00 21 33.6 +0.3
TVAN **Van** 16.52 71 P P 00 21 36.5 +3.0
AKASG **Malin Array Be** 16.58 13 Pn P 00 21 31.1 -3.1
comp=Z,3.3nm,0.3s,baz=205,slow=9.6,SNR=23
AKASG ScP 00 29 55.1
comp=Z,0.2nm,0.3s,baz=241,slow=1.4,SNR=4.3
PRU **Pruhonice** 16.64 340 *e*P P 00 21 34.7 -0.2
PRU **Pruhonice** 16.64 340 P P 00 21 35.8 +0.9
LPG **La Plagne** 16.68 315 *e*P P 00 21 37.1 +1.6
comp=Z,22nm,0.9s
LPG **La Plagne** 16.68 315 *e*P P 00 21 37.1 +1.6
LPG pmax pmax
comp=Z,11nm,0.9s
LPL **La Plagne** 16.71 315 *e*P P 00 21 36.8 +1.0
UPC **Upice** 16.73 343 *e*P P 00 21 35.6 -0.4
UPC *e*x x 00 21 38.8
ORIF **Oris-en-Rattie** 16.89 313 *e*P P 00 21 37.7 -0.4
comp=Z,46nm,1.2s
ORIF *e*R
comp=Z,858nm,22.2s
KSP **Ksiaz** 16.98 344 *e*P P 00 21 42.0 +2.9
KSP **Ksiaz** 16.98 344 *e*P P 00 21 41.4 +2.2
KSP *e*pP 00 21 52.7
HDH **Heidenheim** 17.02 329 *e*P P 00 21 41.1 +1.4
HDH **Heidenheim** 17.02 329 P P 00 21 39.6 -0.1
PVCC **Panska Ves** 17.12 341 *e*P P 00 21 40.2 -0.7
PVCC *e*x x 00 21 43.1
GUT **Gutenstein** 17.12 326 *e*P P 00 21 41.3 +0.3
GUT **Gutenstein** 17.12 326 P P 00 21 42.0 +1.0
NOTT **Nottersdorf** 17.26 335 *e*P P 00 21 44.5 +1.8
comp=Z,42nm,1.0s
BUCH **Bad Urach** 17.29 327 P P 00 21 44.2 +1.1
SPAK **Spaichingen** 17.30 325 P P 00 21 44.6 +1.4
BBS **Basel-Blauen** 17.48 322 *e*P P 00 21 45.2 -0.3
BBS **Basel-Blauen** 17.48 322 *e*P P 00 21 45.4 -0.1
GRA1 **Grafenberg Arr** 17.49 333 *e*P P 00 21 46.7 +1.1
comp=Z,203nm,1.3s
GRF **Grafenberg Arr** 17.49 333 *e*P P 00 21 46.7 +1.1
GRF pmax pmax
comp=Z,203nm,1.3s
GRF **Grafenberg Arr** 17.49 333 *e*P P 00 21 46.7 +1.1
GRF pmax pmax
comp=Z,203nm,1.3s
GRF **Grafenberg Arr** 17.49 333 *e*P P 00 21 46.7 +1.1
comp=Z,203nm,1.3s
NKC **Novy Kostel** 17.50 336 *e*P P 00 21 45.5 -0.3
NKC **Novy Kostel** 17.50 336 P P 00 21 46.9 +1.1
FELD **Feldberg** 17.51 324 *e*P P 00 21 45.7 -0.2
FELD **Feldberg** 17.51 324 *e*P P 00 21 45.8 -0.1
KIV **Kislovodsk** 17.54 52 P P 00 21 47.9 +1.6
comp=Z,409nm,0.9s,SNR=18
KIV **Kislovodsk** 17.54 52 *ce*P P 00 21 48.0 +1.7
KIV pmax pmax
comp=Z,88nm,1.1s
KIV MLR MLR
comp=Z,400nm,18.0s
KIV **Kislovodsk** 17.54 52 *e*P P 00 21 47.3 +1.0
comp=Z,75nm,1.0s
KIV **Kislovodsk** 17.54 52 *e*P P 00 21 48.0 +1.7
comp=Z,400nm,18.0s
VIVF **Saint-Julien-l** 17.60 311 *e*P P 00 21 44.4 -2.6
STU **Stuttgart** 17.60 328 *e*P P 00 21 48.6 +1.6
STU pmax pmax
comp=Z,24nm,0.8s
STU **Stuttgart** 17.60 328 *e*P P 00 21 48.6 +1.7
comp=Z,24nm,0.8s
STU **Stuttgart** 17.60 328 *e*P P 00 21 48.6 +1.6
comp=Z,24nm,0.8s
BRG **Berggiesshubel** 17.60 340 *e*P P 00 21 45.3 -1.7
BRG pmax pmax
comp=Z,61nm,1.5s
BRG **Berggiesshubel** 17.60 340 *e*P P 00 21 45.3 -1.7
comp=Z,61nm,1.5s
BRG *i* 00 21 48.5
BRG *i* 00 22 02.7
KIZ **Kirchzarten** 17.61 324 *e*P P 00 21 46.5 -0.6
KIZ **Kirchzarten** 17.61 324 P P 00 21 46.9 -0.2
GUNZ **Gunzen** 17.65 336 *e*P P 00 21 49.4 +1.8
comp=Z,71nm,1.1s
BFO **Black Forest** 17.67 325 *e*P P 00 21 47.8 -0.1
BFO pmax pmax
comp=Z,18nm,0.8s
BFO **Black Forest** 17.67 325 *e*P P 00 21 47.8 -0.1
comp=Z,18nm,0.8s
LBG **Lerchenberg** 17.70 327 *e*P P 00 21 49.0 +0.8
CABF **La Chapelle** 17.71 318 *e*P P 00 21 47.3 -1.0
comp=Z,34nm,1.1s
CABF **La Chapelle** 17.71 318 *e*P P 00 21 47.3 -1.0
CABF pmax pmax
comp=Z,17nm,1.1s
WERD **Werda** 17.73 336 *e*P P 00 21 50.3 +1.7
comp=Z,44nm,1.1s
LOMF **Lomont** 17.76 321 *e*P P 00 21 48.4 -0.6
GNI **Garni** 17.80 66 *e*P P 00 21 50.3 +0.7
GNI pmax pmax
comp=Z,38nm,1.3s
GNI **Garni** 17.80 66 P P 00 21 50.8 +1.2
comp=Z,0.4nm,0.3s,baz=294,slow=6.4,SNR=8.2
GNI LR LR 00 30 02.4
comp=Z,1µm,18.2s,baz=68,slow=42
GNI **Garni** 17.80 66 *e*P P 00 21 50.3 +0.7
comp=Z,38nm,1.3s
GNI **Garni** 17.80 66 *e*P P 00 21 50.3 +0.7
comp=Z,38nm,1.3s
SIND **Sindeldorf** 17.86 329 *e*P P 00 21 51.3 +1.1
SIND **Sindeldorf** 17.86 329 P P 00 21 51.7 +1.5
ZEI **Tsey** 17.90 57 *e*P P 00 21 52.0 +1.3
ZEI pmax pmax
comp=Z,8.0nm,1.1s
ZEI **Tsey** 17.90 57 *e*P P 00 21 52.0 +1.3
comp=Z,8.0nm,1.1s
MOF **Molkenrain** 17.93 322 P P 00 21 53.8 +2.7
HINF **Hinteralfeld** 18.05 322 *e*P P 00 21 51.4 -1.2
comp=Z,42nm,0.9s
HINF **Hinteralfeld** 18.05 322 *e*P P 00 21 51.4 -1.2
HINF pmax pmax
comp=Z,21nm,0.9s
MOX **Moxa** 18.14 335 *e*P P 00 21 54.2 +0.5
MOX pmax pmax
comp=Z,52nm,1.4s
MOX **Moxa** 18.14 335 *i* P P 00 21 54.2 +0.5
comp=Z,logA/T=1.6
MOX L 01 09 05.0
MOX **Moxa** 18.14 335 *e*P P 00 21 54.2 +0.5
comp=Z,52nm,1.4s
ECH **Echery** 18.16 323 *e*P P 00 21 54.0 0.0
TI2 **Plekhanov** 18.18 61 *e*P P 00 21 56.0 +1.7
WLS **Welschbruch** 18.20 324 *e*P P 00 21 56.4 +1.9
CDF **Champ du Feu** 18.24 324 *e*P P 00 21 55.8 +0.8
comp=Z,39nm,0.9s
CDF **Champ du Feu** 18.24 324 *e*P P 00 21 55.8 +0.8
CDF pmax pmax
comp=Z,20nm,0.9s
GOF **Gofitskoye** 18.26 49⇓ *i*P P 00 21 55.5 +0.2
GOF pmax pmax
comp=Z,70nm,1.4s
GOF **Gofitskoye** 18.26 49 *i* P P 00 21 55.5 +0.2
comp=Z,70nm,1.4s
CLL **Collm** 18.26 339⇑ *i**PP P 00 21 55.8 +0.5
CLL *i* 00 22 01.0
CLL *i* 00 22 12.5
CLL *e* 00 22 49.0
CLL **Collm** 18.26 339 *e*P P 00 21 54.9 -0.4
comp=Z,61nm,0.8s
SWS **Schriesheim** 18.35 328 *e*P P 00 21 56.8 +0.4
SWS **Schriesheim** 18.35 328 P P 00 21 57.5 +1.1
LANF **Langenberg** 18.38 326 *e*P P 00 21 58.3 +1.5
TOD **Tromm** 18.39 329 *e*P P 00 21 57.3 +0.4
TOD **Tromm** 18.39 329 *e*P P 00 21 58.3 +1.4
HAU **Haudompre** 18.43 321 *e*P P 00 21 56.7 -0.7
comp=Z,35nm,0.8s
HAU *e*R
comp=Z,612nm,19.2s
THEF **They Montfort** 18.76 322 *e*P P 00 22 01.4 0.0
PLDF **La Plantade** 18.79 313 *e*P P 00 22 00.4 -1.4
EPOB **Poblet** 18.79 297 P P 00 22 07.4 +5.6
EPOB **Poblet** 18.79 297 P P 00 22 07.4 +5.6
SMF **Signal de Mont** 19.01 315 *e*P P 00 22 02.0 -2.4
comp=Z,23nm,1.1s
SMF **Signal de Mont** 19.01 315 *e*P P 00 22 02.0 -2.4
SMF pmax pmax
comp=Z,11nm,1.1s
TNS **Taunus Mts** 19.01 329 *e*P P 00 22 04.1 -0.3
TNS pmax pmax
comp=Z,42nm,1.0s
TNS **Taunus Mts** 19.01 329 *e*P P 00 22 04.1 -0.3
comp=Z,42nm,1.0s
PYM **Petit Puy Mans** 19.06 312 *e*P P 00 22 04.1 -0.8
RUE **Ruedersdorf** 19.10 342 *e*P P 00 22 03.7 -1.6
comp=Z,69nm,0.8s
RUE **Ruedersdorf** 19.10 342 *e*P P 00 22 03.7 -1.6
comp=Z,69nm,0.8s
GKP **Gorka Klasztor** 19.11 349 *e*P P 00 22 04.2 -1.2
ABH **Alteburg** 19.15 327 *e*P P 00 22 07.3 +1.4
ABH **Alteburg** 19.15 327 *e*P P 00 22 06.6 +0.7
RUP **Ruppelstein** 19.24 326 *e*P P 00 22 06.3 -0.6
CAF **Calviac** 19.28 308 *e*P P 00 22 07.0 -0.5
comp=Z,47nm,1.3s
CAF **Calviac** 19.28 308 *e*P P 00 22 07.0 -0.5
CAF pmax pmax
comp=Z,24nm,1.3s
SUW **Suwalki** 19.35 360 *e*P P 00 22 06.2 -1.9
AVF **Avril sur Loir** 19.37 315 *e*P P 00 22 06.3 -2.1
comp=Z,24nm,0.9s
AVF **Avril sur Loir** 19.37 315 *e*P P 00 22 06.3 -2.1
AVF pmax pmax
comp=Z,12nm,0.9s
MEZF **Maizieres J'vi** 19.41 321 *e*P P 00 22 09.1 +0.2
comp=Z,120nm,1.0s
SSF **Saint Saulge** 19.43 316 *e*P P 00 22 08.0 -1.0
SSF pmax pmax
comp=Z,21nm,1.1s
SSF **Saint Saulge** 19.43 316 *e*P P 00 22 08.0 -1.0
comp=Z,21nm,1.1s
BGF **Bois d'Agland** 19.55 314 *e*P P 00 22 07.1 -3.3
comp=Z,52nm,1.0s
BGF **Bois d'Agland** 19.55 314 *e*P P 00 22 07.1 -3.3
BGF pmax pmax
comp=Z,26nm,1.0s
CLZ **Clausthal** 19.57 335 *e*P P 00 22 09.9 -0.6
comp=Z,31nm,1.0s
WLF **Walferdange** 19.63 325 *e*P P 00 22 11.5 +0.2
WLF pmax pmax
comp=Z,104nm,1.0s
WLF **Walferdange** 19.63 325 *e*P P 00 22 11.5 +0.3
comp=Z,104nm,1.0s
WLF **Walferdange** 19.63 325 *e*P P 00 22 12.0 +0.7
comp=Z,128nm,1.1s
EMOS **Mosqueruela** 19.75 294 P P 00 22 13.4 +0.8
comp=Z,150nm,1.7s
EMOS **Mosqueruela** 19.75 294 P P 00 22 13.4 +0.8
comp=Z,150nm,1.7s,SNR=7.9
EPF **Esparros** 19.77 302 *e*P P 00 22 11.8 -1.0
RJF **Les Rejaudouix** 19.80 309 *e*P P 00 22 12.2 -0.9
comp=Z,21nm,0.8s
RJF *e*R
comp=Z,408nm,19.8s
TCF **Toulx Ste Croi** 19.80 312 *e*P P 00 22 13.4 +0.3
comp=Z,54nm,1.4s
TCF **Toulx Ste Croi** 19.80 312 *e*P P 00 22 13.4 +0.3
TCF pmax pmax
comp=Z,27nm,1.4s
EBIE **Bielsa** 19.81 301 P P 00 22 12.6 -0.6
comp=Z,92nm,1.7s
EBIE **Bielsa** 19.81 301 P P 00 22 12.6 -0.6
comp=Z,92nm,1.7s
CART **Cartagena** 19.92 286 *e*P P 00 22 12.7 -1.7
comp=Z,34nm,0.9s
CART **Cartagena** 19.92 286 *e*P P 00 22 12.7 -1.7
comp=Z,34nm,0.9s
LFF **La Frestale** 20.15 307 *e*P P 00 22 16.3 -0.6
comp=Z,51nm,1.1s
LFF **La Frestale** 20.15 307 *e*P P 00 22 16.3 -0.6
LFF pmax pmax
comp=Z,25nm,1.1s
ETSF **Etsaut** 20.36 301 *e*P P 00 22 18.7 -0.4
comp=Z,41nm,1.0s
ETSF **Etsaut** 20.36 301 *e*P P 00 22 18.7 -0.4
ETSF pmax pmax
comp=Z,20nm,1.0s
BUG **Bochum--Univer** 20.42 330 P P 00 22 20.2 +0.5
HGN **Heimansgroeve** 20.50 327 *e*P P 00 22 23.9 +3.4
comp=Z,14nm,0.6s
VOR **Voronezh** 20.51 29 *e*P P 00 22 20.5 0.0
VOR pmax pmax
comp=Z,80nm,1.8s
VOR **Voronezh** 20.51 29 *e*P P 00 22 20.5 0.0
comp=Z,80nm,1.8s
GIVF **Givet** 20.56 324 *e*P P 00 22 21.0 -0.1
comp=Z,73nm,0.8s
GIVF **Givet** 20.56 324 *e*P P 00 22 21.0 -0.1
GIVF pmax pmax
comp=Z,37nm,0.8s
BAIF **Baives** 20.83 323 *e*P P 00 22 23.5 -0.4
comp=Z,77nm,0.7s
BAIF **Baives** 20.83 323 *e*P P 00 22 23.5 -0.4
BAIF pmax pmax
comp=Z,39nm,0.7s
ENIJ **Nijar** 20.88 284 P P 00 22 25.5 +1.0
ENIJ pmax pmax
comp=Z,34nm,1.1s
ENIJ **Nijar** 20.88 284 P P 00 22 25.5 +1.0
comp=Z,34nm,1.1s
ENIJ **Nijar** 20.88 284 P P 00 22 25.5 +1.0
comp=Z,34nm,1.1s
SJPF **Ste Jean** 20.89 301 *e*P P 00 22 25.2 +0.6
comp=Z,69nm,0.9s
SJPF **Ste Jean** 20.89 301 *e*P P 00 22 25.2 +0.6
SJPF pmax pmax
comp=Z,35nm,0.9s
IBBN **Ibbenburen** 20.90 332 *e*P P 00 22 23.5 -1.0
comp=Z,44nm,0.7s
WTSB **Winterswijk** 21.01 330 *e*P P 00 22 25.8 0.0
comp=Z,108nm,0.1s
RGN **Rugen** 21.10 344 P P 00 22 26.2 -0.4
EALK **Alkurruntz** 21.12 301 P P 00 22 27.0 +0.1
comp=Z,269nm,2.6s,mb5.1
EALK **Alkurruntz** 21.12 301 P P 00 22 27.0 +0.1
comp=Z,269nm,2.6s,mb5.1
EVIA **Vianos** 21.14 288 P P 00 22 27.8 +0.7
EVIA pmax pmax
comp=Z,23nm,1.2s,mb4.4
EVIA **Vianos** 21.14 288 P P 00 22 27.8 +0.7
comp=Z,23nm,1.2s,mb4.4,SNR=5.4
BSD **Bornholm Skovb** 21.29 346 *i* P P 00 22 26.2 -2.3
BSD pmax pmax
comp=Z,50nm,0.7s,mb5.0
BSD **Bornholm Skovb** 21.29 346 *i* P P 00 22 26.2 -2.3
comp=Z,50nm,0.7s,mb5.0
BSEG **Bad Segeberg** 21.36 338 *e*P P 00 22 27.9 -1.3
MFF **Saint Martin d** 21.40 311 *e*P P 00 22 29.2 -0.4
comp=Z,24nm,0.7s,mb4.3
MFF **Saint Martin d** 21.40 311 *e*P P 00 22 29.2 -0.4
MFF pmax pmax
comp=Z,12nm,0.7s,mb4.3
EBER **Berja** 21.43 284 P P 00 22 32.1 +2.1
comp=Z,60nm,1.1s,mb4.8
EBER **Berja** 21.43 284 P P 00 22 32.1 +2.1
comp=Z,60nm,1.1s,mb4.8,SNR=5.6
EQES **Quesada** 21.56 286 P P 00 22 32.1 +0.8
comp=Z,68nm,1.3s,mb4.9
EQES **Quesada** 21.56 286 P P 00 22 32.1 +0.8
comp=Z,68nm,1.3s,mb4.9,SNR=11
LDF **La Druitiere** 22.31 316 *e*P P 00 22 38.8 +0.1
comp=Z,113nm,0.9s,mb5.0
LDF **La Druitiere** 22.31 316 *e*P P 00 22 38.8 +0.1
LDF pmax pmax
comp=Z,56nm,0.9s,mb5.0
ESDC **Sonseca Array** 22.33 291 P P 00 22 39.1 +0.1
comp=Z,7.4nm,0.8s,mb4.2,baz=87,slow=10,SNR=15
ESDC **Sonseca Array** 22.33 291 P P 00 22 40.3 +1.3
comp=Z,8.2nm,0.8s,mb4.2
ESDC **Sonseca Array** 22.33 291 P P 00 22 40.3 +1.3
comp=Z,8.2nm,0.8s,mb4.2,SNR=17
ESLA **Sonseca Array** 22.33 291 *e*P P 00 22 40.2 +1.2
comp=Z,2.2nm,0.8s
ESLA **Sonseca Array** 22.33 291 *e*P P 00 22 40.2 +1.2
comp=Z,2.2nm,0.8s
COP **Copenhagen** 22.35 344⇑ *i*P P 00 22 38.7 -0.3
COP pmax pmax
comp=Z,73nm,0.8s,mb5.2
COP **Copenhagen** 22.35 344⇑ *i*P P 00 22 38.7 -0.3
comp=Z,72nm,0.8s,mb5.2
OBN **Obninsk** 22.40 20 *c i*P P 00 22 36.8 -2.8
OBN *e*S S 00 26 39.1 +0.4
OBN pmax pmax
comp=Z,94nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,300nm,14.0s,MS3.9
OBN **Obninsk** 22.40 20 *e*P P 00 22 35.1 -4.5
comp=Z,101nm,1.1s,mb5.2
OBN **Obninsk** 22.40 20 *i* P P 00 22 36.8 -2.8
comp=Z,94nm,1.2s,mb5.1
ELOJ **Sierra Loja** 22.43 284 P P 00 22 44.4 +4.4
ELOJ pmax pmax
comp=Z,14nm,1.0s,mb4.3
ELOJ **Sierra Loja** 22.43 284 P P 00 22 44.4 +4.4
comp=Z,14nm,1.0s,mb4.4
ELOJ **Sierra Loja** 22.43 284 P P 00 22 44.4 +4.4
comp=Z,14nm,1.0s,mb4.3,SNR=5.8
ELAN **Lanestosa** 22.48 300 P P 00 22 41.8 +1.3
comp=Z,60nm,1.0s,mb5.0
ELAN **Lanestosa** 22.48 300 P P 00 22 41.8 +1.3
comp=Z,60nm,1.0s,mb5.0,SNR=6.1
GUD **Guadarrama** 22.57 293 P P 00 22 41.6 +0.3
GUD pmax pmax
comp=Z,23nm,0.8s,mb4.7
GUD **Guadarrama** 22.57 293 P P 00 22 41.6 +0.2
comp=Z,23nm,0.8s,mb4.7
GUD **Guadarrama** 22.57 293 P P 00 22 41.6 +0.3
comp=Z,23nm,0.8s,mb4.7
FLN **La Foliniere** 22.60 316 *e*P P 00 22 41.6 0.0
comp=Z,101nm,0.8s,mb5.0
FLN *e*R
comp=Z,384nm,19.2s
FLN **La Foliniere** 22.60 316 *e*P P 00 22 41.6 0.0
FLN pmax pmax
comp=Z,51nm,0.8s,mb5.0
FLN MLR MLR
comp=Z,380nm,19.3s,MS3.8
GRR **Gorron** 22.64 315 *e*P P 00 22 42.0 +0.1
comp=Z,47nm,0.9s,mb4.6
GRR **Gorron** 22.64 315 *e*P P 00 22 42.0 +0.1
GRR pmax pmax
comp=Z,23nm,0.9s,mb4.6
EADA **Adamuz** 22.75 287 P P 00 22 46.2 +3.0
comp=Z,72nm,1.5s,mb4.9
EADA **Adamuz** 22.75 287 P P 00 22 46.2 +3.0
comp=Z,72nm,1.5s,mb4.9,SNR=7.9
EMIJ **Mijas** 22.95 283 P P 00 22 49.0 +3.8
comp=Z,32nm,0.9s,mb4.8
EMIJ **Mijas** 22.95 283 P P 00 22 49.0 +3.8
comp=Z,32nm,0.9s,mb4.7,SNR=4.7
MOS **Moscow** 23.25 21⇑ *i*P P 00 22 47.8 0.0
MOS *e*PPP PPP 00 23 20.4 -8.7
MOS pmax pmax
comp=Z,114nm,1.2s,mb5.2
MOS **Moscow** 23.25 21 *i* P P 00 22 47.8 0.0
comp=Z,114nm,1.2s,mb5.2
GOTU **Gotland** 23.26 353 P P 00 22 46.9 -1.0
SGMF **Saint Gilles** 23.59 313 *e*P P 00 22 52.0 +0.8
comp=Z,79nm,1.0s,mb4.8
SGMF **Saint Gilles** 23.59 313 *e*P P 00 22 52.0 +0.8
SGMF pmax pmax
comp=Z,39nm,1.0s,mb4.8
EARI **Arriondas** 23.77 300 P P 00 22 55.4 +2.4
comp=Z,262nm,2.5s,mb5.2
EARI **Arriondas** 23.77 300 P P 00 22 55.4 +2.4
comp=Z,262nm,2.5s,mb5.2,SNR=7.9
ESPR **Espera** 23.80 284 P P 00 22 58.1 +4.7
comp=Z,116nm,1.9s,mb5.0
ESPR **Espera** 23.80 284 P P 00 22 58.1 +4.7
comp=Z,116nm,1.9s,mb5.0,SNR=4.6
QUIF **Quistinic** 23.82 312 *e*P P 00 22 53.8 +0.4
comp=Z,236nm,1.5s,mb5.1
QUIF **Quistinic** 23.82 312 *e*P P 00 22 53.8 +0.4
QUIF pmax pmax
comp=Z,118nm,1.5s,mb5.1
MUD **Monsted U'grnd** 23.87 340 *i* P P 00 22 54.6 +0.8
comp=Z,25nm,0.8s,mb4.7
comp=Z,420nm,19.0s
ROSF **Rostrenen** 24.05 313 *e*P P 00 22 56.5 +0.8
comp=Z,77nm,1.1s,mb4.7
ROSF **Rostrenen** 24.05 313 *e*P P 00 22 56.5 +0.8
ROSF pmax pmax
comp=Z,39nm,1.1s,mb4.8
EMIN **Mina Concepcio** 24.41 286 P P 00 22 59.8 +0.5
comp=Z,54nm,2.4s,mb4.5
EMIN **Mina Concepcio** 24.41 286 P P 00 22 59.8 +0.4
comp=Z,54nm,2.4s,mb4.5,SNR=6.5
EBAD **Badajoz** 24.67 288 P P 00 23 02.4 +0.6
comp=Z,67nm,1.5s,mb5.0,SNR=6.5
EINC **Incio** 25.20 298 P P 00 23 07.9 +1.0
comp=Z,85nm,1.0s,mb5.2
EINC **Incio** 25.20 298 P P 00 23 07.9 +1.0
comp=Z,85nm,1.0s,mb5.2,SNR=9.2
EVO **Evora** 25.45 288 *e*P P 00 23 10.0 +0.7
comp=Z,49nm,1.1s,mb4.6
PUL **Pulkovo** 25.52 8⇓ *i*P P 00 23 10.5 +0.8
STS **Santiago** 26.11 298 P P 00 23 15.3 -0.1
STS pmax pmax
comp=Z,13nm,0.8s,mb4.5
STS **Santiago** 26.11 298 P P 00 23 15.3 -0.1
comp=Z,13nm,0.8s,mb4.5
STS **Santiago** 26.11 298 P P 00 23 15.3 -0.1
comp=Z,13nm,0.8s,mb4.5
HFS **Hagfors** 26.26 349 P P 00 23 15.6 -1.0
comp=Z,19nm,0.5s,mb4.9,baz=163,slow=10,SNR=50
FINES **FINESS Array B** 26.85 3 P P 00 23 20.4 -1.7
comp=Z,5.4nm,0.6s,mb4.2,baz=167,slow=11,SNR=21
FINES LR LR 00 35 16.4
comp=Z,712nm,19.6s,MS4.2,baz=11,slow=39
NAO01 **NORSAR Array S** 27.42 347 *e*P P 00 23 26.2 -1.0
comp=Z,18nm,0.7s,mb4.7
KAF **Kangasniemi** 27.53 3 *e*p P 00 23 27.6 -0.6
comp=Z,0.6nm,0.3s,mb3.7
KAF **Kangasniemi** 27.53 3 *e*P P 00 23 27.6 -0.6
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
NB2 **NORSAR Subarra** 27.54 347 P P 00 23 26.8 -1.5
comp=Z,10nm,0.8s,mb4.5,baz=149,slow=9.3
NB2 **NORSAR Subarra** 27.54 347 P P 00 23 26.8 -1.5
baz=149,slow=10
NB2 **NORSAR Subarra** 27.54 347 P P 00 23 26.8 -1.5
baz=149,slow=10
NOA **NORSAR Array B** 27.54 347 P P 00 23 26.9 -1.4
comp=Z,5.6nm,0.5s,mb4.4,baz=149,slow=11,SNR=17
NOA LR LR 00 36 27.0
comp=Z,291nm,18.4s,MS3.9,baz=65,slow=41
JOF **Joensuu** 28.71 8 *e*p P 00 23 36.8 -2.0
comp=Z,0.9nm,0.3s,mb4.0
NSS **Namsos** 30.70 350 *e*P P 00 23 54.9 -1.6
MOR8 **Moi Rana** 31.99 353 *e*P P 00 24 07.4 -0.5
MOR8 *e*pP pP 00 24 13.3 -4.3
MOR8 AMb AMB 00 24 13.9
comp=Z,57nm,1.8s,mb5.1
MOR8 **Moi Rana** 31.99 353 *e*P P 00 24 07.4 -0.5
MOR8 AMb AMB 00 24 13.8
comp=Z,56nm,1.6s,mb5.1
ARU **Arti** 32.31 37 P P 00 24 09.1 -1.7
comp=Z,171nm,0.9s,SNR=12
ARU **Arti** 32.31 37⇑ *i*P P 00 24 03.4 -7.4
ARU *e* 00 34 28.5
ARU pmax pmax
comp=Z,32nm,1.3s,mb5.0
SOKR **Solikamsk** 33.11 31⇓ *i*P P 00 24 15.6 -2.0
SOKR pmax pmax
comp=Z,40nm,0.9s,mb5.3
SOKR **Solikamsk** 33.11 31 *i* P P 00 24 15.6 -2.0
comp=Z,40nm,0.9s,mb5.3
SVE **Sverdlovsk** 33.52 37 *e*P P 00 24 15.7 -5.5
SVE pmax pmax
comp=Z,80nm,1.3s,mb5.5
ARCES **ARCESS Array B** 34.95 1 P P 00 24 30.9 -2.5

comp=Z,11nm,0.8s,mb4.8,baz=183,slow=8.9,SNR=23
ARCES LR LR 00 40 25.7
comp=Z,740nm,18.7s,MS4.5,baz=192,slow=39
KEV Kevo 35.20 2 *e*P **P 00 24 33.7 -1.8**
comp=Z,1.0nm,0.3s,mb4.2
KEV Kevo 35.20 2 *e*P **P 00 24 33.7 -1.8**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
MBAR Mbarara 35.75 167 *i*P **P 00 24 42.5 +1.8**
BRVK Borovoye 37.68 46 *e*P **P 00 24 55.9 -0.6**
BRVK pmax pmax
comp=Z,14nm,0.8s,mb4.7
BRVK Borovoye 37.68 46 *e*P **P 00 24 55.9 -0.6**
comp=Z,14nm,0.8s,mb4.7
BVAR Borovoye Array 37.73 46 P **P 00 24 57.2 +0.2**
comp=Z,8.7nm,0.8s,mb4.5,baz=281,slow=7.6,SNR=16
KMBO Kilima Mbogo 37.90 157 PFAKE 00 25 10.0 +11
KMBO LR LR
comp=Z,643nm,21.0s,MS4.4
DBIC Dimbokro 38.14 230 *e*P **P 00 25 00.2 -0.6**
DBIC pmax pmax
comp=Z,19nm,1.2s
DBIC MLR MLR
comp=Z,281nm,19.0s
DBIC Dimbokro 38.14 230 P **P 00 25 00.5 -0.3**
comp=Z,7.6nm,0.9s,mb4.4,baz=17,slow=10,SNR=6.1
DBIC Dimbokro 38.14 230 *e*P **P 00 25 00.2 -0.6**
comp=Z,19nm,1.2s,mb4.7
DBIC LR LR
comp=Z,281nm,19.0s,MS4.1
DBIC Dimbokro 38.14 230 *e*P **P 00 25 00.2 -0.6**
comp=Z,19nm,1.2s,mb4.7
AAK Ala-Archa 40.17 63 *e*P **P 00 25 16.7 -0.7**
AAK pmax pmax
comp=Z,11nm,0.8s,mb4.6
AAK MLR MLR
comp=Z,387nm,21.0s,MS4.2
AAK Ala-Archa 40.17 63 *e*P **P 00 25 16.6 -0.7**
comp=Z,11nm,0.8s,mb4.7
AAK LR LR
comp=Z,387nm,21.0s,MS4.2
AAK Ala-Archa 40.17 63 *e*P **P 00 25 16.6 -0.8**
comp=Z,11nm,0.8s,mb4.7
KURK Kurchatov 42.61 50 *e*P **P 00 25 36.8 -0.5**
KURK pmax pmax
comp=Z,13nm,0.8s,mb4.7
KURK MLR MLR
comp=Z,189nm,21.0s,MS4.0
KURK Kurchatov 42.61 50 *e*P **P 00 25 36.8 -0.6**
comp=Z,13nm,0.8s,mb4.7
KURK LR LR
comp=Z,189nm,21.0s,MS4.0
KURK Kurchatov 42.61 50 *e*P **P 00 25 36.8 -0.5**
comp=Z,13nm,0.8s,mb4.7
MKAR Makanchi Array 45.25 56 *e*P **P 00 25 59.1 +0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.3s
MKAR Makanchi Array 45.25 56 *i*P **P 00 25 59.2 +0.5**
NVS Novosibirsk 45.46 45 *i*P **P 00 25 59.5 -0.7**
NVS *i* 00 26 14.4
NVS *i* 00 32 36.3
NVS pmax pmax
comp=Z,39nm,0.8s,mb5.3
NVS pmax pmax
comp=N,7.0nm,0.7s
NVS pmax pmax
comp=E,18nm,0.7s
NVS Novosibirsk 45.46 45 *i*P **P 00 25 59.5 -0.7**
comp=E,39nm,0.8s,mb5.3
DAG Danmarks Havn 46.22 348⇑*i*P **P 00 26 06.6 +0.6**
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
DAG Danmarks Havn 46.22 348⇑*i*P **P 00 26 06.6 +0.6**
comp=Z,2.7nm,0.7s,mb4.3
ZAL Zalesovo 46.38 46 P **P 00 26 07.0 -0.5**
comp=Z,12nm,0.5s,mb5.1,baz=208,slow=7.4,SNR=14
ZAL Zalesovo 46.38 46 P **P 00 26 06.9 -0.6**
WMQ Urumqi 49.50 59 *e*P **P 00 26 32.5 +0.5**
WMQ AP pP 00 26 38.5 -3.5
WMQ XP sP 00 26 41.5 -4.6
WMQ PCP PcP 00 27 53.0 -0.9
WMQ PP PP 00 28 28.3 +1.6
WMQ S **S 00 33 40.5 +4.5**
WMQ AMB AMB
comp=Z,123nm,1.2s,mb5.8
WMQ AMB AMB
comp=Z,905nm,5.1s
WMQ LR LR
comp=N,341nm,20.2s,MS4.5
WMQ LR LR
comp=E,362nm,20.0s,MS4.5
WMQ LR LR
comp=Z,538nm,20.3s,MS4.5
LSZ Lusaka 49.87 174 *e*P **P 00 26 36.2 +1.0**
LSZ pmax pmax
comp=Z,8.0nm,1.5s,mb4.5
LSZ MLR MLR
comp=Z,653nm,20.0s,MS4.6
LSZ Lusaka 49.87 174 *e*P **P 00 26 36.2 +1.1**
comp=Z,7.9nm,1.5s,mb4.5
LSZ LR LR
comp=Z,653nm,20.0s,MS4.6
LSZ Lusaka 49.87 174 *e*P **P 00 26 36.2 +1.0**
comp=Z,7.9nm,1.5s,mb4.5
HYB Hyderabad 51.82 95 *i*P **P 00 26 50.0 +0.1**
MOY Mondy 56.41 47 *e*P **P 00 27 23.9 +0.8**
LSA Lhasa 56.59 75 PFAKE 00 27 40.0 +15
LSA LR LR
comp=Z,382nm,20.0s,MS4.5
TLY Talaya 57.99 46 *e*P **P 00 27 34.5 +0.1**
TLY pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
TLY Talaya 57.99 46⇑*i*P **P 00 27 34.8 +0.4**
TLY LR LR
comp=Z,208nm,20.0s,MS4.2
ZAK Zakamensk 58.15 48 *e*P **P 00 27 35.5 0.0**
PALK Pallekele 59.14 103 PFAKE 00 27 50.0 +7.1
PALK LR LR
comp=Z,191nm,20.0s,MS4.2
LBTB Lobatse 59.38 178 PFAKE 00 27 50.0 +5.6
LBTB LR LR
comp=Z,443nm,20.0s,MS4.6
FRB Frobisher Bay 60.36 329 P **P 00 27 50.2 -0.4**
comp=Z,12nm,0.8s,mb4.9,baz=88,slow=7.4,SNR=12
SONM Songino Array 60.91 50 P **P 00 27 54.6 0.0**
comp=Z,9.2nm,0.7s,mb5.0,baz=279,slow=8.2,SNR=37
ULN Ulaanbaatar 61.32 50 *e*P **P 00 27 57.1 -0.2**
ULN pmax pmax
comp=Z,16nm,0.8s,mb5.2
ULN MLR MLR
comp=Z,635nm,19.0s,MS4.8
ULN Ulaanbaatar 61.32 50 *e*P **P 00 27 57.1 -0.2**
comp=Z,16nm,0.8s,mb5.2
ULN LR LR
comp=Z,635nm,19.0s,MS4.8
ULN Ulaanbaatar 61.32 50 *e*P **P 00 27 57.1 -0.2**
comp=Z,16nm,0.8s,mb5.2
BOD Bodaibo 61.73 37 *e*P **P 00 27 57.2 -2.7**
TIXI Tiksi 62.14 20⇓*e*P **P 00 28 02.0 -0.5**
TIXI pmax pmax
comp=Z,15nm,0.8s,mb5.2
TIXI MLR MLR
comp=Z,400nm,17.0s,MS4.7
TIXI Tiksi 62.14 20⇓*e*P **P 00 28 02.1 -0.4**
TIXI LR LR
comp=Z,425nm,19.0s,MS4.6
TIXI Tiksi 62.14 20⇓*e*P **P 00 28 02.1 -0.4**
SCHQ Schefferville 62.63 319 P **P 00 28 05.2 -0.7**
comp=Z,7.0nm,0.7s,mb4.9,baz=69,slow=5.6,SNR=16
BOSA Boshof 62.96 178 PFAKE 00 28 10.0 +1.5
BOSA LR LR
comp=Z,385nm,21.0s,MS4.5
LZH Lanzhou 63.71 63 *e*P **P 00 28 13.5 +0.1**
LZH AMB AMB
comp=Z,25nm,1.0s,mb5.2
LZH Lanzhou 63.71 63 *e*P **P 00 28 13.5 +0.1**
LZH *PP pP 00 28 28.5 +4.8
LZH *SP sP 00 28 36.0 +8.4
LZH pmax pmax
comp=Z,25nm,1.0s,mb5.2
LZH Lanzhou 63.71 63 *e*P **P 00 28 13.5 +0.1**
comp=Z,25nm,1.0s,mb5.2
LZH pP pP 00 28 28.5 +4.8
LZH sP sP 00 28 36.0 +8.4
LZH Lanzhou 63.71 63 *e*P **P 00 28 13.5 +0.1**
comp=Z,25nm,1.0s,mb5.2
LZH pP pP 00 28 28.5 +4.8
RES Resolute Bay 63.77 345 *e*P **P 00 28 13.4 +0.3**
RES pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
RES Resolute Bay 63.77 345 *e*P **P 00 28 13.3 +0.2**
comp=Z,8.1nm,0.8s,mb4.8
RES Resolute Bay 63.77 345 *e*P **P 00 28 13.4 +0.3**
comp=Z,8.1nm,0.8s,mb4.8
YAK Yakutsk 67.03 29⇓*e*P **P 00 28 33.5 -0.6**
YAK MLR MLR
comp=Z,477nm,19.0s,MS4.7
CMAR Chiang Mai Arr 68.07 82 P **P 00 28 41.9 +0.4**
comp=Z,4.6nm,0.7s,mb4.6,baz=301,slow=8.0,SNR=18
CMAR Chiang Mai Arr 68.07 82 P **P 00 28 41.8 +0.4**
HIA Hailar 68.40 44 *e*P **P 00 28 43.1 +0.1**
HIA pmax pmax
comp=Z,20nm,0.9s
HIA MLR MLR
comp=Z,441nm,20.0s
HIA Hailar 68.40 44 *e*P **P 00 28 43.1 +0.2**
comp=Z,20nm,0.9s,mb5.1
HIA LR LR
comp=Z,441nm,20.0s,MS4.7
HIA Hailar 68.40 44 *e*P **P 00 28 43.1 +0.1**
comp=Z,20nm,0.9s,mb5.1
RCBR Riachuelo 68.81 247 PFAKE 00 28 50.0 +3.9
RCBR LR LR
comp=Z,137nm,19.0s,MS4.2
ENH Enshi 70.57 66 *e*P **P 00 28 56.6 0.0**
comp=Z,9.6nm,0.9s,mb4.7
ENH LR LR
comp=Z,315nm,19.0s,MS4.6
ENH Enshi 70.57 66 *e*P **P 00 28 56.6 0.0**
comp=Z,9.6nm,0.9s,mb4.7
BJT Baijiatuau 70.61 54 PFAKE 00 29 10.0 +13
BJT LR LR
comp=Z,489nm,22.0s,MS4.7
FCC Fort Churchill 73.45 331 *e*P **P 00 29 13.8 +0.6**
FCC pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
FCC Fort Churchill 73.45 331 *e*P **P 00 29 13.8 +0.6**
comp=Z,6.7nm,0.8s,mb4.6
FCC Fort Churchill 73.45 331 *e*P **P 00 29 13.8 +0.6**
comp=Z,6.7nm,0.8s,mb4.6
BILL Bilibino 73.90 14 *e*P **P 00 29 15.5 -0.1**
BILL pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
BILL Bilibino 73.90 14 *e*P **P 00 29 15.5 -0.1**
comp=Z,2.9nm,0.5s,mb4.5
BILL Bilibino 73.90 14 *e*P **P 00 29 15.5 -0.1**
comp=Z,2.9nm,0.5s,mb4.5
SADO Sadowa 74.35 314 P **P 00 29 19.7 +1.0**
comp=Z,3.0nm,0.8s,mb4.3,baz=20,slow=19,SNR=4.5
SADO Sadowa 74.35 314 P **P 00 29 19.7 +1.0**
SNY Shenyang 74.50 50⇓P **P 00 29 20.0 +0.4**
SNY AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
INK Inuvik 75.90 351 *e*P **P 00 29 26.9 -0.2**
INK pmax pmax
comp=Z,12nm,1.0s
INK Inuvik 75.90 351 P **P 00 29 27.5 +0.4**
comp=Z,9.2nm,1.0s,mb4.7,baz=25,slow=9.5,SNR=17
INK Inuvik 75.90 351 *e*P **P 00 29 26.9 -0.2**
comp=Z,12nm,1.0s,mb4.8
INK Inuvik 75.90 351 *e*P **P 00 29 26.9 -0.2**
comp=Z,12nm,1.0s,mb4.8
MA2 Magadan 76.54 25 *e*P **P 00 29 31.7 +0.8**
MA2 *e* 00 39 41.3
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MA2 Magadan 76.54 25 *e*P **P 00 29 30.8 -0.1**
comp=Z,20nm,0.9s,mb5.0
MA2 LR LR
comp=Z,387nm,19.0s,MS4.7
MA2 Magadan 76.54 25 *e*P **P 00 29 30.8 -0.1**
comp=Z,20nm,0.9s,mb5.0
NJ2 Nanjing 76.56 60 *e*P **P 00 29 32.5 +0.9**
NJ2 PP PP 00 32 25.8 +0.4
NJ2 S S 00 39 09.0 -4.9
NJ2 XS 00 39 29.0
NJ2 AMB AMB
comp=Z,530nm,4.6s
NJ2 LR LR
comp=N,750nm,11.5s,MS5.4
NJ2 LR LR
comp=E,930nm,12.4s,MS5.4
NJ2 LR LR
comp=Z,1μm,10.4s,MS5.5
QIZ Qiongzhong 76.59 76 PFAKE 00 29 40.0 +8.0
QIZ LR LR
comp=Z,1μm,19.0s,MS5.2
YKA Yellowknife Ar 77.47 341 P **P 00 29 36.7 +0.6**
comp=Z,3.1nm,0.8s,mb4.3,baz=35,slow=5.7,SNR=52
ACSO Alum Creek Sta 79.27 312 PFAKE 00 29 50.0 +3.6
ACSO LR LR
comp=Z,2μm,22.0s,MS5.4
FFC Flin Flon 79.38 331 *e*P **P 00 29 47.4 +0.7**
FFC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
FFC Flin Flon 79.38 331 *e*P **P 00 29 47.4 +0.7**
comp=Z,10nm,0.9s,mb4.8
FFC Flin Flon 79.38 331 *e*P **P 00 29 47.4 +0.7**
comp=Z,10nm,0.9s,mb4.8
IMA Indian Mountai 79.57 359 *e*P **P 00 29 49.7 +2.2**
TNA Tin City 79.72 5 *e*P **P 00 29 49.0 +0.7**
comp=Z,6.0nm,0.8s,mb4.6
TNA Tin City 79.72 5 *e*P **P 00 29 49.0 +0.7**
comp=Z,6.0nm,0.8s,mb4.6
COLA College 80.56 356 *e*P **P 00 29 54.7 +1.9**
COLA pmax pmax
comp=Z,11nm,1.3s,mb4.6
COLA College 80.56 356 *e*P **P 00 29 54.7 +1.9**
comp=Z,11nm,1.3s,mb4.6
COLA College 80.56 356 *e*P **P 00 29 54.7 +1.9**
comp=Z,11nm,1.3s,mb4.6
ILAR Eielson Array 80.60 356 P **P 00 29 53.9 +0.9**
comp=Z,3.0nm,0.8s,mb4.3,baz=354,slow=3.7,SNR=23
DAWY Dawson 80.67 352 *e*P **P 00 29 54.6 +1.3**
DAWY Dawson 80.67 352 *e*P **P 00 29 54.6 +1.2**
MCK McKinley 81.75 357 *e*P **P 00 30 00.1 +1.1**
MCK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MCK MLR MLR
comp=Z,243nm,22.0s,MS4.5
MCK McKinley 81.75 357 *e*P **P 00 30 00.1 +1.0**
comp=Z,5.7nm,0.9s,mb4.5
MCK LR LR
comp=Z,243nm,22.0s,MS4.5
MCK McKinley 81.75 357 *e*P **P 00 30 00.1 +1.1**
comp=Z,5.7nm,0.9s,mb4.5
YSS Yuzh-Sakhalins 82.20 37⇑*e*P **P 00 30 02.5 +0.8**
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.2
YSS Yuzh-Sakhalins 82.20 37 *e*P **P 00 30 02.6 +0.8**
comp=Z,23nm,0.8s,mb5.2
YSS LR LR
comp=Z,203nm,20.0s,MS4.5
TATO Taipei 82.39 65 PFAKE 00 30 10.0 +6.9
TATO LR LR
comp=Z,1μm,19.0s,MS5.3
MYNC Murphy 83.10 308 PFAKE 00 30 10.0 +3.5
MYNC LR LR
comp=Z,457nm,19.0s,MS4.9
SML Sawmill 83.64 356 *e*P **P 00 30 10.2 +1.6**
FIB Fire Island 84.37 357 PFAKE 00 30 20.0 +7.6
FIB LR LR
comp=Z,915nm,21.0s,MS5.1
EDM Edmonton 84.76 336 *e*P **P 00 30 15.6 +1.1**
MAJO Matsushiro 86.72 47 PFAKE 00 30 30.0 +5.4
MAJO LR LR
comp=Z,306nm,22.0s,MS4.7
SDV Santo Domingo 88.31 280 PFAKE 00 30 40.0 +7.3
SDV LR LR
comp=Z,249nm,20.0s,MS4.6
NEW Newport 90.23 335 *e*P **P 00 30 42.6 +1.6**
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 90.23 335 *e*P **P 00 30 42.6 +1.6**
comp=Z,6.2nm,1.0s,mb4.9
MOOW Moose Ponds 91.49 329 *e*P **P 00 30 48.2 +1.2**
PDAR Pinedale Array 91.76 327 P **P 00 30 50.4 +2.2**
comp=Z,1.3nm,0.8s,mb4.3,baz=67,slow=3.3,SNR=5.6
BMO Blue Mountains 93.20 333 PFAKE 00 31 00.0 +5.2
BMO LR LR
comp=Z,355nm,19.0s,MS4.8
TEIG Tepich 95.24 299 PFAKE 00 31 10.0 +5.3
TEIG LR LR
comp=Z,122nm,20.0s,MS4.4
WVOR Wild Horse Val 95.77 333 PFAKE 00 31 20.0 +13
WVOR LR LR
comp=Z,905nm,19.0s,MS5.3
JTS JuntasAbangare 98.92 289 PFAKE 00 31 30.0 +8.6
JTS LR LR
comp=Z,57nm,22.0s,MS4.0
OTAV Otavalo 99.61 277 PFAKE 00 31 30.0 +5.4
OTAV LR LR
comp=Z,249nm,19.0s,MS4.7
LPAZ La Paz 100.31 257 PFAKE 00 31 40.0 +12
LPAZ LR LR
comp=Z,225nm,20.0s,MS4.7
DAC Darwin (Calif) 100.61 329 PFAKE 00 31 40.0 +11
DAC LR LR
comp=Z,408nm,19.0s,MS5.0
GUMO Guam 106.63 60 PFAKE 00 36 20.0
GUMO LR LR
comp=Z,1μm,20.0s,MS5.4
MBWA Marble Bar 106.74 104 PFAKE 00 36 20.0
MBWA LR LR
comp=Z,340nm,19.0s,MS4.9
TRQA Tornquist 107.17 235 PFAKE 00 36 10.0
TRQA LR LR
comp=Z,289nm,19.0s,MS4.8
NWAO Narrogin (SRO) 110.65 116 PFAKE 00 36 20.0 +8.0
NWAO LR LR
comp=Z,490nm,20.0s,MS5.1
PLCA Paso Flores 114.28 236 PFAKE 00 36 30.0 +11
PLCA LR LR
comp=Z,292nm,19.0s,MS4.9
WRAB Tennant Creek 117.98 96 PFAKE 00 36 40.0 +13
WRAB LR LR
comp=Z,112nm,20.0s,MS4.5
ASAR Alice Springs 119.39 100 PKP PKPdf 00 36 30.4 +1.2
comp=Z,0.9nm,0.8s,baz=326,slow=3.8,SNR=6.5
CASY Casey 120.07 152 PFAKE 00 36 40.0 +10
CASY LR LR
comp=Z,324nm,19.0s,MS5.0
PMG Port Moresby 122.95 78 PFAKE 00 36 50.0 +14
PMG LR LR
comp=Z,254nm,20.0s,MS4.9
CTAO Charters Tower 127.85 89 PFAKE 00 37 00.0 +14
CTAO LR LR
comp=Z,417nm,21.0s,MS5.1

IDC 28 00:18:58.0±10.0, 7.10N×94.36E, mb4.0/5, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, ML4.5/1, MS4.4/1, Ms1 4.4/1, ms1mx3.0/26, Error ellipse: s-maj=266.7km s-min=43.5km az=144.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.14**	**21**	Pn	Pn	P	00 21 53.2	-2.1
	0.8nm,0.3s,baz=214,slow=13,SNR=5.6							
SONM	**Songino Array**	**41.87**	**12**	P		P	00 26 49.7	-1.8
	0.8nm,0.8s,baz=194,slow=5.9,SNR=3.1							
PMG	**Port Moresby**	**55.10**	**107**	LR		LR	00 51 04.8	
	comp=Z,348nm,20.7s,baz=255,slow=35							
BRTR	**Keskin Array B**	**63.10**	**311**	P		P	00 29 27.6	-2.2
	1.0nm,0.8s,baz=117,slow=3.2,SNR=4.0							
FINES	**FINESS Array B**	**73.49**	**332**	P		P	00 30 32.0	-2.1
	2.3nm,0.8s,baz=112,slow=10,SNR=4.0							
GERES	**GERESS Array B**	**78.55**	**318**	P		P	00 31 02.6	-0.3
	1.2nm,0.8s,baz=90,slow=4.0,SNR=4.1							
NB2	**NORSAR Subarra**	**80.51**	**331**	P		P	00 31 11.9	-1.4
	1.0nm,0.7s,baz=95,slow=5.3							
NOA	**NORSAR Array B**	**80.51**	**331**	P		P	00 31 11.7	-1.6
	1.4nm,0.7s,baz=91,slow=5.6,SNR=4.0							

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*IDC **28** 00:26:17.2±1.3, 7.49N×93.41E, mb3.9/9, mb1 4.0/9, mb1mx3.8/19, mbtmp3.9/9, Error ellipse: s-maj=66.2km s-min=21.5km az=52.0*
*NEIC **28** 00:26:22.1±0.9, 7.58N×93.53E, h30km, mb4.3/2, Error ellipse: s-maj=41.4km s-min=13.2km az=56.0*
ISC 28 00:26:20.2±1.0, 7.6N±0.2×93.6E±0.3, h30km, n14, σ0°80/14, mb3.9/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LSA	**Lhasa**	**22.13**	**354**	*e*P		**P**	**00 31 14.8**	**-0.3**
	8.4nm,0.7s,mb4.3							
SONM	**Songino Array**	**41.59**	**13**	P		**P**	**00 34 06.0**	**-1.0**
	0.8nm,0.8s,mb3.4,baz=207,slow=9.4,SNR=3.0							
ZAL	**Zalesovo**	**46.77**	**353**	P		**P**	**00 34 49.5**	**+0.9**
	1.1nm,0.5s,mb4.1,baz=298,slow=9.9,SNR=5.1							
WRA	**Warramunga Arr**	**48.57**	**125**	P		**P**	**00 35 03.1**	**-0.2**
	0.6nm,0.7s,mb3.8,baz=305,slow=8.6,SNR=3.9							
WRAB	**Tennant Creek**	**48.57**	**125**	P		**P**	**00 35 03.4**	**+0.2**
	2.1nm,0.6s,mb4.3							
BVAR	**Borovoye Array**	**49.09**	**342**	P		**P**	**00 35 08.0**	**+1.2**
	0.8nm,0.8s,mb3.6,baz=141,slow=9.2,SNR=3.2							
ASAR	**Alice Springs**	**50.18**	**129**	P		**P**	**00 35 15.8**	**+0.2**
	0.9nm,0.9s,mb3.8,baz=304,slow=7.0,SNR=4.0							
FINES	**FINESS Array B**	**72.70**	**332**	P		**P**	**00 37 47.0**	**-0.1**
	1.5nm,0.8s,mb4.0,baz=129,slow=8.9,SNR=2.9							
FINES	**FINESS Array B**	**72.70**	**332**	P		**P**	**00 37 47.0**	**-0.1**
GERES	**GERESS Array B**	**77.66**	**318**	P		**P**	**00 38 13.8**	**-1.8**
	0.3nm,0.6s,mb3.4,baz=90,slow=5.9,SNR=2.9							
HFS	**Hagfors**	**78.42**	**330**	P		**P**	**00 38 19.7**	**+0.2**
	1.9nm,0.7s,mb4.1,baz=90,slow=5.9,SNR=4.2							
NB2	**NORSAR Subarra**	**79.70**	**331**	P		**P**	**00 38 26.3**	**-0.2**
	15nm,1.7s,mb4.7,baz=91,slow=4.8							
NOA	**NORSAR Array B**	**79.70**	**331**	P		**P**	**00 38 27.5**	**+1.0**
	0.8nm,0.6s,mb3.8,baz=83,slow=8.1,SNR=4.4							
NOA	**NORSAR Array B**	**79.70**	**331**	P		**P**	**00 38 27.5**	**+1.0**

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*CSEM **28** 00:27:33.2±0.1, 46.33N×13.24E, h15km, ML2.5/7, Error ellipse: s-maj=1.7km s-min=1.2km az=13.0*
ISC 28 00:27:33.7±0.3, 46.34N±0.02×13.27E±0.02, h10km, n31, σ0°85/57, 9C-5D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BAD	**Bernadia**	**0.10**	**191**	⇓*i*Pg		**Pg**	**00 27 36.5**	**0.0**
BAD				*i* Sg		**Sg**	**00 27 38.7**	**+0.4**
BOO	**Bordano**	**0.12**	**262**	⇑*i*Pg		**Pg**	**00 27 37.2**	**+0.5**
BOO				*i* Sg		**Sg**	**00 27 39.2**	**+0.5**
BOO	**Bordano**	**0.12**	**262**	⇑*i*Pg		**Pg**	**00 27 37.2**	**+0.5**
BOO				*i* Sg		**Sg**	**00 27 39.2**	**+0.5**
BUA	**Buia**	**0.16**	**221**	⇑*i*Pg		**Pg**	**00 27 37.1**	**-0.2**
ROBS	**Robic**	**0.19**	**119**	⇓*i*Pg		**Pg**	**00 27 38.0**	**+0.1**
ROBS				*i* Sg		**Sg**	**00 27 41.3**	**+0.6**
	comp=Z,77nm,0.1s							
ROBS	**Robic**	**0.19**	**119**	⇓*i*Pg		**Pg**	**00 27 38.0**	**+0.1**
ROBS				*i* Sg		**Sg**	**00 27 41.3**	**+0.6**
	comp=Z,77nm,0.1s							
COLI	**Coloredo**	**0.22**	**160**	⇓*i*Pg		**Pg**	**00 27 38.4**	**0.0**
COLI				*i* Sg		**Sg**	**00 27 42.5**	**+1.0**
MPRI	**Monte Prat**	**0.22**	**244**	⇑*i*Pg		**Pg**	**00 27 38.0**	**-0.4**
MPRI				*e*Sg		**Sg**	**00 27 41.9**	**+0.4**
MPRI	**Monte Prat**	**0.22**	**244**	*e*Sg		**Sg**	**00 27 41.9**	**+0.3**
LSR	**Lussari**	**0.23**	**52**	*e*Pg		**Pg**	**00 27 38.9**	**+0.3**
LSR				*e*Sg		**Sg**	**00 27 43.3**	**+1.5**
PLRO	**Paularo**	**0.23**	**338**	⇓*i*Pg		**Pg**	**00 27 38.6**	**0.0**
PLRO				*e*Sg		**Sg**	**00 27 42.2**	**+0.3**
ZOU	**Zoufplan**	**0.30**	**317**	⇑*i*Pg		**Pg**	**00 27 39.9**	**-0.1**
ZOU				*i* Sg		**Sg**	**00 27 44.6**	**+0.5**
DRE	**Drenchia**	**0.31**	**122**	*e*Pg		**Pg**	**00 27 39.9**	**-0.2**
DRE				*e*Sg		**Sg**	**00 27 45.2**	**+0.9**
CADS	**Cadrg**	**0.34**	**109**	*i* Pg		**Pg**	**00 27 40.4**	**-0.4**
CADS				*i* Sg		**Sg**	**00 27 46.1**	**+0.6**
	comp=Z,31nm,0.1s							
CADS	**Cadrg**	**0.34**	**109**	*i* Pg		**Pg**	**00 27 40.4**	**-0.4**
CADS				*i* Sg		**Sg**	**00 27 46.1**	**+0.6**
	comp=Z,31nm,0.1s							
MLNI	**Malnisio**	**0.49**	**248**	⇑*e*Pg		**Pg**	**00 27 43.0**	**-0.8**
MLNI				*e*Sg		**Sg**	**00 27 51.2**	**+0.7**
GORS	**Gorjuse**	**0.50**	**92**	⇑*i*Pg		**Pg**	**00 27 43.3**	**-0.6**
GORS				*i* Sg		**Sg**	**00 27 51.5**	**+0.8**
	comp=Z,12nm,0.1s							
VOJS	**Vojsko**	**0.52**	**125**	*i* Pg		**Pg**	**00 27 43.6**	**-0.8**
VOJS				*i* Sg		**Sg**	**00 27 52.5**	**+1.0**
JAVS	**Javornik**	**0.71**	**129**	*i* Pg		**Pg**	**00 27 46.8**	**-1.2**
JAVS				*i* Sg		**Sg**	**00 27 58.5**	**+1.0**
	comp=Z,6.0nm,0.1s							
JAVS	**Javornik**	**0.71**	**129**	*i* Pg		**Pg**	**00 27 46.8**	**-1.2**
JAVS				*i* Sg		**Sg**	**00 27 58.5**	**+1.0**
	comp=Z,6.0nm,0.1s							
KBA	**Koelnbreinsper**	**0.74**	**4**	⇑*i*PG		**Pg**	**00 27 48.6**	**-0.1**
KBA				*i* SG		**Sg**	**00 27 58.6**	**-0.1**

comp=Z,7.6nm,0.3s
OBKA Obir 0.90 79⇑ *i*PG Pg 00 27 51.5 -0.3
OBKA *i* SG Sg 00 28 05.1 +1.2
comp=Z,3.9nm,0.2s
LJU Ljubljana 0.92 108 *e*Sg **Sg 00 28 05.5 +0.9**
comp=Z,7.0nm,0.1s
LJU Ljubljana 0.92 108 *e*Sg **Sg 00 28 05.5 +1.0**
comp=Z,7.0nm,0.1s
PDKS Podkum 1.23 102 *i* Pg **Pg 00 27 56.9 -1.5**
PDKS *i* Sg **Sg 00 28 15.1 +0.3**
comp=Z,4.0nm,0.1s
PDKS Podkum 1.23 102 *i* Pg **Pg 00 27 56.9 -1.5**
PDKS *i* Sg **Sg 00 28 15.1 +0.3**
comp=Z,4.0nm,0.1s
PERS Pernice 1.31 76 *i* Pg **Pg 00 27 58.4 -1.5**
PERS *i* Sg **Sg 00 28 17.2 -0.2**
comp=Z,1.0nm,0.1s
PERS Pernice 1.31 76 *i* Pg **Pg 00 27 58.4 -1.5**
PERS *i* Sg **Sg 00 28 17.2 -0.2**
comp=Z,1.0nm,0.1s
BOJS Bojanci 1.61 120 *i* Pg **Pg 00 28 04.2 -1.8**
BOJS *i* Sg **Sg 00 28 25.4 -2.1**
comp=Z,2.0nm,0.1s
BOJS Bojanci 1.61 120 *i* Pg **Pg 00 28 04.2 -1.8**
BOJS *i* Sg **Sg 00 28 25.4 -2.2**
comp=Z,2.0nm,0.1s
GOLS Golise 1.67 100 *e*Pg **Pg 00 28 05.1 -2.0**

IGQ 28 00:27:35.1, 1.59S×81.13W, h10km±5km, mb4.2, 6C-4D, Error ellipse: s-maj=11.0km s-min=3.6km az=178.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.80**	**47**	⇑P	Pb	00 27 50.2	-0.3
JAMA	**Jama**	**1.62**	**35**	P	Pn	00 28 04.3	+0.4
JAMA				S	Sn	00 28 25.8	+0.9
MAGD	**Magdalena**	**2.04**	**42**	P	Pn	00 28 12.0	+2.2
IGUA	**Igualata**	**2.50**	**88**	P	Pn	00 28 17.5	+1.0
JUIV	**Juive**	**2.67**	**86**	P	Pn	00 28 20.0	+1.1
ARRY	**Arrayan**	**2.68**	**88**	⇑P	Pn	00 28 20.3	+1.2
ARRY				S	Sn	00 28 54.6	+2.7
RETU	**Refugio**	**2.69**	**87**	P	Pn	00 28 21.2	+2.0
ULBA	**Ulba**	**2.73**	**87**	⇓P	Pn	00 28 21.6	+1.8
PISA	**Pisayambo**	**2.80**	**79**	⇑P	Pn	00 28 22.6	+1.9
NAS1	**Nasa**	**2.82**	**70**	⇓P	Pn	00 28 23.9	+2.8
JUA2	**San Juan 2**	**2.88**	**62**	⇓P	Pn	00 28 23.9	+2.0
VC1	**Cotopaxi 1**	**2.89**	**71**	P	Pn	00 28 25.2	+3.2
TERV	**Terraza Guagua**	**2.90**	**61**	P	Pn	00 28 24.0	+1.9
PINO	**Pino**	**2.90**	**61**	P	Pn	00 28 23.0	+0.8
TAMB	**Tambo**	**2.91**	**72**	⇑P	Pn	00 28 24.3	+2.0
YANA	**Yana**	**2.95**	**60**	⇑P	Pn	00 28 24.0	+1.0
ANTI	**Antisana**	**3.18**	**69**	⇓P	Pn	00 28 29.3	+3.1
ANTI				S	Sn	00 29 12.8	+8.2
COTA	**Cotacachi**	**3.39**	**56**	P	Pn	00 28 31.0	+1.8
COTA				S	Sn	00 29 16.1	+6.2
CAYR	**Refugio Cayambo**	**3.51**	**63**	P	Pn	00 28 34.2	+3.3
CAYA	**Cayambe**	**3.55**	**62**	⇑P	Pn	00 28 34.6	+3.1

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*IDC **28** 00:28:51.6±2.6, 8.14N×93.90E, mb4.0/11, mb1 4.1/12, mb1mx4.0/20, mbtmp4.0/12, ML3.8/1, Error ellipse: s-maj=67.8km s-min=30.6km az=135.0*
*NEIC **28** 00:28:55.1±0.6, 7.99N×94.05E, h30km, mb4.3/4, Error ellipse: s-maj=15.4km s-min=13.0km az=106.0*
ISC 28 00:28:53.2±0.9, 8.0N±0.1×94.1E±0.1, h30km, n20, σ0§79/19, mb4.0/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.41**	**24**	Pn	**P**	**00 31 37.3**	**-0.1**
	0.2nm,0.3s,baz=150,slow=14,SNR=2.3						
LSA	**Lhasa**	**21.76**	**353**	*e*P	**P**	**00 33 45.0**	**+0.7**
	12nm,0.7s,mb4.4						
SONM	**Songino Array**	**41.05**	**13**	P	**P**	**00 36 36.2**	**+0.6**
	1.0nm,1.0s,mb3.4,baz=188,slow=8.7,SNR=3.8						
KURK	**Kurchatov**	**44.47**	**346**	*e*P	**P**	**00 37 03.2**	**-0.3**
	2.4nm,0.6s,mb4.1						
ZAL	**Zalesovo**	**46.41**	**352**	P	**P**	**00 37 19.1**	**+0.3**
	1.3nm,0.7s,mb4.0,baz=283,slow=8.7,SNR=6.3						
WRAB	**Tennant Creek**	**48.39**	**126**	P	**P**	**00 37 34.5**	**-0.3**
	3.0nm,0.8s,mb4.4						
BVAR	**Borovoye Array**	**48.85**	**341**	P	**P**	**00 37 36.4**	**-1.4**
	1.1nm,0.8s,mb3.9,baz=153,slow=17,SNR=4.2						
KMBO	**Kilima Mbogo**	**57.38**	**264**	P	**P**	**00 38 42.5**	**+0.7**
	1.3nm,0.8s,mb4.0,baz=44,slow=13,SNR=4.5						
BRTR	**Keskin Array B**	**62.30**	**311**	P	**P**	**00 39 13.6**	**-1.6**
	0.8nm,0.5s,mb4.1,baz=106,slow=9.0,SNR=4.7						
AKASG	**Malin Array Be**	**68.02**	**322**	P	**P**	**00 39 50.4**	**-1.4**
	1.3nm,0.8s,mb4.0,baz=88,slow=5.0,SNR=5.9						
MLR	**Muntele Rosu**	**69.04**	**316**	P	**P**	**00 39 58.9**	**+0.7**
	2.1nm,0.8s,mb4.2,baz=159,slow=8.6,SNR=5.8						
FINES	**FINESS Array B**	**72.57**	**332**	P	**P**	**00 40 19.2**	**-0.1**
	1.9nm,0.8s,mb4.1,baz=76,slow=7.9,SNR=5.2						
FINES	**FINESS Array B**	**72.57**	**332**	P	**P**	**00 40 19.2**	**-0.1**
KAF	**Kangasniemi**	**72.65**	**333**	*e*p	**P**	**00 40 19.7**	**0.0**
	0.3nm,0.3s,mb3.7						
GERES	**GERESS Array B**	**77.69**	**318**	P	**P**	**00 40 49.6**	**+0.9**
	1.2nm,0.6s,mb4.0,baz=90,slow=5.3,SNR=12						
HFS	**Hagfors**	**78.31**	**330**	P	**P**	**00 40 52.3**	**+0.4**
	1.2nm,0.5s,mb4.1,baz=90,slow=5.9,SNR=7.6						
NB2	**NORSAR Subarra**	**79.59**	**331**	P	**P**	**00 40 59.5**	**+0.7**
	1.1nm,0.8s,mb3.8,baz=91,slow=5.3						
NOA	**NORSAR Array B**	**79.59**	**331**	P	**P**	**00 40 59.6**	**+0.7**
	1.9nm,0.8s,mb4.0,baz=94,slow=5.1,SNR=4.6						
NOA	**NORSAR Array B**	**79.59**	**331**	P	**P**	**00 40 59.6**	**+0.7**
PDAR	**Pinedale Array**	**125.06**	**21**	PKP	PKPdf	00 47 53.4	-2.8
	0.4nm,0.6s,baz=180,slow=3.0,SNR=3.9						

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*IDC **28** 00:30:33.5±0.8, 8.02N×94.14E, mb4.2/15, mb1 4.4/16, mb1mx4.3/20, mbtmp4.2/16, Error ellipse: s-maj=27.0km s-min=19.2km az=50.0*
*BJI **28** 00:30:36.6, 7.59N×93.93E, h49km, mb4.6*
*NEIC **28** 00:30:37.2±4.7, 8.03N×94.18E, h22km±32km, mb4.5/7, Error ellipse: s-maj=15.2km s-min=9.5km az=48.0*
ISC 28 00:30:37.2±0.5, 8.05N±0.08×94.22E±0.09, h33km, n44, σ1§01/40, mb4.4/27, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.32**	**23**	Pn	**P**	**00 33 17.7**	**-2.0**
	baz=212,slow=12,SNR=3.0						
VIS	**Vishakhapatnam**	**14.31**	**313**	*e*P	**P**	**00 33 58.0**	**-1.6**
VIS				*e*		00 34 10.0	
	comp=Z,34nm,1.2s						
VIS				*e*		00 36 23.5	
KMI	**Kunming**	**18.82**	**25**	⇑P	**P**	**00 35 02.1**	**+5.3**
	comp=Z,21nm,1.3s						
JIRN	**Jiri**	**20.93**	**340**	*e*P	**P**	**00 35 20.1**	**+0.6**
	comp=Z,69nm,1.0s						
PKI	**Pulchoki**	**21.13**	**338**	*e*P	**P**	**00 35 22.7**	**+1.1**
	comp=Z,39nm,0.6s,mb4.9						
DMN	**Daman**	**21.28**	**337**	*e*P	**P**	**00 35 23.2**	**+0.2**
	comp=Z,55nm,0.7s,mb5.0						
KKN	**Kakani**	**21.38**	**338**	*e*P	**P**	**00 35 23.7**	**-0.3**
	comp=Z,46nm,0.9s,mb4.8						
KAD	**Karad**	**21.59**	**297**	*e*P	**P**	**00 35 27.4**	**+1.2**
KAD				*e*		00 35 30.6	
	comp=Z,16nm,1.2s						
LSA	**Lhasa**	**21.73**	**353**	*e*P	**P**	**00 35 28.0**	**+0.5**
	comp=Z,30nm,0.6s,mb4.9						
LSA				*e*pP		00 35 31.7	
GKN	**Gorkha**	**21.81**	**337**	*e*P	**P**	**00 35 28.5**	**+0.1**
	comp=Z,46nm,0.6s,mb5.1						
KOLN	**Koldanda**	**22.04**	**334**	*e*P	**P**	**00 35 30.9**	**+0.3**
	comp=Z,99nm,1.1s,mb5.1						
BHPL	**Bhopal**	**22.09**	**315**	*e*P	**P**	**00 35 32.9**	**+1.8**
BHPL				*e*		00 35 37.0	
	comp=Z,20nm,0.7s						
SONM	**Songino Array**	**40.97**	**13**	P	**P**	**00 38 19.1**	**+0.6**
	comp=Z,2.0nm,0.8s,mb3.8,baz=202,slow=7.3,SNR=10.0						
KURK	**Kurchatov**	**44.46**	**346**	*e*P	**P**	**00 38 46.9**	**+0.1**
	comp=Z,17nm,1.3s,mb4.6						
ZAL	**Zalesovo**	**46.38**	**352**	P	**P**	**00 39 03.0**	**+0.9**
	comp=Z,8.5nm,1.1s,mb4.6,baz=289,slow=9.3,SNR=17						
WRA	**Warramunga Arr**	**48.30**	**126**	P	**P**	**00 39 17.1**	**-0.5**
	comp=Z,1.6nm,0.8s,mb4.1,baz=304,slow=8.5,SNR=4.7						
WRAB	**Tennant Creek**	**48.30**	**126**	P	**P**	**00 39 17.7**	**0.0**
	comp=Z,1.3nm,0.4s,mb4.3						
BVAR	**Borovoye Array**	**48.85**	**341**	P	**P**	**00 39 21.2**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.2,baz=143,slow=7.4,SNR=8.0						
MAT	**Matsushiro**	**48.98**	**48**	*e*P	**P**	**00 39 24.0**	**+1.3**
MAT	**Matsushiro**	**48.98**	**48**	P	**P**	**00 39 24.3**	**+1.6**
MAT				S	Px	00 40 06.0	
ASAR	**Alice Springs**	**49.97**	**130**	P	**P**	**00 39 29.8**	**-0.6**
	comp=Z,1.2nm,1.0s,mb3.9,baz=310,slow=7.9,SNR=4.2						
KIV	**Kislovodsk**	**57.24**	**318**	*e*P	**P**	**00 40 22.7**	**-1.1**
	comp=Z,5.6nm,0.8s,mb4.7						
KMBO	**Kilima Mbogo**	**57.52**	**264**	P	**P**	**00 40 26.9**	**+0.7**
	comp=Z,3.3nm,0.9s,mb4.3,baz=56,slow=12,SNR=8.4						
BRTR	**Keskin Array B**	**62.37**	**311**	P	**P**	**00 40 57.1**	**-2.0**
	comp=Z,1.6nm,0.6s,mb4.3,baz=131,slow=7.5,SNR=7.7						
AKASG	**Malin Array Be**	**68.06**	**322**	P	**P**	**00 41 33.1**	**-2.4**
	comp=Z,2.2nm,0.7s,mb4.3,baz=88,slow=4.7,SNR=9.8						
MLR	**Muntele Rosu**	**69.10**	**316**	P	**P**	**00 41 41.2**	**-0.8**
	comp=Z,3.3nm,0.8s,mb4.3,baz=43,slow=18,SNR=5.1						
JOF	**Joensuu**	**70.72**	**334**	*e*p	**P**	**00 41 49.6**	**-2.0**
	comp=Z,3.0nm,0.7s,mb4.3						
FINES	**FINESS Array B**	**72.59**	**332**	P	**P**	**00 42 02.3**	**-0.4**
	comp=Z,2.9nm,0.7s,mb4.3,baz=112,slow=10,SNR=9.3						
KAF	**Kangasniemi**	**72.67**	**333**	*e*p	**P**	**00 42 03.3**	**+0.1**
	comp=Z,0.4nm,0.3s,mb3.8						
LBTB	**Lobatse**	**74.40**	**241**	*e*P	**P**	**00 42 14.8**	**+0.7**
	comp=Z,3.0nm,0.8s,mb4.3						
ARCES	**ARCESS Array B**	**75.13**	**340**	P	**P**	**00 42 17.6**	**+0.2**
	comp=Z,3.7nm,0.7s,mb4.4,baz=90,slow=4.9,SNR=6.5						
GERES	**GERESS Array B**	**77.75**	**318**	P	**P**	**00 42 32.4**	**-0.2**
	comp=Z,2.2nm,0.6s,mb4.3,baz=90,slow=5.3,SNR=18						
KHC	**Kasperske Hory**	**77.84**	**318**	*e*P	**P**	**00 42 32.5**	**-0.6**
HFS	**Hagfors**	**78.34**	**330**	P	**P**	**00 42 36.0**	**+0.4**
	comp=Z,3.5nm,0.5s,mb4.6,baz=112,slow=8.0,SNR=14						
GRA1	**Grafenberg Arr**	**79.39**	**319**	*e*P	**P**	**00 42 42.5**	**+1.0**
GRF	**Grafenberg Arr**	**79.39**	**319**	*e*P	**P**	**00 42 42.5**	**+1.0**
NB2	**NORSAR Subarra**	**79.62**	**331**	P	**P**	**00 42 42.3**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**79.62**	**331**	P	**P**	**00 42 42.3**	**-0.2**
	comp=Z,2.7nm,0.7s,mb4.3,baz=95,slow=4.9,SNR=7.7						
IMA	**Indian Mountai**	**91.43**	**22**	*e*P	**P**	**00 43 43.1**	**+2.2**
ILAR	**Eielson Array**	**94.55**	**22**	P	**P**	**00 43 55.1**	**-0.1**
	comp=Z,0.4nm,0.8s,mb3.9,baz=280,slow=4.5,SNR=4.2						
NVAR	**Mina Array Bea**	**124.73**	**31**	PKP	PKPdf	00 49 37.1	+3.0
	comp=Z,0.5nm,0.7s,baz=216,slow=1.3,SNR=5.0						
PDAR	**Pinedale Array**	**124.97**	**21**	PKP	PKPdf	00 49 35.5	+1.1
	comp=Z,0.7nm,0.7s,baz=351,slow=1.4,SNR=6.4						
TXAR	**Lajitas Array**	**139.03**	**24**	PKP	PKPdf	00 50 03.1	+1.9
	comp=Z,0.5nm,0.7s,baz=280,slow=0.8,SNR=5.2						
PLCA	**Paso Flores**	**144.74**	**200**	PKP	PKPdf	00 50 11.6	+0.7
	comp=Z,3.9nm,0.9s,baz=184,slow=4.1,SNR=5.4						

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*NEIC **28** 00:32:33.3, 16.81N×62.12W, h132km, MD3.5(TRN), After TRN.*
TRN 28 00:32:32.3, 16.89N×62.09W, h143km, M3.3(FDF), 3C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	**Boggy Peak**	**0.27**	**54**	⇓*i*P	P	00 32 53.3	+0.9
BPA				*e*S	S	00 33 07.3	-0.5
SKTB	**Turtle Beach**	**0.60**	**302**	*e*S	S	00 33 09.1	-1.4
SEG	**Port Louis**	**0.73**	**131**	*e*P	P	00 32 55.7	+1.0
SKI	**Saint Kitts**	**0.77**	**305**	*e*P	P	00 32 55.2	+0.3
CPB	**Codrington**	**0.79**	**18**	*e*P	P	00 32 56.7	+1.6
CPB				*e*S	S	00 33 12.9	+0.3
BSK	**Brimstone Hill**	**0.85**	**302**	*e*P	P	00 32 55.8	+0.3
BSK				*e*S	S	00 33 14.6	+1.3
BCG	**Bois Riant Cap**	**0.91**	**151**	*e*P	P	00 32 56.9	+0.9
SCG	**Saint Claude**	**0.94**	**156**	*e*P	P	00 32 57.1	+0.9
DOG	**Dongo Capester**	**0.96**	**152**	*e*P	P	00 32 57.7	+1.4
DEG	**La Desirade**	**1.14**	**120**	*e*P	P	00 32 58.7	+0.7
DEG				*e*S	S	00 33 18.1	+0.4
MGG	**Marie-Galante**	**1.21**	**142**	*e*P	P	00 33 00.1	+1.3
BBL	**Barber's Block**	**1.48**	**156**	*e*P	P	00 33 02.3	+0.8
STMA	**St. Maarten, A**	**1.51**	**320**	*e*P	P	00 33 02.2	+0.4
STMA				*e*S	S	00 33 21.6	-2.9
FDF	**Fort de France**	**2.32**	**157**	⇓*i*P	P	00 33 11.9	+0.5
CRM	**Caraville**	**2.40**	**152**	⇓*e*P	P	00 33 12.7	+0.2
BIM	**Bigot**	**2.55**	**157**	⇑*i*P	P	00 33 15.0	+0.7
MVM	**Montagne Vaucl**	**2.59**	**154**	⇑*i*P	P	00 33 15.1	+0.3

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*IDC **28** 00:37:10.0±2.8, 8.17N×93.86E, mb4.0/9, mb1 4.1/10, mb1mx3.9/19, mbtmp3.9/10, ML4.2/1, Error ellipse: s-maj=75.1km s-min=32.7km az=125.0*
*NEIC **28** 00:37:13.7±1.3, 8.05N×94.01E, h30km, mb4.3/1, Error ellipse: s-maj=36.8km s-min=16.0km az=126.0*
ISC 28 00:37:14.5±4.1, 8.4N±0.5×93.8E±0.5, h33km, n14, σ0§79/13, mb4.1/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.21**	**26**	Pn	**P**	**00 39 55.0**	**-0.7**
	0.5nm,0.3s,baz=202,slow=21,SNR=2.9						
KURK	**Kurchatov**	**44.04**	**346**	*e*P	**P**	**00 45 22.2**	**+1.3**
	5.3nm,1.1s,mb4.2						
ZAL	**Zalesovo**	**46.01**	**353**	P	**P**	**00 45 37.4**	**+0.8**
	1.0nm,0.6s,mb3.9,baz=297,slow=9.5,SNR=6.7						
BVAR	**Borovoye Array**	**48.40**	**341**	P	**P**	**00 45 55.0**	**-0.3**
	1.2nm,0.9s,mb3.9,baz=162,slow=4.7,SNR=4.5						
KMBO	**Kilima Mbogo**	**57.12**	**263**	P	**P**	**00 47 00.8**	**+0.1**
	1.0nm,0.6s,mb4.0,baz=56,slow=11,SNR=5.6						
BRTR	**Keskin Array B**	**61.83**	**311**	P	**P**	**00 47 31.5**	**-1.3**
	0.6nm,0.5s,mb4.0,baz=139,slow=6.9,SNR=3.9						
AKASG	**Malin Array Be**	**67.54**	**322**	P	**P**	**00 48 08.4**	**-1.2**
	1.7nm,0.8s,mb4.1,baz=91,slow=5.6,SNR=4.2						
FINES	**FINESS Array B**	**72.11**	**332**	P	**P**	**00 48 37.4**	**+0.1**
	6.2nm,1.1s,mb4.4,baz=90,slow=5.7,SNR=4.5						
ARCES	**ARCESS Array B**	**74.68**	**340**	P	**P**	**00 48 52.7**	**+0.5**
	2.6nm,0.8s,mb4.2,baz=31,slow=7.1,SNR=3.7						
ARCES	**ARCESS Array B**	**74.68**	**340**	P	**P**	**00 48 52.7**	**+0.5**
GERES	**GERESS Array B**	**77.22**	**318**	P	**P**	**00 49 07.8**	**+0.7**
	1.0nm,0.6s,mb3.9,baz=90,slow=5.3,SNR=10						
NB2	**NORSAR Subarra**	**79.12**	**331**	P	**P**	**00 49 17.1**	**-0.2**
	5.1nm,1.2s,mb4.3,baz=90,slow=5.3						
NOA	**NORSAR Array B**	**79.12**	**331**	P	**P**	**00 49 17.5**	**+0.2**
	1.4nm,1.0s,mb3.9,baz=114,slow=6.7,SNR=3.2						
PLCA	**Paso Flores**	**144.88**	**201**	PKP	PKPdf	00 56 47.5	-1.1
	2.9nm,0.9s,baz=328,slow=0.9,SNR=5.4						

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*NIED **28** 00:38:00, 34.20N×141.60E, h5km, Mw4.7 Best double couple: $M_0$1.17×10^{16} NP1:ϕ_s53°, δ76°, λ94°. NP2:ϕ_s214°, δ14°, λ72°.*
*IDC **28** 00:38:26.4±0.8, 34.18N×141.68E, mb3.9/13, mb1 4.1/13, mb1mx4.0/22, mbtmp3.9/13, Error ellipse: s-maj=21.8km s-min=16.5km az=119.0*
*JMA **28** 00:38:30.3±0.6, 34.25N×141.57E, h34km±2km, MJ3.7*
*NEIC **28** 00:38:31.3±5.2, 34.18N×141.61E, h32km±36km, Error ellipse: s-maj=15.8km s-min=11.2km az=83.0*
ISC 28 00:38:28.2±1.7, 34.21N±0.05×141.73E±0.07, h24km±11km, n31, σ0§84/34, mb3.9/15, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.76**	**306**	P	**Pb**	**00 38 42.7**	**0.0**
BSO3	**Boso 3**	**1.17**	**301**	P	**Pn**	**00 38 49.3**	**+0.1**
BSO4	**Boso 4**	**1.38**	**304**	P	**Pn**	**00 38 53.0**	**+0.6**
CHOJ	**Chosi**	**1.65**	**335**	P	**Pn**	**00 38 56.7**	**+0.5**
JHJ2	**Mitsune**	**1.94**	**236**	P	**Pn**	**00 39 01.5**	**+1.2**
JHJ	**Hachijo jima 2**	**1.96**	**237**	Pn	**Pn**	**00 39 01.1**	**+0.5**
	32nm,0.3s,baz=79,slow=20,SNR=19						
JHJ				Sn	**Sn**	**00 39 25.5**	**+0.9**
	177nm,0.3s,baz=50,slow=21,SNR=17						
JIM2	**Oshima 3**	**1.96**	**285**	P	**Pn**	**00 38 59.7**	**-1.0**
JIZS	**Izushimoda**	**2.41**	**283**	P	**Pn**	**00 39 06.1**	**-0.9**
JOD2	**Odawara 2**	**2.41**	**296**	P	**Pn**	**00 39 06.3**	**-0.8**
JAG	**Ashikaga**	**2.89**	**321**	P	**Pn**	**00 39 13.5**	**-0.3**
JYN	**Shimob**	**2.92**	**297**	P	**Pn**	**00 39 13.8**	**-0.5**
JYN				*e*S	**Sn**	**00 39 48.9**	**0.0**
JRY	**Ryogami san**	**2.93**	**309**	P	**Pn**	**00 39 15.0**	**+0.5**
JRY				*e*S	**Sn**	**00 39 50.0**	**+0.6**
MAJO	**Matsushiro**	**3.70**	**310**	*e*Pn	**Pn**	**00 39 25.6**	**+0.2**
SONM	**Songino Array**	**29.65**	**308**	P	**P**	**00 44 34.2**	**+0.2**
	2.1nm,0.7s,mb4.0,baz=103,slow=8.7,SNR=16						
ZAL	**Zalesovo**	**44.05**	**315**	P	**P**	**00 46 35.7**	**0.0**
	1.9nm,1.1s,mb3.8,baz=6.8,slow=8.4,SNR=4.7						
KURK	**Kurchatov**	**47.91**	**310**	*e*P	**P**	**00 47 05.5**	**-0.9**
	7.4nm,0.7s,mb4.8						
ILAR	**Eielson Array**	**51.75**	**31**	P	**P**	**00 47 35.0**	**-0.5**
	0.5nm,0.6s,mb3.6,baz=267,slow=6.1,SNR=6.6						
BVAR	**Borovoye Array**	**52.69**	**314**	P	**P**	**00 47 41.8**	**-0.9**
	1.1nm,0.8s,mb3.8,baz=63,slow=6.4,SNR=8.5						
BRVK	**Borovoye**	**52.74**	**314**	*e*P	**P**	**00 47 41.5**	**-1.7**
	7.3nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	**54.31**	**189**	*e*P	**P**	**00 47 54.9**	**-0.2**
WRA	**Warramunga Arr**	**54.31**	**189**	P	**P**	**00 47 54.3**	**-0.8**
	1.8nm,0.5s,mb4.2,baz=4.5,slow=7.6,SNR=16						
INK	**Inuvik**	**56.79**	**26**	P	**P**	**00 48 12.7**	**+0.2**
	0.6nm,0.5s,mb3.9,baz=316,slow=3.9,SNR=4.6						
INK	**Inuvik**	**56.79**	**26**	*e*P	**P**	**00 48 12.7**	**+0.2**
ASAR	**Alice Springs**	**58.04**	**188**	P	**P**	**00 48 20.0**	**-1.8**
	0.4nm,0.5s,mb3.7,baz=352,slow=6.4,SNR=4.9						
NVAR	**Mina Array Bea**	**76.48**	**53**	P	**P**	**00 50 19.0**	**+1.2**
	0.6nm,0.6s,mb3.7,baz=319,slow=6.2,SNR=3.6						
NVAR	**Mina Array Bea**	**76.48**	**53**	P	**P**	**00 50 19.0**	**+1.2**
AKASG	**Malin Array Be**	**76.69**	**323**	P	**P**	**00 50 18.1**	**-0.7**
	1.3nm,0.7s,mb4.0,baz=46,slow=6.2,SNR=6.6						
NOA	**NORSAR Array B**	**76.89**	**338**	P	**P**	**00 50 20.2**	**+0.6**
	0.8nm,0.8s,mb3.7,baz=48,slow=7.4,SNR=3.5						
PDAR	**Pinedale Array**	**79.46**	**45**	P	**P**	**00 50 36.4**	**+2.2**
	0.5nm,0.4s,mb3.8,baz=135,slow=1.3,SNR=6.1						
BRTR	**Keskin Array B**	**80.92**	**312**	P	**P**	**00 50 43.0**	**+1.1**
	0.5nm,0.7s,mb3.5,baz=31,slow=45,SNR=3.5						
GERES	**GERESS Array B**	**85.24**	**329**	P	**P**	**00 51 04.4**	**+0.5**
	0.3nm,0.4s,mb3.8,baz=45,slow=3.8,SNR=4.1						

IGQ 28 00:42:39.1, 1.37S×81.02W, h12km±6km, mb4.0, 2C-3D, Error ellipse: s-maj=11.0km s-min=5.6km az=1.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.57**	**56**	⇑P	Pb	00 42 49.9	-0.6
JAMA	**Jama**	**1.37**	**36**	P	Pn	00 43 03.5	-0.5
JAMA				S	Sb	00 43 22.2	+0.8
IGUA	**Igualata**	**2.38**	**93**	P	Pn	00 43 19.8	+1.3
ARRY	**Arrayan**	**2.56**	**93**	⇓P	Pn	00 43 22.5	+1.3
ARRY				S	Sn	00 43 53.5	+0.9
ULBA	**Ulba**	**2.61**	**92**	P	Pn	00 43 23.1	+1.2
NAS1	**Nasa**	**2.64**	**74**	P	Pn	00 43 25.2	+3.0
PISA	**Pisayambo**	**2.65**	**83**	P	Pn	00 43 24.2	+1.9
JUA2	**San Juan 2**	**2.67**	**65**	P	Pn	00 43 23.9	+1.2
TERV	**Terraza Guagua**	**2.69**	**64**	P	Pn	00 43 25.0	+2.1
PINO	**Pino**	**2.69**	**63**	P	Pn	00 43 23.2	+0.2
VC1	**Cotopaxi 1**	**2.71**	**75**	P	Pn	00 43 26.6	+3.3
TAMB	**Tambo**	**2.73**	**76**	P	Pn	00 43 25.6	+2.1
YANA	**Yana**	**2.74**	**63**	P	Pn	00 43 24.8	+1.0
ANTI	**Antisana**	**3.00**	**72**	⇓P	Pn	00 43 30.2	+2.9
COTA	**Cotacachi**	**3.17**	**58**	P	Pn	00 43 30.7	+0.9
CAYR	**Refugio Cayambo**	**3.31**	**65**	⇑P	Pn	00 43 35.4	+3.7
CAYA	**Cayambe**	**3.35**	**65**	⇓P	Pn	00 43 35.3	+3.0

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*IDC **28** 00:47:46.5±1.3, 7.27N×93.95E, mb3.9/9, mb1 4.0/10, mb1mx3.9/19, mbtmp3.9/10, ML4.2/1, Error ellipse: s-maj=40.6km s-min=28.3km az=54.0*
*NEIC **28** 00:47:51.4±1.0, 7.39N×94.13E, h30km, mb4.2/2, Error ellipse: s-maj=25.7km s-min=19.9km az=78.0*
ISC 28 00:47:49.6±1.0, 7.4N±0.1×94.2E±0.2, h30km, n14, σ1§14/14, mb3.9/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.91**	**22**	Pn	**P**	**00 50 39.0**	**-1.5**
	0.5nm,0.3s,baz=182,slow=13,SNR=3.2						
LSA	**Lhasa**	**22.35**	**353**	*e*P	**P**	**00 52 46.7**	**+0.1**
	4.5nm,0.6s,mb4.1						
LSA				*e*pP		00 52 54.0

comp=Z,1.2nm,0.7s,mb4.2,baz=108,slow=3.9,SNR=5.1
AKASG **Malin Array Be 68.26 322** P **P 01 00 22.2 -3.0**
comp=Z,1.4nm,0.6s,mb4.1,baz=85,slow=4.8,SNR=8.1
IDI **Anoyia 68.64 305** P **P 01 00 26.4 -1.5**
comp=Z,3.7nm,0.5s,mb4.6,baz=228,slow=19,SNR=5.4
MLR **Muntele Rosu 69.27 316** P **P 01 00 30.9 -0.6**
comp=Z,4.3nm,1.0s,mb4.3,baz=24,slow=6.7,SNR=7.0
JOF **Joensuu 70.97 334** *ep* **P 01 00 40.3 -1.3**
comp=Z,0.8nm,0.3s,mb4.1
KOLS **Kolonicke sedl 72.30 319** *eP* **P 01 00 52.4 +2.7**
KOLS *e* 01 01 31.0
FINES **FINESS Array B 72.83 332** P **P 01 00 51.8 -0.8**
comp=Z,4.0nm,0.8s,mb4.4,baz=108,slow=7.3,SNR=8.4
CRVS **Cervenica-Dubn 72.83 319** *eP* **P 01 00 55.0 +2.1**
CRVS *e* 01 01 36.2
KAF **Kangasniemi 72.91 333** *ep* **P 01 00 51.9 -1.2**
comp=Z,1.3nm,0.3s,mb4.3
VYHS **Vyhne 74.51 318** *eP* **P 01 01 04.3 +1.6**
VYHS *e* 01 01 44.2
ARCES **ARCESS Array B 75.39 340** P **P 01 01 06.8 -0.5**
comp=Z,6.1nm,1.0s,mb4.5,baz=91,slow=6.1,SNR=9.2
MORC **Moravsky Berou 75.48 319** *eP* **P 01 01 08.6 +0.3**
comp=Z,7.4nm,1.1s,mb4.5
ZST **Bratislava 75.63 318** *eP* **P 01 01 10.8 +1.7**
ZST *e* 01 01 51.8
BRG **Berggiesshubel 77.85 320** P **P 01 01 24.2 +2.6**
comp=Z,12nm,1.5s,mb4.6
GERES **GERESS Array B 77.92 318** P **P 01 01 21.7 -0.3**
comp=Z,1.7nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=11
KHC **Kasperske Hory 78.02 319** *eP* **P 01 01 23.5 +1.0**
NB2 **NORSAR Subarra 79.84 331** P **P 01 01 30.9 -1.3**
comp=Z,3.4nm,0.8s,mb4.3,baz=95,slow=5.0
NOA **NORSAR Array B 79.84 331** P **P 01 01 31.1 -1.1**
comp=Z,2.4nm,0.8s,mb4.2,baz=92,slow=5.6,SNR=5.2
ESDC **Sonseca Array 91.30 310** P **P 01 02 29.9 +0.4**
comp=Z,1.3nm,0.9s,mb4.3,baz=50,slow=10.0,SNR=2.9
IMA **Indian Mountai 91.74 22** *eP* **P 01 02 33.2 +2.3**
ILAR **Eielson Array 94.86 22** P **P 01 02 45.5 +0.4**
comp=Z,0.5nm,1.0s,mb3.9,baz=214,slow=9.8,SNR=3.4
NVAR **Mina Array Bea 125.03 31** PKP PKPdf 01 08 25.8 +2.7
comp=Z,0.6nm,0.8s,baz=1.7,slow=1.0,SNR=3.3
NVAR **Mina Array Bea 125.03 31** PKP PKPdf 01 08 25.8 +2.7
PDAR **Pinedale Array 125.28 21** PKP PKPdf 01 08 26.1 +2.6
comp=Z,1.5nm,0.9s,baz=56,slow=5.3,SNR=6.9
SADO **Sadowa 127.38 354** PKP PKPdf 01 08 29.5 +2.0
comp=Z,1.5nm,0.7s,baz=256,slow=12,SNR=3.2
SADO **Sadowa 127.38 354** PKP PKPdf 01 08 29.5 +2.0
TXAR **Lajitas Array 139.34 24** PKP PKPdf 01 08 52.1 +1.9
comp=Z,0.1nm,0.5s,baz=117,slow=8.1,SNR=2.7
PLCA **Paso Flores 144.43 200** PKP PKPdf 01 09 01.5 +2.7
comp=Z,3.7nm,0.8s,baz=159,slow=8.6,SNR=2.8

*IDC **28** 00:50:02.5±0.6, 7.95N×93.93E, mb4.3/20, mb1 4.5/21, mb1mx4.5/24, mbtmp4.3/21, ML4.3/1, MS3.9/1, Ms1 3.9/1, ms1mx3.2/14, Error ellipse: s-maj=25.5km s-min=14.1km az=51.0*
*BJI **28** 00:50:07.2, 7.64N×93.78E, h71km, mB5.1, mb4.8, Ms5.1, Msz4.8*
*NEIC **28** 00:50:08.9±0.4, 7.91N×94.00E, mb4.8/16, Error ellipse: s-maj=12.4km s-min=9.2km az=54.0*
ISC 28 00:50:07.4±0.4, 7.87N±0.07×93.94E±0.06, h46km, h46km±1.7km:pP-P, n63, σ1°01/59, mb4.5/33, MS4.4/3, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.60**	**24**	Pn	**P**	**00 52 50.3**	**-2.8**
	0.6nm,0.3s,baz=212,slow=14,SNR=8.5						
HYB	**Hyderabad**	**17.75**	**304**	*eP*	**P**	**00 54 17.0**	**+4.1**
HYB	**Hyderabad**	**17.75**	**304**	*i P*	**P**	**00 54 17.0**	**+4.1**
HYB				eS	**S**	**00 57 34.0**	**+7.5**
QIZ	**Qiongzhong**	**19.02**	**53**	P	**P**	**00 54 28.0**	**-0.3**
QIZ				S	**S**	**00 57 56.5**	**+1.4**
QIZ				LR	LR		
	comp=N,7μm,12.1s						
QIZ				LR	LR		
	comp=E,3μm,12.3s						
QIZ				LR	LR		
	comp=Z,2μm,10.0s						
KMI	**Kunming**	**19.11**	**25**	⇑P	**P**	**00 54 30.8**	**+1.6**
	comp=Z,36nm,1.4s						
KMI				pP		00 54 39.5	
KMI				sP		00 54 43.6	
KMI				PP	PP	00 54 51.0	+4.5
KMI				S	**S**	**00 58 07.5**	**+10**
KMI				sS		00 58 22.2	
KMI				SS	SS	00 58 35.2	+11
ENH	**Enshi**	**26.63**	**31**	*eP*	**P**	**00 55 41.9**	**-1.9**
	comp=Z,22nm,0.9s,mb4.7						
LZH	**Lanzhou**	**29.51**	**16**	*eP*	**P**	**00 56 09.3**	**-0.4**
LZH				AMB	AMB		
	comp=Z,31nm,1.8s,mb4.7						
LZH				AMB	AMB		
	comp=Z,123nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,10.6s						
LZH				LR	LR		
	comp=Z,2μm,12.0s,MS4.9						
LZH	**Lanzhou**	**29.51**	**16**	*eP*	**P**	**00 56 09.2**	**-0.5**
	comp=Z,31nm,1.8s,mb4.7						
LZH				pP	pP	00 56 18.7	-3.0
LZH				sP	sP	00 56 24.4	-3.0
LZH				LR	LR		
	comp=Z,2μm,12.0s,MS4.9						
WMQ	**Urumqi**	**36.23**	**352**	*eP*	**P**	**00 57 07.3**	**-0.6**
BJI	**Beijing**	**37.70**	**28**	P	**P**	**00 57 21.6**	**+1.3**
	comp=Z,8.0nm,0.7s,mb4.6						
BJI				S	**S**	**01 03 14.2**	**+7.3**
BJI				LR	LR		
	comp=Z,550nm,23.8s,MS4.3						
SONM	**Songino Array**	**41.21**	**13**	P	**P**	**00 57 48.7**	**-0.7**
	comp=Z,3.8nm,0.8s,mb4.0,baz=198,slow=10,SNR=6.6						
SONM				PcP	PcP	00 59 48.3	-0.1
	comp=Z,1.0nm,0.6s,baz=198,slow=5.4,SNR=3.4						
KURK	**Kurchatov**	**44.57**	**346**	*eP*	**P**	**00 58 15.7**	**-0.9**
	comp=Z,46nm,1.2s,mb5.2						
KURK				*ep*P	pP	00 58 28.4	-0.7
NWAO	**Narrogin (SRO)**	**46.23**	**153**	P	**P**	**00 58 30.5**	**+0.4**
	comp=Z,12nm,1.0s,mb4.8,baz=280,slow=6.1,SNR=3.0						
ZAL	**Zalesovo**	**46.53**	**353**	P	**P**	**00 58 31.3**	**-0.8**
	comp=Z,5.2nm,0.8s,mb4.5,baz=292,slow=5.2,SNR=6.8						
WRA	**Warramunga Arr**	**48.42**	**125**	P	**P**	**00 58 46.6**	**-0.8**
	comp=Z,3.4nm,0.6s,mb4.6,baz=305,slow=9.1,SNR=5.7						
WRAB	**Tennant Creek**	**48.42**	**125**	*eP*	**P**	**00 58 46.9**	**-0.5**
	comp=Z,6.8nm,0.6s,mb4.8						
BVAR	**Borovoye Array**	**48.93**	**341**	P	**P**	**00 58 49.6**	**-1.3**
	comp=Z,3.9nm,0.9s,mb4.4,baz=135,slow=6.3,SNR=5.8						
ASAR	**Alice Springs**	**50.06**	**130**	P	**P**	**00 59 00.8**	**+0.8**
	comp=Z,1.5nm,0.6s,mb4.2,baz=303,slow=7.1,SNR=3.3						
GNI	**Garni**	**54.30**	**314**	P	**P**	**00 59 30.7**	**-0.7**
	comp=Z,1.3nm,0.5s,mb4.1,baz=99,slow=19,SNR=1.7						
GNI				LR	LR	01 26 25.8	
	comp=Z,118nm,20.2s,MS4.0,baz=92,slow=40						
KIV	**Kislovodsk**	**57.19**	**318**	*eP*	**P**	**00 59 52.2**	**0.0**
	comp=Z,24nm,1.0s,mb5.2						
KIV				*ep*P	pP	01 00 05.2	0.0
KMBO	**Kilima Mbogo**	**57.22**	**264**	P	**P**	**00 59 53.0**	**+0.1**
	comp=Z,4.7nm,1.2s,mb4.4,baz=49,slow=19,SNR=1.4						
KMBO	**Kilima Mbogo**	**57.22**	**264**	*eP*	**P**	**00 59 57.8**	**+4.9**
	comp=Z,3.0nm,0.6s,mb4.5						
ASF	**Jabal al Asfar**	**58.05**	**303**	P	**P**	**00 59 58.0**	**-0.4**
	comp=Z,1.9nm,0.8s,mb4.2,baz=60,slow=5.7,SNR=4.2						
EIL	**Elat**	**59.26**	**300**	*eP*	**P**	**01 00 07.6**	**+0.7**
	comp=Z,4.9nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**60.25**	**134**	P	**P**	**01 00 12.2**	**-1.5**
	comp=Z,3.3nm,0.9s,mb4.4,baz=323,slow=8.5,SNR=3.5						
BRTR	**Keskin Array B**	**62.28**	**311**	P	**P**	**01 00 25.6**	**-1.6**
	comp=Z,1.5nm,0.5s,mb4.3,baz=126,slow=7.3,SNR=6.0						
AKASG	**Malin Array Be**	**68.03**	**322**	P	**P**	**01 01 02.4**	**-1.7**
	comp=Z,3.5nm,0.9s,mb4.4,baz=87,slow=4.9,SNR=6.5						
MLR	**Muntele Rosu**	**69.03**	**316**	P	**P**	**01 01 10.5**	**+0.1**
	comp=Z,3.2nm,0.7s,mb4.4,baz=114,slow=19,SNR=6.8						
JOF	**Joensuu**	**70.77**	**335**	*ep*	**P**	**01 01 20.3**	**-0.3**
FINES	**FINESS Array B**	**72.62**	**332**	P	**P**	**01 01 30.0**	**-1.7**
	comp=Z,4.7nm,0.7s,mb4.5,baz=104,slow=7.9,SNR=7.5						
KAF	**Kangasniemi**	**72.70**	**333**	*ep*	**P**	**01 01 31.9**	**-0.3**
	comp=Z,4.6nm,0.8s,mb4.5						
KEV	**Kevo**	**74.78**	**341**	*ep*	**P**	**01 01 44.2**	**+0.1**
	comp=Z,0.8nm,0.4s,mb4.0						
OKC	**Ostrava-Krasne**	**74.86**	**319**	*eP*	**P**	**01 01 45.5**	**+0.5**
OKC				*ep*P	pP	01 01 59.2	+0.9
ARCES	**ARCESS Array B**	**75.20**	**340**	P	**P**	**01 01 46.7**	**+0.2**
	comp=Z,4.0nm,0.9s,mb4.4,baz=90,slow=4.9,SNR=5.1						
ARCES	**ARCESS Array B**	**75.20**	**340**	P	**P**	**01 01 46.7**	**+0.2**
DPC	**Dobruska-Polom**	**76.08**	**320**	*eP*	**P**	**01 01 52.7**	**+0.8**
UPC	**Upice**	**76.29**	**320**	*eP*	**P**	**01 01 53.3**	**+0.2**
PRU	**Pruhonice**	**77.20**	**319**	*eP*	**P**	**01 01 58.8**	**+0.5**
BRG	**Berggiesshubel**	**77.63**	**320**	*eP*	**P**	**01 02 01.7**	**+1.1**
	comp=Z,26nm,1.8s,mb4.9						
BRG				*e*		01 02 07.8	
GERES	**GERESS Array B**	**77.70**	**318**	P	**P**	**01 02 01.4**	**+0.4**
	comp=Z,2.9nm,0.6s,mb4.4,baz=90,slow=4.0,SNR=9.5						
KHC	**Kasperske Hory**	**77.79**	**319**	*eP*	**P**	**01 02 02.2**	**+0.7**
KHC				*ep*P	pP	01 02 15.9	+1.0
RUE	**Ruedersdorf**	**77.81**	**322**	*eP*	**P**	**01 02 02.2**	**+0.6**
	comp=Z,7.7nm,0.6s,mb4.8						
CLL	**Collm**	**78.24**	**321**	*eP*	**P**	**01 02 07.0**	**+3.1**
CLL	**Collm**	**78.24**	**321**	P	**P**	**01 02 07.0**	**+3.1**
COP	**Copenhagen**	**78.76**	**325**	*i P*	pP	01 02 21.9	+1.8
	comp=Z,26nm,0.7s						
MOX	**Moxa**	**79.10**	**320**	*eP*	**P**	**01 02 12.0**	**+3.3**
GRA1	**Grafenberg Arr**	**79.34**	**319**	*eP*	**P**	**01 02 11.4**	**+1.4**
GRA1				*ep*P	pP	01 02 25.2	+1.8
GRF	**Grafenberg Arr**	**79.34**	**319**	*eP*	**P**	**01 02 11.4**	**+1.4**
GRF				*ep*P	pP	01 02 25.2	+1.8
NB2	**NORSAR Subarra**	**79.64**	**331**	P	**P**	**01 02 11.3**	**-0.1**
	comp=Z,6.3nm,0.7s,mb4.7,baz=92,slow=5.8						
NOA	**NORSAR Array B**	**79.64**	**331**	P	**P**	**01 02 11.3**	**0.0**
	comp=Z,3.4nm,0.7s,mb4.4,baz=92,slow=5.6,SNR=6.5						
MUD	**Monsted U'grnd**	**80.60**	**326**	*i P*	pP	01 02 32.1	+2.1
	comp=Z,11nm,0.6s						
LPG	**La Plagne**	**82.48**	**315**	*eP*	**P**	**01 02 28.0**	**+1.4**
	comp=Z,31nm,0.9s,mb4.9						
EKA	**Eskdalemuir Ar**	**87.61**	**325**	P	**P**	**01 02 52.0**	**+0.2**
	comp=Z,2.9nm,0.7s,mb4.6,baz=108,slow=5.3,SNR=4.3						
ESDC	**Sonseca Array**	**91.07**	**310**	P	**P**	**01 03 08.7**	**+0.1**
	comp=Z,1.5nm,0.9s,mb4.3,baz=82,slow=4.5,SNR=2.6						
IMA	**Indian Mountai**	**91.70**	**22**	*eP*	**P**	**01 03 11.8**	**+0.9**
ILAR	**Eielson Array**	**94.83**	**22**	P	**P**	**01 03 24.8**	**-0.4**
	comp=Z,0.6nm,0.8s,mb4.1,baz=293,slow=4.2,SNR=5.6						
INK	**Inuvik**	**97.05**	**16**	P	**P**	**01 03 35.5**	**+0.3**
	comp=Z,12nm,1.2s,mb5.2						
NVAR	**Mina Array Bea**	**125.03**	**31**	PKP	PKPdf	01 09 06.2	+3.0
	comp=Z,0.9nm,0.7s,baz=337,slow=1.2,SNR=4.3						
PDAR	**Pinedale Array**	**125.25**	**21**	PKP	PKPdf	01 09 05.3	+1.8
	comp=Z,1.3nm,0.7s,baz=23,slow=0.6,SNR=6.4						
ANMO	**Albuquerque**	**133.25**	**23**	PKP	PKPdf	01 09 19.5	+0.4
	comp=Z,0.7nm,0.7s,baz=306,slow=14,SNR=2.1						
ANMO	**Albuquerque**	**133.25**	**23**	PKP	PKPdf	01 09 19.5	+0.4
TXAR	**Lajitas Array**	**139.31**	**24**	PKP	PKPdf	01 09 32.5	+2.2
	comp=Z,0.6nm,0.5s,baz=198,slow=1.1,SNR=7.9						
PLCA	**Paso Flores**	**144.47**	**200**	PKP	PKPdf	01 09 41.6	+2.6
	comp=Z,7.7nm,0.9s,baz=214,slow=2.6,SNR=9.0						

IDC 28 00:55:42.2±8.1, 8.64N×92.86E, mb3.7/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=187.4km s-min=52.0km az=147.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.40**	**31**	Pn	P	00 58 28.2	-1.3
	0.3nm,0.3s,baz=220,slow=14,SNR=4.2						
SONM	**Songino Array**	**40.71**	**14**	P	P	01 03 25.0	-1.1
	0.6nm,0.7s,baz=207,slow=6.4,SNR=2.6						
ZAL	**Zalesovo**	**45.63**	**353**	P	P	01 04 02.5	-3.5
	0.6nm,0.3s,baz=336,slow=10.0,SNR=2.8						
GERES	**GERESS Array B**	**76.41**	**318**	P	P	01 07 34.6	-0.7
	0.6nm,0.8s,baz=90,slow=4.0,SNR=3.8						

*IDC **28** 00:58:04.4±2.6, 19.52N×65.16W, mb3.8/6, mb1 4.2/7, mb1mx3.9/19, mbtmp3.8/7, ML3.6/1, MS4.2/1, Ms1 4.2/1, ms1mx3.0/24, Error ellipse: s-maj=66.5km s-min=19.2km az=105.0*
*NEIC **28** 00:58:10.4±1.6, 19.48N×65.33W, h40km, mb3.9/3, Error ellipse: s-maj=38.8km s-min=9.7km az=95.0*
ISC 28 00:58:04.7±5.8, 19.5N±0.1×65.1W±0.3, h17km±48km, n18, σ0°43/18, mb3.9/9, MS4.3/1, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**1.75**	**216**	Pn	**Pn**	**00 58 34.8**	**+0.2**
	76nm,0.3s,baz=46,slow=9.0,SNR=92						
SJG				LR	LR	00 58 50.7	
	comp=Z,1μm,18.9s,baz=140,slow=28						
SJG				Sn	**Sn**	**00 58 56.6**	**0.0**
	105nm,0.3s,baz=238,slow=22,SNR=9.8						
SJG	**San Juan**	**1.75**	**216**	Pn	**Pn**	**00 58 34.8**	**+0.2**
SJG				LR	LR	00 58 50.8	
SJG				Sn	**Sn**	**00 58 56.6**	**0.0**
SDV	**Santo Domingo**	**11.88**	**208**	Pn	**P**	**01 00 56.2**	**-0.2**
	0.4nm,0.3s,baz=29,slow=2.4,SNR=2.2						
LRAL	**Lakeview Retre**	**23.75**	**309**	P	**P**	**01 03 17.1**	**0.0**
TXAR	**Lajitas Array**	**36.32**	**293**	P	**P**	**01 05 09.9**	**+0.2**
	1.4nm,0.7s,mb4.0,baz=111,slow=10,SNR=15						
SDCO	**Great Sand Dun**	**39.49**	**306**	*eP*	**P**	**01 05 35.2**	**-0.8**
	1.4nm,0.7s,mb3.8						
BW06	**Boulder Array**	**43.91**	**312**	P	**P**	**01 06 12.7**	**+0.4**
PDAR	**Pinedale Array**	**43.91**	**312**	P	**P**	**01 06 12.8**	**+0.5**
	0.5nm,0.7s,mb3.4,baz=108,slow=9.4,SNR=5.6						
FCC	**Fort Churchill**	**44.47**	**339**	P	**P**	**01 06 16.9**	**+0.3**
HLID	**Hailey**	**47.55**	**312**	P	**P**	**01 06 40.4**	**-0.8**
	0.5nm,0.6s,mb3.7						
MNV	**Mina**	**49.40**	**304**	*eP*	**P**	**01 06 55.9**	**+0.2**
	2.6nm,0.7s,mb4.4						
NVAR	**Mina Array Bea**	**49.52**	**304**	P	**P**	**01 06 56.8**	**+0.2**
	1.6nm,1.0s,mb4.0,baz=103,slow=7.5,SNR=5.8						
YKA	**Yellowknife Ar**	**54.64**	**334**	P	**P**	**01 07 34.0**	**-0.6**
	0.6nm,0.7s,mb3.7,baz=111,slow=7.4,SNR=9.8						
PLCA	**Paso Flores**	**60.18**	**185**	LR	LR	01 35 59.2	
	comp=Z,206nm,19.5s,MS4.3,baz=149,slow=38						
INK	**Inuvik**	**64.06**	**337**	P	**P**	**01 08 39.9**	**+0.4**
	1.4nm,0.8s,mb4.1,baz=119,slow=8.9,SNR=4.4						
INK	**Inuvik**	**64.06**	**337**	P	**P**	**01 08 39.9**	**+0.4**
ILAR	**Eielson Array**	**69.03**	**333**	P	**P**	**01 09 11.2**	**0.0**
	0.6nm,0.7s,mb3.6,baz=105,slow=4.3,SNR=8.5						
ASAR	**Alice Springs**	**161.88**	**254**	PKPab	PKPab	01 18 53.8	+0.2
	1.0nm,0.9s,baz=94,slow=4.4,SNR=6.1						

*BJI **28** 01:01:22.7, 7.37N×93.85E, h43km, mB5.2, mb4.8, Ms5.0, Msz4.5*
*IDC **28** 01:01:23.0±0.5, 7.95N×94.11E, mb4.8/26, mb1 4.9/27, mb1mx4.9/30, mbtmp4.8/27, ML4.0/1, MS4.0/2, Ms1 4.0/2, ms1mx2.9/30, Error ellipse: s-maj=27.8km s-min=10.8km az=45.0, Putative timing error at LPAZ*
*MOS **28** 01:01:26.6±1.1, 8.02N×94.15E, h33km, mb5.2/60, Error ellipse: s-maj=9.0km s-min=5.0km az=116.1*
*HRVD **28** 01:01:29.4±0.5, 7.94N×94.17E, h12km, MW4.9/43, Centroid moment Tensor Solution. LP body waves: s8,c8; Mantle waves: s43,c68; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-2.26±.10; $M_{\theta\theta}$0.82±.07; $M_{\phi\phi}$1.45±.10; $M_{r\theta}$-1.07±.44; $M_{r\phi}$0.90±.07; $M_{\theta\phi}$0.25±.37; Best double couple: $M_0$2.394×10^16 NP1:ϕ_s198°, δ42°, λ-119°. NP2: ϕ_s55°, δ54°, λ-66°. Principal axes: T 2.128, Plg6°, Azm128°; N .538, Plg19°, Azm221°; P -2.66, Plg70°, Azm22°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 01:01:29.4±1.3, 7.96N×94.17E, h43km±11km, mb4.9/52 Error ellipse: s-maj=7.0km s-min=4.6km az=222.0*
ISC 28 01:01:26.6±0.9, 7.97N±0.04×94.18E±0.04, h34km±7km, h30km±2.0km:pP-P, n258, σ0°94/248, mb4.9/92, MS4.3/5, 20C-18D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.92**	**339**	*eP*	**P**	**01 02 27.1**	**+1.1**
PBA				*eS*	**S**	**01 03 09.4**	**-2.2**
SNG	**Songkhla**	**6.43**	**97**	P	**P**	**01 03 02.0**	**+0.6**
	980nm,1.0s						
NNT	**Nongplab**	**7.14**	**50**	P	**P**	**01 03 10.0**	**-1.3**
CMAR	**Chiang Mai Arr**	**11.41**	**24**	Pn	**P**	**01 04 11.5**	**+1.2**
	0.3nm,0.3s,baz=211,slow=15,SNR=17						
CHG	**Chiang Mai**	**11.73**	**23**	⇑P	**P**	**01 04 15.7**	**+1.0**
	22nm,1.0s						
VIS	**Vishakhapatnam**	**14.34**	**314**	*eP*	**P**	**01 04 48.5**	**-0.8**
VIS				*e*		01 05 00.6	
	comp=Z,195nm,1.3s						
VIS				*e*		01 07 24.2	
	comp=N,28nm,0.6s						
VIS				*e*		01 07 24.4	
	comp=E,55nm,0.7s						
VIS				*e*S	**S**	**01 07 29.1**	**+1.1**
KOD	**Kodaikanal**	**16.65**	**279**	*eP*	**P**	**01 05 25.0**	**+5.9**
KOD				*e*		01 05 27.2	
	comp=Z,38nm,1.3s						
KOD				*e*S	**S**	**01 08 31.2**	**+9.2**
IMP	**Imphal**	**16.72**	**359**	*eP*	**P**	**01 05 18.6**	**-1.3**
TRD	**Trivandrum**	**17.05**	**273**	*eP*	**P**	**01 05 25.9**	**+1.8**
TRD				*e*		01 05 33.1	
	comp=Z,34nm,1.6s						
HYB	**Hyderabad**	**17.89**	**303**	*eP*	**P**	**01 05 35.0**	**+0.4**
HYB	**Hyderabad**	**17.89**	**303**	*i P*	**P**	**01 05 35.0**	**+0.4**
HYB				*e*S	**S**	**01 08 56.0**	**+5.9**
QIZ	**Qiongzhong**	**18.77**	**53**	P	**P**	**01 05 48.0**	**+2.5**
KMI	**Kunming**	**18.91**	**25**	⇑P	**P**	**01 05 51.5**	**+4.3**
KMI				pmax	pmax		
	comp=Z,54nm,1.3s						
KMI	**Kunming**	**18.91**	**25**	⇑P	**P**	**01 05 51.5**	**+4.3**
	comp=Z,54nm,1.3s						
NGP	**Nagpur**	**19.62**	**314**	*eP*	**P**	**01 05 54.6**	**-0.5**
NGP				*e*S	**S**	**01 09 35.8**	**+6.6**
JIRN	**Jiri**	**20.99**	**340**	*eP*	**P**	**01 06 09.3**	**-0.2**
	comp=Z,124nm,0.8s						
PKI	**Pulchoki**	**21.19**	**338**	*eP*	**P**	**01 06 11.2**	**-0.3**
	comp=Z,105nm,0.6s,mb5.4						
GOA	**Goa**	**21.27**	**292**	*eP*	**P**	**01 06 20.1**	**+7.8**
GOA				*e*		01 06 41.4	
	comp=Z,70nm,1.4s						
GOA				*e*S	**S**	**01 10 17.0**	**+15**
DMN	**Daman**	**21.34**	**337**	*eP*	**P**	**01 06 13.4**	**+0.4**
	comp=Z,144nm,0.8s,mb5.3						
KKN	**Kakani**	**21.43**	**338**	*eP*	**P**	**01 06 13.6**	**-0.3**
	comp=Z,89nm,0.6s,mb5.2						
LSA	**Lhasa**	**21.80**	**353**	*eP*	**P**	**01 06 17.1**	**-0.5**
LSA				pmax	pmax		
	comp=Z,75nm,0.7s,mb5.2						
LSA	**Lhasa**	**21.80**	**353**	*eP*	**P**	**01 06 17.1**	**-0.5**
	comp=Z,75nm,0.7s,mb5.2						
GKN	**Gorkha**	**21.87**	**337**	*eP*	**P**	**01 06 18.0**	**-0.3**
	comp=Z,101nm,0.7s,mb5.4						
KOLN	**Koldanda**	**22.09**	**334**	*eP*	**P**	**01 06 21.0**	**+0.5**
	comp=Z,97nm,0.7s,mb5.4						
BHPL	**Bhopal**	**22.11**	**315**	*eP*	**P**	**01 06 22.4**	**+1.6**
BHPL				*e*		01 06 28.1	
	comp=Z,65nm,1.2s						
POO	**Poona**	**22.37**	**300**	*eP*	**P**	**01 06 22.6**	**-0.7**
POO				*e*		01 06 31.1	
	comp=Z,36nm,1.1s						
NDI	**New Delhi**	**26.08**	**324**	*eP*	**P**	**01 06 59.0**	**-0.1**
NDI				*e*		01 07 04.7	
	comp=Z,43nm,0.9s						
ENH	**Enshi**	**26.42**	**31**	*eP*	**P**	**01 07 01.5**	**-0.7**
	comp=Z,41nm,1.1s,mb4.9						
SMLA	**Simla**	**27.98**	**328**	*eP*	**P**	**01 07 26.5**	**+10**
SMLA				*e*		01 07 45.9	
	comp=Z,51nm,1.2s						
SMLA				*e*S	**S**	**01 12 11.4**	**+15**
WHN	**Wuhan**	**29.34**	**37**	P	**P**	**01 07 30.0**	**+1.4**
LZH	**Lanzhou**	**29.35**	**16**	*eP*	**P**	**01 07 29.3**	**+0.7**
LZH				AP	pP	01 07 37.5	-0.9
LZH				XP	sP	01 07 42.0	-0.8
LZH				AMB	AMB		
	comp=Z,43nm,1.8s,mb4.9						
LZH	**Lanzhou**	**29.35**	**16**	*eP*	**P**	**01 07 29.3**	**+0.7**
LZH				*PP	pP	01 07 37.4	-1.0
LZH				*SP	sP	01 07 42.0	-0.8
LZH				pmax	pmax		
	comp=Z,43nm,1.8s,mb4.9						
LZH	**Lanzhou**	**29.35**	**16**	*eP*	**P**	**01 07 29.3**	**+0.7**
	comp=Z,43nm,1.8s,mb4.9						
LZH				pP	pP	01 07 37.4	-1.0
LZH				sP	sP	01 07 42.0	-0.8
NJ2	**Nanjing**	**33.17**	**40**	*eP*	**P**	**01 08 04.0**	**+1.7**
NJ2				AP	pP	01 08 13.0	+0.8
NJ2				XP	sP	01 08 18.0	+1.3
NJ2				PP	PP	01 09 17.0	+3.1
NJ2				S	**S**	**01 13 20.0**	**+1.4**
NJ2				AMB	AMB		
	comp=Z,100nm,7.0s						
NJ2				LR	LR		
	comp=N,1μm,10.6s						
NJ2				LR	LR		
	comp=E,910nm,18.5s						
NJ2				LR	LR		
	comp=Z,1μm,19.1s						
SSE	**Sheshan**	**34.13**	**44**	*eP*	**P**	**01 08 09.3**	**-1.3**
SSE				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,277nm,8.2s						
SSE	**Sheshan**	**34.13**	**44**	*eP*	**P**	**01 08 09.2**	**-1.4**
	comp=Z,23nm,0.7s,mb5.2						
WMQ	**Urumqi**	**36.16**	**352**	*eP*	**P**	**01 08 28.3**	**+0.6**
WMQ				AP	pP	01 08 38.0	+0.3
WMQ				XP	sP	01 08 42.0	-0.1
WMQ

comp=Z,33nm,1.1s,mb5.2
ZAL Zalesovo 46.46 352 P **P 01 09 52.0 0.0**
ZAL 01 11 25.9
ZAL pmax pmax
comp=Z,9.0nm,0.8s
ZAL pmax pmax
comp=Z,2.0nm,0.8s
ZAL Zalesovo 46.46 352 P **P 01 09 52.0 0.0**
comp=Z,9.1nm,0.8s,mb4.8,baz=296,slow=9.6,SNR=48
ZAL PcP PcP 01 11 25.9 -0.9
comp=Z,1.7nm,0.8s,baz=318,slow=5.5,SNR=2.1
NVS Novosibirsk 47.55 351 *i* P **P 01 09 59.4 -1.3**
NVS *i* S **S 01 16 52.6 +0.1**
NVS pmax pmax
comp=N,17nm,1.0s
NVS pmax pmax
comp=E,8.0nm,1.0s
NVS pmax pmax
comp=Z,26nm,1.0s,mb5.2
NVS smax
comp=N,7.0nm,1.5s
NVS smax
comp=E,16nm,1.8s
MDJ Mudanjiang 47.71 34 P **P 01 10 03.5 +1.5**
MDJ AMB AMB
comp=Z,12nm,1.5s,mb4.7
MDJ AMB AMB
comp=Z,143nm,10.6s
WRA Warramunga Arr 48.29 126 *i* P **P 01 10 06.2 -0.7**
WRA pmax pmax
comp=Z,10.0nm,0.9s
WRA Warramunga Arr 48.29 126 P **P 01 10 05.8 -1.1**
comp=Z,9.8nm,0.9s,mb4.8,baz=304,slow=9.1,SNR=46
WRAB Tennant Creek 48.29 126 *d iP* **P 01 10 05.9 -1.0**
WRAB Tennant Creek 48.29 126 *eP* **P 01 10 05.4 -1.5**
comp=Z,16nm,0.8s,mb5.1
WB2 Warramunga Arr 48.30 126 ⇓ *iP* **P 01 10 05.8 -1.2**
BVA0 Borovoye Array 48.91 341 *i P* **P 01 10 15.0 -0.7**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
BVAR Borovoye Array 48.91 341 P **P 01 10 10.1 -1.1**
comp=Z,7.4nm,0.9s,mb4.7,baz=143,slow=7.4,SNR=36
BVAR PcP PcP 01 11 35.2 -0.3
comp=Z,9.4nm,1.1s,baz=135,slow=4.2,SNR=7.7
BRVK Borovoye 48.97 341 *eP* **P 01 10 10.3 -1.4**
BRVK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
BRVK Borovoye 48.97 341 *eP* **P 01 10 10.3 -1.4**
comp=Z,9.7nm,1.0s,mb4.8
JHJ Hachijo jima 2 48.98 53 LR LR 01 31 03.3
comp=Z,79nm,19.1s,MS3.7,baz=283,slow=36
MAT Matsushiro 49.07 48 *eP* **P 01 10 14.0 +1.3**
MAT pmax pmax
comp=Z,33nm,1.5s,mb5.1
MAT Matsushiro 49.07 48 *eP* **P 01 10 14.0 +1.3**
comp=Z,33nm,1.5s,mb5.2
MAT Matsushiro 49.07 48 P **P 01 10 13.9 +1.2**
RAYN Ar Rayn 49.08 294 P **P 01 10 14.0 +1.1**
comp=Z,172nm,0.7s,SNR=33
CHKZ Chkalovo 49.39 342 *eP* **P 01 10 14.3 -0.6**
CHKZ *e* 01 11 37.0
CHKZ pmax pmax
comp=Z,28nm,0.8s,mb5.3
CHKZ Chkalovo 49.39 342 *eP* **P 01 10 14.3 -0.6**
comp=Z,28nm,0.8s,mb5.3
CHKZ *e*PcP PcP 01 11 37.0 -0.3
ASPA Alice Springs 49.95 130 *eP* **P 01 10 17.9 -1.7**
ASAR Alice Springs 49.95 130 P **P 01 10 18.4 -1.2**
comp=Z,6.8nm,0.8s,mb4.7,baz=307,slow=7.3,SNR=40
ASAR PcP PcP 01 11 39.5 -0.2
comp=Z,2.5nm,0.7s,baz=303,slow=3.1,SNR=7.0
KLR Kul'dur 51.78 31 *eP* **P 01 10 32.2 -0.9**
BOD Bodaibo 52.05 13 *eP* **P 01 10 33.6 -1.4**
GNI Garni 54.39 314 *eP* **P 01 10 52.0 -0.7**
GNI pmax pmax
comp=Z,15nm,1.1s
GNI Garni 54.39 314 P **P 01 10 51.1 -1.6**
comp=Z,5.1nm,0.7s,mb4.6,baz=336,slow=10,SNR=8.6
GNI Garni 54.39 314 *eP* **P 01 10 52.0 -0.7**
comp=Z,15nm,1.1s,mb4.8
SVE Sverdlovsk 55.32 338 *eP* **P 01 10 55.5 -3.7**
SVE pmax pmax
comp=Z,90nm,2.0s,mb5.5
PMG Port Moresby 55.53 107 P **P 01 11 02.0 +0.8**
PMG pmax pmax
comp=Z,29nm,0.7s
PMG Port Moresby 55.53 107 P **P 01 11 02.0 +0.7**
comp=Z,29nm,0.7s,mb5.4,baz=309,slow=5.0,SNR=11
PMG Port Moresby 55.53 107 *eP* **P 01 11 01.2 0.0**
comp=Z,26nm,0.8s,mb5.3
ARU Arti 55.81 337 P **P 01 11 02.8 +0.1**
comp=Z,124nm,0.8s,mb6.0,SNR=8.7
ARU Arti 55.81 337 ⇓ *iP* **P 01 10 55.2 -7.5**
ARU *e*S **S 01 18 36.7 -9.1**
ARU pmax pmax
comp=Z,17nm,0.9s,mb5.1
YSS Yuzh-Sakhalins 56.69 38 ⇑ *eP* **P 01 11 08.8 -0.3**
KIV Kislovodsk 57.27 318 *d iP* **P 01 11 12.4 -0.9**
KIV *e* 01 12 07.1
KIV pmax pmax
comp=Z,21nm,1.1s,mb5.1
KIV Kislovodsk 57.27 318 *eP* **P 01 11 12.5 -0.9**
comp=Z,14nm,0.8s,mb5.0
KMBO Kilima Mbogo 57.47 264 P **P 01 11 17.7 +2.6**
comp=Z,10.0nm,0.8s,mb4.9,baz=57,slow=10,SNR=33
KMBO LR LR 01 33 14.9
comp=Z,280nm,18.4s,MS4.4,baz=94,slow=33
KMBO Kilima Mbogo 57.47 264 *eP* **P 01 11 16.6 +1.5**
comp=Z,14nm,0.9s,mb5.0
ASF Jabal al Asfar 58.19 303 P **P 01 11 20.3 +0.4**
comp=Z,4.7nm,0.9s,mb4.5,baz=17,slow=3.4,SNR=9.6
CTA Charters Tower 58.33 119 P **P 01 11 20.4 -0.6**
CTA pmax pmax
comp=Z,5.0nm,1.0s
CTA Charters Tower 58.33 119 P **P 01 11 20.4 -0.6**
comp=Z,4.7nm,1.0s,mb4.5,baz=343,slow=6.8,SNR=4.5
CTAO Charters Tower 58.33 119 *eP* **P 01 11 20.4 -0.6**
MALT Malatya 58.43 310 *eP* **P 01 11 20.5 -1.0**
MALT pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
MALT Malatya 58.43 310 *eP* **P 01 11 20.5 -1.0**
comp=Z,7.0nm,1.1s,mb4.6
SOKR Solikamsk 58.72 339 ⇓ *iP* **P 01 11 22.3 -1.0**
SOKR pmax pmax
comp=Z,40nm,0.9s,mb5.5
SOKR MLR MLR
comp=Z,440nm,21.0s,MS4.6
SOC Sochi 59.13 316 *eP* **P 01 11 20.9 -5.5**
SOC *e* 01 12 11.2
SOC *e* 01 13 37.5
SOC *e*S **S 01 19 25.0 -4.6**
SOC *e* 01 21 08.9
SOC *e*SS SS 01 23 29.6 +4.0
SOC pmax pmax
comp=Z,35nm,0.9s,mb5.4
SOC pmax pmax
comp=N,19nm,0.7s
SOC pmax pmax
comp=E,24nm,0.9s
EIL Elat 59.41 300 *eP* **P 01 11 28.3 -0.2**
YAK Yakutsk 59.89 18 *d iP* **P 01 11 30.7 -0.6**
YAK pmax pmax
comp=Z,63nm,0.9s,mb5.7
YAK Yakutsk 59.89 18 *eP* **P 01 11 30.1 -1.3**
comp=Z,48nm,0.8s,mb5.6
STKA Stephens Creek 60.15 134 *eP* **P 01 11 32.0 -1.5**
comp=Z,6.8nm,0.9s,mb4.7
STKA Stephens Creek 60.15 134 P **P 01 11 32.2 -1.3**
comp=Z,9.8nm,1.0s,mb4.8,baz=304,slow=6.8,SNR=13
ANN Anapa 61.09 317 *eP* **P 01 11 36.6 -3.1**
ANN pmax pmax
comp=Z,67nm,1.6s,mb5.5
BRTR Keskin Array B 62.39 311 P **P 01 11 46.3 -2.2**
BRTR pmax pmax
comp=Z,5.0nm,0.6s
BRTR Keskin Array B 62.39 311 P **P 01 11 46.3 -2.2**
comp=Z,4.9nm,0.6s,mb4.8,baz=125,slow=7.5,SNR=30
SIM Simferopol' 63.38 317 P **P 01 11 53.7 -1.3**
SIM pmax pmax
comp=Z,12nm,0.8s,mb5.1
MBAR Mbarara 63.80 265 ⇑ *eP* **P 01 12 00.0 +1.7**
MBAR Mbarara 63.80 265 *eP* **P 01 11 59.0 +0.7**
MOS Moscow 65.02 329 *eP* **P 01 12 04.2 -1.2**
MOS pmax pmax
comp=Z,64nm,1.1s,mb5.6
OBN Obninsk 65.32 328 *d iP* **P 01 12 03.6 -3.8**
OBN *e* 01 14 25.9
OBN *e*S S 01 20 48.4 +1.2
OBN *e*SS SS 01 25 05.0 +2.9
OBN pmax pmax
comp=Z,73nm,1.6s,mb5.5
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.4
OBN Obninsk 65.32 328 *eP* **P 01 12 02.9 -4.5**
comp=Z,39nm,1.1s,mb5.3
MA2 Magadan 66.66 28 *eP* **P 01 12 16.7 +0.8**
MA2 pmax pmax
comp=Z,20nm,1.1s,mb5.1
MA2 Magadan 66.66 28 *eP* **P 01 12 16.5 +0.6**
comp=Z,18nm,0.8s,mb5.1
TIXI Tiksi 67.13 11 *eP* **P 01 12 16.8 -1.8**
TIXI pmax pmax
comp=Z,59nm,1.3s,mb5.5
TIRR Tirgusor 67.21 315 ⇑ P **P 01 12 18.5 -1.1**
AKASG Malin Array Be 68.10 322 P **P 01 12 22.8 -2.3**
AKASG pmax pmax
comp=Z,11nm,0.9s
AKASG Malin Array Be 68.10 322 P **P 01 12 22.8 -2.3**
comp=Z,11nm,0.8s,mb4.9,baz=86,slow=5.0,SNR=28
IDI Anoyia 68.54 305 P **P 01 12 28.0 -0.1**
comp=Z,15nm,0.6s,mb5.1,baz=92,slow=7.2,SNR=14
VRI Vrincioaia 68.66 316 ⇑ P **P 01 12 28.7 +0.1**
MLR Muntele Rosu 69.13 316 ⇑ P **P 01 12 31.6 +0.1**
MLR Muntele Rosu 69.13 316 P **P 01 12 31.3 -0.2**
comp=Z,10nm,0.7s,mb4.9
LSZ Lusaka 69.33 250 *eP* **P 01 12 34.0 +0.8**
LSZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
LSZ Lusaka 69.33 250 *eP* **P 01 12 34.0 +0.7**
comp=Z,4.3nm,0.9s,mb4.4
JOF Joensuu 70.78 334 *ep* **P 01 12 38.9 -2.4**
comp=Z,1.2nm,0.4s,mb4.2
JOF Joensuu 70.78 334 *ep* **P 01 12 38.9 -2.4**
comp=Z,1.1nm,0.4s,mb4.1
KWP Kalwaria 71.98 320 *eP* **P 01 12 48.6 0.0**
JAN Janina 72.12 309 ⇑ *iP* **P 01 12 47.0 -2.7**
JAN pmax pmax
comp=Z,30nm,1.1s,mb5.1
KOLS Kolonicke sedl 72.15 319 *eP* **P 01 12 49.1 -0.6**
SUW Suwalki 72.45 324 *eP* **P 01 12 50.6 -0.7**
FINES FINESS Array B 72.64 332 P **P 01 12 52.3 -0.1**
FINES pmax pmax
comp=Z,12nm,0.8s
FINES FINESS Array B 72.64 332 P **P 01 12 52.2 -0.1**
comp=Z,12nm,0.8s,mb4.9,baz=101,slow=9.7,SNR=27
CRVS Cervenica-Dubn 72.68 319 *eP* **P 01 12 52.8 -0.1**
KAF Kangasniemi 72.72 333 *ep* **P 01 12 52.4 -0.4**
comp=Z,0.6nm,0.4s,mb3.9
KAF Kangasniemi 72.72 333 *ep* **P 01 12 52.4 -0.4**
comp=Z,0.6nm,0.4s,mb3.9
KAF Kangasniemi 72.72 333 *eP* **P 01 12 52.4 -0.4**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
PSZ Piszkesteto 73.59 318 *eP* **P 01 12 57.1 -1.2**
PSZ pmax pmax
comp=Z,44nm,1.9s,mb5.1
PSZ Piszkesteto 73.59 318 *eP* **P 01 12 57.1 -1.2**
comp=Z,44nm,1.9s,mb5.1
OJC Ojcow 73.92 320 *eP* **P 01 13 00.1 0.0**
LBTB Lobatse 74.32 241 *eP* **P 01 13 04.2 +1.3**
LBTB pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LBTB Lobatse 74.32 241 *eP* **P 01 13 04.2 +1.3**
comp=Z,9.7nm,0.8s,mb4.8
VYHS Vyhne 74.36 318 *eP* **P 01 13 02.0 -0.7**
KEV Kevo 74.76 341 *ep* **P 01 13 04.0 -0.6**
comp=Z,1.1nm,0.5s,mb4.0
KEV Kevo 74.76 341 *ep* **P 01 13 03.7 -0.9**
comp=Z,1.1nm,0.5s,mb4.0
KEV Kevo 74.76 341 *eP* **P 01 13 04.0 -0.6**
KEV pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
OKC Ostrava-Krasne 74.94 319 *eP* **P 01 13 05.9 -0.1**
ARCES ARCESS Array B 75.19 340 P **P 01 13 07.5 +0.4**
ARCES pmax pmax
comp=Z,7.0nm,0.7s
ARCES ARCESS Array B 75.19 340 P **P 01 13 07.5 +0.5**
comp=Z,7.0nm,0.7s,mb4.7,baz=90,slow=7.3,SNR=22
MORC Moravsky Berou 75.33 319 *eP* **P 01 13 08.1 -0.1**
MORC pmax pmax
comp=Z,15nm,1.1s,mb4.8
MORC Moravsky Berou 75.33 319 *eP* **P 01 13 08.1 -0.2**
comp=Z,15nm,1.1s,mb4.8
ZST Bratislava 75.48 318 *eP* **P 01 13 09.2 0.0**
ZST *e* pP 01 13 19.3 -0.4
GKP Gorka Klasztor 75.84 323 *eP* **P 01 13 11.0 -0.1**
GKP Gorka Klasztor 75.84 323 *eP* **P 01 13 11.0 -0.1**
BILL Bilibino 75.98 22 *eP* **P 01 13 11.9 +0.3**
BILL pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
BILL Bilibino 75.98 22 *eP* **P 01 13 11.9 +0.3**
comp=Z,9.8nm,0.7s,mb4.8
DPC Dobruska-Polom 76.16 320 *eP* **P 01 13 13.5 +0.6**
KSP Ksiaz 76.21 320 *eP* **P 01 13 13.8 +0.6**
KSP Ksiaz 76.21 320 *eP* **P 01 13 13.9 +0.7**
UPC Upice 76.36 320 *eP* **P 01 13 14.7 +0.6**
ARSA Arzberg 76.49 317 ⇓ *iP* **P 01 13 15.3 +0.4**
comp=Z,13nm,1.4s,mb4.7
BOJS Bojanci 76.60 315 *i P* **P 01 13 15.5 -0.1**
PERS Pernice 76.74 316 *eP* **P 01 13 16.6 +0.2**
VAE Valguarnera 77.08 307 P **P 01 13 20.1 +1.6**
comp=Z,9.9nm,0.9s,mb4.7,baz=266,slow=15,SNR=2.3
LJU Ljubljana 77.12 315 *eP* **P 01 13 19.2 +0.7**
PRU Pruhonice 77.28 319 *eP* **P 01 13 19.4 +0.1**
PVCC Panska Ves 77.28 320 *eP* **P 01 13 19.8 +0.5**
BRG Berggiesshubel 77.70 320 ⇓ *iP* **P 01 13 22.1 +0.5**
BRG pmax pmax
comp=Z,11nm,0.9s,mb4.8
BRG Berggiesshubel 77.70 320 ⇓ *iP* **P 01 13 22.1 +0.5**
comp=Z,11nm,0.9s,mb4.8
GEC2 GERESS Array S 77.78 318 *eP* **P 01 13 22.3 +0.2**
GEC2 pmax pmax
comp=Z,16nm,0.8s,mb5.0
GEC2 GERESS Array S 77.78 318 *eP* **P 01 13 22.3 +0.2**
comp=Z,16nm,0.8s,mb5.0
GERES GERESS Array B 77.78 318 P **P 01 13 22.4 +0.3**
GERES pmax pmax
comp=Z,11nm,0.8s
GERES GERESS Array B 77.78 318 P **P 01 13 22.4 +0.3**
comp=Z,11nm,0.8s,mb4.9,baz=86,slow=5.4,SNR=91
KHC Kasperske Hory 77.87 318 *eP* **P 01 13 22.7 +0.1**
RUE Ruedersdorf 77.87 322 *eP* **P 01 13 22.6 0.0**
comp=Z,23nm,0.6s,mb5.3
KBA Koelnbreinsper 77.97 316 ⇓ *iP* **P 01 13 22.7 -0.5**
comp=Z,11nm,1.1s,mb4.7
KBA Koelnbreinsper 77.97 316 ⇓ *iP* **P 01 13 22.7 -0.5**
KBA pmax pmax
comp=Z,11nm,1.1s,mb4.7
CLL Collm 78.31 321 ⇓ P **P 01 13 24.9 0.0**
comp=Z,logA/T=1.0,mb4.7
WET Wettzell 78.33 318 *eP* **P 01 13 25.3 +0.2**
WET pmax pmax
comp=Z,13nm,0.9s,mb4.9
WET Wettzell 78.33 318 *eP* **P 01 13 25.3 +0.2**
comp=Z,13nm,0.9s,mb4.9
WTTA Wettenberg 79.14 317 ⇑ *iP* **P 01 13 29.3 -0.3**
comp=Z,17nm,0.6s,mb5.2
WTTA Wettenberg 79.14 317 ⇑ *iP* **P 01 13 29.3 -0.3**
WTTA pmax pmax
comp=Z,17nm,0.6s,mb5.2
MOX Moxa 79.17 320 *eP* **P 01 13 29.8 +0.1**
MOX pmax pmax
comp=Z,16nm,1.3s,mb4.8
MOX Moxa 79.17 320 *eP* **P 01 13 29.8 +0.1**
comp=Z,16nm,1.3s,mb4.8
MOX Moxa 79.17 320 *i P* **P 01 13 29.8 +0.1**
comp=Z,logA/T=1.1,mb4.8
WATA Walderalm 79.18 317 ⇑ *iP* **P 01 13 29.5 -0.3**
comp=Z,14nm,1.2s,mb4.8
WATA Walderalm 79.18 317 ⇑ *iP* **P 01 13 29.5 -0.3**
WATA pmax pmax
comp=Z,14nm,1.2s,mb4.8
FUR Furstenfeldbru 79.38 317 *eP* **P 01 13 30.3 -0.6**
GRA1 Grafenberg Arr 79.42 319 *eP* **P 01 13 31.9 +0.9**
comp=Z,40nm,1.4s,mb5.2
GRF Grafenberg Arr 79.42 319 *eP* **P 01 13 31.9 +0.9**
GRF pmax pmax
comp=Z,40nm,1.4s,mb5.2
GRF Grafenberg Arr 79.42 319 *eP* **P 01 13 31.9 +0.9**
GRF pmax pmax
comp=Z,40nm,1.4s,mb5.2
GRF Grafenberg Arr 79.42 319 *eP* **P 01 13 31.9 +0.9**
comp=Z,40nm,1.4s,mb5.2
SQTA Sankt Quirin 79.43 317 ⇑ *iP* **P 01 13 31.2 0.0**
comp=Z,8.4nm,0.9s,mb4.7
SQTA Sankt Quirin 79.43 317 ⇑ *iP* **P 01 13 31.2 0.0**
SQTA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MOTA Moosalm 79.50 317 ⇓ *iP* **P 01 13 31.1 -0.4**
comp=Z,9.2nm,1.0s,mb4.7
MOTA Moosalm 79.50 317 ⇓ *iP* **P 01 13 31.1 -0.4**
MOTA pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
NB2 NORSAR Subarra 79.66 331 P **P 01 13 31.5 -0.6**
comp=Z,28nm,1.1s,mb5.1,baz=96,slow=5.0
NB2 NORSAR Subarra 79.66 331 P **P 01 13 31.5 -0.6**
baz=96,slow=5.3
NOA NORSAR Array B 79.66 331 P **P 01 13 31.8 -0.3**
NOA pmax pmax
comp=Z,10.0nm,0.8s
NOA NORSAR Array B 79.66 331 P **P 01 13 31.8 -0.3**
comp=Z,10nm,0.8s,mb4.8,baz=92,slow=5.5,SNR=22
CLZ Clausthal 79.96 321 *eP* **P 01 13 34.2 +0.3**
comp=Z,14nm,0.8s,mb4.9
DAVA Damuels 80.33 317 ⇑ *iP* **P 01 13 36.5 +0.5**
comp=Z,17nm,1.3s,mb4.8
DAVOX Davos 80.34 316 P **P 01 13 36.7 +0.6**
comp=Z,13nm,0.7s,mb5.0,baz=107,slow=4.7,SNR=22
MUD Monsted U'grnd 80.65 326 *i P* **P 01 13 38.7 +1.2**
MUD pmax pmax
comp=Z,19nm,0.8s,mb5.1
MUD Monsted U'grnd 80.65 326 *i P* **P 01 13 38.7 +1.2**
comp=Z,19nm,0.8s,mb5.1
TNS Taunus Mts 81.20 320 *eP* **P 01 13 41.0 +0.5**
BFO Black Forest 81.34 318 *eP* **P 01 13 41.0 -0.3**
BFO pmax pmax
comp=Z,14nm,1.1s,mb4.8
BFO Black Forest 81.34 318 *eP* **P 01 13 41.0 -0.3**
comp=Z,14nm,1.1s,mb4.8
LPG La Plagne 82.57 315 *eP* **P 01 13 48.1 +0.4**
comp=Z,23nm,0.7s,mb5.0
LPG La Plagne 82.57 315 *eP* **P 01 13 48.1 +0.4**
LPG pmax pmax
comp=Z,12nm,0.7s,mb5.0
BNI Bardonecchia 82.66 314 *eP* **P 01 13 48.6 +0.5**
BNI pmax pmax
comp=Z,13nm,1.0s,mb4.9
BNI Bardonecchia 82.66 314 *eP* **P 01 13 48.5 +0.4**
comp=Z,13nm,1.0s,mb4.9
SYO Syowa Base 85.51 197 ⇑ P **P 01 14 02.8 +0.9**
SYO Syowa Base 85.51 197 ⇓ PcP PcP 01 14 04.4 -1.0
TNA Tin City 86.07 24 *eP* **P 01 14 05.9 +1.1**
EKA Eskdalemuir Ar 87.66 325 P **P 01 14 13.8 +1.1**
EKA pmax pmax
comp=Z,7.0nm,0.7s
EKA Eskdalemuir Ar 87.66 325 P **P 01 14 13.8 +1.1**
comp=Z,7.4nm,0.7s,mb5.0,baz=97,slow=5.3,SNR=15
ESDC Sonseca Array 91.18 310 P **P 01 14 31.0 +1.3**
comp=Z,2.5nm,0.7s,mb4.7,baz=64,slow=4.4,SNR=10
MCK McKinley 94.36 23 *eP* **P 01 14 44.7 +1.0**
MCK pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
MCK McKinley 94.36 23 *eP* **P 01 14 44.7 +1.1**
comp=Z,3.9nm,0.9s,mb4.8
ILAR Eielson Array 94.64 22 P **P 01 14 44.9 -0.1**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 94.64 22 P **P 01 14 44.9 -0.1**
comp=Z,1.5nm,0.8s,mb4.5,baz=309,slow=4.7,SNR=20
INK Inuvik 96.89 16 P **P 01 14 56.2 +1.0**
INK pmax pmax
comp=Z,10.0nm,1.1s
INK Inuvik 96.89 16 P **P 01 14 56.2 +1.0**
comp=Z,9.9nm,1.1s,mb5.2,baz=316,slow=5.1,SNR=12
DAWY Dawson 97.76 21 *eP* **P 01 14 59.7 +0.6**
YKA Yellowknife Ar 106.32 13 PP PP 01 19 59.6 -5.2
comp=Z,0.4nm,0.7s,baz=332,slow=7.7,SNR=5.2
SCHQ Schefferville 115.44 348 PKP PKPdf 01 20 06.6 +1.6
comp=Z,1.4nm,0.4s,baz=280,slow=5.5,SNR=4.2
SCHQ Schefferville 115.44 348 PKP PKPdf 01 20 06.6 +1.6
FFC Flin Flon 116.08 10 *e*PKIKP PKPdf 01 20 08.0 +1.8
MSO Missoula 119.98 22 *e*PKPdf PKPdf 01 20 15.6 +1.6
WVOR Wild Horse Val 121.58 28 *e*PKIKP PKPdf 01 20 19.5 +2.3
NVAR Mina Array Bea 124.82 31 PKP PKPdf 01 20 27.0 +3.4
comp=Z,3.0nm,0.7s,baz=350,slow=1.4,SNR=21
PDAR Pinedale Array 125.06 21 PKP PKPdf 01 20 25.8 +1.9
comp=Z,3.6nm,0.8s,baz=49,slow=1.4,SNR=32
MSU Marysvale 127.65 26 *e*PKIKP PKPdf 01 20 32.6 +3.5
ANMO Albuquerque 133.07 23 PKIKP PKPdf 01 20 42.0 +2.5
ANMO pmax pmax
comp=Z,2.0nm,0.7s
ANMO Albuquerque 133.07 23 PKP PKPdf 01 20 42.0 +2.5
comp=Z,2.4nm,0.7s,baz=353,slow=1.9,SNR=11
MIAR Mount Ida 137.09 9 *e*PKIKP PKPdf 01 20 48.5 +1.6
TXAR Lajitas Array 139.12 24 PKhKP 01 20 44.1
comp=Z,0.2nm,0.7s,baz=333,slow=2.8,SNR=2.6
TXAR PKP PKPdf 01 20 53.6 +2.9
comp=Z,1.5nm,0.6s,baz=114,slow=0.3,SNR=16
TXAR Lajitas Array 139.12 24 PKP PKPdf 01 20 53.6 +2.9
JCT Junction City 139.49 19 *e*PKIKP PKPdf 01 20 53.7 +2.4
PLCA Paso Flores 144.65 200 PKIKP PKPdf 01 21 01.4 +1.3
PLCA pmax pmax
comp=Z,18nm,0.9s
PLCA Paso Flores 144.65 200 PKP PKPdf 01 21 01.4 +1.3
comp=Z,18nm,0.9s,baz=152,slow=2.0,SNR=31
PLCA Paso Flores 144.65 200 *e*PKPdf PKPdf 01 21 01.3 +1.2
TEIG Tepich 151.88 5 *e*PKPbc PKPdf 01 21 20.6 +8.3
LPAZ La Paz 160.84 243 PKP PKPdf 01 20 42.6 -41
comp=Z,6.1nm,1.3s,baz=47,slow=9.2,SNR=6.1
LPAZ PKPab PKPab 01 21 24.2 -44
comp=Z,1.9nm,0.9s,baz=96,slow=7.5,SNR=5.3

IDC 28 01:04:28.1±2.8, 8.38N×93.64E, mb4.0/6, mb1 4.2/7, mb1mx4.0/18, mbtmp4.0/7, ML4.3/1, Error ellipse: s-maj=71.8km s-min=43.9km az=143.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.27**	**27**	Pn	P	01 07 09.1	-4.5
	0.5nm,0.3s,baz=202,slow=13,SNR=3.0						
SONM	**Songino Array**	**40.79**	**13**	P	P	01 12 10.4	-2.3
	1.0nm,0.8s,baz=191,slow=7.3,SNR=2.8						
ZAL	**Zalesovo**	**45.99**	**353**	P	P	01 12 54.7	-0.2
	1.9nm,0.4s,baz=304,slow=13,SNR=5.2						
BRTR	**Keskin Array B**	**61.73**	**311**	P	P	01 14 48.1	-2.7
	1.3nm,1.0s,baz=127,slow=8.3,SNR=3.6						
JOF	**Joensuu**	**70.19**	**334**	*ep*	P	01 15 43.2	-1.3
	2.4nm,0.7s						
FINES	**FINESS Array B**	**72.04**	**332**	P	P	01 15 53.9	-1.8
	3.2nm,0.8s,baz=108,slow=6.0,SNR=4.9						
KAF	**Kangasniemi**	**72.12**	**333**	*ep*	P	01 15 53.1	-3.1
	0.3nm,0.3s						
GERES	**GERESS Array B**	**77.12**	**318**	P	P	01 16 23.6	-1.6
	1.4nm,0.8s,baz=90,slow=5.3,SNR=5.4						
NOA	**NORSAR Array B**	**79.05**	**331**	P	P	01 16 33.8	-1.7
	1.0nm,0.8s,baz=91,slow=5.7,SNR=4.3						
PDAR	**Pinedale Array**	**124.88**	**21**	PKP	PKPdf	01 23 31.2	-1.2
	0.5nm,0.8s,baz=315,slow=2.6,SNR=4.0						
TXAR	**Lajitas Array**	**138.97**	**23**	PKhKP		01 23 45.0	
	0.5nm,0.9s,baz=135,slow=3.5,SNR=3.7						
TXAR				PKP	PKPdf	01 23 56.4	-2.9
	0.3nm,0.8s,slow=3.8,SNR=4.1						

IDC 28 01:09:07.6±1.4, 7.55N×93.70E, mb3.9/9, mb1 4.1/10, mb1mx3.8/20, mbtmp3.9/10, ML4.4/1, Error ellipse: s-maj=58.3km s-min=27.3km az=51.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.99**	**25**	Pn	P	01 12 03.0	+0.2
	0.6nm,0.3s,baz=172,slow=32,SNR=2.8						
SONM	**Songino Array**	**41.58**	**13**	P	P	01 16 58.3	-0.5
	1.5nm,1.2s,baz=191,slow=7.3,SNR=3.0						
ZAL	**Zalesovo**	**46.81**	**353**	P	P	01 17 37.4	-3.5
	1.3nm,0.9s,baz=302,slow=18,SNR=3.7						
WRA	**Warramunga Arr**	**48.43**	**125**	P	P	01 17 51.8	-2.2
	0.5nm,0.6s,baz=305,slow=8.4,SNR=3.6						
BVAR	**Borovoye Array**	**49.16**	**342**	P	P	01 17 54.3	-4.8
	1.7nm,1.1s,baz=159,slow=12,SNR=3.7						
FINES	**FINESS Array B**	**72.80**	**332**	P	P	01 20 37.3	-2.4
	1.5nm,0.8s,baz=101,slow=9.7,SNR=4.1						
ARCES	**ARCESS Array B**	**75.42**	**340**	P	P	01 20 53.0	-1.7
	3.1nm,0.8s,baz=27,slow=8.1,SNR=3.5						

GERES **GERESS Array B 77.78 318** P P 01 21 07.7 -0.6
0.3nm,0.7s,baz=90,slow=4.9,SNR=3.7
HFS **Hagfors 78.52 330** P P 01 21 10.3 -1.8
1.4nm,0.4s,baz=90,slow=4.4,SNR=11
NOA **NORSAR Array B 79.80 331** P P 01 21 18.7 -0.4
0.3nm,0.7s,baz=113,slow=7.0,SNR=2.7

*IDC **28** 01:10:49.5±1.3, 8.15N×93.60E, mb3.8/8, mb1 4.0/9, mb1mx3.8/20, mbtmp3.8/9, Error ellipse: s-maj=51.1km s-min=26.4km az=48.0*
*NEIC **28** 01:10:53.5±0.9, 7.94N×93.40E, h30km, mb4.1/3, Error ellipse: s-maj=20.7km s-min=17.6km az=71.0*
ISC 28 01:10:51.7±1.1, 8.0N±0.1×93.5E±0.2, h30km, n12, σ0§81/12, mb3.9/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.70	27	Pn	P	01 13 40.4	+0.5
baz=212,slow=14,SNR=3.5							
LSA	**Lhasa**	21.72	355	eP	P	01 15 44.2	+1.7
5.0nm,0.7s,mb4.0							
SONM	**Songino Array**	41.21	13	P	P	01 18 33.7	-1.8
0.6nm,0.9s,mb3.2,baz=217,slow=7.2,SNR=2.7							
KURK	**Kurchatov**	44.35	347	P	P	01 19 00.7	-0.4
2.6nm,0.8s,mb4.0							
ZAL	**Zalesovo**	46.36	353	P	P	01 19 16.6	-0.4
1.1nm,0.4s,mb4.1,baz=296,slow=7.9,SNR=4.7							
BVAR	**Borovoye Array**	48.67	342	P	P	01 19 35.1	-0.1
0.5nm,0.6s,mb3.7,baz=135,slow=4.1,SNR=5.8							
BRVK	**Borovoye**	48.74	342	eP	P	01 19 35.0	-0.6
1.6nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	48.87	125	P	P	01 19 37.3	+0.2
0.4nm,0.8s,mb3.5,baz=304,slow=8.7,SNR=3.1							
BRTR	**Keskin Array B**	61.85	311	P	P	01 21 10.3	-0.4
0.8nm,0.8s,mb3.9,baz=117,slow=11,SNR=4.5							
FINES	**FINESS Array B**	72.30	332	P	P	01 22 16.2	-0.1
1.8nm,0.9s,mb4.0,baz=80,slow=8.5,SNR=3.1							
GERES	**GERESS Array B**	77.30	318	P	P	01 22 46.1	+1.0
1.0nm,0.7s,mb3.9,baz=90,slow=4.0,SNR=7.8							
HFS	**Hagfors**	78.03	330	P	P	01 22 49.3	+0.4
1.0nm,0.5s,mb4.0,baz=101,slow=7.6,SNR=5.1							

IDC 28 01:11:08.5±10.0, 5.39N×95.22E, mb3.7/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=241.6km s-min=64.1km az=143.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	43.36	11	P	P	01 19 12.0	-2.1
0.4nm,0.6s,baz=191,slow=7.3,SNR=2.9							
ZAL	**Zalesovo**	49.14	352	P	P	01 19 58.3	-1.5
2.0nm,1.0s,baz=306,slow=15,SNR=4.0							
BVAR	**Borovoye Array**	51.67	341	P	P	01 20 16.9	-2.3
3.5nm,1.2s,baz=153,slow=3.2,SNR=4.0							
BRTR	**Keskin Array B**	64.86	311	P	P	01 21 49.3	-2.6
0.4nm,0.4s,baz=118,slow=8.1,SNR=2.9							
GERES	**GERESS Array B**	80.39	318	P	P	01 23 22.6	-0.7
0.5nm,0.7s,baz=90,slow=3.9,SNR=2.7							

IDC 28 01:12:28.5±2.1, 7.52N×93.71E, mb3.8/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=65.5km s-min=31.3km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	12.00	25	Pn	P	01 15 20.3	-3.7
0.2nm,0.3s,baz=212,slow=14,SNR=2.8							
SONM	**Songino Array**	41.60	13	P	P	01 20 19.5	-0.3
0.7nm,0.8s,baz=194,slow=5.9,SNR=2.6							
ZAL	**Zalesovo**	46.84	353	P	P	01 20 59.4	-2.6
1.6nm,0.8s,baz=290,slow=9.6							
WRA	**Warramunga Arr**	48.41	125	P	P	01 21 12.7	-2.0
0.8nm,0.6s,baz=306,slow=8.2,SNR=4.0							
FINES	**FINESS Array B**	72.82	332	P	P	01 23 58.8	-1.9
0.9nm,0.8s,baz=96,slow=14,SNR=2.9							

*IDC **28** 01:18:16.1±0.5, 7.57N×94.13E, mb4.6/22, mb1 4.7/23, mb1mx4.7/27, mbtmp4.6/23, ML4.6/1, MS3.7/1, Ms1 3.9/1, ms1mx2.8/28, Error ellipse: s-maj=27.9km s-min=13.5km az=49.0, Putative timing error at LPAZ*
*BJI **28** 01:18:19.4, 7.29N×93.87E, h50km, mB5.3, mb4.9, Ms4.7, Msz4.4*
*NEIC **28** 01:18:20.6±3.9, 7.62N×94.14E, h28km±26km, mb4.8/30, Error ellipse: s-maj=10.9km s-min=7.5km az=225.0*
*MOS **28** 01:18:21.0±0.9, 7.84N×94.01E, h33km, mb5.0/38, Error ellipse: s-maj=12.9km s-min=6.2km az=108.2*
ISC 28 01:18:21.5±1.4, 7.66N±0.06×94.21E±0.05, h49km±11km, h25km±5.1km: pP-P, n172, σ1§00/161, mb4.8/60, MS4.7/3, 6C-7D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.68	23	P	P	01 21 07.8	-0.5
CMAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
CMAR				MLR	MLR		
comp=Z,327nm,18.8s							
CMAR	**Chiang Mai Arr**	11.68	23	Pn	P	01 21 07.8	-0.5
comp=Z,1.1nm,0.3s,baz=213,slow=14,SNR=20							
CMAR				LR	LR	01 25 39.3	
comp=Z,327nm,18.8s,baz=215,slow=38							
CHG	**Chiang Mai**	12.01	22	⇑P	P	01 21 13.8	+1.2
comp=Z,36nm,0.8s							
NANT	**Nan**	12.75	29	P	P	01 21 24.0	+1.4
VIS	**Vishakhapatnam**	14.57	314	eP	P	01 21 45.8	-0.8
VIS				e		01 22 00.3	
comp=Z,31nm,0.7s							
VIS				eS	S	01 24 19.1	-8.2
SHL	**Shillong**	17.95	353	eP	P	01 22 27.0	-2.3
HYB	**Hyderabad**	18.08	304	eP	P	01 22 33.0	+2.0
HYB	**Hyderabad**	18.08	304	i P	P	01 22 33.0	+2.0
HYB				eS	S	01 25 53.5	+5.6
KMI	**Kunming**	19.19	24	⇑P	P	01 22 47.3	+3.3
KMI				pmax	pmax		
comp=Z,56nm,1.3s							
KMI	**Kunming**	19.19	24	⇑P	P	01 22 47.3	+3.3
comp=Z,56nm,1.3s							
JIRN	**Jiri**	21.30	340	eP	P	01 23 05.8	-0.3
comp=Z,172nm,1.1s,mb5.3							
PKI	**Pulchoki**	21.49	338	eP	P	01 23 07.4	-0.7
comp=Z,104nm,1.0s,mb5.1							
DMN	**Daman**	21.64	338	eP	P	01 23 09.1	-0.4
KKN	**Kakani**	21.73	338	eP	P	01 23 09.7	-0.8
comp=Z,105nm,1.0s,mb5.2							
KAD	**Karad**	21.75	298	eP	P	01 23 11.8	+1.1
KAD				e		01 23 18.3	
comp=Z,26nm,0.5s							
LSA	**Lhasa**	22.12	353	P	P	01 23 14.0	-0.3
LSA				AMB	AMB		
comp=Z,20nm,1.0s,mb4.5							
LSA	**Lhasa**	22.12	353	eP	P	01 23 13.8	-0.5
LSA				pmax	pmax		
comp=Z,71nm,0.8s,mb5.2							
LSA	**Lhasa**	22.12	353	eP	P	01 23 13.8	-0.5
comp=Z,71nm,0.8s,mb5.2							
LSA				e		01 23 17.5	
GKN	**Gorkha**	22.17	337	eP	P	01 23 14.4	-0.4
comp=Z,82nm,0.9s,mb5.2							
BHPL	**Bhopal**	22.36	316	eP	P	01 23 17.9	+1.2
BHPL				e		01 23 26.1	
comp=Z,31nm,0.9s							
KOLN	**Koldanda**	22.38	335	eP	P	01 23 17.1	+0.2
comp=Z,66nm,0.8s,mb5.1							
ENH	**Enshi**	26.68	31	eP	P	01 23 57.8	-0.2
comp=Z,24nm,1.2s,mb4.6							
WHN	**Wuhan**	29.57	37	P	P	01 24 25.3	+1.2
LZH	**Lanzhou**	29.64	16	eP	P	01 24 25.0	+0.4
LZH				AP	pP	01 24 35.5	-1.8
LZH				XP	sP	01 24 40.0	-3.4
LZH				AMB	AMB		
comp=Z,45nm,1.7s,mb4.9							
LZH				AMB	AMB		
comp=Z,136nm,4.2s							
LZH				LR	LR		
comp=E,435nm,14.0s							
LZH				LR	LR		
comp=Z,693nm,14.9s,MS4.4							
LZH	**Lanzhou**	29.64	16	eP	P	01 24 25.0	+0.4
LZH				*PP	pP	01 24 35.4	-1.9
LZH				*SP	sP	01 24 40.0	-3.4
LZH				pmax	pmax		
comp=Z,45nm,1.7s,mb4.9							
LZH				MLR	MLR		
comp=Z,690nm,14.9s,MS4.4							
LZH	**Lanzhou**	29.64	16	eP	P	01 24 25.0	+0.4
comp=Z,45nm,1.7s,mb4.9							
LZH				pP	pP	01 24 35.4	-1.9
LZH				sP	sP	01 24 40.0	-3.4
LZH				LR	LR		
comp=Z,690nm,14.9s,MS4.4							
NJ2	**Nanjing**	33.39	40	eP	P	01 24 59.0	+1.4
NJ2				AP	pP	01 25 11.0	+0.5
NJ2				XP	sP	01 25 13.5	-3.2
NJ2				PP	PP	01 26 14.5	+4.0
NJ2				S	S	01 30 22.0	+7.8
NJ2				XS		01 30 37.0	
NJ2				AMB	AMB		
comp=Z,270nm,5.1s							
NJ2				LR	LR		
comp=N,2μm,10.4s,MS5.0							
NJ2				LR	LR		
comp=E,770nm,14.2s,MS5.0							
NJ2				LR	LR		
comp=Z,4μm,13.4s,MS5.3							
WMQ	**Urumqi**	36.47	352	P	P	01 25 24.5	+0.7
WMQ				AP	pP	01 25 34.3	-2.5
WMQ				XP	sP	01 25 38.3	-4.6
WMQ				PP	PP	01 26 48.3	-0.3
WMQ				PCP	PcP	01 27 49.3	+2.1
WMQ				S	S	01 31 02.5	+0.9
WMQ				AMB	AMB		
comp=Z,64nm,1.5s,mb5.3							
WMQ				AMB	AMB		
comp=Z,302nm,5.6s							
WMQ				LR	LR		
comp=N,721nm,18.3s,MS4.7							
WMQ				LR	LR		
comp=E,819nm,18.4s,MS4.7							
WMQ				LR	LR		
comp=Z,1μm,18.7s,MS4.7							
BJI	**Beijing**	37.77	28	P	P	01 25 36.6	+2.0
BJI				pmax	pmax		
comp=Z,14nm,1.5s,mb4.5							
BJI	**Beijing**	37.77	28	P	P	01 25 36.6	+2.0
comp=Z,14nm,1.5s,mb4.5							
AAK	**Ala-Archa**	38.93	337	eP	P	01 25 43.3	-1.0
AAK				e		01 27 55.1	
MKAR	**Makanchi Array**	40.31	347	i P	P	01 25 55.3	-0.4
SONM	**Songino Array**	41.36	12	P	P	01 26 05.0	+0.7
comp=Z,13nm,1.0s,mb4.5,baz=196,slow=7.1,SNR=44							
SONM				PcP	PcP	01 28 03.3	+0.8
comp=Z,3.0nm,0.8s,baz=196,slow=2.9,SNR=7.2							
ULN	**Ulaanbaatar**	41.53	13	‖eP	P	01 26 06.3	+0.5
ZAK	**Zakamensk**	43.26	8	⇑iP	P	01 26 19.9	0.0
TLY	**Talaya**	44.57	8	⇑eP	P	01 26 31.2	+0.7
KURK	**Kurchatov**	44.84	346	i P	P	01 26 32.6	0.0
KURK				pmax	pmax		
comp=Z,29nm,1.1s,mb5.0							
KURK	**Kurchatov**	44.84	346	eP	P	01 26 31.9	-0.6
comp=Z,59nm,1.2s,mb5.3							
NWAO	**Narrogin (SRO)**	45.92	153	P	P	01 26 42.7	+1.2
NWAO				pmax	pmax		
comp=Z,46nm,1.2s							
NWAO	**Narrogin (SRO)**	45.92	153	P	P	01 26 42.0	+0.5
comp=Z,29nm,1.1s,mb5.1,baz=324,slow=13,SNR=3.9							
NWAO	**Narrogin (SRO)**	45.92	153	P	P	01 26 42.7	+1.2
comp=Z,46nm,1.2s,mb5.3							
HIA	**Hailar**	46.70	23	eP	P	01 26 47.7	+0.4
HIA				pmax	pmax		
comp=Z,10.0nm,0.9s							
HIA	**Hailar**	46.70	23	eP	P	01 26 47.7	+0.3
comp=Z,9.6nm,0.9s,mb4.7							
ZAL	**Zalesovo**	46.77	352	P	P	01 26 47.8	0.0
ZAL				pmax	pmax		
comp=Z,14nm,0.5s							
ZAL	**Zalesovo**	46.77	352	P	P	01 26 47.8	0.0
comp=Z,14nm,0.5s,mb5.2,baz=297,slow=7.1,SNR=79							
NVS	**Novosibirsk**	47.87	351	i P	P	01 26 54.8	-1.7
NVS				i		01 28 24.0	
NVS				pmax	pmax		
comp=Z,22nm,0.9s,mb5.2							
NVS				pmax	pmax		
comp=N,16nm,0.9s							
NVS				pmax	pmax		
comp=E,9.0nm,0.9s							
WRA	**Warramunga Arr**	48.08	125	P	P	01 26 56.8	-1.8
WRA						01 28 25.5	
WRA				pmax	pmax		
comp=Z,4.0nm,1.0s							
WRA				pmax	pmax		
comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	48.08	125	P	P	01 26 56.8	-1.8
comp=Z,3.7nm,1.0s,mb4.3,baz=306,slow=8.4,SNR=9.6							
WRA				PcP	PcP	01 28 25.5	-0.6
comp=Z,0.7nm,0.8s,baz=304,slow=3.0,SNR=4.6							
WRAB	**Tennant Creek**	48.09	125	‖eP	P	01 26 58.1	-0.5
WB2	**Warramunga Arr**	48.09	125	⇑iP	P	01 26 57.2	-1.5
BVA0	**Borovoye Array**	49.21	341	i P	P	01 27 05.8	-1.1
BVA0				pmax	pmax		
comp=Z,2.0nm,1.0s,mb4.1							
BVAR	**Borovoye Array**	49.21	341	P	P	01 27 06.0	-0.9
comp=Z,9.6nm,0.9s,mb4.8,baz=143,slow=7.4,SNR=44							
BVAR				PcP	PcP	01 28 29.8	+0.1
comp=Z,4.3nm,0.7s,baz=135,slow=4.2,SNR=10.0							
RAYN	**Ar Rayn**	49.23	294	P	P	01 27 09.0	+1.6
comp=Z,105nm,0.8s,SNR=18							
BRVK	**Borovoye**	49.28	341	i P	P	01 27 06.3	-1.1
BRVK	**Borovoye**	49.28	341	i Pr	P	01 27 06.3	-1.1
CHKZ	**Chkalovo**	49.70	342	i P	P	01 27 10.1	-0.5
CHKZ				pmax	pmax		
comp=Z,35nm,1.0s,mb5.3							
CHKZ	**Chkalovo**	49.70	342	eP	P	01 27 09.7	-0.9
comp=Z,40nm,0.9s,mb5.4							
ASAR	**Alice Springs**	49.73	130	P	P	01 27 09.8	-1.4
comp=Z,1.9nm,0.7s,mb4.2,baz=306,slow=7.1,SNR=14							
ASAR				PcP	PcP	01 28 31.1	-0.9
comp=Z,3.6nm,0.8s,baz=306,slow=3.9,SNR=13							
BOD	**Bodaibo**	52.34	13	eP	P	01 27 29.6	-1.0
SVE	**Sverdlovsk**	55.62	338	eP	P	01 27 51.0	-3.7
SVE				pmax	pmax		
comp=Z,80nm,1.5s,mb5.5							
ARU	**Arti**	56.11	337	P	P	01 27 57.4	-0.8
comp=Z,127nm,1.0s,SNR=16							
ARU	**Arti**	56.11	337	‖iP	P	01 27 51.2	-7.0
ARU				eS	S	01 35 36.9	-4.8
ARU				eSS	SS	01 39 20.3	-8.3
ARU				pmax	pmax		
comp=Z,31nm,1.3s,mb5.2							
YSS	**Yuzh-Sakhalins**	56.91	38	P	P	01 28 05.4	+1.3
YSS				e		01 28 12.3	
KMBO	**Kilima Mbogo**	57.46	264	P	P	01 28 10.6	+2.2
comp=Z,4.4nm,1.1s,mb4.4,baz=54,slow=10,SNR=7.8							
KMBO	**Kilima Mbogo**	57.46	264	e	P	01 28 10.8	+2.5
KIV	**Kislovodsk**	57.52	318	eP	P	01 28 07.3	-1.1
KIV				pmax	pmax		
comp=Z,11nm,0.8s,mb4.9							
KIV	**Kislovodsk**	57.52	318	eP	P	01 28 06.0	-2.4
comp=Z,11nm,1.0s,mb4.9							
ASF	**Jabal al Asfar**	58.39	303	P	P	01 28 15.1	+0.5
comp=Z,3.4nm,0.8s,mb4.4,baz=326,slow=5.2,SNR=7.7							
MALT	**Malatya**	58.65	310	eP	P	01 28 14.8	-1.5
MALT				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.4							
MALT	**Malatya**	58.65	310	eP	P	01 28 14.8	-1.6
comp=Z,3.6nm,1.0s,mb4.4							
SOC	**Sochi**	59.38	317	eP	P	01 28 17.0	-4.3
SOC				e		01 29 04.4	
SOC				e		01 30 28.4	
SOC				eS	S	01 36 25.0	+0.3
SOC				e		01 38 05.4	
SOC				eSS	SS	01 40 20.6	-1.0
SOC				pmax	pmax		
comp=Z,39nm,0.8s,mb5.5							
SOC				pmax	pmax		
comp=N,55nm,1.0s							
SOC				pmax	pmax		
comp=E,12nm,0.8s							
YAK	**Yakutsk**	60.18	18	d iP	P	01 28 25.5	-1.1
YAK				pmax	pmax		
comp=Z,37nm,0.7s,mb5.5							
YAK	**Yakutsk**	60.18	18	eP	P	01 28 25.1	-1.5
comp=Z,40nm,0.8s,mb5.5							
BRTR	**Keskin Array B**	62.62	311	P	P	01 28 41.6	-1.7
BRTR						01 29 21.7	
BRTR				pmax	pmax		
comp=Z,3.0nm,0.7s							
BRTR				pmax	pmax		
comp=Z,2.0nm,1.0s							
BRTR	**Keskin Array B**	62.62	311	P	P	01 28 41.5	-1.7
comp=Z,2.6nm,0.7s,mb4.5,baz=122,slow=7.2,SNR=15							
BRTR				PcP	PcP	01 29 21.7	+0.1
comp=Z,2.2nm,1.0s,baz=135,slow=5.2,SNR=3.8							
MOS	**Moscow**	65.30	329	eP	P	01 29 00.3	-0.2
MOS				pmax	pmax		
comp=Z,50nm,0.7s,mb5.7							
OBN	**Obninsk**	65.60	328	‖iP	P	01 28 58.9	-3.5
OBN				pmax	pmax		
comp=Z,72nm,1.7s,mb5.4							
OBN	**Obninsk**	65.60	328	i Pr	P	01 28 58.9	-3.5
MA2	**Magadan**	66.93	27	eP	P	01 29 11.3	+0.5
MA2				pmax	pmax		
comp=Z,20nm,1.8s,mb4.8							
MA2	**Magadan**	66.93	27	eP	P	01 29 10.6	-0.2
comp=Z,14nm,1.0s,mb5.0							
TIXI	**Tiksi**	67.43	11	‖eP	P	01 29 12.7	-1.1
AKASG	**Malin Array Be**	68.36	322	P	P	01 29 17.6	-2.3
AKASG				pmax	pmax		
comp=Z,6.0nm,1.0s							
AKASG	**Malin Array Be**	68.36	322	P	P	01 29 17.6	-2.3
comp=Z,6.4nm,1.0s,mb4.6,baz=87,slow=4.9,SNR=18							
IDI	**Anoyia**	68.74	305	P	P	01 29 22.4	-0.2
comp=Z,8.9nm,0.7s,mb4.8,baz=56,slow=8.8,SNR=5.5							
LSZ	**Lusaka**	69.26	251	eP	P	01 29 27.5	+1.5
LSZ				pmax	pmax		
comp=Z,12nm,1.3s,mb4.7							
LSZ	**Lusaka**	69.26	251	eP	P	01 29 27.5	+1.5
comp=Z,12nm,1.3s,mb4.7							
MLR	**Muntele Rosu**	69.37	316	P	P	01 29 26.3	+0.1
MLR				pmax	pmax		
comp=Z,10.0nm,0.9s							
MLR	**Muntele Rosu**	69.37	316	P	P	01 29 26.3	0.0
comp=Z,10nm,0.9s,mb4.7,baz=161,slow=1.3,SNR=14							
JOF	**Joensuu**	71.07	334	ep	P	01 29 35.9	-0.4
comp=Z,0.3nm,0.3s,mb3.7							
KWP	**Kalwaria**	72.24	320	eP	P	01 29 43.1	-0.3
KOLS	**Kolonicke sedl**	72.41	319	eP	P	01 29 44.9	+0.5
SUW	**Suwalki**	72.72	324	eP	P	01 29 45.4	-0.8
FINES	**FINESS Array B**	72.93	332	i P	P	01 29 47.3	0.0
FINES				pmax	pmax		
comp=Z,10.0nm,0.7s							
FINES	**FINESS Array B**	72.93	332	P	P	01 29 47.0	-0.2
comp=Z,9.7nm,0.7s,mb4.9,baz=101,slow=9.7,SNR=31							
CRVS	**Cervenica-Dubn**	72.93	319	eP	P	01 29 47.9	+0.3
CRVS				epP	pP	01 29 54.6	-7.0
KAF	**Kangasniemi**	73.01	333	ep	P	01 29 46.7	-1.1
comp=Z,7.7nm,0.9s,mb4.6							
KAF	**Kangasniemi**	73.01	333	eP	P	01 29 46.7	-1.1
KAF				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.7							
PSZ	**Piszkesteto**	73.84	318	eP	P	01 29 52.3	-0.6
PSZ				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.5							
PSZ	**Piszkesteto**	73.84	318	eP	P	01 29 52.3	-0.7
comp=Z,7.1nm,1.0s,mb4.5							
OJC	**Ojcow**	74.18	320	eP	P	01 29 55.2	+0.4
VYHS	**Vyhne**	74.61	318	eP	P	01 29 55.9	-1.4
VYHS				epP	pP	01 30 03.5	-7.9
SRO	**Srobarova**	74.89	317	eP	P	01 29 59.8	+0.8
KEV	**Kevo**	75.06	341	ep	P	01 29 56.0	-3.5
comp=Z,0.3nm,0.4s							
OKC	**Ostrava-Krasne**	75.20	319	eP	P	01 30 01.2	+0.5
ARCES	**ARCESS Array B**	75.49	340	P	P	01 30 01.5	-0.5
ARCES				pmax	pmax		
comp=Z,10.0nm,0.9s							
ARCES	**ARCESS Array B**	75.49	340	P	P	01 30 01.5	-0.4
comp=Z,9.8nm,0.9s,mb4.7,baz=105,slow=6.9,SNR=16							
MORC	**Moravsky Berou**	75.58	319	eP	P	01 30 03.0	+0.1
MORC				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.7							
MORC	**Moravsky Berou**	75.58	319	eP	P	01 30 03.0	+0.2
comp=Z,8.9nm,1.0s,mb4.7							
ZST	**Bratislava**	75.74	318	eP	P	01 29 59.0	-4.8
VRAC	**Vranov**	76.16	319	P	P	01 30 06.4	+0.2
VRAC				pmax	pmax		
comp=Z,1.0nm,0.5s							
VRAC	**Vranov**	76.16	319	P	P	01 30 06.4	+0.2
comp=Z,1.1nm,0.5s,mb4.1,baz=287,slow=6.7,SNR=3.4							
DPC	**Dobruska-Polom**	76.41	320	eP	P	01 30 08.1	+0.5
KSP	**Ksiaz**	76.47	320	eP	P	01 30 08.3	+0.4
UPC	**Upice**	76.62	320	eP	P	01 30 09.3	+0.5
PRU	**Pruhonice**	77.53	319	eP	P	01 30 13.2	-0.7
BRG	**Berggiesshubel**	77.96	320	i P	P	01 30 16.8	+0.6
BRG				pmax	pmax		
comp=Z,29nm,1.9s,mb4.9							
BRG	**Berggiesshubel**	77.96	320	i P	P	01 30 16.8	+0.6
comp=Z,29nm,1.9s,mb4.9							
GEC2	**GERESS Array S**	78.03	318	eP	P	01 30 17.1	+0.5
GEC2				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.5							
GEC2	**GERESS Array S**	78.03	318	eP	P	01 30 17.1	+0.5
comp=Z,6.0nm,0.9s,mb4.5							
GERES	**GERESS Array B**	78.03	318	P	P	01 30 16.9	+0.3
GERES				pmax	pmax		
comp=Z,4.0nm,0.8s							
GERES	**GERESS Array B**	78.03	318	P	P	01 30 16.9	+0.2
comp=Z,4.3nm,0.8s,mb4.4,baz=90,slow=5.3,SNR=35							
KHC	**Kasperske Hory**	78.12	319	eP	P	01 30 16.9	-0.2
KHC				e		01 30 24.0	
KHC	**Kasperske Hory**	78.12	319	eP	P	01 30 16.9	-0.2
KHC				pP	pP	01 30 24.0	-7.3
RUE	**Ruedersdorf**	78.14	322	eP	P	01 30 17.0	-0.1
comp=Z,23nm,0.9s,mb5.1							
CLL	**Collm**	78.57	321	i P	P	01 30 19.8	+0.3
CLL				e		01 30 27.0	
CLL				pmax	pmax		
comp=Z,20nm,1.6s,mb4.8							
CLL	**Collm**	78.57	321	i P	P	01 30 19.8	+0.3
comp=Z,20nm,1.6s,mb4.8							
CLL				e		01 30 27.0	
CLL	**Collm**	78.57	321	P	P	01 30 19.8	+0.3
comp=Z,logA/T=1.1,mb4.8							
CLL				e*PP	pP	01 30 27.0	-6.7
WET	**Wettzell**	78.58	319	eP	P	01 30 20.2	+0.6
WET				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.2							
WET	**Wettzell**	78.58	319	eP	P	01 30 20.2	+0.6
comp=Z,3.0nm,0.9s,mb4.2							
HFS	**Hagfors**	78.67	330	P	P	01 30 20.3	+0.4
HFS				pmax	pmax		
comp=Z,9.0nm,0.7s							
HFS	**Hagfors**	78.67	330	P	P	01 30 20.3	+0.4
comp=Z,8.6nm,0.7s,mb4.8,baz=109,slow=4.4,SNR=42							
MOX	**

LPG pmax pmax
comp=Z,11nm,1.0s,mb4.8
SYO Syowa Base 85.22 197 ⇓P **P 01 30 57.3 +3.6**
EKA Eskdalemuir Ar 87.94 325 P **P 01 31 08.2 +1.0**
EKA pmax pmax
comp=Z,7.0nm,0.8s
EKA Eskdalemuir Ar 87.94 325 P **P 01 31 08.2 +1.0**
comp=Z,7.0nm,0.8s,mb4.9,baz=106,slow=5.2,SNR=9.0
ESDC Sonseca Array 91.41 310 P **P 01 31 25.2 +1.3**
comp=Z,2.9nm,0.9s,mb4.6,baz=68,slow=3.1,SNR=8.6
ILAR Eielson Array 94.92 22 P **P 01 31 39.8 +0.4**
ILAR 01 35 29.3
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.92 22 P **P 01 31 39.8 +0.4**
comp=Z,1.0nm,0.8s,mb4.3,baz=293,slow=4.4,SNR=12
ILAR PP PP 01 35 29.3 -1.6
comp=Z,0.4nm,0.9s,baz=281,slow=7.8,SNR=4.6
SML Sawmill 95.77 25 *eP* **P 01 31 44.7 +1.4**
YKA Yellowknife Ar 106.62 14 PP PP 01 36 55.0 -5.5
comp=Z,0.7nm,0.9s,baz=336,slow=7.6,SNR=9.5
MSO Missoula 120.26 22 *e*PKPdf PKPdf 01 37 09.1 +1.6
BOZ Bozeman (W) 122.11 21 *e*PKIKP PKPdf 01 37 13.6 +2.5
NVAR Mina Array Bea 125.07 31 PKP PKPdf 01 37 20.1 +3.0
comp=Z,1.9nm,0.7s,baz=302,slow=0.9,SNR=12
PDAR Pinedale Array 125.34 21 PKP PKPdf 01 37 19.4 +2.0
comp=Z,2.0nm,0.8s,baz=53,slow=0.6,SNR=14
MSU Marysvale 127.92 26 *e*PKIKP PKPdf 01 37 26.1 +3.5
ANMO Albuquerque 133.34 23 PKIKP PKPdf 01 37 36.7 +3.7
ANMO pmax pmax
comp=Z,3.0nm,1.1s
ANMO Albuquerque 133.34 23 PKP PKPdf 01 37 36.7 +3.7
comp=Z,2.6nm,1.1s,baz=185,slow=2.6,SNR=4.9
ANMO Albuquerque 133.34 23 PKP PKPdf 01 37 36.7 +3.7
TXAR Lajitas Array 139.40 24 PKP PKPdf 01 37 46.5 +2.2
comp=Z,0.4nm,0.5s,baz=280,slow=0.8,SNR=8.1
TXAR PP PP 01 40 40.5 -2.1
comp=Z,0.5nm,1.0s,baz=333,slow=2.8,SNR=4.0
TXAR Lajitas Array 139.40 24 PKP PKPdf 01 37 46.5 +2.2
TXAR PP PP 01 40 40.5 -2.1
JCT Junction City 139.77 19 *e*PKIKP PKPdf 01 37 47.5 +2.7
PLCA Paso Flores 144.37 200 PKIKP PKPdf 01 37 53.3 +0.7
PLCA pmax pmax
comp=Z,7.0nm,0.9s
PLCA Paso Flores 144.37 200 PKP PKPdf 01 37 53.3 +0.7
comp=Z,7.3nm,0.9s,baz=172,slow=5.7,SNR=13
PLCA Paso Flores 144.37 200 *e*PKPdf PKPdf 01 37 53.3 +0.7
SJG San Juan 147.88 323 PKPbc PKPdf 01 38 03.8 +4.6
comp=Z,4.8nm,0.4s,baz=351,slow=19,SNR=4.2
LPAZ La Paz 160.72 242 PKP PKPdf 01 37 35.6 -41
comp=Z,1.1nm,0.7s,baz=68,slow=4.8,SNR=5.0

*IDC **28** 01:22:32.9±1.0, 7.82N×93.99E, mb3.7/9, mb1 3.9/10, mb1mx3.8/20, mbtmp3.7/10, ML4.1/1, Error ellipse: s-maj=40.2km s-min=19.5km az=51.0*
*NEIC **28** 01:22:37.5±0.7, 7.79N×94.00E, h30km, mb4.3/2, Error ellipse: s-maj=20.8km s-min=12.9km az=64.0*
ISC 28 01:22:35.7±0.9, 7.8N±0.1×94.1E±0.2, h30km, n12, σ0§92/12, mb3.8/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.57**	**24**	Pn	**P**	**01 25 21.9**	**-0.3**
	0.3nm,0.3s,baz=213,slow=15,SNR=4.3						
LSA	**Lhasa**	**21.92**	**353**	*eP*	**P**	**01 27 30.2**	**+1.7**
	8.3nm,0.6s,mb4.3						
SONM	**Songino Array**	**41.22**	**13**	P	**P**	**01 30 19.4**	**-0.1**
	1.0nm,1.0s,mb3.4,baz=202,slow=7.8,SNR=2.6						
KURK	**Kurchatov**	**44.63**	**346**	*eP*	**P**	**01 30 46.8**	**-0.5**
	4.9nm,1.1s,mb4.2						
ZAL	**Zalesovo**	**46.58**	**352**	P	**P**	**01 31 02.7**	**+0.1**
	3.6nm,1.1s,mb4.2,baz=258,slow=7.8,SNR=3.6						
WRA	**Warramunga Arr**	**48.30**	**125**	P	**P**	**01 31 15.3**	**-1.3**
	0.2nm,0.5s,mb3.4,baz=305,slow=8.4,SNR=2.8						
BVAR	**Borovoye Array**	**49.00**	**341**	P	**P**	**01 31 20.4**	**-1.2**
	1.0nm,0.9s,mb3.8,baz=148,slow=14,SNR=3.2						
ASAR	**Alice Springs**	**49.94**	**130**	P	**P**	**01 31 30.6**	**+1.3**
	0.2nm,0.5s,mb3.4,baz=297,slow=8.1,SNR=2.5						
BRTR	**Keskin Array B**	**62.40**	**311**	P	**P**	**01 32 57.5**	**-0.9**
	0.4nm,0.7s,mb3.6,baz=135,slow=6.1,SNR=2.3						
FINES	**FINESS Array B**	**72.71**	**332**	P	**P**	**01 34 02.3**	**-0.3**
	2.5nm,1.0s,mb4.1,baz=131,slow=13,SNR=2.5						
GERES	**GERESS Array B**	**77.81**	**318**	P	**P**	**01 34 33.0**	**+1.1**
	0.4nm,0.5s,mb3.6,baz=79,slow=5.0,SNR=3.5						
HFS	**Hagfors**	**78.45**	**330**	P	**P**	**01 34 35.7**	**+0.5**
	1.9nm,0.8s,mb4.0,baz=121,slow=8.4,SNR=2.9						

IDC 28 01:23:12.2±8.2, 7.93N×93.47E, mb3.9/5, mb1 4.0/5, mb1mx3.8/19, mbtmp3.9/5, Error ellipse: s-maj=201.0km s-min=108.6km az=132.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVAR	**Borovoye Array**	**48.73**	**342**	P	P	01 31 58.4	-2.0
	1.1nm,0.9s,baz=135,slow=4.1,SNR=3.1						
BRTR	**Keskin Array B**	**61.89**	**311**	P	P	01 33 33.6	-2.3
	1.7nm,1.2s,baz=112,slow=7.8,SNR=2.4						
GERES	**GERESS Array B**	**77.34**	**318**	P	P	01 35 09.7	-0.8
	1.3nm,0.9s,baz=108,slow=4.2,SNR=5.0						
HFS	**Hagfors**	**78.08**	**330**	P	P	01 35 12.8	-1.5
	2.1nm,0.8s,baz=100,slow=8.8,SNR=2.3						
NOA	**NORSAR Array B**	**79.36**	**331**	P	P	01 35 19.6	-1.7
	1.3nm,0.8s,baz=346,slow=20,SNR=2.5						

*IDC **28** 01:23:18.7±0.8, 7.97N×93.86E, mb4.2/15, mb1 4.3/16, mb1mx4.3/22, mbtmp4.2/16, Error ellipse: s-maj=44.5km s-min=17.7km az=49.0*
*NEIC **28** 01:23:23.7±0.6, 8.02N×93.83E, h30km, mb4.5/2, Error ellipse: s-maj=27.3km s-min=14.2km az=57.0*
ISC 28 01:23:22.5±0.7, 8.1N±0.1×94.1E±0.1, h33km, n32, σ0§83/28, mb4.2/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.28**	**24**	Pn	**P**	**01 26 15.2**	**+11**
	baz=226,slow=14,SNR=5.3						
HYB	**Hyderabad**	**17.73**	**303**	*i* P	**P**	**01 27 29.5**	**+0.9**
SONM	**Songino Array**	**40.91**	**13**	P	**P**	**01 31 04.0**	**+0.7**
	1.6nm,0.9s,mb3.6,baz=190,slow=7.5,SNR=4.7						
SONM				PcP	PcP	01 33 04.3	+0.2
	0.7nm,0.6s,baz=189,slow=4.8,SNR=3.8						
KURK	**Kurchatov**	**44.34**	**346**	*eP*	**P**	**01 31 31.9**	**+0.6**
	8.3nm,1.1s,mb4.4						
ZAL	**Zalesovo**	**46.28**	**352**	P	**P**	**01 31 47.7**	**+1.0**
	1.7nm,0.4s,mb4.3,baz=296,slow=7.7,SNR=5.4						
ZAL	**Zalesovo**	**46.28**	**352**	P	**P**	**01 31 47.7**	**+1.0**
WRA	**Warramunga Arr**	**48.44**	**126**	P	**P**	**01 32 03.2**	**-0.9**
	1.3nm,0.7s,mb4.0,baz=304,slow=8.6,SNR=7.4						
BVAR	**Borovoye Array**	**48.72**	**341**	P	**P**	**01 32 05.7**	**-0.1**
	2.5nm,0.9s,mb4.2,baz=135,slow=6.3,SNR=7.4						
BVAR	**Borovoye Array**	**48.72**	**341**	P	**P**	**01 32 05.7**	**-0.1**
ASAR	**Alice Springs**	**50.11**	**130**	P	**P**	**01 32 17.9**	**+1.0**
	1.4nm,1.0s,mb4.0,baz=304,slow=7.7,SNR=4.4						
ASAR				PcP	PcP	01 33 35.2	-1.1
	0.6nm,1.0s,baz=304,slow=3.3,SNR=2.8						
KMBO	**Kilima Mbogo**	**57.42**	**263**	P	**P**	**01 33 11.9**	**+1.1**
	2.9nm,0.8s,mb4.4,baz=57,slow=10,SNR=8.0						
BRTR	**Keskin Array B**	**62.23**	**311**	P	**P**	**01 33 41.8**	**-1.6**
	1.8nm,0.7s,mb4.3,baz=123,slow=7.7,SNR=8.0						
BRTR	**Keskin Array B**	**62.23**	**311**	P	**P**	**01 33 41.8**	**-1.6**
AKASG	**Malin Array Be**	**67.92**	**322**	P	**P**	**01 34 18.1**	**-1.9**
	2.2nm,0.7s,mb4.3,baz=90,slow=4.6,SNR=7.0						
MLR	**Muntele Rosu**	**68.96**	**316**	P	**P**	**01 34 26.1**	**-0.3**
	3.5nm,0.9s,mb4.3,baz=197,slow=2.7,SNR=5.3						
JOF	**Joensuu**	**70.59**	**334**	*ep*	**P**	**01 34 26.4**	**-10**
	1.9nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**72.46**	**332**	P	**P**	**01 34 47.1**	**-0.2**
	2.8nm,0.7s,mb4.3,baz=112,slow=10,SNR=6.2						
KAF	**Kangasniemi**	**72.54**	**333**	*ep*	**P**	**01 34 46.8**	**-0.9**
	0.2nm,0.3s,mb3.5						
KEV	**Kevo**	**74.57**	**341**	*ep*	**P**	**01 34 59.4**	**-0.1**
	0.4nm,0.5s,mb3.6						
ARCES	**ARCESS Array B**	**75.00**	**340**	P	**P**	**01 35 01.6**	**-0.4**
	1.4nm,0.7s,mb4.0,baz=135,slow=3.4,SNR=7.2						
GERES	**GERESS Array B**	**77.60**	**318**	P	**P**	**01 35 17.7**	**+0.5**
	2.2nm,0.6s,mb4.2,baz=89,slow=5.3,SNR=12						
GERES	**GERESS Array B**	**77.60**	**318**	P	**P**	**01 35 17.7**	**+0.5**
HFS	**Hagfors**	**78.21**	**330**	P	**P**	**01 35 20.5**	**+0.3**
	3.0nm,0.6s,mb4.4,baz=117,slow=6.6,SNR=7.4						
HFS	**Hagfors**	**78.21**	**330**	P	**P**	**01 35 20.5**	**+0.3**
NB2	**NORSAR Subarra**	**79.48**	**331**	P	**P**	**01 35 26.6**	**-0.6**
	5.4nm,1.1s,mb4.4,baz=92,slow=5.8						
NOA	**NORSAR Array B**	**79.48**	**331**	P	**P**	**01 35 27.1**	**-0.1**
	1.9nm,0.8s,mb4.1,baz=94,slow=5.5,SNR=4.1						
NOA	**NORSAR Array B**	**79.48**	**331**	P	**P**	**01 35 27.1**	**-0.1**
DAVOX	**Davos**	**80.17**	**316**	P	**P**	**01 35 31.4**	**+0.3**
	4.0nm,0.8s,mb4.4,baz=127,slow=7.5,SNR=4.1						
PDAR	**Pinedale Array**	**124.93**	**21**	PKP	PKPdf	01 42 21.2	+1.6
	0.5nm,0.7s,baz=45,slow=2.1,SNR=4.4						
TXAR	**Lajitas Array**	**138.99**	**24**	PKP	PKPdf	01 42 50.6	+4.1
	0.2nm,0.8s,baz=343,slow=0.8,SNR=3.7						
PLCA	**Paso Flores**	**144.79**	**200**	PKP	PKPdf	01 42 56.5	+0.1
	3.3nm,0.9s,baz=177,slow=5.2,SNR=4.8						
PLCA	**Paso Flores**	**144.79**	**200**	PKP	PKPdf	01 42 56.5	+0.1

*IDC **28** 01:25:21.1±0.8, 7.33N×93.97E, mb4.0/13, mb1 4.1/14, mb1mx4.1/20, mbtmp4.0/14, ML4.3/1, Error ellipse: s-maj=39.7km s-min=19.1km az=52.0*
*NEIC **28** 01:25:23.1±8.5, 7.27N×93.90E, h15km, 51km, mb4.5/8, Error ellipse: s-maj=22.2km s-min=10.7km az=53.0*
ISC 28 01:25:24.2±0.6, 7.4N±0.1×94.1E±0.1, h33km, n29, σ1§05/25, mb4.1/21, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.97**	**23**	Pn	**P**	**01 28 15.8**	**+0.3**
	0.5nm,0.3s,baz=209,slow=17,SNR=3.4						
HYB	**Hyderabad**	**18.16**	**305**	*i* P	**P**	**01 29 38.0**	**+2.2**
LZH	**Lanzhou**	**29.93**	**16**	*eP*	**P**	**01 31 34.5**	**+3.0**
	19nm,1.5s,mb4.6						
LZH				pP	pP	01 31 42.2	+1.1
LZH				sP	sP	01 31 47.3	+1.8
SONM	**Songino Array**	**41.65**	**12**	P	**P**	**01 33 11.7**	**+0.6**
	2.0nm,1.0s,mb3.7,baz=198,slow=7.8,SNR=6.3						
SONM				PcP	PcP	01 35 07.5	-0.8
	0.7nm,0.8s,baz=231,slow=3.3,SNR=3.3						
KURK	**Kurchatov**	**45.08**	**346**	*eP*	**P**	**01 33 38.2**	**-0.8**
	21nm,1.3s,mb4.8						
ZAL	**Zalesovo**	**47.03**	**352**	P	**P**	**01 33 54.1**	**-0.2**
	1.9nm,0.7s,mb4.2,baz=307,slow=5.7,SNR=6.0						
WRA	**Warramunga Arr**	**48.00**	**125**	P	**P**	**01 34 02.1**	**-0.2**
	1.8nm,0.7s,mb4.2,baz=302,slow=9.2,SNR=5.4						
WRAB	**Tennant Creek**	**48.00**	**125**	*eP*	**P**	**01 34 02.5**	**+0.1**
	3.4nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**49.45**	**341**	P	**P**	**01 34 13.0**	**-0.1**
	1.4nm,0.9s,mb4.0,baz=135,slow=6.3,SNR=3.4						
BVAR				PcP	PcP	01 35 35.2	0.0
	0.8nm,0.7s,baz=180,slow=3.0,SNR=3.2						
BRVK	**Borovoye**	**49.51**	**341**	*eP*	**P**	**01 34 12.6**	**-1.0**
	7.4nm,1.3s,mb4.6						
ASAR	**Alice Springs**	**49.62**	**130**	P	**P**	**01 34 15.4**	**+0.6**
	0.8nm,0.7s,mb3.9,baz=302,slow=6.8,SNR=4.3						
ASAR				PcP	PcP	01 35 37.9	+1.6
	0.7nm,0.8s,baz=297,slow=6.0,SNR=3.1						
KMBO	**Kilima Mbogo**	**57.34**	**264**	P	**P**	**01 35 14.6**	**+2.6**
	2.7nm,1.1s,mb4.2,baz=53,slow=12,SNR=3.7						
KMBO	**Kilima Mbogo**	**57.34**	**264**	*eP*	**P**	**01 35 10.5**	**-1.5**
	1.9nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	**62.73**	**311**	P	**P**	**01 35 47.6**	**-0.9**
	0.9nm,0.7s,mb4.0,baz=127,slow=6.5,SNR=3.8						
MLR	**Muntele Rosu**	**69.50**	**316**	P	**P**	**01 36 32.0**	**+0.4**
	2.8nm,1.2s,mb4.1,baz=181,slow=19,SNR=3.3						
JOF	**Joensuu**	**71.28**	**335**	*ep*	**P**	**01 36 41.5**	**-0.6**
	1.3nm,0.6s,mb4.0						
FINES	**FINESS Array B**	**73.13**	**332**	P	**P**	**01 36 53.0**	**-0.1**
	2.0nm,0.6s,mb4.2,baz=105,slow=6.4,SNR=6.6						
KAF	**Kangasniemi**	**73.22**	**333**	*ep*	**P**	**01 36 52.2**	**-1.3**
	0.3nm,0.4s,mb3.6						
KEV	**Kevo**	**75.29**	**341**	*ep*	**P**	**01 37 02.9**	**-2.5**
	0.3nm,0.3s,mb3.7						
ARCES	**ARCESS Array B**	**75.72**	**340**	P	**P**	**01 37 08.5**	**+0.6**
	1.7nm,1.0s,mb3.9,baz=100,slow=5.7,SNR=6.0						
BRG	**Berggiesshubel**	**78.11**	**320**	P	**P**	**01 37 25.3**	**+3.7**
	11nm,1.7s,mb4.5						
GERES	**GERESS Array B**	**78.18**	**318**	P	**P**	**01 37 22.5**	**+0.4**
	1.1nm,0.8s,mb3.9,baz=90,slow=4.0,SNR=5.6						
HFS	**Hagfors**	**78.87**	**330**	P	**P**	**01 37 25.8**	**+0.3**
	1.4nm,0.4s,mb4.3,baz=108,slow=4.7,SNR=14						
NB2	**NORSAR Subarra**	**80.15**	**331**	P	**P**	**01 37 32.1**	**-0.4**
	2.9nm,0.8s,mb4.3,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**80.15**	**331**	P	**P**	**01 37 32.7**	**+0.2**
	1.8nm,0.8s,mb4.1,baz=94,slow=5.4,SNR=5.7						
PDAR	**Pinedale Array**	**125.63**	**21**	PKP	PKPdf	01 44 25.3	+2.5
	0.4nm,0.8s,baz=180,slow=1.5,SNR=3.4						
TXAR	**Lajitas Array**	**139.68**	**24**	PKP	PKPdf	01 44 52.7	+3.2
	0.1nm,0.5s,baz=180,slow=2.5,SNR=3.3						
TXAR	**Lajitas Array**	**139.68**	**24**	PKP	PKPdf	01 44 52.7	+3.2
PLCA	**Paso Flores**	**144.08**	**200**	PKP	PKPdf	01 44 58.3	+1.5
	0.8nm,0.5s,baz=214,slow=5.9,SNR=2.7						

*IDC **28** 01:29:07.1±0.8, 7.77N×94.07E, mb4.2/16, mb1 4.3/17, mb1mx4.3/23, mbtmp4.2/17, ML4.3/1, Error ellipse: s-maj=34.8km s-min=19.4km az=48.0*
*NEIC **28** 01:29:11.8±0.6, 7.78N×94.17E, h30km, mb4.4/11, Error ellipse: s-maj=15.0km s-min=11.8km az=215.0*
*BJI **28** 01:29:15.2, 7.85N×94.70E, h18km, mB4.8, mb4.5, Ms4.8, Msz4.4*
ISC 28 01:29:07.5±0.6, 7.81N±0.08×94.22E±0.08, h10km, n51, σ0§98/49, mb4.4/30, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**9.72**	**36**	P	**P**	**01 31 30.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**11.53**	**23**	Pn	**P**	**01 31 56.0**	**+0.6**
	0.5nm,0.3s,baz=212,slow=14,SNR=8.2						
CHG	**Chiang Mai**	**11.86**	**22**	⇓P	**P**	**01 32 01.5**	**+1.7**
	20nm,1.0s						
NANT	**Nan**	**12.61**	**29**	P	**P**	**01 32 13.0**	**+3.1**
HYB	**Hyderabad**	**18.01**	**303**	*eP*	**P**	**01 33 20.0**	**+0.2**
HYB	**Hyderabad**	**18.01**	**303**	*i* P	**P**	**01 33 20.0**	**+0.2**
KMI	**Kunming**	**19.04**	**24**	P	**P**	**01 33 37.4**	**+5.0**
	13nm,1.0s						
KMI				pP		01 33 45.4	
JIRN	**Jiri**	**21.16**	**340**	*eP*	**P**	**01 33 54.8**	**-0.4**
	82nm,0.9s,mb5.1						
PKI	**Pulchoki**	**21.35**	**338**	*eP*	**P**	**01 33 57.1**	**-0.1**
	116nm,1.1s,mb5.2						
DMN	**Daman**	**21.50**	**337**	*eP*	**P**	**01 33 58.6**	**-0.1**
	146nm,1.1s,mb5.2						
GKN	**Gorkha**	**22.03**	**337**	*eP*	**P**	**01 34 03.8**	**-0.3**
	73nm,0.6s,mb5.3						
KOLN	**Koldanda**	**22.25**	**334**	*eP*	**P**	**01 34 05.8**	**-0.5**
	89nm,0.8s,mb5.2						
ENH	**Enshi**	**26.53**	**31**	*eP*	**P**	**01 34 48.1**	**+0.7**
	8.8nm,1.0s,mb4.2						
SONM	**Songino Array**	**41.20**	**12**	P	**P**	**01 36 53.5**	**-0.5**
	1.6nm,0.8s,mb3.7,baz=214,slow=4.5,SNR=6.1						
SONM				PcP	PcP	01 38 54.0	+0.2
	1.6nm,1.1s,baz=207,slow=3.2,SNR=2.5						
KURK	**Kurchatov**	**44.69**	**346**	*eP*	**P**	**01 37 21.5**	**-0.9**
	12nm,1.2s,mb4.6						
ZAL	**Zalesovo**	**46.62**	**352**	P	**P**	**01 37 37.4**	**-0.3**
	2.7nm,0.6s,mb4.4,baz=306,slow=7.3,SNR=9.3						
WRA	**Warramunga Arr**	**48.16**	**126**	P	**P**	**01 37 50.2**	**-0.1**
	1.5nm,0.9s,mb4.0,baz=304,slow=8.6,SNR=6.1						
BVAR	**Borovoye Array**	**49.07**	**341**	P	**P**	**01 37 55.5**	**-1.4**
	2.6nm,1.0s,mb4.2,baz=153,slow=6.6,SNR=6.7						
BRVK	**Borovoye**	**49.13**	**341**	*eP*	**P**	**01 37 57.0**	**-0.3**
	2.0nm,0.9s,mb4.2						
RAYN	**Ar Rayn**	**49.18**	**294**	P	**P**	**01 37 59.8**	**+1.7**
	42nm,1.7s,mb5.2,SNR=9.5						
ASAR	**Alice Springs**	**49.81**	**130**	P	**P**	**01 38 02.2**	**-0.7**
	0.8nm,0.9s,mb3.8,baz=297,slow=4.8,SNR=4.0						
KMBO	**Kilima Mbogo**	**57.50**	**264**	P	**P**	**01 39 02.7**	**+2.9**
	2.5nm,0.8s,mb4.3,baz=61,slow=6.6,SNR=6.0						
KMBO	**Kilima Mbogo**	**57.50**	**264**	P	**P**	**01 39 02.7**	**+2.9**
BRTR	**Keskin Array B**	**62.53**	**311**	P	**P**	**01 39 30.5**	**-3.4**
	1.0nm,0.6s,mb4.1,baz=121,slow=7.2,SNR=5.0						
AKASG	**Malin Array Be**	**68.25**	**322**	P	**P**	**01 40 07.9**	**-2.7**
	3.7nm,1.1s,mb4.3,baz=87,slow=4.7,SNR=8.8						
IDI	**Anoyia**	**68.67**	**305**	P	**P**	**01 40 13.7**	**+0.2**
	11nm,1.0s,mb4.7,baz=94,slow=6.4,SNR=3.6						
MLR	**Muntele Rosu**	**69.27**	**316**	P	**P**	**01 40 16.5**	**-0.5**
	5.7nm,1.0s,mb4.5,baz=119,slow=18						
KOLS	**Kolonicke sedl**	**72.30**	**319**	*eP*	**P**	**01 40 35.7**	**+0.4**
FINES	**FINESS Array B**	**72.80**	**332**	P	**P**	**01 40 37.5**	**-0.5**
	2.6nm,0.8s,mb4.2,baz=90,slow=5.4,SNR=5.1						
FINES	**FINESS Array B**	**72.80**	**332**	P	**P**	**01 40 37.5**	**-0.5**
CRVS	**Cervenica-Dubn**	**72.83**	**319**	*eP*	**P**	**01 40 39.0**	**+0.6**
KAF	**Kangasniemi**	**72.88**	**333**	*ep*	**P**	**01 40 36.3**	**-2.1**
	0.4nm,0.3s,mb3.8						
VYHS	**Vyhne**	**74.51**	**318**	*eP*	**P**	**01 40 49.5**	**+1.3**
KEV	**Kevo**	**74.92**	**341**	*ep*	**P**	**01 40 48.7**	**-1.4**
	0.4nm,0.4s,mb3.7						
OKC	**Ostrava-Krasne**	**75.09**	**319**	*eP*	**P**	**01 40 51.8**	**+0.3**
ARCES	**ARCESS Array B**	**75.35**	**340**	P	**P**	**01 40 53.0**	**+0.4**
	3.0nm,0.8s,mb4.2,baz=76,slow=5.0,SNR=4.8						
ZST	**Bratislava**	**75.63**	**318**	*eP*	**P**	**01 40 54.7**	**+0.1**
DPC	**Dobruska-Polom**	**76.31**	**320**	*eP*	**P**	**01 40 58.9**	**+0.5**
PRU	**Pruhonice**	**77.42**	**319**	*eP*	**P**	**01 41 04.9**	**+0.3**
BRG	**Berggiesshubel**	**77.85**	**320**	*eP*	**P**	**01 41 07.1**	**+0.2**
	12nm,1.4s,mb4.6						
GERES	**GERESS Array B**	**77.92**	**318**	P	**P**	**01 41 07.9**	**+0.5**
	1.6nm,0.8s,mb4.0,baz=90,slow=5.3,SNR=10						
HFS	**Hagfors**	**78.55**	**330**	P	**P**	**01 41 09.5**	**-1.1**
	2.6nm,0.6s,mb4.3,baz=101,slow=7.6,SNR=7.5						
MOX	**Moxa**	**79.32**	**320**	*eP*	**P**	**01 41 16.0**	**+1.0**
GRA1	**Grafenberg Arr**	**79.57**	**319**	*eP*	**P**	**01 41 17.3**	**+1.0**
	15nm,1.2s,mb4.8						
GRF	**Grafenberg Arr**	**79.57**	**319**	*eP*	**P**	**01 41 17.3**	**+1.0**
	15nm,1.2s,mb4.8						
NB2	**NORSAR Subarra**	**79.82**	**331**	P	**P**	**01 41 17.4**	**-0.1**
	1.2nm,0.7s,mb3.9,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**79.82**	**331**	P	**P**	**01 41 17.5**	**+0.1**
	1.4nm,0.7s,mb4.0,baz=94,slow=5.3,SNR=4.7						
DAVOX	**Davos**	**80.49**	**316**	P	**P**	**01 41 20.4**	**-0.9**
	3.7nm,1.0s,mb4.3,baz=154,slow=16,SNR=2.2						
LPG	**La Plagne**	**82.72**	**315**	*eP*	**P**	**01 41 34.0**	**+1.0**
	24nm,1.0s,mb4.9						
PDAR	**Pinedale Array**	**125.19**	**21**	PKP	PKPdf	01 48 09.2	-2.7
	0.1nm,0.5s,baz=229,slow=45,SNR=3.0						
PLCA	**Paso Flores**	**144.52**	**200**	PKP	PKPdf	01 48 47.8	+0.2
	2.6nm,0.9s,baz=174,slow=6.8,SNR=3.4						

*IDC **28** 01:29:22.8±0.7, 7.78N×93.97E, mb4.5/18, mb1 4.6/19, mb1mx4.6/24, mbtmp4.5/19, ML4.9/1, Error ellipse: s-maj=31.3km s-min=16.8km az=46.0*
ISC 28 01:29:22.0±0.6, 7.66N±0.09×94.06E±0.09, h10km, n44, σ1§14/33, mb4.4/20, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.43**	**48**	P	**Pn**	**01 31 10.5**	**-2.7**
CMAR	**Chiang Mai Arr**	**11.74**	**23**	Pn	**P**	**01 32 12.2**	**-0.5**
	2.5nm,0.3s,baz=215,slow=14,SNR=15						
KMI	**Kunming**	**19.24**	**25**	sP	**P**	**01 33 49.4**	**+0.1**
KMI				PP		01 33 55.0	
KMI				S	**S**	**01 37 22.6**	**+2.1**
LZH	**Lanzhou**	**29.68**	**16**	*eP*	**P**	**01 35 34.4**	**+4.1**
LZH				pP	pP	01 35 43.5	+10
LZH				sP	sP	01 35 47.0	+12
LZH				LR	LR		
	comp=Z,990nm,14.5s						
SONM	**Songino Array**	**41.39**	**13**	P	**P**	**01 37 10.4**	**+0.4**
	comp=Z,7.8nm,1.1s,mb4.3,baz=198,slow=7.8,SNR=12						
ZAL	**Zalesovo**	**46.75**	**352**	P	**P**	**01 37 52.1**	**-1.1**
	comp=Z,6.6nm,1.0s,mb4.5,baz=300,slow=7.1,SNR=6.5						
WRA	**Warramunga Arr**	**48.20**	**125**	P	**P**	**01 38 06.4**	**+1.3**
	comp=Z,1.2nm,0.4s,mb4.2,baz=304,slow=8.6,SNR=6.6						
BVAR	**Borovoye Array**	**49.16**	**341**	P	**P**	**01 38 09.9**	**-2.1**
	comp=Z,2.8nm,0.9s,mb4.3,baz=117,slow=6.6,SNR=5.2						
BVAR				PcP	PcP	01 39 37.7	+1.9
	comp=Z,1.9nm,0.8s,baz=135,slow=6.3,SNR=3.7						
ASAR	**Alice Springs**	**49.84**	**130**	P	**P**	**01 38 17.1**	**-0.6**
	comp=Z,2.5nm,0.9s,mb4.2,baz=306,slow=7.9,SNR=8.5						
ASAR				PcP	PcP	01 39 41.2	+2.6
	comp=Z,1.9nm,0.8s,baz=306,slow=3.

1.8nm,0.6s,mb4.3
RAYN **Ar Rayn** 49.12 294 P P 01 41 08.0 +1.2
65nm,0.8s,SNR=12
ASAR **Alice Springs** 49.92 130 P P 01 41 12.4 -0.5
2.7nm,0.9s,mb4.3,baz=304,slow=7.9,SNR=6.8
ASAR PcP PcP 01 42 33.1 -0.1
0.8nm,0.8s,baz=306,slow=3.5,SNR=3.2
PMG **Port Moresby** 55.49 107 P P 01 41 55.9 +1.4
22nm,1.1s,mb5.1,baz=284,slow=8.3,SNR=2.9
KMBO **Kilima Mbogo** 57.52 264 P P 01 42 11.1 +2.1
7.2nm,0.8s,mb4.7,baz=51,slow=11,SNR=15
ASF **Jabal al Asfar** 58.23 303 P P 01 42 13.5 -0.2
1.7nm,0.8s,mb4.1,baz=345,slow=6.9,SNR=3.5
STKA **Stephens Creek** 60.12 134 P P 01 42 25.8 -1.2
2.3nm,0.7s,mb4.3,baz=303,slow=7.7,SNR=4.1
BRTR **Keskin Array B** 62.42 311 P P 01 42 40.5 -1.8
2.1nm,0.8s,mb4.3,baz=122,slow=7.8,SNR=9.5
AKASG **Malin Array Be** 68.12 322 P P 01 43 17.1 -1.6
1.3nm,0.6s,mb4.1,baz=92,slow=4.5,SNR=5.9
IDI **Anoyia** 68.57 305 P P 01 43 21.2 -0.7
15nm,1.1s,mb4.8,baz=43,slow=15,SNR=3.7
MLR **Muntele Rosu** 69.15 316 P P 01 43 25.3 0.0
4.9nm,0.8s,mb4.5
JOF **Joensuu** 70.78 334 *ep* P 01 43 34.6 -0.3
0.4nm,0.4s,mb3.7
JOF **Joensuu** 70.78 334 *ep* pP 01 43 44.4 -0.8
0.6nm,0.5s
FINES **FINESS Array B** 72.65 332 P P 01 43 45.3 -0.7
5.6nm,1.0s,mb4.5,baz=141,slow=12,SNR=4.6
CRVS **Cervenica-Dubn** 72.70 319 *eP* P 01 43 46.6 0.0
KAF **Kangasniemi** 72.73 333 *ep* P 01 43 44.2 -2.3
0.6nm,0.5s,mb3.8
KAF **Kangasniemi** 72.73 333 *ep* P 01 43 53.8 +7.3
0.6nm,0.4s,mb3.9
LBTB **Lobatse** 74.37 241 *eP* P 01 43 57.7 +0.9
5.3nm,0.8s,mb4.5
VYHS **Vyhne** 74.38 318 *eP* P 01 43 53.0 -3.4
KEV **Kevo** 74.76 341 *ep* P 01 43 58.3 +0.1
5.5nm,0.9s,mb4.5
KEV **Kevo** 74.76 341 *ep* P 01 44 04.3 +6.1
4.7nm,0.8s,mb4.5
ARCES **ARCESS Array B** 75.19 340 P P 01 44 00.7 +0.1
1.9nm,0.7s,mb4.2,baz=117,slow=5.4,SNR=4.7
VRAC **Vranov** 75.92 319 P P 01 44 04.9 -0.3
2.0nm,0.8s,mb4.1,baz=79,slow=9.9,SNR=3.6
GERES **GERESS Array B** 77.80 318 P P 01 44 16.0 +0.3
3.0nm,0.7s,mb4.3,baz=76,slow=5.5,SNR=14
KHC **Kasperske Hory** 77.89 318 *eP* P 01 44 16.0 -0.3
CLL **Collm** 78.33 321 P P 01 44 18.0 -0.6
HFS **Hagfors** 78.40 330 P P 01 44 18.9 +0.1
4.0nm,0.8s,mb4.4,baz=90,slow=4.4,SNR=6.4
GRA1 **Grafenberg Arr** 79.44 319 *eP* P 01 44 25.3 +0.6
8.0nm,1.0s,mb4.6
GRF **Grafenberg Arr** 79.44 319 *eP* P 01 44 25.3 +0.6
8.0nm,1.0s,mb4.6
NB2 **NORSAR Subarra** 79.67 331 P P 01 44 24.9 -0.9
5.9nm,1.0s,mb4.5,baz=95,slow=5.0
NOA **NORSAR Array B** 79.67 331 P P 01 44 25.6 -0.2
2.9nm,0.9s,mb4.2,baz=95,slow=4.9,SNR=4.6
DAVOX **Davos** 80.37 316 P P 01 44 29.5 -0.3
3.0nm,0.5s,mb4.5
LPG **La Plagne** 82.60 315 *eP* P 01 44 42.3 +0.9
14nm,0.9s,mb4.7
EKA **Eskdalemuir Ar** 87.68 325 P P 01 45 07.8 +1.5
2.9nm,0.9s,mb4.5,baz=98,slow=5.0,SNR=3.8
ESDC **Sonseca Array** 91.21 310 P P 01 45 24.1 +0.6
0.8nm,0.6s,mb4.2,baz=74,slow=5.2,SNR=3.6
NVAR **Mina Array Bea** 124.78 31 PKP PKPdf 01 51 20.4 +3.4
0.7nm,0.6s,baz=23,slow=1.7,SNR=5.4
PDAR **Pinedale Array** 125.03 21 PKP PKPdf 01 51 19.4 +2.0
1.3nm,0.9s,baz=51,slow=1.7,SNR=8.2
TXAR **Lajitas Array** 139.09 24 PKP PKPdf 01 51 46.9 +2.6
0.3nm,0.6s,baz=29,slow=0.5,SNR=7.6
PLCA **Paso Flores** 144.68 200 PKP PKPdf 01 51 55.3 +1.6
7.3nm,0.9s,baz=134,slow=4.5,SNR=11
LPAZ **La Paz** 160.89 243 PKP PKPdf 01 51 32.3 -45
1.5nm,1.0s,baz=325,slow=5.1,SNR=2.7
LPAZ PKPab PKPab 01 52 18.1 -44
1.1nm,0.7s,baz=97,slow=9.0,SNR=4.0

WEL 28 01:32:47.5±0.3, 38.22S×175.93E, h148km±4km, ML3.5/6, Error ellipse: s-maj=5.6km s-min=4.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.93**	**93**	PN	P	01 33 11.5	-0.2
URZ				SN	S	01 33 30.0	-0.3
URZ				SN	S	01 33 30.3	0.0
BKZ	**Black Stump Fm**	**1.04**	**155**	PN	P	01 33 13.0	+0.3
BKZ				SN	S	01 33 31.5	-0.5
BKZ				SN	S	01 33 31.6	-0.4
MOVZ	**Moawhango**	**1.19**	**187**	PN	P	01 33 13.8	-0.3
MOVZ				SN	S	01 33 33.6	-1.1
MWZ	**Matawai**	**1.26**	**96**	PN	P	01 33 14.6	-0.2
MWZ				SN	S	01 33 35.1	-0.8
WAZ	**Wanganui**	**1.70**	**205**	*e*PN	P	01 33 19.0	-0.5
TSZ	**Takapari Road**	**1.84**	**179**	PN	P	01 33 20.1	-0.9
TSZ				SN	S	01 33 46.0	-0.7
PUZ	**Puketiti**	**1.84**	**86**	*e*PN	P	01 33 20.2	-0.8
PUZ				SN	S	01 33 45.2	-1.6
MRZ	**Mangatainoka R**	**2.45**	**186**	*e*PN	P	01 33 25.6	-3.0
MRZ				SN	S	01 33 55.6	-4.3
BFZ	**Birch Farm**	**2.47**	**174**	PN	P	01 33 26.5	-2.2
BFZ				SN	S	01 33 56.9	-3.4
KIW	**Kapiti Island**	**2.75**	**196**	PN	P	01 33 29.4	-3.0
KIW				SN	S	01 34 01.4	-5.3
MTW	**Mount Morrison**	**2.95**	**186**	PN	P	01 33 31.4	-3.5
MTW				*e*SN	S	01 34 04.6	-6.5
CAW	**Cannon Point**	**2.96**	**193**	PN	P	01 33 31.8	-3.2
CAW				SN	S	01 34 07.6	-3.7
MSWZ	**Moikau Station**	**3.23**	**189**	PN	P	01 33 34.6	-3.9
THZ	**Tophouse**	**4.24**	**212**	*e*PN	P	01 33 47.3	-4.4
THZ				SN	S	01 34 33.9	-7.1

IDC 28 01:34:10.7±1.5, 7.67N×93.71E, mb3.9/8, mb1 4.0/8, mb1mx3.8/18, mbtmp3.9/8, Error ellipse: s-maj=59.3km s-min=29.9km az=47.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.45**	**13**	P	P	01 41 58.5	-2.3
0.6nm,0.6s,baz=188,slow=10,SNR=2.0							
ZAL	**Zalesovo**	**46.69**	**353**	P	P	01 42 41.8	-1.2
2.1nm,0.5s,baz=310,slow=8.1,SNR=5.2							
WRA	**Warramunga Arr**	**48.49**	**125**	P	P	01 42 55.5	-2.1
0.5nm,0.5s,baz=306,slow=8.5,SNR=4.3							
BRTR	**Keskin Array B**	**62.24**	**311**	P	P	01 44 33.0	-3.7
0.3nm,0.5s,baz=106,slow=8.9,SNR=2.8							
FINES	**FINESS Array B**	**72.69**	**332**	P	P	01 45 38.8	-3.3
2.7nm,1.0s,baz=194,slow=31,SNR=3.4							
GERES	**GERESS Array B**	**77.69**	**318**	P	P	01 46 11.3	+0.4
0.7nm,0.7s,baz=90,slow=4.9,SNR=2.5							
HFS	**Hagfors**	**78.41**	**330**	P	P	01 46 12.7	-1.9
0.9nm,0.6s,baz=90,slow=5.8,SNR=2.7							
NB2	**NORSAR Subarra**	**79.70**	**331**	P	P	01 46 29.6	+8.0
2.0nm,0.8s,baz=92,slow=5.8							
NOA	**NORSAR Array B**	**79.70**	**331**	P	P	01 46 21.9	+0.3
0.5nm,0.6s,baz=21,slow=16,SNR=2.9							

IDC ***28*** *01:36:13.7±0.5, 7.85N×93.99E, mb4.7/27, mb1 4.8/28, mb1mx4.8/31, mbtmp4.7/28, ML4.5/1, MS4.6/12, Ms1 4.6/12, ms1mx4.3/21, Error ellipse: s-maj=24.6km s-min=11.2km az=46.0, Putative timing error at LPAZ*
BJI ***28*** *01:36:15.0, 7.66N×93.82E, h35km, mB5.4, mb5.0, Ms5.0, Msz4.7*
HRVD ***28*** *01:36:16.9±0.3, 7.96N×94.23E, h12km, MW5.2/53, Centroid moment Tensor Solution. LP body waves: s22,c26;Mantle waves: s53,c97; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.58±.20; $M_{\theta\theta}$1.00±.15; $M_{\phi\phi}$4.57±.18; $M_{r\theta}$-2.97±.59; $M_{\theta\phi}$3.71±.14; $M_{\phi r}$-3.47±.52; Best double couple: $M_0$7.742×10^{16} NP1: ϕ_s204°,δ27°,λ-102°. NP2:ϕ_s38°, δ63°,λ-84°. Principal axes: T 8.37, Plg18°, Azm123°; N -1.267, Plg6°, Azm215°; P -7.114, Plg71°, Azm322°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***28*** *01:36:16.9±0.2, 7.92N×94.12E, mb5.1/48, MS4.3/6 Error ellipse: s-maj=6.6km s-min=5.3km az=44.0*
CSEM ***28*** *01:36:17.3, 8.06N×94.36E, h33km, mb5.5*
MOS ***28*** *01:36:17.6±1.1, 8.00N×94.09E, h33km, mb5.3/59, MS4.8/8, Error ellipse: s-maj=9.4km s-min=5.2km az=114.1*

ISC 28 01:36:15.1±0.3, 7.93N±0.04×94.12E±0.03, h19km, h19km±.8km: pP-P, n269, σ1§03/239, mb5.0/87, MS4.7/29, 7C-9D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.47**	**24**	P	P	**01 39 02.3**	**+1.1**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
CMAR				MLR	MLR		
comp=Z,858nm,19.7s							
CMAR	**Chiang Mai Arr**	**11.47**	**24**	Pn	P	**01 39 02.2**	**+1.0**
comp=Z,0.9nm,0.3s,baz=212,slow=14,SNR=38							
CMAR				LR	LR	01 43 38.9	
comp=Z,858nm,19.7s,baz=220,slow=38							
CHG	**Chiang Mai**	**11.79**	**23**	⇑P	P	**01 39 06.5**	**+0.9**
comp=Z,74nm,1.0s							
KKTK	**Khon Kaen**	**11.92**	**45**	P	P	**01 39 08.0**	**+0.7**
CHRT	**Chiangrai**	**13.08**	**24**	⇑P	P	**01 39 24.0**	**+1.2**
comp=Z,205nm,0.9s							
VIS	**Vishakhapatnam**	**14.33**	**314**	*e*P	P	**01 39 38.8**	**-0.5**
VIS				*e*		01 39 51.0	
comp=Z,111nm,1.0s							
VIS				*e*		01 42 08.9	
VIS				*e*S	S	**01 42 16.7**	**-1.8**
CAL	**Calcutta**	**15.56**	**340**	*e*	P	**01 40 00.7**	**+5.3**
IMP	**Imphal**	**16.77**	**359**	*e*	P	**01 40 09.3**	**-1.4**
SHL	**Shillong**	**17.67**	**353**	*e*P	P	**01 40 20.0**	**-2.1**
SHL				*e*		01 43 45.0	
HYB	**Hyderabad**	**17.86**	**303**	*e*P	P	**01 40 26.0**	**+1.5**
HYB				*e*S	S	**01 43 41.0**	**+0.3**
HYB	**Hyderabad**	**17.86**	**303**	*i* P	P	**01 40 26.0**	**+1.5**
HYB				*e*S	S	**01 43 41.0**	**+0.3**
QIZ	**Qiongzhong**	**18.84**	**53**	P	P	**01 40 39.5**	**+3.0**
QIZ	**Qiongzhong**	**18.84**	**53**	*e*P	P	**01 40 35.7**	**-0.8**
comp=Z,92nm,1.1s							
KMI	**Kunming**	**18.98**	**25**	P	P	**01 40 41.4**	**+3.3**
KMI				S	S	**01 44 07.8**	**+2.0**
KMI				pmax	pmax		
comp=Z,107nm,1.1s							
KMI	**Kunming**	**18.98**	**25**	P	P	**01 40 41.4**	**+3.3**
comp=Z,107nm,1.1s							
KMI				pP		01 40 45.2	
KMI				sP		01 40 47.7	
KMI				PP	PP	01 40 58.1	+3.4
KMI				PPP	PPP	01 41 06.7	+3.0
KMI				S	S	**01 44 07.8**	**+2.0**
KMI				SSS	SSS	01 44 46.0	+1.1
NGP	**Nagpur**	**19.61**	**314**	*e*P	P	**01 40 47.2**	**+1.7**
NGP				*e*		01 40 57.0	
MNGI	**Mangalore**	**19.62**	**286**	*i* P	P	**01 40 47.6**	**+2.0**
MNGI				*e*		01 44 22.3	
COCO	**West Island**	**20.16**	**172**	*e*P	P	**01 40 51.8**	**+0.3**
comp=Z,282nm,1.3s							
JIRN	**Jiri**	**21.02**	**340**	*e*P	P	**01 40 59.5**	**-0.7**
comp=Z,410nm,1.2s,mb5.6							
PKI	**Pulchoki**	**21.21**	**338**	*e*P	P	**01 41 01.3**	**-0.9**
comp=Z,691nm,1.4s,mb5.8							
GOA	**Goa**	**21.23**	**293**	*e*	P	**01 41 07.7**	**+5.2**
GOA				*e*		01 45 14.7	
DMN	**Daman**	**21.36**	**338**	*e*P	P	**01 41 03.3**	**-0.4**
comp=Z,340nm,1.0s,mb5.6							
KKN	**Kakani**	**21.45**	**338**	*e*P	P	**01 41 03.8**	**-0.9**
comp=Z,720nm,1.7s,mb5.7							
KAD	**Karad**	**21.55**	**298**	*e*P	P	**01 41 07.0**	**+1.2**
LSA	**Lhasa**	**21.84**	**353**	P	P	**01 41 08.5**	**0.0**
LSA				AMB	AMB		
comp=Z,130nm,0.8s,mb5.4							
LSA	**Lhasa**	**21.84**	**353**	*e*P	P	**01 41 08.5**	**0.0**
LSA				pmax	pmax		
comp=Z,105nm,0.8s,mb5.3							
LSA	**Lhasa**	**21.84**	**353**	*e*P	P	**01 41 08.4**	**-0.1**
comp=Z,105nm,0.8s,mb5.3							
GKN	**Gorkha**	**21.89**	**337**	*e*P	P	**01 41 08.3**	**-0.7**
comp=Z,290nm,0.9s,mb5.7							
KOLN	**Koldanda**	**22.11**	**335**	*e*P	P	**01 41 11.5**	**+0.3**
comp=Z,871nm,1.4s,mb6.0							
BHPL	**Bhopal**	**22.11**	**315**	*e*P	P	**01 41 11.8**	**+0.6**
BHPL				*e*		01 41 22.9	
comp=Z,153nm,1.5s							
POO	**Poona**	**22.34**	**300**	*e*P	P	**01 41 15.7**	**+2.0**
POO				*e*		01 41 27.2	
comp=Z,175nm,1.8s							
BOM	**Bombay**	**23.39**	**300**	*i* P	P	**01 41 26.0**	**+2.1**
ENH	**Enshi**	**26.49**	**31**	*e*P	P	**01 41 52.7**	**-0.6**
DDI	**Dehra Dun**	**26.89**	**328**	*e*P	P	**01 41 58.4**	**+1.4**
BHJ	**Bhuj**	**27.99**	**306**	*e*P	P	**01 42 07.1**	**0.0**
BHJ				*e*	pP	01 42 14.1	+1.5
comp=Z,76nm,1.8s							
LZH	**Lanzhou**	**29.41**	**16**	*e*P	P	**01 42 22.0**	**+2.3**
LZH				AP	pP	01 42 31.8	+6.6
LZH				XP	sP	01 42 35.5	+7.8
LZH				PP	PP	01 43 17.8	+2.5
LZH				AMB	AMB		
comp=Z,80nm,1.8s,mb5.2							
LZH				AMB	AMB		
comp=Z,223nm,4.4s							
LZH				LR	LR		
comp=E,1μm,10.7s							
LZH				LR	LR		
comp=Z,1μm,12.1s,MS4.8							
LZH	**Lanzhou**	**29.41**	**16**	*e*P	P	**01 42 22.0**	**+2.3**
LZH				*PP	pP	01 42 31.7	+6.5
LZH				*SP	sP	01 42 35.5	+7.8
LZH						01 43 17.7	
LZH				pmax	pmax		
comp=Z,80nm,1.8s,mb5.2							
LZH				MLR	MLR		
comp=Z,1μm,12.1s,MS4.8							
LZH	**Lanzhou**	**29.41**	**16**	*e*P	P	**01 42 22.0**	**+2.3**
comp=Z,80nm,1.8s,mb5.2							
LZH				pP	pP	01 42 31.7	+6.5
LZH				sP	sP	01 42 35.5	+7.8
LZH				PP	PP	01 43 17.7	+2.4
LZH				LR	LR		
comp=Z,1μm,12.1s,MS4.8							
WHN	**Wuhan**	**29.41**	**37**	P	P	**01 42 21.0**	**+1.2**
NJ2	**Nanjing**	**33.24**	**40**	*e*P	P	**01 42 55.0**	**+1.5**
NJ2				PP	PP	01 44 06.3	+1.3
NJ2				S	S	**01 48 06.0**	**-5.5**
NJ2				AMB	AMB		
comp=Z,1μm,4.7s							
NJ2				LR	LR		
comp=Z,2μm,13.9s,MS5.0							
SSE	**Sheshan**	**34.20**	**44**	*e*P	P	**01 42 58.3**	**-3.5**
SSE				AMB	AMB		
comp=Z,23nm,0.8s,mb5.2							
SSE				AMB	AMB		
comp=Z,129nm,8.7s							
SSE				LR	LR		
comp=N,626nm,19.3s,MS4.4							
SSE				LR	LR		
comp=E,296nm,19.3s,MS4.4							
SSE				LR	LR		
comp=Z,410nm,15.9s,MS4.3							
SSE	**Sheshan**	**34.20**	**44**	*e*P	P	**01 42 58.2**	**-3.6**
comp=Z,23nm,0.8s,mb5.2							
SSE				LR	LR		
comp=Z,410nm,15.9s,MS4.3							
TIA	**Tai'an**	**35.12**	**33**	*e*P	P	**01 43 10.3**	**+0.7**
WMQ	**Urumqi**	**36.19**	**352**	P	P	**01 43 19.3**	**+0.7**
WMQ				AP	pP	01 43 25.0	+0.8
WMQ				XP	sP	01 43 28.0	+1.4
WMQ				PP	PP	01 44 41.5	0.0
WMQ				PCP	PcP	01 45 45.3	+1.0
WMQ				S	S	**01 48 57.0**	**0.0**
WMQ				AMB	AMB		
comp=Z,120nm,1.2s,mb5.7							
WMQ				AMB	AMB		
comp=Z,658nm,5.2s							
WMQ				LR	LR		
comp=N,2μm,17.8s,MS5.0							
WMQ				LR	LR		
comp=E,1μm,17.5s,MS5.0							
WMQ				LR	LR		
comp=Z,3μm,17.6s,MS5.1							
JOW	**Kunigami**	**37.44**	**56**	LR	LR	02 01 20.8	
comp=Z,713nm,18.1s,MS4.5,baz=151,slow=40							
BJT	**Baijiatuau**	**37.55**	**28**	*e*P	P	**01 43 30.3**	**+0.2**
BJT				pmax	pmax		
comp=Z,136nm,1.8s							
BJT				MLR	MLR		
comp=Z,838nm,19.0s							
BJT	**Baijiatuau**	**37.55**	**28**	*e*P	P	**01 43 30.3**	**+0.2**
comp=Z,136nm,1.8s,mb5.4							
BJT				LR	LR		
comp=Z,838nm,19.0s,MS4.6							
BJI	**Beijing**	**37.57**	**28**	P	P	**01 43 32.2**	**+2.0**
BJI				pmax	pmax		
comp=Z,15nm,1.2s,mb4.6							
BJI				MLR	MLR		
comp=Z,430nm,21.8s,MS4.2							
BJI	**Beijing**	**37.57**	**28**	P	P	**01 43 32.2**	**+2.0**
comp=Z,15nm,1.2s,mb4.6							
BJI				S	tx	01 49 43.8	
BJI				LR	LR		
comp=Z,430nm,21.8s,MS4.2							
UCH	**Uchtor**	**38.30**	**336**	P	P	**01 43 36.9**	**+0.6**
SNR=8.0							
KBK	**Karagaybulak**	**38.49**	**337**	P	P	**01 43 38.8**	**+0.9**
SNR=9.7							
AML	**Almayashu**	**38.55**	**335**	P	P	**01 43 39.3**	**+0.8**
SNR=14							
AAK	**Ala-Archa**	**38.65**	**337**	P	P	**01 43 40.4**	**+1.1**
SNR=9.5							
AAK	**Ala-Archa**	**38.65**	**337**	*e*P	P	**01 43 39.0**	**-0.3**
AAK				pmax	pmax		
comp=Z,69nm,1.5s,mb5.2							
AAK	**Ala-Archa**	**38.65**	**337**	*e*P	P	**01 43 39.0**	**-0.2**
comp=Z,69nm,1.5s,mb5.2							
CHMS	**Chumysh**	**38.86**	**337**	P	P	**01 43 40.9**	**-0.2**
SNR=9.8							
USP	**Ospenovka**	**39.18**	**337**	P	P	**01 43 43.7**	**0.0**
SNR=13							
MKAR	**Makanchi Array**	**40.03**	**347**	*i* P	P	**01 43 49.9**	**-0.8**
MKAR				pmax	pmax		
comp=Z,8.0nm,0.7s							
SONM	**Songino Array**	**41.12**	**13**	P	P	**01 43 60.0**	**+0.4**
comp=Z,11nm,0.9s,mb4.5,baz=196,slow=6.6,SNR=30							
SONM				PcP	PcP	01 45 59.4	-0.3
comp=Z,2.3nm,0.6s,baz=194,slow=3.4,SNR=5.3							
ULN	**Ulaanbaatar**	**41.29**	**13**	*e*P	P	**01 44 00.6**	**-0.4**
ULN				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.4							
ULN				MLR	MLR		
comp=Z,361nm,19.0s,MS4.3							
ULN	**Ulaanbaatar**	**41.29**	**13**	*e*P	P	**01 44 00.6**	**-0.4**
comp=Z,7.7nm,0.8s,mb4.4							
ULN				LR	LR		
comp=Z,361nm,19.0s,MS4.3							
SNY	**Shenyang**	**42.64**	**33**	⇑P	P	**01 44 13.3**	**+1.1**
SNY				AMB	AMB		
comp=Z,220nm,7.3s							
SNY				LR	LR		
comp=N,530nm,13.7s,MS4.8							
SNY				LR	LR		
comp=E,690nm,14.2s,MS4.8							
SNY				LR	LR		
comp=Z,630nm,13.6s,MS4.7							
ZAK	**Zakamensk**	**43.00**	**9**	‖*i* P	P	**01 44 15.3**	**+0.3**
TLY	**Talaya**	**44.32**	**8**	*e*P	P	**01 44 26.2**	**+0.5**
TLY				*e*S		01 51 15.2	
TLY				pmax	pmax		
comp=Z,12nm,1.4s,mb4.4							
TLY				MLR	MLR		
comp=Z,389nm,15.0s,MS4.5							
KURK	**Kurchatov**	**44.56**	**346**	P	P	**01 44 27.3**	**-0.3**
KURK				pmax	pmax		
comp=Z,72nm,1.6s,mb5.2							
KURK	**Kurchatov**	**44.56**	**346**	*e*P	P	**01 44 27.1**	**-0.6**
comp=Z,77nm,1.3s,mb5.4							
KURK				LR	LR		
comp=Z,240nm,19.0s,MS4.1							
NWAO	**Narrogin (SRO)**	**46.20**	**153**	*e*P	P	**01 44 40.6**	**-0.3**
NWAO				pmax	pmax		
comp=Z,45nm,1.2s							
NWAO	**Narrogin (SRO)**	**46.20**	**153**	P	P	**01 44 40.1**	**-0.8**
comp=Z,26nm,1.2s,mb5.0,baz=304,slow=11,SNR=5.0							
NWAO	**Narrogin (SRO)**	**46.20**	**153**	*e*P	P	**01 44 40.6**	**-0.4**
comp=Z,45nm,1.2s,mb5.3							
HIA	**Hailar**	**46.48**	**23**	*e*P	P	**01 44 43.3**	**+0.4**
HIA				pmax	pmax		
comp=Z,47nm,1.3s							
HIA	**Hailar**	**46.48**	**23**	*e*P	P	**01 44 43.3**	**+0.4**
comp=Z,47nm,1.3s,mb5.3							
ZAL	**Zalesovo**	**46.49**	**352**	P	P	**01 44 43.3**	**+0.4**
ZAL				pmax	pmax		
comp=Z,18nm,0.9s							
ZAL	**Zalesovo**	**46.49**	**352**	P	P	**01 44 43.3**	**+0.3**
comp=Z,18nm,0.9s,mb5.0,baz=296,slow=11,SNR=42							
NVS	**Novosibirsk**	**47.59**	**351**	*i* P	P	**01 44 50.7**	**-0.9**
NVS				pmax	pmax		
comp=Z,28nm,0.8s,mb5.3							
NVS				pmax	pmax		
comp=N,18nm,9.0s							
NVS				pmax	pmax		
comp=E,6.0nm,0.7s							
MDJ	**Mudanjiang**	**47.78**	**34**	*e*P	P	**01 44 50.9**	**-2.3**
WRA	**Warramunga Arr**	**48.31**	**126**	P	P	**01 44 56.8**	**-0.8**
WRA				pmax	pmax		
comp=Z,5.0nm,0.9s							
WRA	**Warramunga Arr**	**48.31**	**126**	P	P	**01 44 56.8**	**-0.8**
comp=Z,4.9nm,0.9s,mb4.5,baz=303,slow=8.9,SNR=13							
WRAB	**Tennant Creek**	**48.31**	**126**	*i* P	P	**01 44 56.4**	**-1.3**
WRAB	**Tennant Creek**	**48.31**	**126**	*e*P	P	**01 44 55.9**	**-1.8**
comp=Z,12nm,0.9s,mb4.9							
WRAB				LR	LR		
comp=Z,249nm,22.0s,MS4.2							
WB2	**Warramunga Arr**	**48.32**	**126**	*e*P	P	**01 44 56.8**	**-0.9**
BVA0	**Borovoye Array**	**48.93**	**341**	*i* P	P	**01 45 01.1**	**-0.9**
BVA0				pmax	pmax		
comp=Z,4.0nm,1.2s,mb4.3							
BVAR	**Borovoye Array**	**48.93**	**341**	P	P	**01 45 00.9**	**-1.1**
comp=Z,12nm,1.0s,mb4.9,baz=143,slow=7.4,SNR=22							
BVAR				PcP	PcP	01 46 26.5	-0.1
comp=Z,2.4nm,0.7s,baz=146,slow=5.3,SNR=3.8							
BRVK	**Borovoye**	**49.00**	**341**	*e*P	P	**01 45 01.2**	**-1.3**
BRVK				pmax	pmax		
comp=Z,14nm,1.0s,mb5.0							
BRVK	**Borovoye**	**49.00**	**341**	*e*P	P	**01 45 01.2**	**-1.3**
comp=Z,14nm,1.0s,mb5.0							
MAT	**Matsushiro**	**49.14**	**48**	*e*P	P	**01 45 05.0**	**+1.1**
MAT				pmax	pmax		
comp=Z,56nm,1.5s,mb5.4							
MAT	**Matsushiro**	**49.14**	**48**	*e*P	P	**01 45 05.0**	**+1.1**
comp=Z,56nm,1.5s,mb5.4							
MAT	**Matsushiro**	**49.14**	**48**	P	P	**01 45 04.8**	**+0.9**
CHKZ	**Chkalovo**	**49.42**	**342**	*e*P	P	**01 45 04.7**	**-1.1**
CHKZ				*e*PP	pP	01 45 11.0	-0.5
CHKZ				pmax	pmax		
comp=Z,33nm,0.8s,mb5.4							
CHKZ	**Chkalovo**	**49.42**	**342**	*e*P	P	**01 45 04.7**	**-1.1**
comp=Z,33nm,0.8s,mb5.4							
CHKZ				*e*pP	pP	01 45 11.0	-0.4
ASAR	**Alice Springs**	**49.96**	**130**	P	P	**01 45 09.1**	**-1.3**
comp=Z,3.7nm,0.9s,mb4.4,baz=304,slow=7.2,SNR=12							
ASAR				PcP	PcP	01 46 30.9	+0.2
comp=Z,2.8nm,0.7s,baz=306,slow=3.3,SNR=4.2							
KLR	**Kul'dur**	**51.85**	**31**	*e*P	P	**01 45 22.2**	**-2.1**
KLR				pmax	pmax		
comp=Z,83nm,2.4s,mb5.2							
BOD	**Bodaibo**	**52.10**	**13**	*e*P	P	**01 45 24.1**	**-2.0**
GNI	**Garni**	**54.39**	**314**	*e*P	P	**01 45 42.6**	**-0.7**
GNI				*e*PP	pP	01 45

ARU eS S 01 53 28.5 -10
ARU pmax pmax
comp=Z,43nm,1.2s,mb5.3
ARU MLR MLR
comp=Z,1μm,21.0s,MS5.0
ARU MLR MLR
comp=N,700nm,22.0s,MS4.9
ARU MLR MLR
comp=E,800nm,20.0s,MS4.9
YSS Yuzh-Sakhalins 56.75 38 i P P 01 46 00.0 -0.3
KIV Kislovodsk 57.27 318 d iP P 01 46 02.9 -1.1
KIV e pP 01 46 08.6 -1.2
KIV pmax pmax
comp=Z,16nm,0.9s,mb5.0
KIV MLR MLR
comp=Z,400nm,19.0s,MS4.5
KIV Kislovodsk 57.27 318 eP P 01 46 02.4 -1.6
comp=Z,36nm,1.0s,mb5.3
KIV epP pP 01 46 07.7 -2.1
KIV LR LR
comp=Z,135nm,22.0s,MS4.0
KMBO Kilima Mbogo 57.41 264 eP P 01 46 07.5 +2.1
KMBO e*PP pP 01 46 13.6 +2.4
KMBO pmax pmax
comp=Z,16nm,1.1s
KMBO MLR MLR
comp=Z,716nm,20.0s
KMBO Kilima Mbogo 57.41 264 P P 01 46 07.8 +2.4
comp=Z,6.0nm,0.7s,mb4.7,baz=55,slow=11,SNR=21
KMBO Kilima Mbogo 57.41 264 eP P 01 46 07.5 +2.1
comp=Z,16nm,1.1s,mb5.0
KMBO epP pP 01 46 13.6 +2.4
KMBO LR LR
comp=Z,716nm,20.0s,MS4.8
ASF Jabal al Asfar 58.17 303 P P 01 46 10.4 -0.1
comp=Z,4.2nm,0.9s,mb4.5,baz=305,slow=3.0,SNR=9.5
ASF LR LR 02 13 40.8
comp=Z,386nm,20.2s,MS4.5,baz=318,slow=39
CTA Charters Tower 58.35 119 P P 01 46 12.2 +0.3
CTA pmax pmax
comp=Z,3.0nm,0.8s
CTA MLR MLR
comp=Z,521nm,21.8s
CTA Charters Tower 58.35 119 P P 01 46 12.2 +0.3
comp=Z,2.5nm,0.8s,mb4.3,baz=294,slow=13,SNR=3.8
CTA LR LR 02 11 31.4
comp=Z,521nm,21.8s,MS4.6,baz=289,slow=36
MALT Malatya 58.41 310 eP P 01 46 11.2 -0.9
MALT e*PP pP 01 46 16.7 -1.2
MALT pmax pmax
comp=Z,14nm,1.3s,mb4.8
MALT Malatya 58.41 310 eP P 01 46 11.2 -0.9
comp=Z,14nm,1.3s,mb4.8
MALT epP pP 01 46 16.7 -1.2
SOKR Solikamsk 58.74 339 ⇑i P P 01 46 12.9 -1.2
SOKR pmax pmax
comp=Z,40nm,0.9s,mb5.5
SOKR MLR MLR
comp=Z,3μm,21.0s,MS5.4
SOC Sochi 59.13 316 eP P 01 46 14.5 -2.5
SOC e 01 46 58.6
SOC eS S 01 54 17.9 -3.7
SOC e 01 56 02.0
SOC eSS SS 01 58 19.5 +1.9
SOC eSSS SSS 02 00 47.3 +3.9
SOC pmax pmax
comp=Z,37nm,0.9s,mb5.4
SOC pmax pmax
comp=N,25nm,0.7s
SOC pmax pmax
comp=E,20nm,0.8s
EIL Elat 59.38 300 eP P 01 46 18.9 -0.1
comp=E,32nm,1.4s,mb5.2
YAK Yakutsk 59.95 18 eP P 01 46 21.3 -1.1
YAK e*PP pP 01 46 27.0 -1.3
YAK pmax pmax
comp=Z,72nm,0.9s,mb5.7
YAK Yakutsk 59.95 18 eP P 01 46 21.3 -1.2
comp=Z,72nm,0.9s,mb5.7
YAK epP pP 01 46 27.0 -1.2
STKA Stephens Creek 60.16 134 eP P 01 46 21.6 -2.7
comp=Z,4.3nm,0.9s,mb4.5
STKA Stephens Creek 60.16 134 P P 01 46 23.3 -1.0
comp=Z,4.8nm,0.9s,mb4.5,baz=302,slow=5.9,SNR=6.3
STKA LR LR 02 15 39.4
comp=Z,702nm,20.4s,MS4.8,baz=306,slow=39
BRTR Keskin Array B 62.38 311 P P 01 46 37.2 -2.0
BRTR pmax pmax
comp=Z,5.0nm,0.7s
BRTR Keskin Array B 62.38 311 P P 01 46 37.2 -2.0
comp=Z,5.1nm,0.7s,mb4.8,baz=124,slow=7.4,SNR=30
SIM Simferopol' 63.38 317 P P 01 46 45.5 -0.2
SIM pmax pmax
comp=Z,19nm,1.0s,mb5.2
MOS Moscow 65.03 329 eP P 01 46 54.7 -1.6
MOS e 01 47 09.8
MOS pmax pmax
comp=Z,58nm,0.7s,mb5.7
OBN Obninsk 65.33 328 d iP P 01 46 54.1 -4.1
OBN e 01 49 22.7
OBN pmax pmax
comp=Z,26nm,0.9s,mb5.3
OBN MLR MLR
comp=Z,700nm,20.0s,MS4.9
OBN Obninsk 65.33 328 eP P 01 46 53.9 -4.3
comp=Z,82nm,1.2s,mb5.6
OBN epP pP 01 46 59.9 -4.2
MA2 Magadan 66.73 28 eP P 01 47 06.8 -0.3
MA2 pmax pmax
comp=Z,49nm,1.2s,mb5.4
MA2 Magadan 66.73 28 eP P 01 47 06.8 -0.3
comp=Z,49nm,1.2s,mb5.4
TIXI Tiksi 67.19 11 ⇓i P P 01 47 08.7 -1.1
TIXI pmax pmax
comp=Z,58nm,1.2s,mb5.5
TIRR Tirgusor 67.20 315 ⇑P P 01 47 08.2 -2.2
KIS Kishinev 67.47 318 eP P 01 47 15.0 +3.0
AKASG Malin Array Be 68.10 322 P P 01 47 14.0 -1.9
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG Malin Array Be 68.10 322 P P 01 47 14.0 -1.9
comp=Z,5.8nm,0.7s,mb4.7,baz=88,slow=5.0,SNR=22
IDI Anoyia 68.52 305 P P 01 47 18.6 -0.2
comp=Z,17nm,0.8s,mb5.0,baz=81,slow=6.9,SNR=9.4
VRI Vrincioaia 68.65 316 ⇑P P 01 47 19.4 0.0
MLR Muntele Rosu 69.12 316 P P 01 47 22.1 -0.2
MLR pmax pmax
comp=Z,10.0nm,0.9s
MLR Muntele Rosu 69.12 316 P P 01 47 22.1 -0.2
comp=Z,10.0nm,0.8s,mb4.8,baz=130,slow=3.2,SNR=15
MLR Muntele Rosu 69.12 316 ⇑P P 01 47 22.1 -0.2
LSZ Lusaka 69.27 250 eP P 01 47 24.8 +1.1
LSZ pmax pmax
comp=Z,23nm,1.6s,mb4.9
LSZ Lusaka 69.27 250 eP P 01 47 24.8 +1.2
comp=Z,23nm,1.6s,mb4.9
JOF Joensuu 70.79 334 ep P 01 47 30.9 -1.3
comp=Z,8.7nm,0.8s,mb4.7
LVV L'vov 71.16 320 i P P 01 47 36.0 +1.3
LVV e 01 50 16.0
LVV e 01 51 52.0
KWP Kalwaria 71.98 320 eP P 01 47 39.0 -0.6
KWP Kalwaria 71.98 320 eP P 01 47 39.0 -0.6
JAN Janina 72.11 309 ⇓i P P 01 47 37.0 -3.5
JAN i pP 01 47 42.4 -4.0
JAN pmax pmax
comp=Z,47nm,1.2s,mb5.3
JAN MLR MLR
comp=Z,2μm,20.0s,MS5.3
KOLS Kolonicke sedl 72.15 319 eP P 01 47 40.7 +0.1
KOLS e*SP sP 01 47 51.0 +2.4
KOLS e 01 47 56.1
KOLS Kolonicke sedl 72.15 319 eP P 01 47 40.7 +0.1
KOLS epP pP 01 47 47.0 +0.5
KOLS eSP sP 01 47 51.0 +2.4
KOLS e 01 47 56.1
SUW Suwalki 72.45 324 eP P 01 47 41.2 -1.1
FINES FINESS Array B 72.66 332 P P 01 47 42.7 -0.6
FINES pmax pmax
comp=Z,14nm,0.8s
FINES FINESS Array B 72.66 332 P P 01 47 42.7 -0.6
comp=Z,14nm,0.8s,mb5.0,baz=104,slow=7.9,SNR=28
CRVS Cervenica-Dubn 72.68 319 eP P 01 47 44.0 +0.3
CRVS epP pP 01 47 50.1 +0.5
CRVS e 01 47 55.1

KAF Kangasniemi 72.74 333 ep P 01 47 42.2 -1.6
comp=Z,8.7nm,0.8s,mb4.7
KAF Kangasniemi 72.74 333 eP P 01 47 42.2 -1.6
KAF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
NIE Niedzica 73.49 319 eP P 01 47 48.5 0.0
PSZ Piszkesteto 73.59 318 eP P 01 47 48.5 -0.6
PSZ pmax pmax
comp=Z,21nm,1.4s,mb4.9
PSZ Piszkesteto 73.59 318 eP P 01 47 48.5 -0.6
comp=Z,21nm,1.4s,mb4.9
OJC Ojcow 73.92 320 eP P 01 47 50.7 -0.2
LBTB Lobatse 74.25 241 eP P 01 47 55.0 +1.6
LBTB pmax pmax
comp=Z,14nm,1.1s,mb4.8
LBTB Lobatse 74.25 241 eP P 01 47 55.0 +1.7
comp=Z,14nm,1.1s,mb4.8
VYHS Vyhne 74.36 318 eP P 01 47 53.1 -0.4
VYHS epP pP 01 47 58.4 -1.0
VYHS e 01 48 09.2
SRO Srobarova 74.64 317 eP P 01 47 55.7 +0.6
KEV Kevo 74.78 341 ep P 01 47 55.2 -0.3
comp=Z,1.0nm,0.5s,mb4.0
KEV Kevo 74.78 341 eP P 01 47 55.2 -0.3
KEV pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
OKC Ostrava-Krasne 74.94 319 eP P 01 47 56.5 -0.3
OKC epP pP 01 48 02.3 -0.4
ARCES ARCESS Array B 75.21 340 P P 01 47 58.1 +0.1
ARCES pmax pmax
comp=Z,7.0nm,0.7s
ARCES MLR MLR
comp=Z,1μm,20.2s
ARCES ARCESS Array B 75.21 340 P P 01 47 58.0 0.0
comp=Z,7.3nm,0.7s,mb4.7,baz=108,slow=3.8,SNR=12
ARCES LR LR 02 23 45.5
comp=Z,1μm,20.2s,MS5.2,baz=291,slow=38
MORC Moravsky Berou 75.32 319 eP P 01 47 58.9 -0.1
MORC e*PP pP 01 48 04.8 -0.2
MORC pmax pmax
comp=Z,39nm,1.2s,mb5.2
MORC Moravsky Berou 75.32 319 eP P 01 47 58.9 -0.2
comp=Z,39nm,1.2s,mb5.2
MORC epP pP 01 48 04.8 -0.2
ZST Bratislava 75.48 318 eP P 01 47 59.9 -0.1
ZST epP pP 01 48 05.9 0.0
GKP Gorka Klasztor 75.85 323 eP P 01 48 01.6 -0.3
VRAC Vranov 75.90 319 P P 01 48 02.1 -0.2
VRAC pmax pmax
comp=Z,2.0nm,0.6s
VRAC Vranov 75.90 319 P P 01 48 02.1 -0.2
comp=Z,2.1nm,0.6s,mb4.3,baz=110,slow=7.4,SNR=6.8
BILL Bilibino 76.05 22 ⇑i eP P 01 48 02.7 -0.1
BILL pmax pmax
comp=Z,11nm,1.1s,mb4.7
BILL Bilibino 76.05 22 eP P 01 48 02.8 0.0
DPC Dobruska-Polom 76.15 320 eP P 01 48 04.2 +0.5
DPC epP pP 01 48 09.4 -0.3
KSP Ksiaz 76.21 320 eP P 01 48 04.2 +0.2
KSP e*PP pP 01 48 09.7 -0.3
KSP Ksiaz 76.21 320 eP P 01 48 04.5 +0.4
UPC Upice 76.36 320 eP P 01 48 05.4 +0.5
UPC epP pP 01 48 10.7 -0.1
FX1 Attu Island--F 77.11 38 LR LR 02 27 45.3
comp=Z,9.7nm,19.3s,baz=18,slow=40
PRU Pruhonice 77.28 319 eP P 01 48 09.8 -0.2
PVCC Panska Ves 77.28 320 eP P 01 48 10.4 +0.4
BRG Berggiesshubel 77.70 320 i P P 01 48 12.6 +0.3
BRG i pP 01 48 18.2 0.0
BRG pmax pmax
comp=Z,48nm,1.5s,mb5.2
BRG Berggiesshubel 77.70 320 i P P 01 48 12.6 +0.3
comp=Z,48nm,1.5s,mb5.2
BRG i pP 01 48 18.2 0.0
GEC2 GERESS Array S 77.78 318 eP P 01 48 13.0 +0.2
GEC2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
GEC2 GERESS Array S 77.78 318 eP P 01 48 13.0 +0.2
comp=Z,10.0nm,0.8s,mb4.8
GERES GERESS Array B 77.78 318 P P 01 48 13.0 +0.2
GERES pmax pmax
comp=Z,9.0nm,0.8s
GERES GERESS Array B 77.78 318 P P 01 48 13.0 +0.3
comp=Z,8.9nm,0.8s,mb4.8,baz=90,slow=5.3,SNR=50
KHC Kasperske Hory 77.87 318 eP P 01 48 13.2 -0.1
KHC epP pP 01 48 18.6 -0.6
RUE Ruedersdorf 77.88 322 eP P 01 48 13.2 0.0
comp=Z,75nm,1.1s,mb5.5
CLL Collm 78.31 321 ⇓P P 01 48 15.6 0.0
comp=Z,logA/T=0.9,mb4.6
CLL i pP 01 48 21.0 -0.6
CLL e 01 48 46.0
WET Wettzell 78.33 318 eP P 01 48 16.1 +0.3
WET pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
WET Wettzell 78.33 318 eP P 01 48 16.1 +0.3
comp=Z,6.0nm,0.9s,mb4.5
HFS Hagfors 78.40 330 P P 01 48 15.9 -0.1
HFS pmax pmax
comp=Z,12nm,0.7s
HFS Hagfors 78.40 330 P P 01 48 15.9 -0.1
comp=Z,12nm,0.7s,mb5.0,baz=104,slow=6.1,SNR=23
MAW Mawson 78.58 192 LR LR 02 16 56.6
comp=Z,166nm,18.5s,MS4.4,baz=56,slow=31
NKC Novy Kostel 78.63 320 eP P 01 48 17.1 -0.3
NKC epP pP 01 48 23.2 -0.2
COP Copenhagen 78.81 325 eP P 01 48 18.2 -0.1
COP Copenhagen 78.81 325 i P P 01 48 18.2 -0.1
MOX Moxa 79.17 320 eP P 01 48 22.2 +1.8
MOX pmax pmax
comp=Z,39nm,1.6s,mb5.1
MOX Moxa 79.17 320 eP P 01 48 22.2 +1.8
comp=Z,39nm,1.6s,mb5.1
MOX Moxa 79.17 320 i P P 01 48 22.2 +1.8
comp=Z,logA/T=1.4,mb5.1
FUR Furstenfeldbru 79.38 317 eP P 01 48 21.3 -0.2
GRA1 Grafenberg Arr 79.42 319 eP P 01 48 22.4 +0.7
comp=Z,22nm,1.0s,mb5.0
GRA1 epP pP 01 48 28.0 +0.3
GRF Grafenberg Arr 79.42 319 eP P 01 48 22.4 +0.7
GRF e*PP pP 01 48 28.0 +0.3
GRF pmax pmax
comp=Z,22nm,1.0s,mb5.0
GRF Grafenberg Arr 79.42 319 eP P 01 48 22.4 +0.7
GRF e*PP pP 01 48 28.0 +0.3
GRF pmax pmax
comp=Z,22nm,1.0s,mb5.0
GRF Grafenberg Arr 79.42 319 eP P 01 48 22.4 +0.7
comp=Z,22nm,1.0s,mb5.0
GRF epP pP 01 48 28.0 +0.3
NB2 NORSAR Subarra 79.68 331 P P 01 48 22.1 -0.8
comp=Z,5.2nm,0.8s,mb4.5,baz=91,slow=5.8
NB2 NORSAR Subarra 79.68 331 P P 01 48 22.1 -0.8
NB2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
NOA NORSAR Array B 79.68 331 P P 01 48 22.8 -0.1
NOA pmax pmax
comp=Z,9.0nm,0.8s
NOA NORSAR Array B 79.68 331 P P 01 48 22.8 -0.1
comp=Z,9.0nm,0.8s,mb4.8,baz=93,slow=5.5,SNR=22
NAO01 NORSAR Array S 79.83 330 eP P 01 48 23.4 -0.3
comp=Z,20nm,0.9s,mb5.0
CLZ Clausthal 79.96 321 eP P 01 48 24.9 +0.3
comp=Z,9.0nm,0.8s,mb4.8
DAVOX Davos 80.34 316 P P 01 48 27.3 +0.6
comp=Z,11nm,0.8s,mb4.9,baz=101,slow=6.1,SNR=13
MUD Monsted U'grnd 80.66 326 i P P 01 48 29.2 +1.0
MUD pmax pmax
comp=Z,21nm,0.8s,mb5.1
MUD Monsted U'grnd 80.66 326 i P P 01 48 29.2 +1.0
comp=Z,21nm,0.8s,mb5.1
TNS Taunus Mts 81.20 320 eP P 01 48 31.7 +0.5
BFO Black Forest 81.34 318 eP P 01 48 31.8 -0.2
BFO pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BFO Black Forest 81.34 318 eP P 01 48 31.8 -0.2
comp=Z,4.0nm,0.8s,mb4.4
LPG La Plagne 82.57 315 eP P 01 48 38.9 +0.5
comp=Z,27nm,0.8s,mb5.0
LPG La Plagne 82.57 315 eP P 01 48 38.9 +0.5
LPG pmax pmax
comp=Z,13nm,0.8s,mb5.0
BNI Bardonecchia 82.65 314 eP P 01 48 39.5 +0.7
BNI pmax pmax
comp=Z,27nm,1.0s,mb5.2

BNI Bardonecchia 82.65 314 eP P 01 48 39.5 +0.6
comp=Z,27nm,1.0s,mb5.2
SYO Syowa Base 85.45 197 ⇓P P 01 48 54.6 +2.1
SYO Syowa Base 85.45 197 ⇓pP pP 01 48 59.7 +1.2
RPZ Rata Peaks 86.10 135 LR LR 02 24 19.2
comp=Z,592nm,20.3s,MS5.0,baz=288,slow=34
TNA Tin City 86.13 24 eP P 01 48 55.9 -0.1
comp=Z,6.4nm,0.9s,mb4.8
JMIC Jan Mayen 86.65 341 LR LR 02 30 47.3
comp=Z,572nm,21.4s,MS4.9,baz=282,slow=38
EKA Eskdalemuir Ar 87.67 325 P P 01 49 04.7 +1.1
EKA pmax pmax
comp=Z,10.0nm,0.9s
EKA Eskdalemuir Ar 87.67 325 P P 01 49 04.7 +1.0
comp=Z,9.6nm,0.8s,mb5.0,baz=98,slow=5.9,SNR=12
ESDC Sonseca Array 91.17 310 P P 01 49 21.4 +0.9
comp=Z,3.2nm,0.8s,mb4.7,baz=56,slow=4.8,SNR=6.7
VNDA Vanda 92.98 168 LR LR 02 28 35.3
comp=Z,217nm,19.4s,MS4.6,baz=307,slow=34
MCK McKinley 94.42 23 eP P 01 49 34.9 +0.1
MCK pmax pmax
comp=Z,14nm,1.4s,mb5.2
MCK McKinley 94.42 23 eP P 01 49 34.9 0.0
comp=Z,14nm,1.4s,mb5.2
ILAR Eielson Array 94.70 22 P P 01 49 36.1 0.0
ILAR 01 53 26.3
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,1.1s
ILAR Eielson Array 94.70 22 P P 01 49 36.0 -0.1
comp=Z,1.5nm,0.8s,mb4.5,baz=300,slow=4.6,SNR=14
ILAR PP PP 01 53 26.2 -0.7
comp=Z,1.2nm,1.1s,baz=278,slow=6.0,SNR=4.2
SML Sawmill 95.57 25 eP P 01 49 41.1 +0.9
INK Inuvik 96.95 16 P P 01 49 46.8 +0.5
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 96.95 16 P P 01 49 46.8 +0.5
comp=Z,6.8nm,1.0s,mb5.0,baz=298,slow=6.0,SNR=14
INK Inuvik 96.95 16 eP P 01 49 46.7 +0.4
comp=Z,16nm,1.3s,mb5.3
DBIC Dimbokro 97.92 278 LR LR 02 35 05.8
comp=Z,344nm,18.1s,MS4.9,baz=200,slow=36
YKA Yellowknife Ar 106.38 13 P Pdif 01 50 29.6 +1.0
YKA 01 54 49.8
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 106.38 13 Pdiff Pdif 01 50 29.6 +1.0
comp=Z,0.1nm,0.4s,baz=337,slow=4.2,SNR=4.1
YKA PP PP 01 54 49.8 -6.2
comp=Z,0.5nm,0.8s,baz=333,slow=8.0,SNR=6.3
YKA Yellowknife Ar 106.38 13 Pdif Pdif 01 50 29.6 +1.0
YKA PP PP 01 54 49.9 -6.2
MSO Missoula 120.04 22 ePKPdf PKPdf 01 55 05.8 -3.0
MOD Modoc 121.25 30 ePKPdf PKPdf 01 55 09.7 -1.8
WVOR Wild Horse Val 121.64 28 ePKIKP PKPdf 01 55 10.1 -2.1
BOZ Bozeman (W) 121.89 21 ePKIKP PKPdf 01 55 10.3 -2.2
HLID Hailey 122.59 24 ePKPdf PKPdf 01 55 12.3 -1.6
NVAR Mina Array Bea 124.89 31 PKP PKPdf 01 55 17.7 -0.9
comp=Z,1.8nm,0.6s,baz=321,slow=0.9,SNR=14
NVAR Mina Array Bea 124.89 31 PKP PKPdf 01 55 17.7 -0.9
PDAR Pinedale Array 125.13 21 PKP PKPdf 01 55 16.8 -2.1
comp=Z,3.0nm,0.8s,baz=37,slow=1.4,SNR=22
MSU Marysvale 127.72 26 ePKIKP PKPdf 01 55 23.0 -1.0
NEN Nelson 128.78 30 ePKPdf PKPdf 01 55 24.2 -1.9
ANMO Albuquerque 133.13 23 PKIKP PKPdf 01 55 33.8 -0.6
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ANMO Albuquerque 133.13 23 PKP PKPdf 01 55 33.8 -0.6
comp=Z,2.1nm,0.9s,baz=347,slow=0.8,SNR=8.3
GDL2 Guadalupe Moun 136.37 23 ePKPdf PKPdf 01 55 38.9 -1.6
MIAR Mount Ida 137.14 9 ePKIKP PKPdf 01 55 40.1 -1.6
TXAR Lajitas Array 139.19 24 PKnKP 01 55 36.8
comp=Z,0.7nm,1.0s,baz=270,slow=1.3,SNR=3.9
TXAR PKP PKPdf 01 55 45.6 -0.1
comp=Z,0.9nm,0.6s,baz=232,slow=0.4,SNR=10
TXAR PP PP 01 58 32.2 -6.9
comp=Z,0.3nm,0.9s,baz=352,slow=6.4,SNR=3.4
TXAR Lajitas Array 139.19 24 PKP PKPdf 01 55 36.8 -8.9
TXAR PKP PKPdf 01 55 45.6 -0.1
TXAR PP PP 01 58 32.2 -6.9
JCT Junction City 139.54 19 ePKIKP PKPdf 01 55 44.6 -1.7
PLCA Paso Flores 144.59 200 ePKIKP PKPdf 01 55 52.2 -2.7
PLCA Paso Flores 144.59 200 PKP PKPdf 01 55 52.4 -2.5
comp=Z,13nm,0.9s,baz=159,slow=3.4,SNR=20
SJG San Juan 147.62 323 PKP2 PKPab 01 56 01.1 -2.6
SJG pmax pmax
comp=Z,6.0nm,0.6s
SJG San Juan 147.62 323 PKPbc PKPdf 01 56 01.1 +0.5
comp=Z,5.8nm,0.6s,baz=186,slow=23,SNR=2.4
SJG San Juan 147.62 323 PKPbc PKPdf 01 56 01.1 +0.5
TEIG Tepich 151.93 5 ePKPbc PKPdf 01 56 11.8 +4.5
SDV Santo Domingo 157.42 317 PKP PKPdf 01 56 11.1 -3.8
comp=Z,1.4nm,0.4s,baz=304,slow=21,SNR=4.2
SDV PKPab PKPab 01 56 43.4 -1.5
comp=Z,8.9nm,1.1s,baz=332,slow=0.9,SNR=4.8
LVC Limon Verde 158.10 226 PKPab PKPab 01 56 46.6 -1.0
comp=Z,4.6nm,1.0s,baz=295,slow=5.7,SNR=2.6
LVC Limon Verde 158.10 226 PKPab PKPab 01 56 46.6 -1.0
LPAZ La Paz 160.77 243 PKP PKPdf 01 55 33.5 -45
comp=Z,2.4nm,1.1s,baz=26,slow=5.4,SNR=5.3
LPAZ PKPab PKPab 01 56 15.1 -44
comp=Z,1.3nm,0.8s,baz=116,slow=7.5,SNR=4.9
OTAV Otavalo 169.02 317 ePKPab PKPab 01 57 36.1 +0.8

IDC 28 01:40:56.8±2.2, 7.46N×94.42E, mb4.0/4, mb1 4.1/4, mb1mx3.6/17, mbtmp4.0/4, Error ellipse: s-maj=135.3km s-min=30.1km az=51.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**47.00**	**352**	P	P	P	01 49 29.9	-1.6
	1.3nm,0.4s,baz=296,slow=3.0,SNR=4.4							
WRA	**Warramunga Arr**	**47.79**	**125**	P	P	P	01 49 36.2	-2.0
	0.2nm,0.5s,baz=307,slow=8.6,SNR=5.8							
FINES	**FINESS Array B**	**73.21**	**332**	P	P	P	01 52 29.1	-2.1
	1.0nm,0.6s,baz=108,slow=6.0,SNR=5.8							
HFS	**Hagfors**	**78.95**	**330**	P	P	P	01 53 02.3	-1.4
	2.7nm,0.9s,baz=104,slow=6.1,SNR=4.5							

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*IDC **28** 01:43:32.0±0.6, 7.95N×94.09E, mb4.7/23, mb1 4.8/24, mb1mx4.7/28, mbtmp4.6/24, ML4.2/1, Error ellipse: s-maj=30.0km s-min=14.0km az=48.0*

*BJI **28** 01:43:34.2, 7.75N×93.70E, h37km, mB5.1, mb4.9, Ms4.8, Msz4.6*

*MOS **28** 01:43:35.6±0.9, 8.07N×94.12E, h33km, mb5.1/48, Error ellipse: s-maj=11.5km s-min=5.7km az=117.7*

*NEIC **28** 01:43:35.1±0.3, 8.01N×94.12E, mb4.9/41, Error ellipse: s-maj=7.8km s-min=6.7km az=219.0*

*HRVD **28** 01:43:35.1±0.7, 7.96N×94.23E, h28km±1km, MW5.0/32, Centroid moment Tensor Solution. LP body waves: s15,c16;Mantle waves: s32,c40; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-3.61±.49; $M_{\theta\theta}$1.06±.26; $M_{\phi\phi}$2.55±.28; $M_{r\theta}$-0.78±.39; $M_{r\phi}$0.96±.14; $M_{\theta r}$-0.76±.33; Best double couple: $M_0$3.484×10^16^ NP1:ϕ_s202°, δ37°, λ-97°. NP2:ϕ_s31°, δ54°, λ-85°. Principal axes: T 3.173, Plg9°, Azm117°; N .621, Plg4°, Azm208°; P -3.794, Plg80°, Azm325°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 28 01:43:33.5±0.4, 8.00N±0.06×94.14E±0.06, h20km, h20km±2.5km: pP-P, n189, σ0s84/177, mb4.9/74, MS4.6/2, 9C-13D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.40**	**24**	Pn	P	P	01 46 20.9	+2.4
	0.4nm,0.3s,baz=212,slow=14,SNR=14							
VIS	**Vishakhapatnam**	**14.29**	**314**	eP	P	P	01 46 55.2	-1.9
VIS				e			01 49 22.4	
VIS				e			01 50 18.9	
	comp=E,56nm,0.9s							
VIS				e			01 50 19.4	
	comp=N,59nm,0.9s							
HYB	**Hyderabad**	**17.84**	**303**	eP	P	P	01 47 44.0	+1.6
HYB				eS		S	01 50 37.0	-21
HYB	**Hyderabad**	**17.84**	**303**	i P	P	P	01 47 44.0	+1.6
KMI	**Kunming**	**18.91**	**25**	⇑P	P	P	01 48 00.3	+4.8
KMI				pmax	pmax			
	comp=Z,46nm,1.0s							

KMI	Kunming	18.91	25	⇑P		P	01 48 00.3	+4.8
	comp=Z,46nm,1.0s							
JIRN	Jiri	20.95	340	eP		P	01 48 17.8	0.0
	comp=Z,128nm,1.0s							
PKI	Pulchoki	21.15	338	eP		P	01 48 19.8	0.0
	comp=Z,85nm,0.6s,mb5.3							
DMN	Daman	21.30	337	eP		P	01 48 21.5	+0.2
	comp=Z,117nm,0.7s,mb5.3							
KKN	Kakani	21.39	338	eP		P	01 48 22.0	-0.3
	comp=Z,70nm,0.8s,mb5.1							
KAD	Karad	21.53	297	eP		P	01 48 24.0	+0.3
KAD				⇓iP			01 48 24.9	
KAD				e			01 48 26.0	
	comp=Z,31nm,0.8s							
LSA	Lhasa	21.77	353	eP		P	01 48 25.6	-0.5
LSA				pmax	pmax			
	comp=Z,67nm,0.7s,mb5.2							
LSA	Lhasa	21.77	353	eP		P	01 48 25.6	-0.5
	comp=Z,67nm,0.7s,mb5.2							
LSA				epP			01 48 29.8	
GKN	Gorkha	21.83	337	eP		P	01 48 26.8	+0.1
	comp=Z,97nm,0.7s,mb5.4							
KOLN	Koldanda	22.05	334	eP		P	01 48 29.6	+0.8
	comp=Z,270nm,1.1s,mb5.6							
BHPL	Bhopal	22.07	315	eP		P	01 48 30.5	+1.4
BHPL				i			01 48 30.8	
BHPL				e			01 48 35.2	
	comp=Z,56nm,0.7s							
NDI	New Delhi	26.03	324	eP		P	01 49 07.0	-0.4
NDI				e			01 52 17.3	
ENH	Enshi	26.42	31	eP		P	01 49 11.3	+0.4
	comp=Z,21nm,0.9s,mb4.7							
LZH	Lanzhou	29.33	16	eP		P	01 49 38.5	+1.2
LZH				AP	pP		01 49 50.5	+7.4
LZH				XP	sP		01 49 56.3	+11
LZH				AMB	AMB			
	comp=Z,28nm,1.8s,mb4.7							
LZH				AMB	AMB			
	comp=Z,110nm,4.0s							
LZH				LR	LR			
	comp=E,625nm,13.0s							
LZH				LR	LR			
	comp=Z,896nm,14.0s,MS4.5							
LZH	Lanzhou	29.33	16	eP		P	01 49 38.5	+1.2
LZH				*PP	pP		01 49 50.4	+7.3
LZH				pmax	pmax			
	comp=Z,28nm,1.8s,mb4.7							
LZH				MLR	MLR			
	comp=Z,900nm,14.0s,MS4.5							
LZH	Lanzhou	29.33	16	eP		P	01 49 38.5	+1.2
	comp=Z,28nm,1.8s,mb4.7							
LZH				pP	pP		01 49 50.4	+7.3
LZH				sP	sP		01 49 56.3	+11
LZH				LR	LR			
	comp=Z,900nm,14.0s,MS4.5							
WMQ	Urumqi	36.12	352	eP		P	01 50 36.8	+0.5
WMQ				PP	PP		01 51 58.5	-0.3
WMQ				PCP	PcP		01 53 03.5	+1.2
WMQ				AMB	AMB			
	comp=Z,8.0nm,0.5s,mb4.9							
WMQ				AMB	AMB			
	comp=Z,99nm,4.7s							
WMQ				LR	LR			
	comp=N,548nm,16.3s,MS4.7							
WMQ				LR	LR			
	comp=E,754nm,15.5s,MS4.7							
WMQ				LR	LR			
	comp=Z,1μm,18.1s,MS4.8							
BJI	Beijing	37.50	28	P		P	01 50 50.7	+2.8
BJI				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.6							
BJI	Beijing	37.50	28	P		P	01 50 50.7	+2.8
	comp=Z,10.0nm,1.0s,mb4.6							
UCH	Uchtor	38.24	336	P		P	01 50 54.9	+0.9
	SNR=7.2							
KBK	Karagaybulak	38.43	337	P		P	01 50 57.1	+1.5
	SNR=12							
AML	Almayashu	38.49	335	P		P	01 50 57.1	+0.9
	SNR=18							
AAK	Ala-Archa	38.59	337	P		P	01 50 58.2	+1.2
	SNR=8.0							
AAK	Ala-Archa	38.59	337	eP		P	01 50 56.4	-0.6
AAK				pmax	pmax			
	comp=Z,16nm,1.0s,mb4.7							
AAK	Ala-Archa	38.59	337	eP		P	01 50 56.4	-0.6
	comp=Z,16nm,1.0s,mb4.7							
CHMS	Chumysh	38.80	337	P		P	01 50 58.8	0.0
	SNR=6.7							
USP	Ospenovka	39.12	337	P		P	01 51 01.7	+0.3
	SNR=8.9							
SONM	Songino Array	41.04	13	P		P	01 51 18.3	+1.1
	comp=Z,5.0nm,0.8s,mb4.2,baz=198,slow=7.8,SNR=20							
SONM				PcP	PcP		01 53 17.9	+0.3
	comp=Z,2.0nm,0.5s,baz=197,slow=4.1,SNR=7.9							
ZAK	Zakamensk	42.93	9	eP		P	01 51 32.7	0.0
KURK	Kurchatov	44.49	346	eP		P	01 51 45.1	-0.2
KURK				pmax	pmax			
	comp=Z,51nm,1.3s,mb5.1							
KURK	Kurchatov	44.49	346	eP		P	01 51 45.1	-0.2
	comp=Z,51nm,1.3s,mb5.1							
NWAO	Narrogin (SRO)	46.26	153	P		P	01 52 00.7	+1.1
NWAO				pmax	pmax			
	comp=Z,11nm,1.0s							
NWAO	Narrogin (SRO)	46.26	153	P		P	01 52 00.7	+1.0
	comp=Z,11nm,1.0s,mb4.7,baz=227,slow=2.9,SNR=4.9							
HIA	Hailar	46.41	23	eP		P	01 52 00.7	+0.1
HIA				pmax	pmax			
	comp=Z,16nm,1.1s							
HIA	Hailar	46.41	23	eP		P	01 52 00.7	+0.1
	comp=Z,16nm,1.1s,mb4.8							
ZAL	Zalesovo	46.42	352	P		P	01 52 01.2	+0.6
ZAL				pmax	pmax			
	comp=Z,14nm,0.9s							
ZAL	Zalesovo	46.42	352	P		P	01 52 01.2	+0.6
	comp=Z,14nm,0.9s,mb4.9,baz=296,slow=6.8,SNR=48							
NVS	Novosibirsk	47.52	351	iP		P	01 52 07.8	-1.5
NVS				pmax	pmax			
	comp=N,19nm,1.0s							
NVS				pmax	pmax			
	comp=E,11nm,1.0s							
NVS				pmax	pmax			
	comp=Z,26nm,1.0s,mb5.2							
WRA	Warramunga Arr	48.34	126	P		P	01 52 14.7	-1.4
WRA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
WRA	Warramunga Arr	48.34	126	P		P	01 52 14.7	-1.5
	comp=Z,3.1nm,0.7s,mb4.4,baz=305,slow=8.5,SNR=11							
BVAR	Borovoye Array	48.87	341	P		P	01 52 19.3	-0.5
	comp=Z,6.7nm,0.8s,mb4.7,baz=143,slow=7.4,SNR=28							
BVAR				PcP	PcP		01 53 44.5	0.0
	comp=Z,2.1nm,0.4s,baz=234,slow=44,SNR=16							
BRVK	Borovoye	48.93	341	eP		P	01 52 19.2	-1.0
BRVK				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.8							
BRVK	Borovoye	48.93	341	eP		P	01 52 19.2	-1.1
	comp=Z,12nm,1.1s,mb4.8							
RAYN	Ar Rayn	49.03	294	P		P	01 52 22.0	+0.6
	comp=Z,170nm,0.7s,SNR=31							
CHKZ	Chkalovo	49.35	342	eP		P	01 52 22.8	-0.7
CHKZ				pmax	pmax			
	comp=Z,27nm,0.8s,mb5.3							
CHKZ	Chkalovo	49.35	342	eP		P	01 52 22.8	-0.7
	comp=Z,27nm,0.8s,mb5.3							
ASAR	Alice Springs	50.00	130	P		P	01 52 27.6	-1.3
	comp=Z,2.0nm,0.9s,mb4.2,baz=310,slow=7.1,SNR=11							
ASAR				PcP	PcP		01 53 48.5	-0.6
	comp=Z,1.3nm,0.8s,baz=307,slow=4.2,SNR=4.5							
BOD	Bodaibo	52.03	13	eP		P	01 52 42.7	-1.1
GNI	Garni	54.35	314	eP		P	01 53 00.5	-0.7
GNI				pmax	pmax			
	comp=Z,11nm,1.0s							
GNI	Garni	54.35	314	P		P	01 53 01.2	+0.1
	comp=Z,8.1nm,0.9s,mb4.6,baz=36,slow=10,SNR=4.3							
GNI	Garni	54.35	314	eP		P	01 53 00.5	-0.7
	comp=Z,11nm,1.0s,mb4.8							
SVE	Sverdlovsk	55.28	338	⇓iP		P	01 53 04.0	-3.8
SVE				pmax	pmax			
	comp=Z,60nm,1.5s,mb5.4							
ARU	Arti	55.77	337	P		P	01 53 10.4	-1.0
	comp=Z,95nm,0.8s,mb5.9,SNR=11							
ARU	Arti	55.77	337	eP		P	01 53 04.1	-7.3
KIV	Kislovodsk	57.22	318	diP		P	01 53 20.8	-1.1
KIV				pmax	pmax			
	comp=Z,25nm,1.0s,mb5.2							
KIV	Kislovodsk	57.22	318	eP		P	01 53 20.6	-1.3
	comp=Z,20nm,0.9s,mb5.2							
KMBO	Kilima Mbogo	57.43	264	eP		P	01 53 25.8	+2.0
KMBO				pmax	pmax			
	comp=Z,9.0nm,1.0s							
KMBO	Kilima Mbogo	57.43	264	P		P	01 53 26.3	+2.5
	comp=Z,8.8nm,0.8s,mb4.8,baz=57,slow=11,SNR=32							
KMBO	Kilima Mbogo	57.43	264	eP		P	01 53 25.8	+2.0
	comp=Z,8.9nm,1.0s,mb4.8							
ASF	Jabal al Asfar	58.15	303	P		P	01 53 29.1	+0.6
	comp=Z,4.9nm,0.9s,mb4.5,baz=336,slow=4.7,SNR=9.2							
MALT	Malatya	58.38	310	eP		P	01 53 29.3	-0.8
MALT				pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.5							
MALT	Malatya	58.38	310	eP		P	01 53 29.3	-0.8
	comp=Z,4.9nm,1.1s,mb4.5							
SOKR	Solikamsk	58.68	339	⇓iP		P	01 53 30.8	-1.1
SOKR				pmax	pmax			
	comp=Z,30nm,1.0s,mb5.3							
EIL	Elat	59.36	300	eP		P	01 53 37.4	+0.4
	comp=Z,18nm,1.4s,mb4.9							
YAK	Yakutsk	59.88	18	eP		P	01 53 38.9	-1.3
YAK				pmax	pmax			
	comp=Z,15nm,0.9s,mb5.0							
YAK				pmax	pmax			
	comp=N,8.0nm,1.2s							
YAK				pmax	pmax			
	comp=E,5.0nm,1.1s							
BRTR	Keskin Array B	62.34	311	P		P	01 53 55.4	-1.8
BRTR				pmax	pmax			
	comp=Z,5.0nm,0.7s							
BRTR	Keskin Array B	62.34	311	P		P	01 53 55.4	-1.8
	comp=Z,5.2nm,0.7s,mb4.8,baz=127,slow=7.5,SNR=36							
MOS	Moscow	64.97	329	eP		P	01 54 13.2	-0.9
MOS				pmax	pmax			
	comp=Z,45nm,0.8s,mb5.5							
OBN	Obninsk	65.27	328	⇓iP		P	01 54 12.2	-3.9
OBN				pmax	pmax			
	comp=Z,60nm,1.5s,mb5.4							
OBN	Obninsk	65.27	328	eP		P	01 54 11.6	-4.5
	comp=Z,65nm,1.4s,mb5.5							
MA2	Magadan	66.66	28	P		P	01 54 25.0	+0.1
MA2				pmax	pmax			
	comp=Z,12nm,0.9s,mb4.9							
MA2	Magadan	66.66	28	P		P	01 54 25.0	+0.1
	comp=Z,12nm,0.9s,mb4.9							
TIXI	Tiksi	67.11	11	⇓iP		P	01 54 26.5	-1.1
TIXI				pmax	pmax			
	comp=Z,34nm,1.2s,mb5.2							
TIRR	Tirgusor	67.16	315	⇑P		P	01 54 27.2	-1.2
AKASG	Malin Array Be	68.05	322	P		P	01 54 31.1	-2.7
AKASG				pmax	pmax			
	comp=Z,6.0nm,0.7s							
AKASG	Malin Array Be	68.05	322	P		P	01 54 31.1	-2.7
	comp=Z,5.8nm,0.7s,mb4.8,baz=89,slow=4.9,SNR=30							
IDI	Anoyia	68.49	305	P		P	01 54 36.1	-0.8
	comp=Z,12nm,0.6s,mb5.1,baz=115,slow=5.9,SNR=15							
VRI	Vrincioaia	68.61	316	⇑P		P	01 54 37.3	-0.1
MLR	Muntele Rosu	69.08	316	P		P	01 54 39.9	-0.4
	comp=Z,13nm,0.9s,mb4.9,baz=116,slow=3.0,SNR=25							
MLR	Muntele Rosu	69.08	316	⇓P		P	01 54 40.0	-0.3
LSZ	Lusaka	69.30	250	eP		P	01 54 42.7	+0.6
LSZ				pmax	pmax			
	comp=Z,19nm,1.6s,mb4.8							
LSZ	Lusaka	69.30	250	eP		P	01 54 42.6	+0.5
	comp=Z,19nm,1.6s,mb4.8							
JOF	Joensuu	70.73	334	ep		P	01 54 48.8	-1.3
	comp=Z,7.0nm,0.6s,mb4.8							
ZAPS	Zavoj/Pirot	71.11	313	⇑iP		P	01 54 50.9	-1.8
KWP	Kalwaria	71.93	320	eP		P	01 54 57.2	-0.3
KOLS	Kolonicke sedl	72.11	319	eP		P	01 54 58.3	-0.3
KOLS				e			01 55 08.7	
SUW	Suwalki	72.40	324	eP		P	01 54 59.4	-0.8
FINES	FINESS Array B	72.60	332	P		P	01 55 00.7	-0.5
FINES				pmax	pmax			
	comp=Z,12nm,0.8s							
FINES	FINESS Array B	72.60	332	P		P	01 55 00.7	-0.5
	comp=Z,12nm,0.8s,mb4.9,baz=101,slow=9.7,SNR=25							
CRVS	Cervenica-Dubn	72.63	319	eP		P	01 55 02.4	+0.7
KAF	Kangasniemi	72.68	333	ep		P	01 54 56.8	-4.9
	comp=Z,0.7nm,0.4s,mb3.9							
KAF	Kangasniemi	72.68	333	eP		P	01 54 56.8	-4.9
KAF				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.1							
NIE	Niedzica	73.45	319	eP		P	01 55 07.0	+0.6
PSZ	Piszkesteto	73.55	318	eP		P	01 55 06.6	-0.4
PSZ				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
PSZ	Piszkesteto	73.55	318	eP		P	01 55 06.5	-0.5
	comp=Z,4.0nm,0.6s,mb4.5							
LBTB	Lobatse	74.30	241	eP		P	01 55 12.9	+1.0
LBTB				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.7							
LBTB	Lobatse	74.30	241	eP		P	01 55 12.9	+1.1
	comp=Z,7.9nm,0.8s,mb4.7							
VYHS	Vyhne	74.31	318	eP		P	01 55 11.1	-0.3
SRO	Srobarova	74.60	317	eP		P	01 55 12.7	-0.4
SRO				esP	sP		01 55 19.5	-2.0
KEV	Kevo	74.72	341	ep		P	01 55 12.8	-0.6
	comp=Z,4.8nm,0.6s,mb4.6							
KEV	Kevo	74.72	341	eP		P	01 55 12.8	-0.6
KEV				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6							
OKC	Ostrava-Krasne	74.89	319	eP		P	01 55 14.7	-0.1
ARCES	ARCESS Array B	75.15	340	P		P	01 55 16.1	+0.2
ARCES				pmax	pmax			
	comp=Z,5.0nm,0.6s							
ARCES	ARCESS Array B	75.15	340	P		P	01 55 16.1	+0.2
	comp=Z,5.1nm,0.6s,mb4.6,baz=92,slow=6.1,SNR=21							
MORC	Moravsky Berou	75.28	319	eP		P	01 55 16.9	-0.1
MORC				pmax	pmax			
	comp=Z,19nm,1.2s,mb4.9							
MORC	Moravsky Berou	75.28	319	eP		P	01 55 16.9	-0.1
	comp=Z,19nm,1.2s,mb4.9							
ZST	Bratislava	75.44	318	eP		P	01 55 18.0	+0.1
ZST				epP	pP		01 55 23.1	-1.1
BOSA	Boshof	75.64	238	eP		P	01 55 20.1	+0.6
BOSA				e*PP	pP		01 55 25.6	-0.2
BOSA				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
BOSA	Boshof	75.64	238	eP		P	01 55 20.1	+0.5
	comp=Z,4.4nm,0.6s,mb4.6							
BOSA				epP	pP		01 55 25.6	-0.2
GKP	Gorka Klasztor	75.80	323	eP		P	01 55 19.5	-0.4
GKP	Gorka Klasztor	75.80	323	eP		P	01 55 19.6	-0.3
VRAC	Vranov	75.86	319	P		P	01 55 20.4	+0.1
VRAC				pmax	pmax			
	comp=Z,3.0nm,0.6s							
VRAC	Vranov	75.86	319	P		P	01 55 20.4	+0.1
	comp=Z,2.7nm,0.6s,mb4.4,baz=108,slow=7.9,SNR=5.6							
BILL	Bilibino	75.97	22	eP		P	01 55 20.6	0.0
BILL				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.6							
BILL	Bilibino	75.97	22	eP		P	01 55 20.6	0.0
	comp=Z,4.0nm,0.5s,mb4.6							
DPC	Dobruska-Polom	76.11	320	eP		P	01 55 22.3	+0.6
KSP	Ksiaz	76.16	320	eP		P	01 55 22.6	+0.6
KSP				e	pP		01 55 29.2	+1.0
KSP	Ksiaz	76.16	320	eP		P	01 55 22.5	+0.5
UPC	Upice	76.32	320	eP		P	01 55 23.3	+0.4
PRU	Pruhonice	77.23	319	eP		P	01 55 28.1	+0.1
PVCC	Panska Ves	77.24	320	eP		P	01 55 28.3	+0.3
BRG	Berggiesshubel	77.65	320	iP		P	01 55 30.6	+0.3
BRG				e	pP		01 55 37.6	+1.1
BRG				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.7							
BRG	Berggiesshubel	77.65	320	iP		P	01 55 30.6	+0.3
	comp=Z,8.7nm,0.9s,mb4.7							
BRG				e	pP		01 55 37.6	+1.1
GEC2	GERESS Array S	77.73	318	eP		P	01 55 30.7	0.0
GEC2				pmax	pmax			
	comp=Z,18nm,0.8s,mb5.0							
GEC2	GERESS Array S	77.73	318	eP		P	01 55 30.7	0.0
	comp=Z,18nm,0.8s,mb5.0							
GERES	GERESS Array B	77.73	318	P		P	01 55 31.4	+0.7
GERES				pmax	pmax			
	comp=Z,8.0nm,0.6s							
GERES	GERESS Array B	77.73	318	P		P	01 55 31.4	+0.6
	comp=Z,7.7nm,0.6s,mb4.8,baz=87,slow=5.3,SNR=87							
KHC	Kasperske Hory	77.82	318	eP		P	01 55 30.6	-0.6
RUE	Ruedersdorf	77.83	322	eP		P	01 55 30.9	-0.3
	comp=Z,69nm,1.3s,mb5.4							
RUE				epP	pP		01 55 37.4	-0.1
CLL	Collm	78.26	321	⇓P		P	01 55 33.3	-0.3
	comp=Z,logA/T=1.1,mb4.8							
WET	Wettzell	78.28	318	eP		P	01 55 33.9	+0.1
WET				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.7							
WET	Wettzell	78.28	318	eP		P	01 55 33.9	+0.1
	comp=Z,8.0nm,0.8s,mb4.7							
HFS	Hagfors	78.35	330	P		P	01 55 34.0	+0.1
HFS				pmax	pmax			
	comp=Z,18nm,0.8s							
HFS	Hagfors	78.35	330	P		P	01 55 34.0	+0.1
	comp=Z,18nm,0.8s,mb5.1,baz=101,slow=7.6,SNR=54							
NKC	Novy Kostel	78.58	320	eP		P	01 55 35.7	+0.3
WTTA	Wattenberg	79.09	317	⇑iP		P	01 55 37.9	-0.3
	comp=Z,14nm,0.6s,mb5.1							
WTTA	Wattenberg	79.09	317	⇑iP		P	01 55 37.9	-0.3
WTTA				pmax	pmax			
	comp=Z,14nm,0.6s,mb5.1							
MOX	Moxa	79.12	320	eP		P	01 55 38.7	+0.4
MOX	Moxa	79.12	320	iP		P	01 55 38.7	+0.4
WATA	Walderalm	79.13	317	⇓iP		P	01 55 37.8	-0.7
	comp=Z,14nm,1.2s,mb4.8							
WATA	Walderalm	79.13	317	⇓iP		P	01 55 37.8	-0.7
WATA				pmax	pmax			
	comp=Z,14nm,1.2s,mb4.8							
FUR	Furstenfeldbru	79.33	317	eP		P	01 55 39.4	-0.1
GRA1	Grafenberg Arr	79.37	319	eP		P	01 55 40.7	+1.0
	comp=Z,14nm,1.0s,mb4.8							
GRF	Grafenberg Arr	79.37	319	eP		P	01 55 40.7	+1.0
GRF				pmax	pmax			
	comp=Z,14nm,1.0s,mb4.8							
GRF	Grafenberg Arr	79.37	319	eP		P	01 55 40.7	+1.0
GRF				pmax	pmax			
	comp=Z,14nm,1.0s,mb4.8							
GRF	Grafenberg Arr	79.37	319	eP		P	01 55 40.7	+1.0
	comp=Z,14nm,1.0s,mb4.8							
SQTA	Sankt Quirin	79.38	317	⇑iP		P	01 55 39.6	-0.2
	comp=Z,11nm,1.0s,mb4.7							
SQTA	Sankt Quirin	79.38	317	⇑iP		P	01 55 39.6	-0.2
SQTA				pmax	pmax			
	comp=Z,11nm,1.0s,mb4.7							
MOTA	Moosalm	79.45	317	⇓iP		P	01 55 39.7	-0.5
	comp=Z,8.9nm,1.0s,mb4.7							
MOTA	Moosalm	79.45	317	⇓iP		P	01 55 39.7	-0.5
MOTA				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.7							
NB2	NORSAR Subarra	79.62	331	P		P	01 55 40.5	-0.3
	comp=Z,22nm,1.0s,mb5.0,baz=97,slow=5.0							
NB2	NORSAR Subarra	79.62	331	P		P	01 55 40.5	-0.3
	baz=96,slow=5.1							
NOA	NORSAR Array B	79.62	331	P		P	01 55 40.9	+0.1
NOA				pmax	pmax			
	comp=Z,7.0nm,0.7s							
NOA	NORSAR Array B	79.62	331	P		P	01 55 40.9	+0.1
	comp=Z,6.9nm,0.7s,mb4.7,baz=91,slow=5.7,SNR=20							
CLZ	Clausthal	79.91	321	eP		P	01 55 43.2	+0.6
	comp=Z,15nm,0.8s,mb5.0							
DAVA	Damuels	80.28	317	⇓iP		P	01 55 45.0	+0.3
	comp=Z,11nm,0.7s,mb4.9							
DAVOX	Davos	80.30	316	P		P	01 55 45.3	+0.6
	comp=Z,10nm,0.6s,mb5.0,baz=115,slow=14							
MUD	Monsted U'grnd	80.60	326	iP		P	01 55 47.1	+0.9
TNS	Taunus Mts	81.15	320	eP		P	01 55 49.7	+0.5
BFO	Black Forest	81.30	318	eP		P	01 55 50.2	+0.2
BFO				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.7							
BFO	Black Forest	81.30	318	eP		P	01 55 50.2	+0.2
	comp=Z,12nm,1.1s,mb4.7							
LPG	La Plagne	82.53	315	eP		P	01 55 56.2	-0.2
	comp=Z,34nm,0.9s,mb5.1							
LPG	La Plagne	82.53	315	eP		P	01 55 56.2	-0.2
LPG				pmax	pmax			
	comp=Z,17nm,0.9s,mb5.1							
BNI	Bardonecchia	82.61	314	eP		P	01 55 57.8	+1.0
BNI				pmax	pmax			
	comp=Z,11nm,0.9s,mb4.9							
BNI	Bardonecchia	82.61	314	eP		P	01 55 57.8	+0.9
	comp=Z,11nm,0.9s,mb4.9							
ESDC	Sonseca Array	91.13	310	P		P	01 56 39.7	+1.1
	comp=Z,2.5nm,0.7s,mb4.7,baz=64,slow=4.0,SNR=8.9							
MCK	McKinley	94.35	23	eP		P	01 56 53.4	+0.7
MCK				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.6							
MCK	McKinley	94.35	23	eP		P	01 56 53.4	+0.7
	comp=Z,2.1nm,0.8s,mb4.6							
ILAR	Eielson Array	94.63	22	P		P	01 56 54.0	0.0
ILAR				pmax	pmax			
	comp=Z,2.0nm,1.1s							
ILAR	Eielson Array	94.63	22	P		P	01 56 54.0	-0.1
	comp=Z,1.7nm,1.1s,mb4.4,baz=300,slow=4.2,SNR=8.1							
INK	Inuvik	96.88	16	P		P	01 57 04.7	+0.5
INK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
INK	Inuvik	96.88	16	P		P	01 57 04.7	+0.5
	comp=Z,4.2nm,1.0s,mb4.8,baz=299,slow=6.4,SNR=8.7							
YKA	Yellowknife Ar	106.31	13	PP		PP	02 02 06.9	-6.8
	comp=Z,0.2nm,0.6s,baz=334,slow=7.5,SNR=4.6							
MSO	Missoula	119.97	22	ePKPdf	PKPdf		02 02 24.5	-2.6
MOD	Modoc	121.19	30	ePKPdf	PKPdf		02 02 27.9	-1.7
BOZ	Bozeman (W)	121.81	21	ePKIKP	PKPdf		02 02 28.4	-2.3
NVAR	Mina Array Bea	124.82	31	PKP	PKPdf		02 02 35.9	-0.9
	comp=Z,1.5nm,0.6s,baz=351,slow=1.6,SNR=10							
PDAR	Pinedale Array	125.05	21	PKP	PKPdf		02 02 35.0	-2.1
	comp=Z,1.9nm,0.8s,baz=64,slow=1.2,SNR=17							
MSU	Marysvale	127.64	26	ePKPdf	PKPdf		02 02 41.3	-0.9
TXAR	Lajitas Array	139.12	24	PKhKP			02 02 52.9	
	comp=Z,0.4nm,1.0s,baz=206,slow=0.5,SNR=4.5							
TXAR				PKP	PKPdf		02 03 02.5	-1.4
	com

comp=Z,255nm,4.9s
WMQ LR LR
comp=N,611nm,15.7s,MS4.7
WMQ LR LR
comp=E,664nm,15.2s,MS4.7
WMQ LR LR
comp=Z,977nm,15.3s,MS4.7
BJI Beijing 37.56 28 P **P 01 54 03.8 +4.7**
comp=Z,9.0nm,0.9s,mb4.5
AAK Ala-Archa 38.62 337 *eP* **P 01 54 08.1 +0.1**
comp=Z,16nm,1.1s,mb4.7
SONM Songino Array 41.10 13 P **P 01 54 29.1 +0.7**
comp=Z,2.0nm,0.9s,mb3.8,baz=190,slow=7.5,SNR=5.4
SNY Shenyang 42.63 33 ⇓P pP 01 54 48.3 +1.2
SNY AMB AMB
comp=Z,20nm,1.1s,mb4.8
KURK Kurchatov 44.53 346 *eP* **P 01 54 56.0 -0.4**
comp=Z,13nm,0.8s,mb4.8
NWAO Narrogin (SRO) 46.23 153 P **P 01 55 10.6 +0.5**
comp=Z,9.6nm,0.8s,mb4.8,baz=334,slow=8.0,SNR=5.4
HIA Hailar 46.47 23 *eP* **P 01 55 11.1 -0.6**
comp=Z,16nm,1.1s,mb4.9
ZAL Zalesovo 46.47 352 P **P 01 55 12.1 +0.4**
comp=Z,6.6nm,0.5s,mb4.8,baz=307,slow=6.9,SNR=11
WRA Warramunga Arr 48.33 126 P **P 01 55 25.8 -0.9**
comp=Z,4.3nm,0.9s,mb4.5,baz=304,slow=9.2,SNR=15
WB2 Warramunga Arr 48.34 126 ⇑*iP* **P 01 55 25.7 -1.1**
BVAR Borovoye Array 48.91 341 P **P 01 55 29.7 -1.1**
comp=Z,4.3nm,1.0s,mb4.4,baz=153,slow=6.6,SNR=5.4
BVAR PcP PcP 01 56 55.8 +0.4
comp=Z,1.6nm,0.7s,baz=124,slow=5.2,SNR=3.0
BVAR Borovoye Array 48.91 341 P **P 01 55 29.7 -1.1**
BVAR PcP PcP 01 56 55.8 +0.4
BRVK Borovoye 48.97 341 *eP* **P 01 55 30.4 -0.9**
comp=Z,7.4nm,1.0s,mb4.7
RAYN Ar Rayn 49.03 294 P **P 01 55 33.0 +0.9**
comp=Z,124nm,0.8s,SNR=22
CHKZ Chkalovo 49.39 342 *eP* **P 01 55 33.8 -0.8**
comp=Z,23nm,1.0s,mb5.2
CHKZ *e*pP pP 01 55 40.5 -0.1
ASAR Alice Springs 49.99 130 P **P 01 55 38.4 -1.1**
comp=Z,3.2nm,0.8s,mb4.4,baz=310,slow=7.6,SNR=12
ASAR PcP PcP 01 56 59.8 +0.1
comp=Z,1.6nm,0.8s,baz=305,slow=3.0,SNR=5.3
GNI Garni 54.36 314 P **P 01 56 11.3 -0.7**
comp=Z,1.3nm,0.6s,mb4.1,baz=56,slow=13,SNR=2.6
GNI Garni 54.36 314 P **P 01 56 10.6 -1.4**
comp=Z,4.6nm,0.7s,mb4.5
PMG Port Moresby 55.58 107 P **P 01 56 21.9 +0.6**
comp=Z,14nm,1.0s,mb4.9,baz=275,slow=8.7,SNR=2.7
KIV Kislovodsk 57.24 318 *eP* **P 01 56 31.1 -1.6**
comp=Z,10nm,0.8s,mb4.9
KIV *e*pP pP 01 56 37.9 -1.1
KMBO Kilima Mbogo 57.40 264 P **P 01 56 37.2 +2.9**
comp=Z,13nm,0.8s,mb5.0,baz=61,slow=10.0,SNR=34
KMBO Kilima Mbogo 57.40 264 *eP* **P 01 56 36.2 +1.9**
comp=Z,15nm,0.9s,mb5.0
ASF Jabal al Asfar 58.15 303 P **P 01 56 40.0 +0.7**
comp=Z,3.5nm,0.9s,mb4.4,baz=327,slow=3.9,SNR=6.7
MALT Malatya 58.39 310 *eP* **P 01 56 38.8 -2.1**
comp=Z,3.9nm,1.0s,mb4.4
EIL Elat 59.36 300 *eP* **P 01 56 45.8 -2.0**
comp=Z,8.0nm,1.0s,mb4.7
YAK Yakutsk 59.94 18 *eP* **P 01 56 50.5 -0.7**
comp=Z,17nm,0.4s,mb5.4
STKA Stephens Creek 60.18 134 P **P 01 56 50.8 -2.6**
comp=Z,2.3nm,0.8s,mb4.3,baz=330,slow=8.2,SNR=5.8
BRTR Keskin Array B 62.36 311 P **P 01 57 06.0 -2.0**
comp=Z,3.2nm,0.7s,mb4.5,baz=121,slow=7.3,SNR=15
MBAR Mbarara 63.73 265 *eP* **P 01 57 13.1 -4.4**
comp=Z,5.5nm,1.0s,mb4.5
AKASG Malin Array Be 68.08 322 P **P 01 57 42.3 -2.4**
comp=Z,3.1nm,0.7s,mb4.5,baz=89,slow=4.9,SNR=13
AKASG PP PP 02 00 11.7 -5.2
comp=Z,0.1nm,0.3s,baz=86,slow=6.8,SNR=4.1
IDI Anoyia 68.50 305 P **P 01 57 45.7 -1.9**
comp=Z,14nm,1.0s,mb5.0,baz=129,slow=18,SNR=4.7
MLR Muntele Rosu 69.09 316 P **P 01 57 51.0 -0.1**
comp=Z,7.4nm,0.9s,mb4.6,baz=101,slow=3.9,SNR=8.0
LSZ Lusaka 69.26 250 *eP* **P 01 57 53.9 +1.3**
comp=Z,3.4nm,0.7s,mb4.4
JOF Joensuu 70.77 334 *ep* **P 01 57 59.5 -1.5**
comp=Z,0.6nm,0.4s,mb3.9
JOF Joensuu 70.77 334 *ep* **P 01 57 59.6 -1.4**
comp=Z,0.6nm,0.4s,mb3.9
KWP Kalwaria 71.95 320 *eP* **P 01 58 07.9 -0.4**
KWP Kalwaria 71.95 320 *eP* **P 01 58 07.9 -0.4**
KOLS Kolonicke sedl 72.13 319 *eP* **P 01 58 08.3 -1.1**
SUW Suwalki 72.43 324 *eP* **P 01 58 09.9 -1.2**
SUW Suwalki 72.43 324 *eP* **P 01 58 09.9 -1.2**
FINES FINESS Array B 72.63 332 P **P 01 58 11.9 -0.2**
comp=Z,6.3nm,0.8s,mb4.6,baz=90,slow=9.5,SNR=9.9
CRVS Cervenica-Dubn 72.65 319 *eP* **P 01 58 12.9 +0.4**
CRVS *e*pP pP 01 58 18.7 -0.1
KAF Kangasniemi 72.71 333 *ep* **P 01 58 14.0 +1.4**
comp=Z,0.5nm,0.4s,mb3.8
KAF Kangasniemi 72.71 333 *ep* **P 01 58 12.9 +0.3**
comp=Z,0.5nm,0.5s,mb3.7
KAF Kangasniemi 72.71 333 *eP* **P 01 58 12.9 +0.3**
comp=Z,0.5nm,0.5s,mb3.7
OJC Ojcow 73.90 320 *eP* **P 01 58 19.2 -0.5**
LBTB Lobatse 74.25 241 *eP* **P 01 58 23.5 +1.2**
comp=Z,8.0nm,0.8s,mb4.7
VYHS Vyhne 74.33 318 *eP* **P 01 58 21.6 -0.7**
VYHS *e*pP 01 58 26.8 -1.8
SRO Srobarova 74.61 317 *eP* **P 01 58 24.1 +0.2**
KEV Kevo 74.76 341 *ep* **P 01 58 26.7 +2.4**
comp=Z,0.6nm,0.4s,mb3.9
KEV Kevo 74.76 341 *ep* **P 01 58 26.2 +1.9**
comp=Z,0.5nm,0.4s,mb3.8
KEV Kevo 74.76 341 *eP* **P 01 58 26.2 +1.9**
comp=Z,0.5nm,0.4s,mb3.8
OKC Ostrava-Krasne 74.91 319 *eP* **P 01 58 25.7 +0.1**
ARCES ARCESS Array B 75.19 340 P **P 01 58 26.9 +0.1**
comp=Z,3.3nm,0.7s,mb4.4,baz=63,slow=5.4,SNR=4.8
ARCES ARCESS Array B 75.19 340 P **P 01 58 26.9 +0.1**
MORC Moravsky Berou 75.30 319 *eP* **P 01 58 27.5 -0.3**
comp=Z,11nm,1.1s,mb4.7
ZST Bratislava 75.46 318 *eP* **P 01 58 28.5 -0.3**
ZST *e* 01 58 32.3
BOSA Boshof 75.60 238 *eP* **P 01 58 31.4 +1.4**
comp=Z,14nm,1.0s,mb4.8
VRAC Vranov 75.88 319 P **P 01 58 30.8 -0.3**
comp=Z,2.0nm,0.7s,mb4.2,baz=96,slow=7.9,SNR=3.7
DPC Dobruska-Polom 76.13 320 *eP* **P 01 58 32.8 +0.3**
KSP Ksiaz 76.19 320 *eP* **P 01 58 32.9 +0.1**
KSP Ksiaz 76.19 320 *eP* **P 01 58 33.5 +0.6**
UPC Upice 76.34 320 *eP* **P 01 58 34.0 +0.3**
PRU Pruhonice 77.25 319 *eP* **P 01 58 39.2 +0.4**
PVCC Panska Ves 77.26 320 *eP* **P 01 58 38.4 -0.4**
BRG Berggiesshubel 77.67 320 *i P* **P 01 58 41.3 +0.2**
comp=Z,12nm,1.4s,mb4.6
BRG *e* 01 58 58.3
GEC2 GERESS Array S 77.75 318 *eP* **P 01 58 41.9 +0.3**
comp=Z,6.0nm,0.8s,mb4.6
GERES GERESS Array B 77.75 318 P **P 01 58 41.7 +0.2**
comp=Z,5.5nm,0.8s,mb4.6,baz=90,slow=5.3,SNR=27
KHC Kasperske Hory 77.84 318 *eP* **P 01 58 41.9 -0.1**
KHC *e* 01 58 45.0
KHC Kasperske Hory 77.84 318 *eP* **P 01 58 41.9 -0.1**
KHC pP pP 01 58 45.0 -3.4
RUE Ruedersdorf 77.85 322 *eP* **P 01 58 41.8 -0.2**
comp=Z,13nm,0.6s,mb5.0
CLL Collm 78.28 321 P **P 01 58 44.0 -0.4**
CLL *e**SP sP 01 58 52.0 -1.0
WET Wettzell 78.30 318 *eP* **P 01 58 44.8 +0.2**
comp=Z,3.0nm,0.8s,mb4.3
HFS Hagfors 78.38 330 P **P 01 58 44.6 -0.2**
comp=Z,3.9nm,0.5s,mb4.6,baz=108,slow=4.7,SNR=10
NKC Novy Kostel 78.61 320 *eP* **P 01 58 49.8 +3.6**
MOX Moxa 79.14 320 *eP* **P 01 58 48.5 -0.7**
MOX Moxa 79.14 320 *i P* **P 01 58 48.5 -0.7**
GRA1 Grafenberg Arr 79.39 319 *eP* **P 01 58 51.3 +0.8**
comp=Z,9.0nm,1.0s,mb4.7
GRF Grafenberg Arr 79.39 319 *eP* **P 01 58 51.3 +0.8**
comp=Z,9.0nm,1.0s,mb4.7
NB2 NORSAR Subarra 79.65 331 P **P 01 58 51.4 -0.3**
comp=Z,1.9nm,0.7s,mb4.1,baz=92,slow=5.6
NOA NORSAR Array B 79.65 331 P **P 01 58 51.2 -0.5**
comp=Z,4.5nm,0.9s,mb4.4,baz=91,slow=5.8,SNR=6.9
CLZ Clausthal 79.93 321 *eP* **P 01 58 53.5 +0.1**
comp=Z,7.0nm,0.8s,mb4.6
DAVOX Davos 80.31 316 P **P 01 58 56.3 +0.7**
comp=Z,7.8nm,0.8s,mb4.7,baz=94,slow=11
SUR Sutherland 80.35 235 *eP* **P 01 58 56.6 +0.6**
comp=Z,9.3nm,0.9s,mb4.7
MUD Monsted U'grnd 80.63 326 *eP* **P 01 58 57.8 +0.8**
comp=Z,24nm,1.0s,mb5.1
MUD Monsted U'grnd 80.63 326 *i P* **P 01 58 57.8 +0.8**
comp=Z,24nm,1.0s,mb5.1
TNS Taunus Mts 81.17 320 *eP* **P 01 59 00.8 +0.8**
BFO Black Forest 81.32 318 *eP* **P 01 59 01.2 +0.4**
comp=Z,4.0nm,0.9s,mb4.3
LPG La Plagne 82.54 315 *eP* **P 01 59 07.0 -0.2**
comp=Z,23nm,0.9s,mb4.9
BNI Bardonecchia 82.62 314 *eP* **P 01 59 08.2 +0.6**
comp=Z,7.8nm,0.8s,mb4.8
SYO Syowa Base 85.47 197 ⇓P **P 01 59 23.7 +2.2**
ESDC Sonseca Array 91.14 310 P **P 01 59 49.9 +0.6**
comp=Z,1.6nm,0.7s,mb4.5,baz=56,slow=4.7,SNR=7.0
ILAR Eielson Array 94.69 22 P **P 02 00 04.7 -0.3**
comp=Z,0.6nm,0.8s,mb4.1,baz=301,slow=4.2,SNR=7.2
INK Inuvik 96.93 16 P **P 02 00 15.4 +0.3**
comp=Z,1.6nm,1.0s,mb4.4,baz=330,slow=9.5,SNR=3.3
YKA Yellowknife Ar 106.36 13 PP PP 02 05 18.9 -6.0
comp=Z,0.1nm,0.5s,baz=334,slow=7.9,SNR=3.7
NVAR Mina Array Bea 124.87 31 PKP PKPdf 02 05 46.3 -1.3
comp=Z,4.5nm,1.1s,baz=349,slow=1.8,SNR=8.6
PDAR Pinedale Array 125.11 21 PKP PKPdf 02 05 45.5 -2.5
comp=Z,1.7nm,0.8s,baz=52,slow=0.9,SNR=12
TXAR Lajitas Array 139.17 24 PKhKP 02 05 59.5
comp=Z,0.8nm,1.1s,slow=2.5,SNR=3.7
TXAR PKP PKPdf 02 06 13.1 -1.7
comp=Z,0.5nm,0.6s,baz=163,slow=0.4,SNR=7.3
TXAR PP PP 02 09 08.2 +0.3
comp=Z,0.5nm,1.0s,baz=304,slow=4.5,SNR=3.2
TXAR Lajitas Array 139.17 24 PKP PKPdf 02 06 13.1 -1.7
TXAR PP PP 02 09 08.2 +0.3
PLCA Paso Flores 144.61 200 PKP PKPdf 02 06 21.3 -2.6
comp=Z,13nm,0.9s,baz=177,slow=3.3,SNR=22

*IDC **28** 01:51:31.9±1.1, 7.83N×93.87E, mb4.0/12, mb1 4.1/13, mb1mx4.0/21, mbtmp3.9/13, Error ellipse: s-maj=38.0km s-min=24.5km az=45.0*
*NEIC **28** 01:51:36.8±0.7, 7.88N×93.93E, h30km, mb4.4/1, Error ellipse: s-maj=17.7km s-min=15.3km az=67.0*
ISC 28 01:51:35.5±1.0, 7.9N±0.1×94.0E±0.2, h33km, n16, σ0§86/14, mb4.0/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.52**	**24**	Pn	**P**	**01 54 20.4**	**-0.4**
	baz=190,slow=32,SNR=3.8						
SONM	**Songino Array**	**41.14**	**13**	P	**P**	**01 59 18.9**	**+0.7**
	0.8nm,0.6s,mb3.5,baz=194,slow=5.1,SNR=3.9						
KURK	**Kurchatov**	**44.51**	**346**	*eP*	**P**	**01 59 45.6**	**0.0**
	6.4nm,1.0s,mb4.4						
ZAL	**Zalesovo**	**46.47**	**353**	P	**P**	**02 00 01.6**	**+0.5**
	2.1nm,1.0s,mb4.0,baz=310,slow=7.9,SNR=6.0						
WRA	**Warramunga Arr**	**48.42**	**125**	P	**P**	**02 00 16.5**	**-0.4**
	0.4nm,0.7s,mb3.6,baz=305,slow=8.4,SNR=3.6						
BVAR	**Borovoye Array**	**48.88**	**341**	P	**P**	**02 00 18.6**	**-1.4**
	1.0nm,0.7s,mb4.0,baz=214,slow=37,SNR=4.8						
BRTR	**Keskin Array B**	**62.27**	**311**	P	**P**	**02 01 55.5**	**-1.2**
	0.5nm,0.5s,mb3.9,baz=116,slow=5.7,SNR=3.6						
AKASG	**Malin Array Be**	**68.01**	**322**	P	**P**	**02 02 32.0**	**-1.5**
	0.5nm,0.5s,mb3.8,baz=88,slow=5.2,SNR=4.4						
MLR	**Muntele Rosu**	**69.02**	**316**	P	**P**	**02 02 40.1**	**+0.2**
	9.3nm,1.4s,mb4.5						
FINES	**FINESS Array B**	**72.58**	**332**	P	**P**	**02 03 00.6**	**-0.4**
	1.4nm,0.7s,mb4.0,baz=100,slow=12,SNR=3.9						
ARCES	**ARCESS Array B**	**75.15**	**340**	P	**P**	**02 03 16.5**	**+0.6**
	2.7nm,0.8s,mb4.2,baz=45,slow=5.1,SNR=3.4						
GERES	**GERESS Array B**	**77.67**	**318**	P	**P**	**02 03 31.6**	**+1.0**
	1.0nm,0.7s,mb3.9,baz=80,slow=5.8,SNR=8.3						
NOA	**NORSAR Array B**	**79.60**	**331**	P	**P**	**02 03 41.6**	**+0.8**
	0.7nm,0.7s,mb3.7,baz=95,slow=4.9,SNR=3.0						
DAVOX	**Davos**	**80.24**	**316**	P	**P**	**02 03 45.7**	**+1.2**
	1.6nm,0.6s,mb4.1						
PDAR	**Pinedale Array**	**125.17**	**21**	PKP	PKPdf	02 10 34.1	+1.0
	0.4nm,0.7s,baz=90,slow=1.5,SNR=3.5						
TXAR	**Lajitas Array**	**139.23**	**24**	PKP	PKPdf	02 11 02.9	+3.0
	0.2nm,0.6s,baz=153,slow=2.8,SNR=2.9						

IDC 28 01:52:41.2±1.5, 7.80N×93.86E, mb3.8/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, Error ellipse: s-maj=54.9km s-min=27.6km az=50.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.30**	**13**	P	P	02 00 28.5	-1.5
	0.4nm,0.5s,baz=198,slow=9.1,SNR=2.9						
ZAL	**Zalesovo**	**46.59**	**353**	P	P	02 01 11.1	-1.5
	2.3nm,0.8s,baz=290,slow=11,SNR=7.4						
WRA	**Warramunga Arr**	**48.45**	**125**	P	P	02 01 25.9	-1.8
	0.5nm,0.6s,baz=305,slow=8.6,SNR=4.3						
BRTR	**Keskin Array B**	**62.27**	**311**	P	P	02 03 05.5	-2.0
	0.5nm,0.7s,baz=130,slow=7.0,SNR=2.8						
FINES	**FINESS Array B**	**72.65**	**332**	P	P	02 04 10.7	-1.7
	1.5nm,0.7s,baz=135,slow=8.1,SNR=3.5						

*IDC **28** 01:54:00.3±1.1, 7.90N×94.23E, mb4.0/13, mb1 4.2/14, mb1mx4.1/21, mbtmp4.0/14, ML4.4/1, Error ellipse: s-maj=37.2km s-min=25.1km az=47.0*
*NEIC **28** 01:54:04.8±0.8, 7.85N×94.25E, h30km, mb4.4/1, Error ellipse: s-maj=22.3km s-min=18.8km az=74.0*
ISC 28 01:54:03.8±1.0, 8.0N±0.1×94.3E±0.2, h33km, n19, σ0§90/16, mb4.0/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.38**	**23**	Pn	**P**	**01 56 47.3**	**+0.2**
	0.7nm,0.3s,baz=116,slow=26,SNR=3.3						
SONM	**Songino Array**	**41.06**	**12**	P	**P**	**02 01 44.9**	**-0.9**
	0.3nm,0.3s,mb3.3,baz=27,slow=28,SNR=2.3						
KURK	**Kurchatov**	**44.58**	**346**	*eP*	**P**	**02 02 15.6**	**+1.1**
	6.8nm,1.2s,mb4.3						
ZAL	**Zalesovo**	**46.50**	**352**	P	**P**	**02 02 30.1**	**+0.4**
	1.4nm,0.4s,mb4.3,baz=289,slow=7.4,SNR=4.1						
WRA	**Warramunga Arr**	**48.16**	**126**	P	**P**	**02 02 43.1**	**0.0**
	0.4nm,0.5s,mb3.7,baz=305,slow=8.5,SNR=4.0						
BVAR	**Borovoye Array**	**48.98**	**341**	P	**P**	**02 02 48.2**	**-0.8**
	1.0nm,0.8s,mb3.9,baz=127,slow=7.2,SNR=3.1						
KMBO	**Kilima Mbogo**	**57.60**	**264**	P	**P**	**02 03 58.7**	**+5.3**
	1.1nm,0.7s,mb4.0,baz=53,slow=9.3,SNR=3.5						
KMBO	**Kilima Mbogo**	**57.60**	**264**	P	**P**	**02 03 58.7**	**+5.3**
BRTR	**Keskin Array B**	**62.51**	**311**	P	**P**	**02 04 25.0**	**-1.6**
	0.9nm,0.5s,mb4.1,baz=123,slow=7.1,SNR=5.2						
AKASG	**Malin Array Be**	**68.21**	**322**	P	**P**	**02 05 01.9**	**-1.1**
	0.2nm,0.3s,mb3.7,baz=330,slow=28,SNR=3.0						
MLR	**Muntele Rosu**	**69.24**	**316**	P	**P**	**02 05 11.2**	**+1.7**
	1.5nm,0.6s,mb4.1,baz=244,slow=21,SNR=5.3						
FINES	**FINESS Array B**	**72.73**	**332**	P	**P**	**02 05 29.3**	**-0.9**
	2.4nm,0.9s,mb4.1,baz=169,slow=31,SNR=3.3						
ARCES	**ARCESS Array B**	**75.26**	**340**	P	**P**	**02 05 45.0**	**+0.2**
	4.5nm,0.9s,mb4.4,baz=45,slow=6.9,SNR=4.2						
GERES	**GERESS Array B**	**77.89**	**318**	P	**P**	**02 06 00.1**	**+0.1**
	1.2nm,0.7s,mb4.0,baz=76,slow=5.5,SNR=4.1						
NOA	**NORSAR Array B**	**79.75**	**331**	P	**P**	**02 06 10.8**	**+0.9**
	1.6nm,0.9s,mb4.0,baz=93,slow=5.6,SNR=3.3						
DAVOX	**Davos**	**80.46**	**316**	P	**P**	**02 06 14.6**	**+0.6**
	3.6nm,0.9s,mb4.3						
TXAR	**Lajitas Array**	**139.09**	**24**	PKhKP		02 13 23.5	
	0.1nm,0.4s,baz=151,slow=7.4,SNR=3.5						
TXAR				PKP	PKPdf	02 13 30.8	+2.8
	0.1nm,0.6s,baz=275,slow=14,SNR=3.5						
TXAR	**Lajitas Array**	**139.09**	**24**	PKP	PKPdf	02 13 30.8	+2.8
SDV	**Santo Domingo**	**157.54**	**318**	PKP	PKPdf	02 13 57.4	-0.1
	3.0nm,0.3s,baz=1.0,slow=5.8,SNR=4.2						

*IDC **28** 02:00:55.2±1.6, 8.02N×93.80E, mb4.0/9, mb1 4.2/10, mb1mx4.1/18, mbtmp4.0/10, ML4.3/1, Error ellipse: s-maj=46.5km s-min=44.0km az=81.0*
*NEIC **28** 02:01:00.0±0.9, 8.14N×94.10E, h30km, mb4.4/3, Error ellipse: s-maj=26.6km s-min=16.1km az=129.0*
ISC 28 02:00:55.6±1.6, 7.8N±0.2×94.6E±0.2, h30km, n23, σ1§30/19, mb4.3/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.44**	**21**	Pn	**P**	**02 03 40.1**	**-0.2**
	0.6nm,0.3s,baz=212,slow=12,SNR=2.8						
PKI	**Pulchoki**	**21.51**	**337**	*eP*	**P**	**02 05 46.9**	**+2.5**
	21nm,0.6s,mb4.8						
DMN	**Daman**	**21.66**	**337**	*eP*	**P**	**02 05 47.7**	**+1.8**
	30nm,0.8s,mb4.8						
KKN	**Kakani**	**21.76**	**337**	*eP*	**P**	**02 05 47.4**	**+0.6**
GKN	**Gorkha**	**22.20**	**336**	*eP*	**P**	**02 05 50.7**	**-0.5**
	29nm,0.7s,mb4.8						
KOLN	**Koldanda**	**22.43**	**334**	*eP*	**P**	**02 05 53.5**	**0.0**
	14nm,0.6s,mb4.6						
ENH	**Enshi**	**26.39**	**30**	P	**P**	**02 06 33.0**	**+1.5**
	5.6nm,0.2s,mb4.8						
KURK	**Kurchatov**	**44.81**	**346**	*eP*	**P**	**02 09 07.1**	**-1.5**
	5.7nm,1.4s,mb4.2						
ZAL	**Zalesovo**	**46.70**	**352**	P	**P**	**02 09 23.6**	**0.0**
	1.1nm,0.4s,mb4.2,baz=307,slow=9.0,SNR=5.4						
CHKZ	**Chkalovo**	**49.70**	**342**	*eP*	**P**	**02 09 44.8**	**-2.1**
	2.7nm,0.8s,mb4.3						
KMBO	**Kilima Mbogo**	**57.83**	**264**	P	**P**	**02 10 48.9**	**+1.6**
	2.0nm,0.5s,mb4.4,baz=58,slow=10,SNR=7.0						
BRTR	**Keskin Array B**	**62.81**	**311**	P	**P**	**02 11 17.6**	**-3.3**
	0.9nm,0.5s,mb4.1,baz=123,slow=6.8,SNR=4.6						
AKASG	**Malin Array Be**	**68.49**	**322**	P	**P**	**02 11 53.9**	**-3.4**
	0.3nm,0.4s,mb3.7,baz=86,slow=4.9,SNR=5.4						
FINES	**FINESS Array B**	**72.99**	**332**	P	**P**	**02 12 22.9**	**-1.3**
	2.5nm,0.9s,mb4.1,baz=108,slow=6.0,SNR=5.4						
ARCES	**ARCESS Array B**	**75.50**	**340**	P	**P**	**02 12 38.7**	**+0.1**
	2.5nm,0.9s,mb4.2,baz=101,slow=6.2,SNR=3.8						
ARCES	**ARCESS Array B**	**75.50**	**340**	P	**P**	**02 12 38.7**	**+0.1**
GERES	**GERESS Array B**	**78.18**	**318**	P	**P**	**02 12 54.1**	**+0.3**
	1.2nm,0.6s,mb4.0,baz=90,slow=5.3,SNR=13						
NOA	**NORSAR Array B**	**80.02**	**331**	P	**P**	**02 13 02.9**	**-0.8**
	1.2nm,0.9s,mb3.8,baz=92,slow=5.5,SNR=3.3						
ESDC	**Sonseca Array**	**91.60**	**310**	P	**P**	**02 14 01.9**	**+0.5**
	0.2nm,0.4s,mb3.8,baz=65,slow=4.0,SNR=4.1						
NVAR	**Mina Array Bea**	**124.79**	**31**	PKP	PKPdf	02 19 58.3	0.0
	0.8nm,0.7s,baz=350,slow=2.1,SNR=5.9						
PDAR	**Pinedale Array**	**125.11**	**22**	PKP	PKPdf	02 19 58.0	-0.8
	0.5nm,0.6s,baz=145,slow=1.2,SNR=5.3						
TXAR	**Lajitas Array**	**139.14**	**25**	PKP	PKPdf	02 20 25.1	-0.4
	0.4nm,0.5s,baz=290,slow=0.7,SNR=9.9						
PLCA	**Paso Flores**	**144.60**	**200**	PKP	PKPdf	02 20 32.8	-1.9
	3.9nm,0.9s,baz=97,slow=4.0,SNR=6.7						

*PRU **28** 02:03:17.8, 51.48N×16.09E*
*WAR **28** 02:03:17.8, 51.50N×16.10E, h1km, ML2.6, Mining Induced*
ISC 28 02:03:15.4±0.9, 51.48N±0.05×16.06E±0.05, n11, σ1§19/22, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**167**	*e*PG	**Pg**	**02 03 30.0**	**+1.6**
KSP				*e*SG	**Sg**	**02 03 39.0**	**+2.0**
UPC	**Upice**	**0.97**	**182**	*e*PG	**Pg**	**02 03 36.0**	**+1.2**
DPC	**Dobruska-Polom**	**1.14**	**172**	*e*PG	**Pg**	**02 03 38.8**	**+0.7**
DPC				*e*SG	**Sg**	**02 03 54.2**	**+0.9**
18nm,0.3s							
PVCC	**Panska Ves**	**1.34**	**225**	*e*PG	**Pg**	**02 03 42.9**	**+0.8**
PRU	**Pruhonice**	**1.77**	**214**	*e*PG	**Pg**	**02 03 50.8**	**0.0**
PRU				*e*SG	**Sg**	**02 04 14.7**	**+0.2**
CLL	**Collm**	**1.93**	**266**	*e*PG	**Pg**	**02 03 53.0**	**-0.8**
CLL				*i* SG	**Sg**	**02 04 19.7**	**+0.2**
OKC	**Ostrava-Krasne**	**2.11**	**140**	*e*PG	**Pg**	**02 03 57.6**	**+0.1**
OKC				*e*SG	**Sg**	**02 04 24.1**	**-1.5**
NKC	**Novy Kostel**	**2.61**	**243**	*e*PN	**Pn**	**02 04 01.0**	**+1.5**
NKC				*e*PG	**Pg**	**02 04 07.1**	**-0.3**
NKC				*e*SG	**Sg**	**02 04 40.8**	**-1.4**
OJC	**Ojcow**	**2.68**	**117**	*e*PG	**Pg**	**02 04 08.0**	**-0.9**
OJC				*e*SG	**Sg**	**02 04 43.0**	**-1.7**
KHC	**Kasperske Hory**	**2.84**	**215**	*e*PN	**Pn**	**02 04 03.5**	**+0.7**
KHC				*e*PG	**Pg**	**02 04 08.7**	**-3.3**
KHC				*ex*	x	02 04 35.5	
KHC				*e*SG	**Sg**	**02 04 47.7**	**-2.1**
MOA	**Molln**	**3.81**	**199**	⇑*i*PN	**Pn**	**02 04 17.5**	**+0.9**
MOA				*i* SG	**Sg**	**02 05 21.0**	**-1.3**
3.1nm,0.5s							

IDC 28 02:03:18.6±5.7, 17.98S×70.01W, h86km±52km, mb3.8/3, mb1 4.0/5, mb1mx3.6/15, mbtmp4.1/5, ML4.0/2, Error ellipse: s-maj=48.7km s-min=40.3km az=111.0, Putative timing error at LPAZ, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.47**	**47**	P	P	02 03 19.0	-39
	14nm,0.3s,baz=227,slow=8.9,SNR=460						
LPAZ				S	S	02 03 46.3	-40
	5.0nm,0.3s,baz=240,slow=12,SNR=3.8						
LVC	**Limon Verde**	**4.72**	**168**	P	P	02 04 27.9	-1.0
	3.0nm,0.3s,baz=345,slow=9.4,SNR=52						
LVC				S	S	02 05 33.4	+11
	27nm,0.3s,baz=222,slow=20,SNR=9.4						
PLCA	**Paso Flores**	**22.68**	**181**	P	P	02 08 12.6	-0.8
	4.8nm,0.9s,baz=346,slow=12,SNR=3.8						
DBIC	**Dimbokro**	**68.79**	**75**	P	P	02 14 14.0	-2.0
	3.5nm,0.8s,baz=252,slow=8.9,SNR=6.8						
YKA	**Yellowknife Ar**	**87.54**	**341**	P	P	02 15 56.3	-1.4
	0.7nm,0.6s,baz=134,slow=4.8,SNR=22						
WRA	**Warramunga Arr**	**135.37**	**214**	PKP	PKPdf	02 22 30.4	+1.0
	0.5nm,0.7s,baz=146,slow=1.8,SNR=5.5						

*IDC **28** 02:04:39.3±15.0, 7.78S×129.52E, h125km±111km, mb3.6/1, mb1 3.9/3, mb1mx3.6/11, mbtmp4.2/3, ML4.0/2, Error ellipse: s-maj=97.8km s-min=84.2km az=151.0*
ISC 28 02:04:39.9±2.4, 7.7S±0.1×129.5E±0.1, h162km±23km, n8, σ1§07/14, mb3.7/1, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.75**	**150**	*eP*	**P**	**02 06 04

BVAR Borovoye Array 48.86 341 P **P 02 14 35.8 0.0**
1.5nm,0.9s,mb4.0,baz=141,slow=9.2,SNR=3.7
CHKZ Chkalovo 49.35 342 *eP* **P 02 14 39.1 -0.3**
3.8nm,0.7s,mb4.5
KMBO Kilima Mbogo 57.27 264 P **P 02 15 42.7 +4.1**
0.6nm,0.4s,mb3.9,baz=39,slow=19,SNR=3.7
BRTR Keskin Array B 62.25 311 P **P 02 16 11.6 -0.9**
1.1nm,0.6s,mb4.1,baz=134,slow=7.6,SNR=6.3
AKASG Malin Array Be 67.39 322 P **P 02 16 48.5 -0.7**
0.5nm,0.5s,mb3.8,baz=90,slow=5.0,SNR=3.6
FINES FINESS Array B 72.57 332 P **P 02 17 17.0 +0.2**
1.9nm,0.8s,mb4.1,baz=129,slow=12,SNR=4.0
FINES FINESS Array B 72.57 332 P **P 02 17 17.0 +0.2**
ARCES ARCESS Array B 75.14 340 P **P 02 17 32.4 +0.7**
49nm,1.5s,mb5.2,baz=56,slow=8.7,SNR=5.3
GERES GERESS Array B 77.66 318 P **P 02 17 47.5 +1.2**
0.8nm,0.6s,mb3.8,baz=81,slow=6.5,SNR=8.0
NB2 NORSAR Subarra 79.58 331 P **P 02 17 55.3 -1.3**
3.7nm,1.2s,mb4.2,baz=91,slow=5.6
NOA NORSAR Array B 79.58 331 P **P 02 17 56.2 -0.3**
1.0nm,0.9s,mb3.8,baz=102,slow=8.0,SNR=3.3
NVAR Mina Array Bea 124.94 31 PKP PKPdf 02 24 51.0 +2.3
0.5nm,0.8s,baz=270,slow=2.7,SNR=3.3
PDAR Pinedale Array 125.16 21 PKP PKPdf 02 24 50.8 +1.8
0.6nm,0.9s,baz=45,slow=4.2,SNR=4.5
TXAR Lajitas Array 139.22 24 PKP PKPdf 02 25 18.0 +2.3
0.2nm,0.7s,baz=256,slow=3.7,SNR=3.1
TXAR Lajitas Array 139.22 24 PKP PKPdf 02 25 18.0 +2.3
PLCA Paso Flores 144.56 200 PKP PKPdf 02 25 26.6 +1.8
2.4nm,1.0s,baz=52,slow=3.2,SNR=2.6

*IDC **28** 02:07:15.5±5.0,26.66N×125.59E,h43km±48km,mb3.6/6,*
mb1 3.8/7,mb1mx3.6/21,mbtmp3.9/7,ML4.2/1,Error
ellipse: s-maj=155.6km s-min=29.2km az=1.0
*JMA **28** 02:07:23.5,28.31N×129.56E,h35km±1km,M3.9*
JMA Felt II J1.
ISC 28 02:07:23.8±0.5,28.27N±0.05×129.60E±0.07,h33km,n14,
σ0§59/19,mb3.8/1,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.14**	**2**	P	**P**	**02 07 29.3**	**-0.5**
JAM				*eS*	**S**	**02 07 33.5**	**-0.5**
JZK	**Kikaishima**	**0.33**	**83**	P	**P**	**02 07 31.8**	**-0.1**
JZK				*eS*	**S**	**02 07 38.1**	**+0.4**
JTK	**Tokunoshima**	**0.75**	**230**	P	**P**	**02 07 37.4**	**-0.5**
JTK				*eS*	**S**	**02 07 48.6**	**+0.4**
JNN	**Nakanoshima**	**1.58**	**9**	P	**P**	**02 07 49.6**	**-0.2**
JNN				*eS*	**S**	**02 08 10.4**	**+1.2**
JOW	**Kunigami**	**1.86**	**220**	P	**P**	**02 07 53.8**	**0.0**
	82nm,0.3s,baz=87,slow=16,SNR=35						
JOW				S	**S**	**02 08 21.4**	**+5.1**
	107nm,0.3s,baz=133,slow=30,SNR=13						
JIH	**Iheya**	**1.90**	**230**	P	**P**	**02 07 54.7**	**+0.3**
JIH				*eS*	**S**	**02 08 18.1**	**+0.7**
JKC	**Kuchinoerabu**	**2.24**	**13**	P	**P**	**02 07 59.8**	**+0.6**
JKC				*eS*	**S**	**02 08 26.0**	**0.0**
JTN	**Tanegashima 3**	**2.66**	**27**	P	**P**	**02 08 05.0**	**-0.2**
JTN				*eS*	**S**	**02 08 36.7**	**+0.1**
JAGN	**Aguni-jima**	**2.68**	**232**	P	**P**	**02 08 05.8**	**+0.2**
JKE	**Kume jima 2**	**3.17**	**233**	P	**P**	**02 08 12.0**	**-0.4**
ILAR	**Eielson Array**	**62.07**	**29**	P	pP	02 17 50.6	-2.6
	0.4nm,0.7s,baz=296,slow=9.1,SNR=5.5						
INK	**Inuvik**	**66.54**	**24**	P	pP	02 18 19.6	-2.8
	0.9nm,0.7s,baz=256,slow=1.9,SNR=8.2						
FINES	**FINESS Array B**	**71.69**	**331**	pP	**P**	**02 18 42.1**	**-1.7**
	0.6nm,0.4s,mb3.8,baz=63,slow=6.2,SNR=4.3						
YKA	**Yellowknife Ar**	**76.17**	**26**	P	pP	02 19 17.2	-2.9
	0.4nm,1.0s,baz=304,slow=5.4,SNR=6.8						

*IDC **28** 02:10:15.8±6.5,7.67N×94.28E,h45km±58km,mb3.6/9,*
mb1 3.8/10,mb1mx3.7/18,mbtmp3.8/10,ML3.8/1,Error
ellipse: s-maj=55.2km s-min=18.8km az=53.0
ISC 28 02:10:12.7±0.9,7.7N±0.1×94.3E±0.2,h33km,n12,
σ0§87/10,mb3.8/9,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.61**	**22**	P	**P**	**02 12 59.1**	**-0.1**
	0.2nm,0.3s,baz=209,slow=14,SNR=7.3						
SONM	**Songino Array**	**41.30**	**12**	P	**P**	**02 17 56.7**	**-0.1**
	0.7nm,0.7s,mb3.4,baz=191,slow=7.3,SNR=3.0						
ZAL	**Zalesovo**	**46.74**	**352**	P	**P**	**02 18 40.1**	**-0.3**
	1.2nm,0.8s,mb3.9,baz=308,slow=8.8,SNR=4.4						
WRA	**Warramunga Arr**	**48.03**	**126**	P	**P**	**02 18 52.8**	**+1.6**
	0.5nm,0.5s,mb3.9,baz=304,slow=8.5,SNR=5.3						
ASAR	**Alice Springs**	**49.68**	**130**	P	**P**	**02 19 02.1**	**-1.7**
	0.5nm,0.8s,mb3.6,baz=291,slow=6.7,SNR=2.6						
BRTR	**Keskin Array B**	**62.66**	**311**	P	**P**	**02 20 36.5**	**-0.1**
	0.7nm,0.8s,mb3.8,baz=118,slow=7.7,SNR=3.2						
FINES	**FINESS Array B**	**72.94**	**332**	P	**P**	**02 21 40.2**	**-0.2**
	2.9nm,0.9s,mb4.2,baz=112,slow=7.5,SNR=3.0						
ARCES	**ARCESS Array B**	**75.48**	**340**	P	**P**	**02 21 56.4**	**+1.4**
	2.6nm,0.8s,mb4.2,baz=98,slow=6.4,SNR=3.2						
GERES	**GERESS Array B**	**78.06**	**318**	P	**P**	**02 22 09.9**	**+0.1**
	0.5nm,0.6s,mb3.6,baz=90,slow=5.3,SNR=4.3						
NOA	**NORSAR Array B**	**79.96**	**331**	P	**P**	**02 22 19.4**	**-0.6**
	0.8nm,0.9s,mb3.7,baz=60,slow=7.7,SNR=3.0						
PDAR	**Pinedale Array**	**125.27**	**21**	PKP	PKPdf	02 29 12.1	+1.5
	0.2nm,0.5s,baz=90,slow=0.9,SNR=2.7						
PLCA	**Paso Flores**	**144.44**	**200**	PKP	PKPdf	02 29 45.2	-0.8
	3.1nm,1.2s,baz=216,slow=21,SNR=1.9						

*IDC **28** 02:10:26.6±1.1,7.77N×93.99E,mb4.1/8,mb1 4.3/9,*
mb1mx4.1/18,mbtmp4.1/9,ML4.5/1,Error ellipse:
s-maj=45.6km s-min=21.1km az=57.0
*NEIC **28** 02:10:31.2±0.6,7.82N×94.05E,h30km,mb4.5/1,Error*
ellipse: s-maj=20.6km s-min=12.3km az=70.0
ISC 28 02:10:31.3±3.6,7.9N±0.2×94.2E±0.1,h42km±30km,n14,
σ0§65/12,mb4.0/9,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.43**	**23**	Pn	**P**	**02 13 14.9**	**-0.1**
	1.0nm,0.3s,baz=213,slow=13,SNR=6.4						
HYB	**Hyderabad**	**17.96**	**303**	*i P*	**P**	**02 14 40.0**	**+0.3**
SONM	**Songino Array**	**41.10**	**12**	P	**P**	**02 18 13.3**	**+0.5**
	1.7nm,0.8s,mb3.7,baz=190,slow=8.8,SNR=5.8						
KURK	**Kurchatov**	**44.59**	**346**	*eP*	**P**	**02 18 40.0**	**-1.2**
	8.5nm,1.1s,mb4.5						
ZAL	**Zalesovo**	**46.51**	**352**	P	**P**	**02 18 56.7**	**+0.3**
	2.2nm,0.8s,mb4.1,baz=298,slow=7.5,SNR=5.8						
WRA	**Warramunga Arr**	**48.22**	**126**	P	**P**	**02 19 10.4**	**+0.2**
	0.9nm,0.8s,mb3.9,baz=304,slow=8.8,SNR=4.6						
ASAR	**Alice Springs**	**49.88**	**130**	P	**P**	**02 19 22.8**	**-0.2**
	1.1nm,0.8s,mb3.9,baz=314,slow=7.6,SNR=4.8						
FINES	**FINESS Array B**	**72.71**	**332**	P	**P**	**02 21 56.0**	**-0.6**
	2.4nm,0.9s,mb4.1,baz=107,slow=6.6,SNR=4.4						
ARCES	**ARCESS Array B**	**75.25**	**340**	P	**P**	**02 22 12.8**	**+1.5**
	8.2nm,1.2s,mb4.5,baz=162,slow=3.8,SNR=5.6						
ARCES	**ARCESS Array B**	**75.25**	**340**	P	**P**	**02 22 12.8**	**+1.5**
GERES	**GERESS Array B**	**77.85**	**318**	P	**P**	**02 22 25.8**	**-0.5**
	0.6nm,0.6s,mb3.7,baz=124,slow=4.8,SNR=4.8						
NOA	**NORSAR Array B**	**79.73**	**331**	P	**P**	**02 22 36.3**	**-0.1**
	1.5nm,0.8s,mb4.0,baz=94,slow=5.0,SNR=3.6						
PDAR	**Pinedale Array**	**125.09**	**21**	PKP	PKPdf	02 29 28.6	+0.9
	0.4nm,0.8s,baz=63,slow=3.3,SNR=3.4						
PLCA	**Paso Flores**	**144.62**	**200**	PKP	PKPdf	02 30 05.3	+1.5
	7.2nm,1.2s,baz=202,slow=6.2,SNR=4.5						

*IDC **28** 02:12:34.5±1.3,7.83N×93.58E,mb3.9/7,mb1 4.1/8,*
mb1mx3.9/18,mbtmp4.0/8,ML4.4/1,Error ellipse:
s-maj=45.1km s-min=26.9km az=57.0
*NEIC **28** 02:12:39.6±1.2,7.91N×93.94E,h30km,mb4.2/3,Error*
ellipse: s-maj=26.4km s-min=22.4km az=214.0
ISC 28 02:12:37.9±1.1,8.0N±0.2×94.0E±0.2,h30km,n14,
σ1§16/15,mb3.9/10,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.46**	**24**	Pn	**P**	**02 15 23.4**	**+0.6**
	0.7nm,0.3s,baz=212,slow=14,SNR=4.9						
HYB	**Hyderabad**	**17.73**	**303**	*eP*	**P**	**02 16 47.0**	**+2.5**
HYB	**Hyderabad**	**17.73**	**303**	*i P*	**P**	**02 16 47.0**	**+2.5**
HYB				*eS*	**S**	**02 20 05.5**	**+6.8**
SONM	**Songino Array**	**41.08**	**13**	P	**P**	**02 20 23.2**	**+2.6**
	0.8nm,0.5s,mb3.6,baz=187,slow=12,SNR=3.0						
KURK	**Kurchatov**	**44.47**	**346**	*eP*	**P**	**02 20 47.5**	**-0.7**
	1.5nm,0.6s,mb3.9						
ZAL	**Zalesovo**	**46.42**	**352**	P	**P**	**02 21 02.5**	**-1.1**
	1.3nm,0.3s,mb4.3,baz=290,slow=10,SNR=3.4						
BRVK	**Borovoye**	**48.90**	**341**	P	**P**	**02 21 23.4**	**+0.4**
	1.8nm,0.8s,mb4.2						
CHKZ	**Chkalovo**	**49.33**	**342**	*eP*	**P**	**02 21 25.5**	**-0.8**
	2.7nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**50.09**	**130**	P	**P**	**02 21 33.2**	**+0.7**
	0.3nm,0.5s,mb3.5,baz=302,slow=8.5,SNR=2.6						
FINES	**FINESS Array B**	**72.55**	**332**	P	**P**	**02 24 03.1**	**-0.8**
	1.2nm,0.7s,mb3.9,baz=90,slow=5.6,SNR=2.5						
ARCES	**ARCESS Array B**	**75.11**	**340**	P	**P**	**02 24 18.0**	**-0.6**
	2.3nm,0.8s,mb4.2,baz=97,slow=7.3,SNR=3.2						
GERES	**GERESS Array B**	**77.65**	**318**	P	**P**	**02 24 33.3**	**+0.1**
	0.9nm,0.9s,mb3.7,baz=74,slow=7.1,SNR=3.2						
NOA	**NORSAR Array B**	**79.57**	**331**	P	**P**	**02 24 42.0**	**-1.5**
	0.7nm,0.8s,mb3.6,baz=96,slow=5.6,SNR=2.3						
NOA	**NORSAR Array B**	**79.57**	**331**	P	**P**	**02 24 42.0**	**-1.5**

*IDC **28** 02:12:52.9±0.6,7.69N×93.87E,mb4.5/18,mb1 4.7/19,*
mb1mx4.6/22,mbtmp4.5/19,ML4.6/1,Error ellipse:
s-maj=31.6km s-min=14.5km az=51.0
*MOS **28** 02:12:56.9±1.8,7.75N×94.12E,h33km,mb4.9/25,Error*
ellipse: s-maj=14.4km s-min=7.4km az=111.2
*BJI **28** 02:12:56.1,7.92N×93.40E,h19km,mB5.1,mb4.6,Ms4.6,*
Msz4.4
*NEIC **28** 02:12:57.9±0.5,7.72N×94.02E,h30km,mb4.8/16,Error*
ellipse: s-maj=16.9km s-min=12.0km az=61.0
ISC 28 02:12:56.9±0.4,7.75N±0.08×94.12E±0.08,h33km,n90,
σ1§60/87,mb4.6/33,MS4.6/1,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.63**	**23**	P	**P**	**02 15 42.2**	**-1.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.63**	**23**	Pn	**P**	**02 15 42.2**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=214,slow=15,SNR=6.4						
HYB	**Hyderabad**	**17.96**	**304**	*i P*	**P**	**02 17 06.0**	**+0.1**
KMI	**Kunming**	**19.14**	**24**	P	**P**	**02 17 22.4**	**+2.3**
KMI				pmax	pmax		
	comp=Z,33nm,1.1s						
KMI	**Kunming**	**19.14**	**24**	P	**P**	**02 17 22.4**	**+2.3**
	comp=Z,33nm,1.1s						
LSA	**Lhasa**	**22.01**	**353**	*eP*	**P**	**02 17 48.5**	**-1.6**
LSA				*e*PP		02 17 54.7	
LSA				pmax	pmax		
	comp=Z,46nm,0.9s,mb4.9						
LSA	**Lhasa**	**22.01**	**353**	*eP*	**P**	**02 17 48.5**	**-1.6**
	comp=Z,46nm,0.9s,mb4.9						
LSA				*e*pP		02 17 54.7	
LZH	**Lanzhou**	**29.57**	**16**	*eP*	**P**	**02 19 03.5**	**+2.5**
LZH				AP	pP	02 19 10.5	0.0
LZH				XP	sP	02 19 13.0	-1.9
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.8						
LZH				LR	LR		
	comp=E,856nm,14.5s						
LZH				LR	LR		
	comp=Z,1μm,15.6s,MS4.6						
LZH	**Lanzhou**	**29.57**	**16**	*eP*	**P**	**02 19 03.6**	**+2.6**
LZH				*SP	sP	02 19 13.0	-1.9
LZH				pmax	pmax		
	comp=Z,28nm,1.5s,mb4.8						
LZH				MLR	MLR		
	comp=Z,1μm,15.6s,MS4.6						
LZH	**Lanzhou**	**29.57**	**16**	*eP*	**P**	**02 19 03.6**	**+2.6**
	comp=Z,28nm,1.5s,mb4.8						
LZH				pP	pP	02 19 10.4	-0.1
LZH				sP	sP	02 19 13.0	-1.9
LZH				LR	LR		
	comp=Z,1μm,15.6s,MS4.6						
BJI	**Beijing**	**37.72**	**28**	P	**P**	**02 20 12.3**	**+1.0**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
BJI	**Beijing**	**37.72**	**28**	P	**P**	**02 20 12.3**	**+1.0**
	comp=Z,5.0nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**38.81**	**337**	*eP*	**P**	**02 20 19.2**	**-1.1**
AAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
AAK	**Ala-Archa**	**38.81**	**337**	*eP*	**P**	**02 20 19.1**	**-1.2**
	comp=Z,11nm,0.9s,mb4.6						
SONM	**Songino Array**	**41.28**	**13**	P	**P**	**02 20 40.9**	**+0.1**
	comp=Z,5.7nm,1.1s,mb4.1,baz=191,slow=6.3,SNR=5.8						
KURK	**Kurchatov**	**44.72**	**346**	*eP*	**P**	**02 21 07.1**	**-1.6**
KURK				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.9						
KURK	**Kurchatov**	**44.72**	**346**	*eP*	**P**	**02 21 07.1**	**-1.6**
	comp=Z,18nm,1.0s,mb4.8						
NWAO	**Narrogin (SRO)**	**46.05**	**153**	P	**P**	**02 21 17.3**	**-2.3**
NWAO				pmax	pmax		
	comp=Z,12nm,1.1s						
NWAO	**Narrogin (SRO)**	**46.05**	**153**	P	**P**	**02 21 17.2**	**-2.3**
	comp=Z,12nm,1.1s,mb4.8,baz=23,slow=9.3,SNR=3.2						
ZAL	**Zalesovo**	**46.66**	**352**	P	**P**	**02 21 22.2**	**-1.9**
ZAL				pmax	pmax		
	comp=Z,7.0nm,0.5s						
ZAL	**Zalesovo**	**46.66**	**352**	P	**P**	**02 21 22.2**	**-1.9**
	comp=Z,7.3nm,0.5s,mb4.9,baz=293,slow=7.0,SNR=11						
ZAL	**Zalesovo**	**46.66**	**352**	P	**P**	**02 21 22.2**	**-1.9**
WRA	**Warramunga Arr**	**48.20**	**125**	P	**P**	**02 21 37.4**	**+0.8**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WRA	**Warramunga Arr**	**48.20**	**125**	P	**P**	**02 21 37.4**	**+0.7**
	comp=Z,4.3nm,0.9s,mb4.5,baz=305,slow=8.7,SNR=7.5						
WRAB	**Tennant Creek**	**48.21**	**125**	*eP*	**P**	**02 21 35.0**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**48.21**	**125**	*eP*	**P**	**02 21 35.0**	**-1.6**
	comp=Z,5.0nm,0.6s,mb4.7						
BVAR	**Borovoye Array**	**49.10**	**341**	P	**P**	**02 21 43.6**	**+0.6**
	comp=Z,4.6nm,0.8s,mb4.6,baz=158,slow=8.0,SNR=12						
BRVK	**Borovoye**	**49.16**	**341**	*eP*	**P**	**02 21 40.4**	**-3.1**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
BRVK	**Borovoye**	**49.16**	**341**	*eP*	**P**	**02 21 40.4**	**-3.1**
	comp=Z,6.7nm,0.9s,mb4.7						
CHKZ	**Chkalovo**	**49.58**	**342**	*eP*	**P**	**02 21 44.8**	**-2.0**
CHKZ				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.2						
CHKZ	**Chkalovo**	**49.58**	**342**	*eP*	**P**	**02 21 44.8**	**-2.0**
	comp=Z,21nm,0.9s,mb5.2						
ASAR	**Alice Springs**	**49.85**	**130**	P	**P**	**02 21 50.4**	**+1.1**
	comp=Z,3.5nm,1.0s,mb4.3,baz=304,slow=6.7,SNR=8.4						
KLR	**Kul'dur**	**52.00**	**31**	*eP*	**P**	**02 22 06.0**	**+0.9**
ARU	**Arti**	**55.99**	**337**	*eP*	**P**	**02 22 27.6**	**-6.8**
KMBO	**Kilima Mbogo**	**57.39**	**264**	P	**P**	**02 22 45.5**	**+0.5**
KMBO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KMBO	**Kilima Mbogo**	**57.39**	**264**	P	**P**	**02 22 45.5**	**+0.4**
	comp=Z,8.2nm,1.0s,mb4.7,baz=56,slow=9.7,SNR=8.3						
KIV	**Kislovodsk**	**57.40**	**318**	*eP*	**P**	**02 22 45.1**	**+0.5**
KIV				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
KIV	**Kislovodsk**	**57.40**	**318**	*eP*	**P**	**02 22 42.1**	**-2.5**
	comp=Z,15nm,0.9s,mb5.0						
ASF	**Jabal al Asfar**	**58.27**	**303**	P	**P**	**02 22 49.0**	**-1.8**
	comp=Z,2.9nm,0.8s,mb4.3,baz=323,slow=7.7,SNR=5.6						
STKA	**Stephens Creek**	**60.03**	**134**	P	**P**	**02 23 01.7**	**-1.5**
	comp=Z,3.4nm,1.0s,mb4.3,baz=301,slow=9.1,SNR=3.8						
STKA	**Stephens Creek**	**60.03**	**134**	P	**P**	**02 23 01.7**	**-1.5**
BRTR	**Keskin Array B**	**62.49**	**311**	P	**P**	**02 23 16.9**	**-2.7**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRTR	**Keskin Array B**	**62.49**	**311**	P	**P**	**02 23 16.9**	**-2.8**
	comp=Z,2.6nm,0.7s,mb4.5,baz=112,slow=6.7,SNR=9.0						
AKASG	**Malin Array Be**	**68.24**	**322**	P	**P**	**02 23 53.9**	**-2.4**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKASG	**Malin Array Be**	**68.24**	**322**	P	**P**	**02 23 53.9**	**-2.5**
	comp=Z,4.8nm,0.9s,mb4.5,baz=91,slow=4.5,SNR=13						
MLR	**Muntele Rosu**	**69.25**	**316**	P	**P**	**02 24 00.7**	**-1.9**
MLR				pmax	pmax		
	comp=Z,19nm,1.1s						
MLR	**Muntele Rosu**	**69.25**	**316**	P	**P**	**02 24 00.7**	**-1.9**
	comp=Z,19nm,1.1s,mb4.9,baz=71,slow=3.8,SNR=12						
JOF	**Joensuu**	**70.95**	**334**	*ep*	**P**	**02 24 11.7**	**-1.0**
	comp=Z,4.2nm,0.7s,mb4.5						
KWP	**Kalwaria**	**72.11**	**320**	*eP*	**P**	**02 24 21.5**	**+1.6**
KOLS	**Kolonicke sedl**	**72.28**	**319**	*eP*	**P**	**02 24 19.5**	**-1.4**
KOLS				*e*	pP	02 24 30.8	-0.4
CRVS	**Cervenica-Dubn**	**72.81**	**319**	*eP*	**P**	**02 24 23.9**	**-0.1**
CRVS				*e*		02 24 37.7	
FINES	**FINESS Array B**	**72.81**	**332**	P	**P**	**02 24 21.0**	**-2.8**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES	**FINESS Array B**	**72.81**	**332**	P	**P**	**02 24 21.0**	**-2.8**
	comp=Z,5.0nm,0.8s,mb4.5,baz=117,slow=4.3,SNR=4.2						
KAF	**Kangasniemi**	**72.89**	**333**	*ep*	**P**	**02 24 19.3**	**-5.0**
	comp=Z,0.8nm,0.4s,mb4.0						
KAF	**Kangasniemi**	**72.89**	**333**	*eP*	**P**	**02 24 19.3**	**-5.0**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
VYHS	**Vyhne**	**74.49**	**318**	*eP*	**P**	**02 24 33.5**	**-0.3**
KEV	**Kevo**	**74.94**	**341**	*ep*	**P**	**02 24 37.5**	**+1.4**
	comp=Z,0.3nm,0.4s,mb3.6						
OKC	**Ostrava-Krasne**	**75.07**	**319**	*eP*	**P**	**02 24 39.1**	**+1.9**
ARCES	**ARCESS Array B**	**75.37**	**340**	P	**P**	**02 24 36.2**	**-2.3**
ARCES				pmax	pmax		
	comp=Z,12nm,1.2s						
ARCES	**ARCESS Array B**	**75.37**	**340**	P	**P**	**02 24 36.1**	**-2.4**
	comp=Z,12nm,1.2s,mb4.7,baz=79,slow=9.2,SNR=3.5						
ZST	**Bratislava**	**75.61**	**318**	*eP*	**P**	**02 24 40.4**	**+0.1**
DPC	**Dobruska-Polom**	**76.29**	**320**	*eP*	**P**	**02 24 46.5**	**+2.4**
UPC	**Upice**	**76.50**	**320**	*eP*	**P**	**02 24 47.5**	**+2.2**
PRU	**Pruhonice**	**77.41**	**319**	*eP*	**P**	**02 24 52.6**	**+2.2**
PVCC	**Panska Ves**	**77.42**	**320**	*eP*	**P**	**02 24 52.8**	**+2.3**
BRG	**Berggiesshubel**	**77.83**	**320**	*eP*	**P**	**02 24 48.5**	**-4.2**
BRG				pmax	pmax		
	comp=Z,27nm,2.0s,mb4.8						
BRG	**Berggiesshubel**	**77.83**	**320**	*eP*	**P**	**02 24 48.5**	**-4.2**
	comp=Z,26nm,2.0s,mb4.8						
GERES	**GERESS Array B**	**77.91**	**318**	P	**P**	**02 24 53.4**	**+0.2**
GERES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GERES	**GERESS Array B**	**77.91**	**318**	P	**P**	**02 24 53.4**	**+0.2**
	comp=Z,5.8nm,0.9s,mb4.5,baz=90,slow=5.3,SNR=16						
KHC	**Kasperske Hory**	**78.00**	**319**	*eP*	**P**	**02 24 55.2**	**+1.5**
CLL	**Collm**	**78.44**	**321**	*i P*	**P**	**02 24 57.8**	**+1.7**
CLL	**Collm**	**78.44**	**321**	P	**P**	**02 24 57.8**	**+1.7**
MOX	**Moxa**	**79.30**	**320**	*eP*	**P**	**02 25 02.7**	**+1.9**
MOX	**Moxa**	**79.30**	**320**	*i P*	**P**	**02 25 02.7**	**+1.9**
GRA1	**Grafenberg Arr**	**79.55**	**319**	*eP*	**P**	**02 25 03.7**	**+1.6**
	comp=Z,14nm,1.2s,mb4.8						
GRF	**Grafenberg Arr**	**79.55**	**319**	*eP*	**P**	**02 25 03.7**	**+1.6**
GRF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
GRF	**Grafenberg Arr**	**79.55**	**319**	*eP*	**P**	**02 25 03.7**	**+1.6**
GRF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
GRF	**Grafenberg Arr**	**79.55**	**319**	*eP*	**P**	**02 25 03.7**	**+1.6**
	comp=Z,14nm,1.2s,mb4.8						
NB2	**NORSAR Subarra**	**79.83**	**331**	P	**P**	**02 25 04.4**	**+1.0**
	comp=Z,9.7nm,1.0s,mb4.7,baz=92,slow=5.8						
NB2	**NORSAR Subarra**	**79.83**	**331**	P	**P**	**02 25 04.4**	**+1.0**
NB2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
NOA	**NORSAR Array B**	**79.83**	**331**	P	**P**	**02 25 04.4**	**+1.0**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NOA	**NORSAR Array B**	**79.83**	**331**	P	**P**	**02 25 04.3**	**+0.9**
	comp=Z,5.8nm,0.9s,mb4.5,baz=93,slow=5.6,SNR=7.5						
LPG	**La Plagne**	**82.69**	**315**	*eP*	**P**	**02 25 13.1**	**-5.6**
	comp=Z,22nm,1.1s,mb4.8						
LPG	**La Plagne**	**82.69**	**315**	*eP*	**P**	**02 25 13.1**	**-5.6**
LPG				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
ESDC	**Sonseca Array**	**91.28**	**310**	P	**P**	**02 26 01.7**	**+1.1**
	comp=Z,2.3nm,0.9s,mb4.5,baz=53,slow=3.7,SNR=6.1						
ILAR	**Eielson Array**	**94.86**	**22**	P	**P**	**02 26 17.7**	**+1.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**94.86**	**22**	P	**P**	**02 26 17.6**	**+1.2**
	comp=Z,0.6nm,0.8s,mb4.1,baz=290,slow=4.7,SNR=6.5						
PDAR	**Pinedale Array**	**125.29**	**21**	PKP	PKPdf	02 31 57.4	+2.6
	comp=Z,1.3nm,0.8s,slow=3.0,SNR=5.9						
TXAR	**Lajitas Array**	**139.34**	**24**	PKP	PKPdf	02 32 23.1	+1.6
	comp=Z,0.3nm,0.5s,baz=27,slow=2.8,SNR=2.9						
PLCA	**Paso Flores**	**144.43**	**200**	PK

2.1nm,0.3s,baz=211,slow=15,SNR=13
VIS Vishakhapatnam 14.32 314 *i* P **P 02 23 23.0 -2.1**
VIS *i* 02 25 32.0
KOD Kodaikanal 16.61 279 *eP* **P 02 23 53.5 -1.2**
KOD *e* 02 24 09.0
comp=Z,62nm,1.8s
IMP Imphal 16.74 359 *e* **P 02 23 55.8 -0.4**
HYB Hyderabad 17.86 303 *eP* **P 02 24 11.0 +0.7**
HYB Hyderabad 17.86 303 *i* P **P 02 24 11.0 +0.7**
KMI Kunming 18.95 25 ⇑P **P 02 24 28.2 +4.7**
comp=Z,31nm,1.3s
KMI sP 02 24 36.8
KMI PP PP 02 24 49.7 +10
KMI S **S 02 28 09.4 +19**
KMI sS 02 28 20.1
KMI SS SS 02 28 33.9 +18
NGP Nagpur 19.60 314 *eP* **P 02 24 32.1 +1.0**
NGP *e* 02 24 38.5
comp=Z,40nm,1.0s
NGP *e* 02 26 36.8
NGP *e* 02 27 41.9
MNGI Mangalore 19.62 286 *i* P **P 02 24 32.3 +1.0**
MNGI *i* 02 27 44.5
JIRN Jiri 20.99 340 *eP* **P 02 24 45.7 +0.1**
comp=Z,189nm,1.2s
PKI Pulchoki 21.19 338 *eP* **P 02 24 47.8 +0.2**
comp=Z,120nm,1.0s,mb5.2
DMN Daman 21.34 337 *eP* **P 02 24 48.8 -0.3**
comp=Z,186nm,1.0s,mb5.3
KKN Kakani 21.43 338 *eP* **P 02 24 49.2 -0.9**
comp=Z,158nm,1.2s,mb5.2
KAD Karad 21.55 297 *eP* **P 02 24 51.5 +0.2**
KAD *e* 02 24 59.0
comp=Z,38nm,1.0s
LSA Lhasa 21.81 353 *eP* **P 02 24 54.7 +0.8**
comp=Z,57nm,0.8s,mb5.0
GKN Gorkha 21.87 337 *eP* **P 02 24 53.8 -0.6**
comp=Z,110nm,0.7s,mb5.4
KOLN Koldanda 22.09 334 *eP* **P 02 24 56.5 -0.1**
comp=Z,265nm,1.5s,mb5.4
POO Poona 22.34 300 *eP* **P 02 25 01.0 +1.8**
NDI New Delhi 26.07 324 *eP* **P 02 25 35.4 +0.4**
NDI *e* 02 25 40.4
comp=Z,58nm,1.8s
ENH Enshi 26.46 31 *eP* **P 02 25 39.1 +0.6**
comp=Z,111nm,0.7s,mb4.5
WHN Wuhan 29.38 37 *eP* **P 02 26 07.0 +2.0**
WMQ Urumqi 36.17 352 *eP* **P 02 27 04.5 +0.6**
WMQ AP pP 02 27 14.0 +1.0
WMQ PP PP 02 28 27.0 +0.2
WMQ AMB AMB
comp=Z,40nm,1.1s,mb5.3
WMQ AMB AMB
comp=Z,256nm,5.5s
WMQ LR LR
comp=N,605nm,16.5s,MS4.6
WMQ LR LR
comp=E,598nm,16.3s,MS4.6
WMQ LR LR
comp=Z,934nm,16.7s,MS4.6
BJI Beijing 37.54 28 P **P 02 27 19.0 +3.6**
comp=Z,12nm,1.1s,mb4.5
AAK Ala-Archa 38.63 337 *eP* **P 02 27 24.8 +0.2**
comp=Z,12nm,1.0s,mb4.6
SONM Songino Array 41.09 13 P **P 02 27 45.8 +1.0**
comp=Z,6.2nm,0.8s,mb4.3,baz=196,slow=9.0,SNR=14
ULN Ulaanbaatar 41.26 13 *eP* **P 02 27 46.8 +0.5**
comp=Z,4.2nm,1.0s,mb4.0
ULN *ep*P pP 02 27 55.2 -0.2
KURK Kurchatov 44.53 346 *eP* **P 02 28 12.3 -0.6**
comp=Z,47nm,1.2s,mb5.2
NWAO Narrogin (SRO) 46.22 153 P **P 02 28 25.9 -0.6**
comp=Z,16nm,0.9s,mb5.0,baz=327,slow=7.7,SNR=5.1
HIA Hailar 46.45 23 *eP* **P 02 28 28.8 +0.7**
comp=Z,31nm,1.3s,mb5.1
ZAL Zalesovo 46.47 352 P **P 02 28 28.8 +0.6**
comp=Z,15nm,0.9s,mb4.9,baz=297,slow=10,SNR=28
WRA Warramunga Arr 48.31 126 P **P 02 28 41.4 -1.7**
comp=Z,1.4nm,0.5s,mb4.2,baz=304,slow=8.4,SNR=9.7
BVAR Borovoye Array 48.91 341 P **P 02 28 46.6 -0.7**
comp=Z,5.5nm,0.9s,mb4.6,baz=153,slow=6.6,SNR=14
BRVK Borovoye 48.97 341 *eP* **P 02 28 46.3 -1.5**
comp=Z,10nm,1.1s,mb4.8
BRVK *ep*P pP 02 28 54.6 -2.5
CHKZ Chkalovo 49.40 342 *eP* **P 02 28 50.7 -0.4**
comp=Z,26nm,1.0s,mb5.2
CHKZ *ep*P pP 02 28 59.0 -1.4
ASAR Alice Springs 49.97 130 P **P 02 28 53.9 -1.9**
comp=Z,2.1nm,0.7s,mb4.3,baz=301,slow=6.7,SNR=8.5
GNI Garni 54.38 314 P **P 02 29 28.5 -0.2**
comp=Z,3.3nm,0.8s,mb4.3,baz=167,slow=16,SNR=3.7
GNI Garni 54.38 314 *eP* **P 02 29 28.5 -0.1**
comp=Z,38nm,1.6s,mb5.1
KIV Kislovodsk 57.26 318 *eP* **P 02 29 48.2 -1.1**
comp=Z,13nm,1.1s,mb4.9
KMBO Kilima Mbogo 57.43 264 P **P 02 29 52.4 +1.4**
comp=Z,5.1nm,0.9s,mb4.6,baz=51,slow=9.4,SNR=9.0
KMBO Kilima Mbogo 57.43 264 *eP* **P 02 29 51.8 +0.8**
comp=Z,6.3nm,0.9s,mb4.7
ASF Jabal al Asfar 58.17 303 P **P 02 29 55.5 -0.4**
comp=Z,1.2nm,0.6s,mb4.1,baz=185,slow=6.1,SNR=3.3
MALT Malatya 58.41 310 *eP* **P 02 29 56.3 -1.2**
comp=Z,8.0nm,1.3s,mb4.6
EIL Elat 59.38 300 *eP* **P 02 30 04.1 -0.3**
comp=Z,3.7nm,0.7s,mb4.5
YAK Yakutsk 59.92 18 *eP* **P 02 30 06.5 -1.2**
comp=Z,26nm,0.6s,mb5.4
STKA Stephens Creek 60.16 134 P **P 02 30 09.7 0.0**
comp=Z,2.8nm,0.9s,mb4.3,baz=305,slow=11,SNR=3.8
BRTR Keskin Array B 62.37 311 P **P 02 30 23.7 -0.8**
comp=Z,4.2nm,1.0s,mb4.5,baz=133,slow=6.8,SNR=9.7
OBN Obninsk 65.31 328 *eP* **P 02 30 39.3 -4.2**
comp=Z,35nm,1.3s,mb5.2
AKASG Malin Array Be 68.09 322 P **P 02 30 59.7 -1.5**
comp=Z,1.7nm,0.7s,mb4.2,baz=91,slow=4.5,SNR=10
VRI Vrincioaia 68.64 316 ⇓P **P 02 31 03.9 -0.9**
MLR Muntele Rosu 69.11 316 P **P 02 31 07.1 -0.6**
comp=Z,9.2nm,1.1s,mb4.6,baz=14,slow=1.6,SNR=4.6
MLR Muntele Rosu 69.11 316 ⇑P **P 02 31 07.4 -0.2**
LSZ Lusaka 69.29 250 *eP* **P 02 31 09.4 +0.3**
JOF Joensuu 70.78 334 *ep* **P 02 31 17.4 -0.1**
comp=Z,0.6nm,0.4s,mb3.9
KOLS Kolonicke sedl 72.14 319 *eP* **P 02 31 25.6 -0.3**
KOLS *e* 02 31 41.9
KOLS *e* 02 33 37.6
FINES FINESS Array B 72.64 332 P **P 02 31 28.2 -0.4**
comp=Z,5.2nm,0.9s,mb4.5,baz=105,slow=6.9,SNR=8.2
CRVS Cervenica-Dubn 72.67 319 *eP* **P 02 31 27.8 -1.2**
KAF Kangasniemi 72.72 333 *ep* **P 02 31 28.3 -0.7**
comp=Z,0.6nm,0.4s,mb3.9
PSZ Piszkesteto 73.58 318 *eP* **P 02 31 33.8 -0.6**
comp=Z,8.8nm,1.2s,mb4.6
LBTB Lobatse 74.28 241 *eP* **P 02 31 39.9 +1.1**
comp=Z,3.5nm,0.6s,mb4.5
VYHS Vyhne 74.34 318 *eP* **P 02 31 37.4 -1.4**
KEV Kevo 74.76 341 *ep* **P 02 31 31.7 -9.1**
comp=Z,0.2nm,0.5s,mb3.3
OKC Ostrava-Krasne 74.93 319 *eP* **P 02 31 42.5 +0.4**
ARCES ARCESS Array B 75.19 340 P **P 02 31 43.1 -0.1**
comp=Z,2.1nm,0.7s,mb4.2,baz=76,slow=5.0,SNR=6.9
MORC Moravsky Berou 75.31 319 *eP* **P 02 31 43.3 -1.0**
comp=Z,19nm,1.5s,mb4.8
ZST Bratislava 75.47 318 *eP* **P 02 31 43.9 -1.4**
ZST *e* 02 31 45.6
BOSA Boshof 75.62 238 *eP* **P 02 31 47.3 +0.7**
comp=Z,9.6nm,1.1s,mb4.6
BILL Bilibino 76.02 22 *eP* **P 02 31 47.7 -0.2**
comp=Z,3.5nm,0.7s,mb4.4
DPC Dobruska-Polom 76.14 320 *eP* **P 02 31 49.8 +0.8**
UPC Upice 76.35 320 *eP* **P 02 31 50.9 +0.7**
PRU Pruhonice 77.26 319 *eP* **P 02 31 55.9 +0.6**
PVCC Panska Ves 77.27 320 *eP* **P 02 31 55.8 +0.5**
BRG Berggiesshubel 77.69 320 *i* P **P 02 31 57.7 +0.1**
comp=Z,20nm,1.7s,mb4.8
BRG *e* 02 32 03.3
GERES GERESS Array B 77.76 318 P **P 02 31 58.6 +0.6**
comp=Z,3.1nm,0.8s,mb4.3,baz=90,slow=5.3,SNR=11
KHC Kasperske Hory 77.86 318 *eP* **P 02 31 58.1 -0.4**
CLL Collm 78.30 321 P **P 02 32 02.0 +1.1**
CLL *e**PP pP 02 32 06.0 -4.6
CLL *e* 02 32 41.0
MOX Moxa 79.16 320 *eP* **P 02 32 07.6 +1.9**
MOX Moxa 79.16 320 *i* P **P 02 32 07.6 +1.9**
NB2 NORSAR Subarra 79.66 331 P **P 02 32 07.8 -0.3**
comp=Z,2.2nm,0.7s,mb4.2,baz=91,slow=5.8
NOA NORSAR Array B 79.66 331 P **P 02 32 07.7 -0.4**
comp=Z,2.9nm,0.7s,mb4.3,baz=94,slow=5.3,SNR=6.7
NOA NORSAR Array B 79.66 331 P **P 02 32 07.7 -0.4**
SUR Sutherland 80.37 235 P **P 02 32 13.7 +1.1**
comp=Z,15nm,1.2s,mb4.8
LPG La Plagne 82.56 315 *eP* **P 02 32 24.9 +1.2**
comp=Z,19nm,1.0s,mb4.8
SYO Syowa Base 85.48 197 ⇓P **P 02 32 40.6 +2.6**
ESDC Sonseca Array 91.16 310 P **P 02 33 07.1 +1.3**
comp=Z,0.7nm,0.7s,mb4.1,baz=90,slow=3.0,SNR=4.5
ILAR Eielson Array 94.67 22 P **P 02 33 21.1 -0.1**
comp=Z,0.8nm,1.0s,mb4.1,baz=306,slow=4.3,SNR=6.0
NVAR Mina Array Bea 124.85 31 PKP PKPdf 02 39 01.7 -3.2
comp=Z,1.2nm,0.9s,baz=228,slow=0.4,SNR=4.9
NVAR Mina Array Bea 124.85 31 PKP PKPdf 02 39 01.7 -3.2
PDAR Pinedale Array 125.09 21 PKP PKPdf 02 39 01.1 -4.1
comp=Z,1.1nm,0.9s,baz=45,slow=2.1,SNR=6.4
TXAR Lajitas Array 139.16 24 PKP PKPdf 02 39 27.9 -4.1
comp=Z,1.5nm,1.1s,baz=165,slow=0.6,SNR=4.1
PLCA Paso Flores 144.62 200 PKP PKPdf 02 39 37.0 -4.3
comp=Z,7.1nm,0.9s,baz=155,slow=1.7,SNR=7.7

*CSEM **28** 02:21:37.7, 37.68N×43.91E, h29km, MD3.5, After ISK*
ISK 28 02:21:37.7, 37.68N×43.91E, h29km, MD3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.17**	**233**	*i* PG	Pb	02 21 44.1	+0.6
HKR				*i* SG	Sb	02 21 48.1	+0.7
VANT	**Van**	**0.87**	**332**	PG	Pn	02 21 54.8	+0.8
TVAN	**Van**	**0.94**	**335**	*i* P	Pn	02 21 55.9	+0.9
TVAN				*i* S	Sb	02 22 07.5	+0.2
VANB	**Van**	**1.00**	**336**	PG	Pn	02 21 55.4	-0.5
VANB				SG	Sn	02 22 09.8	+0.7
BTMT	**Batman**	**1.98**	**286**	*e*PN	Pn	02 22 12.0	+2.0
BEST	**Besiri**	**2.10**	**277**	*i* P	Pn	02 22 16.1	+4.4
BEST				*i* S	Sn	02 22 43.8	+6.7
ELZG	**Elazig**	**3.97**	**283**	P	Pn	02 22 39.6	+1.3
ELZG				S	Sn	02 23 46.8	+22
GZT	**Gaziantep**	**5.05**	**268**	P	Pn	02 22 55.3	+1.7
GZT				S	Sn	02 24 27.2	+35

*IDC **28** 02:22:06.0±0.7, 8.00N×94.12E, mb4.4/17, mb1 4.6/18, mb1mx4.5/23, mbtmp4.4/18, ML4.7/1, MS4.9/1, Ms1 4.9/1, ms1mx3.2/20, Error ellipse: s-maj=31.6km s-min=16.7km az=51.0*
*BJI **28** 02:22:10.4, 7.73N×93.73E, h49km, mb4.6*
*NEIC **28** 02:22:10.5±0.3, 7.98N×94.15E, h30km, mb4.7/15, Error ellipse: s-maj=11.7km s-min=8.1km az=55.0*
ISC 28 02:22:09.4±0.5, 7.88N±0.06×94.07E±0.06, h33km, n66, σ1§29/58, mb4.6/35, MS5.1/1, 2C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**9.75**	**37**	P	**P**	**02 24 28.0**	**-2.5**
CMAR	**Chiang Mai Arr**	**11.53**	**24**	Pn	**P**	**02 24 55.5**	**+0.7**
	1.7nm,0.3s,baz=211,slow=14,SNR=12						
NANT	**Nan**	**12.62**	**30**	P	**P**	**02 25 11.0**	**+1.6**
	156nm,1.1s						
CHRT	**Chiangrai**	**13.14**	**24**	⇑P	**P**	**02 25 18.0**	**+1.7**
	276nm,1.3s						
VIS	**Vishakhapatnam**	**14.32**	**314**	*eP*	**P**	**02 25 33.8**	**+1.8**
VIS				*e*		02 25 38.1	
	comp=Z,53nm,1.7s						
VIS				*e*		02 26 40.0	
VIS				*e*S	**S**	**02 28 08.2**	**-2.3**
HYB	**Hyderabad**	**17.85**	**304**	*eP*	**P**	**02 26 17.0**	**+0.1**
HYB	**Hyderabad**	**17.85**	**304**	*i* P	**P**	**02 26 17.0**	**+0.1**
BLSP	**Bilaspur**	**18.24**	**322**	*eP*	**P**	**02 26 21.6**	**-0.3**
BLSP				*e*		02 27 26.5	
KMI	**Kunming**	**19.04**	**25**	⇑P	**P**	**02 26 34.5**	**+3.0**
	comp=Z,31nm,1.3s						
KMI				pP		02 26 39.4	
JIRN	**Jiri**	**21.04**	**340**	*eP*	**P**	**02 26 58.3**	**+5.5**
	comp=Z,161nm,1.1s,mb5.3						
PKI	**Pulchoki**	**21.23**	**338**	*eP*	**P**	**02 26 58.9**	**+4.1**
	comp=Z,165nm,1.0s,mb5.3						
DMN	**Daman**	**21.38**	**338**	*eP*	**P**	**02 26 59.8**	**+3.5**
KKN	**Kakani**	**21.48**	**338**	*eP*	**P**	**02 27 00.3**	**+3.1**
	comp=Z,99nm,0.9s,mb5.2						
LSA	**Lhasa**	**21.88**	**353**	*eP*	**P**	**02 27 00.6**	**-0.7**
	comp=Z,18nm,0.7s,mb4.6						
GKN	**Gorkha**	**21.91**	**337**	*eP*	**P**	**02 27 04.0**	**+2.4**
	comp=Z,134nm,0.9s,mb5.4						
KOLN	**Koldanda**	**22.12**	**335**	*eP*	**P**	**02 27 04.4**	**+0.7**
	comp=Z,176nm,1.2s,mb5.3						
WMQ	**Urumqi**	**36.23**	**352**	*eP*	**P**	**02 29 09.8**	**-1.4**
BJT	**Baijiatuau**	**37.61**	**28**	P	**P**	**02 29 21.8**	**-1.1**
SONM	**Songino Array**	**41.17**	**13**	P	**P**	**02 29 51.5**	**-0.8**
	comp=Z,3.9nm,0.9s,mb4.0,baz=194,slow=5.9,SNR=5.3						
ULN	**Ulaanbaatar**	**41.34**	**13**	*eP*	**P**	**02 29 53.0**	**-0.7**
	comp=Z,3.7nm,0.8s,mb4.1						
KURK	**Kurchatov**	**44.59**	**346**	*eP*	**P**	**02 30 19.4**	**-0.7**
	comp=Z,16nm,1.0s,mb4.8						
NWAO	**Narrogin (SRO)**	**46.19**	**153**	P	**P**	**02 30 34.0**	**+0.9**
	comp=Z,9.6nm,0.8s,mb4.8,baz=298,slow=12,SNR=4.3						
ZAL	**Zalesovo**	**46.53**	**352**	P	**P**	**02 30 35.6**	**+0.1**
	comp=Z,6.4nm,0.9s,mb4.5,baz=293,slow=8.5,SNR=6.6						
WRA	**Warramunga Arr**	**48.32**	**125**	P	**P**	**02 30 49.2**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.2,baz=303,slow=8.7,SNR=5.3						
BVAR	**Borovoye Array**	**48.96**	**341**	P	**P**	**02 30 54.4**	**-0.1**
	comp=Z,1.2nm,0.8s,mb4.0,baz=230,slow=38,SNR=3.7						
BRVK	**Borovoye**	**49.02**	**341**	*eP*	**P**	**02 30 53.2**	**-1.8**
	comp=Z,4.4nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**49.44**	**342**	*eP*	**P**	**02 30 56.4**	**-1.8**
	comp=Z,12nm,0.8s,mb5.0						
ASAR	**Alice Springs**	**49.97**	**130**	P	**P**	**02 31 01.6**	**-1.1**
	comp=Z,1.1nm,0.6s,mb4.1,baz=299,slow=5.5,SNR=4.0						
KIV	**Kislovodsk**	**57.26**	**318**	*eP*	**P**	**02 31 55.3**	**-0.9**
	comp=Z,8.4nm,0.8s,mb4.8						
KMBO	**Kilima Mbogo**	**57.35**	**264**	P	**P**	**02 31 59.2**	**+2.0**
	comp=Z,4.2nm,0.9s,mb4.5,baz=50,slow=13,SNR=5.1						
MALT	**Malatya**	**58.40**	**310**	*eP*	**P**	**02 32 03.4**	**-0.9**
	comp=Z,3.4nm,0.9s,mb4.4						
BRTR	**Keskin Array B**	**62.37**	**311**	P	**P**	**02 32 29.2**	**-2.0**
	comp=Z,2.8nm,0.8s,mb4.4,baz=127,slow=7.1,SNR=5.9						
AKASG	**Malin Array Be**	**68.10**	**322**	P	**P**	**02 33 06.1**	**-1.9**
	comp=Z,4.4nm,0.9s,mb4.5,baz=88,slow=4.9,SNR=9.2						
IDI	**Anoyia**	**68.50**	**305**	P	**P**	**02 33 10.4**	**-0.4**
	comp=Z,8.4nm,0.8s,mb4.7,baz=112,slow=5.7,SNR=3.8						
MLR	**Muntele Rosu**	**69.12**	**316**	P	**P**	**02 33 14.0**	**-0.3**
	comp=Z,5.4nm,0.8s,mb4.5,baz=113,slow=6.4						
LSZ	**Lusaka**	**69.20**	**250**	*eP*	**P**	**02 33 15.1**	**-0.2**
	comp=Z,10nm,1.3s,mb4.6						
JOF	**Joensuu**	**70.81**	**334**	*ep*	pP	02 33 34.9	+0.2
	comp=Z,1.1nm,0.4s						
SUW	**Suwalki**	**72.46**	**324**	*eP*	**P**	**02 33 33.2**	**-1.1**
	comp=Z,40nm,1.1s,mb5.3						
FINES	**FINESS Array B**	**72.67**	**332**	P	**P**	**02 33 34.8**	**-0.7**
	comp=Z,6.9nm,0.8s,mb4.6,baz=90,slow=5.7,SNR=9.4						
CRVS	**Cervenica-Dubn**	**72.68**	**319**	*eP*	**P**	**02 33 37.8**	**+2.1**
KAF	**Kangasniemi**	**72.75**	**333**	*ep*	pP	02 33 45.8	-0.4
	comp=Z,1.2nm,0.4s						
VYHS	**Vyhne**	**74.35**	**318**	*eP*	**P**	**02 33 46.4**	**+0.8**
KEV	**Kevo**	**74.81**	**341**	*ep*	**P**	**02 33 51.7**	**+3.9**
	comp=Z,0.4nm,0.4s,mb3.7						
ARCES	**ARCESS Array B**	**75.23**	**340**	P	**P**	**02 33 50.0**	**-0.2**
	comp=Z,5.9nm,1.0s,mb4.5,baz=90,slow=6.1,SNR=4.8						
MORC	**Moravsky Berou**	**75.32**	**319**	*eP*	**P**	**02 33 51.1**	**0.0**
	comp=Z,8.9nm,1.1s,mb4.6						
ZST	**Bratislava**	**75.48**	**318**	*eP*	**P**	**02 33 52.0**	**-0.1**
PRU	**Pruhonice**	**77.27**	**319**	*eP*	**P**	**02 34 04.0**	**+1.8**
GERES	**GERESS Array B**	**77.77**	**318**	P	**P**	**02 34 05.0**	**0.0**
	comp=Z,4.6nm,0.8s,mb4.5,baz=90,slow=4.0,SNR=8.4						
KHC	**Kasperske Hory**	**77.86**	**318**	*eP*	**P**	**02 34 05.0**	**-0.5**
KHC				*e*		02 34 08.0	
KHC	**Kasperske Hory**	**77.86**	**318**	*eP*	**P**	**02 34 05.0**	**-0.5**
KHC				x	x	02 34 08.0	
RUE	**Ruedersdorf**	**77.88**	**322**	*eP*	**P**	**02 34 04.8**	**-0.6**
	comp=Z,16nm,0.8s,mb5.0						
CLL	**Collm**	**78.31**	**321**	P	**P**	**02 34 10.0**	**+2.2**
CLL				*e**PP	pP	02 34 14.0	-4.2
MOX	**Moxa**	**79.17**	**320**	*eP*	**P**	**02 34 14.1**	**+1.5**
MOX	**Moxa**	**79.17**	**320**	*i* P	**P**	**02 34 14.1**	**+1.5**
NB2	**NORSAR Subarra**	**79.69**	**331**	P	**P**	**02 34 14.3**	**-0.9**
	comp=Z,2.5nm,0.8s,mb4.2,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.69**	**331**	P	**P**	**02 34 14.6**	**-0.5**
	comp=Z,3.6nm,0.8s,mb4.4,baz=92,slow=5.7,SNR=7.5						
DAVOX	**Davos**	**80.33**	**316**	P	**P**	**02 34 19.1**	**+0.2**
	comp=Z,5.2nm,0.8s,mb4.5,baz=45,slow=5.7,SNR=3.5						
LPG	**La Plagne**	**82.56**	**315**	*eP*	**P**	**02 34 32.4**	**+1.9**
	comp=Z,22nm,0.9s,mb4.9						
ESDC	**Sonseca Array**	**91.16**	**310**	P	**P**	**02 35 12.8**	**+0.3**
	comp=Z,1.8nm,0.8s,mb4.5,baz=51,slow=4.1,SNR=4.6						
DBIC	**Dimbokro**	**97.87**	**278**	LR	LR	03 19 15.1	
	comp=Z,546nm,19.3s,MS5.1,baz=64,slow=35						
NVAR	**Mina Array Bea**	**124.95**	**31**	PKP	PKPdf	02 41 08.8	+2.0
	comp=Z,0.8nm,0.8s,baz=349,slow=0.8,SNR=3.7						
NVAR	**Mina Array Bea**	**124.95**	**31**	PKP	PKPdf	02 41 08.8	+2.0
PDAR	**Pinedale Array**	**125.18**	**21**	PKP	PKPdf	02 41 10.2	+3.1
	comp=Z,0.7nm,0.8s,baz=90,slow=1.5,SNR=3.9						
TXAR	**Lajitas Array**	**139.25**	**24**	PKP	PKPdf	02 41 35.1	+1.3
	comp=Z,0.4nm,0.8s,baz=90,slow=2.7,SNR=2.9						
PLCA	**Paso Flores**	**144.53**	**200**	PKP	PKPdf	02 41 43.2	+0.4
	comp=Z,3.1nm,1.1s,baz=187,slow=8.4,SNR=3.0						
PLCA	**Paso Flores**	**144.53**	**200**	PKP	PKPdf	02 41 43.2	+0.4

*IDC **28** 02:23:10.1±0.5, 7.87N×94.17E, mb4.9/25, mb1 5.0/26, mb1mx5.0/29, mbtmp4.9/26, ML5.1/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/21, Error ellipse: s-maj=23.1km s-min=11.8km az=44.0*
*BJI **28** 02:23:12.3, 7.55N×93.75E, h43km, mB5.4, mb5.1, Ms5.3, Msz4.9*
*MOS **28** 02:23:13.2±1.1, 7.80N×94.01E, h33km, mb5.4/58, MS4.9/10, Error ellipse: s-maj=8.9km s-min=4.9km az=110.8*
*HRVD **28** 02:23:14.3±0.3, 7.87N×94.20E, h16km±1km, MW5.3/59, Centroid moment Tensor Solution. LP body waves: s28,c39;Mantle waves: s59,c109; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.33±.03; $M_{\theta\theta}$-0.62±.03; $M_{\phi\phi}$0.95±.03; $M_{r\theta}$-0.52±.11; $M_{\theta\phi}$0.13±.02; $M_{\phi r}$-0.40±.10; Best double couple: $M_0$1.065×10^{17} NP1: ϕ_s144°, δ48°, λ-163°. NP2:ϕ_s43°, δ78°, λ-43°. Principal axes: T 1.108, Plg18°, Azm100°; N -.084, Plg46°, Azm210°; P -1.023, Plg38°, Azm355°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 02:23:14.3±0.2, 7.72N×94.02E, h30km, mb5.2/55 Error ellipse: s-maj=6.1km s-min=5.2km az=1.0*
ISC 28 02:23:13.1±0.3, 7.76N±0.04×94.05E±0.04, h33km, (h31km±3.1km:pP-P), n285, σ1§00/263, mb5.1/92, MS5.0/17, 16C-19D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.08**	**342**	⇑*eP*	**P**	**02 24 14.1**	**-0.6**
PBA				*e*S	**S**	**02 25 00.3**	**-1.7**
CMAR	**Chiang Mai Arr**	**11.65**	**24**	P	**P**	**02 26 00.0**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.65**	**24**	Pn	**P**	**02 25 60.0**	**-0.2**
	comp=Z,3.6nm,0.3s,baz=212,slow=14,SNR=11						
PALK	**Pallekele**	**13.24**	**269**	Pn	**P**	**02 26 21.8**	**+0.4**
	comp=Z,40nm,0.8s						
VIS	**Vishakhapatnam**	**14.39**	**315**	*eP*	**P**	**02 26 35.7**	**-0.9**
VIS				*e*		02 26 45.6	
	comp=Z,139nm,2.3s						
VIS				*e*		02 29 04.5	
VIS				*e*S	**S**	**02 29 17.3**	**+1.4**
KOD	**Kodaikanal**	**16.56**	**280**	*eP*	**P**	**02 27 09.9**	**+5.4**
KOD				*e*		02 27 13.1	
	comp=Z,55nm,1.4s						
KOD				*e*S	**S**	**02 30 16.5**	**+10**
SHL	**Shillong**	**17.83**	**354**	*eP*	**P**	**02 27 18.7**	**-1.7**
SHL				*e*S	**S**	**02 30 39.8**	**+4.4**
HYB	**Hyderabad**	**17.90**	**304**	*eP*	**P**	**02 27 25.0**	**+3.8**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s						
HYB	**Hyderabad**	**17.90**	**304**	*eP*	**P**	**02 27 25.0**	**+3.8**
	comp=Z,50nm,1.0s						
HYB	**Hyderabad**	**17.90**	**304**	*i* P	**P**	**02 27 25.0**	**+3.8**
	comp=Z,50nm,1.0s						
HYB				*e*S	**S**	**02 30 41.5**	**+4.5**
BLSP	**Bilaspur**	**18.33**	**323**	*eP*	**P**	**02 27 26.6**	**-0.1**
BLSP				*e*		02 27 28.8	
	comp=Z,91nm,1.0s						
BLSP				*e*S	**S**	**02 30 52.5**	**+5.8**
QIZ	**Qiongzhong**	**19.00**	**52**	P	**P**	**02 27 36.5**	**+1.7**
QIZ	**Qiongzhong**	**19.00**	**52**	*eP*	**P**	**02 27 35.7**	**+0.9**
	comp=Z,141nm,1.3s						
KMI	**Kunming**	**19.16**	**25**	P	**P**	**02 27 38.8**	**+2.2**
KMI				S	**S**	**02 31 08.5**	**+3.0**
KMI				pmax	pmax		
	comp=Z,169nm,1.2s						
KMI	**Kunming**	**19.16**	**25**	P	**P**	**02 27 38.8**	**+2.2**
	comp=Z,169nm,1.2s						
KMI				pP		02 27 49.8	
KMI				sP		02 27 57.1	
KMI				PP	PP	02 27 57.5	+4.0
KMI				S	**S**	**02 31 08.5**	**+3.0**
NGP	**Nagpur**	**19.68**	**314**	*eP*	**P**	**02 27 41.6**	**-0.7**
NGP				*e*		02 27 51.1	
	comp=Z,72nm,1.7s						
NGP				*e*S	**S**	**02 31 24.7**	**+7.7**
GOA	**Goa**	**21.23**	**293**	*eP*	**P**	**02 28 08.4**	**+10**
GOA				*e*		02 28 16.1	
	comp=Z,98nm,1.3s						
GOA				*e*S	**S**	**02 32 06.8**	**+19**
KAD	**Karad**	**21.57**	**298**	*eP*	**P**	**02 28 02.5**	**+0.6**
LSA	**Lhasa**	**22.00**	**353**	*eP*	**P**	**02 28 06.0**	**-0.1**
LSA				pmax	pmax		
	comp=Z,275nm,0.8s,mb5.7						
LSA	**Lhasa**	**22.00**	**353**	*eP*	**P**	**02 28 06.0**	**-0.2**
	comp=Z,275nm,0.8s,mb5.7						
BHPL	**Bhopal**	**22.18**	**316**	*eP*	**P**	**02 28 09.8**	**+1.9**
BHPL				*e*		02 28 14.5	
	comp=Z,192nm,1.6s						
BHPL				*e*S	**S**	**02 32 15.3**	**+10**
NDI	**New Delhi**	**26.18**	**325**	*eP*	**P**	**02 28 46.7**	**+0.1**
NDI				*e*		02 28 51.4	
	comp=Z,134nm,1.0s						
NDI				*e*S	**S**	**02 33 18.5**	**+4.4**
ENH	**Enshi**	**26.67**	**31**	*eP*	**P**	**02 28 50.9**	**-0.2**
	comp=Z,84nm,1.2s,mb5.1						
SMLA	**Simla**	**28.09**	**328**	*eP*	**P**	**02 29 17.4**	**+13**
SMLA				*e*		02 29 23.1	
	comp=Z,66nm,1.4s						
SMLA				*e*

SSE S **S** **02 35 24.6 +0.8**
SSE sS 02 35 37.5
SSE SS SS 02 37 46.0 +11
SSE LR LR
comp=Z,960nm,17.0s,MS4.6
WMQ Urumqi 36.35 352 *e*P **P** **02 30 16.0 +0.1**
WMQ AP pP 02 30 25.8 +0.1
WMQ XP sP 02 30 29.5 -0.4
WMQ PP PP 02 31 39.5 -0.2
WMQ PCP PcP 02 32 40.8 +0.4
WMQ AMB AMB
comp=Z,102nm,1.5s,mb5.5
WMQ AMB AMB
comp=Z,485nm,5.6s
WMQ LR LR
comp=N,1μm,18.3s,MS4.9
WMQ LR LR
comp=E,1μm,18.4s,MS4.9
WMQ LR LR
comp=Z,2μm,18.7s,MS4.9
BJT Baijiatuau 37.73 28 *e*P **P** **02 30 28.4 +0.8**
BJT pmax pmax
comp=Z,26nm,1.1s
BJT Baijiatuau 37.73 28 *e*P **P** **02 30 28.4 +0.9**
comp=Z,26nm,1.1s,mb4.9
BJI Beijing 37.75 28 P **P** **02 30 28.7 +0.9**
BJI S **S** **02 36 07.6 -8.1**
BJI pmax pmax
comp=Z,19nm,1.2s,mb4.7
BJI MLR MLR
comp=Z,870nm,18.1s,MS4.6
BJI Beijing 37.75 28 P **P** **02 30 28.7 +0.9**
comp=Z,19nm,1.2s,mb4.7
BJI S **S** **02 36 07.6 -8.1**
BJI LR LR
comp=Z,870nm,18.1s,MS4.6
KZA Kyzart 38.01 337 P **P** **02 30 31.2 +1.3**
SNR=5.5
UCH Uchtor 38.42 336 P **P** **02 30 33.3 0.0**
SNR=11
KBK Karagaybulak 38.62 337 P **P** **02 30 36.2 +1.2**
SNR=12
AML Almayashu 38.67 336 P **P** **02 30 36.6 +1.2**
SNR=9.8
AAK Ala-Archa 38.77 337 P **P** **02 30 37.2 +1.0**
SNR=11
AAK Ala-Archa 38.77 337 P **P** **02 30 37.0 +0.8**
AAK pmax pmax
comp=Z,59nm,1.1s,mb5.2
AAK Ala-Archa 38.77 337 *e*P **P** **02 30 35.7 -0.6**
comp=Z,47nm,1.1s,mb5.1
CHMS Chumysh 38.98 337 P **P** **02 30 38.2 +0.2**
SNR=9.7
USP Ospenovka 39.31 337 P **P** **02 30 41.1 +0.4**
SNR=12
MKAR Makanchi Array 40.18 347 *i* P **P** **02 30 47.4 -0.5**
MKAR pmax pmax
comp=Z,47nm,0.9s
MKAR Makanchi Array 40.18 347 *i* P **P** **02 30 47.5 -0.4**
SONM Songino Array 41.30 13 P **P** **02 30 57.4 +0.4**
comp=Z,25nm,0.9s,mb4.8,baz=196,slow=7.8,SNR=22
SONM PcP PcP 02 32 56.8 +0.8
comp=Z,8.0nm,0.8s,baz=196,slow=2.5,SNR=6.5
ULN Ulaanbaatar 41.47 13 *i* P **P** **02 30 58.6 +0.1**
ULN Ulaanbaatar 41.47 13 *i* Pr 02 30 58.6
SNY Shenyang 42.82 33 ⇓P **P** **02 31 10.5 +0.8**
SNY AMB AMB
comp=Z,20nm,1.9s,mb4.5
SNY LR LR
comp=N,1μm,17.1s,MS4.9
SNY LR LR
comp=E,530nm,17.3s,MS4.9
SNY LR LR
comp=Z,1μm,12.8s,MS4.9
ZAK Zakamensk 43.18 9 *e*P **P** **02 31 12.0 -0.5**
MOY Mondy 44.15 6 *e*P **P** **02 31 20.7 +0.4**
TLY Talaya 44.50 9 *e*P **P** **02 31 22.7 -0.4**
TLY *e* 02 38 08.9
TLY pmax pmax
comp=Z,38nm,2.0s,mb4.8
TLY MLR MLR
comp=Z,626nm,17.0s,MS4.6
TLY Talaya 44.50 9 *i* Pr 02 31 24.2
KURK Kurchatov 44.70 346 *i* P **P** **02 31 24.6 -0.1**
KURK pmax pmax
comp=Z,109nm,1.3s,mb5.5
KURK Kurchatov 44.70 346 *e*P **P** **02 31 24.0 -0.7**
comp=Z,171nm,1.2s,mb5.8
NWAO Narrogin (SRO) 46.09 153 P **P** **02 31 36.6 +0.5**
comp=Z,21nm,0.8s,mb5.2,baz=322,slow=10,SNR=6.2
NWAO LR LR 02 48 48.3
comp=Z,6.6nm,19.9s,baz=143,slow=33
NWAO Narrogin (SRO) 46.09 153 *e*P **P** **02 31 36.6 +0.5**
comp=Z,22nm,0.8s,mb5.2
ZAL Zalesovo 46.65 352 P **P** **02 31 40.2 +0.1**
ZAL pmax pmax
comp=Z,67nm,1.0s
ZAL Zalesovo 46.65 352 P **P** **02 31 40.2 0.0**
comp=Z,67nm,1.0s,mb5.5,baz=299,slow=6.2,SNR=29
ZAL Zalesovo 46.65 352 P **P** **02 31 40.2 0.0**
HIA Hailar 46.66 23 *e*P **P** **02 31 40.2 -0.1**
HIA pmax pmax
comp=Z,80nm,1.0s
HIA Hailar 46.66 23 *e*P **P** **02 31 40.2 -0.1**
comp=Z,80nm,1.0s,mb5.6
NVS Novosibirsk 47.74 352 *i* P **P** **02 31 47.7 -1.1**
NVS *i* S **S** **02 38 41.7 -0.2**
NVS pmax pmax
comp=Z,110nm,1.0s,mb5.8
NVS pmax pmax
comp=N,96nm,1.6s
NVS pmax pmax
comp=E,38nm,1.2s
NVS smax
comp=N,17nm,1.5s
NVS smax
comp=E,31nm,1.5s
MDJ Mudanjiang 47.95 34 *e*P **P** **02 31 51.2 +0.6**
comp=E,26nm,1.4s,mb5.1
WRA Warramunga Arr 48.27 125 P **P** **02 31 52.2 -1.1**
WRA 02 33 20.1
WRA pmax pmax
comp=Z,6.0nm,0.7s
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 48.27 125 P **P** **02 31 52.2 -1.2**
comp=Z,6.4nm,0.7s,mb4.8,baz=304,slow=8.6,SNR=7.6
WRA PcP PcP 02 33 20.1 -0.2
comp=Z,2.9nm,0.7s,baz=318,slow=3.0,SNR=5.1
WRAB Tennant Creek 48.27 125 *e*P **P** **02 31 51.3 -2.1**
WRAB pmax pmax
comp=Z,22nm,1.0s,mb5.1
WRAB Tennant Creek 48.27 125 *e*P **P** **02 31 51.3 -2.1**
comp=Z,22nm,1.0s,mb5.1
RAYN Ar Rayn 49.05 294 P **P** **02 32 01.2 +1.9**
comp=Z,335nm,0.8s,SNR=11
BVA0 Borovoye Array 49.07 341 *i* P **P** **02 31 57.9 -1.1**
BVA0 pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
BVAR Borovoye Array 49.07 341 P **P** **02 31 57.8 -1.3**
comp=Z,11nm,0.8s,mb5.0,baz=149,slow=8.6,SNR=16
BVAR PcP PcP 02 33 22.8 +0.1
comp=Z,6.5nm,0.8s,baz=146,slow=5.3,SNR=5.0
BRVK Borovoye 49.13 341 *e*P **P** **02 31 58.2 -1.3**
BRVK pmax pmax
comp=Z,26nm,1.0s,mb5.2
BRVK Borovoye 49.13 341 *e*P **P** **02 31 58.2 -1.3**
comp=Z,26nm,1.0s,mb5.2
MAT Matsushiro 49.31 48 *e*P **P** **02 32 02.0 +0.9**
MAT pmax pmax
comp=Z,47nm,1.6s,mb5.3
MAT Matsushiro 49.31 48 *e*P **P** **02 32 02.0 +0.9**
comp=Z,47nm,1.6s,mb5.3
MAT Matsushiro 49.31 48 P **P** **02 32 02.4 +1.3**
CHKZ Chkalovo 49.55 342 *e*P **P** **02 32 01.8 -1.0**
CHKZ pmax pmax
comp=Z,95nm,1.0s,mb5.8
CHKZ Chkalovo 49.55 342 *e*P **P** **02 32 01.8 -1.0**
comp=Z,95nm,1.0s,mb5.8
ASAR Alice Springs 49.91 130 P **P** **02 32 05.0 -1.0**
comp=Z,2.0nm,0.5s,mb4.5,baz=304,slow=7.9,SNR=5.6
ASAR PcP PcP 02 33 26.4 +0.3
comp=Z,5.9nm,0.7s,baz=308,slow=3.5,SNR=7.9
KLR Kul'dur 52.03 31 *e*P **P** **02 32 18.0 -3.6**
KLR MLR MLR
comp=E,2μm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.3
BOD Bodaibo 52.28 13 *e*P **P** **02 32 21.4 -1.9**
GNI Garni 54.45 314 *d* P **P** **02 32 39.9 +0.2**
GNI pmax pmax
comp=Z,52nm,1.7s
GNI Garni 54.45 314 P **P** **02 32 39.3 -0.4**
comp=Z,8.0nm,0.7s,mb4.8,baz=40,slow=3.8,SNR=5.4
GNI Garni 54.45 314 *e*P **P** **02 32 38.2 -1.5**
comp=Z,36nm,1.1s,mb5.2
CLNS Chul'man 54.58 20 *e*P **P** **02 32 40.7 +0.3**
CLNS *e**PP pP 02 32 46.7 -3.7
CLNS pmax pmax
comp=Z,78nm,0.7s,mb5.8
CLNS pmax pmax
comp=N,53nm,0.9s
CLNS pmax pmax
comp=E,35nm,0.7s
CLNS pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
CLNS pmax pmax
comp=N,7.0nm,1.1s
CLNS pmax pmax
comp=E,3.0nm,1.1s
CLNS MLR MLR
comp=Z,1μm,14.0s,MS5.1
CLNS MLR MLR
comp=N,1μm,12.0s,MS5.2
CLNS MLR MLR
comp=E,300nm,12.0s,MS5.2
TI2 Plekhanov 55.07 316 *e*P **P** **02 32 43.8 -0.3**
SVE Sverdlovsk 55.47 338 *e*P **P** **02 32 44.0 -2.9**
SVE pmax pmax
comp=Z,200nm,1.8s,mb5.8
SVE MLR MLR
comp=E,500nm,22.0s
SVE MLR MLR
comp=Z,1μm,22.0s,MS5.0
PMG Port Moresby 55.59 107 P **P** **02 32 46.5 -1.8**
PMG pmax pmax
comp=Z,13nm,0.8s
PMG Port Moresby 55.59 107 P **P** **02 32 46.5 -1.8**
comp=Z,13nm,0.8s,mb5.0,baz=5.7,slow=10,SNR=3.4
ARU Arti 55.96 337 P **P** **02 32 49.0 -1.4**
comp=Z,202nm,1.0s,mb6.1,SNR=8.2
ARU Arti 55.96 337 ⇑*i*P **P** **02 32 42.7 -7.7**
ARU *e*S **S** **02 40 24.2 -10**
ARU pmax pmax
comp=Z,60nm,1.4s,mb5.4
YSS Yuzh-Sakhalins 56.93 38 ⇓P **P** **02 32 57.3 -0.2**
YSS *e* 02 33 13.0
YSS MLR MLR
comp=Z,700nm,15.0s,MS4.9
YSS MLR MLR
comp=N,700nm,16.0s,MS5.1
YSS MLR MLR
comp=E,1μm,14.0s,MS5.1
KMBO Kilima Mbogo 57.32 264 P **P** **02 33 02.6 +1.9**
KMBO pmax pmax
comp=Z,7.0nm,0.8s
KMBO Kilima Mbogo 57.32 264 P **P** **02 33 02.6 +1.9**
comp=Z,6.6nm,0.8s,mb4.7,baz=50,slow=10,SNR=6.2
KMBO Kilima Mbogo 57.32 264 *e*P **P** **02 33 00.2 -0.5**
comp=Z,10nm,1.0s,mb4.8
KIV Kislovodsk 57.34 318 ⇓*i*P **P** **02 32 59.6 -0.8**
KIV *e* 02 33 51.7
KIV pmax pmax
comp=Z,68nm,1.6s,mb5.4
KIV MLR MLR
comp=Z,200nm,17.0s,MS4.3
KIV Kislovodsk 57.34 318 *e*P **P** **02 32 59.5 -1.0**
comp=Z,46nm,1.1s,mb5.4
ASF Jabal al Asfar 58.20 303 P **P** **02 33 07.9 +1.3**
comp=Z,9.2nm,0.9s,mb4.8,baz=348,slow=3.0,SNR=10.0
MALT Malatya 58.47 310 *e*P **P** **02 33 06.9 -1.5**
MALT *e**PP pP 02 33 22.4 +3.9
MALT pmax pmax
comp=Z,13nm,1.1s,mb4.9
MALT Malatya 58.47 310 *e*P **P** **02 33 06.9 -1.5**
comp=Z,13nm,1.1s,mb4.9
MALT *e*pP pP 02 33 22.4 +3.9
SOKR Solikamsk 58.87 339 ⇑*i*P **P** **02 33 08.7 -2.2**
SOKR pmax pmax
comp=Z,80nm,1.1s,mb5.7
SOKR MLR MLR
comp=Z,920nm,21.0s,MS4.9
SOC Sochi 59.20 317 *e*P **P** **02 33 09.8 -3.6**
SOC *e* 02 35 18.4
SOC *e*S **S** **02 41 15.8 -1.3**
SOC *e* 02 43 00.5
SOC *e*SS SS 02 45 14.7 +1.5
SOC pmax pmax
comp=Z,49nm,1.1s,mb5.5
SOC pmax pmax
comp=N,21nm,0.8s
SOC pmax pmax
comp=E,25nm,0.7s
EIL Elat 59.40 300 P **P** **02 33 15.6 +0.6**
comp=E,13nm,0.8s,mb5.0,baz=115,slow=7.8
EIL Elat 59.40 300 *e*P **P** **02 33 15.1 +0.1**
comp=E,38nm,1.3s,mb5.3
STKA Stephens Creek 60.09 134 P **P** **02 33 19.1 -0.7**
comp=E,4.4nm,0.9s,mb4.5,baz=298,slow=7.7,SNR=3.7
YAK Yakutsk 60.13 18 *d*/*i*P **P** **02 33 18.7 -0.9**
YAK pmax pmax
comp=Z,127nm,0.7s,mb6.1
YAK Yakutsk 60.13 18 *e*P **P** **02 33 18.8 -0.8**
BRTR Keskin Array B 62.43 311 P **P** **02 33 33.9 -1.5**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 62.43 311 P **P** **02 33 33.9 -1.5**
comp=Z,7.4nm,0.8s,mb4.9,baz=129,slow=7.9,SNR=13
VOR Voronezh 62.62 325 *e*P **P** **02 33 36.0 -0.5**
VOR *e* 02 33 49.5
VOR pmax pmax
comp=Z,70nm,1.6s,mb5.5
MBAR Mbarara 63.66 265 *e*P **P** **02 33 43.1 -0.9**
MBAR pmax pmax
comp=Z,25nm,1.3s,mb5.1
MBAR Mbarara 63.66 265 *e*P **P** **02 33 43.1 -0.9**
comp=Z,25nm,1.3s,mb5.1
MOS Moscow 65.13 329 *e*P **P** **02 33 51.8 -1.0**
MOS *e* 02 34 05.5
MOS *e* 02 34 26.6
MOS pmax pmax
comp=Z,160nm,1.3s,mb5.9
MOS MLR MLR
comp=Z,2μm,20.4s,MS5.2
OBN Obninsk 65.43 328 *d*/*i*P **P** **02 33 51.4 -3.3**
OBN *e* 02 36 17.8
OBN *e*S S 02 42 32.2 -3.1
OBN pmax pmax
comp=Z,151nm,1.6s,mb5.8
OBN MLR MLR
comp=Z,600nm,24.0s,MS4.7
OBN Obninsk 65.43 328 *i* Pr 02 33 51.4
MA2 Magadan 66.91 28 *e*P **P** **02 34 03.7 -0.3**
MA2 pmax pmax
comp=Z,30nm,0.9s,mb5.3
MA2 Magadan 66.91 28 *e*P **P** **02 34 03.9 -0.1**
comp=Z,161nm,1.5s,mb5.8
TIXI Tiksi 67.36 11 ⇓*i*P **P** **02 34 05.7 -1.0**
TIXI pmax pmax
comp=Z,62nm,0.7s,mb5.8
TIXI Tiksi 67.36 11 ⇓*i*P **P** **02 34 05.8 -0.9**
KIS Kishinev 67.54 318 *e*P **P** **02 34 06.0 -2.2**
KIS *e* pP 02 34 17.0 -1.6
KIS *e* 02 34 28.0
AKASG Malin Array Be 68.19 322 P **P** **02 34 10.5 -1.7**
AKASG pmax pmax
comp=Z,10.0nm,0.8s
AKASG pmax pmax
comp=Z,2.0nm,1.0s
AKASG Malin Array Be 68.19 322 P **P** **02 34 10.5 -1.7**
comp=Z,10nm,0.8s,mb4.9,baz=89,slow=4.6,SNR=15
AKASG PP PP 02 36 35.1 -10
comp=Z,2.2nm,1.0s,baz=91,slow=6.3,SNR=4.6
IDI Anoyia 68.56 305 P **P** **02 34 14.7 -0.1**
comp=Z,18nm,0.7s,mb5.1,baz=93,slow=10,SNR=7.7
SEY Seymchan 69.07 25 *e*P **P** **02 34 16.3 -1.2**
SEY 02 34 41.8
SEY *e*PPP PPP 02 38 37.3 +6.7
SEY *e*S S 02 43 15.8 -3.2
SEY 02 44 13.1
SEY *e*SS SS 02 47 49.1 +2.1
SEY *e*SSS SSS 02 50 43.0 -6.2
SEY pmax pmax
comp=Z,30nm,0.9s,mb5.2
SEY MLR MLR
comp=N,3μm,21.0s,MS5.6
SEY MLR MLR
comp=Z,4μm,21.0s,MS5.7
SEY MLR MLR
comp=E,2μm,18.0s,MS5.6
LSZ Lusaka 69.14 250 *e*P **P** **02 34 17.9 -0.8**
LSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LSZ Lusaka 69.14 250 *e*P **P** **02 34 17.9 -0.8**
comp=Z,6.0nm,0.8s,mb4.6
MLR Muntele Rosu 69.19 316 P **P** **02 34 18.8 +0.3**
MLR pmax pmax
comp=Z,24nm,0.9s
MLR Muntele Rosu 69.19 316 P **P** **02 34 18.8 +0.3**
comp=Z,24nm,0.9s,mb5.1,baz=110,slow=2.5,SNR=11
JOF Joensuu 70.91 334 *e*p **P** **02 34 28.4 -0.3**
comp=Z,1.4nm,0.3s,mb4.4
ZAPS Zavoj/Pirot 71.21 313 ⇑*i*P **P** **02 34 29.2 -1.7**
LVV L'vov 71.24 320 P **P** **02 34 29.8 -1.1**
KWP Kalwaria 72.06 320 *e*P **P** **02 34 35.8 +0.1**
JAN Janina 72.16 309 ⇑*i*P **P** **02 34 34.0 -2.5**
JAN pmax pmax
comp=Z,26nm,1.0s,mb5.1
KOLS Kolonicke sedl 72.23 319 *e*P **P** **02 34 34.7 -2.0**
KOLS *e*pP pP 02 34 43.7 -3.3
SUW Suwalki 72.55 324 *e*P **P** **02 34 37.2 -1.3**
CRVS Cervenica-Dubn 72.75 319 *e*P **P** **02 34 40.1 +0.2**
CRVS *e* 02 34 47.7
CRVS *e* pP 02 34 51.9 +1.7
FINES FINESS Array B 72.77 332 P **P** **02 34 39.2 -0.5**
FINES pmax pmax
comp=Z,34nm,0.9s
FINES FINESS Array B 72.77 332 P **P** **02 34 39.2 -0.5**
comp=Z,34nm,0.9s,mb5.3,baz=101,slow=9.7,SNR=21
FINES FINESS Array B 72.77 332 P **P** **02 34 39.2 -0.5**
KAF Kangasniemi 72.85 333 *e*p **P** **02 34 38.8 -1.4**
comp=Z,1.9nm,0.4s,mb4.4
KAF Kangasniemi 72.85 333 *e*P **P** **02 34 38.8 -1.4**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
NIE Niedzica 73.57 319 *e*P **P** **02 34 45.2 +0.5**
PSZ Piszkesteto 73.66 318 ⇓*e*P **P** **02 34 45.2 -0.1**
OJC Ojcow 74.00 320 *e*P **P** **02 34 47.4 +0.2**
LBTB Lobatse 74.11 241 *e*P **P** **02 34 48.4 +0.1**
LBTB pmax pmax
comp=Z,15nm,0.8s,mb5.0
LBTB Lobatse 74.11 241 *e*P **P** **02 34 48.4 +0.1**
comp=Z,15nm,0.8s,mb5.0
VYHS Vyhne 74.43 318 *e*P **P** **02 34 49.6 -0.1**
VYHS *e* 02 34 56.3
SRO Srobarova 74.71 317 *e*P **P** **02 34 51.5 +0.1**
KEV Kevo 74.91 341 *e*p **P** **02 34 49.4 -2.7**
comp=Z,0.5nm,0.4s,mb3.8
KEV Kevo 74.91 341 *e*P **P** **02 34 49.4 -2.7**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
OKC Ostrava-Krasne 75.02 319 *e*P **P** **02 34 53.4 +0.3**
TIP Timpagrande 75.29 308 *e*P **P** **02 34 54.9 0.0**
TIP *e*PcP PcP 02 35 07.0 -1.5
ARCES ARCESS Array B 75.34 340 P **P** **02 34 54.1 -0.5**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 75.34 340 P **P** **02 34 54.0 -0.5**
comp=Z,6.4nm,0.9s,mb4.6,baz=100,slow=7.1,SNR=10
SMOL Smolenice 75.36 318 *e*P **P** **02 34 55.5 +0.4**
MORC Moravsky Berou 75.40 319 *e*P **P** **02 34 54.9 -0.4**
MORC pmax pmax
comp=Z,30nm,1.1s,mb5.1
MORC Moravsky Berou 75.40 319 *e*P **P** **02 34 54.9 -0.4**
comp=Z,30nm,1.1s,mb5.1
ZST Bratislava 75.56 318 *e*P **P** **02 34 56.7 +0.5**
ZST *e* pP 02 35 07.4 +0.9
GKP Gorka Klasztor 75.93 323 *e*P **P** **02 34 58.7 +0.5**
BILL Bilibino 76.23 22 ⇓*e*P **P** **02 34 59.5 -0.1**
DPC Dobruska-Polom 76.23 320 *e*P **P** **02 35 01.0 +1.0**
KSP Ksiaz 76.29 320 *e*P **P** **02 35 00.8 +0.5**
UPC Upice 76.44 320 *e*P **P** **02 35 02.2 +1.0**
GROS Grobnik 76.53 316 *e*P **P** **02 35 01.9 +0.1**
ARSA Arzberg 76.56 317 ⇑*i*P **P** **02 35 02.9 +1.0**
comp=Z,28nm,1.5s,mb5.0
LEGS Legarje 76.63 315 *e*P **P** **02 35 02.9 +0.5**
PDKS Podkum 76.86 315 *e*P **P** **02 35 04.0 +0.3**
VAE Valguarnera 77.11 307 P **P** **02 35 06.7 +1.4**
comp=Z,16nm,1.0s,mb4.9,baz=39,slow=9.1,SNR=3.5
PRU Pruhonice 77.35 319 *e*P **P** **02 35 06.2 -0.1**
PVCC Panska Ves 77.36 320 *e*P **P** **02 35 07.0 +0.6**
MOA Molln 77.44 317 ⇑*i*P **P** **02 35 07.2 +0.4**
comp=Z,16nm,1.1s,mb4.9
BRG Berggiesshubel 77.78 320 *i* P **P** **02 35 09.4 +0.7**
BRG *e* 02 35 16.9
BRG pmax pmax
comp=Z,67nm,1.8s,mb5.3
BRG Berggiesshubel 77.78 320 *i* P **P** **02 35 09.4 +0.7**
comp=Z,67nm,1.8s,mb5.3
BRG *e* 02 35 16.9
GEC2 GERESS Array S 77.85 318 *e*P **P** **02 35 09.7 +0.6**
GEC2 pmax pmax
comp=Z,34nm,1.1s,mb5.2
GEC2 GERESS Array S 77.85 318 *e*P **P** **02 35 09.7 +0.6**
comp=Z,34nm,1.1s,mb5.2
GERES GERESS Array B 77.85 318 P **P** **02 35 10.0 +0.9**
GERES pmax pmax
comp=Z,13nm,0.8s
GERES GERESS Array B 77.85 318 P **P** **02 35 10.0 +1.0**
comp=Z,13nm,0.8s,mb4.9,baz=90,slow=5.3,SNR=17
KHC Kasperske Hory 77.94 319 *e*P **P** **02 35 09.8 +0.2**
KHC *e* 02 35 16.5
KHC Kasperske Hory 77.94 319 *e*P **P** **02 35 09.8 +0.2**
KHC pP pP 02 35 16.5 -3.4
RUE Ruedersdorf 77.96 322 *e*P **P** **02 35 09.7 +0.1**
comp=Z,91nm,1.3s,mb5.5
KBA Koelnbreinsper 78.03 316 ⇑*i*P **P** **02 35 10.5 +0.4**
comp=Z,22nm,1.4s,mb4.9
KBA Koelnbreinsper 78.03 316 ⇑*i*P **P** **02 35 10.5 +0.4**
KBA pmax pmax
comp=Z,23nm,1.4s,mb4.9
CLL Collm 78.39 321 *i* P **P** **02 35 12.1 +0.1**
CLL pmax pmax
comp=Z,53nm,1.7s,mb5.2
CLL Collm 78.39 321 *i* P **P** **02 35 12.1 +0.1**
comp=Z,53nm,1.7s,mb5.2
CLL Collm 78.39 321 P **P** **02 35 12.1 +0.1**
comp=Z,logA/T=1.5,mb5.2
CLL *e**PP pP 02 35 23.0 +0.7
WET Wettzell 78.40 319 *e*P **P** **02 35 12.8 +0.7**
WET pmax pmax
comp=Z,21nm,1.1s,mb5.0
WET Wettzell 78.40 319 *e*P **P** **02 35 12.8 +0.7**
comp=Z,21nm,1.1s,mb5.0
NKC Novy Kostel 78.71 320 *e*P **P** **02 35 14.4 +0.6**
COP Copenhagen 78.91 325 ⇓*i*P **P** **02 35 15.5 +0.8**
COP pmax pmax
comp=Z,31nm,1.0s,mb5.2
COP Copenhagen 78.91 325 *e*P **P** **02 35 14.9 +0.2**
COP Copenhagen 78.91 325 *i* P **P** **02 35 14.9 +0.2**
COP Copenhagen 78.91 325 ⇓*i*P **P** **02 35 15.5 +0.8**
comp=Z,31nm,1.0s,mb5.2
WTTA Wattenberg 79.20 317 ⇓*i*P **P** **02 35 16.7 +0.2**
comp=Z,34nm,1.2s,mb5.2
WTTA Wattenberg 79.20 317 ⇓*i*P **P** **02 35 16.7 +0.2**
WTTA pmax pmax
comp=Z,34nm,1.2s,mb5.2
WATA Walderalm 79.24 317 ⇑*i*P **P** **02 35 16.5 -0.3**
comp=Z,20nm,1.1s,mb5.0
WATA Walderalm 79.24 317 ⇑*i*P **P** **02 35 16.5 -0.3**
WATA pmax pmax
comp=Z,20nm,1.1s,mb5.0
MOX Moxa 79.25 320 *e*P **P** **02 35 17.0 +0.3**
MOX pmax pmax
comp=Z,29nm,1.6s,mb5.0
MOX Moxa 79.25 320 *e*P **P** **02 35 17.0 +0.3**
comp=Z,29nm,1.6s,mb5.0
MOX Moxa 79.25 320 *i* P **P** **02 35 17.0 +0.3**
comp=Z,logA/T=1.3,mb5.0
FUR Furstenfeldbru 79.45 318 *e*P **P** **02 35 18.0 +0.2**
GRA1 Grafenberg Arr 79.49 319 *e*P **P** **02 35 19.1 +1.0**
comp=Z,39nm,1.2s,mb5.2
GRF Grafenberg Arr 79.49 319 *e*P **P** **02 35 19.1 +1.0**
GRF pmax pmax
comp=Z,39nm,1.2s,mb5.2
GRF Grafenberg Arr 79.49 319 *e*P **P** **02 35 19.1 +1.0**
GRF pmax pmax

comp=Z,39nm,1.2s,mb5.2
GRF Grafenberg Arr 79.49 319 *e*P P 02 35 19.1 +1.0
comp=Z,39nm,1.2s,mb5.2
SQTA Sankt Quirin 79.49 317⇓*i*P P 02 35 18.0 -0.1
comp=Z,17nm,1.0s,mb4.9
SQTA Sankt Quirin 79.49 317⇓*i*P P 02 35 18.0 -0.1
SQTA pmax pmax
comp=Z,17nm,1.0s,mb4.9
MOTA Moosalm 79.57 317⇓*i*P P 02 35 18.3 -0.2
comp=Z,16nm,1.0s,mb4.9
MOTA Moosalm 79.57 317⇓*i*P P 02 35 18.3 -0.2
MOTA pmax pmax
comp=Z,16nm,1.0s,mb4.9
NB2 NORSAR Subarra 79.79 331 P P 02 35 19.3 -0.1
comp=Z,39nm,1.0s,mb5.3,baz=95,slow=5.0
NB2 NORSAR Subarra 79.79 331 P P 02 35 19.3 -0.1
baz=95,slow=5.3
NOA NORSAR Array B 79.79 331 P P 02 35 19.2 -0.2
NOA pmax pmax
comp=Z,17nm,0.9s
NOA NORSAR Array B 79.79 331 P P 02 35 19.2 -0.2
comp=Z,17nm,0.8s,mb5.0,baz=92,slow=5.6,SNR=14
CLZ Clausthal 80.04 321 *e*P P 02 35 21.6 +0.6
comp=Z,92nm,1.8s,mb5.4
SUR Sutherland 80.19 235 P P 02 35 22.8 +0.6
comp=Z,10nm,0.8s,mb4.8
DAVA Damuels 80.40 317⇑*i*P P 02 35 23.8 +0.8
comp=Z,39nm,1.3s,mb5.2
DAVOX Davos 80.41 316 P P 02 35 23.7 +0.7
comp=Z,21nm,0.9s,mb5.1,baz=85,slow=3.0
MUD Monsted U'grnd 80.75 326 *i*P P 02 35 25.8 +1.2
MUD pmax pmax
comp=Z,51nm,1.2s,mb5.3
MUD Monsted U'grnd 80.75 326 *i*P P 02 35 25.8 +1.2
comp=Z,51nm,1.2s,mb5.3
TNS Taunus Mts 81.28 320 *e*P P 02 35 28.3 +0.8
BFO Black Forest 81.42 318 *e*P P 02 35 28.5 +0.2
BFO pmax pmax
comp=Z,18nm,1.3s,mb4.8
BFO Black Forest 81.42 318 *e*P P 02 35 28.5 +0.2
comp=Z,18nm,1.3s,mb4.8
LPG La Plagne 82.63 315 *e*P P 02 35 34.8 +0.2
comp=Z,45nm,0.9s,mb5.2
LPG La Plagne 82.63 315 *e*P P 02 35 34.8 +0.2
LPG pmax pmax
comp=Z,22nm,0.9s,mb5.2
BNI Bardonecchia 82.71 314 *e*P P 02 35 35.0 0.0
BNI pmax pmax
comp=Z,19nm,0.9s,mb5.1
BNI Bardonecchia 82.71 314 *e*P P 02 35 35.0 0.0
comp=Z,19nm,0.9s,mb5.1
WLF Walferdange 82.78 319 P P 02 35 34.4 -0.9
WLF pmax pmax
comp=Z,11nm,0.9s,mb4.9
WLF Walferdange 82.78 319 P P 02 35 34.4 -0.9
comp=Z,11nm,0.9s,mb4.9
SYO Syowa Base 85.27 197⇑P P 02 35 49.9 +2.5
SYO Syowa Base 85.27 197⇓PcP PcP 02 35 52.7 +1.8
TNA Tin City 86.31 24 *e*P P 02 35 53.1 +0.6
ANM Nome 87.57 25 *e*P P 02 36 00.7 +2.0
ESDC Sonseca Array 91.22 310 P P 02 36 17.8 +1.2
comp=Z,5.8nm,0.8s,mb5.0,baz=55,slow=5.0,SNR=11
SVW2 Sparrevohn 92.89 27 *e*P P 02 36 25.1 +1.4
SPU Mount Spurr 94.43 26 *e*P P 02 36 31.1 +0.4
MCK McKinley 94.60 23 *e*P P 02 36 32.1 +0.7
MCK pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
MCK McKinley 94.60 23 *e*P P 02 36 32.1 +0.7
comp=Z,6.4nm,0.9s,mb5.0
ILAR Eielson Array 94.89 22 P P 02 36 32.9 +0.2
ILAR pmax pmax
comp=Z,3.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR Eielson Array 94.89 22 P P 02 36 32.9 +0.1
comp=Z,3.1nm,0.9s,mb4.7,baz=287,slow=4.7,SNR=12
ILAR PP PP 02 40 15.2 -8.9
comp=Z,1.0nm,0.9s,baz=298,slow=7.7,SNR=4.2
ILAR PKKPbc 02 53 30.4
comp=Z,0.7nm,1.0s,baz=150,slow=2.3,SNR=4.6
PMR Palmer 95.51 25 *e*P P 02 36 36.2 +0.6
PMR pmax pmax
comp=Z,26nm,1.0s,mb5.6
PMR MLR MLR
comp=Z,300nm,18.0s,MS4.8
PMR Palmer 95.51 25 *e*P P 02 36 36.2 +0.6
comp=Z,26nm,1.0s,mb5.6
PMR LR LR
comp=Z,300nm,18.0s,MS4.8
INK Inuvik 97.13 16 P P 02 36 43.6 +0.7
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 97.13 16 P P 02 36 43.5 +0.7
comp=Z,6.6nm,0.8s,mb5.1,baz=294,slow=5.3,SNR=7.8
RES Resolute Bay 97.52 2 *e*P P 02 36 45.3 +0.8
RES pmax pmax
comp=Z,19nm,0.9s,mb5.6
RES Resolute Bay 97.52 2 *e*P P 02 36 45.3 +0.8
comp=Z,19nm,0.9s,mb5.6
DAWY Dawson 98.00 21 *e*P P 02 36 47.5 +0.7
VNA2 Neumayer--Watz 101.03 199 *e* 02 37 09.9
VNA2 Neumayer--Watz 101.03 199⇑*i*Pdif P 02 37 00.1 -0.3
VNA2 *e* 02 37 09.9
VNA1 Neumayer--Stat 101.35 199⇑*i*P P 02 37 01.9 0.0
VNA3 Neumayer Olymp 101.71 199 *e* 02 37 13.6
VNA3 Neumayer Olymp 101.71 199⇑*i*Pdif P 02 37 05.9 +2.4
VNA3 *e* 02 37 13.6
YKA Yellowknife Ar 106.56 13 PP PP 02 41 48.0 -5.4
comp=Z,1.1nm,0.8s,baz=334,slow=7.8,SNR=5.8
FFC Flin Flon 116.31 10 *e*PKIKP PKPdf 02 41 54.6 +1.3
MSO Missoula 120.22 22 *e*PKPdf PKPdf 02 42 02.6 +1.6
BMO Blue Mountains 120.51 25 *e*PKIKP PKPdf 02 42 02.6 +0.9
WDC Whiskeytown Da 121.28 32 *e*PKIKP PKPdf 02 42 05.1 +1.9
MOD Modoc 121.44 30 *e*PKPdf PKPdf 02 42 05.5 +2.0
WVOR Wild Horse Val 121.83 28 *e*PKIKP PKPdf 02 42 06.2 +2.0
BOZ Bozeman (W) 122.07 21 *e*PKIKP PKPdf 02 42 06.3 +1.7
MCMT McKenzie Canyo 122.32 22 *e*PKPdf PKPdf 02 42 07.7 +2.5
OHCM Honcut 122.74 32 *e*PKPdf PKPdf 02 42 08.0 +1.8
NVAR Mina Array Bea 125.07 31 PKP PKPdf 02 42 13.8 +3.1
comp=Z,4.9nm,0.8s,baz=315,slow=0.8,SNR=17
PDAR Pinedale Array 125.31 21 PKP PKPdf 02 42 12.9 +2.0
comp=Z,6.0nm,0.9s,baz=33,slow=1.6,SNR=19
MVU Marysvale 127.89 26 *e*PKPdf PKPdf 02 42 18.4 +2.2
MSU Marysvale 127.90 26 *e*PKIKP PKPdf 02 42 19.4 +3.3
NEN Nelson 128.97 30 *e*PKPdf PKPdf 02 42 21.0 +2.7
PV10 Paradox Valley 129.32 23 *e*PKPdf PKPdf 02 42 21.6 +2.7
ANMO Albuquerque 133.31 23 PKIKP PKPdf 02 42 30.5 +4.0
ANMO pmax pmax
comp=Z,3.0nm,0.8s
ANMO Albuquerque 133.31 23 PKP PKPdf 02 42 30.5 +4.0
comp=Z,3.1nm,0.8s,baz=267,slow=2.0,SNR=12
ANMO Albuquerque 133.31 23 PKP PKPdf 02 42 30.5 +4.0
GDL2 Guadalupe Moun 136.56 23 *e*PKPdf PKPdf 02 42 34.3 +1.7
MIAR Mount Ida 137.31 9 *e*PKIKP PKPdf 02 42 36.4 +2.5
TXAR Lajitas Array 139.37 24 PKP PKPdf 02 42 40.1 +2.3
comp=Z,2.1nm,0.7s,baz=14,slow=0.1,SNR=11
TXAR PP PP 02 45 30.9 -5.1
comp=Z,1.8nm,1.0s,baz=18,slow=5.7,SNR=7.3
JCT Junction City 139.73 19 *e*PKIKP PKPdf 02 42 39.6 +1.2
BAO Brasilia Array 142.06 255 P PKPdf 02 42 42.1 -0.8
PLCA Paso Flores 144.41 200 PKIKP PKPdf 02 42 47.7 +1.4
PLCA pmax pmax
comp=Z,15nm,0.9s
PLCA Paso Flores 144.41 200 PKP PKPdf 02 42 47.6 +1.4
comp=Z,15nm,0.9s,baz=139,slow=4.0,SNR=13
PLCA Paso Flores 144.41 200 *e*PKPdf PKPdf 02 42 47.4 +1.1
SJG San Juan 147.71 323 PKP2 PKPdf 02 42 57.4 +4.9
SJG pmax pmax
comp=Z,25nm,1.1s
SJG San Juan 147.71 323 PKPbc PKPdf 02 42 57.4 +5.0
comp=Z,25nm,1.1s,baz=227,slow=18,SNR=3.8
TEIG Tepich 152.10 5 *e*PKPbc PKPdf 02 43 07.4 +8.1
TEIG *e*PKPab PKPab 02 43 16.8 -1.1
SDV Santo Domingo 157.50 317 PKPab PKPab 02 43 41.1 +0.2
comp=Z,9.7nm,0.9s,baz=36,slow=5.3,SNR=6.2
LVC Limon Verde 157.93 226 PKPab PKPab 02 43 43.9 +1.4
comp=Z,3.5nm,0.6s,baz=149,slow=1.4,SNR=3.6
OTAV Otavalo 169.09 316 *e*PKPdf PKPdf 02 43 20.6 +3.0

*CASC **28** 02:24:59.6±2.4, 14.07N×92.05W, h91km±18km, MD4.5, ML4.4, mb4.4(NEIC)*
*IDC **28** 02:25:02.8±6.0, 14.38N×91.38W, h44km±52km, mb4.1/12, mb1 4.3/13, mb1mx4.2/21, mbtmp4.3/13, ML4.5/1, MS4.1/3, Ms1 4.1/3, ms1mx3.4/23, Error ellipse: s-maj=44.9km s-min=22.4km az=28.0, Putative timing error at LPAZ*
*MEX **28** 02:25:03.2±1.0, 13.97N×92.33W, h15km±837km, MD4.6*
*NEIC **28** 02:25:04.0±0.8, 14.18N×91.73W, h64km±6km, mb4.4/29, MD4.5(MEX), Error ellipse: s-maj=9.9km s-min=5.8km az=207.0*
*BJI **28** 02:25:03.9, 14.20N×91.70W, h64km, mB5.1, Ms5.2, Msz4.7*

ISC 28 02:25:02.4±0.6,**14.06N**±0.05×**91.90W**±0.04,**h71**km±4km, **n114**,σ1°**13**/129,**mb4.3**/32,**7C-7D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.36**	**45**⇑	*e*P	**P**	**02 25 12.2**	**-2.0**
JAT				*e*S	**S**	**02 25 27.6**	**+4.6**
FUG	**Fuego 3**	**1.10**	**69**⇓	*i*P	**P**	**02 25 21.8**	**-0.7**
TP2	**Tecpan 2**	**1.12**	**50**⇓	*e*P	**P**	**02 25 23.3**	**+0.6**
TP2				*e*S	**S**	**02 25 41.0**	**+3.2**
PCG	**Pacaya**	**1.30**	**75**⇓	*e*P	**P**	**02 25 25.0**	**-0.1**
IXG	**Ixpaco**	**1.41**	**85**⇑	*e*P	**P**	**02 25 25.2**	**-1.4**
IXG				*e*S	**S**	**02 25 47.6**	**+2.9**
NBG	**Las Nubes**	**1.60**	**71**⇓	*e*P	**P**	**02 25 30.3**	**+1.1**
NBG				*e*S	**S**	**02 25 53.7**	**+4.8**
RBDL	**Robledal**	**2.15**	**88**⇓	*e*P	**P**	**02 25 36.4**	**-0.3**
RBDL			⇓	*e*S	**S**	**02 26 05.4**	**+3.1**
RTR	**El Retiro**	**2.20**	**94**⇑	*e*P	**P**	**02 25 36.8**	**-0.6**
RTR				*e*S	**S**	**02 26 06.3**	**+2.9**
CCIG	**Comitan**	**2.22**	**354**	*i*P	**P**	**02 25 37.7**	**-0.1**
CCIG				*i*S	**S**	**02 26 04.2**	**+0.1**
SBLS	**San Blas**	**2.22**	**95**	*e*P	**P**	**02 25 37.4**	**-0.4**
SNJE	**San Jose**	**2.24**	**95**	*e*P	**P**	**02 25 37.6**	**-0.4**
SNJE				*e*S	**S**	**02 26 06.3**	**+1.8**
MTO2	**Montecristo 2**	**2.49**	**82**⇑	*e*P	**P**	**02 25 41.6**	**0.0**
BOQS	**Boqueron**	**2.57**	**97**⇓	*e*P	**P**	**02 25 41.9**	**-0.7**
SNET	**Serv Nac Est T**	**2.62**	**98**	*e*P	**P**	**02 25 42.5**	**-0.9**
SNET				*e*S	**S**	**02 26 14.7**	**+0.6**
SNET				*i*		02 26 34.6	
	comp=Z,3μm,0.6s						
LFU	**La Fuente**	**2.72**	**96**	*e*P	**P**	**02 25 44.5**	**-0.4**
SCX	**San Cristobal**	**2.75**	**345**	*i*P	**P**	**02 25 45.0**	**-0.3**
SCX				*i*S	**S**	**02 26 18.0**	**+0.5**
LFRS	**El Faro**	**2.79**	**99**⇑	*e*P	**P**	**02 25 44.7**	**-1.2**
LFRS				*e*S	**S**	**02 26 19.6**	**+1.2**
LBRS	**Las Brisas**	**2.79**	**96**	*e*P	**P**	**02 25 45.1**	**-0.8**
LBRS				*e*S	**S**	**02 26 20.2**	**+1.7**
LCBS	**La Ceiba**	**2.87**	**98**⇑	*e*P	**P**	**02 25 46.1**	**-0.8**
LCBS				*e*S	**S**	**02 26 20.8**	**+0.5**
SNVI	**San Vicente**	**3.01**	**98**	*e*P	**P**	**02 25 48.3**	**-0.6**
SNVI				*e*S	**S**	**02 26 26.2**	**+2.4**
CAHU	**Cacacuatique**	**3.59**	**94**	*e*P	**P**	**02 25 56.6**	**-0.4**
CNCH	**Conchagua**	**4.03**	**101**	*e*P	**P**	**02 26 02.0**	**-1.1**
CMIG	**Matias Romero**	**4.17**	**317**	*e*P	**P**	**02 26 00.5**	**-4.5**
CMIG				*e*S	**S**	**02 26 47.1**	**-5.7**
HUIG	**Huatulco**	**4.41**	**293**	*e*P	**P**	**02 26 17.1**	**+8.7**
HUIG				*i*S	**S**	**02 27 01.1**	**+2.2**
TUIG	**Tuzandepetl**	**4.64**	**329**	*e*P	**P**	**02 26 08.3**	**-3.3**
TUIG				*e*S	**S**	**02 26 56.3**	**-8.4**
EVV	**El Vigia**	**5.49**	**323**	*e*P	**P**	**02 26 27.0**	**+3.7**
OXX	**Oaxaca**	**5.53**	**304**	*e*P	**P**	**02 26 20.0**	**-3.9**
OXX				*i*S	**S**	**02 27 21.0**	**-6.0**
VHO	**Vista Hermosa**	**5.54**	**303**	*e*P	**P**	**02 26 18.7**	**-5.2**
VHO				*e*S	**S**	**02 27 17.1**	**-10**
TEIG	**Tepich**	**7.04**	**29**	*e*Pn	**P**	**02 26 43.7**	**-1.3**
	comp=Z,168nm,0.7s						
POHV	**Veracruz**	**7.17**	**315**	*e*P	**P**	**02 26 47.5**	**+0.8**
IISM	**Ciudad Serdan**	**7.18**	**314**	*e*P	**P**	**02 26 45.0**	**-1.9**
JTS	**JuntasAbangare**	**7.76**	**118**	*e*Pn	**P**	**02 26 54.3**	**-0.5**
	comp=Z,12nm,0.7s						
JCR	**Jicaral**	**7.85**	**121**	*e*P	**P**	**02 26 55.5**	**-0.5**
PPM	**Popocatepetl**	**8.15**	**309**	*e*P	**P**	**02 27 00.0**	**-0.1**
ACX	**Acapulco**	**8.22**	**291**	*e*P	**P**	**02 26 55.0**	**-6.1**
PRS1	**Puriscal**	**8.46**	**118**	*e*P	**P**	**02 27 03.1**	**-1.2**
TRTC	**Tortuguero**	**8.72**	**112**	*e*P	**P**	**02 27 06.2**	**-1.6**
LCR2	**La Lucha 2**	**8.84**	**118**	*e*P	**P**	**02 27 11.0**	**+1.4**
ICR	**Volcan Irazu**	**8.87**	**116**⇑	*e*P	**P**	**02 27 11.7**	**+1.7**
BUS	**Buena Vista**	**9.14**	**118**	*e*P	**P**	**02 27 12.7**	**-1.0**
JCT	**Junction City**	**17.89**	**337**	*e*P	**P**	**02 29 07.7**	**-0.3**
	comp=Z,4.6nm,0.3s						
LTX	**Lajitas**	**18.70**	**326**	*e*P	**P**	**02 29 17.0**	**-0.7**
	comp=Z,12nm,0.8s						
TXAR	**Lajitas Array**	**18.70**	**326**	P	**P**	**02 29 18.3**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=156,slow=12,SNR=85						
LRAL	**Lakeview Retre**	**19.41**	**12**	*e*P	**P**	**02 29 25.2**	**-0.4**
	comp=Z,20nm,1.0s						
MIAR	**Mount Ida**	**20.45**	**356**	*e*P	**P**	**02 29 35.2**	**-1.3**
	comp=Z,12nm,0.8s						
OXF	**Oxford**	**20.49**	**6**	P	**P**	**02 29 36.0**	**-0.8**
UALR	**University of**	**20.63**	**359**	*e*P	**P**	**02 29 36.4**	**-1.9**
	comp=Z,12nm,0.7s						
GOGA	**Godfrey**	**20.74**	**20**	*e*P	**P**	**02 29 38.0**	**-1.4**
	comp=Z,19nm,0.8s						
GDL2	**Guadalupe Moun**	**21.35**	**330**	*e*P	**P**	**02 29 45.7**	**+0.1**
SDV	**Santo Domingo**	**21.46**	**102**	P	**P**	**02 29 43.3**	**-3.5**
	comp=Z,7.9nm,0.6s,mb4.2,baz=311,slow=7.6,SNR=6.9						
SDV	**Santo Domingo**	**21.46**	**102**	*e*P	**P**	**02 29 43.8**	**-2.9**
	comp=Z,9.0nm,0.7s,mb4.2						
MNTX	**Cornudas Mount**	**21.47**	**327**	*e*P	**P**	**02 29 46.1**	**-0.6**
	comp=Z,22nm,0.8s,mb4.5						
WMOK	**Wichita Mounta**	**21.51**	**344**	*e*P	**P**	**02 29 46.5**	**-0.6**
	comp=Z,9.5nm,0.8s,mb4.2						
CPRX	**Cap Rock**	**21.81**	**332**	*e*P	**P**	**02 29 50.1**	**0.0**
WVT	**Waverly**	**22.28**	**9**	*e*P	**P**	**02 29 53.7**	**-1.1**
	comp=Z,7.0nm,0.7s,mb4.1						
CPCT	**Cooper Cave**	**22.31**	**16**	*e*P	**P**	**02 29 55.3**	**+0.2**
JSC	**Jenkinsville**	**22.32**	**24**	*e*P	**P**	**02 29 54.7**	**-0.4**
AMTX	**Amarillo**	**22.54**	**339**	*e*P	**P**	**02 29 56.1**	**-1.2**
	comp=Z,34nm,0.8s,mb4.7						
CCM	**Cathedral Cave**	**23.91**	**1**	*e*P	**P**	**02 30 09.7**	**-0.8**
	comp=Z,6.8nm,0.8s,mb4.0						
USIN	**University of**	**24.11**	**8**	*e*P	**P**	**02 30 11.8**	**-0.6**
	comp=Z,31nm,0.8s,mb4.7						
LPM	**Los Pinos Moun**	**24.18**	**329**	*e*P	**P**	**02 30 14.3**	**+1.2**
LENM	**Lemitar**	**24.23**	**328**	*e*P	**P**	**02 30 16.2**	**+2.5**
LAZ	**Ladron**	**24.50**	**328**	*e*P	**P**	**02 30 18.3**	**+1.9**
WCI	**Wyandotte Cave**	**24.58**	**11**	*e*P	**P**	**02 30 15.9**	**-1.2**
	comp=Z,35nm,0.8s,mb4.8						
ANMO	**Albuquerque**	**24.60**	**330**	P	**P**	**02 30 19.1**	**+1.8**
	comp=Z,11nm,0.7s,mb4.4,baz=155,slow=12,SNR=50						
ANMO	**Albuquerque**	**24.60**	**330**	*e*P	**P**	**02 30 18.1**	**+0.7**
	comp=Z,13nm,0.8s,mb4.4						
TUC	**Tucson**	**25.05**	**320**	*e*P	**P**	**02 30 22.8**	**+1.1**
	comp=Z,1.9nm,0.7s,mb3.6						
SJG	**San Juan**	**25.06**	**77**	LR	LR	02 39 37.8	
	comp=Z,214nm,20.5s,baz=267,slow=36						
KSU1	**Kansas State U**	**25.29**	**351**	*e*P	**P**	**02 30 21.9**	**-2.0**
BLO	**Bloomington**	**25.46**	**10**	*e*P	**P**	**02 30 23.5**	**-1.9**
	comp=Z,17nm,0.8s,mb4.5						
SDCO	**Great Sand Dun**	**26.51**	**335**	*e*P	**P**	**02 30 36.0**	**+0.8**
	comp=Z,3.2nm,0.8s,mb3.9						
PV01	**Paradox Valley**	**28.17**	**331**	P	**P**	**02 30 49.8**	**-0.5**
PV10	**Paradox Valley**	**28.59**	**331**	*e*P	**P**	**02 30 54.1**	**+0.1**
LDFC	**Landfair**	**29.59**	**319**	*e*P	**P**	**02 31 04.5**	**+1.6**
NEN	**Nelson**	**29.79**	**320**	*e*P	**P**	**02 31 04.8**	**+0.2**
MSU	**Marysvale**	**30.25**	**327**	*e*P	**P**	**02 31 10.1**	**+1.3**
MVU	**Marysvale**	**30.26**	**327**	*e*P	**P**	**02 31 10.3**	**+1.4**
	comp=Z,4.6nm,0.8s,mb4.2						
MPU	**Maple Canyon**	**31.12**	**330**	*e*P	**P**	**02 31 17.4**	**+1.0**
DAU	**Daniels Canyon**	**31.25**	**331**	*e*P	**P**	**02 31 18.0**	**+0.5**
JLU	**Jordanelle**	**31.48**	**331**	P	**P**	**02 31 20.4**	**+0.8**
HWUT	**Hardware Ranch**	**32.33**	**332**	*e*P	**P**	**02 31 27.8**	**+0.8**
	comp=Z,6.5nm,0.9s,mb4.4						
BW06	**Boulder Array**	**32.41**	**335**	*e*P	**P**	**02 31 27.7**	**+0.1**
PDAR	**Pinedale Array**	**32.41**	**335**	P	**P**	**02 31 28.8**	**+1.2**
	comp=Z,1.2nm,0.9s,mb3.6,baz=141,slow=10,SNR=6.2						
PDAR				PcP	PcP	02 34 15.6	+1.8
	comp=Z,1.3nm,0.9s,baz=153,slow=4.6,SNR=5.8						
SADO	**Sadowa**	**32.48**	**17**	P	**P**	**02 31 23.8**	**-4.4**
	comp=Z,4.6nm,0.8s,mb4.3,baz=220,slow=5.3,SNR=4.5						
BGU	**Big Grassy Mou**	**32.50**	**329**	*e*P	**P**	**02 31 29.2**	**+0.8**
WUWY	**Wally Ulrich**	**33.53**	**335**	*e*P	**P**	**02 31 37.7**	**+0.3**
LOHW	**Long Hollow**	**33.54**	**335**	*e*P	**P**	**02 31 37.7**	**+0.3**
TPAW	**Teton Pass**	**33.58**	**335**	*e*P	**P**	**02 31 38.1**	**+0.4**
MNV	**Mina**	**33.60**	**321**	*e*P	**P**	**02 31 39.2**	**+1.2**
	comp=Z,14nm,1.2s,mb4.7						
NVAR	**Mina Array Bea**	**33.69**	**321**	P	**P**	**02 31 40.8**	**+2.0**
	comp=Z,6.7nm,0.7s,mb4.6,baz=128,slow=9.4,SNR=46						
NVAR				LR	LR	02 47 01.0	
	comp=Z,315nm,18.1s,baz=270,slow=39						
MOOW	**Moose Ponds**	**33.71**	**335**	*e*P	**P**	**02 31 38.6**	**-0.3**
IMW	**Indian Meadow**	**33.91**	**335**	P	**P**	**02 31 40.9**	**+0.3**
LAO	**LASA Array**	**34.68**	**343**	*e*P	**P**	**02 31 46.5**	**-0.6**
	comp=Z,5.0nm,0.8s,mb4.4						
HLID	**Hailey**	**35.17**	**331**	*e*P	**P**	**02 31 51.7**	**+0.3**
	comp=Z,6.8nm,0.9s,mb4.5						
MCMT	**McKenzie Canyo**	**35.46**	**334**	*e*P	**P**	**02 31 55.0**	**+1.1**
BOZ	**Bozeman (W)**	**35.63**	**336**	*e*P	**P**	**02 31 56.3**	**+1.0**
	comp=Z,2.5nm,0.8s,mb4.2						
WVOR	**Wild Horse Val**	**36.50**	**326**	*e*P	**P**	**02 32 03.6**	**+1.0**
	comp=Z,5.8nm,0.8s,mb4.6						
MOD	**Modoc**	**37.08**	**324**	*e*P	**P**	**02 32 08.0**	**+0.5**
	comp=Z,4.7nm,0.9s,mb4.4						
CHMT	**Chamberlain Mo**	**37.31**	**336**	*e*P	**P**	**02 32 09.9**	**+0.5**
BMO	**Blue Mountains**	**37.52**	**330**	*e*P	**P**	**02 32 11.3**	**+0.2**
	comp=Z,2.6nm,0.8s,mb4.1						
LPAZ	**La Paz**	**38.22**	**141**	P	Px	02 31 31.9	
	comp=Z,0.9nm,0.7s,baz=317,slow=7.7,SNR=6.6						
EDM	**Edmonton**	**42.61**	**341**	*e*P	**P**	**02 32 52.2**	**-0.9**
FCC	**Fort Churchill**	**44.65**	**358**	*e*P	**P**	**02 33 09.1**	**-0.4**
	comp=Z,2.3nm,0.7s,mb4.0						
SCHQ	**Schefferville**	**45.13**	**20**	P	**P**	**02 33 11.0**	**-2.5**
	comp=Z,2.8nm,0.7s,mb4.1,baz=188,slow=11,SNR=6.6						
YKA	**Yellowknife Ar**	**50.39**	**347**	P	**P**	**02 33 58.0**	**-0.9**
	comp=Z,4.6nm,0.7s,mb4.6,baz=150,slow=7.5,SNR=79						
YKW3	**Yellowknife Ar**	**51.05**	**347**	*e*P	**P**	**02 33 57.9**	**-1.4**
FRB	**Frobisher Bay**	**52.24**	**13**	P	**P**	**02 34 06.4**	**-1.7**
	comp=Z,2.2nm,0.7s,mb4.3,baz=227,slow=6.5,SNR=4.9						
RCBR	**Riachuelo**	**58.97**	**106**	*e*P	**P**	**02 34 56.5**	**-0.8**
	comp=Z,7.5nm,0.7s,mb4.8						
INK	**Inuvik**	**60.41**	**344**	P	**P**	**02 35 06.3**	**-0.2**
	comp=Z,5.9nm,0.7s,mb4.7,baz=130,slow=7.9,SNR=20						
ILAR	**Eielson Array**	**62.83**	**337**	P	**P**	**02 35 22.5**	**-0.2**
	comp=Z,5.2nm,1.0s,mb4.4,baz=124,slow=4.2,SNR=34						
RSO	**Redoubt South**	**63.65**	**331**	*e*P	**P**	**02 35 28.2**	**0.0**
NOA	**NORSAR Array B**	**84.05**	**28**	P	**P**	**02 37 27.1**	**+0.9**
	comp=Z,0.8nm,0.7s,mb3.7,baz=311,slow=2.8,SNR=3.4						
NOA				LR	LR	03 19 54.6	
	comp=Z,134nm,18.0s,baz=85,slow=39						
WRA	**Warramunga Arr**	**135.50**	**256**	PKP	PKPdf	02 44 17.6	+2.2
	comp=Z,0.4nm,0.7s,baz=58,slow=1.3,SNR=4.4						
CMAR	**Chiang Mai Arr**	**145.97**	**341**	PKPbc	PKPbc	02 44 37.5	+2.4
	comp=Z,14nm,0.7s,baz=336,slow=3.4,SNR=30						

*IDC **28** 02:27:33.1±0.5, 7.89N×94.03E, mb4.6/22, mb1 4.7/23, mb1mx4.6/27, mbtmp4.6/23, ML4.2/1, Error ellipse: s-maj=28.4km s-min=12.1km az=46.0, Putative timing error at LPAZ*
*NEIC **28** 02:27:37.9±0.3, 7.96N×94.11E, h30km, mb4.7/26, Error ellipse: s-maj=9.2km s-min=6.8km az=61.0*
*BJI **28** 02:27:38.8, 8.29N×93.16E, h22km, mB5.2, mb4.8, Ms5.2, Msz4.9*

ISC 28 02:27:36.6±0.3,**7.99N**±0.06×**94.16E**±0.07,**h33**km, (**h30**km±5.1km:**pP-P**),**n81**,σ0°**99**/74,**mb4.7**/51,**MS4.6**/1, **3C-1D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.39**	**24**	Pn	**P**	**02 30 19.2**	**-0.9**
	0.4nm,0.3s,baz=213,slow=14,SNR=4.0						
JIRN	**Jiri**	**20.97**	**340**	*e*P	**P**	**02 32 19.0**	**-0.3**
	174nm,0.8s						
PKI	**Pulchoki**	**21.16**	**338**	*e*P	**P**	**02 32 20.7**	**-0.6**
	106nm,0.5s,mb5.4						
DMN	**Daman**	**21.31**	**337**	*e*P	**P**	**02 32 22.6**	**-0.2**
	211nm,0.9s,mb5.5						
KKN	**Kakani**	**21.41**	**338**	*e*P	**P**	**02 32 23.0**	**-0.8**
	86nm,0.8s,mb5.2						
LSA	**Lhasa**	**21.78**	**353**	*e*P	**P**	**02 32 30.1**	**+2.6**
	42nm,0.7s,mb5.0						
GKN	**Gorkha**	**21.85**	**337**	*e*P	**P**	**02 32 28.0**	**-0.1**
	138nm,0.6s,mb5.5						
KOLN	**Koldanda**	**22.07**	**334**	*e*P	**P**	**02 32 30.5**	**+0.2**
	101nm,0.7s,mb5.4						
ENH	**Enshi**	**26.41**	**31**	*e*P	**P**	**02 33 13.2**	**+1.0**
	26nm,0.9s,mb4.8						
LZH	**Lanzhou**	**29.33**	**16**	*e*P	**P**	**02 33 42.5**	**+4.0**
LZH				AP	pP	02 33 54.0	+5.9
LZH				XP	sP	02 33 59.0	+6.6
LZH				AMB	AMB		
	comp=Z,18nm,1.7s,mb4.5						
LZH	**Lanzhou**	**29.33**	**16**	*e*P	**P**	**02 33 42.5**	**+4.0**
	comp=Z,18nm,1.7s,mb4.5						
LZH				pP	pP	02 33 54.0	+5.9
LZH				sP	sP	02 33 59.0	+6.6
WMQ	**Urumqi**	**36.14**	**352**	*e*P	**P**	**02 34 37.8**	**+0.2**
WMQ				AP	pP	02 34 47.5	+0.1
WMQ				XP	sP	02 34 51.5	-0.1
WMQ				PP	PP	02 36 00.0	-0.5
WMQ				AMB	AMB		
	comp=Z,32nm,0.9s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,234nm,5.2s						
WMQ				LR	LR		
	comp=N,635nm,16.1s,MS4.6						
WMQ				LR	LR		
	comp=E,492nm,15.8s,MS4.6						
WMQ				LR	LR		
	comp=

comp=Z,5.9nm,1.1s,mb4.4
JOF Joensuu 70.75 334 *ep* **P 02 38 46.0 -5.2**
comp=Z,0.8nm,0.5s,mb3.9
FINES FINESS Array B 72.62 332 P **P 02 39 01.7 -0.6**
comp=Z,4.3nm,0.7s,mb4.5,baz=103,slow=6.7,SNR=11
KAF Kangasniemi 72.70 333 *ep* **P 02 39 02.2 -0.6**
comp=Z,0.6nm,0.4s,mb3.9
LBTB Lobatse 74.32 241 *e*P **P 02 39 14.0 +0.9**
comp=Z,20nm,1.4s,mb4.8
OKC Ostrava-Krasne 74.92 319 *e*P **P 02 39 16.0 0.0**
ARCES ARCESS Array B 75.16 340 P **P 02 39 17.2 +0.2**
comp=Z,2.5nm,0.6s,mb4.4,baz=99,slow=7.4,SNR=8.5
MORC Moravsky Berou 75.30 319 *e*P **P 02 39 18.0 -0.2**
comp=Z,5.1nm,0.8s,mb4.5
BILL Bilibino 75.97 22 *e*P **P 02 39 22.4 +0.7**
comp=Z,2.9nm,0.6s,mb4.4
DPC Dobruska-Polom 76.13 320 *e*P **P 02 39 23.5 +0.6**
UPC Upice 76.34 320 *e*P **P 02 39 26.1 +2.0**
PRU Pruhonice 77.25 319 *e*P **P 02 39 29.6 +0.3**
PVCC Panska Ves 77.26 320 *e*P **P 02 39 33.4 +4.1**
BRG Berggiesshubel 77.68 320 *e*P **P 02 39 32.3 +0.7**
comp=Z,4.7nm,1.0s,mb4.4
GERES GERESS Array B 77.75 318 P **P 02 39 32.4 +0.3**
comp=Z,4.9nm,0.8s,mb4.5,baz=87,slow=4.9,SNR=18
KHC Kasperske Hory 77.85 318 *e*P **P 02 39 32.3 -0.2**
RUE Ruedersdorf 77.85 322 *e*P **P 02 39 32.6 +0.1**
comp=Z,12nm,0.5s,mb5.1
CLL Collm 78.29 321 P **P 02 39 36.0 +1.1**
CLL *e*PP pP 02 39 43.0 -2.3
NKC Novy Kostel 78.61 320 *e*P **P 02 39 38.7 +2.0**
MAW Mawson 78.65 192 *e*P **P 02 39 38.2 +1.6**
comp=Z,8.2nm,0.8s,mb4.7
NB2 NORSAR Subarra 79.64 331 P **P 02 39 41.5 -0.6**
comp=Z,9.8nm,1.2s,mb4.6,baz=93,slow=5.6
NOA NORSAR Array B 79.64 331 P **P 02 39 42.0 -0.2**
comp=Z,2.4nm,0.6s,mb4.3,baz=94,slow=5.3,SNR=6.9
DAVOX Davos 80.32 316 P **P 02 39 46.9 +0.8**
comp=Z,8.0nm,0.8s,mb4.7
LPG La Plagne 82.55 315 *e*P **P 02 39 57.3 -0.4**
comp=Z,21nm,0.9s,mb4.9
SYO Syowa Base 85.52 197 ⇑P **P 02 40 13.5 +1.4**
ESDC Sonseca Array 91.16 310 P **P 02 40 39.8 +0.1**
comp=Z,0.6nm,0.5s,mb4.2,baz=55,slow=4.5,SNR=4.9
NVAR Mina Array Bea 124.81 31 PKP PKPdf 02 46 36.7 +3.0
comp=Z,1.3nm,0.6s,baz=356,slow=1.9,SNR=9.0
NVAR Mina Array Bea 124.81 31 PKP PKPdf 02 46 36.7 +3.0
PDAR Pinedale Array 125.05 21 PKP PKPdf 02 46 35.9 +1.9
comp=Z,1.5nm,0.7s,baz=84,slow=0.8,SNR=10
ANMO Albuquerque 133.06 23 PKP PKPdf 02 46 53.1 +3.5
comp=Z,0.7nm,0.5s,baz=305,slow=2.1,SNR=3.7
TXAR Lajitas Array 139.11 24 PKP PKPdf 02 47 03.5 +2.7
comp=Z,1.0nm,0.5s,baz=154,slow=0.9,SNR=12
PLCA Paso Flores 144.66 200 PKP PKPdf 02 47 11.7 +1.5
comp=Z,12nm,0.8s,baz=161,slow=3.2,SNR=19
LPAZ La Paz 160.84 243 PKPab PKPab 02 47 34.2 -44
comp=Z,0.9nm,0.8s,baz=85,slow=4.0,SNR=4.5

IDC ***28*** *02:28:55.5±0.5, 8.10N×94.25E, mb4.8/25, mb1 4.8/26, mb1mx4.8/29, mbtmp4.7/26, ML4.4/1, MS4.8/1, Ms1 4.8/1, ms1mx3.1/25, Error ellipse: s-maj=25.0km s-min=12.8km az=44.0, Putative timing error at LPAZ*
BJI ***28*** *02:28:57.4, 7.59N×93.79E, h38km, mB5.4, mb5.1, Ms5.2, Msz4.8*
HRVD ***28*** *02:28:58.9±0.3, 7.99N×94.15E, h12km, MW5.2/54, Centroid moment Tensor Solution. LP body waves: s19,c23;Mantle waves: s54,c90; Half duration: 1s0 Moment tensor: Scale 10^16^Nm; M_{rr}-3.93±.28; $M_{\theta\theta}$-1.07±.22; $M_{\phi\phi}$4.99±.26; $M_{r\theta}$-0.53±.77; $M_{\theta\phi}$4.64±.20; $M_{\phi r}$-3.53±.72; Best double couple: $M_0$6.984×10^16^ NP1: ϕ_s241°, δ39°, λ-39°. NP2:ϕ_s4°, δ66°, λ-122°. Principal axes: T 8.423, Plg15°, Azm117°; N -2.887, Plg29°, Azm18°; P -5.545, Plg56°, Azm231°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***28*** *02:28:58.9±0.3, 7.83N×93.95E, mb5.1/60, MS4.7/8 Error ellipse: s-maj=8.7km s-min=7.8km az=8.0*
MOS ***28*** *02:29:00.1±1.2, 8.09N×93.78E, h33km, mb5.3/61, MS4.7/6, Error ellipse: s-maj=9.3km s-min=5.6km az=106.1*

ISC 28 02:28:57.5±0.3,**7.89N**±0.05×**93.95E**±0.04,**h23**km, **h23**km±1.1km:**pP-P,n235,**σ1§**27**/229,**mb5.0**/92,**MS4.7**/14, **12C-14D,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.58**	**24**	P	**P**	**02 31 43.0**	**-1.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.58**	**24**	Pn	**P**	**02 31 43.0**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=211,slow=14,SNR=3.9						
KOD	**Kodaikanal**	**16.44**	**279**	*e*P	**P**	**02 32 53.6**	**+4.9**
KOD				*e*		02 33 05.6	
	comp=Z,112nm,1.3s						
KOD				*e*S	**S**	**02 35 57.2**	**+7.3**
SHL	**Shillong**	**17.69**	**354**	*e*P	**P**	**02 33 05.2**	**+0.8**
HYB	**Hyderabad**	**17.74**	**304**	*e*P	**P**	**02 33 07.0**	**+2.0**
HYB				*e*S	**S**	**02 36 15.0**	**-4.7**
HYB	**Hyderabad**	**17.74**	**304**	*i* P	**P**	**02 33 07.0**	**+2.0**
HYB				*e*		02 36 15.0	
HYB				*e*S	**S**	**02 36 27.0**	**+7.3**
QIZ	**Qiongzhong**	**19.00**	**53**	*e*P	**P**	**02 33 20.5**	**+0.1**
KMI	**Kunming**	**19.09**	**25**	P	**P**	**02 33 23.4**	**+2.0**
KMI				pmax	pmax		
	comp=Z,41nm,1.7s						
KMI	**Kunming**	**19.09**	**25**	P	**P**	**02 33 23.4**	**+2.0**
	comp=Z,41nm,1.7s						
KMI				sP		02 33 33.0	
NGP	**Nagpur**	**19.51**	**314**	*e*P	**P**	**02 33 20.1**	**-6.3**
NGP				*e*		02 33 46.0	
	comp=Z,77nm,1.5s						
NGP				*e*S	**S**	**02 36 59.1**	**-0.5**
GOA	**Goa**	**21.09**	**293**	*e*P	**P**	**02 33 51.0**	**+8.0**
GOA				*e*S	**S**	**02 37 45.9**	**+14**
LSA	**Lhasa**	**21.86**	**353**	*e*P	**P**	**02 33 51.2**	**+0.6**
LSA				pmax	pmax		
	comp=Z,100nm,0.8s,mb5.3						
LSA	**Lhasa**	**21.86**	**353**	*e*P	**P**	**02 33 51.1**	**+0.5**
	comp=Z,100nm,0.8s,mb5.3						
BOM	**Bombay**	**23.26**	**300**	*e*P	**P**	**02 34 09.5**	**+4.9**
BOM				*e*		02 34 19.3	
	comp=Z,129nm,2.0s						
BOM				*e*S	**S**	**02 38 22.2**	**+11**
NDI	**New Delhi**	**26.01**	**325**	*e*P	**P**	**02 34 33.3**	**+2.4**
NDI				*e*	pP	02 34 41.2	+3.7
	comp=Z,224nm,1.5s						
NDI				*e*S	**S**	**02 39 04.1**	**+6.0**
ENH	**Enshi**	**26.61**	**31**	*e*P	**P**	**02 34 36.6**	**+0.2**
	comp=Z,64nm,1.0s,mb5.1						
SMLA	**Simla**	**27.93**	**328**	*e*P	**P**	**02 35 02.3**	**+14**
SMLA				*e*	pP	02 35 10.5	+15
	comp=Z,68nm,0.8s						
SMLA				*e*S	**S**	**02 39 45.5**	**+16**
XAN	**Xi'an**	**29.47**	**26**	P	**P**	**02 35 01.5**	**-0.7**
XAN				AMB	AMB		
	comp=Z,43nm,0.9s,mb5.2						
LZH	**Lanzhou**	**29.49**	**16**	*e*P	**P**	**02 35 04.0**	**+1.6**
LZH				AP	pP	02 35 12.0	+2.9
LZH				XP	sP	02 35 16.0	+4.0
LZH				AMB	AMB		
	comp=Z,65nm,1.8s,mb5.1						
LZH				AMB	AMB		
	comp=Z,189nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,11.6s						
LZH				LR	LR		
	comp=Z,2μm,12.8s,MS4.8						
LZH	**Lanzhou**	**29.49**	**16**	*e*P	**P**	**02 35 04.0**	**+1.6**
	comp=Z,65nm,1.8s,mb5.1						
LZH				pP	pP	02 35 12.0	+2.9
LZH				sP	sP	02 35 16.0	+4.0
LZH				LR	LR		
	comp=Z,2μm,12.8s,MS4.8						
WHN	**Wuhan**	**29.55**	**38**	P	**P**	**02 35 04.3**	**+1.4**
NJ2	**Nanjing**	**33.39**	**41**	*e*P	**P**	**02 35 40.3**	**+3.7**
NJ2				AP	pP	02 35 50.3	+6.9
NJ2				XP	sP	02 35 54.0	+7.7
NJ2				PP	PP	02 36 52.3	+3.6
NJ2				S	**S**	**02 40 54.0**	**-1.3**
NJ2				XS		02 41 10.0	
NJ2				AMB	AMB		
	comp=Z,770nm,4.9s						
NJ2				LR	LR		
	comp=N,5μm,12.0s,MS5.6						
NJ2				LR	LR		
	comp=E,4μm,11.2s,MS5.6						
NJ2				LR	LR		
	comp=Z,4μm,13.6s,MS5.3						
SSE	**Sheshan**	**34.35**	**44**	*e*P	**P**	**02 35 44.8**	**-0.2**
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,123nm,5.3s						
SSE	**Sheshan**	**34.35**	**44**	*e*P	**P**	**02 35 44.8**	**-0.2**
	comp=Z,26nm,0.7s,mb5.3						
TIA	**Tai'an**	**35.25**	**33**	*e*P	**P**	**02 35 53.5**	**+0.9**
TIA				S	**S**	**02 41 27.0**	**+2.9**
TIA				LR	LR		
	comp=E,2μm,11.0s						
WMQ	**Urumqi**	**36.21**	**352**	P	**P**	**02 36 02.0**	**+1.3**
WMQ				AP	pP	02 36 08.0	+0.6
WMQ				XP	sP	02 36 10.8	+0.5
WMQ				PP	PP	02 37 24.0	+0.4
WMQ				PCP	PcP	02 38 28.5	+2.4
WMQ				AMB	AMB		
	comp=Z,79nm,0.9s,mb5.6						
WMQ				AMB	AMB		
	comp=Z,590nm,5.3s						
WMQ				LR	LR		
	comp=N,2μm,16.3s,MS5.0						
WMQ				LR	LR		
	comp=E,1μm,16.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,2μm,16.6s,MS5.0						
BJT	**Baijiatuau**	**37.67**	**28**	*e*P	**P**	**02 36 12.2**	**-0.7**
BJT				pmax	pmax		
	comp=Z,74nm,1.1s						
BJT	**Baijiatuau**	**37.67**	**28**	*e*P	**P**	**02 36 12.2**	**-0.7**
	comp=Z,74nm,1.1s,mb5.3						
BJI	**Beijing**	**37.69**	**28**	P	**P**	**02 36 15.5**	**+2.4**
BJI				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.1						
BJI				MLR	MLR		
	comp=Z,610nm,21.7s,MS4.4						
BJI	**Beijing**	**37.69**	**28**	P	**P**	**02 36 15.5**	**+2.4**
	comp=Z,39nm,1.0s,mb5.1						
BJI				LR	LR		
	comp=Z,610nm,21.7s,MS4.4						
AAK	**Ala-Archa**	**38.62**	**337**	*d i*P	**P**	**02 36 22.0**	**+1.1**
AAK				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.0						
AAK	**Ala-Archa**	**38.62**	**337**	*e*P	**P**	**02 36 22.6**	**+1.7**
	comp=Z,35nm,1.0s,mb5.0						
SONM	**Songino Array**	**41.19**	**13**	P	**P**	**02 36 40.9**	**-1.2**
	comp=Z,20nm,0.9s,mb4.7,baz=198,slow=7.8,SNR=12						
ULN	**Ulaanbaatar**	**41.37**	**13**	*d i*P	**P**	**02 36 43.8**	**+0.2**
ULN	**Ulaanbaatar**	**41.37**	**13**	*e*P	**P**	**02 36 43.7**	**+0.2**
	comp=Z,16nm,1.0s,mb4.6						
KS15	**Wonju Array Si**	**42.55**	**41**	*e*P	**P**	**02 36 55.2**	**+1.8**
SNY	**Shenyang**	**42.77**	**33**	⇓P	**P**	**02 36 56.8**	**+1.7**
SNY				AMB	AMB		
	comp=Z,30nm,1.6s,mb4.8						
ZAK	**Zakamensk**	**43.07**	**9**	*e*P	**P**	**02 36 57.2**	**-0.2**
ZAK				*e*		02 38 38.8	
TLY	**Talaya**	**44.39**	**9**	*c i*P	**P**	**02 37 09.6**	**+1.5**
TLY	**Talaya**	**44.39**	**9**	*e*P	**P**	**02 37 07.9**	**-0.3**
	comp=Z,8.1nm,0.8s,mb4.5						
KURK	**Kurchatov**	**44.55**	**346**	*e*P	**P**	**02 37 07.9**	**-1.6**
KURK				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.3						
KURK	**Kurchatov**	**44.55**	**346**	*e*P	**P**	**02 37 07.9**	**-1.6**
	comp=Z,49nm,1.0s,mb5.3						
NWAO	**Narrogin (SRO)**	**46.25**	**153**	P	**P**	**02 37 23.7**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,12nm,0.8s						
NWAO	**Narrogin (SRO)**	**46.25**	**153**	P	**P**	**02 37 23.7**	**+0.5**
	comp=Z,12nm,0.8s,mb4.9,baz=315,slow=16,SNR=4.3						
ZAL	**Zalesovo**	**46.51**	**353**	P	**P**	**02 37 23.7**	**-1.3**
ZAL				pmax	pmax		
	comp=Z,21nm,1.0s						
ZAL	**Zalesovo**	**46.51**	**353**	P	**P**	**02 37 23.7**	**-1.3**
	comp=Z,21nm,1.0s,mb5.0,baz=288,slow=8.7,SNR=12						
HIA	**Hailar**	**46.59**	**23**	*e*P	**P**	**02 37 25.3**	**-0.3**
HIA				pmax	pmax		
	comp=Z,66nm,1.2s						
HIA	**Hailar**	**46.59**	**23**	*e*P	**P**	**02 37 25.3**	**-0.4**
	comp=Z,66nm,1.2s,mb5.4						
NVS	**Novosibirsk**	**47.60**	**352**	*i* P	**P**	**02 37 33.7**	**+0.1**
NVS				*i* S	**S**	**02 44 22.8**	**-3.9**
NVS				pmax	pmax		
	comp=N,19nm,1.0s						
NVS				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.4						
NVS				pmax	pmax		
	comp=E,9.0nm,0.9s						
NVS				smax			
	comp=N,22nm,1.7s						
NVS				smax			
	comp=E,11nm,1.7s						
MDJ	**Mudanjiang**	**47.91**	**34**	*e*P	**P**	**02 37 37.8**	**+1.7**
MDJ				LR	LR		
	comp=Z,1μm,19.0s,MS4.9						
WRA	**Warramunga Arr**	**48.42**	**125**	P	**P**	**02 37 37.3**	**-3.1**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
WRA	**Warramunga Arr**	**48.42**	**125**	P	**P**	**02 37 37.3**	**-3.1**
	comp=Z,3.6nm,0.5s,mb4.6,baz=305,slow=8.5,SNR=6.9						
WRAB	**Tennant Creek**	**48.43**	**125**	*e*P	**P**	**02 37 37.9**	**-2.6**
WRAB				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**48.43**	**125**	*e*P	**P**	**02 37 37.9**	**-2.6**
	comp=Z,15nm,0.8s,mb5.1						
RAYN	**Ar Rayn**	**48.91**	**294**	P	**P**	**02 37 46.2**	**+2.1**
	comp=Z,281nm,1.0s,SNR=18						
BVAR	**Borovoye Array**	**48.92**	**341**	P	**P**	**02 37 42.9**	**-0.8**
	comp=Z,38nm,1.3s,mb5.3,baz=158,slow=8.0,SNR=7.7						
BRVK	**Borovoye**	**48.98**	**341**	*e*P	**P**	**02 37 45.2**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
BRVK	**Borovoye**	**48.98**	**341**	*e*P	**P**	**02 37 45.2**	**+0.9**
	comp=Z,17nm,0.9s,mb5.1						
MAT	**Matsushiro**	**49.30**	**48**	*e*P	**P**	**02 37 49.0**	**+2.0**
MAT				pmax	pmax		
	comp=Z,53nm,1.6s,mb5.3						
MAT				MLR	MLR		
	comp=Z,690nm,19.0s,MS4.7						
MAT	**Matsushiro**	**49.30**	**48**	*e*P	**P**	**02 37 49.0**	**+2.0**
	comp=Z,53nm,1.6s,mb5.3						
MAT				LR	LR		
	comp=Z,690nm,19.0s,MS4.7						
MAT	**Matsushiro**	**49.30**	**48**	P	**P**	**02 37 48.9**	**+1.9**
MAT				S	**S**	**02 44 53.0**	**+2.3**
CHKZ	**Chkalovo**	**49.40**	**342**	*e*P	**P**	**02 37 45.8**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.4						
CHKZ	**Chkalovo**	**49.40**	**342**	*e*P	**P**	**02 37 45.8**	**-1.7**
	comp=Z,44nm,1.0s,mb5.4						
ASAR	**Alice Springs**	**50.07**	**130**	P	**P**	**02 37 50.8**	**-2.3**
	comp=Z,5.6nm,0.9s,mb4.6,baz=302,slow=7.5,SNR=4.7						
ASAR				PcP	PcP	02 39 14.3	+1.4
	comp=Z,3.6nm,0.8s,baz=304,slow=4.5,SNR=5.1						
KLR	**Kul'dur**	**51.97**	**31**	*e*P	**P**	**02 38 05.2**	**-2.0**
BOD	**Bodaibo**	**52.18**	**13**	*e*P	**P**	**02 38 06.4**	**-2.2**
GNI	**Garni**	**54.29**	**314**	P	**P**	**02 38 24.2**	**-0.2**
GNI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GNI	**Garni**	**54.29**	**314**	P	**P**	**02 38 24.2**	**-0.2**
	comp=Z,7.2nm,0.7s,mb4.7,baz=337,slow=8.5,SNR=4.7						
GNI	**Garni**	**54.29**	**314**	*e*P	**P**	**02 38 25.1**	**+0.7**
	comp=Z,43nm,1.3s,mb5.2						
GNI				LR	LR		
	comp=Z,347nm,20.0s,MS4.4						
CLNS	**Chul'man**	**54.49**	**20**	*e*P	**P**	**02 38 26.1**	**+0.4**
CLNS				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.2						
CLNS				pmax	pmax		
	comp=N,21nm,1.1s						
CLNS				pmax	pmax		
	comp=E,17nm,1.0s						
TI2	**Plekhanov**	**54.90**	**316**	*e*P	**P**	**02 38 32.2**	**+3.2**
SVE	**Sverdlovsk**	**55.32**	**338**	*e*P	**P**	**02 38 28.5**	**-3.2**
SVE				pmax	pmax		
	comp=Z,120nm,1.5s,mb5.7						
SVE				MLR	MLR		
	comp=N,200nm,20.0s,MS4.6						
SVE				MLR	MLR		
	comp=E,500nm,20.0s,MS4.6						
SVE				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.9						
ASAJ	**Asahikawa**	**55.53**	**41**	LR	LR	03 01 16.3	
	comp=Z,747nm,18.8s,MS4.8,baz=152,slow=35						
PMG	**Port Moresby**	**55.72**	**107**	P	**P**	**02 38 33.3**	**-1.9**
PMG				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PMG	**Port Moresby**	**55.72**	**107**	P	**P**	**02 38 33.3**	**-1.9**
	comp=Z,7.2nm,0.5s,mb5.0,baz=165,slow=9.6,SNR=4.0						
PMG	**Port Moresby**	**55.72**	**107**	P	**P**	**02 38 33.3**	**-1.9**
ARU	**Arti**	**55.80**	**337**	⇓*i*P	**P**	**02 38 30.3**	**-4.9**
ARU				*e*		02 39 29.6	
ARU				*e*S	**S**	**02 46 09.6**	**-10**
ARU				*e*SS	SS	02 49 56.0	-8.8
ARU				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.4						
YSS	**Yuzh-Sakhalins**	**56.89**	**38**	*e*P	**P**	**02 38 44.3**	**+1.1**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
YSS				MLR	MLR		
	comp=Z,600nm,15.0s,MS4.8						
YSS				MLR	MLR		
	comp=E,800nm,14.0s						
KIV	**Kislovodsk**	**57.18**	**318**	*e*P	**P**	**02 38 43.5**	**-1.8**
KIV				pmax	pmax		
	comp=Z,25nm,1.5s,mb5.0						
KIV	**Kislovodsk**	**57.18**	**318**	*e*P	**P**	**02 38 43.7**	**-1.6**
	comp=Z,37nm,1.1s,mb5.3						
KIV				LR	LR		
	comp=Z,106nm,22.0s,MS3.9						
KMBO	**Kilima Mbogo**	**57.23**	**264**	P	**P**	**02 38 48.8**	**+2.8**
KMBO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KMBO	**Kilima Mbogo**	**57.23**	**264**	P	**P**	**02 38 48.8**	**+2.7**
	comp=Z,8.8nm,0.8s,mb4.8,baz=53,slow=10,SNR=10						
KMBO	**Kilima Mbogo**	**57.23**	**264**	*e*P	**P**	**02 38 48.7**	**+2.6**
	comp=Z,24nm,1.1s,mb5.1						
ASF	**Jabal al Asfar**	**58.05**	**303**	P	**P**	**02 38 53.3**	**+1.8**
	comp=Z,9.9nm,1.0s,mb4.8,baz=41,slow=0.9,SNR=5.2						
MALT	**Malatya**	**58.31**	**310**	*e*P	**P**	**02 38 52.1**	**-1.1**
MALT				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
MALT	**Malatya**	**58.31**	**310**	*e*P	**P**	**02 38 52.1**	**-1.1**
	comp=Z,8.9nm,1.0s,mb4.8						
SOC	**Sochi**	**59.04**	**317**	*e*P	**P**	**02 38 56.0**	**-2.3**
SOC				*e*		02 39 46.3	
SOC				*e*		02 41 03.7	
SOC				*e*PPP	PPP	02 42 35.4	+0.4
SOC				*e*S	**S**	**02 46 59.2**	**-2.7**
SOC				*e*SS	SS	02 50 45.7	-12
SOC				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.4						
SOC				pmax	pmax		
	comp=N,27nm,0.9s						
SOC				pmax	pmax		
	comp=E,45nm,1.3s						
EIL	**Elat**	**59.25**	**300**	P	**P**	**02 39 01.0**	**+1.0**
	comp=E,4.9nm,0.8s,mb4.6,baz=72,slow=7.7,SNR=4.5						
EIL	**Elat**	**59.25**	**300**	*e*P	**P**	**02 39 00.1**	**+0.2**
	comp=E,33nm,1.2s,mb5.2						
EIL				*e*pP	pP	02 39 07.2	+0.2
YAK	**Yakutsk**	**60.05**	**19**	*d i*P	**P**	**02 39 05.1**	**+0.2**
YAK				pmax	pmax		
	comp=Z,103nm,1.3s,mb5.7						
YAK	**Yakutsk**	**60.05**	**19**	*e*P	**P**	**02 39 04.1**	**-0.8**
	comp=Z,81nm,0.8s,mb5.8						
STKA	**Stephens Creek**	**60.25**	**134**	P	**P**	**02 39 05.2**	**-1.6**
	comp=Z,5.7nm,0.9s,mb4.6,baz=328,slow=5.6,SNR=4.2						
ANN	**Anapa**	**61.00**	**317**	*e*P	pP	02 39 20.8	+2.1
BRTR	**Keskin Array B**	**62.27**	**311**	P	**P**	**02 39 19.5**	**-0.9**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRTR	**Keskin Array B**	**62.27**	**311**	P	**P**	**02 39 19.4**	**-0.9**
	comp=Z,5.3nm,0.8s,mb4.7,baz=120,slow=6.5,SNR=7.7						
SIM	**Simferopol'**	**63.29**	**317**	P	**P**	**02 39 31.6**	**+4.7**
SIM				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.4						
MBAR	**Mbarara**	**63.57**	**265**	*e*P	**P**	**02 39 30.3**	**+0.9**
MBAR				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.0						
MBAR	**Mbarara**	**63.57**	**265**	*e*P	**P**	**02 39 30.3**	**+0.9**
	comp=Z,17nm,1.2s,mb5.0						
MOS	**Moscow**	**64.97**	**329**	*e*P	**P**	**02 39 34.9**	**-2.9**
MOS				pmax	pmax		
	comp=Z,123nm,1.2s,mb5.8						
OBN	**Obninsk**	**65.27**	**328**	⇑*i*P	**P**	**02 39 35.1**	**-4.6**
OBN				*e*		02 42 03.4	
OBN				pmax	pmax		
	comp=Z,109nm,1.5s,mb5.7						
OBN	**Obninsk**	**65.27**	**328**	*e*P	**P**	**02 39 35.0**	**-4.7**
	comp=Z,68nm,1.1s,mb5.6						
MA2	**Magadan**	**66.84**	**28**	*e*P	**P**	**02 39 50.3**	**+0.6**
MA2				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.3						
MA2	**Magadan**	**66.84**	**28**	*e*P	**P**	**02 39 50.3**	**+0.6**
	comp=Z,27nm,0.9s,mb5.3						
TIXI	**Tiksi**	**67.26**	**11**	⇓*e*P	**P**	**02 39 51.3**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,122nm,2.0s,mb5.6						
AKASG	**Malin Array Be**	**68.03**	**322**	P	**P**	**02 39 55.7**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AKASG	**Malin Array Be**	**68.03**	**322**	P	**P**	**02 39 55.7**	**-1.6**
	comp=Z,10.0nm,0.8s,mb4.9,baz=89,slow=4.7,SNR=11						
IDI	**Anoyia**	**68.40**	**305**	P	**P**	**02 39 60.0**	**+0.1**
	comp=Z,21nm,0.9s,mb5.2,baz=56,slow=8.1,SNR=6.4						
MLR	**Muntele Rosu**	**69.03**	**316**	P	**P**	**02 40 03.1**	**-0.5**
MLR				pmax	pmax		
	comp=Z,31nm,1.0s						
MLR	**Muntele Rosu**	**69.03**	**316**	P	**P**	**02 40 03.1**	**-0.5**
	comp=Z,31nm,1.0s,mb5.2,baz=76,slow=3.5,SNR=6.1						
LSZ	**Lusaka**	**69.09**	**250**	*e*P	**P**	**02 40 05.8**	**+1.4**
LSZ				*e*PP	pP	02 40 12.8	+1.2
LSZ				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
LSZ				MLR	MLR		
	comp=Z,876nm,20.0s,MS5.0						
LSZ	**Lusaka**	**69.09**	**250**	*e*P	**P**	**02 40 05.8**	**+1.3**
	comp=Z,12nm,1.0s,mb4.8						
LSZ				*e*pP	pP	02 40 12.8	+1.2
LSZ				LR	LR		
	comp=Z,876nm,20.0s,MS5.0						
JOF	**Joensuu**	**70.75**	**334**	*e*p	**P**	**02 40 11.6**	**-2.2**
	comp=Z,1.1nm,0.4s,mb4.1						
KWP	**Kalwaria**	**71.90**	**320**	*e*P	**P**	**02 40 20.8**	**-0.1**
KWP	**Kalwaria**	**71.90**	**320**	*e*P	**P**	**02 40 20.9**	**-0.1**
JAN	**Janina**	**72.00**	**309**

comp=Z,0.9nm,0.4s,mb4.0
KEV Kevo 74.76 341 *e*P **P 02 40 31.6 -5.7**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
OKC Ostrava-Krasne 74.86 319 *e*P **P 02 40 37.1 -1.1**
ARCES ARCESS Array B 75.19 340 P **P 02 40 38.2 -1.5**
ARCES pmax pmax
comp=Z,9.0nm,0.8s
ARCES ARCESS Array B 75.19 340 P **P 02 40 38.1 -1.6**
comp=Z,8.7nm,0.8s,mb4.8,baz=98,slow=6.4,SNR=3.7
SMOL Smolenice 75.20 318 *e*P **P 02 40 38.5 -1.7**
SMOL *e*pP pP 02 40 46.4 -1.0
MORC Moravsky Berou 75.24 319 *e*P **P 02 40 40.4 0.0**
MORC pmax pmax
comp=Z,25nm,1.1s,mb5.1
MORC Moravsky Berou 75.24 319 *e*P **P 02 40 40.4 0.0**
comp=Z,26nm,1.1s,mb5.1
ZST Bratislava 75.39 318 *e*P **P 02 40 41.9 +0.6**
ZST *e*pP pP 02 40 47.8 -0.7
BOSA Boshof 75.43 238 *e*P **P 02 40 43.1 +1.2**
BOSA *e**PP pP 02 40 51.2 +2.1
BOSA pmax pmax
comp=Z,32nm,1.4s,mb5.1
BOSA MLR MLR
comp=Z,513nm,21.0s,MS4.8
BOSA Boshof 75.43 238 *e*P **P 02 40 43.0 +1.1**
comp=Z,32nm,1.4s,mb5.1
BOSA *e*pP pP 02 40 51.2 +2.1
BOSA LR LR
comp=Z,513nm,21.0s,MS4.8
GKP Gorka Klasztor 75.77 323 *e*P **P 02 40 43.2 -0.1**
DPC Dobruska-Polom 76.07 320 *e*P **P 02 40 44.7 -0.4**
KSP Ksiaz 76.13 320 *e*P **P 02 40 45.6 +0.2**
KSP *e**PP pP 02 40 51.2 -1.4
KSP Ksiaz 76.13 320 *e*P **P 02 40 46.0 +0.6**
BILL Bilibino 76.15 22 *e*P **P 02 40 45.2 0.0**
BILL pmax pmax
comp=Z,14nm,0.9s,mb4.9
BILL Bilibino 76.15 22 *e*P **P 02 40 45.2 0.0**
comp=Z,14nm,0.9s,mb4.9
UPC Upice 76.28 320 *e*P **P 02 40 42.4 -3.9**
UPC *e*pP pP 02 40 49.2 -4.3
ARSA Arzberg 76.39 317 ⇓*i*P **P 02 40 47.2 +0.2**
comp=Z,25nm,1.3s,mb5.0
VAE Valguarnera 76.95 307 P **P 02 52.1 +1.8**
comp=Z,6.9nm,0.7s,mb4.7,baz=79,slow=10,SNR=2.9
PRU Pruhonice 77.19 319 *e*P **P 02 40 50.8 -0.6**
PVCC Panska Ves 77.20 320 *e*P **P 02 51.4 0.0**
BRG Berggiesshubel 77.62 320 *i*P **P 02 40 53.7 0.0**
BRG pmax pmax
comp=Z,30nm,1.6s,mb5.0
BRG Berggiesshubel 77.62 320 *i*P **P 02 40 53.7 0.0**
comp=Z,30nm,1.6s,mb5.0
GEC2 GERESS Array S 77.69 318 *e*P **P 02 40 53.0 -1.1**
GEC2 pmax pmax
comp=Z,128nm,2.7s,mb5.4
GEC2 GERESS Array S 77.69 318 *e*P **P 02 40 53.0 -1.1**
comp=Z,128nm,2.7s,mb5.4
GERES GERESS Array B 77.69 318 P **P 02 40 55.0 +0.9**
GERES pmax pmax
comp=Z,10.0nm,0.8s
GERES GERESS Array B 77.69 318 P **P 02 40 55.0 +0.9**
comp=Z,10nm,0.8s,mb4.8,baz=88,slow=4.4,SNR=13
AQU L'Aquila 77.75 312 *e*P **P 02 40 54.5 -0.1**
AQU pmax pmax
comp=Z,13nm,0.7s,mb5.0
AQU L'Aquila 77.75 312 *e*P **P 02 40 54.5 -0.1**
comp=Z,12nm,0.7s,mb5.0
KHC Kasperske Hory 77.78 319 *e*P **P 02 40 54.8 +0.2**
KHC *e* 02 40 59.0
KHC Kasperske Hory 77.78 319 *e*P **P 02 40 54.8 +0.2**
KHC pP pP 02 40 59.0 -2.8
RUE Ruedersdorf 77.80 322 *e*P **P 02 40 54.7 0.0**
comp=Z,69nm,1.1s,mb5.5
KBA Koelnbreinsper 77.87 316⇑*i*P **P 02 40 54.1 -1.1**
comp=Z,14nm,0.9s,mb4.9
KBA Koelnbreinsper 77.87 316⇑*i*P **P 02 40 54.1 -1.1**
KBA pmax pmax
comp=Z,14nm,0.9s,mb4.9
CLL Collm 78.23 321 *i*P **P 02 40 55.5 -1.5**
CLL *i* pP 02 41 03.2 -1.1
CLL pmax pmax
comp=Z,17nm,1.3s,mb4.8
CLL Collm 78.23 321 *i*P **P 02 40 55.5 -1.5**
comp=Z,17nm,1.3s,mb4.8
CLL *i* pP 02 41 03.2 -1.1
CLL Collm 78.23 321 P **P 02 40 55.5 -1.5**
comp=Z,logA/T=1.1,mb4.8
CLL *i* *SP sP 02 41 03.2 -3.5
CLL *e* 02 41 19.0
WET Wettzell 78.24 318 *e*P **P 02 40 56.0 -1.2**
WET pmax pmax
comp=Z,20nm,1.1s,mb5.0
WET Wettzell 78.24 318 *e*P **P 02 40 56.0 -1.2**
comp=Z,20nm,1.1s,mb5.0
COP Copenhagen 78.75 325 *e*P **P 02 41 02.2 +2.4**
COP Copenhagen 78.75 325 *i*P **P 02 41 02.2 +2.4**
WTTA Wattenberg 79.04 317 ⇓*i*P **P 02 41 01.4 -0.2**
comp=Z,32nm,1.0s,mb5.2
WTTA Wattenberg 79.04 317 ⇓*i*P **P 02 41 01.4 -0.2**
WTTA pmax pmax
comp=Z,33nm,1.0s,mb5.2
WATA Walderalm 79.08 317⇑*i*P **P 02 41 01.3 -0.5**
comp=Z,16nm,1.1s,mb4.9
WATA Walderalm 79.08 317⇑*i*P **P 02 41 01.3 -0.5**
WATA pmax pmax
comp=Z,16nm,1.1s,mb4.9
MOX Moxa 79.09 320 *e*P **P 02 41 02.2 +0.4**
MOX pmax pmax
comp=Z,17nm,1.3s,mb4.8
MOX Moxa 79.09 320 *e*P **P 02 41 02.2 +0.4**
comp=Z,17nm,1.3s,mb4.8
MOX Moxa 79.09 320 *i*P **P 02 41 02.2 +0.4**
comp=Z,logA/T=1.1,mb4.8
GRA1 Grafenberg Arr 79.33 319 *e*P **P 02 41 02.4 -0.7**
comp=Z,34nm,1.0s,mb5.2
GRF Grafenberg Arr 79.33 319 *e*P **P 02 41 02.4 -0.7**
GRF pmax pmax
comp=Z,34nm,1.0s,mb5.2
GRF Grafenberg Arr 79.33 319 *e*P **P 02 41 02.4 -0.7**
GRF pmax pmax
comp=Z,34nm,1.0s,mb5.2
GRF Grafenberg Arr 79.33 319 *e*P **P 02 41 02.4 -0.7**
comp=Z,34nm,1.0s,mb5.2
SQTA Sankt Quirin 79.33 317⇑*i*P **P 02 41 03.2 0.0**
comp=Z,28nm,1.3s,mb5.0
SQTA Sankt Quirin 79.33 317⇑*i*P **P 02 41 03.2 0.0**
SQTA pmax pmax
comp=Z,28nm,1.3s,mb5.0
MOTA Moosalm 79.40 317⇑*i*P **P 02 41 03.3 -0.3**
comp=Z,14nm,1.2s,mb4.8
MOTA Moosalm 79.40 317⇑*i*P **P 02 41 03.3 -0.3**
MOTA pmax pmax
comp=Z,14nm,1.2s,mb4.8
NB2 NORSAR Subarra 79.63 331 P **P 02 41 03.7 -0.8**
comp=Z,1.6nm,0.7s,mb4.1,baz=94,slow=5.8
NB2 NORSAR Subarra 79.63 331 P **P 02 41 03.7 -0.8**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
NOA NORSAR Array B 79.63 331 P **P 02 41 02.8 -1.7**
NOA pmax pmax
comp=Z,12nm,0.9s
NOA NORSAR Array B 79.63 331 P **P 02 41 02.8 -1.6**
comp=Z,12nm,0.9s,mb4.8,baz=92,slow=5.6,SNR=13
NAO01 NORSAR Array S 79.78 330 *e*P **P 02 41 05.5 +0.2**
comp=Z,13nm,0.8s,mb4.9
CLZ Clausthal 79.88 321 *e*P **P 02 41 04.9 -1.1**
comp=Z,24nm,1.0s,mb5.1
SUR Sutherland 80.18 235 *e*P **P 02 41 10.2 +2.2**
comp=Z,16nm,0.9s,mb5.0
DAVA Damuels 80.24 317 ⇓*i*P **P 02 41 07.0 -1.0**
comp=Z,35nm,1.0s,mb5.2
DAVOX Davos 80.25 316 P **P 02 41 09.0 +0.9**
comp=Z,20nm,0.7s,mb5.2,baz=109,slow=12,SNR=8.3
MUD Monsted U'grnd 80.59 326 *i*P **P 02 41 11.1 +1.4**
MUD pmax pmax
comp=Z,29nm,0.9s,mb5.2
MUD Monsted U'grnd 80.59 326 *i*P **P 02 41 11.1 +1.4**
comp=Z,29nm,0.9s,mb5.2
TNS Taunus Mts 81.12 320 *e*P **P 02 41 11.6 -1.0**
BFO Black Forest 81.25 318 *e*P **P 02 41 11.8 -1.6**
BFO pmax pmax
comp=Z,26nm,1.5s,mb4.9
BFO Black Forest 81.25 318 *e*P **P 02 41 11.8 -1.6**
comp=Z,26nm,1.5s,mb4.9
LPG La Plagne 82.47 315 *e*P **P 02 41 19.4 -0.4**
comp=Z,63nm,0.9s,mb5.3
LPG La Plagne 82.47 315 *e*P **P 02 41 19.4 -0.4**
LPG pmax pmax
comp=Z,32nm,0.9s,mb5.2
BNI Bardonecchia 82.55 314 *e*P **P 02 41 22.0 +1.8**
BNI pmax pmax
comp=Z,68nm,1.6s,mb5.4
BNI Bardonecchia 82.55 314 *e*P **P 02 41 22.0 +1.8**
comp=Z,68nm,1.6s,mb5.4
SYO Syowa Base 85.36 197 ⇑P **P 02 41 35.2 +1.3**
SYO Syowa Base 85.36 197 ⇓pP pP 02 41 45.6 +4.4
SYO Syowa Base 85.36 197 ⇓sP sP 02 41 48.7 +5.2
TNA Tin City 86.24 24 *e*P **P 02 41 38.3 0.0**
comp=Z,10nm,1.0s,mb5.0
ESDC Sonseca Array 91.06 310 P **P 02 42 01.9 +0.1**
comp=Z,2.5nm,0.7s,mb4.7,baz=52,slow=4.6,SNR=7.3
MCK McKinley 94.53 23 *e*P **P 02 42 18.5 +1.3**
MCK pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
MCK MLR MLR
comp=Z,271nm,20.0s,MS4.7
MCK McKinley 94.53 23 *e*P **P 02 42 18.5 +1.4**
comp=Z,5.7nm,0.9s,mb5.0
MCK LR LR
comp=Z,271nm,20.0s,MS4.7
ILAR Eielson Array 94.81 22 P **P 02 42 17.1 -1.3**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 94.81 22 P **P 02 42 17.1 -1.3**
comp=Z,1.0nm,0.9s,mb4.3,baz=297,slow=4.4,SNR=4.6
SLKM Skilak Lake 95.46 27 P **P 02 42 22.8 +1.3**
SML Sawmill 95.68 25 *e*P **P 02 42 24.5 +2.0**
INK Inuvik 97.03 16 P **P 02 42 28.5 0.0**
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 97.03 16 P **P 02 42 28.5 0.0**
comp=Z,7.1nm,0.9s,mb5.1,baz=299,slow=5.5,SNR=6.6
DAWY Dawson 97.92 21 *e*P **P 02 42 34.3 +1.7**
VNA2 Neumayer--Watz 101.11 199 ⇓*i*P P 02 42 54.9 +8.0
VNA1 Neumayer--Stat 101.44 199 ⇓*i*P P 02 42 57.3 +8.9
MOD Modoc 121.38 29 *e*PKPdf PKPdf 02 47 51.0 -2.9
WVOR Wild Horse Val 121.76 28 *e*PKIKP PKPdf 02 47 52.1 -2.5
BOZ Bozeman (W) 121.99 21 *e*PKIKP PKPdf 02 47 54.0 -0.9
NVAR Mina Array Bea 125.01 31 PKP PKPdf 02 47 58.6 -2.5
comp=Z,2.0nm,0.8s,baz=359,slow=2.2,SNR=5.7
PDAR Pinedale Array 125.23 21 PKP PKPdf 02 47 57.5 -3.9
comp=Z,2.1nm,0.9s,baz=14,slow=1.7,SNR=7.4
ANMO Albuquerque 133.24 23 PKIKP PKPdf 02 48 13.1 -3.7
ANMO pmax pmax
comp=Z,1.0nm,0.7s
ANMO Albuquerque 133.24 23 PKP PKPdf 02 48 13.1 -3.8
comp=Z,0.9nm,0.7s,baz=327,slow=2.8,SNR=3.3
TXAR Lajitas Array 139.29 24 PKhKP 02 48 21.6
comp=Z,0.7nm,0.6s,baz=270,slow=1.8,SNR=2.2
TXAR PKP PKPdf 02 48 25.2 -2.9
comp=Z,0.9nm,0.6s,baz=320,slow=0.9,SNR=6.2
PLCA Paso Flores 144.49 200 PKIKP PKPdf 02 48 33.2 -3.7
PLCA pmax pmax
comp=Z,10.0nm,0.8s
PLCA Paso Flores 144.49 200 PKP PKPdf 02 48 33.1 -3.7
comp=Z,9.7nm,0.8s,baz=170,slow=2.4,SNR=8.4
SJG San Juan 147.54 323 PKP2 PKPdf 02 48 41.9 -0.8
SJG pmax pmax
comp=Z,16nm,0.9s
SJG San Juan 147.54 323 PKPbc PKPdf 02 48 41.9 -0.8
comp=Z,16nm,0.9s,baz=51,slow=7.3,SNR=3.9
MDZ Mendoza 150.45 210 *e*PKIKP PKPdf 02 48 49.0 +2.1
LPAZ La Paz 160.60 243 PKPab PKPab 02 49 03.4 -37
comp=Z,5.0nm,1.0s,baz=74,slow=6.5,SNR=5.1

*IDC **28** 02:32:23.0±0.7, 7.53N×93.92E, mb4.2/14, mb1 4.4/15, mb1mx4.3/20, mbtmp4.2/15, ML4.4/1, Error ellipse: s-maj=27.3km s-min=17.7km az=50.0*
*NEIC **28** 02:32:27.7±0.5, 7.58N×94.04E, h30km, mb4.5/16, Error ellipse: s-maj=17.3km s-min=11.9km az=65.0*
*BJI **28** 02:32:29.1, 7.64N×93.42E, h34km, mB5.1, mb4.9, Ms4.9, Msz4.6*
ISC 28 02:32:26.2±0.6, 7.57N±0.09×94.0E±0.1, h33km, n45, σ1§16/41, mb4.5/34, MS4.5/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.84**	**23**	Pn	**P**	**02 35 13.9**	**-1.8**
	0.7nm,0.3s,baz=209,slow=14,SNR=4.4						
KMI	**Kunming**	**19.34**	**25**	P	**P**	**02 36 56.0**	**+4.3**
	20nm,1.3s						
JIRN	**Jiri**	**21.32**	**341**	*e*P	**P**	**02 37 13.5**	**+1.1**
	76nm,0.7s,mb5.1						
PKI	**Pulchoki**	**21.50**	**339**	*e*P	**P**	**02 37 14.5**	**+0.2**
	163nm,1.3s,mb5.3						
DMN	**Daman**	**21.65**	**338**	*e*P	**P**	**02 37 14.8**	**-0.9**
KKN	**Kakani**	**21.75**	**339**	*e*P	**P**	**02 37 16.2**	**-0.5**
	77nm,1.0s,mb5.1						
GKN	**Gorkha**	**22.18**	**338**	*e*P	**P**	**02 37 19.2**	**-1.8**
	401nm,1.7s,mb5.6						
LSA	**Lhasa**	**22.18**	**353**	*e*P	**P**	**02 37 21.5**	**+0.5**
	43nm,0.8s,mb4.9						
KOLN	**Koldanda**	**22.38**	**335**	*e*P	**P**	**02 37 19.0**	**-4.1**
	90nm,1.1s,mb5.1						
WMQ	**Urumqi**	**36.53**	**352**	*e*P	**P**	**02 39 31.5**	**+0.9**
WMQ				AP	pP	02 39 41.3	+1.0
WMQ				XP	sP	02 39 45.3	+0.7
WMQ				PP	PP	02 40 54.3	-0.9
WMQ				PCP	PcP	02 41 57.5	+3.4
WMQ				S	**S**	**02 45 08.0**	**-2.1**
WMQ				AMB	AMB		
	comp=Z,31nm,1.2s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,175nm,5.4s						
WMQ				LR	LR		
	comp=N,489nm,17.3s,MS4.5						
WMQ				LR	LR		
	comp=E,377nm,17.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,675nm,17.6s,MS4.5						
BJI	**Beijing**	**37.93**	**28**	P	**P**	**02 39 46.8**	**+4.4**
	comp=Z,7.0nm,1.3s,mb4.2						
AAK	**Ala-Archa**	**38.94**	**337**	P	**P**	**02 39 50.4**	**-0.3**
	comp=Z,7.0nm,0.9s,mb4.4						
SONM	**Songino Array**	**41.49**	**13**	P	**P**	**02 40 12.6**	**+0.9**
	comp=Z,5.2nm,0.8s,mb4.2,baz=207,slow=9.7,SNR=2.8						
SONM				PcP	PcP	02 42 11.1	+1.4
	comp=Z,2.1nm,0.8s,baz=214,slow=5.2,SNR=2.5						
ULN	**Ulaanbaatar**	**41.66**	**13**	*e*P	**P**	**02 40 15.4**	**+2.2**
	comp=Z,6.7nm,0.9s,mb4.3						
KURK	**Kurchatov**	**44.88**	**346**	*e*P	**P**	**02 40 38.6**	**-0.6**
	comp=Z,18nm,0.9s,mb4.9						
ZAL	**Zalesovo**	**46.83**	**353**	P	**P**	**02 40 53.5**	**-1.1**
	comp=Z,6.3nm,0.5s,mb4.8,baz=284,slow=9.9,SNR=7.0						
HIA	**Hailar**	**46.85**	**23**	*e*P	**P**	**02 40 56.2**	**+1.4**
WRA	**Warramunga Arr**	**48.18**	**125**	P	**P**	**02 41 05.0**	**-0.7**
	comp=Z,0.8nm,0.6s,mb4.0,baz=305,slow=8.9,SNR=5.2						
WRAB	**Tennant Creek**	**48.19**	**125**	*e*P	**P**	**02 41 04.9**	**-0.9**
	comp=Z,5.7nm,0.8s,mb4.7						
BVAR	**Borovoye Array**	**49.24**	**341**	P	**P**	**02 41 13.1**	**-0.3**
	comp=Z,3.5nm,0.9s,mb4.4,baz=135,slow=10,SNR=4.3						
BVAR				PcP	PcP	02 42 36.6	+0.2
	comp=Z,1.1nm,0.8s,baz=164,slow=10,SNR=2.0						
BRVK	**Borovoye**	**49.30**	**341**	*e*P	**P**	**02 41 14.6**	**+0.6**
	comp=Z,8.1nm,0.9s,mb4.8						
CHKZ	**Chkalovo**	**49.72**	**342**	*e*P	**P**	**02 41 18.1**	**+0.9**
	comp=Z,24nm,0.8s,mb5.3						
ASAR	**Alice Springs**	**49.81**	**130**	P	**P**	**02 41 17.6**	**-0.7**
	comp=Z,0.9nm,0.7s,mb3.9,baz=316,slow=9.4,SNR=4.2						
ASAR				PcP	PcP	02 42 39.2	+0.3
	comp=Z,1.4nm,0.8s,baz=304,slow=3.8,SNR=4.2						
KMBO	**Kilima Mbogo**	**57.27**	**264**	P	**P**	**02 42 13.1**	**-0.4**
	comp=Z,8nm,0.9s,mb4.3,baz=22,slow=21,SNR=2.2						
KMBO	**Kilima Mbogo**	**57.27**	**264**	*e*P	**P**	**02 42 16.8**	**+3.3**
	comp=Z,3.3nm,0.8s,mb4.4						
KIV	**Kislovodsk**	**57.46**	**318**	*e*P	**P**	**02 42 14.2**	**-0.1**
	comp=Z,10nm,0.9s,mb4.8						
BRTR	**Keskin Array B**	**62.53**	**311**	P	**P**	**02 42 46.9**	**-2.3**
	comp=Z,1.0nm,0.7s,mb4.1,baz=120,slow=6.6,SNR=4.2						
MLR	**Muntele Rosu**	**69.30**	**316**	P	**P**	**02 43 32.4**	**+0.1**
	comp=Z,9.6nm,1.2s,mb4.6,baz=129,slow=7.1,SNR=3.1						
JOF	**Joensuu**	**71.07**	**335**	*ep*	**P**	**02 43 38.1**	**-4.6**
	comp=Z,2.1nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**72.92**	**332**	P	**P**	**02 43 54.1**	**+0.4**
	comp=Z,2.2nm,0.5s,mb4.3,baz=95,slow=7.9,SNR=6.0						
KAF	**Kangasniemi**	**73.01**	**333**	*ep*	**P**	**02 43 52.6**	**-1.6**
	comp=Z,0.5nm,0.4s,mb3.8						
LBTB	**Lobatse**	**73.99**	**241**	*e*P	**P**	**02 44 04.0**	**+3.3**
	comp=Z,4.8nm,0.8s,mb4.5						
KEV	**Kevo**	**75.08**	**341**	*ep*	**P**	**02 44 01.3**	**-4.8**
	comp=Z,0.3nm,0.4s,mb3.6						
ARCES	**ARCESS Array B**	**75.51**	**340**	P	**P**	**02 44 09.1**	**+0.5**
	comp=Z,3.3nm,0.8s,mb4.3,baz=104,slow=7.4,SNR=4.1						
MORC	**Moravsky Berou**	**75.53**	**319**	*e*P	**P**	**02 44 10.2**	**+1.1**
	comp=Z,1.8nm,0.5s,mb4.3						
GERES	**GERESS Array B**	**77.97**	**318**	P	**P**	**02 44 22.4**	**-0.4**
	comp=Z,1.4nm,0.8s,mb4.0,baz=100,slow=4.8,SNR=5.4						
NB2	**NORSAR Subarra**	**79.94**	**331**	P	**P**	**02 44 32.4**	**-0.9**
	comp=Z,10nm,1.1s,mb4.7,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**79.94**	**331**	P	**P**	**02 44 33.5**	**+0.2**
	comp=Z,1.7nm,0.8s,mb4.0,baz=96,slow=5.8,SNR=3.5						
ESDC	**Sonseca Array**	**91.32**	**310**	P	**P**	**02 45 32.2**	**+2.1**
	comp=Z,1.1nm,0.7s,mb4.3,baz=78,slow=3.4,SNR=4.3						
ILAR	**Eielson Array**	**95.07**	**22**	P	**P**	**02 45 48.4**	**+1.7**
	comp=Z,1.2nm,1.1s,mb4.2,baz=280,slow=3.9,SNR=5.2						
NVAR	**Mina Array Bea**	**125.24**	**31**	PKP	PKPdf	02 51 26.4	+2.3
	comp=Z,0.5nm,0.8s,baz=225,slow=5.1,SNR=2.4						
PDAR	**Pinedale Array**	**125.50**	**21**	PKP	PKPdf	02 51 28.9	+4.4
	comp=Z,1.1nm,0.8s,baz=319,slow=1.8,SNR=5.2						
TXAR	**Lajitas Array**	**139.55**	**24**	PKP	PKPdf	02 51 51.2	+0.1
	comp=Z,0.4nm,0.9s,baz=45,slow=1.3,SNR=2.4						
PLCA	**Paso Flores**	**144.22**	**200**	PKP	PKPdf	02 52 01.1	+2.1
	comp=Z,8.4nm,1.0s,baz=173,slow=2.2,SNR=3.8						
SJG	**San Juan**	**147.84**	**323**	PKPbc	PKPdf	02 52 15.9	+10
	comp=Z,15nm,0.9s,baz=26,slow=4.3,SNR=3.8						

*IDC **28** 02:38:48.7±3.9, 12.80N×92.47E, mb4.0/10, mb1 4.2/11, mb1mx4.1/20, mbtmp4.0/11, ML3.9/1, Error ellipse: s-maj=88.9km s-min=42.0km az=156.0*
*NEIC **28** 02:38:51.6±0.7, 12.57N×92.50E, h30km, mb4.2/4, Error ellipse: s-maj=17.4km s-min=13.2km az=209.0*
ISC 28 02:38:52.4±2.6, 13.0N±0.4×92.4E±0.2, h30km, n16, σ0§62/16, mb4.0/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.35**	**48**	Pn	**P**	**02 40 54.9**	**+0.5**
	0.4nm,0.3s,baz=242,slow=15,SNR=2.8						
ENH	**Enshi**	**23.38**	**40**	*e*P	**P**	**02 43 58.1**	**-1.5**
	12nm,1.0s,mb4.3						
SONM	**Songino Array**	**36.68**	**16**	P	**P**	**02 45 58.8**	**+0.4**
	1.4nm,0.6s,mb3.9,baz=198,slow=7.8,SNR=4.8						
ZAL	**Zalesovo**	**41.31**	**353**	P	**P**	**02 46 37.3**	**+0.4**
	2.2nm,0.7s,mb3.9,baz=290,slow=5.1,SNR=9.2						
BVAR	**Borovoye Array**	**43.64**	**341**	P	**P**	**02 46 56.0**	**+0.1**
	0.5nm,0.5s,mb3.5,baz=141,slow=11,SNR=6.3						
BRVK	**Borovoye**	**43.70**	**341**	*e*P	**P**	**02 46 56.2**	**-0.2**
	0.9nm,0.5s,mb3.8						
CHKZ	**Chkalovo**	**44.13**	**342**	*e*P	**P**	**02 46 60.0**	**+0.1**
	1.4nm,0.4s,mb4.0						
KIV	**Kislovodsk**	**52.44**	**316**	P	**P**	**02 48 03.5**	**-1.1**
	3.0nm,0.5s,mb4.5						
BRTR	**Keskin Array B**	**57.86**	**309**	P	**P**	**02 48 43.4**	**-0.5**
	1.1nm,0.8s,mb3.9,baz=118,slow=6.6,SNR=8.2						
MLR	**Muntele Rosu**	**64.37**	**314**	P	**P**	**02 49 28.8**	**+1.0**
	1.9nm,0.7s,mb4.2,baz=116,slow=7.6,SNR=4.6						
FINES	**FINESS Array B**	**67.44**	**332**	P	**P**	**02 49 46.8**	**-0.4**
	2.6nm,0.7s,mb4.4,baz=90,slow=1.9,SNR=7.6						
ARCES	**ARCESS Array B**	**69.92**	**340**	P	**P**	**02 50 02.4**	**0.0**
	3.3nm,0.8s,mb4.3,baz=79,slow=6.2,SNR=6.3						
ARCES	**ARCESS Array B**	**69.92**	**340**	P	**P**	**02 50 02.4**	**0.0**
GERES	**GERESS Array B**	**72.92**	**317**	P	**P**	**02 50 21.3**	**+0.6**
	0.7nm,0.6s,mb3.8,baz=90,slow=5.3,SNR=7.3						
NOA	**NORSAR Array B**	**74.48**	**330**	P	**P**	**02 50 29.7**	**+0.1**
	0.7nm,0.6s,mb3.8,baz=95,slow=5.7,SNR=3.0						
ILAR	**Eielson Array**	**90.69**	**22**	P	**P**	**02 51 53.5**	**+0.3**
	0.3nm,0.7s,mb3.7,baz=304,slow=4.2,SNR=5.4						

IDC 28 02:38:54.6±1.0, 7.93N×93.94E, mb3.8/8, mb1 4.0/9, mb1mx3.9/18, mbtmp3.8/9, ML3.7/1, Error ellipse: s-maj=49.3km s-min=20.2km az=48.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.54**	**24**	Pn	P	02 41 40.2	-3.6
	0.2nm,0.3s,baz=230,slow=15,SNR=4.3						
SHL	**Shillong**	**17.65**	**354**	*e*P	P	02 43 02.0	-1.6
ZAL	**Zalesovo**	**46.47**	**353**	P	P	02 47 22.9	-2.2
	0.9nm,0.4s,baz=311,slow=10,SNR=2.7						
WRA	**Warramunga Arr**	**48.45**	**125**	P	P	02 47 37.3	-3.8
	0.5nm,0.7s,baz=302,slow=9.0,SNR=6.0						
ASAR	**Alice Springs**	**50.10**	**130**	P	P	02 47 53.2	-0.6
	0.9nm,0.8s,baz=322,slow=7.7,SNR=4.0						
BRTR	**Keskin Array B**	**62.24**	**311**	P	P	02 49 16.9	-3.8
	0.7nm,1.0s,baz=129,slow=7.3,SNR=2.6						
AKASG	**Malin Array Be**	**67.99**	**322**	P	P	02 49 57.2	-0.5
	0.4nm,0.6s,baz=85,slow=4.9,SNR=4.0						
FINES	**FINESS Array B**	**72.57**	**332**	P	P	02 50 23.2	-2.1
	2.3nm,0.8s,baz=150,slow=26,SNR=2.9						
GERES	**GERESS Array B**	**77.66**	**318**	P	P	02 50 53.0	-1.6
	2.1nm,0.9s,baz=72,slow=4.2,SNR=7.0						
NOA	**NORSAR Array B**	**79.59**	**331**	P	P	02 51 05.3	+0.4
	1.9nm,0.8s,baz=93,slow=5.5,SNR=3.7						

*BJI **28** 02:39:24.9, 7.40N×93.90E, h30km, mb4.5*
*NEIC **28** 02:39:25.0±0.5, 7.36N×93.86E, h30km, mb4.6/13, Error ellipse: s-maj=13.5km s-min=10.7km az=82.0*
*IDC **28** 02:39:26.2±5.4, 7.41N×93.96E, h42km±48km, mb4.0/17, mb1 4.2/18, mb1mx4.1/23, mbtmp4.2/18, ML4.5/1, Error ellipse: s-maj=34.9km s-min=15.0km az=52.0*
ISC 28 02:39:23.7±3.0, 7.37N±0.10×94.0E±0.1, h36km±26km, n44, σ0§90/41, mb4.4/29, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.04**	**23**	P	**P**	**02 42 15.4**	**-0.4**
	0.8nm,0.3s,baz=214,slow=14,SNR=3.5						
HYB	**Hyderabad**	**18.06**	**305**	*i*P	**P**	**02 43 34.0**	**+0.3**
KMI	**Kunming**	**19.54**	**24**	P	**P**	**02 43 53.5**	**+2.3**
	17nm,1.1s						
LZH	**Lanzhou**	**29.98**	**16**	*e*P	**P**	**02 45 36.0**	**+4.9**
LZH				AP	pP	02 45 46.5	+5.2
LZH				XP	sP	02 45 51.5	+5.5
LZH				PP	PP	02 46 32.5	+3.1
LZH				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.5						
LZH	**Lanzhou**	**29.98**	**16**	*e*P	**P**	**02 45 36.0**	**+4.9**
	comp=Z,13nm,1.2s,mb4.5						
LZH				pP	pP	02 45 46.4	+5.1
LZH				sP	sP	02 45 51.6	+5.6
LZH				PP	PP	02 46 32.5	+3.1
AAK	**Ala-Archa**	**39.10**	**337**	*e*P	**P**	**02 46 49.1**	**-0.1**
	comp=Z,6.4nm,0.9s,mb4.3						
SONM	**Songino Array**	**41.69**	**13**	P	**P**	**02 47 10.6**	**0.0**
	comp=Z,4.4nm,0.9s,mb4.1,baz=202,slow=7.8,SNR=3.2						
KURK	**Kurchatov**	**45.06**	**346**	*e*P	**P**	**02 47 37.7**	**-0.2**
	comp=Z,21nm,1.0s,mb4.9						
NWAO	**Narrogin (SRO)**	**45.78**	**152**	P	**P**	**02 47 45.9**	**+2.0**
	comp=Z,7.8nm,0.7s,mb4.7,baz=290,slow=9.4,SNR=3.9						
ZAL	**Zales

comp=Z,0.3nm,0.4s,mb3.6
KAF **Kangasniemi** 73.16 333 *ep* P 02 50 56.5 +4.2
comp=Z,3.9nm,0.7s,mb4.5
LBTB **Lobatse** 73.86 241 *eP* P 02 50 58.0 +0.9
comp=Z,4.2nm,0.7s,mb4.5
KEV **Kevo** 75.26 341 *ep* P 02 51 05.2 +0.9
comp=Z,5.2nm,0.7s,mb4.6
KEV **Kevo** 75.26 341 *ep* P 02 51 05.2 +0.9
comp=Z,5.2nm,0.7s,mb4.6
ARCES **ARCESS Array B** 75.68 340 P P 02 51 06.7 0.0
comp=Z,2.6nm,0.8s,mb4.2,baz=100,slow=5.5,SNR=4.3
BRG **Berggiesshubel** 78.03 320 *eP* P 02 51 26.0 +5.7
comp=Z,4.2nm,0.8s,mb4.4
GERES **GERESS Array B** 78.09 318 P P 02 51 21.5 +0.9
comp=Z,1.1nm,0.6s,mb4.0,baz=90,slow=4.0,SNR=6.4
KHC **Kasperske Hory** 78.19 319 *eP* P 02 51 21.5 +0.4
KHC *e* 02 51 27.5
KHC **Kasperske Hory** 78.19 319 *eP* P 02 51 21.5 +0.4
KHC pP pP 02 51 27.5 -4.7
NB2 **NORSAR Subarra** 80.09 331 P P 02 51 30.7 -0.5
comp=Z,5.7nm,0.7s,mb4.6,baz=96,slow=5.0
NOA **NORSAR Array B** 80.09 331 P P 02 51 31.2 0.0
comp=Z,1.1nm,0.7s,mb3.9,baz=103,slow=5.2,SNR=7.2
LPG **La Plagne** 82.86 315 *eP* P 02 51 46.9 +0.9
comp=Z,13nm,0.7s,mb4.8
ESDC **Sonseca Array** 91.42 310 P P 02 52 29.1 +1.4
comp=Z,0.5nm,0.5s,mb4.1,baz=71,slow=4.1,SNR=3.7
ILAR **Eielson Array** 95.27 22 P P 02 52 44.8 +0.1
comp=Z,0.4nm,0.7s,mb4.0,baz=292,slow=4.3,SNR=4.2
PDAR **Pinedale Array** 125.70 21 PKP PKPdf 02 58 24.4 +2.4
comp=Z,0.5nm,0.9s,baz=18,slow=2.9,SNR=3.1
TXAR **Lajitas Array** 139.75 24 PKP PKPdf 02 58 50.6 +1.9
comp=Z,0.2nm,0.5s,baz=178,slow=1.6,SNR=3.9
PLCA **Paso Flores** 144.02 200 PKP PKPdf 02 58 57.9 +2.1
comp=Z,3.5nm,0.9s,baz=216,slow=4.9,SNR=5.6

*IDC **28** 02:40:55.0±1.9, 8.16N×94.06E, mb4.3/14, mb1 4.4/15, mb1mx4.3/22, mbtmp4.2/15, ML4.3/1, Error ellipse: s-maj=49.2km s-min=32.4km az=133.0*
*NEIC **28** 02:40:58.8±0.6, 7.88N×93.86E, h30km, mb4.5/5, Error ellipse: s-maj=17.6km s-min=15.6km az=74.0*
ISC 28 02:40:57.6±0.9, 8.0N±0.1×94.0E±0.1, h33km, n28, σ0.96/24, mb4.3/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.50	24	Pn	P	02 43 44.0	+1.4
	0.6nm,0.3s,baz=220,slow=14,SNR=2.9						
SONM	**Songino Array**	41.11	13	P	P	02 48 40.1	0.0
	1.7nm,0.8s,mb3.7,baz=180,slow=10,SNR=3.6						
KURK	**Kurchatov**	44.48	346	*eP*	P	02 49 07.6	+0.2
	16nm,1.1s,mb4.7						
ZAL	**Zalesovo**	46.43	353	P	P	02 49 23.1	+0.2
	1.7nm,0.7s,mb4.1,baz=314,slow=5.4,SNR=3.1						
WRAB	**Tennant Creek**	48.47	125	*eP*	P	02 49 38.7	-0.6
	3.1nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	48.84	341	P	P	02 49 40.0	-1.8
	2.8nm,0.7s,mb4.4,baz=146,slow=5.3,SNR=6.4						
BRVK	**Borovoye**	48.90	341	P	P	02 49 40.5	-1.8
	1.9nm,0.7s,mb4.2						
KMBO	**Kilima Mbogo**	57.25	264	P	P	02 50 47.7	+3.0
	2.0nm,0.5s,mb4.4,baz=220,slow=21,SNR=5.6						
KMBO	**Kilima Mbogo**	57.25	264	P	P	02 50 47.7	+3.0
ASF	**Jabal al Asfar**	58.01	303	P	P	02 50 49.7	-0.2
	2.2nm,1.0s,mb4.2,baz=170,slow=3.4,SNR=3.6						
BRTR	**Keskin Array B**	62.23	311	P	P	02 51 17.9	-0.7
	1.8nm,0.6s,mb4.4,baz=142,slow=7.0,SNR=9.9						
AKASG	**Malin Array Be**	67.97	322	P	P	02 51 54.1	-1.2
	1.4nm,0.5s,mb4.2,baz=86,slow=5.5,SNR=6.5						
IDI	**Anoyia**	68.36	305	P	P	02 51 58.6	+0.4
	7.5nm,0.7s,mb4.8,baz=55,slow=6.5,SNR=5.6						
MLR	**Muntele Rosu**	68.98	316	P	P	02 52 02.7	+0.9
	3.2nm,0.6s,mb4.4,baz=154,slow=4.2,SNR=6.5						
JOF	**Joensuu**	70.69	334	*ep*	P	02 52 11.0	-0.8
FINES	**FINESS Array B**	72.54	332	P	P	02 52 23.1	+0.2
	4.2nm,0.8s,mb4.4,baz=110,slow=8.2,SNR=5.3						
KAF	**Kangasniemi**	72.62	333	*ep*	P	02 52 16.6	-6.8
	0.3nm,0.3s,mb3.7						
KEV	**Kevo**	74.69	341	*ep*	P	02 52 25.9	-9.4
	4.7nm,0.7s,mb4.5						
ARCES	**ARCESS Array B**	75.11	340	P	P	02 52 38.5	+0.8
	3.0nm,0.7s,mb4.3,baz=79,slow=6.2,SNR=5.6						
GERES	**GERESS Array B**	77.64	318	P	P	02 52 53.4	+0.9
	2.6nm,0.6s,mb4.3,baz=84,slow=6.2,SNR=16						
KHC	**Kasperske Hory**	77.73	318	*eP*	P	02 52 53.5	+0.6
NB2	**NORSAR Subarra**	79.56	331	P	P	02 53 02.7	0.0
	2.5nm,0.7s,mb4.2,baz=91,slow=5.6						
NOA	**NORSAR Array B**	79.56	331	P	P	02 53 02.3	-0.4
	1.9nm,0.8s,mb4.1,baz=93,slow=5.4,SNR=3.2						
ESDC	**Sonseca Array**	91.02	310	P	P	02 54 00.3	+0.1
	0.6nm,0.6s,mb4.1,baz=56,slow=4.4,SNR=4.1						
PDAR	**Pinedale Array**	125.14	21	PKP	PKPdf	02 59 57.0	+1.8
	0.8nm,1.0s,slow=1.5,SNR=3.7						
TXAR	**Lajitas Array**	139.21	24	PKP	PKPdf	03 00 25.7	+3.7
	0.3nm,0.6s,baz=79,slow=0.7,SNR=4.4						
TXAR	**Lajitas Array**	139.21	24	PKP	PKPdf	03 00 25.7	+3.7
PLCA	**Paso Flores**	144.57 200		PKP	PKPdf	03 00 32.3	+1.2
	2.6nm,0.6s,baz=272,slow=7.7,SNR=2.9						

*IDC **28** 02:42:39.4±1.0, 7.44N×93.98E, mb4.0/10, mb1 4.2/11, mb1mx4.0/19, mbtmp4.0/11, ML4.0/1, Error ellipse: s-maj=43.0km s-min=20.5km az=55.0*
*NEIC **28** 02:42:43.7±0.5, 7.44N×93.97E, h30km, mb4.5/4, Error ellipse: s-maj=16.0km s-min=11.0km az=66.0*
ISC 28 02:42:38.9±0.8, 7.4N±0.1×94.0E±0.1, h10km, n16, σ0.70/15, mb4.1/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.97	23	Pn	P	02 45 32.8	+0.1
	0.3nm,0.3s,baz=209,slow=14,SNR=4.1						
BJT	**Baijiatuau**	38.05	28	*eP*	P	02 50 00.1	+0.8
	5.2nm,0.5s,mb4.5						
SONM	**Songino Array**	41.62	13	P	P	02 50 28.4	-0.4
	0.8nm,0.5s,mb3.6,baz=198,slow=7.8,SNR=3.6						
KURK	**Kurchatov**	44.99	346	*eP*	P	02 50 56.0	-0.2
	6.6nm,1.0s,mb4.4						
ZAL	**Zalesovo**	46.95	353	P	P	02 51 12.1	+0.4
	3.3nm,0.4s,mb4.6,baz=300,slow=7.4,SNR=6.2						
WRA	**Warramunga Arr**	48.15	125	P	P	02 51 21.1	-0.4
	0.5nm,0.6s,mb3.7,baz=306,slow=8.6,SNR=3.5						
BVAR	**Borovoye Array**	49.35	341	P	P	02 51 29.9	-0.4
	0.8nm,0.6s,mb4.0,baz=180,slow=13,SNR=8.8						
BVAR				PcP	PcP	02 52 53.7	+0.5
	0.8nm,0.6s,baz=133,slow=4.4,SNR=3.7						
BRVK	**Borovoye**	49.41	341	*eP*	P	02 51 28.8	-2.0
	3.1nm,0.5s,mb4.6						
ASAR	**Alice Springs**	49.77	130	P	P	02 51 34.0	0.0
	0.5nm,0.7s,mb3.6,baz=303,slow=6.9,SNR=2.8						
ASAR				PcP	PcP	02 52 55.5	+0.4
	1.9nm,1.1s,baz=300,slow=3.1,SNR=4.2						
BRTR	**Keskin Array B**	62.59	311	P	P	02 53 05.5	-0.2
	0.6nm,0.5s,mb4.0,baz=136,slow=6.3,SNR=3.5						
FINES	**FINESS Array B**	73.02	332	P	P	02 54 10.7	+0.1
	2.0nm,0.5s,mb4.3,baz=97,slow=5.7,SNR=6.2						
ARCES	**ARCESS Array B**	75.62	340	P	P	02 54 26.1	+0.6
	4.5nm,1.0s,mb4.3,baz=45,slow=6.9,SNR=3.8						
GERES	**GERESS Array B**	78.04	318	P	P	02 54 40.6	+1.3
	0.6nm,0.6s,mb3.7,baz=104,slow=5.5,SNR=4.6						
NB2	**NORSAR Subarra**	80.03	331	P	P	02 54 50.0	+0.1
	2.2nm,0.7s,mb4.2,baz=96,slow=5.0						
NOA	**NORSAR Array B**	80.03	331	P	P	02 54 50.2	+0.3
	1.4nm,0.7s,mb4.0,baz=94,slow=5.2,SNR=3.5						
PLCA	**Paso Flores**	144.09 200		PKP	PKPdf	03 02 17.1	-1.1
	2.2nm,1.0s,baz=198,slow=3.2,SNR=3.7						

*IDC **28** 02:44:59.4±0.9, 7.95N×93.83E, mb4.2/15, mb1 4.4/16, mb1mx4.3/21, mbtmp4.2/16, ML4.5/1, Error ellipse: s-maj=34.7km s-min=19.3km az=49.0*
*BJI **28** 02:45:03.3, 7.59N×93.80E, h58km, mb4.6*
*NEIC **28** 02:45:04.3±0.5, 7.97N×93.90E, h30km, mb4.6/5, Error ellipse: s-maj=14.9km s-min=11.5km az=65.0*
ISC 28 02:45:03.1±0.6, 8.07N±0.09×94.0E±0.1, h33km, n33, σ0.79/30, mb4.4/23, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.40	25	Pn	P	02 47 46.4	-0.3
	0.9nm,0.3s,baz=211,slow=14,SNR=14						
KMI	**Kunming**	18.91	25	P	P	02 49 26.9	+3.2
	32nm,1.0s						
JIRN	**Jiri**	20.84	340	*eP*	P	02 49 44.3	-0.2
	50nm,0.8s						
PKI	**Pulchoki**	21.03	338	*eP*	P	02 49 46.5	0.0
	53nm,0.7s,mb5.0						
DMN	**Daman**	21.17	338	*eP*	P	02 49 48.3	+0.3
	51nm,0.6s,mb5.0						
KKN	**Kakani**	21.27	338	*eP*	P	02 49 48.2	-0.7
	47nm,0.8s,mb4.9						
GKN	**Gorkha**	21.71	337	*eP*	P	02 49 52.9	-0.4
	65nm,0.7s,mb5.2						
KOLN	**Koldanda**	21.92	335	*eP*	P	02 49 55.6	+0.2
	70nm,0.7s,mb5.2						
SONM	**Songino Array**	41.01	13	P	P	02 52 45.1	+0.3
	2.3nm,0.7s,mb3.9,baz=198,slow=7.8,SNR=7.5						
KURK	**Kurchatov**	44.38	346	*eP*	P	02 53 12.5	+0.2
	16nm,1.0s,mb4.7						
ZAL	**Zalesovo**	46.34	353	P	P	02 53 28.2	+0.5
	3.0nm,0.8s,mb4.3,baz=287,slow=8.2,SNR=12						
WRA	**Warramunga Arr**	48.50	126	P	P	02 53 44.7	-0.5
	0.9nm,0.5s,mb4.0,baz=305,slow=8.4,SNR=8.1						
WRAB	**Tennant Creek**	48.50	126	P	P	02 53 44.8	-0.4
	3.0nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	48.76	341	P	P	02 53 46.1	-0.5
	2.3nm,0.8s,mb4.2,baz=143,slow=7.4,SNR=8.8						
BRVK	**Borovoye**	48.82	341	*eP*	P	02 53 46.4	-0.8
	2.8nm,0.8s,mb4.3						
ASAR	**Alice Springs**	50.16	130	P	P	02 53 57.5	-0.3
	0.6nm,0.5s,mb3.9,baz=304,slow=6.5,SNR=3.7						
KMBO	**Kilima Mbogo**	57.29	263	P	P	02 54 52.2	+1.7
	1.5nm,0.7s,mb4.2,baz=73,slow=8.5,SNR=5.1						
BRTR	**Keskin Array B**	62.19	311	P	P	02 55 22.1	-1.6
	1.5nm,0.7s,mb4.2,baz=121,slow=7.6,SNR=9.8						
AKASG	**Malin Array Be**	67.91	322	P	P	02 55 59.2	-1.2
	1.8nm,0.8s,mb4.1,baz=86,slow=4.5,SNR=6.6						
MLR	**Muntele Rosu**	68.92	316	P	P	02 56 07.3	+0.4
	3.4nm,0.9s,mb4.3,baz=113,slow=4.1,SNR=4.3						
FINES	**FINESS Array B**	72.47	332	P	P	02 56 27.9	-0.1
	3.3nm,0.8s,mb4.3,baz=89,slow=6.0,SNR=5.6						
ARCES	**ARCESS Array B**	75.03	340	P	P	02 56 42.4	-0.4
	3.3nm,0.7s,mb4.4,baz=79,slow=6.2,SNR=5.7						
GERES	**GERESS Array B**	77.58	318	P	P	02 56 58.4	+0.8
	1.7nm,0.6s,mb4.1,baz=90,slow=5.3,SNR=15						
KHC	**Kasperske Hory**	77.67	318	*eP*	P	02 56 59.0	+0.9
CLL	**Collm**	78.11	321	P	P	02 57 00.0	-0.5
NB2	**NORSAR Subarra**	79.49	331	P	P	02 57 07.4	-0.4
	10nm,1.2s,mb4.6,baz=91,slow=5.8						
NOA	**NORSAR Array B**	79.49	331	P	P	02 57 07.7	-0.1
	1.3nm,0.6s,mb4.0,baz=92,slow=5.5,SNR=4.1						
NOA	**NORSAR Array B**	79.49	331	P	P	02 57 07.7	-0.1
ESDC	**Sonseca Array**	90.97	310	P	P	02 58 05.7	+0.2
	0.4nm,0.5s,mb4.0,baz=70,slow=3.4,SNR=3.7						
INK	**Inuvik**	96.85	16	P	P	02 58 33.3	+1.7
	1.5nm,1.1s,mb4.3,baz=347,slow=5.2,SNR=3.0						
PDAR	**Pinedale Array**	125.04	21	PKP	PKPdf	03 04 01.9	+1.4
	0.6nm,0.7s,baz=199,slow=1.9,SNR=4.8						
TXAR	**Lajitas Array**	139.11	24	PKP	PKPdf	03 04 29.6	+2.2
	0.3nm,0.7s,baz=358,slow=0.7,SNR=6.3						
PLCA	**Paso Flores**	144.68 201		PKP	PKPdf	03 04 37.3	+0.5
	1.9nm,0.9s,baz=132,slow=11,SNR=2.9						

IDC 28 02:50:39.4±11.0, 8.07N×93.71E, mb3.8/6, mb1 4.0/6, mb1mx3.7/18, mbtmp3.8/6, Error ellipse: s-maj=278.5km s-min=76.5km az=131.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	46.30	353	P	P	02 59 06.2	-2.4
	0.4nm,0.3s,baz=303,slow=8.8,SNR=4.1						
BVAR	**Borovoye Array**	48.67	341	P	P	02 59 25.9	-1.2
	0.3nm,0.7s,baz=101,slow=7.3,SNR=2.1						
BRTR	**Keskin Array B**	61.98	311	P	P	03 01 01.6	-2.2
	0.5nm,0.5s,baz=143,slow=6.2,SNR=5.2						
AKASG	**Malin Array Be**	67.73	322	P	P	03 01 37.8	-3.1
	1.8nm,0.9s,baz=92,slow=5.5,SNR=4.8						
FINES	**FINESS Array B**	72.34	332	P	P	03 02 06.7	-2.1
	9.0nm,1.3s,baz=90,slow=5.7,SNR=4.5						
GERES	**GERESS Array B**	77.40	318	P	P	03 02 37.3	-0.7
	0.8nm,0.6s,baz=90,slow=5.3,SNR=8.8						

*IDC **28** 02:52:09.1±1.0, 8.07N×94.20E, mb3.9/11, mb1 4.1/12, mb1mx4.0/20, mbtmp3.9/12, ML4.0/1, Error ellipse: s-maj=52.5km s-min=20.6km az=51.0*
*NEIC **28** 02:52:13.4±0.6, 7.86N×93.95E, h30km, mb4.2/6, Error ellipse: s-maj=21.4km s-min=13.2km az=66.0*
ISC 28 02:52:11.3±0.8, 7.9N±0.1×94.0E±0.2, h30km, n23, σ0.95/21, mb4.0/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.58	24	Pn	P	02 54 58.5	+0.7
	0.3nm,0.3s,baz=217,slow=14,SNR=4.4						
LSA	**Lhasa**	21.89	353	*eP*	P	02 57 04.4	+0.6
	12nm,0.7s,mb4.4						
SONM	**Songino Array**	41.20	13	P	P	02 59 52.9	-2.1
	0.5nm,0.4s,mb3.5,baz=203,slow=11,SNR=2.6						
KURK	**Kurchatov**	44.59	346	*eP*	P	03 00 23.8	+1.2
	3.5nm,0.6s,mb4.4						
ZAL	**Zalesovo**	46.54	353	P	P	03 00 37.0	-1.0
	1.2nm,0.3s,mb4.2,baz=264,slow=4.4,SNR=4.9						
WRA	**Warramunga Arr**	48.36	125	P	P	03 00 51.9	-0.9
	0.4nm,0.4s,mb3.8,baz=305,slow=8.5,SNR=7.1						
BVAR	**Borovoye Array**	48.96	341	P	P	03 00 56.5	-0.4
	1.0nm,0.9s,mb3.9,baz=135,slow=8.4,SNR=4.0						
BRVK	**Borovoye**	49.02	341	P	P	03 00 57.7	+0.3
	1.5nm,0.7s,mb4.1						
CHKZ	**Chkalovo**	49.44	342	*eP*	P	03 01 00.5	-0.1
	3.0nm,0.8s,mb4.4						
ASAR	**Alice Springs**	50.01	130	P	P	03 01 06.5	+1.1
	1.1nm,0.3s,mb3.9,baz=297,slow=6.0,SNR=3.0						
BRTR	**Keskin Array B**	62.34	311	P	P	03 02 32.8	-0.7
	0.4nm,0.4s,mb3.9,baz=139,slow=6.1,SNR=4.9						
JOF	**Joensuu**	70.80	334	*ep*	P	03 03 27.0	+0.1
	0.4nm,0.3s,mb3.8						
FINES	**FINESS Array B**	72.66	332	P	P	03 03 38.0	+0.1
	1.2nm,0.7s,mb4.0,baz=110,slow=9.1,SNR=7.3						
KAF	**Kangasniemi**	72.74	333	*ep*	P	03 03 36.1	-2.3
	0.3nm,0.3s,mb3.7						
KEV	**Kevo**	74.80	341	*ep*	P	03 03 45.3	-5.0
	0.4nm,0.4s,mb3.7						
ARCES	**ARCESS Array B**	75.23	340	P	P	03 03 53.2	+0.5
	0.8nm,0.6s,mb3.9,baz=104,slow=3.6,SNR=8.6						
ARCES	**ARCESS Array B**	75.23	340	P	P	03 03 53.2	+0.5
GERES	**GERESS Array B**	77.75	318	P	P	03 04 08.5	+1.3
	0.6nm,0.4s,mb3.9,baz=98,slow=5.2,SNR=12						
HFS	**Hagfors**	78.40	330	P	P	03 04 10.6	+0.1
	2.7nm,0.6s,mb4.4,baz=112,slow=7.8,SNR=6.9						
NB2	**NORSAR Subarra**	79.68	331	P	P	03 04 17.9	+0.4
	1.0nm,0.8s,mb3.8,baz=93,slow=5.8						
NOA	**NORSAR Array B**	79.68	331	P	P	03 04 18.1	+0.7
	2.0nm,1.1s,mb4.0,baz=97,slow=5.1,SNR=2.7						
TXAR	**Lajitas Array**	139.29	24	PKP	PKPdf	03 11 39.1	-2.3
	0.1nm,0.4s,baz=336,slow=0.6,SNR=5.9						
PLCA	**Paso Flores**	144.49 200		PKP	PKPdf	03 11 48.5	-1.7
	1.1nm,0.6s,baz=327,slow=7.3,SNR=2.6						

*IDC **28** 03:07:58.4±0.8, 7.62N×94.00E, mb4.0/13, mb1 4.2/14, mb1mx4.1/21, mbtmp4.0/14, ML3.9/1, Error ellipse: s-maj=28.9km s-min=19.4km az=51.0*
*NEIC **28** 03:08:03.1±0.6, 7.64N×93.99E, h30km, mb4.3/4, Error ellipse: s-maj=19.0km s-min=12.8km az=59.0*
ISC 28 03:07:58.1±0.6, 7.7N±0.1×94.0E±0.1, h10km, n27, σ1.12/24, mb4.1/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.77	24	Pn	P	03 10 50.0	+0.7
	0.2nm,0.3s,baz=219,slow=13,SNR=4.1						
VIS	**Vishakhapatnam**	14.43	315	*eP*	P	03 11 20.9	-3.6
VIS				*e*		03 11 29.8	
	comp=Z,19nm,1.4s						
VIS				*e*		03 12 11.1	
BLSP	**Bilaspur**	18.38	323	*eP*	P	03 12 13.3	-1.6
BLSP				*e*		03 12 18.2	
	comp=Z,17nm,1.5s						
BLSP				*e*		03 13 02.6	
BHPL	**Bhopal**	22.21	316	*eP*	P	03 12 58.1	+1.7
BHPL				*e*		03 13 45.8	
BHPL				*e*		03 13 46.9	
	comp=Z,43nm,1.0s						
SONM	**Songino Array**	41.41	13	P	P	03 15 48.7	+2.5
	comp=Z,0.4nm,0.4s,mb3.4,baz=122,slow=30,SNR=2.9						
KURK	**Kurchatov**	44.79	346	*eP*	P	03 16 13.4	-0.3
	comp=Z,3.0nm,0.8s,mb4.2						
ZAL	**Zalesovo**	46.75	353	P	P	03 16 28.4	-0.8
	comp=Z,4.3nm,0.4s,mb4.8,baz=66,slow=11,SNR=4.6						
ZAL	**Zalesovo**	46.75	353	P	P	03 16 28.4	-0.8
WRA	**Warramunga Arr**	48.25	125	P	P	03 16 39.8	-1.7
	comp=Z,1.1nm,0.6s,mb4.1,baz=304,slow=8.6,SNR=8.6						
WRAB	**Tennant Creek**	48.26	125	P	P	03 16 41.6	+0.1
	comp=Z,1.4nm,0.4s,mb4.3						
BVAR	**Borovoye Array**	49.15	341	P	P	03 16 47.1	-0.9
	comp=Z,0.4nm,0.5s,mb3.7,baz=162,slow=4.7,SNR=3.6						
CHKZ	**Chkalovo**	49.64	342	*eP*	P	03 16 50.5	-1.2
	comp=Z,3.2nm,0.8s,mb4.4						
ASAR	**Alice Springs**	49.89	130	P	P	03 16 54.4	+0.3
	comp=Z,5.2nm,1.4s,mb4.4,baz=315,slow=7.5,SNR=5.4						
KMBO	**Kilima Mbogo**	57.25	264	P	P	03 17 49.8	+1.2
	comp=Z,0.9nm,0.5s,mb4.1,baz=225,slow=19,SNR=1.9						
BRTR	**Keskin Array B**	62.46	311	P	P	03 18 23.6	-0.5
	comp=Z,0.6nm,0.5s,mb4.0,baz=132,slow=8.1,SNR=5.3						
MLR	**Muntele Rosu**	69.22	316	P	P	03 19 08.2	+0.9
	comp=Z,1.0nm,0.5s,mb4.0,baz=142,slow=14,SNR=3.1						
FINES	**FINESS Array B**	72.84	332	P	P	03 19 28.1	-0.6
	comp=Z,3.5nm,0.8s,mb4.3,baz=146,slow=6.9,SNR=3.9						
KAF	**Kangasniemi**	72.92	333	*ep*	P	03 19 29.2	0.0
	comp=Z,0.3nm,0.3s,mb3.7						
ARCES	**ARCESS Array B**	75.42	340	P	P	03 19 44.9	+1.4
	comp=Z,3.2nm,0.9s,mb4.2,baz=104,slow=5.0,SNR=5.5						
ARCES	**ARCESS Array B**	75.42	340	P	P	03 19 44.9	+1.3
GERES	**GERESS Array B**	77.89	318	P	P	03 19 58.9	+1.1
	comp=Z,0.8nm,0.6s,mb3.8,baz=90,slow=5.9,SNR=7.8						
HFS	**Hagfors**	78.57	330	P	P	03 20 01.4	+0.2
	comp=Z,1.6nm,0.6s,mb4.2,baz=104,slow=6.1,SNR=6.3						
NB2	**NORSAR Subarra**	79.85	331	P	P	03 20 07.2	-1.0
	comp=Z,2.9nm,0.8s,mb4.3,baz=93,slow=5.3						
NOA	**NORSAR Array B**	79.85	331	P	P	03 20 07.2	-0.9
	comp=Z,0.8nm,0.9s,mb3.7,baz=101,slow=5.7,SNR=2.8						
TXAR	**Lajitas Array**	139.49	24	PKP	PKPdf	03 27 30.8	+1.1
	comp=Z,0.2nm,0.8s,baz=90,slow=1.8,SNR=3.6						
TXAR	**Lajitas Array**	139.49	24	PKP	PKPdf	03 27 30.8	+1.1
PLCA	**Paso Flores**	144.29 200		PKP	PKPdf	03 27 37.3	-0.5
	comp=Z,4.3nm,1.1s,baz=156,slow=2.9,SNR=4.6						

*IDC **28** 03:08:47.8±0.6, 8.21N×94.10E, mb4.5/24, mb1 4.6/25, mb1mx4.6/28, mbtmp4.5/25, ML3.9/1, MS3.4/1, Ms1 3.6/1, ms1mx2.7/25, Error ellipse: s-maj=26.2km s-min=15.4km az=43.0*
*BJI **28** 03:08:51.3, 7.84N×93.76E, h49km, mB5.2, mb4.6, Ms4.3, Msz3.9*
*NEIC **28** 03:08:52.4±0.3, 8.10N×94.02E, h30km, mb4.7/19, Error ellipse: s-maj=9.0km s-min=7.2km az=220.0*
ISC 28 03:08:51.1±0.4, 8.10N±0.07×94.07E±0.08, h33km, n87, σ0.76/82, mb4.6/46, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.34	24	Pn	P	03 11 33.1	-0.7
	0.2nm,0.3s,baz=221,slow=15,SNR=5.0						
CMAR				LR	LR	03 15 41.8	
	comp=Z,198nm,19.3s,baz=337,slow=37						
KMI	**Kunming**	18.85	25	⇑P	P	03 13 14.9	+3.9
	38nm,1.2s						
KMI				sP		03 13 27.2	
KMI				S	S	03 16 53.4	+17
JIRN	**Jiri**	20.84	340	*eP*	P	03 13 32.6	+0.1
	102nm,0.9s						
PKI	**Pulchoki**	21.03	338	*eP*	P	03 13 34.4	-0.1
	166nm,1.1s,mb5.3						
DMN	**Daman**	21.18	338	*eP*	P	03 13 36.3	+0.4
	108nm,0.8s,mb5.2						
KKN	**Kakani**	21.28	338	*eP*	P	03 13 36.4	-0.5
	60nm,0.8s,mb5.0						
GKN	**Gorkha**	21.71	337	*eP*	P	03 13 41.3	0.0
	85nm,0.7s,mb5.3						
KOLN	**Koldanda**	21.93	334	*eP*	P	03 13 44.0	+0.6
	195nm,1.1s,mb5.4						
PTH	**Pithoragarh**	24.99	330	*e*	P	03 14 14.0	+0.5
NDI	**New Delhi**	25.91	324	*e*	P	03 14 22.0	-0.1
ENH	**Enshi**	26.37	31	*eP*	P	03 14 26.6	+0.3

FUR	Furstenfeldbru	79.21 317	eP	P	03 20 54.3	-0.2
GRA1	Grafenberg Arr	79.25 319	eP	P	03 20 55.0	+0.3
	7.0nm,0.7s,mb4.7					
GRF	Grafenberg Arr	79.25 319	eP	P	03 20 55.0	+0.3
	7.0nm,0.7s,mb4.7					
NB2	NORSAR Subarra	79.50 331	P	P	03 20 55.2	-0.6
	3.4nm,0.7s,mb4.4,baz=96,slow=5.0					
NOA	NORSAR Array B	79.50 331	P	P	03 20 55.4	-0.5
	6.7nm,0.8s,mb4.6,baz=93,slow=5.5,SNR=12					
CLZ	Clausthal	79.79 321	eP	P	03 20 58.1	+0.5
	7.0nm,0.8s,mb4.6					
DAVOX	Davos	80.18 316	P	P	03 21 00.1	+0.4
	7.7nm,0.7s,mb4.8,baz=109,slow=7.2,SNR=9.2					
MUD	Monsted U'grnd	80.48 326	iP	P	03 21 02.1	+0.9
	24nm,1.3s,mb5.0					
TNS	Taunus Mts	81.03 320	eP	P	03 21 05.0	+0.8
BFO	Black Forest	81.18 318	eP	P	03 21 04.8	-0.2
	3.0nm,0.9s,mb4.2					
LPG	La Plagne	82.41 315	eP	P	03 21 11.9	+0.5
	25nm,0.9s,mb4.8					
EKA	Eskdalemuir Ar	87.50 325	P	P	03 21 37.4	+0.9
	5.7nm,0.8s,mb4.8,baz=98,slow=3.8,SNR=7.4					
ESDC	Sonseca Array	91.02 310	P	P	03 21 54.2	+0.6
	2.1nm,0.8s,mb4.5,baz=55,slow=4.5,SNR=5.9					
IMA	Indian Mountai	91.44 22	eP	P	03 21 56.1	+1.2
ILAR	Eielson Array	94.57 22	P	P	03 22 09.1	-0.1
	1.0nm,0.9s,mb4.2,baz=315,slow=4.0,SNR=4.9					
INK	Inuvik	96.80 16	eP	P	03 22 19.7	+0.4
	5.2nm,1.1s,mb4.9					
NVAR	Mina Array Bea	124.77 31	PKP	PKPdf	03 27 50.6	+2.5
	1.4nm,0.8s,baz=301,slow=1.8,SNR=6.9					
PDAR	Pinedale Array	124.99 21	PKP	PKPdf	03 27 49.6	+1.2
	1.0nm,0.7s,baz=92,slow=1.9,SNR=9.9					
ANMO	Albuquerque	133.00 23	PKP	PKPdf	03 28 06.9	+3.0
	1.1nm,0.8s,baz=171,slow=1.3,SNR=4.8					
TXAR	Lajitas Array	139.05 24	PKP	PKPdf	03 28 19.0	+3.9
	0.9nm,0.8s,baz=188,slow=0.6,SNR=7.1					
TXAR	Lajitas Array	139.05 24	PKP	PKPdf	03 28 19.0	+3.9
PLCA	Paso Flores	144.73 200	PKP	PKPdf	03 28 25.3	+0.5
	5.0nm,0.9s,baz=167,slow=3.9,SNR=7.8					

*IDC **28** 03:12:21.0±0.8, 7.96N×94.18E, mb4.1/14, mb1 4.3/15, mb1mx4.1/22, mbtmp4.1/15, ML4.3/1, Error ellipse: s-maj=33.5km s-min=20.0km az=48.0*
*NEIC **28** 03:12:25.1±0.5, 7.67N×93.84E, h30km, mb4.5/4, Error ellipse: s-maj=17.6km s-min=10.7km az=56.0*

ISC 28 03:12:20.0±0.7, 7.7N±0.1×93.8E±0.1, h10km, n23, σ0§78/21, mb4.2/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.83	24	Pn	P	03 15 13.2	+1.3
	0.6nm,0.3s,baz=208,slow=15,SNR=4.0						
SONM	Songino Array	41.44	13	P	P	03 20 07.8	-0.6
	1.1nm,0.7s,mb3.6,baz=214,slow=8.9,SNR=3.5						
KURK	Kurchatov	44.75	346	eP	P	03 20 34.9	-0.5
	3.8nm,0.8s,mb4.3						
ZAL	Zalesovo	46.73	353	P	P	03 20 50.1	-0.9
	1.4nm,0.4s,mb4.3,baz=289,slow=12,SNR=6.6						
WRA	Warramunga Arr	48.37	125	P	P	03 21 03.5	-0.8
	2.2nm,1.1s,mb4.1,baz=309,slow=9.1,SNR=4.8						
WRAB	Tennant Creek	48.38	125	P	P	03 21 04.5	+0.1
	2.1nm,0.3s,mb4.7						
BVAR	Borovoye Array	49.10	341	P	P	03 21 08.9	-0.6
	0.6nm,0.6s,mb3.8,baz=146,slow=5.2,SNR=3.6						
BRVK	Borovoye	49.16	341	eP	P	03 21 09.3	-0.7
	0.8nm,0.4s,mb4.1						
ASAR	Alice Springs	50.00	130	P	P	03 21 17.1	+0.3
	1.9nm,1.1s,mb4.0,baz=310,slow=6.3,SNR=4.7						
KMBO	Kilima Mbogo	57.11	264	P	P	03 22 14.6	+5.1
	2.3nm,1.0s,mb4.2,baz=56,slow=14,SNR=4.7						
KIV	Kislovodsk	57.28	318	eP	P	03 22 09.4	-0.9
	3.8nm,0.4s,mb4.8						
BRTR	Keskin Array B	62.35	311	P	P	03 22 44.8	-0.4
	0.6nm,0.5s,mb4.0,baz=138,slow=8.1,SNR=5.0						
IDI	Anoyia	68.45	305	P	P	03 23 25.3	+0.7
	8.1nm,1.0s,mb4.7,baz=52,slow=12,SNR=3.3						
MLR	Muntele Rosu	69.12	316	P	P	03 23 29.5	+1.0
	1.8nm,0.7s,mb4.1,baz=162,slow=16,SNR=3.1						
FINES	FINESS Array B	72.77	332	P	P	03 23 49.4	-0.8
	0.8nm,0.6s,mb3.9,baz=90,slow=9.5,SNR=5.6						
FINES	FINESS Array B	72.77	332	P	P	03 23 49.4	-0.8
ARCES	ARCESS Array B	75.37	340	P	P	03 24 05.7	+0.5
	2.3nm,0.9s,mb4.1,baz=100,slow=7.4,SNR=4.3						
GERES	GERESS Array B	77.80	318	P	P	03 24 20.5	+1.4
	1.0nm,0.5s,mb4.0,baz=90,slow=5.3,SNR=8.4						
HFS	Hagfors	78.50	330	P	P	03 24 23.5	+0.7
	2.5nm,0.6s,mb4.3,baz=101,slow=7.6,SNR=5.9						
NB2	NORSAR Subarra	79.78	331	P	P	03 24 29.6	-0.1
	4.3nm,1.0s,mb4.3,baz=91,slow=4.8						
NOA	NORSAR Array B	79.78	331	P	P	03 24 30.1	+0.5
	1.7nm,0.8s,mb4.0,baz=94,slow=5.5,SNR=4.1						
TXAR	Lajitas Array	139.55	24	PKP	PKPdf	03 31 52.6	+0.9
	0.2nm,0.5s,baz=124,slow=0.6,SNR=5.5						
PLCA	Paso Flores	144.24	200	PKP	PKPdf	03 31 59.5	-0.1
	3.5nm,1.0s,baz=216,slow=3.7,SNR=4.1						

IDC 28 03:14:17.4±10.0, 7.93N×93.72E, mb3.9/6, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, Error ellipse: s-maj=250.4km s-min=50.8km az=146.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	41.20	13	P	P	03 22 04.1	-1.3
	0.9nm,0.9s,baz=186,slow=13,SNR=2.5						
ZAL	Zalesovo	46.44	353	P	P	03 22 45.6	-2.0
	1.1nm,0.5s,baz=288,slow=9.5,SNR=4.3						
BRTR	Keskin Array B	62.07	311	P	P	03 24 40.5	-1.9
	0.5nm,0.5s,baz=116,slow=7.5,SNR=4.0						
FINES	FINESS Array B	72.46	332	P	P	03 25 44.9	-2.6
	2.1nm,0.9s,baz=162,slow=13,SNR=3.9						
GERES	GERESS Array B	77.50	318	P	P	03 26 15.8	-0.7
	0.7nm,0.6s,baz=90,slow=5.3,SNR=5.4						
HFS	Hagfors	78.19	330	P	P	03 26 18.1	-2.0
	1.4nm,0.6s,baz=90,slow=5.9,SNR=6.2						

*IDC **28** 03:15:26.3±1.0, 9.39N×125.95E, mb4.0/7, mb1 4.2/7, mb1mx3.9/19, mbtmp4.0/7, Error ellipse: s-maj=91.9km s-min=21.5km az=69.0*
*MAN **28** 03:15:34.1, 9.40N×126.28E, h23km, mb4.5, ML3.4, MS3.3*

ISC 28 03:15:33.7±0.8, 9.36N±0.05×126.32E±0.08, h65km±8km, n21, σ0§96/28, mb4.0/7, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.80	241	eP	P	03 15 48.7	-0.9
BUTP				eS	S	03 16 01.2	-0.1
SCPH	Surigao	0.92	297⇓	eP	P	03 15 49.7	-1.5
SCPH				eS	S	03 15 59.4	-4.8
BIPH	Bislig	1.17	178⇑	iP	P	03 15 54.5	0.0
BIPH				iS	S	03 16 08.7	-1.3
MSLP	Maasin	1.64	298	eP	P	03 16 01.2	+0.3
BUKP	Musuan	1.93	220	eP	P	03 16 06.0	+1.0
BUKP				eS	S	03 16 34.0	+5.9
PLP	Palo	2.23	324	eP	P	03 16 09.4	+0.3
PLP				eS	S	03 16 36.5	+1.0
BESP	Borongan	2.39	339	eP	P	03 16 11.4	0.0
MATI	Mati	2.40	182	eP	P	03 16 13.0	+1.4
TBP	Tagbilaran	2.45	278	eP	P	03 16 11.9	-0.4
TBP				iS	S	03 16 42.1	+1.0
LLP	Lapu-Lapu	2.51	292⇑	iP	P	03 16 13.6	+0.4
LLP				eS	S	03 16 40.0	-2.7
KCP	Kidapawan	2.64	208⇑	eP	P	03 16 16.6	+1.6
DCPH	Dipolog City	3.04	255	iP	P	03 16 20.7	+0.1
GUIM	Jordan	3.89	289	eP	P	03 16 32.5	0.0
RCP	Roxas	4.14	302⇑	eP	P	03 16 36.6	+0.6
ASAR	Alice Springs	33.65	167	P	P	03 22 10.1	-0.5
	0.4nm,0.4s,mb3.6,baz=344,slow=6.6,SNR=5.8						
STKA	Stephens Creek	43.53	161	P	P	03 23 32.7	-0.2
	0.9nm,0.4s,mb3.9,baz=89,slow=6.8,SNR=4.6						
ZAL	Zalesovo	55.45	332	P	P	03 24 59.5	-4.4
	0.9nm,0.5s,mb4.1,baz=292,slow=10.0,SNR=3.6						
BVAR	Borovoye Array	62.44	326	P	P	03 25 50.4	-1.9
	1.2nm,0.9s,mb3.9,baz=121,slow=8.4,SNR=3.6						
ARCES	ARCESS Array B	85.06	340	P	P	03 28 03.2	+0.1
	1.0nm,0.3s,mb4.2,baz=79,slow=6.4,SNR=15						
FINES	FINESS Array B	86.71	332	P	P	03 28 10.9	-0.5
	3.2nm,0.9s,mb4.2,baz=90,slow=5.7,SNR=4.7						
YKA	Yellowknife Ar	94.56	24	P	P	03 28 49.2	+1.2
	0.4nm,0.8s,mb3.9,baz=300,slow=4.9,SNR=6.5						

IDC 28 03:16:52.0±5.5, 11.52N×92.43E, mb4.0/5, mb1 4.1/5, mb1mx3.7/18, mbtmp4.0/5, Error ellipse: s-maj=191.6km s-min=97.7km az=18.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	Keskin Array B	58.80	310	P	P	03 26 53.0	-1.6
	0.4nm,0.6s,baz=120,slow=4.8,SNR=3.4						
FINES	FINESS Array B	68.72	332	P	P	03 27 58.2	-1.2
	2.4nm,0.8s,baz=121,slow=8.1,SNR=3.4						
GERES	GERESS Array B	74.01	318	P	P	03 28 29.3	-2.1
	0.7nm,0.5s,baz=90,slow=4.0,SNR=5.2						
HFS	Hagfors	74.48	329	P	P	03 28 31.8	-2.0
	1.2nm,0.6s,baz=106,slow=11,SNR=5.0						
NOA	NORSAR Array B	75.75	330	P	P	03 28 38.8	-2.3
	1.0nm,0.7s,baz=97,slow=5.1,SNR=2.9						
TXAR	Lajitas Array	136.52	21	PKP	PKPdf	03 36 17.2	-1.3
	0.2nm,0.6s,baz=180,slow=0.9,SNR=3.4						

*IDC **28** 03:23:52.3±1.0, 8.29N×93.81E, mb4.1/11, mb1 4.3/12, mb1mx4.1/19, mbtmp4.1/12, ML4.8/1, Error ellipse: s-maj=33.2km s-min=25.1km az=41.0*
*NEIC **28** 03:23:56.9±0.8, 8.15N×93.67E, h30km, mb4.4/4, Error ellipse: s-maj=19.8km s-min=17.2km az=112.0*

ISC 28 03:23:51.3±0.8, 8.0N±0.1×93.8E±0.1, h10km, n32, σ1§17/26, mb4.3/21, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.55	25	Pn	P	03 26 40.3	+0.9
	2.1nm,0.3s,baz=210,slow=14,SNR=23						
JIRN	Jiri	20.84	341	eP	P	03 28 38.2	+2.4
	14nm,0.5s						
PKI	Pulchoki	21.03	339	eP	P	03 28 39.2	+1.5
	40nm,1.0s,mb4.7						
DMN	Daman	21.17	338	eP	P	03 28 40.2	+1.1
	16nm,0.3s,mb4.8						
GKN	Gorkha	21.70	338	eP	P	03 28 45.0	+0.5
	19nm,0.5s,mb4.8						
LSA	Lhasa	21.74	354	eP	P	03 28 44.7	-0.2
	18nm,0.6s,mb4.7						
KOLN	Koldanda	21.90	335	eP	P	03 28 47.1	+0.6
	13nm,0.5s,mb4.6						
SONM	Songino Array	41.13	13	P	P	03 31 35.3	-1.8
	0.7nm,0.5s,mb3.6,baz=202,slow=7.8,SNR=3.2						
KURK	Kurchatov	44.41	346	eP	P	03 32 03.1	-0.8
	8.3nm,1.1s,mb4.4						
ZAL	Zalesovo	46.39	353	P	P	03 32 18.9	-0.6
	3.9nm,0.6s,mb4.5,baz=309,slow=8.1,SNR=14						
ZAL	Zalesovo	46.39	353	P	P	03 32 18.9	-0.6
WRA	Warramunga Arr	48.62	125	P	P	03 32 38.6	+1.1
	1.0nm,0.6s,mb4.0,baz=306,slow=8.6,SNR=4.2						
CHKZ	Chkalovo	49.25	342	eP	P	03 32 41.3	-0.7
	2.7nm,0.8s,mb4.3						
KMBO	Kilima Mbogo	57.08	263	P	P	03 33 41.4	+0.8
	1.2nm,0.8s,mb4.0,baz=54,slow=17,SNR=3.4						
BRTR	Keskin Array B	62.08	311	P	P	03 34 12.4	-2.3
	0.4nm,0.5s,mb3.8,baz=123,slow=6.3,SNR=3.8						
IDI	Anoyia	68.21	305	P	P	03 34 54.3	-0.1
	8.8nm,1.1s,mb4.7,baz=342,slow=6.4,SNR=2.3						
MLR	Muntele Rosu	68.84	316	P	P	03 34 58.6	+0.5
	21nm,1.5s,mb4.8,baz=169,slow=16,SNR=2.4						
JOF	Joensuu	70.59	335	ep	P	03 35 08.3	-0.2
	0.8nm,0.4s,mb4.0						
JOF	Joensuu	70.59	335	ep	pP	03 35 16.9	+5.3
	1.4nm,0.4s						
FINES	FINESS Array B	72.44	332	P	P	03 35 18.9	-0.8
	2.6nm,0.9s,mb4.1,baz=90,slow=7.6,SNR=6.8						
KAF	Kangasniemi	72.53	333	ep	P	03 35 19.2	-0.9
	0.6nm,0.4s,mb3.9						
KAF	Kangasniemi	72.53	333	ep	pP	03 35 28.4	+5.2
	1.1nm,0.4s						
ARCES	ARCESS Array B	75.04	340	P	P	03 35 33.3	-1.2
	4.8nm,1.1s,mb4.3,baz=108,slow=5.7,SNR=2.8						
GERES	GERESS Array B	77.50	318	P	P	03 35 49.2	+0.4
	1.9nm,1.0s,mb4.0,baz=90,slow=4.0,SNR=7.2						
NB2	NORSAR Subarra	79.45	331	P	P	03 35 57.3	-2.0
	1.4nm,0.6s,mb4.1,baz=92,slow=5.6						
NOA	NORSAR Array B	79.45	331	P	P	03 35 57.4	-1.8
	0.8nm,0.7s,mb3.8,baz=227,slow=25,SNR=2.7						
NOA	NORSAR Array B	79.45	331	P	P	03 35 57.4	-1.8
ESDC	Sonseca Array	90.87	310	P	P	03 36 59.2	+2.5
	0.3nm,0.5s,mb3.9,baz=46,slow=4.4,SNR=3.9						
PDAR	Pinedale Array	125.19	21	PKP	PKPdf	03 42 57.2	+1.6
	0.5nm,0.9s,baz=225,slow=2.1,SNR=3.5						
PDAR	Pinedale Array	125.19	21	PKP	PKPdf	03 42 57.2	+1.6
TXAR	Lajitas Array	139.26	24	PKP	PKPdf	03 43 22.0	-0.4
	0.1nm,0.5s,baz=180,slow=0.9,SNR=3.2						
TXAR	Lajitas Array	139.26	24	PKP	PKPdf	03 43 22.0	-0.4

*BJI **28** 03:26:21.4, 7.26N×93.69E, h30km, mB5.1, mb4.7, Ms5.2, Msz4.8*
*IDC **28** 03:26:23.3±0.6, 7.93N×94.12E, mb4.4/19, mb1 4.5/20, mb1mx4.5/23, mbtmp4.4/20, ML4.3/1, MS4.6/1, Ms1 4.6/1, ms1mx3.1/18, Error ellipse: s-maj=27.0km s-min=14.5km az=45.0*
*NEIC **28** 03:26:28.0±0.3, 7.85N×94.01E, h30km, mb4.8/30, Error ellipse: s-maj=9.0km s-min=7.4km az=52.0*

ISC 28 03:26:30.4±1.8, 7.87N±0.06×94.10E±0.05, h67km±15km, n107, σ1§18/97, mb4.6/50, 4C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.53	24	Pn	P	03 29 14.4	0.0
	0.6nm,0.3s,baz=211,slow=15,SNR=34						
VIS	Vishakhapatnam	14.35	314	eP	P	03 29 45.9	-5.8
VIS				e		03 29 54.3	
	comp=Z,27nm,1.5s						
VIS				e	S	03 32 14.8	-15
CAL	Calcutta	15.61	340	eP	P	03 30 09.6	+1.8
CAL				e	S	03 33 14.2	+15
IMP	Imphal	16.82	359	e	P	03 30 24.5	+1.5
IMP				e		03 30 24.5	
HYB	Hyderabad	17.88	304	eP	P	03 30 38.0	+1.7
HYB				eS	S	03 33 37.0	-13
HYB	Hyderabad	17.88	304	iP	P	03 30 38.0	+1.7
HYB				eS	S	03 33 55.0	+4.7
BLSP	Bilaspur	18.27	322	eP	P	03 30 40.0	-1.0
BLSP				e		03 30 42.2	
QIZ	Qiongzhong	18.89	52	P	P	03 30 50.3	+2.1
QIZ	Qiongzhong	18.89	52	P	P	03 30 47.0	-1.2
	comp=Z,24nm,1.0s						
KMI	Kunming	19.04	25	⇑P	P	03 30 52.7	+2.8
	comp=Z,35nm,1.2s						
KMI				pP		03 30 59.2	
KMI				sP		03 31 02.9	
KMI				PP	PP	03 31 11.9	+4.2
KMI				S	S	03 34 29.8	+14
KMI				sS		03 34 42.2	
KMI				SS	SS	03 35 01.2	+17
MNGI	Mangalore	19.61	287	iP	P	03 30 57.7	+1.6
JIRN	Jiri	21.06	340	eP	P	03 31 10.0	-1.1
	comp=Z,106nm,0.8s,mb5.2						
PKI	Pulchoki	21.26	338	eP	P	03 31 11.3	-1.7
	comp=Z,189nm,1.2s,mb5.3						
DMN	Daman	21.40	338	eP	P	03 31 13.5	-1.0
	comp=Z,98nm,0.7s,mb5.2						
KKN	Kakani	21.50	338	eP	P	03 31 13.8	-1.7
	comp=Z,91nm,0.9s,mb5.1						
KAD	Karad	21.56	298	eP	P	03 31 16.5	+0.4
KAD				e		03 31 21.3	
	comp=Z,15nm,0.8s						
LSA	Lhasa	21.90	353	P	P	03 31 22.0	+2.6
LSA				S	S	03 35 19.8	+7.9
LSA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.3						
LSA				LR	LR		
	comp=N,5μm,23.9s						
LSA				LR	LR		
	comp=E,22μm,23.6s						
LSA				LR	LR		
	comp=Z,41μm,23.9s						
LSA	Lhasa	21.90	353	eP	P	03 31 18.1	-1.3
	comp=Z,56nm,0.7s,mb5.0						
GKN	Gorkha	21.94	337	eP	P	03 31 18.8	-1.0
	comp=Z,88nm,0.6s,mb5.3						
BHPL	Bhopal	22.14	316	eP	P	03 31 21.9	+0.1
BHPL				e		03 31 23.5	
BHPL				e		03 31 26.8	
	comp=Z,38nm,1.8s						
KOLN	Koldanda	22.15	335	eP	P	03 31 20.8	-1.1
	comp=Z,179nm,1.2s,mb5.3						
NDI	New Delhi	26.12	325	eP	P	03 32 02.0	+1.9
NDI				e		03 36 57.0	
ENH	Enshi	26.55	31	eP	P	03 32 04.1	+0.1
	comp=Z,24nm,1.1s,mb4.6						
DDI	Dehra Dun	26.93	328	eP	P	03 32 06.5	-1.0
LZH	Lanzhou	29.47	16	⇑P	P	03 32 31.0	+0.7
LZH				PP	PP	03 33 27.3	-0.8
LZH				eS	S	03 37 22.0	+3.7
LZH				AMB	AMB		
	comp=Z,58nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,221nm,4.4s						
LZH				LR	LR		
	comp=E,2μm,14.8s						
LZH				LR	LR		
	comp=Z,2μm,15.8s						
LZH	Lanzhou	29.47	16	⇑P	P	03 32 31.0	+0.7
	comp=Z,58nm,1.5s,mb5.0						
LZH				pP	pP	03 32 39.8	-6.7
LZH				sP	sP	03 32 44.0	-11
LZH				PP	PP	03 33 27.3	-0.8
LZH				eS	S	03 37 22.0	+3.7
LZH				sS		03 37 37.0	
LZH				SS	SS	03 38 56.0	+0.8
LZH				LR	LR		
	comp=Z,2μm,15.8s						
NJ2	Nanjing	33.30	40	eP	P	03 33 05.8	+1.9
NJ2				AP	pP	03 33 15.8	-4.7
NJ2				AMB	AMB		
	comp=Z,1μm,6.2s						
NJ2				LR	LR		
	comp=N,2μm,18.8s						
NJ2				LR	LR		
	comp=E,1μm,11.5s						
NJ2				LR	LR		
	comp=Z,2μm,14.2s						
WMQ	Urumqi	36.25	352	eP	P	03 33 30.0	+1.0
WMQ				PP	PP	03 34 52.8	-0.7
WMQ				PCP	PcP	03 35 55.5	+2.3
JOW	Kunigami	37.49	56	LR	LR	03 50 46.3	
	comp=Z,868nm,19.7s,baz=234,slow=39						
AAK	Ala-Archa	38.69	337	eP	P	03 33 49.2	-0.2
	comp=Z,26nm,1.4s,mb4.9						
SONM	Songino Array	41.18	13	P	P	03 34 09.7	-0.1
	comp=Z,5.5nm,0.7s,mb4.5,baz=198,slow=7.8,SNR=15						
SONM				PcP	PcP	03 36 09.7	+1.1
	comp=Z,1.0nm,0.6s,baz=198,slow=4.6,SNR=3.4						
ULN	Ulaanbaatar	41.35	13	eP	P	03 34 10.6	-0.6
	comp=Z,4.0nm,0.7s,mb4.4						
TLY	Talaya	44.38	8	P	P	03 34 35.6	-0.3
	comp=Z,2.8nm,0.7s,mb4.1						
KURK	Kurchatov	44.61	346	eP	P	03 34 37.0	-0.8
	comp=Z,42nm,1.3s,mb5.0						
NWAO	Narrogin (SRO)	46.16	153	eP	P	03 34 52.0	+1.6
HIA	Hailar	46.55	23	eP	P	03 34 53.8	+0.6
	comp=Z,12nm,0.9s,mb4.6						
ZAL	Zalesovo	46.55	352	P	P	03 34 52.7	-0.4
	comp=Z,14nm,0.9s,mb4.7,baz=298,slow=7.5,SNR=34						
MDJ	Mudanjiang	47.84	34	P	P	03 35 00.8	-2.5
MDJ				PCP	PcP	03 36 30.0	-1.5
MDJ				PP	PP	03 36 52.0	-3.1
MDJ				AMB	AMB		
	comp=Z,8.0nm,2.2s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,53nm,5.1s						
MDJ				LR	LR		
	comp=N,453nm,13.3s						
MDJ				LR	LR		
	comp=E,643nm,14.4s						
MDJ				LR	LR		
	comp=Z,461nm,23.9s						
WRA	Warramunga Arr	48.29	126	P	P	03 35 05.3	-1.8
	comp=Z,1.5nm,0.6s,mb4.0,baz=306,slow=9.0,SNR=4.5						
WRAB	Tennant Creek	48.29	125	eP	P	03 35 06.0	-1.2
	comp=Z,17nm,1.0s,mb4.8						
BVAR	Borovoye Array	48.98	341	P	P	03 35 10.8	-1.2
	comp=Z,3.0nm,0.8s,mb4.3,baz=135,slow=4.2,SNR=8.7						
RAYN	Ar Rayn	49.05	294	P	P	03 35 14.9	+1.9
	comp=Z,106nm,0.7s,SNR=13						
MAT	Matsushiro	49.20	48	PCP	PcP	03 36 37.0	+0.4
CHKZ	Chkalovo	49.47	342	eP	P	03 35 14.9	-0.9
	comp=Z,19nm,1.0s,mb5.0						
ASAR	Alice Springs	49.94	130	P	P	03 35 18.6	-1.3
	comp=Z,2.2nm,0.8s,mb4.1,baz=310,slow=7.0,SNR=8.1						
ASAR				PcP	PcP	03 36 39.6	+0.2
	comp=Z,1.7nm,0.8s,baz=308,slow=4.2,SNR=4.0						
GNI	Garni	54.41	314	P	P	03 35 53.2	+0.2
	comp=Z,3.2nm,0.7s,mb4.5,baz=139,slow=9.3,SNR=3.6						
GNI	Garni	54.41	314	eP	P	03 35 51.9	-1.2
	comp=Z,36nm,1.6s,mb5.2						
PMG	Port Moresby	55.57	107	eP	P	03 36 01.4	-0.3
	comp=Z,19nm,0.7s,mb5.2						
KIV	Kislovodsk	57.30	318	eP	P	03 36 12.4	-1.3
	comp=Z,10nm,1.0s,mb4.8						
KMBO	Kilima Mbogo	57.38	264	P	P	03 36 16.2	+1.5
	comp=Z,3.2nm,0.8s,mb4.4,baz=53,slow=11,SNR=8.5						
KMBO	Kilima Mbogo	57.38	264	eP	P	03 36 16.7	+2.0
	comp=Z,8.1nm,0.9s,mb4.8						
MALT	Malatya	58.44	310	eP	P	03 36 19.7	-2.0
	comp=Z,3.8nm,1.1s,mb4.3						
EIL	Elat	59.39	300	P	P	03 36 28.4	0.0
	comp=Z,3.6nm,0.8s,mb4.5,baz=67,slow=7.7,SNR=3.9						
EIL	Elat	59.39	300	eP	P	03 36 28.1	-0.4
	comp=Z,4.5nm,0.8s,mb4.5						
YAK	Yakutsk	60.02	18	eP	P	03 36 31.2	-1.1
	comp=Z,29nm,0.5s,mb5.6						
STKA	Stephens Creek	60.13	134	P

ILAR	**Eielson Array**	**94.77**	**22**	P	**P**		**03 39 45.9**	**+0.5**
	comp=Z,0.6nm,0.7s,mb4.1,baz=296,slow=4.5,SNR=6.5							
WUWY	**Wally Ulrich**	**124.09**	**22**	*e*PKPdf	PKPdf		03 45 25.2	+3.6
NVAR	**Mina Array Bea**	**124.95**	**31**	PKP	PKPdf		03 45 27.4	+4.0
	comp=Z,1.5nm,0.8s,baz=296,slow=1.9,SNR=6.1							
NVAR	**Mina Array Bea**	**124.95**	**31**	PKP	PKPdf		03 45 27.4	+4.0
PDAR	**Pinedale Array**	**125.19**	**21**	PKP	PKPdf		03 45 26.2	+2.4
	comp=Z,2.2nm,1.0s,baz=9.6,slow=1.7,SNR=10.0							
HWUT	**Hardware Ranch**	**125.43**	**23**	*e*PKPdf	PKPdf		03 45 27.1	+2.9
MSU	**Marysvale**	**127.78**	**26**	*e*PKPdf	PKPdf		03 45 33.1	+4.2
PV10	**Paradox Valley**	**129.20**	**23**	*e*PKPdf	PKPdf		03 45 35.1	+3.5
ANMO	**Albuquerque**	**133.19**	**23**	PKP	PKPdf		03 45 43.2	+3.9
	comp=Z,0.8nm,0.8s,baz=344,slow=2.2,SNR=3.8							
ANMO	**Albuquerque**	**133.19**	**23**	PKP	PKPdf		03 45 43.2	+3.9
TXAR	**Lajitas Array**	**139.25**	**24**	PKhKP			03 45 46.0	
	comp=Z,0.3nm,0.9s,baz=183,slow=1.2,SNR=3.8							
TXAR				PKP	PKPdf		03 45 52.8	+2.2
	comp=Z,0.5nm,0.7s,baz=278,slow=1.4,SNR=6.9							
TXAR	**Lajitas Array**	**139.25**	**24**	PKP	PKPdf		03 45 52.8	+2.2
JCT	**Junction City**	**139.61**	**19**	*e*PKPdf	PKPdf		03 45 53.8	+2.7
PLCA	**Paso Flores**	**144.53 200**		PKP	PKPdf		03 46 00.9	+1.4
	comp=Z,5.2nm,0.9s,baz=176,slow=7.2,SNR=8.7							
PLCA	**Paso Flores**	**144.53 200**		*e*PKPdf	PKPdf		03 46 00.9	+1.5

IDC 28 03:28:17.9±6.0, 7.56S×130.82E, mb3.7/1, mb1 4.1/3, mb1mx3.9/11, mbtmp4.0/3, ML4.0/2, Error ellipse: s-maj=101.7km s-min=68.6km az=91.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.78**	**165**	Pn	P	03 31 19.9	-3.8
	1.2nm,0.3s,baz=347,slow=14,SNR=44						
WRA				Sn	S	03 33 45.9	-2.0
	1.5nm,0.3s,baz=348,slow=20,SNR=15						
ASAR	**Alice Springs**	**16.29**	**170**	Pn	P	03 32 08.4	-1.3
	1.0nm,0.3s,baz=347,slow=8.6,SNR=38						
ASAR				Sn	S	03 35 11.6	+0.4
	0.5nm,0.3s,baz=348,slow=25,SNR=5.6						
STKA	**Stephens Creek**	**26.20**	**159**	P	P	03 33 54.5	-1.6
	1.0nm,0.7s,baz=329,slow=12,SNR=2.6						

*IDC **28** 03:29:24.4±0.9, 8.04N×94.09E, mb4.3/12, mb1 4.5/13, mb1mx4.4/20, mbtmp4.3/13, ML4.6/1, Error ellipse: s-maj=32.4km s-min=23.2km az=52.0*
*BJI **28** 03:29:26.6, 7.61N×93.85E, h50km, mB5.2, mb4.7, Ms5.0, Msz4.7*
*NEIC **28** 03:29:28.8±0.5, 7.93N×93.97E, h30km, mb4.5/12, Error ellipse: s-maj=13.3km s-min=12.1km az=85.0*

ISC 28 03:29:23.9±0.8, 7.9N±0.1×94.0E±0.1, h10km, n39, σ1§03/34, mb4.5/24, MS4.6/2, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.50**	**24**	Pn	**P**	**03 32 12.7**	**+1.2**
	1.1nm,0.3s,baz=270,slow=5.1,SNR=5.3						
HYB	**Hyderabad**	**17.79**	**303**	*i* P	**P**	**03 33 37.5**	**+4.1**
KMI	**Kunming**	**19.01**	**25**	⇑P	**P**	**03 33 52.5**	**+4.0**
	23nm,1.2s						
LSA	**Lhasa**	**21.83**	**353**	*e*P	**P**	**03 34 19.2**	**+0.8**
	17nm,0.6s,mb4.6						
PTH	**Pithoragarh**	**25.12**	**331**	*e*	Px	03 31 05.0	
PTH				*e*		03 34 52.0	
PTH				*e*		03 36 47.0	
ENH	**Enshi**	**26.53**	**31**	*e*P	**P**	**03 35 01.7**	**-2.1**
	22nm,1.1s,mb4.6						
WMQ	**Urumqi**	**36.18**	**352**	*e*P	**P**	**03 36 28.8**	**+0.2**
WMQ				AP	pP	03 36 38.5	+6.9
WMQ				XP	sP	03 36 42.5	+10
WMQ				PP	PP	03 37 51.0	-0.2
WMQ				AMB	AMB		
	comp=Z,29nm,0.9s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,211nm,5.2s						
WMQ				LR	LR		
	comp=N,523nm,16.1s,MS4.5						
WMQ				LR	LR		
	comp=E,501nm,15.8s,MS4.5						
WMQ				LR	LR		
	comp=Z,801nm,16.3s,MS4.6						
BJI	**Beijing**	**37.61**	**28**	P	**P**	**03 36 42.3**	**+1.6**
	comp=Z,9.0nm,1.4s,mb4.3						
AAK	**Ala-Archa**	**38.61**	**337**	*e*P	**P**	**03 36 49.0**	**-0.1**
	comp=Z,11nm,1.1s,mb4.5						
SONM	**Songino Array**	**41.13**	**13**	P	**P**	**03 37 10.4**	**+0.6**
	comp=Z,3.5nm,1.0s,mb3.9,baz=198,slow=9.1,SNR=3.5						
KURK	**Kurchatov**	**44.53**	**346**	*e*P	**P**	**03 37 36.8**	**-0.8**
	comp=Z,19nm,1.1s,mb4.8						
ZAL	**Zalesovo**	**46.48**	**352**	P	**P**	**03 37 53.5**	**+0.5**
	comp=Z,7.9nm,1.1s,mb4.6,baz=292,slow=9.6,SNR=6.8						
MDJ	**Mudanjiang**	**47.82**	**34**	P	**P**	**03 38 00.8**	**-2.9**
MDJ				PCP	PcP	03 39 30.3	-2.6
MDJ				PP	PP	03 39 51.8	-3.2
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.7s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,19nm,3.2s						
MDJ				LR	LR		
	comp=N,453nm,16.3s,MS4.8						
MDJ				LR	LR		
	comp=E,643nm,16.9s,MS4.8						
MDJ				LR	LR		
	comp=Z,504nm,18.6s,MS4.5						
BVAR	**Borovoye Array**	**48.90**	**341**	P	**P**	**03 38 11.2**	**-0.7**
	comp=Z,3.6nm,0.9s,mb4.4,baz=143,slow=7.4,SNR=4.9						
CHKZ	**Chkalovo**	**49.39**	**342**	*e*P	**P**	**03 38 14.5**	**-1.1**
	comp=Z,12nm,0.9s,mb4.9						
ASAR	**Alice Springs**	**50.03**	**130**	P	**P**	**03 38 20.8**	**-0.3**
	comp=Z,1.2nm,0.8s,mb4.0,baz=304,slow=7.0,SNR=3.8						
KMBO	**Kilima Mbogo**	**57.32**	**264**	P	**P**	**03 39 17.4**	**+2.4**
	comp=Z,4.0nm,0.9s,mb4.5,baz=65,slow=7.0,SNR=6.2						
KMBO	**Kilima Mbogo**	**57.32**	**264**	*e*P	**P**	**03 39 18.0**	**+3.0**
MALT	**Malatya**	**58.34**	**310**	*e*P	**P**	**03 39 21.3**	**-0.5**
	comp=Z,2.3nm,1.0s,mb4.2						
BRTR	**Keskin Array B**	**62.31**	**311**	P	**P**	**03 39 47.5**	**-1.4**
	comp=Z,1.8nm,0.7s,mb4.3,baz=125,slow=7.4,SNR=5.8						
AKASG	**Malin Array Be**	**68.04**	**322**	P	**P**	**03 40 23.5**	**-2.3**
	comp=Z,1.8nm,0.7s,mb4.2,baz=86,slow=5.2,SNR=6.5						
MLR	**Muntele Rosu**	**69.05**	**316**	P	**P**	**03 40 32.4**	**+0.3**
	comp=Z,6.1nm,0.9s,mb4.5,baz=153,slow=4.4,SNR=5.8						
FINES	**FINESS Array B**	**72.61**	**332**	P	**P**	**03 40 52.9**	**-0.4**
	comp=Z,12nm,1.1s,mb4.8,baz=101,slow=9.7,SNR=6.7						
OKC	**Ostrava-Krasne**	**74.88**	**319**	*e*P	**P**	**03 41 07.6**	**+0.9**
ARCES	**ARCESS Array B**	**75.18**	**340**	P	**P**	**03 41 07.8**	**-0.2**
	comp=Z,3.7nm,0.8s,mb4.4,baz=73,slow=16,SNR=4.2						
MORC	**Moravsky Berou**	**75.26**	**319**	*e*P	**P**	**03 41 08.7**	**-0.2**
	comp=Z,3.8nm,0.9s,mb4.3						
DPC	**Dobruska-Polom**	**76.09**	**320**	*e*P	**P**	**03 41 13.9**	**+0.3**
UPC	**Upice**	**76.30**	**320**	*e*P	**P**	**03 41 15.6**	**+0.8**
BRG	**Berggiesshubel**	**77.64**	**320**	P	**P**	**03 41 22.6**	**+0.4**
	comp=Z,4.2nm,1.0s,mb4.3						
GERES	**GERESS Array B**	**77.71**	**318**	P	**P**	**03 41 23.2**	**+0.6**
	comp=Z,2.7nm,0.7s,mb4.3,baz=90,slow=5.3,SNR=12						
KHC	**Kasperske Hory**	**77.80**	**318**	*e*P	**P**	**03 41 22.5**	**-0.6**
NB2	**NORSAR Subarra**	**79.63**	**331**	P	**P**	**03 41 32.1**	**-0.8**
	comp=Z,1.4nm,0.7s,mb4.0,baz=90,slow=5.6						
NOA	**NORSAR Array B**	**79.63**	**331**	P	**P**	**03 41 32.8**	**-0.1**
	comp=Z,3.1nm,0.8s,mb4.3,baz=92,slow=5.7,SNR=5.2						
LPG	**La Plagne**	**82.50**	**315**	*e*P	**P**	**03 41 49.2**	**+0.9**
	comp=Z,16nm,0.9s,mb4.7						
IMA	**Indian Mountai**	**91.61**	**22**	*e*P	**P**	**03 42 32.9**	**+0.8**
NVAR	**Mina Array Bea**	**124.93**	**31**	PKP	PKPdf	03 48 27.1	-0.9
	comp=Z,0.8nm,0.8s,baz=319,slow=2.0,SNR=3.9						
PDAR	**Pinedale Array**	**125.16**	**21**	PKP	PKPdf	03 48 26.6	-1.6
	comp=Z,1.0nm,0.8s,baz=45,slow=2.1,SNR=4.6						
TXAR	**Lajitas Array**	**139.22**	**24**	PKP	PKPdf	03 48 55.3	+0.2
	comp=Z,0.5nm,0.9s,slow=3.8,SNR=3.9						
PLCA	**Paso Flores**	**144.56 200**		PKP	PKPdf	03 49 03.1	-1.0
	comp=Z,2.8nm,0.8s,baz=106,slow=3.0,SNR=3.5						

*IDC **28** 03:31:21.3±0.4, 8.05N×94.17E, mb4.9/24, mb1 5.0/25, mb1mx5.0/27, mbtmp4.9/25, ML4.5/1, MS4.6/6, Ms1 4.6/6, ms1mx4.3/14, Error ellipse: s-maj=21.8km s-min=11.1km az=47.0, putative timing error at LPAZ*
*BJI **28** 03:31:22.6, 7.58N×93.94E, h42km, mB5.4, mb4.9, Ms5.3, Msz5.0*
*MOS **28** 03:31:24.3±0.9, 7.96N×94.07E, h33km, mb5.5/76, MS4.9/21, Error ellipse: s-maj=8.4km s-min=4.3km az=121.2*
*NEIC **28** 03:31:24.0±2.9, 7.96N×94.04E, h18km±17km, mb5.3/87, MS4.7/6, Error ellipse: s-maj=6.4km s-min=4.9km az=211.0*
*HRVD **28** 03:31:24.0±0.2, 8.06N×94.20E, h12km, MW5.4/51, Centroid moment Tensor Solution. LP body waves: s40,c62;Mantle waves: s51,c99; Half duration: 1±2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.89±.03; $M_{\theta\theta}$0.15±.03; $M_{\phi\phi}$0.73±.03; $M_{r\theta}$0.63±.09; $M_{\theta\phi}$0.71±.03; $M_{r\phi}$-0.46±.08; Best double couple: $M_0$1.326×10^{17} NP1: ϕ_s244°, δ54°, λ-45°. NP2:ϕ_s4°, δ56°, λ-134°. Principal axes: T 1.217, Plg1°, Azm123°; N .217, Plg35°, Azm33°; P -1.435, Plg55°, Azm215°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 28 03:31:23.9±0.2, 7.96N±0.04×94.09E±0.03, h30km, h30km±2.0km: pP-P, n398, σ1§03/392, mb5.2/120, MS4.9/33, 35C-19D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.91**	**340**	*e*P	**Pn**	**03 32 22.3**	**-1.1**
PBA				*e*S	**Sn**	**03 33 04.8**	**-4.1**
SNG	**Songkhla**	**6.52**	**96**	P	**Pn**	**03 32 57.0**	**-3.4**
	530nm,1.0s						
NNT	**Nongplab**	**7.21**	**50**	P	**Pn**	**03 33 06.5**	**-3.6**
CMAR	**Chiang Mai Arr**	**11.45**	**24**	P	**P**	**03 34 08.7**	**0.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,2μm,21.3s						
CMAR	**Chiang Mai Arr**	**11.45**	**24**	Pn	**P**	**03 34 08.7**	**0.0**
	comp=Z,1.0nm,0.3s,baz=212,slow=14,SNR=10.0						
CMAR				LR	LR	03 38 45.2	
	comp=Z,2μm,21.3s,baz=220,slow=39						
CHG	**Chiang Mai**	**11.78**	**23**	⇓P	**P**	**03 34 19.9**	**+6.9**
	comp=Z,74nm,0.9s						
KKTK	**Khon Kaen**	**11.92**	**45**	P	**P**	**03 34 15.0**	**0.0**
	comp=Z,370nm,0.8s						
NANT	**Nan**	**12.54**	**30**	P	**P**	**03 34 23.5**	**+0.1**
CHRT	**Chiangrai**	**13.06**	**24**	⇑P	**P**	**03 34 26.5**	**-3.7**
	comp=Z,334nm,1.3s						
PALK	**Pallekele**	**13.29**	**268**	*e*Pn	**P**	**03 34 31.7**	**-1.5**
	comp=Z,49nm,1.3s						
PALK				*e*pPn		03 34 39.6	
PALK				*e*Sn	**S**	**03 36 53.2**	**-7.6**
VIS	**Vishakhapatnam**	**14.28**	**314**	*e*P	**P**	**03 34 44.9**	**-1.5**
VIS				*e*		03 34 58.5	
	comp=Z,205nm,1.1s						
VIS				*e*	**S**	**03 37 16.8**	**-7.8**
KOD	**Kodaikanal**	**16.57**	**279**	*e*P	**P**	**03 35 16.8**	**+0.8**
KOD				*e*		03 35 28.9	
	comp=Z,87nm,1.1s						
SHL	**Shillong**	**17.64**	**353**	*e*P	**P**	**03 35 28.2**	**-1.0**
HYB	**Hyderabad**	**17.82**	**303**	*e*P	**P**	**03 35 32.0**	**+0.4**
HYB				pmax	pmax		
	comp=Z,85nm,1.0s						
HYB	**Hyderabad**	**17.82**	**303**	*e*P	**P**	**03 35 32.0**	**+0.4**
	comp=Z,85nm,1.0s						
HYB				*e*		03 36 20.0	
HYB				*e*S	x	03 38 22.0	
HYB	**Hyderabad**	**17.82**	**303**	*i* P	**P**	**03 35 32.0**	**+0.4**
	comp=Z,85nm,1.0s						
HYB				*e*		03 36 20.0	
HYB				*e*		03 38 22.0	
HYB				*e*S	**S**	**03 38 52.0**	**+5.4**
QIZ	**Qiongzhong**	**18.84**	**53**	P	**P**	**03 35 44.8**	**+0.7**
QIZ				S	**S**	**03 39 10.3**	**+0.6**
QIZ				LR	LR		
	comp=N,13μm,13.2s						
QIZ				LR	LR		
	comp=E,4μm,14.7s						
QIZ				LR	LR		
	comp=Z,3μm,15.1s						
QIZ	**Qiongzhong**	**18.84**	**53**	*e*P	**P**	**03 35 44.8**	**+0.8**
	comp=Z,99nm,1.0s						
KMI	**Kunming**	**18.96**	**25**	⇑P	**P**	**03 35 49.1**	**+3.6**
KMI				S	**S**	**03 39 18.1**	**+5.8**
KMI				pmax	pmax		
	comp=Z,135nm,1.6s						
KMI	**Kunming**	**18.96**	**25**	⇑P	**P**	**03 35 49.1**	**+3.6**
	comp=Z,135nm,1.6s						
KMI				pP		03 35 55.2	
KMI				sP		03 35 58.1	
KMI				PP	PP	03 36 03.0	+1.1
KMI				S	**S**	**03 39 18.1**	**+5.8**
KMI				sS		03 39 27.1	
KMI				SS	SS	03 39 41.5	+3.7
ALBI	**Allahabad**	**20.86**	**327**	*e*P	**P**	**03 36 06.0**	**0.0**
JIRN	**Jiri**	**20.97**	**340**	*e*P	**P**	**03 36 07.5**	**+0.3**
	comp=Z,561nm,1.2s						
PKI	**Pulchoki**	**21.17**	**338**	*e*P	**P**	**03 36 08.3**	**-0.8**
	comp=Z,688nm,1.2s,mb5.9						
GOA	**Goa**	**21.19**	**293**	*e*P	**P**	**03 36 09.8**	**+0.4**
GOA				*e*		03 36 12.1	
	comp=Z,23nm,0.3s						
DMN	**Daman**	**21.31**	**338**	*e*P	**P**	**03 36 09.0**	**-1.6**
	comp=Z,514nm,1.0s,mb5.8						
KKN	**Kakani**	**21.41**	**338**	*e*P	**P**	**03 36 10.0**	**-1.6**
	comp=Z,221nm,0.8s,mb5.6						
KAD	**Karad**	**21.51**	**298**	*e*P	**P**	**03 36 11.8**	**-0.8**
KAD				*e*		03 36 19.2	
	comp=Z,93nm,1.0s						
LSA	**Lhasa**	**21.80**	**353**	*e*P	**P**	**03 36 15.9**	**+0.4**
LSA				*e*S	**S**	**03 40 12.1**	**+2.2**
LSA				pmax	pmax		
	comp=Z,155nm,0.8s,mb5.5						
LSA	**Lhasa**	**21.80**	**353**	*e*P	**P**	**03 36 15.9**	**+0.3**
	comp=Z,155nm,0.8s,mb5.5						
LSA				*e*S	**S**	**03 40 12.1**	**+2.2**
GKN	**Gorkha**	**21.85**	**337**	*e*P	**P**	**03 36 15.3**	**-0.7**
	comp=Z,781nm,1.3s,mb6.0						
BHPL	**Bhopal**	**22.06**	**315**	*e*P	**P**	**03 36 18.3**	**+0.2**
BHPL				*e*		03 36 24.8	
	comp=Z,176nm,1.2s						
BHPL				*e*S	**S**	**03 40 21.5**	**+6.8**
KOLN	**Koldanda**	**22.06**	**335**	*e*P	**P**	**03 36 18.3**	**+0.2**
	comp=Z,1μm,1.5s,mb6.1						
BOM	**Bombay**	**23.34**	**300**	*e*P	**P**	**03 36 30.4**	**-0.5**
BOM				*e*		03 36 35.7	
	comp=Z,108nm,1.6s						
BOM				*e*S	**S**	**03 40 42.7**	**+5.0**
NDI	**New Delhi**	**26.04**	**324**	*e*P	**P**	**03 36 55.6**	**-0.9**
NDI				*e*	pP	03 37 04.7	-0.5
	comp=Z,144nm,1.4s						
ENH	**Enshi**	**26.48**	**31**	*e*P	**P**	**03 37 00.2**	**-0.3**
	comp=Z,71nm,1.0s,mb5.2						
ENH				LR	LR		
	comp=Z,2μm,19.0s,MS4.6						
SMLA	**Simla**	**27.95**	**328**	*e*P	**P**	**03 37 13.3**	**-0.6**
SMLA				*e*		03 37 29.2	
	comp=Z,34nm,0.5s						
LZH	**Lanzhou**	**29.38**	**16**	⇑P	**P**	**03 37 27.0**	**+0.2**
LZH				PP	PP	03 38 23.0	+0.6
LZH				S	**S**	**03 42 18.0**	**+0.8**
LZH				SS	SS	03 43 52.0	+2.2
LZH				AMB	AMB		
	comp=Z,71nm,1.8s,mb5.1						
LZH				AMB	AMB		
	comp=Z,226nm,4.0s						
LZH				LR	LR		
	comp=E,3μm,17.0s						
LZH				LR	LR		
	comp=Z,4μm,18.2s,MS5.1						
LZH	**Lanzhou**	**29.38**	**16**	⇑P	**P**	**03 37 27.1**	**+0.3**
LZH				*SP	sP	03 37 36.0	-3.5
LZH						03 38 23.0	
LZH				S	**S**	**03 42 18.0**	**+0.8**
LZH				*SS		03 42 34.0	
LZH				SS	SS	03 43 52.0	+2.2
LZH				pmax	pmax		
	comp=Z,71nm,1.8s,mb5.1						
LZH				MLR	MLR		
	comp=Z,4μm,18.2s,MS5.1						
LZH	**Lanzhou**	**29.38**	**16**	⇑P	**P**	**03 37 27.1**	**+0.3**
	comp=Z,71nm,1.8s,mb5.1						
LZH				pP	pP	03 37 33.5	-2.1
LZH				sP	sP	03 37 36.0	-3.5
LZH				PP	PP	03 38 23.0	+0.6
LZH				S	**S**	**03 42 18.0**	**+0.8**
LZH				sS		03 42 34.0	
LZH				SS	SS	03 43 52.0	+2.2
LZH				LR	LR		
	comp=Z,4μm,18.2s,MS5.1						
WHN	**Wuhan**	**29.40**	**37**	P	**P**	**03 37 27.5**	**+0.5**
NJ2	**Nanjing**	**33.24**	**40**	*e*P	**P**	**03 38 02.0**	**+1.3**
NJ2				AP	pP	03 38 12.8	+3.2
NJ2				XP	sP	03 38 16.8	+3.4
NJ2				PP	PP	03 39 13.3	+0.9
NJ2				S	**S**	**03 43 20.0**	**+2.3**
NJ2				XS		03 43 37.0	
NJ2				AMB	AMB		
	comp=Z,1μm,6.9s						
NJ2				LR	LR		
	comp=N,4μm,13.9s,MS5.4						
NJ2				LR	LR		
	comp=E,4μm,14.0s,MS5.4						
NJ2				LR	LR		
	comp=Z,2μm,10.6s,MS5.2						
SSE	**Sheshan**	**34.20**	**44**	P	**P**	**03 38 06.5**	**-2.5**
SSE				S	**S**	**03 43 30.5**	**-2.1**
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,131nm,5.4s						
SSE				LR	LR		
	comp=N,1μm,19.7s,MS4.7						
SSE				LR	LR		
	comp=E,893nm,19.7s,MS4.7						
SSE				LR	LR		
	comp=Z,469nm,19.5s,MS4.2						
SSE	**Sheshan**	**34.20**	**44**	P	**P**	**03 38 06.5**	**-2.5**
	comp=Z,40nm,0.7s,mb5.5						
SSE				S	**S**	**03 43 30.6**	**-2.0**
SSE				sS		03 43 43.0	
SSE				LR	LR		
	comp=Z,470nm,19.5s,MS4.2						
TIA	**Tai'an**	**35.11**	**33**	*e*P	**P**	**03 38 17.5**	**+0.7**
TIA				*e*S	**S**	**03 43 50.0**	**+3.4**
TIA				LR	LR		
	comp=E,3μm,13.0s						
WMQ	**Urumqi**	**36.16**	**352**	*e*P	**P**	**03 38 27.0**	**+1.4**
WMQ				AP	pP	03 38 34.3	-0.2
WMQ				XP	sP	03 38 37.8	-0.5
WMQ				PP	PP	03 39 49.5	+1.1
WMQ				PCP	PcP	03 40 53.0	+1.9
WMQ				S	**S**	**03 44 04.3**	**+1.5**
WMQ				AMB	AMB		
	comp=Z,120nm,1.2s,mb5.7						
WMQ				AMB	AMB		
	comp=Z,658nm,5.2s						
WMQ				LR	LR		
	comp=N,2μm,17.8s,MS5.0						
WMQ				LR	LR		
	comp=E,1μm,17.5s,MS5.0						
WMQ				LR	LR		
	comp=Z,3μm,17.6s,MS5.1						
WBK	**Wadi Bani Khal**	**36.75**	**297**	⇑P	**P**	**03 38 33.4**	**+2.6**
JMDO	**Jabal Madar**	**37.45**	**297**	⇑P	**P**	**03 38 38.9**	**+2.3**
BJT	**Baijiatuau**	**37.53**	**28**	*e*P	**P**	**03 38 38.9**	**+1.7**
BJT				pmax	pmax		
	comp=Z,54nm,1.1s						
BJT				MLR	MLR		
	comp=Z,2μm,20.0s						
BJT	**Baijiatuau**	**37.53**	**28**	*e*P	**P**	**03 38 38.9**	**+1.7**
	comp=Z,54nm,1.1s,mb5.2						
BJT				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
BJI	**Beijing**	**37.55**	**28**	P	**P**	**03 38 38.5**	**+1.1**
BJI				S	**S**	**03 44 30.9**	**+6.7**
BJI				pmax	pmax		
	comp=Z,23nm,1.8s,mb4.6						
BJI				MLR	MLR		
	comp=Z,1μm,21.6s,MS4.6						
BJI	**Beijing**	**37.55**	**28**	P	**P**	**03 38 38.5**	**+1.1**
	comp=Z,23nm,1.8s,mb4.6						
BJI				S	**S**	**03 44 30.9**	**+6.7**
BJI				LR	LR		
	comp=Z,1μm,21.6s,MS4.6						
SMDO	**Samad**	**37.70**	**298**	⇓P	**P**	**03 38 41.3**	**+2.6**
	SNR=8.2						
UCH	**Uchtor**	**38.26**	**336**	P	**P**	**03 38 44.4**	**+1.2**
	SNR=9.5						
BSY	**Bisya**	**38.35**	**297**	⇓P	**P**	**03 38 47.2**	**+3.0**
	SNR=20						
MBWA	**Marble Bar**	**38.36**	**139**	P	**P**	**03 38 44.0**	**-0.4**
TKM2	**Tokmak 2**	**38.43**	**338**	P	**P**	**03 38 44.7**	**0.0**
	SNR=6.5						
KBK	**Karagaybulak**	**38.45**	**337**	P	**P**	**03 38 45.4**	**+0.5**
	SNR=19						
HOQ	**Hoqain**	**38.50**	**298**	⇑P	**P**	**03 38 48.3**	**+2.8**
	SNR=19						
AML	**Almayashu**	**38.51**	**335**	P	**P**	**03 38 45.3**	**0.0**
	SNR=28						
AAK	**Ala-Archa**	**38.61**	**337**	P	**P**	**03 38 48.1**	**+1.9**
	SNR=14						
AAK	**Ala-Archa**	**38.61**	**337**	*e*P	**P**	**03 38 45.7**	**-0.5**
AAK				pmax	pmax		
	comp=Z,57nm,1.3s,mb5.1						
AAK	**Ala-Archa**	**38.61**	**337**	*e*P	**P**	**03 38 45.7**	**-0.5**
	comp=Z,57nm,1.3s,mb5.1						
CHMS	**Chumysh**	**38.82**	**337**	P	**P**	**03 38 48.7**	**+0.8**
	SNR=12						
ARQ	**Araqi**	**39.12**	**297**	⇓P	**P**	**03 38 53.6**	**+2.9**
	SNR=9.4						
USP	**Ospenovka**	**39.14**	**337**	P	**P**	**03 38 51.8**	**+1.2**
	SNR=20						
RBK	**Rabkut**	**39.97**	**288**	⇓P	**P**	**03 38 58.9**	**+1.1**
MKAR	**Makanchi Array**	**39.99**	**347**	*i* P	**P**	**03 38 56.7**	**-1.0**
ABTO	**Aybut**	**40.80**	**287**	⇓P	**P**	**03 39 05.8**	**+1.3**
SONM	**Songino Array**	**41.09**	**13**	P	**P**	**03 39 07.3**	**+0.7**
	comp=Z,11nm,0.9s,mb4.5,baz=192,slow=6.5,SNR=12						
SONM				PcP	PcP	03 41 06.6	+0.1
	comp=Z,4.8nm,0.7s,baz=198,slow=4.1,SNR=4.1						
ULN	**Ulaanbaatar**	**41.27**	**13**	*e*P	**P**	**03 39 07.6**	**-0.5**
ULN				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
ULN				MLR	MLR		
	comp=Z,687nm,21.0s,MS4.5						
ULN	**Ulaanbaatar**	**41.27**	**13**	*e*P	**P**	**03 39 07.6**	**-0.4**
	comp=Z,10nm,0.9s,mb4.5						
ULN				LR	LR		
	comp=Z,687nm,21.0s,MS4.5						
SNY	**Shenyang**	**42.63**	**33**	⇑P	**P**	**03 39 20.5**	**+1.1**
SNY				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7

HIA LR LR
comp=Z,1µm,20.0s,MS4.8
NVS Novosibirsk 47.55 352 *i* P **P 03 39 57.9 -0.7**
NVS pmax pmax
comp=N,36nm,0.9s
NVS pmax pmax
comp=E,17nm,0.9s
NVS pmax pmax
comp=Z,41nm,0.9s,mb5.5
MDJ Mudanjiang 47.77 34 P **P 03 40 02.3 +1.9**
MDJ AP pP 03 40 10.5 +1.0
MDJ XP sP 03 40 14.5 +1.4
MDJ PCP PcP 03 41 25.0 -4.5
MDJ PP PP 03 41 55.5 +4.1
MDJ SCP 03 45 18.0
MDJ PCS 03 45 21.0
MDJ S **S 03 47 03.0 +9.2**
MDJ AMB AMB
comp=Z,16nm,1.5s,mb4.8
MDJ AMB AMB
comp=Z,160nm,6.0s
MDJ LR LR
comp=N,453nm,15.6s,MS4.8
MDJ LR LR
comp=E,643nm,16.3s,MS4.8
MDJ LR LR
comp=Z,461nm,21.6s
MDJ Mudanjiang 47.77 34 *e*P **P 03 40 00.1 -0.3**
comp=Z,53nm,1.4s,mb5.4
WRA Warramunga Arr 48.35 126 P **P 03 40 03.5 -1.7**
WRA pmax pmax
comp=Z,7.0nm,0.5s
WRA Warramunga Arr 48.35 126 P **P 03 40 03.5 -1.7**
comp=Z,6.7nm,0.5s,mb4.9,baz=304,slow=8.5,SNR=32
WRAB Tennant Creek 48.35 126⇑ *e*P **P 03 40 04.3 -1.0**
WRAB Tennant Creek 48.35 126 *e*P **P 03 40 03.5 -1.7**
comp=Z,15nm,0.6s,mb5.2
WB2 Warramunga Arr 48.36 126 *e*P **P 03 40 03.6 -1.7**
BVA0 Borovoye Array 48.89 341 P **P 03 40 08.6 -0.3**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
BVAR Borovoye Array 48.89 341 P **P 03 40 09.0 0.0**
comp=Z,12nm,0.8s,mb5.0,baz=143,slow=7.4,SNR=26
BVAR PcP PcP 03 41 32.8 -0.6
comp=Z,16nm,1.1s,baz=135,slow=4.2,SNR=6.1
RAYN Ar Rayn 49.01 294 P **P 03 40 11.8 +1.6**
comp=Z,338nm,0.7s,SNR=33
JHJ Hachijo jima 2 49.05 53 LR LR 04 00 29.8
comp=Z,612nm,19.5s,MS4.6,baz=272,slow=36
MAJO Matsushiro 49.14 48 P **P 03 40 11.9 +0.8**
MAT Matsushiro 49.14 48 *e*P **P 03 40 12.0 +0.9**
MAT pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
MAT MLR MLR
comp=Z,350nm,19.0s,MS4.4
MAT Matsushiro 49.14 48 P **P 03 40 11.6 +0.5**
MAT S **S 03 47 17.0 +3.7**
CHKZ Chkalovo 49.38 342 *e*P **P 03 40 11.4 -1.3**
CHKZ *e* 03 41 35.8
CHKZ pmax pmax
comp=Z,65nm,0.9s,mb5.7
CHKZ Chkalovo 49.38 342 *e*P **P 03 40 11.4 -1.2**
comp=Z,65nm,0.9s,mb5.7
CHKZ *e*PcP PcP 03 41 35.8 +0.6
ASPA Alice Springs 50.01 130 *e*P **P 03 40 16.5 -1.4**
ASAR Alice Springs 50.01 130 P **P 03 40 16.2 -1.7**
comp=Z,4.9nm,0.7s,mb4.7,baz=303,slow=7.7,SNR=15
ASAR PcP PcP 03 41 38.5 +0.7
comp=Z,5.2nm,0.8s,baz=305,slow=4.9,SNR=5.9
KLR Kul'dur 51.84 31 *e*P **P 03 40 29.0 -2.5**
KLR MLR MLR
comp=Z,2µm,13.0s,MS5.3
BOD Bodaibo 52.08 13 *e*P **P 03 40 31.6 -1.6**
GNI Garni 54.34 314 *d*P **P 03 40 50.3 +0.2**
GNI pmax pmax
comp=Z,55nm,2.1s
GNI Garni 54.34 314 P **P 03 40 51.0 +0.8**
comp=Z,49nm,1.3s,mb5.3,baz=75,slow=2.3,SNR=8.4
GNI LR LR 04 06 28.3
comp=Z,594nm,21.7s,MS4.6,baz=291,slow=39
GNI Garni 54.34 314 *e*P **P 03 40 50.7 +0.6**
comp=Z,49nm,1.4s,mb5.2
CLNS Chul'man 54.37 20 *e*P **P 03 40 50.3 +0.2**
CLNS pmax pmax
comp=N,18nm,0.8s
CLNS pmax pmax
comp=Z,40nm,0.8s,mb5.4
CLNS pmax pmax
comp=E,18nm,0.9s
TI2 Plekhanov 54.95 316 *e*P **P 03 40 55.2 +0.6**
SVE Sverdlovsk 55.30 338 *e*P **P 03 40 53.0 -4.0**
SVE pmax pmax
comp=Z,120nm,1.6s,mb5.7
SVE MLR MLR
comp=N,1µm,23.0s,MS5.0
SVE MLR MLR
comp=E,1µm,23.0s,MS5.0
SVE MLR MLR
comp=Z,2µm,23.0s,MS5.2
PMG Port Moresby 55.60 107 P **P 03 41 00.2 +0.5**
PMG pmax pmax
comp=Z,23nm,0.7s
PMG Port Moresby 55.60 107 P **P 03 41 00.2 +0.5**
comp=Z,23nm,0.7s,mb5.3,baz=298,slow=4.6,SNR=6.5
PMG Port Moresby 55.60 107 *e*P **P 03 41 00.4 +0.7**
comp=Z,36nm,0.7s,mb5.5
ARU Arti 55.79 337 P **P 03 41 00.0 -0.5**
comp=Z,215nm,0.9s,mb6.2,SNR=13
ARU Arti 55.79 337⇓ *i*P **P 03 40 53.8 -6.7**
ARU *e* 03 41 53.4
ARU *e*S **S 03 48 35.4 -8.2**
ARU *e* 03 50 39.5
ARU pmax pmax
comp=Z,35nm,0.9s,mb5.4
ARU MLR MLR
comp=N,2µm,20.0s,MS5.2
ARU MLR MLR
comp=E,1µm,20.0s,MS5.2
ARU MLR MLR
comp=Z,3µm,20.0s,MS5.3
ZEI Tsey 55.94 317 *e*P **P 03 41 01.5 -0.2**
ZEI *i* *PP pP 03 41 14.4 +3.5
ZEI *i* 03 43 11.6
ZEI pmax pmax
comp=Z,12nm,0.8s,mb5.0
ERZM Erzurum 56.68 313 P **P 03 41 07.7 +0.6**
YSS Yuzh-Sakhalins 56.75 38 *e*P **P 03 41 08.5 +1.0**
YSS pmax pmax
comp=Z,140nm,1.8s,mb5.7
YSS MLR MLR
comp=Z,1µm,15.0s,MS5.0
YSS MLR MLR
comp=N,700nm,16.0s
KIV Kislovodsk 57.22 318 P **P 03 41 11.1 +0.2**
comp=N,282nm,0.8s,SNR=10.0
KIV Kislovodsk 57.22 318 *c*P **P 03 41 11.0 +0.1**
KIV *e*S **S 03 49 03.9 +1.2**
KIV pmax pmax
comp=Z,66nm,1.4s,mb5.5
KIV MLR MLR
comp=Z,600nm,18.0s,MS4.7
KIV Kislovodsk 57.22 318 *e*P **P 03 41 09.3 -1.6**
comp=Z,30nm,0.8s,mb5.4
KIV LR LR
comp=Z,218nm,22.0s,MS4.2
KMBO Kilima Mbogo 57.38 264 *e*P **P 03 41 13.6 +1.2**
KMBO pmax pmax
comp=Z,17nm,0.9s
KMBO MLR MLR
comp=Z,1µm,20.0s
KMBO Kilima Mbogo 57.38 264 P **P 03 41 14.2 +1.8**
comp=Z,11nm,0.7s,mb5.0,baz=57,slow=11,SNR=20
KMBO Kilima Mbogo 57.38 264 *e*P **P 03 41 13.6 +1.2**
comp=Z,17nm,0.9s,mb5.1
KMBO LR LR
comp=Z,1µm,20.0s,MS5.0
ELZG Elazig 58.00 311 P **P 03 41 15.2 -1.2**
ASF Jabal al Asfar 58.13 303 P **P 03 41 18.9 +1.5**
comp=Z,8.8nm,0.9s,mb4.8,baz=342,slow=3.3,SNR=15
ASF LR LR 04 08 59.6
comp=Z,858nm,21.1s,MS4.8,baz=321,slow=39
MALT Malatya 58.37 310 *e*P **P 03 41 19.0 0.0**
MALT pmax pmax
comp=Z,19nm,1.2s,mb5.0
MALT Malatya 58.37 310 *e*P **P 03 41 19.0 0.0**
comp=Z,19nm,1.2s,mb5.0
SOKR Solikamsk 58.70 339⇓ *i*P **P 03 41 19.5 -1.5**
SOKR pmax pmax
comp=Z,70nm,0.9s,mb5.7
SOKR MLR MLR
comp=Z,3µm,21.0s,MS5.4
GZT Gaziantep 58.77 309 P **P 03 41 21.4 -0.4**
SOC Sochi 59.08 316 *e*P **P 03 41 20.6 -3.3**
SOC *e* 03 43 40.0
SOC *e*S **S 03 49 25.5 -1.7**
SOC *e* 03 51 06.1
SOC *e*SS SS 03 53 20.2 -2.8
SOC pmax pmax
comp=Z,41nm,1.1s,mb5.4
SOC pmax pmax
comp=N,32nm,0.7s
SOC pmax pmax
comp=E,34nm,1.3s
SOC MLR MLR
comp=Z,742nm,22.0s,MS4.8
SOC MLR MLR
comp=N,580nm,21.0s,MS4.8
SOC MLR MLR
comp=E,488nm,18.0s,MS4.8
EIL Elat 59.34 300 P **P 03 41 26.0 +0.2**
comp=E,14nm,0.8s,mb5.0,baz=36,slow=4.5,SNR=11
EIL Elat 59.34 300 *e*P **P 03 41 26.0 +0.1**
comp=E,47nm,1.4s,mb5.3
KAHT Ahir Dag 59.37 309 P **P 03 41 25.4 -0.6**
YAK Yakutsk 59.93 18 *e*P **P 03 41 28.8 -0.7**
YAK pmax pmax
comp=Z,29nm,0.9s,mb5.3
YAK pmax pmax
comp=N,21nm,1.2s
YAK pmax pmax
comp=E,14nm,1.0s
YAK MLR MLR
comp=Z,470nm,16.0s,MS4.7
YAK MLR MLR
comp=N,345nm,12.0s,MS4.9
YAK MLR MLR
comp=E,465nm,16.0s,MS4.9
YAK Yakutsk 59.93 18 *e*P **P 03 41 28.3 -1.1**
comp=E,55nm,0.8s,mb5.6
STKA Stephens Creek 60.20 134 *e*P **P 03 41 31.2 -0.6**
comp=E,3.5nm,0.6s,mb4.6
STKA Stephens Creek 60.20 134 P **P 03 41 30.9 -0.9**
comp=E,5.3nm,0.9s,mb4.6,baz=322,slow=6.9,SNR=8.1
BOYT Boyabat 61.82 313 P **P 03 41 40.9 -1.7**
BRTR Keskin Array B 62.34 311 P **P 03 41 44.0 -2.1**
BRTR pmax pmax
comp=Z,12nm,0.7s
BRTR Keskin Array B 62.34 311 P **P 03 41 44.0 -2.1**
comp=Z,12nm,0.7s,mb5.2,baz=132,slow=6.6,SNR=41
VOR Voronezh 62.48 325 *e*P **P 03 41 46.5 -0.4**
VOR *e* 03 41 52.0
VOR pmax pmax
comp=Z,100nm,1.4s,mb5.8
ELDT Eldivan 62.67 312 P **P 03 41 48.0 -0.3**
SIM Simferopol' 63.33 317 P **P 03 41 53.3 +0.7**
SIM pmax pmax
comp=Z,25nm,1.6s,mb5.1
MBAR Mbarara 63.72 265 *e*P **P 03 41 57.3 +1.6**
MBAR pmax pmax
comp=Z,12nm,1.0s,mb4.9
MBAR Mbarara 63.72 265 *e*P **P 03 41 57.3 +1.6**
comp=Z,12nm,1.0s,mb4.9
ISP Isparta 64.34 308 *e*P **P 03 41 58.2 -1.2**
ISP pmax pmax
comp=Z,17nm,0.9s,mb5.1
ISP Isparta 64.34 308 *e*P **P 03 41 58.2 -1.1**
comp=Z,18nm,0.9s,mb5.1
MOS Moscow 64.98 329 *e*P **P 03 42 02.8 -0.4**
MOS *e* pP 03 42 11.2 -1.3
MOS *e* 03 42 35.9
MOS pmax pmax
comp=Z,94nm,0.9s,mb5.8
MOS MLR MLR
comp=Z,2µm,21.3s,MS5.2
OBN Obninsk 65.28 328 *c*P **P 03 42 02.3 -2.8**
OBN *e*S S 03 50 54.1 +9.0
OBN pmax pmax
comp=Z,78nm,1.2s,mb5.6
OBN MLR MLR
comp=Z,1µm,21.0s,MS5.0
OBN Obninsk 65.28 328 *e*P **P 03 42 00.7 -4.4**
comp=Z,93nm,1.2s,mb5.7
MA2 Magadan 66.71 28 *e*P **P 03 42 15.3 +1.1**
MA2 *e*S S 03 51 02.6 +0.1
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.2
MA2 MLR MLR
comp=Z,1µm,24.0s,MS5.1
MA2 Magadan 66.71 28 *e*P **P 03 42 14.6 +0.4**
comp=Z,23nm,0.8s,mb5.3
TIRR Tirgusor 67.16 315 ⇓P **P 03 42 15.9 -1.4**
KIS Kishinev 67.42 318 *e*P **P 03 42 17.0 -1.9**
KIS *e* 03 42 32.0
AKASG Malin Array Be 68.06 322 P **P 03 42 20.7 -2.1**
AKASG pmax pmax
comp=Z,14nm,0.7s
AKASG Malin Array Be 68.06 322 P **P 03 42 20.6 -2.1**
comp=Z,14nm,0.7s,mb5.1,baz=89,slow=4.9,SNR=40
ALN Alexandroupoli 68.26 311 *e*P **P 03 42 22.2 -2.0**
IDI Anoyia 68.48 305 P **P 03 42 25.2 -0.5**
comp=Z,31nm,0.7s,mb5.5,baz=98,slow=6.2,SNR=20
VRI Vrincioaia 68.60 316 ⇑P **P 03 42 26.0 -0.3**
MLR Muntele Rosu 69.08 316 P **P 03 42 28.9 -0.3**
MLR pmax pmax
comp=Z,29nm,0.9s
MLR Muntele Rosu 69.08 316 P **P 03 42 28.9 -0.3**
comp=Z,29nm,0.9s,mb5.2,baz=119,slow=3.2,SNR=29
MLR Muntele Rosu 69.08 316 ⇑P **P 03 42 28.8 -0.4**
LSZ Lusaka 69.25 250 *e*P **P 03 42 31.7 +1.0**
LSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LSZ Lusaka 69.25 250 *e*P **P 03 42 31.6 +0.9**
comp=Z,6.4nm,0.8s,mb4.6
SRS Serrai 70.12 311 *e*P **P 03 42 35.2 -0.5**
XOR Xorichti 70.23 309 *e*P **P 03 42 35.8 -0.6**
SOH Sokhos 70.27 310 *e*P **P 03 42 29.5 -7.1**
THE Thessaloniki 70.54 310 *e*P **P 03 42 37.3 -0.9**
KNT Kendrikon 70.65 311 *e*P **P 03 42 38.1 -0.8**
JOF Joensuu 70.75 334 *e*p **P 03 42 36.9 -2.2**
comp=Z,1.4nm,0.4s,mb4.2
LIT Litokhoron 70.85 310 *e*P **P 03 42 39.5 -0.6**
AGG Agios Georgios 70.87 308 *e*P **P 03 42 38.3 -1.9**
GRG Griva 71.00 310 *e*P **P 03 42 40.4 -0.7**
ZAPS Zavoj/Pirot 71.11 313 ⇓*i*P **P 03 42 39.8 -1.8**
LVV L'vov 71.12 320 *i*P **P 03 42 40.6 -1.0**
BOLS Boljevac 71.64 313 *e* **P 03 42 44.4 -0.4**
APA Apatity 71.75 339 ⇑*i*P **P 03 42 43.5 -1.6**
APA *i* 03 43 11.5
APA pmax pmax
comp=Z,31nm,0.9s,mb5.2
APA MLR MLR
comp=Z,4µm,19.0s,MS5.7
FNA Florina 71.76 310 *e*P **P 03 42 45.1 -0.5**
SKO Skopje 71.83 311 *i*P **P 03 42 45.0 -0.9**
KWP Kalwaria 71.93 320 *e*P **P 03 42 45.6 -0.8**
KOLS Kolonicke sedl 72.11 319 *e*P **P 03 42 47.7 +0.2**
SUW Suwalki 72.41 324 *e*P **P 03 42 47.6 -1.6**
IGT Igoumenitsa 72.45 309 *e*P **P 03 42 47.3 -2.4**
FINES FINESS Array B 72.61 332 P **P 03 42 49.1 -1.1**
FINES pmax pmax
comp=Z,25nm,0.8s
FINES FINESS Array B 72.61 332 P **P 03 42 49.1 -1.2**
comp=Z,25nm,0.8s,mb5.2,baz=104,slow=7.9,SNR=38
CRVS Cervenica-Dubn 72.63 319 *e*P **P 03 42 50.3 -0.3**
KAF Kangasniemi 72.69 333 *e*p **P 03 42 50.3 -0.4**
comp=Z,1.4nm,0.3s,mb4.4
KAF Kangasniemi 72.69 333 *e*P **P 03 42 50.3 -0.4**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
NIE Niedzica 73.45 319 *e*P **P 03 42 56.5 +1.1**
PSZ Piszkesteto 73.55 318⇑ *e*P **P 03 42 56.6 +0.6**
PSZ Piszkesteto 73.55 318⇑ *e* **P 03 42 56.6 +0.6**
OJC Ojcow 73.88 320 *e*P **P 03 42 56.8 -1.0**
VYHS Vyhne 74.31 318 *e*P **P 03 42 59.8 -0.6**
SRO Srobarova 74.59 317 *e*P **P 03 42 02.8 +0.8**
SRO *e*pP pP 03 43 06.6 -4.9
KEV Kevo 74.74 341 *e*p **P 03 43 01.4 -1.0**
comp=Z,16nm,0.7s,mb5.1
KEV Kevo 74.74 341 *e*P **P 03 43 01.4 -1.0**
KEV pmax pmax
comp=Z,16nm,0.7s,mb5.1
OKC Ostrava-Krasne 74.89 319 *e*P **P 03 43 04.7 +1.0**
ARCES ARCESS Array B 75.17 340 P **P 03 43 04.2 -0.7**
ARCES pmax pmax
comp=Z,14nm,0.7s
ARCES ARCESS Array B 75.17 340 P **P 03 43 04.2 -0.7**
comp=Z,14nm,0.7s,mb5.0,baz=90,slow=4.9,SNR=19
TIP Timpagrande 75.20 308 *e*P **P 03 43 05.1 -0.7**
TIP *e*pP pP 03 43 15.7 +0.6
SMOL Smolenice 75.24 318 *e*P **P 03 43 06.4 +0.6**
MORC Moravsky Berou 75.28 319 *e*P **P 03 43 05.5 -0.4**
MORC pmax pmax
comp=Z,30nm,1.0s,mb5.2
MORC Moravsky Berou 75.28 319 *e*P **P 03 43 05.5 -0.4**
comp=Z,30nm,1.0s,mb5.2
ZST Bratislava 75.44 318 *e*P **P 03 43 06.5 -0.4**
ZST *e* 03 43 10.4
BOSA Boshof 75.59 238 *e*P **P 03 43 08.7 +0.6**
BOSA pmax pmax
comp=Z,19nm,1.1s,mb4.9
BOSA Boshof 75.59 238 *e*P **P 03 43 08.7 +0.5**
comp=Z,19nm,1.1s,mb4.9
GKP Gorka Klasztor 75.80 323 *e*P **P 03 43 09.5 +0.7**
BILL Bilibino 76.03 22⇑ *e*P **P 03 43 09.9 +0.1**
BILL pmax pmax
comp=Z,27nm,1.5s,mb5.0
BILL Bilibino 76.03 22 *e*P **P 03 43 09.2 -0.6**
comp=Z,12nm,0.8s,mb4.9
DPC Dobruska-Polom 76.11 320 *e*P **P 03 43 10.6 0.0**
KSP Ksiaz 76.17 320 *e*P **P 03 43 10.5 -0.4**
KSP Ksiaz 76.17 320 *e*P **P 03 43 11.9 +1.0**
UPC Upice 76.32 320 *e*P **P 03 43 11.6 -0.2**
ARSA Arzberg 76.44 317⇑ *i*P **P 03 43 13.8 +1.2**
comp=Z,35nm,1.8s,mb5.0
PERS Pernice 76.69 316 *i*P **P 03 43 14.9 +1.0**
PDKS Podkum 76.75 315 *e*P **P 03 43 15.3 +1.0**
VAE Valguarnera 77.02 307 P **P 03 43 18.2 +2.2**
comp=Z,11nm,0.9s,mb4.8,baz=194,slow=19,SNR=3.1
LJU Ljubljana 77.07 315 *e*P **P 03 43 17.2 +1.1**
OBKA Obir 77.08 316⇑ *i*P **P 03 43 16.2 +0.1**
comp=Z,37nm,1.5s,mb5.1
PRU Pruhonice 77.23 319 *e*P **P 03 43 18.0 +1.1**
PVCC Panska Ves 77.24 320 *e*P **P 03 43 17.1 +0.2**
MOA Molln 77.32 317⇑ *i*P **P 03 43 18.2 +0.8**
comp=Z,16nm,1.1s,mb4.9
BSD Bornholm Skovb 77.32 325 *i*P **P 03 43 16.8 -0.5**
BSD pmax pmax
comp=Z,27nm,0.7s,mb5.3
BSD Bornholm Skovb 77.32 325 *i*P **P 03 43 16.8 -0.5**
comp=Z,27nm,0.7s,mb5.3
BRG Berggiesshubel 77.65 320 *i*P **P 03 43 19.6 +0.4**
BRG pmax pmax
comp=Z,21nm,0.9s,mb5.1
BRG MLR MLR
comp=Z,620nm,15.8s,MS5.0
BRG Berggiesshubel 77.65 320 *i*P **P 03 43 19.6 +0.4**
comp=Z,21nm,0.9s,mb5.1
BRG LR LR
comp=Z,620nm,15.8s,MS5.0
GEC2 GERESS Array S 77.73 318 *e*P **P 03 43 19.4 -0.3**
GEC2 pmax pmax
comp=Z,37nm,0.9s,mb5.3
GEC2 GERESS Array S 77.73 318 *e*P **P 03 43 19.4 -0.3**
comp=Z,37nm,0.9s,mb5.3
GERES GERESS Array B 77.73 318 P **P 03 43 19.5 -0.2**
GERES pmax pmax
comp=Z,19nm,0.7s
GERES GERESS Array B 77.73 318 P **P 03 43 19.5 -0.1**
comp=Z,19nm,0.7s,mb5.2,baz=91,slow=5.8,SNR=57
KHC Kasperske Hory 77.82 318 *e*P **P 03 43 19.7 -0.4**
KHC *e* pP 03 43 30.0 +0.4
KHC Kasperske Hory 77.82 318⇑ *i*P **P 03 43 20.2 +0.1**
KHC Kasperske Hory 77.82 318 *e*P **P 03 43 19.7 -0.4**
KHC pP pP 03 43 30.0 +0.4
RUE Ruedersdorf 77.83 322 *e*P **P 03 43 19.4 -0.7**
comp=Z,190nm,1.2s,mb5.9
KBA Koelnbreinsper 77.92 316⇑ *i*P **P 03 43 21.4 +0.7**
comp=Z,16nm,0.9s,mb5.0
KBA Koelnbreinsper 77.92 316⇑ *i*P **P 03 43 21.4 +0.7**
KBA pmax pmax
comp=Z,16nm,0.9s,mb5.0
CLL Collm 78.26 321⇑ *i*P **P 03 43 23.5 +1.0**
CLL *i* pP 03 43 32.6 +0.6
CLL pmax pmax
comp=Z,66nm,1.9s,mb5.2
CLL Collm 78.26 321⇑ *i*P **P 03 43 23.5 +1.0**
comp=Z,66nm,1.9s,mb5.2
CLL *i* pP 03 43 32.6 +0.6
CLL Collm 78.26 321 ⇑P **P 03 43 23.5 +1.0**
comp=Z,logA/T=1.5,mb5.2
CLL *i* *SP sP 03 43 32.6 -2.6
CLL *e* 03 43 58.0
WET Wettzell 78.28 318 *e*P **P 03 43 22.5 -0.2**
WET pmax pmax
comp=Z,26nm,1.0s,mb5.1
WET Wettzell 78.28 318 *e*P **P 03 43 22.5 -0.2**
comp=Z,26nm,1.0s,mb5.1
NKC Novy Kostel 78.58 320 *e*P **P 03 43 25.7 +1.4**
MAW Mawson 78.61 192 P **P 03 43 25.5 +1.4**
comp=Z,7.5nm,0.8s,mb4.7,baz=27,slow=16,SNR=4.7
MAW LR LR 04 13 08.5
comp=Z,330nm,18.4s,MS4.7,baz=169,slow=32
COP Copenhagen 78.77 325 *i*P **P 03 43 25.8 +0.6**
COP pmax pmax
comp=Z,38nm,0.7s,mb5.4
COP Copenhagen 78.77 325 *i*P **P 03 43 25.8 +0.6**
comp=Z,38nm,0.7s,mb5.4
WTTA Wattenberg 79.09 317⇑ *i*P **P 03 43 26.1 -1.0**
comp=Z,31nm,0.7s,mb5.3
WTTA Wattenberg 79.09 317⇑ *i*P **P 03 43 26.1 -1.0**
WTTA pmax pmax
comp=Z,31nm,0.7s,mb5.3
MOX Moxa 79.12 320 *e*P **P 03 43 28.0 +0.7**
WATA Walderalm 79.13 317⇑ *i*P **P 03 43 26.3 -1.1**
comp=Z,14nm,0.9s,mb4.9
WATA Walderalm 79.13 317⇑ *i*P **P 03 43 26.3 -1.1**
WATA pmax pmax
comp=Z,14nm,0.9s,mb4.9
FUR Furstenfeldbru 79.33 317 *e*P **P 03 43 27.8 -0.6**
GRA1 Grafenberg Arr 79.37 319 *e*P **P 03 43 28.8 +0.2**
comp=Z,39nm,0.9s,mb5.3
GRF Grafenberg Arr 79.37 319 *e*P **P 03 43 28.8 +0.2**
GRF pmax pmax
comp=Z,39nm,0.9s,mb5.3
GRF Grafenberg Arr 79.37 319 *e*P **P 03 43 28.8 +0.2**
GRF pmax pmax
comp=Z,39nm,0.9s,mb5.3
GRF Grafenberg Arr 79.37 319 *e*P **P 03 43 28.8 +0.2**
comp=Z,39nm,0.9s,mb5.3
SQTA Sankt Quirin 79.38 317⇓ *i*P **P 03 43 27.8 -0.9**
comp=Z,18nm,0.8s,mb5.0
SQTA Sankt Quirin 79.38 317⇓ *i*P **P 03 43 27.8 -0.9**
SQTA pmax pmax
comp=Z,18nm,0.8s,mb5.0
MOTA Moosalm 79.45 317⇑ *i*P **P 03 43 27.9 -1.2**
comp=Z,14nm,1.0s,mb4.9
MOTA Moosalm 79.45 317⇑ *i*P **P 03 43 27.9 -1.2**
MOTA pmax pmax
comp=Z,14nm,1.0s,mb4.8
NB2 NORSAR Subarra 79.63 331 P **P 03 43 28.6 -1.2**
comp=Z,28nm,0.8s,mb5.2,baz=96,slow=5.0
NB2 NORSAR Subarra 79.63 331 P **P 03 43 28.6 -1.2**
NB2 pmax pmax
comp=Z,28nm,0.8s,mb5.2
NOA NORSAR Array B 79.63 331 P **P 03 43 29.6 -0.2**
NOA pmax pmax
comp=Z,18nm,0.8s
NOA NORSAR Array B 79.63 331 P **P 03 43 29.6 -0.2**
comp=Z,18nm,0.8s,mb5.1,baz=92,slow=5.5,SNR=33
NAO01 NORSAR Array S 79.78 330 *e*P **P 03 43 31.0 +0.4**
comp=Z,24nm,0.8s,mb5.2
CLZ Clausthal 79.91 321 *e*P **P 03 43 31.3 -0.2**
comp=Z,36nm,0.9s,mb5.3
VALM 80.09 314 P **P 03 43 34.1 +1.5**
GRAM 80.22 314 P **P 03 43 34.7 +1.4**
DAVA Damuels 80.28 317⇓ *i*P **P 03 43 33.5 -0.1**
comp=Z,26nm,0.8s,mb5.2
SUR Sutherland 80.34 235 *e*P **P 03 43 36.7 +2.5**
comp=Z,9.8nm,0.7s,mb4.8
CODM 80.38 314 P **P 03 43 33.8 -0.3**
MUD Monsted U'grnd 80.61 326 *i*P **P 03 43 37.0 +1.9**
MUD pmax pmax
comp=Z,38nm,0.9s,mb5.3
MUD Monsted U'grnd 80.61 326 *i*P **P 03 43 37.0 +1.9**
comp=Z,38nm,0.9s,mb5.3
STU Stuttgart 80.71 318 *e*P **P 03 43 35.3 -0.5**

STU pmax pmax
comp=Z,24nm,1.0s,mb5.1
STU Stuttgart 80.71 318 *eP* **P 03 43 35.3 -0.4**
comp=Z,24nm,1.0s,mb5.1
SPAK Spaichingen 81.00 317 *eP* **P 03 43 38.4 +1.1**
PGF Pioggiola 81.06 312 *eP* **P 03 43 37.4 -0.4**
comp=Z,34nm,1.0s,mb4.9
PGF Pioggiola 81.06 312 *eP* **P 03 43 37.4 -0.4**
PGF pmax pmax
comp=Z,17nm,1.0s,mb4.9
TNS Taunus Mts 81.15 320 *eP* **P 03 43 38.0 -0.1**
BFO Black Forest 81.30 318 *eP* **P 03 43 38.2 -0.7**
BFO pmax pmax
comp=Z,15nm,0.9s,mb4.9
BFO Black Forest 81.30 318 *eP* **P 03 43 38.2 -0.7**
comp=Z,15nm,0.9s,mb4.9
PCP Pian Castagno 81.30 314 P **P 03 43 38.8 -0.2**
FELD Feldberg 81.53 317 *eP* **P 03 43 41.4 +1.3**
FIN Finale Ligure 81.56 314 P **P 03 43 40.3 0.0**
LANF Langenberg 81.62 318 *eP* **P 03 43 42.0 +1.5**
ORX Oropa 81.65 315 P **P 03 43 40.7 -0.1**
ABH Alteburg 81.75 319 *eP* **P 03 43 42.7 +1.5**
LIBD Limburg 81.79 318 *eP* **P 03 43 42.7 +1.3**
ROB Roburent 81.80 314 P **P 03 43 41.7 +0.1**
TRAV 81.82 315 P **P 03 43 41.1 -0.6**
WLS Welschbruch 81.94 318 *eP* **P 03 43 43.1 +0.9**
NEGI Negi 81.94 313 P **P 03 43 42.5 +0.2**
CDF Champ du Feu 82.00 318 *eP* **P 03 43 41.8 -0.7**
comp=Z,26nm,1.0s,mb4.8
CDF Champ du Feu 82.00 318 *eP* **P 03 43 41.8 -0.7**
CDF pmax pmax
comp=Z,13nm,1.0s,mb4.8
RUP Ruppelstein 82.07 319 *eP* **P 03 43 44.4 +1.5**
ENR Entracque 82.13 314 P **P 03 43 43.7 +0.4**
SBF Sospel 82.14 313 *eP* **P 03 43 42.9 -0.4**
comp=Z,90nm,0.9s,mb5.4
SBF Sospel 82.14 313 *eP* **P 03 43 42.9 -0.4**
SBF pmax pmax
comp=Z,45nm,0.9s,mb5.4
RSP Reno Superiore 82.19 315 P **P 03 43 42.7 -0.9**
BHB Bricherasio 82.20 314 P **P 03 43 42.8 -0.8**
LSD Ceresole Reale 82.24 315 P **P 03 43 44.3 +0.5**
HINF Hinteralfeld 82.31 317 *eP* **P 03 43 43.7 -0.4**
FENE Fenestrelle 82.33 314 P **P 03 43 44.0 -0.3**
PZZ Prazzo 82.34 314 P **P 03 43 44.6 +0.2**
LOMF Lomont 82.36 317 *eP* **P 03 43 45.5 +1.1**
LPG La Plagne 82.52 315 *eP* **P 03 43 45.4 +0.1**
comp=Z,53nm,0.8s,mb5.3
LPG La Plagne 82.52 315 *eP* **P 03 43 45.4 +0.1**
LPG pmax pmax
comp=Z,27nm,0.8s,mb5.3
LPL La Plagne 82.53 315 *eP* **P 03 43 45.4 0.0**
comp=Z,75nm,0.8s,mb5.5
LPL La Plagne 82.53 315 *eP* **P 03 43 45.4 0.0**
LPL pmax pmax
comp=Z,37nm,0.8s,mb5.5
RRL Cesana Torines 82.54 314 P **P 03 43 46.1 +0.7**
MBDF Montbardon 82.56 314 *eP* **P 03 43 44.6 -0.9**
comp=Z,38nm,1.1s,mb5.0
MBDF Montbardon 82.56 314 *eP* **P 03 43 44.6 -0.9**
MBDF pmax pmax
comp=Z,19nm,1.1s,mb5.0
BNI Bardonecchia 82.60 314 *eP* **P 03 43 46.0 +0.3**
BNI pmax pmax
comp=Z,32nm,0.8s,mb5.4
BNI Bardonecchia 82.60 314 *eP* **P 03 43 46.0 +0.3**
comp=Z,32nm,0.8s,mb5.4
HAU Haudompre 82.64 317 *eP* **P 03 43 45.2 -0.6**
comp=Z,56nm,0.9s,mb5.3
HAU *eR*
comp=Z,507nm,22.2s
HAU Haudompre 82.64 317 *eP* **P 03 43 45.2 -0.6**
HAU pmax pmax
comp=Z,28nm,0.9s,mb5.3
HAU MLR MLR
comp=Z,510nm,22.3s,MS4.8
WLF Walferdange 82.66 319 *eP* **P 03 43 46.9 +1.0**
FRF La Foret Royal 82.73 313 *eP* **P 03 43 46.1 -0.3**
comp=Z,50nm,1.1s,mb5.2
FRF La Foret Royal 82.73 313 *eP* **P 03 43 46.1 -0.3**
FRF pmax pmax
comp=Z,25nm,1.1s,mb5.2
LMR La Mourre 82.84 313 *eP* **P 03 43 46.6 -0.4**
comp=Z,75nm,1.2s,mb5.3
LMR La Mourre 82.84 313 *eP* **P 03 43 46.6 -0.4**
LMR pmax pmax
comp=Z,38nm,1.2s,mb5.3
THEF They Montfort 82.86 318 *eP* **P 03 43 48.1 +1.1**
CABF La Chapelle 82.91 316 *eP* **P 03 43 47.1 -0.2**
comp=Z,88nm,1.2s,mb5.4
CABF La Chapelle 82.91 316 *eP* **P 03 43 47.1 -0.2**
CABF pmax pmax
comp=Z,44nm,1.2s,mb5.4
ORIF Oris-en-Rattie 83.18 314 *eP* **P 03 43 48.0 -0.7**
comp=Z,18nm,0.8s,mb4.8
ORIF *eR*
comp=Z,382nm,22.2s
MEZF Maizieres J'vi 83.47 318 *eP* **P 03 43 49.7 -0.4**
GIVF Givet 83.49 320 *eP* **P 03 43 49.8 -0.4**
BAIF Baives 83.89 320 *eP* **P 03 43 52.0 -0.2**
comp=Z,52nm,1.0s,mb5.3
BAIF Baives 83.89 320 *eP* **P 03 43 52.0 -0.2**
BAIF pmax pmax
comp=Z,26nm,1.0s,mb5.3
VIVF Saint-Julien-l 84.04 314 *eP* **P 03 43 52.7 -0.4**
comp=Z,97nm,1.4s,mb5.4
VIVF Saint-Julien-l 84.04 314 *eP* **P 03 43 52.7 -0.4**
VIVF pmax pmax
comp=Z,49nm,1.4s,mb5.4
SMF Signal de Mont 84.45 316 *eP* **P 03 43 54.5 -0.6**
comp=Z,32nm,0.9s,mb5.2
SMF Signal de Mont 84.45 316 *eP* **P 03 43 54.5 -0.6**
SMF pmax pmax
comp=Z,16nm,0.9s,mb5.2
SSF Saint Saulge 84.64 317 *eP* **P 03 43 55.9 -0.1**
PLDF La Plantade 84.67 316 *eP* **P 03 43 57.2 +1.0**
AVF Avril sur Loir 84.77 316 *eP* **P 03 43 56.1 -0.6**
AGO Saint Agoulin 85.00 316 *eP* **P 03 43 59.3 +1.4**
HYF Humbligny 85.20 317 *eP* **P 03 43 58.9 0.0**
SYO Syowa Base 85.47 197 ⇑P **P 03 44 02.5 +2.8**
SYO Syowa Base 85.47 197 ⇓*s*P *s*P 03 44 11.5 -0.9
TCF Toulx Ste Croi 85.61 316 *eP* **P 03 44 00.0 -0.9**
comp=Z,14nm,1.0s,mb4.9
TCF Toulx Ste Croi 85.61 316 *eP* **P 03 44 00.0 -0.9**
TCF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
CAF Calviac 85.87 315 *eP* **P 03 44 02.2 -0.1**
comp=Z,50nm,1.3s,mb5.3
CAF Calviac 85.87 315 *eP* **P 03 44 02.2 -0.1**
CAF pmax pmax
comp=Z,25nm,1.3s,mb5.3
MTLF Montolieu 85.96 313 *eP* **P 03 44 02.5 -0.2**
comp=Z,80nm,1.3s,mb5.5
MTLF Montolieu 85.96 313 *eP* **P 03 44 02.5 -0.2**
MTLF pmax pmax
comp=Z,40nm,1.3s,mb5.5
TNA Tin City 86.11 24 *eP* **P 03 44 03.4 +0.4**
RJF Les Rejaudoux 86.21 315 *eP* **P 03 44 04.0 +0.1**
RJF *eR*
comp=Z,352nm,19.2s
MFF Saint Martin d 87.18 316 *eP* **P 03 44 08.3 -0.3**
DAG Danmarks Havn 87.38 348⇓*eP* **P 03 44 09.8 +0.8**
DAG pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
DAG Danmarks Havn 87.38 348⇓*eP* **P 03 44 09.8 +0.8**
comp=Z,2.2nm,0.8s,mb4.4
DAG Danmarks Havn 87.38 348⇓*iP* **P 03 44 09.8 +0.8**
comp=Z,2.2nm,0.8s,mb4.4
ESK Eskdalemuir 87.65 325 *eP* **P 03 44 11.1 +0.4**
ESK pmax pmax
comp=Z,31nm,0.9s,mb5.5
ESK Eskdalemuir 87.65 325 *eP* **P 03 44 11.1 +0.4**
comp=Z,31nm,0.9s,mb5.5
SJPF Ste Jean 88.48 313 *eP* **P 03 44 15.2 +0.2**
comp=Z,27nm,1.0s,mb5.1
SJPF Ste Jean 88.48 313 *eP* **P 03 44 15.2 +0.2**
SJPF pmax pmax
comp=Z,14nm,1.0s,mb5.2
ESDC Sonseca Array 91.12 310 P **P 03 44 28.2 +0.8**
comp=Z,4.7nm,0.7s,mb4.9,baz=62,slow=4.1,SNR=16
IMA Indian Mountai 91.56 22 *eP* **P 03 44 29.8 +1.0**
IMA pmax pmax
comp=Z,122nm,1.1s,mb6.1
IMA Indian Mountai 91.56 22 *eP* **P 03 44 29.8 +1.0**
comp=Z,122nm,1.1s,mb6.2

MCK McKinley 94.40 23 *eP* **P 03 44 42.5 +0.6**
MCK pmax pmax
comp=Z,13nm,1.3s,mb5.2
MCK McKinley 94.40 23 *eP* **P 03 44 42.5 +0.6**
comp=Z,13nm,1.3s,mb5.2
ILAR Eielson Array 94.69 22 P **P 03 44 43.6 +0.4**
comp=Z,1.7nm,0.9s,mb4.5,baz=298,slow=4.3,SNR=13
ILAR LR LR 04 36 42.6
comp=Z,223nm,18.6s,MS4.7,baz=170,slow=42
DAWY Dawson 97.80 21 *eP* **P 03 44 58.6 +1.3**
SCHQ Schefferville 115.43 348 PKP PKPdf 03 50 04.3 -3.6
comp=Z,5.2nm,1.2s,baz=342,slow=6.1,SNR=3.9
SCHQ Schefferville 115.43 348 PKP PKPdf 03 50 04.3 -3.6
TBI Tubuai 117.37 112 *e*PS PS 04 01 03.9 +0.5
TBI *e*LR LR 04 25 50.3
comp=Z,434nm,24.0s
PPT Papeete 117.42 106 *e*SP SP 04 01 00.1 -0.2
PPT *e*LR LR 04 25 51.2
comp=Z,312nm,23.5s
MCMT McKenzie Canyo 122.12 22 *e*PKPdf PKPdf 03 50 18.9 -2.2
QLMT Earthquake Lak 122.64 21 *e*PKPdf PKPdf 03 50 20.5 -1.6
YMR Madison River 122.95 21 *e*PKPdf PKPdf 03 50 20.8 -1.9
YFT Old Faithful 123.18 21 *e*PKPdf PKPdf 03 50 21.7 -1.5
NVAR Mina Array Bea 124.87 31 PKP PKPdf 03 50 24.7 -2.0
comp=Z,4.3nm,0.7s,baz=307,slow=1.4,SNR=21
NVAR Mina Array Bea 124.87 31 PKP PKPdf 03 50 24.7 -2.0
PDAR Pinedale Array 125.11 21 PKP PKPdf 03 50 23.6 -3.5
comp=Z,5.0nm,0.7s,baz=138,slow=0.4,SNR=34
MVU Marysvale 127.69 26 *e*PKPdf PKPdf 03 50 31.5 -0.6
MSU Marysvale 127.70 26 *e*PKIKP PKPdf 03 50 31.4 -0.7
NEN Nelson 128.77 30 *e*PKPdf PKPdf 03 50 32.6 -1.6
PV10 Paradox Valley 129.12 23 *e*PKPdf PKPdf 03 50 33.8 -1.0
KSU1 Kansas State U 132.14 11 *e*PKPdf PKPdf 03 50 37.0 -3.5
ANMO Albuquerque 133.11 23 PKIKP PKPdf 03 50 41.7 -0.8
ANMO pmax pmax
comp=Z,3.0nm,0.7s
ANMO Albuquerque 133.11 23 PKP PKPdf 03 50 41.6 -0.9
comp=Z,2.9nm,0.7s,baz=267,slow=1.8,SNR=15
LPM Los Pinos Moun 133.60 24 *e*PKPdf PKPdf 03 50 42.0 -1.4
GDL2 Guadalupe Moun 136.35 23 *e*PKPdf PKPdf 03 50 46.6 -2.0
TXAR Lajitas Array 139.17 24 PKhKP 03 50 42.1
comp=Z,0.3nm,0.5s,baz=341,slow=2.2,SNR=4.3
TXAR PKP PKPdf 03 50 52.2 -1.5
comp=Z,1.9nm,0.6s,baz=245,slow=0.7,SNR=8.5
TXAR Lajitas Array 139.17 24 PKP PKPdf 03 50 52.2 -1.5
JCT Junction City 139.52 19 *e*PKIKP PKPdf 03 50 52.3 -2.1
PLCA Paso Flores 144.61 200 *e*PKIKP PKPdf 03 50 58.9 -4.1
PLCA Paso Flores 144.61 200 PKP PKPdf 03 50 59.5 -3.5
comp=Z,12nm,0.8s,baz=152,slow=3.2,SNR=20
SJG San Juan 147.57 323 PKP2 PKPdf 03 51 08.9 +0.2
SJG pmax pmax
comp=Z,18nm,0.9s
SJG San Juan 147.57 323 PKPbc PKPdf 03 51 08.9 +0.3
comp=Z,18nm,0.9s,baz=36,slow=12,SNR=5.0
TEIG Tepich 151.90 5 *e*PKPdf PKPdf 03 51 13.2 -2.1
TEIG *e*PKPbc PKPdf 03 51 19.8 +4.5
SDV Santo Domingo 157.38 317 PKP PKPdf 03 51 21.1 -1.8
comp=Z,5.3nm,1.0s,baz=322,slow=4.9,SNR=4.2
SDV PKPab PKPab 03 51 50.4 -1.3
comp=Z,8.1nm,0.9s,baz=50,slow=3.8,SNR=5.8
LPAZ La Paz 160.76 243 PKP PKPdf 03 50 40.8 -46
comp=Z,1.8nm,0.8s,baz=78,slow=4.4,SNR=7.5
LPAZ PKPab PKPab 03 51 22.4 -44
comp=Z,2.2nm,0.7s,baz=342,slow=3.6,SNR=4.8
OTAV Otavalo 168.97 317 *e*PKPdf PKPdf 03 51 32.9 -1.0
OTAV *e*PKPab PKPab 03 52 44.0 +1.9

*IDC **28** 03:35:54.2±1.1, 8.41N×94.45E, mb4.1/7, mb1 4.3/7, mb1mx4.0/18, mbtmp4.1/7, Error ellipse: s-maj=49.6km s-min=27.0km az=45.0*
ISC 28 03:35:57.3±1.0, 8.3N±0.3×94.5E±0.2, h33km, n9, σ0§92/7, mb4.0/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.28**	**126**	P	**P**	**03 44 37.4**	**-0.2**
0.3nm,0.4s,mb3.7,baz=306,slow=8.2,SNR=5.0							
KMBO	**Kilima Mbogo**	**57.79**	**263**	P	**P**	**03 45 48.7**	**+0.5**
2.2nm,0.9s,mb4.2,baz=75,slow=7.9,SNR=4.9							
BRTR	**Keskin Array B**	**62.36**	**311**	P	**P**	**03 46 17.0**	**-2.2**
1.2nm,0.8s,mb4.1,baz=119,slow=8.7,SNR=4.4							
MLR	**Muntele Rosu**	**69.06**	**316**	P	**P**	**03 47 01.7**	**-0.2**
1.5nm,0.6s,mb4.1,baz=220,slow=7.9,SNR=4.6							
FINES	**FINESS Array B**	**72.45**	**332**	P	**P**	**03 47 22.1**	**0.0**
1.3nm,0.7s,mb4.0,baz=117,slow=8.5,SNR=4.2							
ARCES	**ARCESS Array B**	**74.93**	**340**	P	**P**	**03 47 37.1**	**+0.7**
2.7nm,1.0s,mb4.1,baz=108,slow=5.7,SNR=4.1							
GERES	**GERESS Array B**	**77.69**	**318**	P	**P**	**03 47 53.5**	**+1.1**
1.4nm,0.7s,mb4.0,baz=76,slow=5.5,SNR=5.2							
TXAR	**Lajitas Array**	**138.67**	**24**	PKP	PKPdf	03 55 23.7	+3.0
0.2nm,0.5s,baz=227,slow=0.6,SNR=5.2							
PLCA	**Paso Flores**	**145.09**	**200**	PKPbc	PKPbc	03 55 32.8	+0.7
1.7nm,0.7s,baz=182,slow=7.8,SNR=4.0							

IDC 28 03:36:44.9±10.0, 8.12N×93.84E, mb4.2/8, mb1 4.4/8, mb1mx4.1/19, mbtmp4.2/8, Error ellipse: s-maj=255.5km s-min=68.6km az=142.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**46.27**	**353**	P	P	03 45 12.6	-1.3
1.7nm,0.5s,baz=296,slow=6.8,SNR=3.5							
BRTR	**Keskin Array B**	**62.04**	**311**	P	P	03 47 06.7	-3.1
0.9nm,0.5s,baz=134,slow=6.6,SNR=3.3							
IDI	**Anoyia**	**68.18**	**305**	P	P	03 47 48.2	-1.3
3.8nm,0.7s,baz=11,slow=16,SNR=2.7							
MLR	**Muntele Rosu**	**68.79**	**316**	P	P	03 47 51.8	-1.3
2.3nm,0.8s,baz=135,slow=9.9,SNR=3.6							
FINES	**FINESS Array B**	**72.36**	**332**	P	P	03 48 12.2	-2.3
5.0nm,1.1s,baz=104,slow=7.9,SNR=3.7							
ARCES	**ARCESS Array B**	**74.94**	**340**	P	P	03 48 27.2	-2.1
2.7nm,0.8s,baz=90,slow=7.3,SNR=4.2							
GERES	**GERESS Array B**	**77.44**	**318**	P	P	03 48 43.0	-0.8
1.5nm,0.6s,baz=90,slow=5.3,SNR=6.2							
NOA	**NORSAR Array B**	**79.37**	**331**	P	P	03 48 52.2	-1.9
1.6nm,0.8s,baz=93,slow=5.7,SNR=3.4							

IDC 28 03:38:01.8±1.4, 7.60N×93.69E, mb4.1/5, mb1 4.2/6, mb1mx3.8/18, mbtmp4.0/6, ML4.0/1, Error ellipse: s-maj=52.5km s-min=31.4km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.94**	**25**	Pn	P	03 40 53.5	-2.9
0.3nm,0.3s,baz=215,slow=14,SNR=4.0							
ZAL	**Zalesovo**	**46.76**	**353**	P	P	03 46 32.3	-2.3
1.9nm,0.4s,baz=310,slow=5.1,SNR=4.6							
STKA	**Stephens Creek**	**60.24**	**133**	P	P	03 48 12.1	-2.4
1.5nm,0.8s,baz=338,slow=11,SNR=3.0							
BRTR	**Keskin Array B**	**62.27**	**311**	P	P	03 48 25.8	-2.2
0.4nm,0.4s,baz=122,slow=6.3,SNR=3.2							
FINES	**FINESS Array B**	**72.74**	**332**	P	P	03 49 32.0	-1.5
0.9nm,0.5s,baz=117,slow=8.5,SNR=6.0							
ARCES	**ARCESS Array B**	**75.37**	**340**	P	P	03 49 47.0	-1.6
2.8nm,0.9s,baz=80,slow=7.4,SNR=4.0							

IDC 28 03:41:31.1±0.9, 8.26N×94.17E, mb4.0/12, mb1 4.2/13, mb1mx4.1/21, mbtmp4.0/13, Error ellipse: s-maj=36.3km s-min=23.7km az=54.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.15**	**24**	Pn	P	03 44 21.6	+6.7
baz=226,slow=12,SNR=3.1							
ZAL	**Zalesovo**	**46.17**	**352**	P	P	03 49 58.9	-0.4
1.8nm,0.5s,baz=296,slow=5.6,SNR=5.5							
WRA	**Warramunga Arr**	**48.46**	**126**	P	P	03 50 15.2	-2.5
0.3nm,0.5s,baz=305,slow=8.6,SNR=3.2							
BVAR	**Borovoye Array**	**48.64**	**34**	P	P	03 50 18.0	-0.7
0.8nm,0.7s,baz=166,slow=5.9,SNR=3.5							
KMBO	**Kilima Mbogo**	**57.50**	**263**	P	P	03 51 24.2	-0.8
0.5nm,0.6s,baz=54,slow=8.8,SNR=4.4							
BRTR	**Keskin Array B**	**62.20**	**311**	P	P	03 51 53.4	-3.6
1.2nm,0.6s,baz=127,slow=7.5,SNR=8.3							
AKASG	**Malin Array Be**	**67.87**	**322**	P	P	03 52 30.4	-3.1
2.8nm,1.0s,baz=87,slow=4.9,SNR=5.8							
IDI	**Anoyia**	**68.38**	**305**	P	P	03 52 33.9	-3.0
6.8nm,0.8s,baz=251,slow=17,SNR=5.9							
MLR	**Muntele Rosu**	**68.92**	**316**	P	P	03 52 38.1	-2.0
1.6nm,0.7s,baz=135,slow=9.3,SNR=5.0							
FINES	**FINESS Array B**	**72.39**	**332**	P	P	03 52 58.9	-1.9
1.8nm,0.8s,baz=111,slow=5.9,SNR=7.0							
ARCES	**ARCESS Array B**	**74.92**	**340**	P	P	03 53 13.7	-1.7
2.6nm,0.7s,baz=72,slow=7.7,SNR=6.5							
GERES	**GERESS Array B**	**77.56**	**318**	P	P	03 53 29.3	-1.3
1.7nm,0.6s,baz=88,slow=5.7,SNR=14							
NB2	**NORSAR Subarra**	**79.41**	**331**	P	P	03 53 38.1	-2.4
1.7nm,0.7s,baz=96,slow=5.0							
NOA	**NORSAR Array B**	**79.41**	**331**	P	P	03 53 39.0	-1.5
1.4nm,0.6s,baz=95,slow=4.9,SNR=4.3							
TXAR	**Lajitas Array**	**138.86**	**24**	PKP	PKPdf	04 01 02.0	0.0
0.3nm,0.7s,baz=304,slow=0.2,SNR=4.9							
PLCA	**Paso Flores**	**144.92**	**200**	PKP	PKPdf	04 01 08.5	-3.9
2.4nm,1.0s,baz=299,slow=6.8,SNR=3.4							
LPAZ	**La Paz**	**160.97**	**244**	PKPab	PKPab	04 02 19.8	+0.7
1.1nm,1.0s,baz=239,slow=6.6,SNR=4.9							

IDC 28 03:42:52.2±4.6, 8.93N×93.67E, mb4.1/7, mb1 4.3/7, mb1mx3.9/19, mbtmp4.1/7, Error ellipse: s-maj=115.6km s-min=51.5km az=129.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**57.08**	**263**	P	P	03 52 41.4	-1.8
1.1nm,0.5s,baz=29,slow=10,SNR=5.4							
BRTR	**Keskin Array B**	**61.39**	**310**	P	P	03 53 10.1	-2.5
0.9nm,0.7s,baz=120,slow=7.3,SNR=5.4							
IDI	**Anoyia**	**67.58**	**304**	P	P	03 53 50.8	-2.2
4.7nm,0.6s,slow=7.1,SNR=3.6							
MLR	**Muntele Rosu**	**68.09**	**315**	P	P	03 53 53.9	-2.2
1.5nm,0.7s,baz=142,slow=23,SNR=4.1							
FINES	**FINESS Array B**	**71.56**	**332**	P	P	03 54 14.9	-2.0
0.9nm,0.5s,baz=117,slow=8.5,SNR=4.0							
ARCES	**ARCESS Array B**	**74.12**	**340**	P	P	03 54 30.6	-1.2
0.9nm,0.5s,baz=90,slow=2.4,SNR=4.3							
GERES	**GERESS Array B**	**76.73**	**318**	P	P	03 54 46.1	-1.0
1.6nm,0.7s,baz=90,slow=5.3,SNR=9.4							
TXAR	**Lajitas Array**	**138.45**	**23**	PKP	PKPdf	04 02 18.8	-3.6
0.2nm,0.9s,baz=144,slow=2.1,SNR=3.6							

*IDC **28** 03:43:53.8±1.4, 7.59N×93.84E, mb3.9/8, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, ML3.9/1, Error ellipse: s-maj=43.9km s-min=28.5km az=51.0*
*BJI **28** 03:43:57.9, 8.16N×93.01E, h23km, mb4.3*
*NEIC **28** 03:43:58.8±0.9, 7.69N×94.00E, h30km, mb4.3/2, Error ellipse: s-maj=25.4km s-min=16.1km az=58.0*
ISC 28 03:43:57.3±0.8, 7.8N±0.1×94.2E±0.1, h30km, n15, σ1§29/15, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.57**	**23**	Pn	**P**	**03 46 43.2**	**-0.5**
0.2nm,0.3s,baz=214,slow=14,SNR=8.7							
HYB	**Hyderabad**	**18.01**	**304**	*i* P	**P**	**03 48 09.0**	**+1.5**
AAK	**Ala-Archa**	**38.81**	**337**	P	**P**	**03 51 23.2**	**+1.9**
SONM	**Songino Array**	**41.24**	**12**	P	**P**	**03 51 43.5**	**+2.2**
1.6nm,0.6s,mb3.8,baz=202,slow=7.8,SNR=4.4							
KURK	**Kurchatov**	**44.71**	**346**	*e*P	**P**	**03 52 08.4**	**-1.2**
4.4nm,1.1s,mb4.2							
ZAL	**Zalesovo**	**46.64**	**352**	P	**P**	**03 52 24.0**	**-0.8**
1.8nm,0.8s,mb4.0,baz=286,slow=6.9,SNR=3.5							
WRA	**Warramunga Arr**	**48.16**	**126**	P	**P**	**03 52 37.6**	**+0.4**
0.8nm,0.7s,mb3.9,baz=305,slow=8.5,SNR=5.0							
WRAB	**Tennant Creek**	**48.16**	**125**	*e*P	**P**	**03 52 37.6**	**+0.3**
1.4nm,0.4s,mb4.3							
BVAR	**Borovoye Array**	**49.09**	**341**	P	**P**	**03 52 45.0**	**+1.0**
2.0nm,0.9s,mb4.1,baz=124,slow=11,SNR=5.3							
BRTR	**Keskin Array B**	**62.53**	**311**	P	**P**	**03 54 18.3**	**-2.5**
0.7nm,0.8s,mb3.8,baz=137,slow=7.2,SNR=2.2							
BRTR	**Keskin Array B**	**62.53**	**311**	P	**P**	**03 54 18.3**	**-2.5**
FINES	**FINESS Array B**	**72.82**	**332**	P	**P**	**03 55 23.2**	**-1.7**
2.6nm,0.9s,mb4.2,baz=79,slow=7.1,SNR=3.2							
GERES	**GERESS Array B**	**77.94**	**318**	P	**P**	**03 55 53.9**	**-0.3**
0.8nm,0.8s,mb3.7,baz=63,slow=3.0,SNR=4.5							
NB2	**NORSAR Subarra**	**79.84**	**331**	P	**P**	**03 56 04.1**	**-0.3**
1.0nm,0.8s,mb3.8,baz=96,slow=5.6							
NOA	**NORSAR Array B**	**79.84**	**331**	P	**P**	**03 56 03.9**	**-0.5**
0.9nm,0.8s,mb3.8,baz=97,slow=5.9,SNR=3.0							

*IDC **28** 03:45:48.4±0.9, 7.75N×93.60E, mb4.0/9, mb1 4.2/10, mb1mx4.0/18, mbtmp4.0/10, ML4.3/1, Error ellipse: s-maj=49.9km s-min=18.4km az=50.0*
*NEIC **28** 03:45:53.2±0.5, 7.81N×93.71E, h30km, mb4.2/3, Error ellipse: s-maj=19.5km s-min=9.6km az=58.0*
ISC 28 03:45:51.3±0.7, 7.9N±0.1×93.8E±0.2, h30km, n16, σ0§69/15, mb4.1/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.66**	**25**	Pn	**P**	**03 48 38.7**	**-0.2**
0.6nm,0.3s,baz=212,slow=15,SNR=5.3							
KURK	**Kurchatov**	**44.55**	**346**	*e*P	**P**	**03 54 02.0**	**-0.1**
2.4nm,0.6s,mb4.2							
ZAL	**Zalesovo**	**46.52**	**353**	P	**P**	**03 54 18.0**	**+0.3**
2.2nm,0.4s,mb4.4,baz=306,slow=9.2,SNR=5.6							
ZAL	**Zalesovo**	**46.52**	**353**	P	**P**	**03 54 18.0**	**+0.3**
WRA	**Warramunga Arr**	**48.53**	**125**	P	**P**	**03 54 33.3**	**-0.7**
1.0nm,0.5s,mb4.1,baz=304,slow=8.6,SNR=11							
WRAB	**Tennant Creek**	**48.53**	**125**	*e*P	**P**	**03 54 33.7**	**-0.3**
1.8nm,0.4s,mb4.5							
BRVK	**Borovoye**	**48.96**	**341**	P	**P**	**03 54 37.2**	**+0.4**
0.9nm,0.4s,mb4.2							
ASAR	**Alice Springs**	**50.16**	**130**	P	**P**	**03 54 48.0**	**+1.4**
0.9nm,0.9s,mb3.8,baz=308,slow=7.3,SNR=4.0							
STKA	**Stephens Creek**	**60.34**	**134**	P	**P**	**03 55 59.5**	**-0.5**
2.4nm,0.9s,mb4.2,baz=20,slow=4.3,SNR=2.9							
BRTR	**Keskin Array B**	**62.18**	**311**	P	**P**	**03 56 11.1**	**-1.4**
1.9nm,1.2s,mb4.1,baz=126,slow=8.2,SNR=4.1							
FINES	**FINESS Array B**	**72.57**	**332**	P	**P**	**03 57 17.2**	**-0.2**
1.5nm,0.7s,mb4.1,baz=90,slow=5.7,SNR=4.7							
FINES	**FINESS Array B**	**72.57**	**332**	P	**P**	**03 57 17.2**	**-0.2**
ARCES	**ARCESS Array B**	**75.17**	**340**	P	**P**	**03 57 32.7**	**+0.4**
2.0nm,0.8s,mb4.1,baz=125,slow=11,SNR=2.5							
GERES	**GERESS Array B**	**77.61**	**318**	P	**P**	**03 57 47.4**	**+1.0**
0.6nm,0.8s,mb3.6,baz=90,slow=5.3,SNR=3.7							
NOA	**NORSAR Array B**	**79.58**	**331**	P	**P**	**03 57 56.8**	**-0.1**
1.0nm,0.7s,mb3.9,baz=92,slow=5.7,SNR=3.8							
PDAR	**Pinedale Array**	**125.31**	**21**	PKP	PKPdf	04 04 53.0	-1.8
0.4nm,0.8s,baz=329,slow=5.3,SNR=2.3							

*IDC **28** 03:54:52.9±1.0, 8.57N×94.19E, mb4.0/10, mb1 4.2/10, mb1mx4.0/19, mbtmp4.0/10, Error ellipse: s-maj=40.3km s-min=25.0km az=51.0*
ISC 28 03:54:56.4±0.9, 8.6N±0.2×94.2E±0.2, h33km, n12, σ1§24/10, mb4.1/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**45.80**	**352**	P	**P**	**04 03 15.2**	**-1.6**
0.7nm,0

error at LPAZ

ISC 28 04:00:26.8±0.8, 7.9N±0.1×94.0E±0.1, h30km, n32, σ1°01/30, mb4.4/23, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.55	24	P	P	04 03 13.6	+0.7
	0.5nm,0.3s,baz=215,slow=14,SNR=3.1						
HYB	Hyderabad	17.80	304	*i* P	P	04 04 34.5	+0.3
JIRN	Jiri	21.02	340	*eP*	P	04 05 10.5	0.0
	26nm,0.7s,mb4.7						
PKI	Pulchoki	21.21	338	*eP*	P	04 05 13.3	+0.8
	27nm,0.6s,mb4.8						
DMN	Daman	21.35	338	*eP*	P	04 05 15.4	+1.4
	40nm,0.8s,mb4.8						
KKN	Kakani	21.45	338	*eP*	P	04 05 16.0	+1.0
	31nm,1.0s,mb4.6						
LSA	Lhasa	21.87	353	*eP*	P	04 05 21.4	+2.3
	12nm,0.8s,mb4.4						
GKN	Gorkha	21.89	337	*eP*	P	04 05 18.8	-0.5
	34nm,0.7s,mb4.9						
KOLN	Koldanda	22.10	335	*eP*	P	04 05 21.3	-0.1
	35nm,0.7s,mb4.9						
SONM	Songino Array	41.18	13	P	P	04 08 09.1	-1.2
	1.8nm,0.8s,mb3.8,baz=190,slow=7.5,SNR=3.5						
KURK	Kurchatov	44.57	346	*eP*	P	04 08 37.2	-0.8
ZAL	Zalesovo	46.52	353	P	P	04 08 53.2	-0.2
	2.1nm,0.8s,mb4.1,baz=297,slow=7.1,SNR=8.6						
ZAL	Zalesovo	46.52	353	P	P	04 08 53.2	-0.2
WRAB	Tennant Creek	48.37	125	*eP*	P	04 09 08.9	+0.6
	2.7nm,0.8s,mb4.3						
BVAR	Borovoye Array	48.94	341	P	P	04 09 11.1	-1.2
	1.7nm,0.8s,mb4.1,baz=127,slow=7.4,SNR=7.5						
CHKZ	Chkalovo	49.42	342	*eP*	P	04 09 15.2	-0.8
	7.4nm,0.9s,mb4.7						
KIV	Kislovodsk	57.23	318	P	P	04 10 13.1	-0.8
	4.3nm,0.6s,mb4.7						
KMBO	Kilima Mbogo	57.30	264	P	P	04 10 17.6	+2.9
	2.1nm,0.8s,mb4.2,baz=45,slow=14,SNR=5.3						
BRTR	Keskin Array B	62.33	311	P	P	04 10 47.4	-1.5
	2.3nm,0.9s,mb4.3,baz=134,slow=7.4,SNR=8.4						
AKASG	Malin Array Be	68.07	322	P	P	04 11 23.6	-2.1
	1.3nm,0.7s,mb4.1,baz=98,slow=4.4,SNR=5.5						
MLR	Muntele Rosu	69.08	316	P	P	04 11 32.3	+0.2
	3.2nm,0.9s,mb4.2,baz=12,slow=22,SNR=5.5						
FINES	FINESS Array B	72.64	332	P	P	04 11 52.3	-1.0
	4.4nm,0.8s,mb4.4,baz=117,slow=8.5,SNR=6.6						
ARCES	ARCESS Array B	75.21	340	P	P	04 12 08.0	-0.2
	4.0nm,0.9s,mb4.3,baz=53,slow=26,SNR=2.9						
GERES	GERESS Array B	77.73	318	P	P	04 12 23.3	+0.7
	2.1nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=13						
CLL	Collm	78.27	321	P	P	04 12 26.0	+0.5
HFS	Hagfors	78.38	330	P	P	04 12 26.0	+0.1
	2.3nm,0.6s,mb4.3,baz=101,slow=7.6,SNR=6.9						
NB2	NORSAR Subarra	79.66	331	P	P	04 12 32.3	-0.6
	1.1nm,0.7s,mb3.9,baz=97,slow=5.0						
NOA	NORSAR Array B	79.66	331	P	P	04 12 32.7	-0.2
	1.5nm,0.7s,mb4.0,baz=91,slow=5.7,SNR=3.8						
NOA	NORSAR Array B	79.66	331	P	P	04 12 32.7	-0.2
DAVOX	Davos	80.29	316	P	P	04 12 37.4	+0.8
	3.5nm,0.7s,mb4.4						
PDAR	Pinedale Array	125.20	21	PKP	PKPdf	04 19 27.1	-3.1
	0.3nm,0.9s,baz=90,slow=1.5,SNR=3.8						
TXAR	Lajitas Array	139.27	24	PKP	PKPdf	04 19 55.6	-1.3
	0.1nm,0.5s,slow=1.8,SNR=2.7						

*IDC **28** 04:00:57.9±0.8, 7.66N×93.93E, mb4.3/15, mb1 4.4/16, mb1mx4.4/22, mbtmp4.3/16, ML4.1/1, Error ellipse: s-maj=33.8km s-min=18.1km az=47.0*

*BJI **28** 04:01:02.6, 7.58N×93.67E, h49km, mB4.9, mb4.7, Ms4.6, Msz4.4*

*NEIC **28** 04:01:03.1±0.5, 7.77N×94.02E, h30km, mb4.5/10, Error ellipse: s-maj=13.7km s-min=11.2km az=54.0*

ISC 28 04:01:02.5±0.5, 7.84N±0.09×94.16E±0.08, h33km, n47, σ1°54/42, mb4.4/25, MS4.6/1, 2C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.54	23	Pn	P	04 03 48.0	0.0
	0.4nm,0.3s,baz=209,slow=14,SNR=9.5						
HYB	Hyderabad	17.94	304	*eP*	P	04 05 10.0	-1.2
HYB	Hyderabad	17.94	304	*i* P	P	04 05 10.0	-1.2
KMI	Kunming	19.04	25	⇑P	P	04 05 27.9	+3.2
	19nm,1.1s						
KMI				pP		04 05 31.5	
LSA	Lhasa	21.93	353	*eP*	P	04 05 54.5	-0.4
LSA	Lhasa	21.93	353	*eP*	P	04 05 54.6	-0.3
	26nm,0.7s,mb4.8						
ENH	Enshi	26.54	31	*eP*	P	04 06 39.6	+0.2
	5.6nm,0.7s,mb4.2						
LZH	Lanzhou	29.48	16	*eP*	P	04 07 12.0	+6.2
LZH				AP	sP	04 07 25.5	+5.8
LZH				AMB	AMB		
	comp=Z,31nm,1.8s,mb4.7						
LZH				AMB	AMB		
	comp=Z,98nm,4.0s						
LZH				LR	LR		
	comp=E,596nm,10.7s						
LZH				LR	LR		
	comp=Z,799nm,11.5s,MS4.6						
WMQ	Urumqi	36.28	352	*eP*	P	04 08 04.5	-0.3
BJT	Baijiatuau	37.61	28	*eP*	P	04 08 15.7	-0.3
	comp=Z,2.9nm,0.5s,mb4.3						
BJI	Beijing	37.63	28	P	P	04 08 18.4	+2.2
SONM	Songino Array	41.19	13	P	P	04 08 46.5	+0.8
	comp=Z,0.9nm,0.5s,mb3.6,baz=202,slow=7.8,SNR=2.7						
SNY	Shenyang	42.69	33	⇑P	P	04 09 04.0	+5.9
SNY				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
KURK	Kurchatov	44.65	346	*eP*	P	04 09 12.1	-1.6
	comp=Z,22nm,1.3s,mb4.8						
ZAL	Zalesovo	46.58	352	P	P	04 09 28.1	-0.9
	comp=Z,2.9nm,0.8s,mb4.3,baz=298,slow=6.4,SNR=6.8						
WRA	Warramunga Arr	48.23	126	P	P	04 09 41.5	-0.9
	comp=Z,1.6nm,0.7s,mb4.2,baz=304,slow=8.5,SNR=6.5						
WRAB	Tennant Creek	48.23	126	*eP*	P	04 09 42.3	-0.1
	comp=Z,4.8nm,0.8s,mb4.6						
BVAR	Borovoye Array	49.03	341	P	P	04 09 45.7	-2.4
	comp=Z,1.1nm,0.5s,mb4.1,baz=135,slow=8.4,SNR=6.0						
CHKZ	Chkalovo	49.51	342	*eP*	P	04 09 49.8	-2.1
	comp=Z,7.7nm,0.8s,mb4.8						
ASAR	Alice Springs	49.88	130	P	P	04 09 52.8	-2.4
	comp=Z,1.1nm,0.9s,mb3.9,baz=304,slow=6.5,SNR=3.1						
KMBO	Kilima Mbogo	57.43	264	P	P	04 10 53.1	+2.2
	comp=Z,5.6nm,0.9s,mb4.6,baz=52,slow=8.9,SNR=9.5						
BRTR	Keskin Array B	62.46	311	P	P	04 11 22.1	-2.9
	comp=Z,2.0nm,0.6s,mb4.4,baz=112,slow=7.8,SNR=3.0						
AKASG	Malin Array Be	68.19	322	P	P	04 11 58.5	-3.1
	comp=Z,0.7nm,0.6s,mb3.9,baz=84,slow=4.6,SNR=3.7						
IDI	Anoyia	68.60	305	P	P	04 12 03.4	-1.1
	comp=Z,3.9nm,0.6s,mb4.5,baz=167,slow=19,SNR=3.0						
MLR	Muntele Rosu	69.21	316	P	P	04 12 08.0	0.0
	comp=Z,5.9nm,0.9s,mb4.5,baz=354,slow=3.6,SNR=6.6						
FINES	FINESS Array B	72.75	332	P	P	04 12 28.2	-0.8
	comp=Z,2.5nm,0.6s,mb4.3,baz=104,slow=6.2,SNR=5.6						
CRVS	Cervenica-Dubn	72.77	319	*e*	P	04 12 32.3	+2.9
LBTB	Lobatse	74.24	241	*eP*	P	04 12 39.4	+0.9
	comp=Z,4.0nm,0.7s,mb4.5						
VYHS	Vyhne	74.44	318	*eP*	P	04 12 40.9	+1.7
OKC	Ostrava-Krasne	75.03	319	*eP*	P	04 12 45.1	+2.5
ARCES	ARCESS Array B	75.30	340	P	P	04 12 44.2	+0.4
	comp=Z,2.3nm,0.6s,mb4.3,baz=104,slow=5.0,SNR=8.4						
ARCES	ARCESS Array B	75.30	340	P	P	04 12 44.2	+0.4
ZST	Bratislava	75.57	318	*e*	P	04 12 49.1	+3.4
DPC	Dobruska-Polom	76.24	320	*eP*	P	04 12 50.6	+1.1
PVCC	Panska Ves	77.37	320	*eP*	P	04 12 58.5	+2.6
BRG	Berggiesshubel	77.79	320	P	P	04 12 57.5	-0.6
	comp=Z,3.2nm,0.8s,mb4.3						
GERES	GERESS Array B	77.86	318	P	P	04 12 57.8	-0.8
	comp=Z,2.5nm,0.6s,mb4.4,baz=127,slow=4.9,SNR=4.4						
KHC	Kasperske Hory	77.95	319	*eP*	P	04 13 01.5	+2.4
CLL	Collm	78.40	321	*e*PP	pP	04 13 06.0	-5.8
NB2	NORSAR Subarra	79.77	331	P	P	04 13 07.2	-1.5
	comp=Z,1.4nm,0.6s,mb4.1,baz=98,slow=4.8						
NOA	NORSAR Array B	79.77	331	P	P	04 13 07.8	-0.9
	comp=Z,2.4nm,0.8s,mb4.2,baz=95,slow=5.2,SNR=4.8						
DAVOX	Davos	80.42	316	P	P	04 13 11.8	-0.7
	comp=Z,8.0nm,0.9s,mb4.6,baz=295,slow=14,SNR=2.5						
IMA	Indian Mountai	91.65	22	*eP*	P	04 14 10.7	+3.3
NVAR	Mina Array Bea	124.94	31	PKP	PKPdf	04 20 01.9	+2.1
	comp=Z,0.4nm,0.4s,baz=291,slow=0.6,SNR=3.6						
PDAR	Pinedale Array	125.19	21	PKP	PKPdf	04 20 02.0	+1.8
	comp=Z,1.0nm,0.9s,baz=45,slow=2.1,SNR=5.4						
TXAR	Lajitas Array	139.25	24	PKiKP		04 20 31.7	
	comp=Z,0.4nm,0.6s,baz=225,slow=1.3,SNR=4.9						
PLCA	Paso Flores	144.52	200	PKP	PKPdf	04 20 36.1	+0.2
	comp=Z,3.7nm,0.8s,baz=201,slow=4.2,SNR=8.0						

*IDC **28** 04:03:59.5±0.6, 8.27N×93.86E, mb4.3/18, mb1 4.4/19, mb1mx4.4/22, mbtmp4.2/19, ML4.0/1, MS4.4/14, Ms1 4.4/14, ms1mx4.1/29, Error ellipse: s-maj=30.3km s-min=13.5km az=50.0*

*BJI **28** 04:04:02.0, 7.83N×93.70E, h54km, mB5.0, mb4.6, Ms4.8, Msz4.6*

*NEIC **28** 04:04:03.8±0.4, 8.17N×93.80E, h30km, mb4.8/11, Error ellipse: s-maj=12.5km s-min=8.7km az=66.0*

ISC 28 04:04:02.7±0.4, 8.19N±0.07×93.84E±0.08, h33km, n55, σ0°83/45, mb4.5/32, MS4.4/14, 3C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.35	25	Pn	P	04 06 45.4	-0.2
	0.3nm,0.3s,baz=210,slow=15,SNR=11						
CMAR				LR	LR	04 11 19.8	
	comp=Z,1μm,18.4s,baz=220,slow=39						
HYB	Hyderabad	17.49	303	*i* P	P	04 08 03.5	-2.3
KMI	Kunming	18.86	26	⇑P	P	04 08 24.9	+2.1
	29nm,1.7s						
KMI				pP		04 08 34.1	
JIRN	Jiri	20.67	340	*eP*	P	04 08 42.2	-0.2
	104nm,1.1s						
PKI	Pulchoki	20.86	339	*eP*	P	04 08 44.8	+0.4
	165nm,1.1s						
DMN	Daman	21.01	338	*eP*	P	04 08 46.3	+0.4
	92nm,0.8s,mb5.1						
KKN	Kakani	21.11	339	*eP*	P	04 08 47.8	+0.9
	109nm,1.1s,mb5.1						
GKN	Gorkha	21.54	337	*eP*	P	04 08 51.3	+0.1
	85nm,0.7s,mb5.3						
LSA	Lhasa	21.55	354	*eP*	P	04 08 51.8	+0.5
	41nm,0.8s,mb4.9						
KOLN	Koldanda	21.75	335	*eP*	P	04 08 54.4	+1.1
	114nm,1.0s,mb5.2						
ENH	Enshi	26.41	32	*eP*	P	04 09 36.9	-1.4
	20nm,1.0s,mb4.6						
LZH	Lanzhou	29.23	17	⇑P	P	04 10 03.5	-0.3
LZH				AP	pP	04 10 17.0	+3.7
LZH				XP	sP	04 10 21.0	+3.3
LZH				AMB	AMB		
	comp=Z,31nm,1.8s,mb4.7						
LZH				AMB	AMB		
	comp=Z,103nm,4.1s						
LZH				LR	LR		
	comp=E,596nm,10.8s						
LZH				LR	LR		
	comp=Z,809nm,11.6s,MS4.6						
LZH	Lanzhou	29.23	17	⇑P	P	04 10 03.5	-0.3
	comp=Z,31nm,1.8s,mb4.7						
LZH				pP	pP	04 10 16.9	+3.6
LZH				sP	sP	04 10 21.0	+3.3
LZH				LR	LR		
	comp=Z,810nm,11.6s,MS4.6						
WHN	Wuhan	29.37	38	*eP*	P	04 10 05.0	0.0
BJT	Baijiatuau	37.45	29	*eP*	P	04 11 14.1	-0.7
JOW	Kunigami	37.52	56	LR	LR	04 28 03.7	
	comp=Z,337nm,18.1s,MS4.2,baz=330,slow=38						
SONM	Songino Array	40.92	13	P	P	04 11 43.5	-0.1
	comp=Z,3.5nm,1.0s,mb4.0,baz=202,slow=6.7,SNR=4.4						
KURK	Kurchatov	44.23	346	*eP*	P	04 12 10.4	-0.2
	comp=Z,23nm,1.3s,mb4.7						
ZAL	Zalesovo	46.20	353	P	P	04 12 26.4	+0.2
	comp=Z,6.5nm,1.0s,mb4.5,baz=297,slow=8.9,SNR=13						
NWAO	Narrogin (SRO)	46.56	153	P	P	04 12 30.7	+1.3
	comp=Z,10nm,0.8s,mb4.8,baz=314,slow=6.7,SNR=7.6						
BVAR	Borovoye Array	48.60	341	P	P	04 12 44.9	-0.1
	comp=Z,1.6nm,0.6s,mb4.2,baz=143,slow=7.4,SNR=6.6						
WRA	Warramunga Arr	48.69	126	P	P	04 12 45.9	-0.3
	comp=Z,4.1nm,0.6s,mb4.6,baz=304,slow=8.6,SNR=15						
WRAB	Tennant Creek	48.69	126	*eP*	P	04 12 45.4	-0.7
	comp=Z,21nm,1.1s,mb5.1						
CHKZ	Chkalovo	49.08	342	*eP*	P	04 12 48.3	-0.4
	comp=Z,12nm,0.9s,mb4.9						
ASAR	Alice Springs	50.34	130	P	P	04 12 57.7	-1.2
	comp=Z,3.1nm,1.0s,mb4.3,baz=311,slow=7.3,SNR=8.8						
ASAR				LR	LR	04 34 16.7	
	comp=Z,250nm,20.0s,MS4.2,baz=294,slow=36						
GNI	Garni	54.00	314	LR	LR	04 38 17.0	
	comp=Z,186nm,21.8s,MS4.1,baz=282,slow=38						
ASAJ	Asahikawa	55.37	41	LR	LR	04 36 43.8	
	comp=Z,279nm,19.8s,MS4.3,baz=314,slow=36						
PMG	Port Moresby	55.91	107	P	P	04 13 40.7	+0.5
	comp=Z,10nm,0.6s,mb5.0,baz=245,slow=1.2,SNR=4.5						
KMBO	Kilima Mbogo	57.16	263	P	P	04 13 50.0	+0.8
	comp=Z,2.0nm,0.7s,mb4.2,baz=60,slow=17,SNR=4.3						
KMBO				LR	LR	04 36 09.2	
	comp=Z,285nm,18.4s,MS4.4,baz=281,slow=34						
ASF	Jabal al Asfar	57.80	303	LR	LR	04 39 09.3	
	comp=Z,222nm,19.8s,MS4.3,baz=72,slow=36						
CTA	Charters Tower	58.72	119	LR	LR	04 38 49.2	
	comp=Z,240nm,20.8s,MS4.3,baz=131,slow=36						
EIL	Elat	59.01	300	LR	LR	04 41 48.4	
	comp=Z,273nm,18.1s,MS4.4,baz=100,slow=38						
STKA	Stephens Creek	60.54	134	P	P	04 14 12.9	+0.6
	comp=Z,3.3nm,0.9s,mb4.5,baz=318,slow=5.0,SNR=4.9						
STKA				LR	LR	04 43 00.5	
	comp=Z,268nm,18.9s,MS4.4,baz=224,slow=39						
BRTR	Keskin Array B	62.00	311	P	P	04 14 20.2	-1.8
	comp=Z,0.7nm,0.7s,mb3.9,baz=116,slow=6.5,SNR=3.6						
AKASG	Malin Array Be	67.72	322	P	P	04 14 58.4	-0.5
	comp=Z,1.9nm,0.7s,mb4.2,baz=88,slow=4.4,SNR=4.9						
MLR	Muntele Rosu	68.74	316	P	P	04 15 05.6	+0.3
	comp=Z,2.4nm,0.7s,mb4.2,baz=205,slow=6.5,SNR=5.3						
JOF	Joensuu	70.44	334	*ep*	P	04 15 11.3	-4.1
	comp=Z,2.5nm,0.7s,mb4.2						
FINES	FINESS Array B	72.30	332	P	P	04 15 25.6	-0.9
	comp=Z,2.1nm,0.7s,mb4.2,baz=113,slow=7.2,SNR=6.1						
FINES				LR	LR	04 50 12.4	
	comp=Z,226nm,18.5s,MS4.5,baz=298,slow=38						
KAF	Kangasniemi	72.38	333	*ep*	P	04 15 26.5	-0.5
	comp=Z,0.3nm,0.3s,mb3.7						
ARCES	ARCESS Array B	74.87	340	P	P	04 15 41.9	+0.4
	comp=Z,2.7nm,0.8s,mb4.2,baz=112,slow=6.5,SNR=5.9						
ARCES				LR	LR	04 51 38.5	
	comp=Z,590nm,19.8s,MS4.9,baz=77,slow=38						
PRU	Pruhonice	76.89	319	*eP*	P	04 15 53.5	+0.1
GERES	GERESS Array B	77.39	318	P	P	04 15 57.3	+1.1
	comp=Z,2.1nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=10						
KHC	Kasperske Hory	77.48	318	*eP*	P	04 15 57.0	+0.3
CLL	Collm	77.93	321	P	P	04 15 59.0	-0.1
CLL				*e*PP	pP	04 16 05.0	-4.4
NB2	NORSAR Subarra	79.31	331	P	P	04 16 05.9	-0.5
	comp=Z,3.9nm,1.0s,mb4.3,baz=96,slow=5.0						
NOA	NORSAR Array B	79.31	331	P	P	04 16 05.9	-0.5
	comp=Z,1.9nm,0.8s,mb4.1,baz=92,slow=5.6,SNR=6.8						
NOA				LR	LR	04 53 36.0	
	comp=Z,196nm,18.4s,MS4.5,baz=30,slow=38						
LPG	La Plagne	82.19	315	*eP*	P	04 16 25.8	+3.9
	comp=Z,18nm,1.0s,mb4.7						
RPZ	Rata Peaks	86.48	135	LR	LR	04 58 09.8	
	comp=Z,295nm,18.1s,MS4.7,baz=268,slow=38						
ESDC	Sonseca Array	90.79	310	P	P	04 17 05.3	+1.1
	comp=Z,0.9nm,0.8s,mb4.2,baz=108,slow=4.1,SNR=3.8						
IMA	Indian Mountai	91.44	22	*eP*	P	04 17 06.5	-0.1
ILAR	Eielson Array	94.57	22	P	P	04 17 20.1	-0.8
	comp=Z,0.3nm,0.8s,mb3.8,baz=312,slow=4.0,SNR=4.8						
INK	Inuvik	96.77	16	*eP*	P	04 17 31.3	+0.5
	comp=Z,5.9nm,1.3s,mb4.9						
PDAR	Pinedale Array	124.98	21	PKP	PKPdf	04 22 59.9	-0.1
	comp=Z,0.5nm,0.7s,baz=315,slow=2.1,SNR=4.6						
TXAR	Lajitas Array	139.06	24	PKP	PKPdf	04 23 28.2	+1.4
	comp=Z,0.3nm,0.6s,baz=2.3,slow=1.2,SNR=4.1						
PLCA	Paso Flores	144.74	201	PKP	PKPdf	04 23 36.6	+0.1
	comp=Z,3.9nm,0.9s,baz=92,slow=5.7,SNR=7.3						

*IDC **28** 04:11:11.2±0.9, 7.68N×93.85E, mb3.9/11, mb1 4.1/12, mb1mx4.0/20, mbtmp3.9/12, ML4.4/1, Error ellipse: s-maj=39.9km s-min=19.8km az=51.0*

ISC 28 04:11:14.8±0.8, 7.9N±0.1×94.1E±0.1, h33km, n15, σ1°22/12, mb4.0/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.51	23	Pn	P	04 13 59.8	-0.2
	0.8nm,0.3s,baz=212,slow=14,SNR=8.2						
SONM	Songino Array	41.17	13	P	P	04 19 00.4	+2.6
	3.0nm,1.0s,mb3.9,baz=211,slow=7.2,SNR=4.2						
ZAL	Zalesovo	46.55	352	P	P	04 19 41.2	+0.1
	1.7nm,0.7s,mb4.1,baz=302,slow=5.1,SNR=4.4						
WRA	Warramunga Arr	48.25	126	P	P	04 19 54.0	-1.0
	1.1nm,0.8s,mb3.9,baz=307,slow=9.0,SNR=6.3						
BVAR	Borovoye Array	49.00	341	P	P	04 19 59.9	-0.3
	0.4nm,0.5s,mb3.7,baz=166,slow=6.1,SNR=4.2						
ASAR	Alice Springs	49.91	130	P	P	04 20 08.1	+0.5
	0.7nm,0.8s,mb3.7,baz=299,slow=7.0,SNR=6.2						
KMBO	Kilima Mbogo	57.43	264	P	P	04 21 06.3	+3.1
	2.1nm,1.0s,mb4.1,baz=40,slow=16,SNR=4.5						
BRTR	Keskin Array B	62.44	311	P	P	04 21 35.0	-2.2
	1.0nm,0.7s,mb4.1,baz=124,slow=8.1,SNR=5.7						
AKASG	Malin Array Be	68.16	322	P	P	04 22 12.3	-1.5
	0.4nm,0.5s,mb3.7,baz=90,slow=4.7,SNR=4.2						
GERES	GERESS Array B	77.83	318	P	P	04 23 11.1	+0.4
	1.2nm,0.6s,mb4.0,baz=82,slow=5.8,SNR=9.4						
HFS	Hagfors	78.46	330	P	P	04 23 14.2	+0.3
	2.4nm,0.6s,mb4.3,baz=90,slow=7.4,SNR=4.8						
NOA	NORSAR Array B	79.74	331	P	P	04 23 21.3	+0.4
	1.2nm,0.8s,mb3.9,baz=99,slow=8.5,SNR=3.8						
PDAR	Pinedale Array	125.17	21	PKP	PKPdf	04 30 15.4	+2.9
	0.3nm,0.8s,baz=270,slow=3.0,SNR=3.7						
TXAR	Lajitas Array	139.23	24	PKP	PKPdf	04 30 42.6	+3.4
	0.2nm,0.5s,baz=333,slow=1.5,SNR=4.0						
PLCA	Paso Flores	144.54	200	PKP	PKPdf	04 30 50.4	+2.1
	1.5nm,0.8s,baz=211,slow=6.1,SNR=4.4						

*IDC **28** 04:16:15.1±0.7, 7.95N×94.07E, mb4.4/20, mb1 4.5/21, mb1mx4.4/25, mbtmp4.3/21, ML4.2/1, Error ellipse: s-maj=34.7km s-min=16.6km az=44.0*

*NEIC **28** 04:16:19.9±0.3, 8.06N×94.19E, h30km, mb4.6/17, Error ellipse: s-maj=14.4km s-min=7.8km az=47.0*

ISC 28 04:16:19.7±4.0, 8.1N±0.1×94.3E±0.1, h42km±34km, n60, σ0°86/56, mb4.5/40, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.26	23	Pn	P	04 19 14.3	+13
	0.5nm,0.3s,baz=227,slow=15,SNR=5.8						
JIRN	Jiri	20.92	340	*eP*	P	04 21 01.4	+0.3
	51nm,0.8s						
PKI	Pulchoki	21.12	338	*eP*	P	04 21 03.4	+0.2
	38nm,0.6s,mb4.9						
DMN	Daman	21.27	337	*eP*	P	04 21 06.0	+1.3
	59nm,0.8s,mb5.0						
KKN	Kakani	21.37	338	*eP*	P	04 21 05.4	-0.2
	33nm,0.8s,mb4.7						
GKN	Gorkha	21.81	336	*eP*	P	04 21 09.6	-0.4
	46nm,0.6s,mb5.1						
KOLN	Koldanda	22.03	334	*eP*	P	04 21 12.7	+0.5
	51nm,0.7s,mb5.0						
SONM	Songino Array	40.93	12	P	P	04 24 00.8	+1.1
	1.6nm,0.8s,mb3.7,baz=202,slow=7.8,SNR=3.2						
KURK	Kurchatov	44.44	346	*eP*	P	04 24 27.4	-0.9
	7.0nm,0.9s,mb4.4						
ZAL	Zalesovo	46.36	352	P	P	04 24 44.3	+0.8
	3.3nm,0.4s,mb4.6,baz=307,slow=6.8,SNR=10						
WRA	Warramunga Arr	48.27	126	P	P	04 24 58.4	-0.5
	0.7nm,0.5s,mb4.0,baz=304,slow=8.5,SNR=8.0						
WRA				PcP	PcP	04 26 25.3	-0.5
	0.2nm,0.3s,baz=318,slow=2.9,SNR=4.9						
WRAB	Tennant Creek	48.27	126	*eP*	P	04 24 58.4	-0.6
	5.9nm,0.9s,mb4.6						
BVAR	Borovoye Array	48.83	341	P	P	04 25 02.2	-0.6
	0.9nm,0.5s,mb4.0,baz=149,slow=8.6,SNR=8.4						
BVAR				PcP	PcP	04 26 27.6	+0.2
	1.0nm,0.7s,baz=135,slow=4.2,SNR=4.9						
RAYN	Ar Rayn	49.13	294	P	P	04 25 06.9	+1.4
	98nm,0.7s,SNR=13						
CHKZ	Chkalovo	49.32	342	*eP*	P	04 25 06.0	-0.5
	8.4nm,0.8s,mb4.8						
ASAR	Alice Springs	49.94	130	P	P	04 25 11.7	-0.1
	1.0nm,0.9s,mb3.8,baz=305,slow=7.0,SNR=5.3						
KIV	Kislovodsk	57.26	318	*eP*	P	04 26 04.2	-1.2
	6.3nm,0.7s,mb4.8						
KMBO	Kilima Mbogo	57.59	264	P	P	04 26 09.9

KURK Kurchatov 44.87 346 *eP* **P 04 28 09.7 +0.1**
1.4nm,0.3s,mb4.3
ZAL Zalesovo 46.81 352 P **P 04 28 24.8 -0.1**
2.3nm,0.3s,mb4.6,baz=328,slow=4.6,SNR=4.8
WRA Warramunga Arr 48.11 125 P **P 04 28 35.5 -0.1**
0.5nm,0.5s,mb3.8,baz=305,slow=8.6,SNR=5.3
WRAB Tennant Creek 48.11 125 P **P 04 28 35.2 -0.4**
1.3nm,0.5s,mb4.2
ASAR Alice Springs 49.75 130 P **P 04 28 48.0 -0.2**
0.3nm,0.4s,mb3.7,baz=311,slow=8.3,SNR=3.0
FINES FINESS Array B 72.95 332 P **P 04 31 24.6 +0.1**
1.5nm,0.6s,mb4.1,baz=90,slow=5.7,SNR=5.9
ARCES ARCESS Array B 75.52 340 P **P 04 31 39.5 +0.3**
1.9nm,0.9s,mb4.0,baz=98,slow=6.4,SNR=4.0
ARCES ARCESS Array B 75.52 340 P **P 04 31 39.5 +0.3**
GERES GERESS Array B 78.02 318 P **P 04 31 54.0 +0.5**
0.3nm,0.5s,mb3.5,baz=117,slow=9.0,SNR=3.9
HFS Hagfors 78.69 330 P **P 04 31 57.5 +0.6**
0.9nm,0.5s,mb3.9,baz=112,slow=8.0,SNR=4.8
NB2 NORSAR Subarra 79.96 331 P **P 04 32 04.3 +0.5**
2.0nm,0.8s,mb4.1,baz=94,slow=5.3
NOA NORSAR Array B 79.96 331 P **P 04 32 05.2 +1.4**
0.6nm,0.7s,mb3.7,baz=314,slow=21,SNR=2.8

IDC 28 04:23:00.4±3.7, 7.33N×93.16E, mb4.1/4, mb1 4.1/5, mb1mx3.8/19, mbtmp4.0/5, ML4.2/1, Error ellipse: s-maj=92.3km s-min=56.7km az=139.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.42**	**26**	Pn	P	04 26 00.3	-1.1
0.4nm,0.3s,baz=218,slow=14,SNR=4.6							
BRTR	**Keskin Array B**	**62.05**	**311**	P	P	04 33 23.8	-1.4
0.5nm,0.5s,baz=132,slow=7.7,SNR=2.9							
FINES	**FINESS Array B**	**72.74**	**332**	P	P	04 34 28.8	-3.2
1.4nm,0.7s,baz=117,slow=8.5,SNR=3.5							
GERES	**GERESS Array B**	**77.58**	**318**	P	P	04 34 59.3	-0.7
0.8nm,0.5s,baz=76,slow=5.5,SNR=6.8							
HFS	**Hagfors**	**78.44**	**330**	P	P	04 35 02.2	-2.3
2.2nm,0.6s,baz=90,slow=4.4,SNR=6.8							
PLCA	**Paso Flores**	**143.69**	**201**	PKP	PKPdf	04 42 38.3	-1.2
2.3nm,1.0s,baz=204,slow=1.0,SNR=3.6							

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*IDC **28** 04:24:27.8±1.2, 14.43N×144.56E, mb4.0/7, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, Error ellipse: s-maj=59.4km s-min=20.0km az=87.0*
*NEIC **28** 04:24:34.8±2.0, 14.29N×144.89E, h54km±18km, mb4.7/3, Error ellipse: s-maj=46.3km s-min=16.4km az=85.0*
ISC 28 04:24:33.0±2.4, 14.34N±0.10×144.5E±0.3, h48km±26km, n14, σ0§83/14, mb4.2/10, 1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.84**	**152**	*e*Pg	P	04 24 48.8	+0.2
WRAB	**Tennant Creek**	**35.48**	**197**	*e*P	P	04 31 26.4	-0.7
12nm,0.9s,mb4.8							
WB2	**Warramunga Arr**	**35.48**	**197**	⇑*i*P	P	04 31 26.8	-0.4
WRA	**Warramunga Arr**	**35.49**	**197**	P	P	04 31 27.0	-0.2
7.5nm,0.9s,mb4.6,baz=15,slow=9.3,SNR=22							
ASAR	**Alice Springs**	**39.15**	**195**	P	P	04 31 58.9	+1.0
0.9nm,0.8s,mb3.5,baz=14,slow=14,SNR=5.0							
LZH	**Lanzhou**	**42.25**	**308**	*e*P	P	04 32 29.0	+5.6
23nm,1.0s,mb4.8							
LZH				pP	pP	04 32 35.9	-0.4
LZH				sP	sP	04 32 38.7	-3.3
SONM	**Songino Array**	**45.90**	**325**	P	P	04 32 52.1	-0.6
0.5nm,0.4s,mb3.8,baz=144,slow=12,SNR=2.3							
STKA	**Stephens Creek**	**46.03**	**183**	P	P	04 32 53.7	-0.2
4.2nm,0.8s,mb4.4,baz=350,slow=6.2,SNR=7.6							
STKA	**Stephens Creek**	**46.03**	**183**	P	P	04 32 53.7	-0.2
YAK	**Yakutsk**	**48.79**	**351**	*e*P	P	04 33 14.7	-0.3
KURK	**Kurchatov**	**63.76**	**320**	*e*P	P	04 35 03.1	+0.8
3.2nm,1.0s,mb4.3							
BVAR	**Borovoye Array**	**69.10**	**322**	P	P	04 35 34.8	-1.2
1.9nm,1.1s,mb4.0,baz=108,slow=9.4,SNR=4.1							
YKA	**Yellowknife Ar**	**82.38**	**27**	P	P	04 36 50.9	-0.2
0.3nm,0.8s,mb3.3,baz=288,slow=5.4,SNR=5.0							
BRTR	**Keskin Array B**	**96.27**	**314**	P	P	04 37 59.8	+2.2
0.6nm,0.6s,mb4.2,baz=101,slow=7.3,SNR=3.0							

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*IDC **28** 04:29:27.2±1.0, 7.27N×93.52E, mb3.9/10, mb1 4.1/11, mb1mx3.9/19, mbtmp3.9/11, ML4.3/1, Error ellipse: s-maj=43.8km s-min=20.8km az=53.0*
*NEIC **28** 04:29:32.0±0.7, 7.37N×93.63E, h30km, mb4.3/3, Error ellipse: s-maj=24.7km s-min=13.8km az=61.0*
ISC 28 04:29:30.9±3.5, 7.4N±0.1×93.7E±0.1, h38km±30km, n18, σ1§05/15, mb4.0/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.08**	**24**	Pn	P	04 32 23.3	-0.2
0.5nm,0.3s,baz=222,slow=13,SNR=3.4							
HYB	**Hyderabad**	**17.82**	**305**	*i*P	P	04 33 38.0	+0.1
SONM	**Songino Array**	**41.69**	**13**	P	P	04 37 20.5	+2.9
0.4nm,0.4s,mb3.4,baz=225,slow=8.2,SNR=2.0							
KURK	**Kurchatov**	**44.95**	**346**	*e*P	P	04 37 43.5	-0.5
4.2nm,1.1s,mb4.2							
ZAL	**Zalesovo**	**46.94**	**353**	P	P	04 38 01.9	+2.2
2.2nm,0.6s,mb4.3,baz=302,slow=6.3,SNR=6.9							
WRA	**Warramunga Arr**	**48.34**	**125**	P	P	04 38 10.4	-0.8
1.0nm,0.9s,mb3.8,baz=305,slow=9.3,SNR=5.3							
WRAB	**Tennant Creek**	**48.34**	**125**	*e*P	P	04 38 10.9	-0.3
3.1nm,0.9s,mb4.3							
BVAR	**Borovoye Array**	**49.28**	**342**	P	P	04 38 17.2	-0.8
0.5nm,0.7s,mb3.7,baz=135,slow=6.1,SNR=3.5							
CHKZ	**Chkalovo**	**49.77**	**342**	*e*P	P	04 38 20.6	-1.1
3.5nm,0.9s,mb4.4							
ASAR	**Alice Springs**	**49.94**	**129**	P	P	04 38 24.5	+1.0
0.8nm,0.9s,mb3.8,baz=302,slow=7.4,SNR=5.1							
BRTR	**Keskin Array B**	**62.41**	**311**	P	P	04 39 53.5	+1.0
1.2nm,1.1s,mb4.0,baz=106,slow=7.5,SNR=3.0							
FINES	**FINESS Array B**	**72.92**	**332**	P	P	04 40 57.0	-0.9
1.8nm,0.8s,mb4.1,baz=135,slow=8.1,SNR=4.1							
ARCES	**ARCESS Array B**	**75.55**	**340**	P	P	04 41 12.5	-0.5
2.3nm,0.8s,mb4.2,baz=117,slow=2.7,SNR=3.7							
GERES	**GERESS Array B**	**77.89**	**318**	P	P	04 41 27.7	+1.1
0.8nm,0.7s,mb3.8,baz=108,slow=4.2,SNR=6.0							
NOA	**NORSAR Array B**	**79.92**	**331**	P	P	04 41 36.4	-1.0
1.3nm,0.9s,mb3.9,baz=341,slow=14,SNR=3.1							
TXAR	**Lajitas Array**	**139.80**	**24**	PKP	PKPdf	04 48 59.4	+3.6
0.2nm,0.7s,baz=256,slow=3.7,SNR=3.4							
PLCA	**Paso Flores**	**143.99**	**200**	PKP	PKPdf	04 49 06.1	+3.3
2.0nm,0.9s,baz=58,slow=8.8,SNR=4.2							
PLCA	**Paso Flores**	**143.99**	**200**	PKP	PKPdf	04 49 06.1	+3.3

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*NEIC **28** 04:33:10.0, 17.41N×101.74W, h23km, MD3.7(MEX), After MEX.*
MEX 28 04:33:10.2±0.7, 17.41N×101.72W, h13km±15km, MD3.7, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.31**	**51**	⇓*i*P	Pg	04 33 16.1	-0.7
ZIIG				*i*S	Sg	04 33 20.9	-0.3
CAIG	**El Cayaco**	**1.43**	**104**	*i*P	Pn	04 33 31.8	-4.2
CAIG				*i*S	Sb	04 33 49.1	-5.2
ACX	**Acapulco**	**1.81**	**107**	*e*P	Pn	04 33 38.0	-3.4
ACX				*i*S	Sn	04 34 00.0	-4.3
PLIG	**Platanillo**	**2.33**	**65**	*e*P	Pn	04 33 46.7	-2.1
PLIG				*i*S	Sn	04 34 11.4	-6.2
PPM	**Popocatepetl**	**3.37**	**60**	*e*P	Pn	04 34 02.6	-1.1
PPM				*e*P		04 34 05.0	
PPM				*i*S	Sn	04 34 42.5	-1.5

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*IDC **28** 04:34:25.9±0.7, 7.46N×93.84E, mb4.2/20, mb1 4.4/21, mb1mx4.4/24, mbtmp4.2/21, ML4.5/1, Error ellipse: s-maj=32.6km s-min=16.4km az=52.0*
*MOS **28** 04:34:30.7±1.9, 7.70N×93.96E, h33km, mb5.0/12, Error ellipse: s-maj=13.7km s-min=7.0km az=107.2*
*BJI **28** 04:34:30.9, 7.77N×93.02E, h30km, mB5.0, mb4.6, Ms4.9, Msz4.5*
*NEIC **28** 04:34:30.8±0.4, 7.52N×94.00E, h30km, mb4.7/11, Error ellipse: s-maj=13.8km s-min=9.0km az=54.0*
ISC 28 04:34:27.7±3.3, 7.58N±0.08×93.96E±0.08, h22km±22km, n96, σ1§28/82, mb4.5/37, MS4.6/2, 1C-4D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.56**	**48**	P	Pn	04 36 13.3	-6.2
CMAR	**Chiang Mai Arr**	**11.85**	**24**	Pn	P	04 37 18.0	-0.7
0.9nm,0.3s,baz=209,slow=15,SNR=11							
CHG	**Chiang Mai**	**12.17**	**23**	⇓P	P	04 37 22.6	-0.4
35nm,0.6s							
NANT	**Nan**	**12.94**	**30**	P	P	04 37 33.0	-0.2
CHRT	**Chiangrai**	**13.46**	**24**	⇑P	P	04 37 40.0	-0.1
171nm,1.3s							
VIS	**Vishakhapatnam**	**14.45**	**315**	*e*P	P	04 37 55.1	+1.8
VIS				*e*		04 37 58.1	
comp=Z,16nm,0.5s							
VIS				*e*	S	04 40 26.6	-7.1
IMP	**Imphal**	**17.10**	**360**	*e*	P	04 38 22.6	-4.7
HYB	**Hyderabad**	**17.92**	**304**	*e*P	P	04 38 40.0	+2.5
HYB				*e*S	S	04 42 03.0	+8.9
HYB	**Hyderabad**	**17.92**	**304**	*i*P	P	04 38 40.0	+2.5
BLSP	**Bilaspur**	**18.41**	**323**	*e*P	P	04 38 33.1	-11
BLSP				*e*		04 38 33.9	
comp=Z,16nm,0.1s							
BLSP				*e*S	S	04 42 03.2	-2.0
KMI	**Kunming**	**19.36**	**25**	⇓P	P	04 38 58.9	+4.0
KMI				pmax	pmax		
comp=Z,22nm,1.6s							
KMI	**Kunming**	**19.36**	**25**	⇓P	P	04 38 58.9	+4.0
comp=Z,22nm,1.6s							
KMI				pP		04 39 07.9	
KMI				sP		04 39 11.7	
KMI				PP	PP	04 39 20.4	+8.1
KMI				S	S	04 42 35.5	+8.9
KMI				sS		04 42 52.7	
KMI				SS	SS	04 43 01.2	+8.2
JIRN	**Jiri**	**21.28**	**341**	*e*P	P	04 39 14.2	-1.0
comp=Z,222nm,1.4s,mb5.3							
PKI	**Pulchoki**	**21.47**	**339**	*e*P	P	04 39 17.2	+0.1
comp=Z,116nm,1.0s,mb5.2							
KAD	**Karad**	**21.57**	**298**	*e*	P	04 39 22.6	+4.4
KAD				*e*		04 39 27.9	
comp=Z,24nm,0.6s							
DMN	**Daman**	**21.61**	**338**	*e*P	P	04 39 18.5	0.0
comp=Z,98nm,1.0s,mb5.2							
KKN	**Kakani**	**21.71**	**339**	*e*P	P	04 39 19.4	-0.1
GKN	**Gorkha**	**22.14**	**338**	*e*P	P	04 39 23.4	-0.4
comp=Z,89nm,0.8s,mb5.2							
LSA	**Lhasa**	**22.16**	**354**	*e*P	P	04 39 25.8	+1.8
LSA				pmax	pmax		
comp=Z,20nm,0.8s,mb4.6							
LSA	**Lhasa**	**22.16**	**354**	*e*P	P	04 39 25.8	+1.8
comp=Z,20nm,0.8s,mb4.6							
BHPL	**Bhopal**	**22.24**	**316**	*e*P	P	04 39 22.9	-1.9
KOLN	**Koldanda**	**22.34**	**335**	*e*P	P	04 39 25.8	0.0
DDI	**Dehra Dun**	**27.09**	**329**	*e*	P	04 40 09.6	-1.5
LZH	**Lanzhou**	**29.78**	**16**	*e*P	P	04 40 36.8	+1.5
LZH				AP	pP	04 40 47.5	+5.8
LZH				XP	sP	04 40 51.8	+7.3
LZH				PP	PP	04 41 33.0	+0.6
LZH				AMB	AMB		
comp=Z,37nm,1.8s,mb4.8							
LZH				AMB	AMB		
comp=Z,112nm,4.0s							
LZH				LR	LR		
comp=E,2μm,14.4s							
LZH				LR	LR		
comp=Z,2μm,15.6s,MS4.8							
LZH	**Lanzhou**	**29.78**	**16**	*e*P	P	04 40 36.7	+1.4
LZH				*PP	pP	04 40 47.4	+5.8
LZH				*SP	sP	04 40 51.8	+7.3
LZH						04 41 33.0	
LZH				pmax	pmax		
comp=Z,37nm,1.8s,mb4.8							
LZH				MLR	MLR		
comp=Z,2μm,15.6s,MS4.8							
LZH	**Lanzhou**	**29.78**	**16**	*e*P	P	04 40 36.7	+1.4
comp=Z,37nm,1.8s,mb4.8							
LZH				pP	pP	04 40 47.4	+5.8
LZH				sP	sP	04 40 51.8	+7.3
LZH				PP	PP	04 41 33.0	+0.6
LZH				LR	LR		
comp=Z,2μm,15.6s,MS4.8							
AAK	**Ala-Archa**	**38.90**	**337**	*e*P	P	04 41 53.9	+0.3
MKAR	**Makanchi Array**	**40.33**	**348**	*i*P	P	04 42 03.8	-1.6
MKAR				pmax	pmax		
comp=Z,7.0nm,0.7s							
SONM	**Songino Array**	**41.48**	**13**	P	P	04 42 16.5	+1.7
comp=Z,2.7nm,1.1s,mb3.8,baz=199,slow=6.5,SNR=2.7							
ZAK	**Zakamensk**	**43.36**	**9**	*e*P	P	04 42 32.6	+2.4
KURK	**Kurchatov**	**44.85**	**346**	*i*P	P	04 42 41.5	-0.7
KURK				pmax	pmax		
comp=Z,22nm,1.4s,mb4.8							
KURK	**Kurchatov**	**44.85**	**346**	*e*P	P	04 42 41.4	-0.8
comp=Z,32nm,1.3s,mb5.0							
NWAO	**Narrogin (SRO)**	**45.98**	**152**	P	P	04 42 50.0	-1.5
comp=Z,10nm,1.0s,mb4.7,baz=293,slow=13,SNR=2.6							
ZAL	**Zalesovo**	**46.81**	**353**	P	P	04 42 57.7	0.0
comp=Z,3.7nm,0.3s,mb4.8,baz=312,slow=5.4,SNR=10							
HIA	**Hailar**	**46.86**	**23**	*e*P	P	04 42 59.1	+0.9
HIA				pmax	pmax		
comp=Z,11nm,1.0s							
HIA	**Hailar**	**46.86**	**23**	*e*P	P	04 42 59.0	+0.9
comp=Z,12nm,1.0s,mb4.8							
NVS	**Novosibirsk**	**47.90**	**352**	*i*P	P	04 43 05.2	-1.1
WRA	**Warramunga Arr**	**48.24**	**125**	P	P	04 43 08.9	-0.5
comp=Z,1.3nm,0.6s,mb4.1,baz=302,slow=8.0,SNR=5.6							
WRA	**Warramunga Arr**	**48.24**	**125**	P	pP	04 43 15.3	-0.7
comp=Z,1.7nm,0.4s,baz=305,slow=8.6,SNR=20							
WRAB	**Tennant Creek**	**48.25**	**125**	*e*P	pP	04 43 14.2	-1.8
WRAB				pmax	pmax		
comp=Z,4.0nm,0.4s,mb4.8							
WRAB	**Tennant Creek**	**48.25**	**125**	*e*P	pP	04 43 14.2	-1.8
comp=Z,3.9nm,0.4s							
WB2	**Warramunga Arr**	**48.25**	**125**	*e*P	P	04 43 08.6	-0.9
WB2				*e*	pP	04 43 15.3	-0.7
BVA0	**Borovoye Array**	**49.20**	**341**	*i*P	P	04 43 15.8	-0.6
BVA0				pmax	pmax		
comp=Z,3.0nm,1.6s,mb4.1							
BVAR	**Borovoye Array**	**49.20**	**341**	P	P	04 43 16.0	-0.4
comp=Z,1.1nm,0.6s,mb4.1,baz=141,slow=9.2,SNR=8.4							
CHKZ	**Chkalovo**	**49.69**	**342**	*e*P	P	04 43 19.1	-1.0
CHKZ				pmax	pmax		
comp=Z,12nm,1.0s,mb4.9							
CHKZ	**Chkalovo**	**49.69**	**342**	*e*P	P	04 43 19.1	-1.0
comp=Z,12nm,1.0s,mb4.9							
ASAR	**Alice Springs**	**49.87**	**130**	P	P	04 43 20.8	-1.2
comp=Z,1.3nm,0.8s,mb4.0,baz=306,slow=7.3,SNR=7.3							
ASAR	**Alice Springs**	**49.87**	**130**	P	pP	04 43 27.3	-1.2
comp=Z,1.4nm,0.4s,baz=304,slow=7.3,SNR=16							
BOD	**Bodaibo**	**52.47**	**13**	*e*P	P	04 43 41.9	+0.7
SVE	**Sverdlovsk**	**55.60**	**339**	*e*P	P	04 44 00.0	-4.2
ARU	**Arti**	**56.08**	**337**	*e*P	P	04 44 04.7	-2.9
KMBO	**Kilima Mbogo**	**57.21**	**264**	P	P	04 44 21.6	+5.3
comp=Z,1.4nm,0.8s,mb4.0,baz=54,slow=13,SNR=5.1							
KIV	**Kislovodsk**	**57.41**	**318**	*e*P	P	04 44 18.4	+1.1
KIV				pmax	pmax		
comp=Z,14nm,1.1s,mb4.9							
STKA	**Stephens Creek**	**60.04**	**133**	P	pP	04 44 40.9	-1.6
comp=Z,3.2nm,1.1s,baz=312,slow=4.6,SNR=3.9							
BRTR	**Keskin Array B**	**62.48**	**311**	P	P	04 44 50.9	-1.2
comp=Z,0.9nm,0.5s,mb4.1,baz=143,slow=6.1,SNR=6.2							
MOS	**Moscow**	**65.23**	**329**	*e*P	P	04 45 08.6	-1.2
MOS				*e*		04 45 23.6	
OBN	**Obninsk**	**65.53**	**328**	⇓*i*P	P	04 45 09.7	-2.0
OBN				pmax	pmax		
comp=Z,44nm,1.4s,mb5.3							
TIXI	**Tiksi**	**67.55**	**11**	*e*P	P	04 45 23.1	-1.3
TIXI				pmax	pmax		
comp=Z,14nm,0.8s,mb5.0							
TIXI				MLR	MLR		
comp=Z,189nm,16.0s,MS4.4							
AKASG	**Malin Array Be**	**68.27**	**322**	P	P	04 45 27.5	-1.7
comp=Z,1.3nm,0.8s,mb4.0,baz=86,slow=5.5,SNR=5.7							
IDI	**Anoyia**	**68.58**	**305**	P	P	04 45 32.1	+0.6
comp=Z,5.5nm,0.8s,mb4.5,baz=90,slow=7.1,SNR=4.8							
MLR	**Muntele Rosu**	**69.25**	**316**	P	P	04 45 35.6	+0.2
comp=Z,9.8nm,1.3s,mb4.6,baz=304,slow=7.3,SNR=4.5							
JOF	**Joensuu**	**71.03**	**335**	*e*p	P	04 45 45.5	-0.4
comp=Z,0.5nm,0.4s,mb3.8							
KOLS	**Kolonicke sedl**	**72.30**	**319**	*e*P	P	04 45 55.9	+2.2
KOLS				*e*		04 46 16.7	
CRVS	**Cervenica-Dubn**	**72.83**	**319**	*e*P	P	04 45 57.0	+0.2
CRVS				*e*		04 46 16.6	
FINES	**FINESS Array B**	**72.88**	**332**	P	P	04 45 56.4	-0.6
comp=Z,2.7nm,0.6s,mb4.3,baz=96,slow=6.4,SNR=22							
KAF	**Kangasniemi**	**72.97**	**333**	*e*p	P	04 45 56.2	-1.2
comp=Z,0.7nm,0.4s,mb3.9							
KAF	**Kangasniemi**	**72.97**	**333**	*e*P	P	04 45 56.2	-1.2
KAF				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.1							
VYHS	**Vyhne**	**74.50**	**318**	*e*	pP	04 46 12.0	-1.3
OKC	**Ostrava-Krasne**	**75.09**	**319**	*e*P	pP	04 46 16.5	-0.2
MORC	**Moravsky Berou**	**75.47**	**319**	*e*P	P	04 46 12.7	+0.5
MORC				pmax	pmax		
comp=Z,8.0nm,1.2s,mb4.5							
MORC	**Moravsky Berou**	**75.47**	**319**	*e*P	P	04 46 12.7	+0.6
comp=Z,8.4nm,1.2s,mb4.5							
ARCES	**ARCESS Array B**	**75.48**	**340**	P	P	04 46 11.3	-0.4
comp=Z,0.8nm,0.4s,mb4.0,baz=94,slow=5.9,SNR=14							
ZST	**Bratislava**	**75.62**	**318**	*e*P	P	04 46 15.3	+2.3
ZST				*e*		04 46 33.1	
DPC	**Dobruska-Polom**	**76.31**	**320**	*e*P	P	04 46 18.9	+2.0
PRU	**Pruhonice**	**77.43**	**319**	*e*P	pP	04 46 29.7	-0.2
PRU	**Pruhonice**	**77.43**	**319**	*e*pP	pP	04 46 29.7	-0.2
BRG	**Berggiesshubel**	**77.86**	**320**	*e*P	P	04 46 28.7	+3.3
BRG				pmax	pmax		
comp=Z,35nm,1.9s,mb5.0							
BRG	**Berggiesshubel**	**77.86**	**320**	*e*P	P	04 46 28.7	+3.3
comp=Z,34nm,1.9s,mb5.0							
GERES	**GERESS Array B**	**77.92**	**318**	P	P	04 46 26.4	+0.6
comp=Z,1.9nm,0.8s,mb4.0,baz=90,slow=5.3,SNR=8.9							
KHC	**Kasperske Hory**	**78.01**	**319**	*e*	pP	04 46 33.9	+0.8
KHC	**Kasperske Hory**	**78.01**	**319**	*e*pP	pP	04 46 33.9	+0.8
CLL	**Collm**	**78.47**	**321**	P	pP	04 46 33.0	-2.6
NB2	**NORSAR Subarra**	**79.89**	**331**	P	P	04 46 36.0	-0.3
comp=Z,2.5nm,0.6s,mb4.3,baz=95,slow=5.0							
NB2	**NORSAR Subarra**	**79.89**	**331**	P	P	04 46 36.0	-0.3
NB2				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.4							
NOA	**NORSAR Array B**	**79.89**	**331**	P	P	04 46 36.1	-0.1
comp=Z,0.9nm,0.7s,mb3.8,baz=108,slow=5.2,SNR=4.9							
DAVOX	**Davos**	**80.47**	**316**	P	P	04 46 40.7	+1.0
comp=Z,5.9nm,1.0s,mb4.5,baz=124,slow=5.7,SNR=3.3							
ESDC	**Sonseca Array**	**91.26**	**310**	P	P	04 47 34.3	+1.1
comp=Z,0.6nm,0.7s,mb4.0,baz=78,slow=5.2,SNR=3.1							
IMA	**Indian Mountai**	**91.96**	**22**	*e*P	P	04 47 37.8	+2.1
ILAR	**Eielson Array**	**95.08**	**22**	P	P	04 47 52.1	+2.0
comp=Z,0.5nm,0.8s,mb4.0,baz=278,slow=4.4,SNR=6.0							
INK	**Inuvik**	**97.32**	**16**	P	P	04 48 02.8	+2.6
comp=Z,1.9nm,1.2s,mb4.4,baz=281,slow=5.2,SNR=2.3							
YKA	**Yellowknife Ar**	**106.75**	**13**	PP	PP	04 53 09.0	-2.3
comp=Z,0.3nm,0.7s,baz=334,slow=7.6,SNR=4.3							
NVAR	**Mina Array Bea**	**125.26**	**31**	PKP	PKPdf	04 53 29.4	-2.4
comp=Z,0.6nm,0.8s,baz=252,slow=5.7,SNR=3.1							
PDAR	**Pinedale Array**	**125.50**	**21**	PKP	PKPdf	04 53 30.5	-1.6
comp=Z,0.3nm,0.8s,baz=333,slow=2.0,SNR=2.8							
TXAR	**Lajitas Array**	**139.56**	**24**	PKP	PKPdf	04 53 56.0	-2.9
comp=Z,0.2nm,0.8s,baz=191,slow=2.3,SNR=3.6							
TXAR	**Lajitas Array**	**139.56**	**24**	PKP	PKPdf	04 53 56.0	-2.9
PLCA	**Paso Flores**	**144.21**	**200**	PKP	PKPdf	04 54 05.0	-1.6
comp=Z,1.7nm,0.8s,baz=144,slow=14,SNR=3.7							

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*IDC **28** 04:34:50.6±0.9, 7.64N×94.27E, mb4.8/18, mb1 4.9/18, mb1mx4.8/24, mbtmp4.8/18, Error ellipse: s-maj=30.5km s-min=23.1km az=45.0*
*BJI **28** 04:34:53.6, 7.90N×94.20E, h30km, mB5.4, mb4.9, Ms5.2*
*HRVD **28** 04:34:53.7±0.4, 7.89N×94.23E, h18km±1km, MW5.1/54, Centroid moment Tensor Solution. LP body waves: s25,c40;Mantle waves: s54,c92; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.71±.20; $M_{\theta\theta}$-1.19±.15; $M_{\phi\phi}$1.89±.18; $M_{r\theta}$-3.36±.55; $M_{\theta\phi}$4.65±.16; $M_{\phi r}$-3.32±.58; Best double couple: $M_0$6.332×10^{16} NP1:φs164°,δ54°, λ174°. NP2:φs258°,δ85°,λ37°. Principal axes: T 7.811, Plg29°, Azm128°; N -2.966, Plg53°, Azm265°; P -4.853, Plg21°, Azm26°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 04:34:53.7±0.6, 7.91N×94.18E, h30km, mb5.0/18 Error ellipse: s-maj=16.7km s-min=15.7km az=206.0*
ISC 28 04:34:49.9±0.5, 7.86N±0.08×94.22E±0.05, h17km, h17km±2.2km: pP-P, n72, σ1§45/68, mb4.8/40, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.04**	**339**	*e*P	Pn	04 35 51.6	-1.0
PBA				*e*		04 36 28.5	
CMAR	**Chiang Mai Arr**	**11.49**	**23**	Pn	P	04 37 33.8	-2.8
1.1nm,0.3s,baz=217,slow=14,SNR=16							
VIS	**Vishakhapatnam**	**14.44**	**314**	*e*P	P	04 38 13.0	-2.9
VIS				*e*		04 38 14.8	
comp=Z,69nm,1.0s							
VIS				*e*	S	04 40 44.3	-12
MDRS	**Chennai**	**14.68**	**292**	*e*P	P	04 38 18.8	-0.1
MDRS				*e*S	S	04 40 59.9	-2.2
KOD	**Kodaikanal**	**16.71**	**279**	*e*P	P	04 38

JOF Joensuu 70.89 334 ep P 04 46 10.7 +2.7
comp=Z,1.5nm,0.4s,mb4.3
SUW Suwalki 72.56 324 eP P 04 46 17.3 -0.8
comp=Z,32nm,0.8s,mb5.3
FINES FINESS Array B 72.76 332 P P 04 46 21.8 +2.7
comp=Z,6.4nm,0.7s,mb4.6,baz=117,slow=8.5,SNR=4.5
KAF Kangasniemi 72.84 333 ep P 04 46 22.5 +3.0
comp=Z,1.3nm,0.4s,mb4.2
LBTB Lobatse 74.30 241 eP P 04 46 28.4 -0.4
comp=Z,7.3nm,0.9s,mb4.6
LBTB epP pP 04 46 35.4 +1.3
KEV Kevo 74.88 341 ep P 04 46 33.5 +2.3
comp=Z,0.6nm,0.4s,mb3.9
OKC Ostrava-Krasne 75.05 319 eP P 04 46 33.0 +0.4
ARCES ARCESS Array B 75.31 340 P P 04 46 37.1 +3.4
comp=Z,12nm,0.9s,mb4.8,baz=68,slow=6.5,SNR=9.5
MORC Moravsky Berou 75.44 319 eP P 04 46 34.3 -0.5
comp=Z,8.5nm,0.8s,mb4.7
VRAC Vranov 76.01 319 P P 04 46 41.3 +3.2
comp=Z,2.0nm,0.7s,mb4.2,baz=95,slow=6.9,SNR=5.4
DPC Dobruska-Polom 76.27 320 eP P 04 46 39.3 -0.2
PRU Pruhonice 77.39 319 eP P 04 46 45.4 -0.4
GERES GERESS Array B 77.89 318 P P 04 46 47.8 -0.7
comp=Z,4.6nm,0.8s,mb4.5,baz=90,slow=5.3,SNR=12
GERES GERESS Array B 77.89 318 pP pP 04 46 52.2 -1.6
comp=Z,9.6nm,0.7s,baz=90,slow=4.9,SNR=21
GERES GERESS Array B 77.89 318 P P 04 46 52.2 +3.7
KHC Kasperske Hory 77.98 318 eP P 04 46 48.7 -0.3
RUE Ruedersdorf 77.99 322 eP P 04 46 46.6 -2.4
comp=Z,32nm,0.8s,mb5.3
CLL Collm 78.42 321 P P 04 46 51.2 -0.2
CLL i *PP pP 04 46 55.0 -1.7
FUR Furstenfeldbru 79.49 317 eP P 04 46 56.5 -0.8
GRA1 Grafenberg Arr 79.53 319 eP P 04 46 57.6 +0.1
comp=Z,12nm,0.8s,mb4.9
GRA1 epP pP 04 47 01.9 -0.9
GRF Grafenberg Arr 79.53 319 eP P 04 46 57.6 +0.1
comp=Z,12nm,0.8s,mb4.9
GRF epP pP 04 47 01.9 -0.9
NOA NORSAR Array B 79.78 331 P P 04 47 01.8 +3.2
comp=Z,9.0nm,0.7s,mb4.8,baz=92,slow=5.5,SNR=12
NAO01 NORSAR Array S 79.93 330 eP P 04 46 58.3 -1.1
comp=Z,18nm,0.9s,mb5.0
CLZ Clausthal 80.07 321 eP P 04 47 00.1 -0.2
comp=Z,10.0nm,0.7s,mb4.8
DAVOX Davos 80.45 316 P P 04 47 01.9 -0.6
comp=Z,14nm,0.6s,mb5.0,baz=123,slow=10.0,SNR=7.4
DAVOX Davos 80.45 316 P pP 04 47 06.8 -1.0
comp=Z,15nm,0.7s,baz=100,slow=11,SNR=14
MUD Monsted U'grnd 80.76 326 i P P 04 47 04.0 +0.1
comp=Z,20nm,0.8s,mb5.1
LPG La Plagne 82.68 315 eP P 04 47 10.5 -3.7
comp=Z,44nm,0.7s,mb5.3
BNI Bardonecchia 82.76 314 eP P 04 47 16.7 +2.1
comp=Z,13nm,0.8s,mb5.0
EKA Eskdalemuir Ar 87.78 325 P P 04 47 43.8 +4.5
comp=Z,13nm,0.8s,mb5.2,baz=99,slow=4.8,SNR=14
ESDC Sonseca Array 91.28 310 P P 04 48 01.1 +5.0
comp=Z,5.3nm,0.7s,mb5.0,baz=63,slow=4.1,SNR=16
IMA Indian Mountai 91.61 22 eP P 04 47 56.5 -0.5
INK Inuvik 96.99 16 eP P 04 48 20.3 -1.3
comp=Z,6.2nm,1.2s,mb4.9
NVAR Mina Array Bea 124.89 31 PKP PKPdf 04 53 51.8 -1.8
comp=Z,0.9nm,0.8s,baz=341,slow=1.5,SNR=4.5
PDAR Pinedale Array 125.15 21 PKP PKPdf 04 53 52.8 -1.1
comp=Z,1.4nm,1.0s,baz=45,slow=2.1,SNR=4.9
TXAR Lajitas Array 139.21 24 PKP PKPdf 04 54 19.4 -1.3
comp=Z,0.2nm,0.5s,baz=291,slow=0.2,SNR=5.2
PLCA Paso Flores 144.56 200 PKP PKPdf 04 54 29.0 -0.8
comp=Z,6.5nm,0.8s,baz=148,slow=3.3,SNR=11

*IDC **28** 04:38:02.6±0.8, 7.75N×93.81E, mb4.2/14, mb1 4.3/15, mb1mx4.2/21, mbtmp4.2/15, ML4.3/1, Error ellipse: s-maj=36.3km s-min=17.3km az=55.0, - Putative timing error at LPAZ*
*BJI **28** 04:38:05.8, 7.41N×93.74E, h39km, mB4.8, mb4.8*
*NEIC **28** 04:38:05.6±0.4, 7.75N×93.84E, mb4.8/11, Error ellipse: s-maj=12.7km s-min=9.1km az=70.0*
ISC 28 04:38:03.8±0.6, 7.72N±0.08×93.90E±0.09, h19km, h19km±1.6km: pP-P, n45, σ1°08/42, mb4.6/31, 2C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.74	24	Pn	P	04 40 52.4	-1.2
	0.5nm,0.3s,baz=212,slow=17,SNR=7.3						
HYB	Hyderabad	17.79	304	i P	P	04 42 11.0	-1.3
JIRN	Jiri	21.13	341	eP	P	04 42 51.9	+1.9
	130nm,1.2s,mb5.1						
PKI	Pulchoki	21.32	339	eP	P	04 42 52.6	+0.7
	139nm,1.1s,mb5.2						
DMN	Daman	21.46	338	eP	P	04 42 54.2	+0.8
	72nm,0.9s,mb5.0						
KKN	Kakani	21.56	339	eP	P	04 42 55.3	+0.9
	55nm,0.9s,mb5.0						
GKN	Gorkha	21.99	338	eP	P	04 42 58.1	-0.6
	80nm,0.9s,mb5.1						
LSA	Lhasa	22.01	354	eP	P	04 42 59.8	+0.9
	41nm,0.9s,mb4.9						
KOLN	Koldanda	22.19	335	eP	P	04 43 00.4	-0.3
	122nm,1.0s,mb5.3						
ENH	Enshi	26.77	31	eP	P	04 43 43.7	-0.9
	16nm,0.8s,mb4.6						
LZH	Lanzhou	29.66	16	eP	P	04 44 12.5	+1.8
LZH				AP	pP	04 44 21.3	+5.1
LZH				XP	sP	04 44 26.5	+7.9
LZH				PP	PP	04 45 07.5	+0.2
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.8						
LZH	Lanzhou	29.66	16	eP	P	04 44 12.4	+1.7
	comp=Z,28nm,1.5s,mb4.8						
LZH				pP	pP	04 44 21.3	+5.1
LZH				sP	sP	04 44 26.5	+7.9
LZH				PP	PP	04 45 07.6	+0.3
BJT	Baijiatuau	37.83	28	eP	P	04 45 21.7	+0.6
BJT				epP	pP	04 45 26.9	+0.2
AAK	Ala-Archa	38.75	337	eP	P	04 45 28.6	-0.1
AAK				epP	pP	04 45 34.8	+0.4
SONM	Songino Array	41.36	13	P	P	04 45 50.7	+0.5
	comp=Z,5.1nm,1.0s,mb4.1,baz=198,slow=7.8,SNR=7.9						
KURK	Kurchatov	44.70	346	eP	P	04 46 16.3	-1.1
	comp=Z,25nm,1.2s,mb4.9						
KURK				epP	pP	04 46 21.8	-1.2
NWAO	Narrogin (SRO)	46.12	152	P	P	04 46 30.8	+1.8
	comp=Z,5.3nm,0.9s,mb4.5,baz=311,slow=11,SNR=2.8						
ZAL	Zalesovo	46.66	353	P	P	04 46 32.3	-0.6
	comp=Z,1.8nm,0.9s,mb4.0,baz=297,slow=2.3,SNR=3.5						
HIA	Hailar	46.75	23	eP	P	04 46 33.7	0.0
HIA				epP	pP	04 46 38.9	-0.5
WRA	Warramunga Arr	48.37	125	P	P	04 46 46.0	-0.8
	comp=Z,1.9nm,0.8s,mb4.2,baz=305,slow=8.2,SNR=6.3						
WRAB	Tennant Creek	48.38	125	eP	P	04 46 43.5	-3.4
	comp=Z,9.7nm,0.9s,mb4.8						
RAYN	Ar Rayn	48.93	294	P	P	04 46 54.9	+3.9
	comp=Z,54nm,0.9s,mb5.6,SNR=8.9						
BVAR	Borovoye Array	49.05	341	P	P	04 46 50.6	-1.0
	comp=Z,2.1nm,0.9s,mb4.1,baz=135,slow=6.1,SNR=3.7						
CHKZ	Chkalovo	49.54	342	eP	P	04 46 54.1	-1.2
	comp=Z,37nm,1.4s,mb5.2						
CHKZ				epP	pP	04 46 60.0	-1.1
ASAR	Alice Springs	50.01	130	P	P	04 46 58.9	-0.4
	comp=Z,1.6nm,0.9s,mb4.0,baz=310,slow=7.0,SNR=4.8						
KMBO	Kilima Mbogo	57.16	264	P	P	04 47 58.0	+5.7
	comp=Z,4.5nm,0.9s,mb4.5,baz=48,slow=9.8,SNR=9.3						
BRTR	Keskin Array B	62.34	311	P	P	04 48 25.2	-2.4
	comp=Z,1.6nm,0.7s,mb4.3,baz=122,slow=7.5,SNR=6.6						
AKASG	Malin Array Be	68.12	322	P	P	04 49 03.1	-1.6
	comp=Z,3.0nm,0.9s,mb4.3,baz=87,slow=4.6,SNR=5.6						
LVZ	Lovozero	71.62	340	P	P	04 49 22.6	-3.2
	comp=Z,436nm,0.7s,SNR=20						
FINES	FINESS Array B	72.73	332	P	P	04 49 31.9	-0.6
	comp=Z,3.2nm,0.9s,mb4.3,baz=79,slow=9.7,SNR=4.6						
ARCES	ARCESS Array B	75.32	340	P	P	04 49 47.5	+0.2
	comp=Z,1.7nm,0.7s,mb4.1,baz=106,slow=6.6,SNR=4.0						
MORC	Moravsky Berou	75.33	319	eP	P	04 49 48.1	+0.3
	comp=Z,13nm,1.4s,mb4.7						
MORC				epP	pP	04 49 54.1	+0.5
GERES	GERESS Array B	77.78	318	P	P	04 50 02.6	+1.2
	comp=Z,3.0nm,0.8s,mb4.3,baz=90,slow=5.3,SNR=12						
KHC	Kasperske Hory	77.87	319	eP	P	04 50 02.5	+0.6
CLL	Collm	78.32	321	⇑P	P	04 50 05.1	+0.7
	comp=Z,5.0nm,0.9s,mb4.4						
CLL				e	pP	04 50 10.0	-0.3
CLL				i		04 50 14.7	
CLL	Collm	78.32	321	⇑P	P	04 50 05.1	+0.7
	comp=Z,logA/T=0.7,mb4.4						
CLL				e*PP	pP	04 50 10.0	-0.3
CLL				i *SP	sP	04 50 14.7	+2.4
NB2	NORSAR Subarra	79.74	331	P	P	04 50 12.0	+0.1
	comp=Z,1.9nm,0.9s,mb4.0,baz=94,slow=5.3						
NOA	NORSAR Array B	79.74	331	P	P	04 50 11.9	0.0
	comp=Z,3.2nm,0.9s,mb4.3,baz=93,slow=5.5,SNR=4.9						
DAVOX	Davos	80.33	316	P	P	04 50 16.5	+1.2
	comp=Z,4.5nm,0.8s,mb4.4,baz=172,slow=7.1,SNR=6.3						
LPG	La Plagne	82.55	315	eP	P	04 50 26.9	-0.1
	comp=Z,14nm,1.0s,mb4.6						
IMA	Indian Mountai	91.85	22	eP	P	04 51 12.7	+1.1
IMA				epP	pP	04 51 17.7	+0.1
INK	Inuvik	97.20	16	eP	P	04 51 36.2	+0.2
	comp=Z,3.1nm,1.0s,mb4.7						
INK				epP	pP	04 51 42.1	0.0
PDAR	Pinedale Array	125.39	21	PKP	PKPdf	04 57 06.6	-1.5
	comp=Z,0.6nm,0.7s,baz=19,slow=1.4,SNR=5.7						
PLCA	Paso Flores	144.32	200	PKP	PKPdf	04 57 41.8	-1.3
	comp=Z,5.1nm,0.8s,baz=142,slow=3.5,SNR=8.4						
LPAZ	La Paz	160.48	242	PKP	PKPdf	04 57 21.7	-45
	comp=Z,0.6nm,0.8s,baz=121,slow=6.1,SNR=2.9						
LPAZ				PKPab	PKPab	04 58 05.1	-41
	comp=Z,1.1nm,0.8s,baz=146,slow=6.0,SNR=3.6						

*IDC **28** 04:40:18.2±1.1, 7.66N×93.78E, mb4.0/7, mb1 4.2/8, mb1mx4.0/18, mbtmp4.0/8, Error ellipse: s-maj=50.9km s-min=27.1km az=48.0*
*NEIC **28** 04:40:23.0±0.6, 7.69N×93.78E, h30km, mb4.5/3, Error ellipse: s-maj=22.2km s-min=13.5km az=66.0*
ISC 28 04:40:17.7±0.9, 7.6N±0.1×93.8E±0.2, h10km, n15, σ0°84/11, mb4.2/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.88	25	Pn	P	04 43 10.8	+0.5
	baz=204,slow=16,SNR=3.2						
LSA	Lhasa	22.09	354	eP	P	04 45 14.8	0.0
	11nm,0.6s,mb4.5						
KURK	Kurchatov	44.76	346	eP	P	04 48 32.9	-0.3
	8.4nm,1.1s,mb4.5						
ZAL	Zalesovo	46.74	353	P	P	04 48 48.0	-0.8
	1.7nm,0.8s,mb4.0,baz=297,slow=3.5,SNR=4.0						
WRA	Warramunga Arr	48.41	125	P	P	04 49 01.8	-0.5
	0.9nm,0.5s,mb4.0,baz=305,slow=8.4,SNR=5.1						
WRAB	Tennant Creek	48.42	125	eP	P	04 49 02.8	+0.4
	1.9nm,0.4s,mb4.5						
KMBO	Kilima Mbogo	57.04	264	P	P	04 50 13.4	+6.7
	1.5nm,0.8s,mb4.1,baz=56,slow=15,SNR=4.2						
BRTR	Keskin Array B	62.32	311	P	P	04 50 42.9	+0.2
	0.9nm,0.6s,mb4.1,baz=136,slow=7.3,SNR=4.1						
FINES	FINESS Array B	72.76	332	P	P	04 51 46.3	-1.6
	1.8nm,0.8s,mb4.0,baz=101,slow=9.7,SNR=5.3						
GERES	GERESS Array B	77.77	318	P	P	04 52 18.5	+1.8
	1.2nm,0.6s,mb4.0,baz=90,slow=5.3,SNR=7.0						
NOA	NORSAR Array B	79.77	331	P	P	04 52 27.6	+0.3
	1.3nm,0.9s,mb3.9,baz=98,slow=5.1,SNR=3.3						
NVAR	Mina Array Bea	125.31	31	PKP	PKPdf	04 59 22.4	0.0
	0.8nm,0.8s,baz=315,slow=2.6,SNR=3.9						
PDAR	Pinedale Array	125.52	21	PKP	PKPdf	04 59 22.3	-0.4
	0.3nm,0.6s,baz=244,slow=0.8,SNR=4.6						
TXAR	Lajitas Array	139.59	24	PKP	PKPdf	04 59 49.8	+0.3
	0.3nm,0.6s,baz=328,slow=0.3,SNR=7.2						
PLCA	Paso Flores	144.20	201	PKP	PKPdf	04 59 57.1	-0.1
	2.6nm,1.0s,baz=76,slow=5.1,SNR=3.8						

*BJI **28** 04:43:42.4, 8.20N×93.80E, h30km, mB5.2, mb4.7*
*NEIC **28** 04:43:42.4±0.5, 8.19N×93.78E, h30km, mb4.6/4, Error ellipse: s-maj=16.6km s-min=12.3km az=71.0*
*IDC **28** 04:43:44.7±5.5, 8.26N×93.82E, h46km±50km, mb4.0/8, mb1 4.2/9, mb1mx3.9/19, mbtmp4.2/9, ML4.4/1, Error ellipse: s-maj=37.5km s-min=24.8km az=56.0*
ISC 28 04:43:41.0±0.8, 8.2N±0.1×93.8E±0.1, h33km, n21, σ0°86/18, mb4.5/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.36	26	P	P	04 46 23.5	-0.6
	0.8nm,0.3s,baz=209,slow=15,SNR=4.8						
LSA	Lhasa	21.53	354	eP	P	04 48 33.3	+3.8
NJ2	Nanjing	33.24	41	eP	P	04 50 19.0	+1.5
NJ2				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.6						
SONM	Songino Array	40.92	13	P	P	04 51 21.8	-0.1
	comp=Z,9.3nm,1.2s,mb4.3,baz=191,slow=6.3,SNR=8.5						
KURK	Kurchatov	44.22	346	eP	P	04 51 49.1	+0.3
	comp=Z,10nm,0.9s,mb4.6						
ZAL	Zalesovo	46.18	353	P	P	04 52 04.8	+0.4
	comp=Z,16nm,1.2s,mb4.8,baz=291,slow=10,SNR=9.3						
ZAL	Zalesovo	46.18	353	P	P	04 52 04.8	+0.4
BVAR	Borovoye Array	48.58	341	P	P	04 52 23.4	+0.2
	comp=Z,3.0nm,0.9s,mb4.3,baz=135,slow=8.4,SNR=4.1						
WRA	Warramunga Arr	48.72	126	P	P	04 52 24.8	+0.1
	comp=Z,2.0nm,0.7s,mb4.2,baz=305,slow=8.4,SNR=6.5						
WRAB	Tennant Creek	48.73	126	eP	P	04 52 24.2	-0.6
	comp=Z,5.1nm,0.7s,mb4.7						
CHKZ	Chkalovo	49.06	342	eP	P	04 52 26.2	-0.7
	comp=Z,5.2nm,0.8s,mb4.6						
KMBO	Kilima Mbogo	57.12	263	P	P	04 53 28.1	+0.8
	comp=Z,2.3nm,1.1s,mb4.1,baz=70,slow=12,SNR=3.3						
FINES	FINESS Array B	72.27	332	P	P	04 55 02.9	-1.8
	comp=Z,3.7nm,0.9s,mb4.3,baz=135,slow=14,SNR=4.1						
FINES	FINESS Array B	72.27	332	P	P	04 55 02.9	-1.8
GERES	GERESS Array B	77.36	318	P	P	04 55 34.1	-0.3
	comp=Z,1.0nm,0.7s,mb3.9,baz=79,slow=6.8,SNR=4.1						
NB2	NORSAR Subarra	79.28	331	P	P	04 55 43.6	-1.0
	comp=Z,1.1nm,0.7s,mb3.9,baz=92,slow=5.3						
NOA	NORSAR Array B	79.28	331	P	P	04 55 45.9	+1.3
	comp=Z,3.2nm,1.0s,mb4.2,baz=94,slow=5.3,SNR=3.8						
NOA	NORSAR Array B	79.28	331	P	P	04 55 45.9	+1.3
PDAR	Pinedale Array	124.99	21	PKP	PKPdf	05 02 40.8	+2.4
	comp=Z,1.0nm,1.0s,baz=27,slow=3.3,SNR=4.9						
TXAR	Lajitas Array	139.07	24	PKP	PKPdf	05 03 08.2	+3.0
	comp=Z,0.2nm,0.8s,baz=18,slow=2.9,SNR=3.1						
PLCA	Paso Flores	144.73	201	PKP	PKPdf	05 03 16.5	+1.7
	comp=Z,3.6nm,1.0s,baz=186,slow=3.6,SNR=4.8						

*BJI **28** 04:46:10.7, 7.76N×93.83E, h55km, mB5.0, mb4.7, Ms4.8, Msz4.4*
*NEIC **28** 04:46:10.9±0.4, 8.10N×94.11E, h30km, mb4.6/9, Error ellipse: s-maj=16.0km s-min=9.9km az=54.0*
*IDC **28** 04:46:11.8±5.3, 8.04N×93.88E, h42km±46km, mb4.0/16, mb1 4.2/17, mb1mx4.1/21, mbtmp4.2/17, ML4.2/1, MS3.9/1, Ms1 4.1/1, ms1mx2.9/24, Error ellipse: s-maj=40.9km s-min=13.9km az=58.0, Putative timing error at LPAZ*
ISC 28 04:46:11.9±0.5, 8.06N±0.06×94.06E±0.07, h55km, n51, σ1°07/46, mb4.6/30, 1C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.37	24	P	P	04 48 53.8	-0.4
	0.4nm,0.3s,baz=212,slow=14,SNR=13						
CMAR				LR	LR	04 53 27.8	
	comp=Z,713nm,21.5s,baz=215,slow=38						
CHG	Chiang Mai	11.70	23	⇓P	P	04 48 58.0	-0.5
	25nm,0.8s						
NANT	Nan	12.47	30	P	P	04 49 10.0	+1.1
HYB	Hyderabad	17.74	303	eP	P	04 50 18.0	+1.2
HYB				eS	S	04 53 35.0	+5.0
HYB	Hyderabad	17.74	303	i P	P	04 50 18.0	+1.2
HYB				eS	S	04 53 35.0	+5.0
KMI	Kunming	18.88	25	⇑P	P	04 50 33.3	+2.8
	39nm,1.4s						
KMI				pP		04 50 39.2	
JIRN	Jiri	20.87	340	eP	P	04 50 51.0	-0.7
	68nm,0.9s						
PKI	Pulchoki	21.06	338	eP	P	04 50 53.1	-0.5
	241nm,1.3s,mb5.4						
DMN	Daman	21.21	338	eP	P	04 50 55.0	-0.1
	102nm,0.9s,mb5.1						
KKN	Kakani	21.31	338	eP	P	04 50 55.8	-0.3
	67nm,0.8s,mb5.0						
GKN	Gorkha	21.75	337	eP	P	04 50 59.9	-0.5
	121nm,1.0s,mb5.3						
KOLN	Koldanda	21.96	335	eP	P	04 51 03.0	+0.4
	83nm,1.0s,mb5.1						
DDI	Dehra Dun	26.75	328	e	P	04 51 49.0	+0.5
LZH	Lanzhou	29.29	16	eP	P	04 52 11.8	+0.5
LZH				AMB	AMB		
	comp=Z,30nm,1.7s,mb4.8						
LZH	Lanzhou	29.29	16	eP	P	04 52 11.7	+0.4
	comp=Z,30nm,1.7s,mb4.8						
LZH				pP	pP	04 52 20.6	-4.6
LZH				sP	sP	04 52 24.2	-7.7
NJ2	Nanjing	33.18	41	eP	P	04 52 46.0	+0.4
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.5						
WMQ	Urumqi	36.05	352	eP	P	04 53 10.8	+0.8
BJI	Beijing	37.48	28	P	P	04 53 24.1	+2.1
	comp=Z,7.0nm,0.9s,mb4.5						
SONM	Songino Array	41.00	13	P	P	04 53 51.5	+0.4
	comp=Z,3.1nm,0.8s,mb4.0,baz=188,slow=8.7,SNR=7.4						
KURK	Kurchatov	44.41	346	eP	P	04 54 18.6	-0.3
	comp=Z,9.8nm,0.9s,mb4.5						
NWAO	Narrogin (SRO)	46.35	153	P	P	04 54 34.9	+0.4
	comp=Z,8.0nm,0.9s,mb4.7,baz=282,slow=17,SNR=3.8						
ZAL	Zalesovo	46.35	352	P	P	04 54 33.4	-0.9
	comp=Z,3.5nm,0.8s,mb4.4,baz=303,slow=8.4,SNR=9.3						
WRA	Warramunga Arr	48.43	126	P	P	04 54 50.8	-0.2
	comp=Z,2.7nm,0.8s,mb4.4,baz=304,slow=8.6,SNR=10						
WRAB	Tennant Creek	48.44	126	eP	P	04 54 50.0	-1.0
	comp=Z,7.8nm,0.8s,mb4.8						
BVAR	Borovoye Array	48.79	341	P	P	04 54 52.6	-0.7
	comp=Z,1.5nm,0.6s,mb4.2,baz=157,slow=11,SNR=5.7						
RAYN	Ar Rayn	48.94	294	P	P	04 54 57.9	+3.0
	comp=Z,58nm,0.7s,mb5.7,SNR=8.7						
CHKZ	Chkalovo	49.27	342	eP	P	04 54 56.4	-0.7
	comp=Z,7.2nm,0.8s,mb4.8						
ASAR	Alice Springs	50.09	130	P	P	04 55 03.5	-0.3
	comp=Z,2.5nm,0.9s,mb4.2,baz=302,slow=7.2,SNR=8.1						
KMBO	Kilima Mbogo	57.37	263	P	P	04 55 59.8	+2.4
	comp=Z,5.7nm,0.8s,mb4.7,baz=56,slow=9.8,SNR=14						
STKA	Stephens Creek	60.29	134	P	P	04 56 17.1	-0.3
	comp=Z,6.4nm,1.2s,mb4.5,baz=298,slow=4.1,SNR=3.9						
BRTR	Keskin Array B	62.25	311	P	P	04 56 28.2	-2.3
	comp=Z,1.0nm,0.6s,mb4.1,baz=127,slow=6.3,SNR=4.2						
AKASG	Malin Array Be	67.96	322	P	P	04 57 05.5	-1.6
	comp=Z,0.9nm,0.6s,mb4.0,baz=89,slow=4.4,SNR=4.0						
FINES	FINESS Array B	72.51	332	P	P	04 57 34.0	-0.4
	comp=Z,4.5nm,0.9s,mb4.4,baz=76,slow=7.9,SNR=5.5						
LBTB	Lobatse	74.26	241	eP	P	04 57 46.9	+1.4
	comp=Z,5.4nm,0.9s,mb4.5						
ARCES	ARCESS Array B	75.07	340	P	P	04 57 48.5	-0.8
	comp=Z,3.3nm,0.9s,mb4.3,baz=90,slow=4.9,SNR=4.2						
GERES	GERESS Array B	77.64	318	P	P	04 58 03.2	-1.0
	comp=Z,2.1nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=10						
KHC	Kasperske Hory	77.73	318	eP	P	04 58 02.0	-2.6
CLL	Collm	78.17	321	P	P	04 58 08.0	+1.0
NB2	NORSAR Subarra	79.53	331	P	P	04 58 10.6	-3.6
	comp=Z,1.8nm,0.7s,mb4.1,baz=91,slow=5.8						
NOA	NORSAR Array B	79.53	331	P	P	04 58 14.2	-0.1
	comp=Z,2.6nm,0.8s,mb4.2,baz=92,slow=5.7,SNR=6.2						
LPG	La Plagne	82.43	315	eP	P	04 58 31.0	+1.2
	comp=Z,20nm,1.1s,mb4.7						
ILAR	Eielson Array	94.60	22	P	P	04 59 26.9	-0.7
	comp=Z,0.4nm,0.8s,mb3.9,baz=289,slow=4.8,SNR=4.8						
INK	Inuvik	96.84	16	P	P	04 59 37.6	0.0
	comp=Z,0.9nm,0.8s,mb4.3,baz=14,slow=5.8,SNR=3.3						
INK	Inuvik	96.84	16	eP	P	04 59 38.3	+0.6
YKA	Yellowknife Ar	106.27	13	PP	PP	05 04 41.8	-5.6
	comp=Z,0.1nm,0.4s,baz=330,slow=7.8,SNR=3.7						
NVAR	Mina Array Bea	124.80	31	PKP	PKPdf	05 05 09.1	+3.0
	comp=Z,0.6nm,0.8s,baz=270,slow=2.7,SNR=3.3						
PDAR	Pinedale Array	125.02	21	PKP	PKPdf	05 05 08.3	+1.9
	comp=Z,0.7nm,0.9s,baz=46,slow=0.6,SNR=5.3						
ANMO	Albuquerque	133.03	23	PKP	PKPdf	05 05 24.7	+2.7
	comp=Z,0.8nm,0.8s,baz=48,slow=4.1,SNR=4.1						
TXAR	Lajitas Array	139.09	24	PKP	PKPdf	05 05 36.2	+2.9
	comp=Z,0.3nm,0.5s,baz=273,slow=1.7,SNR=4.8						
PLCA	Paso Flores	144.69	200	PKP	PKPdf	05 05 44.3	+1.5
	comp=Z,6.2nm,0.8s,baz=190,slow=2.7,SNR=14						
LPAZ	La Paz	160.78	243	PKPab	PKPab	05 06 08.1	-43
	comp=Z,0.9nm,1.0s,baz=66,slow=18,SNR=4.0						

IGQ 28 04:49:57.0, 1.32S×80.92W, h16km±6km, mb4.1, 5C, Error ellipse: s-maj=7.6km s-min=5.7km az=3.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.46	55	⇑P	Pb	04 50 06.2	-0.1
JAMA	Jama	1.27	34	P	Pb	04 50 20.1	0.0
JAMA				S	Sb	04 50 36.5	+0.5
MAGD	Magdalena	1.69	43	P	Pn	04 50 27.5	+1.2
IGUA	Igualata	2.29	94	P	Pn	04 50 36.0	+1.2
IGUA				S	Sn	04 51 06.0	+3.1
JUIV	Juive	2.46	93	P	Pn	04 50 38.3	+1.0
ARRY	Arrayan	2.48	94	⇑P	Pn	04 50 38.9	+1.4
ARRY				S	Sn	04 51 08.6	+1.0
NAS1	Nasa	2.54	75	P	Pn	04 50 41.1	+2.7
PISA	Pisayambo	2.55	84	P	Pn	04 50 42.9	+4.4
JUA2

PLCA Paso Flores 144.69 201 PKP PKPdf 05 16 16.4 -3.0
2.6nm,1.0s,baz=222,slow=2.1,SNR=4.9

IDC 28 05:00:27.1±1.8, 7.69N×93.99E, mb3.6/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.6/3, Error ellipse: s-maj=74.4km s-min=33.7km az=51.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.37**	**13**	P	P	05 08 15.0	-1.5
	0.2nm,0.4s,baz=190,slow=8.8,SNR=2.2						
WRA	**Warramunga Arr**	**48.28**	**125**	P	P	05 09 10.2	-2.2
	0.4nm,0.6s,baz=305,slow=8.4,SNR=5.6						
GERES	**GERESS Array B**	**77.86**	**318**	P	P	05 12 26.8	-1.5
	0.4nm,0.5s,baz=90,slow=5.3,SNR=5.8						
TXAR	**Lajitas Array**	**139.45**	**24**	PKP	PKPdf	05 19 58.7	-0.4
	0.2nm,0.7s,baz=333,slow=6.0,SNR=4.9						

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*NEIC **28** 05:03:27.6±0.6, 8.21N×94.46E, h30km, mb4.3/4, Error ellipse: s-maj=22.0km s-min=13.5km az=68.0*
*IDC **28** 05:03:33.9±11.0, 8.19N×94.47E, h87km±102km, mb3.6/8, mb1 3.8/8, mb1mx3.6/17, mbtmp3.9/8, Error ellipse: s-maj=34.7km s-min=20.1km az=55.0*

ISC 28 05:03:25.9±0.8, 8.2N±0.1×94.5E±0.2, h33km, n16, σ0°75/13, mb4.1/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**21.63**	**352**	*e*P	**P**	**05 08 14.9**	**-0.4**
	8.7nm,0.6s,mb4.4						
LSA				*e*pP		05 08 20.0	
BJT	**Baijiatuau**	**37.15**	**28**	*e*P	**P**	**05 10 34.9**	**-0.7**
	3.2nm,0.4s,mb4.5						
SONM	**Songino Array**	**40.79**	**12**	P	**P**	**05 11 07.5**	**+1.7**
	0.9nm,0.8s,mb3.5,baz=243,slow=2.8,SNR=3.8						
KURK	**Kurchatov**	**44.39**	**346**	*e*P	**P**	**05 11 35.4**	**+0.3**
	1.7nm,0.3s,mb4.2						
ZAL	**Zalesovo**	**46.28**	**352**	P	**P**	**05 11 51.1**	**+0.9**
	1.2nm,0.4s,mb4.2,baz=307,slow=8.3,SNR=4.7						
WRA	**Warramunga Arr**	**48.17**	**126**	P	**P**	**05 12 05.4**	**0.0**
	0.4nm,0.5s,mb3.7,baz=304,slow=8.6,SNR=4.8						
CHKZ	**Chkalovo**	**49.28**	**341**	*e*P	**P**	**05 12 13.1**	**-0.5**
	2.5nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**49.86**	**130**	P	**P**	**05 12 18.3**	**-0.1**
	0.5nm,0.6s,mb3.7,baz=297,slow=6.6,SNR=4.4						
KMBO	**Kilima Mbogo**	**57.79**	**263**	P	**P**	**05 13 17.4**	**+0.6**
	3.8nm,1.2s,mb4.3,baz=55,slow=11,SNR=4.9						
FINES	**FINESS Array B**	**72.59**	**332**	P	**P**	**05 14 51.1**	**-0.4**
	0.9nm,0.5s,mb4.0,baz=112,slow=5.6,SNR=9.1						
ARCES	**ARCESS Array B**	**75.09**	**340**	P	**P**	**05 15 04.6**	**-1.4**
	3.8nm,1.1s,mb4.2,baz=90,slow=4.9,SNR=5.8						
ARCES	**ARCESS Array B**	**75.09**	**340**	P	**P**	**05 15 04.6**	**-1.4**
GERES	**GERESS Array B**	**77.82**	**318**	P	**P**	**05 15 21.6**	**-0.1**
	2.3nm,0.9s,mb4.1,baz=90,slow=5.3,SNR=10						
PDAR	**Pinedale Array**	**124.75**	**21**	PKP	PKPdf	05 22 25.3	+2.5
	0.7nm,0.7s,baz=90,slow=3.0,SNR=5.8						
TXAR	**Lajitas Array**	**138.80**	**24**	PKP	PKPdf	05 22 54.2	+4.6
	0.2nm,0.5s,baz=217,slow=0.3,SNR=8.1						
PLCA	**Paso Flores**	**144.96**	**200**	PKP	PKPdf	05 23 01.2	+1.1
	1.1nm,0.8s,baz=261,slow=6.0,SNR=3.5						

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*IDC **28** 05:03:42.0±1.4, 7.78N×93.90E, mb4.1/5, mb1 4.3/6, mb1mx3.9/18, mbtmp4.0/6, ML4.1/1, Error ellipse: s-maj=48.5km s-min=27.4km az=59.0*
*NEIC **28** 05:03:46.8±0.6, 7.81N×93.96E, h30km, mb4.5/2, Error ellipse: s-maj=20.0km s-min=13.4km az=80.0*

ISC 28 05:03:45.6±1.2, 7.9N±0.2×94.0E±0.2, h33km, n12, σ0°37/9, mb4.1/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.57**	**24**	Pn	**P**	**05 06 31.5**	**0.0**
	0.4nm,0.3s,baz=213,slow=15,SNR=5.3						
BHJ	**Bhuj**	**27.96**	**306**	*e*	**P**	**05 09 28.9**	**-6.5**
SONM	**Songino Array**	**41.20**	**13**	P	**P**	**05 11 29.1**	**+0.3**
	1.7nm,0.9s,mb3.7,baz=198,slow=7.8,SNR=6.6						
KURK	**Kurchatov**	**44.60**	**346**	*e*P	**P**	**05 11 56.9**	**+0.4**
	5.0nm,1.0s,mb4.3						
ZAL	**Zalesovo**	**46.55**	**352**	P	**P**	**05 12 11.4**	**-0.5**
	11nm,1.3s,mb4.6,baz=294,slow=11,SNR=7.5						
WRA	**Warramunga Arr**	**48.34**	**125**	P	**P**	**05 12 26.3**	**-0.1**
	0.3nm,0.6s,mb3.5,baz=298,slow=12,SNR=3.5						
CHKZ	**Chkalovo**	**49.45**	**342**	*e*P	**P**	**05 12 33.9**	**-0.6**
	5.4nm,0.9s,mb4.6						
FINES	**FINESS Array B**	**72.67**	**332**	P	**P**	**05 15 11.4**	**-0.2**
	2.9nm,0.8s,mb4.3,baz=90,slow=14,SNR=4.3						
GERES	**GERESS Array B**	**77.77**	**318**	P	**P**	**05 15 41.6**	**+0.5**
	0.9nm,0.6s,mb3.9,baz=108,slow=4.2,SNR=6.6						
CLL	**Collm**	**78.31**	**321**	*e*PP	pP	05 15 50.0	-4.3
PDAR	**Pinedale Array**	**125.22**	**21**	PKP	PKPdf	05 22 45.1	+1.8
	0.6nm,0.9s,baz=45,slow=2.1,SNR=4.4						
TXAR	**Lajitas Array**	**139.28**	**24**	PKP	PKPdf	05 23 11.7	+1.6
	0.2nm,0.5s,baz=272,slow=1.1,SNR=3.6						

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*IDC **28** 05:04:17.6±0.8, 7.59N×93.92E, mb4.1/13, mb1 4.3/14, mb1mx4.2/19, mbtmp4.1/14, ML4.4/1, Error ellipse: s-maj=28.1km s-min=19.1km az=51.0*
*NEIC **28** 05:04:21.9±0.4, 7.60N×93.93E, h30km, mb4.4/5, Error ellipse: s-maj=15.6km s-min=9.6km az=56.0*

ISC 28 05:04:21.0±0.5, 7.67N±0.08×94.02E±0.09, h33km, n41, σ1°03/36, mb4.2/19, MS5.2/2, 1C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.46**	**49**	P	**P**	**05 06 07.0**	**-3.1**
CMAR	**Chiang Mai Arr**	**11.75**	**24**	Pn	**P**	**05 07 08.9**	**-0.4**
	0.8nm,0.3s,baz=210,slow=16,SNR=9.8						
NANT	**Nan**	**12.83**	**30**	P	**P**	**05 07 25.0**	**+1.1**
CHRT	**Chiangrai**	**13.36**	**24**	⇑P	**P**	**05 07 24.5**	**-6.3**
	171nm,1.0s						
MKAR	**Makanchi Array**	**40.26**	**348**	*i* P	**P**	**05 11 56.4**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,38nm,1.0s						
SONM	**Songino Array**	**41.39**	**13**	P	**P**	**05 12 06.2**	**+0.5**
	comp=Z,1.7nm,0.7s,mb3.8,baz=191,slow=6.3,SNR=6.3						
KURK	**Kurchatov**	**44.78**	**346**	*e*P	**P**	**05 12 32.9**	**-0.4**
	comp=Z,4.4nm,0.6s,mb4.5						
ZAL	**Zalesovo**	**46.74**	**353**	P	**P**	**05 12 48.8**	**+0.1**
	comp=Z,4.7nm,0.4s,mb4.8,baz=296,slow=4.5,SNR=10						
WRA	**Warramunga Arr**	**48.24**	**125**	P	**P**	**05 13 00.2**	**-0.8**
	comp=Z,0.5nm,0.4s,mb3.9,baz=301,slow=9.7,SNR=8.7						
WRAB	**Tennant Creek**	**48.24**	**125**	*e*P	**P**	**05 13 00.6**	**-0.4**
	comp=Z,2.1nm,0.5s,mb4.4						
WB2	**Warramunga Arr**	**48.25**	**125**	*e*P	**P**	**05 13 01.6**	**+0.5**
BVAR	**Borovoye Array**	**49.15**	**341**	P	**P**	**05 13 05.7**	**-1.8**
	comp=Z,1.1nm,0.6s,mb4.1,baz=149,slow=8.6,SNR=5.1						
ASAR	**Alice Springs**	**49.88**	**130**	P	**P**	**05 13 13.8**	**+0.3**
	comp=Z,1.0nm,0.9s,mb3.9,baz=299,slow=7.0,SNR=4.9						
KLR	**Kul'dur**	**52.12**	**31**	*e*P	**P**	**05 13 30.0**	**-0.2**
KLR				MLR	MLR		
	comp=Z,2μm,14.0s,MS5.3						
BOD	**Bodaibo**	**52.38**	**13**	*e*P	**P**	**05 13 31.3**	**-0.7**
SVE	**Sverdlovsk**	**55.55**	**338**	*e*P	**P**	**05 13 56.0**	**+0.7**
SVE				MLR	MLR		
	comp=E,1μm,20.0s						
SVE				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.1						
KMBO	**Kilima Mbogo**	**57.28**	**264**	P	**P**	**05 14 07.6**	**-0.7**
	comp=Z,0.7nm,0.5s,mb4.0,baz=61,slow=19,SNR=2.6						
KMBO	**Kilima Mbogo**	**57.28**	**264**	P	**P**	**05 14 07.6**	**-0.8**
KIV	**Kislovodsk**	**57.39**	**318**	*e*P	**P**	**05 14 06.8**	**-1.8**
	comp=Z,2.7nm,0.4s,mb4.6						
BRTR	**Keskin Array B**	**62.47**	**311**	P	**P**	**05 14 42.5**	**-1.0**
	comp=Z,0.9nm,0.5s,mb4.1,baz=101,slow=7.3,SNR=3.4						
AKASG	**Malin Array Be**	**68.24**	**322**	P	**P**	**05 15 19.2**	**-1.2**
	comp=Z,0.7nm,0.5s,mb4.0,baz=84,slow=5.1,SNR=4.6						
MLR	**Muntele Rosu**	**69.23**	**316**	||P	**P**	**05 15 28.9**	**+2.2**
JOF	**Joensuu**	**70.98**	**335**	*ep*	**P**	**05 15 37.5**	**+0.5**
	comp=Z,0.7nm,0.4s,mb3.9						
FINES	**FINESS Array B**	**72.84**	**332**	P	**P**	**05 15 48.0**	**0.0**
	comp=Z,1.8nm,0.4s,mb4.3,baz=102,slow=6.3,SNR=15						
KAF	**Kangasniemi**	**72.92**	**333**	*ep*	**P**	**05 15 48.6**	**+0.1**
	comp=Z,1.0nm,0.4s,mb4.1						
KEV	**Kevo**	**74.99**	**341**	*ep*	**P**	**05 16 00.4**	**0.0**
	comp=Z,0.6nm,0.4s,mb3.9						
KEV	**Kevo**	**74.99**	**341**	*ep*	**P**	**05 16 00.7**	**+0.3**
	comp=Z,0.7nm,0.5s,mb3.9						
KEV	**Kevo**	**74.99**	**341**	*e*P	**P**	**05 16 00.7**	**+0.3**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
KEV	**Kevo**	**74.99**	**341**	*e*P	**P**	**05 16 00.4**	**0.0**
	comp=Z,0.6nm,0.4s,mb3.9						
KEV	**Kevo**	**74.99**	**341**	*e*P	**P**	**05 16 00.7**	**+0.3**
	comp=Z,0.6nm,0.4s,mb3.9						
ARCES	**ARCESS Array B**	**75.42**	**340**	P	**P**	**05 16 03.7**	**+0.8**
	comp=Z,1.3nm,0.4s,mb4.2,baz=97,slow=6.7,SNR=12						
ARCES	**ARCESS Array B**	**75.42**	**340**	P	**P**	**05 16 03.7**	**+0.8**
GERES	**GERESS Array B**	**77.90**	**318**	P	**P**	**05 16 18.2**	**+0.9**
	comp=Z,1.5nm,0.8s,mb4.0,baz=90,slow=5.3,SNR=5.1						
NB2	**NORSAR Subarra**	**79.85**	**331**	P	**P**	**05 16 28.3**	**+0.7**
	comp=Z,4.6nm,0.6s,mb4.6,baz=95,slow=5.0						
NOA	**NORSAR Array B**	**79.85**	**331**	P	**P**	**05 16 29.8**	**+2.2**
	comp=Z,1.2nm,0.6s,mb4.0,baz=97,slow=5.4,SNR=7.3						
ILAR	**Eielson Array**	**94.98**	**22**	P	**P**	**05 17 43.1**	**+2.1**
	comp=Z,0.5nm,0.6s,mb4.1,baz=315,slow=4.0,SNR=4.2						
PDAR	**Pinedale Array**	**125.40**	**21**	PKP	PKPdf	05 23 21.1	+2.1
	comp=Z,0.5nm,0.8s,baz=135,slow=1.3,SNR=3.1						
PDAR	**Pinedale Array**	**125.40**	**21**	PKP	PKPdf	05 23 21.1	+2.1
TXAR	**Lajitas Array**	**139.46**	**24**	PKP	PKPdf	05 23 45.8	-0.1
	comp=Z,0.3nm,0.6s,baz=223,slow=1.1,SNR=3.1						
PLCA	**Paso Flores**	**144.31**	**200**	PKP	PKPdf	05 23 53.7	-0.3
	comp=Z,2.3nm,0.9s,baz=123,slow=4.9,SNR=3.9						
PLCA	**Paso Flores**	**144.31**	**200**	PKP	PKPdf	05 23 53.7	-0.3

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*IDC **28** 05:04:27.2±0.5, 7.80N×93.88E, mb4.7/20, mb1 4.8/21, mb1mx4.7/24, mbtmp4.6/21, ML4.9/1, Error ellipse: s-maj=27.1km s-min=12.7km az=53.0*
*MOS **28** 05:04:30.8±1.4, 7.80N×93.97E, h33km, mb5.0/36, MS5.0/9, Error ellipse: s-maj=11.3km s-min=6.8km az=103.0*
*BJI **28** 05:04:30.3, 7.57N×93.56E, h46km, mB5.3, mb4.8, Ms5.4, Msz5.1*
*HRVD **28** 05:04:31.3±0.2, 7.88N×94.18E, h12km, MW5.4/59, Centroid moment Tensor Solution. LP body waves: s43,c73;Mantle waves: s59,c112; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.31±.02; $M_{\theta\theta}$-0.97±.02; $M_{\phi\phi}$1.28±.02; $M_{r\theta}$-0.48±.06; $M_{\theta\phi}$0.29±.02; $M_{\phi r}$-0.38±.06; Best double couple: $M_0$1.326×10^{17} NP1: ϕ_s144°, δ60°, λ-170°. NP2:ϕ_s49°, δ82°, λ-30°. Principal axes: T 1.428, Plg15°, Azm100°; N -.206, Plg59°, Azm215°; P -1.223, Plg27°, Azm2°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 05:04:31.3±3.8, 7.81N×93.56E, h34km±26km, mb4.9/35 Error ellipse: s-maj=11.1km s-min=9.1km az=67.0*

ISC 28 05:04:30.5±0.3, 7.82N±0.04×93.77E±0.04, h33km, (h17km±4.2km: pP-P), n172, σ1°36/167, mb4.8/57, MS5.0/10, 5C-2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.71**	**25**	P	**P**	**05 07 17.2**	**-1.2**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.71**	**25**	Pn	**P**	**05 07 17.2**	**-1.2**
	comp=Z,2.1nm,0.3s,baz=212,slow=15,SNR=24						
CMAR	**Chiang Mai Arr**	**11.71**	**25**	Pn	**P**	**05 07 17.2**	**-1.2**
CHG	**Chiang Mai**	**12.03**	**24**	⇑P	**P**	**05 07 22.4**	**-0.3**
	comp=Z,54nm,0.8s						
KKTK	**Khon Kaen**	**12.25**	**45**	P	**P**	**05 07 26.0**	**+0.4**
PALK	**Pallekele**	**12.96**	**268**	*e*Pn	**P**	**05 07 30.6**	**-4.6**
	comp=Z,28nm,1.0s						
VIS	**Vishakhapatnam**	**14.15**	**315**	*e*P	**P**	**05 07 49.8**	**-1.1**
VIS				*e*		05 08 14.9	
	comp=Z,233nm,1.5s						
VIS				*e*S	**S**	**05 10 26.5**	**-1.2**
KOD	**Kodaikanal**	**16.27**	**280**	*e*	**P**	**05 08 18.0**	**-0.3**
TRD	**Trivandrum**	**16.65**	**274**	*e*P	**P**	**05 08 28.6**	**+5.5**
TRD				*e*		05 08 49.7	
	comp=Z,87nm,2.0s						
TRD				*e*S	**S**	**05 11 43.7**	**+18**
IMP	**Imphal**	**16.87**	**1**	*e*	**P**	**05 08 18.8**	**-7.0**
HYB	**Hyderabad**	**17.63**	**304**	*e*P	**P**	**05 08 40.0**	**+4.6**
HYB				*e*S	**S**	**05 11 48.5**	**+0.1**
HYB				pmax	pmax		
	comp=Z,100nm,1.2s						
HYB	**Hyderabad**	**17.63**	**304**	*e*P	**P**	**05 08 40.0**	**+4.6**
	comp=Z,100nm,1.2s						
HYB				*e*S	**S**	**05 11 48.5**	**+0.1**
HYB	**Hyderabad**	**17.63**	**304**	*i* P	**P**	**05 08 40.0**	**+4.6**
	comp=Z,100nm,1.2s						
HYB				*e*		05 11 48.5	
HYB				*e*S	**S**	**05 11 59.0**	**+11**
BLSP	**Bilaspur**	**18.11**	**323**	*e*P	**P**	**05 08 39.8**	**-1.6**
BLSP				*e*		05 08 46.8	
	comp=Z,57nm,1.0s						
BLSP				*e*		05 10 58.3	
QIZ	**Qiongzhong**	**19.18**	**53**	P	**P**	**05 08 54.5**	**+0.2**
QIZ				AMB	AMB		
	comp=Z,1μm,8.9s						
QIZ				LR	LR		
	comp=N,19μm,11.5s						
QIZ				LR	LR		
	comp=E,7μm,11.5s						
QIZ				LR	LR		
	comp=Z,5μm,9.6s						
QIZ	**Qiongzhong**	**19.18**	**53**	*e*P	**P**	**05 08 53.3**	**-1.0**
	comp=Z,106nm,1.3s						
KMI	**Kunming**	**19.23**	**25**	P	**P**	**05 08 56.5**	**+1.8**
KMI				pmax	pmax		
	comp=Z,41nm,1.4s						
KMI	**Kunming**	**19.23**	**25**	P	**P**	**05 08 56.5**	**+1.8**
	comp=Z,41nm,1.4s						
KMI				pP		05 09 01.9	
KMI				sP		05 09 05.0	
KMI				PP	PP	05 09 15.5	+3.6
KMI				S	**S**	**05 12 34.6**	**+10**
KMI				sS		05 12 44.0	
KMI				SS	SS	05 13 03.5	+13
COCO	**West Island**	**20.11**	**171**	*e*P	**P**	**05 09 03.1**	**-1.3**
	comp=Z,252nm,1.1s						
LSA	**Lhasa**	**21.91**	**354**	P	**P**	**05 09 21.2**	**-1.5**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.1						
LSA	**Lhasa**	**21.91**	**354**	P	**P**	**05 09 21.2**	**-1.5**
	comp=Z,5.3nm,0.6s,mb4.2						
BHPL	**Bhopal**	**21.94**	**316**	*e*P	**P**	**05 09 24.0**	**+1.0**
BHPL				*e*		05 09 32.5	
	comp=Z,114nm,1.5s						
BHPL				*e*S	**S**	**05 13 25.2**	**+6.9**
BHPL	**Bhopal**	**21.94**	**316**	*e*	**P**	**05 09 32.5**	**+10**
	comp=Z,114nm,1.5s,mb5.1						
PTH	**Pithoragarh**	**25.09**	**331**	*e*P	**P**	**05 09 56.0**	**+2.2**
PTH				*e*		05 12 07.0	
ENH	**Enshi**	**26.76**	**31**	*e*P	**P**	**05 10 08.6**	**-0.8**
	comp=Z,13nm,0.7s,mb4.6						
ENH				*ep*P	pP	05 10 12.9	-5.9
XAN	**Xi'an**	**29.61**	**26**	P	**P**	**05 10 34.5**	**-0.4**
XAN				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.8						
LZH	**Lanzhou**	**29.61**	**17**	*e*P	**P**	**05 10 35.5**	**+0.6**
LZH				PP	PP	05 11 31.0	-0.6
LZH				S	**S**	**05 15 26.0**	**-0.7**
LZH				AMB	AMB		
	comp=Z,62nm,1.8s,mb5.0						
LZH				AMB	AMB		
	comp=Z,156nm,4.0s						
LZH				LR	LR		
	comp=E,4μm,13.0s						
LZH				LR	LR		
	comp=Z,5μm,14.2s,MS5.3						
LZH	**Lanzhou**	**29.61**	**17**	*e*P	**P**	**05 10 35.4**	**+0.5**
LZH				*SP	sP	05 10 44.9	-4.0
LZH						05 11 31.0	
LZH				S	**S**	**05 15 26.0**	**-0.7**
LZH				*SS		05 15 42.0	
LZH				SS	SS	05 16 59.9	-1.4
LZH				pmax	pmax		
	comp=Z,62nm,1.8s,mb5.0						
LZH				MLR	MLR		
	comp=Z,5μm,14.2s,MS5.3						
LZH	**Lanzhou**	**29.61**	**17**	*e*P	**P**	**05 10 35.4**	**+0.5**
	comp=Z,62nm,1.8s,mb5.0						
LZH				pP	pP	05 10 42.3	-2.2
LZH				sP	sP	05 10 44.9	-4.0
LZH				PP	PP	05 11 31.0	-0.6
LZH				S	**S**	**05 15 26.0**	**-0.7**
LZH				sS		05 15 42.0	
LZH				SS	SS	05 16 59.9	-1.4
LZH				LR	LR		
	comp=Z,5μm,14.2s,MS5.3						
WHN	**Wuhan**	**29.71**	**38**	*e*P	**P**	**05 10 37.3**	**+1.4**
WHN				LR	LR		
	comp=N,830nm,8.6s						
WHN				LR	LR		
	comp=E,8μm,10.5s						
WHN				LR	LR		
	comp=Z,10μm,13.4s,MS5.6						
NJ2	**Nanjing**	**33.55**	**41**	*e*P	**P**	**05 11 09.5**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.6						
WMQ	**Urumqi**	**36.25**	**353**	*e*P	**P**	**05 11 30.5**	**-2.1**
WMQ				AP	pP	05 11 40.3	-2.0
WMQ				PP	PP	05 12 53.3	-2.6
WMQ				AMB	AMB		
	comp=Z,46nm,1.1s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,264nm,5.0s						
WMQ				LR	LR		
	comp=N,699nm,17.5s,MS4.7						
WMQ				LR	LR		
	comp=E,742nm,17.2s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,17.4s,MS4.7						
BJI	**Beijing**	**37.83**	**29**	P	**P**	**05 11 47.1**	**+1.2**
BJI				S	**S**	**05 17 39.6**	**+5.3**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
BJI				MLR	MLR		
	comp=Z,2μm,24.1s,MS4.7						
BJI	**Beijing**	**37.83**	**29**	P	**P**	**05 11 47.1**	**+1.2**
	comp=Z,10.0nm,0.6s,mb4.7						
BJI				S	**S**	**05 17 39.6**	**+5.3**
BJI				LR	LR		
	comp=Z,2μm,24.1s,MS4.7						
MBWA	**Marble Bar**	**38.47**	**139**	P	**P**	**05 11 53.0**	**+1.7**
	comp=Z,36nm,1.3s,mb5.0						
AAK	**Ala-Archa**	**38.61**	**337**	*e*P	**P**	**05 11 48.6**	**-3.7**
AAK				*e*PP	pP	05 11 53.8	-8.3
AAK				pmax	pmax		
	comp=Z,35nm,1.4s,mb4.9						
AAK	**Ala-Archa**	**38.61**	**337**	*e*P	**P**	**05 11 48.6**	**-3.7**
	comp=Z,35nm,1.4s,mb4.9						
AAK				*ep*P	pP	05 11 53.8	-8.3
FITZ	**Fitzroy Crossi**	**40.66**	**130**	*e*P	**P**	**05 12 08.6**	**-1.0**
	comp=Z,14nm,0.9s,mb4.6						
SONM	**Songino Array**	**41.30**	**13**	P	**P**	**05 12 14.3**	**-0.2**
	comp=Z,12nm,0.8s,mb4.6,baz=196,slow=8.0,SNR=27						
SONM	**Songino Array**	**41.30**	**13**	P	**P**	**05 12 14.3**	**-0.2**
ULN	**Ulaanbaatar**	**41.48**	**14**	*e*P	**P**	**05 12 14.9**	**-1.1**
ULN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**41.48**	**14**	*e*P	**P**	**05 12 14.9**	**-1.1**
	comp=Z,10nm,0.8s,mb4.5						
SNY	**Shenyang**	**42.92**	**33**	⇑P	**P**	**05 12 29.3**	**+1.4**
SNY				AP	pP	05 12 36.5	-1.3
SNY				AMB	AMB		
	comp=Z,310nm,7.0s						
SNY				LR	LR		
	comp=N,1μm,14.0s,MS5.3						
SNY				LR	LR		
	comp=E,2μm,11.9s,MS5.3						
SNY				LR	LR		
	comp=Z,2μm,15.0s,MS5.1						
ZAK	**Zakamensk**	**43.16**	**9**	*e*P	**P**	**05 12 29.3**	**-0.5**
TLY	**Talaya**	**44.48**	**9**	*e*P	**P**	**05 12 42.3**	**+1.9**
TLY				*e*S	**S**	**05 19 32.7**	**+20**
TLY				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.5						
TLY				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.8						
KURK	**Kurchatov**	**44.58**	**346**	P	**P**	**05 12 39.8**	**-1.4**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**44.58**	**346**	P	**P**	**05 12 39.8**	**-1.3**
	comp=Z,6.3nm,0.8s,mb4.5						
MUN	**Mundaring**	**45.00**	**153**	*e*P	**P**	**05 12 45.8**	**+0.9**
	comp=Z,13nm,0.7s,mb4.9						
MUN	**Mundaring**	**45.00**	**153**	*e*P	**P**	**05 12 45.8**	**+0.9**
MUN				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.9						
NWAO	**Narrogin (SRO)**	**46.27**	**152**	P	**P**	**05 12 54.3**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,21nm,0.7s						
NWAO	**Narrogin (SRO)**	**46.27**	**152**	P	**P**	**05 12 54.3**	**-0.6**
	comp=Z,20nm,0.7s,mb5.2,baz=328,slow=8.3,SNR=8.0						
NWAO	**Narrogin (SRO)**	**46.27**	**152**	*e*P	**P**	**05 12 54.3**	**-0.6**
	comp=Z,13nm,0.6s,mb5.0						
ZAL	**Zalesovo**	**46.55**	**353**	P	**P**	**05 12 57.5**	**+0.7**
ZAL				pmax	pmax		
	comp=Z,27nm,0.5s						
ZAL	**Zalesovo**	**46.55**	**353**	P	**P**	**05 12 57.5**	**+0.6**
	comp=Z,27nm,0.5s,mb5.5,baz=297,slow=5.6,SNR=36						
ZAL	**Zalesovo**	**46.55**	**353**	P	**P**	**05 12 57.5**	**+0.6**
HIA	**Hailar**	**46.72**	**23**	*e*P	**P**	**05 12 57.7**	**-0.5**
HIA				pmax	pmax		
	comp=Z,38nm,1.0s						
HIA	**Hailar**	**46.72**	**23**	*e*P	**P**	**05 12 57.7**	**-0.5**
	comp=Z,38nm,1.0s,mb5.3						
NVS	**Novosibirsk**	**47.65**	**352**	*e*P	**P**	**05 13 04.6**	**-0.8**
WRA	**Warramunga Arr**	**48.53**	**125**	P	**P**	**05 13 10.4**	**-2.4**
WRA						05 14 37.3	
WRA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**48.53**	**125**	P	**P**	**05 13 10.4**	**-2.4**
	comp=Z,3.1nm,0.4s,mb4.7,baz=304,slow=8.6,SNR=16						

SOKR				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
SOKR				MLR	MLR		
	comp=Z,2μm,22.0s,MS5.1						
EIL	Elat	59.13	300	eP	P	05 14 27.0	-3.6
	comp=Z,35nm,1.3s,mb5.2						
YAK	Yakutsk	60.17	19	eP	P	05 14 35.0	-2.2
YAK				e*PP	pP	05 14 42.9	-4.4
YAK				e		05 15 19.8	
YAK				e		05 16 47.8	
YAK				eS	S	05 22 48.4	+1.7
YAK				e*SS		05 23 02.2	
YAK				e		05 24 15.2	
YAK				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.3						
YAK				pmax	pmax		
	comp=N,11nm,1.1s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.3						
YAK				pmax	pmax		
	comp=N,17nm,1.1s						
YAK				pmax	pmax		
	comp=E,14nm,1.2s						
YAK				smax			
	comp=N,3.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,619nm,11.0s,MS5.0						
YAK				MLR	MLR		
	comp=N,537nm,12.0s,MS5.1						
YAK				MLR	MLR		
	comp=E,854nm,14.0s,MS5.1						
YAK	Yakutsk	60.17	19	eP	P	05 14 34.8	-2.4
	comp=E,82nm,0.8s,mb5.8						
STKA	Stephens Creek	60.34	133	eP	P	05 14 38.7	-0.1
	comp=E,10nm,1.8s,mb4.6						
STKA	Stephens Creek	60.34	133	P	P	05 14 38.0	-0.9
	comp=E,2.4nm,0.7s,mb4.3,baz=312,slow=8.6,SNR=3.0						
BRTR	Keskin Array B	62.18	311	P	P	05 14 50.3	-0.8
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRTR	Keskin Array B	62.18	311	P	P	05 14 50.3	-0.8
	comp=Z,4.0nm,0.6s,mb4.7,baz=124,slow=7.4,SNR=11						
BRTR	Keskin Array B	62.18	311	P	P	05 14 50.3	-0.8
MBAR	Mbarara	63.39	265	eP	P	05 14 56.7	-2.8
MBAR				pmax	pmax		
	comp=Z,36nm,1.3s,mb5.3						
MBAR	Mbarara	63.39	265	eP	P	05 14 56.7	-2.8
	comp=Z,36nm,1.3s,mb5.3						
MOS	Moscow	64.93	329	eP	P	05 15 08.2	-0.7
MOS				pmax	pmax		
	comp=Z,49nm,0.6s,mb5.7						
OBN	Obninsk	65.23	328	⇓iP	P	05 15 08.1	-2.8
OBN				e		05 17 40.0	
OBN				eSSS	SSS	05 30 56.2	-1.0
OBN				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.2						
OBN				MLR	MLR		
	comp=Z,800nm,19.0s,MS4.9						
MA2	Magadan	66.99	28	eP	P	05 15 21.1	-0.8
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MA2	Magadan	66.99	28	eP	P	05 15 20.2	-1.7
	comp=Z,22nm,0.8s,mb5.2						
TIRR	Tirgusor	67.03	315	⇓P	P	05 15 17.6	-4.9
TIXI	Tiksi	67.36	11	eP	P	05 15 14.7	-9.4
TIXI				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
TIXI				MLR	MLR		
	comp=Z,858nm,15.0s,MS5.1						
AKASG	Malin Array Be	67.97	322	P	P	05 15 27.6	-0.7
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG	Malin Array Be	67.97	322	P	P	05 15 27.6	-0.7
	comp=Z,3.1nm,0.7s,mb4.5,baz=87,slow=4.9,SNR=4.3						
IDI	Anoyia	68.29	305	P	P	05 15 30.1	-0.5
	comp=Z,9.7nm,0.6s,mb5.0,baz=82,slow=7.4,SNR=12						
VRI	Vrincioaia	68.48	316	⇑P	P	05 15 25.3	-6.3
LSZ	Lusaka	68.90	250	eP	P	05 15 33.3	-1.3
LSZ				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LSZ	Lusaka	68.90	250	eP	P	05 15 33.3	-1.3
	comp=Z,6.5nm,0.8s,mb4.6						
JOF	Joensuu	70.74	335	ep	P	05 15 45.4	+0.3
	comp=Z,1.6nm,0.4s,mb4.3						
JOF	Joensuu	70.74	335	eP	P	05 15 45.4	+0.3
FINES	FINESS Array B	72.59	332	P	P	05 15 56.5	+0.4
FINES				pmax	pmax		
	comp=Z,9.0nm,0.7s						
FINES	FINESS Array B	72.59	332	P	P	05 15 56.5	+0.4
	comp=Z,8.5nm,0.7s,mb4.8,baz=98,slow=6.0,SNR=7.8						
FINES	FINESS Array B	72.59	332	P	P	05 15 56.5	+0.4
KAF	Kangasniemi	72.67	333	ep	P	05 15 57.2	+0.6
	comp=Z,4.5nm,0.5s,mb4.7						
KAF	Kangasniemi	72.67	333	eP	P	05 15 57.2	+0.6
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
KAF	Kangasniemi	72.67	333	eP	P	05 15 57.2	+0.6
	comp=Z,1.0nm,0.4s,mb4.1						
OJC	Ojcow	73.78	320	eP	P	05 16 04.5	+1.2
LBTB	Lobatse	73.89	241	eP	P	05 16 00.3	-4.2
LBTB				e		05 16 07.8	
LBTB				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LBTB	Lobatse	73.89	241	eP	P	05 16 00.3	-4.2
	comp=Z,6.5nm,0.8s,mb4.6						
LBTB				e		05 16 07.8	
OKC	Ostrava-Krasne	74.79	319	eP	P	05 16 11.9	+2.7
MORC	Moravsky Berou	75.17	319	eP	P	05 16 07.8	-3.6
MORC				epP	pP	05 16 12.7	-9.0
ARCES	ARCESS Array B	75.19	340	P	P	05 16 12.0	+0.9
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARCES	ARCESS Array B	75.19	340	P	P	05 16 12.0	+0.9
	comp=Z,4.4nm,0.7s,mb4.5,baz=76,slow=5.0,SNR=8.0						
ARCES	ARCESS Array B	75.19	340	P	P	05 16 12.0	+0.9
BOSA	Boshof	75.24	238	eP	P	05 16 10.7	-1.5
BOSA				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
BOSA	Boshof	75.24	238	eP	P	05 16 10.7	-1.5
	comp=Z,10.0nm,0.7s,mb4.8						
DPC	Dobruska-Polom	76.01	320	eP	P	05 16 17.9	+1.8
KSP	Ksiaz	76.07	320	eP	P	05 16 19.4	+2.9
UPC	Upice	76.22	320	eP	P	05 16 20.1	+2.8
BILL	Bilibino	76.28	22	eP	P	05 16 17.1	-0.2
BILL	Bilibino	76.28	22	eP	P	05 16 17.1	-0.2
PRU	Pruhonice	77.13	319	eP	P	05 16 23.6	+1.1
PVCC	Panska Ves	77.14	320	eP	P	05 16 17.5	-5.1
BRG	Berggiesshubel	77.56	320	eP	P	05 16 27.5	+2.6
BRG				e		05 16 34.5	
BRG				pmax	pmax		
	comp=Z,34nm,1.6s,mb5.0						
BRG	Berggiesshubel	77.56	320	eP	P	05 16 27.5	+2.6
	comp=Z,34nm,1.6s,mb5.0						
BRG				e		05 16 34.5	
GERES	GERESS Array B	77.62	318	P	P	05 16 26.5	+1.2
GERES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GERES	GERESS Array B	77.62	318	P	P	05 16 26.5	+1.2
	comp=Z,4.5nm,0.8s,mb4.5,baz=90,slow=4.0,SNR=14						
GERES	GERESS Array B	77.62	318	P	P	05 16 26.5	+1.2
KHC	Kasperske Hory	77.71	319	eP	P	05 16 26.7	+0.9
KHC	Kasperske Hory	77.71	319	eP	P	05 16 20.5	-5.3
KHC				ex	x	05 16 26.7	
CLL	Collm	78.17	321	eP	pP	05 16 34.0	-4.5
CLL				e		05 16 39.0	
CLL				e		05 16 49.0	
CLL	Collm	78.17	321	P	P	05 16 29.0	+0.8
CLL				e*SP	sP	05 16 39.0	-3.2
CLL				e		05 16 49.0	
CLL	Collm	78.17	321	P	pP	05 16 34.0	-4.5
GRA1	Grafenberg Arr	79.27	319	eP	P	05 16 36.5	+2.3
	comp=Z,4.0nm,0.8s,mb4.4						
GRF	Grafenberg Arr	79.27	319	eP	P	05 16 36.5	+2.3
GRF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
GRF	Grafenberg Arr	79.27	319	eP	P	05 16 36.5	+2.3
GRF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
GRF	Grafenberg Arr	79.27	319	eP	P	05 16 36.5	+2.3
	comp=Z,4.0nm,0.8s,mb4.4						
LPG	La Plagne	82.39	315	eP	P	05 16 52.5	+1.7
	comp=Z,26nm,0.7s,mb5.0						
LPG	La Plagne	82.39	315	eP	P	05 16 52.5	+1.7
LPG				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
SYO	Syowa Base	85.24	197	⇑pP	pP	05 17 15.9	+0.7
ESDC	Sonseca Array	90.97	310	P	P	05 17 34.3	+1.5
	comp=Z,2.1nm,0.6s,mb4.7,baz=66,slow=4.1,SNR=8.4						
IMA	Indian Mountai	91.81	22	eP	P	05 17 35.7	-0.4
VNDA	Vanda	92.95	168	P	P	05 17 42.2	+1.1
VNDA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
VNDA	Vanda	92.95	168	P	P	05 17 42.1	+1.0
	comp=Z,1.1nm,0.9s,mb4.3,baz=253,slow=6.4,SNR=2.7						
ILAR	Eielson Array	94.94	22	P	P	05 17 50.3	-0.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	Eielson Array	94.94	22	P	P	05 17 50.2	-0.1
	comp=Z,1.2nm,0.6s,mb4.5,baz=313,slow=5.2,SNR=14						
ILAR	Eielson Array	94.94	22	P	P	05 17 50.2	-0.1
SML	Sawmill	95.81	25	eP	P	05 17 52.4	-2.0
INK	Inuvik	97.15	16	P	P	05 18 01.1	+0.7
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	Inuvik	97.15	16	P	P	05 18 01.1	+0.7
	comp=Z,1.2nm,0.6s,mb4.5,baz=345,slow=5.1,SNR=7.6						
YKA	Yellowknife Ar	106.57	13	PKiKP		05 22 53.4	
	comp=Z,0.2nm,0.8s,baz=331,slow=4.2,SNR=3.6						
YKA				PP	PP	05 23 03.4	-7.4
	comp=Z,0.7nm,0.7s,baz=334,slow=7.6,SNR=10						
YKA				PKKPbc		05 34 12.9	
	comp=Z,0.2nm,0.9s,baz=152,slow=2.3,SNR=3.5						
YKA	Yellowknife Ar	106.57	13	PKPdf		05 22 53.4	
YKA				PP	PP	05 23 03.4	-7.4
YKA				PKKPbc		05 34 12.9	
MOD	Modoc	121.52	29	ePKPdf	PKPdf	05 23 21.7	+0.6
BOZ	Bozeman (W)	122.11	21	ePKIKP	PKPdf	05 23 23.0	+0.8
MCMT	McKenzie Canyo	122.37	22	PKPdf	PKPdf	05 23 23.4	+0.7
NVAR	Mina Array Bea	125.16	31	PKP	PKPdf	05 23 29.6	+1.4
	comp=Z,1.0nm,0.3s,baz=58,slow=28,SNR=6.6						
PDAR	Pinedale Array	125.35	21	PKP	PKPdf	05 23 29.2	+0.7
	comp=Z,3.5nm,1.0s,baz=73,slow=1.7,SNR=5.3						
PDAR	Pinedale Array	125.35	21	PKP	PKPdf	05 23 29.2	+0.7
MSU	Marysvale	127.97	26	ePKIKP	PKPdf	05 23 34.2	+0.5
TXAR	Lajitas Array	139.43	24	PKP	PKPdf	05 23 54.9	-0.4
	comp=Z,0.4nm,0.5s,baz=21,slow=1.0,SNR=5.9						
TXAR	Lajitas Array	139.43	24	PKP	PKPdf	05 23 54.9	-0.4
JCT	Junction City	139.76	18	ePKIKP	PKPdf	05 23 55.7	-0.2
PLCA	Paso Flores	144.37	201	PKIKP	PKPdf	05 24 04.5	+0.9
PLCA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PLCA	Paso Flores	144.37	201	PKP	PKPdf	05 24 04.5	+0.9
	comp=Z,6.5nm,0.8s,baz=203,slow=2.5,SNR=10						
PLCA	Paso Flores	144.37	201	ePKPdf	PKPdf	05 24 04.4	+0.8
LPAZ	La Paz	160.41	243	PKP	PKPdf	05 23 46.4	-41
	comp=Z,0.9nm,0.7s,baz=13,slow=8.6,SNR=3.9						

*IDC **28** 05:06:40.1±0.7, 8.00N×94.07E, mb4.6/19, mb1 4.7/20, mb1mx4.6/24, mbtmp4.5/20, ML4.4/1, MS4.7/3, Ms1 4.7/3, ms1mx3.9/16, Error ellipse: s-maj=31.5km s-min=17.4km az=50.0*

*NEIC **28** 05:06:43.9±0.3, 8.16N×94.17E, mb5.2/41, MS4.7/1, Error ellipse: s-maj=8.4km s-min=6.6km az=164.0*

*BJI **28** 05:06:44.4, 7.94N×93.88E, h37km, mB5.4, mb4.9, Ms5.2, Msz5.1*

*MOS **28** 05:06:45.6±0.9, 8.32N×94.01E, h33km, mb5.3/41, MS4.8/5, Error ellipse: s-maj=11.7km s-min=6.4km az=114.8*

ISC 28 05:06:42.1±0.3, **8.13N**±0.05×**94.17E**±0.04, **h17**km, **h17**km±.7km**:pP-P, n192,** σ1§**11**/191, **mb5.0**/68, **MS5.0**/11, **8C, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.26	24	P	P	05 09 29.1	+3.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	11.26	24	Pn	P	05 09 29.1	+3.6
	comp=Z,0.7nm,0.3s,baz=213,slow=14,SNR=2.8						
PALK	Pallekele	13.38	267	ePn	P	05 09 52.5	-1.3
	comp=Z,39nm,0.8s						
PALK				epPn		05 09 59.3	
VIS	Vishakhapatnam	14.22	313	eP	P	05 10 05.7	+0.6
VIS				e		05 10 24.4	
	comp=Z,126nm,1.1s						
KOD	Kodaikanal	16.62	278	eP	P	05 10 39.4	+3.3
KOD				e		05 10 46.9	
	comp=Z,55nm,1.2s						
KOD				eS	S	05 13 48.3	+8.8
TRD	Trivandrum	17.04	272	eP	P	05 10 44.6	+3.3
SHL	Shillong	17.48	353	eP	P	05 10 43.1	-3.7
SHL				eS	S	05 13 53.1	-5.9
HYB	Hyderabad	17.80	303	eP	P	05 10 53.0	+2.2
HYB	Hyderabad	17.80	303	iP	P	05 10 53.0	+2.2
BLSP	Bilaspur	18.11	322	eP	P	05 10 52.2	-2.6
BLSP				e		05 11 02.5	
	comp=Z,113nm,1.1s						
BLSP				eS	S	05 14 13.3	-0.2
QIZ	Qiongzhong	18.67	53	P	P	05 11 06.5	+4.8
QIZ	Qiongzhong	18.67	53	P	P	05 11 01.7	0.0
	comp=Z,144nm,1.4s						
KMI	Kunming	18.77	25	⇑P	P	05 11 08.8	+6.0
KMI				pmax	pmax		
	comp=Z,63nm,1.8s						
KMI	Kunming	18.77	25	⇑P	P	05 11 08.8	+6.0
	comp=Z,63nm,1.8s						
KMI				pP		05 11 13.7	
JIRN	Jiri	20.84	340	eP	P	05 11 26.8	+1.2
	comp=Z,358nm,1.0s						
PKI	Pulchoki	21.04	338	eP	P	05 11 29.2	+1.6
	comp=Z,168nm,0.6s,mb5.5						
DMN	Daman	21.19	337	eP	P	05 11 30.4	+1.3
	comp=Z,319nm,0.9s,mb5.7						
GOA	Goa	21.20	292	eP	P	05 11 39.3	+10
GOA				e		05 11 43.8	
	comp=Z,50nm,0.9s						
GOA				eS	S	05 15 37.3	+18
KKN	Kakani	21.28	338	eP	P	05 11 30.5	+0.4
	comp=Z,145nm,0.9s,mb5.3						
LSA	Lhasa	21.64	353	P	P	05 11 36.3	+2.6
LSA	Lhasa	21.64	353	eP	P	05 11 32.5	-1.2
LSA				pmax	pmax		
	comp=Z,118nm,0.9s,mb5.3						
LSA	Lhasa	21.64	353	eP	P	05 11 32.5	-1.2
	comp=Z,118nm,0.9s,mb5.3						
LSA				e		05 11 38.2	
GKN	Gorkha	21.72	337	eP	P	05 11 35.5	+1.0
	comp=Z,200nm,0.7s,mb5.7						
KOLN	Koldanda	21.94	334	eP	P	05 11 38.1	+1.4
	comp=Z,688nm,1.3s,mb5.9						
BHPL	Bhopal	22.00	315	eP	P	05 11 38.1	+0.8
BOM	Bombay	23.33	299	eP	P	05 11 52.3	+1.8
BOM				e		05 11 55.8	
	comp=Z,103nm,1.6s						
NDI	New Delhi	25.95	324	eP	P	05 12 15.3	-0.2
NDI				e	pP	05 12 22.1	+1.5
	comp=Z,124nm,0.9s						
ENH	Enshi	26.29	31	eP	P	05 12 18.1	-0.5
	comp=Z,56nm,1.0s,mb5.0						
SMLA	Simla	27.85	328	eP	P	05 12 46.5	+14
SMLA				e	pP	05 12 51.1	+13
	comp=Z,57nm,1.3s						
SMLA				eS	S	05 17 29.2	+16
QZH	Quanzhou	28.68	51	eP	P	05 12 44.0	+3.5
QZH				S	S	05 17 27.0	-0.1
QZH				LR	LR		
	comp=Z,11μm,13.5s,MS5.7						
XAN	Xi'an	29.15	26	P	P	05 12 45.0	+0.4
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
NJ2	Nanjing	33.05	41	eP	P	05 13 20.0	+1.0
NJ2				AP	pP	05 13 30.3	+6.1
NJ2				XP	sP	05 13 33.5	+7.1
NJ2				PP	PP	05 14 32.0	+2.1
NJ2				S	S	05 18 35.0	-0.9
NJ2				AMB	AMB		
	comp=Z,840nm,4.7s						
NJ2				LR	LR		
	comp=Z,7μm,12.0s,MS5.6						
SSE	Sheshan	34.02	44	P	P	05 13 22.5	-4.9
	comp=Z,48nm,0.7s,mb5.5						
SSE				S	S	05 18 45.7	-5.1
SSE				sS		05 19 03.0	
SSE				SS	SS	05 21 11.3	+13
SSE				LR	LR		
	comp=Z,1μm,15.1s,MS4.8						
TIA	Tai'an	34.92	33	eP	P	05 13 36.0	+0.9
TIA				eS	S	05 19 05.0	+0.3
TIA				LR	LR		
	comp=E,4μm,13.0s						
WMQ	Urumqi	36.00	352	P	P	05 13 45.3	+1.1
WMQ				AP	pP	05 13 51.0	+1.6
WMQ				PP	PP	05 15 06.8	+0.7
WMQ				PCP	PcP	05 16 12.3	+1.4
WMQ				S	S	05 19 21.5	+0.1
WMQ				AMB	AMB		
	comp=Z,47nm,0.7s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,430nm,5.0s						
WMQ				LR	LR		
	comp=N,1μm,15.8s,MS4.9						
WMQ				LR	LR		
	comp=E,998nm,15.3s,MS4.9						
WMQ				LR	LR		
	comp=Z,2μm,15.4s,MS4.9						
BJT	Baijiatuau	37.34	28	eP	P	05 13 55.2	-0.3
BJT				pmax	pmax		
	comp=Z,39nm,1.1s						
BJT	Baijiatuau	37.34	28	eP	P	05 13 55.2	-0.4
	comp=Z,39nm,1.1s,mb5.2						
BJI	Beijing	37.37	28	P	P	05 13 57.6	+1.9
BJI				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.6						
BJI				MLR	MLR		
	comp=Z,1μm,18.9s,MS4.7						
BJI	Beijing	37.37	28	P	P	05 13 57.6	+1.9
	comp=Z,16nm,1.7s,mb4.6						
BJI				S	Sx	05 20 14.1	
BJI				LR	LR		
	comp=Z,1μm,18.9s,MS4.7						
AAK	Ala-Archa	38.48	336	eP	P	05 14 04.9	-0.2
AAK				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.0						
AAK	Ala-Archa	38.48	336	eP	P	05 14 04.9	-0.1
	comp=Z,28nm,0.9s,mb5.0						
SONM	Songino Array	40.91	13	P	P	05 14 25.4	+0.3
	comp=Z,11nm,0.9s,mb4.5,baz=204,slow=6.6,SNR=6.2						
SONM				PcP	PcP	05 16 26.2	0.0
	comp=Z,2.5nm,0.6s,baz=199,slow=3.9,SNR=6.0						
ULN	Ulaanbaatar	41.08	13	iP	P	05 14 25.5	-1.0
SNY	Shenyang	42.44	33	⇑P	P	05 14 40.5	+2.7
SNY				AMB	AMB		
	comp=Z,20nm,1.9s,mb4.4						
TLY	Talaya	44.11	8	iP	P	05 14 51.1	-0.1
KURK	Kurchatov	44.37	346	eP	P	05 14 52.3	-1.0
KURK				pmax	pmax		
	comp=Z,88nm,1.2s,mb5.4						
KURK	Kurchatov	44.37	346	eP	P	05 14 52.3	-1.0
	comp=Z,88nm,1.2s,mb5.4						
HIA	Hailar	46.27	23	eP	P	05 15 07.7	-0.8
HIA				e		05 15 15.7	
HIA				pmax	pmax		
	comp=Z,43nm,1.3s						
HIA	Hailar	46.27	23	eP	P	05 15 07.7	-0.8
	comp=Z,43nm,1.3s,mb5.2						
HIA				e		05 15 15.7	
ZAL	Zalesovo	46.30	352	P	P	05 15 09.4	+0.8
ZAL				pmax	pmax		
	comp=Z,12nm,0.6s						
ZAL				MLR	MLR		
	comp=Z,1μm,19.7s						
ZAL	Zalesovo	46.30	352	P	P	05 15 09.4	+0.8
	comp=Z,12nm,0.6s,mb5.0,baz=294,slow=9.8,SNR=7.7						
ZAL				LR	LR	05 37 58.3	
	comp=Z,1μm,19.7s,MS4.9,baz=290,slow=40						
NWAO	Narrogin (SRO)	46.36	153	P	P	05 15 08.6	-0.8
NWAO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NWAO	Narrogin (SRO)	46.36	153	P	P	05 15 08.6	-0.8
	comp=Z,3.9nm,0.6s,mb4.5,baz=348,slow=14,SNR=3.1						
NWAO	Narrogin (SRO)	46.36	153	eP	P	05 15 11.4	+2.0
	comp=Z,39nm,1.2s,mb5.2						
NVS	Novosibirsk	47.40	351	iP	P	05 15 15.2	-2.1
WRA	Warramunga Arr	48.38	126	P	P	05 15 23.4	-2.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	Warramunga Arr	48.38	126	P	P	05 15 23.4	-2.0
	comp=Z,1.4nm,0.5s,mb4.3,baz=305,slow=8.4,SNR=5.1						
WRAB	Tennant Creek	48.39	126	iP	P	05 15 27.8	+2.3
BVAR	Borovoye Array	48.76	341	P	P	05 15 27.3	-0.6
	comp=Z,12nm,0.9s,mb4.9,baz=141,slow=9.5,SNR=4.0						
MAT	Matsushiro	48.97	48	eP	P	05 15 33.0	+3.3
MAT	Matsushiro	48.97	48	P	P	05 15 31.0	+1.3
CHKZ	Chkalovo	49.24	342	eP	P	05 15 31.1	-0.5
CHKZ				pmax	pmax		
	comp=Z,72nm,1.1s,mb5.6						
CHKZ	Chkalovo	49.24	342	eP	P	05 15 31.1	-0.5
	comp=Z,72nm,1.1s,mb5.6						
BOD	Bodaibo	51.89	13	eP	P	05 15 51.7	-0.1
GNI	Garni	54.28	314	P	P	05 16 09.8	+0.1
GNI				pmax	pmax		
	comp=Z,2.0nm,0.4s						
GNI	Garni	54.28	314	P	P	05 16 09.8	+0.1
	comp=Z,2.2nm,0.4s,mb4.4,baz=34,slow=11,SNR=2.4						
SVE	Sverdlovsk	55.17	338	eP	P	05 16 11.0	-5.0
SVE				pmax	pmax		
	comp=Z,100nm,2.0s,mb5.5						
PMG	Port Moresby	55.58	107	LR	LR	05 45 23.5	
	comp=Z,345nm,18.8s,MS4.5,baz=260,slow=42						
ARU	Arti	55.67	337	⇑iP	P	05 16 13.6	-6.0
ARU				e		05 17 13.8	
ARU				eS	S	05 23 53.8	-9.3
ARU				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.3						
ARU				MLR	MLR		
	comp=Z,1μm,21.0s,MS5.0						
ARU				MLR	MLR		
	comp=N,1μm,20.0s,MS5.0						
ARU				MLR	MLR		
	comp=E,600nm,19.0s,MS5.0						
KIV	Kislovodsk	57.15	318	eP	P	05 16 29.2	-1.2
KIV	Kislovodsk	57.15	318	eP	P	05 16 29.1	-1.2
	comp=E,32nm,0.9s,mb5.3						
KIV				epP	pP	05 16 34.9	-0.9
KMBO	Kilima Mbogo	57.48	263	eP	P	05 16 33.7	+0.5
KMBO				pmax	pmax		
	comp=Z,22nm,1.2s						
KMBO	Kilima Mbogo	57.48	263	P	P	05 16 33.9	+0.8
	comp=Z,4.3nm,0.7s,mb4.6,baz=68,slow=12,SNR=6.0						
KMBO	Kilima Mbogo	57.48	263	eP	P	05 16 33.7	+0.6
	comp=Z,22nm,1.2s,mb5.1						
ASF	Jabal al Asfar	58.10	303	P	P	05 16 37.0	-0.3
	comp=Z,6.1nm,1.0s,mb4.6,baz=324,slow=1.7,SNR=4.5						
MALT	Malatya	58.32	310	eP	P	05 16 36.7	-2.0
MALT				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
MALT	Malatya	58.32	310	eP	P	05 16 36.7	-2.0
	comp=Z,12nm,1.2s,mb4.8						
SOKR	Solikamsk	58.57	339	⇑iP	P	05 16 38.6	-1.5
SOKR				pmax	pmax		
	comp=Z,60nm,1.1s,mb5.5						
SOC	Sochi	59.02	316	eP	P	05 16 41.8	-1.7
SOC				e		05 17 32.4	
SOC				e		05 18 55.3	
SOC				ePPP	PPP	05 20 14.9	-5.2
SOC				eS	S	05 24 49.0	+1.5
SOC				eSS	SS	05 28 32.1	-11
SOC				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.3						
SOC				pmax	pmax		
	comp=N,18nm,0.8s						
SOC				pmax	pmax		
	comp=E,21nm,1.0s						
SOC				MLR	MLR		
	comp=Z,750nm,21.0s,MS4.8						
SOC				MLR	MLR		
	comp=N,197nm,18.0s,MS4.5						
SOC				MLR	MLR		
	comp=E,229nm,18.0s,MS4.5						
EIL	Elat	59.33	300	eP	P	05 16 44.9	-0.9
	comp=E,18nm,1.1s,mb5.0						
EIL				epP	pP	05 16 50.9	-0.3
YAK	Yakutsk	59.74	18	eP	P	05 16 45.8	-2.4
YAK				e*PP	pP	05 16 53.1	-0.5
YAK				pmax	pmax		
	comp=Z,35nm,0.6s,mb5.6						
YAK	Yakutsk	59.74	18	eP	P	05 16 45.8	-2.4
	comp=Z,35nm,0.6s,mb5.6						
YAK				epP	pP	05 16 53.1	-0.5
BRTR	Keskin Array B	62.28	311	P	P	05 17 02.6	-3.2
BRTR				pmax	pmax		

comp=Z,4.0nm,0.6s
BRTR Keskin Array B 62.28 311 P **P 05 17 02.6 -3.2**
comp=Z,3.6nm,0.6s,mb4.7,baz=136,slow=7.1,SNR=6.7
MBAR Mbarara 63.81 265 *e*P **P 05 17 16.6 +0.3**
MBAR pmax pmax
comp=Z,12nm,1.1s,mb4.8
MBAR Mbarara 63.81 265 *e*P **P 05 17 16.6 +0.3**
comp=Z,12nm,1.1s,mb4.8
MOS Moscow 64.88 329 *e*P **P 05 17 19.0 -3.5**
MOS pmax pmax
comp=Z,111nm,1.5s,mb5.7
OBN Obninsk 65.18 328*c i*P **P 05 17 21.1 -3.4**
OBN *e* 05 19 47.4
OBN pmax pmax
comp=Z,64nm,1.0s,mb5.6
OBN Obninsk 65.18 328 *e*P **P 05 17 22.3 -2.2**
comp=Z,23nm,0.6s,mb5.4
MA2 Magadan 66.52 28 *e*P **P 05 17 32.4 -0.6**
MA2 pmax pmax
comp=Z,25nm,1.0s,mb5.2
MA2 Magadan 66.52 28 *e*P **P 05 17 32.4 -0.6**
comp=Z,25nm,1.0s,mb5.2
TIXI Tiksi 66.97 11 *i*P **P 05 17 34.8 -0.9**
KIS Kishinev 67.35 318 *e*P **P 05 17 40.0 +1.5**
KIS *e* 05 17 49.0
AKASG Malin Array Be 67.97 322 P **P 05 17 39.5 -2.8**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 67.97 322 P **P 05 17 39.5 -2.8**
comp=Z,3.6nm,0.6s,mb4.6,baz=89,slow=4.9,SNR=9.1
IDI Anoyia 68.45 305 P **P 05 17 44.6 -1.0**
comp=Z,6.8nm,0.6s,mb4.8,baz=88,slow=7.0,SNR=7.3
LSZ Lusaka 69.38 250 P **P 05 17 51.9 +0.3**
LSZ pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LSZ Lusaka 69.38 250 P **P 05 17 51.9 +0.3**
comp=Z,9.7nm,1.0s,mb4.7
MNK Minsk 69.76 325 *e*P **P 05 17 49.0 -4.3**
JOF Joensuu 70.63 334 *e*p **P 05 17 57.3 -1.1**
comp=Z,11nm,1.0s,mb4.7
KOLS Kolonicke sedl 72.03 319 *e*P **P 05 18 08.7 +1.6**
SUW Suwalki 72.32 324 *e*P **P 05 18 08.0 -0.7**
SUW Suwalki 72.32 324 *e*P **P 05 18 08.0 -0.7**
FINES FINESS Array B 72.50 332 P **P 05 18 08.6 -1.1**
FINES pmax pmax
comp=Z,9.0nm,0.7s
FINES FINESS Array B 72.50 332 P **P 05 18 08.6 -1.1**
comp=Z,8.6nm,0.7s,mb4.8,baz=117,slow=8.5,SNR=8.5
CRVS Cervenica-Dubn 72.56 319 *e*P **P 05 18 10.8 +0.6**
CRVS *e*pP pP 05 18 15.8 +0.1
KAF Kangasniemi 72.58 333 *e*p **P 05 18 08.9 -1.2**
comp=Z,12nm,0.9s,mb4.8
KAF Kangasniemi 72.58 333 *e*P **P 05 18 08.9 -1.2**
KAF pmax pmax
comp=Z,12nm,0.9s,mb4.8
NIE Niedzica 73.37 319 *e*P **P 05 18 15.3 +0.3**
NIE *e* pP 05 18 20.6 +0.2
PSZ Piszkesteto 73.47 318 *e*P **P 05 18 14.6 -1.0**
PSZ pmax pmax
comp=Z,11nm,0.9s,mb4.8
PSZ Piszkesteto 73.47 318 *e*P **P 05 18 14.6 -1.0**
comp=Z,11nm,0.9s,mb4.8
OJC Ojcow 73.80 320 *e*P **P 05 18 17.2 -0.2**
VYHS Vyhne 74.24 318 *e*P **P 05 18 19.9 -0.1**
VYHS *e*pP pP 05 18 24.9 -0.6
LBTB Lobatse 74.39 241 *e*P **P 05 18 21.0 -0.4**
LBTB pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LBTB Lobatse 74.39 241 *e*P **P 05 18 21.0 -0.4**
comp=Z,8.6nm,0.9s,mb4.7
SRO Srobarova 74.52 317 *e*P **P 05 18 21.2 -0.5**
SRO *e*pP pP 05 18 26.8 -0.4
KEV Kevo 74.61 341 *e*p **P 05 18 21.9 +0.2**
comp=Z,7.4nm,0.8s,mb4.7
KEV Kevo 74.61 341 *e*P **P 05 18 21.9 +0.2**
KEV pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
OKC Ostrava-Krasne 74.82 319 *e*P **P 05 18 22.7 -0.6**
OKC *e*pP pP 05 18 28.2 -0.6
ARCES ARCESS Array B 75.03 340 P **P 05 18 24.4 +0.2**
ARCES pmax pmax
comp=Z,5.0nm,0.6s
ARCES ARCESS Array B 75.03 340 P **P 05 18 24.4 +0.2**
comp=Z,5.2nm,0.6s,mb4.7,baz=92,slow=6.6,SNR=12
MORC Moravsky Berou 75.20 319 *e*P **P 05 18 25.2 -0.4**
MORC pmax pmax
comp=Z,30nm,1.1s,mb5.1
MORC Moravsky Berou 75.20 319 *e*P **P 05 18 25.2 -0.4**
comp=Z,30nm,1.1s,mb5.1
ZST Bratislava 75.36 318 *e*P **P 05 18 26.5 0.0**
ZST *e*pP pP 05 18 31.8 -0.2
BILL Bilibino 75.84 22 *e*P **P 05 18 28.6 -0.2**
BILL *e**PP pP 05 18 34.9 +0.6
BILL pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BILL Bilibino 75.84 22 *e*P **P 05 18 28.6 -0.2**
comp=Z,6.5nm,0.6s,mb4.7
BILL *e*pP pP 05 18 34.9 +0.6
DPC Dobruska-Polom 76.03 320 *e*P **P 05 18 30.7 +0.4**
DPC *e*pP pP 05 18 35.7 0.0
KSP Ksiaz 76.08 320 *e*P **P 05 18 30.8 +0.2**
KSP *e**PP pP 05 18 35.8 -0.2
KSP Ksiaz 76.08 320 *e*P **P 05 18 31.4 +0.8**
UPC Upice 76.24 320 *e*P **P 05 18 31.3 -0.1**
UPC *e*pP pP 05 18 36.7 -0.2
PRU Pruhonice 77.15 319 *e*P **P 05 18 36.2 -0.3**
PRU *e*pP pP 05 18 41.5 -0.5
PVCC Panska Ves 77.16 320 *e*P **P 05 18 36.7 +0.1**
PVCC *e*pP pP 05 18 42.4 +0.3
BRG Berggiesshubel 77.57 320 *i*P **P 05 18 39.1 +0.3**
BRG *i* pP 05 18 44.0 -0.3
BRG pmax pmax
comp=Z,44nm,1.9s,mb5.1
BRG Berggiesshubel 77.57 320 *i*P **P 05 18 39.1 +0.3**
comp=Z,44nm,1.9s,mb5.1
BRG *i* pP 05 18 44.0 -0.3
BRG *e* 05 18 58.5
GEC2 GERESS Array S 77.66 318 *e*P **P 05 18 39.6 +0.3**
GEC2 pmax pmax
comp=Z,31nm,1.1s,mb5.2
GEC2 GERESS Array S 77.66 318 *e*P **P 05 18 39.6 +0.3**
comp=Z,31nm,1.1s,mb5.2
GERES GERESS Array B 77.66 318 P **P 05 18 39.1 -0.2**
GERES pmax pmax
comp=Z,6.0nm,0.6s
GERES GERESS Array B 77.66 318 P **P 05 18 39.1 -0.2**
comp=Z,5.7nm,0.6s,mb4.7,baz=89,slow=5.6,SNR=21
KHC Kasperske Hory 77.75 318⇑*e*P **P 05 18 40.4 +0.6**
KHC Kasperske Hory 77.75 318 *e*P **P 05 18 39.6 -0.2**
KHC *e*pP pP 05 18 44.3 -1.0
RUE Ruedersdorf 77.75 322 *e*P **P 05 18 38.9 -0.8**
comp=Z,78nm,1.1s,mb5.5
CLL Collm 78.18 321 *i*P **P 05 18 42.3 +0.1**
CLL *i* pP 05 18 46.9 -0.8
CLL pmax pmax
comp=Z,29nm,1.6s,mb5.0
CLL Collm 78.18 321 *i*P **P 05 18 42.3 +0.1**
comp=Z,29nm,1.6s,mb5.0
CLL *i* pP 05 18 46.9 -0.8
CLL Collm 78.18 321 P **P 05 18 42.3 +0.1**
comp=Z,logA/T=1.3,mb5.0
CLL *i* *PP pP 05 18 46.9 -0.8
CLL *e* 05 19 29.0
WET Wettzell 78.21 318 *e*P **P 05 18 42.6 +0.3**
WET pmax pmax
comp=Z,28nm,1.3s,mb5.0
WET Wettzell 78.21 318 *e*P **P 05 18 42.6 +0.3**
comp=Z,28nm,1.3s,mb5.0
NKC Novy Kostel 78.51 320 *e*P **P 05 18 45.3 +1.3**
MOX Moxa 79.05 320 *e*P **P 05 18 47.3 +0.4**
MOX pmax pmax
comp=Z,20nm,1.5s,mb4.8
MOX MLR MLR
comp=Z,400nm,20.0s,MS4.8
MOX Moxa 79.05 320 *e*P **P 05 18 47.3 +0.4**
comp=Z,20nm,1.5s,mb4.8
MOX LR LR
comp=Z,400nm,20.0s,MS4.8
MOX Moxa 79.05 320 *i*P **P 05 18 47.3 +0.4**
comp=Z,logA/T=1.1,mb4.8
MOX L 05 57 29.0
FUR Furstenfeldbru 79.26 317 *e*P **P 05 18 47.8 -0.3**
GRA1 Grafenberg Arr 79.29 319 *e*P **P 05 18 49.0 +0.7**
comp=Z,56nm,1.3s,mb5.3
GRA1 *e*pP pP 05 18 53.4 -0.4
GRF Grafenberg Arr 79.29 319 *e*P **P 05 18 49.0 +0.7**
GRF *e**PP pP 05 18 53.4 -0.4
GRF pmax pmax
comp=Z,56nm,1.3s,mb5.3
GRF Grafenberg Arr 79.29 319 *e*P **P 05 18 49.0 +0.7**
GRF *e**PP pP 05 18 53.4 -0.4
GRF pmax pmax
comp=Z,56nm,1.3s,mb5.3
GRF Grafenberg Arr 79.29 319 *e*P **P 05 18 49.0 +0.7**
comp=Z,56nm,1.3s,mb5.3
GRF *e*pP pP 05 18 53.4 -0.4
NB2 NORSAR Subarra 79.52 331 P **P 05 18 48.4 -0.9**
comp=Z,24nm,1.0s,mb5.1,baz=90,slow=5.3
NB2 NORSAR Subarra 79.52 331 P **P 05 18 48.4 -0.9**
baz=90,slow=5.6
NOA NORSAR Array B 79.52 331 P **P 05 18 48.6 -0.7**
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA NORSAR Array B 79.52 331 P **P 05 18 48.6 -0.7**
comp=Z,5.5nm,0.7s,mb4.6,baz=97,slow=5.1,SNR=11
NAO01 NORSAR Array S 79.68 330 *e*P **P 05 18 48.5 -1.7**
comp=Z,19nm,1.0s,mb5.0
CLZ Clausthal 79.83 321 *e*P **P 05 18 51.5 +0.4**
comp=Z,44nm,1.3s,mb5.2
MUD Monsted U'grnd 80.52 326 *e*P **P 05 18 54.5 -0.2**
MUD pmax pmax
comp=Z,39nm,1.2s,mb5.2
MUD Monsted U'grnd 80.52 326 *e*P **P 05 18 54.5 -0.2**
comp=Z,39nm,1.2s,mb5.2
MUD Monsted U'grnd 80.52 326 *i*P **P 05 18 54.5 -0.2**
comp=Z,39nm,1.2s,mb5.2
TNS Taunus Mts 81.08 320 *e*P **P 05 18 58.2 +0.4**
BFO Black Forest 81.22 318 *e*P **P 05 18 58.4 -0.2**
BFO pmax pmax
comp=Z,19nm,1.3s,mb4.9
BFO Black Forest 81.22 318 *e*P **P 05 18 58.4 -0.2**
comp=Z,19nm,1.3s,mb4.9
LPG La Plagne 82.46 315 *e*P **P 05 19 05.3 +0.2**
comp=Z,56nm,1.1s,mb5.1
LPG La Plagne 82.46 315 *e*P **P 05 19 05.3 +0.2**
LPG pmax pmax
comp=Z,28nm,1.1s,mb5.1
BNI Bardonecchia 82.54 314 *e*P **P 05 19 07.2 +1.7**
BNI *e**PP pP 05 19 13.8 +2.7
BNI pmax pmax
comp=Z,14nm,0.8s,mb5.0
BNI Bardonecchia 82.54 314 *e*P **P 05 19 07.2 +1.7**
comp=Z,14nm,0.8s,mb5.0
BNI *e*pP pP 05 19 13.8 +2.7
SYO Syowa Base 85.66 197⇑P **P 05 19 22.5 +1.8**
ESDC Sonseca Array 91.08 310 P **P 05 19 47.6 +0.3**
comp=Z,1.0nm,0.6s,mb4.4,baz=68,slow=3.8,SNR=4.4
IMA Indian Mountai 91.37 22 *e*P **P 05 19 49.6 +1.6**
IMA *e**PP pP 05 19 55.3 +1.7
ILAR Eielson Array 94.50 22 P **P 05 20 01.6 -0.8**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR Eielson Array 94.50 22 P **P 05 20 01.6 -0.8**
comp=Z,0.6nm,0.6s,mb4.2,baz=306,slow=5.3,SNR=6.3
SML Sawmill 95.36 25 P **P 05 20 07.1 +0.7**
INK Inuvik 96.74 16 P **P 05 20 13.0 +0.5**
comp=Z,8.8nm,1.1s,mb5.1,baz=332,slow=6.0,SNR=4.5
INK LR LR 06 08 04.8
comp=Z,468nm,18.2s,MS5.0,baz=296,slow=38
DBIC Dimbokro 97.94 278 P **P 05 20 17.9 -1.3**
DBIC pmax pmax
comp=Z,3.0nm,0.9s
DBIC Dimbokro 97.94 278 P **P 05 20 17.9 -1.4**
comp=Z,2.7nm,0.9s,mb4.8,baz=132,slow=14,SNR=2.4
YKA Yellowknife Ar 106.17 13 Pdiff Pdif 05 20 55.2 +0.4
comp=Z,0.1nm,0.4s,baz=338,slow=1.4,SNR=2.8
BOZ Bozeman (W) 121.68 21 *e*PKIKP PKPdf 05 25 37.3 -1.9
NVAR Mina Array Bea 124.68 31 PKP PKPdf 05 25 42.6 -2.7
comp=Z,1.0nm,0.7s,baz=333,slow=2.0,SNR=4.0
PDAR Pinedale Array 124.92 21 PKP PKPdf 05 25 42.9 -2.8
comp=Z,1.4nm,0.8s,baz=78,slow=2.7,SNR=5.4
PV10 Paradox Valley 128.93 23 PKPdf PKPdf 05 25 51.1 -2.4
WVT Waverly 135.94 2 *e*PKIKP PKPdf 05 26 04.4 -2.3
GDL2 Guadalupe Moun 136.16 23 *e*PKPdf PKPdf 05 26 05.8 -1.4
TXAR Lajitas Array 138.98 24 PKP PKPdf 05 26 10.1 -2.3
comp=Z,0.5nm,0.5s,baz=7.4,slow=0.8,SNR=7.8
TXAR Lajitas Array 138.98 24 PKP PKPdf 05 26 10.1 -2.3
JCT Junction City 139.33 19 *e*PKIKP PKPdf 05 26 11.2 -1.8
PLCA Paso Flores 144.80 200 PKP PKPdf 05 26 18.4 -3.9
comp=Z,10nm,0.9s,baz=179,slow=1.5,SNR=6.8
PLCA Paso Flores 144.80 200 *e*PKPdf PKPdf 05 26 19.7 -2.6

*IDC **28** 05:14:20.0±0.8, 8.02N×93.93E, mb3.9/10, mb1 4.2/11, mb1mx4.1/18, mbtmp3.9/11, ML4.4/1, Error ellipse: s-maj=39.1km s-min=18.9km az=51.0*
*NEIC **28** 05:14:24.7±0.8, 8.01N×94.01E, h30km, mb4.4/2, Error ellipse: s-maj=25.1km s-min=15.6km az=68.0*
ISC 28 05:14:19.5±0.8, 7.9N±0.1×94.1E±0.2, h10km, n24, σ1§48/22, mb4.2/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.53**	**24**	Pn		**P**		**05 17 07.2**	**-0.2**
	0.7nm,0.3s,baz=211,slow=14,SNR=7.6								
JIRN	**Jiri**	**21.06**	**340**	*e*P		**P**		**05 19 10.1**	**+3.8**
PKI	**Pulchoki**	**21.26**	**338**	*e*P		**P**		**05 19 11.5**	**+3.2**
	21nm,0.6s,mb4.6								
DMN	**Daman**	**21.40**	**338**	*e*P		**P**		**05 19 13.2**	**+3.4**
	43nm,0.9s,mb4.8								
KKN	**Kakani**	**21.50**	**338**	*e*P		**P**		**05 19 13.3**	**+2.5**
	28nm,0.8s,mb4.8								
LSA	**Lhasa**	**21.89**	**353**	P		**P**		**05 19 13.4**	**-1.2**
	12nm,0.8s,mb4.4								
GKN	**Gorkha**	**21.94**	**337**	*e*P		**P**		**05 19 15.9**	**+0.8**
	35nm,0.7s,mb4.9								
KOLN	**Koldanda**	**22.15**	**335**	*e*P		**P**		**05 19 18.5**	**+1.2**
	21nm,0.8s,mb4.7								
SONM	**Songino Array**	**41.17**	**13**	P		**P**		**05 22 04.4**	**-1.3**
	0.5nm,0.6s,mb3.4,baz=180,slow=5.8,SNR=2.6								
KURK	**Kurchatov**	**44.61**	**346**	*e*P		**P**		**05 22 33.8**	**0.0**
	5.4nm,1.0s,mb4.3								
WRA	**Warramunga Arr**	**48.28**	**126**	P		**P**		**05 23 04.0**	**+0.8**
	3.2nm,1.1s,mb4.2,baz=306,slow=8.2,SNR=5.6								
BVAR	**Borovoye Array**	**48.98**	**341**	P		**P**		**05 23 05.6**	**-2.5**
	0.5nm,0.6s,mb3.7,baz=180,slow=13,SNR=2.5								
ASAR	**Alice Springs**	**49.94**	**130**	P		**P**		**05 23 16.4**	**+0.5**
	1.5nm,1.0s,mb4.0,baz=299,slow=8.2,SNR=4.1								
ASAR				PcP		PcP		05 24 38.1	+1.7
	0.6nm,0.7s,baz=315,slow=2.6,SNR=3.4								
BRTR	**Keskin Array B**	**62.41**	**311**	P		**P**		**05 24 42.6**	**-2.5**
	0.7nm,0.7s,mb3.9,baz=117,slow=8.3,SNR=2.7								
AKASG	**Malin Array Be**	**68.14**	**322**	P		**P**		**05 25 19.2**	**-2.7**
	0.2nm,0.4s,mb3.5,baz=88,slow=4.5,SNR=2.6								
FINES	**FINESS Array B**	**72.70**	**332**	P		**P**		**05 25 48.2**	**-1.2**
	2.5nm,0.8s,mb4.2,baz=124,slow=6.9,SNR=4.3								
FINES	**FINESS Array B**	**72.70**	**332**	P		**P**		**05 25 48.2**	**-1.2**
ARCES	**ARCESS Array B**	**75.26**	**340**	P		**P**		**05 26 03.9**	**-0.2**
	5.3nm,1.1s,mb4.4,baz=90,slow=2.4,SNR=4.7								
ARCES	**ARCESS Array B**	**75.26**	**340**	P		**P**		**05 26 03.9**	**-0.2**
GERES	**GERESS Array B**	**77.81**	**318**	P		**P**		**05 26 18.8**	**+0.1**
	2.0nm,0.8s,mb4.1,baz=90,slow=5.3,SNR=8.9								
NB2	**NORSAR Subarra**	**79.72**	**331**	P		**P**		**05 26 29.7**	**+0.8**
	4.0nm,1.1s,mb4.3,baz=92,slow=5.8								
NOA	**NORSAR Array B**	**79.72**	**331**	P		**P**		**05 26 30.1**	**+1.1**
	1.4nm,0.7s,mb4.0,baz=92,slow=5.7,SNR=5.4								
PDAR	**Pinedale Array**	**125.18**	**21**	PKP		PKPdf		05 33 25.1	+1.1
	1.5nm,1.1s,baz=90,slow=1.5,SNR=4.8								
PLCA	**Paso Flores**	**144.53**	**200**	PKP		PKPdf		05 34 00.1	+0.4
	2.8nm,1.1s,baz=222,slow=2.0,SNR=4.2								

*IDC **28** 05:17:32.5±1.3, 7.54N×93.98E, mb4.0/9, mb1 4.2/10, mb1mx4.0/19, mbtmp4.0/10, ML4.2/1, Error ellipse: s-maj=48.1km s-min=28.2km az=48.0*
*NEIC **28** 05:17:37.3±0.8, 7.59N×94.08E, h30km, mb4.3/1, Error ellipse: s-maj=20.8km s-min=17.0km az=66.0*
ISC 28 05:17:35.4±1.0, 7.7N±0.2×94.1E±0.2, h30km, n13, σ0§68/13, mb4.1/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.71**	**23**	Pn		**P**		**05 20 23.4**	**-0.3**
	0.4nm,0.3s,baz=212,slow=15,SNR=7.5								
KURK	**Kurchatov**	**44.83**	**346**	*e*P		**P**		**05 25 49.1**	**+0.5**
	2.3nm,0.6s,mb4.2								
ZAL	**Zalesovo**	**46.77**	**352**	P		**P**		**05 26 03.8**	**-0.1**
	2.6nm,0.3s,mb4.6,baz=295,slow=7.5,SNR=7.6								
WRA	**Warramunga Arr**	**48.13**	**125**	P		**P**		**05 26 15.0**	**0.0**
	0.9nm,1.1s,mb3.7,baz=304,slow=8.5,SNR=4.7								
BVAR	**Borovoye Array**	**49.20**	**341**	P		**P**		**05 26 23.0**	**+0.2**
	2.0nm,1.0s,mb4.1,baz=135,slow=6.3,SNR=3.8								
BRTR	**Keskin Array B**	**62.58**	**311**	P		**P**		**05 27 58.4**	**-0.8**
	1.1nm,0.8s,mb4.0								
AKASG	**Malin Array Be**	**68.33**	**322**	P		**P**		**05 28 35.0**	**-1.0**
	0.4nm,0.5s,mb3.7,baz=91,slow=4.4,SNR=5.0								
FINES	**FINESS Array B**	**72.91**	**332**	P		**P**		**05 29 04.0**	**+0.5**
	3.7nm,0.9s,mb4.3,baz=117,slow=4.3,SNR=4.0								
FINES	**FINESS Array B**	**72.91**	**332**	P		**P**		**05 29 04.0**	**+0.4**
ARCES	**ARCESS Array B**	**75.48**	**340**	P		**P**		**05 29 19.2**	**+0.9**
	3.3nm,1.0s,mb4.2,baz=88,slow=6.8,SNR=5.8								
ARCES	**ARCESS Array B**	**75.48**	**340**	P		**P**		**05 29 19.2**	**+0.9**
GERES	**GERESS Array B**	**77.99**	**318**	P		**P**		**05 29 33.7**	**+1.1**
	1.2nm,0.8s,mb3.9,baz=76,slow=5.5,SNR=6.7								
NOA	**NORSAR Array B**	**79.93**	**331**	P		**P**		**05 29 42.0**	**-0.9**
	1.4nm,0.8s,mb3.9,baz=89,slow=6.0,SNR=3.2								

*IDC **28** 05:20:08.6±0.6, 8.05N×94.12E, mb4.2/16, mb1 4.3/17, mb1mx4.3/21, mbtmp4.2/17, ML4.7/1, MS3.7/1, Ms1 3.9/1, ms1mx2.8/29, Error ellipse: s-maj=26.2km s-min=16.0km az=56.0*
*NEIC **28** 05:20:13.8±0.5, 8.15N×94.35E, h30km, mb4.7/18, Error ellipse: s-maj=15.0km s-min=11.2km az=72.0*
*BJI **28** 05:20:15.5, 8.25N×93.55E, h35km, mB5.3, mb4.6, Ms4.8, Msz4.6*
ISC 28 05:20:12.4±0.5, 8.10N±0.08×94.32E±0.09, h33km, n60, σ1§12/54, mb4.6/36, MS4.7/1, 3C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.23**	**23**	Pn		**P**		**05 22 53.2**	**-0.6**
	1.6nm,0.3s,baz=213,slow=14,SNR=18								
CMAR				LR		LR		05 27 19.4	
	comp=Z,364nm,18.5s,baz=220,slow=38								
HYB	**Hyderabad**	**17.93**	**303**	*i*P		**P**		**05 24 20.0**	**-1.1**
KMI	**Kunming**	**18.74**	**24**	⇑P		**P**		**05 24 36.5**	**+5.5**
	25nm,0.9s								
KMI				pP				05 24 42.8	
JIRN	**Jiri**	**20.92**	**339**	*e*P		**P**		**05 24 55.3**	**+0.6**
	76nm,0.6s								
PKI	**Pulchoki**	**21.12**	**338**	*e*P		**P**		**05 24 57.4**	**+0.7**
	86nm,0.6s,mb5.2								
DMN	**Daman**	**21.27**	**337**	*e*P		**P**		**05 24 59.2**	**+0.9**
	117nm,0.7s,mb5.3								
KKN	**Kakani**	**21.37**	**338**	*e*P		**P**		**05 24 59.4**	**+0.2**
	50nm,0.6s,mb5.0								
LSA	**Lhasa**	**21.69**	**353**	P		**P**		**05 25 06.0**	**+3.6**
LSA				AMB		AMB			
	comp=Z,40nm,0.8s,mb4.9								
LSA	**Lhasa**	**21.69**	**353**	*e*P		**P**		**05 25 01.8**	**-0.6**
	comp=Z,27nm,0.6s,mb4.8								
GKN	**Gorkha**	**21.81**	**336**	*e*P		**P**		**05 25 03.5**	**-0.1**
	comp=Z,112nm,0.6s,mb5.5								
KOLN	**Koldanda**	**22.03**	**334**	*e*P		**P**		**05 25 06.4**	**+0.5**
	comp=Z,77nm,0.6s,mb5.3								
WMQ	**Urumqi**	**36.05**	**352**	*e*P		**P**		**05 27 13.8**	**+1.0**
WMQ				AP		pP		05 27 23.5	+1.0
WMQ				S		**S**		**05 32 44.8**	**-4.1**
WMQ				AMB		AMB			
	comp=Z,23nm,0.6s,mb5.3								
WMQ				AMB		AMB			
	comp=Z,216nm,4.4s								
WMQ				LR		LR			
	comp=N,655nm,15.4s,MS4.6								
WMQ				LR		LR			
	comp=E,561nm,15.0s,MS4.6								
WMQ				LR		LR			
	comp=Z,970nm,15.7s,MS4.7								
BJT	**Baijiatuau**	**37.30**	**28**	P		**P**		**05 27 23.5**	**+0.2**
	comp=Z,12nm,0.8s,mb4.8								
AAK	**Ala-Archa**	**38.57**	**336**	*e*P		**P**		**05 27 34.3**	**+0.5**
	comp=Z,7.9nm,1.0s,mb4.4								
SONM	**Songino Array**	**40.90**	**12**	P		**P**		**05 27 54.0**	**+0.8**
	comp=Z,1.3nm,0.5s,mb3.8,baz=190,slow=7.5,SNR=6.3								
SNY	**Shenyang**	**42.38**	**33**	⇑P		pP		05 28 14.5	-0.9
SNY				AMB		AMB			
	comp=Z,10.0nm,1.3s,mb4.3								
KURK	**Kurchatov**	**44.43**	**346**	*e*P		**P**		**05 28 22.0**	**0.0**
	comp=Z,8.2nm,0.8s,mb4.5								
HIA	**Hailar**	**46.24**	**23**	*e*P		pP		05 28 43.4	-2.9
	comp=Z,15nm,1.0s								
NWAO	**Narrogin (SRO)**	**46.27**	**153**	P		**P**		**05 28 37.4**	**+0.5**
	comp=Z,5.9nm,0.9s,mb4.5,baz=314,slow=8.4,SNR=3.4								
ZAL	**Zalesovo**	**46.35**	**352**	P		**P**		**05 28 36.9**	**-0.3**
	comp=Z,3.7nm,0.5s,mb4.5,baz=308,slow=6.7,SNR=6.3								
WRA	**Warramunga Arr**	**48.25**	**126**	P		**P**		**05 28 52.3**	**-0.3**
	comp=Z,3.3nm,0.7s,mb4.5,baz=304,slow=8.6,SNR=5.4								
BVAR	**Borovoye Array**	**48.83**	**341**	P		**P**		**05 28 55.5**	**-1.1**
	comp=Z,1.5nm,0.6s,mb4.2,baz=143,slow=7.4,SNR=6.8								
CHKZ	**Chkalovo**	**49.31**	**342**	*e*P		**P**		**05 28 59.8**	**-0.5**
	comp=Z,8.0nm,0.8s,mb4.8								
ASAR	**Alice Springs**	**49.92**	**130**	P		**P**		**05 29 04.0**	**-1.3**
	comp=Z,1.0nm,0.6s,mb4.0,baz=301,slow=7.3,SNR=4.5								
GNI	**Garni**	**54.41**	**314**	*e*P		**P**		**05 29 37.0**	**-1.7**
	comp=Z,9.9nm,0.9s,mb4.7								
KMBO	**Kilima Mbogo**	**57.62**	**264**	P		**P**		**05 30 00.3**	**-1.8**
	comp=Z,2.9nm,0.7s,mb4.4,baz=54,slow=11,SNR=9.3								
KMBO	**Kilima Mbogo**	**57.62**	**264**	*e*P		**P**		**05 30 03.6**	**+1.4**
	comp=Z,4.6nm,0.9s,mb4.5								
BRTR	**Keskin Array B**	**62.41**	**311**	P		**P**		**05 30 32.1**	**-2.5**
	comp=Z,2.2nm,0.7s,mb4.4,baz=117,slow=8.3,SNR=9.1								
AKASG	**Malin Array Be**	**68.09**	**322**	P		**P**		**05 31 08.8**	**-2.1**
	comp=Z,3.7nm,0.9s,mb4.4,baz=88,slow=5.0,SNR=8.1								
JOF	**Joensuu**	**70.72**	**334**	*e*p		**P**		**05 31 25.1**	**-1.8**
	comp=Z,1.3nm,0.4s,mb4.2								
FINES	**FINESS Array B**	**72.59**	**332**	P		**P**		**05 31 37.1**	**-0.9**
	comp=Z,3.2nm,0.6s,mb4.5,baz=98,slow=6.8,SNR=12								
KAF	**Kangasniemi**	**72.67**	**333**	*e*p		**P**		**05 31 37.5**	**-1.0**
	comp=Z,2.0nm,0.4s,mb4.4								
OJC	**Ojcow**	**73.92**	**320**	*e*P		**P**		**05 31 46.7**	**+0.7**
LBTB	**Lobatse**	**74.51**	**241**	*e*P		**P**		**05 31 53.2**	**+3.2**
	comp=Z,7.4nm,0.9s,mb4.6								
KEV	**Kevo**	**74.68**	**341**	*e*p		**P**		**05 31 43.3**	**-6.8**
	comp=Z,0.4nm,0.4s,mb3.7								
OKC	**Ostrava-Krasne**	**74.93**	**319**	*e*P		**P**		**05 31 55.2**	**+3.2**
ARCES	**ARCESS Array B**	**75.11**	**340**	P		**P**		**05 31 51.0**	**-1.5**
	comp=Z,1.9nm,0.7s,mb4.2,baz=93,slow=7.0,SNR=7.3								
MORC	**Moravsky Berou**	**75.32**	**319**	*e*P		**P**		**05 31 54.6**	**+0.4**
	comp=Z,8.5nm,1.0s,mb4.6								
DPC	**Dobruska-Polom**	**76.15**	**320**	*e*P		**P**		**05 32 00.0**	**+1.1**
PRU	**Pruhonice**	**77.27**	**319**	*e*P		**P**		**05 32 09.1**	**+3.9**
BRG	**Berggiesshubel**	**77.69**	**320**	*e*P		**P**		**05 32 08.6**	**+1.1**
	comp=Z,24nm,1.9s,mb4.8								
BRG				*e*				05 32 14.5	
GERES	**GERESS Array B**	**77.78**	**318**	P		**P**		**05 32 08.1**	**0.0**
	comp=Z,2.8nm,0.7s,mb4.3,baz=90,slow=5.3,SNR=14								
KHC	**Kasperske Hory**	**77.86**	**318

ISC 28 05:22:42.0±1.0,7.5N±0.2×93.5E±0.1,h30km,n15, σ0°98/15,mb4.1/11,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.11	25	Pn	P	05 25 30.0	-5.7
	0.5nm,0.3s,baz=211,slow=14,SNR=4.6						
PALK	Pallekele	12.74	270	ePn	P	05 25 43.5	-0.6
	27nm,1.0s						
LSA	Lhasa	22.22	354	eP	P	05 27 39.6	+1.8
	18nm,0.6s,mb4.7						
BJT	Baijiatuan	38.21	29	eP	P	05 30 00.6	-0.5
	3.4nm,0.6s,mb4.2						
SONM	Songino Array	41.68	13	P	P	05 30 28.2	-1.4
	1.8nm,0.7s,mb3.8,baz=196,slow=6.0,SNR=4.3						
KURK	Kurchatov	44.85	347	eP	P	05 30 55.1	-0.3
	3.6nm,0.7s,mb4.3						
ZAL	Zalesovo	46.86	353	P	P	05 31 10.7	-0.6
	4.4nm,0.9s,mb4.4,baz=312,slow=6.9,SNR=4.9						
WRA	Warramunga Arr	48.52	125	P	P	05 31 24.8	+0.1
	0.5nm,0.5s,mb3.8,baz=298,slow=11,SNR=3.1						
CHKZ	Chkalovo	49.67	342	eP	P	05 31 32.8	-0.2
	3.6nm,0.7s,mb4.5						
BRTR	Keskin Array B	62.24	311	P	P	05 33 02.5	-1.0
	0.6nm,0.5s,mb4.0,baz=122,slow=5.8,SNR=3.1						
FINES	FINESS Array B	72.78	332	P	P	05 34 09.6	+0.2
	1.5nm,0.6s,mb4.1,baz=104,slow=7.9,SNR=4.2						
FINES	FINESS Array B	72.78	332	P	P	05 34 09.6	+0.2
GERES	GERESS Array B	77.73	318	P	P	05 34 39.8	+2.0
	0.5nm,0.6s,mb3.7,baz=90,slow=5.9,SNR=3.8						
NB2	NORSAR Subarra	79.78	331	P	P	05 34 49.5	+0.8
	2.9nm,0.7s,mb4.3,baz=92,slow=5.6						
NOA	NORSAR Array B	79.78	331	P	P	05 34 49.8	+1.0
	0.8nm,0.7s,mb3.8,baz=96,slow=5.5,SNR=4.2						

IDC 28 05:24:00.0±3.0,7.79N×93.87E,mb4.1/4,mb1 4.3/4, mb1mx3.9/17,mbtmp4.1/4,Error ellipse: s-maj=164.4km s-min=76.7km az=57.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	57.15	264	P	P	05 33 52.7	+1.3
	2.6nm,1.1s,baz=57,slow=12,SNR=5.9						
SVST	Sivas	59.83	312	P	P	05 34 05.3	-4.4
BRTR	Keskin Array B	62.28	311	P	P	05 34 24.1	-2.3
	0.9nm,0.6s,baz=126,slow=9.1,SNR=3.7						
FINES	FINESS Array B	72.66	332	P	P	05 35 29.2	-2.1
	2.9nm,0.9s,baz=112,slow=7.5,SNR=2.5						
GERES	GERESS Array B	77.71	318	P	P	05 35 59.4	-0.9
	1.6nm,0.7s,baz=79,slow=5.0,SNR=5.5						
TXAR	Lajitas Array	139.41	24	PKP	PKPdf	05 43 30.5	-1.4
	0.3nm,0.5s,baz=332,slow=1.2,SNR=4.7						
PLCA	Paso Flores	144.37	201	PKP	PKPdf	05 43 37.8	-2.5
	2.9nm,0.9s,baz=272,slow=0.7,SNR=5.1						

JMA 28 05:25:22.7±0.4,43.95N×148.00E,M3.5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.74	251	P	Pn	05 25 54.3	-0.1
NEM2				eS	Sn	05 26 17.7	+0.1
JRA	Rausu	2.08	271	P	Pn	05 25 59.5	+0.3
JRA				eS	Sn	05 26 26.7	+0.5
JNK	Nakash	2.41	262	P	Pn	05 26 04.4	+0.5
JNK				eS	Sn	05 26 34.1	-0.4

*IDC **28** 05:31:50.3±0.7,7.81N×93.97E,mb4.3/16,mb1 4.4/17, mb1mx4.4/21,mbtmp4.3/17,ML4.5/1,Error ellipse: s-maj=33.0km s-min=16.0km az=49.0*

*NEIC **28** 05:31:55.2±0.3,7.84N×94.04E,h30km,mb4.5/9,Error ellipse: s-maj=13.4km s-min=7.6km az=58.0*

ISC 28 05:31:54.1±0.5,7.94N±0.09×94.2E±0.1,h33km,n43, σ0°97/37,mb4.5/29,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.42	23	Pn	P	05 34 38.6	+0.6
	1.0nm,0.3s,baz=95,slow=29,SNR=4.9						
PKI	Pulchoki	21.23	338	eP	P	05 36 39.2	-0.2
	33nm,0.5s,mb4.9						
DMN	Daman	21.37	337	eP	P	05 36 40.7	-0.2
	42nm,0.7s,mb4.9						
KKN	Kakani	21.47	338	eP	P	05 36 41.3	-0.6
	22nm,0.6s,mb4.7						
LSA	Lhasa	21.83	353	eP	P	05 36 48.2	+2.8
	16nm,0.6s,mb4.6						
GKN	Gorkha	21.91	337	eP	P	05 36 46.1	-0.1
	62nm,0.6s,mb5.2						
KOLN	Koldanda	22.13	334	eP	P	05 36 48.6	+0.2
	64nm,0.7s,mb5.2						
SONM	Songino Array	41.08	13	P	P	05 39 37.0	+0.7
	2.3nm,0.9s,mb3.8,baz=198,slow=7.8,SNR=6.2						
SONM				PcP	PcP	05 41 36.4	+0.2
	0.9nm,0.6s,baz=197,slow=4.6,SNR=4.0						
KURK	Kurchatov	44.56	346	eP	P	05 40 04.2	-0.4
	9.5nm,0.9s,mb4.6						
ZAL	Zalesovo	46.49	352	P	P	05 40 19.9	+0.1
	4.1nm,0.4s,mb4.7,baz=292,slow=4.7,SNR=8.5						
ZAL	Zalesovo	46.49	352	P	P	05 40 19.9	+0.1
WRA	Warramunga Arr	48.25	126	P	P	05 40 34.4	+0.3
	1.2nm,0.8s,mb4.0,baz=305,slow=8.6,SNR=5.6						
WRAB	Tennant Creek	48.25	126	eP	P	05 40 34.6	+0.5
	3.5nm,0.7s,mb4.5						
BVAR	Borovoye Array	48.95	341	P	P	05 40 38.0	-1.0
	1.3nm,0.6s,mb4.2,baz=149,slow=8.6,SNR=7.3						
RAYN	Ar Rayn	49.12	294	P	P	05 40 42.9	+2.1
	106nm,0.6s,SNR=8.9						
ASAR	Alice Springs	49.91	130	P	P	05 40 46.9	-0.1
	0.7nm,0.6s,mb3.9,baz=297,slow=6.9,SNR=4.0						
KMBO	Kilima Mbogo	57.49	264	P	P	05 41 45.5	+2.6
	5.3nm,0.7s,mb4.7,baz=56,slow=11,SNR=15						
KMBO	Kilima Mbogo	57.49	264	P	P	05 41 45.5	+2.6
STKA	Stephens Creek	60.11	134	P	P	05 41 59.2	-1.6
	1.1nm,0.7s,mb4.0,baz=162,slow=20,SNR=2.6						
BRTR	Keskin Array B	62.43	311	P	P	05 42 14.3	-2.1
	2.7nm,0.6s,mb4.6,baz=122,slow=7.2,SNR=15						
AKASG	Malin Array Be	68.14	322	P	P	05 42 51.0	-1.9
	2.6nm,0.7s,mb4.4,baz=88,slow=5.0,SNR=15						
IDI	Anoyia	68.58	305	P	P	05 42 55.4	-0.5
	9.2nm,0.6s,mb4.9,baz=83,slow=7.1,SNR=9.8						
JOF	Joensuu	70.81	334	ep	P	05 43 08.4	-0.7
	1.3nm,0.4s,mb4.2						
FINES	FINESS Array B	72.68	332	P	P	05 43 19.5	-0.7
	2.0nm,0.5s,mb4.3,baz=98,slow=6.9,SNR=17						
FINES	FINESS Array B	72.68	332	P	P	05 43 19.5	-0.7
KAF	Kangasniemi	72.76	333	ep	P	05 43 20.5	-0.1
	1.2nm,0.4s,mb4.2						
KEV	Kevo	74.79	341	ep	P	05 43 31.3	-1.1
	0.4nm,0.5s,mb3.6						
ARCES	ARCESS Array B	75.22	340	P	P	05 43 35.2	+0.4
	7.6nm,1.0s,mb4.6,baz=99,slow=5.1,SNR=12						
GERES	GERESS Array B	77.82	318	P	P	05 43 50.1	+0.2
	5.4nm,0.7s,mb4.6,baz=86,slow=5.6,SNR=25						
CLL	Collm	78.35	321	P	P	05 43 53.0	+0.3
GRA1	Grafenberg Arr	79.46	319	eP	P	05 43 59.5	+0.7
	5.0nm,0.8s,mb4.5						
GRF	Grafenberg Arr	79.46	319	eP	P	05 43 59.5	+0.7
	5.0nm,0.8s,mb4.5						
NB2	NORSAR Subarra	79.70	331	P	P	05 43 59.7	-0.2
	1.1nm,0.6s,mb4.0,baz=97,slow=5.0						
NOA	NORSAR Array B	79.70	331	P	P	05 43 59.6	-0.3
	4.0nm,1.0s,mb4.3,baz=95,slow=5.3,SNR=6.3						
LPG	La Plagne	82.61	315	eP	P	05 44 16.3	+0.8
	12nm,0.7s,mb4.8						
ESDC	Sonseca Array	91.22	310	P	P	05 44 58.0	+0.4
	0.8nm,0.4s,mb4.4,baz=66,slow=4.0,SNR=7.1						
INK	Inuvik	96.91	16	P	P	05 45 23.7	+0.9
	1.4nm,1.0s,mb4.3,baz=313,slow=6.7,SNR=3.4						
NVAR	Mina Array Bea	124.83	31	PKP	PKPdf	05 50 53.4	+2.2
	1.0nm,0.7s,baz=299,slow=1.4,SNR=6.0						
NVAR	Mina Array Bea	124.83	31	PKP	PKPdf	05 50 53.4	+2.2
PDAR	Pinedale Array	125.08	21	PKP	PKPdf	05 50 54.1	+2.6
	0.8nm,0.6s,baz=74,slow=0.8,SNR=7.8						
TXAR	Lajitas Array	139.14	24	PKP	PKPdf	05 51 21.7	+3.4
	0.4nm,0.5s,baz=258,slow=0.8,SNR=12						
TXAR	Lajitas Array	139.14	24	PKP	PKPdf	05 51 21.7	+3.4
PLCA	Paso Flores	144.63	200	PKP	PKPdf	05 51 29.6	+1.9
	2.9nm,0.8s,baz=176,slow=4.4,SNR=8.5						

*IDC **28** 05:32:46.2±0.9,7.73N×93.83E,mb4.3/14,mb1 4.4/15, mb1mx4.3/21,mbtmp4.2/15,ML4.1/1,Error ellipse: s-maj=35.1km s-min=20.7km az=50.0*

*NEIC **28** 05:32:51.1±0.4,7.82N×94.06E,h30km,mb4.7/10,Error ellipse: s-maj=13.9km s-min=9.4km az=53.0*

*BJI **28** 05:32:52.1,7.78N×93.65E,h36km,mB5.3,mb4.7,Ms4.8, Msz4.4*

ISC 28 05:32:48.6±0.6,7.5N±0.1×93.7E±0.1,h30km,n38, σ1°11/33,mb4.5/24,1C-1D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.04	25	Pn	P	05 35 34.0	-7.2
	0.4nm,0.3s,baz=209,slow=14,SNR=4.7						
HYB	Hyderabad	17.71	305	eP	P	05 37 00.0	+5.1
HYB	Hyderabad	17.71	305	i P	P	05 37 00.0	+5.1
KMI	Kunming	19.55	25	⇑P	P	05 37 17.7	+0.8
	23nm,1.4s						
KMI				pP		05 37 26.5	
LSA	Lhasa	22.20	354	eP	P	05 37 44.0	-0.1
	33nm,0.8s,mb4.8						
ENH	Enshi	27.08	31	eP	P	05 38 26.7	-4.0
	22nm,0.9s,mb4.7						
LZH	Lanzhou	29.93	17	eP	P	05 38 58.5	+2.1
LZH				AP	pP	05 39 03.0	-2.2
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.9						
WMQ	Urumqi	36.54	353	eP	P	05 39 55.0	+1.5
BJI	Beijing	38.15	28	P	P	05 40 08.3	+1.2
	comp=Z,9.0nm,1.1s,mb4.4						
SONM	Songino Array	41.62	13	P	P	05 40 34.1	-1.6
	comp=Z,6.4nm,0.8s,mb4.3,baz=201,slow=4.9,SNR=8.3						
SNY	Shenyang	43.24	33	⇓P	P	05 40 52.5	+3.5
SNY				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
KURK	Kurchatov	44.84	346	eP	P	05 41 01.2	-0.7
	comp=Z,15nm,1.0s,mb4.8						
ZAL	Zalesovo	46.84	353	P	P	05 41 17.6	0.0
	comp=Z,7.8nm,0.4s,mb5.0,baz=324,slow=4.1,SNR=9.9						
WRA	Warramunga Arr	48.45	125	P	P	05 41 30.5	-0.2
	comp=Z,1.3nm,0.6s,mb4.1,baz=304,slow=9.2,SNR=4.0						
WRAB	Tennant Creek	48.46	125	eP	P	05 41 30.0	-0.7
	comp=Z,4.2nm,0.8s,mb4.5						
BVAR	Borovoye Array	49.17	342	P	P	05 41 33.7	-2.1
	comp=Z,3.3nm,1.0s,mb4.3,baz=117,slow=9.7,SNR=3.5						
BRVK	Borovoye	49.23	342	eP	P	05 41 35.0	-1.3
	comp=Z,8.0nm,0.9s,mb4.8						
CHKZ	Chkalovo	49.66	342	eP	P	05 41 38.3	-1.3
	comp=Z,16nm,0.9s,mb5.1						
ASAR	Alice Springs	50.06	129	P	P	05 41 43.0	0.0
	comp=Z,1.2nm,0.8s,mb4.0,baz=312,slow=7.2,SNR=3.2						
BRTR	Keskin Array B	62.30	311	P	P	05 43 10.6	+0.1
	comp=Z,1.4nm,0.6s,mb4.3,baz=121,slow=7.2,SNR=4.7						
AKASG	Malin Array Be	68.13	322	P	P	05 43 47.3	-0.7
	comp=Z,2.8nm,0.7s,mb4.4,baz=88,slow=4.8,SNR=7.1						
IDI	Anoyia	68.37	305	P	P	05 43 51.0	+1.2
	comp=Z,4.1nm,0.6s,mb4.6,baz=344,slow=17,SNR=3.0						
FINES	FINESS Array B	72.80	332	P	P	05 44 15.8	-0.2
	comp=Z,4.0nm,0.8s,mb4.4,baz=72,slow=8.8,SNR=4.7						
FINES	FINESS Array B	72.80	332	P	P	05 44 15.8	-0.2
ARCES	ARCESS Array B	75.44	340	P	P	05 44 30.7	-0.5
	comp=Z,4.9nm,0.9s,mb4.4,baz=104,slow=7.4,SNR=2.9						
NB2	NORSAR Subarra	79.80	331	P	P	05 44 55.8	+0.4
	comp=Z,6.5nm,0.9s,mb4.6,baz=92,slow=5.8						
NOA	NORSAR Array B	79.80	331	P	P	05 44 55.5	+0.1
	comp=Z,1.2nm,0.6s,mb4.0,baz=97,slow=5.1,SNR=3.3						
LPG	La Plagne	82.53	315	eP	P	05 45 11.6	+1.6
	comp=Z,28nm,1.1s,mb4.9						
ESDC	Sonseca Array	91.08	310	P	P	05 45 52.6	+0.7
	comp=Z,0.5nm,0.5s,mb4.1,baz=48,slow=4.5,SNR=3.8						
IMA	Indian Mountai	92.14	22	eP	P	05 46 00.7	+4.6
ILAR	Eielson Array	95.26	22	P	P	05 46 10.5	0.0
	comp=Z,0.2nm,0.8s,mb3.6,baz=207,slow=6.0,SNR=2.6						
INK	Inuvik	97.47	16	P	P	05 46 21.4	+1.0
	comp=Z,1.5nm,1.0s,mb4.4,baz=284,slow=4.2,SNR=2.5						
INK	Inuvik	97.47	16	P	P	05 46 21.4	+1.0
NVAR	Mina Array Bea	125.48	31	PKP	PKPdf	05 51 50.2	-2.3
	comp=Z,0.3nm,0.5s,slow=1.8,SNR=2.4						
NVAR	Mina Array Bea	125.48	31	PKP	PKPdf	05 51 50.2	-2.3
PDAR	Pinedale Array	125.68	21	PKP	PKPdf	05 51 48.5	-4.3
	comp=Z,0.6nm,0.9s,baz=76,slow=3.7,SNR=2.9						
TXAR	Lajitas Array	139.75	24	PKP	PKPdf	05 52 16.2	-3.3
	comp=Z,0.3nm,0.5s,baz=80,slow=0.5,SNR=3.4						
PLCA	Paso Flores	144.04	201	PKP	PKPdf	05 52 25.1	-1.5
	comp=Z,4.6nm,0.8s,baz=166,slow=3.8,SNR=8.2						

*BJI **28** 05:35:50.2,7.34N×93.78E,h30km,mB5.0,mb4.9,Ms4.7, Msz4.6*

*IDC **28** 05:35:52.1±0.7,7.87N×94.00E,mb4.5/16,mb1 4.7/17, mb1mx4.6/21,mbtmp4.5/17,Error ellipse: s-maj=32.0km s-min=16.9km az=48.0*

*NEIC **28** 05:35:57.7±0.4,8.06N×94.11E,h30km,mb4.7/21,Error ellipse: s-maj=12.6km s-min=10.4km az=225.0*

ISC 28 05:35:57.9±2.8,8.1N±0.1×94.25E±0.08,h48km±22km, h23km±5.2km:pP-P,n76,σ0°89/69,mb4.7/39,MS4.7/1, 2C-1D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	Nakhon Sawan	9.50	37	P	P	05 37 56.2	-19
CMAR	Chiang Mai Arr	11.29	23	Pn	P	05 38 39.7	+0.3
	baz=214,slow=14,SNR=4.5						
HYB	Hyderabad	17.89	303	i P	P	05 40 06.5	+1.4
KMI	Kunming	18.79	25	⇑P	P	05 40 21.0	+5.0
	27nm,1.1s						
KMI				pP		05 40 29.9	
KMI				sP		05 40 34.7	
KMI				PP	PP	05 40 48.4	+16
KMI				S	S	05 44 18.5	+38
KMI				sS		05 44 33.7	
KMI				SS	SS	05 44 56.7	+50
JIRN	Jiri	20.92	340	eP	P	05 40 39.1	+0.2
	70nm,0.9s						
PKI	Pulchoki	21.12	338	eP	P	05 40 40.9	0.0
	67nm,0.6s,mb5.2						
DMN	Daman	21.27	337	eP	P	05 40 42.9	+0.5
	64nm,0.7s,mb5.1						
KKN	Kakani	21.37	338	eP	P	05 40 43.2	-0.1
LSA	Lhasa	21.71	353	eP	P	05 40 44.4	-2.3
	41nm,0.6s,mb5.0						
LSA				epP		05 40 50.5	
GKN	Gorkha	21.81	337	eP	P	05 40 47.0	-0.7
	91nm,0.7s,mb5.3						
KOLN	Koldanda	22.03	334	eP	P	05 40 49.8	-0.1
	71nm,0.7s,mb5.2						
ENH	Enshi	26.30	31	eP	P	05 41 32.3	+1.3
	12nm,0.8s,mb4.5						
WMQ	Urumqi	36.07	352	eP	P	05 42 56.5	-0.4
WMQ				AP	pP	05 43 06.0	-3.7
WMQ				AMB	AMB		
	comp=Z,23nm,0.6s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,217nm,4.4s						
WMQ				LR	LR		
	comp=N,655nm,15.6s,MS4.6						
WMQ				LR	LR		
	comp=E,561nm,15.1s,MS4.6						
WMQ				LR	LR		
	comp=Z,971nm,15.9s,MS4.7						
AAK	Ala-Archa	38.57	336	eP	P	05 43 16.5	-1.3
	comp=Z,9.2nm,1.0s,mb4.5						
SONM	Songino Array	40.95	12	P	P	05 43 38.4	+1.0
	comp=Z,3.5nm,0.8s,mb4.1,baz=196,slow=7.5,SNR=8.0						
SONM				PcP	PcP	05 45 38.1	+0.4
	comp=Z,1.8nm,0.6s,baz=194,slow=4.0,SNR=9.2						
KURK	Kurchatov	44.45	346	eP	P	05 44 05.0	-1.0
	comp=Z,25nm,1.1s,mb4.8						
ZAL	Zalesovo	46.37	352	P	P	05 44 21.6	+0.5
	comp=Z,6.7nm,0.5s,mb4.8,baz=297,slow=6.4,SNR=10						
WRA	Warramunga Arr	48.29	126	P	P	05 44 35.6	-1.0
	comp=Z,2.1nm,1.0s,mb4.1,baz=304,slow=8.8,SNR=3.8						
WRAB	Tennant Creek	48.29	126	P	P	05 44 40.2	+3.5
BVAR	Borovoye Array	48.84	341	P	P	05 44 39.6	-0.9
	comp=Z,15nm,1.2s,mb4.9,baz=135,slow=8.4,SNR=9.5						
BVAR				PcP	PcP	05 46 05.1	+0.3
	comp=Z,1.7nm,0.6s,baz=135,slow=4.2,SNR=5.2						
RAYN	Ar Rayn	49.10	294	P	P	05 44 43.9	+1.0
	comp=Z,110nm,0.6s,SNR=9.8						
CHKZ	Chkalovo	49.32	342	eP	P	05 44 43.6	-0.5
	comp=Z,78nm,1.3s,mb5.6						
ASAR	Alice Springs	49.96	130	P	P	05 44 48.0	-1.5
	comp=Z,1.2nm,0.7s,mb4.0,baz=301,slow=6.8,SNR=3.6						
ASAR				PcP	PcP	05 46 09.0	-0.3
	comp=Z,0.9nm,0.7s,baz=316,slow=3.8,SNR=3.9						
KMBO	Kilima Mbogo	57.55	264	P	P	05 45 46.6	+1.1
	comp=Z,4.8nm,0.8s,mb4.6,baz=60,slow=10,SNR=10						
KMBO	Kilima Mbogo	57.55	264	eP	P	05 45 46.6	+1.1
EIL	Elat	59.42	300	P	P	05 45 57.1	-1.1
	comp=Z,3.9nm,0.6s,mb4.6						
YAK	Yakutsk	59.77	18	eP	P	05 46 00.1	-0.1
	comp=Z,24nm,0.8s,mb5.3						
BRTR	Keskin Array B	62.38	311	P	P	05 46 16.1	-2.1
	comp=Z,3.2nm,0.6s,mb4.6,baz=128,slow=7.5,SNR=12						
MA2	Magadan	66.54	28	eP	P	05 46 46.0	+1.1
	comp=Z,9.7nm,0.7s,mb4.9						
AKASG	Malin Array Be	68.07	322	P	P	05 46 52.7	-1.9
	comp=Z,5.0nm,0.7s,mb4.6,baz=88,slow=4.8,SNR=12						
IDI	Anoyia	68.55	305	P	P	05 46 56.9	-0.9
	comp=Z,17nm,1.0s,mb4.9,baz=90,slow=6.9,SNR=8.2						
JOF	Joensuu	70.72	334	ep	P	05 47 09.7	-0.9
	comp=Z,0.9nm,0.4s,mb4.0						
KOLS	Kolonicke sedl	72.13	319	eP	P	05 47 18.7	-0.6
FINES	FINESS Array B	72.59	332	P	P	05 47 20.9	-0.8
	comp=Z,9.7nm,0.8s,mb4.8,baz=121,slow=11,SNR=13						
FINES	FINESS Array B	72.59	332	P	P	05 47 20.9	-0.8
CRVS	Cervenica-Dubn	72.65	319	eP	P	05 47 24.1	+1.7
KAF	Kangasniemi	72.67	333	ep	P	05 47 21.7	-0.5
	comp=Z,0.6nm,0.3s,mb4.0						
OJC	Ojcow	73.89	320	eP	P	05 47 29.6	0.0
VYHS	Vyhne	74.33	318	eP	P	05 47 31.5	-0.7
KEV	Kevo	74.69	341	ep	P	05 47 33.4	-0.5
	comp=Z,0.7nm,0.4s,mb3.9						
OKC	Ostrava-Krasne	74.91	319	eP	P	05 47 35.9	+0.4
ARCES	ARCESS Array B	75.12	340	P	P	05 47 36.4	+0.1
	comp=Z,4.5nm,0.6s,mb4.6,baz=85,slow=6.9,SNR=12						
ARCES	ARCESS Array B	75.12	340	P	P	05 47 36.4	+0.1
MORC	Moravsky Berou	75.30	319	eP	P	05 47 37.4	-0.3
ZST	Bratislava	75.46	318	eP	P	05 47 38.9	+0.2
DPC	Dobruska-Polom	76.13	320	eP	P	05 47 43.1	+0.6
UPC	Upice	76.34	320	eP	P	05 47 44.1	+0.5
PRU	Pruhonice	77.25	319	eP	P	05 47 49.0	+0.2
PVCC	Panska Ves	77.26	320	eP	P	05 47 48.8	0.0
BRG	Berggiesshubel	77.67	320	i P	P	05 47 51.5	+0.4
	comp=Z,7.9nm,0.8s,mb4.7						
BRG				e	pP	05 48 04.2	-0.8
GEC2	GERESS Array S	77.75	318	eP	P	05 47 52.2	+0.6
	comp=Z,6.0nm,0.8s,mb4.6						
GERES	GERESS Array B	77.75	318	P	P	05 47 51.7	+0.1
	comp=Z,9.3nm,0.9s,mb4.7,baz=87,slow=5.3,SNR=21						
KHC	Kasperske Hory	77.84	318	eP	P	05 47 52.1	0.0
CLL	Collm	78.28	321	P	P	05 47 54.0	-0.4
CLL				e*PP	pP	05 48 01.0	-7.4
WET	Wettzell	78.30	318	eP	P	05 47 55.2	+0.6
	comp=Z,4.0nm,0.7s,mb4.5						
NKC	Novy Kostel	78.60	320	eP	P	05 47 56.5	+0.3
GRA1	Grafenberg Arr	79.39	319	eP	P	05 48 01.5	+1.0
	comp=Z,7.0nm,0.8s,mb4.6						
GRA1				epP	pP	05 48 07.8	-6.7
GRF	Grafenberg Arr	79.39	319	eP	P	05 48 01.5	+1.0
	comp=Z,7.0nm,0.8s,mb4.6						
GRF				epP	pP	05 48 07.8	-6.7
NB2	NORSAR Subarra	79.61	331	P	P	05 48 01.3	-0.2
	comp=Z,11nm,0.8s,mb4.8,baz=97,slow=5.0						
NOA	NORSAR Array B	79.61	331	P	P	05 48 01.2	-0.3
	comp=Z,20nm,1.1s,mb4.9,baz=92,slow=5.6,SNR=14						
NOA	NORSAR Array B	79.61	331	P	P	05 48 01.2	-0.3
CLZ	Clausthal	79.93	321	eP	P	05 48 04.0	+0.6
	comp=Z,6.0nm,0.7s,mb4.6						
BFO	Black Forest	81.32	318	eP	P	05 48 11.0	+0.2
	comp=Z,3.0nm,0.8s,mb4.3						
LPG	La Plagne	82.56	315	eP	P	05 48 17.4	+0.1
	comp=Z,22nm,0.8s,mb4.9						
BNI	Bardonecchia	82.64	314	P	P	05 48 18.9	+1.2
	comp=Z,6.5nm,0.7s,mb4.8						
SYO	Syowa Base	85.62	197	⇓P	pP	05 48 40.2	-6.1
SYO	Syowa Base	85.62	197	⇑sP	sP	05 48 53.8	+2.4
ESDC	Sonseca Array	91.17	310	P	P	05 48 59.8	+0.4
	comp=Z,0.9nm,0.5s,mb4.3,baz=57,slow=4.1,SNR=4.7						
IMA	Indian Mountai	91.40	22	eP	P	05 49 02.5	+2.8
ILAR	Eielson Array	94.52	22	P	P	05 49 14.3	+0.3
	comp=Z,0.7nm,0.7s,mb4.2,baz=310,slow=5.2,SNR=7.3						
INK	Inuvik	96.78	16	P	P	05 49 24.6	+0.4
	comp=Z,2.4nm,1.0s,mb4.6,baz=316,slow=4.3,SNR=5.1						
NVAR	Mina Array Bea	124.70	31	PKP	PKPdf	05 54 56.3	+3.4
	comp=Z,1.2nm,0.6s,baz=350,slow=2.5,SNR=9.7						
PDAR	Pinedale Array	124.95	21	PKP	PKPdf	05 54 54.9	+1.6
	comp=Z,1.5nm,

KKN Kakani 21.53 338 *eP* **P 05 43 12.3 -0.4**
comp=Z,96nm,0.9s,mb5.2
KAD Karad 21.58 298 *e* **P 05 43 14.4 +1.2**
LSA Lhasa 21.93 353 P **P 05 43 16.5 -0.1**
LSA AMB AMB
comp=Z,20nm,0.9s,mb4.5
LSA Lhasa 21.93 353 *eP* **P 05 43 16.3 -0.3**
LSA pmax pmax
comp=Z,49nm,0.8s,mb5.0
LSA Lhasa 21.93 353 *eP* **P 05 43 16.3 -0.3**
comp=Z,49nm,0.8s,mb5.0
GKN Gorkha 21.97 337 *eP* **P 05 43 17.1 +0.1**
comp=Z,58nm,0.5s,mb5.3
BHPL Bhopal 22.16 316 *eP* **P 05 43 20.1 +1.1**
BHPL *e* 05 43 25.1
comp=Z,72nm,1.3s
KOLN Koldanda 22.18 335 *eP* **P 05 43 19.7 +0.6**
comp=Z,66nm,0.8s,mb5.1
NDI New Delhi 26.15 325 *eP* **P 05 43 57.0 -0.4**
DDI Dehra Dun 26.96 328 *e* **P 05 44 06.0 +1.1**
LZH Lanzhou 29.50 16 *eP* **P 05 44 28.0 +0.4**
LZH AMB AMB
comp=Z,28nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,96nm,4.4s
LZH LR LR
comp=E,1μm,11.8s
LZH LR LR
comp=Z,2μm,13.2s,MS4.8
LZH Lanzhou 29.50 16 *eP* **P 05 44 28.0 +0.4**
comp=Z,28nm,1.5s,mb4.8
LZH pP pP 05 44 33.5 -5.0
LZH sP sP 05 44 36.0 -7.6
LZH LR LR
comp=Z,2μm,13.2s,MS4.8
WMQ Urumqi 36.28 352 P **P 05 45 27.0 +0.5**
JOW Kunigami 37.51 56 LR LR 06 02 42.6
comp=Z,544nm,18.1s,MS4.4,baz=268,slow=39
BJI Beijing 37.66 28 P **P 05 45 37.2 -0.9**
BJI pmax pmax
comp=Z,5.0nm,1.1s,mb4.2
BJI MLR MLR
comp=Z,460nm,20.0s,MS4.3
BJI Beijing 37.66 28 P **P 05 45 37.2 -0.9**
comp=Z,5.0nm,1.1s,mb4.2
BJI LR LR
comp=Z,460nm,20.0s,MS4.3
UCH Uchtor 38.38 336 P **P 05 45 45.4 +1.4**
SNR=5.5
AML Almayashu 38.62 335 P **P 05 45 47.3 +1.2**
SNR=14
AAK Ala-Archa 38.73 337 P **P 05 45 48.2 +1.3**
SNR=7.1
AAK Ala-Archa 38.73 337 P **P 05 45 48.0 +1.1**
AAK pmax pmax
comp=Z,44nm,1.5s,mb5.0
AAK Ala-Archa 38.73 337 *eP* **P 05 45 46.9 0.0**
comp=Z,22nm,1.1s,mb4.8
CHMS Chumysh 38.94 337 P **P 05 45 49.3 +0.7**
SNR=6.0
USP Ospenovka 39.26 337 P **P 05 45 51.3 0.0**
SNR=8.5
MKAR Makanchi Array 40.12 347 *i P* **P 05 45 58.3 -0.1**
MKAR pmax pmax
comp=Z,62nm,1.3s
FITZ Fitzroy Crossi 40.42 130 *eP* **P 05 46 01.6 +0.4**
comp=Z,9.0nm,0.7s,mb4.6
SONM Songino Array 41.21 13 P **P 05 46 07.9 +0.5**
comp=Z,6.2nm,0.8s,mb4.3,baz=195,slow=8.2,SNR=18
SONM PcP PcP 05 48 06.8 +0.2
comp=Z,2.2nm,1.0s,baz=206,slow=3.2,SNR=4.3
ZAK Zakamensk 43.10 9 *eP* **P 05 46 22.6 -0.3**
TLY Talaya 44.41 8 *eP* **P 05 46 34.7 +1.2**
TLY *e* 05 53 17.4
TLY pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
TLY MLR MLR
comp=Z,388nm,19.0s,MS4.3
KURK Kurchatov 44.64 346 *i P* **P 05 46 35.4 +0.1**
KURK pmax pmax
comp=Z,30nm,1.3s,mb5.0
NWAO Narrogin (SRO) 46.13 153 P **P 05 46 48.9 +1.4**
NWAO pmax pmax
comp=Z,62nm,1.3s
NWAO Narrogin (SRO) 46.13 153 P **P 05 46 48.9 +1.5**
comp=Z,62nm,1.3s,mb5.4,baz=336,slow=8.1,SNR=9.0
NWAO Narrogin (SRO) 46.13 153 P **P 05 46 48.9 +1.5**
HIA Hailar 46.57 23 *eP* **P 05 46 51.3 +0.6**
HIA pmax pmax
comp=Z,26nm,1.2s
HIA Hailar 46.57 23 *eP* **P 05 46 51.3 +0.6**
comp=Z,26nm,1.2s,mb5.0
ZAL Zalesovo 46.58 352 P **P 05 46 50.4 -0.3**
ZAL pmax pmax
comp=Z,18nm,0.8s
ZAL Zalesovo 46.58 352 P **P 05 46 50.4 -0.3**
comp=Z,18nm,0.8s,mb5.0,baz=297,slow=9.1,SNR=35
NVS Novosibirsk 47.68 352 *i P* **P 05 46 57.6 -1.7**
WRA Warramunga Arr 48.27 125 P **P 05 47 04.6 +0.2**
WRA pmax pmax
comp=Z,17nm,1.2s
WRA Warramunga Arr 48.27 125 P **P 05 47 04.6 +0.2**
comp=Z,17nm,1.1s,mb5.0,baz=304,slow=8.7,SNR=24
WRAB Tennant Creek 48.27 125 *eP* **P 05 47 03.4 -1.0**
WRAB pmax pmax
comp=Z,28nm,1.1s,mb5.2
WRAB Tennant Creek 48.27 125 *eP* **P 05 47 03.4 -1.0**
comp=Z,28nm,1.1s,mb5.2
WB2 Warramunga Arr 48.28 125 *eP* **P 05 47 04.5 0.0**
BVA0 Borovoye Array 49.01 341 *i P* **P 05 47 08.8 -0.9**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
BVAR Borovoye Array 49.01 341 P **P 05 47 08.6 -1.1**
comp=Z,7.5nm,0.9s,mb4.7,baz=143,slow=7.4,SNR=15
BVAR PcP PcP 05 48 33.2 -0.3
comp=Z,1.7nm,0.6s,baz=162,slow=4.6,SNR=3.7
BVAR ScP 05 52 28.2
comp=Z,2.3nm,0.9s,baz=135,slow=4.2,SNR=6.5
RAYN Ar Rayn 49.07 294 P **P 05 47 12.9 +2.4**
comp=Z,138nm,0.9s,SNR=19
BRVK Borovoye 49.08 341 *eP* **P 05 47 09.2 -0.9**
BRVK pmax pmax
comp=Z,13nm,1.0s,mb4.9
BRVK Borovoye 49.08 341 *eP* **P 05 47 09.2 -1.0**
comp=Z,13nm,1.0s,mb4.9
MAT Matsushiro 49.22 48 P pP 05 47 22.0 -0.8
MAT Matsushiro 49.22 48 P pP 05 47 22.2 -0.6
CHKZ Chkalovo 49.50 342 *eP* **P 05 47 12.9 -0.5**
CHKZ pmax pmax
comp=Z,45nm,1.0s,mb5.5
CHKZ Chkalovo 49.50 342 *eP* **P 05 47 12.9 -0.5**
comp=Z,45nm,1.0s,mb5.5
ASPA Alice Springs 49.92 130 *eP* **P 05 47 16.6 -0.4**
ASAR Alice Springs 49.92 130 P **P 05 47 16.1 -1.0**
comp=Z,6.2nm,1.0s,mb4.6,baz=301,slow=6.4,SNR=13
ASAR PcP PcP 05 48 36.9 -0.3
comp=Z,3.2nm,0.9s,baz=307,slow=4.4,SNR=4.7
ASAR LR LR 06 10 26.8
comp=Z,257nm,20.3s,MS4.2,baz=295,slow=38
BOD Bodaibo 52.20 13 *eP* **P 05 47 31.9 -1.9**
GNI Garni 54.44 314 P **P 05 47 49.5 -1.1**
GNI pmax pmax
comp=Z,2.0nm,0.4s
GNI Garni 54.44 314 P **P 05 47 49.5 -1.1**
comp=Z,2.1nm,0.4s,mb4.4,baz=184,slow=17,SNR=4.5
SVE Sverdlovsk 55.42 338 *eP* **P 05 47 56.0 -1.6**
ASAJ Asahikawa 55.47 41 LR LR 06 12 04.7
comp=Z,292nm,18.2s,MS4.4,baz=266,slow=36
PMG Port Moresby 55.56 107 P **P 05 47 58.7 -0.4**
PMG pmax pmax
comp=Z,15nm,0.9s
PMG Port Moresby 55.56 107 P **P 05 47 58.7 -0.4**
comp=Z,15nm,0.9s,mb5.0,baz=192,slow=5.2,SNR=4.0
ARU Arti 55.91 337 ⇓*i P* **P 05 47 54.1 -7.0**
ARU *e* 05 48 55.0
ARU *eS* **S 05 55 35.5 -8.7**
ARU *eSS* SS 05 59 25.7 -4.5
ARU pmax pmax
comp=Z,15nm,1.0s,mb5.0
KIV Kislovodsk 57.32 318 *eP* **P 05 48 10.8 -0.5**
KIV pmax pmax
comp=Z,22nm,1.1s,mb5.1
KIV Kislovodsk 57.32 318 *eP* **P 05 48 10.4 -1.0**
comp=Z,16nm,0.8s,mb5.1
KMBO Kilima Mbogo 57.38 264 P **P 05 48 12.0 -0.2**
KMBO pmax pmax
comp=Z,11nm,0.9s
KMBO Kilima Mbogo 57.38 264 P **P 05 48 12.0 -0.2**
comp=Z,11nm,0.9s,mb4.9,baz=54,slow=9.3,SNR=16
ASF Jabal al Asfar 58.21 303 P **P 05 48 17.0 -0.7**
comp=Z,5.4nm,0.9s,mb4.6,baz=259,slow=2.6,SNR=6.6
ASF LR LR 06 15 41.1
comp=Z,222nm,18.3s,MS4.3,baz=32,slow=39
CTA Charters Tower 58.32 119 P **P 05 48 19.3 +0.7**
CTA pmax pmax
comp=Z,5.0nm,1.1s
CTA MLR MLR
comp=Z,335nm,21.2s
CTA Charters Tower 58.32 119 P **P 05 48 19.3 +0.6**
comp=Z,4.6nm,1.1s,mb4.4,baz=277,slow=10,SNR=2.9
CTA LR LR 06 14 02.6
comp=Z,335nm,21.2s,MS4.4,baz=134,slow=37
CTA Charters Tower 58.32 119 P **P 05 48 19.3 +0.6**
CTA LR LR 06 14 02.6
MALT Malatya 58.46 310 *eP* **P 05 48 18.0 -1.4**
MALT pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
MALT Malatya 58.46 310 *eP* **P 05 48 18.0 -1.4**
comp=Z,8.8nm,1.1s,mb4.7
SOKR Solikamsk 58.82 339 ⇓*i P* **P 05 48 20.9 -0.7**
SOKR pmax pmax
comp=Z,30nm,1.1s,mb5.2
SOKR MLR MLR
comp=Z,460nm,21.0s,MS4.6
EIL Elat 59.41 300 LR LR 06 15 54.6
comp=Z,444nm,18.2s,MS4.6,baz=354,slow=38
STKA Stephens Creek 60.11 134 *eP* **P 05 48 30.2 -0.7**
comp=Z,5.5nm,1.1s,mb4.5
STKA Stephens Creek 60.11 134 P **P 05 48 30.4 -0.5**
comp=Z,4.4nm,0.9s,mb4.5,baz=288,slow=8.4,SNR=6.6
STKA LR LR 06 19 34.6
comp=Z,358nm,18.4s,MS4.5,baz=168,slow=41
BRTR Keskin Array B 62.42 311 P **P 05 48 44.4 -2.0**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR Keskin Array B 62.42 311 P **P 05 48 44.4 -2.0**
comp=Z,3.8nm,0.7s,mb4.6,baz=131,slow=7.1,SNR=11
OBN Obninsk 65.39 328 ⇑*i P* **P 05 49 02.2 -3.3**
OBN pmax pmax
comp=Z,54nm,1.6s,mb5.3
MA2 Magadan 66.82 28 *eP* **P 05 49 14.6 +0.1**
TIXI Tiksi 67.28 11 ⇑*i P* **P 05 49 16.4 -0.8**
TIXI pmax pmax
comp=Z,22nm,0.8s,mb5.2
AKASG Malin Array Be 68.16 322 P **P 05 49 21.0 -2.1**
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 68.16 322 P **P 05 49 21.0 -2.1**
comp=Z,5.0nm,0.9s,mb4.5,baz=87,slow=4.8,SNR=12
IDI Anoyia 68.56 305 P **P 05 49 25.2 -0.6**
comp=Z,6.2nm,0.5s,mb4.8,baz=96,slow=12,SNR=6.8
LSZ Lusaka 69.22 250 *eP* **P 05 49 30.7 +0.5**
LSZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LSZ Lusaka 69.22 250 *eP* **P 05 49 30.7 +0.5**
comp=Z,9.1nm,0.9s,mb4.7
JOF Joensuu 70.87 334 *ep* **P 05 49 39.0 -0.4**
comp=Z,0.7nm,0.3s,mb4.1
KOLS Kolonicke sedl 72.21 319 *eP* **P 05 49 47.4 -0.2**
FINES FINESS Array B 72.73 332 P **P 05 49 49.6 -0.9**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 72.73 332 P **P 05 49 49.6 -0.9**
comp=Z,3.3nm,0.5s,mb4.5,baz=94,slow=8.2,SNR=12
CRVS Cervenica-Dubn 72.73 319 *eP* **P 05 49 51.8 +1.0**
CRVS *e* 05 50 10.3
KAF Kangasniemi 72.81 333 *ep* **P 05 49 50.7 -0.3**
comp=Z,3.7nm,0.5s,mb4.6
KAF Kangasniemi 72.81 333 *eP* **P 05 49 50.7 -0.3**
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
NIE Niedzica 73.55 319 *eP* **P 05 49 56.5 +0.9**
OJC Ojcow 73.98 320 *eP* **P 05 49 58.9 +0.8**
OJC Ojcow 73.98 320 *eP* **P 05 49 58.9 +0.8**
LBTB Lobatse 74.19 241 P **P 05 49 57.6 -2.2**
LBTB pmax pmax
comp=Z,11nm,0.7s,mb4.9
LBTB Lobatse 74.19 241 P **P 05 49 57.6 -2.2**
comp=Z,11nm,0.7s,mb4.9
VYHS Vyhne 74.41 318 *eP* **P 05 50 00.8 +0.2**
KEV Kevo 74.86 341 *ep* **P 05 50 03.4 +0.6**
comp=Z,0.3nm,0.3s,mb3.7
OKC Ostrava-Krasne 75.00 319 *eP* **P 05 50 04.8 +0.9**
ARCES ARCESS Array B 75.29 340 P **P 05 50 04.8 -0.5**
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 75.29 340 P **P 05 50 04.8 -0.5**
comp=Z,4.4nm,0.7s,mb4.5,baz=77,slow=5.0,SNR=11
BOSA Boshof 75.53 238 *eP* **P 05 50 07.5 0.0**
BOSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BOSA Boshof 75.53 238 *eP* **P 05 50 07.5 0.0**
comp=Z,6.1nm,0.6s,mb4.7
ZST Bratislava 75.54 318 *eP* **P 05 50 07.9 +0.8**
ZST *ep*P pP 05 50 16.5 -2.5
DPC Dobruska-Polom 76.21 320 *eP* **P 05 50 11.7 +0.8**
UPC Upice 76.42 320 *eP* **P 05 50 12.6 +0.5**
PRU Pruhonice 77.33 319 *eP* **P 05 50 18.7 +1.5**
PVCC Panska Ves 77.34 320 *eP* **P 05 50 18.3 +1.1**
BRG Berggiesshubel 77.76 320 *i P* **P 05 50 21.2 +1.7**
BRG *i* 05 50 24.0
BRG pmax pmax
comp=Z,24nm,1.7s,mb4.8
BRG Berggiesshubel 77.76 320 *i P* **P 05 50 21.2 +1.7**
comp=Z,24nm,1.7s,mb4.8
BRG *i* 05 50 24.0
GERES GERESS Array B 77.83 318 P **P 05 50 20.4 +0.4**
GERES pmax pmax
comp=Z,4.0nm,0.8s
GERES GERESS Array B 77.83 318 P **P 05 50 20.4 +0.4**
comp=Z,3.8nm,0.8s,mb4.4,baz=79,slow=6.8,SNR=15
KHC Kasperske Hory 77.92 319 *eP* **P 05 50 20.6 +0.1**
CLL Collm 78.37 321 *eP* **P 05 50 20.0 -2.8**
CLL Collm 78.37 321 P **P 05 50 22.0 -0.8**
CLL *e**SP pP 05 50 27.0 -7.8
MOX Moxa 79.23 320 *eP* **P 05 50 29.0 +1.4**
MOX Moxa 79.23 320 *i P* **P 05 50 29.0 +1.4**
NB2 NORSAR Subarra 79.75 331 P **P 05 50 29.7 -0.5**
comp=Z,15nm,1.1s,mb4.8,baz=93,slow=5.6
NB2 NORSAR Subarra 79.75 331 P **P 05 50 29.7 -0.5**
NB2 pmax pmax
comp=Z,15nm,1.1s,mb4.8
NOA NORSAR Array B 79.75 331 P **P 05 50 30.1 -0.1**
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA NORSAR Array B 79.75 331 P **P 05 50 30.1 -0.1**
comp=Z,4.6nm,0.8s,mb4.5,baz=95,slow=5.2,SNR=9.4
LPG La Plagne 82.62 315 *eP* **P 05 50 45.2 -0.3**
comp=Z,32nm,1.0s,mb5.0
LPG La Plagne 82.62 315 *eP* **P 05 50 45.2 -0.3**
LPG pmax pmax
comp=Z,16nm,1.0s,mb5.0
TNA Tin City 86.22 24 *eP* **P 05 51 01.4 -1.7**
ESDC Sonseca Array 91.21 310 P **P 05 51 27.9 +0.4**
comp=Z,1.7nm,0.7s,mb4.5,baz=90,slow=4.4,SNR=4.7
IMA Indian Mountai 91.67 22 *eP* **P 05 51 30.8 +1.8**
ILAR Eielson Array 94.80 22 P **P 05 51 43.5 +0.3**
comp=Z,0.4nm,0.6s,mb4.0,baz=308,slow=4.3,SNR=6.5
INK Inuvik 97.04 16 P **P 05 51 54.0 +0.5**
comp=Z,3.4nm,1.1s,mb4.7,baz=320,slow=6.6,SNR=7.2
INK Inuvik 97.04 16 *eP* **P 05 51 55.0 +1.6**
NVAR Mina Array Bea 124.97 31 PKP PKPdf 05 57 24.8 +3.4
comp=Z,3.6nm,0.9s,baz=219,slow=1.2,SNR=6.6
NVAR Mina Array Bea 124.97 31 PKP PKPdf 05 57 24.8 +3.4
PDAR Pinedale Array 125.22 21 PKP PKPdf 05 57 23.9 +2.1
comp=Z,0.8nm,0.8s,baz=90,slow=1.5,SNR=5.0
MSU Marysvale 127.81 26 PKIKP PKPdf 05 57 29.2 +2.3
TXAR Lajitas Array 139.28 24 PKP PKPdf 05 57 50.8 +2.3
comp=Z,0.2nm,0.5s,baz=297,slow=2.0,SNR=3.5
JCT Junction City 139.64 19 *e*PKIKP PKPdf 05 57 51.7 +2.6
PLCA Paso Flores 144.50 200 PKIKP PKPdf 05 57 59.5 +2.1
PLCA pmax pmax
comp=Z,8.0nm,0.9s
PLCA Paso Flores 144.50 200 PKP PKPdf 05 57 59.5 +2.1
comp=Z,7.9nm,0.9s,baz=186,slow=5.9,SNR=12
TEIG Tepich 152.02 5 PKP PKPdf 05 58 11.6 +1.6

*CSEM **28** 05:42:40.9±0.2, 50.31N×19.25E, h2km, ML2.7, Error ellipse: s-maj=4.9km s-min=1.5km az=179.0*
*NEIC **28** 05:42:41.6±0.7, 50.10N×19.32E, h5km, ML2.7(VIE), Error ellipse: s-maj=14.7km s-min=6.9km az=167.0*
*PRU **28** 05:42:43.3, 50.16N×19.12E*
WAR 28 05:42:42.2, 50.16N×19.32E, h0km, ML2.5, 1C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.32**	**79**	*e*PG	Pg	05 42 48.0	-0.5
OJC				*i* SG	Sg	05 42 52.6	-0.1
OJC	**Ojcow**	**0.32**	**79**	*e*Pg	Pg	05 42 47.9	-0.6
OJC				*e*Sg	Sg	05 42 52.6	-0.1
OKC	**Ostrava-Krasne**	**0.82**	**247**	*e*PG	Pg	05 42 57.2	-1.4
OKC				*e*SG	Sg	05 43 08.4	-1.1
	27nm,0.2s						
NIE	**Niedzica**	**0.98**	**139**	*e*PG	Pg	05 43 00.0	-1.9
NIE				*e*SG	Sg	05 43 16.0	+1.0
MORC	**Moravsky Berou**	**1.21**	**252**	*e*Pg	Pg	05 43 04.0	-2.4
MORC				*e*Sg	Sg	05 43 19.8	-2.6
MORC	**Moravsky Berou**	**1.21**	**252**	*e*Pg	Pg	05 43 04.0	-2.3
MORC				*e*Sg	Sg	05 43 19.8	-2.6
VYHS	**Vyhne**	**1.70**	**191**	*e*PN	Pn	05 43 11.4	-1.8
VYHS				*e*SN	Sn	05 43 33.9	-2.1
CRVS	**Cervenica-Dubn**	**1.88**	**131**	*e*Pn	Pn	05 43 17.5	+1.6
CRVS				*e*Sn	Sn	05 43 43.3	+2.7
DPC	**Dobruska-Polom**	**1.93**	**277**	*e*PG	Pg	05 43 14.2	-6.5
DPC				*e*SG	Sg	05 43 39.3	-7.2
	20nm,0.2s						
VRAC	**Vranov**	**1.96**	**245**	*e*Pn	Pn	05 43 15.9	-1.1
KSP	**Ksiaz**	**2.05**	**291**	*e*PG	Pg	05 43 21.0	-2.1
KSP				*e*SN	Sn	05 43 46.0	+1.2
KSP	**Ksiaz**	**2.05**	**291**	*e*Pn	Pn	05 43 17.5	-0.7
KSP				*e*Pg	Pg	05 43 21.0	-2.1
KSP				*e*Sg	Sg	05 43 45.6	-4.8
KSP	**Ksiaz**	**2.05**	**291**	*e*Sg	Sg	05 43 45.6	-4.8
KSP	**Ksiaz**	**2.05**	**291**	*e*Pg	Pg	05 43 21.0	-2.1
UPC	**Upice**	**2.15**	**281**	*e*SG	Sg	05 43 47.2	-6.4
KWP	**Kalwaria**	**2.26**	**102**	Pn	Pn	05 43 19.3	-1.9
KOLS	**Kolonicke sedl**	**2.29**	**121**	*e*PG	Pg	05 43 25.8	-2.0
KOLS				*e*SN	Sn	05 43 48.1	-2.8
PRU	**Pruhonice**	**3.08**	**269**	*e*SG	Sg	05 44 15.8	-9.0
KHC	**Kasperske Hory**	**3.87**	**257**	*e*PN	Pn	05 43 39.5	-4.7
KHC				*e*PG	Pg	05 43 49.0	-10
KHC				*e*SG	Sg	05 44 41.8	-9.2
KHC	**Kasperske Hory**	**3.87**	**257**	*e*Pg	Pg	05 43 49.0	-10
KHC	**Kasperske Hory**	**3.87**	**257**	*e*Pn	Pn	05 43 39.5	-4.7
KHC				*e*Sg	Sg	05 44 41.8	-9.2
MOA	**Molln**	**4.05**	**237**	⇑*i*PN	Pn	05 43 43.6	-3.2
MOA				*i* SG	Sg	05 44 50.8	-6.2
	2.6nm,0.4s						
CLL	**Collm**	**4.17**	**288**	*e*SG	Sg	05 44 54.0	-7.1

*IGQ **28** 05:45:40.4±1.32S×81.44W, h5km±4km, mb4.8, Error ellipse: s-maj=6.5km s-min=4.0km az=12.6*
*IDC **28** 05:46:00.7±1.4, 0.04N×81.24W, mb3.8/5, mb1 4.1/7, mb1mx3.9/20, mbtmp4.0/7, ML2.9/2, Error ellipse: s-maj=40.3km s-min=26.3km az=57.0*
ISC 28 05:45:49.4±1.0, 1.26S±0.07×80.96W±0.07, h10km, n30, σ0§98/35, mb3.6/3, 7C-4D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.47**	**63**	⇑P	**Pg**	**05 45 57.9**	**-0.9**
JAMA	**Jama**	**1.25**	**37**	⇑P	**Pb**	**05 46 11.0**	**-1.6**
JAMA				S	**Sb**	**05 46 29.1**	**+0.5**
MAGD	**Magdalena**	**1.68**	**45**	⇓P	**Pn**	**05 46 18.8**	**-0.2**
IGUA	**Igualata**	**2.34**	**96**	⇓P	**Pn**	**05 46 27.7**	**-0.7**
CUSU	**Cusua**	**2.49**	**94**	P	**Pn**	**05 46 31.0**	**+0.4**
JUIV	**Juive**	**2.50**	**94**	P	**Pn**	**05 46 30.7**	**-0.1**
ARRY	**Arrayan**	**2.52**	**96**	⇓P	**Pn**	**05 46 30.4**	**-0.7**
RETU	**Refugio**	**2.52**	**94**	P	**Pn**	**05 46 31.4**	**+0.3**
MARY	**Rancho Maria**	**2.53**	**78**	P	**Pn**	**05 46 31.4**	**+0.2**
MARY				S	**Sn**	**05 47 07.3**	**+4.9**
PATA	**Patacocha**	**2.54**	**95**	⇑P	**Pn**	**05 46 32.3**	**+0.9**
RUN2	**Runtun**	**2.56**	**94**	P	**Pn**	**05 46 31.3**	**-0.2**
NAS1	**Nasa**	**2.56**	**76**	⇑P	**Pn**	**05 46 31.4**	**-0.4**
JUA2	**San Juan 2**	**2.58**	**66**	P	**Pn**	**05 46 30.8**	**-1.2**
PISA	**Pisayambo**	**2.59**	**86**	P	**Pn**	**05 46 31.9**	**-0.2**
PISA				S	**Sn**	**05 47 05.6**	**+1.8**
TERV	**Terraza Guagua**	**2.59**	**65**	P	**Pn**	**05 46 31.5**	**-0.6**
PINO	**Pino**	**2.60**	**65**	P	**Pn**	**05 46 31.6**	**-0.6**
VC1	**Cotopaxi 1**	**2.63**	**77**	P	**Pn**	**05 46 32.4**	**-0.3**
JOR1	**San Jorge 1**	**2.64**	**62**	P	**Pn**	**05 46 31.3**	**-1.5**
YANA	**Yana**	**2.65**	**65**	⇑P	**Pn**	**05 46 31.8**	**-1.1**
TAMB	**Tambo**	**2.66**	**78**	P	**Pn**	**05 46 32.7**	**-0.4**
ANTI	**Antisana**	**2.92**	**74**	⇑P	**Pn**	**05 46 36.7**	**0.0**
COTA	**Cotacachi**	**3.07**	**59**	⇓P	**Pn**	**05 46 38.7**	**-0.2**
CAYR	**Refugio Cayamb**	**3.22**	**67**	P	**Pn**	**05 46 43.8**	**+2.8**
CAYR				S	**Sn**	**05 47 26.7**	**+6.9**
CAYA	**Cayambe**	**3.25**	**66**	⇑P	**Pn**	**05 46 42.9**	**+1.3**
CAYA				S	**Sn**	**05 47 28.3**	**+7.5**
CONE	**Cono NE Rev Vo**	**3.53**	**70**	P	**Pn**	**05 46 49.1**	**+3.7**
ROSC	**El Rosal**	**8.99**	**47**	Pn	**P**	**05 48 04.2**	**+1.9**
	1.9nm,0.3s,baz=255,slow=4.0,SNR=14						
SDV	**Santo Domingo**	**14.41**	**45**	Pn	**P**	**05 49 16.5**	**+0.8**
	0.1nm,0.3s,baz=229,slow=19,SNR=3.0						
TXAR	**Lajitas Array**	**37.38**	**326**	P	**P**	**05 53 04.6**	**+0.3**
	0.4nm,0.9s,mb3.2,baz=138,slow=12,SNR=2.9						
ANMO	**Albuquerque**	**43.21**	**329**	P	**P**	**05 53 52.5**	**-0.1**
	0.4nm,0.5s,mb3.5,baz=142,slow=11,SNR=2.6						
YKA	**Yellowknife Ar**	**68.46**	**344**	P	**P**	**05 56 56.8**	**+3.2**
	1.6nm,0.9s,mb4.0,baz=133,slow=6.0,SNR=23						

*BJI **28** 05:49:07.6, 7.09N×93.87E, h30km, mB5.2, mb4.6, Ms4.9, Msz4.5*
*IDC **28** 05:49:10.3±0.8, 7.81N×93.94E, mb4.2/15, mb1 4.3/16, mb1mx4.2/20, mbtmp4.1/16, ML3.9/1, MS3.8/1, Ms1 4.0/1, ms1mx2.6/26, Error ellipse: s-maj=34.5km s-min=18.5km az=50.0*
*NEIC **28** 05:49:15.2±0.5, 7.83N×93.96E, h30km, mb4.6/8, Error ellipse: s-maj=14.5km s-min=10.2km az=63.0*
ISC 28 05:49:13.7±0.7, 7.8N±0.1×94.0E±0.1, h33km, n31, σ1§01/27, mb4.3/21, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.62**	**24**	Pn	**P**	**05 51 58.9**	**-1.4**
	0.2nm,0.3s,baz=212,slow=14,SNR=16						
CMAR				LR	LR	05 57 26.2	
	comp=Z,438nm,18.4s,baz=215,slow=43						
HYB	**Hyderabad**	**17.80**	**304**	*i* P	**P**	**05 53 25.0**	**+4.4**
KMI	**Kunming**	**19.13**	**25**	⇑P	**P**	**05 53 39.8**	**+3.0**
	23nm,1.3s						
LSA	**Lhasa**	**21.92**	**353**	*e*P	**P**	**05 54 05.8**	**-0.1**
	31nm,1.0s,mb4.7						
BJI	**Beijing**	**37.73**	**28**	P	**P**	**05 56 30.5**	**+2.4**
	9.0nm,0.9s,mb4.5						
SONM	**Songino Array**	**41.24**	**13**	P	**P**	**05 56 57.1**	**-0.1**
	2.8nm,1.0s,mb3.9,baz=196,slow=7.4,SNR=13						
KURK	**Kurchatov**	**44.62**	**346**	*e*P	**P**	**05 57 24.4**	**-0.3**
	19nm,1.2s,mb4.8						
ZAL	**Zalesovo**	**46.57**	**353**	P	**P**	**05 57 39.8**	**-0.3**
	2.9nm,0.4s,mb4.6,baz=298,slow=8.0,SNR=17						
WRA	**Warramunga Arr**	**48.37**	**125**	P	**P**	**05 57 54.6**	**-0.1**
	1.2nm,0.6s,mb4.1,baz=304,slow=8.8,SNR=5.9						
BVAR	**Borovoye Array**	**48.98**	**341**	P	**P**	**05 57 58.2**	**-0.8**
	3.3nm,1.0s,mb4.3,baz=149,slow=8.6,SNR=9.3						
BRVK	**Borovoye**	**49.04**	**341**	*e*P	**P**	**05 57 58.9**	**-0.5**
	2.6nm,0.8s,mb4.3						
CHKZ	**Chkalovo**	**49.47**	**342**	*e*P	**P**	**05 58 02.4**	**-0.3**
	13nm,1.1s,mb4.9						
ASAR	**Alice Springs**	**50.01**	**130**	P	**P**	**05 58 06.1**	**-1.2**
	0.6nm,0.9s,mb3.6,baz=287,slow=7.6,SNR=3.6						
KIV	**Kislovodsk**	**57.24**	**318**	*e*P	**P**	**05 59 00.7**	**+0.3**
	11nm,0.9s,mb4.9						
KMBO	**Kilima Mbogo**	**57.25**	**264**	P	**P**	**05 59 04.7**	**+3.9**
	2.1nm,0.8s,mb4.2,baz=47,slow=8.8,SNR=6.9						
KMBO	**Kilima Mbogo**	**57.25**	**264**	P	**P**	**05 59 04.7**	**+3.9**
BRTR	**Keskin Array B**	**62.33**	**311**	P	**P**	**05 59 34.2**	**-1.1**
	0.9nm,0.7s,mb4.0,baz=124,slow=8.9,SNR=5.9						
AKASG	**Malin Array Be**	**68.09**	**322**	P	**P**	**06 00 11.1**	**-1.1**
	1.3nm,0.7s,mb4.1,baz=94,slow=4.7,SNR=9.4						
MLR	**Muntele Rosu**	**69.09**	**316**	P	**P**	**06 00 18.2**	**-0.3**
	7.0nm,1.1s,mb4.5,baz=90,slow=7.9,SNR=5.4						
FINES	**FINESS Array B**	**72.67**	**332**	P	**P**	**06 00 39.1**	**-0.7**
	5.6nm,1.0s,mb4.5,baz=119,slow=5.2,SNR=7.1						
ARCES	**ARCESS Array B**	**75.25**	**340**	P	**P**	**06 00 54.5**	**-0.2**
	2.1nm,0.8s,mb4.1,baz=79,slow=6.2,SNR=5.6						
GERES	**GERESS Array B**	**77.75**	**318**	P	**P**	**06 01 10.4**	**+1.3**
	1.8n

NB2	NORSAR Subarra	79.69	331	P		P	06 01 20.8 +1.3
	1.1nm,0.6s,mb4.0,baz=96,slow=5.0						
NOA	NORSAR Array B	79.69	331	P		P	06 01 20.4 +0.9
	3.1nm,1.0s,mb4.2,baz=98,slow=5.4,SNR=4.4						
IMA	Indian Mountai	91.73	22	*e*P		P	06 02 20.1 +1.2
ILAR	Eielson Array	94.85	22	P		P	06 02 33.8 +0.6
	0.8nm,1.0s,mb4.1,baz=284,slow=4.4,SNR=5.7						
PDAR	Pinedale Array	125.27	21	PKP	PKPdf		06 08 14.2 +2.6
	0.4nm,0.7s,baz=63,slow=4.0,SNR=3.4						
TXAR	Lajitas Array	139.34	24	PKP	PKPdf		06 08 40.1 +1.8
	0.1nm,0.4s,baz=50,slow=0.6,SNR=5.8						
PLCA	Paso Flores	144.45 200		PKP	PKPdf		06 08 50.0 +3.0
	2.9nm,0.8s,baz=208,slow=5.8,SNR=6.5						
PLCA	Paso Flores	144.45 200		PKP	PKPdf		06 08 50.0 +3.0

*IDC **28** 05:50:18.7±0.8, 7.80N×94.02E, mb4.1/14, mb1 4.3/15, mb1mx4.2/21, mbtmp4.1/15, ML4.4/1, Error ellipse: s-maj=35.6km s-min=17.1km az=50.0*
*NEIC **28** 05:50:23.2±0.4, 7.75N×94.16E, h30km, mb4.6/9, Error ellipse: s-maj=12.5km s-min=9.6km az=57.0*
*BJI **28** 05:50:24.7, 7.99N×93.35E, h29km, mB5.6, mb4.4, Ms4.5, Msz4.6*

ISC 28 05:50:23.3±3.0, 7.8N±0.1×94.2E±0.1, h48km±26km, n33, σ0°89/29, mb4.3/23, MS4.5/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.57	23	Pn	P	05 53 07.7	-1.0
	0.8nm,0.3s,baz=209,slow=14,SNR=4.9						
HYB	Hyderabad	18.00	304	*e*P	P	05 54 33.5	+1.6
HYB	Hyderabad	18.00	304	*i* P	P	05 54 33.5	+1.6
LZH	Lanzhou	29.52	16	*e*P	P	05 56 27.0	+1.5
LZH				AMB	AMB		
	comp=Z,24nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,896nm,4.5s						
LZH				LR	LR		
	comp=E,569nm,13.0s						
LZH				LR	LR		
	comp=Z,896nm,14.5s,MS4.5						
LZH	Lanzhou	29.52	16	*e*P	P	05 56 27.0	+1.5
	comp=Z,24nm,1.5s,mb4.7						
LZH				pP	pP	05 56 31.5	-6.5
LZH				sP	sP	05 56 34.1	-10
LZH				LR	LR		
	comp=Z,900nm,14.5s,MS4.5						
SONM	Songino Array	41.24	12	P	P	05 58 03.9	-1.4
	comp=Z,2.5nm,0.9s,mb3.8,baz=196,slow=9.0,SNR=6.1						
SONM				PcP	PcP	06 00 05.1	+1.0
	comp=Z,0.9nm,1.0s,baz=202,slow=5.2,SNR=2.5						
KURK	Kurchatov	44.71	346	*e*P	P	05 58 33.4	-0.1
	comp=Z,22nm,1.3s,mb4.8						
ZAL	Zalesovo	46.64	352	P	P	05 58 49.6	+0.9
	comp=Z,5.8nm,0.8s,mb4.6,baz=301,slow=5.6,SNR=7.7						
WRA	Warramunga Arr	48.17	126	P	P	05 59 01.0	-0.2
	comp=Z,2.2nm,0.6s,mb4.3,baz=305,slow=8.6,SNR=3.7						
WRAB	Tennant Creek	48.17	125	*e*P	P	05 59 01.0	-0.3
	comp=Z,5.2nm,0.7s,mb4.7						
BVAR	Borovoye Array	49.09	341	P	P	05 59 07.8	-0.1
	comp=Z,2.4nm,0.9s,mb4.2,baz=158,slow=8.0,SNR=5.5						
BVAR				PcP	PcP	06 00 31.0	-0.2
	comp=Z,0.7nm,0.8s,baz=153,slow=6.4,SNR=2.0						
BRVK	Borovoye	49.15	341	*e*P	P	05 59 08.1	-0.2
	comp=Z,2.0nm,0.4s,mb4.5						
CHKZ	Chkalovo	49.57	342	*e*P	P	05 59 11.3	-0.3
	comp=Z,12nm,0.9s,mb4.9						
ASAR	Alice Springs	49.82	130	P	P	05 59 14.6	+0.7
	comp=Z,1.9nm,0.7s,mb4.3,baz=302,slow=7.1,SNR=8.4						
ASAR				PcP	PcP	06 00 37.0	+2.7
	comp=Z,1.5nm,0.8s,baz=305,slow=4.1,SNR=5.9						
KMBO	Kilima Mbogo	57.47	264	*e*P	P	06 00 09.8	-0.6
	comp=Z,2.5nm,0.8s,mb4.3						
BRTR	Keskin Array B	62.52	311	P	P	06 00 43.4	-1.3
	comp=Z,0.6nm,0.5s,mb4.0,baz=117,slow=6.4,SNR=2.4						
AKASG	Malin Array Be	68.25	322	P	P	06 01 19.8	-1.5
	comp=Z,1.6nm,0.8s,mb4.1,baz=88,slow=5.1,SNR=3.5						
MLR	Muntele Rosu	69.27	316	P	P	06 01 26.4	-1.2
	comp=Z,1.9nm,0.7s,mb4.1,baz=180,slow=13,SNR=2.2						
JOF	Joensuu	70.95	334	*ep*	P	06 01 42.3	+4.8
	comp=Z,4.3nm,0.6s,mb4.6						
FINES	FINESS Array B	72.81	332	P	P	06 01 48.2	-0.4
	comp=Z,1.6nm,0.6s,mb4.1,baz=113,slow=6.5,SNR=5.8						
FINES	FINESS Array B	72.81	332	P	P	06 01 48.2	-0.4
KAF	Kangasniemi	72.89	333	*ep*	P	06 01 49.6	+0.6
	comp=Z,2.4nm,0.6s,mb4.3						
LBTB	Lobatse	74.25	241	P	P	06 01 57.6	-0.1
	comp=Z,5.6nm,0.9s,mb4.5						
ARCES	ARCESS Array B	75.37	340	P	P	06 02 03.5	+0.3
	comp=Z,4.8nm,0.9s,mb4.4,baz=82,slow=6.4,SNR=3.2						
GERES	GERESS Array B	77.93	318	P	P	06 02 18.9	+0.9
	comp=Z,1.3nm,0.8s,mb3.9,baz=112,slow=5.3,SNR=2.9						
HFS	Hagfors	78.56	330	P	P	06 02 21.3	0.0
	comp=Z,2.0nm,0.6s,mb4.2,baz=108,slow=4.7,SNR=4.5						
NB2	NORSAR Subarra	79.83	331	P	P	06 02 28.7	+0.5
	comp=Z,4.8nm,0.8s,mb4.5,baz=93,slow=5.6						
NOA	NORSAR Array B	79.83	331	P	P	06 02 28.9	+0.7
	comp=Z,1.8nm,0.8s,mb4.0,baz=97,slow=5.6,SNR=4.3						
ILAR	Eielson Array	94.81	22	P	P	06 03 42.4	+1.6
	comp=Z,0.3nm,0.9s,mb3.7,baz=243,slow=4.0,SNR=3.1						
PDAR	Pinedale Array	125.23	21	PKP	PKPdf		06 09 21.1 +1.9
	comp=Z,0.3nm,0.6s,baz=333,slow=2.0,SNR=2.3						
TXAR	Lajitas Array	139.28	24	PKP	PKPdf		06 09 48.7 +2.8
	comp=Z,0.2nm,0.6s,baz=214,slow=3.3,SNR=2.6						
TXAR	Lajitas Array	139.28	24	PKP	PKPdf		06 09 48.7 +2.7
PLCA	Paso Flores	144.48 200		PKP	PKPdf		06 09 58.7 +3.9
	comp=Z,5.2nm,0.9s,baz=182,slow=1.8,SNR=8.8						

*IDC **28** 05:52:40.9±0.8, 7.98N×94.28E, mb4.1/14, mb1 4.3/15, mb1mx4.2/21, mbtmp4.1/15, ML4.3/1, Error ellipse: s-maj=28.2km s-min=18.8km az=51.0*
*NEIC **28** 05:52:45.5±0.4, 8.01N×94.33E, h30km, mb4.6/5, Error ellipse: s-maj=13.4km s-min=8.8km az=60.0*

ISC 28 05:52:44.0±0.6, 8.0N±0.1×94.4E±0.1, h33km, n26, σ0°77/23, mb4.3/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.28	23	Pn	P	05 55 25.3	-0.7
	0.6nm,0.3s,baz=222,slow=12,SNR=3.6						
HYB	Hyderabad	18.01	303	*i* P	P	05 56 58.0	+4.4
SONM	Songino Array	40.96	12	P	P	06 00 26.3	+1.1
	0.9nm,0.9s,mb3.4,baz=195,slow=6.0,SNR=2.5						
SONM				PcP	PcP	06 02 27.4	+1.7
	0.5nm,0.5s,baz=209,slow=3.7,SNR=3.6						
KURK	Kurchatov	44.51	346	*e*P	P	06 00 54.7	+0.5
	7.2nm,1.1s,mb4.4						
ZAL	Zalesovo	46.42	352	P	P	06 01 10.0	+0.7
	1.2nm,0.4s,mb4.2,baz=170,slow=6.1,SNR=3.0						
WRA	Warramunga Arr	48.17	126	P	P	06 01 23.1	-0.4
	1.3nm,0.5s,mb4.2,baz=305,slow=8.5,SNR=5.2						
WRAB	Tennant Creek	48.17	126	*e*P	P	06 01 23.8	+0.2
	3.3nm,0.4s,mb4.7						
BVAR	Borovoye Array	48.91	341	P	P	06 01 28.4	-0.4
	1.9nm,1.0s,mb4.1,baz=141,slow=9.2,SNR=3.3						
BRVK	Borovoye	48.97	341	P	P	06 01 29.4	+0.2
	4.3nm,1.0s,mb4.4						
CHKZ	Chkalovo	49.39	342	*e*P	P	06 01 31.7	-0.7
	7.5nm,0.9s,mb4.7						
ASAR	Alice Springs	49.85	130	P	P	06 01 36.1	-0.2
	1.1nm,0.6s,mb4.0,baz=304,slow=6.5,SNR=4.9						
KMBO	Kilima Mbogo	57.66	264	P	P	06 02 34.7	+0.7
	3.0nm,0.8s,mb4.4,baz=57,slow=11,SNR=7.3						
KMBO	Kilima Mbogo	57.66	264	P	P	06 02 34.7	+0.7
BRTR	Keskin Array B	62.49	311	P	P	06 03 05.4	-1.4
	1.1nm,0.6s,mb4.2,baz=129,slow=6.6,SNR=4.4						
AKASG	Malin Array Be	68.17	322	P	P	06 03 41.5	-1.5
	2.5nm,0.8s,mb4.3,baz=88,slow=5.1,SNR=5.9						
MLR	Muntele Rosu	69.21	316	P	P	06 03 49.2	-0.3
	5.6nm,0.8s,mb4.5,baz=42,slow=5.5,SNR=4.3						
FINES	FINESS Array B	72.67	332	P	P	06 04 09.6	-0.5
	4.1nm,0.9s,mb4.4,baz=143,slow=9.5,SNR=4.0						
ARCES	ARCESS Array B	75.19	340	P	P	06 04 26.1	+1.5
	1.4nm,0.7s,mb4.0,baz=90,slow=4.9,SNR=4.4						
GERES	GERESS Array B	77.86	318	P	P	06 04 40.5	+0.4
	2.5nm,0.8s,mb4.2,baz=90,slow=5.3,SNR=8.0						
KHC	Kasperske Hory	77.95	318	*e*P	P	06 04 40.0	-0.5
HFS	Hagfors	78.43	330	P	P	06 04 43.8	+0.9
	3.6nm,0.9s,mb4.3,baz=112,slow=7.8,SNR=4.4						
NB2	NORSAR Subarra	79.70	331	P	P	06 04 50.6	+0.7
	6.7nm,1.0s,mb4.5,baz=90,slow=5.3						
NOA	NORSAR Array B	79.70	331	P	P	06 04 50.1	+0.3
	1.4nm,0.9s,mb3.9,baz=97,slow=5.7,SNR=3.5						
PDAR	Pinedale Array	124.94	21	PKP	PKPdf		06 11 42.6 +1.4
	0.7nm,0.8s,baz=45,slow=2.1,SNR=4.4						
TXAR	Lajitas Array	138.99	24	PKP	PKPdf		06 12 11.8 +3.7
	0.3nm,0.5s,baz=131,slow=0.7,SNR=4.5						
PLCA	Paso Flores	144.78 200		PKP	PKPdf		06 12 19.8 +2.0
	3.4nm,0.8s,baz=200,slow=3.3,SNR=7.5						

*IDC **28** 05:56:43.6±0.9, 7.69N×93.94E, mb4.0/13, mb1 4.1/14, mb1mx4.0/20, mbtmp3.9/14, ML4.1/1, Error ellipse: s-maj=38.1km s-min=19.1km az=51.0*
*NEIC **28** 05:56:48.7±0.6, 7.73N×94.09E, h30km, mb4.4/5, Error ellipse: s-maj=17.8km s-min=12.6km az=72.0*

ISC 28 05:56:43.3±0.8, 7.6N±0.1×94.0E±0.1, h10km, n24, σ0°85/21, mb4.1/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.80	24	Pn	P	05 59 34.9	0.0
	0.3nm,0.3s,baz=213,slow=15,SNR=3.6						
CMAR	Chiang Mai Arr	11.80	24	Pn	P	05 59 34.9	0.0
LSA	Lhasa	22.11	354	*e*P	P	06 01 42.6	+2.0
	17nm,0.8s,mb4.5						
SONM	Songino Array	41.44	13	P	P	06 04 30.7	-1.0
	0.3nm,0.4s,mb3.3,baz=190,slow=8.8,SNR=2.8						
KURK	Kurchatov	44.80	346	*e*P	P	06 04 59.6	+0.6
	11nm,1.3s,mb4.5						
ZAL	Zalesovo	46.76	353	P	P	06 05 13.6	-0.9
	1.3nm,0.5s,mb4.1,baz=333,slow=6.1,SNR=4.8						
WRA	Warramunga Arr	48.27	125	P	P	06 05 27.5	+0.6
	2.1nm,1.1s,mb4.1,baz=308,slow=9.2,SNR=5.8						
BVAR	Borovoye Array	49.16	341	P	P	06 05 32.8	-0.4
	1.4nm,0.9s,mb4.0,baz=158,slow=8.0,SNR=4.1						
BRVK	Borovoye	49.22	341	*e*P	P	06 05 34.1	+0.4
	1.5nm,0.6s,mb4.2						
CHKZ	Chkalovo	49.64	342	*e*P	P	06 05 36.1	-0.9
	5.6nm,1.0s,mb4.5						
ASAR	Alice Springs	49.91	130	P	P	06 05 38.9	-0.5
	1.2nm,0.8s,mb4.0,baz=306,slow=7.3,SNR=7.9						
KMBO	Kilima Mbogo	57.21	264	P	P	06 06 37.8	+4.2
	1.8nm,0.7s,mb4.2,baz=57,slow=18,SNR=4.9						
BRTR	Keskin Array B	62.44	311	P	P	06 07 08.2	-0.9
	1.0nm,0.8s,mb4.0,baz=124,slow=7.1,SNR=3.6						
AKASG	Malin Array Be	68.23	322	P	P	06 07 44.9	-1.3
	1.1nm,0.7s,mb4.0,baz=88,slow=4.6,SNR=3.7						
FINES	FINESS Array B	72.84	332	P	P	06 08 13.8	-0.1
	2.1nm,0.8s,mb4.1,baz=90,slow=7.6,SNR=4.4						
FINES	FINESS Array B	72.84	332	P	P	06 08 13.8	-0.1
ARCES	ARCESS Array B	75.43	340	P	P	06 08 29.1	+0.4
	1.5nm,0.7s,mb4.0,baz=45,slow=1.7,SNR=4.2						
GERES	GERESS Array B	77.88	318	P	P	06 08 44.1	+1.2
	1.4nm,0.8s,mb4.0,baz=90,slow=5.3,SNR=7.1						
HFS	Hagfors	78.57	330	P	P	06 08 47.0	+0.5
	5.3nm,0.9s,mb4.5,baz=104,slow=6.1,SNR=8.7						
NB2	NORSAR Subarra	79.85	331	P	P	06 08 53.6	+0.2
	0.7nm,0.6s,mb3.8,baz=97,slow=4.8						
NOA	NORSAR Array B	79.85	331	P	P	06 08 53.6	+0.3
	0.6nm,0.8s,mb3.6,baz=98,slow=4.2,SNR=3.1						
PDAR	Pinedale Array	125.46	21	PKP	PKPdf		06 15 47.6 -0.6
	0.4nm,0.8s,slow=3.0,SNR=4.3						
PLCA	Paso Flores	144.26 200		PKP	PKPdf		06 16 22.7 -0.2
	3.9nm,0.9s,baz=212,slow=4.2,SNR=6.4						
PLCA	Paso Flores	144.26 200		PKP	PKPdf		06 16 22.7 -0.2

*IDC **28** 05:58:24.9±0.9, 7.59N×94.03E, mb4.1/11, mb1 4.3/12, mb1mx4.1/21, mbtmp4.1/12, Error ellipse: s-maj=38.8km s-min=19.5km az=52.0*
*BJI **28** 05:58:29.5, 7.60N×94.10E, h30km, mb4.2*
*NEIC **28** 05:58:29.5±0.5, 7.59N×94.11E, h30km, mb4.5/4, Error ellipse: s-maj=16.8km s-min=10.7km az=66.0*

ISC 28 05:58:28.5±0.8, 7.7N±0.1×94.2E±0.1, h33km, n21, σ0°84/19, mb4.2/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.65	23	Pn	P	06 01 14.8	-0.8
	baz=213,slow=14,SNR=2.9						
LSA	Lhasa	22.09	353	*e*P	P	06 03 25.8	+3.3
	14nm,0.8s,mb4.5						
SONM	Songino Array	41.33	12	P	P	06 06 13.1	+0.3
	2.4nm,0.8s,mb3.9,baz=202,slow=6.7,SNR=7.5						
KURK	Kurchatov	44.81	346	*e*P	P	06 06 41.3	+0.2
	5.7nm,0.7s,mb4.5						
ZAL	Zalesovo	46.74	352	P	P	06 06 57.0	+0.6
	5.7nm,1.1s,mb4.4,baz=298,slow=9.1,SNR=6.5						
WRA	Warramunga Arr	48.09	125	P	P	06 07 06.6	-0.7
	1.4nm,1.1s,mb3.9,baz=305,slow=8.5,SNR=5.6						
BVAR	Borovoye Array	49.19	341	P	P	06 07 14.7	-0.7
	2.8nm,0.8s,mb4.3,baz=135,slow=8.4,SNR=8.9						
BRVK	Borovoye	49.25	341	*e*P	P	06 07 15.7	-0.2
	3.8nm,0.8s,mb4.5						
CHKZ	Chkalovo	49.68	342	*e*P	P	06 07 19.2	0.0
	11nm,0.9s,mb4.9						
ASAR	Alice Springs	49.73	130	P	P	06 07 20.6	+0.7
	0.8nm,0.8s,mb3.8,baz=304,slow=6.5,SNR=2.7						
BRTR	Keskin Array B	62.61	311	P	P	06 08 50.2	-1.8
	1.4nm,0.9s,mb4.1,baz=125,slow=6.2,SNR=4.3						
MLR	Muntele Rosu	69.36	316	P	P	06 09 34.7	-0.3
	3.2nm,1.0s,mb4.2,baz=165,slow=6.5,SNR=3.7						
MLR	Muntele Rosu	69.36	316	P	P	06 09 34.7	-0.3
FINES	FINESS Array B	72.91	332	P	P	06 09 55.9	-0.2
	3.4nm,0.8s,mb4.3,baz=141,slow=12,SNR=5.1						
GERES	GERESS Array B	78.02	318	P	P	06 10 25.4	0.0
	0.9nm,0.8s,mb3.8,baz=90,slow=4.0,SNR=4.2						
CLL	Collm	78.56	321	P	P	06 10 30.0	+1.7
CLL				*e*PP	pP	06 10 39.0	+0.3
HFS	Hagfors	78.66	330	P	P	06 10 29.0	+0.3
	2.3nm,0.6s,mb4.3,baz=108,slow=4.7,SNR=4.8						
NB2	NORSAR Subarra	79.93	331	P	P	06 10 35.4	-0.2
	0.2nm,0.7s,mb3.2,baz=91,slow=5.8						
NOA	NORSAR Array B	79.93	331	P	P	06 10 35.8	+0.1
	1.2nm,0.7s,mb4.0,baz=91,slow=5.6,SNR=4.7						
PLCA	Paso Flores	144.40 200		PKP	PKPdf		06 18 03.0 +1.3
	1.4nm,0.9s,baz=131,slow=5.5,SNR=3.5						
PLCA	Paso Flores	144.40 200		PKP	PKPdf		06 18 03.0 +1.3

*IDC **28** 06:02:29.2±0.5, 8.11N×94.20E, mb4.5/26, mb1 4.6/27, mb1mx4.5/29, mbtmp4.5/27, ML4.6/1, MS4.4/1, Ms1 4.6/1, ms1mx3.3/21, Error ellipse: s-maj=22.4km s-min=11.6km az=49.0, Putative timing error at LPAZ*
*MOS **28** 06:02:32.5±1.3, 7.94N×94.00E, h33km, mb4.9/51, Error ellipse: s-maj=10.5km s-min=5.8km az=110.9*
*BJI **28** 06:02:32.6, 7.87N×93.86E, h34km, mB5.0, mb4.8, Ms5.1, Msz4.7*
*NEIC **28** 06:02:33.4±0.3, 7.88N×94.01E, h30km, mb4.8/39, Error ellipse: s-maj=8.5km s-min=6.9km az=218.0*

ISC 28 06:02:31.7±0.3, 7.92N±0.05×94.06E±0.05, h30km, n171, σ1°26/165, mb4.7/66, MS4.7/1, 4C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.50	24	P	P	06 05 15.4	-1.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,2μm,18.4s						
CMAR	Chiang Mai Arr	11.50	24	Pn	P	06 05 15.4	-1.8
	comp=Z,1.1nm,0.3s,baz=212,slow=14,SNR=41						
CMAR				LR	LR	06 09 49.2	
	comp=Z,2μm,18.4s,baz=220,slow=39						
PALK	Pallekele	13.26	268	Pn	P	06 05 37.6	-3.1
BWNR	Bhubaneshwar	14.68	328	*e*P	P	06 05 55.6	-3.7
BWNR				*e*		06 05 57.5	
	comp=Z,35nm,0.3s						
IMP	Imphal	16.77	360	*e*	P	06 06 23.4	-2.9
IMP				*e*		06 10 51.5	
BOK	Bokaro	17.63	335	⇑*i*P	P	06 06 38.5	+1.5
BOK				*i*		06 11 01.5	
HYB	Hyderabad	17.82	303	*e*P	P	06 06 40.0	+0.6
HYB				*e*S	S	06 09 48.0	-6.5
HYB				pmax	pmax		
	comp=Z,40nm,1.0s						
HYB	Hyderabad	17.82	303	*e*P	P	06 06 40.0	+0.6
	comp=Z,40nm,1.0s						
HYB				*e*S	S	06 09 48.0	-6.5
HYB	Hyderabad	17.82	303	*i* P	P	06 06 40.0	+0.6
	comp=Z,40nm,1.0s						
HYB				*e*		06 09 48.0	
HYB				*e*S	S	06 10 02.0	+7.5
QIZ	Qiongzhong	18.89	53	P	P	06 06 54.5	+2.0
QIZ	Qiongzhong	18.89	53	*e*P	P	06 06 51.6	-0.9
	comp=Z,82nm,1.3s						
KMI	Kunming	19.01	25	⇑P	P	06 06 55.7	+1.8
KMI				pmax	pmax		
	comp=Z,23nm,0.9s						
KMI	Kunming	19.01	25	⇑P	P	06 06 55.7	+1.8
	comp=Z,23nm,0.9s						
KMI				pP		06 07 02.6	
KAD	Karad	21.51	298	*e*P	P	06 07 14.5	-6.0
KAD				*e*S	S	06 11 21.5	+9.2
LSA	Lhasa	21.84	353	P	P	06 07 26.3	+2.5
LSA				PCP	PcP	06 11 19.8	-3.7
LSA				S	S	06 11 25.5	+7.1
LSA				XS		06 11 38.5	
LSA				PCS		06 14 58.8	
LSA				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
BHPL	Bhopal	22.07	316	*e*P	P	06 07 27.2	+1.1
BHPL				*e*		06 07 28.1	
	comp=Z,38nm,0.7s						
BHPL				*i*		06 11 52.5	
NDI	New Delhi	26.06	325	*e*P	P	06 08 05.0	+0.5
ENH	Enshi	26.52	31	*e*P	P	06 08 08.1	-0.7
	comp=Z,32nm,1.1s,mb4.8						
XAN	Xi'an	29.39	26	P	P	06 08 33.0	-1.7
XAN				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.7						
LZH	Lanzhou	29.43	16	*e*P	P	06 08 37.0	+1.9
LZH				AP	pP	06 08 46.5	+2.6
LZH				XP	sP	06 08 50.0	+2.2
LZH				AMB	AMB		
	comp=Z,28nm,1.8s,mb4.7						
LZH	Lanzhou	29.43	16	*e*P	P	06 08 37.1	+2.0
LZH				*PP	pP	06 08 46.4	+2.5
LZH				*SP	sP	06 08 50.0	+2.2
LZH				pmax	pmax		
	comp=Z,28nm,1.8s,mb4.7						
LZH	Lanzhou	29.43	16	*e*P	P	06 08 37.1	+2.0
	comp=Z,28nm,1.8s,mb4.7						
LZH				pP	pP	06 08 46.4	+2.5
LZH				sP	sP	06 08 50.0	+2.2
NJ2	Nanjing	33.29	40	*e*P	P	06 09 16.0	+7.0
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
WMQ	Urumqi	36.20	352	P	P	06 09 35.5	+1.7
WMQ				AP	pP	06 09 45.3	+2.6
WMQ				XP	sP	06 09 49.3	+2.8
WMQ				PP	PP	06 10 59.3	+2.5
WMQ				PCP	PcP	06 12 00.3	+1.2
WMQ				AMB	AMB		
	comp=Z,64nm,1.5s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,302nm,5.6s						
WMQ				LR	LR		
	comp=N,721nm,18.3s,MS4.7						
WMQ				LR	LR		
	comp=E,819nm,18.4s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,18.7s,MS4.7						
BJT	Baijiatuan	37.58	28	*e*P	P	06 09 44.3	-1.2
BJT				pmax	pmax		
	comp=Z,26nm,0.9s						
BJT	Baijiatuan	37.58	28	*e*P	P	06 09 44.3	-1.2
	comp=Z,26nm,0.9s,mb5.0						
BJI	Beijing	37.60	28	P	P	06 09 48.2	+2.6
BJI				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
BJI	Beijing	37.60	28	P	P	06 09 48.2	+2.6
	comp=Z,9.0nm,0.6s,mb4.7						
AAK	Ala-Archa	38.64	337	P	P	06 09 55.1	+0.8
AAK				pmax	pmax		
	comp=Z,38nm,1.5s,mb4.9						
AAK	Ala-Archa	38.64	337	*e*P	P	06 09 55.6	+1.4
	comp=Z,25nm,1.3s,mb4.8						
MKAR	Makanchi Array	40.03	347	*i* P	P	06 10 04.9	-0.9
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SONM	Songino Array	41.14	13	P	P	06 10 14.3	-0.6
	comp=Z,4.3nm,1.0s,mb4.0,baz=192,slow=11,SNR=14						
ULN	Ulaanbaatar	41.31	13	*e*P	P	06 10 15.9	-0.4
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
ULN	Ulaanbaatar	41.31	13	*e*P	P	06 10 15.9	-0.4
	comp=Z,4.8nm,1.0s,mb4.1						
ZAK	Zakamensk	43.02	9	*e*P	P	06 10 30.4	+0.1
ZAK				*e*		06 12 07.8	
KURK	Kurchatov	44.55	346	P	P	06 10 42.0	-0.7
KURK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.7						
KURK	Kurchatov	44.55	346	*e*P	P	06 10 41.9	-0.8
	comp=Z,24nm,1.1s,mb4.9						
MUN	Mundaring	44.96	153	*e*P	P	06 10 47.2	+1.0
	comp=Z,8.4nm,0.9s,mb4.6						
MUN	Mundaring	44.96	153	*e*P	P	06 10 47.2	+1.0
MUN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
KL

KMBO **Kilima Mbogo** 57.35 264 P P 06 12 22.7 +2.7
comp=Z,4.8nm,0.7s,mb4.7,baz=61,slow=11,SNR=16
KMBO **Kilima Mbogo** 57.35 264 *eP* P 06 12 21.5 +1.4
comp=Z,24nm,1.4s,mb5.0
ASF **Jabal al Asfar** 58.13 303 P P 06 12 26.1 +0.8
comp=Z,3.2nm,0.7s,mb4.5,baz=24,slow=5.7,SNR=4.9
MALT **Malatya** 58.38 310 *eP* P 06 12 25.6 -1.3
MALT pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MALT **Malatya** 58.38 310 *eP* P 06 12 25.6 -1.3
comp=Z,4.2nm,0.9s,mb4.5
EIL **Elat** 59.34 300 P P 06 12 34.4 +0.7
comp=Z,18nm,1.2s,mb5.0,baz=76,slow=4.2,SNR=3.5
EIL **Elat** 59.34 300 *eP* P 06 12 32.4 -1.3
comp=Z,15nm,1.1s,mb4.9
YAK **Yakutsk** 59.98 18 *eP* P 06 12 38.1 +0.4
YAK pmax pmax
comp=Z,12nm,0.9s,mb4.9
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.1s
STKA **Stephens Creek** 60.19 134 *eP* P 06 12 38.1 -1.4
comp=E,3.9nm,1.0s,mb4.4
STKA **Stephens Creek** 60.19 134 P P 06 12 38.7 -0.8
comp=E,4.6nm,1.1s,mb4.4,baz=336,slow=13,SNR=4.3
BRTR **Keskin Array B** 62.34 311 P P 06 12 51.8 -2.2
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR **Keskin Array B** 62.34 311 P P 06 12 51.8 -2.2
comp=Z,4.1nm,0.8s,mb4.6,baz=126,slow=7.7,SNR=18
MOS **Moscow** 65.00 329 *eP* P 06 13 16.5 +5.3
MOS pmax pmax
comp=Z,59nm,0.7s,mb5.7
MA2 **Magadan** 66.76 28 P P 06 13 24.1 +1.8
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MA2 **Magadan** 66.76 28 P P 06 13 24.1 +1.7
comp=Z,10.0nm,0.8s,mb4.9
TIXI **Tiksi** 67.21 11⇑ *iP* P 06 13 23.3 -1.7
TIXI pmax pmax
comp=Z,17nm,0.9s,mb5.1
AKASG **Malin Array Be** 68.07 322 P P 06 13 28.4 -2.4
AKASG 06 16 02.2
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG **Malin Array Be** 68.07 322 P P 06 13 28.4 -2.4
comp=Z,2.2nm,0.6s,mb4.4,baz=87,slow=5.0,SNR=17
AKASG PP PP 06 16 02.1 -0.8
comp=Z,0.6nm,0.6s,baz=103,slow=6.7,SNR=5.1
IDI **Anoyia** 68.48 305 P P 06 13 32.9 -0.6
comp=Z,11nm,0.8s,mb4.9,baz=123,slow=8.2,SNR=8.9
MLR **Muntele Rosu** 69.09 316 P P 06 13 35.7 -1.4
MLR pmax pmax
comp=Z,5.0nm,0.8s
MLR **Muntele Rosu** 69.09 316 P P 06 13 35.7 -1.4
comp=Z,4.6nm,0.8s,mb4.5,baz=276,slow=9.2,SNR=11
LSZ **Lusaka** 69.21 250 *eP* P 06 13 38.5 +0.2
LSZ pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
LSZ **Lusaka** 69.21 250 *eP* P 06 13 38.5 +0.1
comp=Z,8.7nm,1.0s,mb4.6
JOF **Joensuu** 70.78 334 *ep* P 06 13 46.5 -0.6
comp=Z,2.0nm,0.4s,mb4.4
KWP **Kalwaria** 71.95 320 *eP* P 06 13 52.9 -1.5
KWP pmax pmax
comp=Z,22nm,1.3s,mb4.9
KWP **Kalwaria** 71.95 320 *eP* P 06 13 52.9 -1.5
comp=Z,22nm,1.3s,mb4.9
KOLS **Kolonicke sedl** 72.12 319 *eP* P 06 13 57.9 +2.5
KOLS *e* 06 18 18.7
FINES **FINESS Array B** 72.64 332 P P 06 13 57.3 -0.9
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES **FINESS Array B** 72.64 332 P P 06 13 57.2 -1.0
comp=Z,3.5nm,0.6s,mb4.4,baz=103,slow=6.3,SNR=14
CRVS **Cervenica-Dubn** 72.65 319 *eP* P 06 13 58.2 -0.3
KAF **Kangasniemi** 72.72 333 *ep* P 06 13 57.9 -0.8
comp=Z,2.6nm,0.6s,mb4.3
KAF **Kangasniemi** 72.72 333 *eP* P 06 13 57.9 -0.8
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
PSZ **Piszkesteto** 73.56 318 *eP* P 06 14 03.6 -0.3
PSZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
PSZ **Piszkesteto** 73.56 318 *eP* P 06 14 03.6 -0.3
comp=Z,3.0nm,0.6s,mb4.4
OJC **Ojcow** 73.89 320 *eP* P 06 14 05.4 -0.4
VYHS **Vyhne** 74.33 318 *eP* P 06 14 06.5 -1.8
KEV **Kevo** 74.77 341 *ep* P 06 14 10.7 +0.2
comp=Z,4.0nm,0.6s,mb4.5
KEV **Kevo** 74.77 341 *eP* P 06 14 10.7 +0.2
KEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
OKC **Ostrava-Krasne** 74.91 319 *eP* P 06 14 13.2 +1.5
ARCES **ARCESS Array B** 75.20 340 P P 06 14 13.0 0.0
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES **ARCESS Array B** 75.20 340 P P 06 14 13.0 0.0
comp=Z,2.0nm,0.5s,mb4.3,baz=97,slow=5.0,SNR=18
MORC **Moravsky Berou** 75.29 319 *eP* P 06 14 13.6 -0.3
MORC pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MORC **Moravsky Berou** 75.29 319 *eP* P 06 14 13.6 -0.2
comp=Z,7.2nm,0.8s,mb4.7
ZST **Bratislava** 75.45 318 *eP* P 06 14 14.9 +0.1
DPC **Dobruska-Polom** 76.13 320 *eP* P 06 14 18.9 +0.3
UPC **Upice** 76.33 320 *eP* P 06 14 21.4 +1.7
PRU **Pruhonice** 77.25 319 *eP* P 06 14 24.8 0.0
PVCC **Panska Ves** 77.26 320 *eP* P 06 14 33.7 +8.8
PVCC **Panska Ves** 77.26 320 *epP* pP 06 14 33.7 -0.7
BRG **Berggiesshubel** 77.67 320 *iP* P 06 14 28.6 +1.5
BRG *e* 06 14 35.6
BRG pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BRG **Berggiesshubel** 77.67 320 *iP* P 06 14 28.6 +1.5
comp=Z,6.6nm,1.0s,mb4.5
BRG *e* 06 14 35.6
GEC2 **GERESS Array S** 77.75 318 *eP* P 06 14 26.9 -0.7
GEC2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
GEC2 **GERESS Array S** 77.75 318 *eP* P 06 14 26.9 -0.7
comp=Z,6.0nm,0.8s,mb4.6
GERES **GERESS Array B** 77.75 318 P P 06 14 27.7 +0.1
GERES pmax pmax
comp=Z,4.0nm,0.6s
GERES **GERESS Array B** 77.75 318 P P 06 14 27.7 +0.1
comp=Z,3.6nm,0.6s,mb4.5,baz=88,slow=5.2,SNR=34
KHC **Kasperske Hory** 77.84 318 *eP* P 06 14 27.0 -1.1
CLL **Collm** 78.28 321 *eP* P 06 14 32.0 +1.5
CLL *e* 06 14 39.0
CLL **Collm** 78.28 321 P P 06 14 32.0 +1.5
CLL *e**SP sP 06 14 39.0 -4.2
CLL *e* 06 14 51.0
WET **Wettzell** 78.30 318 *eP* P 06 14 29.9 -0.7
WET pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
WET **Wettzell** 78.30 318 *eP* P 06 14 29.9 -0.7
comp=Z,4.0nm,0.8s,mb4.4
HFS **Hagfors** 78.38 330 P P 06 14 30.8 0.0
HFS pmax pmax
comp=Z,4.0nm,0.5s
HFS **Hagfors** 78.38 330 P P 06 14 30.8 -0.1
comp=Z,3.9nm,0.5s,mb4.6,baz=90,slow=5.9,SNR=17
MAW **Mawson** 78.56 192 P P 06 14 34.3 +2.6
MAW pmax pmax
comp=Z,13nm,1.3s
MAW **Mawson** 78.56 192 P P 06 14 34.3 +2.6
comp=Z,13nm,1.3s,mb4.7,baz=39,slow=7.6,SNR=6.6
NKC **Novy Kostel** 78.60 320 *eP* P 06 14 36.6 +4.3
GRA1 **Grafenberg Arr** 79.39 319 *eP* P 06 14 36.3 -0.3
comp=Z,10.0nm,0.9s,mb4.8
GRF **Grafenberg Arr** 79.39 319 *eP* P 06 14 36.3 -0.3
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GRF **Grafenberg Arr** 79.39 319 *eP* P 06 14 36.3 -0.3
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GRF **Grafenberg Arr** 79.39 319 *eP* P 06 14 36.3 -0.3
comp=Z,10.0nm,0.9s,mb4.8
NB2 **NORSAR Subarra** 79.66 331 P P 06 14 37.0 -0.8
comp=Z,18nm,1.4s,mb4.8,baz=97,slow=5.0
NB2 **NORSAR Subarra** 79.66 331 P P 06 14 37.0 -0.8
NB2 pmax pmax
comp=Z,18nm,1.4s,mb4.8
NOA **NORSAR Array B** 79.66 331 P P 06 14 37.8 0.0
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA **NORSAR Array B** 79.66 331 P P 06 14 37.8 0.0
comp=Z,2.5nm,0.7s,mb4.3,baz=92,slow=5.7,SNR=7.1
CLZ **Clausthal** 79.93 321 *eP* P 06 14 38.7 -0.7
comp=Z,10.0nm,1.0s,mb4.7
TNS **Taunus Mts** 81.17 320 *eP* P 06 14 45.4 -0.6
BFO **Black Forest** 81.31 318 *eP* P 06 14 45.7 -1.1
BFO pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BFO **Black Forest** 81.31 318 *eP* P 06 14 45.7 -1.1
comp=Z,5.0nm,1.0s,mb4.4
LPG **La Plagne** 82.53 315 *eP* P 06 14 53.3 +0.1
comp=Z,30nm,0.8s,mb5.1
LPG **La Plagne** 82.53 315 *eP* P 06 14 53.3 +0.1
LPG pmax pmax
comp=Z,15nm,0.8s,mb5.1
BNI **Bardonecchia** 82.61 314 *eP* P 06 14 55.6 +2.0
BNI pmax pmax
comp=Z,14nm,0.9s,mb5.0
BNI **Bardonecchia** 82.61 314 *eP* P 06 14 55.6 +2.0
comp=Z,14nm,0.9s,mb5.0
SYO **Syowa Base** 85.42 197 ⇓P P 06 15 10.0 +2.7
EKA **Eskdalemuir Ar** 87.64 325 P P 06 15 20.3 +1.8
EKA pmax pmax
comp=Z,3.0nm,0.7s
EKA **Eskdalemuir Ar** 87.64 325 P P 06 15 20.3 +1.8
comp=Z,2.5nm,0.7s,mb4.6,baz=90,slow=5.7,SNR=6.2
ESDC **Soneaca Array** 91.13 310 P P 06 15 36.1 +0.8
comp=Z,0.5nm,0.4s,mb4.2,baz=61,slow=3.7,SNR=5.5
IMA **Indian Mountai** 91.61 22 *eP* P 06 15 37.8 +1.0
ILAR **Eielson Array** 94.73 22 P P 06 15 51.6 +0.4
comp=Z,0.4nm,0.8s,mb3.9,baz=300,slow=4.7,SNR=4.8
INK **Inuvik** 96.97 16 P P 06 16 02.0 +0.6
INK pmax pmax
comp=Z,6.0nm,1.3s
INK **Inuvik** 96.97 16 P P 06 16 02.0 +0.6
comp=Z,5.9nm,1.2s,mb4.9,baz=358,slow=2.9,SNR=4.7
RES **Resolute Bay** 97.36 2 *eP* P 06 16 05.2 +2.2
RES pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
RES **Resolute Bay** 97.36 2 *eP* P 06 16 05.2 +2.2
comp=Z,6.1nm,1.0s,mb5.0
NVAR **Mina Array Bea** 124.92 31 PKP PKPdf 06 21 32.4 -2.3
comp=Z,1.1nm,0.8s,baz=281,slow=4.1,SNR=3.9
PDAR **Pinedale Array** 125.16 21 PKP PKPdf 06 21 32.0 -2.9
comp=Z,2.1nm,1.1s,baz=336,slow=1.9,SNR=7.9
ANMO **Albuquerque** 133.16 23 PKIKP PKPdf 06 21 49.1 -1.4
ANMO pmax pmax
comp=Z,1.0nm,0.5s
ANMO **Albuquerque** 133.16 23 PKP PKPdf 06 21 49.1 -1.4
comp=Z,0.7nm,0.5s,baz=272,slow=4.1,SNR=5.4
TXAR **Lajitas Array** 139.22 24 PKP PKPdf 06 21 58.8 -3.0
comp=Z,0.3nm,0.5s,baz=211,slow=0.8,SNR=10
PLCA **Paso Flores** 144.56 200 PKIKP PKPdf 06 22 07.2 -3.6
PLCA pmax pmax
comp=Z,10.0nm,0.9s
PLCA **Paso Flores** 144.56 200 PKP PKPdf 06 22 07.2 -3.6
comp=Z,9.5nm,0.9s,baz=174,slow=2.8,SNR=22
PLCA **Paso Flores** 144.56 200 PKP PKPdf 06 22 07.2 -3.6
SDV **Santo Domingo** 157.39 317 PKPab PKPab 06 23 01.5 +1.9
comp=Z,3.6nm,0.7s,baz=5.2,slow=3.5,SNR=4.3
LPAZ **La Paz** 160.72 243 PKP PKPdf 06 21 48.1 -46
comp=Z,0.9nm,0.8s,baz=18,slow=1.1,SNR=3.9
LPAZ PKPab PKPab 06 22 36.0 -38
comp=Z,2.6nm,1.1s,baz=27,slow=2.3,SNR=4.8

IDC 28 06:05:42.1±1.5, 5.85N×94.84E, mb3.9/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.9/4, Error ellipse: s-maj=216.9km s-min=28.1km az=43.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	48.10	129	P	P	06 14 23.8	-2.1
	3.8nm,1.4s,baz=310,slow=7.0,SNR=2.3						
BRTR	**Keskin Array B**	64.27	311	P	P	06 16 18.3	-3.3
	0.9nm,0.7s,baz=135,slow=8.2,SNR=3.7						
GERES	**GERESS Array B**	79.79	318	P	P	06 17 53.9	+0.2
	1.2nm,0.6s,baz=90,slow=5.9,SNR=5.3						
HFS	**Hagfors**	80.54	330	P	P	06 17 56.4	-1.1
	2.6nm,0.8s,baz=124,slow=5.2,SNR=2.8						
TXAR	**Lajitas Array**	140.75	26	PKP	PKPdf	06 25 13.8	-2.7
	0.9nm,1.1s,baz=45,slow=2.6,SNR=3.5						

IDC 28 06:06:15.8±2.8, 8.18N×94.48E, mb4.1/6, mb1 4.2/6, mb1mx4.0/18, mbtmp4.1/6, Error ellipse: s-maj=72.6km s-min=48.4km az=127.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	40.79	12	P	P	06 13 59.4	-1.0
	0.9nm,0.8s,baz=180,slow=5.8,SNR=3.3						
ZAL	**Zalesovo**	46.29	352	P	P	06 14 42.8	-2.1
	2.0nm,0.8s,baz=298,slow=11,SNR=4.7						
BRTR	**Keskin Array B**	62.49	311	P	P	06 16 42.0	-1.5
	0.9nm,0.8s,baz=143,slow=7.2,SNR=3.4						
FINES	**FINESS Array B**	72.60	332	P	P	06 17 43.1	-3.6
	16nm,1.4s,baz=108,slow=8.8,SNR=3.2						
GERES	**GERESS Array B**	77.83	318	P	P	06 18 16.0	-0.7
	1.4nm,1.1s,baz=104,slow=5.5,SNR=3.5						
CLL	**Collm**	78.34	321	P	P	06 18 20.0	+0.5
HFS	**Hagfors**	78.37	330	P	P	06 18 18.7	-0.8
	0.8nm,0.4s,baz=90,slow=4.3,SNR=5.0						
PLCA	**Paso Flores**	144.95	200	PKP	PKPdf	06 25 54.8	-2.3
	2.2nm,0.8s,baz=205,slow=3.4,SNR=4.7						

*IDC **28** 06:06:41.0±0.6, 8.16N×94.29E, mb4.4/20, mb1 4.5/21, mb1mx4.4/25, mbtmp4.3/21, ML4.1/1, Error ellipse: s-maj=27.0km s-min=15.9km az=47.0*
*NEIC **28** 06:06:45.7±0.3, 8.17N×94.31E, h30km, mb4.6/12, Error ellipse: s-maj=12.6km s-min=8.9km az=224.0*
ISC 28 06:06:44.6±0.5, 8.1N±0.1×94.2E±0.1, h36km, h36km±1.4km: pP-P, n67, σ1⅝02/57, mb4.4/29, 1C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	11.29	23	Pn	P	06 09 21.6	-5.0
	0.4nm,0.3s,baz=198,slow=30,SNR=4.7						
ENH	**Enshi**	26.30	31	*eP*	P	06 12 18.7	-0.3
	6.7nm,0.7s,mb4.3						
SONM	**Songino Array**	40.95	13	P	P	06 14 25.9	+0.4
	1.3nm,0.6s,mb3.7,baz=196,slow=9.0,SNR=5.1						
ZAL	**Zalesovo**	46.36	352	P	P	06 15 08.9	-0.2
	2.8nm,0.5s,mb4.5,baz=293,slow=8.4,SNR=5.3						
WRA	**Warramunga Arr**	48.30	126	P	P	06 15 24.2	-0.6
	1.6nm,0.8s,mb4.1,baz=304,slow=9.0,SNR=5.0						
WRAB	**Tennant Creek**	48.30	126	*eP*	P	06 15 23.5	-1.3
	3.4nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	48.31	126	*eP*	pP	06 15 31.5	-3.9
BVAR	**Borovoye Array**	48.83	341	P	P	06 15 27.2	-1.2
	1.7nm,0.8s,mb4.1,baz=143,slow=7.4,SNR=4.2						
CHKZ	**Chkalovo**	49.31	342	*eP*	P	06 15 30.1	-2.1
	7.6nm,0.8s,mb4.8						
ASAR	**Alice Springs**	49.97	130	P	P	06 15 37.0	-0.6
	1.2nm,0.7s,mb4.0,baz=303,slow=7.5,SNR=4.6						
PMG	**Port Moresby**	55.50	107	P	P	06 16 21.9	+3.0
	12nm,0.8s,mb5.0,baz=301,slow=5.9,SNR=3.4						
KMBO	**Kilima Mbogo**	57.54	264	P	P	06 16 35.4	+2.0
	5.2nm,1.1s,mb4.5,baz=46,slow=9.7,SNR=6.7						
KMBO	**Kilima Mbogo**	57.54	264	P	P	06 16 35.4	+2.0
STKA	**Stephens Creek**	60.17	134	P	P	06 16 51.0	-0.5
	1.2nm,0.7s,mb4.0,baz=340,slow=12,SNR=3.2						
STKA	**Stephens Creek**	60.17	134	P	P	06 16 51.0	-0.5
BRTR	**Keskin Array B**	62.37	311	P	P	06 17 04.4	-1.8
	2.3nm,0.7s,mb4.4,baz=120,slow=7.8,SNR=8.1						
AKASG	**Malin Array Be**	68.06	322	P	P	06 17 41.0	-1.6
	12nm,1.2s,mb4.8,baz=89,slow=5.0,SNR=9.2						
IDI	**Anoyia**	68.53	305	P	P	06 17 45.3	-0.6
	4.5nm,0.6s,mb4.6,baz=86,slow=14,SNR=3.6						
VRI	**Vrincioaia**	68.62	316	⇑P	P	06 17 46.4	+0.2
MLR	**Muntele Rosu**	69.09	316	P	P	06 17 49.2	+0.1
	6.7nm,0.9s,mb4.5,baz=181,slow=4.0,SNR=5.4						
MLR	**Muntele Rosu**	69.09	316	⇓P	P	06 17 49.4	+0.3
KWP	**Kalwaria**	71.94	320	*eP*	P	06 18 06.4	+0.2
KWP	**Kalwaria**	71.94	320	*eP*	P	06 18 06.4	+0.2
SUW	**Suwalki**	72.40	324	*eP*	P	06 18 07.6	-1.3
FINES	**FINESS Array B**	72.58	332	P	P	06 18 09.5	-0.3
	4.4nm,0.8s,mb4.4,baz=117,slow=8.5,SNR=5.9						
CRVS	**Cervenica-Dubn**	72.64	319	*eP*	P	06 18 10.3	-0.1
CRVS	*es*P sP 06 18 22.2 -3.3						
CRVS	*e* 06 18 26.7						
NIE	**Niedzica**	73.46	319	*eP*	P	06 18 15.7	+0.4
NIE	*e* pP 06 18 26.6 +0.3						
OJC	**Ojcow**	73.88	320	*eP*	P	06 18 17.5	-0.2
OJC	*e* pP 06 18 28.5 -0.2						
VYHS	**Vyhne**	74.32	318	*eP*	P	06 18 20.4	+0.1
VYHS	*ep*P pP 06 18 30.8 -0.5						
OKC	**Ostrava-Krasne**	74.90	319	*eP*	pP	06 18 35.0	+0.4
ARCES	**ARCESS Array B**	75.11	340	P	P	06 18 25.1	+0.7
	3.4nm,0.7s,mb4.4,baz=72,slow=7.7,SNR=5.8						
ZST	**Bratislava**	75.45	318	*eP*	P	06 18 26.2	-0.6
ZST	*e* pP 06 18 38.0 +0.2						
DPC	**Dobruska-Polom**	76.12	320	*eP*	P	06 18 31.4	+0.9
DPC	*ep*P pP 06 18 42.1 +0.5						
PRU	**Pruhonice**	77.24	319	*eP*	P	06 18 28.7	-8.2
PRU	*ep*P pP 06 18 48.2 +0.3						
PVCC	**Panska Ves**	77.25	320	*eP*	P	06 18 36.8	-0.1
PVCC	*ep*P pP 06 18 48.4 +0.4						
BRG	**Berggiesshubel**	77.66	320	*eP*	P	06 18 40.0	+0.8
	4.3nm,0.8s,mb4.4						
GEC2	**GERESS Array S**	77.74	318	*eP*	P	06 18 40.2	+0.5
GEC2	pmax pmax						
	comp=Z,7.0nm,0.8s,mb4.6						
GEC2	**GERESS Array S**	77.74	318	*eP*	P	06 18 40.2	+0.5
	comp=Z,7.0nm,0.8s,mb4.6						
GERES	**GERESS Array B**	77.74	318	P	P	06 18 40.3	+0.6
	comp=Z,3.0nm,0.6s,mb4.4,baz=90,slow=5.3,SNR=14						
KHC	**Kasperske Hory**	77.83	318	*eP*	P	06 18 36.8	-3.4
KHC	*ep*P pP 06 18 51.0 -0.2						
CLL	**Collm**	78.27	321	*eP*	P	06 18 40.0	-2.5
WET	**Wettzell**	78.29	318	*eP*	P	06 18 43.2	+0.5
WET	pmax pmax						
	comp=Z,5.0nm,0.8s,mb4.5						
WET	**Wettzell**	78.29	318	*eP*	P	06 18 43.2	+0.5
	comp=Z,5.0nm,0.8s,mb4.5						
HFS	**Hagfors**	78.33	330	P	P	06 18 42.7	+0.1
	comp=Z,4.5nm,0.7s,mb4.5,baz=117,slow=6.6,SNR=6.8						
NKC	**Novy Kostel**	78.59	320	*eP*	P	06 18 44.8	+0.5
NKC	*ep*P pP 06 18 55.5 +0.1						
GRA1	**Grafenberg Arr**	79.38	319	*eP*	P	06 18 49.5	+0.9
	comp=Z,7.0nm,0.8s,mb4.6						
GRA1	*ep*P pP 06 18 59.8 +0.1						
GRF	**Grafenberg Arr**	79.38	319	*eP*	P	06 18 49.5	+0.9
GRF	*e**PP pP 06 18 59.8 +0.1						
GRF	pmax pmax						
	comp=Z,7.0nm,0.8s,mb4.6						
GRF	pmax pmax						
	comp=Z,48nm,1.4s,mb5.2						
GRF	**Grafenberg Arr**	79.38	319	*eP*	P	06 18 49.5	+0.9
	comp=Z,7.0nm,0.8s,mb4.6						
GRF	*ep*P pP 06 18 59.8 +0.1						
NB2	**NORSAR Subarra**	79.61	331	P	P	06 18 49.3	-0.3
	comp=Z,1.6nm,0.7s,mb4.1,baz=92,slow=5.3						
NOA	**NORSAR Array B**	79.61	331	P	P	06 18 49.5	-0.1
	comp=Z,2.4nm,0.8s,mb4.2,baz=97,slow=5.1,SNR=5.2						
CLZ	**Clausthal**	79.92	321	*eP*	P	06 18 52.0	+0.5
	comp=Z,6.0nm,0.8s,mb4.6						
TNS	**Taunus Mts**	81.16	320	*eP*	P	06 18 58.6	+0.5
BFO	**Black Forest**	81.31	318	*eP*	P	06 18 58.8	-0.1
BFO	pmax pmax						
	comp=Z,3.0nm,0.9s,mb4.2						
BFO	**Black Forest**	81.31	318	*eP*	P	06 18 58.8	-0.1
	comp=Z,3.0nm,0.9s,mb4.2						
EKA	**Eskdalemuir Ar**	87.61	325	P	P	06 19 31.5	+1.2
	comp=Z,3.5nm,0.8s,mb4.7,baz=114,slow=7.0,SNR=5.3						
IMA	**Indian Mountai**	91.41	22	*eP*	P	06 19 50.7	+2.7
	comp=Z,3.0nm,0.8s,mb4.7						
SVW2	**Sparrevohn**	92.53	27	*eP*	P	06 19 54.7	+1.5
ILAR	**Eielson Array**	94.53	22	P	P	06 20 02.4	+0.1
	comp=Z,0.5nm,0.9s,mb4.0,baz=278,slow=6.4,SNR=3.8						
INK	**Inuvik**	96.78	16	P	P	06 20 13.8	+1.4
	comp=Z,2.1nm,1.1s,mb4.5,baz=286,slow=10,SNR=3.9						
YKA	**Yellowknife Ar**	106.21	13	PP	PP	06 25 15.8	-6.0
	comp=Z,0.3nm,0.8s,baz=328,slow=4.8,SNR=3.8						
NVAR	**Mina Array Bea**	124.70	31	PKP	PKPdf	06 25 42.5	+1.4
	comp=Z,1.3nm,0.9s,baz=355,slow=2.6,SNR=4.5						
PDAR	**Pinedale Array**	124.95	21	PKP	PKPdf	06 25 43.2	+1.7
	comp=Z,0.8nm,0.7s,baz=37,slow=0.6,SNR=5.7						
ANMO	**Albuquerque**	132.95	23	PKP	PKPdf	06 26 00.4	+3.4
	comp=Z,0.3nm,0.3s,baz=216,slow=2.1,SNR=4.1						
TXAR	**Lajitas Array**	139.01	24	PKP	PKPdf	06 26 10.1	+1.8
	comp=Z,0.4nm,0.5s,baz=229,slow=1.3,SNR=8.1						
TXAR	**Lajitas Array**	139.01	24	PKP	PKPdf	06 26 10.1	+1.8
PLCA	**Paso Flores**	144.77	200	PKP	PKPdf	06 26 19.3	+1.2
	comp=Z,3.0nm,0.8s,baz=153,slow=3.0,SNR=6.3						
SDV	**Santo Domingo**	157.39	318	PKPab	PKPab	06 27 10.8	-0.8
	comp=Z,4.4nm,0.9s,baz=13,slow=2.6,SNR=3.8						

*IDC **28** 06:06:53.0±0.4, 8.13N×94.01E, mb4.9/30, mb1 5.0/31, mb1mx5.0/33, mbtmp4.9/31, ML5.0/1, Error ellipse: s-maj=21.9km s-min=10.4km az=48.0, Putative timing error at LPAZ*
*CSEM **28** 06:06:53.9, 7.72N×94.39E, h33km, mb5.7*
*BJI **28** 06:06:54.4, 7.56N×93.87E, h44km, mB5.3, mb5.0, Ms5.7, Msz5.2*
*MOS **28** 06:06:55.3±1.0, 7.90N×93.91E, h33km, mb5.3/57, Error ellipse: s-maj=9.6km s-min=5.5km az=116.0*
*NEIC **28** 06:06:55.7±0.2, 7.90N×93.90E, mb5.1/44, Error ellipse: s-maj=7.5km s-min=5.2km az=223.0*
*HRVD **28** 06:06:55.7±0.5, 7.73N×94.21E, h17km±2km, MW5.3/52, Centroid moment Tensor Solution. LP body waves: s25,c34;Mantle waves: s52,c71; Half duration: 1⅝1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.21±.04; $M_{\theta\theta}$-0.67±.04; $M_{\phi\phi}$0.88±.05; $M_{r\theta}$-0.93±.20; $M_{\theta\phi}$-0.21±.04; $M_{\phi r}$-0.12±.11; Best double couple: $M_0$1.167×10^{17} NP1: ϕ_s31°, δ64°, λ-29°. NP2:ϕ_s134°, δ65°, λ-151°. Principal axes: T.913, Plg0°, Azm262°; N.507, Plg52°, Azm172°; P -1.42, Plg38°, Azm353°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 28 06:06:54.4±0.2, 7.96N±0.04×93.89E±0.04, h25km, h25km±1.0km: pP-P, n242, σ1⅝11/228, mb5.1/83, MS4.9/4, 6C-15D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	11.54	25	P	P	06 09 42.6	+1.8
CMAR	pmax pmax						
	comp=Z,3.0nm,0.3s						
CMAR	**Chiang Mai Arr**	11.54	25	Pn	P	06 09 42.5	+1.8
	comp=Z,2.8nm,0.3s,baz=211,slow=14,SNR=7.5						
PALK	**Pallekele**	13.09	268	*e*Pn	P	06 10 00.3	-1.3
	comp=Z,40nm,1.0s						
BWNR	**Bhubaneshwar**	14.55	328	*eP*	P	06 10 20.8	0.0
BWNR	*e* 06 10 29.4						
	comp=Z,100nm,1.1s						
BWNR	*eS* S 06 13 00.5 -1.6						
KOD	**Kodaikanal**	16.37	279	*eP*	P	06 10 52.5	+8.0
KOD	*e* 06 10 57.7						
	comp=Z,114nm,1.5s						
KOD	*eS* S 06 13 52.1 +7.2						
BOK	**Bokaro**	17.52	335	*eP*	P	06 11 02.7	+4.0
BOK	*e* 06 11 10.7						
	comp=Z,148nm,1.9s						
BOK	*eS* S 06 14 16.9 +5.9						
SHL	**Shillong**	17.62	354	*eP*	P	06 10 59.0	-1.0
SHL	*eS* S 06 14 12.5 -0.7						
HYB	**Hyderabad**	17.66	304	*eP*	P	06 11 02.5	+2.0
HYB	**Hyderabad**	17.66	304	*iP*	P	06 11 02.5	+2.0

	comp=Z,62nm,1.1s							
NDI					*e*S	**S**	**06 16 52.9**	**0.0**
ENH	**Enshi**	**26.58**	**31**	*e*P		**P**	**06 12 31.1**	**-1.5**
	comp=Z,76nm,1.2s,mb5.1							
SMLA	**Simla**	**27.84**	**328**	*e*P		**P**	**06 12 59.7**	**+16**
SMLA				*e*		pP	06 13 08.7	+17
	comp=Z,49nm,2.0s							
SMLA				*e*S		**S**	**06 17 43.1**	**+19**
XAN	**Xi'an**	**29.43**	**26**	P		**P**	**06 12 57.5**	**-0.9**
XAN				AMB		AMB		
	comp=Z,27nm,1.1s,mb4.9							
LZH	**Lanzhou**	**29.44**	**17**	⇓P		**P**	**06 12 59.0**	**+0.6**
LZH				AMB		AMB		
	comp=Z,105nm,1.8s,mb5.3							
LZH	**Lanzhou**	**29.44**	**17**	⇓P		**P**	**06 12 59.0**	**+0.6**
LZH				*SP		sP	06 13 07.5	-1.7
LZH				pmax		pmax		
	comp=Z,105nm,1.8s,mb5.3							
LZH	**Lanzhou**	**29.44**	**17**	⇓P		**P**	**06 12 59.0**	**+0.6**
	comp=Z,105nm,1.8s,mb5.3							
LZH				pP		pP	06 13 04.6	-1.3
LZH				sP		sP	06 13 07.5	-1.7
WHN	**Wuhan**	**29.52**	**38**	*e*P		**P**	**06 13 00.0**	**+0.8**
NJ2	**Nanjing**	**33.37**	**41**	*e*P		**P**	**06 13 31.5**	**-1.5**
NJ2				AP		pP	06 13 42.5	+2.0
NJ2				XP		sP	06 13 46.3	+2.6
NJ2				PP		PP	06 14 44.5	-0.5
NJ2				AMB		AMB		
	comp=Z,2μm,4.6s							
NJ2				LR		LR		
	comp=N,7μm,24.6s							
NJ2				LR		LR		
	comp=E,13μm,18.6s							
NJ2				LR		LR		
	comp=Z,4μm,12.9s							
WMQ	**Urumqi**	**36.13**	**352**	P		**P**	**06 13 56.5**	**0.0**
WMQ				AP		pP	06 14 06.3	+2.3
WMQ				XP		sP	06 14 10.0	+2.8
WMQ				PP		PP	06 15 20.0	+0.8
WMQ				PCP		PcP	06 16 21.3	-1.0
WMQ				AMB		AMB		
	comp=Z,132nm,1.5s,mb5.6							
WMQ				AMB		AMB		
	comp=Z,623nm,5.6s							
WMQ				LR		LR		
	comp=N,2μm,18.3s,MS5.0							
WMQ				LR		LR		
	comp=E,1μm,18.4s,MS5.0							
WMQ				LR		LR		
	comp=Z,2μm,18.7s,MS5.0							
BJT	**Baijiatuau**	**37.63**	**28**	*e*P		**P**	**06 14 10.4**	**+1.3**
BJT				pmax		pmax		
	comp=Z,44nm,1.3s							
BJT	**Baijiatuau**	**37.63**	**28**	*e*P		**P**	**06 14 10.4**	**+1.2**
	comp=Z,44nm,1.3s,mb5.0							
BJI	**Beijing**	**37.65**	**28**	P		**P**	**06 14 10.4**	**+1.1**
BJI				pmax		pmax		
	comp=Z,21nm,2.0s,mb4.5							
BJI				MLR		MLR		
	comp=Z,2μm,21.7s,MS4.9							
BJI	**Beijing**	**37.65**	**28**	P		**P**	**06 14 10.4**	**+1.1**
	comp=Z,21nm,2.0s,mb4.5							
BJI				LR		LR		
	comp=Z,2μm,21.7s,MS4.9							
MBWA	**Marble Bar**	**38.49**	**139**	*e*P		**P**	**06 14 14.4**	**-2.2**
AAK	**Ala-Archa**	**38.53**	**337**	*e*P		**P**	**06 14 17.3**	**+0.6**
AAK				pmax		pmax		
	comp=Z,49nm,1.4s,mb5.0							
AAK	**Ala-Archa**	**38.53**	**337**	*e*P		**P**	**06 14 17.3**	**+0.6**
	comp=Z,49nm,1.4s,mb5.0							
MKAR	**Makanchi Array**	**39.95**	**348**	*i* P		**P**	**06 14 29.3**	**+0.8**
MKAR				pmax		pmax		
	comp=Z,32nm,0.8s							
MKAR	**Makanchi Array**	**39.95**	**348**	*i* P		**P**	**06 14 29.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**40.66**	**130**	*e*P		**P**	**06 14 34.1**	**-0.4**
	comp=Z,33nm,1.0s,mb4.9							
SONM	**Songino Array**	**41.14**	**13**	P		**P**	**06 14 39.1**	**+0.9**
	comp=Z,23nm,0.8s,mb4.8,baz=195,slow=8.2,SNR=42							
SONM				PcP		PcP	06 16 37.1	-0.8
	comp=Z,3.1nm,0.6s,baz=205,slow=3.0,SNR=4.2							
ULN	**Ulaanbaatar**	**41.31**	**13**	*e*P		**P**	**06 14 39.9**	**+0.3**
ULN				*e**PP		pP	06 14 46.6	-0.6
ULN				pmax		pmax		
	comp=Z,65nm,1.4s,mb5.1							
ULN	**Ulaanbaatar**	**41.31**	**13**	*e*P		**P**	**06 14 39.9**	**+0.3**
	comp=Z,65nm,1.4s,mb5.1							
ULN				*e*pP		pP	06 14 46.6	-0.6
SNY	**Shenyang**	**42.74**	**33**	⇑P		**P**	**06 14 52.3**	**+0.9**
SNY				AMB		AMB		
	comp=Z,20nm,1.5s,mb4.6							
ZAK	**Zakamensk**	**43.01**	**9**	*i* P		**P**	**06 14 53.9**	**+0.4**
MOY	**Mondy**	**43.97**	**6**	*e*P		**P**	**06 15 02.3**	**+1.1**
TLY	**Talaya**	**44.32**	**9**	P		**P**	**06 15 05.8**	**+1.7**
	comp=Z,83nm,0.8s,mb5.5,SNR=10							
TLY	**Talaya**	**44.32**	**9**	*e*P		**P**	**06 15 05.5**	**+1.4**
TLY				*e*			06 17 32.6	
TLY				pmax		pmax		
	comp=Z,16nm,1.0s,mb4.7							
TLY	**Talaya**	**44.32**	**9**	*i* P		**P**	**06 15 05.4**	**+1.3**
KURK	**Kurchatov**	**44.47**	**346**	*e*P		**P**	**06 15 06.0**	**+0.7**
KURK				*e**PP		pP	06 15 13.8	+0.9
KURK				pmax		pmax		
	comp=Z,144nm,1.3s,mb5.5							
KURK	**Kurchatov**	**44.47**	**346**	*e*P		**P**	**06 15 06.0**	**+0.6**
	comp=Z,144nm,1.3s,mb5.5							
KURK				*e*pP		pP	06 15 13.8	+0.9
MUN	**Mundaring**	**45.07**	**153**	*e*P		**P**	**06 15 06.6**	**-3.8**
	comp=Z,15nm,1.5s,mb4.6							
MUN				*i*		pP	06 15 13.1	-4.9
MUN	**Mundaring**	**45.07**	**153**	*e*P		**P**	**06 15 06.6**	**-3.8**
MUN				*i*		pP	06 15 13.1	-4.9
MUN				pmax		pmax		
	comp=Z,15nm,1.5s,mb4.6							
KLBR	**Kellerberrin**	**45.47**	**151**	*e*P		**P**	**06 15 14.0**	**+0.4**
	comp=Z,725nm,1.3s							
NWAO	**Narrogin (SRO)**	**46.33**	**153**	P		**P**	**06 15 21.6**	**+1.2**
NWAO				pmax		pmax		
	comp=Z,57nm,1.0s							
NWAO	**Narrogin (SRO)**	**46.33**	**153**	P		**P**	**06 15 21.6**	**+1.2**
	comp=Z,57nm,0.9s,mb5.5,baz=322,slow=8.8,SNR=15							
ZAL	**Zalesovo**	**46.43**	**353**	P		**P**	**06 15 21.5**	**+0.6**
ZAL				pmax		pmax		
	comp=Z,27nm,0.7s							
ZAL	**Zalesovo**	**46.43**	**353**	P		**P**	**06 15 21.4**	**+0.6**
	comp=Z,27nm,0.7s,mb5.3,baz=299,slow=6.9,SNR=41							
HIA	**Hailar**	**46.54**	**23**	*e*P		**P**	**06 15 21.4**	**-0.4**
HIA				*e**PP		pP	06 15 28.3	-1.1
HIA				pmax		pmax		
	comp=Z,44nm,1.1s							
HIA	**Hailar**	**46.54**	**23**	*e*P		**P**	**06 15 21.4**	**-0.4**
	comp=Z,44nm,1.1s,mb5.3							
HIA				*e*pP		pP	06 15 28.3	-1.1
WRA	**Warramunga Arr**	**48.51**	**125**	P		**P**	**06 15 38.4**	**+0.8**
WRA							06 17 06.5	
WRA				pmax		pmax		
	comp=Z,23nm,0.9s							
WRA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
WRA	**Warramunga Arr**	**48.51**	**125**	P		**P**	**06 15 38.4**	**+0.7**
	comp=Z,23nm,0.9s,mb5.2,baz=303,slow=8.4,SNR=28							
WRA				PcP		PcP	06 17 06.5	+2.8
	comp=Z,2.4nm,0.8s,baz=311,slow=3.5,SNR=4.8							
WRAB	**Tennant Creek**	**48.52**	**125**	*e*P		**P**	**06 15 35.2**	**-2.4**
WRAB				pmax		pmax		
	comp=Z,67nm,1.1s,mb5.6							
WRAB	**Tennant Creek**	**48.52**	**125**	*e*P		**P**	**06 15 35.2**	**-2.4**
	comp=Z,67nm,1.1s,mb5.6							
WB2	**Warramunga Arr**	**48.52**	**125**	*i*		**P**	**06 15 38.0**	**+0.3**
RAYN	**Ar Rayn**	**48.83**	**294**	P		**P**	**06 15 42.8**	**+2.8**
	comp=Z,422nm,1.2s,SNR=7.4							
BVA0	**Borovoye Array**	**48.83**	**341**	*i* P		**P**	**06 15 39.6**	**0.0**
BVA0				pmax		pmax		
	comp=Z,7.0nm,1.5s,mb4.5							
BVAR	**Borovoye Array**	**48.83**	**341**	P		**P**	**06 15 40.2**	**+0.6**
	comp=Z,13nm,1.1s,mb4.9,baz=143,slow=7.4,SNR=15							
BVAR				PcP		PcP	06 17 04.4	-0.1
	comp=Z,5.2nm,0.7s,baz=135,slow=4.1,SNR=4.7							
BRVK	**Borovoye**	**48.89**	**341**	*e*P		**P**	**06 15 38.8**	**-1.3**
BRVK				pmax		pmax		
	comp=Z,24nm,1.2s,mb5.1							
BRVK	**Borovoye**	**48.89**	**341**	*e*P		**P**	**06 15 38.8**	**-1.3**
	comp=Z,24nm,1.2s,mb5.1							
MAT	**Matsushiro**	**49.29**	**48**	*e*P		pP	06 15 50.0	-1.1
MAT	**Matsushiro**	**49.29**	**48**	P		pP	06 15 49.8	-1.3
CHKZ	**Chkalovo**	**49.32**	**342**	*e*P		**P**	**06 15 43.4**	**0.0**
CHKZ				pmax		pmax		
	comp=Z,20nm,0.5s,mb5.4							
CHKZ	**Chkalovo**	**49.32**	**342**	*e*P		**P**	**06 15 43.4**	**+0.1**
	comp=Z,20nm,0.5s,mb5.4							
ASPA	**Alice Springs**	**50.16**	**130**	⇑*i* P		**P**	**06 15 49.8**	**-0.4**
ASAR	**Alice Springs**	**50.16**	**130**	P		**P**	**06 15 50.5**	**+0.2**
	comp=Z,16nm,0.8s,mb5.1,baz=303,slow=7.1,SNR=38							
ASAR				PcP		PcP	06 17 07.2	-2.5
	comp=Z,4.8nm,0.8s,baz=312,slow=5.5,SNR=2.8							
FORT	**Forrest**	**50.56**	**141**	*e*P		**P**	**06 15 52.7**	**-0.5**
	comp=Z,516nm,1.0s							
KLR	**Kul'dur**	**51.94**	**31**	*e*P		**P**	**06 16 00.0**	**-3.4**
GNI	**Garni**	**54.20**	**314**	*e*P		**P**	**06 16 19.2**	**-1.1**
GNI				*e**PP		pP	06 16 26.8	-1.2
GNI	**Garni**	**54.20**	**314**	P		**P**	**06 16 21.0**	**+0.8**
	comp=Z,5.4nm,0.5s,mb4.7,baz=349,slow=13,SNR=5.9							
CLNS	**Chul'man**	**54.44**	**20**	*e*P		**P**	**06 16 20.8**	**-1.0**
CLNS				pmax		pmax		
	comp=Z,46nm,0.9s,mb5.4							
CLNS				pmax		pmax		
	comp=N,25nm,0.8s							
CLNS				pmax		pmax		
	comp=E,30nm,1.0s							
SVE	**Sverdlovsk**	**55.23**	**338**	⇓*e*P		**P**	**06 16 25.5**	**-2.1**
SVE				pmax		pmax		
	comp=Z,160nm,2.0s,mb5.7							
SVE				MLR		MLR		
	comp=E,2μm,19.0s							
SVE				MLR		MLR		
	comp=Z,1μm,19.0s,MS4.9							
ARU	**Arti**	**55.72**	**337**	P		**P**	**06 16 31.3**	**+0.2**
	comp=Z,221nm,1.6s,mb5.9,SNR=10							
ARU	**Arti**	**55.72**	**337**	⇑*i* P		**P**	**06 16 24.7**	**-6.4**
ARU				*e*			06 17 22.6	
ARU				*e*S		**S**	**06 24 07.6**	**-6.6**
ARU				*e*SS		SS	06 28 02.0	+2.3
ARU				pmax		pmax		
	comp=Z,56nm,1.1s,mb5.5							
PMG	**Port Moresby**	**55.79**	**107**	P		**P**	**06 16 33.4**	**+1.2**
PMG				pmax		pmax		
	comp=Z,36nm,0.9s							
PMG	**Port Moresby**	**55.79**	**107**	P		**P**	**06 16 33.4**	**+1.2**
	comp=Z,36nm,0.9s,mb5.4,baz=258,slow=3.9,SNR=8.8							
YSS	**Yuzh-Sakhalins**	**56.87**	**38**	*e*P		**P**	**06 16 44.0**	**+4.5**
YSS				pmax		pmax		
	comp=Z,40nm,1.1s,mb5.4							
KIV	**Kislovodsk**	**57.09**	**318**	*e*P		**P**	**06 16 40.1**	**-1.0**
KIV				*e**PP		pP	06 16 48.4	-0.5
KIV				pmax		pmax		
	comp=Z,29nm,0.8s,mb5.4							
KIV	**Kislovodsk**	**57.09**	**318**	*e*P		**P**	**06 16 40.1**	**-1.0**
	comp=Z,29nm,0.8s,mb5.3							
KIV				*e*pP		pP	06 16 48.4	-0.5
KMBO	**Kilima Mbogo**	**57.19**	**264**	*e*P		**P**	**06 16 41.1**	**-1.1**
KMBO				pmax		pmax		
	comp=Z,23nm,1.0s							
KMBO	**Kilima Mbogo**	**57.19**	**264**	P		**P**	**06 16 45.5**	**+3.3**
	comp=Z,5.8nm,0.8s,mb4.6,baz=62,slow=12,SNR=5.8							
KMBO	**Kilima Mbogo**	**57.19**	**264**	*e*P		**P**	**06 16 41.1**	**-1.1**
	comp=Z,22nm,1.0s,mb5.2							
ASF	**Jabal al Asfar**	**57.96**	**303**	P		**P**	**06 16 49.2**	**+1.8**
	comp=Z,4.8nm,0.8s,mb4.6,baz=292,slow=5.9,SNR=9.1							
MALT	**Malatya**	**58.22**	**310**	*e*P		**P**	**06 16 48.0**	**-1.1**
MALT				pmax		pmax		
	comp=Z,29nm,1.4s,mb5.1							
MALT	**Malatya**	**58.22**	**310**	*e*P		**P**	**06 16 48.0**	**-1.2**
	comp=Z,29nm,1.4s,mb5.1							
CTA	**Charters Tower**	**58.56**	**119**	⇑*i* P		**P**	**06 16 52.9**	**+1.1**
	comp=Z,11nm,1.2s,mb4.8							
CTA	**Charters Tower**	**58.56**	**119**	P		**P**	**06 16 52.0**	**+0.2**
CTA				pmax		pmax		
	comp=Z,10.0nm,1.1s							
CTA	**Charters Tower**	**58.56**	**119**	P		**P**	**06 16 52.0**	**+0.2**
	comp=Z,10nm,1.1s,mb4.8,baz=301,slow=2.6,SNR=3.9							
CTAO	**Charters Tower**	**58.56**	**119**	*e*P		**P**	**06 16 49.3**	**-2.5**
CTAO				pmax		pmax		
	comp=Z,29nm,1.3s,mb5.2							
CTAO	**Charters Tower**	**58.56**	**119**	*e*P		**P**	**06 16 49.3**	**-2.5**
	comp=Z,29nm,1.3s,mb5.2							
SOKR	**Solikamsk**	**58.63**	**339**	⇓*i* P		**P**	**06 16 50.3**	**-1.4**
SOKR				*e*		pP	06 16 58.3	-1.2
SOKR				MLR		MLR		
	comp=Z,1μm,22.0s,MS5.0							
SOC	**Sochi**	**58.95**	**317**	*e*P		**P**	**06 16 51.3**	**-2.9**
SOC				*e*S		**S**	**06 24 55.4**	**-1.6**
SOC				pmax		pmax		
	comp=Z,38nm,0.9s,mb5.4							
SOC				pmax		pmax		
	comp=N,22nm,0.7s							
SOC				pmax		pmax		
	comp=E,30nm,1.2s							
EIL	**Elat**	**59.17**	**300**	P		**P**	**06 16 57.2**	**+1.4**
	comp=E,5.8nm,0.5s,mb4.8,baz=18,slow=8.6,SNR=7.4							
EIL	**Elat**	**59.17**	**300**	*e*P		**P**	**06 16 54.0**	**-1.9**
	comp=E,9.3nm,0.8s,mb4.9							
YAK	**Yakutsk**	**59.99**	**19**	*e*P		**P**	**06 16 59.2**	**-1.9**
YAK				*e**PP		pP	06 17 07.8	-1.2
YAK				pmax		pmax		
	comp=Z,78nm,0.8s,mb5.8							
YAK	**Yakutsk**	**59.99**	**19**	*e*P		**P**	**06 16 59.2**	**-1.9**
	comp=Z,78nm,0.8s,mb5.8							
YAK				*e*pP		pP	06 17 07.8	-1.1
STKA	**Stephens Creek**	**60.34**	**134**	*e*P		**P**	**06 17 02.9**	**-1.0**
	comp=Z,9.1nm,0.8s,mb4.9							
STKA	**Stephens Creek**	**60.34**	**134**	P		**P**	**06 17 03.7**	**-0.2**
	comp=Z,10.0nm,0.9s,mb4.9,baz=300,slow=8.5,SNR=3.7							
ANN	**Anapa**	**60.91**	**317**	*e*P		pP	06 17 13.1	-2.3
ANN				pmax		pmax		
	comp=Z,55nm,1.6s,mb5.4							
BRTR	**Keskin Array B**	**62.19**	**311**	P		**P**	**06 17 15.1**	**-1.2**
BRTR				pmax		pmax		
	comp=Z,6.0nm,0.7s							
BRTR	**Keskin Array B**	**62.19**	**311**	P		**P**	**06 17 15.1**	**-1.2**
	comp=Z,6.0nm,0.7s,mb4.8,baz=125,slow=7.4,SNR=18							
MBAR	**Mbarara**	**63.52**	**265**	P		**P**	**06 17 24.3**	**-1.2**
MBAR				*e**PP		pP	06 17 32.2	-1.2
MBAR				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.8							
MBAR	**Mbarara**	**63.52**	**265**	P		**P**	**06 17 24.3**	**-1.3**
	comp=Z,11nm,1.0s,mb4.8							
MBAR				*e*pP		pP	06 17 32.2	-1.2
MOS	**Moscow**	**64.88**	**329**	*e*P		**P**	**06 17 32.5**	**-1.2**
MOS				*e*		pP	06 17 40.2	-1.4
MOS				pmax		pmax		
	comp=Z,87nm,0.7s,mb5.9							
OBN	**Obninsk**	**65.18**	**328**	⇓*i* P		**P**	**06 17 32.5**	**-3.1**
OBN				*e*			06 20 01.6	
OBN				pmax		pmax		
	comp=Z,113nm,1.6s,mb5.7							
OBN	**Obninsk**	**65.18**	**328**	*e*P		**P**	**06 17 32.5**	**-3.1**
	comp=Z,32nm,0.6s,mb5.5							
TOO	**Toolangi**	**66.09**	**137**	⇓*i* P		**P**	**06 17 44.5**	**+2.7**
	comp=Z,1.7nm,1.0s,mb4.0							
TOO	**Toolangi**	**66.09**	**137**	⇓*i* P		**P**	**06 17 44.5**	**+2.7**
TOO				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.1							
MA2	**Magadan**	**66.81**	**28**	*i* P		**P**	**06 17 44.7**	**-1.3**
TIXI	**Tiksi**	**67.20**	**11**	⇑*i* P		**P**	**06 17 46.6**	**-1.7**
TIXI				pmax		pmax		
	comp=Z,120nm,1.5s,mb5.7							
ARMA	**Armidale**	**67.20**	**128**	*e*P		**P**	**06 17 52.4**	**+3.4**
KIS	**Kishinev**	**67.29**	**318**	*e*P		**P**	**06 17 54.0**	**+4.7**
KIS				*e*			06 18 13.0	
AKASG	**Malin Array Be**	**67.94**	**322**	P		**P**	**06 17 51.9**	**-1.3**
AKASG				pmax		pmax		
	comp=Z,8.0nm,0.8s							
AKASG	**Malin Array Be**	**67.94**	**322**	P		**P**	**06 17 51.9**	**-1.3**
	comp=Z,7.7nm,0.8s,mb4.8,baz=88,slow=5.0,SNR=15							
IDI	**Anoyia**	**68.32**	**305**	P		**P**	**06 17 55.8**	**-0.1**
	comp=Z,19nm,0.7s,mb5.3,baz=102,slow=6.8,SNR=14							
MLR	**Muntele Rosu**	**68.94**	**316**	P		**P**	**06 17 59.9**	**+0.3**
MLR				pmax		pmax		
	comp=Z,17nm,1.0s							
MLR	**Muntele Rosu**	**68.94**	**316**	P		**P**	**06 17 59.9**	**+0.4**
	comp=Z,17nm,1.0s,mb4.9,baz=151,slow=2.1,SNR=12							
MLR	**Muntele Rosu**	**68.94**	**316**	P		**P**	**06 17 59.9**	**+0.4**
LSZ	**Lusaka**	**69.06**	**250**	*e*P		**P**	**06 18 00.4**	**-0.4**
LSZ				pmax		pmax		
	comp=Z,41nm,1.4s,mb5.2							
LSZ	**Lusaka**	**69.06**	**250**	*e*P		**P**	**06 18 00.4**	**-0.4**
	comp=Z,41nm,1.4s,mb5.2							
MNK	**Minsk**	**69.75**	**325**	*e*P		**P**	**06 18 01.0**	**-3.3**
JOF	**Joensuu**	**70.67**	**334**	*e*p		**P**	**06 18 09.2**	**-0.6**
	comp=Z,14nm,0.7s,mb5.0							
APA	**Apatity**	**71.68**	**339**	⇓*i* P		**P**	**06 18 16.0**	**+0.1**
APA				*i*			06 18 28.5	
APA				pmax		pmax		
	comp=Z,47nm,1.2s,mb5.3							
KWP	**Kalwaria**	**71.81**	**320**	*e*P		**P**	**06 18 15.9**	**-1.0**
KWP				pmax		pmax		
	comp=Z,26nm,1.1s,mb5.1							
KWP	**Kalwaria**	**71.81**	**320**	*e*P		**P**	**06 18 15.9**	**-1.0**
	comp=Z,26nm,1.1s,mb5.1							
KOLS	**Kolonicke sedl**	**71.98**	**319**	*e*P		**P**	**06 18 18.7**	**+0.8**
SUW	**Suwalki**	**72.29**	**324**	*e*P		**P**	**06 18 18.9**	**-0.8**
SUW				*e*P			06 18 19.6	
SUW	**Suwalki**	**72.29**	**324**	*e*P		**P**	**06 18 19.6**	**-0.1**
FINES	**FINESS Array B**	**72.52**	**332**	P		**P**	**06 18 20.9**	**0.0**
FINES				pmax		pmax		
	comp=Z,22nm,0.8s							
FINES	**FINESS Array B**	**72.52**	**332**	P		**P**	**06 18 20.9**	**0.0**
	comp=Z,22nm,0.8s,mb5.2,baz=104,slow=7.9,SNR=32							
FINES	**FINESS Array B**	**72.52**	**332**	P		**P**	**06 18 20.9**	**0.0**
KAF	**Kangasniemi**	**72.60**	**333**	*e*p		**P**	**06 18 20.7**	**-0.7**
	comp=Z,9.3nm,0.6s,mb4.9							
KAF	**Kangasniemi**	**72.60**	**333**	*e*P		**P**	**06 18 20.7**	**-0.7**
KAF				pmax		pmax		
	comp=Z,9.0nm,0.6s,mb4.9							
PSZ	**Piszkesteto**	**73.41**	**318**	*e*P		**P**	**06 18 23.5**	**-2.9**
LBTB	**Lobatse**	**74.06**	**241**	*e*P		**P**	**06 18 28.5**	**-2.1**
LBTB				pmax		pmax		
	comp=Z,19nm,1.0s,mb5.0							
LBTB	**Lobatse**	**74.06**	**241**	*e*P		**P**	**06 18 28.5**	**-2.1**
	comp=Z,19nm,1.0s,mb5.0							
SRO	**Srobarova**	**74.46**	**317**	*e*P		**P**	**06 18 33.2**	**+0.7**
SRO	**Srobarova**	**74.46**	**317**	*e*		**P**	**06 18 33.2**	**+0.7**
KEV	**Kevo**	**74.67**	**341**	*e*p		**P**	**06 18 31.8**	**-1.5**
	comp=Z,7.1nm,0.7s,mb4.7							
KEV	**Kevo**	**74.67**	**341**	*e*P		**P**	**06 18 31.8**	**-1.5**
KEV				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.7							
ARCES	**ARCESS Array B**	**75.10**	**340**	P		**P**	**06 18 36.3**	**+0.6**
ARCES				pmax		pmax		
	comp=Z,15nm,1.1s							
ARCES	**ARCESS Array B**	**75.10**	**340**	P		**P**	**06 18 36.3**	**+0.6**
	comp=Z,15nm,1.1s,mb4.9,baz=101,slow=6.2,SNR=10							
MORC	**Moravsky Berou**	**75.15**	**319**	*e*P		**P**	**06 18 36.3**	**-0.1**
BOSA	**Boshof**	**75.42**	**238**	*e*P		**P**	**06 18 37.4**	**-1.0**
BOSA				pmax		pmax		
	comp=Z,33nm,1.3s,mb5.1							
BOSA	**Boshof**	**75.42**	**238**	*e*P		**P**	**06 18 37.4**	**-1.0**
	comp=Z,33nm,1.3s,mb5.1							
VRAC	**Vranov**	**75.73**	**319**	P		**P**	**06 18 39.8**	**+0.1**
VRAC				pmax		pmax		
	comp=Z,3.0nm,0.8s							
VRAC	**Vranov**	**75.73**	**319**	P		**P**	**06 18 39.8**	**+0.1**
	comp=Z,3.2nm,0.8s,mb4.3,baz=28,slow=1.9,SNR=3.2							
KSP	**Ksiaz**	**76.04**	**320**	*e*P		**P**	**06 18 41.9**	**+0.5**
KSP				*e**PP		pP	06 18 48.6	-0.8
BILL	**Bilibino**	**76.10**	**22**	*i* P		**P**	**06 18 39.9**	**-1.5**
UPC	**Upice**	**76.19**	**320**	*e*P		**P**	**06 18 42.2**	**-0.1**
UPC				*e**PP		pP	06 18 50.7	+0.4
UPC	**Upice**	**76.19**	**320**	*e*pP		**P**	**06 18 42.2**	**-0.1**
UPC	**Upice**	**76.19**	**320**	*e*x		pP	06 18 50.7	+0.4
BRG	**Berggiesshubel**	**77.53**	**320**	*i* P		**P**	**06 18 50.6**	**+0.9**
BRG				*i*		pP	06 18 57.5	-0.2
BRG				pmax		pmax		
	comp=Z,30nm,1.6s,mb5.0							
BRG	**Berggiesshubel**	**77.53**	**320**	*i* P		**P**	**06 18 50.6**	**+0.9**
	comp=Z,30nm,1.6s,mb5.0							
BRG				*i*		pP	06 18 57.5	-0.2
GERES	**GERESS Array B**	**77.60**	**318**	P		**P**	**06 18 51.0**	**+0.9**
GERES				pmax		pmax		
	comp=Z,7.0nm,0.7s							
GERES	**GERESS Array B**	**77.60**	**318**	P		**P**	**06 18 51.0**	**+0.8**
	comp=Z,6.7nm,0.7s,mb4.7,baz=89,slow=5.3,SNR=19							
CLL	**Collm**	**78.14**	**321**	P		**P**	**06 18 52.7**	**-0.4**
	comp=Z,logA/T=1.2,mb4.9							
CLL				*i* *PP		pP	06 19 00.3	-0.8
CLL				*i*			06 19 27.1	
CLL	**Collm**	**78.14**	**321**	*i*		pP	06 19 00.3	-0.8
HFS	**Hagfors**	**78.26**	**330**	P		**P**	**06 18 53.9**	**+0.4**
HFS				pmax		pmax		
	comp=Z,7.0nm,0.4s							
HFS	**Hagfors**	**78.26**	**330**	P		**P**	**06 18 53.9**	**+0.4**
	comp=Z,7.2nm,0.4s,mb4.9,baz=90,slow=4.4,SNR=18							
MAW	**Mawson**	**78.56**	**192**	*e*P		**P**	**06 18 59.8**	**+4.7**
	comp=Z,5.4nm,0.

URZ	**Urewera**	**89.58**	**129**	P	**P**		**06 19 53.0**	**+1.5**
	comp=Z,10nm,0.9s,mb5.2,baz=92,slow=2.5,SNR=4.7							
ESDC	**Sonseca Array**	**90.97**	**310**	P	**P**		**06 19 59.0**	**+1.1**
	comp=Z,2.6nm,0.7s,mb4.7,baz=56,slow=5.3,SNR=7.3							
IMA	**Indian Mountai**	**91.64**	**22**	*e*P	**P**		**06 19 58.7**	**-1.6**
IMA	**Indian Mountai**	**91.64**	**22**	*e*P	**P**		**06 19 58.7**	**-1.7**
ILAR	**Eielson Array**	**94.76**	**22**	P	**P**		**06 20 13.9**	**-0.8**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ILAR				pmax	pmax			
	comp=Z,1.0nm,1.0s							
ILAR	**Eielson Array**	**94.76**	**22**	P	**P**		**06 20 13.9**	**-0.8**
	comp=Z,0.9nm,0.8s,mb4.2,baz=309,slow=4.8,SNR=7.8							
ILAR				PKKPbc			06 37 16.8	
	comp=Z,0.6nm,1.0s,baz=123,slow=0.7,SNR=5.2							
PWA	**Palmer West**	**95.06**	**25**	*e*P	**P**		**06 20 15.3**	**-0.8**
PWA				pmax	pmax			
	comp=Z,31nm,0.9s,mb5.7							
PWA	**Palmer West**	**95.06**	**25**	*e*P	**P**		**06 20 15.3**	**-0.8**
	comp=Z,31nm,0.9s,mb5.7							
SML	**Sawmill**	**95.64**	**25**	*e*P	**P**		**06 20 18.2**	**-0.6**
INK	**Inuvik**	**96.98**	**16**	P	**P**		**06 20 23.8**	**-1.0**
INK				pmax	pmax			
	comp=Z,6.0nm,1.2s							
INK	**Inuvik**	**96.98**	**16**	P	**P**		**06 20 23.8**	**-1.0**
	comp=Z,5.6nm,1.2s,mb4.9,baz=289,slow=7.1,SNR=6.0							
YKA	**Yellowknife Ar**	**106.40**	**13**	Pdiff	Pdif		06 21 06.3	-0.6
	comp=Z,0.9nm,1.1s,baz=336,slow=7.7,SNR=5.0							
YKA				PP	PP		06 25 26.7	-7.9
	comp=Z,1.2nm,0.8s,baz=337,slow=7.4,SNR=7.0							
YKA				PKKPbc			06 36 42.0	
	comp=Z,0.4nm,0.6s,baz=152,slow=3.3,SNR=9.8							
YKA				PKKPab			06 36 58.2	
	comp=Z,0.5nm,0.7s,baz=144,slow=4.4,SNR=6.9							
MSO	**Missoula**	**120.10**	**22**	*e*PKPdf	PKPdf		06 25 42.5	-5.4
MSO				*ep*PKPdf			06 25 50.0	
MOD	**Modoc**	**121.34**	**29**	*e*PKPdf	PKPdf		06 25 46.5	-4.1
MOD				*ep*PKPdf			06 25 52.4	
BOZ	**Bozeman (W)**	**121.94**	**21**	*e*PKIKP	PKPdf		06 25 47.5	-4.1
BOZ				*e*			06 25 54.7	
QLMT	**Earthquake Lak**	**122.72**	**21**	*e*PKPdf	PKPdf		06 25 50.4	-2.7
QLMT				*ep*PKPdf			06 25 56.4	
SNOW	**Snow King Moun**	**124.14**	**22**	*e*PKPdf	PKPdf		06 25 52.5	-3.5
NVAR	**Mina Array Bea**	**124.97**	**31**	PKP	PKPdf		06 25 54.3	-3.4
	comp=Z,3.1nm,1.1s,baz=348,slow=2.4,SNR=6.2							
PDAR	**Pinedale Array**	**125.18**	**21**	PKP	PKPdf		06 25 53.6	-4.3
	comp=Z,5.8nm,1.2s,baz=58,slow=2.8,SNR=10							
MSU	**Marysvale**	**127.79**	**26**	*e*PKIKP	PKPdf		06 25 59.8	-3.3
MSU				*e*			06 26 07.2	
NEN	**Nelson**	**128.87**	**30**	*e*PKPdf	PKPdf		06 26 01.3	-4.0
NEN				*ep*PKPdf			06 26 09.0	
ANMO	**Albuquerque**	**133.19**	**23**	PKIKP	PKPdf		06 26 10.3	-3.2
ANMO				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ANMO	**Albuquerque**	**133.19**	**23**	PKP	PKPdf		06 26 10.3	-3.1
	comp=Z,1.4nm,0.8s,baz=355,slow=5.5,SNR=5.3							
ANMO	**Albuquerque**	**133.19**	**23**	PKP	PKPdf		06 26 10.3	-3.1
MIAR	**Mount Ida**	**137.14**	**9**	*e*PKIKP	PKPdf		06 26 16.5	-4.2
MIAR				*e*			06 26 23.6	
TXAR	**Lajitas Array**	**139.25**	**24**	PKP	PKPdf		06 26 20.6	-4.1
	comp=Z,0.7nm,0.6s,baz=182,slow=0.3,SNR=8.5							
TXAR				PP	PP		06 29 13.8	-4.0
	comp=Z,1.1nm,1.0s,baz=346,slow=5.2,SNR=4.5							
BAO	**Brasilia Array**	**141.96**	**255**	P	PKPdf		06 26 21.0	-8.9
PLCA	**Paso Flores**	**144.54**	**201**	PKP	PKPdf		06 26 33.6	-0.1
	comp=Z,10nm,0.8s,baz=179,slow=2.8,SNR=13							
PLCA	**Paso Flores**	**144.54**	**201**	PKP	PKPdf		06 26 33.6	-0.1
PLCA				*ep*PKPdf			06 26 34.1	
SDV	**Santo Domingo**	**157.25**	**317**	PKP	PKPdf		06 26 52.7	-0.9
	comp=Z,3.1nm,0.8s,baz=324,slow=6.2,SNR=4.0							
SDV				PKPab	PKPab		06 27 21.7	-0.7
	comp=Z,7.4nm,0.9s,baz=283,slow=5.3,SNR=5.2							
LPAZ	**La Paz**	**160.58**	**243**	PKP	PKPdf		06 26 09.3	-48
	comp=Z,1.1nm,0.8s,baz=220,slow=5.5,SNR=3.8							
LPAZ				PKPab	PKPab		06 26 57.5	-39
	comp=Z,1.5nm,0.7s,baz=131,slow=4.8,SNR=3.9							

IDC 28 06:07:29.9±4.5, 26.96S×115.17W, mb3.9/6, mb1 4.3/6, mb1mx4.1/15, mbtmp3.9/6, Error ellipse: s-maj=176.7km s-min=29.4km az=59.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**39.12**	**122**	P	P	06 14 59.3	-1.4
	3.8nm,0.9s,baz=259,slow=8.9,SNR=7.4						
TXAR	**Lajitas Array**	**57.05**	**12**	P	P	06 17 18.0	-2.2
	0.9nm,1.1s,baz=180,slow=5.0,SNR=4.1						
ANMO	**Albuquerque**	**62.12**	**8**	P	P	06 17 53.0	-2.1
	0.5nm,0.8s,baz=176,slow=2.2,SNR=3.6						
NVAR	**Mina Array Bea**	**65.11**	**357**	P	P	06 18 14.2	-0.5
	1.1nm,0.8s,baz=170,slow=9.4,SNR=5.6						
PDAR	**Pinedale Array**	**69.57**	**4**	P	P	06 18 39.8	-3.0
	1.3nm,0.9s,baz=180,slow=3.0,SNR=8.1						
YKA	**Yellowknife Ar**	**89.14**	**0**	P	P	06 20 25.9	-2.2
	0.4nm,0.8s,baz=171,slow=4.5,SNR=11						

BJI 28 06:07:33.6, 39.32N×123.87E, h10km, ML3.6, Northeastern China

PRE 28 06:09:14.5±1.5, 26.96S×26.78E, h2km, ML3.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.52**	**87**	*e*P	Pg	06 09 24.8	0.0
PRYS				*e*S	Sg	06 09 30.6	-1.2
PRYS				*e*		06 09 33.6	
	comp=Z,1μm,0.3s						
SEK	**Senekal**	**1.56**	**151**	*e*P	Pn	06 09 43.2	-0.1
SEK				*e*S	Sb	06 10 02.9	-0.9
SEK				*e*		06 10 08.2	
	comp=Z,592nm,0.2s						
SLR	**Silverton**	**1.81**	**48**	*e*P	Pn	06 09 46.3	-0.8
SLR				*e*S	Sn	06 10 09.5	-1.4
SLR				*e*		06 10 12.6	
	comp=Z,1μm,0.4s						
BOSA	**Boshof**	**2.13**	**219**	*e*P	Pn	06 09 50.6	-1.0
BOSA				*e*S	Sn	06 10 16.7	-2.3
CVNA	**Calvinia**	**7.61**	**232**	*e*P	Pn	06 10 41.3	-28
CVNA				*e*S	Sn	06 12 04.0	-33

*IDC **28** 06:10:24.7±0.4, 8.03N×94.20E, mb5.0/32, mb1 5.1/33, mb1mx5.1/33, mbtmp5.0/33, ML5.1/1, MS5.3/1, Ms1 5.3/1, ms1mx3.7/19, Error ellipse: s-maj=19.9km s-min=9.8km az=49.0*

*BJI **28** 06:10:25.5, 7.55N×93.77E, h38km, mB5.7, mb5.1, Ms5.9, Msz5.4*

*HRVD **28** 06:10:27.2±0.3, 7.85N×94.17E, h12km, MW5.5/57, Centroid moment Tensor Solution. LP body waves: s42,c65;Mantle waves: s57,c111; Half duration: 1±5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.53±.07; $M_{\theta\theta}$-1.71±.06; $M_{\phi\phi}$2.24±.07; $M_{r\theta}$-0.84±.19; $M_{\theta\phi}$0.47±.07; $M_{\phi r}$~0.65±.20; Best double couple: $M_0$2.32×10^{17} NP1: ϕ_s143°,δ60°,λ-171°. NP2:ϕ_s49°,δ82°,λ-30°. Principal axes: T 2.489, Plg15°, Azm99°; N -.334, Plg59°, Azm215°; P -2.151, Plg27°, Azm2°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **28** 06:10:27.2±0.1, 7.90N×93.99E, mb5.5/119, MS5.2/11 Error ellipse: s-maj=4.8km s-min=3.5km az=225.0*

*MOS **28** 06:10:28.1±0.9, 7.93N×94.03E, h33km, mb5.7/93, MS5.3/16, Error ellipse: s-maj=8.1km s-min=4.2km az=118.4*

*CSEM **28** 06:10:38.8, 8.81N×92.32E, h33km, mb5.6*

ISC 28 06:10:25.4±0.2, 7.88N±0.03×94.06E±0.03, h15km, h15km±1.0km: pP-P, n468, σ1º06/442, mb5.3/160, MS5.4/26, 27C-19D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.54**	**24**	Pn	P	**06 13 13.7**	**+1.0**
	3.8nm,0.3s,baz=211,slow=14,SNR=20						
PALK	**Pallekele**	**13.25**	**268**	*e*Pn	P	**06 13 33.8**	**-1.9**
	126nm,1.0s						
VIS	**Vishakhapatnam**	**14.31**	**314**	*e*P	P	**06 13 50.5**	**+0.7**
VIS				*e*		06 13 56.4	
	comp=Z,247nm,1.1s						
VIS				*e*S	S	**06 16 28.6**	**-0.4**
BWNR	**Bhubaneshwar**	**14.70**	**328**	*e*P	P	**06 13 53.9**	**-0.9**
BWNR				*e*		06 13 55.6	
	comp=Z,174nm,1.3s						
BWNR				*e*S	S	**06 16 37.8**	**-0.4**
CAL	**Calcutta**	**15.58**	**340**	*e*P	P	**06 14 06.7**	**+0.5**
CAL				*e*		06 17 12.9	
KOD	**Kodaikanal**	**16.55**	**279**	*e*P	P	**06 14 21.1**	**+2.4**
KOD				*e*		06 14 34.0	
	comp=Z,376nm,1.1s						
KOD				*e*S	S	**06 17 24.1**	**+2.6**
TRD	**Trivandrum**	**16.94**	**273**	*e*P	P	**06 14 25.3**	**+1.7**
TRD				*e*		06 14 37.5	
	comp=Z,192nm,1.3s						
BOK	**Bokaro**	**17.66**	**335**	*e*P	P	**06 14 33.5**	**+1.0**
BOK				*e*		06 14 38.5	
	comp=Z,438nm,1.4s						
BOK				*e*S	S	**06 17 48.8**	**+2.1**
SHL	**Shillong**	**17.71**	**354**	*e*P	P	**06 14 34.3**	**+1.2**
SHL				*e*S	S	**06 17 50.8**	**+2.9**
HYB	**Hyderabad**	**17.84**	**304**	*i* P	P	**06 14 30.5**	**-4.3**
QIZ	**Qiongzhong**	**18.91**	**53**	P	P	**06 14 50.3**	**+2.2**
QIZ				AP		06 14 59.8	
QIZ				AMB	AMB		
	comp=Z,3μm,8.9s						
QIZ				LR	LR		
	comp=N,34μm,11.7s						
QIZ	**Qiongzhong**	**18.91**	**53**	*e*P	P	**06 14 48.8**	**+0.7**
	comp=N,413nm,1.4s						
KMI	**Kunming**	**19.04**	**25**	⇓P	P	**06 14 53.3**	**+3.7**
KMI				S	S	**06 18 20.6**	**+2.4**
KMI				pmax	pmax		
	comp=Z,188nm,1.6s						
KMI	**Kunming**	**19.04**	**25**	⇓P	P	**06 14 53.3**	**+3.7**
	comp=Z,188nm,1.6s						
KMI				pP		06 15 01.5	
KMI				sP		06 15 09.5	
KMI				PP	PP	06 15 12.6	+6.2
KMI				S	S	**06 18 20.6**	**+2.4**
KMI				sS		06 18 38.0	
KMI				SS	SS	06 18 48.4	+4.4
LATR	**Latur**	**19.98**	**303**	*e*	P	**06 15 00.0**	**-0.2**
LATR				*e*		06 17 57.7	
LATR	**Latur**	**19.98**	**303**	*e*P	P	**06 15 00.0**	**-0.2**
GTK	**Gangtok**	**20.02**	**346**	*e*P	P	**06 14 58.0**	**-2.6**
COCO	**West Island**	**20.13**	**172**	*e*P	P	**06 15 03.0**	**+1.1**
	comp=Z,740nm,1.3s						
ALBI	**Allahabad**	**20.90**	**327**	*e*P	P	**06 15 09.0**	**-0.8**
GOA	**Goa**	**21.19**	**293**	*e*P	P	**06 15 25.6**	**+13**
GOA				*e*		06 15 30.0	
	comp=Z,319nm,1.5s						
GOA				*e*S	S	**06 19 21.0**	**+18**
KAD	**Karad**	**21.52**	**298**	*e*	P	**06 15 18.0**	**+1.9**
KAD				*e*		06 18 15.0	
LSA	**Lhasa**	**21.88**	**353**	P	P	**06 15 19.8**	**+0.2**
LSA				AMB	AMB		
	comp=Z,140nm,1.1s,mb5.3						
LSA	**Lhasa**	**21.88**	**353**	*e*P	P	**06 15 19.6**	**0.0**
LSA				pmax	pmax		
	comp=Z,191nm,0.6s,mb5.7						
LSA	**Lhasa**	**21.88**	**353**	*e*P	P	**06 15 19.6**	**0.0**
	comp=Z,191nm,0.6s,mb5.7						
BHPL	**Bhopal**	**22.09**	**316**	*e*P	P	**06 15 22.7**	**+0.9**
BHPL				*e*		06 15 31.1	
	comp=Z,258nm,1.0s						
JHNI	**Jhansi**	**22.91**	**322**	*e*	P	**06 15 30.0**	**+0.1**
JHNI				*e*		06 18 27.0	
JHNI	**Jhansi**	**22.91**	**322**	*e*P	P	**06 15 30.0**	**+0.1**
BOM	**Bombay**	**23.36**	**300**	*e*P	P	**06 15 38.2**	**+3.9**
BOM				*e*		06 15 43.1	
	comp=Z,208nm,1.3s						
BOM				*e*S	S	**06 19 49.4**	**+6.9**
NDI	**New Delhi**	**26.08**	**325**	*e*P	P	**06 16 01.0**	**+0.7**
NDI				*e*	pP	06 16 06.6	+1.8
	comp=Z,298nm,1.2s						
NDI				*e*S	S	**06 20 31.9**	**+3.2**
AJM	**Ajmer**	**26.12**	**317**	⇓*i*	P	**06 16 02.0**	**+1.3**
AJM				*i*		06 18 59.0	
ENH	**Enshi**	**26.56**	**31**	*e*P	P	**06 16 04.1**	**-0.6**
	comp=Z,55nm,0.9s,mb5.1						
DDI	**Dehra Dun**	**26.89**	**328**	*e*	P	**06 16 08.0**	**+0.2**
DDI				*e*		06 19 05.8	
SMLA	**Simla**	**28.00**	**328**	*e*P	P	**06 16 29.9**	**+12**
SMLA				*e*		06 16 51.3	
	comp=Z,200nm,1.3s						
SMLA				*e*S	S	**06 21 14.7**	**+15**
RCP	**Roxas**	**28.50**	**80⇑**	*e*P	P	**06 16 25.1**	**+2.6**
BHK	**Bhakra**	**28.62**	**327**	*e*	P	**06 16 40.7**	**+17**
XAN	**Xi'an**	**29.42**	**26**	P	P	**06 16 29.8**	**-0.8**
XAN				AMB	AMB		
	comp=Z,37nm,1.1s,mb5.0						
LZH	**Lanzhou**	**29.46**	**16**	⇓P	P	**06 16 31.3**	**+0.3**
LZH				PP	PP	06 17 27.0	+0.2
LZH				AMB	AMB		
	comp=Z,186nm,1.8s,mb5.5						
LZH				AMB	AMB		
	comp=Z,542nm,5.2s						
LZH				LR	LR		
	comp=E,9μm,14.5s						
LZH				LR	LR		
	comp=Z,11μm,16.0s,MS5.6						
LZH	**Lanzhou**	**29.46**	**16**	⇓P	P	**06 16 31.3**	**+0.3**
LZH				*SP	sP	06 16 39.2	+1.7
LZH						06 17 27.0	
LZH				S	S	**06 21 22.0**	**-1.2**
LZH				*SS		06 21 38.0	
LZH				SS	SS	06 22 56.4	+0.5
LZH				pmax	pmax		
	comp=Z,186nm,1.8s,mb5.5						
LZH				MLR	MLR		
	comp=Z,11μm,16.0s,MS5.6						
LZH	**Lanzhou**	**29.46**	**16**	⇓P	P	**06 16 31.3**	**+0.3**
	comp=Z,186nm,1.8s,mb5.5						
LZH				pP	pP	06 16 37.1	+1.6
LZH				sP	sP	06 16 39.2	+1.7
LZH				PP	PP	06 17 27.0	+0.2
LZH				S	S	**06 21 22.0**	**-1.2**
LZH				sS		06 21 38.0	
LZH				SS	SS	06 22 56.4	+0.5
LZH				LR	LR		
	comp=Z,11μm,16.0s,MS5.6						
WHN	**Wuhan**	**29.48**	**37**	*e*P	P	**06 16 32.0**	**+0.8**
WHN				LR	LR		
	comp=N,2μm,10.0s,MS6.0						
WHN				LR	LR		
	comp=E,22μm,12.2s,MS6.0						
WHN				LR	LR		
	comp=Z,26μm,12.4s,MS6.1						
TBP	**Tagbilaran**	**29.51**	**84**	*e*P	P	**06 16 27.1**	**-4.5**
NJ2	**Nanjing**	**33.32**	**40**	*e*P	P	**06 17 06.0**	**+1.1**
NJ2				AP	pP	06 17 16.0	+6.6
NJ2				XP	sP	06 17 19.0	+7.6
NJ2				PP	PP	06 18 18.0	+1.4
NJ2				AMB	AMB		
	comp=Z,450nm,5.7s						
NJ2				LR	LR		
	comp=N,7μm,24.6s						
NJ2				LR	LR		
	comp=E,13μm,18.6s						
NJ2				LR	LR		
	comp=Z,40μm,12.9s						
SSE	**Sheshan**	**34.27**	**44**	*e*P	P	**06 17 13.8**	**+0.6**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,352nm,7.1s						
SSE				LR	LR		
	comp=N,6μm,23.1s,MS5.4						
SSE				LR	LR		
	comp=E,6μm,23.2s,MS5.4						
SSE				LR	LR		
	comp=Z,4μm,16.0s						
SSE	**Sheshan**	**34.27**	**44**	*e*P	P	**06 17 13.7**	**+0.5**
	comp=Z,32nm,0.7s,mb5.4						
SSE				LR	LR		
	comp=Z,4μm,16.0s,MS5.3						
TIA	**Tai'an**	**35.19**	**33**	*e*P	P	**06 17 21.0**	**0.0**
TIA				*e*S	S	**06 22 55.3**	**+2.6**
TIA				LR	LR		
	comp=N,4μm,12.0s,MS5.7						
TIA				LR	LR		
	comp=E,7μm,10.2s,MS5.7						
WMQ	**Urumqi**	**36.23**	**352**	P	P	**06 17 32.0**	**+2.3**
WMQ				AP	pP	06 17 41.8	+7.6
WMQ				XP	sP	06 17 45.8	+10
WMQ				PP	PP	06 18 55.3	+2.7
WMQ				PCP	PcP	06 19 57.5	+2.3
WMQ				AMB	AMB		
	comp=Z,274nm,1.4s,mb6.0						
WMQ				AMB	AMB		
	comp=Z,1μm,5.5s						
WMQ				LR	LR		
	comp=N,4μm,18.2s,MS5.3						
WMQ				LR	LR		
	comp=E,3μm,18.3s,MS5.3						
WMQ				LR	LR		
	comp=Z,5μm,18.6s,MS5.3						
WBK	**Wadi Bani Khal**	**36.76**	**297**	⇓P	P	**06 17 37.5**	**+3.1**
JMDO	**Jabal Madar**	**37.45**	**297**	⇓P	P	**06 17 43.0**	**+2.8**
BJT	**Baijiatuau**	**37.62**	**28**	*e*P	P	**06 17 42.2**	**+0.8**
BJT				pmax	pmax		
	comp=Z,11nm,0.6s						
BJT	**Baijiatuau**	**37.62**	**28**	*e*P	P	**06 17 42.2**	**+0.9**
	comp=Z,11nm,0.6s,mb4.8						
BJI	**Beijing**	**37.64**	**28**	P	P	**06 17 43.3**	**+1.8**
BJI				*PP	pP	06 17 54.4	+8.3
BJI						06 19 12.8	
BJI				S	S	**06 23 36.2**	**+6.0**
BJI				pmax	pmax		
	comp=Z,32nm,1.7s,mb4.8						
BJI				MLR	MLR		
	comp=Z,3μm,21.8s,MS5.0						
BJI	**Beijing**	**37.64**	**28**	P	P	**06 17 43.3**	**+1.8**
	comp=Z,32nm,1.7s,mb4.8						
BJI				pP	pP	06 17 54.4	+8.3
BJI				PP	PP	06 19 12.8	+2.5
BJI				S	S	**06 23 36.2**	**+6.0**
BJI				LR	LR		
	comp=Z,3μm,21.8s,MS5.0						
SMDO	**Samad**	**37.70**	**298**	⇑P	P	**06 17 45.4**	**+3.1**
BIDO	**Bidbid**	**37.78**	**298**	⇓P	P	**06 17 46.5**	**+3.6**
UCH	**Uchtor**	**38.31**	**336**	P	P	**06 17 48.2**	**+1.0**
	SNR=9.3						
MBWA	**Marble Bar**	**38.33**	**139**	*e*P	P	**06 17 49.0**	**+1.5**
BSY	**Bisya**	**38.36**	**297**	P	P	**06 17 51.5**	**+3.8**
	SNR=11						
TKM2	**Tokmak 2**	**38.49**	**338**	P	P	**06 17 49.1**	**+0.4**
	SNR=6.2						
KBK	**Karagaybulak**	**38.51**	**337**	P	P	**06 17 50.0**	**+1.1**
	SNR=15						
HOQ	**Hoqain**	**38.51**	**298**	P	P	**06 17 52.9**	**+3.8**
	SNR=16						
AML	**Almayashu**	**38.56**	**335**	P	P	**06 17 50.5**	**+1.2**
	SNR=34						
AAK	**Ala-Archa**	**38.66**	**337**	P	P	**06 17 50.9**	**+0.7**
	SNR=19						
AAK	**Ala-Archa**	**38.66**	**337**	P	P	**06 17 50.7**	**+0.6**
AAK				pmax	pmax		
	comp=Z,153nm,1.5s,mb5.5						
AAK	**Ala-Archa**	**38.66**	**337**	*e*P	P	**06 17 49.8**	**-0.3**
	comp=Z,167nm,1.5s,mb5.5						
FRU	**Bishkek**	**38.78**	**337**	*e*P	P	**06 17 52.0**	**+0.8**
CHMS	**Chumysh**	**38.87**	**337**	P	P	**06 17 52.1**	**+0.2**
	SNR=16						
EKS2	**Erkin-Say**	**38.97**	**336**	P	P	**06 17 53.8**	**+1.0**
	SNR=12						
ARQ	**Araqi**	**39.13**	**297**	P	P	**06 17 57.7**	**+3.5**
	SNR=10.0						
USP	**Ospenovka**	**39.20**	**337**	P	P	**06 17 55.4**	**+0.7**
	SNR=22						
RBK	**Rabkut**	**39.96**	**288**	⇑P	P	**06 18 01.8**	**+0.6**
MKAR	**Makanchi Array**	**40.06**	**347**	*i* P	P	**06 18 01.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**40.48**	**130**	*e*P	P	**06 18 06.6**	**+1.2**
	comp=Z,51nm,1.2s,mb5.1						
ABTO	**Aybut**	**40.80**	**287**	⇓P	P	**06 18 08.6**	**+0.6**
SONM	**Songino Array**	**41.17**	**13**	P	P	**06 18 11.3**	**+0.5**
	comp=Z,22nm,0.9s,mb4.8,baz=194,slow=8.4,SNR=23						
SONM				PcP	PcP	06 20 09.0	-1.6
	comp=Z,6.4nm,0.7s,baz=200,slow=3.3,SNR=5.4						
ULN	**Ulaanbaatar**	**41.35**	**13**	*i* P	P	**06 18 11.8**	**-0.4**
ULN	**Ulaanbaatar**	**41.35**	**13**	*i* P	P	**06 18 11.9**	**-0.3**
KS15	**Wonju Array Si**	**42.48**	**41**	*e*P	P	**06 18 22.7**	**+1.0**
SNY	**Shenyang**	**42.71**	**33**	⇑P	P	**06 18 23.0**	**-0.5**
SNY				XP	sP	06 18 35.5	+5.5
SNY				AMB	AMB		
	comp=Z,40nm,2.0s,mb4.8						
SNY				AMB	AMB		
	comp=Z,660nm,7.0s						
SNY				LR	LR		
	comp=N,3μm,16.3s,MS5.6						
SNY				LR	LR		
	comp=E,6μm,15.3s,MS5.6						
SNY				LR	LR		
	comp=Z,5μm,16.8s,MS5.5						
ZAK	**Zakamensk**	**43.05**	**9**	*e*P	P	**06 18 25.8**	**-0.4**
MOY	**Mondy**	**44.02**	**6**	*e*P	P	**06 18 34.8**	**+0.8**
TLY	**Talaya**	**44.37**	**9**	P	P	**06 18 37.8**	**+0.9**
	comp=Z,80nm,0.9s,mb5.5,SNR=9.2						
TLY	**Talaya**	**44.37**	**9**	*e*P	P	**06 18 37.0**	**+0.1**
TLY				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.7						
TLY	**Talaya**	**44.37**	**9**	*e*P	P	**06 18 37.0**	**+0.1**
	comp=Z,14nm,0.9s,mb4.7						
KURK	**Kurchatov**	**44.58**	**346**	*i* P	P	**06 18 38.7**	**+0.1**
KURK				pmax	pmax		
	comp=Z,190nm,1.5s,mb5.7						
MUN	**Mundaring**	**44.93**	**153**	*e*P	P	**06 18 40.9**	**-0.8**
	comp=Z,84nm,1.0s,mb5.5						
MUN	**Mundaring**	**44.93**	**153**	*e*P	P	**06 18 40.9**	**-0.8**
MUN				pmax	pmax		
	comp=Z,84nm,1.0s,mb5.5						
KLBR	**Kellerberrin**	**45.32**	**151**	*e*P	P	**06 18 44.9**	**+0.1**
	comp=Z,689nm,0.9s						
NWAO	**Narrogin (SRO)**	**46.19**	**153**	*e*P	P	**06 18 51.5**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,188nm,1.1s						
NWAO	**Narrogin (SRO)**	**46.19**	**153**	P	P	**06 18 51.8**	**+0.2**
	comp=Z,42nm,0.8s,mb5.4,baz=325,slow=9.0,SNR=16						
NWAO	**Narrogin (SRO)**	**46.19**	**153**	*e*P	P	**06 18 51.5**	**-0.2**
	comp=Z,188nm,1.1s,mb5.9						
ZAL	**Zalesovo**	**46.53**	**352**	*i* P	P	**06 18 54.5**	**+0.5**
ZAL				pmax	pmax		
	comp=Z,73nm,1.0s						
ZAL	**Zalesovo**	**46.53**	**352**	P	P	**06 18 53.9**	**-0.1**
	comp=Z,72nm,1.0s,mb5.6,baz=294,slow=6.7,SNR=55						
HIA	**Hailar**	**46.55**	**23**	*e*P	P	**06 18 54.5**	**+0.3**
HIA				pmax	pmax		
	comp=Z,72nm,0.9s						
HIA	**Hailar**	**46.55**	**23**	*e*P	P	**06 18 54.5**	**+0.3**
	comp=Z,72nm,0.9s,mb5.6						
NVS	**Novosibirsk**	**47.62**	**352**	*i* P	P	**06 19 01.4**	**-1.2**
NVS				*i* S	S	**06 25 55.5**	**-1.0**
NVS				pmax	pmax		
	comp=N,85nm,1.0s						
NVS				pmax	pmax		
	comp=E,50nm,1.0s						

comp=Z,41nm,0.8s,mb5.5
WRAB Tennant Creek 48.34 125 *e*P **P 06 19 07.7 -1.0**
comp=Z,41nm,0.8s,mb5.5
WB2 Warramunga Arr 48.34 125 *e*P **P 06 19 06.8 -1.9**
BVA0 Borovoye Array 48.95 341 *i* P **P 06 19 11.9 -1.1**
BVA0 pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
BVAR Borovoye Array 48.95 341 P **P 06 19 12.6 -0.3**
comp=Z,16nm,0.8s,mb5.1,baz=143,slow=7.4,SNR=22
BVAR PcP PcP 06 20 37.7 +0.3
comp=Z,6.0nm,0.8s,baz=207,slow=3.2,SNR=2.4
RAYN Ar Rayn 49.01 294 P **P 06 19 15.8 +2.0**
comp=Z,365nm,0.7s,SNR=31
BRVK Borovoye 49.02 341 *e*P **P 06 19 12.7 -0.7**
BRVK *PP pP 06 19 18.0 -0.1
BRVK pmax pmax
comp=Z,48nm,1.3s,mb5.4
BRVK Borovoye 49.02 341 *e*P **P 06 19 12.7 -0.8**
comp=Z,48nm,1.3s,mb5.4
BRVK pP pP 06 19 18.0 -0.1
JHJ Hachijo jima 2 49.12 53 LR LR 06 42 03.0
comp=Z,3μm,18.9s,MS5.3,baz=12,slow=39
MAJO Matsushiro 49.22 48 *e*P **P 06 19 14.4 -0.8**
MAJO pmax pmax
comp=Z,88nm,1.6s,mb5.5
MAJO MLR MLR
comp=Z,3μm,22.0s,MS5.3
MAJO Matsushiro 49.22 48 *e*P **P 06 19 14.4 -0.8**
comp=Z,88nm,1.6s,mb5.5
MAJO LR LR
comp=Z,3μm,22.0s,MS5.3
MAT Matsushiro 49.22 48 *e*P **P 06 19 16.0 +0.8**
MAT pmax pmax
comp=Z,64nm,1.8s,mb5.3
MAT MLR MLR
comp=Z,2μm,18.0s,MS5.1
MAT Matsushiro 49.22 48 P **P 06 19 15.6 +0.4**
MAT S **S 06 26 18.0 -1.2**
CHKZ Chkalovo 49.44 342 *e*P **P 06 19 16.0 -0.7**
CHKZ *e**PP pP 06 19 21.8 +0.4
CHKZ pmax pmax
comp=Z,99nm,0.9s,mb5.8
CHKZ Chkalovo 49.44 342 *e*P **P 06 19 16.0 -0.7**
comp=Z,99nm,0.9s,mb5.8
CHKZ *e*pP pP 06 19 21.8 +0.4
ASPA Alice Springs 49.98 130 *e*P **P 06 19 20.1 -1.2**
ASAR Alice Springs 49.98 130 P **P 06 19 19.8 -1.5**
comp=Z,9.4nm,0.7s,mb4.9,baz=308,slow=7.3,SNR=13
ASAR PcP PcP 06 20 41.4 -0.2
comp=Z,8.9nm,0.9s,baz=305,slow=2.8,SNR=4.0
FORT Forrest 50.40 141 *e*P **P 06 19 23.8 -0.5**
comp=Z,342nm,0.8s,mb6.4
BOD Bodaibo 52.16 13 *e*P **P 06 19 34.8 -2.5**
GNI Garni 54.37 314 *i* P **P 06 19 53.4 -0.5**
GNI pmax pmax
comp=Z,41nm,1.7s
GNI Garni 54.37 314 P **P 06 19 53.1 -0.8**
comp=Z,15nm,0.9s,mb4.9,baz=341,slow=8.0,SNR=5.8
GNI Garni 54.37 314 *e*P **P 06 19 53.5 -0.5**
comp=Z,96nm,1.1s,mb5.6
CLNS Chul'man 54.46 20 *e*P **P 06 19 53.7 -0.6**
CLNS pmax pmax
comp=Z,83nm,1.0s,mb5.6
CLNS pmax pmax
comp=N,45nm,0.9s
CLNS pmax pmax
comp=E,41nm,0.9s
TI2 Plekhanov 54.98 316 *e*P **P 06 19 58.0 -0.4**
SVE Sverdlovsk 55.36 338⇓*e*P **P 06 19 57.5 -3.5**
SVE pmax pmax
comp=Z,300nm,2.0s,mb6.0
PMG Port Moresby 55.61 107 *e*P **P 06 20 03.3 0.0**
PMG pmax pmax
comp=Z,43nm,0.8s
PMG Port Moresby 55.61 107 P **P 06 20 02.8 -0.6**
comp=Z,45nm,0.8s,mb5.6,baz=280,slow=8.3,SNR=8.2
PMG Port Moresby 55.61 107 *e*P **P 06 20 03.3 -0.1**
comp=Z,43nm,0.8s,mb5.5
ARU Arti 55.85 337 P **P 06 20 03.4 -1.1**
comp=Z,278nm,1.5s,mb6.1,SNR=14
ARU Arti 55.85 337⇓*i*P **P 06 19 57.4 -7.1**
ARU *i* 06 20 58.3
ARU *e*S **S 06 27 40.1 -9.2**
ARU *e* 06 29 41.9
ARU pmax pmax
comp=Z,88nm,1.5s,mb5.6
ARU MLR MLR
comp=Z,4μm,20.0s,MS5.5
ARU MLR MLR
comp=N,4μm,19.0s,MS5.5
ARU MLR MLR
comp=E,2μm,19.0s,MS5.5
ZEI Tsey 55.98 317 *e*P **P 06 20 04.2 -1.4**
ZEI *i* *PP pP 06 20 14.4 +4.1
ZEI *i* 06 22 09.5
ZEI pmax pmax
comp=Z,13nm,1.1s,mb4.9
ERZM Erzurum 56.70 313 *i* P **P 06 20 10.8 -0.1**
YSS Yuzh-Sakhalins 56.83 38 *e*P **P 06 20 10.6 -1.0**
YSS S **S 06 28 10.0 +7.6**
YSS pmax pmax
comp=Z,90nm,1.6s,mb5.5
YSS MLR MLR
comp=Z,4μm,16.0s,MS5.6
YSS MLR MLR
comp=N,2μm,14.0s,MS5.7
YSS MLR MLR
comp=E,4μm,15.0s,MS5.7
YSS Yuzh-Sakhalins 56.83 38 *e*P **P 06 20 11.4 -0.2**
comp=E,59nm,1.1s,mb5.5
KIV Kislovodsk 57.26 318 *e*P **P 06 20 13.4 -1.3**
KIV pmax pmax
comp=Z,60nm,0.8s,mb5.7
KIV MLR MLR
comp=Z,414nm,20.0s,MS4.5
KIV Kislovodsk 57.26 318 *e*P **P 06 20 13.4 -1.3**
comp=Z,60nm,0.8s,mb5.7
KIV LR LR
comp=Z,414nm,20.0s,MS4.5
KMBO Kilima Mbogo 57.34 264 *e*P **P 06 20 15.6 -0.1**
KMBO pmax pmax
comp=Z,41nm,1.0s
KMBO Kilima Mbogo 57.34 264 P **P 06 20 17.6 +1.8**
comp=Z,28nm,1.0s,mb5.2,baz=54,slow=9.9,SNR=22
KMBO Kilima Mbogo 57.34 264 *e*P **P 06 20 15.6 -0.1**
comp=Z,41nm,1.0s,mb5.4
GOF Gofitskoye 57.47 319⇓*i*P **P 06 20 15.0 -1.2**
GOF pmax pmax
comp=Z,20nm,1.0s,mb5.1
ELZG Elazig 58.03 311 *i* P **P 06 20 15.7 -4.5**
ASF Jabal al Asfar 58.14 303 P **P 06 20 20.9 -0.1**
comp=Z,6.7nm,0.8s,mb4.7,baz=12,slow=1.4,SNR=10
CTA Charters Tower 58.38 119 *e*P **P 06 20 22.7 -0.2**
comp=Z,13nm,1.2s,mb4.8
CTA Charters Tower 58.38 119 *e*P **P 06 20 22.7 -0.2**
CTA pmax pmax
comp=Z,13nm,1.2s
CTA Charters Tower 58.38 119 P **P 06 20 21.6 -1.4**
comp=Z,19nm,1.1s,mb5.0,baz=274,slow=8.8,SNR=7.2
CTAO Charters Tower 58.38 119 *e*P **P 06 20 22.3 -0.6**
CTAO pmax pmax
comp=Z,42nm,1.4s,mb5.3
CTAO Charters Tower 58.38 119 *e*P **P 06 20 22.3 -0.6**
comp=Z,42nm,1.4s,mb5.3
MALT Malatya 58.39 310 *e*P **P 06 20 21.5 -1.2**
MALT pmax pmax
comp=Z,24nm,1.1s,mb5.1
MALT Malatya 58.39 310 *e*P **P 06 20 21.5 -1.2**
comp=Z,24nm,1.1s,mb5.1
SOKR Solikamsk 58.76 339⇑*i*P **P 06 20 23.8 -1.2**
SOKR *e* 06 20 31.3
SOKR pmax pmax
comp=Z,100nm,1.1s,mb5.8
GZT Gaziantep 58.79 309 *i* P **P 06 20 23.7 -1.9**
SOC Sochi 59.12 317 *e*P **P 06 20 23.7 -4.0**
SOC *e* 06 21 10.3
SOC *e* 06 22 35.6
SOC *e*S **S 06 28 33.5 +1.0**
SOC *e* 06 30 07.1
SOC *e*SS SS 06 32 24.6 -4.0
SOC pmax pmax
comp=Z,50nm,1.0s,mb5.5
SOC pmax pmax
comp=N,39nm,1.2s
SOC pmax pmax
comp=E,32nm,1.1s
SOC MLR MLR
comp=Z,1μm,22.0s,MS5.1
SOC MLR MLR
comp=N,639nm,18.0s,MS5.2
SOC MLR MLR
comp=E,2μm,20.0s,MS5.2
EIL Elat 59.35 300 P **P 06 20 30.0 +0.5**
comp=E,20nm,1.1s,mb5.1,baz=125,slow=6.8,SNR=6.3
EIL Elat 59.35 300 *e*P **P 06 20 29.7 +0.2**
comp=E,73nm,1.4s,mb5.5
COBT Iskenderun 59.60 308 *i* P **P 06 20 28.3 -2.9**
YAK Yakutsk 60.01 18 *d i*P **P 06 20 32.5 -1.1**
YAK *e**PP pP 06 20 37.9 -0.5
YAK *e* 06 21 15.9
YAK *e*S **S 06 28 44.0 +0.2**
YAK *e**SS 06 29 01.2
YAK pmax pmax
comp=Z,95nm,1.0s,mb5.8
YAK pmax pmax
comp=N,37nm,1.2s
YAK pmax pmax
comp=E,42nm,1.2s
YAK pmax pmax
comp=Z,17nm,0.9s,mb5.1
YAK smax
comp=N,6.0nm,1.0s
YAK MLR MLR
comp=Z,4μm,15.0s,MS5.6
YAK MLR MLR
comp=N,4μm,13.0s,MS5.9
YAK MLR MLR
comp=E,4μm,13.0s,MS5.9
YAK Yakutsk 60.01 18 *e*P **P 06 20 32.4 -1.2**
comp=E,89nm,0.8s,mb5.8
STKA Stephens Creek 60.17 134 *e*P **P 06 20 34.0 -1.1**
comp=E,14nm,0.8s,mb5.0
STKA Stephens Creek 60.17 134 P **P 06 20 32.7 -2.4**
comp=E,6.6nm,0.7s,mb4.8,baz=303,slow=10,SNR=6.9
ANN Anapa 61.07 317 *e*P **P 06 20 35.9 -5.2**
ANN pmax pmax
comp=Z,60nm,1.4s,mb5.5
BOYT Boyabat 61.85 313 *i* P **P 06 20 44.5 -1.9**
VRSR Storozhevoye 62.32 324 *e*P **P 06 20 47.1 -2.3**
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=Z,30nm,0.8s,mb5.5
VRSR pmax pmax
comp=E,20nm,0.7s
BRTR Keskin Array B 62.36 311 P **P 06 20 47.8 -2.1**
comp=E,8.8nm,0.9s,mb4.9,baz=128,slow=6.9,SNR=21
ELDT Eldivan 62.70 312 *i* P **P 06 20 50.7 -1.4**
BALT Daday 62.98 313 *i* P **P 06 20 49.4 -4.4**
SIM Simferopol' 63.37 317 P **P 06 21 00.8 +4.4**
SIM S Sx 06 29 57.8
SIM pmax pmax
comp=Z,30nm,0.8s,mb5.5
MBAR Mbarara 63.68 265 *e*P **P 06 20 58.6 -0.4**
MBAR pmax pmax
comp=Z,90nm,1.3s,mb5.6
MBAR Mbarara 63.68 265 *e*P **P 06 20 58.5 -0.5**
comp=Z,90nm,1.3s,mb5.6
ISP Isparta 64.37 308 *e*P **P 06 21 00.2 -2.9**
ISP pmax pmax
comp=Z,13nm,0.8s,mb5.0
ISP Isparta 64.37 308 *e*P **P 06 21 00.2 -2.9**
comp=Z,13nm,0.8s,mb5.0
MOS Moscow 65.03 329α *i*P **P 06 21 06.7 -0.4**
MOS *e* 06 21 15.5
MOS *e* 06 21 38.7
MOS *e*S S 06 29 44.7 -2.3
MOS pmax pmax
comp=Z,200nm,1.5s,mb5.9
MOS Moscow 65.03 329 *e*P **P 06 21 05.9 -1.2**
OBN Obninsk 65.33 328 *i* P **P 06 21 04.9 -4.1**
OBN *e* 06 23 28.3
OBN *e*S S 06 29 47.4 -3.2
OBN pmax pmax
comp=Z,133nm,1.3s,mb5.8
OBN Obninsk 65.33 328 *e*P **P 06 21 04.8 -4.2**
comp=Z,104nm,1.1s,mb5.8
TOO Toolangi 65.92 137 *e*P **P 06 21 14.8 +1.7**
comp=Z,1.9nm,1.0s
TOO Toolangi 65.92 137 *e*P **P 06 21 14.8 +1.7**
TOO pmax pmax
comp=Z,2.0nm,1.0s
BTOK Tokmak 66.60 310 *i* P **P 06 21 15.9 -1.6**
MA2 Magadan 66.80 28 *e*P **P 06 21 18.0 -0.3**
MA2 pmax pmax
comp=Z,48nm,0.8s,mb5.6
MA2 Magadan 66.80 28 *e*P **P 06 21 18.0 -0.3**
comp=Z,48nm,0.8s,mb5.6
ARMA Armidale 67.03 128 *e*P **P 06 21 21.4 +1.1**
TIXI Tiksi 67.24 11 *i* P **P 06 21 19.6 -1.4**
KIS Kishinev 67.46 318 *e*P **P 06 21 20.0 -2.8**
KIS *e* pP 06 21 25.0 -2.5
KIS *e* 06 21 38.0
KIS *e* 06 21 54.0
CNB Canberra Magne 67.50 133 *e*P **P 06 21 24.2 +1.0**
comp=Z,134nm,0.8s,mb6.0
AKASG Malin Array Be 68.10 322 P **P 06 21 24.5 -2.2**
comp=Z,14nm,0.9s,mb5.0,baz=89,slow=4.8,SNR=18
IDI Anoyia 68.49 305 P **P 06 21 28.8 -0.6**
comp=Z,16nm,0.6s,mb5.3,baz=96,slow=7.7,SNR=9.4
PET Petropavlovsk 68.57 36 *e*P **P 06 21 24.4 -5.2**
PET *e* 06 34 47.2
SEY Seymchan 68.95 25 *e*P **P 06 21 29.9 -1.9**
SEY *e* 06 21 54.1
SEY *e*PPP PPP 06 25 44.7 +0.2
SEY *e*S S 06 30 34.2 0.0
SEY *e* 06 31 28.0
SEY SS SS 06 35 03.5 +1.7
SEY pmax pmax
comp=Z,110nm,1.0s,mb5.7
SEY smax
comp=N,710nm,20.2s
SEY smax
comp=E,940nm,21.9s
SEY MLR MLR
comp=Z,14μm,23.0s,MS6.1
SEY MLR MLR
comp=N,20μm,25.0s
SEY MLR MLR
comp=E,3μm,15.0s
MLR Muntele Rosu 69.11 316 P **P 06 21 32.1 -0.9**
comp=E,23nm,0.9s,mb5.1,baz=86,slow=2.5,SNR=12
LSZ Lusaka 69.19 250 *e*P **P 06 21 34.8 +0.8**
LSZ pmax pmax
comp=Z,28nm,0.9s,mb5.2
LSZ MLR MLR
comp=Z,5μm,22.0s,MS5.7
LSZ Lusaka 69.19 250 *e*P **P 06 21 34.8 +0.8**
comp=Z,28nm,0.9s,mb5.2
LSZ LR LR
comp=Z,5μm,22.0s,MS5.7
MNK Minsk 69.90 325⇑*e*P **P 06 21 34.0 -3.7**
IDID Didziasalis 70.72 326 *e*P **P 06 21 41.6 -1.1**
IDID AMPb AMB 06 21 51.0
comp=Z,31nm,1.4s,mb5.1
JOF Joensuu 70.81 334 *e*p **P 06 21 42.4 -0.7**
comp=Z,2.5nm,0.4s,mb4.5
IIGN Ignalina 71.02 326 *e*P **P 06 21 43.6 -0.9**
IIGN AMPb AMB 06 21 52.7
comp=Z,25nm,1.0s,mb5.1
IZAR Zarasai 71.10 326 *e*P **P 06 21 44.0 -0.9**
ISAL Salakas 71.12 326 *e*P **P 06 21 44.3 -0.8**
ISAL AMPb AMB 06 21 53.4
comp=Z,20nm,1.3s,mb4.9
ZAPS Zavoj/Pirot 71.14 313⇓*i*P **P 06 21 43.7 -1.7**
LVV L`vov 71.16 320 *i* P **P 06 21 43.2 -2.2**
BOLS Boljevac 71.67 313⇓*i*P **P 06 21 47.1 -1.5**
APA Apatity 71.81 339⇓*i*P **P 06 21 48.7 -0.4**
APA pmax pmax
comp=Z,58nm,1.2s,mb5.4
APA MLR MLR
comp=Z,3μm,20.0s,MS5.6
KWP Kalwaria 71.97 320 *e*P **P 06 21 49.9 -0.4**
KWP pmax pmax
comp=Z,65nm,1.1s,mb5.5
KWP Kalwaria 71.97 320 *e*P **P 06 21 50.3 0.0**
KWP Kalwaria 71.97 320 *e*P **P 06 21 50.3 0.0**
KOLS Kolonicke sedl 72.14 319 *e*P **P 06 21 51.1 -0.2**
KOLS *e* 06 21 58.9
KOLS *e* 06 22 05.3
KOLS Kolonicke sedl 72.14 319 *e*P **P 06 21 51.1 -0.2**
KOLS *e*pP pP 06 21 56.6 +0.5
KOLS *e*sP sP 06 21 58.9 +1.1
KOLS *e* 06 22 05.3
SUW Suwalki 72.45 324 *e*P **P 06 21 51.7 -1.4**
SUW pmax pmax
comp=Z,120nm,0.9s,mb5.8
SUW Suwalki 72.45 324 *e*P **P 06 21 51.9 -1.2**
SUW *e* pP 06 21 55.9 -2.0
SUW Suwalki 72.45 324 *e*P **P 06 21 51.9 -1.2**
SUW *e* pP 06 21 55.9 -1.9
FINES FINESS Array B 72.67 332 P **P 06 21 53.4 -0.8**
comp=Z,30nm,0.9s,mb5.2,baz=98,slow=6.4,SNR=31
CRVS Cervenica-Dubn 72.67 319 *e*P **P 06 21 54.1 -0.4**
CRVS *e* 06 22 04.3
KAF Kangasniemi 72.75 333 *e*p **P 06 21 52.6 -2.0**
comp=Z,2.9nm,0.4s,mb4.6
KAF Kangasniemi 72.75 333 *e*P **P 06 21 52.6 -2.0**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
DIVS Divcibare 73.12 314⇑*i*P **P 06 21 55.2 -2.0**
NIE Niedzica 73.48 319 *e*P **P 06 21 59.4 +0.2**
PSZ Piszkesteto 73.58 318 *e*P **P 06 21 59.4 -0.4**
PSZ pmax pmax
comp=Z,26nm,1.0s,mb5.1
PSZ Piszkesteto 73.58 318 *e*P **P 06 21 59.4 -0.5**
comp=Z,26nm,1.0s,mb5.1
OJC Ojcow 73.92 320 *e*P **P 06 22 01.0 -0.7**
LBTB Lobatse 74.17 241 *e*P **P 06 22 04.8 +1.1**
LBTB pmax pmax
comp=Z,34nm,0.8s,mb5.3
LBTB Lobatse 74.17 241 *e*P **P 06 22 04.8 +1.0**
comp=Z,34nm,0.8s,mb5.3
PKSM Moragy 74.26 316⇑*e*P **P 06 22 03.1 -0.7**
PKSM *i* 06 24 59.6
VYHS Vyhne 74.35 318 *e*P **P 06 22 04.0 -0.2**
VYHS *e* pP 06 22 07.7 -1.3
SRO Srobarova 74.63 317 *e*P **P 06 22 06.1 +0.2**
SRO *e*pP pP 06 22 09.8 -0.9
KEV Kevo 74.80 341 *e*p **P 06 22 06.2 -0.2**
comp=Z,0.9nm,0.4s
KEV Kevo 74.80 341 *e*P **P 06 22 06.2 -0.2**
KEV pmax pmax
comp=Z,1.0nm,0.4s
OKC Ostrava-Krasne 74.93 319 *e*P **P 06 22 07.1 -0.5**
OKC *e*pP pP 06 22 11.0 -1.4
OKC AMS AMS 07 04 20.0
comp=Z,800nm,18.5s
CASY Casey 74.95 173 *e*P **P 06 22 06.2 -1.1**
comp=Z,90nm,1.3s,mb5.5
TIP Timpagrande 75.22 308 *e*P **P 06 22 09.8 +0.3**
ARCES ARCESS Array B 75.23 340 P **P 06 22 08.9 0.0**
comp=Z,8.9nm,0.8s,mb4.8,baz=94,slow=7.1,SNR=19
MORC Moravsky Berou 75.31 319 *e*P **P 06 22 09.4 -0.4**
MORC pmax pmax
comp=Z,44nm,1.1s,mb5.3
MORC Moravsky Berou 75.31 319 *e*P **P 06 22 09.3 -0.4**
comp=Z,44nm,1.1s,mb5.3
ZST Bratislava 75.47 318 *e*P **P 06 22 10.3 -0.4**
ZST *e*pP pP 06 22 14.9 -0.6
VRAC Vranov 75.89 319 P **P 06 22 12.4 -0.7**
comp=Z,4.8nm,0.7s,mb4.5,baz=108,slow=8.7,SNR=4.6
VKA Vienna 76.00 318⇑*i*P **P 06 22 14.0 +0.3**
BILL Bilibino 76.11 22 *i* P **P 06 22 09.9 -4.0**
DPC Dobruska-Polom 76.15 320 *e*P **P 06 22 13.7 -0.8**
DPC *e*pP pP 06 22 19.0 -0.3
KSP Ksiaz 76.20 320 *e*P **P 06 22 15.0 +0.2**
KSP *e**PP pP 06 22 19.4 -0.2
KSP Ksiaz 76.20 320 *e*P **P 06 22 15.3 +0.5**
KSP *e* pP 06 22 19.2 -0.5
UPC Upice 76.36 320 *e*P **P 06 22 16.1 +0.4**
UPC *e*pP pP 06 22 20.2 -0.3
GROS Grobnik 76.45 316 *e*P **P 06 22 15.9 -0.4**
ARSA Arzberg 76.47 317⇑*i*P **P 06 22 16.9 +0.5**
comp=Z,40nm,1.2s,mb5.2
PDKS Podkum 76.78 315 *e*P **P 06 22 18.4 +0.3**
OBKA Obir 77.11 316⇓*i*P **P 06 22 19.9 0.0**
comp=Z,40nm,1.3s,mb5.2
PRU Pruhonice 77.27 319 *e*P **P 06 22 20.5 -0.2**
PRU *e*pP pP 06 22 24.6 -1.0
PRU AMS AMS 07 04 30.0
comp=Z,1μm,17.0s
PVCC Panska Ves 77.28 320 *e*P **P 06 22 20.8 0.0**
PVCC *e*pP pP 06 22 25.2 -0.4
PVCC AMS AMS 07 05 20.0
comp=Z,2μm,17.8s
MOA Molln 77.35 317⇑*i*P **P 06 22 21.3 0.0**
comp=Z,31nm,1.2s,mb5.1
BSD Bornholm Skovb 77.37 325 *i* P **P 06 22 26.0 +4.8**
BSD pmax pmax
comp=Z,58nm,1.0s,mb5.5
BSD Bornholm Skovb 77.37 325 *i* P **P 06 22 26.0 +4.8**
comp=Z,58nm,1.0s,mb5.5
TRO Tromso 77.49 340 *e*P **P 06 22 20.4 -1.2**
TRO *e*pP pP 06 22 26.6 +0.2
VOY Vojsko 77.55 315 *e*P **P 06 22 21.8 -0.6**
VOY *e* 06 25 18.7
BRG Berggiesshubel 77.69 320 *i* P **P 06 22 23.1 0.0**
BRG *i* pP 06 22 27.8 -0.1
BRG pmax pmax
comp=Z,91nm,1.8s,mb5.4
BRG MLR MLR
comp=Z,2μm,17.8s,MS5.5
BRG Berggiesshubel 77.69 320 *i* P **P 06 22 23.1 0.0**
comp=Z,91nm,1.8s,mb5.4
BRG *i* pP 06 22 27.8 -0.1
BRG LR LR
comp=Z,2μm,17.8s,MS5.5
GEC2 GERESS Array S 77.77 318 *e*P **P 06 22 23.5 0.0**
GEC2 pmax pmax
comp=Z,36nm,1.1s,mb5.2
GEC2 GERESS Array S 77.77 318 *e*P **P 06 22 23.5 0.0**
comp=Z,36nm,1.1s,mb5.2
GERES GERESS Array B 77.77 318 P **P 06 22 23.7 +0.2**
comp=Z,14nm,0.9s,mb4.9,baz=90,slow=5.3,SNR=26
AQU L'Aquila 77.84 312 *e*P **P 06 22 24.3 +0.3**
AQU pmax pmax
comp=Z,25nm,0.9s,mb5.1
AQU L'Aquila 77.84 312 *e*P **P 06 22 24.3 +0.2**
comp=Z,25nm,0.9s,mb5.1
KHC Kasperske Hory 77.86 318 *e*P **P 06 22 23.8 -0.2**
KHC *e* 06 22 33.0
KHC Kasperske Hory 77.86 318 *e*P **P 06 22 23.8 -0.2**
KHC *e*pP pP 06 22 27.6 -1.2
KHC *e* 06 22 33.0
KHC Kasperske Hory 77.86 318 *e*P **P 06 22 23.8 -0.2**
KHC *e*pP pP 06 22 27.6 -1.2
KHC sP sP 06 22 33.0 +2.5
KHC AMS AMS 07 04 20.0
comp=Z,1μm,19.3s
RUE Ruedersdorf 77.87 322 *e*P **P 06 22 23.8 -0.2**
comp=Z,66nm,0.9s,mb5.6
KBA Koelnbreinsper 77.95 316⇑*i*P **P 06 22 24.5 -0.1**
comp=Z,31nm,1.0s,mb5.2
KBA Koelnbreinsper 77.95 316⇑*i*P **P 06 22 24.5 -0.1**
KBA pmax pmax
comp=Z,31nm,1.0s,mb5.2
CLL Collm 78.30 321⇑*i*P **P 06 22 26.5 +0.1**
CLL *i* pP 06 22 30.0 -1.3
CLL pmax pmax
comp=Z,54nm,1.8s,mb5.2
CLL MLR MLR
comp=Z,1μm,17.6s,MS5.3
CLL Collm 78.30 321⇑*i*P **P 06 22 26.5 +0.1**
comp=Z,54nm,1.8s,mb5.2
CLL *i* pP 06 22 30.0 -1.3
CLL LR LR
comp=Z,1μm,17.6s,MS5.3
CLL Collm 78.30 321 ⇑P **P 06 22 26.5 +0.1**
comp=Z,logA/T=1.5,mb5.2
CLL *i* *PP pP 06 22 30.0 -1.3
CLL *e* 06 22 36.0
CLL *e* 06 23 29.0
CLL *e*SS SS 06 37 18.0 -7.3
WET Wettzell 78.32 318 *e*P **P 06 22 26.5 0.0**
WET pmax pmax
comp=Z,26nm,1.2s,mb5.0
WET Wettzell 78.32 318 *e*P **P 06 22 26.5 0.0**
comp=Z,26nm,1.2s,mb5.0
HFS Hagfors 78.41 330 P **P 06 22 26.5 -0.3**
comp=Z,14nm,0.5s,mb5.2,baz=108,slow=4.7,SNR=26
MAW Mawson 78.53 192 *e*P **P 06 22 29.3 +2.0**
comp=Z,14nm,0.9s,mb4.9
MAW Mawson 78.53 192 *e*P **P 06 22 28.4 +1.1**
MAW pmax pmax

comp=Z,34nm,1.0s
MAW Mawson 78.53 192 P **P 06 22 28.8 +1.5**
comp=Z,11nm,0.8s,mb4.8,baz=356,slow=6.4,SNR=5.6
NKC Novy Kostel 78.62 320 *e*P **P 06 22 28.4 +0.2**
NKC AMS AMS 07 06 00.0
comp=Z,1μm,16.7s
MOR8 Moi Rana 78.64 336 *e*P **P 06 22 27.3 -0.7**
comp=Z,78nm,1.8s,mb5.3
MOR8 Moi Rana 78.64 336 *e*P **P 06 22 27.3 -0.7**
MOR8 AMb AMB 06 22 34.5
comp=Z,78nm,1.8s,mb5.3
WTTA Wattenberg 79.12 317⇑ *i*P **P 06 22 30.7 -0.3**
comp=Z,70nm,1.3s,mb5.4
WTTA Wattenberg 79.12 317⇑ *i*P **P 06 22 30.7 -0.3**
WTTA pmax pmax
comp=Z,70nm,1.3s,mb5.4
WATA Walderalm 79.16 317⇑ *i*P **P 06 22 30.7 -0.5**
comp=Z,19nm,1.0s,mb5.0
WATA Walderalm 79.16 317⇑ *i*P **P 06 22 30.7 -0.5**
WATA pmax pmax
comp=Z,19nm,1.0s,mb5.0
MOX Moxa 79.16 320 *e*P **P 06 22 31.5 +0.4**
MOX pmax pmax
comp=Z,44nm,1.6s,mb5.1
MOX MLR MLR
comp=Z,1μm,18.0s,MS5.3
MOX Moxa 79.16 320 *e*P **P 06 22 31.5 +0.4**
comp=Z,44nm,1.6s,mb5.1
MOX LR LR
comp=Z,1μm,18.0s,MS5.3
MOX Moxa 79.16 320 *i* P **P 06 22 31.5 +0.4**
comp=Z,logA/T=1.4,mb5.1
MOX L 07 06 10.0
FUR Furstenfeldbru 79.36 317 *e*P **P 06 22 31.7 -0.6**
GRA1 Grafenberg Arr 79.41 319 *e*P **P 06 22 32.8 +0.3**
comp=Z,36nm,1.1s,mb5.2
GRA1 *e*pP pP 06 22 36.7 -0.6
GRF Grafenberg Arr 79.41 319 *e*P **P 06 22 32.8 +0.3**
GRF *e**PP pP 06 22 36.7 -0.6
GRF pmax pmax
comp=Z,36nm,1.1s,mb5.2
GRF Grafenberg Arr 79.41 319 *e*P **P 06 22 32.8 +0.3**
GRF *e**PP pP 06 22 36.7 -0.6
GRF pmax pmax
comp=Z,36nm,1.1s,mb5.2
GRF Grafenberg Arr 79.41 319 *e*P **P 06 22 32.8 +0.3**
comp=Z,36nm,1.1s,mb5.2
GRF *e*pP pP 06 22 36.7 -0.6
SQTA Sankt Quirin 79.41 317⇑ *i*P **P 06 22 32.1 -0.5**
comp=Z,22nm,0.9s,mb5.1
SQTA Sankt Quirin 79.41 317⇑ *i*P **P 06 22 32.1 -0.5**
SQTA pmax pmax
comp=Z,22nm,0.9s,mb5.1
MOTA Moosalm 79.48 317⇑ *i*P **P 06 22 32.6 -0.3**
comp=Z,22nm,1.0s,mb5.0
MOTA Moosalm 79.48 317⇑ *i*P **P 06 22 32.6 -0.3**
MOTA pmax pmax
comp=Z,22nm,1.0s,mb5.0
NSS Namsos 79.53 334 *e*P **P 06 22 31.2 -1.6**
NSS *e*pP pP 06 22 36.8 -0.9
NSS AMb AMB 06 22 48.4
comp=Z,110nm,2.3s,mb5.4
NSS *e*PP PP 06 25 28.6 -6.5
NB2 NORSAR Subarra 79.68 331 P **P 06 22 32.9 -0.8**
comp=Z,37nm,0.9s,mb5.3,baz=92,slow=5.3
NB2 NORSAR Subarra 79.68 331 P **P 06 22 32.9 -0.8**
baz=92,slow=5.6
NOA NORSAR Array B 79.68 331 P **P 06 22 33.0 -0.7**
comp=Z,17nm,0.8s,mb5.0,baz=92,slow=5.6,SNR=23
NAO01 NORSAR Array S 79.83 330 *e*P **P 06 22 34.1 -0.4**
comp=Z,36nm,0.8s,mb5.3
CLZ Clausthal 79.95 321 *e*P **P 06 22 35.4 0.0**
comp=Z,72nm,1.7s,mb5.3
SUR Sutherland 80.27 235 *e*P **P 06 22 38.5 +1.0**
comp=Z,42nm,0.9s,mb5.4
SUR LR LR
comp=Z,357nm,19.0s,MS4.7
DAVA Damuels 80.31 317⇑ *i*P **P 06 22 37.7 +0.3**
comp=Z,59nm,1.3s,mb5.4
MUD Monsted U'grnd 80.66 326 *i* P pP 06 22 44.9 +1.0
MUD pmax pmax
comp=Z,52nm,1.0s,mb5.4
MUD Monsted U'grnd 80.66 326 *i* P pP 06 22 44.9 +1.0
comp=Z,52nm,1.0s
TOD Tromm 80.98 319 *e*P **P 06 22 40.6 -0.3**
SPAK Spaichingen 81.03 317 *e*P **P 06 22 41.0 -0.2**
PGF Pioggiola 81.09 312 *e*P **P 06 22 41.1 -0.5**
TNS Taunus Mts 81.19 320 *e*P **P 06 22 42.0 0.0**
BFO Black Forest 81.33 318 *e*P **P 06 22 42.2 -0.5**
BFO pmax pmax
comp=Z,42nm,1.7s,mb5.1
BFO Black Forest 81.33 318 *e*P **P 06 22 42.2 -0.5**
comp=Z,42nm,1.7s,mb5.1
DRV Dumont d'Urvil 81.41 163 S S 06 32 47.0 -4.9
DRV SS SS 06 37 46.0 -26
DRV L 06 44 00.0
FELD Feldberg 81.57 317 *e*P **P 06 22 43.6 -0.4**
LANF Langenberg 81.65 318 *e*P **P 06 22 44.7 +0.3**
ABH Alteburg 81.78 319 *e*P **P 06 22 44.9 -0.1**
LIBD Limburg 81.82 318 *e*P **P 06 22 44.7 -0.6**
WLS Welschbruch 81.98 318 *e*P **P 06 22 45.4 -0.7**
CDF Champ du Feu 82.03 318 *e*P **P 06 22 45.8 -0.5**
comp=Z,70nm,1.2s,mb5.2
CDF Champ du Feu 82.03 318 *e*P **P 06 22 45.8 -0.5**
CDF pmax pmax
comp=Z,35nm,1.2s,mb5.2
RUP Ruppelstein 82.11 319 *e*P **P 06 22 46.0 -0.7**
ECH Echery 82.12 318 *e*P **P 06 22 50.6 +3.8**
MOF Molkenrain 82.15 317 *e*P **P 06 22 48.0 +1.0**
AUTN L'Aution 82.16 313 *e*P **P 06 22 51.5 +4.4**
SBF Sospel 82.17 313 *e*P **P 06 22 46.8 -0.4**
comp=Z,117nm,0.8s,mb5.6
SBF Sospel 82.17 313 *e*P **P 06 22 46.8 -0.4**
SBF pmax pmax
comp=Z,59nm,0.8s,mb5.6
TOUF Mont Tournerai 82.29 313 *e*P **P 06 22 51.7 +3.9**
HINF Hinteralfeld 82.34 317 *e*P **P 06 22 47.9 -0.1**
LPG La Plagne 82.55 315 *e*P **P 06 22 49.3 +0.2**
comp=Z,117nm,0.9s,mb5.6
LPG La Plagne 82.55 315 *e*P **P 06 22 49.3 +0.2**
LPG pmax pmax
comp=Z,58nm,0.9s,mb5.6
LPL La Plagne 82.56 315 *e*P **P 06 22 49.3 +0.1**
comp=Z,153nm,0.9s,mb5.7
LPL La Plagne 82.56 315 *e*P **P 06 22 49.3 +0.1**
LPL pmax pmax
comp=Z,76nm,0.9s,mb5.7
MBDF Montbardon 82.59 314 *e*P **P 06 22 48.6 -0.7**
comp=Z,34nm,0.8s,mb5.1
MBDF Montbardon 82.59 314 *e*P **P 06 22 48.6 -0.7**
MBDF pmax pmax
comp=Z,17nm,0.8s,mb5.1
BNI Bardonecchia 82.63 314 *e*P **P 06 22 50.8 +1.2**
BNI pmax pmax
comp=Z,46nm,0.9s,mb5.5
BNI Bardonecchia 82.63 314 *e*P **P 06 22 50.8 +1.2**
comp=Z,46nm,0.9s,mb5.5
HAU Haudompre 82.67 317 *e*P **P 06 22 49.1 -0.6**
comp=Z,69nm,0.8s,mb5.4
HAU *e*R
comp=Z,966nm,20.5s
HAU Haudompre 82.67 317 *e*P **P 06 22 49.1 -0.6**
HAU pmax pmax
comp=Z,34nm,0.8s,mb5.4
HAU MLR MLR
comp=Z,970nm,20.5s,MS5.2
WLF Walferdange 82.70 319 *e*P **P 06 22 50.4 +0.6**
WLF pmax pmax
comp=Z,70nm,1.4s,mb5.5
WLF Walferdange 82.70 319 *e*P **P 06 22 50.4 +0.6**
comp=Z,70nm,1.4s,mb5.5
FRF La Foret Royal 82.76 313 *e*P **P 06 22 50.2 0.0**
LMR La Mourre 82.87 313 *e*P **P 06 22 50.6 -0.2**
THEF They Montfort 82.90 318 *e*P **P 06 22 53.1 +2.2**
CABF La Chapelle 82.94 316 *e*P **P 06 22 51.0 -0.1**
comp=Z,129nm,1.3s,mb5.5
CABF La Chapelle 82.94 316 *e*P **P 06 22 51.0 -0.1**
CABF pmax pmax
comp=Z,64nm,1.3s,mb5.5
ORIF Oris-en-Rattie 83.21 314 *e*P **P 06 22 53.4 +0.9**
comp=Z,33nm,0.8s,mb5.1
ORIF *e*R
comp=Z,2μm,22.2s
GRN Grenoble 83.28 315 *e*P **P 06 22 57.7 +4.8**
SMRF Simiane la Rot 83.50 313 *e*P **P 06 22 54.5 +0.5**

MEZF Maizieres J'vi 83.50 318 *e*P **P 06 22 53.8 -0.2**
comp=Z,89nm,1.3s,mb5.5
GIVF Givet 83.53 320 *e*P **P 06 22 53.8 -0.3**
BAIF Baives 83.92 320 *e*P **P 06 22 56.1 0.0**
comp=Z,89nm,1.1s,mb5.5
BAIF Baives 83.92 320 *e*P **P 06 22 56.1 0.0**
BAIF pmax pmax
comp=Z,45nm,1.1s,mb5.5
VIVF Saint-Julien-l 84.07 314 *e*P **P 06 22 56.6 -0.3**
comp=Z,141nm,1.4s,mb5.6
VIVF Saint-Julien-l 84.07 314 *e*P **P 06 22 56.6 -0.3**
VIVF pmax pmax
comp=Z,71nm,1.4s,mb5.6
SMF Signal de Mont 84.48 316 *e*P **P 06 22 58.4 -0.6**
comp=Z,74nm,1.0s,mb5.5
SMF Signal de Mont 84.48 316 *e*P **P 06 22 58.4 -0.6**
SMF pmax pmax
comp=Z,37nm,1.0s,mb5.5
SSF Saint Saulge 84.67 317 *e*P **P 06 22 59.7 -0.2**
SSF pmax pmax
comp=Z,30nm,1.1s,mb5.3
SSF Saint Saulge 84.67 317 *e*P **P 06 22 59.7 -0.2**
comp=Z,30nm,1.1s,mb5.3
PLDF La Plantade 84.70 316 *e*P **P 06 23 01.9 +1.8**
LASF Ste Croix 84.72 314 *e*P **P 06 23 00.5 +0.3**
comp=Z,164nm,1.5s,mb5.6
AVF Avril sur Loir 84.80 316 *e*P **P 06 23 00.1 -0.5**
comp=Z,111nm,1.4s,mb5.5
AVF Avril sur Loir 84.80 316 *e*P **P 06 23 00.1 -0.5**
AVF pmax pmax
comp=Z,56nm,1.4s,mb5.5
AGO Saint Agoulin 85.03 316 *e*P **P 06 23 03.5 +1.8**
BGF Bois d'Agland 85.17 316 *e*P **P 06 23 02.3 -0.1**
comp=Z,134nm,1.5s,mb5.6
BGF Bois d'Agland 85.17 316 *e*P **P 06 23 02.3 -0.1**
BGF pmax pmax
comp=Z,67nm,1.5s,mb5.5
HYF Humbligny 85.23 317 *e*P **P 06 23 02.9 +0.2**
SYO Syowa Base 85.39 197 ‖P **P 06 23 04.3 +1.3**
SYO Syowa Base 85.39 197 ‖pP pP 06 23 10.0 +2.1
TCF Toulx Ste Croi 85.64 316 *e*P **P 06 23 04.8 0.0**
comp=Z,78nm,1.5s,mb5.4
TCF Toulx Ste Croi 85.64 316 *e*P **P 06 23 04.8 0.0**
TCF pmax pmax
comp=Z,39nm,1.5s,mb5.4
TUZ Tuapeka 85.72 137 *e*P **P 06 23 08.1 +2.9**
CAF Calviac 85.91 315 *e*P **P 06 23 06.3 +0.2**
comp=Z,50nm,1.0s,mb5.4
CAF Calviac 85.91 315 *e*P **P 06 23 06.3 +0.2**
CAF pmax pmax
comp=Z,25nm,1.0s,mb5.4
MTLF Montolieu 85.99 313 *e*P **P 06 23 06.4 -0.2**
comp=Z,31nm,0.8s,mb5.3
MTLF Montolieu 85.99 313 *e*P **P 06 23 06.4 -0.2**
MTLF pmax pmax
comp=Z,16nm,0.8s,mb5.3
RPZ Rata Peaks 86.11 135 P **P 06 23 08.4 +1.2**
comp=Z,8.7nm,0.4s,mb5.3,baz=256,slow=4.2,SNR=2.7
DSZ Denniston Nort 86.16 133 *e*P **P 06 23 10.0 +2.5**
comp=Z,52nm,0.8s,mb5.8
TNA Tin City 86.19 24 *e*P **P 06 23 07.2 +0.1**
RJF Les Rejaudoux 86.24 315 *e*P **P 06 23 08.0 +0.2**
comp=Z,100nm,1.3s,mb5.6
RJF *e*R
comp=Z,1μm,20.5s
RJF Les Rejaudoux 86.24 315 *e*P **P 06 23 08.0 +0.2**
RJF pmax pmax
comp=Z,50nm,1.3s,mb5.6
RJF MLR MLR
comp=Z,1μm,20.5s,MS5.2
EMIR Miracle 86.67 312 P **P 06 23 12.1 +2.1**
comp=Z,36nm,0.8s,mb5.7
EMIR *e* 06 26 07.2
LFF La Frestale 86.84 315 *e*P **P 06 23 09.5 -1.2**
comp=Z,64nm,1.1s,mb5.5
LFF La Frestale 86.84 315 *e*P **P 06 23 09.5 -1.2**
LFF pmax pmax
comp=Z,32nm,1.1s,mb5.5
LDF La Druitiere 86.91 318 *e*P **P 06 23 10.8 -0.1**
comp=Z,46nm,1.0s,mb5.4
LDF La Druitiere 86.91 318 *e*P **P 06 23 10.8 -0.1**
LDF pmax pmax
comp=Z,23nm,1.0s,mb5.4
THZ Tophouse 86.97 133 *e*P **P 06 23 11.8 +0.4**
EPOB Poblet 87.08 311 P **P 06 23 14.9 +2.9**
comp=Z,25nm,0.9s,mb5.4
FLN La Foliniere 87.12 319 *e*P **P 06 23 11.7 -0.3**
comp=Z,112nm,1.2s,mb5.7
FLN *e*R
comp=Z,1μm,20.8s
FLN La Foliniere 87.12 319 *e*P **P 06 23 11.7 -0.3**
FLN pmax pmax
comp=Z,56nm,1.2s,mb5.7
FLN MLR MLR
comp=Z,1μm,20.8s,MS5.3
MFF Saint Martin d 87.21 316 *e*P **P 06 23 12.1 -0.4**
comp=Z,55nm,1.0s,mb5.4
MFF Saint Martin d 87.21 316 *e*P **P 06 23 12.1 -0.4**
MFF pmax pmax
comp=Z,28nm,1.0s,mb5.5
GRR Gorron 87.42 318 *e*P **P 06 23 13.4 0.0**
EBIE Bielsa 87.58 313 P **P 06 23 15.2 +0.8**
comp=Z,8.3nm,0.8s,mb5.0
EBR Ebro Roquetas 87.59 311 *e*P **P 06 23 15.0 +0.5**
EKA Eskdalemuir Ar 87.67 325 P **P 06 23 14.8 +0.4**
comp=Z,7.6nm,0.8s,mb5.0,baz=91,slow=4.6,SNR=8.0
ESK Eskdalemuir 87.70 325 *e*P **P 06 23 15.2 +0.6**
ESK pmax pmax
comp=Z,52nm,1.2s,mb5.6
ESK Eskdalemuir 87.70 325 *e*P **P 06 23 15.2 +0.6**
comp=Z,52nm,1.2s,mb5.6
ETSF Etsaut 88.06 313 *e*P **P 06 23 17.0 +0.4**
comp=Z,40nm,0.8s,mb5.4
ETSF Etsaut 88.06 313 *e*P **P 06 23 17.0 +0.4**
ETSF pmax pmax
comp=Z,20nm,0.8s,mb5.4
ESAC San Caprasio 88.18 312 P **P 06 23 18.0 +0.8**
comp=Z,34nm,0.8s,mb5.6
EMOS Mosqueruela 88.39 310 P **P 06 23 19.4 +1.1**
comp=Z,24nm,0.9s,mb5.4
EMOS *e* 06 26 14.8
SJPF Ste Jean 88.51 313 *e*P **P 06 23 19.1 +0.3**
comp=Z,47nm,1.0s,mb5.5
SJPF Ste Jean 88.51 313 *e*P **P 06 23 19.1 +0.3**
SJPF pmax pmax
comp=Z,24nm,1.0s,mb5.5
ROSF Rostrenen 89.02 319 *e*P **P 06 23 20.8 -0.3**
comp=Z,235nm,1.6s,mb6.0
ROSF Rostrenen 89.02 319 *e*P **P 06 23 20.8 -0.3**
ROSF pmax pmax
comp=Z,117nm,1.6s,mb6.0
URZ Urewera 89.41 129 P **P 06 23 23.0 -0.2**
comp=Z,9.1nm,0.6s,mb5.3,baz=119,slow=8.1,SNR=3.9
EVIA Vianos 90.22 309 P pP 06 23 34.0 +2.1
EVIA pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
EVIA Vianos 90.22 309 P pP 06 23 34.0 +2.1
comp=Z,10nm,0.7s
EQES Quesada 90.81 308 P **P 06 23 34.1 +4.4**
comp=Z,11nm,0.9s,mb5.2
EQES *e* 06 26 27.7
EBER Berja 90.84 307 P pP 06 23 35.1 +0.4
comp=Z,26nm,1.0s
EBER *e* 06 26 26.4
GUD Guadarrama 91.10 311 P **P 06 23 32.1 +1.1**
GUD pmax pmax
comp=Z,26nm,0.9s,mb5.6
GUD Guadarrama 91.10 311 P **P 06 23 32.1 +1.1**
comp=Z,26nm,0.9s,mb5.6
GUD *e* 06 26 26.4
ESDC Sonseca Array 91.15 310 P **P 06 23 32.2 +1.0**
comp=Z,4.1nm,0.7s,mb4.9,baz=60,slow=3.9,SNR=14
ESDC Sonseca Array 91.15 310 P **P 06 23 31.7 +0.5**
comp=Z,15nm,1.1s,mb5.2
ESDC *e* 06 26 28.7
ESLA Sonseca Array 91.15 310 *e*P **P 06 23 31.4 +0.2**
comp=Z,5.6nm,1.0s,mb4.8
IMA Indian Mountai 91.65 22 *e*P **P 06 23 33.6 +0.8**
IMA pmax pmax
comp=Z,160nm,1.0s,mb6.3
IMA Indian Mountai 91.65 22 *e*P **P 06 23 34.5 +1.7**
comp=Z,33nm,1.1s,mb5.6
EADA Adamuz 91.91 309 P **P 06 23 36.0 +1.3**
comp=Z,21nm,0.9s,mb5.5
EMIJ Mijas 92.39 307 P **P 06 23 41.2 +4.3**
comp=Z,24nm,1.0s,mb5.5

SVW2 Sparrevohn 92.77 27 *e*P **P 06 23 38.7 +0.6**
VNDA Vanda 92.95 168 P **P 06 23 41.6 +2.9**
comp=Z,5.4nm,0.8s,mb5.0,baz=279,slow=7.2,SNR=6.0
EMIN Mina Concepcio 93.62 309 P pP 06 23 48.6 +1.1
comp=Z,10nm,1.4s
MCK McKinley 94.48 23 *e*P **P 06 23 46.4 +0.5**
MCK pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
MCK McKinley 94.48 23 *e*P **P 06 23 46.4 +0.5**
comp=Z,7.7nm,0.9s,mb5.1
ILAR Eielson Array 94.77 22 P **P 06 23 46.5 -0.8**
comp=Z,2.5nm,0.8s,mb4.7,baz=289,slow=4.6,SNR=29
PWA Palmer West 95.05 25 *e*P **P 06 23 48.8 +0.2**
PWA pmax pmax
comp=Z,52nm,1.0s,mb5.9
PWA Palmer West 95.05 25 *e*P **P 06 23 48.8 +0.2**
comp=Z,52nm,1.0s,mb5.9
INK Inuvik 97.01 16 *e*P **P 06 23 57.1 -0.3**
INK pmax pmax
comp=Z,19nm,1.1s
INK Inuvik 97.01 16 P **P 06 23 57.7 +0.3**
comp=Z,11nm,1.1s,mb5.2,baz=313,slow=4.2,SNR=18
INK Inuvik 97.01 16 *e*P **P 06 23 57.1 -0.3**
comp=Z,19nm,1.1s,mb5.4
RES Resolute Bay 97.40 2 *e*P **P 06 23 59.6 +0.6**
RES pmax pmax
comp=Z,16nm,0.9s,mb5.5
RES Resolute Bay 97.40 2 *e*P **P 06 23 59.6 +0.6**
comp=Z,16nm,0.9s,mb5.5
DBIC Dimbokro 97.86 278 *e*P **P 06 24 03.9 +1.4**
DBIC pmax pmax
comp=Z,54nm,1.6s
DBIC Dimbokro 97.86 278 P **P 06 24 04.7 +2.2**
comp=Z,7.0nm,0.9s,mb5.2,baz=39,slow=5.6,SNR=5.4
DBIC Dimbokro 97.86 278 *e*P **P 06 24 03.9 +1.4**
comp=Z,54nm,1.6s,mb5.8
DAWY Dawson 97.88 21 *e*P **P 06 24 01.9 +0.5**
YKA Yellowknife Ar 106.44 13 Pdiff Pdif 06 24 38.8 -0.9
comp=Z,0.3nm,1.0s,baz=325,slow=6.2,SNR=4.1
YKA PP PP 06 29 01.6 -5.7
comp=Z,1.2nm,0.8s,baz=334,slow=7.8,SNR=6.8
SCHQ Schefferville 115.50 348 PKP PKPdf 06 29 08.4 -2.0
comp=Z,2.4nm,0.9s,baz=43,slow=14,SNR=2.8
TBI Tubuai 117.37 112 *e*PS PS 06 40 06.5 -0.6
TBI *e*LR LR 07 04 53.4
comp=Z,1μm,31.0s
PPT Papeete 117.42 106 *e*SP SP 06 40 02.2 -3.7
PPT *e*LR LR 07 04 54.7
comp=Z,1μm,24.8s
NVAR Mina Array Bea 124.95 31 PKP PKPdf 06 29 28.1 -1.1
comp=Z,5.7nm,0.8s,baz=308,slow=0.7,SNR=14
PDAR Pinedale Array 125.19 21 PKP PKPdf 06 29 26.9 -2.7
comp=Z,5.0nm,0.8s,baz=10,slow=1.5,SNR=17
TAOE Nuku Hiva Isla 126.40 95 *e*LR LR 07 09 11.7
SADO Sadowa 127.23 354 PKP PKPdf 06 29 30.0 -3.3
comp=Z,5.7nm,0.7s,baz=323,slow=5.1,SNR=2.8
SRU San Rafael 127.97 24 *e*PKIKP PKPdf 06 29 33.1 -1.9
LDFC Landfair 129.17 31 *e*PKPdf PKPdf 06 29 35.8 -1.6
ISCO Idaho Springs 129.19 20 *e*PKIKP PKPdf 06 29 34.8 -2.5
PV10 Paradox Valley 129.20 23 *e*PKPdf PKPdf 06 29 35.7 -1.6
PV01 Paradox Valley 129.59 23 *e*PKPdf PKPdf 06 29 37.3 -0.8
USHA Ushuaia 131.13 193 PKhKP 06 29 33.3
comp=Z,10nm,0.7s,baz=149,slow=6.8,SNR=4.0
KSU1 Kansas State U 132.22 11 *e*PKPdf PKPdf 06 29 40.2 -2.9
ANMO Albuquerque 133.19 23 PKhKP 06 29 36.1
comp=Z,1.9nm,0.9s,baz=1.3,slow=3.2,SNR=4.9
ANMO PKP PKPdf 06 29 43.6 -1.4
comp=Z,3.4nm,0.8s,baz=339,slow=1.8,SNR=5.5
ANMO Albuquerque 133.19 23 PKP PKPdf 06 29 43.6 -1.4
LAZ Ladron 133.40 24 *e*PKPdf PKPdf 06 29 45.0 -0.3
TUC Tucson 133.54 29 *e*PKPdf PKPdf 06 29 45.7 0.0
LPM Los Pinos Moun 133.69 24 *e*PKPdf PKPdf 06 29 45.0 -0.9
GDL2 Guadalupe Moun 136.44 23 *e*PKPdf PKPdf 06 29 49.1 -1.9
MNTX Cornudas Mount 136.48 24 *e*PKPdf PKPdf 06 29 49.6 -1.4
LTX Lajitas 139.25 24 *e*PKIKP PKPdf 06 29 55.8 -0.5
TXAR Lajitas Array 139.25 24 PKhKP 06 29 44.8
comp=Z,0.4nm,0.5s,baz=357,slow=1.3,SNR=8.9
TXAR PKP PKPdf 06 29 52.1 -4.2
comp=Z,1.3nm,0.5s,baz=223,slow=2.5,SNR=16
JCT Junction City 139.60 19 *e*PKIKP PKPdf 06 29 54.8 -2.1
HKT Hockley 141.20 14 PKIKP PKPdf 06 29 56.9 -3.0
BAO Brasilia Array 142.10 255 P PKPdf 06 29 57.1 -4.6
PLCA Paso Flores 144.53 200 *e*PKIKP PKPdf 06 30 01.8 -3.4
PLCA Paso Flores 144.53 200 PKP PKPdf 06 30 02.2 -3.0
comp=Z,20nm,0.8s,baz=168,slow=3.1,SNR=8.3
SJG San Juan 147.61 323 *e*PKPbc PKPdf 06 30 11.7 +0.6
SJG *e*PKPab PKPab 06 30 14.4 -0.1
MDZ Mendoza 150.50 210 *e*PKIKP PKPdf 06 30 18.5 +3.2
MDZ *e* 06 30 23.2
TEIG Tepich 151.97 5 *e*PKPbc PKPdf 06 30 22.4 +4.6
SDV Santo Domingo 157.41 317 PKP PKPdf 06 30 23.6 -1.7
comp=Z,7.0nm,0.9s,baz=25,slow=2.7,SNR=6.2
SDV Santo Domingo 157.41 317 *e*PKPdf PKPdf 06 30 23.8 -1.6
LVC Limon Verde 158.03 226 PKP PKPdf 06 30 25.8 -0.1
comp=Z,4.6nm,0.8s,baz=353,slow=2.6,SNR=3.8
LVC PKPab PKPab 06 31 00.5 +2.4
comp=Z,11nm,0.7s,baz=217,slow=1.2,SNR=6.7
LVC Limon Verde 158.03 226 PKP PKPdf 06 30 25.8 -0.1
LVC PKPab PKPab 06 31 00.5 +2.4
LPAZ La Paz 160.70 243 *e*PKIKP PKPdf 06 30 28.0 -1.0
LPAZ La Paz 160.70 243 PKP PKPdf 06 29 43.0 -46
comp=Z,5.0nm,0.8s,baz=119,slow=2.5,SNR=10
LPAZ PKPab PKPab 06 30 28.4 -41
comp=Z,4.8nm,0.8s,baz=75,slow=13,SNR=4.3
OTAV Otavalo 169.01 317 *e*PKPdf PKPdf 06 30 35.2 -1.1

MOS ***28*** *06:13:25.0± 1.2, 7.93N× 93.96E, h33km, mb5.5/52, MS5.4/12, Error ellipse: s-maj=10.3km s-min=5.7km az=111.3*

IDC ***28*** *06:13:25.0± 3.3, 7.98N× 94.11E, h24km± 21km, mb4.9/30, mb1 5.0/31, mb1mx5.0/31, mbtmp5.0/31, ML5.5/1, MS5.2/10, Ms1 5.3/10, ms1mx5.0/18, Error ellipse: s-maj=19.8km s-min=10.4km az=49.0*

BJI ***28*** *06:13:26.3, 7.57N× 93.76E, h74km, mB5.7, mb5.4, Ms5.9, Msz5.6*

HRVD ***28*** *06:13:27.6± 0.2, 7.79N× 94.16E, h18km± 1km, MW5.7/71, Centroid moment Tensor Solution. LP body waves: s45,c79; Mantle waves: s71,c147; Half duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.49±.08; $M_{\theta\theta}$-3.23±.08; $M_{\phi\phi}$3.72±.08; $M_{r\theta}$-1.93±.25; $M_{\theta\phi}$1.91±.07; $M_{\phi r}$-0.20±.21; Best double couple: $M_0$4.431×10^{17} NP1: ϕ_s152°, δ66°, λ-168°. NP2:ϕ_s57°, δ79°, λ-24°. Principal axes: T 4.314, Plg9°, Azm106°; N .23, Plg64°, Azm215°; P -4.548, Plg24°, Azm12°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***28*** *06:13:27.6± 1.2, 7.91N× 94.03E, h44km± 10km, mb5.3/95, MW5.7 Error ellipse: s-maj=5.5km s-min=3.5km az=49.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.60; $M_{\theta\theta}$-2.36; $M_{\phi\phi}$2.95; $M_{r\theta}$-1.31; $M_{\theta\phi}$2.16; $M_{\phi r}$1.07; Best double couple: $M_0$3.9×10^{17} NP1:ϕ_s62°, δ66°, λ-13°. NP2:ϕ_s157°, δ78°, λ-155°. Principal axes: T 3.8, Plg8°, Azm288°; N .1, Plg63°, Azm182°; P -3.9, Plg26°, Azm22°;*

ISC 28 06:13:24.7±0.8,**7.87N**±0.03×**94.03E**±0.03,**h34**km±7km, **h27**km±2.7km**:pP-P,n336,**σ1§**02**/322,**mb5.3**/132,**MS5.4**/26, **17C-10D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.97**	**341**	*e*P	**P**	**06 14 23.3**	**-1.5**
PBA				*e*		06 14 49.0	
CMAR	**Chiang Mai Arr**	**11.56**	**24**	P	**P**	**06 16 10.8**	**+0.4**
CMAR				pmax	pmax		
CMAR	comp=Z,9.0nm,0.3s						
CMAR				MLR	MLR		
CMAR	comp=Z,13μm,19.2s						
CMAR	**Chiang Mai Arr**	**11.56**	**24**	Pn	**P**	**06 16 10.8**	**+0.3**
CMAR	comp=Z,8.9nm,0.3s,baz=211,slow=14,SNR=33						
CMAR				LR	LR	06 20 50.1	
CMAR	comp=Z,13μm,19.2s,baz=205,slow=39						
CMAR				ScP		06 25 30.5	
CMAR	baz=224,slow=3.2,SNR=4.7						
VIS	**Vishakhapatnam**	**14.30**	**314**	*e*P	**P**	**06 16 47.9**	**+0.9**
VIS				*e*P		06 16 47.9	
VIS				*e*		06 16 59.1	
VIS	comp=Z,363nm,1.1s						
VIS				*e*S	**S**	**06 19 24.2**	**-1.2**
BWNR	**Bhubaneshwar**	**14.70**	**328**	*e*P	**P**	**06 16 51.4**	**-0.8**
BWNR				*e*		06 16 59.0	
BWNR	comp=Z,258nm,0.9s						

BWNR eS S 06 19 34.9 +0.2
KOD Kodaikanal 16.53 279 eP P 06 17 17.5 +1.8
KOD e 06 17 30.3
comp=Z,482nm,1.6s
KOD eS S 06 20 19.8 +2.5
TRD Trivandrum 16.91 273 eP P 06 17 21.7 +1.2
TRD eS S 06 20 29.2 +3.1
BOK Bokaro 17.66 335 eP P 06 17 31.0 +1.2
BOK e 06 17 36.2
comp=Z,288nm,1.5s
BOK eS S 06 20 46.6 +3.6
SHL Shillong 17.72 354 eP P 06 17 30.1 -0.5
HYB Hyderabad 17.82 304 *i* P P 06 17 37.0 +5.1
HYB eS S 06 20 51.0 +4.1
HYB LR LR 06 26 46.0
comp=Z,13nm,16.0s
QIZ Qiongzhong 18.94 53 *eP* P 06 17 46.5 +0.8
QIZ S S 06 21 12.8 +0.8
QIZ LR LR
comp=N,41μm,14.4s
QIZ LR LR
comp=Z,14μm,12.4s
QIZ Qiongzhong 18.94 53 *eP* P 06 17 44.4 -1.2
comp=Z,245nm,1.3s
KMI Kunming 19.07 25 ⇑P P 06 17 51.0 +3.9
comp=Z,253nm,1.5s
KMI pP 06 17 57.2
KMI sP 06 18 00.7
KMI PP PP 06 18 06.3 +2.5
KMI S S 06 21 16.6 +1.7
KMI sS 06 21 29.1
KMI SS SS 06 21 41.4 +0.7
COCO West Island 20.12 172 P P 06 17 56.8 -1.8
comp=Z,354nm,1.1s
ALBI Allahabad 20.90 328 *eP* P 06 18 05.5 -1.2
GOA Goa 21.18 293 *eP* P 06 18 22.3 +13
GOA *e* 06 18 28.8
comp=Z,299nm,1.0s
GOA eS S 06 22 15.0 +17
VLK Valmikinagar 21.61 335 *i* P P 06 18 15.0 +1.2
VLK *i* 06 18 32.0
LSA Lhasa 21.89 353 P P 06 18 16.3 -0.3
LSA Lhasa 21.89 353 *eP* P 06 18 16.2 -0.4
comp=Z,424nm,0.7s,mb6.0
BHPL Bhopal 22.09 316 *eP* P 06 18 20.1 +1.5
BHPL *e* 06 18 33.9
comp=Z,379nm,1.6s
POO Poona 22.30 300 *i* P 06 18 12.0 -8.7
BOM Bombay 23.34 300 *eP* P 06 18 34.9 +3.8
BOM *e* 06 18 39.8
comp=Z,180nm,1.8s
BOM *e* 06 22 45.9
NDI New Delhi 26.08 325 *eP* P 06 18 58.3 +1.1
NDI *e* pP 06 19 07.2 +0.4
comp=Z,275nm,1.5s
NDI eS S 06 23 30.7 +6.8
ENH Enshi 26.58 31 *eP* P 06 19 01.9 0.0
comp=Z,109nm,1.0s,mb5.3
SMLA Simla 28.00 328 *eP* P 06 19 17.9 +3.2
SMLA *e* 06 19 20.9
comp=Z,55nm,1.3s
SMLA *e* 06 24 10.3
LZH Lanzhou 29.48 16 *eP* P 06 19 29.0 +1.1
LZH PP PP 06 20 25.0 +0.8
LZH S S 06 24 20.0 +1.2
LZH SS SS 06 25 54.0 +1.5
LZH AMB AMB
comp=Z,175nm,1.7s,mb5.5
LZH AMB AMB
comp=Z,498nm,4.2s
LZH LR LR
comp=E,9μm,14.4s
LZH LR LR
comp=Z,11μm,15.8s,MS5.6
LZH Lanzhou 29.48 16 *eP* P 06 19 29.0 +1.1
comp=Z,175nm,1.7s,mb5.5
LZH pP pP 06 19 35.5 -2.2
LZH sP sP 06 19 38.0 -4.2
LZH PP PP 06 20 25.0 +0.8
LZH S S 06 24 20.0 +1.2
LZH sS 06 24 36.0
LZH SS SS 06 25 54.0 +1.5
LZH LR LR
comp=Z,11μm,15.8s,MS5.6
WHN Wuhan 29.51 37 ⇑P P 06 19 29.5 +1.3
TBP Tagbilaran 29.53 84 *eP* P 06 19 26.1 -2.5
NJ2 Nanjing 33.34 40 *eP* P 06 20 03.0 +1.1
NJ2 PP PP 06 21 16.3 +2.3
NJ2 S S 06 25 20.0 +0.7
NJ2 AMB AMB
comp=Z,460nm,0.8s
NJ2 AMB AMB
comp=Z,620nm,4.0s
NJ2 LR LR
comp=N,12μm,18.2s
NJ2 LR LR
comp=E,16μm,15.2s
NJ2 LR LR
comp=Z,11μm,13.0s
WMQ Urumqi 36.24 352 P P 06 20 26.5 0.0
WMQ PP PP 06 21 48.8 -1.1
WMQ PCP PcP 06 22 53.0 +1.4
WMQ S S 06 26 02.5 -1.4
WMQ AMB AMB
comp=Z,159nm,0.8s,mb6.0
WMQ AMB AMB
comp=Z,1μm,4.9s
WMQ LR LR
comp=N,4μm,16.2s,MS5.3
WMQ LR LR
comp=E,2μm,15.9s,MS5.3
WMQ LR LR
comp=Z,5μm,16.4s,MS5.4
BJT Baijiatuau 37.64 28 *eP* P 06 20 40.3 +1.9
BJT pmax pmax
comp=Z,25nm,0.8s
BJT Baijiatuau 37.64 28 *eP* P 06 20 38.8 +0.4
comp=Z,26nm,0.8s,mb5.0
BJI Beijing 37.66 28 P P 06 20 40.0 +1.5
comp=Z,35nm,1.2s,mb5.0
BJI S S 06 26 28.0 +2.3
BJI LR LR
comp=Z,5μm,22.1s,MS5.3
MBWA Marble Bar 38.33 139 *eP* P 06 20 44.2 -0.1
AAK Ala-Archa 38.67 337 P P 06 20 48.5 +1.6
AAK pmax pmax
comp=Z,100nm,1.3s,mb5.4
AAK Ala-Archa 38.67 337 *eP* P 06 20 46.7 -0.1
comp=Z,64nm,1.1s,mb5.3
MKAR Makanchi Array 40.07 347 *i* P P 06 20 58.3 -0.2
MKAR pmax pmax
comp=Z,151nm,1.1s
MKAR Makanchi Array 40.07 347 *i* P P 06 20 58.4 -0.1
FITZ Fitzroy Crossi 40.49 130 *eP* P 06 21 02.6 +0.4
comp=Z,29nm,0.9s,mb5.0
SONM Songino Array 41.19 13 P P 06 21 08.1 +0.3
comp=Z,35nm,0.7s,mb5.1,baz=194,slow=8.8,SNR=17
SONM PcP PcP 06 23 07.5 +0.4
comp=Z,7.2nm,0.6s,baz=199,slow=3.3,SNR=5.0
SONM ScP 06 26 54.3
comp=Z,3.1nm,0.8s,baz=200,slow=4.6,SNR=4.8
ULN Ulaanbaatar 41.37 13 *i* P P 06 21 08.9 -0.3
KS15 Wonju Array Si 42.51 41 *eP* P 06 21 19.4 +0.7
SNY Shenyang 42.74 33 ⇓P P 06 21 20.5 0.0
SNY AMB AMB
comp=Z,30nm,1.9s,mb4.7
ZAK Zakamensk 43.07 9 *eP* P 06 21 23.5 +0.4
TLY Talaya 44.39 9 *eP* P 06 21 35.2 +1.4
TLY eS S 06 28 10.6 +5.1
TLY pmax pmax
comp=Z,23nm,0.9s,mb4.9
TLY MLR MLR
comp=Z,4μm,22.0s,MS5.2
TLY Talaya 44.39 9 *eP* P 06 21 32.6 -1.2
comp=Z,18nm,0.8s,mb4.8
KURK Kurchatov 44.59 346 *i* P P 06 21 35.5 +0.1
KURK pmax pmax
comp=Z,130nm,1.4s,mb5.6
MUN Mundaring 44.93 153 ⇑*i* P P 06 21 38.7 +0.4
comp=Z,37nm,0.7s,mb5.3
KLBR Kellerberrin 45.32 151 *eP* P 06 21 41.7 +0.2
comp=Z,520nm,1.0s,mb6.3
NWAO Narrogin (SRO) 46.19 153 P P 06 21 48.1 -0.3
comp=Z,60nm,0.7s,baz=325,slow=7.9,SNR=16
NWAO LR LR 06 38 58.3
comp=Z,20nm,20.5s,baz=326,slow=33
NWAO Narrogin (SRO) 46.19 153 *eP* P 06 21 47.6 -0.8
comp=Z,43nm,0.6s,mb5.6
ZAL Zalesovo 46.54 352 P P 06 21 50.1 -0.7
ZAL pmax pmax
comp=Z,59nm,0.7s
ZAL Zalesovo 46.54 352 P P 06 21 50.1 -0.7
comp=Z,59nm,0.7s,mb5.6,baz=303,slow=5.9,SNR=26
HIA Hailar 46.57 23 *eP* P 06 21 51.9 +0.8
HIA pmax pmax
comp=Z,120nm,1.0s
HIA Hailar 46.57 23 *eP* P 06 21 51.6 +0.5
comp=Z,122nm,1.0s,mb5.8
NVS Novosibirsk 47.64 352 *i* P P 06 21 58.2 -1.2
NVS *i* S S 06 28 52.0 +0.3
NVS pmax pmax
comp=N,107nm,1.0s
NVS pmax pmax
comp=E,31nm,1.0s
NVS pmax pmax
comp=Z,133nm,1.0s,mb5.9
NVS smax
comp=N,48nm,1.6s
NVS smax
comp=E,98nm,1.9s
MDJ Mudanjiang 47.87 34 *eP* P 06 22 02.1 +0.7
comp=E,74nm,1.5s,mb5.5
WRA Warramunga Arr 48.34 125 P P 06 22 03.1 -2.3
WRA pmax pmax
comp=Z,9.0nm,0.6s
WRA Warramunga Arr 48.34 125 P P 06 22 03.1 -2.3
comp=Z,8.8nm,0.6s,mb5.0,baz=304,slow=8.6,SNR=12
WRAB Tennant Creek 48.35 125 *eP* P 06 22 04.4 -1.0
WRAB pmax pmax
comp=Z,50nm,0.8s,mb5.6
WRAB Tennant Creek 48.35 125 *eP* P 06 22 03.4 -2.1
comp=Z,50nm,0.8s,mb5.6
WB2 Warramunga Arr 48.35 125 *eP* P 06 22 04.4 -1.1
BVA0 Borovoye Array 48.96 341 *i* P P 06 22 09.1 -0.6
BVA0 pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
BVAR Borovoye Array 48.96 341 P P 06 22 09.0 -0.7
comp=Z,32nm,1.1s,mb5.3,baz=145,slow=8.2,SNR=6.9
BVAR ScP 06 27 25.8
comp=Z,5.7nm,0.9s,baz=146,slow=5.3,SNR=5.1
RAYN Ar Rayn 48.99 294 P P 06 22 11.8 +1.5
comp=Z,477nm,0.7s,SNR=23
BRVK Borovoye 49.02 341 P P 06 22 09.6 -0.6
BRVK pmax pmax
comp=Z,36nm,1.1s,mb5.3
BRVK Borovoye 49.02 341 *eP* P 06 22 09.1 -1.1
comp=Z,36nm,1.1s,mb5.3
MAJO Matsushiro 49.24 48 *eP* P 06 22 11.5 -0.6
MAT Matsushiro 49.24 48 *eP* P 06 22 13.0 +0.9
comp=Z,58nm,1.7s,mb5.3
MAT Matsushiro 49.24 48 P P 06 22 12.6 +0.5
CHKZ Chkalovo 49.45 342 *eP* P 06 22 13.1 -0.4
comp=Z,115nm,1.0s,mb5.9
ASPA Alice Springs 49.99 130 *eP* P 06 22 17.2 -0.8
ASAR Alice Springs 49.99 130 P P 06 22 17.1 -0.9
comp=Z,17nm,1.0s,mb5.0,baz=305,slow=7.8,SNR=7.4
ASAR PcP PcP 06 23 37.5 -0.5
comp=Z,5.7nm,0.6s,baz=302,slow=5.8,SNR=3.0
ASAR LR LR 06 44 15.0
comp=Z,1μm,20.0s,MS4.9,baz=296,slow=37
FORT Forrest 50.40 141 *eP* P 06 22 21.6 +0.5
comp=Z,293nm,0.8s
BOD Bodaibo 52.18 13 *eP* P 06 22 33.3 -0.8
GNI Garni 54.36 314 *eP* P 06 22 53.9 +3.3
GNI pmax pmax
comp=Z,110nm,1.2s
GNI Garni 54.36 314 P P 06 22 50.4 -0.2
comp=Z,15nm,0.8s,mb5.0,baz=312,slow=4.9,SNR=3.3
GNI Garni 54.36 314 *eP* P 06 22 49.7 -0.9
comp=Z,106nm,1.2s,mb5.7
CLNS Chul'man 54.48 20 *eP* P 06 22 51.5 +0.3
CLNS *e**PP pP 06 22 58.2 -3.2
CLNS *e* 06 23 53.9
CLNS *e* 06 24 52.9
CLNS *e*S S 06 30 31.4 +5.4
CLNS pmax pmax
comp=Z,147nm,0.8s,mb6.0
CLNS pmax pmax
comp=N,80nm,0.9s
CLNS pmax pmax
comp=E,61nm,0.8s
CLNS pmax pmax
comp=N,14nm,1.0s
CLNS pmax pmax
comp=Z,13nm,1.0s,mb4.8
CLNS pmax pmax
comp=E,14nm,1.1s
CLNS smax
comp=N,20nm,1.4s
CLNS smax
comp=Z,20nm,0.8s
CLNS smax
comp=E,5.0nm,1.0s
CLNS MLR MLR
comp=Z,7μm,16.0s,MS5.8
CLNS MLR MLR
comp=N,4μm,14.0s,MS5.7
CLNS MLR MLR
comp=E,1μm,12.0s,MS5.7
SVE Sverdlovsk 55.37 338 ⇓*eP* P 06 22 54.0 -3.6
SVE *e*S S 06 30 34.0 -3.9
SVE pmax pmax
comp=Z,200nm,1.6s,mb5.9
SVE MLR MLR
comp=N,2μm,21.0s,MS5.3
SVE MLR MLR
comp=E,2μm,21.0s,MS5.3
SVE MLR MLR
comp=Z,5μm,21.0s,MS5.5
ASAJ Asahikawa 55.49 41 P P 06 23 00.5 +1.8
ASAJ pmax pmax
comp=Z,5.0nm,0.5s
ASAJ Asahikawa 55.49 41 P P 06 23 00.5 +1.8
comp=Z,4.7nm,0.5s,mb4.8,baz=168,slow=19,SNR=4.3
PMG Port Moresby 55.63 107 *eP* P 06 22 59.9 -0.2
PMG pmax pmax
comp=Z,41nm,0.8s
PMG Port Moresby 55.63 107 P P 06 22 59.5 -0.6
comp=Z,17nm,0.5s,mb5.3,baz=316,slow=1.9,SNR=6.1
PMG Port Moresby 55.63 107 *eP* P 06 22 59.2 -0.9
comp=Z,41nm,0.8s,mb5.5
ARU Arti 55.85 337 ⇓*iP* P 06 22 54.1 -7.0
ARU *e* 06 23 53.3
ARU *e*S S 06 30 36.4 -8.0
ARU *e* 06 32 38.9
ARU pmax pmax
comp=Z,73nm,1.4s,mb5.5
ERZM Erzurum 56.70 313 *i* P P 06 23 06.8 -0.6
YSS Yuzh-Sakhalins 56.85 38 *eP* P 06 23 08.2 -0.2
YSS *e* pP 06 23 16.5 -2.3
YSS Yuzh-Sakhalins 56.85 38 *eP* P 06 23 07.1 -1.4
comp=Z,34nm,1.1s,mb5.3
KIV Kislovodsk 57.25 318 *i* P P 06 23 10.5 -0.8
KIV *e* 06 24 04.5
KIV *e*S S 06 31 00.9 -2.1
KIV pmax pmax
comp=Z,46nm,1.0s,mb5.5
KIV MLR MLR
comp=Z,2μm,19.0s,MS5.1
KIV Kislovodsk 57.25 318 *eP* P 06 23 10.4 -0.9
comp=Z,64nm,0.9s,mb5.7
KMBO Kilima Mbogo 57.32 264 P P 06 23 14.2 +2.0
comp=Z,13nm,0.8s,mb5.0,baz=52,slow=11,SNR=11
KMBO LR LR 06 44 53.6
comp=Z,4μm,19.3s,MS5.6,baz=88,slow=33
KMBO Kilima Mbogo 57.32 264 *eP* P 06 23 12.9 +0.7
comp=Z,40nm,1.1s,mb5.4
ELZG Elazig 58.02 311 *i* P P 06 23 16.0 -0.8
ASF Jabal al Asfar 58.13 303 P P 06 23 17.1 -0.5
comp=Z,9.0nm,0.8s,mb4.8,baz=354,slow=4.3,SNR=6.2
ASF LR LR 06 52 52.6
comp=Z,912nm,18.3s,MS4.9,baz=283,slow=41
MALT Malatya 58.39 310 *eP* P 06 23 18.2 -1.1
comp=Z,29nm,1.1s,mb5.2
CTA Charters Tower 58.40 119 *eP* P 06 23 18.9 -0.7
comp=Z,7.6nm,1.0s,mb4.7
CTA Charters Tower 58.40 119 P P 06 23 19.4 -0.2
CTA pmax pmax
comp=Z,7.0nm,0.9s
CTA Charters Tower 58.40 119 P P 06 23 19.4 -0.2
comp=Z,7.1nm,0.9s,mb4.7,baz=293,slow=8.1,SNR=3.7
CTAO Charters Tower 58.40 119 *eP* P 06 23 18.8 -0.8
comp=Z,24nm,1.3s,mb5.1
SOKR Solikamsk 58.77 339 ⇑*iP* P 06 23 20.9 -0.8
SOKR pmax pmax
comp=Z,70nm,1.1s,mb5.6
GZT Gaziantep 58.78 309 *i* P P 06 23 20.2 -1.9
SOC Sochi 59.11 317 *eP* P 06 23 21.7 -2.6
SOC *e* 06 24 17.9
SOC *e* 06 25 30.3
SOC *e*PPP PPP 06 27 02.7 +1.3
SOC *e*S S 06 31 24.0 -3.4
SOC *e* 06 33 07.6
SOC *e*SS SS 06 35 24.2 +0.8
SOC pmax pmax
comp=Z,44nm,0.8s,mb5.5
SOC pmax pmax
comp=N,20nm,0.9s
SOC pmax pmax
comp=E,13nm,0.8s
SOC MLR MLR
comp=Z,2μm,22.0s,MS5.2
SOC MLR MLR
comp=N,2μm,20.0s,MS5.4
SOC MLR MLR
comp=E,1μm,21.0s,MS5.4
EIL Elat 59.34 300 P P 06 23 26.0 -0.1
comp=E,30nm,1.1s,mb5.2,baz=97,slow=7.4,SNR=5.3
EIL Elat 59.34 300 *eP* P 06 23 26.1 0.0
comp=E,20nm,0.8s,mb5.2
COBT Iskenderun 59.59 308 *i* P P 06 23 26.1 -1.7
ADE Adelaide 59.93 138 *eP* P 06 23 29.9 -0.2
YAK Yakutsk 60.04 18 *eP* P 06 23 29.1 -1.3
YAK *e**PP pP 06 23 37.7 -3.0
YAK *e* 06 25 37.5
YAK *e*S S 06 31 39.9 +0.9
YAK *e**SS 06 31 57.1
YAK *e* 06 33 11.1
YAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
YAK smax
comp=N,13nm,1.2s
YAK MLR MLR
comp=N,4μm,17.0s,MS5.8
YAK MLR MLR
comp=E,4μm,16.0s,MS5.8
YAK Yakutsk 60.04 18 *eP* P 06 23 28.7 -1.7
comp=E,172nm,0.8s,mb6.1
STKA Stephens Creek 60.18 134 *eP* P 06 23 30.5 -1.3
comp=E,12nm,0.8s,mb5.0
STKA Stephens Creek 60.18 134 P P 06 23 30.9 -0.9
comp=E,9.0nm,0.7s,mb4.9,baz=337,slow=1.4,SNR=5.7
STKA LR LR 06 54 35.8
comp=E,3μm,18.5s,MS5.4,baz=45,slow=41
ANN Anapa 61.07 317 *eP* P 06 23 31.4 -6.3
ANN *e*S S 06 31 45.9 -6.6
ANN pmax pmax
comp=Z,52nm,1.5s,mb5.4
ANN MLR MLR
comp=N,2μm,25.0s,MS5.4
ANN MLR MLR
comp=E,3μm,25.0s,MS5.4
ANN MLR MLR
comp=Z,632nm,25.0s,MS4.7
BOYT Boyabat 61.84 313 *i* P P 06 23 41.0 -1.9
VRSR Storozhevoye 62.32 325 *eP* P 06 23 44.6 -1.4
VRSR *e* 06 24 23.5
VRSR *e*S S 06 32 06.9 -1.4
VRSR pmax pmax
comp=Z,20nm,0.7s,mb5.4
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=E,60nm,0.9s
VRSR smax
comp=N,30nm,1.0s
VRSR smax
comp=Z,2.0nm,0.5s
VRSR smax
comp=E,5.0nm,0.7s
VRSR MLR MLR
comp=Z,2μm,20.8s,MS5.3
VRSR MLR MLR
comp=N,2μm,20.9s,MS5.3
VRSR MLR MLR
comp=E,960nm,20.1s,MS5.3
BRTR Keskin Array B 62.35 311 P P 06 23 44.1 -2.3
BRTR pmax pmax
comp=Z,10.0nm,0.6s
BRTR Keskin Array B 62.35 311 P P 06 23 44.1 -2.3
comp=Z,9.9nm,0.6s,mb5.1,baz=124,slow=7.2,SNR=13
ELDT Eldivan 62.69 312 *i* P P 06 23 46.3 -2.3
BALT Daday 62.97 313 *i* P P 06 23 48.7 -1.8
SIM Simferopol' 63.36 317 P P 06 23 52.5 -0.5
SIM pmax pmax
comp=Z,29nm,1.3s,mb5.2
MBAR Mbarara 63.65 265 *eP* P 06 23 58.1 +2.6
MBAR pmax pmax
comp=Z,48nm,1.4s,mb5.3
MBAR Mbarara 63.65 265 *eP* P 06 23 56.3 +0.9
comp=Z,48nm,1.4s,mb5.3
ISP Isparta 64.36 308 *eP* P 06 23 57.0 -2.6
comp=Z,21nm,0.6s,mb5.3
MOS Moscow 65.03 329 *eP* P 06 24 02.0 -1.6
MOS *e*S S 06 32 40.5 -1.3
MOS pmax pmax
comp=Z,169nm,1.2s,mb6.0
MOS MLR MLR
comp=Z,4μm,19.6s,MS5.6
OBN Obninsk 65.33 328 *c iP* P 06 24 02.3 -3.3
OBN *e* 06 26 29.9
OBN *e*S S 06 32 43.0 -2.5
OBN pmax pmax
comp=Z,115nm,1.4s,mb5.7
OBN MLR MLR
comp=Z,2μm,19.0s,MS5.4
OBN Obninsk 65.33 328 *eP* P 06 24 01.1 -4.5
comp=Z,92nm,1.1s,mb5.7
TOO Toolangi 65.92 137 *eP* P 06 24 11.0 +1.3
comp=Z,1.6nm,1.0s
BTOK Tokmak 66.60 310 *i* P P 06 24 09.4 -4.5
MA2 Magadan 66.82 28 *eP* P 06 24 15.0 0.0
MA2 *e*S S 06 33 05.3 +1.8
MA2 pmax pmax
comp=Z,50nm,1.2s,mb5.4
MA2 MLR MLR
comp=Z,7μm,24.0s,MS5.8
MA2 Magadan 66.82 28 *eP* P 06 24 14.7 -0.3
comp=Z,58nm,0.9s,mb5.6
KDAG Bornova 66.97 308 *i* P P 06 24 12.7 -3.6
ARMA Armidale 67.04 128 *eP* P 06 24 22.8 +5.9
TIRR Tirgusor 67.18 315 ⇑P P 06 24 16.6 -0.9
TIXI Tiksi 67.26 11 ⇑*iP* P 06 24 16.6 -1.0
TIXI pmax pmax
comp=Z,98nm,0.8s,mb5.9
TIXI MLR MLR
comp=Z,3μm,15.0s,MS5.6
TIXI Tiksi 67.26 11 *i* P P 06 24 16.7 -0.9
AKASG Malin Array Be 68.09 322 P P 06 24 20.8 -2.3
AKASG 06 26 53.0
AKASG pmax pmax
comp=Z,11nm,0.7s
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 68.09 322 P P 06 24 20.8 -2.3
comp=Z,11nm,0.7s,mb5.0,baz=89,slow=5.5,SNR=16
AKASG PP PP 06 26 53.0 -2.5
comp=Z,3.3nm,0.9s,baz=92,slow=6.7,SNR=4.7
IDI Anoyia 68.48 305 P P 06 24 25.3 -0.5
comp=Z,34nm,0.6s,mb5.5,baz=90,slow=6.8,SNR=20
VRI Vrincioaia 68.63 316 ⇑P P 06 24 26.2 -0.4
MLR Muntele Rosu 69.10 316 P P 06 24 28.9 -0.6
MLR pmax pmax
comp=Z,30nm,1.0s
MLR Muntele Rosu 69.10 316 P P 06 24 28.9 -0.5
comp=Z,30nm,1.0s,mb5.2,baz=105,slow=0.8,SNR=8.2
MLR Muntele Rosu 69.10 316 ⇓P P 06 24 29.6 +0.1
LSZ Lusaka 69.17 250 *eP* P 06 24 31.6 +1.3
LSZ pmax pmax
comp=Z,15nm,0.8s,mb5.0
LSZ Lusaka 69.17 250 *eP* P 06 24 31.0 +0.7
comp=Z,15nm,0.8s,mb5.0
JOF Joensuu 70.81 334 *ep* P 06 24 39.2 -0.4
comp=Z,7.7nm,0.4s,mb5.0
JOF Joensuu 70.81 334 *eP* P 06 24 39.2 -0.4
JOF pmax pmax
comp=Z,8.0nm,0.4s,mb5.0

BOLS Boljevac 71.67 313⇑ *iP* **P 06 24 44.6 -0.5**
APA Apatity 71.82 339⇓ *iP* **P 06 24 45.0 -0.5**
APA *i* pP 06 24 58.1 +2.1
APA pmax pmax
comp=Z,86nm,1.4s,mb5.5
APA MLR MLR
comp=Z,4µm,20.0s,MS5.7
SKO Skopje 71.84 312 *i* **P 06 24 43.0 -3.1**
KWP Kalwaria 71.97 320 *eP* **P 06 24 46.5 -0.2**
KWP pmax pmax
comp=Z,76nm,1.2s,mb5.5
KWP Kalwaria 71.97 320 *eP* **P 06 24 47.1 +0.4**
KWP Kalwaria 71.97 320 *eP* **P 06 24 47.0 +0.4**
KOLS Kolonicke sedl 72.14 319 *eP* **P 06 24 49.2 +1.5**
KOLS *e* pP 06 24 56.8 -1.4
SUW Suwalki 72.45 324 *eP* **P 06 24 49.0 -0.5**
CRVS Cervenica-Dubn 72.66 319 *eP* **P 06 24 51.8 +0.9**
CRVS *e* pP 06 25 00.4 -1.0
FINES FINESS Array B 72.67 332 P **P 06 24 49.6 -1.0**
comp=Z,33nm,0.8s,mb5.3,baz=101,slow=9.7,SNR=19
FINES LR LR 07 02 53.1
comp=Z,2µm,20.2s,MS5.3,baz=285,slow=41
KAF Kangasniemi 72.75 333 *ep* **P 06 24 50.7 -0.4**
comp=Z,6.4nm,0.4s,mb4.9
KAF Kangasniemi 72.75 333 *eP* **P 06 24 50.7 -0.4**
KAF pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
PSZ Piszkesteto 73.58 318 *eP* **P 06 24 55.8 -0.4**
comp=Z,22nm,1.1s,mb5.0
OJC Ojcow 73.91 320 *eP* **P 06 24 58.1 -0.1**
LBTB Lobatse 74.14 241 *eP* **P 06 25 01.3 +1.3**
comp=Z,23nm,0.8s,mb5.2
VYHS Vyhne 74.34 318 *eP* **P 06 25 00.4 -0.3**
VYHS *e* 06 25 05.6
SRO Srobarova 74.62 317 *eP* **P 06 25 02.0 -0.3**
KEV Kevo 74.81 341 *ep* **P 06 25 01.3 -1.7**
comp=Z,1.6nm,0.4s,mb4.3
KEV Kevo 74.81 341 *eP* **P 06 25 01.3 -1.7**
KEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
OKC Ostrava-Krasne 74.93 319 *eP* **P 06 25 04.3 +0.3**
CASY Casey 74.93 173 *eP* **P 06 25 04.8 +1.1**
comp=Z,32nm,1.0s,mb5.2
TIP Timpagrande 75.22 308 *eP* **P 06 25 05.6 -0.4**
ARCES ARCESS Array B 75.24 340 P **P 06 25 05.9 +0.5**
ARCES pmax pmax
comp=Z,12nm,0.8s
ARCES ARCESS Array B 75.24 340 P **P 06 25 05.8 +0.4**
comp=Z,12nm,0.8s,mb4.9,baz=90,slow=4.9,SNR=12
MORC Moravsky Berou 75.31 319 *eP* **P 06 25 06.7 +0.4**
MORC pmax pmax
comp=Z,40nm,1.2s,mb5.2
MORC Moravsky Berou 75.31 319 *eP* **P 06 25 06.2 -0.1**
comp=Z,40nm,1.2s,mb5.2
ZST Bratislava 75.47 318 *eP* **P 06 25 07.6 +0.4**
ZST *e* pP 06 25 15.9 -1.8
VRAC Vranov 75.89 319 P **P 06 25 09.8 +0.3**
VRAC pmax pmax
comp=Z,8.0nm,0.9s
VRAC Vranov 75.89 319 P **P 06 25 09.8 +0.2**
comp=Z,7.5nm,0.9s,mb4.6,baz=91,slow=8.2,SNR=5.0
DPC Dobruska-Polom 76.14 320 *eP* **P 06 25 11.3 +0.3**
KSP Ksiaz 76.20 320 *eP* **P 06 25 11.6 +0.3**
KSP *ep*P pP 06 25 15.1 -6.7
KSP *eS* S 06 34 47.0 -4.7
KSP LR LR
comp=Z,3µm,20.2s,MS5.6
KSP Ksiaz 76.20 320 *eP* **P 06 25 12.2 +0.9**
UPC Upice 76.35 320 *eP* **P 06 25 12.9 +0.7**
PERS Pernice 76.72 316 *eP* **P 06 25 14.6 +0.3**
LJU Ljubljana 77.10 315 *eP* **P 06 25 17.0 +0.5**
PRU Pruhonice 77.26 319 *eP* **P 06 25 13.8 -3.5**
PVCC Panska Ves 77.27 320 *eP* **P 06 25 17.5 +0.1**
MOA Molln 77.35 317⇑ *iP* **P 06 25 18.0 +0.2**
comp=Z,33nm,1.2s,mb5.1
TRO Tromso 77.50 340 *eP* **P 06 25 17.0 -1.2**
comp=Z,66nm,1.7s,mb5.3
TRO Tromso 77.50 340 *eP* **P 06 25 17.0 -1.2**
TRO AMb AMB 06 25 29.6
comp=Z,66nm,1.7s,mb5.3
BRG Berggiesshubel 77.69 320 *i* P **P 06 25 20.1 +0.5**
BRG *e* pP 06 25 28.1 -2.1
BRG pmax pmax
comp=Z,29nm,1.0s,mb5.2
BRG Berggiesshubel 77.69 320 *i* P **P 06 25 20.1 +0.5**
comp=Z,28nm,1.0s,mb5.2
BRG *e* pP 06 25 28.1 -2.1
GEC2 GERESS Array S 77.76 318 *eP* **P 06 25 19.6 -0.5**
GEC2 pmax pmax
comp=Z,38nm,1.2s,mb5.2
GEC2 GERESS Array S 77.76 318 *eP* **P 06 25 19.6 -0.5**
comp=Z,38nm,1.2s,mb5.2
GERES GERESS Array B 77.76 318 P **P 06 25 19.5 -0.6**
GERES pmax pmax
comp=Z,26nm,1.0s
GERES GERESS Array B 77.76 318 P **P 06 25 19.5 -0.6**
comp=Z,26nm,1.0s,mb5.1,baz=90,slow=5.3,SNR=17
AQU L'Aquila 77.83 312 *eP* **P 06 25 20.8 +0.2**
comp=Z,31nm,1.0s,mb5.2
KHC Kasperske Hory 77.85 319 *eP* **P 06 25 18.1 -2.5**
KHC *ep*P pP 06 25 30.5 -0.7
RUE Ruedersdorf 77.87 322 P **P 06 25 19.2 -1.3**
comp=Z,42nm,0.4s,mb5.7
KBA Koelnbreinsper 77.95 316⇑ *iP* **P 06 25 20.7 -0.4**
comp=Z,32nm,1.1s,mb5.2
CLL Collm 78.30 321⇑ *iP* **P 06 25 23.3 +0.3**
CLL *i* pP 06 25 31.0 -2.6
CLL pmax pmax
comp=Z,21nm,1.2s,mb4.9
CLL Collm 78.30 321⇑ *iP* **P 06 25 23.3 +0.3**
comp=Z,21nm,1.2s,mb4.9
CLL *i* pP 06 25 31.0 -2.6
CLL Collm 78.30 321 ⇑P **P 06 25 23.3 +0.3**
comp=Z,logA/T=1.2,mb4.9
CLL *i* *PP pP 06 25 31.0 -2.6
CLL *e*PP PP 06 28 29.0 +7.0
WET Wettzell 78.31 319 *eP* **P 06 25 22.6 -0.5**
WET pmax pmax
comp=Z,40nm,1.4s,mb5.2
WET Wettzell 78.31 319 *eP* **P 06 25 22.6 -0.5**
comp=Z,40nm,1.4s,mb5.2
MAW Mawson 78.50 192 *eP* **P 06 25 26.6 +2.8**
comp=Z,11nm,0.7s,mb4.9
MAW Mawson 78.50 192 P **P 06 25 24.9 +1.1**
comp=Z,9.2nm,0.8s,mb4.8,baz=33,slow=6.6,SNR=5.3
MAW LR LR 06 55 30.5
comp=Z,1µm,19.1s,MS5.3,baz=27,slow=32
NKC Novy Kostel 78.62 320 *eP* **P 06 25 25.1 +0.3**
MOR8 Moi Rana 78.64 336 *eP* **P 06 25 24.3 -0.2**
comp=Z,102nm,2.0s,mb5.4
MOR8 Moi Rana 78.64 336 *eP* **P 06 25 24.3 -0.2**
MOR8 *ep*P pP 06 25 36.7 +1.5
MOR8 AMb AMB 06 25 36.7
comp=Z,102nm,2.0s,mb5.4
WTTA Wattenberg 79.11 317⇑ *iP* **P 06 25 27.2 -0.3**
comp=Z,48nm,1.1s,mb5.3
WATA Walderalm 79.16 317⇓ *iP* **P 06 25 27.1 -0.7**
comp=Z,26nm,1.3s,mb5.0
MOX Moxa 79.16 320 *eP* **P 06 25 28.3 +0.6**
MOX pmax pmax
comp=Z,37nm,1.6s,mb5.1
MOX Moxa 79.16 320 *eP* **P 06 25 28.3 +0.6**
comp=Z,37nm,1.6s,mb5.1
MOX Moxa 79.16 320 *i* P **P 06 25 28.3 +0.6**
comp=Z,logA/T=1.4,mb5.1
FUR Furstenfeldbru 79.36 317 *eP* **P 06 25 27.9 -1.0**
GRA1 Grafenberg Arr 79.40 319 *eP* **P 06 25 29.0 -0.1**
comp=Z,48nm,1.2s,mb5.3
GRF Grafenberg Arr 79.40 319 *eP* **P 06 25 29.0 -0.1**
GRF pmax pmax
comp=Z,48nm,1.2s,mb5.3
GRF Grafenberg Arr 79.40 319 *eP* **P 06 25 29.0 -0.1**
comp=Z,48nm,1.2s,mb5.3
SQTA Sankt Quirin 79.41 317⇓ *iP* **P 06 25 28.6 -0.5**
comp=Z,18nm,0.9s,mb5.0
MOTA Moosalm 79.48 317⇓ *iP* **P 06 25 29.3 -0.2**
comp=Z,22nm,1.1s,mb5.0
NSS Namsos 79.53 334 *eP* **P 06 25 28.3 -1.2**
comp=Z,101nm,1.6s,mb5.5
NSS Namsos 79.53 334 *eP* **P 06 25 28.3 -1.2**
NSS AMb AMB 06 25 45.1
comp=Z,101nm,1.6s,mb5.5
NB2 NORSAR Subarra 79.69 331 P **P 06 25 29.5 -0.8**
comp=Z,33nm,0.9s,mb5.3,baz=91,slow=5.3
NB2 NORSAR Subarra 79.69 331 P **P 06 25 29.5 -0.8**
baz=91,slow=5.6
NOA NORSAR Array B 79.69 331 P **P 06 25 29.8 -0.5**
NOA pmax pmax
comp=Z,16nm,0.7s
NOA NORSAR Array B 79.69 331 P **P 06 25 29.8 -0.6**
comp=Z,16nm,0.7s,mb5.0,baz=92,slow=5.6,SNR=15
NOA NORSAR Array B 79.69 331 P **P 06 25 29.8 -0.6**
NAO01 NORSAR Array S 79.84 330 *eP* **P 06 25 30.7 -0.5**
comp=Z,12nm,0.7s,mb4.9
CLZ Clausthal 79.95 321 *eP* **P 06 25 31.5 -0.5**
comp=Z,26nm,1.0s,mb5.1
SUR Sutherland 80.24 235 *eP* **P 06 25 35.9 +2.0**
comp=Z,34nm,1.0s,mb5.2
DAVA Damuels 80.31 317⇑ *iP* **P 06 25 34.1 +0.1**
comp=Z,32nm,0.9s,mb5.2
MUD Monsted U'grnd 80.66 326 *i* P **P 06 25 36.8 +1.2**
MUD pmax pmax
comp=Z,63nm,1.1s,mb5.5
MUD Monsted U'grnd 80.66 326 *i* P **P 06 25 36.8 +1.2**
comp=Z,63nm,1.1s,mb5.5
PGF Pioggiola 81.08 312 *eP* **P 06 25 38.0 -0.2**
TNS Taunus Mts 81.19 320 *eP* **P 06 25 38.2 -0.3**
BFO Black Forest 81.33 318 *eP* **P 06 25 38.3 -1.0**
BFO pmax pmax
comp=Z,19nm,1.3s,mb4.9
BFO Black Forest 81.33 318 *eP* **P 06 25 38.3 -1.0**
comp=Z,19nm,1.3s,mb4.9
CDF Champ du Feu 82.03 318 *eP* **P 06 25 42.6 -0.3**
comp=Z,44nm,1.2s,mb5.0
SBF Sospel 82.16 313 *eP* **P 06 25 43.7 0.0**
comp=Z,83nm,0.9s,mb5.4
WTSB Winterswijk 82.16 321 *eP* **P 06 25 42.8 -0.7**
comp=Z,26nm,1.9s,mb4.8
HINF Hinteralfeld 82.34 317 *eP* **P 06 25 45.2 +0.6**
LPG La Plagne 82.55 315 *eP* **P 06 25 46.1 +0.4**
comp=Z,58nm,0.8s,mb5.3
LPL La Plagne 82.56 315 *eP* **P 06 25 46.2 +0.5**
comp=Z,95nm,0.9s,mb5.5
MBDF Montbardon 82.58 314 *eP* **P 06 25 45.3 -0.6**
comp=Z,35nm,0.9s,mb5.1
BNI Bardonecchia 82.63 314 *eP* **P 06 25 48.8 +2.7**
BNI pmax pmax
comp=Z,22nm,0.9s,mb5.2
BNI Bardonecchia 82.63 314 *eP* **P 06 25 47.7 +1.6**
comp=Z,22nm,0.9s,mb5.2
HAU Haudompre 82.67 317 *eP* **P 06 25 45.9 -0.3**
comp=Z,74nm,1.1s,mb5.3
FRF La Foret Royal 82.75 313 *eP* **P 06 25 46.8 +0.1**
HGN Heimansgroeve 82.77 320 *eP* **P 06 25 49.3 +2.6**
comp=Z,18nm,1.0s,mb5.1
LMR La Mourre 82.86 313 *eP* **P 06 25 47.3 0.0**
comp=Z,100nm,1.3s,mb5.4
CABF La Chapelle 82.94 316 *eP* **P 06 25 48.0 +0.4**
comp=Z,123nm,1.3s,mb5.5
ORIF Oris-en-Rattie 83.20 314 *eP* **P 06 25 50.1 +1.1**
comp=Z,55nm,1.1s,mb5.2
SMRF Simiane la Rot 83.49 313 *eP* **P 06 25 51.1 +0.6**
comp=Z,151nm,1.5s,mb5.5
MEZF Maizieres J'vi 83.50 318 *eP* **P 06 25 50.4 0.0**
GIVF Givet 83.52 320 *eP* **P 06 25 50.7 +0.2**
BAIF Baives 83.92 320 *eP* **P 06 25 52.9 +0.3**
comp=Z,92nm,1.5s,mb5.4
VIVF Saint-Julien-l 84.06 314 *eP* **P 06 25 53.6 +0.2**
comp=Z,32nm,1.0s,mb5.1
SMF Signal de Mont 84.47 316 *eP* **P 06 25 55.2 -0.3**
comp=Z,63nm,1.2s,mb5.3
SSF Saint Saulge 84.66 317 *eP* **P 06 25 56.3 -0.1**
comp=Z,57nm,1.3s,mb5.2
LASF Ste Croix 84.72 314 *eP* **P 06 25 57.2 +0.5**
comp=Z,45nm,1.2s,mb5.2
AVF Avril sur Loir 84.80 316 *eP* **P 06 25 56.9 -0.1**
comp=Z,62nm,1.3s,mb5.3
BGF Bois d'Agland 85.17 316 *eP* **P 06 25 59.1 +0.2**
comp=Z,59nm,1.1s,mb5.3
SYO Syowa Base 85.37 197 ⇓P **P 06 26 00.6 +1.2**
SYO Syowa Base 85.37 197 ⇓*p*P pP 06 26 06.3 -3.8
TCF Toulx Ste Croi 85.64 316 *eP* **P 06 26 01.7 +0.5**
CAF Calviac 85.90 315 *eP* **P 06 26 03.1 +0.6**
comp=Z,42nm,1.2s,mb5.2
MTLF Montolieu 85.98 313 *eP* **P 06 26 03.4 +0.4**
comp=Z,49nm,1.0s,mb5.4
TNA Tin City 86.22 24 *eP* **P 06 26 03.8 +0.3**
RJF Les Rejaudoux 86.24 315 *eP* **P 06 26 04.8 +0.6**
comp=Z,56nm,1.1s,mb5.4
JMIC Jan Mayen 86.68 341 LR LR 07 11 32.2
comp=Z,1µm,20.7s,MS5.3,baz=100,slow=40
LDF La Druitiere 86.90 318 *eP* **P 06 26 07.5 +0.2**
FLN La Foliniere 87.11 319 *eP* **P 06 26 08.7 +0.3**
comp=Z,138nm,1.4s,mb5.7
MFF Saint Martin d 87.21 316 *eP* **P 06 26 09.0 +0.1**
comp=Z,92nm,1.6s,mb5.5
GRR Gorron 87.42 318 *eP* **P 06 26 10.2 +0.4**
EKA Eskdalemuir Ar 87.67 325 P **P 06 26 10.9 +0.1**
EKA pmax pmax
comp=Z,9.0nm,0.7s
EKA Eskdalemuir Ar 87.67 325 P **P 06 26 10.9 +0.1**
comp=Z,8.9nm,0.7s,mb5.1,baz=96,slow=5.5,SNR=13
ESK Eskdalemuir 87.69 325 *eP* **P 06 26 11.9 +0.9**
comp=Z,20nm,0.8s,mb5.4
ETSF Etsaut 88.06 313 *eP* **P 06 26 13.9 +0.9**
comp=Z,27nm,0.8s,mb5.2
SJPF Ste Jean 88.50 313 *eP* **P 06 26 16.1 +0.9**
comp=Z,34nm,0.9s,mb5.4
SGMF Saint Gilles 88.56 318 *eP* **P 06 26 16.4 +1.1**
ESDC Sonseca Array 91.14 310 P **P 06 26 28.8 +1.1**
comp=Z,5.2nm,0.7s,mb5.0,baz=60,slow=4.3,SNR=11
ESLA Sonseca Array 91.14 310 *eP* **P 06 26 28.0 +0.3**
comp=Z,3.1nm,0.9s,mb4.6
IMA Indian Mountai 91.67 22 *eP* **P 06 26 31.0 +1.5**
IMA pmax pmax
comp=Z,150nm,0.8s
IMA Indian Mountai 91.67 22 *eP* **P 06 26 30.6 +1.1**
VNDA Vanda 92.94 168 P **P 06 26 36.5 +1.4**
comp=Z,2.6nm,0.8s,mb4.7,baz=274,slow=5.2,SNR=4.0
VNDA LR LR 07 05 47.7
comp=Z,1µm,18.2s,MS5.4,baz=303,slow=34
RSO Redoubt South 94.32 27 *eP* **P 06 26 42.5 +0.8**
SPU Mount Spurr 94.34 26 *eP* **P 06 26 42.3 +0.5**
MCK McKinley 94.51 23 *eP* **P 06 26 43.6 +1.1**
MCK pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
MCK McKinley 94.51 23 *eP* **P 06 26 43.2 +0.7**
comp=Z,7.2nm,0.9s,mb5.1
ILAR Eielson Array 94.79 22 P **P 06 26 43.6 -0.2**
ILAR 06 30 34.9
ILAR pmax pmax
comp=Z,3.0nm,0.7s
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 94.79 22 P **P 06 26 43.6 -0.2**
comp=Z,2.5nm,0.7s,mb4.8,baz=288,slow=4.5,SNR=28
ILAR PP PP 06 30 34.9 0.0
comp=Z,1.6nm,0.8s,baz=300,slow=7.1,SNR=4.4
ILAR PKKPbc 06 43 39.8
comp=Z,0.5nm,0.7s,baz=153,slow=3.1,SNR=4.7
SLKM Skilak Lake 95.44 27 *eP* **P 06 26 47.7 +0.9**
SLKM Skilak Lake 95.44 27 *eP* **P 06 26 47.0 +0.1**
SML Sawmill 95.66 25 *eP* **P 06 26 49.4 +1.6**
SML Sawmill 95.66 25 *eP* **P 06 26 48.8 +1.0**
INK Inuvik 97.03 16 P **P 06 26 54.6 +0.8**
comp=Z,6.0nm,0.7s,mb5.1,baz=318,slow=5.7,SNR=12
INK LR LR 07 18 20.8
comp=Z,2µm,20.1s,MS5.5,baz=183,slow=40
INK Inuvik 97.03 16 *eP* **P 06 26 54.0 +0.1**
comp=Z,18nm,1.1s,mb5.4
RES Resolute Bay 97.41 2 *eP* **P 06 26 56.0 +0.5**
RES pmax pmax
comp=Z,17nm,0.9s,mb5.5
RES Resolute Bay 97.41 2 *eP* **P 06 26 55.3 -0.2**
comp=Z,17nm,0.9s,mb5.5
DBIC Dimbokro 97.84 278 P **P 06 26 59.5 +0.7**
DBIC pmax pmax
comp=Z,4.0nm,1.1s
DBIC Dimbokro 97.84 278 P **P 06 26 59.5 +0.6**
comp=Z,3.7nm,1.1s,mb4.8,baz=292,slow=12,SNR=2.0
DAWY Dawson 97.90 21 *eP* **P 06 26 58.2 +0.3**
YKA Yellowknife Ar 106.46 13 P Pdif 06 27 36.8 +0.7
YKA 06 31 58.7
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 106.46 13 Pdiff Pdif 06 27 36.8 +0.7
comp=Z,0.6nm,0.9s,baz=323,slow=4.4,SNR=4.6
YKA PP PP 06 31 58.7 -5.3
comp=Z,2.1nm,0.7s,baz=334,slow=7.8,SNR=11
YKA PKKPbc 06 43 06.4
comp=Z,0.5nm,0.6s,baz=148,slow=3.5,SNR=14
YKA Yellowknife Ar 106.46 13 Pdif Pdif 06 27 36.8 +0.7
YKA PP PP 06 31 58.7 -5.3
YKA PKKPbc 06 43 06.4
WVOR Wild Horse Val 121.74 28 *e*PKIKP PKPdf 06 32 18.5 +2.9
WVOR Wild Horse Val 121.74 28 *e*PKPdf PKPdf 06 32 17.6 +2.0
HLID Hailey 122.67 24 *e*PKPdf PKPdf 06 32 18.9 +1.5
YMR Madison River 123.06 21 *e*PKPdf PKPdf 06 32 20.7 +2.6
YFT Old Faithful 123.29 21 *e*PKPdf PKPdf 06 32 22.2 +3.6
TPAW Teton Pass 124.08 22 *e*PKPdf PKPdf 06 32 22.5 +2.4
LOHW Long Hollow 124.10 21 *e*PKPdf PKPdf 06 32 22.3 +2.2
SNOW Snow King Moun 124.17 22 *e*PKPdf PKPdf 06 32 22.4 +2.1
NVAR Mina Array Bea 124.98 31 PKP PKPdf 06 32 24.8 +2.8
comp=Z,4.2nm,0.7s,baz=347,slow=1.1,SNR=9.1
PDAR Pinedale Array 125.21 21 PKP PKPdf 06 32 24.1 +1.8
comp=Z,5.1nm,0.8s,baz=49,slow=0.7,SNR=10
TRCR Troy Canyon 126.38 29 *e*PKPdf PKPdf 06 32 26.9 +2.1
SADO Sadowa 127.25 354 PKP PKPdf 06 32 27.0 +0.8
comp=Z,4.6nm,0.7s,baz=293,slow=3.3,SNR=3.8
ANMO Albuquerque 133.22 23 PKIKP PKPdf 06 32 41.1 +3.3
ANMO pmax pmax
comp=Z,3.0nm,0.8s
ANMO Albuquerque 133.22 23 PKP PKPdf 06 32 41.0 +3.2
comp=Z,2.8nm,0.8s,baz=211,slow=0.7,SNR=7.0
ANMO Albuquerque 133.22 23 PKP PKPdf 06 32 41.0 +3.2
LENM Lemitar 133.70 24 *e*PKPdf PKPdf 06 32 41.5 +2.7
MNTX Cornudas Mount 136.50 24 *e*PKPdf PKPdf 06 32 45.8 +1.8
MYNC Murphy 137.26 358 *e*PKPdf PKPdf 06 32 45.8 +0.6
TXAR Lajitas Array 139.28 24 PKhKP 06 32 43.0
comp=Z,0.7nm,0.6s,baz=325,slow=0.4,SNR=6.6
TXAR PKP PKPdf 06 32 50.0 +0.9
comp=Z,2.2nm,0.6s,baz=316,slow=0.6,SNR=6.8
TXAR PP PP 06 35 42.4 -4.5
comp=Z,2.3nm,0.9s,slow=5.0,SNR=6.0
TXAR Lajitas Array 139.28 24 PKP 06 32 43.0
TXAR PKP PKPdf 06 32 50.0 +0.9
TXAR PP PP 06 35 42.4 -4.5
JCT Junction City 139.63 19 *e*PKPdf PKPdf 06 32 51.0 +1.3
BAO Brasilia Array 142.08 255 P PKPdf 06 32 53.0 -1.4
PLCA Paso Flores 144.50 200 PKIKP PKPdf 06 32 58.4 +0.5
PLCA pmax pmax
comp=Z,23nm,0.8s
PLCA Paso Flores 144.50 200 PKP PKPdf 06 32 58.4 +0.5
comp=Z,23nm,0.8s,baz=160,slow=3.4,SNR=13
PLCA Paso Flores 144.50 200 PKP PKPdf 06 32 58.4 +0.5
SJG San Juan 147.61 323 *e*PKP2 PKPab 06 33 08.4 -2.4
SJG San Juan 147.61 323 *e*PKPdf PKPdf 06 33 06.8 +3.0
MDZ Mendoza 150.48 210 *eP* PKPdf 06 33 14.2 +6.2
MDZ *e* 06 33 22.2
FCH Farellones 150.80 208⇑ *iP* PKPdf 06 33 16.9 +8.4
TEIG Tepich 151.99 5 *e*PKPbc PKPdf 06 33 19.4 +8.9
SDV Santo Domingo 157.41 317 PKP PKPdf 06 33 19.9 +1.8
comp=Z,5.1nm,0.9s,baz=281,slow=1.7,SNR=3.3
SDV PKPab PKPab 06 33 51.9 -0.1
comp=Z,4.7nm,0.6s,baz=82,slow=5.2,SNR=12
LVC Limon Verde 158.00 226 PKPab PKPab 06 33 56.2 +1.9
comp=Z,11nm,0.8s,baz=116,slow=1.5,SNR=7.0
LPAZ La Paz 160.67 243 PKP PKPdf 06 32 40.3 -41
comp=Z,4.0nm,1.0s,baz=289,slow=1.7,SNR=3.6
LPAZ PKPab PKPab 06 33 24.9 -41
comp=Z,3.3nm,0.8s,baz=51,slow=6.5,SNR=1.6
OTAV Otavalo 169.00 317 *e*PKPdf PKPdf 06 33 32.4 +3.3
OTAV *e*PKPab PKPab 06 34 43.4 +1.0

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*NEIC **28** 06:23:23.7±0.7, 7.96N×94.20E, h30km, mb4.4/2, Error ellipse: s-maj=24.1km s-min=15.2km az=66.0*
*IDC **28** 06:23:31.5±5.2, 8.17N×94.48E, h100km±48km, mb3.8/12, mb1 4.0/13, mb1mx3.9/19, mbtmp4.2/13, Error ellipse: s-maj=33.2km s-min=14.1km az=58.0*
ISC 28 06:23:22.0±0.7,**7.9N**±0.1×**94.1E**±0.2,**h33**km,**n17,**
σ1§**00**/15,**mb4.2**/14,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.48**	**24**	P		**P**	**06 26 07.5**	**+0.8**
	1.3nm,0.3s,baz=211,slow=15,SNR=13							
SONM	**Songino Array**	**41.13**	**13**	P		**P**	**06 31 03.8**	**-0.8**
	1.2nm,0.8s,mb3.6,baz=198,slow=10,SNR=4.5							
KURK	**Kurchatov**	**44.56**	**346**	*eP*		**P**	**06 31 32.3**	**-0.2**
	2.3nm,0.5s,mb4.3							
NWAO	**Narrogin (SRO)**	**46.20**	**153**	P		**P**	**06 31 46.1**	**+0.3**
	8.0nm,0.5s,mb4.9,baz=318,slow=4.8,SNR=11							
ZAL	**Zalesovo**	**46.50**	**352**	P		**P**	**06 31 47.2**	**-0.6**
	4.3nm,0.3s,mb4.8							
WRA	**Warramunga Arr**	**48.31**	**126**	P		**P**	**06 32 01.3**	**-1.1**
	1.6nm,0.4s,mb4.4,baz=305,slow=8.6,SNR=16							
WRAB	**Tennant Creek**	**48.31**	**126**	*eP*		**P**	**06 32 02.0**	**-0.5**
	1.6nm,0.4s,mb4.4							
ASAR	**Alice Springs**	**49.96**	**130**	P		**P**	**06 32 15.9**	**+0.8**
	1.6nm,0.8s,mb4.1,baz=300,slow=7.7,SNR=8.2							
KMBO	**Kilima Mbogo**	**57.40**	**264**	P		**P**	**06 33 14.1**	**+4.0**
	1.3nm,0.8s,mb4.0,baz=49,slow=16,SNR=3.8							
BRTR	**Keskin Array B**	**62.38**	**311**	P		**P**	**06 33 44.0**	**0.0**
	0.9nm,0.6s,mb4.1,baz=124,slow=9.3,SNR=4.4							
FINES	**FINESS Array B**	**72.66**	**332**	P		**P**	**06 34 46.5**	**-1.5**
	6.3nm,1.2s,mb4.4,baz=90,slow=7.6,SNR=6.4							
ARCES	**ARCESS Array B**	**75.22**	**340**	P		**P**	**06 35 02.0**	**-0.7**
	3.1nm,0.9s,mb4.2,baz=76,slow=5.0,SNR=4.6							
GERES	**GERESS Array B**	**77.78**	**318**	P		**P**	**06 35 18.4**	**+0.9**
	1.1nm,0.7s,mb3.9,baz=56,slow=4.8,SNR=6.8							
NOA	**NORSAR Array B**	**79.68**	**331**	P		**P**	**06 35 28.2**	**+0.5**
	2.0nm,1.1s,mb4.0,baz=113,slow=4.3,SNR=2.5							
ILAR	**Eielson Array**	**94.72**	**22**	P		**P**	**06 36 43.4**	**+2.6**
	0.2nm,0.6s,mb3.7,baz=302,slow=4.7,SNR=5.7							
TXAR	**Lajitas Array**	**139.20**	**24**	PKP		PKPdf	06 42 46.0	-0.3
	0.1nm,0.4s,slow=0.9,SNR=3.9							
PLCA	**Paso Flores**	**144.58**	**200**	PKP		PKPdf	06 42 58.7	+3.3
	1.0nm,0.7s,baz=288,slow=14,SNR=4.7							

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*IDC **28** 06:24:59.8±0.8, 13.21N×92.40E, mb4.1/10, mb1 4.3/11, mb1mx4.1/19, mbtmp4.1/11, ML4.1/1, Error ellipse: s-maj=36.4km s-min=16.7km az=53.0*
*NEIC **28** 06:25:04.3±0.6, 13.22N×92.51E, h30km, mb4.6/1, Error ellipse: s-maj=19.3km s-min=11.8km az=56.0*
ISC 28 06:25:02.9±0.7,**13.28N**±0.08×**92.71E**±0.10,**h30**km,**n15,**
σ0§**81**/15,**mb4.2**/12,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.90**	**49**	Pn		**Pn**	**06 26 59.1**	**+0.4**
	0.6nm,0.3s,baz=239,slow=15,SNR=5.1							
CMAR				Sn		**Sn**	**06 28 27.3**	**-0.8**
	1.5nm,0.3s,baz=239,slow=28,SNR=14							
SONM	**Songino Array**	**36.29**	**16**	P		**P**	**06 32 06.9**	**+1.3**
	1.6nm,0.8s,mb4.0,baz=203,slow=9.4,SNR=4.7							
FITZ	**Fitzroy Crossi**	**45.03**	**133**	*eP*		**P**	**06 33 17.8**	**-0.3**
	10nm,0.5s,mb4.9							
FITZ				*i*			06 33 23.2	
WRA	**Warramunga Arr**	**52.61**	**128**	P		**P**	**06 34 16.0**	**-0.7**
	3.6nm,0.6s,mb4.5,baz=305,slow=8.4,SNR=16							
WRA				PcP		PcP	06 35 27.6	+1.1
	0.9nm,0.5s,baz=315,slow=3.0,SNR=7.7							
WRAB	**Tennant Creek**	**52.62**	**128**	*eP*		**P**	**06 34 16.7**	**0.0**
	2.9nm,0.4s,mb4.6							
WB2	**Warramunga Arr**	**52.62**	**128**	*eP*		**P**	**06 34 16.2**	**-0.5**
WB2				*i*			06 34 21.8	
ASAR	**Alice Springs**	**54.51**	**132**	P		**P**	**06 34 30.4**	**-0.1**
	2.2nm,0.6s,mb4.3,baz=311,slow=6.5,SNR=9.9							
ASAR				PcP		PcP	06 35 34.2	+0.6
	0.9nm,0.7s,baz=310,slow=4.0,SNR=3.9							
BRTR	**Keskin Array B**	**57.91**	**309**	P		**P**	**06 34 51.2**	**-3.5**
	0.7nm,0.6s,mb3.9,baz=113,slow=9.4,SNR=3.7							
STKA	**Stephens Creek**	**64.87**	**135**	P		**P**	**06 35 43.1**	**+1.3**
	1.4nm,0.6s,mb4.2,baz=331,slow=10,SNR=2.3							
ARCES	**ARCESS Array B**	**69.73**	**340**	P		**P**	**06 36 11.8**	**0.0**
	2.8nm,0.9s,mb4.2,baz=104,slow=7.4,SNR=2.8							
GERES	**GERESS Array B**	**72.90**	**317**	P		**P**	**06 36 30.3**	**-0.8**
	0.4nm,0.5s,mb3.6,baz=90,slow=5.9,SNR=3.1							
NOA	**NORSAR Array B**	**74.36**	**330**	P		**P**	**06 36 38.8**	**-0.6**
	0.8nm,0.7s,mb3.8,baz=97,slow=5.2,SNR=2.9							
ILAR	**Eielson Array**	**90.28**	**22**	P		**P**	**06 38 02.5**	**+0.6**
	0.6nm,0.7s,mb4.0,baz=305,slow=4.7,SNR=10.0							
INK	**Inuvik**	**92.21**	**16**	P		**P**	**06 38 11.5**	**+0.9**
	3.9nm,1.2s,mb4.6,baz=190,slow=12,SNR=3.1							
TXAR	**Lajitas Array**	**134.78**	**20**	PKP		PKPdf	06 44 23.3	-1.4
	0.2nm,0.7s,baz=86,slow=0.9,SNR=3.7							

*NEIC **28** 06:25:05.4, 33.98S×70.08W, h5km, ML3.4(GUC), After GUC.*

GUC 28 06:25:05.4±0.8, 33.98S×70.08W, h5km±1km, MD3.9, ML3.4, 12C-9D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LMEL	**Las Melosas**	**0.17**	**322**	⇑*i*P	Pg	06 25 09.6	+0.7
LMEL				*i* S	Sg	06 25 12.6	+1.4
LMEL				AMP		06 25 14.3	
	comp=N,12μm,0.5s						
SJCH	**San Jose de Ma**	**0.41**	**326**	⇑*i*P	Pg	06 25 13.6	0.0
SJCH				*i* S	Sg	06 25 20.4	+1.3
SJCH				AMP		06 25 21.8	
	comp=E,4μm,0.4s						
CACH	**El Canelo**	**0.45**	**252**	⇓*i*P	Pg	06 25 14.4	0.0
CACH				*i* S	Sg	06 25 21.5	+0.9
CHCH	**Chadas Angostu**	**0.48**	**275**	⇓*i*P	Pg	06 25 15.3	+0.3
CHCH				*i* S	Sg	06 25 22.8	+1.5
PCH	**Pirque**	**0.51**	**315**	⇓*i*P	Pg	06 25 15.9	+0.3
PCH				*i* S	Sg	06 25 24.0	+1.6
ANTU	**Antumapu**	**0.62**	**311**	⇑*i*P	Pg	06 25 17.8	+0.1
ANTU				*i* S	Sg	06 25 27.6	+1.6
ANTU				AMP		06 25 28.2	
	comp=E,5μm,0.4s						
FCH	**Farellones**	**0.67**	**345**	⇑*i*P	Pg	06 25 18.5	-0.4
FCH				*i* S	Sg	06 25 29.1	+1.2
FCH				AMP		06 25 29.6	
	comp=N,2μm,0.4s						
CLCH	**Cerro Calan**	**0.70**	**327**	⇑*i*P	Pg	06 25 19.2	-0.1
CLCH				*i* S	Sg	06 25 30.1	+1.5
CLCH				AMP		06 25 32.3	
	comp=E,4μm,0.5s						
CLCH				AMP		06 25 32.9	
	comp=E,5μm,0.5s						
DSCH	**Colegio Aleman**	**0.71**	**325**	⇓*i*P	Pg	06 25 19.5	-0.1
DSCH				*i* S	Sg	06 25 30.4	+1.4
DSCH				AMP		06 25 31.6	
	comp=E,6μm,0.4s						
SAN	**Santiago**	**0.71**	**317**	⇑*i*P	Pg	06 25 19.6	-0.1
SAN				*i* S	Sg	06 25 30.4	+1.1
SAN				AMP		06 25 32.8	
	comp=E,3μm,0.5s						
STL	**Santa Lucia**	**0.72**	**319**	⇑*i*P	Pg	06 25 19.4	-0.3
STL				*i* S	Sg	06 25 30.5	+1.2
STL				AMP		06 25 31.0	
	comp=E,2μm,0.3s						
RCDM	**Rinconada Maip**	**0.78**	**309**	⇑*i*P	Pg	06 25 20.7	-0.3
RCDM				*i* S	Sg	06 25 32.6	+1.2
RCDM				AMP		06 25 33.1	
	comp=E,2μm,0.2s						
PUEX	**Pudahuel**	**0.78**	**313**	⇑*i*P	Pg	06 25 21.9	+0.9
PUEX				*i* S	Sg	06 25 33.8	+2.4
PUEX				AMP		06 25 34.5	
	comp=E,9μm,0.5s						
TACH	**Talagante**	**0.79**	**294**	⇓*i*P	Pg	06 25 20.7	-0.4
TACH				*i* S	Sg	06 25 32.4	+0.8
SFDO	**San Fernando**	**1.00**	**230**	⇑*i*P	Pb	06 25 23.8	-1.0
SFDO				*i* S	Sb	06 25 38.5	+0.4
LNV	**Longovilo**	**1.11**	**271**	⇓*i*P	Pb	06 25 25.9	-0.7
LNV				*i* S	Sb	06 25 41.6	+0.4
ROCH	**El Roble**	**1.27**	**322**	⇑*i*P	Pb	06 25 29.1	-0.4
ROCH				*i* S	Sb	06 25 47.2	+1.2
LCCH	**Las Cruces**	**1.34**	**292**	⇑*i*P	Pb	06 25 30.1	-0.5
JACH	**Jahuel**	**1.36**	**342**	⇓*i*P	Pb	06 25 30.4	-0.7
JACH				*i* S	Sb	06 25 49.4	+0.8
NICH	**Los Niches**	**1.39**	**223**	⇓*i*P	Pb	06 25 30.6	-1.0
NICH				*i* S	Sb	06 25 50.2	+0.6
MDZ	**Mendoza**	**1.50**	**44**	*e*P	Pn	06 25 31.3	-1.8
MDZ				*i*		06 25 55.6	
PACH	**Papudo**	**1.83**	**321**	⇓*i*P	Pn	06 25 38.2	+0.3
ZON	**Zonda**	**2.70**	**26**	*e*P	Pn	06 25 53.0	+2.8
ZON				*e*S	Sn	06 26 13.0	-11
TRQA	**Tornquist**	**7.72**	**124**	*e*Pn	Pn	06 26 57.8	-3.4
	comp=E,2.4nm,0.4s						
TRQA				*e*Sg	Sg	06 29 12.8	-10

*NEIC **28** 06:37:29.2±0.5, 7.98N×94.21E, h30km, mb4.4/5, Error ellipse: s-maj=13.3km s-min=12.1km az=54.0*
*IDC **28** 06:37:31.9±4.9, 8.04N×94.24E, h54km±43km, mb3.8/13, mb1 4.0/14, mb1mx3.9/19, mbtmp4.1/14, Error ellipse: s-maj=28.3km s-min=14.4km az=49.0*

ISC 28 06:37:29.3±2.3, 8.01N±0.10×94.23E±0.09, h49km±21km, n31, σ1§08/27, mb4.2/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.35**	**23**	P	**P**	**06 40 12.5**	**+0.9**
	baz=214,slow=14,SNR=4.8						
PALK	**Pallekele**	**13.43**	**268**	*e*Pn	**P**	**06 40 38.5**	**-0.7**
	35nm,1.0s						
HYB	**Hyderabad**	**17.91**	**303**	*i* P	**P**	**06 41 36.5**	**-0.2**
SONM	**Songino Array**	**41.02**	**12**	P	**P**	**06 45 10.7**	**+1.4**
	1.7nm,0.9s,mb3.7,baz=192,slow=6.1,SNR=7.2						
SONM				PcP	PcP	06 47 10.4	+1.2
	0.9nm,0.9s,baz=215,slow=4.1,SNR=2.2						
KURK	**Kurchatov**	**44.51**	**346**	*e*P	**P**	**06 45 37.7**	**0.0**
	7.9nm,1.2s,mb4.4						
ZAL	**Zalesovo**	**46.43**	**352**	P	**P**	**06 45 53.2**	**+0.3**
	2.0nm,0.9s,mb4.0,baz=293,slow=9.9,SNR=8.0						
WRA	**Warramunga Arr**	**48.26**	**126**	P	**P**	**06 46 07.2**	**-0.6**
	1.7nm,0.8s,mb4.1,baz=305,slow=9.4,SNR=11						
BVAR	**Borovoye Array**	**48.89**	**341**	P	**P**	**06 46 10.5**	**-1.6**
	1.2nm,0.8s,mb4.0,baz=127,slow=7.4,SNR=5.3						
BRVK	**Borovoye**	**48.96**	**341**	*e*P	**P**	**06 46 11.5**	**-1.2**
	2.7nm,0.9s,mb4.3						
RAYN	**Ar Rayn**	**49.11**	**294**	P	**P**	**06 46 16.8**	**+2.5**
	55nm,0.7s,SNR=8.4						
ASAR	**Alice Springs**	**49.93**	**130**	P	**P**	**06 46 19.9**	**-0.7**
	1.8nm,0.9s,mb4.1,baz=299,slow=8.0,SNR=13						
ASAR				PcP	PcP	06 47 40.2	-0.3
	0.4nm,0.6s,baz=286,slow=3.5,SNR=2.8						
KIV	**Kislovodsk**	**57.28**	**318**	P	**P**	**06 47 13.8**	**-0.6**
	9.5nm,0.8s,mb4.9						
KMBO	**Kilima Mbogo**	**57.53**	**264**	P	**P**	**06 47 18.7**	**+2.1**
	4.0nm,0.8s,mb4.5,baz=54,slow=9.2,SNR=13						
KMBO	**Kilima Mbogo**	**57.53**	**264**	P	**P**	**06 47 18.7**	**+2.1**
STKA	**Stephens Creek**	**60.13**	**134**	P	**P**	**06 47 34.5**	**0.0**
	1.0nm,0.8s,mb3.9,baz=164,slow=12,SNR=3.0						
BRTR	**Keskin Array B**	**62.41**	**311**	P	**P**	**06 47 47.8**	**-1.9**
	1.9nm,0.7s,mb4.3,baz=128,slow=7.1,SNR=11						
AKASG	**Malin Array Be**	**68.11**	**322**	P	**P**	**06 48 24.4**	**-1.7**
	1.9nm,0.7s,mb4.3,baz=88,slow=4.6,SNR=9.5						
FINES	**FINESS Array B**	**72.64**	**332**	P	**P**	**06 48 53.5**	**+0.2**
	4.0nm,0.8s,mb4.4,baz=117,slow=8.5,SNR=6.6						
FINES	**FINESS Array B**	**72.64**	**332**	P	**P**	**06 48 53.5**	**+0.2**
LBTB	**Lobatse**	**74.38**	**241**	P	**P**	**06 49 05.6**	**+1.3**
	3.2nm,0.7s,mb4.4						
ARCES	**ARCESS Array B**	**75.17**	**340**	P	**P**	**06 49 08.8**	**+0.9**
	3.6nm,0.8s,mb4.3,baz=80,slow=7.4,SNR=4.7						
ARCES	**ARCESS Array B**	**75.17**	**340**	P	**P**	**06 49 08.8**	**+0.8**
MORC	**Moravsky Berou**	**75.33**	**319**	*e*P	**P**	**06 49 09.3**	**+0.1**
	4.6nm,1.0s,mb4.4						
GERES	**GERESS Array B**	**77.79**	**318**	P	**P**	**06 49 23.6**	**+0.5**
	2.9nm,0.7s,mb4.3,baz=90,slow=5.3,SNR=24						
NB2	**NORSAR Subarra**	**79.66**	**331**	P	**P**	**06 49 32.5**	**-0.5**
	1.5nm,0.8s,mb4.0,baz=95,slow=4.8						
NOA	**NORSAR Array B**	**79.66**	**331**	P	**P**	**06 49 33.0**	**-0.1**
	1.9nm,0.8s,mb4.1,baz=94,slow=5.2,SNR=5.8						
NOA	**NORSAR Array B**	**79.66**	**331**	P	**P**	**06 49 33.0**	**-0.1**
PDAR	**Pinedale Array**	**125.01**	**21**	PKP	PKPdf	06 56 27.1	+2.5
	0.6nm,0.7s,baz=70,slow=1.5,SNR=6.1						
ANMO	**Albuquerque**	**133.01**	**23**	PKP	PKPdf	06 56 42.8	+2.7
	0.3nm,0.6s,baz=21,slow=15,SNR=3.9						
TXAR	**Lajitas Array**	**139.07**	**24**	PKP	PKPdf	06 56 55.0	+3.7
	0.5nm,0.7s,baz=290,slow=0.4,SNR=8.4						
PLCA	**Paso Flores**	**144.70**	**200**	PKP	PKPdf	06 57 03.1	+2.1
	3.9nm,0.9s,baz=173,slow=5.6,SNR=11						

*IDC **28** 06:39:46.7±0.5, 8.04N×94.10E, mb4.5/17, mb1 4.7/18, mb1mx4.6/21, mbtmp4.5/18, ML4.3/1, MS4.6/7, Ms1 4.6/7, ms1mx4.2/20, Error ellipse: s-maj=26.2km s-min=12.8km az=50.0, Putative timing error at LPAZ*
*BJI **28** 06:39:50.8, 7.64N×93.92E, h54km, mB5.7, mb4.8, Ms5.1, Msz4.8*
*MOS **28** 06:39:51.0±1.0, 8.14N×94.02E, h33km, mb4.9/41, MS5.0/4, Error ellipse: s-maj=12.1km s-min=6.4km az=112.7*
*NEIC **28** 06:39:51.5±0.3, 8.02N×94.07E, h30km, mb4.7/35, Error ellipse: s-maj=9.0km s-min=6.8km az=48.0*

ISC 28 06:39:50.3±0.3, 8.05N±0.05×94.14E±0.05, h33km, (h23km±7.6km:pP-P), n168, σ1§09/156, mb4.7/57, MS4.8/12, 10C-4D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNT	**Nongplab**	**7.12**	**50**	P	**P**	**06 41 33.0**	**-1.7**
CMAR	**Chiang Mai Arr**	**11.35**	**24**	P	**P**	**06 42 33.7**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,2μm,21.6s						
CMAR	**Chiang Mai Arr**	**11.35**	**24**	Pn	**P**	**06 42 33.7**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=211,slow=14,SNR=48						
CMAR				LR	LR	06 47 00.8	
	comp=Z,2μm,21.6s,baz=210,slow=38						
HYB	**Hyderabad**	**17.81**	**303**	*e*P	**P**	**06 43 56.0**	**-1.4**
HYB				*e*S	**S**	**06 47 05.0**	**-7.3**
HYB	**Hyderabad**	**17.81**	**303**	*i* P	**P**	**06 43 56.0**	**-1.4**
HYB				*e*		06 47 05.0	
HYB				*e*S	**S**	**06 47 17.0**	**+4.7**
QIZ	**Qiongzhong**	**18.75**	**53**	P	**P**	**06 44 12.5**	**+3.4**
QIZ				LR	LR		
	comp=N,9μm,13.3s						
QIZ				LR	LR		
	comp=E,3μm,13.6s						
QIZ				LR	LR		
	comp=Z,2μm,11.8s						
QIZ	**Qiongzhong**	**18.75**	**53**	*e*P	**P**	**06 44 09.8**	**+0.8**
	comp=Z,83nm,1.4s						
KMI	**Kunming**	**18.86**	**25**	⇑P	**P**	**06 44 14.1**	**+3.8**
KMI				pmax	pmax		
	comp=Z,55nm,1.1s						
KMI	**Kunming**	**18.86**	**25**	⇑P	**P**	**06 44 14.1**	**+3.8**
	comp=Z,55nm,1.1s						
ALBI	**Allahabad**	**20.80**	**327**	*e*P	**P**	**06 44 30.0**	**-1.4**
LSA	**Lhasa**	**21.72**	**353**	P	**P**	**06 44 41.5**	**+0.9**
LSA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.5						
LSA	**Lhasa**	**21.72**	**353**	*e*P	**P**	**06 44 41.4**	**+0.8**
LSA				pmax	pmax		
	comp=Z,68nm,0.8s,mb5.1						
LSA	**Lhasa**	**21.72**	**353**	*e*P	**P**	**06 44 41.4**	**+0.8**
	comp=Z,68nm,0.8s,mb5.1						
NDI	**New Delhi**	**25.99**	**324**	*e*P	**P**	**06 45 22.0**	**-0.1**
NDI				*e*S	tx	06 52 35.0	
ENH	**Enshi**	**26.37**	**31**	*e*P	**P**	**06 45 25.7**	**+0.1**
	comp=Z,18nm,0.9s,mb4.6						
XAN	**Xi'an**	**29.23**	**26**	P	**P**	**06 45 51.3**	**-0.1**
XAN				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.8						
LZH	**Lanzhou**	**29.28**	**16**	⇓P	**P**	**06 45 55.5**	**+3.7**
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.8						
LZH	**Lanzhou**	**29.28**	**16**	⇓P	**P**	**06 45 55.4**	**+3.6**
LZH				*SP	sP	06 46 01.5	-4.2
LZH				pmax	pmax		
	comp=Z,28nm,1.5s,mb4.8						
LZH	**Lanzhou**	**29.28**	**16**	⇓P	**P**	**06 45 55.4**	**+3.6**
	comp=Z,28nm,1.5s,mb4.8						
LZH				pP	pP	06 45 59.2	-2.2
LZH				sP	sP	06 46 01.5	-4.2
WHN	**Wuhan**	**29.30**	**38**	*e*P	**P**	**06 45 53.0**	**+1.0**
NJ2	**Nanjing**	**33.14**	**41**	*e*P	**P**	**06 46 27.0**	**+1.2**
NJ2				PP	PP	06 47 38.8	+1.6
NJ2				S	**S**	**06 51 41.0**	**-0.9**
NJ2				LR	LR		
	comp=N,2μm,13.5s,MS5.1						
NJ2				LR	LR		
	comp=E,2μm,11.0s,MS5.1						
NJ2				LR	LR		
	comp=Z,2μm,13.5s,MS5.0						
SSE	**Sheshan**	**34.10**	**44**	*e*P	**P**	**06 46 30.8**	**-3.3**
	comp=Z,39nm,0.7s,mb5.5						
WMQ	**Urumqi**	**36.07**	**352**	P	**P**	**06 46 51.5**	**+0.7**
WMQ				AP	pP	06 47 01.3	+0.7
WMQ				PP	PP	06 48 13.5	+0.1
WMQ				PCP	PcP	06 49 18.5	+1.7
WMQ				S	**S**	**06 52 26.5**	**-0.7**
WMQ				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,232nm,5.0s						
WMQ				LR	LR		
	comp=N,669nm,15.8s,MS4.6						
WMQ				LR	LR		
	comp=E,456nm,15.3s,MS4.6						
WMQ				LR	LR		
	comp=Z,876nm,15.4s,MS4.6						
BJT	**Baijiatuau**	**37.43**	**28**	*e*P	**P**	**06 47 02.8**	**+0.5**
BJT				pmax	pmax		
	comp=Z,15nm,1.0s						
BJT	**Baijiatuau**	**37.43**	**28**	*e*P	**P**	**06 47 02.8**	**+0.5**
	comp=Z,15nm,1.0s,mb4.8						
BJI	**Beijing**	**37.45**	**28**	P	**P**	**06 47 04.6**	**+2.1**
BJI				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6						
BJI	**Beijing**	**37.45**	**28**	P	**P**	**06 47 04.6**	**+2.1**
	comp=Z,11nm,1.0s,mb4.6						
UCH	**Uchtor**	**38.19**	**336**	P	**P**	**06 47 09.6**	**+1.0**
	SNR=7.2						
AML	**Almayashu**	**38.45**	**335**	P	**P**	**06 47 12.2**	**+1.4**
	SNR=13						
AAK	**Ala-Archa**	**38.54**	**337**	P	**P**	**06 47 13.3**	**+1.8**
	SNR=9.1						
AAK	**Ala-Archa**	**38.54**	**337**	*c i*P	**P**	**06 47 12.4**	**+0.9**
AAK				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.7						
AAK	**Ala-Archa**	**38.54**	**337**	*e*P	**P**	**06 47 12.1**	**+0.6**
	comp=Z,22nm,1.1s,mb4.8						
CHMS	**Chumysh**	**38.75**	**337**	P	**P**	**06 47 14.1**	**+0.8**
	SNR=6.5						
EKS2	**Erkin-Say**	**38.85**	**336**	P	**P**	**06 47 15.4**	**+1.3**
	SNR=6.4						
USP	**Ospenovka**	**39.08**	**337**	P	**P**	**06 47 16.6**	**+0.6**
	SNR=7.7						
SONM	**Songino Array**	**40.99**	**13**	P	**P**	**06 47 32.2**	**+0.4**
	comp=Z,6.2nm,0.9s,mb4.2,baz=198,slow=7.8,SNR=18						
SONM				PcP	PcP	06 49 32.9	+0.8
	comp=Z,1.9nm,0.6s,baz=215,slow=4.2,SNR=3.4						
ULN	**Ulaanbaatar**	**41.17**	**13**	P	**P**	**06 47 32.4**	**-0.8**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
ULN	**Ulaanbaatar**	**41.17**	**13**	P	**P**	**06 47 32.4**	**-0.9**
	comp=Z,3.1nm,0.6s,mb4.1						
SNY	**Shenyang**	**42.52**	**33**	⇑P	**P**	**06 47 45.8**	**+1.3**
SNY				S	**S**	**06 54 05.8**	**+1.6**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
SNY				LR	LR		
	comp=N,1μm,15.2s						
SNY				LR	LR		
	comp=E,660nm,20.4s						
SNY				LR	LR		
	comp=Z,1μm,16.5s,MS4.9						
TLY	**Talaya**	**44.20**	**8**	*i* P	**P**	**06 47 56.3**	**-1.6**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
KURK	**Kurchatov**	**44.44**	**346**	*i* P	**P**	**06 48 00.5**	**+0.6**
KURK	**Kurchatov**	**44.44**	**346**	*e*P	**P**	**06 47 59.4**	**-0.4**
	comp=Z,27nm,0.9s,mb5.0						
MUN	**Mundaring**	**45.04**	**153**	*e*P	**P**	**06 48 06.7**	**+1.7**
	comp=Z,9.9nm,0.8s,mb4.7						
MUN	**Mundaring**	**45.04**	**153**	*e*P	**P**	**06 48 06.7**	**+1.7**
MUN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
NWAO	**Narrogin (SRO)**	**46.30**	**153**	P	**P**	**06 48 14.6**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,12nm,0.9s						
NWAO	**Narrogin (SRO)**	**46.30**	**153**	P	**P**	**06 48 14.6**	**-0.3**
	comp=Z,12nm,0.9s,mb4.8,baz=308,slow=7.0,SNR=5.3						
ZAL	**Zalesovo**	**46.37**	**352**	P	**P**	**06 48 15.8**	**+0.6**
ZAL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZAL	**Zalesovo**	**46.37**	**352**	P	**P**	**06 48 15.8**	**+0.5**
	comp=Z,7.5nm,0.9s,mb4.6,baz=297,slow=7.0,SNR=30						
NVS	**Novosibirsk**	**47.47**	**351**	*i* P	**P**	**06 48 23.0**	**-0.8**
WRA	**Warramunga Arr**	**48.36**	**126**	P	**P**	**06 48 29.1**	**-2.2**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	**48.36**	**126**	P	**P**	**06 48 29.1**	**-2.1**
	comp=Z,2.5nm,0.7s,mb4.3,baz=305,slow=9.0,SNR=12						
WB2	**Warramunga Arr**	**48.37**	**126**	*e*P	**P**	**06 48 29.2**	**-2.1**
BVAR	**Borovoye Array**	**48.82**	**341**	P	**P**	**06 48 32.9**	**-1.5**
	comp=Z,6.5nm,0.9s,mb4.7,baz=146,slow=11,SNR=18						
BRVK	**Borovoye**	**48.88**	**341**	*e*P	**P**	**06 48 32.9**	**-1.9**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
BRVK	**Borovoye**	**48.88**	**341**	*e*P	**P**	**06 48 32.9**	**-2.0**
	comp=Z,7.8nm,0.9s,mb4.7						
RAYN	**Ar Rayn**	**49.01**	**294**	P	**P**	**06 48 37.8**	**+1.6**
	comp=Z,100nm,0.7s,SNR=11						
ASAR	**Alice Springs**	**50.03**	**130**	P	**P**	**06 48 42.1**	**-1.9**
	comp=Z,3.5nm,0.9s,mb4.4,baz=306,slow=7.3,SNR=16						
ASAR				PcP	PcP	06 50 04.3	+0.5
	comp=Z,2.0nm,0.7s,baz=311,slow=4.7,SNR=5.6						
ASAR				LR	LR	07 10 16.3	
	comp=Z,366nm,19.7s,MS4.4,baz=299,slow=37						
BOD	**Bodaibo**	**51.98**	**13**	*e*P	**P**	**06 48 56.9**	**-1.4**
GNI	**Garni**	**54.31**	**314**	*i* P	**P**	**06 49 16.2**	**+0.3**
GNI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GNI	**Garni**	**54.31**	**314**	LR	LR	07 14 50.8	
	comp=Z,280nm,18.5s,MS4.4,baz=291,slow=39						
GNI	**Garni**	**54.31**	**314**	*e*P	**P**	**06 49 14.4**	**-1.5**
	comp=Z,5.1nm,0.7s,mb4.6						
SVE	**Sverdlovsk**	**55.24**	**338**	*e*P	**P**	**06 49 19.0**	**-3.4**
SVE				pmax	pmax		
	comp=Z,60nm,1.5s,mb5.4						
SVE				MLR	MLR		
	comp=E,500nm,22.0s						
SVE				MLR	MLR		
	comp=Z,2μm,22.0s,MS5.0						
PMG	**Port Moresby**	**55.58**	**107**	P	**P**	**06 49 26.6**	**+1.1**
PMG				pmax	pmax		
	comp=Z,12nm,0.7s						
PMG	**Port Moresby**	**55.58**	**107**	P	**P**	**06 49 26.6**	**+1.1**
	comp=Z,12nm,0.7s,mb5.0,baz=181,slow=4.0,SNR=2.4						
PMG	**Port Moresby**	**55.58**	**107**	P	**P**	**06 49 26.6**	**+1.1**
ARU	**Arti**	**55.73**	**337**	⇑*e*P	**P**	**06 49 19.6**	**-6.3**
ARU				*e*		06 50 18.2	
ARU				*e*S	**S**	**06 57 01.2**	**-7.3**
ARU				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
YSS	**Yuzh-Sakhalins**	**56.64**	**38**	P	pP	06 49 41.6	-1.2
KIV	**Kislovodsk**	**57.19**	**318**	*i* P	**P**	**06 49 36.0**	**-0.6**
KIV				*e*		06 49 53.1	
KIV				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
KMBO	**Kilima Mbogo**	**57.44**	**264**	P	**P**	**06 49 39.6**	**+0.9**
	comp=Z,6.5nm,0.9s,mb4.7,baz=58,slow=10.0,SNR=17						
KMBO				LR	LR	07 11 47.5	
	comp=Z,683nm,18.0s,MS4.8,baz=280,slow=34						
KMBO	**Kilima Mbogo**	**57.44**	**264**	*e*P	**P**	**06 49 40.0**	**+1.3**
	comp=Z,10nm,0.9s,mb4.9						
ASF	**Jabal al Asfar**	**58.12**	**303**	LR	LR	07 17 56.3	
	comp=Z,671nm,18.1s,MS4.8,baz=54,slow=39						
MALT	**Malatya**	**58.35**	**310**	P	**P**	**06 49 43.4**	**-1.4**
MALT				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
MALT	**Malatya**	**58.35**	**310**	P	**P**	**06 49 43.4**	**-1.4**
	comp=Z,1.4nm,0.4s,mb4.3						
SOKR	**Solikamsk**	**58.63**	**339**	⇓*i* P	**P**	**06 49 45.5**	**-1.0**
SOKR				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
SOKR				MLR	MLR		
	comp=Z,1μm,22.0s,MS5.0						
YAK	**Yakutsk**	**59.83**	**18**	*i* P	**P**	**06 49 54.1**	**-0.6**
YAK				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.4						
YAK	**Yakutsk**	**59.83**	**18**	*e*P	**P**	**06 49 53.6**	**-1.1**
STKA	**Stephens Creek**	**60.23**	**134**	*e*P	**P**	**06 49 57.4**	**-0.5**
	comp=Z,3.4nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**60.23**	**134**	P	**P**	**06 49 57.1**	**-0.8**
	comp=Z,4.6nm,0.8s,mb4.5,baz=346,slow=16,SNR=4.2						
STKA				LR	LR	07 19 20.3	
	comp=Z,631nm,19.5s,MS4.8,baz=301,slow=39						
BRTR	**Keskin Array B**	**62.31**	**311**	P	**P**	**06 50 10.1**	**-1.7**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRTR	**Keskin Array B**	**62.31**	**311**	P	**P**	**06 50 10.1**	**-1.8**
	comp=Z,3.8nm,0.7s,mb4.6,baz=124,slow=7.0,SNR=18						
MOS	**Moscow**	**64.93**	**329**	*e*P	**P**	**06 50 25.6**	**-3.1**
OBN	**Obninsk**	**65.23**	**328**	*e*P	**P**	**06 50 27.1**	**-3.6**
OBN				*e*S	S	06 59 08.5	-1.6
OBN				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2						
OBN				MLR	MLR		
	comp=Z,800nm,18.0s,MS5.0						
MA2	**Magadan**	**66.61**	**28**	*e*P	**P**	**06 50 39.8**	**+0.4**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
MA2	**Magadan**	**66.61**	**28**	*e*P	**P**	**06 50 39.8**	**+0.4**
	comp=Z,8.5nm,0.8s,mb4.8						
TIXI	**Tiksi**	**67.06**	**11**	*i* P	**P**	**06 50 41.5**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.2						
AKASG	**Malin Array Be**	**68.02**	**322**	P	**P**	**06 50 46.1**	**-2.3**
AKASG				pmax	pmax		
	comp=Z,8.0nm,0.9s						
AKASG	**Malin Array Be**	**68.02**	**322**	P	**P**	**06 50 46.1**	**-2.3**
	comp=Z,7.7nm,0.8s,mb4.8,baz=89,slow=4.8,SNR=20						
JOF	**Joensuu**	**70.69**	**334**	*ep*	**P**	**06 51 04.4**	**-0.2**
	comp=Z,0.7nm,0.3s,mb4.1						
KWP	**Kalwaria**	**71.90**	**320**	*e*P	**P**	**06 51 12.7**	**+0.7**
KWP	**Kalwaria**

comp=Z,7.0nm,0.8s,mb4.6
GERES GERESS Array B 77.69 318 P **P** **06 51 45.8 +0.3**
GERES pmax pmax
comp=Z,7.0nm,0.7s
GERES GERESS Array B 77.69 318 P **P** **06 51 45.8 +0.3**
comp=Z,6.8nm,0.7s,mb4.7,baz=90,slow=5.3,SNR=40
KHC Kasperske Hory 77.78 318 *eP* **P** **06 51 45.9 0.0**
CLL Collm 78.22 321 ⇑*iP* **P** **06 51 48.6 +0.3**
CLL *e* pP 06 51 57.0 -1.6
CLL pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CLL Collm 78.22 321 ⇑*iP* **P** **06 51 48.6 +0.3**
comp=Z,6.0nm,0.9s,mb4.5
CLL *e* pP 06 51 57.0 -1.6
CLL Collm 78.22 321 ⇑P **P** **06 51 48.6 +0.3**
comp=Z,logA/T=0.8,mb4.5
CLL *e**SP sP 06 51 57.0 -5.3
WET Wettzell 78.25 318 *eP* **P** **06 51 48.8 +0.3**
WET pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
WET Wettzell 78.25 318 *eP* **P** **06 51 48.8 +0.3**
comp=Z,5.0nm,0.8s,mb4.5
MOX Moxa 79.09 320 *eP* **P** **06 51 53.3 +0.2**
MOX Moxa 79.09 320 *i P* **P** **06 51 53.3 +0.2**
GRA1 Grafenberg Arr 79.33 319 *eP* **P** **06 51 55.2 +0.8**
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 79.33 319 *eP* **P** **06 51 55.2 +0.8**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 79.33 319 *eP* **P** **06 51 55.2 +0.8**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 79.33 319 *eP* **P** **06 51 55.2 +0.8**
comp=Z,8.0nm,0.9s,mb4.7
NB2 NORSAR Subarra 79.58 331 P **P** **06 51 54.4 -1.1**
comp=Z,4.0nm,0.6s,mb4.5,baz=97,slow=5.0
NB2 NORSAR Subarra 79.58 331 P **P** **06 51 54.4 -1.1**
NB2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
NOA NORSAR Array B 79.58 331 P **P** **06 51 55.1 -0.4**
NOA pmax pmax
comp=Z,7.0nm,0.8s
NOA NORSAR Array B 79.58 331 P **P** **06 51 55.1 -0.4**
comp=Z,7.2nm,0.8s,mb4.6,baz=94,slow=5.5,SNR=16
CLZ Clausthal 79.87 321 *eP* **P** **06 51 57.7 +0.4**
comp=Z,8.0nm,0.7s,mb4.8
TNS Taunus Mts 81.12 320 *eP* **P** **06 52 04.4 +0.5**
BFO Black Forest 81.26 318 *eP* **P** **06 52 04.6 -0.1**
BFO pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BFO Black Forest 81.26 318 *eP* **P** **06 52 04.6 -0.1**
comp=Z,3.0nm,0.7s,mb4.3
LPG La Plagne 82.49 315 *eP* **P** **06 52 10.8 -0.3**
comp=Z,22nm,0.8s,mb4.8
LPG La Plagne 82.49 315 *eP* **P** **06 52 10.8 -0.3**
LPG pmax pmax
comp=Z,11nm,0.8s,mb4.8
BNI Bardonecchia 82.58 314 *eP* **P** **06 52 12.7 +1.2**
BNI pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BNI Bardonecchia 82.58 314 *eP* **P** **06 52 12.7 +1.2**
comp=Z,8.2nm,0.8s,mb4.8
SYO Syowa Base 85.57 197 ⇑P **P** **06 52 27.9 +1.8**
SYO Syowa Base 85.57 197 ⇑pP pP 06 52 35.3 -1.3
ESDC Sonseca Array 91.10 310 P **P** **06 52 54.3 +1.1**
comp=Z,2.3nm,0.8s,mb4.6,baz=68,slow=3.4,SNR=5.6
IMA Indian Mountai 91.46 22 *eP* **P** **06 52 55.3 +1.0**
ILAR Eielson Array 94.58 22 P **P** **06 53 09.0 +0.5**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 94.58 22 P **P** **06 53 08.9 +0.4**
comp=Z,1.1nm,0.9s,mb4.3,baz=300,slow=4.5,SNR=11
YKA Yellowknife Ar 106.25 13 PP PP 06 58 22.5 -5.6
comp=Z,0.3nm,0.8s,baz=333,slow=7.6,SNR=4.0
MSO Missoula 119.92 22 *e*PKPdf PKPdf 06 58 39.7 +2.0
MOD Modoc 121.14 30 *e*PKPdf PKPdf 06 58 43.0 +2.9
WVOR Wild Horse Val 121.53 28 *e*PKIKP PKPdf 06 58 43.4 +2.5
BOZ Bozeman (W) 121.77 21 *e*PKIKP PKPdf 06 58 43.8 +2.5
NVAR Mina Array Bea 124.77 31 PKP PKPdf 06 58 50.2 +2.9
comp=Z,1.0nm,0.6s,baz=354,slow=1.4,SNR=6.4
PDAR Pinedale Array 125.00 21 PKP PKPdf 06 58 49.5 +1.9
comp=Z,1.8nm,0.8s,baz=35,slow=1.7,SNR=16
MSU Marysvale 127.60 26 *e*PKIKP PKPdf 06 58 56.7 +3.9
MIAR Mount Ida 137.01 9 *e*PKIKP PKPdf 06 59 12.2 +1.6
TXAR Lajitas Array 139.07 24 PKP PKPdf 06 59 14.4 0.0
comp=Z,1.2nm,0.8s,baz=213,slow=0.2,SNR=7.0
JCT Junction City 139.42 19 *e*PKIKP PKPdf 06 59 17.9 +2.9
PLCA Paso Flores 144.71 200 *e*PKIKP PKPdf 06 59 24.5 +0.5
PLCA Paso Flores 144.71 200 PKP PKPdf 06 59 24.2 +0.2
comp=Z,6.3nm,0.9s,baz=160,slow=4.2,SNR=11
LPAZ La Paz 160.85 243 PKP PKPdf 06 59 09.5 -38
comp=Z,1.3nm,0.9s,baz=115,slow=5.0,SNR=3.7

*NEIC **28** 06:46:11.4±0.7, 8.09N×93.02E, h30km, mb4.1/2, Error ellipse: s-maj=19.7km s-min=13.8km az=77.0*
*IDC **28** 06:46:13.0±5.8, 8.16N×94.03E, h44km±56km, mb3.4/6, mb1 3.7/7, mb1mx3.6/18, mbtmp3.7/7, ML4.3/1, Error ellipse: s-maj=34.8km s-min=21.9km az=51.0*
ISC 28 06:46:11.2±0.9, 8.1N±0.1×94.1E±0.2, h44km, n10, σ0§94/9, mb3.8/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.29**	**24**	P	**P**	**06 48 51.5**	**-1.3**
	0.6nm,0.3s,baz=215,slow=14,SNR=5.2						
LSA	**Lhasa**	**21.63**	**353**	*eP*	**P**	**06 51 01.3**	**+1.6**
	12nm,0.9s,mb4.3						
SONM	**Songino Array**	**40.92**	**13**	P	**P**	**06 53 50.9**	**-0.1**
	0.4nm,0.6s,mb3.2,baz=180,slow=10,SNR=2.6						
KURK	**Kurchatov**	**44.35**	**346**	*eP*	**P**	**06 54 19.6**	**+0.7**
	1.9nm,0.9s,mb3.8						
ZAL	**Zalesovo**	**46.29**	**352**	P	**P**	**06 54 34.3**	**0.0**
	2.8nm,1.1s,mb4.1,baz=283,slow=7.0,SNR=5.6						
WRA	**Warramunga Arr**	**48.44**	**126**	P	**P**	**06 54 53.0**	**+1.3**
	0.6nm,0.5s,mb3.9,baz=305,slow=8.6,SNR=4.9						
ASAR	**Alice Springs**	**50.11**	**130**	P	**P**	**06 55 03.6**	**-0.8**
	0.4nm,0.6s,mb3.6,baz=315,slow=7.7,SNR=4.1						
KMBO	**Kilima Mbogo**	**57.41**	**263**	P	**P**	**06 55 57.7**	**-0.6**
	0.6nm,0.4s,mb4.0,baz=34,slow=22,SNR=3.3						
GERES	**GERESS Array B**	**77.61**	**318**	P	**P**	**06 58 03.9**	**-0.7**
	0.4nm,0.5s,mb3.6,baz=76,slow=5.5,SNR=3.5						
PLCA	**Paso Flores**	**144.78**	**200**	PKP	PKPdf	07 05 45.0	+1.2
	1.1nm,0.8s,baz=6.9,slow=5.2,SNR=3.5						

*BJI **28** 06:47:03.9, 8.00N×93.80E, h30km, mb4.7*
*NEIC **28** 06:47:04.0±0.5, 8.04N×93.75E, h30km, mb4.5/10, Error ellipse: s-maj=22.6km s-min=11.2km az=54.0*
*IDC **28** 06:47:09.2±8.2, 8.38N×94.08E, h68km±73km, mb4.0/13, mb1 4.2/14, mb1mx4.1/20, mbtmp4.3/14, ML4.3/1, Error ellipse: s-maj=26.3km s-min=16.4km az=47.0, Putative timing error at LPAZ*
ISC 28 06:47:03.5±0.6, 8.3N±0.1×94.0E±0.1, h33km, n42, σ1§03/37, mb4.4/23, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.19**	**25**	P	**P**	**06 49 49.9**	**+5.6**
	0.6nm,0.3s,baz=212,slow=14,SNR=3.0						
LSA	**Lhasa**	**21.46**	**353**	P	**P**	**06 51 55.5**	**+4.3**
LSA	**Lhasa**	**21.46**	**353**	*eP*	**P**	**06 51 55.9**	**+4.6**
	27nm,0.6s,mb4.8						
BJT	**Baijiatuau**	**37.28**	**29**	P	**P**	**06 54 16.8**	**+2.5**
	4.1nm,0.6s,mb4.4						
SONM	**Songino Array**	**40.79**	**13**	P	**P**	**06 54 43.9**	**+0.6**
	1.8nm,0.7s,mb3.8,baz=200,slow=8.3,SNR=6.7						
SONM				PcP	PcP	06 56 44.1	-0.6
	0.8nm,0.5s,baz=198,slow=3.9,SNR=4.1						
KURK	**Kurchatov**	**44.17**	**346**	*eP*	**P**	**06 55 11.3**	**+0.4**
	15nm,1.1s,mb4.6						
ZAL	**Zalesovo**	**46.12**	**352**	P	**P**	**06 55 26.4**	**0.0**
	4.8nm,0.4s,mb4.8,baz=306,slow=5.7,SNR=14						
ZAL	**Zalesovo**	**46.12**	**352**	P	**P**	**06 55 26.4**	**0.0**
BVAR	**Borovoye Array**	**48.55**	**341**	P	**P**	**06 55 43.9**	**-1.6**
	1.9nm,0.8s,mb4.2,baz=143,slow=7.4,SNR=6.3						
BRVK	**Borovoye**	**48.61**	**341**	*eP*	**P**	**06 55 45.6**	**-0.3**
	1.7nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**48.62**	**126**	P	**P**	**06 55 44.7**	**-1.8**
	0.6nm,0.5s,mb3.9,baz=304,slow=8.6,SNR=3.9						
WRAB	**Tennant Creek**	**48.62**	**126**	*eP*	**P**	**06 55 46.4**	**-0.1**
	3.0nm,0.7s,mb4.4						
RAYN	**Ar Rayn**	**48.79**	**294**	P	**P**	**06 55 49.8**	**+2.1**
	111nm,0.6s,SNR=14						
ASAR	**Alice Springs**	**50.29**	**130**	P	**P**	**06 56 00.1**	**+0.8**
	1.5nm,0.9s,mb4.0,baz=308,slow=7.6,SNR=6.5						
KMBO	**Kilima Mbogo**	**57.33**	**263**	P	**P**	**06 56 53.1**	**+1.9**
	7.0nm,0.9s,mb4.7,baz=55,slow=12,SNR=15						
BRTR	**Keskin Array B**	**62.05**	**311**	P	**P**	**06 57 21.7**	**-1.6**
	3.1nm,0.6s,mb4.6,baz=125,slow=7.5,SNR=17						
AKASG	**Malin Array Be**	**67.74**	**322**	P	**P**	**06 57 58.2**	**-1.6**
	2.7nm,0.6s,mb4.5,baz=85,slow=5.1,SNR=11						
IDI	**Anoyia**	**68.21**	**305**	P	**P**	**06 58 02.6**	**-0.4**
	10nm,0.6s,mb5.0,baz=100,slow=5.8,SNR=10						
JOF	**Joensuu**	**70.41**	**334**	*ep*	**P**	**06 58 15.6**	**-0.5**
	1.5nm,0.4s,mb4.3						
KOLS	**Kolonicke sedl**	**71.80**	**319**	*eP*	**P**	**06 58 24.9**	**+0.3**
FINES	**FINESS Array B**	**72.28**	**332**	P	**P**	**06 58 27.0**	**-0.3**
	3.0nm,0.6s,mb4.4,baz=100,slow=5.6,SNR=17						
KAF	**Kangasniemi**	**72.36**	**333**	*ep*	**P**	**06 58 25.7**	**-2.0**
	1.0nm,0.3s,mb4.2						
VYHS	**Vyhne**	**74.00**	**318**	*i P*	**P**	**06 58 37.2**	**-0.4**
SRO	**Srobarova**	**74.29**	**317**	*eP*	**P**	**06 58 39.1**	**-0.2**
KEV	**Kevo**	**74.39**	**341**	*ep*	**P**	**06 58 39.4**	**-0.1**
	0.7nm,0.5s,mb3.9						
ARCES	**ARCESS Array B**	**74.83**	**340**	P	**P**	**06 58 42.5**	**+0.5**
	4.2nm,0.7s,mb4.5,baz=90,slow=5.5,SNR=13						
ARCES	**ARCESS Array B**	**74.83**	**340**	P	**P**	**06 58 42.5**	**+0.5**
ZST	**Bratislava**	**75.13**	**318**	*i P*	**P**	**06 58 44.8**	**+0.6**
BRG	**Berggiesshubel**	**77.34**	**320**	*i P*	**P**	**06 58 57.2**	**+0.5**
	6.0nm,1.0s,mb4.5						
GERES	**GERESS Array B**	**77.42**	**318**	P	**P**	**06 58 57.8**	**+0.6**
	4.4nm,0.6s,mb4.6,baz=88,slow=5.5,SNR=27						
KHC	**Kasperske Hory**	**77.51**	**318**	*eP*	**P**	**06 58 57.5**	**-0.2**
CLL	**Collm**	**77.95**	**321**	*eP*	**P**	**06 59 00.0**	**0.0**
CLL	**Collm**	**77.95**	**321**	P	**P**	**06 59 00.0**	**0.0**
NB2	**NORSAR Subarra**	**79.30**	**331**	P	**P**	**06 59 06.8**	**-0.4**
	1.5nm,0.6s,mb4.1,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**79.30**	**331**	P	**P**	**06 59 07.1**	**-0.1**
	2.4nm,0.7s,mb4.2,baz=92,slow=5.6,SNR=6.2						
NOA	**NORSAR Array B**	**79.30**	**331**	P	**P**	**06 59 07.1**	**-0.1**
LPG	**La Plagne**	**82.22**	**315**	*eP*	**P**	**06 59 23.8**	**+0.9**
	18nm,0.7s,mb4.8						
NVAR	**Mina Array Bea**	**124.63**	**31**	PKP	PKPdf	07 06 01.9	+1.6
	0.7nm,0.6s,baz=360,slow=1.6,SNR=3.9						
PDAR	**Pinedale Array**	**124.83**	**21**	PKP	PKPdf	07 06 01.4	+0.9
	0.5nm,0.5s,baz=32,slow=0.6,SNR=5.7						
TXAR	**Lajitas Array**	**138.90**	**24**	PKP	PKPdf	07 06 28.9	+1.6
	0.4nm,0.5s,baz=225,slow=0.4,SNR=12						
PLCA	**Paso Flores**	**144.89**	**201**	PKP	PKPdf	07 06 37.1	-0.4
	2.5nm,0.7s,baz=200,slow=10,SNR=6.9						
LPAZ	**La Paz**	**160.83**	**244**	PKP	PKPdf	07 06 20.8	-40
	0.5nm,0.7s,baz=136,slow=1.2,SNR=3.6						
LPAZ				PKPab	PKPab	07 07 00.3	-45
	1.4nm,0.9s,baz=18,slow=12,SNR=3.9						

*BJI **28** 06:48:05.7, 8.20N×93.80E, h30km, mb4.3*
*NEIC **28** 06:48:05.7±0.4, 8.19N×93.83E, h30km, mb4.6/8, Error ellipse: s-maj=13.3km s-min=8.5km az=68.0*
*IDC **28** 06:48:07.5±4.8, 8.19N×93.85E, h44km±44km, mb4.0/14, mb1 4.1/15, mb1mx4.1/21, mbtmp4.2/15, Error ellipse: s-maj=30.4km s-min=15.5km az=54.0*
ISC 28 06:48:04.5±0.5, 8.22N±0.08×93.9E±0.1, h33km, n27, σ0§72/24, mb4.4/20, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.31**	**25**	P	**P**	**06 50 46.5**	**-0.4**
	baz=212,slow=14,SNR=3.2						
KMI	**Kunming**	**18.82**	**26**	P	**P**	**06 52 29.0**	**+4.9**
	18nm,1.1s						
LSA	**Lhasa**	**21.52**	**354**	*eP*	**P**	**06 52 51.2**	**-1.5**
	23nm,0.7s,mb4.7						
AAK	**Ala-Archa**	**38.27**	**337**	*eP*	**P**	**06 55 24.1**	**+0.7**
	13nm,1.2s,mb4.5						
SONM	**Songino Array**	**40.88**	**13**	P	**P**	**06 55 45.8**	**+0.7**
	1.7nm,0.7s,mb3.8,baz=199,slow=6.2,SNR=5.7						
SONM				PcP	PcP	06 57 45.8	-0.2
	2.2nm,1.1s,baz=225,slow=3.5,SNR=3.9						
KURK	**Kurchatov**	**44.20**	**346**	*eP*	**P**	**06 56 12.8**	**+0.7**
	20nm,1.2s,mb4.7						
ZAL	**Zalesovo**	**46.17**	**353**	P	**P**	**06 56 28.1**	**+0.3**
	4.1nm,0.9s,mb4.4,baz=295,slow=8.0,SNR=8.9						
NWAO	**Narrogin (SRO)**	**46.58**	**153**	P	**P**	**06 56 32.0**	**+0.6**
	5.3nm,0.8s,mb4.5,baz=331,slow=11,SNR=3.4						
BVAR	**Borovoye Array**	**48.57**	**341**	P	**P**	**06 56 46.6**	**+0.1**
	5.4nm,1.1s,mb4.5,baz=127,slow=7.2,SNR=4.7						
BRVK	**Borovoye**	**48.63**	**341**	P	**P**	**06 56 47.5**	**+0.5**
	4.3nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**48.69**	**126**	P	**P**	**06 56 48.4**	**+0.5**
	2.2nm,0.7s,mb4.3,baz=304,slow=9.2,SNR=6.9						
WRAB	**Tennant Creek**	**48.69**	**126**	*eP*	**P**	**06 56 48.3**	**+0.3**
	5.7nm,0.8s,mb4.7						
ASAR	**Alice Springs**	**50.35**	**130**	P	**P**	**06 56 59.1**	**-1.6**
	1.0nm,0.8s,mb3.9,baz=305,slow=6.9,SNR=3.3						
KMBO	**Kilima Mbogo**	**57.19**	**263**	P	**P**	**06 57 51.1**	**0.0**
	3.9nm,0.9s,mb4.4,baz=51,slow=12,SNR=4.9						
BRTR	**Keskin Array B**	**61.99**	**311**	P	**P**	**06 58 23.1**	**-0.8**
	1.2nm,0.6s,mb4.2,baz=143,slow=6.2,SNR=4.3						
AKASG	**Malin Array Be**	**67.71**	**322**	P	**P**	**06 58 59.5**	**-1.1**
	1.1nm,0.6s,mb4.1,baz=85,slow=5.4,SNR=6.3						
IDI	**Anoyia**	**68.14**	**305**	P	**P**	**06 59 03.4**	**-0.2**
	1.9nm,0.4s,mb4.5,baz=284,slow=22,SNR=3.0						
FINES	**FINESS Array B**	**72.27**	**332**	P	**P**	**06 59 28.4**	**+0.2**
	6.1nm,0.9s,mb4.5,baz=90,slow=7.6,SNR=7.2						
LBTB	**Lobatse**	**74.17**	**241**	P	**P**	**06 59 39.9**	**-0.1**
	6.0nm,1.1s,mb4.4						
ARCES	**ARCESS Array B**	**74.84**	**340**	P	**P**	**06 59 43.9**	**+0.8**
	6.7nm,1.1s,mb4.5,baz=90,slow=6.1,SNR=6.0						
GERES	**GERESS Array B**	**77.38**	**318**	P	**P**	**06 59 58.9**	**+1.0**
	2.8nm,0.8s,mb4.3,baz=90,slow=5.3,SNR=8.7						
CLL	**Collm**	**77.92**	**321**	P	**P**	**07 00 00.0**	**-0.8**
NB2	**NORSAR Subarra**	**79.29**	**331**	P	**P**	**07 00 08.0**	**-0.1**
	8.7nm,1.0s,mb4.6,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**79.29**	**331**	P	**P**	**07 00 08.5**	**+0.4**
	3.0nm,0.8s,mb4.3,baz=94,slow=5.3,SNR=4.5						
PDAR	**Pinedale Array**	**124.94**	**21**	PKP	PKPdf	07 07 02.7	+1.0
	0.5nm,0.6s,baz=315,slow=2.1,SNR=4.3						
TXAR	**Lajitas Array**	**139.02**	**24**	PKP	PKPdf	07 07 30.1	+1.6
	0.2nm,0.5s,baz=39,slow=0.8,SNR=5.4						
PLCA	**Paso Flores**	**144.78**	**201**	PKP	PKPdf	07 07 38.0	-0.3
	3.1nm,1.0s,baz=133,slow=3.7,SNR=4.5						

*IDC **28** 06:49:52.4±0.7, 8.05N×94.29E, mb4.0/11, mb1 4.2/12, mb1mx4.1/18, mbtmp4.0/12, ML4.2/1, Error ellipse: s-maj=32.6km s-min=17.2km az=49.0, Putative timing error at LPAZ*
*NEIC **28** 06:49:57.0±0.5, 7.85N×94.18E, h30km, mb4.3/4, Error ellipse: s-maj=17.6km s-min=11.8km az=68.0*
ISC 28 06:49:55.6±0.6, 7.87N±0.09×94.2E±0.1, h33km, n21, σ1§00/16, mb4.1/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.47**	**23**	Pn	**P**	**06 52 41.4**	**+1.2**
	0.5nm,0.3s,baz=210,slow=14,SNR=5.4						
LSA	**Lhasa**	**21.91**	**353**	*eP*	**P**	**06 54 49.5**	**+1.7**
	4.4nm,0.5s,mb4.1						
SONM	**Songino Array**	**41.14**	**12**	P	**P**	**06 57 37.3**	**-1.0**
	0.7nm,0.7s,mb3.4,baz=198,slow=9.1,SNR=3.0						
KURK	**Kurchatov**	**44.64**	**346**	*eP*	**P**	**06 58 06.9**	**+0.2**
	2.5nm,0.7s,mb4.2						
ZAL	**Zalesovo**	**46.56**	**352**	P	**P**	**06 58 21.1**	**-0.8**
	1.7nm,0.5s,mb4.3,baz=280,slow=5.3,SNR=4.1						
WRA	**Warramunga Arr**	**48.17**	**126**	P	**P**	**06 58 34.6**	**-0.5**
	1.2nm,0.6s,mb4.1,baz=305,slow=8.5,SNR=7.7						
WRAB	**Tennant Creek**	**48.18**	**126**	*eP*	**P**	**06 58 35.0**	**-0.1**
	2.7nm,0.7s,mb4.4						
ASAR	**Alice Springs**	**49.83**	**130**	P	**P**	**06 58 47.7**	**-0.1**
	1.5nm,0.9s,mb4.0,baz=304,slow=7.2,SNR=5.2						
ASAR				PcP	PcP	07 00 09.2	+0.8
	0.9nm,0.8s,baz=301,slow=4.1,SNR=4.2						
KMBO	**Kilima Mbogo**	**57.52**	**264**	P	**P**	**06 59 46.0**	**+1.4**
	3.7nm,0.8s,mb4.4,baz=52,slow=11,SNR=8.4						
STKA	**Stephens Creek**	**60.03**	**134**	P	**P**	**07 00 02.3**	**+0.5**
	1.7nm,0.9s,mb4.1,baz=332,slow=8.4,SNR=3.8						
BRTR	**Keskin Array B**	**62.51**	**311**	P	**P**	**07 00 16.0**	**-2.3**
	0.7nm,0.6s,mb4.0,baz=124,slow=7.4,SNR=3.5						
FINES	**FINESS Array B**	**72.76**	**332**	P	**P**	**07 01 20.5**	**-1.7**
	1.6nm,0.8s,mb4.0,baz=112,slow=10,SNR=3.5						
LBTB	**Lobatse**	**74.33**	**241**	*eP*	**P**	**07 01 32.9**	**+0.8**
	4.7nm,0.8s,mb4.5						
ARCES	**ARCESS Array B**	**75.30**	**340**	P	**P**	**07 01 36.7**	**-0.1**
	3.8nm,0.9s,mb4.3,baz=80,slow=7.4,SNR=3.6						
GERES	**GERESS Array B**	**77.90**	**318**	P	**P**	**07 01 51.9**	**+0.1**
	1.2nm,0.7s,mb3.9,baz=90,slow=5.3,SNR=4.5						
NOA	**NORSAR Array B**	**79.78**	**331**	P	**P**	**07 02 02.2**	**+0.3**
	1.5nm,1.0s,mb3.9,baz=96,slow=5.5,SNR=2.9						
YKA	**Yellowknife Ar**	**106.41**	**14**	Pdiff	Pdif	07 04 05.9	-0.9
	0.1nm,0.7s,baz=286,slow=5.1,SNR=3.7						
PDAR	**Pinedale Array**	**125.13**	**21**	PKP	PKPdf	07 08 55.5	+2.3
	1.0nm,1.1s,baz=297,slow=2.0,SNR=3.3						
TXAR	**Lajitas Array**	**139.19**	**24**	PKP	PKPdf	07 09 23.6	+3.7
	0.3nm,0.7s,baz=347,slow=0.3,SNR=4.1						
PLCA	**Paso Flores**	**144.58**	**200**	PKP	PKPdf	07 09 30.4	+1.4
	5.6nm,0.8s,baz=188,slow=1.5,SNR=14						
LPAZ	**La Paz**	**160.86**	**242**	PKPab	PKPab	07 09 54.2	-44
	1.1nm,0.8s,baz=191,slow=5.2,SNR=3.8						

IDC 28 06:50:34.8±1.4, 7.56N×93.88E, mb4.1/6, mb1 4.3/6, mb1mx4.0/17, mbtmp4.1/6, Error ellipse: s-maj=66.5km s-min=22.6km az=53.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.53**	**13**	P	P	06 58 24.1	-1.5
	1.0nm,0.7s,baz=193,slow=9.3,SNR=2.7						
WRA	**Warramunga Arr**	**48.29**	**125**	P	P	06 59 17.7	-2.4
	1.2nm,0.6s,baz=301,slow=9.8,SNR=6.7						
ASAR	**Alice Springs**	**49.91**	**130**	P	P	06 59 30.9	-1.6
	2.2nm,0.9s,baz=305,slow=7.1,SNR=7.9						
FINES	**FINESS Array B**	**72.87**	**332**	P	P	07 02 05.2	-2.1
	3.9nm,0.8s,baz=90,slow=5.7,SNR=5.4						
ARCES	**ARCESS Array B**	**75.47**	**340**	P	P	07 02 20.6	-1.7
	1.6nm,0.8s,baz=90,slow=6.3,SNR=4.3						
GERES	**GERESS Array B**	**77.89**	**318**	P	P	07 02 35.1	-1.1
	1.0nm,0.6s,baz=79,slow=6.8,SNR=4.3						

*NEIC **28** 06:56:20.0±0.4, 7.86N×94.07E, mb4.4/3, Error ellipse: s-maj=13.0km s-min=8.3km az=60.0*
*IDC **28** 06:56:20.0±0.6, 7.90N×94.00E, h24km±3km, mb3.8/14, mb1 4.0/15, mb1mx3.9/21, mbtmp4.0/15, ML4.2/1, Error ellipse: s-maj=24.6km s-min=12.7km az=48.0*
*BJI **28** 06:56:22.9, 7.90N×94.10E, h25km, mb4.5*
ISC 28 06:56:18.0±0.6, 7.87N±0.10×94.1E±0.1, h25km, h25km±8km: pP-P, n27, σ0§88/22, mb4.1/17, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.52**	**24**	Pn	**P**	**06 59 03.8**	**-0.3**
	0.5nm,0.3s,baz=212,slow=14,SNR=19						
HYB	**Hyderabad**	**17.90**	**303**	*i P*	**P**	**07 00 29.5**	**+2.3**
LSA	**Lhasa**	**21.90**	**353**	*eP*	**P**	**07 01 11.6**	**+0.4**
	15nm,0.8s,mb4.5						
LUBP	**Lubang**	**26.30**	**75**	⇑*iP*	**P**	**07 02 00.4**	**+6.7**
SONM	**Songino Array**	**41.17**	**13**	P	**P**	**07 04 02.8**	**+0.7**
	2.4nm,1.2s,mb3.7,baz=198,slow=12,SNR=3.8						
SONM				pP	pP	07 04 10.4	+0.8
	2.9nm,0.9s,baz=195,slow=10.0,SNR=10						
KURK	**Kurchatov**	**44.61**	**346**	*eP*	**P**	**07 04 30.0**	**0.0**
	1.4nm,0.6s,mb4.0						
KURK				*e*pP	pP	07 04 37.8	+0.2
NWAO	**Narrogin (SRO)**	**46.15**	**153**	pP	pP	07 04 49.5	-0.6
	6.8nm,0.7s,baz=342,slow=11,SNR=3.0						
ZAL	**Zalesovo**	**46.55**	**352**	P	**P**	**07 04 45.4**	**0.0**
	1.8nm,0.3s,mb4.4,baz=304,slow=9.2,SNR=5.9						
ZAL				pP	pP	07 04 52.8	-0.1
	4.1nm,0.6s,baz=301,slow=4.4,SNR=10						
WRA	**Warramunga Arr**	**48.27**	**126**	P	**P**	**07 04 59.1**	**-0.3**
	0.8nm,0.5s,mb4.0,baz=305,slow=8.5,SNR=8.0						
WRA				pP	pP	07 05 07.8	+0.8
	1.4nm,0.5s,baz=304,slow=8.5,SNR=6.6						
WRAB	**Tennant Creek**	**48.27**	**126**	*eP*	**P**	**07 04 59.5**	**+0.1**
	5.1nm,0.8s,mb4.6						
WRAB				*e*pP	pP	07 05 07.9	+0.9
BVAR	**Borovoye Array**	**48.99**	**341**	P	**P**	**07 05 03.5**	**-1.0**
	1.2nm,0.8s,mb4.0,baz=268,slow=37,SNR=3.1						
ASAR	**Alice Springs**	**49.92**	**130**	P	**P**	**07 05 12.5**	**+0.5**
	0.9nm,0.5s,mb4.1,baz=302,slow=7.7,SNR=8.2						
ASAR				pP	pP	07 05 21.9	+2.2
	1.4nm,0.7s,baz=303,slow=7.7,SNR=6.3						
ASAR				pPcP		07 06 42.8	
	1.1nm,0.7s,baz=306,slow=3.5,SNR=6.3						
KMBO	**Kilima Mbogo**	**57.41**	**264**	P	**P**	**07 06 06.7**	**

RBDL				*e*S	Sb	07 01 39.4	+0.6
SBLS	**San Blas**	**1.49**	**84**	*e*P	Pn	07 01 19.7	-0.2
SBLS				*e*S	Sb	07 01 41.0	+2.1
SNJE	**San Jose**	**1.51**	**83**	*e*P	Pn	07 01 19.9	-0.3
SNJE				*e*S	Sb	07 01 40.6	+1.1
LFRS	**El Faro**	**2.03**	**91⇑**	*e*P	Pn	07 01 27.5	-0.1
LFRS				*e*S	Sn	07 01 53.9	+1.0
LCBS	**La Ceiba**	**2.11**	**90**	*e*P	Pn	07 01 28.3	-0.5
LCBS				*e*S	Sn	07 01 55.2	+0.3

*IDC **28** 07:02:01.1±0.6, 8.01N×94.01E, mb4.2/19, mb1 4.3/20, mb1mx4.3/23, mbtmp4.2/20, MS4.3/6, Ms1 4.4/6, ms1mx3.8/29, Error ellipse: s-maj=30.4km s-min=14.4km az=53.0*
*BJI **28** 07:02:04.4, 7.96N×93.77E, h30km, mB5.3, mb4.6, Ms4.7, Msz4.4*
*NEIC **28** 07:02:05.6±0.4, 7.94N×94.00E, h30km, mb4.6/14, Error ellipse: s-maj=14.0km s-min=9.3km az=65.0*
ISC 28 07:02:04.9±2.7, 7.97N±0.08×94.15E±0.08, h35km±23km, n69, σ1§49/63, mb4.4/30, MS4.4/5, 2C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.42**	**24**	Pn	**P**	**07 04 47.5**	**-1.3**
	baz=212,slow=14,SNR=20						
CMAR				LR	LR	07 09 21.0	
	comp=Z,1μm,18.0s,baz=210,slow=38						
VIS	**Vishakhapatnam**	**14.32**	**314**	*e*P	**P**	**07 05 32.6**	**+5.3**
VIS				*e*		07 05 37.8	
	comp=Z,61nm,1.7s						
HYB	**Hyderabad**	**17.87**	**303**	*e*P	**P**	**07 06 13.5**	**+0.9**
HYB	**Hyderabad**	**17.87**	**303**	*i*P	**P**	**07 06 13.5**	**+0.9**
QIZ	**Qiongzhong**	**18.79**	**53**	P	**P**	**07 06 26.8**	**+2.8**
QIZ				S	**S**	**07 09 59.8**	**+11**
QIZ				LR	LR		
	comp=N,5μm,13.4s						
QIZ				LR	LR		
	comp=E,2μm,14.2s						
KMI	**Kunming**	**18.93**	**25**	⇑P	**P**	**07 06 28.3**	**+2.7**
	comp=E,28nm,1.3s						
KMI				S	**S**	**07 10 07.6**	**+16**
LSA	**Lhasa**	**21.80**	**353**	P	**P**	**07 06 55.3**	**-0.5**
LSA				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
LSA	**Lhasa**	**21.80**	**353**	*e*P	**P**	**07 06 55.0**	**-0.8**
	comp=Z,24nm,0.7s,mb4.7						
ENH	**Enshi**	**26.43**	**31**	*e*P	**P**	**07 07 40.0**	**-0.7**
	comp=Z,12nm,0.9s,mb4.4						
LZH	**Lanzhou**	**29.35**	**16**	*e*P	**P**	**07 08 08.5**	**+1.6**
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.8						
LZH	**Lanzhou**	**29.35**	**16**	*e*P	**P**	**07 08 08.6**	**+1.7**
	comp=Z,28nm,1.5s,mb4.8						
LZH				pP	pP	07 08 11.5	-5.4
LZH				sP	sP	07 08 13.5	-7.9
WMQ	**Urumqi**	**36.16**	**352**	*e*P	**P**	**07 09 05.0**	**-1.0**
BJI	**Beijing**	**37.52**	**28**	P	**P**	**07 09 19.4**	**+2.0**
	comp=Z,5.0nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**38.62**	**337**	*e*P	**P**	**07 09 24.8**	**-1.8**
	comp=Z,11nm,1.0s,mb4.5						
SONM	**Songino Array**	**41.07**	**13**	P	**P**	**07 09 45.9**	**-1.0**
	comp=Z,2.5nm,1.0s,mb3.8,baz=198,slow=7.8,SNR=8.5						
SONM				PcP	PcP	07 11 46.7	-0.1
	comp=Z,0.8nm,0.6s,baz=198,slow=3.9,SNR=4.1						
ULN	**Ulaanbaatar**	**41.24**	**13**	*e*P	**P**	**07 09 47.7**	**-0.6**
	comp=Z,3.0nm,0.5s,mb4.2						
SNY	**Shenyang**	**42.59**	**33**	⇑P	**P**	**07 10 02.3**	**+2.9**
TLY	**Talaya**	**44.27**	**8**	P	**P**	**07 10 12.0**	**-0.9**
KURK	**Kurchatov**	**44.52**	**346**	*e*P	**P**	**07 10 12.6**	**-2.3**
	comp=Z,19nm,1.1s,mb4.8						
NWAO	**Narrogin (SRO)**	**46.23**	**153**	P	**P**	**07 10 29.7**	**+0.9**
	comp=Z,6.5nm,0.7s,mb4.6,baz=325,slow=9.0,SNR=5.4						
NWAO	**Narrogin (SRO)**	**46.23**	**153**	P	**P**	**07 10 29.7**	**+0.9**
HIA	**Hailar**	**46.43**	**23**	*e*P	**P**	**07 10 30.5**	**+0.3**
ZAL	**Zalesovo**	**46.45**	**352**	P	**P**	**07 10 30.2**	**0.0**
	comp=Z,2.8nm,0.6s,mb4.4,baz=300,slow=8.2,SNR=8.7						
WRA	**Warramunga Arr**	**48.31**	**126**	P	**P**	**07 10 44.0**	**-1.3**
	comp=Z,1.7nm,0.6s,mb4.2,baz=304,slow=8.6,SNR=6.7						
WRAB	**Tennant Creek**	**48.31**	**126**	*e*P	**P**	**07 10 43.6**	**-1.7**
WB2	**Warramunga Arr**	**48.32**	**126**	*e*P	**P**	**07 10 44.6**	**-0.7**
BVAR	**Borovoye Array**	**48.90**	**341**	P	**P**	**07 10 46.4**	**-3.0**
	comp=Z,2.0nm,0.8s,mb4.2,baz=180,slow=5.9,SNR=6.0						
BRVK	**Borovoye**	**48.97**	**341**	*e*P	**P**	**07 10 47.9**	**-2.0**
RAYN	**Ar Rayn**	**49.06**	**294**	P	**P**	**07 10 53.8**	**+2.8**
	comp=Z,88nm,0.9s,SNR=15						
ASAR	**Alice Springs**	**49.97**	**130**	P	**P**	**07 10 57.5**	**-0.4**
	comp=Z,2.0nm,0.8s,mb4.2,baz=296,slow=7.0,SNR=5.4						
ASAR				PcP	PcP	07 12 18.3	+0.3
	comp=Z,1.2nm,0.7s,baz=308,slow=3.4,SNR=5.1						
ASAR				LR	LR	07 32 23.9	
	comp=Z,256nm,19.7s,MS4.2,baz=300,slow=36						
KMBO	**Kilima Mbogo**	**57.45**	**264**	P	**P**	**07 11 56.0**	**+2.8**
	comp=Z,2.3nm,0.7s,mb4.3,baz=51,slow=11,SNR=8.5						
KMBO				LR	LR	07 31 46.7	
	comp=Z,310nm,21.9s,MS4.4,baz=87,slow=31						
KMBO	**Kilima Mbogo**	**57.45**	**264**	P	**P**	**07 11 56.0**	**+2.7**
KMBO				LR	LR	07 31 46.7	
ASF	**Jabal al Asfar**	**58.17**	**303**	LR	LR	07 36 28.2	
	comp=Z,211nm,19.0s,MS4.3,baz=142,slow=36						
CTA	**Charters Tower**	**58.34**	**119**	LR	LR	07 37 35.3	
	comp=Z,256nm,20.1s,MS4.3,baz=288,slow=36						
STKA	**Stephens Creek**	**60.16**	**134**	P	**P**	**07 12 11.8**	**-0.1**
	comp=Z,2.5nm,1.0s,mb4.2,baz=267,slow=7.2,SNR=3.1						
BRTR	**Keskin Array B**	**62.38**	**311**	P	**P**	**07 12 24.1**	**-2.5**
	comp=Z,1.8nm,0.7s,mb4.3,baz=126,slow=8.8,SNR=7.1						
AKASG	**Malin Array Be**	**68.09**	**322**	P	**P**	**07 13 00.8**	**-2.4**
	comp=Z,3.0nm,0.7s,mb4.4,baz=88,slow=4.8,SNR=8.8						
IDI	**Anoyia**	**68.52**	**305**	P	**P**	**07 13 05.4**	**-0.8**
	comp=Z,11nm,1.1s,mb4.7,baz=66,slow=10.0,SNR=4.3						
FINES	**FINESS Array B**	**72.63**	**332**	P	**P**	**07 13 29.6**	**-0.9**
	comp=Z,3.3nm,0.8s,mb4.3,baz=91,slow=5.6,SNR=7.2						
CRVS	**Cervenica-Dubn**	**72.67**	**319**	*e*P	**P**	**07 13 36.0**	**+5.0**
CRVS	**Cervenica-Dubn**	**72.67**	**319**	*e*	**P**	**07 13 36.0**	**+5.0**
VYHS	**Vyhne**	**74.34**	**318**	*e*P	**P**	**07 13 45.0**	**+4.2**
VYHS	**Vyhne**	**74.34**	**318**	*e*	**P**	**07 13 45.0**	**+4.2**
OKC	**Ostrava-Krasne**	**74.93**	**319**	*e*P	**P**	**07 13 46.5**	**+2.3**
ARCES	**ARCESS Array B**	**75.18**	**340**	P	**P**	**07 13 43.4**	**-1.9**
	comp=Z,1.8nm,0.8s,mb4.1,baz=90,slow=6.1,SNR=4.5						
MORC	**Moravsky Berou**	**75.31**	**319**	*e*P	**P**	**07 13 46.0**	**-0.4**
	comp=Z,6.2nm,1.0s,mb4.5						
UPC	**Upice**	**76.35**	**320**	*e*P	**P**	**07 13 55.2**	**+2.9**
PRU	**Pruhonice**	**77.26**	**319**	*e*P	**P**	**07 13 58.8**	**+1.4**
BRG	**Berggiesshubel**	**77.69**	**320**	*e*P	**P**	**07 14 02.8**	**+3.0**
	comp=Z,40nm,2.1s,mb5.0						
BRG				*e*		07 14 09.2	
GERES	**GERESS Array B**	**77.76**	**318**	P	**P**	**07 14 00.7**	**+0.5**
	comp=Z,2.5nm,0.7s,mb4.3,baz=104,slow=5.5,SNR=17						
KHC	**Kasperske Hory**	**77.86**	**318**	*e*P	**P**	**07 14 03.6**	**+2.9**
CLL	**Collm**	**78.30**	**321**	*e*P	**P**	**07 14 03.0**	**-0.1**
CLL				*e*	pP	07 14 11.0	-2.9
CLL	**Collm**	**78.30**	**321**	P	**P**	**07 14 03.0**	**-0.1**
CLL				*e*PP	pP	07 14 11.0	-2.9
GRA1	**Grafenberg Arr**	**79.40**	**319**	*e*P	**P**	**07 14 09.5**	**+0.3**
	comp=Z,8.0nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	**79.40**	**319**	*e*P	**P**	**07 14 09.5**	**+0.3**
	comp=Z,8.0nm,1.1s,mb4.6						
NB2	**NORSAR Subarra**	**79.66**	**331**	P	**P**	**07 14 09.2**	**-1.1**
	comp=Z,4.9nm,1.0s,mb4.4,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**79.66**	**331**	P	**P**	**07 14 09.8**	**-0.5**
	comp=Z,2.4nm,0.8s,mb4.2,baz=92,slow=5.7,SNR=5.5						
NOA	**NORSAR Array B**	**79.66**	**331**	P	**P**	**07 14 09.8**	**-0.5**
DAVOX	**Davos**	**80.33**	**316**	P	**P**	**07 14 13.4**	**-0.8**
	comp=Z,5.2nm,0.8s,mb4.5,baz=127,slow=13,SNR=3.9						
LPG	**La Plagne**	**82.56**	**315**	*e*P	**P**	**07 14 26.4**	**+0.5**
	comp=Z,25nm,1.0s,mb4.9						
ESDC	**Sonseca Array**	**91.17**	**310**	P	**P**	**07 15 09.3**	**+1.4**
	comp=Z,1.5nm,0.7s,mb4.4,baz=52,slow=3.7,SNR=3.2						
VNDA	**Vanda**	**93.02**	**168**	LR	LR	07 54 24.0	
	comp=Z,268nm,18.2s,MS4.7,baz=127,slow=34						
ILAR	**Eielson Array**	**94.65**	**22**	P	**P**	**07 15 24.1**	**+0.9**
	comp=Z,0.3nm,0.7s,mb3.8,baz=300,slow=4.6,SNR=3.7						
INK	**Inuvik**	**96.90**	**16**	P	**P**	**07 15 34.3**	**+0.9**
	comp=Z,3.6nm,1.2s,mb4.7,baz=284,slow=6.7,SNR=4.0						
NVAR	**Mina Array Bea**	**124.83**	**31**	PKP	PKPdf	07 21 05.2	+3.4
	comp=Z,0.5nm,0.7s,baz=221,slow=41,SNR=4.0						
PDAR	**Pinedale Array**	**125.07**	**21**	PKhKP		07 20 59.5	
	comp=Z,0.6nm,1.0s,baz=79,slow=7.6,SNR=3.1						
PDAR				PKP	PKPdf	07 21 04.2	+2.0
	comp=Z,0.6nm,0.7s,slow=1.5,SNR=4.8						
PDAR	**Pinedale Array**	**125.07**	**21**	PKP	PKPdf	07 21 04.2	+2.0
TXAR	**Lajitas Array**	**139.13**	**24**	PKP	PKPdf	07 21 32.5	+3.6
	comp=Z,0.3nm,0.7s,baz=328,slow=0.4,SNR=5.1						
PLCA	**Paso Flores**	**144.64**	**200**	PKP	PKPdf	07 21 39.4	+1.1
	comp=Z,3.9nm,0.8s,baz=178,slow=2.3,SNR=11						

*IDC **28** 07:05:10.6±0.6, 7.81N×93.93E, mb4.3/17, mb1 4.5/18, mb1mx4.4/22, mbtmp4.3/18, ML4.5/1, MS4.2/1, Ms1 4.2/1, ms1mx2.8/27, Error ellipse: s-maj=31.8km s-min=14.4km az=53.0*
*BJI **28** 07:05:15.0, 7.54N×93.51E, h54km, mB5.4, mb4.6*
*NEIC **28** 07:05:15.6±0.3, 7.84N×94.13E, h30km, mb4.6/14, Error ellipse: s-maj=11.7km s-min=8.0km az=57.0*
ISC 28 07:05:16.9±2.7, 7.88N±0.09×94.25E±0.08, h58km±24km, n47, σ0§91/40, mb4.5/30, MS4.2/1, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.46**	**23**	Pn	**P**	**07 08 00.1**	**-0.1**
	0.8nm,0.3s,baz=211,slow=14,SNR=14						
HYB	**Hyderabad**	**18.00**	**303**	*e*P	**P**	**07 09 25.0**	**+0.2**
HYB	**Hyderabad**	**18.00**	**303**	*i*P	**P**	**07 09 25.0**	**+0.2**
HYB				*e*S	**S**	**07 12 43.0**	**+2.5**
KMI	**Kunming**	**18.96**	**24**	⇑P	**P**	**07 09 44.5**	**+8.2**
	27nm,1.2s						
LSA	**Lhasa**	**21.90**	**353**	*e*P	**P**	**07 10 07.8**	**+1.0**
	27nm,0.8s,mb4.7						
ENH	**Enshi**	**26.46**	**31**	*e*P	**P**	**07 10 50.5**	**-0.1**
	9.9nm,0.8s,mb4.4						
LZH	**Lanzhou**	**29.41**	**16**	*e*P	**P**	**07 11 22.5**	**+5.3**
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
JOW	**Kunigami**	**37.36**	**55**	LR	LR	07 27 58.9	
	comp=Z,354nm,19.0s,MS4.2,baz=260,slow=36						
AAK	**Ala-Archa**	**38.74**	**337**	*e*P	**P**	**07 12 37.2**	**0.0**
	comp=Z,7.7nm,0.9s,mb4.4						
SONM	**Songino Array**	**41.13**	**12**	P	**P**	**07 12 57.5**	**+0.6**
	comp=Z,2.4nm,0.8s,mb3.9,baz=201,slow=6.7,SNR=5.3						
KURK	**Kurchatov**	**44.63**	**346**	*e*P	**P**	**07 13 25.0**	**-0.4**
	comp=Z,16nm,1.1s,mb4.8						
NWAO	**Narrogin (SRO)**	**46.10**	**153**	P	**P**	**07 13 37.8**	**+0.4**
	comp=Z,5.5nm,0.7s,mb4.6,baz=348,slow=9.3,SNR=4.7						
ZAL	**Zalesovo**	**46.56**	**352**	P	**P**	**07 13 40.9**	**+0.2**
	comp=Z,7.4nm,1.0s,mb4.6,baz=293,slow=8.7,SNR=12						
WRA	**Warramunga Arr**	**48.17**	**126**	P	**P**	**07 13 53.6**	**-0.2**
	comp=Z,1.5nm,0.5s,mb4.3,baz=304,slow=8.6,SNR=8.1						
WRAB	**Tennant Creek**	**48.18**	**126**	*e*P	**P**	**07 13 53.8**	**0.0**
	comp=Z,4.7nm,0.7s,mb4.6						
BVAR	**Borovoye Array**	**49.02**	**341**	P	**P**	**07 13 59.0**	**-0.8**
	comp=Z,2.1nm,0.9s,mb4.2,baz=124,slow=11,SNR=5.1						
BRVK	**Borovoye**	**49.08**	**341**	*e*P	**P**	**07 13 59.1**	**-1.2**
	comp=Z,3.5nm,0.9s,mb4.4						
ASAR	**Alice Springs**	**49.83**	**130**	P	**P**	**07 14 06.5**	**-0.1**
	comp=Z,1.6nm,0.8s,mb4.1,baz=304,slow=7.3,SNR=5.0						
KMBO	**Kilima Mbogo**	**57.53**	**264**	*e*P	**P**	**07 15 03.6**	**+0.3**
	comp=Z,4.6nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**60.03**	**134**	P	**P**	**07 15 21.6**	**+1.3**
	comp=Z,2.8nm,0.8s,mb4.4,baz=307,slow=6.9,SNR=4.8						
BRTR	**Keskin Array B**	**62.51**	**311**	P	**P**	**07 15 34.6**	**-2.3**
	comp=Z,1.7nm,0.7s,mb4.3,baz=108,slow=7.8,SNR=6.5						
AKASG	**Malin Array Be**	**68.22**	**322**	P	**P**	**07 16 11.1**	**-2.3**
	comp=Z,1.7nm,0.6s,mb4.2,baz=89,slow=4.9,SNR=8.4						
IDI	**Anoyia**	**68.66**	**305**	P	**P**	**07 16 15.3**	**-1.2**
	comp=Z,9.5nm,0.7s,mb4.9,baz=109,slow=8.5,SNR=8.2						
FINES	**FINESS Array B**	**72.76**	**332**	P	**P**	**07 16 39.5**	**-1.2**
	comp=Z,8.1nm,0.8s,mb4.7,baz=117,slow=8.5,SNR=9.9						
OJC	**Ojcow**	**74.04**	**320**	*e*P	**P**	**07 16 48.6**	**+0.2**
LBTB	**Lobatse**	**74.34**	**241**	P	**P**	**07 16 50.0**	**-0.7**
	comp=Z,7.4nm,0.8s,mb4.7						
OKC	**Ostrava-Krasne**	**75.06**	**319**	*e*P	**P**	**07 16 54.4**	**+0.1**
ARCES	**ARCESS Array B**	**75.30**	**340**	P	**P**	**07 16 54.1**	**-1.1**
	comp=Z,2.2nm,0.7s,mb4.2,baz=90,slow=4.4,SNR=6.7						
MORC	**Moravsky Berou**	**75.44**	**319**	*e*P	**P**	**07 16 56.9**	**+0.5**
	comp=Z,9.2nm,1.1s,mb4.6						
UPC	**Upice**	**76.48**	**320**	*e*P	**P**	**07 17 03.7**	**+1.4**
BRG	**Berggiesshubel**	**77.82**	**320**	*e*P	**P**	**07 17 10.7**	**+0.9**
	comp=Z,4.8nm,0.8s,mb4.5						
GERES	**GERESS Array B**	**77.90**	**318**	P	**P**	**07 17 10.0**	**-0.2**
	comp=Z,4.9nm,0.9s,mb4.4,baz=90,slow=5.3,SNR=13						
KHC	**Kasperske Hory**	**77.99**	**318**	*e*P	**P**	**07 17 10.5**	**-0.2**
CLL	**Collm**	**78.43**	**321**	*e*PP	pP	07 17 20.0	-9.4
NB2	**NORSAR Subarra**	**79.78**	**331**	P	**P**	**07 17 19.5**	**-0.8**
	comp=Z,7.2nm,0.8s,mb4.7,baz=95,slow=5.0						
NOA	**NORSAR Array B**	**79.78**	**331**	P	**P**	**07 17 20.4**	**+0.1**
	comp=Z,4.4nm,0.8s,mb4.5,baz=93,slow=5.5,SNR=8.9						
DAVOX	**Davos**	**80.46**	**316**	P	**P**	**07 17 24.6**	**+0.4**
	comp=Z,4.2nm,0.8s,mb4.4,baz=137,slow=20,SNR=3.2						
LPG	**La Plagne**	**82.69**	**315**	*e*P	**P**	**07 17 35.6**	**-0.2**
	comp=Z,28nm,1.0s,mb4.9						
ESDC	**Sonseca Array**	**91.30**	**310**	P	**P**	**07 18 18.1**	**+0.3**
	comp=Z,0.9nm,0.6s,mb4.3,baz=63,slow=4.7,SNR=4.8						
ILAR	**Eielson Array**	**94.70**	**22**	P	**P**	**07 18 33.4**	**+0.7**
	comp=Z,0.4nm,0.8s,mb3.9,baz=315,slow=2.6,SNR=4.1						
INK	**Inuvik**	**96.96**	**16**	*e*P	**P**	**07 18 44.6**	**+1.7**
	comp=Z,6.2nm,1.3s,mb4.9						
YKA	**Yellowknife Ar**	**106.39**	**14**	PP	PP	07 23 45.4	-7.8
	comp=Z,0.2nm,0.8s,baz=332,slow=7.7,SNR=3.1						
NVAR	**Mina Array Bea**	**124.86**	**31**	PKP	PKPdf	07 24 15.2	+4.3
	comp=Z,0.6nm,0.5s,baz=315,slow=3.8,SNR=2.9						
PDAR	**Pinedale Array**	**125.12**	**21**	PKP	PKPdf	07 24 13.3	+2.0
	comp=Z,1.5nm,0.9s,slow=1.5,SNR=3.7						
TXAR	**Lajitas Array**	**139.17**	**24**	PKP	PKPdf	07 24 42.1	+4.0
	comp=Z,0.4nm,0.8s,slow=2.5,SNR=4.2						
PLCA	**Paso Flores**	**144.59**	**200**	PKP	PKPdf	07 24 49.5	+2.2
	comp=Z,5.5nm,1.0s,baz=178,slow=1.9,SNR=7.8						
PLCA	**Paso Flores**	**144.59**	**200**	PKP	PKPdf	07 24 49.5	+2.2

IDC 28 07:08:45.3±2.0, 7.98S×161.95E, mb3.9/5, mb1 4.2/5, mb1mx4.0/14, mbtmp3.9/5, Error ellipse: s-maj=84.9km s-min=26.7km az=134.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.66**	**163**	*e*P	P	07 11 46.4	-30
DZM				*e*S	S	07 13 51.3	-69
WRA	**Warramunga Arr**	**29.26**	**243**	P	P	07 14 50.6	-0.8
	2.5nm,0.7s,baz=75,slow=9.3,SNR=6.6						
ASAR	**Alice Springs**	**31.07**	**237**	P	P	07 15 04.7	-2.8
	1.0nm,0.9s,baz=68,slow=9.5,SNR=4.5						
SONM	**Songino Array**	**74.00**	**325**	P	P	07 20 21.9	-2.7
	1.3nm,0.8s,baz=128,slow=4.8,SNR=6.5						
ILAR	**Eielson Array**	**81.86**	**20**	P	P	07 21 07.5	-0.1
	0.5nm,0.7s,baz=245,slow=5.1,SNR=7.5						
YKA	**Yellowknife Ar**	**93.99**	**28**	P	P	07 22 04.2	-2.0
	0.3nm,0.6s,baz=260,slow=4.6,SNR=11						

MEX 28 07:09:37.6±0.7, 15.75N×94.16W, h12km±23km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.51**	**333**	*i*P	Pn	07 10 00.8	-3.8
CMIG				*i*S	Sb	07 10 19.1	-4.9
SCX	**San Cristobal**	**1.76**	**56**	*i*P	Pn	07 10 07.0	-1.2
SCX				*i*S	Sn	07 10 25.0	-5.7
CCIG	**Comitan**	**2.01**	**74**	*e*P	Pn	07 10 07.4	-4.5
CCIG				*i*S	Sn	07 10 32.3	-4.8
VHO	**Vista Hermosa**	**2.80**	**298**	*e*P	Pn	07 10 20.4	-2.7
VHO				*i*S	Sn	07 10 52.9	-4.2

*IDC **28** 07:12:35.8±0.8, 8.14N×94.33E, mb3.9/8, mb1 4.1/9, mb1mx4.0/18, mbtmp3.9/9, ML4.0/1, Error ellipse: s-maj=34.6km s-min=19.9km az=45.0*
*NEIC **28** 07:12:40.6±0.5, 8.11N×94.37E, h30km, mb4.3/2, Error ellipse: s-maj=17.5km s-min=12.0km az=61.0*
ISC 28 07:12:39.1±0.7, 8.2N±0.1×94.4E±0.1, h33km, n15, σ0§99/12, mb4.1/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.13**	**23**	Pn	**P**	**07 15 18.8**	**-0.3**
	0.3nm,0.3s,baz=208,slow=12,SNR=2.8						
KURK	**Kurchatov**	**44.39**	**346**	*e*P	**P**	**07 20 48.9**	**+0.7**
	5.3nm,1.3s,mb4.1						
ZAL	**Zalesovo**	**46.29**	**352**	P	**P**	**07 21 04.2**	**+0.9**
	0.9nm,0.5s,mb4.0,baz=301,slow=8.0,SNR=4.4						
WRA	**Warramunga Arr**	**48.22**	**126**	P	**P**	**07 21 19.0**	**+0.1**
	0.8nm,0.6s,mb4.0,baz=304,slow=9.3,SNR=8.1						
WRAB	**Tennant Creek**	**48.22**	**126**	*e*P	**P**	**07 21 19.0**	**+0.1**
	2.1nm,0.7s,mb4.3						
ASAR	**Alice Springs**	**49.90**	**130**	P	**P**	**07 21 31.5**	**-0.3**
	0.9nm,0.7s,mb3.9,baz=311,slow=7.4,SNR=8.0						
KMBO	**Kilima Mbogo**	**57.72**	**263**	P	**P**	**07 22 30.4**	**+0.9**
	2.7nm,1.0s,mb4.2,baz=234,slow=23,SNR=6.2						
BRTR	**Keskin Array B**	**62.44**	**311**	P	**P**	**07 22 59.5**	**-2.0**
	0.9nm,0.9s,mb3.9,baz=90,slow=6.2,SNR=3.7						
AKASG	**Malin Array Be**	**68.09**	**322**	P	**P**	**07 23 35.4**	**-2.2**
	0.3nm,0.3s,mb3.8,baz=88,slow=5.2,SNR=5.0						
FINES	**FINESS Array B**	**72.57**	**332**	P	**P**	**07 24 05.5**	**+1.0**
	7.0nm,1.1s,mb4.5,baz=90,slow=9.7,SNR=4.5						
FINES	**FINESS Array B**	**72.57**	**332**	P	**P**	**07 24 05.5**	**+1.0**
GERES	**GERESS Array B**	**77.78**	**318**	P	**P**	**07 24 35.2**	**+0.5**
	1.3nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=9.0						
PDAR	**Pinedale Array**	**124.79**	**21**	PKP	PKPdf	07 31 38.1	+2.1
	0.3nm,0.6s,baz=90,slow=1.5,SNR=3.8						
TXAR	**Lajitas Array**	**138.84**	**24**	PKP	PKPdf	07 32 06.1	+3.3
	0.2nm,0.7s,slow=1.3,SNR=3.7						
PLCA	**Paso Flores**	**144.92**	**200**	PKP	PKPdf	07 32 14.1	+0.9
	2.3nm,0.8s,baz=187,slow=2.2,SNR=6.5						

IDC 28 07:24:12.3±3.0, 7.74N×93.80E, mb3.7/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=95.9km s-min=28.7km az=69.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.77**	**25**	Pn	P	07 27 02.4	-2.3
	0.2nm,0.3s,baz=210,slow=14,SNR=3.7						
ZAL	**Zalesovo**	**46.64**	**353**	P	P	07 32 42.0	-2.2
	0.9nm,0.3s,baz=292,slow=2.9,SNR=3.6						
WRA	**Warramunga Arr**	**48.46**	**125**	P	P	07 32 55.6	-3.3
	0.3nm,0.7s,baz=305,slow=8.8,SNR=2.8						
ASAR	**Alice Springs**	**50.09**	**130**	P	P	07 33 11.1	-0.4
	0.7nm,0.8s,baz=300,slow=7.0,SNR=4.4						

*IDC **28** 07:24:30.2±0.7, 7.91N×93.99E, mb4.2/12, mb1 4.3/13, mb1mx4.2/19, mbtmp4.1/13, ML3.8/1, Error ellipse: s-maj=28.3km s-min=18.7km az=53.0*
*BJI **28** 07:24:34.3, 7.90N×94.10E, h30km, mb4.7*
*NEIC **28** 07:24:34.3±0.6, 7.88N×94.09E, h30km, mb4.5/4, Error ellipse: s-maj=18.9km s-min=12.2km az=63.0*
ISC 28 07:24:31.9±0.6, 7.9N±0.1×94.1E±0.1, h30km, n25, σ0§83/21, mb4.2/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.51**	**23**	Pn	**P**	**07 27 16.4**	**-1.2**
	0.2nm,0.3s,baz=226,slow=13,SNR=4.6						
HYB	**Hyderabad**	**17.91**	**303**	*i*P	**P**	**07 28 47.0**	**+6.3**
LSA	**Lhasa**	**21.90**	**353**	*e*P	**P**	**07 29 26.2**	**+1.7**
	30nm,0.8s,mb4.8						
SONM	**Songino Array**	**41.17**	**13**	P	**P**	**07 32 15.2**	**-0.1**
	2.4nm,0.8s,mb3.9,baz=190,slow=7.5,SNR=8.2						
SONM				PcP	PcP	07 34 17.5	+2.7
	1.5nm,0.7s,baz=225,slow=3.5,SNR=4.4						
KURK	**

2.0nm,1.0s,mb4.1,baz=305,slow=9.2,SNR=12
WRAB Tennant Creek 48.31 126 *eP* **P 07 47 30.0 +0.1**
3.9nm,0.8s,mb4.5
BVAR Borovoye Array 48.90 341 P **P 07 47 33.9 -0.1**
1.3nm,0.9s,mb4.0,baz=153,slow=6.6,SNR=5.0
BVAR PcP PcP 07 48 58.4 0.0
0.6nm,0.8s,baz=180,slow=1.4,SNR=3.7
BRVK Borovoye 48.96 341 *eP* **P 07 47 33.8 -0.6**
1.1nm,0.7s,mb4.0
ASAR Alice Springs 49.97 130 P **P 07 47 42.6 0.0**
1.0nm,0.7s,mb4.0,baz=311,slow=7.1,SNR=9.1
ASAR PcP PcP 07 49 02.2 -0.5
0.6nm,0.7s,baz=313,slow=4.0,SNR=4.7
KMBO Kilima Mbogo 57.45 264 P **P 07 48 38.7 +0.8**
1.9nm,0.7s,mb4.2,baz=56,slow=14,SNR=8.0
KMBO Kilima Mbogo 57.45 264 *eP* **P 07 48 37.1 -0.7**
2.6nm,0.9s,mb4.3
BRTR Keskin Array B 62.37 311 P **P 07 49 10.6 -0.7**
4.1nm,1.2s,mb4.5,baz=127,slow=6.2,SNR=5.1
AKASG Malin Array Be 68.08 322 P **P 07 49 46.0 -1.9**
2.9nm,0.9s,mb4.3,baz=88,slow=5.0,SNR=6.6
MLR Muntele Rosu 69.11 316 P **P 07 49 54.7 +0.4**
3.1nm,0.7s,mb4.3,baz=190,slow=5.9,SNR=5.4
FINES FINESS Array B 72.63 332 P **P 07 50 14.9 -0.3**
2.9nm,0.8s,mb4.3,baz=112,slow=10,SNR=5.4
GERES GERESS Array B 77.76 318 P **P 07 50 45.8 +0.9**
1.7nm,0.6s,mb4.1,baz=90,slow=4.0,SNR=15
NB2 NORSAR Subarra 79.65 331 P **P 07 50 55.9 +0.9**
1.2nm,0.7s,mb3.9,baz=95,slow=5.0
NOA NORSAR Array B 79.65 331 P **P 07 50 56.0 +1.1**
2.4nm,0.9s,mb4.1,baz=92,slow=5.7,SNR=4.8
LPG La Plagne 82.56 315 *eP* **P 07 51 11.1 +0.6**
6.7nm,0.7s,mb4.5
PDAR Pinedale Array 125.07 21 PKP PKPdf 07 57 50.0 +3.2
0.7nm,0.8s,baz=90,slow=3.0,SNR=6.0
TXAR Lajitas Array 139.13 24 PKP PKPdf 07 58 17.9 +4.2
0.3nm,0.5s,baz=356,slow=1.0,SNR=6.3
PLCA Paso Flores 144.65 200 PKP PKPdf 07 58 24.7 +1.7
2.8nm,0.9s,baz=238,slow=5.3,SNR=8.3
PLCA Paso Flores 144.65 200 PKP PKPdf 07 58 24.7 +1.7

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*IDC **28** 07:48:08.8±1.1, 8.09N×94.04E, mb3.9/7, mb1 4.1/8, mb1mx3.8/19, mbtmp3.9/8, Error ellipse: s-maj=46.7km s-min=24.8km az=52.0*
*NEIC **28** 07:48:13.6±0.7, 8.14N×94.04E, h30km, mb4.2/2, Error ellipse: s-maj=23.7km s-min=16.2km az=76.0*
ISC 28 07:48:08.4±1.1, 8.1N±0.1×94.1E±0.2, h10km, n16, σ0§82/11, mb4.0/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.33**	**24**	Pn	**P**	**07 50 54.0**	**+0.4**
	baz=216,slow=14,SNR=5.6						
LSA	**Lhasa**	**21.67**	**353**	P	**P**	**07 53 00.9**	**-0.5**
	7.3nm,0.6s,mb4.3						
KURK	**Kurchatov**	**44.38**	**346**	*eP*	**P**	**07 56 21.4**	**+0.5**
	3.0nm,0.8s,mb4.1						
ZAL	**Zalesovo**	**46.32**	**352**	P	**P**	**07 56 34.5**	**-1.8**
	1.7nm,0.3s,mb4.4,baz=291,slow=3.5,SNR=2.3						
ZAL	**Zalesovo**	**46.32**	**352**	P	**P**	**07 56 34.5**	**-1.8**
WRA	**Warramunga Arr**	**48.43**	**126**	P	**P**	**07 56 53.2**	**-0.1**
	0.6nm,0.8s,mb3.7,baz=304,slow=8.9,SNR=4.1						
BVAR	**Borovoye Array**	**48.77**	**341**	P	**P**	**07 56 56.5**	**+1.1**
	0.3nm,0.4s,mb3.7,baz=146,slow=5.2,SNR=2.6						
BRTR	**Keskin Array B**	**62.24**	**311**	P	**P**	**07 58 32.4**	**-0.6**
	0.7nm,0.6s,mb3.9,baz=121,slow=8.4,SNR=3.6						
FINES	**FINESS Array B**	**72.49**	**332**	P	**P**	**07 59 36.4**	**-0.7**
	4.8nm,1.1s,mb4.3,baz=100,slow=8.5,SNR=4.2						
GERES	**GERESS Array B**	**77.63**	**318**	P	**P**	**08 00 07.5**	**+0.8**
	1.1nm,0.7s,mb3.9,baz=90,slow=6.7,SNR=8.0						
NOA	**NORSAR Array B**	**79.51**	**331**	P	**P**	**08 00 17.5**	**+0.8**
	1.3nm,0.8s,mb3.9,baz=144,slow=5.5,SNR=3.2						
YKA	**Yellowknife Ar**	**106.23**	**13**	PP	PP	08 06 48.9	-0.6
	0.1nm,0.8s,baz=333,slow=7.4,SNR=3.6						
PDAR	**Pinedale Array**	**124.98**	**21**	PKP	PKPdf	08 07 11.8	-0.7
	0.4nm,1.0s,SNR=3.5						
TXAR	**Lajitas Array**	**139.05**	**24**	PKP	PKPdf	08 07 39.9	+0.7
	0.1nm,0.6s,baz=270,slow=1.3,SNR=3.9						
TXAR	**Lajitas Array**	**139.05**	**24**	PKP	PKPdf	08 07 39.9	+0.7
PLCA	**Paso Flores**	**144.73**	**200**	PKP	PKPdf	08 07 48.1	-0.8
	1.6nm,1.0s,baz=55,slow=7.7,SNR=4.1						

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*IDC **28** 07:49:12.7±0.4, 7.93N×94.08E, mb4.9/25, mb1 5.0/26, mb1mx4.9/28, mbtmp4.9/26, ML5.0/1, MS5.1/20, Ms1 5.1/20, ms1mx4.9/27, Error ellipse: s-maj=19.6km s-min=10.4km az=47.0, Putative timing error at LPAZ*
*MOS **28** 07:49:16.6±1.0, 7.96N×94.14E, h33km, mb5.5/79, MS5.2/30, Error ellipse: s-maj=8.5km s-min=4.5km az=119.1*
*BJI **28** 07:49:16.6, 7.75N×93.69E, h49km, mB5.7, mb5.0, Ms5.7, Msz5.4*
*HRVD **28** 07:49:17.9±0.2, 7.82N×94.23E, h16km, MW5.6/63, Centroid moment Tensor Solution. LP body waves: s44,c78; Mantle waves: s63,c133; Half duration: 1§5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.73±.05; $M_{\theta\theta}$-1.98±.04; $M_{\phi\phi}$2.71±.05; $M_{r\theta}$-1.01±.14; $M_{\theta\phi}$0.50±.04; $M_{\phi r}$-0.70±.15; Best double couple: $M_0$2.745×10^{17} NP1: ϕ_s143°, δ60°, λ-168°. NP2:ϕ_s47°, δ80°, λ-30°. Principal axes: T 2.946, Plg13°, Azm98°; N -.398, Plg58°, Azm210°; P -2.544, Plg29°, Azm1°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 07:49:17.9±0.2, 7.97N×94.13E, h30km, mb5.3/88, MS5.1/7 Error ellipse: s-maj=6.2km s-min=4.7km az=222.0*
ISC 28 07:49:15.6±0.2, 7.91N±0.03×94.18E±0.03, h26km, h26km±2.6km:pP-P, n402, σ1§21/395, mb5.2/120, MS5.2/54, 22C-15D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.98**	**339**	*eP*	**Pn**	**07 50 22.5**	**+5.9**
PBA				*eS*	**Sn**	**07 51 05.3**	**+2.3**
NNT	**Nongplab**	**7.18**	**49**	P	**Pn**	**07 51 01.8**	**+0.1**
NST	**Nakhon Sawan**	**9.67**	**37**	P	**P**	**07 51 35.4**	**-1.0**
	65nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.47**	**23**	P	**P**	**07 52 02.1**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,11μm,18.1s						
CMAR	**Chiang Mai Arr**	**11.47**	**23**	Pn	**P**	**07 52 02.0**	**+1.1**
	comp=Z,3.1nm,0.3s,baz=211,slow=15,SNR=33						
CMAR				LR	LR	07 56 40.2	
	comp=Z,11μm,18.1s,baz=208,slow=39						
CHG	**Chiang Mai**	**11.79**	**23**	⇓P	**P**	**07 52 06.8**	**+1.5**
	comp=Z,99nm,1.0s						
NANT	**Nan**	**12.55**	**30**	P	**P**	**07 52 18.0**	**+2.6**
CHRT	**Chiangrai**	**13.08**	**24**	⇑P	**P**	**07 52 25.5**	**+3.1**
	comp=Z,416nm,1.2s						
PALK	**Pallekele**	**13.37**	**268**	*e*Pn	**P**	**07 52 26.5**	**+0.2**
	comp=Z,31nm,0.9s						
PALK				*e*pPn		07 52 33.1	
PALK				*e*Sn	**S**	**07 54 39.5**	**-16**
VIS	**Vishakhapatnam**	**14.38**	**314**	*eP*	**P**	**07 52 41.3**	**+1.6**
VIS				*e*		07 52 44.1	
	comp=Z,112nm,0.8s						
VIS				*e*S	**S**	**07 55 20.4**	**+1.3**
MDRS	**Chennai**	**14.62**	**292**	*e*	**P**	**07 52 40.0**	**-2.9**
MDRS				*e*	**S**	**07 55 09.0**	**-16**
AGT	**Agartala**	**16.13**	**350**	⇓*i*P	**P**	**07 53 02.0**	**-0.4**
AGT				*i*		07 54 05.0	
KOD	**Kodaikanal**	**16.66**	**279**	*eP*	**P**	**07 53 13.9**	**+4.8**
KOD				*e*		07 53 21.4	
	comp=Z,209nm,1.2s						
KOD				*e*S	**S**	**07 56 18.6**	**+6.1**
IMP	**Imphal**	**16.79**	**359**	*e*	**P**	**07 53 09.2**	**-1.4**
TRD	**Trivandrum**	**17.05**	**273**	*e*	**P**	**07 53 07.4**	**-6.7**
TRD				*i*	**S**	**07 56 13.4**	**-8.0**
SHL	**Shillong**	**17.70**	**353**	*eP*	**P**	**07 53 28.3**	**+6.2**
SHL				*e*S	**S**	**07 56 43.5**	**+7.5**
HYB	**Hyderabad**	**17.92**	**303**	⇑*eP*	**P**	**07 53 24.5**	**-0.4**
HYB				*e*S	**S**	**07 56 35.0**	**-6.2**
HYB				pmax	pmax		
	comp=Z,100nm,1.0s						
HYB	**Hyderabad**	**17.92**	**303**	⇑*eP*	**P**	**07 53 24.5**	**-0.4**
	comp=Z,100nm,1.0s						
HYB				*e*S	**S**	**07 56 35.0**	**-6.2**
HYB	**Hyderabad**	**17.92**	**303**	⇑*i*P	**P**	**07 53 24.5**	**-0.4**
	comp=Z,100nm,1.0s						
HYB				*e*		07 56 35.0	
HYB				*e*S	**S**	**07 56 44.5**	**+3.3**
HYB				LR	LR	08 01 18.0	
	comp=Z,6.8nm,18.0s						
BLSP	**Bilaspur**	**18.29**	**322**	*eP*	**P**	**07 53 31.6**	**+2.1**
BLSP				*e*S	**S**	**07 56 55.0**	**+5.5**
BLSP				*i*		08 01 23.6	
	comp=Z,6μm,18.8s						
QIZ	**Qiongzhong**	**18.81**	**52**	P	**P**	**07 53 36.3**	**+0.6**
QIZ				S	**S**	**07 57 00.5**	**-0.6**
QIZ				AMB	AMB		
	comp=Z,2μm,8.8s						
QIZ				LR	LR		
	comp=N,32μm,11.5s						
QIZ				LR	LR		
	comp=E,12μm,12.2s						
QIZ	**Qiongzhong**	**18.81**	**52**	*eP*	**P**	**07 53 36.4**	**+0.7**
	comp=E,122nm,1.0s						
KMI	**Kunming**	**18.97**	**25**	⇑P	**P**	**07 53 40.9**	**+3.2**
KMI				pmax	pmax		
	comp=Z,98nm,1.6s						
KMI	**Kunming**	**18.97**	**25**	⇑P	**P**	**07 53 40.9**	**+3.2**
	comp=Z,98nm,1.6s						
KMI				pP		07 53 47.3	
KMI				sP		07 53 50.7	
KMI				PP	PP	07 54 00.6	+6.4
KMI				S	**S**	**07 57 18.7**	**+14**
KMI				sS		07 57 30.9	
KMI				SS	SS	07 57 48.5	+18
NGP	**Nagpur**	**19.66**	**314**	*eP*	**P**	**07 53 46.9**	**+1.2**
NGP				*e*S	**S**	**07 57 26.8**	**+6.5**
MNGI	**Mangalore**	**19.68**	**286**	*i* P	**P**	**07 53 46.2**	**+0.3**
MNGI				*e*	**S**	**07 57 19.9**	**-0.6**
GTK	**Gangtok**	**20.03**	**345**	*e*	**P**	**07 53 46.0**	**-3.5**
COCO	**West Island**	**20.14**	**172**	*eP*	**P**	**07 53 53.1**	**+2.4**
	comp=Z,359nm,1.1s						
ALBI	**Allahabad**	**20.95**	**327**	*e*	**P**	**07 53 57.0**	**-2.0**
GOA	**Goa**	**21.29**	**293**	*eP*	**P**	**07 54 11.9**	**+9.4**
GOA				*e*		07 54 18.7	
	comp=Z,110nm,1.1s						
GOA				*e*S	**S**	**07 58 08.5**	**+16**
KAD	**Karad**	**21.61**	**298**	*eP*	**P**	**07 54 08.5**	**+2.7**
KAD				*e*		07 54 13.7	
	comp=Z,112nm,1.1s						
LSA	**Lhasa**	**21.87**	**353**	P	**P**	**07 54 07.3**	**-1.0**
LSA				AP		07 54 16.8	
LSA				S	**S**	**07 58 11.3**	**+7.9**
LSA				AMB	AMB		
	comp=Z,60nm,1.2s,mb4.9						
LSA				LR	LR		
	comp=Z,66μm,22.1s,MS6.0						
LSA	**Lhasa**	**21.87**	**353**	*eP*	**P**	**07 54 07.1**	**-1.2**
LSA				pmax	pmax		
	comp=Z,64nm,0.4s,mb5.4						
LSA	**Lhasa**	**21.87**	**353**	*eP*	**P**	**07 54 07.1**	**-1.2**
	comp=Z,64nm,0.4s,mb5.4						
BHPL	**Bhopal**	**22.16**	**315**	*eP*	**P**	**07 54 14.6**	**+3.4**
BHPL				*e*		07 54 18.1	
	comp=Z,218nm,0.9s						
BHPL				*e*S	**S**	**07 58 18.1**	**+9.3**
POO	**Poona**	**22.40**	**300**	*eP*	**P**	**07 54 15.4**	**+1.7**
POO				*e*		07 54 27.5	
	comp=Z,115nm,1.8s						
BOM	**Bombay**	**23.45**	**300**	*eP*	**P**	**07 54 20.1**	**-3.9**
BOM				*e*		07 54 31.7	
	comp=Z,102nm,1.3s						
BOM				*e*S	**S**	**07 58 33.9**	**+1.9**
NDI	**New Delhi**	**26.13**	**324**	*eP*	**P**	**07 54 50.5**	**+1.0**
NDI				*e*		07 54 54.9	
	comp=Z,254nm,1.1s						
NDI				*e*		07 59 16.0	
NDI				*e*		07 59 21.9	
AJM	**Ajmer**	**26.18**	**317**	⇑*i*P	**P**	**07 54 51.0**	**+1.0**
ENH	**Enshi**	**26.48**	**31**	*eP*	**P**	**07 54 52.9**	**+0.2**
	comp=Z,58nm,1.0s,mb5.1						
ENH				LR	LR		
	comp=Z,9μm,22.0s,MS5.3						
DDI	**Dehra Dun**	**26.93**	**328**	*eP*	**P**	**07 54 56.4**	**-0.5**
DDI				*e*		07 59 52.0	
SMLA	**Simla**	**28.04**	**328**	*eP*	**P**	**07 55 21.0**	**+14**
SMLA				*e*	pP	07 55 30.4	+16
	comp=Z,87nm,1.2s						
SMLA				*e*S	**S**	**08 00 05.3**	**+17**
BHK	**Bhakra**	**28.66**	**327**	*e*	**P**	**07 55 31.6**	**+19**
QZH	**Quanzhou**	**28.82**	**51**	*eP*	**P**	**07 55 17.0**	**+3.0**
QZH				S	**S**	**08 00 07.0**	**+6.2**
QZH				LR	LR		
	comp=Z,21μm,14.2s,MS5.9						
XAN	**Xi'an**	**29.35**	**26**	P	**P**	**07 55 18.5**	**-0.2**
XAN				AMB	AMB		
	comp=Z,21nm,1.6s,mb4.6						
TBP	**Tagbilaran**	**29.39**	**84**	*eP*	**P**	**07 55 18.3**	**-0.9**
WHN	**Wuhan**	**29.39**	**37**	*eP*	**P**	**07 55 21.0**	**+1.9**
WHN				LR	LR		
	comp=N,1μm,9.6s						
WHN				LR	LR		
	comp=E,13μm,11.2s						
WHN				LR	LR		
	comp=Z,19μm,13.2s,MS5.9						
LZH	**Lanzhou**	**29.41**	**16**	*eP*	**P**	**07 55 19.0**	**-0.2**
LZH				PP	PP	07 56 15.0	+0.1
LZH				S	**S**	**08 00 09.3**	**-0.8**
LZH				SS	SS	08 01 44.0	+1.2
LZH				AMB	AMB		
	comp=Z,139nm,1.7s,mb5.4						
LZH				AMB	AMB		
	comp=Z,570nm,5.3s						
LZH				LR	LR		
	comp=E,7μm,12.5s						
LZH				LR	LR		
	comp=Z,8μm,13.9s,MS5.5						
LZH	**Lanzhou**	**29.41**	**16**	*eP*	**P**	**07 55 18.9**	**-0.3**
LZH				*PP	pP	07 55 27.0	+0.1
LZH				*SP	sP	07 55 32.0	+1.6
LZH						07 56 14.9	
LZH				S	**S**	**08 00 09.2**	**-0.9**
LZH				*SS		08 00 25.0	
LZH				SS	SS	08 01 44.0	+1.2
LZH				pmax	pmax		
	comp=Z,139nm,1.7s,mb5.4						
LZH				MLR	MLR		
	comp=Z,8μm,13.9s,MS5.5						
LZH	**Lanzhou**	**29.41**	**16**	*eP*	**P**	**07 55 18.9**	**-0.3**
	comp=Z,139nm,1.7s,mb5.4						
LZH				pP	pP	07 55 27.0	+0.1
LZH				sP	sP	07 55 32.0	+1.6
LZH				PP	PP	07 56 14.9	0.0
LZH				S	**S**	**08 00 09.2**	**-0.9**
LZH				sS		08 00 25.0	
LZH				SS	SS	08 01 44.0	+1.2
LZH				LR	LR		
	comp=Z,8μm,13.9s,MS5.5						
NJ2	**Nanjing**	**33.22**	**40**	*eP*	**P**	**07 55 54.3**	**+1.5**
NJ2				AP	pP	07 56 05.3	+4.8
NJ2				XP	sP	07 56 10.0	+6.1
NJ2				PP	PP	07 57 05.5	+1.2
NJ2				S	**S**	**08 01 10.0**	**0.0**
NJ2				AMB	AMB		
	comp=Z,550nm,6.9s						
NJ2				LR	LR		
	comp=N,1μm,12.0s,MS5.1						
NJ2				LR	LR		
	comp=E,2μm,15.0s,MS5.1						
NJ2				LR	LR		
	comp=Z,1μm,17.7s,MS4.7						
SSE	**Sheshan**	**34.18**	**44**	P	**P**	**07 55 57.1**	**-3.9**
	comp=Z,34nm,0.7s,mb5.4						
SSE				pP	pP	07 56 05.9	-2.9
SSE				S	**S**	**08 01 21.2**	**-3.5**
SSE				sS		08 01 36.9	
SSE				LR	LR		
	comp=Z,2μm,18.4s,MS5.0						
TIA	**Tai'an**	**35.10**	**33**	*eP*	**P**	**07 56 10.5**	**+1.6**
TIA				LR	LR		
	comp=N,2μm,12.6s,MS5.4						
TIA				LR	LR		
	comp=E,3μm,11.0s,MS5.4						
WMQ	**Urumqi**	**36.22**	**352**	P	**P**	**07 56 19.5**	**+1.2**
WMQ				PP	PP	07 57 41.8	+0.4
WMQ				PCP	PcP	07 58 45.5	+1.9
WMQ				S	**S**	**08 01 57.3**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,143nm,1.2s,mb5.8						
WMQ				AMB	AMB		
	comp=Z,788nm,5.2s						
WMQ				LR	LR		
	comp=N,3μm,17.8s,MS5.1						
WMQ				LR	LR		
	comp=E,1μm,17.5s,MS5.1						
WMQ				LR	LR		
	comp=Z,3μm,17.6s,MS5.1						
JOW	**Kunigami 37.41 56**			P	**P**	**07 56 28.8**	**+0.3**
	comp=Z,22nm,0.8s,mb5.0,baz=224,slow=7.9						
JOW				LR	LR	08 12 13.0	
	comp=Z,3μm,18.7s,MS5.1,baz=39,slow=37						
BJT	**Baijiatuau 37.54 28**			*eP*	**P**	**07 56 30.2**	**+0.8**
BJT				pmax	pmax		
	comp=Z,25nm,1.1s						
BJT				MLR	MLR		
	comp=Z,4μm,21.0s						
BJT	**Baijiatuau 37.54 28**			*eP*	**P**	**07 56 30.2**	**+0.8**
	comp=Z,25nm,1.1s,mb4.9						
BJT				LR	LR		
	comp=Z,4μm,21.0s,MS5.2						
JMDO	**Jabal Madar 37.55 297**			⇑P	**P**	**07 56 30.6**	**+0.9**
	SNR=6.7						
BJI	**Beijing 37.56 28**			P	**P**	**07 56 30.7**	**+1.1**
BJI				S	**S**	**08 02 24.2**	**+7.4**
BJI				pmax	pmax		
	comp=Z,11nm,1.9s,mb4.3						
BJI				MLR	MLR		
	comp=Z,3μm,19.3s,MS5.0						
BJI	**Beijing 37.56 28**			P	**P**	**07 56 30.7**	**+1.1**
	comp=Z,11nm,1.9s,mb4.3						
BJI				S	**S**	**08 02 24.2**	**+7.4**
BJI				S	SS	08 05 01.5	+11
BJI				LR	LR		
	comp=Z,3μm,19.3s,MS5.0						
SMDO	**Samad 37.80 298**			P	**P**	**07 56 34.1**	**+2.4**
	SNR=6.2						
BIDO	**Bidbid 37.87 298**			⇑P	**P**	**07 56 35.2**	**+2.8**
KZA	**Kyzart 37.92 337**			P	**P**	**07 56 34.7**	**+2.1**
	SNR=9.0						
MBWA	**Marble Bar 38.27 139**			*eP*	**P**	**07 56 36.9**	**+1.2**
	comp=Z,7.3nm,0.5s,mb4.7						
UCH	**Uchtor 38.34 336**			P	**P**	**07 56 36.1**	**-0.1**
	SNR=14						
BSY	**Bisya 38.45 297**			P	**P**	**07 56 39.4**	**+2.1**
	SNR=20						
TKM2	**Tokmak 2 38.51 338**			P	**P**	**07 56 35.1**	**-2.4**
	SNR=5.7						
KBK	**Karagaybulak 38.53 337**			P	**P**	**07 56 36.4**	**-1.3**
	SNR=5.3						
AML	**Almayashu 38.59 335**			P	**P**	**07 56 37.5**	**-0.8**
	SNR=24						
HOQ	**Hoqain 38.60 298**			⇓P	**P**	**07 56 40.3**	**+1.8**
AAK	**Ala-Archa 38.69 337**			P	**P**	**07 56 40.5**	**+1.4**
	SNR=14						
AAK	**Ala-Archa 38.69 337**			P	**P**	**07 56 38.6**	**-0.4**
AAK				pmax	pmax		
	comp=Z,57nm,1.1s,mb5.2						
AAK	**Ala-Archa 38.69 337**			*eP*	**P**	**07 56 37.5**	**-1.6**
	comp=Z,40nm,1.0s,mb5.1						
CHMS	**Chumysh 38.90 337**			P	**P**	**07 56 39.6**	**-1.2**
	SNR=8.0						
EKS2	**Erkin-Say 39.00 336**			P	**P**	**07 56 41.8**	**+0.2**
	SNR=14						
ARQ	**Araqi 39.22 297**			P	**P**	**07 56 45.8**	**+2.1**
	SNR=19						
USP	**Ospenovka 39.22 337**			P	**P**	**07 56 42.5**	**-1.0**
	SNR=16						
MKAR	**Makanchi Array 40.06 347**			*i* P	**P**	**07 56 49.3**	**-1.1**
FITZ	**Fitzroy Crossi 40.41 130**			*eP*	**P**	**07 56 53.1**	**-0.4**
	comp=Z,32nm,1.4s,mb4.9						
SONM	**Songino Array 41.12 13**			P	**P**	**07 56 58.9**	**-0.2**
	comp=Z,9.7nm,0.7s,mb4.5,baz=190,slow=7.5,SNR=23						
SONM				PcP	PcP	07 58 59.4	+0.5
	comp=Z,4.7nm,0.6s,baz=190,slow=3.7,SNR=3.9						
SONM				ScP		08 02 45.8	
	comp=Z,0.8nm,0.7s,baz=180,slow=2.9,SNR=2.9						
ULN	**Ulaanbaatar 41.30 13**			*eP*	**P**	**07 56 59.7**	**-0.8**
ULN				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.6						
ULN				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.2						
ULN	**Ulaanbaatar 41.30 13**			*eP*	**P**	**07 56 59.7**	**-0.8**
	comp=Z,13nm,0.8s,mb4.6						
ULN				LR	LR		
	comp=Z,3μm,19.0s,MS5.2						
KS15	**Wonju Array Si 42.39 41**			P	**P**	**07 57 11.1**	**+1.5**
SNY	**Shenyang 42.63 33**			⇑P	**P**	**07 57 12.5**	**+1.0**
SNY				S	**S**	**08 03 35.0**	**+2.4**
SNY				AMB	AMB		
	comp=Z,20nm,1.7s,mb4.6						
SNY				AMB	AMB		
	comp=Z,430nm,7.5s						
SNY				LR	LR		
	comp=N,3μm,15.3s,MS5.5						
SNY				LR	LR		
	comp=E,4μm,14.2s,MS5.5						
SNY				LR	LR		
	comp=Z,3μm,16.1s,MS5.3						
ZAK	**Zakamensk 43.01 9**			*eP*	**P**	**07 57 13.6**	**-1.0**
ZAK				*e*		07 59 05.0	
MOY	**Mondy 43.99 6**			*eP*	**P**	**07 57 23.4**	**+1.0**
TLY	**Talaya 44.33 8**			P	**P**	**07 57 25.3**	**+0.1**
	comp=Z,70nm,0.7s,mb5.5,SNR=8.2						
TLY	**Talaya 44.33 8**			*eP*	**P**	**07 57 25.2**	**0.0**
TLY				*e*S	**S**	**08 04 00.8**	**+3.6**
TLY				pmax	pmax		
	comp=Z,22nm,1.5s,mb4.7						
TLY				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.1						
TLY	**Talaya 44.33 8**			*eP*	**P**	**07 57 23.5**	**-1.8**
	comp=Z,30nm,1.4s,mb4.8						
TLY				LR	LR		
	comp=Z,688nm,20.0s,MS4.6						
KURK	**Kurchatov 44.59 346**			P	**P**	**07 57 25.7**	**-1.6**
KURK				pmax	pmax		
	comp=Z,75nm,1.2s,mb5.4						
KURK	**Kurchatov 44.59 346**			*eP*	**P**	**07 57 25.6**	**-1.8**
	comp=Z,80nm,0.9s,mb5.5						
MUN	**Mundaring 44.90 153**			*eP*	**P**	**07 57 30.8**	**+0.7**
	comp=Z,38nm,0.8s,mb5.3						
MUN				*e*S	**S**	**08 04 09.7**	**+4.1**
MUN	**Mundaring 44.90 153**			*eP*	**P**	**07 57 30.8**	**+0.7**
MUN				*e*S	**S**	**08 04 09.7**	**+4.1**
MUN				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.3						
NWAO	**Narrogin (SRO) 46.16 153**			P	**P**	**07 57 40.8**	**+0.8**
NWAO				pmax	pmax		
	comp=Z,73nm,1.1s						
NWAO	**Narrogin (SRO) 46.16 153**			P	**P**	**07 57 40.8**	**+0.8**
	comp=Z,73nm,1.1s,mb5.5,baz=319,slow=9.9,SNR=21						
NWAO	**Narrogin (SRO) 46.16 153**			*eP*	**P**	**07 57 40.3**	**+0.2**
	comp=Z,30nm,0.8s,mb5.3						
HIA	**Hailar 46.48 23**			*eP*	**P**	**07 57 42.1**	**-0.2**
HIA				pmax	pmax		
	comp=Z,57nm,1.0s						
HIA				MLR	MLR		
	comp=Z,3μm,19.0s						
HIA	**Hailar 46.48 23**			*eP*	**P**	**07 57 42.1**	**-0.2**
	comp=Z,57nm,1.0s,mb5.5						
HIA				LR	LR		
	comp=Z,3μm,19.0s,MS5.2						
ZAL	**Zalesovo 46.52 352**			P	**P**	**07 57 41.8**	**-0.8**
ZAL				pmax	pmax		
	comp=Z,28nm,0.4s						
ZAL	**Zalesovo 46.52 352**			P	**P**	**07 57 41.8

MDJ AMB AMB
comp=Z,23nm,1.7s,mb4.9
MDJ AMB AMB
comp=Z,434nm,7.1s
MDJ LR LR
comp=N,2μm,14.7s,MS5.5
MDJ LR LR
comp=E,4μm,16.1s,MS5.5
MDJ LR LR
comp=Z,3μm,17.0s,MS5.3
MDJ Mudanjiang 47.76 34 *e*P **P 07 57 52.9 +0.3**
comp=Z,71nm,1.6s,mb5.5
WRA Warramunga Arr 48.25 126 *i* P **P 07 57 56.3 -0.3**
WRA pmax pmax
comp=Z,5.0nm,0.5s
WRA Warramunga Arr 48.25 126 P **P 07 57 54.4 -2.2**
comp=Z,4.5nm,0.5s,mb4.8,baz=305,slow=8.8,SNR=26
WRAB Tennant Creek 48.26 126 *i* P **P 07 57 56.7 0.0**
WRAB Tennant Creek 48.26 126 *e*P **P 07 57 56.3 -0.4**
comp=Z,14nm,0.8s,mb5.1
WB2 Warramunga Arr 48.26 126 *e*P **P 07 57 54.2 -2.5**
BVA0 Borovoye Array 48.97 341 P **P 07 57 59.5 -2.2**
BVA0 pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
BVAR Borovoye Array 48.97 341 P **P 07 57 59.6 -2.1**
comp=Z,5.8nm,0.7s,mb4.7,baz=143,slow=7.4,SNR=23
BVAR PcP PcP 07 59 25.0 -0.9
comp=Z,8.2nm,0.9s,baz=146,slow=5.2,SNR=2.9
BVAR ScP 08 03 20.6
comp=Z,2.3nm,0.8s,baz=180,slow=4.3,SNR=5.0
JHJ Hachijo jima 2 49.01 53 LR LR 08 18 23.8
comp=Z,2μm,19.6s,MS5.2,baz=165,slow=36
BRVK Borovoye 49.03 341 *e*P **P 07 57 59.9 -2.3**
BRVK pmax pmax
comp=Z,37nm,1.3s,mb5.2
BRVK Borovoye 49.03 341 *e*P **P 07 57 59.9 -2.4**
comp=Z,37nm,1.3s,mb5.2
RAYN Ar Rayn 49.10 294 P **P 07 58 02.0 -1.2**
comp=Z,534nm,0.8s,SNR=34
MAJO Matsushiro 49.11 48 P **P 07 58 02.7 -0.4**
MAT Matsushiro 49.11 48 *e*P **P 07 58 08.0 +4.9**
MAT *e*S **S 08 05 03.0 -2.4**
MAT pmax pmax
comp=Z,19nm,1.1s,mb5.0
MAT MLR MLR
comp=Z,2μm,19.0s,MS5.1
MAT Matsushiro 49.11 48 *e*P **P 07 58 08.0 +4.9**
comp=Z,19nm,1.1s,mb5.0
MAT *e*S **S 08 05 03.0 -2.4**
MAT LR LR
comp=Z,2μm,19.0s,MS5.1
MAT Matsushiro 49.11 48 P **P 07 58 07.7 +4.6**
MAT S **S 08 05 03.0 -2.4**
CHKZ Chkalovo 49.45 342 P **P 07 58 03.4 -2.1**
CHKZ pmax pmax
comp=Z,122nm,1.5s,mb5.7
ASPA Alice Springs 49.91 130 *e*P **P 07 58 08.5 -0.8**
ASAR Alice Springs 49.91 130 P **P 07 58 08.7 -0.7**
comp=Z,8.7nm,0.9s,mb4.8,baz=307,slow=7.4,SNR=29
ASAR PcP PcP 07 59 30.1 +0.3
comp=Z,6.2nm,0.7s,baz=303,slow=3.4,SNR=6.9
FORT Forrest 50.34 141 *e*P **P 07 58 12.4 -0.2**
comp=Z,193nm,1.1s,mb6.0
KLR Kul'dur 51.84 31 *e*P **P 07 58 19.4 -4.3**
KLR MLR MLR
comp=E,3μm,12.5s
KLR MLR MLR
comp=Z,4μm,12.5s,MS5.6
BOD Bodaibo 52.11 13 *e*P **P 07 58 23.8 -1.8**
CLNS Chul'man 54.39 20 *e*P **P 07 58 42.9 +0.4**
CLNS pmax pmax
comp=N,39nm,1.0s
CLNS pmax pmax
comp=Z,71nm,1.0s,mb5.5
CLNS pmax pmax
comp=E,32nm,0.9s
GNI Garni 54.44 314 *i* P **P 07 58 43.1 +0.1**
GNI pmax pmax
comp=Z,35nm,1.3s
GNI Garni 54.44 314 P **P 07 58 41.9 -1.2**
comp=Z,21nm,0.9s,mb5.1,baz=76,slow=1.3,SNR=10.0
GNI Garni 54.44 314 *e*P **P 07 58 42.0 -1.0**
comp=Z,62nm,1.1s,mb5.5
ASAJ Asahikawa 55.37 41 LR LR 08 22 57.7
comp=Z,2μm,18.4s,MS5.1,baz=346,slow=36
SVE Sverdlovsk 55.38 338 *e*P **P 07 58 45.0 -4.7**
SVE *e*S **S 08 06 26.0 -4.7**
SVE pmax pmax
comp=Z,180nm,1.8s,mb5.8
SVE MLR MLR
comp=Z,3μm,19.0s,MS5.3
PMG Port Moresby 55.51 107 P **P 07 58 51.7 +0.5**
PMG pmax pmax
comp=Z,28nm,0.8s
PMG Port Moresby 55.51 107 P **P 07 58 51.7 +0.5**
comp=Z,28nm,0.8s,mb5.3,baz=292,slow=5.9,SNR=6.6
PMG Port Moresby 55.51 107 *e*P **P 07 58 51.7 +0.5**
comp=Z,27nm,0.7s,mb5.4
ARU Arti 55.87 337 P **P 07 58 51.9 -1.3**
comp=Z,203nm,1.4s,mb6.0,SNR=16
ARU Arti 55.87 337 ⇓*i*P **P 07 58 46.6 -6.6**
ARU *e* 07 59 44.2
ARU *e*S **S 08 06 28.8 -8.5**
ARU *e* 08 08 31.3
ARU pmax pmax
comp=Z,48nm,1.2s,mb5.4
ARU MLR MLR
comp=Z,2μm,21.0s,MS5.3
ARU MLR MLR
comp=N,2μm,20.0s,MS5.2
ARU MLR MLR
comp=E,900nm,19.0s,MS5.2
YSS Yuzh-Sakhalins 56.74 38 ⇓*i*P **P 07 59 05.3 +5.7**
YSS *e* 07 59 20.3
YSS S **S 08 07 03.0 +14**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
KIV Kislovodsk 57.32 318 *i* P **P 07 59 02.3 -1.5**
KIV *e* 07 59 58.7
KIV *e*S **S 08 06 56.0 -0.5**
KIV pmax pmax
comp=Z,66nm,1.4s,mb5.5
KIV MLR MLR
comp=Z,800nm,19.0s,MS4.8
KIV Kislovodsk 57.32 318 *e*P **P 07 59 02.5 -1.3**
comp=Z,45nm,0.8s,mb5.5
KIV LR LR
comp=Z,258nm,22.0s,MS4.3
KMBO Kilima Mbogo 57.46 264 *e*P **P 07 59 05.4 +0.2**
KMBO pmax pmax
comp=Z,30nm,1.0s
KMBO MLR MLR
comp=Z,3μm,20.0s
KMBO Kilima Mbogo 57.46 264 P **P 07 59 05.0 -0.2**
comp=Z,12nm,0.8s,mb5.0,baz=53,slow=8.5,SNR=23
KMBO LR LR 08 20 44.0
comp=Z,3μm,19.9s,MS5.3,baz=91,slow=33
KMBO Kilima Mbogo 57.46 264 *e*P **P 07 59 05.4 +0.2**
comp=Z,30nm,1.0s,mb5.3
KMBO LR LR
comp=Z,3μm,20.0s,MS5.3
GOF Gofitskoye 57.53 319 ⇑*i*P **P 07 59 07.0 +1.8**
GOF pmax pmax
comp=Z,40nm,1.0s,mb5.4
GOF MLR MLR
comp=Z,3μm,16.0s,MS5.5
ASF Jabal al Asfar 58.23 303 P **P 07 59 09.5 -0.8**
comp=Z,7.9nm,0.8s,mb4.8,baz=344,slow=2.3,SNR=8.3
ASF LR LR 08 27 25.2
comp=Z,1μm,19.5s,MS5.0,baz=127,slow=39
ASF Jabal al Asfar 58.23 303 P **P 07 59 09.5 -0.8**
ASF LR LR 08 27 25.2
CTA Charters Tower 58.29 119 *e*P **P 07 59 10.7 -0.2**
comp=Z,7.3nm,0.9s,mb4.7
CTA Charters Tower 58.29 119 *e*P **P 07 59 10.7 -0.2**
CTA pmax pmax
comp=Z,7.0nm,0.9s
CTA Charters Tower 58.29 119 P **P 07 59 10.6 -0.2**
comp=Z,5.3nm,1.0s,mb4.5,baz=270,slow=13,SNR=6.4
CTA LR LR 08 25 05.8
comp=Z,2μm,21.5s,MS5.2,baz=293,slow=37
CTAO Charters Tower 58.29 119 *e*P **P 07 59 10.4 -0.5**
CTAO pmax pmax
comp=Z,13nm,1.0s,mb4.9
CTAO Charters Tower 58.29 119 *e*P **P 07 59 10.4 -0.5**
comp=Z,13nm,1.0s,mb4.9

MALT Malatya 58.47 310 *e*P **P 07 59 10.6 -1.3**
MALT pmax pmax
comp=Z,16nm,1.0s,mb5.0
MALT Malatya 58.47 310 *e*P **P 07 59 10.6 -1.3**
comp=Z,16nm,1.0s,mb5.0
SOKR Solikamsk 58.78 339 ⇓*i*P **P 07 59 12.3 -1.5**
SOKR pmax pmax
comp=Z,100nm,1.2s,mb5.7
SOKR MLR MLR
comp=Z,3μm,21.0s,MS5.3
SOC Sochi 59.18 316 *e*P **P 07 59 14.9 -1.9**
SOC *e* 08 00 02.7
SOC *e* 08 01 22.4
SOC *e*S **S 08 07 17.8 -3.2**
SOC *e*SS SS 08 11 15.9 -1.2
SOC pmax pmax
comp=N,5.0nm,0.5s
SOC pmax pmax
comp=Z,18nm,0.5s,mb5.4
SOC pmax pmax
comp=E,29nm,0.7s
SOC MLR MLR
comp=Z,962nm,22.0s,MS4.9
SOC MLR MLR
comp=N,840nm,24.0s,MS4.9
SOC MLR MLR
comp=E,740nm,21.0s,MS4.9
EIL Elat 59.44 300 LR LR 08 25 24.6
comp=E,2μm,20.6s,MS5.3,baz=96,slow=37
EIL Elat 59.44 300 *e*P **P 07 59 18.5 -0.3**
comp=E,42nm,1.3s,mb5.3
YAK Yakutsk 59.95 18 *e*P **P 07 59 20.3 -1.5**
YAK *e**PP pP 07 59 29.6 -0.4
YAK *e* 08 00 01.6
YAK *e*S **S 08 07 32.9 +2.3**
YAK pmax pmax
comp=Z,47nm,0.9s,mb5.5
YAK pmax pmax
comp=N,29nm,1.1s
YAK pmax pmax
comp=E,26nm,1.2s
YAK smax
comp=N,4.0nm,1.2s
YAK MLR MLR
comp=N,900nm,13.0s,MS5.3
YAK MLR MLR
comp=E,1μm,13.0s,MS5.3
YAK MLR MLR
comp=Z,1μm,13.0s,MS5.2
YAK Yakutsk 59.95 18 *e*P **P 07 59 19.0 -2.8**
comp=Z,107nm,0.9s,mb5.9
STKA Stephens Creek 60.10 134 *e*P **P 07 59 22.4 -0.9**
comp=Z,7.2nm,0.8s,mb4.8
STKA Stephens Creek 60.10 134 P **P 07 59 21.8 -1.5**
comp=Z,8.6nm,0.7s,mb4.9,baz=312,slow=6.8,SNR=16
STKA LR LR 08 30 26.5
comp=Z,2μm,18.4s,MS5.3,baz=54,slow=41
ANN Anapa 61.14 317 *e*P **P 07 59 29.0 -1.1**
ANN pmax pmax
comp=Z,54nm,1.2s,mb5.5
ANN MLR MLR
comp=N,1μm,23.0s,MS5.2
ANN MLR MLR
comp=E,2μm,23.0s,MS5.2
ANN MLR MLR
comp=Z,344nm,23.0s,MS4.4
VRSR Storozhevoye 62.37 324 *e*P **P 07 59 38.1 -0.2**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,1.0s
VRSR MLR MLR
comp=Z,1μm,20.4s,MS5.1
VRSR MLR MLR
comp=N,1μm,18.2s,MS5.1
VRSR MLR MLR
comp=E,860nm,23.1s,MS5.1
BRTR Keskin Array B 62.43 311 P **P 07 59 36.9 -2.0**
BRTR pmax pmax
comp=Z,6.0nm,0.7s
BRTR Keskin Array B 62.43 311 P **P 07 59 36.9 -2.1**
comp=Z,6.4nm,0.7s,mb4.9,baz=124,slow=6.9,SNR=19
SIM Simferopol' 63.43 317 P **P 07 59 47.3 +1.9**
SIM pmax pmax
comp=Z,22nm,1.1s,mb5.2
SIM MLR MLR
comp=Z,1μm,24.0s,MS5.1
MBAR Mbarara 63.80 265 *e*P **P 07 59 49.5 +1.1**
MBAR pmax pmax
comp=Z,31nm,1.2s,mb5.2
MBAR Mbarara 63.80 265 *e*P **P 07 59 49.5 +1.1**
comp=Z,31nm,1.2s,mb5.2
MOS Moscow 65.07 329 *e*P **P 07 59 53.7 -2.2**
MOS *e* 08 00 27.2
MOS *e*S S 08 08 31.9 -3.1
MOS pmax pmax
comp=Z,181nm,1.3s,mb5.9
MOS MLR MLR
comp=Z,3μm,19.0s,MS5.5
MOS MLR MLR
comp=E,2μm,19.4s
MOS Moscow 65.07 329 *e*P **P 07 59 54.7 -1.2**
OBN Obninsk 65.37 328 ⇓*i*P **P 07 59 54.0 -3.9**
OBN *e* 08 02 20.2
OBN *e*S S 08 08 34.1 -4.6
OBN pmax pmax
comp=Z,135nm,1.6s,mb5.7
OBN MLR MLR
comp=Z,1μm,20.0s,MS5.2
OBN Obninsk 65.37 328 *e*P **P 07 59 54.0 -3.9**
comp=Z,123nm,1.2s,mb5.8
MA2 Magadan 66.72 28 *e*P **P 08 00 06.3 -0.1**
MA2 pmax pmax
comp=Z,20nm,0.8s,mb5.2
MA2 Magadan 66.72 28 *e*P **P 08 00 06.7 +0.2**
comp=Z,36nm,0.8s,mb5.5
TIXI Tiksi 67.19 11 ⇑*i*P **P 08 00 07.3 -2.0**
TIXI pmax pmax
comp=Z,153nm,1.6s,mb5.8
TIXI MLR MLR
comp=Z,2μm,14.0s,MS5.4
TIXI Tiksi 67.19 11 *i* P **P 08 00 07.2 -2.1**
CNB Canberra Magne 67.43 133 *e*P **P 08 00 10.2 -1.1**
comp=Z,137nm,1.2s,mb5.9
KIS Kishinev 67.52 318 *e* **P 08 00 13.0 +1.3**
IDI Anoyia 68.58 305 P **P 08 00 17.5 -1.0**
comp=Z,20nm,0.6s,mb5.2,baz=74,slow=6.2,SNR=15
SEY Seymchan 68.88 25 *e*P **P 08 00 20.9 +1.0**
SEY *e* 08 00 45.9
SEY 08 02 55.3
SEY *e*PPP PPP 08 04 36.5 +4.2
SEY *e*S S 08 09 25.0 +4.1
SEY 08 10 13.2
SEY SS SS 08 13 50.6 +2.4
SEY pmax pmax
comp=E,40nm,0.9s
SEY pmax pmax
comp=Z,70nm,0.9s,mb5.6
MLR Muntele Rosu 69.17 316 P **P 08 00 20.6 -1.4**
comp=Z,108nm,1.4s,mb5.6,baz=68,slow=4.8,SNR=15
MLR LR LR 08 36 18.1
comp=Z,1μm,19.2s,MS5.1,baz=242,slow=41
LSZ Lusaka 69.31 250 *e*P **P 08 00 24.4 +1.1**
LSZ pmax pmax
comp=Z,18nm,0.9s,mb5.0
LSZ Lusaka 69.31 250 *e*P **P 08 00 24.4 +1.0**
comp=Z,18nm,0.9s,mb5.0
MNK Minsk 69.95 325 *e*P **P 08 00 22.0 -4.6**
BOLS Boljevac 71.74 313 ⇑*i*P **P 08 00 36.3 -1.3**
KWP Kalwaria 72.03 320 *e*P **P 08 00 38.7 -0.5**
KOLS Kolonicke sedl 72.20 319 *e*P **P 08 00 39.6 -0.7**
SUW Suwalki 72.50 324 *e*P **P 08 00 40.8 -1.1**
FINES FINESS Array B 72.70 332 P **P 08 00 40.8 -2.1**
comp=Z,16nm,0.7s,mb5.0,baz=104,slow=4.8,SNR=26
FINES LR LR 08 38 43.3
comp=Z,935nm,19.8s,MS5.1,baz=285,slow=41
CRVS Cervenica-Dubn 72.73 319 *i* P **P 08 00 48.4 +5.0**
CRVS Cervenica-Dubn 72.73 319 *i* **P 08 00 48.4 +5.0**
KAF Kangasniemi 72.78 333 *e*p **P 08 00 41.6 -1.8**
comp=Z,2.4nm,0.4s,mb4.5
KAF Kangasniemi 72.78 333 *e*P **P 08 00 41.6 -1.8**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
NIE Niedzica 73.54 319 *e*P **P 08 00 48.6 +0.5**

PSZ Piszkesteto 73.64 318 *e*P **P 08 00 47.6 -1.1**
PSZ pmax pmax
comp=Z,68nm,1.6s,mb5.3
PSZ Piszkesteto 73.64 318 *e*P **P 08 00 47.6 -1.1**
comp=Z,68nm,1.6s,mb5.3
OJC Ojcow 73.97 320 *e*P **P 08 00 50.4 -0.2**
LBTB Lobatse 74.29 241 *e*P **P 08 00 53.5 +0.6**
LBTB pmax pmax
comp=Z,24nm,0.9s,mb5.1
LBTB Lobatse 74.29 241 *e*P **P 08 00 53.5 +0.6**
comp=Z,24nm,0.9s,mb5.1
PKSM Moragy 74.33 316 *e*P **P 08 00 54.1 +1.4**
VYHS Vyhne 74.41 318 *i* P **P 08 00 52.8 -0.3**
KEV Kevo 74.82 341 *e*p **P 08 00 54.8 -0.3**
comp=Z,1.0nm,0.4s,mb4.1
KEV Kevo 74.82 341 *e*P **P 08 00 54.8 -0.3**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
OKC Ostrava-Krasne 74.99 319 *e*P **P 08 00 56.5 0.0**
ARCES ARCESS Array B 75.25 340 P **P 08 00 56.1 -1.5**
ARCES pmax pmax
comp=Z,7.0nm,0.6s
ARCES MLR MLR
comp=Z,2μm,20.8s
ARCES ARCESS Array B 75.25 340 P **P 08 00 56.1 -1.5**
comp=Z,6.7nm,0.6s,mb4.7,baz=95,slow=6.0,SNR=19
ARCES LR LR 08 36 58.4
comp=Z,2μm,20.8s,MS5.5,baz=115,slow=38
MORC Moravsky Berou 75.37 319 *e*P **P 08 00 57.6 -1.1**
MORC pmax pmax
comp=Z,52nm,1.3s,mb5.3
MORC Moravsky Berou 75.37 319 *e*P **P 08 00 57.6 -1.1**
comp=Z,52nm,1.3s,mb5.3
ZST Bratislava 75.53 318 *e*P **P 08 00 59.1 -0.5**
BOSA Boshof 75.63 238 *e*P **P 08 01 01.2 +0.6**
BOSA pmax pmax
comp=Z,30nm,1.0s,mb5.2
BOSA Boshof 75.63 238 *e*P **P 08 01 01.1 +0.6**
comp=Z,30nm,1.0s,mb5.2
KTK1 Kautokeino 75.88 339 *e*P **P 08 01 02.0 +0.8**
comp=Z,86nm,1.7s,mb5.4
KTK1 Kautokeino 75.88 339 *e*P **P 08 01 00.9 -0.2**
KTK1 AMb AMB 08 01 05.5
comp=Z,86nm,1.7s,mb5.4
KSP Ksiaz 76.26 320 *e*P **P 08 01 03.6 -0.1**
KSP Ksiaz 76.26 320 *e*P **P 08 01 04.3 +0.6**
GOLS Golise 76.41 315 *e*P **P 08 01 05.5 +0.8**
UPC Upice 76.41 320 *e*P **P 08 01 04.5 0.0**
PERS Pernice 76.79 316 *e*P **P 08 01 07.2 +0.5**
PRU Pruhonice 77.33 319 *e*P **P 08 01 10.1 +0.5**
PVCC Panska Ves 77.33 320 *e*P pP 08 01 15.5 -2.5
PVCC Panska Ves 77.33 320 *e*pP pP 08 01 15.5 -2.5
MOA Molln 77.42 317 ⇓*i*P **P 08 01 05.9 -4.3**
comp=Z,21nm,1.1s,mb5.0
TRO Tromso 77.51 340 *e*P **P 08 01 09.8 -0.4**
comp=Z,76nm,1.3s,mb5.5
TRO Tromso 77.51 340 *e*P **P 08 01 09.8 -0.4**
TRO AMb AMB 08 01 15.6
comp=Z,76nm,1.3s,mb5.5
BRG Berggiesshubel 77.75 320 *i* P **P 08 01 11.9 0.0**
BRG *i* pP 08 01 18.6 -1.7
BRG pmax pmax
comp=Z,46nm,1.5s,mb5.2
BRG MLR MLR
comp=Z,1μm,18.2s,MS5.2
BRG Berggiesshubel 77.75 320 *i* P **P 08 01 11.9 0.0**
comp=Z,46nm,1.5s,mb5.2
BRG *i* pP 08 01 18.6 -1.7
BRG LR LR
comp=Z,1μm,18.2s,MS5.2
GEC2 GERESS Array S 77.83 318 *e*P **P 08 01 11.3 -1.1**
GEC2 pmax pmax
comp=Z,48nm,1.3s,mb5.3
GEC2 GERESS Array S 77.83 318 *e*P **P 08 01 11.3 -1.1**
comp=Z,48nm,1.3s,mb5.3
GERES GERESS Array B 77.83 318 P **P 08 01 11.4 -1.0**
GERES pmax pmax
comp=Z,9.0nm,0.7s
GERES GERESS Array B 77.83 318 P **P 08 01 11.4 -1.0**
comp=Z,9.2nm,0.7s,mb4.8,baz=90,slow=5.3,SNR=17
KHC Kasperske Hory 77.92 318 *e*P **P 08 01 13.0 +0.1**
KHC *e* 08 01 19.0
KHC Kasperske Hory 77.92 318 *i* P **P 08 01 13.3 +0.4**
KHC Kasperske Hory 77.92 318 *e*P **P 08 01 13.0 +0.1**
KHC pP pP 08 01 19.0 -2.2
RUE Ruedersdorf 77.92 322 *e*P **P 08 01 12.0 -0.8**
comp=Z,81nm,1.1s,mb5.6
KBA Koelnbreinsper 78.02 316 ⇑*i*P **P 08 01 15.4 +1.9**
comp=Z,24nm,1.0s,mb5.1
KBA Koelnbreinsper 78.02 316 ⇑*i*P **P 08 01 15.4 +1.9**
KBA pmax pmax
comp=Z,24nm,1.0s,mb5.1
CLL Collm 78.36 321 ⇑*i*P **P 08 01 15.4 +0.1**
CLL *i* 08 01 20.6
CLL pmax pmax
comp=Z,27nm,1.4s,mb5.0
CLL MLR MLR
comp=Z,1μm,18.3s,MS5.2
CLL Collm 78.36 321 ⇑*i*P **P 08 01 15.4 +0.1**
comp=Z,27nm,1.4s,mb5.0
CLL *i* 08 01 20.6
CLL LR LR
comp=Z,1μm,18.3s,MS5.2
CLL Collm 78.36 321 ⇑P **P 08 01 15.4 +0.1**
comp=Z,logA/T=1.3,mb5.0
CLL *i* *PP pP 08 01 20.6 -3.0
WET Wettzell 78.38 318 *e*P **P 08 01 14.3 -1.1**
WET pmax pmax
comp=Z,39nm,1.3s,mb5.2
WET Wettzell 78.38 318 *e*P **P 08 01 14.3 -1.1**
comp=Z,39nm,1.3s,mb5.2
HFS Hagfors 78.45 330 P **P 08 01 14.9 -0.7**
baz=117,slow=6.4
MAW Mawson 78.57 192 *e*P **P 08 01 17.7 +1.6**
comp=Z,13nm,0.9s,mb4.9
MAW Mawson 78.57 192 P **P 08 01 14.5 -1.6**
comp=Z,5.0nm,0.7s,mb4.5,baz=346,slow=4.2,SNR=2.6
MAW LR LR 08 31 04.2
comp=Z,767nm,18.8s,MS5.1,baz=45,slow=32
MOR8 Moi Rana 78.66 336 *e*P **P 08 01 17.5 +0.8**
comp=Z,65nm,1.7s,mb5.3
MOR8 Moi Rana 78.66 336 *e*P **P 08 01 17.5 +0.8**
MOR8 AMb AMB 08 01 29.3
comp=Z,65nm,1.7s,mb5.3
NKC Novy Kostel 78.68 320 *e*P **P 08 01 17.6 +0.5**
WTTA Wattenberg 79.18 317 ⇑*i*P **P 08 01 21.2 +1.3**
comp=Z,73nm,1.5s,mb5.4
WTTA Wattenberg 79.18 317 ⇑*i*P **P 08 01 21.2 +1.3**
WTTA pmax pmax
comp=Z,73nm,1.5s,mb5.4
LOF Lofoten 79.22 338 *e*P **P 08 01 22.5 +2.8**
comp=Z,91nm,1.8s,mb5.4
LOF Lofoten 79.22 338 *e*P **P 08 01 22.5 +2.8**
LOF AMb AMB 08 01 30.7
comp=Z,91nm,1.8s,mb5.4
MOX Moxa 79.22 320 *e*P **P 08 01 21.4 +1.4**
MOX pmax pmax
comp=Z,42nm,1.6s,mb5.1
MOX MLR MLR
comp=Z,800nm,19.0s,MS5.1
MOX Moxa 79.22 320 *e*P **P 08 01 21.4 +1.4**
comp=Z,42nm,1.6s,mb5.1
MOX LR LR
comp=Z,800nm,19.0s,MS5.1
MOX Moxa 79.22 320 *i* P **P 08 01 21.4 +1.4**
comp=Z,logA/T=1.4,mb5.1
MOX L 08 42 53.0
WATA Walderalm 79.22 317 ⇓*i*P **P 08 01 19.0 -1.1**
comp=Z,28nm,1.3s,mb5.0
WATA Walderalm 79.22 317 ⇓*i*P **P 08 01 19.0 -1.1**
WATA pmax pmax
comp=Z,28nm,1.3s,mb5.0
FUR Furstenfeldbru 79.43 317 *e*P **P 08 01 19.6 -1.6**
GRA1 Grafenberg Arr 79.47 319 *e*P **P 08 01 20.7 -0.6**
comp=Z,53nm,1.3s,mb5.3
GRF Grafenberg Arr 79.47 319 *e*P **P 08 01 20.7 -0.6**
GRF pmax pmax
comp=Z,53nm,1.3s,mb5.3
GRF Grafenberg Arr 79.47 319 *e*P **P 08 01 20.7 -0.6**
GRF pmax pmax
comp=Z,53nm,1.3s,mb5.3
GRF Grafenberg Arr 79.47 319 *e*P **P 08 01 20.7 -0.6**
comp=Z,53nm,1.3s,mb5.3
SQTA Sankt Quirin 79.48 317 ⇓*i*P **P 08 01 20.8 -0.7**
comp=Z,16nm,1.0s,mb4.9
SQTA Sankt Quirin 79.48 317 ⇓*i*P **P 08 01 20.8 -0.7**

SQTA pmax pmax
comp=Z,16nm,1.0s,mb4.9
MOTA Moosalm 79.55 317 ⇓*iP* **P 08 01 20.8 -1.0**
comp=Z,18nm,1.1s,mb4.9
MOTA Moosalm 79.55 317 ⇓*iP* **P 08 01 20.8 -1.0**
MOTA pmax pmax
comp=Z,18nm,1.1s,mb4.9
NSS Namsos 79.56 334 *eP* **P 08 01 21.8 +0.3**
comp=Z,118nm,1.7s,mb5.5
NSS Namsos 79.56 334 *eP* **P 08 01 21.8 +0.3**
NSS AMb AMB 08 01 31.9
comp=Z,118nm,1.7s,mb5.5
NB2 NORSAR Subarra 79.72 331 P **P 08 01 21.7 -0.8**
comp=Z,28nm,0.9s,mb5.2,baz=92,slow=5.8
NB2 NORSAR Subarra 79.72 331 P **P 08 01 21.7 -0.8**
baz=92,slow=5.9
NOA NORSAR Array B 79.72 331 P **P 08 01 21.6 -0.9**
comp=Z,28nm,1.1s,mb5.1,baz=93,slow=5.6,SNR=21
NOA LR LR 08 41 43.2
comp=Z,786nm,20.0s,MS5.0,baz=115,slow=40
NAO01 NORSAR Array S 79.87 330 *eP* **P 08 01 21.4 -1.9**
comp=Z,25nm,0.9s,mb5.1
CLZ Clausthal 80.01 321 *eP* **P 08 01 23.2 -1.0**
comp=Z,49nm,1.3s,mb5.3
SUR Sutherland 80.38 235 *eP* **P 08 01 28.0 +1.4**
comp=Z,50nm,1.0s,mb5.4
DAVA Damuels 80.38 317 ⇑*iP* **P 08 01 25.2 -1.1**
comp=Z,45nm,1.2s,mb5.3
MUD Monsted U'grnd 80.70 326 *i* P **P 08 01 31.7 +3.9**
MUD pmax pmax
comp=Z,45nm,0.9s,mb5.4
MUD Monsted U'grnd 80.70 326 *i* P **P 08 01 31.7 +3.9**
comp=Z,45nm,0.9s,mb5.4
TOD Tromm 81.04 319 *eP* **P 08 01 29.6 -0.1**
PGF Pioggiola 81.16 312 *eP* **P 08 01 30.1 -0.4**
comp=Z,171nm,1.5s,mb5.5
PGF Pioggiola 81.16 312 *eP* **P 08 01 30.1 -0.4**
PGF pmax pmax
comp=Z,86nm,1.5s,mb5.5
TNS Taunus Mts 81.25 320 *eP* **P 08 01 29.9 -0.9**
BFO Black Forest 81.39 318 *eP* **P 08 01 30.1 -1.5**
BFO pmax pmax
comp=Z,19nm,1.3s,mb4.9
BFO Black Forest 81.39 318 *eP* **P 08 01 30.1 -1.5**
comp=Z,19nm,1.3s,mb4.9
DRV Dumont d'Urvil 81.39 163 S S 08 11 41.0 +1.8
DRV SS SS 08 17 02.0 +3.2
DRV L 08 23 00.0
FELD Feldberg 81.63 317 *eP* **P 08 01 34.1 +1.3**
LANF Langenberg 81.71 318 *eP* **P 08 01 35.0 +1.8**
ABH Alteburg 81.84 319 *eP* **P 08 01 36.1 +2.2**
LIBD Limburg 81.89 318 *eP* **P 08 01 37.8 +3.6**
CDF Champ du Feu 82.09 318 *eP* **P 08 01 34.5 -0.7**
RUP Ruppelstein 82.17 319 *eP* **P 08 01 37.4 +1.8**
ECH Echery 82.18 318 *eP* **P 08 01 33.9 -1.8**
MOF Molkenrain 82.22 317 *eP* **P 08 01 33.0 -2.9**
SBF Sospel 82.24 313 *eP* **P 08 01 35.5 -0.6**
comp=Z,70nm,0.8s,mb5.4
SBF Sospel 82.24 313 *eP* **P 08 01 35.5 -0.6**
SBF pmax pmax
comp=Z,35nm,0.8s,mb5.3
LOMF Lomont 82.45 317 *eP* **P 08 01 38.2 +1.1**
LPG La Plagne 82.62 315 *eP* **P 08 01 38.1 +0.1**
comp=Z,134nm,1.3s,mb5.5
LPG La Plagne 82.62 315 *eP* **P 08 01 38.1 +0.1**
LPG pmax pmax
comp=Z,67nm,1.3s,mb5.5
LPL La Plagne 82.63 315 *eP* **P 08 01 38.1 0.0**
comp=Z,54nm,0.8s,mb5.3
LPL La Plagne 82.63 315 *eP* **P 08 01 38.1 0.0**
LPL pmax pmax
comp=Z,27nm,0.8s,mb5.3
MBDF Montbardon 82.66 314 *eP* **P 08 01 38.1 -0.1**
BNI Bardonecchia 82.70 314 *eP* **P 08 01 41.1 +2.6**
BNI pmax pmax
comp=Z,36nm,1.1s,mb5.3
BNI Bardonecchia 82.70 314 *eP* **P 08 01 41.1 +2.7**
comp=Z,36nm,1.1s,mb5.3
HAU Haudompre 82.73 317 *eP* **P 08 01 37.8 -0.8**
comp=Z,60nm,1.1s,mb5.2
HAU *eR*
comp=Z,489nm,20.0s
HAU Haudompre 82.73 317 *eP* **P 08 01 37.8 -0.8**
HAU pmax pmax
comp=Z,30nm,1.1s,mb5.2
HAU MLR MLR
comp=Z,490nm,20.0s,MS4.9
FRF La Foret Royal 82.83 313 *eP* **P 08 01 38.9 -0.2**
LMR La Mourre 82.94 313 *eP* **P 08 01 39.4 -0.3**
THEF They Montfort 82.96 318 *eP* **P 08 01 41.3 +1.6**
CABF La Chapelle 83.01 316 *eP* **P 08 01 39.9 -0.1**
comp=Z,39nm,0.9s,mb5.1
CABF La Chapelle 83.01 316 *eP* **P 08 01 39.9 -0.1**
CABF pmax pmax
comp=Z,20nm,0.9s,mb5.2
ORIF Oris-en-Rattie 83.28 314 *eP* **P 08 01 41.3 -0.1**
comp=Z,26nm,0.9s,mb5.0
ORIF *eR*
comp=Z,1μm,21.5s
SMRF Simiane la Rot 83.57 313 *eP* **P 08 01 43.1 +0.1**
GIVF Givet 83.58 320 *eP* **P 08 01 42.6 -0.3**
BAIF Baives 83.98 320 *eP* **P 08 01 44.7 -0.2**
VIVF Saint-Julien-l 84.14 314 *eP* **P 08 01 45.4 -0.4**
comp=Z,100nm,1.5s,mb5.4
VIVF Saint-Julien-l 84.14 314 *eP* **P 08 01 45.4 -0.4**
VIVF pmax pmax
comp=Z,50nm,1.5s,mb5.4
SMF Signal de Mont 84.55 316 *eP* **P 08 01 47.3 -0.5**
SSF Saint Saulge 84.73 317 *eP* **P 08 01 48.4 -0.3**
SSF pmax pmax
comp=Z,23nm,1.2s,mb5.2
SSF Saint Saulge 84.73 317 *eP* **P 08 01 48.4 -0.3**
comp=Z,23nm,1.2s,mb5.2
PLDF La Plantade 84.77 316 *eP* **P 08 01 50.4 +1.5**
AVF Avril sur Loir 84.86 316 *eP* **P 08 01 48.8 -0.6**
comp=Z,80nm,1.4s,mb5.4
AVF Avril sur Loir 84.86 316 *eP* **P 08 01 48.8 -0.6**
AVF pmax pmax
comp=Z,40nm,1.4s,mb5.4
AGO Saint Agoulin 85.10 316 *eP* **P 08 01 50.9 +0.3**
BGF Bois d'Agland 85.24 316 *eP* **P 08 01 51.1 -0.2**
comp=Z,135nm,1.5s,mb5.6
BGF Bois d'Agland 85.24 316 *eP* **P 08 01 51.1 -0.2**
BGF pmax pmax
comp=Z,68nm,1.5s,mb5.6
SYO Syowa Base 85.45 197 ⇑P **P 08 01 52.6 +0.8**
SYO Syowa Base 85.45 197 ⇓pP pP 08 02 03.8 +3.5
TCF Toulx Ste Croi 85.71 316 *eP* **P 08 01 53.6 0.0**
CAF Calviac 85.97 315 *eP* **P 08 01 55.1 +0.1**
comp=Z,61nm,1.5s,mb5.3
CAF Calviac 85.97 315 *eP* **P 08 01 55.1 +0.1**
CAF pmax pmax
comp=Z,30nm,1.5s,mb5.3
RPZ Rata Peaks 86.05 135 P **P 08 01 56.5 +1.1**
comp=Z,5.7nm,0.8s,mb4.9,baz=286,slow=13,SNR=2.9
RPZ LR LR 08 40 10.1
comp=Z,863nm,20.4s,MS5.1,baz=271,slow=36
MTLF Montolieu 86.06 313 *eP* **P 08 01 55.3 -0.2**
TNA Tin City 86.12 24 *eP* **P 08 01 55.5 +0.2**
RJF Les Rejaudoux 86.31 315 *eP* **P 08 01 56.9 +0.3**
RJF *eR*
comp=Z,743nm,21.2s
QRZ Quartz Range 86.40 132 P **P 08 01 58.1 +0.9**
JMIC Jan Mayen 86.69 341 LR LR 08 47 12.2
comp=Z,891nm,20.7s,MS5.2,baz=231,slow=40
THZ Tophouse 86.89 133 P **P 08 02 00.1 +0.5**
LFF La Frestale 86.90 315 *eP* **P 08 01 59.9 +0.3**
comp=Z,53nm,1.1s,mb5.4
LFF La Frestale 86.90 315 *eP* **P 08 01 59.9 +0.3**
LFF pmax pmax
comp=Z,27nm,1.1s,mb5.4
LDF La Druitiere 86.97 318 *eP* **P 08 01 59.4 -0.4**
comp=Z,164nm,1.5s,mb5.7
LDF La Druitiere 86.97 318 *eP* **P 08 01 59.4 -0.4**
LDF pmax pmax
comp=Z,82nm,1.5s,mb5.7
FLN La Foliniere 87.18 319 *eP* **P 08 02 00.5 -0.3**
FLN *eR*
comp=Z,681nm,22.2s
MFF Saint Martin d 87.28 317 *eP* **P 08 02 01.0 -0.3**
comp=Z,64nm,1.4s,mb5.4
MFF Saint Martin d 87.28 317 *eP* **P 08 02 01.0 -0.3**
MFF pmax pmax
comp=Z,32nm,1.4s,mb5.4
GRR Gorron 87.48 318 *eP* **P 08 02 02.1 -0.2**

URZ Urewera 89.33 129 LR LR 08 39 45.7
comp=Z,732nm,21.2s,MS5.1,baz=228,slow=34
ESDC Sonseca Array 91.22 310 P **P 08 02 20.4 +0.4**
comp=Z,3.8nm,0.7s,mb4.8,baz=57,slow=4.5,SNR=14
VNDA Vanda 92.95 168 LR LR 08 42 15.6
comp=Z,778nm,18.5s,MS5.2,baz=306,slow=34
RSO Redoubt South 94.22 27 *eP* **P 08 02 32.8 -0.6**
SPU Mount Spurr 94.24 26 *eP* **P 08 02 33.9 +0.5**
MCK McKinley 94.42 23 *eP* **P 08 02 34.8 +0.6**
MCK pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
MCK McKinley 94.42 23 *eP* **P 08 02 34.8 +0.6**
comp=Z,8.5nm,1.1s,mb5.1
ILAR Eielson Array 94.70 22 P **P 08 02 35.9 +0.4**
ILAR 08 06 22.6
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 94.70 22 P **P 08 02 35.9 +0.4**
comp=Z,1.7nm,0.7s,mb4.6,baz=297,slow=4.2,SNR=20
ILAR PP PP 08 06 22.6 -3.7
comp=Z,0.8nm,0.7s,baz=291,slow=5.6,SNR=5.1
ILAR LR LR 08 49 17.8
comp=Z,1μm,18.4s,MS5.4,baz=134,slow=38
FIB Fire Island 95.07 26 *eP* **P 08 02 38.0 +0.8**
SLKM Skilak Lake 95.34 27 *eP* **P 08 02 39.3 +0.8**
SML Sawmill 95.56 25 *eP* **P 08 02 40.9 +1.4**
INK Inuvik 96.95 16 *eP* **P 08 02 46.2 +0.6**
INK pmax pmax
comp=Z,17nm,1.2s
INK Inuvik 96.95 16 P **P 08 02 46.1 +0.5**
comp=Z,6.3nm,0.8s,mb5.1,baz=297,slow=2.5,SNR=10
INK Inuvik 96.95 16 *eP* **P 08 02 46.2 +0.5**
comp=Z,18nm,1.2s,mb5.4
RES Resolute Bay 97.37 2 *eP* **P 08 02 47.3 -0.1**
RES pmax pmax
comp=Z,11nm,0.8s,mb5.3
RES Resolute Bay 97.37 2 *eP* **P 08 02 47.3 -0.1**
comp=Z,11nm,0.8s,mb5.3
QSPA South Pole Qui 97.81 180 P pP 08 02 57.0 -0.8
comp=Z,6.5nm,1.0s
DAWY Dawson 97.82 21 *eP* **P 08 02 50.5 +0.9**
DBIC Dimbokro 97.97 278 P **P 08 02 54.2 +2.7**
DBIC pmax pmax
comp=Z,5.0nm,0.9s
DBIC MLR MLR
comp=Z,2μm,19.2s
DBIC Dimbokro 97.97 278 P **P 08 02 54.2 +2.7**
comp=Z,5.2nm,0.9s,mb5.1,baz=2.9,slow=3.4,SNR=5.5
DBIC LR LR 08 46 57.0
comp=Z,2μm,19.2s,MS5.5,baz=65,slow=35
YKA Yellowknife Ar 106.39 13 P Pdif 08 03 29.3 +1.5
YKA 08 07 52.0
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 106.39 13 Pdiff Pdif 08 03 29.3 +1.5
comp=Z,0.3nm,0.9s,baz=333,slow=4.9,SNR=4.9
YKA PP PP 08 07 52.0 -3.4
comp=Z,1.1nm,0.8s,baz=334,slow=7.7,SNR=7.3
YKA Yellowknife Ar 106.39 13 Pdif Pdif 08 03 29.3 +1.5
YKA PP PP 08 07 52.0 -3.4
SCHQ Schefferville 115.50 348 PKP PKPdf 08 07 56.9 -3.1
comp=Z,2.9nm,1.0s,baz=212,slow=9.8,SNR=3.8
TBI Tubuai 117.27 112 *e*PS PS 08 18 55.7 +1.0
TBI *e*LR LR 08 43 41.9
comp=Z,853nm,35.0s
PPT Papeete 117.32 106 *e*LR LR 08 43 42.4
comp=Z,552nm,23.0s
MSO Missoula 120.04 22 *e*PKPdf PKPdf 08 08 06.1 -2.9
MOD Modoc 121.25 30 *e*PKPdf PKPdf 08 08 09.7 -1.7
BOZ Bozeman (W) 121.89 21 *e*PKIKP PKPdf 08 08 10.6 -2.0
LAO LASA Array 122.69 17 *e*PKPdf PKPdf 08 08 11.9 -2.1
YFT Old Faithful 123.20 21 *e*PKPdf PKPdf 08 08 15.7 +0.6
SNOW Snow King Moun 124.09 22 *e*PKPdf PKPdf 08 08 15.3 -1.6
NVAR Mina Array Bea 124.87 31 PKP PKPdf 08 08 15.3 -3.2
comp=Z,3.1nm,0.8s,baz=316,slow=0.1,SNR=14
PDAR Pinedale Array 125.12 21 PKP PKPdf 08 08 14.8 -4.2
comp=Z,5.5nm,1.1s,baz=43,slow=1.4,SNR=18
TAOE Nuku Hiva Isla 126.29 95 *e*LR LR 08 47 53.9
MSU Marysvale 127.71 26 *e*PKIKP PKPdf 08 08 21.8 -2.3
NEN Nelson 128.77 30 *e*PKPdf PKPdf 08 08 25.2 -1.0
PV10 Paradox Valley 129.13 24 *e*PKPdf PKPdf 08 08 24.8 -2.0
PV10 *e*PP PP 08 10 32.6 -2.2
PV01 Paradox Valley 129.53 23 PKPdf PKPdf 08 08 26.8 -0.7
KSU1 Kansas State U 132.17 11 *e*PKPdf PKPdf 08 08 29.9 -2.7
ANMO Albuquerque 133.13 23 PKIKP PKPdf 08 08 33.0 -1.4
ANMO pmax pmax
comp=Z,2.0nm,0.8s
ANMO Albuquerque 133.13 23 PKP PKPdf 08 08 33.0 -1.4
comp=Z,2.2nm,0.8s,baz=303,slow=2.3,SNR=13
CPRX Cap Rock 135.82 22 *e*PKPdf PKPdf 08 08 36.6 -2.8
CPRX *e*PP PP 08 11 14.2 -2.9
WVT Waverly 136.16 2 *e*PKPdf PKPdf 08 08 38.9 -1.1
WVT *e*SKP 08 12 13.7
GDL2 Guadalupe Moun 136.37 23 *e*PKPdf PKPdf 08 08 39.0 -1.4
MIAR Mount Ida 137.15 9 *e*PKIKP PKPdf 08 08 40.6 -1.2
TXAR Lajitas Array 139.18 24 PKhKP 08 08 36.4
comp=Z,0.4nm,0.5s,baz=204,slow=1.5,SNR=6.7
TXAR PKP PKPdf 08 08 41.9 -3.8
comp=Z,1.0nm,0.6s,baz=231,slow=0.3,SNR=9.6
TXAR PP PP 08 11 36.4 -2.0
comp=Z,1.7nm,1.0s,baz=342,slow=4.0,SNR=5.2
JCT Junction City 139.55 19 *e*PKIKP PKPdf 08 08 38.2 -8.1
JCT *e* 08 08 44.6
BAO Brasilia Array 142.22 255 P PKPdf 08 08 48.1 -3.4
PLCA Paso Flores 144.59 200 PKP PKPdf 08 08 50.4 -4.5
comp=Z,21nm,0.8s,baz=172,slow=2.3,SNR=21
PLCA Paso Flores 144.59 200 *e*PKPdf PKPdf 08 08 51.0 -3.9
MDZ Mendoza 150.58 210 *e*PKIKP PKPdf 08 09 10.2 +5.3
FCH Farellones 150.90 207 *eP* PKPdf 08 09 09.6 +4.2
CLCH Cerro Calan 150.96 207 *eP* PKPdf 08 09 09.8 +4.3
TEIG Tepich 151.94 5 *e*PKPbc PKPdf 08 09 11.9 +4.6
SDV Santo Domingo 157.47 317 *e*PKPdf PKPdf 08 09 13.3 -1.7
SDV *e*PKPab PKPab 08 09 45.5 +1.2
SAML Samuel 157.58 266 *e*PKPdf PKPdf 08 09 11.8 -3.4
LPAZ La Paz 160.81 243 *e*PKIKP PKPdf 08 09 17.3 -1.4
LPAZ La Paz 160.81 243 PKP PKPdf 08 08 32.6 -46
comp=Z,3.5nm,0.8s,baz=35,slow=3.7,SNR=12
LPAZ PKPab PKPab 08 09 17.1 -42
comp=Z,3.4nm,0.9s,baz=123,slow=2.9,SNR=4.5
OTAV Otavalo 169.07 317 *e*PKPdf PKPdf 08 09 24.6 -1.3

NEIC ***28*** *07:50:13.9±1.0, 51.93N×178.45E, h66km±11km, mb4.0/3, Error ellipse: s-maj=29.2km s-min=9.4km az=190.0*
IDC ***28*** *07:50:19.3±2.8, 52.13N×177.98E, h131km±37km, mb3.4/6, mb1 3.7/7, mb1mx3.5/21, mbtmp3.8/7, Error ellipse: s-maj=46.9km s-min=29.8km az=16.0*
ISC 28 07:50:12.8±1.4, 51.9N±0.3×178.4E±0.1, h73km±16km, n15, σ0°79/16, mb3.8/8, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**2.75**	**90**	P	**P**	**07 50 55.5**	**-0.2**
SMY	**Shemya**	**2.77**	**288**	P	**P**	**07 50 55.0**	**-0.9**
FX1	**Attu Island--F**	**3.35**	**288**	P	**P**	**07 51 07.2**	**+3.1**
	8.1nm,0.3s,baz=274,slow=21,SNR=35						
FX1				S	**S**	**07 51 43.0**	**+0.1**
	70nm,0.3s,baz=214,slow=21,SNR=46						
FX1	**Attu Island--F**	**3.35**	**288**	*eP*	**P**	**07 51 05.0**	**+0.9**
ILAR	**Eielson Array**	**21.92**	**41**	P	**P**	**07 55 01.2**	**+0.3**
	0.7nm,0.4s,mb3.3,baz=244,slow=8.3,SNR=21						
DAWY	**Dawson**	**24.90**	**45**	*eP*	**P**	**07 55 30.4**	**+0.7**
INK	**Inuvik**	**28.01**	**36**	*eP*	**P**	**07 55 57.9**	**-0.5**
	1.6nm,0.5s,mb3.8						
YKA	**Yellowknife Ar**	**36.10**	**46**	P	**P**	**07 57 09.5**	**+0.6**
	2.2nm,0.6s,mb4.3,baz=283,slow=8.2,SNR=60						
YKA	**Yellowknife Ar**	**36.10**	**46**	P	**P**	**07 57 09.5**	**+0.6**
NVAR	**Mina Array Bea**	**45.19**	**81**	P	**P**	**07 58 25.1**	**+1.3**
	0.5nm,0.5s,mb3.5,baz=286,slow=8.6,SNR=4.3						
FCC	**Fort Churchill**	**46.82**	**46**	P	**P**	**07 58 35.7**	**-0.7**
BW06	**Boulder Array**	**47.78**	**71**	P	**P**	**07 58 43.7**	**-0.5**
	0.7nm,0.7s,mb3.6						
PDAR	**Pinedale Array**	**47.78**	**71**	P	**P**	**07 58 43.9**	**-0.3**
	0.8nm,0.7s,mb3.7,baz=327,slow=3.7,SNR=5.3						
ARCES	**ARCESS Array B**	**57.23**	**349**	P	**P**	**07 59 50.3**	**-3.8**
	2.5nm,0.8s,mb4.3,baz=36,slow=7.8,SNR=4.0						
TXAR	**Lajitas Array**	**60.27**	**80**	P	**P**	**08 00 15.4**	**-0.4**
	0.4nm,0.7s,mb3.6,baz=313,slow=5.7,SNR=10.0						

IGQ 28 07:53:25.1, 1.68S×81.49W, h12km±8km, mb4.3, 6C-2D, Error ellipse: s-maj=8.8km s-min=6.2km az=23.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.13**	**56**	⇑P	Pb	07 53 45.2	-0.9
HOJA				S	Sb	07 53 58.1	-2.4
JAMA	**Jama**	**1.91**	**42**	P	Pn	07 53 59.0	+1.2
JAMA				S	Sn	07 54 19.9	-1.9
MAGD	**Magdalena**	**2.34**	**47**	P	Pn	07 54 07.0	+2.9
IGUA	**Igualata**	**2.85**	**86**	⇑P	Pn	07 54 12.4	+1.1
JUIV	**Juive**	**3.03**	**85**	P	Pn	07 54 15.7	+1.8
JUIV				S	Sn	07 54 51.8	+1.3
ARRY	**Arrayan**	**3.04**	**87**	⇑P	Pn	07 54 14.9	+1.0
ARRY				S	Sn	07 54 48.5	-2.1
RETU	**Refugio**	**3.05**	**86**	P	Pn	07 54 15.9	+1.8
PISA	**Pisayambo**	**3.16**	**79**	P	Pn	07 54 17.7	+2.0
NAS1	**Nasa**	**3.18**	**71**	P	Pn	07 54 18.1	+2.0
JUA2	**San Juan 2**	**3.23**	**63**	P	Pn	07 54 17.5	+0.8
JUA2				S	Sn	07 54 56.7	+1.3
TERV	**Terraza Guagua**	**3.25**	**63**	P	Pn	07 54 17.7	+0.8
VC1	**Cotopaxi 1**	**3.25**	**72**	⇑P	Pn	07 54 19.8	+2.8
PINO	**Pino**	**3.25**	**62**	P	Pn	07 54 17.2	+0.2
TAMB	**Tambo**	**3.27**	**73**	⇑P	Pn	07 54 19.9	+2.6
JOR1	**San Jorge 1**	**3.30**	**60**	P	Pn	07 54 16.6	-1.1
YANA	**Yana**	**3.30**	**62**	⇓P	Pn	07 54 18.7	+1.0
ANTI	**Antisana**	**3.54**	**70**	P	Pn	07 54 24.2	+3.1
ANTI				S	Sn	07 55 05.5	+2.1
COTA	**Cotacachi**	**3.73**	**58**	⇓P	Pn	07 54 25.7	+1.9
CAYR	**Refugio Cayamb**	**3.87**	**64**	⇑P	Pn	07 54 29.6	+3.9
CAYR				S	Sn	07 55 12.9	+1.4
CAYA	**Cayambe**	**3.91**	**64**	P	Pn	07 54 29.0	+2.8

IGQ 28 07:56:18.7, 0.89S×81.32W, h9km±5km, mb4.5, 7C-6D, Error ellipse: s-maj=6.8km s-min=5.1km az=15.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.79**	**102**	⇑P	Pb	07 56 33.1	-1.0
JAMA	**Jama**	**1.27**	**61**	⇑P	Pb	07 56 42.9	+0.6
JAMA				S	Sb	07 56 57.6	-1.0
MAGD	**Magdalena**	**1.74**	**62**	P	Pn	07 56 51.7	+2.4
IGUA	**Igualata**	**2.74**	**103**	⇓P	Pn	07 57 05.1	+1.4
IGUA				S	Sn	07 57 36.7	-0.6
JUA2	**San Juan 2**	**2.79**	**76**	⇓P	Pn	07 57 05.5	+1.2
TERV	**Terraza Guagua**	**2.80**	**75**	⇓P	Pn	07 57 05.3	+0.8
PINO	**Pino**	**2.80**	**75**	P	Pn	07 57 05.3	+0.8
JOR1	**San Jorge 1**	**2.82**	**72**	P	Pn	07 57 04.2	-0.5
YANA	**Yana**	**2.85**	**75**	⇑P	Pn	07 57 05.5	+0.4
NAS1	**Nasa**	**2.85**	**85**	⇑P	Pn	07 57 06.9	+1.7
CUSU	**Cusua**	**2.89**	**101**	P	Pn	07 57 07.4	+1.6
JUIV	**Juive**	**2.90**	**101**	P	Pn	07 57 07.7	+1.8
VC1	**Cotopaxi 1**	**2.92**	**85**	⇓P	Pn	07 57 08.7	+2.5
RETU	**Refugio**	**2.92**	**101**	P	Pn	07 57 08.4	+2.1
RETU				S	Sn	07 57 45.6	+3.7
ARRY	**Arrayan**	**2.93**	**102**	P	Pn	07 57 07.3	+1.0
ARRY				S	Sn	07 57 41.8	-0.1
PISA	**Pisayambo**	**2.94**	**93**	⇑P	Pn	07 57 08.8	+2.4
PATA	**Patacocha**	**2.95**	**102**	P	Pn	07 57 09.4	+2.8
TAMB	**Tambo**	**2.95**	**86**	⇑P	Pn	07 57 09.1	+2.4
ANTI	**Antisana**	**3.18**	**82**	⇓P	Pn	07 57 12.3	+2.4
COTA	**Cotacachi**	**3.21**	**68**	⇓P	Pn	07 57 11.6	+1.2
CAYR	**Refugio Cayamb**	**3.43**	**75**	P	Pn	07 57 16.9	+3.5
CAYR				S	Sn	07 57 56.3	+1.7
CAYA	**Cayambe**	**3.46**	**74**	⇑P	Pn	07 57 16.7	+2.8
CONE	**Cono NE Rev Vo**	**3.76**	**78**	P	Pn	07 57 23.1	+5.0

IDC 28 07:56:42.6±4.9, 15.04S×167.92E, mb4.1/4, mb1 4.4/4, mb1mx4.1/14, mbtmp4.1/4, Error ellipse: s-maj=262.2km s-min=29.3km az=145.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.36**	**256**	P	P	08 03 13.9	-2.3
	1.9nm,0.8s,baz=87,slow=8.4,SNR=6.6						
ASAR	**Alice Springs**	**33.15**	**250**	P	P	08 03 21.1	-1.9
	3.1nm,0.8s,baz=79,slow=8.6,SNR=15						
FITZ	**Fitzroy Crossi**	**40.58**	**260**	*eP*	P	08 04 24.8	-0.9
	9.4nm,0.9s						
FITZ				*e*		08 04 32.5	
ILAR	**Eielson Array**	**86.63**	**18**	P	P	08 09 27.6	-1.3
	0.7nm,0.8s,baz=234,slow=5.6,SNR=6.1						
YKA	**Yellowknife Ar**	**97.53**	**27**	P	P	08 10 18.2	-1.3
	0.4nm,0.8s,baz=254,slow=4.7,SNR=5.3						

NEIC ***28*** *08:00:29.8±0.7, 8.09N×94.16E, h30km, mb4.2/3, Error ellipse: s-maj=20.2km s-min=14.9km az=73.0*
IDC ***28*** *08:00:34.9±5.4, 8.33N×94.37E, h72km±48km, mb3.6/12, mb1 3.7/13, mb1mx3.6/21, mbtmp3.9/13, Error ellipse: s-maj=33.3km s-min=17.8km az=54.0*
ISC 28 08:00:28.0±0.7, 8.1N±0.1×94.2E±0.1, h30km, n21, σ1°19/19, mb3.9/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.26**	**24**	P	**P**	**08 03 10.6**	**+0.4**
	baz=210,slow=13,SNR=0.4						
LSA	**Lhasa**	**21.67**	**353**	*eP*	**P**	**08 05 19.7**	**+1.5**
	10nm,0.8s,mb4.3						
SONM	**Songino Array**	**40.92**	**13**	P	**P**	**08 08 09.1**	**-0.2**
	0.5nm,0.6s,mb3.4,baz=203,slow=11,SNR=2.2						
KURK	**Kurchatov**	**44.40**	**346**	*eP*	**P**	**08 08 39.2**	**+1.5**
	3.4nm,0.9s,mb4.1						
ZAL	**Zalesovo**	**46.33**	**352**	P	**P**	**08 08 51.2**	**-1.8**
	1.7nm,0.8s,mb4.0,baz=308,slow=15,SNR=4.1						
ZAL	**Zalesovo**	**46.33**	**352**	P	**P**	**08 08 51.2**	**-1.8**
WRA	**Warramunga Arr**	**48.33**	**126**	P	**P**	**08 09 08.8**	**-0.3**
	0.5nm,0.5s,mb3.9,baz=304,slow=8.6,SNR=8.1						
BVAR	**Borovoye Array**	**48.79**	**341**	P	**P**	**08 09 09.7**	**-2.5**
	0.3nm,0.5s,mb3.6,baz=124,slow=10,SNR=2.7						
ASAR	**Alice Springs**	**50.00**	**130**	P	**P**	**08 09 22.1**	**+0.2**
	0.6nm,0.9s,mb3.6,baz=306,slow=7.8,SNR=4.3						
KMBO	**Kilima Mbogo**	**57.53**	**263**	P	**P**	**08 10 19.8**	**+2.3**
	1.1nm,0.6s,mb4.0,baz=59,slow=14,SNR=4.7						
KMBO	**Kilima Mbogo**	**57.53**	**263**	*eP*	**P**	**08 10 18.7**	**+1.1**
	1.8nm,0.9s,mb4.1						
BRTR	**Keskin Array B**	**62.34**	**311**	P	**P**	**08 10 48.6**	**-1.6**
	0.9nm,0.8s,mb4.0,baz=90,slow=7.2,SNR=3.1						
FINES	**FINESS Array B**	**72.54**	**332**	P	**P**	**08 11 54.2**	**+0.3**
	2.7nm,0.9s,mb4.2,baz=113,slow=11,SNR=3.9						
GERES	**GERESS Array B**	**77.71**	**318**	P	**P**	**08 12 22.3**	**-1.3**
	1.3nm,0.8s,mb3.9,baz=72,slow=4.2,SNR=5.9						
HFS	**Hagfors**	**78.30**	**330**	P	**P**	**08 12 27.3**	**+0.7**
	1.2nm,0.6s,mb4.0,baz=79,slow=7.6,SNR=4.8						
NB2	**NORSAR Subarra**	**79.57**	**331**	P	**P**	**08 12 34.3**	**+0.8**
	1.1nm,0.9s,mb3.8,baz=92,slow=5.3						
NOA	**NORSAR Array B**	**79.57**	**331**	P	**P**	**08 12 34.7**	**+1.1**
	1.6nm,0.9s,mb4.0,baz=91,slow=6.0,SNR=3.8						
NOA	**NORSAR Array B**	**79.57**	**331**	P	**P**	**08 12 34.7**	**+1.1**
DAVOX	**Davos**	**80.28**	**316**	P	**P**	**08 12 37.4**	**-0.3**
	3.1nm,0.9s,mb4.2,baz=332,slow=24,SNR=2.4						
PDAR	**Pinedale Array**	**124.92**	**21**	PKP	PKPdf	08 19 27.5	-3.2
	0.4nm,0.9s,baz=315,slow=1.3,SNR=2.5						
PLCA	**Paso Flores**	**144.80**	**200**	PKPbc	PKPbc	08 20 04.5	+2.2
	1.1nm,0.7s,baz=187,slow=6.4,SNR=6.8						

IDC ***28*** *08:01:44.4±0.6, 7.74N×93.98E, mb4.2/21, mb1 4.3/22, mb1mx4.3/26, mbtmp4.2/22, ML4.2/1, Error ellipse: s-maj=32.2km s-min=14.3km az=54.0*
NEIC ***28*** *08:01:49.1±0.3, 7.74N×94.03E, h30km, mb4.5/6, Error ellipse: s-maj=12.9km s-min=7.7km az=61.0

comp=Z,1.4nm,0.6s,mb4.1,baz=90,slow=6.1,SNR=8.5
GERES **GERESS Array B 72.80 317** P **P** **08 18 37.6 -3.5**
comp=Z,1.1nm,0.8s,mb3.9,baz=68,slow=7.2,SNR=5.4
HFS **Hagfors 72.89 329** P **P** **08 18 40.8 -0.6**
comp=Z,3.8nm,0.8s,mb4.4,baz=135,slow=4.2,SNR=5.3
HFS **Hagfors 72.89 329** P **P** **08 18 40.8 -0.6**
NB2 **NORSAR Subarra 74.14 330** P **P** **08 18 44.6 -4.0**
comp=Z,2.0nm,0.8s,mb4.1,baz=91,slow=5.6
NOA **NORSAR Array B 74.14 330** P **P** **08 18 48.6 0.0**
comp=Z,3.8nm,1.2s,mb4.2,baz=95,slow=5.5,SNR=3.3
LBTB **Lobatse 76.23 240** P **P** **08 19 02.6 +1.2**
comp=Z,2.2nm,0.6s,mb4.3
LPG **La Plagne 77.78 314** *eP* **P** **08 19 10.8 +1.2**
comp=Z,14nm,0.9s,mb4.6
ILAR **Eielson Array 89.70 22** P **P** **08 20 10.4 +0.8**
comp=Z,0.6nm,0.8s,mb4.0,baz=303,slow=4.1,SNR=5.3
PLCA **Paso Flores 149.56 205** PKPbc PKPdf 08 27 04.2 +8.5
comp=Z,1.0nm,0.8s,baz=210,slow=5.9,SNR=2.9

*BJI **28** 08:11:48.2,21.96N×143.84E,h94km,mB5.6,mb4.8*
*NEIC **28** 08:11:49.9±0.2,21.90N×144.09E,mb4.8/13,Error ellipse: s-maj=7.3km s-min=5.1km az=92.0*
*IDC **28** 08:11:50.1±0.4,21.96N×144.05E,h115km±3km,mb4.2/25,mb1 4.3/27,mb1mx4.3/31,mbtmp4.6/27,Error ellipse: s-maj=13.0km s-min=7.8km az=83.0,- Putative timing error at LPAZ*
*JMA **28** 08:11:53.1±0.2,23.20N×145.32E,M5.1*
ISC 28 08:11:48.7±0.3,22.01N±0.03×143.95E±0.07,h115km, h115km±1.1km:pP-P,n87,σ1§42/91,mb4.5/37,2C,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**4.87**	**341**	P	**P**	**08 13 03.9**	**+2.8**
JHHJ				S	**S**	**08 13 57.0**	**+0.2**
CBIJ	**Chichi jima**	**5.31**	**343**	P	**P**	**08 13 08.5**	**+1.5**
CBIJ	85nm,0.3s,baz=263,slow=12,SNR=26			S	**S**	**08 14 07.1**	**-0.3**
CBIJ	**Chichi jima**	**5.31**	**343**	P	**P**	**08 13 08.7**	**+1.7**
CBIJ	339nm,0.3s,baz=310,slow=23,SNR=15			*eS*	**S**	**08 14 04.9**	**-2.5**
JHJ2	**Mitsune**	**11.65**	**343**	*eS*	**S**	**08 16 37.8**	**-2.6**
JHJ	**Hachijo jima 2**	**11.66**	**342**	P	**P**	**08 14 33.3**	**+0.8**
JHJ	6.8nm,0.3s,baz=252,slow=19,SNR=2.4			S	**S**	**08 16 37.9**	**-2.9**
BSO3	**Boso 3**	**13.10**	**347**	P	**P**	**08 14 53.6**	**+2.3**
BSO4	**Boso 4**	**13.31**	**347**	P	**P**	**08 14 57.8**	**+3.7**
BSO4				*eS*	**S**	**08 17 17.7**	**-2.0**
JOD2	**Odawara 2**	**13.87**	**343**	P	**P**	**08 15 03.3**	**+2.0**
JOD2				*eS*	**S**	**08 17 31.5**	**-1.3**
JNY	**Yasuok**	**14.32**	**339**	P	**P**	**08 15 09.5**	**+2.3**
JHU	**Hanno**	**14.38**	**345**	P	**P**	**08 15 09.6**	**+1.7**
JHU				*eS*	**S**	**08 17 40.3**	**-4.4**
JYT	**Yasato**	**14.54**	**348**	*eS*	**S**	**08 17 46.2**	**-2.2**
JRY	**Ryogami san**	**14.63**	**344**	P	**P**	**08 15 12.7**	**+1.6**
JRY				*eS*	**S**	**08 17 48.4**	**-2.2**
JHO	**Hitachi**	**14.84**	**349**	P	**P**	**08 15 16.3**	**+2.5**
JHO				*eS*	**S**	**08 17 51.3**	**-4.1**
JAG	**Ashikaga**	**14.88**	**346**	P	**P**	**08 15 14.5**	**+0.2**
JAG				*eS*	**S**	**08 17 52.2**	**-4.2**
MAJO	**Matsushiro**	**15.32**	**342**	*eP*	**P**	**08 15 21.8**	**+2.0**
	15nm,0.7s						
MAT	**Matsushiro**	**15.32**	**342**	P	**P**	**08 15 21.9**	**+2.1**
JFK	**Kawauchi**	**15.53**	**351**	P	**P**	**08 15 25.7**	**+3.2**
JFK				*eS*	**S**	**08 18 08.8**	**-2.4**
KS15	**Wonju Array Si**	**20.71**	**321**	P	**P**	**08 16 21.8**	**+0.2**
ASAJ	**Asahikawa**	**22.07**	**357**	P	**P**	**08 16 38.4**	**+3.4**
	14nm,0.8s,mb4.3,baz=230,slow=21,SNR=4.2						
TGY	**Tagaytay City**	**23.23**	**254**	P	**P**	**08 16 50.1**	**+3.6**
	145nm,0.4s,baz=174,slow=23,SNR=6.8						
MDJ	**Mudanjiang**	**25.46**	**336**	P	**P**	**08 17 10.9**	**+3.3**
	12nm,0.7s,mb4.4						
TIA	**Tai'an**	**27.27**	**307**	*eP*	**P**	**08 17 24.8**	**+0.6**
PMG	**Port Moresby**	**31.38**	**174**	P	**P**	**08 17 58.6**	**-2.4**
	25nm,0.8s,mb5.0,baz=7.7,slow=7.7,SNR=7.5						
PMG	**Port Moresby**	**31.38**	**174**	P	**P**	**08 17 58.6**	**-2.4**
PET	**Petropavlovsk**	**32.95**	**16**	*eP*	**P**	**08 18 13.8**	**-0.5**
LZH	**Lanzhou**	**37.49**	**301**	*eP*	**P**	**08 18 55.0**	**+2.1**
LZH				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.1						
SONM	**Songino Array**	**39.55**	**320**	P	**P**	**08 19 11.5**	**+1.6**
	comp=Z,1.8nm,0.5s,mb4.2,baz=115,slow=5.8,SNR=7.9						
SONM				pP	pP	08 19 37.9	+1.7
	comp=Z,3.5nm,0.6s,baz=136,slow=9.4,SNR=5.4						
SONM				ScP		08 24 51.9	
	comp=Z,2.5nm,1.2s,baz=135,slow=2.0,SNR=4.5						
CTA	**Charters Tower**	**41.90**	**177**	*eP*	**P**	**08 19 28.7**	**-0.9**
	comp=Z,17nm,0.9s,mb4.8						
CTA	**Charters Tower**	**41.90**	**177**	P	**P**	**08 19 28.8**	**-0.8**
	comp=Z,22nm,0.9s,mb4.9,baz=355,slow=8.4,SNR=29						
CTA				pP	pP	08 19 56.2	+0.3
	comp=Z,3.9nm,0.7s,baz=2.1,slow=6.6,SNR=2.4						
CTAO	**Charters Tower**	**41.90**	**177**	*eP*	**P**	**08 19 28.2**	**-1.3**
	comp=Z,24nm,0.9s,mb4.9						
CMAR	**Chiang Mai Arr**	**42.27**	**274**	P	**P**	**08 19 34.0**	**+1.4**
	comp=Z,4.5nm,0.9s,mb4.2,baz=54,slow=9.1,SNR=14						
WRAB	**Tennant Creek**	**42.73**	**193**	*eP*	**P**	**08 19 34.7**	**-1.6**
	comp=Z,35nm,1.0s,mb5.0						
WB2	**Warramunga Arr**	**42.74**	**193**	⇑*iP*	**P**	**08 19 35.4**	**-1.0**
WRA	**Warramunga Arr**	**42.74**	**193**	P	**P**	**08 19 35.7**	**-0.8**
	comp=Z,4.8nm,0.4s,mb4.5,baz=17,slow=8.7,SNR=101						
WRA				pP	pP	08 20 03.2	+0.3
	comp=Z,6.5nm,0.6s,baz=14,slow=8.7,SNR=5.0						
WRA				ScP		08 25 04.5	
	comp=Z,2.8nm,1.1s,baz=6.9,slow=3.9,SNR=5.8						
FITZ	**Fitzroy Crossi**	**43.71**	**206**	*eP*	**P**	**08 19 43.4**	**-0.9**
	comp=Z,9.0nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**46.44**	**193**	P	**P**	**08 20 04.5**	**-1.4**
	comp=Z,2.1nm,0.6s,mb4.0,baz=13,slow=6.6,SNR=17						
ASAR				pP	pP	08 20 32.4	-0.4
	comp=Z,0.6nm,0.4s,baz=22,slow=7.7,SNR=3.5						
ASPA	**Alice Springs**	**46.45**	**193**	*eP*	**P**	**08 20 04.4**	**-1.6**
TNA	**Tin City**	**53.38**	**23**	*eP*	**P**	**08 20 57.9**	**-0.4**
STKA	**Stephens Creek**	**53.63**	**182**	⇑*iP*	**P**	**08 20 58.4**	**-2.2**
	comp=Z,14nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**53.63**	**182**	P	**P**	**08 20 58.5**	**-2.0**
	comp=Z,16nm,0.8s,mb5.1,baz=354,slow=7.4,SNR=31						
STKA				pP	pP	08 21 26.8	-1.2
	comp=Z,3.8nm,0.6s,baz=8.9,slow=6.0,SNR=2.8						
STKA	**Stephens Creek**	**53.63**	**182**	*eP*	**P**	**08 20 57.7**	**-2.9**
ZAL	**Zalesovo**	**54.42**	**321**	P	**P**	**08 21 05.7**	**-0.3**
	comp=Z,2.1nm,0.5s,mb4.4,baz=13,slow=7.0,SNR=9.4						
ZAL				pP	pP	08 21 34.0	+0.5
	comp=Z,2.2nm,0.7s,baz=5.8,slow=10,SNR=3.4						
ZAL	**Zalesovo**	**54.42**	**321**	P	**P**	**08 21 05.7**	**-0.3**
ZAL				pP	pP	08 21 34.0	+0.5
KURK	**Kurchatov**	**57.73**	**317**	*eP*	**P**	**08 21 28.8**	**-0.9**
	comp=Z,4.7nm,0.8s,mb4.6						
RSO	**Redoubt South**	**57.97**	**31**	P	**P**	**08 21 29.6**	**-1.6**
SML	**Sawmill**	**60.33**	**30**	*eP*	**P**	**08 21 46.4**	**-1.1**
ILAR	**Eielson Array**	**61.44**	**27**	P	**P**	**08 21 53.2**	**-1.7**
	comp=Z,8.6nm,0.8s,mb4.8,baz=260,slow=5.6,SNR=51						
ILAR				pP	pP	08 22 21.6	-1.5
	comp=Z,3.2nm,0.8s,baz=259,slow=5.7,SNR=3.5						
BVAR	**Borovoye Array**	**62.90**	**319**	P	**P**	**08 22 04.4**	**-0.4**
	comp=Z,5.3nm,0.7s,mb4.6,baz=90,slow=7.4,SNR=23						
BVAR				pP	pP	08 22 32.6	-0.4
	comp=Z,3.5nm,0.4s,baz=96,slow=7.9,SNR=12						
BRVK	**Borovoye**	**62.96**	**319**	*eP*	**P**	**08 22 04.8**	**-0.4**
	comp=Z,4.3nm,0.6s,mb4.6						
DAWY	**Dawson**	**64.61**	**28**	*eP*	**P**	**08 22 15.3**	**-0.4**
DAWY				*epP*	pP	08 22 42.3	-1.8
RPZ	**Rata Peaks**	**69.98**	**159**	P	**P**	**08 22 46.9**	**-2.9**
	comp=Z,6.3nm,0.7s,mb4.5,baz=143,slow=11,SNR=4.1						
YKA	**Yellowknife Ar**	**75.84**	**28**	P	**P**	**08 23 23.5**	**-0.1**
	comp=Z,5.7nm,0.8s,mb4.3,baz=292,slow=5.6,SNR=59						
YKA				pP	pP	08 23 52.8	0.0
	comp=Z,2.0nm,0.5s,baz=292,slow=5.6,SNR=3.0						
YBH	**Yreka Blue Hor**	**78.07**	**50**	P	**P**	**08 23 37.9**	**+1.5**
	comp=Z,7.7nm,0.8s,mb4.5,baz=330,slow=2.3,SNR=9.4						
ARCES	**ARCESS Array B**	**78.85**	**342**	P	**P**	**08 23 40.8**	**+0.7**
	comp=Z,3.1nm,0.8s,mb4.2,baz=74,slow=8.8,SNR=8.9						
ARCES				pP	pP	08 24 10.3	+0.8
	comp=Z,8.6nm,0.9s,baz=51,slow=7.8,SNR=3.7						
JOF	**Joensuu**	**80.34**	**335**	*ep*	**P**	**08 23 46.9**	**-1.3**
	comp=Z,1.2nm,0.4s,mb4.1						
JOF	**Joensuu**	**80.34**	**335**	*ep*	sP	08 24 29.4	-1.0
	comp=Z,2.5nm,0.4s						
BMO	**Blue Mountains**	**80.70**	**45**	*eP*	**P**	**08 23 50.5**	**-0.1**
	comp=Z,46nm,1.7s,mb5.0						
CMB	**Columbia Colle**	**81.01**	**53**	*eP*	**P**	**08 23 52.1**	**-0.2**
	comp=Z,46nm,1.6s,mb5.1						
NVAR	**Mina Array Bea**	**82.39**	**52**	P	**P**	**08 24 00.4**	**+0.9**
	comp=Z,7.0nm,0.7s,mb4.6,baz=286,slow=3.4,SNR=42						
NVAR				pP	pP	08 24 30.2	+1.1
	comp=Z,2.4nm,0.7s,baz=270,slow=5.4,SNR=2.3						
KAF	**Kangasniemi**	**82.74**	**335**	*ep*	**P**	**08 23 53.6**	**-7.1**
	comp=Z,0.3nm,0.3s,mb3.6						
KAF	**Kangasniemi**	**82.74**	**335**	*ep*	pP	08 24 31.6	+1.2
	comp=Z,0.8nm,0.4s						
GNI	**Garni**	**82.79**	**310**	P	**P**	**08 24 03.1**	**+1.7**
	comp=Z,2.1nm,0.3s,mb4.4,baz=175,slow=9.4,SNR=2.4						
FINES	**FINESS Array B**	**83.20**	**335**	P	**P**	**08 24 02.7**	**-0.4**
	comp=Z,1.5nm,0.6s,mb4.0,baz=83,slow=5.4,SNR=9.1						
FINES				pP	pP	08 24 32.4	-0.4
	comp=Z,2.5nm,0.4s,baz=68,slow=5.3,SNR=3.9						
PFO	**Pinyon Flat Ob**	**85.63**	**56**	*eP*	**P**	**08 24 15.7**	**-0.1**
	comp=Z,11nm,1.0s,mb4.7						
HWUT	**Hardware Ranch**	**85.84**	**47**	*eP*	**P**	**08 24 16.7**	**0.0**
	comp=Z,17nm,1.1s,mb4.9						
LDFC	**Landfair**	**86.06**	**54**	*eP*	**P**	**08 24 18.1**	**+0.2**
JLU	**Jordanelle**	**86.36**	**48**	*eP*	**P**	**08 24 19.3**	**+0.1**
JLU				*epP*	pP	08 24 48.9	-0.2
DAU	**Daniels Canyon**	**86.58**	**48**	*eP*	**P**	**08 24 21.3**	**+1.0**
PDAR	**Pinedale Array**	**86.67**	**45**	P	**P**	**08 24 20.4**	**-0.2**
	comp=Z,1.4nm,0.9s,mb3.9,baz=271,slow=3.6,SNR=9.5						
MSU	**Marysvale**	**86.76**	**50**	*eP*	**P**	**08 24 22.6**	**+1.4**
SRU	**San Rafael**	**87.66**	**49**	*eP*	**P**	**08 24 25.7**	**+0.2**
SRU				*epP*	pP	08 24 55.6	+0.1
AKASG	**Malin Array Be**	**87.67**	**325**	P	**P**	**08 24 27.8**	**+2.6**
	comp=Z,0.8nm,0.5s,mb4.0,baz=49,slow=5.0,SNR=9.6						
AKASG				pP	pP	08 24 54.7	-0.5
	comp=Z,3.5nm,0.9s,baz=48,slow=4.9,SNR=3.5						
NB2	**NORSAR Subarra**	**88.91**	**339**	P	pP	08 25 00.6	-0.4
	comp=Z,2.3nm,0.9s,baz=42,slow=4.8						
NOA	**NORSAR Array B**	**88.91**	**339**	P	**P**	**08 24 30.1**	**-0.8**
	comp=Z,1.4nm,1.1s,mb3.9,baz=54,slow=4.1,SNR=3.8						
NOA				pP	pP	08 25 00.3	-0.6
	comp=Z,0.3nm,0.8s,baz=55,slow=4.0,SNR=0.9						
NOA	**NORSAR Array B**	**88.91**	**339**	P	**P**	**08 24 30.1**	**-0.8**
NOA				pP	pP	08 25 00.3	-0.6
PV10	**Paradox Valley**	**89.03**	**49**	*eP*	**P**	**08 24 32.5**	**+0.5**
PV01	**Paradox Valley**	**89.46**	**49**	*eP*	**P**	**08 24 33.8**	**-0.3**
BRTR	**Keskin Array B**	**90.64**	**314**	P	**P**	**08 24 39.7**	**+0.1**
	comp=Z,0.9nm,0.7s,mb4.0,baz=90,slow=4.3,SNR=3.5						
BRTR				pP	pP	08 25 08.7	-1.1
	comp=Z,1.6nm,0.8s,baz=79,slow=4.0,SNR=4.3						
ISCO	**Idaho Springs**	**90.69**	**46**	*eP*	**P**	**08 24 40.3**	**+0.5**
FRB	**Frobisher Bay**	**90.82**	**14**	P	**P**	**08 24 40.4**	**+0.6**
	comp=Z,3.4nm,0.8s,mb4.5,baz=316,slow=7.0,SNR=6.4						
ANMO	**Albuquerque**	**92.47**	**51**	P	**P**	**08 24 49.4**	**+1.3**
	comp=Z,4.0nm,1.0s,mb4.6,baz=270,slow=3.2,SNR=11						
ANMO				pP	pP	08 25 19.9	+1.6
	comp=Z,1.5nm,0.9s,baz=238,slow=4.7,SNR=2.1						
ANMO	**Albuquerque**	**92.47**	**51**	P	**P**	**08 24 49.4**	**+1.3**
ANMO				pP	pP	08 25 19.9	+1.6
TXAR	**Lajitas Array**	**97.29**	**54**	P	**P**	**08 25 10.8**	**+0.6**
	comp=Z,0.6nm,1.0s,mb4.0,slow=2.5,SNR=4.0						
PLCA	**Paso Flores**	**145.42**	**131**	PKPbc	PKPbc	08 31 14.7	+0.9
	comp=Z,12nm,0.9s,baz=228,slow=4.8,SNR=12						
PLCA				pPKPbc		08 31 43.1	
	comp=Z,4.8nm,0.6s,baz=231,slow=3.4,SNR=3.3						
LPAZ	**La Paz**	**149.20**	**85**	PKPbc	PKPdf	08 30 41.9	-38
	comp=Z,2.9nm,0.7s,baz=286,slow=2.7,SNR=6.9						
LPAZ				pPKPbc		08 31 14.8	
	comp=Z,7.1nm,0.9s,baz=32,slow=4.7,SNR=3.4						
LVC	**Limon Verde**	**149.62**	**97**	PKPbc	PKPdf	08 31 27.8	+7.3
	comp=Z,2.6nm,0.8s,baz=270,slow=12,SNR=2.2						
LVC	**Limon Verde**	**149.62**	**97**	PKPbc	PKPdf	08 31 27.8	+7.3

*BJI **28** 08:07:08.7,13.19N×92.89E,h30km,mB5.1,mb4.5,Ms4.7,Msz4.7*
*IDC **28** 08:07:11.0±0.6,13.77N×93.05E,mb4.2/17,mb1 4.3/18,mb1mx4.3/23,mbtmp4.2/18,ML4.5/1,MS4.0/1,Ms1 4.2/1,ms1mx3.0/30,Error ellipse: s-maj=28.0km s-min=13.6km az=54.0*
*NEIC **28** 08:07:15.6±0.3,13.78N×93.13E,h30km,mb4.5/7,Error ellipse: s-maj=8.8km s-min=6.1km az=59.0*
ISC 28 08:07:14.1±1.9,13.76N±0.08×93.09E±0.07,h34km±16km, n45,σ1§03/45,mb4.3/24,MS4.6/1,2C,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**7.07**	**74**	P	**P**	**08 08 53.3**	**-4.6**
	58nm,0.6s						
CMAR	**Chiang Mai Arr**	**7.31**	**50**	Pn	**P**	**08 09 00.7**	**-0.5**
	1.9nm,0.3s,baz=241,slow=15,SNR=22						
CMAR				Sn	**S**	**08 10 20.5**	**-3.4**
	10nm,0.3s,baz=240,slow=28,SNR=11						
CMAR				LR	LR	08 12 34.3	
	comp=Z,1μm,21.4s,baz=240,slow=44						
NANT	**Nan**	**8.86**	**55**	P	**P**	**08 09 25.0**	**+2.3**
KKTK	**Khon Kaen**	**9.74**	**74**	P	**P**	**08 09 37.0**	**+2.0**
	309nm,0.8s						
IMP	**Imphal**	**10.99**	**4**	*e*	**P**	**08 09 48.6**	**-3.5**
JIRN	**Jiri**	**15.25**	**336**	*eP*	**P**	**08 10 49.4**	**+0.7**
PKI	**Pulchoki**	**15.50**	**334**	*eP*	**P**	**08 10 51.4**	**-0.5**
	33nm,0.6s						
GUN	**Gumba**	**15.60**	**336**	*eP*	**P**	**08 10 53.3**	**+0.1**
	60nm,0.9s						
DMN	**Daman**	**15.66**	**333**	*eP*	**P**	**08 10 53.7**	**-0.3**
	70nm,0.8s						
KKN	**Kakani**	**15.74**	**334**	*eP*	**P**	**08 10 55.5**	**+0.5**
LSA	**Lhasa**	**15.96**	**354**	P	**P**	**08 11 01.0**	**+3.2**
GKN	**Gorkha**	**16.21**	**332**	*eP*	**P**	**08 10 59.9**	**-1.1**
KOLN	**Koldanda**	**16.51**	**329**	*eP*	**P**	**08 11 02.7**	**-2.0**
DDI	**Dehra Dun**	**21.54**	**322**	*e*	**P**	**08 12 03.6**	**+1.1**
DDI				*e*		08 15 51.1	
ENH	**Enshi**	**22.33**	**40**	*eP*	**P**	**08 12 10.2**	**-0.2**
	18nm,0.9s,mb4.5						
LZH	**Lanzhou**	**24.24**	**22**	⇑P	**P**	**08 12 30.5**	**+1.5**
LZH				AP		08 12 34.0	
LZH				AMB	AMB		
	comp=Z,54nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,156nm,4.0s						
LZH				LR	LR		
	comp=E,845nm,10.5s						
LZH				LR	LR		
	comp=Z,1μm,12.0s,MS4.6						
LZH	**Lanzhou**	**24.24**	**22**	⇑P	**P**	**08 12 30.4**	**+1.4**
	comp=Z,54nm,1.4s,mb4.8						
LZH				pP		08 12 34.1	
LZH				sP		08 12 36.3	
LZH				LR	LR		
	comp=Z,1μm,12.0s,MS4.6						
SONM	**Songino Array**	**35.73**	**15**	P	**P**	**08 14 12.1**	**+0.5**
	comp=Z,6.5nm,1.0s,mb4.5,baz=207,slow=8.3,SNR=20						
KURK	**Kurchatov**	**38.69**	**345**	*eP*	**P**	**08 14 36.7**	**+0.4**
	comp=Z,10nm,1.1s,mb4.5						
ZAL	**Zalesovo**	**40.61**	**352**	P	**P**	**08 14 52.3**	**0.0**
	comp=Z,1.9nm,0.6s,mb3.9,baz=308,slow=9.8,SNR=10						
BVAR	**Borovoye Array**	**43.13**	**340**	P	**P**	**08 15 12.7**	**-0.2**
	comp=Z,1.6nm,0.7s,mb3.8,baz=158,slow=8.0,SNR=7.1						
BRVK	**Borovoye**	**43.19**	**340**	*eP*	**P**	**08 15 13.0**	**-0.4**
	comp=Z,2.4nm,0.8s,mb4.0						
NWAO	**Narrogin (SRO)**	**51.84**	**154**	P	**P**	**08 16 20.8**	**-0.6**
	comp=Z,4.6nm,0.7s,mb4.5,baz=309,slow=9.2,SNR=4.3						
WRA	**Warramunga Arr**	**52.62**	**129**	P	**P**	**08 16 27.1**	**-0.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=302,slow=9.4,SNR=12						
WRA				PcP	PcP	08 17 37.6	+0.5
	comp=Z,0.8nm,0.4s,baz=323,slow=3.1,SNR=12						
WRAB	**Tennant Creek**	**52.62**	**129**	*eP*	**P**	**08 16 26.5**	**-0.8**
	comp=Z,3.5nm,0.5s,mb4.5						
WB2	**Warramunga Arr**	**52.63**	**129**	*eP*	**P**	**08 16 26.9**	**-0.4**
ASPA	**Alice Springs**	**54.55**	**133**	*eP*	**P**	**08 16 41.0**	**-0.5**
ASAR	**Alice Springs**	**54.55**	**133**	P	**P**	**08 16 41.0**	**-0.6**
	comp=Z,2.0nm,0.4s,mb4.5,baz=308,slow=7.0,SNR=53						
BRTR	**Keskin Array B**	**57.90**	**308**	P	**P**	**08 17 06.1**	**+0.8**
	comp=Z,1.4nm,0.7s,mb4.1,baz=114,slow=7.3,SNR=6.0						
AKASG	**Malin Array Be**	**62.96**	**320**	P	**P**	**08 17 38.4**	**-1.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=90,slow=4.3,SNR=5.4						
MLR	**Muntele Rosu**	**64.31**	**314**	P	**P**	**08 17 48.9**	**+0.4**
	comp=Z,4.7nm,1.0s,mb4.5,baz=130,slow=8.6,SNR=4.7						
IDI	**Anoyia**	**64.46**	**303**	P	**P**	**08 17 49.6**	**-0.1**
	comp=Z,3.8nm,0.8s,mb4.5,baz=17,slow=17,SNR=2.7						
STKA	**Stephens Creek**	**64.94**	**135**	P	**P**	**08 17 53.1**	**+0.2**
	comp=Z,1.3nm,0.6s,mb4.1,baz=318,slow=7.0,SNR=2.3						
FINES	**FINESS Array B**	**67.07**	**331**	P	**P**	**08 18 05.2**	**-0.6**
	comp=Z,3.5nm,0.8s,mb4.5,baz=149,slow=11,SNR=5.8						
FINES	**FINESS Array B**	**67.07**	**331**	P	**P**	**08 18 05.2**	**-0.6**
ARCES	**ARCESS Array B**	**69.41**	**340**	P	**P**	**08 18 20.5**	**+0.1**

IGQ 28 08:16:57.1,1.52S×81.18W,h2km±8km,mb4.1,1C,Error ellipse: s-maj=19.4km s-min=5.5km az=174.3,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.79**	**54**	⇑P	Pg	08 17 12.7	-0.1
JAMA	**Jama**	**1.59**	**38**	P	Pn	08 17 26.9	+0.6
JAMA				S	Sb	08 17 45.9	-1.3
MAGD	**Magdalena**	**2.02**	**44**	P	Pn	08 17 34.9	+2.4
IGUA	**Igualata**	**2.54**	**89**	P	Pn	08 17 41.8	+1.8
JUIV	**Juive**	**2.72**	**88**	P	Pn	08 17 44.0	+1.5
ARRY	**Arrayan**	**2.72**	**90**	P	Pn	08 17 43.2	+0.5
ARRY				S	Sn	08 18 17.2	+0.6
NAS1	**Nasa**	**2.84**	**72**	P	Pn	08 17 46.4	+2.1
JUA2	**San Juan 2**	**2.88**	**63**	P	Pn	08 17 45.9	+1.0
TERV	**Terraza Guagua**	**2.90**	**63**	P	Pn	08 17 47.5	+2.3
PINO	**Pino**	**2.91**	**62**	P	Pn	08 17 46.4	+1.1
VC1	**Cotopaxi 1**	**2.91**	**73**	P	Pn	08 17 49.0	+3.7
TAMB	**Tambo**	**2.93**	**74**	P	Pn	08 17 49.2	+3.7
JOR1	**San Jorge 1**	**2.96**	**59**	P	Pn	08 17 46.0	0.0
YANA	**Yana**	**2.96**	**62**	P	Pn	08 17 46.5	+0.5
ANTI	**Antisana**	**3.20**	**71**	P	Pn	08 17 51.7	+2.3

*IDC **28** 08:17:30.4±0.7,8.26N×94.32E,mb4.1/17,mb1 4.2/18,mb1mx4.2/24,mbtmp4.1/18,ML4.2/1,Error ellipse: s-maj=30.6km s-min=16.3km az=53.0*
*NEIC **28** 08:17:35.0±0.5,8.31N×94.47E,h30km,mb4.6/11,Error ellipse: s-maj=14.8km s-min=10.2km az=54.0*
*BJI **28** 08:17:38.8,8.21N×94.09E,h38km,mb4.5*
ISC 28 08:17:31.9±5.1,8.31N±0.10×94.5E±0.1,h23km±36km,n44, σ1§10/36,mb4.3/26,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.98**	**23**	Pn	**P**	**08 20 10.9**	**-0.1**
	0.4nm,0.3s,baz=211,slow=15,SNR=4.2						
HYB	**Hyderabad**	**17.95**	**302**	*eP*	**P**	**08 21 43.0**	**+1.0**
HYB	**Hyderabad**	**17.95**	**302**	*i P*	**P**	**08 21 43.0**	**+1.0**
KMI	**Kunming**	**18.48**	**24**	P	**P**	**08 21 57.6**	**+9.0**
	15nm,1.6s						
LSA	**Lhasa**	**21.51**	**352**	P	**P**	**08 22 27.0**	**+5.5**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**21.51**	**352**	*eP*	**P**	**08 22 23.8**	**+2.3**
	comp=Z,22nm,0.8s,mb4.6						
ENH	**Enshi**	**25.98**	**31**	P	**P**	**08 23 04.9**	**0.0**
	comp=Z,13nm,0.8s,mb4.5						
WMQ	**Urumqi**	**35.87**	**352**	*eP*	**P**	**08 24 37.8**	**+5.7**
AAK	**Ala-Archa**	**38.44**	**336**	*eP*	**P**	**08 24 52.8**	**-1.0**
	comp=Z,15nm,1.3s,mb4.6						
SONM	**Songino Array**	**40.67**	**12**	P	**P**	**08 25 11.7**	**-0.4**
	comp=Z,0.5nm,0.7s,mb3.2,baz=166,slow=5.9,SNR=2.1						
KURK	**Kurchatov**	**44.27**	**346**	*eP*	**P**	**08 25 42.6**	**+1.0**
	comp=Z,17nm,1.3s,mb4.6						
ZAL	**Zalesovo**	**46.16**	**352**	P	**P**	**08 25 54.0**	**-2.6**
	comp=Z,1.9nm,0.5s,mb4.3,baz=150,slow=6.7,SNR=3.3						
NWAO	**Narrogin (SRO)**	**46.38**	**153**

HFS	**Hagfors**	78.25	330	P	P	08 29 32.2	+0.9
	comp=Z,3.0nm,0.7s,mb4.3,baz=143,slow=7.4,SNR=4.8						
NB2	**NORSAR Subarra**	79.52	331	P	P	08 29 39.0	+0.8
	comp=Z,7.0nm,0.9s,mb4.6,baz=95,slow=5.0						
NOA	**NORSAR Array B**	79.52	331	P	P	08 29 39.7	+1.5
	comp=Z,3.2nm,0.8s,mb4.3,baz=92,slow=5.7,SNR=10						
NOA	**NORSAR Array B**	79.52	331	P	P	08 29 39.7	+1.5
DAVOX	**Davos**	80.31	316	P	P	08 29 43.7	+0.9
	comp=Z,4.5nm,1.0s,mb4.4,baz=131,slow=11,SNR=2.7						
LPG	**La Plagne**	82.55	315	*eP*	P	08 29 55.4	+0.9
	comp=Z,23nm,0.8s,mb4.9						
PDAR	**Pinedale Array**	124.64	21	PKP	PKPdf	08 36 32.5	-2.1
	comp=Z,0.9nm,0.9s,baz=270,slow=3.0,SNR=4.8						
TXAR	**Lajitas Array**	138.69	24	PKP	PKPdf	08 37 00.1	-1.3
	comp=Z,0.1nm,0.6s,baz=53,slow=4.5,SNR=2.4						
PLCA	**Paso Flores**	145.07	200	PKP	PKPdf	08 37 11.8	-0.5
	comp=Z,3.2nm,0.9s,baz=96,slow=2.8,SNR=5.9						
PLCA	**Paso Flores**	145.07	200	PKP	PKPdf	08 37 11.8	-0.5
SJG	**San Juan**	147.52	324	PKPbc	PKPdf	08 37 18.3	+1.3
	comp=Z,9.7nm,0.4s,baz=328,slow=22,SNR=2.2						

BJI ***28*** *08:18:32.4, 8.23N×93.23E, h35km, mB5.4, mb4.5*
NEIC ***28*** *08:18:33.8±0.4, 8.12N×93.90E, h30km, mb4.8/12, Error ellipse: s-maj=12.6km s-min=9.4km az=57.0*
IDC ***28*** *08:18:37.3±4.5, 8.25N×94.04E, h58km±39km, mb4.3/23, mb1 4.3/24, mb1mx4.3/29, mbtmp4.5/24, ML4.0/1, Error ellipse: s-maj=23.8km s-min=12.9km az=45.0, Putative timing error at LPAZ*

ISC 28 08:18:34.8±3.7, 8.18N±0.10×94.0E±0.1, h54km±32km, n50, σ0§98/44, mb4.6/32, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.29	25	P	P	08 21 15.9	-0.1
	0.3nm,0.3s,baz=211,slow=14,SNR=4.3						
KMI	**Kunming**	18.80	25	⇑P	P	08 22 55.2	+2.6
	26nm,1.1s						
LSA	**Lhasa**	21.57	353	*eP*	P	08 23 21.6	-0.1
	31nm,0.8s,mb4.8						
AAK	**Ala-Archa**	38.37	337	*eP*	P	08 25 52.5	+0.1
	18nm,1.3s,mb4.6						
SONM	**Songino Array**	40.90	13	P	P	08 26 11.8	-1.5
	3.0nm,0.9s,mb3.9,baz=203,slow=9.4,SNR=4.7						
SONM				PcP	PcP	08 28 14.4	+0.6
	2.0nm,0.6s,baz=206,slow=3.2,SNR=4.8						
KURK	**Kurchatov**	44.28	346	*eP*	P	08 26 40.2	-0.7
	27nm,1.2s,mb4.9						
ZAL	**Zalesovo**	46.23	352	P	P	08 26 56.1	-0.2
	8.8nm,1.1s,mb4.6,baz=275,slow=9.2,SNR=5.3						
NWAO	**Narrogin (SRO)**	46.48	153	P	P	08 26 57.8	-0.9
	10.0nm,0.6s,mb4.9,baz=328,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	48.56	126	P	P	08 27 15.3	+0.3
	5.4nm,0.9s,mb4.6,baz=304,slow=9.3,SNR=9.7						
WRAB	**Tennant Creek**	48.56	126	*eP*	P	08 27 15.0	-0.1
	9.1nm,0.8s,mb4.9						
BVAR	**Borovoye Array**	48.65	341	P	P	08 27 14.5	-0.8
	2.4nm,0.8s,mb4.3,baz=153,slow=9.7,SNR=4.2						
BRVK	**Borovoye**	48.72	341	*eP*	P	08 27 13.9	-1.9
	5.7nm,0.9s,mb4.6						
ASAR	**Alice Springs**	50.22	130	P	P	08 27 26.9	-0.9
	4.3nm,0.8s,mb4.5,baz=305,slow=7.4,SNR=10						
PMG	**Port Moresby**	55.76	107	P	P	08 28 09.8	+0.9
	16nm,0.7s,mb5.1,baz=342,slow=6.4,SNR=4.4						
KMBO	**Kilima Mbogo**	57.31	263	P	P	08 28 21.9	+1.8
	5.0nm,0.8s,mb4.6,baz=60,slow=10,SNR=8.2						
KMBO	**Kilima Mbogo**	57.31	263	*eP*	P	08 28 21.4	+1.3
	8.5nm,0.9s,mb4.8						
ASF	**Jabal al Asfar**	57.93	303	P	P	08 28 25.5	+1.3
	3.0nm,0.9s,mb4.3,baz=18,slow=6.9,SNR=2.9						
EIL	**Elat**	59.15	300	P	P	08 28 32.7	+0.1
	6.3nm,1.0s,mb4.6,baz=60,slow=14,SNR=2.2						
BRTR	**Keskin Array B**	62.12	311	P	P	08 28 52.0	-0.7
	3.9nm,0.7s,mb4.7,baz=119,slow=6.3,SNR=7.7						
AKASG	**Malin Array Be**	67.82	322	P	P	08 29 27.5	-1.8
	2.7nm,0.7s,mb4.4,baz=88,slow=4.9,SNR=5.8						
IDI	**Anoyia**	68.27	305	P	P	08 29 31.9	-0.5
	5.2nm,0.6s,mb4.8,baz=79,slow=5.2,SNR=3.7						
MLR	**Muntele Rosu**	68.85	316	P	P	08 29 35.4	-0.4
	4.0nm,0.7s,mb4.5,baz=186,slow=5.8,SNR=4.6						
FINES	**FINESS Array B**	72.37	332	P	P	08 29 57.3	+0.6
	4.1nm,0.7s,mb4.5,baz=101,slow=9.7,SNR=5.4						
CRVS	**Cervenica-Dubn**	72.40	319	*e*	P	08 30 02.8	+5.6
OJC	**Ojcow**	73.65	320	*eP*	P	08 30 02.7	-1.8
VYHS	**Vyhne**	74.08	318	*eP*	P	08 30 09.7	+2.7
LBTB	**Lobatse**	74.26	241	*eP*	P	08 30 08.2	-0.4
	9.4nm,0.9s,mb4.7						
ARCES	**ARCESS Array B**	74.93	340	P	P	08 30 13.3	+1.8
	7.7nm,1.0s,mb4.6,baz=113,slow=4.5,SNR=6.2						
ARCES	**ARCESS Array B**	74.93	340	P	P	08 30 13.3	+1.8
MORC	**Moravsky Berou**	75.05	319	*eP*	P	08 30 12.3	-0.3
	16nm,1.3s,mb4.8						
VAE	**Valguarnera**	76.82	307	P	P	08 30 23.0	+0.1
	6.8nm,0.4s,mb4.9,baz=119,slow=9.8,SNR=2.7						
PRU	**Pruhonice**	77.00	319	*eP*	P	08 30 24.0	+0.4
BRG	**Berggiesshubel**	77.42	320	*i* P	P	08 30 27.1	+1.1
	5.1nm,0.7s,mb4.6						
BRG				*i*		08 30 31.0	
GERES	**GERESS Array B**	77.50	318	P	P	08 30 26.4	-0.1
	3.7nm,0.7s,mb4.4,baz=90,slow=5.4,SNR=8.6						
KHC	**Kasperske Hory**	77.59	318	*eP*	P	08 30 26.5	-0.4
CLL	**Collm**	78.03	321	P	P	08 30 34.0	+4.7
CLL	**Collm**	78.03	321	*e*PP	P	08 30 34.0	+4.7
CLL				*e*		08 30 39.0	
HFS	**Hagfors**	78.12	330	P	P	08 30 29.2	-0.4
	4.1nm,0.5s,mb4.6,baz=108,slow=4.7,SNR=4.4						
NB2	**NORSAR Subarra**	79.39	331	P	P	08 30 36.6	0.0
	2.3nm,0.7s,mb4.2,baz=96,slow=5.0						
NOA	**NORSAR Array B**	79.39	331	P	P	08 30 36.6	0.0
	2.9nm,0.8s,mb4.3,baz=92,slow=5.7,SNR=5.0						
DAVOX	**Davos**	80.07	316	P	P	08 30 40.9	+0.4
	5.8nm,0.6s,mb4.7,baz=85,slow=11,SNR=4.5						
LPG	**La Plagne**	82.30	315	*eP*	P	08 30 53.0	+0.8
	14nm,0.7s,mb4.7						
ILAR	**Eielson Array**	94.52	22	P	P	08 31 50.9	+0.7
	0.4nm,0.8s,mb3.9,baz=301,slow=3.8,SNR=3.3						
INK	**Inuvik**	96.74	16	P	P	08 32 00.6	+0.3
	2.4nm,0.9s,mb4.6,baz=290,slow=3.4,SNR=4.9						
NVAR	**Mina Array Bea**	124.73	31	PKP	PKPdf	08 37 32.0	+2.9
	1.6nm,0.7s,baz=2.0,slow=1.5,SNR=3.8						
PDAR	**Pinedale Array**	124.94	21	PKP	PKPdf	08 37 31.4	+2.0
	1.8nm,0.8s,baz=236,slow=0.9,SNR=4.2						
TXAR	**Lajitas Array**	139.01	24	PKiKP		08 37 59.9	
	0.7nm,0.6s,baz=325,slow=1.1,SNR=5.0						
PLCA	**Paso Flores**	144.78	201	PKP	PKPdf	08 38 06.8	+0.8
	6.8nm,0.8s,baz=169,slow=3.3,SNR=9.1						
PLCA	**Paso Flores**	144.78	201	PKP	PKPdf	08 38 06.8	+0.8
LPAZ	**La Paz**	160.78	244	PKPab	PKPab	08 38 30.2	-44
	1.2nm,0.8s,baz=90,slow=5.8,SNR=2.5						

IGQ 28 08:18:48.7, 1.55S×81.11W, h7km±11km, mb4.0, 2C, Error ellipse: s-maj=16.2km s-min=10.4km az=8.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	0.75	48	⇑P	Pb	08 19 02.8	-0.8
HOJA				S	Sg	08 19 12.4	-1.3
IGUA	**Igualata**	2.47	89	P	Pn	08 19 31.5	+1.5
JUIV	**Juive**	2.65	87	P	Pn	08 19 34.2	+1.7
ARRY	**Arrayan**	2.65	89	P	Pn	08 19 33.0	+0.4
PISA	**Pisayambo**	2.77	80	P	Pn	08 19 36.4	+2.2
NAS1	**Nasa**	2.78	71	P	Pn	08 19 37.4	+2.9
JUA2	**San Juan 2**	2.83	62	P	Pn	08 19 35.3	+0.1
VC1	**Cotopaxi 1**	2.85	72	P	Pn	08 19 38.7	+3.2
TERV	**Terraza Guagua**	2.85	61	P	Pn	08 19 36.9	+1.4
TAMB	**Tambo**	2.87	73	P	Pn	08 19 38.4	+2.7
YANA	**Yana**	2.91	61	P	Pn	08 19 36.6	+0.3
JOR1	**San Jorge 1**	2.91	58	P	Pn	08 19 34.8	-1.5
ANTI	**Antisana**	3.14	70	⇑P	Pn	08 19 42.3	+2.7
COTA	**Cotacachi**	3.34	56	P	Pn	08 19 44.3	+1.9
CAYR	**Refugio Cayamb**	3.47	63	P	Pn	08 19 47.5	+3.2
CAYA	**Cayambe**	3.51	63	P	Pn	08 19 47.9	+3.1

IDC ***28*** *08:21:18.8±0.4, 8.13N×94.21E, mb5.0/31, mb1 5.1/32, mb1mx5.1/33, mbtmp5.0/32, ML4.4/1, MS4.8/8, Ms1 4.8/8, ms1mx4.3/24, Error ellipse: s-maj=20.3km s-min=10.1km az=47.0, Putative timing error at LPAZ*
MOS ***28*** *08:21:22.3±1.0, 8.05N×94.09E, h33km, mb5.6/90, MS4.9/11, Error ellipse: s-maj=8.2km s-min=4.4km az=119.0*
BJI ***28*** *08:21:23.1, 7.88N×93.83E, h54km, mB5.6, mb5.2, Ms5.2, Msz4.9*
HRVD ***28*** *08:21:24.6±0.2, 8.01N×94.17E, h12km, MW5.2/54, Centroid moment Tensor Solution. LP body waves: s27,c41; Mantle waves: s54,c102; Half duration: 1§1 Moment tensor: Scale 10^17 Nm; M_{rr}=0.89±.02; $M_{\theta\theta}$=0.25±.02; $M_{\phi\phi}$=0.63±.02; $M_{r\theta}$=-0.07±.07; $M_{\theta\phi}$=0.40±.02; $M_{r\phi}$=-0.28±.07; Best double couple: M_0=.931×10^17 NP1: ϕ_s=217°, δ37°, λ-82°. NP2: ϕ_s=27°, δ54°, λ-96°. Principal axes: T.925, Plg9°, Azm121°; N.013, Plg5°, Azm30°; P -.936, Plg80°, Azm270°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***28*** *08:21:24.6±0.9, 8.01N×94.07E, h40km±8km, mb5.4/86 Error ellipse: s-maj=5.3km s-min=4.1km az=224.0*
CSEM ***28*** *08:21:27.3, 8.74N×93.63E, h33km, mb5.7*

ISC 28 08:21:19.5±0.2, 8.00N±0.03×94.08E±0.03, h14km, h14km±1.2km: pP-P, n381, σ1§01/362, mb5.3/130, MS4.9/22, 21C-19D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	3.86	340	*eP*	Pn	08 22 21.7	+2.0
PBA				*eS*	Sn	08 23 02.4	-2.9
CMAR	**Chiang Mai Arr**	11.42	24	P	P	08 24 06.5	+1.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	11.42	24	Pn	P	08 24 06.5	+1.1
	comp=Z,0.8nm,0.3s,baz=214,slow=14,SNR=12						
CHG	**Chiang Mai**	11.74	23	⇑P	P	08 24 11.3	+1.6
	comp=Z,83nm,1.7s						
NANT	**Nan**	12.52	30	P	P	08 24 22.5	+2.4
PALK	**Pallekele**	13.27	268	Pn	P	08 24 29.3	-0.9
KOD	**Kodaikanal**	16.55	279	*eP*	P	08 25 13.2	+0.3
KOD				*e*		08 25 23.9	
	comp=Z,116nm,1.1s						
KOD				*eS*	S	08 28 19.1	+3.4
SHL	**Shillong**	17.59	353	*eP*	P	08 25 25.9	0.0
HYB	**Hyderabad**	17.79	303	*i* P	P	08 25 29.0	+0.6
HYB				*eS*	S	08 28 48.5	+4.5
QIZ	**Qiongzhong**	18.83	53	P	P	08 25 43.5	+2.3
QIZ				S	S	08 29 08.0	+0.5
QIZ				AMB	AMB		
	comp=Z,2μm,9.0s						
QIZ				LR	LR		
	comp=N,9μm,13.7s						
QIZ				LR	LR		
	comp=E,3μm,14.9s						
QIZ				LR	LR		
	comp=Z,3μm,14.1s						
QIZ	**Qiongzhong**	18.83	53	*eP*	P	08 25 41.9	+0.7
	comp=Z,150nm,1.4s						
KMI	**Kunming**	18.93	25	P	P	08 25 45.4	+3.0
KMI				S	S	08 29 12.9	+3.1
KMI				pmax	pmax		
	comp=Z,164nm,1.1s						
KMI	**Kunming**	18.93	25	P	P	08 25 45.4	+3.0
	comp=Z,164nm,1.1s						
KMI				pP		08 25 49.7	
KMI				PP	PP	08 26 02.3	+3.4
KMI				PPP	PPP	08 26 10.9	+3.0
KMI				S	S	08 29 12.9	+3.1
KMI				sS		08 29 19.6	
KMI				SSS	SSS	08 29 51.5	+2.8
NGP	**Nagpur**	19.53	314	*eP*	P	08 25 48.5	-1.0
NGP				*e*		08 25 57.6	
	comp=Z,96nm,1.3s						
NGP				*eS*	S	08 29 28.0	+4.7
COCO	**West Island**	20.25	172	*eP*	P	08 25 58.5	+1.3
	comp=Z,435nm,1.0s						
JIRN	**Jiri**	20.93	340	*eP*	P	08 26 03.9	-0.3
	comp=Z,480nm,1.0s						
PKI	**Pulchoki**	21.12	338	*eP*	P	08 26 05.0	-1.2
GOA	**Goa**	21.16	292	*eP*	P	08 26 16.6	+10
GOA				*e*		08 26 22.1	
	comp=Z,142nm,1.5s						
GOA				*eS*	S	08 30 13.0	+16
GUN	**Gumba**	21.27	340	*eP*	P	08 26 07.1	-0.6
	comp=Z,688nm,1.1s,mb5.9						
DMN	**Daman**	21.27	338	*eP*	P	08 26 07.1	-0.6
	comp=Z,574nm,0.9s,mb5.9						
KKN	**Kakani**	21.27	338	*eP*	P	08 26 07.3	-1.4
	comp=Z,287nm,0.9s,mb5.6						
LSA	**Lhasa**	21.76	353	P	P	08 26 12.8	+0.2
LSA				AMB	AMB		
	comp=Z,230nm,0.8s,mb5.7						
LSA	**Lhasa**	21.76	353	*eP*	P	08 26 12.7	+0.1
LSA				pmax	pmax		
	comp=Z,194nm,0.9s,mb5.5						
LSA	**Lhasa**	21.76	353	*eP*	P	08 26 12.7	0.0
	comp=Z,194nm,0.9s,mb5.5						
GKN	**Gorkha**	21.80	337	*eP*	P	08 26 12.3	-0.8
	comp=Z,342nm,0.9s,mb5.8						
KOLN	**Koldanda**	22.02	335	*eP*	P	08 26 14.6	-0.6
	comp=Z,900nm,1.2s,mb6.1						
BOM	**Bombay**	23.31	300	*eP*	P	08 26 32.0	+3.9
BOM				*e*		08 26 37.7	
	comp=Z,201nm,1.3s						
BOM				*eS*	S	08 30 44.3	+8.2
NDI	**New Delhi**	26.00	324	*eP*	P	08 26 54.4	+0.7
NDI				*e*		08 27 02.5	
	comp=Z,203nm,1.0s						
NDI				*eS*	S	08 31 25.1	+3.6
ENH	**Enshi**	26.45	31	*eP*	P	08 26 58.0	+0.2
	comp=Z,154nm,1.3s,mb5.4						
SMLA	**Simla**	27.91	328	*eP*	P	08 27 24.6	+13
SMLA				*e*		08 27 35.6	
	comp=Z,107nm,1.6s						
SMLA				*eS*	S	08 32 08.2	+16
XAN	**Xi'an**	29.31	26	P	P	08 27 23.5	-0.3
XAN				AMB	AMB		
	comp=Z,28nm,1.9s,mb4.7						
LZH	**Lanzhou**	29.34	16	⇑P	P	08 27 25.0	+0.9
LZH				AP	pP	08 27 36.0	+7.7
LZH				XP	sP	08 27 43.5	+13
LZH				AMB	AMB		
	comp=Z,96nm,1.8s,mb5.2						
LZH				AMB	AMB		
	comp=Z,296nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,12.3s						
LZH				LR	LR		
	comp=Z,2μm,14.0s,MS4.8						
LZH	**Lanzhou**	29.34	16	⇑P	P	08 27 25.0	+0.9
LZH				*PP	pP	08 27 36.1	+7.8
LZH				*SP	sP	08 27 43.6	+13
LZH				pmax	pmax		
	comp=Z,96nm,1.8s,mb5.2						
LZH				MLR	MLR		
	comp=Z,2μm,14.0s,MS4.8						
LZH	**Lanzhou**	29.34	16	⇑P	P	08 27 25.0	+0.9
	comp=Z,96nm,1.8s,mb5.2						
LZH				pP	pP	08 27 36.1	+7.8
LZH				sP	sP	08 27 43.6	+13
LZH				LR	LR		
	comp=Z,2μm,14.0s,MS4.8						
WHN	**Wuhan**	29.38	38	P	P	08 27 25.5	+1.1
NJ2	**Nanjing**	33.22	41	*eP*	P	08 27 59.5	+1.3
NJ2				AP	pP	08 28 09.3	+6.9
NJ2				XP	sP	08 28 13.3	+9.0
NJ2				PP	PP	08 29 13.5	+3.9
NJ2				S	S	08 33 19.0	+2.6
NJ2				XS		08 33 35.0	
NJ2				AMB	AMB		
	comp=Z,550nm,4.9s						
NJ2				LR	LR		
	comp=N,4μm,16.5s,MS5.3						
NJ2				LR	LR		
	comp=E,3μm,12.4s,MS5.3						
NJ2				LR	LR		
	comp=Z,5μm,13.4s,MS5.4						
SSE	**Sheshan**	34.18	44	P	P	08 28 03.8	-2.7
SSE				S	S	08 33 31.0	-0.3
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,336nm,10.0s						
SSE				LR	LR		
	comp=N,1μm,24.4s,MS4.7						
SSE				LR	LR		
	comp=E,1μm,24.5s,MS4.7						
SSE				LR	LR		
	comp=Z,914nm,15.2s						
SSE	**Sheshan**	34.18	44	P	P	08 28 03.8	-2.7
	comp=Z,27nm,0.7s,mb5.3						
SSE				S	S	08 33 31.0	-0.3
SSE				sS		08 33 46.1	
SSE				SS	SS	08 35 58.2	+18
SSE				LR	LR		
	comp=Z,910nm,15.2s,MS4.6						
WMQ	**Urumqi**	36.11	352	P	P	08 28 23.3	+0.4
WMQ				AP	pP	08 28 33.0	+5.8
WMQ				XP	sP	08 28 37.0	+8.0
WMQ				PP	PP	08 29 46.0	+0.7
WMQ				PCP	PcP	08 30 49.0	-0.1
WMQ				S	S	08 33 59.8	-1.4
WMQ				AMB	AMB		
	comp=Z,170nm,1.2s,mb5.8						
WMQ				AMB	AMB		
	comp=Z,969nm,5.4s						
WMQ				LR	LR		
	comp=N,3μm,17.3s,MS5.2						
WMQ				LR	LR		
	comp=E,2μm,17.0s,MS5.2						
WMQ				LR	LR		
	comp=Z,4μm,17.6s,MS5.2						
WBK	**Wadi Bani Khal**	36.72	297	⇓P	P	08 28 30.2	+2.0
JMDO	**Jabal Madar**	37.41	297	⇓P	P	08 28 36.9	+2.8
BJT	**Baijiatuau**	37.51	28	*eP*	P	08 28 36.0	+1.4
BJT				pmax	pmax		
	comp=Z,47nm,1.3s						
BJT	**Baijiatuau**	37.51	28	*eP*	P	08 28 36.0	+1.3
	comp=Z,47nm,1.3s,mb5.0						
BJI	**Beijing**	37.52	28	P	P	08 28 36.6	+1.8
BJI				pmax	pmax		
	comp=Z,38nm,2.0s,mb4.8						
BJI				MLR	MLR		
	comp=Z,610nm,21.6s,MS4.4						
BJI	**Beijing**	37.52	28	P	P	08 28 36.6	+1.8
	comp=Z,38nm,2.0s,mb4.8						
BJI				LR	LR		
	comp=Z,610nm,21.6s,MS4.4						
SMDO	**Samad**	37.66	298	P	P	08 28 39.7	+3.5
	SNR=16						
BIDO	**Bidbid**	37.74	298	⇑P	P	08 28 39.9	+3.1
	SNR=12						
UCH	**Uchtor**	38.21	336	P	P	08 28 41.5	+1.0
	SNR=12						
BSY	**Bisya**	38.32	297	⇓P	P	08 28 45.1	+3.5
	SNR=18						
KBK	**Karagaybulak**	38.41	337	P	P	08 28 42.0	-0.2
	SNR=6.0						
AML	**Almayashu**	38.46	335	P	P	08 28 43.9	+1.3
	SNR=34						
HOQ	**Hoqain**	38.47	298	P	P	08 28 46.5	+3.6
	SNR=29						
AAK	**Ala-Archa**	38.56	337	P	P	08 28 44.5	+1.0
	SNR=14						
AAK	**Ala-Archa**	38.56	337	P	P	08 28 44.3	+0.8
AAK				pmax	pmax		
	comp=Z,56nm,1.1s,mb5.2						
AAK	**Ala-Archa**	38.56	337	*eP*	P	08 28 43.0	-0.6
	comp=Z,32nm,0.9s,mb5.0						
CHMS	**Chumysh**	38.77	337	P	P	08 28 45.4	+0.1
	SNR=14						
EKS2	**Erkin-Say**	38.87	336	P	P	08 28 47.3	+1.2
	SNR=10						
ARQ	**Araqi**	39.09	297	P	P	08 28 51.6	+3.5
	SNR=18						
USP	**Ospenovka**	39.10	337	P	P	08 28 48.7	+0.7
	SNR=18						
MKAR	**Makanchi Array**	39.95	347	*i* P	P	08 28 53.6	-1.4
ABTO	**Aybut**	40.78	287	⇑P	P	08 29 01.7	-0.4
SONM	**Songino Array**	41.05	13	P	P	08 29 04.5	+0.5
	comp=Z,14nm,0.9s,mb4.6,baz=198,slow=7.8,SNR=21						
SONM				PcP	PcP	08 31 03.3	-1.2
	comp=Z,5.6nm,0.9s,baz=197,slow=3.5,SNR=6.5						
ULN	**Ulaanbaatar**	41.23	13	*i* P	P	08 29 05.4	-0.1
SNY	**Shenyang**	42.60	33	⇑P	P	08 29 18.3	+1.4
SNY				AMB	AMB		
	comp=Z,40nm,1.8s,mb4.8						
ZAK	**Zakamensk**	42.94	9	⇓*i*P	P	08 29 19.6	+0.1
MOY	**Mondy**	43.90	6	*eP*	P	08 29 27.9	+0.6
TLY	**Talaya**	44.25	9	*eP*	P	08 29 31.4	+1.3
TLY				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
TLY	**Talaya**	44.25	9	*i* P	P	08 29 30.9	+0.8
KURK	**Kurchatov**	44.47	346	*i* P	P	08 29 31.5	-0.4
KURK				pmax	pmax		
	comp=Z,74nm,1.2s,mb5.3						
KURK	**Kurchatov**	44.47	346	*eP*	P	08 29 31.4	-0.5
	comp=Z,130nm,1.2s,mb5.5						
MUN	**Mundaring**	45.03	153	*eP*	P	08 29 37.4	+0.8
	comp=Z,30nm,1.1s,mb5.0						
MUN	**Mundaring**	45.03	153	*eP*	P	08 29 37.4	+0.8
MUN				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.0						
KLBR	**Kellerberrin**	45.42	151	*eP*	P	08 29 39.6	-0.1
	comp=Z,362nm,1.0s,mb6.2						
NWAO	**Narrogin (SRO)**	46.29	153	P	P	08 29 46.7	+0.1
NWAO				pmax	pmax		
	comp=Z,17nm,0.8s						
NWAO	**Narrogin (SRO)**	46.29	153	P	P	08 29 46.7	+0.1
	comp=Z,17nm,0.8s,mb5.0,baz=331,slow=9.0,SNR=9.4						
NWAO	**Narrogin (SRO)**	46.29	153	*eP*	P	08 29 46.5	-0.1
	comp=Z,88nm,1.4s,mb5.5						
ZAL	**Zalesovo**	46.41	352	*i* P	P	08 29 47.9	+0.6
ZAL				pmax	pmax		
	comp=Z,28nm,0.9s						
ZAL	**Zalesovo**	46.41	352	P	P	08 29 46.3	-1.0
	comp=Z,28nm,0.9s,mb5.2,baz=300,slow=7.7,SNR=43						
HIA	**Hailar**	46.43	23	*eP*	P	08 29 47.9	+0.4
HIA				pmax	pmax		
	comp=Z,69nm,1.3s						
HIA	**Hailar**	46.43	23	*eP*	P	08 29 47.9	+0.4
	comp=Z,69nm,1.3s,mb5.4						
NVS	**Novosibirsk**	47.51	352	*i* P	P	08 29 54.2	-1.8
NVS				*i* S	S	08 36 46.5	-2.7
NVS				pmax	pmax		
	comp=N,48nm,1.2s						
NVS				pmax	pmax		
	comp=E,38nm,1.2s						
NVS				p

KLR pmax pmax
comp=E,85nm,2.6s
KLR pmax pmax
comp=Z,110nm,2.6s,mb5.3
BOD Bodaibo 52.04 13 *e*P **P 08 30 29.2 -1.5**
GNI Garni 54.30 314 P **P 08 30 48.0 +0.4**
GNI pmax pmax
comp=Z,33nm,1.2s
GNI Garni 54.30 314 P **P 08 30 48.0 +0.4**
comp=Z,33nm,1.2s,mb5.2,baz=186,slow=17,SNR=8.6
GNI Garni 54.30 314 *e*P **P 08 30 46.4 -1.2**
comp=Z,80nm,1.5s,mb5.4
CLNS Chul'man 54.34 20 *e*P **P 08 30 47.0 -0.6**
CLNS *e**PP pP 08 30 52.3 +0.3
CLNS *e* 08 31 53.9
CLNS *e*S **S 08 38 16.1 -7.3**
CLNS *e* 08 40 32.2
CLNS *e*SSS SSS 08 43 54.9 -6.7
CLNS pmax pmax
comp=Z,42nm,1.0s,mb5.3
CLNS pmax pmax
comp=N,22nm,0.9s
CLNS pmax pmax
comp=E,20nm,0.8s
CLNS pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS smax
comp=N,351nm,12.1s
CLNS smax
comp=Z,286nm,10.9s
CLNS smax
comp=E,104nm,12.5s
ASAJ Asahikawa 55.36 41 LR LR 08 53 51.4
comp=E,434nm,18.7s,MS4.6,baz=118,slow=35
PMG Port Moresby 55.63 107 P **P 08 30 57.4 -0.3**
PMG pmax pmax
comp=Z,21nm,0.8s
PMG Port Moresby 55.63 107 P **P 08 30 57.4 -0.3**
comp=Z,21nm,0.8s,mb5.2,baz=231,slow=7.6,SNR=6.4
PMG Port Moresby 55.63 107 *e*P **P 08 30 56.3 -1.4**
comp=Z,20nm,0.8s,mb5.2
ARU Arti 55.75 337 P **P 08 30 57.3 -0.6**
comp=Z,214nm,1.0s,mb6.1,SNR=13
ARU Arti 55.75 337 ⇓*i*P **P 08 30 51.1 -6.8**
ARU *e*S **S 08 38 32.5 -10**
ARU pmax pmax
comp=Z,55nm,1.1s,mb5.5
ARU MLR MLR
comp=N,1μm,20.0s,MS5.1
ARU MLR MLR
comp=Z,2μm,20.0s,MS5.2
ARU MLR MLR
comp=E,1μm,19.0s,MS5.1
ZEI Tsey 55.90 317 *e*P **P 08 30 58.3 -0.9**
ZEI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
YSS Yuzh-Sakhalins 56.72 38⇑*e*P **P 08 31 05.6 +0.5**
YSS *e* 08 31 16.2
YSS pmax pmax
comp=Z,40nm,1.2s,mb5.3
YSS MLR MLR
comp=E,500nm,14.0s
YSS MLR MLR
comp=Z,500nm,14.0s,MS4.8
KIV Kislovodsk 57.18 318 *i*P **P 08 31 07.6 -0.8**
KMBO Kilima Mbogo 57.37 264 P **P 08 31 12.8 +2.6**
comp=Z,29nm,0.9s,mb5.3,baz=59,slow=10.0,SNR=48
KMBO LR LR 08 51 46.7
comp=Z,1μm,20.3s,MS5.0,baz=96,slow=32
KMBO Kilima Mbogo 57.37 264 *e*P **P 08 31 10.4 +0.3**
comp=Z,39nm,0.9s,mb5.4
GOF Gofitskoye 57.39 319⇓*i*P **P 08 31 09.0 -0.9**
GOF pmax pmax
comp=Z,34nm,1.2s,mb5.2
ASF Jabal al Asfar 58.09 303 P **P 08 31 15.8 +0.8**
comp=Z,9.4nm,0.9s,mb4.8,baz=356,slow=3.3,SNR=11
ASF LR LR 08 58 45.0
comp=Z,619nm,20.1s,MS4.7,baz=319,slow=39
MALT Malatya 58.33 310 *e*P **P 08 31 15.1 -1.4**
MALT pmax pmax
comp=Z,21nm,1.1s,mb5.1
MALT Malatya 58.33 310 *e*P **P 08 31 15.1 -1.4**
comp=Z,21nm,1.1s,mb5.1
CTA Charters Tower 58.43 119 *e*P **P 08 31 15.9 -1.5**
comp=Z,7.5nm,1.2s,mb4.6
CTA Charters Tower 58.43 119 P **P 08 31 16.4 -1.0**
CTA pmax pmax
comp=Z,6.0nm,1.1s
CTA MLR MLR
comp=Z,716nm,19.9s
CTA Charters Tower 58.43 119 P **P 08 31 16.4 -1.0**
comp=Z,6.4nm,1.1s,mb4.6,baz=287,slow=6.1,SNR=4.7
CTA LR LR 08 57 31.1
comp=Z,716nm,19.9s,MS4.8,baz=289,slow=37
CTAO Charters Tower 58.43 119 *e*P **P 08 31 16.1 -1.3**
CTAO pmax pmax
comp=Z,39nm,1.5s,mb5.2
CTAO Charters Tower 58.43 119 *e*P **P 08 31 16.1 -1.3**
comp=Z,39nm,1.5s,mb5.2
SOKR Solikamsk 58.66 339⇓*i*P **P 08 31 17.1 -1.4**
SOKR pmax pmax
comp=Z,90nm,0.9s,mb5.8
SOKR MLR MLR
comp=Z,2μm,21.0s,MS5.3
SOC Sochi 59.04 316 *e*P **P 08 31 17.0 -4.4**
SOC *e* 08 32 05.5
SOC *e*PPP PPP 08 34 55.0 -3.1
SOC *e*S **S 08 39 19.4 -6.5**
SOC *e*SS SS 08 43 19.6 -2.2
SOC pmax pmax
comp=Z,54nm,1.0s,mb5.5
SOC pmax pmax
comp=N,37nm,0.8s
SOC pmax pmax
comp=E,54nm,1.3s
EIL Elat 59.31 300 P **P 08 31 24.2 +0.8**
comp=E,19nm,0.9s,mb5.1,baz=61,slow=2.3,SNR=10
EIL Elat 59.31 300 *e*P **P 08 31 22.7 -0.7**
comp=E,66nm,1.4s,mb5.5
YAK Yakutsk 59.90 18 *i*P **P 08 31 25.9 -1.1**
YAK pmax pmax
comp=Z,63nm,0.9s,mb5.7
YAK Yakutsk 59.90 18 *e*P **P 08 31 25.2 -1.8**
comp=Z,68nm,0.8s,mb5.7
STKA Stephens Creek 60.24 134⇑*i*P **P 08 31 28.0 -1.8**
comp=Z,6.1nm,0.9s,mb4.6
STKA Stephens Creek 60.24 134 P **P 08 31 28.1 -1.7**
comp=Z,8.0nm,0.9s,mb4.7,baz=310,slow=9.2,SNR=7.3
STKA LR LR 09 00 53.6
comp=Z,1μm,21.2s,MS5.0,baz=297,slow=39
ANN Anapa 61.00 317 *e*P **P 08 31 28.6 -6.2**
ANN pmax pmax
comp=Z,41nm,1.2s,mb5.4
VRSR Storozhevoye 62.24 324 *e*P **P 08 31 41.3 -1.8**
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.4
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,30nm,0.9s
BRTR Keskin Array B 62.30 311 P **P 08 31 41.8 -1.8**
BRTR pmax pmax
comp=Z,10.0nm,0.8s
BRTR Keskin Array B 62.30 311 P **P 08 31 41.8 -1.9**
comp=Z,9.7nm,0.8s,mb5.0,baz=121,slow=7.2,SNR=28
SIM Simferopol' 63.29 317 P **P 08 31 50.0 -0.1**
SIM pmax pmax
comp=Z,32nm,0.7s,mb5.6
SIM MLR MLR
comp=Z,600nm,19.0s,MS4.8
MBAR Mbarara 63.71 265 *e*P **P 08 31 53.1 -0.3**
MBAR pmax pmax
comp=Z,35nm,1.3s,mb5.2
MBAR Mbarara 63.71 265 *e*P **P 08 31 53.0 -0.4**
comp=Z,35nm,1.3s,mb5.2
ISP Isparta 64.31 308 *e*P **P 08 31 55.8 -1.2**
ISP pmax pmax
comp=Z,22nm,0.8s,mb5.2
ISP Isparta 64.31 308 *e*P **P 08 31 55.8 -1.1**
comp=Z,22nm,0.8s,mb5.2
MOS Moscow 64.94 329 *e*P **P 08 31 58.0 -2.7**
MOS *e* 08 32 39.1
MOS *e* 08 34 23.8
MOS pmax pmax
comp=Z,156nm,1.4s,mb5.8
MOS MLR MLR
comp=Z,2μm,22.8s,MS5.2
MOS Moscow 64.94 329 *e*P **P 08 31 59.4 -1.3**
OBN Obninsk 65.24 328*c i*P **P 08 31 58.7 -3.9**
OBN *i* 08 34 23.2
OBN *e*S S 08 40 33.4 -10
OBN pmax pmax
comp=Z,147nm,1.7s,mb5.7
OBN MLR MLR
comp=Z,900nm,20.0s,MS5.0
OBN Obninsk 65.24 328 *e*P **P 08 31 58.2 -4.4**
comp=Z,116nm,1.1s,mb5.8
MA2 Magadan 66.68 28 *e*P **P 08 32 11.6 -0.2**
MA2 pmax pmax
comp=Z,34nm,0.9s,mb5.4
MA2 Magadan 66.68 28 *e*P **P 08 32 11.6 -0.2**
comp=Z,34nm,0.9s,mb5.4
TIXI Tiksi 67.12 11 *i*P **P 08 32 12.9 -1.5**
TIXI pmax pmax
comp=Z,79nm,1.2s,mb5.6
TIXI Tiksi 67.12 11 *i*P **P 08 32 12.0 -2.4**
KIS Kishinev 67.38 318 *e*P **P 08 32 13.0 -3.5**
KIS *e* 08 32 29.0
AKASG Malin Array Be 68.02 322 P **P 08 32 18.6 -1.8**
AKASG pmax pmax
comp=Z,19nm,0.9s
AKASG Malin Array Be 68.02 322 P **P 08 32 18.6 -1.8**
comp=Z,19nm,0.9s,mb5.2,baz=89,slow=4.9,SNR=30
IDI Anoyia 68.44 305 P **P 08 32 22.0 -1.3**
comp=Z,59nm,1.1s,mb5.5,baz=99,slow=9.0,SNR=12
MLR Muntele Rosu 69.03 316 P **P 08 32 26.1 -0.7**
comp=Z,44nm,1.0s,mb5.3,baz=166,slow=1.4,SNR=21
MLR LR LR 09 09 19.6
comp=Z,576nm,18.1s,MS4.9,baz=306,slow=42
LSZ Lusaka 69.25 250 *e*P **P 08 32 29.7 +1.1**
LSZ pmax pmax
comp=Z,14nm,1.0s,mb4.8
LSZ Lusaka 69.25 250 *e*P **P 08 32 29.7 +1.1**
comp=Z,14nm,1.0s,mb4.8
MNK Minsk 69.81 325⇑*e*P **P 08 32 27.0 -4.4**
JOF Joensuu 70.71 334 *e*p **P 08 32 34.6 -2.1**
comp=Z,19nm,0.8s,mb5.1
BOLS Boljevac 71.61 313⇓*i*P **P 08 32 39.7 -2.8**
KWP Kalwaria 71.89 320 *e*P **P 08 32 43.6 -0.4**
KOLS Kolonicke sedl 72.07 319 *e*P **P 08 32 44.6 -0.5**
KOLS *e* 08 32 57.3
KOLS Kolonicke sedl 72.07 319 *e*P **P 08 32 44.6 -0.5**
KOLS *e* pP 08 32 49.0 -0.6
KOLS *e*pP pP 08 32 57.3 +7.7
SUW Suwalki 72.36 324 *e*P **P 08 32 45.5 -1.3**
FINES FINESS Array B 72.57 332 P **P 08 32 47.5 -0.3**
FINES pmax pmax
comp=Z,31nm,0.8s
FINES FINESS Array B 72.57 332 P **P 08 32 47.5 -0.4**
comp=Z,31nm,0.8s,mb5.3,baz=104,slow=7.9,SNR=35
CRVS Cervenica-Dubn 72.59 319 *e*P **P 08 32 49.9 +1.7**
CRVS *e* pP 08 32 54.4 +1.7
KAF Kangasniemi 72.65 333 *e*p **P 08 32 46.7 -1.6**
comp=Z,16nm,0.8s,mb5.0
KAF Kangasniemi 72.65 333 *e*P **P 08 32 46.7 -1.6**
KAF pmax pmax
comp=Z,16nm,0.8s,mb5.0
KECS Kecovo 73.18 318 *e*P **P 08 32 51.3 -0.4**
KECS *e* pP 08 32 55.4 -0.8
NIE Niedzica 73.41 319 *e*P **P 08 32 53.0 0.0**
PSZ Piszkesteto 73.50 318 *e*P **P 08 32 52.4 -1.2**
PSZ pmax pmax
comp=Z,72nm,1.6s,mb5.3
PSZ Piszkesteto 73.50 318 *e*P **P 08 32 52.4 -1.2**
comp=Z,72nm,1.6s,mb5.3
OJC Ojcow 73.84 320 *e*P **P 08 32 53.9 -1.5**
PKSM Moragy 74.19 316⇓*e*P **P 08 32 56.7 -0.9**
LBTB Lobatse 74.25 241 *e*P **P 08 32 59.6 +1.3**
LBTB pmax pmax
comp=Z,30nm,0.9s,mb5.2
LBTB Lobatse 74.25 241 *e*P **P 08 32 59.6 +1.2**
comp=Z,30nm,0.9s,mb5.2
VYHS Vyhne 74.27 318 *i*P **P 08 32 57.4 -0.6**
VYHS *e* 08 33 22.5
SRO Srobarova 74.55 317 *e*P **P 08 33 00.4 +0.7**
KEV Kevo 74.69 341 *e*p **P 08 32 59.5 -0.6**
comp=Z,16nm,0.7s,mb5.0
KEV Kevo 74.69 341 *e*P **P 08 32 59.5 -0.6**
KEV pmax pmax
comp=Z,16nm,0.7s,mb5.1
OKC Ostrava-Krasne 74.85 319 *e*P **P 08 33 01.1 -0.2**
OKC *e*pP pP 08 33 05.4 -0.5
ARCES ARCESS Array B 75.12 340 P **P 08 33 01.8 -0.7**
ARCES pmax pmax
comp=Z,22nm,1.0s
ARCES ARCESS Array B 75.12 340 P **P 08 33 01.8 -0.7**
comp=Z,22nm,1.0s,mb5.0,baz=104,slow=4.0,SNR=17
ARE0 ARCESS Array S 75.12 340 *e*P **P 08 33 01.9 -0.6**
TIP Timpagrande 75.17 308 *e*P **P 08 33 02.9 -0.5**
MORC Moravsky Berou 75.24 319 *e*P **P 08 33 02.6 -1.0**
MORC pmax pmax
comp=Z,73nm,1.2s,mb5.5
MORC Moravsky Berou 75.24 319 *e*P **P 08 33 02.6 -1.0**
comp=Z,73nm,1.2s,mb5.5
ZST Bratislava 75.40 318 *e*P **P 08 33 04.4 -0.1**
ZST *e* pP 08 33 08.6 -0.4
BOSA Boshof 75.60 238 *e*P **P 08 33 06.6 +0.5**
BOSA pmax pmax
comp=Z,37nm,1.2s,mb5.2
BOSA Boshof 75.60 238 *e*P **P 08 33 06.5 +0.5**
comp=Z,37nm,1.2s,mb5.2
DPC Dobruska-Polom 76.07 320 *e*P **P 08 33 08.6 +0.3**
KSP Ksiaz 76.12 320 *e*P **P 08 33 07.8 -0.8**
KSP *e*pP pP 08 33 12.8 -0.3
KSP Ksiaz 76.12 320 *e*P **P 08 33 08.6 +0.1**
UPC Upice 76.28 320 *e*P **P 08 33 09.7 +0.3**
GROS Grobnik 76.38 316 *e*P **P 08 33 09.8 -0.2**
ARSA Arzberg 76.40 317⇓*i*P **P 08 33 10.3 +0.1**
comp=Z,44nm,1.3s,mb5.2
PERS Pernice 76.65 316 *i*P **P 08 33 11.6 0.0**
VAE Valguarnera 76.99 307 P **P 08 33 15.5 +1.8**
comp=Z,7.2nm,0.3s,mb5.0,baz=84,slow=14,SNR=2.8
PRU Pruhonice 77.19 319 *e*P **P 08 33 14.7 +0.2**
PVCC Panska Ves 77.20 320 *e*P **P 08 33 14.8 +0.2**
MOA Molln 77.28 317⇑*i*P **P 08 33 14.9 -0.2**
comp=Z,24nm,1.1s,mb5.0
BRG Berggiesshubel 77.61 320 *i*P **P 08 33 17.2 +0.4**
BRG *i* pP 08 33 21.2 -0.2
BRG pmax pmax
comp=Z,114nm,1.9s,mb5.5
BRG MLR MLR
comp=Z,850nm,17.0s,MS5.1
BRG Berggiesshubel 77.61 320 *i*P **P 08 33 17.2 +0.4**
comp=Z,114nm,1.9s,mb5.5
BRG *i* pP 08 33 21.2 -0.2
BRG LR LR
comp=Z,850nm,17.0s,MS5.1
GEC2 GERESS Array S 77.69 318 *e*P **P 08 33 17.5 +0.2**
GEC2 pmax pmax
comp=Z,60nm,1.1s,mb5.4
GEC2 GERESS Array S 77.69 318 *e*P **P 08 33 17.5 +0.2**
comp=Z,60nm,1.1s,mb5.4
GERES GERESS Array B 77.69 318 P **P 08 33 16.4 -0.9**
GERES pmax pmax
comp=Z,15nm,0.8s
GERES GERESS Array B 77.69 318 P **P 08 33 16.4 -0.9**
comp=Z,15nm,0.8s,mb5.0,baz=90,slow=5.3,SNR=52
KHC Kasperske Hory 77.78 318 *e*P **P 08 33 17.5 -0.3**
KHC *e*pP pP 08 33 21.9 -0.4
RUE Ruedersdorf 77.79 322 *e*P **P 08 33 18.0 +0.2**
comp=Z,129nm,1.1s,mb5.8
KBA Koelnbreinsper 77.88 316⇑*i*P **P 08 33 18.0 -0.4**
comp=Z,19nm,1.3s,mb4.9
KBA Koelnbreinsper 77.88 316⇑*i*P **P 08 33 18.0 -0.4**
KBA pmax pmax
comp=Z,19nm,1.3s,mb4.9
CLL Collm 78.22 321⇓*i*P **P 08 33 20.1 -0.1**
CLL *i* pP 08 33 24.0 -0.7
CLL pmax pmax
comp=Z,89nm,2.0s,mb5.3
CLL Collm 78.22 321⇓*i*P **P 08 33 20.1 -0.1**
comp=Z,89nm,2.0s,mb5.3
CLL *i* pP 08 33 24.0 -0.7
CLL Collm 78.22 321 ⇓P **P 08 33 20.1 -0.1**
comp=Z,logA/T=1.6,mb5.3
CLL *i* *PP pP 08 33 24.0 -0.7
WET Wettzell 78.24 318 *e*P **P 08 33 20.6 +0.3**
WET pmax pmax
comp=Z,46nm,1.1s,mb5.3
WET Wettzell 78.24 318 *e*P **P 08 33 20.6 +0.3**
comp=Z,46nm,1.1s,mb5.3
HFS Hagfors 78.31 330 P **P 08 33 19.1 -1.4**
HFS pmax pmax
comp=Z,33nm,0.9s
HFS Hagfors 78.31 330 P **P 08 33 19.1 -1.4**
comp=Z,33nm,0.9s,mb5.3,baz=108,slow=4.7,SNR=20
NKC Novy Kostel 78.54 320 *e*P **P 08 33 22.2 +0.2**
MAW Mawson 78.64 192 *e*P **P 08 33 23.4 +1.2**
comp=Z,7.7nm,0.8s,mb4.7
MAW Mawson 78.64 192 *e*P **P 08 33 23.4 +1.2**
MAW pmax pmax
comp=Z,8.0nm,0.8s
MAW Mawson 78.64 192 P **P 08 33 22.2 +0.1**
comp=Z,9.8nm,0.8s,mb4.8,baz=15,slow=7.4,SNR=6.6
WTTA Wattenberg 79.05 317⇑*i*P **P 08 33 24.7 -0.1**
comp=Z,56nm,1.0s,mb5.4
WTTA Wattenberg 79.05 317⇑*i*P **P 08 33 24.7 -0.1**
WTTA pmax pmax
comp=Z,56nm,1.0s,mb5.5
MOX Moxa 79.08 320 *e*P **P 08 33 24.9 0.0**
MOX pmax pmax
comp=Z,41nm,1.3s,mb5.2
MOX Moxa 79.08 320 *e*P **P 08 33 24.9 0.0**
comp=Z,41nm,1.3s,mb5.2
MOX Moxa 79.08 320 *i*P **P 08 33 24.9 0.0**
comp=Z,logA/T=1.5,mb5.2
FUR Furstenfeldbru 79.29 317 *e*P **P 08 33 25.8 -0.3**
GRA1 Grafenberg Arr 79.33 319 *e*P **P 08 33 26.9 +0.6**
comp=Z,128nm,1.6s,mb5.6
GRA1 *e*pP pP 08 33 31.0 +0.2
GRF Grafenberg Arr 79.33 319 *e*P **P 08 33 26.9 +0.6**
GRF *e**PP pP 08 33 31.0 +0.2
GRF pmax pmax
comp=Z,128nm,1.6s,mb5.6
GRF Grafenberg Arr 79.33 319 *e*P **P 08 33 26.9 +0.6**
GRF *e**PP pP 08 33 31.0 +0.2
GRF pmax pmax
comp=Z,128nm,1.6s,mb5.6
GRF Grafenberg Arr 79.33 319 *e*P **P 08 33 26.9 +0.6**
comp=Z,128nm,1.6s,mb5.6
GRF *e*pP pP 08 33 31.0 +0.2
SQTA Sankt Quirin 79.34 317⇑*i*P **P 08 33 26.3 -0.1**
comp=Z,37nm,0.9s,mb5.3
SQTA Sankt Quirin 79.34 317⇑*i*P **P 08 33 26.3 -0.1**
SQTA pmax pmax
comp=Z,37nm,0.9s,mb5.3
MOTA Moosalm 79.41 317⇑*i*P **P 08 33 26.6 -0.2**
comp=Z,38nm,1.0s,mb5.3
MOTA Moosalm 79.41 317⇑*i*P **P 08 33 26.6 -0.2**
MOTA pmax pmax
comp=Z,38nm,1.0s,mb5.3
NB2 NORSAR Subarra 79.59 331 P **P 08 33 25.5 -1.9**
comp=Z,42nm,0.9s,mb5.4,baz=92,slow=5.8
NB2 NORSAR Subarra 79.59 331 P **P 08 33 25.5 -1.9**
baz=92,slow=5.9
NOA NORSAR Array B 79.59 331 P **P 08 33 27.0 -0.4**
NOA pmax pmax
comp=Z,22nm,0.9s
NOA NORSAR Array B 79.59 331 P **P 08 33 27.0 -0.5**
comp=Z,22nm,0.9s,mb5.1,baz=93,slow=5.5,SNR=30
NAO01 NORSAR Array S 79.74 330 *e*P **P 08 33 27.4 -0.9**
comp=Z,31nm,0.9s,mb5.2
CLZ Clausthal 79.87 321 *e*P **P 08 33 29.4 +0.2**
comp=Z,75nm,1.2s,mb5.5
DAVA Damuels 80.24 317⇑*i*P **P 08 33 31.4 +0.2**
comp=Z,80nm,1.2s,mb5.5
DAVOX Davos 80.25 316 P **P 08 33 31.9 +0.6**
comp=Z,32nm,0.9s,mb5.3,baz=102,slow=5.9,SNR=16
SUR Sutherland 80.35 235 *e*P **P 08 33 33.8 +1.7**
comp=Z,28nm,1.0s,mb5.2
TOD Tromm 80.90 319 *e*P **P 08 33 35.1 +0.4**
PGF Pioggiola 81.03 312 *e*P **P 08 33 35.3 -0.2**
comp=Z,114nm,1.3s,mb5.3
PGF Pioggiola 81.03 312 *e*P **P 08 33 35.3 -0.2**
PGF pmax pmax
comp=Z,57nm,1.3s,mb5.3
TNS Taunus Mts 81.11 320 *e*P **P 08 33 36.1 +0.3**
BFO Black Forest 81.26 318 *e*P **P 08 33 36.3 -0.3**
BFO pmax pmax
comp=Z,36nm,1.2s,mb5.2
BFO Black Forest 81.26 318 *e*P **P 08 33 36.3 -0.3**
comp=Z,36nm,1.2s,mb5.2
KTD Kalmit 81.38 319 *e*P **P 08 33 37.9 +0.7**
FELD Feldberg 81.49 317 *e*P **P 08 33 38.1 +0.3**
LANF Langenberg 81.58 318 *e*P **P 08 33 39.0 +0.8**
ABH Alteburg 81.71 319 *e*P **P 08 33 39.7 +0.8**
WLS Welschbruch 81.90 318 *e*P **P 08 33 40.1 +0.2**
CDF Champ du Feu 81.95 318 *e*P **P 08 33 39.7 -0.5**
comp=Z,88nm,1.4s,mb5.2
CDF Champ du Feu 81.95 318 *e*P **P 08 33 39.7 -0.5**
CDF pmax pmax
comp=Z,44nm,1.4s,mb5.2
RUP Ruppelstein 82.03 319 *e*P **P 08 33 41.4 +0.9**
ECH Echery 82.04 318 *e*P **P 08 33 41.0 +0.4**
MOF Molkenrain 82.08 317 *e*P **P 08 33 41.2 +0.4**
WTSB Winterswijk 82.08 321 *e*P **P 08 33 40.7 0.0**
comp=Z,58nm,2.3s,mb5.1
SBF Sospel 82.10 313 *e*P **P 08 33 40.9 -0.1**
comp=Z,78nm,1.1s,mb5.3
SBF Sospel 82.10 313 *e*P **P 08 33 40.9 -0.1**
SBF pmax pmax
comp=Z,39nm,1.1s,mb5.2
TOUF Mont Tournerai 82.22 313 *e*P **P 08 33 43.2 +1.5**
HINF Hinteralfeld 82.27 317 *e*P **P 08 33 42.6 +0.8**
LOMF Lomont 82.31 317 *e*P **P 08 33 42.5 +0.4**
LPG La Plagne 82.48 315 *e*P **P 08 33 43.3 +0.3**
comp=Z,72nm,0.9s,mb5.3
LPG La Plagne 82.48 315 *e*P **P 08 33 43.3 +0.3**
LPG pmax pmax
comp=Z,36nm,0.9s,mb5.3
LPL La Plagne 82.50 315 *e*P **P 08 33 43.3 +0.3**
comp=Z,84nm,1.0s,mb5.3
LPL La Plagne 82.50 315 *e*P **P 08 33 43.3 +0.3**
LPL pmax pmax
comp=Z,42nm,1.0s,mb5.3
MBDF Montbardon 82.52 314 *e*P **P 08 33 42.5 -0.7**
comp=Z,102nm,1.5s,mb5.3
MBDF Montbardon 82.52 314 *e*P **P 08 33 42.5 -0.7**
MBDF pmax pmax
comp=Z,51nm,1.5s,mb5.3
BNI Bardonecchia 82.56 314 *e*P **P 08 33 43.5 +0.1**
BNI pmax pmax
comp=Z,32nm,1.0s,mb5.3
BNI Bardonecchia 82.56 314 *e*P **P 08 33 43.5 +0.1**
comp=Z,32nm,1.0s,mb5.3
HAU Haudompre 82.60 317 *e*P **P 08 33 43.1 -0.4**
comp=Z,96nm,1.1s,mb5.5
HAU *e*R
comp=Z,570nm,22.2s
HAU Haudompre 82.60 317 *e*P **P 08 33 43.1 -0.4**
HAU pmax pmax
comp=Z,48nm,1.1s,mb5.4
HAU MLR MLR
comp=Z,570nm,22.3s,MS4.9
WLF Walferdange 82.62 319 *e*P **P 08 33 43.9 +0.3**
WLF pmax pmax
comp=Z,24nm,0.9s,mb5.2
WLF Walferdange 82.62 319 *e*P **P 08 33 43.9 +0.3**
comp=Z,24nm,0.9s,mb5.2
FRF La Foret Royal 82.69 313 *e*P **P 08 33 44.1 0.0**
comp=Z,309nm,1.8s,mb5.7
FRF La Foret Royal 82.69 313 *e*P **P 08 33 44.1 0.0**
FRF pmax pmax
comp=Z,154nm,1.8s,mb5.7
HGN Heimansgroeve 82.69 320 *e*P **P 08 33 44.2 +0.2**
comp=Z,26nm,3.3s
LMR La Mourre 82.81 313 *e*P **P 08 33 44.7 0.0**
THEF They Montfort 82.83 318 *e*P **P 08 33 42.9 -1.8**
CABF La Chapelle 82.87 316 *e*P **P 08 33 45.1 +0.1**
comp=Z,128nm,1.3s,mb5.5
CABF La Chapelle 82.87 316 *e*P **P 08 33 45.1 +0.1**
CABF pmax pmax
comp=Z,64nm,1.3s,mb5.5
ORIF Oris-en-Rattie 83.14 314 *e*P **P 08 33 48.1 +1.7**
ORIF *e*R
comp=Z,488nm,21.5s
MEZF Maizieres J'vi 83.43 318 *e*P **P 08 33 47.6 -0.2**
SMRF Simiane la Rot 83.43 313 *e*P **P 08 33 48.4 +0.5**
comp=Z,167nm,1.5s,mb5.5
GIVF Givet 83.45 320 *e*P **P 08 33 47.9 0.0**
BAIF Baives 83.85 320 *e*P **P 08 33 50.1 +0.2**
comp=Z,118nm,1.4s,mb5.5
BAIF Baives 83.85 320 *e*P **P 08 33 50.1 +0.2**
BAIF pmax pmax
comp=Z,59nm,1.4s,mb5.5

VIVF Saint-Julien-I 84.00 314 *eP* **P 08 33 50.9 +0.1**
comp=Z,92nm,1.3s,mb5.4
VIVF Saint-Julien-I 84.00 314 *eP* **P 08 33 50.9 +0.1**
VIVF pmax pmax
comp=Z,46nm,1.3s,mb5.5
SMF Signal de Mont 84.41 316 *eP* **P 08 33 52.5 -0.3**
comp=Z,51nm,1.0s,mb5.3
SMF Signal de Mont 84.41 316 *eP* **P 08 33 52.5 -0.3**
SMF pmax pmax
comp=Z,26nm,1.0s,mb5.3
SSF Saint Saulge 84.59 317 *eP* **P 08 33 53.6 -0.1**
SSF pmax pmax
comp=Z,49nm,1.4s,mb5.4
SSF Saint Saulge 84.59 317 *eP* **P 08 33 53.6 -0.1**
comp=Z,49nm,1.4s,mb5.4
PLDF La Plantade 84.63 316 *eP* **P 08 33 54.9 +1.0**
LASF Ste Croix 84.66 314 *eP* **P 08 33 54.5 +0.4**
comp=Z,222nm,1.7s,mb5.7
AVF Avril sur Loir 84.73 316 *eP* **P 08 33 54.1 -0.3**
comp=Z,95nm,1.2s,mb5.5
AVF Avril sur Loir 84.73 316 *eP* **P 08 33 54.1 -0.3**
AVF pmax pmax
comp=Z,47nm,1.2s,mb5.5
AGO Saint Agoulin 84.96 316 *eP* **P 08 33 56.5 +0.9**
PYM Petit Puy Mans 85.08 315 *eP* **P 08 33 57.3 +1.1**
BGF Bois d'Agland 85.10 316 *eP* **P 08 33 56.3 0.0**
comp=Z,122nm,1.4s,mb5.5
BGF Bois d'Agland 85.10 316 *eP* **P 08 33 56.3 0.0**
BGF pmax pmax
comp=Z,61nm,1.4s,mb5.5
SYO Syowa Base 85.51 197 ⇓P **P 08 33 59.7 +1.9**
SYO Syowa Base 85.51 197 ⇓PcP PcP 08 34 03.0 +1.7
SYO Syowa Base 85.51 197 ⇓pP pP 08 34 07.1 +4.7
TCF Toulx Ste Croi 85.57 316 *eP* **P 08 33 58.6 0.0**
TCF Toulx Ste Croi 85.57 316 *eP* **P 08 33 58.6 0.0**
CAF Calviac 85.83 315 *eP* **P 08 34 00.3 +0.3**
comp=Z,63nm,1.4s,mb5.4
CAF Calviac 85.83 315 *eP* **P 08 34 00.3 +0.3**
CAF pmax pmax
comp=Z,32nm,1.4s,mb5.4
MTLF Montolieu 85.92 313 *eP* **P 08 34 00.7 +0.2**
comp=Z,89nm,1.4s,mb5.5
MTLF Montolieu 85.92 313 *eP* **P 08 34 00.7 +0.2**
MTLF pmax pmax
comp=Z,45nm,1.4s,mb5.5
MTLF Montolieu 85.92 313 *eP* **P 08 34 00.7 +0.2**
comp=Z,44nm,1.4s,mb5.5
TNA Tin City 86.08 24 *eP* **P 08 34 00.8 +0.1**
RJF Les Rejaudoux 86.17 315 *eP* **P 08 34 02.2 +0.6**
comp=Z,86nm,1.4s,mb5.5
RJF *eR*
comp=Z,383nm,20.8s
RJF Les Rejaudoux 86.17 315 *eP* **P 08 34 02.2 +0.6**
RJF pmax pmax
comp=Z,43nm,1.4s,mb5.5
RJF MLR MLR
comp=Z,380nm,20.8s,MS4.8
RPZ Rata Peaks 86.18 135 P **P 08 34 02.4 +0.6**
comp=Z,5.4nm,0.9s,mb4.8,baz=358,slow=11,SNR=2.6
RPZ LR LR 09 11 21.1
comp=Z,996nm,19.9s,MS5.2,baz=279,slow=35
LFF La Frestale 86.77 315 *eP* **P 08 34 05.1 +0.5**
comp=Z,62nm,1.2s,mb5.4
LFF La Frestale 86.77 315 *eP* **P 08 34 05.1 +0.5**
LFF pmax pmax
comp=Z,31nm,1.2s,mb5.4
LDF La Druitiere 86.83 318 *eP* **P 08 34 04.8 0.0**
FLN La Foliniere 87.04 319 *eP* **P 08 34 05.8 0.0**
FLN *eR*
comp=Z,420nm,17.8s
MFF Saint Martin d 87.14 316 *eP* **P 08 34 06.3 0.0**
comp=Z,107nm,1.4s,mb5.6
MFF Saint Martin d 87.14 316 *eP* **P 08 34 06.3 0.0**
MFF pmax pmax
comp=Z,53nm,1.4s,mb5.6
DAG Danmarks Havn 87.34 348 ⇓*iP* **P 08 34 06.4 -0.3**
DAG pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
DAG Danmarks Havn 87.34 348 ⇓*iP* **P 08 34 06.4 -0.3**
comp=Z,7.0nm,1.0s,mb4.8
ETSF Etsaut 88.00 313 *eP* **P 08 34 11.0 +0.5**
comp=Z,55nm,1.3s,mb5.3
ETSF Etsaut 88.00 313 *eP* **P 08 34 11.0 +0.5**
ETSF pmax pmax
comp=Z,28nm,1.3s,mb5.3
URZ Urewera 89.47 129 P **P 08 34 18.6 +0.9**
comp=Z,9.3nm,0.8s,mb5.2,baz=160,slow=8.1,SNR=3.3
ESDC Sonseca Array 91.09 310 P **P 08 34 26.0 +0.9**
comp=Z,9.3nm,1.0s,mb5.1,baz=53,slow=4.0,SNR=14
SPU Mount Spurr 94.20 26 *eP* **P 08 34 39.0 +0.1**
COLA College 94.24 22 *eP* **P 08 34 39.8 +0.8**
COLA pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
COLA College 94.24 22 *eP* **P 08 34 39.8 +0.8**
comp=Z,5.1nm,0.8s,mb5.0
MCK McKinley 94.37 23 *eP* **P 08 34 40.0 +0.4**
MCK pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
MCK McKinley 94.37 23 *eP* **P 08 34 40.0 +0.4**
comp=Z,8.8nm,1.0s,mb5.1
ILAR Eielson Array 94.65 22 P **P 08 34 40.6 -0.3**
ILAR pmax pmax
comp=Z,2.0nm,1.0s
ILAR Eielson Array 94.65 22 P **P 08 34 40.5 -0.4**
comp=Z,2.3nm,1.0s,mb4.6,baz=305,slow=4.3,SNR=8.8
SLKM Skilak Lake 95.30 27 *eP* **P 08 34 44.4 +0.4**
SML Sawmill 95.52 25 *eP* **P 08 34 45.0 0.0**
INK Inuvik 96.89 16 *eP* **P 08 34 51.3 +0.2**
INK pmax pmax
comp=Z,19nm,1.1s
INK Inuvik 96.89 16 P **P 08 34 50.6 -0.5**
comp=Z,11nm,1.1s,mb5.2,baz=287,slow=7.1,SNR=7.8
INK Inuvik 96.89 16 *eP* **P 08 34 51.3 +0.3**
comp=Z,19nm,1.1s,mb5.4
DBIC Dimbokro 97.86 278 P **P 08 34 57.9 +1.2**
DBIC pmax pmax
comp=Z,5.0nm,1.1s
DBIC Dimbokro 97.86 278 P **P 08 34 57.9 +1.2**
comp=Z,5.3nm,1.1s,mb5.0,baz=63,slow=5.5,SNR=3.1
YKA Yellowknife Ar 106.32 13 Pdiff Pdif 08 35 33.4 +0.1
comp=Z,1.4nm,1.1s,baz=343,slow=4.6,SNR=4.4
YKA PKiKP 08 39 44.6
comp=Z,0.1nm,0.6s,baz=301,slow=4.1,SNR=3.8
YKA PKKPbc 08 51 05.7
comp=Z,0.7nm,1.0s,baz=154,slow=2.9,SNR=4.9
YKA PKKPab 08 51 21.9
comp=Z,0.5nm,0.7s,baz=146,slow=3.8,SNR=7.1
SCHQ Schefferville 115.39 348 PKP PKPdf 08 40 02.1 -2.2
comp=Z,3.8nm,0.9s,baz=76,slow=4.2,SNR=2.7
BOZ Bozeman (W) 121.83 21 *e*PKIKP PKPdf 08 40 15.2 -1.8
MCMT McKenzie Canyo 122.09 22 *e*PKPdf PKPdf 08 40 16.3 -1.2
LAO LASA Array 122.63 16 *e*PKPdf PKPdf 08 40 17.2 -1.3
LKWY Lake 123.20 21 *e*PKIKP PKPdf 08 40 19.9 +0.2
SNOW Snow King Moun 124.03 22 *e*PKPdf PKPdf 08 40 20.1 -1.3
NVAR Mina Array Bea 124.84 31 PKP PKPdf 08 40 22.3 -0.8
comp=Z,4.2nm,0.9s,baz=348,slow=0.3,SNR=14
NVAR Mina Array Bea 124.84 31 PKP PKPdf 08 40 22.3 -0.8
PDAR Pinedale Array 125.07 21 PKP PKPdf 08 40 21.4 -2.0
comp=Z,3.9nm,0.9s,baz=38,slow=1.5,SNR=21
PDAR PP PP 08 42 06.4 -6.7
comp=Z,0.9nm,1.0s,baz=297,slow=2.0,SNR=2.9
SADO Sadowa 127.12 354 PKP PKPdf 08 40 25.1 -2.1
comp=Z,5.6nm,0.9s,baz=31,slow=4.7,SNR=3.7
MSU Marysvale 127.67 26 *e*PKIKP PKPdf 08 40 27.2 -1.3
NEN Nelson 128.74 30 *e*PKPdf PKPdf 08 40 29.2 -1.5
PV10 Paradox Valley 129.08 23 *e*PKPdf PKPdf 08 40 30.0 -1.2
LAZ Ladron 133.29 24 *e*PKPdf PKPdf 08 40 37.3 -2.0
LPM Los Pinos Moun 133.57 24 *e*PKPdf PKPdf 08 40 38.2 -1.6
CPRX Cap Rock 135.77 22 *e*PKPdf PKPdf 08 40 42.2 -1.7
GDL2 Guadalupe Moun 136.32 23 *e*PKPdf PKPdf 08 40 42.8 -2.1
MIAR Mount Ida 137.07 9 *e*PKIKP PKPdf 08 40 44.5 -1.7
LTX Lajitas 139.14 24 *e*PKIKP PKPdf 08 40 48.0 -2.2
TXAR Lajitas Array 139.14 24 PKhKP 08 40 40.6
comp=Z,0.6nm,0.9s,baz=89,slow=0.5,SNR=4.3
TXAR PKP PKPdf 08 40 48.4 -1.8
comp=Z,0.9nm,0.6s,baz=294,slow=0.4,SNR=12
TXAR PP PP 08 43 35.3 -8.5
comp=Z,1.1nm,1.1s,baz=304,slow=3.3,SNR=3.4
TXAR Lajitas Array 139.14 24 PKP 08 40 40.6
TXAR PKP PKPdf 08 40 48.4 -1.8
TXAR PP PP 08 43 35.3 -8.5
JCT Junction City 139.49 19 *e*PKIKP PKPdf 08 40 48.2 -2.6
BAO Brasilia Array 142.15 255 P PKPdf 08 40 51.0 -4.9
PLCA Paso Flores 144.64 200 PKIKP PKPdf 08 40 57.2 -2.4
PLCA pmax pmax
comp=Z,17nm,0.9s
PLCA Paso Flores 144.64 200 PKP PKPdf 08 40 57.2 -2.4
comp=Z,16nm,0.9s,baz=161,slow=4.2,SNR=24
PLCA Paso Flores 144.64 200 *e*PKPdf PKPdf 08 40 56.8 -2.7
SJG San Juan 147.53 323 PKP2 PKPab 08 41 04.7 -3.7
SJG pmax pmax
comp=Z,15nm,0.3s
SJG San Juan 147.53 323 PKPbc PKPdf 08 41 04.7 -0.3
comp=Z,15nm,0.3s,baz=320,slow=17,SNR=6.0
FCH Farellones 150.94 208‖ *eP* PKPdf 08 41 14.9 +4.8
SDV Santo Domingo 157.34 317 PKP PKPdf 08 41 17.7 -1.7
comp=Z,6.9nm,1.0s,baz=287,slow=2.2,SNR=5.4
SDV PKPab PKPab 08 41 49.2 -0.4
comp=Z,12nm,0.9s,baz=56,slow=2.2,SNR=7.0
LVC Limon Verde 158.12 227 PKP PKPdf 08 41 19.6 -0.5
comp=Z,2.3nm,0.9s,baz=126,slow=8.0,SNR=3.1
LVC PKPab PKPab 08 41 53.9 +1.2
comp=Z,13nm,1.1s,baz=90,slow=4.7,SNR=5.0
LPAZ La Paz 160.77 243 PKP PKPdf 08 40 36.6 -47
comp=Z,3.1nm,0.9s,baz=46,slow=6.3,SNR=9.6
LPAZ PKPab PKPab 08 41 19.9 -44
comp=Z,2.9nm,0.8s,baz=82,slow=9.3,SNR=5.0
ROSC El Rosal 162.77 317 PKP PKPdf 08 41 25.1 -0.2
comp=Z,10.0nm,1.0s,baz=267,slow=22,SNR=5.3
OTAV Otavalo 168.93 317 *e*PKPdf PKPdf 08 41 29.7 -0.6

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*NEIC **28** 08:21:46.0±0.8, 4.21N×78.28W, h36km±7km, mb4.8/49, Error ellipse: s-maj=6.6km s-min=4.5km az=53.0*
*IDC **28** 08:21:47.8±2.7, 4.31N×78.18W, h45km±24km, mb4.4/21, mb1 4.6/24, mb1mx4.5/26, mbtmp4.7/24, ML3.9/1, MS3.7/3, Ms1 3.7/3, ms1mx3.1/25, Error ellipse: s-maj=19.7km s-min=14.7km az=51.0, Putative timing error at LPAZ*
ISC 28 08:21:44.5±1.0, 4.28N±0.05×78.25W±0.05, h35km±9km, n124, σ1$02/119, mb4.8/61, 1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.95**	**81**	P	**P**	**08 22 46.9**	**+2.6**
	6.9nm,0.3s,baz=246,slow=1.8,SNR=9.2						
ROSC				S	**S**	**08 23 34.6**	**+4.5**
	9.4nm,0.3s,baz=79,slow=21,SNR=4.1						
ROSC				LR	LR	08 23 46.9	
	comp=Z,653nm,19.2s,baz=40,slow=31						
OTAV	**Otavalo**	**4.02**	**183**	*e*Pn	**P**	**08 22 42.9**	**-2.4**
BUS	**Buena Vista**	**7.58**	**314**	*eP*	**P**	**08 23 37.0**	**+1.8**
LCR2	**La Lucha 2**	**7.88**	**314**	*eP*	**P**	**08 23 40.6**	**+1.1**
SDV	**Santo Domingo**	**8.84**	**58**	P	**P**	**08 23 51.1**	**-1.7**
	1.5nm,0.3s,baz=277,slow=11,SNR=12						
SDV				S	**S**	**08 25 27.7**	**-4.7**
	2.1nm,0.3s,baz=81,slow=19,SNR=3.7						
SDV				LR	LR	08 27 47.5	
	comp=Z,934nm,19.2s,baz=217,slow=41						
SDV	**Santo Domingo**	**8.84**	**58**	*e*Pn	**P**	**08 23 51.6**	**-1.2**
	29nm,0.9s						
NNA	**Nana**	**16.22**	**175**	P	**P**	**08 25 35.5**	**+4.0**
	1um,0.8s,SNR=20						
NNA	**Nana**	**16.22**	**175**	*eP*	**P**	**08 25 30.6**	**-0.9**
	169nm,0.9s						
NNA				*e*pP		08 25 35.9	
SJG	**San Juan**	**18.15**	**40**	P	**P**	**08 25 56.4**	**+0.7**
	3.9nm,0.3s,baz=231,slow=13,SNR=5.5						
SJG				LR	LR	08 33 54.5	
	comp=Z,197nm,18.9s,baz=265,slow=40						
SJG	**San Juan**	**18.15**	**40**	*eP*	**P**	**08 25 56.1**	**+0.4**
	35nm,1.0s						
TEIG	**Tepich**	**18.62**	**329**	P	**P**	**08 25 59.7**	**-1.9**
	4.6nm,0.5s						
SAML	**Samuel**	**19.96**	**131**	*eP*	**P**	**08 26 13.6**	**-3.0**
	11nm,0.5s						
ARE	**Arequipa**	**21.66**	**162**	*eP*	**P**	**08 26 36.0**	**+1.9**
LPAZ	**La Paz**	**22.75**	**154**	P	Px	08 25 58.9	
	5.0nm,0.7s,baz=336,slow=11,SNR=14						
LVC	**Limon Verde**	**26.24**	**162**	P	**P**	**08 27 36.8**	**+0.1**
	4.4nm,1.0s,mb4.1,baz=66,slow=10.0,SNR=2.1						
LVC	**Limon Verde**	**28.24**	**162**	P	**P**	**08 27 35.1**	**-1.6**
	7.4nm,1.0s,mb4.3						
GOGA	**Godfrey**	**29.39**	**351**	*eP*	**P**	**08 27 46.9**	**+0.1**
	13nm,0.7s,mb4.8						
LRAL	**Lakeview Retre**	**29.76**	**345**	*eP*	**P**	**08 27 49.5**	**-0.6**
	12nm,0.9s,mb4.6						
CPCT	**Cooper Cave**	**31.56**	**350**	*eP*	**P**	**08 28 06.1**	**0.0**
BLA	**Blacksburg**	**32.84**	**357**	*eP*	**P**	**08 28 17.2**	**0.0**
	23nm,0.9s,mb5.1						
WVT	**Waverly**	**32.91**	**346**	*eP*	**P**	**08 28 16.3**	**-1.5**
	8.0nm,0.9s,mb4.7						
UALR	**University of**	**33.04**	**338**	*eP*	**P**	**08 28 17.5**	**-1.5**
	13nm,1.0s,mb4.8						
JCT	**Junction City**	**33.06**	**324**	*eP*	**P**	**08 28 17.9**	**-1.3**
	8.4nm,1.0s,mb4.6						
USIN	**University of**	**34.62**	**347**	*eP*	**P**	**08 28 31.6**	**-0.9**
	31nm,0.8s,mb5.3						
TXAR	**Lajitas Array**	**34.65**	**319**	P	**P**	**08 28 33.2**	**+0.3**
	3.7nm,1.1s,mb4.2,baz=141,slow=8.0,SNR=13						
TXAR				PcP	PcP	08 31 06.9	+0.1
	0.9nm,0.8s,baz=135,slow=5.3,SNR=5.3						
TXAR	**Lajitas Array**	**34.65**	**319**	P	**P**	**08 28 33.2**	**+0.3**
TXAR				PcP	PcP	08 31 06.9	+0.1
LTX	**Lajitas**	**34.65**	**319**	*eP*	**P**	**08 28 32.0**	**-0.9**
	6.7nm,1.1s,mb4.5						
BLO	**Bloomington**	**35.54**	**349**	*eP*	**P**	**08 28 39.5**	**-0.9**
	22nm,0.8s,mb5.1						
CCM	**Cathedral Cave**	**35.65**	**342**	*eP*	**P**	**08 28 39.6**	**-1.7**
	36nm,1.2s,mb5.2						
WMOK	**Wichita Mounta**	**35.79**	**330**	*eP*	**P**	**08 28 40.8**	**-1.8**
	5.8nm,0.9s,mb4.5						
ACSO	**Alum Creek Sta**	**36.05**	**354**	*eP*	**P**	**08 28 44.9**	**+0.2**
	16nm,0.8s,mb5.0						
ALLY	**Alegheny Colle**	**37.25**	**358**	*eP*	**P**	**08 28 55.3**	**+0.5**
CPRX	**Cap Rock**	**37.29**	**323**	*eP*	**P**	**08 28 55.7**	**+0.5**
MNTX	**Cornudas Mount**	**37.32**	**320**	*eP*	**P**	**08 28 55.6**	**+0.1**
	13nm,1.1s,mb4.7						
ERPA	**Erie**	**37.71**	**358**	*eP*	**P**	**08 28 59.1**	**+0.5**
	59nm,1.0s,mb5.3						
KSU1	**Kansas State U**	**38.46**	**337**	*eP*	**P**	**08 29 03.8**	**-1.1**
ANMO	**Albuquerque**	**40.17**	**323**	P	**P**	**08 29 20.6**	**+1.4**
	10nm,0.9s,mb4.5,baz=137,slow=9.5,SNR=35						
ANMO	**Albuquerque**	**40.17**	**323**	*eP*	**P**	**08 29 20.2**	**+1.1**
	11nm,1.0s,mb4.5						
LAZ	**Ladron**	**40.21**	**322**	*eP*	**P**	**08 29 21.1**	**+1.6**
SADO	**Sadowa**	**40.34**	**359**	P	**P**	**08 29 21.0**	**+0.6**
	23nm,0.9s,mb4.9,baz=195,slow=8.9,SNR=16						
SADO	**Sadowa**	**40.34**	**359**	P	**P**	**08 29 21.0**	**+0.6**
TUC	**Tucson**	**41.29**	**316**	*eP*	**P**	**08 29 29.8**	**+1.3**
	11nm,1.1s,mb4.4						
SDCO	**Great Sand Dun**	**41.59**	**327**	*eP*	**P**	**08 29 32.0**	**+1.2**
	28nm,1.4s,mb4.7						
ISCO	**Idaho Springs**	**43.15**	**329**	*eP*	**P**	**08 29 44.4**	**+0.7**
	7.5nm,1.3s,mb4.3						
RCBR	**Riachuelo**	**43.47**	**103**	*eP*	**P**	**08 29 44.8**	**-1.7**
	12nm,0.9s,mb4.6						
PV01	**Paradox Valley**	**43.58**	**325**	*eP*	**P**	**08 29 48.2**	**+1.0**
PV10	**Paradox Valley**	**44.02**	**325**	*eP*	**P**	**08 29 51.0**	**+0.3**
PLCA	**Paso Flores**	**45.34**	**172**	P	**P**	**08 30 01.9**	**+0.6**
	2.8nm,0.8s,mb4.2,baz=343,slow=8.8,SNR=8.8						
PLCA	**Paso Flores**	**45.34**	**172**	*eP*	**P**	**08 30 00.8**	**-0.4**
	14nm,1.0s,mb4.8						
PLCA				*e*pP	pP	08 30 10.2	-1.3
SRU	**San Rafael**	**45.37**	**324**	*eP*	**P**	**08 30 02.1**	**+0.6**
NEN	**Nelson**	**45.97**	**318**	*eP*	**P**	**08 30 07.1**	**+0.8**
DAU	**Daniels Canyon**	**46.65**	**325**	*eP*	**P**	**08 30 12.7**	**+1.1**
BW06	**Boulder Array**	**47.35**	**329**	*eP*	**P**	**08 30 16.8**	**-0.2**
	6.6nm,1.1s,mb4.5						
PDAR	**Pinedale Array**	**47.35**	**329**	P	**P**	**08 30 17.3**	**+0.3**
	8.5nm,1.2s,mb4.5,baz=129,slow=9.5,SNR=16						
PDAR				PcP	PcP	08 31 46.9	-1.0
	1.3nm,0.8s,baz=139,slow=4.5,SNR=5.4						
HWUT	**Hardware Ranch**	**47.63**	**326**	*eP*	**P**	**08 30 19.0**	**-0.2**
	5.3nm,0.9s,mb4.6						
SNOW	**Snow King Moun**	**48.46**	**328**	*eP*	**P**	**08 30 26.0**	**+0.3**
LOHW	**Long Hollow**	**48.48**	**329**	*eP*	**P**	**08 30 26.2**	**+0.3**
TPAW	**Teton Pass**	**48.58**	**328**	*eP*	**P**	**08 30 26.8**	**+0.2**
MOOW	**Moose Ponds**	**48.65**	**329**	*eP*	**P**	**08 30 27.0**	**-0.2**
IMW	**Indian Meadow**	**48.86**	**329**	*eP*	**P**	**08 30 28.9**	**+0.1**
QLMT	**Earthquake Lak**	**49.76**	**329**	*eP*	**P**	**08 30 37.0**	**+1.3**
NVAR	**Mina Array Bea**	**49.80**	**319**	P	**P**	**08 30 37.4**	**+1.2**
	4.5nm,0.8s,mb4.5,baz=120,slow=8.1,SNR=18						
NVAR				PcP	PcP	08 31 57.2	+0.4
	5.4nm,1.1s,baz=122,slow=5.3,SNR=8.4						
NVAR	**Mina Array Bea**	**49.80**	**319**	P	**P**	**08 30 37.4**	**+1.2**
NVAR				PcP	PcP	08 31 57.2	+0.4
BOZ	**Bozeman (W)**	**50.44**	**330**	*eP*	**P**	**08 30 40.7**	**-0.2**
	11nm,1.1s,mb4.8						
MCMT	**McKenzie Canyo**	**50.49**	**328**	*eP*	**P**	**08 30 41.9**	**+0.6**
HLID	**Hailey**	**50.50**	**326**	*eP*	**P**	**08 30 41.3**	**0.0**
	1.2nm,0.7s,mb4.0						
SCHQ	**Schefferville**	**51.25**	**8**	P	**P**	**08 30 47.2**	**+0.3**
	10nm,0.9s,mb4.8,baz=194,slow=5.6,SNR=16						
SCHQ	**Schefferville**	**51.25**	**8**	P	**P**	**08 30 47.2**	**+0.3**
WVOR	**Wild Horse Val**	**52.26**	**323**	*eP*	**P**	**08 30 54.2**	**-0.4**
	11nm,1.1s,mb4.7						
NEW	**Newport**	**54.98**	**329**	*eP*	**P**	**08 31 13.7**	**-1.0**
FCC	**Fort Churchill**	**55.72**	**350**	*eP*	**P**	**08 31 17.1**	**-2.7**
	20nm,0.9s,mb5.2						
EDM	**Edmonton**	**56.65**	**336**	*eP*	**P**	**08 31 24.7**	**-1.9**
FRB	**Frobisher Bay**	**59.77**	**5**	P	**P**	**08 31 46.6**	**-1.6**
	16nm,0.8s,mb5.1,baz=194,slow=6.8,SNR=27						
YKA	**Yellowknife Ar**	**63.99**	**342**	P	**P**	**08 32 14.9**	**-1.6**
	11nm,0.7s,mb5.0,baz=135,slow=6.1,SNR=19						
YKW3	**Yellowknife Ar**	**64.05**	**342**	*eP*	**P**	**08 32 14.8**	**-2.0**
DBIC	**Dimbokro**	**73.04**	**84**	P	**P**	**08 33 12.7**	**-0.9**
	6.0nm,0.8s,mb4.6,baz=235,slow=6.8,SNR=7.7						
INK	**Inuvik**	**73.74**	**341**	P	**P**	**08 33 16.4**	**-0.1**
	15nm,1.0s,mb4.9,baz=104,slow=6.8,SNR=30						
INK	**Inuvik**	**73.74**	**341**	*eP*	**P**	**08 33 16.0**	**-0.6**
	30nm,1.3s,mb5.1						
DAWY	**Dawson**	**73.85**	**336**	*eP*	**P**	**08 33 16.9**	**-0.4**
ESDC	**Sonseca Array**	**75.19**	**50**	P	**P**	**08 33 25.9**	**+0.4**
	0.8nm,0.4s,mb4.0,baz=267,slow=5.7,SNR=8.7						
MENT	**Mentasta**	**75.21**	**335**	*eP*	**P**	**08 33 25.1**	**0.0**
THY	**Trims Highway**	**76.24**	**335**	*eP*	**P**	**08 33 31.4**	**+0.4**
ROSF	**Rostrenen**	**76.84**	**41**	*eP*	**P**	**08 33 34.6**	**-0.1**
QUIF	**Quistinic**	**76.85**	**42**	*eP*	**P**	**08 33 35.5**	**+0.7**
SML	**Sawmill**	**76.91**	**333**	*eP*	**P**	**08 33 34.5**	**-0.3**
ILAR	**Eielson Array**	**77.14**	**336**	P	**P**	**08 33 36.0**	**-0.1**
	6.2nm,0.7s,mb4.7,baz=106,slow=4.3,SNR=86						
PMR	**Palmer**	**77.22**	**332**	*eP*	**P**	**08 33 35.9**	**-0.6**
	16nm,1.0s,mb4.9						
SGMF	**Saint Gilles**	**77.30**	**42**	*eP*	**P**	**08 33 37.1**	**-0.2**
	114nm,1.4s,mb5.3						
SLKM	**Skilak Lake**	**77.46**	**331**	*eP*	**P**	**08 33 37.8**	**-0.1**
COLA	**College**	**77.56**	**336**	*eP*	**P**	**08 33 38.0**	**-0.4**
	9.3nm,0.9s,mb4.7						
SJPF	**Ste Jean**	**77.62**	**47**	*eP*	**P**	**08 33 39.7**	**+0.5**
	44nm,1.0s,mb5.0						
MCK	**McKinley**	**77.69**	**335**	*eP*	**P**	**08 33 39.3**	**+0.1**
	9.6nm,1.1s,mb4.6						
GRR	**Gorron**	**78.44**	**42**	*eP*	**P**	**08 33 43.6**	**0.0**
	19nm,0.8s,mb4.8						
SPU	**Mount Spurr**	**78.49**	**332**	*eP*	**P**	**08 33 43.3**	**-0.2**
RSO	**Redoubt South**	**78.68**	**331**	*eP*	**P**	**08 33 44.8**	**+0.2**
MFF	**Saint Martin d**	**78.73**	**43**	*eP*	**P**	**08 33 45.3**	**+0.1**
	33nm,0.9s,mb5.0						
FLN	**La Foliniere**	**78.74**	**41**	*eP*	**P**	**08 33 45.2**	**0.0**
	102nm,1.1s,mb5.3						
EPF	**Esparros**	**78.75**	**47**	*eP*	**P**	**08 33 45.8**	**+0.4**
	47nm,1.3s,mb5.0						
LDF	**La Druitiere**	**78.95**	**41**	*eP*	**P**	**08 33 46.4**	**0.0**
	33nm,0.8s,mb5.0						
LFF	**La Frestale**	**79.20**	**45**	*eP*	**P**	**08 33 47.7**	**-0.1**
	19nm,0.8s,mb4.8						
RJF	**Les Rejaudoux**	**79.78**	**45**	*eP*	**P**	**08 33 50.8**	**-0.1**
	16nm,0.9s,mb4.7						
MTLF	**Montolieu**	**80.15**	**47**	*eP*	**P**	**08 33 53.7**	**+0.8**
	31nm,1.0s,mb4.9						
MTLF	**Montolieu**	**80.15**	**47**	*eP*	**P**	**08 33 53.7**	**+0.8**
	15nm,1.0s,mb4.9						
SVW2	**Sparrevohn**	**80.15**	**331**	*eP*	**P**	**08 33 50.3**	**-2.3**
TCF	**Toulx Ste Croi**	**80.33**	**44**	*eP*	**P**	**08 33 53.5**	**-0.3**
	60nm,1.5s,mb5.0						
TCF	**Toulx Ste Croi**	**80.33**	**44**	*eP*	**P**	**08 33 53.5**	**-0.3**
	30nm,1.5s,mb5.0						
DAVOX	**Davos**	**85.63**	**44**	P	**P**	**08 34 22.4**	**+1.5**
	8.1nm,0.8s,mb5.0,baz=330,slow=9.7,SNR=2.0						
NOA	**NORSAR Array B**	**86.03**	**29**	P	**P**	**08 34 23.9**	**+1.5**
	4.8nm,0.8s,mb4.8,baz=270,slow=4.9,SNR=4.4						
NOA	**NORSAR Array B**	**86.03**	**29**	P	**P**	**08 34 23.9**	**+1.4**
HFS	**Hagfors**	**87.30**	**30**	P	**P**	**08 34 29.9**	**+1.2**
	4.0nm,0.9s,mb4.7,baz=285,slow=16,SNR=1.3						
CLL	**Collm**	**87.48**	**39**	*i* P	**P**	**08 34 30.3**	**+0.5**
	13nm,0.9s,mb5.2						
CLL				*i*		08 34 33.5	
CLL	**Collm**	**87.48**	**39**	P	**P**	**08 34 30.3**	**+0.5**
	logA/T=1.2,mb5.2						
CLL				*i*		08 34 33.5	
CLL				*e*PP	pP	08 34 41.0	+0.2
KHC	**Kasperske Hory**	**88.00**	**41**	*eP*	**P**	**08 34 32.5**	**+0.2**
GERES	**GERESS Array B**	**88.10**	**41**	P	**P**	**08 34 35.1**	**+2.3**
	4.2nm,0.8s,mb4.7,baz=288,slow=4.2,SNR=5.9						
MORC	**Moravsky Berou**	**90.51**	**40**	P	**P**	**08 34 44.0**	**-0.2**
	6.2nm,1.0s,mb4.9						
ARCES	**ARCESS Array B**	**90.81**	**20**	P	**P**	**08 34 45.4**	**+0.2**
	2.4nm,0.7s,mb4.6,baz=292,slow=9.7,SNR=3.4						
FINES	**FINESS Array B**	**93.08**	**28**	P	**P**	**08 34 56.1**	**+0.3**
	7.0nm,1.1s,mb5.0,baz=270,slow=5.6,SNR=2.8						
QSPA	**South Pole Qui**	**94.30**	**180**	⇓*iP*	**P**	**08 35 03.4**	**+2.5**
	24nm,1.2s,mb5.5						
SONM	**Songino Array**	**127.95**	**356**	PKP	PKPdf	08 40 49.0	+1.9
	1.6nm,0.8s,SNR=3.0						
ASAR	**Alice Springs**	**143.48**	**235**	PKhKP		08 41 14.5	
	7.8nm,1.2s,baz=117,slow=4.4,SNR=5.8						
WB2	**Warramunga Arr**	**144.63**	**241**	*eP*	PKPbc	08 41 18.7	+0.4
WRAB	**Tennant Creek**	**144.64**	**241**	*e*PKPdf	PKPdf	08 41 18.6	+0.1
WRAB

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.46**	**201**	P	P	08 26 07.4	0.0
YOJ				*eS*	S	08 26 20.6	+0.1
IRIF	**Iriomote-Funau**	**0.74**	**138**	P	P	08 26 09.3	-0.1
IRIF				S	S	08 26 24.1	0.0
JKRS	**Kuro-shima**	**0.99**	**131**	P	P	08 26 12.1	+0.2
JKRS				S	S	08 26 28.5	+0.2
HATJ	**Hateruma jima**	**1.00**	**146**	P	P	08 26 11.9	-0.1
HATJ				S	S	08 26 28.4	-0.1
JIJ	**Ishigaki jima**	**1.01**	**121**	P	P	08 26 11.9	-0.2
JIJ				*eS*	S	08 26 27.9	-0.8
JTJ	**Tarama**	**1.40**	**100**	P	P	08 26 16.4	0.0
JTJ				S	S	08 26 36.2	-0.2
JMJ	**Miyako jima 2**	**1.91**	**92**	P	P	08 26 22.6	0.0
JMJ				S	S	08 26 46.9	-0.3
JOGS	**Gusukube**	**2.02**	**93**	P	P	08 26 24.2	+0.3
JOGS				*eS*	S	08 26 49.6	+0.1
JKE	**Kume jima 2**	**3.55**	**65**	P	P	08 26 42.8	-1.7
JKE				*eS*	S	08 27 24.9	-1.0
JAGN	**Aguni-jima**	**4.03**	**64**	P	P	08 26 49.1	-1.8
JAGN				*eS*	S	08 27 35.3	-2.2
JIH	**Iheya**	**4.80**	**63**	P	P	08 26 58.6	-2.8
JIH				*eS*	S	08 27 51.9	-4.4
JOW	**Kunigami**	**4.97**	**66**	P	P	08 27 00.3	-3.4
JOW				*eS*	S	08 27 55.6	-4.9
JTK	**Tokunoshima**	**5.92**	**60**	P	P	08 27 12.6	-3.9
JTK				*eS*	S	08 28 16.9	-6.7
JAM	**Amami Oshima**	**6.73**	**57**	P	P	08 27 22.8	-4.8

IDC ***28*** *08:28:14.2±0.8, 8.00N×94.01E, mb4.0/14, mb1 4.1/14, mb1mx4.1/22, mbtmp4.0/14, Error ellipse: s-maj=39.8km s-min=19.0km az=56.0*
NEIC ***28*** *08:28:19.1±0.6, 8.07N×94.23E, h30km, mb4.3/2, Error ellipse: s-maj=23.6km s-min=13.5km az=66.0*

ISC 28 08:28:17.6±0.7, 8.0N±0.1×94.2E±0.2, h33km, n19, σ1§03/17, mb4.0/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**21.73**	**353**	*eP*	**P**	**08 33 09.2**	**+1.2**
	6.1nm,0.6s,mb4.2						
SONM	**Songino Array**	**40.99**	**13**	P	**P**	**08 35 59.8**	**+0.6**
	0.5nm,0.6s,mb3.3,baz=190,slow=8.8,SNR=2.3						
KURK	**Kurchatov**	**44.45**	**346**	*eP*	**P**	**08 36 26.9**	**-0.3**
	5.7nm,1.1s,mb4.2						
NWAO	**Narrogin (SRO)**	**46.29**	**153**	P	**P**	**08 36 43.3**	**+1.1**
	4.0nm,0.8s,mb4.4,baz=1.4,slow=9.1,SNR=2.1						
ZAL	**Zalesovo**	**46.38**	**352**	P	**P**	**08 36 43.6**	**+1.0**
	1.4nm,0.3s,mb4.4,baz=196,slow=3.9,SNR=2.3						
WRA	**Warramunga Arr**	**48.35**	**126**	P	**P**	**08 36 57.2**	**-1.3**
	0.3nm,0.5s,mb3.6,baz=304,slow=8.5,SNR=4.8						
WRA				PP	PP	08 38 50.1	-0.5
	8.4nm,0.8s,baz=304,slow=9.2,SNR=7.9						
BVAR	**Borovoye Array**	**48.83**	**341**	P	**P**	**08 37 01.5**	**-0.3**
	0.4nm,0.5s,mb3.7,baz=108,slow=9.1,SNR=2.6						
KMBO	**Kilima Mbogo**	**57.45**	**264**	P	**P**	**08 38 08.8**	**+2.7**
	2.1nm,0.9s,mb4.2,baz=219,slow=23,SNR=5.4						
BRTR	**Keskin Array B**	**62.33**	**311**	P	**P**	**08 38 37.3**	**-1.9**
	1.0nm,0.7s,mb4.1,baz=117,slow=8.3,SNR=4.8						
AKASG	**Malin Array Be**	**68.03**	**322**	P	**P**	**08 39 14.2**	**-1.6**
	0.1nm,0.2s,mb3.4,baz=95,slow=4.4,SNR=3.9						
IDI	**Anoyia**	**68.48**	**305**	P	**P**	**08 39 18.7**	**-0.2**
	3.1nm,0.8s,mb4.4,baz=6.2,slow=15,SNR=2.4						
MLR	**Muntele Rosu**	**69.06**	**316**	P	**P**	**08 39 22.4**	**+0.1**
	1.6nm,0.7s,mb4.1,baz=73,slow=19,SNR=2.6						
FINES	**FINESS Array B**	**72.57**	**332**	P	**P**	**08 39 42.8**	**-0.3**
	1.6nm,0.6s,mb4.1,baz=108,slow=6.0,SNR=6.0						
ARCES	**ARCESS Array B**	**75.11**	**340**	P	**P**	**08 39 57.2**	**-0.6**
	2.9nm,0.9s,mb4.2,baz=76,slow=5.0,SNR=4.5						
ARCES	**ARCESS Array B**	**75.11**	**340**	P	**P**	**08 39 57.2**	**-0.6**
GERES	**GERESS Array B**	**77.71**	**318**	P	**P**	**08 40 13.5**	**+0.6**
	1.5nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=7.7						
HFS	**Hagfors**	**78.31**	**330**	P	**P**	**08 40 15.9**	**0.0**
	2.2nm,0.8s,mb4.2,baz=117,slow=9.7,SNR=3.7						
TXAR	**Lajitas Array**	**139.07**	**24**	PKP	PKPdf	08 47 44.0	+2.2
	0.2nm,0.5s,baz=298,slow=1.9,SNR=5.1						
PLCA	**Paso Flores**	**144.71**	**200**	PKP	PKPdf	08 47 52.1	+0.8
	2.6nm,0.8s,baz=216,slow=5.7,SNR=6.0						

BJI ***28*** *08:29:44.4, 7.44N×93.81E, h44km, mB5.6, mb5.0, Ms5.3, Msz5.0*
HRVD ***28*** *08:29:45.6±0.4, 7.82N×94.27E, h18km±2km, MW5.3/54, Centroid moment Tensor Solution. LP body waves: s15,c17;Mantle waves: s54,c97; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.41±.06; $M_{\theta\theta}$-0.59±.03; $M_{\phi\phi}$0.99±.05; $M_{r\theta}$-0.43±.11; $M_{\theta\phi}$0.24±.03; $M_{\phi r}$-0.54±.12; Best double couple: $M_0$1.103×10^{17} NP1: ϕ_s147°,δ44°,λ-161°. NP2:ϕ_s43°,δ77°,λ-48°. Principal axes: T 1.25, Plg20°, Azm102°; N -.295, Plg41°, Azm211°; P -.955, Plg42°, Azm353°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***28*** *08:29:45.6±0.1, 7.86N×93.96E, mb5.2/75 Error ellipse: s-maj=5.1km s-min=4.1km az=224.0*
MOS ***28*** *08:29:46.6±0.8, 7.92N×93.98E, h33km, mb5.4/73, MS4.7/4, Error ellipse: s-maj=8.8km s-min=4.9km az=118.1*
IDC ***28*** *08:29:46.6±4.6, 8.03N×94.17E, h20km±28km, mb4.7/30, mb1 4.8/31, mb1mx4.8/31, mbtmp4.8/31, ML4.9/1, MS4.7/4, Ms1 4.7/4, ms1mx3.8/30, Error ellipse: s-maj=19.7km s-min=10.0km az=49.0, Putative timing error at LPAZ*

ISC 28 08:29:44.0±0.2, 7.84N±0.03×94.07E±0.03, h18km, h18km±1.4km:pP-P, n318, σ0§99/305, mb5.1/105, MS4.8/13, 3C-8D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.01**	**341**	*eP*	**Pn**	**08 30 51.5**	**+5.4**
PBA				*eS*	**Sn**	**08 31 35.6**	**+2.5**
CMAR	**Chiang Mai Arr**	**11.57**	**24**	P	**P**	**08 32 33.3**	**+1.8**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.57**	**24**	Pn	**P**	**08 32 33.3**	**+1.8**
	comp=Z,2.3nm,0.3s,baz=206,slow=15,SNR=26						
PALK	**Pallekele**	**13.27**	**268**	Pn	**P**	**08 32 53.0**	**-1.2**
	comp=Z,52nm,0.9s						
PALK				*e*Sn	**S**	**08 35 10.2**	**-12**
VIS	**Vishakhapatnam**	**14.35**	**314**	*eP*	**P**	**08 33 08.0**	**-0.6**
VIS				*e*		08 33 19.4	
	comp=Z,79nm,1.2s						
VIS				*e*		08 35 42.3	
VIS				*eS*	**S**	**08 35 48.8**	**+0.6**
KOD	**Kodaikanal**	**16.57**	**279**	*eP*	**P**	**08 33 39.4**	**+2.1**
KOD				*e*		08 33 49.7	
	comp=Z,123nm,1.1s						
KOD				*eS*	**S**	**08 36 44.2**	**+4.1**
IMP	**Imphal**	**16.85**	**360**	*eP*	**P**	**08 33 41.7**	**+1.0**
TRD	**Trivandrum**	**16.95**	**273**	*eP*	**P**	**08 33 42.6**	**+0.5**
TRD				*e*		08 33 55.9	
	comp=Z,90nm,1.5s						
TRD				*eS*	**S**	**08 36 50.5**	**+1.6**
SHL	**Shillong**	**17.75**	**354**	*eP*	**P**	**08 33 50.2**	**-1.8**
HYB	**Hyderabad**	**17.87**	**304**	*eP*	**P**	**08 33 56.5**	**+2.9**
HYB				*eS*	Sx	08 36 39.0	
HYB	**Hyderabad**	**17.87**	**304**	*i* P	**P**	**08 33 56.5**	**+2.9**
HYB				*eS*	**S**	**08 37 13.0**	**+3.2**
QIZ	**Qiongzhong**	**18.93**	**52**	P	**P**	**08 34 08.3**	**+1.8**
QIZ				S	**S**	**08 37 34.5**	**+0.8**
QIZ				LR	LR		
	comp=N,12μm,11.5s						
QIZ				LR	LR		
	comp=E,4μm,12.4s						
QIZ				LR	LR		
	comp=Z,3μm,11.9s						
QIZ	**Qiongzhong**	**18.93**	**52**	*eP*	**P**	**08 34 08.1**	**+1.5**
	comp=Z,242nm,1.4s						
KMI	**Kunming**	**19.07**	**25**	‖P	**P**	**08 34 11.9**	**+3.6**
KMI				S	**S**	**08 37 34.6**	**-2.5**
KMI				pmax	pmax		
	comp=Z,65nm,1.1s						
KMI	**Kunming**	**19.07**	**25**	‖P	**P**	**08 34 11.9**	**+3.6**
	comp=Z,65nm,1.1s						
KMI				pP		08 34 20.1	
KMI				sP		08 34 23.1	
KMI				PP	PP	08 34 30.9	+5.8
KMI				S	**S**	**08 37 34.6**	**-2.5**
COCO	**West Island**	**20.09**	**172**	P	**P**	**08 34 19.2**	**-0.5**
	comp=Z,442nm,1.3s						
ALBI	**Allahabad**	**20.94**	**327**	*eP*	**P**	**08 34 28.5**	**0.0**
GOA	**Goa**	**21.22**	**293**	*eP*	**P**	**08 34 44.0**	**+13**
GOA				*e*		08 34 58.9	
	comp=Z,133nm,2.5s						
GOA				*eS*	**S**	**08 38 38.5**	**+17**
KAD	**Karad**	**21.55**	**298**	*eP*	**P**	**08 34 35.2**	**+0.5**
KAD				*e*		08 34 46.4	
	comp=Z,142nm,1.5s						
LSA	**Lhasa**	**21.92**	**353**	P	**P**	**08 34 38.3**	**0.0**
LSA				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.0						
LSA	**Lhasa**	**21.92**	**353**	*eP*	**P**	**08 34 38.6**	**+0.3**
LSA				pmax	pmax		
	comp=Z,198nm,0.8s,mb5.6						
LSA	**Lhasa**	**21.92**	**353**	*eP*	**P**	**08 34 38.6**	**+0.3**
	comp=Z,198nm,0.8s,mb5.6						
BHPL	**Bhopal**	**22.13**	**316**	*eP*	**P**	**08 34 43.2**	**+2.7**
BHPL				*e*		08 34 51.9	
	comp=Z,211nm,1.1s						
BHPL				*eS*	**S**	**08 38 47.3**	**+8.8**
NDI	**New Delhi**	**26.12**	**325**	*eP*	**P**	**08 35 19.3**	**+0.4**
NDI				*e*	pP	08 35 24.2	0.0
	comp=Z,134nm,1.8s						
ENH	**Enshi**	**26.58**	**31**	*eP*	**P**	**08 35 23.4**	**+0.2**
	comp=Z,27nm,0.8s,mb4.8						
TGY	**Tagaytay City**	**27.08**	**74**	LR	LR	08 46 34.3	
	comp=Z,1μm,18.6s,MS4.6,baz=176,slow=37						
SMLA	**Simla**	**28.04**	**328**	*eP*	**P**	**08 35 49.7**	**+13**
SMLA				*e*		08 36 03.5	
	comp=Z,97nm,1.0s						
SMLA				*eS*	**S**	**08 40 33.8**	**+15**
XAN	**Xi'an**	**29.45**	**26**	P	**P**	**08 35 48.8**	**-0.4**
XAN				AMB	AMB		
	comp=Z,22nm,0.9s,mb4.9						
TBP	**Tagbilaran**	**29.50**	**84**	*eP*	**P**	**08 35 48.4**	**-1.3**
LZH	**Lanzhou**	**29.50**	**16**	*eP*	**P**	**08 35 50.0**	**+0.5**
LZH				AP	pP	08 36 00.0	+5.1
LZH				XP	sP	08 36 03.5	+6.3
LZH				AMB	AMB		
	comp=Z,84nm,1.8s,mb5.2						
LZH				AMB	AMB		
	comp=Z,230nm,4.0s						
LZH				LR	LR		
	comp=E,3μm,11.8s						
LZH				LR	LR		
	comp=Z,3μm,13.0s,MS5.1						
LZH	**Lanzhou**	**29.50**	**16**	*eP*	**P**	**08 35 50.0**	**+0.5**
LZH				*PP	pP	08 35 59.9	+5.0
LZH				*SP	sP	08 36 03.5	+6.3
LZH				pmax	pmax		
	comp=Z,84nm,1.8s,mb5.2						
LZH				MLR	MLR		
	comp=Z,3μm,13.0s,MS5.1						
LZH	**Lanzhou**	**29.50**	**16**	*eP*	**P**	**08 35 50.0**	**+0.5**
	comp=Z,84nm,1.8s,mb5.2						
LZH				pP	pP	08 35 59.9	+5.0
LZH				sP	sP	08 36 03.5	+6.3
LZH				LR	LR		
	comp=Z,3μm,13.0s,MS5.1						
WHN	**Wuhan**	**29.50**	**37**	*eP*	**P**	**08 35 50.5**	**+0.8**
SSE	**Sheshan**	**34.29**	**44**	*eP*	**P**	**08 36 30.8**	**-0.8**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,442nm,12.0s						
SSE				LR	LR		
	comp=N,1μm,24.4s,MS4.7						
SSE				LR	LR		
	comp=E,1μm,24.5s,MS4.7						
SSE				LR	LR		
	comp=Z,914nm,15.2s						
SSE	**Sheshan**	**34.29**	**44**	*eP*	**P**	**08 36 30.7**	**-0.9**
	comp=Z,28nm,0.7s,mb5.3						
SSE				LR	LR		
	comp=Z,910nm,15.2s,MS4.6						
WMQ	**Urumqi**	**36.27**	**352**	*eP*	**P**	**08 36 49.3**	**+1.0**
WMQ				AP	pP	08 36 56.5	+2.8
WMQ				XP	sP	08 37 00.0	+4.1
WMQ				PP	PP	08 38 12.3	+0.9
WMQ				PCP	PcP	08 39 14.8	+1.3
WMQ				S	**S**	**08 42 27.3**	**0.0**
WMQ				AMB	AMB		
	comp=Z,143nm,1.4s,mb5.7						
WMQ				AMB	AMB		
	comp=Z,711nm,5.5s						
WMQ				LR	LR		
	comp=N,2μm,18.2s,MS5.0						
WMQ				LR	LR		
	comp=E,2μm,18.3s,MS5.0						
WMQ				LR	LR		
	comp=Z,3μm,18.6s,MS5.1						
JOW	**Kunigami**	**37.53**	**56**	LR	LR	08 51 24.4	
	comp=Z,1μm,21.4s,MS4.6,baz=243,slow=35						
BJT	**Baijiatuau**	**37.65**	**28**	*eP*	**P**	**08 36 59.5**	**-0.4**
BJT				pmax	pmax		
	comp=Z,105nm,1.7s						
BJT	**Baijiatuau**	**37.65**	**28**	*eP*	**P**	**08 36 59.5**	**-0.4**
	comp=Z,105nm,1.7s,mb5.3						
BJI	**Beijing**	**37.67**	**28**	P	**P**	**08 37 01.6**	**+1.6**
BJI				S	**S**	**08 42 44.4**	**-4.3**
BJI				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.5						
BJI				MLR	MLR		
	comp=Z,680nm,22.3s,MS4.4						
BJI	**Beijing**	**37.67**	**28**	P	**P**	**08 37 01.6**	**+1.6**
	comp=Z,13nm,1.2s,mb4.5						
BJI				S	**S**	**08 42 44.4**	**-4.3**
BJI				LR	LR		
	comp=Z,680nm,22.3s,MS4.4						
KZA	**Kyzart**	**37.94**	**337**	P	**P**	**08 37 03.5**	**+1.2**
SNR=6.6							
MBWA	**Marble Bar**	**38.28**	**139**	*eP*	**P**	**08 37 05.6**	**+0.1**
	comp=Z,14nm,0.9s,mb4.7						
UCH	**Uchtor**	**38.35**	**336**	P	**P**	**08 37 07.0**	**+1.2**
SNR=14							
TKM2	**Tokmak 2**	**38.53**	**338**	P	**P**	**08 37 07.1**	**-0.2**
SNR=5.3							
KBK	**Karagaybulak**	**38.55**	**337**	P	**P**	**08 37 08.9**	**+1.5**
SNR=6.9							
AML	**Almayashu**	**38.60**	**335**	P	**P**	**08 37 09.0**	**+1.1**
SNR=26							
AAK	**Ala-Archa**	**38.70**	**337**	P	**P**	**08 37 09.7**	**+0.9**
SNR=15							
AAK	**Ala-Archa**	**38.70**	**337**	*d iP*	**P**	**08 37 08.3**	**-0.5**
AAK				pmax	pmax		
	comp=Z,41nm,1.2s,mb5.0						
AAK	**Ala-Archa**	**38.70**	**337**	*eP*	**P**	**08 37 08.4**	**-0.3**
	comp=Z,31nm,1.0s,mb5.0						
CHMS	**Chumysh**	**38.92**	**337**	P	**P**	**08 37 10.7**	**+0.1**
SNR=11							
EKS2	**Erkin-Say**	**39.01**	**336**	P	**P**	**08 37 12.2**	**+0.9**
SNR=11							
USP	**Ospenovka**	**39.24**	**337**	P	**P**	**08 37 13.5**	**+0.3**
SNR=17							
FITZ	**Fitzroy Crossi**	**40.45**	**130**	*eP*	**P**	**08 37 25.9**	**+2.5**
	comp=Z,30nm,0.9s,mb5.0						
SONM	**Songino Array**	**41.21**	**13**	P	**P**	**08 37 29.9**	**+0.6**
	comp=Z,16nm,0.8s,mb4.7,baz=198,slow=7.9,SNR=53						
SONM				PcP	PcP	08 39 28.3	-0.6
	comp=Z,4.2nm,0.9s,baz=211,slow=2.9,SNR=5.1						
SONM				ScP		08 43 16.4	
	comp=Z,1.1nm,0.9s,baz=180,slow=3.7,SNR=3.7						
ULN	**Ulaanbaatar**	**41.38**	**13**	*eP*	**P**	**08 37 30.9**	**+0.1**
ULN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**41.38**	**13**	*eP*	**P**	**08 37 30.9**	**+0.1**
	comp=Z,9.6nm,0.8s,mb4.5						
SNY	**Shenyang**	**42.74**	**33**	‖P	**P**	**08 37 47.5**	**+5.5**
SNY				AMB	AMB		
	comp=Z,30nm,1.6s,mb4.8						
SNY				LR	LR		
	comp=N,1μm,15.1s,MS5.1						
SNY				LR	LR		
	comp=E,1μm,12.4s,MS5.1						
SNY				LR	LR		
	comp=Z,1μm,16.1s,MS4.9						
ZAK	**Zakamensk**	**43.09**	**9**	*eP*	**P**	**08 37 44.2**	**-0.6**
TLY	**Talaya**	**44.41**	**9**	*eP*	**P**	**08 37 56.7**	**+1.3**
TLY				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.6						
TLY				MLR	MLR		
	comp=Z,632nm,16.0s,MS4.6						
TLY	**Talaya**	**44.41**	**9**	*eP*	**P**	**08 37 55.8**	**+0.3**
	comp=Z,11nm,0.9s,mb4.6						
KURK	**Kurchatov**	**44.62**	**346**	*d iP*	**P**	**08 37 56.9**	**-0.3**
KURK	**Kurchatov**	**44.62**	**346**	*eP*	**P**	**08 37 56.8**	**-0.4**
	comp=Z,100nm,1.1s,mb5.6						
MUN	**Mundaring**	**44.89**	**153**	*eP*	**P**	**08 38 01.5**	**+1.9**
	comp=Z,26nm,0.8s,mb5.1						
MUN	**Mundaring**	**44.89**	**153**	*eP*	**P**	**08 38 01.5**	**+1.9**
MUN				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.1						
KLBR	**Kellerberrin**	**45.28**	**151**	*eP*	**P**	**08 38 04.2**	**+1.5**
	comp=Z,159nm,0.7s,mb6.0						
NWAO	**Narrogin (SRO)**	**46.15**	**153**	P	**P**	**08 38 10.0**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,26nm,0.6s						
NWAO	**Narrogin (SRO)**	**46.15**	**153**	P	**P**	**08 38 10.0**	**+0.5**
	comp=Z,26nm,0.6s,mb5.3,baz=311,slow=8.1,SNR=11						
NWAO	**Narrogin (SRO)**	**46.15**	**153**	*eP*	**P**	**08 38 06.5**	**-3.0**
	comp=Z,45nm,0.9s,mb5.4						
ZAL	**Zalesovo**	**46.57**	**352**	P	**P**	**08 38 12.8**	**+0.3**
ZAL				pmax	pmax		
	comp=Z,49nm,1.0s						
ZAL	**Zalesovo**	**46.57**	**352**	P	**P**	**08 38 12.8**	**+0.3**
	comp=Z,49nm,1.0s,mb5.4,baz=298,slow=7.4,SNR=91						
HIA	**Hailar**	**46.58**	**23**	*eP*	**P**	**08 38 12.6**	**-0.1**
HIA				pmax	pmax		
	comp=Z,65nm,1.1s						
HIA	**Hailar**	**46.58**	**23**	*eP*	**P**	**08 38 12.6**	**-0.1**
	comp=Z,65nm,1.1s,mb5.5						
NVS	**Novosibirsk**	**47.66**	**352**	*eP*	**P**	**08 38 19.8**	**-1.4**
NVS				*i*		08 39 53.5	
NVS				*i* S	**S**	**08 45 12.0**	**-3.1**
NVS				pmax	pmax		
	comp=N,55nm,1.0s						
NVS				pmax	pmax		
	comp=E,15nm,1.0s						
NVS				pmax	pmax		
	comp=Z,77nm,1.0s,mb5.7						
NVS				smax			
	comp=N,22nm,1.6s						
NVS				smax			
	comp=E,53nm,1.9s						
MDJ	**Mudanjiang**	**47.87**	**34**	P	**P**	**08 38 23.0**	**0.0**
MDJ				PCP	PcP	08 39 50.8	-1.1
MDJ				PP	PP	08 40 15.0	+0.7
MDJ				SCP		08 43 42.8	
MDJ				PCS		08 43 46.3	
MDJ				S	**S**	**08 45 20.5**	**+2.3**
MDJ				SCS	ScS	08 48 10.8	-2.0
MDJ				AMB	AMB		
	comp=Z,14nm,2.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,260nm,5.4s						
MDJ				LR	LR		
	comp=N,972nm,13.8s,MS5.0						
MDJ				LR	LR		
	comp=E,918nm,15.3s,MS5.0						
MDJ				LR	LR		
	comp=Z,1μm,15.3s,MS5.0						
MDJ	**Mudanjiang**	**47.87**	**34**	*eP*	**P**	**08 38 23.8**	**+0.8**
	comp=Z,76nm,1.5s,mb5.5						
WRA	**Warramunga Arr**	**48.30**	**125**	P	**P**	**08 38 26.0**	**-0.6**
WRA						08 39 55.0	
WRA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	**48.30**	**125**	P	**P**	**08 38 26.0**	**-0.6**
	comp=Z,8.8nm,0.7s,mb4.9,baz=305,slow=8.4,SNR=25						
WRA				PcP	PcP	08 39 55.0	+1.2
	comp=Z,3.2nm,0.7s,baz=314,slow=2.7,SNR=5.0						
WRAB	**Tennant Creek**	**48.30**	**125**	*i* P	**P**	**08 38 26.8**	**+0.2**
WRAB	**Tennant Creek**	**48.30**	**125**	*eP*	**P**	**08 38 25.5**	**-1.1**
	comp=Z,26nm,1.0s,mb5.2						
WB2	**Warramunga Arr**	**48.31**	**125**	*eP*	**P**	**08 38 25.1**	**-1.6**
BVAR	**Borovoye Array**	**49.00**	**341**	P	**P**	**08 38 30.7**	**-0.9**
	comp=Z,12nm,0.9s,mb4.9,baz=143,slow=7.4,SNR=34						
BVAR				PcP	PcP	08 39 54.9	-0.9
	comp=Z,4.6nm,0.8s,baz=180,slow=1.4,SNR=3.7						
RAYN	**Ar Rayn**	**49.04**	**294**	P	**P**	**08 38 33.8**	**+1.6**
	comp=Z,271nm,1.1s,mb6.2,SNR=27						
BRVK	**Borovoye**	**49.06**	**341**	*eP*	**P**	**08 38 31.1**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
BRVK	**Borovoye**	**49.06**	**341**	*eP*	**P**	**08 38 31.1**	**-0.9**
	comp=Z,18nm,1.0s,mb5.0						
JHJ	**Hachijo jima 2**	**49.13**	**53**	LR	LR	08 58 21.6	
	comp=Z,811nm,20.3s,MS4.7,baz=278,slow=35						
MAJO	**Matsushiro**	**49.23**	**48**	*eP*	**P**	**08 38 34.4**	**+0.8**
MAJO				*e*		08 39 56.4	
MAT	**Matsushiro**	**49.23**	**48**	*eP*	**P**	**08 38 35.0**	**+1.4**
MAT				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
MAT	**Matsushiro**	**49.23**	**48**	*eP*	**P**	**08 38 35.0**	**+1.4**
	comp=Z,15nm,1.3s,mb4.9						
MAT	**Matsushiro**	**49.23**	**48**	P	**P**	**08 38 34.5**	**+0.9**
CHKZ	**Chkalovo**	**49.48**	**342**	*eP*	**P**	**08 38 34.6**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,53nm,0.9s,mb5.6						
CHKZ	**Chkalovo**	**49.48**	**342**	*eP*	**P**	**08 38 34.6**	**-0.7**
	comp=Z,53nm,0.9s,mb5.6						
ASPA	**Alice Springs**	**49.95**	**130**	*eP*	**P**	**08 38 38.8**	**-0.4**
ASAR	**Alice Springs**	**49.95**	**130**	P	**P**	**08 38 38.2**	**-1.1**
	comp=Z,9.4nm,1.0s,mb4.8,baz=306,slow=7.0,SNR=20						
ASAR				PcP	PcP	08 40 01.3	+1.7
	comp=Z,9.5nm,0.7s,baz=304,slow=3.4,SNR=14						
FORT	**Forrest**	**50.36**	**141**	*eP*	**P**	**08 38 46.5**	**+4.2**
	comp=Z,64nm,0.6s,mb5.8						
BOD	**Bodaibo**	**52.20**	**13**	*eP*	**P**	**08 38 54.9**	**-0.9**
GNI	**Garni**	**54.41**	**314**	*eP*	**P**	**08 39 11.8**	**-0.6**
GNI				pmax	pmax		
	comp=Z,18nm,0.9s						
GNI	**Garni**	**54.41**	**314**	P	**P**	**08 39 12.6**	**+0.1**
	comp=Z,8.6nm,0.8s,mb4.7,baz=242,slow=7.0,SNR=5.9						
GNI	**Garni**	**54.41**	**314**	*eP*	**P**	**08 39 11.8**	**-0.7**
	comp=Z,18nm,0.9s,mb5.0						
SVE	**Sverdlovsk**	**55.41**	**338**	*eP*	**P**	**08 39 16.5**	**-3.0**
SVE				pmax	pmax		
	comp=Z,110nm,1.6s,mb5.6						
SVE				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.9						
ASAJ	**Asahikawa**	**55.48**	**41**	P	**P**	**08 39 26.1**	**+5.8**
ASAJ				pmax	pmax		
	comp=Z,20

CTA	**Charters Tower**	58.35 119	*e*P		P	08 39 44.7	+3.8
	comp=Z,6.5nm,1.2s,mb4.5						
CTA	**Charters Tower**	58.35 119	P		P	08 39 41.6	+0.7
CTA			pmax		pmax		
	comp=Z,5.0nm,0.8s						
CTA	**Charters Tower**	58.35 119	P		P	08 39 41.6	+0.7
	comp=Z,4.6nm,0.8s,mb4.5,baz=308,slow=6.1,SNR=5.7						
CTAO	**Charters Tower**	58.35 119	P		P	08 39 42.3	+1.4
CTAO			pmax		pmax		
	comp=Z,22nm,1.3s,mb5.0						
CTAO	**Charters Tower**	58.35 119	P		P	08 39 42.3	+1.4
	comp=Z,22nm,1.3s,mb5.0						
MALT	**Malatya**	58.43 310	*e*P		P	08 39 40.1	-1.1
MALT			pmax		pmax		
	comp=Z,21nm,1.4s,mb5.0						
MALT	**Malatya**	58.43 310	*e*P		P	08 39 40.1	-1.1
	comp=Z,21nm,1.4s,mb5.0						
SOKR	**Solikamsk**	58.80 339	⇓*i*P		P	08 39 41.5	-2.0
SOKR			*e*		pP	08 39 47.6	-1.6
SOKR			pmax		pmax		
	comp=Z,50nm,1.0s,mb5.5						
SOC	**Sochi**	59.16 317	*e*P		P	08 39 41.3	-4.9
SOC			*e*			08 40 28.0	
SOC			*e*			08 41 50.4	
SOC			*e*S		S	08 47 48.3	-2.7
SOC			*e*			08 49 28.3	
SOC			*e*SS		SS	08 51 42.5	-4.6
SOC			pmax		pmax		
	comp=Z,34nm,1.1s,mb5.3						
SOC			pmax		pmax		
	comp=N,26nm,0.8s						
SOC			pmax		pmax		
	comp=E,19nm,0.7s						
EIL	**Elat**	59.38 300	P		P	08 39 48.5	+0.5
	comp=E,5.4nm,0.6s,mb4.8,baz=14,slow=6.3,SNR=5.5						
EIL	**Elat**	59.38 300	*e*P		P	08 39 48.2	+0.2
	comp=E,21nm,1.2s,mb5.0						
YAK	**Yakutsk**	60.05 18	*e*P		P	08 39 50.9	-1.2
YAK			pmax		pmax		
	comp=Z,77nm,0.8s,mb5.8						
YAK	**Yakutsk**	60.05 18	*e*P		P	08 39 50.9	-1.2
	comp=Z,77nm,0.8s,mb5.8						
STKA	**Stephens Creek**	60.13 134	*e*P		P	08 39 53.1	0.0
	comp=Z,4.5nm,0.8s,mb4.5						
STKA	**Stephens Creek**	60.13 134	P		P	08 39 53.6	+0.5
	comp=Z,6.4nm,0.9s,mb4.7,baz=284,slow=5.2,SNR=12						
BRTR	**Keskin Array B**	62.40 311	P		P	08 40 06.3	-2.0
BRTR			pmax		pmax		
	comp=Z,5.0nm,0.7s						
BRTR	**Keskin Array B**	62.40 311	P		P	08 40 06.3	-2.0
	comp=Z,4.6nm,0.7s,mb4.7,baz=117,slow=8.3,SNR=19						
MBAR	**Mbarara**	63.69 265	*e*P		P	08 40 16.3	-1.0
MBAR			pmax		pmax		
	comp=Z,47nm,1.4s,mb5.3						
MBAR	**Mbarara**	63.69 265	*e*P		P	08 40 16.3	-1.0
	comp=Z,47nm,1.4s,mb5.3						
MOS	**Moscow**	65.07 329	*e*P		P	08 40 22.0	-3.6
MOS			pmax		pmax		
	comp=Z,83nm,0.7s,mb5.9						
OBN	**Obninsk**	65.37 328	*c*e*P		P	08 40 23.9	-3.6
OBN			*i*			08 42 51.7	
OBN			pmax		pmax		
	comp=Z,104nm,1.7s,mb5.6						
OBN	**Obninsk**	65.37 328	*e*P		P	08 40 23.1	-4.4
	comp=Z,55nm,1.0s,mb5.5						
MA2	**Magadan**	66.83 28	*e*P		P	08 40 36.1	-0.6
MA2			pmax		pmax		
	comp=Z,30nm,1.1s,mb5.2						
MA2	**Magadan**	66.83 28	*e*P		P	08 40 36.7	-0.1
	comp=Z,42nm,0.9s,mb5.5						
TIXI	**Tiksi**	67.28 11	*i* P		P	08 40 38.2	-1.2
KIS	**Kishinev**	67.50 318	*e*P		P	08 40 39.0	-2.2
KIS			*e*			08 40 54.0	
AKASG	**Malin Array Be**	68.14 322	P		P	08 40 43.1	-2.0
AKASG			pmax		pmax		
	comp=Z,10.0nm,1.0s						
AKASG	**Malin Array Be**	68.14 322	P		P	08 40 43.1	-2.1
	comp=Z,10nm,1.0s,mb4.8,baz=90,slow=4.9,SNR=18						
IDI	**Anoyia**	68.53 305	P		P	08 40 47.7	-0.2
	comp=Z,17nm,0.6s,mb5.1,baz=89,slow=6.9,SNR=13						
SEY	**Seymchan**	68.98 25	*e*P		P	08 40 50.2	0.0
SEY			pmax		pmax		
	comp=E,60nm,1.3s						
SEY			pmax		pmax		
	comp=Z,90nm,1.3s,mb5.5						
MLR	**Muntele Rosu**	69.14 316	P		P	08 40 51.5	0.0
MLR			pmax		pmax		
	comp=Z,10.0nm,0.7s						
MLR	**Muntele Rosu**	69.14 316	P		P	08 40 51.5	0.0
	comp=Z,10.0nm,0.7s,mb4.8,baz=128,slow=2.2,SNR=14						
LSZ	**Lusaka**	69.19 250	*e*P		P	08 40 52.3	+0.1
LSZ			pmax		pmax		
	comp=Z,32nm,1.4s,mb5.1						
LSZ	**Lusaka**	69.19 250	*e*P		P	08 40 52.3	+0.1
	comp=Z,32nm,1.4s,mb5.1						
MNK	**Minsk**	69.94 325	*e*P		P	08 40 53.0	-3.2
JOF	**Joensuu**	70.85 334	*e*p		P	08 41 00.3	-1.2
	comp=Z,10nm,0.5s,mb5.0						
KOLS	**Kolonicke sedl**	72.18 319	*e*P		P	08 41 09.6	-0.2
KOLS			*e*		pP	08 41 14.9	-0.6
KOLS	**Kolonicke sedl**	72.18 319	*i* P		P	08 41 09.7	-0.1
SUW	**Suwalki**	72.49 324	*e*P		P	08 41 10.2	-1.3
FINES	**FINESS Array B**	72.71 332	P		P	08 41 12.3	-0.3
FINES			pmax		pmax		
	comp=Z,15nm,0.7s						
FINES	**FINESS Array B**	72.71 332	P		P	08 41 12.2	-0.4
	comp=Z,15nm,0.7s,mb5.0,baz=101,slow=9.7,SNR=34						
CRVS	**Cervenica-Dubn**	72.71 319	*e*P		P	08 41 13.4	+0.5
CRVS			*e*		pP	08 41 19.5	+0.9
CRVS	**Cervenica-Dubn**	72.71 319	*i* P		P	08 41 13.1	+0.2
CRVS			*i* sP		sP	08 41 19.1	-1.5
KAF	**Kangasniemi**	72.79 333	*e*p		P	08 41 12.1	-1.0
	comp=Z,8.0nm,0.7s,mb4.8						
KAF	**Kangasniemi**	72.79 333	*e*P		P	08 41 12.1	-1.0
KAF			pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
KECS	**Kecovo**	73.29 318	*e*P		P	08 41 19.7	+3.4
NIE	**Niedzica**	73.52 319	*e*P		P	08 41 18.1	+0.4
PSZ	**Piszkesteto**	73.62 318	*e*P		P	08 41 17.4	-0.8
PSZ			pmax		pmax		
	comp=Z,28nm,1.4s,mb5.0						
PSZ	**Piszkesteto**	73.62 318	*e*P		P	08 41 17.4	-0.8
	comp=Z,28nm,1.4s,mb5.0						
OJC	**Ojcow**	73.95 320	*e*P		P	08 41 20.1	0.0
LBTB	**Lobatse**	74.17 241	*e*P		P	08 41 22.4	+0.5
LBTB			pmax		pmax		
	comp=Z,21nm,0.8s,mb5.1						
LBTB	**Lobatse**	74.17 241	*e*P		P	08 41 22.4	+0.5
	comp=Z,21nm,0.8s,mb5.1						
PKSM	**Moragy**	74.30 316	⇓*e*P		P	08 41 21.2	-1.0
VYHS	**Vyhne**	74.38 318	*i* P		P	08 41 22.4	-0.3
VYHS			*e*		pP	08 41 27.2	-1.2
VYHS	**Vyhne**	74.38 318	*e*P		P	08 41 22.4	-0.3
VYHS			*e*pP		pP	08 41 27.4	-1.0
KEV	**Kevo**	74.84 341	*e*p		P	08 41 24.9	0.0
	comp=Z,8.3nm,0.8s,mb4.7						
KEV	**Kevo**	74.84 341	*e*P		P	08 41 24.9	0.0
KEV			pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
OKC	**Ostrava-Krasne**	74.97 319	*e*P		P	08 41 26.0	0.0
ARCES	**ARCESS Array B**	75.27 340	P		P	08 41 27.4	0.0
ARCES			pmax		pmax		
	comp=Z,8.0nm,0.8s						
ARCES	**ARCESS Array B**	75.27 340	P		P	08 41 27.4	0.0
	comp=Z,8.1nm,0.8s,mb4.7,baz=99,slow=7.5,SNR=11						
MORC	**Moravsky Berou**	75.35 319	*e*P		P	08 41 28.4	+0.2
MORC			pmax		pmax		
	comp=Z,33nm,1.3s,mb5.1						
MORC	**Moravsky Berou**	75.35 319	*e*P		P	08 41 28.4	+0.2
	comp=Z,33nm,1.3s,mb5.1						
BOSA	**Boshof**	75.51 238	*e*P		P	08 41 30.0	+0.4
BOSA			pmax		pmax		
	comp=Z,19nm,0.7s,mb5.1						
BOSA	**Boshof**	75.51 238	*e*P		P	08 41 29.9	+0.4
	comp=Z,19nm,0.7s,mb5.1						
ZST	**Bratislava**	75.51 318	*i* P		P	08 41 29.2	0.0
ZST			*e*		pP	08 41 33.1	-1.8
ZST	**Bratislava**	75.51 318	*i* P		P	08 41 29.5	+0.3
ZST			*i* pP		pP	08 41 34.8	-0.1
DPC	**Dobruska-Polom**	76.19 320	*e*P		P	08 41 33.1	+0.2
DPC			*ex*		x	08 41 37.6	
KSP	**Ksiaz**	76.24 320	*e*P		P	08 41 33.1	-0.1
KSP			*e*PP		pP	08 41 38.5	-0.5
KSP	**Ksiaz**	76.24 320	*e*P		P	08 41 33.4	+0.1
UPC	**Upice**	76.39 320	*e*P		P	08 41 34.1	0.0
UPC			*e*		pP	08 41 39.4	-0.4
PRU	**Pruhonice**	77.31 319	*e*P		P	08 41 39.4	+0.2
PVCC	**Panska Ves**	77.32 320	*e*P		P	08 41 39.0	-0.2
BRG	**Berggiesshubel**	77.73 320	*i* P		P	08 41 41.6	+0.1
BRG			*e*		pP	08 41 47.5	+0.3
BRG			pmax		pmax		
	comp=Z,42nm,1.7s,mb5.1						
BRG	**Berggiesshubel**	77.73 320	*i* P		P	08 41 41.6	+0.1
	comp=Z,42nm,1.7s,mb5.1						
BRG			*e*		pP	08 41 47.5	+0.3
GEC2	**GERESS Array S**	77.80 318	*e*P		P	08 41 42.0	+0.1
GEC2			pmax		pmax		
	comp=Z,39nm,1.4s,mb5.1						
GEC2	**GERESS Array S**	77.80 318	*e*P		P	08 41 42.0	+0.1
	comp=Z,39nm,1.4s,mb5.1						
GERES	**GERESS Array B**	77.80 318	P		P	08 41 42.5	+0.6
GERES			pmax		pmax		
	comp=Z,6.0nm,0.7s						
GERES	**GERESS Array B**	77.80 318	P		P	08 41 42.5	+0.6
	comp=Z,5.8nm,0.7s,mb4.6,baz=90,slow=5.3,SNR=32						
KHC	**Kasperske Hory**	77.89 319	*e*P		P	08 41 41.1	-1.3
KHC			*e*		pP	08 41 46.7	-1.5
RUE	**Ruedersdorf**	77.91 322	*e*P		P	08 41 41.8	-0.7
	comp=Z,33nm,0.6s,mb5.4						
CLL	**Collm**	78.34 321	*e*P		P	08 41 42.0	-2.8
CLL			*i*		pP	08 41 49.7	-0.9
CLL			*i*			08 41 53.9	
CLL	**Collm**	78.34 321	P		P	08 41 44.0	-0.8
CLL			*i* *PP		pP	08 41 49.7	-0.9
CLL			*i* *SP		sP	08 41 53.9	+1.4
CLL			*e*			08 42 15.0	
WET	**Wettzell**	78.36 319	*e*P		P	08 41 45.1	+0.1
WET			pmax		pmax		
	comp=Z,32nm,1.4s,mb5.1						
WET	**Wettzell**	78.36 319	*e*P		P	08 41 45.1	+0.1
	comp=Z,32nm,1.4s,mb5.1						
HFS	**Hagfors**	78.45 330	P		P	08 41 45.1	-0.1
HFS			pmax		pmax		
	comp=Z,12nm,0.7s						
HFS	**Hagfors**	78.45 330	P		P	08 41 45.1	-0.1
	comp=Z,12nm,0.7s,mb4.9,baz=108,slow=4.7,SNR=19						
MAW	**Mawson**	78.49 192	P		P	08 41 45.6	+0.3
MAW			pmax		pmax		
	comp=Z,13nm,0.9s						
MAW	**Mawson**	78.49 192	P		P	08 41 48.3	+3.0
	comp=Z,13nm,0.9s,mb4.9,baz=317,slow=6.8,SNR=9.5						
MAW	**Mawson**	78.49 192	P		P	08 41 45.6	+0.2
	comp=Z,13nm,0.9s,mb4.9						
NKC	**Novy Kostel**	78.66 320	*e*P		P	08 41 46.9	+0.3
NKC			*ex*		x	08 41 52.6	
MOX	**Moxa**	79.20 320	*e*P		P	08 41 50.1	+0.5
MOX			pmax		pmax		
	comp=Z,23nm,1.4s,mb4.9						
MOX	**Moxa**	79.20 320	*e*P		P	08 41 50.1	+0.5
	comp=Z,23nm,1.4s,mb4.9						
MOX	**Moxa**	79.20 320	*i* P		P	08 41 50.1	+0.5
	comp=Z,logA/T=1.2,mb4.9						
FUR	**Furstenfeldbru**	79.40 317	*e*P		P	08 41 50.3	-0.4
GRA1	**Grafenberg Arr**	79.44 319	*e*P		P	08 41 51.4	+0.5
	comp=Z,37nm,1.2s,mb5.2						
GRA1			*e*pP		pP	08 41 56.5	-0.2
GRF	**Grafenberg Arr**	79.44 319	*e*P		P	08 41 51.4	+0.5
GRF			*e*PP		pP	08 41 56.5	-0.2
GRF			pmax		pmax		
	comp=Z,37nm,1.2s,mb5.2						
GRF	**Grafenberg Arr**	79.44 319	*e*P		P	08 41 51.4	+0.5
GRF			*e*PP		pP	08 41 56.5	-0.2
GRF			pmax		pmax		
	comp=Z,37nm,1.2s,mb5.2						
GRF	**Grafenberg Arr**	79.44 319	*e*P		P	08 41 51.4	+0.5
	comp=Z,37nm,1.2s,mb5.2						
GRF			*e*pP		pP	08 41 56.5	-0.2
NB2	**NORSAR Subarra**	79.72 331	P		P	08 41 51.5	-0.7
	comp=Z,22nm,0.9s,mb5.1,baz=93,slow=5.6						
NB2	**NORSAR Subarra**	79.72 331	P		P	08 41 51.5	-0.7
	baz=92,slow=5.9						
NOA	**NORSAR Array B**	79.72 331	P		P	08 41 52.0	-0.2
NOA			pmax		pmax		
	comp=Z,10.0nm,0.8s						
NOA	**NORSAR Array B**	79.72 331	P		P	08 41 52.0	-0.2
	comp=Z,9.8nm,0.8s,mb4.8,baz=93,slow=5.6,SNR=25						
NAO01	**NORSAR Array S**	79.88 330	*e*P		P	08 41 52.7	-0.3
	comp=Z,27nm,1.0s,mb5.1						
CLZ	**Clausthal**	79.99 321	*e*P		P	08 41 53.9	+0.1
	comp=Z,46nm,1.6s,mb5.2						
SUR	**Sutherland**	80.26 235	*e*P		P	08 41 55.1	-0.6
	comp=Z,206nm,1.8s,mb5.8						
DAVOX	**Davos**	80.36 316	P		P	08 41 56.4	+0.5
	comp=Z,8.0nm,0.7s,mb4.8,baz=127,slow=8.3,SNR=7.3						
PGF	**Pioggiola**	81.13 312	*e*P		P	08 41 59.4	-0.6
	comp=Z,116nm,1.5s,mb5.3						
PGF	**Pioggiola**	81.13 312	*e*P		P	08 41 59.4	-0.6
PGF			pmax		pmax		
	comp=Z,58nm,1.5s,mb5.3						
TNS	**Taunus Mts**	81.23 320	*e*P		P	08 42 00.6	+0.2
BFO	**Black Forest**	81.37 318	*e*P		P	08 42 01.2	+0.1
BFO			pmax		pmax		
	comp=Z,30nm,1.6s,mb5.0						
BFO	**Black Forest**	81.37 318	*e*P		P	08 42 01.2	+0.1
	comp=Z,30nm,1.6s,mb5.0						
CDF	**Champ du Feu**	82.07 318	*e*P		P	08 42 04.0	-0.8
SBF	**Sospel**	82.20 313	*e*P		P	08 42 05.0	-0.6
	comp=Z,77nm,0.9s,mb5.3						
SBF	**Sospel**	82.20 313	*e*P		P	08 42 05.0	-0.6
SBF			pmax		pmax		
	comp=Z,39nm,0.9s,mb5.3						
LPG	**La Plagne**	82.59 315	*e*P		P	08 42 07.5	0.0
	comp=Z,48nm,0.9s,mb5.2						
LPG	**La Plagne**	82.59 315	*e*P		P	08 42 07.5	0.0
LPG			pmax		pmax		
	comp=Z,24nm,0.9s,mb5.2						
LPL	**La Plagne**	82.60 315	*e*P		P	08 42 07.5	-0.1
	comp=Z,35nm,0.6s,mb5.3						
LPL	**La Plagne**	82.60 315	*e*P		P	08 42 07.5	-0.1
LPL			pmax		pmax		
	comp=Z,18nm,0.6s,mb5.3						
MBDF	**Montbardon**	82.63 314	*e*P		P	08 42 06.7	-1.0
	comp=Z,16nm,0.7s,mb4.8						
MBDF	**Montbardon**	82.63 314	*e*P		P	08 42 06.7	-1.0
MBDF			pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
BNI	**Bardonecchia**	82.67 314	*e*P		P	08 42 08.8	+0.8
BNI			pmax		pmax		
	comp=Z,28nm,1.1s,mb5.2						
BNI	**Bardonecchia**	82.67 314	*e*P		P	08 42 08.8	+0.9
	comp=Z,28nm,1.1s,mb5.2						
HAU	**Haudompre**	82.71 317	*e*P		P	08 42 07.3	-0.8
	comp=Z,37nm,0.8s,mb5.1						
HAU	**Haudompre**	82.71 317	*e*P		P	08 42 07.3	-0.8
HAU			pmax		pmax		
	comp=Z,19nm,0.8s,mb5.2						
FRF	**La Foret Royal**	82.79 313	*e*P		P	08 42 08.7	+0.1
LMR	**La Mourre**	82.91 313	*e*P		P	08 42 08.9	-0.3
CABF	**La Chapelle**	82.98 316	*e*P		P	08 42 09.3	-0.2
	comp=Z,26nm,0.8s,mb5.0						
CABF	**La Chapelle**	82.98 316	*e*P		P	08 42 09.3	-0.2
CABF			pmax		pmax		
	comp=Z,13nm,0.8s,mb5.0						
ORIF	**Oris-en-Rattie**	83.25 314	*e*P		P	08 42 10.8	-0.1
	comp=Z,22nm,0.8s,mb4.9						
ORIF	**Oris-en-Rattie**	83.25 314	*e*P		P	08 42 10.8	-0.1
ORIF			pmax		pmax		
	comp=Z,11nm,0.8s,mb4.9						
SMRF	**Simiane la Rot**	83.54 313	*e*P		P	08 42 12.6	+0.1
BAIF	**Baives**	83.96 320	*e*P		P	08 42 14.4	-0.1
VIVF	**Saint-Julien-l**	84.11 314	*e*P		P	08 42 14.9	-0.4
	comp=Z,68nm,1.3s,mb5.3						
VIVF	**Saint-Julien-l**	84.11 314	*e*P		P	08 42 14.9	-0.4
VIVF			pmax		pmax		
	comp=Z,34nm,1.3s,mb5.3						
SMF	**Signal de Mont**	84.52 316	*e*P		P	08 42 16.7	-0.7
	comp=Z,32nm,0.9s,mb5.2						
SMF	**Signal de Mont**	84.52 316	*e*P		P	08 42 16.7	-0.7
SMF			pmax		pmax		
	comp=Z,16nm,0.9s,mb5.2						
SSF	**Saint Saulge**	84.71 317	*e*P		P	08 42 18.1	-0.2
LASF	**Ste Croix**	84.76 314	*e*P		P	08 42 18.6	0.0
AVF	**Avril sur Loir**	84.84 316	*e*P		P	08 42 18.3	-0.7
	comp=Z,28nm,1.0s,mb5.0						
AVF	**Avril sur Loir**	84.84 316	*e*P		P	08 42 18.3	-0.7
AVF			pmax		pmax		
	comp=Z,14nm,1.0s,mb5.0						
BGF	**Bois d'Agland**	85.21 316	*e*P		P	08 42 20.7	-0.1
SYO	**Syowa Base**	85.36 197	⇑*i*P		P	08 42 26.3	+5.3
SYO	**Syowa Base**	85.36 197	⇓*e*pP		pP	08 42 30.5	+3.7
TCF	**Toulx Ste Croi**	85.68 316	*e*P		P	08 42 23.1	-0.1
CAF	**Calviac**	85.94 315	*e*P		P	08 42 24.5	0.0
	comp=Z,37nm,1.2s,mb5.2						
CAF	**Calviac**	85.94 315	*e*P		P	08 42 24.5	0.0
CAF			pmax		pmax		
	comp=Z,19nm,1.2s,mb5.2						
MTLF	**Montolieu**	86.03 313	*e*P		P	08 42 24.8	-0.2
	comp=Z,25nm,0.9s,mb5.1						
MTLF	**Montolieu**	86.03 313	*e*P		P	08 42 24.8	-0.2
MTLF			pmax		pmax		
	comp=Z,13nm,0.9s,mb5.2						
TNA	**Tin City**	86.22 24	*e*P		P	08 42 26.0	+0.6
RJF	**Les Rejaudoux**	86.28 315	*e*P		P	08 42 26.3	+0.1
LDF	**La Druitiere**	86.95 318	*e*P		P	08 42 28.9	-0.4
FLN	**La Foliniere**	87.16 319	*e*P		P	08 42 30.0	-0.4
MFF	**Saint Martin d**	87.25 316	*e*P		P	08 42 30.5	-0.4
GRR	**Gorron**	87.46 318	*e*P		P	08 42 31.5	-0.3
ETSF	**Etsaut**	88.10 313	*e*P		P	08 42 35.3	+0.3
	comp=Z,27nm,1.0s,mb5.1						
ETSF	**Etsaut**	88.10 313	*e*P		P	08 42 35.3	+0.3
ETSF			pmax		pmax		
	comp=Z,13nm,1.0s,mb5.1						
SJPF	**Ste Jean**	88.55 313	*e*P		P	08 42 37.2	0.0
	comp=Z,45nm,1.3s,mb5.3						
SJPF	**Ste Jean**	88.55 313	*e*P		P	08 42 37.2	0.0
SJPF			pmax		pmax		
	comp=Z,23nm,1.3s,mb5.3						
ESDC	**Sonseca Array**	91.19 310	P		P	08 42 50.7	+1.2
	comp=Z,2.5nm,0.7s,mb4.6,baz=62,slow=4.6,SNR=8.3						
VNDA	**Vanda**	92.91 168	P		P	08 42 58.7	+2.0
VNDA			pmax		pmax		
	comp=Z,2.0nm,0.9s						
VNDA	**Vanda**	92.91 168	P		P	08 42 58.7	+2.0
	comp=Z,2.1nm,0.9s,mb4.6,baz=329,slow=6.7,SNR=6.5						
SPU	**Mount Spurr**	94.34 26	*e*P		P	08 43 03.8	+0.3
MCK	**McKinley**	94.52 23	*e*P		P	08 43 05.0	+0.7
MCK			pmax		pmax		
	comp=Z,27nm,1.7s,mb5.4						
MCK	**McKinley**	94.52 23	*e*P		P	08 43 05.0	+0.7
	comp=Z,27nm,1.7s,mb5.4						
ILAR	**Eielson Array**	94.80 22	P		P	08 43 05.0	-0.6
ILAR			pmax		pmax		
	comp=Z,2.0nm,0.8s						
ILAR			pmax		pmax		
	comp=Z,1.0nm,0.8s						
ILAR			pmax		pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	94.80 22	P		P	08 43 05.0	-0.6
	comp=Z,1.6nm,0.8s,mb4.5,baz=297,slow=4.3,SNR=14						
ILAR			PP		PP	08 46 48.3	-8.4
	comp=Z,0.5nm,0.8s,baz=301,slow=7.3,SNR=4.3						
ILAR			PKKP		PKKP	09 00 06.4	+10
	comp=Z,0.7nm,0.8s,baz=164,slow=3.5,SNR=6.7						
SLKM	**Skilak Lake**	95.44 27	*e*P		P	08 43 09.0	+0.4
SML	**Sawmill**	95.66 25	*e*P		P	08 43 10.9	+1.3
INK	**Inuvik**	97.04 16	*e*P		P	08 43 15.9	+0.2
INK			pmax		pmax		
	comp=Z,18nm,1.4s						
INK	**Inuvik**	97.04 16	P		P	08 43 16.2	+0.5
	comp=Z,5.0nm,1.0s,mb4.9,baz=340,slow=7.3,SNR=6.5						
INK	**Inuvik**	97.04 16	*e*P		P	08 43 15.9	+0.2
	comp=Z,18nm,1.4s,mb5.3						
RES	**Resolute Bay**	97.44 2	*e*P		P	08 43 18.3	+0.9
RES			pmax		pmax		
	comp=Z,9.0nm,0.9s,mb5.2						
RES	**Resolute Bay**	97.44 2	*e*P		P	08 43 18.3	+0.9
	comp=Z,8.8nm,0.9s,mb5.2						
DBIC	**Dimbokro**	97.88 278	P		P	08 43 22.4	+1.6
DBIC			pmax		pmax		
	comp=Z,4.0nm,1.0s						
DBIC	**Dimbokro**	97.88 278	P		P	08 43 22.4	+1.6
	comp=Z,4.1nm,1.0s,mb4.9,baz=78,slow=9.3,SNR=3.0						
YKA	**Yellowknife Ar**	106.47 13	PP		PP	08 48 18.5	-7.4
	comp=Z,0.8nm,0.7s,baz=332,slow=7.7,SNR=5.1						
YKA			PKKPbc			08 59 28.9	
	comp=Z,0.7nm,0.6s,baz=153,slow=3.2,SNR=11						
YKA			PKKPab			08 59 46.8	
	comp=Z,0.7nm,0.7s,baz=144,slow=4.4,SNR=9.3						
SCHQ	**Schefferville**	115.54 348	PKP		PKPdf	08 48 26.7	-2.3
	comp=Z,1.8nm,0.8s,baz=180,slow=8.0,SNR=3.7						
MSO	**Missoula**	120.14 22	*e*PKPdf		PKPdf	08 48 35.2	-2.9
MCMT	**McKenzie Canyo**	122.24 22	*e*PKPdf		PKPdf	08 48 39.9	-2.3
LAO	**LASA Array**	122.78 16	*e*PKPdf		PKPdf	08 48 41.5	-1.6
YFT	**Old Faithful**	123.30 21	*e*PKPdf		PKPdf	08 48 43.6	-0.7
LKWY	**Lake**	123.35 21	*e*PKIKP		PKPdf	08 48 44.5	+0.2
NVAR	**Mina Array Bea**	124.98 31	PKP		PKPdf	08 48 46.5	-1.2
	comp=Z,2.4nm,0.8s,baz=8.8,slow=1.2,SNR=12						
PDAR	**Pinedale Array**	125.22 21	PKP		PKPdf	08 48 45.7	-2.4
	comp=Z,4.2nm,1.1s,baz=31,slow=1.7,SNR=16						
SADO	**Sadowa**	127.28 354	PKP		PKPdf	08 48 49.4	-2.6
	comp=Z,3.3nm,0.7s,baz=347,slow=6.5,SNR=3.3						
MSU	**Marysvale**	127.81 26	*e*PKIKP		PKPdf	08 48 52.1	-1.1
NEN	**Nelson**	128.88 30	*e*PKPdf		PKPdf	08 48 54.7	-0.6
PV10	**Paradox Valley**	129.23 23	*e*PKPdf		PKPdf	08 48 52.0	-3.9

ISC 28 08:37:07.2±0.5, 13.97N±0.08×93.41E±0.08, h30km, n21, σ0°81/20, mb4.2/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.94	49	P	Pn	08 38 49.8	+0.1
	0.8nm,0.3s,baz=238,slow=14,SNR=4.3						
CMAR				S	Sn	08 40 08.8	+0.4
	0.5nm,0.3s,baz=240,slow=27,SNR=3.9						
LZH	Lanzhou	23.93	21	eP	P	08 42 24.0	+4.3
	39nm,1.2s,mb4.7						
LZH				pP		08 42 34.6	
LZH				sP		08 42 40.1	
SONM	Songino Array	35.45	15	P	P	08 44 00.8	-2.1
	1.3nm,0.7s,mb4.0,baz=276,slow=12,SNR=3.7						
ZAL	Zalesovo	40.44	352	P	P	08 44 45.8	+1.2
	1.9nm,0.6s,mb4.0,baz=310,slow=4.1,SNR=4.6						
NWAO	Narrogin (SRO)	51.90	154	P	P	08 46 15.1	-0.4
	6.1nm,0.8s,mb4.6,baz=0.2,slow=11,SNR=4.1						
NWAO	Narrogin (SRO)	51.90	154	P	P	08 46 15.1	-0.4
WRA	Warramunga Arr	52.51	129	P	P	08 46 20.4	+0.2
	2.7nm,0.8s,mb4.2,baz=306,slow=8.0,SNR=12						
WRA				PcP	PcP	08 47 30.7	+0.3
	0.6nm,0.5s,baz=318,slow=3.2,SNR=8.5						
WRAB	Tennant Creek	52.51	129	eP	P	08 46 20.3	+0.1
	2.4nm,0.5s,mb4.4						
ASAR	Alice Springs	54.47	133	P	P	08 46 35.1	+0.5
	3.4nm,0.6s,mb4.5,baz=308,slow=6.8,SNR=25						
BRTR	Keskin Array B	58.01	308	P	P	08 46 59.6	-0.2
	1.3nm,0.6s,mb4.1,baz=120,slow=8.4,SNR=6.4						
MLR	Muntele Rosu	64.39	314	P	P	08 47 43.9	+1.1
	2.7nm,0.9s,mb4.3,baz=217,slow=9.7,SNR=4.1						
STKA	Stephens Creek	64.88	136	P	P	08 47 46.2	0.0
	1.4nm,0.5s,mb4.2,baz=332,slow=9.4,SNR=5.8						
FINES	FINESS Array B	67.03	331	P	P	08 47 59.1	-0.3
	1.0nm,0.6s,mb4.0,baz=90,slow=5.7,SNR=5.0						
ARCES	ARCESS Array B	69.33	340	P	P	08 48 12.9	-0.8
	6.8nm,1.2s,mb4.5,baz=117,slow=6.0,SNR=4.4						
GERES	GERESS Array B	72.86	317	P	P	08 48 36.3	+1.1
	1.1nm,0.5s,mb4.0,baz=90,slow=6.7,SNR=9.9						
HFS	Hagfors	72.87	329	P	P	08 48 35.3	+0.2
	2.5nm,0.6s,mb4.3,baz=108,slow=9.4,SNR=4.6						
NB2	NORSAR Subarra	74.11	330	P	P	08 48 41.4	-0.8
	1.7nm,0.7s,mb4.1,baz=90,slow=5.6						
NOA	NORSAR Array B	74.11	330	P	P	08 48 42.2	0.0
	2.4nm,0.9s,mb4.1,baz=90,slow=5.7,SNR=5.8						
ILAR	Eielson Array	89.39	22	P	P	08 50 00.8	-1.2
	0.3nm,0.7s,mb3.7,baz=307,slow=4.5,SNR=3.7						
TXAR	Lajitas Array	133.90	21	PKP	PKPdf	08 56 22.8	-4.5
	1.0nm,1.2s,baz=45,slow=2.6,SNR=3.0						
PLCA	Paso Flores	149.88	205	PKPbc	PKPdf	08 56 57.5	+2.5
	1.8nm,0.7s,baz=204,slow=2.9,SNR=7.9						

*IDC **28** 08:38:34.0±0.9, 9.09N×93.42E, mb4.0/10, mb1 4.1/10, mb1mx4.0/19, mbtmp4.0/10, Error ellipse: s-maj=33.4km s-min=21.2km az=56.0*
*NEIC **28** 08:38:38.7±0.7, 9.04N×93.45E, h30km, mb4.1/1, Error ellipse: s-maj=26.5km s-min=16.3km az=57.0*

ISC 28 08:38:36.8±0.8, 9.1N±0.1×93.5E±0.2, h30km, n16, σ1°07/13, mb4.0/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	40.16	14	P	P	08 46 11.1	-0.9
	0.4nm,0.6s,mb3.3,baz=191,slow=7.3,SNR=2.6						
KURK	Kurchatov	43.30	346	eP	P	08 46 37.3	-0.3
	3.7nm,1.1s,mb4.0						
ZAL	Zalesovo	45.28	353	P	P	08 46 54.5	+1.0
	1.2nm,0.5s,mb4.0,baz=146,slow=21,SNR=2.9						
WRA	Warramunga Arr	49.51	126	P	P	08 47 27.3	+0.2
	0.9nm,0.8s,mb3.8,baz=302,slow=8.8,SNR=2.6						
ASAR	Alice Springs	51.20	130	P	P	08 47 39.9	-0.1
	0.7nm,0.6s,mb3.8,baz=306,slow=5.2,SNR=3.0						
KMBO	Kilima Mbogo	56.89	263	P	P	08 48 21.1	-0.8
	1.4nm,0.9s,mb4.0,baz=64,slow=24,SNR=3.6						
KMBO	Kilima Mbogo	56.89	263	eP	P	08 48 21.3	-0.6
IDI	Anoyia	67.33	304	P	P	08 49 31.6	+0.1
	6.5nm,1.0s,mb4.6,baz=180,slow=1.0,SNR=2.8						
FINES	FINESS Array B	71.34	332	P	P	08 49 54.4	-1.3
	1.5nm,0.6s,mb4.1,baz=120,slow=11,SNR=3.9						
ARCES	ARCESS Array B	73.92	340	P	P	08 50 09.6	-1.0
	3.5nm,1.0s,mb4.2,baz=90,slow=6.3,SNR=2.9						
GERES	GERESS Array B	76.49	318	P	P	08 50 26.9	+1.1
	0.9nm,0.8s,mb3.8,baz=101,slow=5.0,SNR=3.5						
HFS	Hagfors	77.09	330	P	P	08 50 32.0	+3.1
	1.7nm,0.4s,mb4.3,baz=104,slow=6.1,SNR=8.4						
NB2	NORSAR Subarra	78.36	331	P	P	08 50 39.3	+3.5
	1.6nm,0.8s,mb4.0,baz=90,slow=5.3						
TXAR	Lajitas Array	138.41	23	PKP	PKPdf	08 58 02.4	-2.9
	0.3nm,0.9s,baz=333,slow=2.0,SNR=2.8						
TXAR	Lajitas Array	138.41	23	PKP	PKPdf	08 58 02.4	-2.9
PLCA	Paso Flores	145.41	202	PKPbc	PKPbc	08 58 12.9	+0.1
	1.7nm,0.8s,baz=139,slow=4.9,SNR=3.8						

*IDC **28** 08:41:17.3±0.5, 8.21N×94.29E, mb4.3/17, mb1 4.4/18, mb1mx4.4/23, mbtmp4.3/18, ML3.9/1, Error ellipse: s-maj=30.9km s-min=12.3km az=45.0*
*NEIC **28** 08:41:21.9±0.3, 8.07N×94.15E, h30km, mb4.5/12, Error ellipse: s-maj=13.4km s-min=8.3km az=58.0*

ISC 28 08:41:20.4±0.4, 8.11N±0.08×94.3E±0.1, h33km, n44, σ0°90/36, mb4.5/29, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.25	23	Pn	P	08 44 04.2	+2.1
	0.3nm,0.3s,baz=214,slow=13,SNR=3.4						
LSA	Lhasa	21.68	353	eP	P	08 46 10.5	+0.2
	15nm,0.6s,mb4.6						
AAK	Ala-Archa	38.53	336	eP	P	08 48 41.6	0.0
	2.8nm,0.7s,mb4.1						
SONM	Songino Array	40.91	12	PcP	PcP	08 51 02.8	+0.8
	1.4nm,0.7s,baz=200,slow=3.7,SNR=4.1						
KURK	Kurchatov	44.41	346	eP	P	08 49 29.7	0.0
	4.7nm,0.8s,mb4.3						
NWAO	Narrogin (SRO)	46.30	153	P	P	08 49 45.0	0.0
	4.0nm,0.6s,mb4.6,baz=308,slow=18,SNR=3.8						
ZAL	Zalesovo	46.33	352	P	P	08 49 45.1	+0.1
	3.5nm,0.4s,mb4.6,baz=297,slow=6.2,SNR=7.3						
WRA	Warramunga Arr	48.31	126	P	P	08 49 59.9	-1.0
	1.4nm,0.5s,mb4.2,baz=304,slow=8.6,SNR=11						
WRA				PcP	PcP	08 51 27.2	-0.6
	0.3nm,0.4s,baz=320,slow=2.9,SNR=5.8						
BVAR	Borovoye Array	48.80	341	P	P	08 50 03.0	-1.3
	2.7nm,0.9s,mb4.3,baz=169,slow=8.7,SNR=6.1						
RAYN	Ar Rayn	49.09	294	P	P	08 50 08.8	+1.9
	61nm,0.6s,mb5.8,SNR=8.8						
CHKZ	Chkalovo	49.29	342	eP	P	08 50 07.7	-0.3
	6.8nm,0.8s,mb4.7						
ASAR	Alice Springs	49.98	130	P	P	08 50 12.8	-1.0
	1.2nm,0.5s,mb4.2,baz=304,slow=7.9,SNR=9.3						
ASAR				PcP	PcP	08 51 33.7	0.0
	0.4nm,0.8s,baz=306,slow=3.7,SNR=4.0						
PMG	Port Moresby	55.49	107	P	P	08 50 56.1	+1.1
	4.1nm,0.5s,mb4.8,baz=227,slow=9.9,SNR=2.7						
KMBO	Kilima Mbogo	57.56	263	P	P	08 51 11.8	+2.1
	4.4nm,0.8s,mb4.6,baz=54,slow=12,SNR=14						
KMBO	Kilima Mbogo	57.56	263	eP	P	08 51 11.3	+1.6
	6.2nm,0.9s,mb4.6						
ASF	Jabal al Asfar	58.18	303	P	P	08 51 14.2	+0.4
	1.3nm,0.5s,mb4.3,baz=286,slow=4.2,SNR=2.8						
STKA	Stephens Creek	60.19	134	P	P	08 51 28.2	+0.5
	2.9nm,1.1s,mb4.2,baz=310,slow=12,SNR=3.2						
BRTR	Keskin Array B	62.36	311	P	P	08 51 40.3	-1.9
	1.8nm,0.6s,mb4.4,baz=126,slow=7.6,SNR=8.8						
AKASG	Malin Array Be	68.04	322	P	P	08 52 16.9	-1.7
	1.2nm,0.5s,mb4.2,baz=89,slow=4.9,SNR=11						
IDI	Anoyia	68.53	305	P	P	08 52 21.1	-0.8
	5.3nm,0.5s,mb4.7,baz=54,slow=8.2,SNR=7.5						
MLR	Muntele Rosu	69.08	316	P	P	08 52 25.4	+0.3
	3.4nm,1.0s,mb4.2,baz=75,slow=3.0,SNR=6.6						
JOF	Joensuu	70.69	334	ep	P	08 52 34.3	-0.3
	3.5nm,0.5s,mb4.5						
FINES	FINESS Array B	72.56	332	P	P	08 52 45.5	-0.3
	2.5nm,0.5s,mb4.4,baz=102,slow=7.3,SNR=18						
FINES	FINESS Array B	72.56	332	P	P	08 52 45.5	-0.3
KAF	Kangasniemi	72.63	333	ep	P	08 52 46.0	-0.2
	1.2nm,0.4s,mb4.2						
LBTB	Lobatse	74.45	241	eP	P	08 52 58.2	+0.6
	4.4nm,0.8s,mb4.4						
KEV	Kevo	74.65	341	ep	P	08 52 56.8	-1.1
	3.6nm,0.6s,mb4.5						
ARCES	ARCESS Array B	75.08	340	P	P	08 53 00.8	+0.4
	2.5nm,0.7s,mb4.3,baz=92,slow=4.7,SNR=13						
ARCES	ARCESS Array B	75.08	340	P	P	08 53 00.8	+0.4
MORC	Moravsky Berou	75.27	319	eP	P	08 53 01.6	-0.2
	6.4nm,1.1s,mb4.5						
BRG	Berggiesshubel	77.64	320	P	P	08 53 15.4	+0.2
	3.4nm,0.6s,mb4.5						
GERES	GERESS Array B	77.73	318	P	P	08 53 16.2	+0.5
	2.7nm,0.6s,mb4.4,baz=90,slow=4.0,SNR=17						
NB2	NORSAR Subarra	79.58	331	P	P	08 53 25.2	-0.4
	1.4nm,0.6s,mb4.1,baz=97,slow=5.0						
NOA	NORSAR Array B	79.58	331	P	P	08 53 25.4	-0.2
	1.7nm,0.7s,mb4.1,baz=92,slow=5.7,SNR=5.8						
DAVOX	Davos	80.30	316	P	P	08 53 30.3	+0.5
	baz=113,slow=7.7						
DAVOX	Davos	80.30	316	P	P	08 53 30.3	+0.5
LPG	La Plagne	82.53	315	eP	P	08 53 41.7	+0.3
	13nm,0.7s,mb4.8						
YKA	Yellowknife Ar	106.17	13	PKKP	PKKP	09 11 18.5	+10
	0.2nm,0.7s,baz=149,slow=4.0,SNR=3.7						
NVAR	Mina Array Bea	124.66	31	PKP	PKPdf	09 00 20.8	+3.6
	0.9nm,0.6s,baz=350,slow=1.9,SNR=4.8						
PDAR	Pinedale Array	124.91	21	PKP	PKPdf	09 00 19.6	+2.0
	0.8nm,0.6s,baz=83,slow=1.0,SNR=8.1						
ANMO	Albuquerque	132.91	23	PKP	PKPdf	09 00 37.1	+4.1
	0.7nm,0.6s,baz=255,slow=1.7,SNR=5.0						
TXAR	Lajitas Array	138.97	24	PKP	PKPdf	09 00 47.5	+3.2
	0.5nm,0.5s,baz=219,slow=1.0,SNR=14						
JCT	Junction City	139.33	19	ePKPdf	PKPdf	09 00 47.4	+2.4
PLCA	Paso Flores	144.80	200	PKP	PKPdf	09 00 55.6	+1.3
	4.5nm,0.8s,baz=152,slow=3.6,SNR=12						

BJI 28 08:43:21.2, 44.16N×119.34E, h22km, ML3.5, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNY	Shenyang	3.88	125	⇑PG	Pn	08 44 29.3	+8.1
SNY				Smax			
	comp=N,80nm,0.7s						
SNY				Smax			
	comp=E,80nm,1.2s						

*BJI **28** 08:44:23.3, 8.00N×94.20E, h30km, mB5.2, mb4.5*
*NEIC **28** 08:44:23.4±0.4, 7.97N×94.18E, h30km, mb4.6/16, Error ellipse: s-maj=10.6km s-min=9.4km az=50.0*
*IDC **28** 08:44:27.6±4.5, 7.96N×94.21E, h69km±40km, mb3.9/16, mb1 4.1/17, mb1mx4.0/22, mbtmp4.2/17, ML4.6/1, Error ellipse: s-maj=27.0km s-min=14.1km az=54.0*

ISC 28 08:44:24.9±2.1, 7.91N±0.08×94.08E±0.08, h61km±18km, n50, σ1°06/42, mb4.4/30, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.50	24	P	P	08 47 08.4	-0.2
	1.1nm,0.3s,baz=213,slow=15,SNR=12						
PALK	Pallekele	13.28	268	Pn	P	08 47 32.1	-0.1
HYB	Hyderabad	17.84	303	eP	P	08 48 30.0	-0.6
HYB	Hyderabad	17.84	303	i P	P	08 48 30.0	-0.6
KMI	Kunming	19.01	25	P	P	08 48 47.1	+2.7
	32nm,1.4s						
LSA	Lhasa	21.85	353	P	P	08 49 16.5	+2.6
LSA	Lhasa	21.85	353	eP	P	08 49 13.4	-0.5
	43nm,0.7s,mb5.0						
LZH	Lanzhou	29.43	16	eP	P	08 50 25.0	+0.1
LZH				AP	pP	08 50 33.0	-7.0
LZH				XP	sP	08 50 36.0	-11
LZH				AMB	AMB		
	comp=Z,17nm,1.6s,mb4.5						
LZH	Lanzhou	29.43	16	eP	P	08 50 25.0	+0.1
	comp=Z,17nm,1.6s,mb4.5						
LZH				pP	pP	08 50 33.0	-7.0
LZH				sP	sP	08 50 35.9	-11
WMQ	Urumqi	36.20	352	eP	P	08 51 24.5	+0.9
BJI	Beijing	37.60	28	P	P	08 51 35.7	+0.4
	comp=Z,9.0nm,1.4s,mb4.3						
AAK	Ala-Archa	38.65	337	eP	P	08 51 43.5	-0.5
	comp=Z,6.4nm,1.0s,mb4.3						
SONM	Songino Array	41.14	13	P	P	08 52 05.2	+0.6
	comp=Z,3.5nm,0.8s,mb4.1,baz=196,slow=9.6,SNR=11						
ULN	Ulaanbaatar	41.31	13	eP	P	08 52 05.0	-1.0
	comp=Z,2.2nm,0.8s,mb3.8						
KURK	Kurchatov	44.56	346	eP	P	08 52 31.7	-0.8
	comp=Z,14nm,1.0s,mb4.8						
NWAO	Narrogin (SRO)	46.20	153	P	P	08 52 47.2	+1.4
	comp=Z,6.5nm,0.7s,mb4.7,baz=270,slow=6.3,SNR=4.0						
NWAO	Narrogin (SRO)	46.20	153	P	P	08 52 47.2	+1.4
ZAL	Zalesovo	46.50	352	P	P	08 52 47.9	+0.1
	comp=Z,6.9nm,0.5s,mb4.8,baz=287,slow=8.9,SNR=20						
HIA	Hailar	46.51	23	eP	P	08 52 48.1	+0.2
	comp=Z,9.9nm,1.1s,mb4.7						
WRA	Warramunga Arr	48.33	126	P	P	08 53 00.3	-2.3
	comp=Z,0.5nm,0.5s,mb3.9,baz=301,slow=9.6,SNR=5.2						
BVAR	Borovoye Array	48.94	341	P	P	08 53 06.7	0.0
	comp=Z,2.1nm,0.8s,mb4.2,baz=180,slow=7.4,SNR=7.3						
CHKZ	Chkalovo	49.42	342	eP	P	08 53 10.1	-0.5
	comp=Z,13nm,0.9s,mb5.0						
ASAR	Alice Springs	49.98	130	P	P	08 53 13.5	-1.7
	comp=Z,1.6nm,0.9s,mb4.0,baz=306,slow=7.4,SNR=5.4						
ASAR				PcP	PcP	08 54 35.1	+0.3
	comp=Z,0.8nm,0.8s,baz=304,slow=3.3,SNR=2.7						
KMBO	Kilima Mbogo	57.37	264	P	P	08 54 12.2	+2.5
	comp=Z,3.2nm,1.0s,mb4.3,baz=55,slow=10,SNR=5.5						
KMBO	Kilima Mbogo	57.37	264	eP	P	08 54 11.8	+2.1
	comp=Z,28nm,1.9s,mb5.0						
BRTR	Keskin Array B	62.36	311	P	P	08 54 42.2	-1.3
	comp=Z,0.8nm,0.6s,mb4.0,baz=138,slow=7.7,SNR=3.7						
AKASG	Malin Array Be	68.09	322	P	P	08 55 19.1	-1.1
	comp=Z,1.0nm,0.6s,mb4.1,baz=80,slow=4.6,SNR=4.0						
IDI	Anoyia	68.50	305	P	P	08 55 22.8	-0.2
	comp=Z,4.1nm,0.5s,mb4.6,baz=106,slow=10,SNR=4.8						
MLR	Muntele Rosu	69.11	316	P	P	08 55 27.0	+0.5
	comp=Z,9.8nm,1.2s,mb4.6,baz=161,slow=11,SNR=3.0						
JOF	Joensuu	70.79	334	ep	P	08 55 36.1	-0.4
	comp=Z,4.0nm,0.5s,mb4.6						
FINES	FINESS Array B	72.65	332	P	P	08 55 47.1	-0.4
	comp=Z,6.0nm,1.0s,mb4.5,baz=94,slow=7.9,SNR=7.6						
KAF	Kangasniemi	72.73	333	ep	P	08 55 47.8	-0.2
	comp=Z,2.6nm,0.4s,mb4.5						
LBTB	Lobatse	74.21	241	eP	P	08 55 59.9	+2.4
	comp=Z,4.6nm,0.7s,mb4.5						
ARCES	ARCESS Array B	75.21	340	P	P	08 56 02.6	+0.3
	comp=Z,1.1nm,0.5s,mb4.0,baz=80,slow=7.4,SNR=6.1						
MORC	Moravsky Berou	75.31	319	eP	P	08 56 03.5	+0.3
	comp=Z,5.9nm,1.1s,mb4.4						
BRG	Berggiesshubel	77.69	320	P	P	08 56 23.7	+7.1
	comp=Z,4.2nm,0.9s,mb4.4						
GERES	GERESS Array B	77.76	318	P	P	08 56 17.5	+0.4
	comp=Z,1.8nm,0.8s,mb4.0,baz=90,slow=5.9,SNR=6.6						
CLL	Collm	78.30	321	P	P	08 56 24.0	+4.1
NB2	NORSAR Subarra	79.67	331	P	P	08 56 26.9	-0.3
	comp=Z,4.1nm,0.8s,mb4.4,baz=92,slow=5.6						
NOA	NORSAR Array B	79.67	331	P	P	08 56 27.4	+0.2
	comp=Z,1.0nm,0.7s,mb3.9,baz=96,slow=5.6,SNR=5.2						
LPG	La Plagne	82.55	315	eP	P	08 56 40.8	-1.9
	comp=Z,12nm,0.8s,mb4.7						
SYO	Syowa Base	85.42	197	⇓pP	pP	08 57 08.6	-5.3
ILAR	Eielson Array	94.73	22	P	P	08 57 41.5	+1.2
	comp=Z,0.3nm,0.5s,mb4.0,baz=294,slow=4.7,SNR=7.7						
YKA	Yellowknife Ar	106.40	13	PP	PP	09 02 55.7	-5.0
	comp=Z,0.1nm,0.6s,baz=333,slow=7.6,SNR=4.0						
NVAR	Mina Array Bea	124.92	31	PKP	PKPdf	09 03 20.9	+2.4
	comp=Z,0.2nm,0.5s,baz=27,slow=2.0,SNR=3.7						
PDAR	Pinedale Array	125.15	21	PKP	PKPdf	09 03 20.9	+2.1
	comp=Z,0.8nm,0.9s,baz=315,slow=2.1,SNR=4.2						
ANMO	Albuquerque	133.16	23	PKP	PKPdf	09 03 38.8	+4.4
	comp=Z,0.5nm,0.8s,baz=34,slow=3.6,SNR=2.3						
TXAR	Lajitas Array	139.22	24	PKhKP		09 03 41.6	
	comp=Z,0.2nm,0.9s,baz=117,slow=2.8,SNR=2.4						
TXAR				PKiKP		09 03 49.9	
	comp=Z,0.3nm,0.5s,baz=11,slow=0.4,SNR=5.0						
TXAR	Lajitas Array	139.22	24	PKPdf	PKPdf	09 03 49.9	+4.2
PLCA	Paso Flores	144.56	200	PKP	PKPdf	09 03 56.8	+2.1
	comp=Z,6.7nm,0.8s,baz=204,slow=2.1,SNR=4.8						

*IDC **28** 08:47:12.9±0.4, 7.90N×94.05E, mb4.9/30, mb1 4.9/31, mb1mx4.9/31, mbtmp4.9/31, ML4.8/1, MS4.6/13, Ms1 4.6/13, ms1mx4.2/31, Error ellipse: s-maj=20.8km s-min=10.8km az=46.0, Putative timing error at LPAZ*
*MOS **28** 08:47:16.2±1.1, 7.83N×94.02E, h33km, mb5.2/68, MS4.6/9, Error ellipse: s-maj=8.9km s-min=5.3km az=114.5*
*BJI **28** 08:47:16.6, 7.48N×93.73E, h58km, mB5.6, mb4.8, Ms5.3, Msz5.0*
*HRVD **28** 08:47:17.8±0.3, 7.84N×94.11E, h13km±1km, MW5.2/44, Centroid moment Tensor Solution. LP body waves: s21,c31;Mantle waves: s44,c85; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.05±.02; $M_{\theta\theta}$-0.69±.02; $M_{\phi\phi}$0.74±.03; $M_{r\theta}$-0.42±.08; $M_{\theta\phi}$0.19±.02; $M_{\phi r}$-0.32±.07; Best double couple: M_0.909×10^{17} NP1: ϕ_s143°,δ55°,λ-177°. NP2:ϕ_s51°,δ88°,λ-35°. Principal axes: T.92, Plg23°, Azm103°; N-.022, Plg55°, Azm228°; P-.899, Plg26°, Azm1°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 08:47:17.8±0.2, 7.86N×94.00E, h30km, mb5.0/63 Error ellipse: s-maj=7.3km s-min=5.2km az=46.0*

ISC 28 08:47:15.3±0.2, 7.85N±0.03×94.07E±0.03, h25km, h25km±1.5km: pP-P, n280, σ1°26/266, mb5.0/92, MS4.8/22, 22C-12D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	4.00	341	eP	Pn	08 48 25.7	+9.1
PBA				eS	Sn	08 49 07.5	+4.1
CMAR	Chiang Mai Arr	11.56	24	P	P	08 50 03.7	+1.7
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,2μm,18.1s						
CMAR	Chiang Mai Arr	11.56	24	Pn	P	08 50 03.6	+1.6
	comp=Z,1.7nm,0.3s,baz=212,slow=14,SNR=96						
CMAR				LR	LR	08 54 23.7	
	comp=Z,2μm,18.1s,baz=210,slow=37						
VIS	Vishakhapatnam	14.34	314	eP	P	08 50 39.3	+0.2
VIS				e		08 50 40.0	
	comp=Z,34nm,0.7s						
VIS				eS	S	08 53 15.2	-3.0
KOD	Kodaikanal	16.57	279	eP	P	08 51 09.3	+1.5
KOD				e		08 51 13.6	
	comp=Z,112nm,1.3s						
KOD				eS	S	08 54 13.0	+2.7
IMP	Imphal	16.84	360	e	P	08 51 13.4	+2.2
SHL	Shillong	17.74	354	eP	P	08 51 21.8	-0.7
HYB	Hyderabad	17.86	304	eP	P	08 51 23.0	-1.1
HYB				eS	S	08 54 41.0	+1.1
HYB				pmax	pmax		
	comp=Z,86nm,1.2s						
HYB	Hyderabad	17.86	304	eP	P	08 51 23.0	-1.1
	comp=Z,86nm,1.2s						
HYB				eS	S	08 54 41.0	+1.1
HYB	Hyderabad	17.86	304	i P	P	08 51 23.0	-1.1
	comp=Z,86nm,1.2s						
HYB				eS	S	08 54 41.0	+1.1
QIZ	Qiongzhong	18.92	52	P	P	08 51 39.3	+2.2
QIZ				S	S	08 55 05.0	+1.2
QIZ				LR	LR		
	comp=N,10μm,11.5s						
QIZ				LR	LR		
	comp=E,4μm,12.7s						
QIZ				LR	LR		
	comp=Z,5μm,9.9s						
QIZ	Qiongzhong	18.92	52	eP	P	08 51 36.9	-0.2
	comp=Z,154nm,1.2s						
KMI	Kunming	19.07	25	⇑P	P	08 51 42.5	+3.7
KMI				S	S	08 55 09.3	+2.2
KMI				pmax	pmax		
	comp=Z,93nm,1.7s						
KMI	Kunming	19.07	25	⇑P	P	08 51 42.5	+3.7
	comp=Z,93nm,1.7s						
KMI				pP		08 51 49.5	
KMI				sP		08 51 51.7	
KMI				PP	PP	08 52 00.1	+4.6
KMI				S	S	08 55 09.3	+2.2
KMI				sS		08 55 22.0	
KMI				SS	SS	08 55 37.4	+4.6
COCO	West Island	20.10	172	P	P	08 51 52.3	+2.0
GOA	Goa	21.21	293	eP	P	08 52 10.5	+8.7
GOA				e		08 52 12.7	
	comp=Z,90nm,1.5s						
GOA				eS	S	08 56 06.1	+15
KAD	Karad	21.54	298	eP	P	08 52 05.3	+0.2
KAD				e		08 52 10.1	
	comp=Z,88nm,1.0s						
LSA	Lhasa	21.91	353	P	P	08 52 08.8	+0.1
LSA	Lhasa	21.91	353	eP	P	08 52 07.9	-0.8
LSA				pmax	pmax		
	comp=Z,67nm,0.7s,mb5.2						
LSA	Lhasa	21.91	353	eP	P	08 52 07.9	-0.8
	comp=Z,67nm,0.7s,mb5.2						
BHPL	Bhopal	22.12	316	eP	P	08 52 11.8	+1.0
BHPL				e		08 52 17.8	
	comp=Z,167nm,1.1s						
BHPL				eS	S	08 56 13.7	+5.3
NDI	New Delhi	26.11	325	eP	P	08 52

HOQ Hoqain 38.53 298 ⇑P P 08 54 40.6 +2.7
AAK Ala-Archa 38.70 337 *d iP* **P 08 54 40.5 +1.4**
AAK pmax pmax
comp=Z,14nm,0.9s,mb4.7
AAK Ala-Archa 38.70 337 *eP* **P 08 54 38.5 -0.6**
comp=Z,17nm,0.9s,mb4.8
ARQ Araqi 39.15 297 ⇑P P 08 54 45.5 +2.5
RBK Rabkut 39.98 288 ⇓P P 08 54 51.6 +1.6
FITZ Fitzroy Crossi 40.45 130 *eP* **P 08 54 52.2 -1.7**
comp=Z,16nm,0.9s,mb4.7
ABTO Aybut 40.82 287 ⇑P P 08 54 58.7 +1.9
SONM Songino Array 41.20 13 P **P 08 54 59.4 -0.3**
comp=Z,10.0nm,0.7s,mb4.5,baz=194,slow=7.0,SNR=27
SONM PcP PcP 08 56 59.5 +0.3
comp=Z,9.3nm,1.1s,baz=189,slow=3.6,SNR=4.6
SONM ScP 09 00 48.5
comp=Z,1.0nm,0.9s,baz=194,slow=5.9,SNR=3.1
ULN Ulaanbaatar 41.37 13 *eP* **P 08 55 00.7 -0.4**
ULN pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
ULN Ulaanbaatar 41.37 13 *eP* **P 08 55 00.7 -0.5**
comp=Z,8.2nm,0.8s,mb4.4
KS15 Wonju Array Si 42.49 41 P **P 08 55 10.6 +0.1**
SNY Shenyang 42.73 33 ⇓P P 08 55 15.0 +2.6
SNY AMB AMB
comp=Z,20nm,1.4s,mb4.7
SNY LR LR
comp=N,1μm,14.9s,MS5.0
SNY LR LR
comp=E,870nm,15.9s,MS5.0
SNY LR LR
comp=Z,2μm,16.8s,MS5.0
ZAK Zakamensk 43.08 9 *eP* **P 08 55 14.9 -0.2**
ZAK *e* 08 57 00.8
MOY Mondy 44.05 6 *eP* **P 08 55 23.6 +0.7**
TLY Talaya 44.40 9 *eP* **P 08 55 26.0 +0.2**
TLY pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
TLY MLR MLR
comp=Z,999nm,23.0s,MS4.7
TLY Talaya 44.40 9 *eP* **P 08 55 25.8 0.0**
comp=Z,6.5nm,0.8s,mb4.4
KURK Kurchatov 44.61 346 *d iP* **P 08 55 26.6 -0.9**
MUN Mundaring 44.90 153 *eP* **P 08 55 29.9 -0.2**
comp=Z,33nm,0.9s,mb5.2
MUN Mundaring 44.90 153 *eP* **P 08 55 29.9 -0.2**
MUN pmax pmax
comp=Z,33nm,0.9s,mb5.2
KLBR Kellerberrin 45.29 151 *eP* **P 08 55 34.5 +1.3**
comp=Z,440nm,1.0s
NWAO Narrogin (SRO) 46.16 153 *eP* **P 08 55 40.6 +0.6**
NWAO pmax pmax
comp=Z,45nm,1.0s
NWAO Narrogin (SRO) 46.16 153 P **P 08 55 39.6 -0.5**
comp=Z,55nm,1.1s,mb5.4,baz=331,slow=8.7,SNR=8.3
NWAO Narrogin (SRO) 46.16 153 *eP* **P 08 55 40.6 +0.6**
comp=Z,45nm,1.0s,mb5.3
ZAL Zalesovo 46.56 352 P **P 08 55 42.6 -0.3**
ZAL pmax pmax
comp=Z,19nm,0.5s
ZAL MLR MLR
comp=Z,470nm,18.0s
ZAL Zalesovo 46.56 352 P **P 08 55 42.5 -0.3**
comp=Z,19nm,0.5s,mb5.3,baz=298,slow=9.1,SNR=11
ZAL LR LR 09 18 11.2
comp=Z,470nm,18.0s,MS4.5,baz=292,slow=40
HIA Hailar 46.57 23 *eP* **P 08 55 43.5 +0.5**
HIA pmax pmax
comp=Z,58nm,1.1s
HIA Hailar 46.57 23 *eP* **P 08 55 43.5 +0.5**
comp=Z,58nm,1.1s,mb5.4
NVS Novosibirsk 47.65 352 *eP* **P 08 55 50.0 -1.5**
NVS *i* S **S 09 02 43.4 -1.4**
NVS pmax pmax
comp=N,24nm,1.2s
NVS pmax pmax
comp=E,22nm,1.2s
NVS pmax pmax
comp=Z,37nm,1.2s,mb5.3
NVS smax
comp=N,32nm,1.6s
NVS smax
comp=E,54nm,1.6s
MDJ Mudanjiang 47.86 34 P **P 08 55 52.5 -0.8**
MDJ PCP PcP 08 57 19.8 -2.3
MDJ PP PP 08 57 44.5 0.0
MDJ PCS 09 01 17.0
MDJ S **S 09 02 48.8 +0.9**
MDJ SS SS 09 06 18.3 +7.2
MDJ AMB AMB
comp=Z,13nm,2.2s,mb4.6
MDJ AMB AMB
comp=Z,492nm,11.7s
MDJ LR LR
comp=N,784nm,14.1s,MS5.0
MDJ LR LR
comp=E,931nm,14.5s,MS5.0
MDJ LR LR
comp=Z,1μm,15.0s,MS5.0
MDJ Mudanjiang 47.86 34 *eP* **P 08 55 53.5 +0.2**
comp=Z,42nm,1.4s,mb5.3
WRA Warramunga Arr 48.31 125 P **P 08 55 55.0 -2.1**
WRA 08 57 24.9
WRA pmax pmax
comp=Z,11nm,0.9s
WRA pmax pmax
comp=Z,5.0nm,0.8s
WRA Warramunga Arr 48.31 125 P **P 08 55 55.0 -2.1**
comp=Z,11nm,0.9s,mb4.9,baz=306,slow=8.5,SNR=24
WRA PcP PcP 08 57 24.9 +0.9
comp=Z,4.5nm,0.8s,baz=313,slow=3.3,SNR=5.1
WRAB Tennant Creek 48.31 125 *eP* **P 08 55 55.5 -1.6**
WRAB pmax pmax
comp=Z,23nm,1.0s,mb5.2
WRAB Tennant Creek 48.31 125 *eP* **P 08 55 55.5 -1.6**
comp=Z,23nm,1.0s,mb5.2
WB2 Warramunga Arr 48.32 125 *eP* **P 08 55 54.5 -2.6**
BVAR Borovoye Array 48.99 341 P **P 08 56 00.3 -1.5**
comp=Z,5.6nm,0.9s,mb4.6,baz=149,slow=8.6,SNR=9.7
BVAR PcP PcP 08 57 25.5 -0.5
comp=Z,2.9nm,0.7s,baz=124,slow=5.2,SNR=2.4
RAYN Ar Rayn 49.03 294 P **P 08 56 03.8 +1.2**
comp=Z,436nm,0.5s,SNR=62
BRVK Borovoye 49.05 341 *eP* **P 08 56 00.8 -1.5**
BRVK pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
BRVK Borovoye 49.05 341 *eP* **P 08 56 00.8 -1.6**
comp=Z,8.0nm,1.0s,mb4.7
JHJ Hachijo jima 2 49.13 53 LR LR 09 16 34.3
comp=Z,709nm,18.9s,MS4.7,baz=279,slow=36
MAJO Matsushiro 49.23 48 *eP* **P 08 56 04.4 +0.4**
MAJO pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
MAJO Matsushiro 49.23 48 *eP* **P 08 56 04.4 +0.4**
comp=Z,4.1nm,0.5s,mb4.7
MAT Matsushiro 49.23 48 *eP* **P 08 56 04.0 0.0**
MAT pmax pmax
comp=Z,64nm,1.8s,mb5.3
MAT Matsushiro 49.23 48 *eP* **P 08 56 04.0 0.0**
comp=Z,64nm,1.8s,mb5.3
MAT Matsushiro 49.23 48 P **P 08 56 03.6 -0.4**
CBIJ Chichi jima 49.37 61 LR LR 09 15 37.7
comp=Z,360nm,20.8s,MS4.3,baz=93,slow=34
CHKZ Chkalovo 49.47 342 *eP* **P 08 56 04.2 -1.4**
CHKZ pmax pmax
comp=Z,119nm,0.4s
CHKZ Chkalovo 49.47 342 *eP* **P 08 56 04.2 -1.4**
comp=Z,119nm,0.4s
ASPA Alice Springs 49.95 130 *eP* **P 08 56 07.4 -2.3**
ASAR Alice Springs 49.96 130 P **P 08 56 07.5 -2.2**
comp=Z,14nm,0.9s,mb5.0,baz=302,slow=6.6,SNR=24
ASAR PcP PcP 08 57 30.7 +0.8
comp=Z,9.4nm,0.9s,baz=305,slow=3.2,SNR=10
ASAR LR LR 09 17 16.5
comp=Z,406nm,18.6s,MS4.5,baz=194,slow=36
FORT Forrest 50.37 141 *eP* **P 08 56 13.9 +1.1**
comp=Z,104nm,0.9s,mb5.9
BOD Bodaibo 52.19 13 *eP* **P 08 56 24.2 -2.0**
GNI Garni 54.40 314 P **P 08 56 42.1 -0.7**
GNI pmax pmax
comp=Z,5.0nm,0.4s
GNI MLR MLR
comp=Z,216nm,21.0s
GNI Garni 54.40 314 P **P 08 56 42.1 -0.7**
comp=Z,4.7nm,0.4s,mb4.8,baz=328,slow=5.2,SNR=3.2
GNI LR LR 09 21 27.8
comp=Z,216nm,20.9s,MS4.2,baz=234,slow=38
GNI Garni 54.40 314 *eP* **P 08 56 41.4 -1.3**
comp=Z,9.2nm,0.6s,mb4.9
CLNS Chul'man 54.48 20 *eP* **P 08 56 43.7 +0.6**
CLNS *e* 08 57 48.5
CLNS *eS* **S 09 04 13.0 -5.8**
CLNS *ePS* PS 09 04 35.9 +3.2
CLNS pmax pmax
comp=Z,31nm,0.8s,mb5.3
CLNS pmax pmax
comp=N,11nm,0.6s
CLNS pmax pmax
comp=E,9.0nm,0.6s
CLNS pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
CLNS smax
comp=N,921nm,15.1s
CLNS smax
comp=Z,1μm,14.6s
CLNS smax
comp=E,235nm,11.5s
SVE Sverdlovsk 55.39 338 *eP* **P 08 56 47.2 -2.6**
SVE pmax pmax
comp=Z,120nm,2.0s,mb5.6
SVE MLR MLR
comp=Z,1μm,19.0s,MS5.0
PMG Port Moresby 55.59 107 P **P 08 56 53.4 +1.6**
PMG pmax pmax
comp=Z,61nm,1.1s
PMG Port Moresby 55.59 107 P **P 08 56 53.4 +1.6**
comp=Z,61nm,1.1s,mb5.5,baz=268,slow=4.0,SNR=8.1
PMG Port Moresby 55.59 107 *eP* **P 08 56 52.9 +1.0**
comp=Z,40nm,0.8s,mb5.5
ARU Arti 55.88 337 *⇓iP* **P 08 56 47.9 -5.4**
ARU *eS* **S 09 04 32.3 -5.2**
ARU *eSS* SS 09 08 16.9 -6.5
ARU pmax pmax
comp=Z,35nm,1.1s,mb5.3
YSS Yuzh-Sakhalins 56.84 38 P **P 08 57 01.7 +1.3**
YSS *e* pP 08 57 09.0 +1.1
YSS *e* 08 57 53.5
YSS MLR MLR
comp=N,800nm,14.0s,MS5.2
YSS MLR MLR
comp=Z,900nm,14.0s,MS5.0
YSS MLR MLR
comp=E,1μm,12.0s,MS5.2
KIV Kislovodsk 57.28 318 *d iP* **P 08 57 02.4 -1.1**
KIV *e* 08 57 56.4
KIV pmax pmax
comp=Z,19nm,0.7s,mb5.2
KIV Kislovodsk 57.28 318 *eP* **P 08 57 02.0 -1.6**
comp=Z,21nm,0.8s,mb5.2
KMBO Kilima Mbogo 57.35 264 P **P 08 57 05.0 +0.6**
comp=Z,9.2nm,0.8s,mb4.9,baz=55,slow=10,SNR=26
KMBO LR LR 09 18 52.0
comp=Z,881nm,18.7s,MS4.9,baz=96,slow=33
KMBO Kilima Mbogo 57.35 264 *eP* **P 08 57 04.0 -0.4**
comp=Z,14nm,0.9s,mb5.0
ASF Jabal al Asfar 58.17 303 P **P 08 57 09.9 0.0**
comp=Z,7.4nm,0.9s,mb4.7,baz=343,slow=3.4,SNR=11
ASF LR LR 09 25 31.2
comp=Z,396nm,18.1s,MS4.6,baz=124,slow=40
CTA Charters Tower 58.36 119 *eP* **P 08 57 09.4 -2.0**
comp=Z,5.8nm,1.2s,mb4.5
CTA Charters Tower 58.36 119 P **P 08 57 09.5 -1.9**
CTA pmax pmax
comp=Z,6.0nm,1.0s
CTA MLR MLR
comp=Z,702nm,22.0s
CTA Charters Tower 58.36 119 P **P 08 57 09.5 -1.9**
comp=Z,5.5nm,0.9s,mb4.6,baz=283,slow=11,SNR=4.5
CTA LR LR 09 22 54.8
comp=Z,702nm,22.0s,MS4.7,baz=289,slow=37
CTAO Charters Tower 58.36 119 *eP* **P 08 57 09.8 -1.6**
CTAO pmax pmax
comp=Z,13nm,1.2s,mb4.8
CTAO Charters Tower 58.36 119 *eP* **P 08 57 09.8 -1.6**
comp=Z,13nm,1.2s,mb4.8
MALT Malatya 58.42 310 *eP* **P 08 57 10.2 -1.4**
MALT pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
MALT Malatya 58.42 310 *eP* **P 08 57 10.2 -1.3**
comp=Z,6.3nm,0.8s,mb4.7
SOKR Solikamsk 58.79 339 *⇑iP* **P 08 57 14.2 +0.3**
SOKR pmax pmax
comp=Z,60nm,1.1s,mb5.5
SOKR MLR MLR
comp=Z,710nm,21.0s,MS4.8
SOC Sochi 59.15 317 *eP* **P 08 57 13.6 -2.9**
SOC *e* 08 58 05.4
SOC *ePPP* PPP 09 01 00.6 +6.9
SOC *eS* **S 09 05 16.6 -4.1**
SOC *e* 09 06 59.7
SOC *eSS* SS 09 09 16.6 -0.1
SOC pmax pmax
comp=Z,40nm,1.1s,mb5.4
SOC pmax pmax
comp=N,52nm,1.3s
SOC pmax pmax
comp=E,15nm,0.8s
EIL Elat 59.37 300 LR LR 09 24 35.7
comp=E,821nm,18.0s,MS4.9,baz=97,slow=38
EIL Elat 59.37 300 *eP* **P 08 57 18.1 -0.3**
comp=E,18nm,1.1s,mb5.0
YAK Yakutsk 60.04 18 *i P* **P 08 57 20.9 -1.5**
YAK pmax pmax
comp=Z,54nm,1.2s,mb5.5
YAK Yakutsk 60.04 18 *eP* **P 08 57 20.4 -2.0**
comp=Z,51nm,0.8s,mb5.6
STKA Stephens Creek 60.14 134 *eP* **P 08 57 22.2 -1.4**
comp=Z,8.3nm,1.0s,mb4.7
STKA Stephens Creek 60.14 134 P **P 08 57 23.2 -0.4**
comp=Z,9.9nm,0.9s,mb4.8,baz=314,slow=6.7,SNR=11
STKA LR LR 09 28 26.3
comp=Z,741nm,18.4s,MS4.9,baz=299,slow=41
ANN Anapa 61.10 317 *eP* **P 08 57 30.6 +0.7**
ANN pmax pmax
comp=Z,70nm,1.5s,mb5.6
BRTR Keskin Array B 62.39 311 P **P 08 57 36.1 -2.5**
BRTR pmax pmax
comp=Z,6.0nm,0.5s
BRTR Keskin Array B 62.39 311 P **P 08 57 36.0 -2.6**
comp=Z,5.9nm,0.5s,mb4.9,baz=127,slow=7.2,SNR=27
MBAR Mbarara 63.69 265 *eP* **P 08 57 47.3 -0.4**
MBAR pmax pmax
comp=Z,35nm,1.4s,mb5.2
MBAR Mbarara 63.69 265 *eP* **P 08 57 47.3 -0.4**
comp=Z,35nm,1.4s,mb5.2
MOS Moscow 65.06 329 *eP* **P 08 57 54.8 -1.1**
MOS pmax pmax
comp=Z,64nm,0.7s,mb5.8
OBN Obninsk 65.36 328 *deP* **P 08 57 53.6 -4.2**
OBN *e* 09 00 17.5
OBN *eS* S 09 06 34.3 -4.5
OBN *eSS* SS 09 10 50.2 -3.5
OBN pmax pmax
comp=Z,69nm,1.7s,mb5.4
OBN Obninsk 65.36 328 *eP* **P 08 57 55.4 -2.4**
comp=Z,12nm,0.5s,mb5.2
MA2 Magadan 66.82 28 *eP* **P 08 58 06.7 -0.4**
MA2 pmax pmax
comp=Z,44nm,1.1s,mb5.4
MA2 Magadan 66.82 28 *eP* **P 08 58 06.7 -0.4**
comp=Z,44nm,1.1s,mb5.4
TIXI Tiksi 67.27 11 *⇓iP* **P 08 58 07.9 -1.8**
TIXI pmax pmax
comp=Z,43nm,1.0s,mb5.4
AKASG Malin Array Be 68.13 322 P **P 08 58 12.6 -2.9**
AKASG 09 00 43.5
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 68.13 322 P **P 08 58 12.6 -2.9**
comp=Z,5.3nm,0.8s,mb4.7,baz=88,slow=4.9,SNR=18
AKASG PP PP 09 00 43.5 -4.3
comp=Z,1.9nm,0.8s,baz=89,slow=6.9,SNR=5.7
IDI Anoyia 68.52 305 P **P 08 58 17.3 -0.9**
comp=Z,17nm,0.5s,mb5.2,baz=87,slow=8.2,SNR=16
MLR Muntele Rosu 69.14 316 P **P 08 58 21.1 -0.7**
MLR pmax pmax
comp=Z,13nm,0.8s
MLR Muntele Rosu 69.14 316 P **P 08 58 21.1 -0.7**
comp=Z,13nm,0.8s,mb4.9,baz=151,slow=2.6,SNR=19
LSZ Lusaka 69.19 250 *eP* **P 08 58 23.2 +0.6**
LSZ pmax pmax
comp=Z,27nm,1.3s,mb5.0
LSZ Lusaka 69.19 250 *eP* **P 08 58 23.2 +0.6**
comp=Z,27nm,1.3s,mb5.0
MNK Minsk 69.93 325 *eP* **P 08 58 23.0 -3.5**
JOF Joensuu 70.84 334 *ep* **P 08 58 30.8 -1.1**
comp=Z,10nm,0.5s,mb5.0
JOF Joensuu 70.84 334 *ep* **P 08 58 30.8 -1.1**
comp=Z,10nm,0.5s,mb5.0
KOLS Kolonicke sedl 72.17 319 *eP* **P 08 58 40.6 +0.5**
KOLS *ep*P pP 08 58 44.9 -2.9
KOLS Kolonicke sedl 72.17 319 *eP* **P 08 58 40.5 +0.4**
SUW Suwalki 72.48 324 P **P 08 58 40.1 -1.7**
FINES FINESS Array B 72.70 332 P **P 08 58 41.8 -1.1**
FINES pmax pmax
comp=Z,11nm,0.7s
FINES FINESS Array B 72.70 332 P **P 08 58 41.8 -1.2**
comp=Z,11nm,0.7s,mb4.9,baz=94,slow=6.7,SNR=26
CRVS Cervenica-Dubn 72.70 319 *eP* **P 08 58 43.7 +0.5**
CRVS *ep*P pP 08 58 51.1 +0.2
CRVS Cervenica-Dubn 72.70 319 *eP* **P 08 58 43.2 0.0**
KAF Kangasniemi 72.78 333 *ep* **P 08 58 42.2 -1.2**
comp=Z,7.7nm,0.5s,mb4.9
KAF Kangasniemi 72.78 333 *ep* **P 08 58 42.2 -1.2**
comp=Z,7.7nm,0.5s,mb4.9
KAF Kangasniemi 72.78 333 *eP* **P 08 58 42.2 -1.2**
KAF pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
KECS Kecovo 73.28 318 *i P* **P 08 58 47.5 +0.8**
KECS Kecovo 73.28 318 *eP* **P 08 58 47.5 +0.8**
NIE Niedzica 73.51 319 *eP* **P 08 58 47.5 -0.5**
PSZ Piszkesteto 73.61 318 *eP* **P 08 58 46.2 -2.4**
PSZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
PSZ Piszkesteto 73.61 318 *eP* **P 08 58 46.2 -2.4**
comp=Z,7.9nm,0.8s,mb4.7
OJC Ojcow 73.94 320 *eP* **P 08 58 50.0 -0.4**
LBTB Lobatse 74.17 241 *eP* **P 08 58 52.2 -0.1**
LBTB pmax pmax
comp=Z,16nm,1.1s,mb4.9
LBTB Lobatse 74.17 241 *eP* **P 08 58 52.2 -0.1**
comp=Z,16nm,1.1s,mb4.9
VYHS Vyhne 74.38 318 *eP* **P 08 58 53.4 +0.4**
VYHS Vyhne 74.38 318 *eP* **P 08 58 51.5 -1.5**
VYHS Vyhne 74.38 318 *eP* **P 08 58 53.4 +0.4**
KEV Kevo 74.83 341 *ep* **P 08 58 55.0 -0.2**
comp=Z,4.8nm,0.7s,mb4.5
KEV Kevo 74.83 341 *ep* **P 08 58 55.0 -0.2**
comp=Z,4.8nm,0.7s,mb4.5
KEV Kevo 74.83 341 *eP* **P 08 58 55.0 -0.2**
KEV pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CASY Casey 74.92 173 P **P 08 58 56.6 +0.8**
comp=Z,30nm,0.9s,mb5.2
OKC Ostrava-Krasne 74.96 319 *eP* **P 08 58 55.7 -0.6**
TIP Timpagrande 75.25 308 *eP* **P 08 58 57.4 -0.8**
ARCES ARCESS Array B 75.26 340 P **P 08 58 57.3 -0.4**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 75.26 340 P **P 08 58 57.3 -0.4**
comp=Z,1.7nm,0.5s,mb4.3,baz=98,slow=7.0,SNR=12
MORC Moravsky Berou 75.34 319 *eP* **P 08 58 57.8 -0.7**
MORC pmax pmax
comp=Z,14nm,1.0s,mb4.8
MORC Moravsky Berou 75.34 319 *eP* **P 08 58 57.8 -0.8**
comp=Z,14nm,1.0s,mb4.9
ZST Bratislava 75.50 318 *i P* **P 08 58 59.3 -0.2**
ZST *ep*P pP 08 59 01.0 -6.2
ZST Bratislava 75.50 318 *eP* **P 08 58 59.3 -0.2**
BOSA Boshof 75.51 238 *eP* **P 08 59 00.0 0.0**
BOSA pmax pmax
comp=Z,30nm,1.3s,mb5.1
BOSA Boshof 75.51 238 *eP* **P 08 58 60.0 0.0**
comp=Z,30nm,1.3s,mb5.1
VRAC Vranov 75.92 319 P **P 08 59 01.2 -0.6**
VRAC pmax pmax
comp=Z,3.0nm,0.5s
VRAC Vranov 75.92 319 P **P 08 59 01.2 -0.6**
comp=Z,3.1nm,0.5s,mb4.5,baz=107,slow=14,SNR=3.2
DPC Dobruska-Polom 76.18 320 *eP* **P 08 59 03.2 0.0**
KSP Ksiaz 76.23 320 *eP* **P 08 59 03.1 -0.4**
KSP *e**PP pP 08 59 12.2 +0.9
UPC Upice 76.39 320 *eP* **P 08 59 04.6 +0.2**
PRU Pruhonice 77.30 319 *eP* **P 08 59 08.8 -0.7**
PVCC Panska Ves 77.31 320 *eP* **P 08 59 09.4 -0.1**
BRG Berggiesshubel 77.72 320 *i P* **P 08 59 11.5 -0.3**
BRG *i* pP 08 59 20.3 +0.7
BRG pmax pmax
comp=Z,13nm,1.1s,mb4.8
BRG Berggiesshubel 77.72 320 *i P* **P 08 59 11.5 -0.3**
comp=Z,13nm,1.1s,mb4.8
BRG *i* pP 08 59 20.3 +0.7
GEC2 GERESS Array S 77.79 318 *eP* **P 08 59 11.8 -0.4**
GEC2 pmax pmax
comp=Z,19nm,0.9s,mb5.0
GEC2 GERESS Array S 77.79 318 *eP* **P 08 59 11.8 -0.4**
comp=Z,19nm,0.9s,mb5.0
GERES GERESS Array B 77.79 318 P **P 08 59 12.0 -0.2**
GERES pmax pmax
comp=Z,9.0nm,0.8s
GERES GERESS Array B 77.79 318 P **P 08 59 12.0 -0.3**
comp=Z,8.9nm,0.8s,mb4.8,baz=90,slow=4.8,SNR=38
KHC Kasperske Hory 77.89 319 *eP* **P 08 59 12.2 -0.5**
KHC *e* pP 08 59 20.5 0.0
KHC Kasperske Hory 77.89 319 *eP* **P 08 59 12.2 -0.5**
KHC pP pP 08 59 20.5 0.0
RUE Ruedersdorf 77.90 322 *eP* **P 08 59 12.7 -0.1**
comp=Z,41nm,0.9s,mb5.4
CLL Collm 78.33 321 *⇑iP* **P 08 59 14.2 -0.9**
CLL *i* pP 08 59 22.7 -0.2
CLL pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
CLL Collm 78.33 321 *⇑iP* **P 08 59 14.2 -0.9**
comp=Z,10.0nm,1.2s,mb4.6
CLL *i* pP 08 59 22.7 -0.2
CLL Collm 78.33 321 *⇑P* **P 08 59 14.2 -0.9**
comp=Z,logA/T=0.9,mb4.6
CLL *e**PP pP 08 59 20.0 -2.9
CLL *i* *SP sP 08 59 22.7 -2.8
WET Wettzell 78.35 319 *eP* **P 08 59 14.8 -0.5**
WET pmax pmax
comp=Z,15nm,1.0s,mb4.9
WET Wettzell 78.35 319 *eP* **P 08 59 14.8 -0.5**
comp=Z,15nm,1.0s,mb4.9
MAW Mawson 78.50 192 *eP* **P 08 59 21.8 +6.1**
comp=Z,9.1nm,0.9s,mb4.7
MAW Mawson 78.50 192 P **P 08 59 19.0 +3.3**
MAW pmax pmax
comp=Z,11nm,1.0s
MAW Mawson 78.50 192 P **P 08 59 19.0 +3.2**
comp=Z,11nm,1.0s,mb4.8,baz=335,slow=8.9,SNR=5.2
NKC Novy Kostel 78.65 320 *eP* **P 08 59 16.7 -0.2**
WTTA Wattenberg 79.15 317 *⇑iP* **P 08 59 18.9 -0.8**
comp=Z,16nm,0.8s,mb5.0
WTTA Wattenberg 79.15 317 *⇑iP* **P 08 59 18.9 -0.8**
WTTA pmax pmax
comp=Z,16nm,0.8s,mb5.0
MOX Moxa 79.19 320 *eP* **P 08 59 19.4 -0.5**
MOX Moxa 79.19 320 *i P* **P 08 59 19.4 -0.5**
GRA1 Grafenberg Arr 79.44 319 *eP* **P 08 59 21.2 0.0**
comp=Z,23nm,1.0s,mb5.1
GRA1 *ep*P pP 08 59 29.4 +0.4
GRF Grafenberg Arr 79.44 319 *eP* **P 08 59 21.2 0.0**
GRF *e**PP pP 08 59 29.4 +0.4
GRF pmax pmax
comp=Z,23nm,1.0s,mb5.1
GRF Grafenberg Arr 79.44 319 *eP* **P 08 59 21.2 0.0**
comp=Z,23nm,1.0s,mb5.1
GRF *ep*P pP 08 59 29.4 +0.4
SQTA Sankt Quirin 79.44 317 *⇑iP* **P 08 59 20.4 -0.9**
comp=Z,12nm,0.9s,mb4.8
SQTA Sankt Quirin 79.44 317 *⇑iP* **P 08 59 20.4 -0.9**
SQTA pmax pmax
comp=Z,12nm,0.9s,mb4.8
MOTA Moosalm 79.51 317 *⇑iP* **P 08 59 20.6 -1.1**
comp=Z,14nm,1.2s,mb4.8
MOTA Moosalm 79.51 317 *⇑iP* **P 08 59 20.6 -1.1**
MOTA pmax pmax
comp=Z,14nm,1.2s,mb4.8
NB2 NORSAR Subarra 79.71 331 P **P 08 59 21.3 -1.2**
comp=Z,16nm,0.9s,mb4.9,baz=96,slow=5.3

NB2 NORSAR Subarra 79.71 331 P P 08 59 21.3 -1.2
baz=96,slow=5.3
NOA NORSAR Array B 79.71 331 P P 08 59 21.6 -0.9
NOA pmax pmax
comp=Z,7.0nm,0.7s
NOA NORSAR Array B 79.71 331 P P 08 59 21.6 -0.9
comp=Z,7.0nm,0.7s,mb4.7,baz=93,slow=5.5,SNR=19
CLZ Clausthal 79.98 321 *eP* **P 08 59 23.7 -0.4**
comp=Z,21nm,1.0s,mb5.0
SUR Sutherland 80.26 235 *eP* **P 08 59 27.3 +1.3**
comp=Z,12nm,0.9s,mb4.8
DAVA Damuels 80.34 317⇑ *iP* **P 08 59 23.7 -2.4**
comp=Z,32nm,1.2s,mb5.1
DAVOX Davos 80.36 316 P **P 08 59 26.2 0.0**
comp=Z,13nm,0.7s,mb5.0,baz=116,slow=14
TNS Taunus Mts 81.22 320 *eP* **P 08 59 30.4 -0.3**
BFO Black Forest 81.36 318 *eP* **P 08 59 30.6 -0.8**
BFO pmax pmax
comp=Z,21nm,1.4s,mb4.9
BFO Black Forest 81.36 318 *eP* **P 08 59 30.6 -0.8**
comp=Z,21nm,1.4s,mb4.9
LPG La Plagne 82.58 315 *eP* **P 08 59 38.0 +0.1**
comp=Z,39nm,0.8s,mb5.2
LPG La Plagne 82.58 315 *eP* **P 08 59 38.0 +0.1**
LPG pmax pmax
comp=Z,20nm,0.8s,mb5.2
BNI Bardonecchia 82.66 314 *eP* **P 08 59 39.6 +1.3**
BNI pmax pmax
comp=Z,14nm,0.8s,mb5.0
BNI Bardonecchia 82.66 314 *eP* **P 08 59 39.6 +1.3**
comp=Z,14nm,0.8s,mb5.0
SYO Syowa Base 85.36 197 ⇑P **P 08 59 52.7 +1.3**
SYO Syowa Base 85.36 197 ⇓PcP PcP 08 59 56.4 +1.5
SYO Syowa Base 85.36 197 ⇑pP pP 09 00 01.9 +2.6
RPZ Rata Peaks 86.08 135 P **P 08 59 58.0 +2.4**
comp=Z,15nm,0.9s,mb5.2,baz=118,slow=4.2,SNR=7.2
TNA Tin City 86.22 24 *eP* **P 08 59 55.6 -0.1**
ESDC Sonseca Array 91.18 310 P **P 09 00 20.1 +0.2**
comp=Z,2.1nm,0.5s,mb4.7,baz=51,slow=4.7,SNR=10
SVW2 Sparrevohn 92.79 27 *eP* **P 09 00 29.2 +2.4**
VNDA Vanda 92.92 168 P **P 09 00 28.1 +1.0**
VNDA pmax pmax
comp=Z,2.0nm,1.1s
VNDA Vanda 92.92 168 P **P 09 00 28.1 +1.0**
comp=Z,2.3nm,1.1s,mb4.5,baz=295,slow=6.9,SNR=4.0
MCK McKinley 94.51 23 *eP* **P 09 00 37.1 +2.5**
MCK pmax pmax
comp=Z,18nm,1.6s,mb5.2
MCK McKinley 94.51 23 *eP* **P 09 00 37.1 +2.5**
comp=Z,18nm,1.6s,mb5.2
ILAR Eielson Array 94.79 22 P **P 09 00 36.4 +0.5**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR Eielson Array 94.79 22 P **P 09 00 36.4 +0.5**
comp=Z,1.7nm,0.8s,mb4.5,baz=302,slow=4.0,SNR=14
ILAR PP PP 09 04 18.2 -8.6
comp=Z,0.7nm,1.0s,baz=288,slow=5.7,SNR=6.2
FIB Fire Island 95.16 26 *eP* **P 09 00 40.5 +2.8**
INK Inuvik 97.03 16 P **P 09 00 47.0 +1.0**
INK pmax pmax
comp=Z,9.0nm,1.2s
INK Inuvik 97.03 16 P **P 09 00 47.0 +1.0**
comp=Z,8.5nm,1.2s,mb5.0,baz=313,slow=4.3,SNR=4.7
INK Inuvik 97.03 16 *eP* **P 09 00 46.9 +0.9**
comp=Z,12nm,1.2s,mb5.2
RES Resolute Bay 97.42 2 *eP* **P 09 00 48.0 +0.3**
RES pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
RES Resolute Bay 97.42 2 *eP* **P 09 00 48.0 +0.3**
comp=Z,6.3nm,0.8s,mb5.1
DBIC Dimbokro 97.88 278 P **P 09 00 52.8 +1.7**
DBIC pmax pmax
comp=Z,8.0nm,1.0s
DBIC Dimbokro 97.88 278 P **P 09 00 52.8 +1.7**
comp=Z,7.9nm,1.0s,mb5.2,baz=108,slow=13,SNR=2.7
YKA Yellowknife Ar 106.46 13 P Pdif 09 01 30.2 +2.0
YKA 09 05 50.7
YKA pmax pmax
comp=Z,1.0nm,1.1s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA Yellowknife Ar 106.46 13 Pdiff Pdif 09 01 30.2 +2.0
comp=Z,0.6nm,1.1s,baz=336,slow=5.1,SNR=2.7
YKA PP PP 09 05 50.7 -5.3
comp=Z,0.8nm,0.8s,baz=333,slow=7.6,SNR=8.1
YKA PKKPbc 09 16 57.6
comp=Z,0.6nm,1.0s,baz=145,slow=2.9,SNR=5.3
YKA Yellowknife Ar 106.46 13 Pdif Pdif 09 01 30.2 +2.0
YKA PP PP 09 05 50.7 -5.3
YKA PKKPbc 09 16 57.6
MCMT McKenzie Canyo 122.23 22 *e*PKPdf PKPdf 09 06 11.8 -1.3
LAO LASA Array 122.77 16 *e*PKPdf PKPdf 09 06 11.3 -2.7
SNOW Snow King Moun 124.17 22 *e*PKPdf PKPdf 09 06 14.5 -2.4
NVAR Mina Array Bea 124.97 31 PKP PKPdf 09 06 16.1 -2.5
comp=Z,5.8nm,0.9s,baz=1.1,slow=0.7,SNR=12
PDAR Pinedale Array 125.21 21 PKP PKPdf 09 06 15.3 -3.6
comp=Z,3.6nm,0.9s,baz=330,slow=0.6,SNR=14
TRCR Troy Canyon 126.38 29 *e*PKPdf PKPdf 09 06 20.5 -0.8
MSU Marysvale 127.80 26 *e*PKIKP PKPdf 09 06 22.7 -1.4
PV10 Paradox Valley 129.22 23 *e*PKPdf PKPdf 09 06 25.2 -1.6
KSU1 Kansas State U 132.25 11 *e*PKPdf PKPdf 09 06 28.5 -4.1
ANMO Albuquerque 133.22 23 PKIKP PKPdf 09 06 35.3 +0.8
ANMO pmax pmax
comp=Z,4.0nm,0.8s
ANMO Albuquerque 133.22 23 PKP PKPdf 09 06 35.3 +0.8
comp=Z,4.2nm,0.8s,baz=285,slow=0.6,SNR=16
LAZ Ladron 133.42 24 PKPdf PKPdf 09 06 34.6 -0.3
LPM Los Pinos Moun 133.71 24 *e*PKPdf PKPdf 09 06 35.2 -0.1
GDL2 Guadalupe Moun 136.46 23 *e*PKPdf PKPdf 09 06 38.5 -1.9
MIAR Mount Ida 137.22 9 *e*PKIKP PKPdf 09 06 40.8 -1.0
TXAR Lajitas Array 139.27 24 PKhKP 09 06 35.2
comp=Z,0.1nm,0.6s,slow=3.6,SNR=3.2
TXAR PKP PKPdf 09 06 43.4 -2.3
comp=Z,1.8nm,0.7s,baz=335,slow=0.2,SNR=14
TXAR PP PP 09 09 33.6 -5.3
comp=Z,1.1nm,1.1s,baz=11,slow=4.6,SNR=4.1
TXAR Lajitas Array 139.27 24 PKP PKPdf 09 06 43.4 -2.3
TXAR PP PP 09 09 33.6 -5.3
JCT Junction City 139.63 19 *e*PKIKP PKPdf 09 06 44.8 -1.5
PLCA Paso Flores 144.50 200 PKIKP PKPdf 09 06 51.1 -3.5
PLCA pmax pmax
comp=Z,19nm,1.0s
PLCA Paso Flores 144.50 200 PKP PKPdf 09 06 51.1 -3.5
comp=Z,19nm,1.0s,baz=159,slow=4.8,SNR=17
FCH Farellones 150.81 208 *e*P PKPdf 09 07 08.3 +3.1
TEIG Tepich 152.00 5 *e*PKPdf PKPdf 09 07 05.4 -1.9
TEIG *ep*PKPdf 09 07 14.7
LPAZ La Paz 160.69 243 PKP PKPdf 09 06 29.5 -49
comp=Z,3.4nm,1.1s,baz=24,slow=4.5,SNR=7.5
LPAZ PKPab PKPab 09 07 14.8 -43
comp=Z,3.4nm,1.0s,baz=110,slow=9.0,SNR=4.1
OTAV Otavalo 169.04 317 *e*PKPdf PKPdf 09 07 25.9 +0.1

*IDC **28** 08:52:33.2±0.8, 8.17N×94.38E, mb4.0/10, mb1 4.1/10, mb1mx4.0/20, mbtmp4.0/10, Error ellipse: s-maj=37.3km s-min=19.8km az=42.0*
*NEIC **28** 08:52:37.8±0.4, 8.12N×94.34E, h30km, mb4.3/4, Error ellipse: s-maj=18.9km s-min=11.3km az=47.0*
ISC 28 08:52:32.7±0.6, 8.2N±0.1×94.4E±0.1, h10km, n18, σ0$87/14, mb4.0/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**40.85**	**12**	P		P		**09 00 16.7**	**+0.4**
	1.0nm,1.0s,mb3.4,baz=196,slow=10,SNR=2.6								
KURK	**Kurchatov**	**44.40**	**346**	*eP*		P		**09 00 45.7**	**+0.5**
	1.7nm,0.8s,mb3.8								
WRA	**Warramunga Arr**	**48.24**	**126**	P		P		**09 01 16.2**	**+0.2**
	0.8nm,0.5s,mb4.0,baz=305,slow=8.5,SNR=8.6								
WRAB	**Tennant Creek**	**48.24**	**126**	*eP*		P		**09 01 15.9**	**-0.1**
	1.3nm,0.4s,mb4.3								
BVAR	**Borovoye Array**	**48.80**	**341**	P		P		**09 01 20.6**	**+0.7**
	1.4nm,0.6s,mb4.2,baz=135,slow=4.2,SNR=6.6								
ASAR	**Alice Springs**	**49.92**	**130**	P		P		**09 01 28.5**	**-0.4**
	1.1nm,0.9s,mb3.9,baz=301,slow=6.9,SNR=6.0								
KMBO	**Kilima Mbogo**	**57.67**	**263**	P		P		**09 02 27.5**	**+1.4**
	1.7nm,0.8s,mb4.1,baz=218,slow=23,SNR=6.0								
KMBO	**Kilima Mbogo**	**57.67**	**263**	*eP**		P		**09 02 27.1**	**+0.9**
	2.8nm,0.9s,mb4.3								
BRTR	**Keskin Array B**	**62.42**	**311**	P		P		**09 02 56.8**	**-1.6**
	0.6nm,0.5s,mb4.0,baz=121,slow=6.8,SNR=3.0								
AKASG	**Malin Array Be**	**68.08**	**322**	P		P		**09 03 31.8**	**-2.9**
	0.3nm,0.3s,mb3.9,baz=90,slow=4.7,SNR=3.2								
IDI	**Anoyia**	**68.59**	**305**	P		P		**09 03 37.7**	**-0.5**
	7.8nm,1.0s,mb4.6,baz=45,slow=5.7,SNR=2.7								
MLR	**Muntele Rosu**	**69.13**	**316**	P		P		**09 03 41.4**	**+0.1**
	1.0nm,0.4s,mb4.1,baz=214,slow=7.1,SNR=3.2								
LBTB	**Lobatse**	**74.57**	**241**	*eP*		P		**09 04 14.4**	**+0.3**
	3.0nm,0.9s,mb4.2								
GERES	**GERESS Array B**	**77.77**	**318**	P		P		**09 04 32.2**	**+0.6**
	1.1nm,0.7s,mb3.9,baz=90,slow=5.3,SNR=6.6								
PDAR	**Pinedale Array**	**124.83**	**21**	PKP		PKPdf		09 11 36.6	+0.2
	0.3nm,0.7s,baz=225,slow=1.3,SNR=3.1								
TXAR	**Lajitas Array**	**138.89**	**24**	PKP		PKPdf		09 12 03.8	+0.6
	0.2nm,0.6s,baz=329,slow=0.9,SNR=5.8								
PLCA	**Paso Flores**	**144.88**	**200**	PKP		PKPdf		09 12 11.8	-1.6
	1.4nm,0.8s,baz=117,slow=3.8,SNR=5.9								
PLCA	**Paso Flores**	**144.88**	**200**	PKP		PKPdf		09 12 11.8	-1.6

IDC 28 08:55:10.0±2.2, 7.68N×94.09E, mb4.1/10, mb1 4.2/11, mb1mx4.0/21, mbtmp4.1/11, ML3.9/1, Error ellipse: s-maj=58.8km s-min=40.2km az=130.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.70**	**23**	Pn		P		08 57 57.6	-3.8
	0.2nm,0.3s,baz=217,slow=14,SNR=3.9								
SONM	**Songino Array**	**41.36**	**13**	P		P		09 02 57.4	-1.9
	0.7nm,0.7s,baz=207,slow=9.7,SNR=2.9								
ZAL	**Zalesovo**	**46.73**	**352**	P		P		09 03 41.3	-1.2
	1.3nm,0.3s,baz=297,slow=13,SNR=2.8								
BVAR	**Borovoye Array**	**49.15**	**341**	P		P		09 03 59.4	-2.1
	1.1nm,0.8s,baz=225,slow=8.4,SNR=3.8								
BRTR	**Keskin Array B**	**62.52**	**311**	P		P		09 05 34.7	-3.2
	0.8nm,0.6s,baz=117,slow=5.5,SNR=4.1								
MLR	**Muntele Rosu**	**69.28**	**316**	P		P		09 06 19.8	-1.3
	1.4nm,0.7s,baz=19,slow=6.4,SNR=3.0								
FINES	**FINESS Array B**	**72.86**	**332**	P		P		09 06 40.8	-1.7
	3.5nm,0.8s,baz=108,slow=8.8,SNR=3.8								
ARCES	**ARCESS Array B**	**75.43**	**340**	P		P		09 06 55.8	-1.3
	1.2nm,0.8s,baz=106,slow=6.6,SNR=2.9								
GERES	**GERESS Array B**	**77.94**	**318**	P		P		09 07 11.0	-0.6
	2.1nm,0.9s,baz=90,slow=4.0,SNR=5.8								
HFS	**Hagfors**	**78.60**	**330**	P		P		09 07 14.2	-0.8
	2.7nm,0.7s,baz=100,slow=8.8,SNR=3.5								
NOA	**NORSAR Array B**	**79.87**	**331**	P		P		09 07 19.4	-2.5
	1.2nm,0.8s,baz=96,slow=5.7,SNR=2.7								
PDAR	**Pinedale Array**	**125.36**	**21**	PKP		PKPdf		09 14 13.6	-1.6
	0.5nm,0.8s,baz=135,slow=2.1,SNR=3.4								
PLCA	**Paso Flores**	**144.35**	**200**	PKP		PKPdf		09 14 47.8	-2.5
	1.4nm,0.9s,baz=36,slow=20,SNR=3.0								

*NEIC **28** 08:56:51.8±0.5, 8.21N×93.95E, h30km, mb4.3/2, Error ellipse: s-maj=16.4km s-min=11.8km az=54.0*
*IDC **28** 08:56:58.5±5.0, 8.40N×94.12E, h87km±45km, mb3.7/15, mb1 3.8/16, mb1mx3.8/23, mbtmp4.0/16, Error ellipse: s-maj=30.5km s-min=17.8km az=49.0*
ISC 28 08:56:50.0±0.6, 8.3N±0.1×94.0E±0.1, h30km, n21, σ0$84/19, mb4.0/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.24**	**25**	P		P		**08 59 32.9**	**+0.9**
	0.5nm,0.3s,baz=210,slow=14,SNR=4.9								
SONM	**Songino Array**	**40.84**	**13**	P		P		**09 04 30.9**	**+0.2**
	0.8nm,0.7s,mb3.5,baz=196,slow=10,SNR=3.4								
KURK	**Kurchatov**	**44.20**	**346**	*eP*		P		**09 04 57.8**	**-0.4**
	3.0nm,0.9s,mb4.0								
ZAL	**Zalesovo**	**46.15**	**352**	P		P		**09 05 14.2**	**+0.6**
	1.4nm,0.4s,mb4.2,baz=278,slow=6.1,SNR=3.9								
BVAR	**Borovoye Array**	**48.58**	**341**	P		P		**09 05 32.2**	**-0.4**
	0.4nm,0.5s,mb3.7,baz=166,slow=5.9,SNR=2.8								
WRA	**Warramunga Arr**	**48.62**	**126**	P		P		**09 05 33.1**	**-0.3**
	0.6nm,0.5s,mb3.9,baz=304,slow=8.5,SNR=5.6								
WRAB	**Tennant Creek**	**48.62**	**126**	*eP*		P		**09 05 33.1**	**-0.4**
	3.3nm,0.8s,mb4.4								
ASAR	**Alice Springs**	**50.29**	**130**	P		P		**09 05 46.5**	**+0.3**
	0.9nm,0.7s,mb3.9,baz=309,slow=8.2,SNR=5.2								
KMBO	**Kilima Mbogo**	**57.29**	**263**	P		P		**09 06 40.0**	**+2.1**
	0.5nm,0.3s,mb4.0,baz=273,slow=23,SNR=2.1								
KMBO	**Kilima Mbogo**	**57.29**	**263**	P		P		**09 06 40.0**	**+2.1**
BRTR	**Keskin Array B**	**62.05**	**311**	P		P		**09 07 09.2**	**-1.1**
	0.9nm,0.8s,mb4.0,baz=135,slow=6.1,SNR=3.2								
AKASG	**Malin Array Be**	**67.75**	**322**	P		P		**09 07 45.2**	**-1.8**
	0.2nm,0.3s,mb3.6,baz=88,slow=4.9,SNR=4.1								
IDI	**Anoyia**	**68.21**	**305**	P		P		**09 07 50.1**	**-0.1**
	5.8nm,1.0s,mb4.6,baz=3.4,slow=17,SNR=2.2								
MLR	**Muntele Rosu**	**68.78**	**316**	P		P		**09 07 54.9**	**+1.4**
	2.0nm,0.8s,mb4.1,baz=148,slow=9.5,SNR=3.0								
FINES	**FINESS Array B**	**72.30**	**332**	P		P		**09 08 13.7**	**-0.8**
	0.8nm,0.5s,mb3.9,baz=108,slow=6.0,SNR=5.3								
ARCES	**ARCESS Array B**	**74.86**	**340**	P		P		**09 08 29.1**	**-0.1**
	2.6nm,1.0s,mb4.1,baz=90,slow=3.6,SNR=4.4								
GERES	**GERESS Array B**	**77.43**	**318**	P		P		**09 08 44.3**	**+0.1**
	1.1nm,0.7s,mb3.9,baz=72,slow=4.2,SNR=6.1								
HFS	**Hagfors**	**78.05**	**330**	P		P		**09 08 47.0**	**-0.3**
	2.2nm,0.6s,mb4.3,baz=108,slow=9.4,SNR=4.9								
DAVOX	**Davos**	**80.00**	**316**	P		P		**09 08 58.7**	**+0.5**
	2.1nm,0.5s,mb4.3,baz=324,slow=19,SNR=2.6								
PDAR	**Pinedale Array**	**124.88**	**21**	PKP		PKPdf		09 15 48.2	-4.5
	0.6nm,1.0s,baz=270,slow=3.1,SNR=3.6								
TXAR	**Lajitas Array**	**138.96**	**24**	PKP		PKPdf		09 16 15.7	-3.8
	0.3nm,0.7s,baz=227,slow=1.0,SNR=5.1								

IDC 28 09:02:08.1±6.8, 11.44N×92.99E, h77km±56km, mb3.6/9, mb1 3.7/10, mb1mx3.5/21, mbtmp3.8/10, ML4.2/1, Error ellipse: s-maj=57.1km s-min=18.7km az=56.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.04**	**39**	P		P		09 04 16.3	-1.6
	0.7nm,0.3s,baz=232,slow=15,SNR=4.3								
SONM	**Songino Array**	**37.99**	**15**	P		P		09 09 18.5	-1.6
	0.9nm,0.6s,baz=204,slow=6.7,SNR=4.7								
BVAR	**Borovoye Array**	**45.27**	**341**	P		P		09 10 17.4	-2.2
	0.4nm,0.5s,baz=149,slow=8.4,SNR=3.2								
WRA	**Warramunga Arr**	**51.28**	**127**	P		P		09 11 04.4	-2.2
	0.5nm,0.4s,baz=301,slow=10.0,SNR=10.0								
ASAR	**Alice Springs**	**53.09**	**131**	P		P		09 11 17.8	-2.4
	0.5nm,0.6s,baz=309,slow=7.9,SNR=7.7								
FINES	**FINESS Array B**	**69.05**	**332**	P		P		09 13 05.5	-2.0
	1.6nm,0.8s,baz=121,slow=8.1,SNR=3.3								
GERES	**GERESS Array B**	**74.43**	**318**	P		P		09 13 38.6	-1.1
	0.6nm,0.5s,baz=80,slow=8.1,SNR=4.5								
HFS	**Hagfors**	**74.83**	**329**	P		P		09 13 39.6	-2.1
	2.6nm,0.9s,baz=104,slow=6.1,SNR=4.4								
ILAR	**Eielson Array**	**91.88**	**22**	P		P		09 15 07.2	-1.5
	0.2nm,0.6s,baz=294,slow=4.4,SNR=6.4								
INK	**Inuvik**	**93.89**	**16**	P		P		09 15 16.9	-0.9
	0.3nm,0.3s,baz=159,slow=8.3,SNR=2.9								
TXAR	**Lajitas Array**	**136.39**	**21**	PKiKP				09 21 24.9	
	0.2nm,0.6s,baz=270,slow=0.9,SNR=3.6								

*NEIC **28** 09:03:04.3±0.5, 7.83N×93.73E, h30km, mb4.2/4, Error ellipse: s-maj=17.0km s-min=10.8km az=66.0*
*IDC **28** 09:03:12.5±5.2, 8.17N×94.16E, h96km±47km, mb3.6/13, mb1 3.8/14, mb1mx3.7/21, mbtmp4.0/14, Error ellipse: s-maj=31.1km s-min=16.6km az=52.0*
ISC 28 09:03:02.6±0.8, 7.9N±0.1×93.9E±0.1, h30km, n25, σ0$95/23, mb4.0/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.61**	**25**	P		P		**09 05 49.2**	**-0.3**
	0.7nm,0.3s,baz=207,slow=16,SNR=4.2								
HYB	**Hyderabad**	**17.66**	**304**	*iP*		P		**09 07 12.5**	**+4.2**
LSA	**Lhasa**	**21.84**	**354**	*eP*		P		**09 07 56.8**	**+2.2**
	4.7nm,0.4s,mb4.3								
AAK	**Ala-Archa**	**38.58**	**337**	*eP*		P		**09 10 25.3**	**+0.7**
	2.5nm,0.9s,mb3.9								
SONM	**Songino Array**	**41.20**	**13**	P		P		**09 10 46.1**	**-0.2**
	1.1nm,1.0s,mb3.4,baz=180,slow=7.2,SNR=3.1								
SONM	**Songino Array**	**41.20**	**13**	P		P		**09 10 46.1**	**-0.2**
KURK	**Kurchatov**	**44.52**	**346**	*eP*		P		**09 11 12.9**	**-0.4**
	4.7nm,1.2s,mb4.2								
ZAL	**Zalesovo**	**46.49**	**353**	P		P		**09 11 29.3**	**+0.4**
	2.1nm,0.9s,mb4.1,baz=290,slow=7.8,SNR=6.5								
WRA	**Warramunga Arr**	**48.50**	**125**	P		P		**09 11 45.9**	**+0.8**
	0.5nm,0.6s,mb3.8,baz=304,slow=8.7,SNR=3.9								
BVAR	**Borovoye Array**	**48.88**	**341**	P		P		**09 11 46.3**	**-1.3**
	0.8nm,0.7s,mb3.9,baz=129,slow=9.5,SNR=4.2								
CHKZ	**Chkalovo**	**49.37**	**342**	*eP*		P		**09 11 50.5**	**-0.8**
	2.3nm,0.8s,mb4.3								
ASAR	**Alice Springs**	**50.14**	**130**	P		P		**09 11 57.1**	**-0.5**
	0.5nm,0.9s,mb3.5,baz=304,slow=7.7,SNR=3.1								
KMBO	**Kilima Mbogo**	**57.15**	**264**	P		P		**09 12 53.7**	**+4.2**
	1.1nm,0.7s,mb4.0,baz=78,slow=23,SNR=3.3								
BRTR	**Keskin Array B**	**62.20**	**311**	P		P		**09 13 22.8**	**-1.1**
	1.1nm,0.8s,mb4.0,baz=108,slow=7.8,SNR=3.9								
FINES	**FINESS Array B**	**72.56**	**332**	P		P		**09 14 28.7**	**0.0**
	3.6nm,0.9s,mb4.3,baz=153,slow=3.1,SNR=5.1								
FINES	**FINESS Array B**	**72.56**	**332**	P		P		**09 14 28.7**	**0.0**
ARCES	**ARCESS Array B**	**75.15**	**340**	P		P		**09 14 43.7**	**+0.2**
	2.6nm,1.0s,mb4.1,baz=90,slow=3.6,SNR=3.7								
GERES	**GERESS Array B**	**77.62**	**318**	P		P		**09 14 58.6**	**+0.8**
	1.3nm,0.6s,mb4.0,baz=90,slow=5.3,SNR=9.0								
HFS	**Hagfors**	**78.30**	**330**	P		P		**09 15 01.7**	**+0.4**
	2.4nm,0.6s,mb4.3,baz=90,slow=8.9,SNR=6.7								
NB2	**NORSAR Subarra**	**79.58**	**331**	P		P		**09 15 05.2**	**-3.0**
	1.6nm,0.8s,mb4.0,baz=92,slow=5.6								
NOA	**NORSAR Array B**	**79.58**	**331**	P		P		**09 15 08.0**	**-0.2**
	0.9nm,0.6s,mb3.9,baz=91,slow=5.5,SNR=3.9								
NOA	**NORSAR Array B**	**79.58**	**331**	P		P		**09 15 08.0**	**-0.2**
DAVOX	**Davos**	**80.18**	**316**	P		P		**09 15 11.0**	**-0.7**
	3.3nm,0.8s,mb4.3,baz=136,slow=24,SNR=3.6								
TXAR	**Lajitas Array**	**139.32**	**24**	PKiKP				09 22 31.3	
	0.3nm,0.8s,baz=180,slow=0.9,SNR=3.2								
PLCA	**Paso Flores**	**144.47**	**201**	PKP		PKPdf		09 22 37.6	-3.9
	1.8nm,0.8s,baz=95,slow=13,SNR=4.4								

*JMA **28** 09:03:11.1±0.2, 24.12N×122.61E, h54km±4km*
TAP 28 09:03:11.4, 23.97N×122.57E, h25km±1km, ML2.9, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.63**	**39**	P		Pb		09 03 22.6	-1.2
YOJ				*eS*		Sb		09 03 30.9	-1.4
IRIF	**Iriomote-Funau**	**1.12**	**71**	P		Pn		09 03 29.7	-2.0
IRIF				*eS*		Sb		09 03 44.1	-2.1
HATJ	**Hateruma jima**	**1.13**	**85**	P		Pn		09 03 30.3	-1.6
HATJ				*eS*		Sb		09 03 44.5	-2.0
JKRS	**Kuro-shima**	**1.34**	**78**	P		Pn		09 03 33.4	-1.5
JKRS				*eS*		Sn		09 03 50.2	-1.8
JIJ	**Ishigaki jima**	**1.49**	**74**	P		Pn		09 03 34.8	-2.2
JIJ				*eS*		Sn		09 03 51.9	-3.9
JTJ	**Tarama**	**2.06**	**71**	*eS*		Sn		09 04 06.3	-3.9

*IDC **28** 09:04:02.2±5.5, 8.67N×93.87E, h113km±50km, mb3.6/12, mb1 3.8/13, mb1mx3.7/21, mbtmp3.9/13, Error ellipse: s-maj=28.8km s-min=15.7km az=54.0*
ISC 28 09:03:51.5±0.7, 8.6N±0.2×93.8E±0.2, h33km, n15, σ0$81/13, mb3.9/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.01**	**26**	P		P		**09 06 35.5**	**+5.7**
	0.5nm,0.3s,baz=218,slow=28,SNR=2.7								
SONM	**Songino Array**	**40.55**	**13**	P		P		**09 11 28.4**	**-0.9**
	0.5nm,0.6s,mb3.3,baz=70,slow=26,SNR=3.0								
ZAL	**Zalesovo**	**45.80**	**353**	P		P		**09 12 13.2**	**+1.3**
	1.4nm,0.7s,mb4.0,baz=302,slow=7.4,SNR=4.1								
BVAR	**Borovoye Array**	**48.20**	**341**	P		P		**09 12 32.0**	**+1.2**
	0.3nm,0.5s,mb3.6,baz=216,slow=28,SNR=2.8								
WRA	**Warramunga Arr**	**48.95**	**126**	P		P		**09 12 37.6**	**+0.6**
	1.4nm,0.9s,mb4.0,baz=304,slow=8.6,SNR=3.1								
ASAR	**Alice Springs**	**50.63**	**130**	P		P		**09 12 49.3**	**-0.6**
	0.5nm,0.7s,mb3.5,baz=162,slow=4.5,SNR=3.4								
KMBO	**Kilima Mbogo**	**57.17**	**263**	P		P		**09 13 38.9**	**+0.9**
	0.8nm,0.8s,mb3.8,baz=238,slow=22,SNR=2.2								
BRTR	**Keskin Array B**	**61.70**	**311**	P		P		**09 14 07.8**	**-1.2**
	0.6nm,0.6s,mb3.9,baz=121,slow=7.2,SNR=2.6								
MLR	**Muntele Rosu**	**68.42**	**316**	P		P		**09 14 52.0**	**-0.2**
	1.4nm,0.4s,mb4.3,baz=159,slow=11,SNR=2.5								
FINES	**FINESS Array B**	**71.92**	**332**	P		P		**09 15 12.7**	**-0.4**
	3.1nm,1.1s,mb4.2,baz=177,slow=32,SNR=2.7								
ARCES	**ARCESS Array B**	**74.48**	**340**	P		P		**09 15 28.1**	**+0.2**
	3.9nm,1.0s,mb4.3,baz=45,slow=14,SNR=2.5								
GERES	**GERESS Array B**	**77.07**	**318**	P		P		**09 15 42.6**	**-0.6**
	0.9nm,0.7s,mb3.8,baz=90,slow=5.3,SNR=4.7								
HFS	**Hagfors**	**77.67**	**320**	P		P		**09 15 46.0**	**-0.3**
	2.3nm,0.8s,mb4.2,baz=326,slow=5.3,SNR=2.9								
TXAR	**Lajitas Array**	**138.71**	**23**	PKP		PKPdf

PLCA Paso Flores 144.80 200 PKP PKPdf 09 23 37.4 -1.9
2.4nm,0.8s,baz=149,slow=1.8,SNR=5.0
PLCA Paso Flores 144.80 200 PKP PKPdf 09 23 37.4 -1.9

IGQ 28 09:10:16.9,1.01S×81.38W,h12km±16km,mb4.1,2C-4D, Error ellipse: s-maj=12.8km s-min=9.8km az=150.1,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.84**	**93**	⇑P	Pb	09 10 31.4	-1.5
HOJA				S	Sb	09 10 44.5	+0.6
IGUA	**Igualata**	**2.78**	**100**	P	Pn	09 11 03.4	+1.3
TERV	**Terraza Guagua**	**2.90**	**73**	P	Pn	09 11 04.8	+1.0
PINO	**Pino**	**2.90**	**73**	P	Pn	09 11 04.6	+0.8
NAS1	**Nasa**	**2.93**	**83**	⇓P	Pn	09 11 06.5	+2.3
JUIV	**Juive**	**2.94**	**98**	P	Pn	09 11 06.6	+2.2
YANA	**Yana**	**2.95**	**72**	P	Pn	09 11 04.5	0.0
ARRY	**Arrayan**	**2.97**	**100**	⇓P	Pn	09 11 05.9	+1.2
PISA	**Pisayambo**	**3.00**	**91**	P	Pn	09 11 07.1	+1.9
VC1	**Cotopaxi 1**	**3.00**	**83**	P	Pn	09 11 07.9	+2.6
TAMB	**Tambo**	**3.03**	**84**	P	Pn	09 11 08.1	+2.5
ANTI	**Antisana**	**3.27**	**80**	⇓P	Pn	09 11 11.4	+2.4
COTA	**Cotacachi**	**3.33**	**66**	P	Pn	09 11 10.9	+1.1
CAYR	**Refugio Cayamb**	**3.53**	**73**	⇑P	Pn	09 11 15.8	+3.1
CAYA	**Cayambe**	**3.56**	**72**	⇓P	Pn	09 11 15.7	+2.5

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*BJI **28** 09:12:16.6,0.52S×126.34E,h42km,mB5.6,mb4.8,Ms5.0, Msz4.7*
*IDC **28** 09:12:18.3±0.6,0.36N×126.14E,mb4.6/14,mb1 4.7/14, mb1mx4.6/19,mbtmp4.6/14,Error ellipse: s-maj=40.5km s-min=12.0km az=76.0*
*NEIC **28** 09:12:19.8±0.3,0.32N×126.20E,h10km,mb4.7/13,Error ellipse: s-maj=17.8km s-min=4.9km az=76.0*

ISC 28 09:12:21.5±0.4,0.27N±0.06×126.2E±0.2,h33km,n40, σ0$86/36,mb4.7/24,1C-2D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**14.31**	**155**	*e*P	**P**	**09 15 42.2**	**-1.7**
	19nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.27**	**182**	*e*P	**P**	**09 16 34.8**	**+0.4**
	7.4nm,0.6s						
WRAB	**Tennant Creek**	**21.61**	**159**	*e*P	**P**	**09 17 10.0**	**-0.8**
	37nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**21.61**	**159**	P	**P**	**09 17 10.1**	**-0.7**
	26nm,0.7s,mb4.8,baz=336,slow=11,SNR=134						
WB2	**Warramunga Arr**	**21.62**	**159**	⇑*i*P	**P**	**09 17 10.1**	**-0.7**
ASAR	**Alice Springs**	**24.94**	**163**	P	**P**	**09 17 44.8**	**+1.3**
	20nm,0.7s,mb4.8,baz=353,slow=16,SNR=168						
ASAR				PcP	PcP	09 21 19.4	0.0
	1.6nm,0.8s,baz=350,slow=2.5,SNR=6.5						
ASAR				S	**S**	**09 22 12.3**	**+10**
	2.4nm,1.1s,baz=341,slow=18,SNR=4.8						
ASPA	**Alice Springs**	**24.94**	**163**	*e*P	**P**	**09 17 43.9**	**+0.4**
JOW	**Kunigami**	**26.48**	**4**	P	**P**	**09 17 59.2**	**+1.3**
	40nm,0.8s,mb5.0,baz=204,slow=9.0,SNR=8.6						
CTA	**Charters Tower**	**28.20**	**137**	*e*P	**P**	**09 18 14.2**	**+0.7**
	3.6nm,1.1s,mb3.9						
CTA	**Charters Tower**	**28.20**	**137**	P	**P**	**09 18 14.2**	**+0.7**
	3.9nm,0.9s,mb4.0,baz=333,slow=11,SNR=5.2						
CTAO	**Charters Tower**	**28.20**	**137**	*e*P	**P**	**09 18 13.8**	**+0.3**
	20nm,1.5s,mb4.5						
STKA	**Stephens Creek**	**35.14**	**157**	*e*P	**P**	**09 19 14.0**	**-0.2**
	6.7nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**35.14**	**157**	P	**P**	**09 19 14.4**	**+0.2**
	8.9nm,0.8s,mb4.7,baz=337,slow=7.8,SNR=17						
KS15	**Wonju Array Si**	**37.02**	**2**	*e*P	**P**	**09 19 30.9**	**+0.9**
MAT	**Matsushiro**	**37.77**	**16**	*e*P	**P**	**09 19 36.0**	**-0.4**
	9.6nm,0.7s,mb4.6						
MAT	**Matsushiro**	**37.77**	**16**	P	**P**	**09 19 36.0**	**-0.4**
BJT	**Baijiatuau**	**40.60**	**348**	*e*P	**P**	**09 19 59.5**	**-0.4**
	14nm,0.6s,mb4.8						
BJI	**Beijing**	**40.62**	**348**	P	**P**	**09 19 59.8**	**-0.2**
	9.0nm,0.6s,mb4.6						
SNY	**Shenyang**	**41.43**	**357**	⇓P	**P**	**09 20 08.0**	**+1.3**
SNY				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.2						
MDJ	**Mudanjiang**	**44.26**	**3**	P	**P**	**09 20 30.3**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,867nm,13.8s						
MDJ	**Mudanjiang**	**44.26**	**3**	*e*P	**P**	**09 20 29.8**	**+0.1**
	comp=Z,7.8nm,0.8s,mb4.5						
ASAJ	**Asahikawa**	**46.03**	**16**	P	**P**	**09 20 44.7**	**+0.8**
	comp=Z,11nm,0.7s,mb4.9,baz=238,slow=5.8,SNR=9.2						
ULN	**Ulaanbaatar**	**50.24**	**343**	*e*P	**P**	**09 21 15.7**	**-0.8**
	comp=Z,6.3nm,0.7s,mb4.8						
SONM	**Songino Array**	**50.40**	**343**	P	**P**	**09 21 18.0**	**+0.2**
	comp=Z,4.6nm,0.6s,mb4.7,baz=160,slow=7.4,SNR=23						
MA2	**Magadan**	**62.17**	**14**	*e*P	**P**	**09 22 41.4**	**-0.3**
	comp=Z,27nm,0.7s,mb5.5						
ZAL	**Zalesovo**	**63.43**	**334**	P	**P**	**09 22 49.0**	**-1.2**
	comp=Z,3.5nm,1.0s,mb4.5,baz=288,slow=6.1,SNR=8.8						
CHKZ	**Chkalovo**	**70.12**	**329**	*e*P	**P**	**09 23 31.3**	**-1.2**
	comp=Z,16nm,0.9s,mb5.0						
VNDA	**Vanda**	**80.09**	**173**	P	**P**	**09 24 29.6**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=352,slow=1.9,SNR=5.9						
MAW	**Mawson**	**80.35**	**200**	P	**P**	**09 24 31.8**	**+1.1**
	comp=Z,2.6nm,0.7s,mb4.3,baz=34,slow=9.8,SNR=2.9						
ILAR	**Eielson Array**	**88.44**	**25**	P	**P**	**09 25 10.4**	**-0.8**
	comp=Z,0.6nm,0.6s,mb4.0,baz=238,slow=6.2,SNR=12						
QSPA	**South Pole Qui**	**90.20**	**180**	⇓*i*P	**P**	**09 25 21.2**	**+1.9**
	comp=Z,3.2nm,0.7s,mb4.8						
DAWY	**Dawson**	**91.70**	**26**	*e*P	**P**	**09 25 26.1**	**-0.5**
ARCES	**ARCESS Array B**	**93.49**	**340**	P	**P**	**09 25 34.2**	**-0.4**
	comp=Z,4.2nm,0.7s,mb5.0,baz=88,slow=3.0,SNR=10						
INK	**Inuvik**	**93.55**	**22**	P	**P**	**09 25 35.3**	**+0.3**
	comp=Z,1.6nm,1.1s,mb4.4,baz=278,slow=3.5,SNR=7.1						
FINES	**FINESS Array B**	**94.61**	**332**	P	**P**	**09 25 39.1**	**-0.8**
	comp=Z,3.5nm,1.1s,mb4.7,baz=90,slow=3.8,SNR=4.5						
YKA	**Yellowknife Ar**	**102.84**	**25**	P	Pdif	09 26 16.5	-0.7
	comp=Z,0.3nm,0.8s,baz=294,slow=4.6,SNR=4.2						
YKA				PKiKP		09 30 37.4	
	comp=Z,0.2nm,0.7s,baz=310,slow=1.6,SNR=5.4						
SCHQ	**Schefferville**	**124.04**	**9**	PKP	PKPdf	09 31 18.3	+1.6
	comp=Z,2.2nm,0.9s,slow=4.0,SNR=4.9						
TXAR	**Lajitas Array**	**124.09**	**54**	PKP	PKPdf	09 31 19.1	+1.6
	comp=Z,0.4nm,0.8s,baz=234,slow=1.4,SNR=5.2						
SADO	**Sadowa**	**129.83**	**23**	PKP	PKPdf	09 31 30.4	+2.3
	comp=Z,2.7nm,0.7s,baz=97,slow=5.5,SNR=3.3						
DBIC	**Dimbokro**	**130.68**	**279**	PKP	PKPdf	09 31 32.8	+2.2
	comp=Z,2.5nm,1.0s,baz=117,slow=2.3,SNR=3.9						

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*IDC **28** 09:14:42.1±0.4,8.18N×94.07E,mb4.5/26,mb1 4.6/27, mb1mx4.6/28,mbtmp4.5/27,ML4.4/1,MS4.5/5,Ms1 4.6/5, ms1mx4.0/24,Error ellipse: s-maj=22.9km s-min=11.0km az=49.0*
*MOS **28** 09:14:45.1±1.2,8.14N×94.04E,h33km,mb4.9/39, MS4.6/4,Error ellipse: s-maj=11.7km s-min=6.5km az=110.5*
*BJI **28** 09:14:45.6,7.67N×93.92E,h57km,mB5.0,mb4.6,Ms5.1, Msz4.8*
*HRVD **28** 09:14:46.2±0.4,8.00N×94.21E,h22km±2km,MW5.2/43, Centroid moment Tensor Solution. LP body waves: s16,c26;Mantle waves: s43,c74; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.23±.31; M_{tt}-3.70±.25; M_{pp}3.93±.26; M_{rt}-2.83±.50; M_{rp}4.42±.21; M_{tr}-0.80±.45; Best double couple: $M_0$6.541×10^{16} NP1:φs160°, δ63°, λ-177°. NP2:φs69°, δ88°, λ-27°. Principal axes: T 6.526, Plg17°, Azm118°; N .025, Plg63°, Azm244°; P -6.555, Plg20°, Azm21°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 09:14:46.2±0.3,8.06N×94.05E,h30km,mb4.9/17, MS4.5/1 Error ellipse: s-maj=10.0km s-min=6.4km az=55.0*

ISC 28 09:14:46.0±1.2,8.05N±0.04×94.08E±0.04,h43km±10km, n158,σ1$31/159,mb4.7/60,MS4.6/8,4C-1D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.82**	**340**	*e*P	**P**	**09 15 48.5**	**+4.6**
PBA				*e*S	**S**	**09 16 30.1**	**+1.9**
NNT	**Nongplab**	**7.16**	**50**	P	**P**	**09 16 28.5**	**-2.3**
CMAR	**Chiang Mai Arr**	**11.38**	**24**	P	**P**	**09 17 28.6**	**-0.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,3μm,18.0s						
CMAR	**Chiang Mai Arr**	**11.38**	**24**	Pn	**P**	**09 17 28.6**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=211,slow=14,SNR=34						
CMAR				LR	LR	09 22 03.2	
	comp=Z,3μm,18.0s,baz=210,slow=39						
CHG	**Chiang Mai**	**11.70**	**23**	⇑P	**P**	**09 17 34.3**	**+1.1**
	comp=Z,39nm,1.2s						
NANT	**Nan**	**12.47**	**30**	P	**P**	**09 17 46.0**	**+2.4**
PALK	**Pallekele**	**13.29**	**268**	P	**P**	**09 17 52.2**	**-2.1**
VIS	**Vishakhapatnam**	**14.22**	**314**	*e*P	**P**	**09 18 06.3**	**-0.4**
VIS				*e*		09 18 13.0	
	comp=Z,82nm,1.0s						
VIS				*e*		09 20 33.5	
KOD	**Kodaikanal**	**16.55**	**279**	*e*P	**P**	**09 18 41.0**	**+4.4**
KOD				*e*		09 18 44.5	
	comp=Z,50nm,1.5s						
KOD				*e*S	**S**	**09 21 45.8**	**+7.5**
SHL	**Shillong**	**17.55**	**353**	*e*P	**P**	**09 18 54.3**	**+5.1**
SHL				*e*S	**S**	**09 22 07.3**	**+6.3**
HYB	**Hyderabad**	**17.77**	**303**	*e*P	**P**	**09 18 52.5**	**+0.5**
HYB	**Hyderabad**	**17.77**	**303**	*i* P	**P**	**09 18 52.5**	**+0.5**
HYB				*e*		09 22 05.0	
HYB				*e*S	**S**	**09 22 13.0**	**+7.1**
QIZ	**Qiongzhong**	**18.79**	**53**	P	**P**	**09 19 06.8**	**+2.3**
QIZ				S	**S**	**09 22 32.0**	**+3.0**
QIZ				LR	LR		
	comp=N,7μm,13.2s						
QIZ				LR	LR		
	comp=E,3μm,13.1s						
KMI	**Kunming**	**18.89**	**25**	⇑P	**P**	**09 19 08.7**	**+3.1**
KMI				S	**S**	**09 22 31.2**	**+0.1**
KMI				pmax	pmax		
	comp=Z,42nm,1.4s						
KMI	**Kunming**	**18.89**	**25**	⇑P	**P**	**09 19 08.7**	**+3.1**
	comp=Z,42nm,1.4s						
KMI				pP		09 19 15.8	
KMI				PP	PP	09 19 26.1	+3.9
KMI				S	**S**	**09 22 31.2**	**+0.1**
KMI				sS		09 22 47.8	
KMI				SS	SS	09 22 54.2	-2.8
NGP	**Nagpur**	**19.50**	**314**	*e*P	**P**	**09 19 16.4**	**+3.9**
NGP				*e*S	**S**	**09 22 57.1**	**+12**
COCO	**West Island**	**20.29**	**172**	P	**P**	**09 19 19.1**	**-1.8**
JIRN	**Jiri**	**20.89**	**340**	*e*P	**P**	**09 19 27.4**	**+0.3**
	comp=Z,298nm,1.1s						
PKI	**Pulchoki**	**21.09**	**338**	*e*P	**P**	**09 19 28.0**	**-1.0**
	comp=Z,327nm,1.2s,mb5.5						
GOA	**Goa**	**21.16**	**292**	*e*P	**P**	**09 19 37.6**	**+7.8**
GOA				*e*		09 19 40.4	
	comp=Z,49nm,0.9s						
GOA				*e*S	**S**	**09 23 34.0**	**+16**
GUN	**Gumba**	**21.23**	**340**	*e*P	**P**	**09 19 30.3**	**-0.2**
	comp=Z,267nm,1.0s,mb5.5						
DMN	**Daman**	**21.23**	**338**	*e*P	**P**	**09 19 31.0**	**+0.5**
	comp=Z,143nm,0.8s,mb5.3						
KKN	**Kakani**	**21.33**	**338**	*e*P	**P**	**09 19 31.0**	**-0.5**
	comp=Z,272nm,1.4s,mb5.4						
KAD	**Karad**	**21.47**	**297**	*e*P	**P**	**09 19 36.0**	**+3.0**
KAD				*e*		09 19 42.2	
	comp=Z,75nm,1.2s						
LSA	**Lhasa**	**21.72**	**353**	P	**P**	**09 19 35.3**	**0.0**
LSA	**Lhasa**	**21.72**	**353**	*e*P	**P**	**09 19 34.8**	**-0.5**
LSA				pmax	pmax		
	comp=Z,63nm,0.9s,mb5.0						
LSA	**Lhasa**	**21.72**	**353**	*e*P	**P**	**09 19 34.8**	**-0.5**
	comp=Z,63nm,0.9s,mb5.0						
GKN	**Gorkha**	**21.77**	**337**	*e*P	**P**	**09 19 35.1**	**-0.7**
	comp=Z,274nm,1.1s,mb5.6						
KOLN	**Koldanda**	**21.98**	**334**	*e*P	**P**	**09 19 38.0**	**0.0**
	comp=Z,346nm,1.4s,mb5.6						
BHPL	**Bhopal**	**22.00**	**315**	*e*	**P**	**09 19 40.7**	**+2.5**
	comp=Z,43nm,0.4s,mb5.2						
BHPL				*e*P		09 19 42.2	
BHPL				*e*S	**S**	**09 23 44.6**	**+11**
POO	**Poona**	**22.25**	**300**	*e*P	**P**	**09 19 43.9**	**+3.2**
NDI	**New Delhi**	**25.96**	**324**	*e*P	**P**	**09 20 22.1**	**+5.6**
NDI				*e*		09 20 22.2	
	comp=Z,83nm,1.5s						
NDI				*e*S	**S**	**09 24 52.4**	**+11**
ENH	**Enshi**	**26.41**	**31**	*e*P	**P**	**09 20 19.8**	**-0.8**
	comp=Z,38nm,1.3s,mb4.8						
SMLA	**Simla**	**27.87**	**328**	*e*P	**P**	**09 20 46.5**	**+12**
SMLA				*e*		09 21 03.0	
	comp=Z,52nm,1.5s						
SMLA				*e*S	**S**	**09 25 30.6**	**+18**
LZH	**Lanzhou**	**29.30**	**16**	*e*P	**P**	**09 20 47.5**	**+0.8**
LZH				AP	pP	09 21 00.8	+2.5
LZH				AMB	AMB		
	comp=Z,29nm,1.6s,mb4.8						
LZH				AMB	AMB		
	comp=Z,89nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,12.2s						
LZH				LR	LR		
	comp=Z,2μm,13.5s,MS4.8						
LZH	**Lanzhou**	**29.30**	**16**	*e*P	**P**	**09 20 47.4**	**+0.7**
LZH				*PP	pP	09 20 55.9	-2.4
LZH				*SP	sP	09 21 00.8	-2.9
LZH				pmax	pmax		
	comp=Z,29nm,1.6s,mb4.8						
LZH				MLR	MLR		
	comp=Z,2μm,13.5s,MS4.8						
LZH	**Lanzhou**	**29.30**	**16**	*e*P	**P**	**09 20 47.4**	**+0.7**
	comp=Z,29nm,1.6s,mb4.8						
LZH				pP	pP	09 20 55.9	-2.4
LZH				sP	sP	09 21 00.8	-2.9
LZH				LR	LR		
	comp=Z,2μm,13.5s,MS4.8						
WHN	**Wuhan**	**29.34**	**38**	*e*P	**P**	**09 20 47.5**	**+0.5**
WMQ	**Urumqi**	**36.07**	**352**	*e*P	**P**	**09 21 44.3**	**-1.2**
JOW	**Kunigami**	**37.41**	**56**	LR	LR	09 39 39.1	
	comp=Z,760nm,18.2s,MS4.5,baz=243,slow=40						
BJI	**Beijing**	**37.48**	**28**	P	**P**	**09 21 58.0**	**+0.6**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.4						
BJI				MLR	MLR		
	comp=Z,780nm,20.0s,MS4.5						
BJI	**Beijing**	**37.48**	**28**	P	**P**	**09 21 58.0**	**+0.6**
	comp=Z,10.0nm,1.5s,mb4.4						
BJI				LR	LR		
	comp=Z,780nm,20.0s,MS4.5						
AAK	**Ala-Archa**	**38.53**	**337**	*i* P	**P**	**09 22 04.5**	**-1.5**
AAK				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.5						
AAK	**Ala-Archa**	**38.53**	**337**	*e*P	**P**	**09 22 04.4**	**-1.6**
	comp=Z,26nm,1.4s,mb4.8						
MKAR	**Makanchi Array**	**39.91**	**347**	*i* P	**P**	**09 22 16.7**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SONM	**Songino Array**	**41.01**	**13**	P	**P**	**09 22 26.7**	**+0.1**
	comp=Z,5.7nm,1.1s,mb4.1,baz=190,slow=7.5,SNR=2.2						
ULN	**Ulaanbaatar**	**41.18**	**13**	*i* P	**P**	**09 22 27.2**	**-0.8**
SNY	**Shenyang**	**42.56**	**33**	⇑P	**P**	**09 22 40.3**	**+0.9**
TLY	**Talaya**	**44.21**	**9**	*i* P	**P**	**09 22 51.7**	**-0.9**
TLY				pmax	pmax		
	comp=Z,10.0nm,2.1s,mb4.2						
KURK	**Kurchatov**	**44.43**	**346**	*i* P	**P**	**09 22 53.8**	**-0.6**
KURK				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.8						
KURK	**Kurchatov**	**44.43**	**346**	*e*P	**P**	**09 22 53.6**	**-0.9**
	comp=Z,18nm,0.6s,mb5.0						
MUN	**Mundaring**	**45.06**	**153**	*e*P	**P**	**09 23 00.9**	**+1.2**
	comp=Z,9.9nm,0.6s,mb4.8						
MUN	**Mundaring**	**45.06**	**153**	*e*P	**P**	**09 23 00.9**	**+1.2**
MUN				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
KLBR	**Kellerberrin**	**45.45**	**151**	*e*P	**P**	**09 23 02.8**	**-0.1**
	comp=Z,153nm,1.0s,mb5.8						
NWAO	**Narrogin (SRO)**	**46.32**	**153**	P	**P**	**09 23 09.5**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,16nm,0.8s						
NWAO	**Narrogin (SRO)**	**46.32**	**153**	P	**P**	**09 23 09.5**	**-0.2**
	comp=Z,16nm,0.8s,mb5.0,baz=326,slow=8.8,SNR=6.9						
NWAO	**Narrogin (SRO)**	**46.32**	**153**	P	**P**	**09 23 09.5**	**-0.2**
ZAL	**Zalesovo**	**46.37**	**352**	P	**P**	**09 23 09.7**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ZAL	**Zalesovo**	**46.37**	**352**	P	**P**	**09 23 09.7**	**-0.1**
	comp=Z,7.7nm,1.0s,mb4.6,baz=314,slow=5.1,SNR=9.0						
WRA	**Warramunga Arr**	**48.41**	**126**	P	**P**	**09 23 26.5**	**+0.3**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRA	**Warramunga Arr**	**48.41**	**126**	P	**P**	**09 23 26.5**	**+0.3**
	comp=Z,3.9nm,0.6s,mb4.6,baz=304,slow=9.1,SNR=16						
WRAB	**Tennant Creek**	**48.41**	**126**	*i* P	**P**	**09 23 25.4**	**-0.8**
WRAB	**Tennant Creek**	**48.41**	**126**	*e*P	**P**	**09 23 23.4**	**-2.8**
	comp=Z,16nm,0.9s,mb5.0						
WB2	**Warramunga Arr**	**48.41**	**126**	*e*P	**P**	**09 23 23.9**	**-2.4**
BVA0	**Borovoye Array**	**48.81**	**341**	*i* P	**P**	**09 23 28.0**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
BVAR	**Borovoye Array**	**48.81**	**341**	P	**P**	**09 23 26.5**	**-2.4**
	comp=Z,2.6nm,0.8s,mb4.3,baz=140,slow=11,SNR=9.9						
RAYN	**Ar Rayn**	**48.97**	**294**	P	**P**	**09 23 31.7**	**+1.2**
	comp=Z,107nm,0.7s,mb6.0,SNR=21						
JHJ	**Hachijo jima 2**	**49.00**	**53**	LR	LR	09 43 48.4	
	comp=Z,344nm,20.7s,MS4.3,baz=258,slow=36						
CHKZ	**Chkalovo**	**49.30**	**342**	P	**P**	**09 23 31.5**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
CHKZ	**Chkalovo**	**49.30**	**342**	*e*P	**P**	**09 23 31.4**	**-1.2**
	comp=Z,16nm,0.9s,mb5.0						
ASAR	**Alice Springs**	**50.07**	**130**	P	**P**	**09 23 38.5**	**-0.5**
	comp=Z,4.1nm,0.9s,mb4.5,baz=304,slow=6.9,SNR=17						
ASAR				PcP	PcP	09 24 59.8	+1.4
	comp=Z,3.8nm,0.8s,baz=308,slow=3.6,SNR=11						
ASAR				LR	LR	09 45 12.4	
	comp=Z,402nm,19.8s,MS4.4,baz=294,slow=36						
BOD	**Bodaibo**	**52.00**	**13**	*e*P	**P**	**09 23 51.6**	**-1.4**
GNI	**Garni**	**54.28**	**314**	*i* P	**P**	**09 24 12.4**	**+2.2**
GNI				pmax	pmax		
	comp=Z,18nm,1.7s						
CLNS	**Chul'man**	**54.30**	**20**	*e*P	**P**	**09 24 08.2**	**-1.9**
CLNS				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.8s						
SVE	**Sverdlovsk**	**55.22**	**338**	*e*P	**P**	**09 24 17.4**	**+0.5**
SVE				MLR	MLR		
	comp=Z,1μm,17.0s,MS5.0						
ASAJ	**Asahikawa**	**55.32**	**41**	LR	LR	09 47 17.4	
	comp=Z,591nm,20.2s,MS4.7,baz=16,slow=35						
PMG	**Port Moresby**	**55.63**	**107**	P	**P**	**09 24 21.6**	**+1.2**
PMG				pmax	pmax		
	comp=Z,15nm,0.7s						
PMG	**Port Moresby**	**55.63**	**107**	P	**P**	**09 24 21.6**	**+1.2**
	comp=Z,15nm,0.7s,mb5.2,baz=319,slow=5.6,SNR=4.2						
PMG	**Port Moresby**	**55.63**	**107**	P	**P**	**09 24 21.6**	**+1.2**
ARU	**Arti**	**55.71**	**337**	*e*P	**P**	**09 24 09.6**	**-11**
YSS	**Yuzh-Sakhalins**	**56.68**	**38**	P	**P**	**09 24 36.4**	**+8.9**
YSS				MLR	MLR		
	comp=E,500nm,12.0s						
YSS				MLR	MLR		
	comp=Z,500nm,12.0s,MS4.8						
KIV	**Kislovodsk**	**57.15**	**318**	*i* P	**P**	**09 24 30.1**	**-0.8**
KIV				*e*		09 24 46.4	
KIV				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
KMBO	**Kilima Mbogo**	**57.39**	**263**	P	**P**	**09 24 35.1**	**+2.1**
KMBO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KMBO	**Kilima Mbogo**	**57.39**	**263**	P	**P**	**09 24 35.0**	**+2.1**
	comp=Z,6.5nm,0.9s,mb4.7,baz=56,slow=10,SNR=18						
CTA	**Charters Tower**	**58.44**	**119**	P	**P**	**09 24 40.9**	**+0.7**
CTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CTA	**Charters Tower**	**58.44**	**119**	P	**P**	**09 24 40.9**	**+0.6**
	comp=Z,1.9nm,0.9s,mb4.1,baz=263,slow=7.7,SNR=3.2						
SOC	**Sochi**	**59.02**	**316**	*e*P	**P**	**09 24 41.2**	**-2.7**
SOC				*e*		09 25 37.0	
SOC				*e*		09 27 02.4	
SOC				*e*S	**S**	**09 32 46.9**	**+1.3**
SOC				*e*		09 34 25.1	
SOC				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.3						
SOC				pmax	pmax		
	comp=N,16nm,0.8s						
SOC				pmax	pmax		
	comp=E,6.0nm,0.4s						
EIL	**Elat**	**59.29**	**300**	P	**P**	**09 24 46.7**	**+0.6**
	comp=E,3.3nm,0.5s,mb4.7,baz=324,slow=34,SNR=1.3						
EIL	**Elat**	**59.29**	**300**	P	**P**	**09 24 46.7**	**+0.6**
YAK	**Yakutsk**	**59.85**	**19**	*i* P	**P**	**09 24 47.7**	**-1.7**
YAK				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.0						
STKA	**Stephens Creek**	**60.26**	**134**	P	**P**	**09 24 52.4**	**-0.3**
	comp=Z,4.5nm,0.9s,mb4.5,baz=319,slow=8.5,SNR=6.4						
BRTR	**Keskin Array B**	**62.27**	**311**	P	**P**	**09 25 04.4**	**-1.7**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	**62.27**	**311**	P	**P**	**09 25 04.3**	**-1.8**
	comp=Z,2.0nm,0.7s,mb4.4,baz=122,slow=7.2,SNR=11						
MOS	**Moscow**	**64.91**	**329**	*e*P	**P**	**09 25 21.0**	**-2.1**
OBN	**Obninsk**	**65.20**	**328**	*de*P	**P**	**09 25 25.5**	**+0.4**
OBN				pmax	pmax		
	comp=Z,30nm,1.8s,mb5.0						
TIXI	**Tiksi**	**67.08**	**11**	*i* P	**P**	**09 25 35.2**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.1						
AKASG	**Malin Array Be**	**67.99**	**322**	P	**P**

CLL Collm 78.19 321 P **P 09 26 43.0 +0.4**
CLL *e*SP sP 09 26 50.0 -10
MAW Mawson 78.69 192 P **P 09 26 46.4 +1.4**
MAW pmax pmax
comp=Z,5.0nm,0.9s
MAW Mawson 78.69 192 P **P 09 26 46.4 +1.4**
comp=Z,5.2nm,0.8s,mb4.5,baz=9.3,slow=6.8,SNR=4.4
NB2 NORSAR Subarra 79.56 331 P **P 09 26 48.4 -1.5**
comp=Z,2.8nm,0.7s,mb4.3,baz=91,slow=5.8
NB2 NORSAR Subarra 79.56 331 P **P 09 26 48.4 -1.5**
NB2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
NOA NORSAR Array B 79.56 331 P **P 09 26 49.8 -0.1**
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA NORSAR Array B 79.56 331 P **P 09 26 49.8 0.0**
comp=Z,5.1nm,0.8s,mb4.5,baz=92,slow=5.6,SNR=11
DAVOX Davos 80.23 316 P **P 09 26 54.4 +0.6**
comp=Z,3.7nm,0.6s,mb4.5,baz=114,slow=15,SNR=3.8
LPG La Plagne 82.46 315 *e*P **P 09 27 06.0 +0.6**
comp=Z,38nm,1.0s,mb5.0
LPG La Plagne 82.46 315 *e*P **P 09 27 06.0 +0.6**
LPG pmax pmax
comp=Z,19nm,1.0s,mb5.0
RPZ Rata Peaks 86.21 135 P **P 09 27 26.8 +2.5**
comp=Z,4.3nm,0.9s,mb4.7,baz=284,slow=8.3,SNR=2.4
ESDC Sonseca Array 91.06 310 P **P 09 27 50.0 +2.5**
comp=Z,0.5nm,0.4s,mb4.2,baz=55,slow=4.1,SNR=6.7
IMA Indian Mountai 91.49 22 *e*P **P 09 27 49.8 +1.0**
VNDA Vanda 93.11 168 P **P 09 27 58.0 +1.9**
VNDA pmax pmax
comp=Z,2.0nm,1.0s
VNDA Vanda 93.11 168 P **P 09 27 58.0 +1.9**
comp=Z,1.5nm,0.9s,mb4.4,baz=325,slow=9.6,SNR=3.5
ILAR Eielson Array 94.61 22 P **P 09 28 04.5 +1.4**
ILAR pmax pmax
comp=Z,1.0nm,1.1s
ILAR Eielson Array 94.61 22 P **P 09 28 04.5 +1.4**
comp=Z,0.8nm,1.1s,mb4.1,baz=301,slow=4.5,SNR=4.4
INK Inuvik 96.84 16 P **P 09 28 14.5 +1.3**
INK pmax pmax
comp=Z,3.0nm,1.3s
INK Inuvik 96.84 16 P **P 09 28 14.5 +1.3**
comp=Z,3.4nm,1.3s,mb4.6,baz=277,slow=4.9,SNR=4.0
INK Inuvik 96.84 16 P **P 09 28 14.5 +1.3**
YKA Yellowknife Ar 106.27 13 PP PP 09 33 22.8 0.0
comp=Z,0.2nm,0.7s,baz=334,slow=7.9,SNR=3.7
YKA PKKPbc 09 44 28.0
comp=Z,0.3nm,0.7s,baz=149,slow=2.8,SNR=6.2
NVAR Mina Array Bea 124.80 31 PKP PKPdf 09 33 45.6 +3.9
comp=Z,1.3nm,0.7s,baz=360,slow=1.0,SNR=5.8
PDAR Pinedale Array 125.03 21 PKP PKPdf 09 33 46.1 +4.1
comp=Z,1.4nm,0.8s,baz=20,slow=1.7,SNR=12
MSU Marysvale 127.63 26 PKIKP PKPdf 09 33 49.5 +2.3
PV10 Paradox Valley 129.04 23 PKP PKPdf 09 33 52.0 +2.1
ANMO Albuquerque 133.04 23 PKIKP PKPdf 09 34 03.5 +5.9
ANMO pmax pmax
comp=Z,1.0nm,0.8s
ANMO Albuquerque 133.04 23 PKP PKPdf 09 34 03.5 +5.8
comp=Z,1.2nm,0.8s,baz=270,slow=4.7,SNR=5.7
PLCA Paso Flores 144.69 200 PKIKP PKPdf 09 34 20.8 +2.4
PLCA pmax pmax
comp=Z,12nm,0.8s
PLCA Paso Flores 144.69 200 PKP PKPdf 09 34 20.8 +2.4
comp=Z,12nm,0.8s,baz=332,slow=3.2,SNR=8.2

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*NEIC **28** 09:16:31.4±0.8, 7.75N×94.07E, h30km, mb4.8/7, Error ellipse: s-maj=21.4km s-min=17.9km az=129.0*
*BJI **28** 09:16:32.2, 7.45N×93.67E, h60km, mb5.1*
*IDC **28** 09:16:41.1±6.3, 8.60N×93.60E, h75km±48km, mb4.2/16, mb1 4.3/17, mb1mx4.2/22, mbtmp4.5/17, MS4.5/1, Ms1 4.5/1, ms1mx3.1/25, Error ellipse: s-maj=54.3km s-min=26.5km az=149.0*
ISC 28 09:16:30.2±0.8, 7.8N±0.1×94.1E±0.1, h33km, n39, σ1°47/37, mb4.5/22, MS4.5/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.62**	**23**	P	**P**	**09 19 15.2**	**-1.6**
	baz=212,slow=14,SNR=2.4						
LSA	**Lhasa**	**21.98**	**353**	P	**P**	**09 21 27.8**	**+4.7**
LSA	**Lhasa**	**21.98**	**353**	*e*P	**P**	**09 21 23.9**	**+0.7**
	70nm,0.8s,mb5.1						
AAK	**Ala-Archa**	**38.77**	**337**	*e*P	**P**	**09 23 54.5**	**+1.2**
	9.8nm,0.9s,mb4.5						
SONM	**Songino Array**	**41.27**	**13**	P	**P**	**09 24 14.3**	**+0.4**
	6.0nm,0.8s,mb4.3,baz=193,slow=7.3,SNR=9.4						
SONM				PcP	PcP	09 26 14.6	+1.7
	2.0nm,0.7s,baz=192,slow=2.8,SNR=5.2						
ULN	**Ulaanbaatar**	**41.44**	**13**	*e*P	**P**	**09 24 16.3**	**+0.9**
KURK	**Kurchatov**	**44.69**	**346**	*e*P	**P**	**09 24 42.8**	**+1.0**
	34nm,1.1s,mb5.1						
ZAL	**Zalesovo**	**46.64**	**352**	P	**P**	**09 24 56.4**	**-0.7**
	13nm,0.9s,mb4.9,baz=294,slow=8.3,SNR=13						
ZAL				LR	LR	09 47 56.2	
	comp=Z,510nm,18.0s,MS4.5,baz=290,slow=41						
ZAL	**Zalesovo**	**46.64**	**352**	P	**P**	**09 24 56.4**	**-0.7**
ZAL				LR	LR	09 47 56.2	
WRAB	**Tennant Creek**	**48.25**	**125**	P	**P**	**09 25 08.7**	**-1.6**
	4.2nm,0.5s,mb4.7						
BVAR	**Borovoye Array**	**49.07**	**341**	P	**P**	**09 25 16.7**	**+0.6**
	7.1nm,0.9s,mb4.7,baz=143,slow=7.4,SNR=6.9						
BVAR				PcP	PcP	09 26 41.1	+1.2
	2.4nm,0.8s,baz=146,slow=5.3,SNR=4.7						
KIV	**Kislovodsk**	**57.36**	**318**	*e*P	**P**	**09 26 17.0**	**-0.7**
	7.0nm,0.4s,mb5.0						
KMBO	**Kilima Mbogo**	**57.37**	**264**	P	**P**	**09 26 20.8**	**+2.7**
	7.9nm,1.1s,mb4.6,baz=40,slow=9.4,SNR=4.6						
KMBO	**Kilima Mbogo**	**57.37**	**264**	*e*P	**P**	**09 26 18.5**	**+0.4**
	6.4nm,1.1s,mb4.6						
BRTR	**Keskin Array B**	**62.46**	**311**	P	**P**	**09 26 51.5**	**-1.1**
	2.2nm,0.8s,mb4.3,baz=135,slow=7.0,SNR=4.6						
AKASG	**Malin Array Be**	**68.20**	**322**	P	**P**	**09 27 28.3**	**-1.1**
	4.5nm,0.9s,mb4.5,baz=88,slow=4.8,SNR=5.8						
IDI	**Anoyia**	**68.58**	**305**	P	**P**	**09 27 29.8**	**-2.3**
	5.7nm,0.7s,mb4.6,baz=28,slow=22,SNR=2.3						
MLR	**Muntele Rosu**	**69.21**	**316**	P	**P**	**09 27 33.5**	**-2.2**
	8.3nm,0.9s,mb4.7,baz=179,slow=5.3,SNR=4.8						
FINES	**FINESS Array B**	**72.78**	**332**	P	**P**	**09 27 53.9**	**-3.0**
	5.8nm,0.8s,mb4.6,baz=104,slow=7.9,SNR=6.6						
FINES	**FINESS Array B**	**72.78**	**332**	P	**P**	**09 27 53.9**	**-3.0**
OJC	**Ojcow**	**74.02**	**320**	*e*P	**P**	**09 28 05.8**	**+1.4**
ARCES	**ARCESS Array B**	**75.34**	**340**	P	**P**	**09 28 09.1**	**-2.6**
	2.3nm,0.8s,mb4.2,baz=98,slow=6.4,SNR=3.4						
ARCES	**ARCESS Array B**	**75.34**	**340**	P	**P**	**09 28 09.1**	**-2.6**
MORC	**Moravsky Berou**	**75.42**	**319**	*e*P	**P**	**09 28 12.5**	**+0.1**
BRG	**Berggiesshubel**	**77.80**	**320**	*i* P	**P**	**09 28 27.7**	**+1.8**
	11nm,1.2s,mb4.7						
BRG				*e*	pP	09 28 38.8	+2.6
GERES	**GERESS Array B**	**77.87**	**318**	P	**P**	**09 28 25.0**	**-1.2**
	2.3nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=6.7						
KHC	**Kasperske Hory**	**77.96**	**319**	*e*P	**P**	**09 28 24.0**	**-2.8**
CLL	**Collm**	**78.41**	**321**	P	**P**	**09 28 29.0**	**-0.2**
NB2	**NORSAR Subarra**	**79.79**	**331**	P	**P**	**09 28 37.6**	**+1.1**
	0.5nm,0.8s,mb3.5,baz=90,slow=6.5						
NOA	**NORSAR Array B**	**79.79**	**331**	P	**P**	**09 28 37.6**	**+1.0**
	3.8nm,0.8s,mb4.4,baz=93,slow=5.4,SNR=5.5						
ESDC	**Sonseca Array**	**91.24**	**310**	P	**P**	**09 29 34.7**	**+0.9**
	0.2nm,0.3s,mb3.9,baz=72,slow=4.7,SNR=4.4						
IMA	**Indian Mountai**	**91.73**	**22**	*e*P	**P**	**09 29 38.4**	**+3.0**
ILAR	**Eielson Array**	**94.85**	**22**	P	**P**	**09 29 50.5**	**+0.8**
	0.8nm,0.8s,mb4.2,baz=302,slow=5.4,SNR=5.9						
INK	**Inuvik**	**97.10**	**16**	P	**P**	**09 30 01.8**	**+1.9**
	2.4nm,1.0s,mb4.6,baz=328,slow=3.8,SNR=4.6						
INK	**Inuvik**	**97.10**	**16**	P	**P**	**09 30 01.8**	**+1.9**
DBIC	**Dimbokro**	**97.91**	**278**	P	**P**	**09 30 07.1**	**+2.3**
	2.7nm,0.9s,mb4.8,baz=58,slow=19,SNR=2.5						
DBIC	**Dimbokro**	**97.91**	**278**	P	**P**	**09 30 07.1**	**+2.3**
YKA	**Yellowknife Ar**	**106.53**	**13**	PP	PP	09 35 05.6	-4.6
	0.5nm,0.8s,baz=335,slow=7.8,SNR=6.2						
SJG	**San Juan**	**147.72**	**323**	PKPbc	PKPdf	09 36 14.4	+4.8
	6.2nm,0.3s,baz=147,slow=23,SNR=2.7						

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*IDC **28** 09:18:07.8±0.8, 8.05N×94.14E, mb4.0/9, mb1 4.2/9, mb1mx4.1/19, mbtmp4.0/9, Error ellipse: s-maj=36.6km s-min=19.8km az=45.0*
*NEIC **28** 09:18:12.2±0.6, 7.98N×94.11E, h30km, mb4.4/2, Error ellipse: s-maj=25.5km s-min=14.6km az=51.0*
ISC 28 09:18:10.9±0.8, 8.0N±0.2×94.1E±0.2, h33km, n13, σ0°93/11, mb4.1/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.10**	**13**	P	**P**	**09 25 54.2**	**+0.9**
	0.7nm,0.7s,mb3.4,baz=207,slow=9.7,SNR=1.9						
KURK	**Kurchatov**	**44.53**	**346**	*e*P	**P**	**09 26 21.7**	**+0.5**
	8.1nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**48.33**	**126**	P	**P**	**09 26 51.2**	**-0.4**
	0.7nm,0.6s,mb3.9,baz=304,slow=8.5,SNR=4.4						
BVAR	**Borovoye Array**	**48.91**	**341**	P	**P**	**09 26 53.1**	**-2.5**
	5.5nm,1.2s,mb4.4,baz=146,slow=5.2,SNR=2.2						
ASAR	**Alice Springs**	**49.99**	**130**	P	**P**	**09 27 04.4**	**+0.1**
	0.4nm,0.4s,mb3.8,baz=305,slow=8.0,SNR=1.7						
KMBO	**Kilima Mbogo**	**57.39**	**264**	P	**P**	**09 27 59.6**	**+0.6**
	2.4nm,0.8s,mb4.3,baz=56,slow=12,SNR=5.2						
KMBO	**Kilima Mbogo**	**57.39**	**264**	P	**P**	**09 27 59.3**	**+0.3**
	3.2nm,0.9s,mb4.3						
BRTR	**Keskin Array B**	**62.35**	**311**	P	**P**	**09 28 31.6**	**-1.1**
	0.9nm,0.6s,mb4.0,baz=113,slow=7.4,SNR=3.8						
MLR	**Muntele Rosu**	**69.09**	**316**	P	**P**	**09 29 16.2**	**+0.5**
	2.2nm,0.7s,mb4.2,baz=80,slow=22,SNR=3.2						
FINES	**FINESS Array B**	**72.63**	**332**	P	**P**	**09 29 36.3**	**-0.4**
	1.7nm,0.7s,mb4.1,baz=117,slow=6.2,SNR=3.2						
GERES	**GERESS Array B**	**77.75**	**318**	P	**P**	**09 30 07.4**	**+1.1**
	1.3nm,0.6s,mb4.0,baz=90,slow=5.3,SNR=5.7						
PLCA	**Paso Flores**	**144.60**	**200**	PKP	PKPdf	09 37 46.2	+1.8
	1.8nm,0.8s,baz=148,slow=2.4,SNR=3.6						
PLCA	**Paso Flores**	**144.60**	**200**	PKP	PKPdf	09 37 46.2	+1.8

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*NEIC **28** 09:20:59.8, 16.62N×98.04W, h27km, MD3.7(MEX), After MEX.*
MEX 28 09:20:59.0±1.2, 16.48N×98.02W, h44km±18km, MD3.7, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**230**	*i* P	P	09 21 04.5	-1.8
PNIG				*i* S	S	09 21 09.8	-1.6
PNIG	**Pinotepa**	**0.14**	**230**	↑*i* P	P	09 21 04.5	-1.7
PNIG				*i* S	S	09 21 10.1	-1.3
VHO	**Vista Hermosa**	**1.36**	**64**	*i* P	P	09 21 20.4	-1.6
VHO				*i* S	S	09 21 34.2	-4.9
OXX	**Oaxaca**	**1.37**	**64**	*i* P	P	09 21 21.0	-1.2
OXX				*i* S	S	09 21 35.0	-4.4
ACX	**Acapulco**	**1.86**	**282**	*i* P	P	09 21 28.0	-1.0
ACX				*i* S	S	09 21 47.0	-4.4
CMIG	**Matias Romero**	**3.06**	**78**	*e*P	P	09 21 56.8	+11
CMIG				*i* S	S	09 22 28.3	+6.5

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*IGQ **28** 09:26:10.8, 0.92S×81.59W, h5km±31km, mb5.5, Error ellipse: s-maj=23.0km s-min=7.5km az=174.6*
*IDC **28** 09:26:16.3±0.6, 1.00S×81.15W, mb4.5/18, mb1 4.6/20, mb1mx4.6/25, mbtmp4.5/20, ML4.2/2, MS5.5/15, Ms1 5.5/15, ms1mx5.2/21, Error ellipse: s-maj=22.9km s-min=13.9km az=68.0, Putative timing error at LPAZ*
*BJI **28** 09:26:18.8, 1.20S×81.50W, h10km, mB6.0, Ms6.1, Msz5.8*
*NEIC **28** 09:26:18.8±0.2, 1.18S×81.50W, h10km, mb5.2/83, MS5.6/131, MW6.1, MD5.5(IGQ), Error ellipse: s-maj=7.4km s-min=4.6km az=223.0, Moment Tensor Solution. s29 Moment tensor: Scale 10^18^Nm; Mrr0.41; Mθθ0.02; Mφφ-0.42; Mrθ-0.11; Mθφ-0.07; Mφr-1.59; Best double couple: M0 1.6×10^18^ NP1:φs14°, δ7°, λ100°. NP2: φs184°, δ83°, λ89°. Principal axes: T 1.64, Plg52°, Azm93°; N .02, Plg1°, Azm184°; P -1.66, Plg38°, Azm275°;*
NEIC Felt at Manta.
*HRVD **28** 09:26:18.8±0.1, 1.22S×81.39W, h12km, MW6.0/70, Centroid moment Tensor Solution. LP body waves: s61,c129; Mantle waves: s70,c246; Half duration: 2s4 Moment tensor: Scale 10^18^Nm; Mrr0.79±.01; Mθθ-0.03±.01; Mφφ-0.75±.01; Mrθ-0.01±.02; Mφθ-0.09±.01; Mφr-0.93±.02; Best double couple: M0 1.209×10^18^ NP1: φs11°, δ20°, λ98°. NP2: φs182°, δ70°, λ87°. Principal axes: T 1.223, Plg65°, Azm87°; N -.027, Plg3°, Azm183°; P -1.195, Plg25°, Azm275°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISC 28 09:26:16.9±0.2, 1.17S±0.04×81.36W±0.03, h10km, (h14km±.9km:pP-P), n330, σ1°27/228, mb5.1/97, MS5.6/142, 14C-6D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.82**	**82**	↓P	**Pb**	**09 26 29.6**	**-3.2**
MAGD	**Magdalena**	**1.93**	**55**	P	**Pn**	**09 26 48.3**	**-1.8**
MAGD				S	**Sn**	**09 27 19.4**	**+4.8**
IGUA	**Igualata**	**2.74**	**97**	↑P	**Pn**	**09 27 00.6**	**-1.1**
CUSU	**Cusua**	**2.89**	**95**	↓P	**Pn**	**09 27 04.0**	**+0.1**
JUIV	**Juive**	**2.91**	**95**	P	**Pn**	**09 27 03.6**	**-0.5**
MARY	**Rancho Maria**	**2.91**	**81**	P	**Pn**	**09 27 03.3**	**-0.8**
ARRY	**Arrayan**	**2.92**	**97**	↑P	**Pn**	**09 27 03.3**	**-1.0**
RETU	**Refugio**	**2.93**	**95**	↓P	**Pn**	**09 27 04.8**	**+0.4**
TERV	**Terraza Guagua**	**2.93**	**70**	↑P	**Pn**	**09 27 01.6**	**-2.8**
PINO	**Pino**	**2.93**	**70**	↑P	**Pn**	**09 27 01.3**	**-3.1**
NAS1	**Nasa**	**2.93**	**80**	↑P	**Pn**	**09 27 03.2**	**-1.2**
PATA	**Patacocha**	**2.94**	**96**	P	**Pn**	**09 27 04.7**	**+0.1**
PATA				S	**Sn**	**09 27 45.1**	**+4.7**
RUN2	**Runtun**	**2.96**	**95**	↓P	**Pn**	**09 27 04.0**	**-0.8**
PISA	**Pisayambo**	**2.98**	**88**	↑P	**Pn**	**09 27 04.4**	**-0.7**
YANA	**Yana**	**2.98**	**69**	↑P	**Pn**	**09 27 01.8**	**-3.3**
VC1	**Cotopaxi 1**	**3.00**	**80**	P	**Pn**	**09 27 05.3**	**-0.1**
TAMB	**Tambo**	**3.03**	**81**	↑P	**Pn**	**09 27 04.6**	**-1.2**
OTAV	**Otavalo**	**3.23**	**64**	*e*Pn	**Pn**	**09 27 04.8**	**-3.8**
ANTI	**Antisana**	**3.28**	**77**	↑P	**Pn**	**09 27 08.3**	**-1.1**
COTA	**Cotacachi**	**3.37**	**64**	↑P	**Pn**	**09 27 07.6**	**-3.1**
CAYR	**Refugio Cayamb**	**3.55**	**71**	↑P	**Pn**	**09 27 12.9**	**-0.4**
CAYA	**Cayambe**	**3.59**	**70**	↑P	**Pn**	**09 27 12.5**	**-1.3**
CONE	**Cono NE Rev Vo**	**3.87**	**74**	↓P	**Pn**	**09 27 19.1**	**+1.3**
PAYG	**Puerto Ayora**	**8.94**	**273**	*e*Pn	**P**	**09 28 29.1**	**+0.1**
	2μm,1.7s						
ROSC	**El Rosal**	**9.23**	**49**	Pn	**P**	**09 28 27.6**	**-5.5**
	baz=259,slow=24,SNR=1.5						
BUS	**Buena Vista**	**10.92**	**347**	*e*P	**P**	**09 29 00.1**	**+3.7**
LCR2	**La Lucha 2**	**11.16**	**346**	*e*P	**P**	**09 29 00.1**	**+0.4**
ICR	**Volcan Irazu**	**11.35**	**348**	*e*P	**P**	**09 29 08.8**	**+6.5**
SJS	**Escuela Geolog**	**11.36**	**346**	*e*P	**P**	**09 29 03.6**	**+1.2**
JCR	**Jicaral**	**11.57**	**341**	*e*P	**P**	**09 29 12.8**	**+7.5**
NNA	**Nana**	**11.64**	**158**	*e*Pn	**P**	**09 29 03.9**	**-2.3**
	137nm,1.1s						
NNA				*e*Sn	**S**	**09 31 12.8**	**-4.5**
TRTC	**Tortuguero**	**11.90**	**349**	*e*P	**P**	**09 29 10.5**	**+0.7**
JTS	**JuntasAbangare**	**11.94**	**343**	Pn	**P**	**09 29 09.4**	**-0.8**
	194nm,1.6s						
SDV	**Santo Domingo**	**14.63**	**47**	Pn	**P**	**09 29 42.6**	**-3.5**
	0.5nm,0.3s,baz=239,slow=12,SNR=7.5						
SDV	**Santo Domingo**	**14.63**	**47**	*e*Pn	**P**	**09 29 43.4**	**-2.7**
	166nm,1.3s						
SAML	**Samuel**	**19.67**	**114**	*e*P	**P**	**09 30 43.5**	**-5.6**
	2.3nm,1.3s						
LPAZ	**La Paz**	**19.89**	**140**	P	Px	09 30 04.7	
	0.5nm,0.3s,baz=330,slow=16,SNR=10						
LPAZ				LR	LR	09 39 07.4	
	comp=Z,46μm,19.7s,baz=302,slow=39						
CCIG	**Comitan**	**20.35**	**329**	*i* P	**P**	**09 30 51.8**	**-4.5**
HUIG	**Huatulco**	**22.26**	**320**	*e*P	**P**	**09 31 11.7**	**-4.1**
TEIG	**Tepich**	**22.32**	**343**	*e*P	**P**	**09 31 17.0**	**+0.7**
	36nm,0.9s,mb4.8						
TEIG				LR	LR		
	comp=Z,7μm,19.0s,MS5.1						
CMIG	**Matias Romero**	**22.52**	**324**	*i* P	**P**	**09 31 17.3**	**-1.1**
TPP	**Pointe-a-Pierr**	**22.86**	**60**	*e*P	**P**	**09 31 17.2**	**-4.7**
TRN	**Trinidad (W)**	**23.07**	**59**	*e*P	**P**	**09 31 24.5**	**+0.7**
OXX	**Oaxaca**	**23.63**	**321**	*e*P	**P**	**09 31 35.0**	**+5.7**
SJG	**San Juan**	**24.32**	**37**	P	**P**	**09 31 33.9**	**-2.1**
SJG	**San Juan**	**24.32**	**37**	P	**P**	**09 31 34.1**	**-1.8**
	comp=Z,75nm,1.0s,mb5.1,baz=273,slow=22,SNR=9.4						
SJG	**San Juan**	**24.32**	**37**	*e*P	**P**	**09 31 34.4**	**-1.6**
	comp=Z,198nm,1.4s,mb5.3						
SJG				LR	LR		
	comp=Z,11μm,19.0s,MS5.4						
LVC	**Limon Verde**	**24.51**	**151**	P	**P**	**09 31 39.4**	**+1.6**
	comp=Z,13nm,1.1s,mb4.4,baz=298,slow=7.9,SNR=5.6						
LVC	**Limon Verde**	**24.51**	**151**	*e*P	**P**	**09 31 36.4**	**-1.4**
	comp=Z,144nm,1.6s,mb5.2						
LVC				LR	LR		
	comp=Z,19μm,20.0s,MS5.6						
MDN	**Morne-Daniel**	**25.66**	**50**	*e*P	**P**	**09 31 48.9**	**+0.1**
DWS	**Wesley**	**25.87**	**49**	*e*	**P**	**09 31 46.1**	**-4.7**
PPM	**Popocatepetl**	**26.31**	**321**	*e*P	**P**	**09 31 59.0**	**+4.2**
PLIG	**Platanillo**	**26.39**	**318**	*e*P	**P**	**09 31 56.4**	**+0.8**
DWPF	**Disney**	**29.11**	**360**	PFAKE		09 32 30.0	+10
DWPF				LR	LR		
	comp=Z,14μm,21.0s,MS5.5						
MDZ	**Mendoza**	**33.67**	**161**	*e*P	**P**	**09 33 04.5**	**+4.3**
HKT	**Hockley**	**33.89**	**337**	P	**P**	**09 33 01.6**	**-0.6**
	comp=Z,64nm,1.6s,mb5.3						
HKT				LR	LR		
	comp=Z,7μm,21.0s,MS5.3						
NHSC	**New Hope**	**34.11**	**2**	PFAKE		09 33 20.0	+16
NHSC				LR	LR		
	comp=Z,12μm,20.0s,MS5.6						
LRAL	**Lakeview Retre**	**34.44**	**352**	*e*P	**P**	**09 33 06.2**	**-0.6**
	comp=Z,21nm,0.9s,mb5.1						
LRAL				LR	LR		
	comp=Z,6μm,20.0s,MS5.4						
GOGA	**Godfrey**	**34.45**	**357**	*e*P	**P**	**09 33 08.0**	**+1.0**
	comp=Z,47nm,1.1s,mb5.3						
GOGA				LR	LR		
	comp=Z,16μm,21.0s,MS5.7						
NATX	**Nacogdoches**	**35.10**	**340**	*e*P	**P**	**09 33 12.8**	**+0.3**
	comp=Z,45nm,1.1s,mb5.3						
NATX				LR	LR		
	comp=Z,5μm,20.0s,MS5.3						
JSC	**Jenkinsville**	**35.27**	**0**	*e*P	**P**	**09 33 15.3**	**+1.4**
BAO	**Brasilia Array**	**35.91**	**115**	*e*P	**P**	**09 33 17.1**	**-2.5**
BAO				*e*	pP	09 33 21.0	-1.5
JCT	**Junction City**	**36.05**	**332**	*e*P	**P**	**09 33 19.8**	**-0.8**
	comp=Z,59nm,1.1s,mb5.4						
JCT				LR	LR		
	comp=Z,5μm,20.0s,MS5.3						
MYNC	**Murphy**	**36.15**	**356**	*e*P	**P**	**09 33 23.3**	**+1.9**
	comp=Z,30nm,1.1s,mb5.1						
MYNC				LR	LR		
	comp=Z,17μm,22.0s,MS5.8						
OXF	**Oxford**	**36.29**	**349**	*e*P	**P**	**09 33 23.1**	**+0.5**
	comp=Z,51nm,1.1s,mb5.4						
OXF				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
CPCT	**Cooper Cave**	**36.55**	**356**	*e*P	**P**	**09 33 24.5**	**-0.2**
BBSR	**BB Station**	**36.90**	**24**	PFAKE		09 33 40.0	+12
BBSR				LR	LR		
	comp=Z,5μm,22.0s,MS5.3						
LTX	**Lajitas**	**37.08**	**327**	*e*P	**P**	**09 33 30.0**	**+0.7**
	comp=Z,8.2nm,0.8s,mb4.6						
LTX				LR	LR		
	comp=Z,5μm,20.0s,MS5.3						
TXAR	**Lajitas Array**	**37.08**	**327**	P	**P**	**09 33 28.4**	**-0.9**
	comp=Z,1.5nm,0.6s,mb4.0,baz=151,slow=7.6,SNR=17						
TXAR				PcP	PcP	09 35 50.5	+0.2
	comp=Z,1.8nm,0.8s,baz=158,slow=6.7,SNR=3.5						
TXAR				LR	LR	09 47 37.5	
	comp=Z,5μm,19.4s,MS5.3,baz=115,slow=35						
UALR	**University of**	**37.21**	**345**	*e*P	**P**	**09 33 30.0**	**-0.3**
MIAR	**Mount Ida**	**37.33**	**343**	*e*P	**P**	**09 33 32.0**	**+0.7**
	comp=Z,30nm,1.5s,mb4.9						
MIAR				LR	LR		
	comp=Z,4μm,22.0s,MS5.2						
WVT	**Waverly**	**37.60**	**351**	*e*P	**P**	**09 33 32.9**	**-0.7**
	comp=Z,6.1nm,0.8s,mb4.4						
WVT				LR	LR		
	comp=Z,6μm,19.0s,MS5.4						
BLA	**Blacksburg**	**38.20**	**1**	PFAKE		09 33 50.0	+11
BLA				LR	LR		
	comp=Z,10μm,21.0s,MS5.6						
ELN	**Prospectdale**	**38.21**	**1**	*e*P	**P**	**09 33 39.9**	**+1.2**
PWV	**Princeton**	**38.31**	**0**	*e*P	**P**	**09 33 39.6**	**+0.1**
WMOK	**Wichita Mounta**	**39.28**	**337**	*e*P	**P**	**09 33 47.5**	**-0.2**
	comp=Z,35nm,1.1s,mb5.0						
WMOK				LR	LR		
	comp=Z,3μm,21.0s,MS5.1						
USIN	**University of**	**39.38**	**352**	P	**P**	**09 33 48.1**	**-0.4**
WCI	**Wyandotte Cave**	**39.47**	**354**	*e*P	**P**	**09 33 49.5**	**+0.3**
	comp=Z,16nm,1.0s,mb4.7						
WCI				LR	LR		
	comp=Z,6μm,20.0s,MS5.5						
GDL2	**Guadalupe Moun**	**39.70**	**329**	*e*P	**P**	**09 33 51.6**	**+0.5**
MNTX	**Cornudas Mount**	**39.84**	**327**	*e*P	**P**	**09 33 51.4**	**-0.9**
	comp=Z,84nm,1.5s,mb5.2						
MNTX				LR	LR		
	comp=Z,8μm,19.0s,MS5.6						
FVM	**French Village**	**39.85**	**349**	*e*P	**P**	**09 33 51.7**	**-0.7**
	comp=Z,26nm,1.0s,mb4.9						
LPA	**La Plata**	**40.05**	**149**	*e*P	**P**	**09 33 52.0**	**-2.0**
LPA				*e*PP	PP	09 35 19.0	-11
LPA				*e*PP	PP	09 35 34.0	+4.0
LPA				*e*S	**S**	**09 39 58.0**	**-1.6**
LPA				*e*pS		09 40 00.0	
LPA				PKIKP	SS	09 43 05.0	+15
CCM	**Cathedral Cave**	**40.09**	**348**	*e*P	**P**	**09 33 53.4**	**-0.9**
	comp=Z,26nm,1.0s,mb4.9						
CCM				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
CPRX	**Cap Rock**	**40.10**	**

BAR Barrett 47.38 319 *eP* **P 09 34 53.2 -0.2**
PHWY Pilot Hill 47.60 335 *eP* **P 09 34 54.2 -0.8**
PFO Pinyon Flat Ob 47.82 320 *eP* **P 09 34 56.2 -0.6**
comp=Z,24nm,1.1s,mb5.1
PFO LR LR
comp=Z,1µm,22.0s,MS4.9
LDFC Landfair 47.92 322 *eP* **P 09 34 59.3 +1.8**
NEN Nelson 48.14 323 *eP* **P 09 34 59.0 -0.2**
SRU San Rafael 48.20 329 *eP* **P 09 34 59.9 +0.2**
MSU Marysvale 48.62 328 *eP* **P 09 35 02.5 -0.4**
MVU Marysvale 48.63 328 *eP* **P 09 35 02.8 -0.3**
comp=Z,14nm,1.1s,mb4.9
MVU LR LR
comp=Z,9µm,19.0s,MS5.8
PQI Presque Isle 49.07 12 PFAKE 09 35 20.0 +14
PQI LR LR
comp=Z,30µm,21.0s,MS6.3
MWC Mount Wilson 49.24 319 *eP* **P 09 35 09.4 +1.6**
MPU Maple Canyon 49.45 329 *eP* **P 09 35 09.7 +0.4**
DAU Daniels Canyon 49.56 330 *eP* **P 09 35 09.9 -0.2**
JLU Jordanelle 49.80 330 *eP* **P 09 35 12.7 +0.8**
TCUT Toone Canyon 50.17 330 *eP* **P 09 35 15.2 +0.4**
NCQ North Oquirrh 50.17 330 *eP* **P 09 35 15.2 +0.4**
DAC Darwin (Calif) 50.23 322 PFAKE 09 35 30.0 +15
DAC LR LR
comp=Z,5µm,20.0s,MS5.5
BW06 Boulder Array 50.57 333 *eP* **P 09 35 17.4 -0.4**
comp=Z,11nm,1.2s,mb4.7
BW06 LR LR
comp=Z,7µm,19.0s,MS5.7
PDAR Pinedale Array 50.57 333 P **P 09 35 15.1 -2.7**
comp=Z,2.0nm,1.0s,mb4.0,baz=135,slow=4.2,SNR=7.3
PDAR LR 09 57 15.5
comp=Z,7µm,18.7s,MS5.7,baz=264,slow=37
HWUT Hardware Ranch 50.61 331 *eP* **P 09 35 16.8 -1.4**
comp=Z,20nm,0.9s,mb5.0
HWUT LR LR
comp=Z,7µm,22.0s,MS5.6
SPUT South Promonto 50.83 330 *eP* **P 09 35 18.9 -0.9**
BGU Big Grassy Mou 50.84 329 *eP* **P 09 35 20.1 +0.3**
TPH Tonopah 51.17 324 *eP* **P 09 35 22.0 -0.4**
comp=Z,17nm,1.1s,mb4.9
TPH LR LR
comp=Z,4µm,19.0s,MS5.5
AHID Auburn Hatcher 51.28 332 *eP* **P 09 35 22.1 -1.0**
comp=Z,11nm,0.9s,mb4.8
AHID LR LR
comp=Z,6µm,20.0s,MS5.7
SNOW Snow King Moun 51.66 333 *eP* **P 09 35 26.1 0.0**
LOHW Long Hollow 51.71 333 *eP* **P 09 35 25.5 -0.9**
WUWY Wally Ulrich 51.71 333 *eP* **P 09 35 25.4 -1.1**
TPAW Teton Pass 51.77 333 *eP* **P 09 35 25.6 -1.3**
MOOW Moose Ponds 51.88 333 *eP* **P 09 35 27.1 -0.6**
OMM Old Mammoth Mi 51.95 322 *eP* **P 09 35 28.0 -0.4**
MNV Mina 51.96 323 *eP* **P 09 35 28.2 -0.2**
comp=Z,116nm,1.9s,mb5.5
MNV LR LR
comp=Z,4µm,19.0s,MS5.5
NVAR Mina Array Bea 52.05 323 P **P 09 35 28.7 -0.4**
comp=Z,3.1nm,0.7s,mb4.3,baz=124,slow=8.4,SNR=13
NVAR LR LR 09 56 10.2
comp=Z,4µm,21.2s,MS5.4,baz=145,slow=34
IMW Indian Meadow 52.08 333 *eP* **P 09 35 27.8 -1.5**
LKWY Lake 52.37 334 *eP* **P 09 35 30.2 -1.2**
comp=Z,31nm,1.4s,mb5.0
LKWY LR LR
comp=Z,12µm,19.0s,MS6.0
LAO LASA Array 52.43 339 *eP* **P 09 35 32.3 +0.4**
comp=Z,12nm,1.1s,mb4.7
LAO LR LR
comp=Z,5µm,22.0s,MS5.5
YFT Old Faithful 52.47 334 *eP* **P 09 35 32.4 +0.2**
PTCN Pitcairn Islan 52.66 239 PFAKE 09 35 40.0 +6.1
PTCN LR LR
comp=Z,8µm,22.0s,MS5.7
YMR Madison River 52.70 334 *eP* **P 09 35 34.8 +0.9**
BMN Battle Mountai 52.74 326 *eP* **P 09 35 34.8 +0.6**
comp=Z,44nm,1.3s,mb5.2
BMN LR LR
comp=Z,9µm,20.0s,MS5.8
SAO San Andreas Ge 52.98 320 PFAKE 09 35 50.0 +14
SAO LR LR
comp=Z,5µm,21.0s,MS5.6
QLMT Earthquake Lak 53.03 333 *eP* **P 09 35 35.9 -0.4**
CMB Columbia Colle 53.07 322 PFAKE 09 35 50.0 +13
CMB LR LR
comp=Z,4µm,22.0s,MS5.4
DGMT Dagmar 53.27 341 PFAKE 09 35 50.0 +12
DGMT LR LR
comp=Z,3µm,21.0s,MS5.3
HLID Hailey 53.47 330 *eP* **P 09 35 39.0 -0.6**
comp=Z,11nm,0.9s,mb4.8
HLID LR LR
comp=Z,9µm,21.0s,MS5.8
MCMT McKenzie Canyo 53.67 333 *eP* **P 09 35 41.4 +0.4**
BOZ Bozeman (W) 53.75 334 *eP* **P 09 35 40.0 -1.6**
comp=Z,32nm,1.2s,mb5.1
BOZ LR LR
comp=Z,4µm,19.0s,MS5.5
USHA Ushuaia 54.52 171 P **P 09 35 47.5 +0.3**
comp=Z,9.4nm,1.0s,mb4.8,baz=326,slow=3.6,SNR=2.4
WVOR Wild Horse Val 54.88 327 *eP* **P 09 35 50.0 0.0**
comp=Z,23nm,1.0s,mb5.2
WVOR LR LR
comp=Z,11µm,19.0s,MS5.9
HOPS Hopland 55.33 321 PFAKE 09 36 00.0 +6.7
HOPS LR LR
comp=Z,4µm,20.0s,MS5.5
CHMT Chamberlain Mo 55.45 334 *eP* **P 09 35 53.4 -0.7**
MOD Modoc 55.46 325 *eP* **P 09 35 53.4 -0.8**
comp=Z,39nm,1.7s,mb5.2
MOD LR LR
comp=Z,6µm,21.0s,MS5.7
MSO Missoula 55.69 333 *eP* **P 09 35 55.6 -0.2**
comp=Z,6.7nm,1.1s,mb4.6
MSO LR LR
comp=Z,4µm,22.0s,MS5.5
BMO Blue Mountains 55.84 330 *eP* **P 09 35 56.1 -0.8**
comp=Z,12nm,1.1s,mb4.8
BMO LR LR
comp=Z,5µm,19.0s,MS5.6
WDC Whiskeytown Da 55.95 323 PFAKE 09 36 10.0 +12
WDC LR LR
comp=Z,4µm,22.0s,MS5.4
YBH Yreka Blue Hor 56.75 324 P **P 09 36 02.5 -0.9**
comp=Z,2.6nm,0.8s,mb4.3,baz=158,slow=5.1,SNR=4.7
YBH Yreka Blue Hor 56.75 324 P **P 09 36 02.5 -0.9**
YBH LR LR
comp=Z,3µm,21.0s,MS5.4
SCHQ Schefferville 57.08 10 P **P 09 36 05.5 -0.1**
comp=Z,6.9nm,1.0s,mb4.7,baz=212,slow=6.3,SNR=4.2
SCHQ LR LR 09 59 43.9
comp=Z,4µm,21.2s,MS5.5,baz=201,slow=35
SCHQ Schefferville 57.08 10 P **P 09 36 04.8 -0.8**
comp=Z,21nm,1.2s,mb5.0
SCHQ LR LR
comp=Z,9µm,22.0s,MS5.8
WALA Waterton Lakes 57.38 335 *eP* **P 09 36 07.5 -0.3**
comp=Z,13nm,1.0s,mb4.9
HUMO Hull Mountain 57.43 324 PFAKE 09 36 20.0 +12
HUMO LR LR
comp=Z,4µm,20.0s,MS5.5
NEW Newport 58.20 333 *eP* **P 09 36 13.3 -0.3**
comp=Z,11nm,1.1s,mb4.8
NEW LR LR
comp=Z,5µm,21.0s,MS5.6
COR Corvallis 58.86 326 PFAKE 09 36 30.0 +12
COR LR LR
comp=Z,3µm,19.0s,MS5.4
TAOE Nuku Hiva Isla 59.00 260 *e*S **S 09 44 23.2 -1.1**
TAOE *e*LQ 09 51 14.9
TAOE *e*LR LR 09 53 35.7
baz=74
EDM Edmonton 60.42 339 *eP* **P 09 36 27.3 -1.5**
FCC Fort Churchill 60.60 352 *eP* **P 09 36 27.7 -2.3**
comp=Z,24nm,1.3s,mb5.2
OCWA Octopus Mounta 61.32 328 PFAKE 09 36 50.0 +15
OCWA LR LR
comp=Z,10µm,19.0s,MS6.0
PGC Sidney 61.52 330 *eP* **P 09 36 35.4 -1.0**
PMSA Palmer Station 64.70 172 PFAKE 09 37 10.0 +13
PMSA LR LR
comp=Z,4µm,20.0s,MS5.6
FRB Frobisher Bay 65.46 6 P **P 09 37 00.5 -1.6**
comp=Z,6.8nm,1.0s,mb4.7,baz=196,slow=8.5,SNR=4.7
FRB LR LR 10 04 08.3
comp=Z,2µm,18.6s,MS5.4,baz=316,slow=35
BBB Bella Bella 66.06 331 LR LR 10 05 52.5
comp=Z,2µm,19.0s,MS5.4,baz=356,slow=36
YKA Yellowknife Ar 68.27 344 P **P 09 37 18.0 -1.8**
comp=Z,2.2nm,0.9s,mb4.2,baz=137,slow=6.1,SNR=18
YKA PP PP 09 39 47.9 -4.7
comp=Z,1.3nm,1.0s,baz=137,slow=7.9,SNR=3.8
YKA LR LR 10 08 56.2
comp=Z,3µm,20.4s,MS5.5,baz=140,slow=38
YKA Yellowknife Ar 68.27 344 P **P 09 37 18.1 -1.8**
YKA PP PP 09 39 47.9 -4.7
YKA LR LR 10 08 56.2
YKW3 Yellowknife Ar 68.33 344 *eP* **P 09 37 20.4 +0.1**
PPT Papeete 68.90 252 *eP* **P 09 37 15.0 -10**
PPT *e*S S 09 46 26.1 -1.2
PPT *e*LQ 09 55 42.8
PPT *e*LR LR 09 58 15.2
comp=Z,14µm,26.8s,baz=78
TBI Tubuai 69.47 246 *eP* **P 09 37 20.5 -7.5**
TBI *e*S S 09 46 36.7 +2.8
TBI *e*LQ 09 56 17.6
TBI *e*LR LR 09 58 39.7
comp=Z,9µm,28.8s,baz=80
SIT Sitka 72.28 332 PFAKE 09 38 00.0 +16
SIT LR LR
comp=Z,5µm,21.0s,MS5.8
TRIS Tristan da Cun 72.65 129 PFAKE 09 38 00.0 +13
TRIS LR LR
comp=Z,6µm,20.0s,MS5.9
POHA Pohakuloa 75.52 291 PFAKE 09 38 20.0 +16
POHA LR LR
comp=Z,26µm,19.0s,MS6.6
RES Resolute Bay 76.19 356 *eP* **P 09 38 05.8 -0.9**
comp=Z,13nm,0.4s,mb5.2
DBIC Dimbokro 76.74 83 P **P 09 38 07.8 -3.0**
comp=Z,9.7nm,1.0s,mb4.7,baz=248,slow=7.2,SNR=3.5
DBIC Dimbokro 76.74 83 *eP* **P 09 38 09.8 -1.1**
comp=Z,154nm,1.7s,mb5.7
DBIC LR LR
comp=Z,8µm,20.0s,MS6.0
DAWY Dawson 77.61 338 *eP* **P 09 38 15.3 +0.6**
EVO Evora 77.75 50 *eP* **P 09 38 17.7 +1.7**
comp=Z,179nm,1.7s,mb5.4
EVO *e*R
comp=Z,3µm,20.2s
INK Inuvik 77.93 343 P **P 09 38 13.7 -2.7**
comp=Z,2.9nm,1.0s,mb4.2,baz=132,slow=6.7,SNR=6.1
INK Inuvik 77.93 343 *eP* **P 09 38 15.9 -0.5**
comp=Z,31nm,1.4s,mb5.0
KIP Kipapa 78.02 292 PFAKE 09 38 30.0 +12
KIP LR LR
comp=Z,7µm,19.0s,MS6.0
MTE Manteigas 78.48 48 *eP* **P 09 38 19.2 -0.7**
BORG Borgarnes 78.70 22 PFAKE 09 38 30.0 +9.3
BORG LR LR
comp=Z,1µm,22.0s,MS5.2
RAR Rarotonga 78.78 249 PFAKE 09 38 30.0 +8.0
RAR LR LR
comp=Z,4µm,20.0s,MS5.7
DIV Divide 78.94 334 PFAKE 09 38 30.0 +7.9
DIV LR LR
comp=Z,11µm,21.0s,MS6.2
THY Trims Highway 79.85 336 P **P 09 38 26.7 -0.2**
ILAR Eielson Array 80.84 337 P **P 09 38 30.6 -1.6**
comp=Z,2.6nm,1.0s,mb4.1,baz=120,slow=5.2,SNR=5.6
ILAR PP PP 09 41 45.2 +6.5
comp=Z,1.6nm,1.0s,baz=106,slow=6.4,SNR=5.2
ILAR LR LR 10 16 10.3
comp=Z,3µm,18.2s,MS5.7,baz=132,slow=37
FIB Fire Island 80.94 333 PFAKE 09 38 40.0 +7.2
FIB LR LR
comp=Z,3µm,22.0s,MS5.5
ESDC Sonseca Array 81.06 50 P **P 09 38 32.2 -1.7**
comp=Z,7.6nm,1.1s,mb4.6,baz=267,slow=30,SNR=5.0
ESLA Sonseca Array 81.06 50 *eP* **P 09 38 32.0 -1.8**
comp=Z,3.9nm,1.0s,mb4.3
ESLA LR LR
comp=Z,12µm,21.0s,MS6.2
KDAK Kodiak Island 81.07 329 PFAKE 09 38 50.0 +16
KDAK LR LR
comp=Z,904nm,20.0s,MS5.1
COLA College 81.26 337 P **P 09 38 33.5 -0.8**
comp=Z,54nm,2.0s,mb5.1
COLA LR LR
comp=Z,3µm,20.0s,MS5.6
MCK McKinley 81.28 335 *eP* **P 09 38 35.0 +0.4**
comp=Z,6.6nm,1.1s,mb4.5
MCK LR LR
comp=Z,2µm,21.0s,MS5.5
DCN Croghan 81.48 36 *eP* **P 09 38 38.0 +2.2**
DLF Lyons Farm 81.90 36 *eP* **P 09 38 38.0 0.0**
RSO Redoubt South 81.93 332 *eP* **P 09 38 37.7 -0.2**
ROSF Rostrenen 82.96 41 *eP* **P 09 38 45.6 +2.1**
comp=Z,150nm,1.4s,mb5.5
QUIF Quistinic 82.96 42 *eP* **P 09 38 45.6 +2.0**
comp=Z,120nm,1.4s,mb5.4
SGMF Saint Gilles 83.42 41 *eP* **P 09 38 47.6 +1.7**
comp=Z,112nm,1.4s,mb5.4
SJPF Ste Jean 83.59 47 *eP* **P 09 38 49.5 +2.6**
comp=Z,245nm,1.7s,mb5.8
ETSF Etsaut 84.05 47 *eP* **P 09 38 51.9 +2.6**
comp=Z,85nm,1.5s,mb5.4
ESK Eskdalemuir 84.22 34 PFAKE 09 39 00.0 +10
ESK LR LR
comp=Z,593nm,20.0s,MS5.0
GRR Gorron 84.56 41 *eP* **P 09 38 53.6 +1.9**
EBR Ebro Roquetas 84.59 49 *e*Ts 09 38 59.5
EPF Esparros 84.72 47 *eP* **P 09 38 55.0 +2.4**
comp=Z,184nm,1.6s,mb5.7
MFF Saint Martin d 84.80 43 *eP* **P 09 38 54.9 +2.0**
comp=Z,46nm,1.1s,mb5.2
FLN La Foliniere 84.86 41 *eP* **P 09 38 55.2 +2.1**
comp=Z,86nm,1.2s,mb5.5
FLN *e*R
comp=Z,2µm,21.5s
LDF La Druitiere 85.07 41 *eP* **P 09 38 56.3 +2.1**
comp=Z,106nm,1.3s,mb5.5
DAG Danmarks Havn 85.08 12⇑ *iP* **P 09 38 53.7 0.0**
comp=Z,8.0nm,1.0s,mb4.8
LFF La Frestale 85.22 45 *eP* **P 09 38 57.2 +2.1**
comp=Z,53nm,1.0s,mb5.3
JMIC Jan Mayen 85.56 18 LR LR 10 16 48.9
comp=Z,1µm,19.4s,MS5.4,baz=255,slow=36
RJF Les Rejaudoux 85.81 45 *eP* **P 09 38 59.9 +1.9**
comp=Z,135nm,1.5s,mb5.7
RJF *e*R
comp=Z,3µm,21.0s
MTLF Montolieu 86.12 47 *eP* **P 09 39 01.5 +1.9**
comp=Z,42nm,1.1s,mb5.3
CAF Calviac 86.16 45 *eP* **P 09 39 01.8 +2.1**
comp=Z,150nm,1.7s,mb5.6
TCF Toulx Ste Croi 86.39 44 *eP* **P 09 39 02.6 +1.8**
comp=Z,130nm,1.8s,mb5.6
HYF Humbligny 86.77 43 *eP* **P 09 39 04.9 +2.2**
BGF Bois d'Agland 86.85 43 *eP* **P 09 39 05.1 +2.0**
comp=Z,122nm,1.2s,mb5.7
AVF Avril sur Loir 87.22 43 *eP* **P 09 39 06.5 +1.6**
comp=Z,72nm,1.3s,mb5.4
SSF Saint Saulge 87.34 43 *eP* **P 09 39 07.0 +1.5**
comp=Z,65nm,1.3s,mb5.4
LASF Ste Croix 87.36 46 *eP* **P 09 39 08.2 +2.6**
comp=Z,111nm,1.5s,mb5.6
SMF Signal de Mont 87.54 43 *eP* **P 09 39 08.3 +1.9**
comp=Z,149nm,1.7s,mb5.6
VIVF Saint-Julien-l 88.00 45 *eP* **P 09 39 11.2 +2.5**
comp=Z,75nm,1.6s,mb5.4
BAIF Baives 88.03 40 *eP* **P 09 39 10.9 +2.2**
UNV Unalaska Valle 88.06 324 PFAKE 09 39 20.0 +11
UNV LR LR
comp=Z,5µm,20.0s,MS5.9
GIVF Givet 88.43 40 *eP* **P 09 39 12.9 +2.3**
comp=Z,162nm,1.7s,mb5.7
MEZF Maizieres J'vi 88.48 42 *eP* **P 09 39 13.1 +2.2**
ORIF Oris-en-Rattie 88.86 45 *eP* **P 09 39 15.2 +2.4**
comp=Z,132nm,1.9s,mb5.6
ORIF *e*R
comp=Z,2µm,22.8s
QSPA South Pole Qui 88.89 180 *eP* **P 09 39 13.3 +1.1**
comp=Z,43nm,1.6s,mb5.5
QSPA LR LR
comp=Z,3µm,19.0s,MS5.7
CABF La Chapelle 89.08 44 *eP* **P 09 39 15.9 +2.1**
comp=Z,42nm,1.1s,mb5.4
LMR La Mourre 89.24 47 *eP* **P 09 39 15.9 +1.3**
comp=Z,197nm,1.8s,mb5.8
HAU Haudompre 89.32 42 *eP* **P 09 39 16.8 +1.9**
HAU *e*R
comp=Z,3µm,20.5s
FRF La Foret Royal 89.35 47 *eP* **P 09 39 16.0 +0.9**
comp=Z,86nm,1.2s,mb5.7
MBDF Montbardon 89.48 45 *eP* **P 09 39 18.2 +2.5**
comp=Z,45nm,1.3s,mb5.3
LPL La Plagne 89.49 45 *eP* **P 09 39 18.7 +3.0**
LPG La Plagne 89.50 45 *eP* **P 09 39 19.2 +3.4**
TNA Tin City 89.63 335 *eP* **P 09 39 16.7 +0.7**
TNA LR LR
comp=Z,2µm,20.0s,MS5.5
HINF Hinteralfeld 89.66 42 *eP* **P 09 39 18.2 +1.7**
SBF Sospel 89.93 46 *eP* **P 09 39 19.0 +1.1**
comp=Z,140nm,1.4s,mb5.8
CDF Champ du Feu 89.96 42 *eP* **P 09 39 19.9 +2.0**
AFI Afiamalu 90.13 256 PFAKE 09 39 30.0 +11
AFI LR LR
comp=Z,2µm,19.0s,MS5.6
KONO Kongsberg 91.49 31 PFAKE 09 39 40.0 +15
KONO LR LR
comp=Z,3µm,22.0s,MS5.7
NOA NORSAR Array B 92.27 29 LR LR 10 19 47.4
comp=Z,1µm,19.5s,MS5.3,baz=265,slow=35
MOX Moxa 92.79 40 *eP* sP 09 39 45.1 +10
MOX *e*S S 09 50 40.0 +6.7
MOX LR LR
comp=Z,2µm,22.0s,MS5.6
MOX Moxa 92.79 40 *i* P sP 09 39 45.1 +10
MOX S S 09 50 40.0 +6.7
MOX L 10 18 01.0
NKC Novy Kostel 93.34 40 AMS AMS 10 17 20.0
comp=Z,3µm,21.8s
SBA Scott Base 93.39 191 PFAKE 09 39 40.0 +7.0
SBA LR LR
comp=Z,2µm,19.0s,MS5.5
CLL Collm 93.64 39 P **P 09 39 46.0 +11**
CLL *e* pP 09 39 51.0 +13
CLL *e*SKS SKS 09 50 15.0 +2.3
CLL *e*S S 09 50 50.0 +9.4
CLL LR LR
comp=Z,4µm,21.5s,MS5.8
CLL Collm 93.64 39 *e**PP pP 09 39 40.0 +2.0
CLL *e* 09 39 51.0
CLL *e*PP PP 09 43 36.0 +13
CLL *e* 09 50 15.0
CLL *e*SS SS 09 57 12.0 +9.5
KHC Kasperske Hory 94.12 41 *eP* **P 09 39 35.5 -1.5**
KHC *e* pP 09 39 39.5 -0.7
KHC Kasperske Hory 94.12 41 *eP* **P 09 39 35.5 -1.5**
KHC pP pP 09 39 39.5 -0.7
KHC AMS AMS 10 17 00.0
comp=Z,2µm,23.7s
BRG Berggiesshubel 94.26 39 *eP* **P 09 39 49.0 +11**
BRG *e*S S 09 50 15.0 -31
BRG *i* 09 50 53.0
BRG *e* 09 52 05.0
BRG *e* 09 57 21.0
BRG LR LR
comp=Z,4µm,19.3s,MS5.8
VNDA Vanda 94.48 191 P **P 09 39 39.5 +1.4**
comp=Z,0.7nm,0.8s,mb4.1,baz=123,slow=7.9,SNR=2.7
VNDA LR LR 10 13 25.3
comp=Z,2µm,20.7s,MS5.5,baz=120,slow=30
PVCC Panska Ves 94.68 40 AMS AMS 10 18 10.0
comp=Z,3µm,21.0s
PRU Pruhonice 94.69 40 AMS AMS 10 16 50.0
comp=Z,3µm,21.1s
VAE Valguarnera 95.30 53 LR LR 10 19 08.0
comp=Z,4µm,20.9s,MS5.8,baz=303,slow=33
DPC Dobruska-Polom 95.81 40 AMS AMS 10 19 00.0
comp=Z,3µm,19.6s
ARCES ARCESS Array B 96.95 20 LR LR 10 19 13.9
comp=Z,1µm,20.9s,MS5.4,baz=278,slow=33
OKC Ostrava-Krasne 97.03 40 AMS AMS 10 16 30.0
comp=Z,2µm,23.4s
VYHS Vyhne 97.64 41 *eP* **P 09 39 54.9 +1.9**
SYO Syowa Base 99.58 162 ⇓PP PP 09 44 02.0 -5.6
SUR Sutherland 99.64 123 PFAKE 09 40 20.0 +17
SUR LR LR
comp=Z,2µm,20.0s,MS5.6
SMY Shemya 99.72 323 PFAKE 09 40 10.0 +7.7
SMY LR LR
comp=Z,5µm,19.0s,MS6.0
BOSA Boshof 103.99 120 PFAKE 09 40 30.0 +7.9
BOSA LR LR
comp=Z,7µm,20.0s,MS6.2
LBTB Lobatse 104.83 116 PFAKE 09 40 40.0 +14
LBTB LR LR
comp=Z,10µm,20.0s,MS6.3
OBN Obninsk 106.60 32 PFAKE 09 45 00.0
OBN LR LR
comp=Z,603nm,20.0s,MS5.2
MAW Mawson 106.98 166 PFAKE 09 45 00.0
MAW LR LR
comp=Z,5µm,21.0s,MS6.0
TIXI Tiksi 107.03 350 PFAKE 09 45 00.0
TIXI LR LR
comp=Z,3µm,20.0s,MS5.8
LSZ Lusaka 108.51 106 PFAKE 09 45 00.0
LSZ LR LR
comp=Z,10µm,20.0s,MS6.4
PET Petropavlovsk 108.55 327 PFAKE 09 45 00.0
PET LR LR
comp=Z,1µm,20.0s,MS5.5
MA2 Magadan 109.26 335 PFAKE 09 45 00.0
MA2 LR LR
comp=Z,2µm,22.0s,MS5.7
MBAR Mbarara 112.08 91 PFAKE 09 45 10.0 +14
MBAR LR LR
comp=Z,1µm,19.0s,MS5.6
CASY Casey 112.16 185 PFAKE 09 45 10.0 +15
CASY LR LR
comp=Z,3µm,19.0s,MS5.9
KIV Kislovodsk 114.73 41 PFAKE 09 45 10.0 +9.1
KIV LR LR
comp=Z,218nm,20.0s,MS4.8
YAK Yakutsk 114.95 344 PFAKE 09 45 10.0 +9.2
YAK LR LR
comp=Z,2µm,21.0s,MS5.8
GNI Garni 117.68 44 PFAKE 09 45 20.0 +13
GNI LR LR
comp=Z,743nm,21.0s,MS5.3
TAU Tasmania Unive 118.11 219 PFAKE 09 45 20.0 +12
TAU LR LR
comp=Z,698nm,19.0s,MS5.3
KMBO Kilima Mbogo 118.57 92 PFAKE 09 45 20.0 +11
KMBO LR LR
comp=Z,7µm,21.0s,MS6.3
YSS Yuzh-Sakhalins 120.43 326 PFAKE 09 45 20.0 +8.1
YSS LR LR
comp=Z,1µm,20.0s,MS5.5
ERM Erimo 123.01 321 PFAKE 09 45 30.0 +13
ERM LR LR
comp=Z,9.0nm,20.0s
BVAR Borovoye Array 123.24 20 PKP PKPdf 09 45 16.1 -1.1
comp=Z,0.5nm,0.9s,baz=315,slow=6.1,SNR=2.5
ZAL Zalesovo 126.18 10 PKP PKPdf 09 45 20.6 -2.2
comp=Z,4.7nm,1.1s,baz=118,slow=3.5,SNR=6.1
STKA Stephens Creek 127.73 227 *e*PKPdf PKPdf 09 45 24.6 -1.9
KURK Kurchatov 127.80 16 PFAKE 09 45 40.0 +14
KURK LR LR
comp=Z,358nm,19.0s,MS5.1
HIA Hailar 128.78 342 PFAKE 09 45 40.0 +12
HIA LR LR
comp=Z,3µm,21.0s,MS6.0
CTAO Charters Tower 128.80 243 PFAKE 09 45 40.0 +11
CTAO LR LR
comp=Z,2µm,21.0s,MS5.7
MDJ Mudanjiang 128.80 332 PKP PKPdf 09 45 23.3 -4.9
MDJ XPKP 09 45 36.3
MDJ SKS SKS 09 52 33.5 -2.5
MDJ PP PP
comp=Z,507nm,12.2s
MDJ LR LR
comp=N,1µm,27.4s,MS5.7
MDJ LR LR
comp=E,2µm,25.0s,MS5.7
MDJ LR LR
comp=Z,2µm,29.0s,MS5.6
MDJ Mudanjiang 128.80 332 PFAKE 09 45 40.0 +12
MDJ LR LR
comp=Z,3µm,20.0s,MS6.0
MAJO Matsushiro 129.25 319 PFAKE 09 45 40.0 +11
MAJO LR LR
comp=Z,999nm,19.0s,MS5.5
TLY Talaya 129.50 356 PFAKE 09 45 40.0 +11

TLY LR LR
comp=Z,439nm,21.0s,MS5.1
PMG Port Moresby 130.55 257 PFAKE 09 45 40.0 +7.7
PMG LR LR
comp=Z,2μm,20.0s,MS5.9
GUMO Guam 132.63 287 PFAKE 09 45 50.0 +14
GUMO LR LR
comp=Z,2μm,20.0s,MS5.9
ULN Ulaanbaatar 132.92 352 PFAKE 09 45 50.0 +14
ULN LR LR
comp=Z,2μm,22.0s,MS5.9
SONM Songino Array 133.04 353 PKhKP 09 45 31.4
comp=Z,1.1nm,0.9s,SNR=4.3
AAK Ala-Archa 133.39 25 PFAKE 09 45 50.0 +13
AAK LR LR
comp=Z,458nm,21.0s,MS5.2
WMQ Urumqi 136.43 12 PKP PKPdf 09 45 35.5 -6.9
WMQ XPKP 09 45 50.0
WMQ PP PP
comp=Z,136nm,12.0s
WMQ LR LR
comp=N,547nm,25.1s,MS5.4
WMQ LR LR
comp=E,683nm,27.3s,MS5.4
WMQ LR LR
comp=Z,1μm,29.0s,MS5.4
ASAR Alice Springs 137.76 232 PKhKP 09 45 39.7
comp=Z,0.6nm,0.7s,baz=105,slow=2.7,SNR=6.6
BJI Beijing 138.15 340 PKP PKPdf 09 45 48.5 +2.7
BJI PP PP 09 48 46.9 +11
BJI SS SS 10 06 36.6 -7.7
BJI LR LR
comp=Z,2μm,26.1s,MS5.8
BJT Baijiatuan 138.17 340 PFAKE 09 46 00.0 +14
BJT LR LR
comp=Z,3μm,20.0s,MS6.0
WRAB Tennant Creek 139.19 237 *e*PKPdf PKPdf 09 45 46.0 -2.1
WRAB LR LR
comp=Z,1μm,20.0s,MS5.6
WRA Warramunga Arr 139.20 237 PKhKP 09 45 38.9
comp=Z,0.5nm,0.8s,baz=122,slow=2.2,SNR=5.2
WRA PKP PKPdf 09 45 45.6 -2.6
comp=Z,1.3nm,0.7s,baz=124,slow=2.3,SNR=8.0
NWAO Narrogin (SRO) 141.81 206 PFAKE 09 46 00.0 +7.4
NWAO LR LR
comp=Z,1μm,19.0s,MS5.7
NJ2 Nanjing 143.85 330 *e*PKP PKPdf 09 45 56.0 -0.1
NJ2 PP PP
comp=Z,1μm,9.0s
NJ2 LR LR
comp=N,1μm,14.8s,MS6.0
NJ2 LR LR
comp=E,1μm,11.2s,MS6.0
NJ2 LR LR
comp=Z,860nm,12.3s,MS5.7
LZH Lanzhou 144.93 353 *e*PKP PKPdf 09 45 56.0 -1.9
LZH Lanzhou 144.93 353 *e*P PKPbc 09 45 55.9 +0.9
LZH pP 09 46 07.5
LZH sP 09 46 12.5
WHN Wuhan 147.20 334 *e*PKP PKPdf 09 46 05.0 +3.1
FITZ Fitzroy Crossi 147.25 233 *e*P PKPdf 09 46 03.5 +1.2
comp=Z,20nm,0.8s
TATO Taipei 147.64 319 PFAKE 09 46 10.0 +7.3
TATO LR LR
comp=Z,2μm,21.0s,MS5.8
ENH Enshi 149.28 341 *e*PKPdf PKPdf 09 46 03.4 -1.9
ENH *e*PKPbc PKPdf 09 46 07.4 +2.2
ENH LR LR
comp=Z,3μm,20.0s,MS6.0
MBWA Marble Bar 149.70 222 PFAKE 09 46 20.0 +14
MBWA LR LR
comp=Z,2μm,21.0s,MS6.0
LSA Lhasa 150.75 13 PFAKE 09 46 20.0 +12
LSA LR LR
comp=Z,2μm,20.0s,MS5.8
DGAR Diego Garcia 152.52 108 PFAKE 09 46 20.0 +9.4
DGAR LR LR
comp=Z,925nm,21.0s,MS5.6
QIZ Qiongzhong 159.13 329 PFAKE 09 46 30.0 +11
QIZ LR LR
comp=Z,2μm,22.0s,MS5.9
PALK Pallekele 161.12 71 PFAKE 09 46 30.0 +8.7
PALK LR LR
comp=Z,821nm,22.0s
CMAR Chiang Mai Arr 162.82 359 PKPab PKPab 09 47 10.5 -0.8
comp=Z,5.4nm,1.1s,baz=322,slow=4.6,SNR=4.6
COCO West Island 166.60 172 PFAKE 09 46 40.0 +13
COCO LR LR
comp=Z,553nm,20.0s

*IDC **28** 09:31:59.9±0.6, 7.83N×94.14E, mb4.2/18, mb1 4.2/19, mb1mx4.2/23, mbtmp4.1/19, ML3.9/1, Error ellipse: s-maj=27.0km s-min=13.7km az=48.0*
*BJI **28** 09:32:04.3, 7.80N×94.20E, h30km, mb4.5*
*NEIC **28** 09:32:04.3±0.4, 7.84N×94.19E, h30km, mb4.3/3, Error ellipse: s-maj=19.2km s-min=9.4km az=54.0*
ISC 28 09:32:00.7±5.3, 7.8N±0.1×94.1E±0.1, h19km±37km, n29, σ1§05/26, mb4.2/22, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.62**	**23**	Pn	**P**	**09 34 49.4**	**+0.7**
	0.3nm,0.3s,baz=208,slow=15,SNR=14						
HYB	**Hyderabad**	**17.96**	**304**	*i* P	**P**	**09 36 11.0**	**-0.2**
LSA	**Lhasa**	**22.00**	**353**	P	**P**	**09 36 58.5**	**+2.9**
LSA				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
LSA	**Lhasa**	**22.00**	**353**	*e*P	**P**	**09 36 55.6**	**0.0**
	comp=Z,12nm,0.8s,mb4.4						
SONM	**Songino Array**	**41.27**	**13**	P	**P**	**09 39 46.0**	**-0.3**
	comp=Z,1.1nm,0.7s,mb3.6,baz=196,slow=9.0,SNR=6.0						
KURK	**Kurchatov**	**44.71**	**346**	*e*P	**P**	**09 40 13.4**	**-1.0**
	comp=Z,7.6nm,1.2s,mb4.4						
NWAO	**Narrogin (SRO)**	**46.05**	**153**	P	**P**	**09 40 26.9**	**+1.6**
	comp=Z,4.8nm,0.8s,mb4.5,baz=179,slow=22,SNR=2.4						
ZAL	**Zalesovo**	**46.66**	**352**	P	**P**	**09 40 30.1**	**+0.4**
	comp=Z,2.8nm,0.4s,mb4.5,baz=298,slow=7.7,SNR=13						
WRA	**Warramunga Arr**	**48.20**	**125**	P	**P**	**09 40 42.0**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.9,baz=305,slow=8.5,SNR=7.9						
WRAB	**Tennant Creek**	**48.21**	**125**	*e*P	**P**	**09 40 41.3**	**-1.1**
BVAR	**Borovoye Array**	**49.09**	**341**	P	**P**	**09 40 47.9**	**-0.8**
	comp=Z,0.6nm,0.5s,mb3.9,baz=135,slow=8.4,SNR=5.3						
ASAR	**Alice Springs**	**49.85**	**130**	P	**P**	**09 40 54.1**	**-0.9**
	comp=Z,0.6nm,0.8s,mb3.7,baz=299,slow=7.7,SNR=3.7						
PMG	**Port Moresby**	**55.51**	**107**	P	**P**	**09 41 35.7**	**-1.6**
	comp=Z,8.5nm,0.9s,mb4.8,baz=303,slow=19,SNR=2.3						
KMBO	**Kilima Mbogo**	**57.40**	**264**	P	**P**	**09 41 50.4**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.9,baz=236,slow=23,SNR=2.8						
EIL	**Elat**	**59.47**	**300**	P	**P**	**09 42 05.3**	**+0.2**
	comp=Z,1.4nm,0.5s,mb4.2,baz=136,slow=22,SNR=2.1						
STKA	**Stephens Creek**	**60.04**	**134**	P	**P**	**09 42 10.2**	**+1.3**
	comp=Z,1.7nm,1.1s,mb4.0,baz=345,slow=19,SNR=2.5						
BRTR	**Keskin Array B**	**62.49**	**311**	P	**P**	**09 42 24.0**	**-1.4**
	comp=Z,0.6nm,0.5s,mb4.0,baz=125,slow=7.1,SNR=3.7						
AKASG	**Malin Array Be**	**68.23**	**322**	P	**P**	**09 43 01.5**	**-0.7**
	comp=Z,1.2nm,0.8s,mb4.0,baz=92,slow=4.6,SNR=2.9						
JOF	**Joensuu**	**70.94**	**334**	*ep*	**P**	**09 43 09.4**	**-9.2**
	comp=Z,0.4nm,0.3s,mb3.8						
FINES	**FINESS Array B**	**72.80**	**332**	P	**P**	**09 43 29.1**	**-0.6**
	comp=Z,6.4nm,0.9s,mb4.5,baz=117,slow=4.3,SNR=8.1						
KAF	**Kangasniemi**	**72.88**	**333**	*ep*	**P**	**09 43 29.4**	**-0.7**
	comp=Z,0.4nm,0.3s,mb3.8						
ARCES	**ARCESS Array B**	**75.37**	**340**	P	**P**	**09 43 44.4**	**0.0**
	comp=Z,2.5nm,0.9s,mb4.2,baz=90,slow=6.1,SNR=5.3						
GERES	**GERESS Array B**	**77.90**	**318**	P	**P**	**09 44 00.6**	**+1.7**
	comp=Z,1.1nm,0.7s,mb3.9,baz=72,slow=4.2,SNR=6.2						
NOA	**NORSAR Array B**	**79.82**	**331**	P	**P**	**09 44 09.6**	**+0.4**
	comp=Z,1.8nm,0.7s,mb4.1,baz=92,slow=5.6,SNR=5.1						
INK	**Inuvik**	**97.10**	**16**	P	**P**	**09 45 34.7**	**+2.2**
	comp=Z,2.8nm,1.3s,mb4.5,baz=128,slow=17,SNR=2.7						
DBIC	**Dimbokro**	**97.95**	**278**	P	**P**	**09 45 39.1**	**+1.6**
	comp=Z,1.8nm,0.9s,mb4.6,baz=165,slow=22,SNR=2.2						
PDAR	**Pinedale Array**	**125.27**	**21**	PKP	PKPdf	09 51 05.0	+0.3
	comp=Z,0.7nm,1.0s,slow=1.5,SNR=4.3						
TXAR	**Lajitas Array**	**139.33**	**24**	PKP	PKPdf	09 51 29.7	-1.8
	comp=Z,0.2nm,0.7s,baz=63,slow=4.0,SNR=3.3						
PLCA	**Paso Flores**	**144.44**	**200**	PKP	PKPdf	09 51 38.1	-2.0
	comp=Z,1.2nm,0.9s,baz=227,slow=4.2,SNR=2.8						

*IDC **28** 09:40:18.1±0.6, 7.83N×93.93E, mb4.3/19, mb1 4.4/20, mb1mx4.4/24, mbtmp4.3/20, ML4.2/1, MS4.2/2, Ms1 4.2/2, ms1mx3.2/27, Error ellipse: s-maj=24.7km s-min=14.0km az=45.0, Putative timing error at LPAZ*

*BJI **28** 09:40:19.9, 7.82N×93.80E, h18km, mB5.3, mb4.6, Ms4.7, Msz4.7*
*NEIC **28** 09:40:20.7±0.3, 7.80N×93.95E, mb4.8/20, Error ellipse: s-maj=9.6km s-min=7.3km az=56.0*
*MOS **28** 09:40:21.8±1.4, 7.92N×94.07E, h33km, mb4.9/31, Error ellipse: s-maj=12.8km s-min=6.9km az=116.5*
ISC 28 09:40:19.4±0.4, 7.88N±0.06×94.10E±0.06, h17km, h17km±1.5km: pP-P, n135, σ1§37/127, mb4.7/48, MS4.9/4, 4C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.53**	**24**	P	**P**	**09 43 06.9**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,129nm,18.0s						
CMAR	**Chiang Mai Arr**	**11.53**	**24**	Pn	**P**	**09 43 06.9**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=213,slow=15,SNR=10						
CMAR				LR	LR	09 47 47.1	
	comp=Z,129nm,18.0s,baz=195,slow=39						
VIS	**Vishakhapatnam**	**14.35**	**314**	*e*P	**P**	**09 43 48.5**	**+4.4**
VIS				*e*		09 43 50.2	
	comp=Z,36nm,1.3s						
VIS				*e*S	**S**	**09 46 21.8**	**-1.9**
HYB	**Hyderabad**	**17.87**	**304**	*e*P	**P**	**09 44 32.0**	**+2.8**
HYB	**Hyderabad**	**17.87**	**304**	*i* P	**P**	**09 44 32.0**	**+2.8**
JIRN	**Jiri**	**21.05**	**340**	*e*P	**P**	**09 45 07.2**	**+2.0**
	comp=Z,180nm,1.2s,mb5.3						
PKI	**Pulchoki**	**21.25**	**338**	*e*P	**P**	**09 45 09.0**	**+1.9**
	comp=Z,155nm,1.1s,mb5.2						
DMN	**Daman**	**21.39**	**338**	*e*P	**P**	**09 45 10.7**	**+2.1**
	comp=Z,119nm,0.9s,mb5.2						
KKN	**Kakani**	**21.49**	**338**	*e*P	**P**	**09 45 11.2**	**+1.6**
	comp=Z,60nm,0.8s,mb5.0						
KAD	**Karad**	**21.56**	**298**	*e*P	**P**	**09 45 14.0**	**+3.7**
LSA	**Lhasa**	**21.89**	**353**	P	**P**	**09 45 16.5**	**+2.9**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**21.89**	**353**	*e*P	**P**	**09 45 15.6**	**+2.0**
LSA				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.7						
LSA	**Lhasa**	**21.89**	**353**	*e*P	**P**	**09 45 15.6**	**+2.0**
	comp=Z,28nm,0.8s,mb4.7						
GKN	**Gorkha**	**21.93**	**337**	*e*P	**P**	**09 45 13.5**	**-0.5**
	comp=Z,78nm,0.7s,mb5.2						
BHPL	**Bhopal**	**22.13**	**316**	*e*P	**P**	**09 45 19.3**	**+3.3**
BHPL				*e*		09 45 23.6	
	comp=Z,33nm,0.6s						
BHPL				*e*		09 50 19.8	
KOLN	**Koldanda**	**22.14**	**335**	*e*P	**P**	**09 45 15.9**	**-0.2**
	comp=Z,156nm,1.1s,mb5.4						
NDI	**New Delhi**	**26.11**	**325**	*e*P	**P**	**09 45 57.0**	**+2.6**
AJM	**Ajmer**	**26.15**	**317**	*e*P	**P**	**09 45 58.0**	**+3.1**
DDI	**Dehra Dun**	**26.92**	**328**	*e*	**P**	**09 45 55.1**	**-6.8**
NJ2	**Nanjing**	**33.30**	**40**	*e*P	**P**	**09 46 57.5**	**-1.0**
NJ2				AP	pP	09 47 07.5	+4.0
NJ2				XP	sP	09 47 11.0	+5.3
NJ2				PP	PP	09 48 08.5	-1.7
NJ2				S	**S**	**09 52 12.0**	**-5.1**
NJ2				AMB	AMB		
	comp=Z,2μm,4.9s						
NJ2				LR	LR		
	comp=N,460nm,16.4s,MS4.6						
NJ2				LR	LR		
	comp=E,930nm,19.7s,MS4.6						
NJ2				LR	LR		
	comp=Z,910nm,12.1s						
WMQ	**Urumqi**	**36.24**	**352**	*e*P	**P**	**09 47 24.5**	**+0.9**
WMQ				AP	pP	09 47 29.0	+0.4
WMQ				XP	sP	09 47 31.5	+0.7
WMQ				PP	PP	09 48 48.5	+1.9
WMQ				PCP	PcP	09 49 48.5	-0.6
WMQ				S	**S**	**09 53 05.8**	**+3.3**
WMQ				AMB	AMB		
	comp=Z,58nm,1.5s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,275nm,5.6s						
WMQ				LR	LR		
	comp=N,776nm,18.3s,MS4.6						
WMQ				LR	LR		
	comp=E,614nm,18.4s,MS4.6						
WMQ				LR	LR		
	comp=Z,1μm,18.7s,MS4.6						
AAK	**Ala-Archa**	**38.69**	**337**	*i* P	**P**	**09 47 43.5**	**-0.7**
AAK				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.5						
AAK	**Ala-Archa**	**38.69**	**337**	*e*P	**P**	**09 47 46.0**	**+1.9**
	comp=Z,12nm,1.1s,mb4.5						
SONM	**Songino Array**	**41.17**	**13**	P	**P**	**09 48 04.5**	**-0.1**
	comp=Z,2.2nm,0.8s,mb3.8,baz=196,slow=11,SNR=7.7						
SONM				PcP	PcP	09 50 03.8	-0.6
	comp=Z,1.5nm,0.8s,baz=200,slow=3.1,SNR=3.7						
SONM	**Songino Array**	**41.17**	**13**	P	**P**	**09 48 04.5**	**-0.1**
SONM				PcP	PcP	09 50 03.8	-0.6
ULN	**Ulaanbaatar**	**41.34**	**13**	*i* P	**P**	**09 48 05.4**	**-0.7**
ULN	**Ulaanbaatar**	**41.34**	**13**	*e*P	**P**	**09 48 06.4**	**+0.4**
	comp=Z,5.3nm,1.0s,mb4.1						
SNY	**Shenyang**	**42.69**	**33**	⇓P	**P**	**09 48 18.5**	**+1.3**
TLY	**Talaya**	**44.37**	**8**	*i* P	**P**	**09 48 28.8**	**-1.9**
KURK	**Kurchatov**	**44.60**	**346**	*i* P	**P**	**09 48 31.1**	**-1.5**
KURK	**Kurchatov**	**44.60**	**346**	*e*P	**P**	**09 48 30.5**	**-2.1**
	comp=Z,22nm,1.1s,mb4.9						
NWAO	**Narrogin (SRO)**	**46.17**	**153**	P	**P**	**09 48 46.2**	**+0.9**
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**46.17**	**153**	P	**P**	**09 48 46.2**	**+0.9**
	comp=Z,5.4nm,0.7s,mb4.6,baz=350,slow=12,SNR=4.0						
ZAL	**Zalesovo**	**46.54**	**352**	P	**P**	**09 48 47.8**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZAL	**Zalesovo**	**46.54**	**352**	P	**P**	**09 48 47.8**	**-0.1**
	comp=Z,4.0nm,0.8s,mb4.4,baz=295,slow=9.6,SNR=7.0						
NVS	**Novosibirsk**	**47.64**	**352**	*e*P	**P**	**09 48 54.4**	**-2.2**
WRA	**Warramunga Arr**	**48.30**	**126**	*i* P	**P**	**09 49 01.7**	**-0.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**48.30**	**126**	P	**P**	**09 49 01.2**	**-1.0**
	comp=Z,1.9nm,0.8s,mb4.2,baz=304,slow=8.5,SNR=9.6						
WRAB	**Tennant Creek**	**48.30**	**125**	*i* P	**P**	**09 49 03.3**	**+1.1**
BVAR	**Borovoye Array**	**48.97**	**341**	P	**P**	**09 49 05.9**	**-1.1**
	comp=Z,3.4nm,0.8s,mb4.4,baz=120,slow=12,SNR=2.5						
BVAR				PcP	PcP	09 50 30.8	-0.6
	comp=Z,1.2nm,0.7s,baz=180,slow=1.4,SNR=3.8						
RAYN	**Ar Rayn**	**49.05**	**294**	P	**P**	**09 49 09.7**	**+1.8**
	comp=Z,129nm,0.8s,SNR=25						
CHKZ	**Chkalovo**	**49.46**	**342**	*e*P	**P**	**09 49 10.0**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
CHKZ	**Chkalovo**	**49.46**	**342**	*e*P	**P**	**09 49 10.0**	**-0.6**
	comp=Z,17nm,0.9s,mb5.1						
ASAR	**Alice Springs**	**49.95**	**130**	P	**P**	**09 49 13.9**	**-0.9**
	comp=Z,1.1nm,0.6s,mb4.0,baz=304,slow=7.6,SNR=12						
BOD	**Bodaibo**	**52.16**	**13**	*e*P	**P**	**09 49 29.2**	**-2.0**
GNI	**Garni**	**54.41**	**314**	*e*P	**P**	**09 49 46.0**	**-2.0**
GNI				pmax	pmax		
	comp=Z,4.0nm,0.4s						
GNI	**Garni**	**54.41**	**314**	P	**P**	**09 49 47.0**	**-1.0**
	comp=Z,1.9nm,0.4s,mb4.4,baz=8.5,slow=13,SNR=2.6						
GNI	**Garni**	**54.41**	**314**	*e*P	**P**	**09 49 46.0**	**-2.0**
	comp=Z,4.3nm,0.4s,mb4.7						
SVE	**Sverdlovsk**	**55.38**	**338**	*e*P	**P**	**09 49 55.0**	**0.0**
PMG	**Port Moresby**	**55.57**	**107**	P	**P**	**09 49 57.5**	**+0.6**
PMG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PMG	**Port Moresby**	**55.57**	**107**	P	**P**	**09 49 57.5**	**+0.7**
	comp=Z,4.7nm,0.6s,mb4.7,baz=48,slow=7.0,SNR=2.6						
PMG	**Port Moresby**	**55.57**	**107**	P	**P**	**09 49 57.5**	**+0.7**
ARU	**Arti**	**55.87**	**337**	⇑*i* P	**P**	**09 49 52.6**	**-5.8**
ARU				*e*		09 50 50.9	
ARU				*e*S	**S**	**09 57 35.2**	**-8.1**
ARU				*e*SS	SS	10 01 32.6	+3.3
ARU				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
YSS	**Yuzh-Sakhalins**	**56.81**	**38**	P	**P**	**09 50 10.0**	**+4.7**
YSS				*e*		09 50 21.0	
YSS	**Yuzh-Sakhalins**	**56.81**	**38**	*e*P	**P**	**09 50 01.9**	**-3.5**
KIV	**Kislovodsk**	**57.29**	**318**	*e*P	**P**	**09 50 06.6**	**-2.2**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
KIV	**Kislovodsk**	**57.29**	**318**	*e*P	**P**	**09 50 06.6**	**-2.2**
	comp=Z,9.7nm,0.6s,mb5.0						
KMBO	**Kilima Mbogo**	**57.38**	**264**	P	**P**	**09 50 07.9**	**-1.9**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KMBO	**Kilima Mbogo**	**57.38**	**264**	P	**P**	**09 50 07.9**	**-1.9**
	comp=Z,2.5nm,0.8s,mb4.3,baz=22,slow=21,SNR=2.8						
KMBO	**Kilima Mbogo**	**57.38**	**264**	P	**P**	**09 50 07.9**	**-1.9**
KMBO				*e*P	pP	09 50 12.7	-2.3
KMBO				*e*pP	pP	09 50 18.2	+3.1
ASF	**Jabal al Asfar**	**58.18**	**303**	P	**P**	**09 50 13.6**	**-1.6**
	comp=Z,1.1nm,0.3s,mb4.3,baz=285,slow=2.0,SNR=3.3						
MALT	**Malatya**	**58.43**	**310**	*e*P	**P**	**09 50 15.7**	**-1.1**
MALT				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
MALT	**Malatya**	**58.43**	**310**	*e*P	**P**	**09 50 15.7**	**-1.1**
	comp=Z,3.5nm,0.9s,mb4.4						
SOC	**Sochi**	**59.15**	**317**	*e*P	**P**	**09 50 18.4**	**-3.4**
SOC				*e*		09 51 08.6	
SOC				*e*		09 52 35.7	
SOC				*e*S	**S**	**09 58 21.7**	**-5.0**
SOC				*e*SS	SS	10 02 22.5	-0.3
SOC				*e*SSS	SSS	10 04 48.6	+0.1
SOC				pmax	pmax		
	comp=N,22nm,0.6s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.6s						
SOC				pmax	pmax		
	comp=Z,25nm,0.6s,mb5.4						
YAK	**Yakutsk**	**60.01**	**18**	*i* P	**P**	**09 50 26.4**	**-1.0**
YAK				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
BRTR	**Keskin Array B**	**62.40**	**311**	P	**P**	**09 50 41.7**	**-2.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	**62.40**	**311**	P	**P**	**09 50 41.7**	**-2.2**
	comp=Z,2.3nm,0.7s,mb4.4,baz=128,slow=7.1,SNR=12						
MOS	**Moscow**	**65.06**	**329**	*e*P	**P**	**09 51 03.5**	**+2.4**
MOS				pmax	pmax		
	comp=Z,60nm,0.7s,mb5.7						
MOS				MLR	MLR		
	comp=Z,20nm,22.0s						
OBN	**Obninsk**	**65.36**	**328**	⇑*i* P	**P**	**09 50 59.2**	**-3.8**
OBN				*i* S	S	09 59 34.6	-10
OBN				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.3						
OBN				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.1						
TIXI	**Tiksi**	**67.24**	**11**	*e*P	**P**	**09 51 13.1**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
AKASG	**Malin Array Be**	**68.13**	**322**	P	**P**	**09 51 18.4**	**-2.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**68.13**	**322**	P	**P**	**09 51 18.4**	**-2.3**
	comp=Z,1.9nm,0.6s,mb4.3,baz=88,slow=5.1,SNR=9.3						
MLR	**Muntele Rosu**	**69.14**	**316**	LR	LR	10 25 21.4	
	comp=Z,2μm,20.9s,MS5.2,baz=274,slow=39						
LSZ	**Lusaka**	**69.23**	**250**	P	**P**	**09 51 26.5**	**-1.6**
LSZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
LSZ	**Lusaka**	**69.23**	**250**	P	**P**	**09 51 26.5**	**-1.5**
	comp=Z,2.0nm,0.7s,mb4.2						
FINES	**FINESS Array B**	**72.69**	**332**	P	**P**	**09 51 47.2**	**-1.0**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**72.69**	**332**	P	**P**	**09 51 47.2**	**-1.0**
	comp=Z,2.5nm,0.8s,mb4.2,baz=119,slow=5.8,SNR=7.2						
FINES	**FINESS Array B**	**72.69**	**332**	P	**P**	**09 51 47.2**	**-1.0**
OJC	**Ojcow**	**73.95**	**320**	*e*P	**P**	**09 51 55.4**	**-0.3**
LBTB	**Lobatse**	**74.21**	**241**	*e*P	**P**	**09 51 59.6**	**+1.9**
LBTB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
LBTB	**Lobatse**	**74.21**	**241**	*e*P	**P**	**09 51 59.6**	**+1.8**
	comp=Z,6.9nm,0.9s,mb4.6						
OKC	**Ostrava-Krasne**	**74.96**	**319**	*e*P	**P**	**09 52 03.4**	**+1.8**
ARCES	**ARCESS Array B**	**75.25**	**340**	P	**P**	**09 52 02.4**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARCES	**ARCESS Array B**	**75.25**	**340**	P	**P**	**09 52 02.4**	**-0.4**
	comp=Z,3.6nm,0.8s,mb4.4,baz=76,slow=5.0,SNR=6.1						
ARCES	**ARCESS Array B**	**75.25**	**340**	P	**P**	**09 52 02.4**	**-0.4**
MORC	**Moravsky Berou**	**75.35**	**319**	*e*P	**P**	**09 52 03.6**	**-0.2**
MORC				*e**PP	pP	09 52 08.9	-0.2
MORC				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
MORC	**Moravsky Berou**	**75.35**	**319**	*e*P	**P**	**09 52 03.6**	**-0.2**
	comp=Z,13nm,1.0s,mb4.8						
MORC				*e*pP	pP	09 52 08.9	-0.3
DPC	**Dobruska-Polom**	**76.18**	**320**	*e*P	**P**	**09 52 08.8**	**+0.3**
DPC				*e*pP	pP	09 52 14.1	+0.3
UPC	**Upice**	**76.39**	**320**	*e*P	**P**	**09 52 14.9**	**+5.2**
UPC	**Upice**	**76.39**	**320**	*e*pP	pP	09 52 14.9	-0.1
PRU	**Pruhonice**	**77.30**	**319**	*e*P	**P**	**09 52 16.6**	**+1.9**
PRU				*e*pP	pP	09 52 20.0	-0.1
BRG	**Berggiesshubel**	**77.72**	**320**	*e*P	**P**	**09 52 17.5**	**+0.4**
BRG				*e*	pP	09 52 22.6	+0.2
BRG				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
BRG	**Berggiesshubel**	**77.72**	**320**	*e*P	**P**	**09 52 17.5**	**+0.4**
	comp=Z,13nm,1.2s,mb4.7						
BRG				*e*	pP	09 52 22.6	+0.2
GEC2	**GERESS Array S**	**77.80**	**318**	*e*P	**P**	**09 52 17.5**	**0.0**
GEC2				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
GEC2	**GERESS Array S**	**77.80**	**318**	*e*P	**P**	**09 52 17.5**	**0.0**
	comp=Z,8.0nm,0.9s,mb4.7						
GERES	**GERESS Array B**	**77.80**	**318**	P	**P**	**09 52 17.9**	**+0.4**
GERES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GERES	**GERESS Array B**	**77.80**	**318**	P	**P**	**09 52 17.9**	**+0.4**
	comp=Z,3.2nm,0.7s,mb4.4,baz=90,slow=5.3,SNR=25						
KHC	**Kasperske Hory**	**77.89**	**318**	*e*P	**P**	**09 52 18.1**	**+0.1**
KHC				*e*pP	pP	09 52 22.7	-0.7
CLL	**Collm**	**78.33**	**321**	P	**P**	**09 52 25.0**	**+4.6**
CLL				*e**PP	pP	09 52 33.0	+7.2
WET	**Wettzell**	**78.35**	**318**	*e*P	**P**	**09 52 20.5**	**0.0**
WET				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
WET	**Wettzell**	**78.35**	**318**	*e*

comp=Z,0.8nm,1.1s,mb4.1,baz=279,slow=6.0,SNR=5.0
INK Inuvik 97.00 16 P **P 09 53 51.5 +0.3**
INK pmax pmax
comp=Z,5.0nm,1.2s
INK Inuvik 97.00 16 P **P 09 53 51.5 +0.3**
comp=Z,5.0nm,1.2s,mb4.8,baz=315,slow=4.3,SNR=4.7
INK Inuvik 97.00 16 P **P 09 53 51.5 +0.3**
YKA Yellowknife Ar 106.43 13 PP PP 09 58 57.1 -4.1
comp=Z,0.3nm,0.8s,baz=334,slow=7.9,SNR=5.5
YKA PKKPbc 10 10 19.9
comp=Z,0.2nm,0.7s,baz=138,slow=4.4,SNR=4.3
NVAR Mina Array Bea 124.94 31 PKP PKPdf 09 59 21.4 -1.7
comp=Z,0.8nm,0.6s,baz=26,slow=2.7,SNR=4.3
NVAR Mina Array Bea 124.94 31 PKP PKPdf 09 59 21.4 -1.7
PDAR Pinedale Array 125.18 21 PKP PKPdf 09 59 21.2 -2.2
comp=Z,0.7nm,0.7s,baz=343,slow=2.1,SNR=7.1
TXAR Lajitas Array 139.24 24 PKP PKPdf 09 59 48.2 -2.1
comp=Z,0.5nm,0.6s,baz=215,slow=0.4,SNR=8.9
TXAR Lajitas Array 139.24 24 PKP PKPdf 09 59 48.2 -2.1
PLCA Paso Flores 144.53 200 PKIKP PKPdf 09 59 56.2 -3.0
PLCA pmax pmax
comp=Z,5.0nm,0.8s
PLCA Paso Flores 144.53 200 PKP PKPdf 09 59 56.2 -3.0
comp=Z,4.6nm,0.8s,baz=124,slow=1.4,SNR=13
LPAZ La Paz 160.73 243 PKPab PKPab 10 00 18.5 -45
comp=Z,1.3nm,0.8s,baz=16,slow=2.1,SNR=4.0

*MDD **28** 09:40:37.5±0.5,36.94N×4.22E,mb3.9/6,Error ellipse: s-maj=10.1km s-min=5.1km az=22.0,SOLUCIN POBRE PRXIMO*
*CSEM **28** 09:40:38.8±0.2,36.87N×4.13E,h40km,ML3.5,Error ellipse: s-maj=7.3km s-min=3.3km az=41.0*
*NEIC **28** 09:40:42.8,37.25N×4.06E,MG4.1(MDD),After MDD.*
ISC 28 09:40:38.0±1.4,36.97N±0.08×4.15E±0.07,h29km±16km, n23,σ1$15/35,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABMS	**Boumerdes**	**0.58**	**248**	P	**Pb**	**09 40 48.4**	**-1.3**
ABA	**Alger-Bouzarea**	**0.91**	**260**	P	**Pn**	**09 40 55.4**	**+0.4**
SET	**Setif**	**1.26**	**127**	P	**Pn**	**09 41 00.0**	**0.0**
DFRA	**Djebel Bou Aff**	**1.45**	**107**	P	**Pn**	**09 41 03.0**	**+0.4**
CKHR	**Kef el Ahmar**	**1.45**	**131**	P	**Pn**	**09 41 03.0**	**+0.3**
CMER	**Merouana**	**1.95**	**133**	P	**Pn**	**09 41 04.0**	**-5.8**
CASM	**Ain Smara**	**2.01**	**110**	P	**Pn**	**09 41 10.0**	**-0.7**
CKFL	**Kef-Lekhel**	**2.14**	**105**	P	**Pn**	**09 41 11.0**	**-1.6**
EIBI	**Ibiza**	**3.02**	**314**	P	**Pn**	**09 41 27.1**	**+2.0**
EIBI				S	**Sn**	**09 42 00.0**	**-0.7**
EIBI	**Ibiza**	**3.02**	**314**	P	**Pn**	**09 41 26.3**	**+1.1**
	1.4nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**09 42 00.3**	**-0.4**
	2.3nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**3.02**	**314**	P	**Pn**	**09 41 27.1**	**+2.0**
EIBI				S	**Sn**	**09 42 00.0**	**-0.8**
EBEN	**Beniarda**	**3.87**	**298**	P	**Pn**	**09 41 38.1**	**+0.9**
	0.6nm,0.2s,SNR=4.0						
EBEN				S	**Sn**	**09 42 22.2**	**-0.1**
	0.6nm,0.1s,SNR=4.0						
EMOS	**Mosqueruela**	**4.96**	**315**	P	**Pn**	**09 41 54.2**	**+1.7**
EMOS				S	**Sn**	**09 42 47.2**	**-2.4**
EMOS	**Mosqueruela**	**4.96**	**315**	P	**Pn**	**09 41 53.9**	**+1.3**
	0.3nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**09 42 47.6**	**-2.1**
	0.7nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.96**	**315**	Pn	**Pn**	**09 41 54.2**	**+1.6**
	0.1nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**09 42 47.2**	**-2.5**
	SNR=7.9						
EPOB	**Poblet**	**4.99**	**332**	P	**Pn**	**09 41 53.6**	**+0.6**
EPOB				S	**Sn**	**09 42 46.7**	**-3.7**
EPOB	**Poblet**	**4.99**	**332**	P	**Pn**	**09 41 53.8**	**+0.8**
	1.0nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**09 42 47.3**	**-3.1**
	3.8nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**4.99**	**332**	P	**Pn**	**09 41 53.6**	**+0.6**
EPOB				Sn	**Sn**	**09 42 46.7**	**-3.7**
	SNR=7.9						
EMIR	**Miracle**	**5.34**	**338**	P	**Pn**	**09 41 59.3**	**+1.4**
EMIR				S	**Sn**	**09 42 53.6**	**-5.6**
EMIR	**Miracle**	**5.34**	**338**	P	**Pn**	**09 41 59.3**	**+1.4**
	7.5nm,0.2s,SNR=7.9						
EMIR				S	**Sn**	**09 42 57.5**	**-1.7**
	4.6nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.34**	**338**	P	**Pn**	**09 41 59.3**	**+1.4**
EJON	**La Jonquera**	**5.56**	**350**	P	**Pn**	**09 42 01.5**	**+0.5**
	1.9nm,0.1s,SNR=5.9						
EJON	**La Jonquera**	**5.56**	**350**	Pn	**Pn**	**09 42 01.5**	**+0.5**
	1.5nm,0.1s,SNR=5.9						

IGQ 28 09:41:50.0,0.92S×81.08W,h12km±15km,mb4.1,3C-3D, Error ellipse: s-maj=50.3km s-min=10.7km az=176.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.55**	**103**	⇑P	Pb	09 42 00.1	-0.9
IGUA	**Igualata**	**2.50**	**103**	P	Pn	09 42 31.9	+0.6
PINO	**Pino**	**2.59**	**73**	P	Pn	09 42 33.5	+1.1
NAS1	**Nasa**	**2.62**	**84**	P	Pn	09 42 34.7	+1.8
YANA	**Yana**	**2.63**	**72**	P	Pn	09 42 34.0	+0.9
JUIV	**Juive**	**2.66**	**101**	P	Pn	09 42 36.4	+2.9
RETU	**Refugio**	**2.69**	**101**	P	Pn	09 42 37.1	+3.3
ARRY	**Arrayan**	**2.69**	**103**	⇓P	Pn	09 42 34.9	+1.0
VC1	**Cotopaxi 1**	**2.69**	**84**	⇑P	Pn	09 42 36.8	+2.9
PISA	**Pisayambo**	**2.70**	**93**	P	Pn	09 42 35.6	+1.6
TAMB	**Tambo**	**2.72**	**85**	⇓P	Pn	09 42 36.9	+2.6
ANTI	**Antisana**	**2.96**	**81**	P	Pn	09 42 38.1	+0.5
COTA	**Cotacachi**	**3.01**	**66**	P	Pn	09 42 39.1	+0.6
CAYR	**Refugio Cayamb**	**3.21**	**73**	⇑P	Pn	09 42 44.8	+3.5
CAYA	**Cayambe**	**3.24**	**72**	⇓P	Pn	09 42 44.8	+3.0

*NEIC **28** 09:42:14.6±0.6,7.59N×93.80E,h30km,mb4.2/1,Error ellipse: s-maj=20.0km s-min=11.2km az=59.0*
*IDC **28** 09:42:19.4±7.1,7.75N×94.14E,h64km±61km,mb3.7/8, mb1 3.9/9,mb1mx3.6/19,mbtmp4.0/9,ML4.4/1,Error ellipse: s-maj=64.3km s-min=17.3km az=63.0*
ISC 28 09:42:12.5±0.6,7.59N±0.10×93.80E±0.10,h30km,n18, σ0$97/15,mb4.0/9,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.91**	**24**	P	**P**	**09 45 02.9**	**-0.5**
	0.7nm,0.3s,baz=213,slow=15,SNR=4.2						
TRD	**Trivandrum**	**16.70**	**274**	*i*	**P**	**09 46 05.5**	**-0.7**
TRD				*e*	rx	09 46 14.7	
HYB	**Hyderabad**	**17.79**	**305**	*eP*	**P**	**09 46 18.5**	**-1.3**
HYB	**Hyderabad**	**17.79**	**305**	*i P*	**P**	**09 46 18.5**	**-1.3**
SONM	**Songino Array**	**41.51**	**13**	P	**P**	**09 49 58.4**	**-0.3**
	1.0nm,0.8s,mb3.5,baz=197,slow=8.8,SNR=2.7						
SONM				PcP	PcP	09 51 57.5	+0.9
	0.9nm,0.8s,baz=216,slow=3.4,SNR=3.1						
KURK	**Kurchatov**	**44.81**	**346**	P	**P**	**09 50 25.5**	**0.0**
	3.0nm,0.8s,mb4.2						
NWAO	**Narrogin (SRO)**	**46.05**	**152**	P	**P**	**09 50 37.6**	**+2.0**
	4.0nm,0.6s,mb4.5,baz=310,slow=20,SNR=3.0						
ZAL	**Zalesovo**	**46.79**	**353**	P	**P**	**09 50 41.6**	**+0.6**
	2.9nm,0.4s,mb4.6,baz=306,slow=6.0,SNR=3.3						
WRA	**Warramunga Arr**	**48.37**	**125**	P	**P**	**09 50 53.4**	**-0.6**
	0.9nm,0.8s,mb3.9,baz=304,slow=8.9,SNR=5.3						
WRAB	**Tennant Creek**	**48.37**	**125**	P	**P**	**09 50 53.0**	**-1.0**
ASAR	**Alice Springs**	**49.99**	**130**	P	**P**	**09 51 05.5**	**-1.0**
	0.9nm,1.0s,mb3.8,baz=306,slow=7.6,SNR=6.1						
FINES	**FINESS Array B**	**72.81**	**332**	P	**P**	**09 53 40.4**	**+0.5**
	0.9nm,0.5s,mb3.9,baz=124,slow=6.9,SNR=4.7						
FINES	**FINESS Array B**	**72.81**	**332**	P	**P**	**09 53 40.4**	**+0.5**
ARCES	**ARCESS Array B**	**75.42**	**340**	P	**P**	**09 53 56.1**	**+1.1**
	1.0nm,0.7s,mb3.9,baz=97,slow=7.3,SNR=4.5						
GERES	**GERESS Array B**	**77.81**	**318**	P	**P**	**09 54 10.2**	**+1.5**
	0.4nm,0.7s,mb3.5,baz=83,slow=7.9,SNR=2.1						
TXAR	**Lajitas Array**	**139.62**	**24**	PKiKP		10 01 42.5	
	0.2nm,0.5s,baz=269,slow=1.6,SNR=3.8						
TXAR	**Lajitas Array**	**139.62**	**24**	PKPdf	PKPdf	10 01 42.5	-0.7
PLCA	**Paso Flores**	**144.16**	**200**	PKP	PKPdf	10 01 48.8	-2.1
	1.4nm,0.8s,baz=340,slow=4.0,SNR=3.2						

*NEIC **28** 09:45:18.2±0.5,7.98N×94.10E,h30km,mb4.3/5,Error ellipse: s-maj=17.0km s-min=10.2km az=60.0*
*IDC **28** 09:45:21.8±4.7,8.08N×94.19E,h58km±41km,mb3.9/16, mb1 4.0/17,mb1mx3.9/23,mbtmp4.1/17,ML3.2/1,Error ellipse: s-maj=27.0km s-min=13.2km az=50.0*
ISC 28 09:45:18.8±2.9,8.0N±0.1×94.2E±0.1,h52km±26km,n31, σ1$03/26,mb4.2/22,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.38**	**24**	P	**P**	**09 48 01.7**	**+0.4**
	0.1nm,0.3s,baz=208,slow=15,SNR=3.0						
HYB	**Hyderabad**	**17.84**	**303**	*i* P	**P**	**09 49 24.5**	**-0.5**
LSA	**Lhasa**	**21.75**	**353**	*eP*	**P**	**09 50 08.4**	**+0.7**
	7.4nm,0.5s,mb4.4						
SONM	**Songino Array**	**41.02**	**13**	P	**P**	**09 52 58.8**	**+0.3**
	0.8nm,0.5s,mb3.6,baz=194,slow=8.8,SNR=3.9						
KURK	**Kurchatov**	**44.48**	**346**	*eP*	**P**	**09 53 26.0**	**-0.6**
	13nm,1.4s,mb4.5						
NWAO	**Narrogin (SRO)**	**46.27**	**153**	P	**P**	**09 53 42.8**	**+1.7**
	7.7nm,0.9s,mb4.6,baz=344,slow=7.8,SNR=3.3						
ZAL	**Zalesovo**	**46.41**	**352**	P	**P**	**09 53 42.5**	**+0.6**
	2.1nm,0.4s,mb4.4,baz=302,slow=5.7,SNR=5.3						
WRA	**Warramunga Arr**	**48.34**	**126**	P	**P**	**09 53 56.6**	**-0.9**
	0.8nm,0.5s,mb4.0,baz=305,slow=8.4,SNR=12						
WRAB	**Tennant Creek**	**48.34**	**126**	*eP*	**P**	**09 53 56.4**	**-1.2**
	2.4nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**48.86**	**341**	P	**P**	**09 54 00.3**	**-0.8**
	0.8nm,0.7s,mb3.8,baz=135,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**50.00**	**130**	P	**P**	**09 54 09.0**	**-1.3**
	0.6nm,0.5s,mb3.9,baz=305,slow=7.7,SNR=11						
PMG	**Port Moresby**	**55.57**	**107**	P	**P**	**09 54 52.6**	**+0.9**
	6.7nm,0.8s,mb4.7,baz=198,slow=5.8,SNR=2.5						
KMBO	**Kilima Mbogo**	**57.45**	**264**	P	**P**	**09 55 06.9**	**+1.7**
	1.9nm,0.7s,mb4.2,baz=57,slow=13,SNR=5.5						
ASF	**Jabal al Asfar**	**58.15**	**303**	P	**P**	**09 55 11.0**	**+1.2**
	1.1nm,0.3s,mb4.4,baz=179,slow=6.0,SNR=2.5						
BRTR	**Keskin Array B**	**62.34**	**311**	P	**P**	**09 55 36.8**	**-1.6**
	1.1nm,0.6s,mb4.1,baz=117,slow=5.5,SNR=4.0						
AKASG	**Malin Array Be**	**68.05**	**322**	P	**P**	**09 56 13.1**	**-1.7**
	0.7nm,0.5s,mb3.9,baz=79,slow=5.2,SNR=5.1						
JOF	**Joensuu**	**70.72**	**334**	*ep*	**P**	**09 56 30.7**	**-0.4**
	0.7nm,0.4s,mb3.9						
FINES	**FINESS Array B**	**72.59**	**332**	P	**P**	**09 56 42.1**	**0.0**
	1.5nm,0.7s,mb4.0,baz=107,slow=6.5,SNR=9.4						
KAF	**Kangasniemi**	**72.67**	**333**	*ep*	**P**	**09 56 38.4**	**-4.2**
	0.9nm,0.5s,mb4.0						
KEV	**Kevo**	**74.71**	**341**	*ep*	**P**	**09 56 53.4**	**-1.0**
	0.2nm,0.4s,mb3.4						
ARCES	**ARCESS Array B**	**75.14**	**340**	P	**P**	**09 56 57.0**	**+0.2**
	6.2nm,1.0s,mb4.5,baz=101,slow=6.2,SNR=7.5						
GERES	**GERESS Array B**	**77.73**	**318**	P	**P**	**09 57 12.6**	**+0.8**
	1.9nm,0.6s,mb4.2,baz=90,slow=5.3,SNR=12						
NB2	**NORSAR Subarra**	**79.61**	**331**	P	**P**	**09 57 21.7**	**-0.2**
	1.0nm,0.7s,mb3.9,baz=91,slow=5.6						
NOA	**NORSAR Array B**	**79.61**	**331**	P	**P**	**09 57 21.9**	**0.0**
	1.4nm,0.8s,mb4.0,baz=91,slow=5.9,SNR=4.2						
INK	**Inuvik**	**96.86**	**16**	P	**P**	**09 58 46.9**	**+2.0**
	1.7nm,1.2s,mb4.3,baz=186,slow=4.5,SNR=2.5						
INK	**Inuvik**	**96.86**	**16**	P	**P**	**09 58 46.9**	**+1.9**
NVAR	**Mina Array Bea**	**124.80**	**31**	PKP	PKPdf	10 04 16.8	+3.4
	0.6nm,0.6s,baz=315,slow=2.6,SNR=4.2						
NVAR	**Mina Array Bea**	**124.80**	**31**	PKP	PKPdf	10 04 16.8	+3.4
PDAR	**Pinedale Array**	**125.03**	**21**	PKP	PKPdf	10 04 16.2	+2.5
	0.5nm,0.6s,baz=259,slow=1.1,SNR=4.9						
TXAR	**Lajitas Array**	**139.09**	**24**	PKP	PKPdf	10 04 44.2	+3.7
	0.5nm,0.5s,baz=186,slow=0.6,SNR=11						
PLCA	**Paso Flores**	**144.68**	**200**	PKP	PKPdf	10 04 52.1	+2.1
	2.3nm,0.8s,baz=69,slow=5.6,SNR=5.0						

IDC 28 09:53:03.2±11.0,8.04N×93.66E,h54km±93km,mb3.8/5, mb1 3.9/6,mb1mx3.6/18,mbtmp4.0/6,ML4.1/1,Error ellipse: s-maj=102.4km s-min=26.5km az=59.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.56**	**26**	P	P	09 55 45.2	-2.8
	0.3nm,0.3s,baz=214,slow=14,SNR=4.2						
SONM	**Songino Array**	**41.11**	**13**	P	P	10 00 41.6	-1.8
	0.9nm,0.7s,baz=194,slow=10,SNR=4.1						
ZAL	**Zalesovo**	**46.32**	**353**	P	P	10 01 23.9	-1.5
	2.2nm,0.4s,baz=293,slow=9.7						
WRA	**Warramunga Arr**	**48.74**	**125**	P	P	10 01 43.0	-1.8
	0.4nm,0.4s,baz=305,slow=8.8,SNR=6.2						
FINES	**FINESS Array B**	**72.35**	**332**	P	P	10 04 23.6	-1.3
	2.8nm,1.0s,baz=90,slow=3.8,SNR=4.0						
ARCES	**ARCESS Array B**	**74.95**	**340**	P	P	10 04 37.6	-2.3
	1.7nm,0.7s,baz=106,slow=6.6,SNR=3.7						
PLCA	**Paso Flores**	**144.54**	**201**	PKP	PKPdf	10 12 32.8	-1.2
	0.9nm,0.8s,baz=275,slow=9.1,SNR=2.4						

*IDC **28** 09:59:58.7±0.7,8.12N×94.07E,mb4.2/15,mb1 4.3/16, mb1mx4.2/22,mbtmp4.2/16,MS5.3/1,Ms1 5.3/1, ms1mx3.1/30,Error ellipse: s-maj=29.4km s-min=15.8km az=54.0*
*NEIC **28** 10:00:03.0±0.4,8.12N×94.09E,h30km,mb4.3/4,Error ellipse: s-maj=14.9km s-min=9.4km az=62.0*
ISC 28 10:00:02.1±3.8,8.2N±0.1×94.2E±0.1,h36km±34km,n35, σ0$99/33,mb4.5/23,1C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.21**	**24**	Pn	**P**	**10 02 43.5**	**+0.6**
	baz=215,slow=13,SNR=7.0						
HYB	**Hyderabad**	**17.80**	**303**	*eP*	**P**	**10 04 14.0**	**+5.3**
HYB				*eS*	**S**	**10 07 32.0**	**+8.7**
HYB	**Hyderabad**	**17.80**	**303**	*i P*	**P**	**10 04 14.0**	**+5.3**
JIRN	**Jiri**	**20.81**	**340**	*eP*	**P**	**10 04 42.6**	**-0.3**
	230nm,1.1s						
PKI	**Pulchoki**	**21.01**	**338**	*eP*	**P**	**10 04 44.2**	**-0.7**
	423nm,1.4s,mb5.6						
DMN	**Daman**	**21.16**	**337**	*eP*	**P**	**10 04 45.4**	**-1.0**
	218nm,1.0s,mb5.4						
KKN	**Kakani**	**21.25**	**338**	*eP*	**P**	**10 04 47.3**	**-0.1**
	158nm,1.1s,mb5.3						
GKN	**Gorkha**	**21.69**	**337**	*eP*	**P**	**10 04 52.3**	**+0.5**
KOLN	**Koldanda**	**21.91**	**334**	*eP*	**P**	**10 04 53.5**	**-0.5**
	259nm,1.1s,mb5.6						
BHPL	**Bhopal**	**21.99**	**315**	⇑*i*	**P**	**10 04 56.6**	**+1.9**
SONM	**Songino Array**	**40.86**	**13**	P	**P**	**10 07 42.8**	**+0.7**
	1.4nm,0.9s,mb3.6,baz=32,slow=12,SNR=2.8						
KURK	**Kurchatov**	**44.33**	**346**	*eP*	**P**	**10 08 09.3**	**-1.1**
	2.0nm,0.4s,mb4.2						
ZAL	**Zalesovo**	**46.26**	**352**	P	**P**	**10 08 25.0**	**-0.7**
	4.2nm,1.1s,mb4.3,baz=313,slow=6.9,SNR=7.9						
NWAO	**Narrogin (SRO)**	**46.39**	**153**	P	**P**	**10 08 26.5**	**-0.5**
	8.4nm,1.1s,mb4.6,baz=197,slow=16,SNR=2.0						
WRA	**Warramunga Arr**	**48.39**	**126**	P	**P**	**10 08 42.6**	**-0.2**
	2.1nm,0.9s,mb4.2,baz=303,slow=9.0,SNR=9.5						
WRAB	**Tennant Creek**	**48.39**	**126**	P	**P**	**10 08 43.0**	**+0.1**
	2.3nm,0.8s,mb4.3						
CHKZ	**Chkalovo**	**49.21**	**342**	*eP*	**P**	**10 08 46.9**	**-1.8**
	3.6nm,0.9s,mb4.4						
ASAR	**Alice Springs**	**50.06**	**130**	P	**P**	**10 08 55.9**	**+0.1**
	1.8nm,1.0s,mb4.1,baz=307,slow=7.0,SNR=7.7						
KMBO	**Kilima Mbogo**	**57.52**	**263**	P	**P**	**10 09 50.5**	**-0.2**
	1.4nm,0.9s,mb4.0,baz=50,slow=18,SNR=2.1						
KMBO	**Kilima Mbogo**	**57.52**	**263**	*eP*	**P**	**10 09 49.2**	**-1.4**
	3.7nm,0.9s,mb4.4						
BRTR	**Keskin Array B**	**62.28**	**311**	P	**P**	**10 10 21.9**	**-1.0**
	1.9nm,1.1s,mb4.2,baz=117,slow=5.5,SNR=5.4						
AKASG	**Malin Array Be**	**67.95**	**322**	P	**P**	**10 10 58.4**	**-0.9**
	0.2nm,0.3s,mb3.6,baz=90,slow=4.5,SNR=7.0						
MLR	**Muntele Rosu**	**69.00**	**316**	P	**P**	**10 11 07.4**	**+1.5**
	10nm,1.2s,mb4.6,baz=87,slow=10,SNR=3.6						
FINES	**FINESS Array B**	**72.47**	**332**	P	**P**	**10 11 27.2**	**+0.7**
	1.9nm,0.8s,mb4.1,baz=90,slow=17,SNR=3.7						
ARCES	**ARCESS Array B**	**75.00**	**340**	P	**P**	**10 11 41.9**	**+0.7**
	5.7nm,1.1s,mb4.4,baz=31,slow=7.1,SNR=4.1						
ARCES	**ARCESS Array B**	**75.00**	**340**	P	**P**	**10 11 41.9**	**+0.7**
BRG	**Berggiesshubel**	**77.56**	**320**	*eP*	**P**	**10 11 59.2**	**+3.2**
	13nm,1.2s,mb4.7						
GERES	**GERESS Array B**	**77.64**	**318**	P	**P**	**10 11 56.1**	**-0.4**
	1.8nm,0.8s,mb4.1,baz=79,slow=6.8,SNR=13						
HFS	**Hagfors**	**78.23**	**330**	P	**P**	**10 11 59.2**	**-0.3**
	2.2nm,0.6s,mb4.3,baz=104,slow=5.9,SNR=2.9						
NB2	**NORSAR Subarra**	**79.50**	**331**	P	**P**	**10 12 08.9**	**+2.5**
	8.8nm,1.2s,mb4.6,baz=90,slow=5.3						
NOA	**NORSAR Array B**	**79.50**	**331**	P	**P**	**10 12 06.8**	**+0.3**
	3.3nm,1.0s,mb4.2,baz=95,slow=5.4,SNR=3.5						
DAVOX	**Davos**	**80.21**	**316**	P	**P**	**10 12 11.7**	**+1.2**
	3.7nm,0.8s,mb4.4,baz=169,slow=23,SNR=2.7						
PDAR	**Pinedale Array**	**124.87**	**21**	PKP	PKPdf	10 19 03.7	+5.0
	0.8nm,0.9s,baz=334,slow=1.0,SNR=6.8						
TXAR	**Lajitas Array**	**138.93**	**24**	PKiKP		10 19 32.2	
	0.4nm,0.7s,baz=187,slow=1.2,SNR=4.5						
PLCA	**Paso Flores**	**144.85**	**200**	PKP	PKPdf	10 19 38.3	+2.7
	3.3nm,0.9s,baz=130,slow=3.8,SNR=6.3						

*MOS **28** 10:00:28.5±1.2,7.90N×94.16E,h33km,mb5.0/35,Error ellipse: s-maj=13.2km s-min=7.0km az=108.6*
*BJI **28** 10:00:29.7,7.71N×93.71E,h49km,mB5.3,mb4.6,Ms4.8, Msz4.5*
*NEIC **28** 10:00:29.7±0.3,7.94N×94.19E,h30km,mb4.8/18,Error ellipse: s-maj=11.4km s-min=8.2km az=51.0*
*IDC **28** 10:00:32.2±4.3,7.97N×94.22E,h50km±37km,mb4.3/26, mb1 4.4/27,mb1mx4.4/29,mbtmp4.6/27,ML4.2/1,Error ellipse: s-maj=22.0km s-min=11.6km az=47.0,Putative timing error at LPAZ*
ISC 28 10:00:29.5±1.9,7.88N±0.06×94.09E±0.05,h42km±16km, n133,σ1$27/126,mb4.7/52,MS4.8/2,5C-1D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**9.74**	**37**	P	**P**	**10 02 40.5**	**-10**
CMAR	**Chiang Mai Arr**	**11.52**	**24**	P	**P**	**10 03 14.2**	**-0.2**
	0.4nm,0.3s,baz=212,slow=14,SNR=11						
CHG	**Chiang Mai**	**11.84**	**23**	P	**P**	**10 03 22.7**	**+4.0**
	27nm,1.0s						
VIS	**Vishakhapatnam**	**14.34**	**314**	*eP*	**P**	**10 03 50.1**	**-1.7**
VIS				*e*		10 03 50.8	
	comp=Z,19nm,0.8s						
VIS				*eS*	**S**	**10 06 28.2**	**-2.1**
HYB	**Hyderabad**	**17.86**	**304**	*i P*	**P**	**10 04 39.0**	**+2.3**
QIZ	**Qiongzhong**	**18.89**	**53**	*eP*	**P**	**10 04 49.0**	**-0.2**
QIZ				S	**S**	**10 08 16.3**	**+1.6**
QIZ				LR	LR		
	comp=N,3μm,11.8s						
QIZ				LR	LR		
	comp=Z,1μm,14.3s						
KMI	**Kunming**	**19.03**	**25**	⇑P	**P**	**10 04 55.5**	**+4.7**
KMI				pmax	pmax		
	comp=Z,38nm,1.1s						
KMI	**Kunming**	**19.03**	**25**	⇑P	**P**	**10 04 55.5**	**+4.7**
	comp=Z,38nm,1.1s						
MNGI	**Mangalore**	**19.60**	**286**	*e*	**P**	**10 05 03.1**	**+5.9**
MNGI				*e*S	Sx	10 08 53.4	
NGP	**Nagpur**	**19.62**	**314**	*e*S	**S**	**10 08 30.4**	**-0.7**
KAD	**Karad**	**21.55**	**298**	*eP*	**P**	**10 05 19.0**	**+1.7**
LSA	**Lhasa**	**21.88**	**353**	P	**P**	**10 05 23.0**	**+2.5**
LSA	**Lhasa**	**21.88**	**353**	*eP*	**P**	**10 05 20.5**	**0.0**
LSA				pmax	pmax		
	comp=Z,53nm,0.7s,mb5.1						
LSA	**Lhasa**	**21.88**	**353**	*eP*	**P**	**10 05 20.5**	**-0.1**
	comp=Z,53nm,0.7s,mb5.1						
BHPL	**Bhopal**	**22.12**	**316**	*i*	**P**	**10 05 26.5**	**+3.5**
POO	**Poona**	**22.34**	**300**	*eP*	**P**	**10 05 26.0**	**+0.8**
NDI	**New Delhi**	**26.10**	**325**	*eP*	**P**	**10 06 00.0**	**-1.4**
ENH	**Enshi**	**26.54**	**31**	*eP*	**P**	**10 06 05.3**	**-0.2**
	comp=Z,24nm,0.9s,mb4.7						
LZH	**Lanzhou**	**29.45**	**16**	*eP*	**P**	**10 06 34.0**	**+2.4**
LZH				AMB	AMB		
	comp=Z,31nm,1.8s,mb4.7						
LZH				AMB	AMB		
	comp=Z,896nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,15.8s						
LZH				LR	LR		
	comp=Z,1μm,16.3s,MS4.7						
LZH	**Lanzhou**	**29.45**	**16**	*eP*	**P**	**10 06 33.9**	**+2.3**
LZH				*SP	sP	10 06 41.4	-6.8
LZH				pmax	pmax		
	comp=Z,31nm,1.8s,mb4.7						
LZH				MLR	MLR		
	comp=Z,1μm,16.3s,MS4.7						
LZH	**Lanzhou**	**29.45**	**16**	*eP*	**P**	**10 06 33.9**	**+2.3**
	comp=Z,31nm,1.8s,mb4.7						
LZH				pP	pP	10 06 38.8	-4.2
LZH				sP	sP	10 06 41.4	-6.8
LZH				LR	LR		
	comp=Z,1μm,16.3s,MS4.7						
NJ2	**Nanjing**	**33.29**	**40**	*eP*	**P**	**10 07 08.0**	**+2.5**
NJ2				AMB	AMB	

comp=Z,15nm,0.7s,mb5.1,baz=289,slow=8.9,SNR=5.0
PMG Port Moresby 55.58 107 P **P 10 10 03.7 +0.1**
ARU Arti 55.86 337 *eP* **P 10 09 58.4 -6.7**
KIV Kislovodsk 57.28 318 *eP* **P 10 10 14.7 -0.7**
KIV pmax pmax
comp=Z,19nm,1.0s,mb5.1
KMBO Kilima Mbogo 57.38 264 P **P 10 10 18.8 +2.3**
KMBO pmax pmax
comp=Z,10.0nm,0.9s
KMBO Kilima Mbogo 57.38 264 P **P 10 10 18.8 +2.3**
comp=Z,9.6nm,0.9s,mb4.8,baz=52,slow=11,SNR=9.8
ASF Jabal al Asfar 58.17 303 P **P 10 10 23.0 +1.2**
comp=Z,4.7nm,0.9s,mb4.5,baz=35,slow=3.4,SNR=4.7
MALT Malatya 58.42 310 *eP* **P 10 10 22.4 -1.1**
MALT pmax pmax
comp=Z,11nm,1.3s,mb4.7
MALT Malatya 58.42 310 *eP* **P 10 10 22.4 -1.0**
comp=Z,11nm,1.3s,mb4.7
SOKR Solikamsk 58.77 339⇑ *iP* **P 10 10 24.8 -0.8**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.2
EIL Elat 59.38 300 P **P 10 10 30.5 +0.2**
comp=Z,6.2nm,1.0s,mb4.6,baz=9.4,slow=8.0,SNR=3.9
YAK Yakutsk 60.00 18 *eP* **P 10 10 32.6 -1.5**
YAK pmax pmax
comp=Z,24nm,0.8s,mb5.3
YAK Yakutsk 60.00 18 *eP* **P 10 10 32.6 -1.5**
comp=Z,24nm,0.8s,mb5.3
STKA Stephens Creek 60.15 134 P **P 10 10 34.2 -1.3**
comp=Z,3.6nm,0.9s,mb4.4,baz=297,slow=9.0,SNR=4.6
BRTR Keskin Array B 62.39 311 P **P 10 10 49.0 -1.5**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 62.39 311 P **P 10 10 49.0 -1.5**
comp=Z,4.5nm,0.8s,mb4.6,baz=124,slow=7.8,SNR=11
MOS Moscow 65.05 329 *eP* **P 10 11 08.2 +0.5**
MOS pmax pmax
comp=Z,64nm,1.4s,mb5.5
OBN Obninsk 65.35 328⇑ *iP* **P 10 11 06.6 -3.0**
OBN pmax pmax
comp=Z,54nm,1.4s,mb5.4
TIXI Tiksi 67.23 11⇑ *iP* **P 10 11 20.0 -1.3**
TIXI pmax pmax
comp=Z,23nm,1.0s,mb5.2
AKASG Malin Array Be 68.12 322 P **P 10 11 25.4 -1.8**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 68.12 322 P **P 10 11 25.4 -1.7**
comp=Z,2.9nm,0.6s,mb4.5,baz=87,slow=4.7,SNR=12
IDI Anoyia 68.52 305 P **P 10 11 30.0 +0.1**
comp=Z,9.7nm,1.0s,mb4.7,baz=102,slow=6.6,SNR=8.2
MLR Muntele Rosu 69.13 316 P **P 10 11 33.4 -0.1**
MLR pmax pmax
comp=Z,15nm,1.0s
MLR Muntele Rosu 69.13 316 P **P 10 11 33.4 -0.1**
comp=Z,15nm,1.0s,mb4.9,baz=44,slow=7.5,SNR=7.1
JOF Joensuu 70.82 334 *ep* **P 10 11 42.2 -1.3**
comp=Z,3.7nm,0.6s,mb4.5
KOLS Kolonicke sedl 72.17 319 *eP* **P 10 11 53.6 +1.8**
FINES FINESS Array B 72.68 332 P **P 10 11 54.1 -0.5**
FINES pmax pmax
comp=Z,9.0nm,0.8s
FINES FINESS Array B 72.68 332 P **P 10 11 54.0 -0.5**
comp=Z,8.5nm,0.8s,mb4.7,baz=101,slow=9.7,SNR=10
CRVS Cervenica-Dubn 72.69 319 *eP* **P 10 11 58.7 +3.8**
CRVS Cervenica-Dubn 72.69 319 *e* **P 10 11 58.7 +3.8**
KAF Kangasniemi 72.76 333 *ep* **P 10 11 50.0 -5.1**
comp=Z,0.4nm,0.3s,mb3.8
PSZ Piszkesteto 73.60 318 P **P 10 11 59.7 -0.6**
PSZ pmax pmax
comp=Z,12nm,1.2s,mb4.7
PSZ Piszkesteto 73.60 318 P **P 10 11 59.7 -0.6**
comp=Z,12nm,1.2s,mb4.7
VYHS Vyhne 74.37 318 *eP* **P 10 12 04.4 -0.3**
KEV Kevo 74.81 341 *ep* **P 10 12 05.1 -1.8**
comp=Z,0.4nm,0.4s,mb3.7
OKC Ostrava-Krasne 74.95 319 *eP* **P 10 12 09.6 +1.5**
ARCES ARCESS Array B 75.24 340 P **P 10 12 08.9 -0.4**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 75.24 340 P **P 10 12 08.9 -0.4**
comp=Z,2.8nm,0.7s,mb4.3,baz=90,slow=6.1,SNR=5.6
MORC Moravsky Berou 75.34 319 *eP* **P 10 12 10.3 0.0**
ZST Bratislava 75.49 318 *eP* **P 10 12 11.5 +0.3**
DPC Dobruska-Polom 76.17 320 *eP* **P 10 12 15.7 +0.7**
KSP Ksiaz 76.22 320 *eP* **P 10 12 15.0 -0.3**
KSP *e* 10 12 20.8
UPC Upice 76.38 320 *eP* **P 10 12 18.4 +2.2**
PRU Pruhonice 77.29 319 *eP* **P 10 12 24.1 +2.8**
PVCC Panska Ves 77.30 320 *eP* **P 10 12 21.5 +0.1**
BRG Berggiesshubel 77.71 320 *iP* **P 10 12 25.8 +2.2**
BRG pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
BRG Berggiesshubel 77.71 320 *iP* **P 10 12 25.8 +2.2**
comp=Z,8.4nm,1.1s,mb4.6
GERES GERESS Array B 77.79 318 P **P 10 12 24.5 +0.4**
GERES pmax pmax
comp=Z,6.0nm,0.9s
GERES GERESS Array B 77.79 318 P **P 10 12 24.5 +0.4**
comp=Z,6.1nm,0.9s,mb4.5,baz=92,slow=4.9,SNR=13
KHC Kasperske Hory 77.88 318 *eP* **P 10 12 24.5 -0.1**
CLL Collm 78.32 321 *eP* **P 10 12 27.0 0.0**
CLL Collm 78.32 321 P **P 10 12 27.0 0.0**
HFS Hagfors 78.42 330 P **P 10 12 27.2 -0.1**
HFS pmax pmax
comp=Z,33nm,1.2s
HFS Hagfors 78.42 330 P **P 10 12 27.2 -0.1**
comp=Z,33nm,1.2s,mb5.1,baz=104,slow=6.1,SNR=8.0
MAW Mawson 78.53 192 P **P 10 12 30.1 +2.3**
MAW pmax pmax
comp=Z,3.0nm,0.7s
MAW Mawson 78.53 192 P **P 10 12 30.1 +2.3**
comp=Z,3.2nm,0.7s,mb4.3,baz=287,slow=16,SNR=3.5
NKC Novy Kostel 78.64 320 *eP* **P 10 12 29.1 +0.3**
NB2 NORSAR Subarra 79.70 331 P **P 10 12 33.6 -0.7**
comp=Z,9.9nm,0.9s,mb4.7,baz=91,slow=5.3
NB2 NORSAR Subarra 79.70 331 P **P 10 12 33.6 -0.7**
NB2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
NOA NORSAR Array B 79.70 331 P **P 10 12 34.0 -0.3**
NOA pmax pmax
comp=Z,6.0nm,0.9s
NOA NORSAR Array B 79.70 331 P **P 10 12 34.0 -0.3**
comp=Z,6.1nm,0.8s,mb4.6,baz=92,slow=5.6,SNR=8.0
NOA NORSAR Array B 79.70 331 P **P 10 12 34.0 -0.3**
DAVOX Davos 80.35 316 P **P 10 12 38.8 +0.7**
comp=Z,7.2nm,0.7s,mb4.7,baz=84,slow=6.9,SNR=5.0
LPG La Plagne 82.58 315 *eP* **P 10 12 50.6 +0.9**
comp=Z,14nm,0.9s,mb4.7
LPG La Plagne 82.58 315 *eP* **P 10 12 50.6 +0.9**
LPG pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
EKA Eskdalemuir Ar 87.69 325 P **P 10 13 16.1 +1.3**
EKA pmax pmax
comp=Z,5.0nm,0.9s
EKA Eskdalemuir Ar 87.69 325 P **P 10 13 16.1 +1.2**
comp=Z,4.6nm,0.9s,mb4.7,baz=28,slow=25,SNR=5.5
ESDC Sonseca Array 91.17 310 P **P 10 13 30.8 -0.9**
comp=Z,0.9nm,0.6s,mb4.3,baz=297,slow=37,SNR=3.8
ILAR Eielson Array 94.75 22 P **P 10 13 47.8 +0.4**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 94.75 22 P **P 10 13 47.8 +0.3**
comp=Z,0.5nm,0.7s,mb4.1,baz=315,slow=6.1,SNR=4.5
INK Inuvik 97.00 16 P **P 10 13 57.0 -0.6**
INK pmax pmax
comp=Z,4.0nm,1.2s
INK Inuvik 97.00 16 P **P 10 13 57.0 -0.6**
comp=Z,4.0nm,1.2s,mb4.7,baz=272,slow=3.4,SNR=3.9
YKA Yellowknife Ar 106.43 13 Pdiff Pdif 10 14 40.4 +0.7
comp=Z,0.2nm,1.0s,baz=48,slow=9.4,SNR=2.4
NVAR Mina Array Bea 124.94 31 PKP PKPdf 10 19 29.4 +3.7
comp=Z,2.0nm,0.7s,baz=261,slow=4.2,SNR=5.6
PDAR Pinedale Array 125.18 21 PKP PKPdf 10 19 27.9 +1.9
comp=Z,1.8nm,0.9s,baz=74,slow=0.7,SNR=9.8
TXAR Lajitas Array 139.24 24 PKP PKPdf 10 19 54.6 +1.8
comp=Z,0.4nm,0.6s,baz=329,slow=2.4,SNR=5.5
PLCA Paso Flores 144.54 200 PKIKP PKPdf 10 20 03.3 +1.5
PLCA pmax pmax
comp=Z,8.0nm,0.9s
PLCA Paso Flores 144.54 200 PKP PKPdf 10 20 03.3 +1.5
comp=Z,7.7nm,0.9s,baz=198,slow=1.6,SNR=12
SJG San Juan 147.63 323 PKP2 PKPab 10 20 13.0 -1.8
SJG pmax pmax
comp=Z,15nm,0.3s
SJG San Juan 147.63 323 PKPbc PKPdf 10 20 13.0 +5.4
comp=Z,15nm,0.2s,baz=338,slow=19,SNR=5.0
SDV Santo Domingo 157.44 317 PKPab PKPab 10 20 54.1 -1.9
comp=Z,4.0nm,0.8s,baz=45,slow=21,SNR=3.5
LPAZ La Paz 160.73 243 PKPab PKPab 10 20 26.4 -44
comp=Z,1.7nm,1.0s,baz=57,slow=9.0,SNR=3.9

*IDC **28** 10:03:54.5±1.1, 8.35N×93.46E, mb4.0/13, mb1 4.1/14, mb1mx4.0/21, mbtmp4.0/14, ML3.7/1, Error ellipse: s-maj=36.3km s-min=25.1km az=41.0*
*NEIC **28** 10:03:59.3±0.7, 8.43N×93.59E, h30km, mb4.2/2, Error ellipse: s-maj=17.6km s-min=16.2km az=55.0*
ISC 28 10:03:54.6±1.0, 8.4N±0.1×93.6E±0.1, h10km, n17, σ0§87/16, mb4.0/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.24**	**27**	Pn	**P**	**10 06 37.4**	**-1.2**
	0.2nm,0.3s,baz=210,slow=12,SNR=3.0						
SONM	**Songino Array**	**40.74**	**13**	P	**P**	**10 11 36.9**	**-0.4**
	1.4nm,1.0s,mb3.5,baz=199,slow=10,SNR=3.6						
KURK	**Kurchatov**	**43.92**	**346**	*eP*	**P**	**10 12 03.6**	**+0.3**
	4.1nm,1.0s,mb4.1						
ZAL	**Zalesovo**	**45.91**	**353**	P	**P**	**10 12 20.2**	**+1.1**
	1.5nm,0.5s,mb4.2,baz=314,slow=5.9,SNR=3.7						
BVAR	**Borovoye Array**	**48.27**	**341**	P	**P**	**10 12 38.3**	**+0.5**
	1.0nm,0.7s,mb4.0,baz=158,slow=16,SNR=3.3						
CHKZ	**Chkalovo**	**48.76**	**342**	*eP*	**P**	**10 12 41.6**	**+0.1**
	2.0nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**49.05**	**126**	P	**P**	**10 12 43.9**	**-0.4**
	0.3nm,0.7s,mb3.4,baz=302,slow=8.9,SNR=2.6						
BRTR	**Keskin Array B**	**61.63**	**311**	P	**P**	**10 14 14.2**	**-0.7**
	1.0nm,0.8s,mb4.0,baz=124,slow=7.8,SNR=3.6						
AKASG	**Malin Array Be**	**67.36**	**322**	P	**P**	**10 14 50.6**	**-1.5**
	0.2nm,0.3s,mb3.7,baz=95,slow=4.4,SNR=3.8						
IDI	**Anoyia**	**67.78**	**305**	P	**P**	**10 14 54.7**	**-0.4**
	3.3nm,0.6s,mb4.6,baz=99,slow=9.4,SNR=3.5						
FINES	**FINESS Array B**	**71.94**	**332**	P	**P**	**10 15 20.1**	**0.0**
	3.2nm,0.9s,mb4.2,baz=135,slow=5.4,SNR=3.7						
ARCES	**ARCESS Array B**	**74.54**	**340**	P	**P**	**10 15 36.2**	**+1.2**
	2.7nm,0.9s,mb4.2,baz=108,slow=3.8,SNR=3.6						
GERES	**GERESS Array B**	**77.02**	**318**	P	**P**	**10 15 49.6**	**+0.1**
	1.1nm,0.6s,mb4.0,baz=76,slow=5.5,SNR=7.0						
HFS	**Hagfors**	**77.68**	**330**	P	**P**	**10 15 52.3**	**-0.5**
	2.1nm,0.6s,mb4.3,baz=101,slow=7.6,SNR=5.0						
NOA	**NORSAR Array B**	**78.96**	**331**	P	**P**	**10 15 59.7**	**-0.1**
	1.2nm,0.8s,mb3.9,baz=90,slow=5.3,SNR=3.1						
ILAR	**Eielson Array**	**94.44**	**22**	P	**P**	**10 17 18.1**	**+2.4**
	0.3nm,0.5s,mb3.9,baz=196,slow=10.0,SNR=4.1						
TXAR	**Lajitas Array**	**138.94**	**23**	PKP	PKPdf	10 23 22.8	-2.5
	0.2nm,0.5s,baz=232,slow=1.7,SNR=4.2						

*BJI **28** 10:04:36.9, 7.64N×93.72E, h53km, mB5.1, mb4.6, Ms4.7, Msz4.5*
*NEIC **28** 10:04:37.4±0.4, 7.89N×94.16E, h30km, mb4.6/12, Error ellipse: s-maj=12.8km s-min=9.0km az=64.0*
*IDC **28** 10:04:41.5±4.2, 7.94N×94.24E, h66km±38km, mb4.1/22, mb1 4.2/23, mb1mx4.2/27, mbtmp4.4/23, ML4.4/1, Error ellipse: s-maj=23.0km s-min=11.5km az=48.0*
ISC 28 10:04:35.5±0.4, 7.90N±0.06×94.24E±0.08, h30km, n52, σ0§95/47, mb4.6/41, MS4.5/1, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.44**	**23**	P	**P**	**10 07 22.0**	**+1.8**
	0.8nm,0.3s,baz=211,slow=14,SNR=12						
HYB	**Hyderabad**	**17.98**	**303**	*iP*	**P**	**10 08 46.5**	**+1.3**
JIRN	**Jiri**	**21.08**	**340**	*eP*	**P**	**10 09 19.8**	**-0.1**
	104nm,1.0s,mb5.1						
PKI	**Pulchoki**	**21.28**	**338**	*eP*	**P**	**10 09 21.6**	**-0.3**
	54nm,0.7s,mb5.0						
DMN	**Daman**	**21.42**	**337**	*eP*	**P**	**10 09 23.4**	**0.0**
	92nm,0.9s,mb5.1						
KKN	**Kakani**	**21.52**	**338**	*eP*	**P**	**10 09 24.4**	**0.0**
	35nm,0.6s,mb5.0						
LSA	**Lhasa**	**21.88**	**353**	*eP*	**P**	**10 09 27.9**	**0.0**
	30nm,0.8s,mb4.8						
GKN	**Gorkha**	**21.96**	**337**	*eP*	**P**	**10 09 28.9**	**+0.2**
	79nm,0.8s,mb5.2						
KOLN	**Koldanda**	**22.18**	**334**	*eP*	**P**	**10 09 31.6**	**+0.7**
	72nm,0.9s,mb5.1						
WMQ	**Urumqi**	**36.23**	**352**	*eP*	**P**	**10 11 38.5**	**+0.6**
WMQ				AP	pP	10 11 48.3	+1.5
WMQ				PP	PP	10 13 01.3	+0.2
WMQ				S	**S**	**10 17 15.0**	**-0.6**
WMQ				AMB	AMB		
	comp=Z,31nm,1.2s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,175nm,5.4s						
WMQ				LR	LR		
	comp=N,489nm,17.3s,MS4.4						
WMQ				LR	LR		
	comp=E,377nm,17.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,675nm,17.6s,MS4.5						
AAK	**Ala-Archa**	**38.72**	**337**	*eP*	**P**	**10 11 58.2**	**-0.6**
	comp=Z,7.9nm,1.0s,mb4.4						
SONM	**Songino Array**	**41.11**	**12**	P	**P**	**10 12 19.7**	**+1.2**
	comp=Z,4.9nm,1.0s,mb4.1,baz=200,slow=7.9,SNR=8.6						
SONM				PcP	PcP	10 14 18.0	-0.3
	comp=Z,1.2nm,0.6s,baz=197,slow=3.6,SNR=5.9						
KURK	**Kurchatov**	**44.61**	**346**	*eP*	**P**	**10 12 46.3**	**-0.6**
	comp=Z,10nm,0.9s,mb4.7						
NWAO	**Narrogin (SRO)**	**46.13**	**153**	P	**P**	**10 12 59.4**	**+0.1**
	comp=Z,4.0nm,0.6s,mb4.5,baz=321,slow=6.9,SNR=4.9						
HIA	**Hailar**	**46.45**	**23**	*eP*	**P**	**10 13 01.6**	**0.0**
	comp=Z,7.1nm,0.8s,mb4.7						
ZAL	**Zalesovo**	**46.53**	**352**	P	**P**	**10 13 02.5**	**+0.4**
	comp=Z,7.7nm,0.4s,mb5.0,baz=310,slow=4.5,SNR=18						
WRA	**Warramunga Arr**	**48.19**	**126**	P	**P**	**10 13 14.6**	**-1.1**
	comp=Z,1.8nm,0.6s,mb4.3,baz=304,slow=8.5,SNR=9.7						
BVAR	**Borovoye Array**	**48.99**	**341**	P	**P**	**10 13 20.6**	**-0.8**
	comp=Z,8.0nm,1.1s,mb4.6,baz=142,slow=9.9,SNR=6.7						
BRVK	**Borovoye**	**49.06**	**341**	*eP*	**P**	**10 13 20.9**	**-0.9**
	comp=Z,3.0nm,0.6s,mb4.5						
BRVK				*ep*P	pP	10 13 26.4	-4.6
RAYN	**Ar Rayn**	**49.17**	**294**	P	**P**	**10 13 24.7**	**+1.6**
	comp=Z,59nm,0.6s,mb5.8,SNR=8.2						
CHKZ	**Chkalovo**	**49.48**	**342**	*eP*	**P**	**10 13 24.3**	**-0.8**
	comp=Z,9.2nm,0.7s,mb4.9						
ASAR	**Alice Springs**	**49.85**	**130**	P	**P**	**10 13 27.4**	**-1.1**
	comp=Z,1.0nm,0.8s,mb3.9,baz=302,slow=7.8,SNR=5.9						
PMG	**Port Moresby**	**55.44**	**107**	P	**P**	**10 14 11.6**	**+1.4**
	comp=Z,7.7nm,0.8s,mb4.8,baz=294,slow=11,SNR=2.6						
KMBO	**Kilima Mbogo**	**57.53**	**264**	P	**P**	**10 14 26.7**	**+1.6**
	comp=Z,3.1nm,0.6s,mb4.5,baz=60,slow=12,SNR=9.4						
ASF	**Jabal al Asfar**	**58.29**	**303**	P	**P**	**10 14 29.9**	**-0.2**
	comp=Z,1.6nm,0.5s,mb4.3,baz=337,slow=2.1,SNR=2.8						
EIL	**Elat**	**59.50**	**300**	P	**P**	**10 14 38.9**	**+0.3**
	comp=Z,1.4nm,0.5s,mb4.3,baz=34,slow=20,SNR=3.4						
EIL	**Elat**	**59.50**	**300**	P	**P**	**10 14 38.9**	**+0.3**
STKA	**Stephens Creek**	**60.05**	**134**	P	**P**	**10 14 42.2**	**-0.2**
	comp=Z,2.9nm,1.1s,mb4.2,baz=344,slow=5.7,SNR=3.0						
BRTR	**Keskin Array B**	**62.49**	**311**	P	**P**	**10 14 56.9**	**-1.8**
	comp=Z,1.1nm,0.5s,mb4.3,baz=130,slow=9.2,SNR=4.8						
AKASG	**Malin Array Be**	**68.19**	**322**	P	**P**	**10 15 33.4**	**-1.9**
	comp=Z,1.6nm,0.7s,mb4.2,baz=90,slow=5.0,SNR=5.5						
MLR	**Muntele Rosu**	**69.22**	**316**	P	**P**	**10 15 41.1**	**-0.7**
	comp=Z,4.5nm,0.9s,mb4.4,baz=86,slow=8.8,SNR=3.9						
JOF	**Joensuu**	**70.87**	**334**	*ep*	**P**	**10 15 50.8**	**-0.7**
	comp=Z,1.1nm,0.3s,mb4.3						
FINES	**FINESS Array B**	**72.73**	**332**	P	**P**	**10 16 01.8**	**-0.8**
	comp=Z,3.5nm,0.5s,mb4.5,baz=96,slow=5.8,SNR=32						
LBTB	**Lobatse**	**74.35**	**241**	*eP*	**P**	**10 16 13.5**	**+0.7**
	comp=Z,3.8nm,0.7s,mb4.4						
KEV	**Kevo**	**74.84**	**341**	*ep*	**P**	**10 16 12.1**	**-2.6**
	comp=Z,0.8nm,0.4s,mb4.0						
ARCES	**ARCESS Array B**	**75.27**	**340**	P	**P**	**10 16 17.1**	**-0.1**
	comp=Z,2.7nm,0.5s,mb4.5,baz=96,slow=5.8,SNR=27						
MORC	**Moravsky Berou**	**75.42**	**319**	*eP*	**P**	**10 16 18.5**	**+0.1**
	comp=Z,3.3nm,0.8s,mb4.3						
BOSA	**Boshof**	**75.69**	**238**	*eP*	**P**	**10 16 20.7**	**+0.3**
	comp=Z,4.5nm,0.6s,mb4.6						
GERES	**GERESS Array B**	**77.87**	**318**	P	**P**	**10 16 31.8**	**-0.3**
	comp=Z,2.3nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=6.4						
HFS	**Hagfors**	**78.48**	**330**	P	**P**	**10 16 34.7**	**-0.6**
	comp=Z,6.7nm,0.4s,mb4.9,baz=104,slow=6.1,SNR=41						
NB2	**NORSAR Subarra**	**79.76**	**331**	P	**P**	**10 16 41.3**	**-0.8**
	comp=Z,3.1nm,0.5s,mb4.5,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**79.76**	**331**	P	**P**	**10 16 41.1**	**-1.0**
	comp=Z,3.0nm,0.7s,mb4.3,baz=95,slow=5.1,SNR=10						
DAVOX	**Davos**	**80.44**	**316**	P	**P**	**10 16 47.3**	**+1.2**
	comp=Z,5.2nm,0.9s,mb4.5						
SYO	**Syowa Base**	**85.46**	**197**	⇓pP	pP	10 17 21.3	+0.3
EKA	**Eskdalemuir Ar**	**87.76**	**325**	P	**P**	**10 17 23.7**	**+0.9**
	comp=Z,3.5nm,0.9s,mb4.6,baz=108,slow=5.3,SNR=3.6						
IMA	**Indian Mountai**	**91.56**	**22**	*eP*	**P**	**10 17 42.4**	**+2.0**
ILAR	**Eielson Array**	**94.68**	**22**	P	**P**	**10 17 55.1**	**+0.3**
	comp=Z,0.7nm,0.9s,mb4.1,baz=359,slow=7.0,SNR=4.6						
NVAR	**Mina Array Bea**	**124.84**	**31**	PKP	PKPdf	10 23 35.2	-3.1
	comp=Z,0.7nm,0.8s,baz=44,slow=1.9,SNR=3.6						
NVAR	**Mina Array Bea**	**124.84**	**31**	PKP	PKPdf	10 23 35.2	-3.1
PDAR	**Pinedale Array**	**125.10**	**21**	PKP	PKPdf	10 23 35.5	-3.1
	comp=Z,0.5nm,0.7s,baz=90,slow=3.0,SNR=4.5						
TXAR	**Lajitas Array**	**139.16**	**24**	PKiKP		10 24 04.6	
	comp=Z,0.3nm,0.5s,baz=262,slow=0.6,SNR=4.2						
PLCA	**Paso Flores**	**144.61**	**200**	PKP	PKPdf	10 24 10.1	-4.6
	comp=Z,3.5nm,0.9s,baz=177,slow=1.9,SNR=6.8						

*ATH **28** 10:07:01.7, 40.04N×21.73E, h9km, MD3.4/3*
*THE **28** 10:07:02.3, 40.08N×21.71E, h6km, ML3.3*
*CSEM **28** 10:07:02.3±0.2, 40.08N×21.71E, h6km±2km, ML3.3, Error ellipse: s-maj=6.2km s-min=3.1km az=80.0, After THE*
ISC 28 10:07:01.8±0.6, 40.05N±0.03×21.73E±0.05, h10km±6km, n16, σ0§87/24, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.25**	**6**	*eP*G	**Pg**	**10 07 07.2**	**0.0**
KZN				*e*SG	**Sg**	**10 07 11.3**	**+0.5**
LIT	**Litokhoron**	**0.58**	**85**	*eP*g	**Pg**	**10 07 13.0**	**-0.6**
LIT				*e*Sg	**Sg**	**10 07 22.5**	**+1.0**
FNA	**Florina**	**0.78**	**340**	*eP*g	**Pg**	**10 07 16.3**	**-1.1**
FNA				*e*Sg	**Sg**	**10 07 26.9**	**-1.0**
BIA	**Bitola**	**1.01**	**342**	*i* Pg	**Pg**	**10 07 21.5**	**-0.6**
BIA				*i* Sg	**Sg**	**10 07 37.5**	**+1.8**
GRG	**Griva**	**1.03**	**29**	*eP*g	**Pg**	**10 07 21.5**	**-1.0**
GRG				*e*Sg	**Sg**	**10 07 36.4**	**0.0**
THE	**Thessaloniki**	**1.10**	**58**	*eP*g	**Pg**	**10 07 23.1**	**-0.8**
AGG	**Agios Georgios**	**1.13**	**156**	*eP*g	**Pg**	**10 07 24.1**	**-0.3**
AGG				*e*Sg	**Sg**	**10 07 41.1**	**+1.6**
EVR	**Evrytania**	**1.14**	**177**	*eP*B	**Pb**	**10 07 22.9**	**-0.2**
OHR	**Ohrid**	**1.27**	**326**	*i* Pn	**Pn**	**10 07 25.4**	**-0.3**
OHR				*i* Sg	**Sg**	**10 07 45.2**	**+0.9**
XOR	**Xorichti**	**1.32**	**121**	*eP*b	**Pb**	**10 07 26.3**	**+0.1**
NEO	**Neokhori**	**1.37**	**123**	*eP*B	**Pb**	**10 07 27.3**	**+0.2**
KNT	**Kendrikon**	**1.42**	**38**	*eP*b	**Pb**	**10 07 28.4**	**+0.5**
KNT				*e*Sb	**Sb**	**10 07 47.0**	**+1.1**
SOH	**Sokhos**	**1.46**	**58**	*eP*b	**Pb**	**10 07 28.0**	**-0.5**
OUR	**Ouranopolis**	**1.75**	**80**	*eP*b	**Pb**	**10 07 32.5**	**-1.0**
SRS	**Serrai**	**1.77**	**53**	*eP*b	**Pb**	**10 07 32.9**	**-1.1**
SKO	**Skopje**	**1.93**	**353**	*eP*n	**Pn**	**10 07 36.5**	**+1.4**

*NEIC **28** 10:10:50.5±0.4, 7.98N×94.21E, h30km, mb4.5/9, Error ellipse: s-maj=18.6km s-min=9.6km az=50.0*
*BJI **28** 10:10:51.8, 7.71N×93.85E, h49km, mB5.2, mb4.5*
*IDC **28** 10:10:56.1±4.3, 8.02N×94.17E, h77km±38km, mb3.9/20, mb1 4.1/21, mb1mx4.1/25, mbtmp4.3/21, ML4.8/1, Error ellipse: s-maj=24.9km s-min=13.3km az=50.0*
ISC 28 10:10:48.9±0.5, 7.82N±0.08×94.21E±0.08, h33km, n51, σ0§18/48, mb4.5/36, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.53**	**23**	P	**P**	**10 13 36.6**	**+2.3**
	2.1nm,0.3s,baz=211,slow=15,SNR=43						
HYB	**Hyderabad**	**18.00**	**303**	*eP*	**P**	**10 14 59.0**	**+0.7**
HYB	**Hyderabad**	**18.00**	**303**	*i* P	**P**	**10 14 59.0**	**+0.7**
HYB				*e*S	**S**	**10 18 17.5**	**+2.4**
JIRN	**Jiri**	**21.14**	**340**	*eP*	**P**	**10 15 34.3**	**+0.9**
	92nm,0.9s,mb5.1						
PKI	**Pulchoki**	**21.34**	**338**	*eP*	**P**	**10 15 36.5**	**+1.1**
	82nm,1.0s,mb5.0						
DMN	**Daman**	**21.49**	**337**	*eP*	**P**	**10 15 38.3**	**+1.4**
	82nm,1.0s,mb5.0						
KKN	**Kakani**	**21.58**	**338**	*eP*	**P**	**10 15 38.8**	**+0.9**
	36nm,0.7s,mb4.9						
KAD	**Karad**	**21.68**	**298**	*eP*	**P**	**10 15 38.0**	**-0.9**
LSA	**Lhasa**	**21.95**	**353**	*eP*	**P**	**10 15 42.1**	**+0.6**
	32nm,0.6s,mb4.9						
GKN	**Gorkha**	**22.02**	**337**	*eP*	**P**	**10 15 42.7**	**+0.5**
	64nm,0.7s,mb5.2						
KOLN	**Koldanda**	**22.24**	**334**	*eP*	**P**	**10 15 45.3**	**+0.9**
	61nm,0.9s,mb5.0						
POO	**Poona**	**22.47**	**300**	*e*	**P**	**10 15 47.0**	**+0.2**
DDI	**Dehra Dun**	**27.02**	**328**	*e*	**P**	**10 16 33.0**	**+2.8**
SONM	**Songino Array**	**41.20**	**12**	P	**P**	**10 18 32.1**	**0.0**
	2.0nm,0.7s,mb3.9,baz=192,slow=8.2,SNR=11						
SONM				PcP	PcP	10 20 31.2	-0.2
	1.0nm,0.6s,baz=191,slow=3.6,SNR=3.9						
KURK	**Kurchatov**	**44.68**	**346**	*eP*	**P**	**10 18 59.4**	**-1.0**
	9.2nm,1.0s,mb4.6						
NWAO	**Narrogin (SRO)**	**46.07**	**153**	P	**P**	**10 19 12.8**	**+1.1**
	8.2nm,0.8s,mb4.7,baz=78,slow=12,SNR=4.1						
ZAL	**Zalesovo**	**46.61**	**352**	P	**P**	**10 19 14.8**	**-0.9**
	4.6nm,0.7s,mb4.5,baz=295,slow=2.6,SNR=10						
ZAL	**Zalesovo**	**46.61**	**352**	P	**P**	**10 19 14.8**	**-0.9**
WRA	**Warramunga Arr**	**48.17**	**126**	P	**P**	**10 19 29.6**	**+1.2**

*IDC **28** 10:14:17.1±7.1, 7.65N×94.07E, h77km±65km, mb3.7/8, mb1 3.8/9, mb1mx3.6/22, mbtmp4.1/9, ML3.7/1, Error ellipse: s-maj=55.8km s-min=21.8km az=69.0*

ISC 28 10:14:09.7±0.9, 7.5N±0.1×93.8E±0.2, h30km, n15, σ0§62/13, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.95**	**24**	P	**P**	**10 17 02.1**	**+0.9**
	0.2nm,0.3s,baz=184,slow=33,SNR=3.1						
SONM	**Songino Array**	**41.56**	**13**	P	**P**	**10 21 56.0**	**-0.3**
	0.8nm,0.8s,mb3.4,baz=76,slow=7.4,SNR=3.1						
KURK	**Kurchatov**	**44.86**	**346**	*eP*	**P**	**10 22 22.6**	**-0.5**
	1.2nm,0.4s,mb4.1						
NWAO	**Narrogin (SRO)**	**46.00**	**152**	P	**P**	**10 22 32.3**	**-0.2**
	4.0nm,0.8s,mb4.4,baz=17,slow=9.2,SNR=2.9						
ZAL	**Zalesovo**	**46.84**	**353**	P	**P**	**10 22 38.3**	**-0.5**
	2.0nm,0.4s,mb4.4,baz=326,slow=5.8,SNR=3.3						
BVAR	**Borovoye Array**	**49.20**	**342**	P	**P**	**10 22 57.1**	**0.0**
	0.3nm,0.5s,mb3.6,baz=146,slow=10,SNR=2.5						
CHKZ	**Chkalovo**	**49.69**	**342**	*eP*	**P**	**10 22 59.9**	**-1.0**
	1.8nm,0.8s,mb4.2						
IDI	**Anoyia**	**68.49**	**305**	P	**P**	**10 25 12.9**	**+1.2**
	4.5nm,0.7s,mb4.6,baz=38,slow=21,SNR=2.3						
FINES	**FINESS Array B**	**72.86**	**332**	P	**P**	**10 25 37.5**	**0.0**
	1.8nm,0.8s,mb4.0,baz=90,slow=5.7,SNR=3.6						
FINES	**FINESS Array B**	**72.86**	**332**	P	**P**	**10 25 37.5**	**0.0**
GERES	**GERESS Array B**	**77.86**	**318**	P	**P**	**10 26 06.8**	**+0.6**
	0.3nm,0.5s,mb3.5,baz=53,slow=6.7,SNR=3.0						
GERES	**GERESS Array B**	**77.86**	**318**	P	**P**	**10 26 06.8**	**+0.6**
HFS	**Hagfors**	**78.58**	**330**	P	**P**	**10 26 09.8**	**-0.1**
	1.4nm,0.7s,mb4.0,baz=146,slow=5.3,SNR=4.3						
PLCA	**Paso Flores**	**144.12**	**200**	PKP	PKPdf	10 33 46.2	-1.8
	1.3nm,0.9s,baz=164,slow=14,SNR=2.9						
PLCA	**Paso Flores**	**144.12**	**200**	PKP	PKPdf	10 33 46.2	-1.8

*BJI **28** 10:14:26.6, 7.86N×94.09E, h40km, mB4.8, mb4.4, Ms4.9, Msz4.5*

*NEIC **28** 10:14:26.1±0.5, 7.98N×94.30E, h30km, mb4.4/3, Error ellipse: s-maj=22.2km s-min=12.0km az=55.0*

*IDC **28** 10:14:31.8±5.0, 8.02N×94.38E, h79km±44km, mb3.8/15, mb1 4.0/16, mb1mx3.9/22, mbtmp4.1/16, ML4.4/1, Error ellipse: s-maj=32.1km s-min=15.0km az=47.0*

ISC 28 10:14:27.3±4.9, 8.0N±0.1×94.3E±0.2, h54km±43km, n28, σ1§01/25, mb4.2/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.36**	**23**	P	**P**	**10 17 09.8**	**+0.2**
	0.8nm,0.3s,baz=211,slow=14,SNR=11						
LSA	**Lhasa**	**21.84**	**353**	*eP*	**P**	**10 19 17.3**	**+0.5**
LSA	**Lhasa**	**21.84**	**353**	*eP*	**P**	**10 19 17.1**	**+0.3**
	9.4nm,0.6s,mb4.4						
NDI	**New Delhi**	**26.18**	**324**	*e*	**P**	**10 20 02.0**	**+3.3**
NDI				*eP*		10 26 48.5	
DDI	**Dehra Dun**	**26.97**	**328**	*e*	**S**	**10 24 45.0**	**+7.4**
SONM	**Songino Array**	**41.05**	**12**	P	**P**	**10 22 06.1**	**-0.9**
	0.7nm,0.8s,mb3.3,baz=214,slow=5.2,SNR=4.0						
KURK	**Kurchatov**	**44.58**	**346**	*eP*	**P**	**10 22 33.3**	**-2.5**
	10nm,1.1s,mb4.6						
ZAL	**Zalesovo**	**46.49**	**352**	P	**P**	**10 22 50.5**	**-0.4**
	2.5nm,0.7s,mb4.2,baz=316,slow=3.6,SNR=5.3						
WRA	**Warramunga Arr**	**48.16**	**126**	P	**P**	**10 23 04.8**	**+0.4**
	1.8nm,1.1s,mb4.0,baz=302,slow=9.2,SNR=4.9						
ASAR	**Alice Springs**	**49.82**	**130**	P	**P**	**10 23 15.9**	**-1.3**
	1.1nm,0.7s,mb4.0,baz=308,slow=6.3,SNR=5.4						
KMBO	**Kilima Mbogo**	**57.62**	**264**	P	**P**	**10 24 13.4**	**-1.3**
	2.2nm,0.9s,mb4.2,baz=54,slow=17,SNR=4.2						
KMBO	**Kilima Mbogo**	**57.62**	**264**	*eP*	**P**	**10 24 13.2**	**-1.4**
	3.3nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**60.03**	**134**	P	**P**	**10 24 32.4**	**+1.3**
	2.0nm,0.9s,mb4.2,baz=18,slow=3.7,SNR=3.4						
STKA	**Stephens Creek**	**60.03**	**134**	P	**P**	**10 24 32.4**	**+1.3**
BRTR	**Keskin Array B**	**62.52**	**311**	P	**P**	**10 24 47.4**	**-0.5**
	0.8nm,0.6s,mb4.0,baz=136,slow=6.1,SNR=3.5						
AKASG	**Malin Array Be**	**68.21**	**322**	P	**P**	**10 25 24.4**	**+0.3**
	0.5nm,0.5s,mb3.8,baz=82,slow=4.2,SNR=5.4						
IDI	**Anoyia**	**68.67**	**305**	P	**P**	**10 25 27.4**	**+0.1**
	4.4nm,0.7s,mb4.5,baz=293,slow=2.7,SNR=3.8						
MLR	**Muntele Rosu**	**69.24**	**316**	P	**P**	**10 25 31.3**	**+0.7**
	5.3nm,1.1s,mb4.4,baz=65,slow=5.7,SNR=2.9						
FINES	**FINESS Array B**	**72.73**	**332**	P	**P**	**10 25 52.0**	**+0.7**
	3.9nm,0.9s,mb4.3,baz=108,slow=4.4,SNR=4.7						
ARCES	**ARCESS Array B**	**75.25**	**340**	P	**P**	**10 26 04.7**	**-1.1**
	1.4nm,0.6s,mb4.1,baz=90,slow=6.3,SNR=3.6						
ARCES	**ARCESS Array B**	**75.25**	**340**	P	**P**	**10 26 04.7**	**-1.1**
GERES	**GERESS Array B**	**77.89**	**318**	P	**P**	**10 26 22.3**	**+1.3**
	1.3nm,0.8s,mb3.9,baz=90,slow=5.3,SNR=5.7						
HFS	**Hagfors**	**78.48**	**330**	P	**P**	**10 26 23.9**	**-0.1**
	5.3nm,1.0s,mb4.4,baz=112,slow=8.0,SNR=5.6						
NB2	**NORSAR Subarra**	**79.75**	**331**	P	**P**	**10 26 32.3**	**+1.4**
	6.8nm,1.2s,mb4.5,baz=92,slow=5.6						
DAVOX	**Davos**	**80.46**	**316**	P	**P**	**10 26 34.6**	**-0.4**
	2.8nm,0.7s,mb4.3,baz=155,slow=24,SNR=2.8						
NVAR	**Mina Array Bea**	**124.75**	**31**	PKP	PKPdf	10 33 22.5	+0.9
	0.2nm,0.3s,baz=312,slow=11,SNR=2.3						
PDAR	**Pinedale Array**	**125.03**	**21**	PKP	PKPdf	10 33 20.7	-1.3
	0.3nm,0.8s,baz=72,slow=2.9,SNR=2.4						
PLCA	**Paso Flores**	**144.69**	**200**	PKP	PKPdf	10 33 59.5	+1.2
	4.2nm,1.1s,baz=142,slow=9.7,SNR=4.2						

*NEIC **28** 10:14:49.7±1.6, 8.02N×94.08E, h30km, mb4.3/1, Error ellipse: s-maj=40.8km s-min=19.2km az=133.0*

*IDC **28** 10:14:57.2±6.6, 8.41N×94.19E, h83km±54km, mb3.9/12, mb1 4.1/13, mb1mx3.9/23, mbtmp4.3/13, ML4.4/1, Error ellipse: s-maj=49.2km s-min=39.5km az=137.0*

ISC 28 10:14:50.0±5.1, 8.3N±0.7×93.9E±0.5, h30km, n15, σ0§97/14, mb4.2/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.18**	**25**	P	**P**	**10 17 32.0**	**+0.9**
	0.8nm,0.3s,baz=224,slow=13,SNR=6.4						
SONM	**Songino Array**	**40.76**	**13**	P	**P**	**10 22 28.6**	**-1.5**
	1.2nm,0.8s,mb3.6,baz=191,slow=6.3,SNR=3.3						
KURK	**Kurchatov**	**44.12**	**346**	*eP*	**P**	**10 22 57.8**	**+0.3**
	2.3nm,0.5s,mb4.2						
ZAL	**Zalesovo**	**46.07**	**353**	P	**P**	**10 23 12.2**	**-0.8**
	2.7nm,0.5s,mb4.5,baz=337,slow=5.9,SNR=3.7						
EIL	**Elat**	**59.02**	**300**	P	**P**	**10 24 50.4**	**+0.6**
	1.9nm,0.7s,mb4.3,baz=63,slow=13,SNR=3.0						
BRTR	**Keskin Array B**	**61.97**	**311**	P	**P**	**10 25 09.8**	**0.0**
	0.8nm,0.7s,mb4.0,baz=117,slow=8.3,SNR=3.6						
AKASG	**Malin Array Be**	**67.67**	**322**	P	**P**	**10 25 47.2**	**+0.8**
	0.4nm,0.3s,mb3.9,baz=88,slow=4.9,SNR=3.2						
IDI	**Anoyia**	**68.13**	**305**	P	**P**	**10 25 49.2**	**-0.5**
	4.5nm,0.7s,mb4.6,baz=34,slow=8.3,SNR=2.9						
MLR	**Muntele Rosu**	**68.70**	**316**	P	**P**	**10 25 51.8**	**-1.2**
	2.4nm,0.7s,mb4.3,baz=295,slow=6.8,SNR=3.5						
FINES	**FINESS Array B**	**72.21**	**332**	P	**P**	**10 26 11.8**	**-2.1**
	2.0nm,0.7s,mb4.2,baz=139,slow=18,SNR=3.7						
GERES	**GERESS Array B**	**77.34**	**318**	P	**P**	**10 26 44.0**	**+0.4**
	1.7nm,0.6s,mb4.1,baz=76,slow=5.5,SNR=7.1						
HFS	**Hagfors**	**77.95**	**330**	P	**P**	**10 26 47.5**	**+0.7**
	3.4nm,0.7s,mb4.4,baz=101,slow=7.6,SNR=3.2						
NOA	**NORSAR Array B**	**79.23**	**331**	P	**P**	**10 26 55.2**	**+1.5**
	2.7nm,0.9s,mb4.2,baz=93,slow=5.4,SNR=4.3						
DAVOX	**Davos**	**79.92**	**316**	P	**P**	**10 26 58.1**	**+0.4**
	5.3nm,0.9s,mb4.5,baz=347,slow=4.1,SNR=3.5						
PLCA	**Paso Flores**	**144.90**	**201**	PKPbc	PKPbc	10 34 24.0	-0.6
	2.4nm,0.8s,baz=96,slow=4.4,SNR=4.1						

*NEIC **28** 10:17:54.9±0.4, 7.67N×94.03E, h30km, mb4.2/2, Error ellipse: s-maj=15.7km s-min=8.8km az=60.0*

*IDC **28** 10:18:03.3±5.2, 7.96N×94.39E, h100km±48km, mb3.8/15, mb1 3.9/16, mb1mx3.8/23, mbtmp4.1/16, Error ellipse: s-maj=27.2km s-min=14.9km az=56.0*

ISC 28 10:17:53.5±0.6, 7.73N±0.10×94.1E±0.1, h33km, n26, σ0§52/25, mb4.3/23, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.66**	**23**	P	**P**	**10 20 41.8**	**+1.1**
	0.3nm,0.3s,baz=215,slow=14,SNR=2.8						
JIRN	**Jiri**	**21.19**	**340**	*eP*	**P**	**10 22 38.8**	**+0.3**
	18nm,0.5s,mb4.7						
PKI	**Pulchoki**	**21.38**	**338**	*eP*	**P**	**10 22 40.4**	**0.0**
	30nm,0.7s,mb4.7						
DMN	**Daman**	**21.52**	**338**	*eP*	**P**	**10 22 41.8**	**-0.1**
	26nm,0.7s,mb4.8						
KKN	**Kakani**	**21.62**	**338**	*eP*	**P**	**10 22 42.4**	**-0.5**
	26nm,0.7s,mb4.7						
GKN	**Gorkha**	**22.06**	**337**	*eP*	**P**	**10 22 47.0**	**-0.2**
	32nm,0.8s,mb4.8						
KOLN	**Koldanda**	**22.27**	**335**	*eP*	**P**	**10 22 48.9**	**-0.4**
	20nm,0.7s,mb4.6						
SONM	**Songino Array**	**41.31**	**13**	P	**P**	**10 25 37.7**	**+0.1**
	1.8nm,0.8s,mb3.8,baz=196,slow=8.1,SNR=7.6						
KURK	**Kurchatov**	**44.73**	**346**	*eP*	**P**	**10 26 05.3**	**-0.1**
	2.5nm,0.6s,mb4.2						
NWAO	**Narrogin (SRO)**	**46.04**	**153**	P	**P**	**10 26 16.1**	**0.0**
	7.2nm,1.1s,mb4.5,baz=31,slow=17,SNR=3.6						
ZAL	**Zalesovo**	**46.68**	**352**	P	**P**	**10 26 20.6**	**-0.2**
	4.4nm,0.5s,mb4.7,baz=294,slow=6.3,SNR=15						
WRA	**Warramunga Arr**	**48.22**	**125**	P	**P**	**10 26 33.5**	**+0.1**
	0.7nm,0.6s,mb3.9,baz=305,slow=8.6,SNR=5.3						
WRAB	**Tennant Creek**	**48.22**	**125**	P	**P**	**10 26 33.3**	**-0.2**
	1.1nm,0.4s,mb4.2						
BVAR	**Borovoye Array**	**49.11**	**341**	P	**P**	**10 26 39.0**	**-0.8**
	1.2nm,0.7s,mb4.0,baz=127,slow=7.4,SNR=5.2						
ASAR	**Alice Springs**	**49.86**	**130**	P	**P**	**10 26 45.8**	**-0.2**
	0.3nm,0.6s,mb3.5,baz=296,slow=7.1,SNR=2.6						
ASAR				PcP	PcP	10 28 07.0	+0.5
	0.4nm,0.6s,baz=295,slow=2.6,SNR=2.7						
KMBO	**Kilima Mbogo**	**57.36**	**264**	P	**P**	**10 27 45.4**	**+3.9**
	0.9nm,0.7s,mb3.9,baz=57,slow=21,SNR=2.6						
EIL	**Elat**	**59.45**	**300**	P	**P**	**10 27 57.1**	**+1.2**
	3.0nm,0.9s,mb4.3,baz=72,slow=21,SNR=2.3						
BRTR	**Keskin Array B**	**62.48**	**311**	P	**P**	**10 28 16.4**	**+0.1**
	0.7nm,0.6s,mb4.0,baz=129,slow=8.6,SNR=2.8						
MLR	**Muntele Rosu**	**69.24**	**316**	P	**P**	**10 28 59.6**	**+0.4**
	2.1nm,0.9s,mb4.1,baz=193,slow=18,SNR=2.7						
FINES	**FINESS Array B**	**72.81**	**332**	P	**P**	**10 29 19.9**	**-0.5**
	2.5nm,0.7s,mb4.3,baz=153,slow=4.3,SNR=6.2						
ARCES	**ARCESS Array B**	**75.38**	**340**	P	**P**	**10 29 35.1**	**-0.1**
	3.7nm,0.7s,mb4.4,baz=72,slow=3.8,SNR=4.9						
GERES	**GERESS Array B**	**77.90**	**318**	P	**P**	**10 29 50.3**	**+0.5**
	0.8nm,0.7s,mb3.8,baz=101,slow=6.8,SNR=5.2						
HFS	**Hagfors**	**78.55**	**330**	P	**P**	**10 29 52.7**	**-0.4**
	4.7nm,1.0s,mb4.4,baz=112,slow=8.0,SNR=6.5						
NB2	**NORSAR Subarra**	**79.83**	**331**	P	**P**	**10 30 00.0**	**-0.1**
	0.9nm,0.6s,mb3.9,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.83**	**331**	P	**P**	**10 29 59.9**	**-0.2**
	1.8nm,0.8s,mb4.0,baz=94,slow=5.5,SNR=4.2						
PLCA	**Paso Flores**	**144.40**	**200**	PKP	PKPdf	10 37 28.3	+1.6
	1.7nm,1.0s,baz=96,slow=9.8,SNR=3.3						

*BJI **28** 10:19:46.6, 7.03N×93.54E, h30km, mb4.6*

*NEIC **28** 10:19:55.2±0.3, 7.73N×93.86E, h30km, mb4.5/7, Error ellipse: s-maj=11.6km s-min=7.5km az=61.0*

*IDC **28** 10:20:01.0±4.7, 7.93N×94.14E, h76km±42km, mb3.9/19, mb1 4.1/20, mb1mx4.0/25, mbtmp4.2/20, ML4.3/1, Error ellipse: s-maj=26.1km s-min=13.1km az=49.0*

ISC 28 10:19:53.9±0.5, 7.76N±0.09×93.9E±0.1, h33km, n36, σ0§78/32, mb4.3/26, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.70**	**24**	P	**P**	**10 22 41.3**	**-0.3**
	0.6nm,0.3s,baz=210,slow=15,SNR=5.3						
LSA	**Lhasa**	**21.98**	**354**	*eP*	**P**	**10 24 46.3**	**-0.5**
LSA	**Lhasa**	**21.98**	**354**	*eP*	**P**	**10 24 47.6**	**+0.8**
	17nm,0.8s,mb4.5						
ENH	**Enshi**	**26.73**	**31**	*eP*	**P**	**10 25 33.0**	**+0.5**
	4.9nm,0.8s,mb4.1						
SONM	**Songino Array**	**41.32**	**13**	P	**P**	**10 27 38.1**	**0.0**
	1.8nm,0.9s,mb3.7,baz=201,slow=7.4,SNR=5.6						
KURK	**Kurchatov**	**44.67**	**346**	*eP*	**P**	**10 28 05.0**	**-0.3**
	13nm,1.2s,mb4.6						
NWAO	**Narrogin (SRO)**	**46.15**	**153**	P	**P**	**10 28 17.9**	**+0.5**
	6.5nm,0.6s,mb4.7,baz=326,slow=7.3,SNR=4.3						
ZAL	**Zalesovo**	**46.63**	**353**	P	**P**	**10 28 20.4**	**-0.4**
	3.5nm,0.8s,mb4.3,baz=293,slow=8.3,SNR=7.8						
ZAL	**Zalesovo**	**46.63**	**353**	P	**P**	**10 28 20.4**	**-0.4**
WRA	**Warramunga Arr**	**48.37**	**125**	P	**P**	**10 28 33.2**	**-1.8**
	4.8nm,1.1s,mb4.4,baz=305,slow=8.5,SNR=7.2						
WRAB	**Tennant Creek**	**48.38**	**125**	*eP*	**P**	**10 28 35.0**	**+0.1**
	2.8nm,0.4s,mb4.7						
BVAR	**Borovoye Array**	**49.03**	**341**	P	**P**	**10 28 40.6**	**+1.1**
	2.4nm,0.9s,mb4.2,baz=149,slow=8.6,SNR=4.5						
BRVK	**Borovoye**	**49.09**	**341**	*eP*	**P**	**10 28 39.1**	**-0.8**
	2.8nm,0.9s,mb4.3						
CHKZ	**Chkalovo**	**49.51**	**342**	*eP*	**P**	**10 28 42.4**	**-0.9**
	4.4nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**50.01**	**130**	P	**P**	**10 28 47.6**	**+0.1**
	3.8nm,1.0s,mb4.4,baz=305,slow=6.7,SNR=8.3						
PMG	**Port Moresby**	**55.71**	**107**	P	**P**	**10 29 30.4**	**+0.5**
	4.4nm,0.6s,mb4.7,baz=25,slow=19,SNR=2.8						
PMG	**Port Moresby**	**55.71**	**107**	P	**P**	**10 29 30.4**	**+0.5**
KMBO	**Kilima Mbogo**	**57.19**	**264**	P	**P**	**10 29 44.4**	**+3.8**
	2.2nm,0.9s,mb4.2,baz=46,slow=16,SNR=4.2						
KMBO	**Kilima Mbogo**	**57.19**	**264**	*eP*	**P**	**10 29 39.4**	**-1.2**
	2.9nm,0.9s,mb4.3						
BRTR	**Keskin Array B**	**62.34**	**311**	P	**P**	**10 30 15.6**	**0.0**
	1.2nm,0.7s,mb4.2,baz=135,slow=5.2,SNR=4.3						
AKASG	**Malin Array Be**	**68.11**	**322**	P	**P**	**10 30 53.0**	**+0.5**
	0.3nm,0.3s,mb3.7,baz=91,slow=5.1,SNR=4.9						
IDI	**Anoyia**	**68.45**	**305**	P	**P**	**10 30 54.8**	**-0.1**
	5.0nm,0.6s,mb4.7,baz=355,slow=2.1,SNR=3.7						
MLR	**Muntele Rosu**	**69.10**	**316**	P	**P**	**10 30 58.9**	**+0.1**
	1.8nm,0.9s,mb4.0,baz=118,slow=21,SNR=2.7						
JOF	**Joosuu**	**70.86**	**335**	*ep*	**P**	**10 31 05.0**	**-4.2**
	0.6nm,0.4s,mb3.9						
FINES	**FINESS Array B**	**72.71**	**332**	P	**P**	**10 31 19.1**	**-1.0**
	4.7nm,0.9s,mb4.4,baz=90,slow=7.6,SNR=8.4						
ARCES	**ARCESS Array B**	**75.30**	**340**	P	**P**	**10 31 35.1**	**0.0**
	3.1nm,1.0s,mb4.2,baz=104,slow=5.0,SNR=4.9						
GERES	**GERESS Array B**	**77.77**	**318**	P	**P**	**10 31 50.7**	**+1.2**
	4.3nm,1.0s,mb4.3,baz=90,slow=4.0,SNR=9.7						
HFS	**Hagfors**	**78.44**	**330**	P	**P**	**10 31 52.6**	**-0.3**
	9.0nm,1.0s,mb4.7,baz=108,slow=4.7,SNR=7.4						
NB2	**NORSAR Subarra**	**79.72**	**331**	P	**P**	**10 31 59.4**	**-0.5**
	2.3nm,0.7s,mb4.2,baz=93,slow=5.8						
NOA	**NORSAR Array B**	**79.72**	**331**	P	**P**	**10 32 00.2**	**+0.3**
	2.3nm,0.7s,mb4.2,baz=92,slow=5.7,SNR=6.5						
DAVOX	**Davos**	**80.32**	**316**	P	**P**	**10 32 07.0**	**+3.6**
	1.7nm,0.5s,mb4.2,baz=11,slow=7.8,SNR=4.0						
ILAR	**Eielson Array**	**94.93**	**22**	P	**P**	**10 33 14.8**	**+1.1**
	0.2nm,0.6s,mb3.7,baz=297,slow=4.0,SNR=3.8						
PDAR	**Pinedale Array**	**125.35**	**21**	PKP	PKPdf	10 38 53.0	+1.1
	0.5nm,0.8s,baz=207,slow=3.3,SNR=3.1						
TXAR	**Lajitas Array**	**139.42**	**24**	PKiKP		10 39 22.3	
	0.2nm,0.5s,baz=270,slow=0.9,SNR=3.4						
PLCA	**Paso Flores**	**144.37**	**200**	PKP	PKPdf	10 39 29.2	+2.2
	2.3nm,1.0s,baz=47,slow=5.8,SNR=4.2						
PLCA	**Paso Flores**	**144.37**	**200**	PKP	PKPdf	10 39 29.2	+2.2

*MOS **28** 10:21:17.9±1.6, 8.04N×94.01E, h33km, mb5.1/29, Error ellipse: s-maj=10.8km s-min=5.9km az=109.2*

*BJI **28** 10:21:19.6, 7.94N×93.92E, h41km, mB5.2, mb4.7, Ms4.9, Msz4.7*

*HRVD **28** 10:21:19.2±0.7, 7.66N×93.91E, h19km±3km, MW5.2/38, Centroid moment Tensor Solution. LP body waves: s2,c2; Mantle waves: s38,c54; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.88±1.15; $M_{\theta\theta}$-0.07±.55; $M_{\phi\phi}$3.96±.72; $M_{r\theta}$-4.21±1.54; $M_{\theta\phi}$1.98±.30; $M_{\phi r}$3.36±1.13; Best double couple: $M_0$6.565×10^{16} NP1:ϕ_s45°, δ39°, λ-34°. NP2: ϕ_s163°, δ69°, λ-124°. Principal axes: T 5.251, Plg17°, Azm277°; N 2.636, Plg31°, Azm176°; P -7.88, Plg53°, Azm31°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **28** 10:21:19.2±0.3, 8.10N×94.06E, h30km, mb4.9/20 Error ellipse: s-maj=11.0km s-min=7.4km az=48.0*

*IDC **28** 10:21:24.8±4.4, 8.24N×94.09E, h76km±38km, mb4.0/27, mb1 4.1/28, mb1mx4.1/30, mbtmp4.3/28, ML4.4/1, MS4.3/2, Ms1 4.4/2, ms1mx3.6/23, Error ellipse: s-maj=23.5km s-min=12.5km az=46.0, Putative timing error at LPAZ*

ISC 28 10:21:15.4±0.3, 8.03N±0.06×94.05E±0.05, h16km, h16km±1.2km: pP-P, n165, σ1§11/155, mb4.7/61, MS4.7/3, 1C-2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.41**	**24**	P	**P**	**10 24 02.4**	**+1.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,1μm,18.2s						
CMAR	**Chiang Mai Arr**	**11.41**	**24**	P	**P**	**10 24 02.4**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=214,slow=13,SNR=3.0						
CMAR				LR	LR	10 28 37.0	
	comp=Z,1μm,18.2s,baz=205,slow=39						
VIS	**Vishakhapatnam**	**14.20**	**314**	*eP*	**P**	**10 24 39.3**	**+1.0**
VIS				*e*		10 24 45.6	
	comp=Z,59nm,0.6s						
VIS				*eS*	**S**	**10 27 10.0**	**-6.4**
BWNR	**Bhubaneshwar**	**14.57**	**328**	*eP*	**P**	**10 24 46.4**	**+3.4**
BWNR				*e*		10 24 48.2	
	comp=Z,49nm,1.0s						
BOK	**Bokaro**	**17.52**	**334**	*e*	**P**	**10 25 28.7**	**+7.9**
HYB	**Hyderabad**	**17.75**	**303**	*eP*	**P**	**10 25 25.0**	**+1.4**
HYB				*e*		10 26 25.0	
HYB	**Hyderabad**	**17.75**	**303**	*i P*	**P**	**10 25 25.0**	**+1.4**
	comp=Z,70nm,1.0s						
HYB				*e*		10 26 25.0	
HYB				*eS*	**S**	**10 28 47.0**	**+8.3**
QIZ	**Qiongzhong**	**18.83**	**53**	*eP*	**P**	**10 25 38.0**	**+1.0**
KMI	**Kunming**	**18.92**	**25**	P	**P**	**10 25 41.8**	**+3.8**
KMI				pmax	pmax		
	comp=Z,24nm,1.2s						
KMI	**Kunming**	**18.92**	**25**	P	**P**	**10 25 41.8**	**+3.8**
	comp=Z,24nm,1.2s						
KMI				pP		10 25 45.1	
JIRN	**Jiri**	**20.89**	**340**	*eP*	**P**	**10 26 00.3**	**+0.7**
	comp=Z,331nm,1.3s						
PKI	**Pulchoki**	**21.09**	**338**	*eP*	**P**	**10 26 01.4**	**-0.2**
	comp=Z,409nm,1.3s,mb5.6						
DMN	**Daman**	**21.23**	**338**	*eP*	**P**	**10 26 02.9**	**-0.2**
	comp=Z,294nm,1.1s,mb5.5						
KKN	**Kakani**	**21.33**	**338**	*eP*	**P**	**10 26 03.7**	**-0.4**
	comp=Z,278nm,1.2s,mb5.5						
KAD	**Karad**	**21.44**	**297**	*eP*	**P**	**10 26 05.5**	**+0.3**
KAD				*eP*		10 26 09.3	
KAD				*e*		10 26 12.8	
	comp=E,14nm,0.6s						
LSA	**Lhasa**	**21.73**	**353**	P	**P**	**10 26 11.3**	**+3.3**
LSA	**Lhasa**	**21.73**	**353**	*eP*	**P**	**10 26 08.0**	**0.0**
LSA				pmax	pmax		
	comp=Z,89nm,0.9s,mb5.2						
LSA	**Lhasa**	**21.73**	**353**	*eP*	**P**	**10 26 08.0**	**0.0**
	comp=Z,89nm,0.9s,mb5.2						
GKN	**Gorkha**	**21.77**	**337**	*eP*	**P**	**10 26 08.6**	**+0.2**
	comp=Z,382nm,1.3s,mb5.7						
KOLN	**Koldanda**	**21.98**	**335**	*eP*	**P**	**10 26 11.1**	**+0.5**
	comp=Z,447nm,1.2s,mb5.8						
BHPL	**Bhopal**	**21.98**	**315**	*eP*	**P**	**10 26 16.9**	**+6.2**
BHPL				*e*		10 26 22.1	
	comp=Z,25nm,0.8s						
POO	**Poona**	**22.23**	**300**	*eP*	**P**	**10 26 12.5**	**-0.6**
ENH	**Enshi**	**26.44**	**31**	*eP*	**P**	**10 26 53.5**	**0.0**
	comp=Z,29nm,1.0s,mb4.8						
DDI	**Dehra Dun**	**26.76**	**328**	*e*	**P**	**10 26 57.0**	**+0.5**
LZH	**Lanzhou**	**29.33**	**16**	*eP*	**P**	**10 27 20.5**	**+0.9**
LZH				AMB	AMB		
	comp=Z,50nm,1.8s,mb4.9						
LZH				AMB	AMB		
	comp=Z,146nm,4.0s						
LZH				LR	LR		
	comp=E,802nm,11.8s						
LZH				LR	LR		
	comp=Z,1μm,13.2s,MS4.6						
LZH	**Lanzhou**	**29.33**	**16**	*eP

CLNS Chul'man 54.32 20 *e*P P **10 30 42.3 -0.9**
CLNS pmax pmax
comp=Z,17nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,7.0nm,0.8s
SVE Sverdlovsk 55.23 338 *e*P **P 10 30 42.0 -7.9**
SVE pmax pmax
comp=Z,90nm,2.2s,mb5.4
PMG Port Moresby 55.66 107 P **P 10 30 55.2 +1.6**
PMG pmax pmax
comp=Z,8.0nm,0.7s
PMG Port Moresby 55.66 107 P **P 10 30 55.2 +1.6**
comp=Z,7.8nm,0.7s,mb4.8,baz=250,slow=4.7,SNR=3.3
ARU Arti 55.71 337 *e*P **P 10 30 47.7 -5.7**
YSS Yuzh-Sakhalins 56.72 38 P **P 10 31 06.2 +5.5**
YSS pmax pmax
comp=Z,90nm,1.6s,mb5.5
KIV Kislovodsk 57.14 318 *e*P **P 10 31 06.4 +2.6**
KIV pmax pmax
comp=Z,21nm,0.9s,mb5.2
KMBO Kilima Mbogo 57.35 264 P **P 10 31 08.0 +2.3**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 57.35 264 P **P 10 31 08.0 +2.3**
comp=Z,2.1nm,0.6s,mb4.4,baz=48,slow=9.4,SNR=5.3
ASF Jabal al Asfar 58.06 303 P **P 10 31 10.3 0.0**
comp=Z,0.6nm,0.3s,mb4.1,baz=240,slow=5.7,SNR=2.3
CTA Charters Tower 58.46 119 P **P 10 31 17.0 +3.7**
CTA pmax pmax
comp=Z,1.0nm,0.6s
CTA Charters Tower 58.46 119 P **P 10 31 17.0 +3.7**
comp=Z,1.2nm,0.6s,mb4.1,baz=6.7,slow=6.1,SNR=2.2
CTA Charters Tower 58.46 119 P **P 10 31 17.0 +3.7**
SOKR Solikamsk 58.62 339 ⇑*i*P **P 10 31 16.9 +3.0**
SOKR pmax pmax
comp=Z,40nm,1.0s,mb5.4
EIL Elat 59.27 300 P **P 10 31 19.2 +0.4**
comp=Z,2.6nm,0.6s,mb4.5,baz=134,slow=20,SNR=4.2
YAK Yakutsk 59.88 19 *e*P **P 10 31 25.7 +3.1**
YAK pmax pmax
comp=Z,14nm,0.8s,mb5.0
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.2s
STKA Stephens Creek 60.28 134 P **P 10 31 26.8 +1.0**
comp=E,3.1nm,1.0s,mb4.3,baz=144,slow=7.0,SNR=2.8
VRSR Storozhevoye 62.20 324 *e*P **P 10 31 41.0 +2.5**
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
VRSR pmax pmax
comp=N,10.0nm,1.2s
VRSR pmax pmax
comp=E,20nm,0.9s
BRTR Keskin Array B 62.26 311 P **P 10 31 36.9 -2.2**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 62.26 311 P **P 10 31 36.9 -2.2**
comp=Z,2.2nm,0.8s,mb4.4,baz=131,slow=6.5,SNR=6.5
MOS Moscow 64.90 329 *e*P **P 10 31 52.6 -3.5**
OBN Obninsk 65.20 326 ⇓*i*P **P 10 31 54.0 -4.1**
OBN *i* 10 34 18.7
OBN *e*S S 10 40 30.1 -8.8
OBN pmax pmax
comp=Z,44nm,1.4s,mb5.3
TIXI Tiksi 67.10 11 *i*P **P 10 32 08.7 -1.3**
TIXI pmax pmax
comp=Z,35nm,1.4s,mb5.2
AKASG Malin Array Be 67.98 322 P **P 10 32 13.7 -2.1**
AKASG pmax pmax
comp=Z,10.0nm,1.0s
AKASG Malin Array Be 67.98 322 P **P 10 32 13.7 -2.1**
comp=Z,9.6nm,1.0s,mb4.8,baz=86,slow=4.8,SNR=8.5
IDI Anoyia 68.40 305 P **P 10 32 17.9 -0.9**
comp=Z,6.9nm,0.8s,mb4.8,baz=98,slow=5.4,SNR=5.5
MLR Muntele Rosu 69.00 316 P **P 10 32 21.6 -0.6**
MLR pmax pmax
comp=Z,12nm,1.1s
MLR Muntele Rosu 69.00 316 P **P 10 32 21.6 -0.7**
comp=Z,12nm,1.1s,mb4.8,baz=149,slow=4.2,SNR=7.4
JOF Joensuu 70.67 334 *e*p **P 10 32 28.8 -3.3**
comp=Z,0.6nm,0.3s,mb4.0
KOLS Kolonicke sedl 72.03 319 *e*P **P 10 32 41.0 +0.5**
KOLS *e* pP 10 32 44.8 -0.8
KOLS Kolonicke sedl 72.03 319 *e*P **P 10 32 40.9 +0.4**
KOLS Kolonicke sedl 72.03 319 *e*P **P 10 32 41.0 +0.5**
KOLS *e* pP 10 32 44.8 -0.8
FINES FINESS Array B 72.53 332 P **P 10 32 42.2 -1.1**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 72.53 332 P **P 10 32 42.2 -1.1**
comp=Z,3.2nm,0.6s,mb4.4,baz=108,slow=8.8,SNR=7.7
FINES FINESS Array B 72.53 332 P **P 10 32 42.2 -1.1**
CRVS Cervenica-Dubn 72.55 319 *e*P **P 10 32 48.3 +4.6**
KAF Kangasniemi 72.61 333 *e*p **P 10 32 40.5 -3.2**
comp=Z,0.7nm,0.3s,mb4.1
KAF Kangasniemi 72.61 333 *e*P **P 10 32 40.5 -3.2**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
OJC Ojcow 73.80 320 *e*P **P 10 32 50.5 -0.4**
VYHS Vyhne 74.23 318 *e*P **P 10 32 57.9 +4.5**
VYHS Vyhne 74.23 318 *i*P **P 10 32 57.8 +4.4**
VYHS *e* 10 32 57.9
KEV Kevo 74.66 341 *e*p **P 10 32 53.3 -2.2**
comp=Z,1.0nm,0.5s,mb4.0
KEV Kevo 74.66 341 *e*P **P 10 32 53.3 -2.2**
KEV pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
OKC Ostrava-Krasne 74.81 319 *e*P **P 10 32 56.6 -0.2**
OKC *e*pP pP 10 33 01.3 -0.6
ARCES ARCESS Array B 75.09 340 P **P 10 32 57.4 -0.6**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 75.09 340 P **P 10 32 57.4 -0.7**
comp=Z,2.0nm,0.6s,mb4.2,baz=72,slow=3.8,SNR=11
MORC Moravsky Berou 75.20 319 *e*P **P 10 32 58.8 -0.2**
MORC pmax pmax
comp=Z,16nm,1.1s,mb4.9
MORC Moravsky Berou 75.20 319 *e*P **P 10 32 58.8 -0.2**
comp=Z,16nm,1.1s,mb4.9
ZST Bratislava 75.36 318 *e*P **P 10 33 04.6 +4.7**
ZST Bratislava 75.36 318 *i*P **P 10 33 05.1 +5.2**
ZST Bratislava 75.36 318 *e* **P 10 33 04.6 +4.7**
DPC Dobruska-Polom 76.03 320 *e*P **P 10 33 03.4 -0.3**
DPC *e*pP pP 10 33 08.2 -0.6
UPC Upice 76.24 320 *e*P **P 10 33 04.8 -0.1**
UPC *e*pP pP 10 33 10.0 0.0
PRU Pruhonice 77.15 319 *e*P **P 10 33 10.9 +0.9**
PRU *e*pP pP 10 33 14.9 -0.2
PVCC Panska Ves 77.16 320 *e*P **P 10 33 10.0 0.0**
BRG Berggiesshubel 77.57 320 *i*P **P 10 33 13.2 +0.9**
BRG pmax pmax
comp=Z,30nm,1.7s,mb5.0
BRG Berggiesshubel 77.57 320 *i*P **P 10 33 13.2 +0.9**
comp=Z,30nm,1.7s,mb4.9
GEC2 GERESS Array S 77.65 318 *e*P **P 10 33 13.2 +0.4**
GEC2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GEC2 GERESS Array S 77.65 318 *e*P **P 10 33 13.2 +0.4**
comp=Z,10.0nm,0.9s,mb4.8
GERES GERESS Array B 77.65 318 P **P 10 33 12.0 -0.8**
GERES pmax pmax
comp=Z,3.0nm,0.6s
GERES GERESS Array B 77.65 318 P **P 10 33 12.0 -0.7**
comp=Z,3.1nm,0.6s,mb4.4,baz=82,slow=6.4,SNR=16
KHC Kasperske Hory 77.74 318 *e*P **P 10 33 12.2 -1.1**
KHC *ex* x 10 33 18.2
CLL Collm 78.18 321 *e*P **P 10 33 15.0 -0.6**
CLL *i* pP 10 33 20.3 -0.5
CLL Collm 78.18 321 P **P 10 33 15.0 -0.6**
WET Wettzell 78.20 318 *e*P **P 10 33 16.2 +0.4**
WET pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
WET Wettzell 78.20 318 *e*P **P 10 33 16.2 +0.4**
comp=Z,7.0nm,1.0s,mb4.5
HFS Hagfors 78.28 330 P **P 10 33 15.6 -0.4**
HFS pmax pmax
comp=Z,7.0nm,0.6s
HFS Hagfors 78.28 330 P **P 10 33 15.6 -0.3**
comp=Z,6.6nm,0.6s,mb4.8,baz=104,slow=6.1,SNR=20
NKC Novy Kostel 78.51 320 *e*P **P 10 33 17.0 -0.4**
NKC *e* pP 10 33 22.3 -0.3
MAW Mawson 78.67 192 P **P 10 33 18.6 +0.6**
MAW pmax pmax
comp=Z,3.0nm,1.0s
MAW Mawson 78.67 192 P **P 10 33 18.6 +0.6**
comp=Z,3.0nm,1.0s,mb4.2,baz=354,slow=17,SNR=1.5
MOX Moxa 79.05 320 *e*P **P 10 33 20.7 +0.3**
MOX Moxa 79.05 320 *i*P **P 10 33 20.7 +0.3**
GRA1 Grafenberg Arr 79.29 319 *e*P **P 10 33 22.6 +0.9**
comp=Z,13nm,1.0s,mb4.8
GRA1 *e*pP pP 10 33 27.3 +0.4
GRF Grafenberg Arr 79.29 319 *e*P **P 10 33 22.6 +0.9**
GRF *e*PP pP 10 33 27.3 +0.4
GRF pmax pmax
comp=Z,13nm,1.0s,mb4.8
GRF Grafenberg Arr 79.29 319 *e*P **P 10 33 22.6 +0.9**
GRF *e*PP pP 10 33 27.3 +0.4
GRF pmax pmax
comp=Z,13nm,1.0s,mb4.8
GRF Grafenberg Arr 79.29 319 *e*P **P 10 33 22.6 +0.9**
comp=Z,13nm,1.0s,mb4.8
GRF *e*pP pP 10 33 27.3 +0.4
NB2 NORSAR Subarra 79.55 331 P **P 10 33 22.0 -0.9**
comp=Z,17nm,1.0s,mb4.9,baz=92,slow=5.6
NB2 NORSAR Subarra 79.55 331 P **P 10 33 22.0 -0.9**
baz=92,slow=5.9
NOA NORSAR Array B 79.55 331 P **P 10 33 22.3 -0.6**
NOA pmax pmax
comp=Z,10.0nm,0.9s
NOA MLR MLR
comp=Z,175nm,18.2s
NOA NORSAR Array B 79.55 331 P **P 10 33 22.3 -0.6**
comp=Z,10nm,0.9s,mb4.8,baz=93,slow=5.5,SNR=11
NOA LR LR 11 10 36.2
comp=Z,175nm,18.2s,MS4.4,baz=290,slow=37
NAO01 NORSAR Array S 79.70 330 P **P 10 33 22.7 -1.1**
CLZ Clausthal 79.83 321 *e*P **P 10 33 25.1 +0.5**
comp=Z,12nm,1.0s,mb4.8
DAVOX Davos 80.22 316 P **P 10 33 27.2 +0.4**
comp=Z,8.5nm,0.7s,mb4.8,baz=170,slow=12,SNR=5.7
BFO Black Forest 81.22 318 *e*P **P 10 33 32.0 0.0**
BFO pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BFO Black Forest 81.22 318 *e*P **P 10 33 32.0 0.0**
comp=Z,4.0nm,0.8s,mb4.4
LPG La Plagne 82.44 315 *e*P **P 10 33 38.5 +0.1**
comp=Z,30nm,1.0s,mb4.9
LPG La Plagne 82.44 315 *e*P **P 10 33 38.5 +0.1**
LPG pmax pmax
comp=Z,15nm,1.0s,mb4.9
EKA Eskdalemuir Ar 87.54 325 P **P 10 34 03.9 +0.2**
EKA pmax pmax
comp=Z,2.0nm,0.7s
EKA Eskdalemuir Ar 87.54 325 P **P 10 34 03.9 +0.2**
comp=Z,2.0nm,0.7s,mb4.5,baz=112,slow=4.5,SNR=4.8
ESDC Sonseca Array 91.05 310 P **P 10 34 21.3 +0.7**
comp=Z,0.5nm,0.4s,mb4.2,baz=69,slow=4.2,SNR=3.5
ILAR Eielson Array 94.64 22 P **P 10 34 35.4 -1.1**
comp=Z,0.2nm,0.6s,mb3.8,baz=292,slow=4.9,SNR=3.6
NVAR Mina Array Bea 124.83 31 PKP PKPdf 10 40 16.8 -2.2
comp=Z,0.6nm,0.5s,baz=299,slow=3.4,SNR=5.9
PDAR Pinedale Array 125.06 21 PKP PKPdf 10 40 16.6 -2.6
comp=Z,1.9nm,0.9s,baz=198,slow=2.9,SNR=7.4
TXAR Lajitas Array 139.12 24 PKiKP 10 40 46.0
comp=Z,0.5nm,0.5s,baz=137,slow=0.3,SNR=6.9
TXAR Lajitas Array 139.12 24 PKPdf PKPdf 10 40 46.0 -0.1
JCT Junction City 139.47 19 *e*PKiKP PKPdf 10 40 44.0 -2.6
PLCA Paso Flores 144.66 200 PKiKP PKPdf 10 40 51.8 -3.6
PLCA pmax pmax
comp=Z,8.0nm,1.0s
PLCA Paso Flores 144.66 200 PKP PKPdf 10 40 51.8 -3.7
comp=Z,7.7nm,1.0s,baz=354,slow=2.5,SNR=3.5
LPAZ La Paz 160.75 243 PKP PKPdf 10 40 37.8 -41
comp=Z,2.6nm,1.0s,baz=52,slow=5.5,SNR=6.0
LPAZ PKPab PKPab 10 41 20.2 -40
comp=Z,1.4nm,0.9s,baz=102,slow=7.1,SNR=4.0

*NEIC **28** 10:27:37.7±0.7, 7.55N×93.93E, h30km, mb4.1/1, Error ellipse: s-maj=17.5km s-min=16.3km az=81.0*
*IDC **28** 10:27:41.1±7.3, 7.68N×94.04E, h56km±62km, mb3.7/11, mb1 3.9/12, mb1mx3.7/22, mbtmp4.0/12, Error ellipse: s-maj=50.6km s-min=27.9km az=47.0*
ISC 28 10:27:36.0±1.0, 7.6N±0.1×94.0E±0.2, h30km, n14, σ0=47/13, mb4.0/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.80**	**24**	P	**P**	**10 30 25.9**	**+0.4**
	baz=217,slow=13,SNR=5.9						
SONM	**Songino Array**	**41.45**	**13**	P	**P**	**10 35 21.5**	**-0.2**
	0.8nm,0.7s,mb3.5,baz=193,slow=8.4,SNR=6.4						
KURK	**Kurchatov**	**44.83**	**346**	*e*P	**P**	**10 35 49.1**	**-0.1**
	1.6nm,0.6s,mb4.0						
ZAL	**Zalesovo**	**46.79**	**353**	P	**P**	**10 36 04.1**	**-0.5**
	3.2nm,0.9s,mb4.2,baz=272,slow=5.4,SNR=3.8						
WRA	**Warramunga Arr**	**48.22**	**125**	P	**P**	**10 36 16.3**	**0.0**
	0.6nm,1.1s,mb3.6,baz=303,slow=8.6,SNR=2.5						
BVAR	**Borovoye Array**	**49.19**	**341**	P	**P**	**10 36 23.2**	**-0.2**
	0.7nm,0.7s,mb3.8,baz=100,slow=8.8,SNR=2.6						
IDI	**Anoyia**	**68.60**	**305**	P	**P**	**10 38 38.7**	**+0.1**
	3.9nm,0.8s,mb4.4,baz=156,slow=21,SNR=2.9						
MLR	**Muntele Rosu**	**69.26**	**316**	P	**P**	**10 38 43.2**	**+0.7**
	1.9nm,0.8s,mb4.1,baz=17,slow=7.9,SNR=3.1						
FINES	**FINESS Array B**	**72.88**	**332**	P	**P**	**10 39 03.9**	**0.0**
	1.7nm,0.8s,mb4.0,baz=90,slow=7.6,SNR=5.5						
ARCES	**ARCESS Array B**	**75.46**	**340**	P	**P**	**10 39 19.1**	**+0.4**
	2.2nm,1.0s,mb4.0,baz=90,slow=4.5,SNR=3.0						
GERES	**GERESS Array B**	**77.93**	**318**	P	**P**	**10 39 33.8**	**+0.9**
	0.6nm,0.7s,mb3.6,baz=90,slow=4.0,SNR=4.7						
NOA	**NORSAR Array B**	**79.89**	**331**	P	**P**	**10 39 42.5**	**-0.8**
	1.4nm,0.8s,mb3.9,baz=98,slow=5.3,SNR=3.1						
DAVOX	**Davos**	**80.48**	**316**	P	**P**	**10 39 46.1**	**-0.6**
	1.6nm,0.5s,mb4.2,baz=340,slow=13,SNR=2.5						
TXAR	**Lajitas Array**	**139.52**	**24**	PKiKP		10 47 06.8	
	0.1nm,0.7s,baz=225,slow=1.8,SNR=3.5						

IGQ 28 10:31:44.0, 0.85S×81.29W, h6km±9km, mb4.0, 1C, Error ellipse: s-maj=14.8km s-min=7.8km az=165.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.77**	**105**	⇑P	Pg	10 31 58.1	-1.2
HOJA				S	Sg	10 32 08.1	-1.5
MAGD	**Magdalena**	**1.70**	**63**	P	Pn	10 32 15.8	+1.4
PINO	**Pino**	**2.77**	**76**	P	Pn	10 32 30.4	+0.7
YANA	**Yana**	**2.81**	**75**	P	Pn	10 32 30.3	0.0
NAS1	**Nasa**	**2.82**	**86**	P	Pn	10 32 32.1	+1.7
VC1	**Cotopaxi 1**	**2.89**	**86**	P	Pn	10 32 34.7	+3.2
ARRY	**Arrayan**	**2.90**	**103**	P	Pn	10 32 32.9	+1.2
PISA	**Pisayambo**	**2.91**	**94**	P	Pn	10 32 33.8	+2.1
TAMB	**Tambo**	**2.92**	**87**	P	Pn	10 32 34.8	+2.9
ANTI	**Antisana**	**3.15**	**83**	P	Pn	10 32 37.5	+2.3
CAYR	**Refugio Cayamb**	**3.39**	**75**	P	Pn	10 32 41.0	+2.4
CAYA	**Cayambe**	**3.42**	**74**	P	Pn	10 32 40.7	+1.7

IDC 28 10:32:22.5±5.6, 8.47N×94.42E, h84km±54km, mb3.4/6, mb1 3.6/7, mb1mx3.4/19, mbtmp3.8/7, ML4.2/1, Error ellipse: s-maj=38.7km s-min=21.0km az=61.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.86**	**23**	P	P	10 34 55.3	-1.5
	0.5nm,0.3s,baz=214,slow=14,SNR=8.3						
SONM	**Songino Array**	**40.53**	**12**	P	P	10 39 52.7	-2.2
	0.3nm,0.8s,baz=194,slow=5.9,SNR=2.8						
ZAL	**Zalesovo**	**46.00**	**352**	P	P	10 40 37.9	-1.2
	0.8nm,0.4s,baz=308,slow=5.6,SNR=2.5						
NWAO	**Narrogin (SRO)**	**46.54**	**153**	P	P	10 40 42.8	-0.9
	4.6nm,0.9s,baz=28,slow=22,SNR=2.5						
WRA	**Warramunga Arr**	**48.38**	**126**	P	P	10 40 55.3	-2.9
	0.3nm,0.5s,baz=304,slow=8.6,SNR=6.3						
KMBO	**Kilima Mbogo**	**57.77**	**263**	P	P	10 42 04.8	-2.9
	1.1nm,0.6s,baz=46,slow=21,SNR=3.6						
GERES	**GERESS Array B**	**77.57**	**318**	P	P	10 44 10.5	-0.5
	0.5nm,0.7s,baz=90,slow=1.0,SNR=2.4						
PLCA	**Paso Flores**	**145.20**	**200**	PKPbc	PKPbc	10 51 53.2	+2.2
	1.7nm,0.9s,baz=260,slow=1.9,SNR=3.0						

*NEIC **28** 10:37:17.3±0.5, 7.84N×94.21E, h30km, mb4.1/1, Error ellipse: s-maj=16.9km s-min=11.3km az=71.0*
*IDC **28** 10:37:21.0±5.1, 7.99N×94.32E, h62km±47km, mb3.7/13, mb1 3.9/14, mb1mx3.8/21, mbtmp4.0/14, ML4.5/1, Error ellipse: s-maj=31.6km s-min=16.2km az=56.0*

ISC 28 10:37:17.7±4.5, 7.9N±0.1×94.3E±0.2, h50km±40km, n25, σ0=93/22, mb4.1/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.40**	**23**	P	**P**	**10 40 00.8**	**+0.2**
	1.0nm,0.3s,baz=206,slow=14,SNR=8.0						
JIRN	**Jiri**	**21.07**	**340**	*e*P	**P**	**10 41 59.7**	**-0.3**
	43nm,0.9s,mb4.8						
PKI	**Pulchoki**	**21.27**	**338**	*e*P	**P**	**10 42 02.4**	**+0.4**
DMN	**Daman**	**21.42**	**337**	*e*P	**P**	**10 42 04.3**	**+0.9**
KKN	**Kakani**	**21.52**	**338**	*e*P	**P**	**10 42 02.9**	**-1.5**
LSA	**Lhasa**	**21.86**	**353**	*e*P	**P**	**10 42 09.4**	**+1.5**
	4.3nm,0.5s,mb4.1						
GKN	**Gorkha**	**21.95**	**337**	*e*P	**P**	**10 42 07.2**	**-1.6**
	27nm,0.7s,mb4.8						
KOLN	**Koldanda**	**22.18**	**334**	*e*P	**P**	**10 42 11.1**	**+0.1**
	66nm,1.3s,mb4.9						
SONM	**Songino Array**	**41.08**	**12**	P	**P**	**10 44 58.3**	**+0.2**
	0.9nm,1.0s,mb3.4,baz=190,slow=8.8,SNR=3.2						
NWAO	**Narrogin (SRO)**	**46.13**	**153**	P	**P**	**10 45 40.1**	**+1.0**
	5.2nm,0.8s,mb4.5,baz=57,slow=3.5,SNR=2.5						
ZAL	**Zalesovo**	**46.52**	**352**	P	**P**	**10 45 41.5**	**-0.3**
	1.4nm,0.5s,mb4.2,baz=330,slow=5.8,SNR=2.7						
WRA	**Warramunga Arr**	**48.17**	**126**	P	**P**	**10 45 55.4**	**+0.1**
	0.4nm,0.8s,mb3.5,baz=303,slow=9.1,SNR=2.9						
ASAR	**Alice Springs**	**49.84**	**130**	P	**P**	**10 46 06.5**	**-1.7**
	0.2nm,0.4s,mb3.5,baz=301,slow=38,SNR=3.7						
KMBO	**Kilima Mbogo**	**57.57**	**264**	P	**P**	**10 47 06.1**	**+0.9**
	0.9nm,0.6s,mb4.0,baz=58,slow=23,SNR=2.6						
BRTR	**Keskin Array B**	**62.51**	**311**	P	**P**	**10 47 37.5**	**-1.0**
	1.9nm,1.0s,mb4.2,baz=104,slow=5.9,SNR=3.7						
AKASG	**Malin Array Be**	**68.20**	**322**	P	**P**	**10 48 14.0**	**-1.0**
	0.1nm,0.3s,mb3.3,baz=88,slow=5.1,SNR=4.6						
MLR	**Muntele Rosu**	**69.23**	**316**	P	**P**	**10 48 21.2**	**-0.2**
	3.2nm,0.9s,mb4.2,baz=54,slow=10,SNR=2.7						
ARCES	**ARCESS Array B**	**75.27**	**340**	P	**P**	**10 48 58.1**	**+1.3**
	4.7nm,1.1s,mb4.3,baz=90,slow=8.5,SNR=3.0						
GERES	**GERESS Array B**	**77.89**	**318**	P	**P**	**10 49 11.2**	**-0.6**
	0.9nm,0.6s,mb3.9,baz=90,slow=5.3,SNR=8.8						
NB2	**NORSAR Subarra**	**79.76**	**331**	P	**P**	**10 49 21.7**	**-0.1**
	7.8nm,1.4s,mb4.5,baz=91,slow=4.8						
NOA	**NORSAR Array B**	**79.76**	**331**	P	**P**	**10 49 22.6**	**+0.7**
	1.7nm,0.9s,mb4.0,baz=97,slow=5.3,SNR=3.3						
DAVOX	**Davos**	**80.45**	**316**	P	**P**	**10 49 26.9**	**+1.1**
	4.3nm,1.0s,mb4.3,baz=315,slow=16,SNR=2.9						
PDAR	**Pinedale Array**	**125.06**	**21**	PKP	PKPdf	10 56 15.8	+2.8
	0.7nm,1.0s,baz=180,slow=1.5,SNR=3.7						
PLCA	**Paso Flores**	**144.65**	**200**	PKP	PKPdf	10 56 51.0	+1.9
	1.7nm,0.9s,baz=227,slow=6.6,SNR=3.5						
PLCA	**Paso Flores**	**144.65**	**200**	PKP	PKPdf	10 56 51.0	+1.8

*NEIC **28** 10:38:45.8±0.4, 7.98N×94.19E, h30km, mb4.2/4, Error ellipse: s-maj=20.1km s-min=10.2km az=52.0*
*IDC **28** 10:38:49.7±10.0, 8.10N×94.33E, h62km±95km, mb3.7/11, mb1 3.9/11, mb1mx3.8/18, mbtmp4.0/11, Error ellipse: s-maj=33.1km s-min=19.1km az=48.0*
ISC 28 10:38:43.7±0.7, 8.0N±0.1×94.2E±0.2, h30km, n18, σ0=72/15, mb4.1/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.03**	**13**	P	**P**	**10 46 26.2**	**+0.2**
	1.1nm,1.0s,mb3.4,baz=191,slow=6.3,SNR=3.7						
KURK	**Kurchatov**	**44.52**	**346**	*e*P	**P**	**10 46 54.3**	**0.0**
	3.0nm,0.9s,mb4.1						
ZAL	**Zalesovo**	**46.44**	**352**	P	**P**	**10 47 10.9**	**+1.3**
	1.3nm,0.4s,mb4.2,baz=5.9,slow=1.5,SNR=3.3						
WRA	**Warramunga Arr**	**48.27**	**126**	P	**P**	**10 47 24.4**	**+0.1**
	0.9nm,0.7s,mb3.9,baz=302,slow=9.1,SNR=5.1						
WRAB	**Tennant Creek**	**48.27**	**126**	*e*P	**P**	**10 47 24.6**	**+0.2**
	2.5nm,0.7s,mb4.3						
BRVK	**Borovoye**	**48.97**	**341**	P	**P**	**10 47 28.8**	**-0.5**
	1.2nm,0.5s,mb4.2						
ASAR	**Alice Springs**	**49.93**	**130**	P	**P**	**10 47 36.6**	**-0.5**
	0.7nm,0.6s,mb3.9,baz=306,slow=5.9,SNR=4.0						
KMBO	**Kilima Mbogo**	**57.51**	**264**	P	**P**	**10 48 35.8**	**+2.7**
	2.7nm,0.8s,mb4.3,baz=65,slow=15,SNR=5.4						
KMBO	**Kilima Mbogo**	**57.51**	**264**	*e*P	**P**	**10 48 33.6**	**+0.5**
	2.4nm,1.1s,mb4.1						
BRTR	**Keskin Array B**	**62.41**	**311**	P	**P**	**10 49 05.3**	**-1.1**
	1.2nm,0.8s,mb4.1,baz=124,slow=8.9,SNR=5.0						
AKASG	**Malin Array Be**	**68.11**	**322**	P	**P**	**10 49 41.8**	**-1.1**
	1.4nm,0.8s,mb4.0,baz=95,slow=4.3,SNR=4.3						
MLR	**Muntele Rosu**	**69.14**	**316**	P	**P**	**10 49 49.5**	**+0.1**
	2.1nm,0.8s,mb4.1,baz=171,slow=11,SNR=2.3						
FINES	**FINESS Array B**	**72.64**	**332**	P	**P**	**10 50 09.9**	**-0.3**
	3.8nm,1.0s,mb4.3,baz=100,slow=7.6,SNR=5.6						
ARCES	**ARCESS Array B**	**75.18**	**340**	P	**P**	**10 50 24.9**	**+0.1**
	2.8nm,0.9s,mb4.2,baz=80,slow=7.4,SNR=4.5						
GERES	**GERESS Array B**	**77.79**	**318**	P	**P**	**10 50 40.3**	**+0.5**
	1.5nm,0.8s,mb4.0,baz=108,slow=4.2,SNR=5.2						
PDAR	**Pinedale Array**	**125.03**	**21**	PKP	PKPdf	10 57 44.3	-2.3
	0.3nm,0.7s,baz=180,slow=1.5,SNR=4.0						
TXAR	**Lajitas Array**	**139.09**	**24**	PKiKP		10 58 12.4	
	0.2nm,0.6s,baz=347,slow=0.6,SNR=5.1						
PLCA	**Paso Flores**	**144.68**	**200**	PKP	PKPdf	10 58 20.1	-2.8
	2.4nm,0.8s,baz=185,slow=7.4,SNR=3.7						

IDC 28 10:46:32.0±1.1, 7.18N×94.13E, mb3.6/5, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, Error ellipse: s-maj=35.5km s-min=24.6km az=51.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.84**	**12**	P	P	10 54 22.7	-2.6
	0.2nm,0.5s,baz=180,slow=3.7,SNR=3.6						
ZAL	**Zalesovo**	**47.23**	**352**	P	P	10 55 07.5	-1.1
	0.8nm,0.7s,baz=224,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**47.87**	**125**	P	P	10 55 11.8	-2.2
	0.4nm,0.5s,baz=304,slow=8.7,SNR=8.4						
ASAR	**Alice Springs**	**49.48**	**129**	P	P	10 55 25.1	-1.3
	0.4nm,0.5s,baz=303,slow=7.9,SNR=5.4						
KMBO	**Kilima Mbogo**	**57.34**	**264**	P	P	10 56 22.8	-2.0
	0.4nm,0.4s,baz=58,slow=21,SNR=2.3						
TXAR	**Lajitas Array**	**139.86**	**24**	PKhKP		11 06 00.9	
	0.2nm,0.5s,baz=207,slow=1.3,SNR=4.5						
PLCA	**Paso Flores**	**143.90**	**200**	PKP	PKPdf	11 06 07.5	-4.0
	1.3nm,0.9s,baz=180,slow=4.1,SNR=2.4						

MAN 28 10:47:58.1, 13.53N×120.16E, h31km, mb3.5, ML2.2, MS1.7, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.22**	**21**	*e*P	Pb	10 48 05.9	+1.2
LUBP				*e*S	Sb	10 48 11.0	+1.8
LUBP	**Lubang**	**0.22**	**21**	⇑*i*P	Pb	10 48 05.9	+1.2
SJMP	**San Jose**	**1.41**	**139**	*e*P	Pn	10 48 22.2	+0.2
SJMP				*e*S	Sn	10 48 38.8	-0.8
BUSP	**Coron**	**1.51**	**179**	*e*P	Pn	10 48 22.9	-0.6
BUSP				*e*S	Sn	10 48 40.2	-2.1

IGQ 28 10:48:31.4, 0.99S×81.58W, h12km±7km, mb4.1, 3C-2D, Error ellipse: s-maj=11.2km s-min=7.0km az=145.0, Off coast of Ecuador

| Code |

*BJI **28** 10:49:37.0, 7.90N×93.00E, h30km, mb4.6*
*NEIC **28** 10:49:37.0±0.5, 7.88N×93.99E, h30km, mb4.5/5, Error ellipse: s-maj=15.4km s-min=9.8km az=62.0*
ISC 28 10:49:35.1±0.7, 7.9N±0.1×94.1E±0.1, h30km, n31, σ0f74/28, mb4.3/24, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.49**	**24**	Pn	**P**	**10 52 21.0**	**+0.5**
	0.2nm,0.3s,baz=213,slow=15,SNR=15						
HYB	**Hyderabad**	**17.88**	**303**	*i* P	**P**	**10 53 45.0**	**+1.5**
JIRN	**Jiri**	**21.04**	**340**	*e*P	**P**	**10 54 19.3**	**+0.2**
	38nm,0.9s,mb4.7						
PKI	**Pulchoki**	**21.23**	**338**	*e*P	**P**	**10 54 21.5**	**+0.5**
	23nm,0.6s,mb4.7						
DMN	**Daman**	**21.38**	**338**	*e*P	**P**	**10 54 22.7**	**+0.2**
	66nm,0.9s,mb5.0						
KKN	**Kakani**	**21.48**	**338**	*e*P	**P**	**10 54 23.2**	**-0.3**
	29nm,0.8s,mb4.6						
LSA	**Lhasa**	**21.86**	**353**	P	**P**	**10 54 30.0**	**+2.6**
LSA				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
LSA	**Lhasa**	**21.86**	**353**	*e*P	**P**	**10 54 27.6**	**+0.2**
	comp=Z,22nm,0.7s,mb4.7						
GKN	**Gorkha**	**21.91**	**337**	*e*P	**P**	**10 54 27.5**	**-0.4**
	comp=Z,28nm,0.6s,mb4.9						
KOLN	**Koldanda**	**22.13**	**335**	*e*P	**P**	**10 54 30.2**	**+0.2**
	comp=Z,29nm,0.7s,mb4.8						
SONM	**Songino Array**	**41.14**	**13**	P	**P**	**10 57 18.3**	**0.0**
	comp=Z,1.1nm,0.7s,mb3.6,baz=196,slow=9.3,SNR=8.7						
SONM				PcP	PcP	10 59 19.1	+1.2
	comp=Z,0.4nm,0.9s,baz=213,slow=3.3,SNR=4.1						
KURK	**Kurchatov**	**44.58**	**346**	*e*P	**P**	**10 57 45.9**	**-0.4**
	comp=Z,7.7nm,1.1s,mb4.5						
ZAL	**Zalesovo**	**46.52**	**352**	P	**P**	**10 58 01.2**	**-0.4**
	comp=Z,1.7nm,0.5s,mb4.2,baz=293,slow=7.0,SNR=9.1						
WRA	**Warramunga Arr**	**48.20**	**126**	P	**P**	**10 58 16.4**	**+0.4**
	comp=Z,1.9nm,1.0s,mb4.1,baz=305,slow=8.6,SNR=11						
BVAR	**Borovoye Array**	**48.96**	**341**	P	**P**	**10 58 20.0**	**-0.7**
	comp=Z,0.6nm,0.4s,mb3.9,baz=143,slow=7.4,SNR=3.9						
BRVK	**Borovoye**	**49.02**	**341**	*e*P	**P**	**10 58 20.1**	**-1.1**
	comp=Z,1.6nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**49.44**	**342**	*e*P	**P**	**10 58 23.8**	**-0.6**
	comp=Z,4.4nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**49.95**	**130**	P	**P**	**10 58 28.7**	**0.0**
	comp=Z,0.4nm,0.7s,mb3.5,baz=308,slow=7.8,SNR=3.6						
KMBO	**Kilima Mbogo**	**57.41**	**264**	P	**P**	**10 59 28.7**	**+4.9**
	comp=Z,1.1nm,0.6s,mb4.1,baz=221,slow=22,SNR=3.8						
BRTR	**Keskin Array B**	**62.40**	**311**	P	**P**	**10 59 56.5**	**-1.2**
	comp=Z,0.8nm,0.7s,mb4.0,baz=117,slow=5.5,SNR=4.1						
AKASG	**Malin Array Be**	**68.12**	**322**	P	**P**	**11 00 33.1**	**-1.4**
	comp=Z,0.2nm,0.2s,mb3.7,baz=88,slow=4.8,SNR=4.7						
FINES	**FINESS Array B**	**72.68**	**332**	P	**P**	**11 01 01.3**	**-0.5**
	comp=Z,2.4nm,0.7s,mb4.2,baz=108,slow=6.0,SNR=8.9						
ARCES	**ARCESS Array B**	**75.23**	**340**	P	**P**	**11 01 17.2**	**+0.7**
	comp=Z,1.4nm,0.5s,mb4.1,baz=90,slow=4.9,SNR=9.0						
GERES	**GERESS Array B**	**77.80**	**318**	P	**P**	**11 01 31.6**	**+0.4**
	comp=Z,1.3nm,0.6s,mb4.0,baz=90,slow=5.3,SNR=12						
HFS	**Hagfors**	**78.42**	**330**	P	**P**	**11 01 35.0**	**+0.5**
	comp=Z,2.9nm,0.8s,mb4.3,baz=108,slow=9.1,SNR=3.3						
NB2	**NORSAR Subarra**	**79.70**	**331**	P	**P**	**11 01 40.7**	**-0.7**
	comp=Z,5.7nm,1.2s,mb4.4,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**79.70**	**331**	P	**P**	**11 01 41.1**	**-0.2**
	comp=Z,1.2nm,0.7s,mb3.9,baz=94,slow=5.4,SNR=3.5						
DAVOX	**Davos**	**80.36**	**316**	P	**P**	**11 01 46.5**	**+1.3**
	comp=Z,1.9nm,0.6s,mb4.2,baz=107,slow=13,SNR=2.0						
PDAR	**Pinedale Array**	**125.15**	**21**	PKP	PKPdf	11 08 35.9	-2.5
	comp=Z,0.5nm,0.7s,SNR=3.6						
TXAR	**Lajitas Array**	**139.21**	**24**	PKP	PKPdf	11 09 03.2	-1.9
	comp=Z,0.1nm,0.5s,baz=160,slow=0.7,SNR=7.7						
PLCA	**Paso Flores**	**144.57**	**200**	PKP	PKPdf	11 09 17.5	+3.3
	comp=Z,2.3nm,1.0s,baz=179,slow=7.9,SNR=3.8						

*UCR **28** 10:57:32.0, 9.58N×83.69W, h11km, MD4.0*
CASC 28 10:57:33.3±2.3, 9.57N×83.72W, h6km±5km, MD4.0, 8C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.04**	**246**	⇑*i*P	Pg	10 57 36.2	+1.5
LCR2	**La Lucha 2**	**0.33**	**301**	⇑*i*P	Pg	10 57 40.1	+0.2
ICR	**Volcan Irazu**	**0.42**	**345**	⇑*e*P	Pg	10 57 41.8	0.0
ICR				*e*S	Sg	10 57 51.9	+4.4
LAJ	**Bijagual**	**0.49**	**306**	⇓*e*P	Pg	10 57 49.7	+6.6
LAJ				*e*S	Sg	10 58 02.7	+13
SJS	**Escuela Geolog**	**0.49**	**318**	⇓*i*P	Pg	10 57 43.0	-0.2
SJS				*e*S	Sg	10 57 50.1	+0.4
PRS1	**Puriscal**	**0.71**	**305**	⇑*i*P	Pg	10 57 46.5	-1.0
VPS2	**Volcan Poas 2**	**0.80**	**321**	⇓*e*P	Pb	10 57 48.6	-0.5
LIO	**Limon**	**0.80**	**57**	*e*P	Pb	10 57 47.1	-2.1
LIO				*e*S	Sg	10 57 59.4	-0.7
CGA2	**Cerro Gallo 2**	**0.86**	**301**	⇑*e*P	Pb	10 57 49.2	-0.9
CGA2				*e*S	Sb	10 58 01.4	-0.3
TRTC	**Tortuguero**	**1.00**	**0**	⇑*i*P	Pb	10 57 51.1	-1.5
ACR	**Cerro Adams**	**1.06**	**149**	⇑*e*P	Pb	10 57 52.3	-1.4
ACR				*e*S	Sb	10 58 06.9	-0.8
CNI	**Changuinola**	**1.20**	**97**	*e*P	Pb	10 57 56.0	0.0
FORC	**Fortuna**	**1.29**	**314**	⇑*e*P	Pb	10 57 56.8	-0.8
FORC				*e*S	Sb	10 58 15.3	+0.9
JCR	**Jicaral**	**1.40**	**282**	⇓*e*P	Pn	10 57 58.4	-1.0
JCR				*e*S	Sb	10 58 18.1	+0.7
DVD	**David**	**1.69**	**132**	*i* P	Pn	10 58 03.5	-0.1
PTP1	**Petroterminal**	**1.86**	**137**	*e*P	Pn	10 58 03.8	-2.3
VCR	**Vista de Mar**	**1.96**	**286**	*e*P	Pn	10 58 07.7	+0.2
UPA	**Univ. de Panam**	**4.17**	**98**	*e*P	Pn	10 58 37.9	-1.1

*NEIC **28** 10:59:45.0±0.3, 7.94N×94.05E, h30km, mb4.8/12, Error ellipse: s-maj=12.5km s-min=7.8km az=59.0*
*BJI **28** 10:59:46.3, 7.80N×93.86E, h39km, mB5.1, mb4.4, Ms4.9, Msz4.8*
*IDC **28** 10:59:47.1±4.3, 7.97N×94.06E, h48km±40km, mb3.8/22, mb1 4.0/23, mb1mx4.0/25, mbtmp4.1/23, ML4.3/1, Error ellipse: s-maj=29.8km s-min=11.4km az=52.0*
ISC 28 10:59:43.8±0.4, 7.99N±0.07×94.14E±0.08, h33km, (h9km±3.9km:pP-P), n61, σ1§01/56, mb4.5/38, MS4.6/1, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.41**	**24**	P	**P**	**11 02 29.1**	**+1.5**
	0.6nm,0.3s,baz=206,slow=15,SNR=11						
HYB	**Hyderabad**	**17.85**	**303**	*i* P	**P**	**11 03 55.5**	**+4.2**
JIRN	**Jiri**	**20.96**	**340**	*e*P	**P**	**11 04 25.9**	**-0.6**
PKI	**Pulchoki**	**21.16**	**338**	*e*P	**P**	**11 04 28.3**	**-0.2**
	84nm,1.0s,mb5.0						
DMN	**Daman**	**21.31**	**337**	*e*P	**P**	**11 04 30.0**	**0.0**
	81nm,0.8s,mb5.1						
KKN	**Kakani**	**21.41**	**338**	*e*P	**P**	**11 04 30.3**	**-0.6**
	79nm,1.1s,mb5.0						
LSA	**Lhasa**	**21.78**	**353**	P	**P**	**11 04 38.5**	**+3.8**
LSA	**Lhasa**	**21.78**	**353**	*e*P	**P**	**11 04 35.8**	**+1.1**
	30nm,0.8s,mb4.8						
GKN	**Gorkha**	**21.84**	**337**	*e*P	**P**	**11 04 35.7**	**+0.4**
	74nm,0.7s,mb5.2						
KOLN	**Koldanda**	**22.06**	**334**	*e*P	**P**	**11 04 37.0**	**-0.5**
	190nm,1.2s,mb5.4						
ENH	**Enshi**	**26.43**	**31**	*e*P	**P**	**11 05 20.1**	**+0.5**
	19nm,1.0s,mb4.6						
DDI	**Dehra Dun**	**26.85**	**328**	*e*	**P**	**11 05 24.8**	**+1.4**
AAK	**Ala-Archa**	**38.60**	**337**	*e*P	**P**	**11 07 05.0**	**-0.4**
	7.7nm,1.0s,mb4.4						
SONM	**Songino Array**	**41.05**	**13**	P	**P**	**11 07 26.4**	**+0.6**
	2.9nm,0.9s,mb3.9,baz=194,slow=10,SNR=9.8						
SONM				PcP	PcP	11 09 26.0	+0.2
	1.3nm,0.8s,baz=211,slow=2.8,SNR=5.0						
SNY	**Shenyang**	**42.58**	**33**	⇑P	**P**	**11 07 44.3**	**+5.9**
SNY				LR	LR		
	comp=E,760nm,22.4s						
SNY				LR	LR		
	comp=Z,720nm,18.4s,MS4.6						
KURK	**Kurchatov**	**44.50**	**346**	*e*P	**P**	**11 07 52.9**	**-1.0**
	comp=Z,24nm,1.2s,mb4.9						
NWAO	**Narrogin (SRO)**	**46.25**	**153**	P	**P**	**11 08 09.6**	**+1.6**
	comp=Z,10.0nm,1.0s,mb4.7,baz=338,slow=10,SNR=5.9						
HIA	**Hailar**	**46.42**	**23**	*e*P	**P**	**11 08 09.7**	**+0.7**
	comp=Z,13nm,1.1s,mb4.8						
ZAL	**Zalesovo**	**46.44**	**352**	P	**P**	**11 08 09.3**	**+0.1**
	comp=Z,1.3nm,0.4s,mb4.2,baz=268,slow=2.0,SNR=5.9						
ZAL	**Zalesovo**	**46.44**	**352**	P	**P**	**11 08 09.3**	**+0.1**
WRA	**Warramunga Arr**	**48.33**	**126**	P	**P**	**11 08 23.1**	**-1.3**
	comp=Z,3.2nm,0.9s,mb4.4,baz=304,slow=8.6,SNR=11						
WRAB	**Tennant Creek**	**48.33**	**126**	*e*P	**P**	**11 08 23.7**	**-0.8**
BVAR	**Borovoye Array**	**48.88**	**341**	P	**P**	**11 08 28.1**	**-0.1**
	comp=Z,2.6nm,0.8s,mb4.3,baz=135,slow=10,SNR=3.5						
BVAR				PcP	PcP	11 09 51.2	-1.5
	comp=Z,0.7nm,0.6s,baz=270,slow=37,SNR=2.2						
CHKZ	**Chkalovo**	**49.37**	**342**	*e*P	**P**	**11 08 30.3**	**-1.7**
	comp=Z,18nm,1.0s,mb5.1						
ASAR	**Alice Springs**	**49.99**	**130**	P	**P**	**11 08 35.5**	**-1.7**
	comp=Z,2.3nm,0.7s,mb4.3,baz=304,slow=6.8,SNR=12						
ASAR				PcP	PcP	11 09 56.0	-1.2
	comp=Z,0.7nm,1.1s,baz=303,slow=3.2,SNR=2.9						
PMG	**Port Moresby**	**55.56**	**107**	P	**P**	**11 09 19.9**	**+1.1**
	comp=Z,4.9nm,0.6s,mb4.7,baz=135,slow=8.6,SNR=4.0						
KMBO	**Kilima Mbogo**	**57.44**	**264**	P	**P**	**11 09 34.6**	**+2.4**
	comp=Z,6.9nm,1.0s,mb4.6,baz=50,slow=18,SNR=6.6						
ASF	**Jabal al Asfar**	**58.16**	**303**	P	**P**	**11 09 37.0**	**0.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=80,slow=6.1,SNR=1.8						
CTA	**Charters Tower**	**58.36**	**119**	P	**P**	**11 09 39.0**	**+0.4**
	comp=Z,1.4nm,0.8s,mb4.1,baz=263,slow=20,SNR=1.9						
STKA	**Stephens Creek**	**60.18**	**134**	P	**P**	**11 09 49.1**	**-2.0**
	comp=Z,2.8nm,1.0s,mb4.2,baz=194,slow=8.3,SNR=2.7						
BRTR	**Keskin Array B**	**62.36**	**311**	P	**P**	**11 10 03.8**	**-1.8**
	comp=Z,2.9nm,0.7s,mb4.5,baz=123,slow=7.5,SNR=9.2						
AKASG	**Malin Array Be**	**68.07**	**322**	P	**P**	**11 10 40.9**	**-1.3**
	comp=Z,3.5nm,0.8s,mb4.4,baz=90,slow=4.7,SNR=10						
MLR	**Muntele Rosu**	**69.09**	**316**	P	**P**	**11 10 46.9**	**-1.7**
	comp=Z,4.5nm,0.8s,mb4.4,baz=198,slow=3.2,SNR=4.3						
FINES	**FINESS Array B**	**72.61**	**332**	P	**P**	**11 11 09.0**	**-0.5**
	comp=Z,1.0nm,0.5s,mb4.0,baz=104,slow=7.9,SNR=5.6						
FINES	**FINESS Array B**	**72.61**	**332**	P	**P**	**11 11 09.0**	**-0.5**
CRVS	**Cervenica-Dubn**	**72.65**	**319**	*e*P	**P**	**11 11 09.7**	**-0.2**
LBTB	**Lobatse**	**74.30**	**241**	*e*P	**P**	**11 11 20.8**	**+0.7**
OKC	**Ostrava-Krasne**	**74.91**	**319**	*e*P	**P**	**11 11 28.5**	**+5.4**
ARCES	**ARCESS Array B**	**75.16**	**340**	P	**P**	**11 11 24.2**	**0.0**
	comp=Z,7.1nm,0.9s,mb4.6,baz=108,slow=3.8,SNR=5.3						
MORC	**Moravsky Berou**	**75.29**	**319**	*e*P	**P**	**11 11 24.6**	**-0.7**
	comp=Z,12nm,1.1s,mb4.8						
DPC	**Dobruska-Polom**	**76.12**	**320**	*e*P	**P**	**11 11 30.5**	**+0.5**
DPC				*e*pP	pP	11 11 35.1	-5.2
UPC	**Upice**	**76.33**	**320**	*e*P	**P**	**11 11 35.6**	**+4.4**
BRG	**Berggiesshubel**	**77.67**	**320**	*e*P	**P**	**11 11 39.5**	**+0.8**
	comp=Z,5.5nm,0.9s,mb4.5						
BRG				*i*		11 11 44.3	
GERES	**GERESS Array B**	**77.74**	**318**	P	**P**	**11 11 39.7**	**+0.6**
	comp=Z,1.7nm,0.6s,mb4.2,baz=90,slow=5.3,SNR=16						
KHC	**Kasperske Hory**	**77.83**	**318**	*e*P	**P**	**11 11 39.8**	**+0.1**
KHC				*e*pP	pP	11 11 44.6	-5.4
CLL	**Collm**	**78.28**	**321**	*e*PP	pP	11 11 47.0	-5.4
HFS	**Hagfors**	**78.30**	**330**	P	**P**	**11 11 42.3**	**0.0**
	comp=Z,18nm,1.2s,mb4.9,baz=90,slow=1.5,SNR=6.4						
MAW	**Mawson**	**78.64**	**192**	P	**P**	**11 11 45.0**	**+1.2**
	comp=Z,2.3nm,0.7s,mb4.2,baz=61,slow=8.0,SNR=3.3						
MOX	**Moxa**	**79.14**	**320**	*e*P	**P**	**11 11 52.0**	**+5.2**
GRA1	**Grafenberg Arr**	**79.38**	**319**	*e*P	**P**	**11 11 49.6**	**+1.5**
	comp=Z,14nm,1.1s,mb4.8						
GRA1				*e*pP	pP	11 11 53.9	-4.6
GRF	**Grafenberg Arr**	**79.38**	**319**	*e*P	**P**	**11 11 49.6**	**+1.5**
	comp=Z,14nm,1.1s,mb4.8						
GRF				*e*pP	pP	11 11 53.9	-4.6
NB2	**NORSAR Subarra**	**79.63**	**331**	P	**P**	**11 11 48.6**	**-0.7**
	comp=Z,9.6nm,1.0s,mb4.7,baz=93,slow=5.6						
NOA	**NORSAR Array B**	**79.63**	**331**	P	**P**	**11 11 47.6**	**-1.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=258,slow=8.0,SNR=3.8						
DAVOX	**Davos**	**80.31**	**316**	P	**P**	**11 11 52.2**	**-1.0**
	comp=Z,4.3nm,0.7s,mb4.5,baz=144,slow=7.3,SNR=4.3						
LPG	**La Plagne**	**82.54**	**315**	*e*P	**P**	**11 12 05.4**	**+0.6**
	comp=Z,12nm,0.7s,mb4.7						
ESDC	**Sonseca Array**	**91.15**	**310**	P	**P**	**11 12 47.8**	**+0.9**
	comp=Z,2.1nm,0.8s,mb4.5,baz=56,slow=5.3,SNR=4.4						
ILAR	**Eielson Array**	**94.64**	**22**	P	**P**	**11 13 02.8**	**+0.5**
	comp=Z,0.4nm,1.0s,mb3.8,baz=225,slow=12,SNR=3.0						
NVAR	**Mina Array Bea**	**124.82**	**31**	PKP	PKPdf	11 18 43.4	+2.5
	comp=Z,1.1nm,0.8s,baz=293,slow=3.3,SNR=4.4						
PDAR	**Pinedale Array**	**125.06**	**21**	PKP	PKPdf	11 18 42.9	+1.6
	comp=Z,1.0nm,0.8s,baz=298,slow=1.0,SNR=6.6						
TXAR	**Lajitas Array**	**139.12**	**24**	PKP	PKPdf	11 19 09.9	+1.9
	comp=Z,0.4nm,0.6s,baz=205,slow=0.5,SNR=9.2						
PLCA	**Paso Flores**	**144.65**	**200**	PKP	PKPdf	11 19 18.5	+1.1
	comp=Z,3.5nm,0.9s,baz=30,slow=0.8,SNR=6.9						

*IDC **28** 11:04:27.6±0.6, 7.86N×93.80E, mb4.2/21, mb1 4.3/22, mb1mx4.3/26, mbtmp4.2/22, ML4.3/1, MS4.4/2, Ms1 4.4/2, ms1mx4.0/19, Error ellipse: s-maj=29.8km s-min=13.0km az=49.0, Putative timing error at LPAZ*
*BJI **28** 11:04:31.0, 7.43N×93.48E, h57km, mB5.5, mb4.6, Ms4.9, Msz4.7*
*NEIC **28** 11:04:32.4±0.4, 7.85N×93.80E, h30km, mb4.6/12, Error ellipse: s-maj=13.6km s-min=8.6km az=61.0*
ISC 28 11:04:30.9±0.4, 7.91N±0.07×94.04E±0.07, h30km, n53, σ1§26/48, mb4.4/36, MS4.7/2, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.56**	**96**	P	**Pn**	**11 06 07.0**	**-0.9**
	450nm,1.0s						
NNT	**Nongplab**	**7.28**	**50**	P	**Pn**	**11 06 16.8**	**-1.3**
CMAR	**Chiang Mai Arr**	**11.52**	**24**	Pn	**P**	**11 07 17.3**	**+0.7**
	0.5nm,0.3s,baz=211,slow=14,SNR=29						
CMAR				LR	LR	11 11 24.0	
	comp=Z,1μm,21.6s,baz=235,slow=36						
HYB	**Hyderabad**	**17.81**	**304**	*e*P	**P**	**11 08 45.0**	**+6.6**
HYB	**Hyderabad**	**17.81**	**304**	*i* P	**P**	**11 08 45.0**	**+6.6**
KMI	**Kunming**	**19.03**	**25**	P	**P**	**11 08 56.8**	**+3.5**
	17nm,1.1s						
JIRN	**Jiri**	**21.01**	**340**	*e*P	**P**	**11 09 16.5**	**+2.0**
	77nm,0.9s,mb5.0						
PKI	**Pulchoki**	**21.20**	**338**	*e*P	**P**	**11 09 18.5**	**+2.1**
	46nm,0.7s,mb4.9						
DMN	**Daman**	**21.34**	**338**	*e*P	**P**	**11 09 19.4**	**+1.5**
	85nm,0.8s,mb5.1						
KKN	**Kakani**	**21.45**	**338**	*e*P	**P**	**11 09 20.6**	**+1.7**
LSA	**Lhasa**	**21.85**	**353**	P	**P**	**11 09 23.0**	**0.0**
LSA	**Lhasa**	**21.85**	**353**	*e*P	**P**	**11 09 22.7**	**-0.2**
	25nm,0.8s,mb4.7						
GKN	**Gorkha**	**21.88**	**337**	*e*P	**P**	**11 09 22.7**	**-0.6**
	55nm,0.6s,mb5.2						
KOLN	**Koldanda**	**22.09**	**335**	*e*P	**P**	**11 09 24.5**	**-0.9**
	41nm,0.7s,mb5.0						
ENH	**Enshi**	**26.55**	**31**	*e*P	**P**	**11 10 09.0**	**+0.8**
	12nm,0.8s,mb4.5						
LZH	**Lanzhou**	**29.45**	**16**	*e*P	**P**	**11 10 35.5**	**+1.1**
LZH				AMB	AMB		
	comp=Z,26nm,1.6s,mb4.7						
LZH				AMB	AMB		
	comp=Z,856nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,14.6s						
LZH				LR	LR		
	comp=Z,2μm,15.7s,MS4.8						
LZH	**Lanzhou**	**29.45**	**16**	*e*P	**P**	**11 10 35.5**	**+1.1**
	comp=Z,26nm,1.6s,mb4.7						
LZH				pP	pP	11 10 42.2	-1.0
LZH				sP	sP	11 10 46.4	-0.7
LZH				LR	LR		
	comp=Z,2μm,15.7s,MS4.8						
WMQ	**Urumqi**	**36.20**	**352**	*e*P	**P**	**11 11 33.3**	**+0.3**
AAK	**Ala-Archa**	**38.64**	**337**	*e*P	**P**	**11 11 52.0**	**-1.4**
	comp=Z,3.5nm,0.9s,mb4.1						
SONM	**Songino Array**	**41.15**	**13**	P	**P**	**11 12 14.1**	**-0.1**
	comp=Z,2.7nm,0.8s,mb4.0,baz=197,slow=7.6,SNR=19						
KURK	**Kurchatov**	**44.56**	**346**	*e*P	**P**	**11 12 40.9**	**-1.0**
	comp=Z,9.8nm,0.9s,mb4.6						
NWAO	**Narrogin (SRO)**	**46.22**	**153**	P	**P**	**11 12 55.3**	**0.0**
	comp=Z,4.4nm,0.6s,mb4.5,baz=321,slow=8.5,SNR=2.8						
ZAL	**Zalesovo**	**46.50**	**352**	P	**P**	**11 12 56.6**	**-0.7**
	comp=Z,5.8nm,0.9s,mb4.5,baz=296,slow=10,SNR=19						
HIA	**Hailar**	**46.53**	**23**	*e*P	**P**	**11 12 57.3**	**-0.2**
	comp=Z,6.1nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**48.36**	**125**	P	**P**	**11 13 12.2**	**0.0**
	comp=Z,1.3nm,0.6s,mb4.2,baz=305,slow=8.5,SNR=12						
WRAB	**Tennant Creek**	**48.36**	**125**	*e*P	**P**	**11 13 12.6**	**+0.3**
	comp=Z,2.4nm,0.5s,mb4.5						
BVAR	**Borovoye Array**	**48.93**	**341**	P	**P**	**11 13 14.6**	**-1.6**
	comp=Z,2.3nm,0.9s,mb4.2,baz=135,slow=6.3,SNR=6.5						
BRVK	**Borovoye**	**48.99**	**341**	*e*P	**P**	**11 13 16.1**	**-0.6**
	comp=Z,3.4nm,0.9s,mb4.4						
CHKZ	**Chkalovo**	**49.41**	**342**	*e*P	**P**	**11 13 18.6**	**-1.4**
	comp=Z,11nm,0.9s,mb4.9						
ASAR	**Alice Springs**	**50.01**	**130**	P	**P**	**11 13 24.6**	**-0.4**
	comp=Z,1.5nm,0.8s,mb4.1,baz=299,slow=7.6,SNR=7.8						
ASAR				PcP	PcP	11 14 43.9	-0.9
	comp=Z,0.4nm,0.6s,baz=304,slow=6.5,SNR=2.2						
GNI	**Garni**	**54.34**	**314**	P	**P**	**11 13 57.1**	**-0.1**
	comp=Z,1.6nm,0.3s,mb4.4,baz=24,slow=22,SNR=2.8						
PMG	**Port Moresby**	**55.63**	**107**	P	**P**	**11 14 07.1**	**+0.2**
	comp=Z,5.8nm,0.8s,mb4.7,baz=306,slow=4.7,SNR=2.6						
KMBO	**Kilima Mbogo**	**57.33**	**264**	P	**P**	**11 14 21.0**	**+2.0**
	comp=Z,2.0nm,0.6s,mb4.3,baz=218,slow=22,SNR=2.9						
KMBO				LR	LR	11 37 10.9	
	comp=Z,473nm,18.1s,MS4.6,baz=91,slow=34						
STKA	**Stephens Creek**	**60.20**	**134**	P	**P**	**11 14 40.2**	**+1.5**
	comp=Z,1.8nm,1.0s,mb4.1,baz=329,slow=13,SNR=3.1						
BRTR	**Keskin Array B**	**62.33**	**311**	P	**P**	**11 14 50.5**	**-2.5**
	comp=Z,1.4nm,0.6s,mb4.3,baz=121,slow=6.9,SNR=7.5						
AKASG	**Malin Array Be**	**68.07**	**322**	P	**P**	**11 15 30.2**	**+0.4**
	comp=Z,0.3nm,0.3s,mb3.8,baz=89,slow=4.6,SNR=5.6						
IDI	**Anoyia**	**68.47**	**305**	P	**P**	**11 15 30.3**	**-2.3**
	comp=Z,3.2nm,0.8s,mb4.4,baz=152,slow=23,SNR=2.4						
MLR	**Muntele Rosu**	**69.08**	**316**	P	**P**	**11 15 34.0**	**-2.2**
	comp=Z,1.2nm,0.7s,mb4.0,baz=100,slow=12,SNR=2.0						
FINES	**FINESS Array B**	**72.64**	**332**	P	**P**	**11 15 56.0**	**-1.3**
	comp=Z,5.2nm,0.9s,mb4.5,baz=90,slow=7.6,SNR=7.0						
ARCES	**ARCESS Array B**	**75.20**	**340**	P	**P**	**11 16 12.2**	**+0.1**
	comp=Z,3.4nm,0.9s,mb4.3,baz=97,slow=7.3,SNR=5.5						
GERES	**GERESS Array B**	**77.74**	**318**	P	**P**	**11 16 25.7**	**-1.0**
	comp=Z,0.8nm,0.7s,mb3.8,baz=108,slow=4.2,SNR=4.7						
KHC	**Kasperske Hory**	**77.83**	**318**	*e*P	**P**	**11 16 30.0**	**+2.8**
HFS	**Hagfors**	**78.38**	**330**	P	**P**	**11 16 29.3**	**-0.7**
	comp=Z,2.9nm,0.6s,mb4.4,baz=117,slow=3.3,SNR=9.0						
NB2	**NORSAR Subarra**	**79.66**	**331**	P	**P**	**11 16 35.7**	**-1.2**
	comp=Z,2.0nm,0.7s,mb4.2,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.66**	**331**	P	**P**	**11 16 36.0**	**-0.9**
	comp=Z,1.5nm,0.8s,mb4.0,baz=96,slow=5.5,SNR=4.0						
DAVOX	**Davos**	**80.30**	**316**	P	**P**	**11 16 42.8**	**+2.2**
	comp=Z,1.0nm,0.4s,mb4.1,baz=337,slow=22,SNR=2.4						
LPG	**La Plagne**	**82.53**	**315**	*e*P	**P**	**11 16 54.4**	**+2.1**
	comp=Z,16nm,0.8s,mb4.8						
ILAR	**Eielson Array**	**94.75**	**22**	P	**P**	**11 17 51.2**	**+0.8**
	comp=Z,0.3nm,0.8s,mb3.8,baz=211,slow=5.3,SNR=2.7						
NVAR	**Mina Array Bea**	**124.94**	**31**	PKP	PKPdf	11 23 30.6	-3.2
	comp=Z,1.1nm,0.9s,baz=258,slow=3.5,SNR=4.1						
PDAR	**Pinedale Array**	**125.17**	**21**	PKP	PKPdf	11 23 30.6	-3.5
	comp=Z,0.7nm,1.0s,baz=270,slow=1.5,SNR=4.4

FINES FINESS Array B 72.72 332 P **P 11 25 36.3 +0.6**
1.8nm,0.8s,mb4.1,baz=153,slow=8.5,SNR=3.9
GERES GERESS Array B 77.89 318 P **P 11 26 07.2 +1.7**
1.1nm,0.9s,mb3.8,baz=90,slow=4.0,SNR=5.9
HFS Hagfors 78.47 330 P **P 11 26 08.0 -0.5**
2.0nm,0.8s,mb4.1,baz=96,slow=13,SNR=4.3
PDAR Pinedale Array 125.00 21 PKP PKPdf 11 33 10.0 +3.4
0.6nm,1.0s,baz=27,slow=3.3,SNR=3.5
PLCA Paso Flores 144.71 200 PKP PKPdf 11 33 43.2 +0.2
1.8nm,0.8s,baz=317,slow=22,SNR=3.4

IDC 28 11:23:31.7±3.8, 2.64N×93.22E, mb3.8/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, ML4.3/1, Error ellipse: s-maj=119.6km s-min=32.2km az=64.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.69**	**19**	Pn	P	11 27 27.8	-1.0
0.4nm,0.3s,baz=210,slow=14,SNR=4.6							
WRA	**Warramunga Arr**	**46.17**	**121**	P	P	11 31 58.5	-1.9
1.3nm,0.9s,baz=299,slow=8.6,SNR=5.7							
SONM	**Songino Array**	**46.44**	**12**	P	P	11 32 00.3	-1.8
0.5nm,0.8s,baz=198,slow=10,SNR=2.9							
ZAL	**Zalesovo**	**51.60**	**354**	P	P	11 32 39.5	-2.4
0.8nm,0.4s,baz=340,slow=5.0,SNR=4.0							

IGQ 28 11:23:46.6, 0.87S×81.34W, h5km±6km, mb4.1, 1C-2D, Error ellipse: s-maj=9.8km s-min=8.3km az=92.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.81**	**103**	⇑P	Pb	11 24 00.3	-2.5
PINO	**Pino**	**2.82**	**76**	P	Pn	11 24 33.8	+0.6
TERV	**Terraza Guagua**	**2.82**	**76**	P	Pn	11 24 33.9	+0.7
YANA	**Yana**	**2.86**	**75**	P	Pn	11 24 34.2	+0.4
YANA				S	Sn	11 25 07.0	-2.1
NAS1	**Nasa**	**2.87**	**85**	P	Pn	11 24 35.8	+1.9
CUSU	**Cusua**	**2.91**	**101**	P	Pn	11 24 36.5	+2.0
JUIV	**Juive**	**2.92**	**101**	P	Pn	11 24 37.2	+2.5
VC1	**Cotopaxi 1**	**2.94**	**86**	P	Pn	11 24 37.9	+3.0
RETU	**Refugio**	**2.95**	**101**	P	Pn	11 24 37.0	+2.0
PISA	**Pisayambo**	**2.96**	**94**	P	Pn	11 24 37.5	+2.4
TAMB	**Tambo**	**2.97**	**87**	P	Pn	11 24 37.4	+2.0
ANTI	**Antisana**	**3.20**	**83**	P	Pn	11 24 40.4	+1.8
ANTI				S	Sn	11 25 18.3	+0.6
COTA	**Cotacachi**	**3.23**	**68**	P	Pn	11 24 40.4	+1.4
COTA				S	Sn	11 25 19.0	+0.7
CAYR	**Refugio Cayamb**	**3.44**	**75**	⇓P	Pn	11 24 44.7	+2.7
CAYR				S	Sn	11 25 26.2	+2.5
CAYA	**Cayambe**	**3.47**	**74**	⇓P	Pn	11 24 44.7	+2.2

IDC 28 11:28:04.9±1.3, 7.92N×94.07E, mb3.6/5, mb1 3.9/6, mb1mx3.7/17, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=51.1km s-min=23.7km az=65.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.50**	**24**	Pn	P	11 30 52.2	-1.3
0.1nm,0.3s,baz=210,slow=15,SNR=4.6							
SONM	**Songino Array**	**41.14**	**13**	P	P	11 35 51.0	-1.4
0.6nm,0.9s,baz=190,slow=7.5,SNR=3.4							
ZAL	**Zalesovo**	**46.49**	**352**	P	P	11 36 32.7	-2.9
0.9nm,0.8s							
WRA	**Warramunga Arr**	**48.34**	**126**	P	P	11 36 48.3	-2.3
1.2nm,1.0s,baz=305,slow=8.5,SNR=4.3							
ASAR	**Alice Springs**	**50.00**	**130**	P	P	11 37 00.9	-2.4
1.1nm,1.1s,baz=301,slow=7.8,SNR=4.1							
GERES	**GERESS Array B**	**77.75**	**318**	P	P	11 40 04.0	-1.4
0.2nm,0.3s,baz=90,slow=6.7,SNR=3.8							
TXAR	**Lajitas Array**	**139.22**	**24**	PKiKP		11 47 37.5	
0.2nm,0.9s,baz=315,slow=1.8,SNR=3.8							
PLCA	**Paso Flores**	**144.56**	**200**	PKP	PKPdf	11 47 45.7	+0.1
0.6nm,0.4s,baz=163,slow=4.4,SNR=3.3							

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*BJI **28** 11:31:34.6, 8.00N×93.70E, h30km, mb4.6*
*NEIC **28** 11:31:34.7±0.3, 7.96N×93.73E, h30km, mb4.3/6, Error ellipse: s-maj=11.6km s-min=6.6km az=63.0*
*IDC **28** 11:31:38.6±5.3, 8.10N×93.94E, h58km±48km, mb3.8/12, mb1 3.9/13, mb1mx3.8/20, mbtmp4.1/13, ML4.0/1, MS3.2/1, Ms1 3.4/1, ms1mx2.5/30, Error ellipse: s-maj=30.1km s-min=14.3km az=54.0*

ISC 28 11:31:33.2±0.6, 7.99N±0.10×93.8E±0.1, h33km, n22, σ0§52/20, mb4.2/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.55**	**25**	P	**P**	**11 34 18.8**	**-0.1**
0.3nm,0.3s,baz=212,slow=14,SNR=7.3							
CMAR				LR	LR	11 39 15.2	
comp=Z,125nm,20.1s,baz=160,slow=40							
LSA	**Lhasa**	**21.74**	**354**	P	**P**	**11 36 27.8**	**+4.1**
LSA				AMB	AMB		
comp=Z,20nm,0.7s,mb4.7							
LSA	**Lhasa**	**21.74**	**354**	*e*P	**P**	**11 36 24.5**	**+0.8**
comp=Z,18nm,0.8s,mb4.5							
SONM	**Songino Array**	**41.13**	**13**	P	**P**	**11 39 15.8**	**-0.1**
comp=Z,1.4nm,0.8s,mb3.7,baz=192,slow=8.1,SNR=8.9							
KURK	**Kurchatov**	**44.41**	**346**	*e*P	**P**	**11 39 42.7**	**+0.1**
comp=Z,5.1nm,0.9s,mb4.2							
ZAL	**Zalesovo**	**46.39**	**353**	P	**P**	**11 39 58.6**	**+0.4**
comp=Z,4.3nm,0.9s,mb4.4,baz=293,slow=7.8,SNR=15							
NWAO	**Narrogin (SRO)**	**46.41**	**152**	P	**P**	**11 39 59.0**	**+0.3**
comp=Z,27nm,1.3s,mb5.0,baz=48,slow=2.8,SNR=2.8							
WRA	**Warramunga Arr**	**48.61**	**125**	P	**P**	**11 40 15.8**	**-0.3**
comp=Z,0.5nm,0.4s,mb3.9,baz=304,slow=8.8,SNR=6.6							
WRAB	**Tennant Creek**	**48.62**	**125**	*e*P	**P**	**11 40 16.1**	**-0.1**
comp=Z,3.0nm,0.8s,mb4.4							
BVAR	**Borovoye Array**	**48.77**	**341**	P	**P**	**11 40 17.0**	**+0.2**
comp=Z,0.8nm,0.7s,mb3.9,baz=162,slow=4.6,SNR=4.2							
BRVK	**Borovoye**	**48.83**	**341**	*e*P	**P**	**11 40 16.5**	**-0.8**
comp=Z,1.0nm,0.5s,mb4.1							
CHKZ	**Chkalovo**	**49.26**	**342**	*e*P	**P**	**11 40 20.3**	**-0.3**
comp=Z,4.7nm,0.9s,mb4.5							
ASAR	**Alice Springs**	**50.26**	**130**	P	**P**	**11 40 28.3**	**-0.4**
comp=Z,1.0nm,0.7s,mb4.0,baz=306,slow=7.1,SNR=8.0							
PMG	**Port Moresby**	**55.90**	**107**	P	**P**	**11 41 11.1**	**+0.4**
comp=Z,6.1nm,0.8s,mb4.7,baz=196,slow=6.6,SNR=3.0							
KMBO	**Kilima Mbogo**	**57.09**	**263**	P	**P**	**11 41 22.8**	**+3.5**
comp=Z,1.2nm,0.8s,mb4.0,baz=70,slow=23,SNR=4.9							
KMBO	**Kilima Mbogo**	**57.09**	**263**	*e*P	**P**	**11 41 19.6**	**+0.4**
comp=Z,1.2nm,0.7s,mb4.0							
BRTR	**Keskin Array B**	**62.09**	**311**	P	**P**	**11 41 52.4**	**-0.9**
comp=Z,0.7nm,0.6s,mb4.0,baz=153,slow=5.5,SNR=3.9							
FINES	**FINESS Array B**	**72.44**	**332**	P	**P**	**11 42 58.0**	**0.0**
comp=Z,3.1nm,0.9s,mb4.2,baz=117,slow=8.5,SNR=4.8							
ARCES	**ARCESS Array B**	**75.04**	**340**	P	**P**	**11 43 13.7**	**+0.8**
comp=Z,2.9nm,0.8s,mb4.2,baz=90,slow=7.2,SNR=2.6							
GERES	**GERESS Array B**	**77.51**	**318**	P	**P**	**11 43 27.3**	**-0.1**
comp=Z,2.2nm,1.2s,mb4.0,baz=90,slow=4.0,SNR=4.7							
PDAR	**Pinedale Array**	**125.19**	**21**	PKP	PKPdf	11 50 34.1	+3.2
comp=Z,0.5nm,0.6s,baz=180,slow=1.5,SNR=4.7							
PLCA	**Paso Flores**	**144.53**	**201**	PKP	PKPdf	11 51 08.2	+1.6
comp=Z,0.9nm,0.5s,baz=329,slow=4.8,SNR=2.8							

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*BJI **28** 11:38:09.5, 7.90N×94.20E, h30km, mb4.4*
*NEIC **28** 11:38:09.6±0.3, 7.87N×94.15E, h30km, mb4.5/7, Error ellipse: s-maj=13.5km s-min=7.5km az=57.0*
*IDC **28** 11:38:16.2±4.8, 8.07N×94.37E, h87km±44km, mb3.8/18, mb1 3.9/19, mb1mx3.8/23, mbtmp4.1/19, Error ellipse: s-maj=26.2km s-min=11.1km az=48.0*

ISC 28 11:38:08.5±3.0, 7.91N±0.10×94.2E±0.1, h36km±26km, n39, σ0§93/36, mb4.4/29, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.46**	**23**	P	**P**	**11 40 53.2**	**+0.4**
0.2nm,0.3s,baz=216,slow=14,SNR=8.8							
HYB	**Hyderabad**	**17.94**	**303**	*i* P	**P**	**11 42 16.5**	**-0.5**
JIRN	**Jiri**	**21.06**	**340**	*e*P	**P**	**11 42 51.9**	**0.0**
68nm,1.0s,mb4.9							
PKI	**Pulchoki**	**21.25**	**338**	*e*P	**P**	**11 42 53.5**	**-0.3**
110nm,1.1s,mb5.1							
DMN	**Daman**	**21.40**	**337**	*e*P	**P**	**11 42 54.8**	**-0.5**
52nm,0.8s,mb4.9							
KKN	**Kakani**	**21.50**	**338**	*e*P	**P**	**11 42 55.9**	**-0.4**
LSA	**Lhasa**	**21.87**	**353**	P	**P**	**11 43 03.3**	**+3.3**
LSA	**Lhasa**	**21.87**	**353**	*e*P	**P**	**11 43 00.6**	**+0.6**
19nm,0.7s,mb4.6							
GKN	**Gorkha**	**21.93**	**337**	*e*P	**P**	**11 43 00.2**	**-0.5**
84nm,1.0s,mb5.1							
KOLN	**Koldanda**	**22.15**	**334**	*e*P	**P**	**11 43 02.9**	**+0.1**
32nm,0.6s,mb4.9							
DDI	**Dehra Dun**	**26.94**	**328**	*e*	**P**	**11 43 51.0**	**+2.3**
SONM	**Songino Array**	**41.12**	**13**	P	**P**	**11 45 51.8**	**+1.1**
1.7nm,1.0s,mb3.6,baz=198,slow=7.8,SNR=6.4							
KURK	**Kurchatov**	**44.59**	**346**	*e*P	**P**	**11 46 19.0**	**+0.1**
5.4nm,0.8s,mb4.4							
NWAO	**Narrogin (SRO)**	**46.15**	**153**	P	**P**	**11 46 33.2**	**+1.6**
3.6nm,0.8s,mb4.3,baz=232,slow=7.0,SNR=4.1							
ZAL	**Zalesovo**	**46.52**	**352**	P	**P**	**11 46 34.8**	**+0.6**
1.4nm,0.4s,mb4.2,baz=294,slow=6.7,SNR=6.0							
WRA	**Warramunga Arr**	**48.24**	**126**	P	**P**	**11 46 48.2**	**0.0**
0.9nm,0.5s,mb4.1,baz=304,slow=8.5,SNR=22							
WRAB	**Tennant Creek**	**48.24**	**126**	*e*P	**P**	**11 46 48.0**	**-0.2**
1.9nm,0.4s,mb4.5							
BVAR	**Borovoye Array**	**48.97**	**341**	P	**P**	**11 46 53.2**	**-0.1**
2.2nm,0.9s,mb4.2,baz=143,slow=7.4,SNR=6.4							
BRVK	**Borovoye**	**49.04**	**341**	P	**P**	**11 46 53.4**	**-0.5**
1.4nm,0.7s,mb4.1							
CHKZ	**Chkalovo**	**49.46**	**342**	*e*P	**P**	**11 46 56.5**	**-0.6**
5.6nm,0.8s,mb4.7							
ASAR	**Alice Springs**	**49.90**	**130**	P	**P**	**11 47 01.1**	**+0.3**
1.2nm,0.8s,mb4.0,baz=303,slow=7.9,SNR=12							
PMG	**Port Moresby**	**55.49**	**107**	P	**P**	**11 47 40.9**	**-1.7**
11nm,1.0s,mb4.8,baz=195,slow=8.6,SNR=3.3							
KMBO	**Kilima Mbogo**	**57.48**	**264**	P	**P**	**11 48 00.1**	**+3.2**
2.5nm,0.8s,mb4.3,baz=63,slow=8.3,SNR=8.6							
KMBO	**Kilima Mbogo**	**57.48**	**264**	*e*P	**P**	**11 47 57.2**	**+0.3**
3.4nm,0.9s,mb4.4							
ASF	**Jabal al Asfar**	**58.24**	**303**	P	**P**	**11 48 01.3**	**-0.6**
1.7nm,0.6s,mb4.3,baz=198,slow=7.6,SNR=3.1							
CTA	**Charters Tower**	**58.28**	**119**	P	**P**	**11 48 00.1**	**-2.3**
2.5nm,1.0s,mb4.2,baz=254,slow=10,SNR=2.6							
STKA	**Stephens Creek**	**60.09**	**134**	P	**P**	**11 48 15.7**	**+0.9**
2.0nm,0.9s,mb4.2,baz=96,slow=11,SNR=2.7							
BRTR	**Keskin Array B**	**62.45**	**311**	P	**P**	**11 48 29.1**	**-1.5**
0.6nm,0.5s,mb4.0,baz=127,slow=5.0,SNR=2.9							
AKASG	**Malin Array Be**	**68.16**	**322**	P	**P**	**11 49 06.0**	**-1.1**
0.2nm,0.3s,mb3.6,baz=87,slow=5.5,SNR=3.9							
IDI	**Anoyia**	**68.59**	**305**	P	**P**	**11 49 09.9**	**-0.1**
4.1nm,0.8s,mb4.4,baz=329,slow=14,SNR=4.0							
FINES	**FINESS Array B**	**72.71**	**332**	P	**P**	**11 49 34.4**	**-0.1**
3.5nm,0.9s,mb4.3,baz=104,slow=7.9,SNR=5.5							
ARCES	**ARCESS Array B**	**75.25**	**340**	P	**P**	**11 49 49.1**	**0.0**
3.9nm,1.0s,mb4.3,baz=72,slow=3.8,SNR=4.5							
GERES	**GERESS Array B**	**77.84**	**318**	P	**P**	**11 50 04.8**	**+0.7**
0.9nm,0.5s,mb3.9,baz=76,slow=5.5,SNR=6.2							
NB2	**NORSAR Subarra**	**79.73**	**331**	P	**P**	**11 50 13.9**	**-0.2**
3.4nm,1.1s,mb4.2,baz=91,slow=4.8							
NOA	**NORSAR Array B**	**79.73**	**331**	P	**P**	**11 50 14.2**	**+0.1**
0.5nm,0.6s,mb3.7,baz=98,slow=4.8,SNR=2.9							
LPG	**La Plagne**	**82.63**	**315**	*e*P	**P**	**11 50 31.4**	**+1.8**
7.5nm,0.7s,mb4.5							
TXAR	**Lajitas Array**	**139.17**	**24**	PKP	PKPdf	11 57 34.6	+2.2
0.3nm,0.9s,baz=22,slow=6.7,SNR=3.6							
PLCA	**Paso Flores**	**144.60**	**200**	PKP	PKPdf	11 57 43.4	+1.8
2.6nm,0.9s,baz=295,slow=19,SNR=5.1							
PLCA	**Paso Flores**	**144.60**	**200**	PKP	PKPdf	11 57 43.4	+1.8

IDC 28 11:44:13.6±1.6, 7.71N×94.14E, mb3.6/4, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=58.4km s-min=25.4km az=65.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.66**	**23**	Pn	P	11 47 00.6	-3.9
0.2nm,0.3s,baz=214,slow=16,SNR=4.2							
SONM	**Songino Array**	**41.32**	**13**	P	P	11 52 01.8	-0.8
0.7nm,0.9s,baz=188,slow=8.7,SNR=4.8							
WRA	**Warramunga Arr**	**48.16**	**125**	P	P	11 52 55.8	-2.1
0.4nm,0.4s,baz=306,slow=8.6,SNR=9.7							
ASAR	**Alice Springs**	**49.81**	**130**	P	P	11 53 08.4	-2.2
0.3nm,0.5s,baz=299,slow=7.6,SNR=4.0							
FINES	**FINESS Array B**	**72.86**	**332**	P	P	11 55 43.5	-2.5
2.2nm,0.9s,baz=108,slow=6.0,SNR=4.2							
PLCA	**Paso Flores**	**144.40**	**200**	PKP	PKPdf	12 03 53.0	-1.0
0.6nm,0.6s,baz=203,slow=19,SNR=2.1							

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*IDC **28** 11:48:33.5±0.5, 8.09N×93.91E, mb4.3/18, mb1 4.4/19, mb1mx4.4/21, mbtmp4.2/19, ML4.0/1, Error ellipse: s-maj=25.1km s-min=12.9km az=50.0*
*BJI **28** 11:48:36.8, 7.63N×93.73E, h60km, mB5.0, mb4.7, Ms4.7, Msz4.3*
*NEIC **28** 11:48:37.8±0.3, 8.09N×93.94E, h30km, mb4.5/14, Error ellipse: s-maj=10.4km s-min=6.3km az=59.0*

ISC 28 11:48:33.0±0.4, 8.03N±0.07×93.94E±0.09, h10km, n48, σ0§95/46, mb4.5/35, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.45**	**25**	Pn	**P**	**11 51 18.6**	**-1.1**
0.3nm,0.3s,baz=213,slow=14,SNR=33							
HYB	**Hyderabad**	**17.66**	**303**	*i* P	**P**	**11 52 48.0**	**+7.1**
HYB				*e*S	**S**	**11 56 02.5**	**+6.8**
KMI	**Kunming**	**18.96**	**25**	⇑P	**P**	**11 53 00.4**	**+3.5**
26nm,1.2s							
KMI				pP		11 53 07.9	
KMI				S	**S**	**11 56 35.3**	**+10**
JIRN	**Jiri**	**20.86**	**340**	*e*P	**P**	**11 53 19.2**	**+1.5**
156nm,1.2s							
PKI	**Pulchoki**	**21.05**	**338**	*e*P	**P**	**11 53 20.1**	**+0.5**
173nm,1.3s,mb5.2							
DMN	**Daman**	**21.20**	**338**	*e*P	**P**	**11 53 21.4**	**+0.3**
74nm,0.9s,mb5.0							
KKN	**Kakani**	**21.29**	**338**	*e*P	**P**	**11 53 22.5**	**+0.4**
120nm,1.2s,mb5.1							
LSA	**Lhasa**	**21.72**	**353**	*e*P	**P**	**11 53 26.4**	**0.0**
26nm,0.7s,mb4.8							
GKN	**Gorkha**	**21.73**	**337**	*e*P	**P**	**11 53 27.3**	**+0.8**
94nm,0.9s,mb5.2							
KOLN	**Koldanda**	**21.94**	**335**	*e*P	**P**	**11 53 29.6**	**+1.0**
126nm,1.2s,mb5.2							
ENH	**Enshi**	**26.49**	**31**	*e*P	**P**	**11 54 11.8**	**-0.7**
9.2nm,1.0s,mb4.3							
WMQ	**Urumqi**	**36.07**	**352**	*e*P	**P**	**11 55 37.8**	**+1.1**
AAK	**Ala-Archa**	**38.48**	**337**	*e*P	**P**	**11 55 57.5**	**+0.4**
6.4nm,1.0s,mb4.3							
SONM	**Songino Array**	**41.05**	**13**	P	**P**	**11 56 18.6**	**+0.3**
2.2nm,0.8s,mb3.8,baz=198,slow=7.8,SNR=13							
KURK	**Kurchatov**	**44.41**	**346**	*e*P	**P**	**11 56 45.1**	**-0.6**
19nm,1.3s,mb4.7							
ZAL	**Zalesovo**	**46.37**	**353**	P	**P**	**11 57 01.8**	**+0.7**
4.7nm,0.9s,mb4.4,baz=274,slow=6.6,SNR=6.5							
NWAO	**Narrogin (SRO)**	**46.37**	**153**	P	**P**	**11 57 02.5**	**+1.1**
9.4nm,0.9s,mb4.7,baz=304,slow=12,SNR=4.7							
WRA	**Warramunga Arr**	**48.51**	**126**	P	**P**	**11 57 18.5**	**+0.1**
1.3nm,0.6s,mb4.2,baz=304,slow=8.6,SNR=14							
WRAB	**Tennant Creek**	**48.51**	**126**	*e*P	**P**	**11 57 17.9**	**-0.5**
3.7nm,0.4s,mb4.8							
BVAR	**Borovoye Array**	**48.78**	**341**	P	**P**	**11 57 19.5**	**-0.5**
1.6nm,0.8s,mb4.1,baz=153,slow=6.6,SNR=8.3							
BVAR				PcP	PcP	11 58 45.6	+0.3
1.1nm,0.8s,baz=153,slow=3.3,SNR=3.6							
BRVK	**Borovoye**	**48.84**	**341**	*e*P	**P**	**11 57 19.4**	**-1.1**
2.9nm,0.9s,mb4.3							
CHKZ	**Chkalovo**	**49.27**	**342**	*e*P	**P**	**11 57 23.4**	**-0.3**
7.4nm,0.8s,mb4.8							
ASAR	**Alice Springs**	**50.16**	**130**	P	**P**	**11 57 30.7**	**-0.4**
2.0nm,1.0s,mb4.1,baz=301,slow=7.1,SNR=8.3							
ASAR				PcP	PcP	11 58 51.0	+0.3
1.4nm,0.8s,baz=312,slow=4.0,SNR=7.2							
PMG	**Port Moresby**	**55.76**	**107**	P	**P**	**11 58 12.8**	**0.0**
6.4nm,0.7s,mb4.8,baz=2.6,slow=3.8,SNR=2.9							
KMBO	**Kilima Mbogo**	**57.25**	**263**	P	**P**	**11 58 24.3**	**+0.8**
2.4nm,0.9s,mb4.2,baz=69,slow=23,SNR=3.6							
KMBO	**Kilima Mbogo**	**57.25**	**263**	*e*P	**P**	**11 58 23.0**	**-0.5**
3.2nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**60.35**	**134**	P	**P**	**11 58 45.2**	**+0.4**
2.0nm,0.7s,mb4.3,baz=309,slow=13,SNR=2.8							
BRTR	**Keskin Array B**	**62.18**	**311**	P	**P**	**11 58 56.0**	**-1.1**
1.6nm,0.7s,mb4.3,baz=128,slow=6.9,SNR=7.9							
AKASG	**Malin Array Be**	**67.91**	**322**	P	**P**	**11 59 32.3**	**-1.7**
0.3nm,0.4s,mb3.7,baz=89,slow=4.8,SNR=3.8							
IDI	**Anoyia**	**68.32**	**305**	P	**P**	**11 59 35.5**	**-1.3**
5.4nm,0.8s,mb4.7,baz=45,slow=8.6,SNR=3.2							
JOF	**Joensuu**	**70.62**	**334**	*ep*	**P**	**11 59 48.8**	**-1.6**
2.9nm,0.7s,mb4.3							
FINES	**FINESS Array B**	**72.48**	**332**	P	**P**	**12 00 00.6**	**-1.0**
3.1nm,0.8s,mb4.3,baz=104,slow=7.9,SNR=6.6							
KAF	**Kangasniemi**	**72.56**	**333**	*ep*	**P**	**12 00 00.0**	**-2.0**
2.4nm,0.7s,mb4.2							
KEV	**Kevo**	**74.62**	**341**	*ep*	**P**	**12 00 19.5**	**+5.6**
0.4nm,0.4s,mb3.7							
ARCES	**ARCESS Array B**	**75.05**	**340**	P	**P**	**12 00 16.7**	**+0.3**
5.0nm,1.1s,mb4.4,baz=117,slow=2.7,SNR=6.9							
BRG	**Berggiesshubel**	**77.51**	**320**	*e*P	**P**	**12 00 30.7**	**+0.2**
17nm,1.5s,mb4.8							
BRG				*e*		12 00 49.1	
GERES	**GERESS Array B**	**77.58**	**318**	P	**P**	**12 00 31.9**	**+0.9**
3.3nm,0.7s,mb4.4,baz=90,slow=5.3,SNR=17							
KHC	**Kasperske Hory**	**77.67**	**318**	*e*P	**P**	**12 00 30.5**	**-1.0**
NB2	**NORSAR Subarra**	**79.50**	**331**	P	**P**	**12 00 41.0**	**-0.2**
2.7nm,0.8s,mb4.2,baz=96,slow=5.3							
NOA	**NORSAR Array B**	**79.50**	**331**	P	**P**	**12 00 41.4**	**+0.2**
3.3nm,0.8s,mb4.3,baz=96,slow=5.0,SNR=6.0							
NOA	**NORSAR Array B**	**79.50**	**331**	*e*P	**P**	**12 00 41.4**	**+0.2**
LPG	**La Plagne**	**82.37**	**315**	*e*P	**P**	**12 00 57.9**	**+1.2**
17nm,0.9s,mb4.7							
ESDC	**Sonseca Array**	**90.97**	**310**	P	**P**	**12 01 40.6**	**+1.8**
0.3nm,0.4s,mb4.0,baz=27,slow=5.7,SNR=2.7							
ILAR	**Eielson Array**	**94.67**	**22**	P	**P**	**12 01 56.2**	**+1.0**
0.5nm,0.9s,mb3.9,baz=315,slow=3.8,SNR=3.4							
PDAR	**Pinedale Array**	**125.09**	**21**	PKP	PKPdf	12 07 35.3	-1.9
1.0nm,0.9s,baz=315,slow=4.2,SNR=7.7							
TXAR	**Lajitas Array**	**139.16**	**24**	PKiKP		12 08 06.0	
0.1nm,0.4s,baz=66,slow=0.6,SNR=6.4							
TXAR	**Lajitas Array**	**139.16**	**24**	PKPdf	PKPdf	12 08 06.0	+2.0
PLCA	**Paso Flores**	**144.63**	**201**	PKP	PKPdf	12 08 12.7	-0.6
3.7nm,0.8s,baz=191,slow=3.1,SNR=8.5							

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*IDC **28** 11:52:57.3±0.4, 7.85N×94.00E, mb4.8/26, mb1 4.8/27, mb1mx4.8/27, mbtmp4.8/27, ML4.8/1, MS4.7/22, Ms1 4.7/22, ms1mx4.6/28, Error ellipse: s-maj=20.1km s-min=11.0km az=47.0, Putative timing error at LPAZ*
*MOS **28** 11:53:01.4±0.9, 7.95N×94.08E, h37km, mb5.3/75, MS4.8/16, Error ellipse: s-maj=8.7km s-min=4.8km az=114.9*
*BJI **28** 11:53:02.0, 8.07N×93.67E, h27km, mB5.3, mb4.8, Ms5.3, Msz5.1*
*NEIC **28** 11:53:02.1±0.2, 7.90N×94.06E, h30km, mb5.2/80, Error ellipse: s-maj=5.9km s-min=4.7km az=47.0*
*HRVD **28** 11:53:02.1±0.2, 7.84N×94.23E, h17km±1km, MW5.3/62, Centroid moment Tensor Solution. LP body waves: s35,c50; Mantle waves: s62,c116; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.18±.03; $M_{\theta\theta}$-0.86±.03; $M_{\phi\phi}$1.04±.03; $M_{r\theta}$-0.38±.08; $M_{\theta\phi}$0.27±.02; $M_{\phi r}$-0.17±.07; Best double couple: $M_0$1.081×10^{17} NP1: ϕ_s145°,δ67°,λ-170°. NP2:ϕ_s51°,δ81°,λ-24°. Principal axes: T 1.115, Plg10°, Azm100°; N -.071, Plg65°, Azm212°; P -1.046, Plg23°, Azm5°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 28 11:53:01.8±0.9, 7.90N±0.03×94.10E±0.03, h41km±7km, h29km±3.0km: pP-P, n335, σ1§16/322, mb5.1/114, MS4.8/38, 11C-12D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.97**	**340**	*e*P	**P**	**11 54 06.5**	**+4.7**
PBA				*e*S	**S**	**11 54 48.7**	**+1.0**
NNT	**Nongplab**	**7.24**	**49**	P	**P**	**11 54 46.2**	**-1.6**
NST	**Nakhon Sawan**	**9.72**	**37**	P	**P**	**11 55 13.5**	**-8.8**
CMAR	**Chiang Mai Arr**	**11.51**	**24**	P	**P**	**11 55 46.9**	**+0.4**
CMAR				pmax	pmax		
comp=Z,2.0nm,0.3s							
CMAR				MLR	MLR		
comp=Z,4μm,18.2s							
CMAR	**Chiang M

comp=Z,79nm,0.4s,mb5.6,baz=131,slow=12,SNR=3.6
SMLA Simla 28.01 328 eP P 11 59 05.2 +14
SMLA e pP 11 59 15.2 +13
comp=Z,80nm,1.2s
SMLA eS **S 12 03 49.1 +18**
XAN Xi'an 29.39 26 P **P 11 59 03.8 +0.3**
XAN AMB AMB
comp=Z,16nm,1.0s,mb4.7
LZH Lanzhou 29.44 16 eP **P 11 59 04.5 +0.5**
LZH AP pP 11 59 11.5 -3.5
LZH XP sP 11 59 14.5 -5.7
LZH AMB AMB
comp=Z,46nm,1.8s,mb4.9
LZH AMB AMB
comp=Z,120nm,4.0s
LZH LR LR
comp=E,3μm,12.8s
LZH LR LR
comp=Z,3μm,14.0s,MS5.1
LZH Lanzhou 29.44 16 eP **P 11 59 04.5 +0.5**
LZH *SP sP 11 59 14.5 -5.7
LZH pmax pmax
comp=Z,46nm,1.8s,mb4.9
LZH MLR MLR
comp=Z,3μm,14.0s,MS5.1
LZH Lanzhou 29.44 16 eP **P 11 59 04.5 +0.5**
comp=Z,46nm,1.8s,mb4.9
LZH pP pP 11 59 11.4 -3.6
LZH sP sP 11 59 14.5 -5.7
LZH LR LR
comp=Z,3μm,14.0s,MS5.1
WHN Wuhan 29.44 37 eP **P 11 59 08.0 +4.0**
WHN eS **S 12 03 59.0 +5.0**
WHN LR LR
comp=Z,7μm,12.9s,MS5.5
SSE Sheshan 34.23 44 P **P 11 59 43.0 -3.0**
comp=Z,50nm,0.7s,mb5.5
SSE S **S 12 05 08.1 -0.9**
SSE sS 12 05 26.5
TIA Tai'an 35.15 33 eP **P 11 59 56.8 +3.0**
WMQ Urumqi 36.22 352 eP **P 12 00 04.5 +1.7**
WMQ AP pP 12 00 10.3 -3.8
WMQ XP sP 12 00 13.3 -6.0
WMQ PP PP 12 01 27.3 +1.0
WMQ PCP PcP 12 02 30.0 +2.2
WMQ S **S 12 05 43.0 +3.5**
WBK Wadi Bani Khal 36.79 297 ⇑P **P 12 00 10.3 +2.5**
JOW Kunigami 37.48 56 P **P 12 00 15.8 +2.4**
comp=Z,14nm,0.8s,mb4.8,baz=105,slow=28,SNR=3.0
JOW LR LR 12 15 57.2
comp=Z,1μm,18.6s,MS4.7,baz=42,slow=37
JMDO Jabal Madar 37.48 297 ⇓P **P 12 00 15.9 +2.3**
BJT Baijiatuau 37.58 28 eP **P 12 00 13.2 -1.1**
BJT pmax pmax
comp=Z,19nm,0.8s
BJT Baijiatuau 37.58 28 eP **P 12 00 13.2 -1.1**
comp=Z,19nm,0.8s,mb4.9
BJI Beijing 37.60 28 P **P 12 00 16.8 +2.4**
BJI 12 01 45.9
BJI S **S 12 06 06.9 +6.2**
BJI pmax pmax
comp=Z,7.0nm,1.3s,mb4.2
BJI MLR MLR
comp=Z,940nm,23.5s,MS4.5
BJI Beijing 37.60 28 P **P 12 00 16.8 +2.4**
comp=Z,7.0nm,1.3s,mb4.2
BJI PP PP 12 01 45.9 +2.4
BJI S **S 12 06 06.9 +6.2**
BJI SS SS 12 08 46.7 +11
BJI LR LR
comp=Z,940nm,23.5s,MS4.5
SMDO Samad 37.73 298 ⇑P **P 12 00 18.0 +2.3**
MBWA Marble Bar 38.31 139 eP **P 12 00 20.2 -0.3**
comp=Z,23nm,1.0s,mb4.9
BSY Bisya 38.39 297 ⇓P **P 12 00 23.7 +2.5**
KBK Karagaybulak 38.51 337 P **P 12 00 22.9 +0.9**
SNR=12
HOQ Hoqain 38.54 298 ⇑P **P 12 00 24.9 +2.5**
AML Almayashu 38.57 335 P **P 12 00 23.0 +0.5**
SNR=18
AAK Ala-Archa 38.67 337 P **P 12 00 24.6 +1.3**
SNR=11
AAK Ala-Archa 38.67 337 eP **P 12 00 23.2 -0.1**
AAK e*PP pP 12 00 35.2 +0.6
AAK pmax pmax
comp=Z,25nm,1.1s,mb4.9
AAK Ala-Archa 38.67 337 eP **P 12 00 23.2 -0.1**
comp=Z,25nm,1.1s,mb4.9
AAK epP pP 12 00 35.2 +0.5
EKS2 Erkin-Say 38.98 336 P **P 12 00 26.4 +0.5**
SNR=6.0
ARQ Araqi 39.16 297 ⇑P **P 12 00 30.1 +2.5**
USP Ospenovka 39.20 337 P **P 12 00 27.8 +0.1**
SNR=10
RBK Rabkut 40.00 288 ⇑P **P 12 00 36.6 +2.0**
MKAR Makanchi Array 40.06 347 *i* P **P 12 00 34.1 -0.7**
MKAR pmax pmax
comp=Z,12nm,0.8s
FITZ Fitzroy Crossi 40.46 130 eP **P 12 00 38.9 +0.5**
comp=Z,27nm,0.8s,mb5.0
ABTO Aybut 40.83 287 ⇑P **P 12 00 43.3 +1.9**
SONM Songino Array 41.15 13 P **P 12 00 44.1 +0.3**
comp=Z,14nm,1.0s,mb4.5,baz=197,slow=8.1,SNR=22
SONM PcP PcP 12 02 43.9 +0.7
comp=Z,2.4nm,0.6s,baz=205,slow=3.2,SNR=5.5
ULN Ulaanbaatar 41.32 13 *i* P **P 12 00 42.6 -2.6**
ULN Ulaanbaatar 41.32 13 eP **P 12 00 45.1 -0.1**
comp=Z,7.7nm,0.8s,mb4.4
SNY Shenyang 42.67 33 ⇓P **P 12 00 59.8 +3.4**
SNY XP sP 12 01 12.0 -0.9
SNY AMB AMB
comp=Z,20nm,1.8s,mb4.5
SNY LR LR
comp=N,1μm,15.7s,MS5.1
SNY LR LR
comp=E,1μm,12.1s,MS5.1
SNY LR LR
comp=Z,1μm,16.5s,MS4.9
ZAK Zakamensk 43.03 9 eP **P 12 00 57.9 -1.3**
ZAK e 12 02 46.4
MOY Mondy 44.00 6 eP **P 12 01 08.0 +0.9**
TLY Talaya 44.35 8 eP **P 12 01 10.2 +0.4**
TLY eS **S 12 07 41.7 +0.9**
TLY eSS SS 12 11 07.1 +16
TLY pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
TLY MLR MLR
comp=Z,849nm,16.0s,MS4.8
TLY Talaya 44.35 8 eP **P 12 01 10.1 +0.3**
comp=Z,43nm,1.6s,mb4.9
KURK Kurchatov 44.58 346 *i* P **P 12 01 11.6 -0.1**
KURK pmax pmax
comp=Z,59nm,1.5s,mb5.2
KURK Kurchatov 44.58 346 eP **P 12 01 10.9 -0.8**
comp=Z,52nm,1.2s,mb5.2
MUN Mundaring 44.92 153 eP **P 12 01 15.7 +1.0**
comp=Z,29nm,0.7s,mb5.2
MUN Mundaring 44.92 153 eP **P 12 01 15.7 +1.0**
MUN pmax pmax
comp=Z,29nm,0.7s,mb5.2
KLBR Kellerberrin 45.31 151 eP **P 12 01 18.2 +0.3**
comp=Z,237nm,0.8s,mb6.1
NWAO Narrogin (SRO) 46.19 153 eP **P 12 01 24.2 -0.5**
NWAO pmax pmax
comp=Z,38nm,0.8s
NWAO Narrogin (SRO) 46.19 153 P **P 12 01 23.8 -0.9**
comp=Z,35nm,0.7s,baz=322,slow=8.2,SNR=24
NWAO LR LR 12 19 39.3
comp=Z,5.5nm,18.9s,baz=149,slow=35
NWAO Narrogin (SRO) 46.19 153 eP **P 12 01 24.2 -0.5**
comp=Z,38nm,0.8s,mb5.4
HIA Hailar 46.52 23 eP **P 12 01 26.8 -0.3**
HIA pmax pmax
comp=Z,27nm,1.1s
HIA Hailar 46.52 23 eP **P 12 01 26.8 -0.3**
comp=Z,28nm,1.1s,mb5.1
ZAL Zalesovo 46.52 352 P **P 12 01 27.2 +0.2**
ZAL pmax pmax
comp=Z,21nm,0.7s
ZAL Zalesovo 46.52 352 P **P 12 01 27.1 +0.1**
comp=Z,21nm,0.7s,mb5.2,baz=304,slow=5.7,SNR=28
NVS Novosibirsk 47.62 352 ⇓*i* P **P 12 01 34.3 -1.4**
NVS e 12 03 08.4
NVS ePPP PPP 12 04 22.2 +5.9
NVS eS **S 12 08 20.3 -7.0**
NVS pmax pmax
comp=Z,52nm,1.1s,mb5.5
NVS pmax pmax
comp=N,39nm,1.2s
NVS pmax pmax
comp=E,25nm,1.2s
NVS smax
comp=N,34nm,1.6s
NVS smax
comp=E,28nm,1.7s
MDJ Mudanjiang 47.81 34 P **P 12 01 42.3 +5.0**
MDJ AMB AMB
comp=Z,15nm,1.8s,mb4.7
MDJ AMB AMB
comp=Z,154nm,5.9s
MDJ Mudanjiang 47.81 34 P **P 12 01 36.2 -1.1**
comp=Z,94nm,1.7s,mb5.5
WRA Warramunga Arr 48.31 126 P **P 12 01 40.5 -1.0**
WRA pmax pmax
comp=Z,4.0nm,0.5s
WRA Warramunga Arr 48.31 126 P **P 12 01 40.5 -1.0**
comp=Z,4.1nm,0.5s,mb4.7,baz=304,slow=8.7,SNR=22
WRAB Tennant Creek 48.31 126 eP **P 12 01 39.1 -2.4**
WRAB pmax pmax
comp=Z,42nm,1.3s,mb5.3
WRAB Tennant Creek 48.31 126 eP **P 12 01 39.1 -2.5**
comp=Z,42nm,1.3s,mb5.3
WB2 Warramunga Arr 48.32 126 eP **P 12 01 38.7 -2.9**
BVA0 Borovoye Array 48.95 341 *i* P **P 12 01 44.6 -1.4**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
BVAR Borovoye Array 48.95 341 P **P 12 01 45.0 -1.1**
comp=Z,10nm,1.1s,mb4.8,baz=153,slow=6.6,SNR=16
BVAR PcP PcP 12 03 11.8 +1.7
comp=Z,4.3nm,0.8s,baz=198,slow=4.6,SNR=2.5
BRVK Borovoye 49.02 341 eP **P 12 01 45.4 -1.1**
BRVK pmax pmax
comp=Z,14nm,1.0s,mb5.0
BRVK Borovoye 49.02 341 eP **P 12 01 45.4 -1.1**
comp=Z,14nm,1.0s,mb4.9
RAYN Ar Rayn 49.04 294 P **P 12 01 48.7 +1.6**
comp=Z,228nm,0.7s,SNR=42
JHJ Hachijo jima 2 49.08 53 LR LR 12 21 37.3
comp=Z,621nm,20.6s,MS4.6,baz=309,slow=35
MAJO Matsushiro 49.17 48 P **P 12 01 47.5 -0.5**
MAJO pmax pmax
comp=Z,36nm,1.6s,mb5.2
MAJO Matsushiro 49.17 48 P **P 12 01 47.5 -0.5**
comp=Z,36nm,1.6s,mb5.2
MAT Matsushiro 49.17 48 eP **P 12 01 53.0 +5.0**
MAT pmax pmax
comp=Z,58nm,1.7s,mb5.3
MAT Matsushiro 49.17 48 eP **P 12 01 53.0 +5.0**
comp=Z,58nm,1.7s,mb5.3
MAT Matsushiro 49.17 48 P **P 12 01 52.9 +4.9**
CBIJ Chichi jima 49.32 61 LR LR 12 21 20.1
comp=Z,390nm,19.0s,MS4.4,baz=277,slow=34
CHKZ Chkalovo 49.44 342 P **P 12 01 48.9 -0.9**
CHKZ pmax pmax
comp=Z,40nm,1.2s,mb5.3
CHKZ Chkalovo 49.44 342 eP **P 12 01 48.6 -1.2**
comp=Z,45nm,1.2s,mb5.4
ASPA Alice Springs 49.96 130 eP **P 12 01 53.3 -0.9**
ASAR Alice Springs 49.96 130 P **P 12 01 51.9 -2.3**
comp=Z,7.1nm,0.7s,mb4.8,baz=303,slow=7.2,SNR=28
ASAR LR LR 12 24 41.3
comp=Z,462nm,19.2s,MS4.5,baz=298,slow=38
FORT Forrest 50.38 141 eP **P 12 01 56.1 -1.2**
comp=Z,164nm,0.7s,mb6.2
KLR Kul'dur 51.88 31 eP **P 12 02 07.2 -1.2**
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.3
BOD Bodaibo 52.14 13 eP **P 12 02 08.9 -1.3**
GNI Garni 54.39 314 P **P 12 02 27.1 0.0**
GNI pmax pmax
comp=Z,7.0nm,0.7s
GNI Garni 54.39 314 P **P 12 02 27.1 -0.1**
comp=Z,7.1nm,0.7s,mb4.7,baz=197,slow=18,SNR=6.8
GNI Garni 54.39 314 eP **P 12 02 26.4 -0.8**
comp=Z,22nm,0.8s,mb5.2
CLNS Chul'man 54.43 20 eP **P 12 02 26.0 -1.2**
CLNS e 12 03 35.1
CLNS eS **S 12 09 51.1 -10**
CLNS e 12 12 11.5
CLNS pmax pmax
comp=Z,24nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
CLNS smax
comp=N,62nm,14.4s
CLNS smax
comp=E,21nm,14.8s
CLNS MLR MLR
comp=Z,2μm,17.0s,MS5.2
CLNS MLR MLR
comp=N,1μm,14.0s,MS5.1
CLNS MLR MLR
comp=E,200nm,12.0s,MS5.1
SVE Sverdlovsk 55.37 338 eP **P 12 02 30.5 -3.5**
SVE eS **S 12 10 11.5 -2.1**
SVE pmax pmax
comp=Z,140nm,2.0s,mb5.7
SVE MLR MLR
comp=Z,1μm,19.0s,MS4.9
ASAJ Asahikawa 55.42 41 LR LR 12 25 37.5
comp=Z,638nm,18.9s,MS4.7,baz=204,slow=35
PMG Port Moresby 55.58 107 P **P 12 02 36.1 0.0**
PMG pmax pmax
comp=Z,21nm,0.7s
PMG Port Moresby 55.58 107 P **P 12 02 36.1 0.0**
comp=Z,21nm,0.7s,mb5.3,baz=328,slow=6.0,SNR=9.9
PMG Port Moresby 55.58 107 eP **P 12 02 35.5 -0.5**
comp=Z,20nm,0.7s,mb5.3
ARU Arti 55.85 337 ⇑*i* P **P 12 02 31.5 -6.0**
ARU e 12 03 30.9
ARU eS **S 12 10 16.2 -4.0**
ARU e 12 12 15.7
ARU eSS SS 12 14 02.2 -3.9
ARU pmax pmax
comp=Z,21nm,0.9s,mb5.2
YSS Yuzh-Sakhalins 56.79 38 ⇓eP **P 12 02 52.0 +7.7**
YSS e 12 03 09.6
YSS eS **S 12 10 48.0 +15**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS MLR MLR
comp=N,900nm,13.0s,MS5.2
YSS MLR MLR
comp=E,1μm,13.0s,MS5.2
YSS MLR MLR
comp=Z,900nm,13.0s,MS5.0
YSS Yuzh-Sakhalins 56.79 38 P **P 12 02 45.7 +1.4**
comp=Z,14nm,0.8s,mb5.0
KIV Kislovodsk 57.27 318 *d* iP **P 12 02 46.5 -1.3**
KIV e 12 02 52.7
KIV eS **S 12 10 44.2 +5.1**
KIV pmax pmax
comp=Z,26nm,1.3s,mb5.1
KIV MLR MLR
comp=Z,200nm,18.0s,MS4.3
KIV Kislovodsk 57.27 318 eP **P 12 02 45.6 -2.3**
comp=Z,32nm,0.8s,mb5.4
KMBO Kilima Mbogo 57.39 264 *i* P **P 12 02 51.0 +2.0**
KMBO pmax pmax
comp=Z,9.0nm,0.9s
KMBO Kilima Mbogo 57.39 264 P **P 12 02 49.0 0.0**
comp=Z,9.2nm,0.9s,mb4.8,baz=52,slow=9.1,SNR=13
KMBO LR LR 12 24 37.5
comp=Z,1μm,19.0s,MS5.0,baz=90,slow=33
KMBO Kilima Mbogo 57.39 264 eP **P 12 02 49.0 0.0**
comp=Z,16nm,0.9s,mb5.0
ASF Jabal al Asfar 58.17 303 P **P 12 02 53.0 -1.3**
comp=Z,5.5nm,0.8s,mb4.7,baz=328,slow=5.2,SNR=4.4
ASF LR LR 12 29 43.8
comp=Z,366nm,19.1s,MS4.5,baz=103,slow=38
CTA Charters Tower 58.35 119 P **P 12 02 54.4 -1.3**
CTA pmax pmax
comp=Z,4.0nm,0.8s
CTA MLR MLR
comp=Z,781nm,20.9s
CTA Charters Tower 58.35 119 P **P 12 02 54.4 -1.3**
comp=Z,4.2nm,0.8s,mb4.5,baz=285,slow=10.0,SNR=4.5
CTA LR LR 12 30 01.0
comp=Z,781nm,20.9s,MS4.8,baz=176,slow=38
CTAO Charters Tower 58.35 119 eP **P 12 02 54.6 -1.1**
CTAO pmax pmax
comp=Z,39nm,1.7s,mb5.2
CTAO Charters Tower 58.35 119 eP **P 12 02 54.6 -1.1**
comp=Z,38nm,1.7s,mb5.2
MALT Malatya 58.42 310 eP **P 12 02 54.3 -1.6**
MALT pmax pmax
comp=Z,11nm,1.2s,mb4.8
MALT Malatya 58.42 310 eP **P 12 02 54.3 -1.6**
comp=Z,11nm,1.2s,mb4.8
SOKR Solikamsk 58.76 339 ⇑*i* P **P 12 02 55.5 -2.5**
SOKR pmax pmax
comp=Z,50nm,1.0s,mb5.5
SOKR MLR MLR
comp=Z,1μm,21.0s,MS5.0
SOC Sochi 59.14 317 eP **P 12 02 55.8 -5.0**
SOC e 12 03 43.1
SOC ePPP PP 12 05 07.0 -6.5
SOC eS **S 12 11 02.8 -0.7**
SOC e 12 12 43.8
SOC eSS SS 12 14 57.9 -1.8
SOC pmax pmax
comp=N,17nm,0.9s
SOC pmax pmax
comp=Z,42nm,0.9s,mb5.5
SOC pmax pmax
comp=E,20nm,0.8s
EIL Elat 59.38 300 LR LR 12 28 57.9
comp=E,862nm,19.8s,MS4.9,baz=94,slow=36
EIL Elat 59.38 300 eP **P 12 03 02.1 -0.6**
comp=E,5.6nm,0.6s,mb4.8
YAK Yakutsk 59.99 18 eP **P 12 03 05.1 -1.3**
YAK e 12 03 47.1
YAK e 12 05 16.5
YAK e*SS 12 11 32.3
YAK pmax pmax
comp=Z,18nm,0.8s,mb5.2
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,11nm,1.2s
YAK MLR MLR
comp=N,352nm,13.0s,MS4.9
YAK MLR MLR
comp=Z,590nm,13.0s,MS4.9
YAK MLR MLR
comp=E,556nm,14.0s,MS4.9
YAK Yakutsk 59.99 18 eP **P 12 03 04.6 -1.8**
comp=E,50nm,0.8s,mb5.6
STKA Stephens Creek 60.15 134 eP **P 12 03 05.7 -2.3**
comp=E,6.5nm,0.7s,mb4.8
STKA Stephens Creek 60.15 134 P **P 12 03 05.9 -2.1**
comp=E,11nm,0.9s,mb4.9,baz=323,slow=5.9,SNR=6.7
STKA LR LR 12 34 10.4
comp=E,933nm,18.2s,MS5.0,baz=65,slow=41
VRSR Storozhevoye 62.34 324 eP **P 12 03 20.2 -2.2**
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
VRSR pmax pmax
comp=E,10.0nm,0.9s
BRTR Keskin Array B 62.38 311 P **P 12 03 20.4 -2.5**
BRTR pmax pmax
comp=Z,7.0nm,0.7s
BRTR Keskin Array B 62.38 311 P **P 12 03 20.4 -2.6**
comp=Z,6.9nm,0.7s,mb4.9,baz=128,slow=7.3,SNR=22
MBAR Mbarara 63.72 265 eP **P 12 03 32.4 +0.1**
MBAR pmax pmax
comp=Z,29nm,1.2s,mb5.2
MBAR Mbarara 63.72 265 eP **P 12 03 32.4 +0.2**
comp=Z,29nm,1.2s,mb5.2
MOS Moscow 65.04 329 eP **P 12 03 38.4 -1.7**
MOS e pP 12 03 47.9 -4.2
MOS pmax pmax
comp=Z,62nm,0.8s,mb5.7
OBN Obninsk 65.34 328 ⇓*i* P **P 12 03 37.3 -4.7**
OBN e 12 06 02.3
OBN pmax pmax
comp=Z,59nm,1.5s,mb5.4
OBN MLR MLR
comp=Z,500nm,18.0s,MS4.8
OBN Obninsk 65.34 328 eP **P 12 03 38.2 -3.8**
comp=Z,18nm,0.3s,mb5.6
MA2 Magadan 66.76 28 eP **P 12 03 51.2 +0.2**
MA2 e pP 12 04 01.4 -1.7
MA2 pmax pmax
comp=Z,59μm,1.4s
MA2 Magadan 66.76 28 eP **P 12 03 51.2 +0.2**
comp=Z,59nm,1.4s,mb5.4
MA2 epP pP 12 04 01.4 -1.6
ARMA Armidale 67.00 128 eP **P 12 03 56.6 +3.6**
TIXI Tiksi 67.22 11 *i* P **P 12 03 52.7 -1.0**
TIXI pmax pmax
comp=Z,35nm,1.3s,mb5.2
AKASG Malin Array Be 68.11 322 P **P 12 03 57.3 -2.3**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 68.11 322 P **P 12 03 57.3 -2.3**
comp=Z,3.0nm,0.7s,mb4.4,baz=88,slow=5.1,SNR=7.2
IDI Anoyia 68.52 305 P **P 12 04 01.0 -1.4**
comp=Z,14nm,0.7s,mb5.0,baz=82,slow=8.6,SNR=9.6
SEY Seymchan 68.92 25 eP **P 12 04 04.5 +0.1**
SEY e 12 04 31.1
SEY ePPP PPP 12 08 22.0 +4.8
SEY eS S 12 13 05.5 +1.1
SEY e 12 14 01.8
SEY eSS SS 12 17 38.1 +6.0
SEY pmax pmax
comp=E,30nm,1.0s
SEY pmax pmax
comp=Z,50nm,1.0s,mb5.4
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY MLR MLR
comp=N,2μm,18.0s,MS5.6
SEY MLR MLR
comp=Z,3μm,18.0s,MS5.6
SEY MLR MLR
comp=E,1μm,15.0s,MS5.6
MLR Muntele Rosu 69.13 316 LR LR 12 39 52.6
comp=E,351nm,19.1s,MS4.6,baz=228,slow=41
LSZ Lusaka 69.24 250 eP **P 12 04 07.4 +0.3**
LSZ pmax pmax
comp=Z,14nm,0.9s,mb4.9
LSZ Lusaka 69.24 250 eP **P 12 04 07.4 +0.3**
comp=Z,14nm,0.9s,mb4.9
MNK Minsk 69.91 325 eP **P 12 04 05.0 -5.6**
JOF Joensuu 70.81 334 ep **P 12 04 15.4 -0.5**
comp=Z,21nm,0.5s,mb5.3
KWP Kalwaria 71.99 320 eP **P 12 04 22.1 -1.0**
KWP pmax pmax
comp=Z,24nm,1.2s,mb5.0
KWP Kalwaria 71.99 320 eP **P 12 04 22.1 -1.1**
comp=Z,24nm,1.2s,mb5.0
KOLS Kolonicke sedl 72.16 319 eP **P 12 04 24.9 +0.7**
KOLS epP pP 12 04 32.0 -4.3
FINES FINESS Array B 72.67 332 P **P 12 04 26.2 -0.8**
comp=Z,13nm,0.8s,mb4.9,baz=103,slow=5.7,SNR=18
FINES LR LR 12 42 37.8
comp=Z,437nm,18.4s,MS4.8,baz=112,slow=41
CRVS Cervenica-Dubn 72.69 319 eP **P 12 04 27.7 +0.4**
CRVS *i* pP pP 12 04 35.5 -4.0
KAF Kangasniemi 72.75 333 ep **P 12 04 26.2 -1.3**
comp=Z,10nm,0.5s,mb5.0
KAF Kangasniemi 72.75 333 eP **P 12 04 26.2 -1.3**
KAF pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
NIE Niedzica 73.50 319 eP **P 12 04 32.1 0.0**
PSZ Piszkesteto 73.60 318 eP **P 12 04 30.9 -1.8**
PSZ pmax pmax
comp=Z,14nm,1.1s,mb4.8
PSZ Piszkesteto 73.60 318 eP **P 12 04 30.9 -1.9**
comp=Z,14nm,1.1s,mb4.8
OJC Ojcow 73.93 320 eP **P 12 04 34.1 -0.5**
LBTB Lobatse 74.22 241 eP **P 12 04 37.5 +0.7**
LBTB pmax pmax
comp=Z,26nm,0.8s,mb5.2
LBTB Lobatse 74.22 241 eP **P 12 04 37.5 +0.7**
comp=Z,26nm,0.8s,mb5.2
PKSM Moragy 74.28 316 ⇓eP **P 12 04 35.6 -1.1**
VYHS Vyhne 74.36 318 *i* P **P 12 04 36.3 -0.9**
VYHS e 12 04 41.5
KEV Kevo 74.80 341 ep **P 12 04 39.2 -0.1**
comp=Z,7.2nm,0.6s,mb4.8
KEV Kevo 74.80 341 eP **P 12 04 39.2 -0.1**

KEV pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
OKC Ostrava-Krasne 74.95 319 *e*P **P** **12 04 41.3 +0.8**
ARCES ARCESS Array B 75.23 340 P **P** **12 04 41.5 -0.2**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES MLR MLR
comp=Z,962nm,20.6s
ARCES ARCESS Array B 75.23 340 P **P** **12 04 41.5 -0.3**
comp=Z,4.7nm,0.8s,mb4.5,baz=85,slow=4.0,SNR=11
ARCES LR LR 12 40 53.2
comp=Z,962nm,20.6s,MS5.1,baz=325,slow=38
ARCES ARCESS Array B 75.23 340 P **P** **12 04 41.5 -0.3**
ARCES LR LR 12 40 53.2
MORC Moravsky Berou 75.33 319 *e*P **P** **12 04 42.5 -0.2**
MORC pmax pmax
comp=Z,21nm,1.1s,mb5.0
MORC Moravsky Berou 75.33 319 *e*P **P** **12 04 42.5 -0.2**
comp=Z,21nm,1.1s,mb5.0
ZST Bratislava 75.49 318 *e*P **P** **12 04 43.8 +0.2**
BOSA Boshof 75.56 238 *e*P **P** **12 04 45.0 +0.5**
BOSA pmax pmax
comp=Z,18nm,0.8s,mb5.0
BOSA Boshof 75.56 238 *e*P **P** **12 04 45.0 +0.6**
comp=Z,18nm,0.8s,mb5.0
DPC Dobruska-Polom 76.16 320 *e*P **P** **12 04 47.5 +0.1**
KSP Ksiaz 76.22 320 *e*P **P** **12 04 47.4 -0.3**
KSP *e**PP pP 12 04 58.2 -1.7
UPC Upice 76.37 320 *e*P **P** **12 04 51.7 +3.1**
VAE Valguarnera 77.07 307 LR LR 12 41 30.0
comp=Z,258nm,18.6s,MS4.6,baz=311,slow=38
PRU Pruhonice 77.28 319 *e*P **P** **12 04 53.8 0.0**
PVCC Panska Ves 77.29 320 *e*P **P** **12 04 55.1 +1.3**
BRG Berggiesshubel 77.71 320 *i* P **P** **12 04 55.6 -0.5**
BRG *e* pP 12 05 06.8 -1.5
BRG pmax pmax
comp=Z,36nm,1.8s,mb5.0
BRG Berggiesshubel 77.71 320 *i* P **P** **12 04 55.6 -0.5**
comp=Z,36nm,1.8s,mb5.0
BRG *e* pP 12 05 06.8 -1.5
GEC2 GERESS Array S 77.78 318 *e*P **P** **12 04 56.0 -0.5**
GEC2 pmax pmax
comp=Z,23nm,1.0s,mb5.1
GEC2 GERESS Array S 77.78 318 *e*P **P** **12 04 56.0 -0.5**
comp=Z,23nm,1.0s,mb5.1
GERES GERESS Array B 77.78 318 P **P** **12 04 56.5 0.0**
GERES pmax pmax
comp=Z,9.0nm,0.9s
GERES GERESS Array B 77.78 318 P **P** **12 04 56.5 0.0**
comp=Z,8.7nm,0.9s,mb4.7,baz=90,slow=5.3,SNR=18
KHC Kasperske Hory 77.87 318 *e*P **P** **12 04 56.2 -0.8**
KHC *e* 12 05 05.0
KHC Kasperske Hory 77.87 318 *e*P **P** **12 04 56.2 -0.8**
KHC *e* 12 04 59.0
KHC *e* 12 05 05.0
KHC Kasperske Hory 77.87 318 *e*P **P** **12 04 56.2 -0.8**
KHC x x 12 04 59.0
KHC pP pP 12 05 05.0 -4.2
RUE Ruedersdorf 77.89 322 P **P** **12 04 56.6 -0.4**
comp=Z,32nm,0.6s,mb5.4
CLL Collm 78.32 321 *e*P **P** **12 05 00.0 +0.6**
CLL *e* pP 12 05 11.0 -0.6
CLL Collm 78.32 321 P **P** **12 05 00.0 +0.6**
CLL *e**SP sP 12 05 11.0 -5.1
WET Wettzell 78.33 318 *e*P **P** **12 04 59.0 -0.5**
WET pmax pmax
comp=Z,18nm,1.2s,mb4.9
WET Wettzell 78.33 318 *e*P **P** **12 04 59.0 -0.5**
comp=Z,18nm,1.2s,mb4.9
MAW Mawson 78.55 192 *e*P **P** **12 05 01.5 +1.1**
MAW pmax pmax
comp=Z,15nm,0.9s
MAW Mawson 78.55 192 P **P** **12 05 01.4 +1.0**
comp=Z,9.6nm,0.8s,mb4.8,baz=320,slow=9.4,SNR=7.1
MAW Mawson 78.55 192 *e*P **P** **12 05 01.4 +1.1**
comp=Z,15nm,0.9s,mb4.9
NKC Novy Kostel 78.64 320 *e*P **P** **12 05 02.5 +1.3**
MOX Moxa 79.18 320 *e*P **P** **12 05 07.6 +3.5**
MOX MLR MLR
comp=Z,300nm,18.0s,MS4.7
MOX Moxa 79.18 320 *i* P **P** **12 05 07.6 +3.5**
MOX L 12 47 12.0
GRA1 Grafenberg Arr 79.42 319 *e*P **P** **12 05 05.4 -0.1**
comp=Z,46nm,1.3s,mb5.2
GRF Grafenberg Arr 79.42 319 *e*P **P** **12 05 05.4 -0.1**
GRF pmax pmax
comp=Z,46nm,1.3s,mb5.2
GRF Grafenberg Arr 79.42 319 *e*P **P** **12 05 05.4 -0.1**
GRF pmax pmax
comp=Z,46nm,1.3s,mb5.2
GRF Grafenberg Arr 79.42 319 *e*P **P** **12 05 05.4 -0.1**
comp=Z,46nm,1.3s,mb5.2
NB2 NORSAR Subarra 79.69 331 P **P** **12 05 05.7 -1.0**
comp=Z,25nm,1.1s,mb5.0,baz=92,slow=5.3
NB2 NORSAR Subarra 79.69 331 P **P** **12 05 05.7 -1.0**
baz=92,slow=5.6
NOA NORSAR Array B 79.69 331 P **P** **12 05 06.3 -0.4**
comp=Z,9.4nm,0.8s,mb4.8,baz=93,slow=5.6,SNR=14
NOA LR LR 12 45 27.4
comp=Z,336nm,18.1s,MS4.7,baz=105,slow=40
NAO01 NORSAR Array S 79.84 330 *e*P **P** **12 05 06.6 -0.9**
comp=Z,76nm,1.4s,mb5.4
CLZ Clausthal 79.97 321 *e*P **P** **12 05 07.9 -0.5**
comp=Z,20nm,1.3s,mb4.9
SUR Sutherland 80.31 235 *e*P **P** **12 05 12.3 +1.7**
comp=Z,45nm,1.3s,mb5.2
TNS Taunus Mts 81.21 320 *e*P **P** **12 05 14.6 -0.4**
BFO Black Forest 81.35 318 *e*P **P** **12 05 14.8 -1.0**
BFO pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BFO Black Forest 81.35 318 *e*P **P** **12 05 14.8 -1.0**
comp=Z,10.0nm,1.1s,mb4.7
CDF Champ du Feu 82.05 318 *e*P **P** **12 05 18.8 -0.6**
comp=Z,16nm,0.7s,mb4.7
CDF Champ du Feu 82.05 318 *e*P **P** **12 05 18.8 -0.6**
CDF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SBF Sospel 82.19 313 *e*P **P** **12 05 19.8 -0.4**
comp=Z,170nm,1.3s,mb5.5
SBF Sospel 82.19 313 *e*P **P** **12 05 19.8 -0.4**
SBF pmax pmax
comp=Z,85nm,1.3s,mb5.5
HINF Hinteralfeld 82.36 317 *e*P **P** **12 05 20.7 -0.3**
LPG La Plagne 82.57 315 *e*P **P** **12 05 22.3 +0.2**
comp=Z,35nm,0.7s,mb5.2
LPG La Plagne 82.57 315 *e*P **P** **12 05 22.3 +0.2**
LPG pmax pmax
comp=Z,17nm,0.7s,mb5.2
LPL La Plagne 82.59 315 *e*P **P** **12 05 22.3 +0.1**
MBDF Montbardon 82.61 314 *e*P **P** **12 05 21.5 -0.8**
comp=Z,20nm,0.7s,mb4.9
MBDF Montbardon 82.61 314 *e*P **P** **12 05 21.5 -0.8**
MBDF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
BNI Bardonecchia 82.65 314 *e*P **P** **12 05 23.9 +1.4**
BNI pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BNI Bardonecchia 82.65 314 *e*P **P** **12 05 23.9 +1.3**
comp=Z,9.6nm,0.8s,mb4.9
HAU Haudompre 82.69 317 *e*P **P** **12 05 22.1 -0.6**
comp=Z,33nm,0.8s,mb5.1
HAU *e*R
comp=Z,188nm,21.2s
HAU Haudompre 82.69 317 *e*P **P** **12 05 22.1 -0.6**
HAU pmax pmax
comp=Z,16nm,0.8s,mb5.1
HAU MLR MLR
comp=Z,190nm,21.3s,MS4.4
FRF La Foret Royal 82.78 313 *e*P **P** **12 05 23.2 0.0**
comp=Z,25nm,0.7s,mb5.0
FRF La Foret Royal 82.78 313 *e*P **P** **12 05 23.2 0.0**
FRF pmax pmax
comp=Z,13nm,0.7s,mb5.1
CABF La Chapelle 82.96 316 *e*P **P** **12 05 24.1 0.0**
comp=Z,22nm,0.6s,mb5.1
CABF La Chapelle 82.96 316 *e*P **P** **12 05 24.1 0.0**
CABF pmax pmax
comp=Z,11nm,0.6s,mb5.1
ORIF Oris-en-Rattie 83.23 314 *e*P **P** **12 05 25.7 +0.2**
comp=Z,30nm,1.0s,mb5.0
ORIF *e*R
comp=Z,406nm,23.0s
MEZF Maizieres J'vi 83.52 318 *e*P **P** **12 05 26.7 -0.2**
SMRF Simiane la Rot 83.52 313 *e*P **P** **12 05 27.3 +0.3**
GIVF Givet 83.54 320 *e*P **P** **12 05 26.9 -0.1**

BAIF Baives 83.94 320 *e*P **P** **12 05 29.0 0.0**
comp=Z,89nm,1.5s,mb5.4
BAIF Baives 83.94 320 *e*P **P** **12 05 29.0 0.0**
BAIF pmax pmax
comp=Z,44nm,1.5s,mb5.4
VIVF Saint-Julien-l 84.09 314 *e*P **P** **12 05 29.6 -0.3**
comp=Z,34nm,1.1s,mb5.1
VIVF Saint-Julien-l 84.09 314 *e*P **P** **12 05 29.6 -0.3**
VIVF pmax pmax
comp=Z,17nm,1.1s,mb5.1
SMF Signal de Mont 84.50 316 *e*P **P** **12 05 31.5 -0.4**
comp=Z,27nm,0.9s,mb5.1
SMF Signal de Mont 84.50 316 *e*P **P** **12 05 31.5 -0.4**
SMF pmax pmax
comp=Z,13nm,0.9s,mb5.1
SSF Saint Saulge 84.69 317 *e*P **P** **12 05 32.7 -0.1**
LASF Ste Croix 84.75 314 *e*P **P** **12 05 33.5 +0.3**
AVF Avril sur Loir 84.82 316 *e*P **P** **12 05 33.1 -0.4**
comp=Z,48nm,1.2s,mb5.2
AVF Avril sur Loir 84.82 316 *e*P **P** **12 05 33.1 -0.4**
AVF pmax pmax
comp=Z,24nm,1.2s,mb5.2
BGF Bois d'Agland 85.19 316 *e*P **P** **12 05 35.6 +0.3**
SYO Syowa Base 85.42 197 ⇓P **P** **12 05 40.5 +4.6**
SYO Syowa Base 85.42 197 ⇓pP pP 12 05 45.5 -2.8
SYO Syowa Base 85.42 197 ⇓sP sP 12 05 47.7 -4.9
CAF Calviac 85.92 315 *e*P **P** **12 05 39.3 +0.3**
comp=Z,42nm,1.3s,mb5.2
CAF Calviac 85.92 315 *e*P **P** **12 05 39.3 +0.3**
CAF pmax pmax
comp=Z,21nm,1.3s,mb5.2
MTLF Montolieu 86.01 313 *e*P **P** **12 05 39.5 +0.1**
comp=Z,42nm,1.2s,mb5.2
MTLF Montolieu 86.01 313 *e*P **P** **12 05 39.5 +0.1**
MTLF pmax pmax
comp=Z,21nm,1.2s,mb5.2
RPZ Rata Peaks 86.09 135 LR LR 12 43 53.7
comp=Z,373nm,18.3s,MS4.8,baz=213,slow=36
TNA Tin City 86.16 24 *e*P **P** **12 05 39.4 -0.2**
RJF Les Rejaudoux 86.26 315 *e*P **P** **12 05 41.0 +0.4**
RJF *e*R
comp=Z,295nm,21.8s
JMIC Jan Mayen 86.67 341 LR LR 12 46 53.9
comp=Z,336nm,19.2s,MS4.8,baz=95,slow=37
MFF Saint Martin d 87.23 316 *e*P **P** **12 05 45.3 0.0**
comp=Z,32nm,1.1s,mb5.2
MFF Saint Martin d 87.23 316 *e*P **P** **12 05 45.3 0.0**
MFF pmax pmax
comp=Z,16nm,1.1s,mb5.2
DAG Danmarks Havn 87.44 348⇑ *e*P **P** **12 05 47.9 +2.2**
DAG pmax pmax
comp=Z,12nm,1.3s,mb5.0
DAG Danmarks Havn 87.44 348⇑ *e*P **P** **12 05 47.9 +2.2**
comp=Z,12nm,1.3s,mb5.0
DAG Danmarks Havn 87.44 348⇑ *i*P **P** **12 05 47.9 +2.2**
comp=Z,12nm,1.3s,mb5.0
ETSF Etsaut 88.08 313 *e*P **P** **12 05 49.7 +0.2**
comp=Z,13nm,0.6s,mb5.0
ETSF Etsaut 88.08 313 *e*P **P** **12 05 49.7 +0.2**
ETSF pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
SJPF Ste Jean 88.53 313 *e*P **P** **12 05 52.5 +0.9**
comp=Z,41nm,1.1s,mb5.4
SJPF Ste Jean 88.53 313 *e*P **P** **12 05 52.5 +0.9**
SJPF pmax pmax
comp=Z,20nm,1.1s,mb5.4
ROSF Rostrenen 89.04 319 *e*P **P** **12 05 54.1 +0.2**
URZ Urewera 89.39 129 P **P** **12 05 58.0 +2.2**
comp=Z,11nm,0.9s,mb5.2,baz=211,slow=21,SNR=2.5
URZ LR LR 12 44 19.0
comp=Z,431nm,21.0s,MS4.8,baz=312,slow=34
ESDC Sonseca Array 91.17 310 P **P** **12 06 05.3 +1.2**
comp=Z,2.6nm,0.6s,mb4.7,baz=34,slow=5.3,SNR=4.4
ESLA Sonseca Array 91.17 310 P **P** **12 06 06.0 +1.9**
comp=Z,2.3nm,1.0s,mb4.5
IMA Indian Mountai 91.62 22 *e*P **P** **12 06 06.1 +0.6**
VNDA Vanda 92.96 168 LR LR 12 42 21.2
comp=Z,304nm,19.2s,MS4.8,baz=299,slow=32
MCK McKinley 94.45 23 *e*P **P** **12 06 19.8 +1.3**
MCK pmax pmax
comp=Z,20nm,1.6s,mb5.3
MCK McKinley 94.45 23 *e*P **P** **12 06 19.8 +1.3**
comp=Z,20nm,1.6s,mb5.3
ILAR Eielson Array 94.74 22 P **P** **12 06 19.9 +0.1**
comp=Z,1.1nm,0.7s,mb4.4,baz=302,slow=4.0,SNR=11
ILAR PP PP 12 10 06.2 -4.7
comp=Z,0.5nm,0.7s,baz=295,slow=6.6,SNR=4.1
ILAR PKKP PKKP 12 23 19.9 +12
comp=Z,0.3nm,0.6s,baz=136,slow=2.2,SNR=4.8
ILAR LR LR 12 55 07.9
comp=Z,253nm,19.7s,MS4.7,baz=150,slow=39
PWA Palmer West 95.02 26 *e*P **P** **12 06 21.4 +0.2**
PMR Palmer 95.36 25 *e*P **P** **12 06 24.6 +1.9**
SLKM Skilak Lake 95.38 27 P **P** **12 06 23.9 +1.1**
INK Inuvik 96.98 16 P **P** **12 06 31.0 +1.0**
INK pmax pmax
comp=Z,7.0nm,1.2s
INK Inuvik 96.98 16 P **P** **12 06 30.9 +1.0**
comp=Z,6.6nm,1.1s,mb5.0,baz=328,slow=4.9,SNR=6.0
RES Resolute Bay 97.38 2 *e*P **P** **12 06 32.9 +1.2**
RES pmax pmax
comp=Z,12nm,1.0s,mb5.3
RES Resolute Bay 97.38 2 *e*P **P** **12 06 32.9 +1.2**
comp=Z,12nm,1.0s,mb5.3
QSPA South Pole Qui 97.80 180 P **P** **12 06 34.2 +0.8**
DBIC Dimbokro 97.90 278 P **P** **12 06 38.3 +2.9**
DBIC pmax pmax
comp=Z,6.0nm,1.1s
DBIC MLR MLR
comp=Z,503nm,18.3s
DBIC Dimbokro 97.90 278 P **P** **12 06 38.3 +2.9**
comp=Z,6.4nm,1.1s,mb5.1,baz=52,slow=2.8,SNR=3.9
DBIC LR LR 12 51 00.2
comp=Z,503nm,18.3s,MS5.0,baz=64,slow=36
YKA Yellowknife Ar 106.41 13 PP PP 12 11 34.6 -5.4
comp=Z,1.0nm,0.8s,baz=335,slow=7.6,SNR=10
YKA PKKP PKKP 12 22 45.9 -1.4
comp=Z,0.5nm,0.5s,baz=153,slow=3.3,SNR=15
YKA PKKPab 12 23 01.6
comp=Z,0.5nm,0.7s,baz=147,slow=4.3,SNR=8.2
SCHQ Schefferville 115.49 348 PKP PKPdf 12 11 40.8 +1.4
comp=Z,3.2nm,0.8s,baz=225,slow=12,SNR=2.5
TBI Tubuai 117.33 112 *e*LR LR 12 47 31.2
comp=Z,310nm,24.5s
PPT Papeete 117.39 106 *e*LR LR 12 47 32.2
comp=Z,264nm,24.5s
MSO Missoula 120.07 22 *e*PKPdf PKPdf 12 11 49.8 +1.2
BOZ Bozeman (W) 121.92 21 *e*PKIKP PKPdf 12 11 54.3 +2.2
MCMT McKenzie Canyo 122.17 22 *e*PKPdf PKPdf 12 11 55.5 +2.9
LAO LASA Array 122.72 17 *e*PKPdf PKPdf 12 11 56.9 +3.2
YMR Madison River 123.00 21 *e*PKPdf PKPdf 12 11 57.6 +3.4
YFT Old Faithful 123.24 21 *e*PKPdf PKPdf 12 11 58.6 +3.9
SNOW Snow King Moun 124.12 22 *e*PKPdf PKPdf 12 11 59.5 +3.0
NVAR Mina Array Bea 124.92 31 PKP PKPdf 12 12 01.6 +3.4
comp=Z,4.5nm,0.8s,baz=49,slow=1.0,SNR=18
PDAR Pinedale Array 125.16 21 PKP PKPdf 12 12 00.2 +1.8
comp=Z,3.6nm,0.8s,baz=76,slow=1.9,SNR=23
TRCR Troy Canyon 126.32 29 *e*PKPdf PKPdf 12 12 02.6 +1.8
TAOE Nuku Hiva Isla 126.36 95 *e*LR LR 12 51 40.2
MSU Marysvale 127.75 26 *e*PKIKP PKPdf 12 12 07.4 +3.8
NEN Nelson 128.82 30 *e*PKPdf PKPdf 12 12 08.9 +3.2
PV10 Paradox Valley 129.17 23 *e*PKPdf PKPdf 12 12 10.3 +4.0
KSU1 Kansas State U 132.20 11 *e*PKPdf PKPdf 12 12 14.5 +2.4
GDL2 Guadalupe Moun 136.41 23 *e*PKPdf PKPdf 12 12 23.6 +3.6
TXAR Lajitas Array 139.22 24 PKhKP 12 12 21.4
comp=Z,0.3nm,0.6s,baz=223,slow=2.0,SNR=5.6
TXAR PKIKP 12 12 29.7
comp=Z,1.1nm,0.6s,baz=174,slow=1.0,SNR=12
TXAR Lajitas Array 139.22 24 PKPdf PKPdf 12 12 29.7 +4.4
JCT Junction City 139.58 19 *e*PKIKP PKPdf 12 12 27.5 +1.7
BAO Brasilia Array 142.15 255 P PKPdf 12 12 32.5 +1.7
PLCA Paso Flores 144.56 200 *e*PKIKP PKPdf 12 12 35.6 +1.3
PLCA Paso Flores 144.56 200 PKP PKPdf 12 12 35.9 +1.6
comp=Z,9.6nm,0.7s,baz=181,slow=3.0,SNR=16
SAML Samuel 157.50 266 *e*PKPdf PKPdf 12 12 56.4 +1.9
LPAZ La Paz 160.74 243 PKP PKPdf 12 12 19.6 -38
comp=Z,3.4nm,0.8s,baz=72,slow=1.0,SNR=13
LPAZ PKPab PKPab 12 13 00.9 -42
comp=Z,4.5nm,1.1s,baz=94,slow=11,SNR=2.5

IDC 28 11:55:56.3±8.3, 7.92N×94.04E, h63km±62km, mb4.0/7, mb1 4.2/8, mb1mx3.9/18, mbtmp4.3/8, ML4.5/1, MS4.6/2, Ms1 4.6/2, ms1mx3.4/30, Error ellipse: s-maj=58.1km s-min=37.1km az=1.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.51**	**24**	P	P	11 58 37.8	-2.4
	0.8nm,0.3s,baz=212,slow=14,SNR=4.5						
SONM	**Songino Array**	**41.14**	**13**	P	P	12 03 34.4	-1.5
	3.4nm,0.8s,baz=202,slow=9.6,SNR=3.8						
ZAL	**Zalesovo**	**46.49**	**352**	P	P	12 04 17.5	-1.5
	6.3nm,0.5s,baz=289,slow=6.0,SNR=5.3						
ZAL				LR	LR	12 26 08.2	
	comp=Z,969nm,18.5s,baz=291,slow=39						
PMG	**Port Moresby**	**55.64**	**107**	LR	LR	12 28 23.6	
	comp=Z,461nm,21.9s,baz=263,slow=35						
EIL	**Elat**	**59.31**	**300**	P	P	12 05 52.4	-1.9
	2.4nm,0.6s,baz=71,slow=27,SNR=2.2						
FINES	**FINESS Array B**	**72.62**	**332**	P	P	12 07 16.4	-2.4
	4.0nm,0.8s,baz=100,slow=8.5,SNR=4.3						
ARCES	**ARCESS Array B**	**75.19**	**340**	P	P	12 07 31.7	-1.8
	3.1nm,0.9s,baz=90,slow=2.7,SNR=4.4						
GERES	**GERESS Array B**	**77.73**	**318**	P	P	12 07 46.7	-1.4
	1.2nm,0.8s,baz=83,slow=7.9,SNR=4.2						
ILAR	**Eielson Array**	**94.74**	**22**	P	P	12 09 10.4	-1.2
	0.5nm,1.0s,baz=301,slow=4.7,SNR=5.4						
NVAR	**Mina Array Bea**	**124.94**	**31**	PKP	PKPdf	12 14 50.7	+0.9
	0.2nm,0.4s,baz=297,slow=4.0,SNR=2.5						
PDAR	**Pinedale Array**	**125.17**	**21**	PKP	PKPdf	12 14 50.0	-0.2
	0.6nm,0.7s,baz=270,slow=2.7,SNR=3.6						
TXAR	**Lajitas Array**	**139.23**	**24**	PKiKP		12 15 19.1	
	0.4nm,0.6s,baz=270,slow=0.9,SNR=4.1						
PLCA	**Paso Flores**	**144.55**	**200**	PKP	PKPdf	12 15 24.8	-1.2
	3.1nm,1.0s,baz=179,slow=14,SNR=3.8						

*IDC **28** 11:57:37.8±9.6, 0.52N×123.90E, h76km±91km, mb4.2/13, mb1 4.3/13, mbtmx4.2/18, mbtmp4.5/13, Error ellipse: s-maj=49.6km s-min=16.7km az=83.0*
*BJI **28** 11:57:45.0, 0.50N×124.10E, h146km, mB5.3, mb4.7*
*NEIC **28** 11:57:45.1±6.1, 0.52N×124.11E, h147km±58km, mb4.7/4, Error ellipse: s-maj=32.1km s-min=13.3km az=74.0*
ISC 28 11:57:38.7±5.8, 0.60N±0.10×124.1E±0.2, h100km±54km, n25, σ0=96/22, mb4.5/18, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.76**	**154**	P	P	**12 02 33.6**	**+0.2**
	12nm,0.9s,mb4.2,baz=330,slow=12,SNR=7.4						
ASAR	**Alice Springs**	**25.94**	**159**	P	P	**12 03 03.6**	**-0.1**
	11nm,0.8s,mb4.4,baz=329,slow=8.4,SNR=5.3						
JOW	**Kunigami**	**26.39**	**8**	P	P	**12 03 07.0**	**-0.9**
	34nm,0.9s,mb4.8,baz=188,slow=7.5,SNR=6.5						
KMI	**Kunming**	**31.93**	**321**	⇑P	P	**12 03 58.8**	**+1.6**
	27nm,1.2s,mb4.8						
MDJ	**Mudanjiang**	**44.10**	**6**	P	P	**12 05 39.0**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,11nm,1.5s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,114nm,14.5s						
HIA	**Hailar**	**48.62**	**356**	*e*P	P	**12 06 14.1**	**-0.2**
	comp=Z,7.2nm,0.9s,mb4.6						
SONM	**Songino Array**	**49.49**	**344**	P	P	**12 06 21.6**	**+0.6**
	comp=Z,6.1nm,0.9s,mb4.5,baz=158,slow=8.9,SNR=16						
YAK	**Yakutsk**	**61.42**	**3**	*e*P	P	**12 07 44.0**	**-2.6**
ZAL	**Zalesovo**	**62.22**	**335**	P	P	**12 07 51.9**	**-0.2**
	comp=Z,1.9nm,0.4s,mb4.5,baz=350,slow=6.8,SNR=4.8						
KURK	**Kurchatov**	**63.00**	**329**	*e*P	P	**12 07 57.3**	**0.0**
	comp=Z,16nm,0.8s,mb5.0						
BVAR	**Borovoye Array**	**68.53**	**328**	P	P	**12 08 32.5**	**0.0**
	comp=Z,4.7nm,0.8s,mb4.3,baz=119,slow=7.9,SNR=9.0						
BRVK	**Borovoye**	**68.61**	**328**	*e*P	P	**12 08 31.8**	**-1.1**
	comp=Z,6.3nm,0.8s,mb4.5						
MAW	**Mawson**	**79.92**	**200**	P	P	**12 09 37.6**	**-0.3**
	comp=Z,2.4nm,0.8s,mb4.1,baz=39,slow=7.3,SNR=3.0						
KMBO	**Kilima Mbogo**	**86.84**	**269**	P	P	**12 10 13.7**	**-0.5**
	comp=Z,5.5nm,0.9s,mb4.5,baz=47,slow=6.4,SNR=7.2						
ASF	**Jabal al Asfar**	**87.30**	**302**	P	P	**12 10 16.6**	**+0.7**
	comp=Z,2.3nm,0.7s,mb4.2,baz=339,slow=7.1,SNR=2.4						
EIL	**Elat**	**88.95**	**299**	P	P	**12 10 21.9**	**-1.9**
	comp=Z,2.0nm,0.5s,mb4.5,baz=301,slow=38,SNR=2.6						
EIL	**Elat**	**88.95**	**299**	P	P	**12 10 21.9**	**-1.9**
ILAR	**Eielson Array**	**89.05**	**25**	P	P	**12 10 25.0**	**+1.6**
	comp=Z,2.5nm,1.2s,mb4.1,baz=276,slow=4.6,SNR=5.8						
ARCES	**ARCESS Array B**	**92.45**	**340**	P	P	**12 10 39.0**	**-0.2**
	comp=Z,4.1nm,1.1s,mb4.6,baz=67,slow=6.9,SNR=3.8						
ARCES	**ARCESS Array B**	**92.45**	**340**	P	P	**12 10 39.0**	**-0.2**
FINES	**FINESS Array B**	**93.31**	**332**	P	P	**12 10 44.8**	**+1.5**
	comp=Z,0.9nm,0.6s,mb4.3,baz=72,slow=6.0,SNR=3.6						
OKC	**Ostrava-Krasne**	**99.78**	**321**	*e*P	P	**12 11 13.5**	**+0.5**
DPC	**Dobruska-Polom**	**100.80**	**322**	*e*P	P	12 11 20.5	+2.9
PRU	**Pruhonice**	**102.00**	**322**	*e*P		12 11 27.3	
KHC	**Kasperske Hory**	**102.84**	**321**	*e*P	Pdif	12 11 29.8	+3.2

*BJI **28** 11:59:34.4, 7.56N×93.70E, h62km, mB5.0, mb4.9, Ms4.8, Msz4.5*
*NEIC **28** 11:59:35.8±0.3, 8.04N×93.99E, h30km, mb4.7/12, Error ellipse: s-maj=10.7km s-min=8.4km az=61.0*
*IDC **28** 11:59:39.0±4.5, 8.12N×94.01E, h55km±40km, mb4.1/17, mb1 4.2/18, mb1mx4.1/23, mbtmp4.4/18, ML2.8/1, Error ellipse: s-maj=24.2km s-min=14.8km az=47.0*
ISC 28 11:59:37.4±2.1, 8.10N±0.08×94.10E±0.08, h58km±18km, n53, σ0=76/46, mb4.7/34, MS4.5/1, 2C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.32**	**24**	P	P	**12 02 18.8**	**-0.1**
	0.0nm,0.3s,baz=213,slow=14,SNR=7.3						
HYB	**Hyderabad**	**17.75**	**303**	*i* P	P	**12 03 44.0**	**+1.8**
JIRN	**Jiri**	**20.84**	**340**	*e*P	P	**12 04 16.4**	**-0.3**
	70nm,0.8s						
PKI	**Pulchoki**	**21.04**	**338**	*e*P	P	**12 04 18.4**	**-0.3**
	115nm,0.9s,mb5.2						
DMN	**Daman**	**21.19**	**337**	*e*P	P	**12 04 19.9**	**-0.2**
KKN	**Kakani**	**21.29**	**338**	*e*P	P	**12 04 21.0**	**-0.1**
	91nm,1.0s,mb5.0						
LSA	**Lhasa**	**21.66**	**353**	P	P	**12 04 25.0**	**+0.1**
LSA	**Lhasa**	**21.66**	**353**	*e*P	P	**12 04 24.6**	**-0.3**
	58nm,0.8s,mb5.1						
LSA				*e*pP		12 04 28.5	
GKN	**Gorkha**	**21.72**	**337**	*e*P	P	**12 04 25.5**	**0.0**
	70nm,0.7s,mb5.2						
KOLN	**Koldanda**	**21.94**	**334**	*e*P	P	**12 04 27.9**	**+0.3**
	137nm,1.1s,mb5.3						
NJ2	**Nanjing**	**33.12**	**41**	*e*P	P	**12 06 11.5**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
WMQ	**Urumqi**	**36.02**	**352**	*e*P	P	**12 06 35.0**	**+0.1**
WMQ				PP	PP	12 07 56.8	-1.4
WMQ				PCP	PcP	12 09 02.0	+1.3
WMQ				S	**S**	**12 12 10.0**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,17nm,0.6s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,177nm,4.9s						
WMQ				LR	LR		
	comp=N,521nm,15.7s,MS4.5						
WMQ				LR	LR		
	comp=E,346nm,15.2s,MS4.5						
WMQ				LR	LR		
	comp=Z,677nm,15.3s,MS4.5						
AAK	**Ala-Archa**	**38.48**	**337**	*e*P	P	**12 06 55.2**	**-0.3**
	comp=Z,11nm,1.1s,mb4.5						
SONM	**Songino Array**	**40.95**	**13**	P	P	**12 07 15.9**	**-0.1**
	comp=Z,2.7nm,0.8s,mb3.9,baz=187,slow=6.8,SNR=6.0						
SONM				PcP	PcP	12 09 15.6	-0.4
	comp=Z,1.1nm,0.8s,baz=205,slow=4.2,SNR=4.1						
KURK	**Kurchatov**	**44.38**	**346**	*e*P	P	**12 07 43.7**	**-0.2**
	comp=Z,28nm,1.3s,mb4.8						
ZAL	**Zalesovo**	**46.32**	**352**	P	P	**12 07 59.7**	**+0.5**
	comp=Z,6.9nm,0.9s,mb4.6,baz=292,slow=6.7,SNR=14						
ZAL	**Zalesovo**	**46.32**	**352**	P	P	**12 07 59.7**	**+0.5**
HIA	**Hailar**	**46.33**	**23**	*e*P	P	**12 07 58.9**	**-0.5**
NWAO	**Narrogin (SRO)**	**46.37**	**153**	P	P	**12 07 59.9**	**-0.1**
	comp=Z,4.6nm,0.7s,mb4.5,baz=291,slow=22,SNR=3.1						
WRA	**Warramunga Arr**	**48.42**	**126**	P	P	**12 08 14.9**	**-1.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=302,slow=9.2,SNR=4.3						
BVAR	**Borovoye Array**	**48.76**	**341**	P	P	**12 08 17.8**	**-0.5**
	comp=Z,3.9nm,0.8s,mb4.5,baz=135,slow=8.4,SNR=8.0						
BRVK	**Borovoye**	**48.82**	**341**	*e*P	P	**12 08 17.7**	**-1.1**
	comp=Z,3.8nm,0.9s,mb4.4		

comp=Z,4.2nm,0.8s,mb4.5,baz=61,slow=11,SNR=12
KMBO Kilima Mbogo 57.41 263 *eP* **P 12 09 23.1 +0.1**
comp=Z,4.3nm,0.8s,mb4.5
ASF Jabal al Asfar 58.06 303 P **P 12 09 27.1 -0.2**
comp=Z,3.9nm,0.9s,mb4.4,baz=272,slow=3.3,SNR=4.7
MALT Malatya 58.29 310 *eP* **P 12 09 28.2 -0.5**
comp=Z,1.6nm,0.6s,mb4.2
YAK Yakutsk 59.79 19 *eP* **P 12 09 38.0 -0.8**
comp=Z,20nm,0.8s,mb5.2
BRTR Keskin Array B 62.25 311 P **P 12 09 53.8 -1.9**
comp=Z,2.6nm,0.7s,mb4.5,baz=125,slow=7.2,SNR=9.9
AKASG Malin Array Be 67.95 322 P **P 12 10 30.5 -1.8**
comp=Z,3.0nm,0.7s,mb4.5,baz=88,slow=4.8,SNR=10
IDI Anoyia 68.41 305 P **P 12 10 34.6 -0.8**
comp=Z,5.2nm,0.7s,mb4.7,baz=88,slow=9.1,SNR=5.2
FINES FINESS Array B 72.49 332 P **P 12 10 59.4 -0.2**
comp=Z,6.0nm,0.8s,mb4.6,baz=112,slow=10,SNR=12
OJC Ojcow 73.78 320 *eP* **P 12 11 07.4 +0.1**
ARCES ARCESS Array B 75.04 340 P **P 12 11 14.4 +0.2**
comp=Z,5.0nm,1.0s,mb4.4,baz=101,slow=6.2,SNR=4.6
MORC Moravsky Berou 75.18 319 *eP* **P 12 11 15.6 +0.2**
comp=Z,5.5nm,1.0s,mb4.4
BRG Berggiesshubel 77.55 320 *i* P **P 12 11 29.1 +0.3**
comp=Z,6.2nm,0.8s,mb4.6
BRG *i* 12 11 32.9
GERES GERESS Array B 77.63 318 P **P 12 11 29.9 +0.6**
comp=Z,13nm,1.1s,mb4.8,baz=76,slow=5.5,SNR=28
NB2 NORSAR Subarra 79.51 331 P **P 12 11 38.9 -0.4**
comp=Z,2.8nm,0.7s,mb4.3,baz=95,slow=5.0
NOA NORSAR Array B 79.51 331 P **P 12 11 39.2 -0.1**
comp=Z,5.1nm,0.8s,mb4.5,baz=92,slow=5.6,SNR=12
NOA NORSAR Array B 79.51 331 P **P 12 11 39.2 -0.1**
LPG La Plagne 82.43 315 ⇑*i*P **P 12 11 55.9 +0.9**
comp=Z,15nm,0.8s,mb4.7
SYO Syowa Base 85.61 197 ⇓pP pP 12 12 22.4 -4.5
SYO Syowa Base 85.61 197 ⇑sP sP 12 12 26.9 -6.1
ESDC Sonseca Array 91.04 310 P **P 12 12 37.0 0.0**
comp=Z,3.4nm,1.1s,mb4.6,baz=45,slow=6.3,SNR=4.4
INK Inuvik 96.79 16 P **P 12 13 03.6 +1.0**
comp=Z,1.7nm,0.9s,mb4.5,baz=263,slow=5.0,SNR=2.9
RES Resolute Bay 97.18 2 *eP* **P 12 13 05.5 +1.2**
comp=Z,7.5nm,1.1s,mb5.0
NVAR Mina Array Bea 124.74 31 PKP PKPdf 12 18 33.5 +2.2
comp=Z,1.0nm,0.8s,baz=31,slow=1.8,SNR=4.2
PDAR Pinedale Array 124.97 21 PKP PKPdf 12 18 33.5 +1.9
comp=Z,0.9nm,0.8s,slow=1.5,SNR=7.1
ANMO Albuquerque 133.98 23 PKP PKPdf 12 18 50.5 +3.5
comp=Z,0.6nm,0.7s,baz=337,slow=7.6,SNR=3.9
TXAR Lajitas Array 139.03 24 PKP PKPdf 12 18 59.5 +1.2
comp=Z,0.3nm,0.6s,baz=270,slow=2.7,SNR=3.9
PLCA Paso Flores 144.75 200 PKP PKPdf 12 19 09.0 +1.0
comp=Z,5.0nm,0.9s,baz=130,slow=2.5,SNR=8.5
PLCA Paso Flores 144.75 200 PKP PKPdf 12 19 09.0 +1.0

IGQ 28 12:03:07.4, 1.13S×81.40W, h4^{km}±5^{km}, mb4.1, 4C-4D, Error ellipse: s-maj=9.6km s-min=8.3km az=145.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.85**	**85**	⇑P	Pb	12 03 23.3	-1.1
IGUA	**Igualata**	**2.78**	**97**	⇑P	Pn	12 03 55.4	+1.9
JUIV	**Juive**	**2.95**	**96**	P	Pn	12 03 57.9	+2.0
TERV	**Terraza Guagua**	**2.95**	**71**	P	Pn	12 03 56.7	+0.8
PINO	**Pino**	**2.95**	**71**	⇓P	Pn	12 03 56.1	+0.2
NAS1	**Nasa**	**2.96**	**80**	⇑P	Pn	12 03 58.2	+2.1
ARRY	**Arrayan**	**2.96**	**97**	⇓P	Pn	12 03 57.4	+1.3
ARRY				S	Sn	12 04 31.7	-0.9
RETU	**Refugio**	**2.97**	**96**	P	Pn	12 03 58.5	+2.3
YANA	**Yana**	**3.00**	**70**	P	Pn	12 03 57.1	+0.5
PISA	**Pisayambo**	**3.01**	**89**	P	Pn	12 03 58.6	+1.8
VC1	**Cotopaxi 1**	**3.03**	**81**	P	Pn	12 03 59.7	+2.6
TAMB	**Tambo**	**3.06**	**82**	P	Pn	12 04 00.1	+2.6
ANTI	**Antisana**	**3.31**	**78**	⇓P	Pn	12 04 03.3	+2.3
COTA	**Cotacachi**	**3.39**	**65**	P	Pn	12 04 03.1	+1.0
CAYR	**Refugio Cayambo**	**3.58**	**72**	⇑P	Pn	12 04 07.5	+2.7
CAYR				S	Sn	12 04 49.8	+1.8
CAYA	**Cayambe**	**3.61**	**71**	⇓P	Pn	12 04 07.7	+2.4

*NEIC **28** 12:09:06.6±0.6, 7.96N×94.25E, h30^{km}, mb4.2/1, Error ellipse: s-maj=19.4km s-min=12.1km az=67.0*
*IDC **28** 12:09:10.9±5.5, 8.07N×94.39E, h69^{km}±50^{km}, mb3.7/10, mb1 3.9/11, mb1mx3.7/19, mbtmp4.0/11, Error ellipse: s-maj=33.5km s-min=17.0km az=58.0*
ISC 28 12:09:04.3±0.6, 8.0N±0.1×94.2E±0.1, h30^{km}, n15, σ0^{s}78/13, mb4.1/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr 11.38 23**			P	**P**	**12 11 48.6**	**+0.5**
	baz=214,slow=16,SNR=2.9						
HYB	**Hyderabad 17.92 303**			*i* P	**P**	**12 13 11.5**	**-1.7**
SONM	**Songino Array 41.04 12**			P	**P**	**12 16 47.2**	**+0.5**
	0.3nm,0.6s,mb3.1,baz=192,slow=10,SNR=4.2						
NWAO	**Narrogin (SRO) 46.21 153**			P	**P**	**12 17 29.5**	**+0.8**
	13nm,1.1s,mb4.8,baz=339,slow=11,SNR=3.4						
ZAL	**Zalesovo 46.45 352**			P	**P**	**12 17 30.0**	**-0.3**
	0.9nm,0.3s,mb4.1,baz=281,slow=8.6,SNR=4.1						
WRA	**Warramunga Arr 48.26 126**			P	**P**	**12 17 44.1**	**-0.8**
	0.5nm,0.6s,mb3.7,baz=304,slow=8.8,SNR=6.5						
WRAB	**Tennant Creek 48.26 126**			*eP*	**P**	**12 17 44.4**	**-0.5**
	1.4nm,0.5s,mb4.2						
ASAR	**Alice Springs 49.92 130**			P	**P**	**12 17 57.3**	**-0.4**
	0.4nm,0.5s,mb3.7,baz=302,slow=7.8,SNR=5.8						
KMBO	**Kilima Mbogo 57.51 264**			P	**P**	**12 18 55.3**	**+1.5**
	2.0nm,0.8s,mb4.2,baz=44,slow=9.9,SNR=6.2						
FINES	**FINESS Array B 72.65 332**			P	**P**	**12 20 30.6**	**-0.3**
	7.4nm,1.2s,mb4.5,baz=135,slow=8.1,SNR=5.4						
ARCES	**ARCESS Array B 75.19 340**			P	**P**	**12 20 45.4**	**-0.1**
	4.5nm,1.0s,mb4.4,baz=34,slow=4.4,SNR=4.7						
GERES	**GERESS Array B 77.80 318**			P	**P**	**12 21 01.1**	**+0.6**
	0.9nm,0.6s,mb3.9,baz=90,slow=5.3,SNR=9.0						
HFS	**Hagfors 78.40 330**			P	**P**	**12 21 03.7**	**+0.2**
	2.1nm,0.8s,mb4.1,baz=90,slow=7.4,SNR=4.1						
TXAR	**Lajitas Array 139.09 24**			PKiKP		12 28 33.5	
	0.1nm,0.6s,baz=159,slow=1.6,SNR=4.1						
TXAR	**Lajitas Array 139.09 24**			PKPdf	PKPdf	12 28 33.5	-0.6

*IDC **28** 12:10:45.7±1.6, 33.81N×142.44E, mb3.8/3, mb1 4.2/6, mb1mx3.8/22, mbtmp4.3/6, ML3.8/3, Error ellipse: s-maj=33.5km s-min=23.6km az=73.0*
*JMA **28** 12:10:46.4±0.5, 33.93N×142.51E, h28^{km}, M3.5*
ISC 28 12:10:45.0±2.0, 33.94N±0.05×142.55E±0.07, h20^{km}±19^{km}, n20, σ1^{s}14/27, mb3.7/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1 1.48 299**			P	**Pn**	**12 11 11.5**	**+0.6**
BSO3	**Boso 3 1.89 298**			P	**Pn**	**12 11 17.9**	**+1.2**
BSO3				*eS*	**Sn**	12 11 41.3	+1.1
BSO4	**Boso 4 2.10 301**			P	**Pn**	**12 11 21.2**	**+1.4**
BSO4				*eS*	**Sn**	12 11 47.2	+1.6
CHOJ	**Chosi 2.24 322**			P	**Pn**	**12 11 23.0**	**+1.3**
JHJ2	**Mitsune 2.42 251**			P	**Pn**	**12 11 25.4**	**+1.1**
JHJ2				S	**Sn**	12 11 53.2	-0.5
JHJ	**Hachijo jima 2 2.45 251**			Pn	**Pn**	**12 11 25.4**	**+0.8**
	150nm,0.3s,baz=80,slow=22,SNR=27						
JHJ				Sn	**Sn**	12 11 53.1	-1.2
	167nm,0.3s,baz=58,slow=23,SNR=19						
JIM2	**Oshima 3 2.69 288**			P	**Pn**	**12 11 28.1**	**-0.1**
JOD2	**Odawara 2 3.14 296**			P	**Pn**	**12 11 34.4**	**-0.2**
JOD2				*eS*	**Sn**	12 12 10.5	-1.5
JAG	**Ashikaga 3.55 315**			P	**Pn**	**12 11 40.3**	**0.0**
JRY	**Ryogami san 3.64 306**			P	**Pn**	**12 11 41.9**	**+0.3**
JRY				*eS*	**Sn**	12 12 23.6	-0.9
JYN	**Shimob 3.65 296**			P	**Pn**	**12 11 42.3**	**+0.6**
JMM	**Marumori 4.17 341**			P	**Pn**	**12 11 47.6**	**-1.6**
MAT	**Matsushiro 4.40 307**			P	**Pn**	**12 11 50.6**	**-1.8**
MAT				S	**Sn**	12 12 42.7	-1.1
JMK	**Ichinoseki 5.12 348**			P	**Pn**	**12 12 00.7**	**-1.9**
JYK	**Kaneyama 5.27 341**			P	**Pn**	**12 12 03.8**	**-1.0**
CBIJ	**Chichi jima 6.83 183**			Pn	**Pn**	**12 12 24.5**	**-2.2**
	6.0nm,0.3s,baz=268,slow=19,SNR=2.2						
ASAJ	**Asahikawa 10.16 0**			Pn	**P**	**12 13 13.8**	**+0.8**
	0.6nm,0.3s,baz=265,slow=16,SNR=2.7						
SONM	**Songino Array 30.35 308**			P	**P**	**12 16 59.5**	**+1.9**
	0.4nm,0.7s,mb3.2,baz=104,slow=8.6,SNR=5.1						
WRA	**Warramunga Arr 54.15 190**			P	**P**	**12 20 11.4**	**+0.1**
	1.8nm,0.6s,mb4.2,baz=6.6,slow=7.5,SNR=20						
ASAR	**Alice Springs 57.87 189**			P	**P**	**12 20 38.6**	**+0.7**
	0.5nm,0.6s,mb3.7,baz=358,slow=4.9,SNR=6.9						

*BJI **28** 12:11:29.7, 7.13N×93.68E, h30^{km}, mB4.8, mb4.5, Ms4.4, Msz4.3*
*IDC **28** 12:11:32.8±0.5, 7.72N×93.89E, mb4.3/22, mb1 4.4/23, mb1mx4.3/27, mbtmp4.2/23, ML4.0/1, Error ellipse: s-maj=27.0km s-min=12.4km az=47.0*
*NEIC **28** 12:11:37.5±0.4, 7.77N×93.90E, h30^{km}, mb4.6/8, Error ellipse: s-maj=15.7km s-min=9.1km az=54.0*
ISC 28 12:11:35.9±0.5, 7.73N±0.07×93.94E±0.09, h33^{km}, n45, σ0^{s}99/40, mb4.4/33, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr 11.72 24**			Pn	**P**	**12 14 23.8**	**-0.1**
	0.3nm,0.3s,baz=211,slow=15,SNR=15						
KMI	**Kunming 19.23 25**			⇑P	**P**	**12 16 02.3**	**+2.1**
	17nm,1.2s						
JIRN	**Jiri 21.14 341**			*eP*	**P**	**12 16 20.6**	**+0.2**
	62nm,1.1s,mb4.8						
PKI	**Pulchoki 21.32 339**			*eP*	**P**	**12 16 23.2**	**+0.9**
DMN	**Daman 21.47 338**			*eP*	**P**	**12 16 25.1**	**+1.4**
	39nm,0.8s,mb4.8						
KKN	**Kakani 21.57 339**			*eP*	**P**	**12 16 26.0**	**+1.3**
GKN	**Gorkha 22.00 338**			*eP*	**P**	**12 16 28.9**	**-0.1**
	36nm,0.7s,mb4.9						
LSA	**Lhasa 22.01 354**			*eP*	**P**	**12 16 28.1**	**-1.0**
	24nm,0.7s,mb4.7						
KOLN	**Koldanda 22.20 335**			*eP*	**P**	**12 16 31.7**	**+0.7**
	25nm,0.8s,mb4.7						
ENH	**Enshi 26.74 31**			*eP*	**P**	**12 17 13.3**	**-1.3**
	11nm,1.1s,mb4.3						
SONM	**Songino Array 41.34 13**			P	**P**	**12 19 20.4**	**+0.1**
	2.6nm,0.8s,mb3.9,baz=195,slow=9.2,SNR=17						
SONM				PcP	PcP	12 21 19.3	+0.4
	0.6nm,0.7s,baz=206,slow=3.2,SNR=4.6						
KURK	**Kurchatov 44.70 346**			*eP*	**P**	**12 19 46.5**	**-1.1**
	15nm,1.3s,mb4.7						
NWAO	**Narrogin (SRO) 46.11 153**			P	**P**	**12 20 00.2**	**+1.1**
	6.9nm,0.9s,mb4.6,baz=204,slow=21,SNR=3.8						
ZAL	**Zalesovo 46.66 353**			P	**P**	**12 20 03.3**	**+0.2**
	6.8nm,0.9s,mb4.6,baz=302,slow=7.1,SNR=27						
HIA	**Hailar 46.73 23**			*eP*	**P**	**12 20 03.6**	**-0.1**
	8.9nm,0.9s,mb4.7						
WRA	**Warramunga Arr 48.34 125**			P	**P**	**12 20 17.8**	**+1.1**
	1.5nm,0.8s,mb4.1,baz=303,slow=9.1,SNR=10						
WRA	**Warramunga Arr 48.34 125**			P	**P**	**12 20 17.8**	**+1.1**
WRAB	**Tennant Creek 48.34 125**			P	**P**	**12 20 18.1**	**+1.4**
BVAR	**Borovoye Array 49.06 341**			P	**P**	**12 20 21.3**	**-0.5**
	7.8nm,1.2s,mb4.6,baz=127,slow=7.4,SNR=8.7						
BVAR				PcP	PcP	12 21 46.0	+0.5
	1.1nm,0.8s,baz=127,slow=7.4,SNR=4.6						
CHKZ	**Chkalovo 49.55 342**			*eP*	**P**	**12 20 23.3**	**-2.2**
	8.4nm,0.8s,mb4.8						
ASAR	**Alice Springs 49.98 130**			P	**P**	**12 20 27.9**	**-1.4**
	1.3nm,0.8s,mb4.0,baz=310,slow=7.7,SNR=7.7						
ASAR				PcP	PcP	12 21 49.2	-0.1
	1.2nm,0.8s,baz=308,slow=4.0,SNR=6.1						
PMG	**Port Moresby 55.68 107**			P	**P**	**12 21 11.6**	**-0.2**
	7.7nm,0.7s,mb4.9,baz=45,slow=2.9,SNR=3.4						
KMBO	**Kilima Mbogo 57.21 264**			P	**P**	**12 21 26.6**	**+3.8**
	1.3nm,0.6s,mb4.2,baz=55,slow=14,SNR=4.9						
ASF	**Jabal al Asfar 58.13 303**			P	**P**	**12 21 29.5**	**+0.6**
	1.2nm,0.5s,mb4.2,baz=347,slow=4.5,SNR=2.6						
EIL	**Elat 59.32 300**			P	**P**	**12 21 36.9**	**-0.5**
	2.2nm,0.8s,mb4.2,baz=6.6,slow=14,SNR=2.3						
STKA	**Stephens Creek 60.15 134**			P	**P**	**12 21 41.5**	**-1.4**
	1.0nm,0.4s,mb4.2,baz=188,slow=18,SNR=2.5						
BRTR	**Keskin Array B 62.37 311**			P	**P**	**12 21 56.9**	**-1.0**
	1.8nm,0.8s,mb4.2,baz=127,slow=6.4,SNR=7.3						
AKASG	**Malin Array Be 68.14 322**			P	**P**	**12 22 33.0**	**-1.7**
	0.4nm,0.3s,mb3.9,baz=89,slow=4.7,SNR=5.1						
IDI	**Anoyia 68.48 305**			P	**P**	**12 22 37.1**	**-0.1**
	2.7nm,0.4s,mb4.6,baz=62,slow=12,SNR=3.6						
MLR	**Muntele Rosu 69.13 316**			P	**P**	**12 22 41.3**	**+0.2**
	1.9nm,0.6s,mb4.2,baz=177,slow=5.6,SNR=4.6						
JOF	**Joensuu 70.89 335**			*ep*	**P**	**12 22 50.5**	**-0.9**
	3.9nm,0.7s,mb4.5						
FINES	**FINESS Array B 72.74 332**			P	**P**	**12 23 02.5**	**+0.1**
	4.0nm,0.8s,mb4.4,baz=104,slow=7.9,SNR=6.6						
KAF	**Kangasniemi 72.83 333**			*ep*	**P**	**12 22 58.9**	**-4.0**
	3.4nm,0.7s,mb4.4						
GERES	**GERESS Array B 77.80 318**			P	**P**	**12 23 32.9**	**+1.2**
	2.6nm,0.9s,mb4.2,baz=90,slow=5.3,SNR=11						
HFS	**Hagfors 78.48 330**			P	**P**	**12 23 35.4**	**+0.3**
	2.6nm,0.6s,mb4.3,baz=100,slow=9.0,SNR=9.0						
NB2	**NORSAR Subarra 79.76 331**			P	**P**	**12 23 42.0**	**-0.1**
	1.8nm,0.7s,mb4.1,baz=94,slow=5.0						
NOA	**NORSAR Array B 79.76 331**			P	**P**	**12 23 42.7**	**+0.6**
	3.2nm,0.8s,mb4.3,baz=93,slow=5.6,SNR=7.5						
DAVOX	**Davos 80.35 316**			P	**P**	**12 23 45.2**	**-0.4**
	2.1nm,0.6s,mb4.2,baz=344,slow=18,SNR=2.6						
EKA	**Eskdalemuir Ar 87.72 325**			P	**P**	**12 24 23.3**	**+0.8**
	2.1nm,0.8s,mb4.4,baz=85,slow=7.8,SNR=3.4						
ILAR	**Eielson Array 94.95 22**			P	**P**	**12 24 55.5**	**-0.3**
	1.2nm,1.2s,mb4.2,baz=298,slow=5.2,SNR=5.5						
NVAR	**Mina Array Bea 125.14 31**			PKP	PKPdf	12 30 36.4	+2.8
	0.8nm,0.6s,baz=297,slow=3.1,SNR=4.4						
PDAR	**Pinedale Array 125.37 21**			PKP	PKPdf	12 30 36.0	+2.0
	1.0nm,0.9s,baz=333,slow=3.3,SNR=6.2						
ANMO	**Albuquerque 133.38 23**			PKP	PKPdf	12 30 53.5	+4.0
	0.4nm,0.3s,baz=41,slow=5.0,SNR=3.0						
TXAR	**Lajitas Array 139.44 24**			PKiKP		12 31 04.9	
	0.3nm,0.6s,baz=151,slow=1.2,SNR=3.6						
PLCA	**Paso Flores 144.35 200**			PKP	PKPdf	12 31 10.5	+1.5
	4.1nm,0.8s,baz=216,slow=4.6,SNR=4.7						

*NEIC **28** 12:22:53.3±4.3, 44.28N×17.70E, h10^{km}, ML2.7(LJU), Error ellipse: s-maj=50.6km s-min=7.6km az=164.0*
*BEO **28** 12:22:56.9±0.2, 44.75N×17.63E, h5^{km}±1^{km}*
*CSEM **28** 12:23:01.8±0.2, 44.80N×17.05E, h5^{km}, ML2.7, Error ellipse: s-maj=4.8km s-min=3.5km az=107.0*
*ROM **28** 12:23:06.2±1.5, 44.33N×17.10E, h10^{km}, MD3.2/3, ML3.1/9, Error ellipse: s-maj=13.5km s-min=5.7km az=90.0*
ISC 28 12:22:57.5±0.7, 44.71N±0.02×17.59E±0.03, h7^{km}±5^{km}, n75, σ1^{s}08/113, 11C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka 0.29 277**			Pg	**Pg**	**12 23 03.3**	**-0.2**
BLY				Sg	**Sg**	12 23 07.7	+0.3
RHK3	**Tenkes 1.27 21**			⇑*i*P	**Pb**	**12 23 22.7**	**+1.3**
RHK3				*eS*	**Sb**	12 23 43.4	+5.7
RHK1	**Bakonya 1.43 14**			⇑*eP*	**Pn**	**12 23 25.0**	**+1.0**
RHK1				*eS*	**Sb**	12 23 44.7	+2.4
PKSM	**Moragy 1.67 26**			⇑*i*P	**Pn**	**12 23 28.2**	**+0.7**
PKSM				*eS*	**Sn**	12 23 55.2	+5.7
GCIS	**Gornji Cirnik 1.80 311**			*ePn*	**Pn**	**12 23 29.1**	**-0.3**
GCIS				*eSn*	**Sn**	12 23 54.7	+1.9
	comp=Z,41nm,0.2s						
GCIS	**Gornji Cirnik 1.80 311**			*ePn*	**Pn**	**12 23 29.0**	**-0.4**
DIVS	**Divcibare 1.83 109**			*ePn*	**Pn**	**12 23 28.7**	**-1.0**
DIVS				Sg	**Sg**	12 23 54.8	-3.7
BOJS	**Bojanci 1.83 296**			*ePn*	**Pn**	**12 23 29.9**	**+0.1**
BOJS				*eSn*	**Sn**	12 23 53.3	-0.3
	comp=Z,128nm,0.3s						
CRES	**Cresnjev 1.87 307**			*i* Pn	**Pn**	**12 23 30.1**	**-0.3**
CRES				*eSn*	**Sn**	12 23 55.9	+1.4
	comp=Z,66nm,0.2s						
GOLS	**Golise 1.90 314**			*ePn*	**Pn**	**12 23 30.6**	**-0.2**
GOLS				*i* Sn	**Sn**	12 23 55.6	+0.4
	comp=Z,110nm,0.3s						
NVSS	**Nova Varos 2 1.94 128**			⇑*i*Pn	**Pn**	**12 23 32.8**	**+1.4**
NVSS				Sn	**Sn**	12 24 00.2	+4.0
KOGS	**Kog 1.98 332**			*i* Pn	**Pn**	**12 23 32.2**	**+0.4**
KOGS				*i* Sn	**Sn**	12 23 57.1	0.0
LEGS	**Legarje 2.02 308**			*i* Pn	**Pn**	**12 23 32.3**	**-0.2**
BEO	**Belgrade 2.04 86**			⇓*i*Pn	**Pn**	**12 23 33.2**	**+0.3**
BEO				Sn	**Sn**	12 24 03.8	+4.9
PKS2	**Kecel 2.12 32**			*eP*	**Pn**	**12 23 40.4**	**+6.6**
VISS	**Visnje 2.23 300**			*ePn*	**Pn**	**12 23 35.6**	**+0.1**
PDKS	**Podkum 2.27 307**			*i* Pn	**Pn**	**12 23 35.8**	**-0.2**
GROS	**Grobnik 2.28 321**			*ePn*	**Pn**	**12 23 36.0**	**-0.2**
GROS				*eSn*	**Sn**	12 24 03.4	-1.5
	comp=Z,90nm,0.5s						
GROS	**Grobnik 2.28 321**			*ePn*	**Pn**	**12 23 36.0**	**-0.2**
GROS				*eSn*	**Sn**	12 24 03.4	-1.5
GRUS	**Gruza 2.39 109**			⇓*i*Pn	**Pn**	**12 23 36.7**	**-1.1**
GRUS				Sn	**Sn**	12 24 09.6	+1.9
CEY	**Cerknica 2.46 296**			*ePn*	**Pn**	**12 23 37.8**	**-1.0**
CEY				*eSn*	**Sn**	12 24 09.8	+0.3
	comp=Z,83nm,0.5s						
LJU	**Ljubljana 2.54 303**			*e*	**Pn**	**12 23 45.5**	**+5.6**
LJU				*e*		12 24 18.0	
PERS	**Pernice 2.59 319**			*i* Pn	**Pn**	**12 23 40.4**	**-0.3**
PERS				*eSn*	**Sn**	12 24 11.0	-1.7
SVIS	**Svilajnac 2.63 98**			⇑*i*Pn	**Pn**	**12 23 40.1**	**-1.1**
SVIS				Sn	**Sn**	12 24 13.8	-0.1
PKSG	**2.74 11**			⇑*i*P	**Pn**	**12 23 43.8**	**+1.0**
PKSG				*eS*	**Sn**	12 24 16.5	0.0
JAVS	**Javornik 2.75 297**			*ePn*	**Pn**	**12 23 43.0**	**+0.1**
JAVS				*eSn*	**Sn**	12 24 18.6	+1.7
	comp=Z,65nm,0.5s						
JAVS	**Javornik 2.75 297**			*ePn*	**Pn**	**12 23 43.0**	**0.0**
OBKA	**Obir 2.79 311**			⇑*i*PN	**Pn**	**12 23 43.1**	**-0.4**
OBKA				*i* SN	**Sn**	12 24 18.5	+0.7
TRI	**Trieste 2.88 292**			*ePN*	**Pn**	**12 23 50.3**	**+5.5**
TRI				SN	**Sn**	12 24 22.4	+2.3
	comp=Z,77nm,0.5s						
ARSA	**Arzberg 2.92 331**			⇑*i*PN	**Pn**	**12 23 45.5**	**+0.2**
ARSA				*i* SN	**Sn**	12 24 21.0	-0.1
VOY	**Vojsko 2.92 298**			*ePg*	**Pg**	**12 23 51.7**	**-4.1**
VOJS	**Vojsko 2.93 298**			*i* Pn	**Pn**	**12 23 46.0**	**+0.6**
VOJS				*eSn*	**Sn**	12 24 22.3	+1.0
SOP	**Sopron 3.06 347**			⇑*i*P	**Pn**	**12 23 47.9**	**+0.6**
SOP				*i*		12 24 26.2	
SRO1	**Iza 3.08 8**			*i* PN	**Pn**	**12 23 48.7**	**+1.0**
SRO1				*i* SN	**Sn**	12 24 25.9	+0.6
SRO2	**Moca 3.10 10**			*i* PN	**Pn**	**12 23 49.0**	**+1.1**
SRO2				*i* SN	**Sn**	12 24 26.4	+0.6
CADS	**Cadrg 3.10 301**			*i* Pn	**Pn**	**12 23 48.0**	**0.0**
CADS				*eSn*	**Sn**	12 24 23.9	-1.9
	comp=Z,84nm,0.6s						
SRO	**Srobarova 3.14 9**			*i* PN	**Pn**	**12 23 49.6**	**+1.1**
SRO				*i* SN	**Sn**	12 24 27.7	+0.9
MS1	**Monte Sant'Ang 3.24 202**			*ePn*	**Pn**	**12 23 52.7**	**+2.8**
RGNG	**Rignano Grg 3.37 206**			*ePN*	**Pn**	**12 23 52.7**	**+1.0**
PTCC	**Patocco-Chiusa 3.42 301**			*ePN*	**Pn**	**12 23 58.0**	**+5.5**
	comp=Z,15nm,0.3s						
ZST	**Bratislava 3.50 355**			*i* PN	**Pn**	**12 23 53.9**	**+0.3**
ZST				*i* SN	**Sn**	12 24 33.5	-2.3
ARV	**Arcevia 3.56 252**			*ePN*	**Pn**	**12 23 53.9**	**-0.6**
	comp=Z,25nm,0.8s						
ARV	**Arcevia 3.56 252**			*ePn*	**Pn**	**12 23 53.9**	**-0.6**
	comp=Z,25nm,0.8s						
PSZ	**Piszkesteto 3.58 26**			*eP*	**Pn**	**12 23 53.0**	**-1.8**
BARS	**Barje 3.60 120**			⇑*i*PN	**Pn**	**12 23 54.0**	**-1.0**
SNTG	**Esanatoglia 3.66 248**			*ePN*	**Pn**	**12 23 55.0**	**-0.8**
	comp=Z,29nm,0.6s						
SNTG	**Esanatoglia 3.66 248**			*ePn*	**Pn**	**12 23 55.0**	**-0.8**
	comp=Z,29nm,0.6s						
NRCA	**Norcia 3.75 241**			*ePN*	**Pn**	**12 23 55.8**	**-1.3**
	comp=Z,18nm,0.6s						
NRCA	**Norcia 3.75 241**			*ePn*	**Pn**	**12 23 55.8**	**-1.3**
	comp=Z,18nm,0.6s						
SMOL	**Smolenice 3.81 358**			*i* PN	**Pn**	**12 23 57.8**	**-0.1**
SMOL				*e*		12 24 05.4	
CII	**Carovilli 3.83 220**			*ePN*	**Pn**	**12 23 59.7**	**+1.4**
	comp=Z,39nm,0.5s						
CII	**Carovilli 3.83 220**			*ePn*	**Pn**	**12 23 59.7**	**+1.4**
	comp=Z,39nm,0.5s						
VYHS	**Vyhne 3.88 12**			*i* PN	**Pn**	**12 23 59.3**	**+0.3**
VYHS				*i* SN	**

FINES FINESS Array B 72.89 332 P **P 12 34 46.6 0.0**
2.6nm,0.9s,mb4.2,baz=104,slow=7.9,SNR=7.3
ARCES ARCESS Array B 75.46 340 P **P 12 35 01.9 +0.6**
0.6nm,0.4s,mb3.8,baz=102,slow=4.5,SNR=5.0
ARCES ARCESS Array B 75.46 340 P **P 12 35 01.9 +0.6**
GERES GERESS Array B 77.97 318 P **P 12 35 16.6 +0.7**
1.5nm,0.7s,mb4.0,baz=76,slow=5.5,SNR=10
HFS Hagfors 78.63 330 P **P 12 35 19.1 -0.2**
2.5nm,0.5s,mb4.4,baz=135,slow=4.2,SNR=11
NB2 NORSAR Subarra 79.91 331 P **P 12 35 23.7 -2.5**
7.8nm,1.2s,mb4.5,baz=91,slow=5.8
NOA NORSAR Array B 79.91 331 P **P 12 35 24.2 -2.0**
1.0nm,1.0s,mb3.7,baz=78,slow=5.1,SNR=2.8
DAVOX Davos 80.53 316 P **P 12 35 28.1 -1.7**
1.5nm,0.5s,mb4.2,baz=157,slow=19,SNR=1.9
PDAR Pinedale Array 125.38 21 PKP PKPdf 12 42 20.2 +3.0
0.3nm,0.6s,baz=27,slow=3.3,SNR=3.5
PLCA Paso Flores 144.34 200 PKP PKPdf 12 42 51.7 -0.6
0.7nm,0.7s,baz=315,slow=5.7,SNR=1.7
PLCA Paso Flores 144.34 200 PKP PKPdf 12 42 51.7 -0.6

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*NEIC **28** 12:32:09.1±0.5,7.88N×94.13E,h30km,mb4.2/3,Error ellipse: s-maj=22.5km s-min=9.8km az=54.0*
*IDC **28** 12:32:17.7±5.7,8.06N×94.32E,h102km±52km,mb3.6/11, mb1 3.7/12,mb1mx3.6/22,mbtmp3.9/12,Error ellipse: s-maj=32.3km s-min=17.6km az=47.0*
ISC 28 12:32:07.4±0.7,7.8N±0.1×94.0E±0.1,h33km,n17, σ0:96/15,mb4.0/14,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.69**	**24**	P		**P**	**P**	**12 34 56.6**	**+1.8**
	0.1nm,0.3s,baz=220,slow=14,SNR=4.1								
LSA	**Lhasa**	**22.00**	**353**	*eP*		**P**	**P**	**12 37 00.2**	**-0.2**
	4.2nm,0.6s,mb4.0								
SONM	**Songino Array**	**41.32**	**13**	P		**P**	**P**	**12 39 50.6**	**-0.9**
	0.7nm,1.0s,mb3.2,baz=197,slow=9.8,SNR=4.3								
KURK	**Kurchatov**	**44.69**	**346**	*eP*		**P**	**P**	**12 40 17.9**	**-1.0**
	8.9nm,1.4s,mb4.4								
ZAL	**Zalesovo**	**46.65**	**353**	P		**P**	**P**	**12 40 34.0**	**-0.4**
	0.9nm,0.5s,mb4.0,baz=306,slow=4.3,SNR=5.0								
WRA	**Warramunga Arr**	**48.32**	**125**	P		**P**	**P**	**12 40 48.2**	**+0.2**
	0.5nm,0.9s,mb3.5,baz=305,slow=8.4,SNR=5.6								
WRAB	**Tennant Creek**	**48.32**	**125**	P		**P**	**P**	**12 40 47.8**	**-0.2**
	2.1nm,0.8s,mb4.2								
BVAR	**Borovoye Array**	**49.06**	**341**	P		**P**	**P**	**12 40 52.2**	**-1.0**
	0.5nm,0.7s,mb3.6,baz=170,slow=8.8,SNR=3.1								
ASAR	**Alice Springs**	**49.95**	**130**	P		**P**	**P**	**12 41 00.2**	**-0.3**
	0.3nm,0.5s,mb3.5,baz=299,slow=8.0,SNR=4.8								
KMBO	**Kilima Mbogo**	**57.25**	**264**	P		**P**	**P**	**12 41 59.5**	**+4.9**
	1.1nm,0.5s,mb4.1,baz=229,slow=23,SNR=5.5								
BRTR	**Keskin Array B**	**62.39**	**311**	P		**P**	**P**	**12 42 28.8**	**-0.6**
	0.7nm,0.5s,mb4.0,baz=128,slow=7.1,SNR=3.3								
IDI	**Anoyia**	**68.51**	**305**	P		**P**	**P**	**12 43 09.4**	**+0.6**
	4.5nm,0.8s,mb4.5,baz=91,slow=6.5,SNR=3.2								
MLR	**Muntele Rosu**	**69.15**	**316**	P		**P**	**P**	**12 43 12.6**	**0.0**
	1.2nm,0.7s,mb3.9,baz=263,slow=20,SNR=3.6								
GERES	**GERESS Array B**	**77.81**	**318**	P		**P**	**P**	**12 44 03.9**	**+0.7**
	1.4nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=11								
DAVOX	**Davos**	**80.37**	**316**	P		**P**	**P**	**12 44 19.9**	**+2.8**
	1.6nm,0.5s,mb4.2,baz=348,slow=19,SNR=3.2								
TXAR	**Lajitas Array**	**139.41**	**24**	PKiKP				12 51 37.3	
	0.2nm,0.6s,baz=188,slow=2.3,SNR=4.6								
PLCA	**Paso Flores**	**144.38**	**200**	PKP		PKPdf		12 51 43.0	+2.5
	2.1nm,1.0s,baz=210,slow=8.2,SNR=3.4								

IDC 28 12:34:50.6±7.2,8.28N×94.85E,h123km±67km,mb3.5/7, mb1 3.6/8,mb1mx3.4/20,mbtmp3.8/8,Error ellipse: s-maj=45.7km s-min=17.9km az=48.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.88**	**21**	P		P	P	12 37 22.5	-1.3
	0.3nm,0.3s,baz=217,slow=14,SNR=5.4								
SONM	**Songino Array**	**40.62**	**12**	P		P	P	12 42 19.1	-0.7
	0.2nm,0.6s,baz=195,slow=9.7,SNR=4.0								
ZAL	**Zalesovo**	**46.25**	**352**	P		P	P	12 43 02.5	-2.6
	1.2nm,0.6s,baz=334,slow=6.1,SNR=5.2								
WRA	**Warramunga Arr**	**47.93**	**126**	P		P	P	12 43 16.9	-1.9
	0.5nm,0.8s,baz=304,slow=8.5,SNR=5.6								
ASAR	**Alice Springs**	**49.64**	**131**	P		P	P	12 43 29.9	-1.9
	0.5nm,0.8s,baz=300,slow=6.6,SNR=4.9								
GNI	**Garni**	**54.66**	**314**	P		P	P	12 44 08.5	-0.6
	2.8nm,0.5s,baz=77,slow=8.6,SNR=3.1								
EIL	**Elat**	**59.84**	**299**	P		P	P	12 44 42.7	-3.0
	1.4nm,0.5s,baz=69,slow=24,SNR=2.4								
FINES	**FINESS Array B**	**72.69**	**332**	P		P	P	12 46 04.1	-2.4
	2.0nm,0.9s,baz=104,slow=7.9,SNR=5.0								

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*IDC **28** 12:35:31.2±1.2,53.75N×164.90W,mb4.0/8,mb1 4.2/9, mb1mx4.0/23,mbtmp4.0/9,ML3.6/1,Error ellipse: s-maj=26.1km s-min=25.6km az=180.0*
*NEIC **28** 12:35:37.0,53.70N×164.46W,h34km,mb3.8/1, ML4.0(AEIC),After AEIC.*
ISC 28 12:35:37.5±0.8,53.79N±0.09×164.49W±0.08,h61km±7km, n41,σ0:93/47,mb4.0/7,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.69**	**355**	P		**P**	**P**	**12 35 51.7**	**0.0**
WESS	**West Dahl Sout**	**0.70**	**349**	P		**P**	**P**	**12 35 52.0**	**+0.1**
WESS				S		S	**S**	**12 36 03.2**	**+0.5**
WFAR	**Faris Peak**	**0.77**	**347**	P		**P**	**P**	**12 35 53.0**	**+0.3**
WESN	**West Dahl Nort**	**0.78**	**356**	P		**P**	**P**	**12 35 53.3**	**+0.4**
AKA	**Akutan**	**0.83**	**295**	P		**P**	**P**	**12 35 53.6**	**0.0**
AKA				S		S	**S**	**12 36 05.5**	**0.0**
AKUT	**Akutan**	**0.83**	**295**	*eP*		**P**	**P**	**12 35 53.1**	**-0.5**
AKLV	**Akutan Long Va**	**0.95**	**294**	P		**P**	**P**	**12 35 54.9**	**-0.2**
AKLV				S		S	**S**	**12 36 08.3**	**+0.2**
AKGG	**Akutan Green G**	**0.98**	**295**	P		**P**	**P**	**12 35 55.6**	**+0.1**
AKGG				S		S	**S**	**12 36 10.0**	**+1.1**
SSLW	**Shishaldin Wes**	**1.01**	**12**	P		**P**	**P**	**12 35 55.9**	**0.0**
WTUG	**Tugumak**	**1.06**	**3**	P		**P**	**P**	**12 35 57.1**	**+0.4**
UNV	**Unalaska Valle**	**1.20**	**274**	P		**P**	**P**	**12 35 57.5**	**-0.9**
UNV				S		S	**S**	**12 36 13.5**	**-0.6**
FALS	**False Pass**	**1.24**	**30**	P		**P**	**P**	**12 35 58.8**	**-0.3**
FALS				S		S	**S**	**12 36 15.6**	**+0.5**
MTBL	**Makushin Table**	**1.31**	**279**	P		**P**	**P**	**12 35 59.9**	**-0.3**
MSW	**Makushin Switc**	**1.37**	**276**	P		**P**	**P**	**12 36 00.4**	**-0.5**
BALA	**Baldy Mountain**	**1.72**	**34**	P		**P**	**P**	**12 36 07.7**	**+1.9**
DT1	**Dutton Round H**	**1.84**	**43**	P		**P**	**P**	**12 36 07.2**	**-0.2**
DTNA	**Dutton South F**	**1.89**	**43**	P		**P**	**P**	**12 36 08.0**	**-0.1**
DOL	**Dolgoi Island**	**2.05**	**47**	P		**P**	**P**	**12 36 10.0**	**-0.3**
OKFG	**Magazine Ridge**	**2.08**	**261**	P		**P**	**P**	**12 36 10.8**	**+0.1**
HAG	**Hague Volcano**	**2.15**	**43**	P		**P**	**P**	**12 36 12.1**	**+0.4**
PVV	**Pavlof Volcano**	**2.23**	**44**	P		**P**	**P**	**12 36 13.4**	**+0.5**
SDPT	**Sand Point**	**2.81**	**55**	P		**P**	**P**	**12 36 20.5**	**-0.6**
SVW2	**Sparrevohn**	**8.75**	**30**	*eP*		**P**	**P**	**12 37 45.4**	**+1.7**
RSO	**Redoubt South**	**9.23**	**39**	P		**P**	**P**	**12 37 49.2**	**-1.1**
SPU	**Mount Spurr**	**9.97**	**37**	P		**P**	**P**	**12 37 57.6**	**-2.6**
DIV	**Divide**	**12.44**	**46**	*eP*		**P**	**P**	**12 38 31.4**	**-2.1**
THY	**Trims Highway**	**13.67**	**38**	P		**P**	**P**	**12 38 47.8**	**-1.7**
ILAR	**Eielson Array**	**14.15**	**32**	Pn		**P**	**P**	**12 38 53.5**	**-2.2**
	0.1nm,0.3s,baz=228,slow=12,SNR=4.2								
DAWY	**Dawson**	**16.42**	**41**	P		**P**	**P**	**12 39 25.3**	**+0.5**
INK	**Inuvik**	**20.54**	**33**	P		**P**	**P**	**12 40 11.7**	**-1.1**
	2.1nm,0.5s,baz=238,slow=8.6,SNR=10								
INK	**Inuvik**	**20.54**	**33**	*eP*		**P**	**P**	**12 40 10.0**	**-2.9**
	4.5nm,0.9s								
YKA	**Yellowknife Ar**	**27.07**	**51**	P		**P**	**P**	**12 41 16.8**	**+1.1**
	1.5nm,0.8s,mb3.6,baz=275,slow=8.5,SNR=30								
YKA					PcP		PcP	12 44 36.4	+0.6
	0.3nm,0.6s,baz=278,slow=2.4,SNR=5.6								
YKA	**Yellowknife Ar**	**27.07**	**51**	P		**P**	**P**	**12 41 16.8**	**+1.1**
YKA					PcP		PcP	12 44 36.4	+0.6
NVAR	**Mina Array Bea**	**34.82**	**97**	P		**P**	**P**	**12 42 26.4**	**+2.2**
	0.4nm,0.3s,mb3.8,baz=299,slow=9.3,SNR=3.5								
NVAR	**Mina Array Bea**	**34.82**	**97**	P		**P**	**P**	**12 42 26.4**	**+2.2**
TXAR	**Lajitas Array**	**49.84**	**94**	P		**P**	**P**	**12 44 27.2**	**+1.1**
	1.9nm,0.7s,mb4.2,baz=299,slow=5.3,SNR=24								
FINES	**FINESS Array B**	**64.81**	**354**	P		**P**	**P**	**12 46 11.8**	**+0.6**
	1.0nm,0.6s,mb4.1,baz=18,slow=6.0,SNR=5.5								
FINES	**FINESS Array B**	**64.81**	**354**	P		**P**	**P**	**12 46 11.8**	**+0.5**
HFS	**Hagfors**	**66.42**	**1**	P		**P**	**P**	**12 46 22.0**	**+0.5**
	0.9nm,0.4s,mb4.2,baz=45,slow=4.2,SNR=9.6								
AKASG	**Malin Array Be**	**75.25**	**351**	P		**P**	**P**	**12 47 14.8**	**0.0**
	1.7nm,0.6s,mb4.2,baz=10.0,slow=5.2,SNR=6.1								
ASAR	**Alice Springs**	**93.59**	**234**	P		**P**	**P**	**12 48 47.9**	**0.0**
	0.3nm,0.6s,mb3.9,baz=23,slow=6.9,SNR=2.4								

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*IDC **28** 12:37:08.8±0.4,8.11N×94.19E,mb4.8/28,mb1 4.9/29, mb1mx4.9/29,mbtmp4.8/29,ML4.1/1,MS4.6/16,Ms1 4.6/16, ms1mx4.4/25,Error ellipse: s-maj=21.8km s-min=10.7km az=48.0,Putative timing error in LPAZ*
*BJI **28** 12:37:09.4,7.73N×93.81E,h31km,mB5.3,mb4.9,Ms5.0, Msz4.6*
*HRVD **28** 12:37:10.8±0.2,8.07N×94.22E,h12km,MW5.1/57, Centroid moment Tensor Solution. LP body waves: s31,c46;Mantle waves: s57,c110; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr~5.10±.12; Mθθ 1.80±.10; Mφφ 3.31±.12; Mrθ 1.61±.38; Mθφ 2.02±.09; Mφr~2.02±.35; Best double couple: M0 5.435×10^16 NP1: φs 233°, δ 44°, λ -60°. NP2: φs 14°, δ 53°, λ -116°. Principal axes: T 4.776, Plg5°, Azm122°; N 1.327, Plg21°, Azm30°; P -6.094, Plg69°, Azm225°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 12:37:10.8±0.2,8.00N×94.10E,mb5.4/80,MS4.5/5 Error ellipse: s-maj=5.8km s-min=4.7km az=223.0*
*MOS **28** 12:37:12.3±1.0,8.08N×94.17E,h33km,mb5.5/79, MS4.6/17,Error ellipse: s-maj=8.7km s-min=4.7km az=118.2*
ISC 28 12:37:09.2±0.2,8.01N±0.03×94.17E±0.03,h13km, h13km±.6km:pP-P,n357,σ1:08/360,mb5.2/121,MS4.7/36, 15C-10D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.88**	**339**	*eP*		**Pn**	**Pn**	**12 38 11.6**	**+1.7**
PBA				*eS*		**Sn**	**Sn**	**12 38 55.0**	**-0.8**
SNG	**Songkhla**	**6.45**	**97**	P		**Pn**	**Pn**	**12 38 47.0**	**+0.7**
	430nm,1.0s								
NNT	**Nongplab**	**7.12**	**50**	P		**Pn**	**Pn**	**12 38 55.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**11.37**	**24**	Pn		**P**	**P**	**12 39 56.2**	**+1.7**
	0.4nm,0.3s,baz=212,slow=14,SNR=30								
CMAR				LR		LR	LR	12 45 09.7	
	comp=Z,992nm,19.2s,baz=220,slow=43								
CHG	**Chiang Mai**	**11.70**	**23**	P		**P**	**P**	**12 40 00.6**	**+1.6**
	61nm,1.2s								
KKTK	**Khon Kaen**	**11.83**	**45**	P		**P**	**P**	**12 40 00.0**	**-0.8**
NANT	**Nan**	**12.46**	**30**	P		**P**	**P**	**12 40 13.0**	**+3.8**
CHRT	**Chiangrai**	**12.98**	**24**	⇓P		**P**	**P**	**12 40 18.5**	**+2.3**
	200nm,1.7s								
PALK	**Pallekele**	**13.36**	**268**	*eP*		**P**	**P**	**12 40 18.3**	**-2.9**
	49nm,1.0s								
VIS	**Vishakhapatnam**	**14.30**	**313**	*eP*		**P**	**P**	**12 40 32.5**	**-1.2**
VIS				*e*				12 40 37.4	
	comp=Z,43nm,0.6s								
VIS				*e*				12 43 02.7	
MDRS	**Chennai**	**14.57**	**291**	*e*		**P**	**P**	**12 40 31.0**	**-6.3**
BWNR	**Bhubaneshwar**	**14.65**	**327**	*eP*		**P**	**P**	**12 40 37.4**	**-0.8**
BWNR				*e*				12 40 42.8	
	comp=Z,87nm,1.0s								
BWNR				*eS*		**S**	**S**	**12 43 21.3**	**+0.1**
CAL	**Calcutta**	**15.49**	**339**	*eP*		**P**	**P**	**12 40 49.3**	**0.0**
	comp=Z,596nm,0.3s								
CAL				*e*				12 43 50.0	
AGT	**Agartala**	**16.03**	**350**	*eP*		**P**	**P**	**12 40 57.0**	**+0.9**
KOD	**Kodaikanal**	**16.63**	**279**	*eP*		**P**	**P**	**12 41 03.0**	**-0.9**
KOD				*e*				12 41 14.3	
	comp=Z,91nm,1.5s								
KOD				*eS*		**S**	**S**	**12 44 09.4**	**+1.7**
IMP	**Imphal**	**16.68**	**359**	*eP*		**P**	**P**	**12 41 03.3**	**-1.1**
TRD	**Trivandrum**	**17.04**	**273**	*i*		**S**	**S**	**12 44 01.4**	**-16**
SHL	**Shillong**	**17.59**	**353**	*eP*		**P**	**P**	**12 41 15.8**	**0.0**
HYB	**Hyderabad**	**17.86**	**303**	*eP*		**P**	**P**	**12 41 20.0**	**+0.8**
HYB				*eS*		**S**	**S**	**12 44 38.0**	**+2.4**
HYB	**Hyderabad**	**17.86**	**303**	*i* P		**P**	**P**	**12 41 20.0**	**+0.8**
	comp=Z,80nm,1.0s								
HYB				*eS*		**S**	**S**	**12 44 38.0**	**+2.4**
QIZ	**Qiongzhong**	**18.75**	**53**	P		**P**	**P**	**12 41 31.0**	**+0.8**
QIZ				S		**S**	**S**	**12 44 55.8**	**0.0**
QIZ				AMB		AMB			
	comp=Z,824nm,8.1s								
QIZ				LR		LR			
	comp=N,6μm,13.5s								
QIZ				LR		LR			
	comp=E,2μm,14.9s								
QIZ				LR		LR			
	comp=Z,2μm,12.8s								
QIZ	**Qiongzhong**	**18.75**	**53**	*eP*		**P**	**P**	**12 41 31.4**	**+1.2**
	comp=Z,111nm,1.4s								
KMI	**Kunming**	**18.88**	**25**	⇑P		**P**	**P**	**12 41 36.0**	**+4.2**
KMI				pmax		pmax			
	comp=Z,65nm,1.6s								
KMI	**Kunming**	**18.88**	**25**	⇑P		**P**	**P**	**12 41 36.0**	**+4.2**
	comp=Z,65nm,1.6s								
KMI				pP				12 41 40.5	
KMI				sP				12 41 42.8	
KMI				PP		PP		12 41 54.8	+6.6
KMI				S		**S**	**S**	**12 45 09.4**	**+11**
KMI				sS				12 45 19.8	
KMI				SS		SS		12 45 37.8	+14
NGP	**Nagpur**	**19.59**	**313**	*eP*		**P**	**P**	**12 41 41.1**	**+1.1**
COCO	**West Island**	**20.25**	**172**	*eP*		**P**	**P**	**12 41 47.7**	**+0.5**
	comp=Z,309nm,1.0s								
ALBI	**Allahabad**	**20.85**	**327**	*eP*		**P**	**P**	**12 41 53.0**	**-0.4**
JIRN	**Jiri**	**20.95**	**340**	*eP*		**P**	**P**	**12 41 54.7**	**+0.3**
	comp=Z,775nm,1.4s								
PKI	**Pulchoki**	**21.15**	**338**	*eP*		**P**	**P**	**12 41 56.3**	**-0.1**
	comp=Z,1μm,1.5s,mb6.0								
GOA	**Goa**	**21.24**	**292**	*eP*		**P**	**P**	**12 41 58.6**	**+1.2**
GOA				*e*				12 42 12.4	
	comp=Z,108nm,1.1s								
GOA				*eS*		**S**	**S**	**12 45 53.9**	**+5.7**
DMN	**Daman**	**21.29**	**337**	*eP*		**P**	**P**	**12 41 58.2**	**+0.3**
	comp=Z,340nm,1.0s,mb5.7								
KKN	**Kakani**	**21.39**	**338**	*eP*		**P**	**P**	**12 41 58.4**	**-0.5**
	comp=Z,441nm,1.3s,mb5.6								
KAD	**Karad**	**21.55**	**297**	*eP*		**P**	**P**	**12 41 60.0**	**-0.6**
KAD				*e*				12 42 10.2	
	comp=Z,124nm,0.8s								
KAD				*eS*		**S**	**S**	**12 45 57.2**	**+3.1**
LSA	**Lhasa**	**21.76**	**353**	P		**P**	**P**	**12 42 02.3**	**-0.3**
LSA				S		**S**	**S**	**12 46 06.3**	**+8.5**
LSA				SCS		ScS	ScS	12 53 12.8	-9.3
LSA				LR		LR	LR		
	comp=Z,9μm,17.6s,MS5.2								
LSA	**Lhasa**	**21.76**	**353**	*eP*		**P**	**P**	**12 42 01.6**	**-1.0**
LSA				pmax		pmax			
	comp=Z,256nm,1.1s,mb5.6								
LSA	**Lhasa**	**21.76**	**353**	*eP*		**P**	**P**	**12 42 01.6**	**-1.0**
	comp=Z,256nm,1.1s,mb5.6								
GKN	**Gorkha**	**21.83**	**337**	*eP*		**P**	**P**	**12 42 02.2**	**-1.1**
	comp=Z,330nm,0.9s,mb5.8								
KOLN	**Koldanda**	**22.05**	**334**	*eP*		**P**	**P**	**12 42 04.8**	**-0.7**
	comp=Z,995nm,1.3s,mb6.1								
BHPL	**Bhopal**	**22.08**	**315**	*eP*		**P**	**P**	**12 42 05.2**	**-0.6**
BHPL				*e*				12 42 15.9	
	comp=Z,281nm,0.9s								
BHPL				*eS*		**S**	**S**	**12 46 08.8**	**+5.0**
POO	**Poona**	**22.34**	**300**	*i*		**S**	**S**	**12 46 28.0**	**+19**
BOM	**Bombay**	**23.38**	**300**	*eP*		**P**	**P**	**12 42 18.9**	**+0.1**
BOM				*e*				12 42 28.0	
	comp=Z,192nm,1.4s								
BOM				*eS*		**S**	**S**	**12 46 35.9**	**+8.5**
NDI	**New Delhi**	**26.04**	**324**	*eP*		**P**	**P**	**12 42 45.0**	**+1.0**
NDI				*e*				12 42 53.2	
	comp=Z,208nm,1.2s								
NDI				*eS*		**S**	**S**	**12 47 15.9**	**+3.6**
ENH	**Enshi**	**26.39**	**31**	*eP*		**P**	**P**	**12 42 47.2**	**-0.1**
	comp=Z,104nm,1.2s,mb5.2								
DDI	**Dehra Dun**	**26.84**	**328**	*eP*		**P**	**P**	**12 42 51.0**	**-0.4**
DDI				*e*				12 46 13.3	
TGY	**Tagaytay City**	**26.95**	**75**	LR		LR	LR	12 53 19.6	
	comp=Z,1μm,18.9s,MS4.5,baz=220,slow=36								
SMLA	**Simla**	**27.94**	**328**	*eP*		**P**	**P**	**12 43 14.2**	**+13**
SMLA				*e*				12 43 24.0	
	comp=Z,90nm,1.3s								
SMLA				*eS*		**S**	**S**	**12 47 58.5**	**+15**
XAN	**Xi'an**	**29.26**	**26**	P		**P**	**P**	**12 43 13.3**	**0.0**
XAN				AMB		AMB			
	comp=Z,14nm,1.2s,mb4.6								
LZH	**Lanzhou**	**29.31**	**16**	⇑P		**P**	**P**	**12 43 15.0**	**+1.3**
LZH				PP		PP		12 44 11.0	+2.2
LZH				*eS*		**S**	**S**	**12 48 06.0**	**+0.8**
LZH				XS				12 48 22.0	
LZH				SS		SS		12 49 38.0	+1.6
LZH				AMB		AMB			
	comp=Z,77nm,1.8s,mb5.1								
LZH				AMB		AMB			
	comp=Z,206nm,4.0s								
LZH				LR		LR			
	comp=E,1μm,14.0s								
LZH				LR		LR			
	comp=Z,2μm,15.2s,MS4.8								
LZH	**Lanzhou**	**29.31**	**16**	⇑P		**P**	**P**	**12 43 15.0**	**+1.3**
LZH				*SP		sP		12 43 21.2	+1.8
LZH								12 44 11.0	
LZH				*eS*		**S**	**S**	**12 48 06.0**	**+0.8**
LZH				*SS				12 48 22.0	
LZH				SS		SS	SS	12 49 38.0	+1.6
LZH				pmax		pmax			
	comp=Z,77nm,1.8s,mb5.1								
LZH				MLR		MLR			
	comp=Z,2μm,15.2s,MS4.8								
LZH	**Lanzhou**	**29.31**	**16**	⇑P		**P**	**P**	**12 43 15.0**	**+1.3**
	comp=Z,77nm,1.8s,mb5.1								
LZH				pP		pP		12 43 19.0	+1.3
LZH				sP		sP		12 43 21.2	+1.8
LZH				PP		PP		12 44 11.0	+2.2
LZH				*eS*		**S**	**S**	**12 48 06.0**	**+0.8**
LZH				sS				12 48 22.0	
LZH				SS		SS		12 49 38.0	+1.6
LZH				LR		LR			
	comp=Z,2μm,15.2s,MS4.8								
WHN	**Wuhan**	**29.31**	**37**	P		**P**	**P**	**12 43 16.3**	**+2.5**
WHN				LR		LR			
	comp=N,380nm,11.2s								
WHN				LR		LR			
	comp=E,2μm,6.5s								
WHN				LR		LR			
	comp=Z,2μm,11.5s,MS5.0								
NJ2	**Nanjing**	**33.15**	**40**	*eP*		**P**	**P**	**12 43 49.0**	**+1.4**
NJ2				AP		pP		12 43 59.3	+7.8
NJ2				XP		sP		12 44 02.5	+9.3
NJ2				PP		PP		12 45 02.5	+3.8
NJ2				S		**S**	**S**	**12 49 09.0**	**+3.5**
NJ2				XS				12 49 26.0	
NJ2				AMB		AMB			
	comp=Z,130nm,4.5s								
NJ2				LR		LR			
	comp=N,1μm,14.2s,MS5.0								
NJ2				LR		LR			
	comp=E,2μm,16.0s,MS5.0								
NJ2				LR		LR			
	comp=Z,2μm,13.7s,MS4.9								
SSE	**Sheshan**	**34.11**	**44**	P		**P**	**P**	**12 43 54.3**	**-1.6**
SSE				S		**S**	**S**	**12 49 13.3**	**-7.0**
SSE				SS		SS		12 51 39.5	+11
SSE				AMB		AMB			
	comp=Z,47nm,0.7s,mb5.5								
SSE				AMB		AMB			
	comp=Z,101nm,6.0s								
SSE				LR		LR			
	comp=N,382nm,19.0s,MS4.3								
SSE				LR		LR			
	comp=E,472nm,19.0s,MS4.3								
SSE				LR		LR			
	comp=Z,330nm,16.6s,MS4.1								
SSE	**Sheshan**	**34.11**	**44**	P		**P**	**P**	**12 43 54.2**	**-1.7**
	comp=Z,47nm,0.7s,mb5.5								
SSE				S		**S**	**S**	**12 49 13.3**	**-7.0**
SSE				sS				12 49 28.2	
SSE				SS		SS		12 51 39.4	+11
SSE				LR		LR			
	comp=Z,330nm,16.6s,MS4.1								
WMQ	**Urumqi**	**36.12**	**352**	P		**P**	**P**	**12 44 13.0**	**+0.1**
WMQ				AP		pP		12 44 17.5	+0.7
WMQ				PP		PP		12 45 35.3	+0.1
WMQ				PCP		PcP		12 46 39.0	-0.1
WMQ				S		**S**	**S**	**12 49 51.3**	**0.0**
WMQ				AMB		AMB			
	comp=Z,39nm,0.6s,mb5.5								
WMQ				AMB		AMB			
	comp=Z,385nm,4.8s								
WMQ				LR		LR			
	comp=N,3μm,16.5s,MS5.2								
WMQ				LR		LR			
	comp=E,3μm,15.7s,MS5.2								
WMQ				LR		LR			
	comp=Z,4μm,18.3s,MS5.2								
WBK	**Wadi Bani Khal**	**36.79**	**297**	⇑P		**P**	**P**	**12 44 22.0**	**+3.2**
	SNR=7.0								
BJT	**Baijiatuau**	**37.45**	**28**	*eP*		**P**	**P**	**12 44 25.5**	**+1.4**
BJT				pmax		pmax			
	comp=Z,51nm,1.3s								
BJT	**Baijiatuau**	**37.45**	**28**	*eP*		**P**	**P**	**12 44 25.5**	**+1.3

comp=Z,18nm,1.1s,mb4.8
KLBR Kellerberrin 45.38 151 *e*P **P 12 45 29.8 +0.4**
comp=Z,143nm,0.8s,mb5.8
NWAO Narrogin (SRO) 46.26 153 P **P 12 45 36.0 -0.3**
comp=Z,12nm,0.8s,mb4.9,baz=328,slow=8.6,SNR=7.9
NWAO LR LR 13 03 16.5
comp=Z,4.2nm,19.4s,baz=146,slow=34
NWAO Narrogin (SRO) 46.26 153 *e*P **P 12 45 36.6 +0.3**
comp=Z,64nm,1.4s,mb5.4
HIA Hailar 46.39 23 *e*P **P 12 45 37.5 +0.4**
HIA pmax pmax
comp=Z,73nm,1.3s
HIA Hailar 46.39 23 *e*P **P 12 45 37.5 +0.4**
comp=Z,73nm,1.3s,mb5.5
ZAL Zalesovo 46.41 352 P **P 12 45 36.8 -0.4**
ZAL pmax pmax
comp=Z,7.0nm,0.8s
ZAL Zalesovo 46.41 352 P **P 12 45 36.8 -0.5**
comp=Z,6.5nm,0.8s,mb4.6,baz=300,slow=8.6,SNR=37
NVS Novosibirsk 47.51 351 *i* P **P 12 45 44.0 -1.9**
NVS *e*S **S 12 52 37.8 -1.5**
NVS pmax pmax
comp=Z,61nm,1.1s,mb5.5
NVS pmax pmax
comp=N,53nm,1.2s
NVS pmax pmax
comp=E,22nm,1.3s
NVS smax
comp=N,24nm,2.0s
NVS smax
comp=E,22nm,2.0s
MDJ Mudanjiang 47.68 34 P **P 12 45 47.0 -0.4**
MDJ PCP PcP 12 47 16.0 -1.2
MDJ PP PP 12 47 38.3 -0.2
MDJ SCP 12 51 10.3
MDJ PCS 12 51 11.5
MDJ S **S 12 52 44.0 +2.2**
MDJ SCS ScS 12 55 40.5 +2.4
MDJ AMB AMB
comp=Z,16nm,1.7s,mb4.8
MDJ AMB AMB
comp=Z,74nm,3.6s
MDJ LR LR
comp=N,518nm,17.2s,MS4.8
MDJ LR LR
comp=E,575nm,16.5s,MS4.8
MDJ LR LR
comp=Z,451nm,15.1s,MS4.6
MDJ Mudanjiang 47.68 34 *e*P **P 12 45 48.4 +1.0**
comp=Z,54nm,1.4s,mb5.4
WRA Warramunga Arr 48.32 126 P **P 12 45 51.0 -1.7**
WRA pmax pmax
comp=Z,5.0nm,0.9s
WRA Warramunga Arr 48.32 126 P **P 12 45 51.0 -1.7**
comp=Z,4.6nm,0.8s,mb4.5,baz=303,slow=9.3,SNR=26
WRAB Tennant Creek 48.33 126 *i* P **P 12 45 51.3 -1.4**
WRAB Tennant Creek 48.33 126 *e*P **P 12 45 50.7 -2.0**
comp=Z,56nm,1.4s,mb5.4
WB2 Warramunga Arr 48.33 126 *e*P **P 12 45 50.5 -2.3**
BVA0 Borovoye Array 48.87 341 P **P 12 45 55.5 -0.9**
BVA0 pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
BVAR Borovoye Array 48.87 341 P **P 12 45 55.4 -1.1**
comp=Z,8.9nm,0.9s,mb4.8,baz=149,slow=8.6,SNR=20
BVAR PcP PcP 12 47 22.2 +0.9
comp=Z,26nm,1.3s,baz=162,slow=4.7,SNR=5.3
BRVK Borovoye 48.93 341 *e*P **P 12 45 55.0 -1.9**
BRVK pmax pmax
comp=Z,31nm,1.1s,mb5.2
BRVK Borovoye 48.93 341 *e*P **P 12 45 55.0 -1.9**
comp=Z,32nm,1.1s,mb5.3
MAT Matsushiro 49.05 48 *e*P **P 12 45 59.0 +0.9**
MAT pmax pmax
comp=Z,11nm,1.0s,mb4.8
MAT Matsushiro 49.05 48 *e*P **P 12 45 59.0 +0.9**
comp=Z,11nm,1.0s,mb4.8
MAT Matsushiro 49.05 48 P **P 12 45 59.3 +1.2**
RAYN Ar Rayn 49.05 294 P **P 12 45 59.0 +0.7**
comp=Z,434nm,1.0s,SNR=29
CHKZ Chkalovo 49.35 342 P **P 12 45 58.8 -1.4**
CHKZ pmax pmax
comp=Z,71nm,1.1s,mb5.6
CHKZ Chkalovo 49.35 342 *e*P **P 12 45 58.3 -1.9**
comp=Z,78nm,1.0s,mb5.7
ASPA Alice Springs 49.98 130 *e*P **P 12 46 02.7 -2.7**
ASAR Alice Springs 49.98 130 P **P 12 46 05.5 0.0**
comp=Z,5.5nm,0.8s,mb4.6,baz=310,slow=7.0,SNR=25
ASAR PcP PcP 12 47 26.9 +1.1
comp=Z,3.4nm,0.8s,baz=304,slow=4.1,SNR=4.7
ASAR LR LR 13 09 19.1
comp=Z,363nm,19.4s,MS4.4,baz=297,slow=39
KLR Kul'dur 51.75 31 *e*P **P 12 46 16.2 -2.3**
BOD Bodaibo 52.01 13 *e*P **P 12 46 19.2 -1.2**
CLNS Chul'man 54.30 20 *e*P **P 12 46 36.4 -0.9**
CLNS *e**PP pP 12 46 42.4 +1.0
CLNS *e* 12 47 44.9
CLNS *e* 12 48 33.6
CLNS *e*PPP PPP 12 49 54.3 +3.1
CLNS *e*S **S 12 54 03.9 -9.0**
CLNS *e* 12 56 24.6
CLNS *e*SS SS 12 57 45.0 -10
CLNS *e*SSS SSS 12 59 48.6 -2.0
CLNS pmax pmax
comp=Z,23nm,1.2s,mb5.0
CLNS pmax pmax
comp=N,11nm,1.1s
CLNS pmax pmax
comp=E,18nm,1.5s
CLNS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CLNS smax
comp=N,205nm,13.2s
CLNS smax
comp=Z,116nm,13.0s
CLNS smax
comp=E,36nm,14.0s
GNI Garni 54.36 314 *i* P **P 12 46 37.4 -0.6**
GNI pmax pmax
comp=Z,20nm,1.7s
GNI Garni 54.36 314 P **P 12 46 38.0 +0.1**
comp=Z,10nm,0.9s,mb4.7,baz=0.5,slow=16,SNR=5.9
GNI LR LR 13 12 14.8
comp=Z,351nm,21.3s,MS4.4,baz=293,slow=39
GNI Garni 54.36 314 *e*P **P 12 46 37.5 -0.5**
comp=Z,54nm,1.4s,mb5.3
SVE Sverdlovsk 55.28 338 *e*P **P 12 46 40.3 -4.2**
SVE pmax pmax
comp=Z,180nm,1.5s,mb5.9
SVE MLR MLR
comp=Z,2μm,20.0s,MS5.1
ASAJ Asahikawa 55.30 41 LR LR 13 11 19.4
comp=Z,162nm,19.0s,MS4.1,baz=351,slow=37
PMG Port Moresby 55.55 107 P **P 12 46 47.1 +0.1**
PMG pmax pmax
comp=Z,16nm,0.8s
PMG Port Moresby 55.55 107 P **P 12 46 47.1 0.0**
comp=Z,16nm,0.8s,mb5.1,baz=289,slow=7.6,SNR=7.5
PMG Port Moresby 55.55 107 *e*P **P 12 46 44.6 -2.4**
comp=Z,40nm,1.2s,mb5.3
ARU Arti 55.77 337 P **P 12 46 47.1 -1.0**
comp=Z,253nm,1.1s,mb6.2,SNR=20
ARU Arti 55.77 337 ⇓*i*P **P 12 46 41.0 -7.1**
ARU *e*S **S 12 54 22.8 -10**
ARU *e*SS SS 12 58 09.5 -8.8
ARU pmax pmax
comp=Z,55nm,1.2s,mb5.5
ARU MLR MLR
comp=Z,1μm,21.0s,MS5.0
ARU MLR MLR
comp=N,700nm,19.0s,MS4.9
ARU MLR MLR
comp=E,700nm,20.0s,MS4.9
KIV Kislovodsk 57.23 318 P **P 12 46 58.2 -0.5**
comp=E,233nm,0.8s,mb6.3,SNR=7.8
KIV Kislovodsk 57.23 318 *i* P **P 12 46 57.7 -1.0**
KIV pmax pmax
comp=Z,49nm,2.0s,mb5.2
KIV MLR MLR
comp=Z,300nm,19.0s,MS4.4
KIV Kislovodsk 57.23 318 *e*P **P 12 46 56.8 -1.9**
comp=Z,54nm,1.1s,mb5.5
KMBO Kilima Mbogo 57.46 264 *e*P **P 12 47 01.0 +0.3**
KMBO pmax pmax
comp=Z,30nm,0.9s
KMBO MLR MLR
comp=Z,651nm,22.0s
KMBO Kilima Mbogo 57.46 264 P **P 12 47 01.7 +1.0**
comp=Z,24nm,0.9s,mb5.2,baz=57,slow=9.4,SNR=25
KMBO LR LR 13 09 18.6
comp=Z,568nm,18.9s,MS4.7,baz=276,slow=34
KMBO Kilima Mbogo 57.46 264 *e*P **P 12 47 01.0 +0.2**
comp=Z,30nm,0.9s,mb5.3
KMBO LR LR
comp=Z,651nm,22.0s,MS4.7
ASF Jabal al Asfar 58.16 303 P **P 12 47 05.6 +0.2**
comp=Z,8.3nm,0.9s,mb4.8,baz=24,slow=4.7,SNR=5.5
ASF LR LR 13 14 45.9
comp=Z,418nm,21.3s,MS4.5,baz=308,slow=39
CTA Charters Tower 58.35 119 P **P 12 47 07.1 +0.2**
CTA pmax pmax
comp=Z,5.0nm,0.9s
CTA MLR MLR
comp=Z,379nm,20.1s
CTA Charters Tower 58.35 119 P **P 12 47 07.1 +0.2**
comp=Z,5.4nm,0.9s,mb4.6,baz=299,slow=8.9,SNR=4.2
CTA LR LR 13 15 45.2
comp=Z,379nm,20.1s,MS4.5,baz=285,slow=40
MALT Malatya 58.39 310 *e*P **P 12 47 05.0 -1.9**
MALT pmax pmax
comp=Z,18nm,1.1s,mb5.0
MALT Malatya 58.39 310 *e*P **P 12 47 05.0 -1.9**
comp=Z,18nm,1.1s,mb5.0
SOKR Solikamsk 58.68 339 ⇓*i*P **P 12 47 06.4 -2.2**
SOKR pmax pmax
comp=Z,80nm,0.9s,mb5.8
SOKR MLR MLR
comp=Z,1μm,22.0s,MS5.0
GZT Gaziantep 58.80 309 *i* P **P 12 47 09.2 -0.6**
SOC Sochi 59.10 316 *e*P **P 12 47 07.9 -3.8**
SOC *e* 12 47 53.2
SOC *e* 12 49 20.6
SOC *e*PPP PPP 12 50 42.4 -6.2
SOC *e*S **S 12 55 15.8 -0.9**
SOC *e* 12 56 54.4
SOC *e*SS SS 12 59 09.8 -2.8
SOC pmax pmax
comp=Z,63nm,1.2s,mb5.5
SOC pmax pmax
comp=N,27nm,1.0s
SOC pmax pmax
comp=E,19nm,0.7s
SOC MLR MLR
comp=Z,478nm,20.0s,MS4.6
SOC MLR MLR
comp=N,613nm,24.0s,MS4.7
SOC MLR MLR
comp=E,313nm,23.0s,MS4.7
EIL Elat 59.38 300 *e*P **P 12 47 13.1 -0.8**
comp=E,45nm,1.3s,mb5.3
COBT Iskenderun 59.61 308 *i* P **P 12 47 19.1 +3.8**
YAK Yakutsk 59.86 18 *e*P **P 12 47 15.1 -1.6**
YAK pmax pmax
comp=Z,58nm,0.8s,mb5.7
YAK Yakutsk 59.86 18 *e*P **P 12 47 15.1 -1.7**
comp=Z,58nm,0.8s,mb5.7
STKA Stephens Creek 60.18 134 *e*P **P 12 47 18.5 -0.9**
comp=Z,5.2nm,0.9s,mb4.6
STKA Stephens Creek 60.18 134 P **P 12 47 18.1 -1.3**
comp=Z,5.7nm,0.9s,mb4.6,baz=328,slow=10,SNR=7.5
STKA LR LR 13 16 33.1
comp=Z,671nm,19.0s,MS4.8,baz=332,slow=39
BRTR Keskin Array B 62.36 311 P **P 12 47 32.6 -1.4**
BRTR 12 49 53.7
BRTR pmax pmax
comp=Z,16nm,1.1s
BRTR Keskin Array B 62.36 311 P **P 12 47 32.6 -1.4**
comp=Z,16nm,1.1s,mb5.1,baz=129,slow=7.9,SNR=14
BRTR PP PP 12 49 53.6 +0.4
comp=Z,0.4nm,0.5s,baz=76,slow=5.1,SNR=3.7
VOR Voronezh 62.48 325 *e*P **P 12 47 34.0 -0.6**
VOR pmax pmax
comp=Z,140nm,1.3s,mb5.9
BALT Daday 62.97 313 *i* P **P 12 47 38.6 +0.6**
SIM Simferopol' 63.34 316 P **P 12 47 40.2 -0.2**
SIM pmax pmax
comp=Z,27nm,0.9s,mb5.4
MBAR Mbarara 63.80 265 *e*P **P 12 47 43.5 -0.5**
MBAR pmax pmax
comp=Z,28nm,1.3s,mb5.1
MBAR MLR MLR
comp=Z,188nm,22.0s,MS4.2
MBAR Mbarara 63.80 265 *e*P **P 12 47 43.5 -0.5**
comp=Z,28nm,1.3s,mb5.1
MBAR LR LR
comp=Z,188nm,22.0s,MS4.2
MOS Moscow 64.97 329 *e*P **P 12 47 49.3 -1.6**
MOS *e* 12 48 28.2
MOS *e* 12 50 12.5
MOS pmax pmax
comp=Z,163nm,1.5s,mb5.8
OBN Obninsk 65.28 328 ⇓*i*P **P 12 47 48.8 -4.0**
OBN *e* 12 50 15.4
OBN *e*S S 12 56 34.6 +0.2
OBN *e*SSS SSS 13 03 38.7 -2.7
OBN pmax pmax
comp=Z,57nm,1.2s,mb5.5
OBN MLR MLR
comp=Z,300nm,16.0s,MS4.6
OBN Obninsk 65.28 328 *e*P **P 12 47 48.5 -4.3**
comp=Z,89nm,1.1s,mb5.7
MA2 Magadan 66.63 28 *e*P **P 12 48 01.5 +0.1**
MA2 *e*S S 12 56 47.4 -3.5
MA2 pmax pmax
comp=Z,20nm,1.1s,mb5.1
MA2 Magadan 66.63 28 *e*P **P 12 48 00.8 -0.6**
comp=Z,41nm,1.1s,mb5.4
TIXI Tiksi 67.09 11 *i* P **P 12 48 02.6 -1.6**
TIXI pmax pmax
comp=Z,25nm,1.3s,mb5.1
AKASG Malin Array Be 68.06 322 P **P 12 48 08.9 -1.7**
AKASG 12 50 35.8
AKASG pmax pmax
comp=Z,14nm,0.9s
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 68.06 322 P **P 12 48 08.8 -1.8**
comp=Z,14nm,0.9s,mb5.0,baz=88,slow=4.6,SNR=18
AKASG PP PP 12 50 35.8 -7.0
comp=Z,2.0nm,0.8s,baz=95,slow=6.9,SNR=4.8
IDI Anoyia 68.51 305 P **P 12 48 13.0 -0.7**
comp=Z,20nm,0.8s,mb5.1,baz=85,slow=9.1,SNR=5.4
SEY Seymchan 68.79 25 *e*P **P 12 48 14.2 -0.7**
SEY *e* 12 48 38.0
SEY 12 50 45.8
SEY PPP PPP 12 52 21.0 -6.0
SEY *e*S S 12 57 16.7 0.0
SEY 12 58 13.9
SEY SS SS 13 01 33.5 -10
SEY SSS SSS 13 04 39.2 -5.9
SEY pmax pmax
comp=E,20nm,1.3s
SEY pmax pmax
comp=Z,70nm,1.3s,mb5.4
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY MLR MLR
comp=Z,720nm,18.0s,MS5.0
SEY MLR MLR
comp=N,1μm,24.0s
SEY MLR MLR
comp=E,320nm,18.0s
MLR Muntele Rosu 69.09 316 P **P 12 48 16.7 -0.4**
MLR pmax pmax
comp=Z,50nm,1.1s
MLR Muntele Rosu 69.09 316 P **P 12 48 16.7 -0.4**
comp=Z,50nm,1.1s,mb5.3,baz=56,slow=5.1,SNR=13
LSZ Lusaka 69.34 250 *e*P **P 12 48 19.5 +0.4**
LSZ pmax pmax
comp=Z,18nm,1.2s,mb4.9
LSZ Lusaka 69.34 250 *e*P **P 12 48 19.5 +0.4**
comp=Z,18nm,1.2s,mb4.9
MNK Minsk 69.86 325 *e*P **P 12 48 18.0 -3.6**
JOF Joensuu 70.73 334 *e*p **P 12 48 24.9 -1.9**
comp=Z,0.4nm,0.3s
JOF Joensuu 70.73 334 *e*p **P 12 48 24.5 -2.3**
comp=Z,14nm,0.8s,mb5.0
JOF Joensuu 70.73 334 *e*P **P 12 48 24.5 -2.3**
LVV L'vov 71.13 320 *e*P **P 12 48 27.4 -2.0**
ZAPS Zavoj/Pirot 71.13 313 ⇑*i*P **P 12 48 27.6 -2.0**
BOLS Boljevac 71.66 313 ⇑*i*P **P 12 48 31.8 -0.9**
SKO Skopje 71.85 311 *e*P **P 12 48 32.0 -1.9**
KWP Kalwaria 71.94 320 *e*P **P 12 48 33.8 -0.5**
KOLS Kolonicke sedl 72.12 319 *i* pP pP 12 48 39.8 +0.3
KOLS *e* 12 48 47.4
SUW Suwalki 72.41 324 *e*P **P 12 48 36.0 -1.0**
SUW *e* pP 12 48 40.2 -1.0
SUW Suwalki 72.41 324 *e*P **P 12 48 36.0 -1.0**
SUW *e* pP 12 48 40.2 -1.0
FINES FINESS Array B 72.60 332 P **P 12 48 36.2 -1.7**
comp=Z,12nm,0.9s,mb4.8,baz=90,slow=7.6,SNR=15
FINES LR LR 13 26 54.5
comp=Z,381nm,18.4s,MS4.7,baz=346,slow=41
CRVS Cervenica-Dubn 72.64 319 *i* P **P 12 48 38.8 +0.3**
CRVS *i* pP pP 12 48 42.4 -0.3
KAF Kangasniemi 72.68 333 *e*p **P 12 48 36.2 -2.2**
comp=Z,0.6nm,0.3s,mb4.0
KAF Kangasniemi 72.68 333 *e*p **P 12 48 35.9 -2.5**
comp=Z,12nm,0.8s,mb4.9
KAF Kangasniemi 72.68 333 *e*P **P 12 48 36.2 -2.2**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
KAF Kangasniemi 72.68 333 *e*P **P 12 48 35.9 -2.5**
comp=Z,12nm,0.8s,mb4.9
NIE Niedzica 73.46 319 *e*P **P 12 48 43.1 -0.1**
OJC Ojcow 73.89 320 *e*P **P 12 48 44.3 -1.4**
VYHS Vyhne 74.32 318 *i* P **P 12 48 47.4 -0.8**
VYHS *i* pP pP 12 48 51.4 -1.0
LBTB Lobatse 74.33 241 *e*P **P 12 48 48.7 -0.1**
LBTB pmax pmax
comp=Z,21nm,0.9s,mb5.1
LBTB Lobatse 74.33 241 *e*P **P 12 48 48.7 -0.1**
comp=Z,21nm,0.9s,mb5.1
KEV Kevo 74.71 341 *e*p **P 12 48 49.0 -1.1**
comp=Z,11nm,0.9s,mb4.8
KEV Kevo 74.71 341 *e*p **P 12 48 50.0 -0.1**
comp=Z,9.0nm,0.7s,mb4.8
KEV Kevo 74.71 341 *e*P **P 12 48 49.0 -1.1**
KEV pmax pmax
comp=Z,11nm,0.9s,mb4.8
OKC Ostrava-Krasne 74.90 319 *e*P **P 12 48 51.9 +0.3**
OKC *e*pP pP 12 48 55.3 -0.5
ARCES ARCESS Array B 75.14 340 P **P 12 48 51.4 -1.2**
ARCES pmax pmax
comp=Z,14nm,0.9s
ARCES MLR MLR
comp=Z,1μm,19.7s
ARCES ARCESS Array B 75.14 340 P **P 12 48 51.4 -1.2**
comp=Z,14nm,0.9s,mb4.9,baz=112,slow=5.3,SNR=10
ARCES LR LR 13 24 39.3
comp=Z,1μm,19.7s,MS5.2,baz=292,slow=38
ARE0 ARCESS Array S 75.14 340 *e*P **P 12 48 51.5 -1.1**
MORC Moravsky Berou 75.29 319 *e*P **P 12 48 52.8 -1.0**
MORC pmax pmax
comp=Z,52nm,1.1s,mb5.4
MORC Moravsky Berou 75.29 319 *e*P **P 12 48 52.8 -1.0**
comp=Z,52nm,1.1s,mb5.4
MORC *e*pP pP 12 48 57.2 -0.8
ZST Bratislava 75.45 318 *i* P **P 12 48 55.1 +0.3**
ZST *i* pP pP 12 48 58.9 -0.1
BOSA Boshof 75.68 238 *e*P **P 12 48 56.4 -0.1**
BOSA pmax pmax
comp=Z,19nm,0.9s,mb5.0
BOSA Boshof 75.68 238 *e*P **P 12 48 56.4 -0.1**
comp=Z,19nm,0.9s,mb5.0
VRAC Vranov 75.87 319 P **P 12 48 57.1 0.0**
VRAC pmax pmax
comp=Z,2.0nm,0.5s
VRAC Vranov 75.87 319 P **P 12 48 57.1 0.0**
comp=Z,2.1nm,0.5s,mb4.3,baz=31,slow=16,SNR=4.0
DPC Dobruska-Polom 76.12 320 *e*P **P 12 48 58.4 -0.1**
KSP Ksiaz 76.17 320 *e*P **P 12 48 58.1 -0.7**
KSP *e*pP pP 12 49 02.6 -0.4
KSP Ksiaz 76.17 320 *e*P **P 12 48 59.3 +0.5**
KSP *e* pP 12 49 03.1 +0.1
UPC Upice 76.33 320 *e*P **P 12 48 59.6 -0.1**
PERS Pernice 76.70 316 *e*P **P 12 49 01.6 -0.2**
PRU Pruhonice 77.24 319 *e*P **P 12 49 04.8 0.0**
PVCC Panska Ves 77.25 320 *e*P **P 12 49 05.6 +0.8**
BRG Berggiesshubel 77.66 320 *i* P **P 12 49 07.4 +0.3**
BRG *i* pP 12 49 11.4 +0.1
BRG pmax pmax
comp=Z,95nm,1.7s,mb5.5
BRG Berggiesshubel 77.66 320 *i* P **P 12 49 07.4 +0.3**
comp=Z,95nm,1.7s,mb5.5
BRG *i* pP 12 49 11.4 +0.1
GEC2 GERESS Array S 77.74 318 *e*P **P 12 49 07.4 -0.1**
GEC2 pmax pmax
comp=Z,48nm,1.1s,mb5.3
GEC2 GERESS Array S 77.74 318 *e*P **P 12 49 07.4 -0.1**
comp=Z,48nm,1.1s,mb5.3
GERES GERESS Array B 77.74 318 P **P 12 49 06.7 -0.8**
GERES pmax pmax
comp=Z,18nm,0.9s
GERES GERESS Array B 77.74 318 P **P 12 49 06.7 -0.9**
comp=Z,18nm,0.9s,mb5.0,baz=90,slow=5.3,SNR=39
KHC Kasperske Hory 77.83 318 *e*P **P 12 49 07.7 -0.3**
KHC *e*pP pP 12 49 11.8 -0.5
RUE Ruedersdorf 77.83 322 *e*P **P 12 49 07.5 -0.5**
comp=Z,106nm,1.0s,mb5.7
RUE *e*pP pP 12 49 11.7 -0.5
CLL Collm 78.27 321 ⇑*i*P **P 12 49 10.4 0.0**
CLL *i* pP 12 49 14.1 -0.5
CLL pmax pmax
comp=Z,36nm,1.6s,mb5.0
CLL Collm 78.27 321 ⇑*i*P **P 12 49 10.4 0.0**
comp=Z,36nm,1.6s,mb5.0
CLL *i* pP 12 49 14.1 -0.5
CLL Collm 78.27 321 ⇑P **P 12 49 10.4 0.0**
comp=Z,logA/T=1.4,mb5.1
CLL *i* *PP pP 12 49 14.1 -0.5
CLL *e* 12 49 23.0
WET Wettzell 78.29 318 *e*P **P 12 49 10.5 -0.1**
WET pmax pmax
comp=Z,40nm,1.2s,mb5.2
WET Wettzell 78.29 318 *e*P **P 12 49 10.5 -0.1**
comp=Z,40nm,1.2s,mb5.2
NKC Novy Kostel 78.59 320 *e*P **P 12 49 12.9 +0.7**
MAW Mawson 78.67 192 *e*P **P 12 49 13.3 +1.0**
comp=Z,11nm,1.2s,mb4.7
MAW Mawson 78.67 192 *e*P **P 12 49 13.3 +1.0**
MAW pmax pmax
comp=Z,11nm,1.2s
MAW Mawson 78.67 192 P **P 12 49 13.5 +1.2**
comp=Z,13nm,1.1s,mb4.8,baz=49,slow=6.3,SNR=4.3
MAW LR LR 13 18 45.9
comp=Z,199nm,19.0s,MS4.5,baz=69,slow=32
MOX Moxa 79.13 320 *e*P **P 12 49 16.2 +1.1**
MOX pmax pmax
comp=Z,41nm,1.4s,mb5.2
MOX Moxa 79.13 320 *e*P **P 12 49 16.2 +1.1**
comp=Z,41nm,1.4s,mb5.2
MOX Moxa 79.13 320 *i* P **P 12 49 16.2 +1.1**
comp=Z,logA/T=1.5,mb5.2
FUR Furstenfeldbru 79.34 317 *e*P **P 12 49 15.8 -0.5**
GRA1 Grafenberg Arr 79.38 319 *e*P **P 12 49 16.8 +0.3**
comp=Z,86nm,1.4s,mb5.5
GRA1 *e*pP pP 12 49 21.0 +0.3
GRF Grafenberg Arr 79.38 319 *e*P **P 12 49 16.8 +0.3**
GRF *e**PP pP 12 49 21.0 +0.3
GRF pmax pmax
comp=Z,86nm,1.4s,mb5.5
GRF Grafenberg Arr 79.38 319 *e*P **P 12 49 16.8 +0.3**
GRF *e**PP pP 12 49 21.0 +0.3
GRF pmax pmax
comp=Z,86nm,1.4s,mb5.5
GRF Grafenberg Arr 79.38 319 *e*P **P 12 49 16.8 +0.3**
comp=Z,86nm,1.4s,mb5.5
GRF *e*pP pP 12 49 21.0 +0.3
NB2 NORSAR Subarra 79.62 331 P **P 12 49 15.8 -1.8**
comp=Z,44nm,1.1s,mb5.3,baz=91,slow=5.6
NB2 NORSAR Subarra 79.62 331 P **P 12 49 15.8 -1.8**
baz=91,slow=5.9
NOA NORSAR Array B 79.62 331 P **P 12 49 16.8 -0.8**
NOA pmax pmax
comp=Z,15nm,1.0s
NOA MLR MLR
comp=Z,357nm,21.3s
NOA NORSAR Array B 79.62 331 P **P 12 49 16.8 -0.8**
comp=Z,14nm,1.0s,mb4.9,baz=97,slow=5.3,SNR=12
NOA LR LR 13 28 12.8
comp=Z,357nm,21.3s,MS4.7,baz=115,slow=38
NAO01 NORSAR Array S 79.78 330 *e*P **P 12 49 17.3 -1.1**
NAO01 *e*pP pP 12 49 21.6 -1.0
CLZ Clausthal 79.92 321 *e*P **P 12 49 19.3 -0.1**
comp=Z,95nm,1.5s,mb5.5
DAVOX Davos 80.31 316 P **P 12 49 21.2 -0.4**
comp=Z,22nm,0.8s,mb5.1,baz=83,slow=4.9,SNR=12

MUD Monsted U'grnd 80.61 326⇑ *iP* **P 12 49 28.0 +5.1**
MUD pmax pmax
comp=Z,60nm,1.1s,mb5.4
MUD Monsted U'grnd 80.61 326⇑ *iP* **P 12 49 28.0 +5.1**
comp=Z,60nm,1.1s,mb5.4
SPAK Spaichingen 81.01 317 *eP* **P 12 49 25.7 +0.5**
PGF Pioggiola 81.08 312 *eP* **P 12 49 26.0 +0.3**
comp=Z,173nm,1.7s,mb5.4
PGF Pioggiola 81.08 312 *eP* **P 12 49 26.0 +0.3**
PGF pmax pmax
comp=Z,86nm,1.7s,mb5.4
TNS Taunus Mts 81.16 320 *eP* **P 12 49 26.0 0.0**
BFO Black Forest 81.31 318 *eP* **P 12 49 26.2 -0.6**
BFO pmax pmax
comp=Z,27nm,1.2s,mb5.0
BFO Black Forest 81.31 318 *eP* **P 12 49 26.2 -0.6**
comp=Z,27nm,1.2s,mb5.0
LANF Langenberg 81.63 318 *eP* **P 12 49 32.7 +4.3**
ABH Alteburg 81.76 319 *eP* **P 12 49 29.9 +0.8**
LIBD Limburg 81.80 318 *eP* **P 12 49 31.7 +2.4**
WLS Welschbruch 81.95 318 *eP* **P 12 49 30.1 0.0**
CDF Champ du Feu 82.01 318 *eP* **P 12 49 30.6 +0.2**
comp=Z,62nm,1.4s,mb5.1
CDF Champ du Feu 82.01 318 *eP* **P 12 49 30.6 +0.2**
CDF pmax pmax
comp=Z,31nm,1.4s,mb5.0
RUP Ruppelstein 82.08 319 *eP* **P 12 49 31.4 +0.7**
ECH Echery 82.09 318 *eP* **P 12 49 34.7 +3.8**
SBF Sospel 82.16 313 *eP* **P 12 49 31.5 +0.2**
comp=Z,110nm,1.1s,mb5.4
SBF Sospel 82.16 313 *eP* **P 12 49 31.5 +0.2**
SBF pmax pmax
comp=Z,55nm,1.1s,mb5.4
HINF Hinteralfeld 82.32 317 *eP* **P 12 49 31.8 -0.3**
comp=Z,87nm,1.7s,mb5.1
HINF Hinteralfeld 82.32 317 *eP* **P 12 49 31.8 -0.3**
HINF pmax pmax
comp=Z,43nm,1.7s,mb5.1
LOMF Lomont 82.37 317 *eP* **P 12 49 35.8 +3.5**
LPG La Plagne 82.54 315 *eP* **P 12 49 34.0 +0.8**
comp=Z,42nm,0.8s,mb5.2
LPG La Plagne 82.54 315 *eP* **P 12 49 34.0 +0.8**
LPG pmax pmax
comp=Z,21nm,0.8s,mb5.2
LPL La Plagne 82.55 315 *eP* **P 12 49 34.1 +0.8**
comp=Z,84nm,1.0s,mb5.4
LPL La Plagne 82.55 315 *eP* **P 12 49 34.1 +0.8**
LPL pmax pmax
comp=Z,42nm,1.0s,mb5.4
MBDF Montbardon 82.58 314 *eP* **P 12 49 33.1 -0.3**
comp=Z,48nm,1.2s,mb5.1
MBDF Montbardon 82.58 314 *eP* **P 12 49 33.1 -0.3**
MBDF pmax pmax
comp=Z,24nm,1.2s,mb5.1
BNI Bardonecchia 82.62 314 *eP* **P 12 49 33.1 -0.6**
BNI pmax pmax
comp=Z,40nm,1.2s,mb5.3
BNI Bardonecchia 82.62 314 *eP* **P 12 49 33.1 -0.6**
comp=Z,40nm,1.2s,mb5.3
HAU Haudompre 82.65 317 *eP* **P 12 49 33.7 -0.1**
comp=Z,138nm,1.4s,mb5.5
HAU *eR*
comp=Z,233nm,21.2s
HAU Haudompre 82.65 317 *eP* **P 12 49 33.7 -0.1**
HAU pmax pmax
comp=Z,69nm,1.4s,mb5.5
HAU MLR MLR
comp=Z,230nm,21.3s,MS4.5
FRF La Foret Royal 82.75 313 *eP* **P 12 49 34.8 +0.4**
comp=Z,124nm,1.4s,mb5.5
FRF La Foret Royal 82.75 313 *eP* **P 12 49 34.8 +0.4**
FRF pmax pmax
comp=Z,62nm,1.4s,mb5.5
LMR La Mourre 82.86 313 *eP* **P 12 49 35.3 +0.3**
comp=Z,64nm,1.3s,mb5.2
LMR La Mourre 82.86 313 *eP* **P 12 49 35.3 +0.3**
LMR pmax pmax
comp=Z,32nm,1.3s,mb5.2
THEF They Montfort 82.88 318 *eP* **P 12 49 38.8 +3.9**
CABF La Chapelle 82.92 316 *eP* **P 12 49 35.8 +0.6**
comp=Z,60nm,1.2s,mb5.2
CABF La Chapelle 82.92 316 *eP* **P 12 49 35.8 +0.6**
CABF pmax pmax
comp=Z,30nm,1.2s,mb5.2
ORIF Oris-en-Rattie 83.19 314 *eP* **P 12 49 37.3 +0.7**
comp=Z,79nm,1.5s,mb5.2
ORIF *eR*
comp=Z,268nm,22.8s
MEZF Maizieres J'vi 83.48 318 *eP* **P 12 49 38.5 +0.5**
SMRF Simiane la Rot 83.49 313 *eP* **P 12 49 39.0 +0.8**
comp=Z,164nm,1.6s,mb5.5
GIVF Givet 83.50 320 *eP* **P 12 49 38.6 +0.5**
comp=Z,82nm,1.4s,mb5.3
GIVF Givet 83.50 320 *eP* **P 12 49 38.6 +0.5**
GIVF pmax pmax
comp=Z,41nm,1.4s,mb5.3
BAIF Baives 83.89 320 *eP* **P 12 49 40.6 +0.5**
VIVF Saint-Julien-I 84.06 314 *eP* **P 12 49 41.5 +0.5**
comp=Z,43nm,1.2s,mb5.2
VIVF Saint-Julien-I 84.06 314 *eP* **P 12 49 41.5 +0.5**
VIVF pmax pmax
comp=Z,22nm,1.2s,mb5.2
SMF Signal de Mont 84.46 316 *eP* **P 12 49 43.1 +0.1**
comp=Z,59nm,1.1s,mb5.3
SMF Signal de Mont 84.46 316 *eP* **P 12 49 43.1 +0.1**
SMF pmax pmax
comp=Z,29nm,1.1s,mb5.3
SSF Saint Saulge 84.65 317 *eP* **P 12 49 44.3 +0.3**
SSF pmax pmax
comp=Z,43nm,1.5s,mb5.4
SSF Saint Saulge 84.65 317 *eP* **P 12 49 44.3 +0.3**
comp=Z,42nm,1.5s,mb5.3
PLDF La Plantade 84.68 316 *eP* **P 12 49 48.2 +4.0**
LASF Ste Croix 84.71 314 *eP* **P 12 49 45.0 +0.6**
comp=Z,214nm,1.7s,mb5.7
AVF Avril sur Loir 84.78 316 *eP* **P 12 49 44.7 +0.1**
comp=Z,65nm,1.4s,mb5.3
AVF Avril sur Loir 84.78 316 *eP* **P 12 49 44.7 +0.1**
AVF pmax pmax
comp=Z,32nm,1.4s,mb5.3
BGF Bois d'Agland 85.15 316 *eP* **P 12 49 47.0 +0.5**
comp=Z,83nm,1.2s,mb5.4
BGF Bois d'Agland 85.15 316 *eP* **P 12 49 47.0 +0.5**
BGF pmax pmax
comp=Z,41nm,1.2s,mb5.4
SYO Syowa Base 85.54 197 ⇓P **P 12 49 49.1 +1.2**
SYO Syowa Base 85.54 197 ⇓PcP PcP 12 49 51.4 -0.1
SYO Syowa Base 85.54 197 ⇑pP pP 12 49 53.8 +1.6
TCF Toulx Ste Croi 85.62 316 *eP* **P 12 49 49.4 +0.6**
comp=Z,62nm,1.5s,mb5.3
TCF Toulx Ste Croi 85.62 316 *eP* **P 12 49 49.4 +0.6**
TCF pmax pmax
comp=Z,31nm,1.5s,mb5.3
CAF Calviac 85.89 315 *eP* **P 12 49 51.0 +0.8**
comp=Z,72nm,1.5s,mb5.4
CAF Calviac 85.89 315 *eP* **P 12 49 51.0 +0.8**
CAF pmax pmax
comp=Z,36nm,1.5s,mb5.4
MTLF Montolieu 85.98 313 *eP* **P 12 49 51.3 +0.6**
comp=Z,121nm,1.6s,mb5.6
MTLF Montolieu 85.98 313 *eP* **P 12 49 51.3 +0.6**
MTLF pmax pmax
comp=Z,61nm,1.6s,mb5.6
RPZ Rata Peaks 86.13 135 LR LR 13 29 07.6
comp=Z,552nm,18.6s,MS5.0,baz=265,slow=36
RJF Les Rejaudoux 86.23 315 *eP* **P 12 49 52.6 +0.7**
comp=Z,121nm,1.4s,mb5.6
RJF *eR*
comp=Z,192nm,21.2s
RJF Les Rejaudoux 86.23 315 *eP* **P 12 49 52.6 +0.7**
RJF pmax pmax
comp=Z,60nm,1.4s,mb5.6
RJF MLR MLR
comp=Z,190nm,21.3s,MS4.5
LDF La Druitiere 86.88 318 *eP* **P 12 49 55.4 +0.4**
comp=Z,186nm,1.6s,mb5.8
LDF La Druitiere 86.88 318 *eP* **P 12 49 55.4 +0.4**
LDF pmax pmax
comp=Z,93nm,1.6s,mb5.8
FLN La Foliniere 87.09 319 *eP* **P 12 49 56.3 +0.3**
comp=Z,54nm,1.1s,mb5.4
FLN *eR*
comp=Z,188nm,21.5s
FLN La Foliniere 87.09 319 *eP* **P 12 49 56.3 +0.3**
FLN pmax pmax
comp=Z,27nm,1.1s,mb5.4
FLN MLR MLR
comp=Z,190nm,21.5s,MS4.5
MFF Saint Martin d 87.19 316 *eP* **P 12 49 56.9 +0.3**
comp=Z,74nm,1.3s,mb5.5
MFF Saint Martin d 87.19 316 *eP* **P 12 49 56.9 +0.3**
MFF pmax pmax
comp=Z,37nm,1.3s,mb5.5
GRR Gorron 87.40 318 *eP* **P 12 49 58.1 +0.6**
comp=Z,103nm,1.5s,mb5.5
GRR Gorron 87.40 318 *eP* **P 12 49 58.1 +0.6**
GRR pmax pmax
comp=Z,51nm,1.5s,mb5.5
EKA Eskdalemuir Ar 87.62 325 P **P 12 49 58.9 +0.5**
EKA pmax pmax
comp=Z,6.0nm,0.9s
EKA Eskdalemuir Ar 87.62 325 P **P 12 49 58.9 +0.5**
comp=Z,6.4nm,0.9s,mb4.8,baz=113,slow=5.4,SNR=4.5
SJPF Ste Jean 88.50 313 *eP* **P 12 50 04.0 +1.1**
comp=Z,23nm,1.1s,mb5.1
SJPF Ste Jean 88.50 313 *eP* **P 12 50 04.0 +1.1**
SJPF pmax pmax
comp=Z,11nm,1.1s,mb5.1
ESDC Sonseca Array 91.15 310 P **P 12 50 16.2 +0.8**
comp=Z,5.3nm,0.8s,mb4.9,baz=64,slow=5.5,SNR=7.6
IMA Indian Mountai 91.49 22 *eP* **P 12 50 17.1 +0.8**
SVW2 Sparrevohn 92.61 27 *eP* **P 12 50 23.6 +2.0**
VNDA Vanda 93.06 168 P **P 12 50 24.4 +1.0**
comp=Z,1.1nm,1.1s,mb4.2,baz=297,slow=14,SNR=3.1
VNDA LR LR 13 29 27.6
comp=Z,267nm,18.0s,MS4.7,baz=291,slow=34
COLA College 94.20 22 P **P 12 50 28.3 -0.5**
ILAR Eielson Array 94.61 22 P **P 12 50 30.8 +0.1**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.61 22 P **P 12 50 30.8 +0.1**
comp=Z,0.7nm,0.8s,mb4.2,baz=274,slow=4.3,SNR=6.8
PWA Palmer West 94.89 26 *eP* **P 12 50 32.6 +0.6**
PMR Palmer 95.23 25 *eP* **P 12 50 35.2 +1.6**
INK Inuvik 96.85 16 P **P 12 50 41.1 +0.3**
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 96.85 16 P **P 12 50 41.0 +0.2**
comp=Z,8.5nm,1.1s,mb5.1,baz=303,slow=6.6,SNR=7.0
DBIC Dimbokro 97.95 278 P **P 12 50 48.4 +1.4**
DBIC pmax pmax
comp=Z,3.0nm,1.0s
DBIC MLR MLR
comp=Z,361nm,18.0s
DBIC Dimbokro 97.95 278 P **P 12 50 48.4 +1.3**
comp=Z,3.2nm,1.0s,mb4.8,baz=146,slow=13,SNR=2.1
DBIC LR LR 13 35 21.9
comp=Z,361nm,18.0s,MS4.9,baz=65,slow=36
YKA Yellowknife Ar 106.29 13 P Pdif 12 51 24.3 +1.1
YKA 12 55 46.8
YKA pmax pmax
comp=Z,1.0nm,1.1s
YKA Yellowknife Ar 106.29 13 Pdiff Pdif 12 51 24.3 +1.2
comp=Z,0.6nm,1.1s,baz=319,slow=5.3,SNR=2.7
YKA PP PP 12 55 46.8 -3.5
comp=Z,0.3nm,0.7s,baz=334,slow=7.8,SNR=5.3
YKA Yellowknife Ar 106.29 13 Pdif Pdif 12 51 24.3 +1.2
YKA PP PP 12 55 46.8 -3.5
LAO LASA Array 122.59 17 *e*PKP PKPdf 12 56 06.6 -1.6
NVAR Mina Array Bea 124.79 31 PKP PKPdf 12 56 12.3 -0.6
comp=Z,5.3nm,1.1s,baz=49,slow=0.9,SNR=8.0
NVAR Mina Array Bea 124.79 31 PKP PKPdf 12 56 12.3 -0.6
PDAR Pinedale Array 125.03 21 PKP PKPdf 12 56 10.9 -2.2
comp=Z,2.0nm,0.9s,baz=201,slow=1.0,SNR=11
MSU Marysvale 127.62 26 *e*PKIKP PKPdf 12 56 17.7 -0.6
NEN Nelson 128.69 30 *e*PKP PKPdf 12 56 18.9 -1.5
PV10 Paradox Valley 129.04 23 *e*PKP PKPdf 12 56 20.4 -0.6
LAZ Ladron 133.24 24 *e*PKP PKPdf 12 56 28.5 -0.5
GDL2 Guadalupe Moun 136.28 23 *e*PKP PKPdf 12 56 33.1 -1.6
TXAR Lajitas Array 139.09 24 PKP PKPdf 12 56 39.2 -0.7
comp=Z,0.6nm,0.7s,baz=204,slow=2.1,SNR=3.6
TXAR PP PP 12 59 33.0 -0.5
comp=Z,2.8nm,1.1s,slow=3.8,SNR=5.7
JCT Junction City 139.45 19 *e*PKIKP PKPdf 12 56 39.0 -1.6
PLCA Paso Flores 144.69 200 PKIKP PKPdf 12 56 46.7 -2.8
PLCA pmax pmax
comp=Z,18nm,1.0s
PLCA Paso Flores 144.69 200 PKP PKPdf 12 56 46.6 -2.8
comp=Z,18nm,1.0s,baz=165,slow=5.5,SNR=14
SDV Santo Domingo 157.39 318 PKP PKPdf 12 57 07.9 -1.4
comp=Z,5.4nm,1.0s,baz=36,slow=11,SNR=3.3
SDV PKPab PKPab 12 57 38.9 -0.9
comp=Z,7.4nm,0.9s,baz=237,slow=2.5,SNR=3.9
SDV Santo Domingo 157.39 318 *e*PKP PKPdf 12 57 07.7 -1.6
LPAZ La Paz 160.85 243 PKP PKPdf 12 56 28.3 -45
comp=Z,3.6nm,0.9s,baz=124,slow=4.6,SNR=7.7
LPAZ PKPab PKPab 12 57 11.3 -43
comp=Z,2.9nm,0.9s,baz=100,slow=7.4,SNR=6.2
ROSC El Rosal 162.82 318 PKP PKPdf 12 57 14.7 -0.6
comp=Z,4.7nm,0.4s,baz=90,slow=19,SNR=3.6

*BJI **28** 12:40:18.8, 6.78N×93.51E, h30km, mb4.8*
*NEIC **28** 12:40:30.5±0.4, 7.73N×93.79E, h30km, mb4.5/6, Error ellipse: s-maj=15.7km s-min=8.6km az=62.0*
*IDC **28** 12:40:34.6±4.8, 7.93N×94.13E, h57km±43km, mb3.9/17, mb1 4.1/18, mb1mx4.0/24, mbtmp4.2/18, ML4.2/1, MS4.3/4, Ms1 4.3/4, ms1mx3.8/27, Error ellipse: s-maj=27.2km s-min=12.7km az=51.0*

ISC 28 12:40:25.7±0.5, 7.69N±0.08×93.9E±0.1, h10km, n42, σ1♀06/36, mb4.4/27, MS4.3/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.79**	**24**	P	**P**	**12 43 17.2**	**+0.2**
	0.5nm,0.3s,baz=209,slow=13,SNR=8.0						
KMI	**Kunming**	**19.30**	**25**	P	**P**	**12 44 55.3**	**+1.7**
	18nm,1.3s						
JIRN	**Jiri**	**21.14**	**341**	*eP*	**P**	**12 45 13.3**	**0.0**
	79nm,1.0s,mb5.0						
PKI	**Pulchoki**	**21.33**	**339**	*eP*	**P**	**12 45 17.1**	**+2.0**
	115nm,1.1s,mb5.1						
DMN	**Daman**	**21.47**	**338**	*eP*	**P**	**12 45 18.2**	**+1.6**
KKN	**Kakani**	**21.57**	**339**	*eP*	**P**	**12 45 18.1**	**+0.5**
GKN	**Gorkha**	**22.00**	**338**	*eP*	**P**	**12 45 21.5**	**-0.4**
	83nm,1.0s,mb5.1						
LSA	**Lhasa**	**22.04**	**354**	*eP*	**P**	**12 45 21.5**	**-0.8**
	27nm,0.6s,mb4.8						
KOLN	**Koldanda**	**22.20**	**335**	*eP*	**P**	**12 45 24.9**	**+1.0**
	103nm,1.2s,mb5.1						
JOW	**Kunigami**	**37.79**	**56**	LR	LR	13 02 26.8	
	comp=Z,301nm,21.5s,MS4.1,baz=78,slow=35						
SONM	**Songino Array**	**41.40**	**13**	P	**P**	**12 48 13.0**	**-0.8**
	2.8nm,0.8s,mb3.9,baz=197,slow=9.1,SNR=5.2						
SONM				PcP	PcP	12 50 12.2	-0.4
	0.6nm,0.6s,baz=203,slow=4.4,SNR=4.5						
KURK	**Kurchatov**	**44.72**	**346**	*eP*	**P**	**12 48 39.0**	**-1.8**
	29nm,1.3s,mb4.9						
NWAO	**Narrogin (SRO)**	**46.12**	**152**	P	**P**	**12 48 52.3**	**+0.2**
	3.6nm,0.8s,mb4.3,baz=129,slow=18,SNR=2.4						
ZAL	**Zalesovo**	**46.69**	**353**	P	**P**	**12 48 56.0**	**-0.3**
	5.7nm,0.5s,mb4.8,baz=302,slow=9.9,SNR=10.0						
ZAL				LR	LR	13 09 32.3	
	comp=Z,303nm,20.3s,MS4.2,baz=289,slow=37						
WRA	**Warramunga Arr**	**48.39**	**125**	P	**P**	**12 49 08.8**	**-1.4**
	0.6nm,0.5s,mb3.9,baz=304,slow=8.6,SNR=8.3						
WRAB	**Tennant Creek**	**48.39**	**125**	*eP*	**P**	**12 49 10.1**	**-0.1**
BVAR	**Borovoye Array**	**49.07**	**341**	P	**P**	**12 49 14.1**	**-0.9**
	2.7nm,1.0s,mb4.2,baz=108,slow=4.6,SNR=4.5						
CHKZ	**Chkalovo**	**49.55**	**342**	*eP*	**P**	**12 49 17.2**	**-1.5**
	7.5nm,0.8s,mb4.8						
ASAR	**Alice Springs**	**50.02**	**130**	P	**P**	**12 49 23.8**	**+1.1**
	1.5nm,0.9s,mb4.0,baz=303,slow=7.7,SNR=6.5						
PMG	**Port Moresby**	**55.75**	**107**	P	**P**	**12 50 05.6**	**+0.1**
	10nm,0.8s,mb4.9,baz=288,slow=2.2,SNR=3.7						
PMG				LR	LR	13 11 44.6	
	comp=Z,358nm,21.9s,MS4.4,baz=110,slow=34						
KMBO	**Kilima Mbogo**	**57.12**	**264**	P	**P**	**12 50 20.0**	**+4.7**
	1.0nm,0.6s,mb4.0,baz=46,slow=23,SNR=1.7						
STKA	**Stephens Creek**	**60.19**	**133**	P	**P**	**12 50 37.1**	**+0.7**
	1.6nm,0.8s,mb4.1,baz=342,slow=4.5,SNR=2.5						
BRTR	**Keskin Array B**	**62.33**	**311**	P	**P**	**12 50 50.1**	**-0.7**
	1.1nm,0.8s,mb4.0,baz=129,slow=9.2,SNR=3.5						
IDI	**Anoyia**	**68.44**	**305**	P	**P**	**12 51 30.8**	**+0.6**
	4.1nm,0.7s,mb4.6,baz=355,slow=3.6,SNR=3.8						
MLR	**Muntele Rosu**	**69.10**	**316**	P	**P**	**12 51 36.6**	**+2.5**
	3.7nm,0.8s,mb4.4,baz=292,slow=20,SNR=2.7						
JOF	**Joensuu**	**70.89**	**335**	*ep*	**P**	**12 51 43.3**	**-1.4**
	2.1nm,0.4s,mb4.4						
JOF	**Joensuu**	**70.89**	**335**	*ep*	**P**	**12 51 44.8**	**+0.1**
	1.2nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**72.74**	**332**	P	**P**	**12 51 55.2**	**-0.5**
	2.5nm,0.7s,mb4.2,baz=101,slow=9.7,SNR=6.2						
KAF	**Kangasniemi**	**72.82**	**333**	*ep*	**P**	**12 51 53.2**	**-3.0**
	0.9nm,0.4s,mb4.0						
KAF	**Kangasniemi**	**72.82**	**333**	*ep*	**P**	**12 51 55.0**	**-1.2**
	2.1nm,0.5s,mb4.3						
KEV	**Kevo**	**74.91**	**341**	*ep*	**P**	**12 52 06.7**	**-1.5**
	0.3nm,0.5s,mb3.5						
KEV	**Kevo**	**74.91**	**341**	*ep*	**P**	**12 52 06.7**	**-1.5**
	0.3nm,0.4s,mb3.6						
ARCES	**ARCESS Array B**	**75.34**	**340**	P	**P**	**12 52 10.6**	**-0.1**
	1.7nm,0.8s,mb4.0,baz=90,slow=7.3,SNR=4.2						
GERES	**GERESS Array B**	**77.77**	**318**	P	**P**	**12 52 25.4**	**+0.7**
	1.4nm,0.8s,mb3.9,baz=104,slow=5.5,SNR=3.8						
NB2	**NORSAR Subarra**	**79.75**	**331**	P	**P**	**12 52 34.8**	**-0.4**
	0.9nm,0.6s,mb3.9,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**79.75**	**331**	P	**P**	**12 52 35.0**	**-0.2**
	1.7nm,0.7s,mb4.1,baz=92,slow=5.6,SNR=3.7						
DAVOX	**Davos**	**80.32**	**316**	P	**P**	**12 52 39.6**	**+1.0**
	2.6nm,0.8s,mb4.2,baz=356,slow=22,SNR=3.1						
ILAR	**Eielson Array**	**95.02**	**22**	LR	LR	13 43 57.3	
	comp=Z,142nm,18.9s,MS4.5,baz=176,slow=40						
PDAR	**Pinedale Array**	**125.44**	**21**	PKP	PKPdf	12 59 31.1	+0.5
	0.7nm,0.9s,baz=18,slow=2.9,SNR=3.7						
TXAR	**Lajitas Array**	**139.51**	**24**	PKP	PKPdf	12 59 56.0	-1.3
	0.3nm,0.8s,slow=0.9,SNR=4.5						
TXAR	**Lajitas Array**	**139.51**	**24**	PKP	PKPdf	12 59 56.0	-1.3
PLCA	**Paso Flores**	**144.28**	**200**	PKP	PKPdf	13 00 05.0	-0.4
	2.9nm,0.9s,baz=228,slow=6.0,SNR=3.0						

IDC 28 12:45:06.4±1.2, 2.47N×91.90E, mb3.7/7, mb1 4.1/8, mb1mx3.9/19, mbtmp3.8/8, ML4.2/1, Error ellipse: s-maj=49.1km s-min=21.1km az=51.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.32**	**23**	P	P	12 49 08.6	-2.8
	0.3nm,0.3s,baz=217,slow=14,SNR=9.7						
SONM	**Songino Array**	**46.89**	**13**	P	P	12 53 39.4	-0.9
	0.6nm,0.7s,baz=196,slow=9.0,SNR=3.7						
WRA	**Warramunga Arr**	**47.23**	**120**	P	P	12 53 41.3	-2.0
	1.0nm,0.6s,baz=298,slow=8.7,SNR=14						
ASAR	**Alice Springs**	**48.42**	**125**	P	P	12 53 50.5	-2.1
	0.1nm,0.6s,baz=291,slow=7.7,SNR=2.2						
ZAL	**Zalesovo**	**51.63**	**355**	P	P	12 54 14.0	-2.7
	0.6nm,0.5s,baz=329,slow=19,SNR=2.5						
BVAR	**Borovoye Array**	**53.44**	**344**	P	P	12 54 27.7	-2.6
	0.8nm,0.9s,baz=117,slow=3.3,SNR=3.5						
MLR	**Muntele Rosu**	**71.53**	**317**	P	P	12 56 29.6	-1.7
	3.0nm,0.9s,baz=133,slow=2.8,SNR=3.8						
GERES	**GERESS Array B**	**80.38**	**319**	P	P	12 57 19.8	-1.4
	2.1nm,1.0s,baz=104,slow=5.5,SNR=7.3						
TXAR	**Lajitas Array**	**145.04**	**24**	PKPbc	PKPbc	13 04 45.9	-0.7
	0.3nm,0.6s,baz=250,slow=1.2,SNR=6.3						

IGQ 28 12:56:48.0, 1.07S×81.42W, h7km±6km, mb4.0, 1C-4D, Error ellipse: s-maj=10.5km s-min=4.3km az=16.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.87**	**89**	⇓P	Pb	12 57 04.2	-0.9
JAMA	**Jama**	**1.46**	**56**	P	Pn	12 57 15.1	+0.2
JAMA					Sb	12 57 34.1	+0.4
IGUA	**Igualata**	**2.81**	**99**	P	Pn	12 57 35.4	+1.2
JUA2	**San Juan 2**	**2.94**	**73**	P	Pn	12 57 38.1	+2.0
TERV	**Terraza Guagua**	**2.95**	**72**	P	Pn	12 57 37.5	+1.3
PINO	**Pino**	**2.96**	**72**	P	Pn	12 57 36.5	+0.2
NAS1	**Nasa**	**2.97**	**82**	P	Pn	12 57 40.7	+4.2
JUIV	**Juive**	**2.98**	**97**	P	Pn	12 57 38.4	+1.8
ARRY	**Arrayan**	**3.00**	**98**	⇑P	Pn	12 57 37.8	+0.9
RETU	**Refugio**	**3.00**	**97**	P	Pn	12 57 38.9	+2.1
YANA	**Yana**	**3.00**	**72**	P	Pn	12 57 37.6	+0.6
PISA	**Pisayambo**	**3.03**	**90**	P	Pn	12 57 38.9	+1.5
ULBA	**Ulba**	**3.03**	**97**	P	Pn	12 57 39.2	+1.8
VC1	**Cotopaxi 1**	**3.05**	**82**	P	Pn	12 57 40.1	+2.5
TAMB	**Tambo**	**3.07**	**83**	P	Pn	12 57 40.0	+2.1
ANTI	**Antisana**	**3.32**	**79**	⇓P	Pn	12 57 43.7	+2.3
COTA	**Cotacachi**	**3.38**	**66**	P	Pn	12 57 43.7	+1.4
CAYR	**Refugio Cayamb**	**3.58**	**72**	⇓P	Pn	12 57 48.0	+2.8
CAYA	**Cayambe**	**3.61**	**72**	⇓P	Pn	12 57 48.1	+2.5

IDC 28 12:57:17.3±11.0, 7.13N×94.52E, mb3.3/2, mb1 3.6/3, mb1mx3.3/18, mbtmp3.3/3, ML3.6/1, Error ellipse: s-maj=274.9km s-min=42.5km az=86.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.06**	**21**	Pn	P	13 00 10.8	-2.7
	0.1nm,0.3s,baz=208,slow=15,SNR=3.8						
WRA	**Warramunga Arr**	**47.53**	**125**	P	P	13 05 54.5	-2.1
	0.2nm,0.5s,baz=305,slow=8.4,SNR=7.8						
ASAR	**Alice Springs**	**49.15**	**130**	P	P	13 06 07.3	-1.9
	0.3nm,1.0s,baz=307,slow=7.7,SNR=4.6						

*NEIC **28** 13:03:26.3, 36.05N×120.04W, h10km, ML4.0(NCEDC), After NCEDC.*
NEIC Felt at Hanford, Lemoore, Paso Robles, San Miguel, Tulare and Visalia.
*IDC **28** 13:03:28.7±2.4, 36.20N×119.67W, mb3.4/1, mb1 3.6/5, mb1mx3.5/19, mbtmp3.2/5, ML3.5/4, Error ellipse: s-maj=29.1km s-min=20.5km az=56.0*

ISC 28 13:03:24.1±0.7, 35.98N±0.06×120.09W±0.06, h10km, n33, σ1♀26/35, mb3.1/1, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRV	**Little Rabbit**	**0.88**	**301**	*eP*	**Pb**	**13 03 43.1**	**+2.1**
SAO	**San Andreas Ge**	**1.35**	**306**	*eP*	**Pb**	**13 03 49.7**	**+0.6**
OMM	**Old Mammoth Mi**	**1.86**	**28**	*eP*	**Pn**	**13 03 57.3**	**+0.9**
DAC	**Darwin (Calif)**	**2.04**	**81**	*e*Pn	**Pn**	**13 04 00.7**	**+1.7**
CMB	**Columbia Colle**	**2.07**	**353**	*e*Pn	**Pn**	**13 03 60.0**	**+0.6**
MWC	**Mount Wilson**	**2.41**	**136**	*e*Pn	**Pn**	**13 04 05.0**	**+0.6**
NVAR	**Mina Array Bea**	**2.83**	**30**	Pn	**Pn**	**13 04 11.2**	**+0.9**
	18nm,0.3s,baz=339,slow=9.0,SNR=57						
NVAR				Pg	**Pg**	**13 04 15.9**	**-4.8**
	28nm,0.3s,baz=346,slow=12,SNR=79						
NVAR				Lg		13 04 51.2	
	32nm,0.3s,baz=230,slow=12,SNR=6.7						
NVAR	**Mina Array Bea**	**2.83**	**30**	Pn	**Pn**	**13 04 11.2**	**+0.9**
NVAR				Pg	**Pg**	**13 04 15.9**	**-4.8**
NVAR				Lg		13 04 51.2	
MNV	**Mina**	**2.90**	**32**	*e*Pn	**Pn**	**13 04 11.9**	**+0.7**
TPH	**Tonopah**	**3.10**	**47**	*e*Pn	**Pn**	**13 04 14.7**	**+0.5**
NSHM	**Saint Helena R**	**3.24**	**322**	*e*Pn	**Pn**	**13 04 15.8**	**-0.3**
WCN	**Washoe City**	**3.33**	**4**	*e*Pn	**Pn**	**13 04 18.0**	**+0.6**
OHCM	**Honcut**	**3.53**	**342**	*e*Pn	**Pn**	**13 04 19.2**	**-1.1**
PFO	**Pinyon Flat Ob**	**3.81**	**127**	*e*Pn	**Pn**	**13 04 23.4**	**-0.8**
LDFC	**Landfair**	**4.16**	**101**	*e*Pn	**Pn**	**13 04 27.8**	**-1.3**
NEN	**Nelson**	**4.27**	**93**	*e*Pn	**Pn**	**13 04 30.3**	**-0.5**
TRCR	**Troy Canyon**	**4.30**	**55**	Pn	**Pn**	**13 04 31.0**	**-0.2**
BAR	**Barrett**	**4.33**	**138**	*e*Pn	**Pn**	**13 04 30.8**	**-0.8**
WDC	**Whiskeytown Da**	**4.99**	**338**	Pn	**Pn**	**13 04 38.0**	**-2.9**
BMN	**Battle Mountai**	**4.99**	**26**	Pn	**Pn**	**13 04 40.3**	**-0.6**
MOD	**Modoc**	**5.92**	**358**	*e*Pn	**Pn**	**13 04 51.5**	**-2.6**
YBH	**Yreka Blue Hor**	**6.10**	**341**	Pn	**Pn**	**13 05 00.6**	**+4.0**
	0.1nm,0.3s,baz=116,slow=10,S

ellipse: s-maj=37.5km s-min=10.9km az=57.0

ISC 28 13:06:56.6±0.8, 7.8N±0.1×94.2E±0.2, h30km, n15, σ0°72/15, mb3.9/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.52	23	Pn	P	13 09 42.6	+0.4
	0.3nm,0.3s,baz=211,slow=15,SNR=12						
HYB	Hyderabad	17.98	303	*i* P	P	13 11 13.0	+6.7
LSA	Lhasa	21.94	353	P	P	13 11 49.4	-0.2
	8.8nm,0.8s,mb4.2						
SONM	Songino Array	41.18	12	P	P	13 14 40.2	+0.1
	1.3nm,0.9s,mb3.5,baz=190,slow=7.5,SNR=7.7						
ZAL	Zalesovo	46.59	352	P	P	13 15 23.6	0.0
	2.0nm,0.6s,mb4.2,baz=291,slow=7.7,SNR=16						
WRA	Warramunga Arr	48.19	126	P	P	13 15 37.0	+0.4
	0.4nm,0.5s,mb3.7,baz=304,slow=8.6,SNR=11						
WRAB	Tennant Creek	48.19	126	*eP*	P	13 15 36.5	-0.1
	2.1nm,0.7s,mb4.3						
BVAR	Borovoye Array	49.04	341	P	P	13 15 42.8	0.0
	0.6nm,0.8s,mb3.7,baz=104,slow=6.1,SNR=4.4						
CHKZ	Chkalovo	49.53	342	*eP*	P	13 15 44.8	-1.7
	3.0nm,0.8s,mb4.4						
ASAR	Alice Springs	49.84	130	P	P	13 15 48.9	-0.4
	0.6nm,0.9s,mb3.6,baz=309,slow=8.3,SNR=4.0						
FINES	FINESS Array B	72.77	332	P	P	13 18 23.8	-0.1
	2.4nm,0.8s,mb4.2,baz=100,slow=12,SNR=4.1						
FINES	FINESS Array B	72.77	332	P	P	13 18 23.8	-0.1
GERES	GERESS Array B	77.90	318	P	P	13 18 55.0	+1.8
	0.4nm,0.6s,mb3.6,baz=45,slow=7.5,SNR=4.0						
NOA	NORSAR Array B	79.79	331	P	P	13 19 03.2	-0.2
	1.2nm,0.9s,mb3.8,baz=95,slow=5.0,SNR=3.5						
NOA	NORSAR Array B	79.79	331	P	P	13 19 03.2	-0.2

*BJI **28** 13:08:06.6, 7.48N×93.77E, h30km, mB4.4, mb4.5, Ms4.2, Msz3.8*

*IDC **28** 13:08:08.4±0.8, 8.09N×94.10E, mb4.3/14, mb1 4.4/15, mb1mx4.3/20, mbtmp4.2/15, ML3.7/1, MS3.7/5, Ms1 3.8/5, ms1mx3.5/23, Error ellipse: s-maj=28.9km s-min=18.8km az=47.0*

*NEIC **28** 13:08:13.0±0.5, 8.13N×94.17E, h30km, mb4.5/10, Error ellipse: s-maj=15.8km s-min=11.0km az=56.0*

ISC 28 13:08:07.9±0.6, 8.02N±0.09×94.20E±0.09, h10km, n50, σ1°16/47, mb4.5/29, MS3.9/4, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.35	23	Pn	P	13 10 56.0	+2.6
	0.2nm,0.3s,baz=213,slow=14,SNR=6.8						
CMAR				LR	LR	13 15 30.5	
	comp=Z,221nm,20.2s,baz=235,slow=39						
VIS	Vishakhapatnam	14.32	313	*eP*	P	13 11 37.0	+4.0
VIS				*e*		13 11 38.2	
	comp=Z,26nm,0.9s						
VIS				*eS*	S	13 14 00.8	-12
BWNR	Bhubaneshwar	14.66	327	*eP*	P	13 11 33.5	-3.9
BWNR				*e*		13 11 36.3	
	comp=Z,12nm,0.6s						
BWNR				*e*		13 15 45.5	
HYB	Hyderabad	17.88	303	*eP*	P	13 12 21.0	+2.4
HYB	Hyderabad	17.88	303	*i* P	P	13 12 21.0	+2.4
KMI	Kunming	18.86	25	⇑P	P	13 12 35.9	+5.3
	comp=Z,24nm,1.1s						
KMI				pP		13 12 43.6	
KMI				PP	PP	13 12 55.3	+8.4
KMI				S	S	13 16 12.0	+14
KMI				sS		13 16 27.3	
KMI				SS	SS	13 16 43.3	+20
JIRN	Jiri	20.95	340	*eP*	P	13 12 52.4	-1.2
	comp=Z,76nm,1.0s						
PKI	Pulchoki	21.15	338	*eP*	P	13 12 55.6	0.0
	comp=Z,41nm,0.6s,mb4.9						
DMN	Daman	21.30	337	*eP*	P	13 12 57.6	+0.5
	comp=Z,81nm,0.8s,mb5.1						
KKN	Kakani	21.40	338	*eP*	P	13 12 57.9	-0.2
KAD	Karad	21.58	297	*eP*	P	13 13 01.3	+1.3
KAD				*e*		13 13 05.8	
	comp=Z,12nm,0.5s						
LSA	Lhasa	21.76	353	*eP*	P	13 13 01.6	-0.1
	comp=Z,38nm,0.6s,mb5.0						
GKN	Gorkha	21.83	337	*eP*	P	13 13 02.5	0.0
	comp=Z,61nm,0.7s,mb5.2						
KOLN	Koldanda	22.05	334	*eP*	P	13 13 05.2	+0.5
	comp=Z,125nm,1.1s,mb5.3						
BHPL	Bhopal	22.10	315	*eP*	P	13 13 06.5	+1.3
BHPL				*e*		13 13 07.6	
	comp=Z,25nm,0.8s						
ENH	Enshi	26.36	31	*eP*	P	13 13 45.8	-0.5
	comp=Z,4.5nm,0.7s,mb4.1						
DDI	Dehra Dun	26.85	328	*e*	P	13 13 51.0	+0.3
WMQ	Urumqi	36.11	352	*eP*	P	13 15 13.5	+1.5
AAK	Ala-Archa	38.59	336	*eP*	P	13 15 32.3	-0.6
	comp=Z,5.1nm,1.0s,mb4.2						
SONM	Songino Array	41.01	13	P	P	13 15 53.6	+0.8
	comp=Z,2.4nm,0.8s,mb3.9,baz=194,slow=8.4,SNR=11						
SONM				PcP	PcP	13 17 53.7	+0.2
	comp=Z,1.0nm,0.6s,baz=200,slow=3.8,SNR=8.3						
KURK	Kurchatov	44.48	346	*eP*	P	13 16 21.2	+0.1
	comp=Z,23nm,1.3s,mb4.7						
ZAL	Zalesovo	46.41	352	P	P	13 16 37.1	+0.7
	comp=Z,3.7nm,0.5s,mb4.6,baz=293,slow=7.6,SNR=14						
WRA	Warramunga Arr	48.30	126	P	P	13 16 51.2	-0.5
	comp=Z,1.0nm,0.7s,mb4.0,baz=304,slow=8.5,SNR=6.4						
BVAR	Borovoye Array	48.87	341	P	P	13 16 55.1	-0.6
	comp=Z,3.6nm,0.9s,mb4.4,baz=129,slow=9.5,SNR=11						
BVAR				PcP	PcP	13 18 20.8	+0.2
	comp=Z,1.2nm,0.6s,baz=162,slow=4.7,SNR=4.9						
RAYN	Ar Rayn	49.08	294	P	P	13 16 59.6	+1.9
	comp=Z,66nm,0.7s,mb5.8,SNR=9.6						
CHKZ	Chkalovo	49.35	342	*eP*	P	13 16 58.3	-1.1
	comp=Z,9.5nm,0.8s,mb4.9						
ASAR	Alice Springs	49.96	130	P	P	13 17 06.2	+1.7
	comp=Z,1.1nm,0.9s,mb3.9,baz=305,slow=7.3,SNR=4.9						
ASAR				LR	LR	13 38 02.5	
	comp=Z,80nm,20.6s,MS3.7,baz=299,slow=36						
GNI	Garni	54.38	314	LR	LR	13 45 52.6	
	comp=Z,69nm,19.5s,MS3.7,baz=265,slow=42						
KMBO	Kilima Mbogo	57.50	264	P	P	13 18 01.1	+0.9
	comp=Z,2.3nm,0.6s,mb4.4,baz=57,slow=13,SNR=8.2						
ASF	Jabal al Asfar	58.19	303	P	P	13 18 03.7	-1.0
	comp=Z,2.3nm,0.8s,mb4.3,baz=236,slow=6.3,SNR=4.2						
ASF				LR	LR	13 41 53.1	
	comp=Z,83nm,20.6s,MS3.8,baz=135,slow=35						
STKA	Stephens Creek	60.16	134	LR	LR	13 44 46.2	
	comp=Z,138nm,19.0s,MS4.1,baz=24,slow=36						
BRTR	Keskin Array B	62.38	311	P	P	13 18 31.4	-2.0
	comp=Z,2.2nm,0.6s,mb4.4,baz=124,slow=7.9,SNR=10						
AKASG	Malin Array Be	68.08	322	P	P	13 19 07.5	-2.4
	comp=Z,4.4nm,0.8s,mb4.6,baz=88,slow=5.2,SNR=4.4						
JOF	Joensuu	70.74	334	*ep*	P	13 19 22.6	-3.5
	comp=Z,0.6nm,0.5s,mb3.8						
FINES	FINESS Array B	72.61	332	P	P	13 19 36.8	-0.5
	comp=Z,4.5nm,0.7s,mb4.5,baz=101,slow=9.7,SNR=11						
KAF	Kangasniemi	72.69	333	*ep*	P	13 19 35.7	-2.0
	comp=Z,0.7nm,0.4s,mb3.9						
KEV	Kevo	74.72	341	*ep*	P	13 19 47.4	-2.0
	comp=Z,0.8nm,0.5s,mb3.9						
ARCES	ARCESS Array B	75.15	340	P	P	13 19 51.1	-0.7
	comp=Z,3.6nm,0.6s,mb4.5,baz=90,slow=4.9,SNR=14						
BRG	Berggiesshubel	77.68	320	*i* P	P	13 20 06.9	+0.5
	comp=Z,3.7nm,0.8s,mb4.4						
GERES	GERESS Array B	77.76	318	P	P	13 20 07.2	+0.4
	comp=Z,3.5nm,0.6s,mb4.5,baz=85,slow=5.7,SNR=23						
KHC	Kasperske Hory	77.85	318	*eP*	P	13 20 07.0	-0.4
NB2	NORSAR Subarra	79.63	331	P	P	13 20 16.0	-0.9
	comp=Z,2.5nm,0.6s,mb4.3,baz=97,slow=5.0						
NOA	NORSAR Array B	79.63	331	P	P	13 20 16.4	-0.4
	comp=Z,3.5nm,0.7s,mb4.4,baz=93,slow=5.5,SNR=10						
NOA	NORSAR Array B	79.63	331	P	P	13 20 16.4	-0.4
LPG	La Plagne	82.56	315	*eP*	P	13 20 33.1	+0.5
	comp=Z,14nm,0.8s,mb4.7						
IMA	Indian Mountai	91.47	22	*eP*	P	13 21 14.8	-0.6
ILAR	Eielson Array	94.59	22	P	P	13 21 30.6	+0.7
	comp=Z,0.5nm,1.0s,mb3.9,baz=220,slow=9.3,SNR=4.1						
PDAR	Pinedale Array	125.01	21	PKP	PKPdf	13 27 10.8	-1.2
	comp=Z,0.9nm,0.7s,baz=93,slow=0.7,SNR=8.4						
TXAR	Lajitas Array	139.07	24	PKP	PKPdf	13 27 38.8	+0.1
	comp=Z,0.3nm,0.7s,baz=103,slow=0.7,SNR=5.7						
PLCA	Paso Flores	144.71	200	PKP	PKPdf	13 27 48.0	-0.4
	comp=Z,2.1nm,0.8s,baz=128,slow=4.6,SNR=3.7						

MAN 28 13:16:51.8, 14.74N×121.70E, h3km, mb3.8, ML2.6, MS2.1, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	Polilio Island	0.23	92	*eP*	Pg	13 16 56.2	-0.2
POLP				*eS*	Sg	13 16 59.3	-0.1
LQP	Lukban	0.64	194	⇑*iP*	Pg	13 17 04.7	0.0
BALP	Baler	1.01	353	*eP*	Pb	13 17 12.0	+0.5
BALP				*eS*	Sb	13 17 27.9	+2.9
PCPH	Palayan	1.01	325	⇑*eP*	Pb	13 17 11.7	+0.1
PCPH				*i* S	Sb	13 17 26.8	+1.7
BOAC	Boac	1.28	174	*eP*	Pb	13 17 16.0	-0.2
BOAC				*eS*	Sb	13 17 33.9	+1.1
PVCP	Virac	2.63	115	*eP*	Pn	13 17 36.2	+0.3

IDC 28 13:20:55.4±14.0, 18.10S×178.78W, h677km±214km, mb2.8/3, mb1 3.1/3, mb1mx2.8/14, mbtmp3.8/3, Error ellipse: s-maj=236.4km s-min=55.5km az=171.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.25	260	P	P	13 28 08.6	-1.9
	0.5nm,0.5s,baz=96,slow=7.7,SNR=21						
ASAR	Alice Springs	44.40	254	P	P	13 28 10.1	-1.5
	2.5nm,0.6s,baz=87,slow=8.7,SNR=42						
TXAR	Lajitas Array	86.39	58	P	P	13 32 29.0	-1.2
	0.3nm,0.7s,baz=214,slow=4.5,SNR=4.8						
GERES	GERESS Array B	147.70	345	PKPbc	PKPdf	13 39 26.1	+3.9
	0.2nm,0.3s,baz=326,slow=4.8,SNR=4.1						

IDC 28 13:22:16.5±1.8, 7.69N×94.25E, mb3.7/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, ML4.2/1, Error ellipse: s-maj=59.3km s-min=27.6km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.64	23	Pn	P	13 25 05.8	-1.2
	0.5nm,0.3s,baz=210,slow=15,SNR=20						
SONM	Songino Array	41.32	12	P	P	13 30 04.0	-1.5
	0.6nm,0.7s,baz=198,slow=7.8,SNR=4.9						
ZAL	Zalesovo	46.74	352	P	P	13 30 46.5	-2.7
	1.3nm,0.8s,baz=302,slow=6.9,SNR=8.3						
WRA	Warramunga Arr	48.07	125	P	P	13 30 58.1	-2.0
	0.4nm,0.7s,baz=305,slow=8.4,SNR=6.0						
BVAR	Borovoye Array	49.19	341	P	P	13 31 05.3	-3.0
	0.2nm,0.2s,baz=162,slow=4.6,SNR=3.6						
FINES	FINESS Array B	72.92	332	P	P	13 33 48.7	-0.6
	3.5nm,1.1s,baz=90,slow=9.5,SNR=3.4						

*IDC **28** 13:27:40.5±0.7, 8.02N×94.18E, mb4.1/14, mb1 4.3/15, mb1mx4.2/19, mbtmp4.1/15, ML4.4/1, MS3.8/1, Ms1 3.8/1, ms1mx3.0/27, Error ellipse: s-maj=32.4km s-min=16.9km az=52.0*

*BJI **28** 13:27:44.6, 8.10N×94.10E, h30km, mB5.3, mb4.4, Ms4.3, Msz4.1*

*NEIC **28** 13:27:44.6±0.6, 8.05N×94.13E, h30km, mb4.6/9, Error ellipse: s-maj=17.1km s-min=13.0km az=60.0*

ISC 28 13:27:43.2±0.5, 8.04N±0.07×94.11E±0.09, h33km, n45, σ1°16/40, mb4.4/27, MS3.7/1, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.37	24	Pn	P	13 30 28.8	+2.2
	0.8nm,0.3s,baz=210,slow=14,SNR=28						
SHL	Shillong	17.56	353	⇑*iP*	P	13 31 46.0	-1.2
HYB	Hyderabad	17.79	303	*eP*	P	13 31 50.0	-0.1
HYB	Hyderabad	17.79	303	*i* P	P	13 31 50.0	-0.1
JIRN	Jiri	20.91	340	*eP*	P	13 32 25.5	+0.1
	64nm,0.9s						
PKI	Pulchoki	21.10	338	*eP*	P	13 32 28.0	+0.7
	87nm,1.1s,mb5.0						
DMN	Daman	21.25	337	*eP*	P	13 32 30.1	+1.3
	72nm,0.9s,mb5.0						
KKN	Kakani	21.35	338	*eP*	P	13 32 29.4	-0.4
	96nm,1.1s,mb5.0						
LSA	Lhasa	21.73	353	P	P	13 32 37.0	+3.4
LSA				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
LSA	Lhasa	21.73	353	*eP*	P	13 32 33.4	-0.2
	comp=Z,18nm,0.7s,mb4.6						
GKN	Gorkha	21.78	337	*eP*	P	13 32 33.7	-0.5
	comp=Z,77nm,0.9s,mb5.1						
KOLN	Koldanda	22.00	334	*eP*	P	13 32 36.9	+0.6
	comp=Z,43nm,0.8s,mb4.9						
NDI	New Delhi	25.98	324	*e*	P	13 33 14.0	-1.0
ENH	Enshi	26.40	31	*eP*	P	13 33 18.8	0.0
	comp=Z,7.6nm,0.8s,mb4.3						
DDI	Dehra Dun	26.79	328	*e*	P	13 33 24.0	+1.6
JOW	Kunigami	37.39	56	LR	LR	13 48 56.4	
	comp=Z,143nm,21.6s,MS3.7,baz=296,slow=34						
SONM	Songino Array	41.01	13	P	P	13 35 25.3	+0.4
	comp=Z,2.0nm,0.8s,mb3.8,baz=197,slow=8.3,SNR=15						
KURK	Kurchatov	44.44	346	*eP*	P	13 35 51.9	-0.9
	comp=Z,11nm,1.1s,mb4.5						
NWAO	Narrogin (SRO)	46.31	153	P	P	13 36 10.8	+2.8
	comp=Z,18nm,1.1s,mb4.9,baz=306,slow=7.8,SNR=4.1						
NWAO	Narrogin (SRO)	46.31	153	P	P	13 36 10.8	+2.8
ZAL	Zalesovo	46.38	352	P	P	13 36 08.7	+0.4
	comp=Z,4.4nm,0.4s,mb4.7,baz=296,slow=7.2,SNR=20						
HIA	Hailar	46.38	23	*eP*	P	13 36 07.5	-0.8
	comp=Z,6.9nm,1.0s,mb4.5						
WRA	Warramunga Arr	48.38	126	P	P	13 36 23.6	-0.8
	comp=Z,0.8nm,0.4s,mb4.1,baz=304,slow=8.7,SNR=11						
BVAR	Borovoye Array	48.82	341	P	P	13 36 25.8	-1.5
	comp=Z,1.4nm,0.8s,mb4.1,baz=127,slow=7.4,SNR=7.0						
CHKZ	Chkalovo	49.31	342	*eP*	P	13 36 29.7	-1.3
	comp=Z,6.1nm,0.8s,mb4.7						
ASAR	Alice Springs	50.04	130	P	P	13 36 36.5	-0.6
	comp=Z,1.6nm,0.8s,mb4.1,baz=305,slow=7.5,SNR=7.4						
ASAR				PcP	PcP	13 37 59.8	+3.0
	comp=Z,1.2nm,0.7s,baz=306,slow=3.5,SNR=5.0						
KMBO	Kilima Mbogo	57.41	264	P	P	13 37 32.7	+1.2
	comp=Z,4.0nm,1.1s,mb4.4,baz=57,slow=22,SNR=5.2						
KMBO	Kilima Mbogo	57.41	264	P	P	13 37 32.7	+1.2
STKA	Stephens Creek	60.24	134	P	P	13 37 51.0	+0.1
	comp=Z,2.0nm,0.9s,mb4.1,baz=322,slow=12,SNR=3.0						
BRTR	Keskin Array B	62.30	311	P	P	13 38 05.5	+0.9
	comp=Z,0.7nm,0.5s,mb4.1,baz=141,slow=8.3,SNR=4.4						
AKASG	Malin Array Be	68.01	322	P	P	13 38 41.2	0.0
	comp=Z,0.4nm,0.5s,mb3.7,baz=88,slow=4.9,SNR=4.7						
LSZ	Lusaka	69.29	250	P	P	13 38 50.2	+0.5
JOF	Joensuu	70.69	334	*ep*	P	13 38 56.1	-1.4
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	FINESS Array B	72.55	332	P	P	13 39 11.2	+2.6
	comp=Z,2.7nm,0.7s,mb4.3,baz=124,slow=6.9,SNR=5.8						
KAF	Kangasniemi	72.63	333	*ep*	P	13 39 08.9	-0.2
	comp=Z,4.0nm,0.8s,mb4.4						
LBTB	Lobatse	74.29	241	*eP*	P	13 39 18.5	-1.0
KEV	Kevo	74.67	341	*ep*	P	13 39 17.7	-3.1
	comp=Z,5.8nm,0.9s,mb4.5						
ARCES	ARCESS Array B	75.10	340	P	P	13 39 26.2	+2.9
	comp=Z,2.7nm,0.8s,mb4.2,baz=90,slow=4.9,SNR=5.4						
GERES	GERESS Array B	77.68	318	P	P	13 39 38.0	-0.3
	comp=Z,0.5nm,0.5s,mb3.7,baz=101,slow=6.8,SNR=5.2						
NB2	NORSAR Subarra	79.57	331	P	P	13 39 46.6	-1.8
	comp=Z,2.9nm,0.8s,mb4.3,baz=92,slow=5.6						
NOA	NORSAR Array B	79.57	331	P	P	13 39 46.9	-1.6
	comp=Z,1.1nm,0.7s,mb3.9,baz=98,slow=5.6,SNR=3.8						
LPG	La Plagne	82.48	315	*eP*	PcP	13 40 10.5	+1.0
	comp=Z,12nm,0.8s						
YKA	Yellowknife Ar	106.27	13	PP	PP	13 46 15.8	-5.4
	comp=Z,0.1nm,0.4s,baz=73,slow=26,SNR=4.2						
PDAR	Pinedale Array	125.03	21	PKP	PKPdf	13 46 45.0	+4.3
	comp=Z,0.5nm,0.7s,SNR=5.0						
PLCA	Paso Flores	144.69	200	PKP	PKPdf	13 47 17.6	+0.6
	comp=Z,4.5nm,0.8s,baz=203,slow=5.2,SNR=8.1						

IDC 28 13:32:49.8±1.9, 12.39N×92.89E, mb3.6/5, mb1 3.7/6, mb1mx3.6/19, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=61.2km s-min=22.7km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.39	43	Pn	P	13 34 52.5	-3.0
	0.1nm,0.3s,baz=242,slow=15,SNR=3.6						
POO	Poona	19.33	291	*eP*	P	13 37 23.0	+3.6
SONM	Songino Array	37.10	15	P	P	13 40 01.4	-2.2
	3.6nm,1.4s,baz=211,slow=8.4,SNR=4.4						
ZAL	Zalesovo	41.94	353	P	P	13 40 41.6	-2.1
	0.8nm,0.4s,baz=346,slow=12,SNR=3.1						
BVAR	Borovoye Array	44.34	341	P	P	13 41 02.1	-1.2
	0.7nm,1.0s,baz=135,slow=8.2,SNR=2.6						
WRA	Warramunga Arr	51.93	128	P	P	13 42 01.2	-1.6
	0.4nm,0.5s,baz=301,slow=9.9,SNR=7.9						
ASAR	Alice Springs	53.79	132	P	P	13 42 14.2	-2.5
	0.3nm,0.5s,baz=311,slow=7.0,SNR=7.7						

*IDC **28** 13:40:52.1±1.9, 8.10N×93.54E, mb3.8/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, ML3.8/1, Error ellipse: s-maj=81.0km s-min=22.7km az=59.0*

*NEIC **28** 13:40:55.8±0.9, 7.90N×93.27E, h30km, mb4.3/2, Error ellipse: s-maj=28.2km s-min=14.4km az=66.0*

ISC 28 13:40:54.2±1.1, 7.9N±0.1×93.4E±0.2, h30km, n11, σ0°78/11, mb3.8/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.78	27	Pn	P	13 43 43.8	+0.4
	0.2nm,0.3s,baz=217,slow=14,SNR=11						
LSA	Lhasa	21.74	355	*eP*	P	13 45 45.5	+0.3
	9.0nm,0.8s,mb4.2						
SONM	Songino Array	41.27	13	P	P	13 48 36.8	-1.6
	1.0nm,0.8s,mb3.5,baz=198,slow=7.8,SNR=8.4						
KURK	Kurchatov	44.36	347	*eP*	P	13 49 03.7	+0.1
	5.1nm,1.1s,mb4.2						
ZAL	Zalesovo	46.38	353	P	P	13 49 19.7	+0.1
	3.2nm,1.0s,mb4.2,baz=290,slow=8.8,SNR=14						
ZAL	Zalesovo	46.38	353	P	P	13 49 19.7	+0.1
BVAR	Borovoye Array	48.68	342	P	P	13 49 38.1	+0.5
	1.4nm,1.0s,mb4.0,baz=135,slow=6.1,SNR=5.2						
WRA	Warramunga Arr	48.93	125	P	P	13 49 41.3	+1.4
	0.5nm,0.7s,mb3.7,baz=304,slow=9.0,SNR=4.6						
CHKZ	Chkalovo	49.17	342	*eP*	P	13 49 41.4	0.0
ASAR	Alice Springs	50.55	129	P	P	13 49 51.2	-1.1
	0.2nm,0.5s,mb3.3,baz=302,slow=6.7,SNR=4.3						
NOA	NORSAR Array B	79.29	331	P	P	13 52 58.1	-0.1
	0.8nm,0.9s,mb3.6,baz=91,slow=5.9,SNR=3.6						

IGQ 28 13:42:41.1, 1.15S×81.34W, h7km±4km, mb4.3, 4C-3D, Error ellipse: s-maj=6.8km s-min=4.3km az=7.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.80	83	⇑P	Pb	13 42 55.9	-1.0
JAMA	Jama	1.44	52	P	Pn	13 43 07.8	+0.2
JAMA				S	Sb	13 43 26.9	+0.7
MAGD	Magdalena	1.90	56	P	Pn	13 43 16.0	+1.8
IGUA	Igualata	2.72	97	P	Pn	13 43 27.2	+1.2
CUSU	Cusua	2.88	96	P	Pn	13 43 30.8	+2.6
JUA2	San Juan 2	2.89	71	P	Pn	13 43 29.8	+1.4
JUIV	Juive	2.89	95	P	Pn	13 43 29.8	+1.4
TERV	Terraza Guagua	2.90	71	⇓P	Pn	13 43 29.7	+1.1
PINO	Pino	2.91	70	⇑P	Pn	13 43 29.6	+0.9
ARRY	Arrayan	2.91	97	⇑P	Pn	13 43 29.7	+1.0
ARRY				S	Sn	13 44 04.7	+0.5
NAS1	Nasa	2.91	80	P	Pn	13 43 30.3	+1.7
RETU	Refugio	2.91	96	P	Pn	13 43 31.1	+2.4
ULBA	Ulba	2.95	96	P	Pn	13 43 30.8	+1.6
YANA	Yana	2.95	70	P	Pn	13 43 29.9	+0.6
PISA	Pisayambo	2.96	88	P	Pn	13 43 31.1	+1.8
VC1	Cotopaxi 1	2.98	80	⇑P	Pn	13 43 32.6	+2.9
TAMB	Tambo	3.01	81	P	Pn	13 43 31.8	+1.8
COTA	Cotacachi	3.35	64	P	Pn	13 43 35.9	+1.0
CAYR	Refugio Cayamb	3.53	71	⇓P	Pn	13 43 40.6	+3.1
CAYA	Cayambe	3.56	70	⇓P	Pn	13 43 40.7	+2.8
CONE	Cono NE Rev Vo	3.85	74	P	Pn	13 43 51.6	+10

IDC 28 13:44:50.5±7.4, 7.43N×94.44E, mb3.7/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=176.3km s-min=55.7km az=140.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.80	21	Pn	P	13 47 42.0	-1.2
	baz=212,slow=14,SNR=6.8						
SONM	Songino Array	41.53	12	P	P	13 52 39.0	-2.2
	0.8nm,1.0s,baz=206,slow=7.3,SNR=4.2						
ZAL	Zalesovo	47.02	352	P	P	13 53 23.0	-2.4
	0.6nm,0.4s,baz=318,slow=11,SNR=5.9						
GERES	GERESS Array B	78.35	318	P	P	13 56 53.6	-0.8
	2.2nm,1.1s,baz=108,slow=3.1,SNR=3.7						

*IDC **28** 13:45:29.4±1.1, 8.13N×93.67E, mb4.1/9, mb1 4.3/10, mb1mx4.1/19, mbtmp4.1/10, ML4.0/1, Error ellipse: s-maj=46.5km s-min=26.0km az=53.0*

*NEIC **28** 13:45:34.2±0.5, 8.24N×93.85E, h30km, mb4.5/7, Error ellipse: s-ma

HYB Hyderabad 17.78 304 *i* P **P 13 51 53.0 +1.0**
HYB *e*S **S 13 55 15.0 +7.9**
KMI Kunming 19.02 25 P **P 13 52 09.2 +2.0**
10.0nm,0.9s
KMI pP 13 52 15.3
KMI sP 13 52 17.9
KMI PP PP 13 52 25.6 +1.8
KMI S **S 13 55 33.4 -1.9**
KMI sS 13 55 47.6
KMI SS SS 13 55 54.6 -6.3
JIRN Jiri 20.98 340 *e*P **P 13 52 30.1 +1.8**
82nm,0.9s
PKI Pulchoki 21.17 338 *e*P **P 13 52 31.9 +1.6**
70nm,0.9s,mb5.0
DMN Daman 21.32 338 *e*P **P 13 52 33.7 +1.9**
128nm,0.9s,mb5.3
KKN Kakani 21.42 338 *e*P **P 13 52 34.2 +1.4**
95nm,1.0s,mb5.1
LSA Lhasa 21.83 353 P **P 13 52 38.5 +1.6**
LSA AMB AMB
comp=Z,20nm,0.8s,mb4.6
LSA Lhasa 21.83 353 *e*P **P 13 52 37.9 +1.1**
comp=Z,23nm,0.8s,mb4.7
LSA *e*pP 13 52 45.6
GKN Gorkha 21.85 337 *e*P **P 13 52 36.5 -0.6**
comp=Z,70nm,0.8s,mb5.2
KOLN Koldanda 22.06 335 *e*P **P 13 52 38.9 -0.3**
comp=Z,43nm,0.7s,mb5.0
NDI New Delhi 26.02 325 *e* **P 13 53 19.0 +1.5**
LZH Lanzhou 29.44 16 *e*P **P 13 53 52.5 +4.1**
LZH AP pP 13 54 02.0 +7.5
LZH XP sP 13 54 05.5 +8.4
LZH AMB AMB
comp=Z,14nm,1.5s,mb4.5
LZH Lanzhou 29.44 16 *e*P **P 13 53 52.5 +4.1**
comp=Z,14nm,1.5s,mb4.5
LZH pP pP 13 54 02.1 +7.6
LZH sP sP 13 54 05.4 +8.3
WMQ Urumqi 36.18 352 *e*P **P 13 54 49.3 +2.3**
WMQ AP pP 13 54 55.0 +1.9
WMQ XP sP 13 54 58.0 +2.3
WMQ PCP PcP 13 57 13.5 +0.9
WMQ S **S 14 00 29.0 +3.8**
WMQ AMB AMB
comp=Z,39nm,1.5s,mb5.1
WMQ AMB AMB
comp=Z,183nm,5.6s
WMQ LR LR
comp=N,381nm,18.3s,MS4.4
WMQ LR LR
comp=E,535nm,18.4s,MS4.4
WMQ LR LR
comp=Z,703nm,18.7s,MS4.5
BJT Baijiatuau 37.60 28 *e*P **P 13 55 01.3 +2.4**
comp=Z,6.8nm,0.6s,mb4.5
AAK Ala-Archa 38.61 337 *e*P **P 13 55 09.5 +2.1**
comp=Z,8.4nm,0.9s,mb4.5
SONM Songino Array 41.14 13 P **P 13 55 28.8 +0.5**
comp=Z,2.1nm,1.0s,mb3.7,baz=202,slow=7.4,SNR=5.1
SONM pP pP 13 55 35.0 +0.6
comp=Z,2.4nm,0.8s,baz=196,slow=9.0,SNR=6.9
SNY Shenyang 42.70 33 ⇑P **P 13 55 47.5 +6.4**
SNY AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
KURK Kurchatov 44.53 346 *e*P **P 13 55 54.6 -1.3**
comp=Z,9.4nm,1.0s,mb4.6
NWAO Narrogin (SRO) 46.25 153 P **P 13 56 10.8 +1.1**
comp=Z,13nm,0.8s,mb4.9,baz=331,slow=9.2,SNR=7.0
NWAO pP pP 13 56 17.1 +1.1
comp=Z,13nm,0.8s,baz=332,slow=10,SNR=5.4
ZAL Zalesovo 46.48 352 P **P 13 56 11.1 -0.2**
comp=Z,4.6nm,0.6s,mb4.6,baz=301,slow=5.1,SNR=10
ZAL Zalesovo 46.48 352 P **P 13 56 11.1 -0.2**
WRA Warramunga Arr 48.39 125 P **P 13 56 26.0 -0.8**
comp=Z,3.2nm,0.9s,mb4.4,baz=304,slow=9.2,SNR=9.2
WRA pP pP 13 56 31.3 -1.6
comp=Z,4.7nm,0.8s,baz=305,slow=8.6,SNR=15
WRAB Tennant Creek 48.39 125 *e*P **P 13 56 26.5 -0.3**
comp=Z,9.2nm,0.8s,mb4.9
WB2 Warramunga Arr 48.40 125 *e*P **P 13 56 27.0 +0.2**
BVAR Borovoye Array 48.90 341 P **P 13 56 29.0 -1.2**
comp=Z,1.7nm,0.6s,mb4.3,baz=135,slow=10,SNR=6.6
BVAR pP pP 13 56 34.7 -1.8
comp=Z,1.7nm,0.6s,baz=146,slow=7.6,SNR=8.0
BRVK Borovoye 48.97 341 *e*P **P 13 56 28.7 -2.0**
comp=Z,5.5nm,1.0s,mb4.5
BRVK *e*pP pP 13 56 36.4 -0.6
CHKZ Chkalovo 49.39 342 *e*P **P 13 56 32.6 -1.4**
comp=Z,12nm,0.8s,mb5.0
CHKZ *e*pP pP 13 56 39.4 -0.9
ASAR Alice Springs 50.04 130 P **P 13 56 38.1 -1.2**
comp=Z,2.0nm,0.8s,mb4.2,baz=310,slow=7.3,SNR=7.9
ASAR pP pP 13 56 44.0 -1.7
comp=Z,4.4nm,0.8s,baz=307,slow=7.0,SNR=13
GNI Garni 54.31 314 *e*P **P 13 57 11.7 +0.6**
comp=Z,6.3nm,0.8s,mb4.6
GNI pP pP 13 57 17.5 +0.1
PMG Port Moresby 55.66 107 P **P 13 57 24.5 +3.1**
comp=Z,11nm,0.7s,mb5.0,baz=311,slow=4.9,SNR=4.8
PMG pP pP 13 57 32.1 +4.5
comp=Z,7.1nm,0.7s,baz=308,slow=4.4,SNR=3.3
PMG Port Moresby 55.66 107 P **P 13 57 24.5 +3.1**
PMG pP pP 13 57 32.1 +4.5
KMBO Kilima Mbogo 57.30 264 P **P 13 57 36.4 +3.2**
comp=Z,3.9nm,0.8s,mb4.5,baz=54,slow=11,SNR=7.8
KMBO pP pP 13 57 43.9 +4.4
comp=Z,3.4nm,0.8s,baz=55,slow=9.9,SNR=5.9
KMBO Kilima Mbogo 57.30 264 P **P 13 57 30.4 -2.8**
comp=Z,3.7nm,0.8s,mb4.5
KMBO *e*pP pP 13 57 36.1 -3.4
MALT Malatya 58.34 310 *e*P **P 13 57 38.5 -1.5**
comp=Z,1.9nm,0.8s,mb4.2
STKA Stephens Creek 60.23 134 *e*P **P 13 57 53.7 +0.5**
comp=Z,3.9nm,0.9s,mb4.4
STKA Stephens Creek 60.23 134 P **P 13 57 54.0 +0.8**
comp=Z,5.4nm,0.9s,mb4.6,baz=278,slow=5.8,SNR=3.8
STKA pP pP 13 57 58.1 -1.5
comp=Z,5.5nm,0.9s,baz=262,slow=2.5,SNR=7.3
BRTR Keskin Array B 62.30 311 P **P 13 58 05.2 -1.9**
comp=Z,2.0nm,0.8s,mb4.3,baz=114,slow=6.9,SNR=6.6
BRTR pP pP 13 58 11.2 -2.3
comp=Z,3.0nm,0.7s,baz=123,slow=7.5,SNR=8.4
AKASG Malin Array Be 68.04 322 P **P 13 58 41.7 -2.3**
comp=Z,0.5nm,0.3s,mb4.0,baz=91,slow=4.6,SNR=5.0
AKASG pP pP 13 58 48.8 -1.6
comp=Z,1.7nm,0.5s,baz=87,slow=4.6,SNR=5.7
IDI Anoyia 68.44 305 P **P 13 58 44.6 -2.2**
comp=Z,5.0nm,0.8s,mb4.6,baz=176,slow=1.1,SNR=3.7
JOF Joensuu 70.75 334 *e*p **P 13 58 59.3 -1.1**
comp=Z,0.5nm,0.4s,mb3.8
FINES FINESS Array B 72.61 332 P **P 13 59 11.7 +0.2**
comp=Z,5.9nm,1.1s,mb4.5,baz=108,slow=6.0,SNR=5.2
FINES pP pP 13 59 16.8 -1.1
comp=Z,4.4nm,0.8s,baz=100,slow=12,SNR=5.0
KAF Kangasniemi 72.69 333 *e*p **P 13 59 10.3 -1.7**
comp=Z,0.5nm,0.4s,mb3.8
PSZ Piszkesteto 73.52 318 P **P 13 59 16.1 -1.0**
comp=Z,3.8nm,0.8s,mb4.4
PSZ *e*pP pP 13 59 23.2 -0.4
KEV Kevo 74.75 341 *e*p **P 13 59 20.9 -2.9**
comp=Z,0.4nm,0.4s,mb3.7
ARCES ARCESS Array B 75.18 340 P **P 13 59 26.1 -0.2**
comp=Z,4.5nm,0.8s,mb4.5,baz=80,slow=7.4,SNR=6.3
ARCES pP pP 13 59 32.3 -0.4
comp=Z,4.4nm,0.8s,baz=90,slow=4.9,SNR=3.9
MORC Moravsky Berou 75.26 319 *e*P **P 13 59 26.6 -0.5**
comp=Z,6.9nm,0.9s,mb4.6
MORC *e*pP pP 13 59 33.8 +0.3
BRG Berggiesshubel 77.64 320 P **P 13 59 44.1 +3.7**
comp=Z,5.6nm,1.1s,mb4.4
GERES GERESS Array B 77.71 318 P **P 13 59 40.8 0.0**
comp=Z,2.2nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=10
GERES pP pP 13 59 47.9 +0.6
comp=Z,4.8nm,0.8s,baz=90,slow=5.3,SNR=12
KHC Kasperske Hory 77.80 318 *e*P **P 13 59 41.0 -0.3**
KHC *e* pP 13 59 47.0 -0.8
KHC Kasperske Hory 77.80 318 *e*P **P 13 59 41.0 -0.3**
KHC pP pP 13 59 47.0 -0.8
CLL Collm 78.25 321 *e*P **P 13 59 47.0 +3.3**
CLL Collm 78.25 321 P **P 13 59 47.0 +3.3**
HFS Hagfors 78.35 330 P **P 13 59 43.3 -0.8**
comp=Z,1.4nm,0.5s,mb4.2,baz=153,slow=6.4,SNR=2.5
HFS pP pP 13 59 49.6 -1.0
comp=Z,5.3nm,0.6s,baz=108,slow=4.7,SNR=5.9
MAW Mawson 78.56 192 P **P 13 59 46.2 +1.1**
comp=Z,2.4nm,0.8s,mb4.2,baz=76,slow=8.3,SNR=3.2
MAW pP pP 13 59 52.2 +0.6
comp=Z,3.9nm,0.8s,baz=255,slow=17,SNR=3.7
MOX Moxa 79.11 320 *e*P **P 13 59 54.0 +5.6**
NB2 NORSAR Subarra 79.63 331 P **P 13 59 50.3 -0.8**
comp=Z,7.4nm,0.9s,mb4.6,baz=91,slow=5.8
NOA NORSAR Array B 79.63 331 P **P 13 59 50.6 -0.5**
comp=Z,1.6nm,0.8s,mb4.0,baz=96,slow=5.5,SNR=3.6
NOA pP pP 13 59 57.1 -0.5
comp=Z,5.0nm,0.8s,baz=92,slow=5.7,SNR=13
LPG La Plagne 82.50 315 *e*P **P 14 00 06.6 +0.1**
comp=Z,21nm,0.8s,mb4.8
EKA Eskdalemuir Ar 87.61 325 P **P 14 00 32.6 +0.9**
comp=Z,2.3nm,0.8s,mb4.5,baz=63,slow=4.8,SNR=3.0
EKA pP pP 14 00 38.5 +0.2
comp=Z,3.1nm,0.8s,baz=98,slow=5.3,SNR=3.7
ESDC Sonseca Array 91.09 310 pP pP 14 00 54.9 -0.2
comp=Z,0.9nm,0.6s,baz=59,slow=4.9,SNR=3.3
PDAR Pinedale Array 125.17 21 PKP PKPdf 14 06 45.9 -1.7
comp=Z,0.7nm,0.7s,slow=1.5,SNR=5.1
PDAR pPKP 14 06 51.9
comp=Z,0.4nm,0.7s,baz=270,slow=1.5,SNR=3.6
PLCA Paso Flores 144.55 200 PKP PKPdf 14 07 20.8 -2.6
comp=Z,4.0nm,0.9s,baz=144,slow=6.4,SNR=4.8
PLCA pPKP 14 07 28.2
comp=Z,4.9nm,0.8s,baz=271,slow=4.9,SNR=6.1
PLCA Paso Flores 144.55 200 PKP PKPdf 14 07 20.8 -2.6
PLCA pPKP 14 07 28.2
LPAZ La Paz 160.68 243 PKP PKPdf 14 07 09.6 -37
comp=Z,1.1nm,0.9s,baz=263,slow=9.1,SNR=3.8

IGQ 28 13:47:43.6, 1.10S×81.38W, h2km±5km, mb4.2, 2D, Error ellipse: s-maj=11.9km s-min=5.0km az=4.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.83**	**87**	⇓P	Pg	13 47 59.5	-0.7
JAMA	**Jama**	**1.44**	**55**	P	Pn	13 48 12.0	+1.1
JAMA				S	Sb	13 48 28.7	-0.8
IGUA	**Igualata**	**2.76**	**98**	P	Pn	13 48 31.0	+1.2
IGUA				S	Sn	13 49 04.5	+0.2
JUA2	**San Juan 2**	**2.91**	**72**	P	Pn	13 48 33.5	+1.7
CUSU	**Cusua**	**2.91**	**97**	P	Pn	13 48 35.0	+3.0
TERV	**Terraza Guagua**	**2.92**	**72**	P	Pn	13 48 33.3	+1.2
PINO	**Pino**	**2.92**	**71**	P	Pn	13 48 32.7	+0.7
JUIV	**Juive**	**2.93**	**96**	P	Pn	13 48 35.1	+2.9
JUIV				S	Sn	13 49 11.2	+2.8
NAS1	**Nasa**	**2.94**	**81**	P	Pn	13 48 34.9	+2.7
ARRY	**Arrayan**	**2.95**	**98**	⇓P	Pn	13 48 33.5	+1.1
ARRY				S	Sn	13 49 08.0	-1.0
RETU	**Refugio**	**2.95**	**97**	P	Pn	13 48 34.8	+2.4
YANA	**Yana**	**2.97**	**71**	P	Pn	13 48 34.3	+1.5
YANA				S	Sn	13 49 08.1	-1.4
ULBA	**Ulba**	**2.99**	**97**	P	Pn	13 48 35.4	+2.4
PISA	**Pisayambo**	**2.99**	**89**	P	Pn	13 48 34.9	+1.9
VC1	**Cotopaxi 1**	**3.01**	**81**	P	Pn	13 48 36.2	+2.9
TAMB	**Tambo**	**3.03**	**82**	P	Pn	13 48 37.4	+3.8
ANTI	**Antisana**	**3.28**	**79**	P	Pn	13 48 39.5	+2.4
COTA	**Cotacachi**	**3.36**	**65**	P	Pn	13 48 39.8	+1.6
CAYR	**Refugio Cayamb**	**3.55**	**72**	P	Pn	13 48 44.0	+3.1
CAYR				S	Sn	13 49 26.5	+2.4
CAYA	**Cayambe**	**3.58**	**71**	P	Pn	13 48 44.1	+2.7

IDC 28 13:48:49.9±8.3, 1.54S×136.74E, mb3.8/2, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, ML4.1/1, Error ellipse: s-maj=121.4km s-min=87.4km az=162.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**18.44**	**187**	*e*P	P	13 53 06.2	-2.6
WRA	**Warramunga Arr**	**18.44**	**187**	P	P	13 53 07.6	-1.2
0.6nm,0.3s,baz=9.5,slow=12,SNR=38							
ASAR	**Alice Springs**	**22.17**	**187**	P	P	13 53 46.5	-2.7
2.2nm,0.6s,baz=20,slow=11,SNR=19							
ASPA	**Alice Springs**	**22.17**	**187**	*e*P	P	13 53 46.2	-3.1
STKA	**Stephens Creek**	**30.52**	**172**	P	P	13 55 05.5	-1.7
1.3nm,0.8s,baz=330,slow=8.1,SNR=2.5							

IDC 28 13:54:42.2±1.8, 3.43N×92.94E, mb3.5/3, mb1 3.7/4, mb1mx3.6/18, mbtmp3.5/4, MS4.0/2, Ms1 4.0/2, ms1mx3.4/12, Error ellipse: s-maj=59.3km s-min=30.7km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.05**	**21**	Pn	P	13 58 30.4	-0.6
baz=212,slow=14,SNR=4.3							
SONM	**Songino Array**	**45.73**	**13**	P	P	14 03 05.2	-1.7
0.2nm,0.5s,baz=200,slow=9.3,SNR=2.4							
WRA	**Warramunga Arr**	**46.82**	**121**	P	P	14 03 14.1	-1.9
0.5nm,0.5s,baz=302,slow=9.2,SNR=7.4							
GNI	**Garni**	**56.75**	**317**	LR	LR	14 31 54.9	
comp=Z,98nm,21.7s,baz=356,slow=39							
AKASG	**Malin Array Be**	**70.91**	**323**	P	P	14 06 01.2	-2.1
0.8nm,0.3s,baz=146,slow=2.7,SNR=6.9							
NOA	**NORSAR Array B**	**83.00**	**331**	LR	LR	14 48 31.8	
comp=Z,101nm,19.5s,slow=39							

BJI ***28*** *13:56:08.7, 7.17N×93.61E, h30km, mB5.0, mb4.4, Ms4.7, Msz4.5*
IDC ***28*** *13:56:13.0±0.5, 8.01N×93.95E, mb4.4/22, mb1 4.5/23, mb1mx4.5/26, mbtmp4.4/23, ML4.5/1, MS4.3/5, Ms1 4.3/5, ms1mx3.8/19, Error ellipse: s-maj=27.5km s-min=12.2km az=49.0, Putative timing error at LPAZ*
MOS ***28*** *13:56:15.6±1.6, 7.97N×93.92E, h33km, mb4.9/35, Error ellipse: s-maj=13.4km s-min=6.8km az=102.0*
NEIC ***28*** *13:56:17.5±0.4, 8.05N×94.04E, h30km, mb4.8/17, Error ellipse: s-maj=14.7km s-min=8.8km az=57.0*

ISC 28 13:56:15.3±0.4, 7.98N±0.06×94.08E±0.06, h30km, n121, σ1§29/120, mb4.7/52, MS4.3/10, 7C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.21**	**50**	P	**Pn**	**13 58 01.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**11.44**	**24**	P	**P**	**13 59 01.9**	**+2.0**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
CMAR				MLR	MLR		
comp=Z,993nm,18.1s							
CMAR	**Chiang Mai Arr**	**11.44**	**24**	Pn	**P**	**13 59 01.9**	**+1.9**
comp=Z,0.9nm,0.3s,baz=211,slow=14,SNR=33							
CMAR				LR	LR	14 03 36.6	
comp=Z,993nm,18.1s,baz=210,slow=39							
CMAR	**Chiang Mai Arr**	**11.44**	**24**	Pn	**P**	**13 59 01.9**	**+1.9**
CMAR				LR	LR	14 03 36.6	
CHG	**Chiang Mai**	**11.76**	**23**	⇑P	**P**	**13 59 06.3**	**+2.0**
comp=Z,24nm,0.9s							
NANT	**Nan**	**12.53**	**30**	P	**P**	**13 59 17.5**	**+2.9**
SHL	**Shillong**	**17.61**	**353**	*e*P	**P**	**14 00 19.0**	**-1.4**
SHL				*e*S	**S**	**14 03 40.0**	**+6.7**
HYB	**Hyderabad**	**17.80**	**303**	*e*P	**P**	**14 00 28.0**	**+5.3**
HYB				*e*S	**S**	**14 03 42.0**	**+4.5**
HYB	**Hyderabad**	**17.80**	**303**	*i* P	**P**	**14 00 28.0**	**+5.3**
HYB				*e*S	**S**	**14 03 42.0**	**+4.5**
KMI	**Kunming**	**18.95**	**25**	⇑P	**P**	**14 00 40.9**	**+4.2**
KMI				pmax	pmax		
comp=Z,19nm,1.2s							
KMI	**Kunming**	**18.95**	**25**	⇑P	**P**	**14 00 40.9**	**+4.2**
comp=Z,19nm,1.2s							
KMI				pP		14 00 46.2	
JIRN	**Jiri**	**20.95**	**340**	*e*P	**P**	**14 00 58.6**	**+0.3**
comp=Z,103nm,1.0s							
PKI	**Pulchoki**	**21.14**	**338**	*e*P	**P**	**14 01 00.7**	**+0.4**
comp=Z,163nm,1.3s,mb5.2							
DMN	**Daman**	**21.29**	**338**	*e*P	**P**	**14 01 03.3**	**+1.5**
comp=Z,122nm,0.9s,mb5.2							
KKN	**Kakani**	**21.39**	**338**	*e*P	**P**	**14 01 02.6**	**-0.2**
comp=Z,146nm,1.3s,mb5.1							
LSA	**Lhasa**	**21.78**	**353**	P	**P**	**14 01 07.3**	**+0.6**
LSA				AMB	AMB		
comp=Z,10.0nm,1.1s,mb4.2							
LSA	**Lhasa**	**21.78**	**353**	*e*P	**P**	**14 01 06.7**	**0.0**
LSA				pmax	pmax		
comp=Z,28nm,0.6s,mb4.9							
LSA	**Lhasa**	**21.78**	**353**	*e*P	**P**	**14 01 06.7**	**0.0**
comp=Z,28nm,0.6s,mb4.9							
GKN	**Gorkha**	**21.82**	**337**	*e*P	**P**	**14 01 06.6**	**-0.6**
comp=Z,108nm,1.0s,mb5.2							
KOLN	**Koldanda**	**22.03**	**335**	*e*P	**P**	**14 01 09.8**	**+0.5**
comp=Z,340nm,1.6s,mb5.5							
BHPL	**Bhopal**	**22.04**	**315**	*e*P	**P**	**14 01 11.2**	**+1.9**
BHPL				*e*		14 01 20.8	
comp=Z,52nm,1.7s							
BHPL				*e*S	**S**	**14 05 14.1**	**+8.4**
POO	**Poona**	**22.28**	**300**	*e*	**P**	**14 01 18.0**	**+6.2**
NDI	**New Delhi**	**26.01**	**324**	*e*P	**P**	**14 01 47.0**	**-0.7**
ENH	**Enshi**	**26.46**	**31**	*e*P	**P**	**14 01 52.2**	**+0.4**
comp=Z,28nm,1.2s,mb4.7							
DDI	**Dehra Dun**	**26.82**	**328**	*e*P	**P**	**14 01 55.9**	**+0.8**
TGY	**Tagaytay City**	**27.04**	**75**	LR	LR	14 13 03.2	
comp=Z,897nm,21.9s,MS4.3,baz=357,slow=37							
LZH	**Lanzhou**	**29.36**	**16**	⇑P	**P**	**14 02 19.0**	**+0.9**
LZH				AP	pP	14 02 28.5	+1.6
LZH				XP	sP	14 02 32.0	+1.2
LZH				PP	PP	14 03 13.5	-0.1
LZH				AMB	AMB		
comp=Z,28nm,1.5s,mb4.8							
LZH				AMB	AMB		
comp=Z,89nm,4.0s							
LZH				LR	LR		
comp=E,845nm,12.5s							
LZH				LR	LR		
comp=Z,1μm,13.7s,MS4.7							
LZH	**Lanzhou**	**29.36**	**16**	⇑P	**P**	**14 02 19.0**	**+0.9**
comp=Z,28nm,1.5s,mb4.8							
LZH				pP	pP	14 02 28.5	+1.6
LZH				sP	sP	14 02 32.0	+1.2
LZH				PP	PP	14 03 13.5	-0.1
LZH				LR	LR		
comp=Z,1μm,13.7s,MS4.7							
SSE	**Sheshan**	**34.19**	**44**	P	**P**	**14 02 55.4**	**-5.0**
comp=Z,41nm,0.7s,mb5.5							
SSE				S	**S**	**14 08 27.4**	**+3.5**
SSE				sS		14 08 42.6	
SSE				LR	LR		
comp=Z,270nm,17.5s,MS4.0							
WMQ	**Urumqi**	**36.13**	**352**	*e*P	**P**	**14 03 17.0**	**+0.2**
AAK	**Ala-Archa**	**38.58**	**337**	*e*P	**P**	**14 03 37.0**	**-0.4**
AAK				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.5							
AAK	**Ala-Archa**	**38.58**	**337**	*e*P	**P**	**14 03 37.0**	**-0.4**
comp=Z,7.6nm,0.9s,mb4.4							
MKAR	**Makanchi Array**	**39.97**	**347**	*i* P	**P**	**14 03 48.3**	**-0.6**
MKAR				pmax	pmax		
comp=Z,7.0nm,0.8s							
SONM	**Songino Array**	**41.07**	**13**	P	**P**	**14 03 58.4**	**+0.5**
comp=Z,3.3nm,1.0s,mb3.9,baz=192,slow=9.3,SNR=17							
SONM				PcP	PcP	14 05 57.7	-0.2
comp=Z,1.8nm,0.7s,baz=201,slow=2.9,SNR=5.8							
ULN	**Ulaanbaatar**	**41.25**	**13**	*e*P	**P**	**14 03 58.8**	**-0.6**
ULN				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.1							
ULN	**Ulaanbaatar**	**41.25**	**13**	*e*P	**P**	**14 03 58.8**	**-0.6**
comp=Z,3.6nm,0.8s,mb4.0							
ZAK	**Zakamensk**	**42.95**	**9**	*e*P	**P**	**14 04 13.0**	**-0.3**
ZAK				*e*		14 06 02.4	
TLY	**Talaya**	**44.27**	**9**	*i* P	**P**	**14 04 23.9**	**-0.1**
TLY				pmax	pmax		
comp=Z,2.0nm,1.1s,mb3.8							
KURK	**Kurchatov**	**44.49**	**346**	*i* P	**P**	**14 04 25.4**	**-0.4**
KURK				pmax	pmax		
comp=Z,14nm,1.1s,mb4.6							
KURK	**Kurchatov**	**44.49**	**346**	*e*P	**P**	**14 04 24.5**	**-1.3**
comp=Z,28nm,1.1s,mb4.9							
NWAO	**Narrogin (SRO)**	**46.27**	**153**	P	**P**	**14 04 39.3**	**-0.9**
NWAO				pmax	pmax		
comp=Z,6.0nm,0.5s							
NWAO	**Narrogin (SRO)**	**46.27**	**153**	P	**P**	**14 04 39.3**	**-0.9**
comp=Z,6.4nm,0.5s,mb4.8,baz=342,slow=4.8,SNR=11							
ZAL	**Zalesovo**	**46.43**	**352**	P	**P**	**14 04 41.2**	**+0.1**
ZAL				pmax	pmax		
comp=Z,8.0nm,0.7s							
ZAL	**Zalesovo**	**46.43**	**352**	P	**P**	**14 04 41.2**	**+0.1**
comp=Z,7.6nm,0.7s,mb4.7,baz=295,slow=8.2,SNR=31							
ZAL	**Zalesovo**	**46.43**	**352**	P	**P**	**14 04 41.2**	**+0.1**
HIA	**Hailar**	**46.45**	**23**	*e*P	**P**	**14 04 41.5**	**+0.2**
HIA				pmax	pmax		
comp=Z,12nm,0.9s							
HIA	**Hailar**	**46.45**	**23**	*e*P	**P**	**14 04 41.5**	**+0.1**
comp=Z,12nm,0.9s,mb4.8							
NVS	**Novosibirsk**	**47.53**	**352**	*e*P	**P**	**14 04 47.6**	**-2.2**
NVS				*e*		14 06 45.3	
NVS				*i* S	**S**	**14 11 36.8**	**-4.9**
NVS				pmax	pmax		
comp=Z,19nm,1.1s,mb5.0							
NVS				pmax	pmax		
comp=N,15nm,1.3s							
NVS				pmax	pmax		
comp=E,8.0nm,1.3s							
NVS				pmax	pmax		
comp=Z,27nm,2.8s,mb4.8							
NVS				pmax	pmax		
comp=N,10.0nm,2.0s							
NVS				smax			
comp=N,7.0nm,2.1s							
NVS				smax			
comp=E,16nm,1.8s							
WRA	**Warramunga Arr**	**48.38**	**126**	P	**P**	**14 04 58.4**	**+1.5**
WRA				pmax	pmax		
comp=Z,3.0nm,0.4s							
WRA	**Warramunga Arr**	**48.38**	**126**	P	**P**	**14 04 58.4**	**+1.5**
comp=Z,2.5nm,0.4s,mb4.5,baz=305,slow=8.6,SNR=36							
WRAB	**Tennant Creek**	**48.38**	**126**	*e*P	**P**	**14 04 56.0**	**-0.9**
WRAB				pmax	pmax		
comp=Z,5μm,0.5s							
WRAB	**Tennant Creek**	**48.38**	**126**	*e*P	**P**	**14 04 56.0**	**-0.9**
comp=Z,4.9nm,0.5s,mb4.8							
WB2	**Warramunga Arr**	**48.39**	**126**	*e*P	**P**	**14 04 54.5**	**-2.5**
BVA0	**Borovoye Array**	**48.87**	**341**	*i* P	**P**	**14 04 59.5**	**-0.7**
BVA0				pmax	pmax		
comp=Z,2.0nm,1.3s,mb4.0							
BVAR	**Borovoye Array**	**48.87**	**341**	P	**P**	**14 04 59.6**	**-0.6**
comp=Z,2.2nm,0.8s,mb4.2,baz=135,slow=6.3,SNR=11							
BRVK	**Borovoye**	**48.93**	**341**	*e*P	**P**	**14 04 58.4**	**-2.3**
BRVK				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.6							
BRVK	**Borovoye**	**48.93**	**341**	*e*P	**P**	**14 04 58.4**	**-2.2**
comp=Z,6.1nm,0.9s,mb4.6							
RAYN	**Ar Rayn**	**48.98**	**294**	P	**P**	**14 05 02.6**	**+1.1**
comp=Z,103nm,0.6s,SNR=20							
CHKZ	**Chkalovo**	**49.35**	**342**	P	**P**	**14 05 03.1**	**-0.8**
CHKZ				pmax	pmax		
comp=Z,15nm,1.2s,mb4.9							
CHKZ	**Chkalovo**	**49.35**	**342**	*e*P	**P**	**14 05 02.5**	**-1.4**
comp=Z,12nm,1.0s,mb4.9							
ASAR	**Alice Springs**	**50.03**	**130**	P	**P**	**14 05 10.9**	**+1.4**
comp=Z,4.1nm,1.0s,mb4.4,baz=305,slow=7.0,SNR=13							
ASAR				PcP	PcP	14 06 31.6	+2.3
comp=Z,2.3nm,0.7s,baz=309,slow=3.5,SNR=9.0							
ASAR				LR	LR	14 27 54.6	
comp=Z,126nm,19.0s,MS3.9,baz=296,slow=38							
BOD	**Bodaibo**	**52.06**	**13**	*e*P	**P**	**14 05 23.3**	**-1.2**
GNI	**Garni**	**54.31**	**314**	*i* P	**P**	**14 05 39.1**	**-2.3**
GNI				pmax	pmax		
comp=Z,14nm,1.7s							
CLNS	**Chul'man**	**54.36**	**20**	*e*P	**P**	**14 05 40.7**	**-0.8**
CLNS				pmax	pmax		
comp=Z,10.0nm,0.6s,mb4.9							
CLNS				pmax	pmax		
comp=N,6.0nm,0.7s							
CLNS				MLR	MLR		
comp=N,300nm,16.0s,MS4.5							
CLNS				MLR	MLR		
comp=Z,600nm,16.0s,MS4.8							
CLNS				MLR	MLR		
comp=E,100nm,14.0s,MS4.5							
SVE	**Sverdlovsk**	**55.28**	**338**	*e*P	**P**	**14 05 45.0**	**-3.2**
SVE				pmax	pmax	

comp=Z,10.0nm,1.0s,mb4.8
KMBO Kilima Mbogo 57.37 264 P **P 14 06 05.0 +1.2**
comp=Z,2.0nm,0.7s,mb4.3,baz=138,slow=2.5,SNR=5.6
KMBO LR LR 14 27 41.2
comp=Z,301nm,20.2s,MS4.4,baz=93,slow=33
SOKR Solikamsk 58.67 339 ⇑*i*P **P 14 06 11.0 -1.3**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SOKR MLR MLR
comp=Z,330nm,20.0s,MS4.5
SOC Sochi 59.06 316 *e*P **P 14 06 08.8 -6.4**
SOC *e* 14 06 59.2
SOC *e* 14 08 18.8
SOC *e*S **S 14 14 19.0 +0.7**
SOC *e*SS SS 14 18 12.2 -1.9
SOC pmax pmax
comp=Z,24nm,0.8s,mb5.3
SOC pmax pmax
comp=N,6.0nm,0.5s
SOC pmax pmax
comp=E,12nm,0.7s
YAK Yakutsk 59.91 18 *i*P **P 14 06 19.3 -1.5**
YAK pmax pmax
comp=Z,19nm,1.3s,mb5.0
YAK Yakutsk 59.91 18 *e*P **P 14 06 18.9 -1.9**
comp=Z,27nm,0.8s,mb5.3
STKA Stephens Creek 60.23 134 *e*P **P 14 06 22.9 -0.5**
comp=Z,1.2nm,0.6s,mb4.1
STKA Stephens Creek 60.23 134 P **P 14 06 22.8 -0.6**
comp=Z,2.2nm,0.9s,mb4.2,baz=320,slow=11,SNR=3.1
STKA LR LR 14 32 57.1
comp=Z,314nm,19.4s,MS4.5,baz=112,slow=36
BRTR Keskin Array B 62.31 311 P **P 14 06 35.8 -1.6**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 62.31 311 P **P 14 06 35.8 -1.6**
comp=Z,2.1nm,0.7s,mb4.4,baz=117,slow=5.5,SNR=8.1
MOS Moscow 64.95 329 *e*P **P 14 06 51.8 -2.6**
OBN Obninsk 65.25 328 ⇑*i*P **P 14 06 50.7 -5.7**
OBN *e* 14 09 23.9
OBN *e*S S 14 15 31.7 -4.5
OBN pmax pmax
comp=Z,28nm,1.3s,mb5.1
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.3
TIXI Tiksi 67.14 11 *e*P **P 14 07 06.5 -1.7**
TIXI pmax pmax
comp=Z,12nm,0.7s,mb5.0
TIXI MLR MLR
comp=Z,169nm,15.9s,MS4.4
AKASG Malin Array Be 68.03 322 P **P 14 07 11.8 -2.3**
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKASG Malin Array Be 68.03 322 P **P 14 07 11.8 -2.3**
comp=Z,1.9nm,0.8s,mb4.2,baz=89,slow=4.8,SNR=3.9
IDI Anoyia 68.45 305 P **P 14 07 18.9 +1.9**
comp=Z,6.4nm,0.6s,mb4.8,baz=101,slow=10,SNR=7.5
MLR Muntele Rosu 69.05 316 P **P 14 07 21.9 +1.4**
MLR pmax pmax
comp=Z,11nm,1.1s
MLR Muntele Rosu 69.05 316 P **P 14 07 21.9 +1.4**
comp=Z,11nm,1.1s,mb4.7,baz=57,slow=2.0,SNR=8.0
FINES FINESS Array B 72.58 332 P **P 14 07 40.6 -0.9**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 72.58 332 P **P 14 07 40.6 -0.9**
comp=Z,2.9nm,0.6s,mb4.4,baz=92,slow=6.0,SNR=9.5
OJC Ojcow 73.85 320 *e*P **P 14 07 48.6 -0.5**
OKC Ostrava-Krasne 74.87 319 *e*P pP 14 08 00.0 -4.5
ARCES ARCESS Array B 75.14 340 P **P 14 07 58.0 +1.8**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 75.14 340 P **P 14 07 58.0 +1.8**
comp=Z,3.1nm,0.9s,mb4.2,baz=100,slow=3.3,SNR=7.4
DPC Dobruska-Polom 76.08 320 *e*P **P 14 08 02.4 +0.5**
BRG Berggiesshubel 77.63 320 *e*P **P 14 08 10.7 +0.2**
BRG pmax pmax
comp=Z,23nm,2.0s,mb4.8
BRG Berggiesshubel 77.63 320 *e*P **P 14 08 10.7 +0.2**
comp=Z,23nm,2.0s,mb4.8
GERES GERESS Array B 77.70 318 P **P 14 08 10.6 -0.4**
GERES pmax pmax
comp=Z,4.0nm,0.8s
GERES GERESS Array B 77.70 318 P **P 14 08 10.6 -0.3**
comp=Z,3.8nm,0.8s,mb4.4,baz=90,slow=4.0,SNR=12
KHC Kasperske Hory 77.79 318 *e*P **P 14 08 13.5 +2.1**
CLL Collm 78.24 321 *e**PP pP 14 08 21.0 -2.3
HFS Hagfors 78.33 330 P **P 14 08 14.4 +0.2**
HFS pmax pmax
comp=Z,3.0nm,0.6s
HFS Hagfors 78.33 330 P **P 14 08 14.4 +0.3**
comp=Z,3.0nm,0.6s,mb4.4,baz=90,slow=4.4,SNR=12
MOX Moxa 79.10 320 *e*P **P 14 08 20.0 +1.4**
NB2 NORSAR Subarra 79.60 331 P **P 14 08 19.8 -1.3**
comp=Z,10nm,1.1s,mb4.7,baz=92,slow=5.6
NB2 NORSAR Subarra 79.60 331 P **P 14 08 19.8 -1.3**
NB2 pmax pmax
comp=Z,11nm,1.1s,mb4.7
NOA NORSAR Array B 79.60 331 P **P 14 08 20.4 -0.7**
NOA pmax pmax
comp=Z,5.0nm,1.0s
NOA NORSAR Array B 79.60 331 P **P 14 08 20.4 -0.7**
comp=Z,5.3nm,1.0s,mb4.4,baz=94,slow=5.5,SNR=6.9
DAVOX Davos 80.27 316 P **P 14 08 26.2 +1.2**
comp=Z,6.1nm,0.7s,mb4.6,baz=85,slow=10.0,SNR=6.4
LPG La Plagne 82.50 315 *e*P **P 14 08 38.5 +1.9**
comp=Z,19nm,1.1s,mb4.6
LPG La Plagne 82.50 315 *e*P **P 14 08 38.5 +1.9**
LPG pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
EKA Eskdalemuir Ar 87.59 325 P **P 14 09 03.9 +2.0**
EKA pmax pmax
comp=Z,3.0nm,0.9s
EKA Eskdalemuir Ar 87.59 325 P **P 14 09 03.9 +2.0**
comp=Z,2.9nm,0.9s,mb4.5,baz=315,slow=9.4,SNR=3.6
ESDC Sonseca Array 91.10 310 P **P 14 09 18.4 -0.3**
comp=Z,1.2nm,0.7s,mb4.4,baz=296,slow=37,SNR=3.1
ILAR Eielson Array 94.67 22 P **P 14 09 37.2 +2.7**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.67 22 P **P 14 09 37.2 +2.7**
comp=Z,0.5nm,0.8s,mb4.0,baz=300,slow=4.5,SNR=4.6
YKA Yellowknife Ar 106.33 13 PP PP 14 14 54.5 +0.2
comp=Z,0.2nm,0.7s,baz=333,slow=7.7,SNR=5.2
NVAR Mina Array Bea 124.86 31 PKP PKPdf 14 15 14.8 -3.3
comp=Z,0.3nm,0.4s,baz=301,slow=5.3,SNR=3.5
PDAR Pinedale Array 125.09 21 PKP PKPdf 14 15 16.8 -1.7
comp=Z,0.6nm,0.6s,SNR=6.0
PLCA Paso Flores 144.63 200 PKIKP PKPdf 14 15 53.1 -1.4
PLCA pmax pmax
comp=Z,8.0nm,0.9s
PLCA Paso Flores 144.63 200 PKP PKPdf 14 15 53.1 -1.4
comp=Z,7.8nm,0.9s,baz=195,slow=4.5,SNR=12
LPAZ La Paz 160.76 243 PKP PKPdf 14 15 41.7 -36
comp=Z,1.2nm,0.8s,baz=136,slow=5.1,SNR=3.6

*IDC **28** 14:00:39.1±0.8, 71.55N×11.87W, mb3.8/9, mb1 4.1/13, mb1mx3.9/21, mbtmp3.9/13, ML3.4/4, MS3.8/12, Ms1 3.8/12, ms1mx3.5/26, Error ellipse: s-maj=37.6km s-min=13.4km az=25.0*
*NEIC **28** 14:00:39.9±0.4, 71.49N×11.90W, h10km, mb4.1/4, Error ellipse: s-maj=20.3km s-min=5.7km az=202.0*
*BER **28** 14:00:40.3±0.5, 71.70N×12.27W, h14km±999km, ML3.5*
*CSEM **28** 14:00:40.4±0.1, 71.38N×12.16W, h30km, mb4.2/1, Error ellipse: s-maj=9.4km s-min=1.8km az=21.0*
ISC 28 14:00:38.1±2.7, 71.70N±0.08×11.8W±0.2, h7km±18km, n50, σ1§12/52, mb3.9/13, MS3.8/9, 1C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMI	**Jan Mayen**	**1.25**	**127**	*e*P	**Pb**	**14 01 01.8**	**+0.1**
JMI				*e*S	**Sb**	**14 01 17.2**	**-0.7**
JMI				AML	AML	14 01 26.3	
	comp=Z,968nm,0.6s						
JMI	**Jan Mayen**	**1.25**	**127**	*e*P	**Pb**	**14 01 01.8**	**+0.1**
	SNR=53						
JMI				*e*S	**Sb**	**14 01 17.2**	**-0.7**
	comp=Z,968nm,0.6s,SNR=53						
JMIC	**Jan Mayen**	**1.27**	**123**	Pn	**Pn**	**14 01 01.8**	**-0.5**
	comp=Z,191nm,0.3s,baz=231,slow=1.3,SNR=56						
JMIC				Sn	**Sn**	**14 01 16.8**	**-3.0**
	comp=Z,164nm,0.3s,baz=21,slow=23,SNR=6.2						
JNW	**Jan Mayen West**	**1.27**	**120**	*e*P	**Pb**	**14 01 02.0**	**0.0**
JNW				*e*S	**Sb**	**14 01 18.2**	**-0.3**
JNW				AML	AML	14 01 22.1	
	comp=Z,539nm,0.5s						
JNW	**Jan Mayen West**	**1.27**	**120**	*e*P	**Pb**	**14 01 02.0**	**0.0**
	SNR=53						
JNW				*e*S	**Sb**	**14 01 18.2**	**-0.3**
	comp=Z,539nm,0.5s,SNR=53						
JNE	**Jan Mayen East**	**1.33**	**121**	*e*P	**Pb**	**14 01 02.7**	**-0.3**
JNE				*e*S	**Sb**	**14 01 19.2**	**-0.9**
JNE				AML	AML	14 01 21.4	
	comp=Z,1μm,0.6s						
JNE	**Jan Mayen East**	**1.33**	**121**	*e*P	**Pb**	**14 01 02.7**	**-0.3**
	SNR=53						
JNE				*e*S	**Sb**	**14 01 19.2**	**-0.9**
	comp=Z,1μm,0.6s,SNR=53						
SCO	**Scoresbysund**	**3.53**	**255**	*i*P	**Pn**	**14 01 30.0**	**-4.5**
SCO				*i*		14 02 06.1	
DAG	**Danmarks Havn**	**5.43**	**343**	⇑*i*P	**Pn**	**14 02 00.5**	**-1.0**
	comp=Z,31nm,0.6s						
DAG				*i*		14 03 00.9	
HSP	**Hornsund**	**9.01**	**42**	*e*P	**P**	**14 02 51.3**	**-0.3**
ARCES	**ARCESS Array B**	**12.43**	**82**	Pn	**P**	**14 03 37.4**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=291,slow=12,SNR=6.9						
ARCES				LR	LR	14 07 08.5	
	comp=Z,123nm,20.5s,baz=207,slow=31						
ARCES	**ARCESS Array B**	**12.43**	**82**	Pn	**P**	**14 03 37.3**	**-0.8**
NOA	**NORSAR Array B**	**13.98**	**128**	Pn	**P**	**14 04 10.5**	**+12**
	comp=Z,0.2nm,0.3s,baz=322,slow=11,SNR=3.2						
NOA				LR	LR	14 08 58.4	
	comp=Z,134nm,18.3s,baz=325,slow=36						
NOA	**NORSAR Array B**	**13.98**	**128**	Pn	**P**	**14 04 10.5**	**+12**
NOA				LR	LR	14 08 58.4	
HFS	**Hagfors**	**15.39**	**126**	Pn	**P**	**14 04 23.6**	**+6.6**
	comp=Z,0.0nm,0.3s,baz=346,slow=6.1,SNR=6.7						
HFS	**Hagfors**	**15.39**	**126**	Pn	**P**	**14 04 23.6**	**+6.6**
FINES	**FINESS Array B**	**17.84**	**106**	P	**P**	**14 04 49.8**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=304,slow=6.9,SNR=6.9						
FINES				LR	LR	14 10 49.9	
	comp=Z,192nm,19.2s,baz=347,slow=34						
FRB	**Frobisher Bay**	**22.06**	**278**	P	**P**	**14 05 35.2**	**+0.4**
	comp=Z,3.1nm,0.7s,mb3.9,baz=59,slow=6.8,SNR=5.6						
FRB				LR	LR	14 13 14.7	
	comp=Z,152nm,20.5s,MS3.4,baz=333,slow=34						
FRB	**Frobisher Bay**	**22.06**	**278**	P	**P**	**14 05 35.2**	**+0.4**
FRB				LR	LR	14 13 14.7	
CLL	**Collm**	**23.27**	**138**	*e*P	**P**	**14 05 51.0**	**+4.4**
CLL				*e*		14 05 54.0	
CLL	**Collm**	**23.27**	**138**	*e**PP		14 05 51.0	
CLL				*e**SP		14 05 54.0	
KSP	**Ksiaz**	**24.43**	**134**	*e*P	**P**	**14 06 01.1**	**+3.2**
DPC	**Dobruska-Polom**	**24.90**	**134**	*e*P	**P**	**14 06 05.1**	**+2.7**
KHC	**Kasperske Hory**	**25.46**	**139**	*e*P	**P**	**14 06 11.6**	**+3.9**
GERES	**GERESS Array B**	**25.75**	**139**	P	**P**	**14 06 11.2**	**+0.8**
	comp=Z,1.9nm,1.1s,mb3.5,baz=333,slow=6.0,SNR=5.8						
AKASG	**Malin Array Be**	**27.89**	**117**	P	**P**	**14 06 31.1**	**+1.0**
	comp=Z,1.5nm,0.6s,mb3.8,baz=327,slow=9.2,SNR=6.1						
SCHQ	**Schefferville**	**28.53**	**263**	LR	LR	14 17 02.1	
	comp=Z,169nm,20.4s,MS3.6,baz=359,slow=34						
MLR	**Muntele Rosu**	**31.77**	**125**	LR	LR	14 20 38.9	
	comp=Z,301nm,19.1s,MS4.0,baz=172,slow=38						
FCC	**Fort Churchill**	**33.71**	**291**	*e*P	**P**	**14 07 21.1**	**-0.4**
	comp=Z,3.7nm,1.1s,mb4.2						
FCC	**Fort Churchill**	**33.71**	**291**	*e*P	**P**	**14 07 21.1**	**-0.4**
	comp=Z,3.7nm,1.1s,mb4.2						
YKA	**Yellowknife Ar**	**36.12**	**310**	P	**P**	**14 07 42.7**	**+0.7**
	comp=Z,1.4nm,0.8s,mb4.0,baz=30,slow=8.4,SNR=21						
YKA				LR	LR	14 22 20.8	
	comp=Z,186nm,19.3s,MS3.9,baz=25,slow=36						
YKA	**Yellowknife Ar**	**36.12**	**310**	P	**P**	**14 07 42.7**	**+0.7**
YKA				LR	LR	14 22 20.8	
BRTR	**Keskin Array B**	**39.20**	**120**	P	**P**	**14 08 12.9**	**+4.8**
	comp=Z,1.8nm,1.0s,mb3.8,baz=332,slow=5.8,SNR=5.2						
DAWY	**Dawson**	**39.88**	**327**	*e*P	**P**	**14 08 15.0**	**+1.5**
DAWY	**Dawson**	**39.88**	**327**	*e*P	**P**	**14 08 15.0**	**+1.5**
ILAR	**Eielson Array**	**40.42**	**332**	P	**P**	**14 08 20.5**	**+2.6**
	comp=Z,1.2nm,0.9s,mb3.6,baz=17,slow=6.7,SNR=9.5						
ILAR				LR	LR	14 27 34.4	
	comp=Z,89nm,18.2s,MS3.6,baz=256,slow=40						
KURK	**Kurchatov**	**43.03**	**69**	P	**P**	**14 08 39.3**	**0.0**
KURK	**Kurchatov**	**43.03**	**69**	P	**P**	**14 08 39.3**	**0.0**
EDM	**Edmonton**	**43.94**	**302**	P	**P**	**14 08 47.0**	**+0.4**
EDM	**Edmonton**	**43.94**	**302**	P	**P**	**14 08 47.0**	**+0.3**
BBB	**Bella Bella**	**48.60**	**313**	LR	LR	14 29 59.4	
	comp=Z,138nm,21.7s,MS3.9,baz=306,slow=36						
NEW	**Newport**	**49.45**	**302**	LR	LR	14 31 39.6	
	comp=Z,113nm,20.5s,MS3.9,baz=328,slow=38						
CHMT	**Chamberlain Mo**	**49.63**	**298**	*e*P	**P**	**14 09 31.1**	**-0.4**
BW06	**Boulder Array**	**52.38**	**293**	*e*P	**P**	**14 09 51.0**	**-1.5**
	comp=Z,2.5nm,1.3s,mb4.0						
PDAR	**Pinedale Array**	**52.38**	**293**	P	**P**	**14 09 52.2**	**-0.2**
	comp=Z,0.9nm,0.8s,mb3.7,baz=56,slow=5.3,SNR=6.5						
PDAR				LR	LR	14 31 52.9	
	comp=Z,172nm,18.3s,MS4.1,baz=224,slow=36						
BMO	**Blue Mountains**	**52.64**	**300**	*e*P	**P**	**14 09 53.4**	**-1.1**
	comp=Z,2.5nm,0.9s,mb4.1						
HLID	**Hailey**	**53.03**	**297**	*e*P	**P**	**14 09 57.0**	**-0.4**
	comp=Z,1.5nm,0.8s,mb4.0						
PV01	**Paradox Valley**	**56.36**	**290**	*e*P	**P**	**14 10 20.0**	**-1.7**
TXAR	**Lajitas Array**	**63.04**	**282**	P	**P**	**14 11 06.7**	**-1.1**
	comp=Z,0.3nm,0.3s,mb3.8,baz=72,slow=4.0,SNR=3.7						
TXAR				LR	LR	14 37 30.7	
	comp=Z,100nm,19.7s,MS4.0,baz=15,slow=35						
CMAR	**Chiang Mai Arr**	**78.91**	**65**	P	**P**	**14 12 43.8**	**+0.4**
	comp=Z,0.3nm,0.4s,mb3.6,baz=353,slow=7.3,SNR=4.0						

*CSEM **28** 14:06:14.9±0.5, 29.09N×14.40W, mb2.9/1, Error ellipse: s-maj=7.1km s-min=2.5km az=172.0, After MDD*
MDD 28 14:06:15.1±0.4, 29.06N×14.40W, mb3.5/6, mbLg2.8/5, Error ellipse: s-maj=6.3km s-min=2.3km az=175.0, PRXIMO TT-MODEL: CANARY, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFUE	**Fuerteventura**	**0.58**	**135**	P	Pg	14 06 27.5	+0.9
	113nm,0.2s,SNR=7.9						
CFUE				S	Sg	14 06 34.7	+0.4
	595nm,0.2s,SNR=7.9						
EFAM	**Famara**	**0.76**	**85**	P	Pg	14 06 29.7	-0.6
	17nm,0.1s,SNR=7.9						
EFAM				S	Sg	14 06 38.7	-1.8
	20nm,0.1s,SNR=7.9						
EFAM	**Famara**	**0.76**	**85**	P	Pg	14 06 29.7	-0.6
	16nm,0.1s,SNR=7.9						
EFAM				S	Sg	14 06 38.7	-1.8
	22nm,0.1s,SNR=7.9						
EOSO	**Osorio**	**1.42**	**226**	P	Pb	14 06 40.5	-1.6
	1.7nm,0.1s,SNR=7.9						
EOSO				S	Sb	14 06 56.7	-3.9
	7.3nm,0.1s,SNR=7.9						
EOSO	**Osorio**	**1.42**	**226**	P	Pb	14 06 40.5	-1.6
	1.0nm,0.1s,SNR=7.9						
EOSO				S	Sb	14 06 56.7	-3.9
	4.9nm,0.1s,SNR=7.9						
CCAN	**Las Canadas**	**2.11**	**247**	P	Pn	14 06 49.0	-3.2
	0.6nm,0.1s,SNR=7.9						
CCAN				S	Sn	14 07 12.2	-7.2
	1.7nm,0.1s,SNR=7.9						
CHIO	**Chio**	**2.28**	**250**	P	Pn	14 06 51.3	-3.2
	7.1nm,0.2s,SNR=7.9						
CHIO				S	Sn	14 07 15.5	-8.1
	11nm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**2.63**	**251**	P	Pn	14 06 56.1	-3.4
	2.7nm,0.1s,SNR=4.0						
EGOM				S	Sn	14 07 23.8	-8.8
	22nm,0.1s,SNR=5.9						
EGOM	**La Gomera**	**2.63**	**251**	S	Sn	14 07 24.1	-8.5
	25nm,0.2s,SNR=5.9						
TBT	**Taburiente**	**3.11**	**264**	P	Pn	14 07 03.3	-3.1
	SNR=7.9						

*IDC **28** 14:11:24.2±1.1, 7.72N×93.93E, mb3.8/7, mb1 4.0/8, mb1mx3.8/18, mbtmp3.8/8, ML3.9/1, Error ellipse: s-maj=40.7km s-min=21.6km az=51.0*
*NEIC **28** 14:11:29.2±0.7, 7.77N×94.06E, h30km, mb4.3/3, Error ellipse: s-maj=17.4km s-min=13.1km az=74.0*
ISC 28 14:11:27.3±0.8, 7.8N±0.1×94.1E±0.1, h30km, n14, σ0§75/14, mb4.0/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.60**	**23**	Pn	**P**	**14 14 14.1**	**-0.1**
	0.3nm,0.3s,baz=214,slow=15,SNR=6.6						
LSA	**Lhasa**	**21.97**	**353**	*e*P	**P**	**14 16 21.9**	**+1.2**
	10nm,0.8s,mb4.3						
DDI	**Dehra Dun**	**26.99**	**328**	*e*	**P**	**14 17 17.0**	**+8.3**
SONM	**Songino Array**	**41.25**	**13**	P	**P**	**14 19 11.5**	**+0.1**
	0.5nm,1.0s,mb3.1,baz=211,slow=8.4,SNR=3.4						
KURK	**Kurchatov**	**44.68**	**346**	*e*P	**P**	**14 19 39.1**	**-0.3**
	4.7nm,1.0s,mb4.3						
ZAL	**Zalesovo**	**46.62**	**352**	P	**P**	**14 19 54.2**	**-0.4**
	0.8nm,0.3s,mb4.1,baz=269,slow=9.1,SNR=4.0						
WRA	**Warramunga Arr**	**48.24**	**125**	P	**P**	**14 20 06.8**	**-1.1**
	0.8nm,0.8s,mb3.8,baz=305,slow=9.0,SNR=5.0						
ASAR	**Alice Springs**	**49.89**	**130**	P	**P**	**14 20 21.6**	**+1.1**
	1.4nm,1.1s,mb3.9,baz=309,slow=7.3,SNR=5.6						
KMBO	**Kilima Mbogo**	**57.38**	**264**	P	**P**	**14 21 16.6**	**+0.7**
	2.5nm,0.9s,mb4.2						
BRTR	**Keskin Array B**	**62.45**	**311**	P	**P**	**14 21 49.3**	**-1.0**
	1.3nm,1.0s,mb4.0,baz=120,slow=8.7,SNR=3.6						
GERES	**GERESS Array B**	**77.86**	**318**	P	**P**	**14 23 23.2**	**-0.7**
	1.2nm,0.9s,mb3.8,baz=82,slow=6.9,SNR=5.0						
HFS	**Hagfors**	**78.51**	**330**	P	**P**	**14 23 27.6**	**+0.4**
	2.7nm,0.7s,mb4.3,baz=170,slow=8.8,SNR=2.5						
HFS	**Hagfors**	**78.51**	**330**	P	**P**	**14 23 27.6**	**+0.4**
NB2	**NORSAR Subarra**	**79.78**	**331**	P	**P**	**14 23 38.7**	**+4.6**
	1.3nm,0.8s,mb3.9,baz=91,slow=5.6						

IDC 28 14:15:19.0±3.4, 6.09N×94.85E, mb3.5/3, mb1 3.7/4, mb1mx3.5/17, mbtmp3.4/4, Error ellipse: s-maj=107.9km s-min=29.7km az=66.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.92**	**18**	Pn	P	14 18 23.6	-3.1
	baz=211,slow=15,SNR=4.4						
SONM	**Songino Array**	**41.25**	**11**	P	P	14 23 17.7	-2.0
	0.5nm,1.0s,baz=194,slow=5.9,SNR=3.5						
WRA	**Warramunga Arr**	**46.67**	**125**	P	P	14 23 49.6	-1.9
	0.2nm,0.8s,baz=303,slow=8.9,SNR=3.5						
ZAL	**Zalesovo**	**48.40**	**352**	P	P	14 24 03.1	-1.5
	0.6nm,0.4s,baz=266,slow=8.4,SNR=4.1						

IDC 28 14:15:52.8±3.1, 6.95N×94.92E, mb3.7/3, mb1 3.9/4, mb1mx3.6/17, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=102.3km s-min=28.7km az=67.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.09**	**19**	Pn	P	14 18 46.1	-3.3
	0.1nm,0.3s,baz=208,slow=13,SNR=3.7						
SONM	**Songino Array**	**41.90**	**12**	P	P	14 23 45.4	-1.2
	0.7nm,0.8s,baz=191,slow=6.5,SNR=5.3						
WRA	**Warramunga Arr**	**47.10**	**125**	P	P	14 24 26.8	-2.0
	0.8nm,1.2s,baz=306,slow=8.5,SNR=2.9						
ZAL	**Zalesovo**	**47.56**	**352**	P	P	14 24 29.7	-2.2
	2.0nm,0.9s,baz=294,slow=7.9,SNR=8.8						

*IDC **28** 14:21:06.5±0.7, 7.84N×93.94E, mb4.0/12, mb1 4.1/13, mb1mx4.0/20, mbtmp4.0/13, ML3.6/1, Error ellipse: s-maj=34.9km s-min=15.9km az=54.0*
*NEIC **28** 14:21:11.1±0.4, 7.88N×94.05E, h30km, mb4.2/4, Error ellipse: s-maj=13.3km s-min=8.3km az=66.0*
ISC 28 14:21:09.9±0.6, 7.94N±0.09×94.1E±0.1, h33km, n22, σ0§66/19, mb4.1/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.47**	**24**	Pn	**P**	**14 23 54.3**	**-0.2**
	0.1nm,0.3s,baz=217,slow=14,SNR=4.0						
BWNR	**Bhubaneshwar**	**14.68**	**328**	*e*P	**P**	**14 24 36.1**	**-1.0**
BWNR				*e*		14 28 51.7	
LSA	**Lhasa**	**21.83**	**353**	*e*P	**P**	**14 26 01.9**	**+0.6**
	5.8nm,0.6s,mb4.2						
SONM	**Songino Array**	**41.11**	**13**	P	**P**	**14 28 53.0**	**+0.6**
	0.6nm,0.7s,mb3.3,baz=195,slow=9.4,SNR=5.8						
SONM				PcP	PcP	14 30 52.3	+0.2
	0.4nm,0.6s,baz=190,slow=3.5,SNR=4.7						
KURK	**Kurchatov**	**44.54**	**346**	*e*P	**P**	**14 29 20.2**	**-0.1**
	1.1nm,0.3s,mb4.2						
NWAO	**Narrogin (SRO)**	**46.22**	**153**	P	**P**	**14 29 34.2**	**+0.3**
	3.4nm,0.7s,mb4.4,baz=6.2,slow=19,SNR=4.0						
ZAL	**Zalesovo**	**46.48**	**352**	P	**P**	**14 29 36.1**	**+0.5**
	1.0nm,0.4s,mb4.1,baz=288,slow=5.5,SNR=4.9						
WRA	**Warramunga Arr**	**48.33**	**126**	P	**P**	**14 29 50.2**	**-0.4**
	0.7nm,0.5s,mb4.0,baz=305,slow=8.5,SNR=17						
WRAB	**Tennant Creek**	**48.33**	**126**	*e*P	**P**	**14 29 50.3**	**-0.3**
	1.6nm,0.4s,mb4.4						
ASAR	**Alice Springs**	**49.98**	**130**	P	**P**	**14 30 02.9**	**-0.4**
	0.6nm,0.5s,mb3.9,baz=304,slow=7.8,SNR=11						
KMBO	**Kilima Mbogo**	**57.39**	**264**	P	**P**	**14 31 00.8**	**+2.8**
	2.5nm,1.0s,mb4.2,baz=64,slow=11,SNR=5.7						
KMBO	**Kilima Mbogo**	**57.39**	**264**	*e*P	**P**	**14 30 58.6**	**+0.6**
	2.2nm,0.9s,mb4.2						
BRTR	**Keskin Array B**	**62.36**	**311**	P	**P**	**14 31 30.5**	**-1.2**
	0.6nm,0.6s,mb3.9,baz=112,slow=7.8,SNR=3.5						
IDI	**Anoyia**	**68.50**	**305**	P	**P**	**14 32 10.7**	**-0.6**
	4.1nm,0.7s,mb4.5,baz=82,slow=14,SNR=3.1						
FINES	**FINESS Array B**	**72.64**	**332**	P	**P**	**14 32 35.5**	**-0.3**
	1.0nm,0.5s,mb4.0,baz=109,slow=6.7,SNR=9.7						
ARCES	**ARCESS Array B**	**75.20**	**340**	P	**P**	**14 32 50.7**	**+0.2**
	0.9nm,0.6s,mb3.9,baz=90,slow=6.1,SNR=6.0						
ARCES	**ARCESS Array B**	**75.20**	**340**	P	**P**	**14 32 50.7**	**+0.2**
GERES	**GERESS Array B**	**77.76**	**318**	P	**P**	**14 33 05.9**	**+0.5**
	0.9nm,0.5s,mb4.0,baz=90,slow=5.3,SNR=10						
HFS	**Hagfors**	**78.39**	**330**	P	**P**	**14 33 09.1**	**+0.5**
	1.2nm,0.4s,mb4.2,baz=101,slow=7.6,SNR=6.9						
PDAR	**Pinedale Array**	**125.12**	**21**	PKP	PKPdf	14 40 09.9	+2.5
	0.5nm,0.8s,SNR=3.8						
TXAR	**Lajitas Array**	**139.19**	**24**	PKP	PKPdf	14 40 36.2	+2.0
	0.3nm,0.4s,baz=169,slow=2.0,SNR=3.8						
PLCA	**Paso Flores**	**144.59**	**200**	PKP	PKPdf	14 40 43.1	-0.3
	1.7nm,0.7s,baz=140,slow=3.9,SNR=3.9						

*IDC **28** 14:22:11.8±0.7, 8.10N×94.09E, mb4.1/13, mb1 4.2/14, mb1mx4.1/20, mbtmp4.1/14, ML3.5/1, Error ellipse: s-maj=32.3km s-min=16.3km az=55.0*
*BJI **28** 14:22:16.1, 8.10

FINES	FINESS Array B	72.55	332	P	P	14 33 38.5	-1.5
ARCES	ARCESS Array B	75.10	340	P	P	14 33 52.5	-2.2
	comp=Z,2.2nm,0.8s,mb4.1,baz=330,slow=9.8,SNR=3.9						
ARCES	ARCESS Array B	75.10	340	P	P	14 33 52.5	-2.2
GERES	GERESS Array B	77.66	318	P	P	14 34 10.1	+0.5
	comp=Z,3.1nm,0.8s,mb4.3,baz=108,slow=4.2,SNR=12						
HFS	Hagfors	78.29	330	P	P	14 34 13.5	+0.7
	comp=Z,3.9nm,0.7s,mb4.5,baz=90,slow=5.9,SNR=5.4						
NB2	NORSAR Subarra	79.56	331	P	P	14 34 19.9	+0.2
	comp=Z,7.5nm,1.1s,mb4.5,baz=91,slow=5.8						
NOA	NORSAR Array B	79.56	331	P	P	14 34 20.1	+0.3
	comp=Z,3.5nm,0.9s,mb4.3,baz=92,slow=5.5,SNR=6.7						
LPG	La Plagne	82.46	315	*e*P	P	14 34 33.2	-2.1
	comp=Z,10nm,0.8s,mb4.5						
INK	Inuvik	96.88	16	P	P	14 35 43.5	+0.3
PDAR	Pinedale Array	125.06	21	PKP	PKPdf	14 41 13.8	+1.8
	comp=Z,0.7nm,0.9s,baz=45,slow=2.1,SNR=4.8						
PLCA	Paso Flores	144.66	200	PKP	PKPdf	14 41 50.0	+1.7
	comp=Z,4.1nm,0.9s,baz=95,slow=8.4,SNR=3.4						
PLCA	Paso Flores	144.66	200	PKP	PKPdf	14 41 50.0	+1.7

IDC 28 14:25:37.8±2.0, 7.50N×91.62E, mb3.9/5, mb1 4.0/6, mb1mx3.8/18, mbtmp3.8/6, ML3.2/1, Error ellipse: s-maj=69.0km s-min=22.0km az=67.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.02	33	Pn	P	14 28 45.5	-1.3
	0.0nm,0.3s,baz=232,slow=15,SNR=2.8						
SONM	Songino Array	42.12	15	P	P	14 33 31.1	-2.3
	1.6nm,0.8s,baz=195,slow=8.4,SNR=9.1						
BVAR	Borovoye Array	48.57	343	P	P	14 34 23.4	-1.4
	0.7nm,0.6s,baz=90,slow=2.9,SNR=3.7						
WRA	Warramunga Arr	50.11	124	P	P	14 34 34.6	-2.5
	2.3nm,0.7s,baz=303,slow=8.7,SNR=12						
ASAR	Alice Springs	51.62	128	P	P	14 34 46.2	-2.3
	0.6nm,1.0s,baz=305,slow=7.3,SNR=4.4						
STKA	Stephens Creek	61.68	132	P	P	14 35 58.5	-1.7
	2.0nm,0.6s,baz=321,slow=8.7,SNR=5.2						

*IDC **28** 14:29:25.9±0.6, 7.81N×94.04E, mb4.4/21, mb1 4.5/22, mb1mx4.5/25, mbtmp4.4/22, ML4.5/1, MS4.3/14, Ms1 4.3/14, ms1mx4.1/26, Error ellipse: s-maj=27.0km s-min=13.7km az=50.0*

*MOS **28** 14:29:29.9±1.1, 7.92N×94.04E, h33km, mb4.8/37, Error ellipse: s-maj=13.2km s-min=7.0km az=104.9*

*BJI **28** 14:29:30.8, 7.73N×93.58E, h47km, mB5.0, mb4.7, Ms4.8, Msz4.5*

*NEIC **28** 14:29:30.9±0.3, 7.90N×94.14E, h30km, mb4.6/22, Error ellipse: s-maj=10.9km s-min=7.2km az=55.0*

ISC 28 14:29:29.6±0.3, 7.85N±0.05×94.17E±0.05, h33km, (h29km±5.7km:pP-P), n134, σ1§18/132, mb4.6/56, MS4.3/17, 3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	Nongplab	7.23	49	P	P	14 31 15.5	0.0
CMAR	Chiang Mai Arr	11.52	23	P	P	14 32 16.7	+1.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,2μm,18.2s						
CMAR	Chiang Mai Arr	11.52	23	Pn	P	14 32 16.6	+1.8
	comp=Z,0.9nm,0.3s,baz=211,slow=14,SNR=34						
CMAR				LR	LR	14 36 52.7	
	comp=Z,2μm,18.2s,baz=211,slow=38						
CHG	Chiang Mai	11.85	23	⇓P	P	14 32 22.1	+2.8
	comp=Z,20nm,0.9s						
NANT	Nan	12.60	30	P	P	14 32 30.0	+0.6
SHL	Shillong	17.75	353	*e*P	P	14 33 33.5	-2.4
SHL				*e*		14 36 58.0	
HYB	Hyderabad	17.95	303	*e*P	P	14 33 42.5	+4.1
HYB				*e*S	S	14 36 57.0	+2.4
HYB	Hyderabad	17.95	303	*i* P	P	14 33 42.5	+4.1
HYB				*e*S	S	14 36 57.0	+2.4
KMI	Kunming	19.03	24	P	P	14 33 55.5	+3.9
KMI				pmax	pmax		
	comp=Z,15nm,1.1s						
KMI	Kunming	19.03	24	P	P	14 33 55.5	+3.9
	comp=Z,15nm,1.1s						
KMI				pP		14 34 02.9	
KMI				sP		14 34 06.9	
KMI				PP	PP	14 34 14.2	+6.0
KMI				S	S	14 37 33.7	+15
KMI				sS		14 37 43.6	
KMI				SS	SS	14 38 02.4	+18
JIRN	Jiri	21.10	340	*e*P	P	14 34 14.8	+1.1
	comp=Z,128nm,1.1s,mb5.2						
PKI	Pulchoki	21.30	338	*e*P	P	14 34 17.7	+2.0
	comp=Z,152nm,1.3s,mb5.2						
GOA	Goa	21.31	293	*e*P	P	14 34 18.0	+2.2
	comp=Z,58nm,2.0s,mb4.6						
GOA				*e*		14 38 24.0	
DMN	Daman	21.45	338	*e*P	P	14 34 18.0	+0.9
KKN	Kakani	21.54	338	*e*P	P	14 34 18.4	+0.3
	comp=Z,51nm,0.9s,mb5.0						
KAD	Karad	21.63	298	*e*P	P	14 34 21.0	+2.0
LSA	Lhasa	21.92	353	P	P	14 34 21.8	-0.1
LSA				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.0						
LSA	Lhasa	21.92	353	*e*P	P	14 34 20.7	-1.2
LSA				pmax	pmax		
	comp=Z,27nm,0.6s,mb4.8						
LSA	Lhasa	21.92	353	*e*P	P	14 34 20.7	-1.2
	comp=Z,27nm,0.6s,mb4.8						
GKN	Gorkha	21.98	337	*e*P	P	14 34 21.8	-0.7
	comp=Z,58nm,0.8s,mb5.1						
KOLN	Koldanda	22.20	335	*e*P	P	14 34 24.5	-0.1
	comp=Z,55nm,0.8s,mb5.0						
POO	Poona	22.42	300	*e*	P	14 34 27.0	+0.1
POO				*i*		14 38 40.0	
NDI	New Delhi	26.17	324	*e*	P	14 35 03.0	-0.1
ENH	Enshi	26.53	31	*e*P	P	14 35 06.9	+0.5
	comp=Z,11nm,1.0s,mb4.3						
DDI	Dehra Dun	26.98	328	*e*	P	14 35 12.0	+1.6
TGY	Tagaytay City	26.99	74	LR	LR	14 45 33.0	
	comp=Z,784nm,19.6s,MS4.3,baz=182,slow=36						
NJ2	Nanjing	33.27	40	*e*P	P	14 36 08.8	+2.5
NJ2				AP	pP	14 36 19.3	+3.4
NJ2				PP	PP	14 37 22.5	+4.4
NJ2				S	S	14 41 31.0	+7.7
NJ2				AMB	AMB		
	comp=Z,60nm,6.0s						
NJ2				LR	LR		
	comp=N,970nm,16.2s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,13.3s,MS4.9						
NJ2				LR	LR		
	comp=Z,1μm,12.6s,MS4.9						
WMQ	Urumqi	36.28	352	*e*P	P	14 36 32.0	+0.2
WMQ				AP	pP	14 36 41.8	+0.2
WMQ				PP	PP	14 37 54.5	-0.8
WMQ				PCP	PcP	14 38 57.8	+1.1
WMQ				S	S	14 42 08.5	-1.1
WMQ				AMB	AMB		
	comp=Z,31nm,1.2s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,175nm,5.4s						
WMQ				LR	LR		
	comp=N,489nm,17.3s,MS4.5						
WMQ				LR	LR		
	comp=E,377nm,17.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,675nm,17.6s,MS4.5						
AAK	Ala-Archa	38.74	337	P	P	14 36 53.2	+0.8
AAK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.4						
AAK	Ala-Archa	38.74	337	*e*P	P	14 36 52.4	-0.1
	comp=Z,5.4nm,0.9s,mb4.3						
MKAR	Makanchi Array	40.12	347	*i* P	P	14 37 03.0	-0.9
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SONM	Songino Array	41.18	13	P	P	14 37 13.3	+0.7
	comp=Z,4.2nm,0.8s,mb4.1,baz=195,slow=8.8,SNR=24						
ULN	Ulaanbaatar	41.36	13	*i* P	P	14 37 14.0	-0.1
ZAK	Zakamensk	43.07	9	*e*P	P	14 37 27.8	-0.3
ZAK				*e*		14 39 17.8	
TLY	Talaya	44.39	8	*e*P	P	14 37 38.7	0.0
TLY				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
TLY				MLR	MLR		
	comp=Z,211nm,18.0s,MS4.1						
KURK	Kurchatov	44.64	346	*i* P	P	14 37 40.3	-0.5
KURK				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.7						
KURK	Kurchatov	44.64	346	*e*P	P	14 37 40.0	-0.7
	comp=Z,21nm,1.1s,mb4.9						
NWAO	Narrogin (SRO)	46.11	153	P	P	14 37 52.7	-0.1
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NWAO	Narrogin (SRO)	46.11	153	P	P	14 37 52.6	-0.1
	comp=Z,5.3nm,0.8s,mb4.5,baz=324,slow=8.7,SNR=4.8						
HIA	Hailar	46.53	23	*e*P	P	14 37 56.7	+0.9
HIA				pmax	pmax		
	comp=Z,12nm,0.9s						
HIA	Hailar	46.53	23	*e*P	P	14 37 56.7	+0.8
	comp=Z,12nm,0.9s,mb4.8						
ZAL	Zalesovo	46.58	352	P	P	14 37 56.2	+0.1
ZAL				pmax	pmax		
	comp=Z,11nm,0.6s						
ZAL	Zalesovo	46.58	352	P	P	14 37 56.2	+0.2
	comp=Z,11nm,0.6s,mb4.9,baz=302,slow=8.2,SNR=36						
ZAL	Zalesovo	46.58	352	P	P	14 37 56.2	+0.1
NVS	Novosibirsk	47.67	351	*i* P	P	14 38 03.5	-1.2
NVS				*i* S	S	14 44 54.3	-3.1
NVS				pmax	pmax		
	comp=N,11nm,1.0s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
NVS				smax			
	comp=N,16nm,2.1s						
NVS				smax			
	comp=E,23nm,1.9s						
WRA	Warramunga Arr	48.23	126	P	P	14 38 08.6	-0.9
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	48.23	126	P	P	14 38 08.6	-0.9
	comp=Z,1.4nm,0.6s,mb4.2,baz=304,slow=8.7,SNR=12						
WRAB	Tennant Creek	48.23	126	*e*P	P	14 38 11.5	+2.0
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
WRAB	Tennant Creek	48.23	126	*e*P	P	14 38 11.5	+2.0
	comp=Z,3.3nm,0.5s,mb4.6						
WB2	Warramunga Arr	48.23	126	*e*P	P	14 38 08.1	-1.5
BVAR	Borovoye Array	49.02	341	P	P	14 38 14.2	-1.0
	comp=Z,5.9nm,1.1s,mb4.5,baz=143,slow=7.4,SNR=8.1						
BRVK	Borovoye	49.08	341	*e*P	P	14 38 14.6	-1.1
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
BRVK	Borovoye	49.08	341	*e*P	P	14 38 14.6	-1.1
	comp=Z,2.9nm,0.6s,mb4.5						
RAYN	Ar Rayn	49.12	294	P	P	14 38 17.6	+1.3
	comp=Z,69nm,0.6s,SNR=10						
CHKZ	Chkalovo	49.51	342	P	P	14 38 18.1	-0.8
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
ASPA	Alice Springs	49.88	130	*e*P	P	14 38 25.4	+3.2
ASAR	Alice Springs	49.88	130	P	P	14 38 21.6	-0.6
	comp=Z,5.4nm,1.1s,mb4.5,baz=306,slow=7.7,SNR=8.4						
ASAR				LR	LR	15 04 15.7	
	comp=Z,150nm,18.7s,MS4.0,baz=298,slow=42						
BOD	Bodaibo	52.17	13	*e*P	P	14 38 38.5	-0.5
CLNS	Chul'man	54.45	20	*e*P	P	14 38 56.4	+0.5
CLNS				*e**PP	pP	14 39 02.8	-3.2
CLNS				*e*PPP	PPP	14 42 11.8	+0.8
CLNS				*e*S	S	14 46 50.4	+20
CLNS				pmax	pmax		
	comp=N,7.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
CLNS				pmax	pmax		
	comp=N,3.0nm,0.6s						
CLNS				smax			
	comp=N,109nm,14.9s						
CLNS				smax			
	comp=E,41nm,10.6s						
GNI	Garni	54.47	314	*e*P	P	14 38 55.8	-0.6
GNI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GNI	Garni	54.47	314	*e*P	P	14 38 55.8	-0.5
	comp=Z,4.0nm,0.6s,mb4.5						
ASAJ	Asahikawa	55.42	41	LR	LR	15 02 07.1	
	comp=Z,186nm,18.4s,MS4.2,baz=172,slow=35						
SVE	Sverdlovsk	55.43	338	*e*P	P	14 38 59.0	-4.1
SVE				pmax	pmax		
	comp=Z,60nm,2.0s,mb5.3						
ARU	Arti	55.92	337	*e*P	P	14 38 59.5	-7.1
ARU				*e*		14 41 06.2	
ARU				*e*S	S	14 46 47.4	-3.0
ARU				*e*SS	SS	14 50 32.1	-4.2
KIV	Kislovodsk	57.35	318	*i* P	P	14 39 15.6	-1.4
KIV				*e*		14 40 03.9	
KIV				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
KMBO	Kilima Mbogo	57.45	264	*e*P	P	14 39 19.0	+0.9
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KMBO	Kilima Mbogo	57.45	264	P	P	14 39 16.7	-1.4
	comp=Z,3.6nm,0.8s,mb4.4,baz=51,slow=12,SNR=4.3						
KMBO				LR	LR	15 02 28.1	
	comp=Z,317nm,18.5s,MS4.5,baz=96,slow=35						
KMBO	Kilima Mbogo	57.45	264	*e*P	P	14 39 19.0	+0.9
	comp=Z,4.4nm,0.9s,mb4.5						
ASF	Jabal al Asfar	58.25	303	LR	LR	15 06 46.7	
	comp=Z,150nm,21.0s,MS4.1,baz=314,slow=38						
CTA	Charters Tower	58.27	119	LR	LR	15 06 31.3	
	comp=Z,215nm,21.0s,MS4.2,baz=290,slow=38						
MALT	Malatya	58.50	310	*e*P	P	14 39 23.7	-1.4
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
MALT	Malatya	58.50	310	*e*P	P	14 39 23.7	-1.5
	comp=Z,2.6nm,0.8s,mb4.3						
SOC	Sochi	59.22	317	*e*P	P	14 39 24.6	-5.4
SOC				*e*		14 41 38.4	
SOC				*e*S	S	14 47 32.9	-1.0
SOC				*e*SS	SS	14 51 32.3	+2.3
SOC				pmax	pmax		
	comp=Z,46nm,1.2s,mb5.4						
SOC				pmax	pmax		
	comp=N,31nm,0.9s						
SOC				pmax	pmax		
	comp=E,32nm,1.1s						
EIL	Elat	59.46	300	P	P	14 39 31.3	-0.7
	comp=E,2.8nm,0.6s,mb4.5,baz=39,slow=11,SNR=3.3						
EIL				LR	LR	15 06 58.8	
	comp=E,255nm,18.5s,MS4.4,baz=108,slow=38						
EIL	Elat	59.46	300	*e*P	P	14 39 31.5	-0.4
	comp=E,3.0nm,0.6s,mb4.5						
YAK	Yakutsk	60.01	18	*e*P	P	14 39 34.2	-1.1
YAK				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.3						
YAK	Yakutsk	60.01	18	*e*P	P	14 39 34.1	-1.1
	comp=Z,31nm,1.0s,mb5.3						
STKA	Stephens Creek	60.07	134	P	P	14 39 35.9	-0.2
	comp=Z,2.1nm,0.8s,mb4.2,baz=4.8,slow=4.1,SNR=3.1						
STKA				LR	LR	15 10 39.6	
	comp=Z,286nm,18.0s,MS4.5,baz=109,slow=41						
STKA	Stephens Creek	60.07	134	*e*P	P	14 39 36.7	+0.6
BRTR	Keskin Array B	62.47	311	P	P	14 39 49.8	-2.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	Keskin Array B	62.47	311	P	P	14 39 49.8	-2.3
	comp=Z,1.3nm,0.5s,mb4.3,baz=130,slow=7.4,SNR=8.6						
MOS	Moscow	65.11	329	*e*P	P	14 40 09.6	+0.4
OBN	Obninsk	65.41	328	⇓*i*P	P	14 40 06.4	-4.7
OBN				*e*		14 42 32.1	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.7						
OBN				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.4						
MA2	Magadan	66.78	28	*e*P	P	14 40 20.1	+0.4
MA2				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
MA2	Magadan	66.78	28	*e*P	P	14 40 20.1	+0.4
	comp=Z,11nm,0.9s,mb4.9						
TIXI	Tiksi	67.25	11	⇓*i*P	P	14 40 21.5	-1.0
TIXI				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
AKASG	Malin Array Be	68.19	322	P	P	14 40 26.3	-2.4
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKASG	Malin Array Be	68.19	322	P	P	14 40 26.2	-2.5
	comp=Z,3.4nm,0.9s,mb4.4,baz=88,slow=4.7,SNR=6.9						
IDI	Anoyia	68.60	305	P	P	14 40 30.8	-0.7
	comp=Z,6.4nm,0.5s,mb4.8,baz=115,slow=7.1,SNR=9.0						
MLR	Muntele Rosu	69.21	316	P	P	14 40 35.0	-0.1
	comp=Z,5.3nm,1.0s,mb4.4,baz=137,slow=5.7,SNR=4.9						
MLR				LR	LR	15 17 20.5	
	comp=Z,162nm,19.3s,MS4.3,baz=327,slow=42						
JOF	Joensuu	70.88	334	*e*p	P	14 40 42.1	-2.9
	comp=Z,0.9nm,0.4s,mb4.0						
KOLS	Kolonicke sedl	72.24	319	*e*P	P	14 40 53.7	+0.4
FINES	FINESS Array B	72.75	332	P	P	14 40 55.5	-0.6
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES	FINESS Array B	72.75	332	P	P	14 40 55.5	-0.6
	comp=Z,3.7nm,0.6s,mb4.5,baz=88,slow=6.9,SNR=24						
CRVS	Cervenica-Dubn	72.77	319	*e*P	P	14 40 59.1	+2.6
CRVS	Cervenica-Dubn	72.77	319	*e*	P	14 40 59.1	+2.6
KAF	Kangasniemi	72.83	333	*e*p	P	14 40 51.1	-5.5
	comp=Z,2.5nm,0.4s,mb4.5						
KAF	Kangasniemi	72.83	333	*e*P	P	14 40 51.1	-5.5
KAF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
LBTB	Lobatse	74.25	241	*e*P	P	14 41 06.7	+1.0
LBTB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
LBTB	Lobatse	74.25	241	*e*P	P	14 41 06.7	+1.1
	comp=Z,4.7nm,0.8s,mb4.5						
VYHS	Vyhne	74.44	318	*e*P	P	14 41 06.6	+0.3
KEV	Kevo	74.87	341	*e*p	P	14 40 58.9	-9.4
	comp=Z,3.9nm,0.8s,mb4.4						
KEV	Kevo	74.87	341	*e*P	P	14 40 58.9	-9.4
KEV				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ARCES	ARCESS Array B	75.30	340	P	P	14 41 11.0	+0.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,266nm,18.8s						
ARCES	ARCESS Array B	75.30	340	P	P	14 41 10.9	+0.1
	comp=Z,1.7nm,0.6s,mb4.2,baz=97,slow=4.9,SNR=13						
ARCES				LR	LR	15 17 10.0	
	comp=Z,266nm,18.8s,MS4.6,baz=22,slow=38						
MORC	Moravsky Berou	75.41	319	*e*P	P	14 41 12.5	+0.7
MORC				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
MORC	Moravsky Berou	75.41	319	*e*P	P	14 41 12.5	+0.7
	comp=Z,6.6nm,1.1s,mb4.5						
ZST	Bratislava	75.57	318	*e*	P	14 41 02.5	-10
BOSA	Boshof	75.59	238	*e*P	P	14 41 14.4	+1.1
BOSA				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
BOSA	Boshof	75.59	238	*e*P	P	14 41 14.4	+1.1
	comp=Z,20nm,1.3s,mb4.9						
VAE	Valguarnera	77.15	307	LR	LR	15 18 50.0	
	comp=Z,117nm,19.7s,MS4.2,baz=320,slow=38						
GERES	GERESS Array B	77.86	318	P	P	14 41 25.7	0.0
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	GERESS Array B	77.86	318	P	P	14 41 25.7	0.0
	comp=Z,2.0nm,0.7s,mb4.1,baz=90,slow=6.7,SNR=12						
KHC	Kasperske Hory	77.95	319	*e*P	P	14 41 24.0	-2.1
RUE	Ruedersdorf	77.97	322	*e*P	P	14 41 24.4	-1.7
	comp=Z,24nm,0.6s,mb5.3						
CLL	Collm	78.40	321	P	P	14 41 30.0	+1.5
HFS	Hagfors	78.49	330	P	P	14 41 28.4	-0.5
HFS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HFS	Hagfors	78.49	330	P	P	14 41 28.4	-0.4
	comp=Z,4.2nm,0.6s,mb4.6,baz=104,slow=6.1,SNR=26						
NB2	NORSAR Subarra	79.77	331	P	P	14 41 35.0	-0.8
	comp=Z,1.7nm,0.6s,mb4.2,baz=97,slow=5.0						
NB2	NORSAR Subarra	79.77	331	P	P	14 41 35.0	-0.8
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
NOA	NORSAR Array B	79.77	331	P	P	14 41 35.0	-0.7
	comp=Z,2.5nm,0.7s,mb4.3,baz=92,slow=5.6,SNR=8.4						
NOA				LR	LR	15 21 55.1	
	comp=Z,152nm,18.2s,MS4.4,baz=90,slow=40						
DAVOX	Davos	80.43	316	P	P	14 41 39.5	-0.1
	comp=Z,3.5nm,0.7s,mb4.4,baz=53,slow=8.0,SNR=3.9						
LPG	La Plagne	82.65	315	*e*P	P	14 41 51.7	+0.5
	comp=Z,15nm,0.8s,mb4.8						
LPG	La Plagne	82.65	315	*e*P	P	14 41 51.7	+0.5
LPG				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
JMIC	Jan Mayen	86.74	341	LR	LR	15 27 11.4	
	comp=Z,171nm,21.2s,MS4.4,baz=103,slow=40						
ILAR	Eielson Array	94.76	22	P	P	14 42 48.5	-0.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	94.76	22	P	P	14 42 48.5	-0.1
	comp=Z,0.6nm,0.8s,mb4.1,baz=290,slow=3.8,SNR=6.5						
INK	Inuvik	97.01	16	P	P	14 42 59.2	+0.4
INK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
INK	Inuvik	97.01	16	P	P	14 42 59.1	+0.3
	comp=Z,3.6nm,1.1s,mb4.7,baz=4.7,slow=2.0,SNR=4.0						
NVAR	Mina Array Bea	124.93	31	PKP	PKPdf	14 48 29.8	+2.9
	comp=Z,1.2nm,0.8s,baz=279,slow=3.9,SNR=4.9						
NVAR	Mina Array Bea	124.93	31	PKP	PKPdf	14 48 29.8	+2.9
PDAR	Pinedale Array	125.18	21	PKP	PKPdf	14 48 29.1	+1.8
	comp=Z,1.1nm,0.9s,baz=4.9,slow=1.5,SNR=6.9						
PLCA	Paso Flores	144.53	200	PKIKP	PKPdf	14 49 03.8	+0.8
PLCA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PLCA	Paso Flores	144.53	200	PKP	PKPdf	14 49 03.8	+0.8
	comp=Z,5.3nm,0.8s,baz=205,slow=4.1,SNR=8.9						

IGQ 28 14:38:28.3, 1.05S×81.33W, h8km±4km, mb4.4, 4C-5D, Error ellipse: s-maj=6.1km s-min=3.7km az=8.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.78	90	⇑P	Pb	14 38 42.7	-0.9
JAMA	Jama	1.36	55	⇑P	Pb	14 38 54.0	+0.4
JAMA				S	Sb	14 39 11.1	0.0
MAGD	Magdalena	1.83	58	P	Pn	14 39 02.1	+1.8
IGUA	Igualata	2.72	99	P	Pn	14 39 14.7	+1.6
JUA2	San Juan 2	2.84	73	⇓P	Pn	14 39 16.2	+1.5
TERV	Terraza Guagua	2.85	72	P	Pn	14 39 16.1	+1.2
PINO	Pino	2.86	72	P	Pn	14 39 15.8	+0.9
CUSU	Cusua	2.87	98	P	Pn	14 39 17.4	+2.2
NAS1	Nasa	2.88	82	P	Pn	14 39 17.1	+1.8
JUIV	Juive	2.88	98

*IDC **28** 14:41:08.1±0.9, 8.39N×93.99E, mb4.0/8, mb1 4.1/9, mb1mx3.9/19, mbtmp4.0/9, ML4.0/1, Error ellipse: s-maj=34.7km s-min=20.0km az=56.0*
*NEIC **28** 14:41:12.7±0.7, 8.35N×93.97E, h30km, mb4.4/2, Error ellipse: s-maj=27.2km s-min=14.0km az=62.0*

ISC 28 14:41:10.9±0.7, 8.25N±0.09×93.9E±0.1, h30km, n18, σ0.98/18, mb4.2/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.27	25	Pn	P	14 43 54.2	+1.1
	0.3nm,0.3s,baz=212,slow=14,SNR=9.9						
JIRN	Jiri	20.64	340	eP	P	14 45 50.8	+0.1
	20nm,0.7s						
PKI	Pulchoki	20.83	338	eP	P	14 45 53.8	+1.1
	16nm,0.6s						
DMN	Daman	20.98	338	eP	P	14 45 55.0	+0.8
	28nm,0.9s						
KKN	Kakani	21.08	338	eP	P	14 45 55.7	+0.5
	14nm,0.6s,mb4.5						
LSA	Lhasa	21.50	353	eP	P	14 46 00.0	+0.6
	12nm,0.7s,mb4.3						
GKN	Gorkha	21.51	337	eP	P	14 45 59.1	-0.5
	16nm,0.6s,mb4.6						
KOLN	Koldanda	21.72	335	eP	P	14 46 01.7	0.0
	18nm,0.8s,mb4.6						
SONM	Songino Array	40.85	13	P	P	14 48 50.7	-0.9
	1.1nm,0.8s,mb3.5,baz=199,slow=7.3,SNR=9.2						
KURK	Kurchatov	44.19	346	eP	P	14 49 17.4	-1.5
	6.9nm,1.1s,mb4.3						
ZAL	Zalesovo	46.15	353	P	P	14 49 33.5	-1.0
	2.5nm,0.5s,mb4.4,baz=299,slow=7.0,SNR=16						
NWAO	Narrogin (SRO)	46.58	153	P	P	14 49 39.1	+1.0
	6.1nm,0.8s,mb4.6,baz=209,slow=3.9,SNR=2.9						
WRA	Warramunga Arr	48.67	126	P	P	14 49 52.8	-1.9
	0.5nm,0.5s,mb3.8,baz=305,slow=8.8,SNR=4.8						
ASAR	Alice Springs	50.33	130	P	P	14 50 08.5	+1.1
	0.3nm,0.6s,mb3.5,baz=305,slow=7.6,SNR=3.5						
GNI	Garni	54.01	314	P	P	14 50 34.7	+0.1
	2.2nm,0.4s,mb4.4,baz=303,slow=18,SNR=4.0						
KMBO	Kilima Mbogo	57.23	263	P	P	14 50 59.2	+0.8
	0.8nm,0.3s,mb4.2,baz=52,slow=19,SNR=4.0						
KMBO	Kilima Mbogo	57.23	263	P	P	14 50 59.2	+0.8
GERES	GERESS Array B	77.39	318	P	P	14 53 03.1	-1.7
	1.1nm,0.9s,mb3.8,baz=117,slow=4.4,SNR=4.6						

IGQ 28 14:43:10.5, 1.10S×81.39W, h9km±5km, mb4.1, 1C-3D, Error ellipse: s-maj=6.5km s-min=5.5km az=21.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.84	86	⇓P	Pb	14 43 26.1	-0.8
JAMA	Jama	1.45	55	P	Pn	14 43 37.7	+0.7
JAMA				S	Sb	14 43 56.2	+0.5
IGUA	Igualata	2.77	98	P	Pn	14 43 57.4	+1.4
IGUA				S	Sn	14 44 31.4	+1.3
JUA2	San Juan 2	2.92	72	P	Pn	14 43 58.8	+0.7
TERV	Terraza Guagua	2.93	72	P	Pn	14 43 59.5	+1.2
PINO	Pino	2.93	71	P	Pn	14 43 58.3	0.0
JUIV	Juive	2.94	96	P	Pn	14 44 00.1	+1.7
NAS1	Nasa	2.95	81	P	Pn	14 44 01.6	+3.1
ARRY	Arrayan	2.96	98	⇓P	Pn	14 43 59.7	+1.0
ARRY				S	Sn	14 44 33.2	-1.5
RETU	Refugio	2.96	97	P	Pn	14 44 01.4	+2.7
YANA	Yana	2.98	71	P	Pn	14 43 59.7	+0.7
ULBA	Ulba	3.00	97	P	Pn	14 44 00.9	+1.7
ULBA				S	Sn	14 44 36.4	+0.7
PISA	Pisayambo	3.00	89	P	Pn	14 44 00.5	+1.2
PISA				S	Sn	14 44 38.1	+2.3
VC1	Cotopaxi 1	3.02	81	P	Pn	14 44 02.3	+2.8
TAMB	Tambo	3.05	82	P	Pn	14 44 01.6	+1.7
ANTI	Antisana	3.29	79	⇑P	Pn	14 44 05.9	+2.5
COTA	Cotacachi	3.37	65	P	Pn	14 44 05.7	+1.2
CAYR	Refugio Cayamb	3.56	72	P	Pn	14 44 10.1	+2.9
CAYA	Cayambe	3.59	71	⇓P	Pn	14 44 10.4	+2.8

*CSEM **28** 14:45:06.9±0.1, 70.67N×8.28E, h2km, ML4.0, Error ellipse: s-maj=2.5km s-min=2.2km az=86.0, Suspected Mining explosion.*
*IDC **28** 14:45:08.7±1.0, 70.63N×8.61E, mb3.5/5, mb1 4.0/10, mb1mx3.8/21, mbtmp3.9/10, ML4.2/5, Error ellipse: s-maj=19.1km s-min=13.5km az=53.0*
*NAO **28** 14:45:10.8±1.5, 70.85N×9.11E, ML3.3*
*NEIC **28** 14:45:10.0±0.5, 70.76N×8.74E, h10km, Error ellipse: s-maj=7.2km s-min=5.2km az=108.0*
*BER **28** 14:45:12.1±5.4, 70.81N×9.19E, h4km±25km, MD3.4, ML3.0, ML3.3(NAO)*
*UPP **28** 14:45:17.4, 70.68N×10.44E, h0km, ML3.3, Suspected Mining explosion.*

HEL 28 14:45:12.6±0.3, 70.81N×9.45E, h10km, ML4.0, ML3.3(UPP), ML3.0(BER), Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	Lofoten	3.05	150	eP	Pn	14 46 01.4	-0.4
LOF				eS	Sn	14 46 37.1	-1.8
LOF	Lofoten	3.05	150	eP	Pn	14 46 01.4	-0.4
LOF				e		14 46 36.0	
LOF				eS	Sn	14 46 37.1	-1.8
TRO	Tromso	3.43	106	eP	Pn	14 46 04.7	-2.6
TRO				eS	Sn	14 46 43.1	-5.4
TRO				AML	AML	14 46 47.2	
	comp=Z,55nm,0.4s						
TRO	Tromso	3.43	106	eP	Pn	14 46 04.7	-2.6
	SNR=50						
TRO				eS	Sn	14 46 43.1	-5.4
	comp=Z,55nm,0.4s,SNR=50						
KIF	Kilpisjarvi	4.31	109	eP	Pn	14 46 18.0	-1.8
KIF				eS	Sn	14 47 05.0	-5.8
NIKU	Nikkaluokta	4.50	126	eP	Pn	14 46 21.4	-1.0
BJO1	Bjornoya	4.68	33	eP	Pn	14 46 22.9	-2.2
BJO1				eS	Sn	14 47 13.5	-6.6
BJO1				AML	AML	14 47 16.4	
	comp=Z,18nm,0.3s						
BJO1	Bjornoya	4.68	33	eP	Pn	14 46 22.9	-2.2
BJO1				eS	Sn	14 47 10.6	-10
BJO1	Bjornoya	4.68	33	eS	Sn	14 47 10.6	-10
BJO	Bjornoya	4.72	34	eP	Pn	14 46 22.9	-2.7
BJO				eS	Sn	14 47 13.5	-7.6
BJO				AML	AML	14 47 16.4	
	comp=Z,18nm,0.3s						
BJO	Bjornoya	4.72	34	eP	Pn	14 46 22.9	-2.7
	SNR=49						
BJO				eS	Sn	14 47 13.5	-7.5
	comp=Z,18nm,0.3s,SNR=49						
KUA	Kurravaara	4.79	121	eP	Pn	14 46 25.2	-1.4
MOR8	Moi Rana	5.00	156	eP	Pn	14 46 26.4	-3.2
MOR8				eS	Sn	14 47 20.2	-8.1
KTK1	Kautokeino	5.08	104	eP	Pn	14 46 29.6	-1.1
KTK1				eS	Sn	14 47 25.4	-4.8
KTK1				AML	AML	14 47 29.2	
	comp=Z,24nm,0.5s						
DUNU	Dundret	5.45	127	eP	Pn	14 46 33.9	-2.0
MASU	Masugnsbyn	5.60	121	eP	Pn	14 46 36.3	-1.8
ARA0	ARCESS Array S	5.61	95	Pn	Pn	14 46 36.3	-1.8
	baz=279,slow=12						
ARA0				Sn	Sn	14 47 38.4	-5.0
	baz=297,slow=28						
ARA0	ARCESS Array S	5.61	95	eP	Pn	14 46 36.3	-1.8
ARA0				eS	Sn	14 47 38.4	-5.0
ARCES	ARCESS Array B	5.61	95	Pn	Pn	14 46 36.3	-1.9
	comp=Z,1.2nm,0.3s,baz=284,slow=12,SNR=52						
ARCES				Sn	Sn	14 47 38.6	-4.8
	comp=Z,3.7nm,0.3s,baz=291,slow=21,SNR=7.7						
JMIC	Jan Mayen	5.89	280	Pn	Pn	14 46 32.6	-10
	comp=Z,10nm,0.3s,baz=80,slow=4.3,SNR=14						
JMIC				Sn	Sn	14 47 33.8	-17
	comp=Z,6.9nm,0.3s,baz=131,slow=15,SNR=3.3						
RORSS	Ber_school_1	6.00	173	eP	Pn	14 46 39.0	-4.7
RORSS				eS	Sn	14 47 41.2	-12
KEV	Kevo	6.03	92	eP	Pn	14 46 42.5	-1.6
KEV				eS	Sn	14 47 47.6	-6.4
PAJU	Pajala	6.21	121	eP	Pn	14 46 44.4	-2.3
PAJU				eS	Sn	14 47 50.5	-8.1
PAJU	Pajala	6.21	121	P	Pn	14 46 44.3	-2.4
PAJU				S	Sn	14 47 50.5	-8.1
ERTU	Ertsjaerv	6.30	126	eP	Pn	14 46 45.3	-2.6
NSS	Namsos	6.38	170	eP	Pn	14 46 43.6	-5.4
NSS				eS	Sn	14 47 52.4	-10
NSS				AML	AML	14 48 00.4	
	comp=Z,36nm,0.4s						
NSS	Namsos	6.38	170	eP	Pn	14 46 43.6	-5.4
	SNR=47						
NSS				eS	Sn	14 47 52.4	-10
	comp=Z,36nm,0.4s,SNR=47						
HSP	Hornsund	6.46	12	eP	Pn	14 46 44.0	-6.1
HSP				eS	Sn	14 47 46.6	-18
SGF	Sodankyl	6.96	111	eP	Pn	14 46 54.0	-3.2
SGF				eS	Sn	14 48 08.8	-8.4
SJUU	Sjulsmark	6.98	134	eP	Pn	14 46 54.3	-3.2
SVAU	Svanoeiden	7.41	144	eP	Pn	14 47 00.5	-3.0
SPA0	Spitsbergen Ar	7.63	11	Pn	Pn	14 47 01.6	-5.0
	baz=167,slow=22						
SPA0				Sn	Sn	14 48 23.8	-10
	baz=168,slow=22						
SPA0	Spitsbergen Ar	7.63	11	eP	Pn	14 47 01.6	-5.0
SPA0				eS	Sn	14 48 23.8	-10
SPA0	Spitsbergen Ar	7.63	11	Pn	Pn	14 47 01.6	-5.0
	SNR=50						
SPA0				Sn	Sn	14 48 23.8	-10
	SNR=50						
NOD	Norderasen	7.69	162	eP	Pn	14 47 04.0	-3.4
BURU	Burvik	7.71	138	eP	Pn	14 47 04.9	-2.8
BREU	Bredtraesk	7.78	149	eP	Pn	14 47 05.1	-3.5
SOLU	Sollefteaa	8.18	154	eP	P	14 47 11.1	-3.1
MOL	Molde	8.31	186	eP	P	14 47 08.9	-7.1
MOL				eS	Sn	14 48 36.8	-14
MOL				AML	AML	14 48 41.8	
	comp=Z,24nm,0.4s						
MOL	Molde	8.31	186	eP	P	14 47 08.9	-7.1
	SNR=47						
HUSU	Husum	8.40	148	eP	P	14 47 13.6	-3.7
OUL	Oulu	8.41	125	eP	P	14 47 13.8	-3.7
OUL				eS	Sn	14 48 42.0	-12
KU4	Oulanka	8.58	111	eP	P	14 47 16.3	-3.5
KU4				eS	Sn	14 48 46.6	-11
MSF	Maaselka	8.71	115	eP	P	14 47 17.8	-3.9
MSF				MPN		14 47 23.4	
	comp=Z,8.0nm,0.3s						
MSF				eS	Sn	14 48 49.5	-11
DOMB	Dombas	8.80	181	eP	P	14 47 16.1	-6.8
DOMB				AML	AML	14 48 54.2	
	comp=Z,20nm,0.4s						
HEMU	Hemsoen	8.83	153	eP	P	14 47 19.5	-3.8
HEMU				eP		14 47 19.5	
APA0	Apatity Array	8.93	100	Pn	P	14 47 20.4	-4.3
	baz=304,slow=12						
APA0	Apatity Array	8.93	100	eP	P	14 47 20.4	-4.3
HASU	Hassela	9.14	158	eP	P	14 47 23.3	-4.3
HASU				eP		14 47 23.3	
VAF	Ylistaro	9.34	140	eP	P	14 47 26.9	-3.4
VAF				eS	Sn	14 49 04.6	-12
FOO	Floro	9.41	193	eP	P	14 47 23.7	-7.7
FOO				eS	Sn	14 49 01.4	-17
FOO				AML	AML	14 49 09.3	
	comp=Z,22nm,0.5s						
ARNU	Arnoeviken	9.68	157	eP	P	14 47 30.5	-4.3
KJN	Kajaani	9.69	125	eP	P	14 47 31.2	-3.7
KJN				MPN		14 47 31.8	
	comp=Z,5.8nm,0.3s						
KJN				eS	Sn	14 49 12.1	-13
ROTU	Roteberg	9.77	162	eP	P	14 47 31.8	-4.2
HYA	Hoyanger	9.77	189	eP	P	14 47 30.5	-5.6
HYA				eS	Sn	14 49 16.4	-11
HYA				AML	AML	14 49 23.1	
	comp=Z,22nm,0.4s						
HYA	Hoyanger	9.77	189	eSn	Sn	14 49 16.4	-11
	comp=Z,22nm,0.4s,SNR=50						
NB2	NORSAR Subarra	9.84	175	eP	P	14 47 31.2	-5.7
NB2	NORSAR Subarra	9.84	175	Pn	P	14 47 31.2	-5.7
	SNR=50						
NOA	NORSAR Array B	9.84	175	Pn	P	14 47 31.0	-5.9
	comp=Z,4.0nm,0.3s,baz=354,slow=14,SNR=29						
NOA				Sn	Sn	14 49 14.7	-14
	comp=Z,1.1nm,0.3s,baz=21,slow=12,SNR=3.8						
SUE	Sulen	9.97	193	eP	P	14 47 31.6	-7.2
NAO01	NORSAR Array S	10.02	176	ePn	P	14 47 34.7	-4.8
	comp=Z,4.1nm,0.3s						
NC6	NORSAR Subarra	10.14	174	eP	P	14 47 34.7	-6.4
SUF	Sumiainen	10.41	133	eP	P	14 47 41.3	-3.6
SUF				MPN		14 47 44.1	
SUF				eS	S	14 49 29.0	-14
ASK	Askoy	10.51	192	eP	P	14 47 38.8	-7.4
ASK				eS	S	14 49 31.4	-14
RUND	Rundenannen	10.57	191	eP	P	14 47 40.6	-6.4
KEF	Keuruu	10.59	137	eP	P	14 47 43.2	-4.1
KEF				eS	S	14 49 35.2	-12
EGD	Espegrend	10.72	191	eP	P	14 47 41.5	-7.6
HFS	Hagfors	10.86	169	Pn	P	14 47 44.6	-6.3
	baz=354,slow=12						
HFS	Hagfors	10.86	169	eP	P	14 47 44.6	-6.3
HFS	Hagfors	10.86	169	Pn	P	14 47 46.0	-5.0
	comp=Z,1.2nm,0.3s,baz=353,slow=12,SNR=118						
KAF	Kangasniemi	10.97	134	eP	P	14 47 48.5	-4.0
KAF				MPN		14 47 50.0	
	comp=Z,4.9nm,0.3s						
KAF				eS	S	14 49 43.4	-13
ODD1	Odda	11.00	187	eP	P	14 47 44.8	-8.1
BLS5	Blasjo	11.50	188	eP	P	14 47 54.6	-5.1
FIA0	FINESS Array S	11.50	136	Pn	P	14 47 55.5	-4.3
	baz=334,slow=11						
FIA0	FINESS Array S	11.50	136	eP	P	14 47 55.7	-4.1
FIA0				MPN		14 47 57.0	
FIA0				eS	S	14 49 54.6	-15
FINES	FINESS Array B	11.50	136	Pn	P	14 47 56.0	-3.7
	comp=Z,2.1nm,0.3s,baz=329,slow=9.2,SNR=66						
FINES				Sn	S	14 49 57.3	-12
	comp=Z,0.8nm,0.3s,baz=345,slow=25,SNR=3.8						
JOF	Joensuu	11.61	122	eP	P	14 47 56.3	-4.8
JOF				MPN		14 47 58.3	
	comp=Z,5.7nm,0.3s						
JOF				eS	S	14 49 56.5	-15
PVF	Pernaja	12.26	139	eP	P	14 48 05.7	-4.2
PVF				MPN		14 48 07.5	
	comp=Z,6.2nm,0.3s						
PVF				eS	S	14 50 13.4	-14
VJF	Virojoki	12.64	135	eP	P	14 48 09.5	-5.7
VJF				eS	S	14 50 20.9	-16
CLL	Collm	19.64	173	eP	P	14 49 43.0	-0.8
CLL	Collm	19.64	173	ePP		14 49 43.0	
KHC	Kasperske Hory	21.83	173	eP	P	14 50 05.0	-1.6
GERES	GERESS Array B	22.12	173	P	P	14 50 08.5	-1.1
	comp=Z,1.0nm,0.6s,baz=7.1,slow=11,SNR=9.4						
AKASG	Malin Array Be	22.14	145	P	P	14 50 07.7	-2.1
	comp=Z,0.7nm,0.4s,baz=335,slow=12,SNR=5.0						
YKA	Yellowknife Ar	41.42	324	P	P	14 52 55.5	-4.7
	comp=Z,0.3nm,0.3s,baz=18,slow=8.6,SNR=8.0						
YKA	Yellowknife Ar	41.42	324	P	P	14 52 55.5	-4.7
ILAR	Eielson Array	43.71	346	P	P	14 53 16.2	-2.4
	comp=Z,0.3nm,0.6s,baz=360,slow=6.1,SNR=5.9						
SONM	Songino Array	47.90	64	P	P	14 53 51.5	-0.7
	comp=Z,0.3nm,0.5s,baz=315,slow=8.0,SNR=4.8						

IDC 28 14:48:32.9±14.0, 8.22N×93.63E, mb3.4/2, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, ML3.9/1, Error ellipse: s-maj=343.0km s-min=43.2km az=90.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.41	26	Pn	P	14 51 17.2	-3.1
	0.2nm,0.3s,baz=219,slow=13,SNR=3.3						
WRA	Warramunga Arr	48.87	125	P	P	14 57 20.4	-2.3
	0.2nm,0.3s,baz=300,slow=10,SNR=21						
ASAR	Alice Springs	50.52	130	P	P	14 57 33.8	-1.6
	0.1nm,0.4s,baz=303,slow=7.3,SNR=6.2						

IDC 28 14:49:32.4±2.9, 7.58N×93.89E, mb3.5/4, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, ML4.1/1, Error ellipse: s-maj=94.9km s-min=23.9km az=70.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.88	24	Pn	P	14 52 23.8	-2.3
	0.3nm,0.3s,baz=209,slow=15,SNR=6.1						
SONM	Songino Array	41.50	13	P	P	14 57 21.2	-1.6
	0.7nm,1.0s,baz=180,slow=8.6,SNR=2.9						
ZAL	Zalesovo	46.80	353	P	P	14 58 03.3	-2.2
	1.5nm,0.3s,baz=290,slow=9.8,SNR=3.7						
WRA	Warramunga Arr	48.30	125	P	P	14 58 15.6	-2.1
	0.2nm,0.5s,baz=304,slow=8.8,SNR=3.4						
ASAR	Alice Springs	49.92	130	P	P	14 58 28.4	-1.8
	0.4nm,0.9s,baz=305,slow=7.8,SNR=2.9						

*IDC **28** 14:52:38.3±0.6, 7.77N×94.12E, mb4.2/17, mb1 4.3/18, mb1mx4.3/22, mbtmp4.2/18, ML4.6/1, MS4.2/12, Ms1 4.2/12, ms1mx4.1/22, Error ellipse: s-maj=28.9km s-min=15.0km az=52.0*
*MOS **28** 14:52:41.2±1.2, 7.74N×94.24E, h33km, mb4.7/23, Error ellipse: s-maj=15.6km s-min=8.1km az=109.6*
*NEIC **28** 14:52:42.6±0.3, 7.80N×94.27E, h30km, mb4.5/11, Error ellipse: s-maj=12.6km s-min=7.5km az=52.0*
*BJI **28** 14:52:43.3, 7.60N×93.70E, h50km, mB5.3, mb4.7, Ms4.8, Msz4.4*

ISC 28 14:52:40.6±0.4, 7.79N±0.07×94.27E±0.07, h30km, n95, σ1.16/87, mb4.6/42, MS4.2/12, 3C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.54	23	P	P	14 55 28.8	+2.2
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,940nm,18.5s						
CMAR	Chiang Mai Arr	11.54	23	Pn	P	14 55 28.8	+2.2
	comp=Z,1.1nm,0.3s,baz=210,slow=14,SNR=49						
CMAR				LR	LR	15 00 05.3	
	comp=Z,940nm,18.5s,baz=215,slow=38						
VIS	Vishakhapatnam	14.53	314	eP	P	14 56 02.9	-3.5
VIS				e		14 56 07.3	
	comp=Z,13nm,0.7s						
VIS				e		14 58 30.5	
BWNR	Bhubaneshwar	14.89	327	eP	P	14 56 07.0	-4.0
BWNR				e		14 56 07.5	
	comp=Z,11nm,0.2s						
BWNR				e		14 57 57.9	
BWNR				e		14 58 10.1	
	comp=N,33nm,0.2s						
SHL	Shillong	17.82	353	eP	P	14 56 46.0	-2.3
SHL				e		15 00 27.0	
HYB	Hyderabad	18.06	303	eP	P	14 56 52.5	+1.1
HYB	Hyderabad	18.06	303	i P	P	14 56 52.5	+1.1
HYB				eS	S	15 00 14.5	+5.6
KMI	Kunming	19.04	24	⇑P	P	14 57 08.5	+5.3
KMI				pmax	pmax		
	comp=Z,16nm,1.1s						
KMI	Kunming	19.04	24	⇑P	P	14 57 08.5	+5.3
	comp=Z,16nm,1.1s						
KMI				pP		14 57 15.8	
KMI				sP		14 57 19.9	
KMI				PP	PP	14 57 25.8	+6.0
KMI				S	S	15 00 44.4	+13
KMI				sS		15 00 58.8	
KMI				SS	SS	15 01 14.7	+18
JIRN	Jiri	21.19	340	eP	P	14 57 26.1	-0.1
	comp=Z,54nm,0.8s,mb4.9						
PKI	Pulchoki	21.39	338	eP	P	14 57 28.2	+0.1
	comp=Z,96nm,1.1s,mb5.0						
GOA	Goa	21.42	293	eP	P	14 57 31.8	+3.2
	comp=Z,54nm,2.0s,mb4.5						
GOA				e		15 01 36.8	
DMN	Daman	21.54	337	eP	P	14 57 29.8	+0.2
	comp=Z,82nm,1.0s,mb5.1						
KKN	Kakani	21.64	338	eP	P	14 57 30.1	-0.5
	comp=Z,151nm,1.4s,mb5.2						
KAD	Karad	21.75	298	eP	P	14 57 32.2	+0.4
KAD				e		14 57 41.7	
	comp=Z,15nm,0.7s						
KAD				e		15 00 53.5	
LSA	Lhasa	21.99	353	P	P	14 57 37.3	+3.1
LSA				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.8						
LSA	Lhasa	21.99	353	eP	P	14 57 34.0	-0.2
LSA				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.6						
LSA	Lhasa	21.99	353	eP	P	14 57 34.0	-0.2
	comp=Z,14nm,0.6s,mb4.6						
GKN	Gorkha	22.07	337	eP	P	14 57 34.4	-0.6
	comp=Z,49nm,0.6s,mb5.1						
KOLN	Koldanda	22.29	334	eP	P	14 57 37.3	+0.1
	comp=Z,78nm,0.9s,mb5.1						
BHPL	Bhopal	22.31	315	eP	P	14 57 33.8	-3.6
BHPL				e		14 57 39.3	
	comp=Z,20nm,0.8s						
BHPL				e		15 01 25.0	
POO	Poona	22.54	300	eP	P	14 57 40.0	+0.2
NDI	New Delhi	26.28	324	eP	P	14 58 12.0	-3.5
NDI				e		15 02 38.0	
ENH	Enshi	26.53	31	eP	P	14 58 18.0	+0.3
	comp=Z,9.8nm,0.8s,mb4.4						
DDI	Dehra Dun	27.08	328	e	P	14 58 23.9	+1.1
JOW	Kunigami	37.40	55	LR	LR	15 17 40.9	
	comp=Z,250nm,18.5s,MS4.0,baz=277,slow=40						
AAK	Ala-Archa	38.83	337	i P	P	15 00 05.4	+0.6
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
AAK	Ala-Archa	38.83	337	eP	P	15 00 04.8	0.0
	comp=Z,12nm,1.1s,mb4.5						
SONM	Songino Array	41.22	12	P	P	15 00 25.6	+1.1
	comp=Z,2.7nm,0.8s,mb3.9,baz=198,slow=9.0,SNR=12						
ULN	Ulaanbaatar	41.39	13	i P	P	15 00 25.5	-0.3
ULN	Ulaanbaatar	41.39	13	eP	P	15 00 26.0	+0.1
	comp=Z,1.8nm,0.8s,mb3.8						
JNU	Nakatsue	42.21	48	LR	LR	15 20 43.9	
	comp=Z,4.7nm,21.3s,baz=276,slow=40						
ZAK	Zakamensk	43.12	8	eP	P	15 00 35.0	-5.0
ZAK				e		15 02 30.2	
KURK	Kurchatov	44.72	346	i P	P	15 00 52.5	-0.5
KURK	Kurchatov	44.72	346	eP	P	15 00 52.3	-0.7
	comp=Z,19nm,1.1s,mb4.8						
NWAO	Narrogin (SRO)	46.01	153	P	P	15 01 02.9	-0.6
	comp=Z,4.3nm,0.6s,mb4.5,baz=211,slow=18,SNR=2.3						
NWAO				LR	LR	15 18 01.4	
	comp=Z,2.1nm,20.1s,baz=12,slow=33						
HIA	Hailar	46.55	23	eP	P	15 01 08.3	+0.8
HIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HIA	Hailar	46.55	23	eP	P	15 01 08.3	+0.8
	comp=Z,3.8nm,0.6s,mb4.5						
ZAL	Zalesovo	46.65	352	P	P	15 01 08.7	+0.5
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZAL	Zalesovo	46.65	352	P	P	15 01 08.7	+0.5
	comp=Z,3.2nm,0.5s,mb4.5,baz=305,slow=1.8,SNR=14						
NVS	Novosibirsk	47.75	351	eP	P	15 01 15.8	-1.0
NVS				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.9						
NVS				pmax	pmax		
	comp=N,15nm,1.5s						
NVS				pmax	pmax		

ARU Arti 56.02 337 *eP* **P 15 02 10.5 -8.3**
KIV Kislovodsk 57.47 318 *i* P **P 15 02 28.6 -0.8**
KIV pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
KMBO Kilima Mbogo 57.54 264 P **P 15 02 30.1 -0.2**
comp=Z,2.2nm,1.0s,mb4.2,baz=218,slow=21,SNR=5.1
KMBO LR LR 15 24 10.5
comp=Z,227nm,20.0s,MS4.3,baz=94,slow=33
CTA Charters Tower 58.15 119 LR LR 15 28 16.4
comp=Z,185nm,20.9s,MS4.2,baz=289,slow=37
ASF Jabal al Asfar 58.37 303 LR LR 15 30 40.4
comp=Z,185nm,18.8s,MS4.2,baz=308,slow=39
SOC Sochi 59.33 317 *eP* **P 15 02 39.1 -3.3**
SOC *e* 15 04 50.6
SOC *e*PPP PPP 15 06 15.2 -5.0
SOC *e*S **S 15 10 43.7 -3.4**
SOC *e* 15 12 26.2
SOC *e*SS SS 15 14 41.5 -2.0
SOC pmax pmax
comp=Z,57nm,1.5s,mb5.4
SOC pmax pmax
comp=N,31nm,1.0s
SOC pmax pmax
comp=E,35nm,1.0s
EIL Elat 59.58 300 LR LR 15 30 21.2
comp=E,223nm,18.7s,MS4.3,baz=111,slow=38
STKA Stephens Creek 59.95 134 LR LR 15 30 05.8
comp=E,225nm,20.0s,MS4.3,baz=106,slow=37
YAK Yakutsk 60.03 18 *iP* **P 15 02 45.9 -1.0**
YAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BRTR Keskin Array B 62.58 311 P **P 15 03 02.5 -2.0**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 62.58 311 P **P 15 03 02.5 -2.0**
comp=Z,1.3nm,0.6s,mb4.2,baz=132,slow=7.0,SNR=7.7
MOS Moscow 65.22 329 *eP* **P 15 03 24.2 +2.8**
MOS pmax pmax
comp=Z,60nm,1.1s,mb5.5
OBN Obninsk 65.52 328⇑ *iP* **P 15 03 22.1 -1.3**
OBN *e*S S 15 12 01.6 -3.1
OBN pmax pmax
comp=Z,34nm,1.8s,mb5.1
OBN MLR MLR
comp=Z,100nm,21.0s,MS4.0
TIXI Tiksi 67.29 11 *eP* **P 15 03 33.7 -0.7**
TIXI pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
IDI Anoyia 68.72 305 P **P 15 03 43.6 -0.3**
comp=Z,5.5nm,0.6s,mb4.7,baz=85,slow=12,SNR=3.4
MLR Muntele Rosu 69.32 316 P **P 15 03 47.5 0.0**
MLR pmax pmax
comp=Z,1.0nm,0.4s
MLR Muntele Rosu 69.32 316 P **P 15 03 47.5 0.0**
comp=Z,1.0nm,0.4s,mb4.1,baz=160,slow=8.4,SNR=4.2
JOF Joensuu 70.98 334 *ep* **P 15 03 55.9 -1.4**
comp=Z,3.1nm,0.6s,mb4.4
FINES FINESS Array B 72.85 332 P **P 15 04 08.0 -0.4**
comp=Z,4.5nm,0.8s,mb4.5,baz=168,slow=18,SNR=11
FINES LR LR 15 42 21.1
comp=Z,131nm,18.1s,MS4.2,baz=104,slow=41
KAF Kangasniemi 72.92 333 *ep* **P 15 04 03.4 -5.4**
comp=Z,2.6nm,0.7s,mb4.3
KAF Kangasniemi 72.92 333 *eP* **P 15 04 03.4 -5.4**
KAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
ARCES ARCESS Array B 75.39 340 P **P 15 04 22.6 -0.3**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES MLR MLR
comp=Z,338nm,20.2s
ARCES ARCESS Array B 75.39 340 P **P 15 04 22.6 -0.3**
comp=Z,3.6nm,0.9s,mb4.3,baz=98,slow=6.4,SNR=4.2
ARCES LR LR 15 40 33.4
comp=Z,338nm,20.1s,MS4.6,baz=18,slow=38
GERES GERESS Array B 77.97 318 P **P 15 04 38.0 +0.2**
GERES pmax pmax
comp=Z,4.0nm,1.1s
GERES GERESS Array B 77.97 318 P **P 15 04 38.0 +0.3**
comp=Z,4.4nm,1.1s,mb4.3,baz=90,slow=5.3,SNR=9.1
KHC Kasperske Hory 78.07 319 *eP* **P 15 04 41.0 +2.8**
HFS Hagfors 78.59 330 P **P 15 04 40.7 -0.2**
HFS pmax pmax
comp=Z,2.0nm,0.5s
HFS Hagfors 78.59 330 P **P 15 04 40.7 -0.2**
comp=Z,2.1nm,0.5s,mb4.3,baz=127,slow=7.2,SNR=2.8
NB2 NORSAR Subarra 79.87 331 P **P 15 04 49.1 +1.3**
comp=Z,4.8nm,0.7s,mb4.5,baz=90,slow=5.3
NB2 NORSAR Subarra 79.87 331 P **P 15 04 49.1 +1.3**
NB2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
NOA NORSAR Array B 79.87 331 P **P 15 04 50.1 +2.3**
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA MLR MLR
comp=Z,109nm,19.8s
NOA NORSAR Array B 79.87 331 P **P 15 04 50.1 +2.3**
comp=Z,1.2nm,0.9s,mb3.8,baz=131,slow=17,SNR=3.1
NOA LR LR 15 43 46.7
comp=Z,109nm,19.8s,MS4.2,baz=145,slow=38
LPG La Plagne 82.77 315 *eP* **P 15 05 05.1 +1.8**
comp=Z,15nm,0.8s,mb4.8
LPG La Plagne 82.77 315 *eP* **P 15 05 05.1 +1.8**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ESDC Sonseca Array 91.37 310 P **P 15 05 46.5 +1.3**
comp=Z,0.2nm,0.3s,mb3.9,baz=5.9,slow=1.3,SNR=2.7
IMA Indian Mountai 91.65 22 *eP* **P 15 05 46.8 +0.9**
ILAR Eielson Array 94.78 22 P **P 15 06 02.1 +1.8**
comp=Z,0.4nm,0.7s,mb3.9,baz=315,slow=5.1,SNR=4.0
NVAR Mina Array Bea 124.92 31 PKP PKPdf 15 11 43.0 -0.6
comp=Z,0.4nm,0.3s,baz=290,slow=3.0,SNR=3.5
PDAR Pinedale Array 125.20 21 PKP PKPdf 15 11 41.1 -2.8
comp=Z,0.8nm,0.8s,baz=135,slow=2.1,SNR=5.0
PLCA Paso Flores 144.51 200 PKIKP PKPdf 15 12 18.6 -1.0
PLCA pmax pmax
comp=Z,6.0nm,1.1s
PLCA Paso Flores 144.51 200 PKP PKPdf 15 12 18.6 -1.0
comp=Z,6.4nm,1.1s,baz=154,slow=3.6,SNR=4.2

*IDC **28** 14:57:00.2±7.1, 7.88N×93.78E, mb4.1/9, mb1 4.2/10, mb1mx4.0/20, mbtmp4.1/10, ML3.7/1, Error ellipse: s-maj=170.9km s-min=38.9km az=142.0*
*MOS **28** 14:57:01.5±0.9, 7.71N×94.06E, h33km, mb4.6/17, Error ellipse: s-maj=25.7km s-min=10.2km az=95.0*
*BJI **28** 14:57:03.3, 7.54N×93.77E, h50km, mB5.1, mb4.3*
*NEIC **28** 14:57:03.7±1.6, 7.77N×93.93E, h30km, mb4.5/7, Error ellipse: s-maj=36.9km s-min=14.1km az=146.0*
ISC 28 14:57:01.5±2.0, 7.8N±0.3×94.1E±0.2, h30km, n43, σ0§90/43, mb4.4/21, MS4.1/1, 1C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.62**	**24**	Pn	**P**	**14 59 49.4**	**+0.8**
	0.1nm,0.3s,baz=210,slow=14,SNR=11						
CHG	**Chiang Mai**	**11.94**	**23**	⇑P	**P**	**15 00 07.2**	**+14**
	14nm,1.0s						
NANT	**Nan**	**12.71**	**30**	P	**P**	**15 00 16.5**	**+13**
LSA	**Lhasa**	**21.98**	**353**	*eP*	**P**	**15 01 55.9**	**+1.0**
LSA				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.6						
LSA	**Lhasa**	**21.98**	**353**	*eP*	**P**	**15 01 55.9**	**+1.0**
	comp=Z,19nm,0.8s,mb4.6						
ENH	**Enshi**	**26.63**	**31**	*eP*	**P**	**15 02 39.9**	**+0.4**
	comp=Z,11nm,1.0s,mb4.3						
AAK	**Ala-Archa**	**38.77**	**337**	*iP*	**P**	**15 04 25.4**	**+0.3**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.3						
SONM	**Songino Array**	**41.27**	**13**	P	**P**	**15 04 46.2**	**+0.5**
	comp=Z,1.7nm,1.0s,mb3.6,baz=196,slow=5.7,SNR=6.9						
ULN	**Ulaanbaatar**	**41.44**	**13**	*iP*	**P**	**15 04 45.9**	**-1.2**
KURK	**Kurchatov**	**44.69**	**346**	*iP*	**P**	**15 05 13.7**	**+0.2**
KURK	**Kurchatov**	**44.69**	**346**	*eP*	**P**	**15 05 13.5**	**0.0**
	comp=Z,21nm,1.3s,mb4.8						
HIA	**Hailar**	**46.63**	**23**	*eP*	**P**	**15 05 29.9**	**+1.0**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HIA	**Hailar**	**46.63**	**23**	*eP*	**P**	**15 05 29.9**	**+0.9**
	comp=Z,2.3nm,0.5s,mb4.4						
ZAL	**Zalesovo**	**46.63**	**352**	P	**P**	**15 05 29.5**	**+0.6**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZAL	**Zalesovo**	**46.63**	**352**	P	**P**	**15 05 29.5**	**+0.7**
	comp=Z,2.2nm,0.9s,mb4.1,baz=293,slow=9.0,SNR=11						
ZAL	**Zalesovo**	**46.63**	**352**	P	**P**	**15 05 29.5**	**+0.7**
NVS	**Novosibirsk**	**47.73**	**352**	*eP*	**P**	**15 05 36.2**	**-1.3**
NVS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
NVS				pmax	pmax		
	comp=N,8.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.4s						
BVAR	**Borovoye Array**	**49.06**	**341**	P	**P**	**15 05 46.9**	**-0.9**
	comp=E,1.2nm,0.7s,mb4.0,baz=146,slow=5.3,SNR=4.7						
BRVK	**Borovoye**	**49.12**	**341**	*eP*	**P**	**15 05 47.8**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**49.12**	**341**	*eP*	**P**	**15 05 47.8**	**-0.5**
	comp=Z,3.7nm,0.9s,mb4.4						
CHKZ	**Chkalovo**	**49.54**	**342**	*eP*	**P**	**15 05 50.7**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
CHKZ	**Chkalovo**	**49.54**	**342**	*eP*	**P**	**15 05 50.7**	**-0.9**
	comp=Z,8.8nm,1.0s,mb4.7						
BOD	**Bodaibo**	**52.26**	**13**	*eP*	**P**	**15 06 10.6**	**-1.5**
KIV	**Kislovodsk**	**57.35**	**318**	*iP*	**P**	**15 06 44.6**	**-4.8**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
YAK	**Yakutsk**	**60.10**	**18**	*iP*	**P**	**15 07 07.4**	**-0.8**
YAK				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.7						
BRTR	**Keskin Array B**	**62.44**	**311**	P	**P**	**15 07 22.7**	**-1.7**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BRTR	**Keskin Array B**	**62.44**	**311**	P	**P**	**15 07 22.7**	**-1.7**
	comp=Z,1.9nm,1.1s,mb4.2,baz=127,slow=6.2,SNR=3.6						
OBN	**Obninsk**	**65.43**	**328**	*d iP*	**P**	**15 07 37.9**	**-5.7**
OBN				*e*		15 10 12.5	
OBN				*e*S	S	15 16 26.4	+2.0
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.1						
TIXI	**Tiksi**	**67.34**	**11**	*iP*	**P**	**15 07 55.0**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
MLR	**Muntele Rosu**	**69.20**	**316**	P	**P**	**15 08 08.1**	**+0.6**
MLR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MLR	**Muntele Rosu**	**69.20**	**316**	P	**P**	**15 08 08.1**	**+0.6**
	comp=Z,3.0nm,0.9s,mb4.2,baz=114,slow=9.3,SNR=4.3						
FINES	**FINESS Array B**	**72.77**	**332**	P	**P**	**15 08 29.0**	**+0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**72.77**	**332**	P	**P**	**15 08 29.0**	**+0.3**
	comp=Z,2.2nm,0.8s,mb4.1,baz=90,slow=11,SNR=4.0						
FINES	**FINESS Array B**	**72.77**	**332**	P	**P**	**15 08 29.0**	**+0.3**
GERES	**GERESS Array B**	**77.86**	**318**	P	**P**	**15 08 59.3**	**+1.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**77.86**	**318**	P	**P**	**15 08 59.3**	**+1.4**
	comp=Z,1.1nm,0.8s,mb3.9,baz=72,slow=4.2,SNR=7.4						
CLL	**Collm**	**78.39**	**321**	P	**P**	**15 09 02.0**	**+1.2**
HFS	**Hagfors**	**78.51**	**330**	P	**P**	**15 09 01.8**	**+0.5**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HFS	**Hagfors**	**78.51**	**330**	P	**P**	**15 09 01.8**	**+0.6**
	comp=Z,3.3nm,0.8s,mb4.3,baz=135,slow=4.1,SNR=3.8						
NB2	**NORSAR Subarra**	**79.78**	**331**	P	**P**	**15 09 08.4**	**+0.2**
	comp=Z,9.0nm,1.4s,mb4.5,baz=91,slow=4.8						
NB2	**NORSAR Subarra**	**79.78**	**331**	P	**P**	**15 09 08.4**	**+0.2**
NB2				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5						
NOA	**NORSAR Array B**	**79.78**	**331**	P	**P**	**15 09 08.7**	**+0.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**79.78**	**331**	P	**P**	**15 09 08.7**	**+0.5**
	comp=Z,2.0nm,0.9s,mb4.0,baz=92,slow=5.7,SNR=3.7						

*JMA **28** 15:01:02.6±0.1, 40.35N×142.08E, h50km±1km, M3.7 Broadband fault plane solution: P waves. NP1:φs197°, δ26°, λ82°. NP2:φs26°, δ64°, λ94°. Principal axes: T Plg71°, Azm305°; N Plg4°, Azm204°; P Plg19°, Azm113°; JMA Felt II J1.*
ISC 28 15:01:02.2±1.5, 40.35N±0.05×142.0E±0.1, h56km±10km, n8, σ0§59/15, 1C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.39**	**274**	⇓P	**P**	**15 01 13.0**	**+0.1**
JANG				S	**S**	**15 01 20.3**	**-0.4**
JTH	**Tanohata**	**0.43**	**197**	⇑P	**P**	**15 01 13.3**	**0.0**
JTH				S	**S**	**15 01 20.7**	**-0.6**
JKZ	**Kuzumaki**	**0.65**	**236**	⇓P	**P**	**15 01 16.4**	**+0.7**
JKZ				S	**S**	**15 01 26.0**	**+0.4**
JTM	**Tenmabayashi**	**0.85**	**301**	⇓P	**P**	**15 01 18.3**	**0.0**
JTM				S	**S**	**15 01 29.8**	**-0.5**
JOM	**Ohasama**	**1.04**	**213**	⇓P	**P**	**15 01 21.5**	**+0.5**
JOM				S	**S**	**15 01 35.0**	**+0.2**
JAH	**Hinai**	**1.07**	**262**	⇓P	**P**	**15 01 22.0**	**+0.6**
JAH				S	**S**	**15 01 36.3**	**+0.7**
JOT	**Ohata**	**1.27**	**325**	⇓P	**P**	**15 01 23.7**	**-0.5**
MAT	**Matsushiro**	**4.84**	**219**	P	**P**	**15 02 14.6**	**+0.2**
MAT				S	**S**	**15 03 08.1**	**-1.6**

IDC 28 15:02:27.5±7.8, 8.25N×94.24E, mb3.9/4, mb1 4.1/5, mb1mx3.7/18, mbtmp3.9/5, ML3.5/1, Error ellipse: s-maj=195.3km s-min=48.8km az=140.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.13**	**24**	Pn	P	15 05 09.7	-1.4
	0.1nm,0.3s,baz=209,slow=14,SNR=9.6						
SONM	**Songino Array**	**40.78**	**13**	P	P	15 10 10.1	-2.0
	0.5nm,0.8s,baz=196,slow=7.3,SNR=3.9						
ZAL	**Zalesovo**	**46.19**	**352**	P	P	15 10 53.1	-2.8
	1.4nm,0.3s,baz=129,slow=8.7,SNR=7.3						
GERES	**GERESS Array B**	**77.61**	**318**	P	P	15 14 25.7	-1.7
	0.4nm,0.5s,baz=63,slow=4.4,SNR=4.0						
HFS	**Hagfors**	**78.18**	**330**	P	P	15 14 29.5	-0.7
	1.2nm,0.7s,baz=140,slow=11,SNR=3.5						

IDC 28 15:02:39.7±3.5, 1.98N×121.49E, mb3.9/3, mb1 4.1/3, mb1mx3.7/15, mbtmp3.9/3, Error ellipse: s-maj=201.7km s-min=65.1km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.17**	**151**	P	P	15 08 06.1	-2.4
	2.2nm,0.8s,baz=327,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.21**	**155**	P	P	15 08 34.9	-1.5
	1.0nm,0.6s,baz=343,slow=15,SNR=14						
ASAR				PcP	PcP	15 11 48.1	-2.3
	0.5nm,0.5s,baz=342,slow=3.2,SNR=6.9						
STKA	**Stephens Creek**	**38.70**	**152**	P	P	15 10 05.7	-1.5
	1.6nm,0.5s,baz=338,slow=7.3,SNR=8.3						

IDC 28 15:02:48.0±10.0, 7.56N×94.11E, mb4.2/6, mb1 4.3/7, mb1mx3.9/18, mbtmp4.1/7, Error ellipse: s-maj=275.6km s-min=45.9km az=138.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.81**	**23**	Pn	P	15 05 39.0	-1.9
	baz=214,slow=13,SNR=3.0						
SONM	**Songino Array**	**41.47**	**13**	P	P	15 10 36.5	-1.7
	0.8nm,0.8s,baz=198,slow=7.8,SNR=5.5						
ZAL	**Zalesovo**	**46.85**	**352**	P	P	15 11 19.3	-2.2
	2.5nm,0.2s,baz=293,slow=7.1,SNR=7.1						
FINES	**FINESS Array B**	**72.97**	**332**	P	P	15 14 19.0	-2.1
	2.6nm,0.8s,baz=180,slow=3.8,SNR=4.0						
GERES	**GERESS Array B**	**78.03**	**318**	P	P	15 14 49.5	-0.6
	1.2nm,0.7s,baz=79,slow=6.8,SNR=6.9						
HFS	**Hagfors**	**78.70**	**330**	P	P	15 14 52.0	-1.6
	1.8nm,0.7s,baz=112,slow=8.0,SNR=4.6						
NB2	**NORSAR Subarra**	**79.98**	**331**	P	P	15 14 58.8	-1.7
	0.9nm,0.7s,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**79.98**	**331**	P	P	15 14 58.9	-1.6
	1.7nm,0.8s,baz=95,slow=5.0,SNR=4.5						

IDC 28 15:05:18.1±3.2, 7.49N×94.14E, mb3.6/3, mb1 3.9/4, mb1mx3.6/17, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=97.3km s-min=33.4km az=69.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.86**	**23**	Pn	P	15 08 10.5	-1.1
	0.2nm,0.3s,baz=208,slow=15,SNR=9.0						
SONM	**Songino Array**	**41.53**	**12**	P	P	15 13 05.4	-3.4
	0.4nm,0.8s,baz=191,slow=7.3,SNR=2.5						
ZAL	**Zalesovo**	**46.92**	**352**	P	P	15 13 51.0	-1.1
	1.0nm,0.3s,baz=302,slow=3.6,SNR=4.7						
WRA	**Warramunga Arr**	**48.04**	**125**	P	P	15 13 59.6	-1.8
	0.3nm,0.6s,baz=304,slow=8.5,SNR=2.5						

IDC 28 15:09:43.8±16.0, 3.65S×119.20E, mb3.5/3, mb1 3.8/3, mb1mx3.5/14, mbtmp3.6/3, Error ellipse: s-maj=378.8km s-min=189.4km az=22.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.92**	**139**	P	P	15 14 38.9	-1.8
	0.4nm,0.3s,baz=317,slow=10,0,SNR=22						
ASAR	**Alice Springs**	**24.45**	**146**	P	P	15 15 04.8	-0.9
	0.6nm,0.4s,baz=322,slow=8.1,SNR=10						
STKA	**Stephens Creek**	**35.09**	**146**	P	P	15 16 38.8	-2.2
	1.6nm,1.0s,baz=320,slow=10,SNR=7.5						

*IDC **28** 15:10:10.0±1.0, 7.67N×93.86E, mb4.1/11, mb1 4.3/12, mb1mx4.1/19, mbtmp4.1/12, ML4.2/1, Error ellipse: s-maj=39.2km s-min=19.8km az=53.0*
*BJI **28** 15:10:13.0, 7.63N×93.80E, h36km, mb4.4, Ms4.4, Msz4.0*
*NEIC **28** 15:10:14.4±0.5, 7.72N×93.96E, h30km, mb4.4/6, Error ellipse: s-maj=12.8km s-min=9.3km az=70.0*
ISC 28 15:10:12.5±0.7, 7.75N±0.09×94.0E±0.1, h30km, n32, σ0§70/31, mb4.3/21, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.67**	**24**	*eP*	**P**	**15 12 59.3**	**-1.1**
	4.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**11.67**	**24**	Pn	**P**	**15 13 01.0**	**+0.7**
	0.5nm,0.3s,baz=211,slow=14,SNR=22						
KMI	**Kunming**	**19.18**	**25**	P	**P**	**15 14 36.5**	**-0.2**
	9.0nm,0.9s						
KMI				pP		15 14 41.7	
JIRN	**Jiri**	**21.15**	**340**	*eP*	**P**	**15 14 57.3**	**-0.3**
	40nm,1.0s,mb4.7						
PKI	**Pulchoki**	**21.34**	**339**	*eP*	**P**	**15 15 00.0**	**+0.5**
	29nm,0.8s,mb4.7						
DMN	**Daman**	**21.48**	**338**	*eP*	**P**	**15 15 01.3**	**+0.3**
	34nm,0.8s,mb4.7						
KKN	**Kakani**	**21.59**	**339**	*eP*	**P**	**15 15 01.9**	**-0.1**
LSA	**Lhasa**	**22.01**	**353**	P	**P**	**15 15 09.5**	**+3.3**
LSA				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
LSA	**Lhasa**	**22.01**	**353**	*eP*	**P**	**15 15 06.1**	**-0.1**
	comp=Z,27nm,0.8s,mb4.7						
GKN	**Gorkha**	**22.02**	**337**	*eP*	**P**	**15 15 05.6**	**-0.7**
	comp=Z,45nm,0.9s,mb4.9						
KOLN	**Koldanda**	**22.23**	**335**	*eP*	**P**	**15 15 09.0**	**+0.6**
	comp=Z,29nm,0.9s,mb4.7						
ENH	**Enshi**	**26.69**	**31**	*eP*	**P**	**15 15 51.4**	**+0.3**
	comp=Z,1.9nm,0.5s,mb3.9						
SONM	**Songino Array**	**41.31**	**13**	P	**P**	**15 17 57.7**	**+0.5**
	comp=Z,2.4nm,0.8s,mb3.9,baz=196,slow=6.8,SNR=18						
KURK	**Kurchatov**	**44.71**	**346**	*eP*	**P**	**15 18 23.9**	**-0.9**
	comp=Z,9.1nm,1.0s,mb4.6						
ZAL	**Zalesovo**	**46.66**	**353**	P	**P**	**15 18 40.7**	**+0.5**
	comp=Z,5.5nm,0.9s,mb4.5,baz=301,slow=7.0,SNR=32						
ZAL	**Zalesovo**	**46.66**	**353**	P	**P**	**15 18 40.7**	**+0.5**
HIA	**Hailar**	**46.68**	**23**	*eP*	**P**	**15 18 40.9**	**+0.5**
WRA	**Warramunga Arr**	**48.28**	**125**	P	**P**	**15 18 53.7**	**+0.3**
	comp=Z,1.8nm,0.9s,mb4.1,baz=305,slow=8.6,SNR=5.8						
WRAB	**Tennant Creek**	**48.29**	**125**	*eP*	**P**	**15 18 52.2**	**-1.2**
BVAR	**Borovoye Array**	**49.07**	**341**	P	**P**	**15 18 59.2**	**+0.2**
	comp=Z,2.8nm,1.0s,mb4.3,baz=135,slow=4.2,SNR=10.0						
BVAR				ScP		15 24 18.3	
	comp=Z,0.9nm,0.9s,baz=135,slow=2.1,SNR=5.2						
BRVK	**Borovoye**	**49.13**	**341**	*eP*	**P**	**15 18 58.1**	**-1.4**
	comp=Z,3.6nm,1.1s,mb4.3						
CHKZ	**Chkalovo**	**49.56**	**342**	*eP*	**P**	**15 19 02.2**	**-0.5**
	comp=Z,8.3nm,0.9s,mb4.8						
ASAR	**Alice Springs**	**49.92**	**130**	P	**P**	**15 19 06.5**	**+0.5**
	comp=Z,1.4nm,0.8s,mb4.0,baz=311,slow=6.9,SNR=6.3						
BRTR	**Keskin Array B**	**62.42**	**311**	P	**P**	**15 20 34.4**	**-1.0**
	comp=Z,0.6nm,0.5s,mb4.0,baz=129,slow=7.9,SNR=3.9						
FINES	**FINESS Array B**	**72.77**	**332**	P	**P**	**15 21 39.8**	**0.0**
	comp=Z,1.6nm,0.6s,mb4.1,baz=108,slow=6.0,SNR=6.1						
ARCES	**ARCESS Array B**	**75.35**	**340**	P	**P**	**15 21 55.6**	**+1.0**
	comp=Z,3.0nm,0.9s,mb4.2,baz=63,slow=2.7,SNR=4.4						
GERES	**GERESS Array B**	**77.84**	**318**	P	**P**	**15 22 10.1**	**+1.1**
	comp=Z,1.3nm,0.9s,mb3.9,baz=90,slow=6.7,SNR=7.9						
HFS	**Hagfors**	**78.51**	**330**	P	**P**	**15 22 12.7**	**+0.3**
	comp=Z,1.7nm,0.5s,mb4.2,baz=104,slow=6.1,SNR=8.3						
NB2	**NORSAR Subarra**	**79.78**	**331**	P	**P**	**15 22 18.6**	**-0.7**
	comp=Z,2.2nm,0.9s,mb4.1,baz=92,slow=5.8						
NOA	**NORSAR Array B**	**79.78**	**331**	P	**P**	**15 22 19.7**	**+0.5**
	comp=Z,1.4nm,0.8s,mb3.9,baz=92,slow=5.9,SNR=4.3						
IMA	**Indian Mountai**	**91.78**	**22**	*eP*	**P**	**15 23 18.2**	**-0.2**
PDAR	**Pinedale Array**	**125.33**	**21**	PKP	PKPdf	15 29 14.4	-1.6
	comp=Z,0.5nm,0.9s,baz=90,slow=1.5,SNR=4.0						

*IDC **28** 15:16:29.5±0.8, 7.71N×93.85E, mb4.2/15, mb1 4.3/16, mb1mx4.2/21, mbtmp4.1/16, ML4.4/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/19, Error ellipse: s-maj=36.0km s-min=16.2km az=53.0*
*BJI **28** 15:16:33.8, 7.51N×93.55E, h56km, mb4.4, Ms4.5, Msz4.0*
*NEIC **28** 15:16:34.0±0.5, 7.75N×93.95E, h30km, mb4.5/7, Error ellipse: s-maj=14.6km s-min=10.0km az=69.0*
ISC 28 15:16:33.6±2.9, 7.8N±0.1×94.20E±0.09, h40km±23km, n39, σ1§20/37, mb4.4/29, MS3.8/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.57**	**23**	*eP*	**P**	**15 19 17.3**	**-1.9**
	6.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**11.57**	**23**	Pn	**P**	**15 19 19.9**	**+0.7**
	0.8nm,0.3s,baz=211,slow=14,SNR=24						
HYB	**Hyderabad**	**18.01**	**304**	*iP*	**P**	**15 20 43.0**	**+0.3**
HYB				*e*		15 23 53.0	
HYB				*e*S	**S**	**15 24 01.5**	**+2.3**
JIRN	**Jiri**	**21.17**	**340**	*eP*	**P**	**15 21 17.8**	**0.0**
	38nm,0.9s,mb4.8						
PKI	**Pulchoki**	**21.37**	**338**	*eP*	**P**	**15 21 20.8**	**+1.1**
	22nm,0.6s,mb4.7						
DMN	**Daman**	**21.52**	**338**	*eP*	**P**	**15 21 22.6**	**+1.4**
	31nm,0.5s,mb5.0						
KKN	**Kakani**	**21.61**	**338**	*eP*	**P**	**15 21 22.7**	**+0.5**
	29nm,0.7s,m

0.7nm,0.5s,mb4.0,baz=122,slow=7.5,SNR=4.8
AKASG **Malin Array Be** 68.26 322 P P 15 27 29.9 -2.5
0.1nm,0.3s,mb3.3,baz=94,slow=4.6,SNR=4.7
JOF **Joensuu** 70.95 334 *ep* P 15 27 47.2 -1.4
2.5nm,0.5s,mb4.4
FINES **FINESS Array B** 72.82 332 P P 15 27 58.8 -0.9
1.2nm,0.4s,mb4.2,baz=117,slow=8.5,SNR=15
KAF **Kangasniemi** 72.90 333 *ep* P 15 27 57.5 -2.7
1.0nm,0.4s,mb4.1
ARCES **ARCESS Array B** 75.37 340 P P 15 28 14.3 -0.1
2.7nm,0.9s,mb4.2,baz=96,slow=8.2,SNR=6.0
ARCES **ARCESS Array B** 75.37 340 P P 15 28 14.3 -0.1
GERES **GERESS Array B** 77.93 318 P P 15 28 29.2 0.0
1.3nm,0.7s,mb4.0,baz=76,slow=5.5,SNR=7.7
KHC **Kasperske Hory** 78.02 319 *eP* P 15 28 30.5 +0.8
HFS **Hagfors** 78.56 330 P P 15 28 32.0 -0.4
2.3nm,0.5s,mb4.3,baz=76,slow=6.1,SNR=20
NB2 **NORSAR Subarra** 79.84 331 P P 15 28 39.2 -0.1
1.6nm,0.6s,mb4.1,baz=97,slow=5.0
NOA **NORSAR Array B** 79.84 331 P P 15 28 40.3 +1.0
1.2nm,0.6s,mb4.0,baz=95,slow=5.1,SNR=7.0
DAVOX **Davos** 80.50 316 P P 15 28 47.4 +4.3
1.6nm,0.4s,mb4.3,baz=129,slow=11,SNR=4.8
LPG **La Plagne** 82.72 315 *eP* P 15 28 58.6 +3.9
29nm,1.3s,mb4.9
IMA **Indian Mountai** 91.68 22 *eP* P 15 29 39.0 +1.3
14nm,0.9s,mb5.3
ILAR **Eielson Array** 94.81 22 P P 15 29 53.2 +1.2
1.3nm,1.3s,mb4.2,baz=281,slow=4.6,SNR=2.4
YKA **Yellowknife Ar** 106.50 13 PKKPbc 15 46 17.8
0.1nm,0.5s,baz=149,slow=2.8,SNR=4.8
PDAR **Pinedale Array** 125.23 21 PKP PKPdf 15 35 33.5 +3.0
0.3nm,0.6s,slow=1.5,SNR=4.7
PLCA **Paso Flores** 144.48 200 PKP PKPdf 15 36 09.2 +3.2
2.3nm,0.6s,baz=270,slow=1.0,SNR=2.8

*BJI **28** 15:18:53.6, 7.20N×93.32E, h30km, mb4.3*
*IDC **28** 15:18:56.6±0.9, 7.63N×94.02E, mb4.0/12, mb1 4.2/13, mb1mx4.1/20, mbtmp4.0/13, ML4.2/1, Error ellipse: s-maj=40.7km s-min=19.1km az=53.0*
*NEIC **28** 15:19:01.2±0.5, 7.66N×94.05E, h30km, mb4.4/3, Error ellipse: s-maj=15.1km s-min=10.8km az=74.0*
ISC 28 15:18:56.0±0.7, 7.6N±0.1×94.0E±0.1, h10km, n20, σ0.58/18, mb4.0/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.78	23	Pn			P	15 21 47.3	0.0
0.5nm,0.3s,baz=211,slow=14,SNR=7.6									
LSA	**Lhasa**	22.13	353	*eP*			P	15 23 53.7	+0.1
14nm,0.7s,mb4.5									
SONM	**Songino Array**	41.43	13	P			P	15 26 44.1	-0.2
1.2nm,0.8s,mb3.6,baz=194,slow=7.7,SNR=4.9									
KURK	**Kurchatov**	44.83	346	*eP*			P	15 27 12.0	-0.1
5.8nm,1.0s,mb4.4									
ZAL	**Zalesovo**	46.78	353	P			P	15 27 27.3	-0.2
2.9nm,0.8s,mb4.3,baz=292,slow=6.6,SNR=9.5									
WRA	**Warramunga Arr**	48.19	125	P			P	15 27 39.1	0.0
0.7nm,0.5s,mb3.9,baz=305,slow=8.6,SNR=6.1									
BVAR	**Borovoye Array**	49.20	341	P			P	15 27 45.5	-0.8
1.6nm,0.9s,mb4.0,baz=180,slow=3.0,SNR=4.4									
ASAR	**Alice Springs**	49.83	130	P			P	15 27 51.4	-0.2
0.3nm,0.5s,mb3.5,baz=308,slow=10,SNR=2.8									
KMBO	**Kilima Mbogo**	57.30	264	*eP*			P	15 28 46.7	-0.3
4.1nm,1.1s,mb4.4									
AKASG	**Malin Array Be**	68.29	322	P			P	15 29 58.3	-1.1
0.2nm,0.3s,mb3.6,baz=90,slow=5.2,SNR=4.4									
MLR	**Muntele Rosu**	69.29	316	P			P	15 30 05.3	-0.3
1.4nm,0.6s,mb4.0,baz=108,slow=12,SNR=3.3									
FINES	**FINESS Array B**	72.89	332	P			P	15 30 27.0	0.0
2.8nm,1.0s,mb4.1,baz=117,slow=9.3,SNR=4.4									
FINES	**FINESS Array B**	72.89	332	P			P	15 30 27.0	0.0
ARCES	**ARCESS Array B**	75.47	340	P			P	15 30 42.5	+0.6
2.4nm,0.9s,mb4.1,baz=100,slow=5.5,SNR=3.1									
GERES	**GERESS Array B**	77.95	318	P			P	15 30 56.8	+0.8
0.9nm,0.6s,mb3.9,baz=72,slow=4.2,SNR=5.1									
HFS	**Hagfors**	78.63	330	P			P	15 31 00.1	+0.6
1.4nm,0.5s,mb4.1,baz=112,slow=8.0,SNR=7.0									
NB2	**NORSAR Subarra**	79.91	331	P			P	15 31 06.7	+0.3
1.9nm,0.9s,mb4.0,baz=90,slow=5.3									
NOA	**NORSAR Array B**	79.91	331	P			P	15 31 08.6	+2.1
1.4nm,1.0s,mb3.9,baz=97,slow=5.3,SNR=3.8									
PDAR	**Pinedale Array**	125.44	21	PKP			PKPdf	15 38 01.4	+0.5
0.4nm,0.8s,baz=207,slow=2.0,SNR=3.1									
PLCA	**Paso Flores**	144.28	200	PKP			PKPdf	15 38 35.3	-0.4
2.7nm,0.9s,baz=184,slow=7.1,SNR=2.8									

*IDC **28** 15:21:21.1±6.7, 7.89N×94.04E, mb4.0/11, mb1 4.1/12, mb1mx4.0/20, mbtmp3.9/12, ML3.3/1, Error ellipse: s-maj=161.0km s-min=47.0km az=144.0*
*NEIC **28** 15:21:21.8±0.7, 7.42N×94.49E, h30km, mb4.2/4, Error ellipse: s-maj=29.9km s-min=12.7km az=53.0*
ISC 28 15:21:19.6±0.8, 7.3N±0.2×94.4E±0.2, h30km, n19, σ1.07/19, mb4.1/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.93	21	Pn			P	15 24 15.0	+4.2
0.1nm,0.3s,baz=212,slow=14,SNR=3.6									
LSA	**Lhasa**	22.47	353	*eP*			P	15 26 18.7	+0.8
6.9nm,0.7s,mb4.2									
SONM	**Songino Array**	41.65	12	P			P	15 29 06.9	-0.1
0.6nm,0.7s,mb3.4,baz=201,slow=9.4,SNR=3.5									
KURK	**Kurchatov**	45.21	346	*eP*			P	15 29 34.7	-1.1
2.4nm,0.7s,mb4.1									
ZAL	**Zalesovo**	47.13	352	P			P	15 29 50.8	-0.1
1.5nm,0.4s,mb4.3,baz=280,slow=7.2,SNR=4.2									
WRAB	**Tennant Creek**	47.74	125	*eP*			P	15 29 56.2	-0.1
3.4nm,0.8s,mb4.4									
WB2	**Warramunga Arr**	47.75	125	*eP*			P	15 29 56.0	-0.3
BVAR	**Borovoye Array**	49.59	341	P			P	15 30 08.8	-1.2
1.1nm,0.9s,mb3.9,baz=135,slow=2.0,SNR=3.3									
BRVK	**Borovoye**	49.65	341	*eP*			P	15 30 08.4	-2.2
0.8nm,0.4s,mb4.1									
BRTR	**Keskin Array B**	62.98	311	P			P	15 31 45.1	-0.9
1.1nm,0.7s,mb4.1,baz=129,slow=7.9,SNR=5.8									
AKASG	**Malin Array Be**	68.74	322	P			P	15 32 21.7	-1.1
1.2nm,0.7s,mb3.9,baz=85,slow=5.2,SNR=5.4									
MLR	**Muntele Rosu**	69.74	316	P			P	15 32 30.0	+1.0
3.2nm,0.9s,mb4.2,baz=96,slow=3.6,SNR=4.1									
FINES	**FINESS Array B**	73.32	332	P			P	15 32 50.5	+0.4
3.0nm,0.9s,mb4.2,baz=90,slow=9.5,SNR=6.4									
FINES	**FINESS Array B**	73.32	332	P			P	15 32 50.5	+0.4
ARCES	**ARCESS Array B**	75.87	340	P			P	15 33 05.5	+0.8
1.2nm,0.8s,mb3.9,baz=79,slow=6.2,SNR=4.8									
ARCES	**ARCESS Array B**	75.87	340	P			P	15 33 05.5	+0.8
GERES	**GERESS Array B**	78.40	318	P			P	15 33 21.0	+1.9
1.7nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=11									
HFS	**Hagfors**	79.06	330	P			P	15 33 23.4	+1.0
2.9nm,0.8s,mb4.2,baz=153,slow=6.4,SNR=4.6									
NOA	**NORSAR Array B**	80.33	331	P			P	15 33 29.9	+0.6
1.1nm,0.8s,mb3.9,baz=93,slow=5.5,SNR=3.3									

IDC 28 15:22:04.4±8.0, 7.93N×93.72E, mb4.0/7, mb1 4.1/7, mb1mx3.8/18, mbtmp4.0/7, Error ellipse: s-maj=196.9km s-min=64.7km az=139.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	41.20	13	P			P	15 29 50.5	-2.0
0.9nm,0.8s,baz=200,slow=8.1,SNR=3.9									
ZAL	**Zalesovo**	46.44	353	P			P	15 30 33.8	-0.9
2.1nm,0.5s,baz=269,slow=4.0,SNR=6.1									
BVAR	**Borovoye Array**	48.81	341	P			P	15 30 50.4	-2.9
0.5nm,0.6s,baz=135,slow=6.1,SNR=3.5									
FINES	**FINESS Array B**	72.47	332	P			P	15 33 32.4	-2.2
1.2nm,0.5s,baz=111,slow=5.7,SNR=5.5									
ARCES	**ARCESS Array B**	75.08	340	P			P	15 33 48.0	-1.6
2.2nm,0.8s,baz=106,slow=6.6,SNR=3.7									
GERES	**GERESS Array B**	77.51	318	P			P	15 34 02.6	-1.1
0.3nm,0.5s,baz=90,slow=5.3,SNR=3.7									
HFS	**Hagfors**	78.20	330	P			P	15 34 05.7	-1.5
0.5nm,0.3s,baz=90,slow=3.0,SNR=5.8									

*BJI **28** 15:26:29.2, 7.28N×94.30E, h30km, mB4.6, mb4.2*
*IDC **28** 15:26:32.8±1.4, 8.28N×94.06E, mb3.9/7, mb1 4.1/8, mb1mx4.0/19, mbtmp3.9/8, ML3.6/1, Error ellipse: s-maj=53.1km s-min=27.7km az=50.0*
*NEIC **28** 15:26:37.0±0.9, 8.15N×93.91E, h30km, mb4.2/4, Error ellipse: s-maj=21.0km s-min=16.9km az=123.0*

ISC 28 15:26:37.2±3.1, 8.2N±0.1×94.00E±0.09, h49km±26km, n25, σ0.82/24, mb4.3/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.26	25	Pn			P	15 29 18.1	-0.1
0.1nm,0.3s,baz=212,slow=14,SNR=19									
VIS	**Vishakhapatnam**	14.04	313	*eP*			P	15 29 56.0	+0.8
VIS				*e*				15 30 00.5	
comp=Z,20nm,0.8s									
VIS				*eS*			S	15 32 30.5	+0.2
BWNR	**Bhubaneshwar**	14.39	327	*eP*			P	15 29 59.3	-0.5
BWNR				*e*				15 29 60.0	
comp=Z,6.4nm,0.1s									
BWNR				*e*				15 32 09.2	
HYB	**Hyderabad**	17.61	303	*i* P			P	15 30 46.0	+5.3
KMI	**Kunming**	18.77	25	P			P	15 30 57.6	+2.7
comp=Z,11nm,1.4s									
KMI				pP				15 31 03.2	
JIRN	**Jiri**	20.70	340	*eP*			P	15 31 15.9	+0.1
comp=Z,47nm,1.0s									
PKI	**Pulchoki**	20.90	338	*eP*			P	15 31 17.0	-0.8
comp=Z,91nm,1.3s									
DMN	**Daman**	21.04	338	*eP*			P	15 31 18.0	-1.3
comp=Z,32nm,0.8s,mb4.7									
KKN	**Kakani**	21.14	338	*eP*			P	15 31 20.1	-0.2
comp=Z,73nm,1.3s,mb4.8									
LSA	**Lhasa**	21.54	353	*eP*			P	15 31 24.4	+0.1
comp=Z,8.9nm,0.7s,mb4.3									
GKN	**Gorkha**	21.58	337	*eP*			P	15 31 24.4	-0.2
comp=Z,65nm,1.2s,mb5.0									
KOLN	**Koldanda**	21.79	334	*eP*			P	15 31 27.8	+1.0
comp=Z,102nm,1.4s,mb5.1									
BHPL	**Bhopal**	21.82	315	*eP*			P	15 31 26.1	-0.9
BHPL				*e*				15 31 29.6	
comp=Z,6.4nm,0.6s									
POO	**Poona**	22.09	300	*e*				15 31 43.9	
ENH	**Enshi**	26.30	31	*eP*			P	15 32 09.2	-1.0
comp=Z,4.0nm,0.8s,mb4.0									
SONM	**Songino Array**	40.86	13	P			P	15 34 15.6	-0.3
comp=Z,1.2nm,0.9s,mb3.5,baz=188,slow=8.7,SNR=6.6									
KURK	**Kurchatov**	44.25	346	*eP*			P	15 34 43.1	-0.4
comp=Z,11nm,1.1s,mb4.5									
ZAL	**Zalesovo**	46.19	352	P			P	15 34 59.5	+0.5
comp=Z,2.0nm,0.9s,mb4.0,baz=298,slow=9.3,SNR=5.9									
WRA	**Warramunga Arr**	48.57	126	P			P	15 35 18.0	-0.1
comp=Z,1.3nm,0.8s,mb4.0,baz=303,slow=9.2,SNR=4.9									
BVAR	**Borovoye Array**	48.62	341	P			P	15 35 17.1	-0.9
comp=Z,0.8nm,0.8s,mb3.8,baz=135,slow=10,SNR=4.3									
KMBO	**Kilima Mbogo**	57.32	263	P			P	15 36 22.6	-0.4
BRTR	**Keskin Array B**	62.10	311	P			P	15 36 56.8	+1.3
comp=Z,0.7nm,0.9s,mb3.8,baz=135,slow=7.0,SNR=3.7									
FINES	**FINESS Array B**	72.34	332	P			P	15 38 00.8	+1.3
comp=Z,1.8nm,0.7s,mb4.1,baz=153,slow=8.5,SNR=3.5									
GERES	**GERESS Array B**	77.48	318	P			P	15 38 29.5	+0.2
comp=Z,1.4nm,0.8s,mb3.9,baz=90,slow=5.3,SNR=8.1									
PDAR	**Pinedale Array**	124.90	21	PKP			PKPdf	15 45 35.9	+3.6
comp=Z,0.6nm,0.9s,baz=27,slow=3.3,SNR=3.7									

*IDC **28** 15:32:13.0±0.8, 7.91N×94.05E, mb4.0/15, mb1 4.1/16, mb1mx4.1/22, mbtmp4.0/16, ML3.6/1, Error ellipse: s-maj=32.3km s-min=18.9km az=47.0*
*NEIC **28** 15:32:17.5±0.6, 7.80N×93.99E, h30km, mb4.2/3, Error ellipse: s-maj=15.4km s-min=12.3km az=69.0*
ISC 28 15:32:14.7±7.8, 7.8N±0.2×94.0E±0.2, h23km±54km, n26, σ0.90/26, mb4.2/23, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.60	24	Pn			P	15 35 02.5	+0.5
0.1nm,0.3s,baz=211,slow=14,SNR=4.7									
JIRN	**Jiri**	21.06	340	*eP*			P	15 36 59.7	0.0
8.0nm,0.4s,mb4.5									
PKI	**Pulchoki**	21.25	339	*eP*			P	15 37 01.4	-0.2
18nm,0.6s,mb4.6									
DMN	**Daman**	21.39	338	*eP*			P	15 37 02.9	-0.2
18nm,0.7s,mb4.5									
KKN	**Kakani**	21.50	338	*eP*			P	15 37 03.5	-0.6
12nm,0.6s,mb4.4									
LSA	**Lhasa**	21.91	353	*eP*			P	15 37 10.4	+2.2
12nm,0.7s,mb4.4									
LSA				*ep*P				15 37 16.8	
GKN	**Gorkha**	21.93	337	*eP*			P	15 37 07.9	-0.5
33nm,0.6s,mb5.0									
KOLN	**Koldanda**	22.14	335	*eP*			P	15 37 10.7	+0.2
38nm,0.8s,mb4.9									
SONM	**Songino Array**	41.23	13	P			P	15 39 59.3	-0.1
0.6nm,0.7s,mb3.3,baz=201,slow=11,SNR=5.4									
ZAL	**Zalesovo**	46.57	353	P			P	15 40 42.3	-0.2
2.4nm,0.4s,mb4.5,baz=299,slow=1.3,SNR=8.5									
WRA	**Warramunga Arr**	48.35	125	P			P	15 40 56.6	-0.3
0.2nm,0.5s,mb3.4,baz=305,slow=8.4,SNR=3.2									
BVAR	**Borovoye Array**	48.98	341	P			P	15 41 00.3	-1.0
0.8nm,0.7s,mb3.9,baz=135,slow=10,SNR=5.6									
BRVK	**Borovoye**	49.04	341	*eP*			P	15 41 00.5	-1.3
0.8nm,0.3s,mb4.2									
ASAR	**Alice Springs**	49.99	130	P			P	15 41 09.2	-0.3
0.2nm,0.6s,mb3.4,baz=304,slow=7.4,SNR=3.1									
KMBO	**Kilima Mbogo**	57.28	264	P			P	15 42 04.2	+0.7
3.8nm,1.0s,mb4.4,baz=62,slow=11,SNR=7.9									
KMBO	**Kilima Mbogo**	57.28	264	*eP*			P	15 42 04.1	+0.6
0.8nm,0.6s,mb3.9									
BRTR	**Keskin Array B**	62.35	311	P			P	15 42 36.5	-1.4
1.1nm,0.6s,mb4.2,baz=129,slow=6.9,SNR=6.5									
AKASG	**Malin Array Be**	68.10	322	P			P	15 43 13.1	-1.8
1.6nm,0.7s,mb4.2,baz=88,slow=5.1,SNR=7.7									
MLR	**Muntele Rosu**	69.10	316	P			P	15 43 21.9	+0.8
2.1nm,0.7s,mb4.2,baz=146,slow=4.2,SNR=4.1									
FINES	**FINESS Array B**	72.68	332	P			P	15 43 42.0	-0.5
1.2nm,0.5s,mb4.1,baz=103,slow=6.9,SNR=12									
ARCES	**ARCESS Array B**	75.25	340	P			P	15 43 57.6	+0.4
1.7nm,0.7s,mb4.1,baz=90,slow=6.1,SNR=7.9									
GERES	**GERESS Array B**	77.76	318	P			P	15 44 12.8	+1.2
1.6nm,0.6s,mb4.2,baz=90,slow=5.5,SNR=15									
NOA	**NORSAR Array B**	79.70	331	P			P	15 44 22.0	+0.1
1.4nm,0.9s,mb3.9,baz=92,slow=5.7,SNR=3.6									
NOA	**NORSAR Array B**	79.70	331	P			P	15 44 22.0	+0.1
DAVOX	**Davos**	80.32	316	P			P	15 44 26.6	+1.0
2.7nm,0.6s,mb4.4,baz=135,slow=13,SNR=3.3									
EKA	**Eskdalemuir Ar**	87.67	325	P			P	15 45 04.3	+1.7
3.1nm,0.8s,mb4.6,baz=45,slow=4.7,SNR=3.6									

*IDC **28** 15:33:53.0±1.2, 7.94N×93.95E, mb3.8/8, mb1 4.0/9, mb1mx3.9/19, mbtmp3.8/9, ML3.9/1, Error ellipse: s-maj=54.9km s-min=20.0km az=54.0*
*NEIC **28** 15:33:56.7±0.6, 7.81N×93.71E, h30km, mb4.5/4, Error ellipse: s-maj=16.1km s-min=10.5km az=72.0*
ISC 28 15:33:56.0±0.9, 7.9N±0.1×93.9E±0.1, h33km, n15, σ0.64/14, mb4.0/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	11.60	25	*ePn*			P	15 36 42.1	-0.1
4.7nm,0.7s									
CMAR	**Chiang Mai Arr**	11.60	25	Pn			P	15 36 42.8	+0.5
0.2nm,0.3s,baz=210,slow=15,SNR=17									
LSA	**Lhasa**	21.83	354	*eP*			P	15 38 47.7	+0.3
15nm,0.8s,mb4.5									
SONM	**Songino Array**	41.20	13	P			P	15 41 38.9	-0.3
1.8nm,0.9s,mb3.7,baz=195,slow=8.1,SNR=12									
KURK	**Kurchatov**	44.52	346	*eP*			P	15 42 05.8	-0.4
3.0nm,0.3s,mb4.6									
ZAL	**Zalesovo**	46.48	353	P			P	15 42 22.2	+0.5
3.7nm,0.9s,mb4.3,baz=289,slow=9.1,SNR=16									
WRA	**Warramunga Arr**	48.50	125	P			P	15 42 37.6	-0.4
0.8nm,0.8s,mb3.8,baz=304,slow=8.9,SNR=6.9									
BVAR	**Borovoye Array**	48.88	341	P			P	15 42 39.8	-0.6
2.6nm,1.1s,mb4.2,baz=112,slow=8.0,SNR=4.5									
BRVK	**Borovoye**	48.94	341	*eP*			P	15 42 40.6	-0.3
1.0nm,0.6s,mb4.0									
CHKZ	**Chkalovo**	49.36	342	*eP*			P	15 42 43.5	-0.7
3.9nm,0.8s,mb4.5									
ASAR	**Alice Springs**	50.14	130	P			P	15 42 51.0	+0.4
0.5nm,0.8s,mb3.6,baz=296,slow=7.0,SNR=3.5									
AKASG	**Malin Array Be**	67.96	322	P			P	15 44 55.7	+2.0
0.1nm,0.3s,mb3.3,baz=85,slow=4.6,SNR=4.1									
FINES	**FINESS Array B**	72.56	332	P			P	15 45 21.2	-0.2
2.7nm,0.8s,mb4.2,baz=117,slow=8.5,SNR=3.9									
GERES	**GERESS Array B**	77.62	318	P			P	15 45 50.4	-0.3
1.0nm,1.0s,mb3.7,baz=108,slow=4.2,SNR=4.0									
PDAR	**Pinedale Array**	125.24	21	PKP			PKPdf	15 52 53.9	+0.1
0.3nm,0.5s,baz=72,slow=4.7,SNR=4.3									

IDC 28 15:40:48.4±7.5, 7.26N×94.13E, mb3.9/3, mb1 4.1/4, mb1mx3.6/18, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=169.5km s-min=62.1km az=145.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	12.08	22	Pn			P	15 43 42.2	-2.7
0.2nm,0.3s,baz=213,slow=15,SNR=8.5									
SONM	**Songino Array**	41.76	12	P			P	15 48 39.2	-1.8
0.2nm,0.4s,baz=191,slow=7.3,SNR=3.2									
ZAL	**Zalesovo**	47.15	352	P			P	15 49 22.5	-1.8
1.2nm,0.4s,baz=329,slow=8.1,SNR=4.8									
FINES	**FINESS Array B**	73.25	332	P			P	15 52 21.3	-1.8
1.3nm,0.7s,baz=117,slow=8.5,SNR=4.8									

*IDC **28** 15:42:54.1±0.8, 7.87N×93.98E, mb4.1/12, mb1 4.2/13, mb1mx4.2/19, mbtmp4.1/13, ML3.8/1, MS3.0/1, Ms1 3.2/1, ms1mx2.5/24, Error ellipse: s-maj=36.8km s-min=18.6km az=52.0*
*BJI **28** 15:42:57.0, 7.49N×93.92E, h58km, mb4.4*
*NEIC **28** 15:42:58.6±0.5, 7.89N×94.06E, h30km, mb4.5/6, Error ellipse: s-maj=16.2km s-min=9.9km az=64.0*
ISC 28 15:42:54.0±0.6, 7.94N±0.09×94.21E±0.09, h10km, n36, σ0.95/33, mb4.5/26, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.43	23	Pn			P	15 45 42.5	+2.1
0.2nm,0.3s,baz=213,slow=14,SNR=6.6									
CMAR				LR			LR	15 51 16.7	
comp=Z,74nm,18.3s,baz=230,slow=43									
HYB	**Hyderabad**	17.94	303	*i* P			P	15 47 07.5	+2.2
JIRN	**Jiri**	21.04	340	*eP*			P	15 47 40.2	-0.3
58nm,1.0s,mb4.8									
PKI	**Pulchoki**	21.23	338	*eP*			P	15 47 42.8	+0.3
69nm,1.1s,mb4.9									
DMN	**Daman**	21.38	337	*eP*			P	15 47 43.9	-0.1
57nm,0.9s,mb4.9									
KKN	**Kakani**	21.48	338	*eP*			P	15 47 44.5	-0.5
96nm,1.4s,mb4.9									
LSA	**Lhasa**	21.84	353	*eP*			P	15 47 48.5	-0.1
LSA	**Lhasa**	21.84	353	*eP*			P	15 47 48.4	-0.2
15nm,0.8s,mb4.5									
GKN	**Gorkha**	21.92	337	*eP*			P	15 47 49.0	-0.4
37nm,0.7s,mb4.9									
KOLN	**Koldanda**	22.14	334	*eP*			P	15 47 51.3	-0.2
120nm,1.3s,mb5.2									
ENH	**Enshi**	26.43	31	*eP*			P	15 48 33.5	+0.6
8.0nm,1.0s,mb4.2									
XAN	**Xi'an**	29.31	26	P			P	15 48 59.0	+0.1
XAN				AMB			AMB		
comp=Z,4.0nm,1.0s,mb4.1									
SONM	**Songino Array**	41.09	12	P			P	15 50 40.0	+0.5
comp=Z,1.6nm,1.0s,mb3.6,baz=196,slow=9.0,SNR=8.7									
SONM				PcP			PcP	15 52 40.2	+0.4
comp=Z,0.5nm,0.5s,baz=194,slow=3.6,SNR=3.9									
KURK	**Kurchatov**	44.57	346	*eP*			P	15 51 07.5	-0.3
comp=Z,11nm,1.2s,mb4.6									
ZAL	**Zalesovo**	46.50	352	P			P	15 51 23.4	+0.3
comp=Z,1.5nm,0.5s,mb4.2									
ZAL	**Zalesovo**	46.50	352	P			P	15 51 23.4	+0.3
WRA	**Warramunga Arr**	48.24	126	P			P	15 51 37.9	+0.6
comp=Z,1.5nm,0.9s,mb4.0,baz=304,slow=8.5,SNR=8.5									
WRAB	**Tennant Creek**	48.24	126	*eP*			P	15 51 36.6	-0.7
comp=Z,3.3nm,0.9s,mb4.4									
BVAR	**Borovoye Array**	48.95	341	P			P	15 51 41.2	-1.2
comp=Z,2.2nm,1.0s,mb4.1,baz=149,slow=8.6,SNR=7.1									
RAYN	**Ar Rayn**	49.13	294	P			P	15 51 45.5	+1.4
comp=Z,59nm,0.7s,mb5.7,SNR=8.9									
CHKZ	**Chkalovo**	49.44	342	*eP*			P	15 51 44.6	-1.4

MS5.5/14 Error ellipse: s-maj=14.3km s-min=6.7km az=102.8

ISC 28 15:46:45.7±0.2, 1.01S±0.04×81.20W±0.02, h19km, h19km±1.0km: pP-P, n411, σ1§07/300, mb5.3/104, MS5.5/128, 13C-3D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.65**	**94**	P	**Pb**	**15 46 56.2**	**-2.0**
JAMA	**Jama**	**1.24**	**53**	⇑P	**Pn**	**15 47 05.4**	**-2.7**
MAGD	**Magdalena**	**1.70**	**57**	⇓P	**Pn**	**15 47 13.9**	**-0.8**
MAGD				S	**Sn**	**15 47 36.4**	**+0.3**
IGUA	**Igualata**	**2.60**	**101**	P	**Pn**	**15 47 27.2**	**-0.4**
TERV	**Terraza Guagua**	**2.72**	**72**	P	**Pn**	**15 47 27.7**	**-1.6**
MARY	**Rancho Maria**	**2.72**	**84**	P	**Pn**	**15 47 30.0**	**+0.6**
PINO	**Pino**	**2.72**	**72**	⇑P	**Pn**	**15 47 27.7**	**-1.6**
GGP	**Refugio Guagua**	**2.73**	**72**	P	**Pn**	**15 47 28.5**	**-1.0**
GGP				S	**Sn**	**15 48 04.3**	**+2.1**
NAS1	**Nasa**	**2.74**	**82**	⇑P	**Pn**	**15 47 29.5**	**-0.1**
JOR1	**San Jorge 1**	**2.75**	**69**	P	**Pn**	**15 47 28.0**	**-1.7**
CUSU	**Cusua**	**2.75**	**99**	P	**Pn**	**15 47 29.6**	**-0.2**
JUIV	**Juive**	**2.76**	**99**	⇓P	**Pn**	**15 47 29.8**	**-0.2**
YANA	**Yana**	**2.77**	**71**	⇑P	**Pn**	**15 47 28.2**	**-1.8**
ARRY	**Arrayan**	**2.78**	**100**	P	**Pn**	**15 47 29.9**	**-0.3**
RETU	**Refugio**	**2.78**	**99**	P	**Pn**	**15 47 30.9**	**+0.6**
PATA	**Patacocha**	**2.80**	**100**	P	**Pn**	**15 47 33.2**	**+2.6**
PISA	**Pisayambo**	**2.81**	**91**	⇓P	**Pn**	**15 47 31.1**	**+0.5**
VC1	**Cotopaxi 1**	**2.81**	**83**	⇑P	**Pn**	**15 47 31.0**	**+0.3**
ULBA	**Ulba**	**2.82**	**99**	P	**Pn**	**15 47 30.9**	**+0.2**
TAMB	**Tambo**	**2.84**	**84**	⇑P	**Pn**	**15 47 31.2**	**+0.1**
OTAV	**Otavalo**	**3.01**	**66**	*e*P	**Pn**	**15 47 31.0**	**-2.5**
ANTI	**Antisana**	**3.08**	**80**	⇑P	**Pn**	**15 47 34.6**	**+0.1**
COTA	**Cotacachi**	**3.15**	**65**	P	**Pn**	**15 47 34.3**	**-1.2**
CAYR	**Refugio Cayamb**	**3.35**	**72**	⇑P	**Pn**	**15 47 38.9**	**+0.7**
CAYA	**Cayambe**	**3.38**	**72**	⇑P	**Pn**	**15 47 39.1**	**+0.4**
CONE	**Cono NE Rev Vo**	**3.67**	**75**	P	**Pn**	**15 47 43.2**	**+0.3**
ROSC	**El Rosal**	**9.00**	**50**	Pn	**P**	**15 48 57.4**	**-0.3**
	1.8nm,0.3s,baz=272,slow=23,SNR=8.4						
PAYG	**Puerto Ayora**	**9.10**	**272**	*e*P	**P**	**15 48 57.1**	**-2.0**
	1μm,1.7s						
NNA	**Nana**	**11.73**	**159**	Pn	**P**	**15 49 33.5**	**-1.8**
	663nm,1.3s,SNR=19						
NNA	**Nana**	**11.73**	**159**	*e*P	**P**	**15 49 30.8**	**-4.5**
	127nm,0.9s						
JTS	**JuntasAbangare**	**11.83**	**342**	*i* P	**P**	**15 49 37.7**	**+1.1**
JTS	**JuntasAbangare**	**11.83**	**342**	*e*P	**P**	**15 49 36.3**	**-0.4**
	165nm,1.5s						
SDV	**Santo Domingo**	**14.40**	**47**	Pn	**P**	**15 50 10.4**	**-0.4**
	1.0nm,0.3s,baz=260,slow=12,SNR=13						
SDV	**Santo Domingo**	**14.40**	**47**	*e*P	**P**	**15 50 10.5**	**-0.3**
	56nm,0.7s						
ARE	**Arequipa**	**18.09**	**149**	*e*P	**P**	**15 50 59.0**	**+1.1**
ARE				*e*		15 51 40.0	
SAML	**Samuel**	**19.59**	**114**	⇑*e*P	**P**	**15 51 09.9**	**-5.9**
	1.2nm,0.5s						
TEIG	**Tepich**	**22.21**	**342**	*e*P	**P**	**15 51 45.0**	**+2.2**
	133nm,1.4s,mb5.2						
TEIG				LR	LR		
	comp=Z,6μm,20.0s,MS5.0						
HUIG	**Huatulco**	**22.25**	**319**	*i* P	**P**	**15 51 42.5**	**-0.7**
CMIG	**Matias Romero**	**22.48**	**324**	*i* P	**P**	**15 51 44.9**	**-0.7**
SJG	**San Juan**	**24.09**	**37**	P	**P**	**15 52 01.6**	**+0.3**
SJG				pmax	pmax		
	comp=Z,2μm,2.3s						
SJG	**San Juan**	**24.09**	**37**	P	**P**	**15 52 00.8**	**-0.4**
	comp=Z,47nm,0.8s,mb5.0,baz=216,slow=3.8,SNR=16						
SJG	**San Juan**	**24.09**	**37**	*e*P	**P**	**15 52 00.5**	**-0.8**
	comp=Z,2μm,2.3s,mb6.2						
SJG				LR	LR		
	comp=Z,7μm,19.0s,MS5.2						
LVC	**Limon Verde**	**24.57**	**152**	P	**P**	**15 52 06.4**	**+0.4**
	comp=Z,48nm,1.3s,mb4.9,baz=328,slow=9.0,SNR=11						
LVC	**Limon Verde**	**24.57**	**152**	*e*P	**P**	**15 52 05.4**	**-0.6**
	comp=Z,101nm,1.5s,mb5.1						
LVC				LR	LR		
	comp=Z,7μm,21.0s,MS5.2						
DWS	**Wesley**	**25.64**	**49**	*e*P	**P**	**15 52 15.2**	**-1.0**
PPM	**Popocatepetl**	**26.29**	**320**	*i* P	**P**	**15 52 25.0**	**+2.8**
DWPF	**Disney**	**28.95**	**360**	PFAKE		15 53 00.0	+14
DWPF				LR	LR		
	comp=Z,9μm,20.0s,MS5.4						
TLL	**Tololo Astrono**	**30.63**	**162**	*e*P	**P**	**15 53 05.7**	**+4.5**
FCH	**Farellones**	**33.74**	**163**	*e*P	**P**	**15 53 29.2**	**+0.9**
MDZ	**Mendoza**	**33.77**	**161**	*e*P	**P**	**15 53 30.6**	**+2.0**
MDZ				S	Sx	15 59 17.5	
MDZ				SS	SS	16 00 49.8	-6.3
HKT	**Hockley**	**33.81**	**337**	P	**P**	**15 53 33.3**	**+4.4**
HKT	**Hockley**	**33.81**	**337**	*e*P	**P**	**15 53 28.1**	**-0.8**
HKT				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
NHSC	**New Hope**	**33.95**	**2**	P	**P**	**15 53 31.0**	**+0.9**
NHSC				LR	LR		
	comp=Z,11μm,20.0s,MS5.6						
LRAL	**Lakeview Retre**	**34.30**	**351**	*e*P	**P**	**15 53 34.5**	**+1.3**
	comp=Z,101nm,1.6s,mb5.5						
LRAL				LR	LR		
	comp=Z,5μm,20.0s,MS5.2						
GOGA	**Godfrey**	**34.30**	**357**	P	**P**	**15 53 38.2**	**+5.0**
GOGA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GOGA	**Godfrey**	**34.30**	**357**	*e*P	**P**	**15 53 32.7**	**-0.5**
	comp=Z,24nm,0.9s,mb5.1						
GOGA				LR	LR		
	comp=Z,12μm,21.0s,MS5.6						
NATX	**Nacogdoches**	**35.00**	**340**	*e*P	**P**	**15 53 41.5**	**+2.4**
NATX				LR	LR		
	comp=Z,5μm,20.0s,MS5.2						
JSC	**Jenkinsville**	**35.10**	**360**	P	**P**	**15 53 40.8**	**+0.8**
JSC	**Jenkinsville**	**35.10**	**360**	*e*P	**P**	**15 53 40.1**	**+0.1**
BAO	**Brasilia Array**	**35.83**	**116**	*e*P	**P**	**15 53 44.5**	**-1.9**
BAO				*i*	pP	15 53 50.1	-2.0
JCT	**Junction City**	**35.98**	**332**	P	**P**	**15 53 48.7**	**+1.2**
JCT				pmax	pmax		
	comp=Z,15nm,1.7s,mb4.7						
JCT	**Junction City**	**35.98**	**332**	*e*P	**P**	**15 53 48.0**	**+0.5**
	comp=Z,243nm,1.7s,mb5.9						
JCT				LR	LR		
	comp=Z,4μm,21.0s,MS5.2						
MYNC	**Murphy**	**36.00**	**356**	*e*P	**P**	**15 53 48.1**	**+0.5**
	comp=Z,49nm,1.1s,mb5.3						
OXF	**Oxford**	**36.16**	**348**	*e*P	**P**	**15 53 48.8**	**-0.2**
	comp=Z,37nm,0.9s,mb5.3						
OXF				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
PLAL	**Pickwick Lake**	**36.38**	**350**	P	**P**	**15 53 49.1**	**-1.7**
CPCT	**Cooper Cave**	**36.40**	**355**	*e*P	**P**	**15 53 51.0**	**0.0**
BBSR	**BB Station**	**36.68**	**24**	PFAKE		15 54 00.0	+6.6
BBSR				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
MET	**Memphis--Engin**	**36.86**	**348**	P	**P**	**15 53 54.7**	**-0.1**
LTX	**Lajitas**	**37.04**	**326**	PFAKE		15 54 10.0	+14
LTX				LR	LR		
	comp=Z,5μm,19.0s,MS5.3						
TXAR	**Lajitas Array**	**37.04**	**326**	P	**P**	**15 53 55.9**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=153,slow=8.4,SNR=13						
TXAR				PcP	PcP	15 56 19.5	+2.0
	comp=Z,3.7nm,0.7s,baz=149,slow=7.3,SNR=7.2						
TXAR				LR	LR	16 08 04.4	
	comp=Z,4μm,19.6s,MS5.2,baz=75,slow=34						
TXAR	**Lajitas Array**	**37.04**	**326**	P	**P**	**15 53 55.9**	**-0.5**
TXAR				PcP	PcP	15 56 19.5	+2.0
TXAR				LR	LR	16 08 04.4	
MIAR	**Mount Ida**	**37.22**	**343**	P	**P**	**15 54 01.3**	**+3.4**
MIAR				pmax	pmax		
	comp=Z,14nm,2.1s,mb4.4						
MIAR	**Mount Ida**	**37.22**	**343**	*e*P	**P**	**15 53 58.9**	**+1.0**
	comp=Z,184nm,2.1s,mb5.5						
MIAR				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
WVT	**Waverly**	**37.46**	**351**	P	**P**	**15 54 01.7**	**+1.8**
WVT				pmax	pmax		
	comp=Z,95nm,1.9s,mb5.3						
WVT	**Waverly**	**37.46**	**351**	*e*P	**P**	**15 53 59.6**	**-0.3**
	comp=Z,96nm,1.9s,mb5.3						
WVT				LR	LR		
	comp=Z,5μm,20.0s,MS5.3						
BLA	**Blacksburg**	**38.03**	**1**	P	**P**	**15 54 10.8**	**+6.1**
BLA				pmax	pmax		
	comp=Z,47nm,1.1s,mb5.1						
BLA	**Blacksburg**	**38.03**	**1**	*e*P	**P**	**15 54 04.7**	**0.0**
	comp=Z,48nm,1.1s,mb5.1						
BLA				LR	LR		
	comp=Z,8μm,22.0s,MS5.5						
ELN	**Prospectdale**	**38.05**	**1**	*e*P	**P**	**15 54 04.7**	**-0.1**
PWV	**Princeton**	**38.15**	**0**	*e*P	**P**	**15 54 05.2**	**-0.5**
WMOK	**Wichita Mounta**	**39.19**	**337**	*e*P	**P**	**15 54 14.7**	**+0.2**
	comp=Z,35nm,1.2s,mb5.0						
USIN	**University of**	**39.24**	**352**	*e*P	**P**	**15 54 12.9**	**-1.9**
WCI	**Wyandotte Cave**	**39.33**	**354**	P	**P**	**15 54 20.5**	**+5.0**
WCI				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.0						
WCI	**Wyandotte Cave**	**39.33**	**354**	*e*P	**P**	**15 54 13.4**	**-2.1**
	comp=Z,29nm,1.0s,mb5.0						
WCI				LR	LR		
	comp=Z,6μm,20.0s,MS5.4						
GDL2	**Guadalupe Moun**	**39.64**	**328**	*e*P	**P**	**15 54 18.9**	**+0.7**
FVM	**French Village**	**39.73**	**349**	P	**P**	**15 54 24.3**	**+5.5**
FVM				pmax	pmax		
	comp=Z,96nm,1.6s,mb5.3						
FVM	**French Village**	**39.73**	**349**	*e*P	**P**	**15 54 17.8**	**-1.0**
MNTX	**Cornudas Mount**	**39.80**	**327**	*e*P	**P**	**15 54 18.1**	**-1.4**
	comp=Z,34nm,1.1s,mb5.0						
MNTX				LR	LR		
	comp=Z,7μm,20.0s,MS5.5						
CCM	**Cathedral Cave**	**39.96**	**348**	P	**P**	**15 54 21.0**	**+0.2**
CCM				pmax	pmax		
	comp=Z,61nm,1.4s,mb5.1						
CCM	**Cathedral Cave**	**39.96**	**348**	*e*P	**P**	**15 54 20.6**	**-0.2**
	comp=Z,61nm,1.4s,mb5.1						
CCM				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
CPRX	**Cap Rock**	**40.05**	**330**	*e*P	**P**	**15 54 22.7**	**+1.2**
LPA	**La Plata**	**40.10**	**150**	*ce*P	**P**	**15 54 17.0**	**-5.0**
LPA				*e*pP	pP	15 54 22.0	-5.7
LPA				*e*sP	sP	15 54 23.0	-7.1
LPA				*e*pS		16 00 29.0	
LPA				*e*sS		16 00 31.0	
LPA				PKIKP		16 03 35.0	
BLO	**Bloomington**	**40.28**	**354**	*e*P	**P**	**15 54 22.8**	**-0.6**
AMTX	**Amarillo**	**40.53**	**334**	*e*P	**P**	**15 54 24.6**	**-0.9**
	comp=Z,40nm,0.8s,mb5.1						
PLCA	**Paso Flores**	**40.70**	**168**	P	**P**	**15 54 26.1**	**-0.7**
	comp=Z,13nm,0.9s,mb4.6,baz=332,slow=10,SNR=10						
PLCA	**Paso Flores**	**40.70**	**168**	*e*P	**P**	**15 54 25.3**	**-1.5**
	comp=Z,101nm,1.4s,mb5.3						
TRQA	**Tornquist**	**40.88**	**157**	*e*P	**P**	**15 54 26.2**	**-2.1**
	comp=Z,186nm,1.4s,mb5.5						
TRQA				LR	LR		
	comp=Z,5μm,19.0s,MS5.4						
ACSO	**Alum Creek Sta**	**41.08**	**358**	*e*P	**P**	**15 54 28.8**	**-1.1**
	comp=Z,6.9nm,0.6s,mb4.5						
ACSO				LR	LR		
	comp=Z,9μm,19.0s,MS5.7						
SSPA	**Standing Stone**	**41.56**	**4**	*e*P	**P**	**15 54 34.3**	**+0.4**
	comp=Z,61nm,1.4s,mb5.0						
SSPA				LR	LR		
	comp=Z,5μm,22.0s,MS5.3						
KSU1	**Kansas State U**	**42.35**	**342**	*e*P	**P**	**15 54 41.1**	**+0.6**
ALLY	**Alegheny Colle**	**42.47**	**1**	*e*P	**P**	**15 54 40.9**	**-0.5**
LPM	**Los Pinos Moun**	**42.47**	**328**	*e*P	**P**	**15 54 43.0**	**+1.4**
LENM	**Lemitar**	**42.54**	**328**	*e*P	**P**	**15 54 44.2**	**+2.1**
LAZ	**Ladron**	**42.81**	**328**	*e*P	**P**	**15 54 44.9**	**+0.7**
ANMO	**Albuquerque**	**42.88**	**329**	P	**P**	**15 54 45.1**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,30nm,0.8s						
ANMO	**Albuquerque**	**42.88**	**329**	*e*P	**P**	**15 54 44.5**	**-0.3**
	comp=Z,30nm,0.8s,mb5.1						
ANMO				LR	LR		
	comp=Z,4μm,20.0s,MS5.3						
ERPA	**Erie**	**42.94**	**1**	*e*P	**P**	**15 54 44.0**	**-1.2**
	comp=Z,25nm,0.9s,mb4.9						
ERPA				LR	LR		
	comp=Z,7μm,19.0s,MS5.6						
AAM	**Ann Arbor**	**43.17**	**357**	PFAKE		15 55 00.0	+13
AAM				LR	LR		
	comp=Z,14μm,21.0s,MS5.8						
TUC	**Tucson**	**43.37**	**322**	P	**P**	**15 54 48.0**	**-0.8**
TUC				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.8						
TUC	**Tucson**	**43.37**	**322**	*e*P	**P**	**15 54 48.5**	**-0.3**
	comp=Z,24nm,1.1s,mb4.8						
TUC				LR	LR		
	comp=Z,14μm,20.0s,MS5.8						
BRYW	**Bryant College**	**43.61**	**10**	*e*P	**P**	**15 54 49.1**	**-1.5**
	comp=Z,150nm,0.7s,mb5.8						
GENY	**Geneseo**	**43.68**	**4**	P	**P**	**15 54 52.1**	**+0.9**
HRV	**Harvard--Oak R**	**44.18**	**10**	PFAKE		15 55 10.0	+15
HRV				LR	LR		
	comp=Z,7μm,21.0s,MS5.5						
SDCO	**Great Sand Dun**	**44.63**	**332**	*e*P	**P**	**15 54 58.7**	**-0.2**
	comp=Z,58nm,1.4s,mb5.2						
SDCO				LR	LR		
	comp=Z,6μm,19.0s,MS5.5						
RCBR	**Riachuelo**	**45.45**	**97**	*e*P	**P**	**15 55 03.9**	**-1.9**
	comp=Z,15nm,0.8s,mb4.9						
RCBR				LR	LR		
	comp=Z,12μm,19.0s,MS5.8						
ISCO	**Idaho Springs**	**46.35**	**334**	P	**P**	**15 55 16.5**	**+3.9**
ISCO				pmax	pmax		
	comp=Z,87nm,1.8s,mb5.4						
ISCO	**Idaho Springs**	**46.35**	**334**	*e*P	**P**	**15 55 12.8**	**+0.2**
	comp=Z,87nm,1.9s,mb5.4						
ISCO				LR	LR		
	comp=Z,4μm,21.0s,MS5.3						
PV01	**Paradox Valley**	**46.42**	**330**	*e*P	**P**	**15 55 13.7**	**+0.6**
PV10	**Paradox Valley**	**46.84**	**330**	*e*P	**P**	**15 55 16.5**	**0.0**
BAR	**Barrett**	**47.37**	**318**	*e*P	**P**	**15 55 22.2**	**+1.4**
PHWY	**Pilot Hill**	**47.52**	**335**	*e*P	**P**	**15 55 22.8**	**+1.0**
PFO	**Pinyon Flat Ob**	**47.80**	**319**	P	**P**	**15 55 28.5**	**+4.4**
PFO				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.1						
PFO	**Pinyon Flat Ob**	**47.80**	**319**	*e*P	**P**	**15 55 23.7**	**-0.5**
	comp=Z,21nm,1.1s,mb5.1						
PFO				LR	LR		
	comp=Z,858nm,19.0s,MS4.7						
LDFC	**Landfair**	**47.89**	**322**	*e*P	**P**	**15 55 23.0**	**-1.8**
NEN	**Nelson**	**48.11**	**323**	*e*P	**P**	**15 55 25.9**	**-0.6**
SRU	**San Rafael**	**48.15**	**329**	P	**P**	**15 55 30.6**	**+3.9**
SRU	**San Rafael**	**48.15**	**329**	*e*P	**P**	**15 55 27.6**	**+0.8**
MSU	**Marysvale**	**48.58**	**327**	P	**P**	**15 55 31.3**	**+1.3**
MSU	**Marysvale**	**48.58**	**327**	*e*P	**P**	**15 55 30.2**	**+0.2**
MVU	**Marysvale**	**48.59**	**327**	*e*P	**P**	**15 55 29.5**	**-0.6**
	comp=Z,23nm,1.3s,mb5.0						
MVU				LR	LR		
	comp=Z,7μm,19.0s,MS5.7						
TMUT	**Trail Mountain**	**48.64**	**329**	P	**P**	**15 55 29.3**	**-1.2**
MWC	**Mount Wilson**	**49.23**	**319**	P	**P**	**15 55 39.9**	**+4.8**
MWC	**Mount Wilson**	**49.23**	**319**	*e*P	**P**	**15 55 35.1**	**0.0**
MPU	**Maple Canyon**	**49.39**	**329**	*e*P	**P**	**15 55 35.0**	**-1.3**
DAU	**Daniels Canyon**	**49.50**	**330**	P	**P**	**15 55 38.0**	**+0.9**
DAU	**Daniels Canyon**	**49.50**	**330**	*e*P	**P**	**15 55 36.8**	**-0.4**
NLU	**North Lily Min**	**49.58**	**329**	*e*P	**P**	**15 55 37.8**	**0.0**
JLU	**Jordanelle**	**49.74**	**330**	*e*P	**P**	**15 55 38.9**	**-0.1**
TCUT	**Toone Canyon**	**50.11**	**330**	*e*P	**P**	**15 55 42.2**	**+0.4**
DAC	**Darwin (Calif)**	**50.21**	**321**	PFAKE		15 55 50.0	+7.4
DAC				LR	LR		
	comp=Z,6μm,20.0s,MS5.6						
BW06	**Boulder Array**	**50.50**	**333**	*e*P	**P**	**15 55 43.6**	**-1.1**
	comp=Z,36nm,1.8s,mb5.0						
BW06				LR	LR		
	comp=Z,6μm,19.0s,MS5.6						
PDAR	**Pinedale Array**	**50.50**	**333**	P	**P**	**15 55 44.4**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=119,slow=9.3,SNR=7.7						
PDAR				PcP	PcP	15 57 04.1	+1.2
	comp=Z,4.2nm,0.9s,baz=124,slow=5.3,SNR=4.6						
PDAR				LR	LR	16 17 52.4	
	comp=Z,5μm,18.9s,MS5.6,baz=264,slow=37						
HWUT	**Hardware Ranch**	**50.55**	**331**	P	**P**	**15 55 45.5**	**+0.3**
	comp=Z,3.6nm,0.3s,mb4.8						
HWUT				LR	LR		
	comp=Z,6μm,20.0s,MS5.6						
SPUT	**South Promonto**	**50.77**	**330**	*e*P	**P**	**15 55 47.0**	**+0.2**
BGU	**Big Grassy Mou**	**50.78**	**329**	*e*P	**P**	**15 55 46.8**	**-0.1**
TPH	**Tonopah**	**51.14**	**323**	*e*P	**P**	**15 55 50.0**	**+0.3**
	comp=Z,11nm,1.0s,mb4.8						
TPH				LR	LR		
	comp=Z,4μm,20.0s,MS5.5						
AHID	**Auburn Hatcher**	**51.21**	**332**	*e*P	**P**	**15 55 49.4**	**-0.7**
	comp=Z,40nm,1.5s,mb5.1						
AHID				LR	LR		
	comp=Z,6μm,19.0s,MS5.6						
HVU	**Hansel Valley**	**51.28**	**330**	P	**P**	**15 55 54.0**	**+3.3**
HVU	**Hansel Valley**	**51.28**	**330**	*e*P	**P**	**15 55 50.4**	**-0.3**
SNOW	**Snow King Moun**	**51.59**	**333**	*e*P	**P**	**15 55 51.2**	**-1.8**
LOHW	**Long Hollow**	**51.64**	**333**	*e*P	**P**	**15 55 53.0**	**-0.4**
TPAW	**Teton Pass**	**51.70**	**333**	*e*P	**P**	**15 55 52.6**	**-1.3**
MOOW	**Moose Ponds**	**51.81**	**333**	*e*P	**P**	**15 55 58.3**	**+3.6**
OMM	**Old Mammoth Mi**	**51.92**	**322**	*e*P	**P**	**15 55 56.3**	**+0.7**
MNV	**Mina**	**51.93**	**323**	P	**P**	**15 55 58.4**	**+2.8**
MNV				pmax	pmax		
	comp=Z,230nm,2.1s,mb5.7						
MNV	**Mina**	**51.93**	**323**	*e*P	**P**	**15 55 56.0**	**+0.3**
	comp=Z,232nm,2.2s,mb5.7						
MNV				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
NVAR	**Mina Array Bea**	**52.02**	**323**	P	**P**	**15 55 56.5**	**+0.2**
	comp=Z,3.9nm,0.9s,mb4.4,baz=116,slow=8.9,SNR=18						
NVAR				PcP	PcP	15 57 09.1	+0.5
	comp=Z,4.8nm,0.9s,baz=144,slow=7.8,SNR=2.6						
NVAR				LR	LR	16 16 46.6	
	comp=Z,3μm,18.8s,MS5.3,baz=130,slow=35						
LKWY	**Lake**	**52.29**	**334**	*e*P	**P**	**15 56 00.3**	**+2.0**
	comp=Z,46nm,1.7s,mb5.1						
LKWY				LR	LR		
	comp=Z,10μm,19.0s,MS5.9						
LAO	**LASA Array**	**52.34**	**338**	PFAKE		15 56 10.0	+11
LAO				LR	LR		
	comp=Z,4μm,19.0s,MS5.4						
YFT	**Old Faithful**	**52.40**	**333**	P	**P**	**15 55 57.7**	**-1.4**
BMN	**Battle Mountai**	**52.70**	**326**	P	**P**	**15 56 05.2**	**+3.8**
BMN				pmax	pmax		
	comp=Z,100nm,1.7s,mb5.5						
BMN	**Battle Mountai**	**52.70**	**326**	*e*P	**P**	**15 56 00.5**	**-1.0**
	comp=Z,100nm,1.8s,mb5.5						
BMN				LR	LR		
	comp=Z,9μm,19.0s,MS5.8						
PTCN	**Pitcairn Islan**	**52.88**	**239**	PFAKE		15 56 10.0	+7.0
PTCN				LR	LR		
	comp=Z,5μm,20.0s,MS5.6						
QLMT	**Earthquake Lak**	**52.96**	**333**	P	**P**	**15 56 02.5**	**-0.8**
SAO	**San Andreas Ge**	**52.96**	**319**	PFAKE		15 56 10.0	+6.6
SAO				LR	LR		
	comp=Z,4μm,22.0s,MS5.4						
CMB	**Columbia Colle**	**53.05**	**321**	*e*P	**P**	**15 56 02.8**	**-1.2**
CMB				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
DGMT	**Dagmar**	**53.17**	**341**	PFAKE		15 56 20.0	+15
DGMT				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
HLID	**Hailey**	**53.41**	**330**	*e*P	**P**	**15 56 05.8**	**-0.9**
	comp=Z,151nm,2.3s,mb5.5						
HLID				LR	LR		
	comp=Z,7μm,20.0s,MS5.7						
MCMT	**McKenzie Canyo**	**53.60**	**332**	*e*P	**P**	**15 56 06.2**	**-1.8**
BOZ	**Bozeman (W)**	**53.68**	**334**	P	**P**	**15 56 08.4**	**-0.2**
BOZ				pmax	pmax		
	comp=Z,74nm,1.6s,mb5.4						
BOZ	**Bozeman (W)**	**53.68**	**334**	*e*P	**P**	**15 56 07.8**	**-0.8**
	comp=Z,74nm,1.7s,mb5.3						
BOZ				LR	LR		
	comp=Z,5μm,19.0s,MS5.6						
USHA	**Ushuaia**	**54.66**	**171**	P	**P**	**15 56 14.6**	**-1.0**
	comp=Z,9.9nm,0.9s,mb4.8,baz=355,slow=12,SNR=2.4						
WVOR	**Wild Horse Val**	**54.83**	**327**	P	**P**	**15 56 20.9**	**+3.8**
WVOR				pmax	pmax		
	comp=Z,49nm,1.4s,mb5.3						
WVOR	**Wild Horse Val**	**54.83**	**327**	*e*P	**P**	**15 56 14.9**	**-2.2**
	comp=Z,49nm,1.5s,mb5.3						
WVOR				LR	LR		
	comp=Z,9μm,21.0s,MS5.8						
HOPS	**Hopland**	**55.31**	**321**	PFAKE		15 56 30.0	+9.4
HOPS				LR	LR		
	comp=Z,4μm,20.0s,MS5.5						
MOD	**Modoc**	**55.42**	**325**	*e*P	**P**	**15 56 20.3**	**-1.1**
	comp=Z,184nm,2.4s,mb5.7						
MOD				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
MSO	**Missoula**	**55.62**	**333**	*e*P	**P**	**15 56 22.8**	**+0.1**
	comp=Z,54nm,2.0s,mb5.2						
MSO				LR	LR		
	comp=Z,4μm,20.0s,MS5.5						
BMO	**Blue Mountains**	**55.79**	**330**	*e*P	**P**	**15 56 23.0**	**-0.9**
	comp=Z,18nm,1.6s,mb4.9						
BMO				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
WDC	**Whiskeytown Da**	**55.92**	**323**	PFAKE		15 56 40.0	+15
WDC				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
YBH	**Yreka Blue Hor**	**56.72**	**324**	PFAKE		15 56 40.0	+9.3
YBH				LR	LR		
	comp=Z,3μm,22.0s,MS5.4						
SCHQ	**Schefferville**	**56.90**	**10**	P	**P**	**15 56 31.0**	**-0.8**
	comp=Z,5.9nm,0.9s,mb4.6,baz=150,slow=8.2,SNR=6.2						
SCHQ				LR	LR	16 20 17.3	
	comp=Z,4μm,21.7s,MS5.4,baz=200,slow=35						
SCHQ	**Schefferville**

comp=Z,96nm,1.5s
INK Inuvik 77.82 342 LR LR 16 35 20.7
comp=Z,5μm,19.9s,MS5.8,baz=119,slow=38
INK Inuvik 77.82 342 *e*P **P 15 58 42.5 -0.7**
comp=Z,96nm,1.6s,mb5.5
KIP Kipapa 78.11 292 PFAKE 15 59 00.0 +14
KIP LR LR
comp=Z,7μm,20.0s,MS6.0
MTE Manteigas 78.25 48 *e*P **P 15 58 46.2 +0.1**
comp=Z,58nm,1.6s,mb5.3
MTE *e*S S 16 08 40.5 +1.8
MTE *e*LR LR 16 23 54.9
comp=Z,3μm,18.2s
EMIN Mina Concepcio 78.42 51 P **P 15 58 48.0 +1.0**
comp=Z,3.5nm,0.4s,mb4.6
RAR Rarotonga 78.99 249 PFAKE 15 59 00.0 +9.5
RAR LR LR
comp=Z,3μm,19.0s,MS5.7
PBRG Braganca 79.12 47 *e*P **P 15 58 52.3 +1.4**
comp=Z,52nm,1.5s,mb5.2
EPON Pontenova 79.13 46 P **P 15 58 51.3 +0.5**
THY Trims Highway 79.77 336 P **P 15 58 55.1 +1.2**
ILAR Eielson Array 80.76 337 P **P 15 58 59.2 +0.1**
comp=Z,4.7nm,1.1s,mb4.3,baz=130,slow=2.3,SNR=17
ILAR LR LR 16 36 37.9
comp=Z,3μm,18.1s,MS5.7,baz=128,slow=37
ESDC Sonseca Array 80.83 50 P **P 15 58 59.4 -0.6**
comp=Z,8.3nm,0.9s,mb4.7,baz=269,slow=5.0,SNR=9.4
ESLA Sonseca Array 80.83 50 *e*P **P 15 58 57.6 -2.4**
comp=Z,27nm,1.5s,mb5.0
ESLA LR LR
comp=Z,8μm,20.0s,MS6.1
GUD Guadarrama 80.83 49 P **P 15 58 59.3 -0.7**
comp=Z,7.9nm,0.8s,mb4.7
FIB Fire Island 80.88 333 PFAKE 15 59 10.0 +10
FIB LR LR
comp=Z,2μm,19.0s,MS5.5
KDAK Kodiak Island 81.02 329 PFAKE 15 59 10.0 +9.4
KDAK LR LR
comp=Z,608nm,19.0s,MS5.0
COLA College 81.18 337 *i* P **P 15 59 02.8 +1.5**
COLA College 81.18 337 *e*P **P 15 59 00.0 -1.3**
comp=Z,28nm,1.4s,mb5.0
COLA LR LR
comp=Z,3μm,20.0s,MS5.6
MCK McKinley 81.21 335 P **P 15 59 01.3 -0.2**
comp=Z,18nm,1.5s,mb4.8
MCK LR LR
comp=Z,2μm,21.0s,MS5.4
EQES Quesada 81.24 52 P **P 15 59 07.9 +5.7**
comp=Z,17nm,0.8s,mb5.0
SPU Mount Spurr 81.75 332 P **P 15 59 03.8 -0.6**
ELAN Lanestosa 81.78 46 P **P 15 59 06.9 +2.0**
EVIA Vianos 81.80 51 P **P 15 59 08.7 +3.6**
RSO Redoubt South 81.86 332 *e*P **P 15 59 04.4 -0.6**
ROSF Rostrenen 82.73 41 *e*P **P 15 59 10.1 +0.4**
comp=Z,201nm,1.6s,mb5.6
QUIF Quistinic 82.73 42 *e*P **P 15 59 10.2 +0.5**
comp=Z,203nm,1.8s,mb5.6
SJPF Ste Jean 83.36 47 *e*P **P 15 59 14.0 +0.9**
comp=Z,202nm,1.5s,mb5.6
SVW2 Sparrevohn 83.37 332 *e*P **P 15 59 14.8 +2.0**
EBEN Beniarda 83.58 51 P **P 15 59 18.3 +4.0**
EMOS Mosqueruela 83.58 49 P **P 15 59 17.1 +2.7**
ESAC San Caprasio 83.74 48 P **P 15 59 15.4 +0.2**
comp=Z,49nm,0.7s,mb5.8
ETSF Etsaut 83.82 47 *e*P **P 15 59 16.4 +0.9**
comp=Z,83nm,1.4s,mb5.4
IMA Indian Mountai 83.87 337 *e*P **P 15 59 16.3 +1.2**
ESK Eskdalemuir 84.00 34 PFAKE 15 59 30.0 +14
ESK LR LR
comp=Z,492nm,20.0s,MS4.9
ERTA Horta de San J 84.25 49 P **P 15 59 19.5 +1.8**
comp=Z,32nm,1.0s,mb5.4
EBIE Bielsa 84.31 47 P **P 15 59 18.6 +0.7**
comp=Z,15nm,0.7s,mb5.2
GRR Gorron 84.33 41 *e*P **P 15 59 18.2 +0.3**
comp=Z,116nm,1.4s,mb5.5
EPF Esparros 84.49 47 *e*P **P 15 59 19.7 +0.9**
comp=Z,235nm,1.6s,mb5.8
MFF Saint Martin d 84.57 43 *e*P **P 15 59 19.6 +0.4**
comp=Z,169nm,1.6s,mb5.6
FLN La Foliniere 84.62 41 *e*P **P 15 59 20.1 +0.7**
FLN *e*R
comp=Z,2μm,21.0s
LDF La Druitiere 84.84 41 *e*P **P 15 59 20.8 +0.3**
comp=Z,127nm,1.5s,mb5.5
DAG Danmarks Havn 84.88 12 *e*P **P 15 59 19.0 -1.1**
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
DAG Danmarks Havn 84.88 12 *e*P **P 15 59 19.0 -1.1**
comp=Z,5.2nm,0.8s,mb4.7
DAG Danmarks Havn 84.88 12 *i* P **P 15 59 19.0 -1.1**
comp=Z,5.2nm,0.8s,mb4.7
LFF La Frestale 84.99 45 *e*P **P 15 59 21.6 +0.3**
comp=Z,209nm,1.4s,mb5.8
EMIR Miracle 85.24 48 P **P 15 59 21.8 -0.8**
JMIC Jan Mayen 85.35 18 LR LR 16 38 27.0
comp=Z,2μm,19.4s,MS5.4,baz=271,slow=36
JMIC Jan Mayen 85.35 18 *e*P **P 15 59 27.2 +4.7**
JMIC LR LR
comp=Z,1350μm,17.9s
RJF Les Rejaudoux 85.58 45 *e*P **P 15 59 24.5 +0.3**
comp=Z,126nm,1.4s,mb5.7
RJF *e*R
comp=Z,2μm,21.0s
MTLF Montolieu 85.89 47 *e*P **P 15 59 25.8 0.0**
comp=Z,116nm,1.4s,mb5.6
CAF Calviac 85.92 45 *e*P **P 15 59 26.3 +0.3**
comp=Z,106nm,1.5s,mb5.5
TCF Toulx Ste Croi 86.16 44 *e*P **P 15 59 27.3 +0.2**
HYF Humbligny 86.54 43 *e*P **P 15 59 29.5 +0.6**
BGF Bois d'Agland 86.62 43 *e*P **P 15 59 29.6 +0.3**
comp=Z,252nm,1.4s,mb6.0
AVF Avril sur Loir 86.99 43 *e*P **P 15 59 31.1 0.0**
comp=Z,67nm,1.3s,mb5.4
SSF Saint Saulge 87.11 43 *e*P **P 15 59 31.6 -0.1**
SMF Signal de Mont 87.31 43 *e*P **P 15 59 32.7 0.0**
comp=Z,156nm,1.5s,mb5.7
VIVF Saint-Julien-l 87.77 45 *e*P **P 15 59 35.8 +0.9**
comp=Z,73nm,1.4s,mb5.4
BAIF Baives 87.81 40 *e*P **P 15 59 35.5 +0.5**
GIVF Givet 88.20 40 *e*P **P 15 59 37.3 +0.4**
comp=Z,312nm,1.7s,mb6.0
MEZF Maizieres J'vi 88.25 42 *e*P **P 15 59 37.5 +0.3**
comp=Z,105nm,1.4s,mb5.6
SMRF Simiane la Rot 88.36 46 *e*P **P 15 59 38.6 +0.8**
comp=Z,96nm,1.3s,mb5.6
ORIF Oris-en-Rattie 88.63 45 *e*P **P 15 59 40.1 +1.1**
comp=Z,53nm,1.2s,mb5.4
ORIF *e*R
comp=Z,2μm,22.8s
CABF La Chapelle 88.85 44 *e*P **P 15 59 40.6 +0.5**
comp=Z,154nm,1.5s,mb5.8
LMR La Mourre 89.01 47 *e*P **P 15 59 40.6 -0.3**
comp=Z,226nm,1.7s,mb5.9
WLF Walferdange 89.04 40 *e*P **P 15 59 39.0 -1.9**
QSPA South Pole Qui 89.05 180 *e*P **P 15 59 39.6 -0.7**
comp=Z,188nm,1.9s,mb6.1
QSPA *e*pP pP 15 59 46.4 -0.1
HAU Haudompre 89.09 42 *e*P **P 15 59 41.2 0.0**
comp=Z,61nm,1.4s,mb5.4
HAU *e*R
comp=Z,2μm,20.0s
FRF La Foret Royal 89.12 47 *e*P **P 15 59 40.5 -0.9**
comp=Z,44nm,0.9s,mb5.5
BER Bergen 89.15 30 *e*P **P 15 59 45.8 +4.6**
BER *e*SKSac 16 10 10.1
BER LR LR
comp=Z,1020μm,20.5s
MBDF Montbardon 89.25 45 *e*P **P 15 59 42.5 +0.5**
comp=Z,91nm,1.6s,mb5.5
LPL La Plagne 89.25 45 *e*P **P 15 59 43.3 +1.3**
comp=Z,89nm,1.6s,mb5.5
LPG La Plagne 89.27 45 *e*P **P 15 59 43.6 +1.5**
comp=Z,77nm,1.5s,mb5.5
HINF Hinteralfeld 89.42 42 *e*P **P 15 59 42.8 0.0**
comp=Z,96nm,1.7s,mb5.5
TNA Tin City 89.55 335 *e*P **P 15 59 42.6 -0.3**
TNA *e*pP pP 15 59 49.2 +0.2
SBF Sospel 89.70 46 *e*P **P 15 59 44.0 -0.2**
comp=Z,89nm,1.1s,mb5.7
CDF Champ du Feu 89.73 42 *e*P **P 15 59 44.5 +0.3**
comp=Z,105nm,1.7s,mb5.6
AFI Afiamalu 90.33 256 PFAKE 16 00 00.0 +12
AFI LR LR
comp=Z,2μm,19.0s,MS5.7

BFO Black Forest 90.43 42 *e*P **P 15 59 46.6 -0.8**
TNS Taunus Mts 90.54 40 *e*P **P 15 59 47.4 -0.5**
PGF Pioggiola 90.82 48 *e*P **P 15 59 49.2 -0.2**
KONO Kongsberg 91.27 31 PFAKE 16 00 00.0 +9.0
KONO LR LR
comp=Z,2μm,20.0s,MS5.5
BSEG Bad Segeberg 91.70 36 *e*P **P 15 59 57.3 +4.2**
CLZ Clausthal 91.76 38 *e*P **P 15 59 53.6 +0.2**
NOA NORSAR Array B 92.05 29 LR LR 16 40 17.4
comp=Z,766nm,18.2s,MS5.2,baz=255,slow=35
GRA1 Grafenberg Arr 92.33 40 *e*P **P 15 59 59.2 +3.1**
GRA1 *e*PP PP 16 03 35.2 -4.4
GRA1 *e*SKSac 16 10 33.2
GRA1 *e*S S 16 10 59.4 +3.8
GRA1 *e*ScS ScS 16 11 03.0 +5.4
GRA1 LR LR
comp=Z,2μm,21.7s,MS5.5
GRF Grafenberg Arr 92.33 40 *e*P **P 15 59 59.2 +3.1**
GRF *e*PP PP 16 03 35.2 -4.4
GRF *e*SKS SKS 16 10 33.2 -0.3
GRF *e*S S 16 10 59.4 +3.8
GRF *e*ScS ScS 16 11 03.0 +5.4
GRF LR LR
comp=Z,2μm,21.7s,MS5.5
FUR Furstenfeldbru 92.40 42 *e*P **P 15 59 57.2 +0.7**
MOX Moxa 92.56 40 *e*P **P 16 00 03.4 +6.2**
MOX MLR MLR
comp=Z,1μm,20.0s,MS5.4
MOX Moxa 92.56 40 *e*P **P 16 00 03.4 +6.2**
MOX *e*S SKS 16 10 36.0 +1.2
MOX LR LR
comp=Z,1μm,20.0s,MS5.4
MOX Moxa 92.56 40 *i* P **P 16 00 03.4 +6.2**
MOX S SKS 16 10 36.0 +1.2
MOX L 16 41 18.0
NKC Novy Kostel 93.11 40 *e*P **P 15 59 59.8 +0.1**
NKC *e*SKS SKS 16 10 37.4 -0.4
NKC *e*S S 16 11 07.8 +5.5
NKC AMS AMS 16 44 20.0
comp=Z,2μm,16.8s
CLL Collm 93.41 39 *i* P **P 16 00 05.9 +4.8**
CLL *e* pP 16 00 13.0 +5.8
CLL *e* 16 10 38.0
CLL *e*S S 16 11 11.0 +6.0
CLL pmax pmax
comp=Z,48nm,2.0s,mb5.6
CLL MLR MLR
comp=Z,2μm,19.0s,MS5.6
CLL Collm 93.41 39 *i* P **P 16 00 05.9 +4.8**
comp=Z,48nm,2.0s,mb5.6
CLL *e* pP 16 00 13.0 +5.8
CLL *e*SKS SKS 16 10 38.0 -1.5
CLL *e*S S 16 11 11.0 +6.0
CLL LR LR
comp=Z,2μm,19.0s,MS5.6
CLL Collm 93.41 39 *i* *PP pP 16 00 05.9 -1.3
CLL *e* 16 00 13.0
CLL *e* 16 00 45.0
CLL *e* 16 03 43.0
CLL *e*PP PP 16 03 55.0 +6.8
CLL *e* 16 04 17.0
CLL *e* 16 10 38.0
CLL *e*S S 16 11 11.0 +6.0
CLL *e*PS PS 16 12 19.0 -7.0
CLL *e*PPS PPS 16 13 06.0 +6.2
CLL *e*SS SS 16 17 42.0 +16
WET Wettzell 93.43 41 *e*P **P 16 00 02.2 +1.0**
SBA Scott Base 93.58 191 PFAKE 16 00 10.0 +8.7
SBA LR LR
comp=Z,1μm,20.0s,MS5.3
KHC Kasperske Hory 93.89 41 *e*P **P 16 00 04.1 +0.8**
KHC *e* 16 10 37.9
KHC *e*S S 16 11 11.5 +2.3
KHC MLR MLR
comp=Z,1μm,17.8s,MS5.4
KHC Kasperske Hory 93.89 41 *e*P **P 16 00 04.1 +0.8**
KHC *e* 16 00 14.5
KHC *e*SKS SKS 16 10 37.9 -4.3
KHC *e*S S 16 11 11.5 +2.3
KHC AMS AMS 16 42 30.0
comp=Z,1μm,17.8s
KHC Kasperske Hory 93.89 41 *e*P **P 16 00 04.1 +0.8**
KHC x x 16 00 14.5
KHC *e*SKS SKS 16 10 37.9 -4.3
KHC *e*S S 16 11 11.5 +2.3
KHC AMS AMS 16 42 30.0
comp=Z,1μm,17.8s
GEC2 GERESS Array S 93.98 41 *e*P **P 16 00 03.5 -0.3**
GERES GERESS Array B 93.98 41 P **P 16 00 03.0 -0.7**
comp=Z,2.1nm,0.8s,mb4.6,baz=270,slow=2.7,SNR=10
BRG Berggiesshubel 94.03 39 *i* P **P 16 00 09.1 +5.2**
BRG *e* pP 16 00 16.5 +6.4
BRG 16 03 50.0
BRG S SKS 16 10 41.0 -1.9
BRG *i* 16 11 20.0
BRG *i* 16 12 29.0
BRG pmax pmax
comp=Z,29nm,1.7s,mb5.4
BRG MLR MLR
comp=Z,3μm,25.5s,MS5.7
BRG MLR MLR
comp=N,1μm,24.2s,MS5.5
BRG MLR MLR
comp=E,2μm,24.2s,MS5.5
BRG Berggiesshubel 94.03 39 *i* P **P 16 00 09.1 +5.2**
comp=E,28nm,1.7s,mb5.4
BRG *e* pP 16 00 16.5 +6.4
BRG PP PP 16 03 50.0 -3.1
BRG S SKS 16 10 41.0 -1.9
BRG *i* 16 11 20.0
BRG *i* 16 12 29.0
BRG SS tx 16 16 41.0
BRG LR LR
comp=Z,3μm,25.5s,MS5.7
PVCC Panska Ves 94.45 40 *e*P **P 16 00 06.3 +0.5**
PVCC *e*SKS SKS 16 10 42.6 -2.6
PVCC *e*S S 16 11 19.1 +5.2
PVCC AMS AMS 16 38 50.0
comp=Z,2μm,19.7s
PRU Pruhonice 94.47 40 *e*P **P 16 00 10.3 +4.4**
PRU *e*PP PP 16 03 56.7 +0.5
PRU *e*SKS SKS 16 10 39.1 -6.2
PRU *e*S S 16 11 23.5 +9.4
PRU AMS AMS 16 37 30.0
comp=Z,2μm,20.2s
TRO Tromso 94.47 20 *e*P **P 16 00 06.9 +1.4**
TRO *e*SKSac 16 10 43.6
TRO *e*S S 16 11 20.4 +6.7
TRO LR LR
comp=Z,727μm,18.8s
VAE Valguarnera 95.07 53 LR LR 16 40 09.0
comp=Z,2μm,19.2s,MS5.7,baz=297,slow=34
UPC Upice 95.37 40 *e*P **P 16 00 12.2 +2.1**
DPC Dobruska-Polom 95.58 40 *e*P **P 16 00 11.4 +0.4**
DPC *e*SKS SKS 16 10 43.5 -7.9
DPC *e*x x 16 11 18.7
DPC AMS AMS 16 40 00.0
comp=Z,2μm,20.0s
MORC Moravsky Berou 96.42 40 *e*P **P 16 00 14.8 0.0**
comp=Z,41nm,1.7s,mb5.6
ARCES ARCESS Array B 96.74 20 LR LR 16 37 28.0
comp=Z,1μm,21.3s,MS5.3,baz=277,slow=32
OKC Ostrava-Krasne 96.80 40 *e*P **P 16 00 22.8 +6.2**
OKC *e*SKS SKS 16 10 55.5 -2.4
OKC *e*S S 16 11 43.2 +9.3
OKC AMS AMS 16 37 50.0
comp=Z,2μm,22.8s
VYHS Vyhne 97.41 41 *i* P **P 16 00 25.3 +5.9**
VYHS *e**PP pP 16 00 31.5 +6.0
VYHS *i* 16 10 58.8
VYHS *e*S S 16 11 42.3 +3.2
VYHS *e*PS PS 16 13 09.0 -0.3
VYHS *e*SS SS 16 18 25.8 +3.9
VYHS Vyhne 97.41 41 *i* **P 16 00 25.3 +5.9**
VYHS *e* pP 16 00 31.5 +6.0
VYHS *e*PP PP 16 04 12.5 -6.7
VYHS Vyhne 97.41 41 ⇑*i*SKSp SKS 16 10 58.8 -2.3
VYHS *e*S S 16 11 42.3 +3.2
VYHS *e*PS PS 16 13 09.0 -0.3
VYHS *e*SS SS 16 18 25.8 +3.9
OJC Ojcow 97.81 40 *e*P **P 16 00 23.2 +2.1**
OJC *e*S S 16 11 49.3 +6.9
OJC MLR MLR 16 49 50.2
comp=Z,2μm,19.0s,MS5.7

NIE Niedzica 98.25 40 *e*P **P 16 00 30.0 +6.9**
CRVS Cervenica-Dubn 99.07 41 *e*P **P 16 00 34.0 +7.2**
CRVS *i* 16 11 06.0
CRVS *e*PS PS 16 13 30.3 +3.5
CRVS Cervenica-Dubn 99.07 41 *e* **P 16 00 34.0 +7.2**
CRVS Cervenica-Dubn 99.07 41 ⇑*i*SKSp SKS 16 11 06.0 -3.6
CRVS *i* sS 16 12 04.1
CRVS *e*PS PS 16 13 30.3 +3.5
FINES FINESS Array B 99.09 28 LR LR 16 40 36.0
comp=Z,920nm,21.1s,MS5.2,baz=284,slow=33
BILL Bilibino 99.23 339 *i* P **P 16 00 28.2 +1.1**
BILL Bilibino 99.23 339 *i* P **P 16 00 28.3 +1.2**
SUR Sutherland 99.59 123 PFAKE 16 00 40.0 +10
SUR LR LR
comp=Z,1μm,21.0s,MS5.4
KOLS Kolonicke sedl 99.60 41 *e*P **P 16 00 37.3 +8.1**
KOLS Kolonicke sedl 99.60 41 *e* **P 16 00 37.3 +8.1**
SMY Shemya 99.69 323 PFAKE 16 00 40.0 +10
SMY LR LR
comp=Z,4μm,20.0s,MS5.9
SKO Skopje 100.06 48 *e*P P 16 00 34.0 +2.4
OBN Obninsk 106.37 32 P Pdif 16 00 54.7 -4.5
OBN *e*S SKS 16 11 38.1 -5.6
OBN *e*PS PS 16 14 46.8 +5.3
OBN pmax pmax
comp=Z,15nm,1.7s
OBN Obninsk 106.37 32 PFAKE 16 05 20.0
OBN LR LR
comp=Z,450nm,21.0s,MS5.0
DRV Dumont d'Urvil 106.48 196 SP SP 16 14 45.0 +5.0
TIXI Tiksi 106.90 350 PFAKE 16 05 20.0
TIXI LR LR
comp=Z,2μm,20.0s,MS5.7
LSZ Lusaka 108.40 106 PFAKE 16 05 30.0
LSZ LR LR
comp=Z,6μm,20.0s,MS6.2
SIM Simferopol' 108.41 43 P Pdif 16 01 14.2 +5.7
SIM 16 05 39.3
SIM 16 11 54.2
SIM SS SS 16 20 59.6 +6.0
SIM pmax pmax
comp=Z,200nm,9.7s
PET Petropavlovsk 108.50 327 PFAKE 16 05 30.0
PET LR LR
comp=Z,982nm,20.0s,MS5.4
MA2 Magadan 109.18 335 PFAKE 16 05 30.0
MA2 LR LR
comp=Z,2μm,22.0s,MS5.6
BR131 Keskin Array S 109.57 48 PFAKE 16 05 30.0
BR131 LR LR
comp=Z,623nm,21.0s,MS5.2
ANN Anapa 110.69 42 *i* PKIKP PKPdf 16 05 14.3 -7.1
ANN pmax pmax
comp=Z,89nm,2.2s
MBAR Mbarara 111.92 91 PFAKE 16 05 30.0 +5.6
MBAR LR LR
comp=Z,892nm,19.0s,MS5.4
CASY Casey 112.34 185 PFAKE 16 05 30.0 +6.0
CASY LR LR
comp=Z,2μm,21.0s,MS5.7
KIV Kislovodsk 114.50 41 *e*PKIKP PKPdf 16 05 26.1 -2.7
KIV *e* 16 06 22.5
KIV *e* 16 12 16.4
KIV *e*PS PS 16 16 06.9 +6.9
KIV pmax pmax
comp=Z,19nm,2.2s
KIV MLR MLR
comp=Z,700nm,19.0s,MS5.3
KIV Kislovodsk 114.50 41 *i* P PKPdf 16 05 27.2 -1.6
KIV LR LR
comp=Z,200nm,21.0s,MS4.7
YAK Yakutsk 114.83 345 *i* PKIKP PKPdf 16 05 26.7 -2.3
YAK Yakutsk 114.83 345 *i* PKP PKPdf 16 05 26.8 -2.2
YAK LR LR
comp=Z,2μm,20.0s,MS5.8
GNI Garni 117.45 44 PFAKE 16 05 40.0 +5.4
GNI LR LR
comp=Z,746nm,21.0s,MS5.3
TAU Tasmania Unive 118.34 219 PFAKE 16 05 40.0 +3.7
TAU LR LR
comp=Z,555nm,19.0s,MS5.2
KMBO Kilima Mbogo 118.41 92 PFAKE 16 05 50.0 +13
KMBO LR LR
comp=Z,5μm,19.0s,MS6.2
YSS Yuzh-Sakhalins 120.39 327 *i* PKIKP PKPdf 16 05 37.3 -2.9
YSS MLR MLR
comp=Z,800nm,25.0s,MS5.3
YSS Yuzh-Sakhalins 120.39 327 *i* P PKPdf 16 05 37.4 -2.8
YSS LR LR
comp=Z,1μm,20.0s,MS5.5
BRVK Borovoye 122.97 20 PKP PKPdf 16 05 43.7 -1.2
BRVK LR LR
comp=Z,304nm,20.0s,MS5.0
NVS Novosibirsk 124.85 11 *e*PKIKP PKPdf 16 05 43.2 -5.4
ZAL Zalesovo 125.99 10 PKP PKPdf 16 05 48.9 -1.9
comp=Z,13nm,1.2s,baz=172,slow=2.1,SNR=19
ZAL Zalesovo 125.99 10 PKP PKPdf 16 05 48.9 -1.9
KURK Kurchatov 127.60 16 *e*PKP PKPdf 16 05 50.0 -4.0
KURK LR LR
comp=Z,353nm,19.0s,MS5.1
STKA Stephens Creek 127.96 227 *e*PKP PKPdf 16 05 53.5 -1.8
comp=Z,8.2nm,1.1s
STKA Stephens Creek 127.96 227 PKP PKPdf 16 05 53.5 -1.8
comp=Z,7.2nm,0.9s,baz=297,slow=2.3,SNR=4.9
HIA Hailar 128.68 343 *e*PKPdf PKPdf 16 05 54.0 -2.1
MDJ Mudanjiang 128.73 332 PKP PKPdf 16 05 50.3 -6.1
MDJ XPKP 16 06 01.3
MDJ PP PP 16 08 03.0 -0.2
MDJ PKS PKS 16 09 25.8 -2.0
MDJ SKS SKS 16 12 56.8 -7.1
MDJ PP PP
comp=Z,365nm,9.3s
MDJ LR LR
comp=N,894nm,22.8s,MS5.6
MDJ LR LR
comp=E,1μm,19.5s,MS5.6
MDJ LR LR
comp=Z,2μm,19.2s,MS5.8
MDJ Mudanjiang 128.73 332 *e*PKPdf PKPdf 16 05 54.0 -2.4
CTA Charters Tower 129.02 243 *e*PKP PKPdf 16 05 56.3 -1.3
comp=Z,8.0nm,1.3s
CTA Charters Tower 129.02 243 PKP PKPdf 16 05 57.4 -0.2
comp=Z,6.8nm,0.9s,baz=156,slow=3.1,SNR=6.8
CTAO Charters Tower 129.02 243 *e*PKPdf PKPdf 16 05 54.6 -3.0
CTAO LR LR
comp=Z,1μm,20.0s,MS5.6
MAJO Matsushiro 129.24 319 PFAKE 16 06 10.0 +12
MAJO LR LR
comp=Z,1μm,19.0s,MS5.6
MAT Matsushiro 129.24 319 *e*PKP PKPdf 16 05 59.0 +1.4
MAT LR LR
comp=Z,710nm,20.0s,MS5.4
MAT Matsushiro 129.24 319 PKP PKPdf 16 05 59.2 +1.6
TLY Talaya 129.34 356 *i* PKHKP 16 05 28.0
TLY *e*PPS SP 16 18 15.0 +5.7
TLY pmax pmax
comp=Z,3.0nm,0.8s
TLY MLR MLR
comp=Z,2μm,21.0s,MS5.7
TLY Talaya 129.34 356 PFAKE 16 06 10.0 +13
TLY LR LR
comp=Z,392nm,21.0s,MS5.1
ZAK Zakamensk 130.66 356 *e*PKIKP PKPdf 16 06 02.0 +2.1
ZAK *e* 16 08 22.6
PMG Port Moresby 130.75 257 PFAKE 16 06 10.0 +9.0
PMG LR LR
comp=Z,2μm,20.0s,MS5.8
GUMO Guam 132.74 288 PFAKE 16 06 10.0 +5.2
GUMO LR LR
comp=Z,2μm,22.0s,MS5.7
ULN Ulaanbaatar 132.78 352 *e*PKPdf PKPdf 16 06 00.7 -3.4
ULN LR LR
comp=Z,2μm,20.0s,MS5.7
SONM Songino Array 132.90 353 PKhKP 16 05 54.0
comp=Z,2.0nm,1.2s,baz=27,slow=2.8,SNR=4.6
SONM PKP PKPdf 16 06 02.8 -1.4
comp=Z,6.1nm,1.2s,baz=34,slow=1.4,SNR=6.3
SONM Songino Array 132.90 353 PKP PKPdf 16 06 02.8 -1.4
AAK Ala-Archa 133.18 25 *i* PKIKP PKPdf 16 06 05.0 +0.1
AAK MLR MLR
comp=Z,2μm,25.0s,MS5.6
AAK Ala-Archa 133.18 25 *e*PKPdf PKPdf 16 06 01.4 -3.5
AAK *i* PKP PKPdf 16 06 05.1 +0.2
AAK LR LR

comp=Z,332nm,20.0s,MS5.0
WMQ Urumqi 136.24 12 PKP PKPdf 16 06 04.5 -5.9
WMQ PP PP
comp=Z,460nm,11.0s
WMQ LR LR
comp=N,2μm,25.0s,MS5.9
WMQ LR LR
comp=E,2μm,27.2s,MS5.9
WMQ LR LR
comp=Z,4μm,28.9s,MS6.0
ASAR Alice Springs 137.99 232 PKhKP 16 06 07.5
comp=Z,0.7nm,0.8s,baz=116,slow=2.2,SNR=4.8
ASAR PKP PKPdf 16 06 12.3 -2.0
comp=Z,5.7nm,1.1s,baz=115,slow=3.3,SNR=9.9
ASPA Alice Springs 138.00 232 *e*PKP PKPdf 16 06 15.0 +0.7
BJI Beijing 138.06 340 PKP PKPdf 16 06 11.7 -2.3
BJI PP PP 16 09 04.3 +1.7
BJI SKKS 16 15 54.6
BJI SS SS 16 27 01.8 -7.8
BJI LR LR
comp=Z,2μm,22.9s,MS5.8
BJT Baijiatuau 138.08 340 *e*PKPdf PKPdf 16 06 10.2 -3.8
WB2 Warramunga Arr 139.41 237 *e*PKP PKPdf 16 06 08.8 -8.1
WRAB Tennant Creek 139.42 237 *e*PKPdf PKPdf 16 06 11.7 -5.2
WRAB LR LR
comp=Z,975nm,20.0s,MS5.5
WRA Warramunga Arr 139.42 237 PKhKP 16 06 09.0
comp=Z,4.5nm,1.1s,baz=115,slow=2.3,SNR=6.5
WRA PKP PKPdf 16 06 15.1 -1.8
comp=Z,9.1nm,1.1s,baz=120,slow=1.4,SNR=10
NWAO Narrogin (SRO) 142.03 206 PFAKE 16 06 30.0 +8.7
NWAO LR LR
comp=Z,729nm,19.0s,MS5.5
KLBR Kellerberrin 142.93 207 *e*PKP PKPdf 16 06 20.6 -2.3
comp=Z,234nm,1.2s
SSE Sheshan 143.33 327 PKP PKPdf 16 06 20.3 -3.2
SSE SS SS 16 28 16.8 +5.6
SSE LR LR
comp=N,655nm,20.0s,MS5.5
SSE LR LR
comp=E,653nm,20.0s,MS5.5
SSE LR LR
comp=Z,290nm,15.1s,MS5.2
SSE Sheshan 143.33 327 PKP PKPdf 16 06 20.2 -3.3
SSE SS SS 16 28 16.8 +5.6
SSE LR LR
comp=Z,290nm,15.1s,MS5.2
NJ2 Nanjing 143.79 330 *e*PKP PKPdf 16 06 24.0 -0.3
NJ2 PP PP 16 09 41.0 +3.8
NJ2 PKS PKS 16 09 58.0 +3.1
NJ2 SKS SKS 16 13 28.0 -4.8
NJ2 PP PP
comp=Z,1μm,9.5s
NJ2 LR LR
comp=N,2μm,23.1s
NJ2 LR LR
comp=E,3μm,16.1s
NJ2 LR LR
comp=Z,1μm,16.6s
KAKA Kakadu 143.95 247 *e*PKP PKPdf 16 06 23.5 -1.5
comp=Z,60nm,1.6s
LZH Lanzhou 144.79 353 *e*PKP PKPdf 16 06 22.5 -3.5
LZH XPKP 16 06 27.8
LZH PP PP 16 09 44.0 +0.9
LZH *e*SKS SKS 16 13 26.5 -7.7
LZH SKKS 16 16 29.5
LZH PP PP
comp=Z,815nm,5.9s
LZH LR LR
comp=E,998nm,18.0s
LZH LR LR
comp=Z,1μm,20.0s,MS5.8
LZH Lanzhou 144.79 353 *e*PKP PKPdf 16 06 22.5 -3.5
LZH sPKP 16 06 27.7
LZH PP PP 16 09 43.9 +0.8
LZH *e*SKS SKS 16 13 26.5 -7.7
LZH SKKS 16 16 29.5
LZH SS SS 16 28 27.0 -0.7
LZH LR LR
comp=Z,1μm,20.0s,MS5.8
TATO Taipei 147.63 319 PFAKE 16 06 40.0 +8.9
TATO LR LR
comp=Z,2μm,19.0s,MS5.8
ENH Enshi 149.18 342 *e*PKPbc PKPdf 16 06 33.1 -0.3
ENH *e*PKPab PKPab 16 06 39.5 -0.7
MBWA Marble Bar 149.93 222 *e*PKPdf PKPdf 16 06 30.1 -4.8
MBWA LR LR
comp=Z,1μm,21.0s,MS5.7
LSA Lhasa 150.55 14 *e*PKPdf PKPdf 16 06 32.6 -3.0
LSA *e*PKPab PKPab 16 06 44.7 -1.2
DGAR Diego Garcia 152.41 108 PFAKE 16 06 50.0 +11
DGAR LR LR
comp=Z,616nm,19.0s,MS5.4
HYB Hyderabad 154.26 50 *e*PP PKPdf 16 06 39.0 -2.2
HYB Hyderabad 154.26 50 *i*PKP PKPdf 16 06 39.0 -2.2
KMI Kunming 155.73 351 PKP PKPdf 16 06 40.9 -2.0
KMI PP PP 16 10 48.0 +1.9
KMI SKKS 16 17 35.5
KMI SS SS 16 30 34.0 +4.6
KMI LR LR
comp=Z,1μm,21.6s,MS5.7
PALK Pallekele 160.91 70 PFAKE 16 07 00.0 +11
PALK LR LR
comp=Z,1μm,19.0s
CM31 Chiang Mai Arr 162.66 360 PFAKE 16 07 00.0 +8.9
CM31 LR LR
comp=Z,350nm,20.0s
CMAR Chiang Mai Arr 162.66 360 PKP PKPdf 16 06 51.0 -0.1
comp=Z,2.7nm,1.1s,baz=289,slow=2.8,SNR=6.1
CMAR PKPab PKPab 16 07 38.3 +0.4
comp=Z,4.0nm,0.9s,baz=343,slow=5.9,SNR=8.1
CMAR PP PP 16 11 24.9 +1.7
comp=Z,15nm,1.5s,baz=337,slow=7.8,SNR=4.8
COCO West Island 166.74 172 PFAKE 16 07 00.0 +5.1
COCO LR LR
comp=Z,540nm,21.0s

*IDC **28** 15:47:07.9±1.3, 8.04N×94.20E, mb3.6/7, mb1 3.8/8, mb1mx3.7/18, mbtmp3.6/8, ML3.3/1, Error ellipse: s-maj=61.5km s-min=20.3km az=55.0*
*NEIC **28** 15:47:12.3±0.9, 8.02N×94.22E, h30km, mb4.3/2, Error ellipse: s-maj=42.2km s-min=11.3km az=58.0*
ISC 28 15:47:09.5±0.9, 7.8N±0.1×93.9E±0.2, h30km, n12, σ1§04/12, mb3.8/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.67**	**24**	Pn	**P**	**15 49 58.4**	**+1.2**
	0.1nm,0.3s,baz=211,slow=15,SNR=6.1						
LSA	**Lhasa**	**21.94**	**354**	*e*P	**P**	**15 52 02.1**	**-0.3**
	8.9nm,0.8s,mb4.2						
SONM	**Songino Array**	**41.28**	**13**	P	**P**	**15 54 53.6**	**-0.2**
	0.5nm,0.8s,mb3.2,baz=191,slow=7.3,SNR=3.4						
KURK	**Kurchatov**	**44.63**	**346**	*e*P	**P**	**15 55 20.5**	**-0.6**
ZAL	**Zalesovo**	**46.59**	**353**	P	**P**	**15 55 35.1**	**-1.5**
	0.5nm,0.7s,mb3.5,baz=151,slow=13,SNR=2.2						
WRA	**Warramunga Arr**	**48.40**	**125**	P	**P**	**15 55 51.5**	**+0.3**
	0.5nm,0.5s,mb3.8,baz=304,slow=8.5,SNR=8.0						
WRAB	**Tennant Creek**	**48.40**	**125**	P	**P**	**15 55 50.4**	**-0.8**
BVAR	**Borovoye Array**	**48.99**	**341**	P	**P**	**15 55 53.8**	**-1.5**
	0.4nm,0.6s,mb3.6,baz=129,slow=9.2,SNR=2.9						
CHKZ	**Chkalovo**	**49.47**	**342**	*e*P	**P**	**15 55 59.1**	**+0.1**
	2.9nm,0.9s,mb4.3						
ASAR	**Alice Springs**	**50.04**	**130**	P	**P**	**15 56 03.9**	**+0.2**
	0.5nm,0.9s,mb3.6,baz=298,slow=7.4,SNR=4.6						
FINES	**FINESS Array B**	**72.67**	**332**	P	**P**	**15 58 37.4**	**+1.2**
	3.1nm,0.9s,mb4.2,baz=76,slow=7.9,SNR=8.8						
GERES	**GERESS Array B**	**77.73**	**318**	P	**P**	**15 59 07.6**	**+2.3**
	0.8nm,0.6s,mb3.8,baz=90,slow=4.0,SNR=6.4						

IDC 28 15:49:57.5±3.1, 7.74N×93.85E, mb3.5/3, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=92.5km s-min=31.2km az=69.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.75**	**24**	Pn	P	15 52 47.1	-2.5
	0.1nm,0.3s,baz=212,slow=15,SNR=4.2						
SONM	**Songino Array**	**41.36**	**13**	P	P	15 57 44.5	-2.2
	0.2nm,0.5s,baz=198,slow=9.1,SNR=2.7						
ZAL	**Zalesovo**	**46.65**	**353**	P	P	15 58 27.5	-1.9
	0.5nm,0.8s,baz=253,slow=5.6,SNR=3.4						
WRA	**Warramunga Arr**	**48.42**	**125**	P	P	15 58 42.1	-1.7
	0.1nm,0.4s,baz=300,slow=10.0,SNR=5.5						

IDC 28 15:52:53.7±5.6, 8.60N×93.62E, mb3.9/8, mb1 4.0/9, mb1mx3.9/18, mbtmp3.8/9, ML3.2/1, Error ellipse: s-maj=142.8km s-min=35.7km az=132.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.08**	**27**	Pn	P	15 55 42.2	+5.6
	0.1nm,0.3s,baz=219,slow=14,SNR=4.7						
SONM	**Songino Array**	**40.57**	**13**	P	P	16 00 34.8	-1.8
	0.4nm,0.8s,baz=220,slow=2.9,SNR=4.0						
ZAL	**Zalesovo**	**45.76**	**353**	P	P	16 01 18.1	-0.6
	1.0nm,0.5s,baz=306,slow=9.6,SNR=4.4						
BVAR	**Borovoye Array**	**48.14**	**341**	P	P	16 01 36.0	-1.4
	1.0nm,0.9s,baz=117,slow=6.6,SNR=4.4						
KMBO	**Kilima Mbogo**	**56.99**	**263**	P	P	16 02 42.8	-1.3
	0.4nm,0.4s,baz=45,slow=11,SNR=4.4						
BRTR	**Keskin Array B**	**61.56**	**311**	P	P	16 03 12.5	-2.8
	0.7nm,0.7s,baz=132,slow=7.5,SNR=4.3						
FINES	**FINESS Array B**	**71.83**	**332**	P	P	16 04 17.3	-2.8
	5.4nm,1.1s,baz=117,slow=8.5,SNR=5.1						
ARCES	**ARCESS Array B**	**74.41**	**340**	P	P	16 04 33.0	-2.0
	1.6nm,0.7s,baz=76,slow=5.0,SNR=3.7						
GERES	**GERESS Array B**	**76.94**	**318**	P	P	16 04 48.2	-1.6
	1.2nm,0.6s,baz=90,slow=4.0,SNR=9.6						

*MOS **28** 16:00:26.1±1.1, 8.17N×94.22E, h33km, mb4.9/35, Error ellipse: s-maj=13.2km s-min=7.3km az=114.4*
*BJI **28** 16:00:26.2, 7.80N×93.69E, h47km, mB5.2, mb4.7, Ms4.7, Msz4.5*
*NEIC **28** 16:00:26.3±0.3, 8.11N×94.21E, mb4.8/27, Error ellipse: s-maj=8.9km s-min=7.3km az=50.0*
*IDC **28** 16:00:31.9±4.2, 8.07N×94.14E, h70km±37km, mb4.0/20, mb1 4.2/21, mb1mx4.1/23, mbtmp4.3/21, ML4.2/1, MS3.8/1, Ms1 4.0/1, ms1mx2.8/23, Error ellipse: s-maj=23.5km s-min=10.9km az=48.0*
ISC 28 16:00:26.7±1.2, 8.07N±0.05×94.17E±0.05, h41km±10km, h19km±4.5km: pP-P, n133, σ1§18/130, mb4.7/59, MS4.9/2, 6C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.08**	**50**	P	**P**	**16 02 11.0**	**+0.5**
CM31	**Chiang Mai Arr**	**11.32**	**24**	*e*Pn	**P**	**16 03 06.1**	**-2.9**
	20nm,0.9s						
CM31				*e*pPn		16 03 11.2	
CMAR	**Chiang Mai Arr**	**11.32**	**24**	P	**P**	**16 03 11.5**	**+2.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,426nm,18.7s						
CMAR	**Chiang Mai Arr**	**11.32**	**24**	P	**P**	**16 03 11.5**	**+2.5**
	comp=Z,0.5nm,0.3s,baz=210,slow=14,SNR=15						
CMAR				LR	LR	16 07 56.7	
	comp=Z,426nm,18.7s,baz=210,slow=39						
NANT	**Nan**	**12.41**	**30**	P	**P**	**16 03 28.0**	**+4.4**
PALK	**Pallekele**	**13.38**	**268**	*e*Pn	**P**	**16 03 36.0**	**-0.4**
	comp=Z,12nm,0.7s						
PALK				*e*Sn	**S**	**16 05 53.0**	**-12**
VIS	**Vishakhapatnam**	**14.27**	**313**	*e*P	**P**	**16 03 46.1**	**-2.1**
VIS				*e*		16 03 51.5	
	comp=Z,11nm,0.3s						
VIS				*e*	**S**	**16 06 17.1**	**-9.0**
BWNR	**Bhubaneshwar**	**14.61**	**327**	*e*P	**P**	**16 03 54.4**	**+1.7**
BWNR				*e*		16 03 57.6	
	comp=Z,12nm,0.4s						
BWNR				*e*		16 06 40.1	
SHL	**Shillong**	**17.54**	**353**	*i*P	**P**	**16 04 29.0**	**-0.9**
HYB	**Hyderabad**	**17.83**	**303**	*e*P	**P**	**16 04 35.0**	**+1.4**
HYB	**Hyderabad**	**17.83**	**303**	*i*P	**P**	**16 04 35.0**	**+1.4**
KMI	**Kunming**	**18.83**	**25**	⇑P	**P**	**16 04 50.8**	**+5.0**
KMI				pmax	pmax		
	comp=Z,24nm,1.2s						
KMI	**Kunming**	**18.83**	**25**	⇑P	**P**	**16 04 50.8**	**+5.0**
	comp=Z,24nm,1.2s						
KMI				pP		16 04 56.4	
KMI				sP		16 04 59.0	
KMI				S	**S**	**16 08 27.3**	**+17**
JIRN	**Jiri**	**20.90**	**340**	*e*P	**P**	**16 05 08.4**	**+0.3**
	comp=Z,121nm,0.9s						
PKI	**Pulchoki**	**21.10**	**338**	*e*P	**P**	**16 05 10.7**	**+0.6**
	comp=Z,97nm,1.0s,mb5.1						
DMN	**Daman**	**21.25**	**337**	*e*P	**P**	**16 05 11.8**	**+0.2**
	comp=Z,121nm,0.9s,mb5.2						
KKN	**Kakani**	**21.34**	**338**	*e*P	**P**	**16 05 13.1**	**+0.5**
	comp=Z,107nm,0.9s,mb5.2						
KAD	**Karad**	**21.54**	**297**	*e*P	**P**	**16 05 15.0**	**+0.4**
LSA	**Lhasa**	**21.71**	**353**	P	**P**	**16 05 17.3**	**+1.1**
LSA	**Lhasa**	**21.71**	**353**	*e*P	**P**	**16 05 16.6**	**+0.4**
LSA				pmax	pmax		
	comp=Z,52nm,0.6s,mb5.1						
LSA	**Lhasa**	**21.71**	**353**	*e*P	**P**	**16 05 16.6**	**+0.4**
	comp=Z,52nm,0.6s,mb5.1						
GKN	**Gorkha**	**21.78**	**337**	*e*P	**P**	**16 05 17.2**	**+0.2**
	comp=Z,117nm,1.0s,mb5.3						
KOLN	**Koldanda**	**22.00**	**334**	*e*P	**P**	**16 05 19.9**	**+0.8**
	comp=Z,78nm,0.9s,mb5.1						
BHPL	**Bhopal**	**22.05**	**315**	*e*P	**P**	**16 05 19.8**	**+0.2**
BHPL				*e*		16 05 22.1	
	comp=Z,13nm,0.6s						
POO	**Poona**	**22.32**	**300**	*e*P	**P**	**16 05 16.1**	**-6.2**
POO				*e*		16 05 17.1	
	comp=Z,5.4nm,0.2s						
NDI	**New Delhi**	**26.00**	**324**	*e*P	**P**	**16 05 57.0**	**-0.8**
NDI				*e*		16 06 25.0	
ENH	**Enshi**	**26.34**	**31**	*e*P	**P**	**16 06 01.1**	**+0.1**
	comp=Z,15nm,0.9s,mb4.5						
DDI	**Dehra Dun**	**26.80**	**328**	*e*P	**P**	**16 06 06.0**	**+0.8**
XAN	**Xi'an**	**29.20**	**26**	P	**P**	**16 06 25.3**	**-1.5**
XAN				AMB	AMB		
	comp=Z,17nm,1.9s,mb4.5						
WHN	**Wuhan**	**29.26**	**37**	⇑P	**P**	**16 06 34.5**	**+7.1**
WHN				AMB	AMB		
	comp=Z,122nm,1.5s,mb5.4						
WMQ	**Urumqi**	**36.06**	**352**	*e*P	**P**	**16 07 27.5**	**+1.1**
WMQ				PP	PP	16 08 49.0	-0.2
WMQ				PCP	PcP	16 09 54.5	+2.2
WMQ				S	**S**	**16 13 04.0**	**+2.0**
WMQ				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,231nm,5.1s						
WMQ				LR	LR		
	comp=N,678nm,16.0s,MS4.6						
WMQ				LR	LR		
	comp=E,435nm,15.7s,MS4.6						
WMQ				LR	LR		
	comp=Z,888nm,16.1s,MS4.6						
AAK	**Ala-Archa**	**38.54**	**336**	P	**P**	**16 07 48.5**	**+1.4**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**38.54**	**336**	*e*P	**P**	**16 07 45.9**	**-1.2**
	comp=Z,6.9nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**39.91**	**347**	*i*P	**P**	**16 07 58.7**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SONM	**Songino Array**	**40.97**	**13**	P	**P**	**16 08 08.7**	**+1.5**
	comp=Z,5.4nm,0.8s,mb4.2,baz=196,slow=7.4,SNR=18						
SONM				PcP	PcP	16 10 08.0	+0.4
	comp=Z,1.3nm,0.7s,baz=206,slow=2.8,SNR=3.7						
ULN	**Ulaanbaatar**	**41.14**	**13**	*e*P	**P**	**16 08 09.6**	**+0.9**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
ULN	**Ulaanbaatar**	**41.14**	**13**	*e*P	**P**	**16 08 09.6**	**+1.0**
	comp=Z,4.8nm,0.8s,mb4.2						
SNY	**Shenyang**	**42.49**	**33**	⇑P	**P**	**16 08 20.8**	**+0.9**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.6s,mb4.2						
KURK	**Kurchatov**	**44.43**	**346**	*i*P	**P**	**16 08 35.5**	**+0.1**
KURK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
KURK	**Kurchatov**	**44.43**	**346**	*e*P	**P**	**16 08 35.0**	**-0.4**
	comp=Z,32nm,1.3s,mb4.9						
MUN	**Mundaring**	**45.04**	**153**	*e*P	**P**	**16 08 40.8**	**+0.2**
	comp=Z,8.2nm,0.6s,mb4.7						
MUN	**Mundaring**	**45.04**	**153**	*e*P	**P**	**16 08 40.8**	**+0.2**
MUN				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7						
NWAO	**Narrogin (SRO)**	**46.30**	**153**	P	**P**	**16 08 50.8**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,12nm,0.7s						
NWAO	**Narrogin (SRO)**	**46.30**	**153**	P	**P**	**16 08 50.8**	**+0.2**
	comp=Z,12nm,0.7s,mb5.0,baz=325,slow=7.2,SNR=12						
HIA	**Hailar**	**46.33**	**23**	*e*P	**P**	**16 08 50.6**	**0.0**
HIA				*e*PP	pP	16 08 58.6	-3.4
HIA				pmax	pmax		
	comp=Z,19nm,1.1s						
HIA	**Hailar**	**46.33**	**23**	*e*P	**P**	**16 08 50.6**	**0.0**
	comp=Z,19nm,1.1s,mb4.9						
HIA				*e*pP	pP	16 08 58.6	-3.4
ZAL	**Zalesovo**	**46.36**	**352**	P	**P**	**16 08 51.3**	**+0.6**
ZAL				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ZAL	**Zalesovo**	**46.36**	**352**	P	**P**	**16 08 51.3**	**+0.5**
	comp=Z,10nm,0.7s,mb4.9,baz=296,slow=8.0,SNR=26						
NVS	**Novosibirsk**	**47.46**	**351**	*i*P	**P**	**16 08 58.5**	**-0.9**
NVS				*e*S	**S**	**16 15 52.0**	**+2.0**
NVS				pmax	pmax		
	comp=N,15nm,0.9s						
NVS				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
NVS				pmax	pmax		
	comp=E,6.0nm,1.0s						
NVS				smax			
	comp=N,7.0nm,1.5s						
NVS				smax			
	comp=E,9.0nm,1.3s						
WRA	**Warramunga Arr**	**48.35**	**126**	P	**P**	**16 09 05.3**	**-1.4**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA	**Warramunga Arr**	**48.35**	**126**	P	**P**	**16 09 05.3**	**-1.4**
	comp=Z,1.6nm,0.5s,mb4.3,baz=304,slow=8.6,SNR=16						
WRAB	**Tennant Creek**	**48.35**	**126**	*e*P	**P**	**16 09 07.3**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**48.35**	**126**	*e*P	**P**	**16 09 07.3**	**+0.5**
	comp=Z,6.2nm,0.7s,mb4.8						
WB2	**Warramunga Arr**	**48.36**	**126**	*e*P	**P**	**16 09 04.4**	**-2.4**
BVA0	**Borovoye Array**	**48.82**	**341**	*i*P	**P**	**16 09 08.7**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb4.0						
BVAR	**Borovoye Array**	**48.82**	**341**	P	**P**	**16 09 09.2**	**-0.7**
	comp=Z,3.9nm,0.8s,mb4.5,baz=143,slow=7.4,SNR=14						
BRVK	**Borovoye**	**48.88**	**341**	*e*P	**P**	**16 09 09.3**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
BRVK	**Borovoye**	**48.88**	**341**	*e*P	**P**	**16 09 09.3**	**-1.1**
	comp=Z,3.5nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**49.30**	**342**	*e*P	**P**	**16 09 13.5**	**-0.2**
CHKZ				*e*PP	pP	16 09 19.7	-5.5
CHKZ				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1						
CHKZ	**Chkalovo**	**49.30**	**342**	*e*P	**P**	**16 09 13.5**	**-0.2**
	comp=Z,19nm,0.9s,mb5.1						
CHKZ				*e*pP	pP	16 09 19.7	-5.4
ASAR	**Alice Springs**	**50.01**	**130**	P	**P**	**16 09 18.8**	**-0.8**
	comp=Z,2.8nm,0.7s,mb4.4,baz=302,slow=7.1,SNR=14						
ASAR				PcP	PcP	16 10 40.1	+0.8
	comp=Z,2.8nm,0.7s,baz=307,slow=3.4,SNR=9.4						
FORT	**Forrest**	**50.47**	**142**	*e*P	**P**	**16 09 26.6**	**+3.7**
	comp=Z,59nm,0.9s,mb5.6						
BOD	**Bodaibo**	**51.95**	**13**	*e*P	**P**	**16 09 33.1**	**-0.6**
CLNS	**Chul'man**	**54.24**	**20**	*e*P	**P**	**16 09 49.7**	**-1.1**
CLNS				pmax	pmax		
	comp=N,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
CLNS				pmax	pmax		
	comp=N,464nm,11.3s						
CLNS				pmax	pmax		
	comp=Z,237nm,10.9s						
CLNS				pmax	pmax		
	comp=E,201nm,12.2s						
CLNS				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.2						
GNI	**Garni**	**54.33**	**314**	P	**P**	**16 09 51.9**	**+0.3**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GNI	**Garni**	**54.33**	**314**	P	**P**	**16 09 51.9**	**+0.3**
	comp=Z,1.2nm,0.4s,mb4.2,baz=352,slow=22,SNR=2.0						
GNI	**Garni**	**54.33**	**314**	P	**P**	**16 09 53.0**	**+1.4**
	comp=Z,16nm,1.1s,mb4.8						
SVE	**Sverdlovsk**	**55.23**	**338**	*e*P	**P**	**16 09 55.0**	**-3.0**
SVE				*e*		16 10 10.0	
PMG	**Port Moresby**	**55.56**	**107**	P	**P**	**16 10 02.2**	**+1.3**
PMG				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PMG	**Port Moresby**	**55.56**	**107**	P	**P**	**16 10 02.2**	**+1.3**
	comp=Z,8.9nm,0.7s,mb4.9,baz=300,slow=6.0,SNR=4.7						
KIV	**Kislovodsk**	**57.20**	**318**	*e*P	**P**	**16 10 10.7**	**-1.5**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.1						
KIV	**Kislovodsk**	**57.20**	**318**	*e*P	**P**	**16 10 10.7**	**-1.6**
	comp=Z,8.5nm,0.5s,mb5.0						
KMBO	**Kilima Mbogo**	**57.48**	**264**	*e*P	**P**	**16 10 15.3**	**+0.7**
KMBO				pmax	pmax		
	comp=Z,11nm,1.4s						
KMBO	**Kilima Mbogo**	**57.48**	**264**	P	**P**	**16 10 15.9**	**+1.3**
	comp=Z,4.2nm,1.1s,mb4.4,baz=59,slow=14,SNR=5.3						
KMBO	**Kilima Mbogo**	**57.48**	**264**	*e*P	**P**	**16 10 15.3**	**+0.7**
	comp=Z,11nm,1.4s,mb4.7						
ASF	**Jabal al Asfar**	**58.14**	**303**	P	**P**	**16 10 19.2**	**+0.2**
	comp=Z,1.1nm,0.5s,mb4.1,baz=63,slow=2.8,SNR=2.7						
MALT	**Malatya**	**58.36**	**310**	*e*P	**P**	**16 10 19.2**	**-1.3**
MALT				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
MALT	**Malatya**	**58.36**	**310**	*e*P	**P**	**16 10 19.1**	**-1.3**
	comp=Z,3.1nm,0.9s,mb4.3						
EIL	**Elat**	**59.36**	**300**	*e*P	**P**	**16 10 24.9**	**-2.7**
	comp=Z,3.3nm,0.6s,mb4.5						
YAK	**Yakutsk**	**59.80**	**18**	*e*P	**P**	**16 10 29.5**	**-0.6**
YAK				*e*PP	pP	16 10 35.7	-6.2
YAK				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.3						
YAK	**Yakutsk**	**59.80**	**18**	*e*P	**P**	**16 10 29.4**	**-0.7**
	comp=Z,23nm,0.8s,mb5.2						
YAK				*e*pP	pP	16 10 35.7	-6.2
STKA	**Stephens Creek**	**60.22**	**134**	P	**P**	**16 10 33.3**	**-0.1**
	comp=Z,1.8nm,0.5s,mb4.4,baz=296,slow=5.8,SNR=5.3						
BRTR	**Keskin Array B**	**62.33**	**311**	P	**P**	**16 10 45.3**	**-2.2**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRTR	**Keskin Array B**	**62.33**	**311**	P	**P**	**16 10 45.3**	**-2.2**
	comp=Z,2.9nm,0.7s,mb4.5,baz=125,slow=6.6,SNR=8.2						
MBAR	**Mbarara**	**63.81**	**265**	*e*P	**P**	**16 10 58.7**	**+0.9**
MBAR				*e*PP	pP	16 11 06.0	-3.7
OBN	**Obninsk**	**65.23**	**328**	*c*P	**P**	**16 11 02.7**	**-3.6**
OBN				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.9						
MA2	**Magadan**	**66.58**	**28**	*e*P	**P**	**16 11 14.8**	**0.0**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
MA2	**Magadan**	**66.58**	**28**	*e*P	**P**	**16 11 14.8**	**0.0**
	comp=Z,9.6nm,0.8s,mb4.9						
TIXI	**Tiksi**	**67.04**	**11**	*e*P	**P**	**16 11 16.5**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1						
AKASG	**Malin Array Be**	**68.02**	**322**	P	**P**	**16 11 21.9**	**-2.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**68.02**	**322**	P	**P**	**16 11 21.9**	**-2.1**
	comp=Z,1.1nm,0.7s,mb4.0,baz=91,slow=4.4,SNR=4.5						
IDI	**Anoyia**	**68.48**	**305**	P	**P**	**16 11 26.5**	**-0.7**
	comp=Z,4.1nm,0.7s,mb4.6,baz=300,slow=18,SNR=3.9						
LSZ	**Lusaka**	**69.36**	**250**	*e*P	**P**	**16 11 35.0**	**+2.2**
LSZ				pmax	pmax		
	comp=

LBTB pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LBTB Lobatse 74.36 241 *eP* **P 16 12 04.1 +1.5**
comp=Z,8.6nm,0.8s,mb4.7
KEV Kevo 74.67 341 *ep* **P 16 12 04.3 +0.9**
comp=Z,0.4nm,0.4s,mb3.7
ARCES ARCESS Array B 75.10 340 P **P 16 12 05.7 -0.2**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 75.10 340 P **P 16 12 05.7 -0.2**
comp=Z,3.7nm,0.8s,mb4.4,baz=108,slow=3.8,SNR=4.9
ARCES ARCESS Array B 75.10 340 P **P 16 12 05.7 -0.2**
MORC Moravsky Berou 75.25 319 *eP* **P 16 12 06.6 -0.6**
MORC pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MORC Moravsky Berou 75.25 319 *eP* **P 16 12 06.6 -0.6**
comp=Z,5.5nm,1.0s,mb4.4
BOSA Boshof 75.71 238 *eP* **P 16 12 12.3 +2.0**
BOSA pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
BOSA Boshof 75.71 238 *eP* **P 16 12 12.3 +2.0**
comp=Z,6.4nm,0.7s,mb4.7
BRG Berggiesshubel 77.62 320 P **P 16 12 25.2 +4.6**
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BRG Berggiesshubel 77.62 320 P **P 16 12 25.2 +4.6**
comp=Z,3.1nm,0.8s,mb4.3
GERES GERESS Array B 77.70 318 P **P 16 12 21.4 +0.4**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 77.70 318 P **P 16 12 21.4 +0.4**
comp=Z,2.3nm,0.8s,mb4.2,baz=76,slow=5.5,SNR=12
KHC Kasperske Hory 77.80 318 *eP* **P 16 12 21.5 0.0**
CLL Collm 78.23 321 *e**PP pP 16 12 30.0 -6.0
NB2 NORSAR Subarra 79.58 331 P **P 16 12 30.3 -0.7**
comp=Z,5.4nm,0.6s,mb4.7,baz=96,slow=5.0
NB2 NORSAR Subarra 79.58 331 P **P 16 12 30.3 -0.7**
baz=96,slow=5.1
NOA NORSAR Array B 79.58 331 P **P 16 12 30.7 -0.3**
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 79.58 331 P **P 16 12 30.6 -0.4**
comp=Z,3.2nm,0.8s,mb4.3,baz=92,slow=5.7,SNR=9.7
LPG La Plagne 82.50 315 *eP* **P 16 12 50.1 +3.4**
comp=Z,23nm,0.9s,mb4.9
LPG La Plagne 82.50 315 *eP* **P 16 12 50.1 +3.4**
LPG pmax pmax
comp=Z,12nm,0.9s,mb4.9
SYO Syowa Base 85.60 197 ⇑pP pP 16 13 12.5 -1.6
ESDC Sonseca Array 91.12 310 P **P 16 13 29.6 +0.8**
comp=Z,0.8nm,0.6s,mb4.2,baz=20,slow=7.0,SNR=2.8
IMA Indian Mountai 91.43 22 *eP* **P 16 13 31.6 +2.0**
ILAR Eielson Array 94.55 22 P **P 16 13 43.0 -1.0**
comp=Z,0.4nm,0.7s,mb4.0,baz=305,slow=5.0,SNR=5.7
RES Resolute Bay 97.21 2 *eP* **P 16 13 57.1 +1.3**
NVAR Mina Array Bea 124.74 31 PKP PKPdf 16 19 23.9 +1.1
comp=Z,1.1nm,0.8s,baz=68,slow=2.4,SNR=4.1
PDAR Pinedale Array 124.98 21 PKP PKPdf 16 19 24.1 +1.0
comp=Z,0.8nm,0.8s,baz=188,slow=0.3,SNR=6.5
TXAR Lajitas Array 139.04 24 PKP PKPdf 16 19 52.7 +2.9
comp=Z,0.4nm,0.7s,baz=180,slow=0.9,SNR=3.2
TXAR Lajitas Array 139.04 24 PKP PKPdf 16 19 52.7 +2.9
PLCA Paso Flores 144.74 200 PKIKP PKPdf 16 20 01.5 +2.0
PLCA pmax pmax
comp=Z,7.0nm,0.8s
PLCA Paso Flores 144.74 200 PKP PKPdf 16 20 01.4 +1.9
comp=Z,7.4nm,0.8s,baz=128,slow=5.3,SNR=7.9

*IDC **28** 16:02:32.2±1.8, 7.67N×93.83E, mb4.3/7, mb1 4.4/8, mb1mx4.1/17, mbtmp4.2/8, ML3.6/1, Error ellipse: s-maj=47.8km s-min=46.1km az=159.0*
*NEIC **28** 16:02:36.9±0.7, 7.68N×93.84E, h30km, mb4.6/2, Error ellipse: s-maj=22.6km s-min=15.7km az=115.0, Nicobar Islands region*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.81**	**24**	Pn	P	16 05 24.0	-2.6
0.1nm,0.3s,baz=210,slow=14,SNR=2.3							
KURK	**Kurchatov**	**44.73**	**346**	*eP*	P	16 10 47.3	-2.0
5.2nm,0.8s							
ZAL	**Zalesovo**	**46.70**	**353**	P	P	16 11 02.0	-2.8
5.2nm,0.5s,baz=287,slow=6.2,SNR=5.4							
CHKZ	**Chkalovo**	**49.56**	**342**	*eP*	P	16 11 24.6	-2.5
5.5nm,0.7s							
BRTR	**Keskin Array B**	**62.33**	**311**	P	P	16 12 56.7	-2.3
1.0nm,0.5s,baz=128,slow=8.8,SNR=4.3							
FINES	**FINESS Array B**	**72.74**	**332**	P	P	16 14 02.3	-1.7
3.3nm,0.7s,baz=106,slow=6.3,SNR=4.7							
ARCES	**ARCESS Array B**	**75.34**	**340**	P	P	16 14 17.3	-1.6
1.6nm,0.6s,baz=80,slow=5.5,SNR=3.7							
GERES	**GERESS Array B**	**77.77**	**318**	P	P	16 14 32.3	-0.6
1.5nm,0.8s,baz=90,slow=4.0,SNR=4.2							
CLL	**Collm**	**78.32**	**321**	P	P	16 14 34.0	-1.9
NOA	**NORSAR Array B**	**79.75**	**331**	P	P	16 14 42.0	-1.4
1.5nm,0.7s,baz=94,slow=5.4,SNR=3.4							
ILAR	**Eielson Array**	**95.04**	**22**	P	P	16 15 55.9	-2.0
0.3nm,0.6s,baz=302,slow=5.0,SNR=5.5							
NVAR	**Mina Array Bea**	**125.24**	**31**	PKP	PKPdf	16 21 35.9	-4.5
0.9nm,0.6s,baz=47,slow=2.4,SNR=4.3							
PDAR	**Pinedale Array**	**125.46**	**21**	PKP	PKPdf	16 21 35.7	-5.0
0.5nm,0.6s,slow=1.5,SNR=3.7							
PLCA	**Paso Flores**	**144.26**	**200**	PKP	PKPdf	16 22 10.4	-5.0
2.3nm,0.8s,baz=357,slow=21,SNR=3.0							

*IDC **28** 16:09:34.9±1.1, 7.82N×93.77E, h22km±5km, mb3.8/8, mb1 3.9/9, mb1mx3.7/18, mbtmp3.9/9, ML4.3/1, Error ellipse: s-maj=41.4km s-min=21.0km az=56.0*
*NEIC **28** 16:09:35.0±0.6, 7.79N×93.75E, mb4.2/2, Error ellipse: s-maj=19.4km s-min=11.7km az=63.0*
ISC 28 16:09:33.2±0.9, 7.8N±0.1×93.9E±0.2, h23km, h23km±.8km:pP-P, n14, σ0§42/13, mb3.9/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.65**	**25**	Pn	P	16 12 21.5	+0.1
0.6nm,0.3s,baz=211,slow=14,SNR=20							
SONM	**Songino Array**	**41.26**	**13**	P	P	16 17 17.9	-0.3
0.8nm,0.6s,mb3.5,baz=195,slow=8.8,SNR=6.9							
KURK	**Kurchatov**	**44.57**	**346**	*eP*	P	16 17 45.6	+0.4
2.0nm,0.6s,mb4.1							
ZAL	**Zalesovo**	**46.54**	**353**	P	P	16 18 01.3	+0.5
2.3nm,0.4s,mb4.5,baz=290,slow=4.8,SNR=8.3							
ZAL				pP	pP	16 18 08.4	+0.5
1.2nm,0.4s,baz=296,slow=5.2,SNR=3.1							
ZAL	**Zalesovo**	**46.54**	**353**	P	P	16 18 01.3	+0.4
ZAL				pP	pP	16 18 08.4	+0.5
WRA	**Warramunga Arr**	**48.48**	**125**	P	P	16 18 16.9	+0.4
0.4nm,0.5s,mb3.7,baz=304,slow=8.8,SNR=8.9							
CHKZ	**Chkalovo**	**49.41**	**342**	*eP*	P	16 18 22.9	-0.3
1.9nm,0.6s,mb4.3							
ASAR	**Alice Springs**	**50.12**	**130**	P	P	16 18 28.8	-0.3
0.5nm,0.6s,mb3.7,baz=303,slow=7.7,SNR=2.3							
FINES	**FINESS Array B**	**72.60**	**332**	P	P	16 21 00.6	+0.1
1.6nm,0.8s,mb4.0,baz=135,slow=5.4,SNR=3.6							
FINES	**FINESS Array B**	**72.60**	**332**	P	P	16 21 00.6	+0.1
KEV	**Kevo**	**74.77**	**341**	*ep*	pP	16 21 19.5	-0.8
0.4nm,0.5s							
ARCES	**ARCESS Array B**	**75.19**	**340**	P	P	16 21 14.9	-0.5
2.6nm,1.0s,mb4.1,baz=124,slow=6.5,SNR=2.7							
ARCES				pP	pP	16 21 22.1	-0.6
8.1nm,1.2s,baz=90,slow=7.3,SNR=1.9							
GERES	**GERESS Array B**	**77.66**	**318**	P	P	16 21 30.3	+0.7
0.3nm,0.6s,mb3.4,baz=150,slow=32,SNR=2.4							
GERES				pP	pP	16 21 37.0	+0.1
0.5nm,0.6s,baz=117,slow=6.0,SNR=3.3							
HFS	**Hagfors**	**78.33**	**330**	P	P	16 21 32.5	-0.6
1.5nm,0.6s,mb4.1,baz=80,slow=9.0,SNR=4.2							
HFS				pP	pP	16 21 40.6	+0.1
0.8nm,0.5s,baz=117,slow=6.6,SNR=1.4							

*IDC **28** 16:09:55.6±0.9, 8.03N×93.84E, mb4.1/15, mb1 4.2/16, mb1mx4.2/21, mbtmp4.1/16, ML3.6/1, Error ellipse: s-maj=35.4km s-min=19.6km az=48.0*
*NEIC **28** 16:10:00.2±0.4, 8.06N×93.91E, h30km, mb4.3/3, Error ellipse: s-maj=13.5km s-min=9.4km az=60.0*
ISC 28 16:09:59.2±0.7, 8.2N±0.1×94.0E±0.1, h33km, n25, σ0§78/22, mb4.2/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.30**	**25**	Pn	P	16 12 41.1	-0.4
0.1nm,0.3s,baz=224,slow=14,SNR=4.6							
HYB	**Hyderabad**	**17.62**	**303**	*i P*	P	16 14 03.0	-0.8
SONM	**Songino Array**	**40.91**	**13**	P	P	16 17 40.8	+0.9
1.2nm,1.1s,mb3.5,baz=207,slow=7.8,SNR=5.2							
KURK	**Kurchatov**	**44.28**	**346**	*eP*	P	16 18 07.9	+0.4
1.9nm,0.3s,mb4.3							
ZAL	**Zalesovo**	**46.23**	**352**	P	P	16 18 24.1	+1.1
2.3nm,0.4s,mb4.5,baz=310,slow=3.5,SNR=7.0							
WRA	**Warramunga Arr**	**48.56**	**126**	P	P	16 18 41.0	-0.7
0.6nm,0.5s,mb3.9,baz=304,slow=8.5,SNR=4.6							
BVAR	**Borovoye Array**	**48.66**	**341**	P	P	16 18 42.0	+0.1
0.8nm,0.6s,mb3.9,baz=135,slow=8.4,SNR=3.8							
CHKZ	**Chkalovo**	**49.14**	**342**	*eP*	P	16 18 45.6	-0.1
4.9nm,0.9s,mb4.5							
ASAR	**Alice Springs**	**50.23**	**130**	P	P	16 18 54.5	0.0
0.7nm,0.8s,mb3.7,baz=304,slow=6.8,SNR=4.8							
KMBO	**Kilima Mbogo**	**57.30**	**263**	P	P	16 19 49.4	+2.7
2.5nm,0.7s,mb4.3,baz=59,slow=13,SNR=9.3							
BRTR	**Keskin Array B**	**62.12**	**311**	P	P	16 20 18.6	-0.8
1.1nm,0.6s,mb4.2,baz=123,slow=9.0,SNR=6.3							
AKASG	**Malin Array Be**	**67.82**	**322**	P	P	16 20 55.0	-1.0
0.3nm,0.2s,mb3.9,baz=90,slow=5.4,SNR=7.1							
IDI	**Anoyia**	**68.27**	**305**	P	P	16 20 58.9	-0.3
4.9nm,0.6s,mb4.8,baz=138,slow=5.0,SNR=6.4							
MLR	**Muntele Rosu**	**68.85**	**316**	P	P	16 21 02.4	-0.1
2.8nm,0.8s,mb4.2,baz=119,slow=21,SNR=4.4							
JOF	**Joensuu**	**70.51**	**334**	*ep*	P	16 21 11.8	-0.6
0.7nm,0.4s,mb3.9							
FINES	**FINESS Array B**	**72.37**	**332**	P	P	16 21 23.7	+0.2
8.8nm,1.1s,mb4.6,baz=109,slow=6.7,SNR=8.1							
KAF	**Kangasniemi**	**72.45**	**333**	*ep*	P	16 21 23.4	-0.6
0.6nm,0.4s,mb3.9							
ARCES	**ARCESS Array B**	**74.93**	**340**	P	P	16 21 38.8	+0.5
1.1nm,0.5s,mb4.0,baz=90,slow=4.9,SNR=7.4							
GERES	**GERESS Array B**	**77.50**	**318**	P	P	16 21 54.4	+1.1
1.6nm,0.5s,mb4.2,baz=85,slow=5.5,SNR=15							
HFS	**Hagfors**	**78.12**	**330**	P	P	16 21 56.8	+0.4
1.7nm,0.4s,mb4.3,baz=90,slow=3.0,SNR=8.5							
NB2	**NORSAR Subarra**	**79.39**	**331**	P	P	16 22 02.1	-1.3
4.3nm,1.1s,mb4.3,baz=91,slow=5.6							
NOA	**NORSAR Array B**	**79.39**	**331**	P	P	16 22 02.8	-0.6
3.3nm,1.0s,mb4.2,baz=95,slow=5.1,SNR=4.9							
PDAR	**Pinedale Array**	**124.94**	**21**	PKP	PKPdf	16 28 58.3	+1.9
0.4nm,0.7s,slow=4.4,SNR=3.7							
PLCA	**Paso Flores**	**144.77**	**201**	PKP	PKPdf	16 29 33.4	+0.4
1.8nm,0.8s,baz=156,slow=2.6,SNR=3.0							
PLCA	**Paso Flores**	**144.77**	**201**	PKP	PKPdf	16 29 33.4	+0.4

IDC 28 16:10:22.7±2.1, 8.23N×94.87E, mb4.1/5, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, ML4.1/1, Error ellipse: s-maj=89.8km s-min=23.1km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.91**	**21**	Pn	P	16 13 09.1	+5.8
0.4nm,0.3s,baz=210,slow=15,SNR=5.6							
SONM	**Songino Array**	**40.66**	**12**	P	P	16 18 05.1	-1.2
1.4nm,0.7s,baz=199,slow=8.5,SNR=6.2							
ZAL	**Zalesovo**	**46.30**	**352**	P	P	16 18 48.5	-3.3
2.4nm,0.5s,baz=294,slow=9.9,SNR=7.1							
WRA	**Warramunga Arr**	**47.88**	**126**	P	P	16 19 03.8	-1.1
1.2nm,0.6s,baz=304,slow=8.7,SNR=7.4							
ASAR	**Alice Springs**	**49.59**	**131**	P	P	16 19 14.9	-3.1
0.9nm,0.7s,baz=301,slow=7.8,SNR=6.1							
FINES	**FINESS Array B**	**72.74**	**332**	P	P	16 21 53.7	-0.7
2.5nm,0.8s,baz=104,slow=7.9,SNR=3.6							

IGQ 28 16:13:59.3, 1.03S×81.40W, h12km±9km, mb4.1, 2C-3D, Error ellipse: s-maj=13.4km s-min=8.1km az=155.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.86**	**91**	⇑P	Pb	16 14 13.7	-2.0
JAMA	**Jama**	**1.42**	**58**	P	Pn	16 14 25.3	+0.3
IGUA	**Igualata**	**2.80**	**99**	P	Pn	16 14 45.7	+0.9
JUA2	**San Juan 2**	**2.91**	**74**	P	Pn	16 14 47.7	+1.4
TERV	**Terraza Guagua**	**2.92**	**73**	P	Pn	16 14 47.6	+1.1
PINO	**Pino**	**2.93**	**73**	P	Pn	16 14 47.1	+0.5
ARRY	**Arrayan**	**2.98**	**99**	⇓P	Pn	16 14 48.6	+1.2
ARRY				S	Sn	16 15 25.3	+1.8
PISA	**Pisayambo**	**3.02**	**91**	P	Pn	16 14 50.6	+2.7
ULBA	**Ulba**	**3.02**	**98**	P	Pn	16 14 49.6	+1.6
VC1	**Cotopaxi 1**	**3.02**	**83**	P	Pn	16 14 50.5	+2.6
TAMB	**Tambo**	**3.05**	**84**	P	Pn	16 14 50.7	+2.3
ANTI	**Antisana**	**3.29**	**80**	⇓P	Pn	16 14 54.1	+2.4
COTA	**Cotacachi**	**3.35**	**66**	P	Pn	16 14 53.2	+0.6
CAYR	**Refugio Cayamb**	**3.55**	**73**	⇑P	Pn	16 14 58.6	+3.2
CAYA	**Cayambe**	**3.58**	**72**	⇓P	Pn	16 14 58.5	+2.6

IDC 28 16:14:26.2±1.4, 9.36N×91.79E, mb3.7/3, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=57.2km s-min=29.7km az=47.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.40**	**37**	Pn	P	16 17 10.3	-3.1
0.1nm,0.3s,baz=231,slow=14,SNR=4.1							
ASAR	**Alice Springs**	**52.65**	**129**	P	P	16 23 42.5	-2.2
0.6nm,1.0s,baz=302,slow=8.5,SNR=3.2							
FINES	**FINESS Array B**	**70.32**	**332**	P	P	16 25 40.9	-2.5
0.8nm,0.6s,baz=100,slow=8.5,SNR=4.5							
GERES	**GERESS Array B**	**75.18**	**318**	P	P	16 26 11.2	-1.1
0.8nm,0.6s,baz=90,slow=5.3,SNR=6.9							

*BJI **28** 16:14:49.4, 6.71N×93.89E, h30km, mB4.7, mb4.7, Ms4.6, Msz4.1*
*NEIC **28** 16:14:58.8±0.3, 7.65N×94.16E, h30km, mb4.6/11, Error ellipse: s-maj=10.1km s-min=7.1km az=60.0*
*IDC **28** 16:14:59.9±6.4, 7.64N×94.07E, h37km±51km, mb4.0/20, mb1 4.1/21, mb1mx4.1/24, mbtmp4.2/21, ML4.6/1, MS4.9/1, Ms1 4.9/1, ms1mx3.3/23, Error ellipse: s-maj=32.2km s-min=13.2km az=51.0*
ISC 28 16:14:58.3±1.7, 7.63N±0.07×94.17E±0.07, h42km±15km, n63, σ0§94/61, mb4.4/34, MS5.0/1, 2C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.41**	**94**	P	P	16 16 32.0	-0.7
646nm,1.0s							
CM31	**Chiang Mai Arr**	**11.72**	**23**	*eP*	P	16 17 42.8	-3.1
6.4nm,0.4s							
CMAR	**Chiang Mai Arr**	**11.72**	**23**	Pn	P	16 17 45.8	-0.1
1.3nm,0.3s,baz=212,slow=14,SNR=32							
CHG	**Chiang Mai**	**12.05**	**22**	⇑P	P	16 17 51.9	+1.6
16nm,0.6s							
NANT	**Nan**	**12.79**	**29**	P	P	16 18 00.5	+0.3
VIS	**Vishakhapatnam**	**14.56**	**315**	*eP*	P	16 18 21.3	-2.3
VIS				*eS*	Sx	16 20 39.1	
BWNR	**Bhubaneshwar**	**14.97**	**328**	*eP*	P	16 18 29.3	+0.4
BWNR				*e*		16 18 32.7	
comp=Z,20nm,0.5s							
BWNR				*eS*	S	16 21 02.0	-12
HYB	**Hyderabad**	**18.07**	**304**	*eP*	P	16 19 09.5	+1.4
HYB	**Hyderabad**	**18.07**	**304**	*i P*	P	16 19 09.5	+1.4
KMI	**Kunming**	**19.23**	**24**	⇑P	P	16 19 25.1	+3.2
comp=Z,20nm,1.4s							
KMI				PP	PP	16 19 43.1	+3.8
JIRN	**Jiri**	**21.31**	**340**	*eP*	P	16 19 43.1	-0.6
comp=Z,122nm,1.1s,mb5.2							
PKI	**Pulchoki**	**21.50**	**338**	*eP*	P	16 19 46.2	+0.6
comp=Z,76nm,1.0s,mb5.0							
DMN	**Daman**	**21.64**	**338**	*eP*	P	16 19 46.5	-0.6
KKN	**Kakani**	**21.74**	**338**	*eP*	P	16 19 47.8	-0.3
comp=Z,48nm,0.8s,mb5.0							
LSA	**Lhasa**	**22.14**	**353**	P	P	16 19 55.3	+3.3
LSA				AMB	AMB		
comp=Z,50nm,0.7s,mb5.0							
LSA	**Lhasa**	**22.14**	**353**	*eP*	P	16 19 51.4	-0.6
comp=Z,32nm,0.6s,mb4.9							
GKN	**Gorkha**	**22.18**	**337**	*eP*	P	16 19 52.6	+0.2
comp=Z,52nm,0.6s,mb5.2							
BHPL	**Bhopal**	**22.35**	**316**	*eP*	P	16 19 59.7	+5.6
BHPL				*e*		16 20 02.5	
comp=Z,14nm,0.7s							
KOLN	**Koldanda**	**22.39**	**335**	*eP*	P	16 19 55.3	+0.8
comp=Z,66nm,0.8s,mb5.1							

POO Poona 22.53 301 *eP* **P 16 19 57.4 +1.4**
NDI New Delhi 26.35 325 *e* **P 16 20 38.0 +5.4**
DDI Dehra Dun 27.16 328 *e* **P 16 20 40.0 0.0**
LZH Lanzhou 29.67 16 *eP* **P 16 21 03.0 +0.5**
LZH AMB AMB
comp=Z,19nm,1.5s,mb4.6
LZH Lanzhou 29.67 16 *eP* **P 16 21 03.0 +0.5**
comp=Z,19nm,1.5s,mb4.6
LZH pP pP 16 21 19.9 +6.1
LZH sP sP 16 21 28.9 +10
SONM Songino Array 41.39 12 P **P 16 22 43.1 +0.9**
comp=Z,4.0nm,0.8s,mb4.1,baz=195,slow=9.2,SNR=25
SONM PcP PcP 16 24 41.5 +1.1
comp=Z,1.8nm,0.9s,baz=196,slow=3.9,SNR=5.4
KURK Kurchatov 44.85 346 *eP* **P 16 23 10.0 -0.3**
comp=Z,24nm,1.1s,mb4.9
NWAO Narrogin (SRO) 45.92 153 P **P 16 23 21.0 +1.9**
comp=Z,10nm,1.1s,mb4.6,baz=205,slow=7.3,SNR=3.1
ZAL Zalesovo 46.79 352 P **P 16 23 25.6 +0.1**
comp=Z,6.8nm,0.7s,mb4.7,baz=301,slow=5.7,SNR=29
WRA Warramunga Arr 48.10 125 P **P 16 23 36.3 -0.1**
comp=Z,0.6nm,0.4s,mb4.0,baz=304,slow=8.6,SNR=8.9
WRAB Tennant Creek 48.10 125 *eP* **P 16 23 35.6 -0.7**
WB2 Warramunga Arr 48.11 125 *eP* **P 16 23 36.2 -0.2**
BVAR Borovoye Array 49.23 341 P **P 16 23 44.2 -0.4**
comp=Z,1.4nm,0.7s,mb4.1,baz=149,slow=8.6,SNR=11
BVAR PcP PcP 16 25 08.5 +1.1
comp=Z,1.2nm,0.6s,baz=90,slow=1.5,SNR=4.9
CHKZ Chkalovo 49.71 342 *eP* **P 16 23 47.6 -0.7**
comp=Z,14nm,0.9s,mb5.0
ASAR Alice Springs 49.74 130 P **P 16 23 48.7 -0.2**
comp=Z,0.6nm,0.6s,mb3.8,baz=300,slow=7.4,SNR=9.1
ASAR PcP PcP 16 25 10.3 +0.6
comp=Z,1.1nm,0.9s,baz=323,slow=4.5,SNR=4.2
ASAR Alice Springs 49.74 130 P **P 16 23 48.7 -0.2**
ASAR PcP PcP 16 25 10.3 +0.6
FORT Forrest 50.13 141 *eP* pP 16 24 01.0 -2.7
comp=Z,45nm,0.7s
GNI Garni 54.62 314 P **P 16 24 26.4 +1.2**
comp=Z,1.9nm,0.4s,mb4.5,baz=232,slow=16,SNR=3.0
KMBO Kilima Mbogo 57.42 264 P **P 16 24 50.1 +4.4**
comp=Z,4.4nm,1.0s,mb4.4,baz=59,slow=10,SNR=8.1
KIV Kislovodsk 57.51 318 P **P 16 24 44.6 -1.3**
ASF Jabal al Asfar 58.37 303 P **P 16 24 52.7 +0.7**
comp=Z,1.7nm,0.6s,mb4.2,baz=315,slow=8.1,SNR=2.8
STKA Stephens Creek 59.92 134 P **P 16 25 02.8 -0.1**
comp=Z,0.8nm,0.8s,mb3.8,baz=90,slow=21,SNR=3.0
STKA LR LR 16 54 35.8
comp=Z,991nm,18.1s,MS5.0,baz=84,slow=40
BRTR Keskin Array B 62.61 311 P **P 16 25 19.0 -1.8**
comp=Z,1.1nm,0.5s,mb4.2,baz=130,slow=7.6,SNR=6.1
AKASG Malin Array Be 68.36 322 P **P 16 25 56.2 -1.3**
comp=Z,0.8nm,0.5s,mb4.0,baz=86,slow=4.9,SNR=5.9
IDI Anoyia 68.73 305 P **P 16 25 59.0 -1.1**
comp=Z,4.4nm,0.5s,mb4.6,baz=349,slow=18,SNR=5.9
LSZ Lusaka 69.21 251 P **P 16 26 03.6 +0.2**
MLR Muntele Rosu 69.36 316 P **P 16 26 04.0 +0.2**
comp=Z,4.5nm,1.1s,mb4.3,baz=262,slow=2.0,SNR=5.0
JOF Joensuu 71.08 334 *ep* **P 16 26 12.7 -1.2**
comp=Z,1.4nm,0.4s,mb4.2
FINES FINESS Array B 72.94 332 P **P 16 26 24.7 -0.3**
comp=Z,4.4nm,0.7s,mb4.5,baz=106,slow=7.2,SNR=17
KAF Kangasniemi 73.02 333 *ep* **P 16 26 25.0 -0.4**
comp=Z,1.4nm,0.4s,mb4.2
LBTB Lobatse 74.15 241 P **P 16 26 32.8 -0.1**
comp=Z,5.4nm,0.7s,mb4.6
KEV Kevo 75.07 341 *ep* **P 16 26 37.1 -0.1**
comp=Z,0.3nm,0.4s,mb3.6
ARCES ARCESS Array B 75.50 340 P **P 16 26 38.6 -1.1**
comp=Z,5.2nm,1.0s,mb4.4,baz=72,slow=3.8,SNR=8.6
BRG Berggiesshubel 77.95 320 P **P 16 26 54.4 +0.6**
comp=Z,3.3nm,1.0s,mb4.2
GERES GERESS Array B 78.02 318 P **P 16 26 54.6 +0.4**
comp=Z,1.3nm,0.6s,mb4.0,baz=90,slow=5.3,SNR=9.7
KHC Kasperske Hory 78.12 319 *eP* **P 16 27 01.5 +6.8**
CLL Collm 78.56 321 P **P 16 26 58.0 +0.8**
HFS Hagfors 78.68 330 P **P 16 26 58.1 +0.5**
comp=Z,3.2nm,0.5s,mb4.5,baz=104,slow=6.1,SNR=18
NB2 NORSAR Subarra 79.95 331 P **P 16 27 04.1 -0.4**
comp=Z,3.1nm,0.7s,mb4.3,baz=95,slow=5.0
NOA NORSAR Array B 79.95 331 P **P 16 27 05.0 +0.5**
comp=Z,5.2nm,1.0s,mb4.4,baz=91,slow=5.7,SNR=8.8
NOA NORSAR Array B 79.95 331 P **P 16 27 05.0 +0.5**
ILAR Eielson Array 94.96 22 P **P 16 28 18.2 +1.0**
comp=Z,0.3nm,0.8s,mb3.8,baz=278,slow=4.7,SNR=4.4
PDAR Pinedale Array 125.38 21 PKP PKPdf 16 33 58.0 +2.7
comp=Z,0.6nm,0.8s,slow=1.5,SNR=5.5
PLCA Paso Flores 144.33 200 PKP PKPdf 16 34 31.6 +1.3
comp=Z,1.9nm,0.8s,baz=7.8,slow=20,SNR=2.8

*IDC **28** 16:20:35.8±1.0, 8.47N×93.89E, mb3.8/10, mb1 3.9/11, mb1mx3.8/18, mbtmp3.7/11, ML3.5/1, Error ellipse: s-maj=35.6km s-min=22.1km az=49.0*
*NEIC **28** 16:20:40.5±0.6, 8.40N×93.87E, h30km, mb4.0/1, Error ellipse: s-maj=16.9km s-min=13.5km az=70.0*
ISC 28 16:20:39.7±5.5, 8.5N±0.2×93.9E±0.2, h40km±49km, n12, σ0§78/12, mb3.8/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.08**	**26**	Pn	P	16 23 18.6	-0.1
0.1nm,0.3s,baz=180,slow=12,SNR=2.9							
SONM	**Songino Array**	**40.65**	**13**	P	P	16 28 17.8	+0.2
0.7nm,0.8s,mb3.4,baz=198,slow=7.8,SNR=4.8							
KURK	**Kurchatov**	**44.00**	**346**	P	P	16 28 45.1	+0.2
2.0nm,0.8s,mb3.9							
ZAL	**Zalesovo**	**45.95**	**353**	P	P	16 29 01.0	+0.5
1.0nm,0.3s,mb4.2,baz=298,slow=8.2,SNR=3.7							
BVAR	**Borovoye Array**	**48.37**	**341**	P	P	16 29 19.9	+0.4
1.0nm,0.9s,mb3.8,baz=166,slow=6.1,SNR=4.3							
WRA	**Warramunga Arr**	**48.78**	**126**	P	P	16 29 23.9	+0.9
0.6nm,1.0s

ANTI	Antisana	3.19	79	⇓P	Pn	16 23 37.7 +2.3
COTA	Cotacachi	3.26	65	P	Pn	16 23 37.4 +0.9
CAYR	Refugio Cayamb	3.46	72	⇓P	Pn	16 23 41.8 +2.6
CAYA	Cayambe	3.49	71	⇓P	Pn	16 23 42.1 +2.4

IDC 28 16:26:01.8±2.9, 7.98N×93.82E, mb3.6/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=88.6km s-min=29.4km az=68.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.55	25	Pn	P	16 28 50.0	-1.0
	0.1nm,0.3s,baz=211,slow=15,SNR=7.8						
SONM	Songino Array	41.13	13	P	P	16 33 46.9	-2.3
	0.6nm,0.8s,baz=196,slow=8.5,SNR=4.8						
ZAL	Zalesovo	46.40	353	P	P	16 34 29.7	-2.1
	1.1nm,0.4s,baz=314,slow=6.4,SNR=4.5						
WRA	Warramunga Arr	48.58	125	P	P	16 34 47.6	-1.7
	0.3nm,0.5s,baz=305,slow=8.5,SNR=5.3						

IDC 28 16:28:56.3±1.5, 6.88N×93.16E, mb3.4/3, mb1 3.7/4, mb1mx3.4/17, mbtmp3.4/4, ML3.7/1, MS4.3/1, Ms1 4.5/1, ms1mx3.2/15, Error ellipse: s-maj=63.9km s-min=28.3km az=48.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.81	26	Pn	P	16 32 00.5	-2.2
	0.1nm,0.3s,baz=220,slow=13,SNR=4.0						
CMAR				LR	LR	16 37 17.5	
	comp=Z,1μm,18.3s,baz=198,slow=39						
WRA	Warramunga Arr	48.50	124	P	P	16 37 40.7	-2.5
	0.3nm,0.6s,baz=305,slow=8.7,SNR=4.2						
ASAR	Alice Springs	50.04	129	P	P	16 37 53.5	-1.6
	0.3nm,0.9s,baz=306,slow=7.9,SNR=4.6						
GERES	GERESS Array B	77.92	318	P	P	16 40 56.4	-1.3
	0.5nm,0.6s,baz=72,slow=6.2,SNR=3.4						

*BJI **28** 16:30:05.4, 7.68N×93.67E, h47km, mB5.5, mb4.3, Ms4.9, Msz4.6*
*NEIC **28** 16:30:05.0±0.4, 7.86N×94.03E, h30km, mb4.6/14, Error ellipse: s-maj=10.8km s-min=9.4km az=84.0*
*IDC **28** 16:30:07.5±4.4, 7.93N×94.07E, h51km±39km, mb3.9/20, mb1 4.0/21, mb1mx4.0/24, mbtmp4.1/21, ML4.4/1, Error ellipse: s-maj=25.1km s-min=12.5km az=52.0*
ISC 28 16:30:04.2±2.5, 7.84N±0.08×94.10E±0.08, h38km±21km, n55, σ1°18/49, mb4.5/39, MS5.0/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.56	24	eP	P	16 32 47.3	-2.4
	2.5nm,0.3s						
CMAR	Chiang Mai Arr	11.56	24	P	P	16 32 49.0	-0.7
	0.8nm,0.3s,baz=210,slow=14,SNR=13						
HYB	Hyderabad	17.89	304	eP	P	16 34 12.0	0.0
HYB	Hyderabad	17.89	304	i P	P	16 34 12.0	0.0
KMI	Kunming	19.07	25	P	P	16 34 27.8	+1.6
	11nm,1.5s						
JIRN	Jiri	21.09	340	eP	P	16 34 48.8	+1.1
	106nm,1.1s,mb5.1						
PKI	Pulchoki	21.28	338	eP	P	16 34 49.9	+0.3
	38nm,0.6s,mb4.9						
DMN	Daman	21.43	338	eP	P	16 34 52.2	+1.1
	76nm,0.8s,mb5.1						
KKN	Kakani	21.53	338	eP	P	16 34 53.5	+1.4
	71nm,1.0s,mb5.0						
LSA	Lhasa	21.92	353	eP	P	16 34 58.5	+2.5
GKN	Gorkha	21.96	337	eP	P	16 34 56.7	+0.3
	66nm,0.6s,mb5.2						
KOLN	Koldanda	22.17	335	eP	P	16 34 59.1	+0.6
	54nm,0.8s,mb5.0						
ENH	Enshi	26.57	31	eP	P	16 35 41.4	+0.6
	10nm,1.0s,mb4.3						
LZH	Lanzhou	29.49	16	eP	P	16 36 13.5	+6.4
LZH				AMB	AMB		
	comp=Z,31nm,1.8s,mb4.7						
LZH				AMB	AMB		
	comp=Z,786nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,12.0s						
LZH				LR	LR		
	comp=Z,3μm,13.4s,MS5.0						
WMQ	Urumqi	36.28	352	eP	P	16 37 06.8	+0.9
AAK	Ala-Archa	38.72	337	eP	P	16 37 25.3	-1.0
	comp=Z,12nm,1.1s,mb4.5						
SONM	Songino Array	41.21	13	P	P	16 37 46.5	-0.4
	comp=Z,1.3nm,0.8s,mb3.6,baz=197,slow=7.7,SNR=8.9						
SONM				PcP	PcP	16 39 45.1	-1.0
	comp=Z,0.6nm,0.5s,baz=203,slow=3.1,SNR=4.6						
ULN	Ulaanbaatar	41.38	13	eP	P	16 37 46.5	-1.8
	comp=Z,1.6nm,0.8s,mb3.7						
KURK	Kurchatov	44.63	346	eP	P	16 38 14.3	-0.5
	comp=Z,17nm,1.1s,mb4.8						
NWAO	Narrogin (SRO)	46.14	153	P	P	16 38 26.6	-0.4
	comp=Z,2.9nm,0.7s,mb4.3,baz=300,slow=5.8,SNR=3.6						
ZAL	Zalesovo	46.58	352	P	P	16 38 30.0	-0.1
	comp=Z,3.0nm,0.4s,mb4.5,baz=321,slow=3.6,SNR=18						
WRA	Warramunga Arr	48.28	125	P	P	16 38 44.1	+0.1
	comp=Z,1.8nm,0.8s,mb4.2,baz=304,slow=8.9,SNR=12						
BVAR	Borovoye Array	49.01	341	P	P	16 38 49.0	-0.1
	comp=Z,2.1nm,0.8s,mb4.2,baz=143,slow=7.4,SNR=11						
CHKZ	Chkalovo	49.49	342	eP	P	16 38 51.7	-1.2
	comp=Z,1.1nm,1.0s,mb4.8						
ASAR	Alice Springs	49.93	130	P	P	16 38 56.5	-0.1
	comp=Z,1.7nm,0.9s,mb4.1,baz=306,slow=7.7,SNR=6.8						
ASAR				PcP	PcP	16 40 16.4	-0.3
	comp=Z,0.7nm,0.8s,baz=326,slow=6.5,SNR=2.4						
GNI	Garni	54.43	314	P	P	16 39 30.0	-0.1
	comp=Z,1.1nm,0.4s,mb4.1,baz=194,slow=18,SNR=2.9						
KMBO	Kilima Mbogo	57.38	264	P	P	16 39 53.1	+1.4
	comp=Z,4.1nm,0.9s,mb4.5,baz=49,slow=9.7,SNR=11						
YAK	Yakutsk	60.04	18	P	P	16 40 08.0	-1.6
	comp=Z,21nm,0.9s,mb5.2						
STKA	Stephens Creek	60.11	134	P	P	16 40 12.0	+1.5
	comp=Z,2.1nm,0.7s,mb4.3,baz=358,slow=5.9,SNR=4.1						
BRTR	Keskin Array B	62.42	311	P	P	16 40 23.8	-2.0
	comp=Z,0.9nm,0.7s,mb4.0,baz=141,slow=8.5,SNR=3.5						
AKASG	Malin Array Be	68.15	322	P	P	16 41 00.5	-2.0
	comp=Z,0.4nm,0.4s,mb3.8,baz=80,slow=5.8,SNR=9.4						
IDI	Anoyia	68.55	305	P	P	16 41 04.3	-1.0
	comp=Z,5.5nm,0.9s,mb4.5,baz=104,slow=11,SNR=3.7						
MLR	Muntele Rosu	69.17	316	P	P	16 41 08.0	-0.9
	comp=Z,6.3nm,1.2s,mb4.4,baz=136,slow=6.4,SNR=4.0						
LSZ	Lusaka	69.22	250	eP	P	16 41 08.3	-1.4
	comp=Z,23nm,1.6s,mb4.9						
JOF	Joensuu	70.86	334	ep	P	16 41 18.4	-0.5
FINES	FINESS Array B	72.72	332	P	P	16 41 29.4	-0.5
	comp=Z,2.2nm,0.7s,mb4.2,baz=94,slow=6.4,SNR=11						
KAF	Kangasniemi	72.80	333	ep	P	16 41 25.9	-4.5
	comp=Z,1.9nm,0.6s,mb4.2						
LBTB	Lobatse	74.19	241	eP	P	16 41 39.2	-0.1
	comp=Z,7.2nm,0.8s,mb4.7						
KEV	Kevo	74.85	341	ep	P	16 41 44.3	+2.0
	comp=Z,3.9nm,0.7s,mb4.5						
ARCES	ARCESS Array B	75.28	340	P	P	16 41 44.4	-0.3
	comp=Z,2.6nm,0.8s,mb4.2,baz=90,slow=6.1,SNR=5.8						
BRG	Berggiesshubel	77.75	320	i P	P	16 42 00.6	+1.6
	comp=Z,28nm,1.8s,mb4.9						
BRG				e		16 42 05.4	
GERES	GERESS Array B	77.82	318	P	P	16 41 59.0	-0.5
	comp=Z,1.6nm,0.8s,mb4.0,baz=79,slow=6.8,SNR=5.1						
KHC	Kasperske Hory	77.91	319	eP	P	16 42 03.0	+3.1
CLL	Collm	78.36	321	e*PP	pP	16 42 09.0	-4.8
HFS	Hagfors	78.46	330	P	P	16 42 02.2	-0.5
	comp=Z,1.8nm,0.6s,mb4.2,baz=104,slow=6.1,SNR=8.8						
NB2	NORSAR Subarra	79.74	331	P	P	16 42 08.3	-1.4
	comp=Z,3.6nm,0.9s,mb4.3,baz=92,slow=5.8						
NOA	NORSAR Array B	79.74	331	P	P	16 42 08.8	-0.8
	comp=Z,2.0nm,0.9s,mb4.0,baz=91,slow=5.6,SNR=4.7						
LPG	La Plagne	82.61	315	eP	P	16 42 27.3	+2.3
	comp=Z,14nm,0.9s,mb4.7						
EKA	Eskdalemuir Ar	87.72	325	P	P	16 42 55.9	+5.7
	comp=Z,2.5nm,0.9s,mb4.4,baz=65,slow=22,SNR=3.4						
ILAR	Eielson Array	94.79	22	P	P	16 43 23.9	+1.2
	comp=Z,0.3nm,0.7s,mb3.8,baz=300,slow=3.7,SNR=4.3						
NVAR	Mina Array Bea	124.97	31	PKP	PKPdf	16 49 03.7	+2.7
	comp=Z,0.2nm,0.3s,baz=43,slow=25,SNR=2.5						
NVAR	Mina Array Bea	124.97	31	PKP	PKPdf	16 49 03.7	+2.7
PDAR	Pinedale Array	125.22	21	PKP	PKPdf	16 49 02.6	+1.4
	comp=Z,0.5nm,0.6s,baz=27,slow=2.0,SNR=3.7						
TXAR	Lajitas Array	139.28	24	PKP	PKPdf	16 49 30.9	+2.9
	comp=Z,0.4nm,0.6s,baz=90,slow=1.3,SNR=4.8						
PLCA	Paso Flores	144.50	200	PKP	PKPdf	16 49 37.6	+0.7
	comp=Z,5.9nm,0.8s,baz=164,slow=3.4,SNR=4.4						

*HEL **28** 16:32:46.9±0.1, 67.08N×20.91E, ML1.7, ML2.1(UPP), Explosion*
*IDC **28** 16:32:47.9±0.9, 67.05N×21.42E, mb1 3.0/4, mb1mx3.0/17, mbtmp2.9/4, ML2.3/3, Error ellipse: s-maj=18.4km s-min=7.3km az=112.0*
ISC 28 16:32:45.4±0.4, 67.05N±0.03×20.91E±0.08, n34, σ1°17/38, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.15	300	i P	Pg	16 32 49.3	+0.8
MASU	Masugnsbyn	0.59	45	i P	Pg	16 32 56.9	-0.3
ERTU	Ertsjaerv	0.71	134	i P	Pg	16 32 59.6	+0.1
PAJU	Pajala	0.86	90	i P	Pg	16 33 02.0	-0.6
KUA	Kurravaara	0.94	347	eP	Pg	16 33 02.8	-1.3
SALU	Saltoluokta	1.00	291	eP	Pb	16 33 04.6	-0.7
NIKU	Nikkaluokta	1.10	320	eP	Pb	16 33 06.0	-1.0
SJUU	Sjulsmark	1.57	169	eP	Pn	16 33 15.3	+0.6
LILU	Lilltraesk	1.82	194	eP	Pn	16 33 19.3	+1.1
KIF	Kilpisjarvi	1.97	359	eP	Pn	16 33 21.1	+0.7
KIF				eS	Sn	16 33 47.0	+0.9
KTK1	Kautokeino	2.16	23	eP	Pn	16 33 25.0	+1.9
SGF	Sodankyl	2.22	77	eP	Pn	16 33 24.4	+0.5
SGF				eS	Sn	16 33 54.5	+2.0
TRO	Tromso	2.70	345	eP	Pn	16 33 27.7	-3.2
TRO	Tromso	2.70	345	AMS	AMS	16 35 47.4	
	comp=Z,727nm,18.8s						
TRO	Tromso	2.70	345	e	Pn	16 33 27.7	-3.2
MOR8	Moi Rana	2.73	254	ePB	Pn	16 33 31.4	+0.1
MOR8	Moi Rana	2.73	254	e	Pn	16 33 31.4	+0.1
OUL	Oulu	2.83	132	eP	Pn	16 33 35.1	+2.5
OUL				eS	Sn	16 34 08.7	+0.7
OUL				e		16 34 20.6	
OUL				MSG		16 34 23.9	
	comp=Z,2.4nm,0.2s						
ARCES	ARCESS Array B	3.03	32	Pn	Pn	16 33 35.0	-0.5
	comp=Z,0.5nm,0.3s,baz=211,slow=14,SNR=68						
ARCES				Sn	Sn	16 34 12.2	-0.8
	comp=Z,0.5nm,0.3s,baz=210,slow=20,SNR=8.5						
ARCES				Lg		16 34 20.9	
	comp=Z,0.7nm,0.3s,baz=214,slow=28,SNR=5.6						
LOF	Lofoten	3.03	294	eP	Pn	16 33 37.1	+1.6
LOF	Lofoten	3.03	294	e	Pn	16 33 37.1	+1.6
UMAU	Umeaa	3.18	182	eP	Pn	16 33 37.4	-0.2
KEV	Kevo	3.53	37	eP	Pn	16 33 42.1	-0.5
KEV				eS	Sn	16 34 24.6	-1.2
KEV				eSG	Sg	16 34 36.7	-6.4
KEV				MSG		16 34 40.8	
	comp=Z,1.5nm,0.2s						
NSS	Namsos	4.47	240	AMS	AMS	16 36 41.6	
	comp=Z,1μm,21.7s						
SUF	Sumiainen	4.88	150	eP	Pn	16 34 02.5	+0.7
SUF				eS	Sn	16 34 57.9	-2.1
KAF	Kangasniemi	5.47	152	eP	Pn	16 34 09.9	-0.3
KAF				eS	Sn	16 35 11.2	-3.5
FIA0	FINESS Array S	6.06	156	eP	Pn	16 34 18.6	+0.1
FIA0				eS	Sn	16 35 25.8	-3.7
FINES	FINESS Array B	6.06	156	Pn	Pn	16 34 18.1	-0.3
	baz=350,slow=12,SNR=7.1						
FINES				Sn	Sn	16 35 26.6	-2.8
	comp=Z,0.2nm,0.3s,baz=348,slow=23,SNR=5.9						
NOA	NORSAR Array B	7.37	220	Pn	Pn	16 34 37.7	+0.8
	comp=Z,0.0nm,0.3s,baz=153,slow=18,SNR=2.4						
BJO	Bjoroya	7.52	356	AMS	AMS	16 38 01.9	
	comp=Z,1μm,22.0s						
HFS	Hagfors	7.64	208	Pn	Pn	16 34 38.9	-1.8
	comp=Z,0.0nm,0.3s,baz=22,slow=13,SNR=5.1						
KONO	Kongsberg	8.98	220	AMS	AMS	16 38 28.1	
	comp=Z,2μm,23.0s						
BER	Bergen	9.59	233	AMS	AMS	16 39 02.5	
	comp=Z,1μm,20.5s						
JMIC	Jan Mayen	11.18	304	AMS	AMS	16 38 53.4	
	comp=Z,1μm,17.9s						

*BJI **28** 16:33:03.3, 7.24N×93.71E, h30km, mB5.0, mb4.4, Ms4.3, Msz3.9*
*NEIC **28** 16:33:12.4±0.3, 8.06N×93.86E, h30km, mb4.6/15, Error ellipse: s-maj=10.6km s-min=8.6km az=75.0*
*IDC **28** 16:33:16.5±4.4, 8.24N×94.06E, h62km±39km, mb4.1/22, mb1 4.2/23, mb1mx4.2/26, mbtmp4.4/23, ML3.4/1, Error ellipse: s-maj=24.9km s-min=14.3km az=52.0*
ISC 28 16:33:14.0±2.5, 8.12N±0.08×94.04E±0.08, h58km±21km, n64, σ1°03/60, mb4.5/37, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.33	24	P	P	16 35 54.5	-1.1
	0.1nm,0.3s,baz=210,slow=14,SNR=8.8						
HYB	Hyderabad	17.69	303	i P	P	16 37 19.0	+0.9
KMI	Kunming	18.84	25	⇑P	P	16 37 34.5	+2.6
	22nm,1.2s						
KMI				pP		16 37 38.6	
JIRN	Jiri	20.81	340	eP	P	16 37 53.7	+0.8
	109nm,1.0s						
PKI	Pulchoki	21.00	338	eP	P	16 37 56.2	+1.3
	94nm,1.0s,mb5.1						
DMN	Daman	21.15	338	eP	P	16 37 56.9	+0.5
KKN	Kakani	21.25	338	eP	P	16 37 58.5	+1.1
LSA	Lhasa	21.64	353	eP	P	16 38 00.5	-0.8
	33nm,0.8s,mb4.8						
GKN	Gorkha	21.68	337	eP	P	16 38 01.1	-0.6
	90nm,0.9s,mb5.2						
KOLN	Koldanda	21.90	335	eP	P	16 38 03.8	0.0
ENH	Enshi	26.37	31	eP	P	16 38 45.9	-0.9
	20nm,1.0s,mb4.6						
LZH	Lanzhou	29.25	16	eP	P	16 39 12.5	-0.3
LZH				AP	pP	16 39 21.0	-6.2
LZH				XP	sP	16 39 27.3	-6.9
LZH				AMB	AMB		
	comp=Z,14nm,1.5s,mb4.5						
LZH	Lanzhou	29.25	16	eP	P	16 39 12.5	-0.3
	comp=Z,14nm,1.5s,mb4.5						
LZH				pP	pP	16 39 21.0	-6.2
LZH				sP	sP	16 39 27.3	-6.9
WMQ	Urumqi	36.00	352	eP	P	16 40 11.5	+0.2
BJI	Beijing	37.44	28	P	P	16 40 26.0	+2.5
	comp=Z,11nm,2.0s,mb4.3						
AAK	Ala-Archa	38.44	337	eP	P	16 40 31.1	-0.6
	comp=Z,12nm,0.9s,mb4.6						
SONM	Songino Array	40.95	13	P	P	16 40 52.9	+0.4
	comp=Z,2.6nm,0.9s,mb3.9,baz=199,slow=6.4,SNR=7.5						
KURK	Kurchatov	44.35	346	eP	P	16 41 18.7	-1.6
	comp=Z,20nm,1.0s,mb4.8						
ZAL	Zalesovo	46.30	352	P	P	16 41 35.4	-0.3
	comp=Z,7.0nm,1.0s,mb4.5,baz=298,slow=9.1,SNR=14						
NWAO	Narrogin (SRO)	46.41	153	P	P	16 41 38.6	+1.8
	comp=Z,8.1nm,0.8s,mb4.7,baz=310,slow=7.2,SNR=6.0						
WRA	Warramunga Arr	48.48	126	P	P	16 41 52.8	-0.4
	comp=Z,1.6nm,0.6s,mb4.2,baz=304,slow=8.9,SNR=5.8						
WRAB	Tennant Creek	48.49	126	eP	P	16 41 52.8	-0.4
BVAR	Borovoye Array	48.73	341	P	P	16 41 53.2	-1.4
	comp=Z,3.1nm,0.8s,mb4.4,baz=135,slow=6.3,SNR=7.1						
CHKZ	Chkalovo	49.21	342	eP	P	16 41 57.1	-1.3
	comp=Z,18nm,1.0s,mb5.1						
ASAR	Alice Springs	50.15	130	P	P	16 42 05.0	-1.0
	comp=Z,1.5nm,0.8s,mb4.1,baz=313,slow=7.6,SNR=5.8						
GNI	Garni	54.20	314	P	P	16 42 36.2	+0.2
	comp=Z,10nm,1.1s,mb4.7,baz=338,slow=16,SNR=2.2						
KMBO	Kilima Mbogo	57.35	263	P	P	16 43 00.8	+1.7
	comp=Z,4.4nm,0.8s,mb4.5,baz=215,slow=24,SNR=3.9						
BRTR	Keskin Array B	62.20	311	P	P	16 43 29.8	-2.1
	comp=Z,1.7nm,0.8s,mb4.2,baz=120,slow=7.2,SNR=7.2						
AKASG	Malin Array Be	67.90	322	P	P	16 44 06.1	-2.4
	comp=Z,1.6nm,0.7s,mb4.2,baz=83,slow=5.1,SNR=7.0						
IDI	Anoyia	68.35	305	P	P	16 44 11.4	-0.2
	comp=Z,5.2nm,0.7s,mb4.7,baz=79,slow=6.7,SNR=3.7						
MLR	Muntele Rosu	68.93	316	P	P	16 44 14.6	-0.4
	comp=Z,6.5nm,0.8s,mb4.6,baz=103,slow=4.1,SNR=6.9						
LSZ	Lusaka	69.25	250	eP	P	16 44 16.7	-0.7
JOF	Joensuu	70.59	334	ep	P	16 44 23.8	-1.0
	comp=Z,3.7nm,0.9s,mb4.3						
KWP	Kalwaria	71.78	320	eP	P	16 44 31.1	-1.1
FINES	FINESS Array B	72.45	332	P	P	16 44 35.9	-0.1
	comp=Z,8.0nm,0.8s,mb4.7,baz=80,slow=12,SNR=7.4						
KAF	Kangasniemi	72.53	333	ep	P	16 44 36.0	-0.4
	comp=Z,0.5nm,0.3s,mb3.9						
LBTB	Lobatse	74.27	241	eP	P	16 44 45.6	-1.7
KEV	Kevo	74.58	341	ep	P	16 44 43.3	-4.9
	comp=Z,3.0nm,0.7s,mb4.3						
OKC	Ostrava-Krasne	74.74	319	eP	P	16 44 49.3	-0.2
OKC				epP	PcP	16 44 55.1	-8.6
ARCES	ARCESS Array B	75.01	340	P	P	16 44 49.7	-0.9
	comp=Z,6.0nm,1.0s,mb4.5,baz=108,slow=3.8,SNR=5.7						
DPC	Dobruska-Polom	75.96	320	eP	P	16 44 56.3	-0.1
UPC	Upice	76.17	320	eP	P	16 45 02.9	+5.3
PRU	Pruhonice	77.08	319	eP	P	16 45 04.5	+1.7
BRG	Berggiesshubel	77.50	320	eP	P	16 45 06.5	+1.4
	comp=Z,9.9nm,1.4s,mb4.5						
BRG				i		16 45 10.1	
GERES	GERESS Array B	77.58	318	P	P	16 45 05.6	0.0
	comp=Z,3.5nm,0.8s,mb4.3,baz=90,slow=5.3,SNR=12						
KHC	Kasperske Hory	77.67	318	eP	P	16 45 06.8	+0.7
KHC				epP	PcP	16 45 10.8	-5.6
CLL	Collm	78.11	321	P	P	16 45 08.0	-0.4
HFS	Hagfors	78.20	330	P	P	16 45 09.0	+0.2
	comp=Z,4.5nm,0.5s,mb4.6,baz=104,slow=6.1,SNR=13						
NKC	Novy Kostel	78.44	320	eP	P	16 45 10.7	+0.5
GRA1	Grafenberg Arr	79.22	319	eP	P	16 45 15.4	+0.8
	comp=Z,5.0nm,0.8s,mb4.5						
GRA1				epP	PcP	16 45 20.6	-2.4
GRF	Grafenberg Arr	79.22	319	eP	P	16 45 15.4	+0.8
	comp=Z,5.0nm,0.8s,mb4.5						
GRF				epP	PcP	16 45 20.6	-2.4
NB2	NORSAR Subarra	79.47	331	P	P	16 45 14.6	-1.1
	comp=Z,3.0nm,0.7s,mb4.3,baz=94,slow=5.3						
NOA	NORSAR Array B	79.47	331	P	P	16 45 15.2	-0.4
	comp=Z,4.0nm,0.9s,mb4.4,baz=93,slow=5.5,SNR=8.4						
DAVOX	Davos	80.15	316	P	P	16 45 20.3	+0.7
	comp=Z,5.7nm,0.8s,mb4.6,baz=152,slow=8.1,SNR=4.3						
LPG	La Plagne	82.38	315	eP	P	16 45 31.8	+0.5
	comp=Z,25nm,1.0s,mb4.8						
EKA	Eskdalemuir Ar	87.47	325	P	P	16 45 57.0	+0.7
	comp=Z,3.7nm,0.8s,mb4.6,baz=90,slow=6.7,SNR=3.7						
ESDC	Sonseca Array	90.99	310	P	P	16 46 14.3	+0.9
	comp=Z,0.2nm,0.3s,mb3.9,baz=50,slow=7.3,SNR=3.3						
ILAR	Eielson Array	94.56	22	P	P	16 46 30.1	+1.0
	comp=Z,0.7nm,1.0s,mb4.0,baz=265,slow=3.5,SNR=5.1						
INK	Inuvik	96.79	16	P	P	16 46 40.5	+1.3
	comp=Z,1.7nm,0.9s,mb4.5,baz=315,slow=5.7,SNR=2.4						
INK	Inuvik	96.79	16	P	P	16 46 40.5	+1.3
NVAR	Mina Array Bea	124.76	31	PKP	PKPdf	16 52 10.3	+2.4
	comp=Z,0.6nm,0.7s,baz=333,slow=2.0,SNR=3.3						
NVAR	Mina Array Bea	124.76	31	PKP	PKPdf	16 52 10.3	+2.4
PDAR	Pinedale Array	124.98	21	PKP	PKPdf	16 52 09.9	+1.8
	comp=Z,1.6nm,0.9s,SNR=5.9						
PLCA	Paso Flores	144.74	200	PKP	PKPdf	16 52 46.7	+2.1
	comp=Z,5.0nm,0.8s,baz=172,slow=5.5,SNR=4.2						

*BJI **28** 16:34:30.4, 7.60N×93.25E, h47km, mb4.7*
*IDC **28** 16:34:30.3±0.7, 7.87N×93.94E, h18km±3km, mb4.2/18, mb1 4.3/19, mb1mx4.3/23, mbtmp4.3/19, ML4.0/1, Error ellipse: s-maj=27.4km s-min=13.7km az=49.0*
*NEIC **28** 16:34:30.4±0.3, 7.92N×94.01E, mb4.6/6, Error ellipse: s-maj=12.9km s-min=8.0km az=58.0*
ISC 28 16:34:28.2±0.6, 8.0N±0.1×94.1E±0.1, h18km, (h19km±.5km:pP-P), n38, σ0°97/29, mb4.4/24, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.47	24	Pn	P	16 37 14.3	-0.1
	0.3nm,0.3s,baz=211,slow=14,SNR=2.9						
LSA	Lhasa	21.81	353	eP	P	16 39 21.4	-0.1
	23nm,0.6s,mb4.8						
SONM	Songino Array	41.11	13	P	P	16 42 13.5	+0.7
	1.0nm,0.4s,mb3.8,baz=202,slow=8.7,SNR=14						
SONM				pP	pP	16 42 19.8	+1.7
	2.4nm,0.8s,baz=198,slow=8.6,SNR=6.7						
SONM				PcP	PcP	16 44 13.5	+0.7
	0.9nm,0.6s,baz=197,slow=4.0,SNR=7.8						
KURK	Kurchatov	44.52	346	eP	P	16 42 39.9	-0.6
	16nm,1.1s,mb4.8						
ZAL	Zalesovo	46.46	352	P	P	16 42 56.6	+0.7
	4.9nm,0.4s,mb4.8,baz=304,slow=6.0,SNR=13						
ZAL				pP	pP	16 43 02.7	+1.4
	3.6nm,0.4s,baz=288,slow=5.4,SNR=5.1						
WRA	Warramunga Arr	48.37	126	P	P	16 43 11.4	0.0
	0.9nm,0.6s,mb4.0,baz=304,slow=8.5,SNR=3.0						
WRA				pP	pP	16 43 17.2	+0.4
	1.3nm,0.5s,baz=305,slow=8.5,SNR=5.2						
WRAB	Tennant Creek	48.37	126	eP	P	16 43 10.6	-0.8
BVAR	Borovoye Array	48.

CUSU	Cusua	2.72	90	P		Pn	16 35 38.2	+2.1
JUIV	Juive	2.73	89	P		Pn	16 35 38.2	+1.8
ARRY	Arrayan	2.74	91	⇑P		Pn	16 35 37.3	+0.8
ARRY				S		Sn	16 36 10.5	+0.7
RETU	Refugio	2.75	90	P		Pn	16 35 39.7	+3.1
ULBA	Ulba	2.79	90	P		Pn	16 35 40.0	+2.8
NAS1	Nasa	2.84	73	P		Pn	16 35 39.8	+1.9
PISA	Pisayambo	2.84	82	P		Pn	16 35 39.8	+1.9
JUA2	San Juan 2	2.87	65	P		Pn	16 35 39.7	+1.4
JUA2				S		Sn	16 36 15.7	+2.6
TERV	Terraza Guagua	2.89	64	P		Pn	16 35 39.5	+0.9
PINO	Pino	2.89	64	P		Pn	16 35 39.4	+0.7
VC1	Cotopaxi 1	2.91	74	P		Pn	16 35 41.1	+2.2
TAMB	Tambo	2.93	75	P		Pn	16 35 41.8	+2.6
YANA	Yana	2.94	63	P		Pn	16 35 39.9	+0.5
ANTI	Antisana	3.20	72	P		Pn	16 35 45.6	+2.6
COTA	Cotacachi	3.37	58	⇓P		Pn	16 35 47.7	+2.3
CAYR	Refugio Cayamb	3.51	65	P		Pn	16 35 51.0	+3.6
CAYA	Cayambe	3.55	65	P		Pn	16 35 51.8	+3.8
CONE	Cono NE Rev Vo	3.81	69	P		Pn	16 35 57.7	+6.0

IDC 28 16:37:20.5±2.0, 8.62N×94.68E, mb3.6/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, Error ellipse: s-maj=256.0km s-min=25.3km az=46.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.26	126	P	P	16 46 02.6	-3.0
	0.4nm,0.5s,baz=306,slow=8.4,SNR=4.5						
ASAR	Alice Springs	49.98	131	P	P	16 46 17.8	-1.1
	0.2nm,0.8s,baz=303,slow=7.9,SNR=2.9						
FINES	FINESS Array B	72.31	332	P	P	16 48 48.3	-1.4
	1.1nm,0.6s,baz=90,slow=7.6,SNR=3.7						
GERES	GERESS Array B	77.64	318	P	P	16 49 18.7	-1.8
	0.6nm,0.6s,baz=76,slow=5.5,SNR=5.1						

*IDC **28** 16:38:50.1±0.5, 8.28N×93.93E, mb4.2/21, mb1 4.3/22, mb1mx4.3/25, mbtmp4.2/22, ML4.0/1, Error ellipse: s-maj=25.2km s-min=12.6km az=49.0*
*BJI **28** 16:38:54.2, 8.55N×93.69E, h8km, mB4.9, mb4.4*
*NEIC **28** 16:38:54.4±0.4, 8.24N×93.97E, h30km, mb4.5/11, Error ellipse: s-maj=13.4km s-min=8.3km az=60.0*

ISC 28 16:38:52.3±0.4, 8.21N±0.07×94.05E±0.09, h30km, n53, σ1§12/47, mb4.4/34, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.24	25	Pn	P	16 41 34.0	-0.4
	0.3nm,0.3s,baz=212,slow=14,SNR=29						
BWNR	Bhubaneshwar	14.42	327	eP	P	16 42 14.7	-1.9
BWNR				e		16 42 14.7	
	comp=Z,12nm,0.3s						
SHL	Shillong	17.39	353	eP	P	16 42 54.0	-0.6
SHL				eS	rx	16 44 44.0	
HYB	Hyderabad	17.65	303	eP	P	16 43 01.0	+3.1
HYB	Hyderabad	17.65	303	i P	P	16 43 01.0	+3.1
KMI	Kunming	18.76	25	⇑P	P	16 43 15.5	+4.0
	comp=Z,14nm,1.0s						
KMI				pP		16 43 21.7	
JIRN	Jiri	20.73	340	eP	P	16 43 34.0	+0.9
	comp=Z,50nm,0.7s						
PKI	Pulchoki	20.92	338	eP	P	16 43 37.4	+2.3
	comp=Z,52nm,0.7s						
DMN	Daman	21.07	337	eP	P	16 43 38.3	+1.7
	comp=Z,72nm,0.8s,mb5.1						
KKN	Kakani	21.17	338	eP	P	16 43 38.4	+0.8
	comp=Z,57nm,0.8s,mb5.0						
LSA	Lhasa	21.55	353	P	P	16 43 45.3	+3.8
LSA	Lhasa	21.55	353	eP	P	16 43 41.7	+0.3
	comp=Z,15nm,0.6s,mb4.6						
GKN	Gorkha	21.60	337	eP	P	16 43 42.1	+0.1
	comp=Z,50nm,0.5s,mb5.2						
KOLN	Koldanda	21.82	334	eP	P	16 43 45.5	+1.3
	comp=Z,48nm,0.6s,mb5.1						
AAK	Ala-Archa	38.36	337	P	P	16 46 12.5	-0.1
	comp=Z,8.4nm,1.1s,mb4.4						
SONM	Songino Array	40.86	13	P	P	16 46 33.4	+0.3
	comp=Z,0.9nm,0.7s,mb3.5,baz=93,slow=10,SNR=7.4						
KURK	Kurchatov	44.27	346	eP	P	16 47 00.2	-0.8
	comp=Z,11nm,1.0s,mb4.5						
ZAL	Zalesovo	46.21	352	P	P	16 47 16.6	+0.3
	comp=Z,3.9nm,0.7s,mb4.4,baz=303,slow=7.7,SNR=11						
NWAO	Narrogin (SRO)	46.48	153	P	P	16 47 19.4	+0.5
	comp=Z,3.9nm,0.6s,mb4.5,baz=38,slow=11,SNR=4.7						
WRA	Warramunga Arr	48.53	126	P	P	16 47 34.5	-0.5
	comp=Z,3.1nm,0.9s,mb4.3,baz=304,slow=9.2,SNR=11						
WRAB	Tennant Creek	48.53	126	eP	P	16 47 34.4	-0.7
BVAR	Borovoye Array	48.65	341	P	P	16 47 35.9	+0.4
	comp=Z,2.3nm,1.0s,mb4.2,baz=141,slow=9.5,SNR=6.6						
BRVK	Borovoye	48.71	341	eP	P	16 47 35.3	-0.7
	comp=Z,3.3nm,0.8s,mb4.4						
CHKZ	Chkalovo	49.13	342	eP	P	16 47 38.0	-1.2
	comp=Z,7.5nm,0.8s,mb4.8						
ASAR	Alice Springs	50.20	130	P	P	16 47 47.1	-0.7
	comp=Z,2.7nm,0.9s,mb4.3,baz=304,slow=7.5,SNR=10						
ASAR				PcP	PcP	16 49 10.6	+3.6
	comp=Z,1.5nm,0.8s,baz=304,slow=3.8,SNR=8.2						
PMG	Port Moresby	55.72	107	P	P	16 48 30.5	+1.5
	comp=Z,7.5nm,0.7s,mb4.8,baz=258,slow=5.4,SNR=3.8						
KMBO	Kilima Mbogo	57.37	263	P	P	16 48 42.1	+1.3
	comp=Z,1.5nm,0.6s,mb4.2,baz=58,slow=11,SNR=10						
YAK	Yakutsk	59.71	19	eP	P	16 48 55.0	-1.4
	comp=Z,6.6nm,0.6s,mb4.8						
STKA	Stephens Creek	60.40	134	P	P	16 49 03.1	+1.6
	comp=Z,2.9nm,0.9s,mb4.3,baz=294,slow=5.1,SNR=4.5						
BRTR	Keskin Array B	62.14	311	P	P	16 49 11.2	-2.1
	comp=Z,1.6nm,0.7s,mb4.2,baz=120,slow=6.6,SNR=8.1						
AKASG	Malin Array Be	67.84	322	P	P	16 49 47.8	-2.1
	comp=Z,1.3nm,0.8s,mb4.0,baz=86,slow=5.5,SNR=4.1						
IDI	Anoyia	68.30	305	P	P	16 49 52.2	-0.8
	comp=Z,3.2nm,0.6s,mb4.5,baz=75,slow=12,SNR=3.9						
MLR	Muntele Rosu	68.87	316	P	P	16 49 55.6	-0.7
	comp=Z,22nm,1.5s,mb4.9,baz=225,slow=14,SNR=4.8						
JOF	Joensuu	70.51	334	ep	P	16 50 08.5	+2.4
	comp=Z,1.8nm,0.6s,mb4.2						
FINES	FINESS Array B	72.37	332	P	P	16 50 16.8	-0.5
	comp=Z,1.0nm,0.5s,mb4.0,baz=117,slow=4.3,SNR=7.1						
KAF	Kangasniemi	72.45	333	ep	P	16 50 17.1	-0.6
	comp=Z,0.5nm,0.4s,mb3.8						
LBTB	Lobatse	74.32	241	P	P	16 50 28.3	-1.1
KEV	Kevo	74.49	341	ep	P	16 50 25.3	-4.1
	comp=Z,0.3nm,0.4s,mb3.6						
ARCES	ARCESS Array B	74.92	340	P	P	16 50 31.7	-0.3
	comp=Z,2.7nm,0.8s,mb4.2,baz=79,slow=6.2,SNR=4.2						
ARCES	ARCESS Array B	74.92	340	P	P	16 50 31.7	-0.3
GERES	GERESS Array B	77.52	318	P	P	16 50 47.1	+0.1
	comp=Z,1.6nm,0.6s,mb4.1,baz=90,slow=4.0,SNR=12						
HFS	Hagfors	78.12	330	P	P	16 50 49.7	-0.3
	comp=Z,1.5nm,0.5s,mb4.2,baz=104,slow=6.1,SNR=6.7						
NB2	NORSAR Subarra	79.40	331	P	P	16 50 56.4	-0.6
	comp=Z,2.7nm,0.8s,mb4.2,baz=92,slow=5.6						
NOA	NORSAR Array B	79.40	331	P	P	16 50 56.8	-0.1
	comp=Z,0.9nm,0.7s,mb3.8,baz=96,slow=5.3,SNR=3.2						
DAVOX	Davos	80.09	316	P	P	16 51 01.3	+0.3
	comp=Z,5.8nm,0.8s,mb4.6,baz=105,slow=16,SNR=4.9						
LPG	La Plagne	82.32	315	eP	P	16 51 13.5	+0.8
	comp=Z,12nm,0.7s,mb4.6						
EKA	Eskdalemuir Ar	87.39	325	P	P	16 51 42.1	+4.3
	comp=Z,3.0nm,1.0s,mb4.6,baz=220,slow=11,SNR=4.2						
ILAR	Eielson Array	94.47	22	P	pP	16 52 17.6	-2.7
	comp=Z,0.3nm,0.6s,baz=281,slow=2.9,SNR=4.8						
YKA	Yellowknife Ar	106.12	13	Pdiff	Pdif	16 53 09.0	+6.1
	comp=Z,0.2nm,0.9s,baz=330,slow=7.9,SNR=4.0						
YKA	Yellowknife Ar	106.12	13	Pdif	Pdif	16 53 09.0	+6.1
PDAR	Pinedale Array	124.89	21	PKP	PKPdf	16 57 54.4	-0.6
	comp=Z,0.5nm,0.7s,baz=135,slow=2.1,SNR=4.3						
PLCA	Paso Flores	144.83	201	PKP	PKPdf	16 58 31.3	-0.6
	comp=Z,3.6nm,0.9s,baz=315,slow=2.8,SNR=4.4						
PLCA	Paso Flores	144.83	201	PKP	PKPdf	16 58 31.3	-0.6

*BJI **28** 16:40:38.5, 7.72N×93.67E, h36km, mb4.1*
*IDC **28** 16:40:38.8±4.8, 7.84N×93.88E, h20km±29km, mb4.3/19, mb1 4.4/20, mb1mx4.3/24, mbtmp4.4/20, ML4.4/1, Error ellipse: s-maj=30.8km s-min=14.7km az=54.0*
*NEIC **28** 16:40:39.8±0.4, 7.79N×93.86E, h30km, mb4.6/10, Error ellipse: s-maj=14.3km s-min=9.0km az=64.0*

ISC 28 16:40:34.9±0.5, 7.78N±0.09×93.9E±0.1, h10km, n39, σ0§90/36, mb4.4/28, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.70	24	Pn	P	16 43 25.8	+0.8
	0.7nm,0.3s,baz=211,slow=14,SNR=9.3						
BWNR	Bhubaneshwar	14.68	329	eS	P	16 44 04.7	-0.1
HYB	Hyderabad	17.73	304	eP	P	16 44 52.0	+8.3
HYB	Hyderabad	17.73	304	i P	P	16 44 50.5	+6.8
KMI	Kunming	19.21	25	⇑P	P	16 45 04.5	+2.7
	13nm,1.3s						
LSA	Lhasa	21.95	354	eP	P	16 45 30.4	-0.2
	31nm,0.7s,mb4.8						
AAK	Ala-Archa	38.68	337	eP	P	16 48 00.5	0.0
	5.3nm,0.8s,mb4.3						
SONM	Songino Array	41.31	13	P	P	16 48 22.5	+0.3
	3.1nm,0.8s,mb4.0,baz=194,slow=7.6,SNR=9.5						
SONM				PcP	PcP	16 50 21.4	-0.1
	1.2nm,0.6s,baz=192,slow=3.6,SNR=4.7						
ULN	Ulaanbaatar	41.49	13	eP	P	16 48 22.9	-0.7
	2.0nm,0.8s,mb3.8						
KURK	Kurchatov	44.63	346	eP	P	16 48 48.7	-0.6
	6.8nm,0.8s,mb4.5						
NWAO	Narrogin (SRO)	46.19	152	P	P	16 49 02.4	+0.4
	7.5nm,0.9s,mb4.6,baz=328,slow=12,SNR=4.7						
ZAL	Zalesovo	46.60	353	P	P	16 49 05.2	+0.4
	7.6nm,0.5s,mb4.9,baz=298,slow=5.7,SNR=15						
WRA	Warramunga Arr	48.43	125	P	P	16 49 18.4	-1.3
	1.9nm,1.0s,mb4.1,baz=304,slow=8.7,SNR=4.2						
WRAB	Tennant Creek	48.43	125	eP	P	16 49 18.8	-0.9
BVAR	Borovoye Array	48.99	341	P	P	16 49 22.2	-1.3
	3.6nm,0.9s,mb4.4,baz=135,slow=8.4,SNR=6.1						
BVAR				ScP		16 54 41.1	
	2.8nm,1.2s,baz=162,slow=4.7,SNR=3.8						
BRVK	Borovoye	49.05	341	eP	P	16 49 23.8	-0.2
CHKZ	Chkalovo	49.47	342	eP	P	16 49 26.8	-0.4
	10nm,0.9s,mb4.9						
ASAR	Alice Springs	50.06	130	P	P	16 49 33.5	+1.3
	2.1nm,0.8s,mb4.2,baz=304,slow=7.8,SNR=6.5						
ASAR				PcP	PcP	16 50 54.2	+2.0
	0.9nm,0.6s,baz=307,slow=3.8,SNR=4.0						
KMBO	Kilima Mbogo	57.15	264	P	P	16 50 29.2	+4.5
	2.4nm,0.7s,mb4.3,baz=60,slow=12,SNR=5.6						
YAK	Yakutsk	60.16	19	eP	P	16 50 43.0	-2.0
	19nm,0.8s,mb5.2						
BRTR	Keskin Array B	62.28	311	P	P	16 50 58.7	-1.0
	1.4nm,0.6s,mb4.3,baz=134,slow=7.1,SNR=4.5						
AKASG	Malin Array Be	68.06	322	P	P	16 51 35.6	-1.1
	1.1nm,0.6s,mb4.1,baz=87,slow=4.9,SNR=4.8						
IDI	Anoyia	68.40	305	P	P	16 51 39.8	+0.6
	6.1nm,0.6s,mb4.8,baz=9.0,slow=7.0,SNR=5.1						
MLR	Muntele Rosu	69.05	316	P	P	16 51 43.2	+0.2
	4.1nm,1.0s,mb4.3,baz=39,slow=7.5,SNR=3.2						
JOF	Joensuu	70.81	335	ep	P	16 51 53.0	-0.5
	4.0nm,0.6s,mb4.5						
FINES	FINESS Array B	72.66	332	P	P	16 52 04.7	+0.1
	3.7nm,0.6s,mb4.5,baz=104,slow=7.1,SNR=8.8						
KAF	Kangasniemi	72.75	333	ep	P	16 52 04.6	-0.4
	5.7nm,0.8s,mb4.5						
KEV	Kevo	74.83	341	ep	P	16 52 16.9	-0.1
	17nm,1.4s,mb4.8						
ARCES	ARCESS Array B	75.26	340	P	P	16 52 20.0	+0.5
	2.2nm,0.6s,mb4.2,baz=91,slow=5.9,SNR=6.6						
GERES	GERESS Array B	77.71	318	P	P	16 52 34.9	+1.3
	1.3nm,0.7s,mb4.0,baz=108,slow=4.2,SNR=5.2						
HFS	Hagfors	78.40	330	P	P	16 52 37.8	+0.7
	3.1nm,0.5s,mb4.5,baz=117,slow=6.6,SNR=9.4						
NB2	NORSAR Subarra	79.68	331	P	P	16 52 44.2	+0.2
	1.8nm,0.6s,mb4.2,baz=97,slow=4.8						
NOA	NORSAR Array B	79.68	331	P	P	16 52 44.4	+0.3
	2.7nm,0.8s,mb4.2,baz=94,slow=5.4,SNR=6.0						
DAVOX	Davos	80.27	316	P	P	16 52 49.8	+2.2
	2.9nm,0.8s,mb4.2,baz=180,slow=19,SNR=2.4						
ILAR	Eielson Array	94.93	22	P	P	16 53 58.5	+0.1
	0.5nm,0.8s,mb4.0,baz=274,slow=4.0,SNR=4.9						
INK	Inuvik	97.15	16	P	P	16 54 08.8	+0.4
	1.4nm,1.0s,mb4.3,baz=195,slow=6.0,SNR=2.8						
PDAR	Pinedale Array	125.35	21	PKP	PKPdf	16 59 38.2	-1.4
	0.8nm,1.0s,baz=45,slow=4.2,SNR=4.7						
TXAR	Lajitas Array	139.42	24	PKP	PKPdf	17 00 06.9	+0.5
	0.2nm,0.5s,baz=36,slow=23,SNR=4.0						
PLCA	Paso Flores	144.37	201	PKP	PKPdf	17 00 13.9	-0.8
	6.7nm,0.8s,baz=58,slow=0.3,SNR=7.0						

IDC 28 16:46:09.2±1.1, 9.82N×91.74E, mb3.8/6, mb1 3.9/7, mb1mx3.8/17, mbtmp3.7/7, ML2.9/1, Error ellipse: s-maj=54.1km s-min=21.7km az=42.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.06	38	Pn	P	16 48 49.9	-2.0
	0.0nm,0.3s,baz=227,slow=14,SNR=4.7						
WRA	Warramunga Arr	51.31	125	P	P	16 55 15.4	-2.2
	0.5nm,0.6s,baz=305,slow=8.6,SNR=4.3						
ASAR	Alice Springs	52.97	130	P	P	16 55 28.0	-2.1
	0.2nm,0.4s,baz=302,slow=7.8,SNR=4.1						
BRTR	Keskin Array B	59.37	310	P	P	16 56 15.3	-0.4
	0.5nm,0.6s,baz=135,slow=7.0,SNR=3.6						
AKASG	Malin Array Be	65.17	322	P	P	16 56 52.1	-2.2
	0.1nm,0.4s,baz=88,slow=5.5,SNR=5.0						
FINES	FINESS Array B	69.89	332	P	P	16 57 20.5	-3.3
	7.3nm,1.2s,baz=80,slow=8.5,SNR=3.8						
GERES	GERESS Array B	74.80	318	P	P	16 57 51.2	-1.9
	0.7nm,0.6s,baz=72,slow=4.2,SNR=8.1						

IDC 28 16:50:26.0±1.1, 8.52N×92.94E, mb3.7/8, mb1 3.9/9, mb1mx3.8/18, mbtmp3.7/9, ML3.6/1, Error ellipse: s-maj=40.8km s-min=20.9km az=52.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.47	30	Pn	P	16 53 11.2	-3.0
	0.1nm,0.3s,baz=215,slow=14,SNR=5.6						
SONM	Songino Array	40.81	14	P	P	16 58 08.9	-1.9
	0.3nm,0.8s,baz=201,slow=7.8,SNR=2.6						
ZAL	Zalesovo	45.76	353	P	P	16 58 49.6	-1.4
	0.8nm,0.5s,baz=275,slow=5.4,SNR=4.3						
WRA	Warramunga Arr	49.60	125	P	P	16 59 19.6	-1.8
	0.3nm,0.5s,baz=303,slow=8.7,SNR=4.2						
ASAR	Alice Springs	51.24	130	P	P	16 59 31.6	-2.3
	0.6nm,1.0s,baz=304,slow=7.4,SNR=6.3						
BRTR	Keskin Array B	61.11	311	P	P	17 00 42.4	-2.1
	0.5nm,0.6s,baz=130,slow=9.6,SNR=3.6						
FINES	FINESS Array B	71.59	332	P	P	17 01 49.5	-1.4
	2.0nm,1.0s,baz=129,slow=8.9,SNR=4.0						
GERES	GERESS Array B	76.56	318	P	P	17 02 18.6	-1.3
	0.7nm,0.6s,baz=76,slow=5.5,SNR=5.5						
HFS	Hagfors	77.30	330	P	P	17 02 21.5	-2.4
	2.9nm,0.9s,baz=146,slow=5.3,SNR=4.1						

IDC 28 16:52:48.3±1.4, 8.24N×92.93E, mb3.9/5, mb1 4.0/6, mb1mx3.7/18, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=61.2km s-min=23.8km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.72	29	Pn	P	16 55 37.1	-2.7
	0.1nm,0.3s,baz=220,slow=14,SNR=5.1						
ZAL	Zalesovo	46.04	353	P	P	17 01 12.6	-2.8
	0.7nm,0.6s,baz=171,slow=3.2,SNR=3.0						
WRA	Warramunga Arr	49.45	125	P	P	17 01 40.8	-1.6
	0.8nm,0.6s,baz=303,slow=9.0,SNR=4.6						
ASAR	Alice Springs	51.06	129	P	P	17 01 52.4	-2.4
	0.6nm,0.6s,baz=299,slow=7.6,SNR=8.0						
FINES	FINESS Array B	71.83	332	P	P	17 04 13.2	-1.4
	1.1nm,0.8s,baz=101,slow=7.1,SNR=3.5						
HFS	Hagfors	77.54	330	P	P	17 04 46.0	-1.4
	2.3nm,0.7s,baz=108,slow=4.6,SNR=4.1						

*CSEM **28** 16:58:14.2±0.3, 71.58N×12.33W, h25km, ML3.4, Error ellipse: s-maj=17.3km s-min=8.0km az=25.0*
*IDC **28** 16:58:15.2±1.1, 71.43N×12.13W, mb3.7/7, mb1 3.9/10, mb1mx3.7/23, mbtmp3.7/10, ML3.0/3, Error ellipse: s-maj=46.5km s-min=14.0km az=19.0*
*BER **28** 16:58:16.6±0.9, 71.90N×11.90W, h15km±999km, MD3.2, ML3.4*

ISC 28 16:58:15.9±2.9, 71.67N±0.09×11.8W±0.2, h15km±19km, n19, σ1§07/23, mb3.6/7, 1D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	Jan Mayen	1.24	126	eP	Pb	16 58 38.2	-0.3
JMI				eS	Sb	16 58 54.4	+0.3
JMIC	Jan Mayen	1.26	121	Pn	Pn	16 58 38.1	-0.9
	80nm,0.3s,baz=267,slow=2.5,SNR=26						
JMIC				Sn	Sn	16 58 54.3	-1.4
	137nm,0.3s,baz=179,slow=21,SNR=10						
JNW	Jan Mayen West	1.26	119	eP	Pb	16 58 38.6	-0.3
JNW				eS	Sb	16 58 54.8	0.0
JNW				AML	AML	16 58 55.5	
	comp=Z,549nm,0.6s						
JNW	Jan Mayen West	1.26	119	eP	Pb	16 58 38.6	-0.3
	SNR=53						
JNW				eS	Sb	16 58 54.8	0.0
	comp=Z,549nm,0.6s,SNR=53						
JNE	Jan Mayen East	1.32	120	eS	Sb	16 58 55.3	-1.1
JNE				AML	AML	16 58 57.7	
	comp=Z,779nm,0.5s						
JNE	Jan Mayen East	1.32	120	eS	Sb	16 58 55.3	-1.1
	comp=Z,779nm,0.5s,SNR=53						
SCO	Scoresbysund	3.51	255	i P	Pn	16 59 05.8	-5.4
	comp=Z,28nm,0.5s						
SCO				i		16 59 42.1	
DAG	Danmarks Havn	5.45	343	⇓i P	Pn	16 59 36.7	-1.9
	comp=Z,18nm,0.5s						
HSP	Hornsund	9.03	42	eP	P	17 00 27.8	-0.9
ARCES	ARCESS Array B	12.44	82	Pn	P	17 01 16.2	+1.2
	comp=Z,0.1nm,0.3s,baz=297,slow=11,SNR=5.8						
HFS	Hagfors	15.38	126	Pn	P	17 01 55.9	+2.4
	comp=Z,0.0nm,0.3s,baz=333,slow=13,SNR=2.5						
FINES	FINESS Array B	17.84	106	P	P	17 02 26.1	+1.4
	comp=Z,0.1nm,0.3s,baz=322,slow=16,SNR=3.2						
FRB	Frobisher Bay	22.06	278	P	P	17 03 10.9	-0.4
	comp=Z,2.0nm,0.8s,mb3.6,baz=37,slow=21,SNR=4.3						
AKASG	Malin Array Be	27.89	117	P	P	17 04 07.0	+0.4
	comp=Z,0.9nm,0.5s,mb3.6,baz=332,slow=9.3,SNR=7.5						
YKA	Yellowknife Ar	36.13	310	P	P	17 05 18.2	-0.4
	comp=Z,0.6nm,0.5s,mb3.8,baz=29,slow=8.5,SNR=15						
BVAR	Borovoye Array	38.56	74	P	P	17 05 40.6	+1.5
	comp=Z,0.4nm,0.7s,mb3.3,baz=297,slow=9.9,SNR=3.5						
ILAR	Eielson Array	40.44	332	P	P	17 05 56.1	+1.5
	comp=Z,0.7nm,0.8s,mb3.4,baz=8.1,slow=6.4,SNR=6.6						
ULM	Lac du Bonnet	41.55	286	P	P	17 06 03.9	+0.2
	comp=Z,2.2nm,0.9s,mb3.8,baz=33,slow=7.4,SNR=3.0						
PDAR	Pinedale Array	52.38	293	P	P	17 07 28.2	-0.8
	comp=Z,0.8nm,0.7s,mb3.8,baz=45,slow=6.3,SNR=4.4						

*IDC **28** 16:58:33.6±1.1, 8.44N×93.93E, mb4.1/12, mb1 4.2/13, mb1mx4.0/20, mbtmp4.0/13, ML3.4/1, Error ellipse: s-maj=33.4km s-min=25.6km az=56.0*
*NEIC **28** 16:58:36.9±0.7, 8.15N×93.65E, h30km, mb4.3/2, Error ellipse: s-maj=20.2km s-min=16.6km az=82.0*

ISC 28 16:58:36.4±0.9, 8.3N±0.1×93.8E±0.2, h33km, n20, σ0§91/19, mb4.1/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.25	26	Pn	P	17 01 19.0	+0.9
	0.1nm,0.3s,baz=212,slow=15,SNR=2.6						
SONM	Songino Array	40.81	13	P	P	17 06 16.8	+0.4
	1.3nm,1.1s,mb3.5,baz=194,slow=9.0,SNR=4.7						
KURK	Kurchatov	44.10	346	eP	P	17 06 42.9	-0.4
	2.3nm,0.9s,mb3.9						
ZAL	Zalesovo	46.07	353	P	P	17 06 59.4	+0.5
	1.7nm,0.5s,mb4.3,baz=299,slow=4.5,SNR=7.8						
ZAL	Zalesovo	46.07	353	P	P	17 06 59.4	+0.5
BVAR	Borovoye Array	48.46	341	P	P	17 07 17.5	-0.2
	2.2nm,1.1s,mb4.1,baz=153,slow=3.3,SNR=4.2						
ASAR	Alice Springs	50.46	130	P	P	17 07 33.1	-0.3
	0.5nm,0.8s,mb3.6,baz=301,slow=7.5,SNR=3.7						
KMBO	Kilima Mbogo	57.13	263	P	P	17 08 25.4	+2.6
	1.8nm,0.6s,mb4.3,baz=75,slow=9.0,SNR=7.3						
BRTR	Keskin Array B	61.88	311	P	P	17 08 54.4	-0.7
	0.9nm,0.7s,mb4.0,baz=121,slow=7.2,SNR=4.7						
MLR	Muntele Rosu	68.62	316	P	P	17 09 39.0	+0.6
	1.2nm,0.6s,mb4.0,baz=229,slow=6.5,SNR=3.9						
FINES	FINESS Array B	72.16	332	P	P	17 09 59.2	-0.3
	12nm,1.2s,mb4.7,baz=104,slow=7.9,SNR=7.1						
FINES	FINESS Array B	72.16	332	P	P	17 09 59.2	-0.3
KAF	Kangasniemi	72.24	333	ep	P	17 09 57.4	-2.6
	6.5

5.2nm,0.9s,baz=225,slow=2.3,SNR=6.3

*IDC **28** 17:01:31.3±0.8, 8.20N×94.33E, mb4.2/14, mb1 4.4/14, mb1mx4.3/19, mbtmp4.2/14, Error ellipse: s-maj=33.7km s-min=20.2km az=48.0*
*NEIC **28** 17:01:35.6±0.4, 8.18N×94.39E, h30km, mb4.7/5, Error ellipse: s-maj=21.4km s-min=10.8km az=51.0*
ISC 28 17:01:30.6±0.6, 8.2N±0.1×94.4E±0.1, h10km, n25, σ0980/22, mb4.3/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJD	**Vijayawada**	**15.77**	**303**	*i* P	**P**	**17 05 14.0**	**-0.6**
SONM	**Songino Array**	**40.84**	**12**	P	**P**	**17 09 15.5**	**+1.4**
	1.9nm,1.0s,mb3.7,baz=194,slow=11,SNR=2.6						
KURK	**Kurchatov**	**44.39**	**346**	*e*P	**P**	**17 09 41.3**	**-1.8**
	15nm,1.1s,mb4.6						
ZAL	**Zalesovo**	**46.30**	**352**	P	**P**	**17 09 58.6**	**+0.4**
	1.8nm,0.6s,mb4.2,baz=316,slow=10,SNR=3.0						
WRA	**Warramunga Arr**	**48.24**	**126**	P	**P**	**17 10 13.8**	**-0.1**
	1.6nm,0.9s,mb4.1,baz=305,slow=9.2,SNR=5.0						
WRAB	**Tennant Creek**	**48.24**	**126**	*e*P	**P**	**17 10 12.6**	**-1.4**
	2.9nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**48.80**	**341**	P	**P**	**17 10 17.9**	**+0.1**
	0.8nm,0.6s,mb4.0,baz=129,slow=9.2,SNR=2.5						
ASAR	**Alice Springs**	**49.92**	**130**	P	**P**	**17 10 27.4**	**+0.6**
	1.6nm,0.7s,mb4.1,baz=305,slow=7.6,SNR=4.3						
KMBO	**Kilima Mbogo**	**57.69**	**263**	P	**P**	**17 11 25.1**	**+0.9**
	7.6nm,1.0s,mb4.7,baz=59,slow=9.0,SNR=8.8						
AKASG	**Malin Array Be**	**68.08**	**322**	P	**P**	**17 12 30.9**	**-1.7**
	1.2nm,0.6s,mb4.1,baz=86,slow=5.0,SNR=4.1						
MLR	**Muntele Rosu**	**69.13**	**316**	P	**P**	**17 12 39.3**	**0.0**
	8.1nm,1.1s,mb4.6,baz=29,slow=4.2,SNR=3.2						
FINES	**FINESS Array B**	**72.57**	**332**	P	**P**	**17 12 59.5**	**-0.2**
	2.4nm,0.8s,mb4.2,baz=90,slow=7.6,SNR=5.0						
ARCES	**ARCESS Array B**	**75.08**	**340**	P	**P**	**17 13 15.0**	**+0.8**
	4.8nm,0.9s,mb4.4,baz=90,slow=6.1,SNR=4.1						
BRG	**Berggiesshubel**	**77.68**	**320**	*e*P	**P**	**17 13 29.0**	**-0.1**
	19nm,1.7s,mb4.7						
BRG				*i*	pP	17 13 33.8	+1.5
GERES	**GERESS Array B**	**77.77**	**318**	P	**P**	**17 13 29.9**	**+0.3**
	2.7nm,0.7s,mb4.3,baz=90,slow=5.3,SNR=7.5						
KHC	**Kasperske Hory**	**77.86**	**318**	*e*P	**P**	**17 13 30.0**	**-0.1**
CLL	**Collm**	**78.29**	**321**	*i* P	**P**	**17 13 37.3**	**+4.9**
	8.0nm,1.1s,mb4.6						
CLL	**Collm**	**78.29**	**321**	*i* *PP	**P**	**17 13 37.3**	**+4.9**
NOA	**NORSAR Array B**	**79.60**	**331**	P	**P**	**17 13 39.0**	**-0.3**
	1.5nm,0.8s,mb4.0,baz=97,slow=5.6,SNR=2.9						
DAVOX	**Davos**	**80.35**	**316**	P	**P**	**17 13 44.2**	**+0.5**
	5.2nm,0.7s,mb4.6,baz=129,slow=14,SNR=2.8						
LPG	**La Plagne**	**82.58**	**315**	*e*P	**P**	**17 13 55.6**	**+0.2**
	13nm,0.8s,mb4.7						
ESDC	**Sonseca Array**	**91.21**	**310**	P	**P**	**17 14 38.3**	**+0.7**
	0.7nm,0.6s,mb4.2,baz=105,slow=5.5,SNR=2.9						
NVAR	**Mina Array Bea**	**124.56**	**31**	PKP	PKPdf	17 20 34.3	+0.4
	1.3nm,0.9s,baz=272,slow=1.9,SNR=4.3						
PDAR	**Pinedale Array**	**124.82**	**21**	PKP	PKPdf	17 20 33.9	-0.4
	0.7nm,0.7s,baz=90,slow=1.5,SNR=4.5						
PLCA	**Paso Flores**	**144.89**	**200**	PKP	PKPdf	17 21 10.9	-0.4
	3.7nm,0.8s,baz=70,slow=1.0,SNR=4.8						

*IDC **28** 17:04:48.5±0.6, 7.87N×94.02E, mb4.5/22, mb1 4.6/23, mb1mx4.5/26, mbtmp4.5/23, ML3.8/1, Error ellipse: s-maj=24.7km s-min=14.3km az=46.0*
*MOS **28** 17:04:52.3±1.1, 8.05N×94.21E, h33km, mb5.0/35, Error ellipse: s-maj=12.2km s-min=6.6km az=108.1*
*BJI **28** 17:04:53.5, 7.73N×94.01E, h55km, mB5.5, mb4.7, Ms4.8, Msz4.7*
*NEIC **28** 17:04:53.5±0.3, 8.06N×94.26E, h30km, mb4.8/28, Error ellipse: s-maj=8.8km s-min=7.7km az=56.0*
ISC 28 17:04:52.0±0.3, 8.00N±0.05×94.22E±0.05, h33km, (h14km±12.5km:pP-P), n148, σ1914/144, mb4.8/57, MS4.8/3, 1C-4D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.36**	**23**	P	**P**	**17 07 32.2**	**-2.9**
	18nm,1.0s						
CMAR	**Chiang Mai Arr**	**11.36**	**23**	Pn	**P**	**17 07 37.0**	**+1.9**
	0.2nm,0.3s,baz=212,slow=13,SNR=7.6						
SHL	**Shillong**	**17.61**	**353**	][*i*P	**P**	**17 08 55.0**	**-1.6**
HYB	**Hyderabad**	**17.90**	**303**	*i* P	**P**	**17 09 02.0**	**+1.7**
HYB	**Hyderabad**	**17.90**	**303**	*e*S	**P**	**17 09 02.0**	**+1.7**
QIZ	**Qiongzhong**	**18.71**	**53**	P	**P**	**17 09 04.9**	**-5.4**
	65nm,1.5s						
KMI	**Kunming**	**18.87**	**25**	P	**P**	**17 09 12.6**	**+0.4**
KMI				S	**S**	**17 12 39.1**	**+1.3**
KMI	**Kunming**	**18.87**	**25**	P	**P**	**17 09 12.6**	**+0.4**
KMI				pP		17 09 16.7	
KMI				sP		17 09 21.0	
KMI				PP	PP	17 09 28.9	+0.5
KMI				S	**S**	**17 12 39.1**	**+1.3**
KMI				sS		17 12 47.8	
KMI				SS	SS	17 12 59.1	-4.0
COCO	**West Island**	**20.23**	**173**	P	**P**	**17 09 24.3**	**-2.9**
JIRN	**Jiri**	**20.98**	**340**	*e*P	**P**	**17 09 34.1**	**-0.8**
	121nm,1.0s						
PKI	**Pulchoki**	**21.18**	**338**	*e*P	**P**	**17 09 37.0**	**+0.1**
	372nm,1.6s,mb5.5						
DMN	**Daman**	**21.32**	**337**	*e*P	**P**	**17 09 38.6**	**+0.2**
	153nm,0.9s,mb5.3						
KKN	**Kakani**	**21.42**	**338**	*e*P	**P**	**17 09 38.8**	**-0.5**
LSA	**Lhasa**	**21.78**	**353**	*e*P	**P**	**17 09 41.9**	**-1.0**
LSA				pmax	pmax		
	comp=Z,55nm,0.8s,mb5.0						
LSA	**Lhasa**	**21.78**	**353**	*e*P	**P**	**17 09 41.9**	**-1.0**
	comp=Z,55nm,0.8s,mb5.0						
GKN	**Gorkha**	**21.86**	**337**	*e*P	**P**	**17 09 43.7**	**0.0**
	comp=Z,152nm,1.1s,mb5.3						
KOLN	**Koldanda**	**22.08**	**334**	*e*P	**P**	**17 09 46.6**	**+0.7**
	comp=Z,291nm,1.2s,mb5.6						
NDI	**New Delhi**	**26.08**	**324**	*e*P	**P**	**17 10 23.5**	**-1.1**
ENH	**Enshi**	**26.37**	**31**	*e*P	**P**	**17 10 25.7**	**-1.6**
	comp=Z,40nm,1.3s,mb4.8						
XAN	**Xi'an**	**29.24**	**26**	P	**P**	**17 10 53.5**	**+0.3**
XAN				AMB	AMB		
	comp=Z,9.0nm,2.0s,mb4.2						
LZH	**Lanzhou**	**29.30**	**16**	*e*P	**P**	**17 10 55.0**	**+1.3**
LZH				AP	pP	17 11 05.8	+2.5
LZH				PP	PP	17 11 51.0	+1.8
LZH				S	**S**	**17 15 46.0**	**+2.6**
LZH				SS	SS	17 17 20.0	+4.5
LZH				AMB	AMB		
	comp=Z,46nm,1.8s,mb4.9						
LZH				AMB	AMB		
	comp=Z,116nm,4.0s						
LZH				LR	LR		
	comp=E,996nm,14.8s						
LZH				LR	LR		
	comp=Z,1μm,16.0s,MS4.7						
LZH	**Lanzhou**	**29.30**	**16**	*e*P	**P**	**17 10 55.0**	**+1.3**
LZH				*PP	pP	17 11 05.7	+2.4
LZH				*SP	sP	17 11 11.5	+3.9
LZH						17 11 51.0	
LZH				S	**S**	**17 15 46.0**	**+2.6**
LZH				*SS		17 16 02.0	
LZH				SS	SS	17 17 20.0	+4.5
LZH				pmax	pmax		
	comp=Z,46nm,1.8s,mb4.9						
LZH				MLR	MLR		
	comp=Z,1μm,16.0s,MS4.7						
LZH	**Lanzhou**	**29.30**	**16**	*e*P	**P**	**17 10 55.0**	**+1.3**
	comp=Z,46nm,1.8s,mb4.9						
LZH				pP	pP	17 11 05.7	+2.4
LZH				sP	sP	17 11 11.5	+3.9
LZH				PP	PP	17 11 51.0	+1.8
LZH				S	**S**	**17 15 46.0**	**+2.6**
LZH				sS		17 16 02.0	
LZH				SS	SS	17 17 20.0	+4.5
LZH				LR	LR		
	comp=Z,1μm,16.0s,MS4.7						
NJ2	**Nanjing**	**33.12**	**40**	*e*P	**P**	**17 11 30.0**	**+2.6**
NJ2				AP	pP	17 11 39.3	+2.2
NJ2				PP	PP	17 12 40.5	+1.8
NJ2				S	**S**	**17 16 45.0**	**+1.6**
NJ2				AMB	AMB		
	comp=Z,730nm,4.8s						
NJ2				LR	LR		
	comp=N,2μm,18.1s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,18.8s,MS4.9						
NJ2				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
WMQ	**Urumqi**	**36.13**	**352**	P	**P**	**17 11 53.0**	**0.0**
WMQ				PP	PP	17 13 15.3	-0.6
WMQ				PCP	PcP	17 14 19.5	+0.8
WMQ				S	**S**	**17 17 28.8**	**-1.0**
WMQ				AMB	AMB		
	comp=Z,41nm,0.9s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,307nm,5.3s						
WMQ				LR	LR		
	comp=N,877nm,16.3s,MS4.7						
WMQ				LR	LR		
	comp=E,569nm,16.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,16.6s,MS4.7						
BJT	**Baijiatuau**	**37.44**	**28**	P	**P**	**17 12 05.0**	**+1.0**
BJI	**Beijing**	**37.46**	**28**	P	**P**	**17 12 07.4**	**+3.2**
BJI				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.7						
BJI	**Beijing**	**37.46**	**28**	P	**P**	**17 12 07.4**	**+3.2**
	comp=Z,16nm,1.3s,mb4.7						
AAK	**Ala-Archa**	**38.62**	**336**	*i* P	**P**	**17 12 14.0**	**+0.1**
AAK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.6						
AAK	**Ala-Archa**	**38.62**	**336**	*e*P	**P**	**17 12 13.2**	**-0.7**
	comp=Z,14nm,1.0s,mb4.6						
SONM	**Songino Array**	**41.02**	**13**	P	**P**	**17 12 35.0**	**+1.2**
	comp=Z,5.8nm,1.0s,mb4.2,baz=198,slow=7.8,SNR=13						
SONM				PcP	PcP	17 14 34.5	+0.5
	comp=Z,1.3nm,0.8s,baz=208,slow=3.5,SNR=5.7						
ULN	**Ulaanbaatar**	**41.20**	**13**	*i* P	**P**	**17 12 36.4**	**+1.2**
ZAK	**Zakamensk**	**42.91**	**9**	*e*P	**P**	**17 12 48.2**	**-1.1**
TLY	**Talaya**	**44.23**	**8**	*e*P	**P**	**17 13 00.6**	**+0.7**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.1						
TLY	**Talaya**	**44.23**	**8**	P	**P**	**17 13 00.0**	**+0.1**
KURK	**Kurchatov**	**44.51**	**346**	*i* P	**P**	**17 13 02.3**	**+0.2**
KURK	**Kurchatov**	**44.51**	**346**	*e*P	**P**	**17 13 01.7**	**-0.4**
	comp=Z,42nm,1.2s,mb5.1						
NWAO	**Narrogin (SRO)**	**46.23**	**153**	P	**P**	**17 13 17.1**	**+1.0**
NWAO				pmax	pmax		
	comp=Z,20nm,1.2s						
NWAO	**Narrogin (SRO)**	**46.23**	**153**	P	**P**	**17 13 17.1**	**+1.0**
	comp=Z,20nm,1.2s,mb4.9						
HIA	**Hailar**	**46.37**	**23**	P	**P**	**17 13 16.1**	**-0.9**
HIA				pmax	pmax		
	comp=Z,25nm,1.2s						
HIA	**Hailar**	**46.37**	**23**	P	**P**	**17 13 16.1**	**-0.9**
	comp=Z,25nm,1.2s,mb5.0						
ZAL	**Zalesovo**	**46.43**	**352**	P	**P**	**17 13 18.4**	**+1.0**
ZAL				pmax	pmax		
	comp=Z,12nm,1.0s						
ZAL	**Zalesovo**	**46.43**	**352**	P	**P**	**17 13 18.4**	**+1.0**
	comp=Z,12nm,1.0s,mb4.8,baz=293,slow=8.9,SNR=17						
NVS	**Novosibirsk**	**47.53**	**351**	*i* P	**P**	**17 13 24.9**	**-1.1**
NVS				pmax	pmax		
	comp=N,18nm,1.1s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.1						
MDJ	**Mudanjiang**	**47.66**	**34**	*e*P	**P**	**17 13 24.4**	**-2.8**
	comp=Z,6.4nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**48.27**	**126**	P	**P**	**17 13 31.8**	**-0.5**
WRA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
WRA	**Warramunga Arr**	**48.27**	**126**	P	**P**	**17 13 31.8**	**-0.5**
	comp=Z,5.5nm,1.1s,mb4.5,baz=304,slow=8.6,SNR=7.0						
WRAB	**Tennant Creek**	**48.28**	**126**	*e*P	**P**	**17 13 31.7**	**-0.6**
BVAR	**Borovoye Array**	**48.89**	**341**	P	**P**	**17 13 36.1**	**-0.5**
	comp=Z,6.7nm,0.9s,mb4.7,baz=135,slow=8.4,SNR=14						
BVAR				PcP	PcP	17 15 01.2	+0.2
	comp=Z,2.1nm,0.8s,baz=146,slow=5.3,SNR=3.6						
BRVK	**Borovoye**	**48.95**	**341**	*e*P	**P**	**17 13 36.2**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
BRVK	**Borovoye**	**48.95**	**341**	*e*P	**P**	**17 13 36.2**	**-0.9**
	comp=Z,9.0nm,1.0s,mb4.8						
RAYN	**Ar Rayn**	**49.10**	**294**	P	**P**	**17 13 39.5**	**+0.8**
	comp=Z,123nm,0.9s,SNR=22						
CHKZ	**Chkalovo**	**49.38**	**342**	*e*P	**P**	**17 13 39.1**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
CHKZ	**Chkalovo**	**49.38**	**342**	*e*P	**P**	**17 13 39.1**	**-1.2**
	comp=Z,28nm,1.0s,mb5.2						
ASAR	**Alice Springs**	**49.94**	**130**	P	**P**	**17 13 45.0**	**-0.1**
	comp=Z,1.5nm,0.8s,mb4.1,baz=310,slow=7.0,SNR=5.5						
ASAR				PcP	PcP	17 15 05.9	+0.7
	comp=Z,0.8nm,0.8s,baz=305,slow=2.4,SNR=3.0						
BOD	**Bodaibo**	**52.01**	**13**	*e*P	**P**	**17 13 58.2**	**-2.0**
GNI	**Garni**	**54.40**	**314**	*e*P	**P**	**17 14 18.3**	**0.0**
GNI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GNI	**Garni**	**54.40**	**314**	P	**P**	**17 14 17.6**	**-0.6**
	comp=Z,1.6nm,0.4s,mb4.3,baz=158,slow=12,SNR=3.8						
GNI	**Garni**	**54.40**	**314**	*e*P	**P**	**17 14 18.3**	**0.0**
	comp=Z,8.3nm,0.9s,mb4.7						
SVE	**Sverdlovsk**	**55.31**	**338**	*e*P	**P**	**17 14 21.6**	**-3.0**
SVE				pmax	pmax		
	comp=Z,60nm,2.0s,mb5.3						
ARU	**Arti**	**55.80**	**337**	][*i*P	**P**	**17 14 20.7**	**-7.5**
ARU				*e*S	**S**	**17 22 07.8**	**-3.4**
ARU				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
KIV	**Kislovodsk**	**57.27**	**318**	*e*P	**P**	**17 14 38.1**	**-0.8**
KIV	**Kislovodsk**	**57.27**	**318**	*e*P	**P**	**17 14 38.1**	**-0.8**
KMBO	**Kilima Mbogo**	**57.51**	**264**	*e*P	**P**	**17 14 43.0**	**+2.0**
KMBO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KMBO	**Kilima Mbogo**	**57.51**	**264**	P	**P**	**17 14 40.1**	**-0.9**
	comp=Z,7.1nm,0.9s,mb4.7,baz=62,slow=11,SNR=8.7						
KMBO	**Kilima Mbogo**	**57.51**	**264**	*e*P	**P**	**17 14 43.0**	**+2.0**
	comp=Z,8.5nm,0.9s,mb4.8						
ASF	**Jabal al Asfar**	**58.21**	**303**	P	**P**	**17 14 45.8**	**+0.2**
	comp=Z,3.4nm,0.8s,mb4.4,baz=38,slow=18,SNR=2.5						
MALT	**Malatya**	**58.44**	**310**	*e*P	**P**	**17 14 48.5**	**+1.4**
MALT				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
MALT	**Malatya**	**58.44**	**310**	*e*P	**P**	**17 14 48.5**	**+1.4**
	comp=Z,4.9nm,1.0s,mb4.5						
EIL	**Elat**	**59.43**	**300**	*e*P	**P**	**17 14 54.0**	**-0.1**
	comp=Z,16nm,1.4s,mb4.8						
YAK	**Yakutsk**	**59.85**	**18**	*e*P	**P**	**17 14 56.1**	**-0.5**
YAK				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
YAK	**Yakutsk**	**59.85**	**18**	*e*P	**P**	**17 14 55.4**	**-1.1**
	comp=Z,27nm,0.8s,mb5.3						
STKA	**Stephens Creek**	**60.14**	**134**	P	**P**	**17 14 57.4**	**-1.6**
	comp=Z,2.0nm,0.9s,mb4.1,baz=326,slow=18,SNR=2.2						
STKA	**Stephens Creek**	**60.14**	**134**	P	**P**	**17 14 57.9**	**-1.1**
BRTR	**Keskin Array B**	**62.40**	**311**	P	**P**	**17 15 11.8**	**-2.3**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRTR	**Keskin Array B**	**62.40**	**311**	P	**P**	**17 15 11.8**	**-2.3**
	comp=Z,3.2nm,0.8s,mb4.5,baz=126,slow=6.7,SNR=7.8						
MBAR	**Mbarara**	**63.85**	**265**	*e*P	**P**	**17 15 24.9**	**+0.8**
MBAR				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
MBAR	**Mbarara**	**63.85**	**265**	*e*P	**P**	**17 15 24.9**	**+0.8**
	comp=Z,6.4nm,1.0s,mb4.6						
MOS	**Moscow**	**65.01**	**329**	*e*P	**P**	**17 15 28.6**	**-2.4**
MOS				*e*S	S	17 24 06.8	-2.3
MOS				pmax	pmax		
	comp=Z,73nm,1.1s,mb5.6						
OBN	**Obninsk**	**65.31**	**328**	][*i*P	**P**	**17 15 29.6**	**-3.3**
OBN				*e*		17 17 54.9	
OBN				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.8						
OBN	**Obninsk**	**65.31**	**328**	*e*P	**P**	**17 15 29.1**	**-3.8**
	comp=Z,15nm,0.6s,mb5.2						
TIXI	**Tiksi**	**67.09**	**11**	*e*P	**P**	**17 15 42.8**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.2						
AKASG	**Malin Array Be**	**68.10**	**322**	P	**P**	**17 15 49.2**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**68.10**	**322**	P	**P**	**17 15 49.2**	**-1.4**
	comp=Z,2.2nm,0.8s,mb4.3,baz=94,slow=4.7,SNR=5.9						
IDI	**Anoyia**	**68.56**	**305**	P	**P**	**17 15 52.9**	**-0.8**
	comp=Z,8.5nm,0.8s,mb4.8,baz=77,slow=14,SNR=3.7						
MLR	**Muntele Rosu**	**69.13**	**316**	P	**P**	**17 15 56.3**	**-0.8**
MLR				pmax	pmax		
	comp=Z,12nm,0.9s						
MLR	**Muntele Rosu**	**69.13**	**316**	P	**P**	**17 15 56.3**	**-0.8**
	comp=Z,12nm,0.9s,mb4.8,baz=71,slow=5.6,SNR=11						
KOLS	**Kolonicke sedl**	**72.16**	**319**	*es*P	sP	17 16 27.4	-1.9
FINES	**FINESS Array B**	**72.63**	**332**	P	**P**	**17 16 16.9**	**-1.0**
FINES				pmax	pmax		
	comp=Z,9.0nm,0.8s						
FINES	**FINESS Array B**	**72.63**	**332**	P	**P**	**17 16 16.9**	**-1.0**
	comp=Z,9.4nm,0.8s,mb4.8,baz=108,slow=12,SNR=12						
CRVS	**Cervenica-Dubn**	**72.68**	**319**	*i* P	pP	17 16 24.9	-3.8
CRVS	**Cervenica-Dubn**	**72.68**	**319**	*i*	pP	17 16 24.9	-3.8
OJC	**Ojcow**	**73.93**	**320**	*e*P	**P**	**17 16 25.7**	**0.0**
VYHS	**Vyhne**	**74.36**	**318**	*e*P	**P**	**17 16 29.9**	**+1.7**
OKC	**Ostrava-Krasne**	**74.94**	**319**	*e*P	**P**	**17 16 31.9**	**+0.3**
OKC				*ex*	x	17 16 35.6	
ARCES	**ARCESS Array B**	**75.17**	**340**	P	**P**	**17 16 31.8**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ARCES	**ARCESS Array B**	**75.17**	**340**	P	**P**	**17 16 31.8**	**-0.7**
	comp=Z,6.0nm,0.8s,mb4.6,baz=104,slow=5.0,SNR=5.8						
MORC	**Moravsky Berou**	**75.33**	**319**	*e*P	**P**	**17 16 33.7**	**-0.1**
MORC				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
MORC	**Moravsky Berou**	**75.33**	**319**	*e*P	**P**	**17 16 33.7**	**-0.1**
	comp=Z,18nm,1.1s,mb4.9						
ZST	**Bratislava**	**75.49**	**318**	*e*P	pP	17 16 39.2	-5.9
ZST	**Bratislava**	**75.49**	**318**	*e*	pP	17 16 39.2	-5.9
DPC	**Dobruska-Polom**	**76.16**	**320**	*e*P	**P**	**17 16 39.4**	**+0.9**
UPC	**Upice**	**76.37**	**320**	*e*P	**P**	**17 16 39.2**	**-0.5**
PRU	**Pruhonice**	**77.28**	**319**	*e*P	**P**	**17 16 45.3**	**+0.4**
PVCC	**Panska Ves**	**77.29**	**320**	*e*P	**P**	**17 16 45.2**	**+0.3**
BRG	**Berggiesshubel**	**77.70**	**320**	*i* P	**P**	**17 16 47.7**	**+0.5**
BRG				*i*		17 16 51.9	
BRG				pmax	pmax		
	comp=Z,60nm,1.8s,mb5.2						
BRG	**Berggiesshubel**	**77.70**	**320**	*i* P	**P**	**17 16 47.7**	**+0.5**
	comp=Z,60nm,1.8s,mb5.2						
BRG				*i*		17 16 51.9	
GEC2	**GERESS Array S**	**77.78**	**318**	*e*P	**P**	**17 16 48.4**	**+0.7**
GEC2				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
GEC2	**GERESS Array S**	**77.78**	**318**	*e*P	**P**	**17 16 48.4**	**+0.7**
	comp=Z,9.0nm,0.9s,mb4.7						
GERES	**GERESS Array B**	**77.78**	**318**	P	**P**	**17 16 47.2**	**-0.5**
GERES				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GERES	**GERESS Array B**	**77.78**	**318**	P	**P**	**17 16 47.2**	**-0.5**
	comp=Z,7.2nm,0.9s,mb4.6,baz=90,slow=4.0,SNR=18						
KHC	**Kasperske Hory**	**77.87**	**318**	*e*P	**P**	**17 16 48.3**	**+0.2**
KHC				*e*		17 16 52.0	
KHC	**Kasperske Hory**	**77.87**	**318**	*e*P	**P**	**17 16 48.3**	**+0.2**
KHC				x	x	17 16 52.0	
CLL	**Collm**	**78.31**	**321**	*e*P	**P**	**17 16 51.0**	**+0.5**
CLL	**Collm**	**78.31**	**321**	P	**P**	**17 16 51.0**	**+0.5**
WET	**Wettzell**	**78.33**	**318**	*e*P	**P**	**17 16 51.4**	**+0.7**
WET				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
WET	**Wettzell**	**78.33**	**318**	*e*P	**P**	**17 16 51.4**	**+0.7**
	comp=Z,7.0nm,1.0s,mb4.5						
HFS	**Hagfors**	**78.39**	**330**	P	**P**	**17 16 50.5**	**-0.2**
HFS				pmax	pmax		
	comp=Z,12nm,0.8s						
HFS	**Hagfors**	**78.39**	**330**	P	**P**	**17 16 50.5**	**-0.2**
	comp=Z,12nm,0.8s,mb4.9,baz=104,slow=6.1,SNR=16						
MOX	**Moxa**	**79.17**	**320**	*e*P	**P**	**17 16 55.3**	**+0.1**
MOX	**Moxa**	**79.17**	**320**	*i* P	**P**	**17 16 55.3**	**+0.1**
GRA1	**Grafenberg Arr**	**79.42**	**319**	*e*P	**P**	**17 16 57.8**	**+1.2**
	comp=Z,9.0nm,1.0s,mb4.7						
GRA1				*e*pP	pP	17 17 01.5	-5.5
GRF	**Grafenberg Arr**	**79.42**	**319**	*e*P	**P**	**17 16 57.8**	**+1.2**
GRF				*e**PP	pP	17 17 01.5	-5.5
GRF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**79.42**	**319**	*e*P	**P**	**17 16 57.8**	**+1.2**
GRF				*e**PP	pP	17 17 01.5	-5.5
GRF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**79.42**	**319**	*e*P	**P**	**17 16 57.8**	**+1.2**
	comp=Z,9.0nm,1.0s,mb4.7						
GRF				*e*pP	pP	17 17 01.5	-5.5
NB2	**NORSAR Subarra**	**79.66**	**331**	P	**P**	**17 16 57.3**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=95,slow=5.8						
NB2	**NORSAR Subarra**	**79.66**	**331**	P	**P**	**17 16 57.3**	**-0.3**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**79.66**	**331**	P	**P**	**17 16 57.9**	**+0.3**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NOA	**NORSAR Array B**	**79.66**	**331**	P	**P**	**17 16 57.9**	**+0.3**
	comp=Z,6.3nm,0.8s,mb4.6,baz=93,slow=5.6,SNR=11						
CLZ	**Clausthal**	**79

15nm,1.3s,mb4.7
ZAL Zalesovo 46.75 352 P **P 17 17 36.9 +0.5**
5.5nm,0.4s,mb4.8,baz=307,slow=5.8,SNR=24
WRA Warramunga Arr 48.20 125 P **P 17 17 48.5 +0.3**
0.7nm,0.7s,mb3.8,baz=304,slow=8.6,SNR=12
WRAB Tennant Creek 48.20 125 P **P 17 17 47.8 -0.5**
2.7nm,0.8s,mb4.3
BVAR Borovoye Array 49.17 341 P **P 17 17 54.8 -0.5**
1.2nm,0.8s,mb4.0,baz=127,slow=7.4,SNR=5.8
BVAR PcP PcP 17 19 19.4 +0.9
1.3nm,0.8s,baz=207,slow=3.3,SNR=4.5
CHKZ Chkalovo 49.66 342 *eP* **P 17 17 57.3 -1.7**
7.0nm,0.8s,mb4.7
ASAR Alice Springs 49.83 130 P **P 17 18 01.0 +0.2**
0.5nm,0.6s,mb3.7,baz=304,slow=8.0,SNR=6.1
ASAR PcP PcP 17 19 22.6 +1.3
0.6nm,0.7s,baz=306,slow=3.0,SNR=6.7
BRTR Keskin Array B 62.51 311 P **P 17 19 30.0 -1.4**
0.8nm,0.5s,mb4.1,baz=122,slow=7.4,SNR=4.5
MLR Muntele Rosu 69.27 316 P **P 17 20 15.3 +0.9**
1.4nm,0.7s,mb4.0,baz=131,slow=18,SNR=3.1
JOF Joensuu 71.01 335 *ep* **P 17 20 24.4 -0.3**
4.6nm,0.9s,mb4.4
FINES FINESS Array B 72.87 332 P **P 17 20 36.0 +0.3**
1.6nm,0.5s,mb4.2,baz=111,slow=6.8,SNR=12
KAF Kangasniemi 72.95 333 *ep* **P 17 20 36.1 -0.1**
KEV Kevo 75.02 341 *ep* **P 17 20 45.3 -2.8**
23nm,1.4s,mb4.9
ARCES ARCESS Array B 75.44 340 P **P 17 20 51.4 +0.8**
4.9nm,1.0s,mb4.4,baz=76,slow=5.0,SNR=7.1
GERES GERESS Array B 77.94 318 P **P 17 21 05.7 +0.7**
0.7nm,0.6s,mb3.8,baz=90,slow=4.0,SNR=8.6
NB2 NORSAR Subarra 79.88 331 P **P 17 21 15.4 +0.1**
2.0nm,0.8s,mb4.1,baz=91,slow=5.8
NOA NORSAR Array B 79.88 331 P **P 17 21 14.9 -0.5**
1.5nm,0.7s,mb4.0,baz=94,slow=5.0,SNR=6.5
ILAR Eielson Array 94.97 22 P **P 17 22 29.2 +0.7**
0.5nm,0.8s,mb4.0,baz=293,slow=4.8,SNR=5.6
PDAR Pinedale Array 125.39 21 PKP PKPdf 17 28 09.7 +3.1
0.7nm,0.7s,baz=90,slow=3.0,SNR=6.7
PLCA Paso Flores 144.32 200 PKP PKPdf 17 28 42.7 +1.2
3.7nm,0.9s,baz=198,slow=4.8,SNR=4.2
PLCA Paso Flores 144.32 200 PKP PKPdf 17 28 42.7 +1.2

GRAL ***28*** *17:09:57.9±0.3, 36.53N×33.98E, MD3.6*
NIC ***28*** *17:09:59.9±0.4, 36.46N×34.25E, h76km, mb4.0, ML3.6, MW3.2*
CSEM ***28*** *17:09:59.1±0.1, 36.57N×34.25E, h30km, MD3.4, Error ellipse: s-maj=3.0km s-min=2.4km az=148.0*
ISK ***28*** *17:09:59.4, 36.56N×34.27E, h34km, MD3.4*
ISC 28 17:09:57.9±0.6, 36.52N±0.03×34.19E±0.04, h10km±4km, n25, σ0=94/38, 4C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MEST	**Erdemli**	**0.08**	**331**	*i P*		**Pg**	**17 10 00.6**	**+0.2**
MEST				*i* S		**Sg**	**17 10 02.6**	**+0.6**
CEYT	**Ceyhan**	**1.34**	**68**	*i* PN		**Pn**	**17 10 21.2**	**-1.5**
HDMB	**Hadim**	**1.44**	**288**	*i* PN		**Pn**	**17 10 24.3**	**+0.2**
HDMB				*i* SN		**Sn**	**17 10 43.5**	**+0.2**
PHNC	**Paralimni**	**1.52**	**185**	⇑P		**Pn**	**17 10 25.1**	**-0.2**
PHNC				S		**Sb**	**17 10 44.3**	**-0.6**
PHNC	**Paralimni**	**1.52**	**185**	⇑*iP*		**Pn**	**17 10 25.1**	**-0.2**
MAMC	**Mammari**	**1.56**	**211**	⇑*iP*		**Pn**	**17 10 26.4**	**+0.5**
HTY	**Hatay**	**1.62**	**104**	PN		**Pn**	**17 10 26.3**	**-0.5**
NIG	**Nigde**	**1.62**	**12**	*i* PN		**Pn**	**17 10 25.6**	**-1.2**
COBT	**Iskenderun**	**1.66**	**89**	*i P*		**Pn**	**17 10 25.7**	**-1.6**
COBT				*i* S		**Sn**	**17 10 48.4**	**-0.4**
CSS	**Prodhromos**	**1.70**	**205**	*i P*		**Pn**	**17 10 27.0**	**-0.9**
CSS				*i* S		**Sn**	**17 10 49.3**	**-0.6**
CSS	**Prodhromos**	**1.70**	**205**	P		**Pn**	**17 10 27.2**	**-0.7**
CSS				S		**Sn**	**17 10 49.4**	**-0.5**
LEF	**Lefka**	**1.75**	**218**	PN		**Pn**	**17 10 28.9**	**+0.3**
ALFC	**Alevga**	**1.88**	**224**	⇑P		**Pn**	**17 10 30.4**	**0.0**
ALFC				S		**Sn**	**17 10 54.3**	**0.0**
KONT	**Konya--Tatoy**	**2.04**	**315**	PN		**Pn**	**17 10 32.4**	**-0.3**
SZAC	**Souni-Zanaja**	**2.06**	**212**	P		**Pn**	**17 10 34.9**	**+1.9**
SZAC				S		**Sn**	**17 10 57.6**	**-1.3**
AKMC	**Akamas**	**2.12**	**226**	P		**Pn**	**17 10 38.5**	**+4.6**
PPCY	**Paphos**	**2.22**	**223**	P		**Pn**	**17 10 39.0**	**+3.7**
AVNT	**Avonos**	**2.32**	**13**	*i P*		**Pn**	**17 10 36.5**	**-0.2**
AVNT				*i* S		**Sn**	**17 11 06.8**	**+1.3**
KAHT	**Ahir Dag**	**2.42**	**62**	*i P*		**Pn**	**17 10 37.9**	**-0.2**
KAHT				*i* S		**Sn**	**17 11 11.4**	**+3.4**
GAZ	**Gaziantep**	**2.51**	**74**	PN		**Pn**	**17 10 38.3**	**-1.1**
HWQ	**Hawqa**	**2.66**	**147**	*e*PN		**Pn**	**17 10 42.2**	**+0.7**
HWQ				SN		**Sn**	**17 11 15.0**	**+0.9**
HWQ	**Hawqa**	**2.66**	**147**	*e*Pn		**Pn**	**17 10 42.2**	**+0.6**
GZT	**Gaziantep**	**2.83**	**72**	*i P*		**Pn**	**17 10 42.9**	**-1.1**
GZT				*i* S		**Sn**	**17 11 20.2**	**+1.7**
BHL	**Bhannes**	**2.87**	**155**	*e*PN		**Pn**	**17 10 45.0**	**+0.4**
FKH	**Fakeheh**	**2.91**	**141**	*e*PN		**Pn**	**17 10 45.9**	**+0.7**
FKH				SN		**Sn**	**17 11 21.5**	**+1.1**

IDC ***28*** *17:13:02.0±1.1, 7.59N×93.80E, mb3.8/7, mb1 4.0/8, mb1mx3.9/17, mbtmp3.8/8, ML4.0/1, Error ellipse: s-maj=42.9km s-min=21.5km az=53.0*
NEIC ***28*** *17:13:06.6±0.7, 7.57N×93.81E, h30km, mb4.2/2, Error ellipse: s-maj=20.2km s-min=12.5km az=64.0*
ISC 28 17:13:04.8±0.9, 7.6N±0.1×93.9E±0.2, h30km, n10, σ0=83/10, mb3.9/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.86**	**24**	Pn		**P**	**17 15 54.6**	**-0.4**
LSA	**Lhasa**	**22.13**	**354**	*eP*		**P**	**17 18 01.8**	**+2.1**
SONM	**Songino Array**	**41.48**	**13**	P		**P**	**17 20 50.6**	**-0.1**
KURK	**Kurchatov**	**44.80**	**346**	*eP*		**P**	**17 21 17.2**	**-0.6**
WRA	**Warramunga Arr**	**48.32**	**125**	P		**P**	**17 21 45.3**	**-0.6**
BVAR	**Borovoye Array**	**49.16**	**341**	P		**P**	**17 21 51.5**	**-0.4**
ASAR	**Alice Springs**	**49.94**	**130**	P		**P**	**17 21 59.1**	**+0.7**
BRTR	**Keskin Array B**	**62.41**	**311**	P		**P**	**17 23 27.0**	**-0.5**
FINES	**FINESS Array B**	**72.82**	**332**	P		**P**	**17 24 31.6**	**-0.7**
GERES	**GERESS Array B**	**77.85**	**318**	P		**P**	**17 25 02.1**	**+0.8**

IDC ***28*** *17:14:04.8±2.8, 35.66N×137.63E, h196km±27km, mb3.6/10, mb1 3.8/12, mb1mx3.5/26, mbtmp4.2/12, MS3.1/1, Ms1 3.1/1, ms1mx3.0/32, Error ellipse: s-maj=29.8km s-min=11.2km az=95.0*
JMA ***28*** *17:14:09.8±0.1, 35.77N×137.66E, h244km±1km, M3.7*
NEIC ***28*** *17:14:09.4±0.6, 35.73N×137.63E, h243km±6km, mb4.0/3, Error ellipse: s-maj=20.1km s-min=10.1km az=93.0*
ISC 28 17:14:08.7±0.3, 35.76N±0.05×137.63E±0.07, h252km±2km, n37, σ0=73/46, mb3.7/11, 10C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JGF	**Kuroka**	**0.27**	**235**	⇑P		**P**	**17 14 41.1**	**-0.4**
JGM	**Miyama**	**0.74**	**266**	⇓P		**P**	**17 14 43.2**	**+0.4**
JGM				S		**S**	**17 15 08.7**	**-0.8**
JYN	**Shimob**	**0.79**	**109**	⇑P		**P**	**17 14 43.2**	**+0.2**
MAJO	**Matsushiro**	**0.92**	**31**	*e*Pn		**P**	**17 14 43.6**	**0.0**
MAT	**Matsushiro**	**0.92**	**31**	*eP*		**P**	**17 14 44.0**	**+0.4**
MAT				*eS*		**S**	**17 15 10.0**	**-0.9**
MAT	**Matsushiro**	**0.92**	**31**	P		**P**	**17 14 43.8**	**+0.2**
MAT				S		**S**	**17 15 10.3**	**-0.6**
JRY	**Ryogami san**	**1.07**	**75**	⇑P		**P**	**17 14 44.8**	**+0.3**
JRY				S		**S**	**17 15 12.0**	**-0.4**
JKG	**Kaga**	**1.17**	**297**	P		**P**	**17 14 45.8**	**+0.7**
JKG				S		**S**	**17 15 13.3**	**-0.2**
JOD2	**Odawara 2**	**1.29**	**112**	⇑P		**P**	**17 14 46.3**	**+0.4**
JOD2				S		**S**	**17 15 16.1**	**+1.2**
JIE	**Ise**	**1.56**	**209**	⇓P		**P**	**17 14 48.5**	**+0.6**
JIE				S		**S**	**17 15 17.8**	**-0.5**
JAG	**Ashikaga**	**1.62**	**65**	⇑P		**P**	**17 14 47.7**	**-0.7**
JSZ	**Suzu**	**1.70**	**353**	⇑P		**P**	**17 14 49.2**	**+0.2**
JWT	**Wachi**	**1.87**	**256**	⇓P		**P**	**17 14 51.0**	**+0.6**
JWT				S		**S**	**17 15 22.3**	**-0.6**
JHG	**Hegura jima**	**2.16**	**345**	⇑P		**P**	**17 14 53.7**	**+0.6**
JWY	**Kouya**	**2.27**	**228**	P		**P**	**17 14 54.9**	**+0.8**
JSD	**Sado**	**2.33**	**12**	⇑P		**P**	**17 14 55.0**	**+0.2**
JNS	**Sasagawa**	**2.47**	**33**	⇑P		**P**	**17 14 56.3**	**+0.2**
JWZ	**Kozaga**	**2.72**	**216**	⇓P		**P**	**17 14 58.9**	**+0.2**
JAW	**Awa shima**	**2.99**	**25**	P		**P**	**17 15 01.8**	**+0.2**
JHJ	**Hachijo jima 2**	**3.18**	**145**	LR		LR	17 16 08.1	
	comp=Z,302nm,19.5s,baz=277,slow=40							
ASAJ	**Asahikawa**	**9.18**	**23**	P		**P**	**17 16 15.6**	**-2.0**
	1.4nm,0.3s,baz=126,slow=2.6,SNR=9.4							
ASAJ				S		**S**	**17 17 51.7**	**-7.2**
	0.4nm,0.3s,baz=233,slow=20,SNR=4.8							
CBIJ	**Chichi jima**	**9.47**	**154**	P		**P**	**17 16 14.6**	**-6.7**
	5.6nm,0.3s,baz=279,slow=19,SNR=3.0							
CBIJ				S		**S**	**17 17 55.2**	**-10**
	14nm,0.3s,baz=285,slow=20,SNR=5.0							
YSS	**Yuzh-Sakhalins**	**11.83**	**17**	*eP*		**P**	**17 16 49.0**	**-2.0**
	9.0nm,0.4s							
KURK	**Kurchatov**	**44.33**	**309**	*eP*		**P**	**17 21 55.4**	**+0.1**
	1.6nm,0.4s,mb3.7							
BVAR	**Borovoye Array**	**49.18**	**313**	P		**P**	**17 22 33.5**	**+0.7**
	0.8nm,0.8s,mb3.1,baz=112,slow=8.8,SNR=4.3							
ILAR	**Eielson Array**	**52.20**	**32**	P		**P**	**17 22 55.7**	**+0.6**
	0.5nm,0.7s,mb3.1,baz=255,slow=4.9,SNR=6.5							
WB2	**Warramunga Arr**	**55.48**	**184**	⇑*iP*		**P**	**17 23 18.5**	**-1.0**
WRA	**Warramunga Arr**	**55.48**	**184**	P		**P**	**17 23 18.5**	**-1.0**
	6.2nm,0.3s,mb4.6,baz=360,slow=7.5,SNR=193							
CTA	**Charters Tower**	**56.13**	**170**	P		**P**	**17 23 23.5**	**-0.6**
	1.7nm,0.7s,mb3.7,baz=357,slow=9.0,SNR=4.3							
INK	**Inuvik**	**56.90**	**26**	P		**P**	**17 23 29.8**	**+0.9**
	1.3nm,0.8s,mb3.6,baz=267,slow=5.5,SNR=4.1							
ASAR	**Alice Springs**	**59.20**	**184**	P		**P**	**17 23 45.0**	**-0.5**
	2.7nm,0.3s,mb4.3,baz=359,slow=5.7,SNR=151							
YKA	**Yellowknife Ar**	**66.42**	**29**	P		**P**	**17 24 32.3**	**+0.2**
	0.2nm,0.4s,mb3.1,baz=298,slow=6.5,SNR=6.5							
YKA	**Yellowknife Ar**	**66.42**	**29**	P		**P**	**17 24 32.3**	**+0.2**
STKA	**Stephens Creek**	**67.38**	**176**	*eP*		**P**	**17 24 38.4**	**-0.3**
	1.6nm,0.6s,mb3.8							
STKA	**Stephens Creek**	**67.38**	**176**	P		**P**	**17 24 38.3**	**-0.3**
	1.1nm,0.4s,mb3.8,baz=356,slow=9.3,SNR=7.6							
FINES	**FINESS Array B**	**68.49**	**331**	P		**P**	**17 24 45.1**	**+0.1**
	2.8nm,0.9s,mb3.9,baz=45,slow=5.4,SNR=4.4							
TXAR	**Lajitas Array**	**93.30**	**50**	P		**P**	**17 26 57.9**	**+1.8**
	0.5nm,0.5s,mb3.8,baz=280,slow=2.6,SNR=6.2							

IDC ***28*** *17:16:03.5±0.8, 7.67N×94.14E, mb4.0/15, mb1 4.2/16, mb1mx4.1/21, mbtmp4.0/16, ML3.6/1, Error ellipse: s-maj=35.7km s-min=19.1km az=46.0*
NEIC ***28*** *17:16:08.3±0.5, 7.69N×94.16E, h30km, mb4.3/2, Error ellipse: s-maj=17.7km s-min=12.4km az=61.0*
ISC 28 17:16:03.4±0.7, 7.7N±0.1×94.2E±0.1, h10km, n29, σ0=86/27, mb4.1/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.69**	**23**	Pn		**P**	**17 18 53.8**	**+0.5**
	0.1nm,0.3s,baz=215,slow=14,SNR=4.1							
JIRN	**Jiri**	**21.27**	**340**	*eP*		**P**	**17 20 52.8**	**+0.6**
PKI	**Pulchoki**	**21.46**	**338**	*eP*		**P**	**17 20 54.9**	**+0.7**
DMN	**Daman**	**21.61**	**338**	*eP*		**P**	**17 20 56.4**	**+0.8**
	185nm,0.9s							
KKN	**Kakani**	**21.70**	**338**	*eP*		**P**	**17 20 55.9**	**-0.7**
	266nm,1.5s							
GKN	**Gorkha**	**22.14**	**337**	*eP*		**P**	**17 21 00.0**	**-1.0**
	222nm,1.3s							
KOLN	**Koldanda**	**22.35**	**335**	*eP*		**P**	**17 21 02.9**	**-0.2**
	568nm,1.7s							
SONM	**Songino Array**	**41.35**	**12**	P		**P**	**17 23 51.8**	**+0.8**
	0.7nm,1.0s,mb3.2,baz=199,slow=9.0,SNR=3.4							
KURK	**Kurchatov**	**44.81**	**346**	*eP*		**P**	**17 24 19.0**	**-0.2**
	7.6nm,1.2s,mb4.4							
ZAL	**Zalesovo**	**46.75**	**352**	P		**P**	**17 24 33.6**	**-0.9**
	0.8nm,0.4s,mb4.0,baz=320,slow=17,SNR=3.0							
WRA	**Warramunga Arr**	**48.13**	**125**	P		**P**	**17 24 44.6**	**-1.2**
	0.7nm,0.7s,mb3.8,baz=309,slow=7.7,SNR=2.2							
BRVK	**Borovoye**	**49.25**	**341**	*eP*		**P**	**17 24 53.4**	**-0.6**
	1.0nm,0.5s,mb4.1							
ASAR	**Alice Springs**	**49.77**	**130**	P		**P**	**17 24 59.3**	**+0.9**
	0.9nm,1.0s,mb3.8,baz=310,slow=8.4,SNR=5.0							
KMBO	**Kilima Mbogo**	**57.42**	**264**	P		**P**	**17 25 58.9**	**+3.8**
	2.2nm,0.9s,mb4.2,baz=65,slow=14,SNR=7.8							
KMBO	**Kilima Mbogo**	**57.42**	**264**	P		**P**	**17 25 58.9**	**+3.8**
BRTR	**Keskin Array B**	**62.58**	**311**	P		**P**	**17 26 28.6**	**-1.4**
	0.9nm,0.6s,mb4.1,baz=129,slow=7.2,SNR=4.8							
AKASG	**Malin Array Be**	**68.33**	**322**	P		**P**	**17 27 05.3**	**-1.6**
	1.1nm,0.7s,mb4.0,baz=88,slow=4.9,SNR=4.8							
IDI	**Anoyia**	**68.70**	**305**	P		**P**	**17 27 10.9**	**+1.4**
	4.3nm,0.6s,mb4.5,baz=91,slow=12,SNR=4.8							
MLR	**Muntele Rosu**	**69.33**	**316**	P		**P**	**17 27 13.4**	**+0.2**
	2.1nm,0.7s,mb4.2,baz=116,slow=9.1,SNR=4.3							
FINES	**FINESS Array B**	**72.90**	**332**	P		**P**	**17 27 34.1**	**-0.3**
	2.8nm,0.9s,mb4.2,baz=124,slow=6.9,SNR=4.6							
ARCES	**ARCESS Array B**	**75.46**	**340**	P		**P**	**17 27 48.9**	**-0.2**
	2.7nm,0.9s,mb4.2,baz=90,slow=4.9,SNR=4.6							
GERES	**GERESS Array B**	**77.99**	**318**	P		**P**	**17 28 04.3**	**+0.7**
	1.2nm,0.6s,mb4.0,baz=88,slow=4.8,SNR=11							
CLL	**Collm**	**78.53**	**321**	*eP*		**P**	**17 28 12.0**	**+5.5**
CLL	**Collm**	**78.53**	**321**	*e**PP		**P**	**17 28 12.0**	**+5.5**
HFS	**Hagfors**	**78.64**	**330**	P		**P**	**17 28 07.1**	**+0.2**
	3.4nm,0.9s,mb4.3,baz=108,slow=4.7,SNR=5.9							
NOA	**NORSAR Array B**	**79.92**	**331**	P		**P**	**17 28 14.6**	**+0.8**
	2.7nm,1.1s,mb4.1,baz=98,slow=5.2,SNR=3.6							
DAVOX	**Davos**	**80.55**	**316**	P		**P**	**17 28 17.8**	**+0.3**
	3.4nm,0.9s,mb4.3,baz=184,slow=15,SNR=3.4							
PDAR	**Pinedale Array**	**125.35**	**21**	PKP		PKPdf	17 35 06.2	-1.9
	0.4nm,0.9s,baz=340,slow=5.3,SNR=3.4							
PLCA	**Paso Flores**	**144.37**	**200**	PKP		PKPdf	17 35 43.8	+0.6
	2.0nm,0.8s,baz=239,slow=12,SNR=2.9							

IDC ***28*** *17:16:25.2±0.6, 7.69N×94.04E, mb4.4/26, mb1 4.5/27, mb1mx4.5/29, mbtmp4.4/27, ML4.6/1, MS4.5/1, Ms1 4.5/1, ms1mx3.2/23, Error ellipse: s-maj=26.3km s-min=12.7km az=46.0*
MOS ***28*** *17:16:28.8±1.4, 7.80N×94.12E, h33km, mb4.8/46, MS4.7/7, Error ellipse: s-maj=11.0km s-min=6.3km az=104.7*
BJI ***28*** *17:16:29.3, 7.63N×93.98E, h42km, mB5.3, mb4.7, Ms5.0, Msz4.7*
NEIC ***28*** *17:16:30.1±0.3, 7.79N×94.12E, h30km, mb4.7/30, Error ellipse: s-maj=9.4km s-min=8.4km az=47.0*
ISC 28 17:16:28.7±0.3, 7.77N±0.05×94.13E±0.05, h33km, (h40km±5.8km:pP-P), n154, σ19=27/161, mb4.6/61, MS4.7/9, 2C-4D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.61**	**23**	P		**P**	**17 19 15.9**	**+0.8**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**11.61**	**23**	Pn		**P**	**17 19 15.8**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=211,slow=14,SNR=26							
VIS	**Vishakhapatnam**	**14.44**	**314**	*eP*		**P**	**17 19 46.2**	**-6.6**
VIS				*eS*		**S**	**17 22 23.2**	**-10**
VIS				*e*			17 22 28.6	
	comp=E,30nm,1.0s							
VIS				*e*			17 22 28.8	
	comp=N,25nm,1.1s							
KOD	**Kodaikanal**	**16.64**	**280**	*eP*		**P**	**17 20 21.0**	**-0.1**
IMP	**Imphal**	**16.92**	**359**	*e*		**P**	**17 20 23.9**	**-0.7**
SHL	**Shillong**	**17.83**	**353**	*eS*		**S**	**17 23 52.0**	**+1.1**
HYB	**Hyderabad**	**17.96**	**304**	*eP*		**P**	**17 20 36.0**	**-1.6**
HYB				*eS*		**S**	**17 24 03.5**	**+10**
HYB	**Hyderabad**	**17.96**	**304**	*i P*		**P**	**17 20 36.0**	**-1.6**
HYB				*eS*		**S**	**17 23 54.0**	**0.0**
QIZ	**Qiongzhong**	**18.92**	**52**	P		**P**	**17 20 52.3**	**+2.8**
QIZ				S		**S**	**17 24 18.3**	**+2.6**
QIZ				AMB		AMB		
	comp=Z,75nm,1.8s							
QIZ				LR		LR		
	comp=N,7μm,12.6s							
QIZ				LR		LR		
	comp=E,2μm,13.1s							
QIZ				LR		LR		
	comp=Z,2μm,9.5s							
QIZ	**Qiongzhong**	**18.92**	**52**	P		**P**	**17 20 49.5**	**0.0**
	comp=Z,168nm,1.5s							
KMI	**Kunming**	**19.11**	**24**	P		**P**	**17 20 54.2**	**+2.5**
KMI				S		**S**	**17 24 10.9**	**-9.1**
KMI				pmax		pmax		
	comp=Z,27nm,1.3s							
KMI	**Kunming**	**19.11**	**24**	P		**P**	**17 20 54.2**	**+2.5**
	comp=Z,27nm,1.3s							
KMI				pP			17 21 02.1	
KMI				S		**S**	**17 24 10.9**	**-9.1**
GOA	**Goa**	**21.30**	**293**	*e*		**P**	**17 21 22.1**	**+7.2**
	comp=Z,68nm,1.2s,mb4.8							
GOA				*e*			17 25 23.6	
KAD	**Karad**	**21.64**	**298**	*e*		**P**	**17 21 10.5**	**-7.7**
LSA	**Lhasa**	**21.99**	**353**	P		**P**	**17 21 24.5**	**+2.8**
LSA	**Lhasa**	**21.99**	**353**	*eP*		**P**	**17 21 20.2**	**-1.5**
LSA				pmax		pmax		
	comp=Z,55nm,0.8s,mb5.0							
LSA	**Lhasa**	**21.99**	**353**	*eP*		**P**	**17 21 20.2**	**-1.5**
	comp=Z,54nm,0.8s,mb5.0							
BHPL	**Bhopal**	**22.23**	**316**	⇓*iP*		**P**	**17 21 25.7**	**+1.6**
POO	**Poona**	**22.43**	**300**	*eP*		**P**	**17 21 23.0**	**-3.1**
POO				*e*			17 21 31.5	
	comp=Z,56nm,1.4s							
NDI	**New Delhi**	**26.21**	**325**	*e*		**P**	**17 22 01.5**	**-1.0**
ENH	**Enshi**	**26.61**	**31**	*eP*		**P**	**17 22 05.6**	**-0.6**
	comp=Z,5.4nm,0.9s,mb4.1							
DDI	**Dehra Dun**	**27.02**	**328**	*e*		**P**	**17 22 10.8**	**+0.8**
WHN	**Wuhan**	**29.52**	**37**	*eP*		**P**	**17 22 32.0**	**-0.4**
LZH	**Lanzhou**	**29.55**	**16**	*eP*		**P**	**17 22 33.8**	**+1.2**
LZH				AP		pP	17 22 46.3	+4.2
LZH				XP		sP	17 22 53.5	+7.0
LZH				AMB		AMB		
	comp=Z,34nm,1.8s,mb4.8							
LZH	**Lanzhou**	**29.55**	**16**	*eP*		**P**	**17 22 33.7**	**+1.1**
LZH				*PP		pP	17 22 46.2	+4.1
LZH				pmax		pmax		
	comp=Z,34nm,1.8s,mb4.8							
LZH	**Lanzhou**	**29.55**	**16**	*eP*		**P**	**17 22 33.7**	**+1.1**
	comp=Z,34nm,1.8s,mb4.8							
LZH				pP		pP	17 22 46.2	+4.1
LZH				sP		sP	17 22 53.6	+7.1
NJ2	**Nanjing**	**33.35**	**40**	*eP*		**P**	**17 23 07.0**	**+0.9**
NJ2				AP		pP	17 23 20.0	+4.3
NJ2				XP		sP	17 23 22.0	+1.9
NJ2				PP		PP	17 24 23.0	+4.8
NJ2				S		**S**	**17 28 34.0**	**+10**
NJ2				XS			17 28 49.0	
NJ2				AMB		AMB		
	comp=Z,540nm,6.0s							
NJ2				LR		LR		
	comp=N,2μm,19.8s							
NJ2				LR		LR		
	comp=E,3μm,10.9s							
NJ2				LR		LR		
	comp=Z,2μm,14.1s							
SSE	**Sheshan**	**34.30**	**44**	P		**P**	**17 23 11.0**	**-3.2**
SSE				S		**S**	**17 28 44.5**	**+6.2**
SSE				XS			17 28 58.0	
SSE				AMB		AMB		
	comp=Z,24nm,0.7s,mb5.2							
SSE				AMB		AMB		
	comp=Z,175nm,12.0s							
SSE				LR		LR		
	comp=N,565nm,20.9s,MS4.5							
SSE				LR		LR		
	comp=E,675nm,20.5s,MS4.5							
SSE				LR		LR		
	comp=Z,701nm,16.7s,MS4.5							
SSE	**Sheshan**	**34.30**	**44**	P		**P**	**17 23 10.9**	**-3.3**
	comp=Z,24nm,0.7s,mb5.2							
SSE				S		**S**	**17 28 44.6**	**+6.3**
SSE				sS			17 28 58.1	
SSE				LR		LR		
	comp=Z,700nm,16.7s,MS4.5							
WMQ	**Urumqi**	**36.35**	**352**	*eP*		**P**	**17 23 32.0**	**+0.5**
WMQ				AP		pP	17 23 41.8	+0.6
WMQ				XP		sP	17 23 45.5	0.0
WMQ				PP		PP	17 24 54.3	-1.0
WMQ				PCP		PcP	17 25 58.5	+2.5
WMQ				S		**S**	**17 29 07.8**	**-2.0**
WMQ				AMB		AMB		
	comp=Z,30nm,0.9s,mb5.2							
WMQ				AMB		AMB		
	comp=Z,227nm,5.3s							
WMQ				LR		LR		
	comp=N,635nm,16.3s,MS4.6							
WMQ				LR		LR		
	comp=E,439nm,16.0s,MS4.6							
WMQ				LR		LR		
	comp=Z,856nm,16.6s,MS4.6							
BJI	**Beijing**	**37.70**	**28**	P		**P**	**17 23 43.8**	**+0.9**
BJI				pmax		pmax		
	comp=Z,9.0nm,1.9s,mb4.2							
BJI				MLR		MLR		
	comp=Z,820nm,25.4s,MS4.4							
BJI	**Beijing**	**37.70**	**28**	P		**P**	**17 23 43.8**	**+0.9**
	comp=Z,9.0nm,1.9s,mb4.2							
BJI				S		Sx	17 29 49.4	
BJI				LR		LR		
	comp=Z,820nm,25.4s,MS4.4							
AAK	**Ala-Archa**	**38.79**	**337**	*i P*		**P**	**17 23 52.5**	**+0.5**
AAK				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.3							
AAK	**Ala-Archa**	**38.79**	**337**	*eP*		**P**	**17 23 51.1**	**-0.9**
	comp=Z,8.8nm,0.8s,mb4.5							
MKAR	**Makanchi Array**	**40.19**	**347**	*i* P		**P**	**17

BVAR PcP PcP 17 26 38.9 +0.5
comp=Z,2.0nm,0.8s,baz=150,slow=5.6,SNR=2.2
RAYN Ar Rayn 49.12 294 P **P** **17 25 17.1 +1.7**
comp=Z,194nm,1.2s,SNR=9.4
BRVK Borovoye 49.14 341 *e*P **P** **17 25 13.5 -1.7**
BRVK pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
BRVK Borovoye 49.14 341 *e*P **P** **17 25 13.5 -1.7**
comp=Z,6.8nm,1.1s,mb4.6
CHKZ Chkalovo 49.57 342 *e*P **P** **17 25 16.8 -1.7**
CHKZ pmax pmax
comp=Z,14nm,0.9s,mb5.0
CHKZ Chkalovo 49.57 342 *e*P **P** **17 25 16.8 -1.6**
comp=Z,14nm,0.9s,mb5.0
ASAR Alice Springs 49.86 130 P **P** **17 25 19.3 -1.8**
comp=Z,12nm,1.3s,mb4.8,baz=301,slow=7.0,SNR=9.2
BOD Bodaibo 52.25 13 *e*P **P** **17 25 36.7 -2.0**
GNI Garni 54.50 314 P **P** **17 25 54.3 -1.4**
GNI pmax pmax
comp=Z,3.0nm,0.6s
GNI Garni 54.50 314 P **P** **17 25 54.3 -1.4**
comp=Z,2.7nm,0.6s,mb4.5,baz=270,slow=7.7,SNR=4.0
GNI Garni 54.50 314 *e*P **P** **17 25 53.0 -2.6**
comp=Z,17nm,1.1s,mb5.0
SVE Sverdlovsk 55.49 338 *e*P **P** **17 26 02.5 -0.1**
SVE pmax pmax
comp=Z,60nm,1.5s,mb5.4
SVE MLR MLR
comp=Z,1μm,19.0s,MS4.9
PMG Port Moresby 55.51 107 P **P** **17 26 02.2 -1.1**
PMG pmax pmax
comp=Z,6.0nm,0.7s
PMG Port Moresby 55.51 107 P **P** **17 26 02.2 -1.1**
comp=Z,5.7nm,0.7s,mb4.7,baz=297,slow=6.8,SNR=2.8
ARU Arti 55.98 337 *e*P **P** **17 26 01.1 -5.0**
ARU *e* 17 27 03.6
ARU *e* 17 28 11.4
ARU *e*S **S** **17 33 52.8 +2.5**
ARU *e*SS SS 17 37 42.2 +5.9
KIV Kislovodsk 57.39 318 *i* P **P** **17 26 10.9 -5.5**
KIV pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
KMBO Kilima Mbogo 57.40 264 *e*P **P** **17 26 19.6 +2.7**
KMBO pmax pmax
comp=Z,9.0nm,1.2s
KMBO Kilima Mbogo 57.40 264 P **P** **17 26 20.0 +3.1**
comp=Z,5.3nm,0.9s,mb4.5,baz=55,slow=10,SNR=9.8
KMBO Kilima Mbogo 57.40 264 *e*P **P** **17 26 19.6 +2.7**
comp=Z,9.1nm,1.2s,mb4.7
ASF Jabal al Asfar 58.27 303 P **P** **17 26 23.2 +0.5**
comp=Z,2.5nm,0.8s,mb4.3,baz=261,slow=1.4,SNR=3.6
MALT Malatya 58.52 310 *e*P **P** **17 26 22.3 -2.1**
MALT pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
MALT Malatya 58.52 310 *e*P **P** **17 26 22.3 -2.0**
comp=Z,6.4nm,1.1s,mb4.6
SOKR Solikamsk 58.89 339⇑*e*P **P** **17 26 22.0 -4.6**
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
SOKR MLR MLR
comp=Z,1μm,21.0s,MS5.0
SOC Sochi 59.25 317 *e*P **P** **17 26 21.4 -8.0**
SOC *e* 17 28 37.6
SOC *e*PPP PPP 17 30 00.7 -6.2
SOC *e*S **S** **17 34 35.9 +2.5**
SOC *e* 17 36 10.5
SOC pmax pmax
comp=N,15nm,0.7s
SOC pmax pmax
comp=Z,13nm,0.7s,mb5.1
SOC pmax pmax
comp=E,4.0nm,0.6s
EIL Elat 59.47 300 P **P** **17 26 31.1 0.0**
comp=E,3.1nm,0.9s,mb4.3,baz=162,slow=3.2,SNR=3.9
EIL Elat 59.47 300 *e*P **P** **17 26 31.2 +0.1**
comp=E,7.5nm,1.0s,mb4.7
STKA Stephens Creek 60.04 134 P **P** **17 26 35.2 +0.2**
comp=E,2.4nm,0.9s,mb4.2,baz=313,slow=4.3,SNR=2.8
YAK Yakutsk 60.09 18 *e*P **P** **17 26 33.2 -1.7**
YAK pmax pmax
comp=Z,22nm,0.8s,mb5.2
YAK Yakutsk 60.09 18 *e*P **P** **17 26 33.2 -1.7**
comp=Z,22nm,0.8s,mb5.2
VRSR Storozhevoye 62.45 325 *e*P **P** **17 26 49.5 -1.5**
VRSR pmax pmax
comp=Z,6.0nm,1.2s,mb4.6
VRSR pmax pmax
comp=N,10.0nm,1.3s
VRSR pmax pmax
comp=E,9.0nm,1.0s
BRTR Keskin Array B 62.49 311 P **P** **17 26 49.7 -1.7**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 62.49 311 P **P** **17 26 49.7 -1.7**
comp=Z,2.5nm,0.8s,mb4.4,baz=121,slow=7.2,SNR=7.8
MOS Moscow 65.16 329 *e*P **P** **17 27 10.2 +1.6**
MOS *e* 17 27 42.8
MOS MLR MLR
comp=Z,1μm,21.0s,MS5.1
OBN Obninsk 65.46 328 *e*P **P** **17 27 06.7 -3.8**
OBN pmax pmax
comp=Z,11nm,1.1s,mb4.8
OBN MLR MLR
comp=Z,500nm,21.0s,MS4.7
MA2 Magadan 66.86 28 *e*P **P** **17 27 19.7 +0.4**
MA2 pmax pmax
comp=Z,15nm,1.0s,mb5.0
MA2 Magadan 66.86 28 *e*P **P** **17 27 19.6 +0.3**
comp=Z,15nm,1.0s,mb5.0
TIXI Tiksi 67.33 11⇓*i*P **P** **17 27 20.6 -1.5**
TIXI pmax pmax
comp=Z,15nm,0.8s,mb5.1
AKASG Malin Array Be 68.23 322 P **P** **17 27 26.0 -2.1**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 68.23 322 P **P** **17 27 26.0 -2.0**
comp=Z,2.3nm,0.8s,mb4.2,baz=91,slow=4.8,SNR=7.5
IDI Anoyia 68.62 305 P **P** **17 27 30.3 -0.5**
comp=Z,8.2nm,0.6s,mb4.8,baz=114,slow=10,SNR=6.9
LSZ Lusaka 69.23 250 *e*P **P** **17 27 36.0 +1.2**
MLR Muntele Rosu 69.24 316 P **P** **17 27 34.2 -0.2**
MLR pmax pmax
comp=Z,7.0nm,1.0s
MLR Muntele Rosu 69.24 316 P **P** **17 27 34.2 -0.2**
comp=Z,6.5nm,0.9s,mb4.5,baz=171,slow=2.6,SNR=7.7
JOF Joensuu 70.94 334 *e*p **P** **17 27 45.2 +0.8**
comp=Z,8.3nm,0.8s,mb4.7
JOF Joensuu 70.94 334 *e*p **P** **17 27 45.2 +0.8**
comp=Z,9.4nm,0.9s,mb4.7
FINES FINESS Array B 72.80 332 P **P** **17 27 55.5 0.0**
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES MLR MLR
comp=Z,325nm,20.0s
FINES FINESS Array B 72.80 332 P **P** **17 27 55.5 -0.1**
comp=Z,6.4nm,0.8s,mb4.6,baz=91,slow=5.4,SNR=9.5
FINES LR LR 18 00 27.2
comp=Z,325nm,20.0s,MS4.6,baz=287,slow=36
KAF Kangasniemi 72.88 333 *e*p **P** **17 27 56.1 +0.1**
comp=Z,9.6nm,1.0s,mb4.7
KAF Kangasniemi 72.88 333 *e*p **P** **17 27 56.2 +0.2**
comp=Z,6.8nm,0.8s,mb4.6
KAF Kangasniemi 72.88 333 *e*P **P** **17 27 56.2 +0.2**
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LBTB Lobatse 74.19 241 *e*P **P** **17 28 06.0 +1.6**
LBTB pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LBTB Lobatse 74.19 241 *e*P **P** **17 28 06.0 +1.6**
comp=Z,7.1nm,0.8s,mb4.7
KEV Kevo 74.93 341 *e*p **P** **17 28 10.4 +2.6**
comp=Z,17nm,1.3s,mb4.8
KEV Kevo 74.93 341 *e*P **P** **17 28 10.4 +2.6**
KEV pmax pmax
comp=Z,17nm,1.3s,mb4.8
OKC Ostrava-Krasne 75.06 319 *e*P **P** **17 28 13.0 +4.1**
ARCES ARCESS Array B 75.36 340 P **P** **17 28 09.8 -0.4**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 75.36 340 P **P** **17 28 09.8 -0.4**
comp=Z,3.4nm,0.7s,mb4.4,baz=95,slow=5.4,SNR=8.3
MORC Moravsky Berou 75.45 319 *e*P **P** **17 28 10.1 -1.0**
MORC pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MORC Moravsky Berou 75.45 319 *e*P **P** **17 28 10.1 -1.0**
comp=Z,5.2nm,1.0s,mb4.4
BOSA Boshof 75.52 238 *e*P **P** **17 28 13.6 +1.6**
BOSA pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BOSA Boshof 75.52 238 *e*P **P** **17 28 13.6 +1.5**
comp=Z,4.5nm,0.7s,mb4.5
DPC Dobruska-Polom 76.28 320 *e*P **P** **17 28 16.1 +0.3**
UPC Upice 76.49 320 *e*P **P** **17 28 17.5 +0.5**
PRU Pruhonice 77.40 319 *e*P **P** **17 28 22.4 +0.2**
BRG Berggiesshubel 77.82 320 *e*P **P** **17 28 25.0 +0.5**
BRG *e* pP 17 28 35.0 +0.2
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BRG Berggiesshubel 77.82 320 *e*P **P** **17 28 25.0 +0.5**
comp=Z,5.3nm,1.1s,mb4.4
BRG *e* pP 17 28 35.0 +0.2
GERES GERESS Array B 77.90 318 P **P** **17 28 25.5 +0.6**
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 77.90 318 P **P** **17 28 25.5 +0.5**
comp=Z,2.3nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=9.8
KHC Kasperske Hory 77.99 319 *e*P **P** **17 28 29.6 +4.2**
CLL Collm 78.43 321 *e*P **P** **17 28 33.0 +5.2**
CLL Collm 78.43 321 *e*PP **P** **17 28 33.0 +5.2**
HFS Hagfors 78.54 330 P **P** **17 28 28.4 +0.2**
HFS pmax pmax
comp=Z,4.0nm,0.6s
HFS Hagfors 78.54 330 P **P** **17 28 28.4 +0.2**
comp=Z,3.6nm,0.6s,mb4.5,baz=90,slow=4.4,SNR=12
MOX Moxa 79.29 320 *e*P **P** **17 28 36.0 +3.4**
GRA1 Grafenberg Arr 79.54 319 *e*P **P** **17 28 34.8 +0.9**
comp=Z,5.0nm,0.9s,mb4.4
GRF Grafenberg Arr 79.54 319 *e*P **P** **17 28 34.8 +0.9**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
GRF Grafenberg Arr 79.54 319 *e*P **P** **17 28 34.8 +0.9**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
GRF Grafenberg Arr 79.54 319 *e*P **P** **17 28 34.8 +0.9**
comp=Z,5.0nm,0.9s,mb4.4
NB2 NORSAR Subarra 79.81 331 P **P** **17 28 34.1 -1.0**
comp=Z,8.2nm,1.0s,mb4.6,baz=93,slow=5.6
NB2 NORSAR Subarra 79.81 331 P **P** **17 28 34.1 -1.0**
NB2 pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
NOA NORSAR Array B 79.81 331 P **P** **17 28 34.4 -0.7**
NOA pmax pmax
comp=Z,4.0nm,0.9s
NOA NORSAR Array B 79.81 331 P **P** **17 28 34.4 -0.8**
comp=Z,3.8nm,0.9s,mb4.3,baz=93,slow=5.5,SNR=7.9
DAVOX Davos 80.46 316 P **P** **17 28 39.7 +0.8**
comp=Z,4.7nm,0.7s,mb4.5,baz=87,slow=9.5,SNR=4.1
LPG La Plagne 82.68 315 *e*P **P** **17 28 50.8 +0.3**
comp=Z,22nm,0.9s,mb4.9
LPG La Plagne 82.68 315 *e*P **P** **17 28 50.8 +0.3**
LPG pmax pmax
comp=Z,11nm,0.9s,mb4.9
SYO Syowa Base 85.31 197 ⇑P **P** **17 29 06.0 +2.8**
SYO Syowa Base 85.31 197 ⇓PcP PcP 17 29 10.0 +3.3
SYO Syowa Base 85.31 197 ⇓PP PP 17 32 24.9 +2.1
EKA Eskdalemuir Ar 87.80 325 P **P** **17 29 15.8 +0.2**
EKA pmax pmax
comp=Z,1.0nm,0.6s
EKA Eskdalemuir Ar 87.80 325 P **P** **17 29 15.8 +0.2**
comp=Z,1.1nm,0.6s,mb4.3,baz=90,slow=5.7,SNR=3.5
ESDC Sonseca Array 91.28 310 P **P** **17 29 33.5 +1.1**
comp=Z,2.3nm,0.9s,mb4.5,baz=78,slow=4.1,SNR=3.8
IMA Indian Mountai 91.72 22 *e*P **P** **17 29 35.3 +1.5**
ILAR Eielson Array 94.84 22 P **P** **17 29 49.6 +1.5**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.84 22 P **P** **17 29 49.5 +1.4**
comp=Z,0.7nm,0.8s,mb4.1,baz=301,slow=5.2,SNR=6.3
INK Inuvik 97.09 16 P **P** **17 30 00.3 +2.0**
INK pmax pmax
comp=Z,1.0nm,0.4s
INK Inuvik 97.09 16 P **P** **17 30 00.2 +2.0**
comp=Z,0.7nm,0.4s,mb4.4,baz=64,slow=4.0,SNR=3.8
NVAR Mina Array Bea 125.01 31 PKP PKPdf 17 35 30.5 +4.4
comp=Z,1.9nm,1.0s,baz=303,slow=1.3,SNR=4.7
PDAR Pinedale Array 125.27 21 PKP PKPdf 17 35 28.9 +2.4
comp=Z,1.5nm,0.9s,baz=48,slow=0.5,SNR=8.5
PLCA Paso Flores 144.45 200 PKIKP PKPdf 17 36 03.0 +1.1
PLCA pmax pmax
comp=Z,12nm,1.3s
PLCA Paso Flores 144.45 200 PKP PKPdf 17 36 03.0 +1.1
comp=Z,12nm,1.2s,baz=197,slow=4.7,SNR=4.8

IDC 28 17:20:38.7±1.6, 8.02N×93.70E, mb3.7/6, mb1 3.9/7, mb1mx3.7/18, mbtmp3.7/7, ML3.7/1, Error ellipse: s-maj=68.4km s-min=27.2km az=54.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.56**	**26**	Pn	P	17 23 20.9	-7.3
0.2nm,0.3s,baz=198,slow=24,SNR=3.6							
SONM	**Songino Array**	**41.12**	**13**	P	P	17 28 24.7	-1.3
0.8nm,0.9s,baz=198,slow=7.8,SNR=3.8							
ZAL	**Zalesovo**	**46.35**	**353**	P	P	17 29 06.7	-1.5
1.5nm,0.6s,baz=298,slow=8.0,SNR=5.2							
WRA	**Warramunga Arr**	**48.70**	**125**	P	P	17 29 25.0	-2.1
0.2nm,0.6s,baz=307,slow=8.4,SNR=2.7							
BVAR	**Borovoye Array**	**48.71**	**341**	P	P	17 29 24.1	-2.7
0.4nm,0.5s,baz=150,slow=12,SNR=2.5							
FINES	**FINESS Array B**	**72.38**	**332**	P	P	17 32 06.1	-2.2
1.8nm,0.6s,baz=104,slow=7.9,SNR=4.5							
GERES	**GERESS Array B**	**77.42**	**318**	P	P	17 32 36.4	-1.0
0.6nm,1.0s,baz=92,slow=6.2,SNR=3.9							

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*IDC **28** 17:22:59.7±1.1, 8.00N×93.76E, mb3.9/10, mb1 4.0/11, mb1mx3.9/19, mbtmp3.9/11, ML3.6/1, Error ellipse: s-maj=45.6km s-min=20.6km az=54.0*

*NEIC **28** 17:23:04.5±0.7, 8.06N×93.88E, h30km, mb4.3/3, Error ellipse: s-maj=18.4km s-min=13.6km az=73.0*

ISC 28 17:23:02.8±0.8, 8.1N±0.1×94.0E±0.2, h30km, n15, σ1§03/15, mb4.0/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.36**	**25**	Pn	P	**17 25 44.9**	**-1.4**
0.1nm,0.3s,baz=211,slow=14,SNR=4.3							
LSA	**Lhasa**	**21.64**	**353**	*e*P	P	**17 27 53.7**	**+0.9**
10nm,0.8s,mb4.3							
SONM	**Songino Array**	**40.97**	**13**	P	P	**17 30 45.6**	**+1.1**
0.9nm,0.9s,mb3.4,baz=188,slow=6.1,SNR=4.6							
KURK	**Kurchatov**	**44.35**	**346**	*e*P	P	**17 31 12.4**	**+0.3**
5.1nm,1.1s,mb4.2							
ZAL	**Zalesovo**	**46.30**	**352**	P	P	**17 31 28.0**	**+0.5**
1.4nm,0.8s,mb3.9,baz=299,slow=12							
ZAL	**Zalesovo**	**46.30**	**352**	P	P	**17 31 28.0**	**+0.5**
WRA	**Warramunga Arr**	**48.52**	**126**	P	P	**17 31 46.9**	**+1.4**
0.9nm,0.7s,mb3.9,baz=304,slow=9.2,SNR=6.8							
BVAR	**Borovoye Array**	**48.72**	**341**	P	P	**17 31 46.5**	**0.0**
0.5nm,0.7s,mb3.7,baz=153,slow=13,SNR=2.5							
ASAR	**Alice Springs**	**50.19**	**130**	P	P	**17 31 57.1**	**-1.1**
0.7nm,0.9s,mb3.7,baz=293,slow=7.7,SNR=5.0							
KMBO	**Kilima Mbogo**	**57.29**	**263**	P	P	**17 32 54.3**	**+3.6**
3.2nm,1.1s,mb4.2,baz=52,slow=19,SNR=2.6							
KMBO	**Kilima Mbogo**	**57.29**	**263**	*e*P	P	**17 32 49.1**	**-1.6**
2.3nm,0.9s,mb4.2							
FINES	**FINESS Array B**	**72.43**	**332**	P	P	**17 34 27.7**	**-0.4**
2.6nm,0.8s,mb4.2,baz=113,slow=11,SNR=3.5							
GERES	**GERESS Array B**	**77.55**	**318**	P	P	**17 34 58.3**	**+0.7**
1.4nm,0.8s,mb4.0,baz=90,slow=6.7,SNR=6.7							
HFS	**Hagfors**	**78.18**	**330**	P	P	**17 35 00.9**	**+0.2**
2.2nm,0.6s,mb4.2,baz=106,slow=11,SNR=4.1							
NOA	**NORSAR Array B**	**79.45**	**331**	P	P	**17 35 05.9**	**-1.9**
0.9nm,0.8s,mb3.8,baz=203,slow=21,SNR=3.0							

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*BJI **28** 17:26:10.8, 7.28N×93.82E, h30km, mB5.3, mb4.7, Ms5.1, Msz4.8*

*IDC **28** 17:26:12.5±0.4, 7.89N×94.03E, mb4.4/24, mb1 4.5/25, mb1mx4.5/27, mbtmp4.4/25, ML4.4/1, MS4.6/7, Ms1 4.6/7, ms1mx4.1/30, Error ellipse: s-maj=20.5km s-min=11.4km az=51.0*

*MOS **28** 17:26:16.3±1.4, 7.96N×94.02E, h33km, mb4.9/40, MS4.7/13, Error ellipse: s-maj=9.9km s-min=5.8km az=109.7*

*NEIC **28** 17:26:17.4±0.2, 7.89N×94.10E, h30km, mb4.8/31, MS4.5/1, Error ellipse: s-maj=7.8km s-min=6.2km az=64.0*

ISC 28 17:26:16.6±1.0, 7.89N±0.04×94.06E±0.04, h39km±8km, h28km±2.1km: pP-P, n192, σ1§18/186, mb4.8/72, MS4.8/21, 3C-4D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.54**	**96**	P	P	**17 27 53.0**	**+0.2**
510nm,0.9s							
NNT	**Nongplab**	**7.28**	**50**	P	P	**17 28 02.0**	**-1.1**
CM31	**Chiang Mai Arr**	**11.53**	**24**	P	P	**17 29 00.2**	**-1.5**
34nm,0.9s							
CMAR	**Chiang Mai Arr**	**11.53**	**24**	P	P	**17 29 00.4**	**-1.3**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**11.53**	**24**	Pn	P	**17 29 00.4**	**-1.3**
comp=Z,0.7nm,0.3s,baz=211,slow=14,SNR=40							
KKTK	**Khon Kaen**	**11.99**	**45**	P	P	**17 29 09.0**	**+1.1**
NANT	**Nan**	**12.62**	**30**	P	P	**17 29 19.5**	**+3.1**
PALK	**Pallekele**	**13.26**	**268**	*e*P	P	**17 29 28.8**	**+4.0**
comp=Z,38nm,1.3s							
VIS	**Vishakhapatnam**	**14.31**	**314**	*e*P	P	**17 29 40.9**	**+2.2**
VIS				*e*		17 29 49.6	
comp=Z,104nm,0.9s							
VIS				*e*		17 31 55.6	
IMP	**Imphal**	**16.80**	**360**	*e*	P	**17 30 10.7**	**+0.1**
SHL	**Shillong**	**17.70**	**354**	*i* P	P	**17 30 20.0**	**-1.9**
SHL				*i*		17 39 44.0	
HYB	**Hyderabad**	**17.83**	**304**	*e*P	P	**17 30 25.0**	**+1.4**
HYB				*e*S	S	**17 33 46.0**	**+7.6**
HYB	**Hyderabad**	**17.83**	**304**	*i* P	P	**17 30 25.0**	**+1.4**
HYB				*e*S	S	**17 33 46.0**	**+7.6**
QIZ	**Qiongzhong**	**18.91**	**53**	P	P	**17 30 37.0**	**+0.2**
QIZ				LR	LR		
comp=Z,3μm,13.7s							
KMI	**Kunming**	**19.04**	**25**	⇑P	P	**17 30 40.5**	**+2.3**
KMI				S	S	**17 34 06.7**	**+1.2**
KMI				pmax	pmax		
comp=Z,34nm,1.4s							
KMI	**Kunming**	**19.04**	**25**	⇑P	P	**17 30 40.5**	**+2.3**
comp=Z,34nm,1.4s							
KMI				pP		17 30 48.4	
KMI				sP		17 30 51.0	
KMI				PP	PP	17 30 57.9	+2.9
KMI				S	S	**17 34 06.7**	**+1.2**
KMI				sS		17 34 18.4	
KMI				SS	SS	17 34 31.2	-0.3
JIRN	**Jiri**	**21.03**	**340**	*e*P	P	**17 30 58.9**	**-0.5**
comp=Z,124nm,0.9s,mb5.2							
GOA	**Goa**	**21.19**	**293**	*e*	P	**17 31 18.8**	**+18**
comp=Z,64nm,1.6s,mb4.7							
GOA				*e*	S	**17 35 05.7**	**+16**
PKI	**Pulchoki**	**21.22**	**338**	*e*P	P	**17 31 01.0**	**-0.4**
comp=Z,99nm,0.7s,mb5.2							
DMN	**Daman**	**21.37**	**338**	*e*P	P	**17 31 02.7**	**-0.1**
comp=Z,117nm,0.8s,mb5.2							
KKN	**Kakani**	**21.47**	**338**	*e*P	P	**17 31 03.6**	**-0.2**
comp=Z,199nm,1.2s,mb5.3							
KAD	**Karad**	**21.52**	**298**	*e*P	P	**17 31 02.9**	**-1.5**
KAD				*e*		17 31 14.4	
comp=N,20nm,1.4s							
LSA	**Lhasa**	**21.87**	**353**	P	P	**17 31 08.0**	**+0.2**
LSA				AMB	AMB		
comp=Z,20nm,1.2s,mb4.4							
LSA	**Lhasa**	**21.87**	**353**	*e*P	P	**17 31 07.6**	**-0.2**
LSA				pmax	pmax		
comp=Z,41nm,0.8s,mb4.9							
LSA	**Lhasa**	**21.87**	**353**	*e*P	P	**17 31 07.6**	**-0.3**
comp=Z,41nm,0.8s,mb4.9							
GKN	**Gorkha**	**21.90**	**337**	*e*P	P	**17 31 08.3**	**+0.2**
comp=Z,80nm,0.6s,mb5.4							
BHPL	**Bhopal**	**22.09**	**316**	*e*P	P	**17 31 12.3**	**+2.2**
BHPL				*e*		17 31 16.0	
comp=Z,29nm,2.0s							
KOLN	**Koldanda**	**22.11**	**335**	*e*P	P	**17 31 10.7**	**+0.4**
comp=Z,104nm,0.8s,mb5.3							
POO	**Poona**	**22.31**	**300**	*e*P	P	**17 31 11.0**	**-1.3**
POO				⇓*i*P		17 31 13.0	
POO				*i*	S	**17 35 25.0**	**+15**
NDI	**New Delhi**	**26.08**	**325**	*e*	P	**17 31 48.5**	**-0.1**
ENH	**Enshi**	**26.55**	**31**	*e*P	P	**17 31 52.8**	**-0.1**
comp=Z,28nm,1.3s,mb4.6							
DDI	**Dehra Dun**	**26.89**	**328**	*e*	P	**17 31 56.8**	**+0.8**
TGY	**Tagaytay City**	**27.08**	**74**	LR	LR	17 43 04.2	
comp=Z,2μm,18.6s,MS4.6,baz=84,slow=37							
XAN	**Xi'an**	**29.41**	**26**	P	P	**17 32 19.8**	**+1.1**
XAN				AMB	AMB		
comp=Z,11nm,0.9s,mb4.6							
LZH	**Lanzhou**	**29.46**	**16**	*e*P	P	**17 32 20.0**	**+0.9**
LZH				AMB	AMB		
comp=Z,36nm,1.7s,mb4.8							
LZH	**Lanzhou**	**29.46**	**16**	*e*P	P	**17 32 20.0**	**+0.9**
LZH				*PP	pP	17 32 28.5	-1.3
LZH				*SP	sP	17 32 32.0	-2.8
LZH				pmax	pmax		
comp=Z,36nm,1.7s,mb4.8							
LZH	**Lanzhou**	**29.46**	**16**	*e*P	P	**17 32 20.0**	**+0.9**
comp=Z,36nm,1.7s,mb4.8							
LZH				pP	pP	17 32 28.5	-1.3
LZH				sP	sP	17 32 32.0	-2.8
NJ2	**Nanjing**	**33.31**	**40**	*e*P	P	**17 32 55.0**	**+2.0**
NJ2				AP	pP	17 33 05.3	+1.5
NJ2				PP	PP	17 34 08.3	+3.1
NJ2				S	S	**17 38 10.0**	**+0.2**
NJ2				AMB	AMB		
comp=Z,530nm,4.6s							
NJ2				LR	LR		
comp=N,3μm,13.9s,MS5.3							
NJ2				LR	LR		
comp=E,2μm,12.8s,MS5.3							
NJ2				LR	LR		
comp=Z,3μm,13.5s,MS5.2							
SSE	**Sheshan**	**34.27**	**44**	*e*P	P	**17 33 00.5**	**-0.8**
SSE				AMB	AMB		
comp=Z,23nm,0.7s,mb5.2							
SSE				AMB	AMB		
comp=Z,402nm,12.0s							
SSE	**Sheshan**	**34.27**	**44**	*e*P	P	**17 33 00.6**	**-0.7**
comp=Z,23nm,0.7s,mb5.2							
WMQ	**Urumqi**	**36.22**	**352**	P	P	**17 33 18.8**	**+1.0**
WMQ				AP	pP	17 33 28.5	-0.2
WMQ				PP	PP	17 34 41.5	+0.3
WMQ				PCP	PcP	17 35 44.5	+1.7
WMQ				S	S	**17 38 55.3**	**+0.6**
WMQ				AMB	AMB		
comp=Z,46nm,1.1s,mb5.3							
WMQ				AMB	AMB		
comp=Z,266nm,5.0s							
WMQ				LR	LR		
comp=N,764nm,17.5s,MS4.7							
WMQ				LR	LR		
comp=E,687nm,17.2s,MS4.7							
WMQ				LR	LR		
comp=Z,1μm,17.4s,MS4.7							
JOW	**Kunigami**	**37.51**	**56**	LR	LR	17 47 42.5	
comp=Z,1μm,21.9s,MS4.7,baz=64,slow=34							
BJI	**Beijing**	**37.63**	**28**	P	P	**17 33 32.2**	**+2.6**
BJI				pmax	pmax		
comp=Z,6.0nm,2.0s,mb4.0							
BJI				MLR	MLR		
comp=Z,910nm,21.7s,MS4.5							
BJI	**Beijing**	**37.63**	**28**	P	P	**17 33 32.2**	**+2.6**
comp=Z,6.0nm,2.0s,mb4.0							
BJI				LR	LR		
comp=Z,910nm,21.7s,MS4.5							
AAK	**Ala-Archa**	**38.66**	**337**	*e*P	P	**17 33 37.9**	**-0.3**
AAK				pmax	pmax		
comp=Z,13nm,1.3s,mb4.5							
AAK	**Ala-Archa**	**38.66**	**337**	*e*P	P	**17 33 37.9**	**-0.2**
comp=Z,13nm,1.3s,mb4.5							
MKAR	**Makanchi Array**	**40.05**	**347**	*i* P	P	**17 33 49.5**	**-0.2**
MKAR				pmax	pmax		
comp=Z,11nm,0.8s							
SONM	**Songino Array**	**41.16**	**13**	P	P	**17 33 59.2**	**+0.3**
comp=Z,7.6nm,0.9s,mb4.3,baz=199,slow=7.3,SNR=34							
SONM				PcP	PcP	17 35 58.8	+0.5
comp=Z,1.9nm,0.8s,baz=190,slow=3.4,SNR=3.9							
ULN	**Ulaanbaatar**	**41.34**	**13**	*i* P	P	**17 34 00.4**	**+0.1**
ULN	**Ulaanbaatar**	**41.34**	**13**	*e*P	P	**17 34 00.3**	**0.0**
comp=Z,6.0nm,1.0s,mb4.2							
ZAK	**Zakamensk**	**43.05**	**9**	*e*P	P	**17 34 13.2**	**-1.1**
ZAK				*e*		17 36 04.6	
TLY	**Talaya**	**44.37**	**9**	*e*P	P	**17 34 25.3**	**+0.4**
TLY				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.2							
TLY	**Talaya**	**44.37**	**9**	*e*P	P	**17 34 25.3**	**+0.4**
comp=Z,3.5nm,0.8s,mb4.1							
KURK	**Kurchatov**	**44.58**	**346**	*e*P	P	**17 34 26.6**	**0.0**

KURK				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.2						
KURK	Kurchatov	44.58	346	*e*P	P	17 34 26.6	-0.1
	comp=Z,39nm,1.1s,mb5.2						
MUN	Mundaring	44.93	153	*e*P	P	17 34 30.7	+0.9
	comp=Z,15nm,1.3s,mb4.7						
MUN	Mundaring	44.93	153	*e*P	P	17 34 30.7	+0.9
MUN				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.7						
KLBR	Kellerberrin	45.33	151	*e*P	P	17 34 32.9	0.0
	comp=Z,157nm,1.2s,mb5.7						
NWAO	Narrogin (SRO)	46.20	153	P	P	17 34 40.9	+1.1
NWAO				pmax	pmax		
	comp=Z,22nm,0.9s						
NWAO				MLR	MLR		
	comp=Z,4.0nm,18.6s						
NWAO	Narrogin (SRO)	46.20	153	P	P	17 34 40.9	+1.1
	comp=Z,22nm,0.8s,baz=336,slow=8.6,SNR=8.5						
NWAO				LR	LR	17 54 48.7	
	comp=Z,4.4nm,18.6s,baz=159,slow=37						
NWAO	Narrogin (SRO)	46.20	153	*e*P	P	17 34 42.2	+2.4
	comp=Z,41nm,1.3s,mb5.2						
ZAL	Zalesovo	46.52	352	P	P	17 34 42.5	+0.5
	baz=296,slow=9.8						
HIA	Hailar	46.54	23	*e*P	P	17 34 42.8	+0.6
HIA				pmax	pmax		
	comp=Z,16nm,0.8s						
HIA	Hailar	46.54	23	*e*P	P	17 34 42.8	+0.5
	comp=Z,16nm,0.8s,mb5.0						
NVS	Novosibirsk	47.62	352	*i* P	P	17 34 49.5	-1.2
NVS				*i* S	S	17 41 43.7	+1.3
NVS				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.2						
NVS				pmax	pmax		
	comp=N,20nm,1.2s						
NVS				pmax	pmax		
	comp=E,13nm,1.2s						
NVS				smax			
	comp=N,27nm,1.7s						
NVS				smax			
	comp=E,35nm,1.7s						
MDJ	Mudanjiang	47.84	34	P	P	17 34 52.0	-0.5
MDJ				PCP	PcP	17 36 20.5	-0.7
MDJ				PP	PP	17 36 41.8	-2.0
MDJ				SCP		17 40 12.5	
MDJ				PCS		17 40 16.3	
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,233nm,13.2s						
MDJ				LR	LR		
	comp=N,772nm,15.3s,MS5.0						
MDJ				LR	LR		
	comp=E,984nm,17.4s,MS5.0						
MDJ				LR	LR		
	comp=Z,815nm,16.9s,MS4.8						
WRA	Warramunga Arr	48.34	125	P	P	17 34 55.8	-0.9
WRA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WRA	Warramunga Arr	48.34	125	P	P	17 34 55.8	-0.9
	comp=Z,1.9nm,0.4s,mb4.4,baz=300,slow=9.8,SNR=18						
WRAB	Tennant Creek	48.34	125	*i* P	P	17 34 55.4	-1.3
WRAB	Tennant Creek	48.34	125	*e*P	P	17 34 55.3	-1.4
	comp=Z,20nm,1.1s,mb5.1						
WB2	Warramunga Arr	48.34	125	*e*P	P	17 34 54.6	-2.2
BVA0	Borovoye Array	48.95	341	*i* P	P	17 35 00.3	-0.7
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.0						
BVAR	Borovoye Array	48.95	341	P	P	17 35 00.5	-0.5
	comp=Z,7.7nm,1.1s,mb4.7,baz=135,slow=6.3,SNR=13						
RAYN	Ar Rayn	49.01	294	P	P	17 35 03.5	+1.7
	comp=Z,109nm,0.7s,SNR=18						
MAT	Matsushiro	49.21	48	PCP	PcP	17 36 26.8	+0.5
CHKZ	Chkalovo	49.43	342	P	P	17 35 04.4	-0.3
CHKZ				pmax	pmax		
	comp=Z,32nm,1.4s,mb5.2						
CHKZ	Chkalovo	49.43	342	*e*P	P	17 35 04.0	-0.7
	comp=Z,24nm,1.1s,mb5.2						
ASPA	Alice Springs	49.98	130	*e*P	P	17 35 12.0	+2.6
ASAR	Alice Springs	49.99	130	P	P	17 35 08.1	-1.3
	comp=Z,4.6nm,0.8s,mb4.6,baz=304,slow=7.5,SNR=21						
ASAR				PcP	PcP	17 36 28.0	-1.2
	comp=Z,3.7nm,1.0s,baz=306,slow=5.5,SNR=2.8						
ASAR				LR	LR	17 59 07.2	
	comp=Z,466nm,19.6s,MS4.5,baz=204,slow=40						
KLR	Kul'dur	51.91	31	*e*P	P	17 35 19.2	-4.4
KLR				MLR	MLR		
	comp=Z,1μm,13.5s,MS5.1						
BOD	Bodaibo	52.15	13	*e*P	P	17 35 24.0	-1.3
GNI	Garni	54.37	314	P	P	17 35 40.3	-1.7
GNI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GNI				MLR	MLR		
	comp=Z,273nm,21.7s						
GNI	Garni	54.37	314	P	P	17 35 40.3	-1.6
	comp=Z,4.1nm,0.8s,mb4.4,baz=150,slow=14,SNR=3.1						
GNI				LR	LR	17 58 46.4	
	comp=Z,273nm,21.7s,MS4.3,baz=235,slow=36						
GNI	Garni	54.37	314	P	P	17 35 40.3	-1.6
GNI				*e*		17 35 56.8	
GNI				LR	LR	17 58 46.4	
CLNS	Chul'man	54.45	20	*e*P	P	17 35 39.3	-3.0
CLNS				*e**PP	pP	17 35 48.3	-5.3
CLNS				*e*		17 37 50.1	
CLNS				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.2						
CLNS				pmax	pmax		
	comp=N,12nm,0.9s						
CLNS				pmax	pmax		
	comp=E,16nm,1.4s						
CLNS				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
CLNS				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.7						
SVE	Sverdlovsk	55.36	338	*e*P	P	17 35 45.0	-3.9
SVE				pmax	pmax		
	comp=Z,60nm,2.0s,mb5.3						
SVE				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.9						
PMG	Port Moresby	55.61	107	P	P	17 35 50.9	-0.4
PMG				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PMG	Port Moresby	55.61	107	P	P	17 35 50.9	-0.4
	comp=Z,10nm,0.9s,mb4.9,baz=345,slow=16,SNR=4.6						
PMG	Port Moresby	55.61	107	*e*P	P	17 35 50.3	-1.0
	comp=Z,11nm,0.8s,mb5.0						
ARU	Arti	55.84	337	⇓*i*P	P	17 35 45.3	-7.1
ARU				*e*		17 37 51.1	
ARU				*e*S	S	17 43 28.7	-6.5
ARU				*e*SS	SS	17 47 18.7	-2.3
ARU				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
YSS	Yuzh-Sakhalins	56.82	38	P	P	17 36 01.3	+1.7
YSS				*e*	pP	17 36 09.8	-1.1
YSS				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.7						
KIV	Kislovodsk	57.25	318	*i* P	P	17 36 00.8	-1.9
KIV				*e*	pP	17 36 09.2	-4.9
KIV				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.7						
KMBO	Kilima Mbogo	57.34	264	P	P	17 36 03.8	+0.1
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KMBO				MLR	MLR		
	comp=Z,770nm,20.9s						
KMBO	Kilima Mbogo	57.34	264	P	P	17 36 03.8	0.0
	comp=Z,1.9nm,0.6s,mb4.3,baz=316,slow=18,SNR=5.5						
KMBO				LR	LR	17 56 28.7	
	comp=Z,770nm,20.9s,MS4.8,baz=95,slow=32						
ASF	Jabal al Asfar	58.14	303	P	P	17 36 08.7	-0.4
	comp=Z,1.2nm,0.6s,mb4.1,baz=22,slow=12,SNR=2.7						
CTA	Charters Tower	58.38	119	P	P	17 36 13.3	+2.4
CTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CTA	Charters Tower	58.38	119	P	P	17 36 13.3	+2.4
	comp=Z,4.9nm,1.1s,mb4.5,baz=322,slow=9.7,SNR=3.6						
CTA	Charters Tower	58.38	119	P	P	17 36 13.3	+2.4
MALT	Malatya	58.39	310	*e*P	P	17 36 11.3	+0.6
MALT				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
MALT	Malatya	58.39	310	*e*P	P	17 36 11.3	+0.6
	comp=Z,8.2nm,1.3s,mb4.6						
SOC	Sochi	59.11	317	*e*P	P	17 36 10.9	-4.8
SOC				*e*		17 37 04.1	
SOC				*e*		17 38 20.1	
SOC				*e*S	S	17 44 15.7	-2.7
SOC				*e*		17 45 57.0	
SOC				*e*SS	SS	17 48 12.8	-1.6
SOC				*e*SSS	SSS	17 50 44.8	+3.8
SOC				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
SOC				pmax	pmax		
	comp=N,22nm,0.8s						
SOC				pmax	pmax		
	comp=E,22nm,1.1s						
SOC				MLR	MLR		
	comp=Z,417nm,18.0s,MS4.6						
SOC				MLR	MLR		
	comp=N,255nm,16.0s,MS4.5						
SOC				MLR	MLR		
	comp=E,176nm,17.0s,MS4.5						
EIL	Elat	59.35	300	P	P	17 36 17.3	-0.2
	comp=E,2.3nm,0.7s,mb4.3,baz=173,slow=8.1,SNR=4.1						
EIL				LR	LR	18 02 43.0	
	comp=E,676nm,18.3s,MS4.8,baz=98,slow=37						
EIL	Elat	59.35	300	*e*P	P	17 36 18.5	+1.0
	comp=E,5.5nm,0.8s,mb4.6						
YAK	Yakutsk	60.01	18	*e*P	P	17 36 20.5	-1.1
YAK				*e**PP	pP	17 36 27.5	-5.5
YAK				*e*PPP	PPP	17 39 57.4	-4.7
YAK				*e*S	S	17 44 32.9	+3.3
YAK				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK				smax			
	comp=N,3.0nm,1.1s						
YAK				MLR	MLR		
	comp=N,400nm,15.0s,MS4.9						
YAK				MLR	MLR		
	comp=E,480nm,15.0s,MS4.9						
YAK	Yakutsk	60.01	18	*e*P	P	17 36 20.4	-1.2
	comp=E,38nm,0.8s,mb5.5						
STKA	Stephens Creek	60.17	134	*e*P	P	17 36 21.9	-1.3
	comp=E,4.5nm,0.9s,mb4.5						
STKA	Stephens Creek	60.17	134	P	P	17 36 21.9	-1.3
	comp=E,3.2nm,0.7s,mb4.4,baz=327,slow=9.7,SNR=5.2						
VRSR	Storozhevoye	62.32	324	*e*P	P	17 36 35.6	-1.7
VRSR				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
VRSR				pmax	pmax		
	comp=N,8.0nm,0.7s						
VRSR				pmax	pmax		
	comp=E,7.0nm,1.0s						
BRTR	Keskin Array B	62.36	311	P	P	17 36 35.8	-1.9
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRTR	Keskin Array B	62.36	311	P	P	17 36 35.8	-1.9
	comp=Z,2.0nm,0.9s,mb4.2,baz=112,slow=6.7,SNR=7.0						
MBAR	Mbarara	63.68	265	*e*P	P	17 36 48.9	+1.9
MBAR				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
MBAR	Mbarara	63.68	265	*e*P	P	17 36 48.9	+1.9
	comp=Z,13nm,1.2s,mb4.8						
MOS	Moscow	65.02	329	*e*P	P	17 36 52.2	-2.8
MOS				*e*		17 37 25.1	
MOS				pmax	pmax		
	comp=Z,61nm,1.2s,mb5.5						
MOS				MLR	MLR		
	comp=Z,1μm,20.3s,MS5.0						
OBN	Obninsk	65.32	328	⇑*i*P	P	17 36 53.5	-3.4
OBN				*e*		17 39 22.0	
OBN				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.1						
OBN				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.6						
OBN	Obninsk	65.32	328	*e*P	P	17 36 53.2	-3.7
MA2	Magadan	66.79	28	*e*P	P	17 37 05.7	-0.4
MA2				*e*S	S	17 45 56.5	+2.4
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MA2	Magadan	66.79	28	*e*P	P	17 37 05.4	-0.7
	comp=Z,14nm,1.0s,mb5.0						
TIXI	Tiksi	67.23	11	⇓*i*P	P	17 37 07.8	-0.9
TIXI				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.3						
TIXI				MLR	MLR		
	comp=Z,561nm,13.0s,MS5.0						
AKASG	Malin Array Be	68.09	322	P	P	17 37 13.1	-1.4
AKASG						17 39 43.6	
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKASG	Malin Array Be	68.09	322	P	P	17 37 13.1	-1.4
	comp=Z,2.5nm,0.8s,mb4.3,baz=92,slow=4.6,SNR=14						
AKASG				PP	PP	17 39 43.6	-3.3
	comp=Z,0.4nm,0.6s,baz=264,slow=16,SNR=2.8						
IDI	Anoyia	68.49	305	P	P	17 37 17.2	0.0
	comp=Z,6.2nm,0.6s,mb4.8,baz=42,slow=3.3,SNR=7.3						
PET	Petropavlovsk	68.57	36	*e*P	P	17 37 07.2	-10
PET				MLR	MLR		
	comp=Z,600nm,19.0s,MS4.8						
MLR	Muntele Rosu	69.10	316	P	P	17 37 20.6	-0.2
MLR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MLR	Muntele Rosu	69.10	316	P	P	17 37 20.6	-0.2
	comp=Z,6.9nm,1.0s,mb4.5,baz=89,slow=4.8,SNR=7.3						
LSZ	Lusaka	69.20	250	*e*P	P	17 37 23.0	+1.1
LSZ				pmax	pmax		
	comp=Z,28nm,1.7s,mb4.9						
LSZ	Lusaka	69.20	250	*e*P	P	17 37 23.0	+1.1
	comp=Z,28nm,1.7s,mb4.9						
JOF	Joensuu	70.80	334	*e*p	P	17 37 31.1	+0.3
	comp=Z,13nm,0.8s,mb4.9						
KOLS	Kolonicke sedl	72.14	319	*e*P	P	17 37 37.3	-1.8
SUW	Suwalki	72.45	324	*e*P	P	17 37 39.0	-1.8
FINES	FINESS Array B	72.66	332	P	P	17 37 41.8	-0.1
FINES				pmax	pmax		
	comp=Z,9.0nm,1.0s						
FINES	FINESS Array B	72.66	332	P	P	17 37 41.8	-0.1
	comp=Z,8.5nm,1.0s,mb4.6,baz=90,slow=5.7,SNR=12						
CRVS	Cervenica-Dubn	72.67	319	*e*P	P	17 37 45.0	+2.8
KAF	Kangasniemi	72.74	333	*e*p	P	17 37 43.6	+1.2
	comp=Z,12nm,1.0s,mb4.8						
KAF	Kangasniemi	72.74	333	*e*P	P	17 37 43.6	+1.2
KAF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
OJC	Ojcow	73.91	320	*e*P	P	17 37 49.7	+0.2
LBTB	Lobatse	74.18	241	*e*P	P	17 37 53.5	+1.9
LBTB				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
LBTB	Lobatse	74.18	241	*e*P	P	17 37 53.5	+1.9
	comp=Z,7.3nm,0.8s,mb4.7						
VYHS	Vyhne	74.34	318	*e*P	P	17 37 52.1	+0.1
KEV	Kevo	74.80	341	*e*p	P	17 38 03.0	+8.8
	comp=Z,10nm,0.9s,mb4.8						
KEV	Kevo	74.80	341	*e*P	P	17 38 03.0	+8.8
KEV				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
OKC	Ostrava-Krasne	74.93	319	*e*P	P	17 37 55.4	0.0
ARCES	ARCESS Array B	75.22	340	P	P	17 37 57.1	+0.4
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES	ARCESS Array B	75.22	340	P	P	17 37 57.0	+0.3
	comp=Z,3.0nm,0.7s,mb4.4,baz=90,slow=6.1,SNR=7.5						
MORC	Moravsky Berou	75.31	319	*e*P	P	17 37 58.0	+0.4
MORC				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.8						
MORC	Moravsky Berou	75.31	319	*e*P	P	17 37 58.0	+0.4
	comp=Z,16nm,1.4s,mb4.8						
DPC	Dobruska-Polom	76.14	320	*e*P	P	17 38 02.9	+0.6
UPC	Upice	76.35	320	*e*P	P	17 38 04.4	+0.9
PRU	Pruhonice	77.26	319	*e*P	P	17 38 08.9	+0.3
PVCC	Panska Ves	77.27	320	*e*P	P	17 38 08.3	-0.4
BRG	Berggiesshubel	77.69	320	*e*P	P	17 38 11.4	+0.4
BRG				*e*		17 38 18.1	
BRG				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
BRG	Berggiesshubel	77.69	320	*e*P	P	17 38 11.4	+0.4
	comp=Z,6.0nm,1.2s,mb4.4						
BRG				*e*		17 38 18.1	
GERES	GERESS Array B	77.76	318	P	P	17 38 11.1	-0.3
GERES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GERES	GERESS Array B	77.76	318	P	P	17 38 11.1	-0.3
	comp=Z,2.5nm,0.8s,mb4.2,baz=90,slow=5.3,SNR=17						
KHC	Kasperske Hory	77.85	318	*e*P	P	17 38 12.0	+0.1
CLL	Collm	78.30	321	*e*P	P	17 38 14.0	-0.3
CLL				*e*	pP	17 38 24.0	-2.0
CLL	Collm	78.30	321	P	P	17 38 10.0	-4.3
CLL	Collm	78.30	321	P	P	17 38 14.0	-0.3
CLL				*e*	pP	17 38 24.0	-2.0
HFS	Hagfors	78.40	330	P	P	17 38 14.7	0.0
HFS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HFS	Hagfors	78.40	330	P	P	17 38 14.7	0.0
	comp=Z,8.6nm,1.0s,mb4.7,baz=108,slow=4.7,SNR=15						
MAW	Mawson	78.53	192	P	P	17 38 14.8	-0.5
MAW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MAW				MLR	MLR		
	comp=Z,347nm,19.6s						
MAW	Mawson	78.53	192	P	P	17 38 14.8	-0.5
	comp=Z,3.2nm,0.8s,mb4.3,baz=5.5,slow=19,SNR=2.4						
MAW				LR	LR	18 07 17.2	
	comp=Z,347nm,19.6s,MS4.7,baz=59,slow=31						
MOX	Moxa	79.16	320	*e*P	P	17 38 16.6	-2.4
MOX	Moxa	79.16	320	*i* P	P	17 38 16.6	-2.4
GRA1	Grafenberg Arr	79.40	319	*e*P	P	17 38 20.8	+0.4
	comp=Z,6.0nm,1.0s,mb4.5						
GRF	Grafenberg Arr	79.40	319	*e*P	P	17 38 20.8	+0.4
GRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
GRF	Grafenberg Arr	79.40	319	*e*P	P	17 38 20.8	+0.4
GRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
GRF	Grafenberg Arr	79.40	319	*e*P	P	17 38 20.8	+0.4
	comp=Z,6.0nm,1.0s,mb4.5						
NB2	NORSAR Subarra	79.68	331	P	P	17 38 20.8	-0.8
	comp=Z,0.5nm,0.6s,baz=90,slow=6.5						
NB2	NORSAR Subarra	79.68	331	P	P	17 38 20.8	-0.8
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	NORSAR Array B	79.68	331	P	P	17 38 21.3	-0.3
NOA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NOA	NORSAR Array B	79.68	331	P	P	17 38 21.2	-0.4
	comp=Z,6.4nm,0.9s,mb4.5,baz=92,slow=5.6,SNR=10						
DAVOX	Davos	80.32	316	P	P	17 38 25.7	+0.3
	comp=Z,5.5nm,0.9s,mb4.5,baz=91,slow=1.7,SNR=5.2						
LPG	La Plagne	82.55	315	*e*P	P	17 38 40.0	+3.0
	comp=Z,20nm,0.9s,mb4.9						
LPG	La Plagne	82.55	315	*e*P	P	17 38 40.0	+3.0
LPG				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
SYO	Syowa Base	85.40	197	⇓PcP	PcP	17 38 59.1	+4.8
TNA	Tin City	86.19	24	*e*P	P	17 38 56.0	+1.3
ILAR	Eielson Array	94.76	22	P	P	17 39 35.3	+0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	Eielson Array	94.76	22	P	P	17 39 35.2	+0.3
	comp=Z,0.6nm,0.6s,mb4.2,baz=297,slow=4.0,SNR=7.8						
YKA	Yellowknife Ar	106.43	13	PP	PP	17 44 53.4	-1.7
	comp=Z,0.2nm,0.5s,baz=333,slow=7.7,SNR=5.6						
ULM	Lac du Bonnet	121.46	7	PKP	PKPdf	17 45 06.3	+0.2
	comp=Z,1.9nm,0.6s,baz=164,slow=1.0,SNR=4.5						
ULM	Lac du Bonnet	121.46	7	PKP	PKPdf	17 45 06.3	+0.2
NVAR	Mina Array Bea	124.95	31	PKP	PKPdf	17 45 16.7	+3.5
	comp=Z,1.0nm,0.6s,baz=349,slow=0.9,SNR=7.0						
NVAR	Mina Array Bea	124.95	31	PKP	PKPdf	17 45 16.7	+3.5
PDAR	Pinedale Array	125.18	21	PKP	PKPdf	17 45 15.9	+2.4
	comp=Z,1.5nm,0.8s,baz=51,slow=1.8,SNR=7.7						
TXAR	Lajitas Array	139.24	24	PKP	PKPdf	17 45 41.9	+1.6
	comp=Z,0.7nm,0.7s,baz=287,slow=0.7,SNR=4.5						
JCT	Junction City	139.60	19	*e*PKIKP	PKPdf	17 45 43.6	+2.7
PLCA	Paso Flores	144.53	200	PKP	PKPdf	17 45 50.7	+1.4
	comp=Z,5.4nm,0.8s,baz=273,slow=3.1,SNR=6.6						
PLCA	Paso Flores	144.53	200	*e*PKPdf	PKPdf	17 45 51.0	+1.8
LVC	Limon Verde	158.03	226	PKPab	PKPab	17 46 47.5	+1.7
	comp=Z,3.1nm,0.9s,baz=222,slow=16,SNR=2.6						
LPAZ	La Paz	160.70	243	PKIKP	PKPdf	17 46 15.7	+2.7
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LPAZ	La Paz	160.70	243	PKP	PKPdf	17 46 15.7	+2.7
	comp=Z,0.7nm,0.7s,baz=180,slow=20,SNR=3.0						
LPAZ				PKPab	PKPab	17 47 01.3	+3.9
	comp=Z,0.9nm,0.7s,baz=96,slow=3.2,SNR=4.8						
LPAZ	La Paz	160.70	243	*e*PKPdf	PKPdf	17 46 16.1	+3.0

OTT 28 17:30:15.5±0.8**, 47.62N×92.77W, MN3.0**/7**, Blast, Minnesota, U.S. Mining explosion., Minnesota**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKO	Atikokan Iron	1.44	32	PG	Pg	17 30 41.1	-3.1
ATKO				SG	Sg	17 31 00.9	-2.5
ATKO				Trac		17 31 04.4	
	comp=Z,95nm,0.4s						
EPLO	Experimental L	2.16	343	PN	Pn	17 30 52.5	-0.7
EPLO				SN	Sn	17 31 22.9	+2.0
EPLO				Trac		17 31 36.3	
	comp=Z,16nm,0.3s						
SOLO	Sioux Lookout	2.45	10	PN	Pn	17 30 56.4	-1.0
SOLO				SG	Sg	17 31 31.1	-6.0
SOLO				Trac		17 31 38.1	
	comp=Z,18nm,0.3s						
TBO	Thunder Bay	2.48	64	PN	Pn	17 30 57.2	-0.5
TBO				SN	Sn	17 31 29.6	+0.4
TBO				Trac		17 31 32.6	
	comp=Z,66nm,0.3s						
ULM	Lac du Bonnet	3.34	323	PN	Pn	17 31 09.1	-0.9
RLKO	Red Lake	3.52	350	PN	Pn	17 31 08.9	-3.7
RLKO				SN	Sn	17 31 51.0	-4.5
RLKO				Trac		17 32 06.4	
	comp=Z,35nm,0.6s						
RLKO				SG	Sg	17 32 06.9	-5.8
PKLO	Pickle Lake	4.19	21	PN	Pn	17 31 18.7	-3.5
PKLO				SN	Sn	17 32 07.7	-5.0
PKLO				SG	Sg	17 32 24.5	-11
PKLO				Trac		17 32 28.7	
	comp=Z,23nm,0.3s						
GTO	Geraldton	4.40	59	PG	Pg	17 31 30.8	-13
GTO				SG	Sg	17 32 28.2	-14
GTO				Trac		17 32 31.6	
	comp=Z,8.7nm,0.2s						
PNPO	Pukaskwa Natio	4.45	75	SN	Sn	17 32 10.8	-8.4
PNPO				SG	Sg	17 32 28.5	-15
KAPO	Kapuskasing	7.06	71	SN	Sn	17 33 14.6	-10
KAPO				SG	Sg	17 33 52.0	-18
VIMO	Victor Mine	7.78	45	SN	Sn	17 33 32.9	-10
VIMO				SG	Sg	17 34 11.8	-23
SILO	Sutton Inlier	8.46	33	PN	P	17 32 16.1	-6.2
SILO				SN	Sn	17 33 45.8	-14
SILO				SG	Sg	17 34 35.6	-22
VLDQ	Val d'Or	10.31	82	SN	S	17 34 26.1	-19

*BJI **28** 17:31:50.2, 7.06N×93.80E, h32km, mB5.2, mb4.6, Ms4.9, Msz4.7*

*IDC **28** 17:31:54.3±0.4, 7.96N×94.12E, mb4.6/23, mb1 4.7/24, mb1mx4.7/25, mbtmp4.6/24, ML4.5/1, MS3.9/1, Ms1 4.1/1, ms1mx2.7/30, Error ellipse: s-maj=22.2km s-min=10.9km az=49.0*

*NEIC **28** 17:31:59.3±2.8, 8.01N×94.25E, h32km±19km, mb4.8/41, Error ellipse: s-maj=8.6km s-min=4.6km az=55.0*

ISC 28 17:31:57.9±1.4**, 8.01N**±0.05×**94.30E**±0.05**, h35**km±12km**, h24**km±2.7km**: pP-P, n115, σ0.89**/104**, mb4.7**/63**, MS4.9**/2**, 1C-2D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.32	23	*e*Pn	P	17 34 38.7	-1.7
	11nm,0.7s						
CMAR	Chiang Mai Arr	11.32	23	Pn	P	17 34 40.5	+0.2
	0.9nm,0.3s,baz=211,slow=14,SNR=24						
CMAR				LR	LR	17 39 01.8	
	comp=Z,617nm,19.5s,baz=200,slow=37						
HYB	Hyderabad	17.97	303	*i* P	P	17 36 09.0	+2.1
QIZ	Qiongzhong	18.64	52	P	P	17 36 21.3	+6.1
KMI	Kunming	18.83	24	P	P	17 36 22.5	+5.1
	19nm,1.3s						
KMI				pP		17 36 27.7	
KMI				S	S	17 39 51.5	+9.0
JIRN	Jiri	21.00	340	*e*P	P	17 36 40.9	+0.1
	92nm,1.0s						
PKI	Pulchoki	21.20	338	*e*P	P	17 36 43.0	+0.2
	78nm,0.8s,mb5.1						
DMN	Daman	21.35	337	*e*P	P	17 36 45.2	+0.9
	59nm,0.8s,mb5.0						
KKN	Kakani	21.45	338	*e*P	P	17 36 46.0	+0.7
	62nm,1.0s,mb4.9						
LSA	Lhasa	21.78	353	*e*P	P	17 36 49.0	+0.5

16nm,0.7s,mb4.5
GKN Gorkha 21.88 337 *e*P **P 17 36 49.9 +0.2**
51nm,0.7s,mb5.1
KOLN Koldanda 22.11 334 *e*P **P 17 36 52.5 +0.6**
43nm,0.7s,mb5.0
ENH Enshi 26.32 31 *e*P **P 17 37 33.9 +1.4**
14nm,1.0s,mb4.5
NJ2 Nanjing 33.06 40 *e*P **P 17 38 35.5 +2.9**
NJ2 AP pP 17 38 43.0 +0.4
NJ2 XP sP 17 38 46.3 -0.8
NJ2 PP PP 17 39 47.5 +3.7
NJ2 S **S 17 43 48.0 0.0**
NJ2 AMB AMB
comp=Z,620nm,4.9s
NJ2 LR LR
comp=N,2μm,12.1s,MS5.2
NJ2 LR LR
comp=E,2μm,11.7s,MS5.2
NJ2 LR LR
comp=Z,3μm,10.8s,MS5.2
WMQ Urumqi 36.14 352 *e*P **P 17 38 59.5 +0.7**
WMQ AP pP 17 39 09.3 +0.5
WMQ XP sP 17 39 13.3 0.0
WMQ PP PP 17 40 22.3 +0.7
WMQ S **S 17 44 36.0 +0.6**
WMQ AMB AMB
comp=Z,37nm,1.1s,mb5.2
WMQ AMB AMB
comp=Z,214nm,5.0s
WMQ LR LR
comp=N,531nm,17.5s,MS4.6
WMQ LR LR
comp=E,633nm,17.2s,MS4.6
WMQ LR LR
comp=Z,885nm,17.4s,MS4.6
BJI Beijing 37.41 28 P **P 17 39 13.0 +3.5**
comp=Z,10.0nm,1.3s,mb4.5
AAK Ala-Archa 38.64 336 *e*P **P 17 39 19.5 -0.2**
comp=Z,2.8nm,0.5s,mb4.2
SONM Songino Array 40.99 12 P **P 17 39 40.3 +1.1**
comp=Z,3.2nm,1.0s,mb3.9,baz=197,slow=7.0,SNR=8.1
SONM PcP PcP 17 41 40.2 +0.7
comp=Z,3.7nm,0.9s,baz=200,slow=3.3,SNR=10
ULN Ulaanbaatar 41.17 13 *e*P **P 17 39 40.8 +0.2**
comp=Z,1.5nm,0.7s,mb3.7
TLY Talaya 44.21 8 P **P 17 40 05.2 -0.2**
comp=Z,2.3nm,0.7s,mb4.0
KURK Kurchatov 44.52 346 *e*P **P 17 40 06.3 -1.5**
comp=Z,27nm,1.3s,mb4.9
MUN Mundaring 44.93 153 *e*P **P 17 40 13.4 +1.9**
comp=Z,17nm,1.2s,mb4.7
KLBR Kellerberrin 45.32 151 *e*P **P 17 40 15.6 +1.0**
comp=Z,94nm,0.6s,mb5.8
NWAO Narrogin (SRO) 46.19 153 P **P 17 40 22.3 +0.8**
comp=Z,10nm,0.5s,mb5.0,baz=323,slow=11,SNR=13
NWAO Narrogin (SRO) 46.19 153 *e*P **P 17 40 21.6 +0.1**
comp=Z,35nm,1.4s,mb5.1
HIA Hailar 46.33 23 *e*P **P 17 40 22.2 -0.2**
comp=Z,8.0nm,0.8s,mb4.7
MDJ Mudanjiang 47.60 34 P **P 17 40 31.5 -0.9**
MDJ AP pP 17 40 40.3 -2.4
MDJ XP sP 17 40 44.5 -2.5
MDJ PCP PcP 17 41 58.5 -3.7
MDJ PP PP 17 42 22.8 -0.5
MDJ SCP 17 45 52.3
MDJ PCS 17 45 55.8
MDJ S **S 17 47 25.5 +1.0**
MDJ SCS ScS 17 50 21.5 +1.0
MDJ AMB AMB
comp=Z,6.0nm,1.7s,mb4.3
MDJ AMB AMB
comp=Z,70nm,5.6s
MDJ LR LR
comp=N,772nm,14.1s
MDJ LR LR
comp=E,984nm,19.5s
MDJ LR LR
comp=Z,868nm,20.4s
WRA Warramunga Arr 48.21 126 P **P 17 40 37.0 -0.5**
comp=Z,7.5nm,0.9s,mb4.7,baz=304,slow=9.2,SNR=23
WRA PcP PcP 17 42 04.3 -0.3
comp=Z,2.1nm,0.9s,baz=313,slow=3.2,SNR=4.8
WRAB Tennant Creek 48.21 126 *e*P **P 17 40 36.3 -1.2**
comp=Z,18nm,0.9s,mb5.1
WB2 Warramunga Arr 48.22 126 *e*P **P 17 40 37.0 -0.5**
BVAR Borovoye Array 48.91 341 P **P 17 40 41.9 -0.6**
comp=Z,1.9nm,0.8s,mb4.2,baz=158,slow=8.0,SNR=5.5
BVAR PcP PcP 17 42 06.1 -0.7
comp=Z,1.8nm,0.7s,baz=135,slow=6.3,SNR=4.6
RAYN Ar Rayn 49.18 294 P **P 17 40 45.5 +0.6**
comp=Z,142nm,0.8s,SNR=22
CHKZ Chkalovo 49.40 342 *e*P **P 17 40 45.6 -0.6**
comp=Z,21nm,1.3s,mb5.0
ASPA Alice Springs 49.88 130 *e*P **P 17 40 49.0 -1.3**
ASAR Alice Springs 49.88 130 P **P 17 40 49.4 -0.9**
comp=Z,4.8nm,0.8s,mb4.6,baz=308,slow=7.3,SNR=19
ASAR PcP PcP 17 42 10.7 0.0
comp=Z,4.5nm,0.8s,baz=306,slow=3.6,SNR=14
FORT Forrest 50.34 142 *e*P **P 17 40 53.9 +0.2**
comp=Z,31nm,0.7s,mb5.4
PMG Port Moresby 55.42 107 P **P 17 41 33.4 +1.8**
comp=Z,17nm,0.7s,mb5.2,baz=321,slow=4.2,SNR=9.3
PMG Port Moresby 55.42 107 *e*P **P 17 41 31.7 +0.1**
comp=Z,16nm,0.7s,mb5.2
KIV Kislovodsk 57.33 318 *e*P **P 17 41 43.3 -1.6**
comp=Z,14nm,0.9s,mb5.0
KMBO Kilima Mbogo 57.60 264 P **P 17 41 48.1 +0.9**
comp=Z,9.6nm,0.8s,mb4.8,baz=53,slow=9.6,SNR=29
KMBO Kilima Mbogo 57.60 264 *e*P **P 17 41 47.9 +0.6**
comp=Z,14nm,0.9s,mb5.0
CTA Charters Tower 58.23 119 P **P 17 41 51.5 -0.1**
comp=Z,3.4nm,0.9s,mb4.3,baz=277,slow=8.3,SNR=4.3
CTAO Charters Tower 58.23 119 *e*P **P 17 41 51.0 -0.5**
comp=Z,4.4nm,0.9s,mb4.5
ASF Jabal al Asfar 58.28 303 P **P 17 41 51.3 -0.5**
comp=Z,3.2nm,0.7s,mb4.4,baz=54,slow=7.1,SNR=6.2
MALT Malatya 58.50 310 *e*P **P 17 41 51.9 -1.4**
comp=Z,5.7nm,1.0s,mb4.6
EIL Elat 59.50 300 P **P 17 41 59.9 -0.4**
comp=Z,5.0nm,0.8s,mb4.6,baz=146,slow=3.2,SNR=7.4
EIL Elat 59.50 300 *e*P **P 17 41 59.5 -0.8**
comp=Z,3.0nm,0.6s,mb4.5
YAK Yakutsk 59.81 18 *e*P **P 17 42 01.5 -0.5**
comp=Z,7.1nm,1.3s,mb4.5
STKA Stephens Creek 60.08 134 *e*P **P 17 42 01.2 -3.1**
comp=Z,5.0nm,0.9s,mb4.5
STKA Stephens Creek 60.08 134 P **P 17 42 03.2 -1.0**
comp=Z,4.9nm,0.8s,mb4.6,baz=316,slow=4.4,SNR=9.4
BRTR Keskin Array B 62.46 311 P **P 17 42 17.9 -2.2**
comp=Z,3.7nm,0.7s,mb4.6,baz=124,slow=6.9,SNR=14
MBAR Mbarara 63.93 265 *e*P **P 17 42 30.3 0.0**
comp=Z,12nm,1.1s,mb4.8
OBN Obninsk 65.35 328 *e*P **P 17 42 34.2 -4.6**
comp=Z,25nm,1.0s,mb5.2
AKASG Malin Array Be 68.15 322 P **P 17 42 54.4 -2.2**
comp=Z,3.6nm,0.7s,mb4.5,baz=88,slow=4.9,SNR=14
IDI Anoyia 68.62 305 P **P 17 42 58.6 -1.2**
comp=Z,10.0nm,0.7s,mb4.8,baz=108,slow=4.7,SNR=12
LSZ Lusaka 69.47 250 *e*P **P 17 43 04.8 -0.5**
comp=Z,2.6nm,0.8s,mb4.2
JOF Joensuu 70.80 334 *e*p **P 17 43 11.9 -0.7**
comp=Z,3.4nm,0.5s,mb4.5
KOLS Kolonicke sedl 72.21 319 *e*P **P 17 43 21.0 -0.2**
FINES FINESS Array B 72.67 332 P **P 17 43 23.0 -0.7**
comp=Z,5.0nm,0.6s,mb4.6,baz=101,slow=9.7,SNR=13
CRVS Cervenica-Dubn 72.73 319 *e*P **P 17 43 26.2 +1.8**
KAF Kangasniemi 72.74 333 *e*p **P 17 43 23.6 -0.6**
comp=Z,19nm,1.1s,mb4.9
VYHS Vyhne 74.42 318 *e*P **P 17 43 33.8 -0.4**
LBTB Lobatse 74.45 241 *e*P **P 17 43 35.3 +0.4**
comp=Z,12nm,0.8s,mb4.9
KEV Kevo 74.76 341 *e*p **P 17 43 35.5 -0.3**
comp=Z,21nm,1.5s,mb4.8
OKC Ostrava-Krasne 74.99 319 *e*P **P 17 43 37.7 +0.2**
ARCES ARCESS Array B 75.19 340 P **P 17 43 38.5 +0.3**
comp=Z,5.2nm,1.0s,mb4.4,baz=86,slow=6.0,SNR=12
MORC Moravsky Berou 75.38 319 *e*P **P 17 43 39.4 -0.3**
comp=Z,7.1nm,0.9s,mb4.6
ZST Bratislava 75.54 318 *e*P **P 17 43 40.6 -0.1**
DPC Dobruska-Polom 76.21 320 *e*P **P 17 43 44.3 -0.1**
UPC Upice 76.42 320 *e*P **P 17 43 46.4 +0.8**
PRU Pruhonice 77.33 319 *e*P **P 17 43 51.0 +0.2**
PVCC Panska Ves 77.34 320 *e*P **P 17 43 51.2 +0.4**
BRG Berggiesshubel 77.75 320 *i*P **P 17 43 53.0 -0.1**
comp=Z,8.7nm,1.0s,mb4.6
BRG *i* pP 17 44 01.3 -2.5
GEC2 GERESS Array S 77.83 318 *e*P **P 17 43 53.5 -0.1**
comp=Z,7.0nm,0.8s,mb4.6
GERES GERESS Array B 77.83 318 P **P 17 43 53.6 0.0**
comp=Z,6.6nm,0.8s,mb4.6,baz=90,slow=5.3,SNR=33
KHC Kasperske Hory 77.92 318 *e*P **P 17 43 53.9 -0.2**
CLL Collm 78.36 321 *i*P **P 17 43 55.8 -0.6**
comp=Z,13nm,1.4s,mb4.7
CLL *e* pP 17 44 05.0 -2.2
CLL Collm 78.36 321 P **P 17 43 55.8 -0.6**
comp=Z,logA/T=1.0,mb4.7
CLL *e**SP sP 17 44 05.0 -6.0
WET Wettzell 78.38 318 *e*P **P 17 43 56.6 0.0**
comp=Z,5.0nm,0.9s,mb4.4
HFS Hagfors 78.42 330 P **P 17 43 56.6 0.0**
comp=Z,7.4nm,0.6s,mb4.8,baz=104,slow=6.1,SNR=30
MAW Mawson 78.70 192 *e*P **P 17 43 58.8 +0.8**
comp=Z,6.6nm,0.8s,mb4.6
MAW Mawson 78.70 192 P **P 17 43 57.9 -0.1**
comp=Z,7.6nm,0.8s,mb4.7,baz=357,slow=5.7,SNR=9.5
MOX Moxa 79.22 320 *e*P **P 17 44 01.1 -0.1**
MOX Moxa 79.22 320 *i*P **P 17 44 01.1 -0.1**
GRA1 Grafenberg Arr 79.47 319 *e*P **P 17 44 02.9 +0.4**
comp=Z,10.0nm,0.9s,mb4.8
GRA1 *e*pP pP 17 44 09.3 -4.0
GRF Grafenberg Arr 79.47 319 *e*P **P 17 44 02.9 +0.4**
comp=Z,10.0nm,0.9s,mb4.8
GRF *e*pP pP 17 44 09.3 -4.0
NB2 NORSAR Subarra 79.69 331 P **P 17 44 02.9 -0.6**
comp=Z,12nm,0.8s,mb4.9,baz=97,slow=5.0
NB2 NORSAR Subarra 79.69 331 P **P 17 44 02.9 -0.6**
baz=96,slow=5.1
NOA NORSAR Array B 79.69 331 P **P 17 44 03.2 -0.3**
comp=Z,6.2nm,0.7s,mb4.6,baz=93,slow=5.6,SNR=17
NOA NORSAR Array B 79.69 331 P **P 17 44 03.2 -0.3**
CLZ Clausthal 80.01 321 *e*P **P 17 44 05.4 0.0**
comp=Z,7.0nm,0.9s,mb4.6
DAVOX Davos 80.40 316 P **P 17 44 07.8 +0.2**
comp=Z,12nm,1.0s,mb4.8,baz=114,slow=8.0,SNR=7.0
SUR Sutherland 80.54 235 P **P 17 44 09.2 +0.5**
comp=Z,17nm,1.0s,mb4.9
TNS Taunus Mts 81.25 320 *e*P **P 17 44 12.1 +0.1**
BFO Black Forest 81.40 318 *e*P **P 17 44 12.3 -0.5**
comp=Z,4.0nm,0.9s,mb4.3
LPG La Plagne 82.64 315 ⇑*i*P **P 17 44 19.8 +0.6**
comp=Z,22nm,0.9s,mb4.9
BNI Bardonecchia 82.72 314 *e*P **P 17 44 20.2 +0.6**
comp=Z,13nm,1.0s,mb4.9
SYO Syowa Base 85.58 197 ⇓P **P 17 44 35.3 +1.8**
SYO Syowa Base 85.58 197 ⇓pP pP 17 44 44.6 +0.2
ESDC Sonseca Array 91.25 310 P **P 17 45 01.1 -0.2**
comp=Z,1.4nm,0.5s,mb4.5,baz=43,slow=5.5,SNR=7.5
ILAR Eielson Array 94.56 22 P **P 17 45 17.4 +1.6**
comp=Z,0.7nm,0.8s,mb4.2,baz=306,slow=4.5,SNR=6.3
YKA Yellowknife Ar 106.26 14 PKiKP 17 50 20.1
comp=Z,0.1nm,0.4s,baz=269,slow=1.7,SNR=3.7
YKA PKKPbc 18 01 40.5
comp=Z,0.6nm,0.8s,baz=156,slow=2.7,SNR=10
YKA PKKP PKKP 18 01 56.3 +11
comp=Z,0.7nm,0.8s,baz=146,slow=4.3,SNR=10
YKA Yellowknife Ar 106.26 14 PKPdf 17 50 20.1
YKA PKKPbc 18 01 40.5
YKA PKKP PKKP 18 01 56.4 +11
ULM Lac du Bonnet 121.31 8 PKP PKPdf 17 50 49.4 +1.7
comp=Z,3.0nm,0.7s,baz=353,slow=3.5,SNR=7.0
NVAR Mina Array Bea 124.72 31 PKP PKPdf 17 50 57.5 +2.9
comp=Z,2.5nm,0.7s,baz=204,slow=0.5,SNR=12
PDAR Pinedale Array 124.98 21 PKP PKPdf 17 50 57.0 +2.1
comp=Z,2.6nm,0.8s,baz=33,slow=1.1,SNR=17
ANMO Albuquerque 132.98 23 PKP PKPdf 17 51 13.7 +3.2
comp=Z,1.7nm,0.7s,baz=348,slow=6.8,SNR=3.1
TXAR Lajitas Array 139.03 24 PKP PKPdf 17 51 25.4 +3.7
comp=Z,0.9nm,0.6s,baz=84,slow=0.3,SNR=7.6
JCT Junction City 139.41 19 *e*PKPdf PKPdf 17 51 24.9 +2.6
PLCA Paso Flores 144.73 200 PKP PKPdf 17 51 32.7 +1.3
comp=Z,22nm,0.8s,baz=168,slow=3.6,SNR=28
PLCA Paso Flores 144.73 200 *e*PKPdf PKPdf 17 51 32.4 +1.0
SDV Santo Domingo 157.48 318 PKPab PKPab 17 52 25.1 -0.3
comp=Z,0.9nm,0.4s,baz=330,slow=7.1,SNR=3.2
LVC Limon Verde 158.29 226 PKPab PKPab 17 52 29.1 +0.4
comp=Z,5.8nm,0.8s,baz=277,slow=1.1,SNR=6.2
LPAZ La Paz 160.97 243 PKP PKPdf 17 51 58.6 +3.5
comp=Z,4.8nm,1.1s,baz=36,slow=1.4,SNR=8.0
LPAZ PKPab PKPab 17 52 39.8 -0.5
comp=Z,1.9nm,0.8s,baz=115,slow=3.8,SNR=5.9
LPAZ La Paz 160.97 243 *e*PKPdf PKPdf 17 51 58.1 +3.0
LPAZ *e*PKPab PKPab 17 52 40.5 +0.1

*IDC **28** 17:42:31.9±1.6, 7.40N×93.96E, mb3.5/6, mb1 3.7/7, mb1mx3.5/18, mbtmp3.5/7, ML3.6/1, Error ellipse: s-maj=60.8km s-min=21.0km az=60.0*
*NEIC **28** 17:42:36.6±0.9, 7.40N×94.04E, h30km, mb4.0/2, Error ellipse: s-maj=27.3km s-min=12.6km az=67.0*
ISC 28 17:42:35.6±1.0, 7.5N±0.1×94.3E±0.2, h30km, n10, σ1§06/10, mb3.7/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.79**	**22**	Pn	**P**	**17 45 25.4**	**+0.4**
	0.1nm,0.3s,baz=213,slow=14,SNR=9.3						
HYB	**Hyderabad**	**18.25**	**304**	*i* P	**P**	**17 46 50.0**	**+1.3**
LSA	**Lhasa**	**22.29**	**353**	*e*P	**P**	**17 47 34.2**	**+2.2**
	5.7nm,0.7s,mb4.1						
SONM	**Songino Array**	**41.49**	**12**	P	**P**	**17 50 21.8**	**+0.1**
	0.5nm,0.7s,mb3.2,baz=194,slow=5.1,SNR=4.3						
KURK	**Kurchatov**	**45.01**	**346**	*e*P	**P**	**17 50 49.6**	**-0.7**
	1.2nm,0.8s,mb3.8						
ZAL	**Zalesovo**	**46.94**	**352**	P	**P**	**17 51 04.2**	**-1.2**
	0.7nm,0.4s,mb3.9,baz=324,slow=22,SNR=4.9						
WRA	**Warramunga Arr**	**47.91**	**125**	P	**P**	**17 51 14.2**	**+0.7**
	0.3nm,0.8s,mb3.4,baz=308,slow=8.1,SNR=3.3						
BVAR	**Borovoye Array**	**49.40**	**341**	P	**P**	**17 51 23.2**	**-1.3**
	0.5nm,0.9s,mb3.5,baz=135,slow=6.1,SNR=2.6						
ASAR	**Alice Springs**	**49.55**	**130**	P	**P**	**17 51 26.1**	**0.0**
	0.2nm,0.7s,mb3.3,baz=297,slow=6.7,SNR=4.0						
FINES	**FINESS Array B**	**73.12**	**332**	P	**P**	**17 54 03.8**	**-1.1**
	2.1nm,0.9s,mb4.0,baz=135,slow=2.7,SNR=5.2						

*IDC **28** 17:45:47.9±1.3, 7.93N×93.95E, mb3.7/6, mb1 3.8/7, mb1mx3.7/19, mbtmp3.7/7, ML4.0/1, Error ellipse: s-maj=53.0km s-min=20.2km az=61.0*
*NEIC **28** 17:45:51.7±0.8, 7.89N×93.95E, h30km, mb4.2/2, Error ellipse: s-maj=24.1km s-min=11.5km az=67.0*
ISC 28 17:45:50.1±1.1, 7.9N±0.1×94.1E±0.2, h30km, n9, σ0§46/9, mb3.9/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.48**	**24**	Pn	**P**	**17 48 34.9**	**-0.5**
	0.3nm,0.3s,baz=212,slow=14,SNR=12						
LSA	**Lhasa**	**21.82**	**353**	*e*P	**P**	**17 50 42.1**	**+0.1**
	10nm,0.7s,mb4.4						
SONM	**Songino Array**	**41.12**	**13**	P	**P**	**17 53 33.8**	**+0.7**
	0.7nm,0.7s,mb3.4,baz=202,slow=6.7,SNR=5.8						
KURK	**Kurchatov**	**44.53**	**346**	*e*P	**P**	**17 54 00.8**	**-0.1**
	1.4nm,0.4s,mb4.1						
ZAL	**Zalesovo**	**46.47**	**352**	P	**P**	**17 54 17.0**	**+0.7**
	1.8nm,0.5s,mb4.3,baz=296,slow=5.9,SNR=9.3						
WRA	**Warramunga Arr**	**48.36**	**126**	P	**P**	**17 54 31.8**	**+0.2**
	0.4nm,0.5s,mb3.8,baz=305,slow=8.7,SNR=4.5						
BVAR	**Borovoye Array**	**48.90**	**341**	P	**P**	**17 54 34.7**	**-0.6**
	0.6nm,0.8s,mb3.7,baz=150,slow=12,SNR=3.9						
ASAR	**Alice Springs**	**50.01**	**130**	P	**P**	**17 54 44.0**	**-0.3**
	0.4nm,0.7s,mb3.6,baz=300,slow=7.6,SNR=4.1						
ASAR				PcP	PcP	17 56 07.5	+3.5
	0.8nm,0.7s,baz=304,slow=3.2,SNR=7.2						
HFS	**Hagfors**	**78.36**	**330**	P	**P**	**17 57 48.9**	**-0.2**
	0.8nm,0.5s,mb3.9,baz=90,slow=1.4,SNR=3.7						

IDC 28 17:48:18.3±1.2, 8.11N×94.71E, mb4.0/7, mb1 4.2/8, mb1mx3.9/18, mbtmp3.9/8, ML3.7/1, MS4.1/1, Ms1 4.1/1, ms1mx2.9/19, Error ellipse: s-maj=57.2km s-min=21.0km az=53.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.08**	**21**	Pn	P	17 51 05.8	+4.5
	0.2nm,0.3s,baz=210,slow=14,SNR=10						
SONM	**Songino Array**	**40.82**	**12**	P	P	17 56 02.2	-1.0
	0.9nm,0.7s,baz=195,slow=9.1,SNR=6.0						
ZAL	**Zalesovo**	**46.40**	**352**	P	P	17 56 45.4	-2.8
	2.0nm,0.7s,baz=301,slow=7.0,SNR=8.7						
WRA	**Warramunga Arr**	**47.94**	**126**	P	P	17 56 58.1	-2.8
	0.7nm,0.4s,baz=305,slow=8.5,SNR=13						
CBIJ	**Chichi jima**	**48.70**	**61**	LR	LR	18 17 34.8	
	comp=Z,199nm,18.9s,baz=126,slow=36						
ASAR	**Alice Springs**	**49.63**	**130**	P	P	17 57 12.9	-1.0
	0.6nm,0.8s,baz=304,slow=6.9,SNR=5.0						
MLR	**Muntele Rosu**	**69.40**	**316**	P	P	17 59 28.6	-1.6
	1.1nm,0.6s,baz=243,slow=9.6,SNR=3.4						
FINES	**FINESS Array B**	**72.77**	**332**	P	P	17 59 49.1	-1.1
	3.7nm,0.9s,baz=135,slow=11,SNR=4.7						
GERES	**GERESS Array B**	**78.03**	**318**	P	P	18 00 18.7	-1.7
	1.4nm,0.9s,baz=146,slow=4.8,SNR=5.0						

*IDC **28** 17:49:22.8±0.8, 8.15N×94.45E, mb3.9/13, mb1 4.0/14, mb1mx4.0/19, mbtmp3.9/14, ML3.5/1, Error ellipse: s-maj=33.1km s-min=19.7km az=51.0*
ISC 28 17:49:25.9±0.7, 8.1N±0.1×94.5E±0.2, h33km, n21, σ0§86/20, mb3.9/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.21**	**22**	Pn	**P**	**17 52 12.0**	**+5.1**
	0.1nm,0.3s,baz=214,slow=14,SNR=3.3						
JIRN	**Jiri**	**20.99**	**339**	*e*P	**P**	**17 54 09.4**	**+0.5**
	573nm,1.3s						
PKI	**Pulchoki**	**21.20**	**337**	*e*P	**P**	**17 54 11.3**	**+0.3**
	495nm,1.3s						
DMN	**Daman**	**21.35**	**337**	*e*P	**P**	**17 54 12.5**	**0.0**
	486nm,1.1s						
KKN	**Kakani**	**21.45**	**337**	*e*P	**P**	**17 54 13.2**	**-0.2**
	282nm,1.2s						
GKN	**Gorkha**	**21.89**	**336**	*e*P	**P**	**17 54 17.8**	**0.0**
	339nm,0.9s						
KOLN	**Koldanda**	**22.12**	**334**	*e*P	**P**	**17 54 20.7**	**+0.6**
	768nm,1.3s						
SONM	**Songino Array**	**40.91**	**12**	P	**P**	**17 57 07.1**	**+0.4**
	0.6nm,0.7s,mb3.4,baz=201,slow=8.5,SNR=3.4						
ZAL	**Zalesovo**	**46.39**	**352**	P	**P**	**17 57 50.5**	**-0.4**
	0.6nm,0.6s,mb3.7,baz=306,slow=9.4,SNR=3.1						
WRA	**Warramunga Arr**	**48.13**	**126**	P	**P**	**17 58 03.9**	**-1.1**
	0.6nm,0.6s,mb3.8,baz=304,slow=8.6,SNR=5.2						
BVAR	**Borovoye Array**	**48.90**	**341**	P	**P**	**17 58 10.6**	**+0.1**
	0.5nm,0.7s,mb3.7,baz=162,slow=9.1,SNR=3.4						
ASAR	**Alice Springs**	**49.81**	**130**	P	**P**	**17 58 18.9**	**+1.0**
	0.6nm,0.5s,mb3.9,baz=303,slow=7.9,SNR=6.1						
KMBO	**Kilima Mbogo**	**57.75**	**264**	P	**P**	**17 59 18.2**	**+1.7**
	2.8nm,0.9s,mb4.3,baz=55,slow=14,SNR=6.6						
BRTR	**Keskin Array B**	**62.53**	**311**	P	**P**	**17 59 46.5**	**-2.4**
	0.7nm,0.8s,mb3.9,baz=129,slow=7.9,SNR=4.0						
AKASG	**Malin Array Be**	**68.19**	**322**	P	**P**	**18 00 23.6**	**-1.4**
	0.2nm,0.4s,mb3.5,baz=110,slow=3.6,SNR=5.5						
FINES	**FINESS Array B**	**72.68**	**332**	P	**P**	**18 00 51.7**	**-0.3**
	1.1nm,0.5s,mb4.0,baz=105,slow=4.4,SNR=7.2						
ARCES	**ARCESS Array B**	**75.19**	**340**	P	**P**	**18 01 07.2**	**+0.7**
	3.5nm,1.0s,mb4.2,baz=104,slow=5.0,SNR=5.6						
GERES	**GERESS Array B**	**77.88**	**318**	P	**P**	**18 01 22.2**	**+0.2**
	2.0nm,0.8s,mb4.1,baz=90,slow=5.3,SNR=9.2						
HFS	**Hagfors**	**78.44**	**330**	P	**P**	**18 01 24.8**	**-0.1**
	4.1nm,0.9s,mb4.3,baz=90,slow=4.4,SNR=8.5						
NOA	**NORSAR Array B**	**79.71**	**331**	P	**P**	**18 01 31.9**	**+0.1**
	1.6nm,1.0s,mb3.9,baz=97,slow=5.1,SNR=2.8						
PLCA	**Paso Flores**	**144.84**	**200**	PKP	PKPdf	18 09 01.6	+1.7
	2.4nm,0.9s,baz=161,slow=3.6,SNR=3.6						

*CSEM **28** 17:49:38.4, 8.08N×94.90E, h33km, mb5.6*
*IDC **28** 17:49:38.4±0.3, 7.88N×94.07E, h16km±1km, mb4.5/27, mb1 4.6/28, mb1mx4.6/29, mbtmp4.6/28, ML4.3/1, MS4.3/2, Ms1 4.4/2, ms1mx3.4/17, Error ellipse: s-maj=16.1km s-min=8.0km az=44.0, Putative timing error at LPAZ*
*MOS **28** 17:49:39.4±0.9, 7.91N×94.16E, h33km, mb5.4/77, MS4.6/8, Error ellipse: s-maj=8.7km s-min=4.7km az=118.2*
*BJI **28** 17:49:39.0, 7.87N×93.64E, h38km, mB5.4, mb4.7, Ms4.9, Msz4.5*
*HRVD **28** 17:49:40.6±0.3, 8.12N×94.30E, h12km, MW5.0/50, Centroid moment Tensor Solution. LP body waves: s16,c23;Mantle waves: s50,c88; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.81±.12; $M_{\theta\theta}$0.79±.09; $M_{\phi\phi}$3.02±.11; $M_{r\theta}$-0.07±.48; $M_{r\phi}$1.54±.09; $M_{\theta\phi}$-2.43±.35; Best double couple: $M_0$4.514×10^{16} NP1:ϕ_s219°, δ31°, λ-68°. NP2:ϕ_s14°, δ61°, λ-103°. Principal axes: T 4.411, Plg15°, Azm113°; N .204, Plg11°, Azm20°; P -4.618, Plg71°, Azm256°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 17:49:40.6±0.2, 7.92N×94.13E, h30km, mb5.3/66 Error ellipse: s-maj=5.9km s-min=5.2km az=24.0*
ISC 28 17:49:37.0±0.2, 7.93N±0.04×94.18E±0.04, h16km, h16km±.5km: pP-P, n320, σ1§05/320, mb5.1/111, MS4.8/12, 13C-12D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.96**	**339**	*e*P	**Pn**	**17 50 40.5**	**+1.9**
PBA				*e*S	**Sn**	**17 51 24.4**	**-0.7**
CM31	**Chiang Mai Arr**	**11.44**	**23**	*e*P	**P**	**17 52 22.4**	**-0.6**
	4.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**11.44**	**23**	P	**P**	**17 52 24.5**	**+1.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,466nm,21.7s						
CMAR	**Chiang Mai Arr**	**11.44**	**23**	Pn	**P**	**17 52 24.5**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=211,slow=14,SNR=14						
CMAR				LR	LR	17 56 56.6	
	comp=Z,466nm,21.7s,baz=220,slow=38						
PALK	**Pallekele**	**13.37**	**268**	P	**P**	**17 52 46.7**	**-2.1**
VIS	**Vishakhapatnam**	**14.36**	**314**	*e*P	**P**	**17 53 02.0**	**+0.1**
VIS				*e*		17 53 08.4	
	comp=Z,102nm,1.3s						
VIS				*e*		17 55 35.1	
VIS				*i*		17 57 08.3	
BWNR	**Bhubaneshwar**	**14.72**	**327**	*e*P	**P**	**17 53 05.5**	**-1.1**
BWNR				*e*		17 53 09.4	
	comp=Z,86nm,1.0s						
BWNR				*e*S	**S**	**17 55 47.6**	**-2.6**
KOD	**Kodaikanal**	**16.66**	**279**	*e*P	**P**	**17 53 38.0**	**+6.4**
KOD				*e*		17 53 43.7	
	comp=Z,138nm,1.2s						
KOD				*e*S	**S**	**17 56 43.8**	**+8.4**
SHL	**Shillong**	**17.67**	**353**	*e*P	**P**	**17 53 45.9**	**+1.6**
HYB	**Hyderabad**	**17.91**	**303**	*e*P	**P**	**17 53 48.0**	**+0.8**
HYB	**Hyderabad**	**17.91**	**303**	*i* P	**P**	**17 53 48.0**	**+0.8**
	comp=Z,70nm,1.0s						
HYB				*e*S	**S**	**17 57 09.5**	**+5.6**
QIZ	**Qiongzhong**	**18.79**	**52**	P	**P**	**17 54 03.0**	**+4.9**
QIZ				AMB	AMB		
	comp=Z,34nm,1.2s						
QIZ				LR	LR		
	comp=N,7μm,13.1s						
QIZ				LR	LR		
	comp=E,1μm,14.3s						
KMI	**Kunming**	**18.95**	**25**	⇑P	**P**	**17 54 03.0**	**+3.0**
KMI				S	**S**	**17 57 31.6**	**+4.1**
KMI				pmax	pmax		
	comp=Z,24nm,1.7s						
KMI	**Kunming**	**18.95**	**25**	⇑P	**P**	**17 54 03.0**	**+3.0**
	comp=Z,24nm,1.7s						
KMI				pP		17 54 09.6	
KMI				sP		17 54 14.0	
KMI				PP	PP	17 54 20.6	+4.1
KMI				S	**S**	**17 57 31.6**	**+4.1**
KMI				sS	

ENH Enshi 26.45 31 *e*P **P 17 55 12.9 -2.3**
comp=Z,42nm,1.1s,mb4.9
TGY Tagaytay City 26.96 75 pP pP 17 55 27.6 +2.8
comp=Z,117nm,0.4s,baz=176,slow=1.6,SNR=1.6
SMLA Simla 28.02 328 *e*P **P 17 55 41.4 +12**
SMLA *e* 17 55 56.1
comp=Z,67nm,1.2s
SMLA *e*S **S 18 00 26.0 +15**
XAN Xi'an 29.33 26 P **P 17 55 40.3 -1.0**
XAN AMB AMB
comp=Z,18nm,1.8s,mb4.5
WHN Wuhan 29.37 37 *e*P **P 17 55 43.5 +1.8**
LZH Lanzhou 29.38 16 *e*P **P 17 55 43.0 +1.3**
LZH AP pP 17 55 50.5 +4.0
LZH XP sP 17 55 54.0 +5.4
LZH PP PP 17 56 39.5 +2.3
LZH SS SS 18 02 08.0 +2.6
LZH AMB AMB
comp=Z,62nm,1.8s,mb5.0
LZH AMB AMB
comp=Z,169nm,4.0s
LZH LR LR
comp=E,652nm,11.1s
LZH LR LR
comp=Z,965nm,12.4s,MS4.6
LZH Lanzhou 29.38 16 *e*P **P 17 55 43.0 +1.3**
LZH *SP sP 17 55 53.9 +5.3
LZH 17 56 39.5
LZH SS SS 18 02 08.0 +2.6
LZH pmax pmax
comp=Z,62nm,1.8s,mb5.0
LZH MLR MLR
comp=Z,970nm,12.4s,MS4.6
LZH Lanzhou 29.38 16 *e*P **P 17 55 43.0 +1.3**
comp=Z,62nm,1.8s,mb5.0
LZH pP pP 17 55 50.5 +4.0
LZH sP sP 17 55 53.9 +5.3
LZH PP PP 17 56 39.5 +2.3
LZH *e*S tx 18 01 34.0
LZH sS 18 01 50.0
LZH SS SS 18 02 08.0 +2.6
LZH LR LR
comp=Z,970nm,12.4s,MS4.6
NJ2 Nanjing 33.20 40 *e*P **P 17 56 21.0 +5.6**
NJ2 AP pP 17 56 32.0 +12
NJ2 XP sP 17 56 35.3 +13
NJ2 PP PP 17 57 32.0 +5.3
NJ2 S **S 18 01 37.0 +3.7**
NJ2 XS 18 01 53.3
NJ2 AMB AMB
comp=Z,520nm,4.9s
NJ2 LR LR
comp=N,2μm,12.1s,MS5.2
NJ2 LR LR
comp=E,2μm,11.7s,MS5.2
NJ2 LR LR
comp=Z,3μm,10.8s,MS5.2
WMQ Urumqi 36.20 352 *e*P **P 17 56 41.8 +0.9**
WMQ AP pP 17 56 46.3 +0.6
WMQ PP PP 17 58 04.0 +0.3
WMQ PCP PcP 17 59 08.0 +1.4
WMQ S **S 18 02 20.0 +0.5**
WMQ AMB AMB
comp=Z,28nm,0.6s,mb5.4
WMQ AMB AMB
comp=Z,283nm,4.8s
WMQ LR LR
comp=N,2μm,16.5s,MS5.1
WMQ LR LR
comp=E,2μm,15.7s,MS5.1
WMQ LR LR
comp=Z,3μm,18.3s,MS5.1
WBK Wadi Bani Khal 36.84 297 ⇑P **P 17 56 49.6 +3.1**
BJT Baijiatuau 37.52 28 *e*P **P 17 56 53.1 +1.1**
BJT pmax pmax
comp=Z,48nm,1.1s
BJT Baijiatuau 37.52 28 *e*P **P 17 56 53.1 +1.0**
comp=Z,48nm,1.1s,mb5.1
JMDO Jabal Madar 37.53 297 ⇑P **P 17 56 55.7 +3.3**
BJI Beijing 37.54 28 P **P 17 56 54.6 +2.4**
BJI pmax pmax
comp=Z,17nm,1.8s,mb4.5
BJI Beijing 37.54 28 P **P 17 56 54.6 +2.4**
comp=Z,17nm,1.8s,mb4.5
SMDO Samad 37.78 298 ⇓P **P 17 56 57.9 +3.5**
BIDO Bidbid 37.86 298 ⇓P **P 17 56 58.6 +3.5**
UCH Uchtor 38.31 336 P **P 17 56 59.4 +0.7**
SNR=7.2
BSY Bisya 38.44 297 ⇑P **P 17 57 03.7 +3.7**
SNR=7.2
KBK Karagaybulak 38.51 337 P **P 17 57 06.5 +6.1**
SNR=6.7
AML Almayashu 38.57 335 P **P 17 57 01.7 +0.9**
SNR=7.1
HOQ Hoqain 38.59 298 ⇑P **P 17 57 04.8 +3.6**
SNR=6.8
AAK Ala-Archa 38.66 337 P **P 17 57 02.9 +1.3**
SNR=7.6
AAK Ala-Archa 38.66 337 P **P 17 57 02.1 +0.5**
AAK pmax pmax
comp=Z,66nm,1.3s,mb5.2
AAK Ala-Archa 38.66 337 *e*P **P 17 56 58.9 -2.8**
comp=Z,50nm,1.2s,mb5.1
CHMS Chumysh 38.88 337 P **P 17 57 03.5 +0.1**
SNR=6.8
USP Ospenovka 39.20 337 P **P 17 57 06.3 +0.2**
SNR=7.0
ARQ Araqi 39.21 297 ⇑P **P 17 57 10.1 +3.7**
SNR=6.7
MKAR Makanchi Array 40.04 347 *i* P **P 17 57 11.9 -1.1**
MKAR pmax pmax
comp=Z,27nm,0.9s
RBK Rabkut 40.06 288 ⇓P **P 17 57 18.4 +4.9**
ABTO Aybut 40.89 287 ⇓P **P 17 57 24.8 +4.5**
SONM Songino Array 41.10 13 P **P 17 57 22.3 +0.6**
comp=Z,10nm,0.9s,mb4.5,baz=198,slow=8.4,SNR=21
SONM pP pP 17 57 27.4 +0.8
comp=Z,10nm,0.9s,baz=201,slow=7.1,SNR=25
SONM PcP PcP 17 59 22.4 +0.5
comp=Z,1.4nm,0.7s,baz=196,slow=3.2,SNR=5.4
ULN Ulaanbaatar 41.27 13 *e*P **P 17 57 21.3 -1.8**
ULN pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
ULN Ulaanbaatar 41.27 13 *e*P **P 17 57 21.3 -1.8**
comp=Z,5.1nm,0.8s,mb4.2
SNY Shenyang 42.60 33 ⇓P **P 17 57 39.3 +5.1**
SNY AMB AMB
comp=Z,30nm,1.2s,mb4.9
ZAK Zakamensk 42.99 9 *e*P **P 17 57 36.7 -0.5**
ZAK *e* 17 59 17.0
TLY Talaya 44.31 8 *e*P **P 17 57 48.6 +0.8**
TLY *e* 18 00 07.5
TLY pmax pmax
comp=Z,8.0nm,1.3s,mb4.3
TLY Talaya 44.31 8 *e*P **P 17 57 47.4 -0.5**
comp=Z,6.7nm,1.1s,mb4.3
KURK Kurchatov 44.56 346 P **P 17 57 49.8 -0.1**
KURK pmax pmax
comp=Z,61nm,1.3s,mb5.3
KURK Kurchatov 44.56 346 *e*P **P 17 57 49.3 -0.7**
comp=Z,5.1nm,1.3s,mb4.2
NWAO Narrogin (SRO) 46.18 153 P **P 17 58 02.6 -0.4**
NWAO *PP pP 17 58 08.1 +0.2
NWAO pmax pmax
comp=Z,12nm,0.9s
NWAO pmax pmax
comp=Z,20nm,0.8s
NWAO Narrogin (SRO) 46.18 153 P **P 17 58 02.6 -0.5**
comp=Z,12nm,0.8s,mb4.8,baz=312,slow=7.9,SNR=6.5
NWAO pP pP 17 58 08.1 +0.2
comp=Z,20nm,0.8s,baz=338,slow=10,SNR=7.2
NWAO Narrogin (SRO) 46.18 153 *e*P **P 17 58 03.9 +0.9**
comp=Z,86nm,1.5s,mb5.5
HIA Hailar 46.45 23 *e*P **P 17 58 05.1 +0.1**
HIA pmax pmax
comp=Z,32nm,1.1s
HIA Hailar 46.45 23 *e*P **P 17 58 05.1 +0.1**
comp=Z,32nm,1.1s,mb5.2
ZAL Zalesovo 46.49 352 P **P 17 58 05.5 +0.3**
ZAL pmax pmax
comp=Z,30nm,1.2s
ZAL pmax pmax
comp=Z,27nm,1.2s
ZAL Zalesovo 46.49 352 P **P 17 58 05.5 +0.3**
comp=Z,30nm,1.2s,mb5.1,baz=301,slow=8.4,SNR=15
ZAL pP pP 17 58 10.2 +0.1
comp=Z,27nm,1.2s,baz=301,slow=8.4,SNR=16
NVS Novosibirsk 47.59 351 *i* P **P 17 58 11.9 -2.0**
NVS *e* 17 59 41.5
NVS *e*S **S 18 05 03.1 -4.4**
NVS pmax pmax
comp=Z,46nm,1.3s,mb5.3
NVS pmax pmax
comp=N,47nm,1.5s
NVS pmax pmax
comp=E,20nm,1.2s
NVS smax
comp=E,23nm,2.0s
MDJ Mudanjiang 47.74 34 P **P 17 58 15.8 +0.6**
MDJ PCP PcP 17 59 44.0 -0.7
MDJ PP PP 18 00 07.3 +1.0
MDJ SCP 18 03 38.5
MDJ PCS 18 03 40.5
MDJ S **S 18 05 12.3 +2.6**
MDJ AMB AMB
comp=Z,11nm,2.3s,mb4.5
MDJ AMB AMB
comp=Z,456nm,8.6s
MDJ LR LR
comp=N,274nm,18.1s,MS4.5
MDJ LR LR
comp=E,356nm,14.0s,MS4.5
MDJ LR LR
comp=Z,358nm,14.6s,MS4.5
MDJ Mudanjiang 47.74 34 *e*P **P 17 58 14.3 -0.9**
WRA Warramunga Arr 48.27 126 P **P 17 58 18.5 -1.1**
WRA *PP pP 17 58 24.2 -0.3
WRA pmax pmax
comp=Z,4.0nm,0.7s
WRA pmax pmax
comp=Z,8.0nm,0.9s
WRA Warramunga Arr 48.27 126 P **P 17 58 18.5 -1.1**
comp=Z,3.7nm,0.7s,mb4.5,baz=304,slow=9.2,SNR=16
WRA pP pP 17 58 24.2 -0.3
comp=Z,8.4nm,0.9s,baz=304,slow=8.6,SNR=18
WRAB Tennant Creek 48.27 126 *e*P **P 17 58 18.8 -0.8**
WRAB pmax pmax
comp=Z,21nm,1.0s,mb5.1
WRAB Tennant Creek 48.27 126 *e*P **P 17 58 18.8 -0.9**
comp=Z,21nm,1.0s,mb5.1
WB2 Warramunga Arr 48.28 126 *e*P **P 17 58 19.6 -0.1**
BVA0 Borovoye Array 48.95 341 *i* P **P 17 58 23.5 -0.9**
BVA0 pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
BVAR Borovoye Array 48.95 341 P **P 17 58 23.6 -0.8**
comp=Z,16nm,1.1s,mb5.0,baz=143,slow=7.4,SNR=24
BVAR pP pP 17 58 28.6 -0.7
comp=Z,16nm,1.1s,baz=140,slow=9.4,SNR=22
BVAR PcP PcP 17 59 51.0 +2.1
comp=Z,3.8nm,0.8s,baz=153,slow=6.6,SNR=5.8
BRVK Borovoye 49.01 341 *e*P **P 17 58 23.4 -1.5**
BRVK pmax pmax
comp=Z,30nm,1.2s,mb5.2
BRVK Borovoye 49.01 341 *e*P **P 17 58 23.4 -1.4**
comp=Z,30nm,1.2s,mb5.2
RAYN Ar Rayn 49.09 294 P **P 17 58 27.4 +1.5**
comp=Z,264nm,1.1s,mb6.2,SNR=22
MAT Matsushiro 49.10 48 *e*P **P 17 58 27.0 +1.2**
MAT pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
MAT Matsushiro 49.10 48 *e*P **P 17 58 27.0 +1.2**
comp=Z,7.5nm,0.8s,mb4.8
MAT Matsushiro 49.10 48 P **P 17 58 27.1 +1.3**
CHKZ Chkalovo 49.43 342 P **P 17 58 27.6 -0.5**
CHKZ pmax pmax
comp=Z,71nm,1.2s,mb5.6
CHKZ Chkalovo 49.43 342 *e*P **P 17 58 26.6 -1.5**
comp=Z,71nm,1.1s,mb5.6
ASPA Alice Springs 49.92 130 *e*P **P 17 58 30.5 -1.8**
ASAR Alice Springs 49.92 130 P **P 17 58 31.2 -1.1**
comp=Z,2.9nm,0.8s,mb4.3,baz=309,slow=7.1,SNR=13
ASAR pP pP 17 58 37.5 +0.2
comp=Z,8.6nm,1.0s,baz=301,slow=7.1,SNR=17
ASAR PcP PcP 17 59 55.3 +2.5
comp=Z,1.7nm,0.8s,baz=307,slow=3.3,SNR=4.1
BOD Bodaibo 52.09 13 *e*P **P 17 58 46.4 -1.9**
CLNS Chul'man 54.37 20 *e*P **P 17 59 05.5 +0.4**
CLNS pmax pmax
comp=Z,23nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,14nm,1.1s
CLNS pmax pmax
comp=E,5.0nm,0.7s
GNI Garni 54.42 314 P **P 17 59 04.8 -1.0**
GNI *PP pP 17 59 11.1 +0.4
GNI pmax pmax
comp=Z,12nm,0.9s
GNI pmax pmax
comp=Z,20nm,1.0s
GNI Garni 54.42 314 P **P 17 59 04.8 -1.0**
comp=Z,12nm,0.9s,mb4.8,baz=164,slow=9.7,SNR=5.4
GNI pP pP 17 59 11.1 +0.4
comp=Z,20nm,1.0s,baz=14,slow=4.8,SNR=6.0
GNI Garni 54.42 314 *e*P **P 17 59 05.2 -0.6**
comp=Z,59nm,1.3s,mb5.4
SVE Sverdlovsk 55.36 338 *e*P **P 17 59 08.5 -3.9**
SVE pmax pmax
comp=Z,100nm,2.0s,mb5.5
SVE MLR MLR
comp=Z,1μm,19.0s,MS4.9
PMG Port Moresby 55.52 107 P **P 17 59 13.6 -0.5**
comp=Z,15nm,0.7s,mb5.1,baz=263,slow=3.8,SNR=4.2
PMG pP pP 17 59 19.8 +0.7
comp=Z,14nm,0.9s,baz=327,slow=5.7,SNR=5.6
PMG Port Moresby 55.52 107 *e*P **P 17 59 14.2 0.0**
PMG *e* pP 17 59 20.1 +1.1
ARU Arti 55.85 337 P **P 17 59 14.9 -1.0**
comp=Z,213nm,1.5s,mb6.0,SNR=15
ARU Arti 55.85 337 ⇓*i*P **P 17 59 08.0 -7.9**
ARU *e* 18 00 14.7
ARU *e* 18 01 18.3
ARU *e*S **S 18 06 52.0 -8.7**
ARU pmax pmax
comp=Z,45nm,1.1s,mb5.4
YSS Yuzh-Sakhalins 56.72 38 *e*P **P 17 59 24.0 +1.7**
YSS pmax pmax
comp=Z,30nm,1.1s,mb5.2
KIV Kislovodsk 57.30 318 *i* P **P 17 59 24.5 -2.0**
KIV *e* pP 17 59 30.1 -1.4
KIV pmax pmax
comp=Z,13nm,1.0s,mb4.9
KIV Kislovodsk 57.30 318 *e*P **P 17 59 25.8 -0.7**
comp=Z,50nm,1.1s,mb5.5
KMBO Kilima Mbogo 57.46 264 P **P 17 59 26.5 -1.6**
KMBO *PP pP 17 59 32.2 -0.9
KMBO pmax pmax
comp=Z,9.0nm,0.8s
KMBO pmax pmax
comp=Z,28nm,0.9s
KMBO Kilima Mbogo 57.46 264 P **P 17 59 26.4 -1.6**
comp=Z,8.5nm,0.8s,mb4.8,baz=53,slow=11,SNR=18
KMBO pP pP 17 59 32.2 -0.9
comp=Z,28nm,0.9s,baz=53,slow=10,SNR=19
KMBO Kilima Mbogo 57.46 264 P **P 17 59 26.4 -1.6**
KMBO pP pP 17 59 32.2 -0.9
GOF Gofitskoye 57.51 319 ⇑*i*P **P 17 59 32.0 +4.1**
GOF pmax pmax
comp=Z,40nm,1.0s,mb5.4
ASF Jabal al Asfar 58.21 303 P **P 17 59 32.3 -0.7**
comp=Z,12nm,1.1s,mb4.8,baz=354,slow=3.7,SNR=4.0
ASF pP pP 17 59 37.7 -0.4
comp=Z,3.8nm,0.7s,baz=1.9,slow=2.1,SNR=5.3
CTA Charters Tower 58.30 119 P **P 17 59 33.5 -0.3**
CTA *PP pP 17 59 38.9 0.0
CTA pmax pmax
comp=Z,3.0nm,0.9s
CTA pmax pmax
comp=Z,9.0nm,1.3s
CTA Charters Tower 58.30 119 P **P 17 59 33.5 -0.4**
comp=Z,3.0nm,0.9s,mb4.3,baz=291,slow=17,SNR=3.6
CTA pP pP 17 59 38.9 0.0
comp=Z,8.8nm,1.3s,baz=308,slow=8.4,SNR=3.6
CTA Charters Tower 58.30 119 P **P 17 59 33.5 -0.4**
CTA pP pP 17 59 38.9 0.0
MALT Malatya 58.45 310 *e*P **P 17 59 33.9 -0.7**
MALT pmax pmax
comp=Z,18nm,1.1s,mb5.0
MALT Malatya 58.45 310 *e*P **P 17 59 33.9 -0.7**
comp=Z,18nm,1.1s,mb5.0
SOKR Solikamsk 58.76 339 ⇓*i*P **P 17 59 34.7 -1.8**
SOKR pmax pmax
comp=Z,60nm,1.0s,mb5.6
SOKR MLR MLR
comp=Z,810nm,21.0s,MS4.8
SOC Sochi 59.16 316 *e*P **P 17 59 34.1 -5.4**
SOC *e* 18 00 23.0
SOC *e*S **S 18 07 38.2 -6.3**
SOC *e* 18 09 21.7
SOC pmax pmax
comp=N,18nm,0.7s
SOC pmax pmax
comp=Z,22nm,0.7s,mb5.3
SOC pmax pmax
comp=E,25nm,1.2s
EIL Elat 59.43 300 P **P 17 59 41.1 -0.4**
comp=E,18nm,1.0s,mb5.0,baz=88,slow=2.3,SNR=7.2
EIL pP pP 17 59 46.1 -0.5
comp=E,11nm,0.8s,baz=84,slow=4.0,SNR=14
EIL Elat 59.43 300 *e*P **P 17 59 41.7 +0.2**
comp=E,35nm,1.2s,mb5.3
YAK Yakutsk 59.93 18 *e*P **P 17 59 43.8 -0.7**
YAK pmax pmax
comp=Z,25nm,1.0s,mb5.2
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=E,11nm,1.2s
YAK Yakutsk 59.93 18 *e*P **P 17 59 42.5 -2.1**
comp=E,53nm,1.0s,mb5.5
STKA Stephens Creek 60.12 134 P **P 17 59 45.4 -0.8**
comp=E,7.7nm,1.0s,mb4.7,baz=327,slow=6.5,SNR=4.8
STKA pP pP 17 59 51.0 -0.3
comp=E,7.7nm,1.0s,baz=320,slow=8.0,SNR=9.6
STKA Stephens Creek 60.12 134 P **P 17 59 45.4 -0.9**
STKA pP pP 17 59 51.0 -0.3
VRSR Storozhevoye 62.35 324 *e*P **P 18 00 03.2 +2.1**
VRSR pmax pmax
comp=Z,30nm,1.1s,mb5.3
VRSR pmax pmax
comp=N,20nm,1.0s
VRSR pmax pmax
comp=E,30nm,0.9s
BRTR Keskin Array B 62.42 311 P **P 18 00 00.0 -1.7**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR pmax pmax
comp=Z,11nm,0.9s
BRTR Keskin Array B 62.42 311 P **P 17 59 60.0 -1.8**
comp=Z,3.5nm,0.8s,mb4.6,baz=128,slow=7.4,SNR=15
BRTR pP pP 18 00 04.7 -2.1
comp=Z,10nm,0.9s,baz=131,slow=6.2,SNR=20
VOR Voronezh 62.55 325 P **P 18 00 01.0 -1.4**
VOR pmax pmax
comp=Z,90nm,1.2s,mb5.8
VOR pmax pmax
comp=E,130nm,1.3s
SIM Simferopol' 63.41 317 P **P 18 00 11.4 +3.2**
SIM pmax pmax
comp=Z,25nm,1.0s,mb5.3
MOS Moscow 65.05 329 α *i*P **P 18 00 17.7 -1.0**
MOS *e* 18 00 50.4
MOS *e* 18 02 39.0
MOS *e*S S 18 08 54.1 -4.5
MOS pmax pmax
comp=Z,300nm,2.4s,mb5.9
MOS pmax pmax
comp=Z,98nm,1.7s,mb5.6
MOS MLR MLR
comp=Z,800nm,21.0s,MS4.9
OBN Obninsk 65.35 328 ⇓*i*P **P 18 00 15.6 -5.0**
OBN *e* 18 02 44.0
OBN pmax pmax
comp=Z,25nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,300nm,18.0s,MS4.5
OBN Obninsk 65.35 328 *e*P **P 18 00 16.6 -4.0**
comp=Z,121nm,1.4s,mb5.7
MA2 Magadan 66.70 28 *e*P **P 18 00 28.9 -0.3**
MA2 pmax pmax
comp=Z,20nm,1.1s,mb5.1
TIXI Tiksi 67.17 11 *i* P **P 18 00 30.1 -1.9**
TIXI pmax pmax
comp=Z,51nm,1.1s,mb5.5
KIS Kishinev 67.50 318 *e*P **P 18 00 31.0 -3.5**
KIS *e* pP 18 00 36.0 -3.6
AKASG Malin Array Be 68.13 322 P **P 18 00 36.5 -1.9**
AKASG *PP pP 18 00 43.3 -0.1
AKASG pmax pmax
comp=Z,11nm,1.0s
AKASG pmax pmax
comp=Z,17nm,1.0s
AKASG Malin Array Be 68.13 322 P **P 18 00 36.5 -1.9**
comp=Z,11nm,1.0s,mb4.8,baz=87,slow=4.6,SNR=21
AKASG pP pP 18 00 43.3 -0.2
comp=Z,17nm,1.0s,baz=86,slow=4.9,SNR=16
IDI Anoyia 68.56 305 P **P 18 00 40.7 -0.6**
comp=Z,13nm,0.9s,mb4.9,baz=139,slow=8.5,SNR=8.0
IDI pP pP 18 00 45.5 -0.9
comp=Z,19nm,0.7s,baz=89,slow=9.9,SNR=6.3
MLR Muntele Rosu 69.15 316 P **P 18 00 43.2 -1.6**
MLR pmax pmax
comp=Z,27nm,1.0s
MLR Muntele Rosu 69.15 316 P **P 18 00 43.2 -1.6**
comp=Z,27nm,1.0s,mb5.1,baz=123,slow=2.1,SNR=11
LSZ Lusaka 69.32 250 *e*P **P 18 00 48.1 +1.8**
LSZ pmax pmax
comp=Z,13nm,1.1s,mb4.8
LSZ Lusaka 69.32 250 *e*P **P 18 00 48.1 +1.8**
comp=Z,13nm,1.1s,mb4.8
MNK Minsk 69.93 325 *e*P **P 18 00 46.0 -3.3**
JOF Joensuu 70.81 334 *e*p **P 18 00 53.3 -1.3**
comp=Z,23nm,1.1s,mb5.0
JOF Joensuu 70.81 334 *e*p **P 18 00 53.4 -1.2**
comp=Z,24nm,1.1s,mb5.0
JOF Joensuu 70.81 334 *e*P **P 18 00 53.4 -1.2**
JOF pmax pmax
comp=Z,24nm,1.1s,mb5.0
BOLS Boljevac 71.73 313 ⇑*i*P **P 18 00 54.8 -5.7**
SKO Skopje 71.91 311 *e*P **P 18 00 54.0 -7.5**
KWP Kalwaria 72.01 320 *e*P **P 18 01 01.0 -1.0**
KWP pmax pmax
comp=Z,55nm,1.0s,mb5.4
KWP Kalwaria 72.01 320 *e*P **P 18 01 01.0 -1.0**
comp=Z,55nm,1.0s,mb5.4
KOLS Kolonicke sedl 72.18 319 *e*P **P 18 01 03.8 +0.7**
KOLS *e* 18 01 14.5
KOLS Kolonicke sedl 72.18 319 *e*P **P 18 01 03.8 +0.7**
KOLS *e* pP 18 01 07.7 -0.4
KOLS *e* 18 01 14.5
SUW Suwalki 72.48 324 *e*P **P 18 01 04.0 -0.7**
SUW *e* pP 18 01 08.6 -1.2
SUW Suwalki 72.48 324 *e*P **P 18 01 04.0 -0.7**
SUW *e* pP 18 01 08.6 -1.2
FINES FINESS Array B 72.68 332 P **P 18 01 05.2 -0.5**
FINES pmax pmax
comp=Z,10.0nm,1.0s
FINES pmax pmax
comp=Z,12nm,0.8s
FINES FINESS Array B 72.68 332 P **P 18 01 05.2 -0.6**
comp=Z,10nm,1.0s,mb4.7,baz=104,slow=7.9,SNR=8.0
FINES pP pP 18 01 09.8 -1.0
comp=Z,12nm,0.8s,baz=101,slow=9.7,SNR=9.7
CRVS Cervenica-Dubn 72.71 319 *e*P **P 18 01 11.4 +5.2**
CRVS Cervenica-Dubn 72.71 319 *e* **P 18 01 11.4 +5.2**
CRVS *e* 18 01 13.3
KAF Kangasniemi 72.76 333 *e*p **P 18 01 04.8 -1.4**
comp=Z,29nm,1.0s,mb5.2
KAF Kangasniemi 72.76 333 *e*p **P 18 01 04.8 -1.4**
comp=Z,30nm,1.1s,mb5.1
KAF Kangasniemi 72.76 333 *e*P **P 18 01 04.8 -1.4**
KAF pmax pmax
comp=Z,29nm,1.0s,mb5.2
KECS Kecovo 73.30 318 *e*P **P 18 01 13.0 +3.4**
KECS Kecovo 73.30 318 *e* **P 18 01 13.0 +3.4**
NIE Niedzica 73.52 319 *e*P **P 18 01 12.0 +1.1**
PSZ Piszkesteto 73.62 318 *e*P **P 18 01 10.9 -0.6**
PSZ pmax pmax
comp=Z,42nm,1.5s,mb5.2
PSZ Piszkesteto 73.62 318 *e*P **P 18 01 10.9 -0.7**
comp=Z,42nm,1.5s,mb5.2
OJC Ojcow 73.95 320 *e*P **P 18 01 13.3 -0.1**
LBTB Lobatse 74.30 241 *e*P **P 18 01 16.5 +0.6**
LBTB *e*PP pP 18 01 22.9 +1.9
LBTB pmax pmax
comp=Z,14nm,0.9s,mb4.9
LBTB Lobatse 74.30 241 *e*P **P 18 01 16.5 +0.6**
comp=Z,14nm,0.9s,mb4.9

LBTB epP pP 18 01 22.9 +1.8
VYHS Vyhne 74.39 318 eP **P 18 01 15.8 -0.1**
VYHS e pP 18 01 20.1 -0.9
KEV Kevo 74.79 341 ep **P 18 01 21.6 +3.7**
comp=Z,22nm,1.0s,mb5.0
KEV Kevo 74.79 341 ep **P 18 01 21.9 +4.0**
comp=Z,23nm,1.2s,mb5.0
KEV Kevo 74.79 341 eP **P 18 01 21.6 +3.7**
KEV pmax pmax
comp=Z,23nm,1.0s,mb5.1
OKC Ostrava-Krasne 74.97 319 eP **P 18 01 18.8 -0.5**
OKC epP pP 18 01 23.7 -0.7
ARCES ARCESS Array B 75.22 340 P **P 18 01 20.1 -0.3**
ARCES *PP pP 18 01 25.3 -0.2
ARCES pmax pmax
comp=Z,13nm,0.8s
ARCES pmax pmax
comp=Z,17nm,1.0s
ARCES MLR MLR
comp=Z,725nm,19.8s
ARCES ARCESS Array B 75.22 340 P **P 18 01 20.1 -0.2**
comp=Z,13nm,0.8s,mb4.9,baz=90,slow=4.9,SNR=8.1
ARCES pP pP 18 01 25.3 -0.1
comp=Z,17nm,0.9s,baz=90,slow=4.9,SNR=8.7
ARCES LR LR 18 37 17.2
comp=Z,725nm,19.8s,MS5.0,baz=289,slow=38
MORC Moravsky Berou 75.35 319 eP **P 18 01 20.8 -0.7**
MORC e*PP pP 18 01 26.4 -0.2
MORC pmax pmax
comp=Z,49nm,1.1s,mb5.3
MORC Moravsky Berou 75.35 319 eP **P 18 01 20.8 -0.7**
comp=Z,49nm,1.1s,mb5.3
MORC epP pP 18 01 26.4 -0.2
ZST Bratislava 75.51 318 eP **P 18 01 22.9 +0.5**
ZST e pP 18 01 27.2 -0.3
BOSA Boshof 75.64 238 eP **P 18 01 24.9 +1.3**
BOSA e*PP pP 18 01 30.2 +1.5
BOSA pmax pmax
comp=Z,34nm,1.3s,mb5.1
BOSA Boshof 75.64 238 eP **P 18 01 24.9 +1.3**
comp=Z,34nm,1.3s,mb5.1
BOSA epP pP 18 01 30.2 +1.5
VRAC Vranov 75.93 319 P **P 18 01 24.9 +0.1**
VRAC pmax pmax
comp=Z,5.0nm,0.9s
VRAC pmax pmax
comp=Z,5.0nm,0.8s
VRAC Vranov 75.93 319 P **P 18 01 24.9 +0.2**
comp=Z,5.1nm,0.9s,mb4.5,baz=69,slow=5.7,SNR=5.2
VRAC pP pP 18 01 29.1 -0.8
comp=Z,4.5nm,0.8s,baz=98,slow=7.0,SNR=4.8
DPC Dobruska-Polom 76.19 320 eP **P 18 01 26.4 +0.2**
DPC epP pP 18 01 31.2 -0.1
KSP Ksiaz 76.24 320 eP **P 18 01 26.4 -0.1**
KSP e*PP pP 18 01 31.3 -0.3
KSP Ksiaz 76.24 320 eP **P 18 01 27.4 +0.9**
KSP e pP 18 01 31.7 +0.1
UPC Upice 76.39 320 eP **P 18 01 27.9 +0.5**
UPC epP pP 18 01 32.1 -0.4
PRU Pruhonice 77.31 319 eP **P 18 01 32.8 +0.4**
PRU epP pP 18 01 37.1 -0.5
PVCC Panska Ves 77.31 320 eP **P 18 01 31.6 -0.9**
PVCC epP pP 18 01 37.9 +0.3
BRG Berggiesshubel 77.73 320⇑ iP **P 18 01 35.3 +0.6**
BRG i pP 18 01 39.4 -0.5
BRG pmax pmax
comp=Z,43nm,1.7s,mb5.1
BRG Berggiesshubel 77.73 320⇑ iP **P 18 01 35.3 +0.6**
comp=Z,43nm,1.7s,mb5.1
BRG i pP 18 01 39.4 -0.5
GEC2 GERESS Array S 77.81 318 eP **P 18 01 35.9 +0.7**
GEC2 pmax pmax
comp=Z,48nm,1.1s,mb5.3
GEC2 GERESS Array S 77.81 318 eP **P 18 01 35.9 +0.7**
comp=Z,48nm,1.1s,mb5.3
GERES GERESS Array B 77.81 318 P **P 18 01 35.6 +0.4**
GERES *PP pP 18 01 40.3 0.0
GERES pmax pmax
comp=Z,15nm,1.1s
GERES pmax pmax
comp=Z,16nm,0.8s
GERES GERESS Array B 77.81 318 P **P 18 01 35.6 +0.3**
comp=Z,15nm,1.1s,mb4.9,baz=88,slow=5.3,SNR=27
GERES pP pP 18 01 40.3 -0.1
comp=Z,16nm,0.8s,baz=90,slow=5.9,SNR=28
KHC Kasperske Hory 77.90 318 eP **P 18 01 35.3 -0.4**
KHC epP pP 18 01 40.0 -0.8
RUE Ruedersdorf 77.91 322 eP **P 18 01 35.2 -0.4**
comp=Z,98nm,1.0s,mb5.7
RUE epP pP 18 01 40.1 -0.7
CLL Collm 78.34 321 eP **P 18 01 39.0 +0.9**
CLL i pP 18 01 42.3 -0.9
CLL Collm 78.34 321 P **P 18 01 39.0 +0.9**
CLL i *PP pP 18 01 42.3 -0.9
WET Wettzell 78.36 318 eP **P 18 01 38.9 +0.7**
WET pmax pmax
comp=Z,38nm,1.1s,mb5.2
WET Wettzell 78.36 318 eP **P 18 01 38.9 +0.7**
comp=Z,38nm,1.1s,mb5.2
HFS Hagfors 78.42 330 P **P 18 01 38.4 0.0**
HFS *PP pP 18 01 43.3 -0.2
HFS pmax pmax
comp=Z,16nm,1.0s
HFS pmax pmax
comp=Z,11nm,0.7s
HFS Hagfors 78.42 330 P **P 18 01 38.4 +0.1**
comp=Z,16nm,1.0s,mb4.9,baz=117,slow=3.3,SNR=7.0
HFS pP pP 18 01 43.3 -0.2
comp=Z,11nm,0.7s,baz=90,slow=5.9,SNR=13
HFS Hagfors 78.42 330 P **P 18 01 38.4 +0.1**
HFS pP pP 18 01 43.3 -0.2
NKC Novy Kostel 78.66 320 eP **P 18 01 33.5 -6.4**
NKC e*PP pP 18 01 40.7 -4.3
NKC Novy Kostel 78.66 320 eP **P 18 01 40.7 +0.8**
MOX Moxa 79.20 320 eP **P 18 01 43.6 +0.8**
MOX pmax pmax
comp=Z,38nm,1.4s,mb5.1
MOX Moxa 79.20 320 eP **P 18 01 43.6 +0.8**
comp=Z,38nm,1.4s,mb5.1
MOX Moxa 79.20 320 i P **P 18 01 43.6 +0.8**
comp=Z,logA/T=1.4,mb5.1
FUR Furstenfeldbru 79.41 317 eP **P 18 01 44.2 +0.2**
GRA1 Grafenberg Arr 79.45 319 eP **P 18 01 45.3 +1.1**
comp=Z,51nm,1.1s,mb5.4
GRA1 epP pP 18 01 49.1 -0.2
GRF Grafenberg Arr 79.45 319 eP **P 18 01 45.3 +1.1**
GRF e*PP pP 18 01 49.1 -0.2
GRF pmax pmax
comp=Z,51nm,1.1s,mb5.4
GRF Grafenberg Arr 79.45 319 eP **P 18 01 45.3 +1.1**
GRF e*PP pP 18 01 49.1 -0.2
GRF pmax pmax
comp=Z,51nm,1.1s,mb5.4
GRF Grafenberg Arr 79.45 319 eP **P 18 01 45.3 +1.1**
comp=Z,51nm,1.1s,mb5.4
GRF epP pP 18 01 49.1 -0.2
NB2 NORSAR Subarra 79.70 331 P **P 18 01 43.8 -1.5**
comp=Z,37nm,1.1s,mb5.2,baz=91,slow=5.8
NB2 NORSAR Subarra 79.70 331
baz=91,slow=5.9 P **P 18 01 43.8 -1.5**
NOA NORSAR Array B 79.70 331 P **P 18 01 45.4 +0.1**
NOA *PP pP 18 01 50.5 +0.1
NOA pmax pmax
comp=Z,13nm,1.0s
NOA pmax pmax
comp=Z,16nm,1.0s
NOA NORSAR Array B 79.70 331 P **P 18 01 45.4 +0.1**
comp=Z,13nm,1.0s,mb4.8,baz=93,slow=5.5,SNR=14
NOA pP pP 18 01 50.5 +0.1
comp=Z,16nm,0.9s,baz=92,slow=5.6,SNR=19
NAO01 NORSAR Array S 79.85 330 eP **P 18 01 45.8 -0.3**
comp=Z,16nm,1.0s,mb4.9
CLZ Clausthal 79.99 321 eP **P 18 01 47.8 +0.8**
comp=Z,56nm,1.1s,mb5.4
DAVOX Davos 80.37 316 P **P 18 01 50.1 +0.9**
comp=Z,18nm,1.0s,mb5.0,baz=125,slow=10,SNR=8.6
DAVOX pP pP 18 01 54.4 0.0
comp=Z,16nm,0.9s,baz=126,slow=6.5,SNR=12
SUR Sutherland 80.39 235 eP **P 18 01 50.8 +1.2**
comp=Z,26nm,1.0s,mb5.1
SUR epP pP 18 01 57.1 +2.3
MUD Monsted U'grnd 80.68 326 i P **P 18 01 56.4 +5.8**
MUD pmax pmax
comp=Z,46nm,1.0s,mb5.4
MUD Monsted U'grnd 80.68 326 i P **P 18 01 56.4 +5.8**
comp=Z,46nm,1.0s,mb5.4
TOD Tromm 81.02 319 eP **P 18 01 52.7 +0.2**
SPAK Spaichingen 81.08 317 eP **P 18 01 53.1 +0.2**
PGF Pioggiola 81.15 312 eP **P 18 01 53.1 -0.3**
comp=Z,54nm,1.1s,mb5.1
PGF Pioggiola 81.15 312 eP **P 18 01 53.1 -0.3**
PGF pmax pmax
comp=Z,27nm,1.1s,mb5.1
TNS Taunus Mts 81.23 320 eP **P 18 01 54.4 +0.8**
BFO Black Forest 81.37 318 eP **P 18 01 54.7 +0.3**
BFO pmax pmax
comp=Z,26nm,1.1s,mb5.1
BFO Black Forest 81.37 318 eP **P 18 01 54.7 +0.3**
comp=Z,26nm,1.1s,mb5.1
FELD Feldberg 81.61 317 eP **P 18 01 55.3 -0.4**
LANF Langenberg 81.69 318 eP **P 18 01 56.8 +0.7**
ABH Alteburg 81.82 319 eP **P 18 01 57.3 +0.6**
LIBD Limburg 81.87 318 eP **P 18 01 57.0 0.0**
WLS Welschbruch 82.02 318 eP **P 18 01 57.3 -0.5**
CDF Champ du Feu 82.07 318 eP **P 18 01 57.5 -0.5**
comp=Z,46nm,1.2s,mb5.0
CDF Champ du Feu 82.07 318 eP **P 18 01 57.5 -0.5**
CDF pmax pmax
comp=Z,23nm,1.2s,mb5.0
RUP Ruppelstein 82.15 319 eP **P 18 01 57.3 -1.1**
SBF Sospel 82.22 313 eP **P 18 01 58.8 -0.1**
comp=Z,113nm,1.2s,mb5.4
SBF Sospel 82.22 313 eP **P 18 01 58.8 -0.1**
SBF pmax pmax
comp=Z,57nm,1.2s,mb5.4
HINF Hinteralfeld 82.39 317 eP **P 18 01 59.1 -0.6**
LPG La Plagne 82.60 315 eP **P 18 02 01.2 +0.3**
comp=Z,43nm,0.9s,mb5.2
LPG La Plagne 82.60 315 eP **P 18 02 01.2 +0.3**
LPG pmax pmax
comp=Z,22nm,0.9s,mb5.2
LPL La Plagne 82.61 315 eP **P 18 02 01.2 +0.3**
comp=Z,134nm,1.2s,mb5.6
LPL La Plagne 82.61 315 eP **P 18 02 01.2 +0.3**
LPL pmax pmax
comp=Z,67nm,1.2s,mb5.5
MBDF Montbardon 82.64 314 eP **P 18 02 00.5 -0.6**
comp=Z,31nm,1.1s,mb5.0
MBDF Montbardon 82.64 314 eP **P 18 02 00.5 -0.6**
MBDF pmax pmax
comp=Z,15nm,1.1s,mb4.9
BNI Bardonecchia 82.68 314 eP **P 18 02 02.1 +0.8**
BNI pmax pmax
comp=Z,33nm,1.1s,mb5.3
BNI Bardonecchia 82.68 314 eP **P 18 02 02.1 +0.8**
comp=Z,33nm,1.1s,mb5.3
HAU Haudompre 82.72 317 eP **P 18 02 01.0 -0.4**
comp=Z,78nm,1.1s,mb5.4
HAU eR
comp=Z,199nm,21.2s
HAU Haudompre 82.72 317 eP **P 18 02 01.0 -0.4**
HAU pmax pmax
comp=Z,39nm,1.1s,mb5.3
HAU MLR MLR
comp=Z,200nm,21.3s,MS4.5
FRF La Foret Royal 82.81 313 eP **P 18 02 02.1 +0.1**
comp=Z,248nm,1.7s,mb5.7
FRF La Foret Royal 82.81 313 eP **P 18 02 02.1 +0.1**
FRF pmax pmax
comp=Z,124nm,1.7s,mb5.7
LMR La Mourre 82.92 313 eP **P 18 02 02.3 -0.3**
CABF La Chapelle 82.99 316 eP **P 18 02 03.0 +0.2**
comp=Z,100nm,1.3s,mb5.4
CABF La Chapelle 82.99 316 eP **P 18 02 03.0 +0.2**
CABF pmax pmax
comp=Z,50nm,1.3s,mb5.4
ORIF Oris-en-Rattie 83.26 314 eP **P 18 02 04.6 +0.3**
comp=Z,42nm,1.1s,mb5.1
ORIF eR
comp=Z,239nm,22.2s
MEZF Maizieres J'vi 83.54 318 eP **P 18 02 05.6 -0.1**
GIVF Givet 83.56 320 eP **P 18 02 05.8 +0.1**
BAIF Baives 83.96 320 eP **P 18 02 08.1 +0.3**
comp=Z,53nm,1.1s,mb5.3
BAIF Baives 83.96 320 eP **P 18 02 08.1 +0.3**
BAIF pmax pmax
comp=Z,26nm,1.1s,mb5.3
VIVF Saint-Julien-l 84.12 314 eP **P 18 02 08.6 -0.1**
comp=Z,65nm,1.3s,mb5.3
VIVF Saint-Julien-l 84.12 314 eP **P 18 02 08.6 -0.1**
VIVF pmax pmax
comp=Z,32nm,1.3s,mb5.3
SMF Signal de Mont 84.53 316 eP **P 18 02 10.4 -0.3**
comp=Z,28nm,0.9s,mb5.1
SMF Signal de Mont 84.53 316 eP **P 18 02 10.4 -0.3**
SMF pmax pmax
comp=Z,14nm,0.9s,mb5.1
SSF Saint Saulge 84.71 317 eP **P 18 02 11.6 0.0**
SSF pmax pmax
comp=Z,64nm,1.7s,mb5.5
SSF Saint Saulge 84.71 317 eP **P 18 02 11.6 0.0**
comp=Z,64nm,1.7s,mb5.5
PLDF La Plantade 84.75 316 eP **P 18 02 16.7 +4.9**
LASF Ste Croix 84.78 314 eP **P 18 02 12.4 +0.4**
comp=Z,176nm,1.6s,mb5.7
AVF Avril sur Loir 84.85 316 eP **P 18 02 12.0 -0.3**
comp=Z,42nm,1.2s,mb5.2
AVF Avril sur Loir 84.85 316 eP **P 18 02 12.0 -0.3**
AVF pmax pmax
comp=Z,21nm,1.2s,mb5.1
AGO Saint Agoulin 85.08 316 eP **P 18 02 18.3 +4.9**
BGF Bois d'Agland 85.22 316 eP **P 18 02 14.2 +0.1**
comp=Z,110nm,1.4s,mb5.5
BGF Bois d'Agland 85.22 316 eP **P 18 02 14.2 +0.1**
BGF pmax pmax
comp=Z,55nm,1.4s,mb5.5
HYF Humbligny 85.28 317 eP **P 18 02 14.9 +0.5**
SYO Syowa Base 85.47 197 ⇓P **P 18 02 17.4 +2.5**
SYO Syowa Base 85.47 197 ⇓pP pP 18 02 22.1 +2.0
TCF Toulx Ste Croi 85.69 316 eP **P 18 02 16.7 +0.2**
comp=Z,60nm,1.5s,mb5.3
TCF Toulx Ste Croi 85.69 316 eP **P 18 02 16.7 +0.2**
TCF pmax pmax
comp=Z,30nm,1.5s,mb5.3
CAF Calviac 85.95 315 eP **P 18 02 18.3 +0.5**
comp=Z,58nm,1.4s,mb5.3
CAF Calviac 85.95 315 eP **P 18 02 18.3 +0.5**
CAF pmax pmax
comp=Z,29nm,1.4s,mb5.3
MTLF Montolieu 86.04 313 eP **P 18 02 18.6 +0.3**
RJF Les Rejaudoux 86.29 315 eP **P 18 02 19.9 +0.4**
comp=Z,66nm,1.4s,mb5.4
RJF eR
comp=Z,207nm,18.2s
RJF Les Rejaudoux 86.29 315 eP **P 18 02 19.9 +0.4**
RJF pmax pmax
comp=Z,33nm,1.4s,mb5.4
RJF MLR MLR
comp=Z,210nm,18.3s,MS4.6
LDF La Druitiere 86.95 318 eP **P 18 02 22.5 -0.1**
comp=Z,208nm,1.8s,mb5.8
LDF La Druitiere 86.95 318 eP **P 18 02 22.5 -0.1**
LDF pmax pmax
comp=Z,104nm,1.8s,mb5.8
FLN La Foliniere 87.16 319 eP **P 18 02 23.6 0.0**
comp=Z,92nm,1.3s,mb5.5
FLN eR
comp=Z,308nm,22.5s
FLN La Foliniere 87.16 319 eP **P 18 02 23.6 0.0**
FLN pmax pmax
comp=Z,46nm,1.3s,mb5.5
FLN MLR MLR
comp=Z,310nm,22.5s,MS4.7
MFF Saint Martin d 87.26 317 eP **P 18 02 24.2 0.0**
comp=Z,111nm,1.5s,mb5.6
MFF Saint Martin d 87.26 317 eP **P 18 02 24.2 0.0**
MFF pmax pmax
comp=Z,56nm,1.5s,mb5.6
GRR Gorron 87.46 318 eP **P 18 02 25.0 -0.1**
comp=Z,97nm,1.4s,mb5.5
GRR Gorron 87.46 318 eP **P 18 02 25.0 -0.1**
GRR pmax pmax
comp=Z,48nm,1.4s,mb5.5
ETSF Etsaut 88.11 313 eP **P 18 02 28.9 +0.5**
comp=Z,96nm,1.6s,mb5.5
ETSF Etsaut 88.11 313 eP **P 18 02 28.9 +0.5**
ETSF pmax pmax
comp=Z,48nm,1.6s,mb5.5
SJPF Ste Jean 88.56 313 eP **P 18 02 30.9 +0.4**
comp=Z,56nm,1.3s,mb5.4
SJPF Ste Jean 88.56 313 eP **P 18 02 30.9 +0.4**
SJPF pmax pmax
comp=Z,28nm,1.3s,mb5.4
ROSF Rostrenen 89.06 319 eP **P 18 02 32.9 +0.1**
comp=Z,121nm,1.3s,mb5.8
ROSF Rostrenen 89.06 319 eP **P 18 02 32.9 +0.1**
ROSF pmax pmax
comp=Z,60nm,1.3s,mb5.8
DLF Lyons Farm 90.05 324⇓ iP **P 18 02 44.2 +6.9**
DMUB Kingscourt 90.13 324 eP **P 18 02 43.7 +6.1**
DCN Croghan 90.47 324⇓ iP **P 18 02 43.1 +3.9**
ESDC Sonseca Array 91.21 310 P **P 18 02 42.6 -0.4**
comp=Z,3.8nm,0.9s,mb4.7,baz=37,slow=5.9,SNR=4.6
ESDC pP pP 18 02 48.9 +0.7
comp=Z,6.7nm,0.9s,baz=57,slow=4.8,SNR=7.6
IMA Indian Mountai 91.56 22 eP **P 18 02 45.1 +1.2**
IMA epP pP 18 02 50.3 +1.2
ILAR Eielson Array 94.68 22 P **P 18 02 58.1 -0.2**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR pmax pmax
comp=Z,2.0nm,0.9s
ILAR Eielson Array 94.68 22 P **P 18 02 58.0 -0.2**
comp=Z,0.6nm,0.7s,mb4.1,baz=296,slow=4.2,SNR=6.7
ILAR pP pP 18 03 03.5 +0.1
comp=Z,1.6nm,0.9s,baz=285,slow=2.6,SNR=9.8
INK Inuvik 96.93 16 P **P 18 03 08.7 +0.2**
INK pmax pmax
comp=Z,11nm,1.1s
INK pmax pmax
comp=Z,11nm,1.1s
INK Inuvik 96.93 16 P **P 18 03 08.7 +0.2**
comp=Z,11nm,1.1s,mb5.2,baz=304,slow=4.7,SNR=13
INK pP pP 18 03 14.1 +0.3
comp=Z,11nm,1.1s,baz=299,slow=4.9,SNR=15
INK Inuvik 96.93 16 eP **P 18 03 10.1 +1.6**
comp=Z,19nm,1.2s,mb5.4
INK epP pP 18 03 13.8 +0.1
DAWY Dawson 97.79 21 eP **P 18 03 13.6 +1.1**
DAWY epP pP 18 03 17.8 +0.1
DBIC Dimbokro 97.97 278 pP pP 18 03 20.1 +0.4
comp=Z,7.1nm,1.1s,baz=42,slow=3.8,SNR=3.4
YKA Yellowknife Ar 106.36 13 Pdiff Pdif 18 03 56.6 +5.9
comp=Z,0.2nm,0.7s,baz=313,slow=4.8,SNR=5.2
YKA PP PP 18 08 09.9 -8.3
comp=Z,0.2nm,0.7s,baz=331,slow=1.6,SNR=4.1
ULM Lac du Bonnet 121.40 8 PKP PKPdf 18 08 30.9 -2.7
comp=Z,4.1nm,0.9s,baz=63,slow=1.4,SNR=6.1
ULM pPKP 18 08 36.7
comp=Z,4.1nm,0.9s,baz=292,slow=3.4,SNR=4.0
ULM Lac du Bonnet 121.40 8 PKP PKPdf 18 08 30.9 -2.7
ULM pPKP 18 08 36.7
NVAR Mina Array Bea 124.85 31 PKP PKPdf 18 08 38.0 -2.6
comp=Z,3.0nm,0.9s,baz=317,slow=0.9,SNR=6.6
NVAR pPKP 18 08 44.4
comp=Z,1.1nm,0.6s,baz=7.4,slow=28,SNR=8.9
PDAR Pinedale Array 125.10 21 PKP PKPdf 18 08 38.9 -2.1
comp=Z,1.8nm,0.8s,baz=66,slow=1.1,SNR=16
PDAR pPKP 18 08 45.1
comp=Z,4.1nm,1.1s,baz=189,slow=1.6,SNR=9.4
TXAR Lajitas Array 139.16 24 PKP PKPdf 18 09 05.0 -2.7
comp=Z,0.7nm,0.4s,baz=356,slow=0.5,SNR=5.0
TXAR pPKP 18 09 12.0
comp=Z,0.8nm,0.5s,baz=153,slow=2.8,SNR=6.2
TXAR PP PP 18 11 51.2 -10
comp=Z,0.4nm,0.9s,baz=12,slow=8.3,SNR=2.0
TXAR Lajitas Array 139.16 24 PKP PKPdf 18 09 05.0 -2.7
TXAR pPKP 18 09 12.0
TXAR PP PP 18 11 51.2 -10
BAO Brasilia Array 142.23 255 P PKPdf 18 09 14.0 +0.5
PLCA Paso Flores 144.62 200 PKIKP PKPdf 18 09 14.3 -2.6
PLCA 18 09 20.4
PLCA pmax pmax
comp=Z,10.0nm,0.8s
PLCA pmax pmax
comp=Z,20nm,0.9s
PLCA Paso Flores 144.62 200 PKP PKPdf 18 09 14.3 -2.7
comp=Z,10.0nm,0.8s,baz=162,slow=3.5,SNR=14
PLCA pPKP 18 09 20.4
comp=Z,20nm,0.9s,baz=165,slow=5.0,SNR=13
PLCA Paso Flores 144.62 200 PKP PKPdf 18 09 14.3 -2.7
PLCA pPKP 18 09 20.4
SAML Samuel 157.58 266 ePKPdf PKPdf 18 09 36.1 -1.0
LPAZ La Paz 160.82 243 PKPab PKPab 18 09 40.6 -41
comp=Z,11nm,1.3s,baz=19,slow=3.7,SNR=9.2
OTAV Otavalo 169.05 317 ePKPdf PKPdf 18 09 46.8 -1.1
OTAV ePKPab PKPab 18 10 58.2 +0.4

*MEX **28** 17:56:56.6±0.6, 16.02N×98.50W, h10km, MD3.9*
*NEIC **28** 17:56:58.9±3.0, 16.11N×98.33W, h13km±13km, MD3.8(MEX), Error ellipse: s-maj=32.0km s-min=12.7km az=175.0*
ISC 28 17:56:54.8±1.9,**15.88N**±0.09×**98.31W**±0.05,**h7**km±8km,
n14,σ0°77/28,2C,Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.54**	**19⇑**	*iP*		**Pg**	**17 57 05.9**	**+0.1**
PNIG				*eS*		**Sg**	**17 57 13.3**	**+0.3**
PNIG	**Pinotepa**	**0.54**	**19⇑**	*iP*		**Pg**	**17 57 05.9**	**+0.1**
PNIG				*i S*		**Sg**	**17 57 12.7**	**-0.3**
ACX	**Acapulco**	**1.83**	**303**	*eP*		**Pn**	**17 57 27.0**	**0.0**
ACX				*eS*		**Sn**	**17 57 50.3**	**-0.4**
VHO	**Vista Hermosa**	**1.93**	**52**	*i P*		**Pn**	**17 57 27.4**	**-1.0**
VHO				*i S*		**Sn**	**17 57 52.8**	**-0.3**
OXX	**Oaxaca**	**1.94**	**52**	*eP*		**Pn**	**17 57 30.0**	**+1.4**
OXX				*eS*		**Sn**	**17 57 59.5**	**+6.1**
CAIG	**El Cayaco**	**2.21**	**302**	*i P*		**Pn**	**17 57 34.2**	**+1.7**
CAIG				*i S*		**Sn**	**17 57 49.7**	**-11**
CAIG	**El Cayaco**	**2.21**	**302**	*i P*		**Pn**	**17 57 26.7**	**-5.7**
CAIG				*i S*		**Sn**	**17 57 49.7**	**-11**
PLIG	**Platanillo**	**2.75**	**336**	*eP*		**Pn**	**17 57 39.2**	**-1.0**
PLIG				*eS*		**Sn**	**17 58 15.3**	**+1.3**
PLIG	**Platanillo**	**2.75**	**336**	*eP*		**Pn**	**17 57 34.5**	**-5.7**
PLIG				*i S*		**Sn**	**17 58 05.5**	**-8.5**
YAIG	**Yautepec**	**3.06**	**346**	*i P*		**Pn**	**17 57 43.7**	**-0.9**
YAIG				*i S*		**Sn**	**17 58 27.6**	**+5.8**
YAIG	**Yautepec**	**3.06**	**346**	*i P*		**Pn**	**17 57 40.6**	**-3.9**
YAIG				*i S*		**Sn**	**17 58 13.6**	**-8.2**
PPM	**Popocatepetl**	**3.19**	**355**	*eP*		**Pn**	**17 57 46.7**	**+0.3**
PPM				*i S*		**Sn**	**17 58 25.0**	**-0.1**
PPM	**Popocatepetl**	**3.19**	**355**	*eP*		**Pn**	**17 57 45.7**	**-0.7**
PPM				*eP*			17 57 50.0	
PPM				*i S*		**Sn**	**17 58 19.6**	**-5.6**
CMIG	**Matias Romero**	**3.50**	**69**	*i P*		**Pn**	**17 57 50.6**	**-0.3**
CMIG				*i S*		**Sn**	**17 58 33.4**	**+0.3**

*CSEM **28** 17:57:40.6±0.1, 38.71N×15.38E, h235km±1km, ML2.7/11, Error ellipse: s-maj=2.8km s-min=2.1km az=116.0*
*ROM **28** 17:57:41.6±0.5, 38.71N×15.31E, h231km±4km, MD3.0/9, ML2.7/11, Error ellipse: s-maj=3.4km s-min=2.9km az=90.0*
*IDC **28** 17:57:42.8±1.1, 38.82N×15.10E, h237km±16km, mb3.4/8, mb1 3.3/12, mb1mx3.2/23, mbtmp3.8/12, Error ellipse: s-maj=28.8km s-min=17.1km az=37.0*
*NEIC **28** 17:57:42.7±0.9, 38.82N×15.20E, h234km±9km, mb4.1/2, Error ellipse: s-maj=23.2km s-min=12.8km az=49.0*
ISC 28 17:57:41.3±0.4,**38.73N**±0.06×**15.30E**±0.09,**h232**km±4km,
n59,σ1°04/68,mb3.7/7,9D,Sicily

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SLNA	**Salina**	**0.41**	**245⇓**	*iP*		**P**	**17 58 12.6**	**+0.4**
	418nm,0.3s							
SLNA	**Salina**	**0.41**	**245⇓**	*iP*		**P**	**17 58 12.6**	**+0.4**
	418nm,0.3s							
MSRU	**Castanea**	**0.50**	**161⇓**	*iP*		**P**	**17 58 11.9**	**-0.5**
MSRU					S	**S**	**17 58 34.8**	**-1.8**
MSI	**Messina ING**	**0.56**	**160**	*eP*		**P**	**17 58 12.4**	**-0.2**
MSI					S	**S**	**17 58 35.2**	**-1.8**
	866nm,0.3s							
MSI	**Messina ING**	**0.56**	**160**	*eP*		**P**	**17 58 12.4**	**-0.2**
	866nm,0.3s							
SCLL	**Scilla**	**0.58**	**146**	*eP*		**P**	**17 58 12.5**	**-0.2**
SCLL					S	**S**	**17 58 35.0**	**-2.1**
	227nm,0.3s							
SCLL	**Scilla**	**0.58**	**146**	*eP*		**P**	**17 58 12.5**	**-0.2**
	227nm,0.3s							
CEL	**Celeste**	**0.66**	**136**	*eP*		**P**	**17 58 12.8**	**-0.2**
GMB	**Gambarie**	**0.70**	**144**	*eP*		**P**	**17 58 13.7**	**+0.6**
MTTG	**Motta San Giov**	**0.79**	**157**	*eP*		**P**	**17 58 13.9**	**+0.3**
	330nm,0.4s							

MTTG	**Motta San Giov**	0.79	157	*eP*	P	17 58 13.9 +0.3
	330nm,0.4s					
MMME	**Mongiuffi-Meli**	0.80	183	*eP*	P	17 58 14.1 +0.5
GRI	**Girifalco**	0.88	84	⇓*iP*	P	17 58 14.7 +0.8
SOI	**Samo**	0.89	138	⇓*iP*	P	17 58 14.4 +0.4
SOI				S	S	17 58 38.3 -1.1
MNO	**Monte Soro**	0.93	211	*eP*	P	17 58 15.7 +1.5
	230nm,0.3s					
MNO	**Monte Soro**	0.93	211	*eP*	P	17 58 15.7 +1.5
	230nm,0.3s					
PLLN	**Pollina**	1.18	231	⇓*iP*	P	17 58 15.8 0.0
TIP	**Timpagrande**	1.22	68	⇓*iP*	P	17 58 17.1 +1.0
TIP				S	S	17 58 42.7 -0.5
TIP	**Timpagrande**	1.22	68	*eP*	P	17 58 16.8 +0.7
TIP				*eS*	S	17 58 42.8 -0.3
TIP	**Timpagrande**	1.22	68	*eP*	P	17 58 16.8 +0.7
TIP				*eS*	S	17 58 42.8 -0.4
GIB	**Gibilmanna**	1.25	234	*eP*	P	17 58 16.5 +0.1
	109nm,0.4s					
GIB	**Gibilmanna**	1.25	234	*eP*	P	17 58 16.5 +0.1
	109nm,0.4s					
CSLB	**Castelbuono**	1.26	231	*eP*	P	17 58 16.6 +0.1
CUC	**Castrocucco**	1.32	17	⇓*iP*	P	17 58 17.3 +0.4
MGR	**Morigerati**	1.42	8	*eP*	P	17 58 18.4 +0.8
	73nm,0.5s					
MGR	**Morigerati**	1.42	8	*eP*	P	17 58 18.4 +0.8
	73nm,0.5s					
VAE	**Valguarnera**	1.44	210	P	P	17 58 19.5 +1.7
	8.9nm,0.3s,baz=86,slow=7.5,SNR=21					
AGST	**Augusta-Monte**	1.48	182	*eP*	P	17 58 18.0 -0.1
AGST				S	S	17 58 46.2 -0.4
	166nm,0.3s					
AGST	**Augusta-Monte**	1.48	182	*eP*	P	17 58 18.0 -0.1
	166nm,0.3s					
AGST				S	S	17 58 46.2 -0.4
ORI	**Oriolo Calabro**	1.60	33	*eP*	P	17 58 20.1 +1.0
	152nm,0.3s					
ORI	**Oriolo Calabro**	1.60	33	*eP*	P	17 58 20.1 +1.0
	152nm,0.3s					
PZI	**Palazzolo**	1.70	190	*eP*	P	17 58 20.8 +0.9
	9.0nm,0.5s					
MRLC	**Muro Lucano**	2.02	4	*eP*	P	17 58 24.6 +1.7
	13nm,0.4s					
MRLC	**Muro Lucano**	2.02	4	*eP*	P	17 58 24.6 +1.7
	13nm,0.4s					
LTRZ	**Laterza**	2.20	32	*eP*	P	17 58 24.1 -0.6
	40nm,0.2s					
LTRZ	**Laterza**	2.20	32	*eP*	P	17 58 24.1 -0.6
	40nm,0.2s					
SG1	**Sgolgore (BA)**	2.35	26	⇓*i*Pn	P	17 58 25.9 -0.3
CDT	**Castel del Mon**	2.46	17	*e*Pn	P	17 58 27.5 +0.2
PE1	**Pezze di Greco**	2.63	38	*e*Pn	P	17 58 28.6 -0.6
LCI	**Lecce**	2.70	53	*eP*	P	17 58 30.0 +0.2
	52nm,0.3s					
LCI	**Lecce**	2.70	53	*eP*	P	17 58 30.0 +0.2
	52nm,0.3s					
IDI	**Anoyia**	8.40	111	P	P	17 59 43.0 +2.5
	0.9nm,0.3s,baz=13,slow=14,SNR=8.2					
DAVOX	**Davos**	8.97	335	P	P	17 59 47.9 +0.1
	0.2nm,0.3s,baz=152,slow=18,SNR=2.6					
LPG	**La Plagne**	9.27	320	*eP*	P	17 59 57.7 +6.1
	10.0nm,0.8s					
GERES	**GERESS Array B**	10.17	354	P	P	18 00 03.8 +0.7
	0.1nm,0.3s,baz=157,slow=14,SNR=4.2					
CLL	**Collm**	12.68	353	P	P	18 00 37.0 +2.4
AKASG	**Malin Array Be**	15.49	35	P	P	18 01 09.2 0.0
	0.6nm,0.3s,baz=225,slow=9.4,SNR=4.7					
COP	**Copenhagen**	17.07	354	*i P*	P	18 01 25.0 -2.2
	13nm,0.6s					
COP	**Copenhagen**	17.07	354	*eP*	P	18 01 25.0 -2.2
	13nm,0.6s					
EKA	**Eskdalemuir Ar**	20.73	329	P	P	18 02 03.7 -0.8
	0.8nm,0.3s,baz=141,slow=10,SNR=6.9					
HFS	**Hagfors**	21.45	358	P	P	18 02 09.8 -1.7
	8.2nm,1.1s,mb4.2,baz=166,slow=12,SNR=2.3					
FINES	**FINESS Array B**	23.70	13	P	P	18 02 32.5 -0.5
	3.9nm,0.5s,mb4.3,baz=182,slow=8.6,SNR=20					
ARCES	**ARCESS Array B**	31.34	7	P	P	18 03 39.2 -2.4
	3.4nm,1.0s,mb3.9,baz=203,slow=9.2,SNR=4.5					
ARCES	**ARCESS Array B**	31.34	7	P	P	18 03 39.2 -2.5
BVAR	**Borovoye Array**	39.91	51	P	P	18 04 55.1 +1.1
	0.5nm,0.4s,mb3.3,baz=268,slow=10.0,SNR=9.7					
ZAL	**Zalesovo**	48.35	48	P	P	18 06 01.6 +0.7
	1.4nm,0.4s,mb3.7,baz=231,slow=6.0,SNR=3.7					
SONM	**Songino Array**	63.23	49	P	P	18 07 45.3 -1.3
	0.4nm,0.8s,mb3.1,baz=284,slow=5.9,SNR=4.4					
YKA	**Yellowknife Ar**	71.40	338	P	P	18 08 36.4 -0.8
	1.4nm,1.0s,mb3.5,baz=39,slow=5.7,SNR=9.5					
YKA	**Yellowknife Ar**	71.40	338	P	P	18 08 36.4 -0.8

*IDC **28** 17:59:40.9±1.1, 7.58N×93.88E, mb3.8/10, mb1 3.9/11, mb1mx3.8/19, mbtmp3.7/11, ML3.6/1, Error ellipse: s-maj=42.1km s-min=20.8km az=53.0*
*NEIC **28** 17:59:45.6±0.6, 7.66N×93.96E, h30km, mb4.3/4, Error ellipse: s-maj=16.5km s-min=10.7km az=61.0*
ISC 28 17:59:43.7±0.8, 7.7N±0.1×94.0E±0.2, h30km, n15, σ0°68/15, mb3.9/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.73	24	Pn	P	18 02 31.6	-0.7
	0.1nm,0.3s,baz=210,slow=14,SNR=7.0						
LSA	**Lhasa**	22.06	353	*eP*	P	18 04 38.0	0.0
	8.5nm,0.8s,mb4.2						
SONM	**Songino Array**	41.37	13	P	P	18 07 29.9	+1.1
	1.0nm,0.9s,mb3.4,baz=193,slow=7.6,SNR=6.8						
KURK	**Kurchatov**	44.76	346	*eP*	P	18 07 56.0	-0.3
	1.8nm,0.7s,mb4.0						
ZAL	**Zalesovo**	46.72	353	P	P	18 08 12.7	+0.9
	1.8nm,0.5s,mb4.3,baz=303,slow=5.6,SNR=10						
WRA	**Warramunga Arr**	48.26	125	P	P	18 08 24.7	+0.4
	0.2nm,0.5s,mb3.4,baz=304,slow=8.6,SNR=5.5						
BVAR	**Borovoye Array**	49.12	341	P	P	18 08 30.9	+0.3
	0.6nm,0.7s,mb3.7,baz=141,slow=9.5,SNR=4.4						
CHKZ	**Chkalovo**	49.61	342	*eP*	P	18 08 33.9	-0.4
	2.3nm,0.8s,mb4.3						
ASAR	**Alice Springs**	49.89	130	P	P	18 08 36.3	-0.6
	0.6nm,1.0s,mb3.6,baz=304,slow=7.6,SNR=4.7						
KIV	**Kislovodsk**	57.37	318	P	P	18 09 30.8	-1.0
	3.2nm,0.5s,mb4.6						
BRTR	**Keskin Array B**	62.45	311	P	P	18 10 06.5	-0.2
	0.3nm,0.4s,mb3.8,baz=90,slow=2.5,SNR=3.8						
FINES	**FINESS Array B**	72.82	332	P	P	18 11 10.4	-0.8
	1.7nm,0.9s,mb4.0,baz=127,slow=9.5,SNR=5.3						
ARCES	**ARCESS Array B**	75.40	340	P	P	18 11 25.8	-0.3
	1.0nm,0.7s,mb3.9,baz=59,slow=7.1,SNR=3.9						
GERES	**GERESS Array B**	77.88	318	P	P	18 11 41.4	+1.1
	0.4nm,0.7s,mb3.5,baz=135,slow=3.8,SNR=3.7						
HFS	**Hagfors**	78.55	330	P	P	18 11 44.4	+0.6
	0.9nm,0.4s,mb4.0,baz=117,slow=6.6,SNR=7.9						

*IDC **28** 18:04:25.1±2.1, 32.00S×177.08W, mb4.3/4, mb1 4.3/5, mb1mx4.1/14, mbtmp4.2/5, ML3.6/1, Error ellipse: s-maj=54.9km s-min=30.7km az=132.0*
ISC 28 18:04:25.1±4.8, 32.1S±0.2×177.2W±0.7, h10km, n14, σ1°01/12, mb4.2/4, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	7.08	211	*eS*	Sn	18 07 35.1	+2.2
URZ	**Urewera**	7.77	216	Pn	Pn	18 06 20.4	-0.6
	0.8nm,0.3s,baz=329,slow=18,SNR=4.8						
URZ				Sn	Sn	18 07 50.1	0.0
	6.9nm,0.3s,baz=154,slow=18,SNR=21						
BKZ	**Black Stump Fm**	8.78	214	*eS*	Sn	18 08 13.7	-1.5
MRZ	**Mangatainoka R**	10.39	212	*eS*	S	18 08 49.4	-5.5
CTA	**Charters Tower**	34.81	281	*eP*	P	18 11 18.5	+0.2
	2.9nm,0.6s,mb4.4						
CTA	**Charters Tower**	34.81	281	P	P	18 11 19.0	+0.7
	4.4nm,0.7s,mb4.5,baz=103,slow=11,SNR=6.7						
STKA	**Stephens Creek**	34.85	259	⇓*iP*	P	18 11 19.7	+1.2
	2.2nm,0.6s,mb4.3						
STKA	**Stephens Creek**	34.85	259	P	P	18 11 20.1	+1.5
	2.3nm,0.5s,mb4.4,baz=93,slow=8.5,SNR=13						
ASAR	**Alice Springs**	43.77	268	P	P	18 12 32.5	-0.3
	1.3nm,0.7s,mb3.8,baz=109,slow=7.2,SNR=18						
WB2	**Warramunga Arr**	44.90	273	*eP*	P	18 12 41.5	-0.4
WRA	**Warramunga Arr**	44.91	273	P	P	18 12 41.4	-0.6
	3.5nm,0.6s,mb4.4,baz=114,slow=7.7,SNR=34						
FINES	**FINESS Array B**	146.95	340	PKPbc	PKPbc	18 24 09.9	+3.2
	1.5nm,0.6s,baz=45,slow=2.7,SNR=8.9						
ASF	**Jabal al Asfar**	151.23	279	PKPbc	PKPdf	18 24 19.6	+3.7
	1.0nm,0.5s,baz=56,slow=3.6,SNR=2.4						
AKASG	**Malin Array Be**	153.06	321	PKPab	PKPab	18 24 33.7	-2.5
	0.2nm,0.3s,baz=52,slow=4.2,SNR=5.3						

*IDC **28** 18:05:54.0±0.8, 19.43N×65.28W, mb4.1/12, mb1 4.3/14, mb1mx4.1/24, mbtmp4.2/14, ML3.6/2, MS4.1/3, Ms1 4.0/3, ms1mx3.4/20, Error ellipse: s-maj=24.4km s-min=14.5km az=93.0*
*RSPR **28** 18:05:58.1, 19.66N×65.42W, h37km±21km, MD4.8/11, MD4.8/11*
*NEIC **28** 18:05:58.1, 19.66N×65.42W, h37km, mb4.4/6, MD4.7(RSPR), After RSPR.*
ISC 28 18:05:57.2±0.9, 19.61N±0.05×65.42W±0.06, h37km±9km, n57, σ1°19/57, mb4.2/16, MS4.2/2, 5C-8D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	1.40	197	⇓*iP*	P	18 06 20.3	-0.3
CSB	**Colonia Sabana**	1.49	208	⇓*iP*	P	18 06 21.7	-0.2
MTP	**Monte Pirata**	1.52	185	⇓*iP*	P	18 06 22.7	+0.5
MTP				*eS*	S	18 06 41.3	+0.3
HUMP	**Col San Antoni**	1.52	196	⇑*eP*	P	18 06 22.2	-0.1
HUMP				*eS*	S	18 06 40.9	-0.1
CPD	**Cerro la Pandu**	1.63	197	⇑*iP*	P	18 06 24.0	+0.1
CPD				*eS*	S	18 06 44.5	+0.5
SJG	**San Juan**	1.64	205	*eS*	S	18 06 44.7	+0.4
SJG	**San Juan**	1.64	205	⇑*eP*	P	18 06 24.0	-0.1
SJG				*eS*	S	18 06 44.1	-0.1
SJG	**San Juan**	1.64	205	Pn	P	18 06 24.0	-0.1
	160nm,0.3s,baz=45,slow=11,SNR=116						
SJG				Sn	S	18 06 44.0	-0.2
	361nm,0.3s,baz=17,slow=19,SNR=14						
SJG				LR	LR	18 06 50.0	
	comp=Z,2μm,21.1s,baz=86,slow=36						
SJG	**San Juan**	1.64	205	⇓*iP*	P	18 06 23.9	-0.2
SJG				*eS*	S	18 06 44.7	+0.4
AOPR	**Arecibo Observ**	1.78	225	⇑*eP*	P	18 06 26.1	+0.1
AOPR				*eS*	S	18 06 47.7	+0.1
CELP	**Cerrillos**	1.88	216	⇓*eP*	P	18 06 27.2	-0.2
OBIP	**Obispado Ponce**	1.92	216	⇓*eP*	P	18 06 28.3	+0.2
PORP	**Portuguez**	1.93	217	⇓*eP*	P	18 06 27.9	-0.3
LSP	**Las Mesas**	2.13	228	⇓*eP*	P	18 06 31.2	+0.2
MGP	**Maguayo**	2.25	225	⇓*eP*	P	18 06 32.4	-0.3
STMA	**St. Maarten, A**	2.69	125	*e*	rx	18 07 01.4	
STAT	**Sint Eustatius**	3.13	132	*eP*	rx	18 07 01.9	
SEG	**Port Louis**	4.90	130	*eP*	P	18 07 10.2	-0.2
SCG	**Saint Claude**	5.04	134	*eP*	P	18 07 17.4	+5.1
BBL	**Barber's Block**	5.54	137	*eP*	P	18 07 21.0	+1.6
SDV	**Santo Domingo**	11.80	206	Pn	P	18 08 47.4	+1.4
	1.3nm,0.3s,baz=71,slow=8.7,SNR=19						
SDV				LR	LR	18 12 59.2	
	comp=Z,527nm,21.7s,baz=40,slow=36						
SDV	**Santo Domingo**	11.80	206	*eP*	P	18 08 47.0	+1.0
BBSR	**BB Station**	12.72	3	P	P	18 08 55.9	-2.5
ROSC	**El Rosal**	17.04	212	Pn	P	18 09 58.8	+4.4
	2.0nm,0.3s,baz=266,slow=22,SNR=5.7						
JTS	**JuntasAbangare**	21.00	247	*eP*	P	18 10 38.7	-1.2
	18nm,0.8s,mb4.5						
GOGA	**Godfrey**	21.16	314	P	P	18 10 38.2	-3.2
BLA	**Blacksburg**	21.89	326	*eP*	P	18 10 45.5	-3.3
	18nm,0.6s,mb4.7						
ELN	**Prospectdale**	22.08	326	P	P	18 10 49.3	-1.3
PWV	**Princeton**	22.32	326	P	P	18 10 53.6	+0.7
PAL	**Palisades**	22.52	343	P	P	18 10 51.9	-3.1
HRV	**Harvard--Oak R**	23.41	349	P	P	18 11 02.5	-1.1
	15nm,0.6s,mb4.6						
SSPA	**Standing Stone**	23.52	336	*eP*	P	18 11 04.4	-0.3
SAML	**Samuel**	28.46	175	*eP*	P	18 11 49.6	-1.6
	4.3nm,0.9s,mb4.1						
WMOK	**Wichita Mounta**	33.10	304	P	P	18 12 30.7	-1.2
SCHQ	**Schefferville**	35.18	359	LR	LR	18 25 36.8	
	comp=Z,251nm,18.4s,MS4.0,baz=3.6,slow=34						
LPAZ	**La Paz**	35.77	184	P	P	18 12 53.9	-1.0
	1.0nm,0.4s,mb4.1,baz=20,slow=6.9,SNR=3.9						
LPAZ	**La Paz**	35.77	184	*eP*	P	18 12 53.7	-1.2
	3.2nm,0.9s,mb4.2						
TXAR	**Lajitas Array**	36.00	293	P	P	18 12 58.6	+1.9
	1.7nm,0.7s,mb4.1,baz=113,slow=10,SNR=14						
MNTX	**Cornudas Mount**	37.78	297	*eP*	P	18 13 12.2	+0.5
LVC	**Limon Verde**	42.10	185	P	P	18 13 45.8	-1.8
	3.0nm,0.6s,mb4.1,baz=34,slow=8.4,SNR=5.3						
LVC	**Limon Verde**	42.10	185	P	P	18 13 45.8	-1.8
FRB	**Frobisher Bay**	44.16	358	P	P	18 14 05.7	+1.9
	1.0nm,0.5s,mb3.8,baz=169,slow=10,SNR=2.2						
NVAR	**Mina Array Bea**	49.21	304	P	P	18 14 46.5	+2.6
	8.2nm,1.2s,mb4.6,baz=86,slow=7.6,SNR=7.5						
NEW	**Newport**	50.31	317	P	P	18 14 53.8	+1.6
	2.8nm,0.6s,mb4.5,baz=235,slow=8.9,SNR=3.2						
NEW				LR	LR	18 38 20.5	
	comp=Z,328nm,21.3s,MS4.3,baz=336,slow=38						
YKA	**Yellowknife Ar**	54.44	334	P	P	18 15 23.8	+1.0
	0.6nm,0.6s,mb3.7,baz=111,slow=7.5,SNR=9.8						
YKA	**Yellowknife Ar**	54.44	334	P	P	18 15 23.8	+1.0
DBIC	**Dimbokro**	60.09	94	P	P	18 16 02.8	-0.7
	1.8nm,0.8s,mb4.1,baz=278,slow=7.1,SNR=2.5						
PLCA	**Paso Flores**	60.22	184	P	P	18 16 03.1	-1.0
	1.5nm,0.7s,mb4.2,baz=346,slow=4.2,SNR=3.3						
PLCA	**Paso Flores**	60.22	184	*eP*	P	18 16 02.2	-1.8
	1.6nm,0.6s,mb4.2						
INK	**Inuvik**	63.87	337	P	P	18 16 29.5	+1.6
	3.5nm,1.2s,mb4.3,baz=135,slow=4.4,SNR=3.4						
INK	**Inuvik**	63.87	337	P	P	18 16 29.5	+1.6
ILAR	**Eielson Array**	68.81	333	P	P	18 17 00.9	+1.5
	0.7nm,0.6s,mb3.8,baz=105,slow=4.3,SNR=9.4						
ARCES	**ARCESS Array B**	72.12	22	P	P	18 17 21.3	+2.0
	1.8nm,0.7s,mb4.1,baz=324,slow=7.8,SNR=3.8						
CTA	**Charters Tower**	150.23	264	PKPbc	PKPdf	18 25 47.8	+7.9
	1.7nm,0.7s,baz=67,slow=7.7,SNR=3.5						
STKA	**Stephens Creek**	152.85	238	*eP*	PKPdf	18 25 54.7	+11
	1.3nm,0.5s						
WRA	**Warramunga Arr**	161.40	266	PKPab	PKPab	18 26 42.3	+1.3
	0.4nm,0.6s,baz=86,slow=4.3,SNR=3.8						
ASAR	**Alice Springs**	161.59	254	PKPab	PKPab	18 26 42.5	+0.7
	1.2nm,0.6s,baz=110,slow=4.4,SNR=12						

*ATH **28** 18:11:47.3, 38.60N×23.62E, h21km±2km, MD3.3/10, ML3.3*
*THE **28** 18:11:49.3, 38.63N×23.63E, h15km, ML3.0*
*CSEM **28** 18:11:49.3, 38.63N×23.63E, h15km, ML3.0, After THE*
ISC 28 18:11:47.2±0.5, 38.55N±0.03×23.71E±0.06, h19km±7km, n22, σ0°82/27, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAR	**Parnis Oros**	0.40	177	*e*PB	Pb	18 11 56.5	+1.1
PTL	**Penteli**	0.51	166	*e*PN	Pn	18 11 59.0	-0.3
LKR	**Lokris**	0.56	281	*e*PB	Pb	18 11 56.6	-1.6
ATH	**Athens Observa**	0.57	179	*e*PN	Pn	18 11 59.8	-0.4
AOS	**Alonnisos**	0.64	12	*e*Pg	Pb	18 11 59.8	+0.4
AOS				*e*Sg	Sb	18 12 09.0	+1.2
MGER	**Gerania Oros**	0.66	212	*e*PB	Pb	18 12 00.0	+0.1
NAIG	**Nisos Aigina**	0.81	192	*e*PN	Pn	18 12 04.0	+0.5
NEO	**Neokhori**	0.85	334	*e*PN	Pn	18 12 02.6	-1.5
XOR	**Xorichti**	0.91	334	*e*Pg	Pb	18 12 04.0	-0.1
XOR				*e*Sg	Sb	18 12 16.8	+1.0
AGG	**Agios Georgios**	1.18	294	*e*Pg	Pb	18 12 08.5	-0.1
AGG				*e*Sg	Sb	18 12 24.4	+1.0
PAIG	**Paliouri**	1.38	359	*e*Pb	Pb	18 12 12.0	-0.1
PAIG				*e*Sb	Sb	18 12 29.0	-0.3
EVR	**Evrytania**	1.53	285	*e*PN	Pn	18 12 15.3	+1.4
LOS	**Limnos**	1.75	37	*e*Pb	Pb	18 12 17.9	-0.5
OUR	**Ouranopolis**	1.80	7	*e*Pb	Pb	18 12 18.2	-1.0
LIT	**Litokhoron**	1.82	329	*e*Pb	Pb	18 12 18.1	-1.4
LIT	**Litokhoron**	1.82	329	*e*Pb	Pb	18 12 18.1	-1.5
PLG	**Polygyros**	1.83	354	*e*PN	Pn	18 12 18.4	+0.2
VLI	**Veliai**	1.93	199	*e*PB	Pb	18 12 20.8	-0.6
APE	**Apeiranthos**	2.06	135	*e*PB	Pb	18 12 23.9	+0.1
GRG	**Griva**	2.61	338	*e*Pn	Pn	18 12 29.8	+0.5
KNT	**Kendrikon**	2.69	347	*e*Pn	Pn	18 12 31.2	+0.8
KNT				*e*Sn	Sn	18 13 01.9	-0.8
ALN	**Alexandroupoli**	2.96	37	*e*Pn	Pn	18 12 34.8	+0.5

IDC 28 18:14:10.3±2.5, 4.61N×94.00E, mb3.4/4, mb1 3.7/5, mb1mx3.5/18, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=100.9km s-min=25.3km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	14.59	19	Pn	P	18 17 40.1	-0.1
	0.1nm,0.3s,baz=209,slow=10,SNR=7.3						
WRA	**Warramunga Arr**	46.55	123	P	P	18 22 40.0	-1.9
	0.3nm,0.6s,baz=306,slow=9.1,SNR=7.1						
ASAR	**Alice Springs**	47.99	128	P	P	18 22 51.4	-1.9
	0.2nm,0.6s,baz=300,slow=8.6,SNR=3.3						
ZAL	**Zalesovo**	49.75	353	P	P	18 23 03.8	-2.6
	0.6nm,0.3s,baz=156,slow=3.1,SNR=3.2						
BVAR	**Borovoye Array**	52.03	342	P	P	18 23 21.6	-2.2
	0.5nm,0.6s,baz=135,slow=4.1,SNR=3.9						

*IDC **28** 18:16:08.5±0.8, 7.90N×94.05E, h18km±2km, mb3.9/13, mb1 4.0/13, mb1mx4.0/17, mbtmp4.0/13, ML3.9/1, MS4.0/8, Ms1 4.0/8, ms1mx3.7/22, Error ellipse: s-maj=26.3km s-min=18.0km az=42.0*
*NEIC **28** 18:16:08.4±0.4, 7.89N×94.09E, mb4.7/16, Error ellipse: s-maj=11.1km s-min=8.2km az=61.0*
*MOS **28** 18:16:10.8±3.3, 8.04N×94.33E, h33km, mb4.9/19, Error ellipse: s-maj=13.6km s-min=6.8km az=112.9*
*BJI **28** 18:16:10.0, 7.38N×94.21E, h49km, mB5.1, mb4.4, Ms4.2, Msz4.2*
ISC 28 18:16:06.6±0.5, 7.94N±0.08×94.26E±0.08, h20km, h20km±.5km: pP-P, n114, σ1°11/80, mb4.5/38, MS4.2/8, 3C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	11.40	23	*eP*	P	18 18 50.8	-0.9
	6.7nm,0.9s						
CMAR	**Chiang Mai Arr**	11.40	23	Pn	P	18 18 53.0	+1.3
	0.2nm,0.3s,baz=211,slow=13,SNR=11						
CMAR				LR	LR	18 23 26.7	
	comp=Z,248nm,18.3s,baz=210,slow=38						
VIS	**Vishakhapatnam**	14.41	313	*eP*	P	18 19 34.3	+2.4
VIS				*e*		18 19 38.3	
	comp=Z,34nm,1.3s						
IMP	**Imphal**	16.75	359	*e*	P	18 20 07.1	+5.2
HYB	**Hyderabad**	17.97	303	*eP*	P	18 20 20.0	+2.8
HYB	**Hyderabad**	17.97	303	*i P*	P	18 20 20.0	+2.8
KMI	**Kunming**	18.91	24	⇑P	P	18 20 35.5	+6.8
KMI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KMI	**Kunming**	18.91	24	⇑P	P	18 20 35.5	+6.8
	comp=Z,8.0nm,1.3s						
KMI				pP		18 20 39.8	
KMI				S	S	18 24 06.2	+11
JIRN	**Jiri**	21.05	340	*eP*	P	18 20 52.7	+0.8
	comp=Z,202nm,1.4s,mb5.3						
PKI	**Pulchoki**	21.39	338	*eP*	P	18 20 53.5	-0.4
	comp=Z,134nm,1.2s,mb5.2						
DMN	**Daman**	21.39	337	*eP*	P	18 20 54.8	-0.6
	comp=Z,144nm,1.1s,mb5.2						
KKN	**Kakani**	21.49	338	*eP*	P	18 20 56.0	-0.4
	comp=Z,50nm,1.0s,mb4.8						
KAD	**Karad**	21.67	297	*eP*	P	18 21 01.9	+3.6
KAD				*e*		18 21 09.5	
	comp=Z,35nm,1.3s						
LSA	**Lhasa**	21.84	353	*eP*	P	18 21 02.5	+2.6
LSA	**Lhasa**	21.84	353	*eP*	P	18 21 00.9	+1.0
LSA				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.4						
LSA	**Lhasa**	21.84	353	*eP*	P	18 21 00.9	+1.0
	comp=Z,13nm,0.9s,mb4.4						
GKN	**Gorkha**	21.93	337	*eP*	P	18 21 00.8	0.0
	comp=Z,90nm,0.8s,mb5.2						
KOLN	**Koldanda**	22.15	334	*eP*	P	18 21 03.2	+0.2
	comp=Z,206nm,1.2s,mb5.4						
BHPL	**Bhopal**	22.19	315	*eP*	P	18 21 08.5	+5.1
BHPL				*e*		18 21 11.5	
	comp=Z,55nm,2.0s						
POO	**Poona**	22.45	300	*eP*	P	18 21 10.7	+4.6
NDI	**New Delhi**	26.15	324	*e*	P	18 21 45.0	+3.4
DDI	**Dehra Dun**	26.95	328	*e*	P	18 21 54.0	+5.1
NJ2	**Nanjing**	33.14	40	*eP*	P	18 22 43.5	-0.5
NJ2				PP	PP	18 24 01.0	+5.8
NJ2				S	S	18 28 09.0	+7.7
NJ2				XS		18 28 24.0	
NJ2				AMB	AMB		
	comp=Z,410nm,6.2s						
NJ2				LR	LR		
	comp=N,1μm,13.6s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,13.8s,MS5.0						
NJ2				LR	LR		
	comp=Z,1μm,18.8s,MS4.7						
AAK	**Ala-Archa**	38.69	336	*eP*	P	18

comp=Z,2.0nm,0.8s
KMBO pmax pmax
comp=Z,5.0nm,0.9s
KMBO MLR MLR
comp=Z,132nm,18.5s
KMBO Kilima Mbogo 57.55 264 P **P** **18 26 00.9 +3.1**
comp=Z,1.8nm,0.8s,mb4.2,baz=66,slow=14,SNR=4.9
KMBO pP pP 18 26 07.2 +3.3
comp=Z,5.0nm,0.9s,baz=47,slow=10,SNR=11
KMBO LR LR 18 49 12.6
comp=Z,132nm,18.5s,MS4.1,baz=97,slow=35
CTA Charters Tower 58.24 119 LR LR 18 51 33.1
comp=Z,128nm,18.4s,MS4.1,baz=121,slow=36
ASF Jabal al Asfar 58.28 303 pP pP 18 26 08.3 -0.4
comp=Z,3.0nm,0.8s,baz=336,slow=3.3,SNR=4.0
ASF LR LR 18 54 06.2
comp=Z,99nm,18.5s,MS4.0,baz=46,slow=39
SOC Sochi 59.21 316 *e*P **P** **18 26 07.0 -2.0**
SOC *e* 18 26 53.5
SOC *e*S **S** **18 34 25.5 +12**
SOC *e*SS SS 18 38 15.6 +5.4
SOC pmax pmax
comp=Z,34nm,1.3s,mb5.2
SOC pmax pmax
comp=N,43nm,0.9s
SOC pmax pmax
comp=E,32nm,0.9s
YAK Yakutsk 59.89 18 *i* P **P** **18 26 13.6 +0.2**
YAK pmax pmax
comp=Z,12nm,0.8s,mb5.0
STKA Stephens Creek 60.07 134 LR LR 18 55 12.6
comp=Z,164nm,18.4s,MS4.2,baz=289,slow=39
BRTR Keskin Array B 62.47 311 P **P** **18 26 29.5 -1.7**
BRTR *PP pP 18 26 36.0 -1.3
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 62.47 311 P **P** **18 26 29.5 -1.7**
comp=Z,0.7nm,0.6s,mb4.0,baz=111,slow=12,SNR=3.1
BRTR pP pP 18 26 36.0 -1.3
comp=Z,2.6nm,0.8s,baz=121,slow=7.2,SNR=8.1
MOS Moscow 65.08 329 *e*P **P** **18 26 47.4 -0.6**
OBN Obninsk 65.38 328 ⇑ *i*P **P** **18 26 49.8 -0.2**
OBN pmax pmax
comp=Z,20nm,1.2s,mb5.0
TIXI Tiksi 67.14 11 *e*P **P** **18 27 00.2 -0.8**
TIXI pmax pmax
comp=Z,14nm,0.9s,mb5.0
AKASG Malin Array Be 68.17 322 P **P** **18 27 06.0 -1.7**
AKASG *PP pP 18 27 12.2 -1.6
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 68.17 322 P **P** **18 27 06.0 -1.7**
comp=Z,0.2nm,0.3s,mb3.6,baz=90,slow=4.6,SNR=3.6
AKASG pP pP 18 27 12.2 -1.7
comp=Z,4.8nm,0.8s,baz=87,slow=4.9,SNR=12
IDI Anoyia 68.62 305 P **P** **18 27 10.3 -0.6**
comp=Z,4.0nm,0.7s,mb4.4,baz=90,slow=1.0,SNR=3.5
MLR Muntele Rosu pP pP 18 27 20.1 -0.3
comp=Z,9.2nm,1.0s,baz=113,slow=2.5,SNR=10.0
FINES FINESS Array B 72.70 332 P **P** **18 27 34.8 -0.2**
FINES *PP pP 18 27 41.0 -0.1
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 72.70 332 P **P** **18 27 34.8 -0.2**
comp=Z,1.5nm,0.8s,mb4.0,baz=106,slow=6.6,SNR=10
FINES pP pP 18 27 41.0 -0.2
comp=Z,2.7nm,0.8s,baz=90,slow=11,SNR=2.9
CRVS Cervenica-Dubn 72.75 319 *e*P sP 18 27 43.1 -0.7
CRVS Cervenica-Dubn 72.75 319 *es*P sP 18 27 43.1 -0.7
NIE Niedzica 73.57 319 *e*P pP 18 27 47.0 +0.6
OJC Ojcow 74.00 320 *e*P pP 18 27 48.8 -0.1
LBTB Lobatse 74.38 241 *e*P **P** **18 27 40.0 -5.5**
VYHS Vyhne 74.43 318 *e*P pP 18 27 51.6 +0.1
VYHS Vyhne 74.43 318 *ep*P pP 18 27 51.6 +0.1
ARCES ARCESS Array B 75.24 340 P **P** **18 27 49.9 +0.3**
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARCES MLR MLR
comp=Z,207nm,18.5s
ARCES ARCESS Array B 75.24 340 P **P** **18 27 49.9 +0.3**
comp=Z,4.7nm,1.0s,mb4.4,baz=100,slow=7.4,SNR=5.0
ARCES LR LR 19 03 56.5
comp=Z,207nm,18.5s,MS4.5,baz=196,slow=38
MORC Moravsky Berou 75.40 319 *e*P **P** **18 27 50.2 -0.7**
MORC *e*PP pP 18 27 56.1 -0.9
ZST Bratislava 75.56 318 *e*P pP 18 27 58.3 +0.3
ZST Bratislava 75.56 318 *ep*P pP 18 27 58.3 +0.3
KSP Ksiaz 76.28 320 *e*P pP 18 28 01.9 -0.1
PRU Pruhonice 77.35 319 *e*P pP 18 28 08.2 +0.2
PRU Pruhonice 77.35 319 *ep*P pP 18 28 08.2 +0.2
BRG Berggiesshubel 77.77 320 *i* P pP 18 28 10.7 +0.4
BRG pmax pmax
comp=Z,11nm,1.1s,mb4.7
BRG Berggiesshubel 77.77 320 *i* P pP 18 28 10.7 +0.4
comp=Z,11nm,1.1s
GEC2 GERESS Array S 77.85 318 *e*P pP 18 28 11.6 +0.8
GEC2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GEC2 GERESS Array S 77.85 318 *e*P pP 18 28 11.6 +0.8
comp=Z,7.0nm,0.9s
GERES GERESS Array B 77.85 318 P **P** **18 28 05.3 +0.7**
GERES *PP pP 18 28 11.5 +0.7
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES pmax pmax
comp=Z,5.0nm,0.8s
GERES GERESS Array B 77.85 318 P **P** **18 28 05.3 +0.7**
comp=Z,1.1nm,0.7s,mb3.9,baz=90,slow=5.3,SNR=8.5
GERES pP pP 18 28 11.5 +0.8
comp=Z,5.2nm,0.8s,baz=90,slow=5.3,SNR=26
KHC Kasperske Hory 77.94 318 *e*P **P** **18 28 04.5 -0.6**
KHC *e* pP 18 28 11.0 -0.2
KHC Kasperske Hory 77.94 318 *e*P **P** **18 28 04.5 -0.6**
KHC pP pP 18 28 11.0 -0.2
CLL Collm 78.38 321 *i* P pP 18 28 13.6 0.0
CLL pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
CLL Collm 78.38 321 *i* P pP 18 28 13.6 0.0
comp=Z,8.0nm,1.2s
CLL Collm 78.38 321 *i* *PP pP 18 28 13.6 0.0
WET Wettzell 78.40 318 *e*P pP 18 28 14.6 +0.8
WET pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
WET Wettzell 78.40 318 *e*P pP 18 28 14.6 +0.8
comp=Z,6.0nm,1.0s
MOX Moxa 79.24 320 *e*P pP 18 28 19.1 +0.7
MOX Moxa 79.24 320 *i* P pP 18 28 19.1 +0.7
GRA1 Grafenberg Arr 79.49 319 *e*P pP 18 28 21.0 +1.3
comp=Z,9.0nm,0.9s
GRF Grafenberg Arr 79.49 319 *e*P pP 18 28 21.0 +1.3
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
GRF Grafenberg Arr 79.49 319 *e*P pP 18 28 21.0 +1.3
comp=Z,9.0nm,0.9s
NB2 NORSAR Subarra 79.73 331 P **P** **18 28 14.4 -0.2**
comp=Z,10nm,1.2s,mb4.6,baz=91,slow=4.8
NB2 NORSAR Subarra 79.73 331 P **P** **18 28 14.4 -0.2**
NB2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
NOA NORSAR Array B 79.73 331 P **P** **18 28 14.8 +0.2**
NOA *PP pP 18 28 20.3 -0.5
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA pmax pmax
comp=Z,3.0nm,1.0s
NOA NORSAR Array B 79.73 331 P **P** **18 28 14.8 +0.2**
comp=Z,0.6nm,0.9s,mb3.5,baz=94,slow=6.6,SNR=2.9
NOA pP pP 18 28 20.3 -0.5
comp=Z,3.3nm,1.0s,baz=92,slow=5.5,SNR=5.5
CLZ Clausthal 80.03 321 *e*P pP 18 28 23.5 +0.9
comp=Z,9.0nm,1.0s
DAVOX Davos 80.42 316 P **P** **18 28 19.4 +0.9**
comp=Z,5.2nm,1.0s,mb4.4,baz=350,slow=11,SNR=2.7
DAVOX pP pP 18 28 25.5 +0.7
comp=Z,6.9nm,0.7s,baz=76,slow=3.3,SNR=6.3
TNS Taunus Mts 81.28 320 *e*P pP 18 28 30.1 +0.9
BFO Black Forest 81.42 318 *e*P pP 18 28 30.4 +0.4
BFO pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BFO Black Forest 81.42 318 *e*P pP 18 28 30.4 +0.4
comp=Z,2.0nm,0.8s
LPG La Plagne 82.65 315 *e*P **P** **18 28 31.5 +1.3**
comp=Z,26nm,1.0s,mb4.9
LPG La Plagne 82.65 315 *e*P **P** **18 28 31.5 +1.3**
LPG pmax pmax
comp=Z,13nm,1.0s,mb4.9
EKA Eskdalemuir Ar 87.73 325 pP pP 18 29 02.3 +0.7
comp=Z,4.2nm,0.9s,baz=104,slow=6.9,SNR=4.1
ESDC Sonseca Array 91.26 310 pP pP 18 29 18.4 -0.2
comp=Z,2.4nm,0.9s,baz=53,slow=7.4,SNR=3.6
ILAR Eielson Array 94.64 22 pP pP 18 29 33.5 +0.1
comp=Z,0.7nm,1.0s,baz=280,slow=3.9,SNR=3.8
PDAR Pinedale Array 125.06 21 PKP PKPdf 18 35 08.8 -1.4
comp=Z,0.3nm,0.8s,baz=321,slow=5.8,SNR=2.5

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*IDC **28** 18:19:59.3±0.9, 7.82N×93.93E, h18km±4km, mb3.5/7, mb1 3.6/8, mb1mx3.5/17, mbtmp3.5/8, ML3.6/1, Error ellipse: s-maj=43.8km s-min=15.8km az=52.0*
*NEIC **28** 18:19:59.4±0.8, 7.78N×93.94E, mb4.2/3, Error ellipse: s-maj=23.9km s-min=13.4km az=63.0*
ISC 28 18:19:57.6±0.9, 7.8N±0.1×94.0E±0.2, h20km, h20km±1.2km: pP-P, n14, σ0§81/12, mb3.7/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.58**	**24**	Pn			**P**	**18 22 45.0**	**-0.1**
	0.1nm,0.3s,baz=212,slow=15,SNR=3.6								
SONM	**Songino Array**	**41.22**	**13**	P			**P**	**18 27 44.5**	**+1.8**
	0.2nm,0.4s,mb3.1,baz=180,slow=2.9,SNR=2.7								
KURK	**Kurchatov**	**44.61**	**346**	*e*P			**P**	**18 28 10.0**	**-0.4**
	2.8nm,0.9s,mb4.1								
KURK				*ep*P			pP	18 28 16.7	+0.3
ZAL	**Zalesovo**	**46.56**	**352**	P			**P**	**18 28 24.3**	**-1.5**
	0.4nm,0.3s,mb3.8,baz=259,slow=5.2,SNR=2.6								
ZAL	**Zalesovo**	**46.56**	**352**	P			**P**	**18 28 24.3**	**-1.6**
WRA	**Warramunga Arr**	**48.33**	**125**	P			**P**	**18 28 40.3**	**+0.1**
	0.5nm,1.0s,mb3.5,baz=305,slow=8.7,SNR=4.7								
WRA				pP			pP	18 28 47.1	+0.8
	0.4nm,0.6s,baz=304,slow=8.8,SNR=4.7								
BVAR	**Borovoye Array**	**48.98**	**341**	P			**P**	**18 28 44.7**	**0.0**
	0.4nm,0.8s,mb3.5,baz=63,slow=3.2,SNR=2.7								
BRVK	**Borovoye**	**49.05**	**341**	P			**P**	**18 28 44.8**	**-0.4**
	1.2nm,0.8s,mb4.0								
CHKZ	**Chkalovo**	**49.47**	**342**	P			**P**	**18 28 48.4**	**-0.1**
	3.5nm,0.9s,mb4.4								
ASAR	**Alice Springs**	**49.98**	**130**	P			**P**	**18 28 52.4**	**-0.4**
	0.4nm,0.6s,mb3.6,baz=306,slow=8.1,SNR=4.0								
ASAR				pP			pP	18 28 59.0	+0.1
	0.6nm,0.7s,baz=296,slow=7.4,SNR=4.7								
FINES	**FINESS Array B**	**72.69**	**332**	P			**P**	**18 31 25.8**	**-0.1**
	0.9nm,0.9s,mb3.7,baz=109,slow=25,SNR=3.0								
FINES				pP			pP	18 31 31.3	-0.8
	1.7nm,0.8s,baz=108,slow=4.4,SNR=7.4								
ARCES	**ARCESS Array B**	**75.26**	**340**	*p*P			pP	18 31 46.6	-0.4
	3.7nm,1.0s,baz=108,slow=8.6,SNR=6.2								
GERES	**GERESS Array B**	**77.78**	**318**	P			**P**	**18 31 56.3**	**+1.2**
	0.2nm,0.3s,mb3.5,baz=117,slow=4.4,SNR=3.2								
GERES				pP			pP	18 32 01.7	+0.2
	0.6nm,0.6s,baz=90,slow=5.3,SNR=5.4								
NOA	**NORSAR Array B**	**79.70**	**331**	pP			pP	18 32 11.0	-0.8
	1.5nm,0.9s,baz=93,slow=5.5,SNR=3.6								

IDC 28 18:22:22.4±2.0, 7.87N×93.65E, mb3.8/4, mb1 4.0/5, mb1mx3.6/18, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=62.2km s-min=28.7km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.72**	**26**	Pn			P	18 25 12.3	-1.7
	0.2nm,0.3s,baz=210,slow=14,SNR=6.4								
SONM	**Songino Array**	**41.28**	**13**	P			P	18 30 08.7	-2.4
	0.5nm,0.8s,baz=202,slow=7.8,SNR=3.4								
ZAL	**Zalesovo**	**46.49**	**353**	P			P	18 30 51.8	-1.4
	1.5nm,0.3s,baz=318,slow=7.4,SNR=5.3								
WRA	**Warramunga Arr**	**48.65**	**125**	P			P	18 31 08.6	-1.9
	0.3nm,0.4s,baz=305,slow=8.4,SNR=7.4								
FINES	**FINESS Array B**	**72.49**	**332**	P			P	18 33 50.8	-2.0
	1.1nm,0.8s,baz=130,slow=11,SNR=3.7								

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*IDC **28** 18:27:22.6±0.8, 7.65N×93.96E, mb3.9/11, mb1 4.1/12, mb1mx3.9/20, mbtmp3.9/12, ML3.4/1, Error ellipse: s-maj=41.9km s-min=18.3km az=50.0*
*NEIC **28** 18:27:26.5±0.5, 7.47N×93.75E, h30km, mb4.4/5, Error ellipse: s-maj=17.8km s-min=10.2km az=59.0*
ISC 28 18:27:24.6±0.7, 7.5N±0.1×93.8E±0.1, h30km, n25, σ0§78/24, mb4.2/21, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.97**	**24**	Pn			**P**	**18 30 17.9**	**+1.4**
	0.1nm,0.3s,baz=214,slow=14,SNR=12								
JIRN	**Jiri**	**21.28**	**341**	*e*P			**P**	**18 32 10.5**	**-0.5**
	34nm,1.0s,mb4.6								
PKI	**Pulchoki**	**21.46**	**339**	*e*P			**P**	**18 32 11.6**	**-1.3**
DMN	**Daman**	**21.60**	**339**	*e*P			**P**	**18 32 13.5**	**-0.8**
	31nm,1.1s,mb4.7								
KKN	**Kakani**	**21.71**	**339**	*e*P			**P**	**18 32 15.0**	**-0.3**
	23nm,0.9s,mb4.6								
GKN	**Gorkha**	**22.13**	**338**	*e*P			**P**	**18 32 19.5**	**-0.1**
	15nm,0.7s,mb4.5								
LSA	**Lhasa**	**22.20**	**354**	*e*P			**P**	**18 32 21.6**	**+1.4**
	20nm,0.6s,mb4.7								
KOLN	**Koldanda**	**22.33**	**336**	*e*P			**P**	**18 32 22.0**	**+0.5**
	14nm,0.7s,mb4.5								
SONM	**Songino Array**	**41.58**	**13**	P			**P**	**18 35 10.7**	**-0.7**
	2.6nm,1.1s,mb3.8,baz=195,slow=8.4,SNR=16								
SONM				PcP			PcP	18 37 09.3	+0.4
	0.6nm,0.6s,baz=199,slow=3.3,SNR=5.5								
KURK	**Kurchatov**	**44.87**	**346**	*e*P			**P**	**18 35 37.7**	**-0.4**
	2.6nm,0.6s,mb4.2								
ZAL	**Zalesovo**	**46.85**	**353**	P			**P**	**18 35 53.5**	**-0.2**
	3.1nm,0.6s,mb4.5,baz=296,slow=9.0,SNR=20								
WRA	**Warramunga Arr**	**48.35**	**125**	P			**P**	**18 36 05.4**	**-0.6**
	0.2nm,0.5s,mb3.4,baz=305,slow=8.5,SNR=5.9								
WRAB	**Tennant Creek**	**48.35**	**125**	*e*P			**P**	**18 36 06.2**	**+0.2**
	2.0nm,0.6s,mb4.3								
BVAR	**Borovoye Array**	**49.21**	**342**	P			**P**	**18 36 11.5**	**-0.6**
	1.2nm,0.9s,mb3.9,baz=146,slow=11,SNR=6.5								
BVAR				PcP			PcP	18 37 36.2	+0.9
	1.1nm,0.9s,baz=153,slow=3.3,SNR=4.8								
BRVK	**Borovoye**	**49.27**	**341**	*e*P			**P**	**18 36 11.7**	**-0.9**
	1.3nm,0.9s,mb4.0								
CHKZ	**Chkalovo**	**49.70**	**342**	*e*P			**P**	**18 36 15.2**	**-0.7**
	4.2nm,0.8s,mb4.5								
ASAR	**Alice Springs**	**49.96**	**129**	P			**P**	**18 36 18.0**	**-0.3**
	0.4nm,0.9s,mb3.5,baz=306,slow=7.8,SNR=3.9								
ASAR				PcP			PcP	18 37 39.3	+0.9
	0.5nm,0.6s,baz=307,slow=3.0,SNR=5.0								
BRTR	**Keskin Array B**	**62.39**	**311**	P			**P**	**18 37 47.1**	**0.0**
	0.8nm,0.6s,mb4.0,baz=119,slow=5.8,SNR=4.1								
IDI	**Anoyia**	**68.48**	**305**	P			**P**	**18 38 27.9**	**+1.4**
	3.5nm,0.7s,mb4.5,baz=45,slow=13,SNR=3.9								
FINES	**FINESS Array B**	**72.86**	**332**	P			**P**	**18 38 52.7**	**+0.3**
	2.6nm,0.8s,mb4.2,baz=117,slow=8.5,SNR=7.4								
ARCES	**ARCESS Array B**	**75.47**	**340**	P			**P**	**18 39 07.8**	**+0.4**
	1.3nm,0.8s,mb3.9,baz=79,slow=6.2,SNR=3.8								
GERES	**GERESS Array B**	**77.85**	**318**	P			**P**	**18 39 22.5**	**+1.5**
	2.3nm,1.1s,mb4.0,baz=76,slow=5.5,SNR=9.2								
NB2	**NORSAR Subarra**	**79.86**	**331**	P			**P**	**18 39 32.2**	**+0.4**
	0.8nm,0.6s,mb3.8,baz=97,slow=5.0								
NOA	**NORSAR Array B**	**79.86**	**331**	P			**P**	**18 39 32.3**	**+0.6**
	1.0nm,0.7s,mb3.9,baz=95,slow=5.3,SNR=3.9								
PDAR	**Pinedale Array**	**125.62**	**21**	PKP			PKPdf	18 46 26.1	-2.7
	0.5nm,0.7s,slow=1.5,SNR=4.1								

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*NEIC **28** 18:34:55.6±0.5, 8.41N×93.81E, mb4.3/2, Error ellipse: s-maj=13.0km s-min=9.8km az=61.0*
*IDC **28** 18:34:56.1±0.8, 8.48N×93.81E, h23km±3km, mb3.8/13, mb1 3.9/14, mb1mx3.8/21, mbtmp3.9/14, ML3.3/1, MS3.0/1, Ms1 3.2/1, ms1mx2.4/29, Error ellipse: s-maj=23.0km s-min=16.6km az=52.0*
ISC 28 18:34:53.7±0.6, 8.37N±0.09×93.9E±0.1, h22km, h22km±.5km: pP-P, n29, σ0§96/27, mb4.1/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.16**	**26**	Pn			**P**	**18 37 35.2**	**0.0**
	0.1nm,0.3s,baz=215,slow=14,SNR=4.8								
CMAR				LR			LR	18 41 21.6	
	comp=Z,76nm,21.5s,baz=220,slow=35								
JIRN	**Jiri**	**20.53**	**340**	*e*P			**P**	**18 39 34.8**	**+1.4**
	41nm,1.0s								
PKI	**Pulchoki**	**20.72**	**338**	*e*P			**P**	**18 39 36.9**	**+1.5**
	66nm,1.3s								
DMN	**Daman**	**20.87**	**338**	*e*P			**P**	**18 39 38.4**	**+1.5**
	82nm,1.2s								
KKN	**Kakani**	**20.97**	**338**	*e*P			**P**	**18 39 38.6**	**+0.7**
	25nm,0.8s								
LSA	**Lhasa**	**21.38**	**353**	*e*P			**P**	**18 39 41.9**	**-0.2**
	9.0nm,0.8s,mb4.2								
GKN	**Gorkha**	**21.40**	**337**	*e*P			**P**	**18 39 43.1**	**+0.8**
	43nm,0.8s,mb4.8								
KOLN	**Koldanda**	**21.62**	**335**	*e*P			**P**	**18 39 45.8**	**+1.3**
	27nm,0.7s,mb4.8								
ENH	**Enshi**	**26.23**	**32**	P			**P**	**18 40 28.0**	**-1.0**
SONM	**Songino Array**	**40.74**	**13**	P			**P**	**18 42 34.7**	**+0.1**
	0.7nm,0.8s,mb3.3,baz=194,slow=10,SNR=5.6								
SONM				pP			pP	18 42 41.8	+0.4
	1.3nm,0.8s,baz=190,slow=7.8,SNR=10								
SONM				pPcP				18 44 41.8	
	0.5nm,0.6s,baz=190,slow=3.7,SNR=5.9								
KURK	**Kurchatov**	**44.08**	**346**	*e*P			**P**	**18 43 00.3**	**-1.6**
ZAL	**Zalesovo**	**46.03**	**353**	P			**P**	**18 43 17.7**	**+0.3**
	0.9nm,0.5s,mb4.0,baz=288,slow=9.2,SNR=4.9								
ZAL				pP			pP	18 43 24.6	+0.4
	1.4nm,0.5s,baz=284,slow=8.5,SNR=6.3								
ZAL	**Zalesovo**	**46.03**	**353**	P			**P**	**18 43 17.7**	**+0.3**
ZAL				pP			pP	18 43 24.6	+0.4
BVAR	**Borovoye Array**	**48.45**	**341**	P			**P**	**18 43 35.8**	**-0.6**
	0.6nm,0.6s,mb3.8,baz=157,slow=11,SNR=4.9								
BVAR				pP			pP	18 43 42.1	-1.1
	0.6nm,0.7s,baz=146,slow=11,SNR=3.5								
BVAR				pPcP				18 45 08.6	
	0.8nm,0.7s,baz=162,slow=4.7,SNR=5.2								
WRA	**Warramunga Arr**	**48.74**	**126**	P			**P**	**18 43 39.2**	**+0.1**
	0.8nm,0.6s,mb3.9,baz=306,slow=8.5,SNR=7.7								
WRA				PcP			PcP	18 45 05.9	+1.6
	0.4nm,0.7s,baz=308,slow=2.9,SNR=4.6								
WRAB	**Tennant Creek**	**48.74**	**126**	P			**P**	**18 43 40.1**	**+1.0**
CHKZ	**Chkalovo**	**48.94**	**342**	*e*P			**P**	**18 43 39.3**	**-0.8**
	2.7nm,0.8s,mb4.3								
ASAR	**Alice Springs**	**50.41**	**130**	P			**P**	**18 43 52.5**	**+0.7**
	1.1nm,0.8s,mb3.9,baz=307,slow=6.9,SNR=8.4								
ASAR				PcP			PcP	18 45 12.2	+1.8
	0.4nm,0.6s,baz=308,slow=3.5,SNR=4.7								
KMBO	**Kilima Mbogo**	**57.24**	**263**	P			**P**	**18 44 43.1**	**+0.7**
	0.5nm,0.5s,mb3.9,baz=64,slow=24,SNR=3.4								
KMBO				pP			pP	18 44 50.3	+1.0
	1.4nm,0.7s,baz=54,slow=17,SNR=3.2								
BRTR	**Keskin Array B**	**61.93**	**311**	P			**P**	**18 45 12.4**	**-1.8**
	0.6nm,0.6s,mb3.9,baz=127,slow=6.2,SNR=3.7								
IDI	**Anoyia**	**68.09**	**305**	P			**P**	**18 45 53.7**	**-0.5**
	5.1nm,0.7s,mb4.6,baz=95,slow=11,SNR=3.7								
FINES	**FINESS Array B**	**72.17**	**332**	P			**P**	**18 46 17.6**	**-0.9**
	3.0nm,1.0s,mb4.2,baz=117,slow=4.3,SNR=4.6								
ARCES	**ARCESS Array B**	**74.73**	**340**	P			**P**	**18 46 32.0**	**-1.3**
	4.5nm,1.1s,mb4.3,baz=69,slow=10,SNR=3.5								
GERES	**GERESS Array B**	**77.31**	**318**	P			**P**	**18 46 48.3**	**+0.1**
	0.8nm,0.7s,mb3.8,baz=90,slow=5.3,SNR=9.1								
GERES				pP			pP	18 46 55.5	+0.1
	1.6nm,0.7s,baz=27,slow=3.0,SNR=7.8								
HFS	**Hagfors**	**77.92**	**330**	P			**P**	**18 46 50.9**	**-0.5**
	3.2nm,1.1s,mb4.2,baz=124,slow=5.3,SNR=6.1								
HFS				pP			pP	18 46 57.6	-0.9
	1.3nm,0.7s,baz=108,slow=4.7,SNR=1.6								
NB2	**NORSAR Subarra**	**79.19**	**331**	P			**P**	**18 46 57.4**	**-0.9**
	2.0nm,1.0s,mb4.0,baz=92,slow=5.6								
NOA	**NORSAR Array B**	**79.19**	**331**	P			**P**	**18 46 57.6**	**-0.7**
	0.4nm,0.6s,mb3.6,baz=97,slow=5.2,SNR=2.8								
PDAR	**Pinedale Array**	**124.80**	**21**	PKP			PKPdf	18 53 58.8	+2.1
	0.4nm,0.8s,baz=90,slow=1.5,SNR=3.5								
PLCA	**Paso Flores**	**144.92**	**201**	PKPbc			PKPbc	18 54 35.1	+5.5
	2.7nm,0.9s,baz=163,slow=20,SNR=3.0								

IDC 28 18:41:48.7±6.8, 7.41N×93.87E, mb3.9/5, mb1 3.9/6, mb1mx3.6/20, mbtmp3.8/6, ML3.4/1, Error ellipse: s-maj=156.1km s-min=55.2km az=143.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.04**	**24**	Pn			P	18 44 43.3	-1.4
	0.1nm,0.3s,baz=215,slow=14,SNR=4.6								
SONM	**Songino Array**	**41.67**	**13**	P			P	18 49 38.2	-2.4
	0.3nm,0.5s,baz=194,slow=7.8,SNR=4.1								
ZAL	**Zalesovo**	**46.97**	**353**	P			P	18 50 21.1	-2.0
	1.1nm,0.6s,baz=309,slow=6.0,SNR=6.0								
BVAR	**Borovoye Array**	**49.34**	**342**	P			P	18 50 39.4	-2.2
	0.7nm,1.0s,baz=146,slow=5.2,SNR=2.5								
FINES	**FINESS Array B**	**72.99**	**332**	P			P	18 53 20.0	-1.9
	1.3nm,0.9s,baz=104,slow=7.9,SNR=4.0								
HFS	**Hagfors**	**78.72**	**330**	P			P	18 53 53.3	-1.0
	6.6nm,1.1s,baz=104,slow=5.9,SNR=4.8								

IGQ 28 18:47:52.1, 1.54S×81.56W, h4km±10km, mb4.0, 1D, Error ellipse: s-maj=16.7km s-min=11.0km az=56.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.13**	**64**	⇓P			Pb	18 48 13.2	-0.6
HOJA				S			Sb	18 48 27.9	-0.8
IGUA	**Igualata**	**2.92**	**89**	P			Pn	18 48 41.0	+0.7
PISA	**Pisayambo**	**3.21**	**81**	P			Pn	18 48 46.2	+1.8
NAS1	**Nasa**	**3.21**	**74**	P			Pn	18 48 47.0	+2.6
VC1	**Cotopaxi 1**	**3.28**	**74**	P			Pn	18 48 48.0	+2.5
YANA	**Yana**	**3.31**	**65**	P			Pn	18 48 45.7	-0.1
ANTI	**Antisana**	**3.57**	**72**	P			Pn	18 48 51.5	+2.1
COTA	**Cotacachi**	**3.72**	**60**	P			Pn	18 48 52.2	+0.5
CAYR	**Refugio Cayamb**	**3.88**	**67**	P			Pn	18 48 56.6	+2.7
CAYA	**Cayambe**	**3.92**	**66**	P			Pn	18 48 56.7	+2.3

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*IDC **28** 18:47:56.9±0.6, 7.85N×93.94E, mb4.2/17, mb1 4.3/18, mb1mx4.2/24, mbtmp4.2/18, ML3.7/1, Error ellipse: s-maj=32.2km s-min=14.3km az=53.0*
*BJI **28** 18:48:01.3, 7.61N×93.88E, h44km, mB3.9, mb4.1*
*NEIC **28** 18:48:01.1±0.3, 7.84N×93.99E, h30km, mb4.5/8, Error ellipse: s-maj=10.7km s-min=7.1km az=66.0*
**ISC 28 18:47:56.2

ASAR PcP PcP 18 58 14.2 +0.9
0.8nm,0.9s,baz=291,slow=3.6,SNR=3.9
KMBO Kilima Mbogo 57.27 264 P P 18 57 52.0 +5.2
5.2nm,1.0s,mb4.5,baz=57,slow=11,SNR=13
STKA Stephens Creek 60.17 134 P P 18 58 05.1 -1.6
BRTR Keskin Array B 62.36 311 P P 18 58 20.8 -0.7
2.3nm,1.1s,mb4.2,baz=129,slow=7.9,SNR=4.9
AKASG Malin Array Be 68.11 322 P P 18 58 57.4 -1.0
0.9nm,0.7s,mb3.9,baz=80,slow=5.4,SNR=4.0
IDI Anoyia 68.48 305 P P 18 59 01.4 +0.4
3.7nm,0.6s,mb4.6,baz=131,slow=9.3,SNR=4.0
LSZ Lusaka 69.10 250 P P 18 59 04.3 -0.8
MLR Muntele Rosu 69.11 316 P P 18 59 04.6 -0.1
1.9nm,0.8s,mb4.1,baz=162,slow=3.2
JOF Joensuu 70.84 335 *ep* **P 18 59 14.4 -0.6**
2.9nm,0.5s,mb4.5
FINES FINESS Array B 72.70 332 P P 18 59 26.1 0.0
20nm,1.4s,mb4.9,baz=112,slow=7.0,SNR=8.4
KAF Kangasniemi 72.78 333 *ep* **P 18 59 25.6 -0.9**
8.4nm,1.3s,mb4.5
LBTB Lobatse 74.08 241 *eP* **P 18 59 34.4 -0.4**
KEV Kevo 74.85 341 *ep* **P 18 59 43.8 +5.4**
29nm,1.5s,mb5.0
ARCES ARCESS Array B 75.28 340 P P 18 59 40.6 -0.2
3.5nm,1.0s,mb4.3,baz=86,slow=5.9,SNR=5.9
GERES GERESS Array B 77.78 318 P P 18 59 56.6 +1.4
1.3nm,0.6s,mb4.1,baz=76,slow=5.5,SNR=14
KHC Kasperske Hory 77.87 319 *eP* **P 19 00 00.0 +4.3**
CLL Collm 78.32 321 *e*PP pP 19 00 11.0 +10
HFS Hagfors 78.44 330 P P 18 59 59.1 +0.5
3.4nm,0.8s,mb4.3,baz=108,slow=4.7,SNR=11
NB2 NORSAR Subarra 79.72 331 P P 19 00 05.9 +0.3
1.6nm,0.6s,mb4.1,baz=96,slow=5.0
NOA NORSAR Array B 79.72 331 P P 19 00 06.0 +0.4
1.6nm,0.9s,mb3.9,baz=97,slow=5.1,SNR=3.5
DAVOX Davos 80.33 316 P P 19 00 10.9 +1.7
2.8nm,0.6s,mb4.4,baz=138,slow=14,SNR=6.0
IMA Indian Mountai 91.74 22 *eP* **P 19 01 06.8 +1.8**
PDAR Pinedale Array 125.29 21 PKP PKPdf 19 07 00.3 -0.5
0.3nm,0.5s,baz=270,slow=1.5,SNR=3.7
TXAR Lajitas Array 139.35 24 PKP PKPdf 19 07 26.8 -0.7
0.2nm,0.5s,baz=252,slow=1.2,SNR=6.8
PLCA Paso Flores 144.43 200 PKP PKPdf 19 07 36.5 +0.4
2.9nm,0.8s,baz=130,slow=4.6,SNR=6.2
PLCA Paso Flores 144.43 200 PKP PKPdf 19 07 36.5 +0.4

WEL 28 18:49:21.3±0.5,36.56S×179.64W,h33km,ML3.5/2,Error ellipse: s-maj=6.3km s-min=6.1km az=0.0,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.26**	**227**	PN	Pn	18 49 56.1	-1.1
PUZ				SN	Sn	18 50 22.0	-2.2
MWZ	**Matawai**	**2.87**	**231**	PN	Pn	18 50 04.2	-1.7
MWZ				SN	Sn	18 50 36.4	-3.3
URZ	**Urewera**	**3.09**	**236**	PN	Pn	18 50 07.2	-1.9
URZ				SN	Sn	18 50 41.3	-4.1
KNZ	**Kokohu**	**3.25**	**220**	PN	Pn	18 50 09.1	-2.2

*IDC **28** 18:54:08.2±0.6, 7.73N×94.03E, mb4.2/18, mb1 4.3/19, mb1mx4.3/24, mbtmp4.2/19, ML4.5/1, MS3.6/2, Ms1 3.8/2, ms1mx3.0/30, Error ellipse: s-maj=36.0km s-min=14.4km az=52.0*
*MOS **28** 18:54:10.9±0.9, 7.67N×93.95E, h33km, mb4.5/25, Error ellipse: s-maj=17.1km s-min=8.2km az=95.0*
*BJI **28** 18:54:11.7, 7.46N×93.75E, h48km, mB5.2, mb4.7, Ms4.3, Msz4.1*
*NEIC **28** 18:54:12.6±0.4, 7.68N×94.00E, h30km, mb4.6/11, Error ellipse: s-maj=12.3km s-min=8.4km az=66.0*
ISC 28 18:54:11.4±3.3, 7.68N±0.09×93.99E±0.10, h37km±28km, n84, σ0=87/78, mb4.4/40, MS3.7/1, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.75**	**24**	P	P		**18 56 59.7 +0.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,258nm,19.7s						
CMAR	**Chiang Mai Arr**	**11.75**	**24**	Pn	P		**18 56 59.7 +0.1**
	comp=Z,1.0nm,0.3s,baz=211,slow=14,SNR=38						
CMAR				LR	LR	19 01 36.5	
	comp=Z,258nm,19.7s,baz=210,slow=38						
HYB	**Hyderabad**	**17.89**	**304**	*i* P	P		**18 58 26.0 +6.7**
KMI	**Kunming**	**19.26**	**25**	P	P		**18 58 37.0 +1.3**
KMI				pmax	pmax		
	comp=Z,16nm,1.4s						
KMI	**Kunming**	**19.26**	**25**	P	P		**18 58 37.0 +1.3**
	comp=Z,16nm,1.4s						
KMI				pP		18 58 42.8	
KMI				sP		18 58 45.9	
KMI				S	rx	19 01 45.5	
JIRN	**Jiri**	**21.20**	**341**	*eP*	P		**18 58 56.0 -0.2**
PKI	**Pulchoki**	**21.39**	**339**	*eP*	P		**18 58 57.6 -0.5**
	comp=Z,49nm,1.0s,mb4.8						
DMN	**Daman**	**21.54**	**338**	*eP*	P		**18 58 59.3 -0.2**
	comp=Z,77nm,1.1s,mb5.1						
KKN	**Kakani**	**21.64**	**339**	*eP*	P		**18 59 00.1 -0.4**
	comp=Z,63nm,1.0s,mb5.0						
GKN	**Gorkha**	**22.07**	**338**	*eP*	P		**18 59 05.3 +0.5**
	comp=Z,33nm,0.7s,mb4.9						
LSA	**Lhasa**	**22.07**	**353**	*eP*	P		**18 59 04.6 -0.2**
LSA				pmax	pmax		
	comp=Z,30nm,0.8s,mb4.8						
LSA	**Lhasa**	**22.07**	**353**	*eP*	P		**18 59 04.6 -0.2**
	comp=Z,30nm,0.8s,mb4.8						
KOLN	**Koldanda**	**22.27**	**335**	*eP*	P		**18 59 07.4 +0.5**
	comp=Z,32nm,0.8s,mb4.8						
ENH	**Enshi**	**26.77**	**31**	*eP*	P		**18 59 49.5 -0.5**
	comp=Z,6.3nm,0.9s,mb4.2						
ENH				*e*	pP	18 59 59.0	-1.2
LZH	**Lanzhou**	**29.68**	**16**	*eP*	P		**19 00 16.5 +0.4**
LZH				XP	sP	19 00 32.5	+1.3
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
LZH	**Lanzhou**	**29.68**	**16**	*eP*	P		**19 00 16.5 +0.4**
LZH				*PP	pP	19 00 23.0	-3.4
LZH				*SP	sP	19 00 32.5	+1.3
LZH				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
LZH	**Lanzhou**	**29.68**	**16**	*eP*	P		**19 00 16.5 +0.4**
	comp=Z,15nm,1.0s,mb4.7						
LZH				pP	pP	19 00 23.0	-3.4
LZH				sP	sP	19 00 32.5	+1.3
NJ2	**Nanjing**	**33.52**	**40**	*eP*	P		**19 00 51.5 +1.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
WMQ	**Urumqi**	**36.42**	**352**	*eP*	P		**19 01 15.5 +1.0**
JOW	**Kunigami**	**37.69**	**55**	LR	LR	19 15 38.1	
	comp=Z,131nm,21.4s,MS3.7,baz=327,slow=34						
AAK	**Ala-Archa**	**38.82**	**337**	*i* P	P		**19 01 33.5 -1.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
SONM	**Songino Array**	**41.39**	**13**	P	P		**19 01 56.3 +0.5**
	comp=Z,4.1nm,1.0s,mb4.0,baz=195,slow=8.7,SNR=28						
SONM				PcP	PcP	19 03 55.1	+1.0
	comp=Z,1.0nm,0.8s,baz=197,slow=3.5,SNR=6.8						
ULN	**Ulaanbaatar**	**41.56**	**13**	*eP*	P		**19 01 56.9 -0.3**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
ULN	**Ulaanbaatar**	**41.56**	**13**	*eP*	P		**19 01 56.9 -0.3**
	comp=Z,1.5nm,0.8s,mb3.7						
TLY	**Talaya**	**44.59**	**9**	*i* P	P		**19 02 22.0 +0.3**
TLY				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.9						
KURK	**Kurchatov**	**44.76**	**346**	*i* P	P		**19 02 23.6 +0.4**
KURK	**Kurchatov**	**44.76**	**346**	*eP*	P		**19 02 23.1 -0.1**
	comp=Z,19nm,1.3s,mb4.8						
NWAO	**Narrogin (SRO)**	**46.04**	**153**	P	P		**19 02 35.3 +1.7**
NWAO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**46.04**	**153**	P	P		**19 02 35.3 +1.7**
	comp=Z,2.8nm,0.6s,mb4.4,baz=293,slow=7.7,SNR=3.7						
ZAL	**Zalesovo**	**46.72**	**353**	P	P		**19 02 38.5 -0.1**
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ZAL	**Zalesovo**	**46.72**	**353**	P	P		**19 02 38.5 -0.1**
	comp=Z,5.8nm,0.8s,mb4.5,baz=304,slow=5.8,SNR=37						
HIA	**Hailar**	**46.76**	**23**	*eP*	P		**19 02 39.0 0.0**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HIA	**Hailar**	**46.76**	**23**	*eP*	P		**19 02 39.0 0.0**
	comp=Z,3.4nm,0.7s,mb4.4						
NVS	**Novosibirsk**	**47.82**	**352**	*i* P	P		**19 02 46.0 -1.2**
NVS				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
NVS				pmax	pmax		
	comp=N,12nm,1.4s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.1s						
WRA	**Warramunga Arr**	**48.27**	**125**	P	P		**19 02 50.5 -0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**48.27**	**125**	P	P		**19 02 50.5 -0.8**
	comp=Z,0.6nm,0.5s,mb3.9,baz=306,slow=8.5,SNR=21						
WRAB	**Tennant Creek**	**48.27**	**125**	*eP*	P		**19 02 50.3 -1.0**
BVAR	**Borovoye Array**	**49.13**	**341**	P	P		**19 02 57.3 -0.1**
	comp=Z,0.5nm,0.3s,mb4.0,baz=149,slow=8.6,SNR=8.5						
BVAR				PcP	PcP	19 04 21.9	+1.1
	comp=Z,1.3nm,0.8s,baz=207,slow=3.3,SNR=4.9						
CHKZ	**Chkalovo**	**49.61**	**342**	*eP*	P		**19 03 00.3 -0.8**
CHKZ				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
CHKZ	**Chkalovo**	**49.61**	**342**	*eP*	P		**19 03 00.3 -0.8**
	comp=Z,12nm,1.0s,mb4.9						
ASAR	**Alice Springs**	**49.91**	**130**	P	P		**19 03 03.1 -0.7**
	comp=Z,0.4nm,0.4s,mb3.8,baz=307,slow=7.9,SNR=20						
ASAR				PcP	PcP	19 04 24.9	+0.8
	comp=Z,0.6nm,0.7s,baz=318,slow=2.7,SNR=5.0						
BOD	**Bodaibo**	**52.38**	**13**	*eP*	P		**19 03 20.8 -1.1**
GNI	**Garni**	**54.47**	**314**	*i* P	P		**19 03 32.0 -5.7**
ARU	**Arti**	**56.01**	**337**	*eP*	P		**19 03 41.1 -7.5**
KMBO	**Kilima Mbogo**	**57.25**	**264**	P	P		**19 04 02.9 +4.8**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KMBO	**Kilima Mbogo**	**57.25**	**264**	P	P		**19 04 02.9 +4.8**
	comp=Z,0.9nm,0.6s,mb4.0,baz=59,slow=12,SNR=3.9						
KIV	**Kislovodsk**	**57.36**	**318**	*i* P	P		**19 03 55.2 -3.3**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
YAK	**Yakutsk**	**60.23**	**18**	*eP*	P		**19 04 16.9 -1.2**
YAK				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
YAK	**Yakutsk**	**60.23**	**18**	*eP*	P		**19 04 16.9 -1.2**
	comp=Z,20nm,0.8s,mb5.2						
BRTR	**Keskin Array B**	**62.44**	**311**	P	P		**19 04 32.6 -0.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**62.44**	**311**	P	P		**19 04 32.6 -0.7**
	comp=Z,0.9nm,0.5s,mb4.1,baz=137,slow=6.6,SNR=5.0						
OBN	**Obninsk**	**65.46**	**328**	*eP*	P		**19 04 49.1 -3.7**
OBN				*e*		19 07 18.0	
OBN				*e*S	S	19 13 35.3	+2.0
OBN				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
TIXI	**Tiksi**	**67.45**	**11**	*eP*	P		**19 05 04.2 -1.0**
TIXI				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
AKASG	**Malin Array Be**	**68.21**	**322**	P	P		**19 05 09.3 -0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**68.21**	**322**	P	P		**19 05 09.3 -0.9**
	comp=Z,0.8nm,0.7s,mb3.9,baz=89,slow=4.8,SNR=5.9						
IDI	**Anoyia**	**68.56**	**305**	P	P		**19 05 13.8 +1.2**
	comp=Z,5.8nm,0.8s,mb4.6,baz=184,slow=13,SNR=4.7						
MLR	**Muntele Rosu**	**69.20**	**316**	P	P		**19 05 16.4 -0.1**
MLR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MLR	**Muntele Rosu**	**69.20**	**316**	P	P		**19 05 16.4 0.0**
	comp=Z,3.6nm,1.0s,mb4.3,baz=87,slow=8.1,SNR=4.0						
JOF	**Joensuu**	**70.96**	**335**	*ep*	P		**19 05 26.6 -0.3**
	comp=Z,7.1nm,1.0s,mb4.5						
FINES	**FINESS Array B**	**72.81**	**332**	P	P		**19 05 38.2 +0.3**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FINES	**FINESS Array B**	**72.81**	**332**	P	P		**19 05 38.2 +0.4**
	comp=Z,3.6nm,0.7s,mb4.4,baz=111,slow=6.2,SNR=18						
FINES	**FINESS Array B**	**72.81**	**332**	P	P		**19 05 38.2 +0.3**
KAF	**Kangasniemi**	**72.90**	**333**	*ep*	P		**19 05 38.7 +0.3**
	comp=Z,5.8nm,1.2s,mb4.4						
KAF	**Kangasniemi**	**72.90**	**333**	*eP*	P		**19 05 38.7 +0.3**
KAF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
LBTB	**Lobatse**	**74.02**	**241**	P	P		**19 05 45.5 -0.1**
ARCES	**ARCESS Array B**	**75.40**	**340**	P	P		**19 05 53.6 +0.9**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**75.40**	**340**	P	P		**19 05 53.5 +0.8**
	comp=Z,1.4nm,0.5s,mb4.2,baz=98,slow=6.9,SNR=12						
GERES	**GERESS Array B**	**77.87**	**318**	P	P		**19 06 08.4 +1.3**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**77.87**	**318**	P	P		**19 06 08.4 +1.4**
	comp=Z,1.4nm,0.8s,mb4.0,baz=108,slow=4.2,SNR=11						
HFS	**Hagfors**	**78.55**	**330**	P	P		**19 06 11.0 +0.5**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HFS	**Hagfors**	**78.55**	**330**	P	P		**19 06 11.0 +0.4**
	comp=Z,4.3nm,0.8s,mb4.5,baz=111,slow=3.3,SNR=30						
NB2	**NORSAR Subarra**	**79.83**	**331**	P	P		**19 06 17.4 -0.1**
	comp=Z,2.6nm,0.8s,mb4.2,baz=93,slow=5.8						
NB2	**NORSAR Subarra**	**79.83**	**331**	P	P		**19 06 17.4 -0.1**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
NOA	**NORSAR Array B**	**79.83**	**331**	P	P		**19 06 18.1 +0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**79.83**	**331**	P	P		**19 06 18.1 +0.6**
	comp=Z,1.8nm,0.7s,mb4.1,baz=92,slow=5.5,SNR=5.9						
EKA	**Eskdalemuir Ar**	**87.80**	**325**	P	P		**19 07 00.5 +2.7**
EKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**87.80**	**325**	P	P		**19 07 00.5 +2.7**
	comp=Z,1.5nm,0.7s,mb4.3,baz=124,slow=6.0,SNR=3.7						
ILAR	**Eielson Array**	**94.98**	**22**	P	P		**19 07 31.2 +0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**94.98**	**22**	P	P		**19 07 31.2 +0.2**
	comp=Z,0.5nm,0.8s,mb4.0,baz=270,slow=5.4,SNR=5.9						
VNA2	**Neumayer--Watz**	**100.93**	**199**		PP	19 12 15.0	+6.0
VNA1	**Neumayer--Stat**	**101.26**	**199**	*i*	PP	19 12 14.3	+2.9
YKA	**Yellowknife Ar**	**106.65**	**13**	PP	PP	19 12 46.6	-5.3
	comp=Z,0.4nm,0.9s,baz=333,slow=7.9,SNR=3.7						
PDAR	**Pinedale Array**	**125.41**	**21**	PKP	PKPdf	19 13 11.2	+2.2
	comp=Z,1.0nm,0.8s,baz=90,slow=1.5,SNR=6.9						
TXAR	**Lajitas Array**	**139.47**	**24**	PKP	PKPdf	19 13 39.6	+3.8
	comp=Z,0.4nm,0.7s,SNR=5.4						

*IDC **28** 18:56:46.3±0.6, 7.76N×93.99E, mb4.2/17, mb1 4.3/18, mb1mx4.2/23, mbtmp4.2/18, ML4.3/1, Error ellipse: s-maj=29.2km s-min=15.0km az=52.0*
*BJI **28** 18:56:49.8, 7.51N×93.78E, h50km, mB5.2, mb4.2*
*NEIC **28** 18:56:50.8±0.3, 7.79N×94.07E, h30km, mb4.6/9, Error ellipse: s-maj=9.5km s-min=6.5km az=64.0*
ISC 28 18:56:45.8±0.5, 7.70N±0.07×93.99E±0.09, h10km,n44, σ0=84/40, mb4.4/30, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.73**	**24**	Pn	P		**18 59 37.5 +1.1**
	0.6nm,0.3s,baz=211,slow=14,SNR=18						
HYB	**Hyderabad**	**17.88**	**304**	*i* P	P		**19 01 02.0 +5.5**
KMI	**Kunming**	**19.23**	**25**	P	P		**19 01 15.8 +2.9**
	14nm,1.4s						
JIRN	**Jiri**	**21.18**	**341**	*eP**	P		**19 01 33.5 -0.3**
	38nm,0.7s,mb4.8						
PKI	**Pulchoki**	**21.37**	**339**	*eP**	P		**19 01 35.6 -0.1**
	92nm,1.3s,mb5.0						
DMN	**Daman**	**21.52**	**338**	*eP**	P		**19 01 37.3 +0.1**
	43nm,0.7s,mb5.0						
KKN	**Kakani**	**21.62**	**339**	*eP**	P		**19 01 38.8 +0.6**
	51nm,1.0s,mb4.9						
GKN	**Gorkha**	**22.05**	**337**	*eP**	P		**19 01 42.9 +0.4**
	29nm,0.7s,mb4.8						
LSA	**Lhasa**	**22.05**	**353**	P	P		**19 01 42.8 +0.3**
LSA	**Lhasa**	**22.05**	**353**	*eP**	P		**19 01 42.3 -0.2**
	46nm,0.6s,mb5.1						
KOLN	**Koldanda**	**22.25**	**335**	*eP**	P		**19 01 45.3 +0.8**
	55nm,1.0s,mb5.0						
ENH	**Enshi**	**26.75**	**31**	*eP**	P		**19 02 26.4 -1.2**
SONM	**Songino Array**	**41.36**	**13**	P	P		**19 04 34.1 +0.5**
	3.1nm,0.8s,mb4.0,baz=194,slow=9.4,SNR=16						
SONM				PcP	PcP	19 06 33.0	+0.5
	1.2nm,0.6s,baz=194,slow=3.4,SNR=7.4						
ULN	**Ulaanbaatar**	**41.54**	**13**	*eP**	P		**19 04 34.8 -0.3**
	1.8nm,0.8s,mb3.8						
KURK	**Kurchatov**	**44.74**	**346**	*eP**	P		**19 05 00.8 -0.3**
	14nm,1.1s,mb4.7						
NWAO	**Narrogin (SRO)**	**46.06**	**153**	P	P		**19 05 12.1 +0.2**
	2.3nm,0.7s,mb4.2,baz=344,slow=15,SNR=2.1						
ZAL	**Zalesovo**	**46.70**	**353**	P	P		**19 05 16.8 +0.2**
	7.2nm,0.5s,mb4.9,baz=294,slow=6.2,SNR=26						
HIA	**Hailar**	**46.74**	**23**	*eP**	P		**19 05 17.1 +0.1**
	6.2nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**48.28**	**125**	P	P		**19 05 28.7 -0.8**
	0.4nm,0.5s,mb3.7,baz=304,slow=8.9,SNR=5.6						
WRAB	**Tennant Creek**	**48.28**	**125**	P	P		**19 05 28.8 -0.6**
BVAR	**Borovoye Array**	**49.10**	**341**	P	P		**19 05 34.7 -0.7**
	0.8nm,0.5s,mb4.0,baz=143,slow=7.4,SNR=6.3						
CHKZ	**Chkalovo**	**49.59**	**342**	*eP**	P		**19 05 38.3 -0.8**
	5.7nm,0.6s,mb4.8						
ASAR	**Alice Springs**	**49.92**	**130**	P	P		**19 05 43.4 +1.4**
	0.9nm,0.9s,mb3.8,baz=305,slow=7.7,SNR=6.3						
ASAR				PcP	PcP	19 07 02.9	+0.2
	0.7nm,0.7s,baz=304,slow=3.2,SNR=4.8						
KMBO	**Kilima Mbogo**	**57.26**	**264**	P	P		**19 06 37.2 +0.8**
	1.1nm,0.6s,mb4.0,baz=49,slow=12,SNR=3.9						
KMBO	**Kilima Mbogo**	**57.26**	**264**	P	P		**19 06 37.2 +0.8**
YAK	**Yakutsk**	**60.20**	**18**	*eP**	P		**19 06 54.6 -1.6**
	15nm,0.8s,mb5.1						
BRTR	**Keskin Array B**	**62.43**	**311**	P	P		**19 07 10.6 -1.0**
	1.1nm,0.6s,mb4.2,baz=126,slow=7.8,SNR=5.2						
AKASG	**Malin Array Be**	**68.20**	**322**	P	P		**19 07 47.2 -1.4**
	0.8nm,0.6s,mb3.9,baz=87,slow=5.5,SNR=4.1						
IDI	**Anoyia**	**68.55**	**305**	P	P		**19 07 51.7 +0.7**
	6.4nm,0.8s,mb4.6,baz=175,slow=11,SNR=5.1						
MLR	**Muntele Rosu**	**69.19**	**316**	P	P		**19 07 54.9 +0.1**
	1.9nm,0.7s,mb4.1,baz=135,slow=11,SNR=3.2						
JOF	**Joensuu**	**70.94**	**335**	*ep*	P		**19 08 02.4 -2.8**
FINES	**FINESS Array B**	**72.80**	**332**	P	P		**19 08 16.1 -0.1**
	2.3nm,0.5s,mb4.4,baz=93,slow=7.3,SNR=13						
KAF	**Kangasniemi**	**72.88**	**333**	*ep*	P		**19 08 16.0 -0.7**
	2.8nm,0.6s,mb4.4						
LBTB	**Lobatse**	**74.03**	**241**	P	P		**19 08 24.8 +0.6**
ARCES	**ARCESS Array B**	**75.38**	**340**	P	P		**19 08 31.5 +0.4**
	2.0nm,0.7s,mb4.2,baz=90,slow=4.9,SNR=6.6						
GERES	**GERESS Array B**	**77.86**	**318**	P	P		**19 08 46.3 +1.0**
	1.5nm,0.8s,mb4.0,baz=90,slow=4.0,SNR=9.8						
HFS	**Hagfors**	**78.53**	**330**	P	P		**19 08 49.2 +0.4**
	1.9nm,0.5s,mb4.3,baz=104,slow=6.1,SNR=12						
NB2	**NORSAR Subarra**	**79.81**	**331**	P	P		**19 08 55.5 -0.2**
	2.3nm,0.8s,mb4.2,baz=92,slow=5.8						
NOA	**NORSAR Array B**	**79.81**	**331**	P	P		**19 08 55.9 +0.2**
	1.8nm,0.7s,mb4.1,baz=93,slow=5.6,SNR=5.8						
ILAR	**Eielson Array**	**94.96**	**22**	P	P		**19 10 09.6 +0.2**
	0.3nm,0.5s,mb4.0,baz=287,slow=4.2,SNR=7.0						
PDAR	**Pinedale Array**	**125.38**	**21**	PKP	PKPdf	19 15 49.6	-0.9
	0.9nm,1.0s,baz=45,slow=2.1,SNR=4.5						
TXAR	**Lajitas Array**	**139.44**	**24**	PKP	PKPdf	19 16 16.6	-0.7
	0.3nm,0.5s,baz=302,slow=0.3,SNR=4.3						
PLCA	**Paso Flores**	**144.34**	**200**	PKP	PKPdf	19 16 24.8	-0.8
	2.2nm,0.8s,baz=190,slow=6.6,SNR=3.9						
PLCA	**Paso Flores**	**144.34**	**200**	PKP	PKPdf	19 16 24.8	-0.8

*IDC **28** 19:02:15.9±1.2, 7.59N×93.94E, mb3.6/7, mb1 3.8/8, mb1mx3.7/19, mbtmp3.6/8, ML4.1/1, Error ellipse: s-maj=47.6km s-min=20.3km az=57.0*
*NEIC **28** 19:02:20.2±0.7, 7.60N×93.97E, h30km, mb4.0/2, Error ellipse: s-maj=22.1km s-min=10.2km az=64.0*
ISC 28 19:02:18.7±0.8, 7.6N±0.1×94.1E±0.2, h30km, n18, σ0=92/18, mb4.0/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.74**	**23**	Pn	P		**19 05 07.5 +0.1**
	0.4nm,0.3s,baz=212,slow=14,SNR=12						
JIRN	**Jiri**	**21.27**	**340**	*eP**	P		**19 07 05.2 +0.2**
	28nm,1.1s,mb4.5						
PKI	**Pulchoki**	**21.46**	**339**	*eP**	P		**19 07 09.1 +2.2**
	14nm,0.8s,mb4.3						
DMN	**Daman**	**21.61**	**338**	*eP**	P		**19 07 10.0 +1.6**
	19nm,0.8s,mb4.6						
KKN	**Kakani**	**21.70**	**338**	*eP**	P		**19 07 08.6 -0.8**
LSA	**Lhasa**	**22.11**	**353**	*eP**	P		**19 07 13.1 -0.4**
	5.7nm,0.7s,mb4.1						
GKN	**Gorkha**	**22.14**	**337**	*eP**	P		**19 07 11.5 -2.2**
	14nm,0.6s,mb4.5						
KOLN	**Koldanda**	**22.35**	**335**	*eP**	P		**19 07 15.9 +0.1**
SONM	**Songino Array**	**41.40**	**13**	P	P		**19 10 04.4 +0.5**
	0.5nm,0.7s,mb3.3,baz=195,slow=9.1,SNR=5.9						
KURK	**Kurchatov**	**44.82**	**346**	*eP**	P		**19 10 31.2 -0.6**
	1.3nm,0.7s,mb3.9						
ZAL	**Zalesovo**	**46.77**	**352**	P	P		**19 10 46.5 -0.6**
	1.1nm,0.4s,mb4.1,baz=300,slow=6.6,SNR=6.9						
WRA	**Warramunga Arr**	**48.17**	**125**	P	P		**19 10 59.4 +0.7**
	0.3nm,0.5s,mb3.6,baz=306,slow=8.6,SNR=3.5						
WRAB	**Tennant Creek**	**48.17**	**125**	P	P

mb1mx4.1/19, mbtmp4.1/9, ML4.2/1, Error ellipse: s-maj=46.9km s-min=20.4km az=94.0

NEIC ***28*** *19:14:21.2±0.7, 11.29N×140.75E, h10km, mb4.6/3, Error ellipse: s-maj=39.0km s-min=16.3km az=93.0*

ISC 28 19:14:23.2±0.7, 11.12N±0.10×141.0E±0.2, h33km, n15, σ1§19/15, mb4.1/11, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**19.69**	**324**	P	**P**	**19 18 54.2**	**+1.7**
	1.1nm,0.3s,baz=153,slow=11,SNR=4.8						
WRAB	**Tennant Creek**	**31.54**	**192**	P	**P**	**19 20 44.2**	**-0.7**
	2.9nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**31.55**	**192**	P	**P**	**19 20 44.6**	**-0.4**
	1.7nm,0.7s,mb4.0,baz=11,slow=9.7,SNR=4.8						
ASAR	**Alice Springs**	**35.26**	**191**	P	**P**	**19 21 18.4**	**+1.4**
	0.9nm,0.5s,mb3.9,baz=22,slow=12,SNR=7.4						
ASAR				PcP	PcP	19 23 46.3	-1.2
	0.3nm,1.1s,baz=14,slow=2.6,SNR=2.8						
SONM	**Songino Array**	**46.69**	**328**	P	**P**	**19 22 50.7**	**+0.1**
	0.8nm,0.6s,mb3.8,baz=140,slow=7.2,SNR=8.1						
KURK	**Kurchatov**	**64.07**	**321**	*e*P	**P**	**19 24 51.2**	**-4.9**
	4.0nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**69.50**	**323**	*e*P	**P**	**19 25 28.6**	**-1.7**
	2.4nm,0.5s,mb4.4						
BVAR	**Borovoye Array**	**69.54**	**323**	P	**P**	**19 25 30.7**	**+0.1**
	0.8nm,0.5s,mb3.9,baz=117,slow=9.7,SNR=4.3						
BVAR	**Borovoye Array**	**69.54**	**323**	P	**P**	**19 25 30.7**	**+0.1**
ILAR	**Eielson Array**	**72.41**	**25**	P	**P**	**19 25 45.6**	**-1.9**
	0.7nm,0.6s,mb3.8,baz=247,slow=6.1,SNR=14						
YKA	**Yellowknife Ar**	**86.77**	**27**	P	**P**	**19 27 06.7**	**+1.8**
	1.1nm,0.8s,mb4.2,baz=290,slow=5.3,SNR=14						
YKA	**Yellowknife Ar**	**86.77**	**27**	P	**P**	**19 27 06.7**	**+1.8**
ARCES	**ARCESS Array B**	**88.23**	**341**	P	**P**	**19 27 10.9**	**-0.9**
	1.8nm,0.8s,mb4.3,baz=90,slow=4.9,SNR=5.2						
FINES	**FINESS Array B**	**91.75**	**334**	P	**P**	**19 27 28.0**	**-0.5**
	1.7nm,0.6s,mb4.5,baz=78,slow=4.9,SNR=6.7						
MCMT	**McKenzie Canyo**	**93.43**	**43**	*e*P	**P**	**19 27 37.5**	**+1.0**

PRU ***28*** *19:14:26.1, 50.07N×18.36E*

WAR 28 19:14:25.0, 50.06N×18.42E, h0km, ML2.4, 2C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.15**	**278**	⇑*i*PG	Pg	19 14 28.9	+0.9
RAC				⇑*i*SG	Sg	19 14 32.0	+2.0
OKC	**Ostrava-Krasne**	**0.29**	**218**	*e*PG	Pg	19 14 31.1	+0.3
OKC				*e*SG	Sg	19 14 35.7	+1.1
	138nm,0.9s						
OJC	**Ojcow**	**0.90**	**79**	*e*PG	Pg	19 14 42.0	-0.9
OJC				*e*SG	Sg	19 14 55.0	+0.1
DPC	**Dobruska-Polom**	**1.38**	**283**	*e*PG	Pg	19 14 50.7	-1.9
DPC				*e*SG	Sg	19 15 09.4	-1.6
	44nm,0.5s						
NIE	**Niedzica**	**1.39**	**117**	*e*Pg	Pg	19 14 51.9	-0.8
NIE				*e*Sg	Sg	19 15 11.4	+0.3
NIE				*e*		19 15 12.3	
KSP	**Ksiaz**	**1.57**	**301**	*e*PG	Pg	19 14 55.0	-1.3
KSP				*e*SG	Sg	19 15 15.0	-2.3
VYHS	**Vyhne**	**1.59**	**170**	*e*PN	Pn	19 14 54.6	+0.1
VYHS				*e*SN	Sn	19 15 15.8	-0.3
UPC	**Upice**	**1.61**	**287**	*e*PG	Pg	19 14 54.1	-3.0
UPC				*e*SG	Sg	19 15 16.0	-2.6
CRVS	**Cervenica-Dubn**	**2.30**	**119**	*e*PN	Pn	19 15 08.0	+3.4
CRVS				*e*SG	Sg	19 15 41.0	-0.5
PRU	**Pruhonice**	**2.50**	**270**	*e*SG	Sg	19 15 43.5	-4.9
KHC	**Kasperske Hory**	**3.29**	**255**	*e*PG	Pg	19 15 24.0	-6.6
KHC				*ex*	x	19 15 53.5	
KHC				*e*SG	Sg	19 16 08.3	-6.2
CLL	**Collm**	**3.67**	**292**	*e*SG	Sg	19 16 22.0	-5.0
NKC	**Novy Kostel**	**3.85**	**275**	*e*SG	Sg	19 16 27.6	-5.5

IDC ***28*** *19:16:35.7±0.7, 7.68N×93.97E, mb3.9/11, mb1 4.1/12, mb1mx4.0/20, mbtmp3.9/12, ML4.3/1, Error ellipse: s-maj=28.1km s-min=18.2km az=53.0*

NEIC ***28*** *19:16:40.0±0.4, 7.66N×93.98E, h30km, mb4.4/5, Error ellipse: s-maj=12.1km s-min=8.5km az=64.0*

ISC 28 19:16:38.5±0.6, 7.7N±0.1×94.0E±0.1, h33km, n21, σ0§57/19, mb4.1/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.74**	**24**	Pn	**P**	**19 19 26.7**	**0.0**
	0.6nm,0.3s,baz=213,slow=16,SNR=20						
LSA	**Lhasa**	**22.08**	**353**	*e*P	**P**	**19 21 32.5**	**+0.2**
	17nm,0.6s,mb4.7						
SONM	**Songino Array**	**41.39**	**13**	P	**P**	**19 24 23.9**	**+0.7**
	1.4nm,0.7s,mb3.7,baz=194,slow=8.8,SNR=11						
SONM				PcP	PcP	19 26 22.6	+1.0
	0.7nm,0.6s,baz=211,slow=3.9,SNR=5.6						
ZAL	**Zalesovo**	**46.73**	**353**	P	**P**	**19 25 06.8**	**+0.6**
	2.9nm,0.5s,mb4.5,baz=305,slow=8.0,SNR=14						
ZAL	**Zalesovo**	**46.73**	**353**	P	**P**	**19 25 06.8**	**+0.6**
WRA	**Warramunga Arr**	**48.24**	**125**	P	**P**	**19 25 18.0**	**-0.5**
	0.5nm,0.5s,mb3.8,baz=305,slow=8.5,SNR=10						
WRAB	**Tennant Creek**	**48.24**	**125**	P	**P**	**19 25 18.8**	**+0.3**
	1.5nm,0.5s,mb4.3						
BVAR	**Borovoye Array**	**49.15**	**341**	P	**P**	**19 25 24.6**	**-0.4**
	0.4nm,0.4s,mb3.8,baz=157,slow=11,SNR=4.8						
BVAR	**Borovoye Array**	**49.15**	**341**	P	**P**	**19 25 24.6**	**-0.4**
ASAR	**Alice Springs**	**49.87**	**130**	P	**P**	**19 25 31.1**	**+0.1**
	0.7nm,0.9s,mb3.7,baz=307,slow=7.7,SNR=5.2						
ASAR				PcP	PcP	19 26 53.1	+1.7
	0.8nm,0.8s,baz=314,slow=2.8,SNR=6.4						
KMBO	**Kilima Mbogo**	**57.29**	**264**	P	**P**	**19 26 26.9**	**+1.0**
	0.6nm,0.6s,mb3.8,baz=54,slow=19,SNR=2.9						
KMBO	**Kilima Mbogo**	**57.29**	**264**	*e*P	**P**	**19 26 26.0**	**+0.2**
	0.8nm,0.6s,mb3.9						
KIV	**Kislovodsk**	**57.39**	**318**	*e*P	**P**	**19 26 25.6**	**-0.6**
	2.9nm,0.7s,mb4.4						
YAK	**Yakutsk**	**60.22**	**18**	*e*P	**P**	**19 26 44.9**	**-0.7**
	6.6nm,0.8s,mb4.7						
BRTR	**Keskin Array B**	**62.48**	**311**	P	**P**	**19 27 00.0**	**-1.1**
	0.6nm,0.7s,mb3.9,baz=124,slow=10,SNR=3.1						
FINES	**FINESS Array B**	**72.84**	**332**	P	**P**	**19 28 05.0**	**-0.5**
	2.2nm,0.7s,mb4.2,baz=90,slow=4.2,SNR=4.5						
GERES	**GERESS Array B**	**77.90**	**318**	P	**P**	**19 28 34.9**	**+0.1**
	1.0nm,1.0s,mb3.7,baz=90,slow=4.0,SNR=5.7						
HFS	**Hagfors**	**78.57**	**330**	P	**P**	**19 28 39.0**	**+0.8**
	1.6nm,0.6s,mb4.1,baz=90,slow=10,SNR=4.4						
NOA	**NORSAR Array B**	**79.85**	**331**	P	**P**	**19 28 45.8**	**+0.7**
	1.0nm,0.8s,mb3.8,baz=94,slow=5.4,SNR=3.3						
PDAR	**Pinedale Array**	**125.40**	**21**	PKP	PKPdf	19 35 39.1	+2.5
	0.6nm,0.8s,slow=3.0,SNR=4.9						
PLCA	**Paso Flores**	**144.32**	**200**	PKP	PKPdf	19 36 14.6	+3.1
	1.6nm,0.8s,baz=316,slow=3.5,SNR=4.0						

BJI ***28*** *19:18:50.9, 7.74N×93.67E, h38km, mB5.6, mb5.0, Ms5.6, Msz5.3*

MOS ***28*** *19:18:51.8±1.0, 7.97N×94.10E, h33km, mb5.4/57, MS5.0/36, Error ellipse: s-maj=8.8km s-min=5.1km az=108.1*

HRVD ***28*** *19:18:51.5±0.2, 7.86N×94.20E, h12km, MW5.4/64, Centroid moment Tensor Solution. LP body waves: s46,c76;Mantle waves: s64,c125; Half duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.48±.03; $M_{\theta\theta}$-1.20±.03; $M_{\phi\phi}$1.68±.03; $M_{r\theta}$-0.57±.07; $M_{\theta\phi}$0.29±.03; $M_{\phi r}$~0.39±.07; Best double couple: $M_0$1.66×10^{17} NP1: ϕ_s143°, δ61°, λ-167°. NP2:ϕ_s47°, δ79°, λ-29°. Principal axes: T 1.801, Plg12°, Azm98°; N -.281, Plg59°, Azm208°; P -1.519, Plg28°, Azm1°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***28*** *19:18:51.5±0.2, 7.99N×94.11E, mb5.3/57, MS5.0/22 Error ellipse: s-maj=5.6km s-min=4.5km az=55.0*

IDC ***28*** *19:18:55.3±2.8, 8.02N×94.17E, h50km±24km, mb4.5/30, mb1 4.6/31, mb1mx4.5/32, mbtmp4.7/31, ML5.1/1, MS5.0/21, Ms1 5.0/21, ms1mx5.0/23, Error ellipse: s-maj=18.2km s-min=9.5km az=48.0, Putative timing error at LPAZ*

ISC 28 19:18:49.8±1.0, 7.93N±0.03×94.18E±0.03, h19km±6km, h20km±.6km: pP-P, n334, σ1§22/332, mb5.1/101, MS5.1/63, 16C-16D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.96**	**339**	*e*P	**Pn**	**19 19 52.8**	**+1.7**
PBA				*e*S	**Sn**	**19 20 34.6**	**-3.0**
NNT	**Nongplab**	**7.16**	**49**	P	**Pn**	**19 20 37.5**	**+1.2**
NST	**Nakhon Sawan**	**9.65**	**37**	P	**P**	**19 21 04.0**	**-7.0**
	89nm,0.6s						
CM31	**Chiang Mai Arr**	**11.44**	**23**	*e*P	**P**	**19 21 35.0**	**-0.5**
	19nm,0.5s						
CMAR	**Chiang Mai Arr**	**11.44**	**23**	P	**P**	**19 21 36.9**	**+1.4**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,3μm,20.6s						
CMAR	**Chiang Mai Arr**	**11.44**	**23**	P	**P**	**19 21 36.9**	**+1.4**
	comp=Z,4.1nm,0.3s,baz=210,slow=14,SNR=80						
CMAR				LR	LR	19 25 40.7	
	comp=Z,3μm,20.6s,baz=210,slow=36						
CHG	**Chiang Mai**	**11.77**	**23**	⇓P	**P**	**19 21 43.0**	**+3.1**
	comp=Z,86nm,0.6s						
PALK	**Pallekele**	**13.37**	**268**	*e*P	**P**	**19 22 00.2**	**-1.1**
	comp=Z,12nm,0.6s						
VIS	**Vishakhapatnam**	**14.36**	**314**	*e*P	**P**	**19 22 14.4**	**0.0**
VIS				*e*		19 22 26.4	
	comp=Z,250nm,1.2s						
VIS				*e*	**S**	**19 24 45.2**	**-8.8**
MDRS	**Chennai**	**14.61**	**292**	*e*	**P**	**19 22 19.0**	**+1.3**
BWNR	**Bhubaneshwar**	**14.72**	**327**	*e*P	**P**	**19 22 17.4**	**-1.7**
BWNR				*e*		19 22 23.5	
	comp=Z,109nm,0.8s						
BWNR				*e*	**S**	**19 24 52.3**	**-10**
CAL	**Calcutta**	**15.57**	**339**	*e*	**S**	**19 25 39.4**	**+17**
AGT	**Agartala**	**16.11**	**350**	*e*P	**P**	**19 22 38.0**	**+0.9**
KOD	**Kodaikanal**	**16.66**	**279**	*e*P	**P**	**19 22 44.8**	**+0.7**
KOD				*e*		19 22 56.2	
	comp=Z,205nm,1.6s						
KOD				*e*S	**S**	**19 25 49.8**	**+2.0**
IMP	**Imphal**	**16.76**	**359**	*e*	**P**	**19 22 45.1**	**-0.2**
TRD	**Trivandrum**	**17.05**	**273**	*e*	**P**	**19 22 57.4**	**+8.3**
TRD				*i*	**S**	**19 26 08.4**	**+12**
SHL	**Shillong**	**17.67**	**353**	*e*P	**P**	**19 22 55.3**	**-1.5**
SHL				*e*S	**S**	**19 26 11.6**	**+0.7**
HYB	**Hyderabad**	**17.91**	**303**	*e*P	**P**	**19 23 02.0**	**+2.3**
HYB				*e*S	**S**	**19 26 19.0**	**+2.7**
HYB	**Hyderabad**	**17.91**	**303**	*i* P	**P**	**19 23 02.0**	**+2.3**
	comp=Z,129nm,1.2s						
HYB				*e*S	**S**	**19 26 19.0**	**+2.7**
HYB				LR	LR	19 30 52.0	
	comp=Z,5.5nm,18.0s						
BLSP	**Bilaspur**	**18.27**	**322**	*e*P	**P**	**19 23 03.8**	**-0.5**
BLSP				*e*	**S**	**19 26 35.4**	**+11**
QIZ	**Qiongzhong**	**18.79**	**52**	P	**P**	**19 23 13.0**	**+2.4**
QIZ				S	**S**	**19 26 39.0**	**+2.8**
QIZ				AMB	AMB		
	comp=Z,2μm,7.9s						
QIZ				LR	LR		
	comp=Z,8μm,9.5s						
QIZ	**Qiongzhong**	**18.79**	**52**	*e*P	**P**	**19 23 10.7**	**+0.1**
	comp=Z,304nm,1.6s						
QIZ				*e*pP		19 23 16.0	
KMI	**Kunming**	**18.95**	**25**	P	**P**	**19 23 16.7**	**+4.2**
KMI				S	**S**	**19 26 44.0**	**+4.2**
KMI				pmax	pmax		
	comp=Z,27nm,1.2s						
KMI	**Kunming**	**18.95**	**25**	P	**P**	**19 23 16.7**	**+4.2**
	comp=Z,27nm,1.2s						
KMI				pP		19 23 19.1	
KMI				sP		19 23 22.8	
KMI				PP	PP	19 23 31.0	+2.0
KMI				S	**S**	**19 26 44.0**	**+4.2**
KMI				sS		19 26 51.7	
KMI				SS	SS	19 27 08.1	+2.8
NGP	**Nagpur**	**19.65**	**314**	*e*P	**P**	**19 23 20.9**	**+0.4**
NGP				*e*		19 23 31.0	
NGP				*e*S	**S**	**19 26 59.2**	**+3.8**
MNGI	**Mangalore**	**19.67**	**286**	*i*	**P**	**19 23 23.4**	**+2.5**
GTK	**Gangtok**	**20.00**	**345**	*e*P	**P**	**19 23 21.0**	**-3.4**
COCO	**West Island**	**20.16**	**172**	*e*P	**P**	**19 23 26.8**	**+0.7**
JIRN	**Jiri**	**21.03**	**340**	*e*P	**P**	**19 23 34.0**	**-1.0**
PKI	**Pulchoki**	**21.22**	**338**	*e*P	**P**	**19 23 35.2**	**-1.8**
	comp=Z,690nm,1.4s,mb5.8						
GOA	**Goa**	**21.28**	**293**	*e*P	**P**	**19 23 46.5**	**+8.9**
GOA				*e*		19 23 54.0	
	comp=Z,197nm,1.3s						
GOA				*e*S	**S**	**19 27 41.8**	**+13**
DMN	**Daman**	**21.37**	**337**	*e*P	**P**	**19 23 37.4**	**-1.1**
	comp=Z,483nm,1.2s,mb5.7						
KKN	**Kakani**	**21.47**	**338**	*e*P	**P**	**19 23 38.6**	**-0.9**
	comp=Z,456nm,1.1s,mb5.7						
KAD	**Karad**	**21.60**	**297**	*e*P	**P**	**19 23 41.1**	**+0.2**
KAD				*e*		19 23 49.6	
	comp=Z,152nm,1.3s						
KAD				*e*S	**S**	**19 27 38.7**	**+4.4**
LSA	**Lhasa**	**21.84**	**353**	P	**P**	**19 23 44.0**	**+0.8**
LSA				AP		19 23 49.5	
LSA				AMB	AMB		
	comp=Z,120nm,0.7s,mb5.4						
LSA				LR	LR		
	comp=Z,84μm,19.9s						
LSA	**Lhasa**	**21.84**	**353**	*e*P	**P**	**19 23 42.7**	**-0.5**
LSA				pmax	pmax		
	comp=Z,94nm,0.7s,mb5.3						
LSA	**Lhasa**	**21.84**	**353**	*e*P	**P**	**19 23 42.7**	**-0.5**
	comp=Z,94nm,0.7s,mb5.3						
GKN	**Gorkha**	**21.91**	**337**	*e*P	**P**	**19 23 43.8**	**0.0**
	comp=Z,332nm,1.0s,mb5.7						
KOLN	**Koldanda**	**22.12**	**334**	*e*P	**P**	**19 23 45.9**	**-0.1**
BHPL	**Bhopal**	**22.14**	**315**	*e*P	**P**	**19 23 47.4**	**+1.1**
BHPL				*e*		19 23 55.7	
	comp=Z,168nm,1.0s						
POO	**Poona**	**22.39**	**300**	⇑*i*P	**P**	**19 23 50.0**	**+1.3**
POO				*i*		19 28 43.0	
BOM	**Bombay**	**23.43**	**300**	*e*P	**P**	**19 24 02.3**	**+3.2**
BOM				*e*		19 24 22.4	
	comp=Z,224nm,1.7s						
BOM				*e*S	**S**	**19 28 13.8**	**+6.3**
HKC	**Hong Kong**	**23.97**	**51**	⇑*i*P	**P**	**19 24 10.0**	**+5.8**
HKC				*i* S	Sx	19 28 44.0	
NDI	**New Delhi**	**26.11**	**324**	*e*P	**P**	**19 24 25.2**	**+0.7**
NDI				*e*		19 24 32.9	
	comp=Z,140nm,1.4s						
NDI				*e*S	**S**	**19 28 57.3**	**+4.6**
AJM	**Ajmer**	**26.16**	**317**	*i* P	**P**	**19 24 26.0**	**+1.0**
ENH	**Enshi**	**26.45**	**31**	*e*P	**P**	**19 24 27.7**	**0.0**
	comp=Z,80nm,1.2s,mb5.1						
DDI	**Dehra Dun**	**26.91**	**328**	*e*P	**P**	**19 24 31.2**	**-0.7**
DDI				*e*S	**S**	**19 29 12.0**	**+6.1**
TGY	**Tagaytay City**	**26.96**	**75**	LR	LR	19 35 30.9	
	comp=Z,3μm,18.1s,MS5.0,baz=87,slow=37						
SMLA	**Simla**	**28.02**	**328**	*e*P	**P**	**19 24 55.6**	**+14**
SMLA				*e*		19 25 09.2	
	comp=Z,96nm,1.5s						
SMLA				*e*S	**S**	**19 29 40.0**	**+16**
QZH	**Quanzhou**	**28.80**	**51**	*e*P	**P**	**19 24 52.5**	**+3.5**
QZH				S	**S**	**19 29 38.3**	**+2.0**
QZH				AMB	AMB		
	comp=Z,80nm,1.1s,mb5.4						
QZH				AMB	AMB		
	comp=Z,840nm,6.5s						
QZH				LR	LR		
	comp=Z,17μm,13.4s,MS5.8						
XAN	**Xi'an**	**29.33**	**26**	P	**P**	**19 24 53.5**	**-0.2**
XAN				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
WHN	**Wuhan**	**29.37**	**37**	*e*P	**P**	**19 24 58.0**	**+3.9**
WHN				LR	LR		
	comp=N,1μm,10.7s,MS5.7						
WHN				LR	LR		
	comp=E,10μm,10.1s,MS5.7						
WHN				LR	LR		
	comp=Z,14μm,13.0s,MS5.8						
LZH	**Lanzhou**	**29.38**	**16**	⇑P	**P**	**19 24 56.0**	**+1.8**
LZH				AP	pP	19 25 04.0	+4.2
LZH				XP	sP	19 25 09.5	+7.2
LZH				PP	PP	19 25 52.0	+2.3
LZH				S	**S**	**19 29 47.0**	**+1.5**
LZH				XS		19 30 03.0	
LZH				SS	SS	19 31 25.0	+7.3
LZH				AMB	AMB		
	comp=Z,93nm,1.8s,mb5.2						
LZH				AMB	AMB		
	comp=Z,226nm,4.0s						
LZH				LR	LR		
	comp=E,6μm,13.3s						
LZH				LR	LR		
	comp=Z,7μm,14.5s,MS5.4						
LZH	**Lanzhou**	**29.38**	**16**	⇑P	**P**	**19 24 56.1**	**+1.9**
LZH				*PP	pP	19 25 04.1	+4.3
LZH				*SP	sP	19 25 09.6	+7.3
LZH						19 25 52.0	
LZH				S	**S**	**19 29 47.0**	**+1.5**
LZH				*SS		19 30 03.0	
LZH				pmax	pmax		
	comp=Z,93nm,1.8s,mb5.2						
LZH				MLR	MLR		
	comp=Z,7μm,14.5s,MS5.4						
LZH	**Lanzhou**	**29.38**	**16**	⇑P	**P**	**19 24 56.1**	**+1.9**
	comp=Z,93nm,1.8s,mb5.2						
LZH				pP	pP	19 25 04.1	+4.3
LZH				sP	sP	19 25 09.6	+7.3
LZH				PP	PP	19 25 52.0	+2.3
LZH				S	**S**	**19 29 47.0**	**+1.5**
LZH				sS		19 30 03.0	
LZH				SS	SS	19 31 25.0	+7.3
LZH				LR	LR		
	comp=Z,7μm,14.5s,MS5.4						
DAV	**Davao City (W)**	**31.14**	**89**	*e*P	**P**	**19 25 18.5**	**+8.5**
NJ2	**Nanjing**	**33.20**	**40**	*e*P	**P**	**19 25 29.3**	**+1.5**
NJ2				AP	pP	19 25 41.0	+7.5
NJ2				XP	sP	19 25 43.5	+7.5
NJ2				PP	PP	19 26 40.5	+1.3
NJ2				S	**S**	**19 30 44.0**	**-1.5**
NJ2				AMB	AMB		
	comp=Z,200nm,5.0s						
NJ2				LR	LR		
	comp=Z,10μm,11.5s,MS5.8						
SSE	**Sheshan**	**34.16**	**44**	P	**P**	**19 25 33.9**	**-2.2**
	comp=Z,32nm,0.7s,mb5.4						
SSE				pP	pP	19 25 42.8	+1.0
SSE				S	**S**	**19 31 00.2**	**-0.1**
SSE				sS		19 31 13.7	
SSE				SS	SS	19 33 33.5	+24
SSE				LR	LR		
	comp=Z,2μm,15.1s,MS5.0						
WMQ	**Urumqi**	**36.20**	**352**	P	**P**	**19 25 54.5**	**+1.2**
WMQ				AP	pP	19 26 00.5	+1.5
WMQ				XP	sP	19 26 03.3	+1.8
WMQ				PP	PP	19 27 17.3	+1.2
WMQ				PCP	PcP	19 28 20.0	+1.1
WMQ				S	**S**	**19 31 33.0**	**+1.3**
WBK	**Wadi Bani Khal**	**36.84**	**297**	⇑P	**P**	**19 26 01.7**	**+2.8**
JOW	**Kunigami**	**37.39**	**56**	P	**P**	**19 26 04.1**	**+0.6**
	comp=Z,7.9nm,0.8s,mb4.6,baz=239,slow=5.9,SNR=2.3						
JOW				LR	LR	19 41 48.8	
	comp=Z,2μm,18.7s,MS4.9,baz=244,slow=37						
BJT	**Baijiatuau**	**37.52**	**28**	*e*P	**P**	**19 26 03.9**	**-0.5**
BJT				*e*PP	pP	19 26 09.3	-0.9
BJT				pmax	pmax		
	comp=Z,62nm,1.3s						
BJT	**Baijiatuau**	**37.52**	**28**	*e*P	**P**	**19 26 03.9**	**-0.5**
	comp=Z,62nm,1.3s,mb5.2						
BJT				*e*pP	pP	19 26 09.3	-0.9
JMDO	**Jabal Madar**	**37.53**	**297**	⇑P	**P**	**19 26 07.1**	**+2.4**
BJI	**Beijing**	**37.54**	**28**	P	**P**	**19 26 09.1**	**+4.5**
BJI						19 27 36.7	
BJI				S	**S**	**19 31 59.7**	**+7.4**
BJI				SS	SS	19 34 51.6	+26
BJI				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.5						
BJI				MLR	MLR		
	comp=Z,2μm,21.2s,MS4.8						
BJI	**Beijing**	**37.54**	**28**	P	**P**	**19 26 09.1**	**+4.5**
	comp=Z,16nm,1.7s,mb4.5						
BJI				PP	PP	19 27 36.7	+3.6
BJI				S	**S**	**19 31 59.7**	**+7.4**
BJI				SS	SS	19 34 51.6	+26
BJI				LR	LR		
	comp=Z,2μm,21.2s,MS4.8						
SMDO	**Samad**	**37.78**	**298**	⇑P	**P**	**19 26 08.9**	**+2.1**
	SNR=9.9						
BIDO	**Bidbid**	**37.86**	**298**	⇓P	**P**	**19 26 10.1**	**+2.7**
	SNR=10						
MBWA	**Marble Bar**	**38.28**	**139**	*e*P	**P**	**19 26 12.6**	**+1.5**
UCH	**Uchtor**	**38.31**	**336**	P	**P**	**19 26 11.6**	**+0.5**
	SNR=13						
BSY	**Bisya**	**38.44**	**297**	⇑P	**P**	**19 26 14.7**	**+2.3**
	SNR=9.7						
KBK	**Karagaybulak**	**38.51**	**337**	P	**P**	**19 26 13.5**	**+0.8**
	SNR=21						
AML	**Almayashu**	**38.57**	**335**	P	**P**	**19 26 13.2**	**0.0**
	SNR=25						
AAK	**Ala-Archa**	**38.66**	**337**	P	**P**	**19 26 15.1**	**+1.0**
	SNR=11						
AAK	**Ala-Archa**	**38.66**	**337**	P	**P**	**19 26 14.6**	**+0.5**
AAK				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.0						
AAK	**Ala-Archa**	**38.66**	**337**	*e*P	**P**	**19 26 12.9**	**-1.1**
	comp=Z,36nm,1.0s,mb5.1						
FRU	**Bishkek**	**38.79**	**337**	*e*P	**P**	**19 26 16.0**	**+0.9**
FRU				MLR	MLR		
	comp=Z,2μm,19.0s,MS4.9						
CHMS	**Chumysh**	**38.88**	**337**	P	**P**	**19 26 16.0**	**+0.2**
	SNR=7.3						
EKS2	**Erkin-Say**	**38.98**	**336**	P	**P**	**19 26 17.6**	**+1.0**
	SNR=12						
USP	**Ospenovka**	**39.20**	**337**	P	**P**	**19 26 18.6**	**+0.1**
	SNR=16						
ARQ	**Araqi**	**39.21**	**297**	⇑P	**P**	**19 26 20.9**	**+2.1**
MKAR	**Makanchi Array**	**40.04**	**347**	*i* P	**P**	**19 26 24.8**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,43nm,0.9s						
RBK	**Rabkut**	**40.06**	**288**	⇑P	**P**	**19 26 27.8**	**+2.0**
	SNR=5.4						
FITZ	**Fitzroy Crossi**	**40.42**	**130**	*e*P	**P**	**19 26 31.3**	**+2.5**
	comp=Z,19nm,0.9s,mb4.8						
ABTO	**Aybut**	**40.89**	**287**	⇑P	**P**	**19 26 34.9**	**+2.2**
	SNR=6.1						
SONM	**Songino Array**	**41.10**	**13**	P	**P**	**19 26 34.5**	**+0.4**
	comp=Z,12nm,0.8s,mb4.6,baz=196,slow=6.5,SNR=48						
SONM				PcP	PcP	19 28 33.6	-0.6
	comp=Z,3.0nm,0.7s,baz=198,slow=4.8,SNR=4.2						
SONM				ScP		19 32

HIA e*PP pP 19 27 24.7 +1.5
HIA pmax pmax
comp=Z,66nm,1.1s
HIA Hailar 46.45 23 eP P 19 27 18.2 +0.8
comp=Z,66nm,1.1s,mb5.5
HIA epP pP 19 27 24.7 +1.5
ZAL Zalesovo 46.49 352 P P 19 27 17.6 0.0
ZAL pmax pmax
comp=Z,23nm,0.7s
ZAL Zalesovo 46.49 352 P P 19 27 17.6 0.0
comp=Z,23nm,0.7s,mb5.3,baz=305,slow=5.5,SNR=90
NVS Novosibirsk 47.59 351 i P P 19 27 25.1 -1.2
NVS e 19 29 01.5
NVS i S S 19 34 19.8 +0.2
NVS e 19 37 16.6
NVS pmax pmax
comp=Z,82nm,1.1s,mb5.7
NVS pmax pmax
comp=N,63nm,1.4s
NVS pmax pmax
comp=E,38nm,1.4s
NVS smax
comp=N,20nm,1.9s
NVS smax
comp=E,37nm,1.7s
MDJ Mudanjiang 47.74 34 P P 19 27 29.0 +1.4
MDJ PCP PcP 19 28 57.0 0.0
MDJ PP PP 19 29 21.5 +2.8
MDJ SCP 19 32 51.8
MDJ S S 19 34 26.5 +4.7
MDJ AMB AMB
comp=Z,7.0nm,1.9s,mb4.4
MDJ AMB AMB
comp=Z,381nm,6.5s
MDJ LR LR
comp=N,2µm,11.7s
MDJ LR LR
comp=E,3µm,18.7s
MDJ LR LR
comp=Z,2µm,17.3s
MDJ Mudanjiang 47.74 34 eP P 19 27 26.9 -0.7
comp=Z,91nm,1.4s,mb5.6
VLA Vladivostok 48.16 37 eP P 19 27 32.0 +1.2
VLA pmax pmax
comp=Z,500nm,6.0s
WRA Warramunga Arr 48.27 126 P P 19 27 30.9 -1.1
WRA 19 28 57.9
WRA pmax pmax
comp=Z,7.0nm,1.1s
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA Warramunga Arr 48.27 126 P P 19 27 30.9 -1.1
comp=Z,7.2nm,1.1s,mb4.6,baz=304,slow=8.7,SNR=21
WRA PcP PcP 19 28 57.9 -1.3
comp=Z,1.6nm,0.5s,baz=314,slow=2.8,SNR=2.0
WRAB Tennant Creek 48.27 126 i P P 19 27 31.7 -0.3
WRAB Tennant Creek 48.27 126 eP P 19 27 30.5 -1.5
comp=Z,64nm,1.1s,mb5.6
WRAB LR LR
comp=Z,733nm,19.0s,MS4.7
WB2 Warramunga Arr 48.27 126 eP P 19 27 30.7 -1.4
WB2 e pP 19 27 36.0 -1.9
BVA0 Borovoye Array 48.95 341 P P 19 27 35.6 -1.2
BVA0 pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
BVAR Borovoye Array 48.95 341 P P 19 27 35.2 -1.6
comp=Z,10nm,1.0s,mb4.8,baz=143,slow=7.4,SNR=26
BVAR PcP PcP 19 29 00.3 -1.0
comp=Z,4.9nm,0.9s,baz=207,slow=3.2,SNR=2.7
JHJ Hachijo jima 2 49.00 53 LR LR 19 47 28.0
comp=Z,1µm,20.1s,MS5.0,baz=289,slow=35
BRVK Borovoye 49.01 341 eP P 19 27 35.9 -1.4
BRVK pmax pmax
comp=Z,21nm,1.1s,mb5.1
BRVK Borovoye 49.01 341 eP P 19 27 35.9 -1.4
comp=Z,21nm,1.1s,mb5.1
RAYN Ar Rayn 49.09 294 P P 19 27 39.4 +1.1
comp=Z,223nm,0.7s,SNR=32
MAJO Matsushiro 49.09 48 eP P 19 27 37.8 -0.4
MAJO MLR MLR
comp=Z,1µm,20.0s,MS4.9
MAT Matsushiro 49.09 48 eP P 19 27 40.0 +1.8
MAT eS S 19 34 39.0 -2.0
MAT pmax pmax
comp=Z,73nm,2.1s,mb5.3
MAT MLR MLR
comp=Z,1µm,18.0s,MS5.0
MAT Matsushiro 49.09 48 eP P 19 27 40.0 +1.8
comp=Z,73nm,2.1s,mb5.3
MAT eS S 19 34 39.0 -2.0
MAT LR LR
comp=Z,1µm,18.0s,MS5.0
MAT Matsushiro 49.09 48 P P 19 27 39.9 +1.7
MAT S S 19 34 38.0 -3.0
CHKZ Chkalovo 49.43 342 P P 19 27 39.9 -0.6
CHKZ pmax pmax
comp=Z,45nm,0.9s,mb5.5
CHKZ Chkalovo 49.43 342 eP P 19 27 39.6 -0.9
comp=Z,80nm,1.2s,mb5.6
ASPA Alice Springs 49.92 130 eP P 19 27 44.8 +0.1
ASAR Alice Springs 49.92 130 P P 19 27 43.6 -1.1
comp=Z,7.2nm,0.6s,mb4.9,baz=309,slow=7.9,SNR=15
ASAR PcP PcP 19 29 03.0 -2.2
comp=Z,3.9nm,0.7s,baz=300,slow=4.0,SNR=4.8
ASAR LR LR 19 50 42.8
comp=Z,766nm,19.1s,MS4.7,baz=298,slow=38
FORT Forrest 50.36 141 eP P 19 27 46.6 -1.4
comp=Z,68nm,0.6s,mb5.8
KLR Kul'dur 51.82 31 eP P 19 27 57.0 -1.7
KLR e 19 29 54.0
KLR eS S 19 35 20.0 +1.5
KLR e 19 38 47.5
KLR pmax pmax
comp=Z,700nm,7.0s
BOD Bodaibo 52.09 13 eP P 19 27 59.8 -0.9
BOD e pP 19 28 05.6 -0.9
CLNS Chul'man 54.37 20 eP P 19 28 17.1 -0.4
CLNS e*PP pP 19 28 23.5 +0.1
CLNS e 19 29 25.5
CLNS ePS PS 19 35 59.8 -6.4
CLNS e 19 38 01.0
CLNS pmax pmax
comp=Z,27nm,0.7s,mb5.3
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CLNS MLR MLR
comp=Z,1µm,12.0s,MS5.1
CLNS MLR MLR
comp=N,1µm,13.0s,MS5.1
CLNS MLR MLR
comp=E,300nm,12.0s,MS5.1
GNI Garni 54.42 314 i P P 19 28 17.0 -1.2
GNI pmax pmax
comp=Z,10.0nm,1.0s
GNI Garni 54.42 314 P P 19 28 16.9 -1.3
comp=Z,3.1nm,0.6s,mb4.4,baz=352,slow=8.2,SNR=4.2
GNI LR LR 19 56 44.5
comp=Z,275nm,19.8s,MS4.3,baz=236,slow=42
GNI Garni 54.42 314 eP P 19 28 16.6 -1.5
comp=Z,38nm,1.3s,mb5.2
GNI LR LR
comp=Z,493nm,20.0s,MS4.6
ASAJ Asahikawa 55.35 41 LR LR 19 52 43.4
comp=Z,1µm,19.6s,MS4.9,baz=248,slow=37
SVE Sverdlovsk 55.36 338 eP P 19 28 21.5 -3.3
SVE eS S 19 36 00.0 -6.3
SVE e 19 38 08.0
SVE pmax pmax
comp=Z,160nm,2.0s,mb5.7
SVE MLR MLR
comp=Z,2µm,19.0s,MS5.2
PMG Port Moresby 55.52 107 P P 19 28 26.5 0.0
PMG pmax pmax
comp=Z,23nm,0.7s
PMG Port Moresby 55.52 107 P P 19 28 26.5 -0.1
comp=Z,23nm,0.7s,mb5.3,baz=275,slow=5.9,SNR=5.7
PMG Port Moresby 55.52 107 eP P 19 28 26.3 -0.2
comp=Z,23nm,0.7s,mb5.3
PMG LR LR
comp=Z,712nm,20.0s,MS4.8
ARU Arti 55.85 337⇑ i P P 19 28 20.6 -7.7
ARU e 19 30 29.6
ARU eS S 19 36 03.4 -9.5
ARU e 19 38 08.2
ARU pmax pmax
comp=Z,35nm,1.0s,mb5.3
ARU MLR MLR
comp=Z,2µm,21.0s,MS5.1
ARU MLR MLR
comp=N,1µm,19.0s,MS5.1
ARU MLR MLR
comp=E,700nm,19.0s,MS5.1
YSS Yuzh-Sakhalins 56.72 38 eP P 19 28 39.7 +5.0
YSS S S 19 36 33.0 +8.6
YSS pmax pmax
comp=Z,70nm,1.3s,mb5.5
YSS MLR MLR
comp=Z,1µm,14.0s,MS5.2
YSS MLR MLR
comp=N,1µm,13.0s,MS5.5
YSS MLR MLR
comp=E,2µm,14.0s,MS5.5
YSS Yuzh-Sakhalins 56.72 38 eP P 19 28 35.8 +1.1
YSS LR LR
comp=Z,1µm,19.0s,MS5.0
ERZM Erzurum 56.76 313 i P P 19 28 33.6 -1.6
KIV Kislovodsk 57.30 318 d i P P 19 28 37.1 -1.8
KIV e pP 19 28 44.1 -0.7
KIV i 19 30 45.5
KIV i S S 19 36 34.5 +2.3
KIV pmax pmax
comp=Z,17nm,1.0s,mb5.0
KIV MLR MLR
comp=Z,600nm,19.0s,MS4.7
KIV Kislovodsk 57.30 318 eP P 19 28 37.2 -1.7
comp=Z,25nm,0.9s,mb5.2
KIV LR LR
comp=Z,159nm,20.0s,MS4.1
KMBO Kilima Mbogo 57.46 264 eP P 19 28 41.0 +0.5
KMBO pmax pmax
comp=Z,37nm,1.1s
KMBO MLR MLR
comp=Z,2µm,19.0s
KMBO Kilima Mbogo 57.46 264 P P 19 28 41.6 +1.1
comp=Z,16nm,0.8s,mb5.1,baz=55,slow=10.0,SNR=20
KMBO LR LR 19 50 19.6
comp=Z,2µm,20.0s,MS5.2,baz=93,slow=33
KMBO Kilima Mbogo 57.46 264 eP P 19 28 41.0 +0.6
comp=Z,37nm,1.1s,mb5.3
KMBO LR LR
comp=Z,2µm,19.0s,MS5.2
ELZG Elazig 58.08 311 i P P 19 28 42.8 -1.7
ASF Jabal al Asfar 58.22 303 P P 19 28 44.4 -1.0
comp=Z,5.9nm,0.8s,mb4.7,baz=342,slow=3.7,SNR=11
CTA Charters Tower 58.30 119 P P 19 28 47.0 +0.8
CTA pmax pmax
comp=Z,45nm,1.4s
CTA MLR MLR
comp=Z,1µm,21.9s
CTA Charters Tower 58.30 119 P P 19 28 47.0 +0.7
comp=Z,45nm,1.4s,mb5.3,baz=306,slow=7.7,SNR=8.1
CTA LR LR 19 54 41.5
comp=Z,1µm,21.9s,MS5.0,baz=292,slow=37
CTAO Charters Tower 58.30 119 eP P 19 28 45.5 -0.7
CTAO e*PP pP 19 28 51.1 -1.1
CTAO pmax pmax
comp=Z,33nm,1.4s,mb5.2
CTAO Charters Tower 58.30 119 eP P 19 28 45.5 -0.7
comp=Z,33nm,1.4s,mb5.2
CTAO epP pP 19 28 51.1 -1.1
MALT Malatya 58.45 310 eP P 19 28 44.0 -3.0
MALT pmax pmax
comp=Z,17nm,1.1s,mb5.0
MALT Malatya 58.45 310 eP P 19 28 44.0 -3.0
comp=Z,17nm,1.1s,mb5.0
SOKR Solikamsk 58.76 339⇓ i P P 19 28 47.5 -1.4
SOKR pmax pmax
comp=Z,70nm,1.1s,mb5.6
SOKR MLR MLR
comp=Z,2µm,21.0s,MS5.2
GZT Gaziantep 58.85 309 i P P 19 28 48.1 -1.7
SOC Sochi 59.16 316 eP P 19 28 46.8 -5.1
SOC e 19 29 33.8
SOC e 19 31 00.3
SOC ePPP PPP 19 32 29.2 +0.1
SOC eS S 19 36 55.9 -0.7
SOC e 19 38 31.0
SOC eSS SS 19 40 48.9 -3.8
SOC pmax pmax
comp=N,20nm,1.2s
SOC pmax pmax
comp=Z,33nm,1.2s,mb5.2
SOC pmax pmax
comp=E,19nm,1.1s
SOC MLR MLR
comp=Z,806nm,22.0s,MS4.8
SOC MLR MLR
comp=N,885nm,21.0s,MS4.9
SOC MLR MLR
comp=E,459nm,21.0s,MS4.9
EIL Elat 59.43 300 eP P 19 28 53.0 -1.0
comp=E,38nm,1.3s,mb5.3
KAHT Ahir Dag 59.46 309 i P P 19 28 52.9 -1.1
YAK Yakutsk 59.93 18 eP P 19 28 56.1 -0.8
YAK e*PP pP 19 29 01.2 -1.7
YAK e 19 29 39.8
YAK e 19 31 09.4
YAK eS S 19 37 09.2 +3.0
YAK e*SS 19 37 23.7
YAK e 19 38 45.1
YAK pmax pmax
comp=Z,27nm,0.9s,mb5.3
YAK pmax pmax
comp=N,25nm,1.2s
YAK pmax pmax
comp=E,19nm,1.1s
YAK smax
comp=N,2.0nm,1.1s
YAK smax
comp=E,3.0nm,1.3s
YAK MLR MLR
comp=Z,1µm,13.0s,MS5.2
YAK MLR MLR
comp=N,816nm,14.0s,MS5.2
YAK MLR MLR
comp=E,878nm,14.0s,MS5.2
YAK Yakutsk 59.93 18 eP P 19 28 54.4 -2.5
comp=E,234nm,1.3s,mb6.0
YAK LR LR
comp=Z,2µm,21.0s,MS5.2
STKA Stephens Creek 60.12 134 eP P 19 28 59.2 +0.5
comp=Z,3.7nm,0.6s,mb4.6
STKA Stephens Creek 60.12 134 P P 19 28 57.7 -1.0
comp=Z,10nm,0.9s,mb4.8,baz=308,slow=7.6,SNR=20
STKA LR LR 20 00 02.0
comp=Z,2µm,18.1s,MS5.2,baz=45,slow=41
ANN Anapa 61.12 317 eP P 19 28 58.2 -7.1
ANN pmax pmax
comp=Z,90nm,2.5s,mb5.5
ANN MLR MLR
comp=N,762nm,22.0s,MS5.0
ANN MLR MLR
comp=E,1µm,22.0s,MS5.0
ANN MLR MLR
comp=Z,311nm,22.0s,MS4.4
BOYT Boyabat 61.90 313 i P P 19 29 08.2 -2.5
VRSR Storozhevoye 62.35 324 d i P P 19 29 11.5 -2.0
VRSR e*PP pP 19 29 17.9 -1.6
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
VRSR pmax pmax
comp=N,4.0nm,0.6s
VRSR pmax pmax
comp=E,10.0nm,0.8s
VRSR MLR MLR
comp=Z,900nm,20.5s,MS4.9
VRSR MLR MLR
comp=N,460nm,18.7s,MS4.8
VRSR MLR MLR
comp=E,540nm,21.2s,MS4.8
BRTR Keskin Array B 62.42 311 P P 19 29 11.7 -2.4
BRTR pmax pmax
comp=Z,12nm,1.1s
BRTR Keskin Array B 62.42 311 P P 19 29 11.7 -2.4
comp=Z,12nm,1.1s,mb4.9,baz=122,slow=7.1,SNR=25
BALT Daday 63.03 313 i P P 19 29 17.7 -0.4
SIM Simferopol' 63.41 317 P P 19 29 20.2 -0.3
SIM pmax pmax
comp=Z,19nm,0.8s,mb5.3
SIM MLR MLR
comp=Z,950nm,24.0s,MS4.9
MBAR Mbarara 63.80 265 eP P 19 29 24.2 +0.5
MBAR pmax pmax
comp=Z,75nm,1.5s,mb5.5
MBAR MLR MLR
comp=Z,533nm,20.0s,MS4.7
MBAR Mbarara 63.80 265 eP P 19 29 24.2 +0.5
comp=Z,75nm,1.5s,mb5.5
MBAR LR LR
comp=Z,533nm,20.0s,MS4.7
MOS Moscow 65.05 329 eP P 19 29 27.7 -3.4
MOS e 19 30 00.4
MOS eS S 19 38 08.3 -2.4
MOS pmax pmax
comp=Z,161nm,1.4s,mb5.9
MOS MLR MLR
comp=Z,2µm,22.5s,MS5.3
MOS MLR MLR
comp=N,2µm,23.5s
OBN Obninsk 65.35 328⇓ i P P 19 29 28.1 -4.9
OBN e 19 31 51.9
OBN i S S 19 38 14.3 -0.1
OBN i SSS SSS 19 45 23.5 +1.6
OBN pmax pmax
comp=Z,25nm,1.0s,mb5.2
OBN MLR MLR
comp=Z,1µm,20.0s,MS5.0
OBN Obninsk 65.35 328 P P 19 29 33.2 +0.1
comp=Z,66nm,1.0s,mb5.6
OBN LR LR
comp=Z,281nm,20.0s,MS4.5
ULDT Uludag 65.89 310 i P P 19 29 35.9 -0.9
MA2 Magadan 66.70 28 eP P 19 29 41.7 +0.1
MA2 S S 19 38 29.6 -1.2
MA2 e 19 39 01.6
MA2 pmax pmax
comp=Z,30nm,1.1s,mb5.2
MA2 MLR MLR
comp=Z,2µm,22.0s,MS5.3
MA2 Magadan 66.70 28 eP P 19 29 40.3 -1.3
comp=Z,45nm,1.0s,mb5.5
TIXI Tiksi 67.17 11⇓ i P P 19 29 43.3 -1.1
TIXI pmax pmax
comp=Z,136nm,1.4s,mb5.8
TIXI MLR MLR
comp=Z,1µm,14.0s,MS5.3
CNB Canberra Magne 67.44 133 eP P 19 29 50.1 +3.4
comp=Z,576nm,1.7s
KIS Kishinev 67.50 318 eP P 19 29 49.0 +2.1
KIS e 19 32 24.0
KIS e 19 38 30.0
KIS MLR MLR
comp=Z,700nm,20.0s,MS4.9
KIS MLR MLR
comp=Z,500nm,20.0s
AKASG Malin Array Be 68.13 322 P P 19 29 48.1 -2.7
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 68.13 322 P P 19 29 48.1 -2.7
comp=Z,4.7nm,0.8s,mb4.6,baz=88,slow=4.8,SNR=22
PET Petropavlovsk 68.47 36 eP PcP 19 30 10.9 -7.2
PET e S 19 38 56.1 +4.0
PET MLR MLR
comp=Z,900nm,16.0s,MS5.1
IDI Anoyia 68.56 305 P P 19 29 52.6 -1.1
comp=Z,14nm,0.7s,mb5.0,baz=125,slow=6.2,SNR=12
SEY Seymchan 68.86 25 eP P 19 29 53.8 -1.3
SEY *PP pP 19 29 59.8 -1.3
SEY 19 30 18.0
SEY eS S 19 38 53.1 -3.5
SEY 19 39 50.6
SEY eSS SS 19 43 26.6 +2.8
SEY pmax pmax
comp=Z,30nm,1.0s,mb5.2
SEY MLR MLR
comp=Z,6µm,18.0s,MS5.9
SEY MLR MLR
comp=N,5µm,18.0s,MS5.9
SEY MLR MLR
comp=E,2µm,15.0s,MS5.9
MLR Muntele Rosu 69.15 316 P P 19 29 56.5 -0.7
MLR pmax pmax
comp=Z,10.0nm,0.9s
MLR Muntele Rosu 69.15 316 P P 19 29 56.5 -0.7
comp=Z,10nm,0.9s,mb4.8,baz=148,slow=3.5,SNR=17
LSZ Lusaka 69.32 250 eP P 19 29 58.4 -0.3
LSZ pmax pmax
comp=Z,13nm,0.8s,mb4.9
LSZ MLR MLR
comp=Z,2µm,20.0s,MS5.3
LSZ Lusaka 69.32 250 eP P 19 29 58.4 -0.3
comp=Z,13nm,0.8s,mb4.9
LSZ LR LR
comp=Z,2µm,20.0s,MS5.3
MNK Minsk 69.93 325 eP P 19 30 03.0 +1.3
PUL Pulkovo 70.18 331⇓ eP P 19 30 07.8 +4.6
PUL pmax pmax
comp=Z,111nm,1.2s,mb5.7
PUL pmax pmax
comp=N,18nm,0.5s
PUL pmax pmax
comp=E,146nm,1.2s
PUL MLR MLR
comp=Z,885nm,18.0s,MS5.1
PUL MLR MLR
comp=N,1µm,18.0s
JOF Joensuu 70.81 334 ep P 19 30 06.5 -0.5
comp=N,21nm,0.6s,mb5.2
VAY Valandovo 71.00 311 i P sP 19 30 19.4 +2.7
BOLS Boljevac 71.73 313⇓ i P P 19 30 11.8 -1.1
SKO Skopje 71.91 311 eP P 19 30 13.0 -0.9
KWP Kalwaria 72.01 320 eP P 19 30 13.6 -0.8
KWP e pP 19 30 20.0 -0.4
KOLS Kolonicke sedl 72.18 319 eP P 19 30 15.9 +0.5
KOLS e 19 30 19.4
SUW Suwalki 72.48 324 eP P 19 30 16.2 -0.9
SUW e pP 19 30 22.0 -1.1
FINES FINESS Array B 72.68 332 i P P 19 30 17.0 -1.1
FINES pmax pmax
comp=Z,11nm,0.6s
FINES FINESS Array B 72.68 332 P P 19 30 16.4 -1.7
comp=Z,11nm,0.6s,mb5.0,baz=90,slow=7.6,SNR=35
CRVS Cervenica-Dubn 72.71 319 eP P 19 30 19.1 +0.5
CRVS e 19 30 27.8
CRVS Cervenica-Dubn 72.71 319 eP P 19 30 19.1 +0.5
CRVS epP pP 19 30 24.1 -0.5
CRVS esP sP 19 30 27.8 +1.1
KAF Kangasniemi 72.76 333 ep P 19 30 17.7 -0.9
comp=Z,58nm,1.2s,mb5.4,baz=121,slow=5.6
KAF Kangasniemi 72.76 333 eP P 19 30 17.7 -0.9
KAF pmax pmax
comp=Z,58nm,1.2s,mb5.4
NIE Niedzica 73.52 319 eP P 19 30 23.5 +0.2
PSZ Piszkesteto 73.62 318 eP P 19 30 22.9 -1.0
PSZ pmax pmax
comp=Z,29nm,1.4s,mb5.0
PSZ Piszkesteto 73.62 318 eP P 19 30 22.9 -1.0
comp=Z,29nm,1.4s,mb5.0
OJC Ojcow 73.95 320 eP P 19 30 25.5 -0.3
LBTB Lobatse 74.30 241 eP P 19 30 28.2 -0.1
LBTB e*PP pP 19 30 33.8 -0.6
LBTB pmax pmax
comp=Z,17nm,0.8s,mb5.0
LBTB Lobatse 74.30 241 eP P 19 30 28.2 -0.1
comp=Z,17nm,0.8s,mb5.0
LBTB epP pP 19 30 33.8 -0.5
VYHS Vyhne 74.39 318 eP P 19 30 27.1 -1.2
VYHS epP pP 19 30 33.6 -0.8
KEV Kevo 74.79 341 ep P 19 30 28.0 -2.3
OKC Ostrava-Krasne 74.97 319 eP P 19 30 30.6 -1.1
OKC epP pP 19 30 37.3 -0.4
CASY Casey 74.98 173 P P 19 30 32.3 +0.9
comp=Z,26nm,0.9s,mb5.2
ARCES ARCESS Array B 75.22 340 P P 19 30 32.0 -0.7
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES MLR MLR
comp=Z,2µm,20.9s
ARCES ARCESS Array B 75.22 340 P P 19 30 31.9 -0.8
comp=Z,5.8nm,0.9s,mb4.5,baz=98,slow=7.3,SNR=9.8
ARCES LR LR 20 06 34.1
comp=Z,2µm,20.9s,MS5.3,baz=118,slow=38
TIP Timpagrande 75.29 308 eP P 19 30 32.9 -0.8

MORC	**Moravsky Berou**	**75.36 319**	*e*P	**P**	**19 30 33.0**	**-0.9**
MORC			*e**PP	pP	19 30 39.2	-0.7
MORC			pmax	pmax		
comp=Z,36nm,1.1s,mb5.2						
MORC	**Moravsky Berou**	**75.36 319**	*e*P	**P**	**19 30 33.0**	**-0.8**
comp=Z,36nm,1.1s,mb5.2						
MORC			*e*pP	pP	19 30 39.2	-0.7
ZST	**Bratislava**	**75.51 318**	*e*P	**P**	**19 30 34.7**	**-0.1**
ZST			*e*pP	pP	19 30 40.6	-0.3
BOSA	**Boshof**	**75.64 238**	*e*P	**P**	**19 30 35.5**	**-0.5**
BOSA			pmax	pmax		
comp=Z,11nm,0.7s,mb4.9						
BOSA	**Boshof**	**75.64 238**	*e*P	**P**	**19 30 35.5**	**-0.4**
comp=Z,11nm,0.7s,mb4.9						
VRAC	**Vranov**	**75.93 319**	P	**P**	**19 30 37.0**	**-0.2**
VRAC			pmax	pmax		
comp=Z,26nm,0.9s						
VRAC	**Vranov**	**75.93 319**	P	**P**	**19 30 37.0**	**-0.1**
comp=Z,26nm,0.9s,mb5.2,baz=208,slow=14,SNR=21						
DPC	**Dobruska-Polom**	**76.19 320**	*e*P	**P**	**19 30 38.8**	**+0.2**
DPC			*e*pP	pP	19 30 44.9	+0.3
DPC	**Dobruska-Polom**	**76.19 320**	*e*P	**P**	**19 30 38.8**	**+0.2**
DPC			*e*pP	pP	19 30 44.9	+0.3
DPC			AMS	AMS	20 12 50.0	
comp=Z,500nm,16.2s						
KSP	**Ksiaz**	**76.24 320**	*e*P	**P**	**19 30 41.1**	**+2.2**
KSP			*e**PP	pP	19 30 44.9	0.0
KSP			*e*S	S	19 40 19.0	-1.8
KSP	**Ksiaz**	**76.24 320**	*e*P	**P**	**19 30 41.6**	**+2.7**
KSP			*e*	pP	19 30 45.7	+0.7
UPC	**Upice**	**76.39 320**	*e*P	**P**	**19 30 39.8**	**+0.1**
UPC			*e*pP	pP	19 30 45.5	-0.3
PRU	**Pruhonice**	**77.31 319**	*e*P	**P**	**19 30 45.1**	**+0.3**
PRU			*e*pP	pP	19 30 51.0	+0.1
PRU			AMS	AMS	20 07 40.0	
comp=Z,400nm,21.6s						
PVCC	**Panska Ves**	**77.31 320**	*e*P	**P**	**19 30 43.7**	**-1.2**
PVCC			AMS	AMS	20 10 50.0	
comp=Z,600nm,19.4s						
BRG	**Berggiesshubel**	**77.73 320**	*i* P	**P**	**19 30 47.1**	**0.0**
BRG			*i*	pP	19 30 53.0	-0.2
BRG			pmax	pmax		
comp=Z,33nm,1.4s,mb5.1						
BRG			MLR	MLR		
comp=Z,890nm,20.4s,MS5.1						
BRG	**Berggiesshubel**	**77.73 320**	*i* P	**P**	**19 30 47.1**	**0.0**
comp=Z,33nm,1.4s,mb5.1						
BRG			*i*	pP	19 30 53.0	-0.2
BRG			LR	LR		
comp=Z,890nm,20.4s,MS5.1						
GEC2	**GERESS Array S**	**77.81 318**	*e*P	**P**	**19 30 47.3**	**-0.3**
GEC2			pmax	pmax		
comp=Z,39nm,1.1s,mb5.2						
GEC2	**GERESS Array S**	**77.81 318**	*e*P	**P**	**19 30 47.3**	**-0.3**
comp=Z,39nm,1.1s,mb5.2						
GERES	**GERESS Array B**	**77.81 318**	P	**P**	**19 30 47.2**	**-0.4**
GERES			pmax	pmax		
comp=Z,7.0nm,0.8s						
GERES	**GERESS Array B**	**77.81 318**	P	**P**	**19 30 47.2**	**-0.4**
comp=Z,7.1nm,0.8s,mb4.7,baz=90,slow=5.3,SNR=48						
KHC	**Kasperske Hory**	**77.90 318**	*e*P	**P**	**19 30 47.6**	**-0.5**
KHC			*e*pP	pP	19 30 53.4	-0.8
KHC			AMS	AMS	20 14 30.0	
comp=Z,400nm,16.9s						
RUE	**Ruedersdorf**	**77.91 322**	*e*P	**P**	**19 30 47.7**	**-0.3**
RUE			*e*pP	pP	19 30 53.9	-0.3
CLL	**Collm**	**78.34 321**	⇑*i*P	**P**	**19 30 48.9**	**-1.6**
CLL			*i*	pP	19 30 56.0	-0.6
CLL			pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.5						
CLL			MLR	MLR		
comp=Z,700nm,20.4s,MS5.0						
CLL	**Collm**	**78.34 321**	⇑*i*P	**P**	**19 30 48.9**	**-1.6**
comp=Z,6.0nm,1.0s,mb4.5						
CLL			*i*	pP	19 30 56.0	-0.6
CLL			LR	LR		
comp=Z,700nm,20.4s,MS5.0						
CLL	**Collm**	**78.34 321**	⇑P	**P**	**19 30 48.9**	**-1.6**
comp=Z,logA/T=0.8,mb4.5						
CLL			*i* *PP	pP	19 30 56.0	-0.6
CLL			*e*		19 31 02.0	
WET	**Wettzell**	**78.36 318**	*e*P	**P**	**19 30 50.4**	**-0.2**
WET			pmax	pmax		
comp=Z,23nm,1.1s,mb5.0						
WET	**Wettzell**	**78.36 318**	*e*P	**P**	**19 30 50.4**	**-0.2**
comp=Z,23nm,1.1s,mb5.0						
HFS	**Hagfors**	**78.42 330**	P	**P**	**19 30 50.4**	**-0.3**
HFS	**Hagfors**	**78.42 330**	P	**P**	**19 30 50.3**	**-0.4**
comp=Z,7.0nm,0.7s,mb4.7,baz=102,slow=5.7,SNR=26						
MAW	**Mawson**	**78.60 192**	*e*P	**P**	**19 30 53.9**	**+2.3**
comp=Z,6.6nm,1.1s,mb4.5						
MAW	**Mawson**	**78.60 192**	P	**P**	**19 30 53.1**	**+1.5**
MAW			pmax	pmax		
comp=Z,4.0nm,0.8s						
MAW			MLR	MLR		
comp=Z,717nm,19.9s						
MAW	**Mawson**	**78.60 192**	P	**P**	**19 30 53.1**	**+1.5**
comp=Z,4.1nm,0.8s,mb4.4,baz=76,slow=7.7,SNR=4.3						
MAW			LR	LR	19 59 52.7	
comp=Z,717nm,19.9s,MS5.0,baz=44,slow=31						
NKC	**Novy Kostel**	**78.66 320**	*e*P	**P**	**19 30 45.1**	**-7.2**
MOX	**Moxa**	**79.20 320**	*e*P	**P**	**19 30 58.1**	**+2.9**
MOX			pmax	pmax		
comp=Z,27nm,1.5s,mb5.0						
MOX			MLR	MLR		
comp=Z,500nm,19.0s,MS4.9						
MOX	**Moxa**	**79.20 320**	*e*P	**P**	**19 30 58.1**	**+2.9**
comp=Z,27nm,1.5s,mb5.0						
MOX			LR	LR		
comp=Z,500nm,19.0s,MS4.9						
MOX	**Moxa**	**79.20 320**	*i* P	**P**	**19 30 58.1**	**+2.9**
comp=Z,logA/T=1.3,mb5.0						
MOX			L		20 13 02.0	
FUR	**Furstenfeldbru**	**79.41 317**	*e*P	**P**	**19 30 55.6**	**-0.8**
GRA1	**Grafenberg Arr**	**79.45 319**	*e*P	**P**	**19 30 56.7**	**+0.2**
comp=Z,42nm,1.1s,mb5.3						
GRA1			*e*pP	pP	19 31 02.9	+0.2
GRF	**Grafenberg Arr**	**79.45 319**	*e*P	**P**	**19 30 56.7**	**+0.2**
GRF			*e**PP	pP	19 31 02.9	+0.2
GRF			pmax	pmax		
comp=Z,42nm,1.1s,mb5.3						
GRF	**Grafenberg Arr**	**79.45 319**	*e*P	**P**	**19 30 56.7**	**+0.2**
GRF			*e**PP	pP	19 31 02.9	+0.2
GRF			pmax	pmax		
comp=Z,42nm,1.1s,mb5.3						
GRF	**Grafenberg Arr**	**79.45 319**	*e*P	**P**	**19 30 56.7**	**+0.2**
comp=Z,42nm,1.1s,mb5.3						
GRF			*e*pP	pP	19 31 02.9	+0.2
NB2	**NORSAR Subarra**	**79.70 331**	P	**P**	**19 30 56.9**	**-0.8**
comp=Z,76nm,1.7s,mb5.3,baz=92,slow=5.8						
NB2	**NORSAR Subarra**	**79.70 331**	P	**P**	**19 30 56.9**	**-0.8**
baz=92,slow=5.9						
NOA	**NORSAR Array B**	**79.70 331**	P	**P**	**19 30 56.4**	**-1.3**
NOA			pmax	pmax		
comp=Z,9.0nm,0.8s						
NOA			MLR	MLR		
comp=Z,599nm,19.4s						
NOA	**NORSAR Array B**	**79.70 331**	P	**P**	**19 30 56.4**	**-1.3**
comp=Z,9.1nm,0.8s,mb4.8,baz=92,slow=5.6,SNR=29						
NOA			LR	LR	20 11 19.2	
comp=Z,599nm,19.4s,MS5.0,baz=105,slow=40						
CLZ	**Clausthal**	**79.99 321**	*e*P	**P**	**19 30 59.2**	**-0.2**
comp=Z,45nm,1.4s,mb5.2						
TSUM	**Tsumeb**	**80.08 249**	*e*P	**P**	**19 31 00.7**	**+0.2**
TSUM			LR	LR		
comp=Z,2μm,19.0s,MS5.6						
DAVOX	**Davos**	**80.37 316**	P	**P**	**19 31 01.4**	**-0.1**
comp=Z,11nm,0.9s,mb4.8,baz=124,slow=10,SNR=11						
SUR	**Sutherland**	**80.39 235**	P	**P**	**19 31 02.6**	**+0.6**
comp=Z,11nm,0.8s,mb4.8						
MUD	**Monsted U'grnd**	**80.68 326**	⇓*e*P	pP	19 31 09.8	+0.7
MUD			pmax	pmax		
comp=Z,52nm,1.3s,mb5.3						
MUD	**Monsted U'grnd**	**80.68 326**	⇓*e*P	pP	19 31 09.8	+0.7
comp=Z,52nm,1.3s						
MUD	**Monsted U'grnd**	**80.68 326**	⇓*i*P	pP	19 31 09.8	+0.7
comp=Z,52nm,1.3s						
TNS	**Taunus Mts**	**81.23 320**	*e*P	**P**	**19 31 05.9**	**-0.1**
BFO	**Black Forest**	**81.38 318**	*e*P	**P**	**19 31 06.1**	**-0.7**
BFO			pmax	pmax		
comp=Z,22nm,1.3s,mb4.9						
BFO	**Black Forest**	**81.38 318**	*e*P	**P**	**19 31 06.1**	**-0.7**
comp=Z,22nm,1.3s,mb4.9						
LPG	**La Plagne**	**82.60 315**	*e*P	**P**	**19 31 12.8**	**-0.4**
comp=Z,31nm,0.7s,mb5.2						
LPG	**La Plagne**	**82.60 315**	*e*P	**P**	**19 31 12.8**	**-0.4**
LPG			pmax	pmax		
comp=Z,16nm,0.7s,mb5.2						
BNI	**Bardonecchia**	**82.68 314**	*e*P	**P**	**19 31 13.3**	**-0.4**
BNI			pmax	pmax		
comp=Z,31nm,1.1s,mb5.2						
BNI	**Bardonecchia**	**82.68 314**	*e*P	**P**	**19 31 13.3**	**-0.3**
comp=Z,31nm,1.1s,mb5.2						
SYO	**Syowa Base**	**85.47 197**	⇓PcP	PcP	19 31 31.8	+1.0
SYO	**Syowa Base**	**85.47 197**	⇓pP	pP	19 31 35.1	+1.7
SYO	**Syowa Base**	**85.47 197**	⇓sP	sP	19 31 39.7	+4.3
RPZ	**Rata Peaks**	**86.06 135**	LR	LR	20 11 20.8	
comp=Z,948nm,20.4s,MS5.2,baz=271,slow=36						
TNA	**Tin City**	**86.10 24**	*e*P	**P**	**19 31 30.6**	**+0.2**
TNA			*e*pP	pP	19 31 36.9	+0.3
JMIC	**Jan Mayen**	**86.66 341**	LR	LR	20 16 57.9	
comp=Z,601nm,19.7s,MS5.0,baz=141,slow=40						
EKA	**Eskdalemuir Ar**	**87.69 325**	P	**P**	**19 31 38.8**	**+0.4**
EKA			pmax	pmax		
comp=Z,3.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**87.69 325**	P	**P**	**19 31 38.8**	**+0.4**
comp=Z,3.3nm,0.7s,mb4.7,baz=102,slow=5.8,SNR=6.7						
URZ	**Urewera**	**89.35 129**	LR	LR	20 18 37.4	
comp=Z,515nm,18.6s,MS5.0,baz=275,slow=40						
ESDC	**Sonseca Array**	**91.21 310**	P	**P**	**19 31 55.5**	**+0.2**
comp=Z,9.3nm,1.1s,mb5.0,baz=59,slow=4.1,SNR=9.7						
IMA	**Indian Mountai**	**91.56 22**	*e*P	**P**	**19 31 57.3**	**+1.0**
VNDA	**Vanda**	**92.98 168**	P	**P**	**19 32 03.8**	**+1.2**
VNDA			pmax	pmax		
comp=Z,2.0nm,1.0s						
VNDA			MLR	MLR		
comp=Z,633nm,18.5s						
VNDA	**Vanda**	**92.98 168**	P	**P**	**19 32 03.8**	**+1.2**
comp=Z,2.0nm,0.9s,mb4.5,baz=248,slow=7.3,SNR=3.7						
VNDA			LR	LR	20 10 55.5	
comp=Z,633nm,18.5s,MS5.1,baz=302,slow=34						
BORG	**Borgarnes**	**93.39 337**	LR	LR	20 16 29.7	
comp=Z,709nm,18.6s,MS5.2,baz=72,slow=37						
SPU	**Mount Spurr**	**94.22 26**	*e*P	**P**	**19 32 08.9**	**+0.3**
SPU			*e*pP	pP	19 32 14.8	0.0
COLA	**College**	**94.27 22**	P	**P**	**19 32 09.4**	**+0.6**
COLA			MLR	MLR		
comp=Z,762nm,19.0s,MS5.2						
MCK	**McKinley**	**94.39 23**	*e*P	**P**	**19 32 09.8**	**+0.4**
MCK			*e**PP	pP	19 32 16.2	+0.7
MCK			pmax	pmax		
comp=Z,11nm,1.2s,mb5.2						
MCK	**McKinley**	**94.39 23**	*e*P	**P**	**19 32 09.8**	**+0.4**
comp=Z,11nm,1.2s,mb5.2						
MCK			*e*pP	pP	19 32 16.2	+0.6
ILAR	**Eielson Array**	**94.68 22**	P	**P**	**19 32 09.8**	**-0.9**
ILAR			pmax	pmax		
comp=Z,1.0nm,0.9s						
ILAR			pmax	pmax		
comp=Z,2.0nm,1.2s						
ILAR			MLR	MLR		
comp=Z,741nm,18.3s						
ILAR	**Eielson Array**	**94.68 22**	P	**P**	**19 32 09.8**	**-0.9**
comp=Z,1.3nm,0.9s,mb4.4,baz=299,slow=4.3,SNR=12						
ILAR			PP	PP	19 35 52.0	-9.4
comp=Z,1.6nm,1.2s,baz=300,slow=7.0,SNR=4.2						
ILAR			LR	LR	20 18 53.7	
comp=Z,741nm,18.3s,MS5.2,baz=146,slow=38						
SLKM	**Skilak Lake**	**95.32 27**	*e*P	**P**	**19 32 13.5**	**-0.2**
SML	**Sawmill**	**95.54 25**	*e*P	**P**	**19 32 15.6**	**+0.9**
INK	**Inuvik**	**96.93 16**	P	**P**	**19 32 19.4**	**-1.4**
INK			pmax	pmax		
comp=Z,3.0nm,0.9s						
INK			MLR	MLR		
comp=Z,572nm,18.9s						
INK	**Inuvik**	**96.93 16**	P	**P**	**19 32 19.4**	**-1.5**
comp=Z,2.7nm,0.9s,mb4.7,baz=322,slow=6.5,SNR=6.0						
INK			LR	LR	20 22 26.9	
comp=Z,572nm,18.9s,MS5.1,baz=123,slow=39						
RES	**Resolute Bay**	**97.34 2**	*e*P	**P**	**19 32 22.1**	**-0.5**
RES			*e**PP	pP	19 32 28.9	+0.1
RES			pmax	pmax		
comp=Z,10.0nm,0.9s,mb5.2						
RES	**Resolute Bay**	**97.34 2**	*e*P	**P**	**19 32 22.1**	**-0.5**
comp=Z,9.9nm,0.9s,mb5.2						
RES			*e*pP	pP	19 32 28.9	+0.1
DBIC	**Dimbokro**	**97.97 278**	LR	LR	20 16 32.5	
comp=Z,1μm,19.0s,MS5.4,baz=61,slow=35						
YKA	**Yellowknife Ar**	**106.36 13**	Pdiff	Pdif	19 33 02.1	-1.0
comp=Z,0.2nm,0.9s,baz=323,slow=3.1,SNR=4.3						
YKA			PP	PP	19 37 24.0	-6.6
comp=Z,0.6nm,0.7s,baz=334,slow=7.7,SNR=8.2						
YKA			PKKPbc		19 48 33.2	
comp=Z,0.3nm,0.7s,baz=154,slow=3.2,SNR=5.9						
NEW	**Newport**	**117.62 23**	PFAKE		19 37 50.0	+11
NEW			LR	LR		
comp=Z,697nm,20.0s,MS5.3						
ULM	**Lac du Bonnet**	**121.40 8**	PKP	PKPdf	19 37 42.8	-3.5
comp=Z,3.5nm,0.6s,baz=172,slow=1.6,SNR=4.4						
ULM	**Lac du Bonnet**	**121.40 8**	*e*PKPdf	PKPdf	19 37 42.6	-3.6
HLID	**Hailey**	**122.56 24**	PFAKE		19 38 00.0	+11
HLID			LR	LR		
comp=Z,534nm,20.0s,MS5.2						
SNOW	**Snow King Moun**	**124.06 22**	*e*PKPdf	PKPdf	19 37 49.2	-2.3
BW06	**Boulder Array**	**125.10 21**	PFAKE		19 38 00.0	+6.4
BW06			LR	LR		
comp=Z,613nm,20.0s,MS5.3						
PDAR	**Pinedale Array**	**125.10 21**	PKP	PKPdf	19 37 50.5	-3.0
comp=Z,2.2nm,0.8s,baz=29,slow=1.7,SNR=16						
HWUT	**Hardware Ranch**	**125.34 24**	*e*PKPdf	PKPdf	19 37 51.3	-2.7
MVU	**Marysvale**	**127.68 26**	*e*PKPdf	PKPdf	19 37 56.1	-2.6
MSU	**Marysvale**	**127.69 26**	*e*PKIKP	PKPdf	19 37 56.1	-2.6
PV10	**Paradox Valley**	**129.11 24**	*e*PKPdf	PKPdf	19 37 58.6	-2.8
SDCO	**Great Sand Dun**	**130.98 21**	PFAKE		19 38 10.0	+5.0
SDCO			LR	LR		
comp=Z,1μm,22.0s,MS5.5						
ANMO	**Albuquerque**	**133.10 23**	PKIKP	PKPdf	19 38 07.0	-2.1
ANMO			pmax	pmax		
comp=Z,2.0nm,0.7s						
ANMO	**Albuquerque**	**133.10 23**	PKP	PKPdf	19 38 07.0	-2.1
comp=Z,2.4nm,0.7s,baz=336,slow=0.6,SNR=5.0						
MIAR	**Mount Ida**	**137.12 9**	PKIKP	PKPdf	19 38 13.7	-2.7
TXAR	**Lajitas Array**	**139.16 24**	PKP	PKPdf	19 38 16.3	-4.0
comp=Z,1.1nm,0.7s,baz=250,slow=1.8,SNR=5.8						
JCT	**Junction City**	**139.52 19**	*e*PKIKP	PKPdf	19 38 17.0	-4.0
PLCA	**Paso Flores**	**144.62 200**	PKIKP	PKPdf	19 38 25.9	-3.7
PLCA			pmax	pmax		
comp=Z,9.0nm,0.8s						
PLCA	**Paso Flores**	**144.62 200**	PKP	PKPdf	19 38 25.9	-3.7
comp=Z,8.8nm,0.8s,baz=152,slow=4.6,SNR=9.8						
PLCA	**Paso Flores**	**144.62 200**	*e*PKPdf	PKPdf	19 38 26.1	-3.5
SJG	**San Juan**	**147.64 323**	PKP2	PKPab	19 38 34.9	-3.5
SJG			pmax	pmax		
comp=Z,19nm,0.8s						
SJG	**San Juan**	**147.64 323**	PKPbc	PKPdf	19 38 34.9	-0.4
comp=Z,19nm,0.8s,baz=327,slow=22,SNR=5.0						
TEIG	**Tepich**	**151.92 5**	PKPbc	PKPdf	19 38 45.2	+3.2
TEIG			*e*PKPab	PKPab	19 38 52.6	-3.4
SDV	**Santo Domingo**	**157.46 318**	PKP	PKPdf	19 38 47.3	-2.3
comp=Z,2.6nm,0.6s,baz=252,slow=20,SNR=2.0						
LPAZ	**La Paz**	**160.82 243**	PKPab	PKPab	19 38 51.3	-43
comp=Z,3.9nm,1.1s,baz=343,slow=3.9,SNR=5.2						
OTAV	**Otavalo**	**169.05 317**	*e*PKPdf	PKPdf	19 38 59.9	-0.6

PRE 28 19:21:04.2±1.5, 26.44S×27.51E, h2km, ML3.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.50**	**196**	*e*P	Pg	19 21 13.8	-0.4
PRYS				*e*S	Sg	19 21 19.6	-1.2
PRYS				*e*		19 21 21.9	
comp=Z,2μm,0.2s							
SLR	**Silverton**	**0.99**	**45**	*e*P	Pb	19 21 21.1	-2.6
SLR				*e*S	Sb	19 21 35.8	-1.2
SLR				*e*		19 21 40.2	
comp=Z,1μm,0.2s							
SEK	**Senekal**	**1.88**	**177**	*e*P	Pn	19 21 37.5	-0.1
SEK				*e*S	Sn	19 22 00.5	-1.6
SEK				*e*		19 22 03.4	
comp=Z,469nm,0.5s							
BOSA	**Boshof**	**2.95**	**222**	*e*P	Pn	19 21 51.6	-1.3
BOSA				*e*S	Sn	19 22 25.7	-3.6
MSNA	**Messina**	**4.68**	**30**	*e*P	Pn	19 22 14.0	-3.5
MSNA				*e*S	Sn	19 22 47.3	-26
MSNA				*e*		19 23 00.0	
comp=Z,48nm,0.2s							

IDC ***28*** *19:38:48.6±0.6, 7.66N×94.07E, mb4.3/19, mb1 4.5/20, mb1mx4.4/25, mbtmp4.3/20, ML4.7/1, Error ellipse: s-maj=26.2km s-min=14.8km az=43.0*
MOS ***28*** *19:38:52.9±1.3, 7.78N×94.16E, h33km, mb4.9/33, Error ellipse: s-maj=12.4km s-min=7.5km az=106.9*
NEIC ***28*** *19:38:52.0±0.5, 7.72N×94.18E, mb4.7/26, Error ellipse: s-maj=11.8km s-min=10.9km az=130.0*
BJI ***28*** *19:38:56.6, 8.21N×93.68E, h16km, mB5.0, mb4.6, Ms4.9, Msz4.5*
ISC 28 19:38:52.8±0.4, 7.77N±0.06×94.15E±0.05, h33km, (h13km±4.5km:pP-P), n124, σ§19/120, mb4.6/54, MS4.5/1, 3C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.61**	**23**	*e*Pn	**P**	**19 41 38.2**	**-1.0**
8.9nm,0.5s							
CMAR	**Chiang Mai Arr**	**11.61**	**23**	P	**P**	**19 41 39.5**	**+0.3**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**11.61**	**23**	Pn	**P**	**19 41 39.5**	**+0.2**
comp=Z,1.4nm,0.3s,baz=214,slow=15,SNR=60							
VIS	**Vishakhapatnam**	**14.46**	**314**	*e*P	**P**	**19 42 14.2**	**-3.0**
VIS				*e*		19 42 24.8	
comp=Z,56nm,0.9s							
VIS				*e*		19 44 30.6	
HYB	**Hyderabad**	**17.97**	**304**	*e*P	**P**	**19 43 02.0**	**+0.1**
HYB				*e*S	**S**	**19 46 10.0**	**-8.5**
HYB	**Hyderabad**	**17.97**	**304**	*i* P	**P**	**19 43 02.0**	**+0.1**
HYB				*e*		19 46 10.0	
HYB				*e*S	**S**	**19 46 19.0**	**+0.5**
QIZ	**Qiongzhong**	**18.91**	**52**	*e*P	**P**	**19 43 15.8**	**+2.3**
comp=Z,95nm,1.5s							
KMI	**Kunming**	**19.11**	**24**	⇑P	**P**	**19 43 19.2**	**+3.4**
KMI				pmax	pmax		
comp=Z,13nm,1.5s							
KMI	**Kunming**	**19.11**	**24**	⇑P	**P**	**19 43 19.2**	**+3.4**
comp=Z,13nm,1.5s							
KMI				pP		19 43 24.0	
JIRN	**Jiri**	**21.17**	**340**	*e*P	**P**	**19 43 36.7**	**-0.9**
comp=Z,78nm,0.8s,mb5.1							
PKI	**Pulchoki**	**21.37**	**338**	*e*P	**P**	**19 43 39.4**	**-0.2**
comp=Z,50nm,0.7s,mb5.0							
DMN	**Daman**	**21.51**	**338**	*e*P	**P**	**19 43 40.8**	**-0.2**
comp=Z,97nm,0.8s,mb5.3							
KKN	**Kakani**	**21.61**	**338**	*e*P	**P**	**19 43 41.5**	**-0.5**
KAD	**Karad**	**21.65**	**298**	*e*P	**P**	**19 43 42.3**	**-0.2**
KAD				*e*		19 43 47.2	
comp=Z,23nm,0.8s							
LSA	**Lhasa**	**22.00**	**353**	P	**P**	**19 43 49.3**	**+3.4**
LSA	**Lhasa**	**22.00**	**353**	*e*P	**P**	**19 43 45.3**	**-0.6**
LSA				pmax	pmax		
comp=Z,12nm,0.3s,mb4.8							
LSA	**Lhasa**	**22.00**	**353**	*e*P	**P**	**19 43 45.3**	**-0.6**
comp=Z,12nm,0.3s,mb4.8							
GKN	**Gorkha**	**22.05**	**337**	*e*P	**P**	**19 43 46.0**	**-0.4**
comp=Z,62nm,0.6s,mb5.2							
BHPL	**Bhopal**	**22.24**	**316**	*e*P	**P**	**19 43 48.1**	**-0.3**
BHPL				*e*		19 43 52.6	
comp=Z,22nm,0.7s							
KOLN	**Koldanda**	**22.26**	**335**	*e*P	**P**	**19 43 47.9**	**-0.6**
comp=Z,63nm,0.8s,mb5.1							
POO	**Poona**	**22.45**	**300**	*e*P	**P**	**19 43 52.3**	**+1.9**
ENH	**Enshi**	**26.61**	**31**	*e*P	**P**	**19 44 31.9**	**+1.6**
comp=Z,7.5nm,0.8s,mb4.3							
LZH	**Lanzhou**	**29.55**	**16**	*e*P	**P**	**19 45 04.5**	**+7.8**
LZH				AMB	AMB		
comp=Z,28nm,1.5s,mb4.8							
WMQ	**Urumqi**	**36.35**	**352**	*e*P	**P**	**19 45 57.3**	**+1.6**
WMQ				AP	pP	19 46 01.5	-3.9
WMQ				XP	sP	19 46 04.3	-5.4
WMQ				PP	PP	19 47 19.5	0.0
WMQ				PCP	PcP	19 48 23.3	+3.1
WMQ				S	**S**	**19 51 35.5**	**+1.5**
WMQ				AMB	AMB		
comp=Z,7.0nm,0.6s,mb4.8							
WMQ				AMB	AMB		
comp=Z,71nm,4.8s							
WMQ				LR	LR		
comp=N,514nm,16.5s,MS4.5							
WMQ				LR	LR		
comp=E,425nm,15.7s,MS4.5							
WMQ				LR	LR		
comp=Z,769nm,18.3s,MS4.5							
AAK	**Ala-Archa**	**38.80**	**337**	*i* P	**P**	**19 46 16.5**	**+0.3**
AAK				pmax	pmax		
comp=Z,14nm,1.5s,mb4.5							
AAK	**Ala-Archa**	**38.80**	**337**	*e*P	**P**	**19 46 16.9**	**+0.7**
comp=Z,11nm,1.0s,mb4.5							
SONM	**Songino Array**	**41.27**	**13**	P	**P**	**19 46 36.5**	**-0.1**
comp=Z,1.9nm,0.8s,mb3.8,baz=196,slow=8.9,SNR=16							
SONM				PcP	PcP	19 48 35.0	-0.5
comp=Z,0.7nm,0.8s,baz=201,slow=4.2,SNR=3.6							
ULN	**Ulaanbaatar**	**41.44**	**13**	*i* P	**P**	**19 46 38.1**	**+0.1**
TLY	**Talaya**	**44.47**	**8**	*i* P	**P**	**19 47 03.5**	**+0.9**
KURK	**Kurchatov**	**44.72**	**346**	*i* P	**P**	**19 47 04.7**	**+0.1**
KURK	**Kurchatov**	**44.72**	**346**	*e*P	**P**	**19 47 04.3**	**-0.3**
comp=Z,3.4nm,0.4s,mb4.5							
HIA	**Hailar**	**46.62**	**23**	*e*P	**P**	**19 47 21.8**	**+2.1**
HIA				pmax	pmax		
comp=Z,7.0nm,0.6s							
HIA	**Hailar**	**46.62**	**23**	*e*P	**P**	**19 47 21.8**	**+2.1**
comp=Z,6.8nm,0.6s,mb4.8							
ZAL	**Zalesovo**	**46.65**	**352**	P	**P**	**19 47 19.3**	**-0.6**
ZAL				pmax	pmax		
comp=Z,6.0nm,0.6s							
ZAL	**Zalesovo**	**46.65**

ASF Jabal al Asfar 58.28 303 P **P** **19 48 46.6 -0.3**
comp=Z,1.1nm,0.3s,mb4.4,baz=18,slow=1.9,SNR=4.7
MALT Malatya 58.54 310 P **P** **19 48 47.1 -1.5**
MALT pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
MALT Malatya 58.54 310 P **P** **19 48 47.1 -1.5**
comp=Z,1.4nm,0.4s,mb4.3
SOC Sochi 59.26 317 *eP* **P** **19 48 44.8 -8.8**
SOC *e* 19 50 58.6
SOC *i* S **S** **19 57 00.2 +2.5**
SOC *e* 19 58 33.9
SOC pmax pmax
comp=Z,26nm,1.6s,mb5.0
SOC pmax pmax
comp=N,26nm,1.2s
SOC pmax pmax
comp=E,17nm,1.2s
EIL Elat 59.48 300 *eP* **P** **19 48 55.2 -0.1**
comp=E,3.0nm,0.6s,mb4.5
YAK Yakutsk 60.09 18 *eP* **P** **19 48 57.9 -1.2**
YAK pmax pmax
comp=Z,24nm,0.8s,mb5.3
YAK Yakutsk 60.09 18 *eP* **P** **19 48 57.9 -1.2**
comp=Z,24nm,0.8s,mb5.3
YAK *ep*P pP 19 49 02.5 -6.7
MBAR Mbarara 63.76 265 *eP* **P** **19 49 24.2 -0.2**
MBAR *e**PP pP 19 49 29.9 -4.7
MBAR pmax pmax
comp=Z,11nm,1.3s,mb4.7
MBAR Mbarara 63.76 265 *eP* **P** **19 49 24.2 -0.2**
comp=Z,11nm,1.3s,mb4.7
MBAR *ep*P pP 19 49 29.9 -4.7
OBN Obninsk 65.47 328 ⇓*i*P **P** **19 49 27.9 -6.8**
OBN *e*S S 19 58 24.0 +8.4
OBN pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
OBN Obninsk 65.47 328 *eP* **P** **19 49 32.0 -2.7**
comp=Z,6.4nm,0.5s,mb4.9
MA2 Magadan 66.86 28 *eP* **P** **19 49 44.9 +1.5**
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MA2 Magadan 66.86 28 *eP* **P** **19 49 44.9 +1.4**
comp=Z,9.5nm,0.8s,mb4.9
MA2 *ep*P pP 19 49 48.5 -5.2
TIXI Tiksi 67.34 11 *eP* **P** **19 49 44.9 -1.4**
TIXI pmax pmax
comp=Z,16nm,0.9s,mb5.0
AKASG Malin Array Be 68.24 322 P **P** **19 49 50.3 -2.0**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 68.24 322 P **P** **19 49 50.2 -2.0**
comp=Z,2.6nm,0.8s,mb4.3,baz=89,slow=5.2,SNR=10
IDI Anoyia 68.63 305 P **P** **19 49 54.0 -1.0**
comp=Z,7.1nm,0.6s,mb4.8,baz=69,slow=11,SNR=9.2
LSZ Lusaka 69.24 250 *eP* **P** **19 49 59.9 +0.9**
LSZ *e**PP pP 19 50 06.3 -3.0
LSZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LSZ Lusaka 69.24 250 *eP* **P** **19 49 59.9 +0.9**
comp=Z,2.8nm,0.7s,mb4.3
LSZ *ep*P pP 19 50 06.3 -3.1
MLR Muntele Rosu 69.25 316 P **P** **19 49 58.5 -0.1**
MLR pmax pmax
comp=Z,6.0nm,0.9s
MLR Muntele Rosu 69.25 316 P **P** **19 49 58.5 -0.1**
comp=Z,5.9nm,0.9s,mb4.5,baz=129,slow=4.6,SNR=7.8
JOF Joensuu 70.95 334 *ep* **P** **19 50 07.6 -1.0**
comp=Z,12nm,0.9s,mb4.8
FINES FINESS Array B 72.81 332 P **P** **19 50 19.1 -0.6**
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 72.81 332 P **P** **19 50 19.1 -0.7**
comp=Z,5.5nm,0.7s,mb4.6,baz=108,slow=7.2,SNR=13
KAF Kangasniemi 72.89 333 *ep* **P** **19 50 18.9 -1.3**
comp=Z,14nm,1.0s,mb4.8
KAF Kangasniemi 72.89 333 *eP* **P** **19 50 18.9 -1.3**
KAF pmax pmax
comp=Z,14nm,1.0s,mb4.8
LBTB Lobatse 74.20 241 P **P** **19 50 30.3 +1.7**
LBTB *e**PP pP 19 50 36.0 -2.9
LBTB pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
LBTB Lobatse 74.20 241 P **P** **19 50 30.3 +1.7**
comp=Z,5.6nm,0.7s,mb4.6
LBTB *ep*P pP 19 50 36.0 -2.9
KEV Kevo 74.94 341 *ep* **P** **19 50 32.2 +0.2**
comp=Z,26nm,1.9s,mb4.8
KEV Kevo 74.94 341 *eP* **P** **19 50 32.2 +0.2**
KEV pmax pmax
comp=Z,27nm,1.9s,mb4.8
TIP Timpagrande 75.37 308 *eP* **P** **19 50 36.0 +0.9**
ARCES ARCESS Array B 75.37 340 P **P** **19 50 34.3 -0.1**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 75.37 340 P **P** **19 50 34.3 -0.2**
comp=Z,1.8nm,0.5s,mb4.2,baz=94,slow=6.1,SNR=9.4
MORC Moravsky Berou 75.46 319 *eP* **P** **19 50 38.4 +3.1**
MORC pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
MORC Moravsky Berou 75.46 319 *eP* **P** **19 50 38.4 +3.1**
comp=Z,4.0nm,1.0s,mb4.3
BOSA Boshof 75.53 238 *eP* **P** **19 50 38.1 +1.9**
BOSA pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BOSA Boshof 75.53 238 *eP* **P** **19 50 38.1 +1.9**
comp=Z,4.5nm,0.7s,mb4.5
BRG Berggiesshubel 77.84 320 *eP* **P** **19 50 52.4 +3.7**
BRG *e* pP 19 51 02.8 +3.8
BRG pmax pmax
comp=Z,16nm,1.5s,mb4.7
BRG Berggiesshubel 77.84 320 *eP* **P** **19 50 52.4 +3.7**
comp=Z,16nm,1.5s,mb4.7
BRG *e* pP 19 51 02.8 +3.8
GERES GERESS Array B 77.91 318 P **P** **19 50 48.7 -0.4**
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 77.91 318 P **P** **19 50 48.7 -0.5**
comp=Z,3.0nm,0.8s,mb4.3,baz=76,slow=5.5,SNR=18
KHC Kasperske Hory 78.00 319 *eP* **P** **19 50 51.0 +1.4**
KHC *ep*P pP 19 50 57.5 -2.5
CLL Collm 78.45 321 *eP* **P** **19 50 55.0 +3.0**
CLL Collm 78.45 321 P **P** **19 50 55.0 +3.0**
HFS Hagfors 78.55 330 P **P** **19 50 51.9 -0.5**
HFS pmax pmax
comp=Z,7.0nm,0.5s
HFS Hagfors 78.55 330 P **P** **19 50 51.9 -0.5**
comp=Z,6.5nm,0.5s,mb4.8,baz=104,slow=6.1,SNR=13
NB2 NORSAR Subarra 79.83 331 P **P** **19 50 58.6 -0.7**
comp=Z,3.9nm,0.7s,mb4.5,baz=92,slow=5.6
NB2 NORSAR Subarra 79.83 331 P **P** **19 50 58.6 -0.7**
NB2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
NOA NORSAR Array B 79.83 331 P **P** **19 50 59.2 -0.1**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 79.83 331 P **P** **19 50 59.2 -0.1**
comp=Z,3.4nm,0.7s,mb4.4,baz=94,slow=5.2,SNR=11
NOA NORSAR Array B 79.83 331 P **P** **19 50 59.2 -0.1**
LPG La Plagne 82.70 315 *eP* **P** **19 51 17.8 +3.1**
comp=Z,15nm,0.8s,mb4.8
LPG La Plagne 82.70 315 *eP* **P** **19 51 17.8 +3.1**
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
SYO Syowa Base 85.30 197 ⇑P **P** **19 51 33.2 +5.9**
SYO Syowa Base 85.30 197 ⇓*p*P pP 19 51 38.1 +0.3
EKA Eskdalemuir Ar 87.81 325 P **P** **19 51 39.4 -0.4**
EKA pmax pmax
comp=Z,6.0nm,1.2s
EKA Eskdalemuir Ar 87.81 325 P **P** **19 51 39.4 -0.4**
comp=Z,6.0nm,1.2s,mb4.7,baz=75,slow=11,SNR=2.5
ESDC Sonseca Array 91.29 310 P **P** **19 51 54.7 -1.9**
comp=Z,0.6nm,0.7s,mb4.0,baz=17,slow=4.1,SNR=2.6
IMA Indian Mountai 91.72 22 *eP* **P** **19 51 59.8 +1.8**
IMA *e**PP pP 19 52 05.2 -3.4
ILAR Eielson Array 94.84 22 P **P** **19 52 12.3 +0.1**
ILAR 19 55 59.7
ILAR pmax pmax
comp=Z,1.0nm,1.2s
ILAR Eielson Array 94.84 22 P **P** **19 52 12.3 +0.1**
comp=Z,0.9nm,1.2s,mb4.1,baz=315,slow=5.1,SNR=3.3
ILAR PP PP 19 55 59.7 -3.8
comp=Z,0.4nm,0.8s,baz=281,slow=5.4,SNR=4.0
YKA Yellowknife Ar 106.53 13 PP PP 19 57 27.3 -5.5
comp=Z,0.2nm,0.6s,baz=336,slow=8.3,SNR=3.4
NVAR Mina Array Bea 125.01 31 PKP PKPdf 19 57 51.7 +1.4
comp=Z,0.3nm,0.5s,baz=333,slow=4.0,SNR=3.2
NVAR Mina Array Bea 125.01 31 PKP PKPdf 19 57 51.7 +1.4
PDAR Pinedale Array 125.27 21 PKP PKPdf 19 57 52.4 +1.7
comp=Z,0.6nm,0.7s,slow=4.4,SNR=3.5
TXAR Lajitas Array 139.32 24 PKP PKPdf 19 58 17.2 -0.2
comp=Z,0.3nm,0.6s,baz=63,slow=4.0,SNR=2.2
PLCA Paso Flores 144.45 200 PKIKP PKPdf 19 58 26.4 +0.3
PLCA pmax pmax
comp=Z,3.0nm,1.1s
PLCA Paso Flores 144.45 200 PKP PKPdf 19 58 26.4 +0.3
comp=Z,2.9nm,1.1s,baz=22,slow=5.4,SNR=2.5

MAN 28 19:38:53.1, 13.28N×122.22E, h3km, mb3.7, ML2.4, MS2.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**0.41**	**297**	*eP*	Pg	19 39 01.6	+0.4
BOAC				*eS*	Sg	19 39 09.3	+2.7
AUQP	**San Andres**	**0.45**	**84**	*eP*	Pg	19 39 02.5	+0.5
AUQP				*eS*	Sg	19 39 11.7	+3.7
OTRP	**Odiongan**	**0.93**	**192**	*eP*	Pb	19 39 10.2	-1.2
OTRP				*eS*	Sb	19 39 22.6	-1.4
LQP	**Lukban**	**1.06**	**322**	⇑*eP*	Pb	19 39 12.7	-1.0
SJMP	**San Jose**	**1.34**	**233**	*eP*	Pb	19 39 17.8	-0.7
SJMP				*eS*	Sb	19 39 38.0	+2.0
POLP	**Polilio Island**	**1.47**	**349**	*eP*	Pn	19 39 19.6	-0.9
POLP				*eS*	Sb	19 39 40.6	+0.9
BALP	**Baler**	**2.53**	**346**	*eP*	Pn	19 39 36.1	+0.5

IDC 28 19:44:36.4±74.0, 18.79S×167.43E, mb3.7/3, mb1 3.9/3, mb1mx3.7/13, mbtmp3.7/3, Error ellipse: s-maj=1245.0km s-min=120.3km az=74.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.66**	**236**	P	P	19 50 16.9	-2.0
	9.4nm,1.3s,baz=63,slow=6.8,SNR=2.9						
WRA	**Warramunga Arr**	**31.22**	**262**	P	P	19 50 58.0	-1.9
	0.6nm,0.7s,baz=92,slow=9.0,SNR=4.7						
ASAR	**Alice Springs**	**31.58**	**255**	P	P	19 51 01.0	-2.1
	0.5nm,0.7s,baz=80,slow=9.7,SNR=5.3						

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*IDC **28** 19:47:25.4±7.8, 7.29N×94.22E, mb3.8/5, mb1 3.8/6, mb1mx3.6/19, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=197.0km s-min=47.3km az=140.0*
*NEIC **28** 19:47:31.6±0.9, 7.52N×94.14E, h30km, mb4.0/3, Error ellipse: s-maj=23.8km s-min=17.1km az=74.0*
ISC 28 19:47:30.0±1.2, 7.6N±0.2×94.3E±0.2, h30km, n10, σ0s84/10, mb3.8/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.75**	**22**	Pn	**P**	**19 50 18.2**	**-0.7**
	0.1nm,0.3s,baz=212,slow=14,SNR=3.1						
LSA	**Lhasa**	**22.21**	**353**	*eP*	**P**	**19 52 26.9**	**+1.2**
	5.0nm,0.7s,mb4.0						
SONM	**Songino Array**	**41.44**	**12**	P	**P**	**19 55 16.0**	**+0.4**
	0.4nm,0.9s,mb3.1,baz=200,slow=6.9,SNR=3.8						
ZAL	**Zalesovo**	**46.87**	**352**	P	**P**	**19 55 59.5**	**+0.2**
	0.7nm,0.9s,mb3.6,baz=306,slow=12,SNR=4.7						
ZAL	**Zalesovo**	**46.87**	**352**	P	**P**	**19 55 59.5**	**+0.2**
WRAB	**Tennant Creek**	**48.00**	**125**	P	**P**	**19 56 08.8**	**+0.2**
	1.8nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**49.80**	**342**	P	**P**	**19 56 21.8**	**-0.3**
	0.7nm,0.7s,mb3.8						
FINES	**FINESS Array B**	**73.03**	**332**	P	**P**	**19 58 56.8**	**-2.1**
	2.9nm,1.0s,mb4.2,baz=108,slow=4.4,SNR=3.6						
GERES	**GERESS Array B**	**78.13**	**318**	P	**P**	**19 59 28.0**	**0.0**
	0.2nm,0.7s,mb3.2,baz=80,slow=6.0,SNR=4.7						
HFS	**Hagfors**	**78.78**	**330**	P	**P**	**19 59 32.0**	**+0.7**
	1.5nm,0.7s,mb4.0,baz=104,slow=5.9,SNR=5.8						

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*BJI **28** 19:49:54.6, 7.12N×93.78E, h30km, mb4.3*
*NEIC **28** 19:50:00.6±0.3, 7.78N×94.12E, h30km, mb4.5/8, Error ellipse: s-maj=12.8km s-min=7.2km az=55.0*
*IDC **28** 19:50:01.6±7.0, 7.70N×94.03E, h38km±57km, mb3.9/16, mb1 4.1/17, mb1mx4.0/22, mbtmp4.1/17, ML4.1/1, Error ellipse: s-maj=39.1km s-min=14.3km az=47.0*
ISC 28 19:50:00.0±4.0, 7.8N±0.1×94.2E±0.1, h39km±33km, n40, σ0s77/37, mb4.3/29, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.54**	**23**	*eP*	**P**	**19 52 44.5**	**-0.9**
	2.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**11.54**	**23**	Pn	**P**	**19 52 46.1**	**+0.7**
	0.3nm,0.3s,baz=210,slow=15,SNR=18						
HYB	**Hyderabad**	**17.99**	**304**	*i* P	**P**	**19 54 14.5**	**+5.5**
KMI	**Kunming**	**19.05**	**24**	P	**P**	**19 54 26.3**	**+4.5**
	8.0nm,1.0s						
JIRN	**Jiri**	**21.15**	**340**	*eP*	**P**	**19 54 44.2**	**+0.1**
	29nm,0.9s,mb4.6						
PKI	**Pulchoki**	**21.34**	**338**	*eP*	**P**	**19 54 46.9**	**+0.9**
	33nm,1.0s,mb4.6						
DMN	**Daman**	**21.49**	**337**	*eP*	**P**	**19 54 47.8**	**+0.3**
	29nm,0.9s,mb4.6						
KKN	**Kakani**	**21.59**	**338**	*eP*	**P**	**19 54 48.1**	**-0.4**
	20nm,0.8s,mb4.6						
LSA	**Lhasa**	**21.96**	**353**	P	**P**	**19 54 56.3**	**+4.1**
LSA				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
LSA	**Lhasa**	**21.96**	**353**	*eP*	**P**	**19 54 52.0**	**-0.2**
	comp=Z,17nm,0.6s,mb4.7						
GKN	**Gorkha**	**22.03**	**337**	*eP*	**P**	**19 54 52.6**	**-0.2**
	comp=Z,15nm,0.6s,mb4.6						
KOLN	**Koldanda**	**22.24**	**334**	*eP*	**P**	**19 54 55.0**	**0.0**
	comp=Z,16nm,0.6s,mb4.6						
SONM	**Songino Array**	**41.21**	**12**	P	**P**	**19 57 43.8**	**+1.2**
	comp=Z,2.0nm,0.9s,mb3.8,baz=191,slow=7.7,SNR=16						
SONM				PcP	PcP	19 59 42.3	+0.5
	comp=Z,0.6nm,0.5s,baz=198,slow=4.0,SNR=5.6						
KURK	**Kurchatov**	**44.69**	**346**	*eP*	**P**	**19 58 10.5**	**-0.4**
	comp=Z,4.8nm,0.8s,mb4.4						
ZAL	**Zalesovo**	**46.62**	**352**	P	**P**	**19 58 27.0**	**+0.8**
	comp=Z,4.0nm,0.6s,mb4.6,baz=302,slow=5.7,SNR=26						
WRA	**Warramunga Arr**	**48.18**	**126**	P	**P**	**19 58 39.0**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.9,baz=301,slow=10.0,SNR=13						
WRAB	**Tennant Creek**	**48.18**	**126**	P	**P**	**19 58 37.9**	**-1.0**
	comp=Z,2.2nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	**49.07**	**341**	P	**P**	**19 58 44.4**	**-0.9**
	comp=Z,1.3nm,0.9s,mb4.0,baz=141,slow=9.5,SNR=7.0						
BVAR				PcP	PcP	20 00 06.5	-2.4
	comp=Z,0.7nm,0.7s,baz=135,slow=4.2,SNR=4.0						
CHKZ	**Chkalovo**	**49.55**	**342**	*eP*	**P**	**19 58 48.3**	**-0.7**
	comp=Z,5.2nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**49.83**	**130**	P	**P**	**19 58 51.5**	**0.0**
	comp=Z,1.3nm,0.9s,mb4.0,baz=306,slow=7.6,SNR=8.5						
ASAR				PcP	PcP	20 00 10.7	-1.4
	comp=Z,0.9nm,0.8s,baz=290,slow=3.0,SNR=6.2						
PMG	**Port Moresby**	**55.46**	**107**	P	**P**	**19 59 34.1**	**+0.5**
	comp=Z,5.4nm,0.8s,mb4.6,baz=207,slow=6.8,SNR=2.7						
PMG	**Port Moresby**	**55.46**	**107**	P	**P**	**19 59 34.1**	**+0.5**
KMBO	**Kilima Mbogo**	**57.47**	**264**	P	**P**	**19 59 50.8**	**+2.7**
	comp=Z,1.7nm,0.9s,mb4.1,baz=52,slow=18,SNR=3.3						
BRTR	**Keskin Array B**	**62.51**	**311**	P	**P**	**20 00 20.8**	**-1.4**
	comp=Z,1.0nm,0.7s,mb4.1,baz=132,slow=7.6,SNR=4.2						
AKASG	**Malin Array Be**	**68.24**	**322**	P	**P**	**20 00 57.4**	**-1.4**
	comp=Z,1.1nm,0.7s,mb4.0,baz=84,slow=5.8,SNR=3.7						
IDI	**Anoyia**	**68.65**	**305**	P	**P**	**20 01 01.4**	**-0.3**
	comp=Z,5.1nm,0.9s,mb4.5,baz=57,slow=16,SNR=3.8						
MLR	**Muntele Rosu**	**69.26**	**316**	P	**P**	**20 01 05.2**	**0.0**
	comp=Z,2.2nm,0.8s,mb4.1,baz=105,slow=15,SNR=4.9						
JOF	**Joensuu**	**70.93**	**334**	*ep*	**P**	**20 01 14.6**	**-0.5**
	comp=Z,2.8nm,0.6s,mb4.4						
FINES	**FINESS Array B**	**72.79**	**332**	P	**P**	**20 01 26.4**	**+0.3**
	comp=Z,3.4nm,0.7s,mb4.4,baz=125,slow=7.3,SNR=11						
KAF	**Kangasniemi**	**72.87**	**333**	*ep*	**P**	**20 01 26.4**	**-0.2**
	comp=Z,3.4nm,0.7s,mb4.4						
KEV	**Kevo**	**74.92**	**341**	*ep*	**P**	**20 01 30.6**	**-7.7**
	comp=Z,16nm,1.4s,mb4.8						
ARCES	**ARCESS Array B**	**75.34**	**340**	P	**P**	**20 01 41.6**	**+0.9**
	comp=Z,1.9nm,0.8s,mb4.1,baz=90,slow=6.1,SNR=9.2						
GERES	**GERESS Array B**	**77.91**	**318**	P	**P**	**20 01 56.2**	**+0.6**
	comp=Z,1.7nm,0.7s,mb4.1,baz=76,slow=5.5,SNR=12						
NB2	**NORSAR Subarra**	**79.81**	**331**	P	**P**	**20 02 05.8**	**0.0**
	comp=Z,1.3nm,0.7s,mb4.0,baz=93,slow=5.6						
NOA	**NORSAR Array B**	**79.81**	**331**	P	**P**	**20 02 05.7**	**0.0**
	comp=Z,1.8nm,0.7s,mb4.1,baz=93,slow=5.7,SNR=6.7						
NOA	**NORSAR Array B**	**79.81**	**331**	P	**P**	**20 02 05.7**	**0.0**
ILAR	**Eielson Array**	**94.78**	**22**	P	**P**	**20 03 18.8**	**+0.3**
	comp=Z,0.7nm,1.1s,mb4.0,baz=306,slow=5.2,SNR=4.1						
TXAR	**Lajitas Array**	**139.26**	**24**	PKP	PKPdf	20 09 26.8	+3.1
	comp=Z,0.4nm,0.7s,baz=344,slow=6.6,SNR=3.4						
TXAR	**Lajitas Array**	**139.26**	**24**	PKP	PKPdf	20 09 26.8	+3.1
PLCA	**Paso Flores**	**144.51**	**200**	PKP	PKPdf	20 09 34.8	+2.2
	comp=Z,3.4nm,0.9s,baz=184,slow=2.4,SNR=4.0						

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*IDC **28** 19:54:52.2±0.9, 7.95N×93.78E, mb4.1/13, mb1 4.2/14, mb1mx4.1/20, mbtmp4.1/14, ML3.9/1, Error ellipse: s-maj=35.7km s-min=20.1km az=51.0*
*BJI **28** 19:54:55.2, 7.67N×93.76E, h45km, mb4.2*
*NEIC **28** 19:54:56.6±0.6, 7.89N×93.82E, h30km, mb4.4/4, Error ellipse: s-maj=18.5km s-min=12.2km az=63.0*
ISC 28 19:54:55.7±0.6, 8.02N±0.09×94.0E±0.1, h33km, n30, σ0s92/29, mb4.3/20, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.42**	**24**	Pn	**P**	**19 57 39.4**	**-0.2**
	0.2nm,0.3s,baz=213,slow=14,SNR=11						
HYB	**Hyderabad**	**17.74**	**303**	*i* P	**P**	**19 59 06.5**	**+4.6**
KMI	**Kunming**	**18.93**	**25**	⇑P	**P**	**19 59 20.4**	**+3.9**
	16nm,1.2s						
JIRN	**Jiri**	**20.90**	**340**	*eP*	**P**	**19 59 37.0**	**-0.7**
	46nm,1.0s						
PKI	**Pulchoki**	**21.09**	**338**	*eP*	**P**	**19 59 39.8**	**+0.1**
	61nm,1.1s,mb4.9						
DMN	**Daman**	**21.24**	**338**	*eP*	**P**	**19 59 40.1**	**-1.0**
	47nm,0.9s,mb4.8						
KKN	**Kakani**	**21.34**	**338**	*eP*	**P**	**19 59 42.1**	**0.0**
	60nm,1.1s,mb4.8						
LSA	**Lhasa**	**21.74**	**353**	*eP*	**P**	**19 59 47.3**	**+1.2**
GKN	**Gorkha**	**21.77**	**337**	*eP*	**P**	**19 59 47.3**	**+0.8**
	46nm,0.9s,mb4.9						
KOLN	**Koldanda**	**21.98**	**335**	*eP*	**P**	**19 59 49.7**	**+1.1**
	78nm,1.1s,mb5.0						
DDI	**Dehra Dun**	**26.77**	**328**	*e*	**P**	**20 00 35.0**	**+0.4**
SONM	**Songino Array**	**41.05**	**13**	P	**P**	**20 02 38.1**	**+0.6**
	1.3nm,0.8s,mb3.6,baz=198,slow=7.1,SNR=12						
SONM				PcP	PcP	20 04 37.1	-0.6
	0.3nm,0.7s,baz=223,slow=2.4,SNR=3.9						
KURK	**Kurchatov**	**44.45**	**346**	*eP*	**P**	**20 03 04.9**	**-0.4**
	13nm,1.2s,mb4.5						
ZAL	**Zalesovo**	**46.39**	**352**	P	**P**	**20 03 21.1**	**+0.4**
	3.0nm,0.9s,mb4.2,baz=288,slow=8.4,SNR=18						
WRA	**Warramunga Arr**	**48.43**	**126**	P	**P**	**20 03 36.8**	**-0.3**
	1.2nm,1.0s,mb3.9,baz=304,slow=8.4,SNR=5.3						
WRAB	**Tennant Creek**	**48.43**	**126**	P	**P**	**20 03 35.6**	**-1.6**
BVAR	**Borovoye Array**	**48.82**	**341**	P	**P**	**20 03 38.8**	**-0.9**
	1.7nm,0.8s,mb4.1,baz=135,slow=8.4,SNR=9.5						
CHKZ	**Chkalovo**	**49.30**	**342**	*eP*	**P**	**20 03 42.9**	**-0.5**
	9.2nm,0.9s,mb4.8						
ASAR	**Alice Springs**	**50.09**	**130**	P	**P**	**20 03 51.6**	**+1.8**
	0.6nm,0.9s,mb3.6,baz=315,slow=9.2,SNR=3.9						
KMBO	**Kilima Mbogo**	**57.34**	**264**	P	**P**	**20 04 44.6**	**+1.2**
	1.6nm,0.8s,mb4.1,baz=53,slow=13,SNR=6.1						
BRTR	**Keskin Array B**	**62.26**	**311**	P	**P**	**20 05 15.2**	**-1.6**
	1.2nm,0.6s,mb4.2,baz=114,slow=7.2,SNR=6.3						
AKASG	**Malin Array Be**	**67.98**	**322**	P	**P**	**20 05 51.5**	**-2.0**
	1.6nm,0.7s,mb4.2,baz=79,slow=5.0,SNR=7.4						
FINES	**FINESS Array B**	**72.53**	**332**	P	**P**	**20 06 20.1**	**-0.8**
	3.4nm,0.8s,mb4.3,baz=112,slow=10,SNR=6.9						
ARCES	**ARCESS Array B**	**75.09**	**340**	P	**P**	**20 06 36.1**	**+0.4**
	2.6nm,0.7s,mb4.3,baz=45,slow=3.4,SNR=5.2						
GERES	**GERESS Array B**	**77.65**	**318**	P	**P**	**20 06 51.0**	**+0.4**
	1.8nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=18						
KHC	**Kasperske Hory**	**77.74**	**318**	*eP*	**P**	**20 06 51.5**	**+0.5**
NB2	**NORSAR Subarra**	**79.55**	**331**	P	**P**	**20 07 00.8**	**+0.1**
	1.6nm,0.8s,mb4.0,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**79.55**	**331**	P	**P**	**20 07 00.4**	**-0.3**
	2.4nm,0.8s,mb4.2,baz=93,slow=5.6,SNR=6.3						
DAVOX	**Davos**	**80.21**	**316**	P	**P**	**20 07 05.0**	**+0.4**
	5.7nm,0.9s,mb4.5,baz=103,slow=1.9,SNR=4.1						
PLCA	**Paso Flores**	**144.65**	**200**	PKP	PKPdf	20 14 30.6	+1.3
	2.3nm,0.8s,baz=158,slow=9.2,SNR=3.0						

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*IDC **28** 20:00:22.2±1.3, 7.62N×94.00E, mb3.8/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, ML4.1/1, Error ellipse: s-maj=48.9km s-min=21.7km az=59.0*
*NEIC **28** 20:00:26.4±0.9, 7.54N×93.90E, h30km, mb4.1/3, Error ellipse: s-maj=25.3km s-min=13.4km az=70.0*
ISC 28 20:00:24.7±0.8, 7.6N±0.1×94.0E±0.1, h30km, n16, σ0s77/16, mb4.1/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.80**	**23**	Pn	**P**	**20 03 13.4**	**-0.7**
	0.4nm,0.3s,baz=210,slow=15,SNR=19						
KMI	**Kunming**	**19.30**	**25**	P	**P**	**20 04 52.8**	**+2.5**
	6.0nm,1.0s						
JIRN	**Jiri**	**21.27**	**341**	*eP*	**P**	**20 05 10.1**	**-1.0**
	13nm,0.8s,mb4.3						
PKI	**Pulchoki**	**21.46**	**339**	*eP*	**P**	**20 05 14.1**	**+1.1**
	12nm,0.7s,mb4.3						
DMN	**Daman**	**21.61**	**338**	*eP*	**P**	**20 05 14.9**	**+0.5**
	17nm,0.7s,mb4.6						
KKN	**Kakani**	**21.71**	**339**	*eP*	**P**	**20 05 15.2**	**-0.2**
	18nm,0.9s,mb4.5						
GKN	**Gorkha**	**22.14**	**338**	*eP*	**P**	**20 05 19.5**	**-0.2**
	11nm,0.6s,mb4.4						
KOLN	**Koldanda**	**22.34**	**335**	*eP*	**P**	**20 05 21.8**	**0.0**
	11nm,0.8s,mb4.4						
SONM	**Songino Array**	**41.44**	**13**	P	**P**	**20 08 10.0**	**-0.4**
	1.1nm,0.8s,mb3.5,baz=194,slow=8.3,SNR=11						
SONM				PcP	PcP	20 10 09.5	+1.0
	0.4nm,0.5s,baz=208,slow=2.5,SNR=5.4						
KURK	**Kurchatov**	**44.83**	**346**	*eP*	**P**	**20 08 37.3**	**-0.6**
	5.0nm,1.1s,mb4.3						
ZAL	**Zalesovo**	**46.79**	**353**	P	**P**	**20 08 52.8**	**-0.6**
	2.2nm,0.5s,mb4.4,baz=288,slow=8.1,SNR=11						
WRA	**Warramunga Arr**	**48.21**	**125**	P	**P**	**20 09 04.8**	**-0.1**
	0.5nm,0.8s,mb3.6,baz=305,slow=8.5,SNR=6.8						
WRAB	**Tennant Creek**	**48.21**	**125**	P	**P**	**20 09 05.0**	**0.0**
	1.6nm,0.7s,mb4.2						
ASAR	**Alice Springs**	**49.84**	**130**	P	**P**	**20 09 17.5**	**0.0**
	0.3nm,0.6s,mb3.5,baz

0.4nm,0.8s,mb3.4,baz=315,slow=3.8,SNR=3.1
ULM Lac du Bonnet 55.03 51 P P 20 14 03.2 -1.0
0.9nm,0.4s,mb4.1,baz=230,slow=3.0,SNR=4.3
TXAR Lajitas Array 66.66 72 P P 20 15 23.4 0.0
0.2nm,0.5s,mb3.4,baz=315,slow=3.5,SNR=4.7

IGQ 28 20:07:18.0, 0.84S×81.25W, h11km±5km, mb4.3, 2C-2D, Error ellipse: s-maj=7.6km s-min=5.2km az=19.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.73**	**106**	⇑P	Pb	20 07 31.6	-0.7
JAMA	**Jama**	**1.19**	**61**	P	Pb	20 07 40.2	0.0
JAMA				S	Sb	20 07 55.7	+0.3
IGUA	**Igualata**	**2.69**	**104**	P	Pn	20 08 03.5	+1.5
JUA2	**San Juan 2**	**2.72**	**77**	⇓P	Pn	20 08 03.7	+1.2
JUA2				S	Sn	20 08 38.2	+2.6
TERV	**Terraza Guagua**	**2.73**	**76**	P	Pn	20 08 03.6	+1.1
PINO	**Pino**	**2.73**	**76**	P	Pn	20 08 02.7	+0.1
YANA	**Yana**	**2.77**	**75**	P	Pn	20 08 03.9	+0.6
NAS1	**Nasa**	**2.78**	**86**	P	Pn	20 08 05.3	+2.0
JUIV	**Juive**	**2.84**	**102**	P	Pn	20 08 03.9	-0.3
VC1	**Cotopaxi 1**	**2.85**	**86**	P	Pn	20 08 07.0	+2.6
RETU	**Refugio**	**2.87**	**102**	P	Pn	20 08 07.4	+2.8
ARRY	**Arrayan**	**2.87**	**103**	P	Pn	20 08 06.7	+2.0
ARRY				S	Sn	20 08 39.2	-0.4
PISA	**Pisayambo**	**2.87**	**94**	P	Pn	20 08 07.7	+3.1
TAMB	**Tambo**	**2.89**	**87**	P	Pn	20 08 07.2	+2.4
ULBA	**Ulba**	**2.91**	**102**	P	Pn	20 08 07.5	+2.3
ANTI	**Antisana**	**3.11**	**83**	P	Pn	20 08 10.9	+2.9
COTA	**Cotacachi**	**3.14**	**68**	P	Pn	20 08 09.8	+1.4
CAYR	**Refugio Cayamb**	**3.35**	**75**	⇓P	Pn	20 08 14.4	+2.9
CAYA	**Cayambe**	**3.38**	**74**	⇑P	Pn	20 08 14.3	+2.4

*IDC **28** 20:07:51.4±1.3, 7.46N×93.78E, mb3.8/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, ML3.3/1, Error ellipse: s-maj=48.4km s-min=21.9km az=58.0*
ISC 28 20:07:54.6±1.0, 7.5N±0.1×93.9E±0.2, h33km, n8, σ0°45/8, mb3.8/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.96**	**24**	Pn	**P**		**20 10 46.1 +0.3**
0.1nm,0.3s,baz=213,slow=14,SNR=14							
SONM	**Songino Array**	**41.59**	**13**	P	**P**		**20 15 41.0 0.0**
0.7nm,0.7s,mb3.4,baz=195,slow=8.5,SNR=7.4							
ZAL	**Zalesovo**	**46.88**	**353**	P	**P**		**20 16 23.0 -0.5**
1.1nm,0.5s,mb4.0,baz=279,slow=5.8,SNR=4.5							
WRA	**Warramunga Arr**	**48.27**	**125**	P	**P**		**20 16 34.6 -0.2**
0.4nm,0.6s,mb3.6,baz=305,slow=8.4,SNR=6.0							
ASAR	**Alice Springs**	**49.88**	**130**	P	**P**		**20 16 47.5 +0.2**
0.6nm,0.7s,mb3.7,baz=301,slow=7.2,SNR=7.4							
JOF	**Joensuu**	**71.07**	**335**	*ep*	**P**		**20 19 10.5 -0.7**
8.5nm,1.3s,mb4.5							
FINES	**FINESS Array B**	**72.91**	**332**	P	**P**		**20 19 22.3 +0.2**
1.8nm,0.7s,mb4.1,baz=90,slow=7.6,SNR=7.2							
GERES	**GERESS Array B**	**77.92**	**318**	P	**P**		**20 19 51.9 +0.8**
0.4nm,0.6s,mb3.5,baz=76,slow=5.5,SNR=5.5							

IGQ 28 20:23:09.2, 1.06S×81.25W, h9km±5km, mb4.1, 1C-3D, Error ellipse: s-maj=7.8km s-min=4.9km az=11.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.70**	**90**	P	Pb	20 23 21.8	-1.3
JAMA	**Jama**	**1.31**	**53**	P	Pb	20 23 33.7	+0.3
JAMA				S	Sb	20 23 50.9	+0.8
IGUA	**Igualata**	**2.64**	**99**	P	Pn	20 23 54.1	+1.3
JUA2	**San Juan 2**	**2.77**	**72**	P	Pn	20 23 56.0	+1.4
TERV	**Terraza Guagua**	**2.78**	**72**	P	Pn	20 23 56.2	+1.4
PINO	**Pino**	**2.79**	**71**	⇓P	Pn	20 23 55.7	+0.9
NAS1	**Nasa**	**2.80**	**81**	P	Pn	20 23 56.8	+1.8
ARRY	**Arrayan**	**2.83**	**99**	P	Pn	20 23 56.8	+1.4
ARRY				S	Sn	20 24 30.4	+0.4
RETU	**Refugio**	**2.83**	**98**	P	Pn	20 23 57.9	+2.5
YANA	**Yana**	**2.83**	**71**	P	Pn	20 23 56.2	+0.7
PISA	**Pisayambo**	**2.86**	**90**	P	Pn	20 23 58.1	+2.2
ULBA	**Ulba**	**2.87**	**98**	P	Pn	20 23 58.1	+2.1
VC1	**Cotopaxi 1**	**2.87**	**82**	P	Pn	20 23 59.2	+3.2
TAMB	**Tambo**	**2.90**	**83**	P	Pn	20 23 58.8	+2.4
ANTI	**Antisana**	**3.15**	**79**	⇑P	Pn	20 24 02.2	+2.3
COTA	**Cotacachi**	**3.22**	**65**	P	Pn	20 24 01.2	+0.2
CAYR	**Refugio Cayamb**	**3.41**	**72**	⇓P	Pn	20 24 06.7	+3.0
CAYA	**Cayambe**	**3.44**	**71**	⇓P	Pn	20 24 06.8	+2.7

IGQ 28 20:25:26.2, 0.99S×81.38W, h12km±7km, mb4.3, 3C-3D, Error ellipse: s-maj=8.2km s-min=5.6km az=25.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.84**	**94**	⇑P	Pb	20 25 39.5	-2.7
JAMA	**Jama**	**1.38**	**59**	⇓P	Pn	20 25 52.0	+0.6
JAMA				S	Sb	20 26 07.9	-1.1
MAGD	**Magdalena**	**1.85**	**60**	P	Pn	20 26 00.2	+2.1
IGUA	**Igualata**	**2.79**	**100**	P	Pn	20 26 12.3	+0.7
IGUA				S	Sn	20 26 44.0	-1.4
JUA2	**San Juan 2**	**2.88**	**75**	⇑P	Pn	20 26 14.2	+1.3
JUA2				S	Sn	20 26 45.4	-2.4
TERV	**Terraza Guagua**	**2.89**	**74**	P	Pn	20 26 14.1	+1.1
PINO	**Pino**	**2.89**	**74**	⇓P	Pn	20 26 13.8	+0.7
NAS1	**Nasa**	**2.92**	**83**	P	Pn	20 26 15.6	+2.1
CUSU	**Cusua**	**2.94**	**99**	P	Pn	20 26 18.1	+4.5
CUSU				S	Sn	20 26 53.6	+4.5
YANA	**Yana**	**2.94**	**73**	P	Pn	20 26 14.2	+0.5
JUIV	**Juive**	**2.95**	**99**	P	Pn	20 26 15.6	+1.8
ARRY	**Arrayan**	**2.97**	**100**	P	Pn	20 26 15.1	+0.9
ARRY				S	Sn	20 26 49.2	-0.9
RETU	**Refugio**	**2.97**	**99**	P	Pn	20 26 16.7	+2.6
RETU				S	Sn	20 26 53.0	+3.0
PISA	**Pisayambo**	**3.00**	**91**	P	Pn	20 26 16.2	+1.7
VC1	**Cotopaxi 1**	**3.00**	**83**	P	Pn	20 26 17.0	+2.4
ULBA	**Ulba**	**3.01**	**99**	P	Pn	20 26 15.8	+1.1
TAMB	**Tambo**	**3.03**	**85**	P	Pn	20 26 17.2	+2.2
ANTI	**Antisana**	**3.26**	**81**	P	Pn	20 26 21.6	+3.3
ANTI				S	Sn	20 27 00.8	+3.4
COTA	**Cotacachi**	**3.31**	**67**	P	Pn	20 26 20.6	+1.5
CAYR	**Refugio Cayamb**	**3.52**	**74**	⇓P	Pn	20 26 25.0	+3.1
CAYA	**Cayambe**	**3.55**	**73**	⇑P	Pn	20 26 25.5	+3.1

*IDC **28** 20:28:46.0±0.7, 7.66N×93.89E, mb4.0/12, mb1 4.2/13, mb1mx4.1/20, mbtmp4.1/13, ML4.9/1, MS3.4/1, Ms1 3.6/1, ms1mx2.4/29, Error ellipse: s-maj=35.5km s-min=15.5km az=58.0*
*BJI **28** 20:28:49.9, 7.45N×93.69E, h49km, mB4.5, mb4.1, Ms4.2, Msz3.9*
*NEIC **28** 20:28:50.4±0.3, 7.70N×93.98E, h30km, mb4.6/11, Error ellipse: s-maj=10.6km s-min=7.4km az=77.0*
ISC 28 20:28:49.0±0.5, 7.71N±0.07×93.99E±0.09, h33km, n38, σ0°77/36, mb4.4/25, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.72**	**24**	*eP*	**P**		**20 31 36.2 -0.8**
12nm,0.5s							
CMAR	**Chiang Mai Arr**	**11.72**	**24**	Pn	**P**		**20 31 37.3 +0.3**
2.2nm,0.3s,baz=211,slow=14,SNR=77							
CMAR				LR	LR	20 36 58.5	
comp=Z,164nm,18.2s,baz=220,slow=42							
KMI	**Kunming**	**19.23**	**25**	⇑P	**P**		**20 33 16.2 +2.9**
12nm,1.6s							
KMI				pP		20 33 19.9	
KMI				S	**S**	**20 36 54.0 +11**	
JIRN	**Jiri**	**21.18**	**341**	*eP*	**P**		**20 33 33.8 -0.1**
26nm,0.5s,mb4.8							
PKI	**Pulchoki**	**21.36**	**339**	*eP*	**P**		**20 33 35.9 +0.1**
27nm,0.6s,mb4.8							
DMN	**Daman**	**21.51**	**338**	*eP*	**P**		**20 33 37.0 -0.2**
56nm,0.9s,mb5.0							
KKN	**Kakani**	**21.61**	**339**	*eP*	**P**		**20 33 37.0 -1.2**
GKN	**Gorkha**	**22.04**	**337**	*eP*	**P**		**20 33 42.5 0.0**
LSA	**Lhasa**	**22.04**	**353**	P	**P**		**20 33 46.0 +3.5**
LSA				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.4							
LSA	**Lhasa**	**22.04**	**353**	*eP*	**P**		**20 33 42.6 +0.1**
comp=Z,34nm,0.6s,mb5.0							

KOLN	**Koldanda**	**22.25**	**335**	*eP*	**P**		**20 33 45.4 +0.8**
comp=Z,39nm,0.9s,mb4.8							
ENH	**Enshi**	**26.74**	**31**	*eP*	**P**		**20 34 27.5 -0.2**
comp=Z,16nm,1.2s,mb4.4							
SONM	**Songino Array**	**41.36**	**13**	P	**P**		**20 36 34.0 +0.5**
comp=Z,1.7nm,0.7s,mb3.8,baz=196,slow=8.7,SNR=23							
SONM				PcP	PcP	20 38 33.1	+1.0
comp=Z,1.3nm,0.6s,baz=200,slow=3.3,SNR=8.3							
ULN	**Ulaanbaatar**	**41.53**	**13**	*eP*	**P**		**20 36 34.8 -0.2**
comp=Z,2.1nm,0.8s,mb3.8							
KURK	**Kurchatov**	**44.73**	**346**	*eP*	**P**		**20 37 00.6 -0.3**
comp=Z,5.7nm,0.6s,mb4.6							
NWAO	**Narrogin (SRO)**	**46.07**	**153**	P	**P**		**20 37 13.1 +1.3**
comp=Z,2.9nm,0.8s,mb4.3,baz=283,slow=3.8,SNR=2.7							
ZAL	**Zalesovo**	**46.69**	**353**	P	**P**		**20 37 17.0 +0.6**
comp=Z,5.8nm,0.4s,mb4.8,baz=304,slow=5.1,SNR=29							
HIA	**Hailar**	**46.73**	**23**	*eP*	**P**		**20 37 16.9 +0.1**
comp=Z,10nm,0.6s,mb4.9							
WRA	**Warramunga Arr**	**48.29**	**125**	P	**P**		**20 37 28.7 -0.7**
comp=Z,0.5nm,0.7s,mb3.6,baz=301,slow=9.6,SNR=4.6							
WRAB	**Tennant Creek**	**48.29**	**125**	P	**P**		**20 37 29.2 -0.2**
BVAR	**Borovoye Array**	**49.10**	**341**	P	**P**		**20 37 35.0 -0.2**
comp=Z,0.7nm,0.5s,mb3.9,baz=135,slow=10,SNR=6.8							
BVAR				PcP	PcP	20 38 59.5	+0.7
comp=Z,0.8nm,0.6s,baz=162,slow=4.7,SNR=4.5							
CHKZ	**Chkalovo**	**49.58**	**342**	*eP*	**P**		**20 37 38.5 -0.5**
comp=Z,8.8nm,1.0s,mb4.7							
ASAR	**Alice Springs**	**49.92**	**130**	P	**P**		**20 37 41.4 -0.6**
comp=Z,0.2nm,0.4s,mb3.5,baz=307,slow=7.6,SNR=7.5							
ASAR				PcP	PcP	20 39 02.9	+0.7
comp=Z,1.2nm,0.9s,baz=311,slow=3.2,SNR=5.8							
KMBO	**Kilima Mbogo**	**57.25**	**264**	P	**P**		**20 38 36.2 +0.1**
YAK	**Yakutsk**	**60.20**	**18**	*eP*	**P**		**20 38 54.8 -1.2**
comp=Z,12nm,0.7s,mb5.0							
BRTR	**Keskin Array B**	**62.42**	**311**	P	**P**		**20 39 10.6 -0.7**
comp=Z,1.0nm,0.5s,mb4.2,baz=132,slow=6.4,SNR=7.3							
AKASG	**Malin Array Be**	**68.19**	**322**	P	**P**		**20 39 46.9 -1.3**
comp=Z,0.2nm,0.3s,mb3.6,baz=48,slow=1.2,SNR=4.9							
JOF	**Joensuu**	**70.93**	**335**	*ep*	**P**		**20 39 57.8 -7.0**
FINES	**FINESS Array B**	**72.79**	**332**	P	**P**		**20 40 16.1 +0.3**
comp=Z,3.1nm,0.7s,mb4.4,baz=101,slow=6.2,SNR=25							
KAF	**Kangasniemi**	**72.87**	**333**	*ep*	**P**		**20 40 16.2 -0.1**
comp=Z,2.2nm,0.6s,mb4.3							
KEV	**Kevo**	**74.94**	**341**	*ep*	**P**		**20 40 27.9 -0.3**
comp=Z,17nm,1.3s,mb4.8							
ARCES	**ARCESS Array B**	**75.37**	**340**	P	**P**		**20 40 31.6 +1.0**
comp=Z,2.4nm,0.8s,mb4.2,baz=90,slow=6.1,SNR=11							
GERES	**GERESS Array B**	**77.85**	**318**	P	**P**		**20 40 46.4 +1.3**
comp=Z,0.8nm,0.6s,mb3.8,baz=90,slow=6.7,SNR=11							
NB2	**NORSAR Subarra**	**79.80**	**331**	P	**P**		**20 40 55.7 +0.3**
comp=Z,1.4nm,0.6s,mb4.1,baz=97,slow=5.0							
NOA	**NORSAR Array B**	**79.80**	**331**	P	**P**		**20 40 56.0 +0.5**
comp=Z,2.9nm,0.8s,mb4.2,baz=93,slow=5.6,SNR=8.9							
YKA	**Yellowknife Ar**	**106.62**	**13**	PP	PP	20 47 24.3	-5.5
comp=Z,0.3nm,0.7s,baz=332,slow=7.6,SNR=4.4							
PDAR	**Pinedale Array**	**125.38**	**21**	PKP	PKPdf	20 47 47.2	+0.1
comp=Z,0.4nm,0.6s,baz=297,slow=3.3,SNR=4.8							
PLCA	**Paso Flores**	**144.34**	**200**	PKP	PKPdf	20 48 24.7	+2.6
comp=Z,3.4nm,0.9s,baz=348,slow=22,SNR=2.8							

*IDC **28** 20:33:54.5±6.0, 8.50N×94.02E, h106km±55km, mb3.5/7, mb1 3.7/8, mb1mx3.5/19, mbtmp3.9/8, Error ellipse: s-maj=35.1km s-min=25.9km az=65.0*
ISC 28 20:33:53.5±4.8, 8.5N±0.2×94.1E±0.2, h114km±43km, n14, σ0°83/14, mb3.9/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.01**	**25**	P	**P**		**20 36 27.9 -0.8**
0.3nm,0.3s,baz=213,slow=14,SNR=7.2							
JIRN	**Jiri**	**20.50**	**340**	*eP*	**P**		**20 38 25.6 +1.3**
16nm,0.8s							
PKI	**Pulchoki**	**20.69**	**338**	*eP*	**P**		**20 38 27.7 +1.4**
12nm,0.7s							
DMN	**Daman**	**20.84**	**337**	*eP*	**P**		**20 38 28.2 +0.4**
2.2nm,0.1s							
KKN	**Kakani**	**20.94**	**338**	*eP*	**P**		**20 38 29.2 +0.4**
16nm,0.9s							
GKN	**Gorkha**	**21.38**	**337**	*eP*	**P**		**20 38 32.9 -0.3**
12nm,0.6s,mb4.4							
KOLN	**Koldanda**	**21.60**	**334**	*eP*	**P**		**20 38 33.7 -1.7**
14nm,0.8s,mb4.3							
SONM	**Songino Array**	**40.61**	**13**	P	**P**		**20 41 23.9 +0.5**
0.7nm,0.7s,mb3.6,baz=196,slow=6.3,SNR=5.9							
ZAL	**Zalesovo**	**45.96**	**352**	P	**P**		**20 42 07.2 +0.5**
2.0nm,0.8s,mb3.9,baz=293,slow=10,SNR=9.6							
BVAR	**Borovoye Array**	**48.41**	**341**	P	**P**		**20 42 25.5 -0.3**
1.2nm,0.9s,mb3.7,baz=135,slow=6.3,SNR=5.0							
WRA	**Warramunga Arr**	**48.66**	**126**	P	**P**		**20 42 28.6 +0.4**
0.7nm,1.0s,mb3.5,baz=305,slow=8.6,SNR=4.0							
KMBO	**Kilima Mbogo**	**57.42**	**263**	P	**P**		**20 43 33.0 0.0**
1.6nm,0.9s,mb4.1,baz=50,slow=15,SNR=4.9							
FINES	**FINESS Array B**	**72.16**	**332**	P	**P**		**20 45 06.3 -1.0**
1.6nm,0.8s,mb3.9,baz=100,slow=8.5,SNR=5.1							
NOA	**NORSAR Array B**	**79.19**	**331**	P	**P**		**20 45 46.2 -0.9**
0.8nm,0.9s,mb3.6,baz=96,slow=4.3,SNR=2.6							

*IDC **28** 20:38:21.3±7.7, 8.15N×94.26E, h39km±69km, mb3.6/5, mb1 3.7/6, mb1mx3.5/18, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=40.5km s-min=30.6km az=61.0*
ISC 28 20:38:18.6±1.1, 8.2N±0.2×94.3E±0.2, h33km, n6, σ0°59/6, mb3.8/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.18**	**23**	Pn	**P**		**20 40 58.7 -0.6**
0.1nm,0.3s,baz=230,slow=14,SNR=4.9							
SONM	**Songino Array**	**40.85**	**12**	P	**P**		**20 45 59.7 +0.8**
0.8nm,1.1s,mb3.3,baz=198,slow=7.8,SNR=4.3							
ZAL	**Zalesovo**	**46.28**	**352**	P	**P**		**20 46 42.9 +0.1**
1.1nm,0.5s,mb4.1,baz=345,slow=5.6,SNR=4.2							
ASAR	**Alice Springs**	**49.98**	**130**	P	**P**		**20 47 11.9 0.0**
0.6nm,0.9s,mb3.6,baz=304,slow=5.2,SNR=3.9							
KMBO	**Kilima Mbogo**	**57.61**	**263**	P	**P**		**20 48 08.1 -0.2**
1.9nm,1.0s,mb4.1,baz=233,slow=24,SNR=4.2							
GERES	**GERESS Array B**	**77.72**	**318**	P	**P**		**20 50 13.7 -0.2**
1.1nm,1.0s,mb3.7,baz=68,slow=5.3,SNR=3.6							

*IDC **28** 20:39:26.1±0.5, 7.71N×93.90E, mb4.3/20, mb1 4.4/21, mb1mx4.4/24, mbtmp4.3/21, ML4.3/1, MS4.2/6, Ms1 4.3/6, ms1mx3.6/25, Error ellipse: s-maj=23.7km s-min=12.3km az=47.0*
*MOS **28** 20:39:30.8±1.0, 8.00N×93.94E, h33km, mb4.9/38, Error ellipse: s-maj=12.0km s-min=6.9km az=102.4*
*BJI **28** 20:39:30.5, 7.81N×93.57E, h37km, mB4.9, mb4.6, Ms4.7, Msz4.3*
*NEIC **28** 20:39:30.5±0.3, 7.97N×94.03E, mb4.8/36, Error ellipse: s-maj=9.6km s-min=7.0km az=61.0*
ISC 28 20:39:30.7±0.3, 7.96N±0.04×94.00E±0.05, h33km, (h20km±4.3km: pP-P), n152, σ1°07/146, mb4.7/64, MS4.3/12, 2C-5D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**9.73**	**37**	P	**P**		**20 41 53.6 +2.0**
CM31	**Chiang Mai Arr**	**11.49**	**24**	*e*Pn	**P**		**20 42 13.5 -2.1**
18nm,0.9s							
CM31				*ep*Pn		20 42 17.5	
CMAR	**Chiang Mai Arr**	**11.49**	**24**	P	**P**		**20 42 17.3 +1.7**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**11.49**	**24**	Pn	**P**		**20 42 17.3 +1.7**
comp=Z,0.5nm,0.3s,baz=214,slow=14,SNR=15							
NANT	**Nan**	**12.59**	**30**	P	**P**		**20 42 26.0 -4.4**
VIS	**Vishakhapatnam**	**14.22**	**314**	*eP*	**P**		**20 42 49.0 -3.0**
VIS				*e*		20 42 59.5	
comp=Z,46nm,0.9s							
MDRS	**Chennai**	**14.45**	**292**	*e*	Px	20 43 40.0	
MDRS				*e*		20 46 56.0	
IMP	**Imphal**	**16.73**	**360**	*e*	**P**		**20 43 25.4 +1.1**
HYB	**Hyderabad**	**17.75**	**303**	*eP*	**P**		**20 43 43.0 +5.9**
HYB	**Hyderabad**	**17.75**	**303**	*i* P	**P**		**20 43 43.0 +5.9**
HYB				*e*S	**S**		**20 46 56.5 +5.2**
KMI	**Kunming**	**19.00**	**25**	⇑P	**P**		**20 43 56.0 +3.6**
KMI				S	**S**		**20 47 20.4 +1.0**
KMI				pmax	pmax		
comp=Z,16nm,1.4s							
KMI	**Kunming**	**19.00**	**25**	⇑P	**P**		**20 43 56.0 +3.6**
comp=Z,16nm,1.4s							
KMI				pP		20 44 03.5	
KMI				PP	PP	20 44 11.8	+2.9
KMI				S	**S**		**20 47 20.4 +1.0**

JIRN	**Jiri**	**20.94**	**340**	*eP*	**P**		**20 44 13.7 +0.4**
comp=Z,152nm,1.1s							
PKI	**Pulchoki**	**21.14**	**338**	*eP*	**P**		**20 44 15.2 0.0**
comp=Z,46nm,0.7s,mb4.9							
DMN	**Daman**	**21.28**	**338**	*eP*	**P**		**20 44 17.0 +0.3**
comp=Z,98nm,0.9s,mb5.2							
KKN	**Kakani**	**21.38**	**338**	*eP*	**P**		**20 44 17.9 +0.2**
comp=Z,61nm,0.9s,mb4.9							
KAD	**Karad**	**21.44**	**298**	*e*	**P**		**20 44 14.9 -3.4**
comp=Z,10nm,0.9s,mb4.2							
KAD				*eP*		20 44 21.0	
LSA	**Lhasa**	**21.79**	**353**	P	**P**		**20 44 22.5 +0.7**
LSA	**Lhasa**	**21.79**	**353**	*eP*	**P**		**20 44 21.7 -0.1**
LSA				pmax	pmax		
comp=Z,33nm,0.8s,mb4.8							
LSA	**Lhasa**	**21.79**	**353**	*eP*	**P**		**20 44 21.7 -0.1**
comp=Z,33nm,0.8s,mb4.8							
GKN	**Gorkha**	**21.81**	**337**	*eP*	**P**		**20 44 22.4 +0.4**
comp=Z,96nm,1.0s,mb5.2							
BHPL	**Bhopal**	**22.00**	**316**	*eP*	**P**		**20 44 24.6 +0.7**
BHPL				*e*		20 44 29.7	
comp=Z,18nm,0.6s							
KOLN	**Koldanda**	**22.03**	**335**	*eP*	**P**		**20 44 25.2 +1.1**
comp=Z,84nm,0.9s,mb5.2							
SONA	**Sohna**	**25.74**	**324**	*eP*	**P**		**20 45 01.3 +1.1**
AYAN	**Aya Nagar**	**25.89**	**324**	*eP*	**P**		**20 45 01.9 +0.3**
NDI	**New Delhi**	**25.99**	**325**	*eP*	**P**		**20 45 02.0 -0.5**
KUDL	**Kundal**	**26.01**	**323**	*eP*	**P**		**20 45 03.7 +0.9**
KHET	**Khetri**	**26.38**	**322**	*eP*	**P**		**20 45 07.1 +0.9**
ENH	**Enshi**	**26.52**	**31**	*eP*	**P**		**20 45 06.8 -0.6**
comp=Z,11nm,0.8s,mb4.5							
ENH				*ep*P	pP	20 45 13.0	-3.8
DDI	**Dehra Dun**	**26.80**	**328**	*e*	**P**		**20 45 10.0 0.0**
LZH	**Lanzhou**	**29.41**	**16**	*eP*	**P**		**20 45 34.0 +0.7**
LZH				AP	pP	20 45 42.5	-0.4
LZH				XP	sP	20 45 46.5	-0.8
LZH				AMB	AMB		
comp=Z,30nm,1.7s,mb4.8							
LZH				AMB	AMB		
comp=Z,86nm,4.0s							
LZH				LR	LR		
comp=E,705nm,13.7s							
LZH				LR	LR		
comp=Z,1μm,15.0s,MS4.6							
LZH	**Lanzhou**	**29.41**	**16**	*eP*	**P**		**20 45 34.0 +0.7**
LZH				*PP	pP	20 45 42.4	-0.5
LZH				*SP	sP	20 45 46.6	-0.7
LZH				pmax	pmax		
comp=Z,30nm,1.7s,mb4.8							
LZH				MLR	MLR		
comp=Z,1μm,15.0s,MS4.6							
LZH	**Lanzhou**	**29.41**	**16**	*eP*	**P**		**20 45 34.0 +0.7**
comp=Z,30nm,1.7s,mb4.8							
LZH				pP	pP	20 45 42.4	-0.5
LZH				sP	sP	20 45 46.6	-0.7
LZH				LR	LR		
comp=Z,1μm,15.0s,MS4.6							
NJ2	**Nanjing**	**33.29**	**41**	*eP*	**P**		**20 46 07.5 -0.1**
NJ2				AP	pP	20 46 17.3	0.0
NJ2				XP	sP	20 46 20.0	-1.6
NJ2				PP	PP	20 47 20.8	+1.3
NJ2				AMB	AMB		
comp=Z,420nm,4.5s							
NJ2				LR	LR		
comp=N,930nm,15.9s,MS4.8							
NJ2				LR	LR		
comp=E,860nm,13.2s,MS4.8							
NJ2				LR	LR		
comp=Z,310nm,12.4s,MS4.2							
SSE	**Sheshan**	**34.26**	**44**	P	**P**		**20 46 14.8 -1.1**
SSE				S	**S**		**20 51 39.3 -0.4**
SSE				AMB	AMB		
comp=Z,17nm,0.8s,mb5.0							
SSE				AMB	AMB		
comp=Z,25nm,3.8s							
SSE				LR	LR		
comp=N,333nm,16.2s,MS4.3							
SSE				LR	LR		
comp=E,308nm,16.4s,MS4.3							
SSE				LR	LR		
comp=Z,206nm,17.9s,MS3.9							
SSE	**Sheshan**	**34.26**	**44**	P	**P**		**20 46 14.7 -1.2**
comp=Z,17nm,0.8s,mb5.0							
SSE				S	**S**		**20 51 39.2 -0.5**
SSE				sS		20 51 53.4	
SSE				SS	SS	20 54 05.4	+16
SSE				LR	LR		
comp=Z,210nm,17.9s,MS3.9							
WMQ	**Urumqi**	**36.15**	**352**	*eP*	**P**		**20 46 32.5 +0.6**
WMQ				AP	pP	20 46 38.5	-3.1
WMQ				PCP	PcP	20 48 58.5	+1.0
WMQ				AMB	AMB		
comp=Z,42nm,1.3

comp=E,4.0nm,0.9s
NVS smax
comp=N,6.0nm,1.4s
NVS smax
comp=E,19nm,1.9s
WRA Warramunga Arr 48.42 126 *i* P **P 20 48 13.6 +1.5**
WRA pmax pmax
comp=Z,6.0nm,0.9s
WRA Warramunga Arr 48.42 126 P **P 20 48 09.0 -3.1**
comp=Z,4.8nm,1.0s,mb4.5,baz=304,slow=8.5,SNR=5.2
WRAB Tennant Creek 48.42 125 *e*P **P 20 48 12.3 +0.1**
WRAB pmax pmax
comp=Z,20nm,1.1s,mb5.1
WRAB Tennant Creek 48.42 125 *e*P **P 20 48 12.3 +0.1**
comp=Z,20nm,1.1s,mb5.0
WB2 Warramunga Arr 48.43 126 *e*P **P 20 48 13.6 +1.4**
BVAR Borovoye Array 48.87 341 P **P 20 48 14.8 -0.3**
comp=Z,2.6nm,0.8s,mb4.3,baz=149,slow=8.6,SNR=13
BVAR PcP PcP 20 49 39.3 -0.3
comp=Z,0.4nm,0.5s,baz=187,slow=34,SNR=2.6
BRVK Borovoye 48.93 341 *e*P **P 20 48 14.1 -1.5**
BRVK pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
BRVK Borovoye 48.93 341 *e*P **P 20 48 14.1 -1.5**
comp=Z,8.0nm,1.4s,mb4.6
RAYN Ar Rayn 48.93 294 P **P 20 48 17.4 +1.4**
comp=Z,94nm,0.7s,SNR=18
CBIJ Chichi jima 49.38 61 LR LR 21 09 46.5
comp=Z,147nm,18.2s,MS4.0,baz=138,slow=37
ASPA Alice Springs 50.07 130 *e*P **P 20 48 25.8 +1.0**
ASAR Alice Springs 50.07 130 P **P 20 48 21.7 -3.1**
comp=Z,3.0nm,0.8s,mb4.4,baz=304,slow=7.2,SNR=6.5
ASAR PcP PcP 20 49 43.9 -0.6
comp=Z,2.6nm,0.7s,baz=315,slow=3.6,SNR=8.4
BOD Bodaibo 52.10 13 *e*P **P 20 48 37.9 -1.7**
GNI Garni 54.28 314 *e*P **P 20 48 55.9 -0.2**
GNI pmax pmax
comp=Z,16nm,1.3s
GNI Garni 54.28 314 P **P 20 48 56.2 +0.1**
comp=Z,3.0nm,0.7s,mb4.3,baz=350,slow=20,SNR=2.5
GNI Garni 54.28 314 *e*P **P 20 48 55.9 -0.2**
comp=Z,16nm,1.3s,mb4.8
CLNS Chul'man 54.40 20 *e*P **P 20 48 56.4 -0.4**
CLNS pmax pmax
comp=Z,17nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,9.0nm,1.0s
SVE Sverdlovsk 55.27 338 *e*P **P 20 49 03.0 -0.1**
PMG Port Moresby 55.69 107 P **P 20 49 06.5 -0.1**
PMG pmax pmax
comp=Z,37nm,1.1s
PMG Port Moresby 55.69 107 P **P 20 49 06.5 -0.2**
comp=Z,36nm,1.1s,mb5.3,baz=57,slow=1.5,SNR=7.2
ARU Arti 55.76 337 *e*P **P 20 49 06.4 -0.2**
ARU pmax pmax
comp=Z,15nm,1.3s,mb4.9
ARU Arti 55.76 337 *e*P **P 20 49 06.4 -0.2**
comp=Z,15nm,1.3s,mb4.9
KIV Kislovodsk 57.16 318 *e*P **P 20 49 16.4 -0.4**
KIV pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
KIV Kislovodsk 57.16 318 *e*P **P 20 49 16.4 -0.4**
comp=Z,9.6nm,0.8s,mb4.9
KMBO Kilima Mbogo 57.30 264 P **P 20 49 16.1 -2.1**
KMBO pmax pmax
comp=Z,1.0nm,0.7s
KMBO MLR MLR
comp=Z,313nm,19.4s
KMBO Kilima Mbogo 57.30 264 P **P 20 49 16.1 -2.1**
comp=Z,1.2nm,0.7s,mb4.0,baz=51,slow=22,SNR=2.6
KMBO LR LR 21 13 05.5
comp=Z,313nm,19.4s,MS4.4,baz=281,slow=35
ASF Jabal al Asfar 58.06 303 P **P 20 49 22.7 -0.5**
comp=Z,1.9nm,0.9s,mb4.1,baz=119,slow=3.6,SNR=3.3
MALT Malatya 58.30 310 *e*P **P 20 49 24.6 -0.3**
MALT pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
MALT Malatya 58.30 310 *e*P **P 20 49 24.6 -0.3**
comp=Z,3.2nm,0.9s,mb4.3
SOC Sochi 59.02 317 *e*P **P 20 49 25.6 -4.3**
SOC *e* 20 50 14.4
SOC *e* 20 51 35.0
SOC *e*S **S 20 57 34.4 +1.9**
SOC *e* 20 59 14.6
SOC *e*SS SS 21 01 25.3 -3.0
SOC pmax pmax
comp=Z,24nm,1.1s,mb5.1
SOC pmax pmax
comp=N,7.0nm,0.8s
SOC pmax pmax
comp=E,9.0nm,0.8s
EIL Elat 59.27 300 *e*P **P 20 49 31.7 0.0**
comp=E,10nm,1.1s,mb4.8
YAK Yakutsk 59.96 19 *e*P **P 20 49 34.7 -1.3**
YAK *e**PP pP 20 49 40.3 -5.8
YAK pmax pmax
comp=Z,21nm,0.8s,mb5.2
YAK Yakutsk 59.96 19 *e*P **P 20 49 34.7 -1.3**
comp=Z,21nm,0.8s,mb5.2
YAK *e*pP pP 20 49 40.3 -5.8
STKA Stephens Creek 60.26 134 P **P 20 49 35.1 -3.5**
comp=Z,2.7nm,0.8s,mb4.3,baz=275,slow=15,SNR=2.4
BRTR Keskin Array B 62.27 311 P **P 20 49 50.0 -2.0**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 62.27 311 P **P 20 49 50.0 -2.0**
comp=Z,3.4nm,0.7s,mb4.6,baz=123,slow=6.5,SNR=13
MBAR Mbarara 63.63 265 *e*P **P 20 50 01.0 -0.5**
MBAR pmax pmax
comp=Z,14nm,1.2s,mb4.9
MBAR Mbarara 63.63 265 *e*P **P 20 50 01.0 -0.4**
comp=Z,14nm,1.2s,mb4.9
MOS Moscow 64.94 329 *e*P **P 20 50 12.7 +3.5**
OBN Obninsk 65.23 328 ⇓*i*P **P 20 50 07.3 -3.8**
OBN *e* 20 52 35.6
OBN *e*S S 20 58 47.4 -3.2
OBN pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.3
OBN Obninsk 65.23 328 *e*P **P 20 50 06.4 -4.8**
comp=Z,12nm,0.8s,mb5.0
MA2 Magadan 66.75 28 *e*P **P 20 50 20.2 -0.5**
MA2 *e**PP pP 20 50 26.2 -4.8
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.1
MA2 Magadan 66.75 28 *e*P **P 20 50 20.2 -0.5**
comp=Z,20nm,1.0s,mb5.1
MA2 *e*pP pP 20 50 26.2 -4.9
TIXI Tiksi 67.17 11 ⇓*i*P **P 20 50 21.5 -1.7**
TIXI pmax pmax
comp=Z,14nm,1.1s,mb4.9
AKASG Malin Array Be 68.00 322 P **P 20 50 26.7 -2.0**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 68.00 322 P **P 20 50 26.7 -2.0**
comp=Z,3.1nm,0.9s,mb4.3,baz=89,slow=4.6,SNR=9.8
IDI Anoyia 68.41 305 P **P 20 50 30.8 -0.7**
comp=Z,5.9nm,0.7s,mb4.7,baz=39,slow=7.5,SNR=3.7
LSZ Lusaka 69.17 250 *e*P **P 20 50 37.8 +1.3**
LSZ pmax pmax
comp=Z,24nm,1.6s,mb4.9
LSZ Lusaka 69.17 250 *e*P **P 20 50 37.8 +1.3**
comp=Z,24nm,1.6s,mb4.9
JOF Joensuu 70.71 334 *e*p **P 20 50 45.7 +0.6**
comp=Z,5.0nm,0.6s,mb4.6
FINES FINESS Array B 72.57 332 P **P 20 50 55.9 -0.3**
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 72.57 332 P **P 20 50 55.9 -0.3**
comp=Z,5.3nm,0.8s,mb4.5,baz=112,slow=10,SNR=10
FINES FINESS Array B 72.57 332 P **P 20 50 55.9 -0.3**
KAF Kangasniemi 72.65 333 *e*p **P 20 50 58.1 +1.4**
comp=Z,9.6nm,1.2s,mb4.6
KAF Kangasniemi 72.65 333 *e*P **P 20 50 58.1 +1.4**
KAF pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
LBTB Lobatse 74.16 241 *e*P **P 20 51 07.6 +1.3**
LBTB pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
LBTB Lobatse 74.16 241 *e*P **P 20 51 07.6 +1.3**
comp=Z,8.5nm,1.0s,mb4.6
KEV Kevo 74.71 341 *e*p pP 20 51 17.6 -1.3
comp=Z,21nm,1.4s
KEV Kevo 74.71 341 *e*P pP 20 51 17.6 -1.3
KEV pmax pmax
comp=Z,21nm,1.4s,mb4.9
ARCES ARCESS Array B 75.14 340 P **P 20 51 09.2 -1.9**
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 75.14 340 P **P 20 51 09.2 -1.9**
comp=Z,2.0nm,0.7s,mb4.2,baz=51,slow=17,SNR=4.2
MORC Moravsky Berou 75.22 319 *e*P **P 20 51 12.2 +0.3**
MORC pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
MORC Moravsky Berou 75.22 319 *e*P **P 20 51 12.2 +0.3**
comp=Z,10nm,1.2s,mb4.6
BOSA Boshof 75.52 238 *e*P **P 20 51 14.6 +0.6**
BOSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BOSA Boshof 75.52 238 *e*P **P 20 51 14.6 +0.6**
comp=Z,3.5nm,0.6s,mb4.5
BRG Berggiesshubel 77.60 320 *e*P **P 20 51 25.1 -0.2**
BRG *e* 20 51 30.7
BRG pmax pmax
comp=Z,15nm,1.7s,mb4.7
BRG Berggiesshubel 77.60 320 *e*P **P 20 51 25.1 -0.2**
comp=Z,15nm,1.7s,mb4.7
BRG *e* 20 51 30.7
GERES GERESS Array B 77.67 318 P **P 20 51 25.9 +0.1**
GERES pmax pmax
comp=Z,4.0nm,0.7s
GERES GERESS Array B 77.67 318 P **P 20 51 25.9 +0.1**
comp=Z,3.9nm,0.7s,mb4.5,baz=90,slow=5.3,SNR=18
KHC Kasperske Hory 77.76 318 *e*P **P 20 51 29.5 +3.2**
RUE Ruedersdorf 77.78 322 *e*P **P 20 51 26.6 +0.3**
comp=Z,8.1nm,0.6s,mb4.8
CLL Collm 78.21 321 *e**PP pP 20 51 33.0 -6.0
GRA1 Grafenberg Arr 79.31 319 *e*P **P 20 51 40.2 +5.5**
comp=Z,6.0nm,1.0s,mb4.5
GRF Grafenberg Arr 79.31 319 *e*P **P 20 51 40.2 +5.5**
GRF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
GRF Grafenberg Arr 79.31 319 *e*P **P 20 51 40.2 +5.5**
comp=Z,6.0nm,1.0s,mb4.5
NB2 NORSAR Subarra 79.59 331 P **P 20 51 35.2 -0.8**
comp=Z,5.3nm,0.9s,mb4.5,baz=92,slow=5.3
NB2 NORSAR Subarra 79.59 331 P **P 20 51 35.2 -0.8**
NB2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
NOA NORSAR Array B 79.59 331 P **P 20 51 35.8 -0.2**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 79.59 331 P **P 20 51 35.8 -0.2**
comp=Z,2.4nm,0.8s,mb4.2,baz=94,slow=5.4,SNR=7.8
LPG La Plagne 82.46 315 *e*P **P 20 51 56.3 +4.9**
comp=Z,38nm,1.2s,mb4.9
BNI Bardonecchia 82.54 314 *e*P **P 20 51 53.3 +1.5**
BNI pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
BNI Bardonecchia 82.54 314 *e*P **P 20 51 53.3 +1.5**
comp=Z,2.4nm,0.7s,mb4.3
SYO Syowa Base 85.45 197 ⇓P **P 20 52 07.4 +1.5**
SYO Syowa Base 85.45 197 ⇓*e*P pP 20 52 15.8 -0.6
ESDC Sonseca Array 91.06 310 P **P 20 52 32.6 -0.9**
comp=Z,1.6nm,0.9s,mb4.3,baz=69,slow=5.5,SNR=3.1
IMA Indian Mountai 91.59 22 *e*P **P 20 52 33.9 -1.4**
ILAR Eielson Array 94.72 22 P **P 20 52 49.6 +0.1**
comp=Z,0.4nm,0.8s,mb3.9,baz=280,slow=5.5,SNR=3.3
ILAR LR LR 21 41 53.4
comp=Z,99nm,20.6s,MS4.3,baz=76,slow=40
INK Inuvik 96.95 16 LR LR 21 38 27.2
comp=Z,116nm,21.4s,MS4.3,baz=310,slow=36
DBIC Dimbokro 97.80 278 LR LR 21 38 33.2
comp=Z,170nm,18.0s,MS4.6,baz=69,slow=36
YKA Yellowknife Ar 106.37 13 PP PP 20 58 06.2 -3.3
comp=Z,0.2nm,0.6s,baz=335,slow=7.5,SNR=3.3
PDAR Pinedale Array 125.14 21 PKP PKPdf 20 58 28.6 +0.2
comp=Z,1.0nm,0.7s,slow=1.5,SNR=4.4
PLCA Paso Flores 144.58 200 PKIKP PKPdf 20 59 05.0 +0.8
PLCA pmax pmax
comp=Z,5.0nm,0.7s
PLCA Paso Flores 144.58 200 PKP PKPdf 20 59 05.0 +0.7
comp=Z,5.3nm,0.7s,baz=184,slow=3.8,SNR=9.1

CASC 28 20:40:48.2±1.5, 12.15N×87.79W, h23km±4km, MD3.6, 4C-7D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.92**	**73**	*e*P	Pb	20 41 05.1	-0.2
LEON				*e*S	Sb	20 41 18.5	+1.3
TEL3	**Telica 3**	**1.02**	**65**	⇓*e*P	Pb	20 41 06.5	-0.5
TEL3				*e*S	Sb	20 41 19.1	-1.0
TELN	**Telica**	**1.04**	**64**	*e*P	Pb	20 41 07.0	-0.5
TELN				*e*S	Sb	20 41 22.4	+1.7
MIRN	**Miramar**	**1.10**	**74**	⇑*e*P	Pn	20 41 07.8	-0.4
MIRN				*e*S	Sb	20 41 22.2	-0.1
CNCH	**Conchagua**	**1.12**	**358**	⇓*e*P	Pn	20 41 08.2	-0.5
CNCH				*e*S	Sb	20 41 25.3	+2.2
CNGN	**Cerro Negro**	**1.12**	**72**	*e*P	Pn	20 41 08.1	-0.6
CNGN				*e*S	Sb	20 41 23.9	+0.8
COPN	**Copaltepe**	**1.17**	**88**	⇓*e*P	Pn	20 41 08.8	-0.7
COPN				*e*S	Sb	20 41 25.1	+0.6
MOMJ	**Momotombo**	**1.25**	**78**	⇓*e*P	Pn	20 41 10.2	-0.3
MOMJ				*e*S	Sb	20 41 27.7	+1.0
BLLM	**Bellamira**	**1.36**	**341**	⇓*e*P	Pn	20 41 12.3	+0.2
APYN	**Apoyeque**	**1.41**	**86**	*e*P	Pn	20 41 12.9	+0.1
APYN				*e*S	Sn	20 41 31.0	+0.2
XAVN	**Gruta Xavier**	**1.43**	**90**	⇓*e*P	Pn	20 41 13.0	-0.1
XAVN				*e*S	Sn	20 41 31.0	-0.3
MGAN	**Managua**	**1.51**	**90**	⇑*e*P	Pn	20 41 14.2	0.0
MGAN				*e*S	Sn	20 41 33.4	+0.1
TICN	**Ticuantepe**	**1.53**	**94**	⇑*e*P	Pn	20 41 14.6	+0.1
TICN				*e*S	Sn	20 41 34.6	+0.8
WILN	**Americas 2**	**1.57**	**89**	⇓*e*P	Pn	20 41 14.8	-0.2
WILN				*e*S	Sn	20 41 34.5	-0.3
CAHU	**Cacacuatique**	**1.67**	**346**	*e*P	Pn	20 41 16.5	0.0
CAHU				*e*S	Sn	20 41 38.2	+0.9
LCBS	**La Ceiba**	**1.90**	**323**	*e*P	Pn	20 41 18.2	-1.5
LCBS				*e*S	Sn	20 41 43.3	+0.2
LFRS	**El Faro**	**1.92**	**320**	⇑*e*P	Pn	20 41 18.9	-1.2
LFRS				*e*S	Sn	20 41 43.7	-0.1

BJI ***28*** *20:41:52.6, 7.18N×93.62E, h27km, mB5.1, mb4.7, Ms4.7, Msz4.3*
MOS ***28*** *20:42:00.1±1.2, 7.97N×94.01E, h33km, mb4.9/42, Error ellipse: s-maj=11.1km s-min=6.7km az=106.7*
NEIC ***28*** *20:42:00.5±0.3, 7.89N×94.06E, mb4.8/34, Error ellipse: s-maj=9.7km s-min=7.1km az=53.0*
IDC ***28*** *20:42:02.2±4.1, 7.84N×94.06E, h44km±38km, mb4.2/21, mb1 4.3/22, mb1mx4.3/25, mbtmp4.5/22, ML4.8/1, MS4.1/4, Ms1 4.1/4, ms1mx3.3/26, Error ellipse: s-maj=25.0km s-min=11.8km az=47.0*
ISC 28 20:42:00.4±1.1, 7.91N±0.05×94.13E±0.04, h40km±9km, h29km±2.8km: pP-P, n162, σ1≟23/163, mb4.8/64, MS4.3/8, 5C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.21**	**49**	P	**P**	**20 43 45.0**	**-1.0**
CM31	**Chiang Mai Arr** 9.9nm,0.5s	**11.48**	**24**	*e*Pn	**P**	**20 44 42.8**	**-2.1**
CM31				*e*pPn		20 44 46.8	
CMAR	**Chiang Mai Arr**	**11.48**	**24**	P	**P**	**20 44 46.2**	**+1.3**
CMAR				pmax	pmax		
comp=Z,2.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**11.48**	**24**	P	**P**	**20 44 46.2**	**+1.3**
comp=Z,1.7nm,0.3s,baz=210,slow=14,SNR=26							
PALK	**Pallekele**	**13.33**	**268**	*e*Pn	**P**	**20 45 03.6**	**-5.9**
comp=Z,15nm,0.7s							
VIS	**Vishakhapatnam**	**14.35**	**314**	*e*	**P**	**20 45 21.6**	**-1.3**
VIS				*i*		20 49 18.6	
MDRS	**Chennai**	**14.58**	**292**	*e*	**P**	**20 45 27.0**	**+1.0**
SHL	**Shillong**	**17.69**	**353**	*i*	**P**	**20 46 04.3**	**-1.3**
SHL				*e*		20 49 16.0	
HYB	**Hyderabad**	**17.88**	**303**	*e*P	**P**	**20 46 10.0**	**+2.0**
HYB				*e*S	**S**	**20 49 17.0**	**-6.3**
HYB	**Hyderabad**	**17.88**	**303**	*i* P	**P**	**20 46 10.0**	**+2.0**
HYB				*e*		20 49 17.0	
HYB				*e*S	**S**	**20 49 25.0**	**+1.7**
QIZ	**Qiongzhong**	**18.84**	**52**	P	**P**	**20 46 24.0**	**+4.3**
KMI	**Kunming**	**18.99**	**25**	⇑P	**P**	**20 46 25.4**	**+3.9**
KMI				S	**S**	**20 49 52.1**	**+3.9**
KMI				pmax	pmax		
comp=Z,24nm,1.0s							
KMI	**Kunming**	**18.99**	**25**	⇑P	**P**	**20 46 25.4**	**+3.9**
KMI				pP		20 46 28.5	
KMI				sP		20 46 29.7	
KMI				S	**S**	**20 49 52.1**	**+3.9**
MNGI	**Mangalore**	**19.63**	**286**	*i*	**P**	**20 46 30.9**	**+2.3**
MNGI				*e*		20 50 17.2	
JIRN	**Jiri**	**21.04**	**340**	*e*P	**P**	**20 46 43.0**	**-0.3**
comp=Z,156nm,1.0s,mb5.3							
PKI	**Pulchoki**	**21.23**	**338**	*e*P	**P**	**20 46 45.3**	**+0.1**
comp=Z,218nm,1.2s,mb5.4							
DMN	**Daman**	**21.38**	**338**	*e*P	**P**	**20 46 46.0**	**-0.7**
comp=Z,157nm,0.9s,mb5.4							
KKN	**Kakani**	**21.48**	**338**	*e*P	**P**	**20 46 47.3**	**-0.4**
comp=Z,77nm,0.7s,mb5.2							
KAD	**Karad**	**21.57**	**298**	*e*	**P**	**20 46 49.8**	**+1.1**
KAD				*i*		20 51 33.6	
LSA	**Lhasa**	**21.86**	**353**	P	**P**	**20 46 51.5**	**0.0**
LSA	**Lhasa**	**21.86**	**353**	*e*P	**P**	**20 46 51.4**	**-0.1**
LSA				pmax	pmax		
comp=Z,59nm,0.7s,mb5.1							
LSA	**Lhasa**	**21.86**	**353**	*e*P	**P**	**20 46 51.4**	**-0.1**
comp=Z,59nm,0.7s,mb5.1							
GKN	**Gorkha**	**21.91**	**337**	*e*P	**P**	**20 46 51.7**	**-0.3**
comp=Z,102nm,0.6s,mb5.4							
KOLN	**Koldanda**	**22.13**	**335**	*e*P	**P**	**20 46 54.6**	**+0.5**
comp=Z,101nm,0.8s,mb5.3							
BHPL	**Bhopal**	**22.13**	**315**	*e*	**P**	**20 46 55.7**	**+1.5**
BHPL				*e*		20 46 56.8	
comp=E,14nm,0.7s							
BHPL				*e*		20 46 57.3	
comp=N,12nm,0.7s							
SONA	**Sohna**	**25.86**	**324**	*e*	**P**	**20 47 31.5**	**+1.2**
KUDL	**Kundal**	**26.13**	**323**	*e*	**P**	**20 47 34.6**	**+1.7**
JOSI	**Joshimath**	**26.34**	**331**	*e*	**P**	**20 47 35.6**	**+0.8**
ENH	**Enshi**	**26.50**	**31**	*e*P	**P**	**20 47 37.5**	**+1.3**
comp=N,20nm,0.9s,mb4.6							
ENH				*e*pP	pP	20 47 45.8	-1.0
KHET	**Khetri**	**26.50**	**321**	*e*	**P**	**20 47 35.6**	**-0.6**
DDI	**Dehra Dun**	**26.91**	**328**	*e*	**P**	**20 47 47.2**	**+7.2**
LZH	**Lanzhou**	**29.42**	**16**	*e*P	**P**	**20 48 07.3**	**+4.8**
LZH				AP	pP	20 48 14.0	+0.7
LZH				XP	sP	20 48 18.0	-0.4
LZH				AMB	AMB		
comp=Z,27nm,1.4s,mb4.8							
LZH	**Lanzhou**	**29.42**	**16**	*e*P	**P**	**20 48 07.2**	**+4.7**
LZH				*SP	sP	20 48 17.9	-0.5
LZH				pmax	pmax		
comp=Z,27nm,1.4s,mb4.8							
LZH	**Lanzhou**	**29.42**	**16**	*e*P	**P**	**20 48 07.2**	**+4.7**
comp=Z,27nm,1.4s,mb4.8							
LZH				pP	pP	20 48 14.0	+0.7
LZH				sP	sP	20 48 17.9	-0.5
NJ2	**Nanjing**	**33.25**	**40**	*e*P	**P**	**20 48 37.0**	**+0.8**
NJ2				AP	pP	20 48 48.3	+1.1
NJ2				XP	sP	20 48 51.0	-1.3
NJ2				PP	PP	20 49 49.0	+0.8
NJ2				S	**S**	**20 53 55.0**	**+2.4**
NJ2				XS		20 54 11.3	
NJ2				AMB	AMB		
comp=Z,620nm,5.5s							
NJ2				LR	LR		
comp=N,930nm,15.9s,MS4.8							
NJ2				LR	LR		
comp=E,860nm,13.2s,MS4.8							
NJ2				LR	LR		
comp=Z,310nm,12.4s,MS4.2							
WMQ	**Urumqi**	**36.22**	**352**	*e*P	**P**	**20 49 01.5**	**+0.1**
WMQ				AP	pP	20 49 11.3	-1.2
WMQ				XP	sP	20 49 15.3	-2.2
WMQ				PP	PP	20 50 24.3	-0.6
WMQ				PCP	PcP	20 51 27.5	+1.0
WMQ				S	**S**	**20 54 38.0**	**-0.2**
WMQ				AMB	AMB		
comp=Z,46nm,1.1s,mb5.3							
WMQ				AMB	AMB		
comp=Z,264nm,5.0s							
WMQ				LR	LR		
comp=N,699nm,17.5s,MS4.7							
WMQ				LR	LR		
comp=E,742nm,17.2s,MS4.7							
WMQ				LR	LR		
comp=Z,1μm,17.4s,MS4.7							
BJI	**Beijing**	**37.58**	**28**	P	**P**	**20 49 13.3**	**+0.3**
BJI				pmax	pmax		
comp=Z,5.0nm,1.3s,mb4.1							
BJI				MLR	MLR		
comp=Z,210nm,24.6s,MS3.9							
BJI	**Beijing**	**37.58**	**28**	P	**P**	**20 49 13.3**	**+0.3**
comp=Z,5.0nm,1.3s,mb4.1							
BJI				S	S	20 55 22.9	+24
BJI				LR	LR		
comp=Z,210nm,24.6s,MS3.9							
AAK	**Ala-Archa**	**38.67**	**337**	P	**P**	**20 49 22.7**	**+0.7**
AAK				pmax	pmax		
comp=Z,11nm,1.0s,mb4.5							
AAK	**Ala-Archa**	**38.67**	**337**	*e*P	**P**	**20 49 21.8**	**-0.2**
comp=Z,9.2nm,0.8s,mb4.6							
MKAR	**Makanchi Array**	**40.05**	**347**	*i* P	**P**	**20 49 33.0**	**-0.4**
MKAR				pmax	pmax		
comp=Z,9.0nm,0.8s							
SONM	**Songino Array**	**41.13**	**13**	P	**P**	**20 49 42.6**	**+0.2**
comp=Z,5.1nm,0.9s,mb4.2,baz=195,slow=8.2,SNR=9.3							
SONM				PcP	PcP	20 51 41.9	0.0
comp=Z,1.6nm,0.8s,baz=212,slow=3.9,SNR=3.5							
ULN	**Ulaanbaatar**	**41.31**	**13**	*e*P	**P**	**20 49 43.7**	**-0.1**
ULN				*e**PP	pP	20 49 52.7	-2.3
ULN				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.1							
ULN	**Ulaanbaatar**	**41.31**	**13**	*e*P	**P**	**20 49 43.7**	**-0.1**
comp=Z,5.0nm,0.9s,mb4.1							
ULN				*e*pP	pP	20 49 52.7	-2.3
ZAK	**Zakamensk**	**43.02**	**9**	*e*P	**P**	**20 49 58.1**	**+0.3**
ZAK				*e*		20 51 45.6	
TLY	**Talaya**	**44.34**	**8**	*i* P	**P**	**20 50 09.5**	**+1.1**
KURK	**Kurchatov**	**44.58**	**346**	*e*P	**P**	**20 50 10.1**	**-0.3**
KURK				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.5							
KURK	**Kurchatov**	**44.58**	**346**	*e*P	**P**	**20 50 09.3**	**-1.0**
comp=Z,23nm,1.0s,mb5.0							
MUN	**Mundaring**	**44.92**	**153**	*e*P	**P**	**20 50 11.3**	**-2.1**
comp=Z,11nm,0.7s,mb4.8							
MUN	**Mundaring**	**44.92**	**153**	*e*P	**P**	**20 50 11.3**	**-2.1**
MUN				pmax	pmax		
comp=Z,11nm,0.7s,mb4.8							
KLBR	**Kellerberrin**	**45.31**	**151**	*e*P	**P**	**20 50 20.0**	**+3.5**
comp=Z,95nm,0.7s,mb5.7							
NWAO	**Narrogin (SRO)**	**46.18**	**153**	*e*P	**P**	**20 50 25.1**	**+1.7**
NWAO				pmax	pmax		
comp=Z,20nm,0.8s							
NWAO	**Narrogin (SRO)**	**46.18**	**153**	P	**P**	**20 50 22.5**	**-0.9**
comp=Z,25nm,1.3s,mb5.0,baz=341,slow=12,SNR=6.0							
NWAO	**Narrogin (SRO)**	**46.18**	**153**	*e*P	**P**	**20 50 25.1**	**+1.7**
comp=Z,20nm,0.8s,mb5.1							
HIA	**Hailar**	**46.50**	**23**	*e*P	**P**	**20 50 27.0**	**+1.4**
HIA				pmax	pmax		
comp=Z,14nm,0.9s							
HIA	**Hailar**	**46.50**	**23**	*e*P	**P**	**20 50 27.0**	**+1.4**
comp=Z,14nm,0.9s,mb4.9							
ZAL	**Zalesovo**	**46.52**	**352**	P	**P**	**20 50 26.0**	**+0.3**
ZAL				pmax	pmax		
comp=Z,10.0nm,0.6s							
ZAL				MLR	MLR		
comp=Z,187nm,19.2s							
ZAL	**Zalesovo**	**46.52**	**352**	P	**P**	**20 50 26.0**	**+0.3**
comp=Z,10nm,0.6s,mb4.9,baz=296,slow=7.6,SNR=19							
ZAL				LR	LR	21 12 55.9	
comp=Z,187nm,19.2s,MS4.1,baz=292,slow=40							
NVS	**Novosibirsk**	**47.61**	**351**	*i* P	**P**	**20 50 33.0**	**-1.3**
NVS				*e*S	**S**	**20 57 26.0**	**0.0**
NVS				pmax	pmax		
comp=Z,16nm,1.0s,mb5.0							
NVS				pmax	pmax		
comp=N,11nm,0.9s							
NVS				pmax	pmax		
comp=E,4.0nm,0.9s							
NVS				smax			
comp=N,17nm,1.8s							
NVS				smax			
comp=E,15nm,1.8s							
WRA	**Warramunga Arr**	**48.29**	**126**	*i* P	**P**	**20 50 40.9**	**+0.8**
WRA				pmax	pmax		
comp=Z,6.0nm,0.9s							
WRA	**Warramunga Arr**	**48.29**	**126**	P	**P**	**20 50 38.0**	**-2.0**
comp=Z,6.1nm,0.9s,mb4.7,baz=304,slow=8.6,SNR=7.6							
WRAB	**Tennant Creek**	**48.29**	**126**	*i* P	**P**	**20 50 40.8**	**+0.7**

WRAB Tennant Creek 48.29 126 *eP* **P 20 50 40.4 +0.3**
comp=Z,30nm,1.4s,mb5.1
WB2 Warramunga Arr 48.30 126 *eP* **P 20 50 39.2 -0.9**
BVA0 Borovoye Array 48.96 341 P **P 20 50 43.7 -1.1**
BVA0 pmax pmax
comp=Z,2.0nm,1.3s,mb4.0
BVAR Borovoye Array 48.96 341 P **P 20 50 44.0 -0.8**
comp=Z,4.1nm,0.8s,mb4.5,baz=149,slow=8.6,SNR=8.3
BRVK Borovoye 49.02 341 *eP* **P 20 50 44.2 -1.0**
BRVK pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
BRVK Borovoye 49.02 341 *eP* **P 20 50 44.2 -1.1**
comp=Z,7.4nm,1.1s,mb4.6
RAYN Ar Rayn 49.06 294 P **P 20 50 47.3 +1.3**
comp=Z,118nm,0.9s,SNR=18
MAT Matsushiro 49.15 48 PCP PcP 20 52 12.1 +2.3
CHKZ Chkalovo 49.44 342 P **P 20 50 48.1 -0.4**
CHKZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
ASAR Alice Springs 49.94 130 P **P 20 50 51.1 -1.6**
comp=Z,4.7nm,0.8s,mb4.6,baz=303,slow=6.8,SNR=8.5
ASAR PcP PcP 20 52 11.8 -0.9
comp=Z,1.2nm,0.7s,baz=304,slow=3.6,SNR=1.9
ASAR LR LR 21 13 38.1
comp=Z,120nm,18.1s,MS3.9,baz=41,slow=38
FORT Forrest 50.37 141 *eP* **P 20 50 58.3 +2.4**
comp=Z,46nm,0.7s,mb5.6
BOD Bodaibo 52.12 13 *eP* **P 20 51 07.5 -1.2**
GNI Garni 54.41 314 P **P 20 51 25.2 -0.8**
GNI pmax pmax
comp=Z,2.0nm,0.5s
GNI Garni 54.41 314 P **P 20 51 25.2 -0.8**
comp=Z,1.8nm,0.5s,mb4.3,baz=308,slow=2.1,SNR=3.9
GNI Garni 54.41 314 *eP* **P 20 51 24.9 -1.0**
comp=Z,10nm,1.0s,mb4.7
CLNS Chul'man 54.41 20 *eP* **P 20 51 23.6 -2.1**
CLNS pmax pmax
comp=Z,14nm,0.8s,mb4.9
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,1.0s
SVE Sverdlovsk 55.37 338 *eP* **P 20 51 28.5 -4.2**
SVE pmax pmax
comp=Z,50nm,2.0s,mb5.2
PMG Port Moresby 55.55 107 P **P 20 51 35.1 +0.5**
PMG pmax pmax
comp=Z,14nm,0.7s
PMG Port Moresby 55.55 107 P **P 20 51 35.1 +0.5**
comp=Z,14nm,0.7s,mb5.1,baz=268,slow=7.8,SNR=3.9
PMG Port Moresby 55.55 107 P **P 20 51 35.1 +0.5**
ARU Arti 55.86 337 *i P* **P 20 51 29.6 -6.6**
ARU *e* 20 52 29.6
ARU *eS* **S 20 59 11.9 -7.1**
ARU *eSS* SS 21 03 05.0 +0.1
ARU pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
YSS Yuzh-Sakhalins 56.76 38 P **P 20 51 44.5 +1.6**
YSS pmax pmax
comp=Z,76nm,1.6s,mb5.5
YSS Yuzh-Sakhalins 56.76 38 P **P 20 51 44.5 +1.6**
comp=Z,76nm,1.6s,mb5.5
KIV Kislovodsk 57.29 318 *i P* **P 20 51 45.2 -1.4**
KIV pmax pmax
comp=Z,11nm,1.2s,mb4.8
KIV Kislovodsk 57.29 318 *eP* **P 20 51 45.1 -1.5**
comp=Z,14nm,0.8s,mb5.0
KMBO Kilima Mbogo 57.42 264 *eP* **P 20 51 48.7 +0.7**
KMBO pmax pmax
comp=Z,8.0nm,1.0s
KMBO Kilima Mbogo 57.42 264 P **P 20 51 48.2 +0.2**
comp=Z,7.8nm,1.1s,mb4.7,baz=42,slow=9.6,SNR=6.6
KMBO Kilima Mbogo 57.42 264 *eP* **P 20 51 48.7 +0.8**
comp=Z,7.6nm,1.0s,mb4.7
ASF Jabal al Asfar 58.19 303 P **P 20 51 52.4 -0.7**
comp=Z,2.5nm,0.8s,mb4.3,baz=340,slow=9.1,SNR=5.5
ASF LR LR 21 20 28.4
comp=Z,174nm,18.1s,MS4.2,baz=126,slow=40
CTA Charters Tower 58.33 119 P **P 20 51 55.1 +0.9**
CTA pmax pmax
comp=Z,5.0nm,1.0s
CTA Charters Tower 58.33 119 P **P 20 51 55.1 +0.9**
comp=Z,4.6nm,1.0s,mb4.5,baz=324,slow=8.0,SNR=3.0
CTAO Charters Tower 58.33 119 *eP* **P 20 51 56.8 +2.6**
CTAO pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
CTAO Charters Tower 58.33 119 *eP* **P 20 51 56.8 +2.6**
comp=Z,4.9nm,1.0s,mb4.5
MALT Malatya 58.44 310 *eP* **P 20 51 53.5 -1.2**
MALT *PP pP 20 52 02.1 -4.2
MALT pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
MALT Malatya 58.44 310 *eP* **P 20 51 53.5 -1.2**
comp=Z,2.2nm,0.7s,mb4.3
MALT pP pP 20 52 02.0 -4.3
SOC Sochi 59.15 316 *eP* **P 20 51 56.9 -2.8**
SOC *e* 20 52 42.2
SOC *e* 20 54 10.9
SOC *ePPP PPP 20 55 30.5 -6.6
SOC *eS* **S 21 00 01.0 -1.5**
SOC *e* 21 01 45.1
SOC *eSS* SS 21 03 59.0 +0.3
SOC pmax pmax
comp=Z,16nm,1.0s,mb5.0
SOC pmax pmax
comp=N,10.0nm,0.8s
SOC pmax pmax
comp=E,14nm,0.7s
EIL Elat 59.40 300 *eP* **P 20 51 59.8 -1.8**
comp=E,9.8nm,1.1s,mb4.8
YAK Yakutsk 59.97 18 *i P* **P 20 52 04.2 -0.8**
YAK pmax pmax
comp=Z,22nm,1.1s,mb5.1
YAK Yakutsk 59.97 18 *eP* **P 20 52 04.1 -0.9**
comp=Z,29nm,0.9s,mb5.3
STKA Stephens Creek 60.13 134 P **P 20 52 04.2 -2.4**
comp=Z,4.1nm,1.1s,mb4.4,baz=219,slow=10,SNR=2.6
STKA LR LR 21 18 32.6
comp=Z,248nm,21.2s,MS4.3,baz=205,slow=36
BRTR Keskin Array B 62.40 311 P **P 20 52 19.7 -2.1**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 62.40 311 P **P 20 52 19.6 -2.1**
comp=Z,2.7nm,0.7s,mb4.5,baz=126,slow=7.2,SNR=8.4
MBAR Mbarara 63.75 265 *eP* **P 20 52 29.4 -1.8**
MBAR pmax pmax
comp=Z,13nm,1.3s,mb4.8
MBAR Mbarara 63.75 265 *eP* **P 20 52 29.4 -1.8**
comp=Z,13nm,1.3s,mb4.8
MOS Moscow 65.05 329 *eP* **P 20 52 30.0 -8.8**
OBN Obninsk 65.35 328 *i P* **P 20 52 37.1 -3.7**
OBN pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
OBN Obninsk 65.35 328 *eP* **P 20 52 34.9 -5.9**
comp=Z,13nm,0.8s,mb5.0
MA2 Magadan 66.74 28 *i P* **P 20 52 50.2 +0.7**
TIXI Tiksi 67.20 11 *i P* **P 20 52 51.1 -1.2**
TIXI pmax pmax
comp=Z,34nm,1.4s,mb5.2
TIXI MLR MLR
comp=Z,218nm,13.0s,MS4.6
AKASG Malin Array Be 68.12 322 P **P 20 52 55.9 -2.5**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 68.12 322 P **P 20 52 55.9 -2.5**
comp=Z,1.6nm,0.6s,mb4.3,baz=87,slow=4.7,SNR=8.8
IDI Anoyia 68.54 305 P **P 20 53 00.3 -0.9**
comp=Z,7.9nm,0.7s,mb4.8,baz=102,slow=8.0,SNR=7.2
LSZ Lusaka 69.27 250 *eP* **P 20 53 06.9 +0.9**
LSZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
LSZ Lusaka 69.27 250 *eP* **P 20 53 06.9 +0.8**
comp=Z,8.1nm,1.0s,mb4.6
KOLS Kolonicke sedl 72.17 319 *eP* **P 20 53 23.2 +0.2**
FINES FINESS Array B 72.68 332 P **P 20 53 25.3 -0.4**
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 72.68 332 P **P 20 53 25.2 -0.5**
comp=Z,6.2nm,0.7s,mb4.7,baz=117,slow=8.5,SNR=12
CRVS Cervenica-Dubn 72.70 319 *eP* **P 20 53 27.7 +1.6**
CRVS *e* 20 53 32.9
OJC Ojcow 73.94 320 *eP* **P 20 53 33.3 -0.1**
LBTB Lobatse 74.25 241 *eP* **P 20 53 36.8 +1.1**
LBTB pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LBTB Lobatse 74.25 241 *eP* **P 20 53 36.8 +1.1**
comp=Z,7.4nm,0.8s,mb4.7
VYHS Vyhne 74.38 318 *eP* **P 20 53 37.4 +1.5**
VYHS *epP* pP 20 53 45.0 -2.8
ARCES ARCESS Array B 75.23 340 P **P 20 53 40.3 -0.2**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 75.23 340 P **P 20 53 40.3 -0.1**
comp=Z,5.4nm,0.9s,mb4.5,baz=90,slow=6.1,SNR=4.5
MORC Moravsky Berou 75.34 319 *eP* **P 20 53 41.0 -0.5**
MORC pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MORC Moravsky Berou 75.34 319 *eP* **P 20 53 41.0 -0.5**
comp=Z,4.9nm,0.9s,mb4.4
ZST Bratislava 75.50 318 *eP* **P 20 53 38.2 -4.2**
ZST *e* 20 53 44.0
ZST Bratislava 75.50 318 *e* **P 20 53 38.2 -4.2**
ZST Bratislava 75.50 318 *eP* **P 20 53 44.0 +1.6**
BRG Berggiesshubel 77.72 320 *eP* **P 20 53 55.4 +0.5**
BRG *e* pP 20 54 05.6 -1.2
BRG pmax pmax
comp=Z,18nm,1.7s,mb4.7
BRG Berggiesshubel 77.72 320 *eP* **P 20 53 55.4 +0.5**
comp=Z,18nm,1.7s,mb4.7
BRG *e* pP 20 54 05.6 -1.2
GERES GERESS Array B 77.80 318 P **P 20 53 55.5 +0.2**
GERES pmax pmax
comp=Z,3.0nm,0.7s
GERES GERESS Array B 77.80 318 P **P 20 53 55.5 +0.1**
comp=Z,3.1nm,0.7s,mb4.3,baz=90,slow=5.3,SNR=11
RUE Ruedersdorf 77.90 322 *eP* **P 20 53 55.3 -0.5**
comp=Z,11nm,0.6s,mb5.0
CLL Collm 78.33 321 *i P* **P 20 54 00.3 +2.1**
CLL *e* 20 54 09.0
CLL pmax pmax
comp=Z,13nm,1.2s,mb4.7
CLL Collm 78.33 321 *i P* **P 20 54 00.3 +2.1**
comp=Z,13nm,1.2s,mb4.7
CLL *e* 20 54 09.0
CLL Collm 78.33 321 P **P 20 54 00.3 +2.1**
comp=Z,logA/T=1.0,mb4.7
CLL *e*SP sP 20 54 09.0 -5.5
MOX Moxa 79.19 320 *eP* **P 20 54 04.9 +2.0**
MOX Moxa 79.19 320 *i P* **P 20 54 04.9 +2.0**
GRA1 Grafenberg Arr 79.44 319 *eP* **P 20 54 04.6 +0.3**
comp=Z,4.0nm,0.8s,mb4.4
GRF Grafenberg Arr 79.44 319 *eP* **P 20 54 04.6 +0.3**
GRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
GRF Grafenberg Arr 79.44 319 *eP* **P 20 54 04.6 +0.3**
GRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
GRF Grafenberg Arr 79.44 319 *eP* **P 20 54 04.6 +0.3**
comp=Z,4.0nm,0.8s,mb4.4
NB2 NORSAR Subarra 79.70 331 P **P 20 54 04.6 -0.9**
comp=Z,2.9nm,0.7s,mb4.3,baz=96,slow=5.0
NB2 NORSAR Subarra 79.70 331 P **P 20 54 04.6 -0.9**
NB2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
NOA NORSAR Array B 79.70 331 P **P 20 54 05.0 -0.5**
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA NORSAR Array B 79.70 331 P **P 20 54 05.0 -0.5**
comp=Z,3.5nm,0.7s,mb4.4,baz=92,slow=5.7,SNR=12
LPG La Plagne 82.59 315 *eP* **P 20 54 20.4 -0.5**
comp=Z,31nm,1.0s,mb5.0
LPG La Plagne 82.59 315 *eP* **P 20 54 20.4 -0.5**
LPG pmax pmax
comp=Z,16nm,1.0s,mb5.0
SYO Syowa Base 85.43 197 ⇑PcP PcP 20 54 40.4 +2.2
ESDC Sonseca Array 91.19 310 P **P 20 55 03.1 +0.1**
comp=Z,1.4nm,0.7s,mb4.4,baz=61,slow=4.0,SNR=4.5
IMA Indian Mountai 91.60 22 *eP* **P 20 55 05.5 +1.3**
ILAR Eielson Array 94.72 22 P **P 20 55 18.4 0.0**
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR Eielson Array 94.72 22 P **P 20 55 18.4 0.0**
comp=Z,0.5nm,0.9s,mb3.9,baz=222,slow=7.2,SNR=3.9
YKA Yellowknife Ar 106.40 13 PP PP 21 00 33.6 -5.0
comp=Z,0.3nm,0.7s,baz=332,slow=7.4,SNR=5.9
NVAR Mina Array Bea 124.90 31 PKP PKPdf 21 00 59.2 +2.4
comp=Z,1.1nm,0.8s,baz=333,slow=2.0,SNR=2.9
PDAR Pinedale Array 125.14 21 PKP PKPdf 21 00 59.0 +1.8
comp=Z,1.3nm,0.8s,baz=45,slow=2.1,SNR=7.1
TXAR Lajitas Array 139.20 24 PKIKP 21 01 28.0
comp=Z,1.0nm,0.9s,baz=160,slow=1.6,SNR=4.5
PLCA Paso Flores 144.57 200 PKIKP PKPdf 21 01 35.1 +2.1
PLCA pmax pmax
comp=Z,9.0nm,0.9s
PLCA Paso Flores 144.57 200 PKP PKPdf 21 01 35.1 +2.1
comp=Z,8.7nm,0.9s,baz=136,slow=1.6,SNR=11

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*BJI **28** 20:57:50.8, 7.30N×93.87E, h30km, mb4.2*
*IDC **28** 20:57:54.0±1.0, 8.01N×93.75E, mb3.8/9, mb1 3.9/10, mb1mx3.8/19, mbtmp3.7/10, ML3.4/1, Error ellipse: s-maj=39.9km s-min=19.6km az=52.0*
*NEIC **28** 20:57:58.3±0.7, 7.97N×93.74E, h30km, mb4.5/4, Error ellipse: s-maj=19.6km s-min=11.6km az=65.0*
ISC 28 20:57:57.3±0.7, 8.10N±0.09×94.0E±0.1, h30km, n24, σ1§00/24, mb4.2/16, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.37**	**25**	Pn	**P**	**21 00 41.2**	**+0.3**
	0.1nm,0.3s,baz=210,slow=14,SNR=11						
KMI	**Kunming**	**18.88**	**25**	⇑P	**P**	**21 02 20.8**	**+3.0**
	7.0nm,1.3s						
JIRN	**Jiri**	**20.80**	**340**	*e*P	**P**	**21 02 38.2**	**-0.6**
	25nm,0.9s						
PKI	**Pulchoki**	**21.00**	**338**	*e*P	**P**	**21 02 40.7**	**-0.1**
	82nm,1.3s						
DMN	**Daman**	**21.14**	**338**	*e*P	**P**	**21 02 42.3**	**0.0**
	29nm,0.9s,mb4.6						
KKN	**Kakani**	**21.24**	**338**	*e*P	**P**	**21 02 43.8**	**+0.5**
	55nm,1.2s,mb4.8						
LSA	**Lhasa**	**21.65**	**353**	*e*P	**P**	**21 02 46.7**	**-0.6**
	12nm,0.7s,mb4.4						
GKN	**Gorkha**	**21.68**	**337**	*e*P	**P**	**21 02 47.5**	**-0.1**
	23nm,0.8s,mb4.7						
KOLN	**Koldanda**	**21.89**	**335**	*e*P	**P**	**21 02 49.8**	**0.0**
	100nm,1.4s,mb5.0						
SONM	**Songino Array**	**40.98**	**13**	P	**P**	**21 05 38.8**	**-0.3**
	1.1nm,1.1s,mb3.4,baz=191,slow=7.3,SNR=6.5						
SONM				PcP	PcP	21 07 39.1	-0.4
	0.5nm,0.9s,baz=205,slow=2.6,SNR=3.0						
KURK	**Kurchatov**	**44.35**	**346**	*e*P	**P**	**21 06 05.7**	**-0.9**
	9.1nm,1.0s,mb4.5						
ZAL	**Zalesovo**	**46.30**	**352**	P	**P**	**21 06 22.2**	**+0.1**
	3.0nm,1.1s,mb4.2,baz=288,slow=5.1,SNR=11						
ZAL	**Zalesovo**	**46.30**	**352**	P	**P**	**21 06 22.2**	**+0.1**
WRA	**Warramunga Arr**	**48.52**	**126**	P	**P**	**21 06 40.2**	**+0.3**
	0.8nm,0.9s,mb3.7,baz=303,slow=8.6,SNR=4.2						
WRAB	**Tennant Creek**	**48.52**	**126**	*e*P	**P**	**21 06 38.6**	**-1.3**
	5.6nm,0.9s,mb4.6						
BVAR	**Borovoye Array**	**48.72**	**341**	P	**P**	**21 06 40.8**	**-0.2**
	0.8nm,0.7s,mb3.8,baz=220,slow=37,SNR=4.5						
ASAR	**Alice Springs**	**50.18**	**130**	P	**P**	**21 06 52.8**	**+0.2**
	1.0nm,1.1s,mb3.8,baz=320,slow=7.0,SNR=3.5						
ASAR	**Alice Springs**	**50.18**	**130**	P	**P**	**21 06 52.8**	**+0.2**
KMBO	**Kilima Mbogo**	**57.29**	**263**	P	**P**	**21 07 47.4**	**+2.2**
	1.2nm,0.9s,mb3.9,baz=48,slow=15,SNR=4.3						
KMBO	**Kilima Mbogo**	**57.29**	**263**	P	**P**	**21 07 47.4**	**+2.2**
BRTR	**Keskin Array B**	**62.16**	**311**	P	**P**	**21 08 16.1**	**-2.3**
	0.6nm,0.7s,mb3.8,baz=127,slow=7.2,SNR=3.0						
FINES	**FINESS Array B**	**72.44**	**332**	P	**P**	**21 09 22.1**	**-0.5**
	1.6nm,0.8s,mb4.0,baz=80,slow=8.5,SNR=3.7						
GERES	**GERESS Array B**	**77.55**	**318**	P	**P**	**21 09 52.1**	**0.0**
	0.9nm,0.7s,mb3.8,baz=90,slow=5.3,SNR=9.4						
CLL	**Collm**	**78.09**	**321**	P	**P**	**21 09 57.0**	**+2.1**

IGQ 28 21:03:01.1, 0.75S×81.15W, h11km±5km, mb4.2, 1C-2D, Error ellipse: s-maj=7.8km s-min=5.1km az=17.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.68**	**116**	⇑P	Pb	21 03 13.3	-1.1
JAMA	**Jama**	**1.06**	**63**	P	Pb	21 03 21.5	+0.5
JAMA				S	Sb	21 03 35.1	+0.3
JUA2	**San Juan 2**	**2.60**	**78**	P	Pn	21 03 44.8	+0.9
PINO	**Pino**	**2.61**	**77**	⇓P	Pn	21 03 44.8	+0.8
TERV	**Terraza Guagua**	**2.61**	**77**	P	Pn	21 03 45.2	+1.2
IGUA	**Igualata**	**2.62**	**106**	P	Pn	21 03 45.6	+1.5
YANA	**Yana**	**2.66**	**76**	P	Pn	21 03 45.3	+0.6
NAS1	**Nasa**	**2.68**	**88**	P	Pn	21 03 47.3	+2.4
VC1	**Cotopaxi 1**	**2.75**	**88**	P	Pn	21 03 48.2	+2.2
PISA	**Pisayambo**	**2.79**	**96**	⇓P	Pn	21 03 50.1	+3.6
TAMB	**Tambo**	**2.79**	**89**	P	Pn	21 03 49.0	+2.5
RETU	**Refugio**	**2.80**	**104**	P	Pn	21 03 49.3	+2.7
ARRY	**Arrayan**	**2.80**	**106**	P	Pn	21 03 48.2	+1.6
ARRY				S	Sn	21 04 20.4	-0.4
ULBA	**Ulba**	**2.83**	**104**	P	Pn	21 03 49.6	+2.5
COTA	**Cotacachi**	**3.01**	**69**	P	Pn	21 03 50.7	+1.0
CAYR	**Refugio Cayamb**	**3.24**	**76**	P	Pn	21 03 55.9	+3.0
CAYR				S	Sn	21 04 33.9	+2.0
CAYA	**Cayambe**	**3.27**	**76**	P	Pn	21 03 55.5	+2.2

IDC 28 21:03:24.9±7.5, 23.21N×142.61E, h75km±83km, mb3.5/5, mb1 3.8/6, mb1mx3.4/21, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=154.5km s-min=18.9km az=103.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.89**	**354**	P	**P**	**21 04 22.7**	**-1.0**
	5.4nm,0.3s,baz=304,slow=17,SNR=3.1						
CBIJ				S	S	21 05 07.4	-1.1
	4.6nm,0.3s,baz=310,slow=23,SNR=6.4						
WRA	**Warramunga Arr**	**43.64**	**191**	P	P	21 11 22.4	-1.4
	0.5nm,0.4s,baz=15,slow=9.1,SNR=5.4						
STKA	**Stephens Creek**	**54.78**	**181**	P	P	21 12 46.0	-3.2
	12nm,1.5s,baz=6.3,slow=9.2,SNR=3.4						
ILAR	**Eielson Array**	**60.95**	**28**	P	P	21 13 29.2	-2.9
	0.9nm,0.7s,baz=254,slow=5.6,SNR=9.4						
YKA	**Yellowknife Ar**	**75.38**	**28**	P	P	21 15 00.4	-1.2
	0.5nm,0.4s,baz=292,slow=5.7,SNR=10						
NVAR	**Mina Array Bea**	**82.63**	**51**	P	P	21 15 40.9	-0.5
	1.0nm,0.9s,baz=260,slow=5.7,SNR=3.6						

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*IDC **28** 21:04:11.5±0.7, 8.12N×94.13E, h18km±3km, mb4.1/17, mb1 4.2/18, mb1mx4.2/21, mbtmp4.2/18, ML4.5/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/28, Error ellipse: s-maj=25.5km s-min=14.7km az=51.0*
*NEIC **28** 21:04:12.4±0.4, 8.31N×94.35E, mb4.6/11, Error ellipse: s-maj=11.1km s-min=9.4km az=223.0*
*BJI **28** 21:04:13.1, 8.06N×94.02E, h42km, mB4.9, mb4.5, Ms4.4, Msz4.0*
ISC 28 21:04:10.2±0.5, 8.19N±0.07×94.32E±0.07, h22km, h22km±.8km: pP-P, n59, σ1§13/55, mb4.5/32, MS4.0/2, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.15**	**23**	*e*Pn	**P**	**21 06 48.5**	**-3.2**
	3.8nm,0.5s						
CM31				*ep*Pn		21 06 54.1	
CMAR	**Chiang Mai Arr**	**11.15**	**23**	Pn	**P**	**21 06 53.9**	**+2.3**
	1.0nm,0.3s,baz=212,slow=14,SNR=43						
PALK	**Pallekele**	**13.53**	**267**	*e*Pn	**P**	**21 07 24.3**	**+0.6**
VIS	**Vishakhapatnam**	**14.29**	**313**	*e*P	**P**	**21 07 33.9**	**+0.3**
VIS				*e*		21 07 36.5	
	comp=Z,63nm,0.9s						
VIS				*e*		21 11 28.1	
BWNR	**Bhubaneshwar**	**14.58**	**326**	*e*P	**P**	**21 07 33.9**	**-3.5**
BWNR				*e*		21 07 37.9	
	comp=Z,25nm,1.3s						
HYB	**Hyderabad**	**17.89**	**302**	*e*P	**P**	**21 08 21.0**	**+1.4**
HYB	**Hyderabad**	**17.89**	**302**	*i P*	**P**	**21 08 21.0**	**+1.4**
HYB				*e*S	**S**	**21 11 40.5**	**+4.7**
KMI	**Kunming**	**18.65**	**25**	P	**P**	**21 08 34.3**	**+5.3**
	comp=Z,0.2nm,7.8s						
KMI				pP		21 08 40.1	
JIRN	**Jiri**	**20.83**	**339**	*e*P	**P**	**21 08 53.4**	**+0.3**
	comp=Z,95nm,1.1s						
PKI	**Pulchoki**	**21.04**	**337**	*e*P	**P**	**21 08 55.8**	**+0.6**
	comp=Z,46nm,0.6s,mb5.0						
DMN	**Daman**	**21.19**	**337**	*e*P	**P**	**21 08 56.4**	**-0.3**
KKN	**Kakani**	**21.28**	**337**	*e*P	**P**	**21 08 57.3**	**-0.4**
LSA	**Lhasa**	**21.60**	**352**	*e*P	**P**	**21 09 00.3**	**-0.5**
	comp=Z,18nm,0.8s,mb4.6						
KAD	**Karad**	**21.61**	**297**	*e*P	**P**	**21 09 01.4**	**+0.4**
KAD				*e*		21 09 04.1	
	comp=Z,21nm,1.4s						
GKN	**Gorkha**	**21.72**	**336**	*e*P	**P**	**21 09 01.8**	**-0.3**
	comp=Z,68nm,0.7s,mb5.2						
KOLN	**Koldanda**	**21.95**	**334**	*e*P	**P**	**21 09 04.9**	**+0.5**
	comp=Z,42nm,0.7s,mb5.0						
BHPL	**Bhopal**	**22.06**	**315**	*e*P	**P**	**21 09 06.1**	**+0.6**
BHPL				*e*		21 09 12.1	
	comp=Z,23nm,0.7s						
NDI	**New Delhi**	**25.98**	**324**	*e*	**P**	**21 09 45.5**	**+2.1**
ENH	**Enshi**	**26.16**	**31**	*e*P	**P**	**21 09 45.2**	**+0.2**
	comp=Z,14nm,0.8s,mb4.5						
ENH				*ep*P	pP	21 09 52.9	+1.5
DDI	**Dehra Dun**	**26.77**	**327**	*e*	**P**	**21 09 53.0**	**+2.4**
XAN	**Xi'an**	**29.03**	**26**	P	**P**	**21 10 11.8**	**+0.7**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
WMQ	**Urumqi**	**35.96**	**352**	*e*P	**P**	**21 11 11.5**	**+0.1**
WMQ				AP	pP	21 11 18.8	+0.9
WMQ				PP	PP	21 12 32.8	-0.4
WMQ				PCP	PcP	21 13 39.0	+0.8
WMQ				S	**S**	**21 16 46.5**	**-1.4**
WMQ				AMB	AMB		
	comp=Z,13nm,0.5s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,155nm,4.8s						
WMQ				LR	LR		
	comp=N,453nm,15.6s,MS4.5						
WMQ				LR	LR		
	comp=E,333nm,15.1s,MS4.5						
WMQ				LR	LR		
	comp=Z,633nm,15.9s,MS4.5						
AAK	**Ala-Archa**	**38.48**	**336**	*e*P	**P**	**21 11 31.7**	**-0.9**
	comp=Z,2.8nm,0.8s,mb4.0						
SONM	**Songino Array**	**40.81**	**12**	P	**P**	**21 11 53.1**	**+1.3**
	comp=Z,1.5nm,0.8s,mb3.6,baz=194,slow=10,SNR=11						
SONM				PcP	PcP	21 13 53.1	-0.2
	comp=Z,0.4nm,0.7s,baz=188,slow=4.4,SNR=3.8						
KURK	**Kurchatov**	**44.35**	**346**	*e*P	**P**	**21 12 18.7**	**-1.9**
	comp=Z,11nm,1.1s,mb4.5						
ZAL	**Zalesovo**	**46.26**	**352**	P	**P**	**21 12 35.4**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.2,baz=292,slow=8.6,SNR=9.1						
NWAO	**Narrogin (SRO)**	**46.35**	**153**	P	**P**	**21 12 36.9**	**0.0**
	comp=Z,8.4nm,1.1s,mb4.6,baz=40,slow=13,SNR=2.8						
WRA	**Warramunga Arr**	**48.30**	**126**	P	**P**	**21 12 51.6**	**-0.7**
	comp=Z,1.0nm,0.5s,mb4.1,baz=305,slow=9.2,SNR=7.1						
BVAR	**Borovoye Array**	**48.75**	**341**	P	**P**	**21 12 53.4**	**-1.9**
	comp=Z,1.6nm,0.8s,mb4.1,baz=135,slow=10,SNR=6.8						
BVAR				PcP	PcP	21 14 21.4	+0.9
	comp=Z,0.4nm,0.5s,baz=282,slow=41,SNR=2.3						
CHKZ	**Chkalovo**	**49.23**	**342**	*e*P	**P**	**21 12 58.4**	**-0.6**
	comp=Z,8.5nm,0.9s,mb4.8						
ASAR	**Alice Springs**	**49.98**	**130**	P	**P**	**21 13 04.9**	**-0.3**
	comp=Z,0.9nm,0.6s,mb4.0,baz=313,slow=7.8,SNR=7.3						
ASAR				PcP	PcP	21 14 26.4	+1.1
	comp=Z,0.8nm,0.7s,baz=311,slow=3.8,SNR=3.8						
GNI	**Garni**	**54.34**	**314**	LR	LR	21 37 50.3	
	comp=Z,61nm,21.4s,MS3.6,baz=282,slow=37						
PMG	**Port Moresby**	**55.45**	**107**	P	**P**	**21 13 47.0**	**+0.9**
	comp=Z,7.6nm,0.9s,mb4.8,baz=16,slow=2.7,SNR=2.7						
PMG	**Port Moresby**	**55.45**	**107**	P	**P**	**21 13 47.0**	**+0.9**
KMBO	**Kilima Mbogo**	**57.64**	**263**	P	**P**	**21 13 59.8**	**-2.0**
	comp=Z,1.0nm,0.6s,mb4.0,baz=230,slow=23,SNR=4.6						
KMBO	**Kilima Mbogo**	**57.64**	**263**	*e*P	**P**	**21 14 02.3**	**+0.6**
	comp=Z,1.5nm,0.8s,mb4.1						
KMBO				*ep*P	pP	21 14 09.4	+0.9
BRTR	**Keskin Array B**	**62.36**	**311**	P	**P**	**21 14 33.8**	**0.0**
	comp=Z,2.4nm,1.0s,mb4.3,baz=124,slow=6.4,SNR=6.5						
AKASG	**Malin Array Be**	**68.02**	**322**	P	**P**	**21 15 09.9**	**-0.2**
	comp=Z,1.7nm,0.6s,mb4.2,baz=90,slow=4.8,SNR=5.4						
IDI	**Anoyia**	**68.53**	**305**	P	**P**	**21 15 13.0**	**-0.5**
	comp=Z,7.2nm,0.8s,mb4.7,baz=183,slow=5.9,SNR=3.0						
JOF	**Joensuu**	**70.64**	**334**	*ep*	**P**	**21 15 24.5**	**-1.4**
	comp=Z,6.7nm,0.7s,mb4.7						

MORC Moravsky Berou 75.25 319 *eP* **P 21 15 54.0 +0.7**
comp=Z,5.8nm,1.1s,mb4.4
GERES GERESS Array B 77.71 318 P **P 21 16 07.1 0.0**
comp=Z,3.0nm,0.6s,mb4.4,baz=90,slow=4.0,SNR=16
KHC Kasperske Hory 77.80 318 *eP* **P 21 16 05.0 -2.6**
KHC *e* 21 16 09.5
KHC Kasperske Hory 77.80 318 *eP* **P 21 16 05.0 -2.6**
KHC x x 21 16 09.5
CLL Collm 78.23 321 *eP* pP 21 16 16.0 -0.9
CLL Collm 78.23 321 *e*PP pP 21 16 16.0 -0.9
NB2 NORSAR Subarra 79.54 331 P **P 21 16 15.9 -0.9**
comp=Z,6.9nm,1.0s,mb4.5,baz=96,slow=5.0
NOA NORSAR Array B 79.54 331 P **P 21 16 16.1 -0.7**
comp=Z,1.0nm,0.7s,mb3.9,baz=276,slow=19,SNR=3.8
NOA pP pP 21 16 22.7 -1.1
comp=Z,3.5nm,0.7s,baz=93,slow=5.6,SNR=12
LPG La Plagne 82.52 315 *eP* **P 21 16 34.0 +1.2**
comp=Z,18nm,0.8s,mb4.9
ESDC Sonseca Array 91.15 310 P **P 21 17 15.0 -0.1**
comp=Z,1.7nm,0.6s,mb4.6,baz=57,slow=3.9,SNR=4.5
ESDC pP pP 21 17 21.5 -0.7
comp=Z,1.6nm,0.6s,baz=69,slow=4.2,SNR=8.9
IMA Indian Mountai 91.26 22 *eP* **P 21 17 17.4 +2.5**
IMA *e*pP pP 21 17 24.4 +2.4
ILAR Eielson Array 94.38 22 P **P 21 17 32.2 +2.9**
comp=Z,0.6nm,0.8s,mb4.1,baz=335,slow=5.6,SNR=4.2
PDAR Pinedale Array 124.81 21 PKP PKPdf 21 23 11.1 -2.2
comp=Z,0.2nm,0.7s,baz=297,slow=2.0,SNR=1.9
TXAR Lajitas Array 138.86 24 PKiKP 21 23 41.5
comp=Z,0.1nm,0.2s,baz=108,slow=4.0,SNR=2.4
PLCA Paso Flores 144.91 200 PKP PKPdf 21 23 49.5 -0.9
comp=Z,5.5nm,0.9s,baz=76,slow=0.4,SNR=4.7

IGQ 28 21:11:44.0, 1.03N±0.81.33W, h4km±10km, mb4.1, 3D, Error ellipse: s-maj=10.8km s-min=9.2km az=145.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.79**	**92**	P	Pg	21 11 58.6	-1.0
HOJA				S	Sg	21 12 08.8	-1.3
IGUA	**Igualata**	**2.73**	**100**	P	Pn	21 12 30.4	+1.0
TERV	**Terraza Guagua**	**2.85**	**73**	P	Pn	21 12 32.1	+1.0
PINO	**Pino**	**2.86**	**72**	P	Pn	21 12 31.9	+0.7
NAS1	**Nasa**	**2.88**	**82**	P	Pn	21 12 33.9	+2.4
YANA	**Yana**	**2.90**	**72**	P	Pn	21 12 32.7	+0.9
ARRY	**Arrayan**	**2.91**	**99**	P	Pn	21 12 33.3	+1.3
PISA	**Pisayambo**	**2.94**	**91**	P	Pn	21 12 35.2	+2.8
VC1	**Cotopaxi 1**	**2.95**	**83**	P	Pn	21 12 34.7	+2.2
TAMB	**Tambo**	**2.98**	**84**	P	Pn	21 12 34.7	+1.8
ANTI	**Antisana**	**3.22**	**80**	P	Pn	21 12 38.8	+2.5
COTA	**Cotacachi**	**3.28**	**66**	⇓P	Pn	21 12 38.5	+1.3
CAYR	**Refugio Cayamb**	**3.48**	**73**	⇓P	Pn	21 12 42.9	+2.8
CAYA	**Cayambe**	**3.51**	**72**	⇓P	Pn	21 12 43.2	+2.7

*NEIC **28** 21:13:56.3±0.5, 7.71N×93.92E, h30km, mb4.2/4, Error ellipse: s-maj=16.3km s-min=10.6km az=64.0*
*IDC **28** 21:13:58.9±5.6, 7.75N×94.01E, h49km±53km, mb3.6/9, mb1 3.8/10, mb1mx3.7/19, mbtmp3.9/10, ML3.7/1, Error ellipse: s-maj=40.3km s-min=22.2km az=56.0*
ISC 28 21:13:54.7±0.7, 7.67N±0.10×94.0E±0.1, h30km, n22, σ1§01/21, mb4.1/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.73**	**23**	P	P	21 16 43.0	-0.3
	0.1nm,0.3s,baz=211,slow=14,SNR=9.7						
JIRN	**Jiri**	**21.23**	**340**	*eP*	P	21 18 40.6	+0.1
	19nm,0.9s,mb4.4						
PKI	**Pulchoki**	**21.41**	**339**	*eP*	P	21 18 43.7	+1.3
	31nm,1.1s,mb4.6						
DMN	**Daman**	**21.56**	**338**	*eP*	P	21 18 45.6	+1.7
KKN	**Kakani**	**21.66**	**339**	*eP*	P	21 18 46.3	+1.4
	13nm,0.8s,mb4.4						
LSA	**Lhasa**	**22.08**	**353**	*eP*	P	21 18 48.6	-0.5
	4.5nm,0.6s,mb4.1						
GKN	**Gorkha**	**22.09**	**337**	*eP*	P	21 18 50.0	+0.8
KOLN	**Koldanda**	**22.30**	**335**	*eP*	P	21 18 52.2	+0.9
SONM	**Songino Array**	**41.38**	**13**	P	P	21 21 39.4	-0.4
	0.5nm,0.7s,mb3.2,baz=196,slow=9.7,SNR=5.0						
KURK	**Kurchatov**	**44.78**	**346**	*eP*	P	21 22 05.6	-1.8
	1.9nm,0.9s,mb3.9						
ZAL	**Zalesovo**	**46.73**	**353**	P	P	21 22 22.6	-0.3
	2.0nm,0.4s,mb4.4,baz=313,slow=6.2,SNR=9.9						
WRA	**Warramunga Arr**	**48.22**	**125**	P	P	21 22 35.0	0.0
	0.6nm,0.8s,mb3.6,baz=305,slow=8.5,SNR=3.0						
WRAB	**Tennant Creek**	**48.23**	**125**	*eP*	P	21 22 35.4	+0.4
CHKZ	**Chkalovo**	**49.63**	**342**	*eP*	P	21 22 43.9	-1.6
	2.2nm,0.9s,mb4.2						
ASAR	**Alice Springs**	**49.86**	**130**	P	P	21 22 48.6	+1.1
	0.3nm,0.8s,mb3.4,baz=136,slow=50,SNR=3.1						
KMBO	**Kilima Mbogo**	**57.31**	**264**	P	P	21 23 42.1	-0.5
	0.5nm,0.7s,mb3.7,baz=226,slow=19,SNR=2.1						
FINES	**FINESS Array B**	**72.84**	**332**	P	P	21 25 21.4	-0.9
	1.2nm,0.6s,mb4.0,baz=90,slow=7.6,SNR=7.9						
KAF	**Kangasniemi**	**72.92**	**333**	*ep*	P	21 25 20.2	-2.6
	7.2nm,1.3s,mb4.4						
KEV	**Kevo**	**74.99**	**341**	*ep*	PcP	21 25 51.8	+3.2
GERES	**GERESS Array B**	**77.91**	**318**	P	P	21 25 52.1	+0.6
	1.0nm,0.8s,mb3.8,baz=90,slow=4.0,SNR=7.5						
HFS	**Hagfors**	**78.58**	**330**	P	P	21 25 54.9	0.0
	2.4nm,0.8s,mb4.2,baz=112,slow=8.0,SNR=6.4						
NOA	**NORSAR Array B**	**79.86**	**331**	P	P	21 26 01.4	-0.4
	1.0nm,0.7s,mb3.9,baz=89,slow=6.0,SNR=3.6						

*BJI **28** 21:20:05.8, 9.54N×92.76E, h30km, mB4.3, mb4.6*
*NEIC **28** 21:20:14.7±0.5, 10.30N×92.66E, h30km, mb4.5/3, Error ellipse: s-maj=11.5km s-min=9.4km az=69.0*
*IDC **28** 21:20:19.0±7.4, 10.47N×92.87E, h62km±62km, mb3.8/11, mb1 4.0/12, mb1mx3.8/20, mbtmp4.1/12, ML4.4/1, Error ellipse: s-maj=56.7km s-min=17.9km az=55.0*
ISC 28 21:20:12.9±0.7, 10.33N±0.09×92.7E±0.1, h30km, n19, σ0§57/19, mb4.1/13, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**10.07**	**36**	*eP*	P	21 22 38.7	-0.2
	12nm,0.7s						
CMAR	**Chiang Mai Arr**	**10.07**	**36**	P	P	21 22 38.7	-0.2
	1.0nm,0.3s,baz=227,slow=15,SNR=31						
KMI	**Kunming**	**17.52**	**32**	⇑P	P	21 24 17.8	+1.0
	13nm,0.9s						
LZH	**Lanzhou**	**27.55**	**20**	*eP*	P	21 25 59.8	+0.4
LZH				AP	pP	21 26 08.3	+0.2
LZH				XP	sP	21 26 12.0	-0.1
LZH				AMB	AMB		
	comp=Z,29nm,1.6s,mb4.7						
LZH	**Lanzhou**	**27.55**	**20**	*eP*	P	21 25 59.8	+0.4
	comp=Z,29nm,1.6s,mb4.7						
LZH				pP	pP	21 26 08.3	+0.2
LZH				sP	sP	21 26 12.0	-0.1
SONM	**Songino Array**	**39.12**	**15**	P	P	21 27 39.5	+0.1
	comp=Z,1.4nm,0.7s,mb3.8,baz=202,slow=8.2,SNR=12						
KURK	**Kurchatov**	**41.91**	**347**	*eP*	P	21 28 01.6	-0.7
ZAL	**Zalesovo**	**43.95**	**353**	P	P	21 28 17.8	-1.1
	comp=Z,1.3nm,0.9s,mb3.6,baz=319,slow=9.5,SNR=6.8						
BVAR	**Borovoye Array**	**46.23**	**341**	P	P	21 28 36.4	-0.8
	comp=Z,0.8nm,0.5s,mb3.9,baz=135,slow=8.4,SNR=6.7						
CHKZ	**Chkalovo**	**46.72**	**342**	*eP*	P	21 28 40.5	-0.5
	comp=Z,5.7nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**50.82**	**126**	P	P	21 29 13.3	+0.1
	comp=Z,2.1nm,0.5s,mb4.3,baz=305,slow=8.6,SNR=11						
WRAB	**Tennant Creek**	**50.83**	**126**	P	P	21 29 12.6	-0.6
ASAR	**Alice Springs**	**52.56**	**131**	P	P	21 29 26.3	0.0
	comp=Z,2.0nm,0.6s,mb4.2,baz=307,slow=6.9,SNR=5.3						
FINES	**FINESS Array B**	**69.90**	**332**	P	P	21 31 23.2	+0.3
	comp=Z,1.8nm,0.8s,mb4.1,baz=157,slow=14,SNR=7.0						
ARCES	**ARCESS Array B**	**72.50**	**340**	P	P	21 31 39.0	+0.5
	comp=Z,3.2nm,0.9s,mb4.2,baz=72,slow=5.7,SNR=3.5						
GERES	**GERESS Array B**	**75.08**	**318**	P	P	21 31 54.8	+0.9
	comp=Z,0.6nm,0.5s,mb3.8,baz=90,slow=5.3,SNR=8.6						
HFS	**Hagfors**	**75.64**	**330**	P	P	21 31 57.1	+0.3
	comp=Z,3.1nm,1.0s,mb4.2,baz=124,slow=5.3,SNR=6.1						
NOA	**NORSAR Array B**	**76.92**	**330**	P	P	21 32 04.5	+0.5
	comp=Z,0.8nm,0.8s,mb3.7,baz=226,slow=22,SNR=3.5						
ILAR	**Eielson Array**	**93.00**	**22**	P	P	21 33 24.4	0.0
	comp=Z,0.8nm,0.8s,mb4.2,baz=298,slow=4.3,SNR=8.4						

IDC 28 21:20:48.7±16.0, 7.23N×94.34E, h79km±93km, mb3.6/5, mb1 3.7/6, mb1mx3.5/19, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=221.0km s-min=88.0km az=147.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.03**	**21**	P	P	21 23 37.2	-1.6
	0.2nm,0.3s,baz=208,slow=14,SNR=5.4						
SONM	**Songino Array**	**41.75**	**12**	P	P	21 28 30.3	-1.3
	0.2nm,0.5s,baz=190,slow=8.8,SNR=2.3						
ZAL	**Zalesovo**	**47.21**	**352**	P	P	21 29 13.3	-2.0
	1.7nm,0.3s,baz=320,slow=6.8,SNR=3.2						
FINES	**FINESS Array B**	**73.37**	**332**	P	P	21 32 11.4	-2.2
	4.4nm,1.2s,baz=117,slow=4.3,SNR=4.4						
GERES	**GERESS Array B**	**78.44**	**318**	P	P	21 32 41.5	-1.0
	0.3nm,0.6s,baz=90,slow=2.0,SNR=2.1						
HFS	**Hagfors**	**79.11**	**330**	P	P	21 32 44.6	-1.4
	3.0nm,1.1s,baz=56,slow=5.2,SNR=2.8						

*IDC **28** 21:21:58.5±2.4, 4.88S×101.75E, mb3.8/7, mb1 4.0/7, mb1mx3.8/16, mbtmp3.8/7, Error ellipse: s-maj=108.1km s-min=18.1km az=56.0*
ISC 28 21:22:01.0±2.4, 5.0S±0.4×101.6E±0.6, h33km, n7, σ0§69/7, mb4.0/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**23.43**	**354**	P	P	21 27 09.6	+1.2
	0.8nm,0.5s,mb3.5,baz=185,slow=7.9,SNR=6.1						
WRA	**Warramunga Arr**	**35.13**	**118**	P	P	21 28 53.0	-0.7
	0.4nm,0.3s,mb3.8,baz=307,slow=9.1,SNR=7.1						
ASAR	**Alice Springs**	**36.22**	**124**	P	P	21 29 03.2	+0.3
	1.3nm,0.4s,mb4.2,baz=298,slow=7.3,SNR=6.1						
STKA	**Stephens Creek**	**45.98**	**131**	P	P	21 30 23.9	+0.7
	2.4nm,0.9s,mb4.1,baz=324,slow=5.2,SNR=4.8						
SONM	**Songino Array**	**52.75**	**4**	P	P	21 31 14.4	-0.6
	1.5nm,0.6s,mb4.1,baz=187,slow=9.2,SNR=11						
SONM				PcP	PcP	21 32 24.5	+0.2
	0.5nm,0.5s,baz=188,slow=4.3,SNR=5.3						
ZAL	**Zalesovo**	**60.37**	**349**	P	P	21 32 08.6	-0.7
	1.0nm,0.4s,mb4.2,baz=309,slow=10,SNR=3.7						
BVAR	**Borovoye Array**	**63.52**	**340**	P	P	21 32 30.2	-0.1
	0.6nm,0.4s,mb4.0,baz=144,slow=10,SNR=9.3						

*NEIC **28** 21:22:13.3±0.7, 7.81N×93.81E, h30km, mb4.2/1, Error ellipse: s-maj=16.7km s-min=13.1km az=154.0*
*IDC **28** 21:22:17.3±11.0, 7.93N×93.90E, h61km±81km, mb3.7/7, mb1 3.9/8, mb1mx3.6/20, mbtmp4.0/8, ML4.1/1, Error ellipse: s-maj=83.2km s-min=57.5km az=18.0*
ISC 28 21:22:11.4±4.9, 7.9N±0.2×93.8E±0.1, h29km±35km, n14, σ0§60/12, mb4.0/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.67**	**25**	P	P	21 24 59.6	+0.4
	0.4nm,0.3s,baz=210,slow=15,SNR=5.3						
PALK	**Pallekele**	**13.00**	**268**	*eP*	P	21 25 17.0	0.0
SONM	**Songino Array**	**41.26**	**13**	P	P	21 29 55.7	-0.1
	1.4nm,0.8s,mb3.7,baz=196,slow=8.3,SNR=7.2						
KURK	**Kurchatov**	**44.56**	**346**	*eP*	P	21 30 21.9	-0.7
	2.6nm,0.7s,mb4.2						
ZAL	**Zalesovo**	**46.53**	**353**	P	P	21 30 38.6	+0.5
	2.9nm,0.4s,mb4.5,baz=300,slow=6.2,SNR=9.8						
WRAB	**Tennant Creek**	**48.52**	**125**	P	P	21 30 54.0	-0.2
BVAR	**Borovoye Array**	**48.91**	**341**	P	P	21 30 55.3	-1.5
	0.4nm,0.5s,mb3.7,baz=162,slow=9.4,SNR=3.4						
FINES	**FINESS Array B**	**72.58**	**332**	P	P	21 33 37.8	0.0
	3.3nm,0.9s,mb4.2,baz=100,slow=6.5,SNR=5.7						
GERES	**GERESS Array B**	**77.52**	**318**	P	P	21 34 07.7	+1.0
	0.4nm,0.7s,mb3.5,baz=108,slow=4.2,SNR=4.1						
HFS	**Hagfors**	**78.31**	**330**	P	P	21 34 10.7	+0.4
	2.4nm,0.8s,mb4.2,baz=100,slow=9.0,SNR=6.4						
NB2	**NORSAR Subarra**	**79.59**	**331**	P	P	21 34 17.2	-0.1
	0.7nm,0.7s,mb3.7,baz=91,slow=5.3						
NOA	**NORSAR Array B**	**79.59**	**331**	P	P	21 34 17.6	+0.3
	1.2nm,0.8s,mb3.9,baz=91,slow=5.7,SNR=3.7						
PDAR	**Pinedale Array**	**125.31**	**21**	PKP	PKPdf	21 41 11.3	-3.7
	0.4nm,0.7s,baz=315,slow=2.1,SNR=3.5						
TXAR	**Lajitas Array**	**139.39**	**24**	PKiKP		21 41 40.5	
	1.8nm,0.6s,baz=223,slow=0.7,SNR=14						

IGQ 28 21:27:33.7, 1.10S×81.31W, h12km±4km, mb4.4, 1C-1D, Error ellipse: s-maj=7.4km s-min=5.0km az=21.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.76**	**87**	⇑P	Pb	21 27 46.3	-2.1
JAMA	**Jama**	**1.38**	**53**	P	Pn	21 27 59.2	+0.4
JAMA				S	Sb	21 28 15.9	-0.4
JUA2	**San Juan 2**	**2.84**	**72**	P	Pn	21 28 24.0	+4.2
TERV	**Terraza Guagua**	**2.85**	**71**	P	Pn	21 28 21.0	+1.1
PINO	**Pino**	**2.85**	**71**	P	Pn	21 28 20.9	+0.9
JUIV	**Juive**	**2.86**	**97**	P	Pn	21 28 22.6	+2.6
NAS1	**Nasa**	**2.86**	**81**	P	Pn	21 28 21.9	+1.8
ARRY	**Arrayan**	**2.88**	**98**	P	Pn	21 28 20.5	+0.2
ARRY				S	Sn	21 28 53.6	-1.6
RETU	**Refugio**	**2.88**	**97**	P	Pn	21 28 22.6	+2.3
YANA	**Yana**	**2.90**	**70**	P	Pn	21 28 22.4	+1.8
ULBA	**Ulba**	**2.92**	**97**	P	Pn	21 28 21.9	+1.0
ULBA				S	Sn	21 28 56.4	+0.2
PISA	**Pisayambo**	**2.92**	**89**	P	Pn	21 28 22.8	+1.9
VC1	**Cotopaxi 1**	**2.94**	**81**	P	Pn	21 28 23.5	+2.4
TAMB	**Tambo**	**2.96**	**82**	P	Pn	21 28 24.1	+2.6
ANTI	**Antisana**	**3.21**	**78**	⇓P	Pn	21 28 27.2	+2.2
ANTI				S	Sn	21 29 07.8	+4.3
COTA	**Cotacachi**	**3.29**	**64**	P	Pn	21 28 27.4	+1.3
CAYR	**Refugio Cayamb**	**3.48**	**71**	P	Pn	21 28 31.7	+2.9
CAYA	**Cayambe**	**3.51**	**71**	P	Pn	21 28 31.7	+2.4

*IDC **28** 21:30:31.8±1.1, 7.74N×94.43E, mb4.1/12, mb1 4.3/12, mb1mx4.1/20, mbtmp4.1/12, Error ellipse: s-maj=34.4km s-min=25.9km az=53.0*
*NEIC **28** 21:30:35.7±0.7, 7.77N×94.47E, h30km, mb4.4/3, Error ellipse: s-maj=21.0km s-min=14.6km az=57.0*
ISC 28 21:30:34.2±0.7, 7.9N±0.1×94.4E±0.1, h30km, n28, σ1§54/27, mb4.3/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYB	**Hyderabad**	**18.15**	**303**	*i P*	P	21 34 46.0	0.0
JIRN	**Jiri**	**21.15**	**339**	*eP*	P	21 35 17.1	-2.2
PKI	**Pulchoki**	**21.36**	**337**	*eP*	P	21 35 19.8	-1.5
	73nm,1.3s,mb4.9						
DMN	**Daman**	**21.50**	**337**	*eP*	P	21 35 21.6	-1.2
	70nm,1.1s,mb5.0						
KKN	**Kakani**	**21.60**	**337**	*eP*	P	21 35 20.8	-3.0
LSA	**Lhasa**	**21.91**	**352**	*eP*	P	21 35 27.0	+0.1
	12nm,0.8s,mb4.4						
GKN	**Gorkha**	**22.04**	**336**	*eP*	P	21 35 25.0	-3.2
	60nm,1.2s,mb4.9						
KOLN	**Koldanda**	**22.27**	**334**	*eP*	P	21 35 27.5	-3.0
	86nm,1.2s,mb5.0						
ENH	**Enshi**	**26.35**	**30**	P	P	21 36 11.1	+1.5
	6.6nm,0.9s,mb4.2						
SONM	**Songino Array**	**41.07**	**12**	P	P	21 38 17.5	+0.7
	1.7nm,1.0s,mb3.6,baz=194,slow=11,SNR=9.6						
KURK	**Kurchatov**	**44.66**	**346**	*eP*	P	21 38 44.9	-1.1
	11nm,1.2s,mb4.5						
ZAL	**Zalesovo**	**46.56**	**352**	P	P	21 39 03.3	+2.3
	2.0nm,1.0s,mb4.0,baz=309,slow=9.5,SNR=8.6						
WRAB	**Tennant Creek**	**48.03**	**126**	*eP*	P	21 39 10.7	-2.4
BVAR	**Borovoye Array**	**49.06**	**341**	P	P	21 39 21.4	+0.8
	1.8nm,0.9s,mb4.1,baz=153,slow=6.6,SNR=9.4						
ASAR	**Alice Springs**	**49.70**	**130**	P	P	21 39 25.2	-0.7
	0.7nm,0.8s,mb3.8,baz=318,slow=7.3,SNR=7.1						
KMBO	**Kilima Mbogo**	**57.72**	**264**	P	P	21 40 24.6	-0.5
	3.9nm,1.1s,mb4.4,baz=73,slow=11,SNR=3.8						
BRTR	**Keskin Array B**	**62.64**	**311**	P	P	21 40 58.5	+0.2
	1.2nm,0.9s,mb4.0,baz=135,slow=7.0,SNR=5.1						
AKASG	**Malin Array Be**	**68.32**	**322**	P	P	21 41 35.3	+0.5
	0.7nm,0.5s,mb4.0,baz=87,slow=4.8,SNR=8.2						
MLR	**Muntele Rosu**	**69.36**	**316**	P	P	21 41 41.7	+0.5
	4.8nm,1.0s,mb4.4,baz=48,slow=3.6,SNR=5.1						
FINES	**FINESS Array B**	**72.83**	**332**	P	P	21 42 02.1	+0.4
	4.1nm,1.1s,mb4.3,baz=108,slow=6.0,SNR=6.9						
MORC	**Moravsky Berou**	**75.55**	**319**	*eP*	P	21 42 19.3	+1.5
BRG	**Berggiesshubel**	**77.92**	**320**	*eP*	PcP	21 42 44.0	+2.9
GERES	**GERESS Array B**	**78.01**	**318**	P	P	21 42 34.1	+2.6
	5.3nm,1.1s,mb4.4,baz=90,slow=5.3,SNR=13						
CLL	**Collm**	**78.53**	**321**	P	P	21 42 38.0	+3.7
HFS	**Hagfors**	**78.59**	**330**	P	P	21 42 36.8	+2.4
	3.7nm,0.9s,mb4.3,baz=121,slow=8.6,SNR=4.7						
HFS	**Hagfors**	**78.59**	**330**	P	P	21 42 36.8	+2.4
NB2	**NORSAR Subarra**	**79.86**	**331**	P	P	21 42 38.3	-3.0
	5.1nm,1.1s,mb4.4,baz=90,slow=5.6						
NOA	**NORSAR Array B**	**79.86**	**331**	P	P	21 42 43.6	+2.3
	1.8nm,0.9s,mb4.0,baz=92,slow=5.5,SNR=3.8						

*IDC **28** 21:35:26.5±2.7, 8.03N×94.40E, mb3.7/6, mb1 3.7/7, mb1mx3.6/20, mbtmp3.6/7, MS3.6/1, Ms1 3.6/1, ms1mx3.1/21, Error ellipse: s-maj=76.7km s-min=31.0km az=125.0*
ISC 28 21:35:30.0±5.0, 8.1N±0.7×94.5E±0.7, h33km, n9, σ1§01/7, mb3.7/6, MS3.5/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.14**	**22**	Pn	P	21 38 09.3	-0.9
	baz=80,slow=8.7,SNR=3.8						
JOW	**Kunigami**	**37.03**	**56**	LR	LR	22 00 22.6	
	comp=Z,82nm,18.3s,MS3.5,baz=88,slow=40						
SONM	**Songino Array**	**40.84**	**12**	P	P	21 43 11.3	+1.1
	1.1nm,1.2s,mb3.4,baz=198,slow=3.9,SNR=3.9						
ZAL	**Zalesovo**	**46.35**	**352**	P	P	21 43 56.6	+1.9
	0.9nm,0.7s,mb3.8,baz=304,slow=9.2,SNR=5.2						
BVAR	**Borovoye Array**	**48.87**	**341**	P	P	21 44 14.1	-0.3
	0.3nm,0.6s,mb3.5,baz=280,slow=41,SNR=3.2						
KMBO	**Kilima Mbogo**	**57.80**	**264**	P	P	21 45 21.1	+0.2
	1.5nm,0.9s,mb4.0,baz=42,slow=12,SNR=4.3						
GERES	**GERESS Array B**	**77.87**	**318**	P	P	21 47 25.6	-0.6
	0.7nm,0.9s,mb3.6,baz=172,slow=20,SNR=3.0						
HFS	**Hagfors**	**78.42**	**330**	P	P	21 47 27.6	-1.2
	1.3nm,0.7s,mb4.0,baz=129,slow=9.2,SNR=3.1						
PLCA	**Paso Flores**	**144.90**	**200**	PKP	PKPdf	21 55 05.2	+1.1
	3.1nm,0.8s,baz=261,slow=2.5,SNR=2.6						

IDC 28 21:36:24.3±2.6, 7.32N×93.59E, mb3.9/4, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, Error ellipse: s-maj=148.5km s-min=24.7km az=55.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**47.03**	**353**	P	P	21 44 57.3	-1.9
	0.8nm,0.3s,baz=271,slow=6.4,SNR=2.9						
WRA	**Warramunga Arr**	**48.39**	**125**	P	P	21 45 08.2	-2.2
	0.5nm,0.5s,baz=304,slow=9.0,SNR=3.8						
ASAR	**Alice Springs**	**49.98**	**129**	P	P	21 45 20.9	-1.8
	0.9nm,1.0s,baz=302,slow=7.2,SNR=6.1						
FINES	**FINESS Array B**	**72.95**	**332**	P	P	21 47 55.4	-1.9
	6.1nm,1.2s,baz=90,slow=3.8,SNR=4.5						

*IDC **28** 21:40:11.3±1.2, 7.72N×93.77E, mb4.0/13, mb1 4.1/14, mb1mx4.1/23, mbtmp4.0/14, ML4.0/1, Error ellipse: s-maj=34.4km s-min=27.9km az=44.0*
*BJI **28** 21:40:15.9, 7.70N×93.80E, h30km, mb4.3*
*NEIC **28** 21:40:16.0±0.6, 7.74N×93.77E, h30km, mb4.4/5, Error ellipse: s-maj=16.3km s-min=11.8km az=66.0*
ISC 28 21:40:13.9±0.7, 7.7N±0.1×93.9E±0.1, h30km, n30, σ1§09/29, mb4.2/22, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.79**	**24**	Pn	P	21 43 03.0	-0.3
	0.3nm,0.3s,baz=210,slow=14,SNR=14						
KMI	**Kunming**	**19.30**	**25**	P	P	21 44 45.6	+6.1
	10.0nm,1.4s						
JIRN	**Jiri**	**21.17**	**341**	*eP*	P	21 45 01.3	+2.1
	52nm,1.0s,mb4.8						
PKI	**Pulchoki**	**21.35**	**339**	*eP*	P	21 45 03.5	+2.4
	21nm,0.8s,mb4.5						
DMN	**Daman**	**21.50**	**338**	*eP*	P	21 45 04.1	+1.6
	37nm,0.8s,mb4.8						
KKN	**Kakani**	**21.60**	**339**	*eP*	P	21 45 04.9	+1.4
	27nm,0.9s,mb4.7						
GKN	**Gorkha**	**22.03**	**338**	*eP*	P	21 45 07.3	-0.5
	18nm,0.6s,mb4.7						
LSA	**Lhasa**	**22.06**	**354**	*eP*	P	21 45 10.0	+1.9
LSA	**Lhasa**	**22.06**	**354**	*eP*	P	21 45 07.5	-0.6
	18nm,0.9s,mb4.5						
KOLN	**Koldanda**	**22.23**	**335**	*eP*	P	21 45 09.7	-0.1
	26nm,0.8s,mb4.7						
SONM	**Songino Array**	**41.41**	**13**	P	P	21 47 58.4	-0.9
	0.8nm,0.8s,mb3.4,baz=187,slow=3.4,SNR=6.7						
KURK

5.4nm,1.2s,mb4.7,baz=76,slow=40,SNR=2.6
ESDC Sonseca Array 89.28 310 P **P 21 54 01.3 -0.9**
0.4nm,0.7s,mb3.9,baz=28,slow=6.2,SNR=2.8
PLCA Paso Flores 144.98 203 PKP PKPdf 22 00 33.2 -14
2.5nm,0.8s,baz=222,slow=4.0,SNR=4.1

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*NEIC **28** 21:41:31.1±0.6, 10.82N×140.92E, h10km, mb4.1/1, Error ellipse: s-maj=20.7km s-min=13.8km az=114.0*
*IDC **28** 21:41:36.5±0.8, 10.90N×140.98E, h48km±7km, mb3.7/10, mb1 3.9/10, mb1mx3.8/19, mbtmp4.0/10, Error ellipse: s-maj=26.2km s-min=16.4km az=95.0*
ISC 28 21:41:34.2±0.6, 10.8N±0.1×141.0E±0.1, h48km, h48km±1.2km:pP-P, n14, σ1s17/13, mb4.0/11, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.67**	**53**	*eP*	**P**	**21 42 43.5**	**-0.6**
WRAB	**Tennant Creek**	**31.21**	**192**	P	**P**	**21 47 49.5**	**-1.9**
2.1nm,0.8s,mb4.0							
WRA	**Warramunga Arr**	**31.22**	**192**	P	**P**	**21 47 51.4**	**-0.1**
0.3nm,0.6s,mb3.3,baz=11,slow=9.5,SNR=2.9							
ASAR	**Alice Springs**	**34.93**	**191**	P	**P**	**21 48 24.8**	**+1.2**
0.3nm,0.6s,mb3.4,baz=18,slow=12,SNR=2.4							
ASAR				pP	pP	21 48 38.2	+1.7
0.5nm,0.4s,baz=19,slow=12,SNR=5.3							
CMAR	**Chiang Mai Arr**	**41.37**	**286**	P	**P**	**21 49 18.4**	**+0.9**
1.4nm,0.9s,mb3.6,baz=82,slow=7.5,SNR=6.6							
SONM	**Songino Array**	**47.01**	**328**	P	**P**	**21 50 02.3**	**-0.3**
0.5nm,0.6s,mb3.6,baz=157,slow=5.7,SNR=5.4							
SONM				PcP	PcP	21 51 34.4	-0.3
0.4nm,0.7s,baz=158,slow=3.7,SNR=3.0							
BVAR	**Borovoye Array**	**69.84**	**323**	P	**P**	**21 52 41.1**	**-0.6**
1.8nm,0.6s,mb4.2,baz=101,slow=7.6,SNR=11							
BVAR				pP	pP	21 52 54.9	-0.8
0.5nm,0.4s,baz=115,slow=8.2,SNR=3.0							
ILAR	**Eielson Array**	**72.70**	**25**	P	**P**	**21 52 57.7**	**-0.9**
0.5nm,0.5s,mb3.7,baz=247,slow=6.0,SNR=13							
ILAR				pP	pP	21 53 11.9	-0.6
0.2nm,0.5s,baz=251,slow=5.9,SNR=1.9							
YKA	**Yellowknife Ar**	**87.06**	**27**	P	**P**	**21 54 17.2**	**+1.7**
0.6nm,0.4s,mb4.2,baz=289,slow=5.2,SNR=10							
YKA				pP	pP	21 54 30.9	+1.1
0.2nm,0.4s,baz=286,slow=4.9,SNR=2.8							
YKA	**Yellowknife Ar**	**87.06**	**27**	P	**P**	**21 54 17.2**	**+1.7**
YKA				pP	pP	21 54 30.9	+1.1
ARCES	**ARCESS Array B**	**88.58**	**341**	P	**P**	**21 54 22.7**	**+0.1**
2.3nm,0.6s,mb4.7,baz=72,slow=7.7,SNR=8.9							
NVAR	**Mina Array Bea**	**91.59**	**51**	P	**P**	**21 54 40.2**	**+2.7**
1.0nm,0.8s,mb4.2,baz=266,slow=4.8,SNR=4.2							
FINES	**FINESS Array B**	**92.09**	**334**	P	**P**	**21 54 38.1**	**-1.1**
2.0nm,0.7s,mb4.6,baz=78,slow=6.0,SNR=9.9							
LPAZ	**La Paz**	**151.13**	**104**	PKPbc	PKPdf	22 01 26.5	+9.5
0.7nm,0.7s,baz=229,slow=3.3,SNR=6.9							

IDC 28 21:48:02.6±1.0, 11.57N×57.49E, mb3.8/6, mb1 4.0/6, mb1mx3.7/17, mbtmp3.8/6, Error ellipse: s-maj=34.2km s-min=24.0km az=176.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**23.74**	**239**	P	P	21 53 17.5	0.0
3.8nm,0.8s,baz=46,slow=12,SNR=11							
CMAR	**Chiang Mai Arr**	**40.55**	**75**	P	P	21 55 45.0	-0.6
1.3nm,1.0s,baz=276,slow=9.1,SNR=5.6							
ZAL	**Zalesovo**	**47.50**	**22**	P	P	21 56 39.0	-2.2
0.8nm,0.5s,baz=233,slow=4.8,SNR=4.5							
ESDC	**Sonseca Array**	**60.78**	**309**	P	P	21 58 16.4	-2.3
0.5nm,0.5s,baz=74,slow=5.7,SNR=3.8							
WRA	**Warramunga Arr**	**81.83**	**112**	P	P	22 00 23.4	-2.1
0.4nm,0.8s,baz=286,slow=5.0,SNR=3.2							
ASAR	**Alice Springs**	**82.44**	**116**	P	P	22 00 27.5	-1.2
0.4nm,0.8s,baz=278,slow=5.6,SNR=4.3							

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*IDC **28** 22:05:25.3±1.1, 6.83N×94.51E, mb3.6/6, mb1 3.8/7, mb1mx3.7/18, mbtmp3.6/7, ML4.0/1, Error ellipse: s-maj=42.5km s-min=21.7km az=53.0*
*NEIC **28** 22:05:28.8±1.1, 6.99N×94.54E, h30km, mb4.2/3, Error ellipse: s-maj=33.7km s-min=14.9km az=64.0*
ISC 28 22:05:27.3±0.8, 7.0N±0.1×94.6E±0.1, h30km, n11, σ1s25/11, mb3.8/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.13**	**20**	Pn	**P**	**22 08 20.9**	**-0.3**
0.2nm,0.3s,baz=211,slow=15,SNR=16							
HYB	**Hyderabad**	**18.78**	**305**	*i* P	**P**	**22 09 46.5**	**-0.3**
LSA	**Lhasa**	**22.81**	**352**	*eP*	**P**	**22 10 28.2**	**-0.7**
5.4nm,0.6s,mb4.2							
SONM	**Songino Array**	**41.90**	**12**	P	**P**	**22 13 19.9**	**+3.2**
0.7nm,0.7s,mb3.4,baz=196,slow=9.9,SNR=3.5							
WRA	**Warramunga Arr**	**47.38**	**125**	P	**P**	**22 14 00.4**	**-0.7**
0.3nm,0.6s,mb3.4,baz=305,slow=8.8,SNR=2.8							
WRAB	**Tennant Creek**	**47.38**	**125**	P	**P**	**22 14 00.1**	**-1.0**
1.5nm,0.7s,mb4.0							
ZAL	**Zalesovo**	**47.46**	**352**	P	**P**	**22 14 02.6**	**+1.3**
1.5nm,1.0s,mb3.9,baz=301,slow=7.6,SNR=5.2							
ASAR	**Alice Springs**	**49.00**	**130**	P	**P**	**22 14 14.8**	**+1.2**
0.4nm,0.8s,mb3.5,baz=313,slow=8.1,SNR=4.5							
CHKZ	**Chkalovo**	**50.44**	**342**	*eP*	**P**	**22 14 22.6**	**-1.6**
2.8nm,0.7s,mb4.4							
BRTR	**Keskin Array B**	**63.35**	**311**	P	**P**	**22 15 55.8**	**-0.3**
0.5nm,0.9s,mb3.6,baz=135,slow=6.1,SNR=2.7							
GERES	**GERESS Array B**	**78.78**	**318**	P	**P**	**22 17 31.9**	**+3.0**
0.3nm,0.6s,mb3.4,baz=90,slow=5.9,SNR=2.7							

IDC 28 22:06:36.7±22.0, 16.03S×172.21W, mb4.5/4, mb1 4.7/4, mb1mx4.1/18, mbtmp4.5/4, 2D, Error ellipse: s-maj=432.1km s-min=55.3km az=60.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**24.06**	**201**	P	P	22 11 53.5	-1.0
12nm,1.2s,baz=83,slow=13,SNR=3.6							
CTA	**Charters Tower**	**39.62**	**258**	*eP*	P	22 14 09.6	-2.3
2.8nm,0.8s							
STKA	**Stephens Creek**	**44.72**	**241**	||*iP*	P	22 14 52.8	-0.8
2.1nm,0.6s							
STKA	**Stephens Creek**	**44.72**	**241**	P	P	22 14 52.2	-1.3
3.2nm,0.6s,baz=101,slow=8.8,SNR=8.8							
WB2	**Warramunga Arr**	**50.80**	**257**	*eP*	P	22 15 38.8	-2.4
WRA	**Warramunga Arr**	**50.81**	**257**	P	P	22 15 38.8	-2.5
1.8nm,0.5s,baz=95,slow=7.0,SNR=29							
ASAR	**Alice Springs**	**51.01**	**252**	P	P	22 15 40.8	-1.9
16nm,0.5s,baz=88,slow=8.4,SNR=250							
ASPA	**Alice Springs**	**51.01**	**252**	||*iP*	P	22 15 40.7	-2.0

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*IDC **28** 22:11:10.1±0.6, 24.41S×176.04W, mb4.4/15, mb1 4.6/17, mb1mx4.6/20, mbtmp4.4/17, ML4.7/2, MS4.0/4, Ms1 4.0/4, ms1mx3.3/29, Error ellipse: s-maj=25.9km s-min=16.1km az=146.0*
*BJI **28** 22:11:12.5, 24.40S×176.00W, h15km, mB5.7, mb5.1*
*NEIC **28** 22:11:12.6±0.3, 24.43S×176.05W, h15km, mb4.6/6, Error ellipse: s-maj=12.1km s-min=8.6km az=144.0*
ISC 28 22:11:10.5±0.4, 24.45S±0.09×176.11W±0.09, h10km, n49, σ0s93/39, mb4.5/20, MS4.0/3, 1C-4D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.26**	**22**	P	**P**	**22 13 36.9**	**-18**
URZ	**Urewera**	**14.93**	**201**	Pn	**P**	**22 14 42.1**	**-1.2**
0.6nm,0.3s,baz=172,slow=7.3,SNR=2.5							
URZ				Sn	**S**	**22 17 14.0**	**-16**
0.6nm,0.3s,baz=183,slow=18,SNR=2.4							
RAR	**Rarotonga**	**15.40**	**81**	Pn	**P**	**22 14 38.8**	**-11**
18nm,0.3s,baz=248,slow=7.6,SNR=17							
RAR				Sn	S	22 17 11.3	-30
3.4nm,0.3s,baz=106,slow=12,SNR=3.6							
RAR				LR	LR	22 19 49.0	
comp=Z,248nm,19.5s,baz=271,slow=34							
RAR	**Rarotonga**	**15.40**	**81**	Pn	**P**	**22 14 38.8**	**-11**
RAR				Sn	S	22 17 11.3	-30
RAR				LR	LR	22 19 49.0	
RPZ	**Rata Peaks**	**21.91**	**206**	LR	LR	22 24 33.2	
comp=Z,457nm,18.5s,MS3.9,baz=24,slow=37							
CTA	**Charters Tower**	**35.03**	**270**	*eP*	**P**	**22 18 06.5**	**+0.9**
5.1nm,1.0s,mb4.4							
CTA	**Charters Tower**	**35.03**	**270**	LR	LR	22 30 53.5	
comp=Z,237nm,18.0s,MS4.0,baz=52,slow=34							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**35.03**	**270**	*eP*	**P**	**22 18 05.4**	**-0.2**
3.2nm,0.5s,mb4.5							
STKA	**Stephens Creek**	**37.83**	**249**	P	**P**	**22 18 29.1**	**0.0**
1.6nm,0.7s,mb3.8,baz=79,slow=14,SNR=5.6							
STKA				PcP	PcP	22 20 45.7	-0.4
1.9nm,0.8s,baz=111,slow=3.3,SNR=4.2							
STKA				LR	LR	22 33 11.8	
comp=Z,372nm,18.5s,MS4.2,baz=300,slow=35							
STKA	**Stephens Creek**	**37.83**	**249**	P	**P**	**22 18 29.1**	**0.0**
STKA				PcP	PcP	22 20 45.7	-0.4
STKA				LR	LR	22 33 11.8	
PMG	**Port Moresby**	**38.05**	**287**	P	**P**	**22 18 30.7**	**-0.4**
23nm,1.1s,mb4.8,baz=155,slow=14,SNR=3.6							
PMG	**Port Moresby**	**38.05**	**287**	P	**P**	**22 18 30.7**	**-0.4**
ASAR	**Alice Springs**	**45.45**	**260**	P	**P**	**22 19 30.8**	**-0.8**
9.5nm,1.0s,mb4.6,baz=95,slow=7.1,SNR=25							
ASAR				PcP	PcP	22 21 11.2	-0.1
2.0nm,0.9s,baz=107,slow=4.5,SNR=5.0							
ASPA	**Alice Springs**	**45.45**	**260**	*eP*	**P**	**22 19 32.7**	**+1.0**
WB2	**Warramunga Arr**	**45.90**	**265**	*eP*	**P**	**22 19 34.6**	**-0.7**
WRAB	**Tennant Creek**	**45.91**	**265**	*eP*	**P**	**22 19 34.3**	**-1.0**
5.9nm,0.8s,mb4.6							
WRA	**Warramunga Arr**	**45.91**	**265**	P	**P**	**22 19 34.8**	**-0.6**
2.5nm,0.6s,mb4.3,baz=102,slow=8.3,SNR=18							
WRA				PcP	PcP	22 21 12.8	-0.1
1.4nm,0.9s,baz=95,slow=3.9,SNR=3.0							
VNDA	**Vanda**	**54.16**	**186**	P	**P**	**22 20 37.7**	**0.0**
4.8nm,0.9s,mb4.4,baz=12,slow=8.4,SNR=9.5							
VNDA	**Vanda**	**54.16**	**186**	P	**P**	**22 20 37.7**	**0.0**
QSPA	**South Pole Qui**	**65.64**	**180**	||*iP*	**P**	**22 21 56.6**	**+0.2**
15nm,0.9s,mb5.0							
MAW	**Mawson**	**78.45**	**200**	P	**P**	**22 23 11.7**	**-0.9**
4.0nm,0.7s,mb4.5,baz=178,slow=10.0,SNR=3.6							
YSS	**Yuzh-Sakhalins**	**80.20**	**333**	P	**P**	**22 23 24.0**	**+1.5**
YBH	**Yreka Blue Hor**	**82.31**	**37**	P	**P**	**22 23 32.6**	**-1.1**
2.3nm,0.7s,mb4.2,baz=292,slow=5.4,SNR=3.2							
NVAR	**Mina Array Bea**	**82.73**	**42**	P	**P**	**22 23 35.3**	**-0.7**
3.8nm,0.9s,mb4.4,baz=211,slow=6.8,SNR=15							
SYO	**Syowa Base**	**83.26**	**192**	||P	**P**	**22 23 38.0**	**-0.1**
SYO	**Syowa Base**	**83.26**	**192**	||P	PcP	22 23 48.8	+5.7
VNA3	**Neumayer Olymp**	**84.09**	**176**	||*i*	**P**	**22 23 43.7**	**+1.5**
VNA2	**Neumayer~Watz**	**84.55**	**176**	||*i*	**P**	**22 23 46.5**	**+2.0**
MSU	**Marysvale**	**86.62**	**45**	*eP*	**P**	**22 23 54.8**	**-0.8**
BMO	**Blue Mountains**	**87.34**	**38**	*eP*	**P**	**22 23 58.5**	**-0.4**
TXAR	**Lajitas Array**	**87.74**	**56**	P	**P**	**22 24 01.0**	**-0.1**
1.7nm,0.9s,mb4.3,baz=217,slow=6.3,SNR=8.8							
TXAR	**Lajitas Array**	**87.74**	**56**	P	**P**	**22 24 01.0**	**-0.1**
ANMO	**Albuquerque**	**88.53**	**50**	P	**P**	**22 24 04.5**	**-0.3**
2.7nm,0.9s,mb4.6,baz=195,slow=5.1,SNR=4.2							
ENH	**Enshi**	**89.69**	**304**	*eP*	**P**	**22 24 12.3**	**+1.8**
37nm,1.5s,mb5.5							
SDCO	**Great Sand Dun**	**90.63**	**48**	*eP*	**P**	**22 24 14.7**	**0.0**
1.9nm,1.0s,mb4.4							
PDAR	**Pinedale Array**	**90.65**	**43**	P	**P**	**22 24 14.7**	**0.0**
1.2nm,1.1s,mb4.1,baz=207,slow=6.6,SNR=4.9							
ILAR	**Eielson Array**	**91.78**	**12**	P	**P**	**22 24 18.7**	**-0.5**
0.6nm,0.8s,mb4.0,baz=225,slow=4.9,SNR=5.4							
CMAR	**Chiang Mai Arr**	**93.06**	**289**	P	**P**	**22 24 29.0**	**+2.8**
4.3nm,0.9s,mb4.9,baz=128,slow=4.3,SNR=6.5							
LPAZ	**La Paz**	**98.94**	**112**	P	**P**	**22 24 53.5**	**+0.6**
0.6nm,0.7s,mb4.2,baz=243,slow=9.0,SNR=2.7							
YKA	**Yellowknife Ar**	**99.36**	**24**	P	**P**	**22 24 53.7**	**-0.2**
0.5nm,0.9s,mb4.1,baz=230,slow=4.6,SNR=6.9							
YKA	**Yellowknife Ar**	**99.36**	**24**	P	**P**	**22 24 53.7**	**-0.2**
BVAR	**Borovoye Array**	**123.20**	**319**	PKP	PKPdf	22 30 07.9	-2.6
1.2nm,0.8s,baz=112,slow=7.8,SNR=4.7							
AKASG	**Malin Array Be**	**147.30**	**330**	PKPbc	PKPdf	22 30 54.8	+0.1
7.6nm,1.0s,baz=40,slow=4.0,SNR=15							
ASF	**Jabal al Asfar**	**150.03**	**292**	PKPbc	PKPdf	22 31 04.3	+4.7
3.3nm,0.8s,baz=5.2,slow=3.1,SNR=7.1							
BRTR	**Keskin Array B**	**150.73**	**309**	PKPbc	PKPdf	22 31 04.8	+4.3
1.3nm,0.7s,baz=161,slow=5.9,SNR=9.0							
CLL	**Collm**	**152.29**	**348**	*e*PKP1	PKPdf	22 31 09.0	+6.6
CLL				*i* *PPKP		22 31 13.6	
CLL				*i* PKP2	PKPab	22 31 19.6	+1.1
BRG	**Berggiesshubel**	**152.50**	**346**	*i* P	PKPdf	22 31 09.0	+6.3
BRG				*e*		22 31 13.8	
KHC	**Kasperske Hory**	**154.22**	**345**	*e*PKP	PKPab	22 31 20.0	-6.7
GERES	**GERESS Array B**	**154.46**	**345**	PKPbc	PKPdf	22 31 10.6	+5.1
0.3nm,0.7s,baz=56,slow=3.5,SNR=3.1							
GERES				PKPab	PKPab	22 31 27.1	-0.6
0.8nm,0.9s,baz=27,slow=2.2,SNR=3.5							

IGQ 28 22:12:16.2, 2.61S×78.28W, h225km±8km, mb4.1, 6C-11D, Error ellipse: s-maj=8.4km s-min=6.4km az=48.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**1.10**	**352**	||P	P	22 12 51.0	+1.5
ARRY	**Arrayan**	**1.11**	**351**	||P	P	22 12 50.2	+0.7
ULBA	**Ulba**	**1.16**	**354**	||P	P	22 12 50.5	+0.6
RETU	**Refugio**	**1.16**	**352**	||P	P	22 12 50.8	+0.9
IGUA	**Igualata**	**1.16**	**342**	P	P	22 12 50.7	+0.8
CUSU	**Cusua**	**1.17**	**350**	||P	P	22 12 51.0	+1.0
JUIV	**Juive**	**1.19**	**351**	||P	P	22 12 50.7	+0.6
PISA	**Pisayambo**	**1.54**	**356**	||P	P	22 12 53.4	+0.5
TAMB	**Tambo**	**1.90**	**357**	||P	P	22 12 57.0	+0.9
VC1	**Cotopaxi 1**	**1.95**	**356**	||P	P	22 12 57.4	+0.9
NAS1	**Nasa**	**1.97**	**354**	||P	P	22 12 57.7	+1.1
ANTI	**Antisana**	**2.15**	**3**	||P	P	22 12 59.8	+1.3
JUA2	**San Juan 2**	**2.40**	**352**	||P	P	22 13 01.8	+0.7
JUA2				S	S	22 13 35.8	0.0
TERV	**Terraza Guagua**	**2.44**	**352**	||P	P	22 13 02.4	+0.9
PINO	**Pino**	**2.45**	**352**	||P	P	22 13 02.6	+0.9
YANA	**Yana**	**2.49**	**353**	||P	P	22 13 02.7	+0.6
CONE	**Cono NE Rev Vo**	**2.60**	**14**	||P	P	22 13 05.5	+2.3
CAYR	**Refugio Cayamb**	**2.62**	**6**	P	P	22 13 05.6	+2.1
CAYA	**Cayambe**	**2.67**	**6**	P	P	22 13 06.3	+2.2
HOJA	**Cerro de Hojas**	**2.74**	**304**	P	P	22 13 06.2	+1.4
COTA	**Cotacachi**	**2.92**	**359**	||P	P	22 13 08.7	+2.0
MAGD	**Magdalena**	**2.93**	**329**	P	P	22 13 07.0	+0.2

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*IDC **28** 22:12:31.1±1.7, 7.69N×93.35E, mb3.8/5, mb1 4.0/6, mb1mx3.8/18, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=62.0km s-min=23.6km az=62.0*
*NEIC **28** 22:12:35.7±0.9, 7.71N×93.47E, h30km, mb4.2/2, Error ellipse: s-maj=27.1km s-min=11.3km az=67.0*
ISC 28 22:12:34.0±1.1, 7.8N±0.1×93.6E±0.2, h30km, n9, σ0s49/9, mb3.9/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.86**	**26**	Pn	**P**	**22 15 24.3**	**-0.1**
0.1nm,0.3s,baz=212,slow=14,SNR=5.2							
LSA	**Lhasa**	**21.95**	**354**	*eP*	**P**	**22 17 26.9**	**-0.2**
2.5nm,0.6s,mb3.8							
SONM	**Songino Array**	**41.41**	**13**	P	**P**	**22 20 20.1**	**+0.6**
0.3nm,0.6s,mb3.1,baz=198,slow=8.2,SNR=4.1							
ZAL	**Zalesovo**	**46.59**	**353**	P	**P**	**22 21 00.7**	**-0.5**
0.8nm,0.4s,mb4.0,baz=317,slow=2.1,SNR=3.2							
WRA	**Warramunga Arr**	**48.66**	**125**	P	**P**	**22 21 18.2**	**+0.4**
0.3nm,0.5s,mb3.6,baz=305,slow=8.4,SNR=4.5							
WRAB	**Tennant Creek**	**48.67**	**125**	P	**P**	**22 21 16.9**	**-0.9**
2.9nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**49.41**	**342**	P	**P**	**22 21 23.5**	**+0.4**
ASAR	**Alice Springs**	**50.28**	**129**	P	**P**	**22 21 30.6**	**+0.5**
0.6nm,0.5s,mb3.9,baz=305,slow=7.4,SNR=5.1							
FINES	**FINESS Array B**	**72.55**	**332**	P	**P**	**22 23 59.9**	**-0.1**
7.1nm,1.3s,mb4.5,baz=121,slow=11,SNR=5.7							

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*IDC **28** 22:13:56.3±0.6, 7.70N×93.88E, mb4.3/16, mb1 4.4/17, mb1mx4.3/22, mbtmp4.3/17, ML4.7/1, MS3.8/2, Ms1 3.9/2, ms1mx3.0/27, Error ellipse: s-maj=28.5km s-min=14.3km az=61.0*
*MOS **28** 22:13:59.6±0.9, 7.76N×93.91E, h33km, mb4.8/23, Error ellipse: s-maj=20.4km s-min=8.4km az=99.5*
*BJI **28** 22:14:00.6, 7.52N×93.83E, h51km, mB5.3, mb4.8, Ms4.7, Msz4.3*
*NEIC **28** 22:14:01.2±0.4, 7.84N×94.12E, h30km, mb4.6/9, Error ellipse: s-maj=11.9km s-min=8.1km az=70.0*
ISC 28 22:13:59.7±1.5, 7.76N±0.06×94.03E±0.08, h34km±13km, h29km±5.8km:pP-P, n89, σ1s01/88, mb4.6/38, MS4.2/6, 2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.66**	**24**	Pn	**P**	**22 16 43.6**	**-3.2**
11nm,0.5s							
CM31				*e*pPn		22 16 47.6	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.66**	**24**	P	**P**	**22 16 47.0**	**+0.2**
CMAR				pmax	pmax		
comp=Z,2.0nm,0.3s							
CMAR				MLR	MLR		
comp=Z,420nm,18.8s							
CMAR	**Chiang Mai Arr**	**11.66**	**24**	Pn	**P**	**22 16 47.0**	**+0.2**
comp=Z,1.5nm,0.3s,baz=211,slow=14,SNR=46							
CMAR				LR	LR	22 21 23.6	
comp=Z,420nm,18.8s,baz=205,slow=38							
VIS	**Vishakhapatnam**	**14.37**	**315**	*eP*	**P**	**22 17 21.4**	**-1.5**
VIS				*e*		22 17 24.8	
comp=Z,30nm,1.1s							
VIS				*e*	**S**	**22 19 42.0**	**-20**
BWNR	**Bhubaneshwar**	**14.78**	**328**	*eP*	**P**	**22 17 29.0**	**+0.8**
BWNR				*e*	S	22 19 43.5	-28
SHL	**Shillong**	**17.82**	**354**	*eP*	**P**	**22 18 05.5**	**-1.3**
SHL				*e*S	**S**	**22 21 23.0**	**+1.2**
HYB	**Hyderabad**	**17.88**	**304**	*eP*	**P**	**22 18 12.0**	**+4.5**
HYB	**Hyderabad**	**17.88**	**304**	*i* P	**P**	**22 18 12.0**	**+4.5**
HYB				*e*S	**S**	**22 21 31.0**	**+8.0**
JIRN	**Jiri**	**21.14**	**340**	*eP*	**P**	**22 18 44.7**	**+0.7**
comp=Z,130nm,1.1s,mb5.2							
PKI	**Pulchoki**	**21.33**	**339**	*eP*	**P**	**22 18 46.3**	**+0.4**
comp=Z,136nm,1.2s,mb5.2							
DMN	**Daman**	**21.47**	**338**	*eP*	**P**	**22 18 47.9**	**+0.5**
comp=Z,76nm,0.8s,mb5.1							
KAD	**Karad**	**21.55**	**298**	*eP*	**P**	**22 18 53.3**	**+5.1**
KAD				*e*		22 18 55.4	
comp=Z,19nm,0.9s							
KKN	**Kakani**	**21.57**	**339**	*eP*	**P**	**22 18 48.4**	**0.0**
comp=Z,74nm,1.0s,mb5.1							
LSA	**Lhasa**	**21.99**	**353**	P	**P**	**22 18 53.8**	**+1.2**
LSA				AMB	AMB		
comp=Z,10.0nm,1.2s,mb4.1							
LSA	**Lhasa**	**21.99**	**353**	*eP*	**P**	**22 18 53.4**	**+0.8**
LSA				pmax	pmax		
comp=Z,42nm,0.6s,mb5.0							
LSA	**Lhasa**	**21.99**	**353**	*eP*	**P**	**22 18 53.4**	**+0.9**
comp=Z,42nm,0.6s,mb5.0							
GKN	**Gorkha**	**22.00**	**337**	*eP*	**P**	**22 18 53.6**	**+0.9**
comp=Z,52nm,0.7s,mb5.1							
BHPL	**Bhopal**	**22.16**	**316**	*eP*	**P**	**22 18 53.6**	**-0.7**
BHPL				*e*		22 18 54.7	
comp=Z,2.8nm,0.2s							
KOLN	**Koldanda**	**22.21**	**335**	*eP*	**P**	**22 18 56.2**	**+1.4**
comp=Z,52nm,0.8s,mb5.0							
NDI	**New Delhi**	**26.16**	**325**	*eP*	**P**	**22 19 33.0**	**+0.1**
ENH	**Enshi**	**26.68**	**31**	*eP*	**P**	**22 19 36.9**	**-0.8**
comp=Z,10nm,1.0s,mb4.3							
DDI	**Dehra Dun**	**26.98**	**328**	*eP*	**P**	**22 19 41.2**	**+0.8**
TGY	**Tagaytay City**	**27.15**	**74**	LR	LR	22 30 30.4	
comp=Z,219nm,19.9s,MS3.7,baz=119,slow=36							
XAN	**Xi'an**	**29.54**	**26**	P	**P**	**22 20 02.5**	**-0.9**
XAN				AMB	AMB		
comp=Z,7.0nm,0.8s,mb4.4							
LZH	**Lanzhou**	**29.59**	**16**	*eP*	**P**	**22 20 04.5**	**+0.7**
LZH				AMB	AMB		
comp=Z,28nm,1.5s,mb4.8							
LZH				AMB	AMB		
comp=Z,963nm,4.0s							
LZH				LR	LR		
comp=E,489nm,13.4s							
LZH				LR	LR		
comp=Z,798nm,15.0s,MS4.5							
LZH	**Lanzhou**	**29.59**	**16**	*eP*	**P**	**22 20 04.6**	**+0.8**
LZH				*PP	pP	22 20 13.1	-0.5
LZH				*SP	sP	22 20 17.4	-0.7
LZH				pmax	pmax		
comp=Z,28nm,1.5s,mb4.8							
LZH				MLR	MLR		
comp=Z,800nm,15.0s,MS4.5							
LZH	**Lanzhou**	**29.59**	**16**	*eP*	**P**	**22 20 04.6**	**+0.8**
comp=Z,28nm,1.5s,mb4.8							
LZH				pP	pP	22 20 13.1	-0.5
LZH				sP	sP	22 20 17.4	-0.7
LZH				LR	LR		
comp=Z,800nm,15.0s,MS4.5							
NJ2	**Nanjing**	**33.43**	**40**	*eP*	**P**	**22 20 39.5**	**+1.9**
NJ2				AP	pP	22 20 50

ARU eSS SS 22 35 03.8 -2.8
ARU pmax pmax
comp=Z,11nm,1.6s,mb4.6
KMBO Kilima Mbogo 57.30 264 eP **P 22 23 49.8 +2.8**
KMBO pmax pmax
comp=Z,5.0nm,1.1s
KMBO Kilima Mbogo 57.30 264 P **P 22 23 50.2 +3.2**
comp=Z,0.8nm,0.8s,mb3.8,baz=60,slow=14,SNR=3.8
KMBO Kilima Mbogo 57.30 264 eP **P 22 23 49.8 +2.8**
comp=Z,4.9nm,1.1s,mb4.5
SOC Sochi 59.18 317 eP **P 22 23 53.9 -5.9**
SOC e 22 24 48.2
SOC eS **S 22 32 02.7 -0.6**
SOC e 22 33 40.7
SOC pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
SOC pmax pmax
comp=N,16nm,1.1s
SOC pmax pmax
comp=E,20nm,1.1s
YAK Yakutsk 60.14 18 iP **P 22 24 05.7 -0.4**
YAK pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
BRTR Keskin Array B 62.41 311 P **P 22 24 20.8 -1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 62.41 311 P **P 22 24 20.8 -0.9**
comp=Z,1.2nm,0.6s,mb4.2,baz=130,slow=7.0,SNR=6.7
OBN Obninsk 65.41 328 ⇓iP **P 22 24 38.1 -3.0**
OBN pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.1
TIXI Tiksi 67.36 11 eP **P 22 24 52.3 -0.9**
TIXI pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
TIXI MLR MLR
comp=Z,99nm,17.0s,MS4.1
KIS Kishinev 67.53 318 eP pP 22 25 04.0 -1.2
AKASG Malin Array Be 68.17 322 P **P 22 24 56.6 -2.0**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 68.17 322 P **P 22 24 56.5 -2.0**
comp=Z,0.9nm,0.6s,mb4.0,baz=97,slow=4.2,SNR=5.2
IDI Anoyia 68.54 305 P **P 22 25 01.9 +0.7**
comp=Z,6.1nm,0.7s,mb4.7,baz=92,slow=12
JOF Joensuu 70.90 335 ep **P 22 25 14.7 -0.4**
comp=Z,4.2nm,0.8s,mb4.4
FINES FINESS Array B 72.76 332 P **P 22 25 26.7 +0.6**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 72.76 332 P **P 22 25 26.7 +0.6**
comp=Z,3.2nm,0.6s,mb4.5,baz=102,slow=7.0,SNR=20
KAF Kangasniemi 72.84 333 ep **P 22 25 19.4 -7.2**
ARCES ARCESS Array B 75.33 340 P **P 22 25 41.4 +0.4**
ARCES pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 75.33 340 P **P 22 25 41.4 +0.4**
comp=Z,2.8nm,1.0s,mb4.2,baz=90,slow=4.9,SNR=8.9
MORC Moravsky Berou 75.39 319 P **P 22 25 42.1 +0.4**
GERES GERESS Array B 77.83 318 P **P 22 25 55.5 0.0**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 77.83 318 P **P 22 25 55.5 0.0**
comp=Z,1.5nm,0.8s,mb4.0,baz=90,slow=5.3,SNR=9.8
CLL Collm 78.38 321 eP pP 22 26 05.0 -4.0
CLL Collm 78.38 321 e*PP pP 22 26 05.0 -4.0
MAW Mawson 78.40 192 P **P 22 25 57.8 -0.4**
MAW pmax pmax
comp=Z,3.0nm,0.7s
MAW Mawson 78.40 192 P **P 22 25 57.8 -0.4**
comp=Z,3.3nm,0.7s,mb4.4,baz=90,slow=3.0,SNR=2.4
NB2 NORSAR Subarra 79.77 331 P **P 22 26 06.2 +0.4**
comp=Z,1.9nm,0.6s,mb4.2,baz=97,slow=5.0
NB2 NORSAR Subarra 79.77 331 P **P 22 26 06.2 +0.4**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
NOA NORSAR Array B 79.77 331 P **P 22 26 06.1 +0.3**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 79.77 331 P **P 22 26 06.1 +0.3**
comp=Z,1.9nm,0.7s,mb4.2,baz=94,slow=5.2,SNR=7.7
DAVOX Davos 80.39 316 P **P 22 26 10.3 +0.9**
comp=Z,1.4nm,0.5s,mb4.2,baz=129,slow=12,SNR=3.9
YKA Yellowknife Ar 106.56 13 PP PP 22 32 34.2 -5.7
comp=Z,0.2nm,0.5s,baz=333,slow=7.3,SNR=3.9
PDAR Pinedale Array 125.31 21 PKP PKPdf 22 32 59.5 +2.1
comp=Z,0.3nm,0.7s,baz=349,slow=4.6,SNR=2.9
PLCA Paso Flores 144.40 200 PKIKP PKPdf 22 33 33.3 +0.6
PLCA pmax pmax
comp=Z,3.0nm,0.8s
PLCA Paso Flores 144.40 200 PKP PKPdf 22 33 33.3 +0.6
comp=Z,2.6nm,0.8s,baz=191,slow=4.1,SNR=1.9

IDC 28 22:21:00.7±3.9, 17.48N×93.22E, mb3.7/5, mb1 3.8/6, mb1mx3.6/19, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=82.1km s-min=37.4km az=10.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.53**	**79**	Pn	Pn	22 22 24.9	-1.4
	0.4nm,0.3s,baz=260,slow=14,SNR=6.3						
CMAR				Sn	Sn	22 23 23.2	-8.4
	0.3nm,0.3s,baz=256,slow=31,SNR=4.8						
SONM	**Songino Array**	**32.15**	**17**	P	P	22 27 30.2	-1.9
	0.2nm,0.6s,baz=202,slow=7.8,SNR=2.6						
ZAL	**Zalesovo**	**36.97**	**352**	P	P	22 28 10.1	-3.4
	0.9nm,0.9s,baz=304,slow=11,SNR=3.8						
BVAR	**Borovoye Array**	**39.71**	**338**	P	P	22 28 35.1	-1.4
	0.8nm,0.7s,baz=127,slow=14,SNR=4.1						
FINES	**FINESS Array B**	**63.90**	**330**	P	P	22 31 35.5	-1.9
	1.2nm,0.6s,baz=90,slow=8.3,SNR=5.0						
ARCES	**ARCESS Array B**	**66.00**	**339**	P	P	22 31 48.8	-2.0
	1.3nm,0.6s,baz=90,slow=8.1,SNR=4.7						

IDC 28 22:21:49.1±25.0, 15.60S×172.69W, mb4.4/4, mb1 4.5/4, mb1mx4.0/17, mbtmp4.4/4, Error ellipse: s-maj=469.4km s-min=168.0km az=70.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**39.27**	**257**	P	P	22 29 19.6	-1.9
	3.1nm,0.8s,baz=103,slow=12,SNR=2.6						
STKA	**Stephens Creek**	**44.53**	**240**	P	P	22 30 03.0	-1.6
	1.6nm,0.5s,baz=98,slow=10.0,SNR=4.7						
WRA	**Warramunga Arr**	**50.47**	**257**	P	P	22 30 49.2	-2.0
	1.8nm,0.5s,baz=95,slow=7.3,SNR=9.7						
ASAR	**Alice Springs**	**50.70**	**252**	P	P	22 30 51.0	-1.9
	12nm,0.5s,baz=87,slow=6.6,SNR=20						

*IDC **28** 22:22:39.8±16.0, 17.82S×178.36W, h466km±198km, mb3.4/7, mb1 3.7/7, mb1mx3.5/16, mbtmp4.3/7, Error ellipse: s-maj=74.0km s-min=27.2km az=18.0*
*NEIC **28** 22:22:42.4±0.6, 17.875×178.43W, h500km, mb4.3/4, Error ellipse: s-maj=24.5km s-min=11.7km az=149.0*

ISC 28 22:22:33.1±0.7, 17.6S±0.2×178.4W±0.1, h400km, n16, σ0=81/16, mb4.0/9, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.95**	**190**	P	P	**22 26 46.0**	**-0.9**
	4.4nm,0.5s,baz=359,slow=5.3,SNR=3.9						
ARMA	**Armidale**	**30.09**	**239**	eP	P	**22 28 10.9**	**+1.6**
CTA	**Charters Tower**	**33.50**	**260**	eP	P	**22 28 39.8**	**+1.3**
	5.8nm,0.7s,mb4.0						
CTA				e		22 30 10.4	
CTA	**Charters Tower**	**33.50**	**260**	P	P	**22 28 39.9**	**+1.4**
	6.7nm,0.6s,mb4.2,baz=92,slow=9.5,SNR=13						
STKA	**Stephens Creek**	**38.77**	**241**	eP	P	**22 29 23.3**	**+0.9**
	4.1nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**38.77**	**241**	P	P	**22 29 23.3**	**+1.0**
	6.4nm,0.7s,mb4.0,baz=85,slow=9.6,SNR=17						
WB2	**Warramunga Arr**	**44.67**	**259**	⇑iP	P	**22 30 09.6**	**-0.4**
WRAB	**Tennant Creek**	**44.68**	**259**	eP	P	**22 30 09.0**	**-1.0**
	25nm,1.4s,mb4.3						
WRA	**Warramunga Arr**	**44.69**	**259**	P	P	**22 30 09.3**	**-0.8**
	4.8nm,0.5s,mb4.0,baz=95,slow=7.0,SNR=48						
ASAR	**Alice Springs**	**44.87**	**254**	P	P	**22 30 11.3**	**-0.2**
	42nm,0.6s,mb5.0,baz=88,slow=8.3,SNR=530						
ASPA	**Alice Springs**	**44.88**	**254**	⇓iP	P	**22 30 11.1**	**-0.4**
ASPA				i		22 30 50.8	
KAKA	**Kakadu**	**47.59**	**269**	eP	P	**22 30 32.3**	**-0.3**
	7.8nm,0.5s,mb4.3						
HLID	**Hailey**	**84.40**	**41**	eP	P	**22 34 22.9**	**0.0**
ILAR	**Eielson Array**	**85.59**	**13**	P	P	**22 34 27.4**	**-0.8**
	0.2nm,0.5s,mb3.1,baz=224,slow=4.8,SNR=6.4						
TXAR	**Lajitas Array**	**85.83**	**58**	P	P	**22 34 30.9**	**+0.8**
	0.8nm,0.6s,mb3.6,baz=214,slow=4.5,SNR=6.6						
PDAR	**Pinedale Array**	**87.13**	**43**	P	P	**22 34 36.2**	**+0.2**
	0.7nm,0.7s,mb3.5,baz=203,slow=2.3,SNR=4.8						

IDC 28 22:22:36.4±7.1, 7.64N×93.87E, mb4.1/7, mb1 4.2/8, mb1mx3.9/19, mbtmp4.0/8, ML3.5/1, Error ellipse: s-maj=174.6km s-min=46.2km az=140.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.83**	**24**	Pn	P	22 25 27.8	-1.8
	0.1nm,0.3s,baz=212,slow=13,SNR=4.4						
SONM	**Songino Array**	**41.45**	**13**	P	P	22 30 24.5	-2.0
	1.2nm,0.7s,baz=198,slow=7.8,SNR=10.0						
ZAL	**Zalesovo**	**46.74**	**353**	P	P	22 31 07.4	-1.7
	3.2nm,0.5s,baz=294,slow=9.6,SNR=13						
BVAR	**Borovoye Array**	**49.12**	**341**	P	P	22 31 25.3	-2.5
	0.9nm,0.7s,baz=131,slow=13,SNR=3.4						
FINES	**FINESS Array B**	**72.79**	**332**	P	P	22 34 06.5	-2.0
	1.5nm,0.8s,baz=112,slow=7.5,SNR=5.5						
ARCES	**ARCESS Array B**	**75.39**	**340**	P	P	22 34 21.9	-1.5
	2.4nm,0.9s,baz=83,slow=7.3,SNR=2.7						
GERES	**GERESS Array B**	**77.82**	**318**	P	P	22 34 36.6	-0.8
	0.6nm,0.7s,baz=76,slow=5.5,SNR=5.3						
NOA	**NORSAR Array B**	**79.80**	**331**	P	P	22 34 46.2	-1.7
	0.7nm,0.8s,baz=80,slow=7.7,SNR=3.6						

IDC 28 22:24:06.0±27.0, 21.29S×177.36W, h480km±306km, mb3.3/5, mb1 3.5/5, mb1mx3.3/15, mbtmp4.2/5, Error ellipse: s-maj=137.9km s-min=83.1km az=112.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.02**	**265**	P	P	22 30 09.6	-0.5
	3.7nm,0.5s,baz=98,slow=10,SNR=9.0						
STKA	**Stephens Creek**	**37.99**	**245**	P	P	22 30 40.3	-2.7
	2.8nm,0.8s,baz=80,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**44.93**	**257**	P	P	22 31 38.0	-0.6
	3.2nm,0.8s,baz=90,slow=8.6,SNR=6.7						
WRA	**Warramunga Arr**	**45.09**	**263**	P	P	22 31 38.4	-1.5
	1.0nm,0.3s,baz=94,slow=8.0,SNR=9.4						
ILAR	**Eielson Array**	**88.95**	**13**	P	P	22 36 08.0	-1.0
	0.3nm,0.6s,baz=224,slow=5.1,SNR=4.6						

*BJI **28** 22:29:01.3, 7.64N×93.79E, h25km, mB5.2, mb4.9, Ms5.3, Msz5.1*
*IDC **28** 22:29:01.9±1.0, 8.15N×93.70E, mb4.5/20, mb1 4.6/21, mb1mx4.6/24, mbtmp4.5/21, ML4.7/1, MS4.8/15, Ms1 4.8/15, ms1mx4.6/24, Error ellipse: s-maj=28.2km s-min=26.1km az=150.0*
*MOS **28** 22:29:03.4±1.5, 7.72N×94.05E, h33km, mb5.4/45, MS4.8/22, Error ellipse: s-maj=9.5km s-min=5.3km az=108.8*
*NEIC **28** 22:29:03.0±0.4, 7.75N×93.96E, mb5.2/34, MS4.8/2, Error ellipse: s-maj=9.8km s-min=8.3km az=128.0*
*HRVD **28** 22:29:03.0±0.2, 7.75N×94.23E, h21km±1km, MW5.3/59, Centroid moment Tensor Solution. LP body waves: s45,c70;Mantle waves: s59,c115; Half duration: 1±1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.17±.03; $M_{\theta\theta}$-0.99±.03; $M_{\phi\phi}$0.82±.03; $M_{r\theta}$-0.44±.06; $M_{\theta\phi}$0.77±.02; $M_{\phi r}$-0.16±.05; Best double couple: $M_0$1.276×10^{17} NP1: ϕ_s155°, δ68°, λ177°. NP2:ϕ_s246°, δ87°, λ22°. Principal axes: T 1.198, Plg17°, Azm113°; N .156, Plg68°, Azm253°; P -1.354, Plg13°, Azm19°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 28 22:29:01.3±1.2, 7.70N±0.04×94.32E±0.03, h21km±8km, h20km±1.6km: pP-P, n246, σ1=49/246, mb5.1/71, MS5.0/37, 11C-8D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.23**	**339**	eP	Pn	**22 30 08.1**	**+1.9**
PBA				eS	Sn	**22 30 54.1**	**-1.5**
SNG	**Songkhla**	**6.27**	**94**	P	Pn	**22 30 40.0**	**+4.9**
	400nm,0.9s						
NNT	**Nongplab**	**7.21**	**47**	P	Pn	**22 30 47.5**	**-0.9**
CM31	**Chiang Mai Arr**	**11.60**	**22**	ePn	P	**22 31 49.1**	**+0.1**
	19nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.60**	**22**	P	P	**22 31 48.6**	**-0.4**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,6μm,18.9s						
CMAR	**Chiang Mai Arr**	**11.60**	**22**	Pn	P	**22 31 48.6**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=210,slow=14,SNR=50						
CMAR				LR	LR	22 36 17.8	
	comp=Z,6μm,18.9s,baz=205,slow=38						
CMAR	**Chiang Mai Arr**	**11.60**	**22**	Pn	P	**22 31 48.6**	**-0.4**
CMAR				LR	LR	22 36 17.8	
CHG	**Chiang Mai**	**11.93**	**22**	⇑P	P	**22 31 54.2**	**+0.8**
	comp=Z,44nm,1.2s						
KKTK	**Khon Kaen**	**11.95**	**43**	P	P	**22 31 54.0**	**+0.3**
CHRT	**Chiangrai**	**13.21**	**23**	⇓P	P	**22 32 12.5**	**+2.0**
	comp=Z,176nm,1.2s						
MDRS	**Chennai**	**14.83**	**292**	e	P	**22 32 28.0**	**-3.9**
MDRS				e		22 35 37.0	
KOD	**Kodaikanal**	**16.83**	**280**	eP	P	**22 32 58.7**	**+1.1**
KOD				e		22 33 07.1	
	comp=Z,84nm,1.5s						
KOD				eS	S	**22 36 04.3**	**+1.3**
SHL	**Shillong**	**17.92**	**353**	eP	P	**22 33 11.1**	**-0.1**
SHL				eS	S	**22 36 29.1**	**+1.4**
HYB	**Hyderabad**	**18.15**	**304**	eP	P	**22 33 14.0**	**-0.1**
HYB				eS	S	**22 36 35.0**	**+1.9**
HYB	**Hyderabad**	**18.15**	**304**	iP	P	**22 33 14.0**	**-0.1**
	comp=Z,70nm,1.0s						
HYB				eS	S	**22 36 31.0**	**-2.1**
QIZ	**Qiongzhong**	**18.82**	**52**	P	P	**22 33 27.3**	**+5.0**
QIZ				LR	LR		
	comp=N,12μm,12.2s						
QIZ				LR	LR		
	comp=E,5μm,13.3s						
QIZ				LR	LR		
	comp=Z,5μm,9.4s						
QIZ	**Qiongzhong**	**18.82**	**52**	eP	P	**22 33 26.0**	**+3.7**
	comp=Z,106nm,1.5s						
KMI	**Kunming**	**19.10**	**24**	P	P	**22 33 28.5**	**+2.9**
KMI				S	S	**22 37 01.2**	**+6.6**
KMI				pmax	pmax		
	comp=Z,26nm,1.7s						
KMI	**Kunming**	**19.10**	**24**	P	P	**22 33 28.5**	**+2.9**
	comp=Z,26nm,1.7s						
KMI				pP		22 33 33.9	
KMI				sP		22 33 36.3	
KMI				PP	PP	22 33 48.1	+5.6
KMI				S	S	**22 37 01.2**	**+6.6**
KMI				sS		22 37 11.1	
KMI				SS	SS	22 37 25.8	+5.4
NGP	**Nagpur**	**19.91**	**314**	eP	P	**22 33 37.5**	**+2.8**
NGP				e		22 33 39.8	
	comp=Z,73nm,1.2s						
NGP				eS	S	**22 37 19.6**	**+7.4**
JIRN	**Jiri**	**21.29**	**340**	eP	P	**22 33 47.8**	**-1.2**
PKI	**Pulchoki**	**21.49**	**338**	eP	P	**22 33 49.8**	**-1.2**
	comp=Z,347nm,1.2s,mb5.5						
GOA	**Goa**	**21.50**	**293**	eP	P	**22 33 57.4**	**+6.3**
GOA				e		22 34 05.4	
	comp=Z,135nm,1.8s						
GOA				eS	S	**22 37 53.9**	**+10**
DMN	**Daman**	**21.64**	**337**	eP	P	**22 33 51.0**	**-1.5**
	comp=Z,294nm,0.9s,mb5.7						
KKN	**Kakani**	**21.74**	**338**	eP	P	**22 33 51.1**	**-2.4**
	comp=Z,731nm,1.5s,mb5.9						
LSA	**Lhasa**	**22.09**	**353**	P	P	**22 33 56.3**	**-0.7**
LSA	**Lhasa**	**22.09**	**353**	eP	P	**22 33 56.7**	**-0.2**
LSA				pmax	pmax		
	comp=Z,135nm,0.8s,mb5.4						
LSA	**Lhasa**	**22.09**	**353**	eP	P	**22 33 56.7**	**-0.3**
	comp=Z,135nm,0.8s,mb5.4						
GKN	**Gorkha**	**22.17**	**337**	eP	P	**22 33 55.4**	**-2.4**
	comp=Z,277nm,1.0s,mb5.6						
KOLN	**Koldanda**	**22.39**	**334**	eP	P	**22 33 58.2**	**-1.8**
	comp=Z,739nm,1.5s,mb5.9						
BOM	**Bombay**	**23.67**	**300**	eP	P	**22 34 14.2**	**+1.6**
BOM				e		22 34 37.6	
	comp=Z,149nm,1.0s						
BOM				eS	S	**22 38 25.4**	**+2.6**
NDI	**New Delhi**	**26.38**	**324**	eP	P	**22 34 38.5**	**+0.2**
NDI				e	pP	22 34 43.1	-1.3
	comp=Z,130nm,1.3s						
NDI				eS	S	**22 39 09.4**	**+1.1**
ENH	**Enshi**	**26.58**	**30**	eP	P	**22 34 40.0**	**-0.2**
	comp=Z,50nm,1.1s,mb5.0						
SMLA	**Simla**	**28.29**	**328**	eP	P	**22 35 10.5**	**+15**
SMLA				e	pP	22 35 16.5	+15
	comp=Z,66nm,1.3s						
SMLA				eS	S	**22 39 56.0**	**+17**
WHN	**Wuhan**	**29.47**	**37**	eP	P	**22 35 07.5**	**+1.2**
WHN				S	S	**22 40 11.5**	**+13**
WHN				LR	LR		
	comp=N,860nm,9.5s						
WHN				LR	LR		
	comp=E,6μm,12.3s						
WHN				LR	LR		
	comp=Z,8μm,12.8s,MS5.5						
LZH	**Lanzhou**	**29.57**	**16**	eP	P	**22 35 07.5**	**+0.4**
LZH				AP	pP	22 35 12.5	-0.7
LZH				XP	sP	22 35 15.5	-0.5
LZH				PP	PP	22 36 03.5	+0.1
LZH				S	S	**22 39 58.0**	**-1.6**
LZH				AMB	AMB		
	comp=Z,56nm,1.8s,mb5.0						
LZH				AMB	AMB		
	comp=Z,169nm,4.0s						
LZH				LR	LR		
	comp=E,3μm,14.0s						
LZH				LR	LR		
	comp=Z,4μm,15.3s,MS5.2						
LZH	**Lanzhou**	**29.57**	**16**	eP	P	**22 35 07.6**	**+0.5**
LZH				*SP	sP	22 35 15.5	-0.5
LZH						22 36 03.6	
LZH				S	S	**22 39 58.0**	**-1.6**
LZH				SS	SS	22 41 32.9	-0.5
LZH				pmax	pmax		
	comp=Z,56nm,1.8s,mb5.0						
LZH				MLR	MLR		
	comp=Z,4μm,15.3s,MS5.2						
LZH	**Lanzhou**	**29.57**	**16**	eP	P	**22 35 07.6**	**+0.5**
	comp=Z,56nm,1.8s,mb5.0						
LZH				pP	pP	22 35 12.6	-0.6
LZH				sP	sP	22 35 15.5	-0.5
LZH				PP	PP	22 36 03.6	+0.2
LZH				S	S	**22 39 58.0**	**-1.6**
LZH				sS		22 40 04.0	
LZH				SS	SS	22 41 32.9	-0.5
LZH				LR	LR		
	comp=Z,4μm,15.3s,MS5.2						
NJ2	**Nanjing**	**33.29**	**40**	eP	P	**22 35 41.5**	**+1.7**
NJ2				AP	pP	22 35 52.0	+6.0
NJ2				XP	sP	22 35 54.8	+6.1
NJ2				PP	PP	22 36 50.0	-1.5
NJ2				AMB	AMB		
	comp=Z,450nm,4.8s						
NJ2				LR	LR		
	comp=Z,5μm,13.0s,MS5.4						
SSE	**Sheshan**	**34.23**	**44**	P	P	**22 35 47.0**	**-1.0**
SSE				S	S	**22 41 12.3**	**-0.2**
SSE				AMB	AMB		
	comp=Z,24nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,351nm,12.0s						
SSE				LR	LR		
	comp=N,1μm,19.5s,MS4.9						
SSE				LR	LR		
	comp=E,1μm,19.5s,MS4.9						
SSE				LR	LR		
	comp=Z,1μm,15.9s,MS4.8						
SSE	**Sheshan**	**34.23**	**44**	P	P	**22 35 46.9**	**-1.1**
	comp=Z,24nm,0.7s,mb5.2						
SSE				S	S	**22 41 12.3**	**-0.2**
SSE				sS		22 41 26.1	
SSE				SS	SS	22 43 44.3	+22
SSE				LR	LR		
	comp=Z,1μm,15.9s,MS4.8						
WMQ	**Urumqi**	**36.44**	**352**	P	P	**22 36 07.0**	**+0.3**
WMQ				AP	pP	22 36 13.0	+0.1
WMQ				XP	sP	22 36 15.8	+0.3
WMQ				PP	PP	22 37 30.8	+0.1
WMQ				PCP	PcP	22 38 31.5	+0.6
WMQ				S	S	**22 41 47.0**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,149nm,1.5s,mb5.7						
WMQ				AMB	AMB		
	comp=Z,708nm,5.6s						
WMQ				LR	LR		
	comp=N,2μm,18.3s,MS5.0						
WMQ				LR	LR		
	comp=E,2μm,18.4s,MS5.0						
WMQ				LR	LR		
	comp=Z,3μm,18.7s,MS5.1						
WBK	**Wadi Bani Khal**	**37.07**	**298**	⇓eP	P	**22 36 15.5**	**+3.4**
BJT	**Baijiatuau**	**37.66**	**28**	eP	P	**22 36 18.1**	**+1.2**
BJT				pmax	pmax		
	comp=Z,12nm,0.8s						
BJT	**Baijiatuau**	**37.66**	**28**	eP	P	**22 36 18.1**	**+1.2**
	comp=Z,12nm,0.8s,mb4.7						
JMDO	**Jabal Madar**	**37.76**	**297**	⇓P	P	**22 36 20.7**	**+2.8**
SMDO	**Samad**	**38.02**	**298**	⇓P	P	**22 36 21.8**	**+1.7**
BIDO	**Bidbid**	**38.09**	**299**	⇑P	P	**22 36 23.9**	**+3.2**
	SNR=7.7						
KZA	**Kyzart**	**38.16**	**337**	P	P	**22 36 25.3**	**+4.1**
	SNR=8.2						
UCH	**Uchtor**	**38.58**	**336**	P	P	**22 36 24.7**	**0.0**
	SNR=9.2						
BSY	**Bisya**	**38.67**	**297**	⇑P	P	**22 36 27.5**	**+1.9**
	SNR=10						
TKM2	**Tokmak 2**	**38.76**	**338**	P	P	**22 36 29.1**	**+3.1**
	SNR=7.5						
KBK	**Karagaybulak**	**38.77**	**337**	P	P	**22 36 23.3**	**-2.9**
	SNR=29						
HOQ	**Hoqain**	**38.82**	**298**	⇑P	P	**22 36 29.3**	**+2.4**
	SNR=13						
AML	**Almayashu**	**38.84**	**335**	P	P	**22 36 25.4**	**-1.3**
	SNR=28						
AAK	**Ala-Archa**	**38.93**	**337**	P	P	**22 36 26.5**	**-1.1**
	SNR=23						
AAK	**Ala-Archa**	**38.93**	**337**	iP	P	**22 36 26.5**	**-1.1**
FRU	**Bishkek**	**39.05**	**337**	eP	P	**22 36 27.0**	**-1.6**
FRU				e		22 38 04.0	
FRU				MLR	MLR		
	comp=Z,2μm,22.0s,MS4.8						
CHMS	**Chumysh**	**39.14**	**337**	P	P	**22 36 32.4**	**+3.1**
	SNR=11						
EKS2	**Erkin-Say**	**39.24**	**336**	P	P	**22 36 30.2**	**+0.1**
	SNR=10.0						
ARQ	**Araqi**	**39.44**	**298**	P	P	**22 36 34.9**	**+2.9**
	SNR=12						
USP	**Ospenovka**	**39.47**	**337**	P	P	**22 36 31.1**	**-1.0**
	SNR=24						
ASHO	**Ashiyiah**	**40.25**	**299**	⇓P	P	**22 36 40.8**	**+2.1**
RBK	**Rabkut**	**40.26**	**288**	⇑P	P	**22 36 40.1**	**+1.3**
ABTO	**Aybut**	**41.09**	**288**	⇑P	P	**22 36 46.6**	**+1.0**
SONM	**Songino Array**	**41.30**	**12**	P	P	**22 36 46.3**	**-0.7**
	comp=Z,5.5nm,0.9s,mb4.2,baz=199,slow=6.1,SNR=31						
SONM				PcP	PcP	22 38 47.2	+1.1
	comp=Z,4.4nm,0.8s,baz=195,slow=3.5,SNR=7.3						
ULN	**Ulaanbaatar**	**41.47**	**13**	iP	P	**22 36 49.2**	**+0.8**
ULN	**Ulaanbaatar**	**41.47**	**13**	iP	P	**22 36 49.3**	**+0.9**
SNY	**Shenyang**	**42.72**	**33**	⇑P	P	**22 37 04.3**	**+5.5**
SNY				XP	sP	22 37 16.8	+9.1
SNY				S	S	**22 43 22.5**	**+1.5**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
SNY				LR	LR		
	comp=N,2μm,15.1s,MS5.2						
SNY				LR	LR		
	comp=E,1μm,12.0s,MS5.2						
SNY				LR	LR		
	comp=Z,2μm,16.5s,MS5.2						
ZAK	**Zakamensk**	**43.20**	**8**	⇑iP	P	**22 37 02.4**	**-0.1**
ZAK				e		22 38 53.8	
MOY	**Mondy**	**44.18**	**6**	eP	P	**22 37 14.1**	**+3.6**
MOY				e		22 43 33.6	
TLY	**Talaya**	**44.52**	**8**	iP	P	**22 37 14.3**	**+1.1**
MUN	**Mundaring**	**44.65**	**153**	eP	P	**22 37 17.9**	**+3.3**
	comp=Z,8.0nm,0.8s,mb4.6		

comp=Z,8.0nm,0.8s,mb4.6
KURK Kurchatov 44.82 346 *i* P **P 22 37 14.9 -0.8**
KURK Kurchatov 44.82 346 *eP* **P 22 37 13.4 -2.3**
comp=Z,122nm,1.2s,mb5.6
NWAO Narrogin (SRO) 45.91 153 P **P 22 37 23.7 -0.9**
NWAO pmax pmax
comp=Z,5.0nm,0.5s
NWAO MLR MLR
comp=Z,6.0nm,18.8s
NWAO Narrogin (SRO) 45.91 153 P **P 22 37 23.7 -0.9**
comp=Z,4.5nm,0.5s,mb4.6,baz=340,slow=9.6,SNR=8.0
NWAO LR LR 22 55 37.5
comp=Z,5.9nm,18.8s,baz=258,slow=34
HIA Hailar 46.61 23 *eP* **P 22 37 30.1 +0.2**
HIA pmax pmax
comp=Z,66nm,1.3s
HIA Hailar 46.61 23 *eP* **P 22 37 30.1 +0.2**
comp=Z,66nm,1.3s,mb5.4
ZAL Zalesovo 46.74 352 P **P 22 37 29.1 -1.7**
ZAL 22 39 05.2
ZAL pmax pmax
comp=Z,12nm,0.8s
ZAL pmax pmax
comp=Z,2.0nm,0.7s
ZAL Zalesovo 46.74 352 P **P 22 37 29.1 -1.7**
comp=Z,12nm,0.8s,mb4.9,baz=288,slow=6.4,SNR=33
ZAL PcP PcP 22 39 05.2 +0.6
comp=Z,2.1nm,0.7s,baz=327,slow=9.6,SNR=1.6
NVS Novosibirsk 47.84 351 *i* P **P 22 37 37.9 -1.6**
NVS *e* 22 39 05.6
NVS pmax pmax
comp=N,47nm,1.0s
NVS pmax pmax
comp=Z,72nm,1.0s,mb5.7
NVS pmax pmax
comp=E,20nm,1.1s
WRA Warramunga Arr 48.02 126 P **P 22 37 39.8 -1.6**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 48.02 126 P **P 22 37 39.8 -1.6**
comp=Z,1.6nm,0.6s,mb4.2,baz=306,slow=8.7,SNR=8.7
WRAB Tennant Creek 48.02 126 *i* P **P 22 37 42.6 +1.2**
WRAB Tennant Creek 48.02 126 *eP* **P 22 37 41.0 -0.4**
JHJ Hachijo jima 2 49.03 52 LR LR 22 59 32.2
comp=Z,599nm,20.0s,MS4.6,baz=299,slow=37
MAT Matsushiro 49.15 48 *eP* pP 22 37 57.0 +0.8
MAT pmax pmax
comp=Z,37nm,1.6s,mb5.2
MAT Matsushiro 49.15 48 *eP* pP 22 37 57.0 +0.8
comp=Z,37nm,1.6s
MAT Matsushiro 49.15 48 P pP 22 37 56.6 +0.4
BVAR Borovoye Array 49.21 341 P **P 22 37 48.6 -1.5**
comp=Z,22nm,1.0s,mb5.2,baz=149,slow=8.4,SNR=16
BVAR PcP PcP 22 39 12.0 -1.4
comp=Z,2.6nm,0.8s,baz=166,slow=5.9,SNR=2.6
BRVK Borovoye 49.27 341 *i* P **P 22 37 49.7 -0.9**
RAYN Ar Rayn 49.32 294 P **P 22 37 50.3 -1.0**
comp=Z,232nm,0.7s,SNR=50
ASAR Alice Springs 49.67 130 P **P 22 37 52.6 -1.5**
comp=Z,1.6nm,0.8s,mb4.1,baz=297,slow=6.8,SNR=8.1
ASAR PcP PcP 22 39 16.7 +1.2
comp=Z,2.4nm,0.7s,baz=294,slow=2.7,SNR=4.6
ASAR LR LR 23 01 00.9
comp=Z,495nm,19.5s,MS4.5,baz=302,slow=38
CHKZ Chkalovo 49.69 342 *eP* **P 22 37 51.2 -2.6**
CHKZ pmax pmax
comp=Z,83nm,0.9s,mb5.8
CHKZ Chkalovo 49.69 342 *eP* **P 22 37 51.2 -2.6**
comp=Z,83nm,0.9s,mb5.8
KLR Kul'dur 51.95 30 *eP* **P 22 38 13.2 +2.2**
KLR *eS* **S 22 45 29.5 -1.9**
KLR *eSS* SS 22 49 12.0 +5.5
BOD Bodaibo 52.28 13 *eP* **P 22 38 12.9 -0.5**
CLNS Chul'man 54.54 20 *eP* **P 22 38 30.3 +0.2**
CLNS pmax pmax
comp=Z,36nm,0.7s,mb5.5
CLNS pmax pmax
comp=N,24nm,0.9s
CLNS pmax pmax
comp=E,20nm,0.9s
GNI Garni 54.68 314 P **P 22 38 28.5 -2.9**
GNI pmax pmax
comp=Z,32nm,1.2s
GNI Garni 54.68 314 P **P 22 38 28.5 -2.9**
comp=Z,32nm,1.2s,mb5.2,baz=344,slow=0.1,SNR=8.5
ASAJ Asahikawa 55.43 41 LR LR 23 01 49.4
comp=Z,910nm,20.6s,MS4.8,baz=174,slow=36
SVE Sverdlovsk 55.63 338 *eP* **P 22 38 35.0 -3.0**
ARU Arti 56.12 337 P **P 22 38 40.0 -1.5**
comp=Z,213nm,1.1s,mb6.1,SNR=14
ARU Arti 56.12 337 ||*iP* **P 22 38 34.5 -7.0**
ARU *e* 22 39 33.8
ARU *eS* **S 22 46 18.2 -9.4**
ARU *e* 22 48 20.4
ARU *eSS* SS 22 50 06.4 -7.8
ARU pmax pmax
comp=Z,44nm,1.1s,mb5.4
ARU MLR MLR
comp=Z,1μm,21.0s,MS5.0
ARU MLR MLR
comp=N,900nm,20.0s,MS4.9
ARU MLR MLR
comp=E,400nm,22.0s,MS4.9
YSS Yuzh-Sakhalins 56.81 38 *i* P **P 22 38 46.7 0.0**
KIV Kislovodsk 57.56 318 *i* P **P 22 38 50.0 -2.0**
KIV *i* S **S 22 46 45.7 -1.1**
KIV pmax pmax
comp=Z,14nm,1.0s,mb5.0
KIV MLR MLR
comp=Z,500nm,20.0s,MS4.6
KIV Kislovodsk 57.56 318 *i* P **P 22 38 50.1 -1.9**
KMBO Kilima Mbogo 57.58 264 *eP* **P 22 38 51.0 -1.5**
KMBO pmax pmax
comp=Z,17nm,1.0s
KMBO Kilima Mbogo 57.58 264 P **P 22 38 53.6 +1.1**
comp=Z,14nm,0.9s,mb5.0,baz=53,slow=8.8,SNR=13
KMBO LR LR 23 00 42.1
comp=Z,997nm,19.4s,MS4.9,baz=90,slow=33
KMBO Kilima Mbogo 57.58 264 *eP* **P 22 38 51.0 -1.5**
comp=Z,17nm,1.0s,mb5.0
KMBO *epP* pP 22 38 55.0 -3.9
CTA Charters Tower 58.07 119 LR LR 23 08 16.1
comp=Z,649nm,18.4s,MS4.8,baz=141,slow=40
ASF Jabal al Asfar 58.46 303 P **P 22 38 55.6 -2.8**
comp=Z,2.7nm,1.1s,mb4.2,baz=188,slow=22,SNR=2.9
ASF LR LR 23 06 53.1
comp=Z,635nm,19.8s,MS4.7,baz=319,slow=39
SOKR Solikamsk 59.02 339 ||*iP* **P 22 39 00.8 -1.2**
SOKR pmax pmax
comp=Z,80nm,1.0s,mb5.7
SOKR MLR MLR
comp=Z,1μm,21.0s,MS5.1
SOC Sochi 59.43 317 *eP* **P 22 39 03.9 -1.1**
SOC *e* 22 39 48.6
SOC *e* 22 41 17.4
SOC *ePPP* PPP 22 42 40.8 -2.4
SOC *eS* **S 22 47 12.6 +1.4**
SOC *e* 22 48 41.4
SOC *eSS* SS 22 50 58.6 -9.2
SOC pmax pmax
comp=Z,27nm,0.9s,mb5.3
SOC pmax pmax
comp=N,19nm,1.0s
SOC pmax pmax
comp=E,12nm,0.9s
SOC MLR MLR
comp=Z,619nm,23.0s,MS4.7
EIL Elat 59.66 300 *eP* **P 22 39 04.2 -2.7**
comp=Z,24nm,1.3s,mb5.1
STKA Stephens Creek 59.86 134 P **P 22 39 06.3 -1.8**
comp=Z,1.4nm,1.1s,baz=308,slow=11,SNR=2.0
STKA LR LR 23 06 05.5
comp=Z,896nm,18.8s,MS4.9,baz=85,slow=37
STKA Stephens Creek 59.86 134 *eP* **P 22 39 09.0 +0.9**
YAK Yakutsk 60.10 18 *eP* **P 22 39 08.8 -0.6**
YAK pmax pmax
comp=Z,40nm,0.9s,mb5.5
YAK pmax pmax
comp=N,23nm,1.2s
YAK pmax pmax
comp=E,15nm,1.2s
YAK MLR MLR
comp=N,882nm,13.0s,MS5.2
YAK MLR MLR
comp=Z,1μm,13.0s,MS5.2
YAK MLR MLR
comp=E,475nm,12.0s,MS5.2
YAK Yakutsk 60.10 18 *i* P **P 22 39 08.7 -0.7**
VRSR Storozhevoye 62.62 324 *eP* **P 22 39 25.6 -0.9**
VRSR *e*PP* pP 22 39 31.3 -1.7
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.4
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,0.9s
VRSR MLR MLR
comp=Z,640nm,19.4s,MS4.8
VRSR MLR MLR
comp=N,680nm,20.1s,MS4.9
VRSR MLR MLR
comp=E,360nm,19.1s,MS4.9
BRTR Keskin Array B 62.67 311 P **P 22 39 22.7 -4.4**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 62.67 311 P **P 22 39 22.7 -4.4**
comp=Z,3.5nm,0.8s,mb4.5,baz=127,slow=6.6,SNR=15
VOR Voronezh 62.82 325 *eP* **P 22 39 27.5 -0.3**
VOR *e* pP 22 39 36.0 +1.6
VOR pmax pmax
comp=Z,80nm,1.3s,mb5.7
VOR pmax pmax
comp=E,90nm,1.4s
SIM Simferopol' 63.67 317 P **P 22 39 36.2 +2.6**
SIM pmax pmax
comp=Z,18nm,1.1s,mb5.0
SIM MLR MLR
comp=Z,370nm,18.0s,MS4.6
MBAR Mbarara 63.92 266 P **P 22 39 33.1 -2.7**
MBAR *e*PP* pP 22 39 39.9 -2.4
MBAR pmax pmax
comp=Z,15nm,1.1s,mb4.9
MBAR Mbarara 63.92 266 P **P 22 39 33.1 -2.6**
comp=Z,15nm,1.1s,mb4.9
MBAR *epP* pP 22 39 39.9 -2.4
MOS Moscow 65.32 329 *eP* **P 22 39 42.3 -1.8**
MOS *e* 22 40 14.5
MOS *e* 22 42 07.1
MOS *eS* S 22 48 20.9 -4.2
MOS pmax pmax
comp=Z,149nm,1.4s,mb5.8
MOS MLR MLR
comp=Z,2μm,20.0s,MS5.2
OBN Obninsk 65.62 328 ||*iP* **P 22 39 42.9 -3.1**
OBN *e* 22 42 06.1
OBN pmax pmax
comp=Z,94nm,1.2s,mb5.7
OBN MLR MLR
comp=Z,700nm,21.0s,MS4.8
OBN Obninsk 65.62 328 *iP* **P 22 39 42.0 -4.0**
MA2 Magadan 66.84 27 *eP* **P 22 39 55.5 +1.8**
MA2 *eS* S 22 48 43.6 0.0
MA2 *ePS* PS 22 49 03.6 -5.2
MA2 pmax pmax
comp=Z,20nm,1.9s,mb4.8
MA2 MLR MLR
comp=Z,900nm,22.5s,MS4.9
MA2 Magadan 66.84 27 *iP* **P 22 39 53.7 0.0**
TIXI Tiksi 67.37 11 ⇑*iP* **P 22 39 54.4 -2.5**
TIXI pmax pmax
comp=Z,46nm,0.7s,mb5.6
TIXI MLR MLR
comp=Z,1μm,15.0s,MS5.2
TIXI Tiksi 67.37 11 *iP* **P 22 39 56.1 -0.8**
KIS Kishinev 67.77 318 *eP* **P 22 39 56.0 -3.8**
KIS *e* pP 22 40 04.0 -2.3
AKASG Malin Array Be 68.40 322 *iP* **P 22 40 02.5 -1.2**
AKASG pmax pmax
comp=Z,10.0nm,0.9s
AKASG Malin Array Be 68.40 322 P **P 22 39 59.9 -3.8**
comp=Z,10.0nm,0.9s,mb4.8,baz=90,slow=4.7,SNR=17
IDI Anoyia 68.81 305 P **P 22 40 04.0 -2.5**
comp=Z,14nm,0.8s,mb5.0,baz=87,slow=6.2,SNR=9.9
SEY Seymchan 69.01 25 *eP* **P 22 40 08.3 +1.0**
SEY *e* 22 40 30.9
SEY 22 42 40.4
SEY PPP PPP 22 44 24.0 +3.9
SEY *eS* S 22 49 09.5 0.0
SEY SS SS 22 53 36.6 -0.7
SEY pmax pmax
comp=Z,20nm,0.9s,mb5.0
SEY MLR MLR
comp=Z,3μm,18.0s,MS5.6
SEY MLR MLR
comp=N,4μm,19.0s,MS5.8
SEY MLR MLR
comp=E,2μm,16.0s,MS5.8
LSZ Lusaka 69.37 251 *eP* **P 22 40 06.4 -3.9**
LSZ *e*PP* pP 22 40 14.9 -1.9
LSZ pmax pmax
comp=Z,37nm,1.5s,mb5.1
LSZ Lusaka 69.37 251 *eP* **P 22 40 06.4 -3.8**
comp=Z,37nm,1.5s,mb5.1
LSZ *epP* pP 22 40 14.8 -1.9
JOF Joensuu 71.08 334 *ep* **P 22 40 18.0 -1.9**
comp=Z,35nm,1.0s,mb5.2
BOLS Boljevac 71.99 314 ⇑*iP* **P 22 40 25.7 0.0**
KWP Kalwaria 72.28 320 *eP* **P 22 40 27.3 +0.1**
KWP *e* 22 40 29.8
KWP Kalwaria 72.28 320 *eP* **P 22 40 27.3 +0.1**
KWP *e* 22 40 29.8
KOLS Kolonicke sedl 72.45 319 *eP* **P 22 40 29.2 +0.9**
SUW Suwalki 72.75 324 *eP* **P 22 40 30.4 +0.5**
SUW *e* 22 40 32.6
SUW Suwalki 72.75 324 *eP* **P 22 40 30.4 +0.4**
SUW *e* 22 40 32.5
FINES FINESS Array B 72.95 332 P **P 22 40 28.3 -2.7**
FINES pmax pmax
comp=Z,18nm,0.9s
FINES MLR MLR
comp=Z,530nm,18.4s
FINES FINESS Array B 72.95 332 P **P 22 40 28.3 -2.7**
comp=Z,18nm,0.9s,mb5.0,baz=100,slow=6.1,SNR=19
FINES LR LR 23 18 42.9
comp=Z,530nm,18.4s,MS4.8,baz=285,slow=41
CRVS Cervenica-Dubn 72.97 319 *eP* **P 22 40 35.2 +3.8**
CRVS Cervenica-Dubn 72.97 319 *epP* pP 22 40 35.2 -2.7
KAF Kangasniemi 73.03 333 *ep* **P 22 40 28.4 -3.0**
comp=Z,40nm,1.1s,mb5.3
KAF Kangasniemi 73.03 333 *eP* **P 22 40 28.4 -3.0**
KAF pmax pmax
comp=Z,40nm,1.1s,mb5.3
NIE Niedzica 73.79 319 *eP* **P 22 40 37.7 +1.6**
PSZ Piszkesteto 73.89 318 *eP* **P 22 40 34.4 -2.3**
PSZ pmax pmax
comp=Z,52nm,1.8s,mb5.2
PSZ Piszkesteto 73.89 318 *eP* **P 22 40 34.4 -2.3**
comp=Z,52nm,1.8s,mb5.2
PSZ Piszkesteto 73.89 318 *eP* **P 22 40 37.9 +1.2**
OJC Ojcow 74.22 320 *eP* **P 22 40 39.4 +0.8**
LBTB Lobatse 74.31 241 *eP* **P 22 40 37.8 -1.8**
LBTB *e*PP* pP 22 40 44.6 -1.6
LBTB pmax pmax
comp=Z,13nm,0.8s,mb4.9
LBTB Lobatse 74.31 241 *eP* **P 22 40 37.8 -1.8**
comp=Z,13nm,0.8s,mb4.9
LBTB *epP* pP 22 40 44.6 -1.6
PKSM Moragy 74.57 316 *eP* **P 22 40 40.9 +0.2**
VYHS Vyhne 74.65 318 *eP* **P 22 40 41.9 +0.8**
OKC Ostrava-Krasne 75.24 319 *eP* **P 22 40 45.6 +1.1**
ARCES ARCESS Array B 75.49 340 P **P 22 40 43.9 -1.6**
ARCES pmax pmax
comp=Z,14nm,0.9s
ARCES MLR MLR
comp=Z,1μm,19.5s
ARCES ARCESS Array B 75.49 340 P **P 22 40 43.9 -1.6**
comp=Z,14nm,0.9s,mb4.9,baz=90,slow=6.1,SNR=11
ARCES LR LR 23 16 46.9
comp=Z,1μm,19.5s,MS5.2,baz=325,slow=38
MORC Moravsky Berou 75.62 319 *eP* **P 22 40 45.5 -1.2**
MORC pmax pmax
comp=Z,41nm,1.3s,mb5.2
MORC Moravsky Berou 75.62 319 *eP* **P 22 40 45.5 -1.2**
comp=Z,41nm,1.3s,mb5.2
BOSA Boshof 75.64 238 *eP* **P 22 40 45.0 -2.2**
BOSA *e*PP* pP 22 40 52.0 -1.8
BOSA pmax pmax
comp=Z,22nm,1.0s,mb5.0
BOSA Boshof 75.64 238 *eP* **P 22 40 45.0 -2.2**
comp=Z,22nm,1.0s,mb5.0
BOSA *epP* pP 22 40 52.0 -1.8
ZST Bratislava 75.78 318 *eP* **P 22 40 48.5 +0.9**
ZST *e* 22 40 50.8
DPC Dobruska-Polom 76.45 320 *eP* **P 22 40 50.6 -0.7**
KSP Ksiaz 76.51 320 *eP* **P 22 40 50.9 -0.7**
KSP *epP* pP 22 40 55.1 -3.1
KSP Ksiaz 76.51 320 *eP* **P 22 40 52.7 +1.0**
KSP *e* 22 40 55.8
UPC Upice 76.66 320 *eP* **P 22 40 52.9 +0.4**
FX1 Attu Island--F 77.17 38 LR LR 23 18 18.7
comp=Z,9.9nm,20.7s,baz=181,slow=38
PRU Pruhonice 77.57 319 *eP* **P 22 40 58.3 +0.8**
PVCC Panska Ves 77.58 320 *eP* **P 22 40 58.7 +1.1**
BRG Berggiesshubel 78.00 320 *eP* **P 22 41 01.2 +1.4**
BRG *e* 22 41 10.8
BRG pmax pmax
comp=Z,38nm,1.4s,mb5.1
BRG MLR MLR
comp=Z,590nm,15.4s,MS5.0
BRG Berggiesshubel 78.00 320 *eP* **P 22 41 01.2 +1.4**
comp=Z,38nm,1.4s,mb5.1
BRG *e* 22 41 10.8
BRG LR LR
comp=Z,590nm,15.4s,MS5.0
GEC2 GERESS Array S 78.07 318 *eP* **P 22 41 00.9 +0.6**
GEC2 pmax pmax
comp=Z,28nm,1.2s,mb5.1
GEC2 GERESS Array S 78.07 318 *eP* **P 22 41 00.9 +0.6**
comp=Z,28nm,1.2s,mb5.1
GERES GERESS Array B 78.07 318 P **P 22 40 59.0 -1.3**
GERES pmax pmax
comp=Z,8.0nm,1.0s
GERES GERESS Array B 78.07 318 P **P 22 40 59.0 -1.3**
comp=Z,7.7nm,0.9s,mb4.6,baz=82,slow=5.6,SNR=20
KHC Kasperske Hory 78.16 319 *eP* **P 22 41 02.0 +1.2**
KHC *e* 22 41 13.0
KHC Kasperske Hory 78.16 319 *eP* **P 22 41 02.0 +1.2**
KHC *e* 22 41 04.0
KHC *e* 22 41 13.0
KHC Kasperske Hory 78.16 319 *eP* **P 22 41 02.0 +1.2**
KHC pP pP 22 41 04.0 -3.4
KHC x x 22 41 13.0
RUE Ruedersdorf 78.17 322 *eP* **P 22 40 58.6 -2.2**
comp=Z,67nm,1.0s,mb5.5
RUE *epP* pP 22 41 03.5 -3.9
MAW Mawson 78.40 192 LR LR 23 11 09.4
comp=Z,671nm,18.8s,MS5.0,baz=56,slow=32
CLL Collm 78.61 321 *iP* **P 22 41 04.5 +1.3**
CLL *i* 22 41 14.1
CLL pmax pmax
comp=Z,27nm,1.4s,mb5.0
CLL MLR MLR
comp=Z,400nm,20.5s,MS4.7
CLL Collm 78.61 321 *iP* **P 22 41 04.5 +1.3**
comp=Z,27nm,1.4s,mb5.0
CLL *i* 22 41 14.1
CLL LR LR
comp=Z,400nm,20.5s,MS4.7
CLL Collm 78.61 321 P **P 22 41 04.5 +1.3**
comp=Z,logA/T=1.3,mb5.0
CLL *i* 22 41 14.1
WET Wettzell 78.62 319 *eP* **P 22 41 03.9 +0.6**
WET pmax pmax
comp=Z,40nm,1.5s,mb5.1
WET Wettzell 78.62 319 *eP* **P 22 41 03.9 +0.6**
comp=Z,40nm,1.5s,mb5.1
NKC Novy Kostel 78.93 320 *eP* **P 22 41 01.5 -3.5**
MOX Moxa 79.47 320 *eP* **P 22 41 11.1 +3.2**
MOX pmax pmax
comp=Z,24nm,1.6s,mb4.9
MOX MLR MLR
comp=Z,500nm,20.0s,MS4.8
MOX Moxa 79.47 320 *eP* **P 22 41 11.1 +3.2**
comp=Z,24nm,1.6s,mb4.9
MOX LR LR
comp=Z,500nm,20.0s,MS4.8
MOX Moxa 79.47 320 *iP* **P 22 41 11.1 +3.2**
comp=Z,logA/T=1.2,mb4.9
MOX L 23 22 38.0
FUR Furstenfeldbru 79.67 318 *eP* **P 22 41 09.2 +0.1**
GRA1 Grafenberg Arr 79.71 319 *eP* **P 22 41 10.3 +1.1**
comp=Z,78nm,1.5s,mb5.4
GRF Grafenberg Arr 79.71 319 *eP* **P 22 41 10.3 +1.1**
GRF pmax pmax
comp=Z,78nm,1.5s,mb5.4
GRF Grafenberg Arr 79.71 319 *eP* **P 22 41 10.3 +1.1**
GRF pmax pmax
comp=Z,78nm,1.5s,mb5.4
GRF Grafenberg Arr 79.71 319 *eP* **P 22 41 10.3 +1.1**
comp=Z,78nm,1.5s,mb5.4
NB2 NORSAR Subarra 79.97 331 P **P 22 41 08.7 -1.7**
comp=Z,48nm,1.4s,mb5.2,baz=95,slow=5.3
NB2 NORSAR Subarra 79.97 331 P **P 22 41 08.7 -1.7**
baz=95,slow=5.3
NOA NORSAR Array B 79.97 331 P **P 22 41 08.8 -1.6**
NOA pmax pmax
comp=Z,16nm,1.0s
NOA MLR MLR
comp=Z,485nm,18.9s
NOA NORSAR Array B 79.97 331 P **P 22 41 08.8 -1.6**
comp=Z,16nm,1.0s,mb4.9,baz=93,slow=5.6,SNR=20
NOA LR LR 23 21 31.9
comp=Z,485nm,18.9s,MS4.9,baz=100,slow=40
NAO01 NORSAR Array S 80.12 330 *eP* **P 22 41 09.8 -1.4**
comp=Z,22nm,1.0s,mb5.0
CLZ Clausthal 80.26 321 *eP* **P 22 41 12.7 +0.6**
comp=Z,49nm,1.5s,mb5.2
MUD Monsted U'grnd 80.95 326 *eP* **P 22 41 18.9 +3.2**
MUD Monsted U'grnd 80.95 326 *iP* **P 22 41 18.9 +3.2**
TNS Taunus Mts 81.50 320 *eP* **P 22 41 19.4 +0.7**
BFO Black Forest 81.64 318 *eP* **P 22 41 19.6 +0.2**
BFO pmax pmax
comp=Z,15nm,1.2s,mb4.8
BFO Black Forest 81.64 318 *eP* **P 22 41 19.6 +0.2**
comp=Z,15nm,1.2s,mb4.8
LPG La Plagne 82.86 315 *eP* **P 22 41 25.9 0.0**
comp=Z,79nm,1.3s,mb5.3
LPG La Plagne 82.86 315 *eP* **P 22 41 25.9 0.0**
LPG pmax pmax
comp=Z,39nm,1.3s,mb5.3
BNI Bardonecchia 82.94 314 *eP* **P 22 41 25.9 -0.4**
BNI *e*PP* pP 22 41 32.7 -0.3
SYO Syowa Base 85.29 197 ⇑⇑P **P 22 41 39.2 +1.6**
TNA Tin City 86.25 24 *eP* **P 22 41 44.0 +1.6**
ESDC Sonseca Array 91.46 310 P **P 22 42 06.3 -1.4**
comp=Z,0.8nm,0.7s,mb4.2,baz=295,slow=38,SNR=3.5
IMA Indian Mountai 91.72 22 *eP* **P 22 42 10.0 +1.7**
VNDA Vanda 92.72 168 LR LR 23 18 43.2
comp=Z,379nm,18.3s,MS4.9,baz=298,slow=32
SVW2 Sparrevohn 92.82 27 *eP* **P 22 42 17.0 +3.5**
ILAR Eielson Array 94.84 22 P **P 22 42 24.0 +1.3**
ILAR 22 46 17.9
ILAR pmax pmax
comp=Z,2.0nm,1.0s
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR MLR MLR
comp=Z,349nm,18.1s
ILAR Eielson Array 94.84 22 P **P 22 42 24.0 +1.3**
comp=Z,2.1nm,1.0s,mb4.5,baz=302,slow=4.9,SNR=11
ILAR PP PP 22 46 17.9 +4.1
comp=Z,0.9nm,1.0s,baz=304,slow=8.3,SNR=6.9
ILAR LR LR 23 32 44.0
comp=Z,349nm,18.1s,MS4.9,baz=229,slow=40
PMR Palmer 95.45 25 *eP* **P 22 42 28.5 +3.0**
PMR MLR MLR
comp=Z,500nm,17.0s,MS5.0
SLKM Skilak Lake 95.46 27 *eP* **P 22 42 28.2 +2.6**
INK Inuvik 97.11 16 P **P 22 42 34.7 +1.8**
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 97.11 16 P **P 22 42 34.7 +1.8**
comp=Z,7.2nm,1.0s,mb5.1,baz=321,slow=5.0,SNR=7.4
RES Resolute Bay 97.57 2 *eP* **P 22 42 35.7 +0.8**
RES pmax pmax
comp=Z,9.0nm,0.9s,mb5.3
RES Resolute Bay 97.57 2 *eP* **P 22 42 35.7 +0.8**
comp=Z,9.0nm,0.9s,mb5.3
DBIC Dimbokro 98.14 278 LR LR 23 26 54.6
comp=Z,484nm,19.0s,MS5.0,baz=176,slow=36
YKA Yellowknife Ar 106.55 14 Pdiff Pdif 22 43 19.0 +3.8
comp=Z,0.2nm,0.5s,baz=331,slow=3.8,SNR=4.5
YKA PP PP 22 47 36.1 -7.2
comp=Z,0.2nm,0.7s,baz=326,slow=2.0,SNR=3.9
TBI Tubuai 117.06 112 *ePS* PS 22 58 41.1 +1.6
TBI *eSS* SS 23 05 08.6 +4.8

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TBI				*e*LR	LR	23 23 28.3	
	comp=Z,275nm,23.0s						
PPT	**Papeete**	**117.13**	**106**	*e*SS	SS	23 04 56.4	-8.4
PPT				*e*LR	LR	23 23 52.6	
	comp=Z,271nm,24.8s						
ULM	**Lac du Bonnet**	**121.61**	**8**	PKP	PKPdf	22 47 56.4	-1.6
	comp=Z,4.0nm,0.7s,baz=249,slow=0.3,SNR=8.7						
ULM	**Lac du Bonnet**	**121.61**	**8**	PKP	PKPdf	22 47 56.4	-1.6
NVAR	**Mina Array Bea**	**124.98**	**31**	PKP	PKPdf	22 48 04.6	-0.3
	comp=Z,2.4nm,0.7s,baz=352,slow=1.4,SNR=12						
PDAR	**Pinedale Array**	**125.27**	**21**	PKP	PKPdf	22 48 04.0	-1.3
	comp=Z,4.2nm,0.9s,baz=45,slow=2.1,SNR=14						
TXAR	**Lajitas Array**	**139.31**	**24**	PKP	PKPdf	22 48 31.6	-0.4
	comp=Z,0.8nm,0.6s,baz=270,slow=2.5,SNR=6.3						
PLCA	**Paso Flores**	**144.44**	**200**	PKIKP	PKPdf	22 48 40.3	-0.4
PLCA				pmax	pmax		
	comp=Z,11nm,1.0s						
PLCA	**Paso Flores**	**144.44**	**200**	PKP	PKPdf	22 48 40.2	-0.5
	comp=Z,11nm,0.9s,baz=157,slow=4.9,SNR=11						
LPAZ	**La Paz**	**160.84**	**242**	PKIKP	PKPdf	22 49 05.6	+0.8
LPAZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LPAZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LPAZ	**La Paz**	**160.84**	**242**	PKP	PKPdf	22 49 05.6	+0.8
	comp=Z,2.7nm,0.9s,baz=39,slow=4.4,SNR=7.3						
LPAZ				PKPab	PKPab	22 49 48.0	+2.6
	comp=Z,4.0nm,1.1s,baz=85,slow=4.9,SNR=5.9						
LPAZ	**La Paz**	**160.84**	**242**	PKP	PKPdf	22 49 05.6	+0.8
LPAZ				PKPab	PKPab	22 49 48.0	+2.6

BJI ***28*** *22:35:16.7, 6.89N×93.56E, h21km, mB5.5, mb4.9, Ms5.2, Msz5.0*

IDC ***28*** *22:35:24.6±0.5, 7.76N×94.06E, h17km±2km, mb4.8/28, mb1 4.8/29, mb1mx4.8/29, mbtmp4.8/29, ML4.3/1, Error ellipse: s-maj=18.3km s-min=10.3km az=48.0*

MOS ***28*** *22:35:25.3±1.0, 7.78N×94.07E, h33km, mb5.3/91, Error ellipse: s-maj=9.2km s-min=4.6km az=122.0*

NEIC ***28*** *22:35:25.3±0.1, 7.73N×94.02E, mb5.2/85, Error ellipse: s-maj=4.8km s-min=3.6km az=47.0*

HRVD ***28*** *22:35:25.3±0.4, 7.71N×94.01E, h15km±2km, MW5.1/46, Centroid moment Tensor Solution. LP body waves: s12,c13;Mantle waves: s46,c71; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.14±.60; $M_{\theta\theta}$-0.33±.30; $M_{\phi\phi}$4.47±.37; $M_{r\theta}$0.17±1.18; $M_{\theta\phi}$2.44±.18; $M_{\theta r}$-3.72±.95; Best double couple: $M_0$6.156×10^{16} NP1:ϕ_s224°,δ31°, λ-55°. NP2:ϕ_s5°,δ65°,λ-109°. Principal axes: T 6.582, Plg18°, Azm109°; N -.852, Plg17°, Azm13°; P -5.73, Plg65°, Azm242°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 28 22:35:23.4±0.2, 7.73N±0.03×94.08E±0.03, h22km, h22km±.5km:pP-P, n359, σ1§00/350, mb5.1/126, MS5.0/6, 20C-9D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.12**	**341**	*e*P	**Pn**	**22 36 32.9**	**+6.2**
PBA				*e*S	**Sn**	**22 37 20.3**	**+5.4**
CM31	**Chiang Mai Arr**	**11.67**	**23**	*e*Pn	**P**	**22 38 11.3**	**-0.5**
	287nm,1.3s						
CM31				*e*pPn		22 38 17.2	
CMAR	**Chiang Mai Arr**	**11.67**	**23**	P	**P**	**22 38 16.5**	**+4.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.67**	**23**	Pn	**P**	**22 38 16.5**	**+4.7**
	comp=Z,0.6nm,0.3s,baz=213,slow=14,SNR=34						
PALK	**Pallekele**	**13.27**	**269**	*e*Pn	**P**	**22 38 31.5**	**-1.8**
	comp=Z,38nm,1.0s						
VIS	**Vishakhapatnam**	**14.44**	**314**	*e*P	**P**	**22 38 48.1**	**-0.7**
VIS				*e*		22 38 51.6	
	comp=Z,72nm,0.8s						
VIS				*e*	**S**	**22 41 16.4**	**-13**
BWNR	**Bhubaneshwar**	**14.84**	**328**	*e*P	**P**	**22 38 53.2**	**-0.9**
BWNR				*e*		22 38 58.7	
	comp=Z,62nm,0.6s						
BWNR				*e*	**S**	**22 41 27.8**	**-11**
KOD	**Kodaikanal**	**16.60**	**280**	*e*P	**P**	**22 39 17.6**	**+1.0**
KOD				*e*		22 39 46.6	
	comp=Z,148nm,1.4s						
KOD				*e*		22 42 08.1	
KOD				*e*S	**S**	**22 42 23.8**	**+4.2**
IMP	**Imphal**	**16.96**	**360**	*e*	**P**	**22 39 21.1**	**-0.1**
SHL	**Shillong**	**17.86**	**354**	*i* P	**P**	**22 39 32.0**	**-0.4**
SHL				*e*P		22 39 33.0	
HYB	**Hyderabad**	**17.94**	**304**	*e*P	**P**	**22 39 35.5**	**+2.0**
HYB				*e*S	**S**	**22 42 52.0**	**+1.8**
HYB	**Hyderabad**	**17.94**	**304**	*i* P	**P**	**22 39 35.5**	**+2.0**
	comp=Z,100nm,1.2s						
HYB				*e*S	**S**	**22 42 52.0**	**+1.8**
QIZ	**Qiongzhong**	**18.99**	**52**	P	**P**	**22 39 50.8**	**+4.6**
QIZ	**Qiongzhong**	**18.99**	**52**	P	**P**	**22 39 45.8**	**-0.4**
	comp=Z,414nm,1.5s						
QIZ				*e*pP		22 39 51.7	
KMI	**Kunming**	**19.17**	**25**	P	**P**	**22 39 52.9**	**+4.5**
KMI				pmax	pmax		
	comp=Z,12nm,1.2s						
KMI	**Kunming**	**19.17**	**25**	P	**P**	**22 39 52.9**	**+4.5**
	comp=Z,12nm,1.2s						
COCO	**West Island**	**19.98**	**172**	*e*P	**P**	**22 39 59.0**	**+1.5**
	comp=Z,319nm,1.2s						
LATR	**Latur**	**20.08**	**304**	*e*P	**P**	**22 39 58.6**	**+0.1**
LATR				*e*	**S**	**22 43 33.5**	**-4.3**
JIRN	**Jiri**	**21.19**	**340**	*e*P	**P**	**22 40 09.9**	**0.0**
	comp=Z,234nm,0.7s,mb5.6						
GOA	**Goa**	**21.28**	**293**	*e*P	**P**	**22 40 21.7**	**+11**
GOA				*e*		22 40 34.8	
	comp=Z,101nm,1.6s						
GOA				*e*S	**S**	**22 44 17.9**	**+17**
PKI	**Pulchoki**	**21.38**	**338**	*e*P	**P**	**22 40 11.7**	**-0.1**
	comp=Z,170nm,0.7s,mb5.5						
DMN	**Daman**	**21.52**	**338**	*e*P	**P**	**22 40 13.7**	**+0.4**
	comp=Z,219nm,0.8s,mb5.7						
KAD	**Karad**	**21.61**	**298**	*e*P	**P**	**22 40 13.9**	**-0.3**
KKN	**Kakani**	**21.62**	**338**	*e*P	**P**	**22 40 14.5**	**+0.2**
	comp=Z,263nm,0.9s,mb5.7						
LSA	**Lhasa**	**22.03**	**353**	*e*P	**P**	**22 40 19.0**	**+0.7**
LSA				pmax	pmax		
	comp=Z,84nm,0.7s,mb5.3						
LSA	**Lhasa**	**22.03**	**353**	*e*P	**P**	**22 40 18.9**	**+0.6**
	comp=Z,84nm,0.7s,mb5.3						
GKN	**Gorkha**	**22.06**	**337**	*e*P	**P**	**22 40 19.1**	**+0.5**
	comp=Z,391nm,1.1s,mb5.8						
BHPL	**Bhopal**	**22.22**	**316**	*e*P	**P**	**22 40 20.8**	**+0.5**
BHPL				*e*		22 40 27.5	
	comp=Z,109nm,1.3s						
KOLN	**Koldanda**	**22.27**	**335**	*e*P	**P**	**22 40 22.0**	**+1.3**
	comp=Z,480nm,1.1s,mb5.8						
POO	**Poona**	**22.41**	**301**	*i* S	**S**	**22 44 32.0**	**+10**
NDI	**New Delhi**	**26.22**	**325**	*e*P	**P**	**22 40 59.2**	**+0.4**
NDI				*e*	**S**	**22 45 27.5**	**-0.1**
ENH	**Enshi**	**26.68**	**31**	*e*P	**P**	**22 41 03.9**	**+0.9**
	comp=Z,8.7nm,0.8s,mb4.3						
DDI	**Dehra Dun**	**27.04**	**328**	*e*P	**P**	**22 41 12.0**	**+5.8**
DDI				*e*S	**S**	**22 45 48.0**	**+7.1**
SMLA	**Simla**	**28.14**	**328**	*e*P	**P**	**22 41 27.6**	**+11**
SMLA				*e*		22 41 36.3	
	comp=Z,48nm,1.1s						
SMLA				*e*S	**S**	**22 46 12.6**	**+14**
XAN	**Xi'an**	**29.55**	**26**	P	**P**	**22 41 29.5**	**+0.6**
XAN				AP	pP	22 41 36.0	+0.7
XAN				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.6						
LZH	**Lanzhou**	**29.60**	**16**	⇑P	**P**	**22 41 31.0**	**+1.6**
LZH				AP	pP	22 41 37.0	+1.3
LZH				XP	sP	22 41 40.0	+1.5
LZH				AMB	AMB		
	comp=Z,74nm,1.7s,mb5.1						
LZH	**Lanzhou**	**29.60**	**16**	⇑P	**P**	**22 41 31.0**	**+1.6**
LZH				*SP	sP	22 41 40.0	+1.5
LZH				pmax	pmax		
	comp=Z,74nm,1.7s,mb5.1						
LZH	**Lanzhou**	**29.60**	**16**	⇑P	**P**	**22 41 31.0**	**+1.6**
	comp=Z,74nm,1.7s,mb5.1						
LZH				pP	pP	22 41 37.0	+1.3
LZH				sP	sP	22 41 40.0	+1.5
NJ2	**Nanjing**	**33.42**	**40**	*e*P	**P**	**22 42 07.3**	**+4.4**
NJ2				AP	pP	22 42 17.5	+8.2
NJ2				XP	sP	22 42 20.3	+8.3
NJ2				PP	PP	22 43 20.0	+5.0
NJ2				AMB	AMB		
	comp=Z,1μm,5.3s						
NJ2				LR	LR		
	comp=N,4μm,14.2s,MS5.5						
NJ2				LR	LR		
	comp=E,4μm,10.9s,MS5.5						
NJ2				LR	LR		
	comp=Z,5μm,13.2s,MS5.4						
SSE	**Sheshan**	**34.37**	**44**	*e*P	**P**	**22 42 09.0**	**-2.1**
SSE				AMB	AMB		
	comp=Z,19nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,316nm,12.5s						
SSE	**Sheshan**	**34.37**	**44**	*e*P	**P**	**22 42 09.0**	**-2.1**
	comp=Z,19nm,0.7s,mb5.1						
WMQ	**Urumqi**	**36.38**	**352**	*e*P	**P**	**22 42 29.3**	**+1.2**
WMQ				AP	pP	22 42 35.0	+0.5
WMQ				XP	sP	22 42 38.0	+0.7
WMQ				PP	PP	22 43 53.0	+1.1
WMQ				PCP	PcP	22 44 53.5	+0.8
WMQ				S	**S**	**22 48 09.0**	**+1.4**
WMQ				AMB	AMB		
	comp=Z,149nm,1.5s,mb5.7						
WMQ				AMB	AMB		
	comp=Z,708nm,5.6s						
WMQ				LR	LR		
	comp=N,2μm,18.3s,MS5.0						
WMQ				LR	LR		
	comp=E,2μm,18.4s,MS5.0						
WMQ				LR	LR		
	comp=Z,3μm,18.7s,MS5.0						
BJT	**Baijiatuau**	**37.74**	**28**	*e*P	**P**	**22 42 41.2**	**+1.6**
BJT				pmax	pmax		
	comp=Z,22nm,0.8s						
BJT	**Baijiatuau**	**37.74**	**28**	*e*P	**P**	**22 42 41.2**	**+1.7**
	comp=Z,22nm,0.8s,mb4.9						
BJI	**Beijing**	**37.76**	**28**	P	**P**	**22 42 42.5**	**+2.8**
BJI				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
BJI	**Beijing**	**37.76**	**28**	P	**P**	**22 42 42.5**	**+2.8**
	comp=Z,14nm,1.0s,mb4.7						
SMDO	**Samad**	**37.80**	**298**	⇑P	**P**	**22 42 43.0**	**+2.8**
BIDO	**Bidbid**	**37.87**	**299**	⇓P	**P**	**22 42 43.0**	**+2.2**
BSY	**Bisya**	**38.45**	**297**	P	**P**	**22 42 48.3**	**+2.6**
	SNR=9.7						
UCH	**Uchtor**	**38.46**	**336**	P	**P**	**22 42 46.0**	**+0.4**
	SNR=7.8						
HOQ	**Hoqain**	**38.60**	**298**	P	**P**	**22 42 49.9**	**+2.9**
	SNR=13						
KBK	**Karagaybulak**	**38.66**	**337**	P	**P**	**22 42 50.5**	**+3.3**
	SNR=8.7						
AML	**Almayashu**	**38.71**	**336**	P	**P**	**22 42 49.1**	**+1.4**
	SNR=17						
AAK	**Ala-Archa**	**38.81**	**337**	P	**P**	**22 42 50.5**	**+1.9**
	SNR=8.2						
AAK	**Ala-Archa**	**38.81**	**337**	*e*P	**P**	**22 42 47.8**	**-0.8**
AAK				pmax	pmax		
	comp=Z,39nm,1.4s,mb4.9						
AAK	**Ala-Archa**	**38.81**	**337**	*e*P	**P**	**22 42 47.8**	**-0.8**
	comp=Z,39nm,1.4s,mb4.9						
CHMS	**Chumysh**	**39.02**	**337**	P	**P**	**22 42 50.8**	**+0.5**
	SNR=8.0						
ARQ	**Araqi**	**39.22**	**298**	P	**P**	**22 42 55.3**	**+3.1**
	SNR=8.0						
USP	**Ospenovka**	**39.35**	**337**	P	**P**	**22 42 53.5**	**+0.5**
	SNR=12						
FITZ	**Fitzroy Crossi**	**40.36**	**130**	*e*P	**P**	**22 43 00.7**	**-0.9**
	comp=Z,21nm,1.4s,mb4.7						
SONM	**Songino Array**	**41.32**	**13**	P	**P**	**22 43 10.6**	**+1.4**
	comp=Z,11nm,0.8s,mb4.5,baz=195,slow=8.3,SNR=56						
SONM				PcP	PcP	22 45 08.9	+0.8
	comp=Z,1.7nm,0.6s,baz=219,slow=4.1,SNR=4.1						
ULN	**Ulaanbaatar**	**41.49**	**13**	*i* P	**P**	**22 43 11.2**	**+0.6**
ULN	**Ulaanbaatar**	**41.49**	**13**	*e*P	**P**	**22 43 11.3**	**+0.7**
	comp=Z,7.2nm,0.8s,mb4.3						
SNY	**Shenyang**	**42.82**	**33**	⇓P	**P**	**22 43 23.5**	**+1.9**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
ZAK	**Zakamensk**	**43.20**	**9**	⇓*i*P	**P**	**22 43 23.0**	**-1.5**
ZAK				*e*		22 45 10.1	
TLY	**Talaya**	**44.52**	**8**	*e*P	**P**	**22 43 36.4**	**+1.2**
TLY				*e**PP	pP	22 43 43.2	+1.5
TLY				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
TLY	**Talaya**	**44.52**	**8**	*e*P	**P**	**22 43 36.4**	**+1.1**
	comp=Z,12nm,1.0s,mb4.7						
TLY				*e*pP	pP	22 43 43.2	+1.5
KURK	**Kurchatov**	**44.74**	**346**	*e*P	**P**	**22 43 36.0**	**-1.0**
KURK				*e**PP	pP	22 43 43.6	+0.1
KURK				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.2						
KURK	**Kurchatov**	**44.74**	**346**	*e*P	**P**	**22 43 36.0**	**-0.9**
	comp=Z,39nm,1.1s,mb5.2						
KURK				*e*pP	pP	22 43 43.6	+0.1
MUN	**Mundaring**	**44.78**	**153**	*e*P	**P**	**22 43 38.7**	**+1.1**
	comp=Z,25nm,1.4s,mb4.8						
MUN	**Mundaring**	**44.78**	**153**	*e*P	**P**	**22 43 38.7**	**+1.1**
MUN				pmax	pmax		
	comp=Z,25nm,1.4s,mb4.8						
IRK	**Irkutsk**	**45.16**	**9**	*e*P	**P**	**22 43 39.4**	**-0.9**
IRK				*e*		22 45 28.2	
IRK				pmax	pmax		
	comp=Z,31nm,2.7s,mb4.7						
KLBR	**Kellerberrin**	**45.18**	**151**	*e*P	**P**	**22 43 40.6**	**-0.2**
	comp=Z,43nm,1.4s,mb6.1						
NWAO	**Narrogin (SRO)**	**46.04**	**153**	*e*P	**P**	**22 43 47.7**	**+0.1**
NWAO				*e**PP	pP	22 43 54.9	+0.8
NWAO				pmax	pmax		
	comp=Z,67nm,1.4s						
NWAO	**Narrogin (SRO)**	**46.04**	**153**	P	**P**	**22 43 49.1**	**+1.6**
	comp=Z,19nm,0.8s,mb5.1,baz=328,slow=8.7,SNR=19						
NWAO	**Narrogin (SRO)**	**46.04**	**153**	*e*P	**P**	**22 43 47.7**	**+0.1**
	comp=Z,67nm,1.4s,mb5.4						
NWAO				*e*pP	pP	22 43 54.9	+0.8
HIA	**Hailar**	**46.68**	**23**	*e*P	**P**	**22 43 52.7**	**+0.3**
HIA				*e**PP	pP	22 44 00.7	+1.8
HIA				pmax	pmax		
	comp=Z,81nm,1.1s						
HIA	**Hailar**	**46.68**	**23**	*e*P	**P**	**22 43 52.7**	**+0.4**
	comp=Z,82nm,1.1s,mb5.6						
HIA				*e*pP	pP	22 44 00.7	+1.8
ZAL	**Zalesovo**	**46.68**	**352**	P	**P**	**22 43 52.7**	**+0.4**
ZAL				pmax	pmax		
	comp=Z,13nm,0.5s						
ZAL	**Zalesovo**	**46.68**	**352**	P	**P**	**22 43 52.7**	**+0.4**
	comp=Z,13nm,0.5s,mb5.2,baz=302,slow=6.2,SNR=38						
NVS	**Novosibirsk**	**47.78**	**352**	*i* P	**P**	**22 44 00.5**	**-0.5**
NVS				*e*		22 45 46.0	
NVS				*i* S	**S**	**22 50 52.5**	**-2.8**
NVS				*e*		22 53 55.3	
NVS				pmax	pmax		
	comp=Z,66nm,1.4s,mb5.5						
NVS				pmax	pmax		
	comp=N,53nm,1.2s						
NVS				pmax	pmax		
	comp=E,35nm,1.3s						
NVS				smax			
	comp=N,16nm,1.6s						
NVS				smax			
	comp=E,26nm,1.7s						
MDJ	**Mudanjiang**	**47.96**	**34**	*e*P	**P**	**22 44 03.1**	**+0.6**
	comp=E,47nm,1.4s,mb5.3						
MDJ				*e*pP	pP	22 44 11.6	+2.5
WRA	**Warramunga Arr**	**48.22**	**125**	P	**P**	**22 44 04.3**	**-0.6**
WRA				pmax	pmax		
	comp=Z,13nm,0.6s						
WRA	**Warramunga Arr**	**48.22**	**125**	P	**P**	**22 44 04.3**	**-0.6**
	comp=Z,13nm,0.6s,mb5.1,baz=306,slow=8.6,SNR=76						
WRAB	**Tennant Creek**	**48.23**	**125**	*e*P	**P**	**22 44 04.3**	**-0.6**
WRAB				*e**PP	pP	22 44 11.4	-0.1
WRAB				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.4						
WRAB	**Tennant Creek**	**48.23**	**125**	*e*P	**P**	**22 44 04.3**	**-0.6**
	comp=Z,29nm,0.8s,mb5.4						
WRAB				*e*pP	pP	22 44 11.4	-0.1
WB2	**Warramunga Arr**	**48.23**	**125**	⇓*i*P	**P**	**22 44 04.3**	**-0.7**
RAYN	**Ar Rayn**	**49.09**	**294**	P	**P**	**22 44 12.3**	**+0.7**
	comp=Z,350nm,0.8s,SNR=56						
BVAR	**Borovoye Array**	**49.11**	**341**	P	**P**	**22 44 10.3**	**-1.0**
	comp=Z,2.5nm,0.6s,mb4.4,baz=149,slow=8.6,SNR=10						
BVAR				PcP	PcP	22 45 32.6	-2.5
	comp=Z,3.8nm,0.7s,baz=135,slow=4.2,SNR=5.2						
BRVK	**Borovoye**	**49.17**	**341**	*e*P	**P**	**22 44 10.8**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
BRVK	**Borovoye**	**49.17**	**341**	*e*P	**P**	**22 44 10.8**	**-0.9**
	comp=Z,10nm,1.0s,mb4.8						
MAT	**Matsushiro**	**49.30**	**48**	PCP	PcP	22 45 36.2	+0.2
CHKZ	**Chkalovo**	**49.59**	**342**	*e*P	**P**	**22 44 14.7**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,60nm,1.4s,mb5.4						
CHKZ	**Chkalovo**	**49.59**	**342**	*e*P	**P**	**22 44 14.7**	**-0.3**
	comp=Z,60nm,1.4s,mb5.4						
ASPA	**Alice Springs**	**49.86**	**130**	*e*P	**P**	**22 44 16.7**	**-0.8**
ASAR	**Alice Springs**	**49.87**	**130**	P	**P**	**22 44 16.8**	**-0.7**
	comp=Z,12nm,0.6s,mb5.1,baz=303,slow=6.9,SNR=130						
ASAR				PcP	PcP	22 45 38.0	-0.2
	comp=Z,4.2nm,0.6s,baz=309,slow=4.3,SNR=6.3						
FORT	**Forrest**	**50.26**	**141**	*e*P	**P**	**22 44 20.7**	**+0.3**
	comp=Z,205nm,1.1s,mb6.1						
KLR	**Kul'dur**	**52.04**	**31**	*e*P	**P**	**22 44 31.7**	**-2.0**
BOD	**Bodaibo**	**52.30**	**13**	*e*P	**P**	**22 44 35.8**	**+0.3**
GNI	**Garni**	**54.50**	**314**	P	**P**	**22 44 51.7**	**-0.3**
GNI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GNI	**Garni**	**54.50**	**314**	P	**P**	**22 44 51.7**	**-0.2**
	comp=Z,7.7nm,0.7s,mb4.7,baz=141,slow=0.6,SNR=9.4						
GNI	**Garni**	**54.50**	**314**	*e*P	**P**	**22 44 51.5**	**-0.5**
	comp=Z,34nm,1.3s,mb5.1						
CLNS	**Chul'man**	**54.59**	**20**	*e*P	**P**	**22 44 53.2**	**+0.8**
CLNS				*e**PP	pP	22 44 59.9	+0.9
CLNS				*e*		22 46 56.4	
CLNS				*e*S	**S**	**22 52 27.9**	**-1.1**
CLNS				*e*PS	PS	22 52 36.5	-6.1
CLNS				*e*		22 54 35.2	
CLNS				*e*SS	SS	22 56 06.7	-4.9
CLNS				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.2						
CLNS				pmax	pmax		
	comp=N,15nm,0.7s						
CLNS				pmax	pmax		
	comp=E,12nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
CLNS				smax			
	comp=N,124nm,15.9s						
CLNS				smax			
	comp=E,32nm,14.6s						
SVE	**Sverdlovsk**	**55.51**	**338**	*e*P	**P**	**22 44 55.0**	**-4.2**
SVE				*e*		22 46 04.0	
SVE				*e*S	**S**	**22 52 32.0**	**-9.4**
SVE				pmax	pmax		
	comp=Z,140nm,2.0s,mb5.7						
SVE				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.0						
PMG	**Port Moresby**	**55.54**	**107**	P	**P**	**22 45 00.4**	**+0.4**
PMG				pmax	pmax		
	comp=Z,12nm,0.7s						
PMG	**Port Moresby**	**55.54**	**107**	P	**P**	**22 45 00.4**	**+0.4**
	comp=Z,12nm,0.7s,mb5.0,baz=193,slow=5.1,SNR=4.2						
ARU	**Arti**	**56.00**	**337**	P	**P**	**22 45 02.7**	**+0.1**
	comp=Z,216nm,1.0s,mb6.1,SNR=12						
ARU	**Arti**	**56.00**	**337**	⇓*i*P	**P**	**22 44 55.7**	**-6.9**
ARU				*e*S	**S**	**22 52 39.9**	**-8.0**
ARU				pmax	pmax		
	comp=Z,45nm,1.1s,mb5.4						
ERZM	**Erzurum**	**56.83**	**313**	*i* P	**P**	**22 45 08.4**	**-0.5**
YSS	**Yuzh-Sakhalins**	**56.93**	**38**	*e*P	**P**	**22 45 09.6**	**+0.1**
KMBO	**Kilima Mbogo**	**57.35**	**264**	P	**P**	**22 45 14.1**	**+1.2**
KMBO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KMBO	**Kilima Mbogo**	**57.35**	**264**	P	**P**	**22 45 14.1**	**+1.2**
	comp=Z,8.0nm,1.0s,mb4.7,baz=60,slow=10,SNR=19						
KMBO	**Kilima Mbogo**	**57.35**	**264**	*e*P	**P**	**22 45 13.9**	**+1.1**
	comp=Z,11nm,1.0s,mb4.8						
KIV	**Kislovodsk**	**57.39**	**318**	*e*P	**P**	**22 45 11.1**	**-1.6**
KIV				*e**PP	pP	22 45 18.3	-1.1
KIV				pmax	pmax		
	comp=Z,45nm,0.9s,mb5.5						
KIV	**Kislovodsk**	**57.39**	**318**	*e*P	**P**	**22 45 11.1**	**-1.6**
	comp=Z,45nm,0.9s,mb5.5						
KIV				*e*pP	pP	22 45 18.3	-1.1
ELZG	**Elazig**	**58.15**	**311**	*i* P	**P**	**22 45 17.3**	**-0.8**
ASF	**Jabal al Asfar**	**58.25**	**303**	P	**P**	**22 45 18.7**	**-0.2**
	comp=Z,8.5nm,0.9s,mb4.8,baz=335,slow=3.4,SNR=13						
CTA	**Charters Tower**	**58.29**	**119**	P	**P**	**22 45 18.9**	**-0.4**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
CTA	**Charters Tower**	**58.29**	**119**	P	**P**	**22 45 18.9**	**-0.5**
	comp=Z,3.1nm,0.3s,mb4.8,baz=288,slow=4.2,SNR=4.8						
CTAO	**Charters Tower**	**58.29**	**119**	*e*P	**P**	**22 45 19.0**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.8						
CTAO	**Charters Tower**	**58.29**	**119**	*e*P	**P**	**22 45 19.0**	**-0.3**
	comp=Z,3.2nm,0.3s,mb4.8						
MALT	**Malatya**	**58.51**	**310**	*e*P	**P**	**22 45 19.6**	**-1.1**
MALT				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
MALT	**Malatya**	**58.51**	**310**	*e*P	**P**	**22 45 19.6**	**-1.1**
	comp=Z,7.6nm,1.0s,mb4.7						
GZT	**Gaziantep**	**58.91**	**309**	*i* P	**P**	**22 45 22.3**	**-1.2**
SOC	**Sochi**	**59.25**	**317**	*e*P	**P**	**22 45 20.8**	**-4.9**
SOC				*e*		22 46 08.1	
SOC				*e*		22 47 32.4	
SOC				*e*PPP	PPP	22 48 58.9	-4.3
SOC				*e*S	**S**	**22 53 23.2**	**-7.5**
SOC				*e*		22 55 05.6	
SOC				*e*SS	SS	22 57 23.7	-3.3
SOC				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.2						
SOC				pmax	pmax		
	comp=N,10.0nm,0.9s						
SOC				pmax	pmax		
	comp=E,19nm,1.1s						
EIL	**Elat**	**59.45**	**300**	*e*P	**P**	**22 45 26.2**	**-1.1**
	comp=E,12nm,0.6s,mb5.1						
EIL				*e*pP	p

comp=Z,36nm,0.9s,mb5.4
MA2 Magadan 66.92 28 *e*P **P 22 46 16.3 +0.1**
comp=Z,36nm,0.9s,mb5.4
MA2 *e*pP pP 22 46 23.6 +0.7
KDAG Bornova 67.10 308 *i* P **P 22 46 15.9 -1.8**
CNB Canberra Magne 67.37 133 *e*P **P 22 46 19.7 +0.2**
comp=Z,301nm,1.4s,mb6.1
TIXI Tiksi 67.39 11 *i* P **P 22 46 18.2 -0.8**
TIXI pmax pmax
comp=Z,20nm,1.3s,mb5.0
KIS Kishinev 67.59 318 *e*P **P 22 46 18.0 -2.7**
KIS *e* pP 22 46 24.0 -3.4
AKASG Malin Array Be 68.23 322 P **P 22 46 22.3 -2.3**
AKASG *PP pP 22 46 28.8 -2.5
AKASG 22 48 53.0
AKASG pmax pmax
comp=Z,11nm,1.1s
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 68.23 322 P **P 22 46 22.2 -2.4**
comp=Z,11nm,1.1s,mb4.8,baz=87,slow=4.7,SNR=19
AKASG pP pP 22 46 28.8 -2.6
comp=Z,9.1nm,0.8s,baz=77,slow=4.9,SNR=8.4
AKASG PP PP 22 48 53.0 -4.3
comp=Z,1.5nm,0.8s,baz=90,slow=6.8,SNR=3.7
IDI Anoyia 68.60 305 P **P 22 46 26.6 -0.6**
comp=Z,18nm,0.8s,mb5.1,baz=87,slow=5.6,SNR=14
IDI pP pP 22 46 32.7 -1.2
comp=Z,37nm,0.8s,baz=60,slow=5.4,SNR=10
PET Petropavlovsk 68.68 36 *e*P **P 22 46 26.8 -0.6**
PET *e* 22 55 28.8
PET MLR MLR
comp=Z,400nm,16.0s,MS4.8
LSZ Lusaka 69.17 250 *e*P **P 22 46 31.1 +0.2**
LSZ pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
LSZ Lusaka 69.17 250 *e*P **P 22 46 31.1 +0.2**
comp=Z,10nm,0.7s,mb4.9
MNK Minsk 70.04 325 *e*P **P 22 46 32.0 -3.6**
SRS Serrai 70.27 311 *e*P **P 22 46 35.6 -1.7**
PUL Pulkovo 70.31 331⇓*e*P **P 22 46 43.3 +6.1**
PUL pmax pmax
comp=Z,95nm,0.8s,mb5.8
PUL pmax pmax
comp=N,9.0nm,0.5s
PUL pmax pmax
comp=E,116nm,0.8s
PUL MLR MLR
comp=N,426nm,16.0s
PUL MLR MLR
comp=Z,521nm,16.0s,MS4.9
SOH Sokhos 70.41 311 *e*P **P 22 46 36.3 -1.9**
KNT Kendrikon 70.80 311 *e*P **P 22 46 39.3 -1.2**
JOF Joensuu 70.95 334 *e*p **P 22 46 40.9 -0.2**
comp=Z,47nm,0.7s,mb5.5
LIT Litokhoron 70.99 310 *e*P **P 22 46 39.6 -2.1**
AGG Agios Georgios 71.00 309 *e*P **P 22 46 39.9 -1.9**
GRG Griva 71.15 311 *e*P **P 22 46 41.3 -1.3**
ZAPS Zavoj/Pirot 71.26 313⇑*i*P **P 22 46 41.0 -2.2**
FNA Florina 71.90 310 *e*P **P 22 46 45.0 -2.1**
APA Apatity 71.96 339⇓*i*P **P 22 46 46.3 -0.8**
APA *i* pP 22 46 53.0 -0.8
APA pmax pmax
comp=Z,47nm,1.2s,mb5.3
APA MLR MLR
comp=Z,1μm,18.0s,MS5.1
KWP Kalwaria 72.10 320 *e*P **P 22 46 47.1 -1.1**
KWP *e* pP 22 46 54.6 -0.3
KWP Kalwaria 72.10 320 *e*P **P 22 46 47.1 -1.0**
KWP *e* pP 22 46 54.6 -0.3
KOLS Kolonicke sedl 72.28 319 *e*P **P 22 46 48.6 -0.6**
KOLS *e*pP pP 22 46 55.6 -0.4
KOLS *e* 22 49 40.5
SUW Suwalki 72.59 324 *e*P **P 22 46 49.5 -1.5**
SUW *e* pP 22 46 56.7 -1.0
CRVS Cervenica-Dubn 72.80 319 *e*P **P 22 46 52.3 0.0**
FINES FINESS Array B 72.81 332 P **P 22 46 51.7 -0.4**
FINES *PP pP 22 46 57.6 -1.3
FINES pmax pmax
comp=Z,18nm,0.7s
FINES pmax pmax
comp=Z,43nm,0.8s
FINES FINESS Array B 72.81 332 P **P 22 46 51.7 -0.4**
comp=Z,18nm,0.7s,mb5.1,baz=99,slow=6.8,SNR=70
FINES pP pP 22 46 57.6 -1.3
comp=Z,43nm,0.8s,baz=108,slow=6.9,SNR=24
FINES FINESS Array B 72.81 332 P **P 22 46 51.7 -0.4**
FINES pP pP 22 46 57.6 -1.3
KAF Kangasniemi 72.89 333 *e*p **P 22 46 51.6 -1.0**
comp=Z,48nm,0.8s,mb5.5,baz=99,slow=7.0
KAF Kangasniemi 72.89 333 *e*P **P 22 46 51.6 -1.0**
KAF pmax pmax
comp=Z,48nm,0.8s,mb5.5
NIE Niedzica 73.62 319 *e*P **P 22 46 57.4 +0.3**
PSZ Piszkesteto 73.71 318 *e*P **P 22 46 56.7 -0.9**
PSZ pmax pmax
comp=Z,14nm,1.1s,mb4.8
PSZ Piszkesteto 73.71 318 *e*P **P 22 46 56.7 -0.9**
comp=Z,14nm,1.1s,mb4.8
OJC Ojcow 74.05 320 *e*P **P 22 46 59.6 +0.1**
LBTB Lobatse 74.12 241 *e*P **P 22 47 01.0 +0.5**
LBTB pmax pmax
comp=Z,28nm,1.0s,mb5.2
LBTB Lobatse 74.12 241 *e*P **P 22 47 01.0 +0.5**
comp=Z,28nm,1.0s,mb5.2
PKSM Moragy 74.39 316⇑*e*P **P 22 47 01.0 -0.6**
VYHS Vyhne 74.48 318 *e*P **P 22 47 01.6 -0.5**
VYHS *e*pP pP 22 47 07.6 -1.2
KEV Kevo 74.95 341 *e*p **P 22 47 04.5 +0.1**
comp=Z,35nm,1.3s,mb5.1
KEV Kevo 74.95 341 *e*P **P 22 47 04.5 +0.1**
KEV pmax pmax
comp=Z,35nm,1.3s,mb5.1
OKC Ostrava-Krasne 75.06 319 *e*P **P 22 47 05.1 -0.3**
OKC *e*pP pP 22 47 11.1 -1.1
ARCES ARCESS Array B 75.38 340 P **P 22 47 07.2 +0.3**
ARCES pmax pmax
comp=Z,16nm,1.0s
ARCES ARCESS Array B 75.38 340 P **P 22 47 07.2 +0.3**
comp=Z,16nm,1.0s,mb4.9,baz=94,slow=6.0,SNR=13
MORC Moravsky Berou 75.45 319 *e*P **P 22 47 07.3 -0.3**
MORC pmax pmax
comp=Z,26nm,1.1s,mb5.1
MORC Moravsky Berou 75.45 319 *e*P **P 22 47 07.3 -0.3**
comp=Z,26nm,1.1s,mb5.1
BOSA Boshof 75.46 238 *e*P **P 22 47 08.7 +0.6**
BOSA *e*PP pP 22 47 15.4 +0.5
BOSA pmax pmax
comp=Z,54nm,1.3s,mb5.3
BOSA Boshof 75.46 238 *e*P **P 22 47 08.7 +0.6**
comp=Z,54nm,1.3s,mb5.3
BOSA *e*pP pP 22 47 15.4 +0.4
ZST Bratislava 75.60 318 *e*P **P 22 47 08.3 -0.2**
ZST *e*pP pP 22 47 14.5 -0.8
DPC Dobruska-Polom 76.28 320 *e*P **P 22 47 12.6 +0.3**
DPC *e*pP pP 22 47 18.8 -0.3
KSP Ksiaz 76.34 320 *e*P **P 22 47 13.0 +0.4**
KSP *e*pP pP 22 47 18.4 -1.0
KSP Ksiaz 76.34 320 *e*P **P 22 47 13.0 +0.3**
KSP *e* pP 22 47 19.7 +0.3
UPC Upice 76.49 320 *e*P **P 22 47 13.2 -0.3**
UPC *e*pP pP 22 47 20.2 -0.1
ARSA Arzberg 76.60 317⇑*i*P **P 22 47 14.6 +0.4**
comp=Z,13nm,1.2s,mb4.8
PERS Pernice 76.85 316 *e*P **P 22 47 15.6 0.0**
VAE Valguarnera 77.16 307 P **P 22 47 17.9 +0.4**
comp=Z,11nm,0.9s,mb4.8,baz=58,slow=13,SNR=2.7
FX1 Attu Island--F 77.29 38 P **P 22 47 17.6 -0.3**
FX1 pmax pmax
comp=Z,28nm,0.6s
FX1 Attu Island--F 77.29 38 P **P 22 47 17.6 -0.3**
comp=Z,28nm,0.6s,mb5.3,baz=158,slow=8.2,SNR=7.6
PRU Pruhonice 77.40 319 *e*P **P 22 47 17.8 -0.7**
PRU *e*pP pP 22 47 25.1 -0.3
PVCC Panska Ves 77.41 320 *e*P **P 22 47 19.1 +0.5**
PVCC *e*pP pP 22 47 25.0 -0.4
BRG Berggiesshubel 77.83 320 *i* P **P 22 47 20.8 -0.1**
BRG *i* pP 22 47 27.6 -0.1
BRG pmax pmax
comp=Z,34nm,1.7s,mb5.0
BRG Berggiesshubel 77.83 320 *i* P **P 22 47 20.8 -0.1**
comp=Z,34nm,1.7s,mb5.0
BRG *i* pP 22 47 27.6 -0.1
BRG *e* 22 48 04.7
GEC2 GERESS Array S 77.90 318 *e*P **P 22 47 21.2 -0.1**
GEC2 pmax pmax
comp=Z,29nm,0.9s,mb5.2
GEC2 GERESS Array S 77.90 318 *e*P **P 22 47 21.2 -0.1**
comp=Z,29nm,0.9s,mb5.2
GERES GERESS Array B 77.90 318 P **P 22 47 21.3 0.0**
GERES *PP pP 22 47 27.2 -0.9
GERES pmax pmax
comp=Z,9.0nm,0.6s
GERES pmax pmax
comp=Z,19nm,0.8s
GERES GERESS Array B 77.90 318 P **P 22 47 21.3 0.0**
comp=Z,8.5nm,0.6s,mb4.8,baz=85,slow=5.6,SNR=57
GERES pP pP 22 47 27.2 -0.9
comp=Z,19nm,0.8s,baz=89,slow=4.3,SNR=29
KHC Kasperske Hory 77.99 319 *e*P **P 22 47 21.0 -0.8**
KHC *e* pP 22 47 28.0 -0.6
KHC Kasperske Hory 77.99 319 *e*P **P 22 47 21.0 -0.8**
KHC pP pP 22 47 28.0 -0.6
RUE Ruedersdorf 78.01 322 *e*P **P 22 47 21.7 -0.1**
comp=Z,39nm,0.8s,mb5.4
RUE *e*pP pP 22 47 28.4 -0.2
KBA Koelnbreinsper 78.08 316⇑*i*P **P 22 47 22.2 -0.1**
comp=Z,20nm,1.1s,mb5.0
KBA Koelnbreinsper 78.08 316⇑*i*P **P 22 47 22.2 -0.1**
KBA pmax pmax
comp=Z,20nm,1.1s,mb5.0
MAW Mawson 78.38 192 *e*P **P 22 47 25.7 +2.1**
comp=Z,5.8nm,0.6s,mb4.7
MAW Mawson 78.38 192 P **P 22 47 25.0 +1.4**
MAW pmax pmax
comp=Z,7.0nm,0.7s
MAW Mawson 78.38 192 P **P 22 47 25.0 +1.4**
comp=Z,6.6nm,0.7s,mb4.7,baz=44,slow=4.5,SNR=8.3
CLL Collm 78.44 321 *i* P **P 22 47 22.4 -1.8**
CLL *i* pP 22 47 30.5 -0.5
CLL pmax pmax
comp=Z,13nm,1.5s,mb4.6
CLL Collm 78.44 321 *i* P **P 22 47 22.4 -1.8**
comp=Z,13nm,1.5s,mb4.6
CLL *i* pP 22 47 30.5 -0.5
CLL Collm 78.44 321 P **P 22 47 24.0 -0.2**
comp=Z,logA/T=0.9,mb4.6
CLL *i* *PP pP 22 47 30.5 -0.5
CLL *e* 22 47 53.0
WET Wettzell 78.45 319 *e*P **P 22 47 24.2 -0.1**
WET pmax pmax
comp=Z,20nm,1.0s,mb5.0
WET Wettzell 78.45 319 *e*P **P 22 47 24.2 -0.1**
comp=Z,20nm,1.0s,mb5.0
NKC Novy Kostel 78.76 320 *e*P **P 22 47 25.8 -0.2**
NKC *e*pP pP 22 47 32.9 +0.1
WTTA Wattenberg 79.25 317⇑*i*P **P 22 47 28.6 -0.1**
comp=Z,29nm,0.8s,mb5.3
WTTA Wattenberg 79.25 317⇑*i*P **P 22 47 28.6 -0.1**
WTTA pmax pmax
comp=Z,29nm,0.8s,mb5.3
WATA Walderalm 79.29 317⇑*i*P **P 22 47 28.6 -0.4**
comp=Z,15nm,1.0s,mb4.9
WATA Walderalm 79.29 317⇑*i*P **P 22 47 28.6 -0.4**
WATA pmax pmax
comp=Z,15nm,1.0s,mb4.9
MOX Moxa 79.30 320 *e*P **P 22 47 29.4 +0.5**
MOX Moxa 79.30 320 *i* P **P 22 47 29.4 +0.5**
FUR Furstenfeldbru 79.50 318 *e*P **P 22 47 29.5 -0.6**
GRA1 Grafenberg Arr 79.54 319 *e*P **P 22 47 30.6 +0.3**
comp=Z,29nm,1.0s,mb5.2
GRA1 *e*pP pP 22 47 36.9 -0.2
GRF Grafenberg Arr 79.54 319 *e*P **P 22 47 30.6 +0.3**
GRF *e*PP pP 22 47 36.9 -0.2
GRF pmax pmax
comp=Z,29nm,1.0s,mb5.2
GRF Grafenberg Arr 79.54 319 *e*P **P 22 47 30.6 +0.3**
GRF *e*PP pP 22 47 36.9 -0.2
GRF pmax pmax
comp=Z,29nm,1.0s,mb5.2
GRF Grafenberg Arr 79.54 319 *e*P **P 22 47 30.6 +0.3**
comp=Z,29nm,1.0s,mb5.2
GRF *e*pP pP 22 47 36.9 -0.2
SQTA Sankt Quirin 79.54 317⇑*i*P **P 22 47 29.9 -0.4**
comp=Z,16nm,0.8s,mb5.0
SQTA Sankt Quirin 79.54 317⇑*i*P **P 22 47 29.9 -0.4**
SQTA pmax pmax
comp=Z,16nm,0.8s,mb5.0
MOTA Moosalm 79.61 317⇑*i*P **P 22 47 30.4 -0.3**
comp=Z,17nm,1.0s,mb4.9
MOTA Moosalm 79.61 317⇑*i*P **P 22 47 30.4 -0.3**
MOTA pmax pmax
comp=Z,17nm,1.0s,mb4.9
NB2 NORSAR Subarra 79.83 331 P **P 22 47 30.9 -0.7**
comp=Z,30nm,0.8s,mb5.3,baz=92,slow=5.6
NB2 NORSAR Subarra 79.83 331 P **P 22 47 30.9 -0.7**
baz=92,slow=5.9
NOA NORSAR Array B 79.83 331 P **P 22 47 31.4 -0.2**
NOA *PP pP 22 47 38.1 -0.3
NOA pmax pmax
comp=Z,9.0nm,0.8s
NOA pmax pmax
comp=Z,20nm,0.8s
NOA NORSAR Array B 79.83 331 P **P 22 47 31.4 -0.2**
comp=Z,9.3nm,0.8s,mb4.8,baz=93,slow=5.6,SNR=23
NOA pP pP 22 47 38.1 -0.3
comp=Z,20nm,0.8s,baz=92,slow=5.6,SNR=26
NOA NORSAR Array B 79.83 331 P **P 22 47 31.4 -0.2**
NOA pP pP 22 47 38.1 -0.3
TSUM Tsumeb 79.92 249 *e*P **P 22 47 34.0 +1.1**
comp=Z,10.0nm,1.2s,mb4.6
NAO01 NORSAR Array S 79.98 330 *e*P **P 22 47 32.2 -0.2**
comp=Z,12nm,0.8s,mb4.9
NAO01 *e*pP pP 22 47 38.7 -0.5
CLZ Clausthal 80.09 321 *e*P **P 22 47 33.1 -0.1**
comp=Z,24nm,0.9s,mb5.1
SUR Sutherland 80.20 235 *e*P **P 22 47 34.6 +0.4**
DAVA Damuels 80.44 317⇑*i*P **P 22 47 35.4 +0.2**
comp=Z,27nm,1.0s,mb5.1
DAVOX Davos 80.45 316 P **P 22 47 36.0 +0.8**
comp=Z,16nm,0.8s,mb5.0,baz=104,slow=4.0,SNR=14
MUD Monsted U'grnd 80.80 326⇑*i*P **P 22 47 37.8 +1.0**
MUD pmax pmax
comp=Z,27nm,0.9s,mb5.2
MUD Monsted U'grnd 80.80 326⇑*i*P **P 22 47 37.8 +1.0**
comp=Z,27nm,0.9s,mb5.2
PGF Pioggiola 81.21 312 *e*P **P 22 47 39.3 0.0**
comp=Z,90nm,1.3s,mb5.2
PGF Pioggiola 81.21 312 *e*P **P 22 47 39.3 0.0**
PGF pmax pmax
comp=Z,45nm,1.3s,mb5.2
TNS Taunus Mts 81.33 320 *e*P **P 22 47 39.7 0.0**
BFO Black Forest 81.46 318 *e*P **P 22 47 39.9 -0.6**
BFO pmax pmax
comp=Z,17nm,1.0s,mb4.9
BFO Black Forest 81.46 318 *e*P **P 22 47 39.9 -0.6**
comp=Z,17nm,1.0s,mb4.9
LANF Langenberg 81.78 318 *e*P **P 22 47 42.8 +0.7**
CDF Champ du Feu 82.16 318 *e*P **P 22 47 44.1 0.0**
comp=Z,19nm,1.0s,mb4.7
CDF Champ du Feu 82.16 318 *e*P **P 22 47 44.1 0.0**
CDF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ECH Echery 82.25 318 *e*P **P 22 47 44.5 -0.1**
SBF Sospel 82.29 313 *e*P **P 22 47 45.0 +0.1**
comp=Z,96nm,1.1s,mb5.4
SBF Sospel 82.29 313 *e*P **P 22 47 45.0 +0.1**
SBF pmax pmax
comp=Z,48nm,1.0s,mb5.4
LPG La Plagne 82.68 315 *e*P **P 22 47 47.6 +0.7**
comp=Z,61nm,0.8s,mb5.4
LPG La Plagne 82.68 315 *e*P **P 22 47 47.6 +0.7**
LPG pmax pmax
comp=Z,30nm,0.8s,mb5.4
LPL La Plagne 82.69 315 *e*P **P 22 47 47.5 +0.6**
comp=Z,89nm,0.9s,mb5.5
LPL La Plagne 82.69 315 *e*P **P 22 47 47.5 +0.6**
LPL pmax pmax
comp=Z,44nm,0.9s,mb5.5
MBDF Montbardon 82.71 314 *e*P **P 22 47 46.8 -0.3**
comp=Z,30nm,0.9s,mb5.0
MBDF Montbardon 82.71 314 *e*P **P 22 47 46.8 -0.3**
MBDF pmax pmax
comp=Z,15nm,0.9s,mb5.0
RSL Roselend 82.76 315 *e*P **P 22 47 47.7 +0.5**
BNI Bardonecchia 82.76 314 *e*P **P 22 47 49.2 +1.9**
BNI pmax pmax
comp=Z,23nm,0.8s,mb5.3
BNI Bardonecchia 82.76 314 *e*P **P 22 47 49.1 +1.9**
comp=Z,23nm,0.8s,mb5.3
HAU Haudompre 82.80 317 *e*P **P 22 47 47.4 0.0**
comp=Z,49nm,0.9s,mb5.3
HAU Haudompre 82.80 317 *e*P **P 22 47 47.4 0.0**
HAU pmax pmax
comp=Z,25nm,0.9s,mb5.2
FRF La Foret Royal 82.88 313 *e*P **P 22 47 48.4 +0.5**
comp=Z,45nm,1.0s,mb5.2
FRF La Foret Royal 82.88 313 *e*P **P 22 47 48.4 +0.5**
FRF pmax pmax
comp=Z,23nm,1.0s,mb5.2
LMR La Mourre 82.99 313 *e*P **P 22 47 48.8 +0.3**
CABF La Chapelle 83.07 316 *e*P **P 22 47 49.4 +0.6**
comp=Z,55nm,1.0s,mb5.2
CABF La Chapelle 83.07 316 *e*P **P 22 47 49.4 +0.6**
CABF pmax pmax
comp=Z,27nm,1.0s,mb5.2
ORIF Oris-en-Rattie 83.33 314 *e*P **P 22 47 50.8 +0.6**
comp=Z,23nm,0.8s,mb4.9
ORIF Oris-en-Rattie 83.33 314 *e*P **P 22 47 50.8 +0.6**
ORIF pmax pmax
comp=Z,11nm,0.8s,mb4.9
OG05 Jujurieux 83.55 316 *e*P **P 22 47 51.6 +0.3**
MEZF Maizieres J'vi 83.63 318 *e*P **P 22 47 51.9 +0.2**
comp=Z,41nm,1.0s,mb5.2
GIVF Givet 83.66 320 *e*P **P 22 47 52.1 +0.3**
BAIF Baives 84.06 320 *e*P **P 22 47 54.4 +0.6**
comp=Z,37nm,1.1s,mb5.1
BAIF Baives 84.06 320 *e*P **P 22 47 54.4 +0.6**
BAIF pmax pmax
comp=Z,19nm,1.1s,mb5.1
VIVF Saint-Julien-l 84.19 314 *e*P **P 22 47 55.0 +0.4**
comp=Z,48nm,1.2s,mb5.2
VIVF Saint-Julien-l 84.19 314 *e*P **P 22 47 55.0 +0.4**
VIVF pmax pmax
comp=Z,24nm,1.2s,mb5.2
SMF Signal de Mont 84.61 316 *e*P **P 22 47 56.7 0.0**
comp=Z,31nm,0.8s,mb5.2
SMF Signal de Mont 84.61 316 *e*P **P 22 47 56.7 0.0**
SMF pmax pmax
comp=Z,15nm,0.8s,mb5.2
SSF Saint Saulge 84.80 317 *e*P **P 22 47 57.9 +0.3**
SSF pmax pmax
comp=Z,24nm,1.3s,mb5.2
SSF Saint Saulge 84.80 317 *e*P **P 22 47 57.9 +0.3**
comp=Z,24nm,1.3s,mb5.2
PLDF La Plantade 84.83 316 *e*P **P 22 48 00.6 +2.8**
PLDF La Plantade 84.83 316 *e*P **P 22 48 04.4 +6.6**
LASF Ste Croix 84.85 314 *e*P **P 22 47 58.7 +0.8**
AVF Avril sur Loir 84.93 316 *e*P **P 22 47 58.4 +0.1**
comp=Z,36nm,1.1s,mb5.1
AVF Avril sur Loir 84.93 316 *e*P **P 22 47 58.4 +0.1**
AVF pmax pmax
comp=Z,18nm,1.1s,mb5.1
SYO Syowa Base 85.25 197 ⇓P **P 22 47 58.4 -0.9**
SYO Syowa Base 85.25 197 ⇓PcP PcP 22 48 01.4 -1.6
PYM Petit Puy Mans 85.28 315 *e*P **P 22 48 01.3 +1.3**
PYM Petit Puy Mans 85.28 315 *e*P **P 22 48 06.4 +6.4**
BGF Bois d'Agland 85.30 316 *e*P **P 22 48 00.6 +0.5**
comp=Z,33nm,0.9s,mb5.1
BGF Bois d'Agland 85.30 316 *e*P **P 22 48 00.6 +0.5**
BGF pmax pmax
comp=Z,16nm,0.9s,mb5.2
HYF Humbligny 85.36 317 *e*P **P 22 48 01.1 +0.7**
TCF Toulx Ste Croi 85.77 316 *e*P **P 22 48 03.0 +0.5**
comp=Z,54nm,1.3s,mb5.3
TCF Toulx Ste Croi 85.77 316 *e*P **P 22 48 03.0 +0.5**
TCF pmax pmax
comp=Z,27nm,1.3s,mb5.3
CAF Calviac 86.03 315 *e*P **P 22 48 04.6 +0.8**
comp=Z,34nm,1.1s,mb5.2
CAF Calviac 86.03 315 *e*P **P 22 48 04.6 +0.8**
CAF pmax pmax
comp=Z,17nm,1.1s,mb5.2
MTLF Montolieu 86.11 313 *e*P **P 22 48 04.7 +0.5**
comp=Z,33nm,1.0s,mb5.2
MTLF Montolieu 86.11 313 *e*P **P 22 48 04.7 +0.5**
MTLF pmax pmax
comp=Z,16nm,1.0s,mb5.2
TNA Tin City 86.32 24 *e*P **P 22 48 05.7 +0.9**
RJF Les Rejaudoux 86.37 315 *e*P **P 22 48 06.2 +0.7**
comp=Z,20nm,0.9s,mb5.0
RJF Les Rejaudoux 86.37 315 *e*P **P 22 48 06.2 +0.7**
RJF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
LDF La Druitiere 87.04 318 *e*P **P 22 48 09.0 +0.4**
FLN La Foliniere 87.25 319 *e*P **P 22 48 10.1 +0.4**
MFF Saint Martin d 87.34 316 *e*P **P 22 48 10.6 +0.4**
comp=Z,33nm,1.0s,mb5.2
MFF Saint Martin d 87.34 316 *e*P **P 22 48 10.6 +0.4**
MFF pmax pmax
comp=Z,16nm,1.0s,mb5.2
GRR Gorron 87.55 318 *e*P **P 22 48 11.8 +0.7**
ETSF Etsaut 88.19 313 *e*P **P 22 48 15.4 +1.1**
comp=Z,15nm,0.8s,mb5.0
ETSF Etsaut 88.19 313 *e*P **P 22 48 15.4 +1.1**
ETSF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
SJPF Ste Jean 88.63 313 *e*P **P 22 48 17.5 +1.1**
ESDC Sonseca Array 91.27 310 P **P 22 48 29.1 +0.3**
comp=Z,3.3nm,0.6s,mb4.8,baz=64,slow=4.2,SNR=23
ESDC pP pP 22 48 35.7 0.0
comp=Z,3.4nm,0.6s,baz=59,slow=4.2,SNR=16
IMA Indian Mountai 91.78 22 *e*P **P 22 48 32.9 +2.4**
VNDA Vanda 92.80 168 P **P 22 48 34.6 -0.4**
VNDA pmax pmax
comp=Z,1.0nm,0.7s
VNDA Vanda 92.80 168 P **P 22 48 34.6 -0.4**
comp=Z,1.1nm,0.7s,mb4.4,baz=299,slow=9.0,SNR=6.0
ILAR Eielson Array 94.90 22 P **P 22 48 45.4 +0.5**
ILAR 22 52 40.7
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR pmax pmax
comp=Z,2.0nm,1.1s
ILAR pmax pmax
comp=Z,5.0nm,1.3s
ILAR Eielson Array 94.90 22 P **P 22 48 45.4 +0.5**
comp=Z,1.0nm,0.9s,mb4.2,baz=297,slow=5.8,SNR=6.6
ILAR pP pP 22 48 51.1 -0.7
comp=Z,1.9nm,1.1s,baz=310,slow=4.9,SNR=5.5
ILAR PP PP 22 52 40.7 +4.5
comp=Z,5.1nm,1.3s,baz=284,slow=7.5,SNR=6.0
INK Inuvik 97.15 16 P **P 22 48 55.1 +0.1**
INK pmax pmax
comp=Z,2.0nm,0.4s
INK Inuvik 97.15 16 P **P 22 48 55.0 0.0**
comp=Z,1.5nm,0.4s,mb4.8,baz=281,slow=4.4,SNR=9.2
RES Resolute Bay 97.55 2 *e*P **P 22 48 58.2 +1.5**
RES *e*PP pP 22 49 04.6 +0.9
RES pmax pmax
comp=Z,11nm,1.0s,mb5.3
RES Resolute Bay 97.55 2 *e*P **P 22 48 58.1 +1.4**
comp=Z,11nm,1.0s,mb5.3
RES *e*pP pP 22 49 04.6 +0.9
DBIC Dimbokro 97.91 278 P **P 22 49 00.6 +0.9**
DBIC pmax pmax
comp=Z,7.0nm,1.1s
DBIC Dimbokro 97.91 278 P **P 22 49 00.6 +0.8**
comp=Z,7.4nm,1.1s,mb5.1,baz=102,slow=6.1,SNR=4.0
YKA Yellowknife Ar 106.58 13 PP PP 22 54 00.2 -5.3
comp=Z,0.5nm,0.9s,baz=335,slow=5.4,SNR=4.9
TBI Tubuai 117.29 112 *e*LR LR 22 53 28.4
comp=Z,294nm,30.8s
PPT Papeete 117.36 106 *e*LR LR 22 54 33.2
comp=Z,276nm,25.5s
MSO Missoula 120.24 22 *e*PKPdf PKPdf 22 54 14.8 -2.6
ULM Lac du Bonnet 121.62 7 PKP PKPdf 22 54 17.5 -2.5
comp=Z,2.9nm,0.9s,baz=34,slow=3.8,SNR=4.4
ULM Lac du Bonnet 121.62 7 PKP PKPdf 22 54 17.5 -2.5
MCMT McKenzie Canyo 122.34 22 PKPdf PKPdf 22 54 19.9 -1.7
LKWY Lake 123.46 21 *e*PKIKP PKPdf 22 54 21.9 -1.8
NVAR Mina Array Bea 125.07 31 PKP PKPdf 22 54 25.0 -2.1
comp=Z,2.4nm,0.9s,baz=323,slow=0.8,SNR=9.1
PDAR Pinedale Array 125.32 21 PKP PKPdf 22 54 25.2 -2.2
comp=Z,2.2nm,0.9s,baz=45,slow=2.1,SNR=14
PDAR PP PP 22 56 13.2 -4.5
comp=Z,1.0nm,1.0s,baz=333,slow=2.0,SNR=2.8
MSU Marysvale 127.91 26 *e*PKIKP PKPdf 22 54 31.4 -1.1
ANMO Albuquerque 133.33 23 PKIKP PKPdf 22 54 42.3 -0.6
ANMO pmax pmax
comp=Z,1.0nm,0.5s
ANMO Albuquerque 133.33 23 PKP PKPdf 22 54 42.3 -0.6
comp=Z,0.9nm,0.5s,baz=94,slow=1.6,SNR=3.7

WVT	Waverly	136.34	2	ePKIKP	PKPdf	22 54 47.6	-0.8
MIAR	Mount Ida	137.34	9	ePKIKP	PKPdf	22 54 48.0	-2.3
TXAR	Lajitas Array	139.38	24	PKP	PKPdf	22 54 51.6	-2.6
	comp=Z,0.9nm,0.6s,slow=1.3,SNR=6.3						
JCT	Junction City	139.74	19	ePKIKP	PKPdf	22 54 52.8	-2.0
PLCA	Paso Flores	144.39	200	PKIKP	PKPdf	22 54 58.8	-3.8
PLCA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
PLCA	Paso Flores	144.39	200	PKP	PKPdf	22 54 58.8	-3.9
	comp=Z,8.2nm,1.1s,baz=167,slow=6.2,SNR=5.2						
TEIG	Tepich	152.12	5	ePKPdf	PKPdf	22 55 13.9	-1.8
SDV	Santo Domingo	157.54	317	ePKPab	PKPab	22 55 53.2	-0.1
LPAZ	La Paz	160.65	242	PKIKP	PKPdf	22 55 25.1	-1.5
LPAZ						22 56 05.4	
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LPAZ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
LPAZ	La Paz	160.65	242	PKP	PKPdf	22 55 25.1	-1.5
	comp=Z,2.6nm,0.8s,baz=65,slow=1.5,SNR=9.5						
LPAZ				PKPab	PKPab	22 56 05.4	-1.1
	comp=Z,4.6nm,1.1s,baz=162,slow=2.4,SNR=4.5						
LPAZ	La Paz	160.65	242	ePKPdf	PKPdf	22 55 25.5	-1.1

*BJI **28** 22:37:04.6, 34.70N×111.00W, h5km, mB4.8, mb4.7, Ms4.3, Msz4.1*
*IDC **28** 22:37:05.0±1.2, 34.86N×110.91W, mb1 3.6/4, mb1mx3.5/21, mbtmp3.2/4, ML3.5/3, Error ellipse: s-maj=19.0km s-min=10.6km az=42.0*
*NEIC **28** 22:37:07.7±0.3, 34.71N×111.00W, h5km, ML3.9, MW3.8(SLM), Error ellipse: s-maj=5.2km s-min=4.7km az=210.0*
NEIC Felt at Snowflake.

ISC 28 22:37:05.8±0.3, 34.74N±0.03×110.96W±0.04, h5km, n47, σ1°17/52, Eastern Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVA	Apache Junctio	1.41	201	*i* P	Pn	22 37 33.3	+1.1
GVA				S	Sb	22 37 50.2	-0.1
TUC	Tucson	2.42	176	*e*Pn	Pn	22 37 47.4	+0.7
TUC				*e*Pg	Pg	22 37 51.7	-2.5
TUC				*e*S	Sn	22 38 17.3	+0.2
NEN	Nelson	3.31	287	*e*Pn	Pn	22 37 59.2	-0.1
NEN				*e*Pg	Pg	22 38 07.4	-4.4
LENM	Lemitar	3.34	99	*e*Pn	Pn	22 38 01.5	+1.6
LDFC	Landfair	3.42	277	Pn	Pn	22 38 02.2	+1.2
LPM	Los Pinos Moun	3.60	96	*e*Pn	Pn	22 38 05.0	+1.5
ARUT	Antelope Range	3.64	327	*e*Pn	Pn	22 38 05.8	+1.7
ANMO	Albuquerque	3.71	85	Pn	Pn	22 38 06.4	+1.4
	baz=278,slow=13,SNR=17						
ANMO				Pg	Pg	22 38 13.8	-6.1
	baz=272,slow=14,SNR=48						
ANMO				Lg		22 39 00.3	
	baz=154,slow=21,SNR=12						
ANMO	Albuquerque	3.71	85	*e*Pn	Pn	22 38 06.5	+1.5
MVU	Marysvale	3.89	345	*e*Pn	Pn	22 38 09.8	+2.1
MSU	Marysvale	3.89	346	*e*Pn	Pn	22 38 09.2	+1.5
PV01	Paradox Valley	3.90	29	*e*Pn	Pn	22 38 08.4	+0.6
PV10	Paradox Valley	3.95	23	*e*Pn	Pn	22 38 08.2	-0.3
SRU	San Rafael	4.38	4	*e*Pn	Pn	22 38 15.3	+0.7
TMUT	Trail Mountain	4.56	358	*e*Pn	Pn	22 38 17.9	+0.9
PFO	Pinyon Flat Ob	4.69	258	*e*Pn	Pn	22 38 18.1	-0.9
BAR	Barrett	5.18	248	*e*Pn	Pn	22 38 25.9	0.0
TRCR	Troy Canyon	5.18	315	*e*Pn	Pn	22 38 25.9	0.0
NLU	North Lily Min	5.28	351	*e*Pn	Pn	22 38 28.7	+1.3
MPU	Maple Canyon	5.30	354	Pn	Pn	22 38 27.6	+0.1
SDCO	Great Sand Dun	5.34	54	*e*Pn	Pn	22 38 28.0	-0.2
MNTX	Cornudas Mount	5.57	121	*e*Pn	Pn	22 38 31.9	+0.5
DAU	Daniels Canyon	5.67	358	*e*Pn	Pn	22 38 34.3	+1.5
JLU	Jordanelle	5.87	356	*e*Pn	Pn	22 38 33.3	-2.3
CTU	Camp Tracy	5.98	354	Pn	Pn	22 38 35.9	-1.3
TPH	Tonopah	6.05	305	Pn	Pn	22 38 38.7	+0.5
GDL2	Guadalupe Moun	6.07	113	Pn	Pn	22 38 38.3	-0.1
CPRX	Cap Rock	6.14	104	Pn	Pn	22 38 36.0	-3.5
TCUT	Toone Canyon	6.38	357	Pn	Pn	22 38 42.4	-0.5
BGU	Big Grassy Mou	6.39	346	Pn	Pn	22 38 42.8	-0.2
ISCO	Idaho Springs	6.61	39	Pn	Pn	22 38 45.3	-0.8
SPUT	South Promonto	6.67	350	Pn	Pn	22 38 45.9	-0.9
HWUT	Hardware Ranch	6.88	356	*e*Pn	Pn	22 38 48.6	-1.2
NVAR	Mina Array Bea	6.96	304	Pn	Pn	22 38 50.1	-0.9
	0.6nm,0.3s,baz=122,slow=14,SNR=8.7						
HVU	Hansel Valley	7.17	349	Pn	Pn	22 38 54.9	+0.9
AMTX	Amarillo	7.64	86	Pn	Pn	22 39 14.1	+14
PHWY	Pilot Hill	7.86	32	Pn	Pn	22 39 11.9	+8.3
AHID	Auburn Hatcher	8.02	359	Pn	P	22 39 11.9	+6.1
PDAR	Pinedale Array	8.09	7	Pn	P	22 39 05.6	-1.2
	0.1nm,0.3s,baz=174,slow=8.2,SNR=3.5						
PDAR				Lg		22 41 16.6	
	0.4nm,0.3s,baz=169,slow=24,SNR=3.3						
LTX	Lajitas	8.21	129	Pn	P	22 39 06.7	-1.8
TXAR	Lajitas Array	8.21	129	Pn	P	22 39 07.7	-0.8
	0.2nm,0.3s,baz=313,slow=13,SNR=8.3						
TXAR				Lg		22 41 25.6	
	0.8nm,0.3s,baz=311,slow=28,SNR=11						
SNOW	Snow King Moun	8.71	1	Pn	P	22 39 14.2	-1.3
TPAW	Teton Pass	8.74	0	Pn	P	22 39 19.3	+3.5
WUWY	Wally Ulrich	8.79	1	Pn	P	22 39 16.6	0.0
LOHW	Long Hollow	8.87	2	*e*Pn	P	22 39 15.7	-1.9
IMW	Indian Meadow	9.15	0	Pn	P	22 39 19.5	-2.0
LKWY	Lake	9.83	2	Pn	P	22 39 36.6	+5.8

*IDC **28** 22:37:31.6±6.0, 52.10N×179.42E, h123km±64km, mb3.3/5, mb1 3.7/6, mb1mx3.4/22, mbtmp3.7/6, Error ellipse: s-maj=83.0km s-min=17.9km az=155.0*
*NEIC **28** 22:37:31.5, 51.83N×179.65E, h106km, mb3.7/1, After AEIC.*

ISC 28 22:37:28.8±0.7, 52.0N±0.2×179.55E±0.08, h105km±8km, n16, σ0°53/17, mb3.5/6, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	Kanaga Island	2.00	95	P	P	22 38 02.5	+0.5
KIKV	Kanaga Island	2.03	91	P	P	22 38 03.0	+0.5
KIWB	Kanaga Island	2.05	92	P	P	22 38 03.1	+0.4
ADAG	Mount Adagdak	2.38	88	P	P	22 38 06.7	-0.5
GSTD	Great Sitkin T	2.66	86	P	P	22 38 10.8	-0.3
GSTD				S	S	22 38 42.1	-0.7
GSMY	Great Sitkin M	2.72	87	P	P	22 38 11.8	0.0
GSIG	Igitkin Island	2.80	88	P	P	22 38 12.6	-0.3
ATKA	Atka Island	3.86	84	P	P	22 38 27.8	+0.4
FX1	Attu Island--F	4.02	286	P	P	22 38 30.0	+0.5
	3.5nm,0.3s,baz=71,slow=4.5,SNR=13						
FX1				S	S	22 39 15.3	-0.4
	13nm,0.3s,baz=282,slow=22,SNR=13						
ILAR	Eielson Array	21.44	40	P	P	22 42 09.6	+0.3
	0.2nm,0.4s,mb2.8,baz=236,slow=7.8,SNR=7.4						
YKA	Yellowknife Ar	35.57	47	pP	pP	22 44 43.6	+2.2
	0.3nm,0.6s,baz=284,slow=8.0,SNR=3.1						
MSO	Missoula	42.23	70	P	P	22 45 12.9	+0.5
	1.1nm,0.8s,mb3.6						
NVAR	Mina Array Bea	44.49	82	P	P	22 45 31.5	+0.6
	0.9nm,0.7s,mb3.6,baz=310,slow=6.3,SNR=5.8						
PDAR	Pinedale Array	47.10	72	P	P	22 45 50.4	-1.1
	0.7nm,0.5s,mb3.6,baz=325,slow=4.0,SNR=5.7						
WRA	Warramunga Arr	81.74	222	P	P	22 49 36.2	-0.8
	0.9nm,0.5s,mb3.9,baz=33,slow=6.0,SNR=4.1						
ASAR	Alice Springs	85.24	221	P	P	22 49 55.0	+0.5
	0.4nm,0.4s,mb3.7,baz=23,slow=5.4,SNR=4.5						

*IDC **28** 22:43:02.2±1.2, 23.61S×176.66W, mb4.4/9, mb1 4.6/11, mb1mx4.4/19, mbtmp4.5/11, ML4.8/2, Error ellipse: s-maj=33.6km s-min=27.6km az=123.0*
*NEIC **28** 22:43:07.7±0.8, 23.64S×176.74W, h35km, mb4.3/2, Error ellipse: s-maj=19.5km s-min=17.4km az=119.0*
*BJI **28** 22:43:09.6, 23.72S×176.88W, h32km, mB5.6, mb5.2*

ISC 28 22:42:58.0±0.8, 23.9S±0.2×175.7W±0.1, h33km, n19, σ0°45/16, mb4.4/10, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	14.93	83	Pn	P	22 46 28.4	0.0
	10nm,0.3s,baz=221,slow=8.0,SNR=11						
RAR				Sn	S	22 49 01.2	-12
	2.5nm,0.3s,baz=100,slow=18,SNR=3.0						
URZ	Urewera	15.62	202	Pn	P	22 46 37.4	+0.2
	1.2nm,0.3s,baz=150,slow=1.9,SNR=3.4						
URZ				Sn	S	22 49 03.5	-26
	0.4nm,0.3s,baz=155,slow=21,SNR=3.3						
RPZ	Rata Peaks	22.61	206	P	P	22 48 03.7	+6.7
	5.2nm,0.6s,mb4.1,baz=48,slow=12,SNR=4.1						
CTA	Charters Tower	35.44	269	P	P	22 49 53.7	+0.4
	2.0nm,0.3s,mb4.5,baz=83,slow=7.8,SNR=5.7						
CTA	Charters Tower	35.44	269	P	P	22 49 53.7	+0.4
PMG	Port Moresby	38.26	286	P	P	22 50 17.1	0.0
	7.9nm,0.8s,mb4.5,baz=60,slow=4.3,SNR=2.2						
STKA	Stephens Creek	38.41	248	*e*P	P	22 50 17.1	-1.1
	4.2nm,2.2s,mb3.8						
STKA	Stephens Creek	38.41	248	P	P	22 50 17.2	-1.0
	1.2nm,0.6s,mb3.8,baz=53,slow=8.8,SNR=4.1						
ASAR	Alice Springs	45.94	260	P	P	22 51 20.4	+0.5
	3.7nm,0.9s,mb4.3,baz=96,slow=8.1,SNR=20						
WB2	Warramunga Arr	46.35	265	*e*P	P	22 51 23.2	+0.2
WRAB	Tennant Creek	46.35	265	*e*P	P	22 51 22.5	-0.5
	5.7nm,0.7s,mb4.6						
WRA	Warramunga Arr	46.36	265	P	P	22 51 23.3	+0.2
	5.2nm,0.8s,mb4.5,baz=102,slow=8.1,SNR=21						
VNDA	Vanda	54.78	186	P	P	22 52 34.6	+8.2
	2.9nm,0.9s,mb4.3,slow=5.1,SNR=3.8						
ILAR	Eielson Array	91.12	12	P	P	22 56 07.8	+7.7
	1.4nm,1.1s,mb4.2,baz=215,slow=5.4,SNR=5.2						
CMAR	Chiang Mai Arr	93.25	289	P	P	22 56 18.3	+7.3
	5.3nm,0.9s,mb5.0,baz=138,slow=3.1,SNR=14						
AKASG	Malin Array Be	146.99	331	PKPbc	PKPbc	23 02 44.0	+7.4
	0.8nm,0.4s,baz=39,slow=3.9,SNR=11						
ASF	Jabal al Asfar	150.17	293	PKPbc	PKPdf	23 02 53.0	+12
	1.1nm,0.7s,baz=21,slow=23,SNR=3.7						
BRTR	Keskin Array B	150.66	310	PKPbc	PKPdf	23 02 53.5	+12
	2.1nm,1.0s,baz=117,slow=2.8,SNR=7.7						
CLL	Collm	151.79	348	ePKIKP	PKPdf	23 02 52.0	+10
CLL				*e*PKP1	PKPdf	23 02 58.0	+16
CLL				*e*PKP2	PKPab	23 03 07.0	+6.8

*IDC **28** 22:44:19.6±2.4, 7.63N×93.80E, mb3.9/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, ML4.2/1, Error ellipse: s-maj=59.9km s-min=40.6km az=144.0*
*NEIC **28** 22:44:23.7±0.7, 7.62N×93.90E, h30km, mb4.5/2, Error ellipse: s-maj=18.6km s-min=14.1km az=73.0*

ISC 28 22:44:21.9±1.1, 7.7N±0.1×94.0E±0.2, h30km, n11, σ0°50/10, mb4.0/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.78	24	Pn	P	22 47 10.9	-0.2
	0.5nm,0.3s,baz=208,slow=15,SNR=5.5						
LSA	Lhasa	22.09	353	*e*P	P	22 49 16.2	-0.2
	15nm,0.8s,mb4.5						
SONM	Songino Array	41.42	13	P	P	22 52 07.8	+0.5
	1.5nm,0.9s,mb3.6,baz=192,slow=6.4,SNR=8.4						
SONM				PcP	PcP	22 54 06.6	+1.0
	0.5nm,0.8s,baz=221,slow=2.2,SNR=4.3						
KURK	Kurchatov	44.78	346	*e*P	P	22 52 34.6	-0.1
	7.2nm,1.1s,mb4.4						
ZAL	Zalesovo	46.74	353	P	P	22 52 50.6	+0.4
	2.5nm,0.8s,mb4.2,baz=292,slow=9.9,SNR=13						
WRAB	Tennant Creek	48.28	125	P	P	22 53 02.5	-0.2
BVAR	Borovoye Array	49.14	341	P	P	22 53 08.5	-0.4
	1.4nm,0.9s,mb4.0,baz=135,slow=4.2,SNR=4.3						
BRTR	Keskin Array B	62.44	311	P	P	22 54 44.0	-0.8
	0.7nm,0.8s,mb3.9,baz=108,slow=9.1,SNR=3.5						
FINES	FINESS Array B	72.83	332	P	P	22 55 49.4	-0.1
	1.4nm,0.7s,mb4.0,baz=76,slow=5.7,SNR=3.5						
GERES	GERESS Array B	77.88	318	P	P	22 56 19.6	+1.1
	0.7nm,0.8s,mb3.7,baz=108,slow=4.2,SNR=6.4						
PDAR	Pinedale Array	125.44	21	PKP	PKPdf	23 03 22.7	-2.9
	0.6nm,1.0s,baz=297,slow=2.0,SNR=3.7						

*BJI **28** 22:47:31.9, 7.70N×93.69E, h33km, mB5.4, mb4.8, Ms4.7, Msz4.7*
*NEIC **28** 22:47:33.9±0.3, 8.05N×94.14E, mb4.8/28, Error ellipse: s-maj=11.1km s-min=8.6km az=63.0*
*MOS **28** 22:47:34.2±1.4, 8.06N×94.08E, h33km, mb4.9/36, Error ellipse: s-maj=12.1km s-min=6.7km az=106.7*
*IDC **28** 22:47:40.0±4.1, 8.13N×94.06E, h70km±36km, mb4.1/20, mb1 4.2/21, mb1mx4.2/24, mbtmp4.4/21, ML4.2/1, MS4.1/2, Ms1 4.2/2, ms1mx3.1/30, Error ellipse: s-maj=23.3km s-min=11.6km az=52.0*

ISC 28 22:47:32.2±0.3, 8.02N±0.05×94.12E±0.05, h20km, h20km±1.8km: pP-P, n137, σ1°19/138, mb4.7/55, MS4.5/4, 1C-5D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.39	24	Pn	P	22 50 17.2	+0.1
	19nm,0.9s						
CMAR	Chiang Mai Arr	11.39	24	P	P	22 50 19.8	+2.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,632nm,18.4s						
CMAR	Chiang Mai Arr	11.39	24	P	P	22 50 19.8	+2.7
	comp=Z,0.5nm,0.3s,baz=210,slow=14,SNR=22						
CMAR				LR	LR	22 54 56.8	
	comp=Z,632nm,18.4s,baz=192,slow=39						
VIS	Vishakhapatnam	14.26	314	*e*P	P	22 50 58.6	+3.2
VIS				*e*		22 51 03.0	
	comp=Z,30nm,0.6s						
VIS				*e*S	S	22 53 30.9	-3.0
BWNR	Bhubaneshwar	14.62	327	*e*P	P	22 50 58.6	-1.4
BWNR				*e*		22 51 00.5	
	comp=Z,25nm,1.0s						
BWNR				*e*S	S	22 53 34.4	-7.9
SHL	Shillong	17.58	353	‖*i*P	P	22 51 37.5	-0.4
SHL				*i*		22 55 05.0	
HYB	Hyderabad	17.81	303	*e*P	P	22 51 43.0	+2.2
HYB	Hyderabad	17.81	303	*i* P	P	22 51 43.0	+2.2
HYB				*e*S	S	22 55 01.5	+5.2
KMI	Kunming	18.89	25	‖pP	P	22 51 58.6	+4.5
KMI				pmax	pmax		
	comp=Z,24nm,1.6s						
KMI	Kunming	18.89	25	‖P	P	22 51 58.6	+4.5
	comp=Z,24nm,1.6s						
KMI				pP		22 52 04.9	
JIRN	Jiri	20.93	340	*e*P	P	22 52 15.8	-0.4
PKI	Pulchoki	21.12	338	*e*P	P	22 52 18.1	-0.1
	comp=Z,193nm,1.3s,mb5.3						
DMN	Daman	21.27	337	*e*P	P	22 52 19.9	+0.2
	comp=Z,104nm,0.8s,mb5.2						
KKN	Kakani	21.37	338	*e*P	P	22 52 20.6	-0.1
	comp=Z,150nm,1.1s,mb5.2						
KAD	Karad	21.51	297	*e*P	P	22 52 24.5	+2.3
KAD				*e*		22 52 29.1	
	comp=Z,15nm,0.6s						
LSA	Lhasa	21.75	353	*e*P	P	22 52 25.2	+0.7
LSA				pmax	pmax		
	comp=Z,59nm,0.8s,mb5.1						
LSA	Lhasa	21.75	353	*e*P	P	22 52 25.2	+0.6
	comp=Z,59nm,0.8s,mb5.1						
GKN	Gorkha	21.80	337	*e*P	P	22 52 25.3	+0.2
	comp=Z,130nm,0.9s,mb5.4						
KOLN	Koldanda	22.02	334	*e*P	P	22 52 27.5	+0.2
	comp=Z,286nm,1.5s,mb5.5						
BHPL	Bhopal	22.04	315	*e*P	P	22 52 29.8	+2.3
BHPL				*e*		22 52 35.0	
	comp=Z,57nm,1.1s						
BHPL				*e*		22 54 06.7	
NDI	New Delhi	26.00	324	*e*P	P	22 53 05.0	-0.8
ENH	Enshi	26.41	31	P	P	22 53 08.9	-0.6
LZH	Lanzhou	29.32	16	*e*P	P	22 53 38.0	+2.1
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.8						
LZH				LR	LR		
	comp=E,745nm,11.5s						
LZH				LR	LR		
	comp=Z,1μm,12.8s,MS4.7						
LZH	Lanzhou	29.32	16	*e*P	P	22 53 38.0	+2.1
	comp=Z,28nm,1.5s,mb4.8						
LZH				pP	pP	22 53 42.0	+0.2
LZH				sP	sP	22 53 45.0	+0.6
LZH				LR	LR		
	comp=Z,1μm,12.8s,MS4.7						
NJ2	Nanjing	33.18	40	*e*P	P	22 54 12.3	+2.5
NJ2				AP	pP	22 54 23.0	+7.2
NJ2				XP	sP	22 54 25.3	+6.9
NJ2				PP	PP	22 55 24.5	+3.4
NJ2				S	S	22 59 30.0	+2.7
NJ2				XS		22 59 46.0	
NJ2				AMB	AMB		
	comp=Z,630nm,5.6s						
NJ2				LR	LR		
	comp=N,2μm,10.1s						
NJ2				LR	LR		
	comp=E,1μm,18.0s						
NJ2				LR	LR		
	comp=Z,3μm,17.3s						
WMQ	Urumqi	36.10	352	P	P	22 54 36.0	+1.2
WMQ				AP	pP	22 54 42.0	+1.2
WMQ				PP	PP	22 55 58.0	+0.8
WMQ				PCP	PcP	22 57 02.5	+1.6
WMQ				S	S	23 00 13.0	+0.6
WMQ				AMB	AMB		
	comp=Z,34nm,0.9s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,252nm,5.3s						
WMQ				LR	LR		
	comp=N,635nm,16.3s,MS4.6						
WMQ				LR	LR		
	comp=E,577nm,16.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,952nm,16.6s,MS4.6						
KBK	Karagaybulak	38.40	337	P	P	22 54 55.6	+1.5
	SNR=7.1						
AML	Almayashu	38.46	335	P	P	22 54 55.9	+1.2
	SNR=12						
AAK	Ala-Archa	38.56	337	P	P	22 54 56.8	+1.3
	SNR=5.5						
AAK	Ala-Archa	38.56	337	*e*P	P	22 54 55.5	0.0
AAK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
AAK	Ala-Archa	38.56	337	*e*P	P	22 54 55.5	0.0
	comp=Z,6.8nm,0.9s,mb4.4						
CHMS	Chumysh	38.77	337	P	P	22 54 57.5	+0.3
	SNR=5.4						
USP	Ospenovka	39.10	337	P	P	22 55 00.7	+0.7
	SNR=6.4						
SONM	Songino Array	41.03	13	P	P	22 55 16.2	+0.4
	comp=Z,4.1nm,0.9s,mb4.1,baz=196,slow=7.1,SNR=27						
SONM				PcP	PcP	22 57 15.6	-0.6
	comp=Z,1.3nm,0.9s,baz=186,slow=4.8,SNR=3.7						
ULN	Ulaanbaatar	41.20	13	*i* P	P	22 55 16.0	-1.2
ULN	Ulaanbaatar	41.20	13	*e*P	P	22 55 17.8	+0.6
	comp=Z,2.9nm,0.8s,mb4.0						
ZAK	Zakamensk	42.91	9	*e*P	P	22 55 30.2	-1.0
ZAK				*e*		22 57 15.3	
TLY	Talaya	44.23	8	*i* P	P	22 55 43.0	+1.1
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
KURK	Kurchatov	44.46	346	*e*P	P	22 55 43.7	-0.1
KURK				*e*PP	pP	22 55 50.3	+0.4
KURK				pmax	pmax		
	comp=Z,35nm,1.3s,mb4.9						
KURK	Kurchatov	44.46	346	*e*P	P	22 55 43.7	-0.1
	comp=Z,35nm,1.3s,mb4.9						
KURK				*e*pP	pP	22 55 50.3	+0.4
MUN	Mundaring	45.02	153	*e*P	P	22 55 48.3	-0.3
	comp=Z,10nm,0.7s,mb4.8						
MUN	Mundaring	45.02	153	*e*P	P	22 55 48.3	-0.3
MUN				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
NWAO	Narrogin (SRO)	46.29	153	*e*P	P	22 55 58.4	-0.2
NWAO				pmax	pmax		
	comp=Z,22nm,1.0s						
NWAO	Narrogin (SRO)	46.29	153	P	P	22 56 01.2	+2.6
	comp=Z,17nm,0.8s,mb5.0,baz=299,slow=6.6,SNR=12						
NWAO	Narrogin (SRO)	46.29	153	*e*P	P	22 55 58.4	-0.2
	comp=Z,22nm,1.0s,mb5.0						
HIA	Hailar	46.40	23	P	P	22 55 58.7	-0.5
HIA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
HIA	Hailar	46.40	23	P	P	22 55 58.7	-0.5
	comp=Z,3.9nm,0.3s,mb4.8						
ZAL	Zalesovo	46.40	352	P	P	22 55 59.3	+0.2
ZAL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ZAL	Zalesovo	46.40	352	P	P	22 55 59.3	+0.1
	comp=Z,8.2nm,0.8s,mb4.7,baz=294,slow=6.9,SNR=47						
NVS	Novosibirsk	47.50	351	*i* P	P	22 56 06.9	-0.9
NVS				*e*S	S	23 03 01.4	+0.9
NVS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
NVS				pmax	pmax		
	comp=N,11nm,1.3s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.4s						
NVS				smax			
	comp=N,6.0nm,1.4s						
NVS				smax			
	comp=E,11nm,1.6s						
WRA	Warramunga Arr	48.37	126	P	P	22 56 15.5	+0.5
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WRA	Warramunga Arr	48.37	126	P	P	22 56 15.5	+0.4
	comp=Z,1.8nm,0.5s,mb4.4,baz=304,slow=8.6,SNR=15						
WRAB	Tennant Creek	48.37	126	*i* P	P	22 56 14.8	-0.3
WB2	Warramunga Arr	48.38	126	*e*P	P	22 56 14.6	-0.5
BVAR	Borovoye Array	48.84	341	P	P	22 56 16.8	-1.5
	comp=Z,4.6nm,0.9s,mb4.5,baz=135,slow=6.3,SNR=13						
BRVK	Borovoye	48.91	341	*e*P	P	22 56 17.5	-1.3
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
BRVK	Borovoye	48.91	341	*e*P	P	22 56 17.5	-1.2
	comp=Z,7.4nm,1.1s,mb4.6						
RAYN	Ar Rayn	49.00	294	P	P	22 56 21.3	+1.4
	comp=Z,77nm,0.7s,SNR=14						
CHKZ	Chkalovo	49.33	342	*e*P	P	22 56 21.5	-0.5
CHKZ				*e*PP	pP	22 56 28.0	-0.2
CHKZ				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1						
CHKZ	Chkalovo	49.33	342	*e*P	P	22 56 21.5	-0.5
	comp=Z,19nm,0.9s,mb5.1						
CHKZ				*e*pP	pP	22 56 28.0	-0.2
ASAR	Alice Springs	50.03	130	P	P	22 56 27.6	-0.2
	comp=Z,2.2nm,0.7s,mb4.3,baz=305,slow=7.3,SNR=14						
ASAR				PcP	PcP	22 57 48.4	+0.5

BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 62.31 311 P P 22 57 53.5 -2.2
comp=Z,1.5nm,0.6s,mb4.3,baz=128,slow=8.2,SNR=7.2
MOS Moscow 64.94 329 *eP* pP 22 58 21.7 +2.7
OBN Obninsk 65.24 328 ⇓*iP* **P 22 58 10.3 -4.3**
OBN pmax pmax
comp=Z,27nm,1.8s,mb5.0
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
OBN Obninsk 65.24 328 *eP* **P 22 58 10.3 -4.3**
comp=Z,32nm,1.3s,mb5.2
MA2 Magadan 66.65 28 *i* P **P 22 58 23.1 -0.4**
MA2 pmax pmax
comp=Z,14nm,1.5s,mb4.8
TIXI Tiksi 67.09 11 ⇓*iP* **P 22 58 25.0 -1.2**
TIXI pmax pmax
comp=Z,23μm,1.0s
TIXI MLR MLR
comp=Z,295nm,13.0s
AKASG Malin Array Be 68.03 322 P **P 22 58 29.5 -2.9**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 68.03 322 P **P 22 58 29.4 -2.9**
comp=Z,1.5nm,0.7s,mb4.1,baz=89,slow=4.5,SNR=9.3
IDI Anoyia 68.47 305 P **P 22 58 36.1 +0.7**
comp=Z,6.9nm,0.6s,mb4.9,baz=96,slow=9.9,SNR=10
LSZ Lusaka 69.29 250 *eP* **P 22 58 41.2 +0.4**
LSZ pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
LSZ Lusaka 69.29 250 *eP* **P 22 58 41.2 +0.5**
comp=Z,3.3nm,0.9s,mb4.3
JOF Joensuu 70.71 334 *ep* **P 22 58 49.8 +1.2**
comp=Z,6.9nm,0.7s,mb4.7
SUW Suwalki 72.37 324 *eP* **P 22 58 55.8 -2.9**
FINES FINESS Array B 72.57 332 P **P 22 58 59.0 -0.8**
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 72.57 332 P **P 22 58 59.0 -0.8**
comp=Z,4.6nm,0.8s,mb4.5,baz=112,slow=10,SNR=12
KAF Kangasniemi 72.65 333 *ep* **P 22 58 58.6 -1.6**
comp=Z,10nm,1.0s,mb4.7
KAF Kangasniemi 72.65 333 *eP* **P 22 58 58.6 -1.6**
KAF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
OJC Ojcow 73.85 320 *eP* **P 22 59 06.9 -0.5**
LBTB Lobatse 74.29 241 *eP* **P 22 59 12.6 +2.1**
LBTB pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LBTB Lobatse 74.29 241 *eP* **P 22 59 12.6 +2.1**
comp=Z,7.7nm,0.8s,mb4.7
KEV Kevo 74.69 341 *ep* **P 22 59 13.6 +1.7**
comp=Z,8.3nm,0.8s,mb4.7
KEV Kevo 74.69 341 *eP* **P 22 59 13.6 +1.7**
KEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ARCES ARCESS Array B 75.12 340 P **P 22 59 13.7 -0.7**
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARCES ARCESS Array B 75.12 340 P **P 22 59 13.7 -0.8**
comp=Z,4.6nm,1.0s,mb4.4,baz=76,slow=5.0,SNR=6.3
MORC Moravsky Berou 75.25 319 *eP* **P 22 59 13.9 -1.6**
MORC *e**PP pP 22 59 19.9 -2.0
MORC pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MORC Moravsky Berou 75.25 319 *eP* **P 22 59 13.9 -1.6**
comp=Z,8.2nm,1.1s,mb4.6
MORC *e*pP pP 22 59 19.9 -2.1
BOSA Boshof 75.64 238 *eP* **P 22 59 20.4 +2.2**
BOSA pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
BOSA Boshof 75.64 238 *eP* **P 22 59 20.4 +2.2**
comp=Z,5.5nm,0.7s,mb4.6
PRU Pruhonice 77.20 319 *eP* **P 22 59 31.0 +4.5**
BRG Berggiesshubel 77.62 320 *i* P **P 22 59 30.9 +2.1**
BRG pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
BRG Berggiesshubel 77.62 320 *i* P **P 22 59 30.9 +2.1**
comp=Z,9.1nm,1.2s,mb4.6
GERES GERESS Array B 77.70 318 P **P 22 59 28.9 -0.4**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 77.70 318 P **P 22 59 28.9 -0.4**
comp=Z,2.2nm,0.8s,mb4.1,baz=90,slow=5.3,SNR=16
KHC Kasperske Hory 77.79 318 *eP* **P 22 59 29.5 -0.3**
RUE Ruedersdorf 77.80 322 *eP* **P 22 59 29.0 -0.7**
CLL Collm 78.23 321 P **P 22 59 32.0 -0.1**
MOX Moxa 79.09 320 *eP* **P 22 59 42.1 +5.2**
MOX Moxa 79.09 320 *i* P **P 22 59 42.1 +5.2**
NB2 NORSAR Subarra 79.59 331 P **P 22 59 38.3 -1.1**
comp=Z,4.8nm,0.7s,mb4.5,baz=96,slow=5.0
NB2 NORSAR Subarra 79.59 331 P **P 22 59 38.3 -1.1**
NB2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
NOA NORSAR Array B 79.59 331 P **P 22 59 38.5 -0.9**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 79.59 331 P **P 22 59 38.5 -0.9**
comp=Z,3.4nm,0.7s,mb4.4,baz=94,slow=5.2,SNR=7.9
DAVOX Davos 80.27 316 P **P 22 59 42.7 -0.6**
comp=Z,4.0nm,0.8s,mb4.4,baz=120,slow=6.4,SNR=4.2
LPG La Plagne 82.50 315 *eP* **P 22 59 53.4 -1.6**
comp=Z,36nm,1.1s,mb4.9
LPG La Plagne 82.50 315 *eP* **P 22 59 53.4 -1.6**
LPG pmax pmax
comp=Z,18nm,1.1s,mb4.9
BNI Bardonecchia 82.58 314 P **P 22 59 56.2 +0.8**
BNI pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
BNI Bardonecchia 82.58 314 P **P 22 59 56.2 +0.8**
comp=Z,6.4nm,0.8s,mb4.7
ESDC Sonseca Array 91.11 310 P **P 23 00 36.9 -0.2**
comp=Z,0.5nm,0.8s,mb3.9,baz=67,slow=4.2,SNR=2.6
IMA Indian Mountai 91.50 22 *eP* **P 23 00 39.8 +1.5**
ILAR Eielson Array 94.62 22 P **P 23 00 52.0 -0.7**
comp=Z,0.3nm,0.7s,mb3.8,baz=292,slow=4.9,SNR=4.1
ILAR PP PP 23 04 40.3 -3.0
comp=Z,0.3nm,1.0s,baz=286,slow=7.3,SNR=4.4
INK Inuvik 96.86 16 P **P 23 01 03.2 +0.4**
INK pmax pmax
comp=Z,2.0nm,1.1s
INK Inuvik 96.86 16 P **P 23 01 03.2 +0.4**
comp=Z,2.4nm,1.1s,mb4.5,baz=321,slow=1.4,SNR=3.0
YKA Yellowknife Ar 106.29 13 PP PP 23 06 06.2 -6.0
comp=Z,0.4nm,0.9s,baz=335,slow=8.0,SNR=4.4
NVAR Mina Array Bea 124.81 31 PKP PKPdf 23 06 33.1 -2.4
comp=Z,0.9nm,0.8s,baz=239,slow=5.3,SNR=3.4
PDAR Pinedale Array 125.04 21 PKP PKPdf 23 06 31.9 -3.9
comp=Z,0.8nm,0.8s,baz=34,slow=3.3,SNR=1.9
PLCA Paso Flores 144.68 200 PKIKP PKPdf 23 07 11.0 -1.1
PLCA pmax pmax
comp=Z,15nm,1.1s
PLCA Paso Flores 144.68 200 PKP PKPdf 23 07 10.9 -1.1
comp=Z,15nm,1.1s,baz=280,slow=5.5,SNR=3.1

*IDC **28** 22:57:25.1±0.7, 7.93N×93.97E, mb4.2/15, mb1 4.2/16, mb1mx4.2/21, mbtmp4.1/16, ML3.9/1, Error ellipse: s-maj=32.7km s-min=14.5km az=55.0*
*BJI **28** 22:57:29.0, 7.79N×93.78E, h38km, mb4.2*
*NEIC **28** 22:57:29.8±0.5, 7.92N×93.99E, h30km, mb4.5/11, Error ellipse: s-maj=15.0km s-min=9.9km az=67.0*
ISC 28 22:57:28.7±0.5,**8.01N**±0.08×**94.19E**±0.10,**h33km,n46,**
σ0s96/44,mb4.5/29,2C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.36**	**24**	Pn	**P**	**23 00 13.1**	**+1.3**
	0.2nm,0.3s,baz=212,slow=13,SNR=9.6						
HYB	**Hyderabad**	**17.88**	**303**	*iP*	**P**	**23 01 40.0**	**+3.4**
KMI	**Kunming**	**18.87**	**25**	⇑P	**P**	**23 01 52.8**	**+4.0**
	7.0nm,1.2s						
JIRN	**Jiri**	**20.96**	**340**	*eP*	**P**	**23 02 10.3**	**-1.0**
	135nm,1.3s						
PKI	**Pulchoki**	**21.16**	**338**	*eP*	**P**	**23 02 13.2**	**-0.1**
	96nm,1.1s,mb5.0						
DMN	**Daman**	**21.30**	**337**	*eP*	**P**	**23 02 15.8**	**+1.0**
KKN	**Kakani**	**21.40**	**338**	*eP*	**P**	**23 02 15.7**	**-0.1**
	48nm,1.0s,mb4.8						
LSA	**Lhasa**	**21.76**	**353**	P	**P**	**23 02 23.3**	**+3.9**
LSA	**Lhasa**	**21.76**	**353**	*eP*	**P**	**23 02 18.9**	**-0.4**
	26nm,0.8s,mb4.7						
GKN	**Gorkha**	**21.84**	**337**	*eP*	**P**	**23 02 20.2**	**+0.1**
	67nm,0.8s,mb5.1						
KOLN	**Koldanda**	**22.06**	**334**	*eP*	**P**	**23 02 22.5**	**+0.2**
	135nm,1.2s,mb5.2						
NDI	**New Delhi**	**26.05**	**324**	*e*	**P**	**23 03 01.0**	**0.0**
ENH	**Enshi**	**26.38**	**31**	*eP*	**P**	**23 03 04.5**	**+0.5**
	11nm,1.0s,mb4.4						
XAN	**Xi'an**	**29.25**	**26**	P	**P**	**23 03 35.0**	**+5.1**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
AAK	**Ala-Archa**	**38.60**	**337**	*eP*	**P**	**23 04 49.9**	**-0.5**
	comp=Z,9.0nm,1.1s,mb4.4						
SONM	**Songino Array**	**41.02**	**13**	P	**P**	**23 05 10.9**	**+0.5**
	comp=Z,1.5nm,0.9s,mb3.6,baz=200,slow=8.3,SNR=11						
SONM				PcP	PcP	23 07 11.3	+0.7
	comp=Z,0.5nm,0.8s,baz=188,slow=3.6,SNR=5.8						
SNY	**Shenyang**	**42.53**	**33**	⇑P	**P**	**23 05 28.5**	**+5.6**
KURK	**Kurchatov**	**44.49**	**346**	*eP*	**P**	**23 05 38.1**	**-0.5**
	comp=Z,15nm,1.1s,mb4.6						
NWAO	**Narrogin (SRO)**	**46.25**	**153**	P	**P**	**23 05 54.0**	**+1.2**
	comp=Z,6.6nm,1.1s,mb4.5,baz=324,slow=8.7,SNR=4.0						
ZAL	**Zalesovo**	**46.42**	**352**	P	**P**	**23 05 54.0**	**+0.2**
	comp=Z,2.1nm,0.6s,mb4.2,baz=304,slow=11,SNR=13						
WRA	**Warramunga Arr**	**48.30**	**126**	P	**P**	**23 06 07.6**	**-1.5**
	comp=Z,1.1nm,0.6s,mb4.1,baz=307,slow=9.3,SNR=5.6						
WRA	**Warramunga Arr**	**48.30**	**126**	P	**P**	**23 06 07.6**	**-1.5**
BVAR	**Borovoye Array**	**48.87**	**341**	P	**P**	**23 06 12.2**	**-0.9**
	comp=Z,2.0nm,0.8s,mb4.2,baz=158,slow=8.0,SNR=6.2						
RAYN	**Ar Rayn**	**49.08**	**294**	P	**P**	**23 06 16.3**	**+1.2**
	comp=Z,70nm,0.7s,mb5.8,SNR=12						
CHKZ	**Chkalovo**	**49.36**	**342**	*eP*	**P**	**23 06 15.5**	**-1.3**
	comp=Z,15nm,1.0s,mb5.0						
ASAR	**Alice Springs**	**49.97**	**130**	P	**P**	**23 06 21.5**	**-0.4**
	comp=Z,0.6nm,0.7s,mb3.7,baz=307,slow=7.6,SNR=6.0						
KMBO	**Kilima Mbogo**	**57.49**	**264**	P	**P**	**23 07 19.7**	**+2.2**
	comp=Z,5.0nm,0.8s,mb4.6,baz=50,slow=11,SNR=22						
STKA	**Stephens Creek**	**60.16**	**134**	P	**P**	**23 07 35.8**	**0.0**
	comp=Z,2.0nm,0.8s,mb4.2,baz=301,slow=6.2,SNR=4.6						
BRTR	**Keskin Array B**	**62.38**	**311**	P	**P**	**23 07 48.7**	**-1.9**
	comp=Z,1.9nm,0.7s,mb4.3,baz=123,slow=7.6,SNR=14						
AKASG	**Malin Array Be**	**68.08**	**322**	P	**P**	**23 08 25.2**	**-1.9**
	comp=Z,2.1nm,0.8s,mb4.2,baz=88,slow=4.9,SNR=10						
IDI	**Anoyia**	**68.53**	**305**	P	**P**	**23 08 29.6**	**-0.6**
	comp=Z,7.2nm,0.7s,mb4.7,baz=107,slow=8.3,SNR=6.3						
FINES	**FINESS Array B**	**72.61**	**332**	P	**P**	**23 08 53.9**	**-0.5**
	comp=Z,1.9nm,0.6s,mb4.2,baz=90,slow=5.7,SNR=11						
ARCES	**ARCESS Array B**	**75.15**	**340**	P	**P**	**23 09 09.3**	**+0.2**
	comp=Z,2.8nm,0.7s,mb4.3,baz=90,slow=4.9,SNR=5.8						
ARCES	**ARCESS Array B**	**75.15**	**340**	P	**P**	**23 09 09.3**	**+0.2**
BRG	**Berggiesshubel**	**77.68**	**320**	*iP*	**P**	**23 09 24.2**	**+0.5**
	comp=Z,5.7nm,0.9s,mb4.5						
BRG				*e*		23 09 30.8	
GERES	**GERESS Array B**	**77.76**	**318**	P	**P**	**23 09 24.4**	**+0.3**
	comp=Z,3.4nm,0.7s,mb4.4,baz=90,slow=5.3,SNR=29						
KHC	**Kasperske Hory**	**77.85**	**318**	*eP*	**P**	**23 09 25.0**	**+0.4**
CLL	**Collm**	**78.29**	**321**	*eP*	**P**	**23 09 26.0**	**-1.0**
CLL	**Collm**	**78.29**	**321**	P	**P**	**23 09 26.0**	**-1.0**
GRA1	**Grafenberg Arr**	**79.40**	**319**	*eP*	**P**	**23 09 34.4**	**+1.3**
	comp=Z,4.0nm,0.9s,mb4.3						
GRA1				*e*pP	pP	23 09 39.7	-3.8
GRF	**Grafenberg Arr**	**79.40**	**319**	*eP*	**P**	**23 09 34.4**	**+1.3**
	comp=Z,4.0nm,0.9s,mb4.3						
GRF				*e*pP	pP	23 09 39.7	-3.8
NB2	**NORSAR Subarra**	**79.64**	**331**	P	**P**	**23 09 33.9**	**-0.3**
	comp=Z,1.5nm,0.7s,mb4.0,baz=95,slow=5.3						
NOA	**NORSAR Array B**	**79.64**	**331**	P	**P**	**23 09 34.2**	**0.0**
	comp=Z,2.2nm,0.9s,mb4.1,baz=97,slow=5.1,SNR=6.2						
LPG	**La Plagne**	**82.56**	**315**	*eP*	**P**	**23 09 50.4**	**+0.6**
	comp=Z,12nm,0.8s,mb4.7						
PDAR	**Pinedale Array**	**125.02**	**21**	PKP	PKPdf	23 16 28.5	+2.5
	comp=Z,1.0nm,0.9s,baz=90,slow=1.5,SNR=6.5						
PLCA	**Paso Flores**	**144.70**	**200**	PKP	PKPdf	23 17 03.8	+1.4
	comp=Z,3.9nm,0.8s,baz=169,slow=2.5,SNR=4.8						

*IDC **28** 23:15:41.6±9.9, 7.46N×94.07E, mb4.0/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=256.2km s-min=45.1km az=138.0*
*NEIC **28** 23:15:48.9±2.2, 7.83N×93.88E, h30km, mb4.3/3, Error ellipse: s-maj=53.0km s-min=15.7km az=137.0*
ISC 28 23:15:46.7±3.9,**7.8N**±0.5×**94.0E**±0.5,**h30km,n11,**
σ0s30/11,mb4.0/9,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.61**	**24**	Pn	**P**	**23 18 33.2**	**-0.4**
	baz=148,slow=33,SNR=3.2						
LSA	**Lhasa**	**21.94**	**353**	*eP*	**P**	**23 20 40.1**	**+0.5**
	9.5nm,0.6s,mb4.4						
SONM	**Songino Array**	**41.24**	**13**	P	**P**	**23 23 31.2**	**+0.5**
	0.9nm,0.8s,mb3.5,baz=195,slow=7.9,SNR=8.4						
KURK	**Kurchatov**	**44.64**	**346**	*eP*	**P**	**23 23 58.2**	**-0.2**
	1.5nm,0.7s,mb3.9						
ZAL	**Zalesovo**	**46.59**	**353**	P	**P**	**23 24 13.9**	**+0.2**
	1.8nm,0.5s,mb4.3,baz=294,slow=7.6,SNR=13						
CHKZ	**Chkalovo**	**49.49**	**342**	*eP*	**P**	**23 24 35.9**	**-0.4**
	3.3nm,1.0s,mb4.3						
KWP	**Kalwaria**	**72.00**	**320**	*eP*	**P**	**23 27 09.7**	**0.0**
FINES	**FINESS Array B**	**72.71**	**332**	P	**P**	**23 27 13.2**	**-0.3**
	2.1nm,0.9s,mb4.1,baz=127,slow=9.5,SNR=6.3						
GERES	**GERESS Array B**	**77.79**	**318**	P	**P**	**23 27 42.7**	**0.0**
	0.7nm,0.8s,mb3.6,baz=90,slow=5.3,SNR=4.1						
HFS	**Hagfors**	**78.45**	**330**	P	**P**	**23 27 46.2**	**0.0**
	7.1nm,1.2s,mb4.5,baz=101,slow=7.6,SNR=6.2						
NOA	**NORSAR Array B**	**79.72**	**331**	P	**P**	**23 27 53.3**	**+0.2**
	0.4nm,0.7s,mb3.4,baz=94,slow=8.3,SNR=3.1						

*BJI **28** 23:17:15.8, 7.07N×93.74E, h30km, mB5.1, mb4.5*
*NEIC **28** 23:17:23.3±0.3, 7.79N×94.06E, h30km, mb4.5/10, Error ellipse: s-maj=10.2km s-min=8.1km az=74.0*
*IDC **28** 23:17:26.0±4.3, 7.83N×94.12E, h53km±38km, mb4.1/23, mb1 4.2/24, mb1mx4.2/27, mbtmp4.3/24, ML4.1/1, Error ellipse: s-maj=23.8km s-min=12.7km az=50.0*
ISC 28 23:17:21.6±4.9,**7.81N**±0.09×**94.09E**±0.09,**h30km**±33**km,**
n55,σ0s90/50,mb4.5/39,1C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.59**	**24**	*eP*	**P**	**23 20 07.5**	**-0.7**
	8.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**11.59**	**24**	P	**P**	**23 20 09.2**	**+0.9**
	0.4nm,0.3s,baz=210,slow=14,SNR=22						
HYB	**Hyderabad**	**17.91**	**304**	*iP*	**P**	**23 21 36.0**	**+5.7**
KMI	**Kunming**	**19.10**	**25**	⇑P	**P**	**23 21 48.4**	**+3.6**
	17nm,1.3s						
JIRN	**Jiri**	**21.12**	**340**	*eP*	**P**	**23 22 06.4**	**+0.1**
	107nm,1.2s,mb5.0						
PKI	**Pulchoki**	**21.31**	**338**	*eP*	**P**	**23 22 07.0**	**-1.3**
	121nm,1.3s,mb5.1						
DMN	**Daman**	**21.46**	**338**	*eP*	**P**	**23 22 10.1**	**+0.4**
	49nm,0.7s,mb4.9						
KKN	**Kakani**	**21.56**	**338**	*eP*	**P**	**23 22 10.5**	**-0.2**
	34nm,0.8s,mb4.8						
LSA	**Lhasa**	**21.95**	**353**	*eP*	**P**	**23 22 14.2**	**-0.5**
	37nm,0.7s,mb4.9						
GKN	**Gorkha**	**21.99**	**337**	*eP*	**P**	**23 22 14.8**	**-0.3**
	46nm,0.7s,mb5.0						
KOLN	**Koldanda**	**22.20**	**335**	*eP*	**P**	**23 22 18.0**	**+0.8**
	35nm,0.8s,mb4.9						
NDI	**New Delhi**	**26.16**	**325**	*e*	**P**	**23 22 52.0**	**-3.4**
ENH	**Enshi**	**26.60**	**31**	*eP*	**P**	**23 22 59.4**	**0.0**
	9.5nm,0.9s,mb4.3						
NJ2	**Nanjing**	**33.35**	**40**	*eP*	**P**	**23 24 00.5**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.3						
WMQ	**Urumqi**	**36.31**	**352**	P	**P**	**23 24 25.8**	**+1.2**
AAK	**Ala-Archa**	**38.75**	**337**	*eP*	**P**	**23 24 44.2**	**-0.9**
	comp=Z,3.8nm,0.7s,mb4.2						
SONM	**Songino Array**	**41.24**	**13**	P	**P**	**23 25 06.1**	**+0.5**
	comp=Z,3.2nm,0.8s,mb4.0,baz=196,slow=8.6,SNR=30						
SONM				PcP	PcP	23 27 05.2	+0.5
	comp=Z,1.1nm,0.6s,baz=196,slow=3.8,SNR=6.0						
ULN	**Ulaanbaatar**	**41.41**	**13**	*eP*	**P**	**23 25 06.9**	**-0.1**
	comp=Z,1.6nm,0.6s,mb3.8						
KURK	**Kurchatov**	**44.66**	**346**	*eP*	**P**	**23 25 32.6**	**-0.8**
	comp=Z,23nm,1.3s,mb4.8						
NWAO	**Narrogin (SRO)**	**46.11**	**153**	P	**P**	**23 25 45.5**	**+0.4**
	comp=Z,8.6nm,0.9s,mb4.7,baz=318,slow=8.8,SNR=3.8						
HIA	**Hailar**	**46.60**	**23**	*eP*	**P**	**23 25 49.4**	**+0.6**
	comp=Z,11nm,0.9s,mb4.8						
ZAL	**Zalesovo**	**46.61**	**352**	P	**P**	**23 25 49.4**	**+0.6**
	comp=Z,7.7nm,0.7s,mb4.7,baz=298,slow=6.8,SNR=46						
WRA	**Warramunga Arr**	**48.26**	**125**	P	**P**	**23 26 01.3**	**-0.9**
	comp=Z,3.1nm,1.0s,mb4.3,baz=304,slow=8.4,SNR=7.3						
BVAR	**Borovoye Array**	**49.04**	**341**	P	**P**	**23 26 07.3**	**-0.5**
	comp=Z,3.6nm,0.9s,mb4.4,baz=135,slow=8.4,SNR=10						
BVAR				PcP	PcP	23 27 30.1	-1.5
	comp=Z,1.3nm,0.8s,baz=180,slow=3.0,SNR=4.0						
RAYN	**Ar Rayn**	**49.07**	**294**	P	**P**	**23 26 10.3**	**+1.9**
	comp=Z,68nm,0.8s,mb5.7,SNR=12						
CHKZ	**Chkalovo**	**49.52**	**342**	*eP*	**P**	**23 26 10.6**	**-0.9**
	comp=Z,11nm,0.8s,mb5.0						
ASAR	**Alice Springs**	**49.91**	**130**	P	**P**	**23 26 13.3**	**-1.6**
	comp=Z,2.2nm,0.9s,mb4.2,baz=307,slow=6.6,SNR=8.2						
ASAR				PcP	PcP	23 27 33.4	-1.7
	comp=Z,1.5nm,0.8s,baz=303,slow=3.9,SNR=5.1						
KMBO	**Kilima Mbogo**	**57.37**	**264**	P	**P**	**23 27 11.2**	**+1.1**
	comp=Z,1.5nm,0.5s,mb4.3,baz=49,slow=9.9,SNR=8.0						
ASF	**Jabal al Asfar**	**58.21**	**303**	P	**P**	**23 27 16.3**	**+0.6**
	comp=Z,2.3nm,0.8s,mb4.3,baz=18,slow=3.8,SNR=4.9						
STKA	**Stephens Creek**	**60.09**	**134**	P	**P**	**23 27 29.2**	**+0.5**
	comp=Z,2.0nm,0.8s,mb4.2,baz=315,slow=8.6,SNR=3.4						
BRTR	**Keskin Array B**	**62.44**	**311**	P	**P**	**23 27 42.4**	**-2.1**
	comp=Z,2.9nm,0.9s,mb4.4,baz=133,slow=7.4,SNR=10.0						
AKASG	**Malin Array Be**	**68.18**	**322**	P	**P**	**23 28 19.6**	**-1.7**
	comp=Z,1.3nm,0.6s,mb4.1,baz=88,slow=4.7,SNR=8.8						
IDI	**Anoyia**	**68.57**	**305**	P	**P**	**23 28 24.0**	**+0.1**
	comp=Z,8.9nm,0.9s,mb4.7,baz=261,slow=14,SNR=8.9						
MLR	**Muntele Rosu**	**69.19**	**316**	P	**P**	**23 28 27.7**	**+0.2**
	comp=Z,3.4nm,0.7s,mb4.4,baz=215,slow=5.0,SNR=6.9						
FINES	**FINESS Array B**	**72.75**	**332**	P	**P**	**23 28 48.2**	**-0.5**
	comp=Z,5.4nm,0.7s,mb4.6,baz=86,slow=6.9,SNR=19						
OJC	**Ojcow**	**74.00**	**320**	*eP*	**P**	**23 28 56.3**	**+0.1**
ARCES	**ARCESS Array B**	**75.31**	**340**	P	**P**	**23 29 03.2**	**-0.2**
	comp=Z,3.8nm,0.9s,mb4.3,baz=90,slow=5.7,SNR=10						
ARCES	**ARCESS Array B**	**75.31**	**340**	P	**P**	**23 29 03.2**	**-0.2**
MORC	**Moravsky Berou**	**75.40**	**319**	*eP*	**P**	**23 29 04.1**	**-0.2**
	comp=Z,3.3nm,0.9s,mb4.3						
GERES	**GERESS Array B**	**77.85**	**318**	P	**P**	**23 29 18.5**	**+0.5**
	comp=Z,2.9nm,0.8s,mb4.2,baz=91,slow=5.2,SNR=18						
KHC	**Kasperske Hory**	**77.94**	**319**	*eP*	**P**	**23 29 19.0**	**+0.5**
HFS	**Hagfors**	**78.49**	**330**	P	**P**	**23 29 20.7**	**-0.6**
	comp=Z,5.2nm,0.6s,mb4.6,baz=104,slow=6.1,SNR=22						
NB2	**NORSAR Subarra**	**79.77**	**331**	P	**P**	**23 29 28.1**	**-0.1**
	comp=Z,2.7nm,0.8s,mb4.2,baz=91,slow=5.8						
NOA	**NORSAR Array B**	**79.77**	**331**	P	**P**	**23 29 27.5**	**-0.7**
	comp=Z,4.2nm,0.8s,mb4.4,baz=92,slow=5.6,SNR=9.6						
DAVOX	**Davos**	**80.41**	**316**	P	**P**	**23 29 31.1**	**-0.8**
	comp=Z,3.5nm,0.7s,mb4.4,baz=129,slow=7.7						
EKA	**Eskdalemuir Ar**	**87.75**	**325**	P	**P**	**23 30 10.4**	**+1.6**
	comp=Z,2.4nm,0.7s,mb4.5,baz=90,slow=5.8,SNR=4.2						
ESDC	**Sonseca Array**	**91.22**	**310**	P	**P**	**23 30 26.8**	**+1.3**
	comp=Z,0.9nm,0.6s,mb4.3,baz=64,slow=3.9,SNR=6.0						
MCK	**McKinley**	**94.54**	**23**	P	**P**	**23 30 40.9**	**+0.7**
ILAR	**Eielson Array**	**94.83**	**22**	P	**P**	**23 30 40.8**	**-0.7**
	comp=Z,0.5nm,0.8s,mb4.0,baz=296,slow=3.9,SNR=5.7						
INK	**Inuvik**	**97.07**	**16**	P	**P**	**23 30 51.8**	**+0.2**
	comp=Z,0.7nm,0.4s,mb4.4,baz=266,slow=8.8,SNR=3.4						
YKA	**Yellowknife Ar**	**106.50**	**13**	PP	PP	23 35 55.7	-6.1
	comp=Z,0.4nm,0.9s,baz=333,slow=7.7,SNR=5.0						
NVAR	**Mina Array Bea**	**125.00**	**31**	PKP	PKPdf	23 36 22.4	-2.2
	comp=Z,1.2nm,0.8s,baz=354,slow=2.6,SNR=5.7						
PDAR	**Pinedale Array**	**125.25**	**21**	PKP	PKPdf	23 36 22.1	-2.9
	comp=Z,0.9nm,0.7s,baz=45,slow=2.1,SNR=8.4						
TXAR	**Lajitas Array**	**139.31**	**24**	PKP	PKPdf	23 36 48.8	-3.0
	comp=Z,0.4nm,0.6s,baz=222,slow=1.9,SNR=4.5						
PLCA	**Paso Flores**	**144.47**	**200**	PKP	PKPdf	23 36 56.5	-4.0
	comp=Z,6.4nm,0.9s,baz=150,slow=4.8,SNR=6.8						

*NEIC **28** 23:21:48.8±0.4, 8.45N×93.40E, h30km, mb4.4/4, Error ellipse: s-maj=15.5km s-min=8.7km az=62.0*
*IDC **28** 23:21:52.4±5.5, 8.53N×93.48E, h59km±49km, mb3.8/19, mb1 4.0/20, mb1mx4.0/24, mbtmp4.1/20, ML4.4/1, Error ellipse: s-maj=38.5km s-min=13.2km az=54.0*
*BJI **28** 23:21:53.0, 9.15N×92.96E, h30km, mb4.6, Ms4.3, Msz4.2*
ISC 28 23:21:47.4±0.5,**8.47N**±0.08×**93.45E**±0.09,**h33km,n42,**
σ0s86/42,mb4.3/24,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.27**	**28**	P	**P**	**23 24 30.6**	**+1.3**
	0.8nm,0.3s,baz=216,slow=14,SNR=16						
VIS	**Vishakhapatnam**	**13.48**	**314**	*eP*	**P**	**23 24 56.0**	**-2.8**
VIS				*e*		23 24 57.2	
	comp=Z,30nm,0.7s						
VIS				*e*S	**S**	**23 27 15.6**	**-13**
BWNR	**Bhubaneshwar**	**13.89**	**329**	*eP*	**P**	**23 24 59.1**	**-5.2**
BWNR				*e*	S	23 27 16.9	-21
TRD	**Trivandrum**	**16.31**	**271**	*eP*	**P**	**23 25 29.4**	**-6.4**
HYB	**Hyderabad**	**17.02**	**303**	*iP*	**P**	**23 25 46.5**	**+1.9**
JIRN	**Jiri**	**20.29**	**341**	*eP*	**P**	**23 26 22.6**	**-0.6**
	comp

ellipse: s-maj=25.7km s-min=13.5km az=51.0
*NEIC **28** 23:23:51.7±0.4, 7.91N×94.09E, h30km, mb4.6/15, Error ellipse: s-maj=9.8km s-min=9.3km az=83.0*
ISC 28 23:23:51.0±1.7, 7.87N±0.06×94.02E±0.06, h37km±14km, h17km±8.0km: pP-P, n60, σ1.9±0.4/59, mb4.6/40, MS4.5/1, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.56**	**24**	Pn	**P**	**23 26 34.7**	**-1.9**
CMAR	**Chiang Mai Arr**	**11.56**	**24**	Pn	**P**	**23 26 36.6**	**+0.1**
	0.9nm,0.3s,baz=212,slow=14,SNR=20						
PALK	**Pallekele**	**13.22**	**268**	*e*Pn	**P**	**23 26 59.8**	**+1.0**
	12nm,0.7s						
HYB	**Hyderabad**	**17.81**	**304**	*e*P	**P**	**23 28 01.5**	**+3.6**
HYB				*e*S	**S**	23 31 06.0	-6.6
HYB	**Hyderabad**	**17.81**	**304**	*i* P	**P**	**23 28 01.5**	**+3.6**
HYB				*e*		23 31 06.0	
HYB				*e*S	**S**	**23 31 17.0**	**+4.4**
QIZ	**Qiongzhong**	**18.95**	**53**	P	**P**	**23 28 14.8**	**+3.0**
KMI	**Kunming**	**19.07**	**25**	⇓P	**P**	**23 28 15.5**	**+2.4**
	20nm,1.2s						
KMI				pP		23 28 21.3	
KMI				S	**S**	**23 31 42.4**	**+1.6**
JIRN	**Jiri**	**21.03**	**340**	*e*P	**P**	**23 28 33.3**	**-0.7**
	184nm,1.3s,mb5.3						
PKI	**Pulchoki**	**21.22**	**338**	*e*P	**P**	**23 28 35.8**	**-0.1**
DMN	**Daman**	**21.37**	**338**	*e*P	**P**	**23 28 37.8**	**+0.4**
	95nm,0.8s,mb5.2						
KKN	**Kakani**	**21.47**	**338**	*e*P	**P**	**23 28 38.3**	**-0.1**
	91nm,1.0s,mb5.1						
GKN	**Gorkha**	**21.90**	**337**	*e*P	**P**	**23 28 43.3**	**+0.6**
	138nm,0.9s,mb5.4						
KOLN	**Koldanda**	**22.11**	**335**	*e*P	**P**	**23 28 45.4**	**+0.6**
	76nm,0.8s,mb5.2						
NDI	**New Delhi**	**26.07**	**325**	*e*	**P**	**23 29 17.5**	**-5.6**
ENH	**Enshi**	**26.58**	**31**	*e*P	**P**	**23 29 26.9**	**-0.9**
	21nm,1.1s,mb4.6						
LZH	**Lanzhou**	**29.48**	**16**	*e*P	**P**	**23 29 58.5**	**+4.6**
LZH				AP	pP	23 30 03.5	-0.8
LZH				XP	sP	23 30 09.0	-0.1
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.7						
NJ2	**Nanjing**	**33.35**	**40**	*e*P	**P**	**23 30 28.3**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
WMQ	**Urumqi**	**36.23**	**352**	*e*P	**P**	**23 30 53.3**	**+0.9**
WMQ				AP	pP	23 31 03.0	0.0
WMQ				XP	sP	23 31 07.0	-0.8
WMQ				PP	PP	23 32 17.0	+1.1
WMQ				PCP	PcP	23 33 18.0	+0.5
WMQ				S	**S**	**23 36 31.3**	**+1.7**
WMQ				AMB	AMB		
	comp=Z,26nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,159nm,4.9s						
WMQ				LR	LR		
	comp=N,489nm,17.4s,MS4.4						
WMQ				LR	LR		
	comp=E,377nm,17.1s,MS4.4						
WMQ				LR	LR		
	comp=Z,669nm,17.5s,MS4.5						
AAK	**Ala-Archa**	**38.66**	**337**	*e*P	**P**	**23 31 12.7**	**-0.1**
	comp=Z,9.9nm,1.1s,mb4.5						
SONM	**Songino Array**	**41.19**	**13**	P	**P**	**23 31 33.3**	**-0.4**
	comp=Z,2.9nm,0.7s,mb4.0,baz=195,slow=9.3,SNR=11						
ULN	**Ulaanbaatar**	**41.36**	**13**	*e*P	**P**	**23 31 34.4**	**-0.8**
	comp=Z,3.5nm,0.8s,mb4.0						
ULN				*e*pP	pP	23 31 39.4	-6.4
KURK	**Kurchatov**	**44.58**	**346**	*e*P	**P**	**23 32 00.6**	**-0.7**
	comp=Z,13nm,0.9s,mb4.8						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	P	**P**	**23 32 15.9**	**+1.5**
	comp=Z,14nm,1.1s,mb4.8,baz=310,slow=11,SNR=8.2						
ZAL	**Zalesovo**	**46.53**	**352**	P	**P**	**23 32 16.2**	**-0.5**
	comp=Z,6.5nm,0.5s,mb4.8,baz=304,slow=6.1,SNR=15						
WRA	**Warramunga Arr**	**48.35**	**125**	P	**P**	**23 32 29.3**	**-2.2**
	comp=Z,1.6nm,0.5s,mb4.3,baz=304,slow=8.5,SNR=6.2						
BVAR	**Borovoye Array**	**48.95**	**341**	P	**P**	**23 32 34.8**	**-0.8**
	comp=Z,4.0nm,1.0s,mb4.4,baz=180,slow=3.0,SNR=6.0						
BVAR				ScP		23 37 53.1	
	comp=Z,1.0nm,0.9s,baz=135,slow=4.2,SNR=4.1						
BRVK	**Borovoye**	**49.01**	**341**	*e*P	**P**	**23 32 34.5**	**-1.6**
	comp=Z,5.3nm,1.0s,mb4.5						
CHKZ	**Chkalovo**	**49.44**	**342**	*e*P	**P**	**23 32 38.4**	**-0.9**
	comp=Z,1.5nm,1.0s,mb5.0						
ASAR	**Alice Springs**	**50.00**	**130**	P	**P**	**23 32 44.0**	**-0.1**
	comp=Z,1.1nm,0.8s,mb4.0,baz=306,slow=7.1,SNR=4.3						
GNI	**Garni**	**54.35**	**314**	P	**P**	**23 33 16.9**	**+0.5**
	comp=Z,1.5nm,0.5s,mb4.2,baz=256,slow=9.8,SNR=3.5						
GNI	**Garni**	**54.35**	**314**	P	**P**	**23 33 18.1**	**+1.6**
	comp=Z,17nm,1.4s,mb4.8						
KIV	**Kislovodsk**	**57.24**	**318**	*e*P	**P**	**23 33 36.5**	**-0.6**
	comp=Z,6.8nm,0.8s,mb4.7						
KMBO	**Kilima Mbogo**	**57.31**	**264**	P	**P**	**23 33 39.9**	**+1.8**
	comp=Z,4.9nm,0.9s,mb4.5,baz=54,slow=9.5,SNR=13						
KMBO	**Kilima Mbogo**	**57.31**	**264**	*e*P	**P**	**23 33 38.9**	**+0.8**
	comp=Z,5.3nm,0.9s,mb4.6						
ASF	**Jabal al Asfar**	**58.12**	**303**	P	**P**	**23 33 42.8**	**-0.7**
	comp=Z,3.2nm,1.0s,mb4.3,baz=38,slow=19,SNR=3.5						
STKA	**Stephens Creek**	**60.19**	**134**	P	**P**	**23 33 58.0**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.3,baz=290,slow=3.3,SNR=5.5						
STKA	**Stephens Creek**	**60.19**	**134**	P	**P**	**23 33 58.0**	**+0.1**
BRTR	**Keskin Array B**	**62.34**	**311**	P	**P**	**23 34 10.2**	**-2.0**
	comp=Z,2.1nm,0.6s,mb4.5,baz=129,slow=7.1,SNR=5.7						
AKASG	**Malin Array Be**	**68.08**	**322**	P	**P**	**23 34 47.2**	**-1.8**
	comp=Z,1.4nm,0.5s,mb4.2,baz=87,slow=5.2,SNR=6.1						
IDI	**Anoyia**	**68.47**	**305**	P	**P**	**23 34 52.2**	**+0.5**
	comp=Z,7.5nm,0.6s,mb4.9,baz=101,slow=10,SNR=11						
MLR	**Muntele Rosu**	**69.09**	**316**	P	**P**	**23 34 54.4**	**-1.0**
	comp=Z,4.3nm,0.7s,mb4.5,baz=255,slow=3.4,SNR=8.7						
FINES	**FINESS Array B**	**72.66**	**332**	P	**P**	**23 35 16.5**	**0.0**
	comp=Z,2.7nm,0.5s,mb4.4,baz=104,slow=7.9,SNR=9.6						
LBTB	**Lobatse**	**74.14**	**241**	*e*P	**P**	**23 35 26.8**	**+0.8**
	comp=Z,5.1nm,0.7s,mb4.6						
ARCES	**ARCESS Array B**	**75.23**	**340**	P	**P**	**23 35 30.9**	**-0.4**
	comp=Z,3.2nm,0.8s,mb4.3,baz=100,slow=5.8,SNR=7.7						
MORC	**Moravsky Berou**	**75.30**	**319**	*e*P	**P**	**23 35 32.2**	**+0.1**
	comp=Z,3.3nm,0.8s,mb4.3						
BRG	**Berggiesshubel**	**77.68**	**320**	*e*P	**P**	**23 35 46.3**	**+0.8**
	comp=Z,3.7nm,1.0s,mb4.3						
GERES	**GERESS Array B**	**77.75**	**318**	P	**P**	**23 35 46.0**	**0.0**
	comp=Z,2.3nm,0.7s,mb4.2,baz=90,slow=2.7,SNR=9.9						
KHC	**Kasperske Hory**	**77.84**	**319**	*e*P	**P**	**23 35 46.5**	**+0.1**
CLL	**Collm**	**78.29**	**321**	*e**PP	pP	23 35 53.0	-7.2
HFS	**Hagfors**	**78.40**	**330**	P	**P**	**23 35 48.9**	**-0.3**
	comp=Z,4.0nm,0.5s,mb4.6,baz=104,slow=6.1,SNR=16						
NB2	**NORSAR Subarra**	**79.67**	**331**	P	**P**	**23 35 56.0**	**-0.2**
	comp=Z,4.1nm,0.8s,mb4.4,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**79.67**	**331**	P	**P**	**23 35 55.6**	**-0.6**
	comp=Z,3.0nm,0.7s,mb4.3,baz=93,slow=5.5,SNR=8.1						
LPG	**La Plagne**	**82.54**	**315**	*e*P	**P**	**23 36 12.5**	**+1.0**
	comp=Z,16nm,1.0s,mb4.7						
ESDC	**Sonseca Array**	**91.13**	**310**	P	**P**	**23 36 54.5**	**+0.9**
	comp=Z,0.9nm,0.6s,mb4.3,baz=60,slow=3.9,SNR=7.2						
IMA	**Indian Mountai**	**91.67**	**22**	*e*P	**P**	**23 36 56.7**	**+1.3**
ILAR	**Eielson Array**	**94.79**	**22**	P	**P**	**23 37 08.4**	**-1.3**
	comp=Z,0.4nm,0.8s,mb3.9,baz=270,slow=2.7,SNR=3.9						
PDAR	**Pinedale Array**	**125.21**	**21**	PKP	PKPdf	23 42 48.0	-0.2
	comp=Z,0.6nm,0.6s,baz=315,slow=2.1,SNR=4.7						
TXAR	**Lajitas Array**	**139.27**	**24**	PKP	PKPdf	23 43 15.6	+0.7
	comp=Z,0.2nm,0.5s,baz=270,slow=2.5,SNR=3.7						
PLCA	**Paso Flores**	**144.51**	**200**	PKP	PKPdf	23 43 24.3	+0.5
	comp=Z,3.9nm,0.8s,baz=181,slow=3.0,SNR=6.1						
LPAZ	**La Paz**	**160.66**	**243**	PKPab	PKPab	23 43 51.4	-40
	comp=Z,0.5nm,0.5s,baz=289,slow=3.3,SNR=3.9						

*CSEM **28** 23:28:31.9±0.1, 39.36N×26.03E, h2km, ML3.3, Error ellipse: s-maj=2.6km s-min=1.5km az=17.0*
*ATH **28** 23:28:32.7, 39.44N×25.92E, h25km, MD3.5/4*
*THE **28** 23:28:33.9, 39.47N×25.97E, h5km, ML3.3*
*ISK **28** 23:28:37.0, 39.33N×26.24E, h30km, MD3.4*
ISC 28 23:28:32.7±0.7, 39.41N±0.03×25.90E±0.03, h9km±5km, n36, σ0.86/46, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.33**	**119**	*e*PB	**Pb**	**23 28 40.6**	**+0.3**
PRK				*e*SB	**Sb**	**23 28 45.9**	**+0.4**
BOZC	**Bozcaada**	**0.45**	**15**	*i* P	**Pg**	**23 28 41.2**	**-0.5**
BOZC				*i* S	**Sg**	**23 28 47.5**	**-0.4**
AYVA	**Ayvalik**	**0.62**	**99**	*i* P	**Pg**	**23 28 45.5**	**+0.3**
AYVA				*i* S	**Sg**	**23 28 54.6**	**+1.1**
LIA	**Limnos Island**	**0.74**	**312**	*e*PN	**Pn**	**23 28 47.2**	**-1.9**
LOS	**Limnos**	**0.82**	**310**	*e*Pg	**Pg**	**23 28 49.3**	**+0.2**
LOS				*e*Sg	**Sg**	**23 29 01.7**	**+1.6**
CANB	**Canakkale**	**1.08**	**56**	*i* PG	**Pg**	**23 28 54.3**	**-0.1**
CANB				*i* SG	**Sg**	**23 29 07.2**	**-1.6**
BLCB	**Balcova**	**1.36**	**139**	PN	**Pn**	**23 28 57.0**	**-0.9**
IZM	**Izmir**	**1.47**	**133**	*e*PN	**Pn**	**23 28 59.1**	**-0.4**
ALN	**Alexandroupoli**	**1.49**	**4**	*e*Pb	**Pb**	**23 28 59.4**	**-0.8**
ALN				*e*Sb	**Sb**	**23 29 18.8**	**-0.3**
ALN	**Alexandroupoli**	**1.49**	**4**	*e*Pb	**Pb**	**23 28 59.3**	**-0.9**
ALN				*e*Sb	**Sb**	**23 29 18.8**	**-0.3**
BALB	**Balikesir**	**1.55**	**81**	PN	**Pn**	**23 28 59.1**	**-1.6**
AKS	**Akhisar**	**1.58**	**109**	PN	**Pn**	**23 28 59.6**	**-1.5**
AOS	**Alonnisos**	**1.58**	**262**	*e*Pb	**Pb**	**23 29 02.6**	**+0.8**
SART	**Tekirdag**	**1.61**	**37**	*i* P	**Pn**	**23 29 01.7**	**+0.1**
SART				*i* S	**Sb**	**23 29 24.3**	**+1.7**
BTOK	**Tokmak**	**1.69**	**77**	*i* P	**Pn**	**23 29 02.3**	**-0.3**
BTOK				*i* S	**Sn**	**23 29 28.5**	**+4.0**
MFT	**Murefte**	**1.74**	**37**	*e*PN	**Pn**	**23 29 04.9**	**+1.5**
OUR	**Ouranopolis**	**1.74**	**303**	*e*Pb	**Pb**	**23 29 04.0**	**-0.4**
RDO	**Rodhopi**	**1.76**	**351**	*e*PN	**Pn**	**23 29 03.2**	**-0.4**
MRMT	**Marmara Adasi**	**1.77**	**47**	*i* PN	**Pn**	**23 29 03.9**	**+0.1**
EDC	**Edincik**	**1.78**	**58**	*e*PN	**Pn**	**23 29 04.5**	**+0.6**
PAIG	**Paliouri**	**1.79**	**288**	*e*Pb	**Pb**	**23 29 04.9**	**-0.3**
BNT	**Bandirma**	**1.82**	**58**	PN	**Pn**	**23 29 04.5**	**0.0**
SMG	**Samos**	**1.85**	**156**	*e*PN	**Pn**	**23 29 05.2**	**+0.2**
KCT	**Karacabey**	**2.08**	**65**	*e*PN	**Pn**	**23 29 08.2**	**0.0**
MANT	**Manisa**	**2.27**	**113**	*i* P	**Pn**	**23 29 11.1**	**+0.1**
MANT				*i* S	**Sn**	**23 29 47.6**	**+8.3**
APE	**Apeiranthos**	**2.35**	**187**	*e*PN	**Pn**	**23 29 12.9**	**+0.7**
ORLT	**Orhaneli**	**2.40**	**74**	*e*PN	**Pn**	**23 29 12.3**	**-0.5**
SOH	**Sokhos**	**2.41**	**307**	*e*Pn	**Pn**	**23 29 13.1**	**+0.1**
SRS	**Serrai**	**2.46**	**315**	*e*Pn	**Pn**	**23 29 13.0**	**-0.6**
EDRB	**Edirne**	**2.52**	**15**	*e*PN	**Pn**	**23 29 17.7**	**+3.2**
CTT	**Catalca**	**2.60**	**47**	*e*PN	**Pn**	**23 29 16.9**	**+1.2**
BADT	**Buyukada**	**2.86**	**59**	*e*PN	**Pn**	**23 29 19.5**	**+0.1**
KNT	**Kendrikon**	**2.89**	**308**	*e*Pn	**Pn**	**23 29 19.7**	**-0.1**
YLV	**Yalova**	**2.91**	**65**	*e*PN	**Pn**	**23 29 20.0**	**-0.1**
ISK	**Istanbul-Kandi**	**2.93**	**55**	*e*PN	**Pn**	**23 29 21.3**	**+0.9**
HRT	**Hereke**	**3.22**	**63**	*e*PN	**Pn**	**23 29 24.0**	**-0.5**

*IDC **28** 23:30:45.5±6.0, 8.22N×93.55E, mb4.0/10, mb1 4.1/11, mb1mx3.9/20, mbtmp4.0/11, ML3.4/1, Error ellipse: s-maj=157.2km s-min=31.0km az=136.0*
*NEIC **28** 23:30:48.9±0.7, 8.08N×93.72E, h30km, mb4.2/2, Error ellipse: s-maj=17.6km s-min=14.5km az=116.0*
ISC 28 23:30:47.1±0.9, 8.1N±0.1×93.8E±0.1, h30km, n16, σ0.91/16, mb4.0/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.45**	**26**	Pn	**P**	**23 33 31.1**	**-0.7**
	0.1nm,0.3s,baz=217,slow=14,SNR=2.7						
LSA	**Lhasa**	**21.63**	**354**	*e*P	**P**	**23 35 37.5**	**+0.6**
	11nm,0.7s,mb4.4						
SONM	**Songino Array**	**41.02**	**13**	P	**P**	**23 38 28.7**	**-0.5**
	0.7nm,0.8s,mb3.3,baz=207,slow=6.1,SNR=5.6						
KURK	**Kurchatov**	**44.30**	**346**	*e*P	**P**	**23 38 55.8**	**-0.2**
	2.2nm,0.7s,mb4.0						
ZAL	**Zalesovo**	**46.27**	**353**	P	**P**	**23 39 11.3**	**-0.3**
	1.5nm,0.5s,mb4.2,baz=291,slow=5.9,SNR=8.6						
ZAL	**Zalesovo**	**46.27**	**353**	P	**P**	**23 39 11.3**	**-0.3**
WRAB	**Tennant Creek**	**48.69**	**125**	P	**P**	**23 39 31.1**	**+0.1**
KMBO	**Kilima Mbogo**	**57.09**	**263**	P	**P**	**23 40 32.4**	**-1.1**
	0.7nm,0.7s,mb3.8,baz=247,slow=23,SNR=3.1						
BRTR	**Keskin Array B**	**62.01**	**311**	P	**P**	**23 41 05.0**	**-2.1**
	0.8nm,0.7s,mb4.0,baz=136,slow=6.9,SNR=4.3						
FINES	**FINESS Array B**	**72.34**	**332**	P	**P**	**23 42 12.1**	**+0.3**
	1.8nm,0.8s,mb4.1,baz=185,slow=21,SNR=4.7						
ARCES	**ARCESS Array B**	**74.93**	**340**	P	**P**	**23 42 28.2**	**+1.5**
	2.7nm,1.0s,mb4.1,baz=82,slow=8.6,SNR=4.2						
GERES	**GERESS Array B**	**77.42**	**318**	P	**P**	**23 42 42.0**	**+0.9**
	0.8nm,0.6s,mb3.9,baz=90,slow=5.3,SNR=10						
HFS	**Hagfors**	**78.08**	**330**	P	**P**	**23 42 44.7**	**+0.2**
	1.6nm,0.5s,mb4.2,baz=124,slow=5.3,SNR=12						
NB2	**NORSAR Subarra**	**79.36**	**331**	P	**P**	**23 42 51.1**	**-0.4**
	1.3nm,0.8s,mb3.9,baz=95,slow=5.8						
NOA	**NORSAR Array B**	**79.36**	**331**	P	**P**	**23 42 51.4**	**-0.1**
	0.9nm,0.8s,mb3.8,baz=93,slow=5.5,SNR=3.6						
DAVOX	**Davos**	**79.97**	**316**	P	**P**	**23 42 56.6**	**+1.5**
	1.6nm,0.5s,mb4.2,baz=148,slow=7.4						

*IDC **28** 23:32:06.3±0.4, 7.95N×94.03E, mb4.7/27, mb1 4.8/28, mb1mx4.8/30, mbtmp4.7/28, ML4.3/1, MS3.9/1, Ms1 4.1/1, ms1mx2.8/12, Error ellipse: s-maj=25.7km s-min=10.8km az=47.0*
*BJI **28** 23:32:08.5, 7.67N×93.84E, h37km, mB5.3, mb4.9, Ms4.7, Msz4.4*
*MOS **28** 23:32:10.8±1.0, 8.00N×94.14E, h36km, mb5.3/76, MS4.5/9, Error ellipse: s-maj=9.2km s-min=4.8km az=120.2*
*NEIC **28** 23:32:10.3±2.3, 7.96N×94.10E, h21km±16km, mb5.1/69, Error ellipse: s-maj=6.0km s-min=3.9km az=54.0*
*HRVD **28** 23:32:10.3±0.3, 8.05N×94.24E, h12km, MW5.0/58, Centroid moment Tensor Solution. LP body waves: s24,c32;Mantle waves: s58,c100; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.62±.10; $M_{\theta\theta}$1.14±.08; $M_{\phi\phi}$2.47±.11; $M_{r\theta}$0.82±.36; $M_{\theta\phi}$1.36±.07; $M_{\phi r}$-1.39±.33; Best double couple: $M_0$3.78×10^{16} NP1: ϕ_s228°, δ41°, λ-63°. NP2:ϕ_s14°, δ54°, λ-112°. Principal axes: T 3.406, Plg7°, Azm119°; N .738, Plg17°, Azm27°; P -4.154, Plg71°, Azm229°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 28 23:32:07.3±0.2, 7.94N±0.03×94.15E±0.03, h13km, h13km±1.2km: pP-P, n299, σ0.98/289, mb5.0/107, MS4.6/14, 23C-11D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.95**	**340**	*e*P	**Pn**	**23 33 10.5**	**+1.6**
PBA				*e*S	**Sn**	**23 33 50.3**	**-5.3**
NNT	**Nongplab**	**7.18**	**49**	P	**Pn**	**23 33 54.5**	**-0.1**
CM31	**Chiang Mai Arr**	**11.45**	**24**	Pn	**P**	**23 34 53.1**	**-0.6**
	5.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.45**	**24**	P	**P**	**23 34 54.7**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,522nm,19.0s						
CMAR	**Chiang Mai Arr**	**11.45**	**24**	Pn	**P**	**23 34 54.7**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=211,slow=14,SNR=41						
CMAR				LR	LR	23 40 18.4	
	comp=Z,522nm,19.0s,baz=220,slow=43						
CHG	**Chiang Mai**	**11.77**	**23**	⇑P	**P**	**23 34 59.3**	**+1.3**
	comp=Z,51nm,1.9s						
NANT	**Nan**	**12.53**	**30**	P	**P**	**23 35 10.0**	**+1.7**
CHRT	**Chiangrai**	**13.06**	**24**	⇓P	**P**	**23 35 18.0**	**+2.8**
	comp=Z,145nm,1.3s						
VIS	**Vishakhapatnam**	**14.34**	**314**	*e*P	**P**	**23 35 31.7**	**-0.6**
VIS				*e*		23 35 39.8	
	comp=Z,65nm,1.6s						
VIS				*e*		23 37 34.9	
BWNR	**Bhubaneshwar**	**14.70**	**328**	*e*P	**P**	**23 35 35.7**	**-1.3**
BWNR				*e*		23 35 48.7	
	comp=Z,118nm,1.4s						
BWNR				*e*		23 37 31.7	
KOD	**Kodaikanal**	**16.63**	**279**	*e*P	**P**	**23 36 03.5**	**+1.6**
KOD				*e*		23 36 14.7	
	comp=Z,45nm,1.6s						
KOD				*e*S	**S**	**23 39 08.0**	**+2.3**
SHL	**Shillong**	**17.66**	**353**	*e*P	**P**	**23 36 13.2**	**-1.6**
HYB	**Hyderabad**	**17.88**	**303**	*e*P	**P**	**23 36 19.0**	**+1.4**
HYB	**Hyderabad**	**17.88**	**303**	*i* P	**P**	**23 36 19.0**	**+1.4**
QIZ	**Qiongzhong**	**18.81**	**53**	P	**P**	**23 36 31.8**	**+2.8**
QIZ				AMB	AMB		
	comp=Z,55nm,1.1s						
QIZ				LR	LR		
	comp=N,3μm,13.0s						
QIZ				LR	LR		
	comp=E,983nm,14.2s						
QIZ				LR	LR		
	comp=Z,895nm,13.7s						
QIZ	**Qiongzhong**	**18.81**	**53**	*e*P	**P**	**23 36 29.8**	**+0.8**
KMI	**Kunming**	**18.96**	**25**	⇑P	**P**	**23 36 34.7**	**+4.0**
KMI				pmax	pmax		
	comp=Z,92nm,1.3s						
KMI	**Kunming**	**18.96**	**25**	⇑P	**P**	**23 36 34.7**	**+4.0**
	comp=Z,92nm,1.3s						
KMI				pP		23 36 38.1	
KMI				sP		23 36 39.4	
KMI				PP	PP	23 36 52.8	+5.5
KMI				S	**S**	**23 40 07.5**	**+9.0**
KMI				sS		23 40 14.4	
KMI				SS	SS	23 40 18.2	-5.8
NGP	**Nagpur**	**19.63**	**314**	*e*P	**P**	**23 36 36.5**	**-2.0**
NGP				*e*		23 36 45.5	
	comp=Z,43nm,1.6s						
NGP				*e*S	**S**	**23 40 16.9**	**+3.4**
COCO	**West Island**	**20.17**	**172**	*e*P	**P**	**23 36 44.4**	**0.0**
	comp=Z,312nm,1.3s						
COCO				*e*pP		23 36 50.3	
JIRN	**Jiri**	**21.01**	**340**	*e*P	**P**	**23 36 52.8**	**-0.3**
	comp=Z,240nm,1.0s,mb5.5						
PKI	**Pulchoki**	**21.21**	**338**	*e*P	**P**	**23 36 55.0**	**-0.1**
	comp=Z,387nm,1.2s,mb5.6						
DMN	**Daman**	**21.36**	**337**	*e*P	**P**	**23 36 56.8**	**+0.2**
	comp=Z,201nm,0.9s,mb5.5						
KKN	**Kakani**	**21.46**	**338**	*e*P	**P**	**23 36 56.7**	**-0.9**
KAD	**Karad**	**21.57**	**297**	*e*P	**P**	**23 36 59.0**	**+0.2**
LSA	**Lhasa**	**21.83**	**353**	*e*P	**P**	**23 37 00.9**	**-0.5**
LSA				pmax	pmax		
	comp=Z,118nm,0.8s,mb5.4						
LSA	**Lhasa**	**21.83**	**353**	*e*P	**P**	**23 37 00.9**	**-0.4**
	comp=Z,118nm,0.8s,mb5.4						
GKN	**Gorkha**	**21.89**	**337**	*e*P	**P**	**23 37 00.6**	**-1.4**
	comp=Z,470nm,1.4s,mb5.7						
KOLN	**Koldanda**	**22.11**	**334**	*e*P	**P**	**23 37 04.0**	**-0.1**
	comp=Z,370nm,1.2s,mb5.7						
BHPL	**Bhopal**	**22.12**	**315**	*e*P	**P**	**23 37 04.7**	**+0.4**
BHPL				*e*		23 37 14.4	
	comp=Z,99nm,1.0s						
BHPL				*e*S	**S**	**23 41 07.0**	**+4.4**
NDI	**New Delhi**	**26.09**	**324**	*e*P	**P**	**23 37 41.8**	**-0.8**
NDI				*e*		23 37 50.9	
	comp=Z,76nm,1.0s						
NDI				*e*S	**S**	**23 42 13.2**	**+2.0**
ENH	**Enshi**	**26.46**	**31**	*e*P	**P**	**23 37 46.5**	**+0.5**
	comp=Z,44nm,0.9s,mb5.0						
SMLA	**Simla**	**28.00**	**328**	*e*P	**P**	**23 38 13.3**	**+13**
SMLA				*e*	pP	23 38 17.9	+14
	comp=Z,47nm,1.2s						
SMLA				*e*S	**S**	**23 42 57.8**	**+16**
QZH	**Quanzhou**	**28.82**	**51**	*e*P	**P**	**23 38 07.0**	**-0.4**
QZH				LR	LR		
	comp=N,1μm,10.3s,MS4.8						
QZH				LR	LR		
	comp=E,1μm,14.2s,MS4.8						
QZH				LR	LR		
	comp=Z,2μm,12.4s,MS4.9						
XAN	**Xi'an**	**29.33**	**26**	P	**P**	**23 38 12.0**	**0.0**
XAN				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.8						
LZH	**Lanzhou**	**29.39**	**16**	*e*P	**P**	**23 38 13.5**	**+1.0**
LZH				AP	pP	23 38 24.0	+7.7
LZH				XP	sP	23 38 27.5	+9.4
LZH				AMB	AMB		
	comp=Z,84nm,1.8s,mb5.2						
LZH				AMB	AMB		
	comp=Z,226nm,4.0s						
LZH				LR	LR		
	comp=E,555nm,12.6s						
LZH				LR	LR		
	comp=Z,862nm,13.8s,MS4.5						
LZH	**Lanzhou**	**29.39**	**16**	*e*P	**P**	**23 38 13.4**	**+0.9**
LZH				pmax	pmax		
	comp=Z,84nm,1.8s,mb5.2						
LZH	**Lanzhou**	**29.39**	**16**	*e*P	**P**	**23 38 13.4**	**+0.9**
	comp=Z,84nm,1.8s,mb5.2						
NJ2	**Nanjing**	**33.22**	**40**	*e*P	**P**	**23 38 47.5**	**+1.3**
NJ2				AP	pP	23 38 57.5	+7.4
NJ2				XP	sP	23 39 00.0	+8.2
NJ2				PP	PP	23 39 58.0	+0.5
NJ2				S	**S**	**23 44 03.0**	**-1.6**
NJ2				AMB	AMB		
	comp=Z,510nm,4.9s						
NJ2				LR	LR		
	comp=N,580nm,13.5s						
NJ2				LR	LR		
	comp=E,

HIA Hailar 46.46 23 *eP* **P 23 40 36.0 +0.3**
comp=Z,58nm,1.4s,mb5.3
ZAL Zalesovo 46.49 352 P **P 23 40 36.1 +0.2**
ZAL pmax pmax
comp=Z,14nm,0.9s
ZAL Zalesovo 46.49 352 P **P 23 40 36.1 +0.3**
comp=Z,14nm,0.9s,mb4.9,baz=298,slow=12,SNR=73
NVS Novosibirsk 47.58 351⇑ *iP* **P 23 40 43.6 -0.9**
NVS *e* 23 42 38.2
NVS *eS* **S 23 47 28.6 -10**
NVS pmax pmax
comp=Z,42nm,1.0s,mb5.4
NVS pmax pmax
comp=N,49nm,1.8s
NVS pmax pmax
comp=E,28nm,1.8s
NVS pmax pmax
comp=Z,12nm,1.1s,mb4.8
NVS pmax pmax
comp=N,12nm,1.3s
NVS pmax pmax
comp=E,10.0nm,1.6s
NVS smax
comp=N,13nm,2.0s
NVS smax
comp=E,27nm,2.1s
WRA Warramunga Arr 48.29 126 P **P 23 40 49.4 -1.1**
WRA pmax pmax
comp=Z,7.0nm,0.8s
WRA Warramunga Arr 48.29 126 P **P 23 40 49.4 -1.1**
comp=Z,6.8nm,0.8s,mb4.7,baz=305,slow=9.0,SNR=35
WRAB Tennant Creek 48.29 126 *eP* **P 23 40 50.0 -0.5**
WRAB pmax pmax
comp=Z,49nm,1.5s,mb5.3
WRAB Tennant Creek 48.29 126 *eP* **P 23 40 50.0 -0.6**
comp=Z,49nm,1.5s,mb5.3
WB2 Warramunga Arr 48.30 126⇑ *iP* **P 23 40 49.9 -0.7**
BVAR Borovoye Array 48.93 341 P **P 23 40 54.1 -0.9**
comp=Z,7.9nm,0.9s,mb4.7,baz=143,slow=7.4,SNR=33
BVAR PcP PcP 23 42 18.7 -0.9
comp=Z,3.5nm,0.8s,baz=135,slow=6.3,SNR=5.6
BRVK Borovoye 48.99 341 *eP* **P 23 40 54.0 -1.5**
BRVK pmax pmax
comp=Z,14nm,0.9s,mb5.0
BRVK Borovoye 48.99 341 *eP* **P 23 40 54.0 -1.5**
comp=Z,14nm,0.9s,mb5.0
RAYN Ar Rayn 49.07 294 P **P 23 40 58.8 +2.3**
comp=Z,207nm,1.1s,mb6.1,SNR=30
CHKZ Chkalovo 49.42 342 *eP* **P 23 40 57.6 -1.1**
CHKZ pmax pmax
comp=Z,41nm,0.9s,mb5.5
CHKZ Chkalovo 49.42 342 *eP* **P 23 40 57.6 -1.2**
comp=Z,41nm,0.9s,mb5.5
ASPA Alice Springs 49.95 130⇑ *iP* **P 23 41 02.4 -0.8**
ASAR Alice Springs 49.95 130 P **P 23 41 02.4 -0.9**
comp=Z,7.1nm,0.9s,mb4.7,baz=305,slow=7.1,SNR=41
ASAR PcP PcP 23 42 22.8 -0.9
comp=Z,2.7nm,0.8s,baz=311,slow=3.4,SNR=6.7
FORT Forrest 50.38 141 *eP* **P 23 41 06.1 -0.4**
comp=Z,38nm,0.9s,mb5.4
CLNS Chul'man 54.37 20 *eP* **P 23 41 36.2 +0.3**
CLNS pmax pmax
comp=N,21nm,1.0s
CLNS pmax pmax
comp=E,20nm,1.0s
CLNS pmax pmax
comp=Z,40nm,1.0s,mb5.3
GNI Garni 54.40 314 *iP* **P 23 41 35.9 -0.4**
GNI pmax pmax
comp=Z,19nm,1.3s
GNI Garni 54.40 314 P **P 23 41 34.2 -2.2**
comp=Z,4.2nm,0.8s,mb4.4,baz=287,slow=0.8,SNR=5.6
GNI Garni 54.40 314 *eP* **P 23 41 35.8 -0.6**
comp=Z,35nm,1.6s,mb5.0
SVE Sverdlovsk 55.35 338 *eP* **P 23 41 39.7 -3.4**
SVE *e* 23 42 39.0
SVE pmax pmax
comp=Z,120nm,2.0s,mb5.6
SVE MLR MLR
comp=Z,1μm,19.0s,MS5.0
PMG Port Moresby 55.54 107 P **P 23 41 44.6 -0.4**
PMG pmax pmax
comp=Z,25nm,0.8s
PMG Port Moresby 55.54 107 P **P 23 41 44.6 -0.4**
comp=Z,25nm,0.8s,mb5.3,baz=50,slow=3.0,SNR=6.6
PMG Port Moresby 55.54 107 *eP* **P 23 41 44.1 -0.9**
comp=Z,26nm,0.9s,mb5.2
ARU Arti 55.84 337 P **P 23 41 45.5 -1.1**
comp=Z,124nm,1.0s,mb5.9,SNR=15
ARU Arti 55.84 337⇓ *iP* **P 23 41 39.3 -7.3**
ARU *eS* **S 23 49 22.8 -8.8**
ARU pmax pmax
comp=Z,24nm,1.0s,mb5.2
ARU MLR MLR
comp=N,400nm,20.0s,MS4.7
ARU MLR MLR
comp=E,400nm,20.0s,MS4.7
ARU MLR MLR
comp=Z,800nm,20.0s,MS4.8
YSS Yuzh-Sakhalins 56.73 38 *eP* **P 23 41 53.3 +0.2**
YSS MLR MLR
comp=Z,400nm,12.0s,MS4.7
YSS Yuzh-Sakhalins 56.73 38 P **P 23 41 52.6 -0.5**
KIV Kislovodsk 57.28 318 *dP* **P 23 41 55.6 -1.5**
KIV pmax pmax
comp=Z,18nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,200nm,18.0s,MS4.3
KIV Kislovodsk 57.28 318 *eP* **P 23 41 55.2 -1.9**
comp=Z,21nm,1.0s,mb5.1
KMBO Kilima Mbogo 57.44 264 P **P 23 41 59.7 +1.1**
KMBO pmax pmax
comp=Z,9.0nm,0.9s
KMBO Kilima Mbogo 57.44 264 P **P 23 41 59.6 +1.0**
comp=Z,9.4nm,0.9s,mb4.8,baz=64,slow=8.6,SNR=24
KMBO Kilima Mbogo 57.44 264 *eP* **P 23 42 00.3 +1.7**
comp=Z,11nm,0.9s,mb4.9
ASF Jabal al Asfar 58.19 303 P **P 23 42 03.5 -0.1**
comp=Z,3.9nm,0.8s,mb4.5,baz=202,slow=12,SNR=4.8
CTA Charters Tower 58.33 119 P **P 23 42 04.2 -0.6**
CTA pmax pmax
comp=Z,4.0nm,1.1s
CTA Charters Tower 58.33 119 P **P 23 42 04.2 -0.6**
comp=Z,3.7nm,1.1s,mb4.3,baz=317,slow=9.5,SNR=4.4
CTAO Charters Tower 58.33 119 *eP* **P 23 42 04.5 -0.2**
CTAO pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
CTAO Charters Tower 58.33 119 *eP* **P 23 42 04.5 -0.2**
comp=Z,8.8nm,1.2s,mb4.7
MALT Malatya 58.43 310 *eP* **P 23 42 03.8 -1.4**
MALT pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
MALT Malatya 58.43 310 *eP* **P 23 42 03.8 -1.4**
comp=Z,9.3nm,1.1s,mb4.7
SOKR Solikamsk 58.74 339⇓ *iP* **P 23 42 05.1 -2.0**
SOKR pmax pmax
comp=Z,40nm,0.9s,mb5.5
SOKR MLR MLR
comp=Z,950nm,22.0s,MS4.9
SOC Sochi 59.14 316 *eP* **P 23 42 05.4 -4.7**
SOC *e* 23 42 52.7
SOC *e* 23 44 18.9
SOC *eS* **S 23 50 11.3 -4.0**
SOC *e* 23 51 50.5
SOC pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
SOC pmax pmax
comp=N,10.0nm,0.9s
SOC pmax pmax
comp=E,7.0nm,0.7s
EIL Elat 59.40 300 P **P 23 42 10.4 -1.7**
comp=E,3.7nm,0.7s,mb4.6,baz=86,slow=11
EIL Elat 59.40 300 *eP* **P 23 42 10.3 -1.8**
comp=E,20nm,1.3s,mb5.0
YAK Yakutsk 59.93 18 *eP* **P 23 42 14.2 -1.1**
YAK pmax pmax
comp=Z,39nm,0.9s,mb5.4
YAK Yakutsk 59.93 18 *eP* **P 23 42 14.2 -1.1**
comp=Z,39nm,0.9s,mb5.4
STKA Stephens Creek 60.14 134⇑ *iP* **P 23 42 16.4 -0.8**
comp=Z,6.2nm,1.0s,mb4.6
STKA Stephens Creek 60.14 134 P **P 23 42 16.5 -0.7**
comp=Z,8.3nm,1.0s,mb4.7,baz=314,slow=9.6,SNR=12
ANN Anapa 61.10 317 *eP* **P 23 42 20.1 -3.4**
ANN pmax pmax
comp=Z,55nm,1.2s,mb5.6
VRSR Storozhevoye 62.33 324 *eP* **P 23 42 29.8 -1.9**
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
BRTR Keskin Array B 62.40 311 P **P 23 42 29.4 -2.9**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 62.40 311 P **P 23 42 29.4 -3.0**
comp=Z,4.0nm,0.8s,mb4.6,baz=123,slow=7.3,SNR=21
MBAR Mbarara 63.78 265 *eP* **P 23 42 41.9 0.0**
MBAR pmax pmax
comp=Z,14nm,1.2s,mb4.9
MBAR Mbarara 63.78 265 *eP* **P 23 42 41.9 0.0**
comp=Z,14nm,1.2s,mb4.9
MOS Moscow 65.03 329 *eP* **P 23 42 47.9 -1.4**
MOS pmax pmax
comp=Z,84nm,1.4s,mb5.6
OBN Obninsk 65.33 328 *cP* **P 23 42 47.6 -3.7**
OBN *e* 23 45 12.5
OBN *eS* S 23 51 33.7 +0.5
OBN *eSS* SS 23 55 42.7 -5.3
OBN pmax pmax
comp=Z,74nm,1.6s,mb5.5
OBN MLR MLR
comp=Z,300nm,20.0s,MS4.5
OBN Obninsk 65.33 328 *eP* **P 23 42 46.6 -4.7**
comp=Z,48nm,1.2s,mb5.4
MA2 Magadan 66.70 28 *eP* **P 23 43 00.4 +0.4**
MA2 pmax pmax
comp=Z,11nm,0.8s,mb4.9
MA2 Magadan 66.70 28 *eP* **P 23 43 00.4 +0.4**
comp=Z,11nm,0.8s,mb4.9
TIXI Tiksi 67.17 11 *iP* **P 23 43 01.8 -1.0**
TIXI pmax pmax
comp=Z,51nm,1.3s,mb5.4
KIS Kishinev 67.48 318 *eP* **P 23 43 01.0 -4.1**
KIS *e* pP 23 43 07.0 -2.2
KIS *e* 23 43 20.0
AKASG Malin Array Be 68.11 322 P **P 23 43 06.4 -2.6**
AKASG pmax pmax
comp=Z,11nm,1.0s
AKASG Malin Array Be 68.11 322 P **P 23 43 06.4 -2.6**
comp=Z,10nm,1.0s,mb4.8,baz=90,slow=4.7,SNR=28
IDI Anoyia 68.54 305 P **P 23 43 11.0 -0.9**
comp=Z,14nm,0.9s,mb4.9,baz=101,slow=5.1,SNR=8.5
MLR Muntele Rosu 69.13 316 P **P 23 43 14.4 -1.0**
MLR pmax pmax
comp=Z,20nm,1.1s
MLR Muntele Rosu 69.13 316 P **P 23 43 14.4 -1.0**
comp=Z,20nm,1.1s,mb5.0,baz=55,slow=3.5,SNR=15
LSZ Lusaka 69.30 250 *eP* **P 23 43 18.0 +1.1**
LSZ pmax pmax
comp=Z,49nm,2.1s,mb5.1
LSZ Lusaka 69.30 250 *eP* **P 23 43 17.9 +1.0**
comp=Z,49nm,2.1s,mb5.1
JOF Joensuu 70.80 334 *ep* **P 23 43 23.7 -1.5**
comp=Z,19nm,1.0s,mb5.0
LVV L'vov 71.17 320 *eP* **P 23 43 27.0 -0.8**
APA Apatity 71.79 339⇓ *iP* **P 23 43 31.0 -0.2**
APA pmax pmax
comp=Z,26nm,1.0s,mb5.1
APA MLR MLR
comp=Z,1μm,20.0s,MS5.2
KWP Kalwaria 71.99 320 *eP* **P 23 43 32.1 -0.5**
KOLS Kolonicke sedl 72.16 319 *eP* **P 23 43 33.3 -0.4**
KOLS *e* pP 23 43 37.4 -0.4
SUW Suwalki 72.46 324 *eP* **P 23 43 33.6 -1.8**
SUW Suwalki 72.46 324 *eP* **P 23 43 33.6 -1.7**
FINES FINESS Array B 72.66 332 P **P 23 43 34.7 -1.7**
FINES pmax pmax
comp=Z,11nm,0.8s
FINES FINESS Array B 72.66 332 P **P 23 43 34.7 -1.7**
comp=Z,11nm,0.8s,mb4.8,baz=112,slow=10,SNR=26
FINES FINESS Array B 72.66 332 P **P 23 43 34.7 -1.7**
CRVS Cervenica-Dubn 72.69 319 *eP* **P 23 43 39.2 +2.4**
KAF Kangasniemi 72.74 333 *ep* **P 23 43 34.3 -2.5**
NIE Niedzica 73.50 319 *eP* **P 23 43 41.8 +0.2**
PSZ Piszkesteto 73.60 318 *eP* **P 23 43 41.3 -0.9**
PSZ pmax pmax
comp=Z,40nm,1.7s,mb5.1
PSZ Piszkesteto 73.60 318 *eP* **P 23 43 41.3 -0.9**
comp=Z,40nm,1.7s,mb5.1
OJC Ojcow 73.93 320 *eP* **P 23 43 43.9 -0.1**
LBTB Lobatse 74.28 241 *eP* **P 23 43 46.7 +0.1**
LBTB pmax pmax
comp=Z,12nm,1.0s,mb4.8
LBTB Lobatse 74.28 241 *eP* **P 23 43 46.7 +0.1**
comp=Z,12nm,1.0s,mb4.8
VYHS Vyhne 74.37 318 *iP* **P 23 43 46.0 -0.6**
VYHS *e* 23 44 12.1
KEV Kevo 74.78 341 *ep* **P 23 43 48.1 -0.5**
OKC Ostrava-Krasne 74.95 319 *eP* **P 23 43 50.1 +0.2**
OKC *ep*P pP 23 43 53.4 -0.7
ARCES ARCESS Array B 75.21 340 P **P 23 43 50.2 -0.8**
ARCES pmax pmax
comp=Z,10.0nm,0.8s
ARCES ARCESS Array B 75.21 340 P **P 23 43 50.2 -0.8**
comp=Z,9.7nm,0.8s,mb4.8,baz=90,slow=8.5,SNR=13
TIP Timpagrande 75.26 308 *eP* **P 23 43 51.2 -0.8**
MORC Moravsky Berou 75.33 319 *eP* **P 23 43 51.6 -0.5**
MORC pmax pmax
comp=Z,26nm,1.2s,mb5.0
MORC Moravsky Berou 75.33 319 *eP* **P 23 43 51.6 -0.5**
comp=Z,26nm,1.2s,mb5.0
ZST Bratislava 75.49 318 *eP* **P 23 43 53.0 -0.1**
ZST *e* pP 23 43 56.7 -0.5
BOSA Boshof 75.63 238 *eP* **P 23 43 53.7 -0.6**
GKP Gorka Klasztor 75.85 323 *eP* **P 23 43 54.7 -0.3**
VRAC Vranov 75.91 319 P **P 23 43 53.7 -1.7**
VRAC pmax pmax
comp=Z,3.0nm,0.9s
VRAC Vranov 75.91 319 P **P 23 43 53.7 -1.7**
comp=Z,3.4nm,0.9s,mb4.3,baz=125,slow=5.2,SNR=5.1
DPC Dobruska-Polom 76.17 320 *eP* **P 23 43 57.4 +0.6**
KSP Ksiaz 76.22 320 *eP* **P 23 43 56.8 -0.3**
KSP *ep*P pP 23 44 01.1 -0.2
KSP Ksiaz 76.22 320 *eP* **P 23 43 57.8 +0.6**
UPC Upice 76.37 320 *eP* **P 23 43 57.9 -0.1**
ARSA Arzberg 76.50 317⇑ *iP* **P 23 43 59.4 +0.6**
comp=Z,23nm,1.5s,mb4.9
PRU Pruhonice 77.28 319 *eP* **P 23 44 03.3 +0.2**
PVCC Panska Ves 77.30 320 *eP* **P 23 44 03.8 +0.7**
PVCC *ep*P pP 23 44 07.7 +0.4
MOA Molln 77.38 317⇑ *iP* **P 23 44 03.7 +0.1**
comp=Z,8.4nm,1.2s,mb4.5
BRG Berggiesshubel 77.71 320⇑ *iP* **P 23 44 05.7 +0.3**
BRG *i* pP 23 44 09.0 -0.6
BRG pmax pmax
comp=Z,44nm,1.8s,mb5.1
BRG Berggiesshubel 77.71 320⇑ *iP* **P 23 44 05.7 +0.3**
comp=Z,44nm,1.8s,mb5.1
BRG *i* pP 23 44 09.0 -0.6
GEC2 GERESS Array S 77.79 318 *eP* **P 23 44 06.3 +0.4**
GEC2 pmax pmax
comp=Z,27nm,1.2s,mb5.0
GEC2 GERESS Array S 77.79 318 *eP* **P 23 44 06.3 +0.4**
comp=Z,27nm,1.2s,mb5.0
GERES GERESS Array B 77.79 318 P **P 23 44 05.5 -0.4**
GERES pmax pmax
comp=Z,9.0nm,0.8s
GERES GERESS Array B 77.79 318 P **P 23 44 05.5 -0.3**
comp=Z,8.7nm,0.8s,mb4.7,baz=86,slow=4.9,SNR=58
KHC Kasperske Hory 77.88 318 *eP* **P 23 44 06.5 +0.1**
KHC *e* 23 44 18.0
KHC Kasperske Hory 77.88 318 *eP* **P 23 44 06.5 +0.1**
KHC pP pP 23 44 18.0 +7.5
RUE Ruedersdorf 77.89 322 *eP* **P 23 44 05.7 -0.6**
comp=Z,59nm,1.0s,mb5.5
KBA Koelnbreinsper 77.98 316⇑ *iP* **P 23 44 07.0 +0.1**
comp=Z,18nm,1.4s,mb4.8
KBA Koelnbreinsper 77.98 316⇑ *iP* **P 23 44 07.0 +0.1**
KBA pmax pmax
comp=Z,18nm,1.4s,mb4.8
CLL Collm 78.32 321⇑ *iP* **P 23 44 08.9 +0.2**
CLL *i* pP 23 44 12.4 -0.5
CLL pmax pmax
comp=Z,19nm,1.3s,mb4.9
CLL Collm 78.32 321⇑ *iP* **P 23 44 08.9 +0.2**
comp=Z,19nm,1.3s,mb4.9
CLL *i* pP 23 44 12.4 -0.5
CLL Collm 78.32 321 P **P 23 44 05.0 -3.7**
CLL *i* *PP pP 23 44 08.9 -4.0
CLL *i* *SP sP 23 44 12.4 -1.9
WET Wettzell 78.34 318 *eP* **P 23 44 09.4 +0.5**
WET pmax pmax
comp=Z,22nm,1.3s,mb4.9
WET Wettzell 78.34 318 *eP* **P 23 44 09.4 +0.5**
comp=Z,22nm,1.3s,mb4.9
HFS Hagfors 78.41 330 P **P 23 44 07.7 -1.3**
HFS pmax pmax
comp=Z,17nm,0.8s
HFS Hagfors 78.41 330 P **P 23 44 07.7 -1.3**
comp=Z,17nm,0.8s,mb5.0,baz=117,slow=6.6,SNR=22
NKC Novy Kostel 78.64 320 *eP* **P 23 44 10.8 +0.3**
NKC *ep*P pP 23 44 13.9 -0.8
WTTA Wattenberg 79.14 317⇑ *iP* **P 23 44 13.3 -0.1**
comp=Z,23nm,1.1s,mb5.0
WTTA Wattenberg 79.14 317⇑ *iP* **P 23 44 13.3 -0.1**
WTTA pmax pmax
comp=Z,23nm,1.1s,mb5.0
MOX Moxa 79.18 320 *eP* **P 23 44 13.9 +0.4**
MOX pmax pmax
comp=Z,26nm,1.6s,mb4.9
MOX Moxa 79.18 320 *eP* **P 23 44 13.9 +0.4**
comp=Z,26nm,1.6s,mb4.9
MOX Moxa 79.18 320 *iP* **P 23 44 13.9 +0.4**
comp=Z,logA/T=1.2,mb4.9
WATA Walderalm 79.19 317⇓ *iP* **P 23 44 13.2 -0.4**
comp=Z,24nm,1.4s,mb4.9
WATA Walderalm 79.19 317⇓ *iP* **P 23 44 13.2 -0.4**
WATA pmax pmax
comp=Z,24nm,1.4s,mb4.9
FUR Furstenfeldbru 79.39 317 *eP* **P 23 44 14.6 0.0**
GRA1 Grafenberg Arr 79.43 319 *eP* **P 23 44 15.7 +0.9**
comp=Z,30nm,1.2s,mb5.1
GRA1 *ep*P pP 23 44 19.2 +0.2
GRF Grafenberg Arr 79.43 319 *eP* **P 23 44 15.7 +0.9**
GRF *e*PP pP 23 44 19.2 +0.2
GRF pmax pmax
comp=Z,30nm,1.2s,mb5.1
GRF Grafenberg Arr 79.43 319 *eP* **P 23 44 15.7 +0.9**
GRF *e*PP pP 23 44 19.2 +0.2
GRF pmax pmax
comp=Z,30nm,1.2s,mb5.1
GRF Grafenberg Arr 79.43 319 *eP* **P 23 44 15.7 +0.9**
comp=Z,30nm,1.2s,mb5.1
GRF *ep*P pP 23 44 19.2 +0.2
SQTA Sankt Quirin 79.44 317⇑ *iP* **P 23 44 14.9 0.0**
comp=Z,14nm,1.0s,mb4.9
SQTA Sankt Quirin 79.44 317⇑ *iP* **P 23 44 14.9 0.0**
SQTA pmax pmax
comp=Z,14nm,1.0s,mb4.8
MOTA Moosalm 79.51 317⇑ *iP* **P 23 44 15.1 -0.2**
comp=Z,11nm,1.1s,mb4.7
MOTA Moosalm 79.51 317⇑ *iP* **P 23 44 15.1 -0.2**
MOTA pmax pmax
comp=Z,11nm,1.1s,mb4.7
NB2 NORSAR Subarra 79.68 331 P **P 23 44 15.6 -0.4**
comp=Z,23nm,0.9s,mb5.1,baz=96,slow=5.0
NB2 NORSAR Subarra 79.68 331 P **P 23 44 15.6 -0.4**
baz=96,slow=5.3
NOA NORSAR Array B 79.68 331 P **P 23 44 14.4 -1.6**
NOA pmax pmax
comp=Z,11nm,0.9s
NOA NORSAR Array B 79.68 331 P **P 23 44 14.3 -1.6**
comp=Z,11nm,0.9s,mb4.8,baz=92,slow=5.6,SNR=21
CLZ Clausthal 79.97 321 *eP* **P 23 44 18.1 +0.4**
comp=Z,22nm,1.1s,mb5.0
DAVA Damuels 80.34 317⇑ *iP* **P 23 44 20.1 +0.3**
comp=Z,35nm,1.4s,mb5.1
MUD Monsted U'grnd 80.66 326 *iP* **P 23 44 22.5 +1.2**
MUD pmax pmax
comp=Z,30nm,1.0s,mb5.2
MUD Monsted U'grnd 80.66 326 *iP* **P 23 44 22.5 +1.2**
comp=Z,30nm,1.0s,mb5.2
PGF Pioggiola 81.12 312 *eP* **P 23 44 24.2 +0.2**
comp=Z,85nm,1.2s,mb5.2
PGF Pioggiola 81.12 312 *eP* **P 23 44 24.2 +0.2**
PGF pmax pmax
comp=Z,43nm,1.3s,mb5.2
TNS Taunus Mts 81.21 320 *eP* **P 23 44 24.8 +0.5**
BFO Black Forest 81.35 318 *eP* **P 23 44 25.0 -0.1**
BFO pmax pmax
comp=Z,22nm,1.4s,mb4.9
BFO Black Forest 81.35 318 *eP* **P 23 44 25.0 -0.1**
comp=Z,22nm,1.4s,mb4.9
CDF Champ du Feu 82.05 318 *eP* **P 23 44 28.8 +0.1**
comp=Z,33nm,1.2s,mb4.8
CDF Champ du Feu 82.05 318 *eP* **P 23 44 28.8 +0.1**
CDF pmax pmax
comp=Z,16nm,1.2s,mb4.8
SBF Sospel 82.20 313 *eP* **P 23 44 29.8 +0.2**
comp=Z,54nm,0.9s,mb5.2
SBF Sospel 82.20 313 *eP* **P 23 44 29.8 +0.2**
SBF pmax pmax
comp=Z,27nm,0.9s,mb5.2
HINF Hinteralfeld 82.37 317 *eP* **P 23 44 31.0 +0.6**
LPG La Plagne 82.58 315 *eP* **P 23 44 32.3 +0.8**
comp=Z,40nm,1.1s,mb5.1
LPG La Plagne 82.58 315 *eP* **P 23 44 32.3 +0.8**
LPG pmax pmax
comp=Z,20nm,1.1s,mb5.1
LPL La Plagne 82.59 315 *eP* **P 23 44 32.3 +0.7**
comp=Z,69nm,1.2s,mb5.3
LPL La Plagne 82.59 315 *eP* **P 23 44 32.3 +0.7**
LPL pmax pmax
comp=Z,34nm,1.2s,mb5.2
MBDF Montbardon 82.62 314 *eP* **P 23 44 31.5 -0.2**
BNI Bardonecchia 82.66 314 *eP* **P 23 44 32.5 +0.6**
BNI pmax pmax
comp=Z,19nm,1.0s,mb5.1
BNI Bardonecchia 82.66 314 *eP* **P 23 44 32.5 +0.6**
comp=Z,19nm,1.0s,mb5.1
HAU Haudompre 82.69 317 *eP* **P 23 44 32.1 0.0**
comp=Z,32nm,1.0s,mb5.0
HAU *eR*
comp=Z,127nm,20.0s
HAU Haudompre 82.69 317 *eP* **P 23 44 32.1 0.0**
HAU pmax pmax
comp=Z,16nm,1.0s,mb5.0
HAU MLR MLR
comp=Z,130nm,20.0s,MS4.3
FRF La Foret Royal 82.79 313 *eP* **P 23 44 33.0 +0.4**
CABF La Chapelle 82.97 316 *eP* **P 23 44 34.3 +0.8**
MEZF Maizieres J'vi 83.52 318 *eP* **P 23 44 36.7 +0.4**
GIVF Givet 83.54 320 *eP* **P 23 44 36.8 +0.4**
BAIF Baives 83.94 320 *eP* **P 23 44 39.1 +0.7**
VIVF Saint-Julien-l 84.10 314 *eP* **P 23 44 39.7 +0.4**
SMF Signal de Mont 84.51 316 *eP* **P 23 44 41.3 0.0**
comp=Z,54nm,1.3s,mb5.2
SMF Signal de Mont 84.51 316 *eP* **P 23 44 41.3 0.0**
SMF pmax pmax
comp=Z,27nm,1.3s,mb5.2
SSF Saint Saulge 84.69 317 *eP* **P 23 44 42.7 +0.4**
SSF pmax pmax
comp=Z,40nm,1.7s,mb5.3
SSF Saint Saulge 84.69 317 *eP* **P 23 44 42.7 +0.4**
comp=Z,40nm,1.7s,mb5.3
AVF Avril sur Loir 84.83 316 *eP* **P 23 44 43.1 +0.2**
comp=Z,113nm,1.7s,mb5.4
AVF Avril sur Loir 84.83 316 *eP* **P 23 44 43.1 +0.2**
AVF pmax pmax
comp=Z,57nm,1.7s,mb5.4
BGF Bois d'Agland 85.20 316 *eP* **P 23 44 45.4 +0.6**
comp=Z,122nm,1.8s,mb5.4
BGF Bois d'Agland 85.20 316 *eP* **P 23 44 45.4 +0.6**
BGF pmax pmax
comp=Z,61nm,1.8s,mb5.4
HYF Humbligny 85.26 317 *eP* **P 23 44 45.9 +0.8**
SYO Syowa Base 85.47 197 ⇓ *iP* **P 23 44 48.1 +2.5**
SYO Syowa Base 85.47 197 ⇓ *iPcP* PcP 23 44 49.6 +0.4
TCF Toulx Ste Croi 85.67 316 *eP* **P 23 44 47.8 +0.7**
comp=Z,79nm,1.6s,mb5.4
TCF Toulx Ste Croi 85.67 316 *eP* **P 23 44 47.8 +0.7**
TCF pmax pmax
comp=Z,40nm,1.6s,mb5.4
CAF Calviac 85.93 315 *eP* **P 23 44 49.4 +0.9**
MTLF Montolieu 86.02 313 *eP* **P 23 44 49.6 +0.6**
comp=Z,61nm,1.2s,mb5.4
MTLF Montolieu 86.02 313 *eP* **P 23 44 49.6 +0.6**
MTLF pmax pmax
comp=Z,30nm,1.2s,mb5.4
RJF Les Rejaudoux 86.27 315 *eP* **P 23 44 51.0 +0.8**
comp=Z,37nm,1.3s,mb5.2
RJF *eR*
comp=Z,122nm,22.0s
RJF Les Rejaudoux 86.27 315 *eP* **P 23 44 51.0 +0.8**
RJF pmax pmax
comp=Z,19nm,1.3s,mb5.2

RJF MLR MLR
comp=Z,120nm,22.0s,MS4.2
SJPF Ste Jean 88.54 313 *e*P **P 23 45 02.2 +1.0**
comp=Z,35nm,1.2s,mb5.3
SJPF Ste Jean 88.54 313 *e*P **P 23 45 02.2 +1.0**
SJPF pmax pmax
comp=Z,18nm,1.2s,mb5.3
ESDC Sonseca Array 91.18 310 P **P 23 45 13.2 -0.4**
comp=Z,1.7nm,0.7s,mb4.5,baz=60,slow=4.1,SNR=9.2
IMA Indian Mountai 91.56 22 *e*P **P 23 45 16.0 +1.3**
VNDA Vanda 92.99 168 P **P 23 45 22.8 +1.7**
VNDA pmax pmax
comp=Z,3.0nm,1.1s
VNDA Vanda 92.99 168 P **P 23 45 22.8 +1.7**
comp=Z,3.0nm,1.1s,mb4.6,baz=21,slow=9.5,SNR=3.1
SPU Mount Spurr 94.22 26 *e*P **P 23 45 27.4 +0.3**
MCK McKinley 94.40 23 *e*P **P 23 45 27.9 +0.1**
MCK pmax pmax
comp=Z,6.0nm,1.2s,mb4.9
MCK McKinley 94.40 23 *e*P **P 23 45 27.9 +0.1**
comp=Z,5.6nm,1.2s,mb4.9
ILAR Eielson Array 94.68 22 P **P 23 45 28.3 -0.8**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.68 22 P **P 23 45 28.2 -0.8**
comp=Z,1.4nm,0.8s,mb4.5,baz=300,slow=4.5,SNR=16
SLKM Skilak Lake 95.33 27 *e*P **P 23 45 32.7 +0.6**
INK Inuvik 96.93 16 P **P 23 45 40.0 +0.7**
INK pmax pmax
comp=Z,8.0nm,1.0s
INK Inuvik 96.93 16 P **P 23 45 40.0 +0.7**
comp=Z,8.0nm,1.0s,mb5.1,baz=301,slow=4.9,SNR=11
INK Inuvik 96.93 16 P **P 23 45 40.0 +0.7**
MSO Missoula 120.02 22 *e*PKPdf PKPdf 23 50 59.4 -1.9
MOD Modoc 121.23 30 *e*PKPdf PKPdf 23 51 02.7 -1.2
ULM Lac du Bonnet 121.40 8 PKP PKPdf 23 51 01.3 -2.7
comp=Z,3.6nm,0.8s,baz=7.3,slow=4.3,SNR=6.5
WVOR Wild Horse Val 121.62 28 PKIKP PKPdf 23 51 03.0 -1.6
BOZ Bozeman (W) 121.87 21 *e*PKIKP PKPdf 23 51 03.2 -1.8
NVAR Mina Array Bea 124.86 31 PKP PKPdf 23 51 10.8 -0.2
comp=Z,2.5nm,0.8s,baz=344,slow=1.0,SNR=15
NVAR Mina Array Bea 124.86 31 PKP PKPdf 23 51 10.8 -0.2
PDAR Pinedale Array 125.11 21 PKP PKPdf 23 51 09.8 -1.5
comp=Z,3.5nm,0.9s,baz=38,slow=1.4,SNR=25
MSU Marysvale 127.69 26 *e*PKIKP PKPdf 23 51 16.8 +0.3
PV10 Paradox Valley 129.11 24 *e*PKPdf PKPdf 23 51 18.4 -0.8
MIAR Mount Ida 137.12 9 *e*PKIKP PKPdf 23 51 32.6 -1.6
TXAR Lajitas Array 139.16 24 PKP PKPdf 23 51 36.6 -1.5
comp=Z,1.0nm,0.7s,baz=225,slow=1.8,SNR=4.5
JCT Junction City 139.52 19 *e*PKIKP PKPdf 23 51 37.3 -1.5
PLCA Paso Flores 144.61 200 PKIKP PKPdf 23 51 45.0 -2.4
PLCA pmax pmax
comp=Z,15nm,0.9s
PLCA Paso Flores 144.61 200 PKP PKPdf 23 51 45.0 -2.4
comp=Z,15nm,0.9s,baz=162,slow=3.3,SNR=21
PLCA Paso Flores 144.61 200 *e*PKPdf PKPdf 23 51 45.4 -2.0
LPAZ La Paz 160.80 243 PKIKP PKPdf 23 52 10.2 -0.9
LPAZ 23 52 51.9
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 160.80 243 PKP PKPdf 23 52 10.2 -1.0
comp=Z,2.3nm,0.9s,baz=7.4,slow=4.5,SNR=7.6
LPAZ PKPab PKPab 23 52 51.9 -0.5
comp=Z,0.9nm,0.5s,baz=160,slow=2.3,SNR=4.0
LPAZ La Paz 160.80 243 *e*PKPdf PKPdf 23 52 11.3 +0.2
OTAV Otavalo 169.03 317 *e*PKPdf PKPdf 23 52 17.8 -0.5
OTAV *e*PKPab PKPab 23 53 27.9 -0.6

*BJI **28** 23:34:01.9, 7.03N×93.43E, h50km, mb4.9*
*NEIC **28** 23:34:05.0±0.3, 7.46N×93.73E, h30km, mb4.9/9, Error ellipse: s-maj=9.6km s-min=6.1km az=50.0*
*IDC **28** 23:34:05.8±8.4, 7.52N×93.77E, h33km±63km, mb4.2/21, mb1 4.4/22, mb1mx4.3/26, mbtmp4.4/22, ML4.2/1, MS4.1/2, Ms1 4.1/2, ms1mx2.9/18, Error ellipse: s-maj=31.8km s-min=13.4km az=50.0*
ISC 28 23:34:02.0±6.5, 7.47N±0.09×93.7E±0.1, h22km±46km, n49, σ0:96/47, mb4.6/30, MS4.1/2, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.05**	**24**	Pn	**P**	**23 36 56.0**	**+0.3**
	0.5nm,0.3s,baz=215,slow=14,SNR=8.7						
QIZ	**Qiongzhong**	**19.44**	**52**	P	**P**	**23 38 31.5**	**+1.4**
WMQ	**Urumqi**	**36.59**	**353**	*e*P	**P**	**23 41 08.3**	**-0.2**
SONM	**Songino Array**	**41.65**	**13**	P	**P**	**23 41 49.9**	**-0.6**
	6.2nm,0.8s,mb4.3,baz=194,slow=8.4,SNR=10						
SONM				PcP	PcP	23 43 47.3	-0.5
	0.9nm,0.7s,baz=214,slow=5.2,SNR=4.0						
KURK	**Kurchatov**	**44.90**	**346**	*e*P	**P**	**23 42 15.6**	**-1.3**
	4.1nm,0.7s,mb4.4						
NWAO	**Narrogin (SRO)**	**45.98**	**152**	P	**P**	**23 42 25.9**	**+0.2**
	4.1nm,0.8s,mb4.4,baz=312,slow=12,SNR=2.6						
ZAL	**Zalesovo**	**46.90**	**353**	P	**P**	**23 42 32.4**	**-0.2**
	6.8nm,0.4s,mb4.9,baz=305,slow=6.0,SNR=13						
ZAL				LR	LR	00 02 33.8	
	comp=Z,201nm,21.8s,MS4.0,baz=291,slow=36						
ZAL	**Zalesovo**	**46.90**	**353**	P	**P**	**23 42 32.4**	**-0.2**
ZAL				LR	LR	00 02 33.8	
HIA	**Hailar**	**47.06**	**23**	*e*P	**P**	**23 42 33.6**	**-0.4**
	25nm,1.0s,mb5.1						
WRA	**Warramunga Arr**	**48.37**	**125**	P	**P**	**23 42 44.5**	**-0.2**
	4.0nm,0.7s,mb4.6,baz=305,slow=8.8,SNR=6.9						
WRAB	**Tennant Creek**	**48.38**	**125**	*e*P	**P**	**23 42 43.8**	**-0.9**
	7.7nm,0.6s,mb4.9						
WB2	**Warramunga Arr**	**48.38**	**125**	*e*P	**P**	**23 42 44.2**	**-0.5**
RAYN	**Ar Rayn**	**48.87**	**295**	P	**P**	**23 42 52.3**	**+3.9**
	115nm,0.7s,SNR=9.4						
BVAR	**Borovoye Array**	**49.24**	**342**	P	**P**	**23 42 50.4**	**-0.5**
	2.7nm,1.0s,mb4.2,baz=188,slow=10,SNR=2.9						
BVAR				PcP	PcP	23 44 14.0	0.0
	1.9nm,0.6s,baz=162,slow=4.7,SNR=4.3						
CHKZ	**Chkalovo**	**49.73**	**342**	*e*P	**P**	**23 42 53.7**	**-0.9**
	4.3nm,0.6s,mb4.7						
ASPA	**Alice Springs**	**49.98**	**129**	*e*P	**P**	**23 42 57.1**	**+0.1**
ASAR	**Alice Springs**	**49.98**	**129**	P	**P**	**23 42 56.8**	**-0.2**
	4.6nm,0.7s,mb4.6,baz=302,slow=7.2,SNR=11						
ASAR				PcP	PcP	23 44 17.3	+0.1
	1.7nm,0.8s,baz=309,slow=3.9,SNR=4.8						
FORT	**Forrest**	**50.29**	**141**	*e*P	**P**	**23 43 01.0**	**+1.8**
	51nm,0.9s,mb5.6						
GNI	**Garni**	**54.42**	**315**	P	**P**	**23 43 30.0**	**0.0**
	1.9nm,0.6s,mb4.2,baz=109,slow=16,SNR=2.3						
PMG	**Port Moresby**	**55.82**	**107**	LR	LR	00 10 28.6	
	comp=Z,171nm,19.6s,MS4.1,baz=48,slow=39						
KMBO	**Kilima Mbogo**	**56.96**	**264**	P	**P**	**23 43 46.8**	**-1.9**
ASF	**Jabal al Asfar**	**58.08**	**303**	P	**P**	**23 43 56.6**	**+0.3**
	2.6nm,0.8s,mb4.3,baz=117,slow=2.3,SNR=4.3						
EIL	**Elat**	**59.26**	**300**	P	**P**	**23 44 05.0**	**+0.4**
	3.6nm,0.8s,mb4.5,baz=79,slow=8.2,SNR=4.3						
STKA	**Stephens Creek**	**60.13**	**133**	P	**P**	**23 44 09.7**	**-0.9**
	2.7nm,0.9s,mb4.3,baz=294,slow=14,SNR=2.9						
BRTR	**Keskin Array B**	**62.37**	**311**	P	**P**	**23 44 24.6**	**-1.1**
	2.7nm,0.7s,mb4.5,baz=119,slow=7.4,SNR=7.8						
MBAR	**Mbarara**	**63.31**	**266**	P	**P**	**23 44 31.7**	**-0.4**
MA2	**Magadan**	**67.32**	**28**	*e*P	**P**	**23 44 56.0**	**-1.3**
	14nm,0.7s,mb5.1						
AKASG	**Malin Array Be**	**68.21**	**322**	P	**P**	**23 45 01.8**	**-1.3**
	4.9nm,1.1s,mb4.5,baz=92,slow=4.5,SNR=5.9						
IDI	**Anoyia**	**68.45**	**305**	P	**P**	**23 45 04.5**	**-0.3**
	8.2nm,1.0s,mb4.7,baz=103,slow=6.0,SNR=5.1						
LSZ	**Lusaka**	**68.73**	**250**	*e*P	**P**	**23 45 10.8**	**+4.0**
	5.9nm,0.7s,mb4.6						
MLR	**Muntele Rosu**	**69.17**	**316**	P	**P**	**23 45 09.8**	**+0.7**
	6.2nm,0.9s,mb4.5,baz=242,slow=4.8,SNR=7.4						
JOF	**Joensuu**	**71.03**	**335**	*ep*	**P**	**23 45 20.4**	**+0.3**
	9.7nm,0.5s,mb5.0						
FINES	**FINESS Array B**	**72.87**	**332**	P	**P**	**23 45 30.8**	**-0.3**
	8.5nm,0.7s,mb4.8,baz=101,slow=7.5,SNR=20						
KAF	**Kangasniemi**	**72.96**	**333**	*ep*	**P**	**23 45 31.3**	**-0.3**
VYHS	**Vyhne**	**74.43**	**318**	*e*P	**P**	**23 45 41.5**	**+1.1**
ARCES	**ARCESS Array B**	**75.50**	**340**	P	**P**	**23 45 46.9**	**+0.7**
	3.1nm,0.7s,mb4.4,baz=102,slow=4.8,SNR=6.1						
ZST	**Bratislava**	**75.55**	**318**	*e*P	**P**	**23 45 48.2**	**+1.4**
GERES	**GERESS Array B**	**77.85**	**318**	P	**P**	**23 46 00.7**	**+1.1**
	3.4nm,0.7s,mb4.4,baz=84,slow=6.1,SNR=10						
KHC	**Kasperske Hory**	**77.94**	**319**	P	**P**	**23 45 57.5**	**-2.6**
CLL	**Collm**	**78.41**	**321**	*e*P	**P**	**23 46 04.0**	**+1.4**
CLL				*e*		23 46 19.0	
CLL	**Collm**	**78.41**	**321**	P	**P**	**23 46 04.0**	**+1.4**
CLL				*e**PP	Px	23 46 19.0	
HFS	**Hagfors**	**78.59**	**330**	P	**P**	**23 46 04.0**	**+0.5**
	5.9nm,0.8s,mb4.6,baz=124,slow=5.3,SNR=7.6						
NB2	**NORSAR Subarra**	**79.88**	**331**	P	**P**	**23 46 10.8**	**+0.4**
	1.9nm,0.7s,mb4.1,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**79.88**	**331**	P	**P**	**23 46 10.0**	**-0.4**
	4.1nm,0.8s,mb4.4,baz=93,slow=5.7,SNR=6.1						
NOA	**NORSAR Array B**	**79.88**	**331**	P	**P**	**23 46 10.0**	**-0.4**
LPG	**La Plagne**	**82.60**	**315**	*e*P	**P**	**23 46 26.2**	**+1.1**
	17nm,0.9s,mb4.8						
ESDC	**Sonseca Array**	**91.15**	**310**	P	**P**	**23 47 08.7**	**+1.8**
	1.2nm,0.6s,mb4.4,baz=64,slow=4.2,SNR=7.0						
ILAR	**Eielson Array**	**95.28**	**22**	P	**P**	**23 47 25.6**	**+0.4**
	0.5nm,0.8s,mb4.0,baz=297,slow=4.0,SNR=3.3						
TXAR	**Lajitas Array**	**139.77**	**24**	PKP	PKPdf	23 53 30.9	-2.6
	0.1nm,0.5s,baz=23,slow=30,SNR=3.8						

*BJI **28** 23:44:13.9, 2.39N×96.15E, h38km, mB5.3, mb4.9, Ms4.7, Msz4.4*
*MOS **28** 23:44:18.6±1.0, 2.98N×96.31E, h33km, mb4.9/27, Error ellipse: s-maj=14.2km s-min=7.2km az=106.1*
*NEIC **28** 23:44:21.0±0.3, 3.01N×96.34E, mb4.8/21, Error ellipse: s-maj=9.4km s-min=5.2km az=55.0*
*IDC **28** 23:44:22.5±5.6, 3.08N×96.38E, h49km±52km, mb4.1/20, mb1 4.2/21, mb1mx4.1/25, mbtmp4.4/21, ML3.5/1, MS4.0/1, Ms1 4.2/1, ms1mx2.6/26, Error ellipse: s-maj=29.2km s-min=11.6km az=50.0*
ISC 28 23:44:19.6±0.4, 3.01N±0.06×96.40E±0.07, h41km, h41km±1.9km:pP-P, n122, σ0:97/119, mb4.6/51, MS4.4/2, 5C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**15.55**	**9**	*e*P	**P**	**23 47 57.8**	**+0.1**
	6.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**15.55**	**9**	P	**P**	**23 47 58.7**	**+0.9**
	0.1nm,0.3s,baz=204,slow=14,SNR=6.6						
CMAR				LR	LR	23 53 53.0	
	comp=Z,507nm,19.0s,baz=195,slow=37						
QIZ	**Qiongzhong**	**20.65**	**39**	P	**P**	**23 49 03.3**	**+4.9**
HYB	**Hyderabad**	**22.62**	**310**	*e*P	**P**	**23 49 25.0**	**+6.7**
HYB	**Hyderabad**	**22.62**	**310**	*i* P	**P**	**23 49 25.0**	**+6.7**
KMI	**Kunming**	**22.82**	**15**	P	**P**	**23 49 22.9**	**+2.8**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.1						
KMI	**Kunming**	**22.82**	**15**	P	**P**	**23 49 22.9**	**+2.8**
	comp=Z,8.0nm,1.1s,mb4.1						
SHL	**Shillong**	**22.84**	**349**	*i* P	**P**	**23 49 20.0**	**-0.4**
SHL				*e*S	**S**	**23 53 26.0**	**+3.5**
JIRN	**Jiri**	**26.38**	**339**	*e*P	**P**	**23 49 54.4**	**+0.2**
	comp=Z,29nm,0.6s,mb5.0						
PKI	**Pulchoki**	**26.59**	**338**	*e*P	**P**	**23 49 55.2**	**-0.9**
	comp=Z,7.0nm,0.4s,mb4.6						
KKN	**Kakani**	**26.83**	**338**	*e*P	**P**	**23 49 57.9**	**-0.5**
	comp=Z,72nm,1.2s,mb5.1						
LSA	**Lhasa**	**27.00**	**350**	*e*P	**P**	**23 49 59.6**	**-0.3**
LSA				pmax	pmax		
	comp=Z,29nm,1.0s,mb4.8						
LSA	**Lhasa**	**27.00**	**350**	*e*P	**P**	**23 49 59.6**	**-0.4**
	comp=Z,28nm,1.0s,mb4.8						
GKN	**Gorkha**	**27.27**	**337**	*e*P	**P**	**23 50 02.4**	**0.0**
	comp=Z,15nm,0.3s,mb5.0						
KOLN	**Koldanda**	**27.49**	**335**	*e*P	**P**	**23 50 04.1**	**-0.3**
	comp=Z,42nm,0.8s,mb5.0						
ENH	**Enshi**	**29.81**	**23**	*e*P	**P**	**23 50 23.6**	**-1.5**
	comp=Z,9.5nm,0.6s,mb4.7						
NDI	**New Delhi**	**31.39**	**326**	*e*	**P**	**23 50 37.5**	**-1.6**
XAN	**Xi'an**	**33.00**	**19**	P	**P**	**23 50 51.8**	**-1.4**
XAN				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**35.64**	**127**	*e*P	**P**	**23 51 15.3**	**-0.6**
	comp=Z,8.1nm,0.8s,mb4.7						
FITZ				*i*	pP	23 51 29.3	+2.0
NJ2	**Nanjing**	**35.78**	**34**	*e*P	**P**	**23 51 17.8**	**+0.9**
NJ2				AP	pP	23 51 27.8	-0.6
NJ2				XP	sP	23 51 30.0	-3.6
NJ2				PP	PP	23 52 39.0	+0.3
NJ2				S	**S**	**23 56 54.0**	**+3.5**
NJ2				XS		23 57 10.0	
NJ2				AMB	AMB		
	comp=Z,620nm,4.8s						
NJ2				LR	LR		
	comp=N,920nm,15.3s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,15.4s,MS4.8						
NJ2				LR	LR		
	comp=Z,590nm,12.0s,MS4.6						
KAKA	**Kakadu**	**39.05**	**114⇑**	*i* P	**P**	**23 51 43.9**	**-0.6**
	comp=Z,20nm,0.6s,mb5.0						
NWAO	**Narrogin (SRO)**	**40.82**	**153**	P	**P**	**23 52 00.5**	**+1.5**
NWAO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NWAO	**Narrogin (SRO)**	**40.82**	**153**	P	**P**	**23 52 00.5**	**+1.5**
	comp=Z,9.5nm,0.9s,mb4.4,baz=334,slow=9.2,SNR=3.5						
BJT	**Baijiatuau**	**40.96**	**23**	*e*P	**P**	**23 52 01.2**	**+1.1**
BJT				*e*	pP	23 52 13.3	+1.7
BJT				pmax	pmax		
	comp=Z,18nm,0.7s						
BJT	**Baijiatuau**	**40.96**	**23**	*e*P	**P**	**23 52 01.2**	**+1.1**
	comp=Z,18nm,0.7s,mb4.8						
BJT				*e*	pP	23 52 13.3	+1.7
BJI	**Beijing**	**40.98**	**23**	P	**P**	**23 52 01.0**	**+0.7**
BJI						23 52 15.6	
BJI				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.0						
BJI	**Beijing**	**40.98**	**23**	P	**P**	**23 52 01.0**	**+0.7**
	comp=Z,24nm,0.6s,mb5.0						
BJI				PP	pP	23 52 15.6	+3.8
WRA	**Warramunga Arr**	**43.68**	**123**	P	**P**	**23 52 23.1**	**+0.5**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WRA	**Warramunga Arr**	**43.68**	**123**	P	**P**	**23 52 23.1**	**+0.5**
	comp=Z,6.3nm,0.7s,mb4.5,baz=301,slow=9.2,SNR=31						
UCH	**Uchtor**	**43.68**	**336**	P	**P**	**23 52 23.9**	**+1.5**
	SNR=14						
WRAB	**Tennant Creek**	**43.68**	**123**	*e*P	**P**	**23 52 22.5**	**-0.2**
WRAB				*e**PP	pP	23 52 33.4	-0.9
WRAB				pmax	pmax		
	comp=Z,28nm,1.2s,mb4.9						
WRAB	**Tennant Creek**	**43.68**	**123**	*e*P	**P**	**23 52 22.5**	**-0.2**
	comp=Z,28nm,1.2s,mb4.9						
WRAB				*ep*P	pP	23 52 33.4	-0.8
WB2	**Warramunga Arr**	**43.69**	**123⇑**	*i* P	**P**	**23 52 22.8**	**+0.1**
WB2				*i*	pP	23 52 34.0	-0.3
TKM2	**Tokmak 2**	**43.85**	**338**	P	**P**	**23 52 24.9**	**+1.2**
	SNR=6.2						
KBK	**Karagaybulak**	**43.87**	**337**	P	**P**	**23 52 25.7**	**+1.8**
	SNR=19						
AML	**Almayashu**	**43.93**	**336**	P	**P**	**23 52 26.3**	**+1.9**
	SNR=12						
AAK	**Ala-Archa**	**44.03**	**337**	P	**P**	**23 52 27.8**	**+2.6**
	SNR=6.6						
AAK	**Ala-Archa**	**44.03**	**337**	*d* *i* P	**P**	**23 52 26.3**	**+1.1**
AAK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.6						
AAK	**Ala-Archa**	**44.03**	**337**	*e*P	**P**	**23 52 24.9**	**-0.3**
	comp=Z,21nm,1.2s,mb4.7						
CHMS	**Chumysh**	**44.24**	**337**	P	**P**	**23 52 27.9**	**+1.1**
	SNR=8.3						
USP	**Ospenovka**	**44.56**	**337**	P	**P**	**23 52 30.4**	**+1.0**
	SNR=21						
ASAR	**Alice Springs**	**45.13**	**128**	P	**P**	**23 52 34.2**	**0.0**
	comp=Z,2.6nm,0.7s,mb4.2,baz=303,slow=7.7,SNR=17						
SONM	**Songino Array**	**45.48**	**9**	P	**P**	**23 52 37.1**	**+0.4**
	comp=Z,5.7nm,0.5s,mb4.7,baz=190,slow=9.2,SNR=92						
SONM				PcP	PcP	23 54 15.9	+0.4
	comp=Z,3.7nm,0.8s,baz=194,slow=3.2,SNR=8.0						
ULN	**Ulaanbaatar**	**45.62**	**10***c*	*i* P	**P**	**23 52 37.9**	**+0.1**
ZAK	**Zakamensk**	**47.56**	**6⇑**	*i* P	**P**	**23 52 52.9**	**-0.1**
MOY	**Mondy**	**48.64**	**4**	*e*P	**P**	**23 53 01.6**	**+0.2**
TLY	**Talaya**	**48.88**	**6**	*i* P	**P**	**23 53 04.3**	**+1.1**
TLY				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
KURK	**Kurchatov**	**49.85**	**345***c*	*i* P	**P**	**23 53 10.6**	**-0.1**
KURK	**Kurchatov**	**49.85**	**345**	*e*P	**P**	**23 53 10.3**	**-0.5**
	comp=Z,24nm,1.0s,mb5.2						
HIA	**Hailar**	**50.20**	**20**	*e*P	**P**	**23 53 12.6**	**-0.9**
HIA				*e**PP	pP	23 53 24.1	-1.1
HIA				pmax	pmax		
	comp=Z,25nm,1.0s						
HIA	**Hailar**	**50.20**	**20**	*e*P	**P**	**23 53 12.6**	**-0.9**
	comp=Z,25nm,1.0s,mb5.2						
HIA				*ep*P	pP	23 53 24.1	-1.0
ZAL	**Zalesovo**	**51.65**	**351**	P	**P**	**23 53 23.5**	**-0.8**
ZAL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZAL	**Zalesovo**	**51.65**	**351**	P	**P**	**23 53 23.4**	**-0.9**
	comp=Z,8.4nm,0.9s,mb4.7,baz=299,slow=6.8,SNR=48						
PMG	**Port Moresby**	**52.06**	**104**	P	**P**	**23 53 27.4**	**-0.5**
PMG				pmax	pmax		
	comp=Z,11nm,0.6s						
PMG	**Port Moresby**	**52.06**	**104**	P	**P**	**23 53 27.4**	**-0.5**
	comp=Z,11nm,0.6s,mb5.0,baz=320,slow=16,SNR=3.8						
PMG	**Port Moresby**	**52.06**	**104**	P	**P**	**23 53 27.4**	**-0.5**
NVS	**Novosibirsk**	**52.77**	**350**	*i* P	**P**	**23 53 30.9**	**-1.8**
NVS				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
NVS				pmax	pmax		
	comp=N,11nm,1.2s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.0s						
CTA	**Charters Tower**	**54.03**	**117**	*e*P	**P**	**23 53 43.0**	**+0.5**
	comp=E,4.6nm,0.8s,mb4.5						
CTA				*e*	pP	23 53 53.2	-1.2
CTA	**Charters Tower**	**54.03**	**117**	P	**P**	**23 53 43.0**	**+0.5**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CTA	**Charters Tower**	**54.03**	**117**	P	**P**	**23 53 43.0**	**+0.4**
	comp=Z,5.2nm,0.8s,mb4.5,baz=292,slow=10,SNR=9.8						
BVAR	**Borovoye Array**	**54.29**	**341**	P	**P**	**23 53 42.6**	**-1.4**
	comp=Z,7.9nm,0.8s,mb4.7,baz=135,slow=8.4,SNR=37						
BRVK	**Borovoye**	**54.35**	**341**	*e*P	**P**	**23 53 43.2**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BRVK	**Borovoye**	**54.35**	**341**	*e*P	**P**	**23 53 43.2**	**-1.2**
	comp=Z,2.5nm,0.8s,mb4.2						
CHKZ	**Chkalovo**	**54.77**	**342**	*e*P	**P**	**23 53 46.7**	**-0.7**
CHKZ				*e**PP	pP	23 53 56.9	-2.4
CHKZ				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2						
CHKZ	**Chkalovo**	**54.77**	**342**	*e*P	**P**	**23 53 46.7**	**-0.7**
	comp=Z,16nm,0.7s,mb5.2						
CHKZ				*ep*P	pP	23 53 56.9	-2.4
KLR	**Kul'dur**	**55.01**	**28**	*e*P	**P**	**23 53 46.0**	**-3.3**
STKA	**Stephens Creek**	**55.16**	**133⇓**	*i* P	**P**	**23 53 50.9**	**+0.3**
	comp=Z,4.1nm,0.7s,mb4.6						
STKA				*e*	pP	23 54 01.7	-0.8
STKA	**Stephens Creek**	**55.16**	**133**	P	**P**	**23 53 50.3**	**-0.3**
	comp=Z,3.7nm,0.9s,mb4.4,baz=308,slow=7.4,SNR=12						
BOD	**Bodaibo**	**56.39**	**11**	*e*P	**P**	**23 53 52.9**	**-6.2**
BOD				*e*	pP	23 54 04.3	-6.7
KMBO	**Kilima Mbogo**	**59.27**	**267**	P	**P**	**23 54 20.6**	**+0.7**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KMBO	**Kilima Mbogo**	**59.27**	**267**	P	**P**	**23 54 20.6**	**+0.7**
	comp=Z,0.5nm,0.4s,mb3.9,baz=242,slow=22,SNR=3.8						
GNI	**Garni**	**59.44**	**316**	P	**P**	**23 54 21.0**	**+0.2**
GNI				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GNI	**Garni**	**59.44**	**316**	P	**P**	**23 54 21.0**	**+0.2**
	comp=Z,1.7nm,0.6s,mb4.3,baz=223,slow=4.6,SNR=3.1						
ARU	**Arti**	**61.21**	**337**	*e*P	**P**	**23 54 24.4**	**-8.2**
ARU				*e*S	**S**	**00 02 39.0**	**-8.7**
KIV	**Kislovodsk**	**62.42**	**319**	*i* P	**P**	**23 54 41.0**	**+0.1**
KIV				*e*	pP	23 54 53.6	+0.7
KIV				pmax	pmax		
	comp=Z,16nm,1.4s,mb5.0						
KIV	**Kislovodsk**	**62.42**	**319**	*e*P	**P**	**23 54 39.2**	**-1.7**
KIV				*ep*P	pP	23 54 50.9	-2.1
MALT	**Malatya**	**63.33**	**312**	*e*P	**P**	**23 54 47.1**	**+0.1**
MALT				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.4						
MALT	**Malatya**	**63.33**	**312**	*e*P	**P**	**23 54 47.1**	**+0.1**
	comp=Z,3.2nm,1.0s,mb4.4						
YAK	**Yakutsk**	**63.92**	**17**	*e*P	**P**	**23 54 49.4**	**-1.1**
YAK				*e*	pP	23 55 03.9	+1.3
YAK				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1						
YAK				pmax	pmax		
	comp=N,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.3						
ANN	**Anapa**	**66.22**	**318**	*e*P	**P**	**23 55 00.4**	**-5.2**
ANN				pmax	pmax		
	comp=Z,57nm,1.1s,mb5.5						
BRTR	**Keskin Array B**	**67.31**	**312**	P	**P**	**23 55 11.7**	**-0.8**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRTR	**Keskin Array B**	**67.31**	**312**	P	**P**	**23 55 11.7**	**-0.8**
	comp=Z,1.7nm,0.9s,mb4.1,baz=117,slow=5.5,SNR=8.7						
OBN	**Obninsk**	**70.67**	**328**	*e*P	**P**	**23 55 28.7**	**-4.2**
OBN				*e*S	Sx	00 05 14.2	
OBN				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7					

NOA **NORSAR Array B 85.04 331** P **P** **23 56 51.7 -0.3**
comp=Z,1.7nm,0.8s,mb4.2,baz=94,slow=4.9,SNR=4.5
NOA **NORSAR Array B 85.04 331** P **P** **23 56 51.7 -0.3**
DAVOX **Davos 85.44 317** P **P** **23 56 54.9 +0.6**
comp=Z,2.1nm,0.5s,mb4.6,baz=135,slow=6.2,SNR=4.2
DAVOX **Davos 85.44 317** P **P** **23 56 54.9 +0.6**
KONO **Kongsberg 85.80 329** P **P** **23 56 54.9 -0.8**
ULM **Lac du Bonnet 125.90 10** PKP PKPdf 00 03 17.8 +0.3
comp=Z,2.6nm,0.7s,baz=261,slow=2.3,SNR=5.1
NVAR **Mina Array Bea 127.77 34** PKP PKPdf 00 03 24.2 +2.8
comp=Z,0.6nm,0.8s,baz=348,slow=0.6,SNR=4.2
PDAR **Pinedale Array 128.75 24** PKP PKPdf 00 03 25.4 +2.2
comp=Z,0.5nm,0.6s,baz=153,slow=3.3,SNR=4.2
TXAR **Lajitas Array 142.52 30** PKhKP 00 03 46.9
comp=Z,0.4nm,0.5s,baz=223,slow=0.5,SNR=6.7
TXAR **Lajitas Array 142.52 30** PKP PKPdf 00 03 46.9 -2.0

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*IDC **28** 23:47:42.8±2.6,24.65S×175.98W,mb4.1/8,mb1 4.4/8, mb1mx4.3/15,mbtmp4.1/8,Error ellipse: s-maj=150.4km s-min=22.0km az=160.0*
*NEIC **28** 23:47:45.0±0.5,24.35S×176.14W,h10km,mb4.6/4,Error ellipse: s-maj=26.9km s-min=11.0km az=158.0*
ISC 28 23:47:43.7±0.6,24.4S±0.2×176.2W±0.1,h10km,n19, σ0§76/17,mb4.2/12,1C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**15.45**	**81**	P	**P**	**23 51 07.7**	**-16**
CTA	**Charters Tower**	**34.97**	**269**	P	**P**	**23 54 38.6**	**+0.3**
	2.9nm,1.1s,mb4.1,baz=77,slow=18,SNR=1.9						
ASAR	**Alice Springs**	**45.40**	**260**	P	**P**	**23 56 04.8**	**+0.3**
	2.2nm,1.0s,mb3.9,baz=94,slow=8.3,SNR=9.6						
WRAB	**Tennant Creek**	**45.85**	**265**	P	**P**	**23 56 06.5**	**-1.6**
WRA	**Warramunga Arr**	**45.86**	**265**	P	**P**	**23 56 07.9**	**-0.3**
	1.9nm,0.7s,mb4.1,baz=102,slow=8.2,SNR=8.7						
QSPA	**South Pole Qui**	**65.69**	**180**	‖ *iP*	**P**	**23 58 30.3**	**+0.3**
	14nm,1.4s,mb4.8						
NVAR	**Mina Array Bea**	**82.72**	**42**	P	**P**	**00 00 09.7**	**+0.5**
	2.6nm,1.0s,mb4.2,baz=233,slow=11,SNR=6.0						
MNV	**Mina**	**82.82**	**42**	*eP*	**P**	**00 00 10.0**	**+0.4**
	2.1nm,0.8s,mb4.2						
TXAR	**Lajitas Array**	**87.76**	**56**	P	**P**	**00 00 33.9**	**-0.5**
	0.9nm,1.1s,mb3.9,baz=198,slow=4.0,SNR=5.2						
TXAR	**Lajitas Array**	**87.76**	**56**	P	**P**	**00 00 33.9**	**-0.5**
HLID	**Hailey**	**88.19**	**40**	P	**P**	**00 00 35.8**	**-0.4**
SDCO	**Great Sand Dun**	**90.64**	**48**	*eP*	**P**	**00 00 48.8**	**+0.9**
	7.9nm,1.5s,mb4.8						
PDAR	**Pinedale Array**	**90.65**	**43**	P	**P**	**00 00 48.0**	**+0.3**
	0.6nm,0.8s,mb4.0,baz=124,slow=5.3,SNR=3.8						
BOZ	**Bozeman (W)**	**91.02**	**39**	*eP*	**P**	**00 00 48.2**	**-1.2**
	2.0nm,1.0s,mb4.4						
ILAR	**Eielson Array**	**91.73**	**12**	P	**P**	**00 00 52.7**	**+0.5**
	0.5nm,0.9s,mb3.9,baz=233,slow=3.7,SNR=4.1						
CMAR	**Chiang Mai Arr**	**92.99**	**289**	P	**P**	**00 01 00.5**	**+1.4**
	1.6nm,0.6s,mb4.7,baz=141,slow=3.4,SNR=11						
WMOK	**Wichita Mounta**	**93.96**	**54**	P	**P**	**00 01 02.3**	**-0.9**
AKASG	**Malin Array Be**	**147.22 330**	PKPbc	PKPdf	00 07 27.0	-0.7
	1.1nm,0.7s,baz=38,slow=4.0,SNR=8.4						
BRTR	**Keskin Array B**	**150.64 309**	PKPbc	PKPdf	00 07 37.1	+3.5
	0.6nm,0.7s,baz=180,slow=6.2,SNR=3.9						

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*NEIC **28** 23:52:17.5±0.6,7.48N×94.31E,h30km,mb4.4/4,Error ellipse: s-maj=19.9km s-min=13.0km az=62.0*
*IDC **28** 23:52:22.5±6.0,7.63N×94.45E,h72km±54km,mb3.5/12, mb1 3.6/13,mb1mx3.6/21,mbtmp3.8/13,ML3.9/1,Error ellipse: s-maj=37.1km s-min=18.2km az=54.0*
ISC 28 23:52:15.6±0.6,7.5N±0.1×94.4E±0.1,h30km,n21, σ1§04/21,mb4.0/16,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.77**	**22**	P	**P**	**23 55 05.5**	**+0.7**
	0.2nm,0.3s,baz=210,slow=14,SNR=4.8						
HYB	**Hyderabad**	**18.29**	**304**	*i* P	**P**	**23 56 29.0**	**-0.2**
KMI	**Kunming**	**19.27**	**24**	P	**P**	**23 56 46.0**	**+5.2**
	9.0nm,1.2s						
LSA	**Lhasa**	**22.29**	**353**	*eP*	**P**	**23 57 13.6**	**+1.5**
	11nm,0.7s,mb4.4						
SONM	**Songino Array**	**41.48**	**12**	P	**P**	**00 00 00.9**	**-0.7**
	1.0nm,0.7s,mb3.5,baz=194,slow=6.4,SNR=8.9						
KURK	**Kurchatov**	**45.02**	**346**	*eP*	**P**	**00 00 29.2**	**-1.1**
	10.0nm,1.2s,mb4.5						
ZAL	**Zalesovo**	**46.94**	**352**	P	**P**	**00 00 45.5**	**0.0**
	1.6nm,0.9s,mb3.9,baz=287,slow=8.3,SNR=7.1						
WRA	**Warramunga Arr**	**47.88**	**125**	P	**P**	**00 00 53.1**	**-0.3**
	0.7nm,0.5s,mb3.9,baz=304,slow=8.6,SNR=6.2						
WRAB	**Tennant Creek**	**47.88**	**125**	P	**P**	**00 00 52.8**	**-0.6**
BVAR	**Borovoye Array**	**49.41**	**341**	P	**P**	**00 01 04.3**	**-0.4**
	1.4nm,0.8s,mb4.0,baz=158,slow=7.8,SNR=3.8						
ASAR	**Alice Springs**	**49.52**	**130**	P	**P**	**00 01 06.5**	**+0.6**
	1.9nm,1.1s,mb4.0,baz=303,slow=5.9,SNR=6.4						
CHKZ	**Chkalovo**	**49.89**	**342**	*eP*	**P**	**00 01 07.1**	**-1.2**
	4.2nm,1.0s,mb4.4						
KMBO	**Kilima Mbogo**	**57.59**	**264**	P	**P**	**00 02 07.3**	**+1.6**
	0.3nm,0.4s,mb3.7,baz=69,slow=18,SNR=2.7						
BRTR	**Keskin Array B**	**62.83**	**311**	P	**P**	**00 02 39.1**	**-2.0**
	0.4nm,0.5s,mb3.8,baz=210,slow=28,SNR=2.9						
JOF	**Joensuu**	**71.27**	**334**	*ep*	**P**	**00 03 35.9**	**+1.9**
	3.9nm,0.8s,mb4.4						
FINES	**FINESS Array B**	**73.14**	**332**	P	**P**	**00 03 44.8**	**-0.3**
	3.1nm,0.8s,mb4.3,baz=108,slow=6.0,SNR=9.7						
GERES	**GERESS Array B**	**78.24**	**318**	P	**P**	**00 04 13.8**	**-0.4**
	0.4nm,0.8s,mb3.4,baz=27,slow=3.0,SNR=4.7						
HFS	**Hagfors**	**78.88**	**330**	P	**P**	**00 04 19.0**	**+1.5**
	0.3nm,0.4s,mb4.0,baz=106,slow=10,SNR=3.9						
NB2	**NORSAR Subarra**	**80.16**	**331**	P	**P**	**00 04 30.3**	**+5.9**
	4.1nm,1.0s,mb4.3,baz=93,slow=5.8						
NOA	**NORSAR Array B**	**80.16**	**331**	P	**P**	**00 04 25.3**	**+1.0**
	0.7nm,0.7s,mb3.7,baz=208,slow=18,SNR=3.1						
EKA	**Eskdalemuir Ar**	**88.14**	**325**	P	**P**	**00 05 03.8**	**-1.0**
	1.5nm,0.8s,mb4.2,baz=288,slow=25,SNR=2.5						

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*JMA **29** 00:01:10.1±0.5,33.88N×142.57E,h62km,M3.7*
*IDC **29** 00:01:14.3±7.2,33.94N×142.42E,h36km±58km,mb3.7/9, mb1 4.0/10,mb1mx3.8/21,mbtmp4.0/10,ML4.3/1,Error ellipse: s-maj=32.7km s-min=18.8km az=90.0*
*NEIC **29** 00:01:14.3±2.3,33.91N×142.41E,h38km±20km,mb4.4/2, Error ellipse: s-maj=19.4km s-min=13.2km az=96.0*
ISC 29 00:01:09.6±1.8,33.94N±0.06×142.51E±0.06,h20km±13km, n28,σ1§08/38,mb4.0/11,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.45**	**300**	P	**Pn**	**00 01 35.7**	**+0.6**
BSO1				S	**Sb**	**00 01 54.6**	**+0.6**
BSO3	**Boso 3**	**1.86**	**298**	P	**Pn**	**00 01 41.5**	**+0.5**
BSO3				S	**Sn**	**00 02 06.0**	**+1.9**
BSO4	**Boso 4**	**2.08**	**301**	P	**Pn**	**00 01 45.5**	**+1.5**
JHJ	**Hachijo jima 2**	**2.42**	**251**	Pn	**Pn**	**00 01 49.6**	**+0.6**
	170nm,0.3s,baz=60,slow=23,SNR=5.3						
JHJ				Sn	**Sn**	**00 02 17.1**	**-1.2**
	173nm,0.3s,baz=86,slow=23,SNR=6.3						
JIM2	**Oshima 3**	**2.66**	**288**	P	**Pn**	**00 01 52.3**	**-0.1**
JOD2	**Odawara 2**	**3.12**	**296**	P	**Pn**	**00 01 58.2**	**-0.6**
JOD2				*e*S	**Sn**	**00 02 35.5**	**-0.4**
JAG	**Ashikaga**	**3.52**	**316**	P	**Pn**	**00 02 04.5**	**-0.1**
JRY	**Ryogami san**	**3.62**	**306**	P	**Pn**	**00 02 05.9**	**0.0**
JRY				S	**Sn**	**00 02 48.4**	**-0.1**
JMM	**Marumori**	**4.16**	**341**	P	**Pn**	**00 02 11.7**	**-1.9**
JMM				S	**Sn**	**00 02 56.5**	**-5.8**
MAJO	**Matsushiro**	**4.38**	**308**	P	**Pn**	**00 02 16.5**	**-0.2**
MAT	**Matsushiro**	**4.38**	**308**	*eP*	**Pn**	**00 02 19.0**	**+2.3**
MAT				S	**Sn**	**00 03 05.0**	**-2.8**
MAT	**Matsushiro**	**4.38**	**308**	P	**Pn**	**00 02 19.0**	**+2.3**
MAT				*e*S	**Sn**	**00 03 07.2**	**-0.6**
JMK	**Ichinoseki**	**5.11**	**349**	P	**Pn**	**00 02 25.0**	**-2.1**
JMK				S	**Sn**	**00 03 18.8**	**-7.4**
JYK	**Kaneyama**	**5.26**	**341**	P	**Pn**	**00 02 28.1**	**-1.1**
JYK				S	**Sn**	**00 03 25.1**	**-5.0**
MA2	**Magadan**	**26.22**	**10**	P	**P**	**00 06 44.6**	**-0.1**
ENH	**Enshi**	**28.14**	**272**	*eP*	**P**	**00 07 00.5**	**-2.1**
ULN	**Ulaanbaatar**	**29.91**	**308**	*eP*	**P**	**00 07 18.9**	**+0.7**
SONM	**Songino Array**	**30.33**	**308**	P	**P**	**00 07 23.0**	**+1.1**
	1.0nm,0.6s,mb3.8,baz=105,slow=7.9,SNR=10.0						
KURK	**Kurchatov**	**48.58**	**310**	*eP*	**P**	**00 09 53.4**	**0.0**
	2.1nm,0.7s,mb4.3						
ILAR	**Eielson Array**	**51.65**	**31**	P	**P**	**00 10 17.0**	**+0.3**
	0.4nm,0.7s,mb3.5,baz=236,slow=7.0,SNR=4.0						
WRAB	**Tennant Creek**	**54.13**	**189**	*eP*	**P**	**00 10 34.3**	**-1.5**
	3.4nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**54.15**	**189**	P	**P**	**00 10 35.5**	**-0.3**
	1.9nm,0.5s,mb4.3,baz=6.8,slow=7.6,SNR=19						
ASAR	**Alice Springs**	**57.87**	**189**	P	**P**	**00 11 02.6**	**0.0**
	3.4nm,1.2s,mb4.3,baz=13,slow=8.9,SNR=9.5						
STKA	**Stephens Creek**	**65.47**	**181**	P	**P**	**00 11 53.9**	**+0.2**
	2.2nm,0.8s,mb4.2,baz=39,slow=6.5,SNR=3.7						
FINES	**FINESS Array B**	**71.97**	**333**	P	**P**	**00 12 33.2**	**-0.2**
	2.4nm,0.9s,mb4.1,baz=117,slow=9.3,SNR=3.4						
NVAR	**Mina Array Bea**	**76.13**	**53**	P	**P**	**00 12 59.8**	**+2.0**
	0.7nm,0.8s,mb3.6,baz=269,slow=7.4,SNR=3.8						
AKASG	**Malin Array Be**	**77.30**	**323**	P	**P**	**00 13 04.0**	**-0.1**
	0.2nm,0.4s,mb3.4,baz=44,slow=5.6,SNR=4.3						
TXAR	**Lajitas Array**	**91.28**	**53**	P	**P**	**00 14 16.6**	**+1.4**
	0.6nm,0.8s,mb4.0,baz=302,slow=2.4,SNR=6.5						

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*NEIC **29** 00:05:00.4±0.5,7.67N×94.01E,h30km,mb4.2/4,Error ellipse: s-maj=13.9km s-min=9.7km az=86.0*
*IDC **29** 00:05:03.6±9.1,7.76N×94.12E,h52km±76km,mb3.8/8, mb1 4.0/9,mb1mx3.7/19,mbtmp4.0/9,ML4.5/1,Error ellipse: s-maj=71.6km s-min=27.1km az=55.0*
ISC 29 00:04:60.0±4.6,7.7N±0.2×94.2E±0.2,h37km±39km,n25, σ0§91/23,mb4.2/16,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.62**	**23**	P	**P**	**00 07 45.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**11.62**	**23**	P	**P**	**00 07 46.4**	**+0.1**
	0.8nm,0.3s,baz=212,slow=14,SNR=15						
KMI	**Kunming**	**19.12**	**24**	P	**P**	**00 09 19.4**	**-3.3**
	5.0nm,1.2s						
JIRN	**Jiri**	**21.20**	**340**	*eP*	**P**	**00 09 46.5**	**+1.8**
	27nm,0.9s,mb4.6						
PKI	**Pulchoki**	**21.39**	**338**	*eP*	**P**	**00 09 48.2**	**+1.6**
	22nm,0.8s,mb4.5						
DMN	**Daman**	**21.54**	**338**	*eP*	**P**	**00 09 49.0**	**+0.9**
	26nm,0.9s,mb4.7						
LSA	**Lhasa**	**22.02**	**353**	*eP*	**P**	**00 09 53.0**	**+0.1**
	7.7nm,0.8s,mb4.2						
GKN	**Gorkha**	**22.07**	**337**	*eP*	**P**	**00 09 52.0**	**-1.4**
	15nm,0.6s,mb4.6						
KOLN	**Koldanda**	**22.29**	**335**	*eP*	**P**	**00 09 55.4**	**-0.1**
	17nm,0.7s,mb4.6						
AAK	**Ala-Archa**	**38.83**	**337**	*eP*	**P**	**00 12 23.1**	**-0.1**
SONM	**Songino Array**	**41.28**	**12**	P	**P**	**00 12 44.0**	**+0.6**
	0.9nm,0.8s,mb3.5,baz=197,slow=6.9,SNR=8.6						
KURK	**Kurchatov**	**44.74**	**346**	*eP*	**P**	**00 13 10.1**	**-1.4**
	3.3nm,0.8s,mb4.2						
ZAL	**Zalesovo**	**46.68**	**352**	P	**P**	**00 13 26.9**	**+0.1**
	1.8nm,0.7s,mb4.1,baz=299,slow=7.5,SNR=8.7						
WRA	**Warramunga Arr**	**48.16**	**125**	P	**P**	**00 13 39.8**	**+0.8**
	0.7nm,0.8s,mb3.7,baz=302,slow=8.8,SNR=3.9						
WRAB	**Tennant Creek**	**48.17**	**125**	P	**P**	**00 13 39.0**	**0.0**
CHKZ	**Chkalovo**	**49.60**	**342**	*eP*	**P**	**00 13 48.6**	**-1.0**
	6.0nm,1.2s,mb4.5						
FINES	**FINESS Array B**	**72.84**	**332**	P	**P**	**00 16 26.2**	**-0.3**
	0.9nm,0.5s,mb4.0,baz=107,slow=3.9,SNR=11						
LBTB	**Lobatse**	**74.21**	**241**	P	**P**	**00 16 34.2**	**-1.1**
ARCES	**ARCESS Array B**	**75.40**	**340**	P	**P**	**00 16 41.2**	**-0.1**
	3.5nm,0.9s,mb4.3,baz=101,slow=6.2,SNR=7.5						
GERES	**GERESS Array B**	**77.94**	**318**	P	**P**	**00 16 56.9**	**+0.9**
	0.8nm,0.7s,mb3.8,baz=76,slow=5.5,SNR=6.7						
HFS	**Hagfors**	**78.58**	**330**	P	**P**	**00 16 59.6**	**+0.4**
	2.0nm,0.5s,mb4.3,baz=101,slow=7.6,SNR=18						
NB2	**NORSAR Subarra**	**79.86**	**331**	P	**P**	**00 17 05.5**	**-0.7**
	0.7nm,0.5s,mb3.9,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.86**	**331**	P	**P**	**00 17 06.1**	**-0.1**
	0.6nm,0.5s,mb3.8,baz=93,slow=5.7,SNR=4.7						
TXAR	**Lajitas Array**	**139.33**	**24**	PKP	PKPdf	00 24 24.8	+0.8
	0.1nm,0.6s,baz=18,slow=5.7,SNR=2.8						
PLCA	**Paso Flores**	**144.44 200**	PKP	PKPdf	00 24 32.5	-0.1
	1.1nm,0.6s,baz=77,slow=1.4,SNR=3.1						

IDC 29 00:10:30.4±1.6,8.07N×94.17E,mb4.0/4,mb1 4.2/5, mb1mx3.7/18,mbtmp4.0/5,ML4.2/1,Error ellipse: s-maj=63.2km s-min=29.7km az=55.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.32**	**24**	Pn	P	00 13 15.3	-1.2
	0.5nm,0.3s,baz=211,slow=15,SNR=4.4						
ZAL	**Zalesovo**	**46.36**	**352**	P	P	00 18 56.5	-3.5
	1.0nm,0.5s,baz=294,slow=4.9,SNR=3.8						
WRA	**Warramunga Arr**	**48.35**	**126**	P	P	00 19 14.2	-2.0
	0.3nm,0.4s,baz=303,slow=9.0,SNR=5.6						
FINES	**FINESS Array B**	**72.55**	**332**	P	P	00 21 58.9	-2.1
	11nm,1.4s,baz=117,slow=9.3,SNR=2.7						
NOA	**NORSAR Array B**	**79.58**	**331**	P	P	00 22 40.6	-0.1
	1.1nm,0.8s,baz=89,slow=5.8,SNR=3.8						

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*IDC **29** 00:12:24.7±0.8,7.83N×94.00E,mb4.2/18,mb1 4.3/19, mb1mx4.3/24,mbtmp4.2/19,ML3.5/1,MS3.9/5,Ms1 4.0/5, ms1mx3.4/22,Error ellipse: s-maj=33.2km s-min=17.8km az=47.0*
*BJI **29** 00:12:28.0,7.71N×93.84E,h40km,mB5.2,mb4.5,Ms4.3, Msz4.1*
*NEIC **29** 00:12:28.2±0.3,7.99N×94.23E,mb4.5/14,Error ellipse: s-maj=9.2km s-min=7.4km az=88.0*
ISC 29 00:12:30.0±1.4,8.04N±0.07×94.33E±0.06,h47km±12km, h15km±4.0km:pP-P,n67,σ0§93/62,mb4.5/36,MS4.2/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.29**	**97**	P	**P**	**00 14 03.0**	**+0.5**
	258nm,0.7s						
NNT	**Nongplab**	**6.98**	**49**	P	**P**	**00 14 11.8**	**-0.3**
CM31	**Chiang Mai Arr**	**11.28**	**23**	P	**P**	**00 15 10.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**11.28**	**23**	Pn	**P**	**00 15 12.1**	**+0.7**
	0.1nm,0.3s,baz=211,slow=14,SNR=17						
CMAR				LR	LR	00 19 35.7	
	comp=Z,269nm,19.9s,baz=215,slow=37						
PALK	**Pallekele**	**13.53**	**268**	P	**P**	**00 15 41.6**	**+0.1**
SHL	**Shillong**	**17.58**	**353**	*eP*	**P**	**00 16 31.0**	**-2.3**
HYB	**Hyderabad**	**17.98**	**303**	*i* P	**P**	**00 16 39.5**	**+1.3**
KMI	**Kunming**	**18.79**	**24**	P	**P**	**00 16 52.5**	**+4.4**
	8.0nm,1.2s						
KMI				pP		00 16 59.8	
JIRN	**Jiri**	**20.98**	**339**	*eP*	**P**	**00 17 11.7**	**+0.1**
	194nm,1.3s						
PKI	**Pulchoki**	**21.18**	**338**	*eP*	**P**	**00 17 13.2**	**-0.4**
	38nm,0.6s,mb4.9						
DMN	**Daman**	**21.33**	**337**	*eP*	**P**	**00 17 14.5**	**-0.6**
	52nm,0.6s,mb5.0						
KKN	**Kakani**	**21.43**	**338**	*eP*	**P**	**00 17 15.7**	**-0.4**
	40nm,0.7s,mb4.9						
LSA	**Lhasa**	**21.75**	**353**	P	**P**	**00 17 19.5**	**+0.2**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
LSA	**Lhasa**	**21.75**	**353**	*eP*	**P**	**00 17 18.9**	**-0.4**
	comp=Z,24nm,0.7s,mb4.7						
GKN	**Gorkha**	**21.87**	**336**	*eP*	**P**	**00 17 20.4**	**0.0**
	comp=Z,84nm,0.7s,mb5.3						
KOLN	**Koldanda**	**22.09**	**334**	*eP*	**P**	**00 17 22.3**	**-0.4**
	comp=Z,74nm,0.9s,mb5.1						
ENH	**Enshi**	**26.28**	**31**	*eP*	**P**	**00 18 04.5**	**+1.4**
	comp=Z,14nm,0.9s,mb4.5						
DDI	**Dehra Dun**	**26.90**	**328**	*e*	**P**	**00 18 10.0**	**+1.2**
WMQ	**Urumqi**	**36.11**	**352**	*eP*	**P**	**00 19 31.0**	**+1.6**
WMQ				AP	pP	00 19 37.0	-4.9
WMQ				PP	PP	00 20 53.8	+1.2
WMQ				PCP	PcP	00 21 56.5	+1.7
WMQ				S	**S**	**00 25 09.5**	**+4.7**
WMQ				AMB	AMB		
	comp=Z,31nm,1.2s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,176nm,5.4s						
WMQ				LR	LR		
	comp=N,489nm,17.3s,MS4.4						
WMQ				LR	LR		
	comp=E,377nm,17.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,675nm,17.6s,MS4.5						
AAK	**Ala-Archa**	**38.63**	**336**	*eP*	**P**	**00 19 50.7**	**+0.3**
SONM	**Songino Array**	**40.96**	**12**	P	**P**	**00 20 10.9**	**+1.2**
	comp=Z,2.0nm,0.9s,mb3.7,baz=192,slow=8.2,SNR=7.9						
SONM				PcP	PcP	00 22 12.3	+2.3
	comp=Z,0.3nm,0.5s,baz=217,slow=2.1,SNR=3.0						
SONM				pPcP		00 22 18.1	
	comp=Z,0.9nm,0.6s,baz=204,slow=3.3,SNR=7.5						
ULN	**Ulaanbaatar**	**41.13**	**13**	*eP*	**P**	**00 20 11.7**	**+0.6**
TLY	**Talaya**	**44.18**	**8**	*eP*	**P**	**00 20 36.8**	**+0.9**
	comp=Z,1.5nm,0.8s,mb3.8						

KURK **Kurchatov 44.49 346** *eP* **P** **00 20 37.7 -0.8**
comp=Z,24nm,1.1s,mb4.8
ZAL **Zalesovo 46.41 352** P **P** **00 20 54.2 +0.6**
comp=Z,1.8nm,0.5s,mb4.3,baz=308,slow=6.7,SNR=8.2
WRA **Warramunga Arr 48.20 126** P **P** **00 21 07.9 -0.3**
comp=Z,2.1nm,0.9s,mb4.2,baz=305,slow=8.9,SNR=10
WRAB **Tennant Creek 48.21 126** *eP* **P** **00 21 07.0 -1.2**
BVAR **Borovoye Array 48.89 341** P **P** **00 21 12.4 -0.6**
comp=Z,4.4nm,1.0s,mb4.5,baz=143,slow=7.4,SNR=8.0
BRVK **Borovoye 48.95 341** *eP* **P** **00 21 13.2 -0.4**
comp=Z,4.9nm,0.9s,mb4.5
CHKZ **Chkalovo 49.37 342** *eP* **P** **00 21 16.1 -0.7**
comp=Z,7.2nm,0.8s,mb4.8
ASAR **Alice Springs 49.88 130** P **P** **00 21 20.8 -0.3**
comp=Z,1.4nm,0.9s,mb4.0,baz=305,slow=7.5,SNR=7.5
ASAJ **Asahikawa 55.16 41** LR LR 00 46 14.1
comp=Z,68nm,18.9s,MS3.8,baz=337,slow=36
KMBO **Kilima Mbogo 57.63 264** P **P** **00 22 19.6 +1.4**
comp=Z,2.4nm,0.6s,mb4.4,baz=61,slow=12,SNR=11
KMBO LR LR 00 44 00.0
comp=Z,89nm,19.3s,MS3.9,baz=278,slow=33
KMBO **Kilima Mbogo 57.63 264** *eP* **P** **00 22 19.0 +0.8**
comp=Z,3.9nm,0.9s,mb4.4
KMBO *ep*P pP 00 22 24.1 -7.3
STKA **Stephens Creek 60.09 134** LR LR 00 48 29.2
comp=Z,235nm,19.2s,MS4.3,baz=23,slow=36
BRTR **Keskin Array B 62.46 311** P **P** **00 22 48.5 -2.5**
comp=Z,1.1nm,0.7s,mb4.1,baz=135,slow=7.0,SNR=4.7
AKASG **Malin Array Be 68.14 322** P **P** **00 23 25.2 -2.0**
comp=Z,1.8nm,0.7s,mb4.2,baz=92,slow=4.0,SNR=5.1
IDI **Anoyia 68.63 305** P **P** **00 23 29.5 -1.1**
comp=Z,5.4nm,0.9s,mb4.5,baz=4.7,slow=21,SNR=6.3
MLR **Muntele Rosu 69.18 316** P **P** **00 23 33.8 0.0**
comp=Z,7.9nm,1.1s,mb4.5,baz=151,slow=5.5,SNR=4.9
LSZ **Lusaka 69.50 250** *eP* **P** **00 23 35.9 -0.3**
JOF **Joensuu 70.78 334** *ep* **P** **00 23 43.0 -0.2**
comp=Z,4.4nm,0.5s,mb4.6
SUW **Suwalki 72.48 324** *eP* **P** **00 23 56.1 +2.7**
comp=Z,19nm,0.8s,mb5.1
FINES **FINESS Array B 72.65 332** P **P** **00 23 53.9 -0.4**
comp=Z,2.9nm,0.5s,mb4.5,baz=101,slow=5.9,SNR=9.2
KAF **Kangasniemi 72.73 333** *ep* **P** **00 23 52.1 -2.6**
comp=Z,1.6nm,0.4s,mb4.3
OJC **Ojcow 73.97 320** *eP* **P** **00 24 06.0 +3.7**
LBTB **Lobatse 74.49 241** *eP* **P** **00 24 06.4 +0.6**
LBTB *ep*P pP 00 24 13.6 -5.8
ARCES **ARCESS Array B 75.17 340** P **P** **00 24 09.5 +0.7**
comp=Z,3.1nm,0.9s,mb4.2,baz=108,slow=3.8,SNR=4.1
ARCES pP pP 00 24 15.8 -6.6
comp=Z,2.5nm,0.5s,baz=101,slow=6.4,SNR=3.9
ARCES LR LR 00 59 56.7
comp=Z,161nm,21.1s,MS4.3,baz=17,slow=38
ARCES **ARCESS Array B 75.17 340** P **P** **00 24 09.5 +0.7**
ARCES pP pP 00 24 15.8 -6.6
ARCES LR LR 00 59 56.7
MORC **Moravsky Berou 75.37 319** *eP* **P** **00 24 09.5 -0.9**
comp=Z,5.7nm,1.0s,mb4.5
BOSA **Boshof 75.83 238** *eP* **P** **00 24 13.7 +0.2**
DPC **Dobruska-Polom 76.20 320** *eP* **P** **00 24 15.5 +0.4**
PRU **Pruhonice 77.32 319** *eP* **P** **00 24 25.3 +3.9**
BRG **Berggiesshubel 77.74 320** *eP* **P** **00 24 28.6 +4.9**
comp=Z,2.2nm,0.9s,mb4.1
GERES **GERESS Array B 77.83 318** P **P** **00 24 24.1 0.0**
comp=Z,2.4nm,0.8s,mb4.2,baz=90,slow=2.7,SNR=13
KHC **Kasperske Hory 77.92 318** P **P** **00 24 24.9 +0.2**
HFS **Hagfors 78.41 330** P **P** **00 24 27.3 +0.2**
comp=Z,3.4nm,0.4s,mb4.6,baz=112,slow=8.0,SNR=8.3
HFS **Hagfors 78.41 330** P **P** **00 24 27.3 +0.2**
NKC **Novy Kostel 78.68 320** *ep*P pP 00 24 35.1 -7.4
NB2 **NORSAR Subarra 79.68 331** P **P** **00 24 33.8 -0.2**
comp=Z,3.1nm,0.8s,mb4.3,baz=96,slow=5.0
NOA **NORSAR Array B 79.68 331** P **P** **00 24 34.2 +0.2**
comp=Z,1.7nm,0.6s,mb4.1,baz=94,slow=5.2,SNR=6.2
DAVOX **Davos 80.40 316** P **P** **00 24 38.7 +0.5**
comp=Z,1.6nm,0.5s,mb4.2,baz=135,slow=14,SNR=4.1
LPG **La Plagne 82.63 315** *eP* **P** **00 24 50.2 +0.4**
comp=Z,10nm,0.8s,mb4.6
EKA **Eskdalemuir Ar 87.69 325** P **P** **00 25 14.4 -0.2**
comp=Z,2.8nm,0.9s,mb4.5,slow=28,SNR=2.4
ESDC **Sonseca Array 91.25 310** P **P** **00 25 32.0 +0.1**
comp=Z,0.2nm,0.5s,mb3.8,baz=1.5,slow=39,SNR=3.5
PDAR **Pinedale Array 124.94 21** PKP PKPdf 00 31 28.1 +2.7
comp=Z,0.4nm,1.0s,baz=304,slow=6.5,SNR=2.3
TXAR **Lajitas Array 139.00 24** PKiKP 00 31 57.6
comp=Z,0.3nm,0.8s,baz=225,slow=2.6,SNR=3.2
PLCA **Paso Flores 144.77 200** PKP PKPdf 00 32 03.9 +1.9

ASPA	Alice Springs	22.64	163	eP	P	00 31 28.2	+0.5
ASPA				eS	S	00 35 33.7	+4.4
CTA	Charters Tower	26.23	135	eP	P	00 32 03.1	+1.0
5.4nm,0.9s,mb4.1							
CTA	Charters Tower	26.23	135	P	P	00 32 02.8	+0.7
4.7nm,0.7s,mb4.1,baz=328,slow=12,SNR=6.2							
CTAO	Charters Tower	26.23	135	eP	P	00 32 01.6	-0.5
24nm,1.4s,mb4.5							
FORT	Forrest	28.65	178	eP	P	00 32 24.0	0.0
30nm,0.6s,mb5.2							
STKA	Stephens Creek	32.87	156	eP	P	00 33 00.5	-0.7
7.0nm,0.5s,mb4.8							
STKA				e		00 35 46.8	
STKA	Stephens Creek	32.87	156	P	P	00 33 00.5	-0.8
3.0nm,0.4s,mb4.6,baz=338,slow=7.6,SNR=15							
CMAR	Chiang Mai Arr	34.05	308	P	P	00 33 12.2	+0.5
1.6nm,0.5s,mb4.2,baz=140,slow=7.6,SNR=10							
CMAR				PcP	PcP	00 35 48.6	-0.6
1.2nm,0.5s,baz=167,slow=1.8,SNR=6.5							
CMAR				LR	LR	00 46 28.9	
comp=Z,68nm,19.1s,MS3.4,baz=190,slow=35							
WHN	Wuhan	34.44	341	P	P	00 33 18.5	+3.6
KMI	Kunming	35.59	321	P	P	00 33 22.2	-2.6
8.0nm,0.5s,mb4.9							
XAN	Xi'an	39.56	337	P	P	00 33 58.0	0.0
XAN				AP	pP	00 34 04.8	-1.0
XAN				AMB	AMB		
comp=Z,29nm,0.6s,mb5.2							
BJI	Beijing	42.94	348	P	P	00 34 25.6	-0.1
comp=Z,8.0nm,0.7s,mb4.6							
BJI				LR	LR		
comp=Z,60nm,23.4s,MS3.4							
SHL	Shillong	43.44	311	eP	P	00 34 30.0	+0.1
LZH	Lanzhou	43.48	333	eP	P	00 34 31.3	+1.1
LZH				AP	pP	00 34 39.0	+1.1
LZH				XP	sP	00 34 42.0	+0.9
LZH				AMB	AMB		
comp=Z,69nm,1.5s,mb5.2							
LZH	Lanzhou	43.48	333	eP	P	00 34 31.2	+1.0
comp=Z,69nm,1.5s,mb5.2							
LZH				pP	pP	00 34 38.9	+1.0
LZH				sP	sP	00 34 42.0	+0.9
SNY	Shenyang	43.72	357	⇓P	P	00 34 32.5	+0.5
SNY				AMB	AMB		
comp=Z,30nm,0.7s,mb5.1							
LSA	Lhasa	46.34	316	P	P	00 34 55.0	+1.9
LSA				AMB	AMB		
comp=Z,40nm,0.7s,mb5.5							
JIRN	Jiri	48.86	310	eP	P	00 35 13.3	+0.5
comp=Z,56nm,0.8s,mb5.7							
PKI	Pulchoki	49.41	310	eP	P	00 35 17.2	+0.1
comp=Z,11nm,0.4s,mb5.2							
KKN	Kakani	49.62	310	eP	P	00 35 18.7	0.0
comp=Z,31nm,0.7s,mb5.5							
DMN	Daman	49.67	309	eP	P	00 35 19.2	+0.1
comp=Z,55nm,0.8s,mb5.6							
GKN	Gorkha	50.22	310	eP	P	00 35 22.9	-0.4
comp=Z,50nm,0.7s,mb5.6							
KOLN	Koldanda	50.91	309	eP	P	00 35 28.6	0.0
comp=Z,143nm,0.8s							
HYB	Hyderabad	51.23	294	i P	P	00 35 31.0	0.0
ULN	Ulaanbaatar	52.55	343	eP	P	00 35 40.2	-0.5
comp=Z,14nm,1.0s,mb4.9							
ULN				epP	pP	00 35 49.4	+0.8
SONM	Songino Array	52.71	343	P	P	00 35 41.9	0.0
comp=Z,4.3nm,0.7s,mb4.5,baz=155,slow=8.4,SNR=43							
WMQ	Urumqi	57.44	327	eP	P	00 36 17.3	+1.1
WMQ				AP	pP	00 36 25.0	+0.8
WMQ				XP	sP	00 36 28.3	+1.1
WMQ				PCP	PcP	00 37 10.5	+0.9
WMQ				PP	PP	00 38 26.5	+1.2
WMQ				S	S	00 44 11.5	+1.7
WMQ				AMB	AMB		
comp=Z,24nm,1.2s,mb5.1							
WMQ				AMB	AMB		
comp=Z,115nm,5.0s							
WMQ				LR	LR		
comp=N,325nm,18.1s,MS4.7							
WMQ				LR	LR		
comp=E,411nm,18.0s,MS4.7							
WMQ				LR	LR		
comp=Z,575nm,18.6s,MS4.7							
YAK	Yakutsk	63.90	2	eP	P	00 36 59.5	-0.3
comp=Z,138nm,0.6s							
AAK	Ala-Archa	64.63	320	eP	P	00 37 04.0	-0.9
comp=Z,9.6nm,0.9s,mb4.8							
ZAL	Zalesovo	65.68	334	P	P	00 37 10.6	-0.9
comp=Z,2.8nm,0.8s,mb4.3,baz=355,slow=5.5,SNR=15							
KURK	Kurchatov	66.57	329	eP	P	00 37 16.4	-0.9
comp=Z,18nm,0.6s,mb5.3							
KURK				epP	pP	00 37 24.4	-0.9
BVAR	Borovoye Array	72.11	328	P	P	00 37 51.2	-0.1
comp=Z,5.8nm,0.8s,mb4.5,baz=135,slow=6.3,SNR=14							
CHKZ	Chkalovo	72.31	329	eP	P	00 37 51.6	-0.9
comp=Z,6.1nm,0.8s,mb4.6							
CHKZ				epP	pP	00 37 59.8	-0.8
VNDA	Vanda	77.78	173	P	P	00 38 23.4	+0.1
comp=Z,2.5nm,0.7s,mb4.2,baz=324,slow=6.9,SNR=14							
VNDA				LR	LR	01 09 55.6	
comp=Z,190nm,19.8s,MS4.4,baz=312,slow=34							
VNDA	Vanda	77.78	173	P	P	00 38 23.4	+0.1
VNDA				LR	LR	01 09 55.6	
SYO	Syowa Base	87.11	201	⇑PcP	PcP	00 39 13.1	-1.0
SYO	Syowa Base	87.11	201	⇓sP	sP	00 39 23.9	+1.3
IMA	Indian Mountai	87.60	24	eP	P	00 39 14.9	+0.9
QSPA	South Pole Qui	87.94	180	⇓i P	P	00 39 17.7	+2.3
comp=Z,4.5nm,0.8s,mb4.8							
ILAR	Eielson Array	90.26	25	P	P	00 39 26.1	-0.5
comp=Z,2.0nm,0.6s,mb4.6,baz=241,slow=5.3,SNR=39							
INK	Inuvik	95.47	22	P	P	00 39 50.5	-0.1
comp=Z,2.6nm,0.7s,mb4.8,baz=294,slow=4.1,SNR=10							
INK	Inuvik	95.47	22	P	P	00 39 50.5	-0.1
ARCES	ARCESS Array B	95.78	340	P	P	00 39 51.1	-0.8
comp=Z,2.7nm,0.7s,mb4.8,baz=63,slow=8.1,SNR=6.5							
PDAR	Pinedale Array	115.61	43	PKP	PKPdf	00 45 10.8	-1.2
comp=Z,0.3nm,0.6s,slow=1.8,SNR=3.7							
SDV	Santo Domingo	161.44	68	PKPab	PKPab	00 47 15.1	+2.0
comp=Z,1.9nm,0.6s,baz=347,slow=2.3,SNR=3.1							

*IGQ **29** 00:31:06.2, 0.83S×81.52W, h4km±4km, mb4.5, Error ellipse: s-maj=6.3km s-min=4.8km az=27.4*
*IDC **29** 00:31:15.8±1.3, 0.99S×81.30W, mb3.6/3, mb1 4.0/5, mb1mx3.8/18, mbtmp3.7/5, ML3.8/2, Error ellipse: s-maj=57.9km s-min=25.1km az=66.0*
*NEIC **29** 00:31:16.0±0.9, 0.66S×80.96W, h10km, mb3.8/2, Error ellipse: s-maj=18.7km s-min=16.0km az=60.0*
ISC 29 00:31:14.2±0.7, 0.83S±0.07×81.13W±0.06, h10km, n31, σ1§26/34, mb3.7/5, 5C-10D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.62	110	⇓P		Pb	00 31 24.6	-2.0
JAMA	Jama	1.08	58	⇑P		Pb	00 31 33.4	-1.1
JAMA				S		Sb	00 31 50.9	+2.4
MAGD	Magdalena	1.55	61	P		Pn	00 31 42.6	+0.5
IGUA	Igualata	2.57	105	⇑P		Pn	00 31 56.2	-0.4
IGUA				S		Sn	00 32 32.7	+4.5
JUA2	San Juan 2	2.59	76	⇓P		Pn	00 31 56.4	-0.6
TERV	Terraza Guagua	2.60	75	⇓P		Pn	00 31 55.9	-1.2
PINO	Pino	2.61	75	⇓P		Pn	00 31 56.0	-1.2
YANA	Yana	2.65	74	⇓P		Pn	00 31 56.4	-1.4
NAS1	Nasa	2.66	86	⇓P		Pn	00 31 58.4	+0.5
CUSU	Cusua	2.71	103	P		Pn	00 32 01.3	+2.7
JUIV	Juive	2.73	102	P		Pn	00 31 58.0	-0.8
VC1	Cotopaxi 1	2.73	86	⇓P		Pn	00 31 59.6	+0.7
RETU	Refugio	2.75	103	P		Pn	00 31 59.4	+0.2
PISA	Pisayambo	2.75	95	P		Pn	00 31 59.5	+0.4
ARRY	Arrayan	2.75	104	⇓P		Pn	00 31 58.5	-0.7
TAMB	Tambo	2.76	87	⇓P		Pn	00 31 59.8	+0.4
ULBA	Ulba	2.79	103	⇑P		Pn	00 31 59.6	-0.1
OTAV	Otavalo	2.88	68	eP		Pn	00 31 58.3	-2.7
ANTI	Antisana	2.99	83	⇓P		Pn	00 32 03.2	+0.6
ANTI				S		Sn	00 32 43.2	+4.4
COTA	Cotacachi	3.02	67	P		Pn	00 32 01.6	-1.5
CAYR	Refugio Cayamb	3.23	75	⇑P		Pn	00 32 07.2	+1.1
CAYA	Cayambe	3.26	74	⇑P		Pn	00 32 07.2	+0.7
CONE	Cono NE Rev Vo	3.56	78	P		Pn	00 32 13.5	+2.7
SDV	Santo Domingo	14.23	47	Pn		P	00 34 43.4	+5.3
0.3nm,0.3s,baz=250,slow=10,SNR=4.5								
SDV	Santo Domingo	14.23	47	P		P	00 34 35.2	-2.9
LPAZ	La Paz	20.00	141	P		P	00 35 50.9	+0.8
0.1nm,0.3s,baz=350,slow=12,SNR=5.2								
MNTX	Cornudas Mount	39.69	327	eP		P	00 38 46.9	-1.6
1.2nm,0.7s,mb3.7								
PLCA	Paso Flores	40.86	168	P		P	00 38 58.5	+0.6
4.0nm,1.1s,mb4.0,baz=35,slow=3.1,SNR=3.4								
SDCO	Great Sand Dun	44.51	332	eP		P	00 39 27.5	-0.3
1.1nm,0.6s,mb3.9								
NVAR	Mina Array Bea	51.92	323	P		P	00 40 28.0	+2.6
0.4nm,0.7s,mb3.5,baz=130,slow=7.0,SNR=3.1								
YKA	Yellowknife Ar	68.01	344	P		P	00 42 16.3	+0.7
0.2nm,0.7s,mb3.3,baz=137,slow=6.2,SNR=5.6								

*IDC **29** 00:42:25.6±6.9, 7.20N×94.62E, mb3.8/3, mb1 4.0/4, mb1mx3.6/18, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=155.1km s-min=62.3km az=144.0*
*NEIC **29** 00:42:29.8±1.3, 7.31N×94.97E, h30km, mb4.1/3, Error ellipse: s-maj=37.2km s-min=21.8km az=70.0*
ISC 29 00:42:27.6±1.3, 7.3N±0.2×94.9E±0.2, h30km, n8, σ1§34/8, mb4.0/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.82	19	P		P	00 45 14.7	-2.7
CMAR	Chiang Mai Arr	11.82	19	Pn		P	00 45 18.9	+1.6
0.3nm,0.3s,baz=210,slow=14,SNR=15								
SONM	Songino Array	41.62	12	P		P	00 50 16.3	+1.7
1.5nm,1.1s,mb3.5,baz=196,slow=7.3,SNR=5.3								
KURK	Kurchatov	45.39	346	eP		P	00 50 45.1	-0.1
1.5nm,0.7s,mb3.9								
ZAL	Zalesovo	47.26	352	P		P	00 50 59.4	-0.6
0.9nm,0.5s,mb4.0,baz=279,slow=7.5,SNR=6.8								
WRAB	Tennant Creek	47.31	126	P		P	00 51 00.5	-0.3
3.1nm,0.8s,mb4.3								
CHKZ	Chkalovo	50.29	341	eP		P	00 51 22.0	-1.4
1.4nm,0.8s,mb4.0								
FINES	FINESS Array B	73.60	332	P		P	00 54 00.8	+1.2
4.3nm,1.1s,mb4.3,baz=100,slow=8.5,SNR=5.3								

*IDC **29** 00:43:36.6±8.3, 7.33N×94.22E, mb4.0/4, mb1 4.1/5, mb1mx3.7/18, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=202.2km s-min=58.3km az=141.0*
*NEIC **29** 00:43:41.0±1.1, 7.34N×94.33E, h30km, mb4.2/2, Error ellipse: s-maj=28.8km s-min=18.2km az=72.0*
ISC 29 00:43:39.3±1.4, 7.4N±0.2×94.4E±0.2, h30km, n7, σ0§64/7, mb4.0/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.84	21	Pn		P	00 46 28.9	-0.4
0.1nm,0.3s,baz=209,slow=15,SNR=4.1								
SONM	Songino Array	41.56	12	P		P	00 51 27.1	+1.2
0.2nm,0.5s,mb3.0,baz=198,slow=4.6,SNR=3.1								
KURK	Kurchatov	45.13	346	P		P	00 51 53.9	-1.0
1.3nm,0.8s,mb3.8								
ZAL	Zalesovo	47.05	352	P		P	00 52 10.1	0.0
1.2nm,0.3s,mb4.3,baz=322,slow=5.7,SNR=5.5								
WRAB	Tennant Creek	47.76	125	eP		P	00 52 15.9	-0.2
3.8nm,0.7s,mb4.5								
FINES	FINESS Array B	73.26	332	P		P	00 55 09.3	-0.1
2.3nm,0.9s,mb4.1,baz=102,slow=6.3,SNR=6.0								
ARCES	ARCESS Array B	75.80	340	P		P	00 55 24.4	+0.5
1.6nm,0.7s,mb4.0,baz=98,slow=6.4,SNR=3.9								

IDC 29 00:46:59.4±9.8, 7.97N×94.10E, h58km±82km, mb3.5/5, mb1 3.7/6, mb1mx3.5/18, mbtmp3.8/6, ML4.3/1, Error ellipse: s-maj=84.0km s-min=27.3km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.44	24	P		P	00 49 39.8	-2.6
0.5nm,0.3s,baz=206,slow=13,SNR=4.7								
SONM	Songino Array	41.08	13	P		P	00 54 37.2	-1.7
0.6nm,0.9s,baz=191,slow=6.3,SNR=4.7								
ZAL	Zalesovo	46.45	352	P		P	00 55 20.9	-1.3
1.5nm,0.9s,baz=289,slow=8.7,SNR=8.2								
ASAR	Alice Springs	50.01	130	P		P	00 55 48.2	-2.0
0.4nm,0.6s,baz=279,slow=8.7,SNR=5.2								
FINES	FINESS Array B	72.61	332	P		P	00 58 19.1	-3.2
1.3nm,0.8s,baz=100,slow=12,SNR=4.0								
GERES	GERESS Array B	77.73	318	P		P	00 58 51.0	-0.7
0.9nm,1.0s,baz=41,slow=9.0,SNR=4.4								

*NEIC **29** 00:53:01.9±1.4, 51.40N×16.14E, h5km, ML3.0(VIE), ML2.2(BRG), Error ellipse: s-maj=14.5km s-min=5.5km az=205.0*
*PRU **29** 00:53:02.9, 51.37N×16.15E*
*CSEM **29** 00:53:02.0±0.2, 51.42N×16.20E, h2km, ML2.9/2, Error ellipse: s-maj=2.8km s-min=1.5km az=28.0*
*IPEC **29** 00:53:02.5±0.4, 51.41N×16.20E, h7km±1km, ML1.8/3, Error ellipse: s-maj=2.3km s-min=1.0km az=180.0*
WAR 29 00:53:01.9, 51.45N×16.17E, h1km, ML2.6, 2C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.61	173	i PG		Pg	00 53 13.1	-1.0
KSP				eSG		Sg	00 53 21.1	-1.2
KSP	Ksiaz	0.61	173	⇑i Pg		Pg	00 53 13.1	-1.0
KSP				eSg		Sg	00 53 21.0	-1.3
UPC	Upice	0.95	186	ePG		Pg	00 53 19.1	-1.7
UPC	Upice	0.95	186	ePg		Pg	00 53 19.2	-1.6
DPC	Dobruska-Polom	1.11	175	ePG		Pg	00 53 22.1	-1.9
DPC				eSG		Sg	00 53 36.2	-2.5
29nm,0.4s								
DPC	Dobruska-Polom	1.11	175	Pg		Pg	00 53 22.1	-1.9
DPC				eSg		Sg	00 53 36.0	-2.7
PVCC	Panska Ves	1.37	228	ePg		Pg	00 53 27.3	-1.9
PVCC				eSg		Sg	00 53 46.2	-1.3
BRG	Berggiesshubel	1.52	248	i Pg		Pg	00 53 29.8	-2.3
BRG				i Sg		Sg	00 53 50.2	-2.1
PRU	Pruhonice	1.79	216	ePG		Pg	00 53 34.1	-3.6
PRU				eSG		Sg	00 53 57.6	-3.9
MORC	Moravsky Berou	1.89	152	eP		Pn	00 53 33.5	-2.1
MORC	Moravsky Berou	1.89	152	eP		Pn	00 53 33.5	-2.1
MORC	Moravsky Berou	1.89	152	ePn		Pn	00 53 34.1	-1.5
MORC				eSg		Sg	00 53 59.3	-5.5
7.3nm,0.3s								
CLL	Collm	1.99	267	ePn		Pn	00 53 36.0	-1.0
CLL				ePg		Pg	00 53 39.0	-2.6
CLL				eSg		Sg	00 54 06.0	-2.1
CLL	Collm	1.99	267	ePN		Pn	00 53 36.0	-1.0
CLL				ePG		Pg	00 53 39.0	-2.6
CLL				e			00 53 41.0	
CLL				eSG		Sg	00 54 06.0	-2.1
OKC	Ostrava-Krasne	2.05	141	ePG		Pg	00 53 40.5	-2.3
OKC				eSG		Sg	00 54 05.4	-4.7
VRAC	Vranov	2.16	173	ePn		Pn	00 53 38.4	-1.1
VRAC				eSg		Sg	00 54 09.4	-4.5
6.1nm,0.3s								
KRUC	Moravsky	2.40	176	ePn		Pn	00 53 42.4	-0.5
KRUC	Moravsky	2.40	176	ePg		Pg	00 53 45.4	-4.3
OJC	Ojcow	2.61	117	ePG		Pg	00 53 50.0	-4.0
OJC				eSG		Sg	00 54 25.0	-3.8
OJC	Ojcow	2.61	117	eSg		Sg	00 54 24.1	-4.7
NKC	Novy Kostel	2.65	244	ePG		Pg	00 53 52.6	-2.3
NKC				eSG		Sg	00 54 25.5	-4.8
KHC	Kasperske Hory	2.85	217	ePN		Pn	00 53 47.7	-1.7
KHC				ePG		Pg	00 53 53.3	-5.6
KHC				eSN		Sn	00 54 21.5	-3.4
KHC				eSG		Sg	00 54 30.6	-6.3
MOX	Moxa	2.98	256	ePg		Pg	00 53 58.6	-2.9
MOX				eSg		Sg	00 54 37.8	-3.4
MOA	Molln	3.81	200	⇑i PN		Pn	00 54 01.1	-1.9
MOA				i SG		Sg	00 55 03.7	-5.0
6.4nm,0.5s								

IDC 29 00:56:00.3±11.0, 7.06N×94.22E, mb4.0/4, mb1 4.0/5, mb1mx3.6/19, mbtmp3.9/5, ML4.4/1, Error ellipse: s-maj=290.9km s-min=55.9km az=138.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.23	22	Pn		P	00 58 55.1	-3.7
0.7nm,0.3s,baz=207,slow=18,SNR=2.4								
SONM	Songino Array	41.94	12	P		P	01 03 53.1	-1.3
0.4nm,0.7s,baz=196,slow=9.0,SNR=4.0								
ZAL	Zalesovo	47.36	352	P		P	01 04 36.0	-1.9
1.0nm,0.4s,baz=311,slow=9.9,SNR=7.0								
FINES	FINESS Array B	73.47	332	P		P	01 07 34.8	-1.4
5.1nm,1.1s,baz=104,slow=5.7,SNR=4.0								
HFS	Hagfors	79.20	330	P		P	01 08 06.6	-1.9
2.2nm,0.8s,baz=90,slow=5.9,SNR=6.4								

*IGQ **29** 01:06:31.9, 1.06S×81.37W, h5km±4km, mb4.6, Error ellipse: s-maj=6.7km s-min=3.8km az=23.1*
*NEIC **29** 01:06:38.0±0.6, 1.03S×80.94W, h10km, mb3.8/2, Error ellipse: s-maj=16.1km s-min=10.8km az=51.0*
*IDC **29** 01:06:49.5±6.1, 1.08S×80.83W, h113km±60km, mb3.5/4, mb1 3.7/7, mb1mx3.5/20, mbtmp4.0/7, Error ellipse: s-maj=51.4km s-min=20.6km az=76.0*
ISC 29 01:06:36.6±0.6, 1.06S±0.06×81.17W±0.04, h10km, n37, σ1§00/41, mb3.8/6, 10C-8D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.62	89	⇑P		Pb	01 06 47.2	-2.0
JAMA	Jama	1.25	51	⇑P		Pb	01 06 58.8	-1.1
JAMA				S		Sb	01 07 15.6	-0.2
MAGD	Magdalena	1.71	55	⇓P		Pn	01 07 07.0	+0.2
MAGD				S		Sn	01 07 29.5	+0.7
IGUA	Igualata	2.57	100	⇓P		Pn	01 07 19.0	0.0
IGUA				S		Sn	01 07 53.1	+2.5
JUA2	San Juan 2	2.70	72	⇓P		Pn	01 07 20.4	-0.5
TERV	Terraza Guagua	2.71	71	⇓P		Pn	01 07 20.5	-0.6
PINO	Pino	2.72	71	⇓P		Pn	01 07 20.4	-0.7
CUSU	Cusua	2.72	98	P		Pn	01 07 21.9	+0.8
NAS1	Nasa	2.73	81	⇑P		Pn	01 07 21.5	+0.2
JUIV	Juive	2.73	98	P		Pn	01 07 21.1	-0.3
JOR1	San Jorge 1	2.74	67	⇑P		Pn	01 07 19.9	-1.6
ARRY	Arrayan	2.75	99	⇑P		Pn	01 07 21.3	-0.3
RETU	Refugio	2.75	98	P		Pn	01 07 22.4	+0.7
YANA	Yana	2.76	70	⇓P		Pn	01 07 21.0	-0.8
RUN2	Runtun	2.78	97	P		Pn	01 07 22.1	0.0
PISA	Pisayambo	2.79	90	⇓P		Pn	01 07 22.6	+0.4
ULBA	Ulba	2.79	98	P		Pn	01 07 22.2	0.0
VC1	Cotopaxi 1	2.80	81	⇑P		Pn	01 07 22.6	+0.3
TAMB	Tambo	2.83	83	⇑P		Pn	01 07 22.9	+0.2
OTAV	Otavalo	3.01	65	eP		Pn	01 07 22.8	-2.5
ANTI	Antisana	3.07	79	⇑P		Pn	01 07 26.8	+0.6
COTA	Cotacachi	3.15	64	⇑P		Pn	01 07 26.7	-0.7
CAYR	Refugio Cayamb	3.34	71	⇓P		Pn	01 07 31.3	+1.3
CAYR				S		Sn	01 08 14.0	+3.8
CAYA	Cayambe	3.37	71	⇑P		Pn	01 07 31.7	+1.2
CONE	Cono NE Rev Vo	3.66	74	P		Pn	01 07 35.9	+1.3
ROSC	El Rosal	9.01	49	P		P	01 08 54.2	+4.3
1.6nm,0.3s,baz=284,slow=23,SNR=5.7								
SDV	Santo Domingo	14.42	47	P		P	01 10 09.0	+6.0
0.8nm,0.3s,baz=259,slow=8.7,SNR=15								
LPAZ	La Paz	19.85	140	P		P	01 11 08.3	-2.6
0.2nm,0.3s,baz=353,slow=12,SNR=4.2								
SJG	San Juan	24.11	37	P		P	01 11 53.9	+0.2
11nm,0.7s,mb4.4,baz=225,slow=4.3,SNR=4.7								
TXAR	Lajitas Array	37.09	326	P		P	01 13 50.8	+1.6
0.4nm,0.8s,mb3.3,baz=151,slow=9.3,SNR=4.0								
WMOK	Wichita Mounta	39.25	337	P		P	01 14 07.6	+0.5
MNTX	Cornudas Mount	39.85	327	eP		P	01 14 12.2	0.0
1.6nm,0.9s,mb3.8								
PLCA	Paso Flores	40.65	168	P		P	01 14 18.9	+0.3
2.4nm,1.0s,mb3.8,baz=16,slow=12,SNR=3.5								
ANMO	Albuquerque	42.93	329	eP		P	01 14 38.3	+0.8
SDCO	Great Sand Dun	44.68	332	P		P	01 14 51.7	0.0
1.6nm,0.9s,mb3.9								
YKA	Yellowknife Ar	68.21	344	P		P	01 17 37.9	-1.4
0.3nm,0.8s,mb3.4,baz=135,slow=6.1,SNR=7.7								
YKA	Yellowknife Ar	68.21	344	P		P	01 17 37.9	-1.4

*IDC **29** 01:08:22.8±1.4, 8.30N×94.50E, mb3.8/7, mb1 3.9/8, mb1mx3.8/19, mbtmp3.8/8, ML4.1/1, Error ellipse: s-maj=43.6km s-min=29.0km az=50.0*
*NEIC **29** 01:08:26.8±0.8, 8.21N×94.56E, h30km, mb4.2/1, Error ellipse: s-maj=25.0km s-min=16.2km az=61.0*
ISC 29 01:08:25.4±0.9, 8.3N±0.1×94.8E±0.1, h30km, n11, σ1§15/11, mb3.9/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.88	21	Pn		P	01 11 03.3	+0.8
0.4nm,0.3s,baz=208,slow=13,SNR=3.9								
HYB	Hyderabad	18.21	301	i P		P	01 12 39.5	+1.4
SONM	Songino Array	40.62	12	P		P	01 16 04.5	+0.2
0.1nm,0.4s,mb2.8,baz=217,slow=7.2,SNR=3.4								
ZAL	Zalesovo	46.22	352	P		P	01 16 47.9	-1.7
2.3nm,0.9s,mb4.1,baz=219,slow=5.5,SNR=5.3								
WRA	Warramunga Arr	48.00	126	P		P	01 17 05.4	+1.3
0.4nm,0.5s,mb3.7,baz=296,slow=12,SNR=4.7								
WRAB	Tennant Creek	48.00	126	P		P	01 17 03.2	-0.9
CHKZ	Chkalovo	49.27	341	eP		P	01 17 13.0	-0.4
1.3nm,0.5s,mb4.2								
BRTR	Keskin Array B	62.63	310	P		P	01 18 46.8	-2.8
0.9nm,0.7s,mb4.0,baz=129,slow=7.9,SNR=4.5								
FINES	FINESS Array B	72.63	332	P		P	01 19 51.3	-0

310nm,0.8s
NNT Nongplab 8.82 53 P **P 01 15 51.0 +0.3**
NST Nakhon Sawan 11.16 41 ⇑P **P 01 16 23.0 +0.1**
92nm,0.5s
PALK Pallekele 11.75 271 *e*P **P 01 16 27.5 -3.3**
51nm,0.3s
CM31 Chiang Mai Arr 12.73 29 *e*P **P 01 16 41.1 -2.9**
CMAR Chiang Mai Arr 12.73 29 P **P 01 16 43.8 -0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR MLR MLR
comp=Z,2μm,19.1s
CMAR Chiang Mai Arr 12.73 29 Pn **P 01 16 43.8 -0.2**
comp=Z,2.3nm,0.3s,baz=216,slow=14,SNR=87
CMAR LR LR 01 22 12.3
comp=Z,2μm,19.1s,baz=215,slow=40
CHG Chiang Mai 13.04 28 ⇑P **P 01 16 47.5 -0.6**
comp=Z,150nm,1.0s
MDRS Chennai 13.39 296 *e*P **P 01 16 50.0 -2.8**
MDRS *e*S **S 01 19 05.0 -16**
VIS Vishakhapatnam 13.72 320 *e*P **P 01 16 54.1 -3.1**
VIS *e* 01 16 57.6
comp=Z,445nm,0.3s
VIS *e*S **S 01 19 27.4 -1.9**
BWNR Bhubaneshwar 14.48 334 *e*P **P 01 17 01.6 -5.6**
BWNR *e* 01 17 04.0
comp=Z,71nm,0.3s
BWNR *e* 01 19 30.3
BWNR *e*S **S 01 19 42.2 -5.2**
KOD Kodaikanal 15.19 282 *e*P **P 01 17 16.1 -0.2**
KOD *e* 01 17 20.1
comp=Z,219nm,1.9s
TRD Trivandrum 15.49 276 *e*P **P 01 17 17.9 -2.4**
TRD *i* S **S 01 20 12.9 +2.0**
CAL Calcutta 15.70 345 *e* **S 01 20 34.5 +19**
AGT Agartala 16.55 356 ⇑*i*P **P 01 17 36.0 +2.4**
HYB Hyderabad 16.96 308 ⇓*e*P **P 01 17 38.0 -0.9**
HYB *e*S **S 01 20 44.0 -1.0**
HYB Hyderabad 16.96 308 ⇓*i*P **P 01 17 38.0 -0.9**
comp=Z,100nm,1.0s
HYB *e*S **S 01 20 44.0 -1.0**
HYB LR LR 01 24 30.0
comp=Z,4.8nm,18.0s
IMP Imphal 17.45 4 *i*P **P 01 17 42.6 -2.4**
BLSP Bilaspur 17.85 327 *e*P **P 01 17 49.0 -1.0**
BLSP *e* **S 01 21 15.0 +10**
SHL Shillong 18.19 358 *e*P **P 01 17 54.2 0.0**
SHL *e* 01 21 05.0
MNGI Mangalore 18.32 289 *i*P **P 01 17 55.4 -0.6**
MNGI *i* 01 21 06.1
NGP Nagpur 18.98 318 *e*P **P 01 18 04.1 +0.2**
NGP *e* 01 18 09.1
comp=Z,452nm,0.8s
NGP *e*S **S 01 21 35.2 +4.7**
LATR Latur 19.09 307 *e*P **P 01 18 05.2 0.0**
LATR *e* 01 21 20.2
GOA Goa 20.07 296 *e*P **P 01 18 23.6 +7.8**
GOA *e* 01 18 29.2
comp=Z,193nm,1.1s
GOA *e*S **S 01 22 09.2 +15**
KMI Kunming 20.23 28 P **P 01 18 18.6 +1.0**
KMI *SP 01 18 27.6
KMI 01 18 40.9
KMI S **S 01 22 03.0 +5.3**
KMI *SS 01 22 12.6
KMI SS SS 01 22 34.9 +7.6
KMI pmax pmax
comp=Z,125nm,0.8s
KMI MLR MLR
comp=Z,2μm,17.4s,MS4.6
KMI Kunming 20.23 28 P **P 01 18 18.6 +1.0**
comp=Z,125nm,0.8s
KMI sP 01 18 27.6
KMI PP PP 01 18 40.9 +2.9
KMI S **S 01 22 03.0 +5.3**
KMI sS 01 22 12.6
KMI SS SS 01 22 34.9 +7.6
KMI LR LR
comp=Z,2μm,17.4s,MS4.6
GTK Gangtok 20.28 350 *e* **P 01 18 26.0 +8.0**
QIZ Qiongzhong 20.46 54 P **P 01 18 20.3 +0.3**
QIZ PP PP 01 18 44.0 +2.8
QIZ S **S 01 22 06.0 +3.8**
QIZ XS 01 22 18.3
QIZ AMB AMB
comp=Z,160nm,1.3s
QIZ LR LR
comp=N,5μm,13.3s,MS5.3
QIZ LR LR
comp=E,6μm,12.3s,MS5.3
QIZ LR LR
comp=Z,10μm,12.9s,MS5.4
KAD Karad 20.50 301 *e*P **P 01 18 20.6 +0.3**
KAD *e* 01 18 24.1
comp=Z,276nm,1.4s
KAD *e*S **S 01 22 08.0 +5.2**
JIRN Jiri 21.14 344 *e*P **P 01 18 27.3 +0.5**
comp=Z,159nm,0.5s,mb5.6
PKI Pulchoki 21.28 342 *e*P **P 01 18 28.7 +0.5**
comp=Z,545nm,0.9s,mb5.9
POO Poona 21.35 303 *e*P **P 01 18 28.5 -0.6**
POO *e* 01 18 36.9
comp=Z,71nm,1.5s
POO *e*S **S 01 22 25.1 +6.0**
DMN Daman 21.41 342 *e*P **P 01 18 30.4 +0.9**
comp=Z,337nm,0.7s,mb5.8
BHPL Bhopal 21.51 319 *e*P **P 01 18 30.4 -0.2**
BHPL *e* 01 18 32.9
comp=Z,132nm,0.7s
BHPL *e*S **S 01 22 28.3 +6.2**
KKN Kakani 21.52 342 *e*P **P 01 18 31.1 +0.4**
comp=Z,227nm,0.6s,mb5.8
GKN Gorkha 21.92 341 *e*P **P 01 18 35.8 +1.1**
comp=Z,645nm,0.8s,mb6.1
KOLN Koldanda 22.06 338 *e*P **P 01 18 37.2 +1.1**
comp=Z,173nm,0.6s,mb5.7
LSA Lhasa 22.33 357 P **P 01 18 40.3 +1.5**
LSA PCP PcP 01 22 32.8 -1.8
LSA S **S 01 22 40.3 +3.1**
LSA XS 01 22 55.3
LSA SCP 01 26 10.5
LSA PCS 01 26 12.5
LSA LR LR
comp=Z,22μm,17.3s,MS5.7
BOM Bombay 22.39 303 *e*P **P 01 18 41.1 +1.7**
BOM *e*S **S 01 22 49.2 +11**
NDI New Delhi 25.73 328 *e*P **P 01 19 12.6 +0.8**
NDI *e* 01 19 27.6
comp=Z,184nm,1.4s
NDI *e* **S 01 23 32.0 -3.9**
DDI Dehra Dun 26.64 331 *e*P **P 01 19 20.0 -0.2**
DDI *e* 01 24 29.2
TGY Tagaytay City 28.69 74 P **P 01 19 38.9 +0.1**
TGY pmax pmax
comp=Z,145nm,0.3s
TGY MLR MLR
comp=Z,2μm,20.9s
TGY Tagaytay City 28.69 74 P **P 01 19 38.9 +0.2**
comp=Z,145nm,0.3s,mb6.1,baz=284,slow=7.3,SNR=6.8
TGY LR LR 01 30 35.5
comp=Z,2μm,20.9s,MS4.7,baz=351,slow=35
RCP Roxas 30.08 80 ⇑*e*P **P 01 19 51.7 +0.5**
SNPH Sibulan 30.43 84 *e*P **P 01 19 56.0 +1.7**
QZH Quanzhou 30.46 52 *e*P **P 01 19 54.0 -0.5**
QZH AMB AMB
comp=Z,150nm,1.3s,mb5.6
QZH AMB AMB
comp=Z,660nm,3.4s
QZH LR LR
comp=N,3μm,16.3s,MS5.5
QZH LR LR
comp=E,6μm,12.8s,MS5.5
QZH LR LR
comp=Z,11μm,14.6s,MS5.6
LZH Lanzhou 30.47 18 ⇑P **P 01 19 53.5 -1.0**
LZH AP pP 01 20 03.0 -1.5
LZH XP sP 01 20 08.0 -1.1
LZH PP PP 01 20 54.0 -0.8
LZH S **S 01 24 52.0 0.0**
LZH XS 01 25 08.0
LZH SS SS 01 26 33.5 +0.1
LZH AMB AMB
comp=Z,54nm,1.4s,mb5.1
LZH AMB AMB
comp=Z,175nm,4.0s
LZH LR LR
comp=E,3μm,17.8s
LZH LR LR
comp=Z,3μm,18.5s,MS5.0
LZH Lanzhou 30.47 18 ⇑P **P 01 19 53.6 -0.9**
LZH *PP pP 01 20 03.1 -1.4
LZH *SP sP 01 20 08.0 -1.1
LZH 01 20 54.0
LZH S **S 01 24 52.0 0.0**
LZH *SS 01 25 08.0
LZH SS SS 01 26 33.5 +0.1
LZH pmax pmax
comp=Z,54nm,1.4s,mb5.1
LZH MLR MLR
comp=Z,3μm,18.5s,MS5.0
LZH Lanzhou 30.47 18 ⇑P **P 01 19 53.6 -0.9**
comp=Z,54nm,1.4s,mb5.1
LZH pP pP 01 20 03.1 -1.4
LZH sP sP 01 20 08.0 -1.1
LZH PP PP 01 20 54.0 -0.8
LZH S **S 01 24 52.0 0.0**
LZH sS 01 25 08.0
LZH SS SS 01 26 33.5 +0.1
LZH LR LR
comp=Z,3μm,18.5s,MS5.0
XAN Xi'an 30.62 27 P **P 01 19 54.0 -1.8**
XAN AP pP 01 20 04.5 -1.3
XAN AMB AMB
comp=Z,52nm,0.8s,mb5.4
WHN Wuhan 30.87 39 ⇑P **P 01 19 57.8 -0.2**
WHN AP pP 01 20 07.0 -1.1
WHN S **S 01 24 59.0 +0.8**
WHN AMB AMB
comp=Z,110nm,0.8s,mb5.7
WHN AMB AMB
comp=Z,520nm,5.2s
WHN LR LR
comp=Z,6μm,13.3s,MS5.4
NJ2 Nanjing 34.74 41 *e*P **P 01 20 31.5 -0.2**
NJ2 AP pP 01 20 42.8 +1.0
NJ2 XP sP 01 20 46.8 +0.4
NJ2 PP PP 01 21 50.5 +1.2
NJ2 S **S 01 26 03.0 +4.4**
NJ2 XS 01 26 18.0
NJ2 AMB AMB
comp=Z,190nm,1.1s,mb5.9
NJ2 AMB AMB
comp=Z,310nm,11.0s
NJ2 LR LR
comp=N,5μm,23.3s,MS5.3
NJ2 LR LR
comp=E,4μm,23.7s,MS5.3
NJ2 LR LR
comp=Z,4μm,22.5s,MS5.1
WBK Wadi Bani Khal 35.72 299 P **P 01 20 42.5 +2.4**
SNR=8.8
WBK P 01 20 42.5
SNR=8.8
SSE Sheshan 35.74 45 P **P 01 20 37.3 -2.9**
SSE PP PP 01 21 58.8 -2.8
SSE S **S 01 26 12.0 -2.1**
SSE XS 01 26 28.0
SSE AMB AMB
comp=Z,66nm,0.9s,mb5.6
SSE AMB AMB
comp=Z,108nm,6.4s
SSE LR LR
comp=N,529nm,15.4s,MS4.7
SSE LR LR
comp=E,755nm,15.4s,MS4.7
SSE LR LR
comp=Z,1μm,18.2s,MS4.7
SSE Sheshan 35.74 45 P **P 01 20 37.3 -2.9**
comp=Z,66nm,0.9s,mb5.6
SSE sP sP 01 20 49.5 -5.4
SSE PP PP 01 21 58.8 -2.8
SSE S **S 01 26 12.1 -2.0**
SSE sS 01 26 28.1
SSE LR LR
comp=Z,1μm,18.2s,MS4.7
TIA Tai'an 36.51 34 P **P 01 20 46.0 -0.7**
WMQ Urumqi 36.63 354 *e*P **P 01 20 50.0 +2.4**
WMQ AP pP 01 20 59.8 +2.0
WMQ XP sP 01 21 03.8 +1.5
WMQ PP PP 01 22 15.0 +2.2
WMQ PCP PcP 01 23 13.3 +2.8
WMQ S **S 01 26 30.0 +2.3**
WMQ AMB AMB
comp=Z,122nm,1.5s,mb5.5
WMQ AMB AMB
comp=Z,578nm,5.6s
WMQ LR LR
comp=N,2μm,18.3s,MS5.0
WMQ LR LR
comp=E,1μm,18.4s,MS5.0
WMQ LR LR
comp=Z,2μm,18.7s,MS5.0
BSY Bisya 37.30 298 P **P 01 20 55.7 +2.3**
SNR=17
BSY P 01 20 55.7
SNR=17
HOQ Hoqain 37.48 300 P **P 01 20 57.5 +2.6**
SNR=6.4
HOQ P 01 20 57.5
SNR=6.4
KZA Kyzart 37.88 339 P **P 01 21 00.1 +2.1**
SNR=7.2
ARQ Araqi 38.08 299 P **P 01 21 02.5 +2.5**
SNR=7.8
ARQ P 01 21 02.5
SNR=7.8
UCH Uchtor 38.28 338 P **P 01 21 03.2 +1.9**
SNR=18
KBK Karagaybulak 38.49 339 P **P 01 21 05.1 +1.9**
SNR=27
TKM2 Tokmak 2 38.50 340 P **P 01 21 04.8 +1.5**
SNR=7.9
AML Almayashu 38.50 337 P **P 01 21 05.0 +1.8**
SNR=44
AAK Ala-Archa 38.64 339 P **P 01 21 06.0 +1.6**
AAK pmax pmax
comp=Z,160nm,1.3s,mb5.6
AAK Ala-Archa 38.64 339 *e*P **P 01 21 04.5 +0.1**
comp=Z,42nm,1.2s,mb5.0
FRU Bishkek 38.77 339 *e*P **P 01 21 07.5 +2.1**
FRU *e* pP 01 21 16.5 +0.8
FRU *e*S **S 01 27 03.0 +2.8**
FRU pmax pmax
comp=Z,210nm,1.9s,mb5.5
FRU MLR MLR
comp=Z,2μm,20.0s,MS4.9
CHMS Chumysh 38.86 339 P **P 01 21 07.1 +0.9**
SNR=11
BJI Beijing 38.88 29 P **P 01 21 06.9 +0.5**
BJI 01 22 43.8
BJI S **S 01 27 03.2 +1.4**
BJI SS SS 01 29 51.1 +5.4
BJI pmax pmax
comp=Z,30nm,1.0s,mb5.0
BJI MLR MLR
comp=Z,970nm,21.8s,MS4.6
BJI Beijing 38.88 29 P **P 01 21 06.9 +0.5**
comp=Z,30nm,1.0s,mb5.0
BJI PP PP 01 22 43.8 +4.2
BJI S **S 01 27 03.2 +1.4**
BJI SS SS 01 29 51.1 +5.4
BJI LR LR
comp=Z,970nm,21.8s,MS4.6
JOW Kunigami 39.09 56 P **P 01 21 09.2 +0.9**
comp=Z,107nm,0.7s,mb5.7,baz=242,slow=6.9,SNR=25
JOW LR LR 01 39 33.3
comp=Z,3μm,18.5s,MS5.2,baz=96,slow=40
USP Ospenovka 39.19 339 P **P 01 21 10.0 +1.1**
SNR=26
ABTO Aybut 39.55 288 P **P 01 21 14.1 +1.9**
SNR=7.2
MKAR Makanchi Array 40.33 349 *i*P **P 01 21 18.5 +0.1**
FITZ Fitzroy Crossi 41.27 128 *e*P **P 01 21 25.6 -0.9**
comp=Z,48nm,0.9s,mb5.1
SONM Songino Array 42.09 14 P **P 01 21 32.9 0.0**
comp=Z,9.1nm,0.8s,mb4.5,baz=194,slow=8.8,SNR=77
SONM PcP PcP 01 23 28.5 +0.7
comp=Z,2.3nm,0.6s,baz=204,slow=4.1,SNR=3.7
SONM ScP 01 27 16.8
comp=Z,2.0nm,0.9s,baz=211,slow=3.3,SNR=4.6
ULN Ulaanbaatar 42.28 15 *e*P **P 01 21 34.0 -0.4**
ULN pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
ULN Ulaanbaatar 42.28 15 *e*P **P 01 21 34.0 -0.5**
comp=Z,8.3nm,1.0s,mb4.3
ZAK Zakamensk 43.88 10 ⇓*i*P **P 01 21 47.1 -0.3**
SNY Shenyang 44.02 34 ⇑P **P 01 21 48.8 +0.1**
SNY XP sP 01 21 59.3 -4.1
SNY S **S 01 28 19.8 +1.8**
SNY AMB AMB
comp=Z,40nm,1.1s,mb5.1
SNY LR LR
comp=E,2μm,16.9s
SNY LR LR
comp=Z,1μm,17.3s,MS5.0
KAKA Kakadu 44.34 116 *e*P **P 01 21 48.0 -3.6**
comp=Z,37nm,1.2s,mb5.0
MOY Mondy 44.78 7 *e*P **P 01 21 55.8 +1.1**
KURK Kurchatov 44.81 347 *i*P **P 01 21 55.3 +0.4**
KURK pmax pmax
comp=Z,44nm,1.2s,mb5.2
KURK Kurchatov 44.81 347 *e*P **P 01 21 54.9 0.0**
comp=Z,31nm,1.2s,mb5.0
MUN Mundaring 45.11 151 *e*P **P 01 21 59.5 +2.0**
comp=Z,21nm,0.8s,mb5.0
MUN Mundaring 45.11 151 *e*P **P 01 21 59.5 +2.0**
MUN pmax pmax
comp=Z,21nm,0.8s,mb5.0
TLY Talaya 45.19 10 P **P 01 21 59.8 +1.9**
comp=Z,86nm,0.9s,mb5.6,SNR=9.9
TLY Talaya 45.19 10 *e*P **P 01 21 58.4 +0.5**
TLY *e*S **S 01 28 34.5 -0.1**
TLY *e*SS SS 01 31 41.5 -7.2
TLY pmax pmax
comp=Z,11nm,0.9s,mb4.7
TLY MLR MLR
comp=Z,603nm,17.0s,MS4.6
TLY Talaya 45.19 10 *e*P **P 01 21 58.7 +0.8**
comp=Z,8.7nm,0.8s,mb4.6
KLBR Kellerberrin 45.55 149 *e*P **P 01 22 07.0 +5.9**
comp=Z,96nm,0.6s,mb5.9
NWAO Narrogin (SRO) 46.38 151 P **P 01 22 08.7 +1.1**
NWAO pmax pmax
comp=Z,6.0nm,0.7s
NWAO MLR MLR
comp=Z,9.0nm,18.4s
NWAO Narrogin (SRO) 46.38 151 P **P 01 22 08.7 +1.1**
comp=Z,6.4nm,0.7s,mb4.6,baz=312,slow=6.5,SNR=5.2
NWAO LR LR 01 41 59.7
comp=Z,8.5nm,18.4s,baz=250,slow=36
NWAO Narrogin (SRO) 46.38 151 P **P 01 22 05.9 -1.7**
comp=Z,11nm,0.7s,mb4.9
ZAL Zalesovo 46.93 354 P **P 01 22 12.0 +0.4**
ZAL pmax pmax
comp=Z,7.0nm,0.5s
ZAL MLR MLR
comp=Z,1μm,19.2s
ZAL Zalesovo 46.93 354 P **P 01 22 12.0 +0.4**
comp=Z,6.6nm,0.5s,mb4.9,baz=281,slow=6.1,SNR=22
ZAL LR LR 01 45 54.2
comp=Z,1μm,19.2s,MS4.9,baz=294,slow=41
RAYN Ar Rayn 47.89 295 P **P 01 22 20.5 +0.9**
comp=Z,115nm,0.9s,mb5.9,SNR=19
NVS Novosibirsk 48.00 353 *e*P **P 01 22 18.9 -1.2**
NVS pmax pmax
comp=Z,27nm,1.0s,mb5.2
NVS pmax pmax
comp=N,20nm,1.2s
NVS pmax pmax
comp=E,8.0nm,1.3s
BVA0 Borovoye Array 49.05 342 *i*P **P 01 22 27.5 -0.6**
BVA0 pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
BVAR Borovoye Array 49.05 342 P **P 01 22 27.6 -0.5**
comp=Z,12nm,0.8s,mb5.0,baz=143,slow=7.4,SNR=44
BRVK Borovoye 49.11 342 *e*P **P 01 22 27.9 -0.7**
BRVK pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
BRVK Borovoye 49.11 342 *e*P **P 01 22 27.9 -0.7**
comp=Z,8.4nm,0.6s,mb5.0
MDJ Mudanjiang 49.18 35 P **P 01 22 29.5 +0.2**
MDJ AP pP 01 22 38.5 -1.1
MDJ XP sP 01 22 41.5 -2.5
MDJ PP PP 01 24 26.3 +3.0
MDJ SCP 01 27 45.0
MDJ PCS 01 27 49.3
MDJ S **S 01 29 34.3 +3.1**
MDJ XS 01 29 49.8
MDJ SCS ScS 01 32 19.0 +3.6
MDJ AMB AMB
comp=Z,26nm,1.2s,mb5.1
MDJ AMB AMB
comp=Z,251nm,5.6s
MDJ LR LR
comp=N,613nm,15.2s,MS4.7
MDJ LR LR
comp=E,197nm,16.2s,MS4.7
MDJ LR LR
comp=Z,738nm,16.2s,MS4.8
WRA Warramunga Arr 49.23 124 P **P 01 22 29.0 -1.0**
WRA pmax pmax
comp=Z,36nm,0.7s
WRA Warramunga Arr 49.23 124 P **P 01 22 29.0 -1.0**
comp=Z,36nm,0.7s,mb5.5,baz=304,slow=8.9,SNR=256
WRAB Tennant Creek 49.23 124*c* *i*P **P 01 22 29.0 -1.0**
WRAB Tennant Creek 49.23 124 *e*P **P 01 22 28.9 -1.1**
comp=Z,74nm,0.6s,mb5.9
WB2 Warramunga Arr 49.24 124 ⇑*i*P **P 01 22 29.1 -0.9**
WB2 *e* 01 26 56.0
WB2 *e*S **S 01 29 28.8 -3.5**
CHKZ Chkalovo 49.55 343 P **P 01 22 32.0 0.0**
CHKZ pmax pmax
comp=Z,80nm,1.2s,mb5.6
CHKZ Chkalovo 49.55 343 *e*P **P 01 22 31.6 -0.4**
comp=Z,20nm,0.7s,mb5.3
JHJ Hachijo jima 2 50.67 53 LR LR 01 42 49.7
comp=Z,1μm,21.2s,MS4.9,baz=287,slow=34
MAT Matsushiro 50.72 48 *e*P **P 01 22 41.0 -0.2**
MAT S **S 01 29 52.0 -0.7**
MAT pmax pmax
comp=Z,50nm,1.6s,mb5.2
MAT MLR MLR
comp=Z,1μm,19.0s,MS4.9
MAT Matsushiro 50.72 48 *e*P **P 01 22 41.0 -0.2**
comp=Z,50nm,1.6s,mb5.2
MAT S **S 01 29 52.0 -0.7**
MAT LR LR
comp=Z,1μm,19.0s,MS4.9
MAT Matsushiro 50.72 48 P **P 01 22 40.9 -0.3**
MAT *e*S **S 01 29 55.0 +2.3**
ASPA Alice Springs 50.77 129 ⇑*i*P **P 01 22 40.7 -1.0**
ASPA *e*S **S 01 29 52.2 -1.3**
ASAR Alice Springs 50.77 129 P **P 01 22 40.8 -0.9**
comp=Z,22nm,0.8s,mb5.1,baz=302,slow=7.4,SNR=140
ASAR LR LR 01 48 35.9
comp=Z,698nm,18.5s,MS4.7,baz=302,slow=41
FORT Forrest 50.89 140 ⇑*i*P **P 01 22 43.2 +0.6**
comp=Z,96nm,0.8s,mb5.8
FORT *e* pP 01 22 55.0 +2.0
CBIJ Chichi jima 50.96 61 P **P 01 22 41.8 -1.4**
comp=Z,64nm,0.6s,mb5.8,baz=318,slow=18,SNR=4.2
CBIJ LR LR 01 43 34.4
comp=Z,568nm,18.6s,MS4.6,baz=332,slow=35
BOD Bodaibo 53.09 14 ⇓*i*P **P 01 22 58.2 -0.5**
KLR Kul'dur 53.19 31 *e*P **P 01 22 55.2 -4.4**
GNI Garni 53.72 315 P **P 01 23 03.7 +0.1**
GNI pmax pmax
comp=Z,7.0nm,0.7s
GNI Garni 53.72 315 P **P 01 23 03.7 +0.1**
comp=Z,7.4nm,0.7s,mb4.7,baz=298,slow=1.8,SNR=13
GNI Garni 53.72 315 *e*P **P 01 23 03.1 -0.5**
comp=Z,78nm,1.7s,mb5.4
SVE Sverdlovsk 55.37 339 *i*P **P 01 23 11.8 -3.6**
SVE *e*S **S 01 30 50.0 -5.6**
SVE pmax pmax
comp=Z,120nm,2.0s,mb5.6
SVE MLR MLR
comp=Z,2μm,19.0s,MS5.2
CLNS Chul'man 55.53 21 *e*P **P 01 23 16.6 0.0**
CLNS *e* 01 25 24.1
CLNS *e*PPP PPP 01 26 39.4 +2.6
CLNS *e*S **S 01 31 16.8 +19**
CLNS *e* 01 33 00.4
CLNS pmax pmax
comp=Z,57nm,0.9s,mb5.6
CLNS pmax pmax

comp=N,24nm,0.8s
CLNS pmax pmax
comp=E,25nm,0.9s
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=E,8.0nm,0.8s
CLNS pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
CLNS smax
comp=Z,7.0nm,0.8s
CLNS smax
comp=N,7.0nm,0.7s
CLNS smax
comp=E,7.0nm,1.0s
CLNS MLR MLR
comp=Z,1μm,15.0s,MS5.2
CLNS MLR MLR
comp=N,2μm,16.0s,MS5.4
CLNS MLR MLR
comp=E,200nm,14.0s,MS5.4
KMBO Kilima Mbogo 55.79 264 P **P** **01 23 20.1 +1.1**
comp=E,5.1nm,0.8s,mb4.6,baz=64,slow=9.8,SNR=22
KMBO LR LR 01 43 27.4
comp=E,886nm,19.8s,MS4.8,baz=84,slow=32
KMBO Kilima Mbogo 55.79 264 *e*P **P** **01 23 19.6 +0.7**
comp=E,3.0nm,0.6s,mb4.5
ARU Arti 55.82 338 P **P** **01 23 17.8 -0.8**
comp=E,128nm,0.6s,mb6.1,SNR=22
ARU Arti 55.82 338⇑ *i*P **P** **01 23 11.3 -7.3**
ARU *i* S **S** **01 30 53.7 -7.9**
ARU pmax pmax
comp=Z,56nm,1.0s,mb5.5
ARU MLR MLR
comp=N,900nm,20.0s,MS5.1
ARU MLR MLR
comp=Z,2μm,20.0s,MS5.1
ARU MLR MLR
comp=E,1μm,19.0s,MS5.1
KIV Kislovodsk 56.70 319 P **P** **01 23 24.2 -0.9**
comp=E,210nm,0.9s,mb6.2,SNR=7.4
KIV Kislovodsk 56.70 319 *d i*P **P** **01 23 24.1 -1.0**
KIV *e* pP 01 23 34.8 -0.9
KIV *e*S **S** **01 31 18.7 +5.3**
KIV pmax pmax
comp=Z,30nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,400nm,18.0s,MS4.6
KIV Kislovodsk 56.70 319 *e*P **P** **01 23 24.2 -0.9**
comp=Z,22nm,0.8s,mb5.2
ASAJ Asahikawa 56.89 41 P **P** **01 23 27.2 +0.7**
ASAJ pmax pmax
comp=Z,8.0nm,0.6s
ASAJ Asahikawa 56.89 41 P **P** **01 23 27.2 +0.7**
comp=Z,7.9nm,0.6s,mb4.9,baz=50,slow=3.0,SNR=5.4
GOF Gofitskoye 56.95 320⇓ *i*P pP 01 23 37.0 -0.5
GOF pmax pmax
comp=Z,24nm,1.0s,mb5.2
ASF Jabal al Asfar 57.21 304 P **P** **01 23 30.1 +1.1**
comp=Z,7.3nm,0.8s,mb4.8,baz=335,slow=7.1,SNR=13
MALT Malatya 57.64 311 *e*P **P** **01 23 30.8 -1.1**
MALT pmax pmax
comp=Z,85nm,2.3s,mb5.4
MALT Malatya 57.64 311 *e*P **P** **01 23 30.8 -1.1**
comp=Z,85nm,2.3s,mb5.4
YSS Yuzh-Sakhalins 58.21 38⇑ *e*P **P** **01 23 35.2 -0.5**
YSS *e* 01 23 41.0
YSS *e*S **S** **01 31 37.0 +3.8**
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.3
YSS MLR MLR
comp=N,500nm,15.0s,MS5.1
YSS MLR MLR
comp=Z,1μm,15.0s,MS5.0
YSS MLR MLR
comp=E,1μm,14.0s,MS5.1
YSS Yuzh-Sakhalins 58.21 38 *e*P **P** **01 23 35.3 -0.4**
comp=E,38nm,1.0s,mb5.4
EIL Elat 58.35 300 P **P** **01 23 37.6 +0.7**
comp=E,18nm,0.8s,mb5.1,baz=92,slow=2.4,SNR=23
EIL Elat 58.35 300 *e*P **P** **01 23 37.0 +0.1**
comp=E,11nm,0.6s,mb5.0
SOC Sochi 58.52 317 *e*P **P** **01 23 35.0 -3.0**
SOC *e* 01 24 25.8
SOC *e* 01 25 48.8
SOC *e*PPP PPP 01 27 07.6 -5.4
SOC *e*S **S** **01 31 37.2 -0.1**
SOC *e* 01 33 25.1
SOC *e*SS SS 01 35 29.5 -2.2
SOC pmax pmax
comp=Z,24nm,0.9s,mb5.2
SOC pmax pmax
comp=N,32nm,1.1s
SOC pmax pmax
comp=E,18nm,0.8s
SOKR Solikamsk 58.78 340⇓ *i*P **P** **01 23 37.8 -1.7**
SOKR pmax pmax
comp=Z,20nm,0.8s,mb5.2
SOKR MLR MLR
comp=Z,2μm,21.0s,MS5.1
CTA Charters Tower 59.41 118 *e*P **P** **01 23 43.1 -1.3**
comp=Z,9.4nm,0.8s,mb4.9
CTA Charters Tower 59.41 118 *e*P **P** **01 23 43.1 -1.3**
CTA pmax pmax
comp=Z,9.0nm,0.8s
CTA Charters Tower 59.41 118 P **P** **01 23 42.9 -1.6**
comp=Z,12nm,0.8s,mb5.0,baz=291,slow=8.0,SNR=8.2
CTA LR LR 01 52 24.5
comp=Z,993nm,21.2s,MS4.9,baz=287,slow=39
CTAO Charters Tower 59.41 118 *e*P **P** **01 23 42.9 -1.5**
CTAO pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
CTAO Charters Tower 59.41 118 *e*P **P** **01 23 42.9 -1.5**
comp=Z,8.3nm,0.8s,mb4.8
ANN Anapa 60.50 318 *e*P **P** **01 23 44.6 -7.0**
ANN *e*S **S** **01 31 55.4 -7.4**
ANN pmax pmax
comp=Z,62nm,1.5s,mb5.4
ADE Adelaide 60.50 137 P **P** **01 23 52.2 +0.5**
STKA Stephens Creek 60.86 133⇑ *i*P **P** **01 23 53.5 -0.7**
comp=Z,10nm,0.8s,mb5.0
STKA *i* pP 01 24 06.1 +1.3
STKA *e*S **S** **01 32 08.8 +1.1**
STKA Stephens Creek 60.86 133 P **P** **01 23 53.5 -0.7**
comp=Z,10nm,0.7s,mb5.0,baz=311,slow=7.9,SNR=28
STKA pP pP 01 24 05.8 +1.0
comp=Z,20nm,0.7s,baz=317,slow=4.1,SNR=14
STKA LR LR 01 50 07.2
comp=Z,990nm,20.9s,MS4.9,baz=103,slow=36
YAK Yakutsk 61.05 19 *e*P **P** **01 23 53.4 -1.7**
YAK *e*S **S** **01 32 04.0 -5.7**
YAK pmax pmax
comp=Z,42nm,0.9s,mb5.6
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,12nm,1.2s
YAK smax
comp=N,157nm,18.1s
YAK smax
comp=E,86nm,20.8s
YAK MLR MLR
comp=Z,377nm,17.0s,MS4.6
YAK MLR MLR
comp=N,464nm,16.0s,MS5.0
YAK MLR MLR
comp=E,647nm,17.0s,MS5.0
YAK Yakutsk 61.05 19 *e*P **P** **01 23 53.6 -1.5**
comp=E,69nm,0.8s,mb5.8
BRTR Keskin Array B 61.62 311 P **P** **01 23 57.9 -1.3**
BRTR *PP pP 01 24 09.2 -0.6
BRTR pmax pmax
comp=Z,7.0nm,0.7s
BRTR pmax pmax
comp=Z,4.0nm,0.6s
BRTR Keskin Array B 61.62 311 P **P** **01 23 57.9 -1.3**
comp=Z,6.8nm,0.7s,mb4.9,baz=126,slow=7.5,SNR=48
BRTR pP pP 01 24 09.2 -0.6
comp=Z,4.0nm,0.6s,baz=121,slow=7.2,SNR=7.2
VRSR Storozhevoye 61.94 325 *e*P **P** **01 23 59.1 -2.1**
VRSR *e* 01 24 40.7
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
VRSR pmax pmax
comp=N,10.0nm,1.8s
VRSR pmax pmax
comp=E,8.0nm,0.9s
VRSR MLR MLR
comp=Z,540nm,18.3s,MS4.7
VRSR MLR MLR
comp=N,560nm,18.8s,MS4.9
VRSR MLR MLR
comp=E,620nm,19.8s,MS4.9
MBAR Mbarara 62.14 265 *e*P **P** **01 24 02.9 -0.1**
SIM Simferopol' 62.77 317 *e*P **P** **01 24 05.0 -1.8**
SIM *e*S **S** **01 32 26.0 -5.6**
SIM pmax pmax
comp=Z,14nm,0.7s,mb5.2
MOS Moscow 64.76 329 *e*P pP 01 24 29.2 -1.2
MOS *e* 01 24 56.7
MOS MLR MLR
comp=Z,1μm,20.7s,MS5.0
MOS MLR MLR
comp=N,1μm,21.0s
OBN Obninsk 65.03 328⇓ *i*P **P** **01 24 16.9 -4.5**
OBN *e*S S 01 33 00.7 +1.2
OBN pmax pmax
comp=Z,20nm,1.1s,mb5.1
OBN MLR MLR
comp=Z,1μm,18.0s,MS5.0
ALN Alexandroupoli 67.54 311 *e*P **P** **01 24 37.4 -0.2**
LSZ Lusaka 67.58 250 *e*P **P** **01 24 37.7 -0.5**
LSZ pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
LSZ Lusaka 67.58 250 *e*P **P** **01 24 37.7 -0.5**
comp=Z,6.3nm,1.2s,mb4.5
IDI Anoyia 67.60 305 P **P** **01 24 38.6 +0.5**
comp=Z,30nm,0.7s,mb5.5,baz=81,slow=7.0,SNR=40
AKASG Malin Array Be 67.63 322 P **P** **01 24 35.9 -2.1**
AKASG pmax pmax
comp=Z,6.0nm,1.1s
AKASG Malin Array Be 67.63 322 P **P** **01 24 35.9 -2.1**
comp=Z,6.4nm,1.1s,mb4.6,baz=89,slow=4.9,SNR=16
ARMA Armidale 67.86 127 *e*P **P** **01 24 41.1 +1.3**
MA2 Magadan 68.01 28 *c i*P **P** **01 24 40.0 -0.2**
MA2 *i* S S 01 33 35.2 -0.3
MA2 *e*SS SS 01 37 59.7 +0.4
MA2 pmax pmax
comp=Z,50nm,0.8s,mb5.6
MA2 pmax pmax
comp=E,20nm,1.0s
MA2 pmax pmax
comp=N,10.0nm,0.9s
MA2 MLR MLR
comp=Z,2μm,22.5s,MS5.2
MA2 Magadan 68.01 28 *e*P **P** **01 24 39.5 -0.7**
comp=Z,72nm,0.8s,mb5.8
VRI Vrincioaia 68.03 317 P **P** **01 24 41.1 +0.5**
TIXI Tiksi 68.12 12⇑ *i*P **P** **01 24 40.1 -0.6**
TIXI *e*S S 01 33 32.0 -4.6
TIXI *e*SS SS 01 38 01.0 +0.2
TIXI pmax pmax
comp=Z,25nm,0.5s,mb5.5
TIXI MLR MLR
comp=Z,606nm,16.0s,MS4.9
TIXI Tiksi 68.12 12⇑ *i*P **P** **01 24 39.9 -0.8**
CNB Canberra Magne 68.19 133 *e*P **P** **01 24 41.8 0.0**
comp=Z,249nm,0.9s,mb6.2
MLR Muntele Rosu 68.49 316 P **P** **01 24 43.4 0.0**
MLR pmax pmax
comp=Z,23nm,0.9s
MLR Muntele Rosu 68.49 316 P **P** **01 24 43.4 0.0**
comp=Z,23nm,0.9s,mb5.2,baz=115,slow=2.4,SNR=32
MLR Muntele Rosu 68.49 316 P **P** **01 24 43.4 0.0**
SNX Sinaia 68.76 316 P **P** **01 24 45.1 0.0**
SRS Serrai 69.41 311 *e*P **P** **01 24 47.6 -1.6**
SOH Sokhos 69.54 311 *e*P **P** **01 24 49.4 -0.6**
THE Thessaloniki 69.81 311 *e*P **P** **01 24 50.4 -1.2**
PET Petropavlovsk 69.93 36 *e*P **P** **01 24 50.8 -1.3**
PET *e*S S 01 33 56.5 -1.8
PET pmax pmax
comp=Z,16nm,0.9s,mb5.0
PET MLR MLR
comp=Z,600nm,18.0s,MS4.9
PET MLR MLR
comp=N,500nm,18.0s
PET Petropavlovsk 69.93 36 *e*P **P** **01 24 50.7 -1.5**
KNT Kendrikon 69.93 311 *e*P **P** **01 24 51.5 -0.9**
AGG Agios Georgios 70.09 309 *e*P **P** **01 24 51.4 -2.0**
LIT Litokhoron 70.10 310 *e*P **P** **01 24 52.1 -1.2**
SEY Seymchan 70.12 25 *e*P **P** **01 24 53.8 +0.7**
SEY *e* 01 25 12.8
SEY 01 27 28.5
SEY PPP PPP 01 29 09.1 -1.3
SEY *e*S S 01 34 01.7 +1.4
SEY PS PS 01 34 41.1 +9.3
SEY *e* 01 34 52.1
SEY SS SS 01 38 35.6 +3.7
SEY *e*SSS SSS 01 41 43.5 +6.4
SEY pmax pmax
comp=Z,50nm,1.1s,mb5.4
SEY pmax pmax
comp=N,20nm,1.0s
SEY pmax pmax
comp=E,10.0nm,1.0s
SEY smax
comp=N,1μm,19.4s
SEY smax
comp=E,270nm,19.4s
SEY MLR MLR
comp=Z,4μm,21.0s,MS5.7
SEY MLR MLR
comp=N,3μm,24.0s,MS5.5
SEY MLR MLR
comp=E,2μm,19.0s,MS5.5
GRG Griva 70.28 311 *e*P **P** **01 24 53.2 -1.2**
LVV L'vov 70.65 320 *e*P **P** **01 24 55.0 -1.6**
LVV *e*S S 01 34 05.2 -1.5
LVV MLR MLR
comp=N,340nm,18.0s,MS4.7
LVV MLR MLR
comp=E,150nm,18.0s,MS4.7
LVV MLR MLR
comp=Z,260nm,18.0s,MS4.5
JOF Joensuu 70.70 335 *e*p **P** **01 24 55.0 -1.6**
comp=Z,7.2nm,0.8s,mb4.7
BOLS Boljevac 71.00 314⇑ *i*P **P** **01 24 57.6 -1.2**
FNA Florina 71.03 311 *e*P **P** **01 24 58.1 -0.9**
KWP Kalwaria 71.45 320 *e*P **P** **01 25 00.9 -0.5**
KOLS Kolonicke sedl 71.61 319 *i* P **P** **01 25 01.8 -0.5**
KOLS *e* pP 01 25 14.6 +1.5
APA Apatity 71.84 340⇓ *i*P **P** **01 25 03.0 -0.4**
APA pmax pmax
comp=Z,110nm,1.8s,mb5.5
APA MLR MLR
comp=Z,2μm,19.0s,MS5.3
SUW Suwalki 72.06 325 *e*P **P** **01 25 03.3 -1.5**
CRVS Cervenica-Dubn 72.13 319 *e*P **P** **01 25 07.5 +2.1**
FINES FINESS Array B 72.49 332 P **P** **01 25 06.4 -0.9**
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES MLR MLR
comp=Z,520nm,20.1s
FINES FINESS Array B 72.49 332 P **P** **01 25 06.4 -1.0**
comp=Z,5.4nm,0.6s,mb4.6,baz=101,slow=7.5,SNR=26
FINES LR LR 02 01 19.9
comp=Z,520nm,20.1s,MS4.8,baz=286,slow=39
LBTB Lobatse 72.58 241 *e*P **P** **01 25 08.9 +0.3**
LBTB pmax pmax
comp=Z,81nm,1.9s,mb5.3
LBTB Lobatse 72.58 241 *e*P **P** **01 25 08.9 +0.3**
comp=Z,81nm,1.9s,mb5.3
KAF Kangasniemi 72.59 333 *e*p **P** **01 25 06.3 -1.6**
comp=Z,7.9nm,1.0s,mb4.6,baz=106,slow=5.5
KAF Kangasniemi 72.59 333 *e*P **P** **01 25 06.3 -1.6**
KAF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
NIE Niedzica 72.95 319 *e*P **P** **01 25 10.9 +0.6**
OJC Ojcow 73.41 320 *e*P **P** **01 25 12.5 -0.5**
VYHS Vyhne 73.79 318 *e*P **P** **01 25 14.8 -0.4**
BOSA Boshof 73.94 238 *e*P **P** **01 25 16.8 +0.3**
BOSA pmax pmax
comp=Z,12nm,1.0s,mb4.8
BOSA Boshof 73.94 238 *e*P **P** **01 25 16.8 +0.3**
comp=Z,12nm,1.0s,mb4.8
SRO Srobarova 74.05 318 *e*P **P** **01 25 17.5 +0.8**
SRO *e* pP 01 25 30.4 +2.8
OKC Ostrava-Krasne 74.41 320 *e*P **P** **01 25 18.7 -0.1**
OKC *e*pP pP 01 25 29.0 -0.6
OKC AMS AMS 02 03 20.0
comp=Z,300nm,16.1s
TIP Timpagrande 74.42 309 *e*P **P** **01 25 18.9 -0.2**
CASY Casey 74.55 173 P **P** **01 25 19.8 +0.6**
GRI Girifalco 74.66 308 *e*P **P** **01 25 21.3 +0.8**
MORC Moravsky Berou 74.79 320 *e*P **P** **01 25 20.5 -0.5**
MORC *e*PP pP 01 25 31.2 -0.6
MORC pmax pmax
comp=Z,53nm,2.0s,mb5.1
MORC Moravsky Berou 74.79 320 *e*P **P** **01 25 20.5 -0.4**
comp=Z,53nm,2.0s,mb5.1
MORC *e*pP pP 01 25 31.2 -0.6
ZST Bratislava 74.90 318 *e*P **P** **01 25 21.5 -0.2**
ZST *e*pP pP 01 25 32.2 -0.3
ARCES ARCESS Array B 75.28 340 P **P** **01 25 23.1 -0.3**
ARCES *PP pP 01 25 34.4 +0.1
ARCES pmax pmax
comp=Z,6.0nm,0.7s
ARCES pmax pmax
comp=Z,4.0nm,0.6s
ARCES MLR MLR
comp=Z,1μm,21.5s
ARCES ARCESS Array B 75.28 340 P **P** **01 25 23.1 -0.3**
comp=Z,5.5nm,0.7s,mb4.6,baz=72,slow=3.8,SNR=15
ARCES pP pP 01 25 34.4 +0.1
comp=Z,3.7nm,0.6s,baz=90,slow=6.1,SNR=3.6
ARCES LR LR 02 00 32.0
comp=Z,1μm,21.5s,MS5.2,baz=260,slow=37
ARE0 ARCESS Array S 75.28 340 P **P** **01 25 23.3 -0.1**
DPC Dobruska-Polom 75.63 320 *e*P **P** **01 25 26.3 +0.5**
DPC *e*pP pP 01 25 37.6 +0.9
DPC AMS AMS 02 03 20.0
comp=Z,400nm,17.6s
KSP Ksiaz 75.70 321 *e*P **P** **01 25 26.3 +0.1**
KSP *e*PP pP 01 25 36.0 -1.1
KSP *e*S S 01 35 02.0 -1.9
KSP MLR MLR
comp=Z,800nm,18.3s,MS5.1
KSP Ksiaz 75.70 321 *e*P **P** **01 25 26.3 +0.1**
KSP *e*pP pP 01 25 36.0 -1.1
KSP *e*S S 01 35 02.0 -1.9
KSP *e*SSS SSS 01 43 25.0 +12
KSP LR LR
comp=Z,800nm,18.3s,MS5.1
KSP Ksiaz 75.70 321 *e*P **P** **01 25 26.6 +0.4**
UPC Upice 75.85 320 *e*P **P** **01 25 27.4 +0.4**
UPC *e*pP pP 01 25 38.6 +0.7
PRU Pruhonice 76.74 320 *e*P **P** **01 25 31.9 -0.2**
PRU *e*pP pP 01 25 42.3 -0.7
PRU AMS AMS 02 04 50.0
comp=Z,500nm,16.1s
PVCC Panska Ves 76.77 320 *e*P **P** **01 25 32.4 +0.1**
PVCC *e*pP pP 01 25 43.1 0.0
BRG Berggiesshubel 77.19 320⇓ *i*P **P** **01 25 34.7 +0.1**
BRG *i* pP 01 25 46.3 +0.8
BRG pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BRG MLR MLR
comp=Z,390nm,14.6s,MS4.9
BRG Berggiesshubel 77.19 320⇓ *i*P **P** **01 25 34.7 +0.1**
comp=Z,9.9nm,0.9s,mb4.7
BRG *i* pP 01 25 46.3 +0.8
BRG LR LR
comp=Z,390nm,14.6s,MS4.9
GEC2 GERESS Array S 77.21 318 *e*P **P** **01 25 34.8 0.0**
GEC2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GEC2 GERESS Array S 77.21 318 *e*P **P** **01 25 34.8 0.0**
comp=Z,9.0nm,0.8s,mb4.8
GERES GERESS Array B 77.21 318 P **P** **01 25 35.0 +0.2**
GERES pmax pmax
comp=Z,7.0nm,0.6s
GERES GERESS Array B 77.21 318 P **P** **01 25 35.0 +0.2**
comp=Z,6.5nm,0.6s,mb4.7,baz=92,slow=5.0,SNR=84
KHC Kasperske Hory 77.31 319 *e*P **P** **01 25 34.5 -0.8**
KHC *e*pP pP 01 25 44.8 -1.4
KHC AMS AMS 02 04 20.0
comp=Z,400nm,14.1s
RUE Ruedersdorf 77.41 322 *e*P **P** **01 25 34.9 -0.9**
comp=Z,7.9nm,0.6s,mb4.8
RUE *e*pP pP 01 25 46.3 -0.4
MAW Mawson 77.65 191 LR LR 01 55 39.7
comp=Z,399nm,18.1s,MS4.8,baz=150,slow=32
WET Wettzell 77.77 319 *e*P **P** **01 25 37.9 0.0**
WET pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
WET Wettzell 77.77 319 *e*P **P** **01 25 37.9 0.0**
comp=Z,5.0nm,0.8s,mb4.5
CLL Collm 77.81 321 *i* P **P** **01 25 36.8 -1.2**
CLL *e* 01 25 44.0
CLL pmax pmax
comp=Z,71nm,2.5s,mb5.2
CLL MLR MLR
comp=Z,500nm,17.5s,MS4.9
CLL Collm 77.81 321 *i* P **P** **01 25 36.8 -1.2**
comp=Z,71nm,2.5s,mb5.2
CLL *e* 01 25 44.0
CLL LR LR
comp=Z,500nm,17.5s,MS4.9
CLL Collm 77.81 321 P **P** **01 25 36.8 -1.2**
comp=Z,logA/T=1.5,mb5.2
CLL *e*PP pP 01 25 44.0 -4.9
CLL *e*SP sP 01 25 48.0 -4.8
TSUM Tsumeb 78.34 249 *e*P **P** **01 25 42.1 +0.5**
comp=Z,3.7nm,0.8s,mb4.4
CTI Castel Tesino 78.48 315 *e*P **P** **01 25 42.2 +0.4**
VMG Vicchio 78.51 313 *e*P **P** **01 25 43.4 +1.4**
FX1 Attu Island--F 78.56 38 P **P** **01 25 42.4 +0.3**
FX1 pmax pmax
comp=Z,26nm,0.6s
FX1 MLR MLR
comp=Z,17nm,19.8s
FX1 Attu Island--F 78.56 38 P **P** **01 25 42.4 +0.3**
comp=Z,26nm,0.6s,mb5.3,baz=57,slow=19,SNR=5.4
FX1 LR LR 02 00 09.0
comp=Z,17nm,19.8s,baz=281,slow=36
FX1 Attu Island--F 78.56 38 P **P** **01 25 42.4 +0.3**
MOX Moxa 78.65 320 *e*P **P** **01 25 43.0 +0.3**
MOX pmax pmax
comp=Z,33nm,1.8s,mb5.0
MOX MLR MLR
comp=Z,300nm,18.0s,MS4.7
MOX Moxa 78.65 320 *e*P **P** **01 25 43.0 +0.3**
comp=Z,33nm,1.8s,mb5.0
MOX LR LR
comp=Z,300nm,18.0s,MS4.7
MOX Moxa 78.65 320 *i* P **P** **01 25 43.0 +0.3**
comp=Z,logA/T=1.3,mb5.0
MOX L 02 05 29.0
FUR Furstenfeldbru 78.79 318 *e*P **P** **01 25 43.0 -0.5**
GRA1 Grafenberg Arr 78.87 319 *e*P **P** **01 25 44.4 +0.5**
comp=Z,12nm,0.8s,mb4.9
GRA1 *e*pP pP 01 25 55.3 +0.5
GRF Grafenberg Arr 78.87 319 *e*P **P** **01 25 44.4 +0.5**
GRF *e*PP pP 01 25 55.3 +0.5
GRF pmax pmax
comp=Z,12nm,0.8s,mb4.9
GRF Grafenberg Arr 78.87 319 *e*P **P** **01 25 44.4 +0.5**
GRF *e*PP pP 01 25 55.3 +0.5
GRF pmax pmax
comp=Z,12nm,0.8s,mb4.9
GRF Grafenberg Arr 78.87 319 *e*P **P** **01 25 44.4 +0.5**
comp=Z,12nm,0.8s,mb4.9
GRF *e*pP pP 01 25 55.3 +0.5
ZCCA Zocca 78.92 314 *e*P **P** **01 25 45.9 +1.6**
GSCL Gusciola 79.20 314 *e*P **P** **01 25 47.0 +1.2**
BRMO Bormio 79.37 316 *e*P **P** **01 25 46.8 +0.1**
NB2 NORSAR Subarra 79.46 331 P **P** **01 25 45.6 -1.3**
comp=Z,3.5nm,0.7s,mb4.4,baz=97,slow=5.0
NB2 NORSAR Subarra 79.46 331 P **P** **01 25 45.6 -1.3**
NB2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
NB2 NORSAR Subarra 79.46 331 P **P** **01 25 45.6 -1.3**
comp=Z,3.5nm,0.7s,mb4.4
NOA NORSAR Array B 79.46 331 P **P** **01 25 46.0 -0.9**
NOA *PP pP 01 25 56.8 -1.0
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,609nm,18.6s
NOA NORSAR Array B 79.46 331 P **P** **01 25 46.0 -0.9**
comp=Z,3.4nm,0.7s,mb4.4,baz=93,slow=5.7,SNR=19
NOA pP pP 01 25 56.8 -1.0
comp=Z,2.3nm,0.7s,baz=94,slow=5.6,SNR=4.9
NOA LR LR 02 05 00.1
comp=Z,609nm,18.6s,MS5.0,baz=15,slow=39

NOA	**NORSAR Array B**	**79.46**	**331**	P	**P**	**01 25 46.0**	**-0.9**
NOA				pP	pP	01 25 56.8	-1.0
NOA				LR	LR	02 05 00.1	
CLZ	**Clausthal**	**79.47**	**321**	*e*P	**P**	**01 25 47.0**	**-0.1**
	comp=Z,8.0nm,0.7s,mb4.8						
VAI	**Varese**	**80.48**	**315**	*e*P	**P**	**01 25 52.1**	**-0.6**
TNS	**Taunus Mts**	**80.67**	**320**	*e*P	**P**	**01 25 53.6**	**0.0**
BFO	**Black Forest**	**80.76**	**318**	*e*P	**P**	**01 25 53.7**	**-0.4**
BFO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BFO	**Black Forest**	**80.76**	**318**	*e*P	**P**	**01 25 53.7**	**-0.4**
	comp=Z,4.0nm,0.8s,mb4.4						
DRV	**Dumont d'Urvil**	**81.28**	**163**	P	pP	01 26 07.0	-0.4
LPG	**La Plagne**	**81.91**	**315**	*e*P	**P**	**01 26 00.5**	**+0.4**
	comp=Z,36nm,0.8s,mb5.1						
LPG	**La Plagne**	**81.91**	**315**	*e*P	**P**	**01 26 00.5**	**+0.4**
LPG				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
BNI	**Bardonecchia**	**81.98**	**314**	*e*P	**P**	**01 26 00.5**	**0.0**
BNI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
BNI	**Bardonecchia**	**81.98**	**314**	*e*P	**P**	**01 26 00.5**	**0.0**
	comp=Z,10nm,0.8s,mb4.8						
SYO	**Syowa Base**	**84.39**	**197**	⇑P	**P**	**01 26 13.7**	**+1.5**
SYO	**Syowa Base**	**84.39**	**197**	⇓pP	pP	01 26 26.7	+3.4
JMIC	**Jan Mayen**	**86.75**	**341**	LR	LR	02 06 45.0	
	comp=Z,590nm,19.8s,MS5.0,baz=52,slow=37						
RPZ	**Rata Peaks**	**86.76**	**135**	P	**P**	**01 26 25.4**	**+0.9**
	comp=Z,14nm,1.0s,mb5.2,baz=96,slow=4.3,SNR=8.0						
TNA	**Tin City**	**87.35**	**24**	*e*P	**P**	**01 26 27.1**	**+0.3**
URZ	**Urewera**	**90.22**	**128**	P	**P**	**01 26 42.2**	**+1.1**
	comp=Z,6.8nm,0.6s,mb5.2,baz=91,slow=3.6,SNR=14						
ESDC	**Sonseca Array**	**90.38**	**310**	P	**P**	**01 26 42.6**	**+0.7**
	comp=Z,5.6nm,0.7s,mb5.0,baz=60,slow=4.3,SNR=35						
IMA	**Indian Mountai**	**92.75**	**22**	*e*P	**P**	**01 26 53.6**	**+1.4**
IMA				*e**PP	pP	01 27 03.3	-0.1
SPU	**Mount Spurr**	**95.50**	**26**	*e*P	**P**	**01 27 05.8**	**+1.0**
ILAR	**Eielson Array**	**95.87**	**22**	P	**P**	**01 27 06.7**	**+0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**95.87**	**22**	P	**P**	**01 27 06.7**	**+0.3**
	comp=Z,1.0nm,0.6s,mb4.5,baz=307,slow=4.2,SNR=26						
DBIC	**Dimbokro**	**96.45**	**278**	P	**P**	**01 27 11.5**	**+1.3**
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
DBIC				MLR	MLR		
	comp=Z,518nm,18.7s						
DBIC	**Dimbokro**	**96.45**	**278**	P	**P**	**01 27 11.5**	**+1.3**
	comp=Z,3.5nm,0.8s,mb4.8,baz=161,slow=4.7,SNR=4.0						
DBIC				LR	LR	02 10 12.1	
	comp=Z,518nm,18.7s,MS5.0,baz=70,slow=35						
INK	**Inuvik**	**97.98**	**16**	P	**P**	**01 27 17.5**	**+1.6**
	comp=Z,2.5nm,0.7s,mb4.8,baz=338,slow=4.8,SNR=6.8						
INK				LR	LR	02 18 42.9	
	comp=Z,624nm,19.8s,MS5.1,baz=51,slow=40						
YKA	**Yellowknife Ar**	**107.35**	**13**	Pdiff	Pdif	01 28 01.1	+3.4
	comp=Z,0.2nm,0.7s,baz=318,slow=4.0,SNR=4.7						
MSO	**Missoula**	**121.20**	**21**	PKP	PKPdf	01 32 33.0	+0.8
ULM	**Lac du Bonnet**	**122.23**	**6**	PKP	PKPdf	01 32 37.1	+3.1
	comp=Z,2.6nm,0.8s,baz=338,slow=4.0,SNR=3.6						
MCMT	**McKenzie Canyo**	**123.31**	**21**	PKP	PKPdf	01 32 37.4	+1.0
QLMT	**Earthquake Lak**	**123.81**	**20**	*e*PKP	PKPdf	01 32 40.5	+3.2
LKWY	**Lake**	**124.39**	**20**	PKIKP	PKPdf	01 32 40.9	+2.5
LOHW	**Long Hollow**	**125.16**	**20**	*e*PKP	PKPdf	01 32 41.7	+1.8
WUWY	**Wally Ulrich**	**125.18**	**21**	*e*PKP	PKPdf	01 32 42.4	+2.5
SNOW	**Snow King Moun**	**125.24**	**21**	*e*PKP	PKPdf	01 32 43.6	+3.5
NVAR	**Mina Array Bea**	**126.22**	**30**	PKP	PKPdf	01 32 45.3	+3.2
	comp=Z,1.9nm,0.7s,baz=119,slow=1.2,SNR=12						
NVAR				pPKP		01 32 57.0	
	comp=Z,4.3nm,0.6s,baz=153,slow=1.1,SNR=11						
PDAR	**Pinedale Array**	**126.27**	**20**	PKP	PKPdf	01 32 44.5	+2.5
	comp=Z,1.5nm,0.7s,baz=6.5,slow=1.1,SNR=11						
PDAR				pPKP		01 32 56.2	
	comp=Z,8.0nm,0.9s,SNR=21						
HWUT	**Hardware Ranch**	**126.56**	**22**	*e*PKP	PKPdf	01 32 44.5	+1.8
DAU	**Daniels Canyon**	**127.71**	**23**	PKIKP	PKPdf	01 32 47.9	+3.0
MVU	**Marysvale**	**128.95**	**25**	*e*PKP	PKPdf	01 32 49.2	+1.8
MSU	**Marysvale**	**128.96**	**25**	*e*PKIKP	PKPdf	01 32 50.2	+2.8
PV10	**Paradox Valley**	**130.32**	**22**	*e*PKP	PKPdf	01 32 53.2	+3.2
ANMO	**Albuquerque**	**134.31**	**22**	PKIKP	PKPdf	01 33 01.0	+3.4
TUC	**Tucson**	**134.77**	**28**	PKIKP	PKPdf	01 33 00.6	+2.1
LENM	**Lemitar**	**134.82**	**23**	*e*PKP	PKPdf	01 33 00.8	+2.3
LPM	**Los Pinos Moun**	**134.82**	**23**	*e*PKP	PKPdf	01 33 01.6	+3.0
CPRX	**Cap Rock**	**136.97**	**20**	PKP	PKPdf	01 33 06.0	+3.5
GDL2	**Guadalupe Moun**	**137.55**	**21**	PKP	PKPdf	01 33 04.4	+0.7
TXAR	**Lajitas Array**	**140.38**	**22**	PKhKP		01 33 06.5	
	comp=Z,0.9nm,0.6s,baz=266,slow=1.5,SNR=6.3						
TXAR				PKIKP		01 33 14.0	
	comp=Z,0.8nm,0.5s,baz=218,slow=0.5,SNR=12						
TXAR				pPKiKP		01 33 25.2	
	comp=Z,2.9nm,0.5s,baz=209,slow=0.4,SNR=20						
TXAR	**Lajitas Array**	**140.38**	**22**	PKP	PKPdf	01 33 06.5	-2.4
TXAR				PKPdf	PKPdf	01 33 14.0	+5.2
JCT	**Junction City**	**140.62**	**17**	PKIKP	PKPdf	01 33 11.1	+1.8
PLCA	**Paso Flores**	**143.44**	**202**	PKIKP	PKPdf	01 33 14.8	+1.0
PLCA						01 33 28.0	
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PLCA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
PLCA	**Paso Flores**	**143.44**	**202**	PKP	PKPdf	01 33 14.8	+1.0
	comp=Z,2.5nm,0.8s,baz=345,slow=17,SNR=4.1						
PLCA				pPKP		01 33 28.0	
	comp=Z,6.1nm,1.1s,baz=58,slow=3.5,SNR=3.8						
PLCA	**Paso Flores**	**143.44**	**202**	PKP	PKPdf	01 33 14.8	+1.0
PLCA				pPKP		01 33 28.0	
TEIG	**Tepich**	**152.65**	**2**	PKPbc	PKPdf	01 33 38.5	+9.2
SDV	**Santo Domingo**	**156.78**	**314**	PKP	PKPdf	01 33 36.4	+1.5
	comp=Z,1.1nm,0.3s,baz=90,slow=6.1,SNR=3.0						
LPAZ	**La Paz**	**159.09**	**243**	PKIKP	PKPdf	01 33 40.9	+3.1
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LPAZ	**La Paz**	**159.09**	**243**	PKP	PKPdf	01 33 40.9	+3.1
	comp=Z,1.3nm,0.8s,baz=103,slow=1.2,SNR=4.9						
LPAZ				PKPab	PKPab	01 34 17.6	+0.7
	comp=Z,3.4nm,0.8s,baz=109,slow=1.2,SNR=8.9						
LPAZ				pPKPab		01 34 30.2	
	comp=Z,5.3nm,0.8s,baz=5.5,slow=2.8,SNR=6.4						
LPAZ	**La Paz**	**159.09**	**243**	*e*PKPdf	PKPdf	01 33 40.6	+2.8

IGQ 29 01:16:35.7, 1.31S×81.10W, h23km±8km, mb4.2, 4C-4D, Error ellipse: s-maj=23.1km s-min=7.1km az=173.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.61**	**65**	⇑P	Pb	01 16 47.8	+0.2
JAMA	**Jama**	**1.37**	**41**	⇓P	Pn	01 16 59.1	-0.7
JAMA				S	Sn	01 17 16.6	-0.8
MAGD	**Magdalena**	**1.81**	**47**	P	Pn	01 17 07.4	+1.4
MAGD				S	Sn	01 17 37.3	+8.9
IGUA	**Igualata**	**2.46**	**94**	⇑P	Pn	01 17 15.8	+0.3
ARRY	**Arrayan**	**2.65**	**94**	P	Pn	01 17 18.3	+0.3
RETU	**Refugio**	**2.65**	**93**	P	Pn	01 17 18.9	+0.8
ULBA	**Ulba**	**2.69**	**93**	P	Pn	01 17 19.3	+0.6
NAS1	**Nasa**	**2.70**	**76**	P	Pn	01 17 21.6	+2.7
JUA2	**San Juan 2**	**2.72**	**66**	P	Pn	01 17 20.5	+1.5
PISA	**Pisayambo**	**2.72**	**85**	P	Pn	01 17 21.2	+2.1
TERV	**Terraza Guagua**	**2.74**	**66**	P	Pn	01 17 21.3	+2.0
PINO	**Pino**	**2.74**	**65**	⇓P	Pn	01 17 20.4	+1.0
VC1	**Cotopaxi 1**	**2.77**	**76**	P	Pn	01 17 22.6	+2.8
YANA	**Yana**	**2.79**	**65**	⇑P	Pn	01 17 21.4	+1.3
TAMB	**Tambo**	**2.80**	**77**	P	Pn	01 17 23.5	+3.3
ANTI	**Antisana**	**3.06**	**74**	P	Pn	01 17 26.2	+2.4
COTA	**Cotacachi**	**3.21**	**59**	⇑P	Pn	01 17 27.6	+1.7
COTA				S	Sn	01 18 15.0	+11
CAYR	**Refugio Cayamb**	**3.36**	**67**	⇓P	Pn	01 17 32.0	+3.9
CAYA	**Cayambe**	**3.40**	**66**	⇓P	Pn	01 17 32.1	+3.4

*BJI **29** 01:19:17.3, 5.30S×146.30E, h156km, mB5.2, mb4.6*
*NEIC **29** 01:19:17.3±2.9, 5.26S×146.33E, h156km±27km, mb4.3/7, Error ellipse: s-maj=17.5km s-min=14.7km az=88.0*
*IDC **29** 01:19:22.5±6.8, 5.34S×146.28E, h201km±62km, mb3.9/7, mb1 4.1/9, mb1mx4.1/14, mbtmp4.5/9, Error ellipse: s-maj=37.1km s-min=19.7km az=72.0*
ISC 29 01:19:14.8±4.4, 5.2S±0.1×146.2E±0.2, h143km±39km, n23, σ0=64/22, mb4.3/12, 1C-1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.79**	**180**	*e*P	**P**	**01 22 37.7**	**-0.3**
	8.1nm,1.2s						
CTA				*e*		01 22 43.1	
CTA	**Charters Tower**	**14.79**	**180**	P	**P**	**01 22 42.0**	**+4.0**
	0.2nm,0.3s,baz=358,slow=14,SNR=4.7						
CTA	**Charters Tower**	**14.79**	**180**	*e*P	**P**	**01 22 37.7**	**-0.3**
	8.1nm,1.2s						
CTA				P		01 22 42.0	
CTA				*e*		01 22 43.1	
CTAO	**Charters Tower**	**14.79**	**180**	*e*P	**P**	**01 22 38.1**	**+0.1**
	13nm,0.6s						
KAKA	**Kakadu**	**15.53**	**240**	*e*P	**P**	**01 22 47.3**	**0.0**
	15nm,0.5s						
WRAB	**Tennant Creek**	**18.66**	**217**	P	**P**	**01 23 23.7**	**-0.6**
WRA	**Warramunga Arr**	**18.67**	**217**	P	**P**	**01 23 23.9**	**-0.5**
	2.3nm,0.3s,baz=38,slow=11,SNR=11						
ASAR	**Alice Springs**	**21.86**	**212**	P	**P**	**01 23 58.0**	**+1.2**
	7.2nm,0.5s,mb4.4,baz=44,slow=8,8,SNR=12						
FITZ	**Fitzroy Crossi**	**23.86**	**236**	⇑*i*P	**P**	**01 24 17.0**	**+0.7**
	34nm,0.5s,mb5.1						
KLBR	**Kellerberrin**	**37.44**	**222**	*e*P	**P**	**01 26 15.3**	**-0.6**
	84nm,0.5s,mb5.6						
CMAR	**Chiang Mai Arr**	**52.21**	**298**	P	**P**	**01 28 14.4**	**+0.9**
	2.8nm,0.4s,mb4.2,baz=123,slow=5.6,SNR=15						
SONM	**Songino Array**	**63.35**	**331**	P	**P**	**01 29 31.8**	**+0.8**
	1.7nm,0.7s,mb4.0,baz=149,slow=5.7,SNR=8.5						
VNDA	**Vanda**	**72.74**	**176**	P	**P**	**01 30 28.3**	**-0.4**
	1.2nm,0.6s,mb3.8,baz=305,slow=6.4,SNR=6.2						
VNDA	**Vanda**	**72.74**	**176**	P	**P**	**01 30 28.3**	**-0.4**
ZAL	**Zalesovo**	**77.95**	**328**	P	**P**	**01 30 58.3**	**-0.2**
	2.0nm,0.4s,mb4.1,baz=349,slow=6.4,SNR=7.4						
KURK	**Kurchatov**	**80.13**	**323**	*e*P	**P**	**01 31 10.0**	**-0.4**
	1.5nm,0.7s,mb3.7						
AAK	**Ala-Archa**	**80.25**	**315**	P	**P**	**01 31 10.7**	**-0.5**
	1.3nm,0.7s,mb3.7						
QSPA	**South Pole Qui**	**84.75**	**180**	⇓*i*P	**P**	**01 31 34.1**	**+0.6**
	6.4nm,0.8s,mb4.4						
ILAR	**Eielson Array**	**85.06**	**23**	P	**P**	**01 31 35.1**	**-0.2**
	9.6nm,0.6s,mb4.7,baz=253,slow=5.0,SNR=97						
BVAR	**Borovoye Array**	**85.69**	**324**	P	**P**	**01 31 38.3**	**-0.3**
	1.3nm,0.6s,mb3.8,baz=124,slow=5.3,SNR=5.4						
CHKZ	**Chkalovo**	**85.72**	**325**	*e*P	**P**	**01 31 37.7**	**-1.1**
DAWY	**Dawson**	**87.88**	**25**	*e*P	**P**	**01 31 49.6**	**+0.7**
DBIC	**Dimbokro**	**151.22**	**274**	PKPbc	PKPdf	01 38 52.8	+6.8
	1.7nm,0.8s,baz=13,slow=23,SNR=3.7						

*JMA **29** 01:26:43.9±0.1, 40.07N×141.84E, h76km±1km, M3.7 Broadband fault plane solution: P waves. NP1:φs102°, δ38°, λ-174°. NP2:φs8°, δ86°, λ-52°. Principal axes: T Plg31°, Azm67°; N Plg38°, Azm185°; P Plg37°, Azm311°; JMA Felt II J1.*
*NEIC **29** 01:26:43.5±3.4, 39.57N×141.83E, h107km±57km, mb4.3/2 Error ellipse: s-maj=74.1km s-min=18.8km az=170.0*
*IDC **29** 01:26:44.8±8.3, 40.21N×141.73E, h80km±55km, mb3.5/7, mb1 3.6/8, mb1mx3.4/23, mbtmp3.8/8, ML3.0/1, Error ellipse: s-maj=66.3km s-min=29.1km az=162.0*
ISC 29 01:26:42.2±0.6, 40.08N±0.04×141.88E±0.09, h86km±3km, n26, σ0=75/35, mb3.8/9, 7C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.14**	**186**	⇓P	**P**	**01 26 55.3**	**+0.8**
JTH				S	**S**	**01 27 03.4**	**-0.3**
JANG	**Nango**	**0.41**	**316**	⇑P	**P**	**01 26 56.4**	**+0.6**
JANG				S	**S**	**01 27 05.7**	**-0.5**
JKZ	**Kuzumaki**	**0.44**	**258**	⇑P	**P**	**01 26 56.8**	**+0.7**
JKZ				S	**S**	**01 27 05.9**	**-0.6**
JOM	**Ohasama**	**0.76**	**217**	⇑P	**P**	**01 26 59.5**	**+0.3**
JOM				S	**S**	**01 27 11.2**	**-0.5**
JTM	**Tenmabayashi**	**0.94**	**319**	⇑P	**P**	**01 27 01.7**	**+0.6**
JTM				*e*S	**S**	**01 27 15.4**	**0.0**
JAH	**Hinai**	**0.96**	**277**	⇑P	**P**	**01 27 01.9**	**+0.5**
JAH				S	**S**	**01 27 15.7**	**-0.1**
JMK	**Ichinoseki**	**1.24**	**205**	⇑P	**P**	**01 27 05.1**	**+0.3**
JMK				*e*S	**S**	**01 27 20.8**	**-0.9**
JOT	**Ohata**	**1.45**	**334**	⇓P	**P**	**01 27 08.1**	**+0.6**
JIW	**Iwasaki**	**1.52**	**290**	P	**P**	**01 27 09.6**	**+1.1**
JYK	**Kaneyama**	**1.65**	**226**	⇑P	**P**	**01 27 10.7**	**+0.5**
JIO	**Ouri**	**1.67**	**195**	P	**P**	**01 27 10.7**	**+0.2**
JIO				*e*S	**S**	**01 27 30.6**	**-0.7**
ASAJ	**Asahikawa**	**4.07**	**7**	P	**P**	**01 27 42.4**	**-1.1**
	0.9nm,0.3s,baz=351,slow=30,SNR=3.8						
ASAJ				S	**S**	**01 28 28.9**	**-1.3**
	2.4nm,0.3s,baz=59,slow=28,SNR=4.2						
MAJO	**Matsushiro**	**4.56**	**220**	P	**P**	**01 27 45.0**	**-5.3**
SONM	**Songino Array**	**26.52**	**299**	P	**P**	**01 32 13.8**	**+0.5**
	0.6nm,0.6s,mb3.3,baz=79,slow=8.3,SNR=5.3						
ZAL	**Zalesovo**	**40.21**	**310**	P	**P**	**01 34 11.8**	**+0.5**
	1.8nm,0.4s,mb4.2,baz=12,slow=9.9,SNR=6.7						
KURK	**Kurchatov**	**44.40**	**306**	*e*P	**P**	**01 34 45.0**	**-0.6**
	3.1nm,0.5s,mb4.3						
ILAR	**Eielson Array**	**46.75**	**34**	P	**P**	**01 35 05.5**	**+1.6**
	0.5nm,0.5s,mb3.5,baz=261,slow=6.4,SNR=7.4						
CHKZ	**Chkalovo**	**48.54**	**311**	*e*P	**P**	**01 35 17.3**	**-0.8**
	1.3nm,0.3s,mb4.3						
BVAR	**Borovoye Array**	**48.84**	**310**	P	**P**	**01 35 20.3**	**-0.1**
	1.1nm,0.7s,mb3.9,baz=75,slow=9.2,SNR=8.7						
AAK	**Ala-Archa**	**49.42**	**296**	P	**P**	**01 35 22.7**	**-2.4**
INK	**Inuvik**	**51.52**	**28**	P	**P**	**01 35 40.6**	**-0.1**
FINES	**FINESS Array B**	**66.30**	**332**	P	**P**	**01 37 22.9**	**-0.1**
	2.8nm,1.1s,mb4.0,baz=27,slow=13,SNR=4.8						
FINES	**FINESS Array B**	**66.30**	**332**	P	**P**	**01 37 22.9**	**-0.1**
NOA	**NORSAR Array B**	**71.53**	**337**	P	**P**	**01 37 55.1**	**+0.1**
	0.3nm,0.8s,mb3.2,baz=60,slow=9.7,SNR=3.1						
NOA	**NORSAR Array B**	**71.53**	**337**	P	**P**	**01 37 55.1**	**0.0**
BRTR	**Keskin Array B**	**77.12**	**311**	P	**P**	**01 38 28.3**	**+0.6**
	0.4nm,0.5s,mb3.4,baz=153,slow=2.8,SNR=3.7						

*CSEM **29** 01:33:59.7±0.1, 45.55N×26.42E, h65km±1km, MD3.6/2, Error ellipse: s-maj=2.6km s-min=1.6km az=125.0*
*BUC **29** 01:34:00.4±0.7, 45.64N×26.37E, h74km±9km, MD3.6/9, Error ellipse: s-maj=5.8km s-min=4.7km az=69.0*
*NEIC **29** 01:34:01.5, 45.56N×26.43E, h68km, After BUC.*
ISC 29 01:33:59.8±0.5, 45.61N±0.03×26.38E±0.05, h84km±5km, n41, σ0=96/58, 9C-12D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.33**	**249**	P	**P**	**01 34 12.8**	**0.0**
MLR	**Muntele Rosu**	**0.33**	**249**	⇑*i*P	**P**	**01 34 12.7**	**-0.1**
MLR				*i* S	**S**	**01 34 21.5**	**-1.2**
VRI	**Vrincioaia**	**0.35**	**43**	⇑P	**P**	**01 34 12.9**	**-0.1**
VRI				S	**S**	**01 34 22.4**	**-0.5**
VRI	**Vrincioaia**	**0.35**	**43**	⇑*i*P	**P**	**01 34 13.0**	**0.0**
VRI				*i* S	**S**	**01 34 22.5**	**-0.4**
VRI	**Vrincioaia**	**0.35**	**43**	⇑P	**P**	**01 34 12.9**	**-0.1**
VRI				S	**S**	**01 34 22.4**	**-0.5**
SECR		**0.62**	**201**	⇓*i*P	**P**	**01 34 16.2**	**+1.0**
SECR		**0.62**	**201**	S	**S**	**01 34 28.2**	**+1.6**
OZUR		**0.64**	**320**	⇓*i*P	**P**	**01 34 14.9**	**-0.5**
OZUR		**0.64**	**320**	S	**S**	**01 34 24.7**	**-2.3**
OZUR				S	**S**	**01 34 24.7**	**-2.3**
SNX	**Sinaia**	**0.66**	**248**	⇑*i*P	**P**	**01 34 16.1**	**+0.4**
SNX				*i* S	**S**	**01 34 27.3**	**-0.1**
PGOR	**Pogoanele**	**0.82**	**149**	⇓*i*P	**P**	**01 34 18.5**	**+1.1**
PGOR				*i* S	**S**	**01 34 32.4**	**+2.0**
BUC1	**Bucharest**	**1.29**	**191**	⇑P	**P**	**01 34 23.6**	**+0.6**
BUC1	**Bucharest**	**1.29**	**191**	⇑*i*P	**P**	**01 34 23.6**	**+0.6**
BUC1				*i* S	**S**	**01 34 41.0**	**+0.6**
CFR	**Carcaliu**	**1.31**	**109**	⇓P	**P**	**01 34 23.4**	**0.0**
CFR				S	**S**	**01 34 39.2**	**-1.7**
CFR	**Carcaliu**	**1.31**	**109**	⇓*i*P	**P**	**01 34 23.4**	**0.0**
CFR				*i* S	**S**	**01 34 39.0**	**-1.8**
CFR	**Carcaliu**	**1.31**	**109**	⇓*i*P	**P**	**01 34 23.4**	**0.0**
CFR				S	**S**	**01 34 39.2**	**-1.6**
HARR	**Harsova**	**1.43**	**129**	⇓P	**P**	**01 34 25.4**	**+0.5**
HARR				S	**S**	**01 34 42.2**	**-1.2**
HARR	**Harsova**	**1.43**	**129**	⇓*i*P	**P**	**01 34 25.5**	**+0.6**
HARR				*i* S	**S**	**01 34 43.2**	**-0.3**
HARR	**Harsova**	**1.43**	**129**	⇓*i*P	**P**	**01 34 25.5**	**+0.6**
HARR				S	**S**	**01 34 42.2**	**-1.3**
TLCR		**1.77**	**103**	⇑*i*P	**P**	**01 34 30.4**	**+1.1**
TLCR				*i* S	**S**	**01 34 51.8**	**+0.8**
IAS	**Iasi**	**1.78**	**27**	⇑*i*P	**P**	**01 34 29.9**	**+0.4**
IAS				*i* S	**S**	**01 34 51.4**	**+0.1**
TIRR	**Tirgusor**	**1.84**	**128**	P	**P**	**01 34 30.9**	**+0.6**
TIRR	**Tirgusor**	**1.84**	**128**	⇓*i*P	**P**	**01 34 31.0**	**+0.7**
TIRR				*i* S	**S**	**01 34 52.0**	**-0.8**
TIRR	**Tirgusor**	**1.84**	**128**	P	**P**	**01 34 30.9**	**+0.6**
ZIMR		**2.08**	**201**	*i* S	**S**	**01 34 58.4**	**-0.1**
BURAR	**Bucovina Array**	**2.16**	**339**	P	**P**	**01 34 35.6**	**+1.0**
BURAR	**Bucovina Array**	**2.16**	**339**	⇓*i*P	**P**	**01 34 35.2**	**+0.6**
BURAR	**Bucovina Array**	**2.16**	**339**	P	**P**	**01 34 35.6**	**+1.0**
KIS	**Kishinev**	**2.19**	**50**	*e*S	**S**	**01 35 00.0**	**-1.0**
ZAPS	**Zavoj/Pirot**	**3.55**	**231**	⇓*i*Pn	**S**	**01 35 29.2**	**-5.8**
KOLS	**Kolonicke sedl**	**4.34**	**321**	*e*PN	**P**	**01 35 06.3**	**+1.4**
KOLS				*e*		01 37 23.7	
CRVS	**Cervenica-Dubn**	**4.70**	**316**	*e*PN	**P**	**01 35 12.8**	**+3.0**
ALN	**Alexandroupoli**	**4.72**	**183**	*e*P	**P**	**01 35 09.5**	**-0.5**
SRS	**Serrai**	**4.93**	**205**	*e*P	**P**	**01 35 12.7**	**-0.3**
KNT	**Kendrikon**	**5.12**	**211**	*e*P	**P**	**01 35 15.5**	**-0.1**
SOH	**Sokhos**	**5.27**	**206**	*e*P	**P**	**01 35 17.0**	**-0.7**
OUR	**Ouranopolis**	**5.56**	**199**	*e*P	**P**	**01 35 20.8**	**-0.8**
LOS	**Limnos**	**5.75**	**190**	*e*P	**P**	**01 35 22.9**	**-1.3**
PAIG	**Paliouri**	**6.02**	**200**	*e*P	**P**	**01 35 27.0**	**-0.9**
LIT	**Litokhoron**	**6.21**	**209**	*e*P	**P**	**01 35 30.6**	**+0.1**
XOR	**Xorichti**	**6.67**	**202**	*e*P	**P**	**01 35 36.0**	**-1.0**

*IDC **29** 01:46:40.8±0.6, 7.71N×93.97E, mb4.5/20, mb1 4.6/21, mb1mx4.5/24, mbtmp4.4/21, ML4.6/1, Error ellipse: s-maj=29.1km s-min=13.4km az=53.0*
*BJI **29** 01:46:42.6, 7.25N×93.93E, h50km, mB4.9, mb4.7, Ms4.9, Ms4.8*
*NEIC **29** 01:46:45.2±0.3, 7.73N×94.12E, h30km, mb4.6/15, Error ellipse: s-maj=9.9km s-min=8.1km az=48.0*
ISC 29 01:46:44.2±1.8, 7.73N±0.06×94.14E±0.07, h36km±16km, h30km±2.2km: pP-P, n78, σ1=16/69, mb4.7/40, MS4.5/1, 2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.64**	**23**	P	**P**	**01 49 29.6**	**-1.3**
CMAR	**Chiang Mai Arr**	**11.64**	**23**	Pn	**P**	**01 49 31.4**	**+0.5**
	1.3nm,0.3s,baz=211,slow=14,SNR=17						
PALK	**Pallekele**	**13.33**	**269**	P	**P**	**01 49 54.0**	**+0.5**
	10nm,0.9s						
HYB	**Hyderabad**	**17.99**	**304**	*e*P	**P**	**01 50 56.0**	**+2.7**
HYB	**Hyderabad**	**17.99**	**304**	*i* P	**P**	**01 50 56.0**	**+2.7**
KMI	**Kunming**	**19.14**	**24**	P	**P**	**01 51 10.3**	**+3.0**
	31nm,1.1s						
JIRN	**Jiri**	**21.20**	**340**	*e*P	**P**	**01 51 29.0**	**0.0**
	121nm,0.9s,mb5.2						
PKI	**Pulchoki**	**21.39**	**338**	*e*P	**P**	**01 51 30.7**	**-0.3**
	105nm,1.1s,mb5.1						
DMN	**Daman**	**21.54**	**338**	*e*P	**P**	**01 51 31.0**	**-1.4**
KKN	**Kakani**	**21.64**	**338**	*e*P	**P**	**01 51 33.0**	**-0.4**
	123nm,1.1s,mb5.3						
LSA	**Lhasa**	**22.03**	**353**	P	**P**	**01 51 41.3**	**+4.0**
GKN	**Gorkha**	**22.07**	**337**	*e*P	**P**	**01 51 37.9**	**+0.2**
	62nm,0.7s,mb5.2						
KOLN	**Koldanda**	**22.29**	**335**	*e*P	**P**	**01 51 39.4**	**-0.5**
	83nm,0.9s,mb5.2						
LZH	**Lanzhou**	**29.58**	**16**	*e*P	**P**

HFS Hagfors 78.58 330 P P 01 58 43.5 -0.1
comp=Z,5.0nm,0.5s,mb4.7,baz=108,slow=4.7,SNR=26
NB2 NORSAR Subarra 79.85 331 P P 01 58 49.5 -1.0
comp=Z,2.6nm,0.6s,mb4.3,baz=97,slow=5.0
NOA NORSAR Array B 79.85 331 P P 01 58 50.5 0.0
comp=Z,13nm,1.1s,mb4.8,baz=93,slow=5.6,SNR=14
LPG La Plagne 82.72 315 *eP* **P 01 59 07.0 +1.2**
comp=Z,13nm,1.0s,mb4.6
SYO Syowa Base 85.27 197 ⇓P **P 01 59 19.0 +0.9**
SYO Syowa Base 85.27 197 ⇓sP sP 01 59 33.8 +0.5
ESDC Sonseca Array 91.31 310 P **P 01 59 49.3 +1.5**
comp=Z,1.2nm,0.7s,mb4.4,baz=56,slow=4.0,SNR=5.5
IMA Indian Mountai 91.75 22 *eP* **P 01 59 49.6 +0.5**
ILAR Eielson Array 94.88 22 P **P 02 00 04.2 +0.8**
comp=Z,0.8nm,0.7s,mb4.3,baz=302,slow=4.3,SNR=12
INK Inuvik 97.13 16 P **P 02 00 15.1 +1.5**
comp=Z,1.7nm,0.8s,mb4.6,baz=0.1,slow=3.7,SNR=3.8
DAWY Dawson 97.99 21 *eP* **P 02 00 19.3 +1.8**
ULM Lac du Bonnet 121.61 8 PKP PKPdf 02 05 36.7 +2.4
comp=Z,2.1nm,0.7s,baz=16,slow=4.9,SNR=4.4
ULM Lac du Bonnet 121.61 8 PKP PKPdf 02 05 36.7 +2.4
NVAR Mina Array Bea 125.04 31 PKP PKPdf 02 05 45.7 +4.4
comp=Z,1.6nm,0.7s,baz=152,slow=1.3,SNR=9.0
PDAR Pinedale Array 125.30 21 PKP PKPdf 02 05 44.4 +2.7
comp=Z,1.6nm,0.8s,baz=58,slow=1.3,SNR=16
TXAR Lajitas Array 139.35 24 PKP PKPdf 02 06 11.4 +2.9
TXAR PKiKP 02 06 14.2
comp=Z,0.8nm,0.6s,baz=177,slow=0.6,SNR=8.8
comp=Z,0.8nm,0.6s,baz=217,slow=0.5,SNR=9.9
JCT Junction City 139.72 19 *eP*PKP PKPdf 02 06 11.1 +2.0
PLCA Paso Flores 144.42 200 PKP PKPdf 02 06 18.9 +1.9
comp=Z,3.8nm,0.9s,baz=106,slow=5.0,SNR=6.4
LPAZ La Paz 160.70 242 PKP PKPdf 02 06 45.1 +4.1
comp=Z,1.1nm,0.9s,baz=8.6,slow=1.0,SNR=4.3

IDC ***29*** *01:50:18.1±0.5, 7.75N×94.06E, mb4.6/24, mb1 4.7/25, mb1mx4.7/28, mbtmp4.6/25, ML4.9/1, MS4.9/17, Ms1 4.9/17, ms1mx4.7/24, Error ellipse: s-maj=25.8km s-min=12.3km az=49.0*

MOS ***29*** *01:50:21.7±1.2, 7.81N×94.07E, h33^{km}, mb5.2/53, MS5.0/20, Error ellipse: s-maj=9.9km s-min=5.4km az=112.0*

BJI ***29*** *01:50:21.7, 7.49N×93.92E, h50^{km}, mB5.3, mb5.0, Ms5.4, Msz5.2*

HRVD ***29*** *01:50:22.9±0.2, 7.77N×94.23E, h21^{km}±1^{km}, MW5.4/64, Centroid moment Tensor Solution. LP body waves: s44,c74;Mantle waves: s64,c123; Half duration: t_s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.26±.03; $M_{\theta\theta}$-1.03±.03; $M_{\phi\phi}$0.76±.03; $M_{r\theta}$-0.27±.05; $M_{\theta\phi}$0.95±.03; $M_{r\phi}$0.05±.06; Best double couple: $M_0$1.333×10^{17} NP1: ϕ_s159°, δ81°, λ-176°. NP2:ϕ_s68°, δ86°, λ-9°. Principal axes: T 1.183, Plg4°, Azm114°; N .302, Plg80°, Azm227°; P -1.484, Plg9°, Azm23°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***29*** *01:50:22.9±0.2, 7.80N×94.10E, h30^{km}, mb5.0/42, MS4.8/4 Error ellipse: s-maj=7.3km s-min=6.0km az=54.0*

ISC 29 01:50:20.2±1.4, 7.75N±0.03×94.15E±0.03, h24^{km}±9^{km}, h28^{km}±1.8^{km}:pP-P, n246, σ1§25/242, mb5.0/84, MS5.0/37, 5C-9D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.12**	**340**	*eP*	**Pn**	**01 51 26.9**	**+3.5**
PBA				*eS*	**Sn**	**01 52 12.0**	**+0.6**
NST	**Nakhon Sawan**	**9.81**	**36**	P	**P**	**01 52 41.0**	**-2.1**
CM31	**Chiang Mai Arr**	**11.62**	**23**	*eP*	**P**	**01 53 06.9**	**-0.9**
15nm,0.4s
CMAR	**Chiang Mai Arr**	**11.62**	**23**	P	**P**	**01 53 07.9**	**+0.1**
CMAR				pmax	pmax		
comp=Z,2.0nm,0.3s
CMAR				MLR	MLR		
comp=Z,7μm,18.1s
CMAR	**Chiang Mai Arr**	**11.62**	**23**	Pn	**P**	**01 53 07.9**	**+0.1**
comp=Z,2.4nm,0.3s,baz=210,slow=15,SNR=56
CMAR				LR	LR	01 57 45.1	
comp=Z,7μm,18.1s,baz=205,slow=38
NANT	**Nan**	**12.70**	**29**	⇓P	**P**	**01 53 23.0**	**+0.8**
comp=Z,69nm,1.0s
CHRT	**Chiangrai**	**13.23**	**24**	⇓P	**P**	**01 53 31.0**	**+1.7**
comp=Z,268nm,1.6s
PALK	**Pallekele**	**13.35**	**269**	*eP*	**P**	**01 53 29.3**	**-1.5**
comp=Z,17nm,0.8s
VIS	**Vishakhapatnam**	**14.47**	**314**	*eP*	**P**	**01 53 44.5**	**-1.2**
VIS				*e*		01 53 49.4	
comp=Z,116nm,0.7s
VIS				*e*		01 56 05.8	
comp=E,96nm,0.8s
VIS				*eS*	**S**	**01 56 25.7**	**-0.7**
VIS				*i*		01 57 57.8	
KOD	**Kodaikanal**	**16.67**	**280**	*eP*	**P**	**01 54 13.8**	**-0.3**
KOD				*e*		01 54 20.9	
comp=Z,92nm,1.4s
KOD				*eS*	**S**	**01 57 19.1**	**+1.6**
SHL	**Shillong**	**17.85**	**353**	*eP*	**P**	**01 54 31.3**	**+2.5**
HYB	**Hyderabad**	**17.99**	**304**	*eP*	**P**	**01 54 29.0**	**-1.6**
HYB				*eS*	**S**	**01 57 42.5**	**-5.2**
HYB	**Hyderabad**	**17.99**	**304**	*i* P	**P**	**01 54 29.0**	**-1.6**
comp=Z,60nm,1.0s
HYB				*eS*	**S**	**01 57 42.5**	**-5.2**
HYB				LR	LR	02 03 44.0	
comp=Z,4.2nm,20.0s
BLSP	**Bilaspur**	**18.40**	**322**	*e*	**P**	**01 54 27.0**	**-8.7**
QIZ	**Qiongzhong**	**18.92**	**52**	P	**P**	**01 54 43.3**	**+1.4**
QIZ				S	**S**	**01 58 09.3**	**+0.7**
QIZ				LR	LR		
comp=N,15μm,13.7s
KMI	**Kunming**	**19.12**	**24**	P	**P**	**01 54 46.8**	**+2.4**
KMI				S	**S**	**01 58 15.5**	**+2.1**
KMI				pmax	pmax		
comp=Z,50nm,1.2s
KMI	**Kunming**	**19.12**	**24**	P	**P**	**01 54 46.8**	**+2.4**
comp=Z,50nm,1.2s
KMI				pP		01 54 50.9	
KMI				sP		01 54 53.2	
KMI				PP	PP	01 55 04.0	+2.8
KMI				S	**S**	**01 58 15.5**	**+2.1**
KMI				sS		01 58 23.7	
JIRN	**Jiri**	**21.19**	**340**	*eP*	**P**	**01 55 06.4**	**0.0**
comp=Z,337nm,1.1s,mb5.6
GOA	**Goa**	**21.33**	**293**	*eP*	**P**	**01 55 16.2**	**+8.3**
GOA				*e*		01 55 18.1	
comp=Z,93nm,1.8s
GOA				*eS*	**S**	**01 59 12.3**	**+14**
PKI	**Pulchoki**	**21.39**	**338**	*eP*	**P**	**01 55 08.2**	**-0.2**
DMN	**Daman**	**21.53**	**338**	*eP*	**P**	**01 55 10.0**	**+0.1**
comp=Z,262nm,0.9s,mb5.6
KKN	**Kakani**	**21.63**	**338**	*eP*	**P**	**01 55 10.6**	**-0.3**
comp=Z,266nm,1.1s,mb5.6
KAD	**Karad**	**21.67**	**298**	*eP*	**P**	**01 55 11.8**	**+0.6**
KAD				*e*		01 55 13.2	
comp=Z,75nm,1.0s
KAD				*eS*	**S**	**01 59 12.1**	**+7.2**
KAD				*i*		02 02 14.8	
LSA	**Lhasa**	**22.02**	**353**	P	**P**	**01 55 15.3**	**+0.6**
LSA				S	**S**	**01 59 13.8**	**+2.5**
GKN	**Gorkha**	**22.07**	**337**	*eP*	**P**	**01 55 14.5**	**-0.7**
comp=Z,319nm,1.0s,mb5.7
KOLN	**Koldanda**	**22.28**	**335**	*eP*	**P**	**01 55 17.3**	**0.0**
comp=Z,372nm,1.2s,mb5.7
POO	**Poona**	**22.46**	**300**	*eP*	**P**	**01 55 19.6**	**+0.4**
POO				*e*		01 55 21.4	
comp=Z,31nm,0.7s
POO				*eS*	**S**	**01 59 27.1**	**+7.6**
NDI	**New Delhi**	**26.25**	**325**	*eP*	**P**	**01 55 58.0**	**+2.5**
NDI				*e*	pP	01 56 04.8	+2.2
comp=Z,117nm,1.3s
NDI				*eS*	**S**	**02 00 30.6**	**+6.3**
SMLA	**Simla**	**28.16**	**328**	*e*	**P**	**01 56 26.2**	**+13**
SMLA				*e*	pP	01 56 35.1	+15
comp=Z,77nm,1.5s
XAN	**Xi'an**	**29.50**	**25**	P	**P**	**01 56 24.5**	**-0.5**
XAN				AP	pP	01 56 36.5	+4.3
XAN				AMB	AMB		
comp=Z,18nm,1.0s,mb4.8
WHN	**Wuhan**	**29.53**	**37**	⇓P	**P**	**01 56 26.0**	**+0.8**
WHN				S	**S**	**02 01 28.0**	**+11**
WHN				LR	LR		
comp=Z,8μm,12.4s,MS5.5
LZH	**Lanzhou**	**29.57**	**16**	⇑P	**P**	**01 56 26.0**	**+0.5**
LZH				AP	pP	01 56 34.8	+2.1
LZH				PP	PP	01 57 22.0	+0.2
LZH				S	**S**	**02 01 17.0**	**-0.7**
LZH				SS	SS	02 02 52.3	+0.8
LZH				AMB	AMB		
comp=Z,53nm,1.8s,mb5.0
LZH				AMB	AMB		
comp=Z,186nm,4.0s
LZH				LR	LR		
comp=E,3μm,13.6s
LZH				LR	LR		
comp=Z,3μm,14.7s,MS5.1
LZH	**Lanzhou**	**29.57**	**16**	⇑P	**P**	**01 56 26.0**	**+0.5**
LZH				*PP	pP	01 56 34.7	+2.0
LZH				*SP	sP	01 56 39.2	+3.3
LZH						01 57 22.0	
LZH				S	**S**	**02 01 17.0**	**-0.7**
LZH				*SS		02 01 33.0	
LZH				SS	SS	02 02 52.3	+0.8
LZH				pmax	pmax		
comp=Z,53nm,1.8s,mb5.0
LZH				MLR	MLR		
comp=Z,3μm,14.7s,MS5.1
LZH	**Lanzhou**	**29.57**	**16**	⇑P	**P**	**01 56 26.0**	**+0.5**
comp=Z,53nm,1.8s,mb5.0
LZH				pP	pP	01 56 34.7	+2.0
LZH				sP	sP	01 56 39.2	+3.3
LZH				PP	PP	01 57 22.0	+0.2
LZH				S	**S**	**02 01 17.0**	**-0.7**
LZH				sS		02 01 33.0	
LZH				SS	SS	02 02 52.3	+0.8
LZH				LR	LR		
comp=Z,3μm,14.7s,MS5.1
NJ2	**Nanjing**	**33.36**	**40**	*eP*	**P**	**01 57 00.0**	**+1.2**
NJ2				AP	pP	01 57 09.5	+3.4
NJ2				XP	sP	01 57 13.8	+4.6
NJ2				PP	PP	01 58 11.8	+1.0
NJ2				S	**S**	**02 02 23.0**	**+5.9**
NJ2				XS		02 02 39.0	
NJ2				AMB	AMB		
comp=Z,70nm,0.9s,mb5.6
NJ2				AMB	AMB		
comp=Z,490nm,7.4s
NJ2				LR	LR		
comp=Z,5μm,13.2s,MS5.4
SSE	**Sheshan**	**34.30**	**44**	P	**P**	**01 57 06.0**	**-1.0**
SSE				PP	PP	01 58 23.3	+0.8
SSE				S	**S**	**02 02 31.5**	**-0.3**
SSE				AMB	AMB		
comp=Z,19nm,0.7s,mb5.1
SSE				AMB	AMB		
comp=Z,44nm,4.4s
SSE				LR	LR		
comp=N,2μm,16.4s,MS5.2
SSE				LR	LR		
comp=E,3μm,16.4s,MS5.2
SSE				LR	LR		
comp=Z,4μm,13.9s,MS5.3
SSE	**Sheshan**	**34.30**	**44**	P	**P**	**01 57 06.1**	**-0.9**
comp=Z,19nm,0.7s,mb5.1
SSE				sP	sP	01 57 18.4	+1.0
SSE				PP	PP	01 58 23.3	+0.8
SSE				S	**S**	**02 02 31.6**	**-0.2**
SSE				sS		02 02 47.6	
SSE				SS	SS	02 05 01.5	+19
SSE				LR	LR		
comp=Z,4μm,13.9s,MS5.3
WMQ	**Urumqi**	**36.37**	**352**	*eP*	**P**	**01 57 24.0**	**-0.5**
WMQ				AP	pP	01 57 33.8	+2.0
WMQ				PP	PP	01 58 47.0	-1.2
WMQ				PCP	PcP	01 59 49.3	+0.3
WMQ				S	**S**	**02 03 01.3**	**-2.4**
WMQ				AMB	AMB		
comp=Z,109nm,1.4s,mb5.6
WMQ				AMB	AMB		
comp=Z,542nm,5.5s
WMQ				LR	LR		
comp=N,1μm,18.2s,MS4.9
WMQ				LR	LR		
comp=E,2μm,18.3s,MS4.9
WMQ				LR	LR		
comp=Z,2μm,18.6s,MS5.0
WBK	**Wadi Bani Khal**	**36.91**	**298**	⇓P	**P**	**01 57 32.0**	**+2.8**
JOW	**Kunigami**	**37.51**	**55**	LR	LR	02 15 19.5	
comp=Z,2μm,18.9s,MS4.8,baz=256,slow=40
JMDO	**Jabal Madar**	**37.60**	**297**	⇑P	**P**	**01 57 37.0**	**+2.0**
BJI	**Beijing**	**37.71**	**28**	P	**P**	**01 57 37.8**	**+2.0**
BJI						01 59 08.0	
BJI				S	**S**	**02 03 30.3**	**+6.2**
BJI				SS	SS	02 06 23.5	+24
BJI				pmax	pmax		
comp=Z,18nm,1.5s,mb4.6
BJI				MLR	MLR		
comp=Z,2μm,24.0s,MS4.9
BJI	**Beijing**	**37.71**	**28**	P	**P**	**01 57 37.8**	**+2.0**
comp=Z,18nm,1.5s,mb4.6
BJI				PP	PP	01 59 08.0	+3.1
BJI				S	**S**	**02 03 30.3**	**+6.2**
BJI				SS	SS	02 06 23.5	+24
BJI				LR	LR		
comp=Z,2μm,24.0s,MS4.9
SMDO	**Samad**	**37.85**	**298**	P	**P**	**01 57 40.2**	**+3.0**
SNR=6.2
BIDO	**Bidbid**	**37.93**	**299**	⇓P	**P**	**01 57 40.9**	**+3.1**
UCH	**Uchtor**	**38.47**	**336**	P	**P**	**01 57 43.2**	**+1.0**
SNR=6.6
BSY	**Bisya**	**38.51**	**297**	P	**P**	**01 57 45.3**	**+2.7**
SNR=8.5
HOQ	**Hoqain**	**38.66**	**298**	P	**P**	**01 57 47.0**	**+3.1**
SNR=7.7
KBK	**Karagaybulak**	**38.67**	**337**	P	**P**	**01 57 44.4**	**+0.6**
SNR=10
AML	**Almayashu**	**38.73**	**335**	P	**P**	**01 57 44.8**	**+0.6**
SNR=14
AAK	**Ala-Archa**	**38.83**	**337**	P	**P**	**01 57 46.4**	**+1.2**
SNR=7.5
AAK	**Ala-Archa**	**38.83**	**337**	P	**P**	**01 57 46.1**	**+1.0**
AAK				pmax	pmax		
comp=Z,39nm,1.2s,mb5.0
AAK	**Ala-Archa**	**38.83**	**337**	*eP*	**P**	**01 57 44.6**	**-0.5**
comp=Z,40nm,1.3s,mb5.0
FRU	**Bishkek**	**38.95**	**337**	*eP*	**P**	**01 57 45.0**	**-1.1**
FRU				*e*	pP	01 57 54.0	+0.6
FRU				MLR	MLR		
comp=Z,2μm,21.0s,MS5.0
ARQ	**Araqi**	**39.27**	**298**	P	**P**	**01 57 51.8**	**+2.8**
SNR=8.4
USP	**Ospenovka**	**39.36**	**337**	P	**P**	**01 57 49.2**	**-0.3**
SNR=12
MKAR	**Makanchi Array**	**40.21**	**347**	*i* P	**P**	**01 57 55.5**	**-1.1**
MKAR				pmax	pmax		
comp=Z,34nm,1.1s
FITZ	**Fitzroy Crossi**	**40.32**	**130**	*eP*	**P**	**01 58 02.6**	**+4.9**
comp=Z,36nm,0.9s,mb5.1
SONM	**Songino Array**	**41.28**	**13**	P	**P**	**01 58 05.5**	**+0.2**
comp=Z,8.4nm,1.0s,mb4.3,baz=190,slow=9.1,SNR=16
SONM				PcP	PcP	02 00 04.6	+0.2
comp=Z,2.3nm,0.7s,baz=194,slow=4.2,SNR=7.0
ULN	**Ulaanbaatar**	**41.46**	**13**	*eP*	**P**	**01 58 06.4**	**-0.3**
ULN				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.4
ULN	**Ulaanbaatar**	**41.46**	**13**	*eP*	**P**	**01 58 06.4**	**-0.3**
comp=Z,9.6nm,1.0s,mb4.4
ZAK	**Zakamensk**	**43.17**	**9**	*eP*	**P**	**01 58 20.9**	**+0.1**
ZAK				*e*		02 00 05.1	
MOY	**Mondy**	**44.15**	**6**	*eP*	pP	01 58 36.1	+0.1
TLY	**Talaya**	**44.49**	**8**	*eP*	**P**	**01 58 31.9**	**+0.5**
TLY				*e*		02 08 19.0	
TLY				pmax	pmax		
comp=Z,12nm,1.2s,mb4.5
TLY				MLR	MLR		
comp=Z,2μm,22.0s,MS4.9
TLY	**Talaya**	**44.49**	**8**	*eP*	**P**	**01 58 31.5**	**0.0**
comp=Z,5.6nm,0.8s,mb4.3
KURK	**Kurchatov**	**44.73**	**346**	*i* P	**P**	**01 58 33.1**	**-0.3**
KURK				pmax	pmax		
comp=Z,37nm,1.2s,mb5.1
KURK	**Kurchatov**	**44.73**	**346**	*eP*	**P**	**01 58 32.1**	**-1.3**
comp=Z,72nm,1.3s,mb5.3
MUN	**Mundaring**	**44.77**	**153**	*eP*	**P**	**01 58 34.4**	**+0.5**
comp=Z,22nm,1.0s,mb5.0
MUN	**Mundaring**	**44.77**	**153**	*eP*	**P**	**01 58 34.4**	**+0.5**
MUN				pmax	pmax		
comp=Z,23nm,1.0s,mb5.0
KLBR	**Kellerberrin**	**45.16**	**151**	*eP*	**P**	**01 58 37.9**	**+0.8**
comp=Z,191nm,0.8s,mb6.0
NWAO	**Narrogin (SRO)**	**46.03**	**153**	P	**P**	**01 58 43.8**	**-0.1**
comp=Z,6.6nm,0.6s,mb4.7,baz=329,slow=4.0,SNR=10
NWAO				LR	LR	02 16 26.2	
comp=Z,6.0nm,19.6s,baz=153,slow=34
ZAL	**Zalesovo**	**46.67**	**352**	P	**P**	**01 58 48.2**	**-0.5**
ZAL				pmax	pmax		
comp=Z,15nm,0.8s
ZAL	**Zalesovo**	**46.67**	**352**	P	**P**	**01 58 48.1**	**-0.6**
comp=Z,15nm,0.8s,mb5.0,baz=299,slow=7.6,SNR=31
NVS	**Novosibirsk**	**47.77**	**351**	*i* P	**P**	**01 58 55.8**	**-1.6**
NVS				*eS*	**S**	**02 05 45.3**	**-6.0**
NVS				pmax	pmax		
comp=Z,48nm,1.4s,mb5.3
NVS				pmax	pmax		
comp=N,48nm,1.6s
NVS				pmax	pmax		
comp=E,25nm,1.3s
NVS				smax			
comp=N,19nm,1.5s
NVS				smax			
comp=E,58nm,1.9s
MDJ	**Mudanjiang**	**47.90**	**34**	P	**P**	**01 58 57.5**	**-1.1**
MDJ				PP	PP	02 00 49.8	0.0
MDJ				SCP		02 04 17.3	
MDJ				PCS		02 04 21.0	
MDJ				S	**S**	**02 05 53.8**	**+0.4**
MDJ				SCS	ScS	02 08 47.8	+0.3
MDJ				AMB	AMB		
comp=Z,15nm,1.0s,mb5.0
MDJ				AMB	AMB		
comp=Z,259nm,4.8s
MDJ				LR	LR		
comp=N,524nm,11.1s,MS5.3
MDJ				LR	LR		
comp=E,2μm,13.7s,MS5.3
MDJ				LR	LR		
comp=Z,2μm,13.7s,MS5.2
WRA	**Warramunga Arr**	**48.18**	**125**	P	**P**	**01 59 00.0**	**-1.0**
WRA				pmax	pmax		
comp=Z,2.0nm,0.5s
WRA	**Warramunga Arr**	**48.18**	**125**	P	**P**	**01 59 00.0**	**-1.0**
comp=Z,2.0nm,0.5s,mb4.4,baz=304,slow=8.7,SNR=9.0
WRAB	**Tennant Creek**	**48.18**	**125**	*eP*	**P**	**01 58 59.7**	**-1.3**
WRAB				pmax	pmax		
comp=Z,19nm,0.8s,mb5.2
WRAB	**Tennant Creek**	**48.18**	**125**	*eP*	**P**	**01 58 59.6**	**-1.4**
comp=Z,19nm,0.8s,mb5.2
WB2	**Warramunga Arr**	**48.19**	**125**	*eP*	**P**	**01 58 59.7**	**-1.4**
BVA0	**Borovoye Array**	**49.11**	**341**	*i* P	**P**	**01 59 07.2**	**-0.6**
BVA0				pmax	pmax		
comp=Z,3.0nm,1.3s,mb4.2
BVAR	**Borovoye Array**	**49.11**	**341**	P	**P**	**01 59 06.5**	**-1.3**
comp=Z,8.8nm,1.0s,mb4.8,baz=135,slow=6.3,SNR=15
BVAR				PcP	PcP	02 00 30.9	-0.5
comp=Z,2.8nm,0.8s,baz=135,slow=2.0,SNR=3.0
RAYN	**Ar Rayn**	**49.15**	**294**	P	**P**	**01 59 10.5**	**+2.0**
comp=Z,229nm,0.9s,SNR=42
BRVK	**Borovoye**	**49.17**	**341**	*eP*	**P**	**01 59 07.0**	**-1.2**
CHKZ	**Chkalovo**	**49.60**	**342**	P	**P**	**01 59 10.7**	**-0.8**
CHKZ				pmax	pmax		
comp=Z,75nm,1.6s,mb5.5
CHKZ	**Chkalovo**	**49.60**	**342**	*eP*	**P**	**01 59 09.6**	**-1.9**
ASPA	**Alice Springs**	**49.82**	**130**	*eP*	**P**	**01 59 14.4**	**+0.8**
ASAR	**Alice Springs**	**49.82**	**130**	P	**P**	**01 59 12.5**	**-1.1**
comp=Z,3.2nm,0.8s,mb4.4,baz=305,slow=7.0,SNR=13
ASAR				PcP	PcP	02 00 35.0	+0.7
comp=Z,2.2nm,0.7s,baz=308,slow=3.3,SNR=4.1
FORT	**Forrest**	**50.23**	**141**	*eP*	**P**	**01 59 16.8**	**+0.1**
comp=Z,87nm,1.0s,mb5.7
BOD	**Bodaibo**	**52.27**	**13**	*eP*	**P**	**01 59 29.8**	**-1.9**
GNI	**Garni**	**54.53**	**314**	P	**P**	**01 59 48.8**	**+0.1**
GNI				pmax	pmax		
comp=Z,5.0nm,0.7s
GNI				MLR	MLR		
comp=Z,370nm,21.9s
GNI	**Garni**	**54.53**	**314**	P	**P**	**01 59 48.8**	**+0.1**
comp=Z,4.7nm,0.7s,mb4.7,baz=180,slow=7.1,SNR=6.1
GNI				LR	LR	02 24 41.1	
comp=Z,370nm,21.9s,MS4.4,baz=97,slow=38
GNI	**Garni**	**54.53**	**314**	*eP*	**P**	**01 59 47.1**	**-1.6**
comp=Z,35nm,1.1s,mb5.3
BTLR	**Botlikh**	**54.54**	**318**	*i* P	pP	01 59 53.0	-3.2
BTLR				*i* S	sP	02 00 01.0	+2.0
CLNS	**Chul'man**	**54.55**	**20**	*eP*	**P**	**01 59 48.1**	**-0.4**
CLNS				pmax	pmax		
comp=N,19nm,1.0s
CLNS				pmax	pmax		
comp=Z,25nm,1.0s,mb5.2
CLNS				pmax	pmax		
comp=E,13nm,1.1s
CLNS				MLR	MLR		
comp=N,2μm,15.0s,MS5.3
CLNS				MLR	MLR		
comp=Z,2μm,15.0s,MS5.4
CLNS				MLR	MLR		
comp=E,500nm,13.0s,MS5.3
MTA	**Mtatsminda**	**55.10**	**316**	P	pP	02 00 00.7	+0.3
ASAJ	**Asahikawa**	**55.50**	**41**	LR	LR	02 23 08.0	
comp=E,1μm,20.7s,MS4.9,baz=346,slow=36
SVE	**Sverdlovsk**	**55.52**	**338**	*eP*	**P**	**01 59 53.0**	**-2.7**
SVE				pmax	pmax		
comp=Z,80nm,2.0s,mb5.4
SVE				MLR	MLR		
comp=Z,2μm,19.0s,MS5.2
AKH	**Akhalkalaki**	**55.89**	**315**	P	**P**	**02 00 00.7**	**+2.2**
ARU	**Arti**	**56.01**	**337**	⇓*i* P	**P**	**01 59 52.2**	**-7.0**
ARU				*eS*	**S**	**02 07 34.6**	**-10**
ARU				*e*		02 09 35.4	
ARU				*e*SSS	SSS	02 13 34.3	-3.7
ARU				pmax	pmax		
comp=Z,19nm,1.1s,mb5.0
ARU				MLR	MLR		
comp=N,1μm,20.0s,MS5.1
ARU				MLR	MLR		
comp=E,600nm,20.0s,MS5.1
ARU				MLR	MLR		
comp=Z,2μm,20.0s,MS5.2
YSS	**Yuzh-Sakhalins**	**56.87**	**38**	*eP*	**P**	**02 00 09.0**	**+3.5**
YSS				*e*	pP	02 00 18.0	+4.9
YSS				MLR	MLR		
comp=E,1μm,12.0s
YSS				MLR	MLR		
comp=Z,1μm,12.0s,MS5.1
YSS	**Yuzh-Sakhalins**	**56.87**	**38**	P	**P**	**02 00 06.9**	**+1.4**
KIV	**Kislovodsk**	**57.42**	**318**	*eP*	**P**	**02 00 08.1**	**-1.3**
KIV				*e*	pP	02 00 16.6	-0.4
KIV				pmax	pmax		
comp=Z,12nm,0.8s,mb5.0
KIV	**Kislovodsk**	**57.42**	**318**	*eP*	**P**	**02 00 08.2**	**-1.3**
comp=Z,22nm,0.9s,mb5.2
KMBO	**Kilima Mbogo**	**57.42**	**264**	P	**P**	**02 00 11.6**	**+1.7**
comp=Z,3.1nm,0.5s,mb4.6,baz=237,slow=23,SNR=8.6
KMBO				LR	LR	02 21 49.7	
comp=Z,1μm,19.7s,MS5.0,baz=85,slow=33
CTA	**Charters Tower**	**58.23**	**119**	LR	LR	02 25 33.5	
comp=Z,1μm,20.1s,MS5.0,baz=283,slow=36
ASF	**Jabal al Asfar**	**58.30**	**303**	P	**P**	**02 00 15.8**	**+0.1**
comp=Z,4.1nm,0.9s,mb4.4,baz=296,slow=2.5,SNR=5.3
ASF				LR	LR	02 28 20.3	
comp=Z,846nm,19.9s,MS4.9,baz=316,slow=39
MALT	**Malatya**	**58.55**	**310**	*eP*	**P**	**02 00 15.5**	**-1.9**
MALT				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.8
MALT	**Malatya**	**58.55**	**310**	*eP*	**P**	**02 00 15.5**	**-1.9**
comp=Z,10nm,1.1s,mb4.8
SOKR	**Solikamsk**	**58.92**	**339**	⇓*i* P	**P**	**02 00 19.7**	**0.0**
SOKR				pmax	pmax		
comp=Z,30nm,1.0s,mb5.3
SOKR				MLR	MLR		
comp=Z,2μm,21.0s,MS5.2
EIL	**Elat**	**59.50**	**300**	P	**P**	**02 00 23.8**	**-0.3**
comp=Z,6.9nm,0.8s,mb4.7,baz=10,slow=3.5
EIL				LR	LR	02 28 00.7	
comp=Z,1μm,18.4s,MS5.1,baz=102,slow=38
EIL	**Elat**	**59.50**	**300**	*eP*	**P**	**02 00 23.4**	**-0.7**
comp=Z,20nm,1.1s,mb5.1
STKA	**Stephens Creek**	**60.01**	**134**	*eP*	**P**	**02 00 27.9**	**+0.3**
comp=Z,5.6nm,1.0s,mb4.5
STKA	**Stephens Creek**	**60.01**	**134**	P	**P**	**02 00 28.1**	**+0.5**
comp=Z,5.7nm,1.0s,mb4.6,baz=320,slow=5.7,SNR=6.6
YAK	**Yakutsk**	**60.11**	**18**	*eP*	**P**	**02 00 26.6**	**-1.2**
YAK				pmax	pmax		
comp=Z,50nm,0.8s,mb5.6
YAK	**Yakutsk**	**60.11**	**18**	*eP*	**P**	**02 00 26.6**	**-1.2**
comp=Z,50nm,0.8s,mb5.6
VRSR	**Storozhevoye**	**62.49**	**325**	*eP*	**P**	**02 00 42.1**	**-1.9**
VRSR				pmax	pmax		

comp=Z,6.0nm,0.8s,mb4.8
VRSR pmax pmax
comp=N,4.0nm,0.6s
VRSR pmax pmax
comp=E,9.0nm,0.8s
BRTR Keskin Array B 62.52 311 P **P 02 00 42.3 -2.1**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 62.52 311 P **P 02 00 42.3 -2.1**
comp=Z,2.4nm,0.6s,mb4.5,baz=132,slow=7.1,SNR=14
MBAR Mbarara 63.77 266 *eP* **P 02 00 51.3 -1.8**
MBAR pmax pmax
comp=Z,13nm,0.9s,mb5.0
MBAR Mbarara 63.77 266 *eP* **P 02 00 51.3 -1.8**
comp=Z,13nm,0.9s,mb5.0
MOS Moscow 65.19 329 *eP* **P 02 00 59.9 -1.8**
MOS *e* 02 01 29.1
MOS pmax pmax
comp=Z,61nm,1.2s,mb5.5
MOS MLR MLR
comp=Z,2μm,19.8s,MS5.2
MOS MLR MLR
comp=N,1μm,21.0s,MS5.2
MOS MLR MLR
comp=E,1μm,20.4s,MS5.2
OBN Obninsk 65.49 328⇓ *iP* **P 02 00 59.5 -4.1**
OBN *i* pP 02 01 08.0 -3.2
OBN pmax pmax
comp=Z,46nm,1.2s,mb5.4
OBN MLR MLR
comp=Z,700nm,18.0s,MS4.9
OBN Obninsk 65.49 328 *eP* **P 02 00 58.8 -4.8**
comp=Z,58nm,1.3s,mb5.5
MA2 Magadan 66.87 28 *eP* **P 02 01 12.5 +0.2**
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TIXI Tiksi 67.35 11 *eP* **P 02 01 13.3 -1.9**
TIXI pmax pmax
comp=Z,44nm,1.0s,mb5.4
TIXI MLR MLR
comp=Z,961nm,14.0s,MS5.2
KIS Kishinev 67.62 318 *eP* **P 02 01 21.0 +3.7**
KIS *e* 02 01 45.0
AKASG Malin Array Be 68.26 322 P **P 02 01 18.9 -2.3**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 68.26 322 P **P 02 01 18.9 -2.4**
comp=Z,4.3nm,0.8s,mb4.6,baz=87,slow=5.1,SNR=13
IDI Anoyia 68.65 305 P **P 02 01 22.6 -1.3**
comp=Z,9.6nm,0.6s,mb4.9,baz=64,slow=11,SNR=13
SEY Seymchan 69.03 25 *eP* **P 02 01 25.2 -0.6**
SEY pmax pmax
comp=Z,40nm,1.1s,mb5.3
LSZ Lusaka 69.24 251 *eP* **P 02 01 29.5 +1.7**
LSZ pmax pmax
comp=Z,18nm,1.3s,mb4.8
LSZ Lusaka 69.24 251 *eP* **P 02 01 29.5 +1.7**
comp=Z,18nm,1.3s,mb4.8
MLR Muntele Rosu 69.27 316 P **P 02 01 27.2 -0.3**
MLR pmax pmax
comp=Z,13nm,1.0s
MLR Muntele Rosu 69.27 316 P **P 02 01 27.2 -0.3**
comp=Z,13nm,0.9s,mb4.8,baz=173,slow=3.5,SNR=12
MLR Muntele Rosu 69.27 316 P **P 02 01 27.2 -0.4**
MNK Minsk 70.07 325 *eP* **P 02 01 30.0 -2.2**
JOF Joensuu 70.97 334 *ep* **P 02 01 36.3 -1.3**
comp=Z,13nm,0.8s,mb4.9
LVV L'vov 71.32 320 *eP* **P 02 01 38.4 -1.5**
APA Apatity 71.97 339⇓ *iP* **P 02 01 46.6 +3.1**
APA *i* pP 02 01 53.2 +2.0
APA pmax pmax
comp=Z,39nm,1.1s,mb5.2
APA MLR MLR
comp=Z,2μm,20.0s,MS5.4
KWP Kalwaria 72.14 320 *eP* **P 02 01 43.8 -1.0**
KOLS Kolonicke sedl 72.31 319 *eP* **P 02 01 45.7 -0.1**
KOLS *e* 02 01 49.0
KOLS *e* 02 02 12.4
SUW Suwalki 72.61 324 *eP* **P 02 01 46.6 -0.9**
FINES FINESS Array B 72.83 332 P **P 02 01 48.0 -0.7**
comp=Z,8.0nm,0.6s,mb4.8,baz=103,slow=6.6,SNR=29
FINES LR LR 02 39 49.9
comp=Z,656nm,20.0s,MS4.9,baz=276,slow=41
CRVS Cervenica-Dubn 72.83 319 *eP* **P 02 01 51.8 +2.9**
CRVS *e* 02 02 20.6
KAF Kangasniemi 72.91 333 *ep* **P 02 01 47.3 -1.8**
comp=Z,13nm,0.9s,mb4.9,baz=105,slow=5.6
KAF Kangasniemi 72.91 333 *eP* **P 02 01 47.3 -1.8**
KAF pmax pmax
comp=Z,13nm,0.9s,mb4.9
NIE Niedzica 73.65 319 *eP* **P 02 01 53.7 0.0**
PSZ Piszkesteto 73.74 318 *eP* **P 02 01 52.2 -2.1**
PSZ pmax pmax
comp=Z,20nm,1.3s,mb4.9
PSZ Piszkesteto 73.74 318 *eP* **P 02 01 52.2 -2.1**
comp=Z,20nm,1.3s,mb4.9
OJC Ojcow 74.08 320 *eP* **P 02 01 55.7 -0.4**
LBTB Lobatse 74.19 241 *eP* **P 02 01 57.7 +0.4**
LBTB pmax pmax
comp=Z,42nm,1.4s,mb5.2
LBTB Lobatse 74.19 241 *eP* **P 02 01 57.7 +0.4**
comp=Z,42nm,1.4s,mb5.2
VYHS Vyhne 74.51 318 *eP* **P 02 01 57.8 -0.9**
SRO Srobarova 74.79 317 *eP* **P 02 02 00.5 +0.2**
OKC Ostrava-Krasne 75.09 319 *eP* **P 02 02 02.2 +0.2**
OKC AMS AMS 02 40 50.0
comp=Z,300nm,19.3s
ARCES ARCESS Array B 75.39 340 P **P 02 02 03.2 -0.1**
ARCES pmax pmax
comp=Z,7.0nm,0.8s
ARCES MLR MLR
comp=Z,2μm,20.5s
ARCES ARCESS Array B 75.39 340 P **P 02 02 03.2 -0.1**
comp=Z,6.9nm,0.8s,mb4.6,baz=63,slow=5.4,SNR=11
ARCES LR LR 02 38 04.0
comp=Z,2μm,20.5s,MS5.3,baz=121,slow=38
MORC Moravsky Berou 75.48 319 *eP* **P 02 02 03.2 -1.0**
MORC pmax pmax
comp=Z,31nm,1.4s,mb5.0
MORC Moravsky Berou 75.48 319 *eP* **P 02 02 03.2 -1.1**
comp=Z,31nm,1.4s,mb5.0
BOSA Boshof 75.53 238 *eP* **P 02 02 05.1 +0.1**
BOSA pmax pmax
comp=Z,13nm,0.8s,mb4.9
BOSA Boshof 75.53 238 *eP* **P 02 02 05.1 +0.1**
comp=Z,13nm,0.8s,mb4.9
ZST Bratislava 75.64 318 *eP* **P 02 02 05.2 +0.1**
GKP Gorka Klasztor 76.01 323 *eP* **P 02 02 03.9 -3.2**
DPC Dobruska-Polom 76.31 320 *eP* **P 02 02 09.3 +0.4**
DPC AMS AMS 02 44 20.0
comp=Z,400nm,18.8s
KSP Ksiaz 76.37 320 *eP* **P 02 02 09.7 +0.5**
KSP Ksiaz 76.37 320 *eP* **P 02 02 09.5 +0.3**
UPC Upice 76.52 320 *eP* **P 02 02 12.8 +2.7**
VAE Valguarnera 77.20 307 LR LR 02 38 50.8
comp=Z,441nm,19.1s,MS4.8,baz=318,slow=38
PRU Pruhonice 77.43 319 *eP* **P 02 02 15.5 +0.4**
PRU AMS AMS 02 40 40.0
comp=Z,400nm,17.5s
PVCC Panska Ves 77.44 320 *eP* **P 02 02 16.6 +1.4**
PVCC AMS AMS 02 42 10.0
comp=Z,500nm,19.0s
BRG Berggiesshubel 77.86 320 *i* P **P 02 02 19.8 +2.3**
BRG pmax pmax
comp=Z,20nm,1.3s,mb4.9
BRG MLR MLR
comp=Z,730nm,15.5s,MS5.1
BRG Berggiesshubel 77.86 320 *i* P **P 02 02 19.8 +2.3**
comp=Z,20nm,1.3s,mb4.9
BRG LR LR
comp=Z,730nm,15.5s,MS5.1
GEC2 GERESS Array S 77.93 318 *eP* **P 02 02 18.0 +0.1**
GEC2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
GEC2 GERESS Array S 77.93 318 *eP* **P 02 02 18.0 +0.1**
comp=Z,6.0nm,0.8s,mb4.6
GERES GERESS Array B 77.93 318 P **P 02 02 18.0 +0.1**
GERES pmax pmax
comp=Z,5.0nm,0.7s
GERES GERESS Array B 77.93 318 P **P 02 02 18.0 +0.1**
comp=Z,5.2nm,0.7s,mb4.5,baz=88,slow=5.0,SNR=20
KHC Kasperske Hory 78.02 319 *eP* **P 02 02 18.3 -0.1**
KHC MLR MLR
comp=Z,400nm,21.3s,MS4.7
KHC Kasperske Hory 78.02 319 *eP* **P 02 02 18.3 -0.1**
KHC *e* 02 02 44.5
KHC LR LR
comp=Z,400nm,21.3s,MS4.7
KHC Kasperske Hory 78.02 319 *eP* **P 02 02 18.3 -0.1**
KHC x x 02 02 44.5
KHC AMS AMS 02 41 00.0
comp=Z,400nm,21.3s
RUE Ruedersdorf 78.04 322 *eP* **P 02 02 17.3 -1.1**
comp=Z,35nm,1.2s,mb5.2
MAW Mawson 78.41 192 P **P 02 02 22.2 +2.0**
MAW Mawson 78.41 192 LR LR 02 32 27.7
comp=Z,685nm,18.9s,MS5.0,baz=66,slow=32
CLL Collm 78.47 321 *eP* **P 02 02 22.0 +1.2**
CLL *i* pP 02 02 28.6 0.0
CLL pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CLL Collm 78.47 321 *eP* **P 02 02 22.0 +1.2**
comp=Z,7.0nm,1.0s,mb4.5
CLL *i* pP 02 02 28.6 0.0
CLL Collm 78.47 321 P **P 02 02 22.0 +1.2**
comp=Z,logA/T=0.8,mb4.5
CLL *i* *PP pP 02 02 28.6 0.0
WET Wettzell 78.48 319 *eP* **P 02 02 21.0 +0.1**
WET pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
WET Wettzell 78.48 319 *eP* **P 02 02 21.0 +0.1**
comp=Z,4.0nm,0.8s,mb4.4
HFS Hagfors 78.57 330 P **P 02 02 20.9 -0.3**
HFS pmax pmax
comp=Z,12nm,0.8s
HFS Hagfors 78.57 330 P **P 02 02 20.9 -0.3**
comp=Z,12nm,0.8s,mb4.8,baz=104,slow=6.1,SNR=25
MOX Moxa 79.33 320 *eP* **P 02 02 30.6 +5.1**
MOX pmax pmax
comp=Z,142nm,2.5s,mb5.5
MOX MLR MLR
comp=Z,600nm,19.0s,MS5.0
MOX Moxa 79.33 320 *eP* **P 02 02 30.6 +5.1**
comp=Z,142nm,2.5s,mb5.5
MOX LR LR
comp=Z,600nm,19.0s,MS5.0
MOX Moxa 79.33 320 *i* P **P 02 02 30.6 +5.1**
comp=Z,logA/T=1.8,mb5.5
MOX L 02 43 43.0
GRA1 Grafenberg Arr 79.57 319 *eP* **P 02 02 27.4 +0.5**
comp=Z,6.0nm,0.9s,mb4.5
GRF Grafenberg Arr 79.57 319 *eP* **P 02 02 27.4 +0.5**
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
GRF Grafenberg Arr 79.57 319 *eP* **P 02 02 27.4 +0.5**
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
GRF Grafenberg Arr 79.57 319 *eP* **P 02 02 27.4 +0.5**
comp=Z,6.0nm,0.9s,mb4.5
NB2 NORSAR Subarra 79.85 331 P **P 02 02 27.3 -0.8**
comp=Z,19nm,1.0s,mb5.0,baz=92,slow=5.8
NB2 NORSAR Subarra 79.85 331 P **P 02 02 27.3 -0.8**
baz=92,slow=5.9
NOA NORSAR Array B 79.85 331 P **P 02 02 27.6 -0.5**
comp=Z,5.9nm,0.7s,mb4.6,baz=93,slow=5.6,SNR=14
NOA LR LR 02 42 58.5
comp=Z,557nm,19.1s,MS4.9,baz=110,slow=40
TSUM Tsumeb 80.00 249 *eP* **P 02 02 31.4 +1.7**
comp=Z,4.3nm,1.0s,mb4.3
NAO01 NORSAR Array S 80.00 330 *eP* **P 02 02 27.8 -1.1**
comp=Z,13nm,0.8s,mb4.9
CLZ Clausthal 80.12 321 *eP* **P 02 02 29.9 +0.2**
comp=Z,6.0nm,0.9s,mb4.5
DAVOX Davos 80.49 316 P **P 02 02 32.1 +0.3**
comp=Z,9.9nm,0.7s,mb4.8,baz=126,slow=12
MUD Monsted U'grnd 80.82 326 *eP* **P 02 02 35.4 +2.0**
MUD pmax pmax
comp=Z,16nm,0.9s,mb5.0
MUD Monsted U'grnd 80.82 326 *eP* **P 02 02 35.4 +2.0**
comp=Z,16nm,0.9s,mb4.9
MUD Monsted U'grnd 80.82 326 *i* P **P 02 02 35.4 +2.0**
comp=Z,16nm,0.9s,mb4.9
TNS Taunus Mts 81.36 320 *eP* **P 02 02 36.6 +0.3**
BFO Black Forest 81.50 318 *eP* **P 02 02 36.8 -0.3**
BFO pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
BFO Black Forest 81.50 318 *eP* **P 02 02 36.8 -0.3**
comp=Z,4.0nm,1.0s,mb4.3
LPG La Plagne 82.72 315 *eP* **P 02 02 43.9 +0.4**
comp=Z,22nm,0.7s,mb5.0
LPG La Plagne 82.72 315 *eP* **P 02 02 43.9 +0.4**
LPG pmax pmax
comp=Z,11nm,0.7s,mb5.0
SYO Syowa Base 85.29 197⇑ pP pP 02 03 05.8 +2.0
TNA Tin City 86.28 24 *eP* **P 02 03 00.6 -0.3**
JMIC Jan Mayen 86.83 341 LR LR 02 43 37.3
comp=Z,598nm,21.3s,MS5.0,baz=303,slow=37
ESDC Sonseca Array 91.31 310 P **P 02 03 25.8 +0.4**
comp=Z,1.2nm,0.6s,mb4.4,baz=60,slow=4.2,SNR=8.7
IMA Indian Mountai 91.73 22 *eP* **P 02 03 28.2 +1.5**
VNDA Vanda 92.80 168 LR LR 02 42 42.4
comp=Z,450nm,18.0s,MS5.0,baz=300,slow=34
MCK McKinley 94.57 23 *eP* **P 02 03 39.4 -0.4**
MCK pmax pmax
comp=Z,3.0nm,1.0s,mb4.7
MCK McKinley 94.57 23 *eP* **P 02 03 39.4 -0.4**
comp=Z,3.4nm,1.0s,mb4.7
ILAR Eielson Array 94.86 22 P **P 02 03 41.4 +0.2**
comp=Z,1.1nm,0.7s,mb4.4,baz=304,slow=4.0,SNR=9.1
ILAR LR LR 02 50 23.2
comp=Z,510nm,18.9s,MS5.0,baz=222,slow=38
SLKM Skilak Lake 95.49 27 *eP* **P 02 03 45.1 +1.0**
INK Inuvik 97.11 16 P **P 02 03 52.2 +0.9**
INK pmax pmax
comp=Z,6.0nm,1.2s
INK Inuvik 97.11 16 P **P 02 03 52.2 +0.9**
comp=Z,6.3nm,1.2s,mb4.9,baz=321,slow=2.6,SNR=4.6
RES Resolute Bay 97.53 2 *eP* **P 02 03 53.1 0.0**
RES pmax pmax
comp=Z,7.0nm,0.9s,mb5.2
RES Resolute Bay 97.53 2 *eP* **P 02 03 53.1 0.0**
comp=Z,7.2nm,0.9s,mb5.2
DAWY Dawson 97.97 21 P **P 02 03 58.5 +3.3**
DBIC Dimbokro 97.97 278 LR LR 02 49 34.0
comp=Z,512nm,18.4s,MS5.0,baz=67,slow=36
ULM Lac du Bonnet 121.59 8 PKP PKPdf 02 09 13.2 -3.5
comp=Z,1.4nm,0.5s,baz=74,slow=4.8,SNR=4.7
ULM Lac du Bonnet 121.59 8 PKP PKPdf 02 09 13.2 -3.5
NVAR Mina Array Bea 125.02 31 PKP PKPdf 02 09 22.6 -1.1
comp=Z,1.3nm,0.7s,baz=153,slow=3.3,SNR=7.4
PDAR Pinedale Array 125.28 21 PKP PKPdf 02 09 21.7 -2.3
comp=Z,1.5nm,0.8s,baz=40,slow=1.7,SNR=11
MSU Marysvale 127.86 26 *e*PKIKP PKPdf 02 09 28.3 -0.8
ANMO Albuquerque 133.28 23 *i* PKIKP PKPdf 02 09 39.3 -0.2
ANMO pmax pmax
comp=Z,1.0nm,0.8s
ANMO Albuquerque 133.28 23 PKiKP 02 09 39.3
comp=Z,1.4nm,0.8s,baz=12,slow=2.8,SNR=4.1
GDL2 Guadalupe Moun 136.52 23 *e*PKP PKPdf 02 09 45.5 0.0
TXAR Lajitas Array 139.33 24 PKhKP 02 09 44.6
comp=Z,0.5nm,0.7s,baz=18,slow=1.2,SNR=4.6
TXAR PKiKP 02 09 50.8
comp=Z,0.5nm,0.6s,baz=190,slow=0.5,SNR=6.7
JCT Junction City 139.70 19 *e*PKIKP PKPdf 02 09 48.8 -2.6
PLCA Paso Flores 144.44 200 *e*PKIKP PKPdf 02 09 57.4 -2.0
PLCA Paso Flores 144.44 200 PKP PKPdf 02 09 57.6 -1.8
comp=Z,11nm,0.9s,baz=193,slow=4.4,SNR=10
SJG San Juan 147.78 323 PKP2 PKPab 02 10 05.3 -3.2
SJG pmax pmax
comp=Z,12nm,0.7s
SJG San Juan 147.78 323 PKPbc PKPdf 02 10 05.3 -0.3
comp=Z,12nm,0.7s,baz=93,slow=9.8,SNR=2.9
SJG San Juan 147.78 323 PKP PKPdf 02 10 04.0 -1.7
FCH Farellones 150.75 207 *eP* PKPdf 02 10 12.8 +2.8
LPAZ La Paz 160.72 242 PKIKP PKPdf 02 10 22.9 -0.5
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ La Paz 160.72 242 PKP PKPdf 02 10 22.9 -0.5
comp=Z,1.7nm,0.9s,baz=49,slow=4.5,SNR=7.2

IGQ 29 01:55:33.3, 0.63N×80.01W, h5km±4km, mb4.0, 3C-5D, Error ellipse: s-maj=5.2km s-min=2.1km az=61.3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGD	**Magdalena**	**0.73**	**161**	⇓P	Pg	01 55 49.2	+1.2
JAMA	**Jama**	**0.91**	**192**	P	Pb	01 55 51.1	0.0
JAMA				S	Sb	01 56 01.8	-1.5
JOR1	**San Jorge 1**	**1.51**	**115**	P	Pn	01 56 03.0	+1.9
PINO	**Pino**	**1.61**	**119**	⇓P	Pn	01 56 03.5	+1.0
TERV	**Terraza Guagua**	**1.62**	**120**	⇓P	Pn	01 56 03.6	+0.9
YANA	**Yana**	**1.62**	**117**	⇑P	Pn	01 56 03.9	+1.2
YANA				S	Sb	01 56 24.8	+0.8
GGP	**Refugio Guagua**	**1.63**	**120**	P	Pn	01 56 04.0	+1.2
JUA2	**San Juan 2**	**1.64**	**121**	⇓P	Pn	01 56 04.0	+1.0
JUA2				S	Sb	01 56 27.0	+2.5
COTA	**Cotacachi**	**1.70**	**100**	⇓P	Pn	01 56 06.5	+2.6
COTA				S	Sn	01 56 30.2	+4.0
HOJA	**Cerro de Hojas**	**1.75**	**198**	P	Pn	01 56 05.0	+0.4
HOJA				S	Sn	01 56 29.7	+2.0
NAS1	**Nasa**	**1.98**	**129**	P	Pn	01 56 09.5	+1.6
VC1	**Cotopaxi 1**	**2.05**	**128**	⇑P	Pn	01 56 10.9	+2.1
CAYA	**Cayambe**	**2.10**	**105**	P	Pn	01 56 12.8	+3.3
CAYR	**Refugio Cayambi**	**2.10**	**107**	P	Pn	01 56 13.4	+3.9
CAYR				S	Sn	01 56 41.8	+5.5
TAMB	**Tambo**	**2.11**	**129**	⇑P	Pn	01 56 11.8	+2.2
ANTI	**Antisana**	**2.14**	**120**	P	Pn	01 56 12.5	+2.3
PISA	**Pisayambo**	**2.34**	**136**	P	Pn	01 56 15.0	+2.0
CONE	**Cono NE Rev Vo**	**2.47**	**106**	P	Pn	01 56 19.9	+5.0
ULBA	**Ulba**	**2.62**	**142**	P	Pn	01 56 18.9	+2.0
ARRY	**Arrayan**	**2.63**	**144**	P	Pn	01 56 19.0	+1.8

*IDC **29** 01:56:37.4±4.7, 8.06N×94.15E, h15km±28km, mb4.3/21, mb1 4.4/22, mb1mx4.4/24, mbtmp4.4/22, ML4.7/1, Error ellipse: s-maj=25.6km s-min=12.6km az=54.0*
*BJI **29** 01:56:39.3, 8.10N×94.20E, h30km, mB5.2, mb4.7, Ms5.2, Msz5.0*
*NEIC **29** 01:56:39.4±0.3, 8.06N×94.21E, h30km, mb4.6/14, Error ellipse: s-maj=9.2km s-min=6.1km az=51.0*
ISC 29 01:56:40.7±1.7, 7.94N±0.06×94.11E±0.06, h57km±15km, **h10**km±7.8km**:pP-P, n63,** σ0**:94/62, mb4.5**/36, **MS4.5**/1,
Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.47**	**24**	P	**P**	**01 59 18.9**	**-5.3**
CMAR	**Chiang Mai Arr**	**11.47**	**24**	Pn	**P**	**01 59 24.2**	**0.0**
1.4nm,0.3s,baz=211,slow=14,SNR=23							
PALK	**Pallekele**	**13.31**	**268**	*eP*	**P**	**01 59 47.2**	**-1.5**
HYB	**Hyderabad**	**17.85**	**303**	*eP*	**P**	**02 00 48.0**	**+1.2**
HYB				*eS*	**S**	**02 04 02.0**	**+1.0**
HYB	**Hyderabad**	**17.85**	**303**	*i* P	**P**	**02 00 48.0**	**+1.2**
HYB				*eS*	**S**	**02 04 02.0**	**+1.0**
KMI	**Kunming**	**18.97**	**25**	P	**P**	**02 01 02.9**	**+2.7**
22nm,1.4s							
KMI				pP		02 01 12.9	
JIRN	**Jiri**	**21.00**	**340**	*eP*	**P**	**02 01 21.3**	**-0.4**
PKI	**Pulchoki**	**21.20**	**338**	*eP*	**P**	**02 01 24.3**	**+0.6**
DMN	**Daman**	**21.34**	**338**	*eP*	**P**	**02 01 25.0**	**-0.1**
48nm,0.6s,mb5.0							
KKN	**Kakani**	**21.44**	**338**	*eP*	**P**	**02 01 26.7**	**+0.6**
LSA	**Lhasa**	**21.83**	**353**	P	**P**	**02 01 33.3**	**+3.4**
LSA				AMB	AMB		
comp=Z,30nm,0.7s,mb4.8							
GKN	**Gorkha**	**21.88**	**337**	*eP*	**P**	**02 01 29.7**	**-0.7**
comp=Z,80nm,0.6s,mb5.3							
KOLN	**Koldanda**	**22.09**	**335**	*eP*	**P**	**02 01 33.4**	**+0.8**
comp=Z,65nm,0.9s,mb5.0							
WHN	**Wuhan**	**29.41**	**37**	*eP*	**P**	**02 02 42.3**	**+1.2**
WMQ	**Urumqi**	**36.18**	**352**	*eP*	**P**	**02 03 39.5**	**-0.3**
WMQ				AP	pP	02 03 49.3	-5.0
WMQ				XP	sP	02 03 53.3	-8.0
WMQ				PP	PP	02 05 02.3	-1.3
WMQ				PCP	PcP	02 06 05.5	+0.9
WMQ				S	**S**	**02 09 16.0**	**+1.0**
WMQ				AMB	AMB		
comp=Z,31nm,1.2s,mb5.1							
WMQ				AMB	AMB		
comp=Z,175nm,5.4s							
WMQ				LR	LR		
comp=N,489nm,17.3s,MS4.4							
WMQ				LR	LR		
comp=E,377nm,17.0s,MS4.4							
WMQ				LR	LR		
comp=Z,675nm,17.6s,MS4.5							
AAK	**Ala-Archa**	**38.63**	**337**	*eP*	**P**	**02 03 59.9**	**-0.4**
comp=Z,5.1nm,0.8s,mb4.3							
SONM	**Songino Array**	**41.11**	**13**	P	**P**	**02 04 20.9**	**+0.2**
comp=Z,2.5nm,0.8s,mb3.9,baz=195,slow=7.9,SNR=14							
SONM				PcP	PcP	02 06 20.4	+0.4
comp=Z,1.1nm,0.7s,baz=199,slow=5.5,SNR=3.3							
KURK	**Kurchatov**	**44.54**	**346**	*eP*	**P**	**02 04 47.5**	**-1.2**
comp=Z,23nm,1.1s,mb4.9							
KLBR	**Kellerberrin**	**45.34**	**151**	*eP*	**P**	**02 04 56.6**	**+1.3**
comp=Z,28nm,0.4s,mb5.4							
NWAO	**Narrogin (SRO)**	**46.22**	**153**	P	**P**	**02 05 03.7**	**+1.5**
comp=Z,5.6nm,0.4s,mb4.8,baz=336,slow=10.0,SNR=14							
NWAO	**Narrogin (SRO)**	**46.22**	**153**	P	**P**	**02 05 03.7**	**+1.5**
ZAL	**Zalesovo**	**46.48**	**352**	P	**P**	**02 05 03.7**	**-0.3**
comp=Z,6.9nm,0.4s,mb4.9,baz=310,slow=5.8,SNR=16							
ZAL	**Zalesovo**	**46.48**	**352**	P	**P**	**02 05 03.7**	**-0.3**
WRA	**Warramunga Arr**	**48.32**	**126**	P	**P**	**02 05 18.2**	**-0.6**
comp=Z,2.9nm,0.4s,mb4.7,baz=305,slow=8.5,SNR=22							
WRAB	**Tennant Creek**	**48.33**	**126**	*eP*	**P**	**02 05 18.3**	**-0.6**
WB2	**Warramunga Arr**	**48.33**	**126**	*eP*	**P**	**02 05 18.4**	**-0.5**
BVAR	**Borovoye Array**	**48.92**	**341**	P	**P**	**02 05 22.0**	**-1.0**
comp=Z,1.0nm,0.5s,mb4.1,baz=180,slow=7.2,SNR=4.7							
BVAR				ScP		02 10 41.4	
comp=Z,1.4nm,0.9s,baz=135,slow=4.2,SNR=5.8							
CHKZ	**Chkalovo**	**49.41**	**342**	*eP*	**P**	**02 05 25.5**	**-1.2**
comp=Z,25nm,1.1s,mb5.2							
ASAR	**Alice Springs**	**49.98**	**130**	P	**P**	**02 05 31.2**	**-0.3**
comp=Z,1.4nm,0.4s,mb4.3,baz=306,slow=7.8,SNR=22							
ASAR				PcP	PcP	02 06 51.9	+0.7
comp=Z,0.8nm,0.5s,baz=307,slow=2.8,SNR=4.1							
KMBO	**Kilima Mbogo**	**57.40**	**264**	P	**P**	**02 06 27.5**	**+1.2**
comp=Z,4.2nm,1.1s,mb4.4,baz=48,slow=9.2,SNR=7.7							
KMBO	**Kilima Mbogo**	**57.40**	**264**	*eP*	**P**	**02 06 26.8**	**+0.5**
comp=Z,8.7nm,1.2s,mb4.7							
STKA	**Stephens Creek**	**60.17**	**134**	*eP*	**P**	**02 06 44.3**	**-1.0**
comp=Z,1.3nm,0.7s,mb4.1							
STKA	**Stephens Creek**	**60.17**	**134**	P	**P**	**02 06 44.5**	**-0.8**
comp=Z,2.7nm,0.9s,mb4.2,baz=2.3,slow=13,SNR=5.1							
BRTR	**Keskin Array B**	**62.37**	**311**	P	**P**	**02 06 58.2**	**-1.7**
comp=Z,0.9nm,0.5s,mb4.1,baz=130,slow=7.8,SNR=6.6							
AKASG	**Malin Array Be**	**68.09**	**322**	P	**P**	**02 07 34.9**	**-1.7**
comp=Z,1.2nm,0.6s,mb4.1,baz=89,slow=5.0,SNR=4.3							
IDI	**Anoyia**	**68.51**	**305**	P	**P**	**02 07 39.4**	**-0.1**
comp=Z,8.5nm,0.8s,mb4.7,baz=87,slow=11,SNR=7.7							
MLR	**Muntele Rosu**	**69.11**	**316**	P	**P**	**02 07 42.5**	**-0.5**
comp=Z,4.7nm,0.8s,mb4.5,baz=352,slow=7.1,SNR=3.1							
MLR	**Muntele Rosu**	**69.11**	**316**	P	**P**	**02 07 42.5**	**-0.5**
JOF	**Joensuu**	**70.78**	**334**	*ep*	**P**	**02 07 51.2**	**-1.6**
comp=Z,5.1nm,0.6s,mb4.6							
FINES	**FINESS Array B**	**72.64**	**332**	P	**P**	**02 08 03.5**	**-0.4**
comp=Z,2.6nm,0.4s,mb4.5,baz=108,slow=8.0,SNR=21							
FINES	**FINESS Array B**	**72.64**	**332**	P	**P**	**02 08 03.5**	**-0.4**
KAF	**Kangasniemi**	**72.72**	**333**	*ep*	**P**	**02 08 04.5**	**+0.1**
comp=Z,5.2nm,0.8s,mb4.5,baz=104,slow=5.6							
LBTB	**Lobatse**	**74.25**	**241**	*eP*	**P**	**02 08 14.4**	**+0.3**
comp=Z,5.2nm,0.8s,mb4.5							
ARCES	**ARCESS Array B**	**75.20**	**340**	P	**P**	**02 08 18.8**	**+0.2**
comp=Z,1.8nm,0.5s,mb4.3,baz=101,slow=6.2,SNR=12							
MORC	**Moravsky Berou**	**75.31**	**319**	P	**P**	**02 08 18.9**	**-0.8**
BRG	**Berggiesshubel**	**77.68**	**320**	*i* P	**P**	**02 08 37.6**	**+4.6**
comp=Z,3.3nm,0.8s,mb4.3							
GERES	**GERESS Array B**	**77.76**	**318**	P	**P**	**02 08 34.0**	**+0.5**
comp=Z,1.4nm,0.7s,mb4.0,baz=83,slow=5.5,SNR=7.6							
KHC	**Kasperske Hory**	**77.85**	**318**	*eP*	**P**	**02 08 34.5**	**+0.6**
CLL	**Collm**	**78.29**	**321**	P	**P**	**02 08 36.0**	**-0.3**
HFS	**Hagfors**	**78.39**	**330**	P	**P**	**02 08 37.1**	**+0.4**
comp=Z,4.2nm,0.5s,mb4.7,baz=104,slow=6.1,SNR=22							
MAW	**Mawson**	**78.59**	**192**	P	**P**	**02 08 39.0**	**+1.3**
comp=Z,2.1nm,0.7s,mb4.2,baz=32,slow=13,SNR=1.6							
GRA1	**Grafenberg Arr**	**79.40**	**319**	*eP*	**P**	**02 08 47.8**	**+5.4**
comp=Z,5.0nm,1.0s,mb4.4							
GRA1				*ep*P	pP	02 08 52.3	-6.1
GRF	**Grafenberg Arr**	**79.40**	**319**	*eP*	**P**	**02 08 47.8**	**+5.4**
comp=Z,5.0nm,1.0s,mb4.4							
GRF				*ep*P	pP	02 08 52.3	-6.1
NB2	**NORSAR Subarra**	**79.66**	**331**	P	**P**	**02 08 42.4**	**-1.2**
comp=Z,5.1nm,0.8s,mb4.5,baz=93,slow=5.6							
NOA	**NORSAR Array B**	**79.66**	**331**	P	**P**	**02 08 43.4**	**-0.2**
comp=Z,2.4nm,0.7s,mb4.2,baz=95,slow=5.1,SNR=8.8							
DAVOX	**Davos**	**80.32**	**316**	P	**P**	**02 08 47.9**	**+0.5**
comp=Z,3.9nm,0.9s,mb4.3,baz=158,slow=18,SNR=3.2							
LPG	**La Plagne**	**82.55**	**315**	*eP*	**P**	**02 09 00.5**	**+1.4**
comp=Z,22nm,1.1s,mb4.8							
ESDC	**Sonseca Array**	**91.15**	**310**

comp=Z,1μm,29.8s
PDAR Pinedale Array 125.12 21 PKP PKPdf 02 15 36.4 +1.1
comp=Z,2.9nm,1.1s,baz=135,slow=2.1,SNR=4.2
TXAR Lajitas Array 139.18 24 PKP PKPdf 02 16 02.4 +0.4
comp=Z,0.3nm,0.6s,baz=310,slow=1.1,SNR=4.3
TXAR Lajitas Array 139.18 24 PKP PKPdf 02 16 02.4 +0.4

*IDC **29** 01:59:13.3±1.5, 30.52N×70.62E, mb3.8/7, mb1 4.0/7, mb1mx3.7/23, mbtmp3.8/7, Error ellipse: s-maj=44.7km s-min=28.5km az=50.0*
*NEIC **29** 01:59:17.4±1.0, 30.62N×70.59E, h25km, mb4.1/3, Error ellipse: s-maj=21.1km s-min=18.1km az=202.0*
ISC 29 01:59:17.3±1.3, 30.7N±0.2×70.7E±0.2, h33km, n11, σ0§94/11, mb3.8/8, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**20.90**	**14**	P	**P**	**02 03 57.0**	**-2.1**
	2.3nm,0.8s						
BVAR	**Borovoye Array**	**22.34**	**360**	P	**P**	**02 04 14.0**	**+0.5**
	1.2nm,0.6s,mb3.5,baz=170,slow=9.0,SNR=4.8						
GNI	**Garni**	**23.07**	**301**	P	**P**	**02 04 21.5**	**+0.8**
	4.3nm,0.8s,mb3.9,baz=225,slow=19,SNR=4.8						
GNI	**Garni**	**23.07**	**301**	*e*P	**P**	**02 04 21.2**	**+0.5**
	4.7nm,0.8s,mb4.0						
ZAL	**Zalesovo**	**25.41**	**20**	P	**P**	**02 04 44.0**	**+0.9**
	1.3nm,0.3s,mb3.9,baz=305,slow=4.7,SNR=5.6						
FINES	**FINESS Array B**	**42.27**	**330**	P	**P**	**02 07 08.6**	**-0.3**
	1.1nm,0.6s,mb3.7,baz=112,slow=10,SNR=4.4						
MORC	**Moravsky Berou**	**43.80**	**311**	*e*P	**P**	**02 07 20.4**	**-1.1**
	8.4nm,1.3s,mb4.3						
INK	**Inuvik**	**79.70**	**9**	P	**P**	**02 11 23.5**	**+0.8**
	0.5nm,0.5s,mb3.7,baz=339,slow=4.0,SNR=3.1						
ASAR	**Alice Springs**	**81.20**	**124**	P	**P**	**02 11 31.1**	**-0.4**
	0.4nm,0.6s,mb3.5,baz=309,slow=5.5,SNR=6.8						
YKA	**Yellowknife Ar**	**87.07**	**2**	P	**P**	**02 12 00.9**	**+0.7**
	0.2nm,0.5s,mb3.6,baz=346,slow=4.8,SNR=5.4						
YKA	**Yellowknife Ar**	**87.07**	**2**	P	**P**	**02 12 00.9**	**+0.7**

*ATH **29** 02:02:06.5, 38.22N×26.44E, h27km±4km, MD3.3/4*
*CSEM **29** 02:02:07.4±0.1, 38.18N×26.67E, h20km, MD3.2, Error ellipse: s-maj=7.8km s-min=2.5km az=138.0*
*ISK **29** 02:02:07.5, 38.12N×26.75E, h21km, MD3.2*
ISC 29 02:02:05.8±1.6, 38.22N±0.06×26.49E±0.10, h8km±12km, n15, σ0§93/17, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.47**	**69**	*i* PG	**Pg**	**02 02 15.5**	**+0.2**
BLCB				*i* SG	**Sg**	**02 02 20.9**	**-0.7**
SMG	**Samos**	**0.58**	**151**	*e*PN	**Pn**	**02 02 18.8**	**-1.2**
IZM	**Izmir**	**0.64**	**73**	*i* PG	**Pg**	**02 02 18.7**	**+0.1**
PRK	**Paraskevi**	**1.04**	**351**	*e*PN	**Pn**	**02 02 26.4**	**-0.2**
PRK				*e*SN	**Sn**	**02 02 40.3**	**-1.1**
AKS	**Akhisar**	**1.23**	**57**	*i* PN	**Pn**	**02 02 28.5**	**-0.8**
APE	**Apeiranthos**	**1.38**	**214**	*i* PN	**Pn**	**02 02 32.6**	**+1.2**
APE	**Apeiranthos**	**1.38**	**214**	*e*PN	**Pn**	**02 02 31.5**	**+0.1**
BALB	**Balikesir**	**1.79**	**37**	PN	**Pn**	**02 02 38.4**	**+1.1**
CANB	**Canakkale**	**1.85**	**14**	*e*PN	**Pn**	**02 02 40.4**	**+2.2**
LIA	**Limnos Island**	**1.96**	**329**	*e*PB	**Pb**	**02 02 40.3**	**-1.1**
EDC	**Edincik**	**2.38**	**26**	*e*PN	**Pn**	**02 02 47.4**	**+1.7**
BNT	**Bandirma**	**2.41**	**27**	*e*PN	**Pn**	**02 02 46.4**	**+0.3**
KCT	**Karacabey**	**2.51**	**35**	*e*PN	**Pn**	**02 02 47.1**	**-0.5**
ORLT	**Orhaneli**	**2.62**	**45**	*e*PN	**Pn**	**02 02 49.1**	**0.0**
RDO	**Rodhopi**	**3.02**	**346**	*e*PN	**Pn**	**02 02 54.6**	**-0.2**

*IDC **29** 02:03:37.3±0.6, 24.64S×175.98W, mb4.6/15, mb1 4.8/17, mb1mx4.7/20, mbtmp4.6/17, ML4.6/2, MS4.9/2, Ms1 4.9/2, ms1mx3.4/24, Error ellipse: s-maj=24.2km s-min=17.4km az=154.0*
*BJI **29** 02:03:40.3, 24.60S×176.10W, h19km, mB5.8, mb5.1, Ms5.0, Msz4.9*
*HRVD **29** 02:03:40.3±0.5, 24.72S×175.27W, h32km±1km, MW5.1/44, Centroid moment Tensor Solution. LP body waves: s32,c47;Mantle waves: s44,c63; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.35±.34; $M_{\theta\theta}$-0.32±.24; $M_{\phi\phi}$-4.02±.23; $M_{r\theta}$1.11±.41; $M_{\theta\phi}$-0.98±.21; $M_{r\phi}$2.59±.29; Best double couple: $M_0$5.147×10^{16} NP1:φ±189°, δ29°, λ81°. NP2:φ±19°, δ62°, λ95°. Principal axes: T5.206, Plg73°, Azm300°; N-.111, Plg4°, Azm197°; P-5.087, Plg16°, Azm106°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 02:03:40.3±6.2, 24.56S×176.06W, h19km±37km, mb5.0/12, MS4.6/1 Error ellipse: s-maj=10.8km s-min=9.3km az=170.0*
ISC 29 02:03:41.1±0.3, 24.63S±0.07×176.10W±0.08, h33km, n81, σ1§02/54, mb4.8/29, MS4.8/3, 6C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.42**	**22**	*e*P	**P**	**02 06 14.5**	**-10**
URZ	**Urewera**	**14.77**	**201**	Pn	**P**	**02 07 10.4**	**+1.2**
	0.4nm,0.3s,baz=10,slow=20,SNR=1.9						
RAR	**Rarotonga**	**15.42**	**81**	Pn	**P**	**02 07 06.4**	**-11**
	18nm,0.3s,baz=215,slow=8.0,SNR=20						
RAR	**Rarotonga**	**15.42**	**81**	*e*P	**P**	**02 07 06.0**	**-12**
CTA	**Charters Tower**	**35.04**	**270**	*e*P	**P**	**02 10 32.1**	**-0.8**
	4.3nm,0.8s,mb4.4						
CTAO	**Charters Tower**	**35.04**	**270**	*e*P	**P**	**02 10 32.0**	**-0.9**
	23nm,1.4s,mb4.9						
CTAO				LR	LR		
	comp=Z,1μm,21.0s,MS4.6						
STKA	**Stephens Creek**	**37.77**	**249**	*e*P	**P**	**02 10 56.9**	**+1.0**
	comp=Z,3.4nm,1.4s,mb3.9						
STKA	**Stephens Creek**	**37.77**	**249**	P	**P**	**02 10 56.2**	**+0.3**
	comp=Z,2.4nm,0.9s,mb3.9,baz=93,slow=7.0,SNR=6.0						
STKA				LR	LR	02 25 54.7	
	comp=Z,2μm,18.9s,MS4.9,baz=297,slow=35						
PMG	**Port Moresby**	**38.10**	**287**	P	**P**	**02 10 58.0**	**-0.8**
	comp=Z,12nm,0.7s,mb4.8,baz=87,slow=4.7,SNR=3.5						
ASAR	**Alice Springs**	**45.43**	**260**	P	**P**	**02 11 58.4**	**-0.4**
	comp=Z,12nm,1.1s,mb4.6,baz=98,slow=8.0,SNR=31						
ASAR				PcP	PcP	02 13 38.3	+0.3
	comp=Z,1.1nm,0.9s,baz=117,slow=2.8,SNR=4.1						
ASAR				LR	LR	02 30 12.7	
	comp=Z,1μm,18.3s,MS4.8,baz=336,slow=35						
ASPA	**Alice Springs**	**45.43**	**260**	*e*P	**P**	**02 11 58.5**	**-0.3**
WB2	**Warramunga Arr**	**45.89**	**266**	*e*P	**P**	**02 12 01.5**	**-1.0**
WRAB	**Tennant Creek**	**45.90**	**266**	*e*P	**P**	**02 12 01.4**	**-1.1**
WRA	**Warramunga Arr**	**45.91**	**266**	P	**P**	**02 12 01.7**	**-0.9**
	comp=Z,4.2nm,0.8s,mb4.4,baz=102,slow=8.2,SNR=18						
WRA				PcP	PcP	02 13 40.3	+0.6
	comp=Z,3.5nm,1.0s,baz=102,slow=4.1,SNR=5.4						
FORT	**Forrest**	**49.40**	**250**	*e*P	**P**	**02 12 27.8**	**-1.9**
	comp=Z,17nm,0.5s,mb5.3						
SBA	**Scott Base**	**53.90**	**184**	P	**P**	**02 13 04.0**	**+1.0**
	comp=Z,18nm,1.0s,mb5.0						
VNDA	**Vanda**	**53.98**	**186**	P	**P**	**02 13 02.0**	**-1.6**
	comp=Z,3.7nm,1.1s,mb4.2,baz=355,slow=10,SNR=3.0						
KLBR	**Kellerberrin**	**57.99**	**247**	*e*P	**P**	**02 13 32.2**	**-0.8**
	comp=Z,45nm,0.6s,mb5.7						
QSPA	**South Pole Qui**	**65.46**	**180**	*e*P	**P**	**02 14 23.6**	**+1.2**
	comp=Z,22nm,1.0s,mb5.1						
ASAJ	**Asahikawa**	**78.17**	**331**	P	**P**	**02 15 39.5**	**+0.8**
	comp=Z,7.8nm,0.7s,mb4.7,baz=175,slow=5.5,SNR=5.0						
MAW	**Mawson**	**78.29**	**200**	P	**P**	**02 15 39.1**	**+0.2**
YSS	**Yuzh-Sakhalins**	**80.35**	**333**	*e*P	**P**	**02 15 51.1**	**+0.6**
	comp=Z,47nm,1.3s,mb5.3						
YBH	**Yreka Blue Hor**	**82.45**	**37**	P	**P**	**02 16 00.7**	**-0.8**
	comp=Z,5.1nm,1.0s,mb4.4,baz=128,slow=2.8,SNR=4.1						
NVAR	**Mina Array Bea**	**82.85**	**42**	P	**P**	**02 16 04.0**	**+0.3**
	comp=Z,4.7nm,0.9s,mb4.5,baz=226,slow=8.7,SNR=17						
SYO	**Syowa Base**	**83.09**	**192**	⇓P	**P**	**02 16 04.4**	**+0.2**
SYO	**Syowa Base**	**83.09**	**192**	⇑pP	pP	02 16 13.3	-1.4
NEN	**Nelson**	**83.34**	**46**	*e*P	**P**	**02 16 06.2**	**+0.1**
SNAA	**Sanae**	**83.85**	**178**	P	**P**	**02 16 08.8**	**+0.8**
	comp=Z,3.1nm,0.9s,mb4.5,baz=213,slow=3.3,SNR=5.6						
SNAA	**Sanae**	**83.85**	**178**	*e*P	**P**	**02 16 07.4**	**-0.5**
VNA3	**Neumayer Olymp**	**83.92**	**176**	⇑*i*P	**P**	**02 16 04.9**	**-3.4**
VNA3				*e*		02 16 19.2	
VNA2	**Neumayer--Watz**	**84.38**	**176**	⇑*i*	**P**	**02 16 11.0**	**+0.3**
VNA2				*e*		02 16 25.3	
VNA1	**Neumayer--Stat**	**84.59**	**176**	⇑*i*	**P**	**02 16 06.6**	**-5.2**
MDJ	**Mudanjiang**	**84.89**	**324**	P	**P**	**02 16 13.8**	**0.0**
MDJ				AMB	AMB		
	comp=Z,23nm,1.3s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,258nm,5.3s						
PLCA	**Paso Flores**	**85.18**	**133**	P	**P**	**02 16 15.6**	**+0.2**
	comp=Z,6.3nm,0.9s,mb4.8,baz=217,slow=3.2,SNR=8.7						
PLCA	**Paso Flores**	**85.18**	**133**	*e*P	**P**	**02 16 13.6**	**-1.7**
WHN	**Wuhan**	**86.29**	**306**	P	**P**	**02 16 23.3**	**+2.3**
SNY	**Shenyang**	**86.48**	**319**	⇑P	**P**	**02 16 22.8**	**+1.1**
MSU	**Marysvale**	**86.74**	**45**	*e*P	**P**	**02 16 24.0**	**+0.9**
TXAR	**Lajitas Array**	**87.83**	**56**	P	**P**	**02 16 28.1**	**-0.5**
	comp=Z,2.4nm,1.0s,mb4.4,baz=191,slow=4.6,SNR=12						
ANMO	**Albuquerque**	**88.64**	**50**	*e*P	**P**	**02 16 31.8**	**-0.5**
	comp=Z,9.4nm,1.4s,mb4.9						
TNA	**Tin City**	**90.12**	**3**	*e*P	**P**	**02 16 38.1**	**-0.4**
SDCO	**Great Sand Dun**	**90.74**	**48**	*e*P	**P**	**02 16 42.0**	**-0.1**
	comp=Z,4.2nm,1.0s,mb4.7						
BW06	**Boulder Array**	**90.78**	**42**	*e*P	**P**	**02 16 41.5**	**-0.7**
	comp=Z,1.7nm,0.9s,mb4.4						
PDAR	**Pinedale Array**	**90.78**	**43**	P	**P**	**02 16 41.5**	**-0.6**
	comp=Z,1.4nm,1.0s,mb4.2,baz=243,slow=3.3,SNR=5.6						
QLMT	**Earthquake Lak**	**90.81**	**40**	*e*P	**P**	**02 16 42.8**	**+0.6**
CHMT	**Chamberlain Mo**	**90.97**	**38**	*e*P	**P**	**02 16 42.4**	**-0.6**
BOZ	**Bozeman (W)**	**91.16**	**39**	*e*P	**P**	**02 16 43.3**	**-0.5**
	comp=Z,4.6nm,0.9s,mb4.8						
NANT	**Nan**	**91.76**	**290**	P	**P**	**02 16 47.0**	**-0.2**
ILAR	**Eielson Array**	**91.95**	**12**	P	**P**	**02 16 46.5**	**-0.5**
	comp=Z,3.2nm,1.1s,mb4.5,baz=220,slow=4.6,SNR=10						
XAN	**Xi'an**	**92.01**	**307**	P	**P**	**02 16 49.5**	**+1.4**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb5.0						
KMI	**Kunming**	**92.76**	**296**	P	**P**	**02 16 54.2**	**+2.5**
	comp=Z,14nm,1.4s,mb5.2						
KMI				sP	sP	02 17 06.0	+0.3
DAWY	**Dawson**	**92.94**	**15**	*e*P	**P**	**02 16 50.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**93.12**	**289**	P	**P**	**02 16 56.1**	**+2.6**
	comp=Z,7.5nm,1.1s,mb5.0,baz=123,slow=3.2,SNR=13						
CHG	**Chiang Mai**	**93.27**	**289**	⇓P	**P**	**02 16 56.9**	**+2.7**
	comp=Z,16nm,1.0s,mb5.4						
YKA	**Yellowknife Ar**	**99.52**	**24**	P	**P**	**02 17 21.4**	**-0.1**
	comp=Z,0.6nm,1.0s,mb4.0,baz=238,slow=4.4,SNR=6.4						
BVAR	**Borovoye Array**	**123.34**	**318**	PKP	PKPdf	02 22 35.2	+0.6
	comp=Z,1.1nm,0.8s,baz=90,slow=1.5,SNR=3.7						
HFS	**Hagfors**	**143.87**	**352**	PKP	PKPdf	02 23 13.1	+0.8
	comp=Z,2.3nm,0.7s,baz=90,slow=1.4,SNR=3.8						
SUW	**Suwalki**	**147.31**	**339**	*e*PKP	PKPdf	02 23 21.2	+2.7
AKASG	**Malin Array Be**	**147.46**	**330**	PKPbc	PKPdf	02 23 21.9	+3.1
	comp=Z,1.9nm,0.6s,baz=34,slow=2.6,SNR=18						
MALT	**Malatya**	**147.75**	**303**	*e*PKPbc	PKPdf	02 23 24.6	+4.9
EKA	**Eskdalemuir Ar**	**148.89**	**8**	PKPbc	PKPdf	02 23 25.9	+5.0
	comp=Z,3.7nm,0.9s,baz=18,slow=2.6,SNR=4.8						
ASF	**Jabal al Asfar**	**150.10**	**292**	PKPbc	PKPdf	02 23 31.2	+7.6
	comp=Z,8.9nm,1.1s,baz=276,slow=7.0,SNR=5.4						
BRTR	**Keskin Array B**	**150.84**	**308**	PKPbc	PKPdf	02 23 32.0	+7.5
	comp=Z,9.6nm,1.2s,baz=114,slow=3.2,SNR=9.2						
KWP	**Kalwaria**	**151.05**	**334**	*e*PKPbc	PKPdf	02 23 31.7	+7.2
RUE	**Ruedersdorf**	**151.19**	**347**	*e*PKPbc	PKPdf	02 23 32.5	+7.9
OJC	**Ojcow**	**151.63**	**338**	*e*PKP	PKPdf	02 23 33.3	+8.0
KOLS	**Kolonicke sedl**	**151.78**	**334**	*e*PKP	PKPdf	02 23 28.4	+2.8
KOLS				*e*		02 23 34.1	
EIL	**Elat**	**151.97**	**287**	*e*PKPbc	PKPdf	02 23 35.3	+8.8
NIE	**Niedzica**	**152.12**	**337**	*e*PKP	PKPdf	02 23 34.6	+8.5
CLL	**Collm**	**152.46**	**348**	⇑*i*PKP1	PKPdf	02 23 34.9	+8.4
CLL				*i* PKP2	PKPab	02 23 46.0	-0.1
CLL				*e*		02 24 01.0	
OKC	**Ostrava-Krasne**	**152.50**	**340**	*e*PKPbc	PKPdf	02 23 35.2	+8.6
UPC	**Upice**	**152.51**	**343**	*e*PKPdf	PKPdf	02 23 29.0	+2.4
DPC	**Dobruska-Polom**	**152.57**	**343**	*e*PKPbc	PKPdf	02 23 35.6	+8.9
BRG	**Berggiesshubel**	**152.68**	**346**	*i* P	PKPdf	02 23 36.3	+9.5
BRG				*e*		02 23 45.8	
PVCC	**Panska Ves**	**152.86**	**345**	*e*PKPbc	PKPdf	02 23 35.4	+8.3
MOX	**Moxa**	**153.35**	**349**	*e*P	PKPdf	02 23 37.5	+10
VYHS	**Vyhne**	**153.43**	**337**	*e*PKP	PKPdf	02 23 29.0	+1.1
VYHS				*e*		02 23 45.0	
SRO	**Srobarova**	**154.19**	**337**	*e*PKP	PKPab	02 23 54.2	+0.7
KHC	**Kasperske Hory**	**154.39**	**345**	*e*P	PKPdf	02 23 26.5	-2.7
KHC				*e*		02 23 55.1	
KHC	**Kasperske Hory**	**154.39**	**345**	*e*PKPab	PKPab	02 23 55.1	+0.8
ESDC	**Sonseca Array**	**163.60**	**22**	PKP	PKPdf	02 23 43.4	+3.1
	comp=Z,1.2nm,0.8s,slow=3.0,SNR=4.6						

*BJI **29** 02:07:56.6, 7.15N×93.63E, h22km, mB5.3, mb4.7, Ms4.8, Msz4.7*
*IDC **29** 02:07:59.1±0.5, 7.67N×93.92E, mb4.6/23, mb1 4.7/24, mb1mx4.7/26, mbtmp4.6/24, ML4.6/1, Error ellipse: s-maj=25.7km s-min=10.9km az=49.0*
*MOS **29** 02:08:02.5±1.3, 7.66N×93.91E, h33km, mb4.8/37, Error ellipse: s-maj=11.1km s-min=6.9km az=110.8*
*NEIC **29** 02:08:02.6±0.2, 7.74N×94.03E, mb4.6/25, Error ellipse: s-maj=9.0km s-min=4.8km az=54.0*
ISC 29 02:08:00.3±2.9, 7.73N±0.05×94.06E±0.06, h18km±20km, h21km±.6km: pP-P, n143, σ1§02/130, mb4.7/55, MS4.6/1, 1C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.67**	**24**	P	**P**	**02 10 48.2**	**-1.0**
	10nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.67**	**24**	P	**P**	**02 10 54.0**	**+4.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**11.67**	**24**	Pn	**P**	**02 10 54.0**	**+4.8**
	comp=Z,1.1nm,0.3s,baz=212,slow=14,SNR=58						
HYB	**Hyderabad**	**17.92**	**304**	*i* P	**P**	**02 12 13.0**	**+2.5**
KMI	**Kunming**	**19.18**	**25**	P	**P**	**02 12 30.1**	**+4.3**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KMI	**Kunming**	**19.18**	**25**	P	**P**	**02 12 30.1**	**+4.3**
	comp=Z,9.0nm,1.2s						
JIRN	**Jiri**	**21.18**	**340**	*e*P	**P**	**02 12 48.1**	**+1.0**
	comp=Z,81nm,0.8s,mb5.1						
PKI	**Pulchoki**	**21.37**	**338**	*e*P	**P**	**02 12 49.2**	**+0.1**
	comp=Z,48nm,0.6s,mb5.0						
DMN	**Daman**	**21.51**	**338**	*e*P	**P**	**02 12 51.2**	**+0.7**
	comp=Z,91nm,0.7s,mb5.3						
KKN	**Kakani**	**21.61**	**338**	*e*P	**P**	**02 12 51.8**	**+0.3**
	comp=Z,30nm,0.5s,mb5.0						
LSA	**Lhasa**	**22.03**	**353**	P	**P**	**02 12 56.3**	**+0.6**
LSA				AMB	AMB		
	comp=Z,40nm,0.8s,mb4.9						
GKN	**Gorkha**	**22.05**	**337**	*e*P	**P**	**02 12 56.1**	**+0.2**
	comp=Z,45nm,0.5s,mb5.2						
KOLN	**Koldanda**	**22.26**	**335**	*e*P	**P**	**02 13 00.1**	**+2.1**
	comp=Z,47nm,0.6s,mb5.1						
POO	**Poona**	**22.39**	**301**	*e*P	**P**	**02 12 58.0**	**-1.4**
DDI	**Dehra Dun**	**27.02**	**328**	*e*	**P**	**02 13 44.2**	**+0.7**
WMQ	**Urumqi**	**36.38**	**352**	*e*P	**P**	**02 15 06.5**	**+1.0**
WMQ				AP	pP	02 15 12.5	+1.6
WMQ				XP	sP	02 15 15.3	+2.1
WMQ				PP	PP	02 16 30.3	+1.2
WMQ				PCP	PcP	02 17 31.0	+0.9
WMQ				S	**S**	**02 20 46.5**	**+1.3**
WMQ				AMB	AMB		
	comp=Z,58nm,1.5s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,275nm,5.6s						
WMQ				LR	LR		
	comp=N,776nm,18.3s,MS4.6						
WMQ				LR	LR		
	comp=E,614nm,18.4s,MS4.6						
WMQ				LR	LR		
	comp=Z,1μm,18.7s,MS4.6						
BJI	**Beijing**	**37.77**	**28**	P	**P**	**02 15 20.5**	**+3.3**
BJI				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.6						
BJI	**Beijing**	**37.77**	**28**	P	**P**	**02 15 20.5**	**+3.3**
	comp=Z,13nm,1.1s,mb4.6						
BJI				PP	PP	02 16 39.0	-7.5
AAK	**Ala-Archa**	**38.80**	**337**	*e*P	**P**	**02 15 25.1**	**-0.8**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
AAK	**Ala-Archa**	**38.80**	**337**	*e*P	**P**	**02 15 25.1**	**-0.7**
	comp=Z,6.3nm,1.0s,mb4.3						
FITZ	**Fitzroy Crossi**	**40.38**	**130**	*e*P	**P**	**02 15 38.6**	**-0.5**
	comp=Z,13nm,0.9s,mb4.7						
SONM	**Songino Array**	**41.32**	**13**	P	**P**	**02 15 47.5**	**+1.0**
	comp=Z,5.3nm,0.7s,mb4.3,baz=195,slow=8.4,SNR=53						
SONM				PcP	PcP	02 17 45.9	+0.3
	comp=Z,2.3nm,0.9s,baz=190,slow=3.5,SNR=4.6						
ULN	**Ulaanbaatar**	**41.49**	**13**	*e*P	**P**	**02 15 48.3**	**+0.3**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**41.49**	**13**	*e*P	**P**	**02 15 48.3**	**+0.3**
	comp=Z,4.4nm,0.8s,mb4.1						
ZAK	**Zakamensk**	**43.20**	**9**	*e*P	**P**	**02 16 01.4**	**-0.5**
ZAK				*e*		02 17 52.1	
KURK	**Kurchatov**	**44.73**	**346**	*e*P	**P**	**02 16 13.5**	**-0.8**
KURK				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.7						
KURK	**Kurchatov**	**44.73**	**346**	*e*P	**P**	**02 16 13.5**	**-0.8**
	comp=Z,15nm,1.3s,mb4.7						
MUN	**Mundaring**	**44.79**	**153**	*e*P	**P**	**02 16 16.0**	**+0.9**
	comp=Z,7.0nm,0.9s,mb4.5						
MUN	**Mundaring**	**44.79**	**153**	*e*P	**P**	**02 16 16.0**	**+0.9**
MUN				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
KLBR	**Kellerberrin**	**45.19**	**151**	*e*P	**P**	**02 16 18.7**	**+0.5**
	comp=Z,100nm,1.0s,mb5.6						
NWAO	**Narrogin (SRO)**	**46.05**	**153**	P	**P**	**02 16 25.6**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,14nm,0.8s						
NWAO	**Narrogin (SRO)**	**46.05**	**153**	P	**P**	**02 16 25.6**	**+0.5**
	comp=Z,14nm,0.8s,mb4.9,baz=322,slow=8.2,SNR=12						
NWAO	**Narrogin (SRO)**	**46.05**	**153**	*e*P	**P**	**02 16 23.3**	**-1.7**
	comp=Z,7.6nm,0.8s,mb4.7						
ZAL	**Zalesovo**	**46.68**	**352**	P	**P**	**02 16 30.4**	**+0.7**
ZAL				pmax	pmax		
	comp=Z,8.0nm,0.4s						
ZAL	**Zalesovo**	**46.68**	**352**	P	**P**	**02 16 30.4**	**+0.7**
	comp=Z,8.3nm,0.4s,mb5.0,baz=300,slow=6.2,SNR=32						
NVS	**Novosibirsk**	**47.77**	**352**	*i* P	**P**	**02 16 37.4**	**-0.9**
NVS				pmax	pmax		
	comp=Z,19nm,1.6s,mb4.9						
NVS				pmax	pmax		
	comp=N,8.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.9s						
WRA	**Warramunga Arr**	**48.24**	**125**	P	**P**	**02 16 41.8**	**-0.6**
WRA						02 18 09.4	
WRA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**48.24**	**125**	P	**P**	**02 16 41.8**	**-0.6**
	comp=Z,6.9nm,0.6s,mb4.9,baz=305,slow=8.8,SNR=45						
WRA				PcP	PcP	02 18 09.4	-0.4
	comp=Z,2.1nm,0.7s,baz=309,slow=2.9,SNR=5.6						
WRAB	**Tennant Creek**	**48.24**	**125**	*e*P	**P**	**02 16 40.9**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**48.24**	**125**	*e*P	**P**	**02 16 40.9**	**-1.6**
	comp=Z,17nm,0.8s,mb5.1						
WB2	**Warramunga Arr**	**48.25**	**125**	*e*P	**P**	**02 16 41.8**	**-0.7**
RAYN	**Ar Rayn**	**49.07**	**294**	P	**P**	**02 16 50.5**	**+1.7**
	comp=Z,144nm,0.6s,SNR=30						
BVAR	**Borovoye Array**	**49.10**	**341**	P	**P**	**02 16 48.0**	**-0.6**
	comp=Z,0.9nm,0.6s,mb4.0,baz=135,slow=10,SNR=7.2						
BVAR				PcP	PcP	02 18 12.2	-0.3
	comp=Z,2.7nm,0.6s,baz=162,slow=4.7,SNR=8.9						
BRVK	**Borovoye**	**49.16**	**341**	*e*P	**P**	**02 16 47.6**	**-1.5**
CHKZ	**Chkalovo**	**49.59**	**342**	*e*P	**P**	**02 16 51.2**	**-1.1**
ASPA	**Alice Springs**	**49.88**	**130**	*e*P	**P**	**02 16 54.4**	**-0.6**
ASAR	**Alice Springs**	**49.88**	**130**	P	**P**	**02 16 54.4**	**-0.7**
	comp=Z,9.2nm,0.7s,mb4.9,baz=303,slow=7.3,SNR=80						
ASAR				PcP	PcP	02 18 15.7	0.0
	comp=Z,3.6nm,0.7s,baz=313,slow=3.4,SNR=11						
FORT	**Forrest**	**50.27**	**141**	⇓*i*P	**P**	**02 16 58.4**	**+0.5**
	comp=Z,95nm,0.9s						
BOD	**Bodaibo**	**52.31**	**13**	*e*P	**P**	**02 17 12.8**	**-0.2**
GNI	**Garni**	**54.48**	**314**	P	**P**	**02 17 29.6**	**+0.4**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GNI	**Garni**	**54.48**	**314**	P	**P**	**02 17 29.6**	**+0.4**
	comp=Z,1.0nm,0.4s,mb4.1,baz=351

comp=Z,20nm,0.9s,mb5.0
LBTB *e*pP pP 02 19 44.5 +1.0
VYHS Vyhne 74.46 318 *e*P **P 02 19 37.5 -1.9**
ARCES ARCESS Array B 75.37 340 P **P 02 19 44.4 +0.2**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 75.37 340 P **P 02 19 44.4 +0.2**
comp=Z,3.1nm,0.8s,mb4.3,baz=101,slow=7.2,SNR=11
ARCES ARCESS Array B 75.37 340 P **P 02 19 44.4 +0.2**
MORC Moravsky Berou 75.43 319 *e*P **P 02 19 43.8 -1.2**
BOSA Boshof 75.44 238 *e*P **P 02 19 45.5 0.0**
BOSA *e* pP 02 19 52.5 +1.3
BOSA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BOSA Boshof 75.44 238 *e*P **P 02 19 45.5 0.0**
comp=Z,10.0nm,0.8s,mb4.8
BOSA *e* pP 02 19 52.5 +1.2
DPC Dobruska-Polom 76.27 320 *e*P **P 02 19 49.8 +0.1**
FX1 Attu Island--F 77.30 38 P **P 02 19 56.5 +1.1**
FX1 pmax pmax
comp=Z,34nm,1.0s
FX1 Attu Island--F 77.30 38 P **P 02 19 56.5 +1.1**
comp=Z,34nm,1.0s,mb5.2,baz=307,slow=22,SNR=5.3
BRG Berggiesshubel 77.81 320 *i* P **P 02 19 58.6 +0.4**
BRG *e* 02 20 06.6
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BRG Berggiesshubel 77.81 320 *i* P **P 02 19 58.6 +0.4**
comp=Z,2.3nm,0.8s,mb4.2
BRG *e* 02 20 06.6
GERES GERESS Array B 77.88 318 P **P 02 19 59.0 +0.4**
GERES pmax pmax
comp=Z,4.0nm,0.7s
GERES GERESS Array B 77.88 318 P **P 02 19 59.0 +0.4**
comp=Z,3.8nm,0.7s,mb4.5,baz=85,slow=5.5,SNR=45
KHC Kasperske Hory 77.97 319 *e*P **P 02 19 58.4 -0.7**
HFS Hagfors 78.54 330 P **P 02 20 01.9 -0.1**
HFS pmax pmax
comp=Z,6.0nm,0.7s
HFS Hagfors 78.54 330 P **P 02 20 01.9 -0.1**
comp=Z,6.3nm,0.7s,mb4.6,baz=127,slow=7.2,SNR=5.6
GRA1 Grafenberg Arr 79.52 319 *e*P **P 02 20 08.0 +0.4**
comp=Z,7.0nm,1.0s,mb4.5
GRF Grafenberg Arr 79.52 319 *e*P **P 02 20 08.0 +0.4**
GRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GRF Grafenberg Arr 79.52 319 *e*P **P 02 20 08.0 +0.4**
GRF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GRF Grafenberg Arr 79.52 319 *e*P **P 02 20 08.0 +0.4**
comp=Z,7.0nm,1.0s,mb4.5
NB2 NORSAR Subarra 79.82 331 P **P 02 20 08.2 -0.7**
comp=Z,2.5nm,0.8s,mb4.2,baz=95,slow=5.3
NB2 NORSAR Subarra 79.82 331 P **P 02 20 08.2 -0.7**
NB2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
NOA NORSAR Array B 79.82 331 P **P 02 20 08.6 -0.3**
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA NORSAR Array B 79.82 331 P **P 02 20 08.6 -0.4**
comp=Z,4.7nm,0.8s,mb4.5,baz=93,slow=5.5,SNR=14
LPG La Plagne 82.66 315 *e*P **P 02 20 24.7 +0.5**
comp=Z,16nm,0.8s,mb4.8
LPG La Plagne 82.66 315 *e*P **P 02 20 24.7 +0.5**
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
SYO Syowa Base 85.25 197 ⇑P **P 02 20 38.4 +1.7**
SYO Syowa Base 85.25 197 ⇓pP pP 02 20 45.0 +2.4
ESDC Sonseca Array 91.25 310 P **P 02 21 07.0 +0.8**
comp=Z,1.5nm,0.5s,mb4.6,baz=63,slow=4.1,SNR=15
IMA Indian Mountai 91.78 22 *e*P **P 02 21 09.9 +1.9**
VNDA Vanda 92.80 168 P **P 02 21 13.6 +1.1**
VNDA pmax pmax
comp=Z,2.0nm,0.8s
VNDA Vanda 92.80 168 P **P 02 21 13.6 +1.1**
comp=Z,1.7nm,0.8s,mb4.6,baz=268,slow=5.8,SNR=5.6
ILAR Eielson Array 94.91 22 P **P 02 21 22.7 +0.3**
ILAR 02 25 12.7
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 94.91 22 P **P 02 21 22.7 +0.3**
comp=Z,0.7nm,0.8s,mb4.2,baz=299,slow=5.3,SNR=8.5
ILAR PP PP 02 25 12.7 -1.0
comp=Z,0.5nm,0.9s,baz=287,slow=8.4,SNR=4.5
ULM Lac du Bonnet 121.62 7 PKP PKPdf 02 26 54.3 -2.9
comp=Z,4.4nm,1.0s,baz=196,slow=2.1,SNR=4.8
NVAR Mina Array Bea 125.08 31 PKP PKPdf 02 27 03.6 -0.6
comp=Z,1.3nm,0.7s,baz=125,slow=0.9,SNR=5.8
PDAR Pinedale Array 125.33 21 PKP PKPdf 02 27 02.4 -2.2
comp=Z,5.1nm,1.2s,baz=60,slow=2.4,SNR=11
ANMO Albuquerque 133.33 23 *i* PKIKP PKPdf 02 27 20.2 +0.2
ANMO pmax pmax
comp=Z,1.0nm,0.6s
ANMO Albuquerque 133.33 23 PKiKP 02 27 20.2
comp=Z,0.6nm,0.6s,baz=259,slow=3.7,SNR=3.8
ANMO Albuquerque 133.33 23 PKPdf PKPdf 02 27 20.2 +0.2
TXAR Lajitas Array 139.39 24 PKP PKPdf 02 27 29.4 -1.8
comp=Z,0.5nm,0.5s,baz=195,slow=1.7,SNR=7.5
JCT Junction City 139.75 19 *e*PKIKP PKPdf 02 27 30.1 -1.8
PLCA Paso Flores 144.39 200 PKIKP PKPdf 02 27 36.5 -3.2
PLCA pmax pmax
comp=Z,6.0nm,1.1s
PLCA Paso Flores 144.39 200 PKP PKPdf 02 27 36.5 -3.3
comp=Z,5.9nm,1.1s,baz=137,slow=2.7,SNR=5.3
PLCA Paso Flores 144.39 200 PKP PKPdf 02 27 36.5 -3.3
LPAZ La Paz 160.63 242 PKIKP PKPdf 02 28 03.1 -0.6
LPAZ 02 28 43.1
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
LPAZ pmax pmax
comp=Z,2.0nm,1.0s
LPAZ La Paz 160.63 242 PKP PKPdf 02 28 03.1 -0.6
comp=Z,1.5nm,0.7s,baz=337,slow=1.6,SNR=7.5
LPAZ PKPab PKPab 02 28 43.0 -0.8
comp=Z,2.1nm,1.0s,baz=112,slow=3.1,SNR=5.7

*IDC **29** 02:12:45.7±1.2, 7.84N×93.87E, mb4.2/11, mb1 4.3/12, mb1mx4.2/20, mbtmp4.1/12, MS3.1/2, Ms1 3.3/2, ms1mx3.0/27, Error ellipse: s-maj=40.1km s-min=27.8km az=50.0*
*BJI **29** 02:12:50.2, 7.90N×94.00E, h30km, mb4.3*
*NEIC **29** 02:12:50.3±0.5, 7.86N×93.96E, h30km, mb4.5/3, Error ellipse: s-maj=15.4km s-min=11.9km az=60.0*
ISC 29 02:12:49.0±0.7, 7.9N±0.1×94.0E±0.1, h33km, n21, σ0§90/19, mb4.2/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.54**	**24**	Pn	**P**	**02 15 34.9**	**+0.4**
	baz=215,slow=14,SNR=5.2						
CMAR				LR	LR	02 20 14.6	
	comp=Z,461nm,19.0s,baz=165,slow=38						
AAK	**Ala-Archa**	**38.63**	**337**	*e*P	**P**	**02 20 10.8**	**-0.2**
	2.8nm,0.9s,mb4.0						
SONM	**Songino Array**	**41.17**	**13**	P	**P**	**02 20 32.0**	**+0.1**
	1.4nm,0.9s,mb3.6,baz=199,slow=8.1,SNR=6.5						
JNU	**Nakatsue**	**42.32**	**48**	LR	LR	02 41 42.8	
	comp=Z,4.2nm,18.9s,baz=291,slow=41						
KURK	**Kurchatov**	**44.56**	**346**	*e*P	**P**	**02 20 58.4**	**-1.1**
	8.4nm,1.1s,mb4.5						
ZAL	**Zalesovo**	**46.51**	**352**	P	**P**	**02 21 15.2**	**+0.3**
	2.2nm,0.5s,mb4.3,baz=290,slow=8.9,SNR=13						
WRA	**Warramunga Arr**	**48.38**	**125**	P	**P**	**02 21 30.3**	**+0.3**
	0.7nm,0.8s,mb3.8,baz=306,slow=8.5,SNR=4.0						
WRAB	**Tennant Creek**	**48.38**	**125**	P	**P**	**02 21 28.7**	**-1.3**
BVAR	**Borovoye Array**	**48.93**	**341**	P	**P**	**02 21 33.3**	**-0.5**
	6.5nm,1.2s,mb4.5,baz=143,slow=7.4,SNR=6.1						
CHKZ	**Chkalovo**	**49.41**	**342**	*e*P	**P**	**02 21 36.4**	**-1.1**
	8.5nm,1.0s,mb4.7						
KMBO	**Kilima Mbogo**	**57.30**	**264**	P	**P**	**02 22 39.7**	**+3.2**
	1.7nm,0.7s,mb4.2,baz=52,slow=11,SNR=6.7						
KMBO	**Kilima Mbogo**	**57.30**	**264**	*e*P	**P**	**02 22 37.1**	**+0.7**
BRTR	**Keskin Array B**	**62.32**	**311**	P	**P**	**02 23 09.4**	**-1.1**
	1.1nm,0.8s,mb4.1,baz=134,slow=8.5,SNR=6.9						
FINES	**FINESS Array B**	**72.63**	**332**	P	**P**	**02 24 14.4**	**-0.4**
	2.9nm,0.8s,mb4.3,baz=121,slow=8.1,SNR=5.6						
ARCES	**ARCESS Array B**	**75.20**	**340**	P	**P**	**02 24 29.7**	**+0.1**
	8.6nm,1.1s,mb4.6,baz=63,slow=5.4,SNR=4.6						
GERES	**GERESS Array B**	**77.72**	**318**	P	**P**	**02 24 45.3**	**+1.0**
	2.0nm,0.8s,mb4.1,baz=76,slow=5.5,SNR=9.6						
HFS	**Hagfors**	**78.37**	**330**	P	**P**	**02 24 48.0**	**+0.4**
	5.6nm,0.9s,mb4.5,baz=90,slow=4.4,SNR=4.1						
NB2	**NORSAR Subarra**	**79.65**	**331**	P	**P**	**02 24 54.8**	**+0.3**
	1.5nm,0.8s,mb4.0,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.65**	**331**	P	**P**	**02 24 55.1**	**+0.6**
	2.3nm,0.8s,mb4.2,baz=91,slow=5.6,SNR=5.1						
IMA	**Indian Mountai**	**91.65**	**22**	*e*P	**P**	**02 25 56.1**	**+2.3**
PDAR	**Pinedale Array**	**125.19**	**21**	PKP	PKPdf	02 31 49.0	+2.4
	0.4nm,0.7s,slow=1.5,SNR=4.4						

*ATH **29** 02:13:26.2, 37.95N×25.74E, h10km*
*CSEM **29** 02:13:32.0, 38.20N×26.73E, h24km, MD2.8, After ISK*
ISK 29 02:13:32.0, 38.20N×26.73E, h24km, MD2.8, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.30**	**53**	*i* PG	Pb	02 13 39.4	+0.4
BLCB				*i* SG	Sb	02 13 45.0	+1.2
IZM	**Izmir**	**0.46**	**65**	*i* PG	Pb	02 13 42.6	+1.1
IZM				*i* SG	Sb	02 13 49.4	+1.4
SMG	**Samos**	**0.50**	**170**	*e*PB	Pb	02 13 43.3	+1.2
AKS	**Akhisar**	**1.08**	**51**	PN	Pn	02 13 51.8	0.0
AKS				SN	Sn	02 14 07.2	+1.0
LIA	**Limnos Island**	**2.08**	**325**	*e*PG	Pn	02 14 03.4	-2.7
NEO	**Neokhori**	**2.96**	**293**	*e*PB	Pn	02 14 06.7	-12
RDO	**Rodhopi**	**3.08**	**343**	*e*PN	Pn	02 14 18.8	-1.6

IDC 29 02:21:02.7±2.1, 6.89N×93.15E, mb3.8/5, mb1 4.1/6, mb1mx3.8/19, mbtmp3.8/6, ML4.4/1, Error ellipse: s-maj=76.1km s-min=21.1km az=64.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.81**	**26**	Pn	P	02 24 05.0	-4.0
	0.6nm,0.3s,baz=229,slow=14,SNR=26						
SONM	**Songino Array**	**42.34**	**13**	P	P	02 28 59.4	-0.6
	0.8nm,1.0s,baz=188,slow=10,SNR=4.5						
ZAL	**Zalesovo**	**47.40**	**353**	P	P	02 29 39.2	-1.3
	0.5nm,0.5s,baz=286,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**48.51**	**124**	P	P	02 29 47.5	-2.1
	2.6nm,0.8s,baz=305,slow=8.6,SNR=16						
BVAR	**Borovoye Array**	**49.61**	**342**	P	P	02 29 54.0	-3.7
	1.1nm,0.9s,baz=135,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**50.05**	**129**	P	P	02 29 59.5	-2.0
	1.7nm,0.8s,baz=311,slow=7.4,SNR=15						

IDC 29 02:21:42.3±17.0, 7.67N×94.38E, mb4.1/6, mb1 4.2/6, mb1mx3.8/18, mbtmp4.1/6, MS3.9/1, Ms1 3.9/1, ms1mx3.0/24, Error ellipse: s-maj=491.7km s-min=100.0km az=124.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAL	**Zalesovo**	**46.78**	**352**	P	P	02 30 13.2	-2.0
	1.1nm,0.6s,baz=305,slow=7.5,SNR=6.1						
ASAR	**Alice Springs**	**49.60**	**130**	LR	LR	02 51 07.5	
	comp=Z,142nm,21.2s,baz=309,slow=36						
FINES	**FINESS Array B**	**73.00**	**332**	P	P	02 33 13.6	-2.0
	2.0nm,0.8s,baz=104,slow=7.9,SNR=8.2						
ARCES	**ARCESS Array B**	**75.54**	**340**	P	P	02 33 28.8	-1.3
	3.3nm,0.9s,baz=90,slow=6.1,SNR=5.0						
GERES	**GERESS Array B**	**78.13**	**318**	P	P	02 33 43.7	-1.2
	0.7nm,0.8s,baz=108,slow=4.2,SNR=4.3						
HFS	**Hagfors**	**78.75**	**330**	P	P	02 33 46.6	-1.5
	1.5nm,0.5s,baz=117,slow=6.4,SNR=12						
NOA	**NORSAR Array B**	**80.02**	**331**	P	P	02 33 53.6	-1.4
	0.7nm,0.8s,baz=97,slow=5.1,SNR=2.8						

*IDC **29** 02:22:55.3±1.1, 7.70N×93.98E, mb4.2/12, mb1 4.3/13, mb1mx4.2/21, mbtmp4.2/13, ML4.2/1, MS3.2/1, Ms1 3.4/1, ms1mx3.2/23, Error ellipse: s-maj=35.7km s-min=26.1km az=41.0*
*NEIC **29** 02:22:59.4±0.5, 7.71N×94.12E, h30km, mb4.4/6, Error ellipse: s-maj=15.1km s-min=10.4km az=54.0*
ISC 29 02:22:57.7±0.7, 7.8N±0.1×94.3E±0.1, h30km, n26, σ1§01/26, mb4.2/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.56**	**23**	Pn	**P**	**02 25 44.0**	**0.0**
	0.4nm,0.3s,baz=211,slow=14,SNR=4.6						
CMAR				LR	LR	02 30 54.4	
	comp=Z,119nm,19.9s,baz=165,slow=41						
CMAR	**Chiang Mai Arr**	**11.56**	**23**	Pn	**P**	**02 25 44.0**	**0.0**
CMAR				LR	LR	02 30 54.4	
HYB	**Hyderabad**	**18.07**	**304**	*i* P	**P**	**02 27 10.5**	**+1.9**
KMI	**Kunming**	**19.07**	**24**	P	**P**	**02 27 24.5**	**+4.0**
	10.0nm,1.2s						
AAK	**Ala-Archa**	**38.85**	**337**	*e*P	**P**	**02 30 21.7**	**-0.3**
	2.1nm,0.7s,mb4.0						
SONM	**Songino Array**	**41.24**	**12**	P	**P**	**02 30 43.3**	**+1.6**
	1.3nm,0.7s,mb3.6,baz=198,slow=7.3,SNR=9.5						
SONM				PcP	PcP	02 32 41.8	+0.9
	0.7nm,0.5s,baz=204,slow=2.5,SNR=5.6						
KURK	**Kurchatov**	**44.74**	**346**	*e*P	**P**	**02 31 09.7**	**-0.6**
	5.0nm,0.8s,mb4.4						
ZAL	**Zalesovo**	**46.67**	**352**	P	**P**	**02 31 25.5**	**+0.1**
	2.3nm,0.7s,mb4.2,baz=301,slow=8.6,SNR=10						
WRA	**Warramunga Arr**	**48.10**	**126**	P	**P**	**02 31 38.1**	**+1.0**
	0.8nm,0.5s,mb4.0,baz=305,slow=8.5,SNR=5.7						
WRAB	**Tennant Creek**	**48.10**	**126**	*e*P	**P**	**02 31 36.5**	**-0.6**
	5.7nm,0.9s,mb4.6						
BVAR	**Borovoye Array**	**49.13**	**341**	P	**P**	**02 31 44.0**	**-0.6**
	1.4nm,0.9s,mb4.0,baz=135,slow=10,SNR=5.2						
BVAR				PcP	PcP	02 33 08.9	+0.8
	0.8nm,0.6s,baz=180,slow=3.0,SNR=4.5						
RAYN	**Ar Rayn**	**49.24**	**294**	P	**P**	**02 31 47.5**	**+1.6**
	51nm,0.8s,SNR=11						
CHKZ	**Chkalovo**	**49.61**	**342**	*e*P	**P**	**02 31 47.7**	**-0.6**
	4.7nm,0.7s,mb4.6						
BRTR	**Keskin Array B**	**62.59**	**311**	P	**P**	**02 33 20.0**	**-1.6**
	1.5nm,0.6s,mb4.3,baz=116,slow=7.3,SNR=9.7						
ARCES	**Malin Array Be**	**68.31**	**322**	P	**P**	**02 33 56.3**	**-1.9**
	0.2nm,0.3s,mb3.6,baz=86,slow=5.2,SNR=7.1						
IDI	**Anoyia**	**68.73**	**305**	P	**P**	**02 34 00.8**	**-0.3**
	3.9nm,0.6s,mb4.5,baz=58,slow=13,SNR=5.6						
FINES	**FINESS Array B**	**72.86**	**332**	P	**P**	**02 34 25.4**	**-0.2**
	3.0nm,0.7s,mb4.3,baz=100,slow=7.3,SNR=19						
KAF	**Kangasniemi**	**72.94**	**333**	*e*p	**P**	**02 34 25.2**	**-0.8**
	2.9nm,0.7s,mb4.3						
ARCES	**ARCESS Array B**	**75.41**	**340**	P	**P**	**02 34 40.8**	**+0.7**
	1.2nm,0.5s,mb4.1,baz=93,slow=6.7,SNR=13						
MORC	**Moravsky Berou**	**75.54**	**319**	P	**P**	**02 34 40.3**	**-1.0**
GERES	**GERESS Array B**	**77.99**	**318**	P	**P**	**02 34 55.8**	**+0.9**
	2.8nm,0.9s,mb4.2,baz=90,slow=5.3,SNR=15						
HFS	**Hagfors**	**78.61**	**330**	P	**P**	**02 34 58.5**	**+0.5**
	4.0nm,0.5s,mb4.6,baz=104,slow=6.1,SNR=30						
HFS	**Hagfors**	**78.61**	**330**	P	**P**	**02 34 58.5**	**+0.5**
NB2	**NORSAR Subarra**	**79.89**	**331**	P	**P**	**02 35 04.8**	**-0.2**
	1.9nm,0.6s,mb4.2,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.89**	**331**	P	**P**	**02 35 05.2**	**+0.2**
	1.8nm,0.6s,mb4.2,baz=95,slow=5.0,SNR=7.6						
NOA	**NORSAR Array B**	**79.89**	**331**	P	**P**	**02 35 05.2**	**+0.2**

*IDC **29** 02:27:10.0±7.1, 15.40S×35.28E, h22km±4km, mb3.9/9, mb1 3.9/10, mb1mx3.8/22, mbtmp4.0/10, ML3.6/1, Error ellipse: s-maj=167.9km s-min=37.0km az=155.0*
*NEIC **29** 02:27:10.2±2.4, 15.43S×35.23E, mb4.0/2, Error ellipse: s-maj=60.0km s-min=10.7km az=147.0*
ISC 29 02:27:09.2±1.3, 15.2S±0.2×35.1E±0.2, h23km, h23km±.5km:pP-P, n20, σ0§69/19, mb4.0/10, Malawi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**6.69**	**269**	*e*P	**Pn**	**02 28 48.8**	**0.0**
LBTB	**Lobatse**	**13.23**	**221**	*e*P	**P**	**02 30 18.3**	**-0.1**
KMBO	**Kilima Mbogo**	**14.15**	**9**	Pn	**P**	**02 30 26.6**	**-4.1**
	0.3nm,0.3s,baz=189,slow=17,SNR=3.5						
KMBO				Lg		02 34 16.1	
	0.5nm,0.3s,baz=85,slow=22,SNR=9.4						
MBAR	**Mbarara**	**15.15**	**343**	*e*P	**P**	**02 30 37.0**	**-6.7**
TSUM	**Tsumeb**	**17.22**	**254**	P	**P**	**02 31 09.9**	**-0.1**
	3.7nm,0.6s						
DBIC	**Dimbokro**	**45.19**	**296**	P	**P**	**02 35 26.8**	**+0.2**
	2.1nm,0.8s,mb4.0,baz=111,slow=11,SNR=5.6						
DBIC				pP	pP	02 35 34.4	+0.8
	2.9nm,0.9s,baz=349,slow=23,SNR=1.8						
ASF	**Jabal al Asfar**	**47.14**	**2**	P	**P**	**02 35 42.2**	**+0.4**
	2.0nm,0.9s,mb4.0,baz=43,slow=8.3,SNR=4.1						
BRTR	**Keskin Array B**	**54.66**	**359**	P	**P**	**02 36 39.2**	**+0.4**
	0.9nm,0.5s,mb4.1,baz=179,slow=9.5,SNR=6.0						
BRTR				pP	pP	02 36 46.0	+0.1
	4.9nm,1.1s,baz=175,slow=8.4,SNR=7.6						
ESDC	**Sonseca Array**	**65.63**	**328**	P	**P**	**02 37 54.8**	**+0.9**
	0.9nm,0.5s,mb4.1,baz=138,slow=6.0,SNR=10						
DAVOX	**Davos**	**65.75**	**341**	P	**P**	**02 37 54.6**	**+0.1**
	3.1nm,1.0s,mb4.3,baz=202,slow=14,SNR=5.0						
AKASG	**Malin Array Be**	**65.83**	**356**	P	**P**	**02 37 53.9**	**-1.0**
	0.8nm,0.6s,mb3.9,baz=108,slow=19,SNR=3.9						
AKASG				pP	pP	02 38 00.9	-1.2
	1.0nm,0.5s,baz=173,slow=5.4,SNR=4.2						
GERES	**GERESS Array B**	**66.55**	**345**	P	**P**	**02 37 59.3**	**-0.2**
	0.1nm,0.4s,mb3.2,baz=124,slow=4.8,SNR=5.0						
GERES				pP	pP	02 38 06.6	-0.1
	1.0nm,0.7s,baz=146,slow=4.8,SNR=4.3						
PLDF	**La Plantade**	**67.21**	**337**	*e*P	pP	02 38 15.0	+3.9
LOMF	**Lomont**	**67.24**	**340**	*e*P	**P**	**02 38 02.7**	**-1.3**
FELD	**Feldberg**	**67.31**	**341**	*e*P	**P**	**02 37 58.3**	**-6.2**
MOF	**Molkenrain**	**67.57**	**340**	*e*P	**P**	**02 38 01.4**	**-4.7**
FINES	**FINESS Array B**	**76.73**	**356**	P	**P**	**02 39 00.3**	**+0.2**
	0.9nm,0.5s,mb4.0,baz=158,slow=4.1,SNR=16						
FINES				pP	pP	02 39 07.8	+0.3
	1.6nm,0.5s,baz=155,slow=3.8,SNR=2.3						
FINES	**FINESS Array B**	**76.73**	**356**	P	**P**	**02 39 00.3**	**+0.1**
FINES				pP	pP	02 39 07.8	+0.3
HFS	**Hagfors**	**77.05**	**349**	P	**P**	**02 39 03.0**	**+1.0**
	1.5nm,0.7s,mb4.0,baz=80,slow=9.0,SNR=3.3						
HFS				pP	pP	02 39 09.8	+0.6
	2.5nm,0.9s,baz=127,slow=7.4,SNR=1.7						
KAF	**Kangasniemi**	**77.38**	**356**	*e*p	**P**	**02 39 03.8**	**+0.1**
	1.5nm,0.4s,mb4.3						

*NIED **29** 02:29:00, 33.90N×142.00E, h5km, Mw4.3 Best double couple: M0 3.7×10^15 NP1:φs134°, δ73°, λ-104°. NP2: φs356°, δ22°, λ-50°.*
*JMA **29** 02:29:59.5±0.3, 33.92N×142.04E, h23km, M4.4*
*MOS **29** 02:30:03.7±0.9, 34.15N×141.71E, h33km, mb4.9/30, Error ellipse: s-maj=12.4km s-min=7.7km az=110.4*
*BJI **29** 02:30:04.6, 34.02N×141.49E, h33km, mB5.1, mb4.5, Ms4.3, Msz4.1*
*IDC **29** 02:30:07.3±0.4, 33.97N×141.72E, h55km±3km, mb4.1/22, mb1 4.3/24, mb1mx4.3/27, mbtmp4.4/24, MS3.8/1, Ms1 3.8/1, ms1mx2.8/30, Error ellipse: s-maj=13.0km s-min=6.1km az=145.0*
*NEIC **29** 02:30:07.3±0.2, 34.07N×141.68E, mb4.7/21, MW4.3(NIED), Error ellipse: s-maj=6.5km s-min=6.0km az=168.0*
ISC 29 02:30:04.3±0.8, 33.99N±0.04×141.75E±0.05, h42km±6km, h53km±.6km:pP-P, n142, σ1§02/152, mb4.5/46, MS4.3/3, 2C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.92**	**316**	P	**P**	**02 30 20.2**	**-0.7**
BSO1				*e*S	**S**	**02 30 35.1**	**+2.0**
BSO2	**Boso 2**	**1.12**	**313**	*e*S	**S**	**02 30 42.0**	**+3.9**
BSO3	**Boso 3**	**1.30**	**309**	P	**P**	**02 30 26.5**	**0.0**
BSO3				*e*S	**S**	**02 30 47.1**	**+4.2**
BSO4	**Boso 4**	**1.53**	**311**	P	**P**	**02 30 30.1**	**+0.4**
BSO4				*e*S	**S**	**02 30 52.4**	**+3.8**
KTR	**Katsuura**	**1.65**	**315**	P	**P**	**02 30 31.6**	**+0.2**
KTR				*e*S	**S**	**02 30 54.8**	**+3.3**
JHJ2	**Mitsune**	**1.84**	**242**	P	**P**	**02 30 33.9**	**-0.1**
JHJ2				S	**S**	**02 30 57.8**	**+1.6**
JHJ	**Hachijo jima 2**	**1.86**	**243**	P	**P**	**02 30 34.0**	**-0.3**
	621nm,0.3s,baz=160,slow=4.1,SNR=32						
JHJ				S	**S**	**02 30 57.9**	**+1.2**
	777nm,0.3s,baz=221,slow=22,SNR=14						
JIM2	**Oshima 3**	**2.05**	**291**	P	**P**	**02 30 36.3**	**-0.7**
JIM2				*e*S	**S**	**02 31 01.8**	**+0.3**
JIZS	**Izushimoda**	**2.48**	**288**	P	**P**	**02 30 42.9**	**-0.3**
JIZS				S	**S**	**02 31 12.7**	**+0.2**
JOD2	**Odawara 2**	**2.53**	**301**	P	**P**	**02 30 42.9**	**-1.0**
JYN	**Shimob**	**3.04**	**301**	P	**P**	**02 30 50.3**	**-0.8**
JAG	**Ashikaga**	**3.07**	**323**	P	**P**	**02 30 50.9**	**-0.6**
JRY	**Ryogami san**	**3.09**	**312**	P	**P**	**02 30 51.0**	**-0.8**
SHZ3	**Shizuoka 3**	**3.11**	**291**	P	**P**	**02 30 52.7**	**+0.6**
MAJO	**Matsushiro**	**3.86**	**312**	*e*P	**P**	**02 31 00.2**	**-2.5**
MAT	**Matsushiro**	**3.86**	**312**	*e*P	**P**	**02 31 02.0**	**-0.7**
MAT				*e*S	**S**	**02 31 49.0**	**+1.7**
MAT	**Matsushiro**	**3.86**	**312**	P	**P**	**02 31 01.9**	**-0.8**
MAT				S	**S**	**02 31 48.7**	**+1.4**
CBIJ	**Chichi jima**	**6.88**	**177**	P	**P**	**02 31 40.6**	**-4.7**
	19nm,0.3s,baz=308,slow=23,SNR=10.0						
ASAJ	**Asahikawa**	**10.13**	**3**	P	**P**	**02 32 24.5**	**-5.6**
ASAJ				S	**S**	**02 34 15.5**	**-8.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.13**	**3**	P	**P**	**02 32 24.4**	**-5.6**
	comp=N,2.3nm,0.3s,baz=227,slow=9.6,SNR=10						
ASAJ				S	**S**	**02 34 15.4**	**-8.0**
	comp=N,0.9nm,0.3s,baz=85,slow=32,SNR=3.3						
YSS	**Yuzh-Sakhalins**	**12.97**	**3**	*e*P	**P**	**02 33 02.5**	**-5.9**
YSS				pmax	pmax		
	comp=N,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s						
YSS	**Yuzh-Sakhalins**	**12.97**	**3**	*e*P	**P**	**02 33 01.4**	**-7.0**
	comp=Z,61nm,0.9s						
JOW	**Kunigami**	**13.64**	**242**	LR	LR	02 38 41.1	
	comp=Z,343nm,18.9s,baz=304,slow=38						
NJ2	**Nanjing**	**19.29**	**271**	*e*P	**P**	**02 34 28.5**	**+0.2**
NJ2				AP		02 34 38.8	
NJ2			

comp=Z,3.6nm,1.1s,mb4.0,baz=13,slow=8.0,SNR=12
NVS Novosibirsk 45.17 316 *eP* **P 02 38 15.6 -2.8**
NVS *e* 02 38 32.6
NVS pmax pmax
comp=E,10.0nm,1.2s
NVS pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
KURK Kurchatov 48.06 310 *eP* **P 02 38 40.4 -0.9**
KURK pmax pmax
comp=Z,23nm,0.8s,mb5.3
KURK Kurchatov 48.06 310 *eP* **P 02 38 40.4 -0.8**
comp=Z,23nm,0.8s,mb5.2
COLA College 51.52 31 *eP* **P 02 39 07.3 -0.2**
ILAR Eielson Array 51.93 31 P **P 02 39 09.7 -0.9**
ILAR pmax pmax
comp=Z,9.0nm,0.8s
ILAR Eielson Array 51.93 31 P **P 02 39 09.7 -0.9**
comp=Z,9.3nm,0.8s,mb4.8,baz=269,slow=6.3,SNR=74
AAK Ala-Archa 52.22 301 *eP* **P 02 39 12.0 -1.1**
CHKZ Chkalovo 52.62 315 *eP* **P 02 39 14.3 -1.6**
CHKZ *e* pP 02 39 28.9 +1.0
CHKZ pmax pmax
comp=Z,20nm,1.3s,mb4.9
CHKZ Chkalovo 52.62 315 *eP* **P 02 39 14.3 -1.5**
comp=Z,20nm,1.3s,mb4.9
CHKZ *e* pP 02 39 28.9 +1.0
BVAR Borovoye Array 52.85 314 P **P 02 39 17.2 -0.4**
comp=Z,2.8nm,0.6s,mb4.4,baz=90,slow=7.4,SNR=25
BRVK Borovoye 52.91 314 *eP* **P 02 39 17.5 -0.6**
BRVK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BRVK Borovoye 52.91 314 *eP* **P 02 39 17.5 -0.6**
comp=Z,10.0nm,1.0s,mb4.7
FITZ Fitzroy Crossi 54.03 199 *eP* **P 02 39 28.5 +1.7**
comp=Z,8.4nm,1.1s,mb4.6
FITZ *i* pP 02 39 40.9 +2.0
WRAB Tennant Creek 54.09 189 *eP* **P 02 39 25.4 -1.8**
WRAB pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
WRAB Tennant Creek 54.09 189 *eP* **P 02 39 25.4 -1.8**
comp=Z,5.6nm,0.8s,mb4.5
WB2 Warramunga Arr 54.09 189 *eP* **P 02 39 25.2 -2.1**
WB2 *i* 02 39 40.3
WRA Warramunga Arr 54.10 189 P **P 02 39 25.2 -2.1**
WRA *PP pP 02 39 40.4 +1.0
WRA pmax pmax
comp=Z,3.0nm,0.5s
WRA pmax pmax
comp=Z,5.0nm,0.6s
WRA Warramunga Arr 54.10 189 P **P 02 39 25.2 -2.1**
comp=Z,2.9nm,0.5s,mb4.5,baz=5.2,slow=7.6,SNR=29
WRA pP pP 02 39 40.4 +1.0
comp=Z,4.9nm,0.6s,baz=5.6,slow=7.6,SNR=9.8
DAWY Dawson 55.22 32 *eP* **P 02 39 33.3 -1.6**
INK Inuvik 56.98 26 *eP* **P 02 39 46.1 -1.4**
ASAR Alice Springs 57.82 189 P **P 02 39 53.4 -0.6**
comp=Z,0.9nm,0.5s,mb4.1,baz=2.8,slow=7.3,SNR=15
ASAR pP pP 02 40 09.1 +2.9
comp=Z,2.7nm,0.6s,baz=0.7,slow=7.3,SNR=10
ASPA Alice Springs 57.82 189 *eP* **P 02 39 56.6 +2.6**
ASPA *e* pP 02 40 11.3 +5.1
HYB Hyderabad 58.45 271 *i P* **P 02 39 57.0 -1.4**
ARU Arti 58.84 320 *eP* **P 02 39 53.4 -7.2**
ARU *e* pP 02 40 08.3 -4.5
RES Resolute Bay 65.47 14 *eP* **P 02 40 43.2 -1.4**
RES pmax pmax
comp=Z,11nm,0.9s,mb4.9
RES Resolute Bay 65.47 14 *eP* **P 02 40 43.2 -1.3**
comp=Z,11nm,0.9s,mb4.9
STKA Stephens Creek 65.52 180 *eP* **P 02 40 45.6 +0.1**
YKA Yellowknife Ar 66.30 30 P **P 02 40 49.0 -1.0**
YKA *PP pP 02 41 04.2 +1.7
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 66.30 30 P **P 02 40 49.0 -1.0**
comp=Z,2.5nm,0.9s,mb4.2,baz=295,slow=6.1,SNR=27
YKA pP pP 02 41 04.2 +1.8
comp=Z,2.3nm,0.7s,baz=296,slow=6.3,SNR=15
YKA Yellowknife Ar 66.30 30 P **P 02 40 49.0 -1.0**
YKA pP pP 02 41 04.2 +1.8
JOF Joensuu 68.78 333 *ep* **P 02 41 03.3 -2.2**
comp=Z,3.3nm,0.7s,mb4.4
MOS Moscow 69.86 324 *eP* pP 02 41 26.3 +1.6
NWAO Narrogin (SRO) 70.44 202 P **P 02 41 15.4 -0.8**
NWAO *PP pP 02 41 30.9 +2.2
NWAO pmax pmax
comp=Z,6.0nm,0.8s
NWAO pmax pmax
comp=Z,8.0nm,0.7s
NWAO Narrogin (SRO) 70.44 202 P **P 02 41 15.3 -0.9**
comp=Z,5.6nm,0.8s,mb4.6,baz=30,slow=4.8,SNR=3.1
NWAO pP pP 02 41 30.9 +2.2
comp=Z,7.9nm,0.7s,baz=42,slow=3.8,SNR=4.4
NWAO Narrogin (SRO) 70.44 202 P **P 02 41 15.3 -0.9**
NWAO pP pP 02 41 30.9 +2.2
KAF Kangasniemi 71.14 333 *ep* **P 02 41 18.4 -1.5**
comp=Z,4.7nm,0.8s,mb4.5,baz=50,slow=5.7
KAF Kangasniemi 71.14 333 *eP* **P 02 41 18.4 -1.5**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
EDM Edmonton 71.57 38 *eP* **P 02 41 22.1 -0.5**
EDM *e*PP pP 02 41 36.0 +0.9
FINES FINESS Array B 71.63 333 P **P 02 41 22.8 0.0**
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 71.63 333 P **P 02 41 22.8 -0.1**
comp=Z,5.9nm,0.8s,mb4.6,baz=76,slow=7.9,SNR=13
NEW Newport 72.13 44 *eP* **P 02 41 25.8 -0.2**
NEW *e*PP pP 02 41 40.8 +2.3
NEW pmax pmax
comp=Z,12nm,1.1s
NEW Newport 72.13 44 P **P 02 41 26.4 +0.5**
comp=Z,7.3nm,0.8s,mb4.7,baz=305,slow=3.5,SNR=15
NEW Newport 72.13 44 *eP* **P 02 41 25.8 -0.2**
comp=Z,12nm,1.1s,mb4.7
NEW *ep*P pP 02 41 40.8 +2.3
KIV Kislovodsk 73.12 312 *eP* **P 02 41 32.8 +0.9**
KIV *e* 02 41 48.7
KIV pmax pmax
comp=Z,20nm,1.5s,mb4.8
BMO Blue Mountains 73.80 47 *eP* **P 02 41 35.6 -0.3**
BMO *e*PP pP 02 41 49.9 +1.5
BMO pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BMO Blue Mountains 73.80 47 *eP* **P 02 41 35.5 -0.3**
comp=Z,6.0nm,1.0s,mb4.5
BMO *ep*P pP 02 41 49.9 +1.5
MSO Missoula 74.72 44 *eP* **P 02 41 40.7 -0.5**
CMB Columbia Colle 75.42 54 *eP* **P 02 41 45.2 -0.2**
CMB *e*PP pP 02 42 00.4 +2.5
CMB pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
CMB Columbia Colle 75.42 54 *eP* **P 02 41 45.2 -0.2**
comp=Z,8.5nm,1.3s,mb4.5
CMB *ep*P pP 02 42 00.4 +2.5
FFC Flin Flon 76.12 32 *eP* **P 02 41 48.3 -0.7**
FFC pmax pmax
comp=Z,11nm,0.8s,mb4.8
FFC Flin Flon 76.12 32 *eP* **P 02 41 48.3 -0.7**
comp=Z,11nm,0.8s,mb4.8
HLID Hailey 76.25 47 *eP* **P 02 41 50.6 +0.7**
comp=Z,12nm,1.6s,mb4.6
HLID *ep*P pP 02 42 04.6 +2.1
MCMT McKenzie Canyo 76.47 45 *eP* **P 02 41 51.7 +0.5**
FCC Fort Churchill 76.60 26 *eP* **P 02 41 50.5 -1.1**
FCC pmax pmax
comp=Z,12nm,1.2s,mb4.7
FCC Fort Churchill 76.60 26 *eP* **P 02 41 50.5 -1.1**
comp=Z,12nm,1.2s,mb4.7
NVAR Mina Array Bea 76.60 53 P **P 02 41 53.2 +1.1**
comp=Z,3.4nm,0.8s,mb4.4,baz=280,slow=6.4,SNR=19
NVAR pP pP 02 42 08.8 +4.1
comp=Z,2.6nm,0.7s,baz=288,slow=6.5,SNR=7.2
NVAR Mina Array Bea 76.60 53 P **P 02 41 53.2 +1.1**
NVAR pP pP 02 42 08.8 +4.1
MNV Mina 76.70 53 P **P 02 41 53.0 +0.4**
BOZ Bozeman (W) 76.71 44 *eP* **P 02 41 52.7 +0.2**
BOZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BOZ Bozeman (W) 76.71 44 *eP* **P 02 41 52.7 +0.2**
comp=Z,6.6nm,0.9s,mb4.6
AKASG Malin Array Be 76.88 323 P **P 02 41 53.0 -0.4**
AKASG *PP pP 02 42 08.5 +2.6
AKASG pmax pmax
comp=Z,7.0nm,0.9s
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 76.88 323 P **P 02 41 53.0 -0.4**
comp=Z,7.3nm,0.8s,mb4.6,baz=46,slow=5.9,SNR=22
AKASG pP pP 02 42 08.5 +2.6
comp=Z,4.6nm,0.7s,baz=48,slow=5.9,SNR=8.3
HFS Hagfors 76.97 336 P **P 02 41 53.5 -0.2**
HFS *PP pP 02 42 08.7 +2.4
HFS pmax pmax
comp=Z,4.0nm,0.8s
HFS pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 76.97 336 P **P 02 41 53.5 -0.2**
comp=Z,3.7nm,0.8s,mb4.3,baz=270,slow=1.5,SNR=6.9
HFS pP pP 02 42 08.7 +2.4
comp=Z,1.4nm,0.5s,baz=90,slow=4.4,SNR=2.6
NB2 NORSAR Subarra 77.09 338 P **P 02 41 54.0 -0.4**
comp=Z,2.0nm,0.7s,mb4.2,baz=40,slow=5.6
NB2 NORSAR Subarra 77.09 338 P **P 02 41 54.0 -0.4**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
NOA NORSAR Array B 77.09 338 P **P 02 41 54.3 -0.1**
NOA *PP pP 02 42 10.0 +3.0
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA NORSAR Array B 77.09 338 P **P 02 41 54.3 -0.1**
comp=Z,3.8nm,0.8s,mb4.4,baz=39,slow=5.7,SNR=13
NOA pP pP 02 42 10.0 +3.0
comp=Z,2.6nm,0.9s,baz=39,slow=5.7,SNR=4.4
QLMT Earthquake Lak 77.30 44 *eP* **P 02 41 56.7 +0.8**
QLMT *ep*P pP 02 42 11.8 +3.4
GCMT Greycliff 77.74 43 P **P 02 41 58.8 +0.6**
LKWY Lake 78.05 44 *eP* **P 02 42 01.9 +1.9**
LKWY pmax pmax
comp=Z,13nm,1.0s,mb4.8
LKWY Lake 78.05 44 *eP* **P 02 42 01.9 +1.9**
comp=Z,13nm,1.0s,mb4.8
IMW Indian Meadow 78.12 45 *eP* **P 02 42 01.7 +1.3**
TPAW Teton Pass 78.36 45 *eP* **P 02 42 02.8 +1.1**
LOHW Long Hollow 78.49 45 *eP* **P 02 42 02.9 +0.5**
LOHW *ep*P pP 02 42 17.6 +2.6
HWUT Hardware Ranch 79.09 47 *eP* **P 02 42 06.6 +0.9**
comp=Z,17nm,1.2s,mb4.9
HWUT *ep*P pP 02 42 21.1 +2.7
BW06 Boulder Array 79.61 45 *eP* **P 02 42 08.5 0.0**
comp=Z,8.5nm,1.4s,mb4.5
BW06 *ep*P pP 02 42 23.9 +2.8
PDAR Pinedale Array 79.61 45 P **P 02 42 09.3 +0.8**
comp=Z,2.5nm,0.8s,mb4.2,baz=280,slow=2.7,SNR=17
PDAR pP pP 02 42 24.8 +3.6
comp=Z,2.9nm,0.7s,baz=266,slow=2.1,SNR=12
DAU Daniels Canyon 79.98 48 *eP* **P 02 42 11.8 +1.2**
MSU Marysvale 80.52 50 *eP* **P 02 42 13.4 -0.1**
KWP Kalwaria 80.76 325 *eP* **P 02 42 14.8 +0.2**
KWP *e*PP pP 02 42 29.5 +2.3
BRTR Keskin Array B 81.08 312 P **P 02 42 17.4 +1.0**
BRTR *PP pP 02 42 32.5 +3.4
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 81.08 312 P **P 02 42 17.4 +1.0**
comp=Z,2.6nm,0.8s,mb4.2,baz=111,slow=3.9,SNR=13
BRTR pP pP 02 42 32.5 +3.4
comp=Z,2.4nm,0.9s,baz=135,slow=3.5,SNR=6.0
SRU San Rafael 81.21 49 *eP* **P 02 42 17.4 +0.3**
ULM Lac du Bonnet 81.89 33 P **P 02 42 20.2 -0.2**
comp=Z,3.0nm,0.8s,mb4.3,baz=299,slow=5.0,SNR=5.6
PV10 Paradox Valley 82.58 48 *eP* **P 02 42 25.3 +1.1**
PV10 *ep*P pP 02 42 40.3 +3.4
PV01 Paradox Valley 83.02 48 *eP* **P 02 42 27.4 +1.0**
PV01 *ep*P pP 02 42 42.0 +2.8
DPC Dobruska-Polom 83.18 328 *eP* **P 02 42 27.9 +0.9**
VYHS Vyhne 83.38 326 *eP* **P 02 42 29.4 +1.3**
VYHS *ep*P pP 02 42 44.6 +3.8
ASF Jabal al Asfar 83.44 304 P **P 02 42 30.1 +1.4**
comp=Z,3.6nm,0.8s,mb4.4,baz=352,slow=6.0,SNR=5.5
ISCO Idaho Springs 83.78 46 P **P 02 42 31.7 +1.5**
PVCC Panska Ves 83.80 329 *eP* **P 02 42 30.4 +0.3**
BRG Berggiesshubel 83.81 330 ⇑*iP* **P 02 42 31.0 +0.9**
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
BRG Berggiesshubel 83.81 330 ⇑*iP* **P 02 42 31.0 +0.9**
comp=Z,3.7nm,0.8s,mb4.6
CLL Collm 83.87 331 *i P* **P 02 42 30.9 +0.5**
CLL *e* pP 02 42 46.0 +2.8
CLL pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
CLL Collm 83.87 331 *i P* **P 02 42 30.9 +0.5**
comp=Z,9.0nm,0.9s,mb4.9
CLL *i* 02 42 35.1
CLL *e* pP 02 42 46.0 +2.8
CLL Collm 83.87 331 P **P 02 42 30.9 +0.5**
comp=Z,logA/T=1.0,mb4.9
CLL *i* 02 42 35.1
CLL *e*PP pP 02 42 46.0 +2.8
PRU Pruhonice 84.22 329 *eP* **P 02 42 32.5 +0.3**
SDCO Great Sand Dun 85.15 47 *eP* **P 02 42 38.1 +1.0**
KHC Kasperske Hory 85.28 329 *eP* **P 02 42 38.3 +0.8**
KHC *ep*P pP 02 42 53.1 +2.8
GERES GERESS Array B 85.44 329 P **P 02 42 39.0 +0.7**
GERES pmax pmax
comp=Z,3.0nm,0.9s
GERES GERESS Array B 85.44 329 P **P 02 42 39.0 +0.7**
comp=Z,2.8nm,0.9s,mb4.4,baz=34,slow=4.8,SNR=15
SCHQ Schefferville 88.18 16 P **P 02 42 52.0 +0.6**
comp=Z,1.9nm,0.7s,mb4.4,baz=272,slow=16,SNR=3.7
TXAR Lajitas Array 91.75 53 P **P 02 43 09.8 +1.0**
comp=Z,0.7nm,0.8s,mb4.0,baz=333,slow=2.8,SNR=6.0
TXAR pP pP 02 43 25.6 +3.8
comp=Z,0.6nm,0.7s,baz=301,slow=2.7,SNR=4.9
LPAZ La Paz 147.88 64 *e*PKIKP PKPdf 02 49 45.1 +2.9
LPAZ *e* 02 49 47.6
LPAZ La Paz 147.88 64 PKPbc PKPdf 02 49 48.1 +5.8
comp=Z,3.2nm,0.9s,baz=7.8,slow=4.6,SNR=12

NEIC ***29*** *02:32:01.9, 16.81N×99.17W, h22km, MD3.7(MEX), After MEX.*

MEX 29 02:32:01.9±1.1, 16.82N×99.16W, h23km±98km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.73**	**274**	*eP*	Pb	02 32 13.0	-2.8
ACX				*eS*	Sb	02 32 23.0	-2.3
PNIG	**Pinotepa**	**1.08**	**113**	*eP*	Pb	02 32 18.7	-3.0
PNIG				*eS*	Sb	02 32 31.9	-3.5
CAIG	**El Cayaco**	**1.08**	**282**	*eP*	Pn	02 32 18.9	-3.0
CAIG				*eS*	Sb	02 32 32.0	-3.6
PLIG	**Platanillo**	**1.60**	**348**	*eP*	Pn	02 32 25.9	-3.3
PLIG				*eS*	Sn	02 32 45.3	-4.1
YAIG	**Yautepec**	**2.04**	**2**	*eP*	Pn	02 32 33.0	-2.5
YAIG				*eS*	Sn	02 32 58.0	-2.5
PPM	**Popocatepetl**	**2.30**	**13**	*eP*	Pn	02 32 37.0	-2.2
PPM				*eS*	Sn	02 33 07.0	0.0
PPM	**Popocatepetl**	**2.30**	**13**	*eP*	Pn	02 32 37.0	-2.2
PPM				*eS*	Sn	02 33 06.0	-1.0
OXX	**Oaxaca**	**2.35**	**83**	*eP*	Pn	02 32 43.5	+3.6
OXX				*eS*	Sn	02 33 09.0	+0.7
IISM	**Ciudad Serdan**	**2.75**	**38**	*eP*	Pn	02 32 44.0	-1.6
IISM				*eS*	Sn	02 33 21.0	+2.5
IISM	**Ciudad Serdan**	**2.75**	**38**	*eP*	Pn	02 32 44.0	-1.6
IISM				*eS*	Sn	02 33 17.5	-1.0

IDC 29 02:47:16.1±21.0, 7.10N×94.27E, mb3.5/2, mb1 3.9/3, mb1mx3.5/18, mbtmp3.6/3, ML4.3/1, Error ellipse: s-maj=519.8km s-min=43.8km az=87.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.17**	**21**	Pn	P	02 50 10.9	-2.9
	0.5nm,0.3s,baz=236,slow=14,SNR=5.4						
WRA	**Warramunga Arr**	**47.71**	**125**	P	P	02 55 55.1	-1.8
	0.6nm,0.5s,baz=304,slow=6.8,SNR=7.3						
ASAR	**Alice Springs**	**49.32**	**130**	P	P	02 56 07.1	-2.2
	0.3nm,0.5s,baz=302,slow=6.9,SNR=4.7						

CSEM ***29*** *02:55:17.8, 5.24N×94.76E, h33km, mb5.5*
BJI ***29*** *02:55:18.2, 4.94N×94.57E, h60km, mB5.3, mb5.3, Ms4.8, Msz4.7*
MOS ***29*** *02:55:19.1±0.9, 5.13N×94.75E, h51km, mb5.4/77, MS4.5/14, Error ellipse: s-maj=7.9km s-min=4.2km az=121.3*
IDC ***29*** *02:55:20.5±0.5, 5.13N×94.71E, h46km±3km, mb4.7/26, mb1 4.8/27, mb1mx4.7/29, mbtmp4.9/27, MS4.4/20, Ms1 4.4/20, ms1mx4.2/30, Error ellipse: s-maj=16.7km s-min=9.9km az=39.0*
NEIC ***29*** *02:55:20.1±0.1, 5.07N×94.71E, mb5.2/76, MS4.6/6, Error ellipse: s-maj=4.4km s-min=3.2km az=225.0*
HRVD ***29*** *02:55:20.0±0.3, 4.84N×94.52E, h52km, MW5.1/52, Centroid moment Tensor Solution. LP body waves: s45,c69;Mantle waves: s52,c86; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.36±.23; $M_{\theta\theta}$-2.21±.17; $M_{\phi\phi}$-2.15±.19; $M_{r\theta}$1.77±.12; $M_{\theta\phi}$2.85±.13; $M_{\phi r}$-2.49±.14; Best double couple: $M_0$5.606×10^{16} NP1:ϕ_s308°,δ29°,λ78°. NP2:ϕ_s141°,δ62°,λ96°. Principal axes: T 5.297, Plg73°, Azm66°; N .619, Plg6°, Azm318°; P -5.915, Plg16°, Azm226°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 29 02:55:18.0±0.8, 5.07N±0.03×94.73E±0.03, h42km±7km, h45km±1.0km: pP-P, n406, σ0:96/399, mb5.2/130, MS4.6/41, 45C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**6.83**	**343**	*eP*	P	**02 56 57.0**	**-1.3**
PBA				*eS*	S	**02 58 11.8**	**-3.8**
NNT	**Nongplab**	**8.96**	**33**	P	P	**02 57 31.0**	**+3.3**
NST	**Nakhon Sawan**	**11.80**	**26**	P	P	**02 58 09.1**	**+2.5**
CM31	**Chiang Mai Arr**	**13.93**	**17**	*eP*	P	**02 58 36.1**	**+1.2**
	113nm,0.8s						
CMAR	**Chiang Mai Arr**	**13.93**	**17**	P	P	**02 58 36.9**	**+2.0**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,888nm,21.1s						
CMAR	**Chiang Mai Arr**	**13.93**	**17**	P	P	**02 58 36.9**	**+2.0**
	comp=Z,3.7nm,0.3s,baz=199,slow=13,SNR=50						
CMAR				LR	LR	03 03 46.0	
	comp=Z,888nm,21.1s,baz=200,slow=36						
PALK	**Pallekele**	**14.12**	**280**	*eP*	P	**02 58 35.5**	**-2.0**
	comp=Z,30nm,0.8s						
CHG	**Chiang Mai**	**14.26**	**16**	⇓P	P	**02 58 41.8**	**+2.5**
	comp=Z,150nm,0.8s						
VIS	**Vishakhapatnam**	**16.81**	**319**	*eP*	P	**02 59 13.1**	**+1.1**
VIS				*e*		02 59 16.9	
	comp=Z,52nm,0.6s						
VIS				*eS*	S	**03 02 20.2**	**+3.9**
COCO	**West Island**	**17.27**	**173**	P	P	**02 59 17.1**	**-0.7**
KOD	**Kodaikanal**	**17.86**	**288**	*eP*	P	**02 59 23.9**	**-1.3**
KOD				*e*		02 59 28.4	
	comp=Z,66nm,1.2s						
KOD				*eS*	S	**03 02 43.6**	**+3.4**
IMP	**Imphal**	**19.61**	**358**	*e*	P	**02 59 41.8**	**-4.0**
HYB	**Hyderabad**	**20.03**	**309**	*eP*	P	**02 59 51.0**	**+0.7**
HYB				*eS*	S	**03 03 17.0**	**-11**
HYB	**Hyderabad**	**20.03**	**309**	*i P*	P	**02 59 51.0**	**+0.7**
	comp=Z,60nm,1.0s						
HYB				*eS*	S	**03 03 17.0**	**-11**
QIZ	**Qiongzhong**	**20.24**	**45**	P	P	**02 59 53.8**	**+1.3**
QIZ				PP	PP	03 00 14.0	+0.8
QIZ				S	S	**03 03 34.0**	**+1.7**
QIZ				SS	SS	03 04 02.5	-0.1
QIZ				LR	LR		
	comp=N,2μm,17.0s						
QIZ				LR	LR		
	comp=Z,2μm,18.9s,MS4.5						
SHL	**Shillong**	**20.56**	**353**	*e*	P	**02 59 51.3**	**-4.5**
SHL				*i*	S	**03 03 35.0**	**-3.5**
BLSP	**Bilaspur**	**20.89**	**325**	*eP*	P	**02 59 59.4**	**+0.2**
BLSP				*e*	S	**03 03 45.4**	**+0.6**
MNGI	**Mangalore**	**21.15**	**293**	*eP*	P	**03 00 03.1**	**+1.2**
MNGI				*e*	S	**03 03 41.4**	**-8.3**
KMI	**Kunming**	**21.37**	**20**	P	P	**03 00 06.0**	**+2.0**
KMI						03 00 32.1	
KMI				S	S	**03 03 59.5**	**+5.7**
KMI				*SS		03 04 11.2	
KMI				SS	SS	03 04 36.1	+6.2
KMI				pmax	pmax		
	comp=Z,56nm,1.6s,mb4.6						
KMI				MLR	MLR		
	comp=Z,1μm,23.3s,MS4.3						
KMI	**Kunming**	**21.37**	**20**	P	P	**03 00 06.0**	**+2.0**
	comp=Z,56nm,1.6s,mb4.6						
KMI				sP		03 00 15.8	
KMI				PP	PP	03 00 32.1	+3.5
KMI				S	S	**03 03 59.5**	**+5.7**
KMI				sS		03 04 11.2	
KMI				SS	SS	03 04 36.1	+6.2
KMI				LR	LR		
	comp=Z,1μm,23.3s,MS4.3						
LATR	**Latur**	**22.16**	**308**	*e*	P	**03 00 18.0**	**+6.1**
LATR				*e*		03 09 10.5	
GTK	**Gangtok**	**22.89**	**346**	*e*	S	**03 04 31.0**	**+9.3**
GOA	**Goa**	**23.00**	**298**	*e*	P	**03 00 31.7**	**+11**
GOA				*e*		03 00 45.8	
	comp=Z,108nm,1.3s						
KAD	**Karad**	**23.51**	**303**	*eP*	P	**03 00 32.9**	**+7.7**
KAD				*e*		03 00 43.9	
	comp=Z,56nm,0.7s						
KAD				*eS*	S	**03 04 43.0**	**+10**
JIRN	**Jiri**	**23.89**	**341**	*eP*	P	**03 00 28.6**	**-0.3**
	comp=Z,275nm,0.6s,mb5.9						
PKI	**Pulchoki**	**24.07**	**339**	*eP*	P	**03 00 30.5**	**-0.1**
	comp=Z,110nm,0.5s,mb5.5						
DMN	**Daman**	**24.22**	**339**	*eP*	P	**03 00 32.1**	**+0.1**
	comp=Z,132nm,0.6s,mb5.5						
KKN	**Kakani**	**24.32**	**339**	*eP*	P	**03 00 32.4**	**-0.6**
	comp=Z,292nm,1.0s,mb5.7						
BHPL	**Bhopal**	**24.60**	**319**	*eP*	P	**03 00 36.9**	**+1.0**
BHPL				*e*		03 00 38.2	
	comp=Z,28nm,0.5s						
BHPL				*e*	S	**03 05 04.5**	**+13**
LSA	**Lhasa**	**24.73**	**353**	P	P	**03 00 38.8**	**+1.8**
LSA				PCP	PcP	03 04 15.0	+0.8
LSA				S	S	**03 04 54.0**	**+0.5**
LSA				PCS		03 07 55.5	
LSA				AMB	AMB		
	comp=Z,210nm,0.6s,mb5.8						
LSA				LR	LR		
	comp=N,6μm,24.5s,MS5.2						
LSA				LR	LR		
	comp=E,7μm,23.2s,MS5.2						
LSA				LR	LR		
	comp=Z,7μm,24.5s,MS5.0						
GKN	**Gorkha**	**24.74**	**338**	*eP*	P	**03 00 37.1**	**-0.1**
	comp=Z,277nm,0.6s,mb6.0						
KOLN	**Koldanda**	**24.94**	**336**	*eP*	P	**03 00 39.5**	**+0.5**
	comp=Z,246nm,0.6s,mb5.9						
DGAR	**Diego Garcia**	**25.46**	**241**	P	P	**03 00 43.7**	**-0.4**
TGY	**Tagaytay City**	**27.32**	**69**	P	P	**03 01 02.5**	**+1.2**
TGY				pmax	pmax		
	comp=Z,413nm,0.8s						
TGY	**Tagaytay City**	**27.32**	**69**	P	P	**03 01 02.5**	**+1.2**
	comp=Z,413nm,0.8s,mb6.0,baz=143,slow=6.0,SNR=15						
NDI	**New Delhi**	**28.77**	**327**	*eP*	P	**03 01 13.2**	**-1.0**
NDI				*e*		03 01 13.7	
	comp=Z,18nm,0.4s						
NDI				*eS*	S	**03 06 05.0**	**+5.7**
DDI	**Dehra Dun**	**29.63**	**330**	*eP*	P	**03 01 20.4**	**-1.4**
DDI				*e*		03 06 38.2	
SMLA	**Simla**	**30.73**	**330**	*eP*	P	**03 01 43.2**	**+12**
SMLA				*e*		03 01 48.4	
	comp=Z,38nm,1.7s						
SMLA				*e*		03 06 46.9	
WHN	**Wuhan**	**31.36**	**34**	⇓P	P	**03 01 37.8**	**+0.7**
WHN				S	S	**03 06 38.0**	**-2.3**
WHN				AMB	AMB		
	comp=Z,150nm,1.0s,mb5.8						
WHN				LR	LR		
	comp=Z,5μm,14.5s,MS5.3						
XAN	**Xi'an**	**31.69**	**23**	P	P	**03 01 39.0**	**-1.0**
XAN				AMB	AMB		
	comp=Z,180nm,0.9s,mb5.9						
XAN				LR	LR		
	comp=N,515nm,28.6s						
XAN				LR	LR		

comp=E,637nm,22.9s
XAN LR LR
comp=Z,2μm,17.2s
LZH Lanzhou 31.98 14 ⇑P P 03 01 41.5 -1.1
LZH PCP PcP 03 04 32.5 +0.6
LZH *e*S **S 03 06 51.0 +1.0**
LZH SS SS 03 08 43.0 -1.0
LZH AMB AMB
comp=Z,68nm,1.2s,mb5.3
LZH AMB AMB
comp=Z,192nm,5.4s
LZH LR LR
comp=E,985nm,13.8s
LZH LR LR
comp=Z,1μm,14.9s,MS4.7
LZH Lanzhou 31.98 14 ⇑P P 03 01 41.5 -1.1
LZH *SP sP 03 01 54.5 -4.8
LZH 03 04 32.5
LZH *e*S **S 03 06 51.0 +1.0**
LZH *SS 03 07 09.0
LZH SS SS 03 08 43.0 -1.0
LZH pmax pmax
comp=Z,68nm,1.2s,mb5.3
LZH MLR MLR
comp=Z,1μm,14.9s,MS4.7
LZH Lanzhou 31.98 14 ⇑P P 03 01 41.5 -1.1
comp=Z,68nm,1.2s,mb5.3
LZH pP pP 03 01 50.2 -3.7
LZH sP sP 03 01 54.5 -4.8
LZH PcP PcP 03 04 32.5 +0.6
LZH *e*S **S 03 06 51.0 +1.0**
LZH sS 03 07 09.0
LZH ScP 03 08 12.0
LZH SS SS 03 08 43.0 -1.0
LZH LR LR
comp=Z,1μm,14.9s,MS4.7
NJ2 Nanjing 35.08 37 *e*P P 03 02 10.3 +1.0
NJ2 AP pP 03 02 20.8 +0.1
NJ2 PP PP 03 03 30.3 +1.7
NJ2 S **S 03 07 42.0 +4.0**
NJ2 AMB AMB
comp=Z,160nm,0.7s,mb6.1
NJ2 AMB AMB
comp=Z,200nm,8.0s
NJ2 LR LR
comp=N,2μm,13.3s,MS5.3
NJ2 LR LR
comp=E,3μm,13.8s,MS5.3
NJ2 LR LR
comp=Z,4μm,13.4s,MS5.3
MBWA Marble Bar 35.79 138 P P 03 02 14.7 -0.7
SSE Sheshan 35.89 41 P P 03 02 13.5 -2.7
SSE S **S 03 07 49.0 -1.5**
SSE AMB AMB
comp=Z,46nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,46nm,4.6s
SSE LR LR
comp=N,401nm,21.8s,MS4.2
SSE LR LR
comp=E,275nm,21.8s,MS4.2
SSE LR LR
comp=Z,600nm,20.5s,MS4.3
SSE Sheshan 35.89 41 P P 03 02 13.4 -2.8
comp=Z,46nm,0.7s,mb5.5
SSE sP sP 03 02 26.4 -6.6
SSE S **S 03 07 49.1 -1.4**
SSE sS 03 08 06.0
SSE SS SS 03 10 24.0 +10
SSE LR LR
comp=Z,600nm,20.5s,MS4.3
TIA Tai'an 37.20 31 ⇑P P 03 02 27.5 +0.3
FITZ Fitzroy Crossi 38.20 128 *e*P P 03 02 35.3 -0.4
comp=Z,52nm,1.2s,mb5.1
JOW Kunigami 38.62 52 P P 03 02 39.9 +0.8
comp=Z,45nm,0.7s,mb5.3,baz=247,slow=7.2,SNR=13
WMQ Urumqi 39.09 352 P P 03 02 43.0 +0.2
WMQ AP pP 03 02 55.3 +0.9
WMQ XP sP 03 03 00.5 +1.0
WMQ PP PP 03 04 17.5 +0.7
WMQ PCP PcP 03 04 51.0 -1.7
WMQ S **S 03 08 39.0 -0.2**
WMQ AMB AMB
comp=Z,192nm,1.5s,mb5.6
WMQ AMB AMB
comp=Z,910nm,5.6s
WMQ LR LR
comp=N,2μm,18.4s,MS5.1
WMQ LR LR
comp=E,2μm,18.6s,MS5.1
WMQ LR LR
comp=Z,3μm,18.8s,MS5.2
BJI Beijing 39.82 26 P P 03 02 50.5 +1.6
BJI *PP pP 03 03 03.2 +2.7
BJI *SP sP 03 03 08.5 +2.9
BJI S **S 03 08 51.4 +1.2**
BJI pmax pmax
comp=Z,170nm,0.7s,mb5.9
BJI MLR MLR
comp=Z,830nm,24.6s,MS4.5
BJI Beijing 39.82 26 P P 03 02 50.5 +1.6
comp=Z,170nm,0.7s,mb5.9
BJI pP pP 03 03 03.2 +2.7
BJI sP sP 03 03 08.5 +2.9
BJI S **S 03 08 51.4 +1.2**
BJI LR LR
comp=Z,830nm,24.6s,MS4.5
ULHL Ulahol 40.51 339 P P 03 02 56.1 +1.5
SNR=5.5
KZA Kyzart 40.73 338 P P 03 02 59.3 +2.8
SNR=13
UCH Uchtor 41.14 337 P P 03 03 01.1 +1.2
SNR=42
TKM2 Tokmak 2 41.33 339 P P 03 03 02.2 +0.8
SNR=22
KBK Karagaybulak 41.34 338 P P 03 03 02.8 +1.3
SNR=125
AML Almayashu 41.39 336 P P 03 03 03.3 +1.5
SNR=27
KAKA Kakadu 41.42 116 *e*P P 03 03 01.5 -0.9
comp=Z,14nm,0.4s,mb4.9
AAK Ala-Archa 41.50 337 P P 03 03 04.3 +1.5
SNR=31
AAK Ala-Archa 41.50 337 *c i*P **P 03 03 02.5 -0.3**
AAK pmax pmax
comp=Z,77nm,1.3s,mb5.2
AAK Ala-Archa 41.50 337 *e*P P 03 03 02.4 -0.3
comp=Z,38nm,0.7s,mb5.1
FRU Bishkek 41.62 338 *e*P P 03 03 05.0 +1.2
FRU *i* pP 03 03 17.0 +1.6
FRU pmax pmax
comp=Z,230nm,2.0s,mb5.5
FRU MLR MLR
comp=Z,300nm,18.0s,MS4.2
CHMS Chumysh 41.71 338 P P 03 03 05.3 +0.7
SNR=19
USP Ospenovka 42.04 338 P P 03 03 07.7 +0.4
SNR=79
MUN Mundaring 42.14 152 *e*P P 03 03 08.6 +0.4
comp=Z,7.2nm,0.4s,mb4.7
MUN Mundaring 42.14 152 *e*P P 03 03 08.6 +0.4
MUN pmax pmax
comp=Z,7.0nm,0.4s,mb4.6
MKAR Makanchi Array 42.93 347 *i* P **P 03 03 14.4 -0.1**
NWAO Narrogin (SRO) 43.41 152 P P 03 03 18.9 +0.3
NWAO pmax pmax
comp=Z,7.0nm,0.9s
NWAO Narrogin (SRO) 43.41 152 P P 03 03 18.9 +0.4
comp=Z,7.0nm,0.8s,mb4.4,baz=305,slow=8.4,SNR=6.2
NWAO Narrogin (SRO) 43.41 152 P P 03 03 18.9 +0.3
SONM Songino Array 43.77 11 P P 03 03 20.9 -0.4
comp=Z,45nm,0.8s,mb5.3,baz=190,slow=8.3,SNR=350
SONM sP sP 03 03 38.6 +0.6
comp=Z,24nm,0.8s,baz=192,slow=8.1,SNR=7.8
SONM PcP PcP 03 05 07.9 -0.1
comp=Z,14nm,0.4s,baz=194,slow=3.8,SNR=25
SONM pPcP 03 05 22.9
comp=Z,15nm,0.6s,baz=196,slow=3.5,SNR=7.3
ULN Ulaanbaatar 43.93 12 *i* P **P 03 03 21.8 -0.8**
SNY Shenyang 44.73 31 ⇑P P 03 03 29.0 -0.1
SNY AMB AMB
comp=Z,40nm,1.2s,mb5.1
SNY LR LR
comp=N,790nm,20.1s
SNY LR LR
comp=Z,1μm,18.4s,MS4.8

ZAK Zakamensk 45.73 8 ⇓*i*P **P 03 03 35.9 -1.0**
ZAK *e* 03 05 13.9
WRA Warramunga Arr 46.19 124 P **P 03 03 41.3 +0.3**
WRA S **S 03 10 30.4 +6.9**
WRA pmax pmax
comp=Z,86nm,0.5s
WRA smax
comp=N,1.0nm,0.8s
WRA Warramunga Arr 46.19 124 P **P 03 03 41.3 +0.3**
comp=N,86nm,0.5s,mb5.9,baz=302,slow=9.2,SNR=586
WRA S **S 03 10 30.4 +6.8**
comp=N,0.7nm,0.8s,baz=287,slow=16,SNR=4.6
WRAB Tennant Creek 46.20 124 *c i*P **P 03 03 41.3 +0.3**
WRAB Tennant Creek 46.20 124 ⇑*e*P **P 03 03 41.2 +0.1**
comp=N,174nm,0.6s,mb6.2
WB2 Warramunga Arr 46.20 124 ⇑*i*P **P 03 03 41.4 +0.3**
MOY Mondy 46.73 5 *e*P **P 03 03 44.7 -0.1**
TLY Talaya 47.05 8 P **P 03 03 47.3 0.0**
comp=N,205nm,0.7s,mb6.2,SNR=12
TLY Talaya 47.05 8 *e*P **P 03 03 47.1 -0.2**
TLY pmax pmax
comp=Z,21nm,0.7s,mb5.2
TLY Talaya 47.05 8 *e*P **P 03 03 47.1 -0.2**
comp=Z,21nm,0.7s,mb5.2
KURK Kurchatov 47.45 346 *i* P **P 03 03 50.6 +0.1**
KURK pmax pmax
comp=Z,249nm,1.8s,mb5.8
KURK Kurchatov 47.45 346 *e*P **P 03 03 50.2 -0.4**
comp=Z,6.4nm,0.2s,mb5.2
IRK Irkutsk 47.68 8 *e*P **P 03 03 51.6 -0.7**
IRK *e* 03 04 07.8
IRK pmax pmax
comp=Z,45nm,1.1s,mb5.4
ASPA Alice Springs 47.70 128 ⇑*i*P **P 03 03 53.0 +0.2**
ASAR Alice Springs 47.70 128 P **P 03 03 53.0 +0.1**
comp=Z,16nm,0.4s,mb5.4,baz=295,slow=7.8,SNR=223
ASAR pP pP 03 04 05.8 +1.3
comp=Z,25nm,0.7s,baz=304,slow=7.5,SNR=12
ASAR PcP PcP 03 05 21.9 -0.1
comp=Z,10nm,0.8s,baz=312,slow=3.7,SNR=5.2
ASAR ScP 03 09 11.2
comp=Z,2.1nm,1.0s,baz=296,slow=4.3,SNR=4.4
ASAR S **S 03 10 44.7 -0.2**
comp=Z,2.3nm,0.9s,baz=289,slow=14,SNR=6.0
ASAR LR LR 03 24 19.7
comp=Z,197nm,19.8s,MS4.1,baz=298,slow=36
FORT Forrest 47.81 140 *e*P **P 03 03 54.1 +0.5**
comp=Z,114nm,0.7s,mb6.0
ZAL Zalesovo 49.39 352 P **P 03 04 05.2 -0.2**
ZAL *SP sP 03 04 23.3 +1.1
ZAL pmax pmax
comp=Z,51nm,0.6s
ZAL pmax pmax
comp=Z,30nm,0.8s
ZAL MLR MLR
comp=Z,175nm,19.0s
ZAL Zalesovo 49.39 352 P **P 03 04 05.2 -0.2**
comp=Z,51nm,0.6s,mb5.7,baz=305,slow=5.7,SNR=207
ZAL sP sP 03 04 23.3 +1.2
comp=Z,30nm,0.8s,baz=162,slow=1.4,SNR=7.1
ZAL LR LR 03 28 24.5
comp=Z,175nm,19.0s,MS4.1,baz=295,slow=40
ZAL Zalesovo 49.39 352 P **P 03 04 05.2 -0.2**
ZAL sP sP 03 04 23.3 +1.2
ZAL LR LR 03 28 24.5
MDJ Mudanjiang 49.82 32 P **P 03 04 08.5 -0.4**
MDJ AMB AMB
comp=Z,40nm,1.4s,mb5.3
MDJ AMB AMB
comp=Z,188nm,5.0s
MDJ LR LR
comp=N,45nm,17.8s,MS4.4
MDJ LR LR
comp=E,372nm,21.6s,MS4.4
MDJ LR LR
comp=Z,454nm,22.2s,MS4.4
JHJ Hachijo jima 2 50.33 50 LR LR 03 24 30.5
comp=Z,294nm,21.9s,MS4.2,baz=288,slow=35
NVS Novosibirsk 50.49 351 *i* P **P 03 04 11.9 -2.0**
NVS *i* pP 03 04 25.2 -0.4
NVS *i* S **S 03 11 22.9 -0.4**
NVS *i* 03 13 54.4
NVS pmax pmax
comp=Z,63nm,1.1s,mb5.6
NVS pmax pmax
comp=N,61nm,1.4s
NVS pmax pmax
comp=E,38nm,1.1s
NVS smax
comp=N,21nm,1.9s
MAJO Matsushiro 50.64 46 *e*P **P 03 04 14.8 -0.5**
MAJO pmax pmax
comp=Z,17nm,0.7s,mb5.1
MAJO Matsushiro 50.64 46 *e*P **P 03 04 14.8 -0.5**
comp=Z,17nm,0.7s,mb5.1
MAT Matsushiro 50.64 46 *e*P **P 03 04 15.0 -0.3**
MAT pmax pmax
comp=Z,16nm,0.8s,mb5.0
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.7
MAT Matsushiro 50.64 46 *e*P **P 03 04 15.0 -0.3**
comp=Z,16nm,0.8s,mb5.0
MAT LR LR
comp=Z,710nm,20.0s,MS4.7
MAT Matsushiro 50.64 46 P **P 03 04 15.1 -0.2**
BVA0 Borovoye Array 51.82 342 *i* P **P 03 04 23.1 -0.8**
BVA0 pmax pmax
comp=Z,14nm,1.5s,mb4.7
BVAR Borovoye Array 51.82 342 P **P 03 04 23.0 -0.9**
comp=Z,23nm,0.8s,mb5.2,baz=144,slow=9.6,SNR=98
BVAR pP pP 03 04 35.9 +0.2
comp=Z,36nm,0.7s,baz=141,slow=9.5,SNR=18
BRVK Borovoye 51.88 341 P **P 03 04 23.1 -1.3**
BRVK pmax pmax
comp=Z,45nm,1.4s,mb5.2
BRVK Borovoye 51.88 341 *e*P **P 03 04 22.8 -1.5**
comp=Z,48nm,1.0s,mb5.4
CHKZ Chkalovo 52.30 342 P **P 03 04 27.0 -0.5**
CHKZ pmax pmax
comp=Z,189nm,1.4s,mb5.8
CHKZ Chkalovo 52.30 342 *e*P **P 03 04 26.8 -0.8**
comp=Z,120nm,1.0s,mb5.8
KLR Kul'dur 54.01 29 *e*P **P 03 04 36.7 -3.6**
KLR pmax pmax
comp=N,35nm,1.8s
KLR pmax pmax
comp=E,46nm,1.8s
KLR pmax pmax
comp=Z,64nm,1.8s,mb5.2
PMG Port Moresby 54.19 105 *e*P **P 03 04 41.3 -0.8**
PMG pmax pmax
comp=Z,31nm,0.6s
PMG Port Moresby 54.19 105 *e*P **P 03 04 41.3 -0.8**
comp=Z,31nm,0.6s,mb5.4
BOD Bodaibo 54.73 12 *e*P **P 03 04 42.9 -2.5**
CTA Charters Tower 56.45 118 *e*P **P 03 04 57.8 -0.6**
comp=Z,16nm,0.9s,mb5.0
CTA Charters Tower 56.45 118 *e*P **P 03 04 57.8 -0.6**
CTA pmax pmax
comp=Z,16nm,0.9s
CTA Charters Tower 56.45 118 LR LR 03 29 36.5
comp=Z,421nm,20.7s,MS4.5,baz=189,slow=36
CTAO Charters Tower 56.45 118 *e*P **P 03 04 57.2 -1.2**
CTAO pmax pmax
comp=Z,33nm,1.1s,mb5.3
CTAO MLR MLR
comp=Z,525nm,21.0s,MS4.6
CTAO Charters Tower 56.45 118 *e*P **P 03 04 57.1 -1.2**
comp=Z,33nm,1.1s,mb5.3
CTAO LR LR
comp=Z,525nm,21.0s,MS4.6
GNI Garni 56.82 315 P **P 03 05 00.1 -0.6**
GNI pmax pmax
comp=Z,16nm,1.0s
GNI MLR MLR
comp=Z,102nm,18.7s
GNI Garni 56.82 315 P **P 03 05 00.1 -0.7**
comp=Z,16nm,1.0s,mb5.0,baz=290,slow=3.9,SNR=11
GNI LR LR 03 33 24.5
comp=Z,102nm,18.7s,MS4.0,baz=322,slow=40
GNI Garni 56.82 315 *e*P **P 03 04 59.7 -1.1**
comp=Z,43nm,1.3s,mb5.3
CLNS Chul'man 56.86 19 *e*P **P 03 04 59.2 -1.6**
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=Z,21nm,1.0s,mb5.1
CLNS pmax pmax
comp=E,9.0nm,1.1s
CLNS MLR MLR
comp=Z,1μm,22.0s,MS5.0
CLNS MLR MLR
comp=N,1μm,26.0s
CLNS MLR MLR
comp=E,40nm,15.0s
ASAJ Asahikawa 57.16 39 LR LR 03 31 19.0
comp=E,322nm,18.2s,MS4.5,baz=78,slow=38
MTA Mtatsminda 57.43 317 P **P 03 05 03.8 -1.3**
KMBO Kilima Mbogo 57.74 265 *e*P **P 03 05 08.1 +0.5**
KMBO *e**PP pP 03 05 17.4 -2.3
KMBO pmax pmax
comp=Z,12nm,1.0s
KMBO MLR MLR
comp=Z,531nm,22.0s
KMBO Kilima Mbogo 57.74 265 P **P 03 05 06.3 -1.3**
comp=Z,8.9nm,0.9s,mb4.8,baz=51,slow=9.5,SNR=19
KMBO LR LR 03 25 47.0
comp=Z,478nm,21.0s,MS4.6,baz=88,slow=32
KMBO Kilima Mbogo 57.74 265 *e*P **P 03 05 08.1 +0.5**
comp=Z,12nm,1.0s,mb4.9
KMBO *e*pP pP 03 05 17.4 -2.3
KMBO LR LR
comp=Z,531nm,22.0s,MS4.6
STKA Stephens Creek 57.77 133 P **P 03 05 07.7 +0.2**
comp=Z,9.2nm,0.8s,mb4.9,baz=298,slow=7.2,SNR=12
STKA LR LR 03 29 24.7
comp=Z,344nm,20.0s,MS4.5,baz=123,slow=35
STKA Stephens Creek 57.77 133 *e*P **P 03 05 06.9 -0.7**
SVE Sverdlovsk 58.21 339 ⇑*i*P **P 03 05 06.0 -4.2**
SVE pmax pmax
comp=Z,110nm,1.8s,mb5.6
ZEI Tsey 58.49 318 *e*P **P 03 05 11.6 -0.8**
ZEI *i* *PP pP 03 05 24.3 -0.1
ZEI *i* 03 07 21.8
ZEI pmax pmax
comp=Z,16nm,0.8s,mb5.1
YSS Yuzh-Sakhalins 58.64 37 *e*P **P 03 05 12.0 -1.4**
YSS *e* pP 03 05 27.0 +1.5
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS MLR MLR
comp=Z,600nm,21.0s,MS4.7
YSS MLR MLR
comp=N,500nm,16.0s
YSS Yuzh-Sakhalins 58.64 37 *e*P **P 03 05 13.1 -0.4**
comp=N,100nm,1.3s,mb5.7
ARU Arti 58.69 337 P **P 03 05 12.3 -1.3**
comp=N,108nm,1.1s,mb5.8,SNR=14
ARU Arti 58.69 337 ⇑*i*P **P 03 05 06.1 -7.5**
ARU *e* 03 05 56.2
ARU *e*S **S 03 13 05.3 -8.1**
ARU pmax pmax
comp=Z,33nm,1.5s,mb5.1
ONI Oni 58.71 318 P **P 03 05 13.0 -0.9**
KIV Kislovodsk 59.79 319 P **P 03 05 20.9 -0.5**
comp=Z,240nm,0.8s,mb6.3,SNR=8.9
KIV Kislovodsk 59.79 319 *i* P **P 03 05 20.0 -1.4**
KIV *e* pP 03 05 33.7 +0.3
KIV *e* 03 06 06.2
KIV *e*S **S 03 13 42.8 +15**
KIV pmax pmax
comp=Z,27nm,1.0s,mb5.2
KIV Kislovodsk 59.79 319 *e*P **P 03 05 19.8 -1.6**
comp=Z,16nm,0.6s,mb5.2
ASF Jabal al Asfar 60.25 304 P **P 03 05 25.8 +1.1**
comp=Z,2.4nm,0.7s,mb4.3,baz=353,slow=6.2,SNR=8.7
ASF LR LR 03 33 46.5
comp=Z,352nm,18.7s,MS4.5,baz=144,slow=38
MALT Malatya 60.73 311 *e*P **P 03 05 26.7 -1.2**
MALT *e**PP pP 03 05 38.8 -1.2
MALT pmax pmax
comp=Z,12nm,1.1s,mb4.9
MALT Malatya 60.73 311 *e*P **P 03 05 26.7 -1.2**
comp=Z,12nm,1.1s,mb4.9
MALT *e*pP pP 03 05 38.8 -1.2
EIL Elat 61.34 301 P **P 03 05 32.3 +0.2**
comp=Z,4.2nm,0.6s,mb4.8,baz=74,slow=5.4,SNR=9.7
EIL LR LR 03 32 26.7
comp=Z,574nm,19.0s,MS4.8,baz=106,slow=36
EIL Elat 61.34 301 *e*P **P 03 05 31.6 -0.6**
comp=Z,3.9nm,0.6s,mb4.7
SOKR Solikamsk 61.61 339 ⇑*i*P **P 03 05 31.2 -2.3**
SOKR *e* 03 05 47.4
SOKR pmax pmax
comp=Z,20nm,1.4s,mb5.0
SOC Sochi 61.62 317 *e*P **P 03 05 30.2 -3.6**
SOC *e* 03 06 20.5
SOC *e* 03 07 44.3
SOC *e*PPP PPP 03 09 17.3 -3.3
SOC *e*S **S 03 13 52.5 +1.2**
SOC pmax pmax
comp=Z,43nm,1.0s,mb5.5
SOC pmax pmax
comp=N,30nm,0.9s
SOC pmax pmax
comp=E,17nm,0.9s
YAK Yakutsk 62.46 18 *e*P **P 03 05 36.8 -2.4**
YAK *e*S **S 03 13 55.2 -6.4**
YAK pmax pmax
comp=Z,34nm,0.9s,mb5.5
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=E,11nm,1.2s
YAK smax
comp=E,5.0nm,1.3s
YAK smax
comp=N,5.0nm,1.1s
YAK MLR MLR
comp=Z,311nm,20.0s,MS4.5
YAK MLR MLR
comp=N,252nm,21.0s,MS4.5
YAK MLR MLR
comp=E,199nm,16.0s,MS4.5
YAK Yakutsk 62.46 18 *e*P **P 03 05 37.0 -2.2**
comp=E,46nm,0.3s,mb6.1
TOO Toolangi 63.42 137 *e*P **P 03 05 47.2 +1.3**
comp=E,0.8nm,1.1s
TOO Toolangi 63.42 137 *e*P **P 03 05 47.2 +1.3**
TOO pmax pmax
comp=Z,1.0nm,1.1s
ANN Anapa 63.59 318 *e*P **P 03 05 47.4 +0.5**
ANN *e*S **S 03 14 23.6 +7.6**
ANN pmax pmax
comp=Z,72nm,1.5s,mb5.5
BRTR Keskin Array B 64.71 312 P **P 03 05 52.9 -1.4**
BRTR *PP pP 03 06 07.8 +1.3
BRTR pmax pmax
comp=Z,10.0nm,0.6s
BRTR pmax pmax
comp=Z,19nm,0.9s
BRTR Keskin Array B 64.71 312 P **P 03 05 52.9 -1.4**
comp=Z,9.9nm,0.6s,mb5.1,baz=133,slow=7.4,SNR=92
BRTR pP pP 03 06 07.8 +1.3
comp=Z,19nm,0.8s,baz=132,slow=5.8,SNR=16
ARMA Armidale 64.80 127 *e*P **P 03 05 56.8 +1.7**
VRSR Storozhevoye 64.99 325 *c i*P **P 03 05 53.5 -2.4**
VRSR *e* 03 06 26.6
VRSR pmax pmax
comp=Z,20nm,0.8s,mb5.2
VRSR pmax pmax
comp=N,7.0nm,1.4s
VRSR pmax pmax
comp=E,30nm,0.8s
VOR Voronezh 65.20 326 *e*P **P 03 05 56.0 -1.3**
VOR *e* pP 03 06 07.0 -2.5
VOR pmax pmax
comp=Z,80nm,1.3s,mb5.6
SIM Simferopol' 65.86 317 *e*P **P 03 06 01.0 -0.6**
SIM pmax pmax
comp=Z,23nm,1.0s,mb5.2
SIM MLR MLR
comp=Z,110nm,18.1s,MS4.1
ISP Isparta 66.64 309 *e*P **P 03 06 05.8 -0.8**
ISP pmax pmax
comp=Z,11nm,0.6s,mb5.1
ISP Isparta 66.64 309 *e*P **P 03 06 05.8 -0.9**
comp=Z,11nm,0.6s,mb5.1
MOS Moscow 67.77 329 *e*P **P 03 06 11.9 -1.5**
MOS *e* pP 03 06 25.1 -0.6
MOS *e* 03 06 46.3
MOS pmax pmax

comp=Z,153nm,1.6s,mb5.8
OBN Obninsk 68.05 328 *c i*P **P 03 06 11.0 -4.2**
OBN *i* pP 03 06 24.8 -2.7
OBN *i* S S 03 15 04.2 -6.0
OBN pmax pmax
comp=Z,87nm,1.6s,mb5.5
OBN Obninsk 68.05 328 *e*P **P 03 06 10.9 -4.3**
comp=Z,132nm,1.5s,mb5.8
SKR Severo-Kuril's 68.21 37 *e*P **P 03 06 12.4 -3.9**
SKR pmax pmax
comp=N,80nm,0.9s
SKR pmax pmax
comp=Z,160nm,0.9s,mb6.0
LSZ Lusaka 68.92 252 *e*P **P 03 06 20.6 -0.6**
LSZ *e**PP pP 03 06 31.6 -2.0
LSZ pmax pmax
comp=Z,16nm,1.4s,mb4.8
LSZ Lusaka 68.92 252 *e*P **P 03 06 20.6 -0.6**
comp=Z,16nm,1.4s,mb4.8
LSZ *e*pP pP 03 06 31.6 -1.9
MA2 Magadan 68.97 27 *c i*P **P 03 06 20.1 -0.7**
MA2 *e* 03 06 38.5
MA2 *e* 03 08 51.7
MA2 *e*PPP PPP 03 10 39.6 +5.8
MA2 *e*S S 03 15 21.3 +0.2
MA2 pmax pmax
comp=Z,20nm,0.7s,mb5.2
MA2 pmax pmax
comp=E,10.0nm,0.6s
MA2 pmax pmax
comp=N,4.0nm,0.7s
MA2 MLR MLR
comp=Z,600nm,24.0s,MS4.8
MA2 Magadan 68.97 27 *e*P **P 03 06 20.0 -0.8**
comp=Z,26nm,0.6s,mb5.3
TIXI Tiksi 69.85 11 *i*P **P 03 06 24.5 -1.5**
KIS Kishinev 69.98 318 *e*P **P 03 06 24.0 -3.2**
KIS *e* 03 06 40.0
KIS *e* 03 06 52.0
HARR Harsova 70.04 316 P **P 03 06 26.1 -1.5**
PET Petropavlovsk 70.46 35 *e*P **P 03 06 29.2 -0.8**
PET *e*S S 03 15 45.5 +6.9
PET MLR MLR
comp=Z,300nm,18.0s,MS4.6
PET Petropavlovsk 70.46 35 *e*P **P 03 06 28.7 -1.3**
IDI Anoyia 70.65 306 P **P 03 06 31.2 -0.3**
comp=Z,10nm,0.6s,mb5.0,baz=77,slow=8.7,SNR=26
AKASG Malin Array Be 70.71 322 P **P 03 06 29.1 -2.5**
AKASG pmax pmax
comp=Z,7.0nm,0.5s
AKASG Malin Array Be 70.71 322 P **P 03 06 29.1 -2.4**
comp=Z,7.4nm,0.5s,mb4.9,baz=84,slow=5.0,SNR=50
VRI Vrincioaia 71.12 317 P **P 03 06 34.3 +0.1**
SEY Seymchan 71.22 24 *e*P **P 03 06 30.4 -4.1**
SEY *e* 03 09 08.4
SEY *e*S S 03 15 46.4 -0.8
SEY *e*PS PS 03 16 09.5 -12
SEY 03 16 35.4
SEY *e*SS SS 03 20 23.9 +0.3
SEY pmax pmax
comp=Z,40nm,0.8s,mb5.4
SEY MLR MLR
comp=Z,1μm,17.0s,MS5.1
SEY MLR MLR
comp=N,810nm,24.0s
SEY MLR MLR
comp=E,730nm,16.0s
MLR Muntele Rosu 71.58 316 P **P 03 06 36.9 0.0**
comp=E,22nm,0.9s,mb5.1,baz=98,slow=3.5,SNR=44
MLR Muntele Rosu 71.58 316 P **P 03 06 37.2 +0.3**
SNX Sinaia 71.85 316 P **P 03 06 38.7 +0.2**
CASY Casey 72.09 173 P **P 03 06 37.6 -1.9**
BURAR Bucovina Array 72.51 318 P **P 03 06 43.0 +0.6**
MNK Minsk 72.58 326 *e*P **P 03 06 39.0 -3.7**
LBTB Lobatse 73.44 242 *e*P **P 03 06 48.6 +0.2**
LBTB pmax pmax
comp=Z,27nm,1.4s,mb5.0
LBTB MLR MLR
comp=Z,779nm,19.0s,MS5.0
LBTB Lobatse 73.44 242 *e*P **P 03 06 48.6 +0.2**
comp=Z,27nm,1.4s,mb5.0
LBTB LR LR
comp=Z,779nm,19.0s,MS5.0
ZAPS Zavoj/Pirot 73.54 314⇑*i*P **P 03 06 47.3 -1.3**
JOF Joensuu 73.62 335 *e*p **P 03 06 47.2 -1.4**
comp=Z,1.2nm,0.3s,mb4.3
LVV L'vov 73.73 320 *e*P **P 03 06 48.4 -1.1**
LVV *e* pP 03 07 02.0 +0.1
BOLS Boljevac 74.09 314⇓*i*P **P 03 06 51.1 -0.6**
SKO Skopje 74.21 312 *e*P **P 03 06 50.6 -1.9**
SKO *i* 03 07 06.6
KWP Kalwaria 74.54 320 *e*P **P 03 06 53.9 -0.3**
BOSA Boshof 74.62 239 *e*P **P 03 06 55.2 +0.1**
BOSA pmax pmax
comp=Z,18nm,1.1s,mb4.9
BOSA Boshof 74.62 239 *e*P **P 03 06 55.2 +0.1**
comp=Z,18nm,1.1s,mb4.9
KOLS Kolonicke sedl 74.69 319 *e*P **P 03 06 55.5 +0.4**
KOLS *e*pP pP 03 07 09.1 +1.6
SUW Suwalki 75.11 325 *e*P **P 03 06 56.3 -1.1**
CRVS Cervenica-Dubn 75.22 319 *e*P **P 03 06 58.6 +0.5**
FINES FINESS Array B 75.45 332 P **P 03 06 58.6 -0.6**
FINES pmax pmax
comp=Z,4.0nm,0.4s
FINES MLR MLR
comp=Z,139nm,19.9s
FINES FINESS Array B 75.45 332 P **P 03 06 58.6 -0.6**
comp=Z,4.2nm,0.4s,mb4.7,baz=97,slow=6.5,SNR=50
FINES LR LR 03 44 01.9
comp=Z,139nm,19.9s,MS4.3,baz=286,slow=39
KAF Kangasniemi 75.54 333 *e*p **P 03 06 58.7 -1.0**
comp=Z,1.4nm,0.3s,mb4.4
KAF Kangasniemi 75.54 333 *e*P **P 03 06 58.7 -1.0**
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
KECS Kecovo 75.79 319 *e*P **P 03 07 01.4 0.0**
MAW Mawson 75.93 192 LR LR 03 35 39.3
comp=Z,204nm,18.4s,MS4.5,baz=67,slow=32
NIE Niedzica 76.04 320⇑*e*P **P 03 07 03.1 +0.3**
PSZ Piszkesteto 76.10 318⇑*e*P **P 03 07 03.0 -0.2**
PSZ Piszkesteto 76.10 318⇑*e*sP **P 03 07 03.0 -0.2**
OJC Ojcow 76.49 320⇑*i*P **P 03 07 05.3 0.0**
PKSM Moragy 76.73 316⇑*e*P **P 03 07 06.3 -0.5**
VYHS Vyhne 76.88 319 *e*P **P 03 07 07.2 -0.4**
VYHS *e*pP pP 03 07 21.0 +1.0
SRO Srobarova 77.14 318 *e*P **P 03 07 09.8 +0.7**
SRO *e*pP pP 03 07 23.1 +1.6
OKC Ostrava-Krasne 77.49 320 *e*P **P 03 07 11.2 +0.2**
OKC *e*pP pP 03 07 24.8 +1.4
KEV Kevo 77.66 341 *e*p **P 03 07 09.0 -2.5**
comp=Z,1.2nm,0.3s,mb4.3
KEV Kevo 77.66 341 *e*P **P 03 07 09.0 -2.5**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
MORC Moravsky Berou 77.88 320 *e*P **P 03 07 13.0 -0.1**
MORC pmax pmax
comp=Z,21nm,0.8s,mb5.1
MORC Moravsky Berou 77.88 320 *e*P **P 03 07 13.0 -0.1**
comp=Z,21nm,0.8s,mb5.1
ZST Bratislava 77.99 318 *e*P **P 03 07 13.8 0.0**
ZST *e*pP pP 03 07 26.7 +0.5
ARCES ARCESS Array B 78.09 340 P **P 03 07 14.1 +0.3**
ARCES 03 10 12.0
ARCES pmax pmax
comp=Z,7.0nm,0.4s
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES MLR MLR
comp=Z,190nm,19.7s
ARCES ARCESS Array B 78.09 340 P **P 03 07 14.1 +0.3**
comp=Z,6.8nm,0.4s,mb4.9,baz=94,slow=6.2,SNR=82
ARCES PP PP 03 10 11.9 -0.5
comp=Z,5.2nm,0.8s,baz=90,slow=7.3,SNR=5.0
ARCES LR LR 03 45 02.5
comp=Z,190nm,19.7s,MS4.4,baz=98,slow=38
ARE0 ARCESS Array S 78.09 340 *e*P **P 03 07 13.2 -0.7**
VRAC Vranov 78.44 319 P **P 03 07 16.7 +0.5**
VRAC pmax pmax
comp=Z,6.0nm,0.5s
VRAC Vranov 78.44 319 P **P 03 07 16.7 +0.5**
comp=Z,6.4nm,0.5s,mb4.8,baz=96,slow=7.0,SNR=12
BILL Bilibino 78.46 21 *i*P **P 03 07 16.6 +0.7**
GKP Gorka Klasztor 78.48 323 *e*P **P 03 07 15.8 -0.6**
VKA Vienna 78.52 318⇑*i*P **P 03 07 17.0 +0.3**

DPC Dobruska-Polom 78.72 320 *e*P **P 03 07 18.3 +0.6**
KSP Ksiaz 78.79 321 *e*P **P 03 07 18.4 +0.3**
KSP *e* 03 07 26.3
KSP *e**PP pP 03 07 32.2 +1.7
KSP Ksiaz 78.79 321 *e*P **P 03 07 18.7 +0.6**
GROS Grobnik 78.92 316⇑*e*P **P 03 07 18.8 -0.1**
UPC Upice 78.93 320 *e*P **P 03 07 19.2 +0.3**
UPC *e*pP pP 03 07 33.3 +2.0
ARSA Arzberg 78.97 317⇑*i*P **P 03 07 19.4 +0.2**
comp=Z,106nm,1.8s,mb5.5
FX1 Attu Island--F 79.00 37 *e*P **P 03 07 18.2 -0.9**
SUR Sutherland 79.24 236 *e*P **P 03 07 21.7 +0.8**
comp=Z,31nm,1.1s,mb5.1
LJU Ljubljana 79.57 316⇑*i*P **P 03 07 22.8 +0.4**
LJU *e* pP 03 07 37.7 +2.8
OBKA Obir 79.58 316⇑*i*P **P 03 07 22.9 +0.4**
comp=Z,208nm,2.2s,mb5.7
TSUM Tsumeb 79.59 250 *e*P **P 03 07 23.8 +0.7**
comp=Z,6.2nm,0.9s,mb4.5
TSUM LR LR
comp=Z,317nm,20.0s,MS4.7
PRU Pruhonice 79.83 320 *e*P **P 03 07 24.1 +0.4**
PRU *e*pP pP 03 07 37.4 +1.2
PVCC Panska Ves 79.85 320 *e*P **P 03 07 24.3 +0.5**
PVCC *e*pP pP 03 07 37.7 +1.4
MOA Molln 79.86 318⇑*i*P **P 03 07 23.8 -0.2**
comp=Z,74nm,2.0s,mb5.3
BSD Bornholm Skovb 80.04 325 *i*P **P 03 07 23.8 -0.9**
BSD *e* pP 03 07 36.9 -0.3
BSD pmax pmax
comp=Z,18nm,0.6s,mb5.2
BSD Bornholm Skovb 80.04 325 *i*P **P 03 07 23.8 -0.9**
comp=Z,18nm,0.6s,mb5.2
BSD *e* pP 03 07 36.9 -0.3
BRG Berggiesshubel 80.27 321⇑*i*P **P 03 07 26.3 +0.2**
BRG *e* pP 03 07 41.5 +2.9
BRG pmax pmax
comp=Z,95nm,1.9s,mb5.4
BRG Berggiesshubel 80.27 321⇑*i*P **P 03 07 26.3 +0.2**
comp=Z,95nm,1.9s,mb5.4
BRG *e* pP 03 07 41.5 +2.9
GEC2 GERESS Array S 80.30 319 *e*P **P 03 07 26.7 +0.4**
GEC2 pmax pmax
comp=Z,44nm,1.0s,mb5.3
GEC2 GERESS Array S 80.30 319 *e*P **P 03 07 26.7 +0.4**
comp=Z,44nm,1.0s,mb5.3
GERES GERESS Array B 80.30 319 P **P 03 07 26.6 +0.3**
GERES *PP pP 03 07 40.4 +1.6
GERES pmax pmax
comp=Z,19nm,0.6s
GERES pmax pmax
comp=Z,20nm,0.8s
GERES GERESS Array B 80.30 319 P **P 03 07 26.6 +0.3**
comp=Z,19nm,0.6s,mb5.2,baz=100,slow=5.3,SNR=264
GERES pP pP 03 07 40.4 +1.6
comp=Z,20nm,0.8s,baz=90,slow=4.0,SNR=10
KHC Kasperske Hory 80.40 319 *e*P **P 03 07 26.9 +0.1**
KHC *e* pP 03 07 38.5 -0.8
KHC Kasperske Hory 80.40 319 *e*P **P 03 07 26.9 +0.1**
KHC pP pP 03 07 38.5 -0.8
PTCC Patocco-Chiusa 80.40 316 *e*P **P 03 07 26.9 +0.1**
KBA Koelnbreinsper 80.44 317⇑*i*P **P 03 07 26.7 -0.4**
comp=Z,37nm,1.9s,mb5.0
KBA Koelnbreinsper 80.44 317⇑*i*P **P 03 07 26.7 -0.4**
KBA pmax pmax
comp=Z,37nm,1.9s,mb5.0
RUE Ruedersdorf 80.49 322 *e*P **P 03 07 26.7 -0.5**
comp=Z,34nm,0.6s,mb5.5
ARV Arcevia 80.58 313 *e*P **P 03 07 28.8 +0.9**
MNS Montasola 80.73 312 *e*P **P 03 07 28.3 -0.4**
FVI Forni Avoltri 80.81 316 *e*P **P 03 07 29.4 +0.4**
WET Wettzell 80.86 319 *e*P **P 03 07 29.6 +0.4**
WET pmax pmax
comp=Z,23nm,0.9s,mb5.1
WET Wettzell 80.86 319 *e*P **P 03 07 29.6 +0.4**
comp=Z,23nm,0.9s,mb5.1
CLL Collm 80.89 321⇑*i*P **P 03 07 29.2 -0.2**
CLL *i* pP 03 07 42.7 +0.8
CLL pmax pmax
comp=Z,23nm,1.2s,mb5.0
CLL Collm 80.89 321⇑*i*P **P 03 07 29.2 -0.2**
comp=Z,23nm,1.2s,mb5.0
CLL *e* 03 07 34.0
CLL *i* pP 03 07 42.7 +0.8
CLL Collm 80.89 321⇑P **P 03 07 29.2 -0.2**
comp=Z,logA/T=1.3,mb5.0
CLL *e* 03 07 34.0
CLL *i* *PP pP 03 07 42.7 +0.8
CLL *i* 03 07 50.1
CLL *i* 03 08 05.8
HFS Hagfors 81.16 330 P **P 03 07 30.3 -0.3**
HFS *PP pP 03 07 43.9 +0.8
HFS pmax pmax
comp=Z,4.0nm,0.5s
HFS pmax pmax
comp=Z,10.0nm,0.5s
HFS Hagfors 81.16 330 P **P 03 07 30.3 -0.2**
comp=Z,4.0nm,0.5s,mb4.6,baz=124,slow=5.3,SNR=33
HFS pP pP 03 07 43.9 +0.9
comp=Z,9.9nm,0.5s,baz=117,slow=3.3,SNR=9.3
NKC Novy Kostel 81.19 320 *e*P **P 03 07 31.3 +0.4**
CRE Caprese Michel 81.30 313 *e*P **P 03 07 32.2 +0.5**
SFI Santa Sofia 81.38 313 *e*P **P 03 07 33.5 +1.4**
PGD Poggio Sodo 81.47 313 *e*P **P 03 07 34.3 +1.7**
CTI Castel Tesino 81.57 316 *e*P **P 03 07 33.7 +0.7**
VMG Vicchio 81.60 314 *e*P **P 03 07 34.9 +1.7**
WTTA Wattenberg 81.61 317⇑*i*P **P 03 07 32.9 -0.3**
comp=Z,212nm,2.9s,mb5.6
WTTA Wattenberg 81.61 317⇑*i*P **P 03 07 32.9 -0.3**
WTTA pmax pmax
comp=Z,212nm,2.9s,mb5.6
WATA Walderalm 81.66 317⇑*i*P **P 03 07 32.9 -0.5**
comp=Z,25nm,1.2s,mb5.0
WATA Walderalm 81.66 317⇑*i*P **P 03 07 32.9 -0.5**
WATA pmax pmax
comp=Z,25nm,1.2s,mb5.0
MOX Moxa 81.74 320 *e*P **P 03 07 33.8 0.0**
MOX pmax pmax
comp=Z,35nm,1.6s,mb5.0
MOX Moxa 81.74 320 *e*P **P 03 07 33.8 0.0**
comp=Z,35nm,1.6s,mb5.0
MOX Moxa 81.74 320 *i*P **P 03 07 33.8 0.0**
comp=Z,logA/T=1.3,mb5.0
FUR Furstenfeldbru 81.88 318 *e*P **P 03 07 34.4 -0.2**
SQTA Sankt Quirin 81.90 317⇑*i*P **P 03 07 34.4 -0.3**
comp=Z,13nm,0.7s,mb5.0
SQTA Sankt Quirin 81.90 317⇑*i*P **P 03 07 34.4 -0.3**
SQTA pmax pmax
comp=Z,13nm,0.7s,mb5.0
GRA1 Grafenberg Arr 81.96 319 *e*P **P 03 07 35.7 +0.7**
comp=Z,36nm,0.9s,mb5.3
GRA1 *e*pP pP 03 07 48.9 +1.4
GRF Grafenberg Arr 81.96 319 *e*P **P 03 07 35.7 +0.7**
GRF *e**PP pP 03 07 48.9 +1.4
GRF pmax pmax
comp=Z,36nm,0.9s,mb5.3
GRF Grafenberg Arr 81.96 319 *e*P **P 03 07 35.7 +0.7**
GRF *e**PP pP 03 07 48.9 +1.4
GRF pmax pmax
comp=Z,36nm,0.9s,mb5.3
GRF Grafenberg Arr 81.96 319 *e*P **P 03 07 35.7 +0.7**
comp=Z,36nm,0.9s,mb5.3
GRF *e*pP pP 03 07 48.9 +1.4
MOTA Moosalm 81.98 317⇑*i*P **P 03 07 34.8 -0.3**
comp=Z,16nm,1.0s,mb4.9
MOTA Moosalm 81.98 317⇑*i*P **P 03 07 34.8 -0.3**
MOTA pmax pmax
comp=Z,16nm,1.0s,mb4.9
GSCL Gusciola 82.30 314 *e*P **P 03 07 38.0 +1.2**
NB2 NORSAR Subarra 82.45 331 P **P 03 07 36.5 -0.7**
comp=Z,53nm,2.0s,mb5.1,baz=98,slow=5.3
NB2 NORSAR Subarra 82.45 331 P **P 03 07 36.5 -0.7**
baz=98,slow=5.6
NOA NORSAR Array B 82.45 331 P **P 03 07 36.7 -0.5**
NOA *PP pP 03 07 51.0 +1.3
NOA 03 10 48.5
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA pmax pmax
comp=Z,8.0nm,1.0s
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 82.45 331 P **P 03 07 36.7 -0.5**
comp=Z,2.3nm,0.6s,mb4.3,baz=94,slow=5.5,SNR=11
NOA pP pP 03 07 51.0 +1.3

comp=Z,8.3nm,1.0s,baz=94,slow=5.2,SNR=9.0
NOA PP PP 03 10 48.5 0.0
comp=Z,0.8nm,0.8s,baz=89,slow=10,SNR=3.2
NOA LR LR 03 49 47.3
comp=Z,117nm,19.1s,MS4.3,baz=100,slow=40
NOA NORSAR Array B 82.45 331 P **P 03 07 36.7 -0.5**
NOA pP pP 03 07 51.0 +1.3
NOA PP PP 03 10 48.5 0.0
NOA LR LR 03 49 47.3
BRMO Bormio 82.47 316 *e*P **P 03 07 38.5 +0.8**
CLZ Clausthal 82.55 321 *e*P **P 03 07 38.3 +0.3**
comp=Z,20nm,0.8s,mb5.2
DAVOX Davos 82.81 316 P **P 03 07 40.2 +0.8**
comp=Z,48nm,0.7s,mb5.6,baz=117,slow=5.1,SNR=107
DAVA Damuels 82.81 317⇑*i*P **P 03 07 39.3 -0.1**
comp=Z,67nm,1.4s,mb5.5
SYO Syowa Base 82.92 197⇓⇓P **P 03 07 41.4 +1.9**
SYO Syowa Base 82.92 197⇑pP pP 03 07 52.6 +0.6
SYO Syowa Base 82.92 197⇓sP sP 03 07 56.0 -0.5
MUD Monsted U'grnd 83.35 326 *i*P **P 03 07 42.6 +0.7**
MUD pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
MUD Monsted U'grnd 83.35 326 *i*P **P 03 07 42.6 +0.7**
comp=Z,6.6nm,0.6s,mb4.8
PGF Pioggiola 83.46 312 *e*P **P 03 07 42.7 -0.1**
comp=Z,132nm,1.2s,mb5.5
PGF Pioggiola 83.46 312 *e*P **P 03 07 42.7 -0.1**
PGF pmax pmax
comp=Z,66nm,1.3s,mb5.5
TOD Tromm 83.53 319 *e*P **P 03 07 42.8 -0.2**
SPAK Spaichingen 83.55 318 *e*P **P 03 07 43.4 +0.3**
TNS Taunus Mts 83.76 320 *e*P **P 03 07 44.6 +0.5**
BFO Black Forest 83.85 318 *e*P **P 03 07 44.5 -0.1**
BFO pmax pmax
comp=Z,15nm,0.8s,mb5.2
BFO Black Forest 83.85 318 *e*P **P 03 07 44.5 -0.1**
comp=Z,15nm,0.8s,mb5.2
FIN Finale Ligure 84.00 314 *e*P **P 03 07 46.0 +0.5**
FELD Feldberg 84.08 317 *e*P **P 03 07 45.6 -0.2**
MCGN Macugnaga 84.12 316 *e*P **P 03 07 47.5 +1.4**
LANF Langenberg 84.19 319 *e*P **P 03 07 46.7 +0.4**
ABH Alteburg 84.34 320 *e*P **P 03 07 47.1 0.0**
LIBD Limburg 84.34 318 *e*P **P 03 07 47.1 0.0**
CDF Champ du Feu 84.55 318 *e*P **P 03 07 48.1 -0.1**
comp=Z,19nm,0.8s,mb5.0
CDF Champ du Feu 84.55 318 *e*P **P 03 07 48.1 -0.1**
CDF pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
SBF Sospel 84.57 313 *e*P **P 03 07 48.7 +0.3**
comp=Z,55nm,0.8s,mb5.5
SBF Sospel 84.57 313 *e*P **P 03 07 48.7 +0.3**
SBF pmax pmax
comp=Z,27nm,0.8s,mb5.4
ECH Echery 84.64 318 *e*P **P 03 07 48.4 -0.2**
RUP Ruppelstein 84.66 319 *e*P **P 03 07 48.8 +0.1**
HINF Hinteralfeld 84.85 317 *e*P **P 03 07 49.2 -0.5**
LPG La Plagne 85.00 315 *e*P **P 03 07 51.1 +0.6**
comp=Z,44nm,0.9s,mb5.3
LPG La Plagne 85.00 315 *e*P **P 03 07 51.1 +0.6**
LPG pmax pmax
comp=Z,22nm,0.9s,mb5.3
LPL La Plagne 85.02 315 *e*P **P 03 07 51.1 +0.6**
comp=Z,49nm,0.8s,mb5.4
LPL La Plagne 85.02 315 *e*P **P 03 07 51.1 +0.6**
LPL pmax pmax
comp=Z,25nm,0.8s,mb5.4
MBDF Montbardon 85.02 314 *e*P **P 03 07 50.3 -0.3**
FRF La Foret Royal 85.15 313 *e*P **P 03 07 51.8 +0.5**
comp=Z,22nm,0.7s,mb5.1
FRF La Foret Royal 85.15 313 *e*P **P 03 07 51.8 +0.5**
FRF pmax pmax
comp=Z,11nm,0.7s,mb5.1
HAU Haudompre 85.19 318 *e*P **P 03 07 51.3 0.0**
comp=Z,59nm,0.8s,mb5.5
HAU Haudompre 85.19 318 *e*P **P 03 07 51.3 0.0**
HAU pmax pmax
comp=Z,30nm,0.8s,mb5.5
THEF They Montfort 85.42 318 *e*P **P 03 07 52.3 -0.2**
CABF La Chapelle 85.42 316 *e*P **P 03 07 53.0 +0.5**
comp=Z,51nm,0.9s,mb5.3
CABF La Chapelle 85.42 316 *e*P **P 03 07 53.0 +0.5**
CABF pmax pmax
comp=Z,25nm,0.9s,mb5.3
ORIF Oris-en-Rattie 85.64 315 *e*P **P 03 07 54.3 +0.7**
comp=Z,14nm,0.6s,mb5.0
ORIF Oris-en-Rattie 85.64 315 *e*P **P 03 07 54.3 +0.7**
ORIF pmax pmax
comp=Z,7.0nm,0.6s,mb5.1
MEZF Maizieres J'vi 86.03 318 *e*P **P 03 07 55.6 +0.2**
BAIF Baives 86.49 320 *e*P **P 03 07 58.3 +0.7**
comp=Z,34nm,0.8s,mb5.3
BAIF Baives 86.49 320 *e*P **P 03 07 58.3 +0.7**
BAIF pmax pmax
comp=Z,17nm,0.8s,mb5.3
VIVF Saint-Julien-l 86.50 315 *e*P **P 03 07 58.3 +0.4**
comp=Z,25nm,0.9s,mb5.2
VIVF Saint-Julien-l 86.50 315 *e*P **P 03 07 58.3 +0.4**
VIVF pmax pmax
comp=Z,13nm,0.9s,mb5.2
SMF Signal de Mont 86.96 316 *e*P **P 03 08 00.2 +0.1**
comp=Z,30nm,0.8s,mb5.3
SMF Signal de Mont 86.96 316 *e*P **P 03 08 00.2 +0.1**
SMF pmax pmax
comp=Z,15nm,0.8s,mb5.3
URZ Urewera 87.14 129 LR LR 03 46 52.8
comp=Z,201nm,20.5s,MS4.5,baz=95,slow=36
SSF Saint Saulge 87.16 317 *e*P **P 03 08 01.2 +0.2**
PLDF La Plantade 87.17 316 *e*P **P 03 08 01.6 +0.5**
AVF Avril sur Loir 87.29 317 *e*P **P 03 08 01.7 +0.1**
comp=Z,36nm,1.1s,mb5.2
AVF Avril sur Loir 87.29 317 *e*P **P 03 08 01.7 +0.1**
AVF pmax pmax
comp=Z,18nm,1.1s,mb5.2
AGO Saint Agoulin 87.50 316 *e*P **P 03 08 03.0 +0.3**
BGF Bois d'Agland 87.66 316 *e*P **P 03 08 04.1 +0.7**
HYF Humbligny 87.73 317 *e*P **P 03 08 04.6 +0.8**
TCF Toulx Ste Croi 88.12 316 *e*P **P 03 08 06.2 +0.6**
TNA Tin City 88.46 24 *e*P **P 03 08 06.3 -0.5**
TNA *e*pP pP 03 08 18.2 -1.3
RJF Les Rejaudoux 88.70 315 *e*P **P 03 08 08.8 +0.4**
LDF La Druitiere 89.44 319 *e*P **P 03 08 12.3 +0.4**
comp=Z,37nm,0.9s,mb5.4
LDF La Druitiere 89.44 319 *e*P **P 03 08 12.3 +0.4**
LDF pmax pmax
comp=Z,19nm,0.9s,mb5.4
FLN La Foliniere 89.66 319 *e*P **P 03 08 13.3 +0.4**
comp=Z,43nm,0.8s,mb5.5
FLN La Foliniere 89.66 319 *e*P **P 03 08 13.3 +0.4**
FLN pmax pmax
comp=Z,22nm,0.8s,mb5.5
MFF Saint Martin d 89.70 317 *e*P **P 03 08 12.8 -0.3**
comp=Z,21nm,1.0s,mb5.1
MFF Saint Martin d 89.70 317 *e*P **P 03 08 12.8 -0.3**
MFF pmax pmax
comp=Z,11nm,1.0s,mb5.1
GRR Gorron 89.96 318 *e*P **P 03 08 15.7 +1.4**
VNDA Vanda 90.08 168 P **P 03 08 15.0 +0.7**
VNDA Vanda 90.08 168 LR LR 03 46 04.7
comp=Z,234nm,18.6s,MS4.6,baz=276,slow=34
EKA Eskdalemuir Ar 90.35 326 P **P 03 08 16.5 +0.6**
EKA pmax pmax
comp=Z,8.0nm,0.6s
EKA Eskdalemuir Ar 90.35 326 P **P 03 08 16.5 +0.6**
comp=Z,8.0nm,0.6s,mb5.2,baz=90,slow=5.2,SNR=38
ETSF Etsaut 90.46 313 *e*P **P 03 08 19.6 +2.8**
comp=Z,31nm,1.1s,mb5.2
ETSF Etsaut 90.46 313 *e*P **P 03 08 19.6 +2.8**
ETSF pmax pmax
comp=Z,15nm,1.1s,mb5.2
QUIF Quistinic 91.55 318 *e*P **P 03 08 22.0 +0.2**
ESDC Sonseca Array 93.46 310 P **P 03 08 31.8 +1.1**
comp=Z,1.0nm,0.5s,mb4.5,baz=64,slow=4.1,SNR=14
ESDC pP pP 03 08 45.8 +2.4
comp=Z,2.3nm,0.6s,baz=61,slow=4.0,SNR=8.7
IMA Indian Mountai 93.98 22 *e*P **P 03 08 32.9 +0.5**
SVW2 Sparrevohn 94.95 27 *e*P **P 03 08 38.3 +1.4**
SPU Mount Spurr 96.51 27 *e*P **P 03 08 43.8 -0.2**
MCK McKinley 96.78 24 *e*P **P 03 08 44.8 -0.4**
MCK pmax pmax
comp=Z,2.0nm,0.7s,mb4.7
MCK McKinley 96.78 24 *e*P **P 03 08 44.8 -0.4**
comp=Z,1.9nm,0.7s,mb4.6
ILAR Eielson Array 97.10 22 P **P 03 08 45.6 -1.0**
ILAR *PP pP 03 08 59.7 +0.3
ILAR 03 12 40.7

ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR pmax pmax
comp=Z,2.0nm,0.6s
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 97.10 22 P **P 03 08 45.5 -1.1**
comp=Z,1.3nm,0.7s,mb4.4,baz=286,slow=3.9,SNR=17
ILAR pP pP 03 08 59.6 +0.3
comp=Z,1.5nm,0.6s,baz=288,slow=3.7,SNR=8.0
ILAR PP PP 03 12 40.6 -4.9
comp=Z,0.7nm,0.7s,baz=301,slow=7.4,SNR=4.1
ILAR LR LR 04 01 46.9
comp=Z,166nm,18.1s,MS4.6,baz=77,slow=41
SNAA Sanae 97.17 198 P **P 03 08 46.3 -0.5**
DBIC Dimbokro 98.90 278 P **P 03 08 57.2 +1.3**
comp=Z,5.6nm,1.2s,mb5.0,baz=86,slow=15,SNR=2.7
DBIC LR LR 03 49 51.0
comp=Z,240nm,21.9s,MS4.7,baz=65,slow=33
INK Inuvik 99.50 16 LR LR 04 00 58.5
comp=Z,241nm,21.3s,MS4.7,baz=120,slow=40
YKA Yellowknife Ar 108.99 14 P Pdif 03 09 41.9 +2.3
YKA 03 14 09.7
YKA Yellowknife Ar 108.99 14 Pdiff Pdif 03 09 41.8 +2.2
comp=Z,0.2nm,0.4s,baz=329,slow=4.5,SNR=6.8
YKA PKiKP 03 13 43.9
comp=Z,0.2nm,0.4s,baz=341,slow=2.3,SNR=4.7
YKA PP PP 03 14 09.6 -6.1
comp=Z,0.7nm,0.7s,baz=335,slow=7.6,SNR=6.5
YKA PKKPab 03 25 01.5
comp=Z,0.2nm,0.6s,baz=149,slow=3.0,SNR=4.3
YKA PKKP PKKP 03 25 08.8 +10
comp=Z,0.6nm,0.8s,baz=150,slow=3.2,SNR=9.2
YKA Yellowknife Ar 108.99 14 Pdif Pdif 03 09 41.9 +2.2
YKA PKPdf 03 13 43.9
YKA PP PP 03 14 09.7 -6.1
YKA PKKPab 03 25 01.5
YKA PKKP PKKP 03 25 08.8 +10
SCHQ Schefferville 118.37 348 PKP PKPdf 03 14 02.5 +1.4
comp=Z,1.5nm,0.3s,baz=344,slow=4.2,SNR=17
MSO Missoula 122.43 23 *e*PKPdf PKPdf 03 14 09.8 +0.7
CHMT Chamberlain Mo 122.62 22 *e*PKP PKPdf 03 14 10.2 +0.7
ULM Lac du Bonnet 124.14 8 PKP PKPdf 03 14 13.3 +0.9
comp=Z,4.5nm,0.5s,baz=351,slow=2.9,SNR=13
ULM Lac du Bonnet 124.14 8 *e*PKP PKPdf 03 14 12.6 +0.3
MCMT McKenzie Canyo 124.51 24 *e*PKP PKPdf 03 14 15.1 +1.8
QLMT Earthquake Lak 125.07 23 *e*PKP PKPdf 03 14 16.4 +2.1
YFT Old Faithful 125.61 22 PKP PKPdf 03 14 17.3 +2.0
LOHW Long Hollow 126.41 23 *e*PKP PKPdf 03 14 18.8 +1.9
SNOW Snow King Moun 126.48 23 *e*PKP PKPdf 03 14 19.2 +2.1
NVAR Mina Array Bea 126.98 32 PKP PKPdf 03 14 21.0 +2.8
comp=Z,4.7nm,0.8s,baz=40,slow=0.8,SNR=20
BW06 Boulder Array 127.53 22 *e*PKP PKPdf 03 14 20.0 +0.9
PDAR Pinedale Array 127.53 22 PKP PKPdf 03 14 20.6 +1.4
comp=Z,3.4nm,0.6s,baz=100,slow=1.8,SNR=29
HWUT Hardware Ranch 127.71 25 *e*PKP PKPdf 03 14 20.1 +0.6
MSU Marysvale 129.97 28 *e*PKIKP PKPdf 03 14 26.5 +2.6
SRU San Rafael 130.22 26 *e*PKIKP PKPdf 03 14 26.3 +2.0
NEN Nelson 130.89 32 *e*PKP PKPdf 03 14 28.1 +2.4
PV10 Paradox Valley 131.47 25 *e*PKP PKPdf 03 14 28.4 +1.6
LAZ Ladron 135.64 26 PKP PKPdf 03 14 35.9 +1.3
GDL2 Guadalupe Moun 138.72 25 PKP PKPdf 03 14 33.1 -7.3
TXAR Lajitas Array 141.50 26 PKhKP 03 14 41.3
comp=Z,1.6nm,0.5s,baz=285,slow=0.7,SNR=20
TXAR PKIKP 03 14 50.1
comp=Z,2.2nm,0.5s,baz=170,slow=0.8,SNR=16
TXAR PP PP 03 17 51.6 -1.1
comp=Z,1.6nm,1.0s,baz=315,slow=5.3,SNR=5.1
TXAR SKPbc 03 18 19.7
comp=Z,2.9nm,0.9s,slow=0.9,SNR=7.7
JCT Junction City 142.01 21 *e*PKHKP 03 14 41.7
SJG San Juan 150.23 321 *e*PKIKP PKPdf 03 15 06.5 +6.2
SJG San Juan 150.23 321 PKPbc PKPdf 03 15 07.0 +6.7
comp=Z,12nm,0.4s,baz=80,slow=2.5,SNR=7.3
LPAZ La Paz 159.83 235 PKIKP PKPdf 03 15 15.6 +2.4
LPAZ pmax pmax
comp=Z,1.0nm,1.0s
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ La Paz 159.83 235 PKP PKPdf 03 15 15.6 +2.4
comp=Z,1.3nm,1.0s,baz=68,slow=0.4,SNR=4.6
LPAZ PKPab PKPab 03 15 56.0 +1.3
comp=Z,2.3nm,0.9s,baz=163,slow=4.4,SNR=3.8
LPAZ La Paz 159.83 235 *e*PKPdf PKPdf 03 15 15.0 +1.8
SDV Santo Domingo 159.87 313 PKP PKPdf 03 15 15.7 +2.4
comp=Z,5.7nm,1.0s,baz=1.6,slow=5.5,SNR=4.4
ROSC El Rosal 165.28 312 PKP PKPdf 03 15 21.7 +2.9
comp=Z,1.8nm,0.4s,baz=98,slow=22,SNR=3.9

*CSEM **29** 02:58:01.4±0.2,38.13N×26.28W,h30km,ML2.3,Error ellipse: s-maj=41.8km s-min=3.0km az=36.0*
*PDA **29** 02:58:03.7±0.9,38.17N×26.27W,MD2.5,ML2.3,Error ellipse: s-maj=13.2km s-min=1.2km az=43.0*
SVSA 29 02:58:03.7±0.9,38.17N×26.27W,MD2.5,ML2.3,Error ellipse: s-maj=13.2km s-min=1.2km az=43.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET4	**Mosteiros**	**0.47**	**128**	*i* P	Pg	02 58 12.5	-0.6
SET4				*i* S	Sg	02 58 18.7	-0.6
SET2	**Ginetes**	**0.48**	**132**	*e*P	Pg	02 58 12.7	-0.7
SET2				*i* S	Sg	02 58 19.5	-0.4
PFET	**Feteiras**	**0.51**	**133**	*i* P	Pg	02 58 13.0	-0.9
PFET				*i* S	Sg	02 58 20.4	-0.4
PSAN	**Santo Antonio**	**0.53**	**126**	*e*P	Pg	02 58 13.4	-0.9
FAC	**Faja de Cima**	**0.62**	**129**	*e*P	Pg	02 58 14.6	-1.6
FAC				*e*S	Sg	02 58 23.1	-1.4
CML	**Cha da Macela**	**0.69**	**125**	*e*S	Sg	02 58 24.5	-2.3
PMAT	**Coroa da Mata**	**0.72**	**119**	*e*rx		02 58 25.5	
LFA	**Lagoa do Fogo**	**0.73**	**122**	*e*P	Pg	02 58 16.4	-1.9
MESC	**Monte Escuro**	**0.75**	**120**	*e*P	Pg	02 58 16.7	-1.9
MESC				*i* S	Sg	02 58 26.2	-2.4
VIF	**Vila Franca**	**0.78**	**123**	*e*rx		02 58 28.4	
PFAV	**Pico das Favas**	**0.84**	**310**	*e*P	Pg	02 58 17.8	-2.7
PFAV				*e*S	Sg	02 58 28.4	-3.3
16nm,0.1s							
RIB2	**Ribeirinha**	**0.87**	**306**	*e*P	Pg	02 58 18.2	-2.9
RIB2				*i* S	Sg	02 58 29.0	-3.8
37nm,0.2s							
PVNV	**Vila Nova**	**0.92**	**311**	*i* S	Sg	02 58 30.3	-3.9
27nm,0.1s							
PPAD	**Pico dos Padre**	**0.96**	**304**	*e*P	Pg	02 58 19.6	-3.3
PPAD				*i* S	Sg	02 58 31.6	-4.2
17nm,0.2s							
PBIS	**Biscoitos**	**0.98**	**308**	*e*rx		02 58 32.6	
ASBA	**Santa Barbara**	**1.00**	**304**	*e*S	Sg	02 58 32.3	-4.7
14nm,0.1s							
PSBA	**Serra de Santa**	**1.02**	**306**	*e*P	Pb	02 58 20.5	-3.5
PSBA				*e*S	Sg	02 58 33.6	-4.2
53nm,0.5s							
ROSA	**Rosais**	**1.65**	**290**	*e*rx	Pn	02 58 29.2	-4.9
PICO	**Pico**	**1.73**	**282**	*e*P	Pn	02 58 29.9	-5.4
HOR	**Horta**	**1.89**	**282**	*e*rx	Pn	02 58 30.3	-7.3
CALA	**Caldeira**	**1.96**	**283**	*e*rx	Pn	02 58 30.8	-7.7

IDC 29 03:08:18.8±8.8,9.71N×91.60E,mb4.0/3,mb1 4.1/4,mb1mx3.6/18,mbtmp3.9/4,ML4.2/1,Error ellipse: s-maj=202.4km s-min=52.8km az=150.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.24**	**39**	Pn	P	03 11 00.2	-3.6
0.5nm,0.3s,baz=235,slow=14,SNR=4.4							
ZAL	**Zalesovo**	**44.44**	**354**	P	P	03 16 31.4	-1.7
1.0nm,0.4s,baz=290,slow=6.2,SNR=4.1							
FINES	**FINESS Array B**	**69.92**	**332**	P	P	03 19 32.1	-1.4
0.8nm,0.7s,baz=112,slow=7.5,SNR=4.0							
GERES	**GERESS Array B**	**74.79**	**318**	P	P	03 20 00.6	-2.0
0.3nm,0.5s,baz=90,slow=4.0,SNR=5.5							

*IDC **29** 03:12:56.5±1.1,24.26S×176.21W,mb4.1/7,mb1 4.4/9,mb1mx4.2/18,mbtmp4.3/9,ML4.7/2,MS3.8/2,Ms1 3.8/2,ms1mx2.7/29,Error ellipse: s-maj=62.0km s-min=21.7km az=155.0*
*NEIC **29** 03:13:03.7±4.9,24.40S×176.20W,h57km±44km,mb4.5/5,Error ellipse: s-maj=31.7km s-min=15.6km az=180.0*
ISC 29 03:12:59.7±0.7,24.3S±0.1×176.3W±0.1,h33km,n26,σ1§02/19,mb4.3/10,MS3.7/2,1C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.01**	**201**	Pn	**P**	**03 16 31.7**	**+0.7**
1.9nm,0.3s,baz=333,slow=20,SNR=9.1							
URZ				Sn	**S**	**03 19 01.9**	**-15**
0.9nm,0.3s,baz=103,slow=19,SNR=5.0							
RAR	**Rarotonga**	**15.52**	**82**	Pn	**P**	**03 16 24.0**	**-14**
5.1nm,0.3s,baz=266,slow=14,SNR=6.1							
RPZ	**Rata Peaks**	**21.98**	**205**	LR	LR	03 25 22.5	
comp=Z,223nm,20.2s,MS3.6,baz=188,slow=34							
TBI	**Tubuai**	**24.53**	**93**	*e*LR	LR	03 23 40.9	
168nm,30.0s							
PPT	**Papeete**	**25.79**	**80**	*e*LR	LR	03 24 00.3	
138nm,22.0s							
CTA	**Charters Tower**	**34.88**	**269**	*e*P	**P**	**03 19 51.8**	**+1.5**
1.9nm,0.4s,mb4.4							
CTA	**Charters Tower**	**34.88**	**269**	P	**P**	**03 19 50.7**	**+0.5**
2.3nm,0.4s,mb4.5,baz=83,slow=9.2,SNR=10							
CTAO	**Charters Tower**	**34.88**	**269**	*e*P	**P**	**03 19 50.8**	**+0.5**
4.6nm,0.9s,mb4.4							
STKA	**Stephens Creek**	**37.74**	**249**	P	**P**	**03 20 14.9**	**+0.6**
1.2nm,0.4s,mb4.0,baz=92,slow=7.0,SNR=5.5							
ASAR	**Alice Springs**	**45.33**	**260**	P	**P**	**03 21 16.4**	**-0.2**
1.4nm,0.5s,mb4.0,baz=91,slow=6.8,SNR=39							
ASAR				PcP	PcP	03 22 56.4	0.0
1.1nm,0.7s,baz=100,slow=4.0,SNR=5.9							
ASAR				LR	LR	03 39 59.4	
comp=Z,134nm,18.2s,MS3.9,baz=53,slow=36							
ASPA	**Alice Springs**	**45.33**	**260**	*e*P	**P**	**03 21 17.5**	**+0.8**
WB2	**Warramunga Arr**	**45.77**	**265**	*e*P	**P**	**03 21 19.7**	**-0.5**
WRAB	**Tennant Creek**	**45.77**	**265**	*e*P	**P**	**03 21 18.9**	**-1.4**
3.1nm,0.6s,mb4.4							
WRA	**Warramunga Arr**	**45.78**	**265**	P	**P**	**03 21 19.8**	**-0.4**
2.3nm,0.6s,mb4.3,baz=104,slow=8.0,SNR=25							
WRA				PcP	PcP	03 22 58.0	0.0
0.5nm,0.8s,baz=100,slow=3.8,SNR=5.0							
FORT	**Forrest**	**49.36**	**249**	*e*P	**P**	**03 21 46.6**	**-1.5**
19nm,0.6s,mb5.3							
QSPA	**South Pole Qui**	**65.78**	**180⇑**	*i*P	**P**	**03 23 42.6**	**-0.4**
12nm,1.1s,mb4.8							
NVAR	**Mina Array Bea**	**82.72**	**42**	P	**P**	**03 25 22.6**	**+1.0**
0.6nm,0.7s,mb3.8,baz=201,slow=7.7,SNR=3.2							
MNTX	**Cornudas Mount**	**87.67**	**54**	P	**P**	**03 25 45.1**	**-1.3**
TXAR	**Lajitas Array**	**87.78**	**56**	P	**P**	**03 25 47.0**	**0.0**
0.6nm,0.9s,mb3.8,baz=202,slow=6.7,SNR=4.1							
TXAR	**Lajitas Array**	**87.78**	**56**	P	**P**	**03 25 47.0**	**0.0**
CMAR	**Chiang Mai Arr**	**92.88**	**289**	P	**P**	**03 26 13.7**	**+2.7**
1.2nm,0.5s,mb4.6,baz=124,slow=2.6,SNR=4.6							
HFS	**Hagfors**	**143.53**	**352**	PKP	PKPdf	03 32 31.1	+0.7
2.3nm,0.8s,slow=1.5,SNR=4.9							
AKASG	**Malin Array Be**	**147.10**	**330**	PKPbc	PKPdf	03 32 40.4	+3.5
1.7nm,0.6s,baz=40,slow=4.1,SNR=11							
ASF	**Jabal al Asfar**	**149.84**	**293**	PKPbc	PKPdf	03 32 48.9	+7.0
3.9nm,0.8s,baz=118,slow=1.3,SNR=6.8							
BRTR	**Keskin Array B**	**150.52**	**309**	PKPbc	PKPdf	03 32 49.1	+6.4
5.4nm,1.2s,baz=89,slow=1.7,SNR=7.4							
CLL	**Collm**	**152.12**	**348**	*e*PKP1	PKPdf	03 32 55.0	+10

*IDC **29** 03:21:28.2±1.5,7.56N×93.93E,mb3.9/6,mb1 4.1/7,mb1mx3.8/19,mbtmp3.9/7,ML4.3/1,Error ellipse: s-maj=53.2km s-min=27.6km az=58.0*
*NEIC **29** 03:21:32.7±1.0,7.60N×93.94E,h30km,mb4.3/1,Error ellipse: s-maj=27.7km s-min=18.9km az=72.0*
ISC 29 03:21:31.2±1.2,7.7N±0.2×94.0E±0.2,h30km,n9,σ0§68/9,mb3.9/7,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.74**	**24**	Pn	**P**	**03 24 19.8**	**-0.1**
0.6nm,0.3s,baz=201,slow=15,SNR=5.9							
SONM	**Songino Array**	**41.39**	**13**	P	**P**	**03 29 17.1**	**+0.7**
1.5nm,1.0s,mb3.6,baz=191,slow=8.7,SNR=5.2							
KURK	**Kurchatov**	**44.78**	**346**	*e*P	**P**	**03 29 42.6**	**-1.4**
5.0nm,1.1s,mb4.3							
ZAL	**Zalesovo**	**46.73**	**353**	P	**P**	**03 29 59.9**	**+0.5**
2.4nm,0.4s,mb4.5,baz=302,slow=5.8,SNR=11							
WRA	**Warramunga Arr**	**48.23**	**125**	P	**P**	**03 30 11.5**	**-0.2**
0.1nm,0.3s,mb3.3,baz=304,slow=8.7,SNR=8.1							
FINES	**FINESS Array B**	**72.84**	**332**	P	**P**	**03 32 58.5**	**-0.4**
0.5nm,0.4s,mb3.8,baz=110,slow=7.1,SNR=5.5							
FINES	**FINESS Array B**	**72.84**	**332**	P	**P**	**03 32 58.5**	**-0.4**
HFS	**Hagfors**	**78.58**	**330**	P	**P**	**03 33 32.4**	**+1.0**
0.9nm,0.5s,mb3.9,baz=108,slow=4.6,SNR=3.5							
ILAR	**Eielson Array**	**94.98**	**22**	P	**P**	**03 34 51.7**	**-0.1**
0.2nm,0.6s,mb3.7,baz=304,slow=5.1,SNR=5.2							

*NEIC **29** 03:22:18.7±0.5,7.13N×92.47E,h30km,mb4.5/3,Error ellipse: s-maj=14.1km s-min=9.8km az=219.0*
*IDC **29** 03:22:23.1±7.4,7.29N×92.64E,h65km±64km,mb3.8/9,mb1 4.1/10,mb1mx3.8/20,mbtmp4.2/10,ML4.6/1,Error ellipse: s-maj=59.9km s-min=16.9km az=47.0*
ISC 29 03:22:16.6±4.7,7.1N±0.1×92.46E±0.10,h30km±34km,n19,σ0§86/16,mb4.3/12,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**11.67**	**271**	P	**P**	**03 25 04.0**	**-0.3**
21nm,0.6s							
CMAR	**Chiang Mai Arr**	**12.91**	**29**	P	**P**	**03 25 22.1**	**+1.1**
1.0nm,0.3s,baz=229,slow=14,SNR=31							
AAK	**Ala-Archa**	**38.75**	**339**	*e*P	**P**	**03 29 40.4**	**+0.2**
15nm,1.4s,mb4.5							
KURK	**Kurchatov**	**44.95**	**348**	*e*P	**P**	**03 30 29.6**	**-1.1**
3.4nm,0.7s,mb4.3							
ZAL	**Zalesovo**	**47.08**	**354**	P	**P**	**03 30 46.0**	**-1.6**
1.0nm,0.6s,mb3.9,baz=290,slow=9.9,SNR=5.1							
BVAR	**Borovoye Array**	**49.17**	**343**	P	**P**	**03 31 03.8**	**-0.1**
2.2nm,0.8s,mb4.2,baz=129,slow=9.5,SNR=9.8							
WRA	**Warramunga Arr**	**49.21**	**124**	P	**P**	**03 31 04.0**	**-0.6**
3.1nm,0.9s,mb4.3,baz=303,slow=9.0,SNR=22							
WRAB	**Tennant Creek**	**49.22**	**124**	*e*P	**P**	**03 31 04.2**	**-0.5**
WB2	**Warramunga Arr**	**49.22**	**124**	*e*P	**P**	**03 31 04.8**	**+0.1**
CHKZ	**Chkalovo**	**49.67**	**343**	*e*P	**P**	**03 31 07.1**	**-0.6**
3.5nm,0.5s,mb4.7							
ASAR	**Alice Springs**	**50.74**	**128**	P	**P**	**03 31 16.6**	**+0.3**
1.4nm,0.7s,mb4.0,baz=304,slow=7.5,SNR=9.7							
BRTR	**Keskin Array B**	**61.66**	**311**	P	**P**	**03 32 34.0**	**-0.3**
0.8nm,0.8s,mb3.9,baz=131,slow=7.9,SNR=6.0							
IDI	**Anoyia**	**67.62**	**305**	P	**P**	**03 33 14.3**	**+1.2**
3.9nm,0.6s,mb4.6,baz=358,slow=5.5,SNR=6.8							
FINES	**FINESS Array B**	**72.59**	**333**	P	**P**	**03 33 42.6**	**-0.2**
5.2nm,1.1s,mb4.4,baz=117,slow=6.2,SNR=3.5							
GERES	**GERESS Array B**	**77.27**	**318**	P	**P**	**03 34 10.5**	**+0.6**
1.3nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=9.3							
ESDC	**Sonseca Array**	**90.42**	**310**	P	**P**	**03 35 19.0**	**+2.1**
1.1nm,0.6s,mb4.3,baz=60,slow=4.5,SNR=5.6							
PDAR	**Pinedale Array**	**126.44**	**20**	PKP	PKPdf	03 41 19.6	-2.7
0.4nm,0.9s,baz=90,slow=0.9,SNR=2.6							
TXAR	**Lajitas Array**	**140.56**	**22**	PKiKP		03 41 49.4	
0.3nm,0.8s,slow=6.3,SNR=3.0							
TXAR	**Lajitas Array**	**140.56**	**22**	PKPdf	PKPdf	03 41 49.4	+0.3

*NEIC **29** 03:25:40.3±0.6,7.75N×93.67E,h30km,mb4.3/3,Error ellipse: s-maj=18.5km s-min=11.0km az=61.0*
*IDC **29** 03:25:43.4±8.4,7.89N×93.81E,h51km±70km,mb3.7/10,mb1 3.9/11,mb1mx3.7/20,mbtmp4.0/11,ML4.2/1,Error ellipse: s-maj=68.1km s-min=18.8km az=55.0*
ISC 29 03:25:38.6±0.8,7.8N±0.1×93.8E±0.1,h30km,n17,σ0§77/17,mb4.0/12,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.73**	**25**	P	**P**	**03 28 26.4**	**-0.6**
0.5nm,0.3s,baz=211,slow=15,SNR=7.1							
KMI	**Kunming**	**19.24**	**25**	P	**P**	**03 30 04.6**	**+1.2**
11nm,1.4s							
AAK	**Ala-Archa**	**38.62**	**337**	P	**P**	**03 33 00.3**	**-0.7**
SONM	**Songino Array**	**41.31**	**13**	P	**P**	**03 33 22.8**	**-0.3**
1.6nm,0.8s,mb3.7,baz=195,slow=8.7,SNR=8.6							
SONM				PcP	PcP	03 35 21.7	-0.3
0.6nm,0.7s,baz=207,slow=3.8,SNR=4.2							
KURK	**Kurchatov**	**44.59**	**346**	*e*P	**P**	**03 33 49.2**	**-0.7**
6.5nm,1.1s,mb4.4							
ZAL	**Zalesovo**	**46.57**	**353**	P	**P**	**03 34 06.1**	**+0.7**
2.9nm,0.8s,mb4.3,baz=290,slow=7.3,SNR=14							
WRA	**Warramunga Arr**	**48.53**	**125**	P	**P**	**03 34 22.8**	**+1.6**
0.8nm,1.0s,mb3.7,baz=304,slow=8.7,SNR=5.3							
WRAB	**Tennant Creek**	**48.53**	**125**	P	**P**	**03 34 19.9**	**-1.4**
BVAR	**Borovoye Array**	**48.94**	**341**	P	**P**	**03 34 24.3**	**+0.4**
1.5nm,1.0s,mb4.0,baz=225,slow=2.1,SNR=4.1							
CHKZ	**Chkalovo**	**49.42**	**342**	*e*P	**P**	**03 34 27.6**	**-0.2**
3.1nm,0.9s,mb4.3							
ASAR	**Alice Springs**	**50.16**	**130**	P	**P**	**03 34 33.5**	**-0.3**
0.6nm,1.1s,mb3.5,baz=315,slow=6.4,SNR=2.7							
FINES	**FINESS Array B**	**72.60**	**332**	P	**P**	**03 37 04.7**	**-0.1**
1.6nm,0.7s,mb4.1,baz=124,slow=6.9,SNR=7.9							
ARCES	**ARCESS Array B**	**75.20**	**340**	P	**P**	**03 37 18.9**	**-0.9**
2.1nm,0.7s,mb4.2,baz=90,slow=6.1,SNR=3.9							
GERES	**GERESS Array B**	**77.63**	**318**	P	**P**	**03 37 34.7**	**+0.9**
0.6nm,0.7s,mb3.6,baz=153,slow=3.0,SNR=5.8							
HFS	**Hagfors**	**78.33**	**330**	P	**P**	**03 37 37.8**	**+0.4**
2.4nm,0.8s,mb4.2,baz=90,slow=4.4,SNR=7.2							
NB2	**NORSAR Subarra**	**79.61**	**331**	P	**P**	**03 37 44.6**	**+0.2**
1.6nm,0.8s,mb4.0,baz=92,slow=5.6							
NOA	**NORSAR Array B**	**79.61**	**331**	P	**P**	**03 37 44.5**	**+0.2**
1.1nm,0.8s,mb3.8,baz=94,slow=5.4,SNR=3.7							

*IDC **29** 03:30:26.8±0.7,7.64N×93.92E,mb4.1/14,mb1 4.2/15,mb1mx4.2/21,mbtmp4.1/15,ML4.6/1,Error ellipse: s-maj=35.8km s-min=15.2km az=57.0*
*BJI **29** 03:30:31.6,7.80N×94.20E,h30km,mb4.7*
*NEIC **29** 03:30:31.6±0.4,7.81N×94.17E,h30km,mb4.4/7,Error ellipse: s-maj=19.9km s-min=9.6km az=58.0*
ISC 29 03:30:26.0±0.5,7.55N±0.08×93.9E±0.1,h10km,n52,σ1§01/40,mb4.3/28,1D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.90**	**24**	Pn	**P**	**03 33 18.6**	**-0.3**
1.2nm,0.3s,baz=210,slow=14,SNR=34							
PALK	**Pallekele**	**13.09**	**270**	*e*P	**P**	**03 33 44.5**	**+10**
KMI	**Kunming**	**19.41**	**25**	P	**P**	**03 34 56.7**	**+1.6**
22nm,1.2s							
KMI				sP		03 35 11.6	
JIRN	**Jiri**	**21.29**	**341**	*e*P	**P**	**03 35 16.4**	**+1.3**
51nm,0.9s,mb4.9							
PKI	**Pulchoki**	**21.48**	**339**	*e*P	**P**	**03 35 17.6**	**+0.7**
50nm,1.0s,mb4.8							
DMN	**Daman**	**21.62**	**338**	*e*P	**P**	**03 35 19.3**	**+0.9**
60nm,0.9s,mb5.0							
KKN	**Kakani**	**21.72**	**339**	*e*P	**P**	**03 35 20.9**	**+1.5**
90nm,1.1s,mb5.1							
GKN	**Gorkha**	**22.15**	**338**	*e*P	**P**	**03 35 24.0**	**+0.3**
24nm,0.6s,mb4.8							
LSA	**Lhasa**	**22.18**	**354**	P	**P**	**03 35 26.8**	**+2.8**
LSA				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.2							
KOLN	**Koldanda**	**22.35**	**335**	*e*P	**P**	**03 35 25.2**	**-0.5**
comp=Z,26nm,0.7s,mb4.8							
LZH	**Lanzhou**	**29.82**	**16**	*e*P	**P**	**03 36 35.0**	**-0.6**
LZH				AP	pP	03 36 41.5	+3.0
LZH				XP	sP	03 36 43.5	+3.7
LZH				AMB	AMB		
comp=Z,16nm,1.4s,mb4.6							
LZH	**Lanzhou**	**29.82**	**16**	*e*P	**P**	**03 36 35.0**	**-0.6**
comp=Z,16nm,1.4s,mb4.6							
LZH				pP	pP	03 36 41.5	+3.0
LZH				sP	sP	03 36 43.5	+3.7
WMQ	**Urumqi**	**36.53**	**352**	*e*P	**P**	**03 37 33.5**	**-0.1**
AAK	**Ala-Archa**	**38.90**	**337**	*e*P	**P**	**03 37 53.2**	**-0.3**
comp=Z,8.2nm,1.3s,mb4.3							
SONM	**Songino Array**	**41.53**	**13**	P	**P**	**03 38 14.9**	**-0.2**
comp=Z,3.3nm,0.9s,mb4.0,baz=194,slow=8.0,SNR=26							
SONM				PcP	PcP	03 40 13.8	+0.5
comp=Z,1.0nm,0.6s,baz=188,slow=4.1,SNR=7.0							
ULN	**Ulaanbaatar**	**41.70**	**13**	*e*P	**P**	**03 38 15.3**	**-1.2**
comp=Z,1.6nm,0.7s,mb3.8							
KURK	**Kurchatov**	**44.86**	**346**	*e*P	**P**	**03 38 41.1**	**-1.2**
comp=Z,19nm,1.3s,mb4.8							
NWAO	**Narrogin (SRO)**	**45.97**	**152**	P	**P**	**03 38 53.4**	**+2.1**
comp=Z,3.8nm,0.5s,mb4.6,baz=336,slow=6.3,SNR=9.3							
ZAL	**Zalesovo**	**46.83**	**353**	P	**P**	**03 38 57.2**	**-0.6**
comp=Z,9.1nm,1.1s,mb4.6,baz=300,slow=6.6,SNR=27							
ZAL	**Zalesovo**	**46.83**	**353**	P	**P**	**03 38 57.2**	**-0.6**
WRA	**Warramunga Arr**	**48.27**	**125**	P	**P**	**03 39 09.3**	**-0.2**
comp=Z,0.7nm,0.4s,mb4.0,baz=305,slow=8.6,SNR=30							
WRAB	**Tennant Creek**	**48.27**	**125**	*e*P	**P**	**03 39 08.9**	**-0.7**
WB2	**Warramunga Arr**	**48.28**	**125**	*e*P	**P**	**03 39 09.5**	**-0.1**
BVAR	**Borovoye Array**	**49.22**	**341**	P	**P**	**03 39 15.9**	**-0.5**
comp=Z,1.0nm,0.7s,mb4.0,baz=149,slow=8.6,SNR=8.6							
BVAR				PcP	PcP	03 40 40.1	+0.2
comp=Z,0.7nm,0.7s,baz=180,slow=3.0,SNR=4.0							
BRVK	**Borovoye**	**49.28**	**341**	*e*P	**P**	**03 39 15.9**	**-0.9**
CHKZ	**Chkalovo**	**49.70**	**342**	*e*P	**P**	**03 39 19.5**	**-0.7**
comp=Z,8.3nm,0.9s,mb4.8							
ASAR	**Alice Springs**	**49.89**	**130**	P	**P**	**03 39 21.9**	**-0.1**
comp=Z,0.8nm,0.7s,mb3.9,baz=303,slow=6.9,SNR=8.3							
KMBO	**Kilima Mbogo**	**57.15**	**264**	P	**P**	**03 40 21.2**	**+5.4**
comp=Z,2.0nm,0.9s,mb4.1,baz=63,slow=6

JRY	Ryogami san	3.25	311	P	P	03 35 03.2	-0.7
JFK	Kawauchi	3.56	347	P	P	03 35 05.8	-2.5
JFK				eS	S	03 35 44.2	-5.6
MAJO	Matsushiro	4.02	312	eP	P	03 35 15.3	+0.4
MAT	Matsushiro	4.02	312	eP	P	03 35 15.0	+0.2
MAT				eS	S	03 36 00.0	-1.4
MAT	Matsushiro	4.02	312	P	P	03 35 15.0	+0.2
MAT				S	S	03 36 00.0	-1.4
CBIJ	Chichi jima	6.79	178	LR	LR	03 38 21.1	
comp=Z,73nm,19.1s,baz=40,slow=36							
ASAJ	Asahikawa	10.22	3	Pn	P	03 36 35.5	-6.0
1.4nm,0.3s,baz=226,slow=9.6,SNR=7.5							
KURK	Kurchatov	48.23	310	eP	P	03 42 49.2	-4.2
3.0nm,0.9s,mb4.3							
KURK				e		03 43 06.5	
ILAR	Eielson Array	51.94	31	P	P	03 43 21.2	-0.2
1.7nm,0.7s,mb4.1,baz=264,slow=6.1,SNR=25							
CHKZ	Chkalovo	52.78	315	eP	P	03 43 25.8	-2.0
1.7nm,0.7s,mb4.1							
BVAR	Borovoye Array	53.01	314	P	P	03 43 29.1	-0.5
0.7nm,0.5s,mb3.9,baz=63,slow=6.6,SNR=5.7							
WRAB	Tennant Creek	54.01	189	P	P	03 43 35.5	-2.0
WRA	Warramunga Arr	54.02	189	P	P	03 43 37.0	-0.6
1.1nm,0.5s,mb4.1,baz=2.3,slow=7.6,SNR=17							
INK	Inuvik	57.00	26	P	P	03 43 58.0	-0.4
1.1nm,0.6s,mb4.0,baz=276,slow=11,SNR=4.8							
ASAR	Alice Springs	57.75	189	P	P	03 44 04.3	0.0
0.3nm,0.4s,mb3.7,baz=5.0,slow=7.8,SNR=7.1							
YKA	Yellowknife Ar	66.32	30	P	P	03 45 00.6	-0.3
0.5nm,0.8s,mb3.6,baz=296,slow=6.1,SNR=4.8							
YKA	Yellowknife Ar	66.32	30	P	P	03 45 00.6	-0.3
NEW	Newport	72.10	44	P	P	03 45 37.8	+1.2
NVAR	Mina Array Bea	76.55	53	P	P	03 46 05.0	+2.3
1.0nm,0.8s,mb3.8,baz=269,slow=6.9,SNR=4.5							
AKASG	Malin Array Be	77.03	323	P	P	03 46 04.5	-0.6
0.3nm,0.4s,mb3.5,baz=49,slow=5.8,SNR=4.1							
HFS	Hagfors	77.11	336	P	P	03 46 05.8	+0.4
1.4nm,0.6s,mb4.1,baz=82,slow=10,SNR=4.4							
NOA	NORSAR Array B	77.23	338	P	P	03 46 06.4	+0.4
0.6nm,0.7s,mb3.6,baz=62,slow=4.2,SNR=3.2							
NOA	NORSAR Array B	77.23	338	P	P	03 46 06.4	+0.4
PDAR	Pinedale Array	79.58	45	P	P	03 46 20.7	+1.4
0.4nm,0.7s,mb3.5,baz=333,slow=3.3,SNR=3.6							
PV10	Paradox Valley	82.54	49	eP	P	03 46 37.3	+2.4

IDC 29 03:34:34.9±10.0, 7.61N×94.11E, mb4.0/5, mb1 4.1/6, mb1mx3.7/19, mbtmp4.0/6, ML4.1/1, MS4.9/1, Ms1 4.9/1, ms1mx3.0/27, Error ellipse: s-maj=252.6km s-min=49.9km az=139.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.76	23	Pn	P	03 37 25.6	-1.4
0.3nm,0.3s,baz=214,slow=16,SNR=3.5							
SONM	Songino Array	41.42	13	P	P	03 42 22.3	-2.4
0.8nm,1.0s,baz=207,slow=6.4,SNR=3.2							
ZAL	Zalesovo	46.80	352	P	P	03 43 05.8	-2.2
1.0nm,0.3s,baz=352,slow=15,SNR=4.0							
FINES	FINESS Array B	72.93	332	P	P	03 46 06.6	-1.1
3.4nm,1.1s,baz=90,slow=7.6,SNR=3.6							
GERES	GERESS Array B	78.00	318	P	P	03 46 35.8	-1.0
1.1nm,1.0s,baz=90,slow=2.7,SNR=4.9							
HFS	Hagfors	78.67	330	P	P	03 46 38.3	-2.0
2.0nm,0.7s,baz=101,slow=7.6,SNR=4.0							

CSEM 29 03:34:54.4, 37.75N×43.98E, h24km, MD3.6, After ISK

ISK 29 03:34:54.4, 37.75N×43.98E, h24km, MD3.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	Hakkari	0.26	228	i PG	Pb	03 35 01.6	+0.8
HKR				i SG	Sb	03 35 05.7	+0.6
VANT	Van	0.83	326	PG	Pb	03 35 10.9	+0.8
VANB	Van	0.96	331	PG	Pb	03 35 12.3	0.0
VANB				SG	Sb	03 35 26.7	+2.1
BTMT	Batman	2.02	283	PN	Pn	03 35 30.2	+2.6
VRT	Varto	2.37	306	ePN	Pn	03 35 33.3	+0.7
BINT	Bingol	2.97	293	ePN	Pn	03 35 41.9	+0.7
EZM	Erzurum	2.97	317	ePN	Pn	03 35 41.4	+0.2
DIY	Diyarbakir	2.98	274	ePN	Pn	03 35 41.4	+0.1

BJI 29 03:37:53.8, 7.33N×93.88E, h16km, mB5.3, mb4.7, Ms5.0, Msz4.7

IDC 29 03:38:00.5±0.4, 8.09N×94.27E, h16km±1km, mb4.6/27, mb1 4.7/28, mb1mx4.7/30, mbtmp4.6/28, ML4.5/1, MS4.5/13, Ms1 4.5/13, ms1mx4.2/27, Error ellipse: s-maj=18.8km s-min=9.4km az=47.0

NEIC 29 03:38:00.9±0.1, 8.11N×94.27E, mb5.4/70, MS4.6/7, Error ellipse: s-maj=5.1km s-min=3.5km az=223.0

HRVD 29 03:38:00.9±0.2, 8.09N×94.25E, h12km, MW5.1/53, Centroid moment Tensor Solution. LP body waves: s28,c38; Mantle waves: s53,c102; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.47±.15; $M_{\theta\theta}$0.54±.13; $M_{\phi\phi}$3.93±.14; $M_{r\theta}$0.50±.51; $M_{\phi\phi}$2.77±.11; $M_{\phi r}$-2.28±.40; Best double couple: $M_0$5.55×10^{16} NP1: ϕ_s229°, δ39°, λ-59°. NP2:ϕ_s11°, δ58°, λ-113°. Principal axes: T 5.791, Plg10°, Azm117°; N -.478, Plg19°, Azm24°; P -5.31, Plg68°, Azm233°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

MOS 29 03:38:01.7±1.0, 8.12N×94.29E, h33km, mb5.5/69, MS4.5/22 Error ellipse: s-maj=10.0km s-min=4.4km az=124.0

CSEM 29 03:38:05.5, 8.53N×93.92E, h33km, mb5.6

ISC 29 03:37:59.3±0.2, 8.04N±0.03×94.25E±0.03, h17km, h17km±.4km: pP-P, n364, σ19.04/360, mb5.2/114, MS4.7/40, 20C-14D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	3.88	338	eP	Px	03 39 09.2	
PBA				eS	Sx	03 39 51.7	
CM31	Chiang Mai Arr	11.31	23	eP	P	03 40 41.1	-2.3
CMAR	Chiang Mai Arr	11.31	23	P	P	03 40 44.8	+1.4
CMAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
CMAR				MLR	MLR		
comp=Z,1μm,19.2s							
CMAR				pmax	pmax		
comp=N,1.0nm,0.3s							
CMAR	Chiang Mai Arr	11.31	23	Pn	P	03 40 44.8	+1.4
comp=N,1.0nm,0.3s,baz=212,slow=14,SNR=16							
CMAR				LR	LR	03 45 08.7	
comp=N,1μm,19.2s,baz=218,slow=38							
CMAR				ScP		03 50 09.8	
comp=N,0.5nm,0.3s,baz=243,slow=2.5,SNR=5.4							
PALK	Pallekele	13.45	268	eP	P	03 41 12.0	0.0
comp=N,21nm,1.0s							
VIS	Vishakhapatnam	14.34	313	eP	P	03 41 22.6	-1.1
VIS				e		03 41 31.5	
comp=Z,109nm,0.8s							
VIS				eS	S	03 44 02.6	-0.6
MDRS	Chennai	14.64	291	e	P	03 41 32.0	+4.3
BWNR	Bhubaneshwar	14.66	327	eP	P	03 41 25.9	-2.1
BWNR				e		03 41 29.0	
BWNR				e		03 41 32.4	
comp=Z,94nm,1.1s							
BWNR				eS	S	03 44 10.7	-0.4
CAL	Calcutta	15.49	339	e	P	03 41 41.3	+2.4
CAL				e	S	03 44 47.1	+16
AGT	Agartala	16.01	350	⇑i P	P	03 41 48.0	+2.5
AGT				i		03 42 19.0	
IMP	Imphal	16.65	359	eP	P	03 41 52.2	-1.4
KOD	Kodaikanal	16.71	279	eP	P	03 41 52.4	-2.1
KOD				e		03 42 05.6	
comp=Z,188nm,1.2s							
KOD				eS	S	03 44 59.3	+0.6
TRD	Trivandrum	17.11	273	e	P	03 42 08.5	+9.0
SHL	Shillong	17.57	353	eP	P	03 42 03.5	-1.7
SHL				eS	S	03 45 20.2	+1.8
HYB	Hyderabad	17.91	303	eP	P	03 42 09.0	-0.4
HYB				eS	S	03 45 29.0	+2.9
HYB	Hyderabad	17.91	303	i P	P	03 42 09.0	-0.4
comp=Z,143nm,1.2s							
HYB				eS	S	03 45 29.0	+2.9
SHBG	Sahibganj	18.20	341	e	P	03 42 20.5	+7.5
QIZ	Qiongzhong	18.67	53	P	P	03 42 19.8	+1.0
QIZ				XP		03 42 27.5	
QIZ				LR	LR		
comp=N,7μm,13.8s							
KMI	Kunming	18.82	25	P	P	03 42 26.1	+5.5
KMI				pmax	pmax		
comp=Z,27nm,1.4s							
KMI	Kunming	18.82	25	P	P	03 42 26.1	+5.5
comp=Z,27nm,1.4s							
KMI				pP		03 42 30.8	
KMI				sP		03 42 33.7	
KMI				PP	PP	03 42 45.6	+8.7
KMI				S	S	03 46 00.1	+13
KMI				sS		03 46 06.1	
KMI				SS	SS	03 46 31.7	+20
NGP	Nagpur	19.62	313	eP	P	03 42 30.3	+0.3
NGP				i		03 42 46.2	
NGP				e	S	03 46 04.7	0.0
MNGI	Mangalore	19.70	286	i P	P	03 42 32.1	+1.1
MNGI				i S	S	03 46 14.1	+7.6
comp=Z,102nm,1.5s							
COCO	West Island	20.26	173	P	P	03 42 39.5	+2.6
comp=Z,512nm,1.2s							
JIRN	Jiri	20.95	340	eP	P	03 42 43.7	-0.2
comp=Z,580nm,1.1s							
PKI	Pulchoki	21.15	338	eP	P	03 42 45.2	-0.8
comp=Z,417nm,1.1s,mb5.7							
DMN	Daman	21.30	337	eP	P	03 42 47.5	0.0
comp=Z,416nm,0.9s,mb5.8							
GOA	Goa	21.30	292	eP	P	03 42 54.9	+7.3
GOA				e		03 43 03.0	
comp=Z,149nm,1.0s							
GOA				eS	S	03 46 52.6	+14
KKN	Kakani	21.39	338	eP	P	03 42 48.3	-0.1
comp=Z,262nm,1.0s,mb5.5							
KAD	Karad	21.61	297	eP	P	03 42 51.0	+0.3
LSA	Lhasa	21.74	353	P	P	03 42 52.5	+0.6
LSA				S	S	03 46 50.5	+3.8
LSA				LR	LR		
comp=N,1μm,15.5s,MS4.7							
LSA				LR	LR		
comp=E,2μm,15.5s,MS4.7							
LSA				LR	LR		
comp=Z,3μm,14.7s,MS4.8							
GKN	Gorkha	21.83	337	eP	P	03 42 52.4	-0.5
comp=Z,359nm,0.8s,mb5.8							
KOLN	Koldanda	22.05	334	eP	P	03 42 54.8	-0.3
comp=Z,899nm,1.3s,mb6.0							
BHPL	Bhopal	22.11	315	eP	P	03 42 56.2	+0.5
BHPL				e		03 43 03.5	
comp=Z,237nm,0.9s							
BHPL				e		03 47 29.1	
POO	Poona	22.39	300	⇓i	P	03 43 03.0	+4.5
comp=Z,214nm,1.5s,mb5.3							
POO				i		03 46 10.0	
BOM	Bombay	23.44	300	eP	P	03 43 11.5	+2.7
BOM				eS	S	03 47 26.4	+8.8
NDI	New Delhi	26.06	324	eP	P	03 43 33.6	-0.2
NDI				e		03 43 44.4	
comp=Z,282nm,1.6s							
NDI				eS	S	03 48 05.7	+3.9
NDI				e		03 48 15.5	
AJM	Ajmer	26.13	317	eP	P	03 43 36.0	+1.5
DDI	Dehra Dun	26.86	328	eP	P	03 43 40.7	-0.4
DDI				e	S	03 48 29.5	+15
TGY	Tagaytay City	26.86	75	LR	LR	03 54 08.2	
comp=Z,1μm,18.2s,MS4.5,baz=209,slow=36							
SMLA	Simla	27.96	328	eP	P	03 44 04.6	+13
SMLA				e		03 44 18.9	
comp=Z,83nm,1.5s							
SMLA				eS	S	03 48 49.3	+17
XAN	Xi'an	29.20	26	P	P	03 44 01.8	-0.5
XAN				AMB	AMB		
comp=Z,12nm,1.5s,mb4.4							
WHN	Wuhan	29.24	37	P	P	03 44 04.5	+1.8
WHN				S	S	03 49 04.0	+11
WHN				LR	LR		
comp=Z,3μm,13.2s,MS5.0							
LZH	Lanzhou	29.26	16	⇑P	P	03 44 04.0	+1.2
LZH				AP	pP	03 44 08.5	+0.8
LZH				XP	sP	03 44 11.5	+1.6
LZH				eS	S	03 48 54.0	+0.5
LZH				AMB	AMB		
comp=Z,62nm,1.8s,mb5.0							
LZH				AMB	AMB		
comp=Z,175nm,4.0s							
LZH				LR	LR		
comp=E,1μm,14.6s							
LZH				LR	LR		
comp=Z,2μm,15.6s,MS4.8							
LZH	Lanzhou	29.26	16	⇑P	P	03 44 04.0	+1.2
LZH				*SP	sP	03 44 11.6	+1.7
LZH				eS	S	03 48 54.0	+0.5
LZH				*SS		03 49 06.0	
LZH				SS	SS	03 50 26.0	+1.4
LZH				pmax	pmax		
comp=Z,62nm,1.8s,mb5.0							
LZH				MLR	MLR		
comp=Z,2μm,15.6s,MS4.8							
LZH	Lanzhou	29.26	16	⇑P	P	03 44 04.0	+1.2
comp=Z,62nm,1.8s,mb5.0							
LZH				pP	pP	03 44 08.6	+0.9
LZH				sP	sP	03 44 11.6	+1.7
LZH				eS	S	03 48 54.0	+0.5
LZH				sS		03 49 06.0	
LZH				SS	SS	03 50 26.0	+1.4
LZH				LR	LR		
comp=Z,2μm,15.6s,MS4.8							
NJ2	Nanjing	33.08	40	eP	P	03 44 40.0	+3.6
NJ2				AP	pP	03 44 45.0	+3.6
NJ2				XP	sP	03 44 47.5	+4.0
NJ2				PP	PP	03 45 48.3	+0.9
NJ2				S	S	03 49 55.0	+1.5
NJ2				AMB	AMB		
comp=Z,30nm,0.9s,mb5.2							
NJ2				AMB	AMB		
comp=Z,290nm,6.0s							
NJ2				LR	LR		
comp=N,1μm,18.8s,MS5.0							
NJ2				LR	LR		
comp=E,2μm,14.3s,MS5.0							
NJ2				LR	LR		
comp=Z,1μm,16.8s,MS4.7							
SSE	Sheshan	34.03	44	P	P	03 44 40.9	-3.8
comp=Z,18nm,0.7s,mb5.1							
SSE				pP	pP	03 44 49.7	0.0
SSE				S	S	03 50 07.3	-1.0
SSE				sS		03 50 22.9	
SSE				SS	SS	03 52 37.2	+21
SSE				LR	LR		
comp=Z,260nm,15.6s,MS4.1							
WMQ	Urumqi	36.10	352	eP	P	03 45 03.5	+1.3
WMQ				AP	pP	03 45 07.8	+0.6
WMQ				XP	sP	03 45 10.5	+1.2
WMQ				PP	PP	03 46 25.3	+0.7
WMQ				PCP	PcP	03 47 30.0	+1.5
WMQ				S	S	03 50 41.0	+0.9
WMQ				AMB	AMB		
comp=Z,32nm,0.5s,mb5.5							
WMQ				AMB	AMB		
comp=Z,373nm,4.7s							
WMQ				LR	LR		
comp=N,2μm,16.3s,MS5.2							
WMQ				LR	LR		
comp=E,3μm,15.5s,MS5.2							
WMQ				LR	LR		
comp=Z,4μm,18.1s,MS5.2							
JOW	Kunigami	37.27	56	LR	LR	04 03 03.5	
comp=Z,567nm,18.6s,MS4.4,baz=318,slow=40							
BJI	Beijing	37.41	28	P	P	03 45 16.2	+2.9
BJI				S	S	03 51 02.9	+2.6
BJI				pmax	pmax		
comp=Z,16nm,1.8s,mb4.5							
BJI				MLR	MLR		
comp=Z,440nm,23.9s,MS4.2							
BJI	Beijing	37.41	28	P	P	03 45 16.2	+2.9
comp=Z,16nm,1.8s,mb4.5							
BJI				S	S	03 51 02.9	+2.6
BJI				LR	LR		
comp=Z,440nm,23.9s,MS4.2							
UCH	Uchtor	38.24	336	P	P	03 45 21.4	+1.1
SNR=9.9							
KBK	Karagaybulak	38.43	337	P	P	03 45 23.1	+1.2
SNR=7.2							
AML	Almayashu	38.50	335	P	P	03 45 23.6	+1.2
SNR=15							
AAK	Ala-Archa	38.59	336	P	P	03 45 24.5	+1.3
SNR=7.8							
AAK	Ala-Archa	38.59	336	eP	P	03 45 22.8	-0.4
AAK				pmax	pmax		
comp=Z,44nm,1.1s,mb5.1							
AAK	Ala-Archa	38.59	336	eP	P	03 45 22.8	-0.4
comp=Z,44nm,1.1s,mb5.1							
FRU	Bishkek	38.71	337	eP	P	03 45 25.0	+0.8
FRU				MLR	MLR		
comp=Z,1μm,16.0s,MS4.7							
CHMS	Chumysh	38.80	337	P	P	03 45 25.4	+0.4
SNR=5.8							
USP	Ospenovka	39.12	337	P	P	03 45 28.0	+0.3
SNR=9.0							
MKAR	Makanchi Array	39.95	347	i P	P	03 45 33.3	-1.1
MKAR				pmax	pmax		
comp=Z,6.0nm,0.7s							
SONM	Songino Array	40.98	12	P	P	03 45 43.3	+0.4
comp=Z,1.7nm,0.6s,baz=194,slow=8.7,SNR=15							
SONM				PcP	PcP	03 47 43.4	-0.3
comp=Z,2.3nm,0.7s,baz=209,slow=3.6,SNR=7.2							
SONM				pPcP		03 47 49.3	
comp=Z,2.3nm,0.7s,baz=198,slow=3.2,SNR=4.3							
ULN	Ulaanbaatar	41.15	13	eP	P	03 45 44.5	+0.2
ULN				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.2							
ULN	Ulaanbaatar	41.15	13	eP	P	03 45 44.5	+0.2
comp=Z,5.2nm,0.8s,mb4.2							
ZAK	Zakamensk	42.87	8	eP	P	03 45 59.4	+1.0
ZAK				e		03 47 50.4	
TLY	Talaya	44.19	8	i P	P	03 46 07.7	-1.4
TLY				pmax	pmax		
comp=Z,3.0nm,1.6s							
KURK	Kurchatov	44.47	346	eP	P	03 46 10.3	-1.1
KURK				pmax	pmax		
comp=Z,81nm,1.3s,mb5.3							
KURK	Kurchatov	44.47	346	eP	P	03 46 10.3	-1.1
comp=Z,81nm,1.3s,mb5.3							
MUN	Mundaring	44.99	153	eP	P	03 46 17.4	+1.6
comp=Z,15nm,1.0s,mb4.8							
MUN	Mundaring	44.99	153	eP	P	03 46 17.4	+1.6
MUN				pmax	pmax		
comp=Z,15nm,1.0s,mb4.8							
KLBR	Kellerberrin	45.37	151	eP	P	03 46 19.7	+0.9
comp=Z,428nm,1.4s,mb6.1							
NWAO	Narrogin (SRO)	46.25	153	P	P	03 46 26.1	+0.4
comp=Z,19nm,1.0s,mb5.0,baz=324,slow=9.4,SNR=8.2							
NWAO				LR	LR	04 04 41.4	
comp=Z,4.9nm,20.6s,baz=82,slow=35							
NWAO	Narrogin (SRO)	46.25	153	eP	P	03 46 26.4	+0.7
comp=Z,66nm,1.3s,mb5.4							
ZAL	Zalesovo	46.40	352	P	P	03 46 26.5	-0.1
ZAL				pmax	pmax		
comp=Z,3.0nm,0.5s							
ZAL				MLR	MLR		
comp=Z,279nm,20.6s							
ZAL	Zalesovo	46.40	352	P	P	03 46 26.5	-0.1
comp=Z,3.3nm,0.5s,mb4.5,baz=308,slow=7.2,SNR=21							
ZAL				LR	LR	04 10 21.9	
comp=Z,279nm,20.6s,MS4.2,baz=289,slow=42							
NVS	Novosibirsk	47.49	351	i P	P	03 46 34.0	-1.3
NVS				e*PP	pP	03 46 50.6	+10
NVS				e		03 48 03.9	
NVS				ePPP	PPP	03 49 09.9	-4.7
NVS				eS	S	03 53 17.7	-11
NVS				pmax	pmax		
comp=Z,50nm,1.6s,mb5.2							
NVS				pmax	pmax		
comp=N,54nm,1.8s							
NVS				pmax	pmax		
comp=E,20nm,1.6s							
NVS				smax			
comp=N,11nm,2.0s							
NVS				smax			
comp=E,34nm,2.1s							
MDJ	Mudanjiang	47.61	34	P	P	03 46 36.8	+0.4
MDJ				PP	PP	03 48 27.3	0.0
MDJ				SCP		03 52 00.3	
MDJ				PCS		03 52 01.8	
MDJ				S	S	03 53 33.0	+3.0
MDJ				SCS	ScS	03 56 30.3	+3.6
MDJ				AMB	AMB		
comp=Z,17nm,1.6s,mb4.8							
MDJ				LR	LR		
comp=N,236nm,17.8s,MS4.4							
MDJ				LR	LR		
comp=E,260nm,15.8s,MS4.4							
MDJ				LR	LR		
comp=Z,218nm,14.9s,MS4.2							
WRA	Warramunga Arr	48.27	126	P	P	03 46 40.6	-1.2
WRA				pmax	pmax		
comp=Z,6.0nm,0.9s							
WRA	Warramunga Arr	48.27	126	P	P	03 46 40.6	-1.2
comp=Z,6.2nm,0.9s,mb4.6,baz=305,slow=9.2,SNR=21							
WRAB	Tennant Creek	48.28	126	eP	P	03 46 41.3	-0.6
WRAB				pmax	pmax		
comp=Z,20nm,1.0s,mb5.1							
WRAB	Tennant Creek	48.28	126	eP	P	03 46 41.2	-0.6
comp=Z,20nm,1.0s,mb5.1							
WB2	Warramunga Arr	48.28	126	eP	P	03 46 40.5	-1.4
BVA0	Borovoye Array	48.86	341	P	P	03 46 44.7	-1.2
BVA0				pmax	pmax		
comp=Z,3.0nm,1.4s							
BVAR	Borovoye Array	48.86	341	P	P	03 46 44.6	-1.3
comp=Z,5.6nm,0.8s,mb4.7,baz=153,slow=6.6,SNR=17							
BVAR				pP	pP	03 46 50.5	-0.5
comp=Z,17nm,1.0s,baz=142,slow=9.8,SNR=31							
BVAR				PcP	PcP	03 48 10.8	+0.1
comp=Z,2.9nm,0.9s,baz=149,slow=8.4,SNR=2.7							
BRVK	Borovoye	48.93	341	P	P	03 46 45.2	-1.2
BRVK				pmax	pmax		
comp=Z,7.0nm,1.2s,mb4.6							
BRVK	Borovoye	48.93	341	eP	P	03 46 44.9	-1.5
comp=Z,22nm,1.0s,mb5.2							
RAYN	Ar Rayn	49.11	294	P	P	03 46 48.4	+0.1
comp=Z,400nm,0.9s,SNR=46							
CHKZ	Chkalovo	49.35	342	P	P	03 46 48.6	-1.0
CHKZ				pmax	pmax		
comp=Z,43nm,1.3s,mb5.3							
CHKZ	Chkalovo	49.35	342	eP	P	03 46 47.9	-1.7
comp=Z,63nm,1.0s,mb5.6							
ASPA	Alice Springs	49.94	130	eP	P	03 46 53.8	-0.8
ASAR	Alice Springs	49.94	130	P	P	03 46 53.1	-1.5
comp=Z,3.2nm,0.7s,mb4.5,baz=302,slow=7.0,SNR=21							
ASAR				pP	pP	03 46 58.5	-1.2
comp=Z,9.7nm,1.2s,baz=309,slow=7.4,SNR=12							
ASAR				PcP	PcP	03 48 12.5	-2.6
comp=Z,1.7nm,0.8s,baz=310,slow=4.0,SNR=2.4							
ASAR				LR	LR	04 11 08.8	
comp=Z,343nm,18.2s,MS4.4,baz=296,slow=40							
BOD	Bodaibo	51.96	13	eP	P	03 47 06.6	-2.9
CLNS	Chul'man	54.24	20	eP	P	03 47 26.0	-0.4
CLNS				e*PP	pP	03 47 31.8	+0.3
CLNS				e		03 48 29.5	
CLNS				e		03 49 25.6	
CLNS				ePPP	PPP	03 50 32.4	-7.7
CLNS				eS	S	03 55 02.2	+0.9
CLNS				e		03 57 13.8	
CLNS				eSS	SS	03 58 34.7	-8.3
CLNS				pmax	pmax		
comp=Z,20nm,1.0s,mb5.0							
CLNS				pmax	pmax		
comp=N,10.0nm,1.1s							
CLNS				pmax	pmax		
comp=E,10.0nm,1.4s							
CLNS				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.3							
CLNS				pmax	pmax		
comp=N,3.0nm,0.8s							
CLNS				pmax	pmax		
comp=E,3.0nm,1.0s							
CLNS				smax			
comp=N,3.0nm,0.8s							
CLNS				smax			
comp=Z,2.0nm,0.7s							
CLNS				smax			
comp=E,4.0nm,0.9s							
CLNS				MLR	MLR		
comp=Z,500nm,13.0s,MS4.8							
CLNS				MLR	MLR		
comp=N,300nm,11.0s,MS4.6							
CLNS				MLR	MLR		
comp=E,100nm,13.0s,MS4.6							
GNI	Garni	54.39	314	eP	P	03 47 27.1	-0.6
GNI				pmax	pmax

comp=Z,253nm,21.5s,MS4.2,baz=99,slow=39
GNI Garni 54.39 314 *e*P **P 03 47 27.1 -0.6**
comp=Z,74nm,1.3s,mb5.5
SVE Sverdlovsk 55.28 338 *e*P **P 03 47 30.5 -3.5**
SVE pmax pmax
comp=Z,110nm,2.0s,mb5.5
SVE MLR MLR
comp=Z,1μm,19.0s,MS5.0
PMG Port Moresby 55.48 107 *e*P **P 03 47 35.4 -0.7**
ARU Arti 55.78 337 P **P 03 47 36.0 -1.6**
comp=Z,209nm,1.2s,mb6.0,SNR=22
ARU Arti 55.78 337⇓ *i*P **P 03 47 29.3 -8.3**
ARU *e*S **S 03 55 13.8 -8.1**
ARU *e* 03 57 17.3
ARU *e*SS SS 03 59 08.8 +1.2
ARU pmax pmax
comp=Z,46nm,1.2s,mb5.4
ARU MLR MLR
comp=Z,1μm,21.0s,MS5.0
ARU MLR MLR
comp=N,600nm,20.0s,MS4.8
ARU MLR MLR
comp=E,600nm,19.0s,MS4.8
YSS Yuzh-Sakhalins 56.59 38 *e*P **P 03 47 50.0 +6.5**
YSS *e* 03 48 04.0
YSS MLR MLR
comp=Z,500nm,14.0s,MS4.8
YSS MLR MLR
comp=N,500nm,15.0s,MS4.9
YSS MLR MLR
comp=E,500nm,14.0s,MS4.9
YSS Yuzh-Sakhalins 56.59 38 P **P 03 47 43.4 -0.2**
KIV Kislovodsk 57.26 318c *i*P **P 03 47 47.5 -0.9**
KIV *e*S **S 03 55 42.9 +1.2**
KIV pmax pmax
comp=Z,22nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,300nm,17.0s,MS4.5
KIV Kislovodsk 57.26 318 *e*P **P 03 47 47.3 -1.1**
comp=Z,61nm,1.0s,mb5.6
GOF Gofitskoye 57.47 319⇑ *i*P pP 03 47 54.0 -1.0
GOF pmax pmax
comp=Z,40nm,1.0s,mb5.4
KMBO Kilima Mbogo 57.55 264 *e*P **P 03 47 51.6 +0.8**
KMBO *e**PP pP 03 47 57.6 +1.6
KMBO pmax pmax
comp=Z,51nm,1.0s
KMBO MLR MLR
comp=Z,603nm,20.0s
KMBO Kilima Mbogo 57.55 264 P **P 03 47 51.8 +0.9**
comp=Z,23nm,0.9s,mb5.2,baz=60,slow=9.8,SNR=48
KMBO Kilima Mbogo 57.55 264 *e*P **P 03 47 51.6 +0.8**
comp=Z,51nm,1.0s,mb5.5
KMBO *e*pP pP 03 47 57.6 +1.6
KMBO LR LR
comp=Z,603nm,20.0s,MS4.7
ASF Jabal al Asfar 58.21 303 P **P 03 47 54.2 -1.1**
comp=Z,6.9nm,0.9s,mb4.7,baz=319,slow=4.6,SNR=5.2
ASF pP pP 03 48 00.5 0.0
comp=Z,10nm,0.9s,baz=349,slow=3.1,SNR=9.0
ASF LR LR 04 15 35.4
comp=Z,374nm,21.7s,MS4.5,baz=320,slow=39
CTA Charters Tower 58.30 119 P **P 03 47 55.3 -0.7**
CTA *PP pP 03 48 01.1 -0.1
CTA pmax pmax
comp=Z,4.0nm,1.1s
CTA pmax pmax
comp=Z,6.0nm,1.1s
CTA Charters Tower 58.30 119 P **P 03 47 55.3 -0.7**
comp=Z,3.8nm,1.1s,mb4.3,baz=324,slow=8.7,SNR=3.2
CTA pP pP 03 48 01.1 -0.1
comp=Z,6.0nm,1.1s,baz=290,slow=9.1,SNR=4.9
CTAO Charters Tower 58.30 119 *e*P **P 03 47 55.6 -0.4**
CTAO MLR MLR
comp=Z,610nm,22.0s,MS4.7
MALT Malatya 58.43 310 *e*P **P 03 47 55.0 -1.7**
MALT *e**PP pP 03 48 00.2 -1.7
MALT pmax pmax
comp=Z,23nm,1.1s,mb5.1
MALT Malatya 58.43 310 *e*P **P 03 47 55.0 -1.7**
comp=Z,23nm,1.1s,mb5.1
MALT *e*pP pP 03 48 00.1 -1.7
SOKR Solikamsk 58.68 339⇓ *i*P **P 03 47 55.6 -2.5**
SOKR pmax pmax
comp=Z,40nm,1.4s,mb5.3
SOKR MLR MLR
comp=Z,1μm,21.0s,MS5.0
SOC Sochi 59.13 316 *e*P **P 03 47 56.9 -4.6**
SOC *e* 03 48 44.1
SOC *e* 03 50 12.1
SOC *e*PPP PPP 03 51 31.5 -7.0
SOC *e*S **S 03 56 07.3 +1.1**
SOC *e*SS SS 03 59 56.9 -5.4
SOC pmax pmax
comp=Z,55nm,1.4s,mb5.4
SOC pmax pmax
comp=N,48nm,1.0s
SOC pmax pmax
comp=E,14nm,0.8s
EIL Elat 59.43 300 P **P 03 48 03.1 -0.7**
comp=E,16nm,1.1s,mb5.0,baz=81,slow=2.1,SNR=12
EIL pP pP 03 48 08.8 -0.2
comp=E,22nm,0.9s,baz=23,slow=2.9,SNR=14
EIL LR LR 04 15 48.1
comp=E,621nm,18.1s,MS4.8,baz=103,slow=38
EIL Elat 59.43 300 *e*P **P 03 48 02.3 -1.4**
comp=E,30nm,1.0s,mb5.3
EIL *e*pP pP 03 48 08.2 -0.8
YAK Yakutsk 59.80 18 *e*P **P 03 48 04.7 -1.1**
STKA Stephens Creek 60.15 134 *e*P **P 03 48 07.8 -0.8**
comp=E,6.8nm,1.0s,mb4.6
STKA Stephens Creek 60.15 134 P **P 03 48 06.5 -2.2**
comp=E,9.3nm,1.1s,mb4.7,baz=320,slow=7.0,SNR=7.7
STKA LR LR 04 14 46.0
comp=E,700nm,20.7s,MS4.8,baz=303,slow=37
ANN Anapa 61.08 317 *e*P **P 03 48 10.5 -4.3**
ANN pmax pmax
comp=Z,29nm,1.0s,mb5.4
VRSR Storozhevoye 62.30 324 *e*P **P 03 48 21.4 -1.5**
VRSR *e* 03 49 02.1
VRSR *e* 03 50 35.2
VRSR pmax pmax
comp=Z,20nm,1.1s,mb5.2
VRSR pmax pmax
comp=N,8.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR pmax pmax
comp=Z,480nm,20.2s
VRSR pmax pmax
comp=N,130nm,16.9s
VRSR pmax pmax
comp=E,470nm,20.7s
BRTR Keskin Array B 62.40 311 P **P 03 48 21.5 -2.3**
BRTR *PP pP 03 48 26.7 -2.3
BRTR pmax pmax
comp=Z,8.0nm,1.0s
BRTR pmax pmax
comp=Z,13nm,0.9s
BRTR Keskin Array B 62.40 311 P **P 03 48 21.4 -2.3**
comp=Z,7.8nm,1.0s,mb4.8,baz=121,slow=7.2,SNR=22
BRTR pP pP 03 48 26.6 -2.3
comp=Z,12nm,0.9s,baz=134,slow=6.4,SNR=26
VOR Voronezh 62.50 325 *e*P **P 03 48 22.5 -1.8**
VOR *e* pP 03 48 28.0 -1.5
VOR pmax pmax
comp=Z,70nm,1.3s,mb5.6
VOR pmax pmax
comp=E,70nm,1.4s
SIM Simferopol' 63.38 316 *e*P **P 03 48 29.0 -1.1**
SIM S **S 03 57 06.0 +5.8**
SIM pmax pmax
comp=Z,26nm,0.9s,mb5.4
MBAR Mbarara 63.88 265 *e*P **P 03 48 34.7 +0.7**
MBAR pmax pmax
comp=Z,37nm,1.2s,mb5.3
MBAR MLR MLR
comp=Z,190nm,21.0s,MS4.2
MBAR Mbarara 63.88 265 *e*P **P 03 48 34.7 +0.7**
comp=Z,37nm,1.2s,mb5.3
MBAR *e*pP pP 03 48 39.4 +0.1
MBAR LR LR
comp=Z,190nm,21.0s,MS4.2
ISP Isparta 64.42 308 P **P 03 48 36.5 -0.6**
MOS Moscow 64.99 329 *e*P **P 03 48 39.1 -1.4**
MOS *e* 03 49 06.4
MOS *e* 03 51 06.1
MOS *e*S **S 03 57 21.8 +1.8**
MOS pmax pmax
comp=Z,154nm,1.6s,mb5.8
MOS pmax pmax
comp=Z,300nm,1.9s,mb6.0
MOS MLR MLR
comp=Z,900nm,18.9s,MS5.0
MOS MLR MLR
comp=N,500nm,18.4s,MS4.9
MOS MLR MLR
comp=E,500nm,18.8s,MS4.9
OBN Obninsk 65.29 328c *i*P **P 03 48 38.6 -3.8**
OBN *i* pP 03 48 44.0 -3.7
OBN pmax pmax
comp=Z,111nm,1.6s,mb5.6
OBN MLR MLR
comp=Z,500nm,19.0s,MS4.7
OBN Obninsk 65.29 328 *e*P **P 03 48 38.4 -4.1**
comp=Z,115nm,1.3s,mb5.8
MA2 Magadan 66.57 28 *e*P **P 03 48 49.2 -1.3**
MA2 *e* 03 58 02.2
MA2 pmax pmax
comp=Z,20nm,1.3s,mb5.0
MA2 Magadan 66.57 28 P **P 03 48 49.8 -0.8**
KIS Kishinev 67.47 318 *e*P **P 03 48 52.0 -4.5**
KIS *e* pP 03 48 57.0 -4.7
AKASG Malin Array Be 68.09 322 P **P 03 48 58.5 -1.8**
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 68.09 322 P **P 03 48 58.5 -1.8**
comp=Z,7.3nm,0.8s,mb4.8,baz=87,slow=4.8,SNR=36
AKASG pP pP 03 49 03.0 -2.5
comp=Z,2.9nm,0.6s,baz=111,slow=11,SNR=15
PET Petropavlovsk 68.33 36 P **P 03 49 01.4 -0.4**
IDI Anoyia 68.56 305 P **P 03 49 02.0 -1.5**
comp=Z,20nm,0.6s,mb5.2,baz=120,slow=7.3,SNR=17
IDI pP pP 03 49 07.8 -0.9
comp=Z,20nm,0.6s,baz=118,slow=8.8,SNR=10
SEY Seymchan 68.73 25 *e*P **P 03 49 00.3 -3.8**
SEY *e* 03 49 32.8
SEY *e* 03 51 35.9
SEY *e*S S 03 58 00.4 -4.7
SEY *e*PS PS 03 58 35.3 +2.7
SEY 03 59 01.2
SEY SS SS 04 02 24.8 -6.9
SEY pmax pmax
comp=Z,40nm,1.1s,mb5.3
SEY MLR MLR
comp=E,700nm,15.0s
SEY MLR MLR
comp=Z,900nm,15.0s,MS5.1
MLR Muntele Rosu 69.12 316 P **P 03 49 06.0 -0.8**
MLR pmax pmax
comp=Z,24nm,1.1s
MLR Muntele Rosu 69.12 316 P **P 03 49 06.0 -0.8**
comp=Z,24nm,1.1s,mb5.0,baz=53,slow=4.7,SNR=16
LSZ Lusaka 69.42 250 *e*P **P 03 49 08.9 -0.2**
LSZ pmax pmax
comp=Z,42nm,1.4s,mb5.2
LSZ Lusaka 69.42 250 *e*P **P 03 49 08.9 -0.1**
comp=Z,42nm,1.4s,mb5.2
AOS Alonnisos 69.75 309 *e*P **P 03 49 09.6 -1.2**
MNK Minsk 69.88 325⇓ *e*P **P 03 49 07.0 -4.2**
SRS Serrai 70.19 311 *e*P **P 03 49 12.0 -1.3**
SOH Sokhos 70.33 310 *e*P **P 03 49 16.8 +2.6**
THE Thessaloniki 70.61 310 *e*P **P 03 49 14.4 -1.5**
JOF Joensuu 70.74 334 *e*p **P 03 49 14.6 -1.7**
comp=Z,11nm,0.6s,mb5.0
LIT Litokhoron 70.91 310 *e*P **P 03 49 15.3 -2.5**
AGG Agios Georgios 70.94 308 *e*P **P 03 49 15.8 -2.1**
GRG Griva 71.07 310 *e*P **P 03 49 17.0 -1.7**
LVV L'vov 71.15 320 *e*P **P 03 49 17.2 -1.9**
LVV MLR MLR
comp=N,100nm,18.0s,MS4.3
LVV MLR MLR
comp=Z,140nm,18.0s,MS4.3
LVV MLR MLR
comp=E,100nm,17.0s,MS4.3
ZAPS Zavoj/Pirot 71.16 313⇑ *i*P **P 03 49 18.0 -1.2**
BOLS Boljevac 71.70 313⇑ *i*P **P 03 49 21.5 -0.9**
APA Apatity 71.73 339⇑ *i*P **P 03 49 23.4 +1.2**
APA pmax pmax
comp=Z,30nm,1.1s,mb5.1
APA MLR MLR
comp=Z,1μm,20.0s,MS5.2
FNA Florina 71.82 310 *e*P **P 03 49 21.1 -2.2**
SKO Skopje 71.89 311 *e*P **P 03 49 23.5 -0.1**
KWP Kalwaria 71.97 320 *e*P **P 03 49 23.9 0.0**
KWP *e* pP 03 49 29.2 0.0
KOLS Kolonicke sedl 72.15 319 *e*P **P 03 49 25.0 0.0**
KOLS *e*pP pP 03 49 30.0 -0.3
SUW Suwalki 72.43 324 *e*P **P 03 49 25.6 -1.0**
SUW *e* pP 03 49 31.4 -0.5
SUW Suwalki 72.43 324 *e*P **P 03 49 25.6 -1.0**
SUW *e* pP 03 49 31.4 -0.4
FINES FINESS Array B 72.61 332 P **P 03 49 26.0 -1.5**
FINES *PP pP 03 49 31.7 -1.1
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES pmax pmax
comp=Z,9.0nm,0.7s
FINES FINESS Array B 72.61 332 P **P 03 49 26.0 -1.5**
comp=Z,5.1nm,0.6s,mb4.6,baz=94,slow=6.1,SNR=34
FINES pP pP 03 49 31.7 -1.1
comp=Z,8.8nm,0.7s,baz=98,slow=6.4,SNR=14
FINES LR LR 04 27 34.5
comp=Z,420nm,18.6s,MS4.7,baz=274,slow=41
CRVS Cervenica-Dubn 72.67 319 *e*P **P 03 49 29.7 +1.6**
CRVS *e* pP 03 49 36.2 +2.8
KAF Kangasniemi 72.69 333 *e*p **P 03 49 27.0 -1.0**
comp=Z,20nm,0.9s,mb5.0,baz=103,slow=5.5
KAF Kangasniemi 72.69 333 *e*P **P 03 49 27.0 -1.0**
KAF pmax pmax
comp=Z,20nm,0.9s,mb5.0
KECS Kecovo 73.26 318 *e*pP pP 03 49 36.7 -0.1
NIE Niedzica 73.49 319⇑ *e*P **P 03 49 33.2 +0.3**
PSZ Piszkesteto 73.59 318 *e*P **P 03 49 32.5 -1.0**
PSZ *e**PP pP 03 49 37.6 -1.2
PSZ pmax pmax
comp=Z,50nm,1.4s,mb5.2
PSZ Piszkesteto 73.59 318 *e*P **P 03 49 32.5 -1.0**
comp=Z,50nm,1.4s,mb5.3
PSZ *e*pP pP 03 49 37.6 -1.2
OJC Ojcow 73.91 320 *e*P **P 03 49 35.6 +0.3**
VYHS Vyhne 74.35 318 *e*P **P 03 49 37.2 -0.7**
VYHS *e*pP pP 03 49 42.4 -0.8
LBTB Lobatse 74.41 241 *e*P **P 03 49 38.4 -0.4**
LBTB pmax pmax
comp=Z,25nm,0.9s,mb5.1
LBTB MLR MLR
comp=Z,546nm,19.0s,MS4.9
LBTB Lobatse 74.41 241 *e*P **P 03 49 38.4 -0.3**
comp=Z,25nm,0.9s,mb5.1
LBTB LR LR
comp=Z,546nm,19.0s,MS4.9
SRO Srobarova 74.64 317 *e*P **P 03 49 39.8 +0.2**
SRO *e*pP pP 03 49 44.6 -0.3
KEV Kevo 74.71 341 *e*p **P 03 49 38.1 -1.5**
comp=Z,12nm,0.8s,mb4.9
KEV Kevo 74.71 341 *e*P **P 03 49 38.1 -1.5**
KEV pmax pmax
comp=Z,13nm,0.8s,mb4.9
OKC Ostrava-Krasne 74.93 319 *e*P **P 03 49 41.3 +0.1**
OKC *e*pP pP 03 49 46.3 -0.2
CASY Casey 75.08 173 P **P 03 49 43.4 +1.7**
ARCES ARCESS Array B 75.14 340 P **P 03 49 41.6 -0.5**
ARCES *PP pP 03 49 46.9 -0.5
ARCES pmax pmax
comp=Z,5.0nm,0.7s
ARCES pmax pmax
comp=Z,99nm,1.4s
ARCES ARCESS Array B 75.14 340 P **P 03 49 41.6 -0.5**
comp=Z,4.8nm,0.7s,mb4.5,baz=88,slow=6.5,SNR=18
ARCES pP pP 03 49 46.9 -0.5
comp=Z,99nm,1.4s,baz=72,slow=3.8,SNR=7.8
TIP Timpagrande 75.27 308 *e*P **P 03 49 42.7 -0.7**
TIP *e*pP pP 03 49 47.6 -1.1
MORC Moravsky Berou 75.32 319 *e*P **P 03 49 43.3 -0.1**
MORC pmax pmax
comp=Z,61nm,1.2s,mb5.4
MORC Moravsky Berou 75.32 319 *e*P **P 03 49 43.2 -0.2**
comp=Z,61nm,1.2s,mb5.4
MORC *e*pP pP 03 49 48.2 -0.6
ZST Bratislava 75.48 318 *e*P **P 03 49 44.4 0.0**
ZST *e*pP pP 03 49 49.3 -0.4
GRI Girifalco 75.53 308 *e*P **P 03 49 45.3 +0.4**
BOSA Boshof 75.76 238 *e*P **P 03 49 46.1 -0.3**
BOSA pmax pmax
comp=Z,35nm,1.1s,mb5.2
BOSA Boshof 75.76 238 *e*P **P 03 49 46.0 -0.4**
comp=Z,35nm,1.1s,mb5.2
GKP Gorka Klasztor 75.83 323 *e*P **P 03 49 46.4 +0.1**
GKP *e* pP 03 49 51.3 -0.3
GKP Gorka Klasztor 75.83 323 *e*P **P 03 49 46.4 +0.1**
GKP *e* pP 03 49 51.3 -0.3
VRAC Vranov 75.89 319 P **P 03 49 45.9 -0.8**
VRAC *PP pP 03 49 52.1 +0.1
VRAC pmax pmax
comp=Z,4.0nm,0.8s
VRAC pmax pmax
comp=Z,5.0nm,0.8s
VRAC Vranov 75.89 319 P **P 03 49 45.9 -0.9**
comp=Z,4.2nm,0.8s,mb4.4,baz=33,slow=3.2,SNR=6.6
VRAC pP pP 03 49 52.1 0.0
comp=Z,4.8nm,0.8s,baz=104,slow=7.1,SNR=5.0
DPC Dobruska-Polom 76.14 320 *e*P **P 03 49 47.6 -0.5**
DPC *e*pP pP 03 49 52.8 -0.6
KSP Ksiaz 76.20 320 *e*P **P 03 49 48.2 -0.2**
KSP *e**PP pP 03 49 53.9 +0.2
KSP Ksiaz 76.20 320 *e*P **P 03 49 49.1 +0.6**
KSP *e* pP 03 49 54.7 +1.0
UPC Upice 76.35 320 *e*P **P 03 49 49.8 +0.5**
UPC *e*pP pP 03 49 54.5 -0.1
ARSA Arzberg 76.49 317⇓ *i*P **P 03 49 50.0 -0.1**
comp=Z,29nm,1.5s,mb5.0
PERS Pernice 76.74 316 *e*P **P 03 49 51.9 +0.4**
VAE Valguarnera 77.10 307 LR LR 04 26 31.4
comp=Z,119nm,20.4s,MS4.2,baz=314,slow=38
PRU Pruhonice 77.27 319 *e*P **P 03 49 54.5 +0.1**
PRU *e*pP pP 03 49 59.1 -0.6
PRU AMS AMS 04 30 50.0
comp=Z,200nm,18.4s
PVCC Panska Ves 77.28 320 *e*P **P 03 49 54.7 +0.3**
PVCC *e*pP pP 03 49 59.4 -0.3
MOA Molln 77.36 317⇑ *i*P **P 03 49 54.9 -0.1**
comp=Z,30nm,1.1s,mb5.1
BRG Berggiesshubel 77.69 320 *i* P **P 03 49 57.0 +0.3**
BRG *i* 03 50 05.7
BRG pmax pmax
comp=Z,54nm,1.5s,mb5.3
BRG Berggiesshubel 77.69 320 *i* P **P 03 49 57.0 +0.3**
comp=Z,54nm,1.5s,mb5.3
BRG *i* pP 03 50 01.8 -0.2
BRG *i* 03 50 05.7
GEC2 GERESS Array S 77.77 318 *e*P **P 03 49 57.4 +0.2**
GEC2 pmax pmax
comp=Z,61nm,1.4s,mb5.3
GEC2 GERESS Array S 77.77 318 *e*P **P 03 49 57.4 +0.2**
comp=Z,61nm,1.4s,mb5.3
GERES GERESS Array B 77.77 318 P **P 03 49 56.5 -0.7**
GERES *PP pP 03 50 02.0 -0.5
GERES pmax pmax
comp=Z,5.0nm,0.7s
GERES pmax pmax
comp=Z,39nm,1.1s
GERES GERESS Array B 77.77 318 P **P 03 49 56.5 -0.7**
comp=Z,5.1nm,0.7s,mb4.6,baz=90,slow=4.0,SNR=52
GERES pP pP 03 50 02.0 -0.5
comp=Z,38nm,1.1s,baz=90,slow=5.3,SNR=33
KHC Kasperske Hory 77.86 318 *e*P **P 03 49 57.0 -0.7**
KHC *e*pP pP 03 50 02.4 -0.6
KHC AMS AMS 04 29 50.0
comp=Z,200nm,16.8s
RUE Ruedersdorf 77.86 322 *e*P **P 03 49 56.7 -0.9**
comp=Z,128nm,1.1s,mb5.8
RUE *e*pP pP 03 50 02.1 -0.8
PTCC Patocco-Chiusa 77.95 316 *e*P **P 03 49 58.2 0.0**
CLL Collm 78.30 321⇓ *i*P **P 03 49 59.7 -0.3**
CLL *i* pP 03 50 04.6 -0.7
CLL pmax pmax
comp=Z,48nm,1.5s,mb5.2
CLL Collm 78.30 321⇓ *i*P **P 03 49 59.7 -0.3**
comp=Z,48nm,1.5s,mb5.2
CLL *i* pP 03 50 04.6 -0.7
CLL Collm 78.30 321 ⇓P **P 03 49 59.7 -0.3**
comp=Z,logA/T=1.5,mb5.2
CLL *i* *PP pP 03 50 04.6 -0.7
CLL *i* 03 50 25.7
WET Wettzell 78.32 318 *e*P **P 03 50 00.4 +0.2**
WET pmax pmax
comp=Z,44nm,1.4s,mb5.2
WET Wettzell 78.32 318 *e*P **P 03 50 00.4 +0.2**
comp=Z,44nm,1.4s,mb5.2
NKC Novy Kostel 78.62 320 *e*P **P 03 50 02.2 +0.4**
NKC *e*pP pP 03 50 06.6 -0.6
MAW Mawson 78.72 192 *e*P **P 03 50 02.3 +0.3**
comp=Z,13nm,0.9s,mb4.9
MAW Mawson 78.72 192 *e*P **P 03 50 02.3 +0.3**
MAW pmax pmax
comp=Z,13nm,0.9s
MAW Mawson 78.72 192 P **P 03 50 02.6 +0.6**
comp=Z,11nm,1.0s,mb4.8,baz=8.8,slow=7.7,SNR=4.3
COP Copenhagen 78.79 325 *i* P pP 03 50 08.7 +0.7
COP pmax pmax
comp=Z,40nm,0.9s,mb5.3
COP Copenhagen 78.79 325 *i* P pP 03 50 08.7 +0.7
comp=Z,40nm,0.9s
SFI Santa Sofia 79.00 313 *e*P **P 03 50 05.5 +1.4**
PGD Poggio Sodo 79.09 313 *e*P **P 03 50 05.9 +1.3**
CTI Castel Tesino 79.13 315 *e*P **P 03 50 05.2 +0.5**
WTTA Wattenberg 79.13 317⇓ *i*P **P 03 50 04.4 -0.3**
comp=Z,66nm,1.3s,mb5.4
WTTA Wattenberg 79.13 317⇓ *i*P **P 03 50 04.4 -0.3**
WTTA pmax pmax
comp=Z,67nm,1.3s,mb5.4
MOX Moxa 79.16 320 *e*P **P 03 50 05.2 +0.4**
MOX pmax pmax
comp=Z,43nm,1.4s,mb5.2
MOX MLR MLR
comp=Z,200nm,17.0s,MS4.5
MOX Moxa 79.16 320 *e*P **P 03 50 05.2 +0.4**
comp=Z,43nm,1.4s,mb5.2
MOX LR LR
comp=Z,200nm,17.0s,MS4.5
MOX Moxa 79.16 320 *i* P **P 03 50 05.2 +0.4**
comp=Z,logA/T=1.5,mb5.2
MOX L 04 31 00.0
WATA Walderalm 79.17 317⇑ *i*P **P 03 50 04.5 -0.4**
comp=Z,30nm,1.2s,mb5.1
WATA Walderalm 79.17 317⇑ *i*P **P 03 50 04.5 -0.4**
WATA pmax pmax
comp=Z,30nm,1.2s,mb5.1
VMG Vicchio 79.22 313 *e*P **P 03 50 07.0 +1.8**
FUR Furstenfeldbru 79.37 317 *e*P **P 03 50 05.8 -0.2**
GRA1 Grafenberg Arr 79.41 319 *e*P **P 03 50 06.8 +0.7**
comp=Z,83nm,1.5s,mb5.4
GRA1 *e*pP pP 03 50 11.3 -0.2
GRF Grafenberg Arr 79.41 319 *e*P **P 03 50 06.8 +0.7**
GRF *e**PP pP 03 50 11.3 -0.2
GRF pmax pmax
comp=Z,83nm,1.5s,mb5.4
GRF Grafenberg Arr 79.41 319 *e*P **P 03 50 06.8 +0.7**
GRF *e**PP pP 03 50 11.3 -0.2
GRF pmax pmax
comp=Z,83nm,1.5s,mb5.4
GRF Grafenberg Arr 79.41 319 *e*P **P 03 50 06.8 +0.7**
comp=Z,83nm,1.5s,mb5.4
GRF *e*pP pP 03 50 11.3 -0.2
SQTA Sankt Quirin 79.42 317⇓ *i*P **P 03 50 05.9 -0.4**
comp=Z,30nm,1.1s,mb5.1
SQTA Sankt Quirin 79.42 317⇓ *i*P **P 03 50 05.9 -0.4**
SQTA pmax pmax
comp=Z,30nm,1.1s,mb5.1
MOTA Moosalm 79.50 317⇑ *i*P **P 03 50 06.4 -0.3**
comp=Z,28nm,1.1s,mb5.1
MOTA Moosalm 79.50 317⇑ *i*P **P 03 50 06.4 -0.3**
MOTA pmax pmax
comp=Z,28nm,1.1s,mb5.1
NB2 NORSAR Subarra 79.64 331 P **P 03 50 05.8 -1.3**
comp=Z,66nm,1.4s,mb5.4,baz=95,slow=5.0
NB2 NORSAR Subarra 79.64 331 P **P 03 50 05.8 -1.3**
baz=95,slow=5.1
NB2 NORSAR Subarra 79.64 331 P **P 03 50 06.0 -1.1**
baz=92,slow=5.9
NOA NORSAR Array B 79.64 331 P **P 03 50 06.4 -0.7**
NOA *PP pP 03 50 11.8 -0.7
NOA pmax pmax

comp=Z,20nm,1.0s
NOA pmax pmax
comp=Z,16nm,0.9s
NOA NORSAR Array B 79.64 331 P P 03 50 06.4 -0.8
comp=Z,20nm,1.0s,mb5.0,baz=95,slow=5.2,SNR=16
NOA pP pP 03 50 11.8 -0.7
comp=Z,16nm,0.9s,baz=95,slow=5.3,SNR=22
NAO01 NORSAR Array S 79.79 330 *eP* **P 03 50 07.7 -0.3**
comp=Z,30nm,1.0s,mb5.2
GSCL Gusciola 79.90 314 *eP* **P 03 50 10.3 +1.4**
SAL Salo 79.92 315 *eP* **P 03 50 09.2 +0.2**
CLZ Clausthal 79.95 321 *eP* **P 03 50 09.3 +0.3**
comp=Z,51nm,1.3s,mb5.3
BRMO Bormio 80.01 316 *eP* **P 03 50 09.9 +0.4**
TSUM Tsumeb 80.19 249 *eP* **P 03 50 11.7 +0.8**
comp=Z,8.9nm,1.0s,mb4.7
TSUM LR LR
comp=Z,799nm,20.0s,MS5.1
DAVA Damuels 80.33 317⇑*iP* **P 03 50 11.5 +0.4**
comp=Z,43nm,1.3s,mb5.2
DAVOX Davos 80.34 316 P **P 03 50 11.0 -0.2**
comp=Z,10nm,0.8s,mb4.8
MUD Monsted U'grnd 80.63 326⇑*iP* **P 03 50 13.7 +1.2**
MUD pmax pmax
comp=Z,62nm,1.2s,mb5.4
MUD Monsted U'grnd 80.63 326⇑*iP* **P 03 50 13.7 +1.2**
comp=Z,62nm,1.2s,mb5.4
TOD Tromm 80.98 319 *eP* **P 03 50 15.0 +0.5**
SPAK Spaichingen 81.04 317 *eP* **P 03 50 15.0 +0.1**
VAI Varese 81.14 315 *eP* **P 03 50 15.2 -0.2**
TNS Taunus Mts 81.19 320 *eP* **P 03 50 15.9 +0.3**
BFO Black Forest 81.34 318 *eP* **P 03 50 16.2 -0.2**
BFO pmax pmax
comp=Z,34nm,1.4s,mb5.1
BFO Black Forest 81.34 318 *eP* **P 03 50 16.2 -0.2**
comp=Z,34nm,1.4s,mb5.1
FELD Feldberg 81.58 317 *eP* **P 03 50 18.2 +0.5**
LANF Langenberg 81.66 318 *eP* **P 03 50 18.7 +0.6**
ABH Alteburg 81.78 319 *eP* **P 03 50 19.5 +0.8**
LIBD Limburg 81.83 318 *eP* **P 03 50 19.5 +0.5**
CDF Champ du Feu 82.04 318 *eP* **P 03 50 20.3 +0.3**
comp=Z,39nm,1.2s,mb4.9
CDF Champ du Feu 82.04 318 *eP* **P 03 50 20.3 +0.3**
CDF pmax pmax
comp=Z,20nm,1.2s,mb4.9
RUP Ruppelstein 82.11 319 *eP* **P 03 50 21.0 +0.6**
SBF Sospel 82.19 313 *eP* **P 03 50 21.3 +0.4**
comp=Z,216nm,1.3s,mb5.6
SBF Sospel 82.19 313 *eP* **P 03 50 21.3 +0.4**
SBF pmax pmax
comp=Z,108nm,1.3s,mb5.6
HINF Hinteralfeld 82.35 317 *eP* **P 03 50 21.8 +0.1**
LOMF Lomont 82.40 317 *eP* **P 03 50 21.9 0.0**
LPG La Plagne 82.57 315 *eP* **P 03 50 23.8 +0.9**
comp=Z,162nm,1.4s,mb5.6
LPG La Plagne 82.57 315 *eP* **P 03 50 23.8 +0.9**
LPG pmax pmax
comp=Z,81nm,1.4s,mb5.6
LPL La Plagne 82.58 315 *eP* **P 03 50 23.8 +0.8**
comp=Z,124nm,1.1s,mb5.6
LPL La Plagne 82.58 315 *eP* **P 03 50 23.8 +0.8**
LPL pmax pmax
comp=Z,62nm,1.1s,mb5.5
MBDF Montbardon 82.61 314 *eP* **P 03 50 23.0 -0.1**
comp=Z,29nm,1.0s,mb5.0
MBDF Montbardon 82.61 314 *eP* **P 03 50 23.0 -0.1**
MBDF pmax pmax
comp=Z,14nm,1.0s,mb5.0
BNI Bardonecchia 82.66 314 *eP* **P 03 50 23.4 +0.1**
BNI pmax pmax
comp=Z,34nm,1.1s,mb5.3
BNI Bardonecchia 82.66 314 *eP* **P 03 50 23.4 +0.1**
comp=Z,34nm,1.1s,mb5.3
HAU Haudompre 82.68 317 *eP* **P 03 50 23.6 +0.2**
comp=Z,90nm,1.1s,mb5.4
HAU *eR*
comp=Z,202nm,21.2s
HAU Haudompre 82.68 317 *eP* **P 03 50 23.6 +0.2**
HAU pmax pmax
comp=Z,45nm,1.1s,mb5.4
HAU MLR MLR
comp=Z,200nm,21.3s,MS4.5
WLF Walferdange 82.70 319 *eP* **P 03 50 23.3 -0.2**
FRF La Foret Royal 82.78 313 *eP* **P 03 50 24.6 +0.6**
comp=Z,176nm,1.4s,mb5.6
FRF La Foret Royal 82.78 313 *eP* **P 03 50 24.6 +0.6**
FRF pmax pmax
comp=Z,88nm,1.4s,mb5.6
LMR La Mourre 82.90 313 *eP* **P 03 50 25.4 +0.8**
CABF La Chapelle 82.96 316 *eP* **P 03 50 25.6 +0.7**
comp=Z,80nm,1.1s,mb5.3
CABF La Chapelle 82.96 316 *eP* **P 03 50 25.6 +0.7**
CABF pmax pmax
comp=Z,40nm,1.1s,mb5.4
ORIF Oris-en-Rattie 83.23 314 *eP* **P 03 50 27.0 +0.7**
ORIF *eR*
comp=Z,210nm,23.0s
MEZF Maizieres J'vi 83.51 318 *eP* **P 03 50 28.2 +0.5**
GIVF Givet 83.53 320 *eP* **P 03 50 28.3 +0.6**
SMRF Simiane la Rot 83.53 313 *eP* **P 03 50 28.9 +1.0**
comp=Z,281nm,1.9s,mb5.8
BAIF Baives 83.92 320 *eP* **P 03 50 30.6 +0.9**
comp=Z,93nm,1.2s,mb5.5
BAIF Baives 83.92 320 *eP* **P 03 50 30.6 +0.9**
BAIF pmax pmax
comp=Z,47nm,1.2s,mb5.5
VIVF Saint-Julien-l 84.09 314 *eP* **P 03 50 31.3 +0.6**
comp=Z,82nm,1.3s,mb5.4
VIVF Saint-Julien-l 84.09 314 *eP* **P 03 50 31.3 +0.6**
VIVF pmax pmax
comp=Z,41nm,1.3s,mb5.4
SMF Signal de Mont 84.50 316 *eP* **P 03 50 32.9 +0.2**
comp=Z,88nm,1.3s,mb5.4
SMF Signal de Mont 84.50 316 *eP* **P 03 50 32.9 +0.2**
SMF pmax pmax
comp=Z,44nm,1.3s,mb5.4
SSF Saint Saulge 84.68 317 *eP* **P 03 50 34.3 +0.7**
SSF pmax pmax
comp=Z,36nm,1.4s,mb5.3
SSF Saint Saulge 84.68 317 *eP* **P 03 50 34.3 +0.7**
comp=Z,36nm,1.4s,mb5.3
PLDF La Plantade 84.72 316 *eP* pP 03 50 39.4 +0.2
LASF Ste Croix 84.75 314 *eP* **P 03 50 35.0 +1.0**
AVF Avril sur Loir 84.81 316 *eP* **P 03 50 34.6 +0.3**
comp=Z,124nm,1.8s,mb5.4
AVF Avril sur Loir 84.81 316 *eP* **P 03 50 34.6 +0.3**
AVF pmax pmax
comp=Z,62nm,1.8s,mb5.4
AGO Saint Agoulin 85.05 316 *eP* pP 03 50 40.6 -0.2
PYM Petit Puy Mans 85.17 315 *eP* pP 03 50 41.2 -0.2
BGF Bois d'Agland 85.19 316 *eP* **P 03 50 37.3 +1.2**
comp=Z,138nm,1.5s,mb5.6
BGF Bois d'Agland 85.19 316 *eP* **P 03 50 37.3 +1.2**
BGF pmax pmax
comp=Z,69nm,1.5s,mb5.6
HYF Humbligny 85.25 317 *eP* **P 03 50 37.5 +1.1**
SYO Syowa Base 85.60 197⇓*iP* **P 03 50 38.8 +1.1**
SYO Syowa Base 85.60 197⇑*PcP* PcP 03 50 42.2 +1.0
SYO Syowa Base 85.60 197⇓*pP* pP 03 50 44.1 +1.1
TCF Toulx Ste Croi 85.66 316 *eP* **P 03 50 39.4 +0.9**
CAF Calviac 85.93 315 *eP* **P 03 50 40.8 +0.9**
comp=Z,48nm,1.3s,mb5.3
CAF Calviac 85.93 315 *eP* **P 03 50 40.8 +0.9**
CAF pmax pmax
comp=Z,24nm,1.3s,mb5.3
RJF Les Rejaudoux 86.26 315 *eP* **P 03 50 42.6 +1.1**
comp=Z,113nm,1.6s,mb5.5
RJF *eR*
comp=Z,169nm,22.2s
RJF Les Rejaudoux 86.26 315 *eP* **P 03 50 42.6 +1.1**
RJF pmax pmax
comp=Z,57nm,1.6s,mb5.5
RJF MLR MLR
comp=Z,170nm,22.3s,MS4.4
LDF La Druitiere 86.91 318 *eP* **P 03 50 45.3 +0.7**
FLN La Foliniere 87.12 319 *eP* **P 03 50 46.2 +0.6**
FLN *eR*
comp=Z,223nm,23.0s
MFF Saint Martin d 87.23 317 *eP* **P 03 50 46.8 +0.6**
comp=Z,99nm,1.6s,mb5.5
MFF Saint Martin d 87.23 317 *eP* **P 03 50 46.8 +0.6**
MFF pmax pmax
comp=Z,49nm,1.6s,mb5.5
EKA Eskdalemuir Ar 87.64 325 P **P 03 50 48.7 +0.7**
EKA *PP pP 03 50 53.8 +0.5
EKA pmax pmax
comp=Z,5.0nm,0.8s
EKA pmax pmax
comp=Z,15nm,1.0s
EKA Eskdalemuir Ar 87.64 325 P **P 03 50 48.6 +0.7**
comp=Z,5.2nm,0.8s,mb4.8,baz=121,slow=4.9,SNR=7.4
EKA pP pP 03 50 53.8 +0.5
comp=Z,15nm,1.0s,baz=100,slow=5.1,SNR=13
ROSF Rostrenen 89.02 319 *eP* **P 03 50 55.6 +0.8**
comp=Z,206nm,1.6s,mb5.9
ROSF Rostrenen 89.02 319 *eP* **P 03 50 55.6 +0.8**
ROSF pmax pmax
comp=Z,103nm,1.6s,mb5.9
ESDC Sonseca Array 91.19 310 P **P 03 51 05.1 +0.1**
comp=Z,2.6nm,0.7s,mb4.7,baz=57,slow=4.8,SNR=14
ESDC pP pP 03 51 10.9 +0.5
comp=Z,9.4nm,1.0s,baz=60,slow=4.1,SNR=13
ESLA Sonseca Array 91.19 310 *eP* **P 03 51 05.3 +0.3**
IMA Indian Mountai 91.43 22 *eP* **P 03 51 06.1 +0.6**
BORG Borgarnes 93.31 337 LR LR 04 39 01.7
comp=Z,434nm,18.9s,MS4.9,baz=55,slow=39
ILAR Eielson Array 94.55 22 P **P 03 51 20.3 +0.4**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 94.55 22 P **P 03 51 20.2 +0.4**
comp=Z,1.1nm,0.8s,mb4.3,baz=320,slow=3.8,SNR=8.7
INK Inuvik 96.80 16 P **P 03 51 30.6 +0.5**
INK pmax pmax
comp=Z,11nm,1.2s
INK Inuvik 96.80 16 P **P 03 51 30.6 +0.5**
comp=Z,11nm,1.2s,mb5.2,baz=332,slow=6.2,SNR=7.5
RES Resolute Bay 97.23 2 *eP* **P 03 51 32.4 +0.5**
RES pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
RES Resolute Bay 97.23 2 *eP* **P 03 51 32.4 +0.5**
comp=Z,7.6nm,1.1s,mb5.0
RES *e*pP pP 03 51 37.1 -0.2
DAWY Dawson 97.66 21 *eP* **P 03 51 35.2 +1.2**
DBIC Dimbokro 98.02 278 LR LR 04 36 31.4
comp=Z,342nm,18.3s,MS4.9,baz=68,slow=36
MSO Missoula 119.89 22 *e*PKP PKPdf 03 56 50.5 -2.3
ULM Lac du Bonnet 121.28 8 PKP PKPdf 03 56 52.9 -2.7
comp=Z,3.0nm,0.7s,baz=74,slow=1.4,SNR=3.6
HLID Hailey 122.43 24 *e*PKP PKPdf 03 56 55.9 -1.9
NVAR Mina Array Bea 124.72 31 PKP PKPdf 03 57 01.0 -1.6
comp=Z,2.6nm,0.9s,baz=41,slow=1.0,SNR=8.4
BW06 Boulder Array 124.97 21 *e*PKP PKPdf 03 57 00.3 -2.6
PDAR Pinedale Array 124.97 21 PKP PKPdf 03 57 00.1 -2.7
comp=Z,2.9nm,1.1s,baz=45,slow=2.1,SNR=14
PDAR *e*pPKP 03 57 06.0
comp=Z,2.5nm,0.9s,baz=233,slow=3.1,SNR=11
PDAR Pinedale Array 124.97 21 PKP PKPdf 03 57 00.1 -2.7
PDAR pPKP 03 57 06.0
PV10 Paradox Valley 128.98 24 *e*PKP PKPdf 03 57 09.5 -1.3
TXAR Lajitas Array 139.03 24 PKP PKPdf 03 57 27.3 -2.4
comp=Z,0.7nm,0.5s,baz=233,slow=0.6,SNR=12
TXAR PKiKP 03 57 30.5
comp=Z,0.7nm,0.5s,baz=272,slow=0.6,SNR=12
TXAR PP PP 04 00 25.2 +2.6
comp=Z,0.6nm,0.9s,slow=1.8,SNR=4.3
TXAR Lajitas Array 139.03 24 PKP PKPdf 03 57 27.3 -2.4
TXAR PKPdf PKPdf 03 57 30.5 +0.8
TXAR PP PP 04 00 25.2 +2.6
JCT Junction City 139.39 19 *e*PKIKP PKPdf 03 57 28.8 -1.5
PLCA Paso Flores 144.74 200 PKIKP PKPdf 03 57 36.0 -3.4
PLCA 03 57 41.9
PLCA pmax pmax
comp=Z,27nm,0.9s
PLCA pmax pmax
comp=Z,37nm,0.9s
PLCA Paso Flores 144.74 200 PKP PKPdf 03 57 36.0 -3.4
comp=Z,27nm,0.9s,baz=156,slow=4.0,SNR=18
PLCA pPKP 03 57 41.9
comp=Z,37nm,0.9s,baz=142,slow=4.2,SNR=22
PLCA Paso Flores 144.74 200 *e*PKP PKPdf 03 57 35.7 -3.7
FCH Farellones 151.06 207 *eP* PKPdf 03 57 53.9 +4.0
TEIG Tepich 151.80 5 PKP PKPdf 03 57 50.5 -0.9
SDV Santo Domingo 157.42 318 *e*PKPdf PKPdf 03 57 56.9 -2.2
LVC Limon Verde 158.27 226 PKPab PKPab 03 58 32.8 0.0
comp=Z,5.8nm,0.8s,baz=108,slow=2.7,SNR=5.8
LVC pPKPab 03 58 37.6
comp=Z,13nm,0.8s,baz=131,slow=3.3,SNR=8.5
LPAZ La Paz 160.94 243 PKIKP PKPdf 03 58 01.9 -1.1
LPAZ 03 58 44.8
LPAZ pmax pmax
comp=Z,6.0nm,1.2s
LPAZ pmax pmax
comp=Z,5.0nm,1.1s
LPAZ pmax pmax
comp=Z,6.0nm,0.9s
LPAZ La Paz 160.94 243 PKP PKPdf 03 58 01.9 -1.1
comp=Z,6.2nm,1.2s,baz=21,slow=4.5,SNR=12
LPAZ PKPab PKPab 03 58 44.8 +0.4
comp=Z,5.1nm,1.1s,baz=108,slow=2.8,SNR=3.9
LPAZ pPKPab 03 58 49.8
comp=Z,5.6nm,0.9s,baz=139,slow=2.1,SNR=5.3
LPAZ La Paz 160.94 243 *e*PKP PKPdf 03 58 02.4 -0.6
OTAV Otavalo 169.01 318 *e*PKP PKPdf 03 58 09.5 -0.6

IDC ***29*** *03:43:54.2±1.6, 16.39S×178.43W, mb4.0/6, mb1 4.3/6, mb1mx4.1/15, mbtmp4.0/6, Error ellipse: s-maj=105.5km s-min=22.0km az=149.0*
ISC 29 03:43:58.1±1.4,**16.4S**±0.5×**178.6W**±0.3,**h33**km,**n9,**
σ0**°18**/9,**mb4.0**/6,**1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.28**	**239**	*eP*	**P**	**03 51 25.9**	**+0.4**
	1.2nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**39.28**	**239**	P	**P**	**03 51 25.4**	**0.0**
	2.0nm,0.6s,mb4.0,baz=82,slow=7.8,SNR=6.8						
WB2	**Warramunga Arr**	**44.79**	**258**	*eP*	**P**	**03 52 10.8**	**0.0**
WRA	**Warramunga Arr**	**44.80**	**258**	P	**P**	**03 52 11.0**	**+0.1**
	1.0nm,0.5s,mb4.0,baz=92,slow=6.9,SNR=26						
ASAR	**Alice Springs**	**45.10**	**253**	P	**P**	**03 52 13.2**	**-0.1**
	7.7nm,0.4s,mb4.9,baz=89,slow=8.1,SNR=152						
ASPA	**Alice Springs**	**45.10**	**253**	⇓*iP*	**P**	**03 52 13.1**	**-0.2**
ILAR	**Eielson Array**	**84.42**	**13**	P	**P**	**03 56 28.4**	**+0.2**
	0.2nm,0.4s,mb3.6,baz=228,slow=4.9,SNR=6.8						
TXAR	**Lajitas Array**	**85.28**	**58**	P	**P**	**03 56 33.4**	**+0.1**
	0.4nm,0.7s,mb3.7,baz=217,slow=6.3,SNR=6.4						
PDAR	**Pinedale Array**	**86.33**	**44**	P	**P**	**03 56 37.8**	**-0.3**
	0.5nm,0.8s,mb3.8,baz=195,slow=4.0,SNR=4.6						

IDC ***29*** *03:51:37.9±0.6, 7.91N×93.97E, mb4.3/19, mb1 4.4/20, mb1mx4.4/25, mbtmp4.3/20, ML4.3/1, MS4.0/1, Ms1 4.2/1, ms1mx3.3/26, Error ellipse: s-maj=26.2km s-min=14.3km az=49.0*
NEIC ***29*** *03:51:42.0±0.4, 7.95N×94.16E, h30km, mb4.6/10, Error ellipse: s-maj=13.8km s-min=8.9km az=51.0*
BJI ***29*** *03:51:42.5, 8.40N×93.40E, h9km, mB5.2, mb4.7, Ms4.8, Msz4.4*
ISC 29 03:51:39.9±0.4,**7.81N**±0.06×**94.10E**±0.07,**h30**km,
(h30km±3.2km:**pP-P),n67**,σ1**°12**/64,**mb4.5**/30,**MS4.5**/1,
Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.58**	**24**	*eP*	**P**	**03 54 21.4**	**-5.1**
CMAR	**Chiang Mai Arr**	**11.58**	**24**	Pn	**P**	**03 54 27.8**	**+1.3**
	0.6nm,0.3s,baz=208,slow=15,SNR=22						
CMAR				LR	LR	03 59 03.0	
	comp=Z,630nm,18.1s,baz=215,slow=39						
PALK	**Pallekele**	**13.29**	**269**	P	**P**	**03 54 56.2**	**+6.9**
VIS	**Vishakhapatnam**	**14.39**	**314**	*eP*	**P**	**03 55 05.5**	**+1.7**
VIS				*e*		03 55 06.5	
	comp=Z,25nm,0.8s						
VIS				*e*		03 57 28.2	
VIS				*e*	**S**	**03 57 37.0**	**-6.1**
BWNR	**Bhubaneshwar**	**14.78**	**328**	*e*	**S**	**03 57 44.1**	**-8.2**
BWNR				*e*		03 57 48.3	
	comp=Z,25nm,1.6s						
BWNR				*e*		04 00 56.3	
IMP	**Imphal**	**16.88**	**359**	*e*	**P**	**03 55 35.9**	**+0.1**
SHL	**Shillong**	**17.78**	**353**	*eP*	**P**	**03 55 45.0**	**-2.1**
SHL				*e*	**S**	**03 59 08.0**	**+6.3**
HYB	**Hyderabad**	**17.91**	**304**	*eP*	**P**	**03 55 50.0**	**+1.3**
HYB				*eS*	**S**	**03 59 05.0**	**+0.4**
HYB	**Hyderabad**	**17.91**	**304**	*iP*	**P**	**03 55 50.0**	**+1.3**
HYB				*eS*	**S**	**03 59 05.0**	**+0.4**
KMI	**Kunming**	**19.09**	**25**	P	**P**	**03 56 04.9**	**+1.9**
	comp=Z,13nm,1.2s						
KMI				pP		03 56 10.1	
JIRN	**Jiri**	**21.11**	**340**	*eP*	**P**	**03 56 24.2**	**-0.4**
	comp=Z,32nm,0.7s,mb4.8						
PKI	**Pulchoki**	**21.30**	**338**	*eP*	**P**	**03 56 26.5**	**-0.1**
DMN	**Daman**	**21.45**	**338**	*eP*	**P**	**03 56 28.4**	**+0.4**
KKN	**Kakani**	**21.55**	**338**	*eP*	**P**	**03 56 28.9**	**-0.1**
LSA	**Lhasa**	**21.95**	**353**	P	**P**	**03 56 33.5**	**+0.5**
GKN	**Gorkha**	**21.98**	**337**	*eP*	**P**	**03 56 33.0**	**-0.4**
BHPL	**Bhopal**	**22.17**	**316**	*eP*	**P**	**03 56 36.1**	**+0.8**
BHPL				*e*		03 56 39.9	
	comp=Z,23nm,0.4s						
BHPL				*e*		03 58 50.2	
KOLN	**Koldanda**	**22.20**	**335**	*eP*	**P**	**03 56 35.5**	**0.0**
	comp=Z,78nm,0.9s,mb5.1						
NDI	**New Delhi**	**26.16**	**325**	*eP*	**P**	**03 57 16.5**	**+2.8**
DDI	**Dehra Dun**	**26.97**	**328**	*eP*	**P**	**03 57 26.0**	**+4.9**
LZH	**Lanzhou**	**29.52**	**16**	*eP*	**P**	**03 57 44.5**	**+0.4**
LZH				AP	pP	03 57 55.3	+2.4
LZH				XP	sP	03 57 58.8	+2.0
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.7						
LZH	**Lanzhou**	**29.52**	**16**	*eP*	**P**	**03 57 44.6**	**+0.5**
	comp=Z,18nm,1.2s,mb4.7						
LZH				pP	pP	03 57 55.2	+2.3
LZH				sP	sP	03 57 58.7	+1.9
WMQ	**Urumqi**	**36.30**	**352**	*eP*	**P**	**03 58 41.5**	**-1.3**
WMQ				AP	pP	03 58 51.0	-0.8
WMQ				XP	sP	03 58 55.0	-0.6
WMQ				PP	PP	04 00 04.0	-2.3
WMQ				PCP	PcP	04 01 07.3	-0.3
WMQ				S	**S**	**04 04 18.0**	**-3.0**
WMQ				AMB	AMB		
	comp=Z,29nm,1.1s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,168nm,5.0s						
WMQ				LR	LR		
	comp=N,561nm,17.5s,MS4.5						
WMQ				LR	LR		
	comp=E,328nm,17.2s,MS4.5						
WMQ				LR	LR		
	comp=Z,696nm,17.4s,MS4.5						
AAK	**Ala-Archa**	**38.74**	**337**	*eP*	**P**	**03 59 02.0**	**-1.4**
	comp=Z,4.8nm,0.9s,mb4.2						
SONM	**Songino Array**	**41.23**	**13**	P	**P**	**03 59 24.8**	**+1.0**
	comp=Z,3.5nm,0.9s,mb4.0,baz=194,slow=8.7,SNR=18						
SONM				PcP	PcP	04 01 23.7	+0.7
	comp=Z,1.1nm,0.9s,baz=197,slow=4.5,SNR=3.9						
KURK	**Kurchatov**	**44.66**	**346**	*eP*	**P**	**03 59 51.0**	**-0.8**
	comp=Z,15nm,1.1s,mb4.7						
NWAO	**Narrogin (SRO)**	**46.11**	**153**	P	**P**	**04 00 04.1**	**+0.5**
	comp=Z,6.7nm,0.7s,mb4.7,baz=283,slow=2.7,SNR=4.8						
NWAO	**Narrogin (SRO)**	**46.11**	**153**	P	**P**	**04 00 04.1**	**+0.5**
ZAL	**Zalesovo**	**46.60**	**352**	P	**P**	**04 00 07.2**	**+0.2**
	comp=Z,4.8nm,0.4s,mb4.8,baz=308,slow=4.5,SNR=29						
ZAL	**Zalesovo**	**46.60**	**352**	P	**P**	**04 00 07.2**	**+0.1**
WRA	**Warramunga Arr**	**48.26**	**125**	P	**P**	**04 00 20.2**	**-0.3**
	comp=Z,2.2nm,0.7s,mb4.3,baz=305,slow=8.5,SNR=14						
WRAB	**Tennant Creek**	**48.27**	**125**	*eP*	**P**	**04 00 19.3**	**-1.3**
	comp=Z,6.3nm,0.9s,mb4.7						
WB2	**Warramunga Arr**	**48.27**	**125**	*eP*	**P**	**04 00 19.9**	**-0.8**
BVAR	**Borovoye Array**	**49.03**	**341**	P	**P**	**04 00 25.6**	**-0.5**
	comp=Z,2.0nm,0.8s,mb4.2,baz=127,slow=7.4,SNR=7.7						
CHKZ	**Chkalovo**	**49.52**	**342**	*eP*	**P**	**04 00 28.8**	**-1.0**
	comp=Z,8.7nm,0.9s,mb4.8						
ASAR	**Alice Springs**	**49.91**	**130**	P	**P**	**04 00 35.1**	**+1.9**
	comp=Z,2.2nm,0.9s,mb4.2,baz=300,slow=7.1,SNR=13						
ASAR				PcP	PcP	04 01 56.5	+3.0
	comp=Z,2.3nm,0.6s,baz=308,slow=3.7,SNR=11						
KMBO	**Kilima Mbogo**	**57.37**	**264**	P	**P**	**04 01 29.5**	**+1.1**
	comp=Z,2.3nm,0.8s,mb4.3,baz=92,slow=9.8,SNR=8.4						
KMBO	**Kilima Mbogo**	**57.37**	**264**	*eP*	**P**	**04 01 28.9**	**+0.5**
	comp=Z,3.5nm,0.9s,mb4.4						
ASF	**Jabal al Asfar**	**58.21**	**303**	P	**P**	**04 01 34.9**	**+0.8**
	comp=Z,3.3nm,1.0s,mb4.3,baz=335,slow=16,SNR=3.7						
EIL	**Elat**	**59.42**	**300**	P	**P**	**04 01 41.4**	**-1.1**
	comp=Z,2.5nm,0.7s,mb4.3,baz=329,slow=6.0,SNR=4.0						
BRTR	**Keskin Array B**	**62.43**	**311**	P	**P**	**04 02 00.8**	**-2.0**
	comp=Z,1.2nm,0.6s,mb4.2,baz=128,slow=6.9,SNR=8.8						
IDI	**Anoyia**	**68.56**	**305**	P	**P**	**04 02 40.8**	**-1.5**
	comp=Z,4.2nm,0.6s,mb4.5,baz=18,slow=12,SNR=5.7						
JOF	**Joensuu**	**70.88**	**334**	*ep*	**P**	**04 02 53.4**	**-2.6**
	comp=Z,5.6nm,0.5s,mb4.8						
FINES	**FINESS Array B**	**72.74**	**332**	P	**P**	**04 03 06.4**	**-0.7**
	comp=Z,5.3nm,0.8s,mb4.5,baz=98,slow=7.3,SNR=19						
KAF	**Kangasniemi**	**72.82**	**333**	*ep*	**P**	**04 03 06.3**	**-1.2**
	comp=Z,4.3nm,0.5s,mb4.6						
ARCES	**ARCESS Array B**	**75.31**	**340**	P	**P**	**04 03 21.9**	**+0.1**
	comp=Z,1.8nm,0.8s,mb4.1,baz=106,slow=5.5,SNR=6.9						
GERES	**GERESS Array B**	**77.84**	**318**	P	**P**	**04 03 36.1**	**-0.2**
	comp=Z,1.7nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=14						
KHC	**Kasperske Hory**	**77.93**	**319**	*eP*	**P**	**04 03 35.5**	**-1.3**
KHC				*e*	pP	04 03 45.0	-1.3
KHC	**Kasperske Hory**	**77.93**	**319**	*eP*	**P**	**04 03 35.5**	**-1.3**
KHC				pP	pP	04 03 45.0	-1.3
CLL	**Collm**	**78.38**	**321**	P	**P**	**04 03 39.0**	**-0.2**
CLL				*e**PP	pP	04 03 46.0	-2.7
HFS	**Hagfors**	**78.49**	**330**	P	**P**	**04 03 39.5**	**-0.1**
	comp=Z,4.2nm,0.7s,mb4.5,baz=104,slow=6.1,SNR=20						
MOR8	**Moi Rana**	**78.72**	**336**	*eP*	**P**	**04 03 35.5**	**-5.3**
NB2	**NORSAR Subarra**	**79.76**	**331**	P	**P**	**04 03 45.9**	**-0.6**
	comp=Z,3.7nm,0.7s,mb4.4,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.76**	**331**	P	**P**	**04 03 46.4**	**-0.2**
	comp=Z,3.3nm,0.8s,mb4.3,baz=94,slow=5.3,SNR=7.9						
LPG	**La Plagne**	**82.63**	**315**	*eP*	**P**	**04 04 04.4**	**+2.5**
	comp=Z,13nm,0.7s,mb4.8						
EKA	**Eskdalemuir Ar**	**87.75**	**325**	P	**P**	**04 04 28.0**	**+0.8**
	comp=Z,3.6nm,0.9s,mb4.6,baz=80,slow=5.1,SNR=4.3						
ESDC	**Sonseca Array**	**91.22**	**310**	P	**P**	**04 04 45.0**	**+1.1**
	comp=Z,1.0nm,0.6s,mb4.3,baz=72,slow=4.4,SNR=5.3						
IMA	**Indian Mountai**	**91.69**	**22**	*eP*	**P**	**04 04 46.1**	**+0.6**
ILAR	**Eielson Array**	**94.82**	**22**	P	**P**	**04 05 01.1**	**+1.2**
	comp=Z,0.4nm,0.8s,mb3.9,baz=296,slow=4.6,SNR=4.4						
NVAR	**Mina Array Bea**	**124.99**	**31**	PKP	PKPdf	04 10 42.2	-0.7
	comp=Z,0.9nm,0.8s,baz=39,slow=1.6,SNR=5.1						
PDAR	**Pinedale Array**	**125.24**	**21**	PKP	PKPdf	04 10 41.5	-1.8
	comp=Z,0.9nm,0.8s,baz=19,slow=3.4,SNR=6.8						
MSU	**Marysvale**	**127.83**	**26**	PKP	PKPdf	04 10 45.1	-3.4
TXAR	**Lajitas Array**	**139.30**	**24**	PKP	PKPdf	04 11 07.3	-2.8
	comp=Z,0.4nm,0.8s,baz=83,slow=7.3,SNR=3.9						
JCT	**Junction City**	**139.66**	**19**	PKP	PKPdf	04 11 10.5	-0.2
PLCA	**Paso Flores**	**144.48**	**200**	PKP	PKPdf	04 11 17.3	-1.5
	comp=Z,4.0nm,0.7s,baz=184,slow=2.0,SNR=10						
PLCA	**Paso Flores**	**144.48**	**200**	PKP	PKPdf	04 11 17.3	-1.6
LPAZ	**La Paz**	**160.70**	**242**	PKP	PKPdf	04 11 41.6	-1.1
	comp=Z,1.1nm,0.8s,baz=271,slow=4.0,SNR=4.3						

IGQ 29 04:00:11.1,1.08S×81.17W,h14km±8km,**mb4.4,4C-2D,**
Error ellipse: s-maj=8.7km s-min=5.0km az=9.4,Off
coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.62**	**87**	⇑P	Pb	04 00 22.4	-0.8
JAMA	**Jama**	**1.26**	**50**	⇑P	Pb	04 00 34.7	+0.6
JAMA				S	Sb	04 00 50.4	+0.4
MAGD	**Magdalena**	**1.72**	**54**	P	Pn	04 00 42.9	+2.0
IGUA	**Igualata**	**2.56**	**99**	P	Pn	04 00 54.0	+1.2
JUA2	**San Juan 2**	**2.70**	**71**	P	Pn	04 00 56.1	+1.2
CUSU	**Cusua**	**2.71**	**98**	P	Pn	04 00 58.5	+3.4
TERV	**Terraza Guagua**	**2.72**	**71**	P	Pn	04 00 56.6	+1.5
**PIN

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.98**	**44**	Pn	**P**	**04 10 27.8**	**+1.0**
	0.1nm,0.3s,baz=237,slow=15,SNR=4.3						
AAK	**Ala-Archa**	**34.20**	**336**	P	**P**	**04 15 00.5**	**-0.4**
SONM	**Songino Array**	**37.55**	**16**	P	**P**	**04 15 28.2**	**-1.0**
	0.4nm,0.7s,mb3.3,baz=198,slow=9.1,SNR=5.9						
KURK	**Kurchatov**	**40.16**	**346**	*eP*	**P**	**04 15 50.5**	**-0.4**
ZAL	**Zalesovo**	**42.21**	**353**	P	**P**	**04 16 07.0**	**-0.6**
	0.9nm,0.3s,mb3.8,baz=259,slow=2.5,SNR=5.6						
CHKZ	**Chkalovo**	**44.98**	**342**	*eP*	**P**	**04 16 29.9**	**-0.4**
	2.7nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**52.13**	**127**	P	**P**	**04 17 25.6**	**-0.5**
	0.4nm,0.4s,mb3.7,baz=300,slow=10.0,SNR=12						
WRA				PcP	PcP	04 18 39.1	+1.4
	1.1nm,0.6s,baz=319,slow=3.2,SNR=17						
WRAB	**Tennant Creek**	**52.13**	**127**	*eP*	**P**	**04 17 25.5**	**-0.6**
	2.6nm,0.5s,mb4.4						
ASAR	**Alice Springs**	**53.94**	**131**	P	**P**	**04 17 40.0**	**+0.7**
	1.1nm,0.6s,mb4.0,baz=308,slow=6.6,SNR=19						
STKA	**Stephens Creek**	**64.25**	**134**	P	**P**	**04 18 50.6**	**-0.1**
	0.7nm,0.3s,mb4.1,baz=320,slow=6.2,SNR=5.5						
FINES	**FINESS Array B**	**68.22**	**332**	P	**P**	**04 19 15.6**	**-0.1**
	2.5nm,0.9s,mb4.2,baz=99,slow=6.2,SNR=12						
GERES	**GERESS Array B**	**73.58**	**318**	P	**P**	**04 19 49.6**	**+1.6**
	1.2nm,0.7s,mb4.0,baz=76,slow=5.5,SNR=11						
HFS	**Hagfors**	**73.99**	**329**	P	**P**	**04 19 51.0**	**+0.8**
	0.8nm,0.4s,mb4.0,baz=117,slow=6.6,SNR=10						
HFS	**Hagfors**	**73.99**	**329**	P	**P**	**04 19 51.0**	**+0.8**

IGQ 29 04:14:31.4, 1.09S×81.10W, h10km±4km, mb4.2, 1C-1D, Error ellipse: s-maj=6.4km s-min=4.2km az=2.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.55**	**86**	⇑P	Pg	04 14 41.6	-0.9
JAMA	**Jama**	**1.21**	**47**	⇓P	Pb	04 14 54.1	+0.1
JAMA				S	Sb	04 15 09.0	-0.5
MAGD	**Magdalena**	**1.67**	**52**	P	Pn	04 15 02.6	+1.8
IGUA	**Igualata**	**2.49**	**99**	P	Pn	04 15 13.7	+1.1
IGUA				S	Sn	04 15 44.5	+1.2
JUA2	**San Juan 2**	**2.64**	**71**	P	Pn	04 15 16.2	+1.4
TERV	**Terraza Guagua**	**2.65**	**70**	P	Pn	04 15 16.5	+1.5
PINO	**Pino**	**2.65**	**70**	P	Pn	04 15 16.1	+1.1
NAS1	**Nasa**	**2.66**	**80**	P	Pn	04 15 18.7	+3.6
ARRY	**Arrayan**	**2.67**	**99**	P	Pn	04 15 16.5	+1.2
ARRY				S	Sn	04 15 48.2	+0.2
RETU	**Refugio**	**2.67**	**98**	P	Pn	04 15 20.8	+5.5
YANA	**Yana**	**2.70**	**69**	P	Pn	04 15 16.7	+1.0
PISA	**Pisayambo**	**2.71**	**89**	P	Pn	04 15 17.7	+1.9
PISA				S	Sn	04 15 52.2	+3.3
VC1	**Cotopaxi 1**	**2.73**	**81**	P	Pn	04 15 19.1	+3.0
TAMB	**Tambo**	**2.75**	**82**	P	Pn	04 15 19.0	+2.6
TAMB				S	Sn	04 15 56.0	+5.9
ANTI	**Antisana**	**3.00**	**78**	P	Pn	04 15 22.8	+2.8
COTA	**Cotacachi**	**3.10**	**63**	P	Pn	04 15 23.4	+2.1
CAYR	**Refugio Cayambe**	**3.28**	**70**	P	Pn	04 15 27.1	+3.2
CAYA	**Cayambe**	**3.31**	**70**	P	Pn	04 15 27.4	+3.0

*IDC **29** 04:14:42.5±0.6, 2.33S×141.91E, mb4.5/8, mb1 4.6/11, mb1mx4.6/14, mbtmp4.5/11, ML4.2/3, MS4.3/1, Ms1 4.3/1, ms1mx2.9/20, Error ellipse: s-maj=29.0km s-min=15.0km az=77.0*

*NEIC **29** 04:14:46.5±3.7, 2.40S×141.78E, h26km±26km, mb4.5/10, Error ellipse: s-maj=11.4km s-min=9.5km az=52.0*

ISC 29 04:14:42.5±0.5, 2.39S±0.05×141.74E±0.08, h10km, n32, σ0°74/29, mb4.4/15, MS4.2/1, 1D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.81**	**143**	Pn	**P**	**04 16 52.2**	**-0.7**
	1.8nm,0.3s,baz=291,slow=1.6,SNR=4.9						
PMG				Sn	**Sn**	**04 18 34.2**	**+0.9**
	1.0nm,0.3s,baz=324,slow=18,SNR=2.5						
KAKA	**Kakadu**	**13.78**	**221**	*eP*	**P**	**04 17 59.4**	**-1.2**
	14nm,0.4s						
KAKA				*e*S	**S**	**04 20 24.4**	**-10**
CTA	**Charters Tower**	**18.13**	**166**	*eP*	**P**	**04 18 57.9**	**+1.5**
	5.5nm,0.6s						
CTA	**Charters Tower**	**18.13**	**166**	P	**P**	**04 18 57.4**	**+1.0**
	0.4nm,0.3s,baz=344,slow=10,SNR=16						
CTAO	**Charters Tower**	**18.13**	**166**	*eP*	**P**	**04 18 56.9**	**+0.6**
	10.0nm,0.9s						
WRAB	**Tennant Creek**	**18.87**	**202**	*eP*	**P**	**04 19 04.6**	**-0.8**
	26nm,0.6s						
WB2	**Warramunga Arr**	**18.88**	**202**	*eP*	**P**	**04 19 05.2**	**-0.3**
WRA	**Warramunga Arr**	**18.88**	**202**	P	**P**	**04 19 05.1**	**-0.4**
	2.7nm,0.3s,baz=22,slow=13,SNR=58						
FITZ	**Fitzroy Crossi**	**22.20**	**224**	*eP*	**P**	**04 19 41.5**	**+0.6**
	18nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**22.47**	**199**	P	**P**	**04 19 43.8**	**+0.3**
	13nm,0.7s,mb4.5,baz=30,slow=9.4,SNR=82						
ASPA	**Alice Springs**	**22.47**	**199**	*eP*	**P**	**04 19 43.6**	**+0.1**
STKA	**Stephens Creek**	**29.33**	**180**	*eP*	**P**	**04 20 47.2**	**-0.6**
	2.7nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**29.33**	**180**	P	**P**	**04 20 47.4**	**-0.4**
	4.9nm,0.8s,mb4.3,baz=344,slow=5.7,SNR=7.0						
FORT	**Forrest**	**31.06**	**203**	*eP*	**P**	**04 21 03.3**	**+0.2**
	41nm,0.6s,mb5.4						
FORT				*e*		04 22 02.3	
JHJ	**Hachijo jima 2**	**35.37**	**357**	LR	LR	04 32 35.5	
	comp=Z,522nm,21.6s,MS4.2,baz=355,slow=30						
CMAR	**Chiang Mai Arr**	**46.93**	**298**	P	**P**	**04 23 17.1**	**+1.4**
	1.5nm,0.5s,mb4.2,baz=107,slow=5.3,SNR=5.8						
RPZ	**Rata Peaks**	**48.68**	**152**	P	**P**	**04 23 28.7**	**-0.3**
	4.4nm,0.6s,mb4.7,slow=6.1,SNR=4.6						
SONM	**Songino Array**	**58.77**	**333**	P	**P**	**04 24 43.8**	**+0.6**
	0.2nm,0.5s,mb3.4,baz=135,slow=4.1,SNR=3.1						
ZAL	**Zalesovo**	**73.21**	**329**	P	**P**	**04 26 14.9**	**-0.6**
	1.0nm,0.6s,mb3.9,baz=353,slow=10,SNR=8.3						
KURK	**Kurchatov**	**75.21**	**324**	*eP*	**P**	**04 26 27.1**	**-0.1**
	6.8nm,1.1s,mb4.5						
VNDA	**Vanda**	**75.84**	**176**	P	**P**	**04 26 30.2**	**-0.1**
	baz=337,slow=3.2,SNR=7.2						
BVAR	**Borovoye Array**	**80.79**	**325**	P	**P**	**04 26 58.8**	**+1.0**
	6.9nm,0.9s,mb4.6,baz=104,slow=6.1,SNR=20						
CHKZ	**Chkalovo**	**80.85**	**325**	*eP*	**P**	**04 26 58.2**	**0.0**
	3.7nm,1.0s,mb4.3						
BRVK	**Borovoye**	**80.86**	**325**	*eP*	**P**	**04 26 58.8**	**+0.6**
	4.3nm,0.8s,mb4.4						
ILAR	**Eielson Array**	**84.30**	**24**	P	**P**	**04 27 14.1**	**-1.6**
	3.8nm,0.6s,mb4.7,baz=258,slow=4.8,SNR=50						
DAWY	**Dawson**	**87.27**	**26**	*eP*	**P**	**04 27 30.3**	**-0.1**
QSPA	**South Pole Qui**	**87.55**	**180**	⇓*iP*	**P**	**04 27 32.3**	**+0.9**
	7.3nm,0.9s,mb4.9						
YKA	**Yellowknife Ar**	**98.41**	**27**	P	**P**	**04 28 20.9**	**-0.9**
	0.8nm,0.8s,mb4.3,baz=282,slow=4.8,SNR=9.3						
LPAZ	**La Paz**	**145.14**	**123**	PKPbc	PKPbc	04 34 23.2	+1.5
	3.8nm,0.9s,baz=238,slow=1.4,SNR=11						
DBIC	**Dimbokro**	**146.44**	**278**	PKPbc	PKPbc	04 34 26.8	+1.8
	4.5nm,0.6s,baz=70,slow=4.0,SNR=13						
DBIC	**Dimbokro**	**146.44**	**278**	PKPbc	PKPbc	04 34 26.8	+1.8
SDV	**Santo Domingo**	**147.17**	**77**	PKPbc	PKPdf	04 34 27.9	0.0
	16nm,0.6s,baz=309,slow=3.7,SNR=31						

IGQ 29 04:24:10.3, 1.08S×81.12W, h13km±5km, mb4.3, 7C-6D, Error ellipse: s-maj=7.6km s-min=4.6km az=0.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.57**	**88**	⇑P	Pb	04 24 20.6	-1.0
JAMA	**Jama**	**1.22**	**48**	P	Pb	04 24 33.1	+0.4
JAMA				S	Sb	04 24 48.6	+0.4
MAGD	**Magdalena**	**1.67**	**53**	P	Pn	04 24 41.5	+1.9
IGUA	**Igualata**	**2.51**	**99**	P	Pn	04 24 52.2	+0.6
IGUA				S	Sn	04 25 25.6	+3.3
JUA2	**San Juan 2**	**2.65**	**71**	P	Pn	04 24 54.6	+1.0
CUSU	**Cusua**	**2.66**	**98**	P	Pn	04 24 56.3	+2.6
TERV	**Terraza Guagua**	**2.67**	**70**	⇓P	Pn	04 24 55.1	+1.4
PINO	**Pino**	**2.67**	**70**	⇑P	Pn	04 24 54.5	+0.7
JUIV	**Juive**	**2.67**	**97**	⇑P	Pn	04 24 56.5	+2.6
JUIV				S	Sn	04 25 32.4	+6.0
NAS1	**Nasa**	**2.67**	**81**	⇓P	Pn	04 24 55.7	+1.8
ARRY	**Arrayan**	**2.69**	**99**	⇑P	Pn	04 24 54.7	+0.5
ARRY				S	Sn	04 25 27.1	+0.2
RETU	**Refugio**	**2.69**	**98**	P	Pn	04 24 55.9	+1.7
JOR1	**San Jorge 1**	**2.70**	**67**	P	Pn	04 24 54.1	-0.1
PATA	**Patacocha**	**2.71**	**99**	P	Pn	04 24 58.0	+3.6
YANA	**Yana**	**2.72**	**70**	⇑P	Pn	04 24 55.5	+1.0
PISA	**Pisayambo**	**2.73**	**90**	⇑P	Pn	04 24 56.4	+1.8
VC1	**Cotopaxi 1**	**2.75**	**81**	P	Pn	04 24 57.4	+2.5
TAMB	**Tambo**	**2.77**	**82**	⇓P	Pn	04 24 57.3	+2.0
ANTI	**Antisana**	**3.02**	**78**	⇑P	Pn	04 25 01.5	+2.7
COTA	**Cotacachi**	**3.11**	**63**	⇓P	Pn	04 25 01.5	+1.4
COTA				S	Sn	04 25 44.5	+7.0
CAYR	**Refugio Cayambe**	**3.29**	**71**	⇓P	Pn	04 25 06.1	+3.4
CAYA	**Cayambe**	**3.33**	**70**	⇓P	Pn	04 25 06.2	+3.1

*ATH **29** 04:38:49.0, 38.96N×21.85E, h13km±2km, MD3.1/3*
*THE **29** 04:38:51.8, 39.09N×21.92E, h7km, ML2.7*
*CSEM **29** 04:38:51.8, 39.09N×21.92E, h7km, ML2.7, After THE*

ISC 29 04:38:49.0±0.6, 39.01N±0.04×21.83E±0.06, h8km±7km, n14, σ0°83/18, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.10**	**191**	*e*PG	**Pg**	**04 38 51.4**	**0.0**
EVR				*e*SG	**Sg**	**04 38 53.3**	**+0.4**
AGG	**Agios Georgios**	**0.39**	**88**	*e*Pg	**Pg**	**04 38 57.6**	**+0.8**
AGG				*e*Sg	**Sg**	**04 39 03.4**	**+1.3**
LKR	**Lokris**	**0.98**	**111**	*e*PG	**Pg**	**04 39 06.6**	**-2.0**
RLS	**Riolos of Patr**	**0.99**	**197**	*e*PB	**Pb**	**04 39 07.2**	**-0.8**
JAN	**Janina**	**1.00**	**311**	*e*PB	**Pb**	**04 39 08.7**	**+0.6**
XOR	**Xorichti**	**1.11**	**71**	*e*Pg	**Pg**	**04 39 11.1**	**-0.2**
XOR				*e*Sg	**Sg**	**04 39 25.8**	**-0.4**
NEO	**Neokhori**	**1.12**	**74**	*e*PB	**Pb**	**04 39 10.9**	**+0.7**
LIT	**Litokhoron**	**1.20**	**25**	*e*Pg	**Pg**	**04 39 12.5**	**-0.6**
LIT				*e*Sg	**Sg**	**04 39 28.4**	**-0.6**
KZN	**Kozani**	**1.30**	**358**	*e*PB	**Pb**	**04 39 14.4**	**+1.2**
FNA	**Florina**	**1.81**	**349**	*e*Pb	**Pb**	**04 39 22.0**	**+0.1**
GRG	**Griva**	**1.99**	**12**	*e*Pb	**Pb**	**04 39 23.7**	**-1.4**
SOH	**Sokhos**	**2.15**	**32**	*e*Pn	**Pn**	**04 39 26.1**	**+0.5**
SOH	**Sokhos**	**2.15**	**32**	*e*Pn	**Pn**	**04 39 26.1**	**+0.4**
KNT	**Kendrikon**	**2.30**	**20**	*e*Pn	**Pn**	**04 39 27.9**	**+0.1**

*IDC **29** 04:44:29.8±1.7, 49.00S×125.21E, mb4.0/5, mb1 4.2/6, mb1mx4.1/12, mbtmp4.1/6, ML2.5/1, MS3.9/4, Ms1 3.9/4, ms1mx3.3/20, Error ellipse: s-maj=61.3km s-min=23.5km az=93.0*

*NEIC **29** 04:44:31.6±1.1, 49.03S×125.51E, h10km, mb4.0/1, Error ellipse: s-maj=22.4km s-min=16.3km az=70.0*

ISC 29 04:44:29.6±1.2, 49.0S±0.1×125.5E±0.2, h10km, n12, σ0°77/10, mb3.8/4, MS3.8/4, 1D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**16.31**	**76**	P	**P**	**04 48 19.7**	**-0.4**
NWAO	**Narrogin (SRO)**	**17.25**	**336**	P	**P**	**04 48 32.3**	**+0.2**
	0.8nm,0.3s,baz=163,slow=11,SNR=8.5						
STKA	**Stephens Creek**	**20.97**	**41**	⇓*iP*	**P**	**04 49 17.3**	**+2.1**
	6.3nm,0.8s						
STKA	**Stephens Creek**	**20.97**	**41**	P	**P**	**04 49 16.9**	**+1.7**
	4.2nm,0.8s,baz=194,slow=9.6,SNR=14						
STKA				LR	LR	04 55 51.7	
	comp=Z,164nm,18.5s,MS3.4,baz=208,slow=32						
ASPA	**Alice Springs**	**26.16**	**18**	*eP*	**P**	**04 50 05.8**	**0.0**
ASAR	**Alice Springs**	**26.16**	**18**	P	**P**	**04 50 05.5**	**-0.3**
	2.9nm,0.7s,mb3.9,baz=193,slow=8.8,SNR=29						
ASAR				LR	LR	04 59 26.0	
	comp=Z,173nm,18.7s,MS3.6,baz=190,slow=34						
WRA	**Warramunga Arr**	**29.87**	**17**	P	**P**	**04 50 38.4**	**-1.0**
	0.6nm,0.8s,mb3.4,baz=196,slow=7.5,SNR=5.0						
VNDA	**Vanda**	**31.76**	**166**	P	**P**	**04 50 55.7**	**+0.1**
	2.2nm,0.9s,mb4.0,baz=338,slow=5.1,SNR=3.9						
VNDA	**Vanda**	**31.76**	**166**	P	**P**	**04 50 55.7**	**+0.1**
CTA	**Charters Tower**	**33.32**	**37**	P	**P**	**04 51 09.4**	**-0.2**
	0.5nm,0.4s,mb3.8,baz=267,slow=9.2,SNR=3.2						
CTA				LR	LR	05 03 55.3	
	comp=Z,134nm,18.5s,MS3.7,baz=226,slow=35						
URZ	**Urewera**	**38.16**	**93**	LR	LR	05 04 01.9	
	comp=Z,682nm,18.7s,MS4.5,baz=140,slow=30						
YKA	**Yellowknife Ar**	**144.98**	**45**	PKPbc	PKPbc	05 04 07.4	+1.5
	0.7nm,0.8s,baz=269,slow=3.4,SNR=12						

*IDC **29** 04:46:39.5±1.4, 7.94N×93.80E, mb3.8/6, mb1 4.0/7, mb1mx3.8/17, mbtmp3.8/7, ML4.2/1, Error ellipse: s-maj=44.0km s-min=29.4km az=55.0*

*NEIC **29** 04:46:43.4±0.8, 7.91N×93.83E, h30km, mb4.0/2, Error ellipse: s-maj=23.0km s-min=14.7km az=62.0*

ISC 29 04:46:41.6±0.9, 8.0N±0.1×93.9E±0.2, h30km, n11, σ0°92/11, mb3.8/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.54**	**25**	Pn	**P**	**04 49 27.6**	**+0.1**
	0.5nm,0.3s,baz=210,slow=15,SNR=10.0						
SONM	**Songino Array**	**41.14**	**13**	P	**P**	**04 54 25.0**	**+0.3**
	0.3nm,0.4s,mb3.2,baz=198,slow=7.8,SNR=3.5						
ULN	**Ulaanbaatar**	**41.31**	**13**	*eP*	**P**	**04 54 30.2**	**+4.1**
KURK	**Kurchatov**	**44.47**	**346**	*eP*	**P**	**04 54 51.1**	**-0.8**
	1.5nm,0.7s,mb3.8						
ZAL	**Zalesovo**	**46.43**	**353**	P	**P**	**04 55 07.6**	**+0.2**
	1.1nm,0.5s,mb4.1,baz=302,slow=7.7,SNR=5.2						
WRAB	**Tennant Creek**	**48.52**	**125**	P	**P**	**04 55 23.2**	**-1.0**
CHKZ	**Chkalovo**	**49.31**	**342**	*eP*	**P**	**04 55 28.9**	**-1.0**
	1.5nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**50.16**	**130**	P	**P**	**04 55 37.5**	**+0.7**
	0.7nm,0.8s,mb3.7,baz=312,slow=7.6,SNR=4.5						
BRTR	**Keskin Array B**	**62.18**	**311**	P	**P**	**04 57 01.9**	**-0.9**
	0.3nm,0.4s,mb3.7,baz=119,slow=15,SNR=2.5						
FINES	**FINESS Array B**	**72.52**	**332**	P	**P**	**04 58 07.9**	**+0.5**
	1.9nm,0.7s,mb4.1,baz=108,slow=6.0,SNR=7.2						
GERES	**GERESS Array B**	**77.60**	**318**	P	**P**	**04 58 38.6**	**+2.0**
	0.9nm,0.8s,mb3.7,baz=90,slow=4.0,SNR=5.5						

*IDC **29** 04:49:54.8±0.8, 7.59N×93.86E, mb3.9/12, mb1 4.1/13, mb1mx4.0/17, mbtmp3.9/13, ML4.5/1, Error ellipse: s-maj=34.7km s-min=18.7km az=51.0*

*NEIC **29** 04:49:59.5±0.4, 7.64N×93.87E, h30km, mb4.5/5, Error ellipse: s-maj=16.0km s-min=9.5km az=58.0*

ISC 29 04:49:54.5±0.6, 7.6N±0.1×93.9E±0.1, h10km, n32, σ0°66/28, mb4.3/22, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.85**	**24**	Pn	**P**	**04 52 47.0**	**+0.3**
	0.8nm,0.3s,baz=210,slow=14,SNR=11						
JIRN	**Jiri**	**21.21**	**341**	*eP*	**P**	**04 54 43.1**	**+0.3**
	18nm,0.6s,mb4.6						
PKI	**Pulchoki**	**21.40**	**339**	*eP*	**P**	**04 54 45.3**	**+0.6**
DMN	**Daman**	**21.54**	**338**	*eP*	**P**	**04 54 46.8**	**+0.7**
	26nm,0.8s,mb4.7						
GUN	**Gumba**	**21.55**	**340**	*eP*	**P**	**04 54 46.1**	**-0.1**
	21nm,0.6s,mb4.8						
KKN	**Kakani**	**21.64**	**339**	*eP*	**P**	**04 54 46.8**	**-0.3**
GKN	**Gorkha**	**22.07**	**338**	*eP*	**P**	**04 54 51.2**	**-0.2**
	23nm,0.6s,mb4.8						
KOLN	**Koldanda**	**22.27**	**335**	*eP*	**P**	**04 54 52.7**	**-0.7**
	11nm,0.6s,mb4.5						
SONM	**Songino Array**	**41.46**	**13**	P	**P**	**04 57 43.4**	**+0.2**
	2.4nm,1.0s,mb3.8,baz=196,slow=7.9,SNR=14						
KURK	**Kurchatov**	**44.79**	**346**	*eP*	**P**	**04 58 09.1**	**-1.0**
	4.6nm,0.8s,mb4.4						
ZAL	**Zalesovo**	**46.76**	**353**	P	**P**	**04 58 25.8**	**+0.1**
	4.2nm,0.5s,mb4.6,baz=290,slow=9.4,SNR=19						
WRA	**Warramunga Arr**	**48.34**	**125**	P	**P**	**04 58 38.2**	**-0.5**
	0.5nm,0.4s,mb3.9,baz=305,slow=8.5,SNR=7.0						
WRAB	**Tennant Creek**	**48.34**	**125**	*eP*	**P**	**04 58 39.3**	**+0.7**
	8.1nm,1.1s,mb4.7						
BVAR	**Borovoye Array**	**49.14**	**341**	P	**P**	**04 58 43.9**	**-0.4**
	0.6nm,0.5s,mb3.9,baz=129,slow=9.5,SNR=5.9						
BRVK	**Borovoye**	**49.20**	**341**	P	**P**	**04 58 44.1**	**-0.7**
CHKZ	**Chkalovo**	**49.62**	**342**	*eP*	**P**	**04 58 47.6**	**-0.5**
	4.1nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**49.97**	**130**	P	**P**	**04 58 50.2**	**-0.9**
	0.4nm,0.8s,mb3.5,baz=297,slow=8.1,SNR=3.7						
BRTR	**Keskin Array B**	**62.38**	**311**	P	**P**	**05 00 19.8**	**-0.2**
	0.5nm,0.5s,mb3.9,baz=124,slow=6.8,SNR=4.2						
AKASG	**Malin Array Be**	**68.18**	**322**	P	**P**	**05 00 56.1**	**-1.1**
	0.5nm,0.4s,mb3.9,baz=86,slow=6.1,SNR=4.8						
JOF	**Joensuu**	**70.95**	**335**	*ep*	pP	05 01 24.5	+7.4
	2.1nm,0.5s						
FINES	**FINESS Array B**	**72.80**	**332**	P	**P**	**05 01 25.4**	**+0.4**
	1.0nm,0.4s,mb4.1,baz=93,slow=6.0,SNR=20						
KAF	**Kangasniemi**	**72.89**	**333**	*ep*	**P**	**05 01 24.9**	**-0.6**
	4.4nm,0.9s,mb4.4						
ARCES	**ARCESS Array B**	**75.41**	**340**	P	**P**	**05 01 40.6**	**+0.7**
	3.2nm,0.8s,mb4.3,baz=90,slow=4.5,SNR=8.2						
GERES	**GERESS Array B**	**77.83**	**318**	P	**P**	**05 01 55.6**	**+1.8**
	0.7nm,0.7s,mb3.7,baz=104,slow=5.5,SNR=7.5						
NB2	**NORSAR Subarra**	**79.81**	**331**	P	**P**	**05 02 04.6**	**+0.2**
	1.4nm,0.6s,mb4.1,baz=93,slow=5.6						
NOA	**NORSAR Array B**	**79.81**	**331**	P	**P**	**05 02 04.7**	**+0.3**
	2.4nm,0.9s,mb4.1,baz=94,slow=5.0,SNR=4.8						
NOA	**NORSAR Array B**	**79.81**	**331**	P	**P**	**05 02 04.7**	**+0.3**
ILAR	**Eielson Array**	**95.08**	**22**	P	**P**	**05 03 19.3**	**+0.6**
	0.4nm,0.9s,mb3.9,baz=306,slow=5.0,SNR=8.9						
DBIC	**Dimbokro**	**97.71**	**278**	P	**P**	**05 03 32.5**	**+0.7**
	5.0nm,1.0s,mb5.0,baz=119,slow=7.5,SNR=3.6						
NVAR	**Mina Array Bea**	**125.27**	**31**	PKP	PKPdf	05 09 00.0	+0.8
	0.3nm,0.4s,baz=255,slow=3.1,SNR=3.7						
PDAR	**Pinedale Array**	**125.50**	**21**	PKP	PKPdf	05 08 59.1	-0.4
	0.4nm,0.8s,baz=346,slow=3.7,SNR=3.1						
TXAR	**Lajitas Array**	**139.56**	**24**	PKP	PKPdf	05 09 25.4	-0.8
	0.2nm,0.5s,baz=279,slow=0.1,SNR=6.3						
TXAR				PKiKP		05 09 28.1	
	0.2nm,0.5s,baz=241,slow=0.3,SNR=6.1						

IDC 29 04:58:36.0±2.9, 7.82N×93.87E, mb3.6/3, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=95.8km s-min=29.1km az=71.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.67**	**24**	Pn	P	05 01 25.0	-1.9
	0.2nm,0.3s,baz=206,slow=14,SNR=5.2						
SONM	**Songino Array**	**41.28**	**13**	P	P	05 06 22.5	-2.1
	1.0nm,1.2s,baz=211,slow=7.2,SNR=3.5						
ZAL	**Zalesovo**	**46.57**	**353**	P	P	05 07 05.3	-1.9
	0.9nm,0.5s,baz=281,slow=7.1,SNR=5.5						
ASAR	**Alice Springs**	**50.08**	**130**	P	P	05 07 33.1	-1.9
	0.5nm,0.8s,baz=307,slow=9.0,SNR=4.9						

*IDC **29** 05:04:15.7±0.6, 8.03N×94.48E, mb4.2/14, mb1 4.4/15, mb1mx4.3/20, mbtmp4.2/15, ML4.3/1, MS3.8/1, Ms1 4.0/1, ms1mx2.8/27, Error ellipse: s-maj=28.7km s-min=15.5km az=55.0*

*BJI **29** 05:04:20.7, 7.85N×93.87E, h56km, mB4.7, mb4.6, Ms4.6, Msz4.2*

*NEIC **29** 05:04:21.7±1.7, 8.02N×94.41E, h36km±14km, mb4.7/20, Error ellipse: s-maj=12.6km s-min=11.0km az=82.0*

ISC 29 05:04:19.8±0.5, 8.02N±0.06×94.39E±0.07, h33km, n66, σ1°43/59, mb4.6/38, MS4.5/2, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.28**	**23**	P	**P**	**05 07 01.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**11.28**	**23**	Pn	**P**	**05 07 04.8**	**+2.9**
	0.6nm,0.3s,baz=211,slow=14,SNR=35						
CMAR				LR	LR	05 11 41.6	
	comp=Z,411nm,18.9s,baz=210,slow=40						
PALK	**Pallekele**	**13.59**	**268**	*eP*	**P**	**05 07 32.3**	**-0.5**
	13nm,0.9s						
VIS	**Vishakhapatnam**	**14.46**	**313**	*eP*	**P**	**05 07 39.9**	**-4.3**
VIS				*e*		05 07 41.4	
	comp=Z,36nm,0.8s						
VIS				*e*		05 10 09.1	
IMP	**Imphal**	**16.68**	**359**	*eP*	**P**	**05 08 14.3**	**+1.7**
HYB	**Hyderabad**	**18.04**	**303**	*eP*	**P**	**05 08 33.0**	**+3.3**
HYB	**Hyderabad**	**18.04**	**303**	*i P*	**P**	**05 08 33.0**	**+3.3**
HYB				*e*S	**S**	**05 11 52.0**	**+5.1**
KMI	**Kunming**	**18.79**	**24**	P	**P**	**05 08 44.5**	**+5.6**
	comp

AKASG	Malin Array Be	68.20	322	P	P	05 15 17.5	-1.4
	comp=Z,0.4nm,0.4s,mb3.8,baz=84,slow=5.5,SNR=4.6						
JOF	Joensuu	70.83	334	*ep*	P	05 15 38.4	+3.5
	comp=Z,3.9nm,0.7s,mb4.5						
FINES	FINESS Array B	72.70	332	P	P	05 15 44.5	-1.5
	comp=Z,3.9nm,0.7s,mb4.5,baz=111,slow=6.6,SNR=13						
KAF	Kangasniemi	72.78	333	*ep*	P	05 15 45.7	-0.8
	comp=Z,2.5nm,0.5s,mb4.4						
LBTB	Lobatse	74.53	241	*eP*	P	05 15 57.8	+0.4
	comp=Z,23nm,1.4s,mb4.9						
ARCES	ARCESS Array B	75.22	340	P	P	05 15 59.6	-0.9
	comp=Z,10.0nm,1.2s,mb4.6,baz=63,slow=2.7,SNR=3.9						
BOSA	Boshof	75.87	238	*eP*	P	05 16 06.0	+1.0
	comp=Z,4.6nm,0.8s,mb4.5						
GERES	GERESS Array B	77.89	318	P	P	05 16 14.7	-1.3
	comp=Z,1.6nm,0.8s,mb4.0,baz=90,slow=5.3,SNR=13						
NB2	NORSAR Subarra	79.73	331	P	P	05 16 25.5	-0.3
	comp=Z,2.4nm,0.7s,mb4.2,baz=93,slow=5.6						
NOA	NORSAR Array B	79.73	331	P	P	05 16 25.7	0.0
	comp=Z,1.4nm,0.7s,mb4.0,baz=95,slow=5.1,SNR=7.8						
SYO	Syowa Base	85.61	197	⇓pP	pP	05 17 02.4	-3.9
ESDC	Sonseca Array	91.32	310	P	P	05 17 25.8	+2.1
	comp=Z,0.6nm,0.5s,mb4.2,baz=57,slow=4.3,SNR=7.5						
IMA	Indian Mountai	91.40	22	*eP*	P	05 17 25.3	+1.9
	comp=Z,32nm,1.1s,mb5.6						
INK	Inuvik	96.79	16	P	P	05 17 50.5	+2.6
	comp=Z,5.2nm,1.2s,mb4.8						
RES	Resolute Bay	97.25	2	*eP*	P	05 17 53.5	+3.5
	comp=Z,3.9nm,1.1s,mb4.8						
YKA	Yellowknife Ar	106.23	14	PP	PP	05 22 55.4	-2.0
	comp=Z,0.2nm,0.8s,baz=326,slow=7.6,SNR=3.7						
MNV	Mina	124.74	31	*e*PKPdf	PKPdf	05 23 19.5	+2.8
PDAR	Pinedale Array	124.94	21	PKP	PKPdf	05 23 18.1	+1.1
	comp=Z,0.4nm,0.8s,baz=207,slow=3.3,SNR=3.4						
TXAR	Lajitas Array	139.00	24	PKP	PKPdf	05 23 45.6	+1.9
	comp=Z,0.6nm,1.0s,baz=225,slow=1.3,SNR=3.3						
JCT	Junction City	139.37	19	*e*PKPdf	PKPdf	05 23 48.1	+3.7
PLCA	Paso Flores	144.77	200	PKP	PKPdf	05 23 54.2	+0.6
	comp=Z,8.1nm,0.9s,baz=158,slow=5.9,SNR=6.4						
PLCA	Paso Flores	144.77	200	*e*PKPdf	PKPdf	05 23 54.6	+1.1
LPAZ	La Paz	161.05	243	PKP	PKPdf	05 24 21.1	+3.7
	comp=Z,1.6nm,1.0s,baz=188,slow=2.4,SNR=4.4						

IDC ***29*** *05:26:43.4±0.4, 8.05N×94.11E, mb4.6/25, mb1 4.8/26, mb1mx4.7/28, mbtmp4.6/26, ML4.5/1, MS4.8/11, Ms1 4.8/11, ms1mx4.3/29, Error ellipse: s-maj=23.4km s-min=10.6km az=47.0*

MOS ***29*** *05:26:47.1±1.8, 7.90N×94.12E, h33km, mb5.4/47, MS4.9/20, Error ellipse: s-maj=9.1km s-min=5.2km az=113.5*

BJI ***29*** *05:26:47.9, 7.98N×93.58E, h34km, mB5.4, mb4.9, Ms5.4, Msz5.1*

HRVD ***29*** *05:26:48.0±0.2, 7.82N×94.20E, h12km, MW5.2/61, Centroid moment Tensor Solution. LP body waves: s46,c73;Mantle waves: s61,c120; Half duration: 1ŝ0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.20±.02; $M_{\theta\theta}$-0.68±.02; $M_{\phi\phi}$0.88±.02; $M_{r\theta}$-0.25±.05; $M_{\theta\phi}$0.20±.02; $M_{\phi r}$-0.28±.05; Best double couple: M_0.891×10^{17} NP1: ϕ_s142°, δ64°, λ-175°. NP2:ϕ_s50°, δ85°, λ-26°. Principal axes: T .99, Plg15°, Azm99°; N -.199, Plg63°, Azm221°; P -.792, Plg22°, Azm3°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***29*** *05:26:48.0±0.2, 7.94N×94.16E, h30km, mb5.2/49, MS4.8/4 Error ellipse: s-maj=8.7km s-min=5.4km az=51.0*

ISC 29 05:26:44.3±0.2, 7.86N±0.03×94.11E±0.03, h16km, h16km±1.3km:pP-P, n297, σ1ŝ37/276, mb5.1/90, MS5.0/35, 14C-15D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	Nongplab	7.27	49	P	Pn	05 28 32.0	-0.5
NST	Nakhon Sawan	9.75	37	P	P	05 29 08.7	+1.6
CM31	Chiang Mai Arr	11.54	24	*eP*	P	05 29 33.2	+1.6
	22nm,0.7s						
CMAR	Chiang Mai Arr	11.54	24	P	P	05 29 33.5	+1.9
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,4μm,18.0s						
CMAR	Chiang Mai Arr	11.54	24	Pn	P	05 29 33.5	+1.9
	comp=Z,0.9nm,0.3s,baz=211,slow=14,SNR=59						
CMAR				LR	LR	05 34 09.1	
	comp=Z,4μm,18.0s,baz=210,slow=39						
CHG	Chiang Mai	11.86	23	⇓P	P	05 29 37.4	+1.4
	comp=Z,67nm,0.8s						
CHRT	Chiangrai	13.15	24	⇓P	P	05 29 56.5	+3.4
	comp=Z,203nm,1.4s						
PALK	Pailekele	13.30	268	*eP*	P	05 29 60.0	+4.8
	comp=Z,18nm,0.8s						
VIS	Vishakhapatnam	14.37	314	*eP*	P	05 30 10.2	+0.9
VIS				*e*		05 30 12.6	
	comp=Z,72nm,1.2s						
VIS				*e*		05 32 25.4	
MDRS	Chennai	14.58	292	*e*	S	05 32 49.0	-5.1
MDRS				*e*		05 33 52.0	
CAL	Calcutta	15.62	340	*e*	S	05 33 32.9	+14
AGT	Agartala	16.17	351	⇓*iP*	P	05 30 34.0	+1.3
AGT				*i*		05 31 21.0	
IMP	Imphal	16.83	359	*eP*	P	05 30 39.3	-1.8
TRD	Trivandrum	16.99	273	*e*	P	05 30 51.8	+8.7
TRD				*e*		05 31 00.1	
TRD				*e*		05 31 02.4	
	comp=Z,29nm,0.6s						
HYB	Hyderabad	17.89	304	*eP*	P	05 30 56.0	+1.7
HYB				*e*S	S	05 34 12.0	+1.1
HYB	Hyderabad	17.89	304	*i* P	P	05 30 56.0	+1.7
	comp=Z,114nm,1.2s						
HYB				*e*S	S	05 34 12.0	+1.1
BLSP	Bilaspur	18.29	322	*eP*	P	05 31 02.0	+2.7
QIZ	Qiongzhong	18.89	52	P	P	05 31 08.8	+2.2
QIZ				S	S	05 34 33.5	+0.1
QIZ				AMB	AMB		
	comp=Z,1μm,7.9s						
QIZ				LR	LR		
	comp=N,16μm,11.3s						
KMI	Kunming	19.05	25	P	P	05 31 12.4	+4.0
KMI				pmax	pmax		
	comp=Z,24nm,1.2s						
KMI	Kunming	19.05	25	P	P	05 31 12.4	+4.0
	comp=Z,24nm,1.2s						
KMI				pP		05 31 15.1	
KMI				PP	PP	05 31 30.6	+5.4
KMI				S	S	05 34 47.8	+11
KMI				sS		05 34 51.4	
KMI				SS	SS	05 35 18.3	+16
MNGI	Mangalore	19.62	287	*i* P	P	05 31 19.3	+4.2
MNGI				*e*S	S	05 34 54.9	+4.9
	comp=Z,120nm,1.7s						
NGP	Nagpur	19.65	314	*eP*	P	05 31 15.6	+0.2
NGP				*i*		05 31 18.6	
NGP				*e*		05 31 24.9	
NGP				*e*S	S	05 34 55.9	+5.4
GTK	Gangtok	20.06	346	*eP*	P	05 31 18.0	-1.8
COCO	West Island	20.10	172	P	P	05 31 21.3	+1.0
ALBI	Allahabad	20.95	327	*eP*	P	05 31 28.0	-1.1
JIRN	Jiri	21.08	340	*eP*	P	05 31 29.6	-0.7
GOA	Goa	21.25	293	*e*	S	05 35 36.1	+13
PKI	Pulchoki	21.27	338	*eP*	P	05 31 31.8	-0.5
	comp=Z,910nm,1.6s,mb5.8						
GUN	Gumba	21.41	340	*eP*	P	05 31 32.6	-1.1
DMN	Daman	21.42	338	*eP*	P	05 31 33.3	-0.5
	comp=Z,589nm,1.4s,mb5.7						
KKN	Kakani	21.52	338	*eP*	P	05 31 33.9	-0.9
	comp=Z,488nm,1.3s,mb5.8						
LSA	Lhasa	21.91	353	P	P	05 31 39.3	+0.6
LSA				S	S	05 35 36.5	+1.5
LSA				XS		05 35 51.5	
LSA				SCP		05 39 12.0	
LSA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
GKN	Gorkha	21.95	337	*eP*	P	05 31 38.3	-0.8
	comp=Z,146nm,0.7s,mb5.5						
BHPL	Bhopal	22.15	316	*eP*	P	05 31 43.4	+2.2
BHPL				*e*		05 31 52.1	
	comp=Z,91nm,0.7s						
KOLN	Koldanda	22.16	335	*eP*	P	05 31 41.1	-0.2
	comp=Z,750nm,1.4s,mb5.9						
POO	Poona	22.37	300	⇓*i*		05 31 50.0	
	comp=Z,143nm,1.5s						
POO				*i*		05 35 56.0	
BOM	Bombay	23.41	300	*eP*		05 31 51.1	
BOM				*e*		05 36 13.6	
NDI	New Delhi	26.13	325	*eP*	P	05 32 21.5	+1.9
NDI				*eS*	S	05 36 50.0	+1.8
DDI	Dehra Dun	26.94	328	*eP*	P	05 32 26.0	-1.0
DDI				*e*		05 37 15.3	
SNPH	Sibulan	28.84	85	⇑*eP*	P	05 32 48.0	+3.7
XAN	Xi'an	29.42	26	P	P	05 32 51.3	+1.9
XAN				AMB	AMB		
	comp=Z,24nm,1.4s,mb4.7						
TBP	Tagbilaran	29.46	84	*eP*	P	05 32 54.2	+4.2
WHN	Wuhan	29.47	37	P	P	05 32 52.0	+2.1
WHN				S	S	05 37 43.0	+0.9
WHN				LR	LR		
	comp=Z,8μm,13.0s,MS5.5						
LZH	Lanzhou	29.48	16	⇑P	P	05 32 50.5	+0.6
LZH				AP	pP	05 32 58.5	+3.8
LZH				XP	sP	05 33 02.5	+5.7
LZH				PP	PP	05 33 46.0	+0.3
LZH				S	S	05 37 39.0	-3.1
LZH				SS	SS	05 39 13.5	-1.4
LZH				AMB	AMB		
	comp=Z,59nm,1.7s,mb5.0						
LZH				AMB	AMB		
	comp=Z,230nm,5.3s						
LZH				LR	LR		
	comp=E,3μm,13.2s						
LZH				LR	LR		
	comp=Z,4μm,14.6s,MS5.2						
LZH	Lanzhou	29.48	16	⇑P	P	05 32 50.4	+0.5
LZH				*PP	pP	05 32 58.5	+3.8
LZH				*SP	sP	05 33 02.4	+5.6
LZH						05 33 46.0	
LZH				S	S	05 37 39.0	-3.1
LZH				*SS		05 37 53.0	
LZH				SS	SS	05 39 13.5	-1.4
LZH				pmax	pmax		
	comp=Z,59nm,1.7s,mb5.0						
LZH				MLR	MLR		
	comp=Z,4μm,14.6s,MS5.2						
LZH	Lanzhou	29.48	16	⇑P	P	05 32 50.4	+0.5
	comp=Z,59nm,1.7s,mb5.0						
LZH				pP	pP	05 32 58.5	+3.8
LZH				sP	sP	05 33 02.4	+5.6
LZH				PP	PP	05 33 46.0	+0.3
LZH				S	S	05 37 39.0	-3.1
LZH				sS		05 37 53.0	
LZH				SS	SS	05 39 13.5	-1.4
LZH				LR	LR		
	comp=Z,4μm,14.6s,MS5.2						
NJ2	Nanjing	33.31	40	*eP*	P	05 33 30.3	+6.7
NJ2				AP	pP	05 33 39.0	+11
NJ2				XP	sP	05 33 44.0	+13
NJ2				PP	PP	05 34 34.5	-0.7
NJ2				S	S	05 38 37.0	-5.2
NJ2				AMB	AMB		
	comp=Z,500nm,7.0s						
NJ2				LR	LR		
	comp=N,6μm,13.6s,MS5.6						
NJ2				LR	LR		
	comp=E,6μm,14.4s,MS5.6						
NJ2				LR	LR		
	comp=Z,6μm,13.3s,MS5.5						
SSE	Sheshan	34.26	44	P	P	05 33 29.6	-2.2
	comp=Z,48nm,0.7s,mb5.5						
SSE				sP	sP	05 33 40.4	+1.6
SSE				S	S	05 38 56.0	-1.0
SSE				sS		05 39 10.2	
SSE				SS	SS	05 41 25.4	+19
SSE				LR	LR		
	comp=Z,3μm,13.8s,MS5.1						
WMQ	Urumqi	36.26	352	*eP*	P	05 33 49.8	+1.1
WMQ				AP	pP	05 33 54.0	+0.4
WMQ				PP	PP	05 35 12.5	+0.7
WMQ				PCP	PcP	05 36 15.3	+1.2
WMQ				S	S	05 39 28.8	+1.0
WMQ				AMB	AMB		
	comp=Z,173nm,1.4s,mb5.8						
WMQ				AMB	AMB		
	comp=Z,860nm,5.5s						
WMQ				LR	LR		
	comp=N,2μm,18.2s,MS5.1						
WMQ				LR	LR		
	comp=E,2μm,18.3s,MS5.1						
WMQ				LR	LR		
	comp=Z,3μm,18.6s,MS5.2						
WBK	Wadi Bani Khal	36.81	297	P	pP	05 34 01.7	+3.2
	SNR=8.7						
JMDO	Jabal Madar	37.51	297	⇑P	pP	05 34 07.0	+2.7
BJI	Beijing	37.64	28	P	P	05 34 01.5	+1.2
BJI						05 35 33.1	
BJI				S	S	05 39 54.9	+6.0
BJI				SS	SS	05 42 48.9	+26
BJI				pmax	pmax		
	comp=Z,28nm,1.7s,mb4.7						
BJI				MLR	MLR		
	comp=Z,910nm,19.9s,MS4.6						
BJI	Beijing	37.64	28	P	P	05 34 01.5	+1.2
	comp=Z,28nm,1.7s,mb4.7						
BJI				PP	PP	05 35 33.1	+4.0
BJI				S	S	05 39 54.9	+6.0
BJI				SS	SS	05 42 48.9	+26
BJI				LR	LR		
	comp=Z,910nm,19.9s,MS4.6						
SMDO	Samad	37.76	298	⇑P	pP	05 34 09.6	+3.2
BIDO	Bidbid	37.84	298	⇓P	pP	05 34 10.3	+3.3
BSY	Bisya	38.42	297	⇑P	pP	05 34 15.2	+3.2
HOQ	Hoqain	38.57	298	⇑P	pP	05 34 16.9	+3.7
AAK	Ala-Archa	38.71	337	P	P	05 34 09.8	+0.5
AAK				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.7						
AAK	Ala-Archa	38.71	337	*eP*	P	05 34 09.0	-0.3
	comp=Z,38nm,1.0s,mb5.1						
SHAO	Shalim	38.77	289	⇓P	pP	05 34 18.3	+3.4
FRU	Bishkek	38.83	337	*eP*	P	05 34 14.0	+3.7
ARQ	Araqi	39.18	297	⇓P	pP	05 34 21.9	+3.5
ASHO	Ashiyiah	39.99	299	⇓P	P	05 34 28.4	+8.3
RBK	Rabkut	40.02	288	⇑P	pP	05 34 28.6	+3.2
MKAR	Makanchi Array	40.10	347	*eP*	P	05 34 19.4	-1.4
MKAR				pmax	pmax		
	comp=Z,22nm,1.0s						
FITZ	Fitzroy Crossi	40.42	130	*eP*	P	05 34 23.9	+0.2
	comp=Z,24nm,0.9s,mb4.9						
SONM	Songino Array	41.19	13	P	P	05 34 28.8	-1.0
	comp=Z,6.1nm,0.8s,mb4.3,baz=194,slow=8.3,SNR=46						
SONM				PcP	PcP	05 36 28.0	-1.5
	comp=Z,2.0nm,0.6s,baz=232,slow=2.6,SNR=3.6						
SONM				ScP		05 40 19.4	
	comp=Z,1.8nm,1.0s,baz=179,slow=2.7,SNR=5.3						
ULN	Ulaanbaatar	41.36	13	*eP*	P	05 34 30.6	-0.5
ULN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
ULN	Ulaanbaatar	41.36	13	*eP*	P	05 34 30.6	-0.5
	comp=Z,7.1nm,0.7s,mb4.4						
SNY	Shenyang	42.70	33	PR		05 34 43.3	
SNY				S	S	05 41 09.8	+5.1
SNY				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.6						
SNY				AMB	AMB		
	comp=Z,230nm,7.5s						
SNY				LR	LR		
	comp=N,1μm,15.0s,MS5.2						
SNY				LR	LR		
	comp=E,2μm,14.3s,MS5.2						
SNY				LR	LR		
	comp=Z,2μm,16.1s,MS5.0						
ZAK	Zakamensk	43.07	9	*eP*	P	05 34 44.8	-0.3
ZAK				*e*		05 36 35.5	
MOY	Mondy	44.04	6	*eP*	P	05 34 57.3	+4.3
TLY	Talaya	44.39	8	P	P	05 34 56.8	+1.0
	comp=Z,54nm,1.4s,mb5.1,SNR=11						
TLY	Talaya	44.39	8	*eP*	P	05 34 56.0	+0.2
TLY				pmax	pmax		
	comp=Z,37nm,1.6s,mb4.9						
TLY	Talaya	44.39	8	*eP*	P	05 34 56.0	+0.2
	comp=Z,37nm,1.6s,mb4.9						
KURK	Kurchatov	44.62	346	*i* P	P	05 34 56.7	-1.0
KURK				pmax	pmax		
	comp=Z,39nm,1.7s,mb5.0						
KURK	Kurchatov	44.62	346	*eP*	P	05 34 56.3	-1.4
	comp=Z,148nm,1.3s,mb5.7						
MUN	Mundaring	44.88	153	*eP*	P	05 35 00.2	+0.1
	comp=Z,30nm,0.9s,mb5.1						
MUN	Mundaring	44.88	153	*eP*	P	05 35 00.2	+0.1
MUN				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.1						
KLBR	Kellerberrin	45.27	151	*eP*	P	05 35 04.0	+0.8
	comp=Z,556nm,1.2s						
NWAO	Narrogin (SRO)	46.15	153	*eP*	P	05 35 09.3	-0.7
NWAO				pmax	pmax		
	comp=Z,57nm,1.1s						
NWAO	Narrogin (SRO)	46.15	153	P	P	05 35 11.2	+1.1
	comp=Z,24nm,0.7s,mb5.2,baz=316,slow=8.7,SNR=12						
NWAO	Narrogin (SRO)	46.15	153	*eP*	P	05 35 09.2	-0.8
	comp=Z,57nm,1.1s,mb5.4						
ZAL	Zalesovo	46.56	352	P	P	05 35 12.1	-0.9
	comp=Z,13nm,0.7s,mb5.0,baz=303,slow=5.0,SNR=80						
NVS	Novosibirsk	47.66	352	*i* P	P	05 35 19.8	-1.9
NVS				*eS*	S	05 42 10.7	-5.0
NVS				pmax	pmax		
	comp=Z,76nm,1.1s,mb5.6						
NVS				pmax	pmax		
	comp=N,58nm,1.2s						
NVS				pmax	pmax		
	comp=E,31nm,1.1s						
NVS				smax			
	comp=N,34nm,2.4s						
NVS				smax			
	comp=E,40nm,2.0s						
MDJ	Mudanjiang	47.84	34	P	P	05 35 24.5	+1.2
MDJ				AMB	AMB		
	comp=Z,15nm,1.8s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,229nm,4.7s						
MDJ				LR	LR		
	comp=N,360nm,11.2s,MS5.2						
MDJ				LR	LR		
	comp=E,2μm,15.0s,MS5.2						
MDJ				LR	LR		
	comp=Z,1μm,13.1s,MS5.1						
WRA	Warramunga Arr	48.28	126	P	P	05 35 27.2	+0.2
	comp=Z,3.0nm,0.5s,mb4.6,baz=304,slow=8.7,SNR=30						
WRA				PcP	PcP	05 36 54.6	+0.4
	comp=Z,5.2nm,0.8s,baz=315,slow=2.8,SNR=6.6						
WRAB	Tennant Creek	48.28	125	*i* P	P	05 35 26.5	-0.5
WRAB	Tennant Creek	48.28	125	*eP*	P	05 35 26.1	-0.9
	comp=Z,61nm,1.1s,mb5.5						
WB2	Warramunga Arr	48.29	125	*eP*	P	05 35 25.4	-1.6
WB2				*i*		05 36 58.8	
BVA0	Borovoye Array	49.00	341	*i* P	P	05 35 30.5	-1.6
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BVAR	Borovoye Array	49.00	341	P	P	05 35 30.1	-1.9
	comp=Z,2.1nm,0.6s,mb4.4,baz=149,slow=8.6,SNR=19						
BVAR				PcP	PcP	05 36 55.8	-0.6
	comp=Z,1.7nm,0.8s,baz=243,slow=3.2,SNR=2.9						
BVAR				ScP		05 40 50.8	
	comp=Z,2.3nm,1.0s,baz=135,slow=4.2,SNR=4.7						
RAYN	Ar Rayn	49.06	294	P	P	05 35 33.4	+0.4
	comp=Z,503nm,1.4s,SNR=53						
JHJ	Hachijo jima 2	49.10	53	LR	LR	05 55 53.7	
	comp=Z,968nm,19.2s,MS4.8,baz=87,slow=36						
MAJO	Matsushiro	49.20	48	*eP*	P	05 35 34.1	+0.2
MAT	Matsushiro	49.20	48	*eP*	P	05 35 39.0	+5.1
MAT				*eS*	S	05 42 43.0	+5.4
MAT				pmax	pmax		
	comp=Z,35nm,1.4s,mb5.2						
MAT				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.9						
MAT	Matsushiro	49.20	48	*eP*	P	05 35 39.0	+5.1
	comp=Z,35nm,1.4s,mb5.2						
MAT				*eS*	S	05 42 43.0	+5.4
MAT				LR	LR		
	comp=Z,1μm,18.0s,MS4.9						
MAT	Matsushiro	49.20	48	P	P	05 35 37.5	+3.6
MAT				S	S	05 42 42.6	+5.0
CHKZ	Chkalovo	49.48	342	P	P	05 35 34.6	-1.2
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
CHKZ	Chkalovo	49.48	342	*eP*	P	05 35 34.2	-1.6
ASPA	Alice Springs	49.93	130	*eP*	P	05 35 37.7	-1.9
ASPA				*e*		05 37 03.4	
ASAR	Alice Springs	49.93	130	P	P	05 35 38.2	-1.4
	comp=Z,5.2nm,0.9s,mb4.6,baz=304,slow=7.4,SNR=17						
ASAR				PcP	PcP	05 37 01.2	+1.1
	comp=Z,9.0nm,0.8s,baz=309,slow=3.6,SNR=14						
ASAR				LR	LR	05 58 37.5	
	comp=Z,449nm,18.3s,MS4.5,baz=298,slow=38						
FORT	Forrest	50.34	141	*eP*	P	05 35 44.5	+1.8
	comp=Z,93nm,0.9s,mb5.8						
KLR	Kul'dur	51.92	31	*eP*	P	05 35 55.8	+1.4
KLR				MLR	MLR		
	comp=Z,2μm,13.5s,MS5.2						
BOD	Bodaibo	52.17	13	*eP*	P	05 35 54.9	-1.3
GNI	Garni	54.43	314	*eP*	P	05 36 12.7	-0.4
GNI				pmax	pmax		
	comp=Z,69nm,1.4s						
GNI	Garni	54.43	314	P	P	05 36 12.4	-0.7
	comp=Z,1.4nm,0.4s,mb4.3,baz=62,slow=15,SNR=2.6						
GNI	Garni	54.43	314	*eP*	P	05 36 12.7	-0.4
	comp=Z,69nm,1.4s,mb5.4						
CLNS	Chul'man	54.46	20	*eP*	P	05 36 13.1	0.0
CLNS				pmax	pmax		
	comp=Z,147nm,1.5s,mb5.7						
CLNS				pmax	pmax		
	comp=N,65nm,1.3s						
CLNS				pmax	pmax		
	comp=E,64nm,1.4s						
CLNS				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.3						
CLNS				MLR	MLR		
	comp=N,1μm,13.0s,MS5.2						
CLNS				MLR	MLR		
	comp=E,400nm,13.0s,MS5.2						
TI2	Plekhanov	55.04	316	*i* P	P	05 36 21.8	+4.2
SVE	Sverdlovsk	55.41	338	*eP*	P	05 36 16.7	-3.3
SVE				pmax	pmax		
	comp=Z,120nm,2.0s,mb5.6						
SVE				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.9						
PMG	Port Moresby	55.56	107	P	P	05 36 22.9	+1.2
	comp=Z,52nm,1.0s,mb5.5,baz=278,slow=5.6,SNR=11						
PMG	Port Moresby	55.56	107	*eP*	P	05 36 23.4	+1.7
ARU	Arti	55.89	337	P	P	05 36 22.0	-1.5
	comp=Z,180nm,1.3s,mb5.9,SNR=16						
ARU	Arti	55.89	337	⇑*iP*	P	05 36 20.1	-3.4
ARU				*e*		05 37 14.8	
ARU				*e*		05 38 25.4	
ARU				*e*PPP	PPP	05 39 39.9	-5.1
ARU				*eS*	S	05 44 06.4	-2.2
ARU				*e*		05 46 09.3	
ARU				*e*SSS	SSS	05 50 05.9	+4.9
ARU				pmax	pmax		
	comp=Z,42nm,1.2s,mb5.3						
ARU				MLR	MLR		
	comp=Z,1μm,21.0s,MS4.9						
ARU				MLR	MLR		
	comp=N,800nm,19.0s,MS4.9						
ARU				MLR	MLR		
	comp=E,400nm,20.0s,MS4.9						
YSS	Yuzh-Sakhalins	56.82	38	*eP*	P	05 36 35.0	+4.7
YSS				*e*		05 36 42.2	
YSS				pmax	pmax		
	comp=Z,70nm,1.3s,mb5.5						
YSS				MLR	MLR		
	comp=E,1μm,13.0s,MS5.2						
YSS				MLR	MLR		
	comp=Z,1μm,13.0s,MS5.1						
YSS				MLR	MLR		
	comp=N,900nm,14.0s,MS5.2						
YSS	Yuzh-Sakhalins	56.82	38

KMBO *e*pP pP 05 36 42.1 +2.2
GOF Gofitskoye 57.52 319 *e*P **P 05 36 39.0 +3.7**
ASF Jabal al Asfar 58.20 303 P **P 05 36 40.7 +0.5**
comp=Z,1.7nm,0.6s,mb4.3,baz=97,slow=10,SNR=3.0
ASF LR LR 06 04 55.2
comp=Z,452nm,19.6s,MS4.6,baz=95,slow=40
CTA Charters Tower 58.33 119 *e*P **P 05 36 41.9 +0.6**
comp=Z,9.9nm,1.1s,mb4.8
CTA Charters Tower 58.33 119 *e*P **P 05 36 41.9 +0.6**
CTA pmax pmax
comp=Z,10.0nm,1.1s
CTA Charters Tower 58.33 119 P **P 05 36 41.7 +0.5**
comp=Z,14nm,1.1s,mb4.9,baz=290,slow=8.0,SNR=11
CTA LR LR 06 02 35.7
comp=Z,804nm,21.5s,MS4.8,baz=23,slow=37
CTAO Charters Tower 58.33 119 *e*P **P 05 36 39.3 -2.0**
CTAO pmax pmax
comp=Z,22nm,1.2s,mb5.1
CTAO Charters Tower 58.33 119 *e*P **P 05 36 39.3 -2.0**
comp=Z,22nm,1.2s,mb5.1
MALT Malatya 58.45 310 *e*P **P 05 36 40.4 -1.5**
MALT pmax pmax
comp=Z,14nm,1.2s,mb4.9
MALT Malatya 58.45 310 *e*P **P 05 36 40.4 -1.5**
MALT *e*pP pP 05 36 45.1 -1.9
SOKR Solikamsk 58.80 339 ⇓*i*P **P 05 36 42.3 -1.8**
SOKR pmax pmax
comp=Z,70nm,1.2s,mb5.6
SOKR MLR MLR
comp=Z,1μm,21.0s,MS5.0
SOC Sochi 59.17 317 *e*P **P 05 36 41.2 -5.7**
SOC *e*S **S 05 44 46.6 -5.3**
SOC *e* 05 46 32.1
SOC *e*SS SS 05 48 44.1 -4.0
SOC pmax pmax
comp=Z,29nm,0.7s,mb5.4
SOC pmax pmax
comp=N,19nm,0.8s
SOC pmax pmax
comp=E,5.0nm,0.6s
EIL Elat 59.41 300 *e*P **P 05 36 48.6 0.0**
comp=E,26nm,1.1s,mb5.2
YAK Yakutsk 60.02 18 *e*P **P 05 36 50.9 -1.6**
YAK pmax pmax
comp=Z,195nm,1.2s,mb6.0
YAK Yakutsk 60.02 18 *e*P **P 05 36 50.9 -1.6**
comp=Z,194nm,1.2s,mb6.0
STKA Stephens Creek 60.12 134 *e*P **P 05 36 52.8 -0.7**
comp=Z,9.0nm,1.0s,mb4.8
STKA Stephens Creek 60.12 134 P **P 05 36 52.7 -0.9**
comp=Z,9.9nm,0.9s,mb4.8,baz=313,slow=7.1,SNR=13
STKA LR LR 06 07 56.3
comp=Z,945nm,18.3s,MS5.0,baz=297,slow=41
ANN Anapa 61.13 317 *e*P **P 05 36 52.9 -7.3**
ANN pmax pmax
comp=Z,48nm,1.2s,mb5.5
VRSR Storozhevoye 62.37 324 *e*P **P 05 37 06.1 -2.4**
VRSR pmax pmax
comp=N,7.0nm,0.9s
VRSR pmax pmax
comp=Z,30nm,0.9s,mb5.4
VRSR pmax pmax
comp=E,20nm,1.1s
VRSR MLR MLR
comp=Z,520nm,20.3s,MS4.7
VRSR MLR MLR
comp=N,420nm,18.2s,MS4.8
VRSR MLR MLR
comp=E,360nm,19.4s,MS4.8
BRTR Keskin Array B 62.42 311 P **P 05 37 05.9 -3.1**
comp=E,2.6nm,0.9s,mb4.4,baz=126,slow=7.9,SNR=13
VOR Voronezh 62.58 325 P **P 05 37 10.5 +0.6**
VOR *e* 05 37 18.0
VOR pmax pmax
comp=E,70nm,1.4s
VOR pmax pmax
comp=Z,90nm,1.4s,mb5.7
SIM Simferopol' 63.42 317 *e*P **P 05 37 20.0 +4.5**
SIM pmax pmax
comp=Z,19nm,0.9s,mb5.2
MBAR Mbarara 63.73 265 *e*P **P 05 37 21.2 +3.1**
MBAR pmax pmax
comp=Z,37nm,1.4s,mb5.2
MBAR Mbarara 63.73 265 *e*P **P 05 37 21.2 +3.1**
comp=Z,37nm,1.4s,mb5.2
MOS Moscow 65.08 329 *e*P **P 05 37 24.5 -1.7**
MOS *e* 05 37 55.4
MOS *e*S S 05 46 10.4 +4.2
MOS pmax pmax
comp=Z,200nm,1.6s,mb5.9
MOS pmax pmax
comp=Z,156nm,1.3s,mb5.9
MOS MLR MLR
comp=Z,800nm,18.0s,MS5.0
MOS MLR MLR
comp=N,1μm,19.8s
OBN Obninsk 65.38 328 *de*P **P 05 37 23.5 -4.6**
OBN *i* 05 37 33.9
OBN pmax pmax
comp=Z,112nm,1.3s,mb5.7
OBN Obninsk 65.38 328 *e*P **P 05 37 23.9 -4.2**
comp=Z,135nm,1.4s,mb5.8
MA2 Magadan 66.80 28 *e*P **P 05 37 36.3 -0.8**
MA2 *e*S S 05 46 25.0 -2.1
MA2 *e*PS PS 05 46 42.2 -10
MA2 pmax pmax
comp=Z,30nm,1.3s,mb5.2
MA2 MLR MLR
comp=Z,800nm,27.5s,MS4.8
MA2 Magadan 66.80 28 *e*P **P 05 37 36.4 -0.7**
comp=Z,70nm,1.3s,mb5.5
MA2 *e*pP pP 05 37 41.2 -1.0
TIXI Tiksi 67.26 11 *e*P **P 05 37 37.0 -2.8**
TIXI pmax pmax
comp=Z,144nm,1.4s,mb5.8
TIXI MLR MLR
comp=Z,585nm,11.0s,MS5.1
AKASG Malin Array Be 68.15 322 P **P 05 37 43.0 -2.7**
comp=Z,3.1nm,0.8s,mb4.4,baz=88,slow=5.0,SNR=10
IDI Anoyia 68.55 305 P **P 05 37 47.5 -1.0**
comp=Z,7.5nm,0.7s,mb4.7,baz=213,slow=14,SNR=7.9
PET Petropavlovsk 68.57 36 *e*P **P 05 37 40.0 -8.3**
PET *e* 05 46 46.4
PET MLR MLR
comp=Z,600nm,16.0s,MS4.9
SEY Seymchan 68.96 25 *e*P **P 05 37 49.8 -0.8**
SEY 05 38 13.9
SEY *e* 05 40 23.5
SEY *e*S S 05 46 48.2 -4.7
SEY 05 47 39.9
SEY *e*SSS SSS 05 54 23.2 +0.8
SEY pmax pmax
comp=E,60nm,1.3s
SEY pmax pmax
comp=Z,100nm,1.3s,mb5.6
SEY smax
comp=N,200nm,15.1s
SEY smax
comp=E,200nm,15.9s
MLR Muntele Rosu 69.16 316 P **P 05 37 51.3 -0.8**
comp=E,61nm,1.2s,mb5.4,baz=50,slow=3.4,SNR=7.3
LSZ Lusaka 69.23 250 *e*P **P 05 37 53.3 +0.3**
LSZ pmax pmax
comp=Z,19nm,1.3s,mb4.9
LSZ Lusaka 69.23 250 *e*P **P 05 37 53.2 +0.2**
comp=Z,19nm,1.3s,mb4.9
MNK Minsk 69.95 325 *e*P **P 05 37 56.0 -0.8**
JOF Joensuu 70.85 334 *e*p **P 05 38 00.5 -1.6**
ZAPS Zavoj/Pirot 71.19 313 ⇑*i*P **P 05 38 05.6 +1.0**
LVV L'vov 71.21 320 *e*P **P 05 38 07.6 +3.1**
LVV *e* 05 38 16.0
LVV *e*S S 05 47 26.6 +7.1
BOLS Boljevac 71.73 313 ⇓*i*P **P 05 38 04.8 -3.0**
APA Apatity 71.85 339 ⇑*i*P **P 05 38 12.9 +4.8**
APA pmax pmax
comp=Z,33nm,1.1s,mb5.2
APA MLR MLR
comp=Z,1μm,20.0s,MS5.2
KWP Kalwaria 72.02 320 *e*P **P 05 38 12.9 +3.5**
KWP *e* 05 38 14.8
KWP Kalwaria 72.02 320 *e*P **P 05 38 12.9 +3.6**
KWP *e* 05 38 14.8
KOLS Kolonicke sedl 72.20 319 *e*P **P 05 38 14.6 +4.2**
KOLS Kolonicke sedl 72.20 319 *e* **P 05 38 14.6 +4.2**
SUW Suwalki 72.50 324 *e*P **P 05 38 10.5 -1.6**
SUW *e* pP 05 38 15.5 -1.8
SUW Suwalki 72.50 324 *e*P **P 05 38 10.5 -1.6**
SUW *e* pP 05 38 15.5 -1.7
FINES FINESS Array B 72.71 332 P **P 05 38 11.7 -1.6**
comp=Z,11nm,0.8s,mb4.8,baz=98,slow=7.5,SNR=22
FINES LR LR 06 17 24.2
comp=Z,398nm,18.8s,MS4.7,baz=107,slow=42
CRVS Cervenica-Dubn 72.72 319 *e*P pP 05 38 20.6 +1.9
CRVS Cervenica-Dubn 72.72 319 *e*pP pP 05 38 20.6 +1.9
KAF Kangasniemi 72.79 333 *e*p **P 05 38 12.6 -1.1**
comp=Z,1.9nm,0.4s,mb4.4
KAF Kangasniemi 72.79 333 *e*P **P 05 38 12.6 -1.1**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
KECS Kecovo 73.31 318 *e*P **P 05 38 23.1 +6.1**
KECS Kecovo 73.31 318 *e* **P 05 38 23.1 +6.1**
NIE Niedzica 73.54 319 *e*P **P 05 38 22.8 +4.5**
PSZ Piszkesteto 73.63 318 *e*P **P 05 38 21.9 +3.0**
PSZ Piszkesteto 73.63 318 *e* **P 05 38 21.9 +3.0**
OJC Ojcow 73.97 320 *e*P **P 05 38 19.9 -0.9**
LBTB Lobatse 74.20 241 *e*P **P 05 38 23.4 +0.7**
LBTB pmax pmax
comp=Z,14nm,0.8s,mb4.9
LBTB Lobatse 74.20 241 *e*P **P 05 38 23.4 +0.7**
comp=Z,14nm,0.8s,mb5.0
LBTB *e*pP pP 05 38 27.8 0.0
VYHS Vyhne 74.40 318 *e*P **P 05 38 26.5 +3.2**
OKC Ostrava-Krasne 74.98 319 *e*P **P 05 38 26.4 -0.3**
OKC *e*pP pP 05 38 31.0 -0.8
ARCES ARCESS Array B 75.27 340 P **P 05 38 26.9 -1.0**
comp=Z,4.0nm,0.8s,mb4.4,baz=91,slow=5.4,SNR=8.2
MORC Moravsky Berou 75.37 319 *e*P **P 05 38 27.5 -1.4**
MORC pmax pmax
comp=Z,36nm,1.3s,mb5.1
MORC Moravsky Berou 75.37 319 *e*P **P 05 38 27.5 -1.3**
comp=Z,36nm,1.3s,mb5.1
ZST Bratislava 75.53 318 *e*P **P 05 38 33.4 +3.6**
ZST Bratislava 75.53 318 *e* **P 05 38 33.4 +3.6**
BOSA Boshof 75.55 238 P **P 05 38 30.3 0.0**
BOSA pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
BOSA Boshof 75.55 238 P **P 05 38 30.3 0.0**
comp=Z,8.1nm,0.7s,mb4.8
DPC Dobruska-Polom 76.20 320 *e*P **P 05 38 33.1 -0.5**
KSP Ksiaz 76.26 320 *e*P **P 05 38 33.0 -0.9**
KSP *e*PP pP 05 38 38.1 -0.9
UPC Upice 76.41 320 *e*P **P 05 38 34.2 -0.5**
PRU Pruhonice 77.32 319 *e*P **P 05 38 40.0 +0.2**
PRU *e*pP pP 05 38 43.8 -1.2
PVCC Panska Ves 77.33 320 *e*P **P 05 38 39.4 -0.4**
PVCC *e*pP pP 05 38 45.3 +0.3
BSD Bornholm Skovb 77.42 325 *e*P **P 05 38 42.7 +2.5**
BSD pmax pmax
comp=Z,38nm,1.0s,mb5.3
BSD Bornholm Skovb 77.42 325 *e*P **P 05 38 42.7 +2.5**
comp=Z,38nm,1.0s,mb5.3
BSD Bornholm Skovb 77.42 325 *i*P **P 05 38 42.7 +2.5**
comp=Z,38nm,1.0s,mb5.3
BRG Berggiesshubel 77.75 320 *i*P **P 05 38 46.2 +4.1**
BRG *i* pP 05 38 52.2 +4.9
BRG pmax pmax
comp=Z,37nm,1.3s,mb5.2
BRG MLR MLR
comp=Z,470nm,13.7s,MS5.0
BRG Berggiesshubel 77.75 320 *i*P **P 05 38 46.2 +4.1**
comp=Z,37nm,1.3s,mb5.2
BRG *i* pP 05 38 52.2 +4.9
BRG LR LR
comp=Z,470nm,13.7s,MS5.0
GEC2 GERESS Array S 77.82 318 *e*P **P 05 38 42.6 0.0**
GEC2 pmax pmax
comp=Z,31nm,1.1s,mb5.2
GEC2 GERESS Array S 77.82 318 *e*P **P 05 38 42.6 0.0**
comp=Z,31nm,1.1s,mb5.2
GERES GERESS Array B 77.82 318 P **P 05 38 42.2 -0.4**
comp=Z,4.4nm,0.9s,mb4.4,baz=90,slow=4.0,SNR=24
KHC Kasperske Hory 77.91 319 *e*P **P 05 38 42.3 -0.8**
KHC *e*pP pP 05 38 48.1 -0.2
RUE Ruedersdorf 77.92 322 *e*P **P 05 38 43.0 0.0**
comp=Z,153nm,1.5s,mb5.7
PTCC Patocco-Chiusa 77.98 316 *e*P **P 05 38 46.3 +2.8**
CLL Collm 78.36 321 *e*P **P 05 38 45.0 -0.5**
CLL *i* pP 05 38 49.4 -1.3
CLL MLR MLR
comp=Z,500nm,21.5s,MS4.8
CLL Collm 78.36 321 P **P 05 38 45.0 -0.5**
CLL *i* *PP pP 05 38 49.4 -1.3
CLL *i* 05 38 54.9
CLL *e*PP PP 05 41 49.0 +4.3
WET Wettzell 78.37 319 *e*P **P 05 38 45.7 +0.1**
WET pmax pmax
comp=Z,18nm,1.1s,mb4.9
WET Wettzell 78.37 319 *e*P **P 05 38 45.7 +0.1**
comp=Z,18nm,1.1s,mb4.9
CTI Castel Tesino 79.16 315 *e*P **P 05 38 55.0 +5.0**
MOX Moxa 79.22 320 *e*P **P 05 38 54.2 +4.0**
MOX pmax pmax
comp=Z,35nm,1.6s,mb5.0
MOX MLR MLR
comp=Z,400nm,19.0s,MS4.8
MOX Moxa 79.22 320 *e*P **P 05 38 54.2 +4.0**
comp=Z,35nm,1.6s,mb5.0
MOX LR LR
comp=Z,400nm,19.0s,MS4.8
MOX Moxa 79.22 320 *i*P **P 05 38 54.2 +4.0**
comp=Z,logA/T=1.3,mb5.0
MOX L 06 20 06.0
FUR Furstenfeldbru 79.42 317 *e*P **P 05 38 50.9 -0.4**
GRA1 Grafenberg Arr 79.46 319 *e*P **P 05 38 52.0 +0.5**
comp=Z,43nm,1.2s,mb5.2
GRA1 *e*pP pP 05 38 56.2 -0.5
GRF Grafenberg Arr 79.46 319 *e*P **P 05 38 52.0 +0.5**
GRF *e*PP pP 05 38 56.2 -0.5
GRF pmax pmax
comp=Z,43nm,1.2s,mb5.2
GRF Grafenberg Arr 79.46 319 *e*P **P 05 38 52.0 +0.5**
GRF *e*PP pP 05 38 56.2 -0.5
GRF pmax pmax
comp=Z,43nm,1.2s,mb5.2
GRF Grafenberg Arr 79.46 319 *e*P **P 05 38 52.0 +0.5**
comp=Z,43nm,1.2s,mb5.2
GRF *e*pP pP 05 38 56.2 -0.5
NB2 NORSAR Subarra 79.73 331 P **P 05 38 51.1 -1.7**
comp=Z,32nm,1.1s,mb5.2,baz=92,slow=5.6
NB2 NORSAR Subarra 79.73 331 P **P 05 38 51.1 -1.7**
baz=92,slow=5.6
NOA NORSAR Array B 79.73 331 P **P 05 38 51.5 -1.2**
comp=Z,6.3nm,0.8s,mb4.6,baz=92,slow=5.6,SNR=13
NAO01 NORSAR Array S 79.88 330 P **P 05 38 50.2 -3.3**
GSCL Gusciola 79.93 314 *e*P **P 05 38 59.2 +5.1**
TSUM Tsumeb 79.99 249 P **P 05 38 58.9 +3.9**
CLZ Clausthal 80.00 321 *e*P **P 05 38 54.5 +0.1**
comp=Z,44nm,1.3s,mb5.2
SUR Sutherland 80.29 235 *e*P **P 05 38 57.4 +1.0**
DAVOX Davos 80.38 316 P **P 05 38 55.9 -0.6**
comp=Z,9.9nm,1.1s,mb4.6,baz=110,slow=8.4,SNR=5.7
MUD Monsted U'grnd 80.71 326 ⇓*i*P **P 05 39 01.4 +3.4**
MUD pmax pmax
comp=Z,41nm,1.0s,mb5.3
MUD Monsted U'grnd 80.71 326 ⇓*i*P **P 05 39 01.4 +3.4**
comp=Z,41nm,1.0s,mb5.3
SPAK Spaichingen 81.09 317 *e*P **P 05 39 04.8 +4.6**
VAI Varese 81.18 315 *e*P **P 05 39 04.1 +3.4**
TNS Taunus Mts 81.25 320 *e*P **P 05 39 01.2 +0.2**
BFO Black Forest 81.39 318 *e*P **P 05 39 02.6 +0.8**
BFO pmax pmax
comp=Z,16nm,1.2s,mb4.8
BFO Black Forest 81.39 318 *e*P **P 05 39 02.6 +0.8**
comp=Z,16nm,1.2s,mb4.8
FELD Feldberg 81.62 317 *e*P pP 05 39 09.2 +1.0
LANF Langenberg 81.71 318 *e*P **P 05 39 08.7 +5.3**
ABH Alteburg 81.84 319 *e*P **P 05 39 09.4 +5.3**
RUP Ruppelstein 82.16 319 *e*P **P 05 39 10.9 +5.1**
ECH Echery 82.17 318 *e*P **P 05 39 10.5 +4.6**
MOF Molkenrain 82.21 317 *e*P **P 05 39 10.7 +4.7**
LOMF Lomont 82.44 317 *e*P **P 05 39 10.5 +3.2**
LPG La Plagne 82.61 315 *e*P **P 05 39 08.4 +0.2**
comp=Z,72nm,1.2s,mb5.3
LPG La Plagne 82.61 315 *e*P **P 05 39 08.4 +0.2**
LPG pmax pmax
comp=Z,36nm,1.2s,mb5.3
BNI Bardonecchia 82.69 314 *e*P **P 05 39 10.5 +1.9**
BNI pmax pmax
comp=Z,39nm,1.2s,mb5.3
BNI Bardonecchia 82.69 314 *e*P **P 05 39 10.5 +1.9**
comp=Z,39nm,1.2s,mb5.3
PLDF La Plantade 84.75 316 *e*P pP 05 39 25.5 +1.1
AGO Saint Agoulin 85.08 316 *e*P pP 05 39 27.1 +1.1
SYO Syowa Base 85.38 197 ⇑P **P 05 39 18.3 -3.4**
SYO Syowa Base 85.38 197 ⇓P **P 05 39 24.2 +2.5**
SYO Syowa Base 85.38 197 ⇑PcP PcP 05 39 27.1 +1.8
RPZ Rata Peaks 86.06 135 LR LR 06 21 07.4
comp=Z,599nm,20.6s,MS5.0,baz=208,slow=38
TNA Tin City 86.20 24 *e*P **P 05 39 25.4 -0.4**
comp=Z,14nm,1.1s,mb5.1
ANM Nome 87.46 25 *e*P pP 05 39 38.7 +1.4
URZ Urewera 89.35 129 LR LR 06 19 09.2
comp=Z,432nm,19.6s,MS4.9,baz=298,slow=35
ESDC Sonseca Array 91.20 310 P **P 05 39 50.1 -0.2**
comp=Z,4.4nm,0.9s,mb4.8,baz=60,slow=3.9,SNR=4.5
IMA Indian Mountai 91.65 22 *e*P **P 05 39 52.4 +0.8**
IMA pmax pmax
comp=Z,155nm,1.2s,mb6.2
IMA Indian Mountai 91.65 22 *e*P **P 05 39 52.4 +0.8**
comp=Z,155nm,1.2s,mb6.2
SVW2 Sparrevohn 92.78 27 *e*P pP 05 40 03.2 +1.0
VNDA Vanda 92.92 168 P **P 05 39 56.9 -0.4**
VNDA Vanda 92.92 168 P **P 05 39 58.6 +1.3**
comp=Z,1.3nm,0.8s,mb4.4,baz=244,slow=4.2,SNR=2.6
SPU Mount Spurr 94.32 26 *e*P **P 05 40 01.9 -2.1**
MCK McKinley 94.49 23 P **P 05 40 05.1 +0.4**
MCK pmax pmax
comp=Z,16nm,1.4s,mb5.3
MCK McKinley 94.49 23 P **P 05 40 05.1 +0.4**
comp=Z,16nm,1.4s,mb5.2
ILAR Eielson Array 94.77 22 P **P 05 40 05.9 -0.1**
comp=Z,0.4nm,0.5s,mb4.1,baz=290,slow=4.6,SNR=7.1
ILAR PP PP 05 43 52.4 -4.6
comp=Z,0.7nm,0.7s,baz=301,slow=7.8,SNR=5.9
SML Sawmill 95.64 25 P **P 05 40 12.1 +2.1**
INK Inuvik 97.02 16 *e*P **P 05 40 15.6 -0.6**
INK pmax pmax
comp=Z,24nm,1.4s
INK Inuvik 97.02 16 P **P 05 40 16.5 +0.3**
comp=Z,15nm,1.2s,mb5.3,baz=307,slow=5.9,SNR=6.9
INK Inuvik 97.02 16 *e*P **P 05 40 15.6 -0.6**
comp=Z,24nm,1.4s,mb5.4
RES Resolute Bay 97.42 2 *e*P **P 05 40 18.4 +0.5**
RES pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
RES Resolute Bay 97.42 2 *e*P **P 05 40 18.4 +0.5**
comp=Z,9.0nm,1.0s,mb5.2
DAWY Dawson 97.89 21 P **P 05 40 19.8 -0.4**
DBIC Dimbokro 97.91 278 LR LR 06 24 26.7
comp=Z,804nm,18.9s,MS5.2,baz=164,slow=35
YKA Yellowknife Ar 106.45 13 PP PP 05 45 19.7 -6.5
comp=Z,0.5nm,0.8s,baz=333,slow=7.3,SNR=4.0
YKA PKKPbc 05 56 35.1
comp=Z,0.2nm,0.4s,baz=153,slow=3.1,SNR=8.2
YKA PKKPab 05 56 50.0
comp=Z,0.5nm,0.6s,baz=146,slow=3.8,SNR=9.1
CHMT Chamberlain Mo 120.29 21 PKPdf PKPdf 05 45 37.8 -1.0
SNOW Snow King Moun 124.16 22 *e*PKPdf PKPdf 05 45 42.7 -3.6
NVAR Mina Array Bea 124.95 31 PKP PKPdf 05 45 46.6 -1.5
comp=Z,2.4nm,0.8s,baz=49,slow=1.5,SNR=9.4
MNV Mina 125.03 31 PKIKP PKPdf 05 45 46.2 -2.0
PDAR Pinedale Array 125.20 21 PKP PKPdf 05 45 45.5 -2.9
comp=Z,2.8nm,0.7s,baz=136,slow=0.5,SNR=13
HWUT Hardware Ranch 125.44 24 *e*PKPdf PKPdf 05 45 45.9 -3.0
MSU Marysvale 127.78 26 *e*PKIKP PKPdf 05 45 52.6 -0.9
PV10 Paradox Valley 129.20 23 *e*PKPdf PKPdf 05 45 52.5 -3.8
ANMO Albuquerque 133.20 23 PKP PKPdf 05 46 02.1 -1.7
comp=Z,1.3nm,0.8s,baz=269,slow=3.0,SNR=5.7
TUC Tucson 133.53 29 PKIKP PKPdf 05 46 03.4 -1.1
GDL2 Guadalupe Moun 136.44 23 *e*PKPdf PKPdf 05 46 08.4 -1.5
LTX Lajitas 139.26 24 PKIKP PKPdf 05 46 13.1 -2.1
TXAR Lajitas Array 139.26 24 PKnKP 05 46 06.8
comp=Z,0.4nm,0.6s,baz=179,slow=1.1,SNR=6.4
TXAR PKiKP 05 46 14.6
comp=Z,1.3nm,0.7s,baz=261,slow=1.1,SNR=8.9
TXAR PP PP 05 49 07.3 -1.8
comp=Z,1.5nm,1.0s,baz=342,slow=4.0,SNR=7.1
TXAR Lajitas Array 139.26 24 PKPdf PKPdf 05 46 14.6 -0.5
TXAR PP PP 05 49 07.3 -1.8
JCT Junction City 139.62 19 *e*PKIKP PKPdf 05 46 12.4 -3.4
PLCA Paso Flores 144.52 200 *e*PKIKP PKPdf 05 46 20.7 -3.4
PLCA Paso Flores 144.52 200 PKP PKPdf 05 46 20.9 -3.2
comp=Z,5.0nm,0.8s,baz=155,slow=7.5,SNR=9.2
FCH Farellones 150.83 208 *e*P PKPdf 05 46 38.0 +3.3
LPAZ La Paz 160.73 243 *e*PKIKP PKPdf 05 46 48.3 +0.4
LPAZ La Paz 160.73 243 PKP PKPdf 05 46 48.8 +0.8
comp=Z,5.1nm,1.2s,baz=125,slow=3.1,SNR=8.6
OTAV Otavalo 169.06 317 PKPdf PKPdf 05 46 55.3 +0.1

IDC 29 05:42:56.8±3.2, 13.34N×92.11E, mb3.6/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=84.4km s-min=29.6km az=83.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.31**	**51**	Pn	P	05 44 58.2	-3.2
	0.5nm,0.3s,baz=239,slow=15,SNR=8.6						
SONM	**Songino Array**	**36.39**	**16**	P	P	05 50 02.5	-2.2
	0.4nm,0.6s,baz=198,slow=7.8,SNR=4.2						
WRA	**Warramunga Arr**	**53.11**	**128**	P	P	05 52 16.6	-2.1
	0.8nm,0.9s,baz=300,slow=9.7,SNR=12						
ASAR	**Alice Springs**	**54.98**	**132**	P	P	05 52 30.4	-2.1
	0.4nm,0.4s,baz=308,slow=6.7,SNR=15						

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*BJI **29** 05:44:11.6, 13.10N×92.93E, h31km, mB5.4, mb5.2, Ms5.1, Msz4.9*
*IDC **29** 05:44:11.1±1.9, 13.13N×93.09E, h10km±10km, mb5.2/28, mb1 5.2/29, mb1mx5.2/30, mbtmp5.2/29, ML5.0/1, MS4.8/8, Ms1 4.8/8, ms1mx4.2/31, Error ellipse: s-maj=15.6km s-min=10.3km az=49.0*
*MOS **29** 05:44:13.6±0.9, 13.26N×92.93E, h33km, mb5.8/92, MS4.8/20, Error ellipse: s-maj=7.3km s-min=3.8km az=123.6*
*HRVD **29** 05:44:13.9±0.3, 13.18N×93.07E, h21km, MW5.2/57, Centroid moment Tensor Solution. LP body waves: s34,c54; Mantle waves: s57,c95; Half duration: 1±0 Moment tensor: Scale 1016Nm; Mrr5.80±.30; Mθθ-0.91±.20; Mφφ-4.89±.21; Mrθ1.68±.37; Mφθ4.94±.15; Mφr3.79±.39; Best double couple: M=8.407×1016 NP1: φs118°, δ44°, λ44°. NP2: φs353°, δ61°, λ125°. Principal axes: T 8.224, Plg58°, Azm314°; N .37, Plg30°, Azm155°; P -8.59, Plg9°, Azm59°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 05:44:13.9±0.1, 13.10N×93.00E, h30km, mb5.5/130, MS4.8/11 Error ellipse: s-maj=4.1km s-min=3.1km az=209.0*
*CSEM **29** 05:44:16.0, 13.65N×92.77E, h33km, mb5.6*

ISC 29 05:44:11.2±0.2, 13.14N±0.03×93.03E±0.02, h23km, h23km±1.7km: pP-P, n596, σ1§00/585, mb5.5/187, MS4.9/35, 135C-23D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.50**	**191**	*e*P	**Pn**	**05 44 45.5**	**+8.4**
PBA				*e*S	**Sn**	**05 45 04.7**	**+8.4**
NNT	**Nongplab**	**6.56**	**94**	P	**Pn**	**05 45 50.5**	**+1.6**
NST	**Nakhon Sawan**	**7.32**	**69**	P	**Pn**	**05 46 02.0**	**+2.4**
CM31	**Chiang Mai Arr**	**7.76**	**46**	*e*P	**Pn**	**05 46 05.5**	**-0.2**
	488nm,1.1s						
CMAR	**Chiang Mai Arr**	**7.76**	**46**	Pn	**Pn**	**05 46 05.6**	**-0.2**
	5.8nm,0.3s,baz=238,slow=15,SNR=129						
CMAR				Sn	**Sn**	**05 47 31.2**	**-2.6**
	7.6nm,0.3s,baz=237,slow=27,SNR=5.4						
CMAR				ScP		05 56 15.8	
	0.3nm,0.3s,baz=243,slow=2.0,SNR=4.7						
CHG	**Chiang Mai**	**8.01**	**44**	⇑P	**Pn**	**05 46 08.8**	**-0.3**
	150nm,0.6s						
NANT	**Nan**	**9.27**	**52**	⇓P	**P**	**05 46 26.5**	**-0.2**
	175nm,1.0s						
BWNR	**Bhubaneshwar**	**9.92**	**317**	*e*P	**P**	**05 46 31.3**	**-4.5**
BWNR				*e*S	Sx	05 48 08.0	
BWNR				*e*S	**Sn**	**05 48 13.8**	**-14**
BWNR				*e*		05 48 18.5	
	comp=E,4μm,0.4s						
BWNR				*e*		05 48 19.3	
	comp=N,2μm,0.4s						
VIS	**Vishakhapatnam**	**10.40**	**297**	*e*P	**P**	**05 46 39.8**	**-2.6**

VIS				*e*S	**S**	**05 48 27.1**	**-12**
VIS				*e*		05 48 31.8	
	comp=N,1μm,0.6s						
VIS				*e*		05 48 33.0	
	comp=E,1μm,0.3s						
AGT	**Agartala**	**10.81**	**351**	⇑*i*P	**P**	**05 46 46.0**	**-2.0**
AGT				*i*		05 48 01.0	
IMP	**Imphal**	**11.61**	**4**	*e*P	**P**	**05 46 56.0**	**-2.8**
SHL	**Shillong**	**12.41**	**355**	*e*P	**P**	**05 47 04.4**	**-5.1**
SHL				*e*S	**S**	**05 49 12.4**	**-16**
MDRS	**Chennai**	**12.46**	**271**	*e*P	**P**	**05 47 06.8**	**-3.4**
MDRS				*e*S	**S**	**05 49 13.0**	**-16**
SHBG	**Sahibganj**	**13.03**	**338**	*e*P	**P**	**05 47 15.5**	**-2.3**
PALK	**Pallekele**	**13.46**	**246**	*e*P	**P**	**05 47 21.8**	**-1.7**
	comp=E,9.6nm,0.5s						
HYB	**Hyderabad**	**14.60**	**289**	*e*P	**P**	**05 47 35.0**	**-3.6**
HYB				*e*S	**S**	**05 50 12.0**	**-8.6**
HYB	**Hyderabad**	**14.60**	**289**	*i* P	**P**	**05 47 35.0**	**-3.6**
	comp=E,90nm,1.0s						
HYB				*e*S	**S**	**05 50 12.0**	**-8.6**
KMI	**Kunming**	**15.03**	**36**	P	**P**	**05 47 46.0**	**+1.9**
KMI				pmax	pmax		
	comp=Z,18nm,1.0s						
KMI	**Kunming**	**15.03**	**36**	P	**P**	**05 47 46.0**	**+1.9**
	comp=Z,18nm,1.0s						
KMI				sP		05 47 53.0	
KMI				PP	PP	05 47 57.0	+1.0
KMI				S	**S**	**05 50 41.8**	**+11**
KMI				SS	SS	05 50 59.0	+11
KOD	**Kodaikanal**	**15.52**	**261**	*e*P	**P**	**05 47 51.2**	**+0.7**
KOD				*e*		05 47 57.3	
	comp=Z,138nm,1.4s						
KOD				*e*		05 50 28.1	
KOD				*e*S	**S**	**05 50 42.8**	**+0.6**
JIRN	**Jiri**	**15.80**	**337**	*e*P	**P**	**05 47 49.6**	**-4.5**
	comp=Z,641nm,0.8s						
PKI	**Pulchoki**	**16.03**	**335**	*e*P	**P**	**05 47 52.3**	**-4.7**
	comp=Z,705nm,0.7s						
ALBI	**Allahabad**	**16.07**	**320**	*e*P	**P**	**05 47 56.5**	**-1.1**
GUN	**Gumba**	**16.14**	**337**	*e*P	**P**	**05 47 53.8**	**-4.7**
	comp=Z,616nm,0.7s						
DMN	**Daman**	**16.19**	**334**	*e*P	**P**	**05 47 54.9**	**-4.2**
	comp=Z,1μm,0.7s						
KKN	**Kakani**	**16.27**	**335**	*e*P	**P**	**05 47 55.1**	**-5.1**
	comp=Z,398nm,0.7s						
LSA	**Lhasa**	**16.57**	**354**	P	**P**	**05 48 00.8**	**-3.1**
LATR	**Latur**	**16.69**	**290**	*e*P	**P**	**05 48 04.0**	**-1.6**
LATR				*e*		05 50 55.7	
GKN	**Gorkha**	**16.73**	**333**	*e*P	**P**	**05 48 01.2**	**-4.8**
KOLN	**Koldanda**	**17.01**	**330**	*e*P	**P**	**05 48 04.3**	**-5.2**
	comp=Z,386nm,0.7s						
QIZ	**Qiongzhong**	**17.18**	**68**	P	**P**	**05 48 11.0**	**-0.6**
QIZ				*e*S	**S**	**05 51 21.0**	**+0.6**
QIZ				LR	LR		
	comp=N,4μm,16.8s						
QIZ				LR	LR		
	comp=Z,4μm,13.7s						
MNGI	**Mangalore**	**17.74**	**271**	*i* P	**P**	**05 48 19.3**	**+0.6**
BHPL	**Bhopal**	**17.89**	**306**	*e*P	**P**	**05 48 20.6**	**+0.1**
BHPL				*e*		05 48 25.2	
	comp=Z,453nm,2.0s						
JHNI	**Jhansi**	**18.34**	**314**	*e*P	**P**	**05 48 24.0**	**-2.2**
JHNI				*e*	**S**	**05 51 40.0**	**-7.0**
KAD	**Karad**	**18.65**	**285**	*e*P	**P**	**05 48 30.0**	**0.0**
KAD				*e*		05 48 34.1	
	comp=Z,247nm,1.5s						
KAD				*i*	**S**	**05 51 43.3**	**-11**
GOA	**Goa**	**18.76**	**279**	*e*	**P**	**05 48 43.7**	**+12**
	comp=Z,196nm,1.2s						
GOA				*e*	**S**	**05 52 12.6**	**+16**
POO	**Poona**	**19.21**	**289**	*e*P	**P**	**05 48 37.1**	**+0.5**
POO				*e*		05 48 39.7	
	comp=Z,288nm,0.9s						
POO				*e*		05 51 55.6	
POO				*e*S	**S**	**05 52 11.4**	**+4.7**
BOM	**Bombay**	**20.25**	**289**	*e*P	**P**	**05 48 48.7**	**+0.7**
BOM				*e*	**S**	**05 52 16.6**	**-12**
NDI	**New Delhi**	**21.35**	**319**	*e*P	**P**	**05 48 58.7**	**-0.5**
NDI				*e*		05 49 03.6	
	comp=Z,628nm,1.3s						
NDI				*e*S	**S**	**05 52 56.0**	**+5.9**
AJM	**Ajmer**	**21.76**	**310**	*e*P	**P**	**05 49 04.0**	**+0.6**
DDI	**Dehra Dun**	**22.00**	**323**	*i* P	**P**	**05 49 06.5**	**+0.8**
DDI				*e*	**S**	**05 53 04.9**	**+2.6**
SMLA	**Simla**	**23.11**	**323**	*e*P	**P**	**05 49 32.5**	**+16**
SMLA				*e*		05 49 35.9	
	comp=Z,1μm,1.9s						
SMLA				*e*S	S	05 53 45.1	+23
BHK	**Bhakra**	**23.76**	**323**	*e*P	**P**	**05 49 23.7**	**+0.7**
BHK				*e*	S	05 53 56.1	+22
LZH	**Lanzhou**	**24.83**	**21**	⇑P	**P**	**05 49 35.0**	**+1.6**
LZH				AP		05 49 41.0	
LZH				XP		05 49 45.0	
LZH				PP	PP	05 50 13.0	+2.6
LZH				S	**S**	**05 53 54.0**	**+2.1**
LZH				XS		05 54 04.0	
LZH				SS	SS	05 54 54.0	+4.0
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,112nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,16.6s						
LZH				LR	LR		
	comp=Z,2μm,17.3s,MS4.8						
LZH	**Lanzhou**	**24.83**	**21**	⇑P	**P**	**05 49 35.0**	**+1.6**
LZH				*SP		05 49 45.0	
LZH						05 50 13.0	
LZH				S	**S**	**05 53 54.0**	**+2.1**
LZH				SS	SS	05 54 54.0	+4.0
LZH				pmax	pmax		
	comp=Z,28nm,1.5s,mb4.6						
LZH				MLR	MLR		
	comp=Z,2μm,17.3s,MS4.8						
LZH	**Lanzhou**	**24.83**	**21**	⇑P	**P**	**05 49 35.0**	**+1.6**
	comp=Z,28nm,1.5s,mb4.6						
LZH				pP		05 49 41.0	
LZH				sP		05 49 45.0	
LZH				PP	PP	05 50 13.0	+2.6
LZH				S	**S**	**05 53 54.0**	**+2.1**
LZH				sS		05 54 04.0	
LZH				SS	SS	05 54 54.0	+4.0
LZH				LR	LR		
	comp=Z,2μm,17.3s,MS4.8						
XAN	**Xi'an**	**25.32**	**32**	P	**P**	**05 49 37.3**	**-0.8**
XAN				AP	pP	05 49 44.3	-0.3
XAN				AMB	AMB		
	comp=Z,175nm,0.9s,mb5.6						
COCO	**West Island**	**25.45**	**171**	P	**P**	**05 49 36.8**	**-2.6**
WHN	**Wuhan**	**26.21**	**45**	P	**P**	**05 49 49.0**	**+2.6**
WHN				S	**S**	**05 54 24.0**	**+9.0**
WHN				LR	LR		
	comp=Z,7μm,15.3s,MS5.3						
DGAR	**Diego Garcia**	**28.90**	**226**	P	**P**	**05 50 06.6**	**-4.3**
NJ2	**Nanjing**	**30.24**	**47**	*e*P	**P**	**05 50 23.5**	**+0.8**
NJ2				AP	pP	05 50 29.0	-0.4
NJ2				XP	sP	05 50 32.3	0.0
NJ2				PP	PP	05 51 22.0	+0.2
NJ2				S	**S**	**05 55 21.0**	**+1.2**
NJ2				XS		05 55 31.0	
NJ2				AMB	AMB		
	comp=Z,170nm,0.9s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,500nm,7.0s						
NJ2				LR	LR		
	comp=N,6μm,13.6s,MS5.5						
NJ2				LR	LR		
	comp=E,6μm,14.4s,MS5.5						
NJ2				LR	LR		
	comp=Z,6μm,13.3s,MS5.4						
WMQ	**Urumqi**	**30.91**	**352**	P	**P**	**05 50 29.8**	**+1.3**
WMQ				AP	pP	05 50 35.5	+0.3
WMQ				XP	sP	05 50 38.5	+0.4
WMQ				PP	PP	05 51 32.0	+1.6
WMQ				PCP	PcP	05 53 25.5	+0.6
WMQ				S	**S**	**05 55 32.5**	**+2.2**
WMQ				AMB	AMB		
	comp=Z,79nm,0.8s,mb5.6						
WMQ				AMB	AMB		
	comp=Z,693nm,5.4s						
WMQ				LR	LR		
	comp=N,5μm,16.2s,MS5.4						
WMQ				LR	LR		
	comp=E,5μm,17.3s,MS5.4						
WMQ				LR	LR		
	comp=Z,7μm,18.2s,MS5.4						
SSE	**Sheshan**	**31.47**	**51**	P	**P**	**05 50 33.0**	**-0.6**
SSE				XP	sP	05 50 41.8	-1.4
SSE				S	**S**	**05 55 40.5**	**+1.4**
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,600nm,11.9s						
SSE				LR	LR		
	comp=N,1μm,14.1s,MS5.0						
SSE				LR	LR		
	comp=E,2μm,14.2s,MS5.0						
SSE				LR	LR		
	comp=Z,3μm,13.8s,MS5.2						
SSE	**Sheshan**	**31.47**	**51**	P	**P**	**05 50 32.9**	**-0.7**
	comp=Z,37nm,0.7s,mb5.3						
SSE				sP	sP	05 50 41.7	-1.5
SSE				S	**S**	**05 55 40.4**	**+1.3**
SSE				sS		05 55 49.2	
SSE				LR	LR		
	comp=Z,3μm,13.8s,MS5.1						
TIA	**Tai'an**	**31.56**	**39**	⇓P	**P**	**05 50 34.0**	**-0.3**
TIA				AMB	AMB		
	comp=Z,31nm,1.0s,mb5.1						
KZA	**Kyzart**	**32.71**	**335**	P	**P**	**05 50 45.8**	**+1.5**
	SNR=25						
UCH	**Uchtor**	**33.14**	**334**	P	**P**	**05 50 49.0**	**+0.9**
	SNR=37						
TKM2	**Tokmak 2**	**33.28**	**336**	P	**P**	**05 50 49.8**	**+0.5**
	SNR=13						
AML	**Almayashu**	**33.41**	**333**	P	**P**	**05 50 51.5**	**+1.1**
	SNR=82						
AAK	**Ala-Archa**	**33.48**	**335**	P	**P**	**05 50 52.1**	**+1.1**
	SNR=50						
AAK	**Ala-Archa**	**33.48**	**335**	P	**P**	**05 50 51.9**	**+0.9**
AAK				pmax	pmax		
	comp=Z,271nm,1.3s,mb6.0						
AAK	**Ala-Archa**	**33.48**	**335**	*e*P	**P**	**05 50 50.4**	**-0.6**
	comp=Z,124nm,1.2s,mb5.7						
FRU	**Bishkek**	**33.60**	**335**	*i* P	**P**	**05 50 53.0**	**+1.0**
FRU				pmax	pmax		
	comp=Z,200nm,1.8s,mb5.8						
BJI	**Beijing**	**33.65**	**33**	P	**P**	**05 50 52.9**	**+0.4**
BJI				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.2						
BJI				MLR	MLR		
	comp=Z,1μm,21.2s,MS4.5						
BJI	**Beijing**	**33.65**	**33**	P	**P**	**05 50 52.9**	**+0.4**
	comp=Z,38nm,1.2s,mb5.2						
BJI				LR	LR		
	comp=Z,1μm,21.2s,MS4.5						
CHMS	**Chumysh**	**33.68**	**335**	P	**P**	**05 50 53.2**	**+0.5**
	SNR=38						
WBK	**Wadi Bani Khal**	**33.69**	**291**	P	**P**	**05 50 56.0**	**+3.0**
	SNR=6.5						
EKS2	**Erkin-Say**	**33.81**	**334**	P	**P**	**05 50 55.3**	**+1.4**
	SNR=43						
USP	**Ospenovka**	**34.01**	**335**	P	**P**	**05 50 56.1**	**+0.5**
	SNR=98						
JMDO	**Jabal Madar**	**34.44**	**290**	P	**P**	**05 51 01.5**	**+2.0**
	SNR=13						
SMDO	**Samad**	**34.60**	**292**	P	**P**	**05 51 03.7**	**+2.8**
	SNR=15						
BIDO	**Bidbid**	**34.62**	**292**	⇓P	**P**	**05 51 03.6**	**+2.6**
MKAR	**Makanchi Array**	**34.74**	**347**	*i* P	**P**	**05 51 01.6**	**-0.2**
BSY	**Bisya**	**35.32**	**291**	P	**P**	**05 51 09.9**	**+2.9**
	SNR=31						
HOQ	**Hoqain**	**35.37**	**292**	P	**P**	**05 51 10.1**	**+2.6**
	SNR=10						
JOW	**Kunigami**	**35.67**	**62**	LR	LR	06 08 45.6	
	comp=Z,1μm,18.4s,MS4.7,baz=270,slow=41						
ARQ	**Araqi**	**36.03**	**292**	⇓P	**P**	**05 51 15.8**	**+2.7**
SHAO	**Shalim**	**36.31**	**283**	⇑P	**P**	**05 51 17.5**	**+2.0**
SONM	**Songino Array**	**36.34**	**15**	P	**P**	**05 51 16.0**	**+0.6**
	comp=Z,66nm,0.9s,mb5.6,baz=196,slow=9.0,SNR=237						
SONM				PcP	PcP	05 53 40.0	-0.1
	comp=Z,9.5nm,0.7s,baz=213,slow=3.4,SNR=6.2						
SONM				ScP		05 57 25.6	
	comp=Z,2.1nm,0.8s,baz=199,slow=2.0,SNR=5.1						
ULN	**Ulaanbaatar**	**36.54**	**16**	*e*P	**P**	**05 51 16.6**	**-0.5**
ULN				pmax	pmax		
	comp=Z,69nm,1.1s,mb5.4						
ULN	**Ulaanbaatar**	**36.54**	**16**	*e*P	**P**	**05 51 16.6**	**-0.4**
	comp=Z,69nm,1.1s,mb5.4						
ASHO	**Ashiyiah**	**36.70**	**294**	⇑P	**P**	**05 51 21.6**	**+2.9**
BANOM	**Banah**	**36.75**	**296**	⇓P	**P**	**05 51 21.6**	**+2.6**
RBK	**Rabkut**	**37.65**	**282**	P	**P**	**05 51 29.2**	**+2.5**
	SNR=7.2						
ZAK	**Zakamensk**	**38.07**	**11**	⇓*e*P	**P**	**05 51 29.2**	**-0.7**
ABTO	**Aybut**	**38.52**	**281**	P	**P**	**05 51 35.7**	**+1.8**
	SNR=7.9						
MOY	**Mondy**	**38.96**	**8**	*e*P	**P**	**05 51 38.8**	**+1.5**
SNY	**Shenyang**	**39.00**	**37**	⇓P	**P**	**05 51 38.3**	**+0.5**
SNY				AMB	AMB		
	comp=Z,30nm,1.7s,mb4.8						
KURK	**Kurchatov**	**39.27**	**346**	*i* P	**P**	**05 51 39.6**	**-0.3**
KURK				pmax	pmax		
	comp=Z,71nm,1.1s,mb5.3						
KURK	**Kurchatov**	**39.27**	**346**	*e*P	**P**	**05 51 39.4**	**-0.5**
	comp=Z,98nm,1.0s,mb5.5						
KS15	**Wonju Array Si**	**39.37**	**46**	*e*P	**P**	**05 51 40.6**	**-0.3**
TLY	**Talaya**	**39.38**	**10**	P	**P**	**05 51 42.7**	**+1.9**
	comp=Z,250nm,1.1s,mb5.9,SNR=32						
TLY	**Talaya**	**39.38**	**10**	*e*P	**P**	**05 51 42.1**	**+1.3**
TLY				pmax	pmax		
	comp=Z,55nm,1.1s,mb5.2						
TLY	**Talaya**	**39.38**	**10**	*e*P	**P**	**05 51 42.1**	**+1.2**
	comp=Z,55nm,1.1s,mb5.2						
IRK	**Irkutsk**	**40.03**	**11**	*e*P	**P**	**05 51 47.7**	**+1.5**
IRK				*e*		05 52 05.0	
IRK				*e*		05 53 28.9	
IRK				pmax	pmax		
	comp=Z,52nm,1.5s,mb5.0						
ZAL	**Zalesovo**	**41.21**	**353**	P	**P**	**05 51 55.6**	**-0.2**
	comp=Z,19nm,0.7s,mb4.8,baz=301,slow=7.5,SNR=90						
ZAL				LR	LR	06 13 17.5	
	comp=Z,1μm,19.9s,MS4.8,baz=292,slow=42						
NVS	**Novosibirsk**	**42.30**	**352**	*i* P	**P**	**05 52 03.2**	**-1.6**
NVS				*e*S	**S**	**05 58 12.9**	**-11**
NVS				*e*SSS	SSS	06 01 58.5	-14
NVS				pmax	pmax		
	comp=N,60nm,1.6s						
NVS				pmax	pmax		
	comp=Z,57nm,1.6s,mb5.0						
NVS				pmax	pmax		
	comp=E,22nm,1.5s						
NVS				smax			
	comp=N,25nm,2.1s						
NVS				smax			
	comp=E,18nm,1.6s						
MBWA	**Marble Bar**	**43.01**	**142**	*e*P	**P**	**05 52 10.3**	**-0.7**
BVA0	**Borovoye Array**	**43.69**	**340**	P	**P**	**05 52 15.7**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
BVAR	**Borovoye Array**	**43.69**	**340**	P	**P**	**05 52 16.0**	**-0.1**
	comp=Z,26nm,0.7s,mb5.1,baz=143,slow=7.4,SNR=120						
CHKZ	**Chkalovo**	**44.16**	**341**	P	**P**	**05 52 19.9**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,106nm,0.9s,mb5.6						
CHKZ	**Chkalovo**	**44.16**	**341**	*e*P	**P**	**05 52 19.7**	**-0.2**
	comp=Z,148nm,0.8s,mb5.8						
MDJ	**Mudanjiang**	**44.19**	**38**	P	**P**	**05 52 19.5**	**-0.9**
MDJ				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,140nm,4.9s						
FITZ	**Fitzroy Crossi**	**44.71**	**133**	*e*P	**P**	**05 52 22.9**	**-1.9**
	comp=Z,34nm,0.6s,mb5.3						
FITZ				*e*		05 57 56.2	
RAYN	**Ar Rayn**	**46.10**	**290**	P	**P**	**05 52 36.4**	**+0.6**
	comp=Z,253nm,1.1s,mb6.1,SNR=20						
MAJO	**Matsushiro**	**46.61**	**52**	*e*P	**P**	**05 52 40.0**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
MAJO	**Matsushiro**	**46.61**	**52**	*e*P	**P**	**05 52 40.0**	**+0.3**
	comp=Z,19nm,0.8s,mb5.1						
MAT	**Matsushiro**	**46.61**	**52**	*e*P	**P**	**05 52 40.0**	**+0.3**
MAT				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
MAT				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.8						
MAT	**Matsushiro**	**46.61**	**52**	*e*P	**P**	**05 52 40.0**	**+0.3**
	comp=Z,28nm,1.0s,mb5.2						
MAT				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
MAT	**Matsushiro**	**46.61**	**52**	P	**P**	**05 52 39.7**	**0.0**
JHJ	**Hachijo jima 2**	**46.92**	**57**	LR	LR	06 11 41.2	
	comp=Z,1μm,21.3s,MS4.8,baz=36,slow=35						
KLR	**Kul'dur**	**48.02**	**33**	*e*P	**P**	**05 52 45.8**	**-4.8**
MUN	**Mundaring**	**50.06**	**154**	⇓*i*P	**P**	**05 53 05.7**	**-0.9**
	comp=Z,26nm,0.9s,mb5.3						
MUN	**Mundaring**	**50.06**	**154**	⇓*i*P	**P**	**05 53 05.7**	**-0.9**
MUN				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.3						
GNI	**Garni**	**50.06**	**312**	*d i*P	**P**	**05 53 07.2**	**+0.7**
GNI				pmax	pmax		
	comp=Z,524nm,1.7s						
GNI	**Garni**	**50.06**	**312**	P	**P**	**05 53 07.5**	**+1.0**
	comp=Z,150nm,0.9s,mb6.0,baz=358,slow=2.4,SNR=101						
GNI				LR	LR	06 17 14.8	
	comp=Z,721nm,20.5s,MS4.7,baz=261,slow=40						
GNI	**Garni**	**50.06**	**312**	*e*P	**P**	**05 53 07.8**	**+1.3**
	comp=Z,363nm,1.1s,mb6.3						
SVE	**Sverdlovsk**	**50.14**	**337**	*e*P	**P**	**05 53 01.0**	**-5.8**
SVE				pmax	pmax		
	comp=Z,300nm,1.6s,mb6.1						
SVE				MLR	MLR		
	comp=Z,960μm,15.0s						
KLBR	**Kellerberrin**	**50.41**	**152**	*e*P	**P**	**05 53 08.6**	**-0.6**
	comp=Z,166nm,0.9s,mb6.1						
MTA	**Mtatsminda**	**50.53**	**314**	P	**P**	**05 53 10.5**	**+0.5**
TI2	**Plekhanov**	**50.58**	**314**	⇑*i*P	**P**	**05 53 10.4**	**0.0**
TI2				pmax	pmax		
	comp=Z,180nm,0.6s,mb6.2						
ARU	**Arti**	**50.65**	**336**	P	**P**	**05 53 10.5**	**-0.2**
	comp=Z,514nm,0.8s,mb6.5,SNR=24						
ARU	**Arti**	**50.65**	**336**	P	**P**	**05 53 10.2**	**-0.5**
	comp=Z,514nm,0.8s,mb6.5,SNR=24						
ARU	**Arti**	**50.65**	**336**	⇑*i*P	**P**	**05 53 04.2**	**-6.5**
ARU				*e*		05 54 24.5	
ARU				*e*S	**S**	**06 00 15.6**	**-7.3**
ARU				*e*SS	SS	06 03 50.5	-4.3
ARU				pmax	pmax		
	comp=Z,76nm,0.9s,mb5.6						
ARU				MLR	MLR		
	comp=Z,1μm,21.0s,MS4.8						
ARU				MLR	MLR		
	comp=N,900nm,22.0s,MS4.8						
ARU				MLR	MLR		
	comp=E,500nm,19.0s,MS4.8						
ARU	**Arti**	**50.65**	**336**	*e*P	**P**	**05 53 04.1**	**-6.6**
	comp=E,69nm,0.8s,mb5.6						
NWAO	**Narrogin (SRO)**	**51.31**	**154**	*e*P	**P**	**05 53 14.0**	**-2.1**
NWAO				pmax	pmax		
	comp=Z,17nm,0.9s						
NWAO	**Narrogin (SRO)**	**51.31**	**154**	P	**P**	**05 53 14.6**	**-1.5**
	comp=Z,12nm,0.6s,mb5.0,baz=320,slow=8.9,SNR=9.9						
NWAO	**Narrogin (SRO)**	**51.31**	**154**	*e*P	**P**	**05 53 13.9**	**-2.1**
	comp=Z,17nm,0.9s,mb5.0						
AKH	**Akhalkalaki**	**51.36**	**313**	P	**P**	**05 53 17.6**	**+1.2**
ZEI	**Tsey**	**51.52**	**315**	*e*P	**P**	**05 53 18.1**	**+0.6**
ZEI				*i*		05 55 11.6	
ZEI				pmax	pmax		
	comp=Z,74nm,1.0s,mb5.6						
ONI	**Oni**	**51.77**	**314**	P	**P**	**05 53 20.5**	**+1.1**
ASAJ	**Asahikawa**	**52.28**	**44**	P	**P**	**05 53 23.4**	**+0.2**
	comp=Z,31nm,0.8s,mb5.3,baz=251,slow=11,SNR=9.0						
ASAJ				LR	LR	06 17 51.9	
	comp=Z,843nm,18.7s,MS4.8,baz=274,slow=39						
WRA	**Warramunga Arr**	**52.28**	**128**	P	**P**	**05 53 21.9**	**-1.6**
WRA						05 54 34.2	
WRA				S	**S**	**06 00 45.3**	**-0.5**
WRA	**Warramunga Arr**	**52.28**	**128**	P	**P**	**05 53 21.9**	**-1.7**
	comp=Z,12nm,0.7s,mb4.9,baz=307,slow=8.2,SNR=51						
WRA				PcP	PcP	05 54 34.2	-0.6
	comp=Z,4.8nm,0.8s,baz=324,slow=3.3,SNR=6.4						
WRA				ScP		05 58 29.7	
	comp=Z,2.1nm,0.8s,baz=313,slow=4.3,SNR=4.9						
WRA				S	**S**	**06 00 45.3**	**-0.5**
	comp=Z,3.2nm,1.2s,baz=299,slow=15,SNR=5.1						
WRAB	**Tennant Creek**	**52.28**	**128**	*i* P	**P**	**05 53 21.4**	**-2.1**
WRAB	**Tennant Creek**	**52.28**	**128**	*e*P	**P**	**05 53 21.2**	**-2.3**
	comp=Z,19nm,0.7s,mb5.1						
WB2	**Warramunga Arr**	**52.29**	**128**	*e*P	**P**	**05 53 21.4**	**-2.2**
KIV	**Kislovodsk**	**52.76**	**316**	P	**P**	**05 53 27.9**	**+1.1**
	comp=Z,1μm,0.8s,SNR=34						
KIV	**Kislovodsk**	**52.76**	**316**	*e*P	**P**	**05 53 27.0**	**+0.2**
KIV				pmax	pmax		
	comp=Z,247nm,1.1s,mb6.0						
KIV	**Kislovodsk**	**52.76**	**316**	*e*P	**P**	**05 53 27.0**	**+0.2**
	comp=Z,247nm,1.1s,mb6.0						
GOF	**Gofitskoye**	**52.90**	**317**	⇓*i*P	**P**	**05 53 28.5**	**+0.7**
GOF				pmax	pmax		
	comp=Z,120nm,1.2s,mb5.7						
YSS	**Yuzh-Sakhalins**	**53.41**	**41**	*e*P	**P**	**05 53 31.0**	**-0.6**
YSS				*e*	pP	05 53 38.0	-0.5
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.5						
YSS				MLR	MLR		
	comp=Z,2μm,13.0s,MS5.2						
YSS				MLR	MLR		
	comp=N,1μm,14.0s,MS5.1						
YSS				MLR	MLR		
	comp=E,500nm,16.0s,MS5.1						
YSS	**Yuzh-Sakhalins**	**53.41**	**41**	*e*P	**P**	**05 53 31.1**	**-0.5**
	comp=E,93nm,1.1s,mb5.6						
SOKR	**Solikamsk**	**53.53**	**338**	⇓*i*P	**P**	**05 53 29.1**	**-3.2**
SOKR				pmax	pmax		
	comp=Z,140nm,0.9s,mb5.9						
SOKR				MLR	MLR		
	comp=Z,700nm,20.0s,MS4.7						
ASPA	**Alice Springs**	**54.18**	**132**	*e*P	**P**	**05 53 35.4**	**-2.1**
ASPA				*e*		05 58 33.9	
ASPA				*e*S	**S**	**06 01 09.2**	**-2.3**
ASPA	**Alice Springs**	**54.18**	**132**	*e*P	**P**	**05 53 35.4**	**-2.1**
ASPA				*e*S	**S**	**06 01 09.2**	**-2.3**
ASAR	**Alice Springs**	**54.18**	**132**	P	**P**	**05 53 35.4**	**-2.2**
	comp=Z,8.9nm,0.5s,mb4.9,baz=311,slow=6.9,SNR=50						
ASAR				PcP	PcP	05 54 41.3	-0.6
	comp=Z,6.4nm,1.0s,baz=316,slow=4.4,SNR=3.9						
ASAR				ScP		05 58 37.8	
	comp=Z,3.0nm,0.9s,baz=311,slow=4.4,SNR=5.9						
ASAR				S	**S**	**06 01 10.9**	**-0.7**
	comp=Z,1.7nm,1.0s,baz=301,slow=12,SNR=6.3						
ASAR				LR	LR	06 18 04.0	
	comp=Z,559nm,21.6s,MS4.6,baz=299,slow=38						
MALT	**Malatya**	**54.31**	**308**	P	**P**	**05 53 38.5**	**+0.2**
MALT				pmax	pmax		
	comp=Z,110nm,1.1s,mb5.7						
MALT	**Malatya**	**54.31**	**308**	*e*P	**P**	**05 53 38.3**	**0.0**

VRSR pmax pmax
comp=E,50nm,0.6s
VOR Voronezh 57.69 324 *e*P **P 05 54 01.0 -1.4**
VOR *e**PP pP 05 54 08.5 -0.9
VOR pmax pmax
comp=Z,240nm,1.4s,mb6.0
VOR pmax pmax
comp=N,110nm,1.5s
VOR pmax pmax
comp=E,140nm,1.5s
CSS Prodhromos 57.82 303 *e*P **P 05 54 02.4 -1.2**
PMG Port Moresby 58.22 110 P **P 05 54 06.6 0.0**
PMG Port Moresby 58.22 110 *e*P **P 05 54 06.5 -0.2**
BRTR Keskin Array B 58.24 309 P **P 05 54 05.5 -0.9**
comp=E,75nm,0.8s,mb5.8,baz=120,slow=7.2,SNR=257
SIM Simferopol' 58.92 315*c i*P **P 05 54 11.5 +0.4**
SIM *e*S **S 06 02 18.0 +3.9**
SIM pmax pmax
comp=Z,115nm,0.9s,mb5.9
SIM MLR MLR
comp=Z,610nm,24.6s,MS4.6
MOS Moscow 60.06 328 *e*P **P 05 54 15.3 -3.5**
MOS *e* 05 54 26.0
MOS *e* 05 54 57.3
MOS *e* 05 56 26.8
MOS pmax pmax
comp=Z,300nm,1.5s,mb6.1
MOS pmax pmax
comp=Z,199nm,1.3s,mb6.0
OBN Obninsk 60.39 327*c i*P **P 05 54 17.1 -3.9**
OBN *i* 05 54 27.3
OBN pmax pmax
comp=Z,186nm,1.3s,mb6.0
OBN Obninsk 60.39 327 *e*P **P 05 54 17.1 -3.9**
comp=Z,130nm,1.1s,mb5.9
ISP Isparta 60.41 306 *e*P **P 05 54 19.9 -1.5**
ISP *e* pP 05 54 27.8 -0.6
CTA Charters Tower 61.90 121⇓*i*P **P 05 54 31.7 -0.1**
comp=Z,3.1nm,0.4s,mb4.8
CTA Charters Tower 61.90 121⇓*i*P **P 05 54 31.7 -0.1**
CTA pmax pmax
comp=Z,3.0nm,0.4s
CTA Charters Tower 61.90 121 P **P 05 54 31.0 -0.8**
comp=Z,9.3nm,1.1s,mb4.8,baz=282,slow=7.0,SNR=10
CTA S **S 06 02 55.0 +2.6**
comp=Z,0.6nm,0.3s,baz=53,slow=5.3,SNR=3.3
CTAO Charters Tower 61.90 121 P **P 05 54 32.1 +0.3**
CTAO pmax pmax
comp=Z,14nm,1.2s,mb5.0
CTAO Charters Tower 61.90 121 *e*P **P 05 54 31.6 -0.2**
comp=Z,14nm,1.2s,mb5.0
CTAO LR LR
comp=Z,540nm,20.0s,MS4.7
TIXI Tiksi 62.32 12⇑*i*P **P 05 54 32.3 -1.6**
TIXI pmax pmax
comp=Z,120nm,1.0s,mb6.0
TIXI pmax pmax
comp=N,33nm,1.4s
TIXI pmax pmax
comp=E,24nm,1.2s
TIXI pmax pmax
comp=Z,174nm,1.2s,mb6.1
MA2 Magadan 62.67 29 P **P 05 54 35.7 -0.6**
MA2 pmax pmax
comp=Z,21nm,0.9s,mb5.3
MA2 Magadan 62.67 29 *e*P **P 05 54 35.2 -1.2**
comp=Z,21nm,0.8s,mb5.3
SKR Severo-Kuril's 62.94 40 *e*P **P 05 54 33.7 -4.6**
KIS Kishinev 62.95 316 *e*P **P 05 54 35.0 -3.4**
KIS *e* 06 03 18.0
CFR Carcaliu 63.13 314⇓*i*P **P 05 54 39.5 -0.1**
HARR Harsova 63.20 314⇓*i*P **P 05 54 40.0 0.0**
MBAR Mbarara 63.22 263 *e*P **P 05 54 40.8 +0.2**
MBAR pmax pmax
comp=Z,97nm,1.7s,mb5.7
MBAR MLR MLR
comp=Z,208nm,20.0s,MS4.3
MBAR Mbarara 63.22 263 *e*P **P 05 54 40.8 +0.2**
comp=Z,97nm,1.7s,mb5.7
MBAR LR LR
comp=Z,208nm,20.0s,MS4.3
AKASG Malin Array Be 63.40 320 P **P 05 54 39.5 -1.7**
comp=Z,36nm,0.8s,mb5.5,baz=88,slow=4.7,SNR=145
AKASG PP PP 05 56 58.6 -3.8
comp=Z,6.6nm,0.9s,baz=95,slow=6.5,SNR=6.4
ALN Alexandroupoli 64.15 309 *e*P **P 05 54 45.8 -0.6**
SANT Santorini 64.32 304 *e*P **P 05 54 45.7 -1.9**
comp=Z,28nm,0.6s,mb5.5
STKA Stephens Creek 64.55 135 *e*P **P 05 54 48.1 -1.0**
comp=Z,6.8nm,0.6s,mb4.8
STKA Stephens Creek 64.55 135 P **P 05 54 48.2 -1.0**
comp=Z,8.1nm,0.8s,mb4.8,baz=296,slow=6.9,SNR=18
MLR Muntele Rosu 64.70 314⇓*i*P **P 05 54 50.6 +0.7**
LOS Limnos 64.81 308 *e*P **P 05 54 50.3 -0.4**
PET Petropavlovsk 64.98 37 *e*P **P 05 54 51.5 0.0**
PET *e*S **S 06 03 26.8 -3.6**
PET pmax pmax
comp=Z,33nm,1.4s,mb5.2
PET MLR MLR
comp=Z,1μm,18.0s,MS5.1
MNK Minsk 65.05 324 *e*P **P 05 54 47.0 -5.0**
PUL Pulkovo 65.11 330 *e*P **P 05 54 52.2 -0.1**
PUL pmax pmax
comp=Z,131nm,0.8s,mb6.0
PUL pmax pmax
comp=N,32nm,0.5s
PUL pmax pmax
comp=E,242nm,1.1s
JOF Joensuu 65.66 334 *e*p **P 05 54 54.0 -1.8**
comp=E,70nm,0.9s,mb5.7
PAIG Paliouri 65.89 308 *e*P **P 05 54 56.8 -0.8**
SRS Serrai 66.02 309 *e*P **P 05 54 57.0 -1.4**
SOH Sokhos 66.18 309 *e*P **P 05 54 58.5 -0.9**
XOR Xorichti 66.24 307 *e*P **P 05 54 58.4 -1.5**
LVZ Lovozero 66.27 339 *e*P **P 05 54 59.2 -0.4**
LVZ pmax pmax
comp=Z,59nm,0.9s,mb5.6
LVZ pmax pmax
comp=N,14nm,1.6s
LVZ pmax pmax
comp=E,26nm,1.4s
LVZ MLR MLR
comp=Z,733nm,15.0s,MS5.0
THE Thessaloniki 66.47 309 *e*P **P 05 55 00.3 -1.0**
LVV L'vov 66.53 319⇑*i*P **P 05 55 00.8 -0.7**
LVV *e*S S 06 03 38.8 -11
LVV MLR MLR
comp=Z,190nm,18.0s,MS4.3
KNT Kendrikon 66.54 309 *e*P **P 05 55 00.6 -1.2**
APA Apatity 66.57 339 *i* P **P 05 55 00.0 -1.5**
APA *i* 05 55 14.0
APA pmax pmax
comp=Z,52nm,1.0s,mb5.5
APA MLR MLR
comp=Z,2μm,17.0s,MS5.3
VAY Valandovo 66.80 309 *i* P **P 05 55 02.3 -1.1**
LIT Litokhoron 66.81 308 *e*P **P 05 55 01.8 -1.6**
ZAPS Zavoj/Pirot 66.87 312⇑*i*P **P 05 55 03.2 -0.7**
AGG Agios Georgios 66.89 307 *e*P **P 05 55 01.5 -2.6**
GRG Griva 66.91 309 *e*P **P 05 55 02.6 -1.6**
KWP Kalwaria 67.36 318 *e*P **P 05 55 07.5 +0.7**
BOLS Boljevac 67.38 312⇓*i*P **P 05 55 06.4 -0.7**
KOLS Kolonicke sedl 67.57 318 *i* P **P 05 55 07.6 -0.6**
KOLS *e*PP PP 05 57 41.9 +2.9
FINES FINESS Array B 67.58 331 P **P 05 55 07.0 -1.1**
comp=Z,38nm,0.8s,mb5.5,baz=101,slow=9.7,SNR=86
SUW Suwalki 67.64 323 *e*P **P 05 55 07.8 -0.7**
KAF Kangasniemi 67.64 332 *e*p **P 05 55 07.0 -1.4**
baz=103,slow=6.0
SKO Skopje 67.67 310⇑*i*P **P 05 55 07.3 -1.6**
comp=Z,0.0nm,0.8s
FNA Florina 67.68 309 *e*P **P 05 55 07.5 -1.5**
CRVS Cervenica-Dubn 68.10 318 *e*P **P 05 55 12.1 +0.6**
GRUS Gruza 68.28 312⇓*i*P **P 05 55 11.8 -0.9**
KECS Kecovo 68.71 317 *i* P **P 05 55 14.8 -0.5**
DIVS Divcibare 68.81 312⇓*i*P **P 05 55 14.9 -1.1**
NIE Niedzica 68.89 318⇑*i*P **P 05 55 16.8 +0.4**
PSZ Piszkesteto 69.07 316⇑*e*P **P 05 55 17.4 -0.1**
OJC Ojcow 69.29 319⇑*i*P **P 05 55 18.6 -0.2**
KEV Kevo 69.54 340 *e*p **P 05 55 18.5 -1.5**
comp=Z,35nm,0.8s,mb5.3
KEV Kevo 69.54 340 *e*P **P 05 55 18.5 -1.5**
KEV pmax pmax
comp=Z,35nm,0.8s,mb5.3
VYHS Vyhne 69.81 317 *i* P **P 05 55 21.5 -0.5**

PKSM Moragy 69.84 315⇑*e*P **P 05 55 21.7 -0.5**
ARCES ARCESS Array B 69.97 340 P **P 05 55 22.6 0.0**
comp=Z,49nm,1.0s,mb5.4,baz=86,slow=7.4,SNR=54
ARCES PP PP 05 57 57.9 -1.4
comp=Z,7.7nm,0.9s,baz=76,slow=10.0,SNR=4.0
ARCES LR LR 06 31 08.4
comp=Z,988nm,18.3s,MS5.1,baz=171,slow=40
ARE0 ARCESS Array S 69.97 340 *e*P **P 05 55 22.6 -0.1**
LSZ Lusaka 70.09 248 *e*P **P 05 55 24.8 +0.6**
LSZ pmax pmax
comp=Z,43nm,1.0s,mb5.3
LSZ Lusaka 70.09 248 *e*P **P 05 55 24.8 +0.5**
comp=Z,43nm,1.0s,mb5.3
SRO Srobarova 70.13 316 *e*P **P 05 55 24.4 +0.5**
RHK1 Bakonya 70.24 314⇑*e*P **P 05 55 23.8 -0.8**
OKC Ostrava-Krasne 70.33 318⇑*e*P **P 05 55 25.2 +0.1**
TOO Toolangi 70.46 138 *e*P **P 05 55 27.0 +0.8**
comp=Z,0.5nm,0.6s
TOO Toolangi 70.46 138 *e*P **P 05 55 27.0 +0.8**
TOO pmax pmax
comp=Z,1.0nm,0.6s
KTK1 Kautokeino 70.61 339 *e*P **P 05 55 26.3 -0.2**
comp=Z,121nm,1.6s,mb5.6
KTK1 Kautokeino 70.61 339 *e*P **P 05 55 26.3 -0.2**
KTK1 AMb AMB 05 55 28.3
comp=Z,121nm,1.6s,mb5.6
KTK1 *e*pP pP 05 55 35.9 +2.3
KTK1 *e*sP sP 05 55 39.2 +3.1
MORC Moravsky Berou 70.72 318 *e*P **P 05 55 26.9 -0.6**
MORC pmax pmax
comp=Z,80nm,0.9s,mb5.7
MORC Moravsky Berou 70.72 318 *e*P **P 05 55 26.9 -0.6**
comp=Z,80nm,0.9s,mb5.7
ZST Bratislava 70.95 317 *e*P **P 05 55 28.9 -0.1**
ZST *e* pP 05 55 35.4 -0.6
ZST *e*S 06 05 00.4
ARMA Armidale 71.06 129 *e*P **P 05 55 31.5 +1.6**
GKP Gorka Klasztor 71.08 322 *e*P **P 05 55 29.8 +0.1**
TIP Timpagrande 71.23 307 *e*P **P 05 55 30.0 -0.8**
VKA Vienna 71.48 317⇑*i*P **P 05 55 32.2 +0.1**
GRI Girifalco 71.50 307 *e*P **P 05 55 32.5 0.0**
DPC Dobruska-Polom 71.52 319⇑*i*P **P 05 55 32.5 +0.2**
KSP Ksiaz 71.56 319⇑*e*P **P 05 55 32.7 +0.2**
KSP Ksiaz 71.56 319 *e*P **P 05 55 33.1 +0.6**
UPC Upice 71.72 319⇑*i*P **P 05 55 33.6 0.0**
SOI Samo 71.82 306 *e*P **P 05 55 34.3 -0.1**
GCIS Gornji Cirnik 71.94 314 *i* P **P 05 55 34.7 -0.2**
ARSA Arzberg 72.01 316⇑*i*P **P 05 55 35.0 -0.3**
comp=Z,217nm,2.4s,mb5.7
MTTG Motta San Giov 72.11 306 *e*P **P 05 55 36.7 +0.6**
BOJS Bojanci 72.20 314 *i* P **P 05 55 36.3 -0.2**
TRO Tromso 72.24 339 *e*P **P 05 55 35.0 -1.3**
comp=Z,84nm,1.4s,mb5.5
TRO Tromso 72.24 339 *e*P **P 05 55 35.0 -1.3**
TRO AMb AMB 05 55 36.7
comp=Z,84nm,1.4s,mb5.5
PERS Pernice 72.29 315⇑*i*P **P 05 55 36.9 0.0**
comp=Z,171nm,1.5s,mb5.8
BSD Bornholm Skovb 72.53 324 *i* P **P 05 55 37.3 -1.0**
BSD pmax pmax
comp=Z,69nm,1.0s,mb5.5
BSD Bornholm Skovb 72.53 324 *i* P **P 05 55 37.3 -1.0**
comp=Z,69nm,1.0s,mb5.5
PVCC Panska Ves 72.65 319⇑*i*P **P 05 55 39.5 +0.5**
PRU Pruhonice 72.66 318⇑*i*P **P 05 55 39.4 +0.3**
PRU AMS AMS 06 36 50.0
comp=Z,500nm,13.0s
OBKA Obir 72.68 315⇓*i*P **P 05 55 39.5 +0.2**
comp=Z,362nm,2.8s,mb5.8
LJU Ljubljana 72.70 314 *e*P **P 05 55 40.0 +0.5**
MOA Molln 72.85 316⇑*i*P **P 05 55 39.9 -0.4**
comp=Z,55nm,1.2s,mb5.4
BRG Berggiesshubel 73.05 319⇑*i*P **P 05 55 41.7 +0.3**
BRG pmax pmax
comp=Z,76nm,0.9s,mb5.6
BRG MLR MLR
comp=Z,560nm,18.1s,MS4.9
BRG Berggiesshubel 73.05 319⇑*i*P **P 05 55 41.7 +0.3**
comp=Z,76nm,0.9s,mb5.6
BRG *i* 05 55 44.6
BRG LR LR
comp=Z,560nm,18.1s,MS4.9
RUE Ruedersdorf 73.15 321 *e*P **P 05 55 41.8 -0.2**
comp=Z,147nm,0.9s,mb5.9
VAE Valguarnera 73.16 305 P **P 05 55 43.5 +1.3**
comp=Z,42nm,1.0s,mb5.3,baz=102,slow=3.3,SNR=8.1
GEC2 GERESS Array S 73.22 317 *e*P **P 05 55 42.7 +0.3**
GEC2 pmax pmax
comp=Z,91nm,0.9s,mb5.7
GEC2 GERESS Array S 73.22 317 *e*P **P 05 55 42.7 +0.3**
comp=Z,91nm,0.9s,mb5.7
GERES GERESS Array B 73.22 317 P **P 05 55 42.5 +0.1**
comp=Z,53nm,0.7s,mb5.6,baz=90,slow=5.3,SNR=353
CADS Cadrg 73.25 315⇑*e*P **P 05 55 42.1 -0.5**
comp=Z,226nm,1.4s,mb5.9
KHC Kasperske Hory 73.29 318⇑*i*P **P 05 55 42.8 0.0**
KHC *e* pP 05 55 48.0 -1.9
KHC MLR MLR
comp=Z,400nm,15.3s,MS4.8
KHC Kasperske Hory 73.29 318⇑*i*P **P 05 55 42.8 0.0**
KHC pP pP 05 55 48.0 -1.9
KHC AMS AMS 06 35 00.0
comp=Z,400nm,15.3s
HFS Hagfors 73.39 329 P **P 05 55 42.9 -0.3**
comp=Z,46nm,0.9s,mb5.4,baz=90,slow=5.9,SNR=45
MOR8 Moi Rana 73.46 335 *e*P **P 05 55 42.6 -0.9**
comp=Z,102nm,1.2s,mb5.6
MOR8 Moi Rana 73.46 335 *e*P **P 05 55 42.6 -0.9**
MOR8 AMb AMB 05 55 44.5
comp=Z,102nm,1.2s,mb5.6
MOR8 *e*pP pP 05 55 52.1 +1.5
KBA Koelnbreinsper 73.49 315⇑*i*P **P 05 55 43.4 -0.6**
comp=Z,209nm,3.2s
KBA Koelnbreinsper 73.49 315⇑*i*P **P 05 55 43.4 -0.6**
KBA pmax pmax
comp=Z,209nm,3.2s
PTCC Patocco-Chiusa 73.51 315 *e*P **P 05 55 43.9 -0.2**
GMNA Gemona 73.59 315 *e*P **P 05 55 44.6 -0.1**
CLL Collm 73.64 320⇑*i*P **P 05 55 44.3 -0.5**
CLL *e* 05 55 54.0
CLL pmax pmax
comp=Z,57nm,1.1s,mb5.4
CLL MLR MLR
comp=Z,500nm,17.3s,MS4.9
CLL Collm 73.64 320⇑*i*P **P 05 55 44.3 -0.5**
comp=Z,57nm,1.1s,mb5.4
CLL *e* 05 55 49.0
CLL *e* 05 55 54.0
CLL LR LR
comp=Z,500nm,17.3s,MS4.9
CLL Collm 73.64 320 ⇑P **P 05 55 44.3 -0.5**
comp=Z,logA/T=1.7,mb5.4
CLL *e**PP pP 05 55 49.0 -2.8
CLL *e* 05 55 54.0
CLL *e*PP PP 05 58 33.0 +2.1
FX1 Attu Island--F 73.69 38 P **P 05 55 45.1 +0.1**
comp=Z,28nm,0.6s,mb5.4,baz=249,slow=22,SNR=8.4
WET Wettzell 73.75 318 *e*P **P 05 55 45.9 +0.4**
WET pmax pmax
comp=Z,69nm,1.1s,mb5.5
WET Wettzell 73.75 318 *e*P **P 05 55 45.9 +0.4**
comp=Z,69nm,1.1s,mb5.5
NKC Novy Kostel 74.01 319⇑*i*P **P 05 55 47.2 +0.3**
NKC AMS AMS 06 33 30.0
comp=Z,500nm,16.8s
NSS Namsos 74.39 334 *e*P **P 05 55 47.1 -1.8**
comp=Z,151nm,1.3s,mb5.8
NSS Namsos 74.39 334 *e*P **P 05 55 47.1 -1.8**
NSS AMb AMB 05 55 49.3
comp=Z,151nm,1.3s,mb5.8
MOX Moxa 74.53 319 *e*P **P 05 55 50.1 +0.2**
MOX pmax pmax
comp=Z,92nm,1.4s,mb5.5
MOX MLR MLR
comp=Z,400nm,20.0s,MS4.7
MOX Moxa 74.53 319 *e*P **P 05 55 50.1 +0.2**
comp=Z,92nm,1.4s,mb5.5
MOX LR LR
comp=Z,400nm,20.0s,MS4.7
MOX Moxa 74.53 319 *i* P **P 05 55 50.1 +0.2**
comp=Z,logA/T=1.8,mb5.5
MOX L 06 33 16.0
NB2 NORSAR Subarra 74.64 330 P **P 05 55 49.4 -1.0**
comp=Z,73nm,1.1s,mb5.5,baz=89,slow=5.8
NB2 NORSAR Subarra 74.64 330 P **P 05 55 49.4 -1.0**
baz=88,slow=5.9
NOA NORSAR Array B 74.64 330 P **P 05 55 49.7 -0.7**
comp=Z,22nm,0.8s,mb5.1,baz=90,slow=5.8,SNR=48
NOA PP PP 05 58 40.5 +1.1
comp=Z,2.8nm,0.9s,baz=85,slow=8.4,SNR=3.4
WTTA Wattenberg 74.65 316⇑*i*P **P 05 55 50.1 -0.6**
comp=Z,130nm,1.5s,mb5.6
WTTA Wattenberg 74.65 316⇑*i*P **P 05 55 50.1 -0.6**
WTTA pmax pmax
comp=Z,130nm,1.5s,mb5.6
WATA Walderalm 74.69 316⇑*i*P **P 05 55 50.2 -0.8**
comp=Z,37nm,1.1s,mb5.2
WATA Walderalm 74.69 316⇑*i*P **P 05 55 50.2 -0.8**
WATA pmax pmax
comp=Z,37nm,1.1s,mb5.2
SFI Santa Sofia 74.69 312 *e*P **P 05 55 51.7 +0.7**
CTI Castel Tesino 74.71 314 *e*P **P 05 55 51.3 +0.2**
PGD Poggio Sodo 74.78 312 *e*P **P 05 55 52.5 +0.9**
GRA1 Grafenberg Arr 74.82 318 *e*P **P 05 55 52.4 +0.8**
comp=Z,114nm,1.3s,mb5.6
GRF Grafenberg Arr 74.82 318 *e*P **P 05 55 52.4 +0.8**
GRF pmax pmax
comp=Z,114nm,1.3s,mb5.6
GRF Grafenberg Arr 74.82 318 *e*P **P 05 55 52.4 +0.8**
GRF pmax pmax
comp=Z,114nm,1.3s,mb5.6
GRF Grafenberg Arr 74.82 318 *e*P **P 05 55 52.4 +0.8**
comp=Z,114nm,1.3s,mb5.6
FUR Furstenfeldbru 74.85 317 *e*P **P 05 55 51.8 -0.1**
VMG Vicchio 74.91 312 *e*P **P 05 55 53.1 +0.8**
SQTA Sankt Quirin 74.94 316⇑*i*P **P 05 55 51.8 -0.6**
comp=Z,31nm,1.0s,mb5.2
SQTA Sankt Quirin 74.94 316⇑*i*P **P 05 55 51.8 -0.6**
SQTA pmax pmax
comp=Z,31nm,1.0s,mb5.2
MOTA Moosalm 75.01 316⇑*i*P **P 05 55 52.0 -0.8**
comp=Z,26nm,1.0s,mb5.1
MOTA Moosalm 75.01 316⇑*i*P **P 05 55 52.0 -0.8**
MOTA pmax pmax
comp=Z,26nm,1.0s,mb5.1
CLZ Clausthal 75.26 320 *e*P **P 05 55 54.6 +0.4**
comp=Z,85nm,1.1s,mb5.6
ZCCA Zocca 75.29 313 *e*P **P 05 55 56.0 +1.5**
HDH Heidenheim 75.54 317 *e*P **P 05 55 55.5 -0.3**
BRMO Bormio 75.56 315⇑*i*P **P 05 55 56.0 0.0**
GSCL Gusciola 75.56 313⇑*i*P **P 05 55 57.0 +0.9**
BDI Bagni Di Lucca 75.58 312⇑*i*P **P 05 55 55.4 -0.7**
UBR Uberruh 75.66 316⇑*e*P **P 05 55 56.1 -0.4**
ERBM Eremo 75.69 313 *e*P **P 05 55 57.9 +1.1**
MUD Monsted U'grnd 75.77 325⇑*i*P **P 05 55 57.5 +0.5**
MUD pmax pmax
comp=Z,66nm,1.1s,mb5.5
MUD Monsted U'grnd 75.77 325⇑*i*P **P 05 55 57.5 +0.5**
comp=Z,66nm,1.1s,mb5.5
VALM 75.81 313 P **P 05 55 57.4 0.0**
DAVA Damuels 75.84 316⇑*i*P **P 05 55 57.5 -0.1**
comp=Z,122nm,1.2s,mb5.7
LBTB Lobatse 75.87 240 *e*P **P 05 55 58.6 +0.4**
LBTB pmax pmax
comp=Z,43nm,1.0s,mb5.3
LBTB MLR MLR
comp=Z,834nm,21.0s,MS5.0
LBTB Lobatse 75.87 240 *e*P **P 05 55 58.6 +0.4**
comp=Z,43nm,1.0s,mb5.3
LBTB LR LR
comp=Z,834nm,21.0s,MS5.0
DAVOX Davos 75.88 315 P **P 05 55 57.9 +0.1**
comp=Z,29nm,0.8s,mb5.2,baz=118,slow=6.5,SNR=32
SIND Sindeldorf 75.89 318⇑*e*P **P 05 55 57.9 +0.1**
GRAM 75.93 313 P **P 05 55 58.2 +0.1**
CODM 76.09 313 P **P 05 55 58.6 -0.5**
BUCH Bad Urach 76.11 317⇑*e*P **P 05 55 58.9 -0.2**
STU Stuttgart 76.20 317 P **P 05 55 59.7 +0.2**
STU pmax pmax
comp=Z,17nm,0.6s,mb5.2
STU Stuttgart 76.20 317 *e*P **P 05 55 58.6 -0.9**
comp=Z,17nm,0.6s,mb5.1
GUT Gutenstein 76.30 317⇑*e*P **P 05 55 59.8 -0.3**
TOD Tromm 76.39 318 *e*P **P 05 56 00.5 -0.1**
TOD Tromm 76.39 318 *e*P **P 05 56 00.6 0.0**
SWS Schriesheim 76.47 318 *e*P **P 05 56 00.9 -0.1**
LBG Lerchenberg 76.47 317 *e*P **P 05 56 00.9 -0.2**
SPAK Spaichingen 76.52 317 *e*P **P 05 56 01.2 -0.1**
SPAK Spaichingen 76.52 317 *e*P **P 05 56 01.3 -0.1**
TNS Taunus Mts 76.57 319 *e*P **P 05 56 01.9 +0.3**
VAI Varese 76.72 314⇑*i*P **P 05 56 01.9 -0.6**
BFO Black Forest 76.80 317 *e*P **P 05 56 02.8 -0.1**
BFO pmax pmax
comp=Z,23nm,1.0s,mb5.1
BFO Black Forest 76.80 317 *e*P **P 05 56 02.8 -0.1**
comp=Z,23nm,1.0s,mb5.1
PGF Pioggiola 76.88 311⇑*i*P **P 05 56 02.8 -0.7**
comp=Z,130nm,1.2s,mb5.4
PGF Pioggiola 76.88 311⇑*i*P **P 05 56 02.8 -0.7**
PGF pmax pmax
comp=Z,65nm,1.2s,mb5.4
PCP Pian Castagno 77.01 313 P **P 05 56 03.0 -1.1**
FELD Feldberg 77.06 317 *e*P **P 05 56 04.1 -0.3**
LANF Langenberg 77.09 318 *e*P **P 05 56 04.6 +0.1**
KIZ Kirchzarten 77.11 317⇑*e*P **P 05 56 04.5 -0.2**
ABH Alteburg 77.18 319 *e*P **P 05 56 05.3 +0.3**
ABH Alteburg 77.18 319 *e*P **P 05 56 05.2 +0.2**
MCGN Macugnaga 77.26 315 *e*P **P 05 56 05.4 -0.1**
FIN Finale Ligure 77.28 313 *e*P **P 05 56 05.8 +0.1**
ORX Oropa 77.29 314 P **P 05 56 04.3 -1.4**
ORO Oropa 77.30 314 *e*P **P 05 56 04.8 -0.9**
LIBD Limburg 77.31 317 *e*P **P 05 56 05.9 +0.2**
LIBD Limburg 77.31 317 *e*P **P 05 56 05.7 0.0**
BBS Basel-Blauen 77.44 316 *e*P **P 05 56 06.1 -0.3**
WLS Welschbruch 77.44 317 *e*P **P 05 56 06.1 -0.4**
WTSB Winterswijk 77.46 321⇑*i*P **P 05 56 06.7 +0.2**
comp=Z,84nm,0.7s,mb5.8
TRAV 77.47 314 P **P 05 56 05.3 -1.4**
CDF Champ du Feu 77.50 317⇑*i*P **P 05 56 06.1 -0.7**
comp=Z,58nm,1.0s,mb5.1
CDF Champ du Feu 77.50 317⇑*i*P **P 05 56 06.1 -0.7**
CDF pmax pmax
comp=Z,29nm,1.0s,mb5.2
BOSA Boshof 77.51 236 *e*P **P 05 56 07.4 +0.1**
BOSA pmax pmax
comp=Z,56nm,0.9s,mb5.5
BOSA MLR MLR
comp=Z,655nm,21.0s,MS4.9
BOSA Boshof 77.51 236 *e*P **P 05 56 07.4 +0.2**
comp=Z,56nm,0.9s,mb5.5
BOSA LR LR
comp=Z,655nm,21.0s,MS4.9
RUP Ruppelstein 77.51 318 *e*P **P 05 56 07.2 +0.4**
RUP Ruppelstein 77.51 318 *e*P **P 05 56 07.4 +0.6**
ROB Roburent 77.51 313 P **P 05 56 06.5 -0.4**
IMI Imperia 77.54 312 P **P 05 56 06.2 -0.9**
ECH Echery 77.59 317 *e*P **P 05 56 06.8 -0.5**
MONE Monesi 77.62 313 P **P 05 56 06.9 -0.6**
MOF Molkenrain 77.65 317 *e*P **P 05 56 07.2 -0.4**
NEGI Negi 77.68 312 P **P 05 56 07.1 -0.8**
SAOF Saorge 77.77 313 *e*P **P 05 56 10.6 +2.2**
HINF Hinteralfeld 77.84 317⇑*i*P **P 05 56 07.8 -0.9**
comp=Z,36nm,0.9s,mb5.0
HINF Hinteralfeld 77.84 317⇑*i*P **P 05 56 07.8 -0.9**
HINF pmax pmax
comp=Z,18nm,0.9s,mb5.0
ENR Entracque 77.84 313 P **P 05 56 07.5 -1.2**
RSP Reno Superiore 77.85 314 P **P 05 56 08.0 -0.8**
AUTN L'Aution 77.86 313 *e*P **P 05 56 09.3 +0.4**
SBF Sospel 77.87 312⇑*i*P **P 05 56 08.6 -0.3**
comp=Z,158nm,1.1s,mb5.5
SBF Sospel 77.87 312⇑*i*P **P 05 56 08.6 -0.3**
SBF pmax pmax
comp=Z,79nm,1.1s,mb5.6
BHB Bricherasio 77.88 313 P **P 05 56 07.4 -1.6**
LSD Ceresole Reale 77.89 314 P **P 05 56 09.3 +0.3**
LOMF Lomont 77.91 316 *e*P **P 05 56 08.7 -0.3**
STV Sta Anna Valdi 77.91 313 P **P 05 56 07.8 -1.3**
DOI San Damiano 77.93 313 *e*P **P 05 56 07.7 -1.5**
TOUF Mont Tournerai 77.99 313 *e*P **P 05 56 10.0 +0.4**
FENE Fenestrelle 78.00 314 P **P 05 56 09.3 -0.4**
PZZ Prazzo 78.04 313 P **P 05 56 08.2 -1.6**
WLF Walferdange 78.10 318 P **P 05 56 10.7 +0.7**
WLF pmax pmax
comp=Z,130nm,1.6s,mb5.6
WLF Walferdange 78.10 318 *e*P **P 05 56 10.5 +0.4**
comp=Z,126nm,1.8s,mb5.5
OG22 Abries 78.11 313 *e*P **P 05 56 10.0 -0.2**
OG01 Vacheresse 78.12 315 *e*P **P 05 56 07.7 -2.5**

HGN	Heimansgroeve	78.12	320⇓	iP	P	05 56 10.2 +0.1
	comp=Z,6.5nm,2.2s,mb4.2					
HAU	Haudompre	78.16	317⇑	iP	P	05 56 09.8 -0.6
	comp=Z,117nm,1.0s,mb5.5					
HAU	Haudompre	78.16	317⇑	iP	P	05 56 09.8 -0.6
HAU				pmax	pmax	
	comp=Z,59nm,1.0s,mb5.5					
LPG	La Plagne	78.17	314⇑	iP	P	05 56 10.9 +0.4
	comp=Z,190nm,0.8s,mb5.8					
LPG	La Plagne	78.17	314⇑	iP	P	05 56 10.9 +0.4
LPG				pmax	pmax	
	comp=Z,95nm,0.8s,mb5.8					
LPL	La Plagne	78.18	314⇑	iP	P	05 56 10.9 +0.3
	comp=Z,225nm,0.8s,mb5.9					
LPL	La Plagne	78.18	314⇑	iP	P	05 56 10.9 +0.3
LPL				pmax	pmax	
	comp=Z,113nm,0.8s,mb5.8					
RRL	Cesana Torines	78.21	314	P	P	05 56 10.3 -0.5
MBDF	Montbardon	78.25	313⇑	iP	P	05 56 10.2 -0.7
	comp=Z,92nm,0.9s,mb5.4					
MBDF	Montbardon	78.25	313⇑	iP	P	05 56 10.2 -0.7
MBDF				pmax	pmax	
	comp=Z,46nm,0.9s,mb5.4					
BNI	Bardonecchia	78.27	314	P	P	05 56 10.9 -0.2
BNI				pmax	pmax	
	comp=Z,52nm,0.9s,mb5.5					
BNI	Bardonecchia	78.27	314	eP	P	05 56 10.7 -0.4
	comp=Z,48nm,0.8s,mb5.5					
THEF	They Montfort	78.37	317	eP	P	05 56 11.3 -0.3
FRF	La Foret Royal	78.48	312⇑	iP	P	05 56 12.1 -0.1
	comp=Z,199nm,1.1s,mb5.7					
FRF	La Foret Royal	78.48	312⇑	iP	P	05 56 12.1 -0.1
FRF				pmax	pmax	
	comp=Z,99nm,1.1s,mb5.7					
CABF	La Chapelle	78.50	315⇑	iP	P	05 56 12.3 0.0
	comp=Z,130nm,1.1s,mb5.5					
CABF	La Chapelle	78.50	315⇑	iP	P	05 56 12.3 0.0
CABF				pmax	pmax	
	comp=Z,65nm,1.1s,mb5.5					
LMR	La Mourre	78.60	312⇑	iP	P	05 56 12.7 -0.3
	comp=Z,74nm,1.0s,mb5.3					
LMR	La Mourre	78.60	312⇑	iP	P	05 56 12.7 -0.3
LMR				pmax	pmax	
	comp=Z,37nm,1.0s,mb5.3					
ORIF	Oris-en-Rattie	78.85	314⇑	iP	P	05 56 13.8 -0.5
	comp=Z,59nm,0.9s,mb5.2					
ORIF	Oris-en-Rattie	78.85	314⇑	iP	P	05 56 13.8 -0.5
ORIF				pmax	pmax	
	comp=Z,29nm,0.9s,mb5.2					
GIVF	Givet	78.90	319⇑	iP	P	05 56 14.3 -0.2
MEZF	Maizieres J'vi	78.96	317⇑	iP	P	05 56 14.6 -0.2
	comp=Z,44nm,1.0s,mb5.0					
OG05	Jujurieux	79.00	315	eP	P	05 56 15.3 +0.2
SMRF	Simiane la Rot	79.19	313⇑	iP	P	05 56 16.5 +0.3
	comp=Z,118nm,1.0s,mb5.5					
BAIF	Baives	79.30	319⇑	iP	P	05 56 16.7 +0.1
	comp=Z,124nm,1.0s,mb5.5					
BAIF	Baives	79.30	319⇑	iP	P	05 56 16.7 +0.1
BAIF				pmax	pmax	
	comp=Z,62nm,1.0s,mb5.5					
VIVF	Saint-Julien-l	79.71	314⇑	iP	P	05 56 18.8 -0.1
	comp=Z,138nm,1.1s,mb5.5					
VIVF	Saint-Julien-l	79.71	314⇑	iP	P	05 56 18.8 -0.1
VIVF				pmax	pmax	
	comp=Z,69nm,1.1s,mb5.5					
SMF	Signal de Mont	80.03	316⇑	iP	P	05 56 20.2 -0.4
	comp=Z,87nm,0.8s,mb5.4					
SMF	Signal de Mont	80.03	316⇑	iP	P	05 56 20.2 -0.4
SMF				pmax	pmax	
	comp=Z,43nm,0.8s,mb5.4					
SSF	Saint Saulge	80.19	316⇑	iP	P	05 56 21.2 -0.3
SSF				pmax	pmax	
	comp=Z,33nm,0.9s,mb5.3					
SSF	Saint Saulge	80.19	316⇑	iP	P	05 56 21.2 -0.3
	comp=Z,33nm,0.9s,mb5.3					
PLDF	La Plantade	80.28	315	eP	P	05 56 22.4 +0.5
AVF	Avril sur Loir	80.33	316⇑	iP	P	05 56 21.8 -0.4
	comp=Z,72nm,0.8s,mb5.3					
AVF	Avril sur Loir	80.33	316⇑	iP	P	05 56 21.8 -0.4
AVF				pmax	pmax	
	comp=Z,36nm,0.8s,mb5.3					
LASF	Ste Croix	80.40	313⇑	iP	P	05 56 23.0 +0.3
	comp=Z,207nm,1.3s,mb5.6					
AGO	Saint Agoulin	80.60	315	eP	P	05 56 24.1 +0.4
BGF	Bois d'Agland	80.72	316⇑	iP	P	05 56 24.2 0.0
	comp=Z,108nm,1.1s,mb5.4					
BGF	Bois d'Agland	80.72	316⇑	iP	P	05 56 24.2 0.0
BGF				pmax	pmax	
	comp=Z,54nm,1.1s,mb5.4					
PYM	Petit Puy Mans	80.73	315	eP	P	05 56 24.6 +0.2
HYF	Humbligny	80.74	316⇑	iP	P	05 56 24.7 +0.3
TSUM	Tsumeb	80.94	248	eP	P	05 56 27.4 +1.4
	comp=Z,17nm,1.0s,mb4.9					
TSUM				LR	LR	
	comp=Z,1μm,19.0s,MS5.3					
VERF	Verneugheol	81.10	315	eP	P	05 56 26.4 +0.1
TCF	Toulx Ste Croi	81.19	315⇑	iP	P	05 56 26.9 +0.1
	comp=Z,120nm,1.1s,mb5.4					
TCF	Toulx Ste Croi	81.19	315⇑	iP	P	05 56 26.9 +0.1
TCF				pmax	pmax	
	comp=Z,60nm,1.1s,mb5.4					
CAF	Calviac	81.53	314⇑	iP	P	05 56 28.9 +0.4
	comp=Z,101nm,1.1s,mb5.4					
CAF	Calviac	81.53	314⇑	iP	P	05 56 28.9 +0.4
CAF				pmax	pmax	
	comp=Z,51nm,1.1s,mb5.4					
RJF	Les Rejaudoux	81.84	315⇑	iP	P	05 56 30.7 +0.5
	comp=Z,177nm,1.2s,mb5.6					
RJF	Les Rejaudoux	81.84	315⇑	iP	P	05 56 30.7 +0.5
RJF				pmax	pmax	
	comp=Z,89nm,1.2s,mb5.6					
TNA	Tin City	81.85	25	eP	P	05 56 30.1 +0.4
	comp=Z,15nm,1.0s,mb4.9					
DAG	Danmarks Havn	82.13	348⇑	iP	P	05 56 30.9 -0.2
DAG				pmax	pmax	
	comp=Z,38nm,1.7s,mb5.0					
DAG	Danmarks Havn	82.13	348⇑	iP	P	05 56 30.9 -0.2
	comp=Z,38nm,1.7s,mb5.0					
LDF	La Druitiere	82.34	318⇑	iP	P	05 56 32.6 0.0
	comp=Z,79nm,0.8s,mb5.4					
LDF	La Druitiere	82.34	318⇑	iP	P	05 56 32.6 0.0
LDF				pmax	pmax	
	comp=Z,39nm,0.8s,mb5.4					
LFF	La Frestale	82.45	314⇑	iP	P	05 56 33.8 +0.5
	comp=Z,112nm,1.1s,mb5.4					
LFF	La Frestale	82.45	314⇑	iP	P	05 56 33.8 +0.5
LFF				pmax	pmax	
	comp=Z,56nm,1.1s,mb5.4					
SUR	Sutherland	82.46	234	eP	P	05 56 34.5 +0.8
	comp=Z,48nm,0.8s,mb5.5					
EMIR	Miracle	82.46	311	P	P	05 56 34.0 +0.6
	comp=Z,66nm,0.7s,mb5.7					
FLN	La Foliniere	82.54	318⇑	iP	P	05 56 33.5 -0.2
	comp=Z,84nm,0.9s,mb5.5					
FLN	La Foliniere	82.54	318⇑	iP	P	05 56 33.5 -0.2
FLN				pmax	pmax	
	comp=Z,42nm,0.9s,mb5.5					
MFF	Saint Martin d	82.74	316⇑	iP	P	05 56 34.7 -0.1
	comp=Z,112nm,1.0s,mb5.5					
MFF	Saint Martin d	82.74	316⇑	iP	P	05 56 34.7 -0.1
MFF				pmax	pmax	
	comp=Z,56nm,1.0s,mb5.5					
EKA	Eskdalemuir Ar	82.80	325	P	P	05 56 35.7 +0.8
	comp=Z,30nm,0.8s,mb5.3,baz=90,slow=5.4,SNR=39					
GRR	Gorron	82.86	318⇑	iP	P	05 56 35.2 -0.2
	comp=Z,65nm,1.1s,mb5.3					
GRR	Gorron	82.86	318⇑	iP	P	05 56 35.2 -0.2
GRR				pmax	pmax	
	comp=Z,33nm,1.1s,mb5.3					
EPOB	Poblet	82.89	311	P	P	05 56 36.2 +0.5
	comp=Z,50nm,0.7s,mb5.7					
EPF	Esparros	83.11	312⇑	iP	P	05 56 36.3 -0.5
	comp=Z,84nm,1.4s,mb5.3					
EPF	Esparros	83.11	312⇑	iP	P	05 56 36.3 -0.5
EPF				pmax	pmax	
	comp=Z,42nm,1.4s,mb5.3					
ANM	Nome	83.15	25	eP	P	05 56 38.0 +1.5
EBIE	Bielsa	83.31	312	P	P	05 56 39.1 +1.2
	comp=Z,20nm,1.1s,mb5.1					
EBR	Ebro Roquetas	83.43	310	eP	P	05 56 39.0 +0.5
MAW	Mawson	83.45	191	eP	P	05 56 39.3 +1.3
	comp=Z,14nm,1.4s,mb4.8					
MAW	Mawson	83.45	191	eP	P	05 56 39.3 +1.3
MAW				pmax	pmax	
	comp=Z,14nm,1.4s					
MAW	Mawson	83.45	191	P	P	05 56 39.1 +1.1
	comp=Z,8.6nm,0.8s,mb4.8,baz=354,slow=6.3,SNR=5.9					
ERTA	Horta de San J	83.52	310	P	P	05 56 39.6 +0.7
	comp=Z,16nm,0.9s,mb5.2					
ETSF	Etsaut	83.78	312⇑	iP	P	05 56 40.8 +0.6
	comp=Z,57nm,0.8s,mb5.4					
ETSF	Etsaut	83.78	312⇑	iP	P	05 56 40.8 +0.6
ETSF				pmax	pmax	
	comp=Z,29nm,0.8s,mb5.5					
ESAC	San Caprasio	83.96	311	P	P	05 56 41.8 +0.7
	comp=Z,59nm,0.8s,mb5.8					
SGMF	Saint Gilles	83.99	318⇑	iP	P	05 56 41.3 +0.1
	comp=Z,53nm,0.9s,mb5.4					
SGMF	Saint Gilles	83.99	318⇑	iP	P	05 56 41.3 +0.1
SGMF				pmax	pmax	
	comp=Z,27nm,0.9s,mb5.4					
SJPF	Ste Jean	84.21	313⇑	iP	P	05 56 42.9 +0.5
	comp=Z,122nm,1.3s,mb5.6					
SJPF	Ste Jean	84.21	313⇑	iP	P	05 56 42.9 +0.5
SJPF				pmax	pmax	
	comp=Z,61nm,1.3s,mb5.6					
EMOS	Mosqueruela	84.25	310	P	P	05 56 44.0 +1.3
	comp=Z,70nm,0.9s,mb5.8					
EALK	Alkurruntz	84.39	313	P	P	05 56 43.5 +0.3
	comp=Z,44nm,1.3s,mb5.4					
EBEN	Beniarda	84.41	308	P	P	05 56 44.1 +0.6
	comp=Z,22nm,0.8s,mb5.3					
ROSF	Rostrenen	84.44	318⇑	iP	P	05 56 43.5 +0.1
	comp=Z,169nm,1.1s,mb5.8					
ROSF	Rostrenen	84.44	318⇑	iP	P	05 56 43.5 +0.1
ROSF				pmax	pmax	
	comp=Z,84nm,1.1s,mb5.8					
QUIF	Quistinic	84.47	318⇑	iP	P	05 56 43.3 -0.3
	comp=Z,32nm,0.8s,mb5.2					
QUIF	Quistinic	84.47	318⇑	iP	P	05 56 43.3 -0.3
QUIF				pmax	pmax	
	comp=Z,16nm,0.8s,mb5.2					
DLF	Lyons Farm	85.21	324	eP	P	05 56 47.2 +0.1
DMUB	Kingscourt	85.26	324	eP	P	05 56 48.8 +1.4
DCN	Croghan	85.62	324	eP	P	05 56 50.5 +1.3
EVIA	Vianos	86.16	309	P	P	05 56 53.6 +1.3
EVIA				pmax	pmax	
	comp=Z,28nm,1.0s,mb5.5					
EVIA	Vianos	86.16	309	P	P	05 56 53.6 +1.3
	comp=Z,28nm,1.0s,mb5.4					
ENIJ	Nijar	86.33	307	P	P	05 56 54.4 +1.3
ENIJ				pmax	pmax	
	comp=Z,24nm,1.0s,mb5.4					
ENIJ	Nijar	86.33	307	P	P	05 56 54.4 +1.3
	comp=Z,24nm,1.0s,mb5.4					
EQES	Quesada	86.80	308	P	P	05 56 54.7 -0.7
	comp=Z,13nm,0.9s,mb5.2					
EBER	Berja	86.88	307	P	P	05 56 56.7 +0.9
	comp=Z,31nm,1.3s,mb5.4					
GUD	Guadarrama	86.91	311	P	P	05 56 56.9 +1.0
GUD				pmax	pmax	
	comp=Z,28nm,0.8s,mb5.5					
GUD	Guadarrama	86.91	311	P	P	05 56 56.9 +1.0
	comp=Z,28nm,0.8s,mb5.5					
ESDC	Sonseca Array	87.01	310	P	P	05 56 57.2 +0.8
	comp=Z,12nm,0.8s,mb5.2,baz=56,slow=4.8,SNR=42					
ESDC	Sonseca Array	87.01	310	P	P	05 56 57.0 +0.7
	comp=Z,15nm,0.8s,mb5.3					
ESLA	Sonseca Array	87.01	310	eP	P	05 56 56.7 +0.4
	comp=Z,10nm,1.1s,mb5.0					
IMA	Indian Mountai	87.18	22	eP	P	05 56 57.8 +1.2
IMA				pmax	pmax	
	comp=Z,210nm,1.0s,mb6.3					
IMA	Indian Mountai	87.18	22	eP	P	05 56 57.6 +1.0
ELUQ	Luque	87.78	308	P	P	05 57 00.1 0.0
ELUQ				pmax	pmax	
	comp=Z,8.0nm,0.8s,mb5.0					
ELUQ	Luque	87.78	308	P	P	05 57 00.1 0.0
	comp=Z,7.7nm,0.8s,mb5.0					
ELOJ	Sierra Loja	87.79	308	P	P	05 56 59.8 -0.4
ELOJ				pmax	pmax	
	comp=Z,2.0nm,0.8s,mb4.4					
ELOJ	Sierra Loja	87.79	308	P	P	05 56 59.8 -0.4
	comp=Z,1.5nm,0.8s,mb4.3					
EADA	Adamuz	87.86	309	P	P	05 57 00.9 +0.4
	comp=Z,18nm,0.9s,mb5.3					
SVW2	Sparrevohn	88.57	27	eP	P	05 57 05.3 +2.0
ESPR	Espera	89.18	308	P	P	05 57 06.5 -0.4
	comp=Z,17nm,1.1s,mb5.3					
ELOB	Lobios	89.41	313	P	P	05 57 08.6 +0.8
	comp=Z,24nm,1.0s,mb5.5					
STS	Santiago	89.46	314	P	P	05 57 08.8 +0.8
STS				pmax	pmax	
	comp=Z,15nm,0.8s,mb5.4					
STS	Santiago	89.46	314	P	P	05 57 08.8 +0.8
	comp=Z,15nm,0.8s,mb5.4					
MTE	Manteigas	89.47	311	eP	P	05 57 09.3 +1.2
	comp=Z,93nm,1.5s,mb5.9					
MTE	Manteigas	89.47	311	eP	P	05 57 08.0 -0.1
EBAD	Badajoz	89.54	310	P	P	05 57 08.2 -0.3
	comp=Z,13nm,0.8s,mb5.3					
EMIN	Mina Concepcio	89.56	309	P	P	05 57 08.9 +0.2
	comp=Z,15nm,1.0s,mb5.3					
PCBR	Castelo Branco	89.58	311	eP	P	05 57 09.8 +1.2
	comp=Z,68nm,1.3s,mb5.8					
PVIS	Viseu	89.63	312	eP	P	05 57 09.3 +0.4
	comp=Z,69nm,1.9s,mb5.7					
EMAZ	Mazaricos	89.74	314	P	P	05 57 10.1 +0.8
	comp=Z,40nm,1.0s,mb5.7					
COLA	College	89.89	22	eP	P	05 57 10.3 +0.8
COLA				MLR	MLR	
	comp=Z,500nm,17.0s,MS5.0					
SPU	Mount Spurr	90.07	26	eP	P	05 57 10.5 +0.1
MCK	McKinley	90.08	23	P	P	05 57 11.6 +1.2
MCK				pmax	pmax	
	comp=Z,38nm,1.1s,mb5.6					
MCK	McKinley	90.08	23	eP	P	05 57 10.7 +0.3
	comp=Z,36nm,1.1s,mb5.6					
SYO	Syowa Base	90.10	197	⇓P	P	05 57 11.7 +1.3
SYO	Syowa Base	90.10	197	⇑pP	pP	05 57 14.0 -3.6
RSO	Redoubt South	90.10	27	eP	P	05 57 11.7 +1.2
PALC	Alcoutim	90.26	309	eP	P	05 57 12.6 +0.7
	comp=Z,69nm,1.4s,mb5.8					
ILAR	Eielson Array	90.29	22	P	P	05 57 11.2 -0.1
	comp=Z,8.7nm,0.8s,mb5.2,baz=302,slow=4.1,SNR=102					
ILAR				PP	PP	06 00 48.9 +1.1
	comp=Z,2.2nm,0.9s,baz=296,slow=7.8,SNR=5.2					
ILAR				PKKPbc		06 14 40.5
	comp=Z,0.7nm,0.8s,baz=130,slow=1.2,SNR=7.6					
EVO	Evora	90.36	310⇑	iP	P	05 57 13.6 +1.3
	comp=Z,75nm,1.2s,mb5.6					
PBEJ	Beja	90.39	309	eP	P	05 57 13.9 +1.4
	comp=Z,47nm,1.2s,mb5.7					
PWA	Palmer West	90.76	25	eP	P	05 57 14.4 +0.9
FIB	Fire Island	90.87	26	eP	P	05 57 15.8 +1.7
PMR	Palmer	91.09	25	eP	P	05 57 15.9 +0.8
PMR				MLR	MLR	
	comp=Z,300nm,19.0s,MS4.8					
SLKM	Skilak Lake	91.18	26	P	P	05 57 16.5 +1.0
SLKM	Skilak Lake	91.18	26	eP	P	05 57 15.9 +0.4
PTEO	Sao Teotonio	91.19	309	eP	P	05 57 17.8 +1.7
	comp=Z,86nm,1.1s,mb6.0					
SML	Sawmill	91.31	25	P	P	05 57 17.8 +1.7
SML	Sawmill	91.31	25	eP	P	05 57 17.7 +1.6
KDAK	Kodiak Island	91.41	29	eP	P	05 57 16.2 -0.5
THY	Trims Highway	91.45	23	eP	P	05 57 17.9 +1.2
RES	Resolute Bay	92.21	2	P	P	05 57 21.2 +1.2
RES				pmax	pmax	
	comp=Z,20nm,1.0s,mb5.4					
RES	Resolute Bay	92.21	2	eP	P	05 57 20.3 +0.3
	comp=Z,16nm,0.9s,mb5.3					
INK	Inuvik	92.25	16	eP	P	05 57 20.1 -0.2
INK				pmax	pmax	
	comp=Z,62nm,1.3s					
INK	Inuvik	92.25	16	P	P	05 57 20.9 +0.6
	comp=Z,11nm,0.7s,mb5.3,baz=310,slow=5.9,SNR=27					
INK				PKKPbc		06 14 30.7
	comp=Z,3.1nm,0.9s,baz=324,slow=28,SNR=12					
INK	Inuvik	92.25	16	eP	P	05 57 19.8 -0.5
	comp=Z,41nm,1.2s,mb5.6					
MENT	Mentasta	92.48	23	eP	P	05 57 23.8 +2.3
DIV	Divide	92.71	25	eP	P	05 57 24.3 +1.8
	comp=Z,29nm,0.8s,mb5.8					
EYAK	Cordova Ski Ar	93.04	25	eP	P	05 57 25.7 +1.6
DAWY	Dawson	93.34	20	eP	P	05 57 26.4 +1.0
DBIC	Dimbokro	96.13	278	eP	P	05 57 39.9 +0.5
DBIC	Dimbokro	96.13	278	P	P	05 57 40.4 +1.0
	comp=Z,6.6nm,1.1s,mb5.0,baz=86,slow=5.9,SNR=6.4					
YKA	Yellowknife Ar	101.57	13	P	P	05 58 03.2 +0.4
	comp=Z,0.9nm,0.6s,baz=329,slow=4.6,SNR=19					
YKA				PP	PP	06 02 09.4 -6.1
	comp=Z,3.0nm,1.0s,baz=332,slow=7.5,SNR=6.2					
YKA				PKKPbc		06 14 09.1
	comp=Z,0.5nm,0.8s,baz=143,slow=2.5,SNR=8.0					
YKA	Yellowknife Ar	101.57	13	P	P	05 58 03.2 +0.4
YKA				PP	PP	06 02 09.4 -6.1
YKA				PKKPbc		06 14 09.1
EDM	Edmonton	110.13	17	PKIKP	PKPdf	06 02 43.1 -2.2
SCHQ	Schefferville	110.17	348	PKKPbc		06 13 44.3
	comp=Z,1.5nm,0.6s,baz=218,slow=16,SNR=4.8					
MSO	Missoula	115.58	20	ePKPdf	PKPdf	06 02 53.0 -3.2
ULM	Lac du Bonnet	116.40	6	PKP	PKPdf	06 02 54.3 -3.4
	comp=Z,1.8nm,0.5s,baz=329,slow=3.2,SNR=6.1					
ULM				PKKPbc		06 13 21.9
	comp=Z,0.9nm,0.5s,baz=228,slow=9.7,SNR=3.3					
BOZ	Bozeman (W)	117.39	19	ePKIKP	PKPdf	06 02 56.9 -2.7
LAO	LASA Array	117.98	15	ePKPdf	PKPdf	06 02 58.9 -1.9
LOHW	Long Hollow	119.53	20	ePKPdf	PKPdf	06 03 01.6 -2.2
SNOW	Snow King Moun	119.62	20	ePKPdf	PKPdf	06 03 02.4 -1.6
BW06	Boulder Array	120.63	19	ePKPdf	PKPdf	06 03 03.2 -2.9
PDAR	Pinedale Array	120.63	19	PKP	PKPdf	06 03 03.2 -2.8
	comp=Z,4.0nm,0.7s,baz=37,slow=1.1,SNR=38					
PDAR				PKKPbc		06 13 11.7
	comp=Z,0.4nm,0.7s,baz=108,slow=4.7,SNR=3.5					
NVAR	Mina Array Bea	120.91	28	PKP	PKPdf	06 03 05.1 -1.6
	comp=Z,7.0nm,0.8s,baz=43,slow=1.8,SNR=38					
NVAR				SKP		06 06 40.5
	comp=Z,1.3nm,0.9s,baz=40,slow=1.7,SNR=3.7					
MNV	Mina	120.97	28	ePKIKP	PKPdf	06 03 05.0 -1.8
HWUT	Hardware Ranch	120.98	21	ePKPdf	PKPdf	06 03 04.1 -2.7
MDV	Middlebury	121.76	348	PKP	PKPdf	06 03 05.4 -2.8
MVU	Marysvale	123.45	24	ePKPdf	PKPdf	06 03 10.4 -1.2
MSU	Marysvale	123.46	24	ePKIKP	PKPdf	06 03 10.2 -1.4
GENY	Geneseo	123.74	352	PKPdf	PKPdf	06 03 08.6 -3.4
PV10	Paradox Valley	124.74	21	ePKPdf	PKPdf	06 03 12.4 -1.8
LDFC	Landfair	125.12	28	ePKPdf	PKPdf	06 03 13.2 -1.7
KSU1	Kansas State U	127.25	9	ePKPdf	PKPdf	06 03 16.1 -2.8
ANMO	Albuquerque	128.72	21	ePKIKP	PKPdf	06 03 20.4 -1.5
ANMO	Albuquerque	128.72	21	ePKPdf	PKPdf	06 03 20.2 -1.7
LAZ	Ladron	128.98	22	ePKPdf	PKPdf	06 03 20.9 -1.5
LPM	Los Pinos Moun	129.24	21	ePKPdf	PKPdf	06 03 21.2 -1.7
LENM	Lemitar	129.25	21	ePKPdf	PKPdf	06 03 22.0 -1.0
TUC	Tucson	129.38	26	ePKIKP	PKPdf	06 03 21.6 -1.6
CPRX	Cap Rock	131.33	19	ePKPdf	PKPdf	06 03 24.6 -2.3
GDL2	Guadalupe Moun	131.94	20	ePKPdf	PKPdf	06 03 25.9 -2.2
MYNC	Murphy	131.97	357	PKHKP		06 03 07.4
MNTX	Cornudas Mount	132.04	21	ePKP	PKPdf	06 03 25.3 -3.0
MNTX				eSKP		06 06 51.0
MIAR	Mount Ida	132.16	7	ePKIKP	PKPdf	06 03 25.6 -2.9
LTX	Lajitas	134.80	21	ePKIKP	PKPdf	06 03 31.3 -2.2
TXAR	Lajitas Array	134.80	21	PKhKP		06 03 18.8
	comp=Z,1.0nm,1.0s,baz=349,slow=0.3,SNR=5.1					
TXAR				PKP	PKPdf	06 03 31.4 -2.2
	comp=Z,3.8nm,0.7s,baz=224,slow=0.9,SNR=28					
TXAR				PP	PP	06 06 03.0 -4.2
	comp=Z,1.5nm,0.9s,baz=346,slow=5.2,SNR=4.9					
TXAR				SKPbc		06 07 01.4
	comp=Z,4.8nm,0.9s,baz=297,slow=2.8,SNR=11					
JCT	Junction City	134.91	16	ePKIKP	PKPdf	06 03 31.1 -2.6
TRQA	Tornquist	146.69	217	ePKPdf	PKPdf	06 03 52.9 -1.5
TEIG	Tepich	146.82	2	ePKPdf	PKPdf	06 03 53.1 -2.0
PLCA	Paso Flores	148.98	205	ePKIKP	PKPdf	06 03 55.8 -2.2
PLCA	Paso Flores	148.98	205	PKP	PKPdf	06 03 56.8 -1.2
	comp=Z,15nm,0.9s,baz=152,slow=2.1,SNR=7.1					
PLCA				PKPbc	PKPdf	06 04 00.2 +2.3
	comp=Z,15nm,0.9s,baz=179,slow=1.9,SNR=17					
SDV	Santo Domingo	152.76	323	ePKPdf	PKPdf	06 04 01.3 -3.1
SDV				ePKPbc	PKPdf	06 04 08.1 +3.6
SDV				ePKPab	PKPab	06 04 19.0 -1.5
ROSC	El Rosal	158.15	324	PKP	PKPdf	06 04 09.6 -2.1
	comp=Z,14nm,1.0s,baz=88,slow=2.9,SNR=9.3					
ROSC				PKPab	PKPab	06 04 44.0 +0.4
	comp=Z,16nm,0.7s,baz=111,slow=5.5,SNR=8.8					
LPAZ	La Paz	161.52	258	ePKIKP	PKPdf	06 04 13.6 -1.6
LPAZ	La Paz	161.52	258	PKP	PKPdf	06 04 14.0 -1.2
	comp=Z,5.2nm,0.9s,baz=11,slow=1.7,SNR=19					
LPAZ				PKPab	PKPab	06 04 58.1 +0.2
	comp=Z,9.6nm,1.0s,baz=65,slow=2.6,SNR=11					
OTAV	Otavalo	164.25	327	ePKPdf	PKPdf	06 04 16.1 -2.0

IDC 29 05:54:26.3±9.3, 17.11S×170.14E, h639km±110km, mb2.9/5, mb1 3.2/5, mb1mx3.0/14, mbtmp3.9/5, Error ellipse: s-maj=61.4km s-min=27.8km az=60.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	34.02	260	P	P	06 00 21.3	-0.1
	0.9nm,0.9s,baz=95,slow=9.3,SNR=5.1						
ASAR	Alice Springs	34.52	253	P	P	06 00 23.6	-1.8
	2.7nm,0.9s,baz=84,slow=8.6,SNR=13						
VNDA	Vanda	60.58	182	P	P	06 03 36.5	-2.0
	0.7nm,0.7s,baz=333,slow=7.6,SNR=2.8						
CMAR	Chiang Mai Arr	78.43	293	P	P	06 05 22.9	-1.7
	1.1nm,0.4s,baz=124,slow=4.5,SNR=5.3						
ILAR	Eielson Array	87.95	17	P	P	06 06 09.3	-1.4
	1.7nm,1.3s,baz=221,slow=4.8,SNR=5.1				

50nm,0.8s
COCO West Island 15.70 169 *e*P **P 06 14 20.5 -2.7**
373nm,1.2s
CM31 Chiang Mai Arr 15.90 18 *e*P **P 06 14 23.3 -2.5**
17nm,0.4s
CMAR Chiang Mai Arr 15.90 18 Pn **P 06 14 24.2 -1.5**
0.6nm,0.3s,baz=214,slow=13,SNR=110
CMAR LR LR 06 20 58.1
comp=Z,3μm,18.8s,baz=205,slow=39
MDRS Chennai 16.48 307 *e* **P 06 14 32.0 -1.1**
MDRS *e* 06 17 02.0
TRD Trivandrum 17.45 288 *e*P **P 06 14 43.9 -1.4**
TRD *i* S **S 06 17 55.9 -0.8**
KOD Kodaikanal 17.54 294 *e*P **P 06 14 45.5 -0.9**
KOD *e* 06 14 51.2
comp=Z,117nm,1.6s
KOD *e* 06 17 43.9
KOD *e* 06 17 43.9
KOD *e*S **S 06 18 01.9 +3.3**
KOD *e*S **S 06 18 01.9 +3.3**
VIS Vishakhapatnam 17.58 325 *e*P **P 06 14 45.6 -1.3**
VIS *e* 06 14 48.0
comp=Z,161nm,0.8s
VIS *e*S **S 06 18 02.0 +2.5**
BWNR Bhubaneshwar 18.57 336 *e*P **P 06 14 57.2 -2.0**
BWNR *e* 06 14 57.8
comp=Z,170nm,0.4s
BWNR *e* 06 18 09.2
BWNR *e*S **S 06 18 25.4 +3.5**
BWNR *i* 06 26 54.5
comp=Z,2μm,15.0s
CAL Calcutta 19.82 345 *e* **P 06 15 15.7 +2.1**
comp=Z,1μm,0.3s
CAL *e* **S 06 19 01.2 +12**
HYB Hyderabad 20.45 314 *e*P **P 06 15 18.0 -2.2**
HYB *e*S **S 06 19 10.0 +7.4**
HYB Hyderabad 20.45 314 *i* P **P 06 15 18.0 -2.2**
comp=Z,143nm,1.2s
HYB *e*S **S 06 19 10.0 +7.4**
AGT Agartala 20.60 354⇑*i* **P 06 15 13.0 -8.7**
AGT *i* 06 16 05.0
MNGI Mangalore 21.00 298 *i* P **P 06 15 25.8 0.0**
MNGI *i* **S 06 19 22.8 +9.4**
comp=Z,161nm,1.6s
IMP Imphal 21.36 1 *e* **P 06 15 37.4 +8.0**
QIZ Qiongzhong 22.20 44⇓*i*P **P 06 15 38.5 +0.7**
QIZ AP 06 15 47.3
QIZ S **S 06 19 36.5 +1.0**
QIZ LR LR
comp=N,22μm,15.7s
QIZ LR LR
comp=Z,16μm,11.4s,MS5.7
SHL Shillong 22.20 356 *e*P **P 06 15 37.0 -0.9**
SHL *e* 06 19 36.4
SHL *e*S **S 06 19 42.8 +7.2**
SHBG Sahibganj 22.55 346 *e* **P 06 15 46.7 +5.3**
GOA Goa 23.03 303 *e* **P 06 15 54.0 +7.8**
GOA *e* 06 16 00.4
comp=Z,292nm,1.2s
GOA *i* **S 06 20 10.3 +20**
KMI Kunming 23.36 21 P **P 06 15 51.1 +1.8**
KMI *PP 06 15 59.4
KMI 06 16 23.4
KMI S **S 06 20 05.0 +8.5**
KMI *SS 06 20 18.7
KMI SS SS 06 21 00.5 +17
KMI pmax pmax
comp=Z,88nm,2.0s,mb4.8
KMI MLR MLR
comp=Z,11μm,10.4s,MS5.6
KMI Kunming 23.36 21 P **P 06 15 51.1 +1.8**
comp=Z,88nm,2.0s,mb4.8
KMI pP 06 15 59.4
KMI PP PP 06 16 23.4 +2.4
KMI S **S 06 20 05.0 +8.5**
KMI sS 06 20 18.7
KMI SS SS 06 21 00.5 +17
KMI LR LR
comp=Z,11μm,10.4s,MS5.6
KAD Karad 23.69 307 *e*P **P 06 15 53.6 +1.0**
KAD *e* 06 15 59.5
comp=Z,83nm,1.0s
DGAR Diego Garcia 23.75 243 P **P 06 15 54.6 +1.5**
POO Poona 24.64 309⇓*i*P **P 06 16 03.0 +1.2**
comp=Z,143nm,1.5s,mb5.3
POO *i* 06 20 44.0
ALBI Allahabad 24.70 333 *e*P **P 06 16 02.0 -0.3**
JIRN Jiri 25.27 344 *e*P **P 06 16 08.2 +0.6**
comp=Z,223nm,1.1s,mb5.6
BHPL Bhopal 25.33 323 *e*P **P 06 16 09.7 +1.4**
BHPL *e* 06 16 11.4
comp=Z,116nm,1.1s
BHPL *e* **S 06 20 46.1 +16**
PKI Pulchoki 25.41 343 *e*P **P 06 16 09.1 +0.2**
comp=Z,274nm,1.5s,mb5.5
DMN Daman 25.53 342 *e*P **P 06 16 10.3 +0.2**
comp=Z,107nm,0.9s,mb5.4
GUN Gumba 25.59 344 *e*P **P 06 16 10.9 +0.2**
comp=Z,254nm,1.0s,mb5.7
KKN Kakani 25.65 343 *e*P **P 06 16 11.4 +0.2**
comp=Z,173nm,1.2s,mb5.5
BOM Bombay 25.66 309 *e*P **P 06 16 11.6 +0.2**
BOM *e* **S 06 20 49.7 +14**
GKN Gorkha 26.05 341 *e*P **P 06 16 14.9 0.0**
comp=Z,206nm,1.0s,mb5.6
KOLN Koldanda 26.18 339 *e*P **P 06 16 16.4 +0.3**
comp=Z,274nm,1.1s,mb5.7
LSA Lhasa 26.36 355 P **P 06 16 20.0 +2.2**
LSA AP pP 06 16 28.3 +2.0
LSA PCP PcP 06 19 41.0 -2.7
LSA S **S 06 20 49.0 +1.9**
LSA XS 06 21 02.5
LSA SCP 06 23 20.3
LSA AMB AMB
comp=Z,480nm,0.8s,mb6.1
LSA AMB AMB
comp=Z,1μm,6.1s
TGY Tagaytay City 28.92 67 P **P 06 16 41.8 +0.7**
comp=Z,115nm,0.4s,mb6.0,baz=196,slow=16,SNR=4.9
TGY LR LR 06 28 43.4
comp=Z,4μm,19.3s,MS5.1,baz=189,slow=37
NDI New Delhi 29.73 330 *e*P **P 06 16 47.9 -0.4**
NDI *e* 06 16 50.1
comp=Z,100nm,1.4s
NDI *e*S **S 06 21 44.6 +3.4**
SNPH Sibulan 29.92 77 *e*P **P 06 16 52.0 +1.8**
TBP Tagbilaran 30.59 77 *e*P **P 06 16 55.6 -0.5**
DDI Dehra Dun 30.69 333 *e*P **P 06 16 56.0 -0.8**
SMLA Simla 31.78 332 *e* **P 06 17 19.5 +13**
SMLA *e* 06 17 25.3
comp=Z,148nm,1.6s
SMLA *e* 06 17 25.3
comp=Z,148nm,1.6s
SMLA *e* 06 22 30.3
DAV Davao City (W) 31.94 82 *e*P **P 06 17 15.0 +7.1**
QZH Quanzhou 32.19 46 *e*P **P 06 17 11.8 +1.8**
QZH LR LR
comp=N,8μm,11.8s,MS5.9
QZH LR LR
comp=E,14μm,11.6s,MS5.9
BHK Bhakra 32.37 332 *e* **P 06 17 10.9 -0.6**
WHN Wuhan 33.38 34 ⇓P **P 06 17 20.5 +0.2**
WHN AP pP 06 17 29.5 +0.6
WHN S **S 06 22 45.0 +6.7**
WHN AMB AMB
comp=Z,130nm,1.2s,mb5.7
XAN Xi'an 33.70 23 P **P 06 17 21.8 -1.2**
XAN AP pP 06 17 31.0 -0.7
XAN AMB AMB
comp=Z,108nm,0.9s,mb5.8
LZH Lanzhou 33.93 15 ⇑P **P 06 17 24.0 -1.0**
LZH AP pP 06 17 32.3 -1.4
LZH PP PP 06 18 38.5 -0.5
LZH S **S 06 22 47.0 +0.2**
LZH XS 06 23 00.5
LZH SS SS 06 24 56.0 +1.5
LZH AMB AMB
comp=Z,92nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,396nm,5.3s
LZH LR LR
comp=E,7μm,12.2s
LZH LR LR
comp=Z,7μm,13.5s,MS5.6
LZH Lanzhou 33.93 15 ⇑P **P 06 17 24.0 -1.0**
LZH *SP sP 06 17 34.0 -3.4
LZH 06 18 38.5
LZH S **S 06 22 47.1 +0.3**
LZH *SS 06 23 00.4
LZH SS SS 06 24 56.0 +1.5
LZH pmax pmax
comp=Z,92nm,1.5s,mb5.5
LZH MLR MLR
comp=Z,7μm,13.5s,MS5.6
LZH Lanzhou 33.93 15 ⇑P **P 06 17 24.0 -1.0**
comp=Z,92nm,1.5s,mb5.5
LZH pP pP 06 17 32.3 -1.4
LZH sP sP 06 17 34.0 -3.4
LZH PP PP 06 18 38.5 -0.5
LZH S **S 06 22 47.1 +0.3**
LZH sS 06 23 00.4
LZH SS SS 06 24 56.0 +1.5
LZH LR LR
comp=Z,7μm,13.5s,MS5.6
MBWA Marble Bar 35.22 135 *e*P **P 06 17 35.2 -1.0**
comp=Z,95nm,1.1s,mb5.6
NJ2 Nanjing 37.08 37 *e*P **P 06 17 52.3 +0.5**
NJ2 AP pP 06 17 59.8 -0.7
NJ2 XP sP 06 18 03.3 -0.9
NJ2 PP PP 06 19 21.0 +2.2
NJ2 S **S 06 23 39.0 +3.6**
NJ2 XS 06 23 51.0
NJ2 AMB AMB
comp=Z,70nm,0.7s,mb5.6
NJ2 AMB AMB
comp=Z,2μm,9.3s
SSE Sheshan 37.88 40 P **P 06 17 59.5 +1.0**
SSE XP sP 06 18 11.8 +0.9
SSE S **S 06 23 50.3 +2.7**
SSE XS 06 24 03.5
SSE AMB AMB
comp=Z,22nm,0.9s,mb4.9
SSE AMB AMB
comp=Z,220nm,8.6s
SSE LR LR
comp=N,7μm,13.0s,MS5.8
SSE LR LR
comp=E,6μm,13.0s,MS5.8
SSE LR LR
comp=Z,13μm,11.6s,MS6.0
SSE Sheshan 37.88 40 P **P 06 17 59.6 +1.1**
comp=Z,22nm,0.9s,mb4.9
SSE sP sP 06 18 11.7 +0.8
SSE S **S 06 23 50.3 +2.7**
SSE sS 06 24 03.5
SSE LR LR
comp=Z,13μm,11.6s,MS6.0
FITZ Fitzroy Crossi 37.97 125⇓*i*P **P 06 17 58.7 -0.7**
comp=Z,35nm,0.8s,mb5.2
FITZ *i* pP 06 18 07.5 -0.6
TIA Tai'an 39.22 31 P **P 06 18 09.3 -0.4**
TIA LR LR
comp=N,2μm,11.0s,MS5.7
TIA LR LR
comp=E,6μm,12.0s,MS5.7
JOW Kunigami 40.50 51 P **P 06 18 21.4 +1.0**
comp=E,38nm,1.0s,mb5.1,baz=243,slow=6.6,SNR=5.1
JOW LR LR 06 35 05.5
comp=E,4μm,21.1s,MS5.2,baz=284,slow=36
WMQ Urumqi 40.70 353 P **P 06 18 23.3 +1.5**
WMQ AP pP 06 18 30.5 0.0
WMQ XP sP 06 18 34.0 -0.2
WMQ PP PP 06 20 00.8 +2.0
WMQ PCP PcP 06 20 25.0 +1.3
WMQ S **S 06 24 31.8 +1.9**
WMQ AMB AMB
comp=Z,49nm,1.5s,mb4.9
WMQ AMB AMB
comp=Z,232nm,5.6s
WMQ LR LR
comp=N,4μm,20.0s,MS5.2
WMQ LR LR
comp=E,2μm,24.2s,MS5.2
WMQ LR LR
comp=Z,4μm,18.8s
MUN Mundaring 41.08 150 *e*P **P 06 18 25.8 +0.7**
comp=Z,15nm,1.2s,mb4.5
MUN Mundaring 41.08 150 *e*P **P 06 18 25.8 +0.7**
MUN pmax pmax
comp=Z,15nm,1.2s,mb4.5
KLBR Kellerberrin 41.56 148 *e*P **P 06 18 28.8 -0.3**
comp=Z,295nm,1.3s,mb5.8
KLBR *i* pP 06 18 37.9 +0.1
KAKA Kakadu 41.62 113⇑*i*P **P 06 18 28.7 -1.0**
comp=Z,36nm,0.9s,mb5.0
KAKA *e* pP 06 18 37.4 -1.1
BJI Beijing 41.84 26 P **P 06 18 32.5 +1.3**
BJI *PP pP 06 18 41.5 +1.5
BJI SS Sx 06 28 34.1
BJI pmax pmax
comp=Z,120nm,1.1s,mb5.4
BJI MLR MLR
comp=Z,3μm,23.6s,MS5.1
BJI Beijing 41.84 26 P **P 06 18 32.5 +1.3**
comp=Z,120nm,1.1s,mb5.4
BJI pP pP 06 18 41.5 +1.5
BJI S **S 06 25 04.1 +17**
BJI SS Sx 06 28 34.1
BJI LR LR
comp=Z,3μm,23.6s,MS5.1
KZA Kyzart 42.00 339 P **P 06 18 33.7 +1.2**
SNR=14
NWAO Narrogin (SRO) 42.36 150 P **P 06 18 34.8 -0.8**
comp=Z,7.1nm,0.7s,baz=308,slow=9.3,SNR=6.2
NWAO LR LR 06 34 15.9
comp=Z,7.9nm,20.0s,baz=151,slow=33
NWAO Narrogin (SRO) 42.36 150 *e*P **P 06 18 35.1 -0.5**
UCH Uchtor 42.39 339 P **P 06 18 36.8 +1.0**
SNR=29
AAA Alma-Ata 42.50 342 P **P 06 18 29.0 -7.6**
AAA S **S 06 24 54.0 -2.6**
AML Almayashu 42.61 338 P **P 06 18 38.6 +1.0**
SNR=43
TKM2 Tokmak 2 42.62 340 P **P 06 18 38.2 +0.6**
SNR=20
AAK Ala-Archa 42.75 339 P **P 06 18 39.8 +1.1**
SNR=15
AAK Ala-Archa 42.75 339 *e*P **P 06 18 37.9 -0.8**
AAK pmax pmax
comp=Z,70nm,1.4s,mb5.2
AAK Ala-Archa 42.75 339 *e*P **P 06 18 37.9 -0.8**
comp=Z,70nm,1.4s,mb5.2
FRU Bishkek 42.88 339 *e*P **P 06 18 40.0 +0.2**
FRU pmax pmax
comp=Z,200nm,2.0s,mb5.5
CHMS Chumysh 42.98 340 P **P 06 18 40.7 +0.1**
SNR=11
EKS2 Erkin-Say 43.04 338 P **P 06 18 41.8 +0.8**
SNR=16
USP Ospenovka 43.30 339 P **P 06 18 43.5 +0.3**
SNR=34
MKAR Makanchi Array 44.44 349 *i* P **P 06 18 52.4 0.0**
MKAR pmax pmax
comp=Z,69nm,0.8s
SONM Songino Array 45.69 12 P **P 06 19 02.4 +0.1**
comp=Z,35nm,0.8s,mb5.3,baz=193,slow=8.5,SNR=238
SONM pP pP 06 19 11.3 +0.2
comp=Z,41nm,0.8s,baz=190,slow=8.4,SNR=17
SONM PcP PcP 06 20 41.1 +0.7
comp=Z,11nm,0.9s,baz=210,slow=3.8,SNR=4.5
SONM pPcP 06 20 49.8
comp=Z,13nm,1.0s,baz=180,slow=3.7,SNR=4.8
ULN Ulaanbaatar 45.85 12*c i*P **P 06 19 03.3 -0.3**
ULN Ulaanbaatar 45.85 12 *e*P **P 06 19 03.4 -0.2**
comp=Z,36nm,1.0s,mb5.2
WRA Warramunga Arr 46.09 122 P **P 06 19 05.5 -0.2**
comp=Z,70nm,0.8s,mb5.6,baz=301,slow=8.9,SNR=306
WRA pP pP 06 19 14.7 +0.1
comp=Z,125nm,0.9s,baz=300,slow=8.8,SNR=30
WRAB Tennant Creek 46.09 122 *e*P **P 06 19 05.6 -0.2**
WRAB *e**PP pP 06 19 14.4 -0.2
WRAB pmax pmax
comp=Z,174nm,1.0s,mb5.9
WRAB Tennant Creek 46.09 122 *e*P **P 06 19 05.6 -0.2**
comp=Z,174nm,1.0s,mb5.9
WRAB *e*pP pP 06 19 14.4 -0.2
WB2 Warramunga Arr 46.10 122⇑*i*P **P 06 19 05.5 -0.4**
WB2 *i* pP 06 19 14.7 +0.1
SNY Shenyang 46.75 31 ⇑P **P 06 19 10.5 -0.2**
SNY PP PP 06 20 59.8 -0.6
SNY AMB AMB
comp=Z,40nm,1.6s,mb5.1
SNY AMB AMB
comp=Z,690nm,11.2s
SNY LR LR
comp=N,4μm,16.4s,MS5.6
SNY LR LR
comp=E,2μm,13.2s,MS5.6
SNY LR LR
comp=Z,4μm,17.0s,MS5.4
FORT Forrest 47.13 139 *e*P **P 06 19 14.3 +0.4**
comp=Z,87nm,1.0s,mb5.6
FORT *i* pP 06 19 22.9 +0.2
ASPA Alice Springs 47.42 127⇑*i*P **P 06 19 15.7 -0.6**
ASPA *i* pP 06 19 25.0 -0.2
ASAR Alice Springs 47.43 127 P **P 06 19 15.9 -0.4**
comp=Z,32nm,0.9s,mb5.2,baz=304,slow=7.7,SNR=191
ASAR pP pP 06 19 25.0 -0.2
comp=Z,50nm,0.9s,baz=300,slow=7.2,SNR=23
ASAR PcP PcP 06 20 47.2 +0.4
comp=Z,14nm,0.8s,baz=298,slow=3.7,SNR=9.6
ASAR pPcP 06 20 56.1
comp=Z,13nm,0.8s,baz=304,slow=4.1,SNR=6.5
ZAK Zakamensk 47.60 8⇓⇓*i*P **P 06 19 17.2 -0.1**
ZAK *e* 06 20 47.2
MOY Mondy 48.58 6 *e*P **P 06 19 25.3 +0.4**
TLY Talaya 48.92 8 P **P 06 19 28.9 +1.4**
comp=Z,111nm,0.8s,mb5.9,SNR=14
TLY Talaya 48.92 8 P **P 06 19 28.3 +0.8**
TLY *e* pP 06 19 37.9 +1.5
TLY Talaya 48.92 8 *e*P **P 06 19 28.2 +0.7**
KURK Kurchatov 48.93 347 *e*P **P 06 19 27.4 -0.2**
KURK *e**PP pP 06 19 36.6 +0.1
KURK pmax pmax
comp=Z,99nm,1.1s,mb5.8
KURK Kurchatov 48.93 347 *e*P **P 06 19 27.4 -0.2**
comp=Z,99nm,1.1s,mb5.8
KURK *e*pP pP 06 19 36.6 +0.1
IRK Irkutsk 49.56 9 *e*P **P 06 19 32.6 +0.2**
IRK pmax pmax
comp=Z,68nm,1.7s,mb5.4
RAYN Ar Rayn 50.71 298 P **P 06 19 41.4 -0.2**
comp=Z,279nm,1.0s,mb6.1,SNR=41
ZAL Zalesovo 51.00 353 P **P 06 19 43.5 +0.1**
comp=Z,23nm,0.6s,mb5.3,baz=300,slow=5.8,SNR=143
ZAL LR LR 06 44 42.0
comp=Z,1μm,19.6s,MS4.9,baz=290,slow=40
ZAL Zalesovo 51.00 353 P **P 06 19 43.5 +0.1**
ZAL LR LR 06 44 42.0
MDJ Mudanjiang 51.84 32 P **P 06 19 50.5 +0.6**
MDJ AP pP 06 19 57.0 -1.8
MDJ XP sP 06 20 00.0 -2.3
MDJ PP PP 06 21 48.5 +0.1
MDJ SCP 06 24 58.3
MDJ PCS 06 25 01.0
MDJ S **S 06 27 13.5 +4.7**
MDJ XS 06 27 24.3
MDJ AMB AMB
comp=Z,35nm,1.1s,mb5.2
MDJ AMB AMB
comp=Z,591nm,5.1s
MDJ LR LR
comp=N,5μm,12.7s,MS5.9
MDJ LR LR
comp=E,3μm,11.3s,MS5.9
MDJ LR LR
comp=Z,7μm,10.6s,MS6.0
CBIJ Chichi jima 51.96 58 LR LR 06 40 14.9
comp=Z,1μm,21.4s,MS5.0,baz=277,slow=34
NVS Novosibirsk 52.08 352⇑*i*P **P 06 19 49.9 -1.7**
NVS *i* *PP pP 06 19 59.3 -1.2
NVS pmax pmax
comp=Z,83nm,1.1s,mb5.6
NVS pmax pmax
comp=N,78nm,1.3s
NVS pmax pmax
comp=E,36nm,1.2s
JHJ Hachijo jima 2 52.23 50 LR LR 06 44 06.6
comp=E,2μm,18.1s,MS5.2,baz=71,slow=38
MAJO Matsushiro 52.59 45 *e*P **P 06 19 54.7 -0.9**
MAJO pmax pmax
comp=Z,25nm,1.1s,mb5.1
MAJO Matsushiro 52.59 45 *e*P **P 06 19 54.6 -1.0**
comp=Z,25nm,1.1s,mb5.1
MAT Matsushiro 52.59 45 *e*P **P 06 19 55.0 -0.6**
MAT *e*S **S 06 27 25.0 +5.9**
MAT pmax pmax
comp=Z,118nm,1.8s,mb5.5
MAT MLR MLR
comp=Z,4μm,19.0s,MS5.5
MAT Matsushiro 52.59 45 *e*P **P 06 19 55.0 -0.6**
comp=Z,118nm,1.8s,mb5.5
MAT *e*S **S 06 27 25.0 +5.9**
MAT LR LR
comp=Z,4μm,19.0s,MS5.5
MAT Matsushiro 52.59 45 P **P 06 19 54.7 -0.9**
MAT S **S 06 27 23.0 +3.9**
BVA0 Borovoye Array 53.17 343 P **P 06 19 58.7 -1.1**
BVA0 pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BVAR Borovoye Array 53.17 343 P **P 06 19 58.6 -1.1**
comp=Z,31nm,0.8s,mb5.3,baz=143,slow=7.4,SNR=139
BRVK Borovoye 53.24 343 P **P 06 19 58.9 -1.3**
BRVK pmax pmax
comp=Z,26nm,1.0s,mb5.1
CHKZ Chkalovo 53.68 343 *e*P **P 06 20 02.7 -0.7**
CHKZ *e**PP pP 06 20 11.8 -0.5
CHKZ pmax pmax
comp=Z,125nm,1.1s,mb5.8
CHKZ Chkalovo 53.68 343 *e*P **P 06 20 02.7 -0.7**
comp=Z,126nm,1.1s,mb5.8
CHKZ *e*pP pP 06 20 11.8 -0.6
PMG Port Moresby 54.72 104 *e*P **P 06 20 10.8 -0.8**
PMG *e**PP pP 06 20 20.2 -0.3
PMG pmax pmax
comp=Z,39nm,1.1s
PMG Port Moresby 54.72 104 P **P 06 20 10.9 -0.8**
comp=Z,14nm,0.8s,mb5.1,baz=301,slow=9.3,SNR=5.8
PMG pP pP 06 20 20.2 -0.4
comp=Z,24nm,0.8s,baz=339,slow=5.0,SNR=5.5
PMG PcP PcP 06 21 15.4 +1.5
comp=Z,21nm,0.9s,baz=280,slow=1.8,SNR=4.0
PMG pPcP 06 21 24.2
comp=Z,21nm,0.8s,baz=352,slow=3.1,SNR=4.3
PMG LR LR 06 46 36.8
comp=Z,619nm,18.9s,MS4.7,baz=136,slow=39
PMG Port Moresby 54.72 104 *e*P **P 06 20 10.8 -0.8**
comp=Z,39nm,1.1s,mb5.3
PMG *e*pP pP 06 20 20.2 -0.3
KLR Kul'dur 56.03 29⇓⇓*i*P **P 06 20 17.4 -3.2**
KLR *e*S **S 06 28 02.5 -2.8**
KLR pmax pmax
comp=N,36nm,1.4s
KLR pmax pmax
comp=E,48nm,1.4s
KLR pmax pmax
comp=Z,62nm,1.4s,mb5.5
KLR MLR MLR
comp=E,2μm,13.0s
KLR MLR MLR
comp=Z,6μm,13.0s,MS5.9
CTA Charters Tower 56.54 117⇑*i*P **P 06 20 24.2 -0.5**
comp=Z,19nm,1.1s,mb5.0
CTA *i* pP 06 20 33.3 -0.4
CTA Charters Tower 56.54 117⇑*i*P **P 06 20 24.2 -0.5**
CTA *i* pP 06 20 33.3 -0.4
CTA pmax pmax
comp=Z,19nm,1.1s
CTA Charters Tower 56.54 117 P **P 06 20 24.3 -0.4**
comp=Z,29nm,1.1s,mb5.2,baz=291,slow=8.4,SNR=23
CTA pP pP 06 20 33.5 -0.2
comp=Z,33nm,0.9s,baz=286,slow=8.9,SNR=16
CTA PcP PcP 06 21 21.6 +0.7
comp=Z,3.3nm,0.8s,baz=272,slow=11,SNR=3.3
CTA LR LR 06 46 02.6
comp=Z,2μm,19.4s,MS5.1,baz=286,slow=38
CTAO Charters Tower 56.54 117 *e*P **P 06 20 24.2 -0.5**
CTAO *e**PP pP 06 20 33.4 -0.3
CTAO pmax pmax
comp=Z,48nm,1.0s,mb5.5
CTAO MLR MLR
comp=Z,2μm,19.0s,MS5.1
CTAO Charters Tower 56.54 117 *e*P **P 06 20 24.2 -0.5**
comp=Z,48nm,1.0s,mb5.5
CTAO *e*pP pP 06 20 33.4 -0.3

CTAO LR LR
comp=Z,2µm,19.0s,MS5.1
KMBO Kilima Mbogo 56.62 266 *eP* **P 06 20 25.6 +0.3**
KMBO *e**PP pP 06 20 34.9 +0.6
KMBO pmax pmax
comp=Z,31nm,1.3s
KMBO Kilima Mbogo 56.62 266 P **P 06 20 25.9 +0.6**
comp=Z,11nm,0.9s,mb4.9,baz=68,slow=8.9,SNR=25
KMBO LR LR 06 41 30.5
comp=Z,2µm,18.7s,MS5.3,baz=82,slow=33
KMBO Kilima Mbogo 56.62 266 *eP* **P 06 20 25.6 +0.2**
comp=Z,31nm,1.3s,mb5.2
KMBO *ep*P pP 06 20 34.9 +0.6
BOD Bodaibo 56.66 13⇓*iP* **P 06 20 23.6 -1.5**
STKA Stephens Creek 57.34 131 *eP* **P 06 20 29.5 -0.7**
comp=Z,19nm,0.8s,mb5.2
STKA *i* pP 06 20 38.7 -0.5
STKA Stephens Creek 57.34 131 P **P 06 20 30.0 -0.3**
comp=Z,23nm,0.8s,mb5.3,baz=304,slow=6.6,SNR=48
STKA pP pP 06 20 38.7 -0.6
comp=Z,34nm,0.9s,baz=301,slow=7.2,SNR=17
GNI Garni 57.38 317*c iP* **P 06 20 29.6 -0.8**
GNI pmax pmax
comp=Z,102nm,1.7s
GNI Garni 57.38 317 P **P 06 20 30.6 +0.2**
comp=Z,20nm,0.8s,mb5.2,baz=331,slow=3.4,SNR=22
GNI LR LR 06 47 22.6
comp=Z,644nm,20.0s,MS4.7,baz=242,slow=38
GNI Garni 57.38 317 *eP* **P 06 20 29.3 -1.1**
comp=Z,194nm,1.8s,mb5.8
MTA Mtatsminda 58.05 318 P **P 06 20 34.3 -0.8**
TI2 Plekhanov 58.10 318⇑*iP* **P 06 20 33.8 -1.6**
TI2 *eS* **S 06 28 36.8 +4.1**
TI2 pmax pmax
comp=Z,90nm,0.6s,mb6.0
AKH Akhalkalaki 58.79 317 P **P 06 20 39.9 -0.4**
CLNS Chul'man 58.85 19 *eP* **P 06 20 37.9 -2.5**
CLNS pmax pmax
comp=Z,40nm,1.0s,mb5.4
CLNS pmax pmax
comp=N,24nm,1.1s
CLNS pmax pmax
comp=E,18nm,1.0s
CLNS MLR MLR
comp=N,3µm,13.0s,MS5.6
CLNS MLR MLR
comp=Z,4µm,13.0s,MS5.7
CLNS MLR MLR
comp=E,500nm,14.0s,MS5.6
ZEI Tsey 59.14 319 *eP* **P 06 20 41.6 -1.0**
ZEI *i* *PP pP 06 20 51.2 -0.5
ZEI pmax pmax
comp=Z,20nm,0.9s,mb5.2
ASAJ Asahikawa 59.16 39 P **P 06 20 42.7 0.0**
comp=Z,19nm,0.9s,mb5.1,baz=278,slow=9.8,SNR=6.1
ASAJ LR LR 06 45 08.7
comp=Z,2µm,21.2s,MS5.2,baz=73,slow=35
ONI Oni 59.34 319 P **P 06 20 43.8 -0.3**
SVE Sverdlovsk 59.49 340 *eP* **P 06 20 39.4 -5.5**
SVE pmax pmax
comp=Z,220nm,1.8s,mb5.9
SVE MLR MLR
comp=Z,2µm,15.0s,MS5.5
ARU Arti 59.93 338 P **P 06 20 46.2 -1.7**
comp=Z,242nm,1.0s,mb6.2,SNR=20
ARU Arti 59.93 338⇑*iP* **P 06 20 40.0 -7.9**
ARU *eS* **S 06 28 47.1 -9.2**
ARU *e* 06 30 27.5
ARU pmax pmax
comp=Z,44nm,1.1s,mb5.4
ARU MLR MLR
comp=Z,2µm,16.0s,MS5.2
ARU MLR MLR
comp=N,600nm,17.0s,MS5.1
ARU MLR MLR
comp=E,900nm,16.0s,MS5.1
ASF Jabal al Asfar 60.42 305 P **P 06 20 52.6 +1.0**
comp=E,23nm,0.9s,mb5.2,baz=347,slow=3.9,SNR=20
ASF pP pP 06 21 01.7 +1.0
comp=E,8.8nm,0.8s,baz=9.3,slow=2.4,SNR=5.4
ASF LR LR 06 48 04.8
comp=E,1µm,18.5s,MS5.1,baz=113,slow=37
KIV Kislovodsk 60.46 320 P **P 06 20 51.4 -0.3**
comp=E,322nm,1.0s,mb6.3,SNR=9.2
KIV Kislovodsk 60.46 320*c iP* **P 06 20 50.4 -1.3**
KIV *eS* **S 06 29 04.5 +1.2**
KIV pmax pmax
comp=Z,51nm,1.0s,mb5.5
KIV Kislovodsk 60.46 320 *eP* **P 06 20 50.2 -1.5**
comp=Z,88nm,1.3s,mb5.6
YSS Yuzh-Sakhalins 60.65 36 *eP* **P 06 20 53.0 +0.1**
YSS *e* pP 06 21 02.4 +0.4
YSS pmax pmax
comp=Z,100nm,1.1s,mb5.9
YSS MLR MLR
comp=E,3µm,12.0s
YSS MLR MLR
comp=Z,2µm,12.0s,MS5.5
YSS Yuzh-Sakhalins 60.65 36 *eP* **P 06 20 53.2 +0.2**
comp=Z,109nm,1.1s,mb5.9
MALT Malatya 61.15 312 *eP* **P 06 20 56.4 -0.1**
MALT pmax pmax
comp=Z,68nm,1.2s,mb5.7
MALT Malatya 61.15 312 *eP* **P 06 20 56.4 -0.1**
comp=Z,68nm,1.2s,mb5.7
EIL Elat 61.40 302 *eP* **P 06 20 58.6 +0.3**
comp=Z,55nm,1.1s,mb5.6
EIL *ep*P pP 06 21 07.8 +0.4
SOC Sochi 62.24 318 *eP* **P 06 21 00.3 -3.5**
SOC *e* 06 21 40.8
SOC *e* 06 23 15.7
SOC *e*PPP PPP 06 24 50.6 -1.7
SOC *eS* **S 06 29 25.7 -0.2**
SOC *e* 06 30 44.9
SOC *e*SS SS 06 33 27.0 -4.1
SOC pmax pmax
comp=N,13nm,0.8s
SOC pmax pmax
comp=Z,48nm,0.8s,mb5.7
SOC pmax pmax
comp=E,7.0nm,0.6s
TOO Toolangi 62.86 135 *eP* **P 06 21 08.6 +0.7**
comp=E,1.0nm,1.0s
TOO *e* pP 06 21 17.9 +0.9
TOO Toolangi 62.86 135 *eP* **P 06 21 08.6 +0.7**
TOO *e* pP 06 21 17.9 +0.9
TOO pmax pmax
comp=Z,1.0nm,1.0s
SOKR Solikamsk 62.90 340⇓*iP* **P 06 21 06.0 -1.8**
SOKR *e* pP 06 21 15.3 -1.7
SOKR pmax pmax
comp=Z,40nm,1.1s,mb5.5
SOKR MLR MLR
comp=Z,960nm,18.0s,MS5.0
MBAR Mbarara 63.07 268 *eP* **P 06 21 08.8 -0.8**
MBAR pmax pmax
comp=Z,44nm,1.6s,mb5.3
MBAR Mbarara 63.07 268 *eP* **P 06 21 06.5 -3.2**
comp=Z,44nm,1.6s,mb5.3
MBAR LR LR
comp=Z,357nm,22.0s,MS4.5
ANN Anapa 64.24 319 *eP* **P 06 21 12.8 -4.1**
ANN *e* 06 21 47.8
ANN *eS* **S 06 29 46.8 -4.0**
ANN pmax pmax
comp=Z,58nm,1.1s,mb5.5
YAK Yakutsk 64.44 18 *eP* **P 06 21 17.2 -0.7**
YAK *e**PP pP 06 21 24.0 -3.0
YAK pmax pmax
comp=Z,94nm,1.0s,mb5.8
YAK Yakutsk 64.44 18 *eP* **P 06 21 17.2 -0.6**
comp=Z,94nm,1.0s,mb5.8
YAK *ep*P pP 06 21 24.0 -3.0
ARMA Armidale 64.57 126 *eP* **P 06 21 19.6 +0.3**
ARMA *i* pP 06 21 29.5 +1.1
BRTR Keskin Array B 65.14 313 P **P 06 21 21.8 -1.0**
comp=Z,12nm,0.9s,mb4.9,baz=127,slow=6.2,SNR=51
BRTR pP pP 06 21 30.9 -1.0
comp=Z,6.4nm,0.9s,baz=135,slow=5.2,SNR=7.5
VRSR Storozhevoye 65.87 326 *eP* **P 06 21 24.9 -2.4**
VRSR *e**PP pP 06 21 34.5 -1.9
VRSR *e**SP sP 06 21 40.4 +0.8
VRSR *e* 06 21 56.9
VRSR *e* 06 23 46.7
VRSR *eS* S 06 30 07.4 -3.4
VRSR *e**SS 06 30 29.8
VRSR pmax pmax
comp=Z,20nm,1.0s,mb5.1
VRSR pmax pmax
comp=N,7.0nm,0.8s
VRSR pmax pmax
comp=E,20nm,0.8s
VRSR smax
comp=N,6.0nm,0.9s
VRSR smax
comp=Z,1.0nm,1.5s
VRSR smax
comp=E,3.0nm,0.8s
VRSR MLR MLR
comp=Z,520nm,17.4s,MS4.8
VRSR MLR MLR
comp=N,340nm,15.7s,MS4.8
VRSR MLR MLR
comp=E,430nm,17.6s,MS4.8
VOR Voronezh 66.10 326 *eP* **P 06 21 27.0 -1.7**
VOR *e**PP pP 06 21 35.0 -2.8
VOR pmax pmax
comp=Z,60nm,1.7s,mb5.3
SIM Simferopol' 66.49 318*c iP* **P 06 21 31.0 -0.3**
SIM pmax pmax
comp=Z,59nm,0.8s,mb5.7
ISP Isparta 66.97 310 *eP* **P 06 21 34.1 -0.5**
ISP pmax pmax
comp=Z,76nm,1.4s,mb5.5
ISP Isparta 66.97 310 *eP* **P 06 21 34.1 -0.5**
comp=Z,76nm,1.4s,mb5.5
LSZ Lusaka 67.42 252 P **P 06 21 36.6 -1.1**
LSZ pmax pmax
comp=Z,73nm,1.6s,mb5.5
LSZ Lusaka 67.42 252 *eP* **P 06 21 37.2 -0.5**
comp=Z,73nm,1.6s,mb5.5
MOS Moscow 68.77 330 *eP* **P 06 21 41.4 -4.1**
MOS *e* 06 21 52.6
MOS *e* 06 22 14.1
MOS *e* 06 24 15.6
MOS pmax pmax
comp=Z,105nm,1.6s,mb5.5
MOS MLR MLR
comp=Z,2µm,22.9s,MS5.2
OBN Obninsk 69.03 329*c iP* **P 06 21 42.6 -4.5**
OBN *i* pP 06 21 51.7 -4.5
OBN pmax pmax
comp=Z,71nm,1.4s,mb5.4
OBN Obninsk 69.03 329 *eP* **P 06 21 42.7 -4.4**
SKR Severo-Kuril's 70.22 37 *eP* **P 06 21 52.0 -2.4**
SKR *e* pP 06 22 02.2 -1.3
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
KIS Kishinev 70.64 319 *eP* **P 06 21 54.0 -3.0**
KIS *e* pP 06 22 04.0 -2.2
MA2 Magadan 70.99 27*c iP* **P 06 21 58.6 -0.4**
MA2 pmax pmax
comp=Z,36nm,1.3s,mb5.1
MA2 Magadan 70.99 27 *eP* **P 06 21 58.7 -0.3**
comp=Z,39nm,1.1s,mb5.2
ALN Alexandroupoli 71.05 312 *eP* **P 06 21 59.3 -0.3**
AKASG Malin Array Be 71.49 323 P **P 06 22 00.3 -1.8**
comp=Z,10nm,0.7s,mb4.9,baz=90,slow=4.5,SNR=57
AKASG PP PP 06 24 41.4 -1.3
comp=Z,2.4nm,0.8s,baz=93,slow=7.1,SNR=6.4
LBTB Lobatse 71.74 242 *eP* **P 06 22 04.0 -0.1**
LBTB *e**PP pP 06 22 12.9 -0.3
LBTB pmax pmax
comp=Z,83nm,1.4s,mb5.5
LBTB MLR MLR
comp=Z,4µm,22.0s,MS5.7
LBTB Lobatse 71.74 242 *eP* **P 06 22 04.0 0.0**
comp=Z,82nm,1.4s,mb5.5
LBTB *ep*P pP 06 22 12.9 -0.3
LBTB LR LR
comp=Z,4µm,22.0s,MS5.7
TIXI Tiksi 71.77 11⇑*iP* **P 06 22 02.5 -0.9**
TIXI pmax pmax
comp=Z,123nm,1.1s,mb5.8
TIXI MLR MLR
comp=Z,2µm,13.0s,MS5.6
MLR Muntele Rosu 72.17 317 P **P 06 22 06.3 +0.1**
comp=Z,45nm,1.0s,mb5.3,baz=111,slow=3.0,SNR=32
PET Petropavlovsk 72.47 35 *eP* **P 06 22 07.6 -0.3**
PET *eS* S 06 31 30.5 +1.8
PET pmax pmax
comp=Z,14nm,0.8s,mb4.9
PET MLR MLR
comp=Z,2µm,17.0s,MS5.4
BOSA Boshof 72.85 239 *eP* **P 06 22 10.0 -0.7**
BOSA pmax pmax
comp=Z,49nm,1.3s,mb5.3
BOSA MLR MLR
comp=Z,2µm,21.0s,MS5.3
BOSA Boshof 72.85 239 *eP* **P 06 22 10.0 -0.6**
comp=Z,49nm,1.3s,mb5.3
BOSA LR LR
comp=Z,2µm,21.0s,MS5.3
SRS Serrai 72.91 312 *eP* **P 06 22 09.6 -1.1**
SEY Seymchan 73.23 24 *eP* **P 06 22 12.5 +0.3**
SEY pmax pmax
comp=E,30nm,0.9s
SEY pmax pmax
comp=Z,60nm,0.9s,mb5.5
KNT Kendrikon 73.43 312 *eP* **P 06 22 13.0 -0.8**
MNK Minsk 73.48 326 *eP* **P 06 22 10.0 -3.8**
LIT Litokhoron 73.56 311 *eP* **P 06 22 13.5 -1.0**
GRG Griva 73.77 312 *eP* **P 06 22 14.7 -1.1**
MAW Mawson 74.00 192 *eP* **P 06 22 17.3 +0.7**
MAW *e**PP pP 06 22 25.6 -0.1
MAW pmax pmax
comp=Z,23nm,1.5s
MAW Mawson 74.00 192 P **P 06 22 18.0 +1.4**
comp=Z,8.0nm,0.8s,mb4.7,baz=35,slow=10.0,SNR=4.3
MAW Mawson 74.00 192 *eP* **P 06 22 17.3 +0.7**
comp=Z,23nm,1.5s,mb4.9
MAW *ep*P pP 06 22 25.6 -0.2
ZAPS Zavoj/Pirot 74.03 314⇑*iP* **P 06 22 16.1 -1.2**
LVV L'vov 74.45 321 *eP* **P 06 22 19.6 +0.1**
BOLS Boljevac 74.60 315⇓*iP* **P 06 22 19.5 -1.0**
JOF Joensuu 74.78 335 *ep* **P 06 22 19.4 -1.7**
comp=Z,18nm,0.9s,mb5.0
NOUC Port Laguerre 75.18 114 *eP* **P 06 22 24.8 +0.5**
KWP Kalwaria 75.25 321 *eP* **P 06 22 24.0 -0.1**
KWP *e* pP 06 22 33.6 +0.3
KOLS Kolonicke sedl 75.38 320 *eP* **P 06 22 24.8 -0.1**
KOLS *ep*P pP 06 22 34.7 +0.6
GRUS Gruza 75.49 314⇑*iP* **P 06 22 22.6 -3.0**
CRVS Cervenica-Dubn 75.89 320 *eP* **P 06 22 31.0 +3.2**
CRVS Cervenica-Dubn 75.89 320 *e* **P 06 22 31.0 +3.2**
APA Apatity 75.96 340⇑*iP* **P 06 22 27.3 -0.5**
APA pmax pmax
comp=Z,31nm,1.0s,mb5.2
APA MLR MLR
comp=Z,2µm,16.0s,MS5.6
SUW Suwalki 75.97 325 *eP* **P 06 22 27.3 -0.8**
SUW *e* pP 06 22 36.3 -1.0
DIVS Divcibare 76.04 315⇓*iP* **P 06 22 27.7 -1.1**
KECS Kecovo 76.45 319 *eP* **P 06 22 31.1 +0.2**
KECS *ep*P pP 06 22 39.1 -1.1
FINES FINESS Array B 76.55 333 P **P 06 22 30.5 -0.7**
comp=Z,16nm,0.9s,mb5.0,baz=93,slow=7.0,SNR=33
FINES pP pP 06 22 39.6 -0.8
comp=Z,5.7nm,0.7s,baz=80,slow=7.9,SNR=6.5
FINES LR LR 06 59 55.9
comp=Z,512nm,20.9s,MS4.8,baz=280,slow=39
FINES FINESS Array B 76.55 333 P **P 06 22 30.5 -0.7**
FINES pP pP 06 22 39.6 -0.8
FINES LR LR 06 59 55.9
KAF Kangasniemi 76.66 334 *ep* **P 06 22 29.4 -2.4**
comp=Z,28nm,1.0s,mb5.2,baz=106,slow=5.3
KAF Kangasniemi 76.66 334 *eP* **P 06 22 29.4 -2.4**
KAF pmax pmax
comp=Z,28nm,1.0s,mb5.2
NIE Niedzica 76.73 320⇑*iP* **P 06 22 32.7 +0.2**
PSZ Piszkesteto 76.74 318⇑*eP* **P 06 22 32.3 -0.3**
OJC Ojcow 77.20 321⇑*iP* **P 06 22 35.0 -0.1**
VYHS Vyhne 77.53 319 *i P* **P 06 22 37.0 +0.1**
VYHS *ep*P pP 06 22 45.6 -0.6
PKSG 77.66 318⇑*eP* **P 06 22 37.6 0.0**
RHK1 Bakonya 77.69 316⇓*eP* **P 06 22 37.7 -0.1**
SRO Srobarova 77.77 318 *eP* **P 06 22 39.8 +1.5**
TSUM Tsumeb 78.04 250 *eP* **P 06 22 40.8 +0.5**
comp=Z,15nm,1.4s,mb4.7
TSUM LR LR
comp=Z,2µm,20.0s,MS5.4
GRI Girifalco 78.05 309 *eP* **P 06 22 41.2 +1.2**
OKC Ostrava-Krasne 78.19 320⇑*iP* **P 06 22 40.6 +0.1**
OKC *ep*P pP 06 22 51.1 +1.3
OKC AMS AMS 07 11 10.0
comp=Z,400nm,15.8s
MORC Moravsky Berou 78.57 320 *eP* **P 06 22 42.6 0.0**
MORC pmax pmax
comp=Z,99nm,1.8s,mb5.4
MORC Moravsky Berou 78.57 320 *eP* **P 06 22 42.6 0.0**
comp=Z,99nm,1.8s,mb5.4
ZST Bratislava 78.63 318 *eP* **P 06 22 43.1 +0.1**
ZST *ep*P pP 06 22 52.6 +0.4
VRAC Vranov 79.12 319 P **P 06 22 46.0 +0.4**
comp=Z,6.4nm,0.8s,mb4.6,baz=94,slow=6.5,SNR=8.0
VKA Vienna 79.16 318⇑*iP* **P 06 22 45.8 -0.1**
GCIS Gornji Cirnik 79.35 316 *i P* **P 06 22 47.1 +0.2**
ARCES ARCESS Array B 79.40 341 P **P 06 22 46.9 +0.1**
comp=Z,20nm,0.9s,mb5.0,baz=124,slow=4.4,SNR=21
ARCES LR LR 07 01 18.8
comp=Z,895nm,18.1s,MS5.2,baz=192,slow=38
DPC Dobruska-Polom 79.43 321⇑*iP* **P 06 22 48.0 +0.7**
DPC *ep*P pP 06 22 57.1 +0.6
DPC AMS AMS 07 03 50.0
comp=Z,600nm,16.2s
GROS Grobnik 79.50 317⇑*eP* **P 06 22 47.5 -0.2**
KSP Ksiaz 79.51 321 *eP* **P 06 22 48.0 +0.3**
KSP *e**PP pP 06 22 56.6 -0.4
KSP Ksiaz 79.51 321 *eP* **P 06 22 48.6 +0.9**
KSP *e* pP 06 22 57.7 +0.7
ARSA Arzberg 79.57 317⇑*iP* **P 06 22 48.7 +0.6**
comp=Z,122nm,1.4s,mb5.6
UPC Upice 79.65 321⇑*iP* **P 06 22 48.2 -0.2**
UPC *ep*P pP 06 22 58.2 +0.5
PERS Pernice 79.78 317⇑*iP* **P 06 22 48.7 -0.5**
LJU Ljubljana 80.13 316 *eP* **P 06 22 51.8 +0.7**
LJU *e* 06 23 14.0
MOA Molln 80.48 318⇑*iP* **P 06 22 52.9 -0.1**
comp=Z,46nm,1.9s,mb5.1
PRU Pruhonice 80.52 320⇑*iP* **P 06 22 53.5 +0.4**
PRU *ep*P pP 06 23 02.5 +0.1
PRU AMS AMS 07 08 40.0
comp=Z,700nm,15.2s
PVCC Panska Ves 80.56 321⇑*eP* **P 06 22 53.8 +0.5**
PVCC AMS AMS 07 06 40.0
comp=Z,700nm,15.9s
AQU L'Aquila 80.63 312 *eP* **P 06 22 54.3 +0.4**
AQU L'Aquila 80.63 312 *eP* **P 06 22 54.7 +0.8**
NRCA Norcia 80.87 313 *eP* **P 06 22 55.6 +0.5**
BSD Bornholm Skovb 80.90 325⇑*iP* **P 06 22 53.5 -1.5**
BSD pmax pmax
comp=Z,27nm,0.8s,mb5.2
BSD Bornholm Skovb 80.90 325⇑*iP* **P 06 22 53.5 -1.5**
comp=Z,27nm,0.8s,mb5.2
SYO Syowa Base 80.95 197⇓*P* **P 06 22 56.1 +1.1**
SYO Syowa Base 80.95 197⇓*PcP* PcP 06 23 00.8 -1.0
SYO Syowa Base 80.95 197⇓*pP* pP 06 23 05.4 +1.1
GEC2 GERESS Array S 80.95 319 *eP* **P 06 22 55.4 0.0**
GEC2 pmax pmax
comp=Z,120nm,1.4s,mb5.6
GEC2 GERESS Array S 80.95 319 *eP* **P 06 22 55.4 0.0**
comp=Z,120nm,1.4s,mb5.6
GERES GERESS Array B 80.95 319 P **P 06 22 56.0 +0.6**
comp=Z,32nm,0.9s,mb5.2,baz=104,slow=5.5,SNR=184
PTCC Patocco-Chiusa 80.97 316 *eP* **P 06 22 56.3 +0.8**
BRG Berggiesshubel 81.00 321⇑*iP* **P 06 22 56.0 +0.4**
BRG *i* pP 06 23 05.5 +0.6
BRG pmax pmax
comp=Z,36nm,1.1s,mb5.2
BRG MLR MLR
comp=Z,1µm,16.0s,MS5.3
BRG Berggiesshubel 81.00 321⇑*iP* **P 06 22 56.0 +0.4**
comp=Z,36nm,1.1s,mb5.2
BRG *i* pP 06 23 05.5 +0.6
BRG LR LR
comp=Z,1µm,16.0s,MS5.3
KBA Koelnbreinsper 81.03 317⇑*iP* **P 06 22 55.6 -0.3**
comp=Z,127nm,2.2s,mb5.5
KBA Koelnbreinsper 81.03 317⇑*iP* **P 06 22 55.6 -0.3**
KBA pmax pmax
comp=Z,127nm,2.2s,mb5.5
GMNA Gemona 81.04 316 *eP* **P 06 22 56.7 +0.8**
ARV Arcevia 81.05 313 *eP* **P 06 22 57.3 +1.3**
KHC Kasperske Hory 81.06 319⇑*iP* **P 06 22 56.0 0.0**
KHC *e**PP pP 06 23 05.2 -0.1
KHC *e* 06 23 15.0
KHC MLR MLR
comp=Z,600nm,15.5s,MS5.1
KHC Kasperske Hory 81.06 319⇑*iP* **P 06 22 56.0 0.0**
KHC *ep*P pP 06 23 05.2 -0.1
KHC x x 06 23 15.0
KHC AMS AMS 07 07 10.0
comp=Z,600nm,15.5s
FSSB Fossombrone 81.18 314 *eP* **P 06 22 57.4 +0.7**
RUE Ruedersdorf 81.26 322 *eP* **P 06 22 56.9 0.0**
comp=Z,65nm,1.1s,mb5.5
RUE *ep*P pP 06 23 05.7 -0.5
FVI Forni Avoltri 81.38 316 *eP* **P 06 22 57.7 0.0**
WET Wettzell 81.52 319 *eP* **P 06 22 58.3 -0.1**
WET pmax pmax
comp=Z,45nm,1.2s,mb5.3
WET Wettzell 81.52 319 *eP* **P 06 22 58.3 -0.1**
comp=Z,45nm,1.2s,mb5.3
CLL Collm 81.63 321⇑*iP* **P 06 22 58.8 -0.1**
CLL *i* pP 06 23 07.8 -0.4
CLL pmax pmax
comp=Z,31nm,1.2s,mb5.1
CLL Collm 81.63 321⇑*iP* **P 06 22 58.8 -0.1**
comp=Z,31nm,1.2s,mb5.1
CLL *i* pP 06 23 07.8 -0.4
CLL Collm 81.63 321⇑*P* **P 06 22 58.8 -0.1**
comp=Z,logA/T=1.4,mb5.1
CLL *i* *PP pP 06 23 07.8 -0.4
CRE Caprese Michel 81.77 313 *eP* **P 06 23 00.6 +0.8**
SFI Santa Sofia 81.86 314 *eP* **P 06 23 01.8 +1.5**
NKC Novy Kostel 81.89 320⇑*eP* **P 06 23 00.8 +0.6**
NKC AMS AMS 07 07 20.0
comp=Z,600nm,17.0s
PGD Poggio Sodo 81.95 314 *eP* **P 06 23 02.5 +1.8**
VMG Vicchio 82.08 314 *eP* **P 06 23 02.9 +1.4**
CTI Castel Tesino 82.13 316 *eP* **P 06 23 02.4 +0.8**
HFS Hagfors 82.18 330 P **P 06 23 01.6 +0.1**
comp=Z,20nm,1.0s,mb5.0,baz=108,slow=4.7,SNR=15
WTTA Wattenberg 82.21 317⇑*iP* **P 06 23 01.8 -0.2**
comp=Z,100nm,1.4s,mb5.5
WTTA Wattenberg 82.21 317⇑*iP* **P 06 23 01.8 -0.2**
WTTA pmax pmax
comp=Z,100nm,1.4s,mb5.5
WATA Walderalm 82.26 317⇑*iP* **P 06 23 02.0 -0.2**
comp=Z,31nm,1.1s,mb5.2
WATA Walderalm 82.26 317⇑*iP* **P 06 23 02.0 -0.2**
WATA pmax pmax
comp=Z,31nm,1.1s,mb5.2
MOX Moxa 82.45 320 *eP* **P 06 23 03.4 +0.3**
MOX pmax pmax
comp=Z,47nm,1.6s,mb5.2
MOX MLR MLR
comp=Z,700nm,16.0s,MS5.1
MOX Moxa 82.45 320 *eP* **P 06 23 03.4 +0.3**
comp=Z,47nm,1.6s,mb5.2
MOX LR LR
comp=Z,700nm,16.0s,MS5.1
MOX Moxa 82.45 320 *i P* **P 06 23 03.4 +0.3**
comp=Z,logA/T=1.5,mb5.2
MOX L 07 10 30.0
SQTA Sankt Quirin 82.50 317⇑*iP* **P 06 23 03.4 -0.1**
comp=Z,26nm,1.0s,mb5.1
SQTA Sankt Quirin 82.50 317⇑*iP* **P 06 23 03.4 -0.1**
SQTA pmax pmax
comp=Z,27nm,1.0s,mb5.1
FUR Furstenfeldbru 82.51 318 *eP* **P 06 23 02.9 -0.6**
ZCCA Zocca 82.51 314 *eP* **P 06 23 06.1 +2.4**
MOTA Moosalm 82.58 317⇑*iP* **P 06 23 03.7 -0.2**
comp=Z,21nm,1.0s,mb5.1
MOTA Moosalm 82.58 317⇑*iP* **P 06 23 03.7 -0.2**
MOTA pmax pmax
comp=Z,21nm,1.0s,mb5.1
GRA1 Grafenberg Arr 82.64 320 *eP* **P 06 23 04.4 +0.2**
comp=Z,62nm,1.1s,mb5.5
GRA1 *ep*P pP 06 23 13.6 +0.1
GRF Grafenberg Arr 82.64 320 *eP* **P 06 23 04.4 +0.2**
GRF *e**PP pP 06 23 13.6 +0.1
GRF pmax pmax
comp=Z,62nm,1.1s,mb5.5

GRF Grafenberg Arr 82.64 320 *eP* **P 06 23 04.4 +0.2**
GRF *e**PP pP 06 23 13.6 +0.1
GRF pmax pmax
comp=Z,62nm,1.1s,mb5.5
GRF Grafenberg Arr 82.64 320 *eP* **P 06 23 04.4 +0.2**
comp=Z,62nm,1.1s,mb5.5
GRF *e*pP pP 06 23 13.6 +0.1
GSCL Gusciola 82.79 314 *eP* **P 06 23 06.3 +1.3**
BRMO Bormio 83.03 316 *eP* **P 06 23 07.0 +0.7**
RPZ Rata Peaks 83.14 135 P **P 06 23 07.8 +0.9**
comp=Z,28nm,0.9s,mb5.3,baz=199,slow=2.3,SNR=8.4
CLZ Clausthal 83.30 322 *eP* **P 06 23 07.2 -0.3**
comp=Z,36nm,1.1s,mb5.3
DAVOX Davos 83.39 317 P **P 06 23 08.9 +0.8**
comp=Z,48nm,0.7s,mb5.6,baz=118,slow=4.8,SNR=52
DAVA Damuels 83.41 317⇑ *iP* **P 06 23 08.7 +0.5**
comp=Z,120nm,1.7s,mb5.7
NB2 NORSAR Subarra 83.49 331 P **P 06 23 07.9 -0.4**
comp=Z,24nm,1.0s,mb5.2,baz=97,slow=5.3
NB2 NORSAR Subarra 83.49 331 P **P 06 23 07.9 -0.4**
baz=97,slow=5.3
NOA NORSAR Array B 83.49 331 P **P 06 23 07.5 -0.8**
comp=Z,11nm,0.9s,mb4.9,baz=94,slow=5.5,SNR=19
NOA pP pP 06 23 17.0 -0.6
comp=Z,6.2nm,0.9s,baz=95,slow=5.6,SNR=6.5
NOA LR LR 07 05 20.2
comp=Z,489nm,18.6s,MS4.9,baz=55,slow=39
NOA NORSAR Array B 83.49 331 P **P 06 23 07.5 -0.8**
NOA pP pP 06 23 17.0 -0.6
NOA LR LR 07 05 20.2
PGF Pioggiola 83.89 312 *eP* **P 06 23 11.0 +0.2**
comp=Z,128nm,1.2s,mb5.6
PGF Pioggiola 83.89 312 *eP* **P 06 23 11.0 +0.2**
PGF pmax pmax
comp=Z,64nm,1.2s,mb5.6
STU Stuttgart 83.92 319 *eP* **P 06 23 10.3 -0.5**
SPAK Spaichingen 84.17 318 *eP* **P 06 23 12.0 -0.1**
TOD Tromm 84.20 319 *eP* **P 06 23 12.4 +0.2**
MUD Monsted U'grnd 84.25 326⇑ *iP* **P 06 23 13.0 +0.8**
MUD pmax pmax
comp=Z,30nm,1.1s,mb5.3
MUD Monsted U'grnd 84.25 326⇑ *iP* **P 06 23 13.0 +0.8**
comp=Z,30nm,1.1s,mb5.3
TNS Taunus Mts 84.45 320 *eP* **P 06 23 13.2 -0.2**
BFO Black Forest 84.48 318 *eP* **P 06 23 12.9 -0.7**
BFO pmax pmax
comp=Z,21nm,1.0s,mb5.2
BFO Black Forest 84.48 318 *eP* **P 06 23 12.9 -0.7**
comp=Z,21nm,1.0s,mb5.2
FIN Finale Ligure 84.50 314 *eP* **P 06 23 14.4 +0.6**
FELD Feldberg 84.69 318 *eP* **P 06 23 14.6 -0.1**
LANF Langenberg 84.84 319 *eP* **P 06 23 15.9 +0.5**
BBS Basel-Blauen 85.02 317 *eP* **P 06 23 15.9 -0.4**
ABH Alteburg 85.03 320 *eP* **P 06 23 16.5 +0.2**
SBF Sospel 85.05 314 *eP* **P 06 23 16.6 +0.1**
comp=Z,201nm,1.1s,mb5.9
SBF Sospel 85.05 314 *eP* **P 06 23 16.6 +0.1**
SBF pmax pmax
comp=Z,100nm,1.1s,mb5.9
WLS Welschbruch 85.14 318 *eP* **P 06 23 16.5 -0.4**
CDF Champ du Feu 85.19 318 *eP* **P 06 23 17.0 -0.1**
ECH Echery 85.26 318 *eP* **P 06 23 17.4 -0.1**
HINF Hinteralfeld 85.47 318 *eP* **P 06 23 17.9 -0.6**
LOMF Lomont 85.48 317 *eP* **P 06 23 18.5 -0.1**
MBDF Montbardon 85.53 314 *eP* **P 06 23 18.4 -0.5**
comp=Z,63nm,1.3s,mb5.4
MBDF Montbardon 85.53 314 *eP* **P 06 23 18.4 -0.5**
MBDF pmax pmax
comp=Z,32nm,1.3s,mb5.4
LPG La Plagne 85.54 315 *eP* **P 06 23 19.5 +0.6**
comp=Z,68nm,1.0s,mb5.5
LPG La Plagne 85.54 315 *eP* **P 06 23 19.5 +0.6**
LPG pmax pmax
comp=Z,34nm,1.0s,mb5.5
LPL La Plagne 85.55 315 *eP* **P 06 23 19.3 +0.3**
comp=Z,88nm,1.0s,mb5.6
LPL La Plagne 85.55 315 *eP* **P 06 23 19.3 +0.3**
LPL pmax pmax
comp=Z,44nm,1.0s,mb5.6
BNI Bardonecchia 85.59 315 *eP* **P 06 23 17.4 -1.8**
BNI pmax pmax
comp=Z,20nm,1.0s,mb5.3
BNI Bardonecchia 85.59 315 *eP* **P 06 23 17.4 -1.8**
comp=Z,20nm,1.0s,mb5.3
FRF La Foret Royal 85.62 313 *eP* **P 06 23 19.6 +0.2**
comp=Z,168nm,1.4s,mb5.8
FRF La Foret Royal 85.62 313 *eP* **P 06 23 19.6 +0.2**
FRF pmax pmax
comp=Z,84nm,1.4s,mb5.8
LMR La Mourre 85.72 313 *eP* **P 06 23 20.0 +0.1**
comp=Z,78nm,1.2s,mb5.5
LMR La Mourre 85.72 313 *eP* **P 06 23 20.0 +0.1**
LMR pmax pmax
comp=Z,39nm,1.3s,mb5.5
HAU Haudompre 85.81 318 *eP* **P 06 23 20.0 -0.2**
comp=Z,81nm,1.1s,mb5.6
HAU *e*R
comp=Z,473nm,21.5s
HAU Haudompre 85.81 318 *eP* **P 06 23 20.0 -0.2**
HAU pmax pmax
comp=Z,40nm,1.1s,mb5.6
HAU MLR MLR
comp=Z,470nm,21.5s,MS4.8
CABF La Chapelle 85.99 316 *eP* **P 06 23 21.4 +0.2**
comp=Z,122nm,1.3s,mb5.7
CABF La Chapelle 85.99 316 *eP* **P 06 23 21.4 +0.2**
CABF pmax pmax
comp=Z,61nm,1.3s,mb5.7
THEF They Montfort 86.05 318 *eP* **P 06 23 21.3 -0.1**
ORIF Oris-en-Rattie 86.16 315 *eP* **P 06 23 22.4 +0.3**
comp=Z,73nm,1.4s,mb5.4
ORIF *e*R
comp=Z,496nm,19.8s
SMRF Simiane la Rot 86.39 314 *eP* **P 06 23 24.1 +0.9**
OG05 Jujurieux 86.44 316 *eP* **P 06 23 23.9 +0.5**
MEZF Maizieres J'vi 86.67 318 *eP* **P 06 23 24.3 -0.1**
comp=Z,35nm,0.9s,mb5.3
GIVF Givet 86.78 320 *eP* **P 06 23 24.9 -0.1**
URZ Urewera 86.83 128 P **P 06 23 25.2 -0.3**
comp=Z,39nm,0.9s,mb5.6,baz=267,slow=2.1,SNR=6.5
VIVF Saint-Julien-l 87.02 315 *eP* **P 06 23 26.4 +0.2**
comp=Z,71nm,1.3s,mb5.4
VIVF Saint-Julien-l 87.02 315 *eP* **P 06 23 26.4 +0.2**
VIVF pmax pmax
comp=Z,36nm,1.3s,mb5.4
BAIF Baives 87.18 320 *eP* **P 06 23 27.4 +0.5**
comp=Z,82nm,1.2s,mb5.5
BAIF Baives 87.18 320 *eP* **P 06 23 27.4 +0.5**
BAIF pmax pmax
comp=Z,41nm,1.2s,mb5.5
SMF Signal de Mont 87.54 316 *eP* **P 06 23 28.5 -0.2**
comp=Z,64nm,1.0s,mb5.5
SMF Signal de Mont 87.54 316 *eP* **P 06 23 28.5 -0.2**
SMF pmax pmax
comp=Z,32nm,1.0s,mb5.5
PLDF La Plantade 87.72 316 *eP* **P 06 23 30.1 +0.5**
SSF Saint Saulge 87.75 317 *eP* **P 06 23 29.9 +0.2**
SSF pmax pmax
comp=Z,16nm,1.1s,mb5.2
SSF Saint Saulge 87.75 317 *eP* **P 06 23 29.9 +0.2**
comp=Z,16nm,1.1s,mb5.2
AVF Avril sur Loir 87.87 317 *eP* **P 06 23 30.1 -0.2**
comp=Z,48nm,1.1s,mb5.3
AVF Avril sur Loir 87.87 317 *eP* **P 06 23 30.1 -0.2**
AVF pmax pmax
comp=Z,24nm,1.1s,mb5.3
AGO Saint Agoulin 88.06 316 *eP* **P 06 23 31.7 +0.5**
BGF Bois d'Agland 88.23 316 *eP* **P 06 23 32.5 +0.5**
HYF Humbligny 88.33 317 *eP* **P 06 23 32.9 +0.4**
VNDA Vanda 88.57 168 P **P 06 23 33.8 +0.8**
comp=Z,7.8nm,1.1s,mb5.0,baz=288,slow=4.8,SNR=10
TCF Toulx Ste Croi 88.68 316 *eP* **P 06 23 34.5 +0.3**
comp=Z,46nm,1.4s,mb5.3
TCF Toulx Ste Croi 88.68 316 *eP* **P 06 23 34.5 +0.3**
TCF pmax pmax
comp=Z,23nm,1.4s,mb5.3
CAF Calviac 88.87 315 *eP* **P 06 23 35.8 +0.7**
RJF Les Rejaudoux 89.23 315 *eP* **P 06 23 37.4 +0.6**
comp=Z,114nm,1.5s,mb5.7
RJF *e*R
comp=Z,412nm,22.8s
RJF Les Rejaudoux 89.23 315 *eP* **P 06 23 37.4 +0.6**
RJF pmax pmax
comp=Z,57nm,1.5s,mb5.7
RJF MLR MLR
comp=Z,410nm,22.8s,MS4.8

SBA Scott Base 89.67 168 *eP* **P 06 23 40.6 +2.4**
SBA pmax pmax
comp=Z,30nm,1.1s,mb5.5
SBA Scott Base 89.67 168 *eP* **P 06 23 40.6 +2.3**
comp=Z,30nm,1.1s,mb5.5
LFF La Frestale 89.81 315 *eP* **P 06 23 40.3 +0.8**
comp=Z,54nm,1.2s,mb5.5
LFF La Frestale 89.81 315 *eP* **P 06 23 40.3 +0.8**
LFF pmax pmax
comp=Z,27nm,1.2s,mb5.5
LDF La Druitiere 90.09 319 *eP* **P 06 23 40.8 0.0**
comp=Z,43nm,1.0s,mb5.4
LDF La Druitiere 90.09 319 *eP* **P 06 23 40.8 0.0**
LDF pmax pmax
comp=Z,22nm,1.0s,mb5.4
MFF Saint Martin d 90.29 317 *eP* **P 06 23 41.8 +0.1**
comp=Z,111nm,1.6s,mb5.7
MFF Saint Martin d 90.29 317 *eP* **P 06 23 41.8 +0.1**
MFF pmax pmax
comp=Z,55nm,1.6s,mb5.6
FLN La Foliniere 90.32 319 *eP* **P 06 23 41.8 0.0**
comp=Z,96nm,1.3s,mb5.7
FLN *e*R
comp=Z,463nm,19.2s
FLN La Foliniere 90.32 319 *eP* **P 06 23 41.8 0.0**
FLN pmax pmax
comp=Z,48nm,1.3s,mb5.7
FLN MLR MLR
comp=Z,460nm,19.3s,MS4.9
TNA Tin City 90.47 24 *eP* **P 06 23 42.2 +0.1**
comp=Z,20nm,1.1s,mb5.4
TNA *e*pP pP 06 23 51.8 +0.3
GRR Gorron 90.60 318 *eP* **P 06 23 42.4 -0.7**
comp=Z,46nm,1.1s,mb5.4
GRR Gorron 90.60 318 *eP* **P 06 23 42.4 -0.7**
GRR pmax pmax
comp=Z,23nm,1.1s,mb5.4
ETSF Etsaut 90.91 313 *eP* **P 06 23 45.6 +0.9**
comp=Z,44nm,1.1s,mb5.4
ETSF Etsaut 90.91 313 *eP* **P 06 23 45.6 +0.9**
ETSF pmax pmax
comp=Z,22nm,1.1s,mb5.4
EKA Eskdalemuir Ar 91.22 325 P **P 06 23 46.6 +0.8**
comp=Z,6.5nm,0.8s,mb5.0,baz=90,slow=5.0,SNR=8.4
SJPF Ste Jean 91.38 313 *eP* **P 06 23 47.8 +1.0**
comp=Z,42nm,1.0s,mb5.4
SJPF Ste Jean 91.38 313 *eP* **P 06 23 47.8 +1.0**
SJPF pmax pmax
comp=Z,21nm,1.0s,mb5.4
ANM Nome 91.71 25 *eP* **P 06 23 49.4 +1.6**
SGMF Saint Gilles 91.74 318 *eP* **P 06 23 48.6 +0.2**
comp=Z,57nm,1.2s,mb5.5
SGMF Saint Gilles 91.74 318 *eP* **P 06 23 48.6 +0.2**
SGMF pmax pmax
comp=Z,28nm,1.2s,mb5.5
QUIF Quistinic 92.19 318 *eP* **P 06 23 49.3 -1.1**
comp=Z,130nm,1.5s,mb5.8
QUIF Quistinic 92.19 318 *eP* **P 06 23 49.3 -1.1**
QUIF pmax pmax
comp=Z,65nm,1.5s,mb5.7
ROSF Rostrenen 92.21 318 *eP* **P 06 23 50.7 +0.2**
comp=Z,236nm,1.4s,mb6.0
ROSF Rostrenen 92.21 318 *eP* **P 06 23 50.7 +0.2**
ROSF pmax pmax
comp=Z,118nm,1.4s,mb6.0
QSPA South Pole Qui 93.24 180⇓ *iP* **P 06 23 57.0 +2.4**
comp=Z,27nm,1.4s,mb5.5
ESDC Sonseca Array 93.82 310 P **P 06 23 59.5 +1.3**
comp=Z,3.6nm,0.7s,mb4.9,baz=55,slow=4.3,SNR=13
IMA Indian Mountai 95.98 22 *eP* **P 06 24 08.0 +0.6**
DBIC Dimbokro 98.13 277 P **P 06 24 19.1 +0.8**
DBIC Dimbokro 98.13 277 LR LR 07 06 50.6
comp=Z,778nm,19.8s,MS5.2,baz=77,slow=34
ILAR Eielson Array 99.11 22 P **P 06 24 21.4 -0.1**
comp=Z,1.1nm,0.8s,mb4.5,baz=299,slow=4.3,SNR=9.8
ILAR PP PP 06 28 24.0 -2.3
comp=Z,4.4nm,1.3s,baz=295,slow=9.2,SNR=4.5
ILAR PKKPbc 06 40 46.8
comp=Z,0.6nm,0.9s,baz=114,slow=1.8,SNR=4.5
RES Resolute Bay 101.95 2 *eP* P 06 24 35.7 +1.4
RES pmax pmax
comp=Z,16nm,1.1s
RES Resolute Bay 101.95 2 *e*Pdif P 06 24 35.7 +1.4
comp=Z,16nm,1.1s
RES *e*pP 06 24 45.1
YKA Yellowknife Ar 110.94 14 Pdiff Pdif 06 25 17.4 +3.5
comp=Z,0.2nm,0.7s,baz=326,slow=4.8,SNR=3.9
YKA PKIKP 06 29 13.5
comp=Z,0.6nm,0.9s,baz=314,slow=1.8,SNR=5.4
YKA PP PP 06 29 47.6 -7.4
comp=Z,0.9nm,0.9s,baz=334,slow=7.6,SNR=5.8
YKA PKKPbc 06 40 11.7
comp=Z,0.3nm,0.8s,baz=150,slow=3.3,SNR=5.9
YKA Yellowknife Ar 110.94 14 Pdif Pdif 06 25 17.4 +3.5
YKA PKPdf PKPdf 06 29 13.6 -3.7
YKA PP PP 06 29 47.6 -7.4
YKA PKKPbc 06 40 11.7
EDM Edmonton 119.26 18 *e*PKIKP PKPdf 06 29 29.7 -4.0
NEW Newport 122.01 24 PKP PKPdf 06 29 36.0 -3.2
comp=Z,2.3nm,0.8s,baz=278,slow=2.2,SNR=4.8
MSO Missoula 124.44 23 *e*PKPdf PKPdf 06 29 40.3 -3.6
MSO *e*pPKPdf 06 29 49.2
BMO Blue Mountains 124.63 26 PKIKP PKPdf 06 29 38.7 -5.6
CHMT Chamberlain Mo 124.63 22 *e*PKPdf PKPdf 06 29 40.7 -3.5
ULM Lac du Bonnet 126.02 8 PKP PKPdf 06 29 43.0 -3.8
comp=Z,7.0nm,0.9s,baz=2.5,slow=3.1,SNR=12
ULM PP PP 06 31 35.4 -4.5
comp=Z,3.1nm,1.0s,baz=348,slow=4.1,SNR=3.0
MCMT McKenzie Canyo 126.52 23 *e*PKPdf PKPdf 06 29 45.9 -2.0
QLMT Earthquake Lak 127.07 22 *e*PKPdf PKPdf 06 29 46.8 -2.1
QLMT *e*pPKPdf 06 29 55.9
LAO LASA Array 127.19 17 *e*PKPdf PKPdf 06 29 46.9 -2.2
NVAR Mina Array Bea 129.00 32 PKP PKPdf 06 29 51.5 -1.4
comp=Z,2.7nm,0.8s,baz=268,slow=3.2,SNR=13
NVAR pPKP 06 29 59.8
comp=Z,2.8nm,0.8s,baz=54,slow=1.0,SNR=9.5
BW06 Boulder Array 129.54 22 *e*PKPdf PKPdf 06 29 50.2 -3.6
PDAR Pinedale Array 129.54 22 PKP PKPdf 06 29 49.3 -4.5
comp=Z,4.8nm,1.0s,SNR=17
PDAR pPKP 06 29 59.2
comp=Z,4.3nm,1.0s,SNR=10
PDAR PP PP 06 32 01.9 -1.3
comp=Z,1.5nm,0.9s,slow=3.0,SNR=4.1
MSU Marysvale 131.99 27 *e*PKIKP PKPdf 06 29 56.4 -2.2
NEN Nelson 132.91 32 *e*PKPdf PKPdf 06 29 58.6 -1.9
PV10 Paradox Valley 133.49 25 *e*PKPdf PKPdf 06 29 58.2 -3.2
KSU1 Kansas State U 136.74 12 *e*PKPdf PKPdf 06 30 04.1 -3.2
TUC Tucson 137.63 31 *e*PKIKP PKPdf 06 30 07.6 -1.6
TUC Tucson 137.63 31 *e*PKPpre 06 27 05.8
LAZ Ladron 137.66 26 *e*PKPdf PKPdf 06 30 05.8 -3.4
LPM Los Pinos Moun 137.96 25 *e*PKPdf PKPdf 06 30 06.6 -3.1
PLCA Paso Flores 140.13 199 PKIKP PKPdf 06 30 10.5 -3.0
WMOK Wichita Mounta 140.37 16 PKHKP 06 30 03.4
WMOK Wichita Mounta 140.37 16 *e*PKPpre 06 30 02.9
MNTX Cornudas Mount 140.73 26 *e*PKPdf PKPdf 06 30 11.8 -3.1
WVT Waverly 140.75 2 *e*PKHKP 06 30 03.1
MIAR Mount Ida 141.73 10 PKIKP PKPdf 06 30 08.8 -7.7
MIAR Mount Ida 141.73 10 *e*PKPpre 06 30 08.6
MYNC Murphy 141.77 357 *e*PKIKP PKPdf 06 30 13.5 -3.1
LTX Lajitas 143.51 26 *e*PKIKP PKPdf 06 30 14.8 -4.9
TXAR Lajitas Array 143.51 26 PKP PKPdf 06 30 14.2 -5.5
comp=Z,3.7nm,0.7s,baz=230,slow=1.6,SNR=33
LRAL Lakeview Retre 143.85 1 *e*PKPdf PKPdf 06 30 17.0 -3.2
JCT Junction City 144.01 20 *e*PKIKP PKPdf 06 30 15.2 -5.3
NATX Nacogdoches 144.23 12 *e*PKPdf PKPdf 06 30 16.2 -4.7
HKT Hockley 145.69 15 *e*PKP2 PKPab 06 30 20.7 -0.5
FCH Farellones 146.60 205 *e*PKPbc PKPbc 06 30 23.2 +1.9
DEG La Desirade 148.36 309 *e*PKPdf PKPdf 06 30 27.8 -0.4
BBL Barber's Block 149.13 308 *e*PKPdf PKPdf 06 30 30.9 +1.4
LVC Limon Verde 154.47 220 PKPbc PKPdf 06 30 44.4 +7.2
comp=Z,6.4nm,0.9s,baz=261,slow=2.1,SNR=6.7
LVC PKPab PKPab 06 30 58.5 +1.1
comp=Z,6.4nm,1.0s,baz=99,slow=2.8,SNR=8.3
LVC Limon Verde 154.47 220 PKPbc PKPdf 06 30 44.4 +7.2
LVC PKPab PKPab 06 30 58.5 +1.1
TEIG Tepich 156.53 5 *e*PKPab PKPab 06 31 05.5 -0.7
LPAZ La Paz 157.98 233 PKP PKPdf 06 30 39.8 -2.2
comp=Z,3.3nm,0.9s,baz=26,slow=1.4,SNR=12
LPAZ PKPab PKPab 06 31 13.2 +0.6
comp=Z,6.1nm,1.0s,baz=138,slow=1.8,SNR=9.9
LPAZ La Paz 157.98 233 *e*PKPdf PKPdf 06 30 40.1 -1.9
SDV Santo Domingo 160.25 308 PKPab PKPab 06 31 21.4 -1.0
comp=Z,12nm,0.9s,baz=63,slow=1.1,SNR=11
OTAV Otavalo 171.42 294 *e*PKPdf PKPdf 06 30 50.8 -2.9

IDC ***29*** *06:15:14.7±0.8, 15.92S×173.53W,mb4.3/10,mb1 4.6/11, mb1mx4.5/19,mbtmp4.4/11,ML4.5/1,MS4.7/2,Ms1 4.7/2, ms1mx3.5/29,Error ellipse: s-maj=47.7km s-min=17.2km az=139.0*
NEIC ***29*** *06:15:15.7±0.4, 15.95S×173.48W,h10km,mb4.6/7,Error ellipse: s-maj=25.0km s-min=8.5km az=138.0*
BJI ***29*** *06:15:16.8, 16.16S×173.37W,h31km,mB4.8,mb4.6*
ISC 29 06:15:13.7±0.4,16.1S±0.1×173.5W±0.1,h10km,n39, σ1$00/27,mb4.5/18,MS5.4/1,2C,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.72**	**38**	*eP*	**Pn**	**06 15 56.3**	**-1.9**
RAR	**Rarotonga**	**13.96**	**114**	Pn	**P**	**06 18 24.2**	**-10**
	2.0nm,0.3s,baz=230,slow=3.2,SNR=4.5						
RAR				LR	LR	06 21 48.6	
	comp=Z,742nm,21.9s,baz=282,slow=28						
PPT	**Papeete**	**22.93**	**97**	*e*LR	LR	06 25 14.7	
	2μm,25.0s,baz=254						
URZ	**Urewera**	**23.60**	**199**	P	**P**	**06 20 23.9**	**-1.6**
	18nm,0.5s,mb4.8,baz=52,slow=3.4,SNR=18						
TBI	**Tubuai**	**23.72**	**112**	*e*LR	LR	06 25 42.5	
	2μm,26.0s,baz=288						
RPZ	**Rata Peaks**	**30.52**	**202**	P	**P**	**06 21 31.5**	**+2.1**
	9.8nm,0.6s,mb4.8,baz=21,slow=4.5,SNR=8.6						
TAOE	**Nuku Hiva Isla**	**33.30**	**82**	*e*LR	LR	06 29 54.8	
STKA	**Stephens Creek**	**43.63**	**241**	P	**P**	**06 23 21.2**	**+1.0**
	5.2nm,0.8s,mb4.3,baz=82,slow=8.7,SNR=3.2						
STKA	**Stephens Creek**	**43.63**	**241**	*eP*	**P**	**06 23 21.7**	**+1.4**
WRAB	**Tennant Creek**	**49.60**	**257**	*eP*	**P**	**06 24 08.1**	**+0.6**
	3.6nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**49.61**	**257**	P	**P**	**06 24 07.7**	**+0.1**
	1.5nm,0.6s,mb4.2,baz=94,slow=6.2,SNR=13						
ASAR	**Alice Springs**	**49.83**	**252**	P	**P**	**06 24 08.2**	**-0.9**
	9.7nm,0.5s,mb5.1,baz=89,slow=8.1,SNR=98						
ASPA	**Alice Springs**	**49.83**	**252**	*eP*	**P**	**06 24 08.2**	**-1.0**
KLBR	**Kellerberrin**	**63.85**	**242**	*eP*	**P**	**06 25 48.1**	**-0.9**
	58nm,0.7s,mb5.7						
QSPA	**South Pole Qui**	**73.97**	**180**	P	**P**	**06 26 51.0**	**+0.4**
	10.0nm,1.1s,mb4.7						
NVAR	**Mina Array Bea**	**74.89**	**42**	P	**P**	**06 26 57.3**	**+0.6**
	2.6nm,0.9s,mb4.2,baz=230,slow=12,SNR=13						
MNV	**Mina**	**74.98**	**42**	*eP*	**P**	**06 26 56.9**	**-0.4**
	9.9nm,1.3s,mb4.6						
MSU	**Marysvale**	**78.97**	**45**	*eP*	**P**	**06 27 20.5**	**+1.1**
BMO	**Blue Mountains**	**79.22**	**37**	*eP*	**P**	**06 27 21.0**	**+0.3**
	6.4nm,1.4s,mb4.4						
TMUT	**Trail Mountain**	**80.02**	**44**	*eP*	**P**	**06 27 22.8**	**-2.3**
TXAR	**Lajitas Array**	**81.06**	**56**	P	**P**	**06 27 30.6**	**-0.2**
	1.2nm,1.1s,mb3.8,baz=214,slow=4.5,SNR=6.7						
MCK	**McKinley**	**81.80**	**11**	*eP*	**P**	**06 27 34.0**	**0.0**
	7.9nm,1.3s,mb4.5						
MCMT	**McKenzie Canyo**	**81.83**	**39**	*eP*	**P**	**06 27 35.3**	**+0.8**
QLMT	**Earthquake Lak**	**82.69**	**39**	*eP*	**P**	**06 27 40.4**	**+1.4**
PDAR	**Pinedale Array**	**82.82**	**42**	P	**P**	**06 27 39.9**	**+0.2**
	1.9nm,0.8s,mb4.2,baz=206,slow=3.5,SNR=15						
COLA	**College**	**83.04**	**11**	*eP*	**P**	**06 27 40.3**	**-0.1**
	3.7nm,0.8s,mb4.5						
ILAR	**Eielson Array**	**83.12**	**11**	P	**P**	**06 27 41.4**	**+0.5**
	1.1nm,0.6s,mb4.1,baz=226,slow=6.2,SNR=28						
SDCO	**Great Sand Dun**	**83.23**	**48**	*eP*	**P**	**06 27 41.8**	**-0.2**
	8.0nm,1.5s,mb4.5						
PLCA	**Paso Flores**	**89.12**	**132**	LR	LR	06 59 04.0	
	comp=Z,2μm,19.6s,MS5.4,baz=221,slow=30						
YKA	**Yellowknife Ar**	**90.75**	**23**	P	**P**	**06 28 19.0**	**+1.1**
	0.5nm,0.8s,mb3.9,baz=239,slow=4.4,SNR=6.9						
SYO	**Syowa Base**	**91.92**	**191**	⇑P	**P**	**06 28 22.3**	**-0.9**
SYO	**Syowa Base**	**91.92**	**191**	⇑sP	sP	06 28 32.0	+4.6
MALT	**Malatya**	**144.28**	**315**	*e*PKPdf	PKPdf	06 34 53.3	-0.1
KMBO	**Kilima Mbogo**	**145.16**	**243**	PKPbc	PKPbc	06 34 55.5	+2.6
	0.9nm,0.5s,baz=160,slow=4.7,SNR=6.5						
KHC	**Kasperske Hory**	**146.54**	**352**	*e*PKP	PKPdf	06 34 58.5	+1.6
KHC				x	x	06 35 10.5	
BRTR	**Keskin Array B**	**146.63**	**320**	PKPbc	PKPbc	06 34 58.9	+3.1
	2.9nm,0.9s,baz=90,slow=1.2,SNR=8.3						
GERES	**GERESS Array B**	**146.80**	**351**	PKPbc	PKPbc	06 34 58.5	+2.7
	0.5nm,0.5s,baz=27,slow=3.0,SNR=5.8						
DAVOX	**Davos**	**149.26**	**355**	PKPbc	PKPdf	06 35 05.6	+4.2
	1.6nm,0.5s,baz=338,slow=5.4,SNR=2.9						
DAVOX	**Davos**	**149.26**	**355**	PKPbc	PKPdf	06 35 05.6	+4.2

IDC 29 06:24:21.4±9.4,6.55N×95.55E,mb4.0/6,mb1 4.1/6, mb1mx3.8/18,mbtmp4.0/6,Error ellipse: s-maj=268.5km s-min=37.7km az=131.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**42.17**	**11**	P	P	06 32 15.4	-2.1
	0.7nm,0.8s,baz=190,slow=7.5,SNR=4.7						
ZAL	**Zalesovo**	**48.05**	**351**	P	P	06 33 02.1	-2.3
	0.8nm,0.5s,baz=319,slow=10,SNR=3.3						
KMBO	**Kilima Mbogo**	**58.68**	**265**	P	P	06 34 21.2	-2.4
	1.9nm,0.7s,baz=60,slow=13,SNR=5.7						
FINES	**FINESS Array B**	**74.53**	**322**	P	P	06 36 01.5	-2.1
	1.2nm,0.5s,baz=108,slow=6.0,SNR=6.1						
HFS	**Hagfors**	**80.30**	**330**	P	P	06 36 35.1	-0.5
	1.6nm,0.6s,baz=121,slow=8.6,SNR=4.7						
NOA	**NORSAR Array B**	**81.56**	**331**	P	P	06 36 41.6	-0.7
	1.5nm,0.9s,baz=92,slow=5.7,SNR=3.5						

IDC ***29*** *06:29:59.3±1.5, 7.95N×93.92E,mb3.9/6,mb1 4.1/7, mb1mx3.8/19,mbtmp3.8/7,ML4.0/1,Error ellipse: s-maj=48.8km s-min=27.1km az=57.0*
ISC 29 06:30:02.6±1.1,8.0N±0.1×94.1E±0.2,h33km,n14, σ0$49/14,mb3.9/7,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.45**	**24**	Pn	**P**	**06 32 47.0**	**+0.1**
	0.3nm,0.3s,baz=213,slow=15,SNR=5.6						
JIRN	**Jiri**	**20.96**	**340**	*eP*	**P**	**06 34 46.0**	**+0.7**
PKI	**Pulchoki**	**21.15**	**338**	*eP*	**P**	**06 34 47.3**	**+0.1**
GUN	**Gumba**	**21.29**	**340**	*eP*	**P**	**06 34 49.2**	**+0.6**
DMN	**Daman**	**21.30**	**338**	*eP*	**P**	**06 34 48.7**	**0.0**
GKN	**Gorkha**	**21.83**	**337**	*eP*	**P**	**06 34 54.1**	**+0.1**
KOLN	**Koldanda**	**22.05**	**335**	*eP*	**P**	**06 34 56.6**	**+0.4**
SONM	**Songino Array**	**41.08**	**13**	P	**P**	**06 37 44.4**	**-0.4**
	0.9nm,0.9s,mb3.4,baz=202,slow=6.7,SNR=5.6						
ZAL	**Zalesovo**	**46.44**	**352**	P	**P**	**06 38 27.7**	**-0.3**
	1.2nm,0.3s,mb4.3,baz=300,slow=4.6,SNR=7.7						
WRA	**Warramunga Arr**	**48.37**	**126**	P	**P**	**06 38 44.1**	**+0.5**
	0.4nm,0.8s,mb3.5,baz=304,slow=8.8,SNR=3.7						
BVAR	**Borovoye Array**	**48.88**	**341**	P	**P**	**06 38 46.2**	**-0.9**
	1.3nm,1.1s,mb3.9,baz=158,slow=7.8,SNR=3.7						
FINES	**FINESS Array B**	**72.60**	**332**	P	**P**	**06 41 27.4**	**-0.8**
	2.1nm,0.9s,mb4.1,baz=135,slow=9.8,SNR=3.2						
GERES	**GERESS Array B**	**77.71**	**318**	P	**P**	**06 41 58.3**	**+0.5**
	1.9nm,0.9s,mb4.0,baz=76,slow=5.5,SNR=7.3						
NB2	**NORSAR Subarra**	**79.62**	**331**	P	**P**	**06 42 07.5**	**-0.5**
	3.2nm,1.0s,mb4.2,baz=91,slow=4.8						

IDC ***29*** *06:33:53.0±1.1, 7.71N×93.75E,mb4.0/10,mb1 4.2/11, mb1mx4.0/20,mbtmp4.0/11,ML3.9/1,Error ellipse: s-maj=43.5km s-min=20.1km az=55.0*
BJI ***29*** *06:33:57.5, 7.70N×93.80E,h30km,mb4.4*
NEIC ***29*** *06:33:57.6±0.6, 7.72N×93.79E,h30km,mb3.9/1,Error ellipse: s-maj=18.1km s-min=11.6km az=62.0*
ISC 29 06:33:55.9±0.8,7.7N±0.1×93.9E±0.2,h30km,n20, σ0$86/20,mb4.2/16,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.76**	**24**	Pn	**P**	**06 36 44.2**	**-0.5**
	0.3nm,0.3s,baz=212,slow=14,SNR=6.9						
JIRN	**Jiri**	**21.15**	**341**	*eP*	**P**	**06 38 41.5**	**+0.6**
	42nm,1.0s,mb4.7						
PKI	**Pulchoki**	**21.33**	**339

ZAL	**Zalesovo**	**46.68**	**353**	P	**P**	**06 42 23.4**	**-0.3**
	3.8nm,0.7s,mb4.4,baz=292,slow=5.9,SNR=19						
WRA	**Warramunga Arr**	**48.35**	**125**	P	**P**	**06 42 38.0**	**+0.7**
	0.4nm,0.4s,mb3.8,baz=304,slow=8.8,SNR=8.2						
BVAR	**Borovoye Array**	**49.07**	**341**	P	**P**	**06 42 40.4**	**-1.9**
	1.0nm,0.8s,mb3.9,baz=148,slow=14,SNR=5.8						
ASAR	**Alice Springs**	**49.99**	**130**	P	**P**	**06 42 49.9**	**+0.1**
	0.3nm,0.4s,mb3.7,baz=306,slow=7.7,SNR=5.1						
JOF	**Joensuu**	**70.90**	**335**	*ep*	**P**	**06 45 10.6**	**-1.4**
	3.0nm,0.7s,mb4.3						
FINES	**FINESS Array B**	**72.75**	**332**	P	**P**	**06 45 22.6**	**-0.4**
	2.5nm,0.8s,mb4.2,baz=117,slow=4.3,SNR=6.7						
ARCES	**ARCESS Array B**	**75.34**	**340**	P	**P**	**06 45 37.8**	**-0.1**
	4.6nm,1.0s,mb4.4,baz=90,slow=6.3,SNR=4.4						
GERES	**GERESS Array B**	**77.80**	**318**	P	**P**	**06 45 52.1**	**+0.1**
	0.4nm,0.6s,mb3.5,baz=72,slow=4.2,SNR=6.6						
HFS	**Hagfors**	**78.48**	**330**	P	**P**	**06 45 55.5**	**-0.1**
	2.6nm,0.8s,mb4.2,baz=108,slow=4.7,SNR=6.7						
NB2	**NORSAR Subarra**	**79.76**	**331**	P	**P**	**06 46 02.3**	**-0.2**
	1.0nm,0.7s,mb3.9,baz=92,slow=5.3						
NOA	**NORSAR Array B**	**79.76**	**331**	P	**P**	**06 46 02.4**	**-0.1**
	1.4nm,0.7s,mb4.0,baz=95,slow=4.9,SNR=3.8						

RSPR ***29*** *06:36:10.7, 19.66N×65.39W, h53km±17km, MD5.0/11, MD5.0/11*
NEIC ***29*** *06:36:10.7, 19.66N×65.39W, h53km, mb4.4/7, MD5.0(RSPR). After RSPR.*
IDC ***29*** *06:36:11.8±4.0, 19.42N×65.45W, h25km±26km, mb4.1/12, mb1 4.3/14, mb1mx4.1/24, mbtmp4.3/14, ML3.5/2, Error ellipse: s-maj=23.9km s-min=15.1km az=83.0*
ISC 29 06:36:09.0±1.0, 19.71N±0.06×65.44W±0.07, h50km±11km, n58, σ0=92/62, mb4.2/18, 5C-8D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.48**	**195⇑**	*eP*	**P**	**06 36 33.2**	**-0.7**
CSB	**Colonia Sabana**	**1.57**	**206⇓**	*eP*	**P**	**06 36 34.9**	**-0.1**
CSB				*eS*	**S**	**06 36 54.0**	**-0.3**
HUMP	**Col San Antoni**	**1.61**	**194⇓**	*eP*	**P**	**06 36 35.1**	**-0.4**
HUMP				*eS*	**S**	**06 36 54.4**	**-0.9**
MTP	**Monte Pirata**	**1.61**	**184⇓**	*eP*	**P**	**06 36 35.7**	**+0.1**
MTP				*eS*	**S**	**06 36 54.9**	**-0.5**
CPD	**Cerro la Pandu**	**1.72**	**195⇓**	*eP*	**P**	**06 36 36.9**	**-0.3**
CPD				*eS*	**S**	**06 36 57.6**	**-0.5**
SJG	**San Juan**	**1.73**	**203⇓**	*iP*	**P**	**06 36 37.1**	**-0.1**
SJG				*eS*	**S**	**06 36 58.6**	**+0.4**
SJG	**San Juan**	**1.73**	**203⇑**	*eP*	**P**	**06 36 37.1**	**-0.1**
SJG				*eS*	**S**	**06 36 58.8**	**+0.6**
SJG	**San Juan**	**1.73**	**203**	Pn	**P**	**06 36 37.2**	**0.0**
	186nm,0.3s,baz=48,slow=10.0,SNR=190						
SJG				Lg		06 36 59.2	
	179nm,0.3s,baz=296,slow=15,SNR=10.0						
AOPR	**Arecibo Observ**	**1.84**	**223⇓**	*eP*	**P**	**06 36 38.8**	**+0.1**
AOPR				*eS*	**S**	**06 37 00.7**	**-0.2**
CELP	**Cerrillos**	**1.95**	**214⇓**	*eP*	**P**	**06 36 40.5**	**+0.1**
OBIP	**Obispado Ponce**	**1.99**	**214⇓**	*eP*	**P**	**06 36 41.0**	**+0.1**
OBIP				*eS*	**S**	**06 37 04.9**	**+0.2**
PORP	**Portuguez**	**2.00**	**215⇑**	*eP*	**P**	**06 36 41.3**	**+0.2**
PORP				*eS*	**S**	**06 37 04.8**	**0.0**
LSP	**Las Mesas**	**2.18**	**226⇑**	*eP*	**P**	**06 36 44.4**	**+0.8**
MPR	**Mayaguez**	**2.19**	**227⇑**	*eP*	**P**	**06 36 44.5**	**+0.7**
MPR				*eS*	**S**	**06 37 10.1**	**+0.3**
SEG	**Port Louis**	**4.99**	**131**	*eP*	**P**	**06 37 23.6**	**+0.3**
SDV	**Santo Domingo**	**11.88**	**206**	Pn	**P**	**06 39 01.2**	**+2.8**
	1.8nm,0.3s,baz=47,slow=10,SNR=22						
SDV	**Santo Domingo**	**11.88**	**206**	*eP*	**P**	**06 38 57.2**	**-1.1**
ROSC	**El Rosal**	**17.12**	**212**	Pn	**P**	**06 40 09.1**	**+2.6**
	1.2nm,0.3s,baz=96,slow=22,SNR=7.1						
JTS	**JuntasAbangare**	**21.02**	**246**	*eP*	**P**	**06 40 49.6**	**-1.3**
	26nm,0.9s,mb4.6						
TEIG	**Tepich**	**21.47**	**275**	*eP*	**P**	**06 40 54.2**	**-1.1**
PAL	**Palisades**	**22.42**	**343**	P	**P**	**06 41 05.1**	**+0.4**
OTAV	**Otavalo**	**23.17**	**215**	*eP*	**P**	**06 41 14.5**	**+2.3**
	44nm,1.4s,mb4.7						
LRAL	**Lakeview Retre**	**23.37**	**309**	*eP*	**P**	**06 41 14.7**	**+0.7**
GENY	**Geneseo**	**25.25**	**338**	P	**P**	**06 41 32.9**	**+0.9**
OXF	**Oxford**	**25.84**	**310**	P	**P**	**06 41 37.7**	**0.0**
CCM	**Cathedral Cave**	**28.91**	**315**	P	**P**	**06 42 05.0**	**-0.5**
	7.8nm,1.0s,mb4.4						
WMOK	**Wichita Mounta**	**33.03**	**304**	P	**P**	**06 42 41.1**	**-0.7**
KSU1	**Kansas State U**	**33.09**	**312**	P	**P**	**06 42 39.1**	**-3.2**
LPAZ	**La Paz**	**35.87**	**184**	P	**P**	**06 43 06.9**	**+0.6**
	4.1nm,1.1s,mb4.3,baz=0.1,slow=9.8,SNR=8.1						
LPAZ	**La Paz**	**35.87**	**184**	*eP*	**P**	**06 43 05.8**	**-0.5**
	3.1nm,0.9s,mb4.2						
TXAR	**Lajitas Array**	**35.94**	**293**	P	**P**	**06 43 11.2**	**+4.4**
	3.2nm,0.7s,mb4.3,baz=109,slow=9.8,SNR=40						
MNTX	**Cornudas Mount**	**37.72**	**297**	P	**P**	**06 43 20.8**	**-0.9**
	3.7nm,1.1s,mb4.0						
SDCO	**Great Sand Dun**	**39.10**	**306**	*eP*	**P**	**06 43 35.0**	**+1.8**
	8.3nm,0.9s,mb4.5						
ANMO	**Albuquerque**	**39.18**	**301**	P	**P**	**06 43 39.6**	**+5.7**
	1.9nm,1.1s,mb3.7,baz=90,slow=7.8,SNR=4.2						
PV01	**Paradox Valley**	**41.55**	**306**	*eP*	**P**	**06 43 53.7**	**+0.3**
PV10	**Paradox Valley**	**41.96**	**306**	*eP*	**P**	**06 43 56.8**	**0.0**
LVC	**Limon Verde**	**42.20**	**185**	P	**P**	**06 43 58.7**	**-0.3**
	4.1nm,0.6s,mb4.3,baz=7.6,slow=7.3,SNR=9.1						
PDAR	**Pinedale Array**	**43.54**	**312**	P	**P**	**06 44 14.9**	**+5.3**
	1.4nm,0.8s,mb3.8,baz=125,slow=9.2,SNR=9.8						
PDAR				PcP	PcP	06 46 03.0	+5.7
	1.9nm,1.1s,baz=106,slow=7.1,SNR=3.7						
BW06	**Boulder Array**	**43.54**	**312**	P	**P**	**06 44 08.3**	**-1.3**
	3.6nm,1.1s,mb4.0						
FRB	**Frobisher Bay**	**44.05**	**358**	P	**P**	**06 44 19.6**	**+6.1**
	1.9nm,0.8s,mb3.9,baz=186,slow=12,SNR=4.0						
QLMT	**Earthquake Lak**	**45.46**	**314**	P	**P**	**06 44 25.6**	**+0.5**
NEN	**Nelson**	**46.06**	**301**	P	**P**	**06 44 27.5**	**-2.4**
NVAR	**Mina Array Bea**	**49.13**	**304**	P	**P**	**06 44 59.4**	**+5.5**
	5.4nm,1.0s,mb4.5,baz=135,slow=3.3,SNR=29						
YKA	**Yellowknife Ar**	**54.34**	**334**	P	**P**	**06 45 36.7**	**+4.1**
	3.4nm,1.0s,mb4.2,baz=109,slow=7.4,SNR=21						
YKA	**Yellowknife Ar**	**54.34**	**334**	P	**P**	**06 45 36.7**	**+4.1**
ESDC	**Sonseca Array**	**55.92**	**55**	P	**P**	**06 45 50.2**	**+5.8**
	0.5nm,0.6s,mb3.7,baz=270,slow=5.9,SNR=5.1						
INK	**Inuvik**	**63.77**	**337**	P	**P**	**06 46 42.4**	**+4.6**
	5.6nm,1.0s,mb4.5,baz=110,slow=8.0,SNR=9.8						
INK	**Inuvik**	**63.77**	**337**	*eP*	**P**	**06 46 34.9**	**-2.9**
ILAR	**Eielson Array**	**68.72**	**333**	P	**P**	**06 47 13.9**	**+4.7**
	1.5nm,0.7s,mb4.1,baz=100,slow=4.9,SNR=21						
COLA	**College**	**69.13**	**333**	P	**P**	**06 47 11.8**	**+0.1**
RSO	**Redoubt South**	**71.75**	**329**	P	**P**	**06 47 27.9**	**+0.1**
FINES	**FINESS Array B**	**73.62**	**30**	P	**P**	**06 47 44.1**	**+5.5**
	11nm,1.3s,mb4.6,baz=207,slow=4.3,SNR=4.3						
DRV	**Dumont d'Urvil**	**130.27**	**193**	L		06 55 00.0	
CTA	**Charters Tower**	**150.22**	**264**	PKPbc	PKPdf	06 56 02.3	+12
	6.2nm,0.9s,baz=322,slow=1.9,SNR=6.7						
STKA	**Stephens Creek**	**152.89**	**238**	*eP*	PKPdf	06 56 07.5	+14
	5.7nm,1.0s						
STKA	**Stephens Creek**	**152.89**	**238**	PKPbc	PKPdf	06 56 07.7	+14
	10nm,1.1s,baz=103,slow=1.7,SNR=11						
WRA	**Warramunga Arr**	**161.38**	**266**	PKP	PKPdf	06 56 11.1	+6.6
	0.9nm,1.1s,baz=274,slow=0.4,SNR=5.7						
WRA				PKPab	PKPab	06 56 54.8	+3.5
	1.2nm,0.9s,baz=89,slow=4.0,SNR=6.7						
ASAR	**Alice Springs**	**161.60**	**254**	PKP	PKPdf	06 56 11.1	+6.5
	1.8nm,1.1s,baz=150,slow=1.5,SNR=6.5						
ASAR				PKPab	PKPab	06 56 55.7	+3.6
	1.7nm,0.6s,baz=109,slow=4.6,SNR=16						

IDC ***29*** *06:37:45.0±0.5, 56.92S×141.03W, mb4.8/14, mb1 4.9/14, mb1mx4.8/17, mbtmp4.8/14, MS4.9/10, Ms1 4.9/10, ms1mx4.8/15, Error ellipse: s-maj=28.9km s-min=12.7km az=1.0*
BJI ***29*** *06:37:46.6, 56.80S×141.00W, h10km, mB6.0, Ms5.9, Msz5.6*
HRVD ***29*** *06:37:46.7±0.1, 57.06S×140.86W, h12km, MW5.6/68, Centroid moment Tensor Solution. LP body waves: s62,c111; Mantle waves: s68,c131; Half duration: 1s6 Moment tensor: Scale 1017Nm; Mrr-0.24±.05; Mθθ2.46±.06; Mφφ-2.21±.04; Mrθ-0.10±.13; Mθφ2.32±.04; Mφr-0.37±.12; Best double couple: M0 3.315×1017 NP1: φs293°, δ83°, λ-2°. NP2: φs23°, δ88°, λ-173°. Principal axes: T 3.432, Plg4°, Azm157°; N -.229, Plg83°, Azm35°; P -3.197, Plg6°, Azm248°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***29*** *06:37:46.7±0.3, 56.81S×141.03W, h10km, mb5.2/23 Error ellipse: s-maj=12.0km s-min=7.9km az=176.0*
ISC 29 06:37:44.9±0.3, 56.89S±0.09×141.04W±0.10, h10km, n92, σ1=04/53, mb5.0/29, MS5.0/10, 5C-6D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**27.35**	**201**	*eP*	**P**	**06 43 33.1**	**+1.7**
	56nm,1.4s,mb4.9						
VNDA	**Vanda**	**28.27**	**203**	P	**P**	**06 43 43.0**	**+3.3**
	1.5nm,1.1s,baz=78,slow=11,SNR=3.2						
VNDA				LR	LR	06 51 48.3	
	comp=Z,2μm,20.2s,baz=79,slow=30						
VNDA	**Vanda**	**28.27**	**203**	*eP*	**P**	**06 43 41.8**	**+2.1**
	8.9nm,1.1s,mb4.3						
RPZ	**Rata Peaks**	**32.60**	**273**	P	**P**	**06 44 19.8**	**+1.3**
	11nm,0.8s,mb4.8,baz=133,slow=4.7,SNR=6.1						
RPZ				LR	LR	06 54 30.2	
	comp=Z,3μm,19.6s,MS5.0,baz=128,slow=31						
URZ	**Urewera**	**33.14**	**286**	LR	LR	06 55 07.4	
	comp=Z,3μm,18.2s,MS5.1,baz=322,slow=31						
QSPA	**South Pole Qui**	**33.27**	**180⇑**	*iP*	**P**	**06 44 25.6**	**+1.7**
	330nm,1.5s,mb6.0						
TBI	**Tubuai**	**34.06**	**346**	*eS*	**S**	**06 49 44.7**	**-11**
TBI				*eLR*	LR	06 53 09.8	
	9μm,29.2s,baz=177						
RAR	**Rarotonga**	**38.22**	**331**	LR	LR	06 57 07.4	
	comp=Z,1μm,19.1s,MS4.7,baz=164,slow=30						
USHA	**Ushuaia**	**39.04**	**119**	P	**P**	**06 45 13.2**	**+0.1**
	27nm,1.0s,mb4.9,baz=219,slow=7.5,SNR=4.9						
PPT	**Papeete**	**39.78**	**347**	*eS*	**S**	**06 51 10.2**	**-13**
PPT				*eLR*	LR	06 55 46.6	
	10μm,28.8s,baz=179						
COYC	**Coyhaique**	**42.83**	**105⇑**	*iP*	**P**	**06 45 44.5**	**+0.2**
PLCA	**Paso Flores**	**46.95**	**101**	P	**P**	**06 46 17.8**	**+0.5**
	14nm,1.0s,mb4.9,baz=218,slow=8.0,SNR=15						
PLCA	**Paso Flores**	**46.95**	**101**	*eP*	**P**	**06 46 17.7**	**+0.4**
	37nm,1.3s,mb5.2						
VNA3	**Neumayer Olymp**	**47.65**	**161⇑**	*iP*	**P**	**06 46 21.9**	**-0.6**
VNA3				*e*		06 46 40.0	
VNA3				*e*		06 47 55.5	
TAOE	**Nuku Hiva Isla**	**47.92**	**1**	*eS*	**S**	**06 53 09.1**	**-13**
TAOE				*eLR*	LR	06 59 44.1	
	baz=199						
VNA2	**Neumayer--Watz**	**48.33**	**161⇑**	*iP*	**P**	**06 46 27.3**	**-0.4**
VNA2				*e*		06 46 44.8	
VNA2				*e*		06 48 01.1	
VNA1	**Neumayer--Stat**	**48.40**	**161⇑**	*i*	**P**	**06 46 27.7**	**-0.6**
CNB	**Canberra Magne**	**50.39**	**264⇓**	*iP*	**P**	**06 46 45.8**	**+1.7**
	933nm,1.3s						
CLCH	**Cerro Calan**	**52.33**	**95**	*eP*	**P**	**06 46 55.9**	**-2.8**
FCH	**Farellones**	**52.51**	**95**	*eP*	**P**	**06 46 59.4**	**-0.8**
ARMA	**Armidale**	**52.85**	**270**	*eP*	**P**	**06 47 03.6**	**+0.9**
TRQA	**Tornquist**	**53.46**	**105**	*eP*	**P**	**06 47 06.5**	**-0.6**
	80nm,1.4s,mb5.5						
SYO	**Syowa Base**	**54.41**	**180**	⇓P	**P**	**06 47 12.7**	**-0.9**
SYO	**Syowa Base**	**54.41**	**180**	⇓pP	pP	06 47 14.5	-2.2
MAW	**Mawson**	**54.56**	**191**	*iP*	**P**	**06 47 15.6**	**+0.9**
	12nm,0.9s,mb4.9						
MAW	**Mawson**	**54.56**	**191**	P	**P**	**06 47 13.5**	**-1.3**
	6.0nm,0.8s,mb4.7,baz=158,slow=8.4,SNR=5.3						
MAW				LR	LR	07 07 28.8	
	comp=Z,2μm,20.1s,MS5.1,baz=157,slow=33						
STKA	**Stephens Creek**	**57.22**	**261**	*eP*	**P**	**06 47 34.7**	**+0.3**
	9.4nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**57.22**	**261**	P	**P**	**06 47 35.0**	**+0.6**
	11nm,1.0s,mb4.9,baz=136,slow=8.2,SNR=14						
STKA				LR	LR	07 07 15.7	
	comp=Z,2μm,18.5s,MS5.1,baz=301,slow=31						
LVC	**Limon Verde**	**61.63**	**88**	P	**P**	**06 48 05.3**	**+0.3**
	23nm,1.0s,mb5.3,baz=220,slow=7.1,SNR=20						
LVC				LR	LR	07 08 17.1	
	comp=Z,395nm,18.4s,MS4.6,baz=234,slow=30						
LVC	**Limon Verde**	**61.63**	**88**	*eP*	**P**	**06 48 04.9**	**-0.1**
	13nm,1.7s,mb4.8						
CTA	**Charters Tower**	**63.97**	**273⇓**	*iP*	**P**	**06 48 20.9**	**+0.4**
	20nm,0.9s,mb5.1						
CTA	**Charters Tower**	**63.97**	**273**	P	**P**	**06 48 21.0**	**+0.5**
	26nm,0.9s,mb5.2,baz=154,slow=6.6,SNR=25						
CTAO	**Charters Tower**	**63.97**	**273**	*eP*	**P**	**06 48 20.9**	**+0.4**
	48nm,1.2s,mb5.4						
ARE	**Arequipa**	**65.20**	**82**	*eP*	**P**	**06 48 29.0**	**+0.5**
FORT	**Forrest**	**65.28**	**251**	*eP*	**P**	**06 48 28.8**	**0.0**
	48nm,0.8s,mb5.6						
NNA	**Nana**	**66.03**	**75**	*eP*	**P**	**06 48 33.8**	**0.0**
	27nm,1.1s,mb5.2						
LPAZ	**La Paz**	**67.18**	**85**	P	**P**	**06 48 41.8**	**+0.6**
	38nm,1.3s,mb5.3,baz=194,slow=5.2,SNR=38						
LPAZ	**La Paz**	**67.18**	**85**	*eP*	**P**	**06 48 41.5**	**+0.4**
	61nm,1.3s,mb5.5						
ASAR	**Alice Springs**	**67.85**	**260**	P	**P**	**06 48 44.0**	**-1.3**
	6.0nm,0.8s,mb4.7,baz=140,slow=6.5,SNR=46						
ASAR				LR	LR	07 12 53.8	
	comp=Z,436nm,18.9s,MS4.7,baz=257,slow=31						
ASPA	**Alice Springs**	**67.85**	**260**	*eP*	**P**	**06 48 44.2**	**-1.1**
NWAO	**Narrogin (SRO)**	**69.00**	**242**	P	**P**	**06 48 52.0**	**-0.2**
	12nm,1.1s,mb4.7,baz=158,slow=5.7,SNR=3.5						
KLBR	**Kellerberrin**	**69.83**	**243**	*eP*	**P**	**06 48 57.4**	**0.0**
	204nm,1.2s,mb5.9						
MUN	**Mundaring**	**70.27**	**242**	*eP*	**P**	**06 49 00.3**	**+0.3**
	18nm,1.1s,mb4.9						
WB2	**Warramunga Arr**	**70.61**	**263⇓**	*iP*	**P**	**06 49 01.2**	**-1.1**
WRA	**Warramunga Arr**	**70.62**	**263**	P	**P**	**06 49 01.4**	**-1.0**
	7.4nm,1.0s,mb4.6,baz=147,slow=5.4,SNR=29						
WRAB	**Tennant Creek**	**70.62**	**263**	*eP*	**P**	**06 49 01.1**	**-1.3**
	20nm,1.0s,mb5.0						
PMG	**Port Moresby**	**72.25**	**280**	P	**P**	**06 49 12.7**	**+0.5**
	8.9nm,0.8s,mb4.8,baz=115,slow=8.4,SNR=4.6						
PMG				LR	LR	07 13 34.9	
	comp=Z,638nm,19.2s,MS4.9,baz=30,slow=30						
OTAV	**Otavalo**	**75.57**	**66**	*eP*	**P**	**06 49 32.5**	**+0.9**
	11nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**76.83**	**257**	*eP*	**P**	**06 49 36.2**	**-2.3**
	12nm,0.9s,mb4.8						
MBWA	**Marble Bar**	**77.42**	**251**	*eP*	**P**	**06 49 41.8**	**+0.1**
	36nm,1.2s,mb5.2						
KAKA	**Kakadu**	**77.57**	**266**	*eP*	**P**	**06 49 41.5**	**-1.1**
	6.4nm,0.7s,mb4.7						
SDV	**Santo Domingo**	**86.93**	**69**	P	**P**	**06 50 31.2**	**-0.1**
	3.8nm,0.9s,mb4.6,baz=148,slow=5.0,SNR=3.9						
TEIG	**Tepich**	**88.59**	**48**	*eP*	**P**	**06 50 41.3**	**+2.2**
	14nm,1.1s,mb5.2						
TXAR	**Lajitas Array**	**91.52**	**32**	P	**P**	**06 50 52.5**	**-0.1**
	0.4nm,0.8s,baz=221,slow=8.3,SNR=2.6						
TUC	**Tucson**	**92.48**	**25**	*eP*	**P**	**06 51 00.4**	**+3.5**
	8.0nm,1.3s,mb4.9						
NVAR	**Mina Array Bea**	**96.88**	**18**	LR	LR	07 25 26.3	
	comp=Z,695nm,18.1s,MS5.2,baz=185,slow=30						
LBTB	**Lobatse**	**97.64**	**168**	*eP*	**P**	**06 51 20.3**	**-0.3**
	10nm,1.2s,mb5.2						
MCK	**McKinley**	**120.44**	**356**	*e*PKPdf	PKPdf	06 56 37.1	-1.5
YKA	**Yellowknife Ar**	**120.81**	**14**	PKP	PKPdf	06 56 35.8	-3.5
	0.4nm,1.0s,baz=218,slow=1.4,SNR=5.5						
YKA				PKKPbc		07 06 42.2	
	1.0nm,0.8s,baz=8.7,slow=4.3,SNR=14						
YKA	**Yellowknife Ar**	**120.81**	**14**	PKP	PKPdf	06 56 35.8	-3.6
YKA				PKKPbc		07 06 42.2	
ILAR	**Eielson Array**	**121.42**	**357**	PKP	PKPdf	06 56 38.1	-2.4
	17nm,1.3s,baz=227,slow=2.0,SNR=30						
COLA	**College**	**121.55**	**357**	*e*PKPdf	PKPdf	06 56 37.5	-3.2
IMA	**Indian Mountai**	**123.01**	**354**	*e*PKPdf	PKPdf	06 56 42.0	-1.3
INK	**Inuvik**	**125.01**	**3**	PKP	PKPdf	06 56 45.0	-2.2
	2.1nm,0.9s,baz=147,slow=1.5,SNR=3.6						
INK	**Inuvik**	**125.01**	**3**	*e*PKPdf	PKPdf	06 56 44.1	-3.0
MDJ	**Mudanjiang**	**125.50**	**299**	PKP	PKPdf	06 56 48.5	-0.2
MDJ				LR	LR		
	comp=N,135nm,20.7s,MS5.3						
MDJ				LR	LR		
	comp=E,633nm,16.4s,MS5.3						
MDJ				LR	LR		
	comp=Z,635nm,14.3s,MS5.4						
RES	**Resolute Bay**	**134.81**	**16**	*e*PKPpre		06 56 50.8	
SONM	**Songino Array**	**139.43**	**287**	PKP	PKPdf	06 57 11.3	-3.4
	comp=Z,0.4nm,0.7s,baz=117,slow=3.2,SNR=3.4						
TLY	**Talaya**	**143.15**	**290**	*e*PKPdf	PKPdf	06 57 18.8	-2.2
MTE	**Manteigas**	**145.91**	**99**	*e*PKPdf	PKPdf	06 57 25.9	-0.3
WMQ	**Urumqi**	**147.01**	**268**	*e*PKP	PKPdf	06 57 27.0	-0.9
ESDC	**Sonseca Array**	**147.32**	**103**	PKPbc	PKPdf	06 57 30.0	+1.4
	comp=Z,4.7nm,0.8s,baz=248,slow=2.6,SNR=13						
SJPF	**Ste Jean**	**151.20**	**101**	*e*PKP1	PKPdf	06 57 39.6	+5.1
	comp=Z,123nm,1.4s						
ETSF	**Etsaut**	**151.41**	**102**	*e*PKP1	PKPdf	06 57 39.5	+4.7
	comp=Z,86nm,1.3s						
EPF	**Esparros**	**151.98**	**103**	*e*PKP1	PKPdf	06 57 41.3	+5.6
	comp=Z,96nm,1.6s						
AAK	**Ala-Archa**	**153.34**	**253**	*e*PKPbc	PKPdf	06 57 43.2	+5.6
ROSF	**Rostrenen**	**153.35**	**91**	*e*PKP1	PKPdf	06 57 43.0	+5.6
	comp=Z,72nm,1.3s						
LFF	**La Frestale**	**153.47**	**100**	*e*PKP1	PKPdf	06 57 42.9	+5.2
MFF	**Saint Martin d**	**154.04**	**97**	*e*PKP1	PKPdf	06 57 44.3	+5.9
RJF	**Les Rejaudoux**	**154.13**	**101**	*e*PKP1	PKPdf	06 57 43.5	+4.9
	comp=Z,94nm,1.7s						
ZAL	**Zalesovo**	**154.19**	**283**	PKPbc	PKPdf	06 57 43.9	+5.5
	comp=Z,1.1nm,0.3s,baz=108,slow=3.2,SNR=2.6						
ZAL				PKPab	PKPab	06 57 58.7	-1.1
	comp=Z,1.7nm,0.7s,baz=312,slow=3.1,SNR=7.6						
TCF	**Toulx Ste Croi**	**155.13**	**99**	*e*PKP1	PKPdf	06 57 46.1	+6.2
	comp=Z,47nm,1.6s						
LDF	**La Druitiere**	**155.23**	**93**	*e*PKP1	PKPdf	06 57 46.7	+6.8
	comp=Z,133nm,1.7s						
BGF	**Bois d'Agland**	**155.64**	**100**	*e*PKP1	PKPdf	06 57 47.1	+6.6
	comp=Z,18nm,0.8s						
BVAR	**Borovoye Array**	**161.64**	**271**	PKP	PKPdf	06 57 48.4	+1.0
	comp=Z,1.1nm,1.1s,baz=124,slow=5.3,SNR=3.7						
BVAR				PKPab	PKPab	06 58 30.9	-0.9
	comp=Z,1.2nm,0.6s,baz=108,slow=4.7,SNR=7.8						
BRTR	**Keskin Array B**	**162.47**	**166**	PKP	PKPdf	06 57 50.1	+1.4
	comp=Z,1.0nm,0.9s,baz=180,slow=6.2,SNR=4.3						
BRTR				PKPab	PKPab	06 58 34.8	-1.2
	comp=Z,3.5nm,0.9s,baz=180,slow=4.9,SNR=9.5						
GERES	**GERESS Array B**	**162.84**	**107**	PKP	PKPdf	06 57 48.2	-0.5
	comp=Z,0.4nm,0.7s,baz=270,slow=2.9,SNR=3.8						
KHC	**Kasperske Hory**	**162.94**	**106**	*e*P	PKPab	06 58 37.5	-0.1
KHC				x	x	06 58 46.0	
CLL	**Collm**	**163.84**	**99**	*e*PKIKP	PKPdf	06 57 49.0	-0.6
CLL				*i* PKP2	PKPab	06 58 41.9	+0.4
PRU	**Pruhonice**	**163.95**	**105**	*e*P	PKPab	06 58 42.5	+0.5
PRU				x	x	06 58 46.7	
MLR	**Muntele Rosu**	**166.00**	**139**	PKPab	PKPab	06 58 50.0	-1.1
	comp=Z,8.7nm,1.0s,baz=278,slow=0.9,SNR=6.7						
AKASG	**Malin Array Be**	**171.54**	**133**	PKPab	PKPab	06 59 13.9	-1.4
	comp=Z,1.2nm,0.8s,baz=223,slow=5.2,SNR=11						

IDC 29 06:40:22.5±8.2, 8.49N×93.52E, mb3.9/6, mb1 4.0/6, mb1mx3.7/19, mbtmp3.9/6, Error ellipse: s-maj=199.6km s-min=61.0km az=140.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**40.70**	**13**	P	P	06 48 04.8	-1.7
	0.4nm,0.9s,baz=206,slow=9.5,SNR=4.6						
ZAL	**Zalesovo**	**45.86**	**353**	P	P	06 48 47.3	-0.9
	1.0nm,0.5s,baz=292,slow=7.6,SNR=5.6						
BVAR	**Borovoye Array**	**48.21**	**341**	P	P	06 49 04.0	-2.8
	0.3nm,0.8s,baz=117,slow=6.6,SNR=3.6						
FINES	**FINESS Array B**	**71.88**	**332**	P	P	06 51 46.6	-2.6
	1.8nm,0.9s,baz=80,slow=12,SNR=3.7						
GERES	**GERESS Array B**	**76.96**	**318**	P	P	06 52 17.9	-0.8
	0.6nm,0.5s,baz=76,slow=5.5,SNR=6.9						
HFS	**Hagfors**	**77.62**	**330**	P	P	06 52 20.3	-1.8
	1.0nm,0.5s,baz=90,slow=4.4,SNR=9.2						

IDC ***29*** *06:46:16.0±1.0, 7.84N×94.25E, h15km±4km, mb3.8/10, mb1 4.0/11, mb1mx3.9/19, mbtmp3.9/11, ML3.3/1, Error ellipse: s-maj=27.7km s-min=19.7km az=51.0*
NEIC ***29*** *06:46:16.4±0.7, 7.85N×94.24E, mb4.5/5, Error ellipse: s-maj=19.4km s-min=15.1km

*NEIC **29** 07:00:36.0, 19.69N×65.45W, h25km, MD3.5(RSPR), After RSPR.*

RSPR 29 07:00:36.0, 19.69N×65.45W, h25km±25km, MD3.5/10, MD3.5/10, 5C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.46**	**195**	⇑*eP*	Pn	07 00 58.2	-2.9
CBYP				*eS*	Sn	07 01 16.4	-3.2
CSB	**Colonia Sabana**	**1.54**	**206**	⇓*eP*	Pn	07 00 59.5	-2.8
CSB				*eS*	Sn	07 01 18.8	-2.8
HUMP	**Col San Antoni**	**1.58**	**194**	⇓*eP*	Pn	07 01 00.1	-2.8
HUMP				*eS*	Sn	07 01 19.1	-3.5
MTP	**Monte Pirata**	**1.58**	**184**	⇓*eP*	Pn	07 01 00.4	-2.5
MTP				*eS*	Sn	07 01 19.8	-3.0
CPD	**Cerro la Pandu**	**1.69**	**195**	⇑*eP*	Pn	07 01 02.4	-2.2
CPD				*eS*	Sn	07 01 22.0	-3.5
SJG	**San Juan**	**1.70**	**203**	*eS*	Sn	07 01 22.5	-3.1
SJG	**San Juan**	**1.70**	**203**	⇓*eP*	Pn	07 01 02.0	-2.5
SJG				*eS*	Sn	07 01 21.8	-3.9
SJG	**San Juan**	**1.70**	**203**	⇓*eP*	Pn	07 01 01.8	-2.8
SJG				*eS*	Sn	07 01 22.5	-3.1
AOPR	**Arecibo Observ**	**1.81**	**223**	⇑*eP*	Pn	07 01 04.1	-2.1
AOPR				*eS*	Sn	07 01 25.2	-3.4
CELP	**Cerrillos**	**1.92**	**214**	⇑*eP*	Pn	07 01 05.2	-2.6
OBIP	**Obispado Ponce**	**1.96**	**214**	⇓*eP*	Pn	07 01 05.7	-2.7
OBIP				*eS*	Sn	07 01 29.1	-3.4
PORP	**Portuguez**	**1.97**	**215**	⇓*eP*	Pn	07 01 06.0	-2.5
LSP	**Las Mesas**	**2.15**	**226**	⇑*eP*	Pn	07 01 08.8	-2.3
LSP				*eS*	Sn	07 01 33.5	-3.8

IDC 29 07:03:28.4±13.0, 6.92N×92.18E, mb3.7/2, mb1 4.0/3, mb1mx3.5/18, mbtmp3.8/3, ML4.4/1, MS4.6/1, Ms1 4.6/1, ms1mx2.9/29, Error ellipse: s-maj=316.9km s-min=49.5km az=92.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.22**	**29**	Pn	P	07 06 37.9	-2.3
	0.6nm,0.3s,baz=225,slow=15,SNR=5.8						
WRA	**Warramunga Arr**	**49.33**	**124**	P	P	07 12 19.3	-2.5
	0.9nm,0.5s,baz=304,slow=9.1,SNR=8.1						
ASAR	**Alice Springs**	**50.83**	**128**	P	P	07 12 31.6	-1.6
	0.6nm,0.7s,baz=299,slow=7.5,SNR=6.0						
ASAJ	**Asahikawa**	**57.40**	**41**	LR	LR	07 40 58.1	
	comp=Z,433nm,18.2s,baz=351,slow=39						

*NEIC **29** 07:07:02.0, 19.73N×65.32W, h25km, MD3.7(RSPR), After RSPR.*

RSPR 29 07:07:02.0, 19.73N×65.32W, h25km±40km, MD3.7/11, MD3.7/11, 9C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.54**	**200**	⇑*eP*	Pn	07 07 25.6	-2.7
CBYP				*eS*	Sn	07 07 44.8	-2.9
CSB	**Colonia Sabana**	**1.64**	**209**	⇑*eP*	Pn	07 07 27.0	-2.7
CSB				*eS*	Sn	07 07 46.0	-4.2
MTP	**Monte Pirata**	**1.64**	**188**	⇓*eP*	Pn	07 07 27.9	-1.9
MTP				*eS*	Sn	07 07 47.3	-3.0
HUMP	**Col San Antoni**	**1.66**	**198**	⇑*eP*	Pn	07 07 27.4	-2.7
HUMP				*eS*	Sn	07 07 47.2	-3.5
CPD	**Cerro la Pandu**	**1.78**	**199**	⇑*eP*	Pn	07 07 29.7	-2.0
CPD				*eS*	Sn	07 07 49.7	-4.0
SJG	**San Juan**	**1.79**	**206**	⇓*eP*	Pn	07 07 29.4	-2.5
SJG				*eS*	Sn	07 07 51.6	-2.6
SJG	**San Juan**	**1.79**	**206**	⇓*eP*	Pn	07 07 29.1	-2.8
SJG				*eS*	Sn	07 07 51.2	-2.9
AOPR	**Arecibo Observ**	**1.93**	**225**	⇑*eP*	Pn	07 07 31.0	-2.9
AOPR				*eS*	Sn	07 07 54.4	-3.3
CELP	**Cerrillos**	**2.04**	**216**	⇑*eP*	Pn	07 07 32.6	-2.8
CELP				*eS*	Sn	07 07 57.4	-2.9
OBIP	**Obispado Ponce**	**2.08**	**216**	⇑*eP*	Pn	07 07 33.4	-2.6
OBIP				*eS*	Sn	07 07 57.1	-4.2
PORP	**Portuguez**	**2.08**	**217**	⇑*eP*	Pn	07 07 33.7	-2.4
PORP				*eS*	Sn	07 07 58.5	-3.0
LSP	**Las Mesas**	**2.28**	**228**	⇑*eP*	Pn	07 07 37.0	-1.9
LSP				*eS*	Sn	07 08 03.3	-3.2

*CSEM **29** 07:11:56.2±1.0, 39.79N×42.81E, h50km±16km, MD3.5, Error ellipse: s-maj=16.8km s-min=10.8km az=137.0*

ISK 29 07:11:57.9, 39.75N×42.87E, h33km, MD3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARS	**Kars**	**0.88**	**11**	PG	P	07 12 14.5	+0.7
EZM	**Erzurum**	**1.17**	**278**	PN	Pn	07 12 18.2	0.0
EZM				SN	Sn	07 12 34.2	+1.1
VRT	**Varto**	**1.21**	**240**	PN	Pn	07 12 18.2	-0.6
VANB	**Van**	**1.22**	**161**	PN	Pn	07 12 19.7	+0.7
GNI	**Garni**	**1.49**	**74**	*e*PN	Pn	07 12 23.0	+0.2
BCA	**Borcka**	**1.94**	**331**	*e*PN	Pn	07 12 29.2	0.0
BINT	**Bingol**	**2.04**	**245**	*e*PN	Pn	07 12 30.5	-0.2

*BJI **29** 07:21:42.7, 3.10N×93.76E, h37km, mB5.3, mb5.0, Ms5.2, Msz5.0*

*MOS **29** 07:21:43.6±0.9, 3.37N×93.77E, h33km, mb5.3/34, Error ellipse: s-maj=11.6km s-min=6.1km az=115.5*

*IDC **29** 07:21:44.3±0.4, 3.38N×93.75E, h26km±2km, mb4.4/20, mb1 4.6/21, mb1mx4.5/24, mbtmp4.6/21, ML4.2/1, MS4.5/4, Ms1 4.5/4, ms1mx4.2/21, Error ellipse: s-maj=20.8km s-min=9.3km az=44.0*

*NEIC **29** 07:21:44.3±0.2, 3.32N×93.75E, mb4.9/33, MS4.6/1, Error ellipse: s-maj=7.4km s-min=4.9km az=47.0*

*HRVD **29** 07:21:44.3±0.5, 3.04N×93.74E, h12km, MW5.1/45, Centroid moment Tensor Solution. LP body waves: s18,c21; Mantle waves: s45,c72; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.30±.24; $M_{\theta\theta}$-1.87±.19; $M_{\phi\phi}$-3.42±.23; $M_{r\theta}$3.26±.92; $M_{r\phi}$1.96±.18; $M_{\theta\phi}$3.06±.74; Best double couple: $M_0$6.272×10^{16} NP1:ϕ_s125°, δ45°, λ49°. NP2:ϕ_s356°, δ58°, λ123°. Principal axes: T 7.705, Plg62°, Azm320°; N -2.856, Plg27°, Azm157°; P -4.839, Plg7°, Azm63°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 29 07:21:42.6±0.3, 3.30N±0.04×93.78E±0.04, h27km, h27km±.4km: pP-P, n198, σ1°01/192, mb4.9/72, MS5.0/16, 13C-4D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.82**	**60**	P	**Pn**	**07 23 37.0**	**-0.5**
	240nm,0.7s						
PALK	**Pallekele**	**13.61**	**287**	*e*P	**P**	**07 24 46.5**	**-10**
	31nm,1.2s						
NST	**Nakhon Sawan**	**13.79**	**27**	P	**P**	**07 25 05.0**	**+6.0**
CM31	**Chiang Mai Arr**	**15.89**	**18**	*e*P	**P**	**07 25 25.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**15.89**	**18**	Pn	**P**	**07 25 24.4**	**-1.8**
	0.3nm,0.3s,baz=213,slow=13,SNR=56						
CMAR				LR	LR	07 32 59.5	
	comp=Z,1μm,18.1s,baz=205,slow=43						
CHG	**Chiang Mai**	**16.23**	**18**	⇑P	**P**	**07 25 29.3**	**-1.2**
	55nm,0.7s						
UBT	**Ubonrachathani**	**16.23**	**42**	P	**P**	**07 25 32.5**	**+1.9**
CHRT	**Chiangrai**	**17.48**	**19**	⇑P	**P**	**07 25 46.0**	**-0.3**
	184nm,0.8s						
VIS	**Vishakhapatnam**	**17.62**	**325**	*e*P	**P**	**07 25 45.0**	**-3.1**
VIS				*e*		07 25 49.0	
	comp=Z,85nm,1.3s						
VIS				*e*S	**S**	**07 28 48.5**	**-13**
CAL	**Calcutta**	**19.84**	**345**	*e*	**S**	**07 30 09.2**	**+18**
HYB	**Hyderabad**	**20.50**	**314**	*e*P	**P**	**07 26 19.0**	**-2.4**
HYB				*e*S	**S**	**07 29 55.0**	**-9.3**
HYB	**Hyderabad**	**20.50**	**314**	*i* P	**P**	**07 26 19.0**	**-2.4**
	comp=Z,57nm,1.2s						
HYB				*e*S	**S**	**07 30 06.0**	**+1.7**
AGT	**Agartala**	**20.61**	**353**	⇑*i*P	**P**	**07 26 24.0**	**+1.5**
AGT				*i*		07 27 07.0	
MNGI	**Mangalore**	**21.05**	**298**	*e*P	**P**	**07 26 27.7**	**+0.6**
MNGI				*e*	**S**	**07 30 19.4**	**+4.2**
IMP	**Imphal**	**21.36**	**0**	*e*P	**P**	**07 26 28.5**	**-1.6**
QIZ	**Qiongzhong**	**22.16**	**44**	P	**P**	**07 26 40.3**	**+2.1**
QIZ				*e*S	**S**	**07 30 38.0**	**+2.3**
QIZ				LR	LR		
	comp=N,6μm,15.6s						
QIZ				LR	LR		
	comp=Z,6μm,11.2s,MS5.3						
SHL	**Shillong**	**22.22**	**355**	*e*P	**P**	**07 26 37.0**	**-1.7**
SHL				*e*	**S**	**07 30 47.0**	**+10**
GOA	**Goa**	**23.09**	**303**	*e*	**P**	**07 26 55.5**	**+8.1**
KMI	**Kunming**	**23.35**	**21**	P	**P**	**07 26 52.2**	**+2.3**
KMI				*PP		07 26 59.6	
KMI				*SP		07 27 03.4	
KMI				pmax	pmax		
	comp=Z,42nm,1.9s,mb4.5						
KMI				MLR	MLR		
	comp=Z,3μm,11.5s,MS5.0						
KMI	**Kunming**	**23.35**	**21**	P	**P**	**07 26 52.2**	**+2.3**
	comp=Z,42nm,1.9s,mb4.5						
KMI				pP		07 26 59.6	
KMI				sP		07 27 03.4	
KMI				S	S	07 31 17.8	+21
KMI				sS		07 31 31.1	
KMI				SS	SS	07 32 22.7	+38
KMI				LR	LR		
	comp=Z,3μm,11.5s,MS5.0						
KAD	**Karad**	**23.74**	**307**	*e*P	**P**	**07 26 54.8**	**+1.1**
KAD				*e*		07 26 59.6	
	comp=Z,18nm,1.7s						
KAD				*e*		07 28 22.7	
POO	**Poona**	**24.69**	**309**	*e*P	**P**	**07 27 04.7**	**+1.7**
POO				*e*		07 27 07.0	
	comp=Z,24nm,0.5s						
JIRN	**Jiri**	**25.29**	**344**	*e*P	**P**	**07 27 08.9**	**+0.3**
	comp=Z,166nm,1.2s,mb5.5						
BHPL	**Bhopal**	**25.37**	**323**	*e*P	**P**	**07 27 10.5**	**+1.1**
BHPL				*e*		07 27 14.7	
	comp=Z,41nm,0.9s						
BHPL				*e*		07 30 21.0	
BHPL				*e*	**S**	**07 31 36.8**	**+5.3**
PKI	**Pulchoki**	**25.43**	**342**	*e*P	**P**	**07 27 10.2**	**+0.3**
	comp=Z,122nm,1.0s,mb5.4						
DMN	**Daman**	**25.56**	**342**	*e*P	**P**	**07 27 11.1**	**0.0**
	comp=Z,95nm,0.9s,mb5.3						
GUN	**Gumba**	**25.61**	**344**	*e*P	**P**	**07 27 12.1**	**+0.5**
	comp=Z,132nm,1.2s,mb5.4						
KKN	**Kakani**	**25.67**	**342**	*e*P	**P**	**07 27 12.2**	**0.0**
	comp=Z,145nm,1.3s,mb5.4						
GKN	**Gorkha**	**26.07**	**341**	*e*P	**P**	**07 27 16.2**	**+0.3**
	comp=Z,74nm,0.9s,mb5.2						
KOLN	**Koldanda**	**26.20**	**339**	*e*P	**P**	**07 27 17.5**	**+0.4**
	comp=Z,179nm,1.3s,mb5.4						
LSA	**Lhasa**	**26.38**	**355**	P	**P**	**07 27 20.8**	**+2.1**
LSA				AMB	AMB		
	comp=Z,180nm,0.8s,mb5.7						
NDI	**New Delhi**	**29.76**	**330**	*e*P	**P**	**07 27 48.0**	**-1.4**
DDI	**Dehra Dun**	**30.72**	**333**	*e*	**P**	**07 27 56.8**	**-1.0**
QZH	**Quanzhou**	**32.15**	**46**	⇑*i*P	**P**	**07 28 08.8**	**-1.6**
QZH				LR	LR		
	comp=N,3μm,11.5s,MS5.5						
QZH				LR	LR		
	comp=E,4μm,10.5s,MS5.5						
QZH				LR	LR		
	comp=Z,8μm,11.6s,MS5.7						
WHN	**Wuhan**	**33.35**	**33**	⇓P	**P**	**07 28 21.5**	**+0.7**
WHN				S	**S**	**07 33 49.0**	**+10**
XAN	**Xi'an**	**33.68**	**23**	P	**P**	**07 28 22.8**	**-0.8**
XAN				AP	pP	07 28 31.3	-0.4
XAN				AMB	AMB		
	comp=Z,39nm,0.9s,mb5.3						
LZH	**Lanzhou**	**33.93**	**15**	⇑P	**P**	**07 28 25.5**	**-0.2**
LZH				AP	pP	07 28 33.0	-0.8
LZH				XP	sP	07 28 36.0	-1.2
LZH				AMB	AMB		
	comp=Z,46nm,1.6s,mb5.2						
LZH				AMB	AMB		
	comp=Z,123nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,11.1s						
LZH				LR	LR		
	comp=Z,3μm,12.3s,MS5.2						
LZH	**Lanzhou**	**33.93**	**15**	⇑P	**P**	**07 28 25.4**	**-0.3**
LZH				*SP	sP	07 28 36.0	-1.2
LZH				pmax	pmax		
	comp=Z,46nm,1.6s,mb5.2						
LZH				MLR	MLR		
	comp=Z,3μm,12.3s,MS5.2						
LZH	**Lanzhou**	**33.93**	**15**	⇑P	**P**	**07 28 25.4**	**-0.3**
	comp=Z,46nm,1.6s,mb5.2						
LZH				pP	pP	07 28 33.0	-0.8
LZH				sP	sP	07 28 36.0	-1.2
LZH				LR	LR		
	comp=Z,3μm,12.3s,MS5.2						
MBWA	**Marble Bar**	**35.17**	**135**	*e*P	**P**	**07 28 36.6**	**0.0**
NJ2	**Nanjing**	**37.05**	**37**	*e*P	**P**	**07 28 52.5**	**+0.2**
NJ2				AP	pP	07 29 01.3	+0.9
NJ2				XP	sP	07 29 04.5	+0.7
NJ2				PP	PP	07 30 18.3	-0.8
NJ2				S	**S**	**07 34 34.0**	**-1.9**
NJ2				XS		07 34 51.0	
NJ2				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,570nm,8.1s						
SSE	**Sheshan**	**37.84**	**40**	P	**P**	**07 28 59.5**	**+0.6**
SSE				XP	sP	07 29 12.3	+1.8
SSE				S	**S**	**07 34 55.0**	**+7.0**
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,283nm,8.9s						
SSE				LR	LR		
	comp=N,2μm,12.2s,MS5.3						
SSE				LR	LR		
	comp=E,2μm,12.2s,MS5.3						
SSE				LR	LR		
	comp=Z,4μm,11.3s,MS5.5						
SSE	**Sheshan**	**37.84**	**40**	P	**P**	**07 28 59.5**	**+0.6**
	comp=Z,35nm,0.7s,mb5.2						
SSE				sP	sP	07 29 12.2	+1.7
SSE				S	**S**	**07 34 55.0**	**+7.0**
SSE				sS		07 35 10.3	
SSE				LR	LR		
	comp=Z,4μm,11.3s,MS5.5						
FITZ	**Fitzroy Crossi**	**37.92**	**125**	*e*P	**P**	**07 28 59.1**	**-0.6**
	comp=Z,13nm,1.1s,mb4.6						
WMQ	**Urumqi**	**40.71**	**353**	P	**P**	**07 29 24.0**	**+1.4**
WMQ				AP	pP	07 29 31.5	+0.7
WMQ				XP	sP	07 29 34.8	+0.6
WMQ				PP	PP	07 31 01.5	+1.8
WMQ				PCP	PcP	07 31 25.8	+1.3
WMQ				S	**S**	**07 35 32.5**	**+1.5**
WMQ				AMB	AMB		
	comp=Z,15nm,1.5s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,69nm,5.6s						
WMQ				LR	LR		
	comp=N,875nm,20.0s,MS4.7						
WMQ				LR	LR		
	comp=E,896nm,24.2s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,18.8s						
KAKA	**Kakadu**	**41.56**	**113**	⇑*i*P	**P**	**07 29 29.5**	**-0.5**
	comp=Z,9.0nm,0.6s,mb4.6						
BJI	**Beijing**	**41.82**	**26**	P	**P**	**07 29 33.5**	**+1.7**
BJI				*PP	pP	07 29 41.5	+1.6
BJI				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.0						
BJI				MLR	MLR		
	comp=Z,830nm,20.9s,MS4.6						
BJI	**Beijing**	**41.82**	**26**	P	**P**	**07 29 33.5**	**+1.7**
	comp=Z,40nm,0.9s,mb5.0						
BJI				pP	pP	07 29 41.5	+1.6
BJI				LR	LR		
	comp=Z,830nm,20.9s,MS4.6						
KZA	**Kyzart**	**42.02**	**339**	P	**P**	**07 29 35.0**	**+1.6**
	SNR=7.6						
UCH	**Uchtor**	**42.42**	**339**	P	**P**	**07 29 37.5**	**+0.8**
	SNR=9.2						
AML	**Almayashu**	**42.64**	**338**	P	**P**	**07 29 39.7**	**+1.2**
	SNR=16						
TKM2	**Tokmak 2**	**42.65**	**340**	P	**P**	**07 29 39.8**	**+1.2**
	SNR=5.8						
AAK	**Ala-Archa**	**42.78**	**339**	*e*P	**P**	**07 29 39.5**	**-0.2**
AAK				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.7						
AAK	**Ala-Archa**	**42.78**	**339**	*e*P	**P**	**07 29 39.5**	**-0.1**
	comp=Z,17nm,1.2s,mb4.7						
FRU	**Bishkek**	**42.91**	**339**	*i* P	**P**	**07 29 42.0**	**+1.3**
FRU				*i*	pP	07 29 51.0	+2.1
FRU				pmax	pmax		
	comp=Z,80nm,2.1s,mb5.1						
EKS2	**Erkin-Say**	**43.06**	**338**	P	**P**	**07 29 43.0**	**+1.1**
	SNR=7.3						
USP	**Ospenovka**	**43.33**	**339**	P	**P**	**07 29 44.5**	**+0.3**
	SNR=15						
MKAR	**Makanchi Array**	**44.46**	**349**	*i* P	**P**	**07 29 53.6**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,27nm,0.8s						
SONM	**Songino Array**	**45.68**	**12**	P	**P**	**07 30 02.4**	**-0.6**
	comp=Z,13nm,0.8s,mb4.9,baz=192,slow=8.3,SNR=95						
SONM				pP	pP	07 30 11.4	+0.3
	comp=Z,13nm,0.8s,baz=198,slow=7.8,SNR=16						
ULN	**Ulaanbaatar**	**45.85**	**12**	⇑*i*P	**P**	**07 30 03.4**	**-0.9**
ULN	**Ulaanbaatar**	**45.85**	**12**	*e*P	**P**	**07 30 04.4**	**+0.1**
	comp=Z,7.9nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**46.03**	**122**	P	**P**	**07 30 06.4**	**+0.3**
	comp=Z,24nm,0.9s,mb5.1,baz=300,slow=8.9,SNR=85						
WRA				pP	pP	07 30 14.9	+0.6
	comp=Z,18nm,0.7s,baz=299,slow=8.8,SNR=18						
WRAB	**Tennant Creek**	**46.04**	**122**	*e*P	**P**	**07 30 05.8**	**-0.3**
WRAB				*e*PP	pP	07 30 14.9	+0.6
WRAB				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.5						
WRAB	**Tennant Creek**	**46.04**	**122**	*e*P	**P**	**07 30 05.8**	**-0.3**
	comp=Z,60nm,1.0s,mb5.5						
WRAB				*e*pP	pP	07 30 14.9	+0.6
WB2	**Warramunga Arr**	**46.05**	**122**	⇑*i*P	**P**	**07 30 06.2**	**0.0**
WB2				*i*	pP	07 30 14.9	+0.5
SNY	**Shenyang**	**46.73**	**31**	⇓P	**P**	**07 30 12.0**	**+0.7**
SNY				XP	sP	07 30 23.5	+0.7
SNY				PP	PP	07 32 00.8	-0.1
SNY				AMB	AMB		
	comp=Z,20nm,1.7s,mb4.8						
SNY				AMB	AMB		
	comp=Z,380nm,10.4s						
SNY				LR	LR		
	comp=N,910nm,14.9s,MS5.2						
SNY				LR	LR		
	comp=E,1μm,12.1s,MS5.2						
SNY				LR	LR		
	comp=Z,1μm,12.2s,MS5.0						
ASPA	**Alice Springs**	**47.38**	**127**	*e*P	**P**	**07 30 16.4**	**-0.3**
ASAR	**Alice Springs**	**47.38**	**127**	P	**P**	**07 30 16.9**	**+0.2**
	comp=Z,7.4nm,0.8s,mb4.7,baz=304,slow=7.8,SNR=49						
ASAR				pP	pP	07 30 25.4	+0.5
	comp=Z,5.7nm,0.8s,baz=296,slow=7.6,SNR=10						
ASAR				PcP	PcP	07 31 46.9	-0.6
	comp=Z,3.5nm,0.8s,baz=300,slow=3.8,SNR=7.7						
ASAR				pPcP		07 31 56.1	
	comp=Z,3.9nm,0.7s,baz=303,slow=3.2,SNR=7.0						
ZAK	**Zakamensk**	**47.60**	**8**	*e*P	**P**	**07 30 16.6**	**-1.5**
TLY	**Talaya**	**48.92**	**8**	*e*P	**P**	**07 30 28.6**	**+0.4**
TLY				*e*		07 37 32.3	
TLY				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
TLY				MLR	MLR		
	comp=Z,475nm,16.0s,MS4.6						
TLY	**Talaya**	**48.92**	**8**	*e*P	**P**	**07 30 29.3**	**+1.1**
	comp=Z,6.6nm,1.1s,mb4.6						
TLY				*e*pP	pP	07 30 37.7	+1.2
KURK	**Kurchatov**	**48.95**	**347**	*e*P	**P**	**07 30 28.8**	**+0.3**
KURK				pmax	pmax		
	comp=Z,71nm,1.4s,mb5.5						
KURK	**Kurchatov**	**48.95**	**347**	*e*P	**P**	**07 30 28.8**	**+0.3**
	comp=Z,71nm,1.4s,mb5.5						
RAYN	**Ar Rayn**	**50.76**	**298**	P	**P**	**07 30 42.9**	**+0.1**
	comp=Z,83nm,1.0s,mb5.6,SNR=8.4						
ZAL	**Zalesovo**	**51.01**	**353**	P	**P**	**07 30 44.0**	**-0.2**
	comp=Z,9.4nm,0.9s,mb4.7,baz=296,slow=6.9,SNR=36						
ZAL				pP	pP	07 30 52.5	-0.1
	comp=Z,8.7nm,0.6s,baz=298,slow=8.2,SNR=9.8						
MDJ	**Mudanjiang**	**51.81**	**32**	P	**P**	**07 30 51.5**	**+1.1**
MDJ				AMB	AMB		
	comp=Z,22nm,1.2s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,164nm,3.9s						
MDJ				LR	LR		
	comp=N,2μm,12.2s,MS5.3						
MDJ				LR	LR		
	comp=E,927nm,10.5s,MS5.3						
MDJ				LR	LR		
	comp=Z,2μm,11.7s,MS5.4						
NVS	**Novosibirsk**	**52.09**	**352**	*e*P	**P**	**07 30 49.2**	**-3.2**
NVS				*i* *PP	pP	07 30 59.6	-1.1
NVS				*e*S	**S**	**07 38 15.1**	**+2.0**
NVS				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.2						
NVS				pmax	pmax		
	comp=N,48nm,1.6s						
NVS				pmax	pmax		
	comp=E,19nm,1.5s						
NVS				smax			
	comp=N,17nm,1.8s						
NVS				smax			
	comp=E,8.0nm,1.6s						
BVA0	**Borovoye Array**	**53.20**	**343**	P	**P**	**07 30 59.6**	**-1.1**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
BVAR	**Borovoye Array**	**53.20**	**343**	P	**P**	**07 30 59.2**	**-1.5**
	comp=Z,11nm,0.8s,mb4.8,baz=143,slow=7.4,SNR=65						
BVAR				pP	pP	07 31 07.4	-1.6
	comp=Z,4.5nm,0.8s,baz=21,slow=33,SNR=13						
BRVK	**Borovoye**	**53.26**	**343**	*e*P	**P**	**07 31 00.0**	**-1.1**
BRVK				*e*PP	pP	07 31 08.8	-0.6
BRVK				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
BRVK	**Borovoye**	**53.26**	**343**	*e*P	**P**	**07 30 60.0**	**-1.2**
	comp=Z,16nm,1.0s,mb4.9						
BRVK				*e*pP	pP	07 31 08.8	-0.6
CHKZ	**Chkalovo**	**53.70**	**343**	P	**P**	**07 31 03.8**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.2						
KLR	**Kul'dur**	**56.01**	**29**	*e*P	**P**	**07 31 17.2**	**-4.0**
CTA	**Charters Tower**	**56.49**	**117**	*e*P	**P**	**07 31 25.0**	**-0.1**
	comp=Z,6.3nm,1.1s,mb4.6						
CTA	**Charters Tower**	**56.49**	**117**	*e*P	**P**	**07 31 25.0**	**-0.1**
CTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CTA	**Charters Tower**	**56.49**	**117**	P	**P**	**07 31 25.0**	**-0.1**
	comp=Z,5.1nm,1.0s,mb4.5,baz=290,slow=8.5,SNR=6.1						
CTA				pP	pP	07 31 33.4	0.0
	comp=Z,5.7nm,0.9s,baz=283,slow=10.0,SNR=6.1						
CTAO	**Charters Tower**	**56.49**	**117**	*e*P	**P**	**07 31 24.8**	**-0.3**
CTAO				*e*PP	pP	07 31 33.8	+0.4
CTAO				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
CTAO	**Charters Tower**	**56.49**	**117**	*e*P	**P**	**07 31 24.8**	**-0.3**
	comp=Z,14nm,1.2s,mb4.8						
CTAO				*e*pP	pP	07 31 33.8	+0.4
BOD	**Bodaibo**	**56.66**	**13**	⇓*i*P	**P**	**07 31 24.9**	**-0.9**
KMBO	**Kilima Mbogo**	**56.68**	**266**	*e*P	**P**	**07

comp=Z,4.6nm,0.7s,mb4.7
KIV *e*pP pP 07 32 00.2 -1.0
YSS Yuzh-Sakhalins 60.62 36 *e*P **P 07 31 52.2 -1.3**
YSS *e* pP 07 32 01.0 -1.0
YSS MLR MLR
comp=Z,600nm,10.0s,MS5.0
YSS MLR MLR
comp=E,1μm,12.0s
YSS Yuzh-Sakhalins 60.62 36 P **P 07 31 53.8 +0.3**
MALT Malatya 61.20 312 *e*P **P 07 31 57.6 +0.1**
MALT *e**PP pP 07 32 06.3 +0.3
MALT pmax pmax
comp=Z,49nm,1.5s,mb5.4
MALT Malatya 61.20 312 *e*P **P 07 31 57.6 +0.1**
comp=Z,48nm,1.5s,mb5.4
MALT *e*pP pP 07 32 06.3 +0.3
EIL Elat 61.45 302 LR LR 08 01 17.9
comp=Z,1μm,18.3s,MS5.1,baz=22,slow=39
EIL Elat 61.45 302 *e*P **P 07 31 59.3 -0.1**
SOC Sochi 62.29 318 *e*P **P 07 31 56.7 -8.1**
SOC *e* 07 34 15.7
SOC *e*PPP PPP 07 35 47.0 -6.5
SOC *e*S **S 07 40 21.2 -6.2**
SOC *e* 07 41 48.6
SOC *e*SS SS 07 44 25.2 -7.5
SOC pmax pmax
comp=Z,15nm,0.6s,mb5.3
SOC pmax pmax
comp=N,28nm,0.8s
SOC pmax pmax
comp=E,15nm,0.7s
YAK Yakutsk 64.43 18 *e*P **P 07 32 17.7 -0.9**
YAK *e**PP pP 07 32 26.3 -0.7
BRTR Keskin Array B 65.19 313 P **P 07 32 22.7 -1.2**
comp=E,3.3nm,0.8s,mb4.4,baz=121,slow=7.2,SNR=15
BRTR pP pP 07 32 30.6 -1.7
comp=E,3.4nm,0.8s,baz=116,slow=7.5,SNR=8.6
SIM Simferopol' 66.53 318 *e*P **P 07 32 32.0 -0.4**
SIM *e*S S 07 41 20.0 +0.1
SIM pmax pmax
comp=Z,21nm,0.9s,mb5.2
MOS Moscow 68.80 330 *e*P **P 07 32 45.1 -1.3**
MOS *e* pP 07 32 51.7 -3.2
MOS pmax pmax
comp=Z,37nm,0.8s,mb5.4
OBN Obninsk 69.06 329 *e*P **P 07 32 42.6 -5.4**
OBN *i* pP 07 32 52.0 -4.5
OBN pmax pmax
comp=Z,35nm,1.6s,mb5.0
MA2 Magadan 70.97 27 *e*P **P 07 32 59.3 -0.3**
MA2 pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
AKASG Malin Array Be 71.53 323 P **P 07 33 01.2 -1.9**
comp=Z,2.8nm,0.7s,mb4.3,baz=94,slow=4.3,SNR=19
AKASG pP pP 07 33 09.6 -2.0
comp=Z,1.7nm,0.5s,baz=90,slow=4.8,SNR=8.3
TIXI Tiksi 71.76 11 *e*P **P 07 33 02.2 -2.0**
TIXI pmax pmax
comp=Z,37nm,1.0s,mb5.3
TIXI MLR MLR
comp=Z,536nm,13.0s,MS5.0
LBTB Lobatse 71.78 242 *e*P **P 07 33 05.0 -0.1**
MLR Muntele Rosu 72.21 317 P **P 07 33 06.9 -0.4**
comp=Z,11nm,1.0s,mb4.8,baz=113,slow=2.4,SNR=8.8
MLR pP pP 07 33 15.1 -0.7
comp=Z,20nm,1.1s,baz=152,slow=2.8,SNR=6.6
BOSA Boshof 72.90 239 *e*P **P 07 33 10.6 -1.1**
BOSA pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BOSA Boshof 72.90 239 *e*P **P 07 33 10.6 -1.1**
comp=Z,6.9nm,1.0s,mb4.5
MAW Mawson 74.01 192 LR LR 07 59 44.4
comp=Z,240nm,19.1s,MS4.5,baz=160,slow=31
JOF Joensuu 74.81 335 *e*p **P 07 33 19.8 -2.3**
comp=Z,6.7nm,0.9s,mb4.6
KWP Kalwaria 75.29 321 *e*P **P 07 33 24.4 -0.7**
KOLS Kolonicke sedl 75.42 320 *e*P **P 07 33 26.6 +0.7**
FINES FINESS Array B 76.58 333 P **P 07 33 31.3 -0.8**
comp=Z,3.3nm,0.7s,mb4.4,baz=101,slow=9.7,SNR=8.8
FINES pP pP 07 33 39.5 -1.2
comp=Z,2.3nm,0.6s,baz=96,slow=5.6,SNR=4.0
KAF Kangasniemi 76.69 333 *e*p **P 07 33 29.6 -3.1**
comp=Z,7.4nm,0.9s,mb4.6
KAF Kangasniemi 76.69 333 *e*P **P 07 33 29.6 -3.1**
KAF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
NIE Niedzica 76.77 320 *e*P **P 07 33 34.5 +1.0**
PSZ Piszkesteto 76.78 318⇑*e*P **P 07 33 33.2 -0.4**
OJC Ojcow 77.25 321 *e*P **P 07 33 36.2 +0.1**
VYHS Vyhne 77.58 319 *i* P **P 07 33 38.0 +0.1**
VYHS *e*pP pP 07 33 46.4 -0.1
OKC Ostrava-Krasne 78.23 320 *e*P **P 07 33 42.1 +0.6**
MORC Moravsky Berou 78.61 320 *e*P **P 07 33 43.9 +0.3**
MORC pmax pmax
comp=Z,18nm,1.4s,mb4.8
MORC Moravsky Berou 78.61 320 *e*P **P 07 33 43.9 +0.3**
comp=Z,18nm,1.4s,mb4.8
ZST Bratislava 78.67 318 *e*P **P 07 33 44.5 +0.5**
ZST *e*pP pP 07 33 52.9 +0.3
ARCES ARCESS Array B 79.43 341 P **P 07 33 47.6 -0.1**
comp=Z,6.5nm,0.9s,mb4.5,baz=117,slow=11,SNR=7.4
ARCES pP pP 07 33 55.5 -0.8
comp=Z,4.6nm,0.8s,baz=90,slow=4.9,SNR=3.4
DPC Dobruska-Polom 79.47 321 *e*P **P 07 33 48.7 +0.4**
DPC *e*pP pP 07 33 57.5 +0.6
KSP Ksiaz 79.55 321 *e*P **P 07 33 48.6 -0.1**
KSP Ksiaz 79.55 321 *e*P **P 07 33 49.7 +1.0**
UPC Upice 79.69 321 *e*P **P 07 33 50.0 +0.6**
UPC *e*pP pP 07 33 58.3 +0.3
PERS Pernice 79.83 317 *e*P **P 07 33 50.5 +0.3**
PRU Pruhonice 80.56 320 *e*P **P 07 33 54.8 +0.7**
PRU *e*pP pP 07 34 03.1 +0.4
PVCC Panska Ves 80.61 321 *e*P **P 07 33 55.0 +0.7**
SYO Syowa Base 80.96 197⇑P **P 07 33 55.9 +0.1**
SYO Syowa Base 80.96 197⇓PcP PcP 07 34 03.5 +0.9
GEC2 GERESS Array S 81.00 319 *e*P **P 07 33 56.9 +0.5**
GEC2 pmax pmax
comp=Z,23nm,1.0s,mb5.1
GEC2 GERESS Array S 81.00 319 *e*P **P 07 33 56.9 +0.5**
comp=Z,23nm,1.0s,mb5.1
GERES GERESS Array B 81.00 319 P **P 07 33 56.8 +0.4**
comp=Z,8.3nm,0.8s,mb4.7,baz=90,slow=5.3,SNR=46
GERES pP pP 07 34 04.8 -0.3
comp=Z,6.4nm,0.7s,baz=82,slow=9.4,SNR=15
BRG Berggiesshubel 81.04 321 *i* P **P 07 33 56.9 +0.3**
BRG *i* pP 07 34 05.1 -0.1
BRG pmax pmax
comp=Z,13nm,1.1s,mb4.8
BRG MLR MLR
comp=Z,600nm,17.5s,MS5.0
BRG Berggiesshubel 81.04 321 *i* P **P 07 33 56.9 +0.3**
comp=Z,13nm,1.1s,mb4.8
BRG *i* pP 07 34 05.1 -0.1
BRG LR LR
comp=Z,600nm,17.5s,MS5.0
KHC Kasperske Hory 81.10 319 *e*P **P 07 33 56.3 -0.7**
KHC *e*pP pP 07 34 05.4 -0.2
WET Wettzell 81.56 319 *e*P **P 07 33 59.9 +0.6**
WET pmax pmax
comp=Z,16nm,1.2s,mb4.8
WET Wettzell 81.56 319 *e*P **P 07 33 59.9 +0.6**
comp=Z,16nm,1.2s,mb4.8
CLL Collm 81.67 321 *i* P **P 07 33 59.6 -0.2**
CLL *i* pP 07 34 08.3 -0.2
CLL pmax pmax
comp=Z,45nm,2.3s,mb5.0
CLL Collm 81.67 321 *i* P **P 07 33 59.6 -0.2**
comp=Z,45nm,2.3s,mb5.0
CLL *i* pP 07 34 08.3 -0.2
CLL Collm 81.67 321 P **P 07 33 59.6 -0.2**
comp=Z,logA/T=1.3,mb5.0
CLL *i* *PP pP 07 34 08.3 -0.2
HFS Hagfors 82.21 330 P **P 07 34 02.4 -0.1**
comp=Z,4.5nm,0.9s,mb4.4,baz=135,slow=2.1,SNR=5.0
MOX Moxa 82.49 320 *e*P **P 07 34 02.7 -1.4**
MOX pmax pmax
comp=Z,11nm,1.3s,mb4.6
MOX Moxa 82.49 320 *e*P **P 07 34 02.7 -1.4**
comp=Z,11nm,1.3s,mb4.6
MOX Moxa 82.49 320 *i* P **P 07 34 02.7 -1.4**
comp=Z,logA/T=0.9,mb4.6
FUR Furstenfeldbru 82.55 318 *e*P **P 07 34 04.5 0.0**
GRA1 Grafenberg Arr 82.68 320 *e*P **P 07 34 05.9 +0.8**
comp=Z,27nm,1.1s,mb5.2
GRA1 *e*pP pP 07 34 13.4 -0.4
GRF Grafenberg Arr 82.68 320 *e*P **P 07 34 05.9 +0.8**
GRF *e**PP pP 07 34 13.4 -0.4
GRF pmax pmax
comp=Z,27nm,1.1s,mb5.2
GRF Grafenberg Arr 82.68 320 *e*P **P 07 34 05.9 +0.8**
GRF *e**PP pP 07 34 13.4 -0.4
GRF pmax pmax
comp=Z,27nm,1.1s,mb5.2
GRF Grafenberg Arr 82.68 320 *e*P **P 07 34 05.9 +0.8**
comp=Z,27nm,1.1s,mb5.2
GRF *e*pP pP 07 34 13.4 -0.4
CLZ Clausthal 83.34 322 *e*P **P 07 34 08.7 +0.2**
comp=Z,13nm,1.1s,mb4.9
NB2 NORSAR Subarra 83.53 331 P **P 07 34 08.4 -0.8**
comp=Z,9.6nm,1.1s,mb4.8,baz=97,slow=5.3
NB2 NORSAR Subarra 83.53 331 P **P 07 34 08.4 -0.8**
NB2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
NOA NORSAR Array B 83.53 331 P **P 07 34 08.8 -0.4**
comp=Z,3.7nm,0.9s,mb4.5,baz=95,slow=5.4,SNR=6.5
NOA pP pP 07 34 17.4 -0.6
comp=Z,2.7nm,0.9s,baz=94,slow=5.5,SNR=4.7
TNS Taunus Mts 84.49 320 *e*P **P 07 34 14.7 +0.3**
BFO Black Forest 84.53 318 *e*P **P 07 34 14.3 -0.3**
BFO pmax pmax
comp=Z,28nm,2.0s,mb5.0
BFO Black Forest 84.53 318 *e*P **P 07 34 14.3 -0.3**
comp=Z,28nm,2.0s,mb5.0
LPG La Plagne 85.58 315 *e*P **P 07 34 19.2 -0.7**
comp=Z,40nm,1.1s,mb5.3
LPG La Plagne 85.58 315 *e*P **P 07 34 19.2 -0.7**
LPG pmax pmax
comp=Z,20nm,1.1s,mb5.3
VNDA Vanda 88.55 168 P **P 07 34 34.8 +1.1**
VNDA Vanda 88.55 168 LR LR 08 09 56.3
comp=Z,131nm,20.9s,MS4.3,baz=302,slow=33
SBA Scott Base 89.65 168 P **P 07 34 41.1 +2.2**
TNA Tin City 90.46 24 *e*P **P 07 34 43.7 +0.9**
ESDC Sonseca Array 93.87 310 P **P 07 34 59.7 +0.6**
comp=Z,2.1nm,1.0s,mb4.5,baz=87,slow=4.6,SNR=4.1
ILAR Eielson Array 99.09 22 P **P 07 35 22.8 +0.6**
comp=Z,0.6nm,1.0s,mb4.1,baz=293,slow=4.9,SNR=4.3
RES Resolute Bay 101.96 2 *e*P P
RES pmax pmax
comp=Z,3.0nm,0.9s
RES Resolute Bay 101.96 2 *e*P P 07 35 35.3 +0.2
comp=Z,3.3nm,0.9s
YKA Yellowknife Ar 110.93 14 PKIKP PKPdf 07 40 13.1 -4.7
YKA Yellowknife Ar 110.93 14 PKiKP 07 40 13.0
comp=Z,0.1nm,0.7s,baz=346,slow=2.9,SNR=3.7
PMSA Palmer Station 116.61 190 *e*P PKPdf 07 40 30.8 +1.9
ULM Lac du Bonnet 126.02 8 PKP PKPdf 07 40 43.6 -3.7
comp=Z,2.0nm,0.8s,baz=7,2,slow=9.7,SNR=3.4
NVAR Mina Array Bea 128.97 32 PKP PKPdf 07 40 50.0 -3.4
comp=Z,0.9nm,0.8s,baz=86,slow=1.3,SNR=5.6
PDAR Pinedale Array 129.52 22 PKP PKPdf 07 40 51.3 -3.1
comp=Z,1.0nm,0.9s,baz=90,slow=1.5,SNR=7.2
PDAR pPKP 07 41 00.1
comp=Z,1.5nm,1.0s,baz=45,slow=2.1,SNR=6.7
PV10 Paradox Valley 133.47 25 *e*P PKPdf 07 40 59.8 -2.1
ISCO Idaho Springs 133.56 21 *e*PKIKP PKPdf 07 41 00.8 -1.2
WMOK Wichita Mounta 140.36 16 *e*PKiHKP 07 41 03.7
MIAR Model Ida 141.73 10 *e*PKIKP PKPdf 07 41 09.5 -7.6
LTX Lajitas 143.49 26 *e*PKIKP PKPdf 07 41 16.0 -4.3
TXAR Lajitas Array 143.49 26 PKP PKPdf 07 41 15.1 -5.2
comp=Z,1.7nm,0.8s,baz=198,slow=0.6,SNR=14
JCT Junction City 143.99 20 *e*PKIKP PKPdf 07 41 16.6 -4.5
NATX Nacogdoches 144.22 12 *e*PKPdf PKPdf 07 41 17.6 -3.9
NATX *e*pPKPdf 07 41 26.0
HKT Hockley 145.68 15 *e*PKPdf PKPdf 07 41 21.5 -2.5
HKT *e*pPKPdf 07 41 30.5

*ATH **29** 07:23:21.2, 40.05N×21.69E, h24km±7km, MD3.3/3*
*THE **29** 07:23:22.4, 40.06N×21.70E, h6km, ML3.5*
*CSEM **29** 07:23:22.6±0.1, 40.06N×21.68E, h8km, ML3.5, Error ellipse: s-maj=2.9km s-min=1.9km az=40.0*
ISC 29 07:23:21.7±0.6, 40.02N±0.03×21.71E±0.04, h10km±5km, n23, σ0°98/34, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.29**	**9**	*e*PB	**Pb**	**07 23 27.7**	**-0.8**
LIT	**Litokhoron**	**0.60**	**82**	*e*Pg	**Pg**	**07 23 33.4**	**-0.4**
LIT				*e*Sg	**Sg**	**07 23 42.9**	**+1.0**
FNA	**Florina**	**0.80**	**341**	*e*Pg	**Pg**	**07 23 36.7**	**-1.0**
FNA				*e*Sg	**Sg**	**07 23 47.4**	**-1.2**
FNA	**Florina**	**0.80**	**341**	*e*Pg	**Pg**	**07 23 36.7**	**-1.1**
FNA				*e*Sg	**Sg**	**07 23 47.3**	**-1.2**
KBN	**Korca**	**0.93**	**311**	*e*Pg	**Pg**	**07 23 39.6**	**-0.7**
KBN				*i* Sg	**Sg**	**07 23 53.6**	**+0.9**
BIA	**Bitola**	**1.04**	**344**	*i* Pg	**Pg**	**07 23 41.9**	**-0.6**
BIA				*i* Sg	**Sg**	**07 23 57.6**	**+1.3**
BIA				*i*		07 23 58.9	
GRG	**Griva**	**1.07**	**29**	*e*Pg	**Pg**	**07 23 41.8**	**-1.3**
GRG				*e*Sg	**Sg**	**07 23 58.1**	**+0.7**
EVR	**Evrytania**	**1.11**	**176**	*e*PN	**Pn**	**07 23 43.3**	**+0.1**
AGG	**Agios Georgios**	**1.11**	**154**	*e*Pg	**Pg**	**07 23 44.3**	**+0.5**
AGG				*e*Sg	**Sg**	**07 24 00.7**	**+2.0**
THE	**Thessaloniki**	**1.13**	**57**	*e*Pg	**Pg**	**07 23 43.5**	**-0.9**
THE				*e*Sg	**Sg**	**07 23 59.3**	**-0.3**
OHR	**Ohrid**	**1.29**	**328**	*i* Pn	**Pn**	**07 23 45.8**	**0.0**
OHR				*i* Sg	**Sg**	**07 24 06.1**	**+1.4**
XOR	**Xorichti**	**1.32**	**119**	*e*Pb	**Pb**	**07 23 46.7**	**+0.6**
NEO	**Neokhori**	**1.37**	**121**	*e*PN	**Pn**	**07 23 47.3**	**+0.3**
PLG	**Polygyros**	**1.37**	**75**	*e*PN	**Pn**	**07 23 46.8**	**-0.2**
KNT	**Kendrikon**	**1.45**	**38**	*e*Pb	**Pb**	**07 23 48.4**	**0.0**
KNT				*e*Sb	**Sb**	**07 24 08.4**	**+1.6**
SOH	**Sokhos**	**1.48**	**57**	*e*Pb	**Pb**	**07 23 49.1**	**+0.2**
SOH				*e*Sb	**Sb**	**07 24 09.2**	**+1.4**
PAIG	**Paliouri**	**1.51**	**93**	*e*Pb	**Pb**	**07 23 48.6**	**-0.9**
LKR	**Lokris**	**1.70**	**144**	*e*PB	**Pb**	**07 23 51.3**	**-1.3**
OUR	**Ouranopolis**	**1.77**	**79**	*e*Pb	**Pb**	**07 23 52.6**	**-1.2**
SRS	**Serrai**	**1.80**	**52**	*e*Pb	**Pb**	**07 23 52.6**	**-1.8**
SKO	**Skopje**	**1.96**	**354**	*e*Pn	**Pn**	**07 23 57.0**	**+1.6**
NVR	**Nevrokopi**	**2.10**	**50**	*e*PN	**Pn**	**07 23 57.1**	**-0.4**
ZAPS	**Zavoj/Pirot**	**3.34**	**11**⇑	*i*Pn	**Pn**	**07 24 14.8**	**-0.3**

*NEIC **29** 07:25:38.0±0.6, 7.66N×93.93E, mb4.5/3, Error ellipse: s-maj=29.8km s-min=9.4km az=51.0*
*IDC **29** 07:25:38.0±1.0, 7.66N×93.92E, h17km±4km, mb4.0/10, mb1 4.1/10, mb1mx4.0/18, mbtmp4.1/10, Error ellipse: s-maj=51.9km s-min=19.7km az=51.0*
ISC 29 07:25:36.1±0.9, 7.6N±0.2×93.9E±0.3, h18km, h18km±.6km: pP-P, n16, σ0°55/15, mb4.1/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.45**	**13**	P	**P**	**07 33 23.7**	**+0.3**
	1.4nm,0.8s,mb3.7,baz=193,slow=7.7,SNR=4.5						
ZAL	**Zalesovo**	**46.76**	**353**	P	**P**	**07 34 05.6**	**-0.5**
	2.0nm,0.6s,mb4.2,baz=291,slow=7.4,SNR=4.5						
WRA	**Warramunga Arr**	**48.30**	**125**	P	**P**	**07 34 18.7**	**+0.1**
	0.4nm,0.3s,mb3.9,baz=301,slow=10.0,SNR=4.5						
WRAB	**Tennant Creek**	**48.30**	**125**	*e*P	**P**	**07 34 18.3**	**-0.4**
	2.9nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**49.15**	**341**	PcP	PcP	07 35 48.8	+0.4
	0.5nm,0.6s,baz=135,slow=2.0,SNR=3.0						
BVAR				pPcP		07 35 54.5	
	0.8nm,0.6s,baz=172,slow=4.6,SNR=5.4						
ASAR	**Alice Springs**	**49.93**	**130**	P	**P**	**07 34 31.2**	**+0.1**
	1.6nm,0.9s,mb4.1,baz=302,slow=7.8,SNR=6.1						
ASAR				PcP	PcP	07 35 51.4	-0.2
	0.3nm,0.6s,baz=294,slow=3.7,SNR=2.7						
ASAR				pPcP		07 35 57.7	
	0.5nm,0.5s,baz=304,slow=3.3,SNR=4.8						
JOF	**Joensuu**	**70.98**	**335**	*e*p	**P**	**07 36 53.1**	**-1.3**
	3.9nm,0.5s,mb4.6						
FINES	**FINESS Array B**	**72.83**	**332**	P	**P**	**07 37 05.2**	**-0.2**
	2.5nm,0.6s,mb4.4,baz=101,slow=7.4,SNR=16						
FINES				pP	pP	07 37 11.0	-0.1
	2.9nm,0.6s,baz=94,slow=7.1,SNR=4.2						
FINES	**FINESS Array B**	**72.83**	**332**	P	**P**	**07 37 05.2**	**-0.2**
FINES				pP	pP	07 37 11.0	-0.1
KAF	**Kangasniemi**	**72.91**	**333**	*e*p	**P**	**07 37 05.3**	**-0.6**
	2.3nm,0.5s,mb4.4,baz=105,slow=5.6						
ARCES	**ARCESS Array B**	**75.42**	**340**	P	**P**	**07 37 21.1**	**+0.8**
	5.2nm,1.0s,mb4.4,baz=74,slow=8.8,SNR=4.0						
GERES	**GERESS Array B**	**77.86**	**318**	P	**P**	**07 37 34.8**	**+0.5**
	1.0nm,0.6s,mb3.9,baz=90,slow=5.3,SNR=5.5						
GERES				pP	pP	07 37 40.9	+0.8
	0.9nm,0.5s,baz=94,slow=5.7,SNR=3.9						
HFS	**Hagfors**	**78.56**	**330**	P	**P**	**07 37 38.5**	**+0.6**
	1.5nm,0.6s,mb4.1,baz=90,slow=7.4,SNR=6.6						
HFS				pP	pP	07 37 44.3	+0.6
	1.7nm,0.6s,baz=101,slow=7.6,SNR=2.5						
NB2	**NORSAR Subarra**	**79.84**	**331**	P	**P**	**07 37 44.9**	**+0.1**
	3.2nm,1.0s,mb4.2,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.84**	**331**	P	**P**	**07 37 45.1**	**+0.3**
	0.7nm,0.9s,mb3.6,baz=122,slow=17,SNR=4.2						
NOA				pP	pP	07 37 50.2	-0.5
	1.4nm,0.7s,baz=93,slow=5.6,SNR=4.1						
ILAR	**Eielson Array**	**95.06**	**22**	P	**P**	**07 38 59.2**	**+0.4**
	0.2nm,0.9s,mb3.5,baz=308,slow=6.2,SNR=3.3						
ILAR				pP	pP	07 39 05.5	+0.8
	0.2nm,0.7s,baz=285,slow=4.9,SNR=1.6						

*IDC **29** 07:27:26.9±10.0, 7.09N×94.19E, mb4.0/6, mb1 4.2/7, mb1mx3.9/19, mbtmp4.0/7, ML4.2/1, Error ellipse: s-maj=284.6km s-min=48.6km az=138.0*
*NEIC **29** 07:27:40.6±1.8, 8.35N×93.29E, h30km, mb4.2/2, Error ellipse: s-maj=53.3km s-min=16.1km az=129.0*
ISC 29 07:27:38.3±2.3, 8.3N±0.3×93.5E±0.4, h30km, n10, σ0°57/10, mb4.0/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.41**	**27**	Pn	**P**	**07 30 22.3**	**-0.1**
	0.4nm,0.3s,baz=208,slow=14,SNR=4.4						
SONM	**Songino Array**	**40.89**	**13**	P	**P**	**07 35 19.3**	**0.0**
	1.0nm,0.8s,mb3.5,baz=205,slow=8.0,SNR=4.9						
KURK	**Kurchatov**	**44.02**	**346**	*e*P	**P**	**07 35 44.7**	**-0.2**
	2.8nm,0.6s,mb4.2						
ZAL	**Zalesovo**	**46.02**	**353**	P	**P**	**07 36 02.2**	**+1.3**
	2.3nm,0.6s,mb4.3,baz=297,slow=3.9,SNR=5.6						
ZAL	**Zalesovo**	**46.02**	**353**	P	**P**	**07 36 02.2**	**+1.3**
FINES	**FINESS Array B**	**72.00**	**332**	P	**P**	**07 39 00.6**	**-0.4**
	1.1nm,0.6s,mb4.0,baz=124,slow=10.0,SNR=4.0						
BOSA	**Boshof**	**75.24**	**238**	*e*P	**P**	**07 39 20.8**	**+0.3**
	1.7nm,0.7s,mb4.1						
GERES	**GERESS Array B**	**77.04**	**318**	P	**P**	**07 39 30.6**	**+0.4**
	0.6nm,0.6s,mb3.7,baz=124,slow=4.8,SNR=3.8						
HFS	**Hagfors**	**77.73**	**330**	P	**P**	**07 39 33.0**	**-0.8**
	2.9nm,0.8s,mb4.2,baz=63,slow=6.4,SNR=4.6						
NOA	**NORSAR Array B**	**79.01**	**331**	P	**P**	**07 39 40.3**	**-0.5**
	1.2nm,0.8s,mb3.9,baz=93,slow=5.8,SNR=3.5						

IGQ 29 07:30:55.9, 1.08S×81.52W, h12km±7km, mb4.2, 1C-5D, Error ellipse: s-maj=9.0km s-min=7.0km az=157.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.97**	**89**⇑	P	Pb	07 31 12.7	-1.6
JAMA	**Jama**	**1.54**	**58**	P	Pn	07 31 23.8	+0.3
JAMA				S	Sb	07 31 41.1	-2.2
MAGD	**Magdalena**	**2.01**	**60**	P	Pn	07 31 32.2	+2.1
MAGD				S	Sn	07 31 54.4	-1.0
IGUA	**Igualata**	**2.91**	**98**	P	Pn	07 31 44.1	+1.1
IGUA				S	Sn	07 32 18.7	+0.5
JUA2	**San Juan 2**	**3.04**	**74**	P	Pn	07 31 46.0	+1.2
JUA2				S	Sn	07 32 22.9	+1.4
TERV	**Terraza Guagua**	**3.05**	**73**	P	Pn	07 31 45.7	+0.7
PINO	**Pino**	**3.05**	**73**	P	Pn	07 31 45.6	+0.6
JOR1	**San Jorge 1**	**3.07**	**70**	P	Pn	07 31 44.6	-0.7
JUIV	**Juive**	**3.07**	**96**	P	Pn	07 31 46.5	+1.2
NAS1	**Nasa**	**3.07**	**82**	P	Pn	07 31 47.6	+2.3
ARRY	**Arrayan**	**3.09**	**98**⇓	P	Pn	07 31 46.8	+1.2
ARRY				S	Sn	07 32 22.5	-0.4
RETU	**Refugio**	**3.10**	**97**	P	Pn	07 31 48.2	+2.6
YANA	**Yana**	**3.10**	**72**	P	Pn	07 31 46.1	+0.4
PISA	**Pisayambo**	**3.13**	**90**	P	Pn	07 31 48.2	+2.1
PISA				S	Sn	07 32 27.0	+3.1
VC1	**Cotopaxi 1**	**3.15**	**82**⇓	P	Pn	07 31 49.1	+2.7
TAMB	**Tambo**	**3.17**	**83**	P	Pn	07 31 49.5	+2.8
ANTI	**Antisana**	**3.42**	**80**⇓	P	Pn	07 31 52.5	+2.3
COTA	**Cotacachi**	**3.48**	**66**⇓	P	Pn	07 31 52.1	+1.0
CAYR	**Refugio Cayamb**	**3.68**	**73**⇓	P	Pn	07 31 57.0	+3.1
CAYA	**Cayambe**	**3.71**	**72**	P	Pn	07 31 57.0	+2.7

*NEIC **29** 07:33:03.8±0.4, 8.02N×94.30E, h30km, mb4.5/6, Error ellipse: s-maj=23.1km s-min=9.8km az=57.0*
*BJI **29** 07:33:04.9, 8.17N×93.45E, h29km, mb4.2*
*IDC **29** 07:33:05.2±5.1, 7.78N×93.96E, h50km±46km, mb3.9/13, mb1 4.1/14, mb1mx4.0/20, mbtmp4.2/14, ML4.5/1, Error ellipse: s-maj=43.2km s-min=15.1km az=56.0*
ISC 29 07:33:00.7±0.5, 7.74N±0.09×93.9E±0.1, h30km, n39, σ0°92/34, mb4.4/25, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.74**	**24**	P	**P**	**07 35 50.5**	**+1.0**
	0.9nm,0.3s,baz=216,slow=14,SNR=17						
HYB	**Hyderabad**	**17.75**	**304**	*e*P	**P**	**07 37 20.0**	**+12**
HYB	**Hyderabad**	**17.75**	**304**	*i* P	**P**	**07 37 14.0**	**+6.5**
JIRN	**Jiri**	**21.10**	**341**	*e*P	**P**	**07 37 45.3**	**0.0**
	23nm,0.6s,mb4.7						
PKI	**Pulchoki**	**21.28**	**339**	*e*P	**P**	**07 37 45.3**	**-1.8**
	34nm,0.8s,mb4.7						
DMN	**Daman**	**21.43**	**338**	*e*P	**P**	**07 37 46.5**	**-2.1**
	49nm,0.9s,mb4.9						
GUN	**Gumba**	**21.43**	**340**	*e*P	**P**	**07 37 48.3**	**-0.3**
	75nm,1.0s,mb5.0						
KKN	**Kakani**	**21.53**	**339**	*e*P	**P**	**07 37 48.6**	**-1.0**
	31nm,0.8s,mb4.8						
GKN	**Gorkha**	**21.96**	**338**	*e*P	**P**	**07 37 53.7**	**-0.2**
	62nm,0.9s,mb5.0						
LSA	**Lhasa**	**21.99**	**354**	P	**P**	**07 37 55.0**	**+0.8**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.1						
KOLN	**Koldanda**	**22.16**	**335**	*e*P	**P**	**07 37 57.0**	**+1.1**
	comp=Z,22nm,0.6s,mb4.7						
NDI	**New Delhi**	**26.08**	**325**	*e*P	**P**	**07 38 34.0**	**+0.3**
SONM	**Songino Array**	**41.35**	**13**	P	**P**	**07 40 45.7**	**+0.1**
	comp=Z,1.8nm,0.8s,mb3.7,baz=196,slow=8.2,SNR=14						
SONM				PcP	PcP	07 42 42.9	-1.3
	comp=Z,0.5nm,0.8s,baz=194,slow=2.1,SNR=2.8						
KURK	**Kurchatov**	**44.67**	**346**	*e*P	**P**	**07 41 12.6**	**0.0**
	comp=Z,8.2nm,1.0s,mb4.5						
NWAO	**Narrogin (SRO)**	**46.16**	**152**	P	**P**	**07 41 25.5**	**+0.8**
	comp=Z,8.1nm,0.7s,mb4.8,baz=281,slow=10,SNR=3.2						
ZAL	**Zalesovo**	**46.64**	**353**	P	**P**	**07 41 28.2**	**0.0**
	comp=Z,4.0nm,0.5s,mb4.6,baz=295,slow=6.7,SNR=24						
ZAL	**Zalesovo**	**46.64**	**353**	P	**P**	**07 41 28.2**	**0.0**
WRA	**Warramunga Arr**	**48.41**	**125**	P	**P**	**07 41 42.0**	**-0.6**
	comp=Z,1.8nm,0.6s,mb4.3,baz=305,slow=8.7,SNR=12						
WRAB	**Tennant Creek**	**48.42**	**125**	*e*P	**P**	**07 41 41.8**	**-0.7**
	comp=Z,3.2nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**49.02**	**341**	P	**P**	**07 41 45.8**	**-1.0**
	comp=Z,1.9nm,0.9s,mb4.1,baz=141,slow=9.5,SNR=7.8						
BRVK	**Borovoye**	**49.08**	**341**	*e*P	**P**	**07 41 47.2**	**-0.1**
BRVK				*e*pP	pP	07

PDAR Pinedale Array 125.39 21 PKP PKPdf 07 52 00.7 -3.7
comp=2,0.4nm,0.9s,baz=63,slow=2.0,SNR=3.1
PLCA Paso Flores 144.33 201 *e*PKPdf PKPdf 07 52 39.5 +0.2

IGIL ***29*** *07:41:29.1,37.60N×1.53W,h10km,ML4.9*
BJI ***29*** *07:41:30.0,37.90N×1.80W,h5km*
INMG ***29*** *07:41:31.5±1.1,37.87N×1.79W,h9km±2km,ML4.8,Error ellipse: s-maj=1.4km s-min=1.4km az=99.0*
IAG ***29*** *07:41:31,37.88N×1.78W,h10km,Mw4.8,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr-0.11; Mθθ-1.37; Mφφ1.48; Mrθ-0.64; Mφθ-0.20; Mφr0.39; Best double couple: M0:1.62×10^16^ NP1:φs132°,δ85°, λ-153°. NP2:φs40°,δ63°,λ-5°. Principal axes: T 1.64, Plg15°, Azm263°; N -.0281, Plg62°, Azm142°; P -1.61, Plg23°, Azm359°;*
SFS ***29*** *07:41:31.0,37.93N×1.76W*
CSEM ***29*** *07:41:31.5±0.1,37.86N×1.79W,h10km,mb5.1/1, ML4.9/44,Ms3.9,Error ellipse: s-maj=1.4km s-min=1.1km az=126.0*
ZUR_RM ***29*** *07:41:31,37.91N×1.82W,h12km,Mw4.8/17,Moment Tensor Solution. s17 Moment tensor: Scale 10^16^Nm; Mrr-0.54; Mθθ-1.16; Mφφ1.70; Mrθ0.22; Mφθ-0.50; Mφr-0.35; Best double couple: M0:1.56×10^16^ NP1:φs306°,δ87°, λ-164°. NP2:φs216°,δ74°,λ-3°. Principal axes: T 1.848, Plg9°, Azm80°; N -.568, Plg74°, Azm315°; P -1.28, Plg13°, Azm172°;*
NEIC ***29*** *07:41:31.0±0.2,37.91N×1.82W,h5km,mb4.4/8, ML4.8(LDG),ML4.4(CSEM),MN4.7(MDD) Error ellipse: s-maj=3.4km s-min=2.3km az=150.0*
NEIC At least 565 houses damaged [VI] at La Paca and Zarcilla de Ramos. Felt [V] at Aviles, Coy, La Fuensanta, La Hoya and Los Rios; [IV] at Archena, Bullas, Caravaca, Cehegin, Huescar, Lorca, Mula, Santiago de la Espada, Totana and Velez Rubio; [III] at Cartagena, Molina de Segura and Murcia; [II] at Albacete, Alcoy, Alicante, Almeria, Bajo Segura, Ciudad Real, Granada, Jaen, Orihuela and Valencia.
IDC ***29*** *07:41:31.9±0.8,38.01N×1.73W,mb4.0/18,mb1 4.2/23, mb1mx4.1/29,mbtmp4.0/23,ML4.2/5,MS4.1/6,Ms1 4.1/6, ms1mx3.8/29,Error ellipse: s-maj=17.4km s-min=12.1km az=17.0*
MDD ***29*** *07:41:32.0±0.2,37.85N×1.76W,h11km,mbLg4.7/60, Error ellipse: s-maj=2.1km s-min=1.7km az=161.0, PRXIMO*
MDD EMS: VI - ZARCILLA DE RAMOS LA PACA. EMS: IV - N LORCA BULLAS. EMS: III - CARTAGENA MURCIA. EMS: II - ALMERMA, JAIN, GRANADA, ALBACETE, CIUDAD REAL, ALICANTE, VALENCIA.
LDG ***29*** *07:41:32.7±0.1,37.86N×1.81W,h5km,Md4.7/1,Ml4.8/42, ms3.9/6,Error ellipse: s-maj=2.6km s-min=1.5km az=145.0*
CNRM ***29*** *07:41:35.0,37.77N×1.90W,h30km,MD4.5*
ISC 29 07:41:29.6±0.1,37.98N±0.01×1.89W±0.01,h11km,n323, σ1°38/493,mb4.1/24,MS4.0/5,39C-21D,Spain

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
EXMU	**Mula**	**0.32**	**79**	Pg	**Pg**	**07 41 36.8**	**+0.6**
EXMU				Lg		07 41 41.8	
EXMU	**Mula**	**0.32**	**79**	Pg	**Pg**	**07 41 36.8**	**+0.6**
EXLO	**Lorca**	**0.34**	**154**	Pg	**Pg**	**07 41 35.6**	**-1.1**
EXLO				Lg		07 41 38.9	
EXLO	**Lorca**	**0.34**	**154**	Pg	**Pg**	**07 41 35.6**	**-1.0**
EXLO				Lg		07 41 38.9	
EMUR	**La Murta**	**0.53**	**105**	Pg	**Pg**	**07 41 39.4**	**-1.0**
EMUR				Lg		07 41 45.7	
EMUR	**La Murta**	**0.53**	**105**	⇑Pg	**Pg**	**07 41 39.4**	**-0.9**
EMUR	4μm,0.3s,SNR=18			Lg		07 41 45.4	
EMUR	**La Murta**	**0.53**	**105**	Pg	**Pg**	**07 41 39.4**	**-0.9**
CART	**Cartagena**	**0.80**	**119**	⇑*i*P	**Pb**	**07 41 44.2**	**-0.9**
CART				*e*S	**Sb**	**07 41 53.0**	**-2.7**
CART	**Cartagena**	**0.80**	**119**	⇑Pg	**Pg**	**07 41 44.1**	**-1.7**
CART				Lg		07 41 53.2	
CART	**Cartagena**	**0.80**	**119**	⇑*i*P	**Pb**	**07 41 44.2**	**-0.9**
EVIA	**Vianos**	**0.82**	**324**	Pg	**Pn**	**07 41 49.1**	**+2.2**
EVIA	**Vianos**	**0.82**	**324**	⇓Pg	**Pn**	**07 41 49.0**	**+2.2**
EVIA	**Vianos**	**0.82**	**324**	Pg	**Pn**	**07 41 49.1**	**+2.3**
EQES	**Quesada**	**0.95**	**260**	Pg	**Pn**	**07 41 50.4**	**+1.6**
EQES				Lg		07 42 08.6	
EQES	**Quesada**	**0.95**	**260**	⇑Pg	**Pn**	**07 41 50.5**	**+1.7**
EQES	33μm,0.7s,SNR=7.9			Lg		07 42 04.3	
EQES	**Quesada**	**0.95**	**260**	Pg	**Pn**	**07 41 50.4**	**+1.6**
ENIJ	**Nijar**	**1.04**	**194**	⇓Pg	**Pn**	**07 41 49.2**	**-0.8**
ENIJ	**Nijar**	**1.04**	**194**	Pg	**Pn**	**07 41 49.2**	**-0.8**
EBER	**Berja**	**1.34**	**217**	Pg	**Pn**	**07 41 54.8**	**+0.4**
EBER				Lg		07 42 17.7	
EBER	**Berja**	**1.34**	**217**	⇑Pg	**Pn**	**07 41 54.8**	**+0.4**
EBER	50μm,1.0s,SNR=7.9			Lg		07 42 12.8	
EBER	**Berja**	**1.34**	**217**	Pg	**Pn**	**07 41 54.8**	**+0.4**
EBEN	**Beniarda**	**1.49**	**61**	⇑Pn	**Pn**	**07 41 56.0**	**-0.5**
EBEN				Lg		07 42 18.6	
EBEN	**Beniarda**	**1.49**	**61**	⇑Pn	**Pn**	**07 41 55.9**	**-0.6**
EBEN	589nm,0.3s,SNR=5.0			Pg	**Pg**	**07 41 58.8**	**-0.7**
EBEN				Lg		07 42 19.5	
EBEN	**Beniarda**	**1.49**	**61**	Pn	**Pn**	**07 41 56.0**	**-0.5**
ELUQ	**Luque**	**1.93**	**258**	⇑Pn	**Pn**	**07 42 06.1**	**+3.3**
ELUQ	**Luque**	**1.93**	**258**	⇑Pn	**Pn**	**07 42 06.1**	**+3.3**
ELUQ	**Luque**	**1.93**	**258**	Pn	**Pn**	**07 42 06.1**	**+3.3**
ELOJ	**Sierra Loja**	**1.98**	**246**	⇑Pn	**Pn**	**07 42 06.9**	**+3.4**
EADA	**Adamuz**	**2.13**	**276**	⇑Pn	**Pn**	**07 42 07.8**	**+2.2**
EADA				Lg		07 42 42.0	
EADA	**Adamuz**	**2.13**	**276**	⇑Pn	**Pn**	**07 42 07.8**	**+2.2**
EADA				Pg	**Pg**	**07 42 12.6**	**+0.4**
EADA				Sn	**Sn**	**07 42 34.8**	**+2.5**
EADA				Lg		07 42 41.6	
EADA	**Adamuz**	**2.13**	**276**	Pn	**Pn**	**07 42 07.8**	**+2.1**
EADA	**Adamuz**	**2.13**	**276**	Pg	**Pb**	**07 42 11.9**	**+4.1**
EADA				Sn	**Sn**	**07 42 35.7**	**+3.3**
EALB	**Alboran**	**2.24**	**205**	Pn	**Pn**	**07 42 08.0**	**+0.8**
EALB				Sn	**Sn**	**07 42 36.5**	**+1.5**
EALB	**Alboran**	**2.24**	**205**	⇓Pn	**Pn**	**07 42 08.0**	**+0.8**
EALB				Sn	**Sn**	**07 42 33.6**	**-1.4**
EALB				Lg		07 42 38.5	
EALB	**Alboran**	**2.24**	**205**	Pn	**Pn**	**07 42 08.0**	**+0.9**
ESDC	**Sonseca Array**	**2.34**	**317**	Pn	**Pn**	**07 42 10.8**	**+2.1**
ESDC				Pg	**Pb**	**07 42 17.0**	**+5.6**
ESDC				Lg		07 42 48.2	
ESDC	**Sonseca Array**	**2.34**	**317**	⇓Pn	**Pn**	**07 42 10.8**	**+2.1**
ESDC				Pg	**Pb**	**07 42 16.7**	**+5.2**
ESDC				Lg		07 42 49.3	
ESDC	**Sonseca Array**	**2.34**	**317**	Pg	**Pb**	**07 42 16.7**	**+5.3**
ESLA	**Sonseca Array**	**2.34**	**317**	⇓*i*Pn	**Pn**	**07 42 10.8**	**+2.1**
ESLA				*e*Pb	**Pb**	**07 42 15.4**	**+4.0**
ESLA				*e*Pg	**Pg**	**07 42 19.1**	**+2.7**
ESLA				*e*Sn	**Sn**	**07 42 36.8**	**-0.9**
ESLA				*e*Sg	**Sg**	**07 42 49.9**	**+2.2**
ESLA	**Sonseca Array**	**2.34**	**317**	⇓*i*Pn	**Pn**	**07 42 10.8**	**+2.1**
ESLA	**Sonseca Array**	**2.34**	**317**	*e*Pb	**Pb**	**07 42 15.4**	**+4.0**
ESLA	**Sonseca Array**	**2.34**	**317**	*e*Sg	**Sg**	**07 42 49.9**	**+2.2**
EMOS	**Mosqueruela**	**2.62**	**24**	Pn	**Pn**	**07 42 14.8**	**+2.1**
EMOS	**Mosqueruela**	**2.62**	**24**	⇓Pn	**Pn**	**07 42 14.8**	**+2.1**
EMOS	47nm,0.2s,SNR=18			Pg	**Pg**	**07 42 22.1**	**+0.1**
EMOS	758nm,0.5s,SNR=7.9			Sn	**Sn**	**07 42 46.2**	**+1.5**
EMOS	219nm,0.3s,SNR=7.0			Lg		07 42 56.0	
EMOS	**Mosqueruela**	**2.62**	**24**	Pn	**Pn**	**07 42 14.8**	**+2.1**
EMOS	62nm,0.3s,SNR=18			Pg	**Pb**	**07 42 21.7**	**+5.5**
EMOS	758nm,0.5s,SNR=7.9			Sn	**Sn**	**07 42 46.2**	**+1.4**
EMOS	481nm,0.5s,SNR=7.0			Lg		07 42 57.4	
EMIJ	**Mijas**	**2.70**	**239**	Pn	**Pn**	**07 42 15.9**	**+2.1**
EMIJ				Lg		07 43 00.5	
EMIJ	**Mijas**	**2.70**	**239**	Pn	**Pn**	**07 42 16.0**	**+2.2**
EMIJ	128nm,0.7s,SNR=34			Pg	**Pg**	**07 42 20.6**	**-2.9**
EMIJ	699nm,0.6s,SNR=7.9			Sn	**Sn**	**07 42 47.8**	**+1.0**
EMIJ	1μm,0.9s,SNR=7.9			Lg		07 42 57.4	
EMIJ	**Mijas**	**2.70**	**239**	Pn	**Pn**	**07 42 15.9**	**+2.1**
EIBI	**Ibiza**	**2.74**	**67**	⇑Pn	**Pn**	**07 42 12.8**	**-1.5**
EIBI				Sn	**Sn**	**07 42 46.0**	**-1.8**
EIBI	**Ibiza**	**2.74**	**67**	⇑Pn	**Pn**	**07 42 12.8**	**-1.6**
EIBI	159nm,0.3s,SNR=4.0			Pg	**Pb**	**07 42 20.9**	**+2.7**
EIBI	323nm,0.2s,SNR=4.6			Sn	**Sn**	**07 42 45.9**	**-1.8**
EIBI	**Ibiza**	**2.74**	**67**	Pn	**Pn**	**07 42 13.0**	**-1.4**
EIBI	**Ibiza**	**2.74**	**67**	Pg	**Pb**	**07 42 21.2**	**+3.0**
EIBI				Sn	**Sn**	**07 42 46.0**	**-1.8**
OLHC	**Oulhaca**	**2.75**	**172**	Pn	**Pn**	**07 42 13.0**	**-1.5**
OKGL	**Djebel Kef Gue**	**2.80**	**133**	P	**Pn**	**07 42 15.6**	**+0.3**
EMLI	**Melilla**	**2.81**	**198**	Pg	**Pb**	**07 42 21.2**	**+1.8**
EMEL	**Melilla**	**2.81**	**198**	Pn	**Pn**	**07 42 14.1**	**-1.3**
EMEL	825nm,0.3s,SNR=7.9			Sn	**Sn**	**07 42 46.8**	**-2.8**
MELI	**Melilla**	**2.81**	**198**	Pn	**Pn**	**07 42 16.3**	**+0.9**
MELI				Sn	**Sn**	**07 42 47.3**	**-2.3**
MELI	**Melilla**	**2.81**	**198**	*e*P	**Pn**	**07 42 16.3**	**+0.9**
MELI	**Melilla**	**2.81**	**198**	*e*S	**Sn**	**07 42 47.3**	**-2.3**
OTSS	**Djebel Tessala**	**2.83**	**162**	P	**Pn**	**07 42 16.0**	**+0.3**
OJBR	**Djebel Berber**	**2.99**	**143**	P	**Pn**	**07 42 15.0**	**-2.9**
LIJA	**Lijar**	**3.00**	**250**	⇓Pn	**Pn**	**07 42 21.2**	**+3.2**
LIJA				Lg		07 43 11.8	
LIJA	**Lijar**	**3.00**	**250**	*i*P	**Pn**	**07 42 21.2**	**+3.2**
REAL	**Reales**	**3.04**	**242**	⇑Pn	**Pn**	**07 42 22.1**	**+3.5**
REAL				Lg		07 43 11.8	
REAL	**Reales**	**3.04**	**242**	*i*P	**Pn**	**07 42 22.1**	**+3.4**
ZAI	**Zaio**	**3.08**	**193**	Pn	**Pn**	**07 42 17.0**	**-2.2**
ZAI				Sn	**Sn**	**07 42 50.0**	**-6.5**
ZAI	**Zaio**	**3.08**	**193**	*i*P	**Pn**	**07 42 17.0**	**-2.2**
EANR	**'Ain N'Sour**	**3.13**	**129**	P	**Pn**	**07 42 19.5**	**-0.5**
ECHF	**Ech Chlef**	**3.16**	**124**	Pn	**Pn**	**07 42 21.0**	**+0.7**
ECHA	**Ech Chlef**	**3.18**	**124**	P	**Pn**	**07 42 21.0**	**+0.4**
GUD	**Guadarrama**	**3.19**	**327**	Pn	**Pn**	**07 42 22.1**	**+1.4**
GUD	**Guadarrama**	**3.19**	**327**	⇓Pn	**Pn**	**07 42 22.8**	**+2.1**
GUD	93nm,0.5s,SNR=18			Pg	**Pg**	**07 42 33.1**	**-0.2**
GUD	SNR=7.9			Lg		07 43 16.1	
GUD	**Guadarrama**	**3.19**	**327**	Pn	**Pn**	**07 42 23.1**	**+2.4**
EBNR	**Beni Rached**	**3.21**	**121**	P	**Pn**	**07 42 22.0**	**+1.0**
MPAL	**Palemas**	**3.21**	**212**	Pn	**Pn**	**07 42 21.0**	**0.0**
MPAL				Sn	**Sn**	**07 42 54.5**	**-5.2**
MPAL	**Palemas**	**3.21**	**212**	*i*P	**Pn**	**07 42 21.0**	**0.0**
OJGS	**Djebel Guires**	**3.25**	**139**	P	**Pn**	**07 42 17.6**	**-4.1**
ESPR	**Espera**	**3.35**	**252**	⇑Pn	**Pn**	**07 42 24.8**	**+1.8**
ESPR				Sn	**Sn**	**07 43 03.2**	**0.0**
ESPR	**Espera**	**3.35**	**252**	⇑Pn	**Pn**	**07 42 24.8**	**+1.7**
ESPR	337nm,1.1s,SNR=18			Pg	**Pg**	**07 42 34.6**	**-1.9**
ESPR	1μm,0.7s,SNR=7.9			Sn	**Sn**	**07 43 02.9**	**-0.3**
ESPR	1μm,0.9s,SNR=4.9			Lg		07 43 20.8	
ESPR	**Espera**	**3.35**	**252**	Pn	**Pn**	**07 42 24.8**	**+1.8**
ESPR	87nm,0.4s,SNR=18			Sn	**Sn**	**07 43 03.2**	**0.0**
ESPR	800nm,0.7s,SNR=4.9			Pg	**Pb**	**07 42 43.9**	**+6.0**
ESPR	643nm,0.2s,SNR=7.9			Sn	**Sn**	**07 43 14.2**	**-2.7**
ESPR	2μm,0.5s,SNR=4.7			Lg		07 43 35.5	
ESAC	9μm,0.9s,SNR=4.9			Pn	**Pn**	**07 42 33.3**	**+2.6**
ESAC	**San Caprasio**	**3.89**	**16**	Pn	**Pn**	**07 42 33.3**	**+2.6**
ESAC	**San Caprasio**	**3.89**	**16**	Pg	**Pb**	**07 42 44.0**	**+6.1**
ESAC	183nm,0.3s,SNR=40			Sn	**Sn**	**07 43 14.6**	**-2.3**
ESAC	747nm,0.3s,SNR=7.9			Pn	**Pn**	**07 42 34.1**	**+0.9**
EPOB	**Poblet**	**4.07**	**33**	Sn	**Sn**	**07 43 19.6**	**-1.8**
EPOB	592nm,0.3s,SNR=4.7			Pn	**Pn**	**07 42 34.0**	**+0.8**
EPOB	**Poblet**	**4.07**	**33**	⇑Pn	**Pn**	**07 42 34.0**	**+0.8**
EPOB	110nm,0.3s,SNR=18			Sn	**Sn**	**07 43 19.6**	**-1.8**
EPOB	142nm,0.3s,SNR=7.9			Lg		07 43 42.4	
EPOB	**Poblet**	**4.07**	**33**	Pn	**Pn**	**07 42 34.1**	**+0.8**
EPOB	**Poblet**	**4.07**	**33**	Pn	**Pn**	**07 42 34.1**	**+0.8**
EPOB	96nm,0.3s,SNR=18			Sn	**Sn**	**07 43 19.6**	**-1.9**
ETOS	**Mallorca**	**4.08**	**63**	Pn	**Pn**	**07 42 32.5**	**-0.9**
ETOS				Sn	**Sn**	**07 43 19.6**	**-2.0**
ETOS	**Mallorca**	**4.08**	**63**	Pn	**Pn**	**07 42 32.1**	**-1.2**
ETOS	81nm,0.4s,SNR=7.9			Sn	**Sn**	**07 43 17.4**	**-4.2**
ETOS	**Mallorca**	**4.08**	**63**	Pn	**Pn**	**07 42 32.5**	**-0.9**
ETOS	SNR=7.9			Sn	**Sn**	**07 43 19.6**	**-2.1**
ABA	**Alger-Bouzarea**	**4.09**	**105**	P	**Pn**	**07 42 31.4**	**-2.2**
EBAD	**Badajoz**	**4.10**	**282**	⇑Pn	**Pn**	**07 42 34.5**	**+0.7**
EBAD				Sn	**Sn**	**07 43 22.6**	**+0.3**
EBAD				Lg		07 43 44.8	
EBAD	**Badajoz**	**4.10**	**282**	⇑Pn	**Pn**	**07 42 34.4**	**+0.7**
EBAD	58nm,0.2s,SNR=18			Pg	**Pg**	**07 42 49.0**	**-2.6**
EBAD	198nm,0.3s,SNR=7.9			Sn	**Sn**	**07 43 22.3**	**0.0**
EBAD	910nm,0.3s,SNR=14			Lg		07 43 42.9	
EBAD	**Badajoz**	**4.10**	**282**	⇑Pn	**Pn**	**07 42 34.5**	**+0.8**
EBAD	3μm,0.5s,SNR=7.9			Sn	**Sn**	**07 43 22.6**	**+0.3**
EBAD	**Badajoz**	**4.10**	**282**	Pg	**Pg**	**07 42 49.7**	**-1.8**
TZK	**Tazeka**	**4.31**	**206**	Pn	**Pn**	**07 42 35.5**	**-1.1**
TZK				Sn	**Sn**	**07 43 21.0**	**-6.5**
TZK	**Tazeka**	**4.31**	**206**	*i*P	**Pn**	**07 42 35.5**	**-1.1**
EGRO	**El Granado**	**4.46**	**266**	⇑Pn	**Pn**	**07 42 39.0**	**+0.2**
EGRO				Sn	**Sn**	**07 43 31.2**	**-0.1**
EGRO	**El Granado**	**4.46**	**266**	⇑Pn	**Pn**	**07 42 38.9**	**+0.2**
EGRO	213nm,0.2s,SNR=18			Sn	**Sn**	**07 43 30.6**	**-0.7**
EGRO	885nm,0.8s,SNR=7.9			Lg		07 43 53.8	
EGRO	**El Granado**	**4.46**	**266**	⇑Pn	**Pn**	**07 42 39.0**	**+0.2**
EGRO	5μm,1.2s,SNR=7.9			Sn	**Sn**	**07 43 31.2**	**-0.1**
EGRO	**El Granado**	**4.46**	**266**	⇑Pn	**Pn**	**07 42 39.0**	**+0.2**
PALC	**Alcoutim**	**4.46**	**265**	*e*Pn	**Pn**	**07 42 39.0**	**+0.2**
PALC				*e*Sn	**Sn**	**07 43 31.2**	**-0.2**
PALC				*e*Sg	**Sg**	**07 43 56.7**	**-1.5**
PALC	**Alcoutim**	**4.46**	**265**	⇑Pn	**Pn**	**07 42 39.0**	**+0.2**
PALC	1μm,0.6s			Sn	**Sn**	**07 43 31.2**	**-0.2**
PALC				Lg		07 43 56.7	
PALC	**Alcoutim**	**4.46**	**265**	⇑*e*P	**Pn**	**07 42 38.9**	**+0.1**
PALC	674nm,0.6s			*e*S	**Sn**	**07 43 30.6**	**-0.8**
PALC				*e*Sn	**Sn**	**07 43 31.2**	**-0.2**
PALC				*e*Sg	**Sg**	**07 43 56.7**	**-1.5**
EMIR	**Miracle**	**4.72**	**33**	Pn	**Pn**	**07 42 43.4**	**+0.9**
EMIR	1μm,0.6s,SNR=36			Sn	**Sn**	**07 43 36.4**	**-1.6**
EMIR	155nm,0.3s,SNR=36			Lg		07 44 00.7	
EMIR	**Miracle**	**4.72**	**33**	Pn	**Pn**	**07 42 43.4**	**+0.9**
EMIR	215nm,0.5s,SNR=7.9			Sn	**Sn**	**07 43 36.4**	**-1.6**
PBEJ	**Beja**	**4.72**	**272**	*e*Pn	**Pn**	**07 42 42.7**	**+0.2**
PBEJ				*e*Sn	**Sn**	**07 43 37.4**	**-0.6**
PBEJ				*e*Sg	**Sg**	**07 44 04.7**	**-2.2**
PBEJ	**Beja**	**4.72**	**272**	⇑Pn	**Pn**	**07 42 42.7**	**+0.2**
PBEJ	1μm,0.8s			Sn	**Sn**	**07 43 37.4**	**-0.6**
PBEJ				Lg		07 44 04.7	
PBEJ	**Beja**	**4.72**	**272**	⇑*e*P	**Pn**	**07 42 42.7**	**+0.2**
PBEJ	587nm,0.8s			*e*Sn	**Sn**	**07 43 37.4**	**-0.6**
PCBR	**Castelo Branco**	**4.74**	**295**	*e*Pn	**Pn**	**07 42 43.8**	**+1.0**
PCBR				*e*Sn	**Sn**	**07 43 38.3**	**-0.1**
PCBR				*e*Sg	**Sg**	**07 44 05.6**	**-1.8**
PCBR	**Castelo Branco**	**4.74**	**295**	*e*P	**Pn**	**07 42 43.7**	**+0.9**
PCBR	984nm,0.5s			Pn	**Pn**	**07 42 43.8**	**+1.0**
PCBR	**Castelo Branco**	**4.74**	**295**	Pn	**Pn**	**07 42 43.8**	**+1.0**
PCBR				Sn	**Sn**	**07 43 38.3**	**-0.1**
PCBR				Lg		07 44 05.6	
PCBR	**Castelo Branco**	**4.74**	**295**	*e*Pn	**Pn**	**07 42 43.8**	**+1.0**
PCBR	492nm,0.5s			*e*Sg	**Sg**	**07 44 05.6**	**-1.8**
PCBR	984nm,0.5s						
EVO	**Evora**	**4.85**	**278**	*e*Pn	**Pn**	**07 42 45.5**	**+1.1**
EVO				*e*Sn	**Sn**	**07 43 42.0**	**+0.7**
EVO				*e*Sg	**Sg**	**07 44 09.2**	**-2.0**
EVO	4μm,0.6s			*e*R			
EBIE	**Bielsa**	**4.95**	**18**	⇓Pn	**Pn**	**07 42 47.5**	**+1.8**
EBIE	2μm,21.7s			Sn	**Sn**	**07 43 44.2**	**+0.5**
EBIE	**Bielsa**	**4.95**	**18**	⇓Pn	**Pn**	**07 42 47.5**	**+1.8**
EBIE	54nm,0.3s,SNR=18			Sn	**Sn**	**07 43 42.8**	**-0.9**
EBIE	179nm,0.7s,SNR=7.9			Lg		07 44 10.9	
EBIE	**Bielsa**	**4.95**	**18**	Sn	**Sn**	**07 43 44.2**	**+0.5**
EBIE	**Bielsa**	**4.95**	**18**	Pn	**Pn**	**07 42 47.5**	**+1.8**
ETSF	**Etsaut**	**5.01**	**11**	*e*Pn	**Pn**	**07 42 48.3**	**+1.6**
ETSF				*e*Sn	**Sn**	**07 43 44.3**	**-1.0**
ETSF				*e*Sg	**Sg**	**07 44 13.0**	**-3.6**
MTE	**Manteigas**	**5.02**	**301**	*e*Pn	**Pn**	**07 42 48.5**	**+1.8**
MTE				*e*Sn	**Sn**	**07 43 45.3**	**0.0**
MTE				*e*Sg	**Sg**	**07 44 13.7**	**-2.9**
MTE	**Manteigas**	**5.02**	**301**	*e*Pn	**Pn**	**07 42 48.2**	**+1.5**
MTE	**Manteigas**	**5.02**	**301**	⇑Pn	**Pn**	**07 42 48.5**	**+1.8**
MTE				Sn	**Sn**	**07 43 45.3**	**0.0**
MTE				Lg		07 44 13.7	
MTE	**Manteigas**	**5.02**	**301**	*e*Pn	**Pn**	**07 42 48.2**	**+1.5**
MTE	1μm,0.6s			*e*Sg	**Sg**	**07 44 13.7**	**-2.9**
LARF	**Larrau**	**5.10**	**7**	P	**Pn**	**07 42 50.2**	**+2.4**
MOE	**Montemor**	**5.12**	**278**	*e*Pn	**Pn**	**07 42 49.0**	**+0.9**
MOE				*e*Sn	**Sn**	**07 43 46.8**	**-1.1**
MOE				*e*Sg	**Sg**	**07 44 16.6**	**-3.4**
SJPF	**Ste Jean**	**5.15**	**5**	*e*Pn	**Pn**	**07 42 50.4**	**+1.8**
SJPF				*e*Sn	**Sn**	**07 43 48.0**	**-0.8**
SJPF				*e*Sg	**Sg**	**07 44 17.6**	**-3.5**
REYF	**Montagne du Re**	**5.21**	**12**	P	**Pn**	**07 42 51.6**	**+2.2**
EALK	**Alkurruntz**	**5.24**	**3**	⇑Pn	**Pn**	**07 42 52.0**	**+2.2**
EALK				Sn	**Sn**	**07 43 50.3**	**-0.7**
EALK	**Alkurruntz**	**5.24**	**3**	⇓Pn	**Pn**	**07 42 52.4**	**+2.5**
EALK	475nm,0.5s,SNR=18			Sn	**Sn**	**07 43 49.7**	**-1.3**
EALK	385nm,0.4s,SNR=7.9			Lg		07 44 21.4	
EALK	**Alkurruntz**	**5.24**	**3**	Pn	**Pn**	**07 42 52.4**	**+2.6**
EALK	2μm,1.6s,SNR=7.9			Sn	**Sn**	**07 43 50.3**	**-0.7**
MELF	**Melles**	**5.29**	**22**	P	**Pn**	**07 42 52.3**	**+1.8**
OSSF	**Osses**	**5.29**	**5**	P	**Pn**	**07 42 52.6**	**+2.1**
MIF	**Mishlifen**	**5.31**	**212**	Pn	**Pn**	**07 42 50.0**	**-0.8**
MIF				Sn	**Sn**	**07 43 45.0**	**-7.8**

MIF	**Mishlifen**	**5.31 212**	*i* P	**Pn**	**07 42 50.0**	**-0.8**
SALF	**Salau**	**5.32 25**	P	**Pn**	**07 42 52.5**	**+1.6**
EPF	**Esparros**	**5.32 18**	*e*Pn	**Pn**	**07 42 52.3**	**+1.3**
EPF			*e*Pg	**Pg**	**07 43 14.3**	**-1.5**
EPF			*e*Sn	**Sn**	**07 43 51.8**	**-1.2**
EPF			*e*Sg	**Sg**	**07 44 22.4**	**-4.4**
	328nm,0.5s					
EPF	**Esparros**	**5.32 18**	*e*Pn	**Pn**	**07 42 52.3**	**+1.3**
EPF			*e*Sn	**Sn**	**07 43 51.8**	**-1.2**
EPF			*e*Sg	**Sg**	**07 44 22.4**	**-4.4**
	164nm,0.5s					
PBRG	**Braganca**	**5.34 317**	*e*Pn	**Pn**	**07 42 52.2**	**+1.0**
PBRG			*e*Sn	**Sn**	**07 43 52.7**	**-0.8**
PBRG			*e*Sg	**Sg**	**07 44 23.1**	**-4.3**
	895nm,0.5s					
PBRG	**Braganca**	**5.34 317**	Pn	**Pn**	**07 42 52.2**	**+1.0**
PBRG			Sn	**Sn**	**07 43 52.7**	**-0.8**
PBRG			Lg		07 44 23.1	
	448nm,0.5s					
ALMR	**Almeirim**	**5.37 285**	*e*P	**Pn**	**07 42 51.6**	**-0.1**
ALMR			*e*S	**Sn**	**07 43 52.0**	**-2.3**
ALMR			*e*S	**Sn**	**07 43 52.1**	**-2.3**
ALMR			AML	AML	07 43 55.7	
	comp=N,2μm,0.5s					
ALMR	**Almeirim**	**5.37 285**	Pn	**Pn**	**07 42 51.6**	**-0.1**
ALMR			Sn	**Sn**	**07 43 52.0**	**-2.3**
	comp=N,977nm,0.5s					
ELAN	**Lanestosa**	**5.38 348**	⇓Pn	**Pn**	**07 42 53.4**	**+1.6**
ELAN			Lg		07 44 27.3	
ELAN	**Lanestosa**	**5.38 348**	⇓Pn	**Pn**	**07 42 53.4**	**+1.6**
	comp=N,27nm,0.2s,SNR=18					
ELAN			Pg	**Pg**	**07 43 13.0**	**-3.9**
	comp=N,282nm,0.8s,SNR=4.0					
ELAN			Sn	**Sn**	**07 43 53.8**	**-0.6**
	comp=N,250nm,0.9s,SNR=7.9					
ELAN			Lg		07 44 27.3	
	comp=N,1μm,0.9s,SNR=4.6					
ELAN	**Lanestosa**	**5.38 348**	Pn	**Pn**	**07 42 53.4**	**+1.7**
	comp=N,51nm,0.6s,SNR=18					
PVIS	**Viseu**	**5.40 302**	*e*Pn	**Pn**	**07 42 52.7**	**+0.6**
PVIS			*e*Sn	**Sn**	**07 43 54.0**	**-1.0**
	comp=N,952nm,0.9s					
PVIS	**Viseu**	**5.40 302**	Pn	**Pn**	**07 42 52.7**	**+0.6**
PVIS			Sn	**Sn**	**07 43 54.0**	**-1.0**
	comp=N,476nm,0.9s					
ECAL	**Calabor**	**5.43 318**	P	**Pn**	**07 42 53.4**	**+0.8**
ECAL	**Calabor**	**5.43 318**	⇑Pn	**Pn**	**07 42 53.2**	**+0.7**
	comp=N,98nm,0.3s,SNR=18					
ECAL			Sn	**Sn**	**07 43 55.0**	**-0.9**
	comp=N,302nm,0.7s,SNR=7.9					
ECAL			Lg		07 44 26.3	
	comp=N,5μm,1.3s,SNR=4.1					
ECAL	**Calabor**	**5.43 318**	Pn	**Pn**	**07 42 53.4**	**+0.8**
	comp=N,63nm,0.4s,SNR=18					
PTEO	**Sao Teotonio**	**5.44 268**	*e*Pn	**Pn**	**07 42 52.5**	**-0.1**
PTEO			*e*Sg	**Sg**	**07 44 28.1**	**-2.5**
	comp=N,1μm,0.6s					
PTEO	**Sao Teotonio**	**5.44 268**	*e*P	**Pn**	**07 42 52.4**	**-0.2**
PTEO	**Sao Teotonio**	**5.44 268**	*e*Pn	**Pn**	**07 42 52.5**	**-0.1**
PTEO			*e*Sg	**Sg**	**07 44 28.1**	**-2.5**
	comp=N,1μm,0.6s					
MLS	**Moulis**	**5.47 24**	P	**Pn**	**07 42 54.9**	**+1.9**
CZD	**Col de Zad**	**5.57 208**	Pn	**Pn**	**07 42 53.0**	**-1.4**
CZD			Sn	**Sn**	**07 43 50.0**	**-9.2**
PVRL	**Vila Real**	**5.58 308**	*e*Pn	**Pn**	**07 42 55.2**	**+0.7**
PVRL			*e*Sn	**Sn**	**07 43 58.0**	**-1.4**
	comp=N,592nm,0.5s					
PVRL	**Vila Real**	**5.58 308**	Pn	**Pn**	**07 42 55.2**	**+0.7**
PVRL			Sn	**Sn**	**07 43 58.0**	**-1.4**
	comp=N,296nm,0.5s					
CARF	**Carcanieres**	**5.63 32**	P	**Pn**	**07 42 56.8**	**+1.5**
FILF	**Fillols**	**5.70 35**	P	**Pn**	**07 42 56.6**	**+0.3**
LIS	**Lisbon**	**5.76 280**	*e*P	**Pn**	**07 42 57.8**	**+0.7**
LIS			*e*S	**Sn**	**07 44 02.2**	**-1.8**
LIS			*e*S	**Sn**	**07 44 02.2**	**-1.8**
LIS			AML	AML	07 44 05.9	
	comp=E,948nm,0.3s					
LIS	**Lisbon**	**5.76 280**	Pn	**Pn**	**07 42 57.8**	**+0.7**
LIS			Sn	**Sn**	**07 44 02.2**	**-1.8**
	comp=E,948nm,0.3s					
EJON	**La Jonquera**	**5.77 38**	Pn	**Pn**	**07 42 57.8**	**+0.6**
EJON			Sn	**Sn**	**07 44 01.8**	**-2.4**
EJON	**La Jonquera**	**5.77 38**	Pn	**Pn**	**07 42 57.3**	**0.0**
	comp=E,41nm,0.4s,SNR=15					
EJON			Sn	**Sn**	**07 44 00.4**	**-3.8**
	comp=E,64nm,0.8s,SNR=4.0					
EJON			Lg		07 44 37.2	
	comp=E,1μm,3.2s,SNR=7.9					
EJON	**La Jonquera**	**5.77 38**	Pn	**Pn**	**07 42 57.8**	**+0.5**
	comp=E,39nm,0.4s,SNR=15					
EJON			Sn	**Sn**	**07 44 01.8**	**-2.4**
	SNR=7.9					
PLOU	**Loures**	**5.78 281**	*e*Pn	**Pn**	**07 42 57.9**	**+0.5**
PLOU			*e*Sn	**Sn**	**07 44 02.5**	**-1.9**
PLOU			*e*Sg	**Sg**	**07 44 39.3**	**-2.6**
	comp=E,2μm,0.7s					
PLOU	**Loures**	**5.78 281**	*e*P	**Pn**	**07 42 57.8**	**+0.4**
PLOU	**Loures**	**5.78 281**	Pn	**Pn**	**07 42 57.9**	**+0.5**
PLOU			Sn	**Sn**	**07 44 02.5**	**-1.9**
PLOU			Lg		07 44 39.3	
	comp=E,1μm,0.7s					
SJAF	**Saint Jean de**	**5.79 38**	P	**Pn**	**07 42 57.5**	**-0.1**
EARI	**Arriondas**	**5.88 336**	⇓Pn	**Pn**	**07 43 00.5**	**+1.5**
EARI			Sn	**Sn**	**07 44 05.0**	**-2.1**
EARI	**Arriondas**	**5.88 336**	⇓Pn	**Pn**	**07 43 00.5**	**+1.5**
	comp=E,145nm,0.6s,SNR=18					
EARI			Pg	**Pg**	**07 43 22.4**	**-4.6**
	comp=E,253nm,0.7s,SNR=4.0					
EARI			Sn	**Sn**	**07 44 05.0**	**-2.1**
	comp=E,437nm,1.0s,SNR=7.9					
EARI			Lg		07 44 39.8	
	comp=E,3μm,1.9s,SNR=7.9					
EARI	**Arriondas**	**5.88 336**	Pn	**Pn**	**07 43 00.4**	**+1.5**
	comp=E,118nm,0.5s,SNR=18					
EARI			Sn	**Sn**	**07 44 05.0**	**-2.1**
	SNR=7.9					
ERUA	**La Rua**	**5.97 319**	Pn	**Pn**	**07 43 02.3**	**+2.2**
ERUA			Sn	**Sn**	**07 44 07.9**	**-1.3**
ERUA	**La Rua**	**5.97 319**	Pn	**Pn**	**07 43 01.1**	**+1.0**
	comp=E,14nm,0.3s,SNR=4.0					
ERUA			Sn	**Sn**	**07 44 07.7**	**-1.5**
	comp=E,147nm,0.6s,SNR=6.7					
ERUA			Lg		07 44 44.5	
	comp=E,1μm,0.8s,SNR=7.9					
ERUA	**La Rua**	**5.97 319**	Pn	**Pn**	**07 43 02.3**	**+2.2**
	SNR=7.9					
ERUA			Sn	**Sn**	**07 44 07.9**	**-1.3**
	comp=E,125nm,0.7s,SNR=6.7					
SET	**Setif**	**6.09 105**	P	**Pn**	**07 43 01.0**	**-0.8**
ELOB	**Lobios**	**6.13 311**	⇓Pn	**Pn**	**07 43 02.9**	**+0.5**
ELOB			Sn	**Sn**	**07 44 09.9**	**-3.4**
ELOB			Lg		07 44 49.2	
ELOB	**Lobios**	**6.13 311**	⇓Pn	**Pn**	**07 43 02.9**	**+0.5**
	comp=E,49nm,0.4s,SNR=18					
ELOB			Sn	**Sn**	**07 44 09.6**	**-3.7**
	comp=E,214nm,0.5s,SNR=7.9					
ELOB			Lg		07 44 46.3	
	comp=E,4μm,1.4s,SNR=7.9					
ELOB	**Lobios**	**6.13 311**	Pn	**Pn**	**07 43 02.9**	**+0.5**
	comp=E,32nm,0.3s,SNR=18					
CKHR	**Kef el Ahmar**	**6.24 106**	P	**Pn**	**07 43 03.0**	**-0.9**
EINC	**Incio**	**6.27 320**	Pn	**Pn**	**07 43 05.2**	**+0.9**
EINC			Sn	**Sn**	**07 44 14.4**	**-2.3**
EINC			Lg		07 44 56.3	
EINC	**Incio**	**6.27 320**	Pn	**Pn**	**07 43 05.1**	**+0.8**
	comp=E,39nm,0.3s,SNR=60					
EINC			Sn	**Sn**	**07 44 13.9**	**-2.8**
	comp=E,152nm,0.7s,SNR=4.3					
EINC			Lg		07 44 51.4	
	comp=E,4μm,2.5s,SNR=12					
EINC	**Incio**	**6.27 320**	Pn	**Pn**	**07 43 05.2**	**+0.9**
	comp=E,22nm,0.3s,SNR=60					
EINC			Sn	**Sn**	**07 44 14.4**	**-2.3**
	comp=E,159nm,0.9s,SNR=4.3					
DFRA	**Djebel Bou Aff**	**6.36 101**	P	**Pn**	**07 43 05.0**	**-0.6**
EPON	**Pontenova**	**6.67 325**	⇑Pn	**Pn**	**07 43 10.9**	**+0.9**
EPON			Sn	**Sn**	**07 44 23.8**	**-3.0**
EPON			Lg		07 45 08.0	
EPON	**Pontenova**	**6.67 325**	⇑Pn	**Pn**	**07 43 10.9**	**+0.9**
	comp=E,35nm,0.4s,SNR=18					
EPON			Sn	**Sn**	**07 44 23.8**	**-3.0**
	comp=E,133nm,0.7s,SNR=7.9					
EPON			Lg		07 45 05.3	
	comp=E,2μm,1.5s,SNR=7.7					
EPON	**Pontenova**	**6.67 325**	⇑Pn	**Pn**	**07 43 10.9**	**+0.9**
EPON			Sn	**Sn**	**07 44 23.8**	**-3.0**
CMER	**Merouana**	**6.68 108**	P	**Pn**	**07 43 09.0**	**-1.1**
EZAM	**Zamans**	**6.68 311**	⇓Pn	**Pn**	**07 43 10.9**	**+0.8**
EZAM			Sn	**Sn**	**07 44 25.5**	**-1.5**
EZAM			Lg		07 45 08.7	
EZAM	**Zamans**	**6.68 311**	⇓Pn	**Pn**	**07 43 10.9**	**+0.8**
	comp=E,26nm,0.3s,SNR=18					
EZAM			Sn	**Sn**	**07 44 25.3**	**-1.7**
	comp=E,90nm,0.5s,SNR=7.7					
EZAM			Lg		07 45 03.8	
	comp=E,2μm,1.2s,SNR=7.9					
CTEI	**Djebel Teioual**	**6.90 104**	P	**Pn**	**07 43 13.0**	**-0.3**
CASM	**Ain Smara**	**6.91 102**	P	**Pn**	**07 43 12.0**	**-1.4**
CKFL	**Kef-Lekhel**	**7.05 100**	P	**Pn**	**07 43 14.5**	**-0.8**
CAEH	**'Ain El Ouahch**	**7.06 97**	P	**Pn**	**07 43 15.0**	**-0.5**
STS	**Santiago**	**7.06 316**	⇑Pn	**Pn**	**07 43 15.7**	**+0.2**
STS			Sn	**Sn**	**07 44 31.5**	**-5.0**
STS			Lg		07 45 19.2	
STS	**Santiago**	**7.06 316**	⇑Pn	**Pn**	**07 43 15.7**	**+0.2**
	comp=E,13nm,0.4s,SNR=18					
STS			Sn	**Sn**	**07 44 32.9**	**-3.6**
	comp=E,43nm,0.4s,SNR=7.9					
STS			Lg		07 45 19.2	
	comp=E,164nm,0.5s,SNR=7.9					
LFF	**La Frestale**	**7.23 15**	*e*Pn	**Pn**	**07 43 18.1**	**+0.3**
LFF			*e*Sn	**Sn**	**07 44 37.6**	**-3.1**
LFF			*e*Sg	**Sg**	**07 45 21.8**	**-8.4**
	comp=E,241nm,0.8s					
LFF	**La Frestale**	**7.23 15**	*e*Pn	**Pn**	**07 43 18.1**	**+0.3**
LFF			*e*Sg	**Sg**	**07 45 21.8**	**-8.4**
	comp=E,120nm,0.8s					
EMAZ	**Mazaricos**	**7.34 315**	P	**Pn**	**07 43 19.7**	**+0.4**
EMAZ	**Mazaricos**	**7.34 315**	Pn	**Pn**	**07 43 19.4**	**+0.1**
	comp=E,26nm,0.4s,SNR=16					
EMAZ			Sn	**Sn**	**07 44 40.6**	**-2.8**
	comp=E,155nm,1.0s,SNR=7.9					
EMAZ			Lg		07 45 25.1	
	comp=E,7μm,2.0s,SNR=8.8					
LASF	**Ste Croix**	**7.48 34**	*e*Pn	**Pn**	**07 43 21.2**	**-0.1**
LASF			*e*Sn	**Sn**	**07 44 42.1**	**-4.8**
LASF			*e*Sg	**Sg**	**07 45 28.5**	**-10**
	comp=E,153nm,0.8s					
CAF	**Calviac**	**7.54 22**	*e*Pn	**Pn**	**07 43 21.8**	**-0.5**
CAF			*e*Sn	**Sn**	**07 44 44.1**	**-4.6**
CAF			*e*Sg	**Sg**	**07 45 30.5**	**-10**
	comp=E,134nm,0.8s					
RJF	**Les Rejaudoux**	**7.75 18**	*e*Pn	**Pn**	**07 43 24.3**	**-0.8**
RJF			*e*Sn	**Sn**	**07 44 47.9**	**-5.8**
RJF			*e*Sg	**Sg**	**07 45 35.0**	**-13**
	comp=E,142nm,0.8s					
RJF			*e*R			
	comp=E,3μm,14.0s					
FRNF	**Fournols**	**8.11 23**	P	**P**	**07 43 30.6**	**+0.4**
SMRF	**Simiane la Rot**	**8.23 41**	*e*Pn	**P**	**07 43 31.7**	**-0.1**
SMRF			*e*Sn	**Sn**	**07 44 59.3**	**-6.4**
	comp=E,14nm,0.5s					
LMR	**La Mourre**	**8.32 47**	*e*Pn	**P**	**07 43 32.2**	**-0.9**
LMR			*e*Pg	P	07 44 09.5	+36
LMR			*e*Sn	**Sn**	**07 45 00.0**	**-8.1**
	comp=E,20nm,0.3s					
OUK	**Oukaimeden**	**8.36 218**	Pn	**P**	**07 43 32.0**	**-1.7**
OUK			Sn	**Sn**	**07 44 58.0**	**-11**
VIVF	**Saint-Julien-l**	**8.45 34**	*e*Pn	**P**	**07 43 34.4**	**-0.5**
VIVF			*e*Sg	**Sg**	**07 45 58.9**	**-12**
	comp=E,199nm,1.2s					
CIA	**Chichaoua**	**8.54 223**	Pn	**P**	**07 43 35.0**	**-1.1**
CIA			Sn	**Sn**	**07 45 02.5**	**-11**
FRF	**La Foret Royal**	**8.54 47**	*e*Pn	**P**	**07 43 36.3**	**+0.2**
FRF			*e*Sn	**Sn**	**07 45 07.6**	**-5.9**
	comp=E,18nm,0.4s					
PYM	**Petit Puy Mans**	**8.58 24**	P	**P**	**07 43 37.8**	**+1.2**
COLF	**Collangettes**	**8.61 27**	P	**P**	**07 43 36.1**	**-0.9**
MFF	**Saint Martin d**	**8.71 8**	*e*Pn	**P**	**07 43 37.9**	**-0.6**
MFF			*e*Sn	**Sn**	**07 45 13.2**	**-4.5**
MFF			*e*Sg	**Sg**	**07 46 08.4**	**-11**
	comp=E,87nm,0.8s					
MFF	**Saint Martin d**	**8.71 8**	*e*Pn	**P**	**07 43 37.9**	**-0.6**
MFF			*e*Sg	**Sg**	**07 46 08.4**	**-11**
	comp=E,44nm,0.8s					
TCF	**Toulx Ste Croi**	**8.84 19**	*e*Pn	**P**	**07 43 38.9**	**-1.4**
TCF			*e*Sn	**Sn**	**07 45 14.2**	**-6.7**
TCF			*e*Sg	**Sg**	**07 46 10.2**	**-14**
	comp=E,134nm,1.0s					
AGO	**Saint Agoulin**	**8.88 23**	P	**P**	**07 43 40.1**	**-0.8**
VSL	**Villasalto**	**8.93 77**	*e*Pn	**P**	**07 43 39.3**	**-2.3**
VSL	**Villasalto**	**8.93 77**	*e*Pn	**P**	**07 43 39.3**	**-2.3**
PLDF	**La Plantade**	**8.97 25**	P	**P**	**07 43 42.0**	**-0.1**
ORIF	**Oris-en-Rattie**	**9.05 38**	*e*Pn	**P**	**07 43 43.0**	**-0.2**
ORIF			*e*Sg	**Sg**	**07 46 16.3**	**-15**
	comp=E,258nm,1.7s					
ORIF			*e*R			
	comp=E,2μm,13.8s					
SBF	**Sospel**	**9.18 47**	*e*Pn	**P**	**07 43 44.2**	**-0.8**
SBF			*e*Sn	**Sn**	**07 45 20.9**	**-8.4**
	comp=E,26nm,0.5s					
BGF	**Bois d'Agland**	**9.26 21**	*e*Pn	**P**	**07 43 44.8**	**-1.3**
BGF			*e*Sn	**Sn**	**07 45 25.0**	**-6.3**
	comp=E,48nm,0.5s					
BGF			*e*Sg	**Sg**	**07 46 24.3**	**-14**
	comp=E,132nm,0.7s					
MBDF	**Montbardon**	**9.37 41**	*e*Pn	**P**	**07 43 47.8**	**+0.2**
PGF	**Pioggiola**	**9.49 58**	*e*Pn	**P**	**07 43 48.2**	**-1.0**
PGF			*e*Sn	**Sn**	**07 45 29.5**	**-7.4**
	comp=E,15nm,0.5s					
AVF	**Avril sur Loir**	**9.62 22**	*e*Pn	**P**	**07 43 50.6**	**-0.4**
AVF			*e*Sg	**Sg**	**07 46 34.8**	**-15**
	comp=E,218nm,1.2s					
SMF	**Signal de Mont**	**9.64 24**	*e*Pn	**P**	**07 43 51.0**	**-0.3**
SMF			*e*Sg	**Sg**	**07 46 36.7**	**-14**
	comp=E,112nm,1.1s					
HYF	**Humbligny**	**9.86 18**	*e*Pn	**P**	**07 43 54.0**	**-0.3**
LPG	**La Plagne**	**9.90 38**	*e*Pn	**P**	**07 43 56.2**	**+1.4**
LPG			*e*Sg	**Sg**	**07 46 44.1**	**-15**
	comp=E,242nm,1.9s					
LPL	**La Plagne**	**9.90 38**	*e*Pn	**P**	**07 43 55.3**	**+0.4**
SSF	**Saint Saulge**	**9.90 22**	*e*Pn	**P**	**07 43 54.2**	**-0.8**
SSF			*e*Sg	**Sg**	**07 46 44.5**	**-15**
	comp=E,82nm,1.2s					
QUIF	**Quistinic**	**9.97 355**	*e*Pn	**P**	**07 43 55.4**	**-0.5**
QUIF			*e*Sn	**Sn**	**07 45 43.1**	**-5.8**
	comp=E,32nm,0.4s					
SGMF	**Saint Gilles**	**10.28 357**	*e*Pn	**P**	**07 43 59.4**	**-0.7**
SGMF			*e*Sn	**S**	**07 45 50.1**	**-6.3**
SGMF			*e*Sg	S	07 46 56.5	+60
	comp=E,88nm,1.0s					
ROSF	**Rostrenen**	**10.40 355**	*e*Pn	**P**	**07 44 01.0**	**-0.7**
ROSF			*e*Sn	**S**	**07 45 51.7**	**-7.6**
	comp=E,38nm,0.5s					
GRR	**Gorron**	**10.43 4**	*e*Pn	**P**	**07 44 00.9**	**-1.2**
GRR			*e*Sg	S	07 47 01.6	+62
	comp=E,216nm,1.4s					
CABF	**La Chapelle**	**10.45 32**	*e*Pn	**P**	**07 44 02.0**	**-0.4**
CABF			*e*Sg	S	07 47 02.3	+62
	comp=E,357nm,1.5s					
LDF	**La Druitiere**	**10.69 6**	*e*Pn	**P**	**07 44 04.7**	**-0.9**
LDF			*e*Sn	**S**	**07 45 59.8**	**-6.5**
	comp=E,17nm,0.6s					
LDF			*e*Sg	S	07 47 10.5	+64
	comp=E,233nm,1.5s					
FLN	**La Foliniere**	**10.82 5**	*e*Pn	**P**	**07 44 06.2**	**-1.3**
FLN			*e*Sn	**S**	**07 46 02.1**	**-7.6**
FLN			*e*Sg	S	07 47 14.3	+65
	comp=E,98nm,1.0s					
FLN			*e*R			
	comp=E,1μm,18.8s					
MEZF	**Maizieres J'vi**	**11.66 23**	*e*Pn	**P**	**07 44 18.2**	**-0.8**
MEZF			*e*Sg	S	07 47 39.5	+69
	comp=E,509nm,1.8s					
HAU	**Haudompre**	**11.68 28**	*e*Pn	**P**	**07 44 18.4**	**-0.9**
HAU			*e*Sg	S	07 47 40.0	+69
	comp=E,76nm,1.1s					
HAU			*e*R			
	comp=E,981nm,22.2s					
HINF	**Hinteralfeld**	**11.72 30**	*e*Pn	**P**	**07 44 18.8**	**-1.0**
HINF			*e*Sg	S	07 47 40.8	+69
	comp=E,526nm,2.3s					
RFYF	**Reffroy**	**11.91 24**	*e*Pn	**P**	**07 44 21.7**	**-0.6**
RFYF			*e*Sg		07 47 47.4	
	comp=E,2μm,2.6s					
DAVOX	**Davos**	**12.36 41**	Pn	**P**	**07 44 32.2**	**+3.9**
	comp=E,0.5nm,0.3s,baz=175,slow=13,SNR=3.4					
CDF	**Champ du Feu**	**12.37 30**	*e*Pn	**P**	**07 44 27.6**	**-0.9**
CDF			*e*Sg		07 48 00.3	
	comp=E,171nm,1.7s					
BAIF	**Baives**	**12.84 18**	*e*Pn	**P**	**07 44 33.2**	**-1.6**
BAIF			*e*Sg		07 48 13.7	
	comp=E,99nm,1.3s					
VAE	**Valguarnera**	**12.91 87**	LR	LR	07 49 35.4	
	comp=E,1μm,18.1s,baz=55,slow=38					
WLF	**Walferdange**	**13.03 24**	P	**P**	**07 44 38.9**	**+1.6**
GIVF	**Givet**	**13.04 19**	*e*Pn	**P**	**07 44 36.5**	**-0.9**
GIVF			*e*Sg		07 48 20.7	
	comp=E,199nm,1.5s					
MEM	**Membach**	**13.82 21**	P	**P**	**07 44 50.1**	**+2.4**
GRA1	**Grafenberg Arr**	**15.02 35**	*e*P	**P**	**07 45 09.0**	**+5.6**
	comp=E,5.0nm,0.9s					
EOSO	**Osorio**	**15.12 233**	Pn	**P**	**07 45 04.9**	**0.0**
	comp=E,11nm,0.4s,SNR=7.9					
DLF	**Lyons Farm**	**15.65 350**	*e*P	**P**	**07 45 12.6**	**+1.0**
GERES	**GERESS Array B**	**15.66 41**	Pn	**P**	**07 45 13.6**	**+1.9**
	comp=E,0.7nm,0.3s,baz=229,slow=10,SNR=16					
KHC	**Kasperske Hory**	**15.77 40**	*e*P	**P**	**07 45 16.6**	**+3.4**
KHC			*e*x	x	07 45 24.6	
KHC			AMS	AMS	07 51 40.0	
	comp=E,2μm,13.3s					
DCN	**Croghan**	**15.81 348**	*e*P	**P**	**07 45 13.5**	**-0.1**
MOX	**Moxa**	**15.89 33**	*e*P	**P**	**07 45 21.7**	**+7.0**
	comp=E,22nm,1.1s					
MOX	**Moxa**	**15.89 33**	*i* P	**P**	**07 45 21.7**	**+7.0**
	comp=E,logA/T=1.3					
MOX			QM		07 50 39.0	
MOX			RM		07 51 46.0	
NKC	**Novy Kostel**	**15.96 35**	*e*P	**P**	**07 45 25.1**	**+9.5**
NKC			AMS	AMS	07 52 00.0	
	comp=E,1μm,11.4s					
PRU	**Pruhonice**	**16.80 39**	*e*P	**P**	**07 45 34.6**	**+8.3**
PRU			AMS	AMS	07 52 30.0	
	comp=E,1μm,14.2s					
CLL	**Collm**	**16.98 34**	P	**P**	**07 45 33.0**	**+4.5**
	comp=E,logA/T=1.1					
CLL			*e*		07 45 45.0	
CLL			*e*L		07 50 34.0	
CLL	**Collm**	**16.98 34**	P	**P**	**07 45 33.0**	**+4.5**
	comp=E,20nm,1.7s					
BRG	**Berggiesshubel**	**17.10 36**	*e*P	**P**	**07 45 35.6**	**+5.6**
	comp=E,115nm,2.3s					
BRG			*e*		07 50 56.8	
PVCC	**Panska Ves**	**17.16 38**	AMS	AMS	07 52 50.0	
	comp=E,900nm,13.9s					
EKA	**Eskdalemuir Ar**	**17.38 358**	P	**P**	**07 45 35.2**	**+1.8**
	comp=E,0.5nm,0.3s,baz=179,slow=14,SNR=16					
EKA	**Eskdalemuir Ar**	**17.38 358**	P	**P**	**07 45 35.2**	**+1.7**
VRAC	**Vranov**	**17.47 44**	P	**P**	**07 45 34.9**	**+0.3**
	comp=E,0.3nm,0.3s,baz=241,slow=10,SNR=2.4					
UPC	**Upice**	**17.86 40**	*e*P	**P**	**07 45 45.5**	**+5.9**
DPC	**Dobruska-Polom**	**17.93 41**	*e*P	**P**	**07 45 46.0**	**+5.7**
DPC			AMS	AMS	07 53 00.0	
	comp=E,1μm,13.5s					
VYHS	**Vyhne**	**18.34 48**	*e*	**P**	**07 45 49.1**	**+3.6**
OKC	**Ostrava-Krasne**	**18.61 44**	AMS	AMS	07 53 40.0	
	comp=E,1μm,14.8s					
CRVS	**Cervenica-Dubn**	**20.08 50**	*e*P	**P**	**07 46 12.7**	**+6.9**
KOLS	**Kolonicke sedl**	**20.58 50**	*e*P	**P**	**07 46 14.5**	**+3.5**
IDI	**Anoyia**	**21.63 89**	P	**P**	**07 46 23.0**	**+1.3**
	comp=E,16nm,0.9s,mb4.5,baz=289,slow=9.4,SNR=6.5					
MLR	**Muntele Rosu**	**22.01 61**	P	**P**	**07 46 26.3**	**+0.8**
	comp=E,2.1nm,0.8s,mb3.6,baz=230,slow=17,SNR=2.3					
SUW	**Suwalki**	**23.48 39**	P	**P**	**07 46 40.6**	**+0.7**
	comp=E,70nm,1.2s,mb5.0					
HFS	**Hagfors**	**24.28 19**	P	**P**	**07 46 49.2**	**+1.6**
	comp=E,6.0nm,0.9s,mb4.0,baz=214,slow=5.3,SNR=6.6					
NOA	**NORSAR Array B**	**24.50 15**	P	**P**	**07 46 51.2**	**+1.5**
	comp=E,1.3nm,0.9s,mb3.4,baz=184,slow=9.4,SNR=3.3					
NOA			LR	LR	07 58 02.0	
	comp=E,177nm,18.4s,MS3.6,baz=215,slow=40					
AKASG	**Malin Array Be**	**25.42 50**	P	**P**	**07 46 58.7**	**+0.2**
	comp=E,2.1nm,0.9s,mb3.7,baz=245,slow=9.8,SNR=5.3					
BRTR	**Keskin Array B**	**27.61 75**	P	**P**	**07 47 20.4**	**+1.5**
	comp=E,1.7nm,1.1s,mb3.6,baz=280,slow=8.8,SNR=3.7					
BORG	**Borgarnes**	**29.16 343**	LR	LR	07 58 10.0	
	comp=E,641nm,20.0s,MS4.2,baz=119,slow=34					
FINES	**FINESS Array B**	**29.21 27**	P	**P**	**07 47 34.3**	**+1.2**
	comp=E,2.6nm,0.6s,mb4.1,baz=243,slow=8.5,SNR=10					
DBIC	**Dimbokro**	**31.29 186**	P	**P**	**07 47 52.2**	**+0.3**
	comp=E,1.9nm,0.7s,mb4.0,baz=336,slow=12,SNR=5.0					
DBIC			LR	LR	08 01 10.4	
	comp=E,221nm,18.1s,MS3.9,baz=30,slow=38					
DBIC	**Dimbokro**	**31.29 186**	P	**P**	**07 47 52.2**	**+0.3**
DBIC			LR	LR	08 01 10.4	
JMIC	**Jan Mayen**	**33.26 356**	LR	LR	08 01 10.3	
	comp=E,709nm,18.6s,MS4.4,baz=292,slow=36					
ARCES	**ARCESS Array B**	**34.87 16**	P	**P**	**07 48 23.0**	**+0.5**
	comp=E,3.0nm,0.8s,mb4.3,baz=219,slow=7.8,SNR=6.5					
ARU	**Arti**	**43.44 45**	*e*P	**P**	**07 49 28.0**	**-5.8**
	comp=E,8.1nm,0.9s,mb4.5					
SCHQ	**Schefferville**	**46.10 313**	P	**P**	**07 49 57.0**	**+1.9**

KURK	Kurchatov	44.82	346	*e*P	P	07 53 36.5	-0.2
	14nm,1.0s,mb4.8						
NWAO	Narrogin (SRO)	45.94	153	P	P	07 53 44.8	-1.1
ZAL	Zalesovo	46.75	352	P	P	07 53 52.1	+0.1
	7.2nm,0.9s,mb4.6,baz=293,slow=5.4,SNR=9.4						
WRA	Warramunga Arr	48.08	125	P	P	07 54 03.2	+0.3
	0.9nm,0.7s,mb3.9,baz=305,slow=8.2,SNR=3.3						
BVAR	Borovoye Array	49.20	341	P	P	07 54 10.8	-0.3
	2.8nm,0.8s,mb4.3,baz=143,slow=7.2,SNR=11						
BVAR				pPcP		07 55 38.0	
	1.5nm,0.9s,baz=108,slow=4.7,SNR=3.8						
BRVK	Borovoye	49.26	341	*e*P	P	07 54 11.3	-0.3
	6.5nm,1.1s,mb4.6						
ASAR	Alice Springs	49.73	130	P	P	07 54 15.7	0.0
	0.6nm,0.7s,mb3.8,baz=302,slow=7.0,SNR=8.2						
ASAR				PcP	PcP	07 55 38.6	+2.1
	1.0nm,0.8s,baz=299,slow=4.4,SNR=4.5						
KMBO	Kilima Mbogo	57.49	264	P	P	07 55 14.1	+1.2
	2.0nm,1.0s,mb4.1,baz=63,slow=18,SNR=2.6						
BRTR	Keskin Array B	62.62	311	P	P	07 55 46.0	-1.7
	0.6nm,0.6s,mb3.9,baz=101,slow=6.3,SNR=3.7						
AKASG	Malin Array Be	68.36	322	P	P	07 56 22.6	-1.7
	1.1nm,0.8s,mb3.9,baz=90,slow=3.9,SNR=3.1						
MLR	Muntele Rosu	69.37	316	P	P	07 56 30.8	+0.2
	5.3nm,1.1s,mb4.4,baz=122,slow=9.4,SNR=3.0						
FINES	FINESS Array B	72.92	332	P	P	07 56 51.7	+0.1
	4.6nm,1.0s,mb4.4,baz=63,slow=4.3,SNR=7.9						
KAF	Kangasniemi	73.00	333	*e*p	P	07 56 52.0	-0.1
	5.6nm,0.9s,mb4.5						
BRG	Berggiesshubel	77.95	320	P	P	07 57 21.8	+1.2
	2.8nm,0.8s,mb4.2						
GERES	GERESS Array B	78.03	318	P	P	07 57 21.6	+0.5
	1.3nm,0.9s,mb3.9,baz=90,slow=6.7,SNR=6.2						
HFS	Hagfors	78.66	330	P	P	07 57 25.0	+0.7
	13nm,1.2s,mb4.7,baz=157,slow=11,SNR=4.8						
NB2	NORSAR Subarra	79.94	331	P	P	07 57 31.6	+0.4
	6.1nm,1.1s,mb4.4,baz=95,slow=5.0						
NOA	NORSAR Array B	79.94	331	P	P	07 57 31.3	+0.1
	2.8nm,0.9s,mb4.2,baz=92,slow=5.7,SNR=4.7						
RES	Resolute Bay	97.59	2	P	P	07 58 59.6	+3.8
	2.5nm,0.9s,mb4.7						
YKA	Yellowknife Ar	106.59	14	PP	PP	08 04 01.8	-2.9
	0.4nm,0.8s,baz=335,slow=7.8,SNR=5.0						
NVAR	Mina Array Bea	125.04	31	PKP	PKPdf	08 04 25.9	+4.4
	0.8nm,1.0s,baz=270,slow=3.6,SNR=2.8						
PDAR	Pinedale Array	125.31	21	PKP	PKPdf	08 04 24.9	+3.0
	1.1nm,0.9s,baz=63,slow=3.3,SNR=6.7						
TXAR	Lajitas Array	139.36	24	PKiKP		08 04 53.6	
	0.0nm,0.4s,baz=144,slow=28,SNR=2.6						

*IDC **29** 08:00:59.0±0.8, 7.87N×94.19E, mb3.8/7, mb1 4.0/8, mb1mx3.8/19, mbtmp3.8/8, ML4.1/1, Error ellipse: s-maj=34.5km s-min=20.5km az=49.0*

ISC 29 08:01:02.1±0.8, 7.9N±0.1×94.3E±0.2, h33km, n9, σ0.9 57/8, mb3.9/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.44	23	Pn	P	08 03 46.0	-0.2
	0.3nm,0.3s,baz=214,slow=15,SNR=7.2						
ZAL	Zalesovo	46.55	352	P	P	08 09 29.1	+0.7
	0.9nm,0.5s,mb4.0,baz=247,slow=3.7,SNR=4.4						
WRA	Warramunga Arr	48.16	126	P	P	08 09 41.5	0.0
	0.4nm,0.6s,mb3.7,baz=306,slow=8.3,SNR=3.4						
ASAR	Alice Springs	49.82	130	P	P	08 09 54.3	0.0
	0.6nm,0.8s,mb3.7,baz=301,slow=7.6,SNR=5.6						
ASAR				PcP	PcP	08 11 15.5	+0.6
	0.4nm,0.9s,baz=295,slow=2.3,SNR=4.2						
KMBO	Kilima Mbogo	57.56	264	P	P	08 10 51.3	-0.2
	1.5nm,0.9s,mb4.0,baz=58,slow=18,SNR=3.6						
FINES	FINESS Array B	72.76	332	P	P	08 12 27.4	-1.3
	1.3nm,0.8s,mb3.9,baz=90,slow=9.7,SNR=2.7						
GERES	GERESS Array B	77.91	318	P	P	08 12 58.9	+0.4
	0.7nm,0.8s,mb3.6,baz=90,slow=6.7,SNR=4.1						
HFS	Hagfors	78.51	330	P	P	08 13 02.0	+0.5
	2.1nm,0.9s,mb4.1,baz=82,slow=10,SNR=4.0						
PLCA	Paso Flores	144.61	200	PKP	PKPdf	08 20 37.4	+1.7
	2.1nm,0.8s,baz=143,slow=5.7,SNR=4.8						

*CSEM **29** 08:10:58.5±0.1, 37.86N×1.79W, h12km, ML3.8/16, Error ellipse: s-maj=1.9km s-min=1.2km az=135.0*
*NEIC **29** 08:10:58.4, 37.86N×1.78W, h4km, ML3.4(LDG), MN3.4(MDD), After MDD.*
*LDG **29** 08:10:59.9±0.3, 37.86N×1.82W, h5km, Md3.7/1, Ml3.4/10, Error ellipse: s-maj=6.0km s-min=3.5km az=144.0*

MDD 29 08:10:58.7±0.2, 37.84N×1.76W, h11km, mbLg3.3/30, 4C-2D, Error ellipse: s-maj=2.9km s-min=2.0km az=169.0, PRXIMO II N MULA, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EXMU	Mula	0.29	46	Pg	Pg	08 11 03.7	-1.1
EXMU				Lg		08 11 08.8	
EMUR	La Murta	0.41	90	⇑Pg	Pg	08 11 06.2	-0.9
EMUR				Lg		08 11 10.8	
EMUR	La Murta	0.41	90	⇑Pg	Pg	08 11 06.2	-0.9
	662nm,0.4s,SNR=18						
EMUR				Lg		08 11 12.7	
	4μm,0.5s,SNR=5.0						
EMUR	La Murta	0.41	90	Pg	Pg	08 11 06.2	-0.9
	662nm,0.4s,SNR=18						
EMUR				Lg		08 11 10.8	
	4μm,0.5s,SNR=5.0						
CART	Cartagena	0.65	113	*e*P	Pb	08 11 10.6	-1.0
CART	Cartagena	0.65	113	⇑Pg	Pg	08 11 11.0	-0.9
CART				Lg		08 11 19.9	
CART	Cartagena	0.65	113	*e*P	Pb	08 11 10.6	-1.1
ENIJ	Nijar	0.94	203	⇓Pg	Pg	08 11 15.6	-1.9
	266nm,0.4s,SNR=18						
ENIJ				Lg		08 11 28.5	
	378nm,0.3s,SNR=7.9						
EVIA	Vianos	0.99	324	⇓Pg	Pg	08 11 15.7	-2.9
	314nm,0.2s,SNR=18						
EVIA				Lg		08 11 29.2	
	323nm,0.3s,SNR=5.0						
EQES	Quesada	1.04	268	⇑Pg	Pg	08 11 16.9	-2.7
	278nm,0.3s,SNR=18						
EQES				Lg		08 11 31.4	
	409nm,0.2s,SNR=10						
EQES	Quesada	1.04	268	Pg	Pg	08 11 16.9	-2.7
	278nm,0.3s,SNR=18						
EBER	Berja	1.30	224	Pg	Pg	08 11 21.9	-2.8
EBER				Lg		08 11 40.2	
EBER	Berja	1.30	224	Pg	Pg	08 11 21.5	-3.3
	73nm,0.3s,SNR=42						
EBER				Lg		08 11 40.2	
	692nm,0.8s,SNR=18						
EBER	Berja	1.30	224	Pg	Pg	08 11 21.9	-2.9
	73nm,0.3s,SNR=42						
EBEN	Beniarda	1.48	54	Pg	Pg	08 11 23.0	-5.4
EBEN				Lg		08 11 46.0	
EBEN	Beniarda	1.48	54	Pn	Pn	08 11 23.0	-2.5
	7.8nm,0.3s,SNR=49						
EBEN				Pg	Pg	08 11 25.7	-2.7
	56nm,0.3s,SNR=7.9						
EBEN				Lg		08 11 45.2	
	388nm,0.7s,SNR=8.7						
EBEN	Beniarda	1.48	54	Pg	Pg	08 11 23.0	-5.4
	48nm,0.2s,SNR=49						
ELUQ	Luque	2.01	263	Pn	Pn	08 11 32.7	-0.4
ELUQ				Sn	Sn	08 11 59.0	+0.6
ELUQ	Luque	2.01	263	Pn	Pn	08 11 32.7	-0.4
	37nm,0.2s,SNR=20						
ELUQ				Sn	Sn	08 11 57.2	-1.2
	112nm,0.4s,SNR=11						
ELOJ	Sierra Loja	2.03	251	Pn	Pn	08 11 33.7	+0.4
ELOJ				Sn	Sn	08 12 01.2	+2.4
ELOJ	Sierra Loja	2.03	251	Pn	Pn	08 11 33.7	+0.4
	17nm,0.3s,SNR=14						
ELOJ				Sn	Sn	08 11 57.1	-1.7
	16nm,0.3s,SNR=4.0						
ELOJ				Lg		08 12 01.2	
	41nm,0.4s,SNR=7.3						
EADA	Adamuz	2.25	279	Pn	Pn	08 11 34.4	-2.1
	14nm,0.2s,SNR=50						
EADA				Pg	Pg	08 11 39.1	-4.6
	29nm,0.2s,SNR=4.0						
EADA				Sn	Sn	08 12 01.1	-3.4
	78nm,0.2s,SNR=9.5						
EADA				Lg		08 12 09.0	
	311nm,0.3s,SNR=12						
EADA	Adamuz	2.25	279	Pn	Pn	08 11 34.4	-2.1
	14nm,0.2s,SNR=50						
EADA	Adamuz	2.25	279	Pg	Pg	08 11 39.1	-4.6
	29nm,0.2s,SNR=4.0						
EADA				Sn	Sn	08 12 01.1	-3.4
	78nm,0.2s,SNR=9.5						
ESDC	Sonseca Array	2.52	317	Pn	Pn	08 11 37.8	-2.4
	12nm,0.2s,baz=128,slow=13,SNR=53						
ESDC				Pg	Pg	08 11 43.9	-5.1
	96nm,0.3s,baz=130,slow=16,SNR=47						
ESDC				Lg		08 12 15.5	
	142nm,0.4s,baz=136,slow=30,SNR=9.1						
ESDC	Sonseca Array	2.52	317	Pn	Pn	08 11 37.8	-2.5
	12nm,0.2s,slow=13,SNR=53						
ESDC	Sonseca Array	2.52	317	Pg	Pg	08 11 43.9	-5.1
	96nm,0.3s,slow=16,SNR=47						
ESLA	Sonseca Array	2.52	317	*e*P	Pn	08 11 37.4	-2.9
EIBI	Ibiza	2.71	63	Pn	Pn	08 11 39.9	-3.1
EIBI				Sn	Sn	08 12 11.1	-5.0
EIBI				Lg		08 12 24.1	
EIBI	Ibiza	2.71	63	Pn	Pn	08 11 39.9	-3.1
	4.1nm,0.1s,SNR=7.3						
EIBI				Sn	Sn	08 12 11.1	-5.0
	21nm,0.2s,SNR=5.0						
EIBI	Ibiza	2.71	63	Pn	Pn	08 11 39.9	-3.2
	4.1nm,0.1s,SNR=7.3						
EIBI				Sn	Sn	08 12 11.1	-5.1
	21nm,0.2s,SNR=5.0						
EMOS	Mosqueruela	2.71	21	Pn	Pn	08 11 41.8	-1.3
EMOS				Sn	Sn	08 12 12.3	-3.9
EMOS				Lg		08 12 21.9	
EMOS	Mosqueruela	2.71	21	Pn	Pn	08 11 41.8	-1.3
	7.3nm,0.2s,SNR=15						
EMOS				Pg	Pg	08 11 49.3	-3.5
	24nm,0.4s,SNR=7.9						
EMOS				Sn	Sn	08 12 12.3	-3.9
	21nm,0.2s,SNR=7.8						
EMOS				Lg		08 12 21.9	
	39nm,0.3s,SNR=5.0						
EMOS	Mosqueruela	2.71	21	Pn	Pn	08 11 41.8	-1.3
	7.3nm,0.2s,SNR=15						
EMOS				Sn	Sn	08 12 12.3	-3.9
	21nm,0.2s,SNR=7.8						
EMIJ	Mijas	2.72	243	Pn	Pn	08 11 42.7	-0.5
EMIJ				Pg	Pg	08 11 48.7	-4.4
EMIJ				Lg		08 12 26.9	
EMIJ	Mijas	2.72	243	Pn	Pn	08 11 42.2	-1.1
	1.5nm,0.3s,SNR=5.4						
EMIJ				Pg	Pg	08 11 48.7	-4.4
	40nm,0.6s,SNR=14						
EMIJ				Lg		08 12 26.9	
	126nm,0.8s,SNR=4.7						
EMIJ	Mijas	2.72	243	Pn	Pn	08 11 42.7	-0.6
	1.5nm,0.3s,SNR=5.4						
GUD	Guadarrama	3.36	327	Pn	Pn	08 11 50.2	-2.1
GUD				Pg	Pg	08 11 59.6	-6.3
GUD				Lg		08 12 40.9	
GUD	Guadarrama	3.36	327	Pn	Pn	08 11 50.2	-2.1
	6.0nm,0.2s,SNR=23						
GUD				Pg	Pg	08 11 59.7	-6.2
	52nm,0.4s,SNR=40						
GUD				Lg		08 12 40.6	
	54nm,0.2s,SNR=8.7						
ESPR	Espera	3.41	255	Pn	Pn	08 11 52.5	-0.5
ESPR				Sn	Sn	08 12 32.1	-1.7
ESPR				Lg		08 12 48.9	
ESPR	Espera	3.41	255	Pn	Pn	08 11 52.5	-0.5
	3.6nm,0.2s,SNR=9.0						
ESPR				Sn	Sn	08 12 30.3	-3.5
	23nm,0.3s,SNR=4.8						
ESPR				Lg		08 12 47.5	
	68nm,0.4s,SNR=4.0						
ESPR	Espera	3.41	255	Pn	Pn	08 11 52.5	-0.5
	3.6nm,0.2s,SNR=9.0						
EBR	Ebro Roquetas	3.45	30	*e*SN	Sn	08 12 32.2	-2.7
ERTA	Horta de San J	3.51	27	Pn	Pn	08 11 52.8	-1.7
ERTA				Sn	Sn	08 12 30.8	-5.6
ERTA				Lg		08 12 46.7	
ERTA	Horta de San J	3.51	27	Pn	Pn	08 11 52.8	-1.7
	18nm,0.2s,SNR=34						
ERTA				Sn	Sn	08 12 30.8	-5.6
	30nm,0.4s,SNR=7.6						
ERTA				Lg		08 12 47.0	
	50nm,0.4s,SNR=4.0						
ERTA	Horta de San J	3.51	27	Pn	Pn	08 11 52.8	-1.6
	18nm,0.2s,SNR=34						
ERTA				Sn	Sn	08 12 30.8	-5.6
	30nm,0.4s,SNR=7.6						
EMIN	Mina Concepcio	3.89	270	Pn	Pn	08 11 56.5	-3.4
EMIN				Sn	Sn	08 12 41.2	-4.9
EMIN				Lg		08 12 57.1	
EMIN	Mina Concepcio	3.89	270	Pn	Pn	08 11 56.5	-3.4
	1.7nm,0.1s,SNR=22						
EMIN				Sn	Sn	08 12 41.2	-4.9
	26nm,0.3s,SNR=11						
EMIN				Lg		08 12 58.0	
	69nm,0.4s,SNR=9.6						
EMIN	Mina Concepcio	3.89	270	Pn	Pn	08 11 56.5	-3.4
	1.7nm,0.1s,SNR=22						
EMIN				Sn	Sn	08 12 41.2	-4.9
	26nm,0.3s,SNR=11						
ESAC	San Caprasio	4.00	14	Pn	Pn	08 11 59.1	-2.3
ESAC				Lg		08 13 00.9	
ESAC	San Caprasio	4.00	14	Pn	Pn	08 11 59.1	-2.3
	24nm,0.3s,SNR=7.8						
ESAC				Pg	Pg	08 12 12.1	-6.5
	57nm,0.3s,SNR=7.9						
ESAC				Lg		08 13 00.9	
	425nm,0.4s,SNR=6.2						
ESAC	San Caprasio	4.00	14	Pn	Pn	08 11 59.1	-2.3
	24nm,0.3s,SNR=7.8						
ETOS	Mallorca	4.06	60	Pn	Pn	08 11 59.3	-2.9
	4.5nm,0.2s,SNR=7.9						
ETOS				Sn	Sn	08 12 45.3	-5.0
	6.9nm,0.3s,SNR=7.9						
EPOB	Poblet	4.14	31	Pn	Pn	08 12 01.3	-2.0
EPOB				Sn	Sn	08 12 47.4	-4.9
EPOB				Lg		08 13 04.4	
EPOB	Poblet	4.14	31	Pn	Pn	08 12 01.3	-2.0
	8.8nm,0.3s,SNR=19						
EPOB				Sn	Sn	08 12 47.4	-4.9
	8.9nm,0.3s,SNR=6.0						
EPOB				Lg		08 13 04.5	
	7.9nm,0.2s,SNR=5.0						
EPOB	Poblet	4.14	31	Pn	Pn	08 12 01.3	-2.0
	8.8nm,0.3s,SNR=19						
EPOB				Sn	Sn	08 12 47.4	-4.9
	8.9nm,0.3s,SNR=6.0						
EBAD	Badajoz	4.23	284	Pn	Pn	08 12 01.3	-3.5
EBAD				Sn	Sn	08 12 48.9	-5.9
EBAD				Lg		08 13 08.8	
EBAD	Badajoz	4.23	284	Pn	Pn	08 12 01.3	-3.5
	1.7nm,0.1s,SNR=12						
EBAD				Pg	Pg	08 12 15.4	-7.9
	8.1nm,0.2s,SNR=7.9						
EBAD				Sn	Sn	08 12 48.9	-5.9
	44nm,0.2s,SNR=8.9						
EBAD				Lg		08 13 08.8	
	94nm,0.4s,SNR=10						
EBAD	Badajoz	4.23	284	Pn	Pn	08 12 01.3	-3.4
	1.7nm,0.1s,SNR=12						
EBAD				Sn	Sn	08 12 48.9	-5.9
	44nm,0.2s,SNR=8.9						
EGRO	El Granado	4.55	268	Pn	Pn	08 12 06.0	-3.2
EGRO				Sn	Sn	08 12 56.5	-6.3
EGRO				Lg		08 13 20.8	
EGRO	El Granado	4.55	268	Pn	Pn	08 12 06.0	-3.2
	4.8nm,0.2s,SNR=7.9						
EGRO				Sn	Sn	08 12 56.5	-6.3
	17nm,0.2s,SNR=7.9						
EGRO				Lg		08 13 21.3	
	54nm,0.4s,SNR=7.9						
EGRO	El Granado	4.55	268	Pn	Pn	08 12 06.0	-3.2
	4.8nm,0.2s,SNR=7.9						
EGRO				Sn	Sn	08 12 56.5	-6.3
	17nm,0.2s,SNR=7.9						
PALC	Alcoutim	4.55	267	*e*Sn	Sn	08 12 57.1	-5.7
	45nm,0.5s						
PALC	Alcoutim	4.55	267	*e*Sn	Sn	08 12 57.1	-5.7
	45nm,0.5s						
EMIR	Miracle	4.79	31	Pn	Pn	08 12 09.8	-2.8
EMIR				Lg		08 13 26.8	
EMIR	Miracle	4.79	31	Pn	Pn	08 12 10.5	-2.1
	3.7nm,0.1s,SNR=7.6						
EMIR				Lg		08 13 27.0	
	19nm,0.5s,SNR=5.0						
EMIR	Miracle	4.79	31	Pn	Pn	08 12 09.8	-2.8
	3.7nm,0.1s,SNR=7.6						
PBEJ	Beja	4.83	274	*e*Sn	Sn	08 13 03.5	-6.4
	41nm,0.7s						
PBEJ	Beja	4.83	274	*e*Sn	Sn	08 13 03.5	-6.4
	41nm,0.7s						
PCBR	Castelo Branco	4.89	296	*e*Sn	Sn	08 13 05.1	-6.3
PCBR				*e*Sg	Sg	08 13 28.0	-14
	68nm,0.4s						
PCBR	Castelo Branco	4.89	296	*e*Sn	Sn	08 13 05.1	-6.3
PCBR				*e*Sg	Sg	08 13 28.0	-14
	68nm,0.4s						
EVO	Evora	4.98	280	*e*Pn	Pn	08 12 13.1	-2.2
EVO				*e*Sn	Sn	08 13 09.5	-4.0
EVO				*e*Sg	Sg	08 13 37.1	-7.3
	151nm,0.5s						
EBIE	Bielsa	5.05	16	Pn	Pn	08 12 14.5	-1.8
EBIE				Sn	Sn	08 13 10.5	-5.0
EBIE				Lg		08 13 33.9	
EBIE	Bielsa	5.05	16	Pn	Pn	08 12 14.5	-1.8
	2.2nm,0.2s,SNR=22						
EBIE				Sn	Sn	08 13 10.5	-5.0
	10nm,0.6s,SNR=7.9						
EBIE				Lg		08 13 34.7	
	13nm,0.5s,SNR=5.0						
EBIE	Bielsa	5.05	16	Pn	Pn	08 12 14.5	-1.9
	2.2nm,0.2s,SNR=22						
EBIE				Sn	Sn	08 13 10.5	-5.0
ETSF	Etsaut	5.13	10	*e*Pn	Pn	08 12 15.8	-1.7
ETSF				*e*Sn	Sn	08 13 11.3	-6.2
ETSF				*e*Sg	Sg	08 13 39.8	-10
	18nm,0.5s						
MTE	Manteigas	5.17	301	*e*Pn	Pn	08 12 15.1	-3.0
MTE				*e*Sg	Sg	08 13 35.7	-15
	77nm,0.6s						
MTE	Manteigas	5.17	301	*e*Pn	Pn	08 12 15.1	-3.0
MTE				*e*Sg	Sg	08 13 35.7	-15
	77nm,0.6s						
RESF	Ens	5.21	17	P	Pn	08 12 16.8	-1.8
MOE	Montemor	5.24	279	*e*Sn	Sn	08 13 13.4	-6.7
SJPF	Ste Jean	5.28	4	*e*Pn	Pn	08 12 17.8	-1.8
SJPF				*e*Sn	Sn	08 13 15.4	-5.8
SJPF				*e*Sg	Sg	08 13 45.2	-9.4
	25nm,0.6s						
EALK	Alkurruntz	5.38	2	Pn	Pn	08 12 19.3	-1.6
	18nm,0.3s,SNR=26						
EALK				Sn	Sn	08 13 16.7	-6.9
	32nm,0.4s,SNR=5.9						
EALK				Lg		08 13 47.7	
	30nm,0.4s,SNR=7.9						
LABF	Labassere	5.39	14	P	Pn	08 12 19.4	-1.6
LABF				S	Sn	08 13 18.7	-5.1
EPF	Esparros	5.43	16	*e*Pn	Pn	08 12 19.7	-1.9
EPF				*e*Sn	Sn	08 13 19.0	-5.8
EPF				*e*Sg	Sg	08 13 49.5	-10
	32nm,0.6s						
PBRG	Braganca	5.51	317	*e*Sn	Sn	08 13 19.2	-7.8
PBRG				*e*Sg	Sg	08 13 48.6	-14
	40nm,0.7s						
PBRG	Braganca	5.51	317	*e*Sn	Sn	08 13 19.2	-7.8
PBRG				*e*Sg	Sg	08 13 48.6	-14
	40nm,0.7s						
PTEO	Sao Teotonio	5.53	269	*e*Sn	Sn	08 13 21.6	-5.9
PTEO				*e*Sg	Sg	08 13 46.2	-17
	45nm,0.8s						
PTEO	Sao Teotonio	5.53	269	Sn	Sn	08 13 21.6	-5.9
PTEO				Lg		08 13 46.2	
	23nm,0.8s						
ELAN	Lanestosa	5.54	347	Pn	Pn	08 12 20.1	-3.0
ELAN				Sn	Sn	08 13 18.4	-9.1
ELAN				Lg		08 13 51.3	
ELAN	Lanestosa	5.54	347	Pn	Pn	08 12 20.1	-3.0
	1.9nm,0.1s,SNR=18						
ELAN				Pg	Pg	08 12 40.0	-9.3
	4.1nm,0.2s,SNR=4.0						
ELAN				Sn	Sn	08 13 18.4	-9.1
	9.8nm,0.4s,SNR=5.7						
ELAN				Lg		08 13 54.4	
	25nm,0.4s,SNR=5.0						
ELAN	Lanestosa	5.54	347	Pn	Pn	08 12 20.1	-3.0
PVIS	Viseu	5.56	303	*e*Sn	Sn	08 13 20.6	-7.6
	45nm,0.7s						
PVIS	Viseu	5.56	303	Sn	Sn	08 13 20.6	-7.6
	23nm,0.7s						
ECAL	Calabor	5.61	318	Pn	Pn	08 12 20.0	-4.1
ECAL				Lg		08 13 53.0	
ECAL	Calabor	5.61	318	Pn	Pn	08 12 20.0	-4.1
	13nm,0.3s,SNR=17						
ECAL				Sn	Sn	08 13 20.8	-8.5
	7.1nm,0.3s,SNR=7.9						
ECAL				Lg		08 13 52.9	
	123nm,0.7s,SNR=5.0						
ECAL	Calabor	5.61	318	Pn	Pn	08 12 20.0	-4.1
PVRL	Vila Real	5.74	309	*e*Sn	Sn	08 13 25.1	-7.6
	28nm,0.9s						
PVRL	Vila Real	5.74	309	Sn	Sn	08 13 25.1	-7.6
	14nm,0.9s						
PLOU	Loures	5.90	282	*e*Sn	Sn	08 13 29.9	-6.9
	90nm,0.6s						
PLOU	Loures	5.90	282	Sn	Sn	08 13 29.9	-6.9
	45nm,0.6s						
EARI	Arriondas	6.05	335	Pn	Pn	08 12 27.3	-3.2
EARI				Sn	Sn	08 13 31.3	-9.3
EARI				Lg		08 14 08.2	
EARI	Arriondas	6.05	335	Pn	Pn	08 12 27.3	-3.2
	2.1nm,0.2s,SNR=19						
EARI				Pg	Pg	08 12 49.4	-10
	4.0nm,0.4s,SNR=4.0						
EARI				Sn	Sn	08 13 30.8	-10
	2.3nm,0.2s,SNR=13						
EARI				Lg		08 14 09.0	
	40nm,0.7s,SNR=5.0						
EARI	Arriondas	6.05	335	Pn	Pn	08 12 27.3	-3.2
ELOB	Lobios	6.30	312	Pn	Pn	08 12 29.9	-4.0
ELOB				Sn	Sn	08 13 37.0	-10
ELOB				Lg		08 14 13.7	
ELOB	Lobios	6.30	312	Pn	Pn	08 12 29.6	-4.3
	0.8nm,0.1s,SNR=8.1						
ELOB				Sn	Sn	08 13 37.3	-9.4
	4.9nm,0.3s,SNR=4.6						
ELOB				Lg		08 14 11.6	
	52nm,0.7s,SNR=7.6						
ELOB	Lobios	6.30	312	Pn	Pn	08 12 29.9	-4.0
EINC	Incio	6.44	320	Pn	P

RJF *e*Sn Sn 08 14 15.1 -10
4.4nm,0.5s
LMR La Mourre 8.35 46 *e*Pn P 08 12 59.8 -2.8
VIVF Saint-Julien-l 8.51 33 *e*Pn P 08 13 01.2 -3.7
MFF Saint Martin d 8.84 7 *e*Pn P 08 13 05.4 -4.0
TCF Toulx Ste Croi 8.94 18 *e*Pn P 08 13 06.4 -4.4
TCF *e*Sn Sn 08 14 41.8 -11
0.9nm,0.3s
BGF Bois d'Agland 9.36 20 *e*Pn P 08 13 12.3 -4.3
AVF Avril sur Loir 9.71 21 *e*Pn P 08 13 18.6 -2.8
SMF Signal de Mont 9.73 23 *e*Pn P 08 13 18.4 -3.2
QUIF Quistinic 10.12 355 *e*Pn P 08 13 23.0 -4.1
QUIF *e*Sn S 08 15 10.6 -11
1.4nm,0.3s
SGMF Saint Gilles 10.43 357 *e*Pn P 08 13 26.6 -4.6
ROSF Rostrenen 10.55 354 *e*Pn P 08 13 28.5 -4.4

*NEIC **29** 08:12:51.2±0.6, 7.58N×93.96E, h30km, mb4.1/1, Error ellipse: s-maj=20.8km s-min=11.0km az=64.0*
*IDC **29** 08:12:54.4±7.8, 7.73N×94.09E, h52km±64km, mb3.4/7, mb1 3.7/8, mb1mx3.5/19, mbtmp3.7/8, ML4.3/1, Error ellipse: s-maj=68.8km s-min=21.1km az=54.0*
ISC 29 08:12:51.8±8.0, 7.7N±0.2×94.1E±0.4, h47km±64km, n10, σ0°30/10, mb3.7/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.70**	**23**	P	**P**	**08 15 39.0**	**+0.1**
	0.6nm,0.3s,baz=210,slow=15,SNR=10						
SONM	**Songino Array**	**41.36**	**13**	P	**P**	**08 20 34.5**	**-0.3**
	0.7nm,0.8s,mb3.3,baz=202,slow=6.7,SNR=3.7						
SONM				PcP	PcP	08 22 33.3	+0.2
	0.3nm,0.4s,baz=188,slow=3.0,SNR=4.2						
KURK	**Kurchatov**	**44.80**	**346**	*e*P	**P**	**08 21 02.5**	**-0.3**
WRA	**Warramunga Arr**	**48.16**	**125**	P	**P**	**08 21 29.8**	**0.0**
	0.4nm,0.4s,mb3.8,baz=304,slow=8.9,SNR=4.7						
WRAB	**Tennant Creek**	**48.17**	**125**	*e*P	**P**	**08 21 29.7**	**-0.1**
	1.1nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**49.81**	**130**	P	**P**	**08 21 42.2**	**-0.1**
	0.2nm,0.3s,mb3.6,baz=304,slow=7.8,SNR=3.8						
ASAR				PcP	PcP	08 23 03.7	+0.9
	0.6nm,0.9s,baz=301,slow=3.6,SNR=4.7						
FINES	**FINESS Array B**	**72.88**	**332**	P	**P**	**08 24 17.1**	**-0.4**
	2.0nm,0.9s,mb4.1,baz=99,slow=6.6,SNR=10.0						
GERES	**GERESS Array B**	**77.96**	**318**	P	**P**	**08 24 47.3**	**+0.5**
	0.3nm,0.8s,mb3.3,baz=104,slow=4.0,SNR=2.3						
HFS	**Hagfors**	**78.61**	**330**	P	**P**	**08 24 50.1**	**0.0**
	1.7nm,0.8s,mb4.0,baz=117,slow=6.6,SNR=6.4						
ILAR	**Eielson Array**	**94.94**	**22**	P	**P**	**08 26 10.4**	**+0.5**
	0.1nm,0.4s,mb3.6,baz=294,slow=4.4,SNR=5.3						

IGQ 29 08:16:29.5, 0.88S×81.15W, h13km±4km, mb4.1, 1C-2D, Error ellipse: s-maj=8.0km s-min=5.0km az=13.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.63**	**105**	⇑P	Pb	08 16 40.7	-1.2
JAMA	**Jama**	**1.13**	**57**	P	Pb	08 16 50.7	+0.2
JAMA				S	Sb	08 17 06.0	+1.1
MAGD	**Magdalena**	**1.60**	**60**	P	Pn	08 16 59.0	+1.3
IGUA	**Igualata**	**2.58**	**104**	P	Pn	08 17 13.7	+1.9
JUA2	**San Juan 2**	**2.63**	**75**	P	Pn	08 17 13.9	+1.3
TERV	**Terraza Guagua**	**2.64**	**75**	P	Pn	08 17 13.3	+0.6
PINO	**Pino**	**2.64**	**74**	P	Pn	08 17 13.0	+0.3
NAS1	**Nasa**	**2.69**	**85**	P	Pn	08 17 16.1	+2.8
YANA	**Yana**	**2.69**	**74**	P	Pn	08 17 13.8	+0.4
YANA				S	Sn	08 17 45.9	-0.2
VC1	**Cotopaxi 1**	**2.76**	**85**	P	Pn	08 17 17.4	+3.1
ARRY	**Arrayan**	**2.77**	**103**	⇓P	Pn	08 17 15.9	+1.5
ARRY				S	Sn	08 17 49.9	+1.9
PISA	**Pisayambo**	**2.77**	**94**	P	Pn	08 17 17.1	+2.6
TAMB	**Tambo**	**2.79**	**86**	P	Pn	08 17 17.9	+3.2
ANTI	**Antisana**	**3.02**	**82**	⇓P	Pn	08 17 20.7	+2.6
COTA	**Cotacachi**	**3.06**	**67**	P	Pn	08 17 21.1	+2.4
CAYR	**Refugio Cayamb**	**3.27**	**74**	P	Pn	08 17 23.8	+2.2
CAYA	**Cayambe**	**3.30**	**73**	P	Pn	08 17 24.2	+2.2

*IDC **29** 08:17:52.3±1.2, 5.37N×94.47E, mb4.2/8, mb1 4.3/9, mb1mx4.1/19, mbtmp4.1/9, ML4.3/1, Error ellipse: s-maj=60.4km s-min=19.0km az=54.0*
*NEIC **29** 08:17:55.9±0.7, 5.07N×94.14E, h30km, mb4.6/2, Error ellipse: s-maj=26.3km s-min=11.2km az=61.0*
ISC 29 08:17:54.7±0.9, 5.1N±0.1×94.2E±0.2, h33km, n15, σ0°90/13, mb4.2/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.06**	**19**	Pn	**P**	**08 21 15.1**	**+1.2**
	0.5nm,0.3s,baz=210,slow=14,SNR=2.9						
CHG	**Chiang Mai**	**14.40**	**18**	PG	**P**	**08 21 23.1**	**+4.8**
CHG				SG	Px	08 21 55.2	
SONM	**Songino Array**	**43.84**	**12**	P	**P**	**08 25 57.7**	**-1.9**
	1.9nm,0.7s,mb3.9,baz=192,slow=7.7,SNR=19						
SONM				PcP	PcP	08 27 44.8	-1.2
	0.3nm,0.4s,baz=206,slow=3.2,SNR=7.3						
WRA	**Warramunga Arr**	**46.68**	**123**	P	**P**	**08 26 22.4**	**-0.1**
	3.3nm,0.7s,mb4.4,baz=303,slow=9.4,SNR=19						
WRAB	**Tennant Creek**	**46.68**	**123**	*e*P	**P**	**08 26 22.4**	**-0.1**
	4.4nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**46.69**	**123**	*e*P	**P**	**08 26 22.5**	**0.0**
KURK	**Kurchatov**	**47.29**	**347**	*e*P	**P**	**08 26 26.7**	**-0.2**
	3.4nm,0.5s,mb4.5						
ASAR	**Alice Springs**	**48.16**	**128**	P	**P**	**08 26 34.2**	**+0.2**
	1.0nm,0.7s,mb4.0,baz=302,slow=8.0,SNR=14						
ZAL	**Zalesovo**	**49.28**	**353**	P	**P**	**08 26 41.8**	**-0.4**
	2.8nm,0.3s,mb4.8,baz=275,slow=5.5,SNR=12						
BVAR	**Borovoye Array**	**51.61**	**342**	P	**P**	**08 26 59.2**	**-0.7**
	1.0nm,0.3s,mb4.2,baz=124,slow=11,SNR=11						
FINES	**FINESS Array B**	**75.16**	**333**	P	**P**	**08 29 35.0**	**-0.2**
	1.8nm,0.8s,mb4.0,baz=104,slow=7.9,SNR=5.3						
ARCES	**ARCESS Array B**	**77.86**	**340**	P	**P**	**08 29 50.5**	**+0.2**
	3.8nm,0.9s,mb4.3,baz=74,slow=8.8,SNR=4.9						
GERES	**GERESS Array B**	**79.90**	**319**	P	**P**	**08 30 04.0**	**+2.2**
	1.1nm,0.7s,mb3.9,baz=101,slow=6.8,SNR=7.7						
TXAR	**Lajitas Array**	**141.71**	**26**	PKP	PKPdf	08 37 24.5	+0.9
	0.2nm,0.4s,baz=225,slow=2.6,SNR=4.2						
TXAR				PKiKP		08 37 28.5	
	0.2nm,0.3s,baz=320,slow=1.0,SNR=8.3						
TXAR	**Lajitas Array**	**141.71**	**26**	PKP	PKPdf	08 37 24.5	+0.9
TXAR				PKPdf	PKPdf	08 37 28.5	+4.9

IDC 29 08:20:17.9±25.0, 17.10S×178.80W, h534km±306km, mb3.3/5, mb1 3.5/5, mb1mx3.2/16, mbtmp4.2/5, 1D, Error ellipse: s-maj=97.6km s-min=82.2km az=177.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.22**	**259**	P	P	08 26 11.0	-0.9
	1.1nm,0.7s,baz=91,slow=6.2,SNR=3.6						
STKA	**Stephens Creek**	**38.69**	**240**	*e*P	P	08 26 55.7	-1.2
	1.7nm,0.6s						
STKA	**Stephens Creek**	**38.69**	**240**	P	P	08 26 55.7	-1.2
	2.3nm,0.6s,baz=95,slow=9.9,SNR=14						
WRA	**Warramunga Arr**	**44.41**	**259**	P	P	08 27 41.2	-1.4
	2.0nm,0.8s,baz=92,slow=7.0,SNR=14						
ASAR	**Alice Springs**	**44.65**	**253**	P	P	08 27 43.1	-1.4
	10nm,0.5s,baz=88,slow=8.2,SNR=136						
ASPA	**Alice Springs**	**44.65**	**253**	⇓*i*P	P	08 27 43.2	-1.3
TXAR	**Lajitas Array**	**85.89**	**58**	P	P	08 32 01.6	-0.7
	0.5nm,0.7s,baz=233,slow=6.3,SNR=6.1						

*IDC **29** 08:21:07.0±5.9, 7.80N×94.02E, h39km±49km, mb3.9/17, mb1 4.1/18, mb1mx4.0/23, mbtmp4.2/18, ML4.7/1, Error ellipse: s-maj=40.4km s-min=15.4km az=56.0*
*BJI **29** 08:21:08.2, 8.00N×94.30E, h40km, mb4.4, Ms4.2, Msz4.2*
*NEIC **29** 08:21:08.2±3.2, 8.04N×94.35E, h41km±29km, mb4.4/11, Error ellipse: s-maj=17.7km s-min=10.8km az=52.0*
ISC 29 08:21:05.1±0.5, 7.83N±0.07×94.17E±0.09, h33km, n48, σ1°31/42, mb4.4/33, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.54**	**23**	*e*P	**P**	**08 23 52.8**	**+2.2**
	8.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**11.54**	**23**	Pn	**P**	**08 23 51.4**	**+0.8**
	1.3nm,0.3s,baz=210,slow=15,SNR=19						
HYB	**Hyderabad**	**17.96**	**304**	*e*P	**P**	**08 25 15.0**	**+0.9**
HYB	**Hyderabad**	**17.96**	**304**	*i*P	**P**	**08 25 15.0**	**+0.9**
	40nm,1.0s						
KMI	**Kunming**	**19.04**	**24**	P	**P**	**08 25 30.0**	**+2.7**
	20nm,1.4s						
JIRN	**Jiri**	**21.12**	**340**	*e*P	**P**	**08 25 48.6**	**-0.8**
	44nm,0.8s,mb4.8						
PKI	**Pulchoki**	**21.32**	**338**	*e*P	**P**	**08 25 53.1**	**+1.7**
	59nm,1.0s,mb4.9						
GUN	**Gumba**	**21.46**	**340**	*e*P	**P**	**08 25 51.7**	**-1.1**
	89nm,1.2s,mb5.0						
DMN	**Daman**	**21.46**	**338**	*e*P	**P**	**08 25 54.3**	**+1.4**
	66nm,0.9s,mb5.0						
KKN	**Kakani**	**21.56**	**338**	*e*P	**P**	**08 25 53.1**	**-0.8**
	34nm,0.8s,mb4.8						
LSA	**Lhasa**	**21.94**	**353**	P	**P**	**08 26 00.5**	**+2.9**
LSA				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
GKN	**Gorkha**	**22.00**	**337**	*e*P	**P**	**08 25 57.7**	**-0.5**
	comp=Z,43nm,0.6s,mb5.0						
KOLN	**Koldanda**	**22.21**	**335**	*e*P	**P**	**08 26 00.6**	**+0.3**
	comp=Z,60nm,1.2s,mb4.9						
SONM	**Songino Array**	**41.20**	**13**	P	**P**	**08 28 48.5**	**+0.2**
	comp=Z,2.5nm,0.8s,mb3.9,baz=192,slow=9.1,SNR=18						
SONM				PcP	PcP	08 30 47.5	-0.2
	comp=Z,0.7nm,0.5s,baz=189,slow=3.6,SNR=4.6						
ULN	**Ulaanbaatar**	**41.37**	**13**	*e*P	**P**	**08 28 49.6**	**-0.2**
	comp=Z,1.7nm,0.7s,mb3.8						
KURK	**Kurchatov**	**44.66**	**346**	*e*P	**P**	**08 29 15.9**	**-0.6**
	comp=Z,5.8nm,0.8s,mb4.5						
NWAO	**Narrogin (SRO)**	**46.09**	**153**	P	**P**	**08 29 28.9**	**+0.7**
	comp=Z,4.0nm,0.6s,mb4.5,slow=10,SNR=3.7						
NWAO	**Narrogin (SRO)**	**46.09**	**153**	*e*P	**P**	**08 29 29.9**	**+1.7**
	comp=Z,3.6nm,0.7s,mb4.4						
ZAL	**Zalesovo**	**46.59**	**352**	P	**P**	**08 29 31.5**	**-0.3**
	comp=Z,4.8nm,0.4s,mb4.8,baz=298,slow=5.2,SNR=7.8						
WRA	**Warramunga Arr**	**48.21**	**126**	P	**P**	**08 29 43.7**	**-1.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=307,slow=8.9,SNR=5.6						
WRAB	**Tennant Creek**	**48.22**	**126**	*e*P	**P**	**08 29 45.8**	**+0.9**
	comp=Z,1.8nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**49.04**	**341**	P	**P**	**08 29 49.6**	**-1.2**
	comp=Z,1.3nm,0.8s,mb4.0,baz=117,slow=9.9,SNR=3.9						
ASAR	**Alice Springs**	**49.86**	**130**	P	**P**	**08 29 56.8**	**-0.8**
	comp=Z,0.8nm,0.7s,mb3.8,baz=306,slow=7.6,SNR=6.7						
ASAR				PcP	PcP	08 31 17.4	-0.7
	comp=Z,0.6nm,0.8s,baz=304,slow=3.3,SNR=3.2						
KMBO	**Kilima Mbogo**	**57.45**	**264**	P	**P**	**08 30 56.0**	**+2.4**
	comp=Z,1.6nm,0.7s,mb4.2,baz=49,slow=19,SNR=3.4						
KMBO	**Kilima Mbogo**	**57.45**	**264**	*e*P	**P**	**08 30 56.0**	**+2.3**
	comp=Z,1.7nm,0.7s,mb4.2						
BRTR	**Keskin Array B**	**62.48**	**311**	P	**P**	**08 31 25.5**	**-2.3**
	comp=Z,0.9nm,0.8s,mb4.0,baz=117,slow=6.4,SNR=3.0						
AKASG	**Malin Array Be**	**68.21**	**322**	P	**P**	**08 32 02.5**	**-1.9**
	comp=Z,0.2nm,0.3s,mb3.6,baz=86,slow=5.2,SNR=4.0						
IDI	**Anoyia**	**68.62**	**305**	P	**P**	**08 32 08.6**	**+1.3**
	comp=Z,6.8nm,0.7s,mb4.7,baz=27,slow=7.7,SNR=5.2						
JOF	**Joensuu**	**70.90**	**334**	*e*p	**P**	**08 32 19.6**	**-1.1**
	comp=Z,2.7nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**72.76**	**332**	P	**P**	**08 32 31.1**	**-0.7**
	comp=Z,2.0nm,0.6s,mb4.2,baz=96,slow=7.0,SNR=8.5						
LBTB	**Lobatse**	**74.25**	**241**	*e*P	**P**	**08 32 44.3**	**+3.1**
	comp=Z,6.8nm,0.8s,mb4.6						
ARCES	**ARCESS Array B**	**75.32**	**340**	P	**P**	**08 32 46.0**	**-0.4**
	comp=Z,4.6nm,0.9s,mb4.4,baz=100,slow=6.6,SNR=6.3						
BOSA	**Boshof**	**75.59**	**238**	P	**P**	**08 32 53.7**	**+4.9**
	comp=Z,4.0nm,0.7s,mb4.5						
GERES	**GERESS Array B**	**77.88**	**318**	P	**P**	**08 33 00.5**	**-0.8**
	comp=Z,0.7nm,0.6s,mb3.8,baz=90,slow=5.3,SNR=6.3						
HFS	**Hagfors**	**78.51**	**330**	P	**P**	**08 33 03.7**	**-0.9**
	comp=Z,2.5nm,0.6s,mb4.3,baz=106,slow=3.8,SNR=15						
NB2	**NORSAR Subarra**	**79.78**	**331**	P	**P**	**08 33 10.3**	**-1.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=94,slow=5.3						
NOA	**NORSAR Array B**	**79.78**	**331**	P	**P**	**08 33 10.5**	**-0.9**
	comp=Z,2.1nm,1.0s,mb4.0,baz=93,slow=5.6,SNR=4.3						
LPG	**La Plagne**	**82.67**	**315**	*e*P	**P**	**08 33 29.8**	**+2.9**
	comp=Z,8.0nm,0.8s,mb4.5						
ILAR	**Eielson Array**	**94.77**	**22**	P	**P**	**08 34 23.1**	**-1.1**
	comp=Z,0.5nm,0.8s,mb4.0,baz=297,slow=3.4,SNR=4.8						
INK	**Inuvik**	**97.02**	**16**	P	**P**	**08 34 33.2**	**-1.3**
	comp=Z,0.7nm,0.5s,mb4.3,baz=211,slow=16,SNR=5.3						
INK	**Inuvik**	**97.02**	**16**	P	**P**	**08 34 33.2**	**-1.3**
	comp=Z,0.7nm,0.6s,mb4.3						
RES	**Resolute Bay**	**97.44**	**2**	*e*P	**P**	**08 34 36.4**	**+0.2**
	comp=Z,1.3nm,0.8s,mb4.4						
NVAR	**Mina Array Bea**	**124.94**	**31**	PKP	PKPdf	08 40 05.5	+3.1
	comp=Z,0.6nm,0.6s,baz=262,slow=1.8,SNR=5.5						
PDAR	**Pinedale Array**	**125.19**	**21**	PKP	PKPdf	08 40 04.2	+1.4
	comp=Z,1.0nm,1.0s,baz=135,slow=2.1,SNR=5.7						
ANMO	**Albuquerque**	**133.20**	**23**	PKiKP		08 40 21.3	
	comp=Z,0.6nm,0.7s,baz=143,slow=3.2,SNR=4.5						
TXAR	**Lajitas Array**	**139.25**	**24**	PKP	PKPdf	08 40 30.6	+1.0
	comp=Z,0.2nm,0.5s,baz=218,slow=2.1,SNR=5.7						
PLCA	**Paso Flores**	**144.52**	**200**	PKP	PKPdf	08 40 39.4	+0.8
	comp=Z,2.2nm,0.9s,baz=212,slow=6.8,SNR=3.0						
PLCA	**Paso Flores**	**144.52**	**200**	PKP	PKPdf	08 40 39.4	+0.9
PLCA				*e*P		08 40 44.7	

*IDC **29** 08:31:58.7±0.7, 43.94N×82.75E, h17km±3km, mb3.7/8, mb1 4.0/11, mb1mx3.8/22, mbtmp3.9/11, ML4.0/3, Error ellipse: s-maj=22.9km s-min=11.0km az=70.0*
*NEIC **29** 08:31:58.6±0.4, 43.84N×82.42E, mb3.8/2, Error ellipse: s-maj=9.2km s-min=6.2km az=217.0*
*BJI **29** 08:31:59.3, 43.82N×82.64E, h24km, mB4.7, mb4.1, ML4.4, Ms3.8, Msz3.6*
*NNC **29** 08:32:02.0±1.4, 44.04N×82.20E, h20km±6km, mpv3.9, Error ellipse: s-maj=15.2km s-min=6.4km az=120.0*
ISC 29 08:31:57.0±0.6, 43.91N±0.06×82.38E±0.09, h17km, h17km±1.0km: pP-P, n26, σ1°13/33, mb3.9/10, 7C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.88**	**359**	⇓Pn	**Pn**	**08 32 47.4**	**+4.2**
	6.5nm,0.3s,baz=186,slow=13,SNR=4843						
MK31				⇓Pg	**Pn**	**08 32 52.8**	**+10**
	74nm,0.5s,baz=172,slow=17,SNR=73						
MK31				⇑Sn	**Sn**	**08 33 23.7**	**+6.0**
	105nm,0.3s,baz=177,slow=26,SNR=9.2						
MK31				⇑Lg		08 33 29.9	
	70nm,0.3s						
WMQ	**Urumqi**	**3.85**	**89**	P	**Pn**	**08 32 59.0**	**+2.1**
WMQ				SG	**Sn**	**08 33 55.0**	**+13**
WMQ				Smax			
	comp=N,320nm,0.6s						
WMQ				Smax			
	comp=E,358nm,0.6s						
AAK	**Ala-Archa**	**5.89**	**260**	⇓Pn	**Pn**	**08 33 27.8**	**+2.0**
	comp=E,1.8nm,0.3s						
AAK				⇑Pg	Pn	08 33 47.2	+21
	comp=E,20nm,0.5s						
AAK				⇓Lg		08 35 03.5	
	comp=E,159nm,0.8s						
AAK	**Ala-Archa**	**5.89**	**260**	*e*P	**Pn**	**08 33 26.1**	**+0.2**
	comp=E,2.6nm,0.4s						
KURK	**Kurchatov**	**7.27**	**341**	⇑Pn	**Pn**	**08 33 45.3**	**+0.1**
	comp=E,3.1nm,0.4s,baz=163,slow=9.5,SNR=76						
KURK				⇑Sn	**Sn**	**08 35 06.9**	**-1.2**
	comp=E,12nm,0.7s,baz=149,slow=16,SNR=3.5						
KURK				⇓Lg		08 35 48.6	
	comp=E,38nm,0.6s,baz=260,slow=16,SNR=7.0						
KURK	**Kurchatov**	**7.27**	**341**	*e*P	**Pn**	**08 33 44.9**	**-0.3**
	comp=E,8.7nm,0.4s						
ZAL	**Zalesovo**	**10.16**	**8**	Pn	**P**	**08 34 24.6**	**-0.6**
	comp=E,2.0nm,0.3s,baz=295,slow=9.3,SNR=18						
ZAL				Sn	**S**	**08 36 15.4**	**-4.3**
	baz=127,slow=15						
BVAR	**Borovoye Array**	**12.09**	**323**	Pn	**P**	**08 34 50.3**	**-1.0**
	comp=E,0.5nm,0.3s,baz=138,slow=15,SNR=9.4						
BVAR				Sn	**S**	**08 37 09.5**	**+2.8**
	comp=E,0.7nm,0.3s,baz=120,slow=21,SNR=4.5						
BRVK	**Borovoye**	**12.15**	**323**	⇑Pn	**P**	**08 34 52.2**	**-0.1**
	comp=E,1.2nm,0.5s						
BRVK				⇓Lg		08 38 20.0	
	comp=E,20nm,0.9s						
BRVK	**Borovoye**	**12.15**	**323**	*e*P	**P**	**08 34 51.2**	**-1.1**
	comp=E,1.5nm,0.3s						
CHKZ	**Chkalovo**	**12.46**	**326**	⇑Pn	**P**	**08 34 55.1**	**-1.3**
	comp=E,4.7nm,0.4s						
CHKZ				⇓Sn	**S**	**08 37 11.0**	**-4.7**
CHKZ				⇓Lg		08 38 31.2	
	comp=E,59nm,1.2s						
CHKZ	**Chkalovo**	**12.46**	**326**	*e*P	**P**	**08 34 55.5**	**-0.8**
	comp=E,5.2nm,0.6s						
SONM	**Songino Array**	**17.16**	**68**	Pn	**P**	**08 35 57.7**	**+0.3**
	comp=E,0.8nm,0.3s,baz=264,slow=11,SNR=39						
ULN	**Ulaanbaatar**	**17.60**	**68**	*e*P	**P**	**08 36 04.0**	**+1.0**
	comp=E,2.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**28.95**	**146**	P	**P**	**08 37 56.6**	**-0.9**
	comp=E,1.7nm,0.5s,mb4.0,baz=322,slow=8.2,SNR=6.5						
JOF	**Joensuu**	**34.68**	**321**	*ep*	**P**	**08 38 47.8**	**+0.4**
	comp=E,1.8nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**36.98**	**318**	P	**P**	**08 39 08.5**	**+1.5**
	comp=E,2.5nm,1.0s,mb4.0,baz=90,slow=12,SNR=2.5						
FINES				pP	pP	08 39 13.0	+1.0
	comp=E,1.1nm,0.7s,baz=103,slow=9.8,SNR=1.6						
FINES	**FINESS Array B**	**36.98**	**318**	P	**P**	**08 39 08.5**	**+1.6**
FINES				pP	pP	08 39 13.0	+1.0
ARCES	**ARCESS Array B**	**38.20**	**332**	P	**P**	**08 39 18.2**	**+1.2**
	comp=E,5.1nm,1.0s,mb4.2,baz=108,slow=11,SNR=3.3						
ARCES				pP	pP	08 39 24.3	+2.1
	comp=E,2.6nm,0.6s,baz=90,slow=8.4,SNR=2.2						
NB2	**NORSAR Subarra**	**44.17**	**319**	P	**P**	**08 40 07.2**	**+1.1**
	comp=E,1.0nm,0.6s,mb3.7,baz=91,slow=4.8						
NOA	**NORSAR Array B**	**44.17**	**319**	P	**P**	**08 40 07.1**	**+1.1**
	comp=E,0.7nm,0.8s,mb3.4,baz=90,slow=7.1,SNR=2.5						
NOA				pP	pP	08 40 12.3	+1.1
	comp=E,0.6nm,0.5s,baz=80,slow=8.0,SNR=2.8						
ILAR	**Eielson Array**	**65.02**	**21**	P	**P**	**08 42 36.9**	**-0.8**
	comp=E,0.4nm,0.7s,mb3.6,baz=272,slow=2.9,SNR=4.9						
ILAR				pP	pP	08 42 41.5	-1.6
	comp=E,0.6nm,0.5s,baz=320,slow=5.7,SNR=6.4						
YKA	**Yellowknife Ar**	**73.07**	**8**	P	**P**	**08 43 27.2**	**-0.1**
	comp=E,0.1nm,0.4s,mb3.1,baz=339,slow=6.1,SNR=3.3						
YKA				pP	pP	08 43 32.1	-0.6
	comp=E,0.2nm,0.6s,baz=339,slow=5.9,SNR=4.6						
WRAB	**Tennant Creek**	**79.36**	**131**	*e*P	**P**	**08 44 02.5**	**-1.1**
	comp=E,1.1nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**79.36**	**131**	P	**P**	**08 44 02.3**	**-1.3**
	comp=E,1.5nm,0.9s,mb3.9,baz=332,slow=5.4,SNR=13						
WRA				pP	pP	08 44 08.6	-0.5
	comp=E,1.8nm,0.9s,baz=333,slow=5.6,SNR=8.6						
ASAR	**Alice Springs**	**82.16**	**134**	P	**P**	**08 44 17.6**	**-0.7**
	comp=E,0.5nm,0.4s,mb3.8,baz=325,slow=5.1,SNR=13						

IDC 29 08:47:53.9±74.0, 18.30S×167.06E, mb4.0/3, mb1 4.2/3, mb1mx3.9/12, mbtmp4.0/3, Error ellipse: s-maj=1240.0km s-min=108.9km az=72.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.66**	**235**	P	P	08 53 34.4	-1.9
	1.9nm,0.6s,baz=55,slow=8.2,SNR=9.3						
WRA	**Warramunga Arr**	**30.94**	**262**	P	P	08 54 12.7	-2.2
	0.5nm,0.8s,baz=91,slow=9.5,SNR=6.0						
ASAR	**Alice Springs**	**31.37**	**254**	P	P	08 54 16.9	-1.9
	2.5nm,0.6s,baz=82,slow=8.8,SNR=4.7						

*NIED **29** 09:05:00, 33.90N×142.10E, h20km, Mw3.7 Best double couple: M0:4.53×10^14 NP1:φs=296°, δ85°, λ-162°. NP2: φs=204°, δ72°, λ-5°.*
*JMA **29** 09:05:55.2±0.2, 33.90N×142.06E, h39km, M4.1*
*NEIC **29** 09:06:00.5±1.8, 33.94N×141.75E, h40km±14km, mb4.4/2, Error ellipse: s-maj=16.9km s-min=13.5km az=189.0*
*IDC **29** 09:06:02.3±0.7, 33.95N×141.70E, h56km±4km, mb3.6/15, mb1 3.9/16, mb1mx3.8/24, mbtmp3.9/16, MS3.1/1, Ms1 3.1/1, ms1mx2.5/33, Error ellipse: s-maj=20.8km s-min=6.1km az=147.0*
ISC 29 09:05:58.1±0.5, 33.92N±0.04×141.88E±0.04, h39km, (h56km±7km: pP-P), n41, σ1°06/54, mb3.9/17, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.04**	**315**	P	**P**	**09 06 15.7**	**-0.7**
BSO1				S	**S**	**09 06 30.9**	**+0.9**
BSO2	**Boso 2**	**1.24**	**312**	S	**S**	**09 06 36.7**	**+1.6**
BSO3	**Boso 3**	**1.43**	**308**	P	**P**	**09 06 21.6**	**-0.4**
BSO3				S	**S**	**09 06 41.5**	**+1.7**
BSO4	**Boso 4**	**1.66**	**310**	P	**P**	**09 06 25.6**	**+0.4**
BSO4				*e*S	**S**	**09 06 47.7**	**+2.2**
KTR

GERES pP pP 09 18 48.9 +3.9
0.4nm,0.6s,baz=31,slow=5.7,SNR=2.3
LPAZ La Paz 147.82 64 PKPbc PKPdf 09 25 42.0 +5.6
1.5nm,1.0s,baz=358,slow=1.4,SNR=5.5
PLCA Paso Flores 153.44 114 PKPbc PKPdf 09 25 54.9 +11
1.7nm,0.9s,baz=231,slow=6.5,SNR=3.0

*MOS **29** 09:07:17.4±1.0, 13.79N×120.86E, h123km, mb4.7/22, Error ellipse: s-maj=16.4km s-min=7.3km az=117.9*
*BJI **29** 09:07:17.2, 13.68N×120.89E, h128km, mB4.9, mb4.8*
*NEIC **29** 09:07:17.8±0.2, 13.76N×120.83E, mb4.7/24, Error ellipse: s-maj=10.3km s-min=5.5km az=69.0*
NEIC Felt [II PIVS] at Puerto Galera. Felt [I PIVS] at Buco and Talisay, Luzon.
*MAN **29** 09:07:18.6, 13.75N×120.49E, h96km, mb5.0, ML3.9, MS4.0*
MAN PTO GALERA INTENSITY II BUCO TALISAY BATANGAS I.
*IDC **29** 09:07:18.3±0.3, 13.77N×120.84E, h116km±3km, mb4.2/23, mb1 4.3/23, mb1mx4.3/25, mbtmp4.6/23, MS3.4/4, Ms1 3.5/4, ms1mx2.8/29, Error ellipse: s-maj=18.1km s-min=7.8km az=74.0*
ISC 29 09:07:17.7±0.3, 13.72N±0.03×120.72E±0.05, h123km±2km, h119km±3.0km: pP-P, n165, σ1=105/165, mb4.8/58, 16C-7D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.43**	**29⇑**	*eP*	**P**	**09 07 36.1**	**+0.3**
TGY				*i* S	**S**	**09 07 49.3**	**-0.1**
TGY	**Tagaytay City**	**0.43**	**29**	P	**P**	**09 07 36.1**	**+0.3**
	5μm,0.3s,baz=269,slow=11,SNR=391						
TGY				S	**S**	**09 07 49.1**	**-0.3**
	27μm,0.3s,baz=343,slow=19,SNR=86						
LUBP	**Lubang**	**0.46**	**271**	*eP*	**P**	**09 07 34.3**	**-1.7**
LUBP				*e*S	**S**	**09 07 44.8**	**-4.9**
BOAC	**Boac**	**1.13**	**103**	*eP*	**P**	**09 07 43.0**	**+1.4**
SJMP	**San Jose**	**1.31**	**163**	*eP*	**P**	**09 07 44.5**	**+0.8**
SJMP				*e*S	**S**	**09 08 02.6**	**-0.8**
POLP	**Polilio Island**	**1.55**	**50**	*eP*	**P**	**09 07 48.3**	**+1.9**
BUSP	**Coron**	**1.78**	**197**	*eP*	**P**	**09 07 48.5**	**-0.6**
OTRP	**Odiongan**	**1.86**	**137**	*eP*	**P**	**09 07 51.4**	**+1.4**
PCPH	**Palayan**	**1.86**	**11⇓**	*eP*	**P**	**09 07 49.7**	**-0.4**
PCPH				*i* S	**S**	**09 08 13.5**	**-1.1**
BALP	**Baler**	**2.17**	**22**	*eP*	**P**	**09 07 55.2**	**+1.2**
SCZP	**Santa Cruz**	**2.18**	**339**	*eP*	**P**	**09 07 53.2**	**-1.0**
KALP	**Kalibo**	**2.58**	**142**	*i* P	**P**	**09 08 07.0**	**+7.6**
BCPH	**Baguio City Da**	**2.65**	**357⇑**	*i* P	**P**	**09 07 59.7**	**-0.6**
BCPH				*i* S	**S**	**09 08 30.9**	**-1.6**
BOLP	**Bolinao**	**2.75**	**344**	*eP*	**P**	**09 08 00.9**	**-0.8**
ENPP	**El Nido**	**2.80**	**207**	*eP*	**P**	**09 08 01.8**	**-0.6**
CUYO	**Cuyo Island**	**2.87**	**174**	*eP*	**P**	**09 08 03.4**	**+0.1**
RCP	**Roxas**	**2.92**	**137⇑**	*eP*	**P**	**09 08 05.9**	**+1.9**
MMPH	**Masbate**	**3.14**	**115**	*eP*	**P**	**09 08 10.0**	**+3.1**
PVCP	**Virac**	**3.34**	**92**	*eP*	**P**	**09 08 13.8**	**+4.2**
CAUP	**Cauayan**	**3.37**	**18**	*eP*	**P**	**09 08 10.8**	**+0.7**
CVP	**Callao Caves**	**4.10**	**15**	*eP*	**P**	**09 08 20.0**	**+0.3**
PPR	**Puerto Princes**	**4.38**	**207⇓**	*iP*	**P**	**09 08 23.6**	**0.0**
PPR				*e*S	**S**	**09 09 11.1**	**-2.9**
SNPH	**Sibulan**	**5.00**	**150**	*eP*	**P**	**09 08 35.5**	**+3.6**
JOW	**Kunigami**	**14.84**	**27**	LR	LR	09 15 18.3	
	comp=Z,198nm,21.1s,baz=280,slow=33						
SSE	**Sheshan**	**17.30**	**1**	P	**P**	**09 11 10.3**	**-2.8**
SSE				AP		09 11 18.3	
SSE				AMB	AMB		
	comp=Z,35nm,0.8s						
SSE				LR	LR		
	comp=N,82nm,23.6s						
SSE				LR	LR		
	comp=E,47nm,23.7s						
SSE				LR	LR		
	comp=Z,82nm,21.5s						
SSE	**Sheshan**	**17.30**	**1**	P	**P**	**09 11 10.2**	**-2.9**
	comp=Z,35nm,0.8s						
SSE				pP		09 11 18.2	
SSE				sP		09 11 22.5	
SSE				S	**S**	**09 14 34.0**	**+15**
SSE				sS		09 14 51.7	
WHN	**Wuhan**	**17.74**	**342⇑**	P	**P**	**09 11 20.3**	**+1.9**
NJ2	**Nanjing**	**18.32**	**355**	*eP*	**P**	**09 11 20.5**	**-4.5**
NJ2				S	**S**	**09 14 42.0**	**-0.1**
NJ2				XS		09 14 54.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,340nm,6.1s						
NJ2				LR	LR		
	comp=N,310nm,14.0s						
NJ2				LR	LR		
	comp=E,300nm,15.0s						
NJ2				LR	LR		
	comp=Z,190nm,18.8s						
NST	**Nakhon Sawan**	**20.01**	**278**	P	**P**	**09 11 44.0**	**+1.1**
KMI	**Kunming**	**20.37**	**307**	P	**P**	**09 11 48.5**	**+1.9**
KMI				pmax	pmax		
	comp=Z,22nm,0.7s						
KMI	**Kunming**	**20.37**	**307**	P	**P**	**09 11 48.5**	**+1.9**
	comp=Z,22nm,0.7s						
CHRT	**Chiangrai**	**20.94**	**290⇑**	P	**P**	**09 11 53.5**	**+1.1**
	comp=Z,226nm,0.8s						
CM31	**Chiang Mai Arr**	**21.44**	**286**	*eP*	**P**	**09 11 58.6**	**+1.3**
	comp=Z,80nm,0.9s,mb5.0						
CMAR	**Chiang Mai Arr**	**21.44**	**286**	P	**P**	**09 11 58.7**	**+1.4**
	comp=Z,28nm,0.8s,mb4.7,baz=96,slow=7.1,SNR=67						
CMAR				PcP	PcP	09 15 57.0	0.0
	comp=Z,1.0nm,0.3s,baz=29,slow=0.7,SNR=5.4						
CMAR				LR	LR	09 21 54.5	
	comp=Z,76nm,18.3s,baz=113,slow=41						
CHG	**Chiang Mai**	**21.50**	**287⇑**	P	**P**	**09 11 58.7**	**+0.8**
	comp=Z,33nm,0.9s,mb4.7						
XAN	**Xi'an**	**22.88**	**334**	P	**P**	**09 12 11.5**	**+0.1**
XAN				AMB	AMB		
	comp=Z,45nm,0.7s,mb4.9						
CBIJ	**Chichi jima**	**24.07**	**53**	LR	LR	09 21 38.5	
	comp=Z,77nm,18.8s,baz=146,slow=36						
JHJ	**Hachijo jima 2**	**25.97**	**39**	LR	LR	09 20 44.6	
	comp=Z,101nm,20.1s,baz=253,slow=31						
LZH	**Lanzhou**	**26.93**	**329⇑**	P	**P**	**09 12 50.0**	**+0.5**
LZH				AMB	AMB		
	comp=Z,81nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,125nm,4.4s						
LZH	**Lanzhou**	**26.93**	**329⇑**	P	**P**	**09 12 49.9**	**+0.4**
LZH				pmax	pmax		
	comp=Z,81nm,1.5s,mb5.0						
LZH	**Lanzhou**	**26.93**	**329⇑**	P	**P**	**09 12 49.9**	**+0.4**
	comp=Z,81nm,1.5s,mb5.0						
LZH				pP	pP	09 12 55.5	-20
LZH				sP	sP	09 12 58.0	-32
LSA	**Lhasa**	**31.61**	**305**	P	**P**	**09 13 32.3**	**+1.1**
LSA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
MBWA	**Marble Bar**	**34.68**	**182**	*eP*	**P**	**09 13 57.0**	**-0.7**
	comp=Z,14nm,0.7s,mb4.9						
JIRN	**Jiri**	**35.01**	**299**	*eP*	**P**	**09 14 00.9**	**+0.5**
	comp=Z,342nm,0.8s						
GUN	**Gumba**	**35.35**	**299**	*eP*	**P**	**09 14 03.7**	**+0.4**
	comp=Z,396nm,0.8s						
PKI	**Pulchoki**	**35.66**	**298**	*eP*	**P**	**09 14 05.8**	**-0.1**
	comp=Z,121nm,0.5s						
KKN	**Kakani**	**35.83**	**299**	*eP*	**P**	**09 14 07.2**	**-0.1**
	comp=Z,157nm,0.9s,mb5.9						
ULN	**Ulaanbaatar**	**35.89**	**344**	*eP*	**P**	**09 14 07.5**	**-0.1**
ULN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
ULN	**Ulaanbaatar**	**35.89**	**344**	*eP*	**P**	**09 14 07.5**	**-0.1**
	comp=Z,10nm,0.8s,mb4.8						
DMN	**Daman**	**35.92**	**298**	*eP*	**P**	**09 14 07.0**	**-1.1**
	comp=Z,391nm,1.2s						
SONM	**Songino Array**	**36.04**	**344**	P	**P**	**09 14 08.7**	**-0.2**
	comp=Z,13nm,0.5s,mb5.1,baz=162,slow=9.7,SNR=102						
WRA	**Warramunga Arr**	**36.04**	**158**	P	**P**	**09 14 07.7**	**-1.5**
	comp=Z,2.8nm,0.7s,mb4.3,baz=336,slow=9.5,SNR=12						
WRA				pP	pP	09 14 34.3	-2.5
	comp=Z,6.9nm,0.8s,baz=337,slow=9.6,SNR=17						
WRA				sP	sP	09 14 46.4	-4.9
	comp=Z,3.9nm,0.7s,baz=334,slow=9.7,SNR=4.6						
WB2	**Warramunga Arr**	**36.04**	**158**	*eP*	**P**	**09 14 07.7**	**-1.5**
WB2				*i*	pP	09 14 33.9	-2.9
GKN	**Gorkha**	**36.43**	**299**	*eP*	**P**	**09 14 11.9**	**-0.5**
	comp=Z,135nm,1.0s,mb5.8						
KLR	**Kul'dur**	**36.55**	**12**	*eP*	**P**	**09 14 09.3**	**-3.9**
KOLN	**Koldanda**	**37.26**	**298**	*eP*	**P**	**09 14 19.3**	**0.0**
	comp=Z,41nm,0.8s,mb5.4						
ZAK	**Zakamensk**	**39.23**	**342**	*eP*	**P**	**09 14 34.7**	**-0.7**
ASAR	**Alice Springs**	**39.33**	**161**	P	**P**	**09 14 36.0**	**-0.6**
	comp=Z,1.0nm,0.4s,mb4.0,baz=336,slow=6.7,SNR=27						
ASAR				pP	pP	09 15 02.6	-1.9
	comp=Z,7.3nm,0.6s,baz=338,slow=6.4,SNR=20						
ASAR				sP	sP	09 15 15.7	-3.5
	comp=Z,3.7nm,0.7s,baz=341,slow=7.7,SNR=6.3						
ASAR				PcP	PcP	09 16 42.5	-0.9
	comp=Z,1.7nm,0.8s,baz=338,slow=2.4,SNR=5.3						
ASPA	**Alice Springs**	**39.33**	**161**	*eP*	**P**	**09 14 36.5**	**-0.1**
ASPA				*i*	pP	09 15 02.3	-2.2
TLY	**Talaya**	**40.28**	**344**	P	**P**	**09 14 44.5**	**+0.4**
	comp=Z,74nm,0.4s,mb5.9,SNR=12						
TLY	**Talaya**	**40.28**	**344**	*eP*	**P**	**09 14 44.0**	**-0.1**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
TLY	**Talaya**	**40.28**	**344**	*eP*	**P**	**09 14 44.0**	**-0.2**
	comp=Z,7.4nm,0.7s,mb4.6						
HYB	**Hyderabad**	**40.73**	**281⇑**	*eP*	**P**	**09 14 48.0**	**-0.1**
HYB	**Hyderabad**	**40.73**	**281⇑**	*iP*	**P**	**09 14 48.0**	**-0.1**
	comp=Z,38nm,0.8s,mb5.3						
HYB				*e*		09 15 21.0	
MOY	**Mondy**	**41.05**	**341**	*eP*	**P**	**09 14 50.7**	**+0.3**
WMQ	**Urumqi**	**41.20**	**323**	P	**P**	**09 14 52.5**	**+0.8**
WMQ				AP	pP	09 15 23.8	+4.0
WMQ				S	**S**	**09 20 55.0**	**-0.6**
WMQ				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,142nm,5.3s						
CTA	**Charters Tower**	**41.95**	**143**	P	**P**	**09 14 58.2**	**0.0**
	comp=Z,1.9nm,0.6s,mb4.0,baz=341,slow=8.8,SNR=4.4						
CTA				pP	pP	09 15 23.7	-2.6
	comp=Z,2.4nm,0.8s,baz=310,slow=7.5,SNR=4.0						
FORT	**Forrest**	**44.80**	**171⇑**	*iP*	**P**	**09 15 20.8**	**-0.4**
	comp=Z,52nm,0.7s,mb5.4						
KLBR	**Kellerberrin**	**45.14**	**184⇓**	*iP*	**P**	**09 15 23.2**	**-0.7**
	comp=Z,88nm,0.6s,mb5.7						
MKAR	**Makanchi Array**	**46.02**	**324**	*iP*	**P**	**09 15 30.9**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,27nm,0.8s						
MKAR	**Makanchi Array**	**46.02**	**324**	*iP*	**P**	**09 15 30.0**	**-0.6**
NWAO	**Narrogin (SRO)**	**46.51**	**184**	*eP*	**P**	**09 15 33.8**	**-0.8**
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**46.51**	**184**	P	**P**	**09 15 34.3**	**-0.3**
	comp=Z,14nm,0.9s,mb4.7,baz=5.0,slow=9.3,SNR=7.7						
NWAO				pP	pP	09 16 01.1	-1.9
	comp=Z,46nm,1.3s,baz=25,slow=7.7,SNR=5.1						
NWAO	**Narrogin (SRO)**	**46.51**	**184**	*eP*	**P**	**09 15 33.8**	**-0.8**
	comp=Z,9.0nm,0.8s,mb4.5						
ULHL	**Ulahol**	**47.72**	**315**	P	**P**	**09 15 45.1**	**+1.2**
	SNR=6.9						
KZA	**Kyzart**	**48.34**	**315**	P	**P**	**09 15 50.5**	**+1.7**
	SNR=5.5						
TKM2	**Tokmak 2**	**48.42**	**316**	P	**P**	**09 15 50.2**	**+0.8**
	SNR=17						
YAK	**Yakutsk**	**48.66**	**6⇓**	*iP*	**P**	**09 15 49.0**	**-2.0**
KBK	**Karagaybulak**	**48.76**	**315**	P	**P**	**09 15 53.2**	**+1.2**
	SNR=17						
UCH	**Uchtor**	**48.90**	**315**	P	**P**	**09 15 54.6**	**+1.5**
	SNR=37						
CHMS	**Chumysh**	**49.02**	**316**	P	**P**	**09 15 54.4**	**+0.4**
	SNR=13						
AAK	**Ala-Archa**	**49.06**	**315**	P	**P**	**09 15 55.2**	**+0.9**
	SNR=10						
AAK	**Ala-Archa**	**49.06**	**315**	P	**P**	**09 15 55.0**	**+0.7**
AAK				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
AAK	**Ala-Archa**	**49.06**	**315**	*eP*	**P**	**09 15 53.8**	**-0.5**
	comp=Z,17nm,0.9s,mb5.0						
USP	**Ospenovka**	**49.29**	**316**	P	**P**	**09 15 56.5**	**+0.4**
	SNR=19						
AML	**Almayashu**	**49.43**	**314**	P	**P**	**09 15 58.4**	**+1.3**
	SNR=21						
STKA	**Stephens Creek**	**49.56**	**157**	P	**P**	**09 15 56.9**	**-1.4**
	comp=Z,2.0nm,0.8s,mb4.1,baz=252,slow=7.4,SNR=4.0						
STKA				pP	pP	09 16 26.4	-0.7
	comp=Z,2.5nm,0.7s,baz=314,slow=5.1,SNR=4.8						
STKA				PcP	PcP	09 17 17.2	-1.2
	comp=Z,2.3nm,0.8s,baz=17,slow=3.5,SNR=3.6						
STKA	**Stephens Creek**	**49.56**	**157**	P	**P**	**09 15 56.9**	**-1.4**
EKS2	**Erkin-Say**	**49.56**	**315**	P	**P**	**09 15 59.1**	**+1.0**
	SNR=16						
KURK	**Kurchatov**	**50.18**	**326**	*eP*	**P**	**09 16 02.5**	**-0.2**
KURK				pmax	pmax		
	comp=Z,124nm,0.6s						
KURK	**Kurchatov**	**50.18**	**326**	*eP*	**P**	**09 16 02.5**	**-0.2**
	comp=Z,124nm,0.6s						
NVS	**Novosibirsk**	**50.33**	**333**	*iP*	**P**	**09 16 02.2**	**-1.6**
NVS				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
NVS				pmax	pmax		
	comp=N,11nm,1.1s						
NVS				pmax	pmax		
	comp=E,12nm,1.2s						
BVA0	**Borovoye Array**	**55.76**	**326**	*iP*	**P**	**09 16 43.3**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**55.76**	**326**	P	**P**	**09 16 43.4**	**-0.6**
	comp=Z,15nm,0.7s,mb5.1,baz=117,slow=9.9,SNR=58						
BRVK	**Borovoye**	**55.84**	**326**	P	**P**	**09 16 43.9**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.2						
BRVK	**Borovoye**	**55.84**	**326⇓**	*iP*	**P**	**09 16 41.0**	**-3.5**
CHKZ	**Chkalovo**	**55.92**	**327**	P	**P**	**09 16 44.3**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
CHKZ	**Chkalovo**	**55.92**	**327**	*eP*	**P**	**09 16 43.9**	**-1.3**
	comp=Z,18nm,0.7s,mb5.2						
TIXI	**Tiksi**	**58.11**	**3**	*eP*	**P**	**09 16 57.7**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
TIXI	**Tiksi**	**58.11**	**3⇓**	*iP*	**P**	**09 16 57.6**	**-2.7**
ARU	**Arti**	**63.37**	**327**	P	**P**	**09 17 34.9**	**-1.2**
	comp=Z,338nm,0.5s,SNR=19						
ARU	**Arti**	**63.37**	**327⇑**	*iP*	**P**	**09 17 27.8**	**-8.3**
ARU				*e*	pP	09 17 59.3	-6.9
ARU				*e*S	**S**	**09 26 01.7**	**+4.8**
ARU				*e*SS	SS	09 30 09.1	+1.4
ARU				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.2						
GNI	**Garni**	**70.61**	**308⇑**	*iP*	**P**	**09 18 18.8**	**-3.0**
GNI	**Garni**	**70.61**	**308**	P	**P**	**09 18 23.3**	**+1.5**
	comp=Z,8.7nm,0.6s,mb4.8,baz=20,slow=8.8,SNR=6.8						
RAYN	**Ar Rayn**	**71.27**	**290**	P	**P**	**09 18 25.3**	**-0.7**
	comp=Z,190nm,0.9s,mb5.9,SNR=25						
KIV	**Kislovodsk**	**72.03**	**312**	*eP*	**P**	**09 18 30.3**	**+0.2**
KIV				pmax	pmax		
	comp=Z,26nm,0.7s,mb5.2						
KIV	**Kislovodsk**	**72.03**	**312**	*eP*	**P**	**09 18 30.3**	**+0.2**
	comp=Z,26nm,0.7s,mb5.2						
SOC	**Sochi**	**74.19**	**312**	*eP*	**P**	**09 18 37.9**	**-4.9**
SOC				*e*		09 18 58.0	
SOC				*e*PPP	PPP	09 23 15.2	-1.9
SOC				*e*S	S	09 28 12.9	+8.3
SOC				*e*		09 28 48.1	
SOC				*e*SS	SS	09 33 01.2	+6.4
SOC				pmax	pmax		
	comp=N,24nm,1.0s						
SOC				pmax	pmax		
	comp=Z,71nm,1.0s,mb5.3						
SOC				pmax	pmax		
	comp=E,23nm,0.8s						
OBN	**Obninsk**	**75.53**	**324***d*	*iP*	**P**	**09 18 45.4**	**-4.8**
OBN				pmax	pmax		
	comp=Z,18nm,0.5s,mb5.1						
OBN	**Obninsk**	**75.53**	**324**	*eP*	**P**	**09 18 45.5**	**-4.7**
MALT	**Malatya**	**75.64**	**306**	*eP*	**P**	**09 18 52.1**	**+1.0**
MALT				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
MALT	**Malatya**	**75.64**	**306**	*eP*	**P**	**09 18 52.0**	**+0.9**
	comp=Z,9.2nm,0.8s,mb4.6						
ANN	**Anapa**	**75.73**	**313**	*eP*	**P**	**09 18 50.0**	**-1.5**
ANN				pmax	pmax		
	comp=Z,48nm,1.2s,mb5.1						
SPU	**Mount Spurr**	**76.76**	**30**	*eP*	**P**	**09 18 57.5**	**+0.6**
JOF	**Joensuu**	**77.63**	**332**	*ep*	**P**	**09 19 00.3**	**-1.4**
	comp=Z,6.5nm,0.5s,mb4.6						
ASF	**Jabal al Asfar**	**77.67**	**300**	P	**P**	**09 19 03.8**	**+1.2**
	comp=Z,12nm,0.7s,mb4.7,baz=321,slow=4.4,SNR=18						
MCK	**McKinley**	**77.97**	**27**	*eP*	**P**	**09 19 03.5**	**-0.1**
MCK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
MCK	**McKinley**	**77.97**	**27**	*eP*	**P**	**09 19 03.5**	**-0.1**
	comp=Z,7.0nm,0.7s,mb4.5						
COLA	**College**	**78.30**	**26**	*eP*	**P**	**09 19 05.1**	**-0.3**
COLA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
COLA	**College**	**78.30**	**26**	*eP*	**P**	**09 19 05.1**	**-0.3**
	comp=Z,6.6nm,1.0s,mb4.3						
KEV	**Kevo**	**78.52**	**339**	*ep*	**P**	**09 19 05.0**	**-1.5**
ILAR	**Eielson Array**	**78.72**	**26**	P	**P**	**09 19 06.8**	**-0.9**
	comp=Z,1.2nm,0.7s,mb3.8,baz=264,slow=3.6,SNR=17						
ARCES	**ARCESS Array B**	**79.07**	**339**	P	**P**	**09 19 09.2**	**-0.2**
	comp=Z,4.8nm,0.5s,mb4.6,baz=75,slow=7.0,SNR=60						
ARE0	**ARCESS Array S**	**79.07**	**339**	*eP*	**P**	**09 19 09.1**	**-0.3**
BRTR	**Keskin Array B**	**79.15**	**308**	P	**P**	**09 19 10.2**	**-0.3**
	comp=Z,5.0nm,0.8s,mb4.4,baz=131,slow=4.9,SNR=20						
EIL	**Elat**	**79.72**	**298**	*eP*	**P**	**09 19 13.9**	**+0.1**
	comp=Z,13nm,0.7s,mb4.9						
KAF	**Kangasniemi**	**80.04**	**332**	*ep*	**P**	**09 19 13.2**	**-1.7**
	comp=Z,2.5nm,0.5s,mb4.3,baz=76,slow=5.0						
KAF	**Kangasniemi**	**80.04**	**332**	*eP*	**P**	**09 19 13.2**	**-1.7**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
FINES	**FINESS Array B**	**80.27**	**331**	P	**P**	**09 19 15.1**	**-1.0**
	comp=Z,1.6nm,0.5s,mb4.1,baz=56,slow=5.2,SNR=16						
AKASG	**Malin Array Be**	**80.45**	**320**	P	**P**	**09 19 16.2**	**-1.1**
	comp=Z,3.5nm,0.7s,mb4.3,baz=63,slow=4.5,SNR=12						
KIS	**Kishinev**	**81.38**	**316**	*eP*	**P**	**09 19 19.0**	**-3.3**
INK	**Inuvik**	**83.07**	**21**	*eP*	**P**	**09 19 30.6**	**+0.1**
INK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
INK	**Inuvik**	**83.07**	**21**	P	**P**	**09 19 31.0**	**+0.5**
	comp=Z,5.4nm,0.7s,mb4.5,baz=285,slow=5.8,SNR=16						
INK	**Inuvik**	**83.07**	**21**	*eP*	**P**	**09 19 30.6**	**+0.1**
	comp=Z,9.9nm,1.1s,mb4.5						
SUW	**Suwalki**	**83.39**	**324**	*eP*	**P**	**09 19 32.1**	**-0.3**
MLR	**Muntele Rosu**	**83.65**	**315**	P	**P**	**09 19 34.0**	**+0.1**
	comp=Z,10.0nm,0.7s,mb4.8,baz=158,slow=1.1,SNR=21						
KMBO	**Kilima Mbogo**	**83.92**	**267**	*eP*	**P**	**09 19 37.9**	**+1.9**
KMBO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KMBO	**Kilima Mbogo**	**83.92**	**267**	P	**P**	**09 19 37.7**	**+1.8**
	comp=Z,5.9nm,0.9s,mb4.4,baz=46,slow=8.5,SNR=22						
KMBO	**Kilima Mbogo**	**83.92**	**267**	*eP*	**P**	**09 19 37.9**	**+1.9**
	comp=Z,6.4nm,0.9s,mb4.5						
KWP	**Kalwaria**	**84.78**	**320**	*eP*	**P**	**09 19 39.9**	**+0.5**
NIE	**Niedzica**	**86.34**	**320**	*eP*	**P**	**09 19 47.9**	**+0.9**
OJC	**Ojcow**	**86.42**	**321**	*eP*	**P**	**09 19 47.9**	**+0.5**
NB2	**NORSAR Subarra**	**87.25**	**333**	P	**P**	**09 19 50.1**	**-1.1**
	comp=Z,3.4nm,0.6s,mb4.5,baz=67,slow=4.8						
NB2	**NORSAR Subarra**	**87.25**	**333**	P	**P**	**09 19 50.1**	**-1.1**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
NOA	**NORSAR Array B**	**87.25**	**333**	P	**P**	**09 19 50.4**	**-0.8**
	comp=Z,2.9nm,0.6s,mb4.4,baz=68,slow=4.7,SNR=15						
RES	**Resolute Bay**	**89.01**	**9**	*eP*	**P**	**09 19 59.5**	**+0.2**
RES				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
RES	**Resolute Bay**	**89.01**	**9**	*eP*	**P**	**09 19 59.5**	**+0.2**
	comp=Z,6.4nm,0.9s,mb4.7						
BRG	**Berggiesshubel**	**89.73**	**323**	*eP*	**P**	**09 20 04.3**	**+1.1**
BRG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
BRG	**Berggiesshubel**	**89.73**	**323**	*eP*	**P**	**09 20 04.3**	**+1.1**
	comp=Z,4.9nm,0.9s,mb4.6						
CLL	**Collm**	**90.12**	**323**	*eP*	**P**	**09 20 06.0**	**+1.0**
CLL	**Collm**	**90.12**	**323**	P	**P**	**09 20 06.0**	**+1.0**
GERES	**GERESS Array B**	**90.62**	**321**	P	**P**	**09 20 07.6**	**+0.2**
	comp=Z,1.1nm,0.8s,mb4.0,baz=63,slow=6.0,SNR=7.2						
MAW	**Mawson**	**91.12**	**199**	*eP*	**P**	**09 20 09.6**	**+0.3**
MAW				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MAW	**Mawson**	**91.12**	**199**	P	**P**	**09 20 10.7**	**+1.4**
	comp=Z,5.0nm,1.2s,mb4.5,baz=67,slow=7.7,SNR=3.9						
MAW	**Mawson**	**91.12**	**199**	*eP*	**P**	**09 20 09.6**	**+0.3**
	comp=Z,5.4nm,1.0s,mb4.6						
YKA	**Yellowknife Ar**	**92.75**	**22**	P	**P**	**09 20 17.6**	**+0.7**
	comp=Z,1.0nm,0.6s,mb4.3,baz=307,slow=4.4,SNR=33						
YKA				PKKP	PKKP	09 37 26.8	+18
	comp=Z,0.4nm,0.5s,baz=131,slow=2.7,SNR=16						
VNDA	**Vanda**	**94.06**	**172**	P	**P**	**09 20 22.9**	**+0.3**
	comp=Z,1.1nm,0.7s,mb4.3,baz=337,slow=2.7,SNR=3.5						
PDAR	**Pinedale Array**	**107.33**	**36**	PKKP	PKKP	09 37 02.2	+19
	comp=Z,0.2nm,0.8s,baz=124,slow=3.3,SNR=4.5						
VNA2	**Neumayer--Watz**	**114.82**	**197⇑**	*i*	PKPdf	09 25 42.2	-1

JIE				S	S	09 16 05.6	+0.7
TK04	Tokai 4	1.57	24	⇓P	P	09 15 48.3	+0.4
TK04				S	S	09 16 07.3	0.0
JWM	Minabe	1.72	302	⇓P	P	09 15 50.3	+0.4
JWM				S	S	09 16 10.3	-0.6
JWY	Kouya	1.79	316	⇓P	P	09 15 52.0	+1.0
JWY				S	S	09 16 12.8	+0.1
TSUJ	Tsu 2	1.85	342	⇓P	P	09 15 52.4	+0.6
TSUJ				S	S	09 16 13.9	-0.3
JHJ	Hachijo jima 2	2.26	85	Pn	P	09 15 52.4	-5.3
	4.3nm,0.3s,baz=249,slow=16,SNR=2.6						
JHJ				Sn	S	09 16 24.3	-0.3
	26nm,0.3s,baz=227,slow=23,SNR=4.6						
JHJ2	Mitsune	2.29	85	eS	S	09 16 24.1	-1.2
JAI	Aioi	2.37	292	P	P	09 15 59.7	+0.4
JAI				S	S	09 16 26.3	-1.2
JIM2	Oshima 3	2.62	47	P	P	09 16 03.0	+0.1
JIM2				S	S	09 16 33.7	-0.2
JWT	Wachi	2.72	329	⇓P	P	09 16 05.1	+0.8
JWT				S	S	09 16 36.3	-0.1
JGM	Miyama	2.76	354	⇓P	P	09 16 05.6	+0.7
JGM				S	S	09 16 36.7	-0.8
JMN	Monobe	2.81	287	P	P	09 16 05.8	+0.3
JMN				S	S	09 16 36.7	-1.9
JYN	Shimob	2.81	25	P	P	09 16 06.0	+0.4
JOD2	Odawara 2	2.84	35	P	P	09 16 06.7	+0.7
JOD2				S	S	09 16 37.7	-1.6
MAJO	Matsushiro	3.70	14	eP	P	09 16 17.2	-1.0
MAT	Matsushiro	3.70	14	eP	P	09 16 19.0	+0.8
MAT				eS	S	09 17 01.0	-0.3
MAT	Matsushiro	3.70	14	P	P	09 16 19.1	+0.9
MAT				S	S	09 17 00.5	-0.8
SONM	Songino Array	27.49	312	P	P	09 21 08.7	+1.8
	0.6nm,0.6s,mb3.3,baz=126,slow=7.9,SNR=6.0						
BVAR	Borovoye Array	50.79	314	P	P	09 24 21.5	+0.9
	0.3nm,0.5s,mb3.5,baz=146,slow=11,SNR=3.6						
WRAB	Tennant Creek	52.65	183	P	P	09 24 33.8	-1.2
WRA	Warramunga Arr	52.66	183	P	P	09 24 34.6	-0.4
	0.9nm,0.8s,mb3.8,baz=2.1,slow=7.8,SNR=12						
ASAR	Alice Springs	56.38	184	P	P	09 25 02.8	+0.6
	0.3nm,0.8s,mb3.4,baz=17,slow=12,SNR=4.1						

NIED ***29*** *09:24:00, 44.20N×147.30E, h80km, Mw3.9 Best double couple: M0:7.27×10¹⁴ NP1:φ₀75°, δ87°, λ-167°. NP2: φ₀344°, δ77°, λ-3°.*
SKHL ***29*** *09:24:21.3±0.7, 44.16N×147.86E, h66km±14km, mb5.1/2*
JMA ***29*** *09:24:24.3±0.2, 44.16N×147.30E, h101km±4km, M3.9*
IDC ***29*** *09:24:26.8±2.7, 44.71N×147.01E, h126km±29km, mb3.8/14, mb1 4.0/15, mb1mx3.8/23, mbtmp4.1/15, Error ellipse: s-maj=51.4km s-min=16.9km az=179.0*
ISC 29 09:24:21.8±0.6, 44.30N±0.07×147.37E±0.08, h109km±4km, n37, σ1§15/51, mb3.9/15, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.00	21	⇓iP			P	09 24 42.2	-1.0
KUR					AMB		AMB	09 24 43.2	
	200nm,0.4s								
KUR					AMB		AMB	09 24 43.2	
	180nm,0.4s								
KUR					AMB		AMB	09 24 43.2	
	410nm,0.4s								
KUR				i	S		S	09 24 58.4	-0.9
YUK	Yuzh-Kuril'sk	1.11	257	i	P		P	09 24 44.0	-0.5
YUK					AMB		AMB	09 24 44.8	
	320nm,0.3s								
YUK					AMB		AMB	09 24 44.8	
	1μm,0.3s								
YUK				eS			S	09 25 00.5	-1.0
YUK					A			09 25 02.0	
	10μm,2.2s								
YUK					A			09 25 02.0	
	5μm,0.8s								
YUK					A			09 25 03.0	
	2μm,0.3s								
YUK					A			09 25 03.0	
	6μm,0.5s								
NEM2	Nemuro 2	1.50	232	P			P	09 24 49.3	+0.3
NEM2				eS			S	09 25 07.6	-1.8
JRA	Rausu	1.66	258	P			P	09 24 52.0	+1.1
JRA				eS			S	09 25 13.1	+0.4
JNK	Nakash	2.04	251	P			P	09 24 56.8	+1.1
JNK				eS			S	09 25 20.7	-0.4
JAK	Akkeshi	2.33	237	P			P	09 25 00.0	+0.3
JAK				eS			S	09 25 26.3	-1.8
JTKR	Abashiri--Toko	2.51	264	P			P	09 25 02.9	+0.8
JTKR				eS			S	09 25 32.1	-0.3
JAR	Ashorobuto	2.79	250	P			P	09 25 07.2	+1.3
JAR				eS			S	09 25 39.4	+0.3
JMP	Maruseppu	2.90	266	P			P	09 25 08.1	+0.7
JMP				eS			S	09 25 41.8	+0.1
JOB	Onbets	2.92	243	P			P	09 25 08.5	+0.9
JOB				eS			S	09 25 40.5	-1.7
JKK2	Kamakawa 2	3.35	264	P			P	09 25 14.6	+1.0
JKK2				eS			S	09 25 53.3	+0.5
JCH	Churui	3.37	241	P			P	09 25 13.8	+0.1
JCH				eS			S	09 25 50.1	-2.9
ASAJ	Asahikawa	3.43	269	P			P	09 25 15.8	+1.2
	8.2nm,0.3s,baz=81,slow=20,SNR=36								
ASAJ					S		S	09 26 09.1	+14
	1.3nm,0.3s,baz=198,slow=20,SNR=3.7								
JSE	Soyaes	3.48	283	P			P	09 25 15.7	+0.5
JFR	Furan	3.64	254	P			P	09 25 18.6	+1.2
JNBK	Urakawa-nobuka	3.92	241	P			P	09 25 20.7	-0.6
JNBK				eS			S	09 26 03.2	-3.5
JWK2	Keihoku	4.02	287	P			P	09 25 24.4	+1.8
JHR	Hokuryu	4.11	264	P			P	09 25 25.4	+1.6
YSS	Yuzh-Sakhalins	4.19	311	eP			P	09 25 25.0	+0.1
YSS				erx			rx	09 25 29.0	
JEW	Eniwo	4.54	253	P			P	09 25 31.1	+1.5
SONM	Songino Array	28.41	292	P			P	09 30 06.7	-1.2
	0.2nm,0.5s,mb2.9,baz=79,slow=7.6,SNR=2.7								
SONM					pP		pP	09 30 35.0	+3.3
	0.7nm,0.7s,baz=79,slow=8.8,SNR=5.4								
ILAR	Eielson Array	40.96	37	P			P	09 31 55.1	+0.4
	2.5nm,0.6s,mb4.2,baz=272,slow=7.8,SNR=33								
INK	Inuvik	45.86	31	P			P	09 32 34.4	+0.2
	4.6nm,0.4s,mb4.6,baz=304,slow=3.5,SNR=25								
YKA	Yellowknife Ar	55.26	34	P			P	09 33 45.2	-0.3
	1.0nm,0.7s,mb4.0,baz=302,slow=7.2,SNR=22								
ARCES	ARCESS Array B	58.79	340	P			P	09 34 07.4	-2.9
	7.0nm,1.1s,mb4.6,baz=51,slow=7.8,SNR=5.3								
FINES	FINESS Array B	64.46	333	P			P	09 34 45.4	-2.9
	1.6nm,0.5s,mb4.1,baz=52,slow=6.6,SNR=19								
NVAR	Mina Array Bea	67.16	58	P			P	09 35 07.4	+1.5
	0.5nm,0.6s,mb3.5,baz=282,slow=7.4,SNR=4.7								
NB2	NORSAR Subarra	69.15	339	P			P	09 35 15.5	-2.3
	1.4nm,0.8s,mb3.8,baz=30,slow=6.5								
NOA	NORSAR Array B	69.15	339	P			P	09 35 15.8	-2.0
	0.6nm,0.5s,mb3.7,baz=31,slow=6.3,SNR=4.0								
HFS	Hagfors	69.25	337	P			P	09 35 16.2	-2.1
	1.9nm,0.4s,mb4.3,baz=18,slow=4.7,SNR=18								
PDAR	Pinedale Array	69.44	50	P			P	09 35 20.4	+0.6
	0.6nm,0.6s,mb3.6,baz=187,slow=1.3,SNR=5.7								
AKASG	Malin Array Be	71.23	324	P			P	09 35 28.9	-1.6
	0.3nm,0.3s,mb3.5,baz=38,slow=6.0,SNR=5.4								
SCHQ	Schefferville	77.06	19	P			P	09 36 04.2	+0.3
	6.2nm,1.3s,mb4.2,baz=326,slow=11,SNR=6.5								
EKA	Eskdalemuir Ar	77.65	343	P			P	09 36 07.2	0.0
	1.6nm,0.5s,mb4.0,baz=23,slow=5.4,SNR=5.8								
KHC	Kasperske Hory	78.56	331	eP			P	09 36 12.0	-0.3
GERES	GERESS Array B	78.76	331	P			P	09 36 13.6	+0.2
	0.5nm,0.4s,mb3.7,baz=44,slow=6.3,SNR=7.1								
TXAR	Lajitas Array	82.22	56	P			P	09 36 33.8	+1.6
	0.8nm,0.6s,mb3.8,baz=297,slow=4.2,SNR=17								

MOS ***29*** *09:27:38.7±1.1, 7.76N×94.14E, h33km, mb5.1/37, MS4.5/5, Error ellipse: s-maj=9.7km s-min=5.7km az=109.9*
BJI ***29*** *09:27:38.9, 7.55N×93.96E, h48km, mB5.1, mb4.9, Ms5.0, Msz4.7*
IDC ***29*** *09:27:38.3±3.5, 7.79N×94.22E, h21km±21km, mb4.6/27, mb1 4.7/28, mb1mx4.6/31, mbtmp4.7/28, ML4.8/1, MS4.3/19, Ms1 4.3/19, ms1mx4.1/31, Error ellipse: s-maj=23.3km s-min=11.5km az=46.0*
NEIC ***29*** *09:27:40.0±0.2, 7.84N×94.24E, h30km, mb4.9/46, Error ellipse: s-maj=7.7km s-min=4.8km az=50.0*
HRVD ***29*** *09:27:40.0±0.4, 7.76N×94.29E, h15km±2km, MW5.0/50, Centroid moment Tensor Solution. LP body waves: s23,c33;Mantle waves: s50,c74; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.85±.16; Mθθ-2.56±.13; Mφφ3.42±.16; Mrθ-1.73±.49; Mrφ1.55±.12; Mθφ-1.86±.52; Best double couple: M0:4.185×10¹⁶ NP1:φ₀148°, δ52°, λ-174°. NP2:φ₀54°, δ85°, λ-38°. Principal axes: T 4.714, Plg22°, Azm108°; N -1.051, Plg51°, Azm229°; P -3.655, Plg30°, Azm4°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 29 09:27:38.8±0.9, 7.79N±0.04×94.20E±0.03, h35km±7km, h27km±5.2km: pP-P, n227, σ1§03/222, mb4.9/85, MS4.4/31, 9C-4D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SNG	Songkhla	6.39	95	P			P	09 29 11.0	-2.1
	414nm,0.8s								
NNT	Nongplab	7.24	48	P			P	09 29 24.0	-0.9
NST	Nakhon Sawan	9.75	36	P			P	09 30 00.0	+0.1
CM31	Chiang Mai Arr	11.56	23	eP			P	09 30 26.1	+1.5
	34nm,0.8s								
CMAR	Chiang Mai Arr	11.56	23	Pn			P	09 30 25.2	+0.6
	2.0nm,0.3s,baz=211,slow=14,SNR=95								
CMAR				LR			LR	09 34 53.2	
	comp=Z,1μm,18.9s,baz=205,slow=38								
CHG	Chiang Mai	11.89	22	⇑P			P	09 30 30.3	+1.3
	50nm,0.9s								
NANT	Nan	12.64	29	P			P	09 30 40.0	+0.9
CHRT	Chiangrai	13.17	24	⇑P			P	09 30 47.0	+0.9
	210nm,1.1s								
PALK	Pallekele	13.39	269	eP			P	09 30 50.2	+1.2
	27nm,1.1s								
VIS	Vishakhapatnam	14.48	314	eP			P	09 31 03.4	+0.1
VIS				e				09 31 25.0	
	comp=Z,105nm,1.3s								
VIS				e			S	09 33 32.1	-11
CAL	Calcutta	15.71	340	eP			P	09 31 18.4	-1.0
IMP	Imphal	16.90	359	e			P	09 31 33.3	-1.1
SHL	Shillong	17.82	353	⇑iP			P	09 31 43.5	-2.4
SHL				e			S	09 35 25.0	+24
HYB	Hyderabad	18.00	304	eP			P	09 31 50.0	+1.8
HYB				eS			S	09 35 09.0	+4.0
HYB	Hyderabad	18.00	304	i P			P	09 31 50.0	+1.8
	comp=Z,30nm,1.0s								
HYB				eS			S	09 35 09.0	+4.0
BLSP	Bilaspur	18.40	322	eP			P	09 31 53.2	0.0
BLSP				e				09 32 03.8	
	comp=Z,55nm,1.4s								
BLSP				e				09 34 48.1	
QIZ	Qiongzhong	18.86	52	P			P	09 31 59.0	+0.2
QIZ				S			S	09 35 24.0	-0.2
QIZ				LR			LR		
	comp=N,5μm,11.6s								
KMI	Kunming	19.07	24	P			P	09 32 04.3	+3.1
KMI				pmax			pmax		
	comp=Z,69nm,1.2s								
KMI	Kunming	19.07	24	P			P	09 32 04.3	+3.1
	comp=Z,69nm,1.2s								
KMI				sP				09 32 16.3	
KMI				PP			PP	09 32 24.2	+6.3
KMI				S			S	09 35 42.8	+14
KMI				sS				09 35 54.6	
KMI				SS			SS	09 36 14.9	+20
MNGI	Mangalore	19.73	287	i P			P	09 32 09.2	+0.6
MNGI				e			S	09 36 03.8	+20
COCO	West Island	20.02	172	P			P	09 32 11.9	+0.2
	comp=Z,165nm,1.2s								
JIRN	Jiri	21.17	340	eP			P	09 32 22.9	-0.6
	comp=Z,317nm,1.1s,mb5.6								
PKI	Pulchoki	21.36	338	eP			P	09 32 24.7	-0.7
	comp=Z,171nm,1.1s,mb5.3								
GUN	Gumba	21.50	340	eP			P	09 32 26.2	-0.7
	comp=Z,432nm,1.2s,mb5.7								
DMN	Daman	21.51	338	eP			P	09 32 26.3	-0.6
	comp=Z,265nm,1.1s,mb5.6								
KKN	Kakani	21.61	338	eP			P	09 32 27.1	-0.8
	comp=Z,222nm,1.2s,mb5.5								
KAD	Karad	21.69	298	eP			P	09 32 29.4	+0.6
KAD				e				09 32 35.6	
	comp=Z,36nm,0.7s								
LSA	Lhasa	21.98	353	P			P	09 32 31.8	+0.2
LSA					AMB		AMB		
	comp=Z,30nm,1.1s,mb4.6								
GKN	Gorkha	22.05	337	eP			P	09 32 31.8	-0.4
	comp=Z,122nm,0.8s,mb5.4								
BHPL	Bhopal	22.26	316	eP			P	09 32 36.6	+2.2
BHPL				e				09 32 49.7	
	comp=Z,79nm,1.8s								
KOLN	Koldanda	22.26	335	eP			P	09 32 34.5	+0.1
	comp=Z,95nm,0.8s,mb5.2								
POO	Poona	22.48	300	eP			P	09 32 35.0	-1.6
NDI	New Delhi	26.24	325	eP			P	09 33 12.0	-0.8
NDI				eS			S	09 37 47.0	+6.4
AJM	Ajmer	26.28	317	eP			P	09 33 11.0	-2.2
AJM				e			pP	09 33 23.6	+0.7
	comp=Z,29nm,1.5s								
TGY	Tagaytay City	26.97	74	LR			LR	09 43 40.3	
	comp=Z,1μm,20.5s,MS4.4,baz=0.9,slow=36								
DDI	Dehra Dun	27.05	328	eP			P	09 33 19.6	-0.6
XAN	Xi'an	29.44	25	P			P	09 33 40.5	-1.2
XAN					AMB		AMB		
	comp=Z,15nm,1.0s,mb4.7								
WHN	Wuhan	29.47	37	⇑P			P	09 33 43.3	+1.4
WHN					S		S	09 38 32.0	-0.6
WHN				LR			LR		
	comp=Z,3μm,11.9s,MS5.1								
LZH	Lanzhou	29.51	16	eP			P	09 33 43.0	+0.7
LZH					AMB		AMB		
	comp=Z,42nm,1.5s,mb5.0								
LZH					AMB		AMB		
	comp=Z,132nm,4.5s								
LZH				LR			LR		
	comp=E,1μm,13.3s								
LZH				LR			LR		
	comp=Z,2μm,14.5s,MS4.8								
LZH	Lanzhou	29.51	16	eP			P	09 33 43.0	+0.7
	comp=Z,42nm,1.5s,mb5.0								
LZH				pP			pP	09 33 47.6	-4.5
LZH				sP			sP	09 33 50.9	-5.8
LZH				LR			LR		
	comp=Z,2μm,14.5s,MS4.8								
SSE	Sheshan	34.24	44	P			P	09 34 24.0	+0.3
SSE				S			S	09 39 54.5	+7.2
SSE				XS				09 40 09.8	
SSE					AMB		AMB		
	comp=Z,28nm,0.8s,mb5.2								
SSE					AMB		AMB		
	comp=Z,70nm,6.2s								
SSE				LR			LR		
	comp=N,1μm,16.0s,MS4.8								
SSE				LR			LR		
	comp=E,670nm,16.0s,MS4.8								
SSE				LR			LR		
	comp=Z,1μm,13.6s,MS4.8								
SSE	Sheshan	34.24	44	P			P	09 34 23.9	+0.2
	comp=Z,28nm,0.8s,mb5.2								
SSE				sP			sP	09 34 36.0	-2.2
SSE				S			S	09 39 54.6	+7.3
SSE				sS				09 40 09.7	
SSE				SS			SS	09 42 27.6	+30
SSE				LR			LR		
	comp=Z,1μm,13.6s,MS4.8								
WMQ	Urumqi	36.34	352	P			P	09 34 42.0	+0.6
WMQ				LR			LR		
	comp=N,766nm,18.2s,MS4.7								
WMQ				LR			LR		
	comp=E,811nm,18.3s,MS4.7								
WMQ				LR			LR		
	comp=Z,1μm,18.6s,MS4.7								
JOW	Kunigami	37.45	55	LR			LR	09 49 48.7	
	comp=Z,253nm,20.4s,MS4.0,baz=280,slow=36								
BJI	Beijing	37.65	28	P			P	09 34 55.5	+3.0
BJI				S			S	09 40 44.6	+5.0
BJI				pmax			pmax		
	comp=Z,11nm,1.3s,mb4.4								
BJI				MLR			MLR		
	comp=Z,400nm,21.1s,MS4.2								
BJI	Beijing	37.65	28	P			P	09 34 55.5	+3.0
	comp=Z,11nm,1.3s,mb4.4								
BJI				S			S	09 40 44.6	+5.0
BJI				LR			LR		
	comp=Z,400nm,21.1s,MS4.2								
KZA	Kyzart	38.04	337	P			P	09 34 56.4	+0.7
	SNR=5.8								
MBWA	Marble Bar	38.16	139	P			P	09 35 03.5	+6.5
UCH	Uchtor	38.45	336	P			P	09 34 60.0	+0.8
	SNR=9.2								
KBK	Karagaybulak	38.65	337	P			P	09 35 01.8	+1.0
	SNR=5.5								
AML	Almayashu	38.71	335	P			P	09 35 01.9	+0.7
	SNR=14								
AAK	Ala-Archa	38.80	337	P			P	09 35 02.0	-0.1
AAK				pmax			pmax		
	comp=Z,18nm,1.1s,mb4.7								
AAK	Ala-Archa	38.80	337	eP			P	09 35 01.3	-0.8
	comp=Z,19nm,1.1s,mb4.8								
FRU	Bishkek	38.92	337	eP			P	09 35 03.5	+0.4
FRU				e				09 36 36.0	
CHMS	Chumysh	39.01	337	P			P	09 35 03.9	+0.1
	SNR=9.1								
EKS2	Erkin-Say	39.11	336	P			P	09 35 05.5	+0.9
	SNR=7.3								
USP	Ospenovka	39.34	337	P			P	09 35 06.8	+0.3
	SNR=15								
FITZ	Fitzroy Crossi	40.31	130	eP			P	09 35 16.3	+1.4
	comp=Z,14nm,0.7s,mb4.8								
SONM	Songino Array	41.23	12	P			P	09 35 22.9	+0.7
	comp=Z,15nm,1.0s,mb4.6,baz=198,slow=6.4,SNR=81								
SONM				PcP			PcP	09 37 20.9	-0.3
	comp=Z,2.2nm,0.9s,baz=199,slow=3.0,SNR=4.1								
SONM				ScP				09 41 07.8	
	comp=Z,1.1nm,1.0s,baz=198,slow=3.9,SNR=4.0								
ULN	Ulaanbaatar	41.41	13	⇑eP			P	09 35 22.9	-0.7
ULN	Ulaanbaatar	41.41	13	eP			P	09 35 24.0	+0.4
	comp=Z,14nm,1.1s,mb4.5								
KS15	Wonju Array Si	42.46	41	eP			P	09 35 28.6	-3.7
SNY	Shenyang	42.71	33	⇑P			P	09 35 36.3	+1.9
SNY				S			S	09 42 00.5	+5.3
SNY				AMB			AMB		
	comp=Z,120nm,4.5s								
SNY				LR			LR		
	comp=E,700nm,14.4s								
SNY				LR			LR		
	comp=Z,740nm,16.2s,MS4.7								
ZAK	Zakamensk	43.12	9	eP			P	09 35 37.6	0.0
ZAK				e				09 37 25.2	
MOY	Mondy	44.10	6	eP			P	09 35 46.2	+0.7
TLY	Talaya	44.44	8	eP			P	09 35 48.2	-0.1
TLY				eS			S	09 42 25.0	+4.7
TLY				pmax			pmax		
	comp=Z,7.0nm,1.0s,mb4.3								
TLY				MLR			MLR		
	comp=Z,361nm,18.0s,MS4.3								
TLY	Talaya	44.44	8	eP			P	09 35 48.5	+0.2
	comp=Z,9.1nm,1.1s,mb4.4								
KURK	Kurchatov	44.71	346	eP			P	09 35 50.0	-0.4
KURK				pmax			pmax		
	comp=Z,2.0nm,0.6s,mb4.1								
KURK	Kurchatov	44.71	346	eP			P	09 35 50.0	-0.4
	comp=Z,1.7nm,0.6s,mb4.0								
MUN	Mundaring	44.78	153	eP			P	09 35 51.3	0.0
	comp=Z,17nm,1.5s,mb4.7								
MUN	Mundaring	44.78	153	eP			P	09 35 51.3	0.0
MUN				pmax			pmax		
	comp=Z,17nm,1.5s,mb4.7								
KLBR	Kellerberrin	45.17	151	eP			P	09 35 53.8	-0.6
	comp=Z,88nm,0.7s,mb5.7								
NWAO	Narrogin (SRO)	46.05	153	eP			P	09 36 01.3	0.0
NWAO				pmax			pmax		
	comp=Z,8.0nm,0.7s								
NWAO	Narrogin (SRO)	46.05	153	P			P	09 36 01.1	-0.2
	comp=Z,22nm,1.0s,mb5.0,baz=332,slow=4.3,SNR=14								
NWAO				LR			LR	09 53 51.2	
	comp=Z,2.2nm,18.9s,baz=158,slow=34								
NWAO	Narrogin (SRO)	46.05	153	eP			P	09 36 01.2	-0.1
	comp=Z,8.4nm,0.7s,mb4.8								
ZAL	Zalesovo	46.64	352	P			P	09 36 05.8	+0.2
	comp=Z,13nm,0.7s,mb5.0,baz=297,slow=10,SNR=92								
NVS	Novosibirsk	47.74	351	⇓iP			P	09 36 12.7	-1.6
NVS				e*PP			pP	09 36 25.0	+0.5
NVS				e				09 37 50.6	
NVS				i S			S	09 43 06.7	-0.5
NVS				pmax			pmax		
	comp=N,26nm,1.0s								
NVS				pmax			pmax		
	comp=Z,33nm,1.0s,mb5.3								
NVS				pmax			pmax		
	comp=E,12nm,1.1s								
NVS				smax					
	comp=N,11nm,1.4s								
NVS				smax					
	comp=E,25nm,1.6s								
MDJ	Mudanjiang	47.84	34	P			P	09 36 14.0	-1.3
MDJ				AMB			AMB		
	comp=Z,13nm,1.5s,mb4.7								
MDJ				AMB			AMB		
	comp=Z,152nm,4.7s								
MDJ				LR			LR		
	comp=N,241nm,18.3s,MS4.3								
MDJ				LR			LR		
	comp=E,107nm,14.8s,MS4.3								
MDJ				LR			LR		
	comp=Z,208nm,18.3s,MS4.1								
WRA	Warramunga Arr	48.16	126	P			P	09 36 16.2	-1.9
	comp=Z,7.7nm,1.1s,mb4.6,baz=304,slow=8.5,SNR=26								
WRA				ScP				09 41 39.6	
	comp=Z,0.4nm,0.9s,baz=309,slow=4.1,SNR=2.5								
WRAB	Tennant Creek	48.17	125	eP			P	09 36 17.2	-0.9
WRAB	Tennant Creek	48.17	125	eP			P	09 36 16.2	-1.9
	comp=Z,16nm,1.0s,mb5.0								
WB2	Warramunga Arr	48.17	126	eP			P	09 36 16.1	-2.1
BVA0	Borovoye Array	49.09	341	i P			P	09 36 23.3	-1.5
BVA0				pmax			pmax		
	comp=Z,3.0nm,1.1s,mb4.2								
BVAR	Borovoye Array	49.09	341	P			P	09 36 24.0	-0.8
	comp=Z,10nm,0.9s,mb4.8,baz=153,slow=6.6,SNR=38								
BVAR				PcP			PcP	09 37 48.7	+0.3
	comp=Z,2.7nm,0.8s,baz=166,slow=5.9,SNR=2.7								
BRVK	Borovoye	49.15	341	P			P	09 36 24.3	-0.9
BRVK				pmax			pmax		
	comp=Z,9.0nm,1.1s,mb4.7								
BRVK	Borovoye	49.15	341	eP			P	09 36 23.7	-1.5
	comp=Z,21nm,1.2s,mb5.0								
RAYN	Ar Rayn	49.17	294	P			P	09 36 26.2	+0.4
	comp=Z,153nm,0.8s,SNR=25								
CHKZ	Chkalovo	49.57	342	P			P	09 36 27.6	-0.9
CHKZ				pmax			pmax		
	comp=Z,34nm,1.1s,mb5.3			

GNI Garni 54.54 314 P P 09 37 05.6 -0.3
comp=E,2.9nm,0.4s,mb4.7,baz=339,slow=18,SNR=3.7
GNI LR LR 10 04 40.7
comp=E,72nm,19.7s,MS3.7,baz=220,slow=41
ASAJ Asahikawa 55.44 41 LR LR 09 59 50.1
comp=E,156nm,20.6s,MS4.1,baz=168,slow=35
PMG Port Moresby 55.45 107 *e*P **P 09 37 11.8 -1.1**
PMG Port Moresby 55.45 107 P **P 09 37 13.6 +0.8**
comp=E,18nm,0.9s,mb5.1,baz=315,slow=19,SNR=2.5
SVE Sverdlovsk 55.50 338 *e*P **P 09 37 08.0 -4.6**
SVE pmax pmax
comp=Z,60nm,1.6s,mb5.4
SVE MLR MLR
comp=Z,80μm,2.0s
ARU Arti 55.99 337 P **P 09 37 15.2 -1.0**
comp=Z,94nm,1.4s,mb5.6,SNR=10
ARU Arti 55.99 337 ⇓*i*P **P 09 37 08.9 -7.3**
ARU *e*PPP PPP 09 40 31.3 -7.3
ARU *e*S **S 09 44 54.7 -5.6**
ARU *e*SS SS 09 48 42.9 -3.5
ARU pmax pmax
comp=Z,20nm,1.2s,mb5.0
YSS Yuzh-Sakhalins 56.81 38 *e*P **P 09 37 24.1 +1.9**
YSS pmax pmax
comp=Z,27nm,1.3s,mb5.1
KIV Kislovodsk 57.42 318 ⇑*i*P **P 09 37 23.6 -3.0**
KIV *e* pP 09 37 32.6 -4.4
KIV *e*S **S 09 45 18.9 -0.4**
KIV pmax pmax
comp=Z,21nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,100nm,19.0s,MS3.9
KIV Kislovodsk 57.42 318 *e*P **P 09 37 25.0 -1.6**
comp=Z,22nm,1.0s,mb5.1
KMBO Kilima Mbogo 57.47 264 *e*P **P 09 37 28.5 +1.1**
KMBO pmax pmax
comp=Z,9.0nm,1.1s
KMBO Kilima Mbogo 57.47 264 P **P 09 37 28.8 +1.4**
comp=Z,4.0nm,0.9s,mb4.5,baz=54,slow=9.6,SNR=13
KMBO LR LR 09 59 06.8
comp=Z,381nm,20.1s,MS4.5,baz=93,slow=33
KMBO Kilima Mbogo 57.47 264 *e*P **P 09 37 28.5 +1.2**
comp=Z,8.8nm,1.1s,mb4.7
CTA Charters Tower 58.22 119 LR LR 10 04 35.0
comp=Z,309nm,19.9s,MS4.4,baz=140,slow=38
CTAO Charters Tower 58.22 119 P **P 09 37 33.9 +1.5**
CTAO pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
CTAO Charters Tower 58.22 119 P **P 09 37 33.9 +1.4**
comp=Z,5.5nm,1.1s,mb4.5
ASF Jabal al Asfar 58.31 303 P **P 09 37 32.8 -0.1**
comp=Z,3.6nm,0.7s,mb4.5,baz=313,slow=4.0,SNR=4.5
ASF LR LR 10 05 28.7
comp=Z,221nm,18.9s,MS4.3,baz=128,slow=39
MALT Malatya 58.56 310 *e*P **P 09 37 33.3 -1.3**
MALT pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MALT Malatya 58.56 310 *e*P **P 09 37 33.3 -1.3**
comp=Z,6.3nm,1.0s,mb4.6
SOC Sochi 59.28 317 *e*P **P 09 37 31.5 -8.1**
SOC *e* 09 39 54.9
SOC *e*S **S 09 45 37.5 -6.1**
SOC *e* 09 47 20.3
SOC *e*SSS SSS 09 52 12.0 +4.6
SOC pmax pmax
comp=Z,78nm,0.9s,mb5.7
SOC pmax pmax
comp=N,74nm,1.0s
SOC pmax pmax
comp=E,59nm,1.2s
EIL Elat 59.52 300 P **P 09 37 41.5 +0.1**
comp=E,7.2nm,1.0s,mb4.7,baz=21,slow=24,SNR=5.0
EIL LR LR 10 05 10.4
comp=E,352nm,18.2s,MS4.5,baz=102,slow=38
EIL Elat 59.52 300 *e*P **P 09 37 41.2 -0.2**
comp=E,28nm,1.6s,mb5.0
STKA Stephens Creek 60.01 134 *e*P **P 09 37 45.2 +0.5**
comp=E,3.9nm,0.7s,mb4.5
STKA Stephens Creek 60.01 134 P **P 09 37 42.6 -2.1**
comp=E,5.1nm,1.0s,mb4.5,baz=334,slow=8.9,SNR=3.9
STKA LR LR 10 04 07.6
comp=E,385nm,21.3s,MS4.5,baz=131,slow=36
YAK Yakutsk 60.06 18 *e*P **P 09 37 44.0 -0.6**
YAK pmax pmax
comp=Z,80nm,1.2s,mb5.6
YAK Yakutsk 60.06 18 *e*P **P 09 37 44.0 -0.6**
comp=Z,80nm,1.2s,mb5.6
BRTR Keskin Array B 62.53 311 P **P 09 37 59.1 -2.5**
comp=Z,2.5nm,0.7s,mb4.5,baz=117,slow=5.5,SNR=9.4
MOS Moscow 65.18 329 *e*P **P 09 38 17.8 -0.9**
MOS pmax pmax
comp=Z,42nm,0.7s,mb5.6
OBN Obninsk 65.48 328 ⇑*e*P **P 09 38 16.7 -3.9**
OBN *i* pP 09 38 28.6 -2.7
OBN pmax pmax
comp=Z,33nm,1.0s,mb5.3
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
OBN Obninsk 65.48 328 *e*P **P 09 38 14.4 -6.2**
comp=Z,59nm,1.4s,mb5.4
MA2 Magadan 66.81 28 *e*P **P 09 38 29.1 +0.1**
MA2 *e*PPP PPP 09 42 37.3 +2.6
MA2 S S 09 47 22.2 +4.7
MA2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
MA2 MLR MLR
comp=Z,400nm,20.0s,MS4.6
TIXI Tiksi 67.30 11 ⇓*i*P **P 09 38 30.8 -1.1**
TIXI pmax pmax
comp=Z,44nm,1.0s,mb5.4
TIXI MLR MLR
comp=Z,276nm,13.0s,MS4.7
AKASG Malin Array Be 68.26 322 P **P 09 38 35.8 -2.4**
comp=Z,11nm,1.1s,mb4.8,baz=88,slow=4.8,SNR=12
AKASG PP PP 09 41 07.6 -3.4
comp=Z,0.5nm,0.5s,baz=92,slow=6.6,SNR=5.3
IDI Anoyia 68.66 305 P **P 09 38 40.2 -0.9**
comp=Z,14nm,0.8s,mb5.0,baz=125,slow=6.9,SNR=6.7
MLR Muntele Rosu 69.27 316 P **P 09 38 43.9 -0.7**
comp=Z,15nm,1.1s,mb4.8,baz=35,slow=7.6,SNR=9.5
MLR LR LR 10 14 41.7
comp=Z,190nm,18.6s,MS4.4,baz=338,slow=41
LSZ Lusaka 69.30 250 *e*P **P 09 38 46.9 +1.7**
LSZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LSZ Lusaka 69.30 250 *e*P **P 09 38 46.9 +1.7**
comp=Z,4.8nm,0.7s,mb4.5
JOF Joensuu 70.95 334 *e*p **P 09 38 52.8 -1.7**
comp=Z,14nm,1.0s,mb4.9
KWP Kalwaria 72.13 320 *e*P **P 09 39 01.3 -0.4**
KOLS Kolonicke sedl 72.31 319 *i*P **P 09 39 03.5 +0.7**
KOLS *i* 09 41 44.2
FINES FINESS Array B 72.81 332 P **P 09 39 05.0 -0.6**
comp=Z,9.3nm,0.8s,mb4.8,baz=102,slow=6.7,SNR=21
FINES LR LR 10 17 18.1
comp=Z,181nm,19.0s,MS4.4,baz=116,slow=41
CRVS Cervenica-Dubn 72.83 319 *i*P **P 09 39 06.7 +0.8**
CRVS *e* 09 39 12.4
CRVS *e*pP pP 09 39 16.8 +0.2
KAF Kangasniemi 72.89 333 *e*p **P 09 39 04.2 -1.8**
comp=Z,18nm,1.0s,mb4.9
KAF Kangasniemi 72.89 333 *e*P **P 09 39 04.2 -1.8**
KAF pmax pmax
comp=Z,18nm,1.0s,mb5.0
NIE Niedzica 73.65 319 *e*P **P 09 39 11.0 +0.3**
PSZ Piszkesteto 73.74 318 *e*P **P 09 39 11.2 -0.1**
PSZ pmax pmax
comp=Z,12nm,1.4s,mb4.6
PSZ Piszkesteto 73.74 318 *e*P **P 09 39 11.2 -0.2**
comp=Z,12nm,1.4s,mb4.6
OJC Ojcow 74.08 320 *e*P **P 09 39 12.6 -0.6**
LBTB Lobatse 74.25 241 *e*P **P 09 39 15.3 +0.6**
LBTB pmax pmax
comp=Z,13nm,1.0s,mb4.8
LBTB Lobatse 74.25 241 *e*P **P 09 39 15.3 +0.6**
comp=Z,13nm,1.0s,mb4.8
VYHS Vyhne 74.51 318 *i*P **P 09 39 15.8 +0.1**
OKC Ostrava-Krasne 75.09 319 *e*P **P 09 39 18.8 -0.3**
ARCES ARCESS Array B 75.36 340 P **P 09 39 20.7 +0.4**
comp=Z,5.9nm,0.9s,mb4.5,baz=80,slow=10,SNR=6.9
ARCES LR LR 10 15 01.1
comp=Z,414nm,18.8s,MS4.8,baz=161,slow=38
MORC Moravsky Berou 75.48 319 *e*P **P 09 39 21.2 -0.1**
MORC pmax pmax
comp=Z,12nm,1.1s,mb4.7
MORC Moravsky Berou 75.48 319 *e*P **P 09 39 21.2 -0.1**
comp=Z,12nm,1.1s,mb4.7
BOSA Boshof 75.59 238 *e*P **P 09 39 22.6 +0.2**
BOSA pmax pmax
comp=Z,18nm,1.2s,mb4.9
BOSA Boshof 75.59 238 *e*P **P 09 39 22.6 +0.2**
comp=Z,18nm,1.2s,mb4.9
VRAC Vranov 76.05 319 P **P 09 39 24.2 -0.4**
comp=Z,3.4nm,0.9s,mb4.2,baz=74,slow=15,SNR=2.8
DPC Dobruska-Polom 76.31 320 *e*P **P 09 39 26.1 +0.1**
KSP Ksiaz 76.36 320 *e*P **P 09 39 26.0 -0.3**
KSP *e*pP pP 09 39 30.2 -6.8
KSP Ksiaz 76.36 320 *e*P **P 09 39 26.3 0.0**
UPC Upice 76.52 320 *e*P **P 09 39 27.4 +0.2**
PRU Pruhonice 77.43 319 *e*P **P 09 39 34.4 +2.1**
BRG Berggiesshubel 77.85 320 *e*P **P 09 39 34.8 +0.2**
BRG pmax pmax
comp=Z,55nm,2.2s,mb5.1
BRG Berggiesshubel 77.85 320 *e*P **P 09 39 34.8 +0.2**
comp=Z,55nm,2.2s,mb5.1
BRG *e* 09 39 56.4
GEC2 GERESS Array S 77.93 318 *e*P **P 09 39 35.1 0.0**
GEC2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
GEC2 GERESS Array S 77.93 318 *e*P **P 09 39 35.1 0.0**
comp=Z,6.0nm,0.9s,mb4.5
GERES GERESS Array B 77.93 318 P **P 09 39 34.8 -0.3**
comp=Z,4.6nm,0.8s,mb4.4,baz=90,slow=5.3,SNR=28
KHC Kasperske Hory 78.02 319 *e*P **P 09 39 35.8 +0.2**
KHC *e* 09 39 40.0
KHC Kasperske Hory 78.02 319 *e*P **P 09 39 35.8 +0.2**
KHC x x 09 39 40.0
RUE Ruedersdorf 78.03 322 *e*P **P 09 39 35.6 +0.1**
comp=Z,25nm,0.9s,mb5.1
CLL Collm 78.46 321 *e*P **P 09 39 38.0 0.0**
CLL *e* 09 39 44.0
CLL pmax pmax
comp=Z,14nm,1.4s,mb4.7
CLL Collm 78.46 321 *e*P **P 09 39 38.0 0.0**
comp=Z,14nm,1.4s,mb4.7
CLL *e* 09 39 44.0
CLL Collm 78.46 321 P **P 09 39 38.0 0.0**
comp=Z,logA/T=1.0,mb4.7
CLL *e**PP pP 09 39 44.0 -4.7
MAW Mawson 78.46 192 LR LR 10 09 26.0
comp=Z,180nm,19.2s,MS4.4,baz=67,slow=32
WET Wettzell 78.48 319 *e*P **P 09 39 38.1 0.0**
WET pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
WET Wettzell 78.48 319 *e*P **P 09 39 38.1 0.0**
comp=Z,5.0nm,1.0s,mb4.4
HFS Hagfors 78.56 330 P **P 09 39 38.1 -0.2**
comp=Z,14nm,0.8s,mb4.9,baz=104,slow=6.1,SNR=15
MOX Moxa 79.32 320 *e*P **P 09 39 42.8 +0.1**
MOX pmax pmax
comp=Z,25nm,1.8s,mb4.8
MOX Moxa 79.32 320 *e*P **P 09 39 42.8 +0.1**
comp=Z,25nm,1.8s,mb4.8
MOX Moxa 79.32 320 *i*P **P 09 39 42.8 +0.1**
comp=Z,logA/T=1.1,mb4.8
FUR Furstenfeldbru 79.53 317 *e*P **P 09 39 43.3 -0.6**
GRA1 Grafenberg Arr 79.57 319 *e*P **P 09 39 44.4 +0.4**
comp=Z,5.0nm,0.8s,mb4.5
GRF Grafenberg Arr 79.57 319 *e*P **P 09 39 44.4 +0.4**
GRF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
GRF Grafenberg Arr 79.57 319 *e*P **P 09 39 44.4 +0.4**
GRF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
GRF Grafenberg Arr 79.57 319 *e*P **P 09 39 44.4 +0.4**
comp=Z,5.0nm,0.8s,mb4.5
NB2 NORSAR Subarra 79.83 331 P **P 09 39 44.5 -0.7**
comp=Z,13nm,0.9s,mb4.9,baz=96,slow=5.0
NB2 NORSAR Subarra 79.83 331 P **P 09 39 44.5 -0.7**
baz=96,slow=5.3
NOA NORSAR Array B 79.83 331 P **P 09 39 44.7 -0.5**
comp=Z,8.2nm,0.8s,mb4.7,baz=93,slow=5.6,SNR=16
NOA LR LR 10 20 07.7
comp=Z,154nm,19.8s,MS4.3,baz=100,slow=39
NOA NORSAR Array B 79.83 331 P **P 09 39 44.7 -0.5**
NOA LR LR 10 20 07.7
CLZ Clausthal 80.11 321 *e*P **P 09 39 47.0 +0.1**
comp=Z,8.0nm,0.9s,mb4.7
SUR Sutherland 80.33 235 P **P 09 39 50.0 +1.5**
comp=Z,21nm,1.1s,mb5.0
DAVOX Davos 80.49 316 P **P 09 39 49.4 +0.3**
comp=Z,12nm,1.1s,mb4.7,baz=42,slow=2.3,SNR=5.7
BFO Black Forest 81.49 318 *e*P **P 09 39 53.8 -0.5**
BFO pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BFO Black Forest 81.49 318 *e*P **P 09 39 53.8 -0.5**
comp=Z,5.0nm,1.0s,mb4.4
LPG La Plagne 82.72 315 *e*P **P 09 40 00.8 +0.2**
comp=Z,23nm,0.9s,mb4.9
LPG La Plagne 82.72 315 *e*P **P 09 40 00.8 +0.2**
LPG pmax pmax
comp=Z,12nm,0.9s,mb4.9
SYO Syowa Base 85.34 197 ⇓P **P 09 40 14.0 +0.7**
SYO Syowa Base 85.34 197 ⇑pP pP 09 40 24.7 +0.5
EKA Eskdalemuir Ar 87.82 325 P **P 09 40 26.5 +0.8**
EKA Eskdalemuir Ar 87.82 325 P **P 09 40 26.4 +0.8**
comp=Z,5.9nm,0.9s,mb4.8,baz=98,slow=5.9,SNR=8.6
ESDC Sonseca Array 91.32 310 P **P 09 40 43.2 +0.6**
comp=Z,3.7nm,0.8s,mb4.8,baz=71,slow=3.6,SNR=9.9
IMA Indian Mountai 91.68 22 *e*P **P 09 40 45.5 +1.9**
SVW2 Sparrevohn 92.79 27 *e*P **P 09 40 51.2 +2.4**
VNDA Vanda 92.83 168 *e*P **P 09 40 51.7 +3.0**
VNDA Vanda 92.83 168 LR LR 10 15 55.4
comp=Z,128nm,21.0s,MS4.3,baz=306,slow=31
SPU Mount Spurr 94.33 26 *e*P **P 09 40 56.7 +0.9**
MCK McKinley 94.51 23 *e*P **P 09 40 57.1 +0.5**
MCK pmax pmax
comp=Z,4.0nm,1.1s,mb4.8
MCK McKinley 94.51 23 *e*P **P 09 40 57.1 +0.5**
comp=Z,4.3nm,1.1s,mb4.8
ILAR Eielson Array 94.80 22 P **P 09 40 58.0 +0.1**
comp=Z,0.8nm,0.8s,mb4.2,baz=311,slow=4.7,SNR=8.2
ILAR PP PP 09 44 47.5 -1.5
comp=Z,0.5nm,0.8s,baz=290,slow=6.2,SNR=5.3
ILAR LR LR 10 27 07.3
comp=Z,133nm,18.2s,MS4.4,baz=169,slow=38
PWA Palmer West 95.07 26 *e*P **P 09 41 00.0 +0.8**
INK Inuvik 97.06 16 *e*P **P 09 41 08.2 +0.1**
INK pmax pmax
comp=Z,7.0nm,1.2s
INK Inuvik 97.06 16 P **P 09 41 08.5 +0.4**
comp=Z,4.6nm,1.1s,mb4.8,baz=317,slow=5.3,SNR=7.3
INK Inuvik 97.06 16 *e*P **P 09 41 08.2 +0.1**
comp=Z,6.5nm,1.2s,mb4.9
RES Resolute Bay 97.48 2 *e*P **P 09 41 10.8 +0.9**
RES pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
RES Resolute Bay 97.48 2 *e*P **P 09 41 10.8 +0.9**
comp=Z,8.2nm,1.0s,mb5.1
DBIC Dimbokro 98.01 278 LR LR 10 25 19.8
comp=Z,270nm,19.6s,MS4.7,baz=65,slow=35
YKA Yellowknife Ar 106.49 13 Pdiff Pdif 09 41 51.7 +1.4
comp=Z,0.6nm,1.1s,baz=53,slow=7.0,SNR=5.2
YKA PKKPab 09 57 44.6
comp=Z,0.2nm,0.8s,baz=148,slow=4.2,SNR=4.0
YKA Yellowknife Ar 106.49 13 Pdif Pdif 09 41 51.7 +1.4
YKA PKKPab 09 57 44.6
ULM Lac du Bonnet 121.54 8 PKP PKPdf 09 46 30.0 +1.0
comp=Z,5.6nm,1.1s,baz=116,slow=3.7,SNR=3.1
ULM Lac du Bonnet 121.54 8 PKP PKPdf 09 46 30.0 +1.0
NVAR Mina Array Bea 124.96 31 PKP PKPdf 09 46 38.7 +2.6
comp=Z,1.8nm,0.9s,baz=300,slow=3.3,SNR=7.0
NVAR Mina Array Bea 124.96 31 PKP PKPdf 09 46 38.7 +2.6
MNV Mina 125.03 31 *e*PKIKP PKPdf 09 46 38.1 +1.9
PDAR Pinedale Array 125.22 21 PKP PKPdf 09 46 37.9 +1.5
comp=Z,2.2nm,0.9s,slow=1.5,SNR=8.6
GDL2 Guadalupe Moun 136.47 23 *e*P PKPdf 09 47 00.6 +2.7
TXAR Lajitas Array 139.28 24 PKhKP 09 47 00.6
comp=Z,0.3nm,0.8s,baz=195,slow=2.5,SNR=3.9
TXAR PKiKP 09 47 06.9
comp=Z,0.6nm,0.6s,baz=5.5,slow=0.9,SNR=4.4
TXAR PP PP 09 49 58.6 -2.5
comp=Z,1.2nm,1.0s,baz=18,slow=4.0,SNR=5.3
TXAR Lajitas Array 139.28 24 PKP PKPdf 09 47 00.6 -2.6
TXAR PKPdf PKPdf 09 47 06.9 +3.7
TXAR PP PP 09 49 58.6 -2.4
JCT Junction City 139.65 19 *e*PKIKP PKPdf 09 47 06.0 +2.2
PLCA Paso Flores 144.49 200 *e*PKIKP PKPdf 09 47 12.3 +0.3
PLCA Paso Flores 144.49 200 PKP PKPdf 09 47 12.4 +0.4
comp=Z,8.5nm,1.1s,baz=157,slow=6.7,SNR=6.0

IGQ 29 09:29:55.8, 0.84S×81.21W, h7km±6km, mb4.0, 1C-1D, Error ellipse: s-maj=11.7km s-min=6.9km az=144.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.70**	**107**	⇑P	Pg	09 30 08.7	-1.1
IGUA	**Igualata**	**2.65**	**104**	P	Pn	09 30 41.4	+1.7
PINO	**Pino**	**2.69**	**75**	P	Pn	09 30 41.1	+0.9
PINO				S	Sn	09 31 15.6	+2.2
TERV	**Terraza Guagua**	**2.69**	**76**	P	Pn	09 30 41.4	+1.1
TERV	**Terraza Guagua**	**2.69**	**76**	P	Pn	09 30 41.6	+1.4
YANA	**Yana**	**2.74**	**75**	P	Pn	09 30 43.0	+2.1
NAS1	**Nasa**	**2.74**	**86**	P	Pn	09 30 43.5	+2.5
VC1	**Cotopaxi 1**	**2.82**	**86**	P	Pn	09 30 44.4	+2.4
ARRY	**Arrayan**	**2.84**	**104**	P	Pn	09 30 43.4	+1.1
ARRY				S	Sn	09 31 17.7	+0.6
PISA	**Pisayambo**	**2.84**	**94**	P	Pn	09 30 44.8	+2.5
ANTI	**Antisana**	**3.08**	**83**	P	Pn	09 30 48.4	+2.7
COTA	**Cotacachi**	**3.10**	**68**	P	Pn	09 30 46.3	+0.3
CAYR	**Refugio Cayamb**	**3.32**	**75**	⇓P	Pn	09 30 52.4	+3.3
CAYA	**Cayambe**	**3.35**	**74**	P	Pn	09 30 52.4	+2.8

IDC 29 09:33:06.6±12.0, 19.83S×178.58W, h515km±129km, mb2.9/4, mb1 3.3/4, mb1mx3.1/14, mbtmp3.8/4, Error ellipse: s-maj=137.5km s-min=33.5km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.15**	**256**	P	P	09 40 29.2	-1.3
	1.2nm,0.5s,baz=91,slow=8.3,SNR=17						
ASAR				PcP	PcP	09 42 03.0	-1.9
	0.4nm,0.6s,baz=105,slow=3.8,SNR=4.5						
WRA	**Warramunga Arr**	**44.16**	**261**	P	P	09 40 29.4	-1.3
	0.5nm,0.3s,baz=96,slow=7.5,SNR=17						
NVAR	**Mina Array Bea**	**80.92**	**44**	P	P	09 44 27.1	-0.8
	0.6nm,0.8s,baz=241,slow=9.3,SNR=3.1						
ILAR	**Eielson Array**	**87.79**	**13**	P	P	09 45 00.5	-0.4
	0.3nm,0.5s,baz=217,slow=5.9,SNR=5.5						

BJI ***29*** *09:33:37.7, 43.80N×82.37E, h14km, ML3.8, Ms3.4, Msz3.5*
NNC ***29*** *09:33:38.9±2.3, 43.96N×82.18E, h23km±11km, mpv3.2, Error ellipse: s-maj=26.3km s-min=10.9km az=118.0*
ISC 29 09:33:41.3±2.4, 44.0N±0.1×81.6E±0.3, h33km, n7, σ1$28/10, 9C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.89**	**9**	⇓Pn	**Pn**	**09 34 25.8**	**-0.3**
	0.5nm,0.2s,baz=4.7,slow=15,SNR=730						
MK31				⇑Pg	**P**	**09 34 31.1**	**+5.2**
	4.6nm,0.2s,baz=171,slow=17,SNR=31						
MK31				⇑Sn	**Sn**	**09 35 01.7**	**+1.7**
	101nm,0.6s,baz=176,slow=27,SNR=11						
MK31				Lg		09 35 08.4	
ULHL	**Ulahol**	**4.30**	**249**	P	**P**	**09 34 50.5**	**+4.4**
	SNR=7.5						
AAK	**Ala-Archa**	**5.38**	**258**	⇓Pn	**Pn**	**09 35 02.1**	**+0.7**
	18nm,1.1s						
AAK				⇑Lg		09 36 41.1	
	13nm,0.9s						
AAK	**Ala-Archa**	**5.38**	**258**	P	**P**	**09 35 02.4**	**+1.2**
	SNR=11						
KURK	**Kurchatov**	**7.08**	**344**	⇑Pn	**Pn**	**09 35 24.4**	**-0.9**
	0.8nm,0.7s,baz=164,slow=9.1,SNR=8.9						
KURK				⇑Sn	**Sn**	**09 36 46.1**	**+0.7**
	4.0nm,0.7s						
KURK				⇑Lg		09 37 27.5	
	12nm,0.9s						
BRVK	**Borovoye**	**11.81**	**325**	⇑Pn	**P**	**09 36 28.9**	**-1.4**
	8.1nm,1.1s						
BRVK				⇑Lg		09 39 57.9	
	3.3nm,1.0s						
CHKZ	**Chkalovo**	**12.13**	**327**	⇓Pn	**P**	**09 36 31.9**	**-2.7**
	33nm,1.1s						
CHKZ				⇑Lg		09 40 10.6	
	7.8nm,1.3s						

IDC ***29*** *09:34:31.5±0.6, 8.12S×75.06W, h94km±4km, mb3.9/9, mb1 4.1/13, mb1mx4.0/20, mbtmp4.3/13, MS2.6/1, Ms1 2.7/1, ms1mx2.2/27, Error ellipse: s-maj=31.4km s-min=14.1km az=68.0*
NEIC ***29*** *09:34:36.6±1.9, 8.27S×75.01W, h136km±18km, mb4.7/1, Error ellipse: s-maj=25.4km s-min=9.5km az=78.0*
ISC 29 09:34:31.4±0.5, 8.11S±0.07×75.0W±0.1, h100km, n31, σ0$94/20, mb4.1/10, 3D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.24**	**205**	Pn	**P**	**09 35 36.9**	**+1.7**
	1μm,0.3s,SNR=38						
LPAZ	**La Paz**	**10.55**	**141**	P	**P**	**09 37 01.3**	**+0.3**
	1.3nm,0.3s,baz=350,slow=12,SNR=28						
LPAZ				LR	LR	09 41 43.9	
	comp=Z,32nm,21.0s,baz=114,slow=41						
ROSC	**El Rosal**	**12.90**	**3**	P	**P**	**09 37 39.3**	**+7.1**
	1.6nm,0.3s,baz=268,slow=23,SNR=7.1						
LVC	**Limon Verde**	**15.57**	**158**	P	**P**	**09 38 07.7**	**+1.1**
	0.9nm,0.3s,baz=314,slow=8.4,SNR=16						
LVC				S	S	09 41 17.8	+22
	0.2nm,0.3s,baz=108,slow=22,SNR=3.3						
LVC	**Limon Verde**	**15.57**	**158**	P	**P**	**09 38 07.7**	**+1.1**
LVC				S	S	09 41 17.8	+22
SDV	**Santo Domingo**	**17.45**	**15**	P	**P**	**09 38 31.7**	**+1.8**
	2.2nm,0.3s,baz=194,slow=13,SNR=9.9						
BAO	**Brasilia Array**	**27.47**	**108**	*e*P	**P**	**09 40 10.9**	**+0.5**
BAO				*i*		09 40 14.0	
BAO				*e*		09 40 41.0	
PLCA	**Paso Flores**	**32.73**	**174**	P	**P**	**09 40 55.1**	**-1.6**
	6.8nm,0.9s,mb4.5,baz=351,slow=10,SNR=13						
PLCA				PcP	PcP	09 43 38.9	-1.1
	1.7nm,1.0s,baz=340,slow=4.3,SNR=3.3						
PLCA	**Paso Flores**	**32.73**	**174**	P	**P**	**09 40 55.1**	**-1.6**
PLCA				PcP	PcP	09 43 38.9	-1.1
TXAR	**Lajitas Array**	**46.33**	**325**	P	**P**	**09 42 49.5**	**+0.1**
	0.4nm,0.5s,mb3.4,baz=148,slow=8.8,SNR=11						
TXAR				pP	pP	09 43 09.1	-4.0
	0.3nm,0.8s,baz=151,slow=9.3,SNR=2.5						
TXAR				sP	sP	09 43 19.6	-4.8
	0.9nm,0.8s,baz=148,slow=9.0,SNR=6.9						
USHA	**Ushuaia**	**46.89**	**175**	P	**P**	**09 42 53.0**	**-0.4**
	6.2nm,0.6s,mb4.5,baz=8.4,slow=4.5,SNR=5.1						
ANMO	**Albuquerque**	**52.12**	**327**	sP	sP	09 44 06.2	-2.8
	1.0nm,0.5s,baz=149,slow=12,SNR=6.5						
ULM	**Lac du Bonnet**	**60.88**	**345**	sP	sP	09 45 06.5	-5.5
	6.8nm,0.7s,baz=158,slow=6.3,SNR=8.5						
SCHQ	**Schefferville**	**63.09**	**5**	sP	sP	09 45 22.9	-3.7
	6.5nm,0.7s,baz=188,slow=5.4,SNR=6.4						
PCNG	**Congro**	**64.99**	**42**	*e*S	**S**	**09 53 44.1**	**+8.7**
	18nm,0.1s						
DBIC	**Dimbokro**	**71.49**	**80**	P	**P**	**09 45 43.0**	**-0.8**
	5.0nm,0.3s,mb4.8,baz=244,slow=7.2,SNR=31						
FRB	**Frobisher Bay**	**71.82**	**3**	sP	sP	09 46 17.4	-3.8
	9.4nm,0.6s,baz=182,slow=8.4,SNR=14						
YKA	**Yellowknife Ar**	**76.69**	**342**	P	**P**	**09 46 11.8**	**-1.1**
	0.6nm,0.5s,mb3.6,baz=142,slow=6.1,SNR=21						
YKA				sP	sP	09 46 46.7	-3.1
	3.8nm,0.9s,baz=135,slow=6.5,SNR=12						
YKA	**Yellowknife Ar**	**76.69**	**342**	P	**P**	**09 46 11.8**	**-1.1**
YKA				sP	sP	09 46 46.7	-3.1
SNAA	**Sanae**	**76.77**	**162**	P	**P**	**09 46 11.9**	**-1.3**
	1.7nm,0.6s,mb4.0,baz=267,slow=8.9,SNR=8.7						
QSPA	**South Pole Qui**	**82.00**	**180**	⇓*i*P	**P**	**09 46 41.0**	**-0.2**
	12nm,0.9s,mb4.7						
INK	**Inuvik**	**86.43**	**341**	P	**P**	**09 47 03.5**	**+0.1**
	0.9nm,0.5s,mb3.9,baz=115,slow=7.6,SNR=3.2						
INK				sP	sP	09 47 39.6	-1.1
	6.7nm,0.8s,baz=112,slow=5.1,SNR=13						
VNDA	**Vanda**	**88.90**	**190**	P	**P**	**09 47 15.3**	**+0.1**
	1.5nm,0.9s,mb4.0,baz=127,slow=4.6,SNR=5.1						
ILAR	**Eielson Array**	**89.69**	**336**	P	**P**	**09 47 18.9**	**-0.1**
	0.2nm,0.4s,mb3.6,baz=61,slow=5.1,SNR=6.4						
ILAR				sP	sP	09 47 54.5	-1.8
	3.2nm,0.7s,baz=130,slow=3.1,SNR=21						
STKA	**Stephens Creek**	**127.04**	**219**	PKP	PKPdf	09 53 23.9	-0.6
	1.1nm,0.6s,baz=90,slow=5.1,SNR=5.4						
ASAR	**Alice Springs**	**137.61**	**221**	PKhKP		09 53 33.9	
	0.4nm,0.8s,baz=121,slow=1.9,SNR=4.9						
ASAR				PKP	PKPdf	09 53 44.4	-0.2
	1.1nm,0.8s,baz=126,slow=2.2,SNR=8.3						

WB2	**Warramunga Arr**	**139.83**	**226**	*e*P	PKPdf	09 53 39.9	-8.8
WRA	**Warramunga Arr**	**139.84**	**226**	PKhKP		09 53 39.8	
	0.7nm,0.5s,baz=133,slow=2.5,SNR=12						
WRA				PKP	PKPdf	09 53 50.2	+1.5
	1.0nm,0.5s,baz=130,slow=2.2,SNR=8.0						
SONM	**Songino Array**	**140.40**	**358**	PKhKP		09 53 44.6	
	0.3nm,0.6s,slow=1.4,SNR=2.9						
KAKA	**Kakadu**	**145.75**	**233**	⇓*i*P	PKPdf	09 53 59.1	-0.1
	12nm,0.5s						
FITZ	**Fitzroy Crossi**	**146.91**	**218**	⇓*i*P	PKPdf	09 54 03.1	+2.0
	30nm,0.9s						

NEIC ***29*** *09:35:19.7±7.9, 6.72S×71.92W, h321km±71km, mb4.1/2, Error ellipse: s-maj=56.7km s-min=17.4km az=210.0*
IDC ***29*** *09:35:29.7±13.0, 6.32S×71.91W, h404km±125km, mb3.3/9, mb1 3.6/9, mb1mx3.4/19, mbtmp4.1/9, Error ellipse: s-maj=63.6km s-min=21.3km az=26.0*

ISC 29 09:35:24.1±2.3, 6.0S±0.5×71.6W±0.3, h350km, n18, σ1§02/15, mb3.6/10, Western Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**35.52**	**92**	*e*P	**P**	**09 41 49.2**	**-1.5**
	10nm,0.9s,mb4.1						
CPRX	**Cap Rock**	**49.46**	**324**	P	**P**	**09 43 40.2**	**-1.8**
SDCO	**Great Sand Dun**	**53.77**	**327**	*e*P	**P**	**09 44 14.8**	**+1.1**
	4.2nm,0.8s,mb3.8						
PV01	**Paradox Valley**	**55.76**	**325**	*e*P	**P**	**09 44 27.9**	**+0.1**
PDAR	**Pinedale Array**	**59.53**	**328**	P	**P**	**09 44 53.7**	**0.0**
	0.3nm,0.6s,mb2.9,baz=120,slow=9.9,SNR=4.5						
ULM	**Lac du Bonnet**	**59.86**	**342**	P	**P**	**09 44 54.6**	**-1.1**
	1.5nm,0.5s,mb3.7,baz=163,slow=7.5,SNR=3.7						
SCHQ	**Schefferville**	**60.77**	**3**	P	**P**	**09 45 01.8**	**+0.2**
	0.9nm,0.4s,mb3.5,baz=180,slow=15,SNR=3.6						
NVAR	**Mina Array Bea**	**61.88**	**320**	P	**P**	**09 45 08.0**	**-1.3**
	0.2nm,0.3s,mb3.1,baz=122,slow=8.5,SNR=3.4						
NEW	**Newport**	**67.16**	**329**	P	**P**	**09 45 43.5**	**+0.7**
	0.7nm,0.3s,mb3.8,baz=108,slow=13,SNR=3.5						
DBIC	**Dimbokro**	**67.81**	**80**	P	**P**	**09 45 48.6**	**+1.3**
	21nm,0.3s,baz=246,slow=4.8,SNR=68						
DBIC	**Dimbokro**	**67.81**	**80**	P	**P**	**09 45 48.6**	**+1.3**
FRB	**Frobisher Bay**	**69.62**	**1**	P	**P**	**09 45 57.9**	**+0.4**
	1.5nm,0.4s,mb4.1,baz=176,slow=8.0,SNR=13						
YKA	**Yellowknife Ar**	**75.79**	**341**	P	**P**	**09 46 33.2**	**-0.4**
	0.0nm,0.2s,baz=137,slow=6.6,SNR=8.4						
INK	**Inuvik**	**85.56**	**341**	P	**P**	**09 47 24.7**	**+0.5**
	1.3nm,0.7s,mb3.8,baz=92,slow=5.9,SNR=4.9						
ILAR	**Eielson Array**	**89.19**	**336**	P	**P**	**09 47 43.0**	**+1.6**
	0.3nm,0.5s,mb3.4,baz=150,slow=4.2,SNR=2.8						
ZAL	**Zalesovo**	**128.54**	**18**	PKP	PKPdf	09 53 49.2	-0.7
	2.1nm,0.7s,baz=160,slow=1.5,SNR=9.9						
SONM	**Songino Array**	**138.31**	**2**	PKP	PKPdf	09 54 08.2	-0.1
	0.5nm,0.8s,baz=350,slow=3.0,SNR=3.2						
WRA	**Warramunga Arr**	**143.70**	**224**	PKP	PKPdf	09 54 15.9	-2.6
	0.3nm,0.3s,baz=125,slow=2.0,SNR=6.2						

MOS ***29*** *09:37:09.4±0.3, 52.91N×155.32E, h557km, mb3.9/1, Error ellipse: s-maj=99.9km s-min=66.6km az=148.0*

KRSC 29 09:37:08.5±0.5, 52.84N×154.57E, h541km±10km, ML4.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**1.57**	**86**	*e*P	P	09 38 15.5	-0.5
APC				*e*S	S	09 39 04.0	-5.6
GNL	**Ganaly**	**2.20**	**66**	*e*P	P	09 38 18.1	-0.7
RUS	**Russkaya**	**2.44**	**98**	P	P	09 38 19.7	-0.4
RUS				S	S	09 39 12.3	-4.4
RUS	**Russkaya**	**2.44**	**98**	*e*P	P	09 38 20.0	-0.1
RUS				*i* S	S	09 39 12.3	-4.4
PET	**Petropavlovsk**	**2.48**	**84**	*e*P	P	09 38 20.3	0.0
PET				*e*S	S	09 39 13.4	-3.7
PET				pmax	pmax		
	comp=Z,21nm,0.5s						
PET				smax			
	comp=E,18nm,0.5s						
KOK	**Koryaka**	**2.50**	**78**	*e*P	P	09 38 20.5	+0.1
AVH	**Avacha**	**2.55**	**79**	*e*P	P	09 38 20.3	-0.4
NLC	**Nalytchevo**	**2.90**	**82**	P	P	09 38 22.6	-0.2
NLC				S	S	09 39 16.5	-5.1
NLC	**Nalytchevo**	**2.90**	**82**	*e*P	P	09 38 22.9	+0.1
NLC				*e*S	S	09 39 17.5	-4.1
SPN	**Mys Shipunski**	**3.31**	**83**	P	P	09 38 24.8	-0.6
SPN				S	S	09 39 19.6	-6.7
SPN	**Mys Shipunski**	**3.31**	**83**	*e*P	P	09 38 25.0	-0.4
SPN				*e*S	S	09 39 20.3	-6.0
TUMR	**Tumrok**	**4.10**	**51**	*e*P	P	09 38 31.1	+0.1
KBTR	**Krutoberegovo**	**5.87**	**52**	P	P	09 38 44.3	-1.9
KBTR				S	S	09 39 55.0	-8.8
KBTR	**Krutoberegovo**	**5.87**	**52**	*e*P	P	09 38 46.1	-0.1

IDC ***29*** *09:39:42.3±1.1, 7.70N×93.96E, mb3.9/8, mb1 4.0/9, mb1mx3.9/19, mbtmp3.9/9, ML4.5/1, MS2.4/1, Ms1 2.6/1, ms1mx2.1/27, Error ellipse: s-maj=45.7km s-min=22.7km az=55.0*
NEIC ***29*** *09:39:47.2±0.6, 7.72N×94.00E, h30km, mb4.3/2, Error ellipse: s-maj=19.7km s-min=12.1km az=67.0*

ISC 29 09:39:45.0±0.8, 7.7N±0.1×94.1E±0.2, h30km, n21, σ0§51/19, mb4.2/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.67**	**24**	Pn	**P**	**09 42 33.0**	**+0.3**
	0.8nm,0.3s,baz=211,slow=15,SNR=8.0						
CMAR				LR	LR	09 47 52.2	
	comp=Z,18nm,18.2s,baz=165,slow=42						
JIRN	**Jiri**	**21.17**	**340**	*e*P	**P**	**09 44 31.3**	**+1.0**
	15nm,0.8s,mb4.4						
PKI	**Pulchoki**	**21.36**	**339**	*e*P	**P**	**09 44 32.8**	**+0.6**
	12nm,0.7s,mb4.3						
DMN	**Daman**	**21.51**	**338**	*e*P	**P**	**09 44 33.2**	**-0.5**
	21nm,0.8s,mb4.6						
GUN	**Gumba**	**21.51**	**340**	*e*P	**P**	**09 44 33.3**	**-0.4**
	21nm,0.8s,mb4.6						
KKN	**Kakani**	**21.61**	**338**	*e*P	**P**	**09 44 34.1**	**-0.6**
	15nm,0.7s,mb4.5						
GKN	**Gorkha**	**22.04**	**337**	*e*P	**P**	**09 44 39.0**	**0.0**
	13nm,0.5s,mb4.7						
KOLN	**Koldanda**	**22.25**	**335**	*e*P	**P**	**09 44 40.4**	**-0.7**
	12nm,0.7s,mb4.5						
SONM	**Songino Array**	**41.32**	**13**	P	**P**	**09 47 29.7**	**+0.1**
	0.8nm,0.9s,mb3.4,baz=199,slow=8.6,SNR=7.0						
KURK	**Kurchatov**	**44.73**	**346**	*e*P	**P**	**09 47 57.0**	**-0.4**
	3.1nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**48.25**	**125**	P	**P**	**09 48 25.3**	**-0.3**
	0.6nm,0.6s,mb3.8,baz=304,slow=8.8,SNR=3.8						
CHKZ	**Chkalovo**	**49.58**	**342**	*e*P	**P**	**09 48 35.1**	**-0.2**
	2.9nm,0.8s,mb4.4						
ASAR	**Alice Springs**	**49.89**	**130**	P	**P**	**09 48 38.1**	**0.0**
	1.0nm,1.0s,mb3.8,baz=305,slow=8.1,SNR=4.2						
FINES	**FINESS Array B**	**72.79**	**332**	P	**P**	**09 51 11.9**	**-0.5**
	2.1nm,0.8s,mb4.1,baz=162,slow=6.0,SNR=5.0						
ARCES	**ARCESS Array B**	**75.37**	**340**	P	**P**	**09 51 27.3**	**+0.1**
	4.0nm,1.1s,mb4.3,baz=90,slow=4.9,SNR=4.8						
GERES	**GERESS Array B**	**77.87**	**318**	P	**P**	**09 51 42.3**	**+0.7**
	0.5nm,0.8s,mb3.5,baz=117,slow=4.4,SNR=2.9						
HFS	**Hagfors**	**78.53**	**330**	P	**P**	**09 51 44.9**	**0.0**
	1.2nm,0.5s,mb4.0,baz=90,slow=4.4,SNR=6.8						
NOA	**NORSAR Array B**	**79.81**	**331**	P	**P**	**09 51 52.8**	**+0.9**
	0.7nm,0.8s,mb3.6,baz=2.9,slow=11,SNR=3.0						
NOA	**NORSAR Array B**	**79.81**	**331**	P	**P**	**09 51 52.8**	**+0.9**
PDAR	**Pinedale Array**	**125.33**	**21**	PKP	PKPdf	09 58 46.9	-1.7
	0.3nm,0.7s,baz=14,slow=3.7,SNR=2.6						
PLCA	**Paso Flores**	**144.39**	**200**	PKP	PKPdf	09 59 22.3	-1.4
	1.7nm,0.9s,baz=201,slow=8.6,SNR=3.2						

IDC ***29*** *09:40:46.6±1.4, 7.86N×93.94E, mb4.0/7, mb1 4.2/8, mb1mx3.9/19, mbtmp4.0/8, Error ellipse: s-maj=47.2km s-min=31.9km az=54.0*
NEIC ***29*** *09:40:51.2±0.8, 7.90N×93.99E, h30km, mb4.4/1, Error ellipse: s-maj=19.2km s-min=15.4km az=72.0*

ISC 29 09:40:49.5±1.1, 8.0N±0.2×94.1E±0.2, h30km, n12, σ0§53/12, mb4.0/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.45**	**24**	Pn	**P**	**09 43 34.1**	**-0.2**
	baz=223,slow=13,SNR=4.2						
SONM	**Songino Array**	**41.09**	**13**	P	**P**	**09 48 33.1**	**+0.8**
	0.9nm,0.9s,mb3.4,baz=198,slow=7.9,SNR=4.7						

SONM				PcP	PcP	09 50 32.9	+0.7
	0.4nm,0.6s,baz=203,slow=3.1,SNR=3.3						
KURK	**Kurchatov**	**44.51**	**346**	*e*P	**P**	**09 49 00.1**	**-0.1**
ZAL	**Zalesovo**	**46.45**	**352**	P	**P**	**09 49 15.7**	**+0.2**
	1.6nm,0.8s,mb4.0,baz=294,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**48.35**	**126**	P	**P**	**09 49 30.8**	**-0.2**
	1.0nm,0.8s,mb3.9,baz=304,slow=8.8,SNR=2.7						
CHKZ	**Chkalovo**	**49.37**	**342**	*e*P	**P**	**09 49 37.4**	**-0.9**
	3.8nm,0.9s,mb4.4						
FINES	**FINESS Array B**	**72.61**	**332**	P	**P**	**09 52 15.4**	**-0.5**
	1.5nm,0.8s,mb4.0,baz=45,slow=7.9,SNR=2.9						
FINES	**FINESS Array B**	**72.61**	**332**	P	**P**	**09 52 15.3**	**-0.5**
GERES	**GERESS Array B**	**77.72**	**318**	P	**P**	**09 52 46.2**	**+0.9**
	1.3nm,0.7s,mb4.0,baz=90,slow=4.0,SNR=6.0						
HFS	**Hagfors**	**78.35**	**330**	P	**P**	**09 52 48.6**	**+0.1**
	5.6nm,1.0s,mb4.5,baz=117,slow=3.3,SNR=4.0						
NB2	**NORSAR Subarra**	**79.63**	**331**	P	**P**	**09 52 55.0**	**-0.4**
	3.8nm,0.9s,mb4.3,baz=95,slow=5.0						
NOA	**NORSAR Array B**	**79.63**	**331**	P	**P**	**09 52 55.5**	**+0.1**
	0.8nm,0.9s,mb3.6,baz=105,slow=6.3,SNR=2.9						

MAN 29 09:47:48.6, 10.23N×126.54E, h23km, mb4.3, ML3.2, MS3.0, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.13**	**247**	⇑*e*P	Pn	09 48 07.9	-1.3
SCPH				*e*S	Sb	09 48 24.0	+0.4
MSLP	**Maasin**	**1.66**	**267**	*e*P	Pn	09 48 16.5	-0.3
MSLP				*e*S	Sn	09 48 37.6	+0.1
BESP	**Borongan**	**1.74**	**322**	*e*P	Pn	09 48 16.8	-1.1
PLP	**Palo**	**1.79**	**301**	*e*P	Pn	09 48 18.5	-0.2
PLP				*i* S	Sn	09 48 38.4	-2.6
BIPH	**Bislig**	**2.04**	**185**	⇓*e*P	Pn	09 48 21.9	-0.4
BIPH				*e*S	Sn	09 48 46.3	-0.9
LLP	**Lapu-Lapu**	**2.54**	**272**	*e*P	Pn	09 48 29.6	+0.3
LLP				*e*S	Sn	09 48 58.0	-1.9
TBP	**Tagbilaran**	**2.69**	**259**	*e*P	Pn	09 48 32.0	+0.4
TBP				*i* S	Sn	09 49 04.8	+0.9
BUP	**Musuan**	**2.76**	**212**	*e*P	Pn	09 48 34.6	+2.1
SNPH	**Sibulan**	**3.38**	**255**	*e*P	Pn	09 48 40.0	-1.3
PAGZ	**Pagadian**	**3.92**	**233**	*e*P	Pn	09 48 50.9	+2.0

IDC 29 09:57:21.7±2.3, 16.84S×178.02W, mb3.5/4, mb1 3.9/4, mb1mx3.7/15, mbtmp3.5/4, Error ellipse: s-maj=125.5km s-min=28.0km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.20**	**258**	P	P	10 05 41.2	-1.4
	0.2nm,0.2s,baz=96,slow=8.2,SNR=3.0						
ASAR	**Alice Springs**	**45.44**	**253**	P	P	10 05 42.5	-2.0
	0.4nm,0.4s,baz=86,slow=8.9,SNR=12						
ILAR	**Eielson Array**	**84.77**	**13**	P	P	10 09 57.0	-1.7
	0.4nm,0.5s,baz=222,slow=4.9,SNR=13						
TXAR	**Lajitas Array**	**85.11**	**58**	P	P	10 10 00.7	-0.7
	0.2nm,0.6s,baz=225,slow=3.5,SNR=3.7						

IDC 29 09:58:21.0±1.5, 7.77N×93.68E, mb3.9/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, ML4.1/1, Error ellipse: s-maj=55.5km s-min=23.5km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.80**	**25**	Pn	P	10 01 11.2	-2.4
	0.4nm,0.3s,baz=210,slow=15,SNR=6.7						
SONM	**Songino Array**	**41.37**	**13**	P	P	10 06 08.1	-2.3
	0.6nm,0.8s,baz=202,slow=8.3,SNR=5.0						
ZAL	**Zalesovo**	**46.59**	**353**	P	P	10 06 51.0	-1.4
	1.6nm,0.4s,baz=288,slow=9.8,SNR=8.3						
WRA	**Warramunga Arr**	**48.57**	**125**	P	P	10 07 06.9	-1.6
	0.9nm,0.9s,baz=305,slow=8.8,SNR=4.2						
ASAR	**Alice Springs**	**50.20**	**130**	P	P	10 07 18.6	-2.3
	0.4nm,0.7s,baz=304,slow=7.5,SNR=4.0						
FINES	**FINESS Array B**	**72.59**	**332**	P	P	10 09 50.5	-1.3
	1.7nm,0.8s,baz=127,slow=9.5,SNR=3.9						
HFS	**Hagfors**	**78.32**	**330**	P	P	10 10 22.3	-2.1
	8.4nm,1.3s,baz=96,slow=13,SNR=3.7						

WEL 29 09:59:29.0±0.3, 37.21S×176.91E, h30km±2km, ML3.5/14, 1D, Error ellipse: s-maj=2.1km s-min=2.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.39**	**144**	P*	Pb	09 59 36.4	-1.4
MYRZ	**Mayor Island**	**0.54**	**262**	P*	Pb	09 59 39.6	-0.4
MYRZ				S*	Sb	09 59 46.2	-1.3
TGRZ	**Tauranga**	**0.73**	**225**	⇓P*	Pb	09 59 42.3	-0.9
TGRZ				S*	Sb	09 59 51.8	-1.0
MARZ	**Manawahe**	**0.79**	**193**	P*	Pb	09 59 42.9	-1.3
LIRZ	**Lichensteins R**	**0.89**	**207**	P*	Pb	09 59 44.6	-1.2
KUZ	**Kuaotunu**	**1.06**	**296**	PN	Pn	09 59 46.7	-1.2
KUZ				SN	Sn	10 00 01.1	-0.6
URZ	**Urewera**	**1.06**	**171**	P*	Pb	09 59 46.9	-1.8
URZ				S*	Sb	10 00 00.3	-1.8
MWZ	**Matawai**	**1.22**	**156**	P*	Pb	09 59 49.7	-1.8
TOZ	**Tahuroa Road**	**1.23**	**245**	P*	Pb	09 59 49.6	-1.9
PUZ	**Puketiti**	**1.37**	**129**	PN	Pn	09 59 53.4	+0.9
OTAZ	**Otara**	**1.61**	**279**	PN	Pn	09 59 56.9	+1.1
BKZ	**Black Stump Fm**	**1.98**	**189**	P*	Pb	10 00 03.1	-1.1
HIZ	**Hauiti**	**2.08**	**231**	PN	Pn	10 00 01.3	-1.2
WCZ	**Waipu Caves**	**2.42**	**301**	PN	Pn	10 00 06.7	-0.8
OUZ	**Omahuta**	**3.33**	**306**	PN	Pn	10 00 20.3	-0.1

THE ***29*** *10:00:51.3, 39.51N×25.13E, h7km, ML3.2*
ATH ***29*** *10:00:51.3, 39.60N×25.27E, h26km*
CSEM ***29*** *10:00:51.3, 39.51N×25.13E, h7km, ML3.2, After THE*

ISC 29 10:00:49.6±1.2, 39.49N±0.05×25.20E±0.06, h8km±8km, n13, σ0§97/19, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.41**	**358**	*e*PB	**Pb**	**10 00 58.6**	**-0.1**
LIA				*e*SB	**Sb**	**10 01 03.8**	**-1.0**
LOS	**Limnos**	**0.46**	**348**	*e*Pg	**Pg**	**10 01 00.0**	**+1.2**
LOS				*e*Sg	**Sg**	**10 01 05.5**	**+0.5**
LOS	**Limnos**	**0.46**	**348**	*e*Pg	**Pg**	**10 01 00.0**	**+1.2**
LOS				*e*Sg	**Sg**	**10 01 05.4**	**+0.4**
PRK	**Paraskevi**	**0.86**	**106**	*e*PN	**Pn**	**10 01 08.0**	**+0.1**
AOS	**Alonnisos**	**1.07**	**253**	*e*Pg	**Pg**	**10 01 10.8**	**-0.3**
AOS				*e*Sg	**Sg**	**10 01 25.0**	**-0.5**
PAIG	**Palioure**	**1.25**	**291**	*e*Pb	**Pb**	**10 01 13.0**	**-0.1**
PAIG				*e*Sb	**Sb**	**10 01 30.6**	**+1.3**
OUR	**Ouranopolis**	**1.26**	**312**	*e*Pb	**Pb**	**10 01 13.4**	**0.0**
NEO	**Neokhori**	**1.54**	**264**	*e*PN	**Pn**	**10 01 20.0**	**+2.3**
ALN	**Alexandroupoli**	**1.55**	**24**	*e*Pb	**Pb**	**10 01 17.5**	**-0.7**
ALN				*e*Sb	**Sb**	**10 01 39.2**	**+1.4**
RDO	**Rodhopi**	**1.68**	**9**	*e*PN	**Pn**	**10 01 19.2**	**-0.3**
SOH	**Sokhos**	**1.94**	**314**	*e*Pb	**Pb**	**10 01 23.4**	**-1.6**
NVR	**Nevrokopi**	**2.12**	**332**	*e*PB	**Pb**	**10 01 26.5**	**-1.5**
AGG	**Agios Georgios**	**2.28**	**259**	*e*Pn	**Pn**	**10 01 28.1**	**0.0**

NEIC ***29*** *10:02:36.6±0.7, 7.76N×94.04E, h30km, mb4.0/2, Error ellipse: s-maj=24.1km s-min=15.3km az=67.0*
IDC ***29*** *10:02:43.3±1.1, 7.92N×94.24E, h89km±7km, mb3.5/9, mb1 3.6/10, mb1mx3.6/18, mbtmp3.8/10, Error ellipse: s-maj=34.9km s-min=20.9km az=53.0*

ISC 29 10:02:34.4±0.8, 7.8N±0.1×94.1E±0.2, h30km, (h72km±7.4km:pP-P), n17, σ0§89/14, mb3.8/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.63**	**23**	P	**P**	**10 05 21.8**	**+0.2**
	0.4nm,0.3s,baz=208,slow=13,SNR=4.4						
SONM	**Songino Array**	**41.28**	**13**	P	**P**	**10 10 17.6**	**-1.1**
	0.5nm,1.0s,mb3.1,baz=180,slow=2.9,SNR=3.3						
SONM				pP	pP	10 10 40.7	+13
	0.8nm,0.8s,baz=198,slow=3.9,SNR=4.2						
KURK	**Kurchatov**	**44.70**	**346**	P	**P**	**10 10 48.0**	**+1.5**
	1.5nm,0.9s,mb3.8						
ZAL	**Zalesovo**	**46.65**	**352**	P	**P**	**10 11 02.3**	**+0.4**
	0.8nm,0.5s,mb3.9,baz=335,slow=19,SNR=3.8						
ZAL				pP	pP	10 11 24.7	+14
	1.6nm,0.6s,baz=294,slow=9.9,SNR=5.2						
ZAL	**Zalesovo**	**46.65**	**352**	P	**P**	**10 11 02.3**	**+0.4**
ZAL				pP	pP	10 11 24.7	+14
WRA	**Warramunga Arr**	**48.24**	**125**	P	**P**	**10 11 14.2**	**-0.6**
	0.6nm,0.7s,mb3.8,baz=301,slow=8.5,SNR=3.2						
CHKZ	**Chkalovo**	**49.56**	**342**	*e*P	**P**	**10 11 23.9**	**-0.7**
	1.2nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**49.88**	**130**	P	**P**	**10 11 28.2**	**+0.8**
	0.5nm,0.7s,mb3.6,baz=301,slow=7.5,SNR=3.2						
KMBO	**Kilima Mbogo**	**57.37**	**264**	P	**P**	**10 12 27.8**	**+5.0**
	2.4nm,0.9s,mb4.2,baz=60,slow=23,SNR=6.1						
KMBO	**Kilima Mbogo**	**57.37**	**264**	P	**P**	**10 12 27.8**	**+5.0**
BRTR	**Keskin Array B**	**62.46**	**311**	P	**P**	**10 12 56.8**	**-0.6**
	0.7nm,0.7s,mb3.9,baz=135,slow=6.1,SNR=2.6						
FINES	**FINESS Array B**	**72.78**	**332**	P	**P**	**10 14 01.8**	**+0.1**
	1.7nm,0.8s,mb4.0,baz=127,slow=6.9,SNR=4.4						
FINES				pP	pP	10 14 23.5	+12
	6.7nm,1.2s,baz=168,slow=18,SNR=2.5						
GERES	**GERESS Array B**	**77.88**	**318**	P	**P**	**10 14 32.3**	**+1.3**
	0.7nm,0.6s,mb3.8,baz=76,slow=5.5,SNR=6.6						
GERES				pP	pP	10 14 53.8	+13
	0.6nm,0.8s,baz=108,slow=6.2,SNR=2.2						
NOA	**NORSAR Array B**	**79.80**	**331**	P	**P**	**10 14 39.9**	**-1.3**
	1.3nm,0.9s,mb3.9,baz=264,slow=9.7,SNR=3.4						
TXAR	**Lajitas Array**	**139.34**	**24**	PKiKP		10 22 03.5	
	0.1nm,0.7s,baz=194,slow=0.8,SNR=3.9						
PLCA	**Paso Flores**	**144.43**	**200**	PKP	PKPdf	10 22 11.3	-1.9
	1.4nm,0.9s,baz=195,slow=7.3,SNR=3.6						
PLCA	**Paso Flores**	**144.43**	**200**	PKP	PKPdf	10 22 11.3	-1.9

BJI ***29*** *10:04:36.0, 7.70N×93.90E, h30km, mb4.6*
NEIC ***29*** *10:04:36.0±0.6, 7.72N×93.91E, h30km, mb4.5/2, Error ellipse: s-maj=18.3km s-min=12.1km az=64.0*
IDC ***29*** *10:04:44.3±6.6, 7.98N×94.27E, h102km±57km, mb3.7/13, mb1 3.8/14, mb1mx3.7/22, mbtmp4.0/14, Error ellipse: s-maj=46.0km s-min=16.8km az=53.0*

ISC 29 10:04:34.0±0.8, 7.8N±0.1×94.0E±0.2, h30km, n23, σ0§81/20, mb4.1/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.68**	**24**	P	**P**	**10 07 22.6**	**+0.9**
	0.5nm,0.3s,baz=214,slow=14,SNR=12						
SONM	**Songino Array**	**41.31**	**13**	P	**P**	**10 12 18.8**	**+0.2**
	1.2nm,0.8s,mb3.6,baz=190,slow=7.5,SNR=7.8						
KURK	**Kurchatov**	**44.69**	**346**	*e*P	**P**	**10 12 45.8**	**-0.3**
	5.3nm,0.9s,mb4.4						
ZAL	**Zalesovo**	**46.65**	**353**	P	**P**	**10 13 01.6**	**+0.1**
	3.2nm,0.8s,mb4.3,baz=291,slow=7.7,SNR=15						
WRA	**Warramunga Arr**	**48.30**	**125**	P	**P**	**10 13 15.0**	**+0.1**
	0.5nm,0.7s,mb3.7,baz=305,slow=8.8,SNR=5.6						
BVAR	**Borovoye Array**	**49.06**	**341**	P	**P**	**10 13 18.9**	**-1.5**
	1.6nm,0.9s,mb4.0,baz=162,slow=4.7,SNR=4.2						
CHKZ	**Chkalovo**	**49.55**	**342**	*e*P	**P**	**10 13 23.8**	**-0.2**
	4.2nm,0.7s,mb4.6						
ASAR	**Alice Springs**	**49.94**	**130**	P	**P**	**10 13 27.7**	**+0.2**
	0.5nm,1.0s,mb3.5,baz=315,slow=6.2,SNR=3.4						
KMBO	**Kilima Mbogo**	**57.27**	**264**	P	**P**	**10 14 27.4**	**+5.7**
	2.3nm,1.1s,mb4.1,baz=38,slow=19,SNR=3.6						
BRTR	**Keskin Array B**	**62.40**	**311**	P	**P**	**10 14 57.7**	**+1.1**
	1.0nm,0.9s,mb4.0,baz=107,slow=4.7,SNR=3.4						
FINES	**FINESS Array B**	**72.75**	**332**	P	**P**	**10 16 00.8**	**-0.3**
	3.1nm,0.9s,mb4.2,baz=108,slow=12,SNR=6.3						
FINES	**FINESS Array B**	**72.75**	**332**	P	**P**	**10 16 00.8**	**-0.3**
GERES	**GERESS Array B**	**77.83**	**318**	P	**P**	**10 16 31.1**	**+0.9**
	1.5nm,0.8s,mb4.0,baz=90,slow=4.0,SNR=6.6						
HFS	**Hagfors**	**78.49**	**330**	P	**P**	**10 16 34.0**	**+0.3**
	5.5nm,1.1s,mb4.4,baz=100,slow=9.0,SNR=4.4						
NB2	**NORSAR Subarra**	**79.77**	**331**	P	**P**	**10 16 40.7**	**+0.1**
	0.8nm,0.7s,mb3.8,baz=90,slow=5.8						
NOA	**NORSAR Array B**	**79.77**	**331**	P	**P**	**10 16 40.4**	**-0.2**
	1.2nm,0.8s,mb3.9,baz=97,slow=5.6,SNR=3.7						
NOA	**NORSAR Array B**	**79.77**	**331**	P	**P**	**10 16 40.4**	**-0.2**
DAVOX	**Davos**	**80.38**	**316**	P	**P**	**10 16 44.4**	**+0.2**
	1.4nm,0.6s,mb4.1,baz=133,slow=19,SNR=2

comp=Z,202nm,1.1s,mb5.4
PKI Pulchoki 21.36 338 *e*P **P 10 16 01.4 -0.4**
comp=Z,181nm,1.2s,mb5.3
GUN Gumba 21.50 340 *e*P **P 10 16 01.9 -1.3**
comp=Z,145nm,1.0s,mb5.4
DMN Daman 21.51 338 *e*P **P 10 16 01.9 -1.4**
comp=Z,116nm,0.9s,mb5.3
KKN Kakani 21.61 338 *e*P **P 10 16 02.3 -2.0**
comp=Z,95nm,0.8s,mb5.2
KAD Karad 21.65 298 *e*P **P 10 16 05.0 +0.3**
LSA Lhasa 22.00 353 P **P 10 16 08.5 +0.4**
LSA AMB AMB
comp=Z,20nm,1.2s,mb4.4
GKN Gorkha 22.04 337 *e*P **P 10 16 05.6 -3.0**
comp=Z,212nm,1.2s,mb5.5
BHPL Bhopal 22.24 316 *e*P **P 10 16 12.2 +1.7**
BHPL *e* 10 16 17.6
comp=Z,30nm,0.8s
KOLN Koldanda 22.25 335 *e*P **P 10 16 07.4 -3.3**
comp=Z,108nm,1.0s,mb5.2
POO Poona 22.45 300 *e*P **P 10 16 11.7 -1.0**
POO *e* 10 16 24.8
comp=Z,29nm,1.4s
NDI New Delhi 26.22 325 *e*P **P 10 16 48.5 -0.4**
AJM Ajmer 26.26 317 *e*P **P 10 16 49.3 -0.1**
AJM *e* pP 10 16 53.7 -1.8
comp=Z,16nm,0.8s
DDI Dehra Dun 27.03 328 *e* **P 10 16 57.0 +0.6**
XAN Xi'an 29.48 25 P **P 10 17 18.0 -0.5**
XAN AP pP 10 17 24.5 -0.1
XAN AMB AMB
comp=Z,13nm,0.9s,mb4.7
WHN Wuhan 29.51 37 ⇑P **P 10 17 20.5 +1.7**
LZH Lanzhou 29.54 16 *e*P **P 10 17 19.3 +0.3**
LZH AP pP 10 17 27.5 +2.3
LZH XP sP 10 17 30.3 +2.4
LZH AMB AMB
comp=Z,33nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,196nm,4.0s
LZH LR LR
comp=E,485nm,11.1s
LZH LR LR
comp=Z,689nm,12.5s,MS4.5
LZH Lanzhou 29.54 16 *e*P **P 10 17 19.2 +0.2**
LZH *SP sP 10 17 30.3 +2.4
LZH pmax pmax
comp=Z,33nm,1.5s,mb4.8
LZH MLR MLR
comp=Z,690nm,12.5s,MS4.5
LZH Lanzhou 29.54 16 *e*P **P 10 17 19.2 +0.2**
comp=Z,33nm,1.5s,mb4.8
LZH pP pP 10 17 27.5 +2.3
LZH sP sP 10 17 30.3 +2.4
LZH LR LR
comp=Z,690nm,12.5s,MS4.5
NJ2 Nanjing 33.34 40 *e*P **P 10 17 54.5 +2.1**
NJ2 AP pP 10 18 02.5 +3.9
NJ2 XP sP 10 18 06.0 +4.7
NJ2 PP PP 10 19 02.8 -1.5
NJ2 S **S 10 23 10.0 -0.9**
NJ2 XS 10 23 26.0
NJ2 AMB AMB
comp=Z,70nm,0.9s,mb5.6
NJ2 AMB AMB
comp=Z,400nm,5.6s
NJ2 LR LR
comp=N,1μm,12.9s,MS5.0
NJ2 LR LR
comp=E,1μm,13.5s,MS5.0
NJ2 LR LR
comp=Z,860nm,11.8s,MS4.7
SSE Sheshan 34.29 44 P **P 10 17 56.6 -4.0**
comp=Z,43nm,0.7s,mb5.5
SSE sP sP 10 18 09.0 -0.5
SSE S **S 10 23 21.6 -4.0**
SSE sS 10 23 36.8
SSE SS SS 10 25 49.9 +14
SSE LR LR
comp=Z,230nm,15.6s,MS4.0
WMQ Urumqi 36.35 352 P **P 10 18 18.5 +0.5**
WMQ AP pP 10 18 28.3 +4.1
WMQ XP sP 10 18 32.0 +5.1
WMQ PP PP 10 19 42.0 +0.5
WMQ PCP PcP 10 20 43.3 +0.6
WMQ S **S 10 23 56.5 -0.8**
WMQ AMB AMB
comp=Z,64nm,1.5s,mb5.3
WMQ AMB AMB
comp=Z,302nm,5.6s
WMQ LR LR
comp=N,721nm,18.3s,MS4.7
WMQ LR LR
comp=E,819nm,18.4s,MS4.7
WMQ LR LR
comp=Z,1μm,18.7s,MS4.7
JOW Kunigami 37.51 55 P **P 10 18 28.1 +0.2**
comp=Z,16nm,0.8s,mb4.8,baz=184,slow=14,SNR=3.5
BJI Beijing 37.69 28 P **P 10 18 30.8 +1.5**
BJI pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
BJI MLR MLR
comp=Z,200nm,19.1s,MS3.9
BJI Beijing 37.69 28 P **P 10 18 30.8 +1.5**
comp=Z,6.0nm,0.7s,mb4.4
BJI S **S 10 24 32.4 +15**
BJI LR LR
comp=Z,200nm,19.1s,MS3.9
AAK Ala-Archa 38.80 337 *e*P **P 10 18 37.7 -0.9**
AAK pmax pmax
comp=Z,14nm,1.1s,mb4.6
AAK Ala-Archa 38.80 337 *e*P **P 10 18 37.7 -0.9**
comp=Z,14nm,1.1s,mb4.6
MKAR Makanchi Array 40.19 347 *i*P **P 10 18 49.5 -0.5**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
SONM Songino Array 41.26 13 P **P 10 18 59.4 +0.6**
comp=Z,4.8nm,0.8s,mb4.2,baz=194,slow=8.1,SNR=32
SONM PcP PcP 10 20 58.6 +0.5
comp=Z,2.1nm,0.6s,baz=198,slow=3.4,SNR=5.8
SONM pPcP 10 21 04.6
comp=Z,5.0nm,1.0s,baz=194,slow=3.9,SNR=6.4
SONM ScP 10 24 45.2
comp=Z,0.6nm,1.0s,baz=170,slow=2.9,SNR=3.2
ULN Ulaanbaatar 41.43 13⇓*e*P **P 10 18 59.3 -0.9**
ULN Ulaanbaatar 41.43 13 *e*P **P 10 19 00.3 +0.1**
comp=Z,6.4nm,1.1s,mb4.2
SNY Shenyang 42.75 33 ⇑P **P 10 19 13.5 +2.3**
SNY LR LR
comp=N,380nm,15.7s
SNY LR LR
comp=Z,370nm,15.5s,MS4.4
ZAK Zakamensk 43.15 9 *e*P **P 10 19 14.2 -0.1**
TLY Talaya 44.47 8 *e*P **P 10 19 21.9 -3.0**
TLY pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
KURK Kurchatov 44.71 346 *e*P **P 10 19 26.3 -0.6**
KURK pmax pmax
comp=Z,5.0nm,1.3s,mb4.2
KURK Kurchatov 44.71 346 *e*P **P 10 19 26.3 -0.7**
comp=Z,4.8nm,1.3s,mb4.2
NWAO Narrogin (SRO) 46.05 153 *e*P **P 10 19 38.6 +0.8**
NWAO pmax pmax
comp=Z,10.0nm,0.8s
NWAO Narrogin (SRO) 46.05 153 P **P 10 19 38.8 +1.0**
comp=Z,7.1nm,0.5s,mb4.9,baz=330,slow=3.8,SNR=5.2
NWAO Narrogin (SRO) 46.05 153 *e*P **P 10 19 38.6 +0.8**
comp=Z,10.0nm,0.8s,mb4.8
ZAL Zalesovo 46.65 352 P **P 10 19 42.4 +0.2**
comp=Z,6.9nm,0.9s,mb4.6,baz=290,slow=8.6,SNR=4.0
NVS Novosibirsk 47.75 351 *i*P **P 10 19 49.1 -1.8**
NVS *e* 10 21 27.4
NVS *e*S **S 10 26 42.8 -2.2**
NVS pmax pmax
comp=Z,14nm,0.9s,mb5.0
NVS pmax pmax
comp=N,6.0nm,0.8s
NVS pmax pmax
comp=E,5.0nm,0.9s
NVS smax
comp=N,10.0nm,1.5s
WRA Warramunga Arr 48.20 125 P **P 10 19 54.2 -0.7**
comp=N,2.1nm,0.5s,mb4.4,baz=304,slow=8.6,SNR=17
WRAB Tennant Creek 48.20 125 *e*P **P 10 19 53.8 -1.1**
WRAB pmax pmax
comp=Z,35nm,1.4s,mb5.2
WRAB Tennant Creek 48.20 125 *e*P **P 10 19 53.8 -1.0**
comp=Z,35nm,1.4s,mb5.2
WB2 Warramunga Arr 48.21 125 *e*P **P 10 19 54.0 -0.9**
BVAR Borovoye Array 49.09 341 P **P 10 20 00.5 -0.7**
comp=Z,4.0nm,1.0s,mb4.4,baz=143,slow=7.4,SNR=14
BVAR PcP PcP 10 21 25.0 -0.1
comp=Z,1.3nm,0.7s,baz=135,slow=2.1,SNR=3.6
BVAR pPcP 10 21 31.2
comp=Z,1.2nm,0.5s,baz=187,slow=4.6,SNR=4.9
BRVK Borovoye 49.15 341 *e*P **P 10 20 01.0 -0.7**
BRVK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BRVK Borovoye 49.15 341 *e*P **P 10 20 00.9 -0.8**
comp=Z,4.6nm,1.0s,mb4.5
MAT Matsushiro 49.22 48 P **P 10 20 00.0 -2.5**
MAT Matsushiro 49.22 48 PCP PcP 10 21 25.3 -0.5
CHKZ Chkalovo 49.57 342 *e*P **P 10 20 04.2 -0.8**
CHKZ pmax pmax
comp=Z,21nm,1.0s,mb5.1
CHKZ Chkalovo 49.57 342 *e*P **P 10 20 04.2 -0.8**
comp=Z,21nm,1.0s,mb5.1
ASPA Alice Springs 49.84 130 *e*P **P 10 20 06.6 -0.9**
ASAR Alice Springs 49.84 130 P **P 10 20 06.5 -1.0**
comp=Z,2.3nm,0.8s,mb4.2,baz=307,slow=7.9,SNR=20
ASAR PcP PcP 10 21 27.9 -0.3
comp=Z,2.2nm,0.7s,baz=305,slow=4.0,SNR=8.7
BOD Bodaibo 52.25 13 *e*P **P 10 20 24.4 -0.8**
GNI Garni 54.51 314 *e*P **P 10 20 42.9 +0.7**
GNI pmax pmax
comp=Z,22nm,1.3s
GNI Garni 54.51 314 P **P 10 20 43.1 +0.9**
comp=Z,2.1nm,0.3s,mb4.6,baz=206,slow=17,SNR=5.2
GNI Garni 54.51 314 *e*P **P 10 20 42.9 +0.7**
comp=Z,22nm,1.3s,mb5.0
PMG Port Moresby 55.49 107 *e*P **P 10 20 50.3 +0.6**
PMG Port Moresby 55.49 107 P **P 10 20 50.2 +0.5**
comp=Z,9.0nm,0.7s,mb4.9,baz=221,slow=8.8,SNR=5.3
SVE Sverdlovsk 55.50 338 *e*P **P 10 20 45.0 -4.2**
SVE pmax pmax
comp=Z,60nm,2.0s,mb5.3
ARU Arti 55.99 337⇓*i*P **P 10 20 45.4 -7.3**
ARU *e* 10 21 44.6
ARU *e*S **S 10 28 28.7 -9.2**
ARU *e*SS SS 10 32 15.3 -8.8
ARU pmax pmax
comp=Z,11nm,1.0s,mb4.8
YSS Yuzh-Sakhalins 56.86 38 *i*P **P 10 20 57.5 -1.6**
KIV Kislovodsk 57.40 318 *e*P **P 10 21 01.1 -1.9**
KIV *e*S **S 10 28 58.8 +2.1**
KIV pmax pmax
comp=Z,17nm,1.2s,mb5.0
KIV Kislovodsk 57.40 318 *e*P **P 10 21 04.2 +1.3**
comp=Z,7.4nm,0.5s,mb5.0
KMBO Kilima Mbogo 57.42 264 *e*P **P 10 21 05.6 +2.1**
KMBO pmax pmax
comp=Z,8.0nm,0.9s
KMBO Kilima Mbogo 57.42 264 P **P 10 21 05.8 +2.3**
comp=Z,5.7nm,0.8s,mb4.7,baz=55,slow=10,SNR=9.2
KMBO Kilima Mbogo 57.42 264 *e*P **P 10 21 05.6 +2.1**
comp=Z,7.6nm,0.9s,mb4.7
CTA Charters Tower 58.25 119 P **P 10 21 07.3 -1.9**
comp=Z,6.4nm,1.3s,mb4.5,baz=286,slow=7.3,SNR=3.4
CTAO Charters Tower 58.25 119 *e*P **P 10 21 07.0 -2.2**
SOC Sochi 59.26 317 *e*P **P 10 21 12.5 -3.4**
SOC *e* 10 23 24.1
SOC *e*S **S 10 29 20.0 -1.1**
SOC *e* 10 31 00.3
SOC pmax pmax
comp=N,105nm,1.1s
SOC pmax pmax
comp=Z,82nm,1.1s,mb5.7
SOC pmax pmax
comp=E,35nm,1.0s
STKA Stephens Creek 60.03 134 P **P 10 21 19.6 -1.8**
comp=E,1.2nm,0.8s,mb4.0,baz=288,slow=9.6,SNR=4.6
STKA Stephens Creek 60.03 134 *e*P **P 10 21 19.3 -2.1**
YAK Yakutsk 60.09 18 *e*P **P 10 21 21.0 -0.4**
YAK pmax pmax
comp=Z,29nm,0.6s,mb5.5
YAK Yakutsk 60.09 18 *e*P **P 10 21 21.0 -0.4**
comp=Z,29nm,0.6s,mb5.5
ANN Anapa 61.22 317 *e*P **P 10 21 20.7 -8.6**
ANN pmax pmax
comp=Z,51nm,1.1s,mb5.6
BRTR Keskin Array B 62.50 311 P **P 10 21 36.0 -2.0**
comp=Z,2.5nm,1.0s,mb4.3,baz=124,slow=7.0,SNR=6.1
MOS Moscow 65.17 329 *e*P **P 10 21 53.4 -1.8**
MOS pmax pmax
comp=Z,36nm,0.8s,mb5.5
OBN Obninsk 65.47 328 *e*P **P 10 21 55.9 -1.2**
OBN pmax pmax
comp=Z,36nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.0
MA2 Magadan 66.85 28 *e*P **P 10 22 05.9 0.0**
MA2 pmax pmax
comp=Z,15nm,0.9s,mb5.0
MA2 Magadan 66.85 28 *e*P **P 10 22 05.9 -0.1**
comp=Z,16nm,0.9s,mb5.0
TIXI Tiksi 67.33 11⇓*i*P **P 10 22 07.6 -1.2**
TIXI pmax pmax
comp=Z,33nm,1.3s,mb5.2
TIXI MLR MLR
comp=Z,105nm,16.0s,MS4.2
AKASG Malin Array Be 68.24 322 P **P 10 22 13.2 -1.6**
comp=Z,2.9nm,0.9s,mb4.3,baz=86,slow=5.0,SNR=6.1
IDI Anoyia 68.63 305 P **P 10 22 18.2 +0.7**
comp=Z,6.7nm,0.7s,mb4.7,baz=39,slow=13,SNR=3.1
KOLS Kolonicke sedl 72.28 319 *e*P pP 10 22 44.0 -2.0
KOLS Kolonicke sedl 72.28 319 *e* pP 10 22 44.0 -2.0
FINES FINESS Array B 72.80 332 P **P 10 22 41.4 -0.8**
comp=Z,4.6nm,0.9s,mb4.4,baz=112,slow=7.3,SNR=13
CRVS Cervenica-Dubn 72.81 319 *e*P **P 10 22 43.0 +0.5**
CRVS *e*sP sP 10 22 52.4 +1.0
LBTB Lobatse 74.20 241 *e*P **P 10 22 52.8 +1.7**
LBTB pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LBTB Lobatse 74.20 241 *e*P **P 10 22 52.8 +1.7**
comp=Z,9.0nm,0.8s,mb4.8
VYHS Vyhne 74.49 318 *e*P **P 10 22 51.8 -0.5**
ARCES ARCESS Array B 75.36 340 P **P 10 22 56.6 -0.3**
comp=Z,5.7nm,1.1s,mb4.4,baz=90,slow=8.5,SNR=5.8
MORC Moravsky Berou 75.46 319 *e*P **P 10 22 57.9 +0.1**
MORC pmax pmax
comp=Z,14nm,1.4s,mb4.7
MORC Moravsky Berou 75.46 319 *e*P **P 10 22 57.9 +0.1**
comp=Z,14nm,1.4s,mb4.7
BOSA Boshof 75.54 238 *e*P **P 10 23 00.1 +1.4**
BOSA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BOSA Boshof 75.54 238 *e*P **P 10 23 00.1 +1.4**
comp=Z,8.6nm,0.8s,mb4.7
ZST Bratislava 75.61 318 *e*P **P 10 22 59.5 +0.8**
BRG Berggiesshubel 77.83 320 *e*P pP 10 23 15.9 -1.8
BRG pmax pmax
comp=Z,14nm,1.4s,mb4.7
BRG Berggiesshubel 77.83 320 *e*P pP 10 23 15.9 -1.8
comp=Z,14nm,1.4s
GERES GERESS Array B 77.91 318 P **P 10 23 11.9 +0.4**
comp=Z,1.3nm,0.7s,mb4.0,baz=90,slow=2.7,SNR=5.5
GERES pP pP 10 23 17.6 -0.5
comp=Z,3.9nm,0.8s,baz=90,slow=4.9,SNR=14
KHC Kasperske Hory 78.00 319 *e*P **P 10 23 11.5 -0.5**
KHC *e* 10 23 16.0
KHC Kasperske Hory 78.00 319 *e*P **P 10 23 11.5 -0.5**
KHC pP pP 10 23 16.0 -2.7
MAW Mawson 78.44 192 *e*P **P 10 23 15.9 +1.9**
MAW pmax pmax
comp=Z,5.0nm,0.9s
MAW Mawson 78.44 192 P **P 10 23 15.5 +1.4**
comp=Z,1.9nm,0.7s,mb4.1,baz=352,slow=8.2,SNR=3.5
MAW Mawson 78.44 192 *e*P **P 10 23 15.9 +1.9**
comp=Z,4.7nm,0.9s,mb4.4
CLL Collm 78.44 321 P **P 10 23 17.0 +2.6**
CLL *e* pP 10 23 23.0 +1.9
HFS Hagfors 78.55 330 P **P 10 23 15.1 +0.3**
comp=Z,2.4nm,0.5s,mb4.4,baz=101,slow=7.6,SNR=14
MOX Moxa 79.30 320 *e*P **P 10 23 20.0 +0.9**
NB2 NORSAR Subarra 79.82 331 P **P 10 23 21.1 -0.6**
comp=Z,3.9nm,0.8s,mb4.4,baz=92,slow=5.3
NB2 NORSAR Subarra 79.82 331 P **P 10 23 21.1 -0.6**
NB2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
NOA NORSAR Array B 79.82 331 P **P 10 23 21.8 +0.1**
comp=Z,3.0nm,0.8s,mb4.3,baz=93,slow=5.5,SNR=7.3
DAVOX Davos 80.47 316 P **P 10 23 25.7 +0.3**
comp=Z,2.1nm,0.6s,mb4.3,baz=45,slow=1.4,SNR=2.9
DAVOX pP pP 10 23 32.1 -0.1
comp=Z,7.0nm,0.9s,baz=130,slow=6.9,SNR=4.3
LPG La Plagne 82.69 315 *e*P pP 10 23 40.4 -3.4
comp=Z,23nm,0.9s
LPG La Plagne 82.69 315 *e*P pP 10 23 40.4 -3.4
LPG pmax pmax
comp=Z,12nm,0.9s,mb4.9
SYO Syowa Base 85.31 197⇓P pP 10 23 53.1 -3.4
SYO Syowa Base 85.31 197⇓P pP 10 23 55.5 -1.0
TNA Tin City 86.26 24 *e*P **P 10 23 55.4 +0.8**
EKA Eskdalemuir Ar 87.81 325 P **P 10 24 03.1 +0.8**
comp=Z,0.8nm,0.7s,mb4.1,baz=43,slow=13,SNR=3.8
ESDC Sonseca Array 91.29 310 P **P 10 24 19.9 +0.8**
comp=Z,0.3nm,0.4s,mb4.0,baz=40,slow=4.1,SNR=3.0
ESDC pP pP 10 24 25.9 +0.1
comp=Z,2.1nm,0.7s,baz=60,slow=4.4,SNR=4.6
IMA Indian Mountai 91.71 22 *e*P **P 10 24 22.2 +1.8**
IMA *e*PP pP 10 24 28.3 +1.2
SPU Mount Spurr 94.37 26 *e*P **P 10 24 33.6 +0.9**
ILAR Eielson Array 94.84 22 P **P 10 24 34.5 -0.2**
comp=Z,0.6nm,0.7s,mb4.1,baz=299,slow=4.6,SNR=9.4
ILAR pP pP 10 24 42.0 +0.4
comp=Z,0.9nm,0.7s,baz=315,slow=4.2,SNR=7.7
ILAR Eielson Array 94.84 22 P **P 10 24 34.5 -0.2**
ILAR pP pP 10 24 42.0 +0.4
INK Inuvik 97.09 16 P **P 10 24 45.4 +0.5**
comp=Z,1.4nm,0.7s,mb4.5,baz=270,slow=8.2,SNR=4.0
RES Resolute Bay 97.50 2 *e*P **P 10 24 47.6 +0.9**
RES pmax pmax
comp=Z,6.0nm,1.0s,mb5.1
RES Resolute Bay 97.50 2 *e*P **P 10 24 47.6 +0.9**
comp=Z,5.6nm,1.0s,mb5.0
DBIC Dimbokro 97.96 278 pP pP 10 24 58.7 +1.7
comp=Z,4.4nm,1.1s,baz=89,slow=8.4,SNR=3.2
DBIC LR LR 11 09 06.5
comp=Z,114nm,18.8s,MS4.4,baz=71,slow=35
YKA Yellowknife Ar 106.52 13 PKiKP 10 29 38.5
comp=Z,0.2nm,0.9s,baz=315,slow=2.6,SNR=3.5
YKA PP PP 10 29 49.2 -6.0
comp=Z,0.4nm,0.8s,baz=333,slow=7.7,SNR=6.2
YKA PKKPbc 10 40 57.4
comp=Z,0.2nm,0.6s,baz=153,slow=3.5,SNR=4.6
YKA PKKP PKKP 10 41 13.8 +10
comp=Z,0.2nm,0.6s,baz=144,slow=4.7,SNR=4.1
YKA Yellowknife Ar 106.52 13 PKPdf 10 29 38.5
YKA PP PP 10 29 49.2 -6.0
YKA PKKPbc 10 40 57.4
YKA PKKP PKKP 10 41 13.8 +10
ULM Lac du Bonnet 121.56 8 PKP PKPdf 10 30 06.9 -3.1
comp=Z,2.3nm,0.6s,baz=324,slow=10,SNR=4.5
SNOW Snow King Moun 124.22 22 *e*PKPdf PKPdf 10 30 13.9 -1.4
NVAR Mina Array Bea 125.00 31 PKP PKPdf 10 30 15.8 -1.2
comp=Z,1.7nm,0.7s,baz=284,slow=3.1,SNR=11
NVAR pPKP 10 30 22.4
comp=Z,2.9nm,0.7s,baz=260,slow=3.4,SNR=13
NVAR Mina Array Bea 125.00 31 PKP PKPdf 10 30 15.8 -1.2
NVAR pPKP 10 30 22.4
MNV Mina 125.08 31 *e*PKIKP PKPdf 10 30 15.7 -1.5
PDAR Pinedale Array 125.26 21 PKP PKPdf 10 30 15.1 -2.3
comp=Z,4.0nm,1.1s,baz=32,slow=1.5,SNR=12
PDAR pPKP 10 30 21.3
comp=Z,2.4nm,0.8s,baz=12,slow=1.1,SNR=12
MSU Marysvale 127.84 26 *e*PKIKP PKPdf 10 30 22.0 -0.5
PV10 Paradox Valley 129.26 24 *e*PKPdf PKPdf 10 30 23.8 -1.4
TUC Tucson 133.59 30 *e*PKIKP PKPdf 10 30 32.4 -1.1
MIAR Mount Ida 137.28 9 PKIKP PKPdf 10 30 37.4 -2.9
TXAR Lajitas Array 139.31 24 PKP PKPdf 10 30 43.8 -0.3
comp=Z,0.9nm,0.6s,baz=210,slow=0.9,SNR=11
TXAR pPKP 10 30 50.7
comp=Z,1.3nm,0.8s,baz=249,slow=1.4,SNR=9.7
TXAR Lajitas Array 139.31 24 PKP PKPdf 10 30 43.8 -0.3
TXAR pPKP 10 30 50.7
JCT Junction City 139.68 19 *e*PKIKP PKPdf 10 30 40.6 -4.2
PLCA Paso Flores 144.46 200 *e*PKIKP PKPdf 10 30 49.5 -3.3
PLCA Paso Flores 144.46 200 PKP PKPdf 10 30 49.9 -3.0
comp=Z,7.1nm,0.9s,baz=161,slow=3.5,SNR=14
LPAZ La Paz 160.73 242 PKP PKPdf 10 31 13.6 -3.2
comp=Z,1.7nm,0.9s,baz=355,slow=4.9,SNR=3.5
LPAZ PKPab PKPab 10 31 58.5 +1.5
comp=Z,1.5nm,0.6s,baz=136,slow=3.2,SNR=3.6
LPAZ La Paz 160.73 242 *e*PKPdf PKPdf 10 31 16.2 -0.6

IDC 29 10:23:46.3±2.2,3.80N×96.99E,mb3.9/6,mb1 4.0/7, mb1mx3.8/18,mbtmp3.8/7,ML4.1/1,Error ellipse: s-maj=96.1km s-min=18.7km az=62.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.69**	**7**	Pn	P	10 27 16.1	-1.4
	0.3nm,0.3s,baz=191,slow=9.2,SNR=3.1						
WRA	**Warramunga Arr**	**43.63**	**124**	P	P	10 31 52.1	-2.4
	0.8nm,0.6s,baz=303,slow=8.9,SNR=7.1						
SONM	**Songino Array**	**44.61**	**9**	P	P	10 32 00.1	-2.0
	0.6nm,0.5s,baz=192,slow=8.9,SNR=6.5						
ASAR	**Alice Springs**	**45.16**	**129**	P	P	10 32 04.9	-1.9
	2.0nm,0.9s,baz=309,slow=8.0,SNR=16						
ZAL	**Zalesovo**	**50.96**	**351**	P	P	10 32 50.5	-1.1
	1.1nm,0.6s,baz=304,slow=5.9,SNR=5.0						
BVAR	**Borovoye Array**	**53.74**	**340**	P	P	10 33 09.3	-3.1
	0.2nm,0.5s,baz=121,slow=8.4,SNR=2.6						
STKA	**Stephens Creek**	**55.27**	**133**	P	P	10 33 22.3	-1.6
	2.4nm,0.5s,baz=311,slow=6.6,SNR=8.5						

IGQ 29 10:29:00.9,0.77S×81.08W,h7km±7km,mb4.0,1C,Error ellipse: s-maj=21.4km s-min=7.3km az=154.6,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.60**	**118**	⇑P	Pg	10 29 12.0	-0.9
IGUA	**Igualata**	**2.54**	**106**	P	Pn	10 29 44.4	+1.2
TERV	**Terraza Guagua**	**2.54**	**77**	P	Pn	10 29 45.0	+1.7
PINO	**Pino**	**2.54**	**76**	P	Pn	10 29 43.8	+0.5
YANA	**Yana**	**2.59**	**75**	P	Pn	10 29 44.2	+0.3
NAS1	**Nasa**	**2.60**	**87**	P	Pn	10 29 45.5	+1.4
VC1	**Cotopaxi 1**	**2.68**	**87**	P	Pn	10 29 47.7	+2.5
PISA	**Pisayambo**	**2.71**	**96**	P	Pn	10 29 49.0	+3.3
PISA				S	Sn	10 30 20.6	+1.6
TAMB	**Tambo**	**2.71**	**88**	P	Pn	10 29 48.8	+3.1
ARRY	**Arrayan**	**2.72**	**106**	P	Pn	10 29 47.6	+1.7
ARRY				S	Sn	10 30 20.4	+1.1
COTA	**Cotacachi**	**2.95**	**68**	P	Pn	10 29 51.5	+2.4
CAYR	**Refugio Cayamb**	**3.17**	**76**	P	Pn	10 29 55.2	+3.0
CAYA	**Cayambe**	**3.20**	**75**	P	Pn	10 29 55.8	+3.2

IDC 29 10:34:18.9±1.8,4.12N×94.31E,mb3.5/4,mb1 3.9/5, mb1mx3.7/18,mbtmp3.6/5,ML4.7/1,Error ellipse: s-maj=64.6km s-min=27.0km az=58.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.95**	**17**	Pn	P	10 37 51.9	-1.5
	1.0nm,0.3s,baz=225,slow=12,SNR=15						
SONM	**Songino Array**	**44.77**	**12**	P	P	10 42 34.0	-2.0
	0.6nm,0.7s,baz=193,slow=7.7,SNR=3.3						
WRA	**Warramunga Arr**	**46.03**	**123**	P	P	10 42 44.9	-1.4
	0.8nm,0.7s,baz=298,slow=8.9,SNR=7.5						
ASAR	**Alice Springs**	**47.45**	**128**	P	P	10 42 55.2	-2.4
	0.3nm,0.6s,baz=302,slow=7.3,SNR=5.0						
GERES	**GERESS Array B**	**80.73**	**319**	P	P	10 46 34.5	-1.1
	0.4nm,0.7s,baz=90,slow=5.9,SNR=4.0						

IDC 29 10:34:30.2±1.8,4.06N×94.45E,mb3.5/4,mb1 3.9/5, mb1mx3.7/18,mbtmp3.6/5,ML4.5/1,Error ellipse: s-maj=63.5km s-min=26.7km az=61.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.97**	**17**	Pn	P	10 38 03.4	-1.6
	0.7nm,0.3s,baz=215,slow=12,SNR=11						
SONM	**Songino Array**	**44.81**	**11**	P	P	10 42 45.6	-2.1
	0.7nm,0.8s,baz=191,slow=7.3,SNR=3.4						
WRA	**Warramunga Arr**	**45.88**	**123**	P	P	10 42 55.3	-1.2
	0.8nm,0.8s,baz=298,slow=9.0,SNR=4.9						
ASAR	**Alice Springs**	**47.30**	**128**	P	P	10 43 05.2	-2.5
	0.3nm,0.7s,baz=292,slow=7.3,SNR=4.6						
GERES	**GERESS Array B**	**80.86**	**319**	P	P	10 46 46.6	-1.0
	0.8nm,0.8s,baz=90,slow=4.0,SNR=3.7						

IGQ 29 10:36:37.3, 1.42S ± 80.92W, h12km ± 8km, mb4.1, 4C-3D, Error ellipse: s-maj=15.9km s-min=9.7km az=160.7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.52	46	⇑P	Pb	10 36 47.1	-0.7
IGUA	Igualata	2.28	92	P	Pn	10 37 16.7	+1.4
JUIV	Juive	2.45	90	P	Pn	10 37 20.6	+2.8
ARRY	Arrayan	2.46	92	⇑P	Pn	10 37 19.4	+1.4
ARRY				S	Sn	10 37 49.8	+1.5
RETU	Refugio	2.47	91	P	Pn	10 37 20.7	+2.6
PATA	Patacocha	2.48	92	P	Pn	10 37 20.6	+2.3
PISA	Pisayambo	2.56	82	P	Pn	10 37 21.4	+2.1
NAS1	Nasa	2.56	72	P	Pn	10 37 20.3	+0.9
TERV	Terraza Guagua	2.62	62	⇓P	Pn	10 37 22.8	+2.5
PINO	Pino	2.63	62	P	Pn	10 37 20.2	-0.1
VC1	Cotopaxi 1	2.63	73	⇑P	Pn	10 37 22.4	+2.0
TAMB	Tambo	2.65	74	P	Pn	10 37 21.9	+1.3
YANA	Yana	2.68	61	⇓P	Pn	10 37 21.3	+0.3
ANTI	Antisana	2.92	71	P	Pn	10 37 27.6	+3.2
COTA	Cotacachi	3.11	56	P	Pn	10 37 29.3	+2.1
CAYR	Refugio Cayamb	3.24	64	⇓P	Pn	10 37 32.4	+3.3
CAYA	Cayambe	3.28	63	⇑P	Pn	10 37 33.2	+3.6

IDC 29 10:46:23.8 ± 6.1, 7.58S × 146.80E, h221km ± 23km, mb2.8/2, mb1 2.8/3, mb1mx2.7/11, mbtmp3.3/3, Error ellipse: s-maj=78.2km s-min=58.7km az=18.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	1.85	169	P	P	10 47 02.2	-0.6
	3.0nm,0.3s,baz=350,slow=6.1,SNR=12						
PMG				S	S	10 47 33.4	+0.5
	0.7nm,0.3s,baz=8.9,slow=15,SNR=3.2						
WRA	Warramunga Arr	17.23	223	P	P	10 50 09.4	-3.1
	0.1nm,0.3s,baz=50,slow=11,SNR=3.1						
ASAR	Alice Springs	20.22	216	P	P	10 50 42.2	-1.0
	0.4nm,0.5s,baz=52,slow=8.8,SNR=8.8						
STKA	Stephens Creek	24.65	191	P	P	10 51 24.8	-1.1
	0.8nm,0.4s,baz=335,slow=14,SNR=3.4						

IDC 29 10:48:19.7 ± 13.0, 7.69N × 94.12E, h58km ± 99km, mb3.3/3, mb1 3.6/4, mb1mx3.3/18, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=160.2km s-min=31.3km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.69	23	P	P	10 51 03.8	-2.3
	0.1nm,0.3s,baz=212,slow=15,SNR=7.8						
SONM	Songino Array	41.34	13	P	P	10 56 00.1	-1.4
	0.7nm,0.9s,baz=198,slow=9.1,SNR=5.4						
ZAL	Zalesovo	46.72	352	P	P	10 56 42.5	-2.2
	2.1nm,1.1s,baz=308,slow=7.2,SNR=3.7						
WRA	Warramunga Arr	48.18	125	P	P	10 56 54.6	-2.0
	0.2nm,0.6s,baz=304,slow=8.8,SNR=4.2						

IGQ 29 11:00:15.9, 0.89S × 81.26W, h9km ± 7km, mb4.1, Error ellipse: s-maj=10.0km s-min=8.0km az=136.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.73	102	P	Pb	11 00 29.5	-0.8
HOJA				S	Sb	11 00 39.0	-1.1
IGUA	Igualata	2.69	103	P	Pn	11 01 01.8	+1.7
TERV	Terraza Guagua	2.75	75	P	Pn	11 01 02.5	+1.6
PINO	Pino	2.75	75	P	Pn	11 01 01.5	+0.5
YANA	Yana	2.79	74	P	Pn	11 01 01.3	-0.3
VC1	Cotopaxi 1	2.87	85	P	Pn	11 01 04.9	+2.2
ARRY	Arrayan	2.87	82	P	Pn	11 01 04.2	+1.6
ANTI	Antisana	3.13	82	P	Pn	11 01 09.2	+2.9
COTA	Cotacachi	3.16	67	P	Pn	11 01 11.9	+5.0
CAYR	Refugio Cayamb	3.37	75	P	Pn	11 01 12.3	+2.5
CAYA	Cayambe	3.40	74	P	Pn	11 01 12.5	+2.2

IDC 29 11:02:56.4 ± 2.9, 7.90N × 93.89E, mb3.5/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.5/4, ML3.7/1, MS3.0/1, Ms1 3.2/1, ms1mx2.7/14, Error ellipse: s-maj=88.4km s-min=29.0km az=68.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.59	25	Pn	P	11 05 44.8	-1.4
	0.1nm,0.3s,baz=210,slow=15,SNR=6.6						
CMAR				LR	LR	11 10 22.1	
	comp=Z,72nm,20.1s,baz=215,slow=38						
SONM	Songino Array	41.19	13	P	P	11 10 42.3	-2.0
	0.3nm,0.7s,baz=207,slow=9.7,SNR=3.4						
ZAL	Zalesovo	46.49	353	P	P	11 11 24.9	-2.2
	0.9nm,0.3s,baz=310,slow=5.4,SNR=5.7						
WRA	Warramunga Arr	48.48	125	P	P	11 11 41.4	-1.7
	0.2nm,0.4s,baz=304,slow=8.8,SNR=8.0						

CSEM ***29*** *11:07:56.5 ± 0.2, 36.37N × 5.91W, h2km, ML2.5/1, Error ellipse: s-maj=5.1km s-min=1.3km az=18.0*
SFS ***29*** *11:07:57.0, 36.43N × 5.91W*
MDD 29 11:07:57.6 ± 0.8, 36.51N × 5.73W, h21km ± 3km, mbLg1.6/5, Error ellipse: s-maj=7.2km s-min=4.1km az=36.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EJIF	Jimena Fronter	0.21	104	Pg	Pb	11 08 03.0	0.0
	0.1nm,0.2s,SNR=4.0						
EJIF				Lg		11 08 06.5	
	0.4nm,0.2s,SNR=4.0						
EJIF	Jimena Fronter	0.21	104	Pg	Pb	11 08 03.0	-0.1
	0.1nm,0.2s,SNR=4.0						
EJIF				Lg		11 08 06.7	
	0.4nm,0.2s,SNR=4.0						
ESPR	Espera	0.38	344	Pg	Pb	11 08 05.2	-0.4
	3.4nm,0.2s,SNR=7.9						
ESPR				Lg		11 08 11.7	
	42nm,0.2s,SNR=7.9						
ESPR	Espera	0.38	344	Pg	Pb	11 08 04.8	-0.8
	3.4nm,0.2s,SNR=7.9						
ESPR				Lg		11 08 11.1	
	17nm,0.2s,SNR=7.9						
LIJA	Lijar	0.48	33	Pg	Pb	11 08 06.0	-1.2
LIJA				Lg		11 08 13.0	
LIJA	Lijar	0.48	33	*e*P	Pb	11 08 06.0	-1.2
EMIJ	Mijas	0.77	85	Pg	Pb	11 08 11.7	-0.6
	1.2nm,0.2s,SNR=4.0						
EMIJ				Lg		11 08 24.2	
	3.5nm,0.3s,SNR=4.0						
EMIJ	Mijas	0.77	85	Pg	Pb	11 08 13.7	+1.5
	1.2nm,0.2s,SNR=4.0						
EMIN	Mina Concepcio	1.47	329	Pg	Pn	11 08 24.2	+1.0
	0.2nm,0.2s,SNR=7.9						
EMIN				Lg		11 08 42.7	
	2.9nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	1.47	329	Pg	Pn	11 08 24.2	+1.0
	0.2nm,0.2s,SNR=7.9						
EGRO	El Granado	1.74	307	Pg	Pn	11 08 27.0	-0.1
	0.5nm,0.2s,SNR=7.9						
EGRO				Lg		11 08 49.9	
	2.5nm,0.2s,SNR=7.9						
EGRO	El Granado	1.74	307	Pg	Pn	11 08 27.9	+0.8
	0.5nm,0.2s,SNR=7.9						
EADA	Adamuz	1.90	29	Pg	Pn	11 08 32.2	+2.8
	0.4nm,0.1s,SNR=7.9						
EADA				Lg		11 08 57.3	
	1.4nm,0.1s,SNR=7.9						
EADA	Adamuz	1.90	29	Pn	Pn	11 08 32.3	+3.0
	0.4nm,0.1s,SNR=7.9						
EADA				Sn	Sn	11 08 57.3	+4.5
	1.4nm,0.1s,SNR=7.9						

IDC 29 11:16:30.3 ± 2.1, 14.47S × 177.10W, mb3.8/4, mb1 4.1/4, mb1mx3.8/15, mbtmp3.8/4, Error ellipse: s-maj=127.2km s-min=27.8km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.58	256	P	P	11 25 00.3	-1.8
	0.2nm,0.4s,baz=81,slow=6.1,SNR=7.9						
ASAR	Alice Springs	47.01	251	P	P	11 25 03.6	-1.8
	3.0nm,0.4s,baz=86,slow=8.2,SNR=126						
ASPA	Alice Springs	47.01	251	*e*P	P	11 25 04.1	-1.4
ILAR	Eielson Array	82.27	13	P	P	11 28 53.0	-1.7
	0.7nm,1.0s,baz=216,slow=5.1,SNR=5.9						
TXAR	Lajitas Array	83.10	57	P	P	11 28 58.7	-1.0
	0.1nm,0.5s,baz=207,slow=5.6,SNR=4.0						
AKASG	Malin Array Be	138.05	335	PKP	PKPdf	11 35 57.7	-1.4
	0.3nm,0.3s,baz=124,slow=3.4,SNR=4.5						

IDC 29 11:17:28.9 ± 4.2, 19.17S × 177.53W, mb4.0/4, mb1 4.2/4, mb1mx3.9/15, mbtmp4.0/4, MS3.8/1, Ms1 3.8/1, ms1mx2.8/23, Error ellipse: s-maj=181.7km s-min=34.2km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	34.09	262	LR	LR	11 35 24.1	
	comp=Z,133nm,19.0s,baz=27,slow=32						
STKA	Stephens Creek	38.78	243	P	P	11 24 55.1	-1.9
	1.0nm,0.5s,baz=71,slow=7.9,SNR=3.7						
WRA	Warramunga Arr	45.24	261	P	P	11 25 48.5	-1.6
	0.7nm,0.2s,baz=96,slow=7.5,SNR=24						
ASAR	Alice Springs	45.27	255	P	P	11 25 48.4	-1.9
	1.7nm,0.5s,baz=90,slow=8.1,SNR=14						
ILAR	Eielson Array	86.93	13	P	P	11 30 15.4	-1.2
	0.3nm,0.5s,baz=213,slow=5.7,SNR=7.0						

NEIC ***29*** *11:25:07.7 ± 1.1, 1.51S × 100.50E, h30km, mb4.2/2, Error ellipse: s-maj=52.4km s-min=12.0km az=55.0*
IDC ***29*** *11:25:15.9 ± 4.8, 1.26S × 100.88E, h94km ± 35km, mb3.6/7, mb1 3.7/8, mb1mx3.5/16, mbtmp3.9/8, MS3.4/1, Ms1 3.6/1, ms1mx2.5/25, Error ellipse: s-maj=81.8km s-min=15.6km az=55.0*
ISC 29 11:25:07.4 ± 1.4, 1.3S ± 0.3 × 100.7E ± 0.4, h33km, n12, σ0 ± 72/10, mb4.0/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.69	355	P	P	11 29 37.1	+0.2
	0.2nm,0.3s,baz=117,slow=11,SNR=2.5						
CMAR				LR	LR	11 38 22.3	
	comp=Z,105nm,20.3s,baz=210,slow=40						
WRA	Warramunga Arr	37.73	122	P	P	11 32 21.2	-0.9
	0.2nm,0.3s,mb3.3,baz=309,slow=9.0,SNR=15						
WRAB	Tennant Creek	37.74	122	P	P	11 32 22.6	+0.4
	0.8nm,0.4s,mb3.8						
ASAR	Alice Springs	39.09	127	P	P	11 32 33.7	+0.3
	0.4nm,0.5s,mb3.5,baz=299,slow=7.4,SNR=15						
ASAR				ScP		11 38 21.1	
	0.2nm,0.7s,baz=288,slow=3.9,SNR=4.6						
SONM	Songino Array	49.16	5	P	P	11 33 54.8	+0.6
	0.7nm,0.4s,mb4.0,baz=190,slow=9.0,SNR=9.1						
ZAL	Zalesovo	56.60	349	P	P	11 34 48.3	-1.0
	1.5nm,0.3s,mb4.5,baz=303,slow=5.2,SNR=4.9						
BVAR	Borovoye Array	59.77	339	P	P	11 35 10.5	-1.0
	1.5nm,0.3s,mb4.4,baz=144,slow=5.9,SNR=20						
CHKZ	Chkalovo	60.22	340	*e*P	P	11 35 14.4	-0.3
	2.0nm,0.6s,mb4.3						
FINES	FINESS Array B	83.82	332	P	P	11 37 35.3	+0.6
	0.6nm,0.7s,mb3.8,baz=104,slow=7.9,SNR=4.6						
ARCES	ARCESS Array B	86.05	340	P	P	11 37 46.6	+1.0
	4.5nm,1.0s,mb4.7,baz=108,slow=3.8,SNR=6.4						
TXAR	Lajitas Array	143.69	38	PKP	PKPdf	11 44 39.2	-0.5
	1.3nm,1.0s,baz=291,slow=0.8,SNR=8.0						
TXAR	Lajitas Array	143.69	38	PKP	PKPdf	11 44 39.2	-0.5

NIED ***29*** *11:30:00, 38.80N × 141.60E, h77km, Mw3.5 Best double couple: M0 1.92 × 10^14 NP1:φ ± 216°, δ63°, λ79°. NP2:φ ± 60°, δ29°, λ112°.*
JMA ***29*** *11:30:14.4, 38.78N × 141.61E, h69km ± 1km, M3.5 Broadband fault plane solution: P waves. NP1:φ ± 29°, δ10°, λ110°. NP2:φ ± 188°, δ81°, λ87°. Principal axes: T Plg54°, Azm94°; N Plg3°, Azm189°; P Plg36°, Azm281°;*
JMA Felt I J1.
ISC 29 11:30:14.4 ± 1.3, 38.76N ± 0.05 × 141.6E ± 0.1, h66km ± 9km, n11, σ0 ± 27/18, 5C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.32	6	⇑P	P	11 30 25.6	+0.2
OFUJ				S	S	11 30 33.6	+0.1
JMK	Ichinoseki	0.37	301	⇑P	P	11 30 25.9	+0.1
JMK				S	S	11 30 34.2	0.0
JIO	Ouri	0.38	215	⇑P	P	11 30 26.1	+0.2
JIO				S	S	11 30 34.4	+0.1
JOM	Ohasama	0.76	340	⇑P	P	11 30 29.8	0.0
JOM				S	S	11 30 41.0	-0.3
JOU	Okura	0.85	243	⇑P	P	11 30 31.2	+0.2
JOU				S	S	11 30 43.7	+0.3
JYK	Kaneyama	1.00	279	P	P	11 30 33.0	0.0
JYK				S	S	11 30 46.7	-0.1
JMM	Marumori	1.11	216	P	P	11 30 33.9	-0.5
JMM				*e*S	S	11 30 48.8	-0.4
JYS	Shirataka	1.34	247	P	P	11 30 37.7	+0.1
JYA	Atsumi	1.51	264	P	P	11 30 39.8	-0.1
JFK	Kawauchi	1.51	203	P	P	11 30 39.7	-0.3
MAT	Matsushiro	3.50	232	P	P	11 31 08.4	+0.6

IDC ***29*** *11:31:06.8 ± 0.7, 7.74N × 93.98E, mb4.0/15, mb1 4.1/16, mb1mx4.1/22, mbtmp4.0/16, ML4.0/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/29, Error ellipse: s-maj=29.2km s-min=15.1km az=50.0*
BJI ***29*** *11:31:10.5, 7.80N × 94.00E, h30km, mb4.6, Ms4.3, Msz4.1*
NEIC ***29*** *11:31:11.5 ± 0.3, 7.78N × 94.03E, h30km, mb4.3/3, Error ellipse: s-maj=13.1km s-min=7.6km az=57.0*
ISC 29 11:31:09.8 ± 0.5, 7.62N ± 0.09 × 93.9E ± 0.1, h33km, n36, σ0 ± 94/33, mb4.3/25, MS3.7/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.82	24	P	P	11 34 02.0	+2.9
CMAR	Chiang Mai Arr	11.82	24	Pn	P	11 33 54.9	-4.2
	0.3nm,0.3s,baz=213,slow=14,SNR=9.1						
HYB	Hyderabad	17.88	304	*i* P	P	11 35 22.0	+4.3
JIRN	Jiri	21.24	341	*e*P	P	11 35 56.2	+1.0
	39nm,1.0s,mb4.7						
PKI	Pulchoki	21.42	339	*e*P	P	11 35 57.8	+0.7
	36nm,0.9s,mb4.7						
DMN	Daman	21.57	338	*e*P	P	11 36 00.1	+1.6
	58nm,1.1s,mb4.9						
GUN	Gumba	21.57	340	*e*P	P	11 35 57.6	-1.0
	99nm,1.3s,mb5.1						
KKN	Kakani	21.67	339	*e*P	P	11 35 59.6	0.0
	43nm,1.1s,mb4.8						
GKN	Gorkha	22.10	338	*e*P	P	11 36 03.5	-0.3
	44nm,1.0s,mb4.9						
LSA	Lhasa	22.12	354	*e*P	P	11 36 06.8	+2.8
KOLN	Koldanda	22.30	335	*e*P	P	11 36 06.4	+0.5
	54nm,1.2s,mb4.9						
WMQ	Urumqi	36.47	352	*e*P	P	11 38 13.8	+0.2
SONM	Songino Array	41.45	13	P	P	11 38 54.5	-0.5
	1.0nm,0.8s,mb3.5,baz=191,slow=6.3,SNR=7.5						
KURK	Kurchatov	44.80	346	*e*P	P	11 39 21.8	-0.4
	2.7nm,0.8s,mb4.1						
NWAO	Narrogin (SRO)	46.02	152	P	P	11 39 34.0	+1.7
	5.6nm,0.7s,mb4.6,baz=339,slow=14,SNR=3.9						
ZAL	Zalesovo	46.77	353	P	P	11 39 37.3	-0.5
	3.0nm,0.9s,mb4.2,baz=294,slow=11,SNR=15						
WRA	Warramunga Arr	48.28	125	P	P	11 39 49.3	-0.8
	1.4nm,0.8s,mb4.0,baz=304,slow=9.3,SNR=12						
WRAB	Tennant Creek	48.28	125	*e*P	P	11 39 49.9	-0.2
BVAR	Borovoye Array	49.16	341	P	P	11 39 54.5	-1.9
	0.7nm,0.7s,mb3.8,baz=153,slow=3.2,SNR=3.8						
BRVK	Borovoye	49.22	341	*e*P	P	11 39 56.3	-0.6
	2.5nm,0.9s,mb4.2						
CHKZ	Chkalovo	49.65	342	*e*P	P	11 39 59.6	-0.6
	6.0nm,0.9s,mb4.6						
ASAR	Alice Springs	49.91	130	P	P	11 40 02.2	-0.3
	1.0nm,0.8s,mb3.9,baz=314,slow=7.5,SNR=9.5						
GNI	Garni	54.47	315	P	P	11 40 36.3	-0.1
	2.3nm,0.3s,mb4.5,baz=201,slow=17,SNR=2.5						
GNI				LR	LR	12 03 48.3	
	comp=Z,61nm,18.8s,MS3.7,baz=348,slow=36						
PMG	Port Moresby	55.65	107	P	P	11 40 45.3	-0.1
	8.7nm,0.7s,mb4.9,baz=302,slow=9.1,SNR=4.1						
PMG	Port Moresby	55.65	107	*e*P	P	11 40 46.0	+0.6
KMBO	Kilima Mbogo	57.20	264	P	P	11 40 56.8	+0.3
	0.4nm,0.3s,mb3.9,baz=236,slow=21,SNR=1.9						
BRTR	Keskin Array B	62.44	311	P	P	11 41 31.4	-0.8
	0.7nm,0.6s,mb4.0,baz=113,slow=9.1,SNR=3.9						
AKASG	Malin Array Be	68.22	322	P	P	11 42 08.2	-0.9
	0.3nm,0.4s,mb3.7,baz=96,slow=4.6,SNR=4.4						
FINES	FINESS Array B	72.84	332	P	P	11 42 36.3	-0.6
	1.7nm,0.7s,mb4.1,baz=90,slow=5.7,SNR=5.5						
ARCES	ARCESS Array B	75.43	340	P	P	11 42 52.0	+0.3
	2.6nm,0.8s,mb4.2,baz=53,slow=35,SNR=2.1						
GERES	GERESS Array B	77.88	318	P	P	11 43 06.8	+0.9
	0.9nm,0.7s,mb3.8,baz=90,slow=4.0,SNR=9.0						
NB2	NORSAR Subarra	79.85	331	P	P	11 43 16.6	+0.2
	2.8nm,1.0s,mb4.2,baz=92,slow=5.8						
NOA	NORSAR Array B	79.85	331	P	P	11 43 16.8	+0.3
	1.3nm,0.9s,mb3.9,baz=95,slow=5.3,SNR=3.4						
NVAR	Mina Array Bea	125.24	31	PKP	PKPdf	11 50 10.7	+3.0
	0.5nm,0.8s,baz=270,slow=3.0,SNR=3.7						
PDAR	Pinedale Array	125.47	21	PKP	PKPdf	11 50 10.2	+2.3
	0.6nm,0.9s,baz=90,slow=1.5,SNR=4.5						
TXAR	Lajitas Array	139.54	24	PKP	PKPdf	11 50 37.4	+2.6
	0.0nm,0.4s,baz=176,slow=24,SNR=2.7						

THE ***29*** *11:35:32.2, 38.01N × 26.95E, h10km, ML4.0*
ATH ***29*** *11:35:36.2, 38.20N × 26.71E, h53km ± 11km, MD3.7/6, ML3.8*
ISK ***29*** *11:35:37.2, 38.26N × 26.63E, h23km, MD3.6*
CSEM ***29*** *11:35:38.0 ± 0.1, 38.27N × 26.72E, h25km, MD3.6, Error ellipse: s-maj=2.8km s-min=1.9km az=37.0*
ISC 29 11:35:37.3 ± 0.6, 38.26N ± 0.03 × 26.58E ± 0.03, h23km ± 5km, n52, σ0 ± 84/71, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	Balcova	0.38	70	*i* PG	Pb	11 35 45.2	-0.3
BLCB				*i* SG	Sb	11 35 50.6	-0.4
IZM	Izmir	0.55	75	*i* PG	Pb	11 35 48.3	0.0
IZM				*i* SG	Sb	11 35 56.7	+0.9
KDAG	Bornova	0.56	75	*i* P	Pb	11 35 48.3	-0.1
KDAG				*i* S	Sb	11 35 55.9	0.0
SMG	Samos	0.58	160	*e*P	Pb	11 35 48.5	-0.2
PRK	Paraskevi	1.02	346	*e*P	Pb	11 35 56.1	0.0
AYVA	Ayvalik	1.05	5	*i* P	Pb	11 35 56.8	0.0
AYVA				*i* S	Sb	11 36 14.5	+4.4
AKS	Akhisar	1.15	57	PN	Pn	11 35 57.2	-1.0
AKS				SN	Sn	11 36 13.0	-0.3
AYDN	Tasoluk	1.19	120	*i* P	Pn	11 35 58.7	0.0
AYDN				*i* S	Sb	11 36 15.6	+1.6
MLSB	Milas	1.35	135	*e*PN	Pn	11 36 01.1	+0.1
BDRM	Kayabasi	1.37	150	*i* P	Pn	11 36 00.8	-0.5
BDRM				*i* S	Sn	11 36 22.0	+3.0
APE	Apeiranthos	1.45	215	PN	Pn	11 36 00.9	-1.6
APE	Apeiranthos	1.45	215	*e*P	Pn	11 36 01.2	-1.3
MANT	Manisa	1.57	81	*i* P	Pn	11 36 04.2	-0.1
MANT				*i* S	Sn	11 36 27.2	+3.2
EZN	Ezine	1.58	353	PN	Pn	11 36 04.9	+0.6
BOZC	Bozcaada	1.64	346	*i* P	Pn	11 36 04.7	-0.4
BOZC				*i* S	Sn	11 36 28.7	+3.1
BALB	Balikesir	1.71	36	PN	Pn	11 36 06.4	+0.2
YER	Yerkesik	1.75	129	PN	Pn	11 36 06.4	-0.4
CANB	Canakkale	1.80	12	*e*PN	Pn	11 36 07.2	-0.2
BTOK	Tokmak	1.88	36	*i* P	Pn	11 36 12.0	+3.4
BTOK				*i* S	Sn	11 36 37.0	+5.2
LIA	Limnos Island	1.97	327	*e*P	Pn	11 36 09.8	-0.1
DENT	Denizli	2.00	104	*e*PN	Pn	11 36 09.5	-0.9
DNZL	Cakiroluk	2.03	105	*i* P	Pn	11 36 11.2	+0.4
DNZL				*i* S	Sn	11 36 45.5	+10
LOS	Limnos	2.04	326	*e*Pn	Pn	11 36 11.4	+0.4
LOS				*e*Sn	Sn	11 36 42.2	+6.2
SANT	Santorini	2.08	206	*i* P	Pn	11 36 15.4	+3.9
SANT				*i* S	Sn	11 36 44.7	+7.7
DST	Dursunbey	2.09	49	*e*PN	Pn	11 36 11.2	-0.4
PTL	Penteli	2.15	265	*e*P	Pn	11 36 12.5	0.0
ATH	Athens Observa	2.28	264	*e*P	Pn	11 36 14.5	+0.2
AOS	Alonnisos	2.30	294	*e*Pn	Pn	11 36 15.4	+0.7
AOS				*e*Sn	Sn	11 36 49.0	+6.4
EDC	Edincik	2.31	25	*e*PN	Pn	11 36 14.5	-0.3
KHL	Karahalli	2.32	87	*e*PN	Pn	11 36 14.7	-0.2
BNT	Bandirma	2.34	26	PN	Pn	11 36 14.6	-0.6
KCT	Karacabey	2.43	34	PN	Pn	11 36 16.0	-0.6
MRMT	Marmara Adasi	2.47	18	*e*PN	Pn	11 36 16.8	-0.3
SART	Tekirdag	2.47	11	*i* P	Pn	11 36 15.8	-1.3
SART				*i* S	Sn	11 36 53.7	+6.8
ORLT	Orhaneli	2.54	44	*e*PN	Pn	11 36 17.6	-0.4
FETY	Fethiye	2.57	128	*e*PN	Pn	11 36 19.1	+0.6
MFT	Murefte	2.58	12	*e*PN	Pn	11 36 19.1	+0.4
ALN	Alexandroupoli	2.67	351	*e*Pn	Pn	11 36 19.2	-0.7
ALN				*e*Sn	Sn	11 36 56.1	+4.1
XOR	Xorichti	2.87	294	*e*Pn	Pn	11 36 22.7	-0.1
OUR	Ouranopolis	2.89	317	*e*Pn	Pn	11 36 23.4	+0.3
RDO	Rodhopi	3.00	345	*e*P	Pn	11 36 24.1	-0.5
ELL	Elmali	3.04	119	*e*PN	Pn	11 36 25.3	0.0
YLV	Yalova	3.16	42	*e*PN	Pn	11 36 27.2	+0.3
CTT	Catalca	3.22	26	*e*PN	Pn	11 36 28.0	+0.3
BCK	Bucak	3.27	103	*e*PN	Pn	11 36 28.0	-0.5
AGG	Agios Georgios	3.42	284	*e*Pn	Pn	11 36 30.6	0.0
AGG	Agios Georgios	3.42	284	*e*Pn	Pn	11 36 30.5	0.0
ESKT	Eskisehir	3.56	68	*i* P	Pn	11 36 31.7	-0.9
ESKT				*i* S	Sn	11 37 31.2	+17
KNT	Kendrikon	4.06	317	*e*Pn	Pn	11 36 40.6	+0.9
GRG	Griva	4.21	311	*e*Pn	Pn	11 36 42.4	+0.6
HENT	Hendek	4.21	51	*i* P	Pn	11 36 50.9	+9.1
HENT				*i* S	Sn	11 37 50.0	+19
SGKT	Sivrigoynuk	4.83	60	*i*

IDC ***29*** *11:50:47.0±0.4,2.08S×126.71E,mb4.9/24,mb1 4.9/24, mb1mx4.9/25,mbtmp4.9/24,ML5.4/2,MS4.2/10,Ms1 4.2/10, ms1mx3.9/23,Error ellipse: s-maj=20.3km s-min=7.7km az=70.0*

BJI ***29*** *11:50:49.2,2.31S×127.16E,h46km,mB5.5,mb5.3,Ms4.6, Msz4.3*

MOS ***29*** *11:50:50.8±1.5,2.00S×126.59E,h33km,mb5.4/25,Error ellipse: s-maj=13.3km s-min=6.3km az=109.7*

HRVD ***29*** *11:50:51.2±0.2,1.98S×126.62E,h12km,MW5.2/67, Centroid moment Tensor Solution. LP body waves: s36,c60;Mantle waves: s67,c116; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.56±.16; $M_{\theta\theta}$4.97±.12; $M_{\phi\phi}$0.58±.18; $M_{r\theta}$-1.82±.37; $M_{r\phi}$3.19±.13; $M_{\theta\phi}$4.08±.47; Best double couple: $M_0$7.487×10^{16} NP1: ϕ_s90°,δ51°,λ-48°. NP2:ϕ_s214°,δ55°,λ-130°. Principal axes: T 6.658, Plg2°, Azm331°; N 1.657, Plg32°, Azm240°; P -8.316, Plg58°, Azm64°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***29*** *11:50:51.2±0.2,1.99S×126.63E,mb5.2/32 Error ellipse: s-maj=9.8km s-min=4.5km az=75.0*

ISC 29 11:50:50.1±0.2,1.97S±0.03×126.71E±0.05,h30km, h30km±4.5km:pP-P,n230,σ1$23/215,mb5.3/73,MS4.2/33, 4C-19D,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MATI	**Mati**	**8.87**	**357**	*e*P	**P**	**11 53 00.3**	**+1.0**
KCP	**Kidapawan**	**9.06**	**350**	*e*P	**P**	**11 53 01.0**	**-1.1**
BUKP	**Musuan**	**9.92**	**351**	*e*P	**P**	**11 53 15.4**	**+1.4**
BUKP	**Musuan**	**9.92**	**351**	*e*P	**P**	**11 53 17.0**	**+3.0**
BIPH	**Bislig**	**10.09**	**358**	⇓*e*P	**P**	**11 53 18.4**	**+2.0**
BIPH				*e*S	**S**	**11 55 03.5**	**-6.1**
PAGZ	**Pagadian**	**10.30**	**341**	*e*P	**P**	**11 53 17.5**	**-1.7**
PAGZ	**Pagadian**	**10.30**	**341**	*e*P	**P**	**11 53 19.4**	**+0.2**
IPIL	**Ipil**	**10.54**	**337**	*e*P	**P**	**11 53 20.6**	**-1.8**
BUTP	**Butuan**	**10.92**	**354**	*e*P	**P**	**11 53 26.5**	**-1.1**
BUTP	**Butuan**	**10.92**	**354**	*e*P	**P**	**11 53 27.1**	**-0.6**
SNPH	**Sibulan**	**11.76**	**343**	*e*P	**P**	**11 53 42.5**	**+3.5**
KAKA	**Kakadu** 156nm,0.6s	**12.09**	**152**	*e*P	**P**	**11 53 43.0**	**-0.5**
KAKA				*i* S	**S**	**11 55 58.0**	**-0.2**
MSLP	**Maasin**	**12.16**	**351**	*e*P	**P**	**11 53 42.2**	**-2.3**
MSLP	**Maasin**	**12.16**	**351**	*e*P	**P**	**11 53 42.3**	**-2.2**
BATP	**Bataraza**	**13.90**	**320**	*e*P	**P**	**11 54 08.9**	**+1.3**
ENPP	**El Nido**	**14.96**	**331**	*e*P	**P**	**11 54 21.5**	**+0.1**
OTRP	**Odiongan**	**14.98**	**342**	*e*P	**P**	**11 54 25.6**	**+3.9**
BUSP	**Coron**	**15.31**	**335**	*e*P	**P**	**11 54 22.8**	**-3.3**
SJMP	**San Jose**	**15.37**	**339**	*e*P	**P**	**11 54 24.8**	**-2.1**
PVCP	**Virac**	**15.67**	**351**	*e*P	**P**	**11 54 28.0**	**-2.7**
FITZ	**Fitzroy Crossi** 74nm,0.8s	**16.06**	**184**	⇓*i*P	**P**	**11 54 34.0**	**-1.7**
FITZ				*i* S	**S**	**11 57 45.0**	**+12**
LUBP	**Lubang**	**16.87**	**338**	*e*P	**P**	**11 54 45.6**	**-0.3**
TGY	**Tagaytay City** 51nm,0.3s,baz=239,slow=3.7,SNR=4.6	**16.96**	**340**	P	**P**	**11 54 50.0**	**+2.9**
POLP	**Polilio Island**	**17.25**	**344**	*e*P	**P**	**11 54 49.6**	**-1.0**
BALP	**Baler**	**18.32**	**344**	*e*P	**P**	**11 55 04.3**	**+0.4**
SCZP	**Santa Cruz**	**18.87**	**339**	*e*P	**P**	**11 55 08.5**	**-2.1**
BCPH	**Baguio City Da**	**19.21**	**342**	⇓*i*P	**P**	**11 55 16.4**	**+1.7**
WRAB	**Tennant Creek**	**19.35**	**158**	*e*P	**P**	**11 55 14.4**	**-1.9**
WRAB				*e*S	**S**	**11 58 49.6**	**+2.2**
WRAB	comp=Z,280nm,0.8s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,280nm,0.8s	**19.35**	**158**	*e*P	**P**	**11 55 14.4**	**-1.9**
WRAB				*e*S	**S**	**11 58 49.6**	**+2.2**
WRA	**Warramunga Arr** comp=Z,7.5nm,0.3s,baz=339,slow=12,SNR=284	**19.36**	**158**	P	**P**	**11 55 14.3**	**-2.0**
WRA	baz=343,slow=20,SNR=8.0			S	**S**	**11 58 48.3**	**+0.8**
WB2	**Warramunga Arr**	**19.36**	**158**	⇓*i*P	**P**	**11 55 14.7**	**-1.7**
WB2				*e*S	**S**	**11 58 48.2**	**+0.6**
CAUP	**Cauayan**	**19.40**	**346**	*e*P	**P**	**11 55 18.7**	**+1.8**
CVP	**Callao Caves**	**20.13**	**346**	*i* P	**P**	**11 55 25.0**	**+0.2**
MBWA	**Marble Bar** comp=Z,87nm,1.2s	**20.25**	**199**	*e*P	**P**	**11 55 24.6**	**-1.3**
MBWA				LR	LR		
ABRA	**Dolores** comp=Z,763nm,22.0s,MS4.0	**20.37**	**343**	*e*P	**P**	**11 55 23.9**	**-3.3**
APYP	**Conner**	**20.43**	**345**	*e*P	**P**	**11 55 26.3**	**-1.5**
PMG	**Port Moresby**	**21.64**	**111**	*e*P	**P**	**11 55 43.5**	**+3.3**
PMG	comp=Z,133nm,1.1s			pmax	pmax		
PMG	comp=Z,606nm,22.0s			MLR	MLR		
PMG	**Port Moresby** comp=Z,11nm,0.7s,mb4.4,baz=243,slow=18,SNR=3.1	**21.64**	**111**	P	**P**	**11 55 39.3**	**-0.9**
PMG	**Port Moresby** comp=Z,133nm,1.1s,mb5.3	**21.64**	**111**	*e*P	**P**	**11 55 43.5**	**+3.3**
PMG	comp=Z,606nm,22.0s,MS4.0			LR	LR		
ASAR	**Alice Springs** comp=Z,77nm,0.9s,mb5.1,baz=343,slow=9.3,SNR=247	**22.66**	**163**	P	**P**	**11 55 49.8**	**-0.7**
ASAR	comp=Z,2.3nm,0.7s,baz=96,slow=27,SNR=3.1			S	**S**	**11 59 55.0**	**+3.2**
ASPA	**Alice Springs**	**22.66**	**163**	⇓*i*P	**P**	**11 55 49.9**	**-0.5**
CTA	**Charters Tower** comp=Z,50nm,1.0s,mb5.0	**26.25**	**135**	*e*P	**P**	**11 56 26.5**	**+1.8**
CTA				*e*S	**S**	**12 01 04.4**	**+11**
CTA	**Charters Tower** comp=Z,50nm,1.0s	**26.25**	**135**	*e*P	**P**	**11 56 26.5**	**+1.8**
CTA				pmax	pmax		
CTA	**Charters Tower** comp=Z,263nm,1.5s,mb5.5,baz=318,slow=12,SNR=28	**26.25**	**135**	P	**P**	**11 56 25.2**	**+0.5**
CTAO	**Charters Tower**	**26.25**	**135**	*e*P	**P**	**11 56 26.0**	**+1.3**
CTAO	comp=Z,103nm,1.1s,mb5.3			pmax	pmax		
CTAO	comp=Z,893nm,19.0s,MS4.3			MLR	MLR		
CTAO	**Charters Tower** comp=Z,103nm,1.1s,mb5.3	**26.25**	**135**	*e*P	**P**	**11 56 26.0**	**+1.3**
CTAO	comp=Z,893nm,19.0s,MS4.3			LR	LR		
QIZ	**Qiongzhong**	**26.65**	**322**	P	**P**	**11 56 30.0**	**+1.6**
QIZ				S	**S**	**12 01 00.8**	**+1.2**
QIZ	comp=N,353nm,15.2s,MS4.3			LR	LR		
QIZ	comp=E,394nm,11.7s,MS4.3			LR	LR		
TATO	**Taipei**	**27.26**	**350**	*e*P	**P**	**11 56 33.9**	**-0.1**
TATO	comp=Z,500nm,20.0s,MS4.1			LR	LR		
QZH	**Quanzhou**	**27.89**	**344**	*e*P	**P**	**11 56 43.3**	**+3.7**
JOW	**Kunigami** comp=Z,44nm,0.7s,mb5.3,baz=183,slow=8.6,SNR=12	**28.68**	**3**	P	**P**	**11 56 47.0**	**+0.3**
FORT	**Forrest** comp=Z,80nm,0.6s,mb5.6	**28.68**	**178**	*e*P	**P**	**11 56 45.5**	**-1.2**
KKTK	**Khon Kaen** comp=Z,432nm,0.7s,mb6.3	**29.79**	**309**	P	**P**	**11 57 02.0**	**+5.2**
KLBR	**Kellerberrin** comp=Z,143nm,1.1s,mb5.7	**30.65**	**195**	*e*P	**P**	**11 57 04.8**	**+0.5**
NWAO	**Narrogin (SRO)**	**32.05**	**195**	*e*P	**P**	**11 57 15.5**	**-1.1**
NWAO	comp=Z,4.0nm,0.7s			pmax	pmax		
NWAO	comp=Z,354nm,19.0s			MLR	MLR		
NWAO	**Narrogin (SRO)** comp=Z,8.7nm,0.9s,mb4.6,baz=345,slow=10,SNR=5.9	**32.05**	**195**	P	**P**	**11 57 15.5**	**-1.1**
NWAO	**Narrogin (SRO)** comp=Z,3.9nm,0.7s,mb4.3	**32.05**	**195**	*e*P	**P**	**11 57 15.4**	**-1.1**
NWAO	comp=Z,354nm,19.0s,MS4.1			LR	LR		
CBIJ	**Chichi jima** comp=Z,203nm,1.1s,mb6.0,baz=288,slow=20,SNR=3.5	**32.52**	**26**	P	**P**	**11 57 19.1**	**-1.6**
STKA	**Stephens Creek** comp=Z,34nm,1.2s,mb5.2	**32.89**	**156**	⇓*i*P	**P**	**11 57 23.4**	**-0.5**
STKA	**Stephens Creek** comp=Z,8.2nm,0.6s,mb4.8,baz=327,slow=9.8,SNR=16	**32.89**	**156**	P	**P**	**11 57 23.5**	**-0.4**
STKA	comp=Z,10nm,0.8s,baz=312,slow=5.8,SNR=3.1			PcP	PcP	12 00 08.5	+0.4
STKA	comp=Z,468nm,20.9s,MS4.2,baz=137,slow=38			LR	LR	12 11 36.0	
SSE	**Sheshan**	**33.30**	**351**	P	**P**	**11 57 25.3**	**-2.2**
SSE				S	**S**	**12 02 45.0**	**+0.2**
SSE	comp=Z,17nm,0.7s,mb5.1			AMB	AMB		
SSE	comp=Z,33nm,3.7s			AMB	AMB		
SSE	comp=N,172nm,26.5s,MS3.7			LR	LR		
SSE				LR	LR		
SSE	comp=Z,189nm,25.6s,MS3.7			LR	LR		
SSE	**Sheshan** comp=Z,17nm,0.7s,mb5.1	**33.30**	**351**	P	**P**	**11 57 25.3**	**-2.2**
SSE				sP	sP	11 57 38.1	-2.3
SSE				S	**S**	**12 02 45.0**	**+0.2**
SSE				sS		12 03 00.1	
SSE	comp=Z,190nm,25.6s,MS3.7			LR	LR		
CM31	**Chiang Mai Arr** comp=Z,5.2nm,0.7s,mb4.6	**34.04**	**308**	*e*P	**P**	**11 57 34.9**	**+1.0**
CM31	comp=Z,591nm,21.0s,MS4.3			LR	LR		
CMAR	**Chiang Mai Arr** comp=Z,4.1nm,0.8s,mb4.4,baz=138,slow=7.7,SNR=36	**34.04**	**308**	P	**P**	**11 57 34.0**	**0.0**
CMAR	comp=Z,4.8nm,0.8s,baz=155,slow=2.1,SNR=11			PcP	PcP	12 00 12.3	+0.9
CMAR				LR	LR	12 12 00.9	
CHG	**Chiang Mai** comp=Z,22nm,1.0s,mb5.0	**34.23**	**308**	⇓P	**P**	**11 57 36.4**	**+0.8**
WHN	**Wuhan**	**34.41**	**341**	P	**P**	**11 57 38.8**	**+1.7**
WHN				AP	pP	11 57 49.5	+3.4
ADE	**Adelaide**	**34.68**	**163**	*e*P	**P**	**11 57 39.8**	**+0.5**
KMI	**Kunming**	**35.57**	**321**	P	**P**	**11 57 49.9**	**+2.9**
KMI				*PP	pP	11 58 02.8	+6.7
KMI				S	**S**	**12 03 21.6**	**+1.6**
KMI				SS	SS	12 05 41.9	+1.9
KMI	comp=Z,14nm,1.5s,mb4.7			pmax	pmax		
KMI	comp=Z,430nm,30.2s,MS4.0			MLR	MLR		
KMI	**Kunming** comp=Z,14nm,1.5s,mb4.7	**35.57**	**321**	P	**P**	**11 57 49.9**	**+2.9**
KMI				pP	pP	11 58 02.8	+6.7
KMI				sP	sP	11 58 08.0	+8.1
KMI				S	**S**	**12 03 21.6**	**+1.6**
KMI				sS		12 03 43.3	
KMI				SS	SS	12 05 41.9	+1.9
KMI	comp=Z,430nm,30.2s,MS4.0			LR	LR		
JHJ	**Hachijo jima 2** comp=Z,393nm,18.6s,MS4.2,baz=103,slow=35	**37.02**	**18**	LR	LR	12 12 26.4	
KS15	**Wonju Array Si**	**39.23**	**1**	*e*P	**P**	**11 58 18.2**	**+0.6**
XAN	**Xi'an**	**39.54**	**337**	P	**P**	**11 58 20.8**	**+0.6**
XAN	comp=Z,54nm,0.7s,mb5.4			AMB	AMB		
MAJO	**Matsushiro**	**39.79**	**15**	*e*P	**P**	**11 58 20.9**	**-1.4**
MAJO	comp=Z,21nm,0.9s,mb4.9			pmax	pmax		
MAJO	comp=Z,385nm,20.0s,MS4.2			MLR	MLR		
MAJO	**Matsushiro** comp=Z,21nm,0.9s,mb4.9	**39.79**	**15**	*e*P	**P**	**11 58 20.9**	**-1.4**
MAJO	comp=Z,385nm,20.0s,MS4.2			LR	LR		
MAT	**Matsushiro**	**39.79**	**15**	*e*P	**P**	**11 58 21.0**	**-1.3**
MAT	comp=Z,208nm,2.2s,mb5.5			pmax	pmax		
MAT	comp=Z,340nm,18.0s,MS4.2			MLR	MLR		
MAT	**Matsushiro** comp=Z,208nm,2.2s,mb5.5	**39.79**	**15**	*e*P	**P**	**11 58 21.0**	**-1.3**
MAT	comp=Z,340nm,18.0s,MS4.2			LR	LR		
MAT	**Matsushiro**	**39.79**	**15**	P	**P**	**11 58 20.9**	**-1.4**
BJI	**Beijing**	**42.91**	**348**	P	**P**	**11 58 47.9**	**0.0**
BJI				*PP	pP	11 58 56.8	-0.2
BJI						12 00 30.2	
BJI				S	**S**	**12 05 14.2**	**+3.9**
BJI	comp=Z,43nm,1.2s,mb5.0			pmax	pmax		
BJI	comp=Z,340nm,29.8s,MS4.1			MLR	MLR		
BJI	**Beijing** comp=Z,43nm,1.2s,mb5.0	**42.91**	**348**	P	**P**	**11 58 47.9**	**0.0**
BJI				pP	pP	11 58 56.8	-0.2
BJI				PP	PP	12 00 30.2	+0.4
BJI				S	**S**	**12 05 14.2**	**+3.9**
BJI				SS	SS	12 08 24.3	+8.3
BJI	comp=Z,340nm,29.8s,MS4.1			LR	LR		
SHL	**Shillong**	**43.42**	**311**	*e*P	**P**	**11 58 53.0**	**+0.8**
SHL				*e*		12 05 15.0	
LZH	**Lanzhou**	**43.46**	**333**	⇓P	**P**	**11 58 54.5**	**+2.1**
LZH				PP	PP	12 00 33.0	-2.3
LZH	comp=Z,192nm,1.5s,mb5.6			AMB	AMB		
LZH	comp=Z,522nm,4.0s			AMB	AMB		
LZH	comp=E,302nm,13.0s			LR	LR		
LZH	comp=Z,496nm,14.2s,MS4.6			LR	LR		
LZH	**Lanzhou**	**43.46**	**333**	⇓P	**P**	**11 58 54.5**	**+2.1**
LZH				*SP	sP	11 59 02.4	-2.9
LZH						12 00 33.0	
LZH	comp=Z,192nm,1.5s,mb5.6			pmax	pmax		
LZH	comp=Z,500nm,14.2s,MS4.6			MLR	MLR		
LZH	**Lanzhou** comp=Z,192nm,1.5s,mb5.6	**43.46**	**333**	⇓P	**P**	**11 58 54.5**	**+2.1**
LZH				pP	pP	11 58 59.5	-2.0
LZH				sP	sP	11 59 02.4	-2.9
LZH				PP	PP	12 00 33.0	-2.3
LZH	comp=Z,500nm,14.2s,MS4.6			LR	LR		
SNY	**Shenyang**	**43.69**	**357**	⇓P	**P**	**11 58 54.0**	**-0.1**
SNY	comp=Z,60nm,0.7s,mb5.4			AMB	AMB		
LSA	**Lhasa**	**46.32**	**316**	P	**P**	**11 59 18.5**	**+3.1**
LSA	comp=Z,50nm,1.1s,mb5.4			AMB	AMB		
MDJ	**Mudanjiang**	**46.45**	**3**	P	**P**	**11 59 16.5**	**+0.3**
MDJ	comp=Z,101nm,0.8s,mb5.8			AMB	AMB		
MDJ	comp=Z,131nm,3.4s			AMB	AMB		
MDJ	comp=N,88nm,20.4s,MS4.1			LR	LR		
MDJ	comp=E,217nm,22.2s,MS4.1			LR	LR		
MDJ	comp=Z,146nm,22.2s,MS3.9			LR	LR		
VIS	**Vishakhapatnam**	**47.00**	**296**	*e*P	**P**	**11 59 20.3**	**-0.5**
ASAJ	**Asahikawa** comp=Z,16nm,0.9s,mb5.0,baz=232,slow=10,SNR=7.3	**48.04**	**15**	P	**P**	**11 59 28.2**	**-0.5**
JIRN	**Jiri** comp=Z,120nm,0.8s,mb6.0	**48.84**	**310**	*e*P	**P**	**11 59 36.3**	**+1.2**
GUN	**Gumba** comp=Z,298nm,0.9s,mb6.3	**49.20**	**310**	*e*P	**P**	**11 59 39.0**	**+1.1**
PKI	**Pulchoki** comp=Z,244nm,1.4s,mb6.0	**49.40**	**309**	*e*P	**P**	**11 59 40.0**	**+0.6**
KKN	**Kakani** comp=Z,285nm,1.4s,mb6.1	**49.60**	**310**	*e*P	**P**	**11 59 41.8**	**+0.8**
DMN	**Daman** comp=Z,274nm,1.1s,mb6.2	**49.65**	**309**	*e*P	**P**	**11 59 42.3**	**+1.0**
GKN	**Gorkha** comp=Z,182nm,0.8s,mb6.1	**50.20**	**310**	*e*P	**P**	**11 59 46.3**	**+0.7**
KOLN	**Koldanda** comp=Z,356nm,0.8s,mb6.3	**50.90**	**309**	*e*P	**P**	**11 59 51.9**	**+1.1**
KLR	**Kul'dur**	**51.18**	**4**	*e*P	**P**	**11 59 48.8**	**-3.9**
HYB	**Hyderabad**	**51.21**	**294**	*e*P	**P**	**11 59 53.0**	**-0.4**
HYB				*e*	pP	12 00 00.5	-2.2
HYB	**Hyderabad** comp=Z,50nm,1.0s,mb5.4	**51.21**	**294**	*i* P	**P**	**11 59 53.0**	**-0.4**
HYB				*e*	pP	12 00 00.5	-2.2
ULN	**Ulaanbaatar**	**52.52**	**343**	*i* P	**P**	**12 00 01.9**	**-0.9**
ULN	**Ulaanbaatar**	**52.52**	**343**	*e*P	**P**	**12 00 02.9**	**+0.1**
ULN	comp=Z,249nm,21.0s,MS4.2			LR	LR		
SONM	**Songino Array** comp=Z,14nm,0.8s,mb5.0,baz=155,slow=8.3,SNR=128	**52.68**	**343**	P	**P**	**12 00 03.8**	**-0.3**
SONM	comp=Z,4.5nm,0.9s,baz=161,slow=4.9,SNR=3.5			PcP	PcP	12 01 13.7	+0.1
BHPL	**Bhopal**	**54.11**	**301**	*e*P	**P**	**12 00 14.4**	**-0.4**
BHPL	comp=Z,29nm,0.5s			*e*		12 00 15.5	
AGRA	**Agra**	**55.17**	**305**	*e*P	**P**	**12 00 21.5**	**-1.2**
KAD	**Karad**	**55.19**	**293**	*e*P	**P**	**12 00 21.8**	**-1.1**
KAD	comp=Z,10nm,0.3s			*e*		12 00 22.0	
JOSI	**Joshimath**	**55.31**	**310**	*e*P	**P**	**12 00 18.6**	**-5.1**
ZAK	**Zakamensk**	**55.88**	**342**	⇑*i*P	**P**	**12 00 26.2**	**-1.2**
ASOR	**Ausora**	**55.94**	**307**	*e*P	**P**	**12 00 27.6**	**-0.5**
SONA	**Sohna**	**56.28**	**306**	*e*P	**P**	**12 00 29.5**	**-1.1**
SONA				*e*P		12 00 29.8	
AYAN	**Aya Nagar**	**56.34**	**306**	*e*P	**P**	**12 00 29.8**	**-1.2**
NDI	**New Delhi**	**56.35**	**307**	*e*P	**P**	**12 00 29.0**	**-2.1**
DDI	**Dehra Dun**	**56.38**	**309**	*e*	**P**	**12 00 30.2**	**-1.0**
KUDL	**Kundal**	**56.72**	**306**	*e*P	**P**	**12 00 32.5**	**-1.3**
TLY	**Talaya** comp=Z,62nm,0.9s,mb5.6,SNR=12	**56.92**	**343**	P	**P**	**12 00 35.9**	**+1.0**
TLY	**Talaya**	**56.92**	**343**	*e*P	**P**	**12 00 34.8**	**-0.1**
TLY	comp=Z,11nm,1.0s,mb4.8			pmax	pmax		
TLY	comp=Z,51nm,19.0s,MS3.6			MLR	MLR		
TLY	**Talaya** comp=Z,11nm,1.0s,mb4.8	**56.92**	**343**	*e*P	**P**	**12 00 34.8**	**-0.1**
TLY	comp=Z,51nm,19.0s,MS3.6			LR	LR		
RPZ	**Rata Peaks** comp=Z,35nm,1.0s,mb5.3,baz=24,slow=3.8,SNR=9.7	**57.20**	**143**	P	**P**	**12 00 36.1**	**-0.8**
RPZ	comp=Z,408nm,19.7s,MS4.5,baz=210,slow=37			LR	LR	12 25 42.2	
IRK	**Irkutsk**	**57.24**	**344**	*e*P	**P**	**12 00 32.0**	**-5.1**
IRK	comp=Z,35nm,2.0s,mb5.0			pmax	pmax		
KHET	**Khetri**	**57.25**	**305**	*e*P	**P**	**12 00 35.9**	**-1.6**
WMQ	**Urumqi**	**57.42**	**327**	P	**P**	**12 00 39.5**	**+1.0**
WMQ				AP	pP	12 00 52.0	+4.1
WMQ				XP	sP	12 00 57.5	+6.1
WMQ				PCP	PcP	12 01 32.8	+1.0
WMQ				PP	PP	12 02 48.5	+1.1
WMQ				S	**S**	**12 08 31.0**	**-0.4**
WMQ	comp=Z,51nm,1.2s,mb5.4			AMB	AMB		
WMQ	comp=Z,242nm,5.0s			AMB	AMB		
WMQ	comp=N,833nm,18.1s,MS5.0			LR	LR		
WMQ	comp=E,725nm,18.0s,MS5.0			LR	LR		
WMQ	comp=Z,1μm,18.6s,MS5.0			LR	LR		
MOY	**Mondy**	**57.72**	**341**	*e*P	**P**	**12 00 40.8**	**+0.4**
URZ	**Urewera** comp=Z,16nm,0.8s,mb5.1,baz=158,slow=5.4,SNR=4.4	**58.50**	**135**	P	**P**	**12 00 46.5**	**+0.4**
CLNS	**Chul'man**	**58.64**	**359**	*e*P	**P**	**12 00 43.2**	**-3.6**
CLNS	comp=Z,28nm,0.9s,mb5.3			pmax	pmax		
CLNS	comp=N,24nm,1.0s			pmax	pmax		
CLNS	comp=E,6.0nm,0.7s			pmax	pmax		
BOD	**Bodaibo**	**60.47**	**352**	⇑*i*P	**P**	**12 00 58.1**	**-1.3**
JASL	**Jaisalmer**	**60.91**	**302**	*e*P	**P**	**12 01 02.2**	**-0.7**
PET	**Petropavlovsk**	**60.98**	**21**	*e*P	**P**	**12 01 09.5**	**+6.5**
PET				*e*		12 09 29.7	
PET	comp=Z,100nm,13.9s			pmax	pmax		
PET	comp=Z,100nm,16.0s,MS4.1			MLR	MLR		
MKAR	**Makanchi Array**	**62.25**	**327**	*e*P	**P**	**12 01 11.5**	**-0.1**
MKAR	comp=Z,5.0nm,0.5s			pmax	pmax		
KZA	**Kyzart** SNR=10	**63.84**	**320**	P	**P**	**12 01 23.9**	**+1.7**
YAK	**Yakutsk**	**63.87**	**2**	*d i*P	**P**	**12 01 21.9**	**-0.1**
YAK				*e*S	**S**	**12 09 51.3**	**-2.4**
YAK	comp=Z,212nm,0.8s,mb6.2			pmax	pmax		
YAK	comp=N,62nm,1.2s			pmax	pmax		
YAK	comp=E,5.0nm,0.8s			pmax	pmax		
YAK	comp=E,4.0nm,1.3s			smax			
YAK	**Yakutsk** comp=E,534nm,0.8s	**63.87**	**2**	*e*P	**P**	**12 01 21.7**	**-0.3**
YAK	comp=Z,154nm,22.0s			LR	LR		
TKM2	**Tokmak 2** SNR=8.1	**64.04**	**321**	P	**P**	**12 01 24.3**	**+0.8**
MA2	**Magadan**	**64.21**	**13**	*e*P	**P**	**12 01 24.3**	**0.0**
MA2	comp=Z,20nm,1.2s,mb5.0			pmax	pmax		
MA2	**Magadan**	**64.21**	**13**	*e*P	**P**	**12 01 24.4**	**+0.1**
MA2	comp=Z,99nm,19.0s,MS4.0			LR	LR		
KBK	**Karagaybulak** SNR=9.4	**64.32**	**320**	P	**P**	**12 01 26.4**	**+1.1**
UCH	**Uchtor** SNR=16	**64.39**	**319**	P	**P**	**12 01 27.2**	**+1.4**
AAK	**Ala-Archa** SNR=6.8	**64.60**	**320**	P	**P**	**12 01 28.2**	**+1.0**
AAK	**Ala-Archa**	**64.60**	**320**	*e*P	**P**	**12 01 27.0**	**-0.2**
AAK	comp=Z,26nm,1.1s,mb5.2			pmax	pmax		
AAK	comp=Z,43nm,20.0s,MS3.6			MLR	MLR		
AAK	**Ala-Archa** comp=Z,26nm,1.1s,mb5.2	**64.60**	**320**	*e*P	**P**	**12 01 26.9**	**-0.2**
AAK	comp=Z,43nm,20.0s,MS3.6			LR	LR		
FRU	**Bishkek**	**64.62**	**320**	*e*P	**P**	**12 01 28.0**	**+0.7**
FRU				*e*		12 01 56.0	
AML	**Almayashu** SNR=19	**64.88**	**319**	P	**P**	**12 01 30.2**	**+1.2**
USP	**Ospenovka** SNR=18	**64.91**	**320**	P	**P**	**12 01 29.6**	**+0.5**
EKS2	**Erkin-Say** SNR=15	**65.08**	**320**	P	**P**	**12 01 30.9**	**+0.6**
ZAL	**Zalesovo** comp=Z,9.0nm,0.9s,mb4.8,baz=353,slow=5.7,SNR=60	**65.66**	**334**	P	**P**	**12 01 33.0**	**-0.8**
ZAL	comp=Z,144nm,18.8s,MS4.2,baz=131,slow=37			LR	LR	12 31 07.4	
KURK	**Kurchatov**	**66.54**	**329**	*i* P	**P**	**12 01 39.1**	**-0.3**
KURK	comp=Z,14nm,0.6s,mb5.2			pmax	pmax		
KURK	**Kurchatov** comp=Z,49nm,0.6s,mb5.7	**66.54**	**329**	*e*P	**P**	**12 01 38.9**	**-0.5**
NVS	**Novosibirsk**	**66.94**	**334**	⇑*i*P	**P**	**12 01 39.8**	**-2.1**
NVS				*i* S	S	12 10 26.8	-4.6
NVS	comp=N,16nm,1.1s			pmax	pmax		
NVS	comp=Z,33nm,1.1s,mb5.3			pmax	pmax		
NVS	comp=E,18nm,1.2s			smax			
NVS	comp=N,24nm,2.3s			smax			
NVS	comp=E,24nm,2.3s						
SEY	**Seymchan**	**67.56**	**12**	*e*P	**P**	**12 01 47.6**	**+1.9**
SEY						12 02 11.4	
SEY				*e*PPP	PPP	12 05 59.7	+6.3
SEY				*e*S	S	12 10 43.8	+5.0
SEY				*e*SS	SS	12 15 05.1	+4.0
SEY	comp=N,30nm,1.0s			pmax	pmax		
SEY	comp=Z,90nm,1.0s,mb5.8			pmax	pmax		
SEY	comp=E,70nm,23.5s			smax			
SEY	comp=N,300nm,27.0s			MLR	MLR		
SEY	comp=Z,60nm,27.0s,MS3.7			MLR	MLR		
SEY	comp=E,300nm,19.0s			MLR	MLR		
BVA0	**Borovoye Array**	**72.09**	**328**	P	**P**	**12 02 13.3**	**-0.2**
BVA0	comp=Z,11nm,1.4s,mb4.6			pmax	pmax		
BVAR	**Borovoye Array** comp=Z,19nm,0.8s,mb5.0,baz=135,slow=6.3,SNR=61	**72.09**	**328**	P	**P**	**12 02 13.3**	**-0.2**
BRVK	**Borovoye**	**72.16**	**328**	P	**P**	**12 02 13.9**	**0.0**
BRVK	comp=Z,37nm,1.4s,mb5.1			pmax	pmax		
BRVK	**Borovoye** comp=Z,46nm,1.1s,mb5.3	**72.16**	**328**	*e*P	**P**	**12 02 13.5**	**-0.4**
CHKZ	**Chkalovo**	**72.29**	**329**	P	**P**	**12 02 14.1**	**-0.6**
CHKZ	comp=Z,29nm,1.1s,mb5.1			pmax	pmax		
CHKZ	**Chkalovo** comp=Z,29nm,1.0s,mb5.2	**72.29**	**329**	*e*P	**P**	**12 02 13.9**	**-0.8**
TIXI	**Tiksi**	**73.50**	**1**	⇓*i*P	**P**	**12 02 20.9**	**-0.6**
TIXI				pmax	pmax		

comp=Z,65nm,1.3s,mb5.4
VNDA Vanda 77.81 173 P **P 12 02 46.3 +0.5**
comp=Z,8.6nm,0.7s,mb4.8,baz=308,slow=7.1,SNR=11
VNDA LR LR 12 34 06.7
comp=Z,232nm,19.8s,MS4.5,baz=333,slow=34
VNDA Vanda 77.81 173 P **P 12 02 46.3 +0.5**
VNDA LR LR 12 34 06.7
MAW Mawson 78.44 201 P **P 12 02 49.7 +0.4**
comp=Z,7.4nm,1.0s,mb4.6,baz=32,slow=9.2,SNR=6.9
MAW LR LR 12 32 17.0
comp=Z,198nm,19.0s,MS4.5,baz=68,slow=32
MAW Mawson 78.44 201 *e*P **P 12 02 50.1 +0.8**
SVE Sverdlovsk 78.79 329 *e*P **P 12 02 48.0 -3.5**
SVE pmax pmax
comp=Z,60nm,1.3s,mb5.4
ARU Arti 79.73 328 P **P 12 02 56.3 -0.3**
comp=Z,156nm,0.9s,mb5.9,SNR=14
ARU Arti 79.73 328 *e*P **P 12 02 50.0 -6.6**
ARU *e**PP pP 12 02 57.2 -9.1
ARU pmax pmax
comp=Z,24nm,0.9s,mb5.1
ARU Arti 79.73 328 *e*P **P 12 02 50.0 -6.7**
comp=Z,24nm,0.9s,mb5.1
ARU *e*pP pP 12 02 57.2 -9.1
ANM Nome 82.45 24 *e*P **P 12 03 11.6 +0.9**
RAYN Ar Rayn 82.72 294 P **P 12 03 13.2 +0.2**
comp=Z,47nm,1.4s,mb5.3,SNR=8.5
GNI Garni 85.11 310 *i*P **P 12 03 22.3 -2.5**
SVW2 Sparrevohn 85.79 28 *e*P **P 12 03 29.8 +2.1**
MSL Mosul 86.01 306 *e*P **P 12 03 33.5 +4.1**
KIV Kislovodsk 87.04 314 *e*P **P 12 03 35.2 +1.0**
KIV *e*S S 12 14 15.1 +5.8
KIV pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
SYO Syowa Base 87.13 201 ⇓P **P 12 03 35.1 +1.0**
SYO Syowa Base 87.13 201 ⇓P **P 12 03 35.9 +1.8**
SYO Syowa Base 87.13 201 ⇓pP sP 12 03 49.1 +2.1
IMA Indian Mountai 87.58 24 *e*P **P 12 03 37.6 +1.3**
IMA pmax pmax
comp=Z,71nm,1.1s,mb5.8
IMA Indian Mountai 87.58 24 *e*P **P 12 03 37.6 +1.3**
comp=Z,71nm,1.1s,mb5.8
QSPA South Pole Qui 87.97 180 ⇓*i*P **P 12 03 39.7 +1.8**
comp=Z,31nm,1.0s,mb5.5
SLKM Skilak Lake 88.28 29 *e*P **P 12 03 40.3 +0.5**
PWA Palmer West 88.59 28 *e*P **P 12 03 41.2 0.0**
PMR Palmer 88.94 28 *e*P **P 12 03 43.6 +0.7**
SOC Sochi 89.16 313 *e*P **P 12 03 41.3 -3.1**
SOC *e* 12 07 12.8
SOC *e*S S 12 14 08.4 -21
SOC *e*SS SS 12 20 21.0 -5.4
SOC *e*SSS SSS 12 23 55.8 -4.8
SOC pmax pmax
comp=N,40nm,0.9s
SOC pmax pmax
comp=Z,32nm,0.9s,mb5.7
SOC pmax pmax
comp=E,8.0nm,0.4s
MCK McKinley 89.25 26 *e*P **P 12 03 44.3 0.0**
MCK pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
MCK McKinley 89.25 26 *e*P **P 12 03 44.3 0.0**
comp=Z,8.3nm,1.0s,mb5.0
KMBO Kilima Mbogo 89.42 269 *e*P **P 12 03 48.2 +1.9**
KMBO pmax pmax
comp=Z,1.0nm,0.9s
KMBO MLR MLR
comp=Z,145nm,20.0s
KMBO Kilima Mbogo 89.42 269 P **P 12 03 48.0 +1.7**
comp=Z,0.6nm,0.5s,mb4.2,baz=46,slow=14,SNR=4.7
KMBO Kilima Mbogo 89.42 269 *e*P **P 12 03 48.2 +1.9**
comp=Z,1.4nm,0.9s,mb4.3
KMBO LR LR
comp=Z,145nm,20.0s,MS4.4
COLA College 89.83 25 *e*P **P 12 03 46.6 -0.4**
COLA pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
COLA College 89.83 25 *e*P **P 12 03 46.6 -0.4**
comp=Z,7.0nm,0.8s,mb5.0
MID Middleton Isla 90.13 31 *e*P **P 12 03 50.1 +1.6**
ILAR Eielson Array 90.23 25 P **P 12 03 48.0 -0.9**
comp=Z,4.5nm,0.7s,mb4.9,baz=238,slow=5.1,SNR=38
ILAR PKKPbc 12 21 20.1
comp=Z,1.0nm,0.8s,baz=36,slow=1.5,SNR=10
ILAR LR LR 12 41 04.2
comp=Z,74nm,20.1s,MS4.1,baz=186,slow=33
DIV Divide 90.51 29 *e*P **P 12 03 51.8 +1.5**
comp=Z,135nm,1.6s,mb6.0
ASF Jabal al Asfar 90.88 302 P **P 12 03 51.7 -0.9**
comp=Z,1.4nm,0.4s,mb4.6,baz=141,slow=2.8,SNR=3.5
ASF LR LR 12 50 56.1
comp=Z,101nm,21.7s,MS4.2,baz=306,slow=40
MENT Mentasta 91.55 27 *e*P **P 12 03 56.5 +1.5**
OBN Obninsk 91.68 325 ⇓*i*P **P 12 03 52.8 -3.0**
OBN pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
EIL Elat 92.49 299 LR LR 12 48 24.4
comp=Z,59nm,19.2s,MS4.0,baz=114,slow=37
DAWY Dawson 93.47 26 *e*P **P 12 04 04.9 +1.1**
BRTR Keskin Array B 93.61 309 P **P 12 04 04.4 -0.6**
comp=Z,1.6nm,0.8s,mb4.5,baz=121,slow=7.2,SNR=7.2
INK Inuvik 95.44 22 *e*P **P 12 04 12.1 -0.7**
INK pmax pmax
comp=Z,9.0nm,0.8s
INK Inuvik 95.44 22 P **P 12 04 12.3 -0.5**
comp=Z,7.0nm,0.7s,mb5.2,baz=282,slow=4.9,SNR=27
INK PKKPbc 12 21 06.4
comp=Z,2.8nm,0.8s,baz=101,slow=4.4,SNR=8.3
INK Inuvik 95.44 22 *e*P **P 12 04 12.1 -0.6**
comp=Z,8.7nm,0.8s,mb5.2
ARCES ARCESS Array B 95.75 340 P **P 12 04 13.6 -0.6**
comp=Z,9.3nm,1.0s,mb5.2,baz=63,slow=11,SNR=4.1
AKASG Malin Array Be 96.27 321 P **P 12 04 16.1 -0.9**
comp=Z,0.3nm,0.5s,baz=62,slow=4.8,SNR=4.3
FINES FINESS Array B 96.81 332 P **P 12 04 18.4 -0.7**
comp=Z,2.6nm,0.9s,mb4.7,baz=198,slow=13,SNR=3.0
LSZ Lusaka 97.69 254 *e*P **P 12 04 25.4 +1.3**
LSZ pmax pmax
comp=Z,14nm,1.5s,mb5.3
LSZ MLR MLR
comp=Z,281nm,21.0s,MS4.7
LSZ Lusaka 97.69 254 *e*P **P 12 04 25.4 +1.3**
comp=Z,14nm,1.5s,mb5.3
LSZ LR LR
comp=Z,281nm,21.0s,MS4.7
RES Resolute Bay 103.39 10 *e*P Pdif 12 04 49.5 +1.2
YKA Yellowknife Ar 104.66 25 Pdiff Pdif 12 04 54.8 +0.6
comp=Z,2.5nm,1.2s,baz=298,slow=4.6,SNR=12
YKA PKiKP 12 09 10.0
comp=Z,0.4nm,0.7s,baz=293,slow=1.6,SNR=8.5
YKA PKKPbc 12 20 39.3
comp=Z,1.1nm,0.8s,baz=108,slow=2.9,SNR=19
NVAR Mina Array Bea 110.66 50 PKKPbc 12 20 19.9
comp=Z,0.1nm,0.3s,baz=59,slow=35,SNR=3.6
WUWY Wally Ulrich 114.49 42 *e*PKiKP 12 09 31.0
SNOW Snow King Moun 114.51 42 *e*PKiKP 12 09 31.2
PDAR Pinedale Array 115.59 43 PKP PKPdf 12 09 31.7 -3.1
comp=Z,0.9nm,0.9s,baz=339,slow=0.8,SNR=6.8
PDAR PKKPbc 12 20 04.0
comp=Z,1.2nm,0.9s,baz=108,slow=4.7,SNR=8.0
PV10 Paradox Valley 117.60 47 *e*PKPdf PKPdf 12 09 37.4 -1.3
PV01 Paradox Valley 118.03 47 *e*PKPdf PKPdf 12 09 38.1 -1.5
ISCO Idaho Springs 119.50 44 *e*PKiKP PKPdf 12 09 40.6 -1.8
ULM Lac du Bonnet 119.91 30 PKP PKPdf 12 09 39.0 -3.9
comp=Z,1.0nm,0.6s,baz=271,slow=2.6,SNR=3.6
SDCO Great Sand Dun 120.42 47 *e*PKPdf PKPdf 12 09 42.3 -2.0
ANMO Albuquerque 120.78 50 ⇑*i*PKiKP PKPdf 12 09 42.5 -2.6
ANMO Albuquerque 120.78 50 PKKPbc 12 19 46.9
comp=Z,0.6nm,0.7s,baz=156,slow=10.0,SNR=3.5
TXAR Lajitas Array 124.98 55 PKP PKPdf 12 09 50.9 -2.5
comp=Z,1.1nm,0.9s,baz=266,slow=1.0,SNR=12
SCHQ Schefferville 126.16 10 PKP PKPdf 12 09 51.8 -3.1
comp=Z,5.6nm,0.9s,baz=73,slow=3.5,SNR=5.5
WMOK Wichita Mounta 126.61 47 *e*PKiKP PKPdf 12 09 53.5 -2.8
JCT Junction City 127.67 52 *e*PKiKP PKPdf 12 09 56.2 -2.3
MIAR Mount Ida 130.44 45 *e*PKiKP PKPdf 12 10 01.5 -2.2
DBIC Dimbokro 131.50 277 PKP PKPdf 12 10 03.1 -3.1
comp=Z,3.5nm,1.1s,baz=220,slow=8.2,SNR=3.2
PLCA Paso Flores 134.68 162 *e*PKiKP PKPdf 12 10 07.9 -3.6
PLCA Paso Flores 134.68 162 PKP PKPdf 12 10 09.7 -1.8
comp=Z,4.4nm,0.9s,baz=210,slow=6.0,SNR=6.9
JTS JuntasAbangare 147.49 74 ⇓*i*PKP2 PKPab 12 10 34.5 -2.0
JTS JuntasAbangare 147.49 74 *e*PKPbc PKPdf 12 10 35.4 +0.5
LVC Limon Verde 151.20 149 *e*PKPdf PKPdf 12 10 40.7 +0.2
LVC *e*PKPbc PKPdf 12 10 46.2 +5.8
NNA Nana 152.80 121 *e*PKPbc PKPdf 12 10 48.2 +5.2

OTAV Otavalo 154.79 94 *e*PKPdf PKPdf 12 10 45.9 +0.1
LPAZ La Paz 156.68 142 PKP PKPdf 12 10 47.2 -0.9
comp=Z,5.8nm,1.0s,baz=3.2,slow=2.0,SNR=18
LPAZ PKPab PKPab 12 11 15.7 +0.9
comp=Z,7.9nm,0.9s,baz=212,slow=2.7,SNR=9.2
LPAZ La Paz 156.68 142 *e*PKPdf PKPdf 12 10 48.3 +0.1
SDV Santo Domingo 161.43 68 PKP PKPdf 12 10 51.7 -2.1
comp=Z,7.4nm,0.9s,baz=22,slow=4.6,SNR=7.4
SDV PKPab PKPab 12 11 36.0 +0.6
comp=Z,5.3nm,0.8s,baz=240,slow=2.2,SNR=4.3
SDV Santo Domingo 161.43 68 *e*PKPdf PKPdf 12 10 51.3 -2.4

IGQ 29 11:51:25.9, 1.27S∘81.61W, h12km±9km, mb4.2, 1C-3D, Error ellipse: s-maj=11.3km s-min=9.1km az=13.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.08**	**78**	⇑P	Pb	11 51 44.0	-2.1
MAGD	**Magdalena**	**2.19**	**57**	P	Pn	11 52 04.1	+1.5
MAGD				S	Sn	11 52 30.9	+1.0
IGUA	**Igualata**	**2.98**	**94**	P	Pn	11 52 15.2	+1.4
JUIV	**Juive**	**3.15**	**93**	P	Pn	11 52 17.1	+0.8
ARRY	**Arrayan**	**3.16**	**94**	P	Pn	11 52 17.8	+1.3
ARRY				S	Sn	11 52 53.1	-1.4
NAS1	**Nasa**	**3.19**	**79**	P	Pn	11 52 19.2	+2.2
TERV	**Terraza Guagua**	**3.19**	**70**	P	Pn	11 52 17.8	+0.8
PINO	**Pino**	**3.20**	**70**	P	Pn	11 52 17.7	+0.7
PISA	**Pisayambo**	**3.23**	**86**	P	Pn	11 52 19.1	+1.6
YANA	**Yana**	**3.25**	**69**	P	Pn	11 52 18.0	+0.3
VC1	**Cotopaxi 1**	**3.27**	**79**	P	Pn	11 52 20.9	+2.9
TAMB	**Tambo**	**3.29**	**80**	P	Pn	11 52 21.2	+2.9
ANTI	**Antisana**	**3.54**	**77**	⇓P	Pn	11 52 24.3	+2.4
ANTI				S	Sn	11 53 06.0	+1.8
COTA	**Cotacachi**	**3.64**	**64**	P	Pn	11 52 23.9	+0.6
CAYR	**Refugio Cayamb**	**3.82**	**70**	⇓P	Pn	11 52 28.6	+2.7
CAYA	**Cayambe**	**3.86**	**70**	⇓P	Pn	11 52 28.8	+2.4

IGQ 29 12:00:20.5, 1.43S∘80.87W, h10km±7km, mb4.1, 3C-1D, Error ellipse: s-maj=13.1km s-min=7.8km az=163.6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.49**	**40**	⇑P	Pg	12 00 29.7	-0.8
IGUA	**Igualata**	**2.23**	**92**	P	Pn	12 00 59.7	+1.7
CUSU	**Cusua**	**2.38**	**90**	P	Pn	12 01 02.7	+2.4
JUIV	**Juive**	**2.40**	**90**	P	Pn	12 01 02.5	+2.0
ARRY	**Arrayan**	**2.41**	**92**	⇑P	Pn	12 01 02.3	+1.6
ARRY				S	Sn	12 01 32.1	+1.5
RETU	**Refugio**	**2.42**	**91**	P	Pn	12 01 02.5	+1.6
PISA	**Pisayambo**	**2.51**	**82**	P	Pn	12 01 04.5	+2.4
NAS1	**Nasa**	**2.51**	**72**	P	Pn	12 01 04.6	+2.5
TERV	**Terraza Guagua**	**2.58**	**61**	P	Pn	12 01 05.0	+1.9
VC1	**Cotopaxi 1**	**2.58**	**72**	P	Pn	12 01 05.1	+1.9
PINO	**Pino**	**2.59**	**61**	P	Pn	12 01 03.6	+0.4
TAMB	**Tambo**	**2.60**	**74**	P	Pn	12 01 06.0	+2.6
YANA	**Yana**	**2.64**	**60**	P	Pn	12 01 05.0	+1.1
COTA	**Cotacachi**	**3.07**	**55**	P	Pn	12 01 11.3	+1.1
CAYR	**Refugio Cayamb**	**3.20**	**63**	⇑P	Pn	12 01 15.6	+3.7
CAYA	**Cayambe**	**3.24**	**63**	⇓P	Pn	12 01 15.5	+3.0

IGQ 29 12:11:27.8, 1.73S∘81.58W, h12km±7km, mb4.5, 4C-2D, Error ellipse: s-maj=9.0km s-min=6.0km az=1.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.23**	**57**	⇑P	Pb	12 11 49.0	-1.5
MAGD	**Magdalena**	**2.44**	**47**	P	Pn	12 12 10.2	+2.0
MAGD				S	Sn	12 12 40.3	+2.1
IGUA	**Igualata**	**2.94**	**85**	⇑P	Pn	12 12 16.3	+1.0
IGUA				S	Sn	12 12 48.3	-2.6
CUSU	**Cusua**	**3.11**	**85**	P	Pn	12 12 18.9	+1.3
JUIV	**Juive**	**3.12**	**84**	P	Pn	12 12 19.4	+1.5
ARRY	**Arrayan**	**3.13**	**86**	⇓P	Pn	12 12 18.6	+0.8
ARRY				S	Sn	12 12 51.8	-3.7
RETU	**Refugio**	**3.14**	**85**	P	Pn	12 12 19.8	+1.7
RETU				S	Sn	12 12 58.8	+3.0
ULBA	**Ulba**	**3.18**	**85**	⇑P	Pn	12 12 20.1	+1.5
ULBA				S	Sn	12 12 57.8	+1.0
PISA	**Pisayambo**	**3.26**	**78**	P	Pn	12 12 21.5	+1.8
NAS1	**Nasa**	**3.28**	**71**	P	Pn	12 12 21.8	+1.7
TERV	**Terraza Guagua**	**3.35**	**63**	P	Pn	12 12 21.6	+0.6
VC1	**Cotopaxi 1**	**3.35**	**71**	P	Pn	12 12 23.2	+2.2
PINO	**Pino**	**3.35**	**62**	P	Pn	12 12 21.1	0.0
TAMB	**Tambo**	**3.37**	**72**	P	Pn	12 12 23.3	+2.0
YANA	**Yana**	**3.40**	**62**	P	Pn	12 12 21.9	0.0
YANA				S	Sn	12 12 58.5	-4.1
COTA	**Cotacachi**	**3.83**	**58**	⇓P	Pn	12 12 29.7	+1.8
CAYR	**Refugio Cayamb**	**3.97**	**64**	P	Pn	12 12 33.3	+3.4
CAYR				S	Sn	12 13 16.9	+0.1
CAYA	**Cayambe**	**4.01**	**63**	P	Pn	12 12 33.0	+2.6
CAYA				S	Sn	12 13 21.4	+3.6
CONE	**Cono NE Rev Vo**	**4.26**	**67**	⇑P	Pn	12 12 39.1	+5.1

NIED ***29*** *12:13:00, 36.30N×141.50E, h20km, Mw4.1 Best double couple: M₀1.43×10¹⁵ NP1:φs20°, δ70°, λ82°. NP2:φs222°, δ21°, λ111°.*
IDC ***29*** *12:13:18.2±0.8, 36.35N×141.50E, mb3.9/11, mb1 4.1/14, mb1mx4.0/25, mbtmp4.0/14, ML4.0/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/30, Error ellipse: s-maj=25.0km s-min=15.2km az=98.0*
BJI ***29*** *12:13:22.0, 36.11N×141.33E, h35km, mB4.8, mb4.5, Ms3.8, Msz3.6*
JMA ***29*** *12:13:22.3±0.1, 36.34N×141.47E, h53km±3km, M4.1*
MOS ***29*** *12:13:23.2±0.9, 36.32N×141.48E, h53km, mb4.3/5, Error ellipse: s-maj=18.2km s-min=12.5km az=132.6*
NEIC ***29*** *12:13:24.6±1.4, 36.30N×141.47E, h46km±12km, mb4.2/6, Error ellipse: s-maj=12.4km s-min=9.6km az=99.0*
ISC 29 12:13:21.6±0.8, 36.34N±0.03×141.57E±0.07, h40km±7km, n45, σ0§91/54, mb4.0/16, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.85**	**289**	⇓P	**P**	**12 13 37.1**	**-0.1**
JHO				S	**S**	**12 13 47.8**	**-0.9**
CHOJ	**Chosi**	**0.86**	**223**	⇓P	**P**	**12 13 37.7**	**+0.4**
CHOJ				*e*S	**S**	**12 13 48.9**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.98**	**321**	⇓P	**P**	**12 13 38.9**	**-0.2**
JYT	**Yasato**	**1.12**	**265**	P	**P**	**12 13 40.7**	**-0.3**
JYT				*e*S	**S**	**12 13 53.9**	**-1.6**
JFK	**Kawauchi**	**1.17**	**332**	⇓P	**P**	**12 13 41.6**	**-0.1**
JFT	**Otama**	**1.54**	**320**	⇓P	**P**	**12 13 47.9**	**+0.8**
JMM	**Marumori**	**1.65**	**338**	P	**P**	**12 13 48.6**	**0.0**
JAG	**Ashikaga**	**1.71**	**273**	⇓P	**P**	**12 13 49.3**	**-0.2**
BSO1	**Boso 1**	**1.75**	**196**	P	**P**	**12 13 51.5**	**+1.4**
BSO3	**Boso 3**	**1.76**	**210**	P	**P**	**12 13 51.5**	**+1.3**
JFY	**Yanaizu**	**1.84**	**306**	P	**P**	**12 13 52.0**	**+0.7**
JKT	**Katashina**	**1.92**	**284**	P	**P**	**12 13 53.1**	**+0.6**
JKT				*e*S	**S**	**12 14 15.9**	**+0.4**
MAJO	**Matsushiro**	**2.72**	**275**	*e*P	**P**	**12 14 04.4**	**+0.5**
MAT	**Matsushiro**	**2.72**	**275**	*e*P	**P**	**12 14 05.0**	**+1.1**
MAT				S	**S**	**12 14 37.0**	**+1.1**
MAT	**Matsushiro**	**2.72**	**275**	P	**P**	**12 14 04.5**	**+0.6**
MAT				*e*S	**S**	**12 14 37.0**	**+1.1**
JHJ	**Hachijo jima 2**	**3.54**	**205**	Pn	**P**	**12 14 15.8**	**+0.3**
45nm,0.3s,baz=83,slow=13,SNR=16							
JHJ				Sn	**S**	**12 14 54.4**	**-2.2**
89nm,0.3s,baz=77,slow=24,SNR=9.3							
ASAJ	**Asahikawa**	**7.81**	**5**	Pn	**P**	**12 15 12.9**	**-2.5**
1.1nm,0.3s,baz=8.9,slow=32,SNR=6.7							
ASAJ				Sn	**S**	**12 16 40.5**	**-3.0**
0.4nm,0.3s,baz=301,slow=32,SNR=3.2							
ASAJ				LR	LR	12 18 58.3	
comp=Z,288nm,21.3s,baz=168,slow=44							
CBIJ	**Chichi jima**	**9.23**	**177**	Pn	**P**	**12 15 33.9**	**-1.2**
12nm,0.3s,baz=322,slow=19,SNR=4.1							
CBIJ				Sn	**S**	**12 17 07.1**	**-12**
8.6nm,0.3s,baz=271,slow=22,SNR=3.4							
YAK	**Yakutsk**	**26.77**	**348**	*e*P	**P**	**12 18 59.9**	**+0.6**
YAK				pmax	pmax		
comp=Z,10.0nm,0.5s,mb4.6							
YAK	**Yakutsk**	**26.77**	**348**	*e*P	**P**	**12 18 59.9**	**+0.5**
comp=Z,10nm,0.5s,mb4.6							
ULN	**Ulaanbaatar**	**27.86**	**305**	*e*P	**P**	**12 19 09.6**	**+0.3**
ULN				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.0							
ULN	**Ulaanbaatar**	**27.86**	**305**	*e*P	**P**	**12 19 09.6**	**+0.2**
comp=Z,4.1nm,1.1s,mb4.0							
BOD	**Bodaibo**	**28.19**	**328**	*e*P	**P**	**12 19 11.4**	**-0.8**
SONM	**Songino Array**	**28.28**	**305**	P	**P**	**12 19 12.6**	**-0.6**
comp=Z,2.2nm,0.8s,mb3.8,baz=103,slow=8.7,SNR=17							
ZAK	**Zakamensk**	**30.80**	**309**	*e*P	**P**	**12 19 33.7**	**-1.9**
CMAR	**Chiang Mai Arr**	**41.45**	**256**	P	**P**	**12 21 06.9**	**+0.7**
comp=Z,0.5nm,0.3s,mb3.6,baz=52,slow=5.7,SNR=5.7							
ZAL	**Zalesovo**	**42.49**	**313**	P	**P**	**12 21 14.8**	**+0.5**
comp=Z,2.1nm,0.6s,mb3.9,baz=17,slow=5.5,SNR=12							
NVS	**Novosibirsk**	**43.41**	**314**	*e*P	**P**	**12 21 16.8**	**-5.0**
KURK	**Kurchatov**	**46.46**	**309**	*e*P	**P**	**12 21 45.9**	**-0.3**
KURK				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.5							
KURK	**Kurchatov**	**46.46**	**309**	*e*P	**P**	**12 21 45.9**	**-0.3**
comp=Z,5.5nm,0.8s,mb4.5							
ILAR	**Eielson Array**	**50.01**	**32**	P	**P**	**12 22 14.6**	**+1.0**
comp=Z,0.8nm,0.8s,mb3.8,baz=266,slow=5.7,SNR=7.1							
CHKZ	**Chkalovo**	**50.88**	**314**	*e*P	**P**	**12 22 20.1**	**-0.3**
CHKZ				pmax	pmax		
comp=Z,1.0nm,0.7s,mb3.9							
CHKZ	**Chkalovo**	**50.88**	**314**	*e*P	**P**	**12 22 20.1**	**-0.3**
comp=Z,1.4nm,0.7s,mb4.0							
BRVK	**Borovoye**	**51.19**	**313**	P	**P**	**12 22 23.3**	**+0.6**
BRVK				pmax	pmax		
comp=Z,1.0nm,0.5s,mb4.0							
BRVK	**Borovoye**	**51.19**	**313**	P	**P**	**12 22 23.3**	**+0.6**
comp=Z,1.3nm,0.5s,mb4.1							
INK	**Inuvik**	**54.95**	**27**	*e*P	**P**	**12 22 51.0**	**+0.6**
INK				pmax	pmax		
comp=Z,1.0nm,0.7s							
INK	**Inuvik**	**54.95**	**27**	P	**P**	**12 22 50.5**	**+0.1**
comp=Z,0.9nm,0.6s,mb4.0,baz=330,slow=8.2,SNR=5.1							
INK	**Inuvik**	**54.95**	**27**	*e*P	**P**	**12 22 51.0**	**+0.6**
comp=Z,1.1nm,0.7s,mb4.0							
WRA	**Warramunga Arr**	**56.39**	**188**	P	**P**	**12 23 00.7**	**-0.7**
comp=Z,0.4nm,0.4s,mb3.8,baz=5.0,slow=7.2,SNR=16							
ASAR	**Alice Springs**	**60.12**	**188**	P	**P**	**12 23 26.6**	**-0.8**
comp=Z,0.5nm,0.9s,mb3.6,baz=9.4,slow=7.6,SNR=6.0							
YKA	**Yellowknife Ar**	**64.34**	**30**	P	**P**	**12 23 55.9**	**+1.0**
comp=Z,1.3nm,1.2s,mb3.9,baz=298,slow=6.7,SNR=5.8							
FINES	**FINESS Array B**	**69.49**	**332**	P	**P**	**12 24 27.9**	**+0.5**
comp=Z,1.7nm,0.8s,mb4.1,baz=135,slow=14,SNR=5.0							
NB2	**NORSAR Subarra**	**74.88**	**337**	P	**P**	**12 24 59.3**	**0.0**
comp=Z,3.3nm,0.9s,mb4.3,baz=39,slow=5.8							
NOA	**NORSAR Array B**	**74.88**	**337**	P	**P**	**12 24 59.5**	**+0.2**
comp=Z,1.7nm,0.8s,mb4.0,baz=39,slow=5.8,SNR=4.3							
AKASG	**Malin Array Be**	**74.93**	**322**	P	**P**	**12 25 00.1**	**+0.3**
comp=Z,2.3nm,0.7s,mb4.2,baz=44,slow=5.8,SNR=10.0							

IDC ***29*** *12:15:38.9±1.1, 7.87N×93.86E, mb3.7/7, mb1 3.8/8, mb1mx3.7/19, mbtmp3.6/8, ML3.6/1, Error ellipse: s-maj=47.0km s-min=22.0km az=51.0*
ISC 29 12:15:42.4±0.9, 8.0N±0.1×94.0E±0.2, h33km, n8, σ0§46/8, mb3.7/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.47**	**24**	Pn	**P**	**12 18 26.6**	**-0.4**
0.1nm,0.3s,baz=215,slow=30,SNR=2.6							
SONM	**Songino Array**	**41.09**	**13**	P	**P**	**12 23 25.6**	**+0.9**
0.6nm,1.0s,mb3.2,baz=214,slow=8.9,SNR=4.1							
WRA	**Warramunga Arr**	**48.40**	**126**	P	**P**	**12 24 23.8**	**+0.2**
0.6nm,0.7s,mb3.8,baz=306,slow=8.5,SNR=5.8							
ASAR	**Alice Springs**	**50.06**	**130**	P	**P**	**12 24 36.1**	**-0.3**
0.3nm,0.6s,mb3.5,baz=302,slow=7.8,SNR=5.5							
AKASG	**Malin Array Be**	**68.02**	**322**	P	**P**	**12 26 40.0**	**-0.4**
1.2nm,0.7s,mb4.0,baz=215,slow=12,SNR=4.1							
FINES	**FINESS Array B**	**72.58**	**332**	P	**P**	**12 27 07.9**	**0.0**
1.2nm,0.7s,mb3.9,baz=100,slow=8.5,SNR=3.7							
GERES	**GERESS Array B**	**77.69**	**318**	P	**P**	**12 27 38.1**	**+0.6**
0.3nm,0.7s,mb3.4,baz=173,slow=31,SNR=4.0							
HFS	**Hagfors**	**78.32**	**330**	P	**P**	**12 27 40.3**	**-0.5**
1.6nm,0.7s,mb4.0,baz=180,slow=4.4,SNR=4.1							

IDC ***29*** *12:23:41.9±0.7, 7.73N×93.88E, mb4.1/14, mb1 4.3/15, mb1mx4.2/20, mbtmp4.1/15, ML4.2/1, MS4.0/6, Ms1 4.0/6, ms1mx3.6/24, Error ellipse: s-maj=35.1km s-min=15.4km az=49.0*
BJI ***29*** *12:23:45.7, 7.80N×94.10E, h30km, mB5.0, mb4.6, Ms4.3, Msz4.0*
NEIC ***29*** *12:23:47.4±0.4, 7.84N×94.10E, h30km, mb4.6/11, Error ellipse: s-maj=13.7km s-min=9.4km az=66.0*
ISC 29 12:23:46.3±0.4, 7.85N±0.05×94.19E±0.07, h33km, n57, σ1§20/49, mb4.6/32, MS4.1/8, 4C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.51**	**23**	P	**P**	**12 26 30.6**	**-0.9**
6.1nm,0.3s							
CMAR	**Chiang Mai Arr**	**11.51**	**23**	Pn	**P**	**12 26 31.1**	**-0.4**
0.5nm,0.3s,baz=210,slow=14,SNR=18							
CMAR				LR	LR	12 30 39.9	
comp=Z,105nm,18.3s,baz=215,slow=36							
HYB	**Hyderabad**	**17.96**	**303**	*i*P	**P**	**12 27 57.0**	**+1.7**
KMI	**Kunming**	**19.02**	**24**	P	**P**	**12 28 11.6**	**+3.4**
23nm,1.5s							
KMI				pP		12 28 15.8	
KMI				PP	PP	12 28 29.1	+4.3
KMI				S	**S**	**12 31 36.9**	**+1.5**
KMI				SS	SS	12 32 00.7	-0.3
JIRN	**Jiri**	**21.10**	**340**	*e*P	**P**	**12 28 30.1**	**-0.4**
83nm,1.1s,mb5.0							
PKI	**Pulchoki**	**21.30**	**338**	*e*P	**P**	**12 28 32.0**	**-0.4**
222nm,1.6s,mb5.2							
GUN	**Gumba**	**21.44**	**340**	*e*P	**P**	**12 28 33.0**	**-0.8**
527nm,1.8s,mb5.6							
DMN	**Daman**	**21.45**	**337**	*e*P	**P**	**12 28 33.5**	**-0.4**
136nm,1.2s,mb5.2							
KKN	**Kakani**	**21.55**	**338**	*e*P	**P**	**12 28 33.9**	**-1.0**
167nm,1.5s,mb5.2							
LSA	**Lhasa**	**21.92**	**353**	P	**P**	**12 28 41.0**

ZAL **Zalesovo** **46.57 352** P **P** **12 32 12.5 -0.3**
comp=Z,3.2nm,0.9s,mb4.2,baz=304,slow=5.9,SNR=12
ZAL **Zalesovo** **46.57 352** P **P** **12 32 12.5 -0.3**
WRA **Warramunga Arr** **48.21 126** P **P** **12 32 25.7 -0.5**
comp=Z,1.6nm,0.8s,mb4.1,baz=303,slow=9.0,SNR=11
WRAB **Tennant Creek** **48.22 126** *eP* **P** **12 32 25.3 -0.9**
comp=Z,2.7nm,0.7s,mb4.4
WB2 **Warramunga Arr** **48.22 126** *eP* **P** **12 32 26.4 +0.2**
CHKZ **Chkalovo** **49.51 342** *eP* **P** **12 32 34.4 -1.3**
comp=Z,13nm,1.1s,mb4.9
ASAR **Alice Springs** **49.87 130** P **P** **12 32 38.0 -0.8**
comp=Z,1.3nm,0.8s,mb4.0,baz=312,slow=7.5,SNR=10
ASAR LR LR 12 56 04.9
comp=Z,105nm,18.7s,MS3.9,baz=271,slow=39
PMG **Port Moresby** **55.48 107** P **P** **12 33 20.1 -0.7**
comp=Z,7.6nm,0.9s,mb4.7,baz=297,slow=9.6,SNR=3.0
KMBO **Kilima Mbogo** **57.47 264** LR LR 12 55 34.9
comp=Z,128nm,18.0s,MS4.1,baz=91,slow=34
KMBO **Kilima Mbogo** **57.47 264** *eP* **P** **12 33 37.6 +2.6**
comp=Z,5.0nm,1.0s,mb4.5
CTA **Charters Tower** **58.26 119** LR LR 12 59 33.7
comp=Z,138nm,19.2s,MS4.1,baz=277,slow=37
STKA **Stephens Creek** **60.06 134** P **P** **12 33 52.6 -0.1**
comp=Z,1.9nm,0.9s,mb4.1,baz=286,slow=6.1,SNR=4.4
STKA LR LR 13 00 41.2
comp=Z,159nm,18.5s,MS4.2,baz=306,slow=37
STKA **Stephens Creek** **60.06 134** *eP* **P** **12 33 52.8 0.0**
BRTR **Keskin Array B** **62.48 311** P **P** **12 34 05.6 -3.3**
comp=Z,1.4nm,0.8s,mb4.1,baz=121,slow=7.2,SNR=5.0
AKASG **Malin Array Be** **68.20 322** P **P** **12 34 42.4 -3.1**
comp=Z,0.4nm,0.3s,mb3.9,baz=80,slow=5.5,SNR=6.4
FINES **FINESS Array B** **72.75 332** P **P** **12 35 12.0 -0.9**
comp=Z,9.6nm,1.1s,mb4.6,baz=108,slow=6.0,SNR=6.0
LBTB **Lobatse** **74.27 241** P **P** **12 35 24.6 +2.0**
comp=Z,3.0nm,0.8s,mb4.3
ARCES **ARCESS Array B** **75.30 340** P **P** **12 35 26.9 -0.7**
comp=Z,4.2nm,0.9s,mb4.3,baz=124,slow=4.4,SNR=4.2
ARCES LR LR 13 11 25.0
comp=Z,245nm,19.5s,MS4.5,baz=182,slow=38
ARCES **ARCESS Array B** **75.30 340** P **P** **12 35 26.9 -0.7**
ARCES LR LR 13 11 25.0
BRG **Berggiesshubel** **77.80 320** *eP* **P** **12 35 43.2 +1.2**
comp=Z,44nm,2.1s,mb5.0
BRG *e* 12 35 58.2
GERES **GERESS Array B** **77.87 318** P **P** **12 35 41.5 -1.0**
comp=Z,1.5nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=13
CLL **Collm** **78.41 321** *eP* **P** **12 35 47.0 +1.7**
CLL **Collm** **78.41 321** P **P** **12 35 47.0 +1.7**
NB2 **NORSAR Subarra** **79.77 331** P **P** **12 35 51.2 -1.4**
comp=Z,8.3nm,1.1s,mb4.6,baz=92,slow=5.8
NOA **NORSAR Array B** **79.77 331** P **P** **12 35 51.1 -1.5**
comp=Z,1.2nm,0.6s,mb4.0,baz=91,slow=5.7,SNR=6.9
DAVOX **Davos** **80.44 316** P **P** **12 35 56.0 -0.4**
comp=Z,2.5nm,0.8s,mb4.2,baz=136,slow=18,SNR=3.3
SYO **Syowa Base** **85.40 197** ⇑P **P** **12 36 24.5 +3.2**
SYO **Syowa Base** **85.40 197** ⇑pP pP 12 36 35.8 +4.0
IMA **Indian Mountai** **91.62 22** *eP* **P** **12 36 53.3 +2.2**
ILAR **Eielson Array** **94.75 22** P **P** **12 37 05.7 +0.3**
comp=Z,0.3nm,0.8s,mb3.8,baz=286,slow=2.1,SNR=5.4
RES **Resolute Bay** **97.42 2** *eP* **P** **12 37 18.5 +1.1**
comp=Z,1.4nm,0.8s,mb4.4
TBI **Tubuai** **117.24 112** *eLR* LR 12 30 04.1
comp=Z,109nm,28.0s
PPT **Papeete** **117.29 106** *eLR* LR 12 30 23.1
comp=Z,145nm,27.2s
NVAR **Mina Array Bea** **124.91 31** PKP PKPdf 12 42 46.1 +2.4
comp=Z,0.5nm,0.6s,baz=294,slow=2.0,SNR=5.4
PDAR **Pinedale Array** **125.17 21** PKP PKPdf 12 42 45.4 +1.4
comp=Z,0.7nm,0.9s,baz=45,slow=2.1,SNR=5.9
TXAR **Lajitas Array** **139.22 24** PKP PKPdf 12 43 13.1 +2.4
comp=Z,0.1nm,0.7s,slow=14,SNR=3.2
PLCA **Paso Flores** **144.55 200** PKP PKPdf 12 43 20.5 +0.7
comp=Z,2.5nm,0.8s,baz=184,slow=6.8,SNR=6.4
PLCA **Paso Flores** **144.55 200** *e*PKPdf PKPdf 12 43 21.3 +1.5

*IDC **29** 12:26:48.3±1.6, 32.36S×71.84W, mb4.2/1, mb1 3.8/4, mb1mx3.7/14, mbtmp3.7/4, ML3.8/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/14, Error ellipse: s-maj=76.3km s-min=30.1km az=100.0*
*GUC **29** 12:26:53.1±0.7, 32.37S×71.76W, h22km±3km, MD3.6, ML3.8*
*NEIC **29** 12:26:53.1, 32.37S×71.76W, h22km, ML3.8(GUC), After GUC.*
ISC 29 12:26:52.1±0.8, 32.36S±0.03×71.83W±0.05, h17km±4km, n37, σ0§83/56, mb4.1/1, 10C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.37**	**118**	*i* P	**Pb**	**12 27 00.4**	**+0.6**
PACH				*i* S	**Sb**	**12 27 05.8**	**+0.7**
IHA	**Instituto Hidr**	**0.68**	**167**	⇑*i* P	**Pb**	**12 27 05.0**	**-0.1**
IHA				*i* S	**Sb**	**12 27 14.5**	**+0.6**
PTCH	**Petorca**	**0.76**	**83**	⇑*i* P	**Pb**	**12 27 06.7**	**+0.1**
PTCH				*i* S	**Sb**	**12 27 16.7**	**+0.2**
PTCH				AMP		12 27 17.2	
comp=N,15μm,0.3s
ILCH **Illapel** **0.91** **38** ⇑*i* P **Pb** **12 27 09.2** **+0.1**
ILCH *i* S **Sb** **12 27 21.5** **+0.7**
ILCH AMP 12 27 23.4
comp=E,3μm,0.2s
ROCH **El Roble** **0.92** **132** ⇑*i* P **Pb** **12 27 09.0** **-0.2**
JACH **Jahuel** **1.09** **107** ⇑*i* P **Pb** **12 27 11.4** **-0.7**
JACH *i* S **Sb** **12 27 25.4** **-0.4**
LCCH **Las Cruces** **1.13** **169** ⇑*i* P **Pb** **12 27 12.5** **-0.3**
LCCH *i* S **Sb** **12 27 27.4** **+0.4**
PEL **Peldehue** **1.24** **129** ⇑*i* P **Pb** **12 27 14.2** **-0.4**
PEL *i* S **Sb** **12 27 29.8** **-0.4**
PUEX **Pudahuel** **1.40** **140** *i* P **Pn** **12 27 16.9** **-0.2**
PUEX *i* S **Sb** **12 27 34.3** **-0.5**
PUEX AMP 12 27 38.9
comp=E,6μm,0.4s
RCDM **Rinconada Maip** **1.41** **143** *i* P **Pn** **12 27 16.6** **-0.7**
RCDM *i* S **Sb** **12 27 34.4** **-0.9**
RCDM AMP 12 27 37.4
comp=E,2μm,0.5s
SAN **Santiago** **1.46** **138** *i* P **Pn** **12 27 17.8** **-0.2**
SAN *i* S **Sn** **12 27 36.1** **-0.7**
STL **Santa Lucia** **1.46** **137** *i* P **Pn** **12 27 17.2** **-0.8**
STL *i* S **Sn** **12 27 35.8** **-1.0**
STL AMP 12 27 42.3
comp=N,791nm,0.7s
DSCH **Colegio Aleman** **1.48** **135** *eP* **Pn** **12 27 17.9** **-0.3**
DSCH *i* S **Sn** **12 27 36.5** **-0.7**
DSCH AMP 12 27 42.7
comp=E,3μm,0.8s
TACH **Talagante** **1.49** **150** ⇓*i* P **Pn** **12 27 18.1** **-0.2**
TACH *i* S **Sn** **12 27 37.3** **-0.1**
CLCH **Cerro Calan** **1.50** **134** ⇓*i* P **Pn** **12 27 17.8** **-0.7**
CLCH *i* S **Sn** **12 27 37.2** **-0.4**
CLCH AMP 12 27 40.4
comp=E,3μm,0.5s
FSR **Penalolen** **1.56** **136** *i* P **Pn** **12 27 19.2** **-0.1**
FSR *i* S **Sn** **12 27 39.2** **-0.1**
FSR AMP 12 27 46.8
comp=E,2μm,0.4s
ANTU **Antumapu** **1.56** **141** AMP 12 27 44.1
comp=E,2μm,0.4s
FCH **Farellones** **1.61** **127** ⇓⇓*i* P **Pn** **12 27 19.6** **-0.5**
FCH *i* S **Sn** **12 27 40.6** **0.0**
FCH AMP 12 27 42.2
comp=E,2μm,0.3s
LNV **Longovilo** **1.63** **168** *eP* **Pn** **12 27 20.5** **+0.2**
LNV *i* S **Sn** **12 27 41.4** **+0.5**
PCH **Pirque** **1.67** **139** ⇑*i* P **Pn** **12 27 21.2** **+0.3**
PCH *i* S **Sn** **12 27 42.0** **-0.1**
SJCH **San Jose de Ma** **1.77** **136** AMP 12 27 52.3
comp=N,807nm,0.7s
CHCH **Chadas Angostu** **1.85** **148** ⇑*i* P **Pn** **12 27 23.7** **+0.2**
CHCH *i* S **Sn** **12 27 46.8** **+0.2**
LMEL **Las Melosas** **2.01** **138** ⇓*i* P **Pn** **12 27 26.4** **+0.6**
LMEL *i* S **Sn** **12 27 51.7** **+0.9**
LMEL AMP 12 27 59.3
comp=N,1μm,0.3s
CACH **El Canelo** **2.03** **150** ⇓⇓*i* P **Pn** **12 27 27.6** **+1.5**
CACH *i* S **Sn** **12 27 53.7** **+2.5**
CICH **Cipreses** **2.28** **149** ⇑*i* P **Pn** **12 27 30.1** **+0.4**
CICH *i* S **Sn** **12 27 58.9** **+1.3**
TLL **Tololo Astrono** **2.36** **22** AMP 12 28 12.4
comp=N,1μm,0.5s
MDZ **Mendoza** **2.56** **102** *eP* **Pn** **12 27 36.5** **+2.8**
MDZ *i* 12 27 44.7
MDZ *i* S **Sn** **12 28 20.1** **+15**

PLCA **Paso Flores** **8.41** **173** Pn **P** **12 28 52.2** **-4.1**
comp=N,0.2nm,0.3s,baz=331,slow=15,SNR=4.8
PLCA **Paso Flores** **8.41** **173** Pn **P** **12 28 52.2** **-4.1**
LVC **Limon Verde** **10.05** **16** Pn **P** **12 29 13.5** **-5.4**
comp=N,0.2nm,0.3s,baz=185,slow=11,SNR=3.4
LVC Sn **S** **12 31 13.7** **+1.4**
comp=N,0.2nm,0.3s,baz=253,slow=21,SNR=2.6
LVC LR LR 12 33 10.9
comp=N,91nm,20.5s,baz=142,slow=38
LVC **Limon Verde** **10.05** **16** Pn **P** **12 29 13.5** **-5.4**
LVC Sn **S** **12 31 13.7** **+1.4**
LVC LR LR 12 33 10.9
LPAZ **La Paz** **16.35** **13** Pn **P** **12 30 40.4** **-2.2**
comp=N,0.1nm,0.3s,baz=180,slow=8.3,SNR=5.5
LPAZ **La Paz** **16.35** **13** Pn **P** **12 30 40.4** **-2.2**
DBIC **Dimbokro** **74.49** **72** P **P** **12 38 28.6** **-3.3**
comp=N,1.6nm,0.7s,mb4.1,baz=227,slow=7.3,SNR=5.2
WRA **Warramunga Arr** **122.28** **209** PKP PKPdf 12 45 45.0 -5.6
comp=N,0.6nm,1.0s,baz=159,slow=1.7,SNR=5.5
BVAR **Borovoye Array** **145.95** **41** PKPbc PKPbc 12 46 29.8 -0.8
comp=N,0.6nm,0.3s,baz=286,slow=1.4,SNR=7.9
ZAL **Zalesovo** **152.74** **31** PKPbc PKPdf 12 46 46.1 +2.1
comp=N,0.7nm,0.6s,baz=7.7,slow=5.2,SNR=3.4

*BJI **29** 12:36:07.7, 8.00N×94.10E, h48km, mb4.2*
*IDC **29** 12:36:07.9±7.7, 8.03N×94.06E, h46km±66km, mb3.6/6, mb1 3.8/7, mb1mx3.6/19, mbtmp3.9/7, ML3.8/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/19, Error ellipse: s-maj=70.1km s-min=19.4km az=56.0*
*NEIC **29** 12:36:07.8±4.6, 8.00N×94.05E, h48km±37km, mb4.4/3, Error ellipse: s-maj=46.9km s-min=11.0km az=57.0*
ISC 29 12:36:06.8±5.8, 8.1N±0.2×94.2E±0.2, h54km±49km, n23, σ0§63/20, mb4.2/14, MS3.7/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.35**	**24**	P	**P**	**12 38 48.5**	**-0.3**
0.2nm,0.3s,baz=211,slow=14,SNR=19
JIRN **Jiri** **20.91** **340** *eP* **P** **12 40 46.9** **-0.2**
19nm,0.8s
PKI **Pulchoki** **21.11** **338** *eP* **P** **12 40 48.7** **-0.4**
16nm,0.6s,mb4.6
GUN **Gumba** **21.25** **339** *eP* **P** **12 40 50.0** **-0.5**
25nm,0.8s,mb4.6
DMN **Daman** **21.26** **337** *eP* **P** **12 40 51.0** **+0.4**
KKN **Kakani** **21.35** **338** *eP* **P** **12 40 52.3** **+0.8**
LSA **Lhasa** **21.72** **353** P **P** **12 40 58.8** **+3.6**
GKN **Gorkha** **21.79** **337** *eP* **P** **12 40 55.6** **-0.3**
22nm,0.7s,mb4.7
KOLN **Koldanda** **22.01** **334** *eP* **P** **12 40 58.5** **+0.4**
39nm,1.1s,mb4.7
JOW **Kunigami** **37.35** **56** LR LR 13 01 10.0
comp=Z,110nm,19.6s,MS3.7,baz=338,slow=40
SONM **Songino Array** **40.99** **13** P **P** **12 43 46.5** **+0.5**
0.8nm,0.8s,mb3.4,baz=194,slow=8.1,SNR=8.3
KURK **Kurchatov** **44.45** **346** *eP* **P** **12 44 13.9** **-0.3**
2.6nm,0.8s,mb4.0
ZAL **Zalesovo** **46.38** **352** P **P** **12 44 29.9** **+0.4**
1.5nm,0.8s,mb4.0,baz=291,slow=9.7,SNR=12
ZAL **Zalesovo** **46.38** **352** P **P** **12 44 29.9** **+0.4**
WRA **Warramunga Arr** **48.35** **126** P **P** **12 44 44.5** **-1.0**
1.0nm,0.8s,mb3.9,baz=304,slow=8.7,SNR=6.8
WRAB **Tennant Creek** **48.36** **126** *eP* **P** **12 44 45.3** **-0.1**
4.5nm,0.9s,mb4.5
CHKZ **Chkalovo** **49.31** **342** *eP* **P** **12 44 51.6** **-0.8**
3.6nm,0.9s,mb4.4
ASAR **Alice Springs** **50.02** **130** P **P** **12 44 59.4** **+1.1**
0.6nm,0.8s,mb3.7,baz=307,slow=8.0,SNR=7.1
ASAR PcP PcP 12 46 18.9 +1.2
0.5nm,0.8s,baz=278,slow=4.1,SNR=4.0
GERES **GERESS Array B** **77.70** **318** P **P** **12 47 59.9** **+0.4**
0.8nm,0.9s,mb3.6,baz=151,slow=33,SNR=8.8
HFS **Hagfors** **78.31** **330** P **P** **12 48 02.3** **-0.3**
2.9nm,0.8s,mb4.3,baz=121,slow=8.6,SNR=6.5
NB2 **NORSAR Subarra** **79.59** **331** P **P** **12 48 09.0** **-0.5**
2.4nm,0.8s,mb4.2,baz=91,slow=5.8
PDAR **Pinedale Array** **125.00** **21** PKP PKPdf 12 55 03.6 +2.2
0.9nm,1.1s,baz=90,slow=2.7,SNR=2.9
PLCA **Paso Flores** **144.71** **200** PKP PKPdf 12 55 39.6 +1.8
2.2nm,1.0s,baz=89,slow=4.3,SNR=3.5

IDC 29 12:43:29.8±8.1, 7.52N×94.26E, mb3.9/3, mb1 4.0/4, mb1mx3.6/18, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=197.8km s-min=58.3km az=136.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.79**	**22**	Pn	P	12 46 20.1	-2.3
0.2nm,0.3s,baz=212,slow=13,SNR=11
ZAL **Zalesovo** **46.91** **352** P P 12 52 01.5 -2.3
0.8nm,0.4s,baz=325,slow=5.4,SNR=5.1
FINES **FINESS Array B** **73.08** **332** P P 12 55 01.3 -2.2
1.3nm,0.9s,baz=90,slow=5.7,SNR=6.7
GERES **GERESS Array B** **78.17** **318** P P 12 55 32.0 -0.6
0.5nm,0.6s,baz=68,slow=5.3,SNR=3.5

*IDC **29** 12:50:49.7±9.7, 7.72N×94.07E, h56km±81km, mb3.6/6, mb1 3.7/7, mb1mx3.5/19, mbtmp3.8/7, Error ellipse: s-maj=76.7km s-min=29.2km az=56.0*
ISC 29 12:50:45.6±7.3, 7.7N±0.3×94.0E±0.3, h36km±59km, n14, σ0§40/14, mb4.2/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.73**	**24**	P	**P**	**12 53 33.7**	**+0.2**
baz=212,slow=14,SNR=2.8
JIRN **Jiri** **21.21** **340** *eP* **P** **12 55 30.8** **+0.2**
14nm,0.8s,mb4.3
PKI **Pulchoki** **21.40** **339** *eP* **P** **12 55 33.4** **+0.9**
11nm,0.6s,mb4.3
DMN **Daman** **21.55** **338** *eP* **P** **12 55 33.6** **-0.3**
9.7nm,0.3s,mb4.7
GUN **Gumba** **21.55** **340** *eP* **P** **12 55 33.4** **-0.5**
16nm,0.6s,mb4.6
KKN **Kakani** **21.65** **339** *eP* **P** **12 55 34.3** **-0.6**
10nm,0.6s,mb4.4
GKN **Gorkha** **22.08** **337** *eP* **P** **12 55 38.9** **-0.3**
22nm,0.7s,mb4.7
KOLN **Koldanda** **22.29** **335** *eP* **P** **12 55 41.6** **+0.3**
11nm,0.8s,mb4.3
SONM **Songino Array** **41.37** **13** P **P** **12 58 30.0** **+0.1**
0.9nm,0.7s,mb3.5,baz=195,slow=8.4,SNR=8.8
ZAL **Zalesovo** **46.72** **353** P **P** **12 59 12.7** **-0.3**
2.1nm,0.8s,mb4.1,baz=288,slow=5.6,SNR=17
WRA **Warramunga Arr** **48.24** **125** P **P** **12 59 25.2** **-0.1**
0.2nm,0.4s,mb3.5,baz=304,slow=9.0,SNR=3.5
FINES **FINESS Array B** **72.83** **332** P **P** **13 02 12.1** **-0.2**
1.5nm,0.7s,mb4.0,baz=34,slow=6.9,SNR=4.1
GERES **GERESS Array B** **77.89** **318** P **P** **13 02 41.9** **+0.4**
0.8nm,0.8s,mb3.7,baz=90,slow=5.3,SNR=4.3
HFS **Hagfors** **78.56** **330** P **P** **13 02 45.2** **+0.3**
2.1nm,0.7s,mb4.2,baz=106,slow=11,SNR=4.8

*NAO **29** 13:04:59.5±3.1, 59.43N×9.97E, ML2.6*
*CSEM **29** 13:05:02.3±0.2, 59.57N×10.16E, h5km, ML1.5, Error ellipse: s-maj=7.6km s-min=3.0km az=159.0*
*BER **29** 13:05:03.9±2.8, 59.53N×10.14E, MD1.9, ML1.5, ML2.6(NAO), Suspected explosion*
*NEIC **29** 13:05:04.2, 59.54N×10.08E, h15km, ML2.6(BER), After BER.*
ISC 29 13:05:00.8±0.8, 59.54N±0.09×10.22E±0.10, n16, σ0§99/24, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NC6	**NORSAR Subarra**	**1.36**	**27**	Pn	**Pn**	**13 05 27.7**	**+0.7**
NC6 Lg 13 05 47.7
NB2 **NORSAR Subarra** **1.58** **18** Pn **Pn** **13 05 30.8** **+0.5**
NB2 Lg 13 05 53.4
HFS **Hagfors** **1.85** **70** Pn **Pn** **13 05 34.4** **+0.4**
baz=264,slow=16
HFS Pg **Pg** **13 05 36.3** **-1.4**
baz=252,slow=18
HFS Lg 13 06 03.3
baz=252,slow=28
HFS **Hagfors** **1.85** **70** Pn **Pn** **13 05 34.4** **+0.3**
baz=264,slow=15,SNR=8.6
HFS **Hagfors** **1.85** **70** Pg **Pg** **13 05 36.3** **-1.5**
baz=252,slow=17
ODD1 **Odda** **1.86** **283** *eP* **Pn** **13 05 33.1** **-1.1**

ODD1 *e*S **Sn** **13 05 57.6** **-1.0**
ODD1 **Odda** **1.86** **283** *e*P **Pn** **13 05 33.1** **-1.1**
ODD1 *e*S **Sn** **13 05 57.0** **-1.7**
ODD1 AML AML 13 05 59.2
comp=Z,8.7nm,0.4s
ODD1 **Odda** **1.86** **283** *e*P **Pn** **13 05 33.1** **-1.1**
SNR=50
ODD1 *e*S **Sn** **13 05 57.7** **-1.0**
BLS5 **Blasjo** **1.93** **268** *e*P **Pn** **13 05 36.4** **+1.2**
BLS5 *e*S **Sn** **13 06 01.6** **+1.2**
BLS5 **Blasjo** **1.93** **268** *e*P **Pn** **13 05 36.4** **+1.2**
BLS5 *e*S **Sn** **13 06 00.8** **+0.4**
BLS5 AML AML 13 06 02.0
comp=Z,5.9nm,0.2s
BLS5 **Blasjo** **1.93** **268** *e*P **Pn** **13 05 36.4** **+1.3**
SNR=50
BLS5 *e*S **Sn** **13 06 00.8** **+0.4**
comp=Z,5.9nm,0.2s,SNR=50
SNART **Snartemo** **1.97** **234** *e*P **Pn** **13 05 36.5** **+0.7**
SNART *e*S **Sn** **13 06 01.7** **+0.1**
SNART **Snartemo** **1.97** **234** *e*P **Pn** **13 05 36.5** **+0.7**
SNART *e*S **Sn** **13 05 59.2** **-2.4**
SNART AML AML 13 06 04.1
comp=Z,12nm,0.4s
SNART **Snartemo** **1.97** **234** *e*P **Pn** **13 05 36.5** **+0.7**
SNART *e*S **Sn** **13 06 01.7** **+0.1**
FIA0 **FINESS Array S** **8.06** **70** Lg 13 09 15.1
baz=259,slow=28
FIA0 **FINESS Array S** **8.06** **70** Lg 13 09 15.1
baz=259,slow=28

*CSEM **29** 13:05:12.8, 37.77N×43.97E, h5km, MD4.0, After ISK*
*ISK **29** 13:05:12.8, 37.77N×43.97E, h5km, MD4.0*
ISC 29 13:05:13.1±1.3, 37.78N±0.03×44.1E±0.1, h5km, n15, σ1§35/25, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.34**	**233**	*i* PG	**Pg**	**13 05 19.1**	**-0.8**
HKR *i* SG **Sg** **13 05 22.3** **-2.1**
VANT **Van** **0.86** **321** *i* PG **Pg** **13 05 30.0** **-0.2**
TVAN **Van** **0.92** **325** *i* P **Pb** **13 05 30.7** **-0.4**
TVAN *i* S **Sb** **13 05 43.1** **-0.3**
VANB **Van** **0.98** **326** *i* PG **Pg** **13 05 30.4** **-2.2**
MSL **Mosul** **1.69** **208** *e*Pn **Pn** **13 05 47.5** **+4.1**
MSL *i* Pg **Pg** **13 05 49.0** **+2.3**
MSL *i* Sb **Sb** **13 06 07.5** **+1.8**
MSL *i* Sg **Sg** **13 06 08.5** **-0.7**
BTMT **Batman** **2.09** **282** PN **Pn** **13 05 50.0** **+0.8**
BTMT SN **Sn** **13 06 17.9** **+2.0**
BEST **Besiri** **2.23** **274** *i* P **Pn** **13 05 50.6** **-0.6**
BEST *i* S **Sn** **13 06 18.6** **-0.8**
VRT **Varto** **2.42** **305** *e*PN **Pn** **13 05 52.8** **-1.0**
ERZM **Erzurum** **3.00** **316** *i* P **Pn** **13 06 03.3** **+1.2**
ERZM *i* S **Sn** **13 06 41.0** **+2.1**
EZM **Erzurum** **3.00** **316** *e*PN **Pn** **13 06 02.5** **+0.3**
BINT **Bingol** **3.03** **292** *e*PN **Pn** **13 06 02.5** **-0.1**
DIY **Diyarbakir** **3.05** **273** *e*PN **Pn** **13 06 02.4** **-0.6**
ELZG **Elazig** **4.08** **282** *i* P **Pn** **13 06 14.1** **-3.5**
ELZG *i* S **Sn** **13 07 08.4** **+2.0**
MYA **Malataya** **4.50** **279** *e*PN **Pn** **13 06 22.1** **-1.4**
GZT **Gaziantep** **5.20** **267** *i* P **Pn** **13 06 37.7** **+4.3**
GZT *i* S **Sg** **13 08 01.3** **-4.7**

*IDC **29** 13:06:51.7±0.6, 7.59N×93.87E, mb4.1/15, mb1 4.3/16, mb1mx4.2/20, mbtmp4.1/16, ML4.8/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/21, Error ellipse: s-maj=26.3km s-min=15.6km az=58.0*
*MOS **29** 13:06:55.0±1.3, 7.73N×94.16E, h33km, mb4.9/10, Error ellipse: s-maj=15.5km s-min=8.7km az=101.0*
*BJI **29** 13:06:56.7, 7.60N×94.00E, h30km, mB4.8, mb4.6, Ms4.5, Msz4.3*
*NEIC **29** 13:06:56.7±0.4, 7.64N×94.03E, h30km, mb4.6/8, Error ellipse: s-maj=12.1km s-min=9.5km az=91.0*
ISC 29 13:06:54.7±0.5, 7.63N±0.06×94.06E±0.06, h33km, n76, σ1§04/69, mb4.5/36, MS4.1/2, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.52**	**93**	P	**P**	**13 08 31.0**	**+0.3**
398nm,0.8s
CM31 **Chiang Mai Arr** **11.77** **23** *eP* **P** **13 09 44.4** **+1.1**
12nm,0.6s
CMAR **Chiang Mai Arr** **11.77** **23** Pn **P** **13 09 43.6** **+0.3**
2.0nm,0.3s,baz=211,slow=14,SNR=63
VIS **Vishakhapatnam** **14.49** **315** *eP* **P** **13 10 18.8** **-0.8**
VIS *e* 13 10 20.2
comp=Z,10nm,0.5s
VIS *e* 13 12 50.3
BWNR **Bhubaneshwar** **14.92** **328** *eP* **P** **13 10 24.4** **-0.7**
BWNR *e* 13 10 27.3
comp=Z,6.3nm,0.3s
SHL **Shillong** **17.96** **354** *eP* **P** **13 11 01.5** **-2.2**
SHL *e*S **S** **13 14 21.0** **+0.9**
HYB **Hyderabad** **17.98** **304** *eP* **P** **13 11 06.0** **+2.1**
HYB *e*S **S** **13 14 16.0** **-4.6**
HYB **Hyderabad** **17.98** **304** *i* P **P** **13 11 06.0** **+2.1**
HYB *e*S **S** **13 14 16.0** **-4.6**
QIZ **Qiongzhong** **19.07** **52** *eP* **P** **13 11 17.5** **+0.3**
KMI **Kunming** **19.27** **24** P **P** **13 11 18.8** **-0.7**
KMI pmax pmax
comp=Z,13nm,1.2s
KMI **Kunming** **19.27** **24** P **P** **13 11 18.8** **-0.7**
comp=Z,13nm,1.2s
KMI pP 13 11 24.9
KMI PP PP 13 11 36.6 -0.2
KMI S **S** **13 14 58.4** **+8.6**
KMI sS 13 15 07.1
KMI SS SS 13 15 28.8 +13
JIRN **Jiri** **21.27** **340** *eP* **P** **13 11 40.3** **-0.3**
comp=Z,100nm,0.8s,mb5.2
PKI **Pulchoki** **21.46** **339** *eP* **P** **13 11 43.4** **+0.9**
comp=Z,55nm,0.7s,mb5.0
DMN **Daman** **21.61** **338** *eP* **P** **13 11 45.6** **+1.7**
comp=Z,80nm,0.7s,mb5.3
GUN **Gumba** **21.61** **340** *eP* **P** **13 11 43.7** **-0.2**
comp=Z,239nm,1.1s,mb5.5
KAD **Karad** **21.64** **298** *eP* **P** **13 11 44.4** **+0.1**
KAD *e* 13 11 58.7
comp=Z,22nm,0.4s
KKN **Kakani** **21.71** **339** *eP* **P** **13 11 45.5** **+0.6**
comp=Z,129nm,1.0s,mb5.3
LSA **Lhasa** **22.13** **353** P **P** **13 11 49.5** **+0.4**
GKN **Gorkha** **22.14** **337** *eP* **P** **13 11 49.4** **+0.2**
comp=Z,58nm,0.6s,mb5.2
BHPL **Bhopal** **22.28** **316** *eP* **P** **13 11 50.9** **+0.2**
BHPL *e* 13 12 09.8
comp=Z,33nm,1.2s
BHPL *e* 13 15 48.1
KOLN **Koldanda** **22.35** **335** *eP* **P** **13 11 51.9** **+0.6**
comp=Z,100nm,1.0s,mb5.2
WMQ **Urumqi** **36.48** **352** *eP* **P** **13 14 00.3** **+1.6**
WMQ AP pP 13 14 10.0 +1.6
WMQ XP sP 13 14 14.0 +1.3
WMQ PP PP 13 15 24.0 +0.9
WMQ PCP PcP 13 16 25.0 +2.5
WMQ S **S** **13 19 38.3** **+0.4**
WMQ AMB AMB
comp=Z,27nm,1.5s,mb5.0
WMQ AMB AMB
comp=Z,129nm,5.6s
WMQ LR LR
comp=N,318nm,18.3s,MS4.3
WMQ LR LR
comp=E,342nm,18.4s,MS4.3
WMQ LR LR
comp=Z,499nm,18.7s,MS4.3
AAK **Ala-Archa** **38.90** **337** *eP* **P** **13 14 19.6** **+0.7**
AAK pmax pmax
comp=Z,15nm,1.2s,mb4.6
AAK **Ala-Archa** **38.90** **337** *eP* **P** **13 14 19.6** **+0.6**
comp=Z,15nm,1.2s,mb4.6
MKAR **Makanchi Array** **40.31** **347** *i* P **P** **13 14 30.4** **-0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
SONM **Songino Array** **41.42** **13** P **P** **13 14 39.7** **0.0**
comp=Z,1.0nm,0.6s,mb3.7,baz=195,slow=9.7,SNR=11
SONM PcP PcP 13 16 39.1 +1.1
comp=Z,0.8nm,0.5s,baz=219,slow=3.4,SNR=4.3
ULN **Ulaanbaatar** **41.59** **13** *eP* **P** **13 14 41.6** **+0.4**
ULN pmax pmax

comp=Z,4.0nm,0.8s,mb4.1
ULN Ulaanbaatar 41.59 13 *e*P **P 13 14 41.6 +0.4**
comp=Z,4.3nm,0.8s,mb4.1
TLY Talaya 44.62 8 *e*P **P 13 15 03.4 -2.4**
TLY pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
KURK Kurchatov 44.83 346 *e*P **P 13 15 07.6 +0.2**
KURK pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
KURK Kurchatov 44.83 346 *e*P **P 13 15 07.6 +0.2**
comp=Z,5.7nm,0.9s,mb4.4
NWAO Narrogin (SRO) 45.96 153 P **P 13 15 16.1 -0.6**
NWAO Narrogin (SRO) 45.96 153 P **P 13 15 16.1 -0.6**
comp=Z,31nm,1.5s,mb5.0,baz=266,slow=16,SNR=2.6
ZAL Zalesovo 46.78 352 P **P 13 15 22.7 -0.1**
comp=Z,2.3nm,0.5s,mb4.4,baz=299,slow=6.7,SNR=17
NVS Novosibirsk 47.88 352 *e*P **P 13 15 30.4 -1.0**
NVS pmax pmax
comp=Z,19nm,1.0s,mb5.1
NVS pmax pmax
comp=N,12nm,1.0s
NVS pmax pmax
comp=E,13nm,1.2s
WRA Warramunga Arr 48.18 125 P **P 13 15 34.8 +0.5**
comp=E,0.5nm,0.4s,mb3.9,baz=306,slow=8.5,SNR=2.3
BVAR Borovoye Array 49.20 341 P **P 13 15 40.8 -0.8**
comp=E,0.7nm,0.6s,mb3.9,baz=180,slow=7.4,SNR=6.0
BRVK Borovoye 49.26 341 *e*P **P 13 15 41.1 -1.0**
BRVK pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
BRVK Borovoye 49.26 341 *e*P **P 13 15 41.1 -1.0**
comp=Z,9.0nm,1.1s,mb4.7
CHKZ Chkalovo 49.68 342 *e*P **P 13 15 45.1 -0.3**
CHKZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
CHKZ Chkalovo 49.68 342 *e*P **P 13 15 45.1 -0.3**
comp=Z,3.9nm,0.8s,mb4.5
BOD Bodaibo 52.41 13 *e*P **P 13 16 04.9 -1.0**
KMBO Kilima Mbogo 57.32 264 P **P 13 16 41.3 -1.0**
KMBO Kilima Mbogo 57.32 264 P **P 13 16 41.3 -1.0**
comp=Z,1.8nm,0.7s,mb4.2,baz=246,slow=20,SNR=2.4
CTA Charters Tower 58.26 119 LR LR 13 41 07.7
comp=Z,79nm,20.5s,MS3.8,baz=156,slow=35
STKA Stephens Creek 59.99 134 P **P 13 17 01.2 +0.5**
comp=Z,1.4nm,0.7s,mb4.1,baz=344,slow=7.4,SNR=2.7
YAK Yakutsk 60.25 18 *e*P **P 13 16 59.8 -2.2**
YAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
BRTR Keskin Array B 62.53 311 P **P 13 17 16.2 -1.4**
comp=Z,0.9nm,0.5s,mb4.1,baz=124,slow=6.9,SNR=5.9
OBN Obninsk 65.55 328 *e*P pP 13 17 46.1 -1.3
OBN pmax pmax
comp=Z,33nm,2.1s,mb5.0
MA2 Magadan 67.02 28 *e*P pP 13 17 52.9 -3.8
MA2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
MA2 Magadan 67.02 28 *e*P pP 13 17 52.9 -3.8
MA2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
TIXI Tiksi 67.49 11 *e*P **P 13 17 48.1 -1.0**
TIXI *e* pP 13 18 00.3 +0.8
TIXI pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
AKASG Malin Array Be 68.30 322 P **P 13 17 53.1 -1.4**
comp=Z,2.3nm,0.9s,mb4.2,baz=88,slow=5.2,SNR=3.2
JOF Joensuu 71.04 335 *e*p **P 13 18 11.0 -0.1**
comp=Z,5.4nm,0.6s,mb4.7
FINES FINESS Array B 72.89 332 P **P 13 18 22.1 0.0**
comp=Z,2.4nm,0.8s,mb4.2,baz=117,slow=7.9,SNR=8.0
KAF Kangasniemi 72.97 333 *e*p **P 13 18 22.8 +0.2**
LBTB Lobatse 74.06 241 *e*P **P 13 18 32.7 +3.0**
BOSA Boshof 75.39 238 *e*P **P 13 18 40.4 +3.1**
ARCES ARCESS Array B 75.47 340 P **P 13 18 37.5 +0.6**
comp=Z,4.1nm,0.9s,mb4.4,baz=101,slow=4.6,SNR=4.0
GERES GERESS Array B 77.96 318 P **P 13 18 51.4 +0.1**
comp=Z,1.1nm,0.8s,mb3.9,baz=76,slow=5.5,SNR=5.9
CLL Collm 78.50 321 *e**PP pP 13 19 10.0 +5.4
NB2 NORSAR Subarra 79.91 331 P **P 13 19 02.5 +0.8**
comp=Z,12nm,1.2s,mb4.7,baz=91,slow=5.8
NB2 NORSAR Subarra 79.91 331 P **P 13 19 02.5 +0.8**
NB2 pmax pmax
comp=Z,13nm,1.2s,mb4.7
NOA NORSAR Array B 79.91 331 P **P 13 19 02.3 +0.6**
comp=Z,0.5nm,0.8s,mb3.5,baz=130,slow=4.2,SNR=3.3
LPG La Plagne 82.74 315 *e*P **P 13 19 14.4 -2.4**
comp=Z,24nm,1.0s,mb4.9
LPG La Plagne 82.74 315 *e*P **P 13 19 14.4 -2.4**
LPG pmax pmax
comp=Z,12nm,1.0s,mb4.9
SYO Syowa Base 85.15 197 ||PcP PcP 13 19 39.1 +7.1
ESDC Sonseca Array 91.32 310 P **P 13 19 59.9 +1.2**
comp=Z,0.2nm,0.4s,mb3.8,baz=71,slow=3.1,SNR=3.6
IMA Indian Mountai 91.88 22 *e*P **P 13 20 04.0 +3.4**
ILAR Eielson Array 95.00 22 P **P 13 20 16.1 +1.2**
comp=Z,0.2nm,0.5s,mb3.8,baz=303,slow=4.6,SNR=7.7
ULM Lac du Bonnet 121.72 7 PKP PKPdf 13 25 48.4 +2.9
comp=Z,0.7nm,0.4s,baz=336,slow=2.2,SNR=3.1
NVAR Mina Array Bea 125.17 31 PKP PKPdf 13 25 55.7 +3.2
comp=Z,1.2nm,1.0s,baz=41,slow=1.9,SNR=4.6
PDAR Pinedale Array 125.43 21 PKP PKPdf 13 25 56.4 +3.6
comp=Z,0.8nm,1.1s,baz=45,slow=1.3,SNR=3.2
TXAR Lajitas Array 139.48 24 PKP PKPdf 13 26 22.3 +2.7
comp=Z,0.2nm,0.8s,baz=299,slow=17,SNR=3.1
PLCA Paso Flores 144.29 200 PKP PKPdf 13 26 29.6 +1.9
comp=Z,1.3nm,0.6s,baz=238,slow=2.2,SNR=4.0
LVC Limon Verde 157.85 226 PKP PKPdf 13 26 50.2 +1.6
comp=Z,0.8nm,0.3s,baz=61,slow=6.8,SNR=10

IDC 29 13:07:03.8±0.8, 7.66N×94.01E, mb4.4/14, mb1 4.6/15, mb1mx4.5/20, mbtmp4.4/15, ML4.8/1, Error ellipse: s-maj=38.1km s-min=18.7km az=48.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.76**	**24**	*e*	P	13 09 56.8	+0.8
CMAR	**Chiang Mai Arr**	**11.76**	**24**	Pn	P	13 09 56.5	+0.4
1.9nm,0.3s,baz=212,slow=14,SNR=17							
SONM	**Songino Array**	**41.40**	**13**	P	P	13 14 52.0	-1.5
4.8nm,0.7s,baz=194,slow=7.0,SNR=18							
ZAL	**Zalesovo**	**46.74**	**353**	P	P	13 15 34.8	-1.7
10nm,0.6s,baz=298,slow=9.5,SNR=24							
WRA	**Warramunga Arr**	**48.24**	**125**	P	P	13 15 45.4	-3.4
1.5nm,0.5s,baz=304,slow=8.6,SNR=4.8							
ASAR	**Alice Springs**	**49.88**	**130**	P	P	13 15 59.5	-1.8
1.4nm,0.6s,baz=297,slow=6.0,SNR=4.2							
ASAR	**Alice Springs**	**49.88**	**130**	P	P	13 15 59.5	-1.8
BRTR	**Keskin Array B**	**62.47**	**311**	P	P	13 17 28.5	-3.0
1.5nm,0.6s,baz=126,slow=6.9,SNR=4.6							
AKASG	**Malin Array Be**	**68.24**	**322**	P	P	13 18 05.2	-3.3
0.6nm,0.4s,baz=89,slow=5.0,SNR=4.6							
IDI	**Anoyia**	**68.58**	**305**	P	P	13 18 09.3	-1.6
9.0nm,0.7s,baz=72,slow=11,SNR=6.8							
FINES	**FINESS Array B**	**72.84**	**332**	P	P	13 18 34.0	-2.2
2.6nm,0.4s,baz=105,slow=7.3,SNR=15							
ARCES	**ARCESS Array B**	**75.42**	**340**	P	P	13 18 49.6	-1.4
1.4nm,0.5s,baz=94,slow=7.6,SNR=8.5							
GERES	**GERESS Array B**	**77.90**	**318**	P	P	13 19 04.5	-0.7
1.7nm,0.7s,baz=90,slow=4.0,SNR=7.8							
NOA	**NORSAR Array B**	**79.85**	**331**	P	P	13 19 13.9	-1.7
2.5nm,0.7s,baz=91,slow=5.7,SNR=7.5							
ESDC	**Sonseca Array**	**91.25**	**310**	P	P	13 20 11.7	-0.9
0.8nm,0.5s,baz=34,slow=5.3,SNR=4.2							
IMA	**Indian Mountai**	**91.87**	**22**	*e*P	P	13 20 15.3	+0.4
17nm,0.6s							
ILAR	**Eielson Array**	**94.99**	**22**	P	P	13 20 27.4	-1.8
0.9nm,0.8s,baz=297,slow=4.5,SNR=14							
ILAR	**Eielson Array**	**94.99**	**22**	P	P	13 20 27.4	-1.8
NVAR	**Mina Array Bea**	**125.17**	**31**	PKP	PKPdf	13 26 08.5	-0.3
1.2nm,0.8s,baz=285,slow=1.4,SNR=5.8							
PDAR	**Pinedale Array**	**125.42**	**21**	PKP	PKPdf	13 26 07.6	-1.6
0.8nm,0.6s,baz=30,slow=1.7,SNR=7.7							
PLCA	**Paso Flores**	**144.30**	**200**	PKP	PKPdf	13 26 42.9	-1.1
4.1nm,0.8s,baz=118,slow=4.2,SNR=7.2							

*BJI **29** 13:07:05.0, 7.41N×93.34E, h30km, mB4.9, mb4.4, Ms4.3*
*MOS **29** 13:07:08.0±1.5, 7.99N×94.03E, h33km, mb5.0/5, Error ellipse: s-maj=25.8km s-min=13.5km az=103.1*
*IDC **29** 13:07:08.8±1.2, 7.60N×93.81E, mb4.3/6, mb1 4.6/7, mb1mx4.3/19, mbtmp4.4/7, ML4.8/1, Error ellipse: s-maj=49.0km s-min=25.6km az=66.0*
*NEIC **29** 13:07:10.8±0.7, 8.04N×93.87E, h30km, mb4.7/1, Error ellipse: s-maj=22.2km s-min=15.6km az=220.0*

ISC 29 13:07:07.4±0.7, 7.8N±0.1×93.7E±0.1, h33km, n42, σ1§40/32, mb4.5/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.71**	**25**	Pn	P	13 10 01.6	+6.3
1.8nm,0.3s,baz=212,slow=14,SNR=18							
CMAR	**Chiang Mai Arr**	**11.71**	**25**	Pn	P	13 10 01.6	+6.3
PALK	**Pallekele**	**12.92**	**268**	P	P	13 10 06.9	-4.6
NDI	**New Delhi**	**25.93**	**325**	*e*	P	13 12 39.0	+0.4
DDI	**Dehra Dun**	**26.76**	**329**	*e*	P	13 12 46.7	+0.5
LZH	**Lanzhou**	**29.60**	**17**	*e*P	P	13 13 08.0	-3.7
LZH				AP	pP	13 13 17.5	-3.8
LZH				AMB	AMB		
comp=Z,19nm,1.5s,mb4.6							
XAN	**Xi'an**	**29.61**	**26**	P	P	13 13 10.8	-1.0
XAN				AMB	AMB		
comp=Z,7.0nm,0.9s,mb4.4							
WHN	**Wuhan**	**29.72**	**38**	*e*P	P	13 13 14.0	+1.2
BJI	**Beijing**	**37.84**	**29**	S	S	13 20 20.8	+10
BJI	**Beijing**	**37.84**	**29**	P	P	13 14 21.0	-1.7
SONM	**Songino Array**	**41.29**	**13**	P	P	13 14 57.1	+5.8
comp=Z,3.9nm,0.6s,mb4.2,baz=200,slow=7.6,SNR=12							
SONM	**Songino Array**	**41.29**	**13**	PcP	PcP	13 16 51.0	+0.8
comp=Z,1.7nm,0.6s,baz=198,slow=4.2,SNR=4.7							
ULN	**Ulaanbaatar**	**41.47**	**14**	*e*	P	13 14 52.5	-0.2
ULN	**Ulaanbaatar**	**41.47**	**14**	*e*	P	13 14 52.5	-0.3
ZAK	**Zakamensk**	**43.15**	**9**	*e*P	P	13 15 05.2	-1.3
ZAK				*e*		13 16 54.8	
KURK	**Kurchatov**	**44.55**	**346**	*e*	P	13 15 19.4	+1.6
KURK	**Kurchatov**	**44.55**	**346**	*e*	P	13 15 19.4	+1.6
NWAO	**Narrogin (SRO)**	**46.30**	**152**	*e*	P	13 15 32.2	+0.2
ZAL	**Zalesovo**	**46.53**	**353**	P	pP	13 15 39.8	-3.6
comp=Z,12nm,0.5s,baz=306,slow=5.5,SNR=17							
WRAB	**Tennant Creek**	**48.58**	**125**	P	P	13 15 48.1	-1.9
WRAB				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.7							
WRAB	**Tennant Creek**	**48.58**	**125**	P	P	13 15 48.1	-1.8
comp=Z,4.8nm,0.6s,mb4.7							
BVAR	**Borovoye Array**	**48.90**	**341**	P	P	13 15 53.1	+1.1
comp=Z,1.1nm,0.5s,mb4.2,baz=135,slow=8.4,SNR=8.6							
BVAR	**Borovoye Array**	**48.90**	**341**	P	pP	13 15 58.3	-3.6
comp=Z,3.6nm,0.8s,baz=180,slow=4.4,SNR=11							
CHKZ	**Chkalovo**	**49.38**	**342**	*e*	P	13 15 56.4	+0.7
CHKZ	**Chkalovo**	**49.38**	**342**	*e*	P	13 15 56.4	+0.7
ASAR	**Alice Springs**	**50.20**	**130**	P	P	13 16 04.8	+2.4
comp=Z,2.4nm,0.7s,mb4.3,baz=304,slow=6.9,SNR=5.3							
ASAR	**Alice Springs**	**50.20**	**130**	P	P	13 16 04.8	+2.4
GNI	**Garni**	**54.17**	**314**	*e*P	P	13 16 31.6	-0.3
GNI				pmax	pmax		
comp=Z,9.0nm,1.3s							
SVE	**Sverdlovsk**	**55.29**	**339**	*e*P	P	13 16 39.0	-0.8
KMBO	**Kilima Mbogo**	**57.01**	**264**	*e*	pP	13 16 58.3	-4.6
YAK	**Yakutsk**	**60.16**	**19**	*e*P	P	13 17 13.3	-0.8
YAK				pmax	pmax		
comp=Z,22nm,0.6s,mb5.4							
YAK	**Yakutsk**	**60.16**	**19**	*e*P	P	13 17 13.3	-0.7
comp=Z,22nm,0.6s,mb5.4							
AKASG	**Malin Array Be**	**67.93**	**322**	P	pP	13 18 10.7	-4.5
comp=Z,0.6nm,0.4s,baz=91,slow=4.8,SNR=5.5							
NOUC	**Port Laguerre**	**77.03**	**115**	*e*P	pP	13 19 06.3	-3.4
NOUC	**Port Laguerre**	**77.03**	**115**	*e*P	pP	13 19 06.3	-3.4
KHC	**Kasperske Hory**	**77.67**	**319**	*e*P	P	13 19 05.0	+2.6
KHC				*e*		13 19 09.5	
KHC	**Kasperske Hory**	**77.67**	**319**	*e*P	P	13 19 05.0	+2.6
KHC				pP	pP	13 19 09.5	-3.2
ILAR	**Eielson Array**	**94.94**	**22**	P	P	13 20 32.6	+5.4
comp=Z,0.9nm,0.7s,mb4.3,baz=292,slow=4.2,SNR=8.4							
ILAR	**Eielson Array**	**94.94**	**22**	P	P	13 20 32.6	+5.4
NVAR	**Mina Array Bea**	**125.16**	**31**	PKP	PKPdf	13 26 13.7	+8.6
comp=Z,1.3nm,0.7s,baz=315,slow=1.3,SNR=7.0							
PDAR	**Pinedale Array**	**125.35**	**21**	PKP	PKPdf	13 26 12.2	+6.8
comp=Z,1.0nm,0.8s,baz=115,slow=0.7,SNR=7.3							
PLCA	**Paso Flores**	**144.37**	**201**	PKP	PKPdf	13 26 47.1	+6.6
comp=Z,5.3nm,0.8s,baz=143,slow=5.7,SNR=5.1							

IGQ 29 13:10:04.0, 1.00S×81.35W, h5km±5km, mb4.1, 2C-4D, Error ellipse: s-maj=7.1km s-min=4.9km az=12.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.81**	**93**	⇑P	Pb	13 10 19.0	-1.2
JAMA	**Jama**	**1.36**	**57**	P	Pb	13 10 30.1	+0.5
JAMA				S	Sb	13 10 47.0	-0.2
IGUA	**Igualata**	**2.76**	**100**	P	Pn	13 10 50.8	+1.1
IGUA				S	Sn	13 11 25.9	+2.2
JUA2	**San Juan 2**	**2.86**	**74**	P	Pn	13 10 52.0	+1.0
TERV	**Terraza Guagua**	**2.87**	**73**	P	Pn	13 10 52.9	+1.7
PINO	**Pino**	**2.87**	**73**	P	Pn	13 10 51.9	+0.6
JOR1	**San Jorge 1**	**2.89**	**70**	P	Pn	13 10 51.3	-0.2
NAS1	**Nasa**	**2.90**	**83**	P	Pn	13 10 54.1	+2.4
YANA	**Yana**	**2.92**	**73**	P	Pn	13 10 52.1	+0.2
ARRY	**Arrayan**	**2.94**	**100**	P	Pn	13 10 53.1	+0.9
RETU	**Refugio**	**2.94**	**99**	P	Pn	13 10 54.1	+1.8
PISA	**Pisayambo**	**2.97**	**91**	P	Pn	13 10 54.5	+1.9
VC1	**Cotopaxi 1**	**2.97**	**83**	⇑P	Pn	13 10 55.4	+2.7
ULBA	**Ulba**	**2.98**	**99**	P	Pn	13 10 54.4	+1.6
TAMB	**Tambo**	**3.00**	**84**	P	Pn	13 10 55.7	+2.6
ANTI	**Antisana**	**3.24**	**80**	||P	Pn	13 10 59.0	+2.5
COTA	**Cotacachi**	**3.30**	**66**	||P	Pn	13 10 58.8	+1.5
CAYR	**Refugio Cayamb**	**3.50**	**73**	||P	Pn	13 11 03.0	+2.9
CAYA	**Cayambe**	**3.53**	**72**	||P	Pn	13 11 03.3	+2.7

IGQ 29 13:11:26.9, 1.17S×81.31W, h5km±3km, mb4.1, 1D, Error ellipse: s-maj=5.8km s-min=4.3km az=107.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.77**	**81**	||P	Pg	13 11 41.6	-0.7
HOJA				S	Sg	13 11 51.1	-1.4
JAMA	**Jama**	**1.42**	**51**	P	Pn	13 11 53.7	+0.3
JAMA				S	Sb	13 12 09.6	-2.3
MAGD	**Magdalena**	**1.88**	**55**	P	Pn	13 12 00.4	+0.4
IGUA	**Igualata**	**2.69**	**97**	P	Pn	13 12 13.8	+2.2
IGUA				S	Sn	13 12 47.2	+2.3
JUA2	**San Juan 2**	**2.86**	**71**	P	Pn	13 12 15.0	+0.9
ARRY	**Arrayan**	**2.87**	**97**	P	Pn	13 12 15.8	+1.6
ARRY				S	Sn	13 12 48.9	-0.6
ULBA	**Ulba**	**2.91**	**96**	P	Pn	13 12 16.8	+2.0
PISA	**Pisayambo**	**2.92**	**88**	P	Pn	13 12 17.2	+2.3
PISA				S	Sn	13 12 51.9	+1.0
YANA	**Yana**	**2.93**	**69**	P	Pn	13 12 15.4	+0.5
VC1	**Cotopaxi 1**	**2.95**	**80**	P	Pn	13 12 21.4	+6.1
ANTI	**Antisana**	**3.23**	**77**	P	Pn	13 12 26.0	+6.7
COTA	**Cotacachi**	**3.32**	**63**	P	Pn	13 12 23.4	+2.8
CAYR	**Refugio Cayamb**	**3.50**	**70**	P	Pn	13 12 25.4	+2.2
CAYR				S	Sn	13 13 07.7	+2.2
CAYA	**Cayambe**	**3.54**	**70**	P	Pn	13 12 29.9	+6.2

IDC 29 13:15:13.3±8.8, 9.01N×94.25E, h98km±74km, mb3.4/6, mb1 3.6/7, mb1mx3.4/19, mbtmp3.7/7, ML3.6/1, Error ellipse: s-maj=77.5km s-min=18.8km az=57.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.44**	**25**	P	P	13 17 40.4	-1.1
0.1nm,0.3s,baz=213,slow=14,SNR=8.7							
HYB	**Hyderabad**	**17.40**	**300**	*e*P	P	13 19 15.0	+3.6
SONM	**Songino Array**	**40.04**	**13**	P	P	13 22 39.2	-1.0
0.4nm,0.9s,baz=207,slow=8.3,SNR=4.3							
ZAL	**Zalesovo**	**45.44**	**352**	P	P	13 23 22.5	-1.5
1.3nm,0.4s,baz=308,slow=7.6,SNR=8.5							
BVAR	**Borovoye Array**	**47.96**	**341**	P	P	13 23 39.9	-3.9
0.3nm,0.5s,baz=232,slow=41,SNR=3.5							
WRA	**Warramunga Arr**	**48.84**	**126**	P	P	13 23 47.8	-3.2
0.6nm,0.6s,baz=305,slow=8.6,SNR=5.6							
ASAR	**Alice Springs**	**50.56**	**131**	P	P	13 24 03.1	-1.2
1.8nm,1.0s,baz=303,slow=6.9,SNR=8.2							
GERES	**GERESS Array B**	**77.06**	**318**	P	P	13 26 56.6	-0.8
1.6nm,1.0s,baz=90,slow=2.7,SNR=7.3							
NB2	**NORSAR Subarra**	**78.80**	**330**	P	PcP	13 27 15.3	-0.1
3.5nm,1.1s,baz=92,slow=5.8							

IDC 29 13:17:22.9±12.0, 18.86S×170.67E, mb4.4/5, mb1 4.5/5, mb1mx4.1/16, mbtmp4.5/5, 1C-1D, Error ellipse: s-maj=201.6km s-min=65.9km az=81.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**23.05**	**263**	*e*P	P	13 22 31.4	+0.4
1.7nm,0.4s							
CTA	**Charters Tower**	**23.05**	**263**	P	P	13 22 31.2	+0.2
2.8nm,0.7s,baz=87,slow=11,SNR=9.4							
PMG	**Port Moresby**	**24.63**	**289**	P	P	13 22 46.9	+0.4
7.2nm,0.7s,baz=135,slow=2.8,SNR=4.5							
STKA	**Stephens Creek**	**29.19**	**238**	||P	P	13 23 27.6	-0.7
3.2nm,0.6s							
STKA	**Stephens Creek**	**29.19**	**238**	P	P	13 23 27.5	-0.8
3.5nm,0.6s,baz=62,slow=10,SNR=14							
WB2	**Warramunga Arr**	**34.23**	**262**	*e*P	P	13 24 08.9	-3.8
WRA	**Warramunga Arr**	**34.25**	**262**	P	P	13 24 08.8	-4.0
1.0nm,0.3s,baz=82,slow=6.2,SNR=48							
ASAR	**Alice Springs**	**34.53**	**255**	P	P	13 24 12.1	-3.2
14nm,0.5s,baz=84,slow=8.9,SNR=326							
ASPA	**Alice Springs**	**34.54**	**255**	||P	P	13 24 12.3	-3.0
FITZ	**Fitzroy Crossi**	**42.63**	**264**	*e*P	P	13 25 20.8	-2.1
8.2nm,0.5s							

*MOS **29** 13:21:32.5±1.7, 7.91N×93.86E, h33km, mb4.7/15, Error ellipse: s-maj=17.4km s-min=8.6km az=101.5*
*BJI **29** 13:21:32.9, 7.63N×93.81E, h45km, mB4.9, mb4.5, Ms4.5, Msz4.2*
*NEIC **29** 13:21:34.3±0.5, 7.96N×94.07E, h30km, mb4.4/12, Error ellipse: s-maj=15.7km s-min=9.9km az=63.0*
*IDC **29** 13:21:38.0±4.9, 7.95N×94.10E, h66km±43km, mb3.9/12, mb1 4.1/13, mb1mx4.0/20, mbtmp4.2/13, ML4.0/1, MS4.0/2, Ms1 4.0/2, ms1mx3.2/24, Error ellipse: s-maj=31.9km s-min=13.6km az=57.0*

ISC 29 13:21:34.3±2.3, 7.90N±0.08×94.1E±0.1, h47km±19km, n64, σ1§18/62, mb4.5/36, MS4.2/3, 2C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.52**	**24**	P	P	13 24 16.3	-2.5
8.6nm,0.9s							
CMAR	**Chiang Mai Arr**	**11.52**	**24**	P	P	13 24 19.9	+1.0
0.3nm,0.3s,baz=211,slow=14,SNR=17							
HYB	**Hyderabad**	**17.83**	**304**	*e*P	P	13 25 31.5	-9.3
KMI	**Kunming**	**19.02**	**25**	P	P	13 25 56.8	+1.7
KMI				pmax	pmax		
comp=Z,14nm,1.3s							
KMI	**Kunming**	**19.02**	**25**	P	P	13 25 56.8	+1.7
comp=Z,14nm,1.3s							
JIRN	**Jiri**	**21.02**	**340**	*e*P	P	13 26 17.6	+1.3
comp=Z,42nm,0.9s,mb4.8							
PKI	**Pulchoki**	**21.21**	**338**	*e*P	P	13 26 19.7	+1.5
comp=Z,24nm,0.6s,mb4.7							
GUN	**Gumba**	**21.35**	**340**	*e*P	P	13 26 19.0	-0.7
comp=Z,92nm,1.0s,mb5.0							
DMN	**Daman**	**21.36**	**338**	*e*P	P	13 26 21.3	+1.6
comp=Z,45nm,0.8s,mb4.8							
KKN	**Kakani**	**21.45**	**338**	*e*P	P	13 26 20.5	-0.2
comp=Z,58nm,1.2s,mb4.8							
LSA	**Lhasa**	**21.86**	**353**	P	P	13 26 25.5	+0.8
LSA				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.2							
GKN	**Gorkha**	**21.89**	**337**	*e*P	P	13 26 24.5	-0.5
comp=Z,60nm,1.0s,mb5.0							
KOLN	**Koldanda**	**22.10**	**335**	*e*P	P	13 26 26.8	-0.3
comp=Z,29nm,0.8s,mb4.7							
DDI	**Dehra Dun**	**26.88**	**328**	*e*	P	13 27 06.6	-6.3
WMQ	**Urumqi**	**36.21**	**352**	*e*P	P	13 28 35.8	+1.3
WMQ				AP	pP	13 28 45.5	-1.6
WMQ				XP	sP	13 28 49.5	-3.4
WMQ				PP	PP	13 29 58.0	-0.2
WMQ				PCP	PcP	13 31 02.3	+2.8
WMQ				S	S	13 34 11.5	+0.8
WMQ				AMB	AMB		
comp=Z,18nm,0.9s,mb5.0							
WMQ				AMB	AMB		
comp=Z,138nm,5.3s							
WMQ				LR	LR		
comp=N,296nm,16.3s,MS4.3							
WMQ				LR	LR		
comp=E,364nm,16.0s,MS4.3							
WMQ				LR	LR		
comp=Z,520nm,16.6s,MS4.4							
JOW	**Kunigami**	**37.50**	**56**	LR	LR	13 45 43.9	
comp=Z,207nm,19.0s,MS4.0,baz=298,slow=39							
AAK	**Ala-Archa**	**38.65**	**337**	*e*P	P	13 28 54.8	-0.1
AAK				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.2							
AAK	**Ala-Archa**	**38.65**	**337**	*e*P	P	13 28 54.8	-0.1
comp=Z,3.7nm,0.9s,mb4.1							
MKAR	**Makanchi Array**	**40.04**	**347**	*i*P	P	13 29 06.4	-0.1
MKAR				pmax	pmax		
comp=Z,3.0nm,0.7s							
SONM	**Songino Array**	**41.15**	**13**	P	P	13 29 15.4	-0.2
comp=Z,2.1nm,0.9s,mb3.8,baz=192,slow=7.6,SNR=11							
SONM				PcP	PcP	13 31 14.6	-0.3
comp=Z,0.7nm,0.8s,baz=214,slow=4.0,SNR=3.4							
ULN	**Ulaanbaatar**	**41.33**	**13**	*e*P	P	13 29 16.7	-0.4
ULN	**Ulaanbaatar**	**41.33**	**13**	*e*P	P	13 29 16.3	-0.7
comp=Z,0.7nm,0.5s,mb3.5							
KURK	**Kurchatov**	**44.56**	**346**	*e*P	P	13 29 43.5	+0.1
KURK				pmax	pmax		
comp=Z,16nm,1.1s,mb4.8							
KURK	**Kurchatov**	**44.56**	**346**	*e*P	P	13 29 43.5	+0.1
comp=Z,16nm,1.1s,mb4.8							
NWAO	**Narrogin (SRO)**	**46.21**	**153**	*e*P	P	13 29 57.7	+1.0
NWAO				pmax	pmax		
comp=Z,4.0nm,0.7s							
NWAO	**Narrogin (

OBN	**Obninsk**	**65.31**	**328**	*eP*	**P**	**13 32 10.5**	**-3.1**
OBN				pmax	pmax		
comp=Z,27nm,1.6s,mb5.0							
TIXI	**Tiksi**	**67.22**	**11**	⇑*iP*	**P**	**13 32 24.8**	**-0.7**
TIXI				pmax	pmax		
comp=Z,10.0nm,1.2s,mb4.7							
JOF	**Joensuu**	**70.79**	**334**	*ep*	**P**	**13 32 43.5**	**-4.1**
comp=Z,3.1nm,0.7s,mb4.3							
FINES	**FINESS Array B**	**72.65**	**332**	P	**P**	**13 32 58.3**	**-0.3**
comp=Z,2.0nm,0.8s,mb4.1,baz=90,slow=5.7,SNR=7.9							
LBTB	**Lobatse**	**74.19**	**241**	P	**P**	**13 33 14.1**	**+5.7**
LBTB				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.3							
LBTB	**Lobatse**	**74.19**	**241**	P	**P**	**13 33 14.1**	**+5.7**
comp=Z,3.8nm,1.0s,mb4.3							
ARCES	**ARCESS Array B**	**75.21**	**340**	P	**P**	**13 33 13.8**	**+0.4**
comp=Z,3.7nm,0.9s,mb4.3,baz=72,slow=28,SNR=3.2							
GERES	**GERESS Array B**	**77.75**	**318**	P	**P**	**13 33 28.4**	**+0.3**
comp=Z,2.1nm,0.9s,mb4.1,baz=63,slow=3.0,SNR=11							
KHC	**Kasperske Hory**	**77.84**	**318**	*eP*	**P**	**13 33 30.0**	**+1.4**
NB2	**NORSAR Subarra**	**79.67**	**331**	P	**P**	**13 33 37.9**	**-0.4**
comp=Z,1.8nm,0.7s,mb4.1,baz=91,slow=5.8							
NB2	**NORSAR Subarra**	**79.67**	**331**	P	**P**	**13 33 37.9**	**-0.4**
NB2				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.2							
NOA	**NORSAR Array B**	**79.67**	**331**	P	**P**	**13 33 38.0**	**-0.3**
comp=Z,1.0nm,0.8s,mb3.8,baz=97,slow=5.0,SNR=3.1							
LPG	**La Plagne**	**82.54**	**315**	*eP*	**P**	**13 33 57.5**	**+3.8**
comp=Z,14nm,0.8s,mb4.7							
SYO	**Syowa Base**	**85.41**	**197**	⇑P	**P**	**13 34 13.3**	**+5.7**
RES	**Resolute Bay**	**97.38**	**2**	*eP*	**P**	**13 35 04.6**	**+1.2**
RES				pmax	pmax		
comp=Z,2.0nm,1.1s,mb4.5							
RES	**Resolute Bay**	**97.38**	**2**	*eP*	**P**	**13 35 04.5**	**+1.1**
comp=Z,2.4nm,1.1s,mb4.5							
PDAR	**Pinedale Array**	**125.17**	**21**	PKP	PKPdf	13 40 30.8	+0.6
comp=Z,0.7nm,1.0s,baz=135,slow=2.1,SNR=3.6							
PLCA	**Paso Flores**	**144.55**	**200**	PKP	PKPdf	13 41 07.3	+1.4
comp=Z,5.4nm,1.1s,baz=158,slow=5.4,SNR=3.7							

NEIC ***29*** *13:27:00.0, 32.37S×71.77W, h23km, ML3.6(GUC), After GUC.*

GUC 29 13:27:00.0±0.8, 32.37S×71.77W, h23km±4km, MD3.5, ML3.6, 10C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.33**	**121**	*iP*	Pb	13 27 07.5	+0.3
PACH				*i* S	Sb	13 27 12.8	+0.7
IHA	**Instituto Hidr**	**0.66**	**171**	⇓*iP*	Pb	13 27 12.3	-0.5
IHA				*i* S	Sb	13 27 21.6	+0.1
PTCH	**Petorca**	**0.72**	**82**	⇑*iP*	Pb	13 27 13.8	+0.1
PTCH				*i* S	Sb	13 27 23.9	+0.7
PTCH				AMP		13 27 24.1	
comp=N,9μm,0.3s							
ROCH	**El Roble**	**0.88**	**133**	⇑*iP*	Pb	13 27 16.0	-0.4
ROCH				*i* S	Sb	13 27 27.8	+0.1
ILCH	**Illapel**	**0.89**	**35**	⇑*iP*	Pb	13 27 16.3	-0.4
ILCH				*i* S	Sb	13 27 28.4	+0.3
ILCH				AMP		13 27 30.4	
comp=E,2μm,0.4s							
JACH	**Jahuel**	**1.04**	**108**	⇑*iP*	Pb	13 27 18.5	-0.7
JACH				*i* S	Sb	13 27 32.5	+0.1
LCCH	**Las Cruces**	**1.11**	**171**	*iP*	Pn	13 27 19.6	-0.8
LCCH				*i* S	Sb	13 27 34.5	0.0
PEL	**Peldehue**	**1.19**	**130**	⇑*iP*	Pn	13 27 21.2	-0.3
PEL				*i* S	Sb	13 27 37.0	+0.1
PUEX	**Pudahuel**	**1.36**	**142**	*iP*	Pn	13 27 24.8	+0.9
PUEX				*i* S	Sn	13 27 42.8	+1.3
PUEX				AMP		13 27 48.2	
comp=N,3μm,0.6s							
RCDM	**Rinconada Maip**	**1.38**	**144**	⇑*iP*	Pn	13 27 23.6	-0.6
RCDM				*i* S	Sn	13 27 41.5	-0.3
RCDM				AMP		13 27 44.6	
comp=E,2μm,0.1s							
STL	**Santa Lucia**	**1.42**	**139**	*iP*	Pn	13 27 24.3	-0.5
STL				*i* S	Sn	13 27 43.1	+0.1
DSCH	**Colegio Aleman**	**1.44**	**136**	⇑*iP*	Pn	13 27 25.0	0.0
DSCH				*i* S	Sn	13 27 43.6	+0.2
DSCH				AMP		13 27 55.0	
comp=E,2μm,0.7s							
CLCH	**Cerro Calan**	**1.46**	**135**	⇑*iP*	Pn	13 27 24.8	-0.4
CLCH				*i* S	Sn	13 27 44.2	+0.4
CLCH				AMP		13 27 47.5	
comp=E,2μm,0.5s							
CLCH				AMP		13 27 48.0	
comp=E,2μm,0.5s							
TACH	**Talagante**	**1.46**	**152**	*iP*	Pn	13 27 25.1	-0.2
TACH				*i* S	Sn	13 27 43.6	-0.2
FSR	**Penalolen**	**1.52**	**137**	*iP*	Pn	13 27 26.0	-0.2
FSR				*i* S	Sn	13 27 46.2	+0.8
FSR				AMP		13 27 54.7	
comp=E,953nm,0.7s							
ANTU	**Antumapu**	**1.53**	**142**	⇓*iP*	Pn	13 27 26.2	-0.1
ANTU				*i* S	Sn	13 27 46.0	+0.4
ANTU				AMP		13 27 53.8	
comp=N,1μm,0.8s							
FCH	**Farellones**	**1.57**	**128**	⇓*iP*	Pn	13 27 26.6	-0.2
FCH				*i* S	Sn	13 27 47.8	+1.2
FCH				AMP		13 27 49.1	
comp=E,1μm,0.3s							
LNV	**Longovilo**	**1.61**	**169**	⇑*iP*	Pn	13 27 27.7	+0.3
LNV				*i* S	Sn	13 27 47.9	+0.3
PCH	**Pirque**	**1.63**	**140**	*iP*	Pn	13 27 27.9	+0.1
PCH				*i* S	Sn	13 27 49.5	+1.2
CHCH	**Chadas Angostu**	**1.82**	**149**	⇑*iP*	Pn	13 27 31.0	+0.5
CHCH				*i* S	Sn	13 27 54.4	+1.4
LMEL	**Las Melosas**	**1.97**	**139**	*iP*	Pn	13 27 33.1	+0.4
LMEL				*i* S	Sn	13 27 59.0	+2.0
LMEL				AMP		13 28 06.2	
comp=N,801nm,0.2s							
CACH	**El Canelo**	**2.00**	**151**	*iP*	Pn	13 27 34.3	+1.3
CACH				*i* S	Sn	13 28 01.0	+3.5
TLL	**Tololo Astrono**	**2.35**	**21**	AMP		13 28 19.4	
comp=N,1μm,0.6s							
MDZ	**Mendoza**	**2.52**	**103**	*eP*	Pn	13 27 43.6	+3.2
MDZ				*e*		13 27 50.9	
MDZ				*i* S	Sn	13 28 21.6	+11

IDC ***29*** *13:40:57.9±1.0, 7.71N×93.97E, mb3.7/10, mb1 3.9/11, mb1mx3.8/19, mbtmp3.7/11, ML3.5/1, Error ellipse: s-maj=40.8km s-min=19.6km az=51.0*
NEIC ***29*** *13:41:02.5±0.7, 7.72N×93.99E, h30km, mb4.1/1, Error ellipse: s-maj=20.8km s-min=13.2km az=62.0*

ISC 29 13:41:00.8±0.8, 7.8N±0.1×94.1E±0.2, h30km, n15, σ0°90/14, mb3.9/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.62**	**23**	Pn	P	**13 43 47.1**	**-0.7**
0.1nm,0.3s,baz=213,slow=15,SNR=6.8							
SONM	**Songino Array**	**41.27**	**13**	P	P	**13 48 45.3**	**+0.3**
1.1nm,1.0s,mb3.5,baz=198,slow=7.7,SNR=5.4							
KURK	**Kurchatov**	**44.70**	**346**	*eP*	P	**13 49 14.6**	**+1.7**
3.0nm,1.0s,mb4.1							
ZAL	**Zalesovo**	**46.64**	**352**	P	P	**13 49 28.1**	**-0.1**
0.9nm,0.5s,mb4.0,baz=308,slow=10,SNR=6.0							
WRA	**Warramunga Arr**	**48.24**	**125**	P	P	**13 49 41.9**	**+0.6**
0.7nm,0.7s,mb3.8,baz=305,slow=9.2,SNR=6.8							
BVAR	**Borovoye Array**	**49.07**	**341**	P	P	**13 49 47.5**	**+0.3**
1.1nm,0.6s,mb4.1,baz=247,slow=38,SNR=3.5							
ASAR	**Alice Springs**	**49.88**	**130**	P	P	**13 49 53.4**	**-0.5**
3.1nm,1.3s,mb4.2,baz=311,slow=7.5,SNR=6.1							
BRTR	**Keskin Array B**	**62.46**	**311**	P	P	**13 51 21.9**	**-1.9**
0.6nm,0.5s,mb4.0,baz=121,slow=6.3,SNR=3.6							
AKASG	**Malin Array Be**	**68.20**	**322**	P	P	**13 52 01.8**	**+1.2**
1.9nm,0.8s,mb4.2,baz=85,slow=5.1,SNR=3.4							
FINES	**FINESS Array B**	**72.78**	**332**	P	P	**13 52 27.6**	**-0.6**
1.3nm,0.8s,mb3.9,baz=167,slow=33,SNR=5.5							
GERES	**GERESS Array B**	**77.87**	**318**	P	P	**13 52 57.8**	**+0.4**
0.7nm,0.6s,mb3.8,baz=90,slow=6.7,SNR=6.8							
NB2	**NORSAR Subarra**	**79.80**	**331**	P	P	**13 53 07.0**	**-0.6**
3.0nm,0.9s,mb4.2,baz=91,slow=5.8							
NOA	**NORSAR Array B**	**79.80**	**331**	P	P	**13 53 06.8**	**-0.8**
0.8nm,0.8s,mb3.7,baz=150,slow=18,SNR=2.9							
NOA	**NORSAR Array B**	**79.80**	**331**	P	P	**13 53 06.8**	**-0.8**
PDAR	**Pinedale Array**	**125.27**	**21**	PKP	PKPdf	14 00 01.6	-2.6
0.2nm,0.5s,baz=198,slow=2.9,SNR=2.8							

IDC 29 13:45:34.9±2.1, 8.00N×93.64E, mb3.8/4, mb1 3.9/5, mb1mx3.7/18, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=79.0km s-min=22.5km az=72.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.61**	**26**	Pn	P	13 48 20.7	-4.3
0.2nm,0.3s,baz=217,slow=14,SNR=4.0							
SONM	**Songino Array**	**41.15**	**13**	P	P	13 53 21.6	-1.0
0.5nm,0.9s,baz=211,slow=8.4,SNR=3.3							
ZAL	**Zalesovo**	**46.36**	**353**	P	P	13 54 02.5	-2.1
0.5nm,0.3s,baz=311,slow=11,SNR=4.2							
WRA	**Warramunga Arr**	**48.73**	**125**	P	P	13 54 22.0	-1.6
1.7nm,0.6s,baz=306,slow=8.8,SNR=20							
WRA				PcP	PcP	13 55 46.4	-2.7
0.2nm,0.6s,baz=310,slow=2.8,SNR=4.6							
ASAR	**Alice Springs**	**50.37**	**130**	P	P	13 54 34.2	-2.0
1.0nm,0.8s,baz=300,slow=7.4,SNR=12							
ASAR				PcP	PcP	13 55 52.1	-2.9
0.4nm,0.6s,baz=300,slow=3.6,SNR=6.3							

IDC 29 13:49:16.0±11.0, 8.21N×94.20E, h93km±90km, mb3.2/5, mb1 3.4/6, mb1mx3.3/18, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=117.1km s-min=22.9km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.18**	**24**	P	P	13 51 52.9	-1.4
0.1nm,0.3s,baz=214,slow=13,SNR=4.1							
SONM	**Songino Array**	**40.83**	**13**	P	P	13 56 48.4	-1.5
0.7nm,0.8s,baz=180,slow=6.2,SNR=2.6							
ZAL	**Zalesovo**	**46.23**	**352**	P	P	13 57 31.8	-1.7
0.8nm,0.7s,baz=293,slow=13,SNR=4.7							
WRA	**Warramunga Arr**	**48.41**	**126**	P	P	13 57 48.6	-2.3
0.2nm,0.5s,baz=309,slow=8.6,SNR=3.8							
ASAR	**Alice Springs**	**50.08**	**130**	P	P	13 58 02.2	-1.6
0.5nm,0.7s,baz=296,slow=7.4,SNR=3.9							
FINES	**FINESS Array B**	**72.45**	**332**	P	P	14 00 32.0	-2.0
1.6nm,0.8s,baz=180,slow=29,SNR=2.5							

IGQ 29 13:56:50.8, 2.29S×80.28W, h12km±14km, mb4.3, 7C-7D, Error ellipse: s-maj=14.8km s-min=5.0km az=133.4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOJA	**Cerro de Hojas**	**1.25**	**348**	⇓P	Pb	13 57 13.0	-0.9
IGUA	**Igualata**	**1.82**	**64**	⇓P	Pn	13 57 24.4	+2.1
IGUA				S	Sn	13 57 46.1	+0.7
ARRY	**Arrayan**	**1.98**	**67**	⇓P	Pn	13 57 26.3	+1.7
CUSU	**Cusua**	**1.99**	**65**	⇓P	Pn	13 57 26.8	+2.2
PATA	**Patacocha**	**2.00**	**67**	P	Pn	13 57 27.2	+2.3
PATA				S	Sn	13 57 50.9	+0.8
JUIV	**Juive**	**2.01**	**65**	P	Pn	13 57 26.8	+1.9
JUIV				S	Sn	13 57 51.1	+0.9
JAMA	**Jama**	**2.01**	**2**	P	Pn	13 57 26.0	+1.0
RETU	**Refugio**	**2.01**	**66**	⇑P	Pn	13 57 27.6	+2.6
RETU				S	Sn	13 57 52.3	+2.0
ULBA	**Ulba**	**2.05**	**66**	⇓P	Pn	13 57 27.9	+2.3
ULBA				S	Sn	13 57 53.1	+1.9
RUN2	**Runtun**	**2.06**	**65**	P	Pn	13 57 27.0	+1.4
RUN2				S	Sn	13 57 52.0	+0.6
PISA	**Pisayambo**	**2.25**	**57**	⇑P	Pn	13 57 31.2	+2.8
PISA				S	Sn	13 58 02.0	+5.6
MAGD	**Magdalena**	**2.26**	**13**	P	Pn	13 57 28.6	+0.1
NAS1	**Nasa**	**2.44**	**48**	⇑P	Pn	13 57 34.5	+3.4
TAMB	**Tambo**	**2.48**	**50**	⇑P	Pn	13 57 34.7	+3.0
TAMB				S	Sn	13 58 05.1	+2.9
VC1	**Cotopaxi 1**	**2.49**	**49**	⇓P	Pn	13 57 34.9	+3.1
JUA2	**San Juan 2**	**2.66**	**39**	⇑P	Pn	13 57 36.0	+1.8
JUA2				S	Sn	13 58 08.1	+1.5
TERV	**Terraza Guagua**	**2.69**	**39**	P	Pn	13 57 36.0	+1.3
TERV				S	Sn	13 58 09.2	+1.8
PINO	**Pino**	**2.70**	**38**	P	Pn	13 57 35.7	+1.0
PINO				S	Sn	13 58 05.6	-2.0
YANA	**Yana**	**2.75**	**38**	⇓P	Pn	13 57 36.5	+1.0
ANTI	**Antisana**	**2.80**	**49**	⇑P	Pn	13 57 39.6	+3.4
ANTI				S	Sn	13 58 13.6	+3.4
CAYR	**Refugio Cayamb**	**3.23**	**45**	P	Pn	13 57 46.7	+4.4
CAYR				S	Sn	13 58 26.1	+5.0
COTA	**Cotacachi**	**3.25**	**37**	P	Pn	13 57 44.4	+1.8
CAYA	**Cayambe**	**3.28**	**44**	⇑P	Pn	13 57 47.3	+4.3
CAYA				S	Sn	13 58 28.7	+6.4

IDC ***29*** *14:01:27.4±1.7, 25.58S×176.06W, mb4.2/9, mb1 4.3/9, mb1mx4.2/15, mbtmp4.1/9, MS4.2/4, Ms1 4.2/4, ms1mx3.3/25, Error ellipse: s-maj=81.8km s-min=21.4km az=157.0*
NEIC ***29*** *14:01:28.8±0.7, 25.33S×176.24W, h10km, mb4.3/6, Error ellipse: s-maj=29.3km s-min=14.6km az=157.0*

ISC 29 14:01:27.7±0.8, 25.4S±0.2×176.3W±0.1, h10km, n26, σ1°25/20, mb4.2/11, MS4.2/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBI	**Tubuai**	**24.47**	**91**	*eP*	**P**	**14 06 40.0**	**-8.1**
TBI				*e*LQ		14 11 11.1	
TBI				*e*LR	LR	14 12 16.0	
164nm,35.0s							
PPT	**Papeete**	**25.99**	**78**	*e*LQ		14 11 51.0	
PPT				*e*LR	LR	14 13 13.5	
267nm,30.0s							
CTA	**Charters Tower**	**34.91**	**271**	*eP*	**P**	**14 08 24.1**	**+2.4**
1.3nm,0.4s,mb4.2							
CTA	**Charters Tower**	**34.91**	**271**	P	**P**	**14 08 24.2**	**+2.6**
1.5nm,0.4s,mb4.3,baz=108,slow=6.7,SNR=5.6							
CTA				LR	LR	14 21 12.5	
comp=Z,297nm,19.2s,MS4.0,baz=88,slow=34							
CTAO	**Charters Tower**	**34.91**	**271**	*eP*	**P**	**14 08 19.9**	**-1.8**
2.2nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**37.37**	**250**	*eP*	**P**	**14 08 43.6**	**+1.3**
2.2nm,1.2s,mb3.9							
STKA	**Stephens Creek**	**37.37**	**250**	P	**P**	**14 08 44.1**	**+1.8**
2.1nm,0.9s,mb4.0,baz=98,slow=12,SNR=5.3							
STKA				LR	LR	14 23 12.6	
comp=Z,491nm,18.6s,MS4.3,baz=289,slow=35							
PMG	**Port Moresby**	**38.22**	**288**	P	**P**	**14 08 50.5**	**+0.8**
8.7nm,0.7s,mb4.6,baz=110,slow=8.1,SNR=4.2							
PMG	**Port Moresby**	**38.22**	**288**	*eP*	**P**	**14 08 50.1**	**+0.4**
14nm,0.9s,mb4.7							
ASAR	**Alice Springs**	**45.16**	**261**	P	**P**	**14 09 46.3**	**-0.3**
1.6nm,0.9s,mb3.8,baz=96,slow=7.6,SNR=19							
ASAR				LR	LR	14 28 30.2	
comp=Z,192nm,18.5s,MS4.1,baz=109,slow=36							
ASPA	**Alice Springs**	**45.17**	**261**	*eP*	**P**	**14 09 45.2**	**-1.4**
WB2	**Warramunga Arr**	**45.70**	**266**	*eP*	**P**	**14 09 50.3**	**-0.6**
WRAB	**Tennant Creek**	**45.71**	**266**	*eP*	**P**	**14 09 50.6**	**-0.3**
2.5nm,0.6s,mb4.3							
WRA	**Warramunga Arr**	**45.71**	**266**	P	**P**	**14 09 49.8**	**-1.1**
0.7nm,0.4s,mb4.0,baz=102,slow=7.5,SNR=23							
WRA				PcP	PcP	14 11 29.0	-0.3
0.9nm,0.7s,baz=100,slow=3.3,SNR=5.2							
QSPA	**South Pole Qui**	**64.65**	**180**	*eP*	**P**	**14 12 07.2**	**-0.1**
3.3nm,0.8s,mb4.4							
USHA	**Ushuaia**	**79.14**	**146**	LR	LR	14 41 07.6	
comp=Z,136nm,18.3s,MS4.3,baz=229,slow=30							
NVAR	**Mina Array Bea**	**83.55**	**42**	P	**P**	**14 13 58.4**	**+1.1**
1.4nm,0.9s,mb4.1,baz=230,slow=6.9,SNR=4.7							
NVAR	**Mina Array Bea**	**83.55**	**42**	P	**P**	**14 13 58.4**	**+1.1**
MCK	**McKinley**	**91.44**	**12**	*eP*	**P**	**14 14 32.1**	**-2.8**
PDAR	**Pinedale Array**	**91.47**	**43**	P	**P**	**14 14 35.0**	**-0.5**
0.8nm,0.9s,mb4.0,baz=225,slow=4.2,SNR=5.8							
ILAR	**Eielson Array**	**92.77**	**12**	P	**P**	**14 14 41.2**	**+0.3**
0.7nm,0.8s,mb4.2,baz=222,slow=5.9,SNR=8.1							
CMAR	**Chiang Mai Arr**	**93.26**	**289**	P	**P**	**14 14 46.6**	**+2.4**
1.6nm,0.8s,mb4.5,baz=131,slow=3.3,SNR=13							
NB2	**NORSAR Subarra**	**144.05**	**354**	PKP	PKPdf	14 21 01.9	-4.0
0.2nm,0.7s,baz=19,slow=3.5							
NOA	**NORSAR Array B**	**144.05**	**354**	PKP	PKPdf	14 21 02.9	-3.1
2.3nm,0.8s,baz=17,slow=2.4,SNR=5.7							
AKASG	**Malin Array Be**	**148.08**	**329**	PKPbc	PKPdf	14 21 14.4	+1.3
1.0nm,0.4s,baz=41,slow=3.8,SNR=7.8							
BRTR	**Keskin Array B**	**151.23**	**307**	PKPbc	PKPdf	14 21 23.4	+5.1
1.7nm,1.0s,baz=63,slow=2.8,SNR=4.5							
BRTR				PKPab	PKPab	14 21 32.3	+0.7
1.8nm,0.7s,baz=90,slow=3.7,SNR=6.8							

IDC 29 14:15:45.2±3.0, 7.86N×93.70E, mb3.5/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=92.8km s-min=30.4km az=69.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.70**	**25**	Pn	P	14 18 35.2	-1.4
0.1nm,0.3s,baz=210,slow=15,SNR=4.8							
SONM	**Songino Array**	**41.27**	**13**	P	P	14 23 31.4	-2.4
0.4nm,0.8s,baz=188,slow=8.8,SNR=3.4							
ZAL	**Zalesovo**	**46.51**	**353**	P	P	14 24 14.6	-1.5
1.1nm,0.5s,baz=267,slow=5.5,SNR=5.2							
WRA	**Warramunga Arr**	**48.61**	**125**	P	P	14 24 31.1	-1.8
0.4nm,0.7s,baz=305,slow=8.6,SNR=5.7							

JMA ***29*** *14:23:55.3, 34.77N×136.73E, h17km±1km, M3.8 Broadband fault plane solution: P waves. NP1:φ=148°, δ46°, λ40°. NP2:φ=28°, δ62°, λ129°. Principal axes: T Plg55°, Azm348°; N Plg34°, Azm187°; P Plg9°, Azm91°; JMA Felt II J1.*
NIED ***29*** *14:24:00, 34.80N×136.70E, h8km, Mw3.4 Best double couple: Mo1.4×10^14 NP1:φ=142°, δ67°, λ56°. NP2:φ=22°, δ41°, λ142°.*

ISC 29 14:23:55.5±0.7, 34.76N±0.04×136.71E±0.04, h10km±7km, n8, σ0°53/15, 2C-3D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSUJ	**Tsu 2**	**0.25**	**257**	⇓P	**Pg**	**14 24 01.0**	**+0.3**
TSUJ				S	**Sg**	**14 24 04.9**	**+0.7**
JIE	**Ise**	**0.37**	**181**	⇑P	**Pg**	**14 24 03.2**	**+0.1**
JIE				S	**Sg**	**14 24 08.5**	**+0.3**
JAA	**Atsumi**	**0.38**	**110**	⇓P	**Pg**	**14 24 02.8**	**-0.5**
JAA				S	**Sg**	**14 24 07.9**	**-0.6**
JHE	**Heguri**	**0.85**	**263**	⇓P	**Pb**	**14 24 11.2**	**-0.8**
JHE				S	**Sb**	**14 24 22.7**	**-0.5**
JGM	**Miyama**	**0.93**	**0**	⇑P	**Pb**	**14 24 13.3**	**-0.1**
JGM				S	**Sb**	**14 24 25.0**	**-0.6**
TK04	**Tokai 4**	**1.03**	**111**	P	**Pb**	**14 24 15.6**	**+0.5**
JWY	**Kouya**	**1.07**	**240**	P	**Pb**	**14 24 15.5**	**-0.2**
JWY				S	**Sb**	**14 24 29.8**	**+0.2**
MAT	**Matsushiro**	**2.15**	**34**	P	**Pn**	**14 24 32.1**	**+0.1**
MAT				S	**Sn**	**14 25 00.2**	**+1.2**

IDC 29 14:24:53.3±1.7, 9.42N×93.83E, mb3.8/4, mb1 4.0/5, mb1mx3.6/19, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=68.4km s-min=24.0km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.27**	**28**	Pn	P	14 27 21.3	-3.7
0.1nm,0.3s,baz=213,slow=15,SNR=5.1							
BVAR	**Borovoye Array**	**47.44**	**341**	P	P	14 33 29.6	-1.9
0.6nm,0.7s,baz=143,slow=7.4,SNR=3.8							
WRA	**Warramunga Arr**	**49.41**	**126**	P	P	14 33 45.8	-1.4
0.8nm,0.5s,baz=306,slow=8.6,SNR=12							
ASAR	**Alice Springs**	**51.14**	**131**	P	P	14 33 57.8	-2.5
0.6nm,0.6s,baz=299,slow=9.3,SNR=6.7							
ARCES	**ARCESS Array B**	**73.72**	**340**	P	P	14 36 28.8	-1.8
4.9nm,1.0s,baz=90,slow=7.2,SNR=4.4							

WEL 29 14:40:09.9±0.4, 36.03S×178.50E, h213km±8km, ML3.8/7, Error ellipse: s-maj=8.6km s-min=7.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**2.05**	**185**	PN	P	14 40 50.1	-0.2
PUZ				SN	S	14 41 19.9	-1.5
MWZ	**Matawai**	**2.43**	**198**	*e*PN	P	14 40 54.4	+0.1
MWZ				SN	S	14 41 27.7	-1.0
URZ	**Urewera**	**2.49**	**206**	*e*PN	P	14 40 54.5	-0.5
URZ				SN	S	14 41 29.9	+0.1
KNZ	**Kokohu**	**3.06**	**192**	PN	P	14 41 01.0	-0.4
KNZ				SN	S	14 41 40.9	-0.3
BKZ	**Black Stump Fm**	**3.51**	**206**	PN	P	14 41 06.3	-0.5
BKZ				SN	S	14 41 49.8	-1.1
PWZ	**Pawanui**	**4.20**	**197**	PN	P	14 41 14.0	-1.3
PWZ				SN	S	14 42 04.7	-1.1
BFZ	**Birch Farm**	**4.97**	**200**	PN	P	14 41 23.3	-1.6

IDC 29 14:43:41.1±4.7, 29.90S×178.24W, mb3.5/2, mb1 3.7/2, mb1mx3.6/13, mbtmp3.5/2, MS4.5/1, Ms1 4.5/1, ms1mx3.1/10, Error ellipse: s-maj=211.0km s-min=76.8km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.51**	**279**	LR	LR	15 01 46.3	
comp=Z,869nm,21.4s,baz=25,slow=32							
ASAR	**Alice Springs**	**42.93**	**267**	P	P	14 51 43.2	-0.3
0.5nm,0.7s,baz=104,slow=7.3,SNR=5.2							
WRA	**Warramunga Arr**	**43.

BBL Barber's Block 0.29 160⇑ *i*P Pb 14 45 40.5 -0.8
BBL Barber's Block 0.29 160⇑ *i*P Pb 14 45 41.5 +0.2
MDN Morne-Daniel 0.52 160⇑ *i*P Pb 14 45 45.3 +0.6
MDN *e*S Sb 14 45 52.2 +0.4
DBCT Belle View Cho 0.57 157⇓ *e*P Pb 14 45 46.4 +0.7
SEG Port Louis 0.60 6⇑ *i*P Pb 14 45 45.6 -0.5
DSTT Stowe 0.61 155 *e*P Pb 14 45 46.9 +0.6
DSHT Scott's Head 0.62 162⇑ *i*P Pb 14 45 47.1 +0.7
DEG La Desirade 0.71 44⇑ *i*P Pb 14 45 46.6 -1.2
FDF Fort de France 1.14 159⇑ *i*P Pn 14 45 54.0 -0.5
CRM Caravelle 1.22 149⇑ *e*P Pn 14 45 55.3 -0.4
BPA Boggy Peak 1.26 348 *e*P Pn 14 45 56.4 +0.1
BPA *e*S Sn 14 46 13.3 +0.9
BIM Bigot 1.37 159⇑ *e*P Pn 14 45 57.5 -0.3
MVM Montagne Vaucl 1.41 152⇑ *e*P Pn 14 45 58.3 0.0
NVBH Bath Hotel, Ne 1.64 323 *e*P Pn 14 46 04.0 +2.2
NVRH Round Hill, Ne 1.69 325 *e*S Sn 14 46 26.5 +3.3
SKTB Turtle Beach 1.72 325 *e*P Pn 14 46 04.7 +1.9
SKTB *e*S Sn 14 46 25.6 +1.6
CPB Codrington 1.84 353⇓ *i*P Pn 14 46 04.2 -0.3
SKI Saint Kitts 1.89 324 *e*P Pn 14 46 07.7 +2.5
BSK Brimstone Hill 1.96 322 *e*P Pn 14 46 08.8 +2.6
SABS Saba 2.41 319 *e*P Pn 14 46 14.6 +1.9
SABS *e*S Sn 14 46 50.1 +8.5
SABT Saba 2.41 319 *e*P Pn 14 46 14.6 +1.9
SABT *e*S Sn 14 46 50.1 +8.5
SVB Belmont 2.54 173 *e*P Pn 14 46 32.5 +18
GRSS Sisters 3.48 181 *e*P Pn 14 46 27.6 -0.4
GRHS Sauteurs 3.56 181 *e*P Pn 14 46 30.5 +1.5
GRW Mount Saint Ca 3.62 181 *e*P Pn 14 46 31.2 +1.3
GRW *e*S Sn 14 47 17.1 +4.8
GRW *e* 14 49 44.9
SJG San Juan 4.94 298 Pn **Pn 14 46 47.6 -1.0**
118nm,0.3s,baz=132,slow=7.6,SNR=69
SJG Sn **Sn 14 47 41.5 -4.1**
83nm,0.3s,baz=37,slow=21,SNR=8.2
SJG LR LR 14 47 47.0
comp=Z,82nm,18.3s,baz=113,slow=28
SJG San Juan 4.94 298 *e*P Pn 14 46 46.8 -1.8
TRN Trinidad (W) 5.13 178 *e*P Pn 14 46 52.9 +1.6
TRN *e*S Sn 14 47 50.1 -0.2
SDV Santo Domingo 11.20 233 Pn **P 14 48 11.0 -4.8**
4.4nm,0.3s,baz=82,slow=8.8,SNR=22
SDV LR LR 14 53 09.0
comp=Z,416nm,18.5s,baz=216,slow=41
SDV Santo Domingo 11.20 233 *e*P P 14 48 10.3 -5.5
ROSC El Rosal 16.59 230 Pn **P 14 49 27.0 +0.3**
2.3nm,0.3s,baz=87,slow=20,SNR=5.4
ROSC LR LR 14 56 23.9
comp=Z,246nm,18.4s,baz=201,slow=40
DWPF Disney 22.08 307 P **P 14 50 26.3 -2.5**
OTAV Otavalo 22.73 229 *e*P P 14 50 34.6 -0.9
10nm,0.8s,mb4.3
JTS JuntasAbangare 23.41 259 P **P 14 50 41.4 -0.7**
NHSC New Hope 24.09 319 P **P 14 50 49.5 +1.0**
GOGA Godfrey 26.43 316 P **P 14 51 10.5 -0.2**
FWV Forest Hill 27.57 326 P **P 14 51 13.4 -7.5**
CPCT Cooper Cave 28.35 318 *e*P P 14 51 27.3 -0.7
ALLY Alegheny Colle 30.33 332 *e*P P 14 51 44.7 -1.0
WVT Waverly 30.93 316 *e*P P 14 51 50.0 -1.0
7.9nm,0.7s,mb4.7
OXF Oxford 31.17 312 *e*P P 14 51 52.3 -0.9
SADO Sadowa 32.47 336 P **P 14 52 03.1 -1.3**
4.8nm,0.6s,mb4.5,baz=154,slow=8.5,SNR=4.2
SADO LR LR 15 04 22.6
comp=Z,100nm,18.9s,MS3.5,baz=163,slow=35
LPAZ La Paz 32.54 192 P **P 14 52 04.3 -1.0**
1.6nm,0.8s,mb4.0,baz=4.8,slow=2.6,SNR=5.0
LPAZ LR LR 15 05 51.0
comp=Z,101nm,20.9s,MS3.5,baz=285,slow=38
LPAZ La Paz 32.54 192 *e*P P 14 52 03.8 -1.5
3.3nm,1.1s,mb4.2
CCM Cathedral Cave 34.26 316 *e*P P 14 52 19.1 -1.0
6.0nm,0.8s,mb4.6
JCT Junction City 37.86 300 *e*P P 14 52 49.7 -1.0
26nm,1.0s,mb4.9
WMOK Wichita Mounta 38.28 307 *e*P P 14 52 52.8 -1.3
5.1nm,0.6s,mb4.4
SCHQ Schefferville 39.16 355 P **P 14 53 01.9 +0.6**
1.9nm,0.4s,mb4.2,baz=174,slow=6.3,SNR=18
SCHQ LR LR 15 08 18.6
comp=Z,82nm,19.1s,MS3.6,baz=209,slow=35
TXAR Lajitas Array 40.91 297 P **P 14 53 15.5 -0.5**
1.1nm,0.4s,mb3.8,baz=117,slow=11,SNR=8.2
MNTX Cornudas Mount 42.80 300 *e*P P 14 53 31.3 -0.2
8.0nm,0.7s,mb4.6
ULM Lac du Bonnet 44.10 329 P **P 14 53 40.8 -1.0**
6.1nm,0.5s,mb4.6,baz=130,slow=8.0,SNR=19
ULM LR LR 15 10 43.8
comp=Z,97nm,18.7s,MS3.7,baz=340,slow=34
ULM Lac du Bonnet 44.10 329 *e*P P 14 53 40.6 -1.2
9.8nm,0.7s,mb4.7
LPM Los Pinos Moun 44.38 303 *e*P P 14 53 44.4 +0.2
ANMO Albuquerque 44.38 304 *e*P P 14 53 43.8 -0.6
4.8nm,1.1s,mb4.1
SDCO Great Sand Dun 44.39 308 *e*P P 14 53 43.9 -0.4
4.9nm,0.8s,mb4.3
LAZ Ladron 44.80 303 *e*P P 14 53 48.5 +0.8
PHWY Pilot Hill 45.51 313 *e*P P 14 53 53.3 +0.1
LAO LASA Array 48.10 319 *e*P P 14 54 13.9 +0.4
13nm,0.8s,mb5.0
FRB Frobisher Bay 48.13 356 P **P 14 54 13.6 +0.1**
7.0nm,0.6s,mb4.9,baz=168,slow=8.1,SNR=28
PDAR Pinedale Array 48.88 313 P **P 14 54 19.3 -0.3**
8.8nm,0.6s,mb5.0,baz=119,slow=9.7,SNR=67
BW06 Boulder Array 48.88 313 *e*P P 14 54 19.2 -0.4
10nm,0.6s,mb5.0
TMUT Trail Mountain 49.11 309 *e*P P 14 54 21.9 +0.5
FCC Fort Churchill 49.15 338 *e*P P 14 54 20.2 -1.2
4.3nm,0.6s,mb4.7
DAU Daniels Canyon 49.43 310 *e*P P 14 54 24.5 +0.7
JLU Jordanelle 49.62 310 *e*P P 14 54 25.6 +0.3
MSU Marysvale 49.67 307 *e*P P 14 54 26.3 +0.6
TCUT Toone Canyon 49.73 311 *e*P P 14 54 26.0 -0.1
LOHW Long Hollow 49.87 314 *e*P P 14 54 27.0 -0.2
SNOW Snow King Moun 49.93 314 *e*P P 14 54 27.9 +0.2
WUWY Wally Ulrich 49.95 314 *e*P P 14 54 27.5 -0.2
TPAW Teton Pass 50.07 314 *e*P P 14 54 28.8 0.0
IMW Indian Meadow 50.19 314 *e*P P 14 54 29.4 -0.2
YMR Madison River 50.45 315 *e*P P 14 54 33.1 +1.5
ARUT Antelope Range 50.50 306 *e*P P 14 54 32.4 +0.3
QLMT Earthquake Lak 50.82 315 *e*P P 14 54 35.7 +1.3
BGU Big Grassy Mou 50.86 310 *e*P P 14 54 34.8 0.0
MCMT McKenzie Canyo 51.78 315 *e*P P 14 54 42.2 +0.6
EVO Evora 51.95 53 *e*P P 14 54 42.0 -1.1
27nm,1.3s,mb4.7
NVAR Mina Array Bea 54.38 306 P **P 14 55 00.5 -0.5**
2.3nm,0.8s,mb4.1,baz=91,slow=7.5,SNR=9.9
NVAR Mina Array Bea 54.38 306 P **P 14 55 00.5 -0.6**
EDM Edmonton 54.94 325 *e*P P 14 55 03.9 -1.1
ESDC Sonseca Array 55.24 52 P **P 14 55 07.9 +0.5**
2.8nm,0.7s,mb4.4,baz=268,slow=7.6,SNR=12
NEW Newport 55.58 318 *e*P P 14 55 08.5 -1.1
9.2nm,0.8s,mb4.9
DBIC Dimbokro 56.22 93 P **P 14 55 14.4 -0.3**
9.7nm,0.8s,mb4.9,baz=269,slow=8.8,SNR=20
DBIC Dimbokro 56.22 93 *e*P P 14 55 14.4 -0.4
12nm,0.9s,mb4.9
PLCA Paso Flores 56.86 188 P **P 14 55 16.5 -2.5**
2.3nm,0.6s,mb4.4,baz=354,slow=8.7,SNR=6.4
PLCA LR LR 15 22 50.1
comp=Z,103nm,19.1s,MS3.9,baz=266,slow=39
PLCA Paso Flores 56.86 188 *e*P P 14 55 16.9 -2.0
OHCM Honcut 56.96 307 *e*P P 14 55 18.5 -1.2
QUIF Quistinic 57.35 43 *e*P P 14 55 22.3 0.0
SJPF Ste Jean 57.79 49 *e*P P 14 55 26.2 +0.7
45nm,0.7s,mb5.3
SGMF Saint Gilles 57.82 43 *e*P P 14 55 25.7 +0.1
38nm,1.0s,mb5.1
ETSF Etsaut 58.24 49 *e*P P 14 55 30.1 +1.5
11nm,0.8s,mb4.6
GRR Gorron 58.96 43 *e*P P 14 55 33.5 -0.1
64nm,1.1s,mb5.3
MFF Saint Martin d 59.10 45 *e*P P 14 55 34.8 +0.2
18nm,0.7s,mb4.9
FLN La Foliniere 59.28 42 *e*P P 14 55 35.9 +0.1
16nm,0.7s,mb4.9
FLN *e*R
92nm,21.5s
EKA Eskdalemuir Ar 59.32 34 P **P 14 55 35.9 -0.1**
3.1nm,0.6s,mb4.5,baz=256,slow=6.4,SNR=18
YKA Yellowknife Ar 59.43 334 P **P 14 55 35.2 -1.4**
5.0nm,0.5s,mb4.8,baz=105,slow=7.5,SNR=118
YKA Yellowknife Ar 59.43 334 P **P 14 55 35.2 -1.4**
YKW3 Yellowknife Ar 59.47 335 *e*P P 14 55 34.5 -2.4
LDF La Druitiere 59.48 43 *e*P P 14 55 37.1 -0.1
RJF Les Rejaudoux 60.05 47 *e*P P 14 55 41.1 0.0
14nm,0.8s,mb4.8
RJF *e*R
146nm,21.8s
CAF Calviac 60.39 47 *e*P P 14 55 43.5 +0.1
6.8nm,0.6s,mb4.5
TCF Toulx Ste Croi 60.67 46 *e*P P 14 55 45.5 +0.2
7.8nm,0.8s,mb4.6
BGF Bois d'Agland 61.14 45 *e*P P 14 55 48.6 +0.1
AVF Avril sur Loir 61.51 45 *e*P P 14 55 50.5 -0.5
8.6nm,0.5s,mb4.8
SSF Saint Saulge 61.65 45 *e*P P 14 55 51.6 -0.4
12nm,0.7s,mb4.9
SMF Signal de Mont 61.83 45 *e*P P 14 55 52.4 -0.8
BAIF Baives 62.52 41 *e*P P 14 55 57.2 -0.5
MEZF Maizieres J'vi 62.86 43 *e*P P 14 55 59.9 -0.1
GIVF Givet 62.92 42 *e*P P 14 56 00.0 -0.3
15nm,0.7s,mb5.0
CABF La Chapelle 63.37 46 *e*P P 14 56 02.5 -0.8
16nm,0.9s,mb4.8
HAU Haudompre 63.67 44 *e*P P 14 56 04.9 -0.5
HAU *e*R
64nm,17.2s
MBDF Montbardon 63.70 48 *e*P P 14 56 06.5 +0.9
LPL La Plagne 63.73 47 *e*P P 14 56 06.7 +0.9
LPG La Plagne 63.74 47 *e*P P 14 56 07.0 +1.2
HINF Hinteralfeld 63.99 44 *e*P P 14 56 06.8 -0.7
10nm,0.6s,mb4.7
CDF Champ du Feu 64.33 44 *e*P P 14 56 09.3 -0.3
5.5nm,0.5s,mb4.5
TNS Taunus Mts 65.25 42 *e*P P 14 56 15.7 +0.1
9.0nm,0.7s,mb4.9
DAVOX Davos 65.98 46 P **P 14 56 21.1 +0.8**
7.9nm,0.7s,mb4.8,baz=226,slow=8.9,SNR=11
CLZ Clausthal 66.59 40 *e*P P 14 56 24.2 +0.1
9.0nm,1.0s,mb4.8
GRA1 Grafenberg Arr 67.00 42 *e*P P 14 56 26.8 0.0
32nm,1.7s,mb5.1
GRF Grafenberg Arr 67.00 42 *e*P P 14 56 26.8 0.0
32nm,1.7s,mb5.1
NKC Novy Kostel 67.81 42 *e*P P 14 56 32.3 +0.4
NB2 NORSAR Subarra 67.97 30 P **P 14 56 32.9 +0.2**
0.5nm,0.7s,mb3.6,baz=262,slow=6.5
NOA NORSAR Array B 67.97 30 P **P 14 56 33.2 +0.5**
4.1nm,0.8s,mb4.5,baz=262,slow=6.4,SNR=14
CLL Collm 68.20 41⇑ *i*P P 14 56 33.9 -0.4
11nm,1.3s,mb4.7
CLL *e* 14 56 38.0
CLL Collm 68.20 41⇑P P 14 56 33.9 -0.4
logA/T=0.9,mb4.7
CLL *e**PP pP 14 56 38.0 -4.9
KHC Kasperske Hory 68.53 43 *e*P P 14 56 36.4 +0.1
GEC2 GERESS Array S 68.60 43 *e*P P 14 56 36.2 -0.6
5.0nm,1.0s,mb4.4
GERES GERESS Array B 68.60 43 P **P 14 56 36.7 -0.1**
2.9nm,0.8s,mb4.2,baz=275,slow=5.6,SNR=13
INK Inuvik 68.77 338 P **P 14 56 36.6 -0.9**
6.7nm,0.8s,mb4.6,baz=103,slow=4.4,SNR=25
INK Inuvik 68.77 338 *e*P P 14 56 35.8 -1.7
7.8nm,0.8s,mb4.7
BRG Berggiesshubel 68.78 41 *i*P P 14 56 37.9 0.0
5.4nm,0.7s,mb4.6
BRG *e* 14 56 41.5
HFS Hagfors 69.09 31 P **P 14 56 39.8 +0.2**
2.3nm,0.6s,mb4.3,baz=243,slow=3.3,SNR=9.7
PRU Pruhonice 69.16 42 *e*P P 14 56 40.7 +0.5
UPC Upice 70.10 42 *e*P P 14 56 46.2 +0.3
DPC Dobruska-Polom 70.30 42 *e*P P 14 56 47.2 +0.1
VRAC Vranov 70.50 43 P **P 14 56 49.3 +0.9**
3.9nm,0.7s,mb4.5,baz=291,slow=8.9,SNR=5.5
DAWY Dawson 70.58 333 *e*P P 14 56 48.8 +0.2
VYHS Vyhne 72.02 44 *i*P P 14 56 58.1 +0.6
CRVS Cervenica-Dubn 73.72 43 *e*P P 14 57 09.2 +1.7
ILAR Eielson Array 73.84 334 P **P 14 57 07.4 -0.5**
1.4nm,0.5s,mb4.2,baz=79,slow=5.5,SNR=47
ARCES ARCESS Array B 74.30 21 P **P 14 57 10.3 -0.1**
2.6nm,0.7s,mb4.3,baz=288,slow=3.8,SNR=6.3
ARCES ARCESS Array B 74.30 21 P **P 14 57 10.3 -0.2**
FINES FINESS Array B 75.15 30 P **P 14 57 16.0 +0.5**
2.1nm,0.4s,mb4.4,baz=261,slow=2.7,SNR=23
KAF Kangasniemi 75.19 29 *ep*P 14 57 14.9 -0.8
2.4nm,0.6s,mb4.3
IMA Indian Mountai 76.54 335 *e*P P 14 57 24.1 +0.8
MLR Muntele Rosu 77.19 46 P **P 14 57 29.6 +2.2**
9.4nm,1.0s,mb4.7,baz=180,slow=3.2,SNR=6.3
JOF Joensuu 77.38 28 *ep*P 14 57 27.2 -0.8
3.8nm,0.8s,mb4.4
AKASG Malin Array Be 78.44 40 P **P 14 57 34.3 +0.2**
2.0nm,0.8s,mb4.1,baz=268,slow=5.0,SNR=7.0
BRTR Keskin Array B 83.98 51 P **P 14 58 04.6 +1.1**
2.2nm,0.9s,mb4.3,baz=251,slow=5.2,SNR=6.3

*ATH **29** 14:48:02.7,38.21N×29.52E,h10km,MD4.0/9*
*CSEM **29** 14:48:02.5±0.0,38.19N×29.66E,h15km,mb4.4/5,Ms3.0,*
Error ellipse: s-maj=1.5km s-min=0.9km az=54.0
*ISK **29** 14:48:02.4,38.23N×29.69E,h7km,ML4.1*
*NEIC **29** 14:48:03.0±0.3,38.23N×29.63E,h10km,mb4.4/17,*
ML3.8(NIC),Error ellipse: s-maj=6.7km s-min=3.7km
az=215.0
*NIC **29** 14:48:04.6±0.3,38.52N×30.06E,h46km,mb4.3,ML3.8*
*IDC **29** 14:48:06.4±1.4,38.09N×29.72E,h45km±15km,mb3.5/10,*
mb1 3.8/19,mb1mx3.8/26,mbtmp3.8/19,ML3.9/9,MS3.2/3,
Ms1 3.3/3,ms1mx2.8/21,Error ellipse: s-maj=15.1km
s-min=13.0km az=179.0
ISC 29 14:48:02.1±0.2,38.22N±0.02×29.69E±0.02,h10km,n151,
σ1§25/173,mb4.0/17,MS3.4/2,1C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHL	**Karahalli**	**0.17**	**309**	*i* PG	**Pg**	**14 48 06.3**	**+0.4**
TKTP	**Tekketepe**	**0.53**	**109**	*i* P	**Pg**	**14 48 14.0**	**+1.2**
TKTP				*i* S	**Sg**	**14 48 22.9**	**+3.1**
DENT	**Denizli**	**0.70**	**229**	*i* PG	**Pg**	**14 48 15.8**	**-0.3**
DNZL	**Cakiroluk**	**0.73**	**224**	*i* P	**Pb**	**14 48 16.4**	**-0.1**
DNZL				*i* S	**Sb**	**14 48 28.2**	**+1.9**
ISP	**Isparta**	**0.75**	**120**	*i* PG	**Pg**	**14 48 17.1**	**0.0**
ISP				*i* SG	**Sg**	**14 48 28.5**	**+1.4**
ISP	**Isparta**	**0.75**	**120**	*e*P	**Pb**	**14 48 14.2**	**-2.5**
ALT	**Altintas**	**0.90**	**21**	*i* PG	**Pg**	**14 48 20.1**	**+0.4**
MANT	**Manisa**	**0.93**	**287**	*i* P	**Pb**	**14 48 18.1**	**-1.8**
MANT				*i* S	**Sb**	**14 48 32.5**	**+0.4**
BCK	**Bucak**	**1.04**	**136**	*i* PG	**Pg**	**14 48 22.8**	**-0.1**
BCK				*i* SG	**Sg**	**14 48 38.5**	**+1.7**
ELL	**Elmali**	**1.48**	**173**	*i* PN	**Pn**	**14 48 30.2**	**+1.3**
ANTB	**Antalya**	**1.52**	**150**	PN	**Pn**	**14 48 31.1**	**+1.6**
AYDN	**Tasoluk**	**1.54**	**249**	*i* P	**Pn**	**14 48 30.3**	**+0.5**
AYDN				*i* S	**Sb**	**14 48 48.9**	**-0.8**
YER	**Yerkesik**	**1.55**	**226**	PN	**Pn**	**14 48 31.7**	**+1.7**
ESKT	**Eskisehir**	**1.58**	**34**	*i* P	**Pn**	**14 48 31.5**	**+1.1**
ESKT				*i* S	**Sb**	**14 48 51.8**	**+0.8**
AKS	**Akhisar**	**1.61**	**295**	PN	**Pn**	**14 48 31.7**	**+0.8**
DST	**Dursunbey**	**1.62**	**329**	PN	**Pn**	**14 48 32.0**	**+1.1**
FETY	**Fethiye**	**1.65**	**197**	PN	**Pn**	**14 48 32.9**	**+1.5**
MLSB	**Milas**	**1.77**	**239**	PN	**Pn**	**14 48 34.5**	**+1.3**
KIZT	**Kizilcal**	**1.84**	**68**	PN	**Pn**	**14 48 35.1**	**+1.0**
KDAG	**Bornova**	**1.92**	**276**	*i* P	**Pn**	**14 48 35.7**	**+0.5**
KDAG				*i* S	**Sn**	**14 49 01.0**	**+1.5**
IZM	**Izmir**	**1.92**	**276**	PN	**Pn**	**14 48 36.0**	**+0.8**
ORLT	**Orhaneli**	**1.93**	**342**	PN	**Pn**	**14 48 36.3**	**+1.0**
BALB	**Balikesir**	**2.00**	**316**	PN	**Pn**	**14 48 37.8**	**+1.4**
BTOK	**Tokmak**	**2.01**	**321**	*i* P	**Pn**	**14 48 37.4**	**+0.9**
BTOK				*i* S	**Sn**	**14 49 11.1**	**+9.1**
KSL	**Kastellorizon**	**2.06**	**182**	*e*PN	**Pn**	**14 48 39.5**	**+2.2**
BLCB	**Balcova**	**2.09**	**275**	PN	**Pn**	**14 48 38.8**	**+1.1**
BDRM	**Kayabasi**	**2.12**	**238**	*i* P	**Pn**	**14 48 38.5**	**+0.4**
BDRM				*i* S	**Sn**	**14 49 11.3**	**+6.5**
GPA	**Golpazari**	**2.12**	**13**	PN	**Pn**	**14 48 38.8**	**+0.6**
KONT	**Konya--Tatoy**	**2.12**	**97**	PN	**Pn**	**14 48 39.9**	**+1.7**
SMG	**Samos**	**2.31**	**258**	*e*PN	**Pn**	**14 48 40.7**	**-0.1**
YLV	**Yalova**	**2.36**	**354**	PN	**Pn**	**14 48 42.3**	**+0.8**
EYL	**Eskiyayla**	**2.37**	**9**	PN	**Pn**	**14 48 42.4**	**+0.7**
MDU	**Mudurnu**	**2.54**	**27**	*e*PN	**Pn**	**14 48 44.6**	**+0.5**
BNT	**Bandirma**	**2.54**	**328**	PN	**Pn**	**14 48 44.9**	**+0.8**
HDMB	**Hadim**	**2.55**	**119**	*e*PN	**Pn**	**14 48 45.5**	**+1.3**
EDC	**Edincik**	**2.56**	**327**	PN	**Pn**	**14 48 45.2**	**+0.9**
AYVA	**Ayvalik**	**2.59**	**296**	*i* P	**Pn**	**14 48 45.5**	**+0.7**
AYVA				*i* S	**Sn**	**14 49 25.3**	**+8.7**
HRT	**Hereke**	**2.60**	**360**	PN	**Pn**	**14 48 45.5**	**+0.5**
BADT	**Buyukada**	**2.67**	**351**	*e*PN	**Pn**	**14 48 46.3**	**+0.4**
CANB	**Canakkale**	**2.72**	**312**	*e*PN	**Pn**	**14 48 48.2**	**+1.5**
HENT	**Hendek**	**2.77**	**19**	*i* P	**Pn**	**14 48 48.4**	**+1.1**
HENT				*i* S	**Sg**	**14 49 33.0**	**-1.2**
PRK	**Paraskevi**	**2.87**	**292**	*e*PN	**Pn**	**14 48 49.6**	**+0.9**
MRMT	**Marmara Adasi**	**2.88**	**326**	*e*PN	**Pn**	**14 48 49.4**	**+0.4**
ISK	**Istanbul-Kandi**	**2.89**	**350**	*e*PN	**Pn**	**14 48 49.5**	**+0.5**
ANTO	**Ankara**	**2.92**	**55**	*e*PN	**Pn**	**14 48 50.9**	**+1.3**
SGKT	**Sivrigoynuk**	**2.98**	**37**	*i* P	**Pn**	**14 48 41.0**	**-9.4**
SGKT				*i* S	**Sn**	**14 49 32.9**	**+6.3**
CTT	**Catalca**	**3.08**	**342**	*e*PN	**Pn**	**14 48 53.1**	**+1.2**
SART	**Tekirdag**	**3.14**	**323**	*i* P	**Pn**	**14 48 52.9**	**+0.2**
SART				*i* S	**Sn**	**14 49 37.9**	**+7.2**
MFT	**Murefte**	**3.17**	**325**	*e*PN	**Pn**	**14 48 53.1**	**0.0**
KARP	**Karpathos**	**3.35**	**218**	*e*PN	**Pn**	**14 48 56.6**	**+1.0**
BRTR	**Keskin Array B**	**3.43**	**63**	P	**Pn**	**14 48 57.5**	**+0.7**
	5.4nm,0.3s,baz=227,slow=28,SNR=97						
BRTR				S	**Sn**	**14 49 38.2**	**+0.4**
	4.1nm,0.3s,baz=238,slow=16,SNR=4.1						
BRTR	**Keskin Array B**	**3.43**	**63**	P	**Pn**	**14 48 57.5**	**+0.7**
BRTR				S	**Sn**	**14 49 38.2**	**+0.4**
APE	**Apeiranthos**	**3.50**	**252**	*e*PN	**Pn**	**14 48 59.4**	**+1.7**
APE	**Apeiranthos**	**3.50**	**252**	*e*PN	**Pn**	**14 48 58.1**	**+0.4**
ELDT	**Eldivan**	**3.68**	**51**	*i* P	**Pn**	**14 49 01.2**	**+0.9**
SAFT	**Safranbolu**	**3.80**	**36**	*e*PN	**Pn**	**14 49 02.6**	**+0.6**
AKMC	**Akamas**	**3.83**	**146⇑**	*e*P	**Pn**	**14 49 03.6**	**+1.2**
ALFC	**Alevga**	**3.84**	**142**	P	**Pn**	**14 49 02.8**	**+0.1**
	5.4nm,0.3s						
ALFC				S	**Sn**	**14 49 49.0**	**+0.6**
CANT	**Cankiri**	**3.87**	**51**	*e*PN	**Pn**	**14 49 03.9**	**+0.9**
NIG	**Nigde**	**3.88**	**90**	*e*PN	**Pn**	**14 49 04.4**	**+1.3**
ALN	**Alexandroupoli**	**3.89**	**315**	*e*P	**Pn**	**14 49 03.5**	**+0.3**
LIA	**Limnos Island**	**3.89**	**297**	*e*PN	**Pn**	**14 49 03.9**	**+0.6**
MEST	**Erdemli**	**3.90**	**113**	*i* P	**Pn**	**14 49 04.7**	**+1.2**
MEST				*i* S	**Sg**	**14 50 02.1**	**-10**
PPCY	**Paphos**	**3.95**	**146**	P	**Pn**	**14 49 05.1**	**+0.9**
LOS	**Limnos**	**3.98**	**297**	*e*P	**Pn**	**14 49 05.4**	**+0.9**
LEF	**Lefka**	**4.02**	**139**	*e*PN	**Pn**	**14 49 05.7**	**+0.5**
MAMC	**Mammari**	**4.16**	**136**	P	**Pn**	**14 49 10.6**	**+3.5**
EDRB	**Edirne**	**4.27**	**329**	*e*PN	**Pn**	**14 49 08.8**	**0.0**
SZAC	**Souni-Zanaja**	**4.31**	**142**	P	**Pn**	**14 49 10.0**	**+0.8**
	3.3nm,0.5s						
SZAC				S	**Sn**	**14 50 00.1**	**0.0**
CORM	**Corum**	**4.31**	**61**	*e*PN	**Pn**	**14 49 10.2**	**+1.0**
RDO	**Rodhopi**	**4.34**	**314**	*e*PN	**Pn**	**14 49 10.0**	**+0.3**
BALT	**Daday**	**4.37**	**39**	*i* P	**Pn**	**14 49 10.5**	**+0.4**
BALT				*i* S	**Sg**	**14 50 24.9**	**-2.6**
CSS	**Prodhromos**	**4.37**	**137**	P	**Pn**	**14 49 09.8**	**-0.4**
CSS				S	**Sn**	**14 50 01.6**	**-0.2**
NPS	**Neapolis**	**4.41**	**229**	*e*PN	**Pn**	**14 49 11.2**	**+0.5**
XRY	**Khrisi**	**4.63**	**225**	*e*PN	**Pn**	**14 49 14.1**	**+0.2**
IDI	**Anoyia**	**4.84**	**234**	P	**Pn**	**14 49 16.1**	**-0.7**
	4.4nm,0.3s,baz=50,slow=12,SNR=24						
IDI	**Anoyia**	**4.84**	**234**	P	**Pn**	**14 49 16.0**	**-0.8**
OUR	**Ouranopolis**	**4.91**	**297**	*e*P	**Pn**	**14 49 17.8**	**0.0**
PAIG	**Paliouri**	**4.98**	**292**	*e*P	**Pn**	**14 49 18.7**	**0.0**
BOYT	**Boyabat**	**5.13**	**50**	*i* P	**Pn**	**14 49 21.0**	**+0.1**
BOYT				*i* S	**Sn**	**14 50 19.2**	**-1.7**
PLG	**Polygyros**	**5.30**	**296**	*e*PN	**Pn**	**14 49 23.6**	**+0.3**
NVR	**Nevrokopi**	**5.47**	**307**	*e*PN	**Pn**	**14 49 25.5**	**-0.2**
SRS	**Serrai**	**5.53**	**304**	*e*P	**Pn**	**14 49 26.2**	**-0.3**
AGG	**Agios Georgios**	**5.82**	**280**	*e*P	**Pn**	**14 49 31.2**	**+0.6**
LIT	**Litokhoron**	**5.90**	**291**	*e*P	**Pn**	**14 49 32.7**	**+0.9**
KNT	**Kendrikon**	**6.01**	**301**	*e*P	**Pn**	**14 49 33.5**	**+0.3**
KNT	**Kendrikon**	**6.01**	**301**	*e*P	**Pn**	**14 49 33.5**	**+0.2**
GRG	**Griva**	**6.26**	**298**	*e*P	**Pn**	**14 49 37.5**	**+0.7**
HNTI	**Hanita**	**6.79**	**137**	Pn	**Pn**	**14 49 42.6**	**-1.7**
MALT	**Malatya**	**6.88**	**87**	*e*P	**Pn**	**14 49 44.6**	**-0.9**
	2.9nm,0.6s						
MALT	**Malatya**	**6.88**	**87**	*e*P	**Pn**	**14 49 44.6**	**-0.9**
	2.9nm,0.6s						
FNA	**Florina**	**6.92**	**294**	*e*P	**Pn**	**14 49 46.7**	**+0.5**
HAF	**Haifa**	**6.95**	**140**	Pn	**Pn**	**14 49 43.4**	**-3.2**
KSDI	**Kefar Szold**	**6.98**	**134**	Pn	**Pn**	**14 49 46.6**	**-0.3**
OFRI	**'Ofer**	**7.06**	**141**	Pn	**Pn**	**14 49 46.2**	**-1.9**
KSHT	**Keshet**	**7.22**	**135**	Pn	**Pn**	**14 49 49.1**	**-1.2**
GLH	**Golan-Tel Qazi**	**7.33**	**137**	Pn	**Pn**	**14 49 51.9**	**0.0**
MMLI	**Mount Malkishu**	**7.43**	**139**	Pn	**Pn**	**14 49 51.7**	**-1.5**
HMDT	**Nahal Hemdat**	**7.63**	**140**	Pn	**Pn**	**14 49 54.6**	**-1.4**
MLR	**Muntele Rosu**	**7.79**	**340**	P	**Pn**	**14 49 58.5**	**+0.2**
	1.4nm,0.3s,baz=243,slow=7.5,SNR=10						
DRGI	**Dragot**	**8.10**	**143**	Pn	**P**	**14 50 00.8**	**-1.8**
KZIT	**Kziot**	**8.26**	**151**	Pn	**P**	**14 50 02.9**	**-2.0**
MZDA	**Masada**	**8.32**	**144**	Pn	**P**	**14 50 03.7**	**-2.0**
MASH	**Mash'abbe Sade**	**8.34**	**148**	Pn	**P**	**14 50 03.8**	**-2.1**
ASF	**Jabal al Asfar**	**8.43**	**133**	P	**P**	**14 50 06.4**	**-0.9**
	1.3nm,0.3s,baz=168,slow=3.3,SNR=6.6						
ASF				LR	LR	14 53 49.7	
	comp=Z,60nm,20.7s,baz=71,slow=41						
KMTI	**Karmit**	**9.10**	**151**	Pn	**P**	**14 50 14.1**	**-2.4**
MBH	**Mount Berech**	**9.45**	**151**	Pn	**P**	**14 50 18.2**	**-3.2**
EIL	**Elat**	**9.58**	**151**	P	**P**	**14 50 19.7**	**-3.4**
	2.1nm,0.3s,baz=322,slow=16,SNR=14						
EIL				S	**Sn**	**14 52 04.1**	**-7.8**
	0.9nm,0.3s,baz=46,slow=26,SNR=7.5						
EIL	**Elat**	**9.58**	**151**	Pn	**P**	**14 50 19.6**	**-3.5**
TIP	**Timpagrande**	**10.16**	**279**	*e*P	**P**	**14 50 29.9**	**-1.2**
TIP	**Timpagrande**	**10.16**	**279**	*e*P	**P**	**14 50

comp=Z,52nm,19.1s,MS3.5,baz=359,slow=39
SONM Songino Array 54.74 53 P **P 14 57 32.7 -1.1**
1.5nm,1.2s,mb3.9,baz=291,slow=6.4,SNR=4.1
CMAR Chiang Mai Arr 62.69 87 P **P 14 58 26.5 -3.1**
1.1nm,0.7s,mb4.1,baz=301,slow=8.4,SNR=6.4
YKA Yellowknife Ar 75.60 344 P **P 14 59 46.7 -1.5**
0.3nm,0.7s,mb3.3,baz=35,slow=5.5,SNR=3.5
ILAR Eielson Array 77.31 358 P **P 14 59 56.7 -1.1**
0.2nm,0.6s,mb3.2,baz=336,slow=4.8,SNR=4.3

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*IDC **29** 14:52:06.9±1.8,4.69S×153.27E,h19km±10km,mb4.7/16, mb1 4.8/18,mb1mx4.8/19,mbtmp4.8/18,ML4.3/2,MS4.2/12, Ms1 4.3/12,ms1mx4.0/19,Error ellipse: s-maj=18.5km s-min=12.7km az=97.0*

*MOS **29** 14:52:08.7±1.1,4.62S×153.13E,h33km,mb5.3/24,Error ellipse: s-maj=10.9km s-min=7.0km az=89.5*

*BJI **29** 14:52:08.3,4.40S×153.43E,h36km,mB5.2,mb5.1,Ms4.8, Msz4.4*

*HRVD **29** 14:52:10.7±0.3,4.91S×153.26E,h50km±2km,MW5.0/50, Centroid moment Tensor Solution. LP body waves: s32,c43;Mantle waves: s50,c84; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.73±.24; $M_{\theta\theta}$-0.98±.15; $M_{\phi\phi}$-0.74±.16; $M_{r\theta}$2.59±.14; $M_{\theta\phi}$-2.34±.10; $M_{\phi r}$-0.27±.13; Best double couple: $M_0$3.81×10^{16} NP1:ϕ_s192°,δ40°,λ27°. NP2:ϕ_s81°,δ73°,λ127°. Principal axes: T 3.817, Plg49°, Azm31°; N -.013, Plg35°, Azm248°; P -3.804, Plg19°, Azm144°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **29** 14:52:10.7±0.1,4.78S×153.21E,mb5.1/32 Error ellipse: s-maj=6.6km s-min=4.2km az=101.0*

ISC 29 14:52:07.3±0.2,4.74S±0.03×153.25E±0.05,h33km,n215, $_{\sigma}$0**94**/137,**mb5.0**/51,**MS4.3**/18,**9C-12D,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.62**	**232**	⇑*iP*	**P**	**14 54 00.7**	**+2.0**
PMG	**Port Moresby**	**7.62**	**232**	Pn	**Pn**	**14 53 59.5**	**+0.6**
	14nm,0.3s,baz=40,slow=11,SNR=56						
PMG				Sn	**Sn**	**14 55 25.0**	**+0.1**
	40nm,0.3s,baz=165,slow=22,SNR=21						
PMG	**Port Moresby**	**7.62**	**232**	*eP*	**P**	**14 53 59.3**	**+0.7**
	70nm,0.6s						
CTA	**Charters Tower**	**16.70**	**203**	*eP*	**P**	**14 56 01.7**	**+1.2**
	26nm,1.1s						
CTA				*eS*	**S**	**14 59 08.1**	**+4.1**
CTA				*e*SCP		15 04 22.0	
CTA	**Charters Tower**	**16.70**	**203**	*eP*	**P**	**14 56 01.7**	**+1.2**
CTA				*eS*	**S**	**14 59 08.1**	**+4.1**
CTA				pmax	pmax		
	comp=Z,26nm,1.1s						
CTA	**Charters Tower**	**16.70**	**203**	Pn	**P**	**14 56 02.0**	**+1.5**
	comp=Z,1.2nm,0.3s,baz=30,slow=14,SNR=35						
CTA				ScP		15 04 21.1	
	comp=Z,0.0nm,0.3s,baz=29,slow=5.8,SNR=4.1						
CTAO	**Charters Tower**	**16.70**	**203**	*eP*	**P**	**14 56 00.7**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,177nm,1.6s						
CTAO	**Charters Tower**	**16.70**	**203**	*eP*	**P**	**14 56 00.7**	**+0.2**
	comp=Z,177nm,1.6s						
GUMO	**Guam**	**20.02**	**336**	*eP*	**P**	**14 56 41.4**	**+1.1**
GUMO				pmax	pmax		
	comp=Z,353nm,1.1s						
GUMO	**Guam**	**20.02**	**336**	*eP*	**P**	**14 56 41.4**	**+1.1**
	comp=Z,353nm,1.1s						
NOUC	**Port Laguerre**	**21.39**	**145**	⇓*eP*	**P**	**14 56 54.2**	**-0.1**
DZM	**Mont Dzumac**	**21.45**	**145**	*eP*	**P**	**14 56 55.1**	**+0.3**
KAKA	**Kakadu**	**22.03**	**248**	⇓*iP*	**P**	**14 56 59.7**	**-1.0**
	comp=Z,77nm,0.6s,mb5.3						
KAKA				*eS*	**S**	**15 00 57.5**	**+0.8**
WRAB	**Tennant Creek**	**23.81**	**229**	*eP*	**P**	**14 57 17.9**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,139nm,1.4s,mb5.2						
WRAB	**Tennant Creek**	**23.81**	**229**	*eP*	**P**	**14 57 17.9**	**-0.4**
	comp=Z,139nm,1.4s,mb5.2						
WB2	**Warramunga Arr**	**23.81**	**229**	⇓*iP*	**P**	**14 57 18.2**	**-0.1**
WB2				*e*		14 57 30.5	
WB2				*eS*	**S**	**15 01 34.4**	**+5.7**
WB2				*e*SCP		15 04 36.5	
WB2				*e*SCS	ScS	15 08 29.2	+6.6
WRA	**Warramunga Arr**	**23.82**	**229**	P	**P**	**14 57 18.4**	**0.0**
	comp=Z,14nm,0.6s,mb4.6,baz=53,slow=9.7,SNR=88						
WRA				PcP	PcP	15 01 02.6	-0.2
	comp=Z,5.5nm,0.7s,baz=55,slow=2.4,SNR=7.1						
WRA				ScP		15 04 36.7	
	comp=Z,6.4nm,0.9s,baz=54,slow=3.1,SNR=13						
ARMA	**Armidale**	**25.59**	**183**	⇑*iP*	**P**	**14 57 36.2**	**+0.9**
ASAR	**Alice Springs**	**26.50**	**223**	P	**P**	**14 57 42.6**	**-1.2**
	comp=Z,5.6nm,0.6s,mb4.3,baz=58,slow=8.7,SNR=50						
ASAR				PcP	PcP	15 01 09.2	+0.6
	comp=Z,4.5nm,0.6s,baz=64,slow=2.4,SNR=8.2						
ASAR				ScP		15 04 47.0	
	comp=Z,9.8nm,0.9s,baz=53,slow=3.4,SNR=21						
ASAR				LR	LR	15 07 57.0	
	comp=Z,285nm,20.9s,MS3.8,baz=42,slow=36						
ASPA	**Alice Springs**	**26.50**	**223**	*eP*	**P**	**14 57 42.8**	**-1.0**
ASPA				*e*SCP		15 04 46.5	
ASPA				*e*SCS	ScS	15 08 36.6	+3.0
ASPA	**Alice Springs**	**26.50**	**223**	*eP*	**P**	**14 57 42.8**	**-1.0**
ASPA				*e*		15 08 36.6	
STKA	**Stephens Creek**	**29.12**	**201**	*eP*	**P**	**14 58 05.2**	**-2.2**
	comp=Z,10.0nm,0.6s,mb4.7						
STKA				*i* SCP		15 04 55.2	
STKA	**Stephens Creek**	**29.12**	**201**	P	**P**	**14 58 05.7**	**-1.7**
	comp=Z,7.3nm,0.5s,mb4.7,baz=21,slow=9.5,SNR=12						
STKA				PcP	PcP	15 01 15.1	+0.2
	comp=Z,1.9nm,0.7s,baz=19,slow=4.1,SNR=2.9						
STKA				ScP		15 04 55.3	
	comp=Z,16nm,0.9s,baz=14,slow=4.3,SNR=15						
STKA				LR	LR	15 09 46.7	
	comp=Z,614nm,19.9s,MS4.2,baz=20,slow=36						
FITZ	**Fitzroy Crossi**	**30.08**	**242**	*eP*	**P**	**14 58 14.5**	**-1.6**
	comp=Z,51nm,0.6s,mb5.4						
FITZ				*e*SCP		15 04 58.8	
CNB	**Canberra Magne**	**30.63**	**186**	*eP*	**P**	**14 58 20.3**	**-0.5**
	comp=Z,369nm,1.3s,mb6.0						
CBIJ	**Chichi jima**	**33.41**	**342**	LR	LR	15 11 04.4	
	comp=Z,339nm,20.5s,MS4.0,baz=165,slow=34						
FORT	**Forrest**	**35.12**	**220**	⇓*iP*	**P**	**14 58 58.4**	**-1.4**
	comp=Z,102nm,0.6s,mb5.9						
MBWA	**Marble Bar**	**35.39**	**240**	*eP*	**P**	**14 59 09.5**	**-1.2**
	comp=Z,10nm,0.6s,mb4.9						
JOW	**Kunigami**	**39.61**	**324**	LR	LR	15 13 18.6	
	comp=Z,172nm,20.7s,MS3.9,baz=159,slow=32						
URZ	**Urewera**	**39.81**	**150**	P	**P**	**14 59 40.2**	**+1.1**
	comp=Z,29nm,1.0s,mb5.0,baz=274,slow=4.1,SNR=14						
PUZ	**Puketiti**	**40.24**	**149**	P	**P**	**14 59 43.4**	**+0.7**
LTZ	**Lake Taylor**	**41.47**	**159**	P	**P**	**14 59 53.4**	**+0.6**
JCZ	**Jackson Bay**	**41.49**	**163**	P	**P**	**14 59 53.6**	**+0.7**
MSZ	**Milford Sound**	**41.80**	**164**	P	**P**	**14 59 56.2**	**+0.7**
RPZ	**Rata Peaks**	**41.88**	**161**	P	**P**	**14 59 56.6**	**+0.5**
	comp=Z,47nm,0.7s,mb5.2,baz=334,slow=1.7,SNR=48						
RPZ				ScP		15 05 41.8	
	comp=Z,7.6nm,0.9s,baz=131,slow=9.4,SNR=4.1						
RPZ				LR	LR	15 15 28.4	
	comp=Z,1μm,19.0s,MS4.8,baz=332,slow=33						
LBZ	**Lake Benmore**	**42.20**	**162**	P	**P**	**14 59 57.8**	**-0.9**
MAJO	**Matsushiro**	**43.41**	**342**	*eP*	**P**	**15 00 07.9**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
MAJO	**Matsushiro**	**43.41**	**342**	*eP*	**P**	**15 00 07.9**	**-0.9**
	comp=Z,10nm,0.9s,mb4.5						
MAT	**Matsushiro**	**43.41**	**342**	P	**P**	**15 00 09.0**	**+0.2**
MAT				pmax	pmax		
	comp=Z,86nm,1.8s,mb5.2						
MAT				MLR	MLR		
	comp=Z,370nm,22.0s,MS4.2						
MAT	**Matsushiro**	**43.41**	**342**	P	**P**	**15 00 09.0**	**+0.2**
	comp=Z,86nm,1.8s,mb5.2						
MAT				LR	LR		
	comp=Z,370nm,22.0s,MS4.2						
SSE	**Sheshan**	**46.98**	**321**	P	**P**	**15 00 37.3**	**+0.1**
SSE				XP	sP	15 00 50.3	-0.9
SSE				S	**S**	**15 07 32.3**	**+6.8**
SSE				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,91nm,7.6s						
SSE				LR	LR		
	comp=N,302nm,21.9s,MS4.3						
SSE				LR	LR		
	comp=E,152nm,21.8s,MS4.3						
SSE				LR	LR		
	comp=Z,219nm,26.8s,MS4.0						
SSE	**Sheshan**	**46.98**	**321**	P	**P**	**15 00 37.2**	**0.0**
	comp=Z,26nm,0.8s,mb5.2						
SSE				sP	sP	15 00 50.3	-0.9
SSE				S	**S**	**15 07 32.3**	**+6.8**
SSE				sS		15 07 46.9	
SSE				SS	SS	15 11 04.9	+20
SSE				LR	LR		
	comp=Z,220nm,26.8s,MS4.0						
KS15	**Wonju Array Si**	**48.16**	**333**	*eP*	**P**	**15 00 46.9**	**+0.4**
NJ2	**Nanjing**	**49.09**	**321**	*eP*	**P**	**15 00 53.5**	**-0.2**
NJ2				AP	pP	15 01 03.5	-0.1
NJ2				XP	sP	15 01 07.5	-0.2
NJ2				PP	PP	15 02 49.5	+2.0
NJ2				S	**S**	**15 08 01.0**	**+5.8**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,350nm,4.4s						
NJ2				LR	LR		
	comp=N,490nm,23.2s,MS4.6						
NJ2				LR	LR		
	comp=E,660nm,27.5s,MS4.6						
NJ2				LR	LR		
	comp=Z,810nm,25.5s,MS4.6						
ASAJ	**Asahikawa**	**49.57**	**350**	LR	LR	15 19 14.7	
	comp=Z,308nm,20.6s,MS4.3,baz=316,slow=33						
WHN	**Wuhan**	**51.13**	**316**	*eP*	**P**	**15 01 09.0**	**-0.3**
YSS	**Yuzh-Sakhalins**	**52.30**	**351**	P	**P**	**15 01 17.9**	**0.0**
MDJ	**Mudanjiang**	**53.53**	**339**	P	**P**	**15 01 23.0**	**-4.0**
MDJ				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,83nm,3.6s						
MDJ				LR	LR		
	comp=N,175nm,26.7s,MS4.0						
MDJ				LR	LR		
	comp=E,87nm,27.7s,MS4.0						
MDJ				LR	LR		
	comp=Z,228nm,26.7s,MS4.1						
XAN	**Xi'an**	**56.89**	**316**	P	**P**	**15 01 50.8**	**-0.8**
XAN				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.2						
KLR	**Kul'dur**	**56.92**	**343**	*eP*	**P**	**15 01 47.5**	**-4.1**
KMI	**Kunming**	**57.33**	**304**	P	**P**	**15 01 55.4**	**+0.6**
KMI				*SP	sP	15 02 12.0	+3.2
KMI				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
KMI	**Kunming**	**57.33**	**304**	P	**P**	**15 01 55.4**	**+0.6**
	comp=Z,13nm,1.2s,mb4.8						
KMI				sP	sP	15 02 12.0	+3.2
PET	**Petropavlovsk**	**57.73**	**4**	*eP*	**P**	**15 01 57.2**	**0.0**
PET				*eS*	**S**	**15 09 52.9**	**+0.9**
PET				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
CM31	**Chiang Mai Arr**	**58.26**	**295**	*eP*	**P**	**15 02 01.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**58.26**	**295**	P	**P**	**15 02 01.8**	**+0.4**
	comp=Z,10nm,0.8s,mb4.9,baz=121,slow=5.3,SNR=34						
CMAR				LR	LR	15 25 00.2	
	comp=Z,111nm,19.0s,MS4.0,baz=125,slow=34						
LZH	**Lanzhou**	**61.50**	**316**	*eP*	**P**	**15 02 24.0**	**+0.6**
LZH				AMB	AMB		
	comp=Z,41nm,1.4s,mb5.4						
LZH	**Lanzhou**	**61.50**	**316**	*eP*	**P**	**15 02 24.1**	**+0.7**
	comp=Z,41nm,1.4s,mb5.4						
LZH				pP	pP	15 02 27.9	-5.7
LZH				sP	sP	15 02 28.5	-8.9
MA2	**Magadan**	**64.15**	**359**	*eP*	**P**	**15 02 39.8**	**-0.8**
MA2				*eS*	**S**	**15 11 16.0**	**+2.3**
MA2				*e*		15 12 29.8	
MA2				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
MA2				pmax	pmax		
	comp=E,4.0nm,0.9s						
MA2				pmax	pmax		
	comp=N,8.0nm,0.8s						
MA2	**Magadan**	**64.15**	**359**	*eP*	**P**	**15 02 39.6**	**-0.9**
	comp=N,36nm,0.9s,mb5.4						
CLNS	**Chul'man**	**65.58**	**343**	*eP*	**P**	**15 02 49.4**	**-0.5**
CLNS				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.3						
CLNS				pmax	pmax		
	comp=N,16nm,1.2s						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.0s						
ULN	**Ulaanbaatar**	**66.19**	**328**	*eP*	**P**	**15 02 53.5**	**-0.4**
ULN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
ULN	**Ulaanbaatar**	**66.19**	**328**	*eP*	**P**	**15 02 53.5**	**-0.4**
	comp=Z,9.6nm,0.8s,mb4.9						
SONM	**Songino Array**	**66.52**	**328**	P	**P**	**15 02 56.1**	**+0.1**
	comp=Z,4.0nm,0.5s,mb4.7,baz=140,slow=5.9,SNR=42						
YAK	**Yakutsk**	**69.01**	**348**	*eP*	**P**	**15 03 11.0**	**-0.3**
YAK				pmax	pmax		
	comp=Z,49nm,1.1s,mb5.3						
YAK	**Yakutsk**	**69.01**	**348**	*eP*	**P**	**15 03 11.0**	**-0.3**
	comp=Z,49nm,1.1s,mb5.3						
ZAK	**Zakamensk**	**69.68**	**328**	⇓*eP*	**P**	**15 03 14.9**	**-0.7**
BOD	**Bodaibo**	**69.90**	**339**	*eP*	**P**	**15 03 15.4**	**-1.4**
TLY	**Talaya**	**70.26**	**330**	*eP*	**P**	**15 03 18.6**	**-0.5**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
TLY	**Talaya**	**70.26**	**330**	*eP*	**P**	**15 03 18.9**	**-0.2**
	comp=Z,2.6nm,0.5s,mb4.4						
MOY	**Mondy**	**71.60**	**329**	*eP*	**P**	**15 03 27.7**	**+0.5**
VNDA	**Vanda**	**72.87**	**178**	*eP*	**P**	**15 03 34.7**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VNDA	**Vanda**	**72.87**	**178**	P	**P**	**15 03 34.6**	**+0.3**
	comp=Z,5.7nm,0.7s,mb4.6,baz=329,slow=7.7,SNR=24						
VNDA				LR	LR	15 30 27.2	
	comp=Z,66nm,18.1s,MS4.0,baz=331,slow=32						
VNDA	**Vanda**	**72.87**	**178**	*eP*	**P**	**15 03 34.6**	**+0.3**
	comp=Z,7.9nm,0.8s,mb4.7						
SBA	**Scott Base**	**73.41**	**177**	P	**P**	**15 03 36.6**	**-0.9**
ANM	**Nome**	**75.59**	**17**	*eP*	**P**	**15 03 51.2**	**+1.0**
WMQ	**Urumqi**	**76.01**	**317**	*eP*	**P**	**15 03 53.5**	**+0.5**
WMQ				PCP	PcP	15 04 06.0	+0.4
WMQ				XP	sP	15 04 12.0	+5.0
WMQ				AMB	AMB		
	comp=Z,65nm,1.8s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,184nm,6.5s						
WMQ				LR	LR		
	comp=N,513nm,21.3s,MS5.0						
WMQ				LR	LR		
	comp=E,688nm,21.5s,MS5.0						
WMQ				LR	LR		
	comp=Z,938nm,22.0s,MS5.0						
SVW2	**Sparrevohn**	**76.60**	**23**	*eP*	**P**	**15 03 56.1**	**+0.1**
HYB	**Hyderabad**	**76.90**	**289**	⇑*eP*	**P**	**15 03 57.5**	**-1.1**
HYB	**Hyderabad**	**76.90**	**289**	⇑*iP*	**P**	**15 03 57.5**	**-1.1**
	comp=Z,40nm,1.0s,mb5.3						
TIXI	**Tiksi**	**77.90**	**352**	⇑*iP*	**P**	**15 04 02.6**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,31nm,1.6s,mb5.0						
TIXI	**Tiksi**	**77.90**	**352**	⇓*iP*	**P**	**15 04 00.7**	**-2.4**
SLKM	**Skilak Lake**	**78.43**	**25**	*eP*	**P**	**15 04 05.7**	**-0.5**
PMR	**Palmer**	**79.45**	**24**	*eP*	**P**	**15 04 10.5**	**-1.3**
PMR				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
PMR				MLR	MLR		
	comp=Z,300nm,22.0s,MS4.6						
PMR	**Palmer**	**79.45**	**24**	*eP*	**P**	**15 04 10.5**	**-1.3**
	comp=Z,15nm,1.0s,mb4.9						
PMR				LR	LR		
	comp=Z,300nm,22.0s,MS4.6						
SML	**Sawmill**	**79.89**	**24**	*eP*	**P**	**15 04 13.9**	**-0.2**
IMA	**Indian Mountai**	**80.25**	**19**	*eP*	**P**	**15 04 16.3**	**+0.3**
IMA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
IMA	**Indian Mountai**	**80.25**	**19**	*eP*	**P**	**15 04 16.3**	**+0.3**
	comp=Z,6.6nm,0.8s,mb4.6						
MKAR	**Makanchi Array**	**80.58**	**319**	*iP*	**P**	**15 04 18.7**	**+0.6**
MCK	**McKinley**	**80.64**	**22**	*eP*	**P**	**15 04 16.9**	**-1.2**
MCK				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
MCK	**McKinley**	**80.64**	**22**	*eP*	**P**	**15 04 16.9**	**-1.1**
	comp=Z,17nm,1.1s,mb4.9						
ZAL	**Zalesovo**	**81.36**	**326**	P	**P**	**15 04 21.7**	**-0.4**
	comp=Z,10nm,1.0s,mb4.7,baz=13,slow=5.1,SNR=38						
COLA	**College**	**81.63**	**22**	*eP*	**P**	**15 04 21.7**	**-1.6**
COLA				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
COLA	**College**	**81.63**	**22**	*eP*	**P**	**15 04 21.7**	**-1.5**
	comp=Z,15nm,1.0s,mb4.9						
ILAR	**Eielson Array**	**81.94**	**22**	P	**P**	**15 04 23.6**	**-1.3**
	comp=Z,5.3nm,0.8s,mb4.5,baz=252,slow=5.0,SNR=38						
NVS	**Novosibirsk**	**82.53**	**327**	*iP*	**P**	**15 04 27.3**	**-0.8**
NVS				pmax	pmax		
	comp=Z,37nm,1.4s,mb5.2						
NVS				pmax	pmax		
	comp=N,12nm,1.5s						
NVS				pmax	pmax		
	comp=E,29nm,1.4s						
KURK	**Kurchatov**	**84.00**	**322**	*eP*	**P**	**15 04 35.5**	**-0.2**
KURK				*e*PP	pP	15 04 48.8	+2.6
KURK				pmax	pmax		
	comp=Z,48nm,1.0s,mb5.6						
KURK	**Kurchatov**	**84.00**	**322**	*eP*	**P**	**15 04 35.5**	**-0.2**
	comp=Z,48nm,1.0s,mb5.6						
KURK				*e*pP	pP	15 04 48.8	+2.6
TKM2	**Tokmak 2**	**84.22**	**314**	P	**P**	**15 04 38.4**	**+1.4**
	SNR=9.0						
KZA	**Kyzart**	**84.30**	**313**	P	**P**	**15 04 39.9**	**+2.6**
	SNR=25						
DAWY	**Dawson**	**84.55**	**24**	*eP*	**P**	**15 04 38.7**	**+0.5**
KBK	**Karagaybulak**	**84.63**	**313**	P	**P**	**15 04 40.5**	**+1.4**
	SNR=26						
CHMS	**Chumysh**	**84.84**	**314**	P	**P**	**15 04 41.2**	**+1.2**
	SNR=26						
UCH	**Uchtor**	**84.86**	**313**	P	**P**	**15 04 42.6**	**+2.4**
	SNR=38						
AAK	**Ala-Archa**	**84.95**	**313**	P	**P**	**15 04 42.2**	**+1.5**
	SNR=31						
AAK	**Ala-Archa**	**84.95**	**313**	P	**P**	**15 04 42.0**	**+1.3**
AAK				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.4						
AAK	**Ala-Archa**	**84.95**	**313**	*eP*	**P**	**15 04 40.9**	**+0.3**
	comp=Z,31nm,0.8s,mb5.5						
USP	**Ospenovka**	**85.07**	**314**	P	**P**	**15 04 42.3**	**+1.1**
	SNR=45						
QSPA	**South Pole Qui**	**85.22**	**180**	*eP*	**P**	**15 04 42.1**	**+1.0**
	comp=Z,21nm,0.6s,mb5.4						
AML	**Almayashu**	**85.44**	**313**	P	**P**	**15 04 45.3**	**+2.2**
	SNR=60						
EKS2	**Erkin-Say**	**85.48**	**313**	P	**P**	**15 04 44.8**	**+1.6**
	SNR=28						
MAW	**Mawson**	**85.80**	**203**	*eP*	**P**	**15 04 44.3**	**+0.1**
	comp=Z,5.5nm,0.6s,mb5.0						
MAW	**Mawson**	**85.80**	**203**	*eP*	**P**	**15 04 44.3**	**+0.1**
MAW				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MAW	**Mawson**	**85.80**	**203**	P	**P**	**15 04 44.6**	**+0.4**
	comp=Z,4.4nm,0.7s,mb4.8,baz=95,slow=4.4,SNR=6.9						
MAW				LR	LR	15 38 23.4	
	comp=Z,220nm,20.1s,MS4.5,baz=319,slow=32						
INK	**Inuvik**	**88.24**	**21**	*eP*	**P**	**15 04 55.3**	**-0.7**
INK				*e*		15 05 14.3	
INK				pmax	pmax		
	comp=Z,15nm,1.2s						
INK	**Inuvik**	**88.24**	**21**	P	**P**	**15 04 55.8**	**-0.3**
	comp=Z,7.7nm,1.0s,mb4.9,baz=253,slow=7.4,SNR=14						
INK	**Inuvik**	**88.24**	**21**	*eP*	**P**	**15 04 55.3**	**-0.7**
	comp=Z,15nm,1.2s,mb5.1						
INK				*e*		15 05 14.3	
CHKZ	**Chkalovo**	**89.43**	**324**	P	**P**	**15 05 01.3**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.5						
CHKZ	**Chkalovo**	**89.43**	**324**	*eP*	**P**	**15 05 00.9**	**-1.1**
	comp=Z,28nm,0.8s,mb5.6						
BVA0	**Borovoye Array**	**89.47**	**323**	P	**P**	**15 05 01.8**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.0						
BVAR	**Borovoye Array**	**89.47**	**323**	P	**P**	**15 05 01.8**	**-0.4**
	comp=Z,40nm,0.7s,mb5.8,baz=104,slow=6.1,SNR=250						
BRVK	**Borovoye**	**89.53**	**323**	P	**P**	**15 05 02.2**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.3						
BRVK	**Borovoye**	**89.53**	**323**	*eP*	**P**	**15 05 01.8**	**-0.8**
	comp=Z,32nm,0.8s,mb5.7						
NVAR	**Mina Array Bea**	**91.69**	**52**	P	**P**	**15 05 14.0**	**+1.0**
	comp=Z,1.7nm,0.8s,mb4.4,baz=261,slow=7.1,SNR=8.7						
NVAR				LR	LR	15 38 53.1	
	comp=Z,264nm,21.0s,MS4.7,baz=270,slow=31						
MNV	**Mina**	**91.81**	**52**	*eP*	**P**	**15 05 14.3**	**+0.8**
MNV				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.5						
MNV	**Mina**	**91.81**	**52**	*eP*	**P**	**15 05 14.3**	**+0.8**
	comp=Z,2.2nm,0.8s,mb4.5						
NEW	**Newport**	**93.25**	**42**	LR	LR	15 43 05.0	
	comp=Z,166nm,19.0s,MS4.5,baz=232,slow=33						
SYO	**Syowa Base**	**93.87**	**199**	⇑P	**P**	**15 05 21.0**	**-1.2**
YKA	**Yellowknife Ar**	**95.17**	**28**	P	**P**	**15 05 28.2**	**-0.1**
	comp=Z,1.7nm,0.7s,mb4.6,baz=270,slow=4.5,SNR=24						
YKA				PKKPbc		15 22 22.2	
	comp=Z,0.4nm,0.7s,baz=90,slow=2.9,SNR=8.6						
YKA	**Yellowknife Ar**	**95.17**	**28**	P	**P**	**15 05 28.2**	**-0.1**
YKA				PKKPbc		15 22 22.2	
SVE	**Sverdlovsk**	**95.37**	**327**	*eP*	**P**	**15 05 25.0**	**-4.3**
PDAR	**Pinedale Array**	**98.48**	**48**	P	**P**	**15 05 43.0**	**-0.7**
	comp=Z,0.7nm,1.1s,mb4.1,baz=180,slow=1.8,SNR=3.3						
PDAR				LR	LR	15 45 28.1	
	comp=Z,146nm,18.2s,MS4.5,baz=309,slow=32						
ARCES	**ARCESS Array B**	**106.95**	**343**	PKiKP		15 10 30.4	
	comp=Z,6.5nm,1.0s,baz=106,slow=1.8,SNR=6.3						
ARCES	**ARCESS Array B**	**106.95**	**343**	PKPdf		15 10 30.4	
JOF	**Joensuu**	**108.32**	**336**	*ep*	Pdif	15 06 24.9	-2.1
	comp=Z,8.0nm,0.8s						
OBN	**Obninsk**	**108.93**	**327**	*e

GRF	Grafenberg Arr	124.94	331	*e*PKIKP	PKPdf	15 11 05.9	+1.6
TNS	Taunus Mts	125.88	333	*e*PKIKP	PKPdf	15 11 08.2	+2.1
EKA	Eskdalemuir Ar	126.11	344	PKP	PKPdf	15 11 08.4	+2.0
	comp=Z,6.3nm,0.8s,baz=24,slow=3.2,SNR=14						
WATA	Walderalm	126.30	328⇓	*i*P	PKPdf	15 11 08.6	+1.6
	comp=Z,14nm,1.0s						
WTTA	Wattenberg	126.31	328⇑	*i*P	PKPdf	15 11 09.3	+2.3
	comp=Z,37nm,0.9s						
MOTA	Moosalm	126.54	329⇑	*i*P	PKPdf	15 11 09.1	+1.6
	comp=Z,12nm,1.0s						
SQTA	Sankt Quirin	126.57	329⇓	*i*P	PKPdf	15 11 09.3	+1.8
	comp=Z,14nm,0.9s						
DAVA	Damuels	127.20	329⇓	*i*P	PKPdf	15 11 10.6	+1.8
	comp=Z,16nm,0.8s						
BFO	Black Forest	127.26	331	*e*PKIKP	PKPdf	15 11 10.6	+1.7
GIVF	Givet	127.56	335	*e*PKIKP	PKPdf	15 11 11.5	+2.1
CDF	Champ du Feu	127.70	332	*e*PKIKP	PKPdf	15 11 11.2	+1.5
	comp=Z,24nm,1.1s						
BAIF	Baives	127.86	335	*e*PKIKP	PKPdf	15 11 11.9	+2.0
	comp=Z,30nm,1.0s						
HINF	Hinteralfeld	128.33	332	*e*PKIKP	PKPdf	15 11 12.6	+1.7
	comp=Z,65nm,1.2s						
HAU	Haudompre	128.43	332	*e*PKIKP	PKPdf	15 11 12.9	+1.8
	comp=Z,40nm,0.9s						
MEZF	Maizieres J'vi	128.66	333	*e*PKIKP	PKPdf	15 11 13.9	+2.4
	comp=Z,29nm,0.7s						
CABF	La Chapelle	129.55	331	*e*PKIKP	PKPdf	15 11 15.5	+2.2
	comp=Z,76nm,1.2s						
LPL	La Plagne	130.01	330	*e*PKIKP	PKPdf	15 11 16.6	+2.4
LPG	La Plagne	130.01	330	*e*PKIKP	PKPdf	15 11 16.7	+2.5
	comp=Z,16nm,0.7s						
SSF	Saint Saulge	130.43	333	*e*PKIKP	PKPdf	15 11 17.2	+2.3
	comp=Z,38nm,1.0s						
MBDF	Montbardon	130.53	329	*e*PKIKP	PKPdf	15 11 17.4	+2.2
SMF	Signal de Mont	130.59	333	*e*PKIKP	PKPdf	15 11 17.4	+2.2
	comp=Z,30nm,0.9s						
AVF	Avril sur Loir	130.70	333	*e*PKIKP	PKPdf	15 11 17.3	+1.9
	comp=Z,27nm,1.1s						
FLN	La Folinlere	130.76	337	*e*PKIKP	PKPdf	15 11 16.2	+0.7
PGF	Pioggiola	130.77	325	*e*PKIKP	PKPdf	15 11 17.9	+2.2
ORIF	Oris-en-Rattie	130.85	330	*e*PKIKP	PKPdf	15 11 18.0	+2.2
	comp=Z,22nm,0.8s						
BGF	Bois d'Agland	131.11	333	*e*PKIKP	PKPdf	15 11 18.4	+2.2
GRR	Gorron	131.22	337	*e*PKIKP	PKPdf	15 11 17.9	+1.5
	comp=Z,23nm,0.8s						
VIVF	Saint-Julien-l	131.50	330	*e*PKIKP	PKPdf	15 11 18.7	+1.7
TCF	Toulx Ste Croi	131.60	333	*e*PKIKP	PKPdf	15 11 18.8	+1.6
	comp=Z,32nm,0.9s						
LMR	La Mourre	131.63	328	*e*PKIKP	PKPdf	15 11 19.0	+1.7
	comp=Z,72nm,1.2s						
SMRF	Simiane la Rot	131.67	329	*e*PKIKP	PKPdf	15 11 20.1	+2.7
	comp=Z,70nm,1.1s						
SGMF	Saint Gilles	131.97	338	*e*PKIKP	PKPdf	15 11 19.7	+1.9
LASF	Ste Croix	132.47	330	*e*PKIKP	PKPdf	15 11 21.4	+2.5
	comp=Z,48nm,1.0s						
LPAZ	La Paz	134.05	118	PKP	PKPdf	15 11 24.7	+2.1
	comp=Z,2.3nm,0.6s,baz=346,slow=3.2,SNR=13						
LPAZ				SKPbc		15 14 52.1	
	comp=Z,22nm,1.4s,baz=300,slow=1.1,SNR=12						
LPAZ	La Paz	134.05	118	*e*PKPdf	PKPdf	15 11 25.6	+3.0
ETSF	Etsaut	135.47	332	*e*PKIKP	PKPdf	15 11 28.2	+3.7
	comp=Z,17nm,0.6s						
SJPF	Ste Jean	135.60	333	*e*PKIKP	PKPdf	15 11 28.1	+3.4
SDV	Santo Domingo	136.25	82	PKP	PKPdf	15 11 27.8	+1.1
	comp=Z,3.4nm,0.5s,baz=49,slow=1.6,SNR=5.5						
SDV				SKPbc		15 14 59.1	
	comp=Z,8.0nm,0.9s,baz=331,slow=2.7,SNR=5.5						
ESDC	Sonseca Array	139.59	333	PKP	PKPdf	15 11 33.8	+1.8
	comp=Z,1.6nm,0.6s,baz=22,slow=3.8,SNR=5.8						
ESDC				SKPbc		15 15 09.2	
	comp=Z,0.2nm,0.3s,baz=18,slow=5.3,SNR=4.3						
BAO	Brasilia Array	150.81	134⇓	*e*P	PKPdf	15 11 54.1	+2.5
BAO				*i*		15 15 57.1	
BAO				*i*		15 16 00.1	
DBIC	Dimbokro	158.13	276	PKP	PKPdf	15 12 03.8	+2.0
	comp=Z,2.0nm,0.9s,baz=128,slow=4.5,SNR=3.5						
DBIC				PKPab	PKPab	15 12 37.1	-0.8
	comp=Z,9.9nm,1.1s,baz=49,slow=4.2,SNR=3.6						

*IDC **29** 14:58:13.1±0.9, 7.61N×93.87E, mb4.1/11, mb1 4.2/12, mb1mx4.1/19, mbtmp4.1/12, ML4.0/1, MS4.0/1, Ms1 4.0/1, ms1mx2.8/21, Error ellipse: s-maj=37.8km s-min=19.4km az=50.0*

*BJI **29** 14:58:15.8, 7.59N×93.57E, h41km, mB4.9, mb4.6, Ms4.7, Msz4.4*

*NEIC **29** 14:58:18.4±3.6, 7.61N×93.82E, h38km±28km, mb4.6/6, Error ellipse: s-maj=33.6km s-min=15.8km az=53.0*

ISC 29 14:58:16.7±4.1, 7.7N±0.2×94.0E±0.1, h36km±32km, n36, σ0°98°/32, mb4.4/25, MS4.2/2, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	Chiang Mai Arr	11.77	24	*e*P	P	15 01 04.7	-0.5
	6.8nm,0.8s						
CMAR	Chiang Mai Arr	11.77	24	Pn	P	15 01 05.6	+0.4
	0.3nm,0.3s,baz=216,slow=14,SNR=20						
IMP	Imphal	17.02	360	*e*	P	15 02 12.7	-1.0
KMI	Kunming	19.28	25	P	P	15 02 43.3	+2.0
	11nm,0.8s						
JIRN	Jiri	21.20	341	*e*P	P	15 03 01.3	-0.3
	30nm,0.8s,mb4.7						
PKI	Pulchoki	21.39	339	*e*P	P	15 03 04.9	+1.5
	36nm,0.9s,mb4.7						
DMN	Daman	21.53	338	*e*P	P	15 03 05.8	+0.9
	38nm,0.9s,mb4.8						
KKN	Kakani	21.64	339	*e*P	P	15 03 05.9	0.0
	41nm,1.0s,mb4.8						
GKN	Gorkha	22.07	338	*e*P	P	15 03 10.1	-0.1
	37nm,0.8s,mb4.9						
LSA	Lhasa	22.08	353	*e*P	P	15 03 10.3	0.0
KOLN	Koldanda	22.27	335	*e*P	P	15 03 12.7	+0.5
	27nm,0.8s,mb4.7						
NDI	New Delhi	26.20	325	*e*P	P	15 03 50.3	+0.2
DDI	Dehra Dun	27.02	329	*e*	P	15 04 07.6	+10
DDI				*e*		15 06 11.3	
WMQ	Urumqi	36.43	352	*e*P	P	15 05 18.5	-1.4
WMQ				AP	pP	15 05 28.3	-2.0
WMQ				XP	sP	15 05 32.3	-2.7
WMQ				PP	PP	15 06 41.3	-2.9
WMQ				AMB	AMB		
	comp=Z,31nm,1.2s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,175nm,5.4s						
WMQ				LR	LR		
	comp=N,489nm,17.3s,MS4.5						
WMQ				LR	LR		
	comp=E,377nm,17.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,675nm,17.6s,MS4.5						
SONM	Songino Array	41.40	13	P	P	15 06 01.3	0.0
	comp=Z,2.9nm,0.8s,mb4.0,baz=191,slow=8.0,SNR=6.6						
SONM				PcP	PcP	15 08 00.4	+0.9
	comp=Z,1.3nm,1.0s,baz=187,slow=3.1,SNR=4.5						
ZAL	Zalesovo	46.73	353	P	P	15 06 44.1	+0.1
	comp=Z,4.6nm,0.5s,mb4.7,baz=287,slow=9.9,SNR=7.9						
WRA	Warramunga Arr	48.29	125	P	P	15 06 56.6	-0.1
	comp=Z,0.4nm,0.5s,mb3.8,baz=305,slow=8.6,SNR=6.3						
WRAB	Tennant Creek	48.29	125	*e*P	P	15 07 01.8	+5.0
	comp=Z,4.0nm,0.8s,mb4.5						
CHKZ	Chkalovo	49.61	342	*e*P	P	15 07 04.8	-1.8
	comp=Z,7.3nm,0.9s,mb4.7						
ASAR	Alice Springs	49.92	130	P	P	15 07 09.2	-0.2
	comp=Z,0.6nm,0.7s,mb3.7,baz=308,slow=6.7,SNR=3.3						
KMBO	Kilima Mbogo	57.22	264	LR	LR	15 30 56.3	
	comp=Z,110nm,18.2s,MS4.0,baz=93,slow=34						
YAK	Yakutsk	60.25	18	*e*P	P	15 08 22.6	-1.1
	comp=Z,13nm,0.8s,mb5.0						
BRTR	Keskin Array B	62.42	311	P	P	15 08 37.6	-1.0
	comp=Z,0.8nm,0.8s,mb3.9,baz=129,slow=7.4,SNR=3.3						
JOF	Joensuu	70.96	335	*ep*	P	15 09 29.0	-3.2
	comp=Z,4.6nm,0.9s,mb4.4						
FINES	FINESS Array B	72.81	332	P	P	15 09 43.1	-0.1
	comp=Z,3.2nm,0.8s,mb4.3,baz=94,slow=5.2,SNR=14						
KAF	Kangasniemi	72.89	333	*ep*	P	15 09 42.1	-1.6
	comp=Z,4.8nm,0.9s,mb4.4						
ARCES	ARCESS Array B	75.40	340	P	P	15 09 58.0	-0.1
	comp=Z,1.3nm,0.6s,mb4.0,baz=76,slow=5.0,SNR=4.8						
GERES	GERESS Array B	77.86	318	P	P	15 10 14.1	+1.7
	comp=Z,1.3nm,0.8s,mb3.9,baz=90,slow=4.0,SNR=11						
HFS	Hagfors	78.54	330	P	P	15 10 16.3	+0.4
	comp=Z,2.2nm,0.6s,mb4.2,baz=104,slow=6.1,SNR=12						
NOA	NORSAR Array B	79.82	331	P	P	15 10 23.2	+0.4
	comp=Z,2.1nm,0.8s,mb4.2,baz=93,slow=5.7,SNR=6.1						
SYO	Syowa Base	85.16	197	⇑pP	pP	15 11 05.0	+3.6
EVO	Evora	94.53	310	*e*PKIKP	P	15 11 38.4	+3.4
	comp=Z,18nm,1.1s,mb5.1						
ILAR	Eielson Array	95.00	22	P	P	15 11 37.0	+0.5
	comp=Z,0.4nm,0.8s,mb3.9,baz=291,slow=4.5,SNR=5.3						
RES	Resolute Bay	97.61	2	*e*P	P	15 11 49.0	+0.8
	comp=Z,1.6nm,0.8s,mb4.6						
PDAR	Pinedale Array	125.42	21	PKP	PKPdf	15 17 16.1	+1.7
	comp=Z,0.5nm,0.7s,baz=117,slow=3.3,SNR=4.3						
PLCA	Paso Flores	144.29	200	PKP	PKPdf	15 17 51.6	+2.3
	comp=Z,1.3nm,0.8s,baz=158,slow=3.3,SNR=3.0						

*IDC **29** 15:00:33.6±0.7, 8.11N×93.91E, h24km±3km, mb4.1/18, mb1 4.2/19, mb1mx4.2/24, mbtmp4.2/19, ML4.0/1, MS4.1/3, Ms1 4.2/3, ms1mx3.4/22, Error ellipse: s-maj=24.1km s-min=13.0km az=52.0*

*NEIC **29** 15:00:33.7±0.4, 7.96N×93.82E, h30km, mb4.8/12, Error ellipse: s-maj=9.4km s-min=8.7km az=81.0*

*BJI **29** 15:00:40.4, 8.86N×93.26E, h30km, mB4.8, mb4.8, Ms4.5, Msz4.2*

ISC 29 15:00:32.1±3.6, 7.93N±0.07×93.89E±0.08, h32km±25km, h26km±1.0km; pP-P, n53, σ1°09°/49, mb4.6/32, MS4.3/2, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	Chiang Mai Arr	11.56	25	*e*P	P	15 03 18.2	+0.1
CMAR	Chiang Mai Arr	11.56	25	Pn	P	15 03 16.9	-1.1
	0.3nm,0.3s,baz=210,slow=14,SNR=3.3						
CMAR				LR	LR	15 08 05.4	
	comp=Z,457nm,18.0s,baz=208,slow=40						
PALK	Pallekele	13.09	268	*e*P	P	15 03 37.8	-0.8
	14nm,0.9s						
SHL	Shillong	17.64	354	*e*	P	15 04 35.0	-2.2
SHL				*e*	S	15 08 00.0	+10
HYB	Hyderabad	17.67	304	*i* P	P	15 04 42.0	+4.3
KMI	Kunming	19.07	25	P	P	15 04 55.2	+0.5
	17nm,1.2s						
KMI				pP		15 05 03.9	
KMI				PP	PP	15 05 14.0	+2.7
KMI				S	S	15 08 17.0	-5.8
KMI				sS		15 08 35.6	
KMI				SS	SS	15 08 46.2	-2.0
JIRN	Jiri	20.93	341	*e*P	P	15 05 15.5	+0.8
	90nm,1.0s						
PKI	Pulchoki	21.12	339	*e*P	P	15 05 17.9	+1.3
	168nm,1.2s,mb5.2						
DMN	Daman	21.27	338	*e*P	P	15 05 19.4	+1.4
	101nm,0.9s,mb5.2						
KKN	Kakani	21.36	339	*e*P	P	15 05 19.3	+0.3
	48nm,0.8s,mb4.9						
GKN	Gorkha	21.80	337	*e*P	P	15 05 24.2	+0.8
	293nm,1.3s,mb5.5						
LSA	Lhasa	21.81	354	P	P	15 05 23.8	+0.3
KOLN	Koldanda	22.00	335	*e*P	P	15 05 27.2	+1.8
	237nm,1.3s,mb5.5						
XAN	Xi'an	29.45	26	P	P	15 06 41.8	+6.5
XAN				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
WMQ	Urumqi	36.16	352	P	P	15 07 34.5	+1.0
JOW	Kunigami	37.63	56	LR	LR	15 24 42.2	
	comp=Z,365nm,18.6s,MS4.2,baz=289,slow=39						
AAK	Ala-Archa	38.55	337	*e*P	P	15 07 50.3	-3.3
	comp=Z,13nm,1.1s,mb4.6						
SONM	Songino Array	41.16	13	P	P	15 08 15.2	+0.1
	comp=Z,2.4nm,0.8s,mb3.9,baz=193,slow=8.1,SNR=8.9						
SONM				pP	pP	15 08 22.9	-1.9
	comp=Z,4.2nm,0.8s,baz=198,slow=7.4,SNR=12						
SONM				PcP	PcP	15 10 14.5	-0.1
	comp=Z,0.8nm,0.7s,baz=197,slow=3.3,SNR=3.4						
KURK	Kurchatov	44.49	346	*e*P	P	15 08 42.3	+0.1
	comp=Z,52nm,1.3s,mb5.1						
NWAO	Narrogin (SRO)	46.31	153	P	P	15 08 59.5	+2.5
	comp=Z,6.1nm,0.8s,mb4.6,baz=314,slow=12,SNR=4.9						
ZAL	Zalesovo	46.46	353	P	P	15 08 58.0	+0.2
	comp=Z,5.6nm,0.8s,mb4.5,baz=300,slow=8.9,SNR=13						
WRA	Warramunga Arr	48.50	125	P	P	15 09 13.9	-0.3
	comp=Z,1.3nm,0.5s,mb4.2,baz=305,slow=8.5,SNR=7.2						
WRAB	Tennant Creek	48.50	125	*e*P	P	15 09 11.1	-3.2
	comp=Z,7.3nm,0.8s,mb4.8						
BVAR	Borovoye Array	48.85	341	P	P	15 09 16.0	-0.5
	comp=Z,2.0nm,0.9s,mb4.2,baz=135,slow=6.3,SNR=3.5						
CHKZ	Chkalovo	49.34	342	*e*P	P	15 09 19.7	-0.6
	comp=Z,31nm,1.3s,mb5.2						
CHKZ				*e*	pP	15 09 27.9	-2.3
ASAR	Alice Springs	50.14	130	P	P	15 09 27.6	+0.7
	comp=Z,2.5nm,0.8s,mb4.3,baz=309,slow=7.3,SNR=9.2						
ASAR				PcP	PcP	15 10 49.0	+2.9
	comp=Z,1.8nm,0.7s,baz=302,slow=4.6,SNR=5.7						
ARU	Arti	55.74	337	*e*P	P	15 10 00.4	-7.5
	comp=Z,15nm,1.1s,mb4.9						
PMG	Port Moresby	55.79	107	P	P	15 10 09.6	+0.8
	comp=Z,5.3nm,0.7s,mb4.7,baz=324,slow=11,SNR=3.6						
PMG	Port Moresby	55.79	107	*e*P	P	15 10 08.2	-0.7
	comp=Z,10nm,0.8s,mb4.9						
KMBO	Kilima Mbogo	57.18	264	P	P	15 10 21.5	+2.6
	comp=Z,1.6nm,0.6s,mb4.2,baz=50,slow=16,SNR=6.5						
KMBO	Kilima Mbogo	57.18	264	*e*P	P	15 10 18.6	-0.3
	comp=Z,10nm,1.1s,mb4.8						
KMBO				*e*		15 10 44.2	
YAK	Yakutsk	60.02	19	*e*P	P	15 10 36.2	-1.8
	comp=Z,31nm,1.1s,mb5.2						
STKA	Stephens Creek	60.33	134	P	P	15 10 41.8	+1.3
	comp=Z,1.6nm,0.7s,mb4.2,baz=349,slow=11,SNR=3.3						
STKA	Stephens Creek	60.33	134	*e*P	P	15 10 39.9	-0.5
MBAR	Mbarara	63.52	265	P	P	15 11 00.6	-1.6
	comp=Z,6.4nm,1.1s,mb4.6						
AKASG	Malin Array Be	67.95	322	P	P	15 11 29.1	-1.0
	comp=Z,0.4nm,0.5s,mb3.8,baz=84,slow=4.6,SNR=3.5						
AKASG				pP	pP	15 11 36.3	-3.8
	comp=Z,0.4nm,0.3s,baz=102,slow=4.1,SNR=3.0						
MLR	Muntele Rosu	68.96	316	P	P	15 11 36.6	+0.3
	comp=Z,3.0nm,1.1s,mb4.2,baz=69,slow=23,SNR=3.6						
FINES	FINESS Array B	72.54	332	P	P	15 11 57.1	-0.6
	comp=Z,3.5nm,0.8s,mb4.3,baz=80,slow=12,SNR=5.0						
ARCES	ARCESS Array B	75.13	340	P	P	15 12 12.5	0.0
	comp=Z,3.4nm,0.9s,mb4.2,baz=63,slow=5.4,SNR=2.7						
ARCES				pP	pP	15 12 19.6	-3.1
	comp=Z,5.7nm,1.0s,baz=104,slow=5.3,SNR=2.3						
ARCES	ARCESS Array B	75.13	340	P	P	15 12 12.5	0.0
ARCES				pP	pP	15 12 19.6	-3.1
MORC	Moravsky Berou	75.17	319	*e*P	P	15 12 13.2	+0.1
	comp=Z,11nm,1.2s,mb4.7						
GERES	GERESS Array B	77.62	318	P	P	15 12 27.5	+0.6
	comp=Z,1.9nm,1.0s,mb4.0,baz=79,slow=5.0,SNR=2.9						
GERES				pP	pP	15 12 36.0	-1.1
	comp=Z,2.0nm,0.6s,baz=90,slow=5.3,SNR=5.1						
HFS	Hagfors	78.28	330	P	P	15 12 29.2	-1.1
	comp=Z,4.0nm,0.9s,mb4.3,baz=135,slow=2.1,SNR=5.8						
HFS				pP	pP	15 12 38.1	-2.4
	comp=Z,4.1nm,0.6s,baz=90,slow=7.4,SNR=4.8						
NB2	NORSAR Subarra	79.56	331	P	P	15 12 36.2	-1.1
	comp=Z,12nm,1.2s,mb4.7,baz=98,slow=4.8						
NOA	NORSAR Array B	79.56	331	P	P	15 12 36.9	-0.3
	comp=Z,2.0nm,0.8s,mb4.1,baz=93,slow=5.7,SNR=4.5						
NOA				pP	pP	15 12 45.6	-1.9
	comp=Z,7.7nm,1.1s,baz=95,slow=4.9,SNR=6.2						
NOA	NORSAR Array B	79.56	331	P	P	15 12 36.9	-0.3
NOA				pP	pP	15 12 45.6	-1.9
EKA	Eskdalemuir Ar	87.53	325	pP	pP	15 13 27.4	-1.0
	comp=Z,2.6nm,0.8s,baz=121,slow=4.9,SNR=4.9						
VNDA	Vanda	93.03	168	LR	LR	15 49 59.5	
	comp=Z,121nm,18.0s,MS4.4,baz=310,slow=32						
ILAR	Eielson Array	94.78	22	P	P	15 13 55.5	+4.0
	comp=Z,0.7nm,1.1s,mb4.0,baz=305,slow=6.0,SNR=4.2						
INK	Inuvik	97.01	16	P	P	15 14 05.9	+4.4
	comp=Z,2.2nm,1.0s,mb4.5,baz=270,slow=2.0,SNR=2.2						
NVAR	Mina Array Bea	125.00	31	PKP	PKPdf	15 19 32.3	-2.7
	comp=Z,0.7nm,0.8s,baz=270,slow=1.8,SNR=3.3						
PDAR	Pinedale Array	125.20	21	PKP	PKPdf	15 19 30.4	-4.9
	comp=Z,0.4nm,0.7s,baz=180,slow=1.5,SNR=4.1						
PDAR				pPKP		15 19 39.0	
	comp=Z,1.9nm,1.1s,baz=315,slow=2.1,SNR=6.4						
PLCA	Paso Flores	144.52	201	PKP	PKPdf	15 20 09.1	-1.8
	comp=Z,4.9nm,0.9s,baz=124,slow=4.6,SNR=8.3						

IGQ 29 15:02:43.9, 1.08S×81.35W, h4km±5km, mb4.1, 1C-4D, Error ellipse: s-maj=13.0km s-min=7.1km az=143.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOJA	Cerro de Hojas	0.81	88	⇑P	Pg	15 02 58.8	-1.2
IGUA	Igualata	2.74	99	P	Pn	15 03 30.6	+1.0
IGUA				S	Sn	15 04 05.3	+1.7
JUA2	San Juan 2	2.88	73	P	Pn	15 03 33.1	+1.6
TERV	Terraza Guagua	2.89	72	P	Pn	15 03 33.0	+1.3
PINO	Pino	2.89	72	⇓P	Pn	15 03 32.6	+0.9
NAS1	Nasa	2.91	81	P	Pn	15 03 33.3	+1.4
ARRY	Arrayan	2.93	98	⇓P	Pn	15 03 33.4	+1.2
ARRY				S	Sn	15 04 07.6	-0.7
YANA	Yana	2.94	71	P	Pn	15 03 33.1	+0.8
PISA	Pisayambo	2.96	90	P	Pn	15 03 35.6	+2.8
ULBA	Ulba	2.96	97	P	Pn	15 03 34.3	+1.6
VC1	Cotopaxi 1	2.98	82	P	Pn	15 03 35.4	+2.5
TAMB	Tambo	3.01	83	P	Pn	15 03 36.3	+3.0
ANTI	Antisana	3.25	79	P	Pn	15 03 39.0	+2.2
COTA	Cotacachi	3.33	65	P	Pn	15 03 38.6	+0.8
CAYR	Refugio Cayamb	3.52	72	⇓P	Pn	15 03 43.6	+3.0
CAYA	Cayambe	3.55	71	⇓P	Pn	15 03 43.8	+2.7

IDC 29 15:12:37.7±7.6, 7.57N×93.77E, mb4.0/4, mb1 4.0/5, mb1mx3.7/19, mbtmp3.9/5, Error ellipse: s-maj=182.9km s-min=54.4km az=142.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	11.94	24	Pn	P	15 15 30.5	-1.8
	baz=220,slow=14,SNR=7.1						
SONM	Songino Array	41.54	13	P	P	15 20 26.2	-2.3
	0.2nm,0.5s,baz=198,slow=7.8,SNR=3.9						
ZAL	Zalesovo	46.80	353	P	P	15 21 08.9	-2.0
	1.2nm,0.6s,baz=312,slow=8.5,SNR=7.8						
FINES	FINESS Array B	72.81	332	P	P	15 24 08.0	-1.8
	2.8nm,0.9s,baz=153,slow=3.1,SNR=4.5						
HFS	Hagfors	78.54	330	P	P	15 24 41.1	-1.2
	2.4nm,0.8s,baz=101,slow=7.3,SNR=5.1						

MAN 29 15:13:33.2, 13.71N×120.52E, h92km, mb3.8, ML2.5, MS2.1, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	Lubang	0.27	275	*e*P	P	15 13 48.4	+1.6
LUBP				*e*S	S	15 13 59.1	+2.1
TGY	Tagaytay City	0.56	46⇑	*e*P	P	15 14 02.9	+14
BOAC	Boac	1.31	101	*e*P	P	15 13 57.3	+0.3
BOAC				*e*S	S	15 14 15.1	+0.3
SJMP	San Jose	1.37	155	*e*P	P	15 13 58.4	+0.5
SJMP				*e*S	S	15 14 16.9	+0.8
BUSP	Coron	1.73	191	*e*P	P	15 14 02.5	+0.1
BUSP				*e*S	S	15 14 24.0	+0.1
BALP	Baler	2.26	27	*e*P	P	15 14 09.5	-0.1
ENPP	El Nido	2.71	203	*e*P	P	15 14 15.9	+0.1

PRE 29 15:17:52.1±1.7, 26.96S×26.75E, h2km, ML3.8, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSR	Koster	1.11	7	*e*P	Pb	15 18 12.4	-1.3
KSR				*e*S	Sb	15 18 26.3	-2.1
KSR				*e*		15 18 31.3	
	comp=Z,549nm,0.2s						
SEK	Senekal	1.57	150	*e*P	Pn	15 18 21.1	0.0
SEK				*e*S	Sb	15 18 40.6	-1.2
SEK				*e*		15 18 44.1	
	comp=Z,239nm,0.3s						
SLR	Silverton	1.84	49	*e*P	Pn	15 18 24.8	-0.2
SLR				*e*S	Sn	15 18 47.5	-1.6
SLR				*e*		15 18 50.3	
	comp=Z,658nm,0.3s						
BOSA	Boshof	2.11	218	*e*P	Pn	15 18 28.1	-0.8
BOSA				*e*S	Sn	15 18 53.5	-2.6
MSNA	Messina	5.47	34	*e*S	Sg	15 21 04.4	+10
MSNA				*e*		15 21 18.6	
	comp=Z,417nm,0.4s						
CVNA	Calvinia	7.59	232	*e*S	Sn	15 21 03.0	-11
CVNA				*e*		15 21 26.9	
	comp=Z,48nm,0.0s						

*JMA **29** 15:22:36.8±0.4, 33.93N×141.88E, h22km, M3.5*

*IDC **29** 15:22:44.6±6.3, 33.87N×141.56E, h49km±55km, mb3.2/3, mb1 3.5/3, mb1mx3.1/20, mbtmp3.5/3, Error ellipse: s-maj=49.5km s-min=28.4km az=79.0*

**ISC 29 15:22:39.6±1.8, 33.94N±0.05×141.7E±0.1, h31km±12km, n13, σ0°77°/20, mb3.4/3, Off east

*IDC **29** 15:35:56.4±8.4, 8.63N×94.12E, h89km±72km, mb3.4/6, mb1 3.6/7, mb1mx3.4/18, mbtmp3.7/7, ML3.5/1, Error ellipse: s-maj=65.3km s-min=20.2km az=58.0*

ISC 29 15:35:49.2±0.8, 8.53N±0.08×94.2E±0.1, h33km, n13, σ1°04/14, mb4.0/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.88**	**24**	P	**P**	**15 38 29.1**	**+3.4**
	0.1nm,0.3s,baz=210,slow=15,SNR=5.7						
CMAR				S	**S**	**15 40 26.7**	**-0.6**
	0.1nm,0.3s,baz=96,slow=35,SNR=3.2						
JIRN	**Jiri**	**20.48**	**339**	*eP*	**P**	**15 40 28.1**	**+1.1**
	25nm,0.8s						
PKI	**Pulchoki**	**20.69**	**337**	*eP*	**P**	**15 40 29.2**	**+0.1**
	21nm,0.8s						
DMN	**Daman**	**20.84**	**337**	*eP*	**P**	**15 40 31.7**	**+1.0**
	42nm,1.0s						
KKN	**Kakani**	**20.94**	**337**	*eP*	**P**	**15 40 31.7**	**+0.1**
	20nm,0.9s						
GKN	**Gorkha**	**21.38**	**336**	*eP*	**P**	**15 40 36.4**	**+0.3**
	26nm,0.7s,mb4.6						
KOLN	**Koldanda**	**21.61**	**334**	*eP*	**P**	**15 40 39.2**	**+0.8**
	22nm,0.7s,mb4.7						
SONM	**Songino Array**	**40.51**	**13**	P	**P**	**15 43 26.9**	**+0.2**
	0.4nm,0.7s,mb3.2,baz=198,slow=7.8,SNR=4.2						
ZAL	**Zalesovo**	**45.91**	**352**	P	**P**	**15 44 08.9**	**-1.6**
	0.6nm,0.6s,mb3.7,baz=339,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**48.57**	**126**	P	**P**	**15 44 32.2**	**+0.5**
	1.4nm,1.1s,mb3.9,baz=306,slow=8.1,SNR=5.4						
ASAR	**Alice Springs**	**50.27**	**130**	P	**P**	**15 44 45.0**	**+0.3**
	1.1nm,1.1s,mb3.8,baz=289,slow=6.7,SNR=4.6						
FINES	**FINESS Array B**	**72.17**	**332**	P	**P**	**15 47 10.2**	**-2.0**
	1.8nm,0.7s,mb4.1,baz=90,slow=5.7,SNR=7.5						
GERES	**GERESS Array B**	**77.40**	**318**	P	**P**	**15 47 41.3**	**-1.4**
	0.5nm,0.6s,mb3.7,baz=101,slow=6.8,SNR=4.5						

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*IDC **29** 15:41:53.8±1.1, 7.43N×94.01E, mb3.8/9, mb1 3.9/10, mb1mx3.8/19, mbtmp3.7/10, ML3.5/1, MS3.2/1, Ms1 3.4/1, ms1mx2.5/21, Error ellipse: s-maj=48.0km s-min=18.4km az=58.0*

ISC 29 15:41:57.2±0.9, 7.5N±0.1×94.2E±0.2, h33km, n10, σ0°28/10, mb3.8/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.83**	**23**	Pn	**P**	**15 44 46.6**	**-0.1**
	0.1nm,0.3s,baz=216,slow=14,SNR=4.5						
CMAR				LR	LR	15 49 20.9	
	comp=Z,109nm,18.9s,baz=334,slow=37						
SONM	**Songino Array**	**41.51**	**12**	P	**P**	**15 49 43.5**	**+0.5**
	0.8nm,0.9s,mb3.3,baz=197,slow=7.5,SNR=7.7						
SONM				PcP	PcP	15 51 40.9	+0.1
	0.9nm,1.1s,baz=176,slow=1.3,SNR=3.5						
ZAL	**Zalesovo**	**46.91**	**352**	P	**P**	**15 50 26.1**	**-0.3**
	2.5nm,1.0s,mb4.1,baz=302,slow=5.0,SNR=11						
WRA	**Warramunga Arr**	**48.02**	**125**	P	**P**	**15 50 35.4**	**-0.2**
	0.6nm,0.9s,mb3.6,baz=305,slow=8.5,SNR=5.7						
BVAR	**Borovoye Array**	**49.35**	**341**	P	**P**	**15 50 45.1**	**-0.2**
	0.9nm,0.8s,mb3.9,baz=150,slow=12,SNR=3.9						
ASAR	**Alice Springs**	**49.66**	**130**	P	**P**	**15 50 48.1**	**+0.1**
	0.5nm,0.7s,mb3.7,baz=306,slow=7.1,SNR=6.1						
STKA	**Stephens Creek**	**59.83**	**134**	P	**P**	**15 52 02.1**	**0.0**
	1.5nm,0.7s,mb4.1,baz=224,slow=7.9,SNR=3.4						
FINES	**FINESS Array B**	**73.05**	**332**	P	**P**	**15 53 25.1**	**-0.4**
	1.5nm,0.8s,mb4.0,baz=101,slow=9.7,SNR=4.5						
GERES	**GERESS Array B**	**78.12**	**318**	P	**P**	**15 53 55.1**	**+0.4**
	0.4nm,0.6s,mb3.5,baz=104,slow=5.5,SNR=4.4						
NOA	**NORSAR Array B**	**80.07**	**331**	P	**P**	**15 54 05.2**	**+0.2**
	0.8nm,0.7s,mb3.8,baz=93,slow=5.7,SNR=3.8						

IDC 29 15:45:06.8±1.7, 7.71N×93.87E, mb3.6/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, ML4.2/1, Error ellipse: s-maj=60.1km s-min=23.4km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.77**	**24**	Pn	P	15 47 57.3	-1.9
	0.5nm,0.3s,baz=211,slow=14,SNR=18						
SONM	**Songino Array**	**41.38**	**13**	P	P	15 52 54.4	-1.9
	1.5nm,1.1s,baz=187,slow=10.0,SNR=5.2						
ZAL	**Zalesovo**	**46.68**	**353**	P	P	15 53 36.9	-2.1
	1.3nm,0.3s,baz=308,slow=6.2,SNR=5.1						
WRA	**Warramunga Arr**	**48.38**	**125**	P	P	15 53 49.0	-3.8
	0.3nm,0.5s,baz=306,slow=8.4,SNR=4.6						
ASAR	**Alice Springs**	**50.01**	**130**	P	P	15 54 05.2	-0.2
	0.4nm,0.8s,baz=300,slow=8.1,SNR=5.0						
FINES	**FINESS Array B**	**72.73**	**332**	P	P	15 56 36.8	-1.7
	1.0nm,0.8s,baz=108,slow=13,SNR=3.0						

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*BJI **29** 15:50:46.3, 7.03N×93.79E, h30km, mB4.5, mb4.6, Ms4.5, Msz4.5*

*IDC **29** 15:50:48.4±0.8, 7.65N×93.91E, mb4.1/14, mb1 4.3/15, mb1mx4.2/21, mbtmp4.1/15, ML4.4/1, MS3.8/5, Ms1 3.9/5, ms1mx3.3/26, Error ellipse: s-maj=34.6km s-min=17.1km az=52.0*

*NEIC **29** 15:50:53.0±0.5, 7.67N×93.96E, h30km, mb4.5/11, Error ellipse: s-maj=13.3km s-min=9.7km az=64.0*

ISC 29 15:50:51.0±0.6, 7.66N±0.08×94.12E±0.09, h30km, n44, σ1°11/41, mb4.5/30, MS4.1/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.72**	**23**	*eP*	**P**	**15 53 38.4**	**-1.0**
	7.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**11.72**	**23**	Pn	**P**	**15 53 39.1**	**-0.3**
	0.7nm,0.3s,baz=211,slow=14,SNR=32						
CMAR				LR	LR	15 58 17.2	
	comp=Z,449nm,19.6s,baz=210,slow=38						
HYB	**Hyderabad**	**18.01**	**304**	*eP*	**P**	**15 55 06.0**	**+4.8**
HYB	**Hyderabad**	**18.01**	**304**	*i P*	**P**	**15 55 06.0**	**+4.8**
HYB				*eS*	**S**	**15 58 22.0**	**+3.9**
KMI	**Kunming**	**19.22**	**24**	P	**P**	**15 55 16.0**	**+0.3**
	6.0nm,1.0s						
KMI				pP		15 55 21.2	
KMI				sP		15 55 23.5	
KMI				PP	PP	15 55 38.4	+5.7
KMI				S	**S**	**15 58 56.7**	**+11**
KMI				sS		15 59 05.7	
KMI				SS	SS	15 59 22.2	+11
JIRN	**Jiri**	**21.27**	**340**	*eP*	**P**	**15 55 38.8**	**+1.5**
	90nm,1.1s,mb5.0						
PKI	**Pulchoki**	**21.46**	**338**	*eP*	**P**	**15 55 40.9**	**+1.7**
	82nm,1.0s,mb5.0						
DMN	**Daman**	**21.60**	**338**	*eP*	**P**	**15 55 41.9**	**+1.2**
	44nm,0.8s,mb4.9						
KKN	**Kakani**	**21.70**	**338**	*eP*	**P**	**15 55 42.6**	**+0.9**
	57nm,1.0s,mb5.0						
LSA	**Lhasa**	**22.11**	**353**	P	**P**	**15 55 47.5**	**+1.8**
LSA				S	**S**	**15 59 53.0**	**+10**
LSA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
LSA				LR	LR		
	comp=N,7μm,20.7s,MS5.1						
LSA				LR	LR		
	comp=E,1μm,16.6s,MS5.1						
LSA				LR	LR		
	comp=Z,5μm,22.1s						
GKN	**Gorkha**	**22.14**	**337**	*eP*	**P**	**15 55 45.4**	**-0.6**
	comp=Z,39nm,0.7s,mb5.0						
KOLN	**Koldanda**	**22.35**	**335**	*eP*	**P**	**15 55 48.4**	**+0.3**
	comp=Z,38nm,0.8s,mb4.9						
DDI	**Dehra Dun**	**27.12**	**328**	*e*	**P**	**15 56 32.4**	**-1.1**
JOW	**Kunigami**	**37.59**	**55**	LR	LR	16 15 44.0	
	comp=Z,130nm,18.6s,MS3.8,baz=36,slow=40						
AAK	**Ala-Archa**	**38.90**	**337**	P	**P**	**15 58 10.6**	**-5.2**
	comp=Z,8.9nm,1.1s,mb4.4						
SONM	**Songino Array**	**41.38**	**13**	P	**P**	**15 58 36.0**	**-0.1**
	comp=Z,2.5nm,0.9s,mb3.9,baz=194,slow=8.2,SNR=16						
ULN	**Ulaanbaatar**	**41.55**	**13**	*eP*	**P**	**15 58 34.5**	**-3.0**
	comp=Z,6.4nm,1.3s,mb4.1						
KURK	**Kurchatov**	**44.82**	**346**	*eP*	**P**	**15 59 02.6**	**-1.5**
	comp=Z,23nm,1.2s,mb4.9						
ZAL	**Zalesovo**	**46.76**	**352**	P	**P**	**15 59 18.8**	**-0.6**
	comp=Z,5.4nm,0.4s,mb4.8,baz=292,slow=5.8,SNR=19						
ZAL				LR	LR	16 24 21.3	
	comp=Z,163nm,18.6s,MS4.0,baz=117,slow=43						
WRA	**Warramunga Arr**	**48.15**	**125**	P	**P**	**15 59 30.9**	**+0.1**
	comp=Z,0.8nm,0.6s,mb4.0,baz=304,slow=8.8,SNR=11						
WRAB	**Tennant Creek**	**48.16**	**125**	*eP*	**P**	**15 59 30.9**	**+0.1**
	comp=Z,3.7nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**49.19**	**341**	P	**P**	**15 59 37.7**	**-0.7**
	comp=Z,1.4nm,0.8s,mb4.0,baz=143,slow=7.4,SNR=5.5						
BVAR				PcP	PcP	16 01 02.5	+0.9
	comp=Z,0.9nm,0.7s,baz=180,slow=4.4,SNR=3.5						
CHKZ	**Chkalovo**	**49.67**	**342**	*eP*	**P**	**15 59 41.0**	**-1.1**
	comp=Z,7.4nm,0.8s,mb4.8						
ASAR	**Alice Springs**	**49.79**	**130**	P	**P**	**15 59 43.6**	**+0.2**
	comp=Z,0.9nm,0.8s,mb3.9,baz=304,slow=7.6,SNR=12						
ASAR				PcP	PcP	16 01 05.2	+1.1
	comp=Z,1.1nm,0.9s,baz=312,slow=6.0,SNR=2.7						
ASAR				LR	LR	16 21 17.4	
	comp=Z,112nm,19.0s,MS3.9,baz=114,slow=37						
GNI	**Garni**	**54.57**	**314**	LR	LR	16 25 10.2	
	comp=Z,75nm,20.5s,MS3.8,baz=347,slow=38						
PMG	**Port Moresby**	**55.49**	**107**	*eP*	**P**	**16 00 26.2**	**+0.2**
	comp=Z,19nm,1.2s,mb5.0						
KMBO	**Kilima Mbogo**	**57.38**	**264**	P	**P**	**16 00 42.8**	**+3.3**
	comp=Z,3.7nm,1.0s,mb4.4,baz=49,slow=17,SNR=4.3						
KMBO	**Kilima Mbogo**	**57.38**	**264**	*eP*	**P**	**16 00 42.7**	**+3.2**
	comp=Z,4.1nm,1.0s,mb4.4						
BRTR	**Keskin Array B**	**62.55**	**311**	P	**P**	**16 01 11.9**	**-2.7**
	comp=Z,1.0nm,0.5s,mb4.2,baz=136,slow=7.5,SNR=4.9						
MA2	**Magadan**	**66.97**	**28**	*eP*	**P**	**16 01 45.0**	**+2.1**
	comp=Z,8.8nm,0.8s,mb4.8						
IDI	**Anoyia**	**68.67**	**305**	P	**P**	**16 01 53.3**	**-0.8**
	comp=Z,5.2nm,0.8s,mb4.5,baz=38,slow=8.5,SNR=3.3						
JOF	**Joensuu**	**71.03**	**335**	*ep*	**P**	**16 02 07.1**	**-0.9**
	comp=Z,3.0nm,0.6s,mb4.4						
FINES	**FINESS Array B**	**72.89**	**332**	P	**P**	**16 02 18.3**	**-0.7**
	comp=Z,2.0nm,0.4s,mb4.4,baz=100,slow=6.6,SNR=26						
KAF	**Kangasniemi**	**72.97**	**333**	*ep*	**P**	**16 02 14.1**	**-5.4**
	comp=Z,3.7nm,0.7s,mb4.4						
ARCES	**ARCESS Array B**	**75.46**	**340**	P	**P**	**16 02 33.8**	**+0.1**
	comp=Z,3.8nm,0.9s,mb4.3,baz=90,slow=4.9,SNR=7.2						
GERES	**GERESS Array B**	**77.97**	**318**	P	**P**	**16 02 48.2**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=90,slow=4.0,SNR=7.0						
HFS	**Hagfors**	**78.63**	**330**	P	**P**	**16 02 51.1**	**-0.4**
	comp=Z,1.5nm,0.4s,mb4.3,baz=124,slow=5.3,SNR=17						
NB2	**NORSAR Subarra**	**79.91**	**331**	P	**P**	**16 02 58.2**	**-0.2**
	comp=Z,1.5nm,0.7s,mb4.0,baz=92,slow=5.8						
NOA	**NORSAR Array B**	**79.91**	**331**	P	**P**	**16 02 58.5**	**+0.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=93,slow=5.7,SNR=4.1						
ILAR	**Eielson Array**	**94.95**	**22**	P	**P**	**16 04 12.9**	**+1.4**
	comp=Z,0.3nm,0.6s,mb3.9,baz=307,slow=4.5,SNR=7.4						
NVAR	**Mina Array Bea**	**125.11**	**31**	PKP	PKPdf	16 09 53.4	-0.9
	comp=Z,0.7nm,0.7s,baz=297,slow=2.0,SNR=5.0						
NVAR	**Mina Array Bea**	**125.11**	**31**	PKP	PKPdf	16 09 53.4	-0.9
PDAR	**Pinedale Array**	**125.38**	**21**	PKP	PKPdf	16 09 53.4	-1.3
	comp=Z,0.7nm,0.8s,baz=315,slow=2.1,SNR=4.3						
PLCA	**Paso Flores**	**144.34**	**200**	PKP	PKPdf	16 10 28.0	-1.7
	comp=Z,2.6nm,0.9s,baz=98,slow=11,SNR=3.2						

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*NEIC **29** 15:55:06.4, 15.70N×94.14W, h17km, MD3.9(MEX), After MEX.*

MEX 29 15:55:06.5±0.7, 15.70N×94.14W, h16km±158km, MD3.9, 2C-1D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.56**	**333**	⇑*eP*	Pn	15 55 29.8	-4.0
CMIG				*eS*	Sn	15 55 48.3	-5.4
SCX	**San Cristobal**	**1.78**	**54**	*eP*	Pn	15 55 34.0	-3.0
SCX				*eS*	Sn	15 55 54.0	-5.3
HUIG	**Huatulco**	**1.90**	**272**	⇓*iP*	Pn	15 55 34.8	-3.9
HUIG				*eS*	Sn	15 55 56.6	-5.7
CCIG	**Comitan**	**2.01**	**73**	⇑*iP*	Pn	15 55 36.3	-4.0
CCIG				*eS*	Sn	15 56 00.0	-5.3
OXX	**Oaxaca**	**2.83**	**299**	*eP*	Pn	15 55 51.0	-1.1
OXX				*eS*	Sn	15 56 23.0	-3.1
VHO	**Vista Hermosa**	**2.84**	**299**	*eP*	Pn	15 55 48.5	-3.6
VHO				*eS*	Sn	15 56 21.7	-4.6

IDC 29 15:59:26.9±4.3, 16.47S×168.53W, mb3.9/3, mb1 4.1/3, mb1mx3.8/16, mbtmp3.9/3, Error ellipse: s-maj=218.0km s-min=49.4km az=141.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**47.62**	**242**	P	P	16 08 05.5	-1.2
	0.8nm,0.6s,baz=104,slow=12,SNR=4.7						
WRA	**Warramunga Arr**	**54.17**	**257**	P	P	16 08 54.0	-2.5
	0.8nm,0.4s,baz=98,slow=6.7,SNR=30						
ASAR	**Alice Springs**	**54.25**	**252**	P	P	16 08 54.9	-2.2
	4.9nm,1.1s,baz=90,slow=8.4,SNR=40						
GERES	**GERESS Array B**	**147.66**	**357**	PKPbc	PKPdf	16 19 12.7	+0.4
	0.4nm,0.6s,baz=63,slow=4.4,SNR=3.8						

IDC 29 16:01:51.9±1.6, 7.76N×93.68E, mb3.8/6, mb1 4.0/7, mb1mx3.7/19, mbtmp3.8/7, ML4.0/1, Error ellipse: s-maj=50.6km s-min=29.1km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.80**	**25**	Pn	P	16 04 42.2	-2.4
	0.3nm,0.3s,baz=214,slow=13,SNR=5.7						
SONM	**Songino Array**	**41.37**	**13**	P	P	16 09 39.1	-2.2
	0.6nm,0.8s,baz=200,slow=9.9,SNR=6.1						
ZAL	**Zalesovo**	**46.60**	**353**	P	P	16 10 21.9	-1.5
	2.1nm,0.4s,baz=311,slow=5.0,SNR=9.0						
WRA	**Warramunga Arr**	**48.57**	**125**	P	P	16 10 37.5	-1.9
	0.3nm,0.7s,baz=305,slow=8.6,SNR=4.8						
BVAR	**Borovoye Array**	**48.95**	**342**	P	P	16 10 40.2	-1.6
	0.2nm,0.4s,baz=120,slow=12,SNR=2.5						
FINES	**FINESS Array B**	**72.59**	**332**	P	P	16 13 20.5	-2.3
	1.3nm,0.8s,baz=117,slow=4.3,SNR=4.4						
GERES	**GERESS Array B**	**77.60**	**318**	P	P	16 13 50.3	-1.3
	0.3nm,0.7s,baz=135,slow=2.8,SNR=3.4						

IGQ 29 16:04:18.5, 1.52S×81.09W, h18km±7km, mb4.4, 3C-7D, Error ellipse: s-maj=10.7km s-min=4.8km az=177.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.72**	**49**	⇑P	Pb	16 04 32.0	-0.2
JAMA	**Jama**	**1.53**	**35**	P	Pn	16 04 45.7	+0.4
JAMA				S	Sn	16 05 06.5	+1.6
IGUA	**Igualata**	**2.45**	**89**	⇓P	Pn	16 04 59.4	+0.9
IGUA				S	Sn	16 05 30.0	+1.8
CUSU	**Cusua**	**2.61**	**88**	P	Pn	16 05 02.7	+2.0
JUIV	**Juive**	**2.63**	**88**	P	Pn	16 05 02.2	+1.2
ARRY	**Arrayan**	**2.63**	**90**	⇓P	Pn	16 05 02.0	+0.9
RETU	**Refugio**	**2.65**	**89**	⇓P	Pn	16 05 03.2	+2.0
ULBA	**Ulba**	**2.68**	**89**	⇑P	Pn	16 05 03.5	+1.7
PISA	**Pisayambo**	**2.74**	**80**	P	Pn	16 05 04.8	+2.2
NAS1	**Nasa**	**2.76**	**71**	P	Pn	16 05 05.5	+2.7
JUA2	**San Juan 2**	**2.80**	**62**	⇓P	Pn	16 05 04.7	+1.2
TERV	**Terraza Guagua**	**2.82**	**62**	P	Pn	16 05 04.6	+0.9
VC1	**Cotopaxi 1**	**2.83**	**72**	P	Pn	16 05 06.9	+3.1
PINO	**Pino**	**2.83**	**61**	⇓P	Pn	16 05 04.6	+0.8
TAMB	**Tambo**	**2.84**	**73**	⇓P	Pn	16 05 06.6	+2.5
YANA	**Yana**	**2.88**	**61**	P	Pn	16 05 04.9	+0.4
ANTI	**Antisana**	**3.12**	**70**	⇓P	Pn	16 05 10.7	+2.8
ANTI				S	Sn	16 05 53.4	+8.3
COTA	**Cotacachi**	**3.31**	**56**	⇑P	Pn	16 05 12.9	+2.2
CAYR	**Refugio Cayamb**	**3.44**	**64**	P	Pn	16 05 15.5	+3.0
CAYA	**Cayambe**	**3.48**	**63**	P	Pn	16 05 16.4	+3.3
CONE	**Cono NE Rev Vo**	**3.74**	**67**	P	Pn	16 05 22.5	+5.8

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*IDC **29** 16:12:43.5±0.7, 8.01N×93.93E, mb4.1/15, mb1 4.2/16, mb1mx4.2/19, mbtmp4.1/16, ML4.3/1, MS4.1/5, Ms1 4.1/5, ms1mx3.5/30, Error ellipse: s-maj=34.7km s-min=15.2km az=57.0*

*MOS **29** 16:12:48.1±1.7, 8.32N×94.45E, h33km, mb5.0/26, Error ellipse: s-maj=12.8km s-min=7.7km az=110.1*

*HRVD **29** 16:12:49.3±0.4, 8.18N×94.25E, h25km±2km, MW5.0/50, Centroid moment Tensor Solution. LP body waves: s20,c25;Mantle waves: s50,c78; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.58±.18; $M_{\theta\theta}$-2.47±.14; $M_{\phi\phi}$3.05±.16; $M_{r\theta}$-1.46±.34; $M_{r\phi}$1.71±.12; $M_{\theta\phi}$-0.93±.34; Best double couple: $M_0$3.692×10^{16} NP1:ϕ_0±151°, δ61°, λ-175° NP2:θ_0±59°, δ86°, λ-29°. Principal axes: T 3.927, Plg17°, Azm109°; N -.47, Plg61°, Azm231°; P -3.457, Plg23°, Azm11°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **29** 16:12:49.4±0.4, 8.36N×94.48E, h30km, mb4.9/31 Error ellipse: s-maj=13.8km s-min=10.7km az=50.0*

*BJI **29** 16:12:50.2, 8.08N×93.89E, h54km, mB5.2, mb4.6, Ms4.7, Msz4.4*

ISC 29 16:12:47.8±0.3, 8.20N±0.05×94.19E±0.05, h33km, n130, σ1°27/123, mb4.6/52, MS4.3/8, 4C-4D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.45**	**99**	P	**P**	**16 14 23.0**	**+0.1**
	356nm,0.8s						
NNT	**Nongplab**	**6.99**	**51**	P	**P**	**16 14 31.0**	**+0.6**
CM31	**Chiang Mai Arr**	**11.20**	**24**	*eP*	**P**	**16 15 30.1**	**+1.4**
	32nm,1.1s						
CMAR	**Chiang Mai Arr**	**11.20**	**24**	Pn	**P**	**16 15 29.4**	**+0.7**
	0.6nm,0.3s,baz=213,slow=14,SNR=75						
CMAR				LR	LR	16 20 02.6	
	comp=Z,1μm,19.2s,baz=205,slow=38						
CHG	**Chiang Mai**	**11.52**	**23**	⇑P	**P**	**16 15 34.8**	**+1.8**
	22nm,0.9s						
NANT	**Nan**	**12.29**	**30**	P	**P**	**16 15 45.5**	**+2.1**
PALK	**Pallekele**	**13.39**	**267**	P	**P**	**16 15 60.0**	**+1.9**
	35nm,1.4s						
VIS	**Vishakhapatnam**	**14.19**	**313**	*eP*	**P**	**16 16 08.2**	**-0.4**
VIS				*e*		16 16 09.8	
	comp=Z,50nm,1.0s						
VIS				*e*		16 18 34.5	
IMP	**Imphal**	**16.50**	**359**	*eP*	**P**	**16 16 36.2**	**-2.1**
HYB	**Hyderabad**	**17.77**	**303**	*eP*	**P**	**16 16 58.0**	**+3.6**
HYB				*eS*	**S**	**16 20 03.0**	**-5.9**
HYB	**Hyderabad**	**17.77**	**303**	*i P*	**P**	**16 16 58.0**	**+3.6**
HYB				*e*		16 20 03.0	
HYB				*eS*	**S**	**16 20 13.0**	**+4.1**
BLSP	**Bilaspur**	**18.07**	**321**	*eP*	**P**	**16 16 58.3**	**+0.2**
BLSP				*e*		16 17 05.2	
	comp=Z,49nm,1.1s						
BLSP				*e*		16 19 58.8	
KMI	**Kunming**	**18.71**	**25**	P	**P**	**16 17 09.7**	**+3.7**
KMI				pmax	pmax		
	comp=Z,23nm,1.0s						
KMI	**Kunming**	**18.71**	**25**	P	**P**	**16 17 09.7**	**+3.7**
	comp=Z,23nm,1.0s						
KMI				pP		16 17 15.8	
KMI				sP		16 17 19.1	
KMI				PP	PP	16 17 28.0	+6.1
KMI				S	**S**	**16 20 42.0**	**+12**
KMI				sS		16 20 49.7	
KMI				SS	SS	16 21 11.1	+16
MNGI	**Mangalore**	**19.61**	**286**	*i P*	**P**	**16 17 17.0**	**+0.8**
MNGI				*i*		16 20 42.4	
JIRN	**Jiri**	**20.79**	**340**	*eP*	**P**	**16 17 28.4**	**-0.3**
PKI	**Pulchoki**	**20.98**	**338**	*eP*	**P**	**16 17 30.4**	**-0.3**
	comp=Z,206nm,1.6s						
DMN	**Daman**	**21.13**	**337**	*eP*	**P**	**16 17 31.9**	**-0.3**
	comp=Z,38nm,0.6s,mb4.9						
KKN	**Kakani**	**21.23**	**338**	*eP*	**P**	**16 17 32.8**	**-0.4**
LSA	**Lhasa**	**21.58**	**353**	P	**P**	**16 17 37.0**	**+0.3**
LSA				S	**S**	**16 21 33.5**	**+4.6**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
LSA				LR	LR		
	comp=N,3μm,19.3s,MS4.9						
LSA				LR	LR		
	comp=E,3μm,19.3s,MS4.9						
LSA				LR	LR		
	comp=Z,1μm,20.7s,MS4.3						
GKN	**Gorkha**	**21.67**	**337**	*eP*	**P**	**16 17 37.3**	**-0.3**
	comp=Z,73nm,0.7s,mb5.2						
KOLN	**Koldanda**	**21.89**	**334**	*eP*	**P**	**16 17 40.2**	**+0.4**
	comp=Z,80nm,0.8s,mb5.2						
BHPL	**Bhopal**	**21.96**	**315**	*eP*	**P**	**16 17 42.2**	**+1.7**
BHPL				*e*		16 17 49.5	
	comp=Z,21nm,1.0s						
SONA	**Sohna**	**25.66**	**323**	*eP*	**P**	**16 18 15.5**	**-1.0**
NDI	**New Delhi**	**25.90**	**324**	*eP*	**P**	**16 18 18.0**	**-0.7**
KUDL	**Kundal**	**25.94**	**322**	*eP*	**P**	**16 18 17.3**	**-1.7**
KUDL				*e*		16 18 24.3	
	comp=Z,12nm,1.5s						
KHET	**Khetri**	**26.31**	**321**	*eP*	**P**	**16 18 22.9**	**+0.4**
DDI	**Dehra Dun**	**26.70**	**328**	*eP*	**P**	**16 18 25.7**	**-0.3**
XAN	**Xi'an**	**29.08**	**26**	P	**P**	**16 18 46.5**	**-1.0**
XAN				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.1						
WHN	**Wuhan**	**29.15**	**38**	*eP*	**P**	**16 18 50.0**	**+1.8**
WHN				S	**S**	**16 23 43.0**	**+6.2**
WHN				LR	LR		
	comp=Z,2μm,13.2s,MS4.9						
SSE	**Sheshan**	**33.96**	**44**	P	**P**	**16 19 25.2**	**-5.2**
	comp=Z,33nm,0.8s,mb5.3						
SSE				pP	pP	16 19 34.5	-5.6
SSE				S	**S**	**16 24 43.1**	**-9.0**
SSE				sS		16 24 57.9	
WMQ	**Urumqi**	**35.94**	**352**	*eP*	**P**	**16 19 47.5**	**+0.3**
WMQ				PP	PP	16 21 08.0	-1.1

comp=Z,0.8nm,0.9s,baz=324,slow=3.1,SNR=2.2
WRAB Tennant Creek 48.41 126 *e*P **P 16 21 28.1 -1.0**
WRAB pmax pmax
comp=Z,14nm,0.8s,mb5.0
WRAB Tennant Creek 48.41 126 *e*P **P 16 21 28.1 -1.1**
comp=Z,14nm,0.8s,mb5.0
WB2 Warramunga Arr 48.42 126 *e*P **P 16 21 28.3 -0.9**
BVAR Borovoye Array 48.70 341 P **P 16 21 30.0 -0.9**
comp=Z,1.4nm,0.8s,mb4.0,baz=136,slow=8.9,SNR=7.2
BVAR PcP PcP 16 22 56.1 0.0
comp=Z,0.8nm,0.7s,baz=117,slow=6.4,SNR=2.0
RAYN Ar Rayn 49.00 294 P **P 16 21 35.0 +1.4**
comp=Z,101nm,0.6s,SNR=13
CBIJ Chichi jima 49.10 61 LR LR 16 41 01.8
comp=Z,111nm,20.0s,MS3.9,baz=163,slow=34
CHKZ Chkalovo 49.18 342 P **P 16 21 33.8 -0.8**
CHKZ Chkalovo 49.18 342 *e*P **P 16 21 33.6 -1.0**
comp=Z,7.4nm,0.7s,mb4.8
ASAR Alice Springs 50.09 130 P **P 16 21 40.4 -1.6**
comp=Z,1.5nm,0.8s,mb4.0,baz=307,slow=6.9,SNR=12
ASAR PcP PcP 16 22 59.9 -1.6
comp=Z,0.4nm,0.8s,baz=301,slow=5.3,SNR=3.2
ASAR LR LR 16 43 22.0
comp=Z,182nm,18.5s,MS4.1,baz=158,slow=37
BOD Bodaibo 51.83 13 *e*P **P 16 21 52.7 -1.9**
GNI Garni 54.25 314⇑*i*P **P 16 22 15.8 +2.9**
GNI pmax pmax
comp=Z,6.0nm,1.4s
GNI Garni 54.25 314 *e*P **P 16 22 16.1 +3.2**
comp=Z,9.8nm,1.0s,mb4.7
SVE Sverdlovsk 55.12 338 *e*P **P 16 22 14.0 -5.0**
SVE pmax pmax
comp=Z,40nm,2.0s,mb5.1
PMG Port Moresby 55.58 107 *e*P **P 16 22 26.5 +3.6**
PMG pmax pmax
comp=Z,21nm,0.8s
PMG Port Moresby 55.58 107 *e*P **P 16 22 26.5 +3.5**
comp=Z,21nm,0.8s,mb5.2
KIV Kislovodsk 57.11 318 *e*P **P 16 22 33.4 -0.1**
KIV pmax pmax
comp=Z,12nm,1.3s,mb4.8
KIV Kislovodsk 57.11 318 *e*P pP 16 22 39.0 -4.6
comp=Z,17nm,0.9s
KMBO Kilima Mbogo 57.51 263 *e*P **P 16 22 40.2 +3.5**
KMBO pmax pmax
comp=Z,11nm,1.1s
KMBO Kilima Mbogo 57.51 263 P **P 16 22 39.9 +3.2**
comp=Z,5.1nm,0.9s,mb4.5,baz=52,slow=10,SNR=12
KMBO Kilima Mbogo 57.51 263 *e*P **P 16 22 40.2 +3.5**
comp=Z,11nm,1.1s,mb4.8
CTA Charters Tower 58.42 120 LR LR 16 49 44.9
comp=Z,192nm,18.9s,MS4.2,baz=147,slow=38
EIL Elat 59.31 300 P **P 16 22 48.0 -1.0**
comp=Z,20nm,1.6s,mb4.9
YAK Yakutsk 59.68 18⇑*i*P **P 16 22 49.8 -1.3**
YAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
YAK Yakutsk 59.68 18 *e*P **P 16 22 49.4 -1.7**
comp=Z,9.7nm,0.8s,mb4.9
STKA Stephens Creek 60.29 134 P **P 16 23 00.1 +4.3**
comp=Z,3.5nm,0.8s,mb4.4,baz=319,slow=4.2,SNR=7.8
STKA Stephens Creek 60.29 134 *e*P **P 16 23 00.5 +4.7**
BRTR Keskin Array B 62.26 311 P **P 16 23 06.8 -2.1**
comp=Z,0.5nm,0.5s,mb4.0,baz=131,slow=6.3,SNR=2.7
MBAR Mbarara 63.83 265 *e*P **P 16 23 23.2 +3.4**
MBAR pmax pmax
comp=Z,17nm,1.5s,mb4.8
MBAR Mbarara 63.83 265 *e*P **P 16 23 23.1 +3.4**
comp=Z,17nm,1.5s,mb4.9
MOS Moscow 64.83 329 *e*P **P 16 23 25.8 +0.3**
OBN Obninsk 65.13 328⇓*i*P **P 16 23 26.1 -1.4**
OBN pmax pmax
comp=Z,28nm,1.6s,mb5.0
MA2 Magadan 66.46 28⇓*i*P **P 16 23 35.1 -0.8**
MA2 pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
MA2 Magadan 66.46 28 *e*P **P 16 23 40.5 +4.6**
comp=Z,11nm,1.0s,mb4.8
TIXI Tiksi 66.91 11 *e*P **P 16 23 37.4 -1.1**
TIXI pmax pmax
comp=Z,12nm,1.3s,mb4.8
AKASG Malin Array Be 67.93 322 P **P 16 23 42.8 -2.5**
comp=Z,0.3nm,0.4s,mb3.7,baz=82,slow=5.1,SNR=4.0
SANT Santorini 68.07 306 P **P 16 23 48.5 +2.0**
comp=Z,112nm,1.3s,mb5.7
LSZ Lusaka 69.42 250 *e*P **P 16 23 54.8 -0.3**
LSZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
LSZ Lusaka 69.42 250 *e*P **P 16 23 54.8 -0.3**
comp=Z,6.0nm,1.0s,mb4.5
JOF Joensuu 70.58 334 *e*p **P 16 23 59.1 -2.3**
comp=Z,5.1nm,0.6s,mb4.6
FINES FINESS Array B 72.45 332 P **P 16 24 11.6 -0.9**
comp=Z,2.2nm,0.7s,mb4.2,baz=99,slow=7.1,SNR=16
KAF Kangasniemi 72.53 333 *e*p **P 16 24 12.2 -0.8**
comp=Z,5.7nm,0.9s,mb4.5
KAF Kangasniemi 72.53 333 *e*P **P 16 24 12.2 -0.8**
KAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
OJC Ojcow 73.76 320 *e*P **P 16 24 24.3 +3.8**
LBTB Lobatse 74.44 241 *e*P **P 16 24 29.6 +4.7**
LBTB pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LBTB Lobatse 74.44 241 *e*P **P 16 24 29.6 +4.7**
comp=Z,7.6nm,0.9s,mb4.6
ARCES ARCESS Array B 74.98 340 P **P 16 24 26.6 -0.5**
comp=Z,5.7nm,0.9s,mb4.5,baz=21,slow=10,SNR=7.5
MORC Moravsky Berou 75.16 319 *e*P **P 16 24 29.2 +0.6**
MORC pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MORC Moravsky Berou 75.16 319 *e*P **P 16 24 29.2 +0.6**
comp=Z,5.3nm,0.9s,mb4.5
CASY Casey 75.24 173 *e*P **P 16 24 31.0 +2.3**
comp=Z,14nm,1.0s,mb4.9
BOSA Boshof 75.79 238 *e*P **P 16 24 37.3 +4.7**
BOSA pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BOSA Boshof 75.79 238 *e*P **P 16 24 37.3 +4.6**
comp=Z,7.1nm,0.9s,mb4.6
BRG Berggiesshubel 77.53 320 *e*P **P 16 24 45.3 +3.3**
BRG pmax pmax
comp=Z,42nm,1.9s,mb5.0
BRG Berggiesshubel 77.53 320 *e*P **P 16 24 45.3 +3.3**
comp=Z,42nm,1.9s,mb5.0
GERES GERESS Array B 77.62 318 P **P 16 24 42.6 +0.1**
comp=Z,2.0nm,1.0s,mb4.0,baz=76,slow=5.5,SNR=10
KHC Kasperske Hory 77.71 318 *e* pP 16 24 49.0 -4.3
KHC Kasperske Hory 77.71 318 *e*P pP 16 24 49.0 -4.3
CLL Collm 78.14 321 *e*P **P 16 24 47.0 +1.7**
CLL *e* 16 24 52.0
CLL Collm 78.14 321 P **P 16 24 47.0 +1.7**
CLL *e**PP pP 16 24 52.0 -3.7
MAW Mawson 78.86 192 *e*P pP 16 24 55.3 -4.0
MAW pmax pmax
comp=Z,19nm,1.3s
MAW Mawson 78.86 192 *e*P pP 16 24 55.3 -4.0
comp=Z,19nm,1.3s
NB2 NORSAR Subarra 79.47 331 P **P 16 24 51.7 -0.7**
comp=Z,3.7nm,0.8s,mb4.4,baz=92,slow=5.8
NB2 NORSAR Subarra 79.47 331 P **P 16 24 51.7 -0.7**
NB2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
NOA NORSAR Array B 79.47 331 P **P 16 24 51.4 -1.0**
NOA NORSAR Array B 79.47 331 P **P 16 24 51.3 -1.1**
comp=Z,1.4nm,0.6s,mb4.0,baz=95,slow=5.0,SNR=4.0
TSUM Tsumeb 80.19 249 P pP 16 25 05.5 -1.9
comp=Z,0.7nm,0.7s
SUR Sutherland 80.55 235 *e*P pP 16 25 07.6 -1.6
comp=Z,26nm,1.0s
LPG La Plagne 82.42 315 *e*P **P 16 25 08.8 +0.6**
comp=Z,16nm,0.7s,mb4.8
LPG La Plagne 82.42 315 *e*P **P 16 25 08.8 +0.6**
LPG pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SYO Syowa Base 85.72 197⇑P pP 16 25 32.8 -2.0
ESDC Sonseca Array 91.05 310 P **P 16 25 50.3 -0.1**
comp=Z,0.2nm,0.4s,mb3.8,baz=79,slow=4.4,SNR=3.6
IMA Indian Mountai 91.31 22 *e*P **P 16 25 52.5 +1.5**
IMA pmax pmax
comp=Z,68nm,1.4s
IMA Indian Mountai 91.31 22 *e*P **P 16 25 52.5 +1.5**
comp=Z,68nm,1.4s
ILAR Eielson Array 94.43 22 P **P 16 26 07.3 +2.1**
comp=Z,0.4nm,0.8s,mb3.9,baz=319,slow=4.3,SNR=4.1
QSPA South Pole Qui 98.10 180 P **P 16 26 22.6 +0.9**
comp=Z,4.6nm,1.2s,mb4.9

NVAR Mina Array Bea 124.62 31 PKP PKPdf 16 31 46.9 +2.3
comp=Z,0.3nm,0.7s,baz=49,slow=7.4,SNR=2.2
PDAR Pinedale Array 124.85 21 PKP PKPdf 16 31 48.3 +3.5
comp=Z,0.1nm,0.4s,baz=234,slow=46,SNR=3.7
PLCA Paso Flores 144.87 200 PKP PKPdf 16 32 21.8 0.0
comp=Z,2.6nm,0.9s,baz=180,slow=4.0,SNR=2.5
PLCA Paso Flores 144.87 200 PKP PKPdf 16 32 21.8 0.0
PLCA *e*PKPdf PKPdf 16 32 27.3 +5.5
LPAZ La Paz 160.95 243 PKP PKPdf 16 32 49.5 +4.2
comp=Z,0.5nm,0.7s,baz=124,slow=3.6,SNR=2.3

IDC 29 16:19:00.6±1.1, 8.03N×94.01E, mb3.7/7, mb1 3.9/8, mb1mx3.7/19, mbtmp3.6/8, ML3.6/1, Error ellipse: s-maj=48.8km s-min=20.6km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.42**	**24**	Pn	P	16 21 46.1	-2.1
	0.1nm,0.3s,baz=215,slow=15,SNR=3.5						
SONM	**Songino Array**	**41.04**	**13**	P	P	16 26 45.2	-2.0
	0.7nm,0.9s,baz=186,slow=11,SNR=4.3						
ZAL	**Zalesovo**	**46.37**	**352**	P	P	16 27 28.7	-1.7
	1.4nm,0.8s,baz=306,slow=10,SNR=6.7						
WRA	**Warramunga Arr**	**48.46**	**126**	P	P	16 27 44.9	-2.4
	0.4nm,0.6s,baz=305,slow=8.5,SNR=4.5						
BVAR	**Borovoye Array**	**48.80**	**341**	P	P	16 27 47.4	-2.0
	0.8nm,0.9s,baz=135,slow=6.1,SNR=3.4						
ASAR	**Alice Springs**	**50.12**	**130**	P	P	16 27 58.0	-1.9
	0.5nm,0.7s,baz=324,slow=7.5,SNR=4.4						
ASAR				PcP	PcP	16 29 17.9	-1.8
	0.3nm,1.0s,baz=329,slow=3.3,SNR=4.5						
FINES	**FINESS Array B**	**72.51**	**332**	P	P	16 30 28.4	-2.6
	1.3nm,0.8s,baz=117,slow=4.3,SNR=6.0						
GERES	**GERESS Array B**	**77.62**	**318**	P	P	16 30 59.5	-0.9
	0.8nm,0.6s,baz=104,slow=5.5,SNR=7.5						

IDC 29 16:21:24.4±6.5, 6.93N×94.44E, mb3.7/4, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=157.0km s-min=52.3km az=140.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.27**	**21**	Pn	P	16 24 21.3	-2.1
	0.1nm,0.3s,baz=210,slow=14,SNR=6.6						
SONM	**Songino Array**	**42.01**	**12**	P	P	16 29 17.7	-1.4
	0.4nm,0.8s,baz=202,slow=8.8,SNR=3.6						
ZAL	**Zalesovo**	**47.52**	**352**	P	P	16 30 00.6	-2.6
	1.1nm,0.6s,baz=301,slow=11,SNR=6.3						
FINES	**FINESS Array B**	**73.68**	**332**	P	P	16 32 59.7	-1.9
	1.6nm,0.9s,baz=117,slow=4.3,SNR=5.5						
GERES	**GERESS Array B**	**78.72**	**318**	P	P	16 33 29.4	-0.9
	0.3nm,0.6s,baz=90,slow=8.8,SNR=4.0						

IGQ 29 16:21:54.8, 2.50S×77.82W, h12km±6km, mb4.0, 2C-2D, Error ellipse: s-maj=11.2km s-min=3.3km az=138.3, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**1.17**	**328**	P	Pb	16 22 17.9	+1.5
PATA				S	Sb	16 22 33.8	+2.5
ARRY	**Arrayan**	**1.18**	**328**	⇓P	Pb	16 22 17.1	+0.5
ARRY				S	Sb	16 22 32.4	+0.8
ULBA	**Ulba**	**1.20**	**331**	⇑P	Pb	16 22 17.9	+0.9
ULBA				S	Sb	16 22 33.7	+1.4
RETU	**Refugio**	**1.22**	**329**	P	Pb	16 22 18.5	+1.3
RETU				S	Sb	16 22 34.9	+2.2
CUSU	**Cusua**	**1.24**	**328**	⇑P	Pb	16 22 18.7	+1.0
CUSU				S	Sb	16 22 35.8	+2.3
JUIV	**Juive**	**1.25**	**329**	P	Pb	16 22 18.6	+0.8
JUIV				S	Sb	16 22 35.4	+1.7
IGUA	**Igualata**	**1.29**	**321**	⇓P	Pb	16 22 20.5	+1.9
PISA	**Pisayambo**	**1.54**	**339**	P	Pn	16 22 23.6	+1.3
PISA				S	Sb	16 22 44.2	+2.0
TAMB	**Tambo**	**1.88**	**343**	P	Pn	16 22 29.3	+2.1
TAMB				S	Sn	16 22 53.2	+2.3
VC1	**Cotopaxi 1**	**1.94**	**343**	P	Pn	16 22 30.6	+2.6
VC1				S	Sn	16 22 55.5	+3.1
ANTI	**Antisana**	**2.07**	**351**	P	Pn	16 22 31.4	+1.5
ANTI				S	Sn	16 22 58.1	+2.4
CONE	**Cono NE Rev Vo**	**2.42**	**4**	P	Pn	16 22 37.1	+2.2
CONE				S	Sn	16 23 08.8	+4.1
YANA	**Yana**	**2.48**	**343**	P	Pn	16 22 40.3	+4.5
YANA				S	Sn	16 23 12.1	+5.8
CAYR	**Refugio Cayamb**	**2.51**	**356**	P	Pn	16 22 39.0	+2.9

*IDC **29** 16:23:32.2±0.9, 7.59N×93.76E, mb4.0/12, mb1 4.1/13, mb1mx4.1/19, mbtmp3.9/13, ML3.6/1, Error ellipse: s-maj=38.6km s-min=18.3km az=52.0*
*BJI **29** 16:23:37.9, 7.86N×93.69E, h29km, mb4.1*
*NEIC **29** 16:23:37.3±0.5, 7.79N×93.98E, h30km, mb4.6/7, Error ellipse: s-maj=12.2km s-min=10.7km az=54.0*
ISC 29 16:23:35.9±0.6, 7.81N±0.08×94.02E±0.08, h33km, n37, σ1§16/34, mb4.3/21, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.62**	**24**	*e*P	**P**	**16 26 21.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**11.62**	**24**	Pn	**P**	**16 26 21.4**	**-0.9**
	0.1nm,0.3s,baz=210,slow=13,SNR=8.5						
PALK	**Pallekele**	**13.21**	**269**	P	**P**	**16 26 43.2**	**-0.6**
HYB	**Hyderabad**	**17.85**	**304**	*i* P	**P**	**16 27 47.0**	**+3.6**
KMI	**Kunming**	**19.12**	**25**	P		16 28 06.9	
	9.0nm,1.3s						
JIRN	**Jiri**	**21.09**	**340**	*e*P	**P**	**16 28 20.2**	**+0.4**
	19nm,0.8s,mb4.5						
PKI	**Pulchoki**	**21.28**	**339**	*e*P	**P**	**16 28 23.2**	**+1.5**
	42nm,0.7s,mb4.9						
DMN	**Daman**	**21.43**	**338**	*e*P	**P**	**16 28 23.2**	**0.0**
KKN	**Kakani**	**21.52**	**338**	*e*P	**P**	**16 28 24.3**	**+0.1**
	35nm,0.9s,mb4.8						
LSA	**Lhasa**	**21.94**	**353**	*e*P	**P**	**16 28 32.3**	**+3.9**
GKN	**Gorkha**	**21.96**	**337**	*e*P	**P**	**16 28 28.6**	**+0.1**
	33nm,0.6s,mb5.0						
KOLN	**Koldanda**	**22.17**	**335**	*e*P	**P**	**16 28 30.9**	**+0.3**
	28nm,0.6s,mb4.9						
AAK	**Ala-Archa**	**38.72**	**337**	*e*P	**P**	**16 30 55.5**	**-3.1**
	4.0nm,1.0s,mb4.1						
SONM	**Songino Array**	**41.25**	**13**	P	**P**	**16 31 22.0**	**+2.5**
	1.9nm,1.1s,mb3.6,baz=197,slow=8.8,SNR=6.3						
ULN	**Ulaanbaatar**	**41.42**	**13**	P	**P**	**16 31 18.9**	**-2.0**
KURK	**Kurchatov**	**44.64**	**346**	*e*P	**P**	**16 31 47.5**	**+0.4**
	16nm,1.1s,mb4.8						
ZAL	**Zalesovo**	**46.59**	**353**	P	**P**	**16 32 03.4**	**+0.9**
	2.0nm,0.6s,mb4.3,baz=283,slow=5.2,SNR=8.3						
WRA	**Warramunga Arr**	**48.32**	**125**	P	**P**	**16 32 16.5**	**+0.1**
	0.6nm,0.6s,mb3.8,baz=305,slow=8.5,SNR=12						
WRAB	**Tennant Creek**	**48.33**	**125**	*e*P	**P**	**16 32 16.1**	**-0.5**
	8.6nm,1.1s,mb4.7						
BVAR	**Borovoye Array**	**49.01**	**341**	P	**P**	**16 32 21.6**	**+0.2**
	0.5nm,0.6s,mb3.7,baz=146,slow=10,SNR=3.6						
BVAR	**Borovoye Array**	**49.01**	**341**	P	**P**	**16 32 21.6**	**+0.2**
CHKZ	**Chkalovo**	**49.50**	**342**	*e*P	**P**	**16 32 23.5**	**-1.6**
	10nm,1.1s,mb4.8						
ASAR	**Alice Springs**	**49.97**	**130**	P	**P**	**16 32 28.4**	**-0.7**
	0.9nm,0.7s,mb3.9,baz=301,slow=7.1,SNR=10						
PMG	**Port Moresby**	**55.63**	**107**	*e*P	**P**	**16 33 12.7**	**+1.4**
KMBO	**Kilima Mbogo**	**57.30**	**264**	P	**P**	**16 33 27.9**	**+4.6**
	5.8nm,1.1s,mb4.5,baz=49,slow=8.9,SNR=9.0						
KMBO	**Kilima Mbogo**	**57.30**	**264**	*e*P	**P**	**16 33 26.8**	**+3.4**
	8.0nm,1.2s,mb4.6						
BRTR	**Keskin Array B**	**62.38**	**311**	P	**P**	**16 33 56.2**	**-1.6**
	0.7nm,0.6s,mb4.0,baz=117,slow=8.3,SNR=4.1						
MA2	**Magadan**	**66.88**	**28**	P	**P**	**16 34 27.9**	**+1.3**
AKASG	**Malin Array Be**	**68.13**	**322**	P	**P**	**16 34 32.8**	**-1.9**
	1.2nm,0.8s,mb4.0,baz=89,slow=5.1,SNR=4.4						
FINES	**FINESS Array B**	**72.71**	**332**	P	**P**	**16 35 01.6**	**-0.5**
	2.3nm,1.0s,mb4.1,slow=1.9,SNR=5.8						
ARCES	**ARCESS Array B**	**75.28**	**340**	P	**P**	**16 35 17.5**	**+0.5**
	3.7nm,1.0s,mb4.3,baz=90,slow=4.5,SNR=2.9						
GERES	**GERESS Array B**	**77.80**	**318**	P	**P**	**16 35 32.2**	**+0.6**
	1.0nm,0.6s,mb3.9,baz=76,slow=5.5,SNR=11						
NB2	**NORSAR Subarra**	**79.73**	**331**	P	**P**	**16 35 42.0**	**+0.1**
	7.1nm,1.4s,mb4.4,baz=91,slow=5.8						
NOA	**NORSAR Array B**	**79.73**	**331**	P	**P**	**16 35 43.2**	**+1.3**
	1.9nm,0.9s,mb4.0,baz=96,slow=5.5,SNR=3.1						
NOA	**NORSAR Array B**	**79.73**	**331**	P	**P**	**16 35 43.1**	**+1.3**
ULM	**Lac du Bonnet**	**121.54**	**7**	PKP	PKPdf	16 42 28.0	+1.7
	0.5nm,0.4s,baz=344,slow=0.4,SNR=3.0						

PLCA Paso Flores 144.45 200 PKP PKPdf 16 43 10.6 +1.5
3.5nm,0.8s,baz=196,slow=1.5,SNR=6.4

*BJI **29** 16:27:51.5, 7.14N×93.98E, h30km, mB5.3, mb4.6, Ms5.0, Msz4.6*
*IDC **29** 16:27:55.9±0.5, 8.05N×94.13E, mb4.6/20, mb1 4.6/21, mb1mx4.6/23, mbtmp4.5/21, ML4.2/1, MS3.2/1, Ms1 3.4/1, ms1mx2.5/29, Error ellipse: s-maj=29.6km s-min=12.2km az=57.0*
*MOS **29** 16:27:59.5±0.9, 8.07N×94.25E, h33km, mb5.1/18, Error ellipse: s-maj=12.1km s-min=6.3km az=113.3*
*NEIC **29** 16:28:00.6±0.2, 8.05N×94.22E, h30km, mb4.9/23, Error ellipse: s-maj=9.9km s-min=6.1km az=51.0*
ISC 29 16:28:00.4±2.2, 8.09N±0.07×94.31E±0.07, h42km±18km, h27km±2.9km: pP-P, n126, σ0§95/119, mb4.8/51, MS4.7/1, 2C-2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.25**	**23**	*e*P	**P**	**16 30 39.9**	**-1.6**
CMAR	**Chiang Mai Arr**	**11.25**	**23**	Pn	**P**	**16 30 42.7**	**+1.2**
	0.5nm,0.3s,baz=212,slow=14,SNR=20						
CMAR				LR	LR	16 35 15.2	
	comp=Z,117nm,20.6s,baz=220,slow=39						
HYB	**Hyderabad**	**17.93**	**303**	*e*P	**P**	**16 32 09.0**	**+0.6**
HYB	**Hyderabad**	**17.93**	**303**	*i* P	**P**	**16 32 09.0**	**+0.6**
KMI	**Kunming**	**18.75**	**24**	P	**P**	**16 32 20.4**	**+2.0**
KMI				pmax	pmax		
	comp=Z,17nm,1.0s						
KMI	**Kunming**	**18.75**	**24**	P	**P**	**16 32 20.4**	**+2.0**
	comp=Z,17nm,1.0s						
JIRN	**Jiri**	**20.93**	**339**	*e*P	**P**	**16 32 42.3**	**+0.4**
	comp=Z,102nm,1.0s						
PKI	**Pulchoki**	**21.13**	**338**	*e*P	**P**	**16 32 43.5**	**-0.4**
	comp=Z,112nm,1.0s,mb5.2						
DMN	**Daman**	**21.28**	**337**	*e*P	**P**	**16 32 44.9**	**-0.5**
	comp=Z,74nm,0.7s,mb5.1						
KKN	**Kakani**	**21.38**	**338**	*e*P	**P**	**16 32 45.7**	**-0.7**
LSA	**Lhasa**	**21.70**	**353**	P	**P**	**16 32 50.3**	**+0.7**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.1						
GKN	**Gorkha**	**21.82**	**336**	*e*P	**P**	**16 32 50.5**	**-0.3**
	comp=Z,89nm,0.6s,mb5.4						
KOLN	**Koldanda**	**22.04**	**334**	*e*P	**P**	**16 32 53.3**	**+0.3**
	comp=Z,101nm,0.7s,mb5.4						
NJ2	**Nanjing**	**33.00**	**40**	*e*P	**P**	**16 34 30.8**	**-2.9**
NJ2				AP	pP	16 34 40.5	-4.8
NJ2				XP	sP	16 34 44.3	-6.4
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,350nm,7.3s						
NJ2				LR	LR		
	comp=N,2μm,18.8s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,17.4s,MS4.9						
NJ2				LR	LR		
	comp=Z,1μm,18.8s,MS4.6						
SSE	**Sheshan**	**33.95**	**44**	P	**P**	**16 34 37.2**	**-4.7**
	comp=Z,55nm,0.7s,mb5.6						
WMQ	**Urumqi**	**36.06**	**352**	*e*P	**P**	**16 35 01.0**	**+1.2**
BJI	**Beijing**	**37.34**	**28**	P	**P**	**16 35 12.7**	**+2.1**
BJI				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
BJI	**Beijing**	**37.34**	**28**	P	**P**	**16 35 12.7**	**+2.1**
	comp=Z,13nm,1.0s,mb4.7						
UCH	**Uchtor**	**38.23**	**336**	P	**P**	**16 35 18.7**	**+0.7**
	SNR=5.7						
KBK	**Karagaybulak**	**38.42**	**337**	P	**P**	**16 35 20.5**	**+0.9**
	SNR=10						
AML	**Almayashu**	**38.48**	**335**	P	**P**	**16 35 21.1**	**+1.0**
	SNR=17						
AAK	**Ala-Archa**	**38.58**	**336**	P	**P**	**16 35 21.6**	**+0.7**
	SNR=6.3						
AAK	**Ala-Archa**	**38.58**	**336**	*e*P	**P**	**16 35 19.8**	**-1.1**
AAK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.6						
AAK	**Ala-Archa**	**38.58**	**336**	*e*P	**P**	**16 35 19.8**	**-1.1**
	comp=Z,13nm,1.1s,mb4.6						
CHMS	**Chumysh**	**38.78**	**337**	P	**P**	**16 35 23.0**	**+0.4**
	SNR=5.4						
USP	**Ospenovka**	**39.11**	**337**	P	**P**	**16 35 24.6**	**-0.7**
	SNR=9.4						
MKAR	**Makanchi Array**	**39.92**	**347**	*i* P	**P**	**16 35 31.9**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SONM	**Songino Array**	**40.92**	**12**	P	**P**	**16 35 41.5**	**+1.2**
	comp=Z,3.1nm,0.8s,mb4.0,baz=196,slow=9.1,SNR=24						
SONM				PcP	PcP	16 37 41.7	+0.9
	comp=Z,1.5nm,0.5s,baz=193,slow=3.7,SNR=15						
ULN	**Ulaanbaatar**	**41.09**	**13**	P	**P**	**16 35 39.6**	**-2.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
ULN	**Ulaanbaatar**	**41.09**	**13**	P	**P**	**16 35 39.6**	**-2.0**
	comp=Z,3.2nm,0.9s,mb4.0						
ZAK	**Zakamensk**	**42.81**	**8**	*e*P	**P**	**16 35 56.6**	**+0.8**
ZAK				*e*		16 37 45.8	
KURK	**Kurchatov**	**44.44**	**346**	*i* P	**P**	**16 36 08.9**	**-0.1**
KURK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.5						
KURK	**Kurchatov**	**44.44**	**346**	*e*P	**P**	**16 36 08.7**	**-0.2**
	comp=Z,37nm,1.3s,mb5.0						
NWAO	**Narrogin (SRO)**	**46.26**	**153**	P	**P**	**16 36 23.0**	**-0.7**
	comp=Z,6.9nm,0.7s,mb4.7,baz=300,slow=6.2,SNR=5.9						
ZAL	**Zalesovo**	**46.36**	**352**	P	**P**	**16 36 24.4**	**+0.3**
	comp=Z,6.7nm,0.4s,mb4.9,baz=298,slow=6.6,SNR=29						
NVS	**Novosibirsk**	**47.46**	**351**⇓*i*P		**P**	**16 36 31.9**	**-0.9**
NVS				pmax	pmax		
	comp=N,7.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
NVS				pmax	pmax		
	comp=E,3.0nm,0.7s						
WRA	**Warramunga Arr**	**48.25**	**126**	P	**P**	**16 36 38.7**	**-0.7**
	comp=E,2.0nm,0.6s,mb4.3,baz=304,slow=8.5,SNR=24						
WRA				PcP	PcP	16 38 06.5	+0.2
	comp=E,0.4nm,0.4s,baz=316,slow=2.8,SNR=5.7						
WRAB	**Tennant Creek**	**48.25**	**126**	*e*P	**P**	**16 36 38.5**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**48.25**	**126**	*e*P	**P**	**16 36 38.5**	**-1.0**
	comp=Z,5.2nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**48.26**	**126**	*e*P	**P**	**16 36 39.3**	**-0.2**
BVA0	**Borovoye Array**	**48.84**	**341**	P	**P**	**16 36 42.8**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
BVAR	**Borovoye Array**	**48.84**	**341**	P	**P**	**16 36 42.6**	**-1.0**
	comp=Z,3.1nm,0.7s,mb4.5,baz=135,slow=8.4,SNR=17						
BVAR				PcP	PcP	16 38 07.5	-0.5
	comp

YAK	**Yakutsk**	**59.74**	**18**	*eP*	**P**	**16 38 03.2**	**+0.1**
	comp=Z,40nm,1.0s,mb5.4						
STKA	**Stephens Creek**	**60.13**	**134**	P	**P**	**16 38 05.5**	**-0.7**
	comp=Z,2.1nm,0.9s,mb4.2,baz=92,slow=3.3,SNR=3.8						
BRTR	**Keskin Array B**	**62.42**	**311**	P	**P**	**16 38 18.9**	**-2.6**
	comp=Z,4.5nm,0.6s,mb4.8,baz=126,slow=7.6,SNR=26						
MA2	**Magadan**	**66.50**	**28**	P	**P**	**16 38 48.8**	**+1.1**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
MA2	**Magadan**	**66.50**	**28**	P	**P**	**16 38 48.8**	**+1.1**
	comp=Z,5.7nm,0.7s,mb4.7						
TIXI	**Tiksi**	**66.99**	**11**	⇓*iP*	**P**	**16 38 50.3**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
AKASG	**Malin Array Be**	**68.09**	**322**	P	**P**	**16 38 55.4**	**-2.5**
	comp=Z,4.3nm,0.7s,mb4.6,baz=89,slow=4.9,SNR=25						
IDI	**Anoyia**	**68.58**	**305**	P	**P**	**16 39 00.2**	**-1.0**
	comp=Z,14nm,0.6s,mb5.1,baz=92,slow=9.2,SNR=9.2						
JOF	**Joensuu**	**70.73**	**334**	*ep*	**P**	**16 39 12.0**	**-1.8**
	comp=Z,7.0nm,0.5s,mb4.8						
KWP	**Kalwaria**	**71.98**	**320**	*eP*	**P**	**16 39 21.3**	**-0.1**
KOLS	**Kolonicke sedl**	**72.16**	**319**	*iP*	**P**	**16 39 22.6**	**+0.1**
KOLS				*ep*P	pP	16 39 30.5	-4.6
SUW	**Suwalki**	**72.43**	**324**	*eP*	**P**	**16 39 22.7**	**-1.4**
SUW				*eP*		16 39 22.9	
SUW	**Suwalki**	**72.43**	**324**	*eP*	**P**	**16 39 22.7**	**-1.4**
FINES	**FINESS Array B**	**72.60**	**332**	P	**P**	**16 39 24.6**	**-0.3**
	comp=Z,4.9nm,0.5s,mb4.7,baz=98,slow=6.9,SNR=54						
KAF	**Kangasniemi**	**72.68**	**333**	*ep*	**P**	**16 39 24.1**	**-1.3**
	comp=Z,5.4nm,0.5s,mb4.7,baz=104,slow=5.7						
KAF	**Kangasniemi**	**72.68**	**333**	*eP*	**P**	**16 39 24.1**	**-1.3**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
CRVS	**Cervenica-Dubn**	**72.68**	**319**	*iP*	**P**	**16 39 26.6**	**+0.9**
OJC	**Ojcow**	**73.92**	**320**	*eP*	**P**	**16 39 32.7**	**-0.2**
VYHS	**Vyhne**	**74.36**	**318**	*iP*	**P**	**16 39 35.0**	**-0.5**
VYHS				*ep*P	pP	16 39 43.6	-4.5
KEV	**Kevo**	**74.69**	**341**	*ep*	**P**	**16 39 36.6**	**-0.4**
OKC	**Ostrava-Krasne**	**74.94**	**319**	*eP*	**P**	**16 39 38.7**	**-0.1**
ARCES	**ARCESS Array B**	**75.12**	**340**	P	**P**	**16 39 40.0**	**+0.5**
	comp=Z,5.1nm,0.7s,mb4.6,baz=98,slow=5.4,SNR=22						
MORC	**Moravsky Berou**	**75.32**	**319**	*eP*	**P**	**16 39 40.5**	**-0.5**
MORC				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
MORC	**Moravsky Berou**	**75.32**	**319**	*eP*	**P**	**16 39 40.5**	**-0.5**
	comp=Z,17nm,1.1s,mb4.9						
ZST	**Bratislava**	**75.49**	**318**	*iP*	**P**	**16 39 42.3**	**+0.3**
DPC	**Dobruska-Polom**	**76.15**	**320**	*eP*	**P**	**16 39 46.4**	**+0.7**
KSP	**Ksiaz**	**76.21**	**320**	*eP*	**P**	**16 39 46.4**	**+0.4**
KSP	**Ksiaz**	**76.21**	**320**	*eP*	**P**	**16 39 46.3**	**+0.3**
UPC	**Upice**	**76.36**	**320**	*eP*	**P**	**16 39 47.4**	**+0.5**
PRU	**Pruhonice**	**77.27**	**319**	*eP*	**P**	**16 39 52.5**	**+0.4**
PVCC	**Panska Ves**	**77.28**	**320**	*eP*	**P**	**16 39 52.3**	**+0.2**
BRG	**Berggiesshubel**	**77.69**	**320**	*iP*	**P**	**16 39 54.6**	**+0.2**
BRG				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
BRG	**Berggiesshubel**	**77.69**	**320**	*iP*	**P**	**16 39 54.6**	**+0.2**
	comp=Z,9.8nm,0.9s,mb4.7						
GEC2	**GERESS Array S**	**77.78**	**318**	*eP*	**P**	**16 39 55.0**	**+0.1**
GEC2				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
GEC2	**GERESS Array S**	**77.78**	**318**	*eP*	**P**	**16 39 55.0**	**+0.1**
	comp=Z,12nm,0.7s,mb4.9						
GERES	**GERESS Array B**	**77.78**	**318**	P	**P**	**16 39 54.9**	**+0.1**
	comp=Z,8.8nm,0.7s,mb4.8,baz=89,slow=5.2,SNR=69						
KHC	**Kasperske Hory**	**77.87**	**318**	*eP*	**P**	**16 39 55.3**	**-0.1**
CLL	**Collm**	**78.30**	**321**	⇑*iP*	**P**	**16 39 57.8**	**+0.1**
CLL	**Collm**	**78.30**	**321**	⇑P	**P**	**16 39 57.8**	**+0.1**
WET	**Wettzell**	**78.33**	**318**	*eP*	**P**	**16 39 58.0**	**+0.1**
WET				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
WET	**Wettzell**	**78.33**	**318**	*eP*	**P**	**16 39 58.0**	**+0.1**
	comp=Z,15nm,1.2s,mb4.8						
NKC	**Novy Kostel**	**78.63**	**320**	*eP*	**P**	**16 39 59.8**	**+0.3**
MAW	**Mawson**	**78.78**	**192**	P	**P**	**16 40 01.3**	**+1.3**
	comp=Z,3.7nm,0.7s,mb4.4,baz=25,slow=7.2,SNR=7.9						
MOX	**Moxa**	**79.17**	**320**	*eP*	**P**	**16 40 01.5**	**-0.9**
MOX	**Moxa**	**79.17**	**320**	*iP*	**P**	**16 40 01.5**	**-0.9**
GRA1	**Grafenberg Arr**	**79.42**	**319**	*eP*	**P**	**16 40 05.0**	**+1.2**
	comp=Z,19nm,1.1s,mb4.9						
GRF	**Grafenberg Arr**	**79.42**	**319**	*eP*	**P**	**16 40 05.0**	**+1.2**
GRF				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
GRF	**Grafenberg Arr**	**79.42**	**319**	*eP*	**P**	**16 40 05.0**	**+1.2**
GRF				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
GRF	**Grafenberg Arr**	**79.42**	**319**	*eP*	**P**	**16 40 05.0**	**+1.2**
	comp=Z,19nm,1.1s,mb4.9						
NB2	**NORSAR Subarra**	**79.63**	**331**	P	**P**	**16 40 04.1**	**-0.6**
	comp=Z,21nm,1.2s,mb5.0,baz=98,slow=4.8						
NB2	**NORSAR Subarra**	**79.63**	**331**	P	**P**	**16 40 04.1**	**-0.6**
	baz=98,slow=5.1						
NOA	**NORSAR Array B**	**79.63**	**331**	P	**P**	**16 40 04.5**	**-0.3**
	comp=Z,4.3nm,0.8s,mb4.4,baz=94,slow=5.3,SNR=12						
CLZ	**Clausthal**	**79.95**	**321**	*eP*	**P**	**16 40 06.9**	**+0.3**
	comp=Z,12nm,0.7s,mb4.9						
DAVOX	**Davos**	**80.35**	**316**	P	**P**	**16 40 09.4**	**+0.5**
	comp=Z,11nm,0.6s,mb5.0,baz=113,slow=9.2,SNR=9.8						
TNS	**Taunus Mts**	**81.20**	**320**	*eP*	**P**	**16 40 13.6**	**+0.3**
BFO	**Black Forest**	**81.35**	**318**	*eP*	**P**	**16 40 14.1**	**0.0**
BFO				pmax	pmax		
	comp=Z,62nm,2.5s,mb5.1						
BFO	**Black Forest**	**81.35**	**318**	*eP*	**P**	**16 40 14.1**	**0.0**
	comp=Z,62nm,2.5s,mb5.1						
LPG	**La Plagne**	**82.59**	**315**	*eP*	**P**	**16 40 21.1**	**+0.5**
	comp=Z,27nm,0.7s,mb5.1						
LPG	**La Plagne**	**82.59**	**315**	*eP*	**P**	**16 40 21.1**	**+0.5**
LPG				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.1						
EKA	**Eskdalemuir Ar**	**87.64**	**325**	P	**P**	**16 40 46.6**	**+1.2**
	comp=Z,5.9nm,0.8s,mb4.9,baz=87,slow=4.9,SNR=7.3						
ESDC	**Sonseca Array**	**91.21**	**310**	P	**P**	**16 41 03.6**	**+1.0**
	comp=Z,2.4nm,0.6s,mb4.7,baz=63,slow=4.1,SNR=11						
VNDA	**Vanda**	**93.11**	**168**	P	**P**	**16 41 12.3**	**+1.8**
	comp=Z,1.3nm,1.0s,mb4.3,baz=320,slow=7.9,SNR=2.3						
ULM	**Lac du Bonnet**	**121.23**	**8**	PKP	PKPdf	16 46 49.8	+0.8
	comp=Z,2.0nm,0.5s,baz=343,slow=5.5,SNR=4.4						
NVAR	**Mina Array Bea**	**124.65**	**31**	PKP	PKPdf	16 46 59.4	+3.5
	comp=Z,1.3nm,0.6s,baz=330,slow=2.4,SNR=6.3						
NVAR	**Mina Array Bea**	**124.65**	**31**	PKP	PKPdf	16 46 59.4	+3.5
PDAR	**Pinedale Array**	**124.91**	**21**	PKP	PKPdf	16 46 58.6	+2.3
	comp=Z,1.5nm,0.7s,baz=70,slow=0.6,SNR=9.1						
TXAR	**Lajitas Array**	**138.96**	**24**	PKP	PKPdf	16 47 26.0	+2.9
	comp=Z,0.8nm,0.4s,baz=182,slow=1.9,SNR=4.9						
TXAR	**Lajitas Array**	**138.96**	**24**	PKP	PKPdf	16 47 26.0	+2.9
PLCA	**Paso Flores**	**144.81**	**200**	PKP	PKPdf	16 47 34.2	+1.2
	comp=Z,8.5nm,0.9s,baz=159,slow=4.1,SNR=14						

IDC ***29*** *16:32:35.7±1.3, 8.30N×93.72E, mb3.9/8, mb1 4.0/9, mb1mx3.8/19, mbtmp3.9/9, ML3.5/1, Error ellipse: s-maj=41.4km s-min=29.1km az=46.0*

ISC 29 16:32:39.1±1.1, 8.4N±0.2×93.8E±0.2, h33km, n10, σ0§32/9, mb3.9/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.17**	**26**	Pn	**P**	**16 35 19.5**	**-0.1**
	0.1nm,0.3s,baz=212,slow=14,SNR=4.5						
SONM	**Songino Array**	**40.73**	**13**	P	**P**	**16 40 18.2**	**-0.3**
	0.5nm,0.8s,mb3.2,baz=188,slow=8.7,SNR=4.0						
ZAL	**Zalesovo**	**46.01**	**353**	P	**P**	**16 41 01.7**	**+0.6**
	1.2nm,0.3s,mb4.3,baz=22,slow=4.1,SNR=4.4						
WRA	**Warramunga Arr**	**48.80**	**126**	P	**P**	**16 41 23.4**	**0.0**
	0.5nm,0.6s,mb3.7,baz=308,slow=8.5,SNR=4.5						
BRTR	**Keskin Array B**	**61.87**	**311**	P	**P**	**16 42 57.2**	**-0.4**
	0.8nm,0.9s,mb3.9,baz=121,slow=8.4,SNR=3.7						
FINES	**FINESS Array B**	**72.12**	**332**	P	**P**	**16 44 02.1**	**+0.2**
	2.1nm,0.9s,mb4.1,baz=74,slow=14,SNR=4.0						
ARCES	**ARCESS Array B**	**74.69**	**340**	P	**P**	**16 44 17.3**	**+0.5**
	8.0nm,1.1s,mb4.6,baz=90,slow=5.4,SNR=3.0						
GERES	**GERESS Array B**	**77.25**	**318**	P	**P**	**16 44 31.8**	**-0.1**
	0.5nm,0.6s,mb3.6,baz=124,slow=4.8,SNR=6.7						
HFS	**Hagfors**	**77.87**	**330**	P	**P**	**16 44 34.7**	**-0.3**
	2.3nm,0.9s,mb4.1,baz=90,slow=1.4,SNR=3.8						
YKA	**Yellowknife Ar**	**106.00**	**13**	PP	PP	16 51 10.0	-4.9
	0.2nm,0.7s,baz=330,slow=5.0,SNR=3.9						

IGQ 29 16:33:31.6, 0.85S×81.26W, h3km±4km, mb4.1, 4C-3D, Error ellipse: s-maj=6.6km s-min=4.2km az=8.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.74**	**105**	⇑P	Pg	16 33 45.5	-0.9
JAMA	**Jama**	**1.21**	**61**	P	Pb	16 33 53.6	-1.1
JAMA				S	Sb	16 34 10.3	-0.3
IGUA	**Igualata**	**2.69**	**104**	P	Pn	16 34 17.5	+0.8
JUA2	**San Juan 2**	**2.73**	**77**	⇑P	Pn	16 34 18.8	+1.6
TERV	**Terraza Guagua**	**2.74**	**76**	P	Pn	16 34 18.7	+1.5
PINO	**Pino**	**2.74**	**75**	⇑P	Pn	16 34 18.2	+0.9
YANA	**Yana**	**2.78**	**75**	P	Pn	16 34 18.6	+0.7
NAS1	**Nasa**	**2.79**	**86**	P	Pn	16 34 20.6	+2.6
CUSU	**Cusua**	**2.84**	**102**	P	Pn	16 34 20.8	+2.1
JUIV	**Juive**	**2.85**	**102**	P	Pn	16 34 20.4	+1.5
VC1	**Cotopaxi 1**	**2.86**	**86**	P	Pn	16 34 21.5	+2.5
RETU	**Refugio**	**2.87**	**102**	P	Pn	16 34 21.6	+2.4
ARRY	**Arrayan**	**2.88**	**103**	⇓P	Pn	16 34 20.1	+0.9
ARRY				S	Sn	16 34 55.3	+0.5
PISA	**Pisayambo**	**2.88**	**94**	P	Pn	16 34 21.6	+2.3
TAMB	**Tambo**	**2.89**	**87**	P	Pn	16 34 22.0	+2.5
ULBA	**Ulba**	**2.91**	**102**	P	Pn	16 34 21.1	+1.4
ANTI	**Antisana**	**3.12**	**83**	⇑P	Pn	16 34 25.0	+2.3
COTA	**Cotacachi**	**3.15**	**68**	P	Pn	16 34 24.8	+1.7
CAYR	**Refugio Cayamb**	**3.36**	**75**	⇓P	Pn	16 34 29.0	+2.9
CAYA	**Cayambe**	**3.39**	**74**	⇓P	Pn	16 34 29.4	+2.8

IGQ 29 16:36:25.2, 1.53S×81.05W, h12km±6km, mb4.1, 1C, Error ellipse: s-maj=8.0km s-min=5.9km az=13.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.70**	**46**	⇑P	Pb	16 36 38.4	-0.4
HOJA				S	Sb	16 36 48.1	+0.1
JAMA	**Jama**	**1.52**	**34**	P	Pn	16 36 52.0	-0.3
JAMA				S	Sb	16 37 13.0	+1.0
MAGD	**Magdalena**	**1.94**	**41**	P	Pn	16 36 59.8	+1.4
IGUA	**Igualata**	**2.41**	**89**	P	Pn	16 37 06.0	+0.8
IGUA				S	Sn	16 37 36.6	+1.8
ARRY	**Arrayan**	**2.59**	**89**	P	Pn	16 37 08.4	+0.7
ARRY				S	Sn	16 37 40.3	+0.8
RETU	**Refugio**	**2.60**	**88**	P	Pn	16 37 11.1	+3.2
ULBA	**Ulba**	**2.64**	**88**	P	Pn	16 37 09.9	+1.4
PISA	**Pisayambo**	**2.71**	**80**	P	Pn	16 37 11.7	+2.4
NAS1	**Nasa**	**2.72**	**71**	P	Pn	16 37 11.7	+2.1
JUA2	**San Juan 2**	**2.77**	**62**	P	Pn	16 37 11.3	+1.0
VC1	**Cotopaxi 1**	**2.79**	**72**	P	Pn	16 37 14.2	+3.7
TERV	**Terraza Guagua**	**2.79**	**61**	P	Pn	16 37 11.6	+1.0
PINO	**Pino**	**2.80**	**61**	P	Pn	16 37 11.3	+0.6
TAMB	**Tambo**	**2.81**	**73**	P	Pn	16 37 14.3	+3.5
YANA	**Yana**	**2.85**	**60**	P	Pn	16 37 12.0	+0.6
ANTI	**Antisana**	**3.08**	**70**	P	Pn	16 37 17.2	+2.5
COTA	**Cotacachi**	**3.29**	**56**	P	Pn	16 37 19.3	+1.7
CAYR	**Refugio Cayamb**	**3.41**	**63**	P	Pn	16 37 23.1	+3.7
CAYA	**Cayambe**	**3.45**	**62**	P	Pn	16 37 23.3	+3.4

IDC ***29*** *16:36:48.8±0.6, 7.85N×93.87E, mb4.4/24, mb1 4.5/25, mb1mx4.5/29, mbtmp4.4/25, ML4.4/1, MS4.5/20, Ms1 4.5/20, ms1mx4.4/27, Error ellipse: s-maj=28.4km s-min=12.1km az=49.0*

MOS ***29*** *16:36:53.5±1.5, 7.98N×94.07E, h33km, mb5.3/46, MS4.6/9, Error ellipse: s-maj=9.8km s-min=5.6km az=119.4*

BJI ***29*** *16:36:54.8, 7.72N×94.13E, h62km, mB5.3, mb4.9, Ms4.9, Msz4.7*

CSEM ***29*** *16:36:55.7, 8.28N×93.98E, h33km, mb5.5*

HRVD ***29*** *16:36:56.2±0.3, 8.05N×94.26E, h12km, MW5.0/60, Centroid moment Tensor Solution. LP body waves: s16,c22;Mantle waves: s60,c105; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.06±.15; $M_{\theta\theta}$-0.88±.12; $M_{\phi\phi}$3.94±.13; $M_{r\theta}$-0.36±.40; $M_{\theta\phi}$2.61±.10; $M_{\phi r}$-1.98±.38; Best double couple: $M_0$4.582×10^{16} NP1: ϕ_s222°, δ35°, λ-63°. NP2:ϕ_s10°, δ60°, λ-108°. Principal axes: T 5.531, Plg13°, Azm113°; N -1.897, Plg15°, Azm19°; P -3.633, Plg70°, Azm242°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***29*** *16:36:56.2±1.2, 8.01N×94.11E, h43km±10km, mb5.1/53, MS4.4/2 Error ellipse: s-maj=8.6km s-min=6.7km az=221.0*

ISC 29 16:36:51.2±0.2, 7.93N±0.04×94.21E±0.04, h20km, h20km±1.9km:pP-P, n232, σ1§30/230, mb4.9/79, MS4.6/34, 6C-5D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.98**	**339**	*eP*	**Pn**	**16 37 53.8**	**+1.1**
PBA				*eS*	**Sn**	**16 38 35.4**	**-4.0**
NNT	**Nongplab**	**7.14**	**49**	P	**Pn**	**16 38 35.5**	**-1.8**
CM31	**Chiang Mai Arr**	**11.44**	**23**	*eP*	**P**	**16 39 36.0**	**-0.8**
	7.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**11.44**	**23**	Pn	**P**	**16 39 36.6**	**-0.1**
	0.7nm,0.3s,baz=211,slow=14,SNR=40						
CMAR				LR	LR	16 44 08.9	
	comp=Z,2μm,18.7s,baz=210,slow=38						
CHG	**Chiang Mai**	**11.76**	**23**	⇑P	**P**	**16 39 41.1**	**0.0**
	22nm,1.3s						
PALK	**Pallekele**	**13.41**	**268**	P	**P**	**16 40 03.4**	**+0.3**
	12nm,1.0s						
VIS	**Vishakhapatnam**	**14.39**	**314**	*eP*	**P**	**16 40 14.9**	**-1.2**
VIS				*eP*		16 40 17.9	
VIS				*e*		16 40 21.9	
	comp=Z,75nm,0.8s						
VIS				*eS*	**S**	**16 42 57.6**	**+1.5**
BWNR	**Bhubaneshwar**	**14.75**	**327**	*eP*	**P**	**16 40 15.7**	**-5.0**
BWNR				*e*		16 40 20.1	
	comp=Z,29nm,0.5s						
BWNR				*e*		16 42 50.5	
BWNR				*eS*	**S**	**16 42 58.8**	**-5.6**
CAL	**Calcutta**	**15.59**	**339**	*e*	**S**	**16 43 41.6**	**+17**
AGT	**Agartala**	**16.12**	**350**	*eP*	**P**	**16 40 40.0**	**+1.5**
KOD	**Kodaikanal**	**16.70**	**279**	*eP*	**P**	**16 40 50.5**	**+4.6**
KOD				*e*		16 40 57.1	
	comp=Z,96nm,1.4s						
KOD				*eS*	**S**	**16 43 56.7**	**+6.7**
IMP	**Imphal**	**16.77**	**359**	*eP*	**P**	**16 40 45.7**	**-1.0**
SHL	**Shillong**	**17.68**	**353**	*eP*	**P**	**16 40 57.2**	**-1.0**
HYB	**Hyderabad**	**17.94**	**303**	*eP*	**P**	**16 41 02.0**	**+0.5**
HYB				*eS*	**S**	**16 44 22.0**	**+3.6**
HYB	**Hyderabad**	**17.94**	**303**	*iP*	**P**	**16 41 02.0**	**+0.5**
	comp=Z,43nm,1.2s						
HYB				*eS*	**S**	**16 44 22.0**	**+3.6**
BLSP	**Bilaspur**	**18.30**	**322**	*eP*	**P**	**16 41 06.0**	**+0.1**
BLSP				*e*		16 41 11.2	
	comp=Z,70nm,1.7s						
BLSP				*eS*	**S**	**16 44 28.6**	**+2.2**
KMI	**Kunming**	**18.94**	**24**	P	**P**	**16 41 17.0**	**+3.3**
KMI				S	**S**	**16 44 48.5**	**+7.6**
KMI				pmax	pmax		
	comp=Z,21nm,2.0s						
KMI	**Kunming**	**18.94**	**24**	P	**P**	**16 41 17.0**	**+3.3**
	comp=Z,21nm,2.0s						
KMI				pP		16 41 27.2	
KMI				sP		16 41 33.0	
KMI				S	**S**	**16 44 48.5**	**+7.6**
KMI				sS		16 45 03.8	
NGP	**Nagpur**	**19.68**	**314**	*eP*	**P**	**16 41 23.7**	**+1.5**
NGP				*e*		16 44 43.9	
MNGI	**Mangalore**	**19.70**	**286**	*i*	**P**	**16 41 20.8**	**-1.8**
MNGI				*i* S	**S**	**16 45 05.2**	**+7.2**
COCO	**West Island**	**20.15**	**173**	*eP*	**P**	**16 41 28.9**	**+1.6**
	comp=Z,212nm,1.1s						
GOA	**Goa**	**21.32**	**293**	*eP*	**P**	**16 41 43.9**	**+4.6**
GOA				*e*		16 41 53.9	
	comp=Z,90nm,1.2s						
GOA				*eS*	**S**	**16 45 41.9**	**+12**
KAD	**Karad**	**21.64**	**297**	*eP*	**P**	**16 41 42.0**	**-0.5**
LSA	**Lhasa**	**21.85**	**353**	P	**P**	**16 41 44.8**	**+0.2**
LSA				S	**S**	**16 45 46.3**	**+6.2**
LSA				LR	LR		
	comp=Z,7μm,18.3s,MS5.1						
BHPL	**Bhopal**	**22.17**	**315**	*eP*	**P**	**16 41 48.9**	**+1.0**
BHPL				*e*		16 41 54.8	
	comp=Z,108nm,1.6s						
BHPL				*eS*	**S**	**16 45 54.0**	**+7.9**
POO	**Poona**	**22.42**	**300**	⇓*iP*	**P**	**16 41 52.0**	**+1.6**
POO				*eS*	**S**	**16 46 00.0**	**+9.3**
BOM	**Bombay**	**23.47**	**300**	*e*	**P**	**16 41 55.8**	**-4.9**
BOM				*eS*	**S**	**16 46 15.2**	**+5.8**
AYAN	**Aya Nagar**	**26.04**	**324**	*eP*	**P**	**16 42 22.8**	**-2.3**
NDI	**New Delhi**	**26.14**	**324**	*eP*	**P**	**16 42 27.8**	**+1.7**
NDI				*e*	pP	16 42 34.5	+2.7
	comp=Z,174nm,1.3s						
NDI				*e*	**S**	**16 47 08.0**	**+14**
AJM	**Ajmer**	**26.20**	**317**	*iP*	**P**	**16 42 28.0**	**+1.4**
KHET	**Khetri**	**26.54**	**321**	*eP*	**P**	**16 42 29.3**	**-0.4**
SMLA	**Simla**	**28.04**	**328**	*eP*	**P**	**16 42 54.0**	**+11**
SMLA				*e*		16 43 09.0	
	comp=Z,51nm,1.7s						
SMLA				*eS*	**S**	**16 47 38.0**	**+13**
XAN	**Xi'an**	**29.32**	**26**	P	**P**	**16 42 54.8**	**-0.1**
XAN				AMB	AMB		
	comp=Z,15nm,1.8s,mb4.4						
WHN	**Wuhan**	**29.35**	**37**	P	**P**	**16 42 56.0**	**+0.7**
WHN				LR	LR		
	comp=Z,3μm,11.1s,MS5.1						
LZH	**Lanzhou**	**29.38**	**16**	*eP*	**P**	**16 42 56.3**	**+0.9**
LZH				AP	pP	16 43 10.0	+8.8
LZH				XP	sP	16 43 15.5	+12
LZH				AMB	AMB		
	comp=Z,39nm,1.7s,mb4.9						
LZH				AMB	AMB		
	comp=Z,120nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,15.6s						
LZH				LR	LR		
	comp=Z,2μm,17.0s,MS4.7						
LZH	**Lanzhou**	**29.38**	**16**	*eP*	**P**	**16 42 56.2**	**+0.8**
LZH				*PP	pP	16 43 10.0	+8.8
LZH				pmax	pmax		
	comp=Z,39nm,1.7s,mb4.9						
LZH				MLR	MLR		
	comp=Z,2μm,17.0s,MS4.7						
LZH	**Lanzhou**	**29.38**	**16**	*eP*	**P**	**16 42 56.2**	**+0.8**
	comp=Z,39nm,1.7s,mb4.9						
LZH				pP	pP	16 43 10.0	+8.8
LZH				sP	sP	16 43 15.5	+12
LZH				LR	LR		
	comp=Z,2μm,17.0s,MS4.7						
NJ2	**Nanjing**	**33.19**	**40**	*eP*	**P**	**16 43 32.5**	**+3.6**
NJ2				AP	pP	16 43 41.3	+6.5
NJ2				XP	sP	16 43 46.3	+9.0
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,250nm,6.7s						
NJ2				LR	LR		
	comp=N,2μm,19.8s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,16.4s,MS4.9						
NJ2				LR	LR		
	comp=Z,1μm,18.8s,MS4.6						
SSE	**Sheshan**	**34.14**	**44**	P	**P**	**16 43 38.5**	**+1.3**
SSE				S	**S**	**16 49 06.8**	**+5.6**
SSE				XS		16 49 21.5	
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,72nm,5.6s						
SSE				LR	LR		
	comp=N,848nm,11.7s,MS4.8						
SSE				LR	LR		
	comp=E,663nm,11.7s,MS4.8						
SSE				LR	LR		
	comp=Z,851nm,11.4s,MS4.7						
SSE	**Sheshan**	**34.14**	**44**	P	**P**	**16 43 38.6**	**+1.4**
	comp=Z,32nm,0.7s,mb5.4						
SSE				pP	pP	16 43 47.2	+4.2
SSE				S	**S**	**16 49 06.8**	**+5.6**
SSE				sS		16 49 21.6	
SSE				SS	SS	16 51 36.2	+26
SSE				LR	LR		
	comp=Z,850nm,11.4s,MS4.7						
WMQ	**Urumqi**	**36.21**	**352**	*eP*	**P**	**16 43 55.5**	**+0.8**
WMQ				AP	pP	16 44 05.3	+4.7
WMQ				PP	PP	16 45 18.3	+0.7
WMQ				PCP	PcP	16 46 21.5	+1.2
WMQ				AMB	AMB		
	comp=Z,69nm,1.0s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,427nm,4.9s						
WMQ				LR	LR		
	comp=N,1μm,17.4s,MS4.9						
WMQ				LR	LR		
	comp=E,1μm,17.1s,MS4.9						
WMQ				LR	LR		
	comp=Z,2μm,17.5s,MS4.9						
JOW	**Kunigami**	**37.37**	**56**	LR	LR	17 01 54.8	
	comp=Z,618nm,18.7s,MS4.4,baz=266,slow=40						
BJI	**Beijing**	**37.53**	**28**	P	**P**	**16 44 08.5**	**+2.7**
BJI				S	**S**	**16 50 00.7**	**+7.3**
BJI				pmax	pmax		
	comp=Z,13nm,1.6s,mb4.4						
BJI				MLR	MLR		
	comp=

NVS pmax pmax
comp=E,11nm,1.3s
NVS smax
comp=N,12nm,1.9s
NVS smax
comp=E,20nm,2.2s
WRA Warramunga Arr 48.23 126 P **P 16 45 31.7 -1.3**
comp=E,1.6nm,0.7s,mb4.2,baz=304,slow=8.5,SNR=16
WRAB Tennant Creek 48.24 126⇑ *i*P **P 16 45 33.2 +0.1**
WRAB Tennant Creek 48.24 126 *e*P **P 16 45 32.1 -1.0**
comp=E,19nm,1.0s,mb5.1
WB2 Warramunga Arr 48.24 126 *e*P **P 16 45 32.3 -0.8**
BVAR Borovoye Array 48.96 341 P **P 16 45 35.8 -2.4**
comp=E,0.2nm,0.3s,baz=224,slow=40,SNR=4.2
BVAR PcP PcP 16 47 03.0 +0.4
comp=E,2.9nm,0.8s,baz=117,slow=3.2,SNR=2.3
BRVK Borovoye 49.03 341 *e*P **P 16 45 38.7 0.0**
BRVK pmax pmax
comp=Z,16nm,1.1s,mb5.0
BRVK Borovoye 49.03 341 *e*P **P 16 45 38.7 0.0**
comp=Z,16nm,1.1s,mb5.0
MAJO Matsushiro 49.07 48 P **P 16 45 41.4 +2.1**
MAJO pmax pmax
comp=Z,30nm,1.4s,mb5.1
MAJO Matsushiro 49.07 48 P **P 16 45 41.4 +2.1**
comp=Z,30nm,1.4s,mb5.1
RAYN Ar Rayn 49.13 294 P **P 16 45 40.0 +0.1**
comp=Z,174nm,0.8s,SNR=27
CBIJ Chichi jima 49.21 61 LR LR 17 07 06.6
comp=Z,138nm,19.1s,MS4.0,baz=195,slow=37
CHKZ Chkalovo 49.45 342 *e*P **P 16 45 39.7 -2.2**
CHKZ *e* 16 47 05.4
CHKZ pmax pmax
comp=Z,52nm,1.0s,mb5.5
CHKZ Chkalovo 49.45 342 *e*P **P 16 45 39.7 -2.2**
comp=Z,52nm,1.0s,mb5.5
CHKZ *e*PcP PcP 16 47 05.4 +1.0
ASPA Alice Springs 49.89 130 *e*P **P 16 45 44.9 -0.9**
ASAR Alice Springs 49.89 130 P **P 16 45 44.2 -1.5**
comp=Z,1.7nm,0.7s,mb4.2,baz=303,slow=7.6,SNR=22
ASAR LR LR 17 07 21.4
comp=Z,291nm,21.7s,MS4.2,baz=295,slow=37
GNI Garni 54.45 314 *i*P **P 16 46 16.1 -3.6**
GNI Garni 54.45 314 LR LR 17 14 25.7
comp=Z,233nm,18.5s,MS4.3,baz=291,slow=42
SVE Sverdlovsk 55.38 338 *e*P **P 16 46 22.0 -4.3**
SVE pmax pmax
comp=Z,120nm,2.0s,mb5.6
SVE MLR MLR
comp=Z,2μm,19.0s,MS5.1
PMG Port Moresby 55.48 107 P **P 16 46 28.5 +1.0**
PMG pmax pmax
comp=Z,39nm,1.2s
PMG Port Moresby 55.48 107 P **P 16 46 28.0 +0.4**
comp=Z,13nm,0.8s,mb5.0,baz=354,slow=11,SNR=3.3
PMG Port Moresby 55.48 107 P **P 16 46 28.5 +0.9**
comp=Z,39nm,1.2s,mb5.3
ARU Arti 55.87 337 P **P 16 46 30.5 +0.7**
comp=Z,133nm,1.5s,mb5.8,SNR=8.0
KIV Kislovodsk 57.33 318⇑ *i*P **P 16 46 39.1 -1.3**
KIV *e*P 16 46 42.2
KMBO Kilima Mbogo 57.50 264 *e*P **P 16 46 43.3 +1.3**
KMBO pmax pmax
comp=Z,31nm,1.3s
KMBO Kilima Mbogo 57.50 264 P **P 16 46 43.0 +1.0**
comp=Z,12nm,1.0s,mb4.9,baz=54,slow=12,SNR=19
KMBO LR LR 17 09 00.9
comp=Z,468nm,18.5s,MS4.6,baz=97,slow=34
KMBO Kilima Mbogo 57.50 264 *e*P **P 16 46 43.3 +1.3**
comp=Z,31nm,1.3s,mb5.2
ASF Jabal al Asfar 58.25 303 P **P 16 46 46.1 -0.9**
comp=Z,2.2nm,0.8s,mb4.3,baz=67,slow=7.7,SNR=2.5
ASF LR LR 17 14 26.9
comp=Z,288nm,20.6s,MS4.4,baz=319,slow=39
CTA Charters Tower 58.27 119 P **P 16 46 49.3 +2.0**
comp=Z,8.3nm,1.2s,mb4.6,baz=301,slow=8.2,SNR=4.2
CTA LR LR 17 12 30.0
comp=Z,359nm,20.7s,MS4.5,baz=287,slow=37
CTAO Charters Tower 58.27 119 P **P 16 46 49.1 +1.8**
CTAO pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
CTAO Charters Tower 58.27 119 P **P 16 46 49.1 +1.8**
comp=Z,10nm,1.1s,mb4.8
MALT Malatya 58.48 310 *e*P **P 16 46 46.8 -1.8**
MALT pmax pmax
comp=Z,17nm,1.3s,mb4.9
MALT Malatya 58.48 310 *e*P **P 16 46 46.8 -1.8**
comp=Z,17nm,1.3s,mb4.9
SOKR Solikamsk 58.78 339⇓ *i*P **P 16 46 50.0 -0.3**
SOKR pmax pmax
comp=Z,40nm,1.0s,mb5.4
SOKR MLR MLR
comp=Z,910nm,22.0s,MS4.8
SOC Sochi 59.19 316 *e*P **P 16 46 49.7 -3.7**
SOC *e*S **S 16 54 49.0 -9.3**
SOC pmax pmax
comp=N,36nm,0.7s
SOC pmax pmax
comp=E,35nm,0.7s
SOC pmax pmax
comp=Z,30nm,0.7s,mb5.4
EIL Elat 59.46 300 LR LR 17 14 22.1
comp=Z,364nm,18.2s,MS4.5,baz=226,slow=38
EIL Elat 59.46 300 *e*P **P 16 46 54.2 -1.3**
comp=Z,21nm,1.2s,mb5.0
YAK Yakutsk 59.92 18 *e*P **P 16 46 59.9 +1.7**
YAK pmax pmax
comp=Z,58nm,1.3s,mb5.5
YAK Yakutsk 59.92 18 *e*P **P 16 46 57.6 -0.6**
comp=Z,45nm,1.0s,mb5.5
STKA Stephens Creek 60.09 134 *e*P **P 16 47 01.3 +1.5**
comp=Z,6.0nm,1.0s,mb4.6
STKA Stephens Creek 60.09 134 P **P 16 46 59.6 -0.1**
comp=Z,7.0nm,1.0s,mb4.7,baz=296,slow=8.9,SNR=8.1
STKA LR LR 17 13 38.1
comp=Z,562nm,21.1s,MS4.7,baz=305,slow=37
ANN Anapa 61.15 317 *e*P **P 16 47 03.0 -3.8**
ANN *e*S **S 16 55 22.8 -0.5**
ANN pmax pmax
comp=Z,65nm,1.2s,mb5.6
BRTR Keskin Array B 62.45 311 P **P 16 47 12.2 -3.5**
comp=Z,4.4nm,1.0s,mb4.5,baz=126,slow=7.2,SNR=11
MBAR Mbarara 63.84 265 *e*P **P 16 47 27.2 +2.0**
MBAR pmax pmax
comp=Z,13nm,1.2s,mb4.8
MBAR Mbarara 63.84 265 *e*P **P 16 47 27.2 +1.9**
comp=Z,13nm,1.2s,mb4.8
MOS Moscow 65.07 329 *e*P **P 16 47 33.7 +1.2**
MOS *e* 16 48 05.8
MOS 16 49 55.6
MOS *e*PPP PPP 16 51 32.1 +0.2
MOS pmax pmax
comp=Z,107nm,1.5s,mb5.7
MOS MLR MLR
comp=Z,900nm,20.5s,MS5.0
OBN Obninsk 65.37 328⇑ *i*P **P 16 47 32.1 -2.4**
OBN *e* 16 49 57.8
OBN pmax pmax
comp=Z,59nm,1.1s,mb5.5
OBN MLR MLR
comp=Z,400nm,20.0s,MS4.6
OBN Obninsk 65.37 328 *e*P **P 16 47 32.0 -2.5**
comp=Z,60nm,1.0s,mb5.6
MA2 Magadan 66.69 28⇓ *i*P **P 16 47 45.3 +2.5**
MA2 pmax pmax
comp=Z,28nm,1.3s,mb5.1
MA2 Magadan 66.69 28 *e*P **P 16 47 43.6 +0.8**
comp=Z,22nm,1.0s,mb5.1
TIXI Tiksi 67.17 11⇓ *i*P **P 16 47 45.8 +0.1**
AKASG Malin Array Be 68.16 322 P **P 16 47 48.8 -3.4**
comp=Z,6.7nm,0.9s,mb4.7,baz=88,slow=4.9,SNR=10.0
IDI Anoyia 68.60 305 P **P 16 47 52.9 -2.3**
comp=Z,12nm,0.8s,mb4.9,baz=282,slow=13,SNR=9.4
MLR Muntele Rosu 69.19 316 P **P 16 47 57.3 -1.4**
comp=Z,14nm,0.9s,mb4.9,baz=70,slow=3.9,SNR=10
LSZ Lusaka 69.35 250 *e*P **P 16 47 59.6 -0.6**
LSZ pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
LSZ Lusaka 69.35 250 *e*P **P 16 47 59.6 -0.5**
comp=Z,9.0nm,1.2s,mb4.6
MNK Minsk 69.95 325 *e*P **P 16 48 01.0 -2.2**
JOF Joensuu 70.83 334 *e*p **P 16 48 05.6 -2.8**
comp=Z,8.5nm,0.5s,mb4.9
LVV L'vov 71.22 320 *e*P **P 16 48 13.6 +2.6**
LVV MLR MLR
comp=N,170nm,18.0s,MS4.6
LVV MLR MLR
comp=E,220nm,18.0s,MS4.6
LVV MLR MLR
comp=Z,160nm,18.0s,MS4.3
KWP Kalwaria 72.04 320 *e*P **P 16 48 14.5 -1.4**
KOLS Kolonicke sedl 72.21 319 *e*P **P 16 48 20.8 +3.9**
SUW Suwalki 72.51 324 *e*P **P 16 48 18.0 -0.6**
SUW Suwalki 72.51 324 *e*P **P 16 48 18.0 -0.6**
FINES FINESS Array B 72.70 332 P **P 16 48 17.4 -2.1**
comp=Z,1.7nm,0.5s,mb4.2,baz=98,slow=9.8,SNR=3.6
FINES LR LR 17 26 26.7
comp=Z,403nm,18.2s,MS4.7,baz=293,slow=41
CRVS Cervenica-Dubn 72.74 319 *i*P **P 16 48 20.3 +0.3**
KAF Kangasniemi 72.78 333 *e*p **P 16 48 18.0 -2.0**
comp=Z,12nm,0.7s,mb5.0,baz=103,slow=5.6
KAF Kangasniemi 72.78 333 *e*P **P 16 48 18.0 -2.0**
KAF pmax pmax
comp=Z,13nm,0.7s,mb5.0
NIE Niedzica 73.55 319 *e*P **P 16 48 17.0 -7.8**
LBTB Lobatse 74.33 241 P **P 16 48 30.4 +0.6**
LBTB pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
LBTB Lobatse 74.33 241 P **P 16 48 30.4 +0.6**
comp=Z,9.1nm,1.1s,mb4.6
VYHS Vyhne 74.42 318 *i*P **P 16 48 21.4 -8.4**
KEV Kevo 74.81 341 *e*p **P 16 48 32.7 +1.0**
comp=Z,14nm,0.9s,mb4.9
KEV Kevo 74.81 341 *e*P **P 16 48 32.7 +1.0**
KEV pmax pmax
comp=Z,15nm,0.9s,mb4.9
OKC Ostrava-Krasne 75.00 319 *e*P **P 16 48 31.6 -1.5**
OKC *e*pP pP 16 48 37.7 -1.6
ARCES ARCESS Array B 75.24 340 P **P 16 48 32.7 -1.4**
comp=Z,2.9nm,0.7s,mb4.3,baz=90,slow=5.4,SNR=4.3
ARCES LR LR 17 24 19.7
comp=Z,767nm,20.0s,MS5.0,baz=193,slow=38
ARCES ARCESS Array B 75.24 340 P **P 16 48 32.7 -1.4**
ARCES LR LR 17 24 19.7
ZST Bratislava 75.54 318 *e*pP pP 16 48 39.5 -3.0
BOSA Boshof 75.67 238 *e*P **P 16 48 37.7 +0.3**
BOSA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BOSA Boshof 75.67 238 *e*P **P 16 48 37.7 +0.2**
comp=Z,7.9nm,1.0s,mb4.6
DPC Dobruska-Polom 76.21 320 *e*P **P 16 48 39.0 -1.0**
DPC *e*pP pP 16 48 45.3 -1.0
KSP Ksiaz 76.27 320 *e*P **P 16 48 40.0 -0.3**
KSP *e*pP pP 16 48 44.4 -2.2
KSP Ksiaz 76.27 320 *e*P **P 16 48 42.1 +1.8**
UPC Upice 76.42 320 *e*P **P 16 48 40.2 -1.0**
UPC *e*pP pP 16 48 45.9 -1.5
PRU Pruhonice 77.33 319 *e*P **P 16 48 46.2 -0.1**
PRU *e*pP pP 16 48 51.0 -1.5
BSD Bornholm Skovb 77.42 325 *e*P **P 16 48 49.3 +2.7**
BSD *i* 16 48 57.9
BSD pmax pmax
comp=Z,29nm,1.0s,mb5.2
BSD Bornholm Skovb 77.42 325 *e*P **P 16 48 49.3 +2.7**
comp=Z,29nm,1.0s,mb5.2
BSD *i* 16 48 57.9
BSD Bornholm Skovb 77.42 325 *i*P **P 16 48 49.3 +2.7**
comp=Z,29nm,1.0s,mb5.2
BSD *i* 16 48 57.9
BRG Berggiesshubel 77.76 320 *i*P **P 16 48 53.4 +4.8**
BRG *i* 16 48 57.0
BRG pmax pmax
comp=Z,30nm,1.5s,mb5.0
BRG Berggiesshubel 77.76 320 *i*P **P 16 48 53.4 +4.8**
comp=Z,30nm,1.5s,mb5.0
BRG *i* 16 48 57.0
GEC2 GERESS Array S 77.84 318 *e*P **P 16 48 49.4 +0.3**
GEC2 pmax pmax
comp=Z,16nm,0.9s,mb5.0
GEC2 GERESS Array S 77.84 318 *e*P **P 16 48 49.4 +0.3**
comp=Z,16nm,0.9s,mb5.0
KHC Kasperske Hory 77.93 318 *e*P **P 16 48 47.3 -2.2**
KHC *e*pP pP 16 48 54.3 -1.5
KHC Kasperske Hory 77.93 318 P **P 16 48 49.0 -0.5**
RUE Ruedersdorf 77.93 322 *e*P **P 16 48 51.2 +1.7**
comp=Z,76nm,1.0s,mb5.6
CLL Collm 78.37 321 *e**PP pP 16 48 54.0 -4.2
CLL *i* *SP sP 16 48 56.6 -3.7
CLL *i* 16 49 00.1
WET Wettzell 78.39 318 *e*P **P 16 48 52.4 +0.3**
WET pmax pmax
comp=Z,11nm,1.0s,mb4.7
WET Wettzell 78.39 318 *e*P **P 16 48 52.4 +0.3**
comp=Z,11nm,1.0s,mb4.7
HFS Hagfors 78.45 330 P **P 16 48 50.6 -1.6**
HFS Hagfors 78.45 330 P **P 16 48 50.5 -1.6**
comp=Z,1.4nm,0.4s,mb4.3,baz=108,slow=4.6,SNR=9.2
MAW Mawson 78.60 192 LR LR 17 19 18.6
comp=Z,203nm,19.4s,MS4.5,baz=62,slow=32
NKC Novy Kostel 78.69 320 *e*P **P 16 48 50.4 -3.3**
MOX Moxa 79.23 320 *e*P **P 16 48 58.4 +1.7**
MOX MLR MLR
comp=Z,200nm,18.0s,MS4.5
MOX Moxa 79.23 320 *i*P **P 16 48 58.4 +1.7**
MOX L 17 28 22.0
FUR Furstenfeldbru 79.44 317 *e*P **P 16 48 57.7 -0.1**
GRA1 Grafenberg Arr 79.48 319 *e*P **P 16 48 58.7 +0.7**
comp=Z,18nm,1.0s,mb5.0
GRA1 *e*pP pP 16 49 03.2 -1.1
GRF Grafenberg Arr 79.48 319 *e*P **P 16 48 58.7 +0.7**
GRF *e**PP pP 16 49 03.2 -1.1
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 79.48 319 *e*P **P 16 48 58.7 +0.7**
GRF *e**PP pP 16 49 03.2 -1.1
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 79.48 319 *e*P **P 16 48 58.7 +0.7**
comp=Z,18nm,1.0s,mb5.0
GRF *e*pP pP 16 49 03.2 -1.1
NB2 NORSAR Subarra 79.72 331 P **P 16 48 58.3 -0.8**
comp=Z,16nm,0.9s,mb4.9,baz=91,slow=5.8
NB2 NORSAR Subarra 79.72 331 P **P 16 48 58.3 -0.8**
baz=91,slow=5.9
NOA NORSAR Array B 79.72 331 P **P 16 48 57.1 -2.0**
comp=Z,3.1nm,1.1s,mb4.1,baz=95,slow=6.7,SNR=6.0
NOA LR LR 17 27 42.3
comp=Z,245nm,20.0s,MS4.5,baz=330,slow=38
CLZ Clausthal 80.02 321 *e*P **P 16 49 01.2 +0.3**
comp=Z,18nm,0.9s,mb5.0
DAVOX Davos 80.40 316 P **P 16 49 02.1 -0.9**
comp=Z,6.3nm,0.9s,mb4.5,baz=119,slow=10,SNR=3.9
MUD Monsted U'grnd 80.71 326 *e*P pP 16 49 09.8 -0.9
MUD pmax pmax
comp=Z,26nm,0.9s,mb5.2
MUD Monsted U'grnd 80.71 326 *e*P pP 16 49 09.8 -0.9
comp=Z,26nm,0.9s
MUD Monsted U'grnd 80.71 326 *i*P pP 16 49 09.8 -0.9
comp=Z,26nm,0.9s
TNS Taunus Mts 81.26 320 *e*P **P 16 49 07.9 +0.4**
BFO Black Forest 81.40 318 *e*P **P 16 49 08.2 -0.1**
CDF Champ du Feu 82.10 318 *e*P **P 16 49 11.6 -0.3**
comp=Z,27nm,1.2s,mb4.8
CDF Champ du Feu 82.10 318 *e*P **P 16 49 11.6 -0.3**
CDF pmax pmax
comp=Z,14nm,1.2s,mb4.8
SBF Sospel 82.25 313 *e*P **P 16 49 12.2 -0.5**
comp=Z,50nm,0.8s,mb5.2
SBF Sospel 82.25 313 *e*P **P 16 49 12.2 -0.5**
SBF pmax pmax
comp=Z,25nm,0.8s,mb5.2
LPG La Plagne 82.63 315 *e*P **P 16 49 15.2 +0.5**
comp=Z,38nm,0.8s,mb5.2
LPG La Plagne 82.63 315 *e*P **P 16 49 15.2 +0.5**
LPG pmax pmax
comp=Z,19nm,0.8s,mb5.2
LPL La Plagne 82.64 315 *e*P **P 16 49 15.1 +0.3**
comp=Z,76nm,1.0s,mb5.4
LPL La Plagne 82.64 315 *e*P **P 16 49 15.1 +0.3**
LPL pmax pmax
comp=Z,38nm,1.0s,mb5.4
MBDF Montbardon 82.67 314 *e*P **P 16 49 14.6 -0.3**
comp=Z,14nm,0.8s,mb4.8
MBDF Montbardon 82.67 314 *e*P **P 16 49 14.6 -0.3**
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
HAU Haudompre 82.75 317 *e*P **P 16 49 15.0 -0.2**
comp=Z,50nm,1.1s,mb5.2
HAU *e*R
comp=Z,192nm,22.2s
HAU Haudompre 82.75 317 *e*P **P 16 49 15.0 -0.2**
HAU pmax pmax
comp=Z,25nm,1.1s,mb5.2
HAU MLR MLR
comp=Z,190nm,22.3s,MS4.4
ORIF Oris-en-Rattie 83.29 314 *e*P **P 16 49 18.5 +0.4**
comp=Z,16nm,0.8s,mb4.8
ORIF *e*R
comp=Z,182nm,22.6s
MEZF Maizieres J'vi 83.57 318 *e*P **P 16 49 19.3 -0.2**
GIVF Givet 83.59 320 *e*P **P 16 49 19.5 -0.1**
BAIF Baives 83.99 320 *e*P **P 16 49 21.9 +0.3**
comp=Z,76nm,1.4s,mb5.3
BAIF Baives 83.99 320 *e*P **P 16 49 21.9 +0.3**
BAIF pmax pmax
comp=Z,38nm,1.4s,mb5.3
SMF Signal de Mont 84.56 316 *e*P **P 16 49 24.2 -0.3**
comp=Z,28nm,1.0s,mb5.0
SMF Signal de Mont 84.56 316 *e*P **P 16 49 24.2 -0.3**
SMF pmax pmax
comp=Z,14nm,1.0s,mb5.0
AVF Avril sur Loir 84.88 316 *e*P **P 16 49 25.9 -0.2**
comp=Z,19nm,1.0s,mb4.9
AVF Avril sur Loir 84.88 316 *e*P **P 16 49 25.9 -0.2**
AVF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
BGF Bois d'Agland 85.25 316 *e*P **P 16 49 28.1 +0.2**
RPZ Rata Peaks 86.03 135 LR LR 17 28 26.1
comp=Z,451nm,19.3s,MS4.9,baz=221,slow=36
JMIC Jan Mayen 86.68 341 LR LR 17 29 51.2
comp=Z,389nm,19.7s,MS4.8,baz=180,slow=37
EKA Eskdalemuir Ar 87.72 325 P **P 16 49 39.4 -0.4**
comp=Z,10nm,1.0s,mb5.0,baz=93,slow=4.5,SNR=4.8
ETSF Etsaut 88.15 313 *e*P **P 16 49 43.0 +0.8**
comp=Z,71nm,1.5s,mb5.4
ETSF Etsaut 88.15 313 *e*P **P 16 49 43.0 +0.8**
ETSF pmax pmax
comp=Z,36nm,1.5s,mb5.4
ESDC Sonseca Array 91.24 310 P **P 16 49 56.4 -0.4**
comp=Z,0.9nm,0.6s,mb4.3,baz=37,slow=4.1,SNR=3.5
ESLA Sonseca Array 91.24 310 *e*P **P 16 50 01.1 +4.4**
comp=Z,2.6nm,1.0s,mb4.5
IMA Indian Mountai 91.55 22 *e*P **P 16 49 59.0 +1.5**
VNDA Vanda 92.96 168 LR LR 17 30 12.8
comp=Z,180nm,18.6s,MS4.5,baz=308,slow=34
SPU Mount Spurr 94.21 26 *e*P **P 16 50 10.0 +0.2**
MCK McKinley 94.38 23 *e*P **P 16 50 11.9 +1.3**
MCK pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
MCK McKinley 94.38 23 *e*P **P 16 50 11.9 +1.3**
comp=Z,3.7nm,0.9s,mb4.8
ILAR Eielson Array 94.67 22 P **P 16 50 13.6 +1.6**
comp=Z,1.3nm,1.0s,mb4.3,baz=300,slow=5.3,SNR=8.2
ILAR LR LR 17 34 32.2
comp=Z,149nm,19.3s,MS4.5,baz=93,slow=36
INK Inuvik 96.92 16 *e*P **P 16 50 22.6 +0.5**
INK pmax pmax
comp=Z,21nm,1.4s
INK Inuvik 96.92 16 P **P 16 50 22.6 +0.5**
comp=Z,14nm,1.2s,mb5.3,baz=318,slow=4.7,SNR=11
INK LR LR 17 36 10.8
comp=Z,188nm,18.4s,MS4.6,baz=306,slow=37
INK Inuvik 96.92 16 *e*P **P 16 50 22.6 +0.5**
comp=Z,21nm,1.4s,mb5.4
DBIC Dimbokro 98.01 278 *e*P **P 16 50 30.3 +2.0**
DBIC pmax pmax
comp=Z,10.0nm,1.4s
DBIC Dimbokro 98.01 278 LR LR 17 35 32.4
comp=Z,313nm,18.2s,MS4.8,baz=65,slow=36
DBIC Dimbokro 98.01 278 *e*P **P 16 50 30.3 +2.0**
comp=Z,10.0nm,1.4s,mb5.2
YKA Yellowknife Ar 106.36 13 PP PP 16 55 30.4 -1.4
comp=Z,0.5nm,0.8s,baz=336,slow=7.6,SNR=6.3
NVAR Mina Array Bea 124.84 31 PKP PKPdf 16 55 52.9 -1.7
comp=Z,1.9nm,1.0s,baz=270,slow=1.8,SNR=3.8
PDAR Pinedale Array 125.09 21 PKP PKPdf 16 55 53.0 -1.8
comp=Z,2.0nm,1.1s,baz=297,slow=6.0,SNR=2.5
MSU Marysvale 127.68 26 *e*PKIKP PKPdf 16 55 59.1 -0.9
PLCA Paso Flores 144.62 200 PKP PKPdf 16 56 25.5 -5.5
comp=Z,6.0nm,1.0s,baz=111,slow=2.0,SNR=3.7

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*BJI **29** 16:37:07.2, 59.76N×152.47W, h34km, mb4.6, Msz4.2*
*IDC **29** 16:37:09.5±0.6, 60.39N×151.49W, h66km±3km, mb4.2/25, mb1 4.3/28, mb1mx4.3/32, mbtmp4.5/28, MS3.6/9, Ms1 3.5/9, ms1mx3.3/32, Error ellipse: s-maj=17.8km s-min=9.2km az=42.0*
*NEIC **29** 16:37:09.3, 60.13N×151.54W, h47km, mb4.5/31, MS4.1/1, ML4.5(AEIC), ML4.5(PMR), After AEIC.*
NEIC Felt [III] at Homer, Kasilof and Kenai. Also felt at Anchor Point, Ninilchik, Soldotna and Sterling.
ISC 29 16:37:07.6±0.2, 60.21N±0.02×151.61W±0.04, h69km±2km, h66km±.9km: pP-P, n203, σ0.9 96/198, mb4.4/52, 1C-1D,
Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNL	**Ninilchik**	**0.23**	**137**	P	**P**	**16 37 17.8**	**-0.6**
RDT	**Redoubt**	**0.54**	**313**	P	**P**	**16 37 21.1**	**+0.2**
HOM	**Homer**	**0.56**	**182**	P	**P**	**16 37 19.9**	**-1.1**
NKA	**Nikishka**	**0.56**	**19**	P	**P**	**16 37 22.9**	**+1.7**
BRLK	**Bradley Lake**	**0.58**	**141**	P	**P**	**16 37 19.6**	**-1.7**
REF	**Redoubt East F**	**0.61**	**298**	P	**P**	**16 37 21.8**	**+0.2**
RED	**Redoubt Volcan**	**0.61**	**290**	P	**P**	**16 37 22.8**	**+1.1**
RSO	**Redoubt South**	**0.62**	**294**	*e*P	**P**	**16 37 22.1**	**+0.3**
RDN	**Redoubt North**	**0.65**	**298**	P	**P**	**16 37 22.2**	**+0.2**
DFR	**Drift River**	**0.66**	**306**	P	**P**	**16 37 22.4**	**+0.3**
ILIM	**Iliamna**	**0.69**	**259**	P	**P**	**16 37 22.3**	**-0.1**
CNPM	**China Poot**	**0.71**	**164**	P	**P**	**16 37 21.3**	**-1.5**
IVE	**Iliamna Volcan**	**0.73**	**255**	P	**P**	**16 37 22.8**	**-0.2**
IVE				S	**S**	**16 37 34.0**	**-0.4**
INE	**Iliamna NE**	**0.74**	**259**	P	**P**	**16 37 23.0**	**-0.1**
NCT	**North Crescent**	**0.74**	**299**	P	**P**	**16 37 23.6**	**+0.5**
SLKM	**Skilak Lake**	**0.75**	**66**	*e*P	**P**	**16 37 22.2**	**-1.1**
XLV	**Seldovia**	**0.76**	**184**	P	**P**	**16 37 21.6**	**-1.8**
IVS	**Iliamna South**	**0.76**	**255**	P	**P**	**16 37 23.4**	**+0.1**
ILW	**Iliamna West**	**0.78**	**259**	P	**P**	**16 37 23.6**	**+0.1**
VOGL	**Vogel Lake**	**0.98**	**36**	P	**P**	**16 37 27.5**	**+1.4**
OPT	**Oil Point**	**0.99**	**236**	P	**P**	**16 37 26.0**	**-0.2**
SPU	**Mount Spurr**	**1.00**	**348**	P	**P**	**16 37 27.2**	**+0.9**
CKT	**Bend**	**1.03**	**344**	P	**P**	**16 37 27.8**	**+1.0**
CKN	**Chakachatna No**	**1.05**	**345**	P	**P**	**16 37 28.3**	**+1.3**
SEW	**Seward**	**1.09**	**95**	P	**P**	**16 37 26.8**	**-0.6**
CRP	**Crater Peak**	**1.09**	**346**	P	**P**	**16 37 28.8**	**+1.3**
FIB	**Fire Island**	**1.19**	**36**	P	**P**	**16 37 30.3**	**+1.5**
AUE	**Augustine Isla**	**1.23**	**227**	P	**P**	**16 37 29.0**	**-0.4**
AUW	**Augustine West**	**1.26**	**229**	P	**P**	**16 37 29.7**	**-0.1**
AUI	**Augustine Isla**	**1.27**	**227**	P	**P**	**16 37 29.6**	**-0.3**
RC01	**Rabbit Creek A**	**1.28**	**46**	P	**P**	**16 37 30.4**	**+0.4**
STLK	**Strandline Lak**	**1.29**	**355**	P	**P**	**16 37 31.7**	**+1.4**
PWA	**Palmer West**	**1.67**	**30**	*e*P	**P**	**16 37 36.3**	**+0.9**
MCNL	**McNeil River**	**1.72**	**234**	P	**P**	**16 37 35.9**	**-0.1**
PMR	**Palmer**	**1.84**	**40**	P	**P**	**16 37 38.1**	**+0.4**
KNK	**Knik Glacier**	**1.96**	**51**	P	**P**	**16 37 39.6**	**+0.3**
GHO	**Glory Hole Cre**	**2.04**	**39**	P	**P**	**16 37 41.0**	**+0.5**
SVW2	**Sparrevohn**	**2.15**	**296**	P	**P**	**16 37 42.1**	**+0.2**
SML	**Sawmill**	**2.26**	**44**	P	**P**	**16 37 44.0**	**+0.4**
KAHC	**Katmai Hardscr**	**2.34**	**229**	P	**P**	**16 37 44.2**	**-0.4**
KAWH	**Katmai**	**2.46**	**223**	P	**P**	**16 37 46.1**	**-0.3**
KAIC	**Katmai Ikaglui**	**2.47**	**227**	P	**P**	**16 37 46.2**	**-0.3**
KDAK	**Kodiak Island**	**2.49**	**192**	P	**P**	**16 37 44.8**	**-2.0**
SCM	**Sheep Creek Mo**	**2.65**	**50**	P	**P**	**16 37 48.8**	**-0.2**
MID	**Middleton Isla**	**2.78**	**104**	*e*P	**P**	**16 37 50.3**	**-0.5**
CAHL	**Cahill**	**2.88**	**223**	P	**P**	**16 37 52.2**	**-0.1**
EYAK	**Cordova Ski Ar**	**2.93**	**81**	*e*P	**P**	**16 37 49.7**	**-3.3**
DIV	**Divide**	**3.02**	**70**	P	**P**	**16 37 52.8**	**-1.4**
TRF	**Thorofare Moun**	**3.31**	**10**	P	**P**	**16 37 60.0**	**+1.7**
TT01	**Tatalina**	**3.43**	**324**	P	**P**	**16 38 00.7**	**+0.7**
MCK	**McKinley**	**3.75**	**19**	*e*P	**P**	**16 38 05.5**	**+1.0**
PAX	**Paxson**	**4.03**	**44**	P	**P**	**16 38 08.6**	**+0.2**
THY	**Trims Highway**	**4.25**	**38**	*e*P	**P**	**16 38 11.7**	**+0.2**
BALM	**Baldy**	**4.64**	**76**	P	**P**	**16 38 15.2**	**-1.7**
MENT	**Mentasta**	**4.66**	**51**	P	**P**	**16 38 16.4**	**-0.7**
YAH	**Yahtse**	**4.91**	**84**	P	**P**	**16 38 18.9**	**-1.7**
DOT	**Dot Lake**	**4.96**	**43**	P	**P**	**16 38 21.0**	**-0.3**
COLA	**College**	**4.99**	**19**	P	**P**	**16 38 22.1**	**+0.3**
ILAR	**Eielson Array**	**5.07**	**24**	P	**P**	**16 38 22.7**	**-0.1**
	17nm,0.3s,baz=208,slow=14,SNR=246						
ILAR				S	**S**	**16 39 18.1**	**-2.6**
	36nm,0.3s,baz=198,slow=23,SNR=9.2						
ILAR				LR	LR	16 40 35.8	
	comp=Z,274nm,21.6s,baz=66,slow=42						
IL1	**Eielson Array**	**5.07**	**24**	P	**P**	**16 38 23.2**	**+0.3**
GCSA	**Galena City Sc**	**5.16**	**334**	P	**P**	**16 38 24.8**	**+0.7**

BCA3 Beaver Creek A 5.49 54 P **P 16 38 27.5 -1.0**
IMA Indian Mountai 5.95 352 *e*P **P 16 38 35.8 +0.8**
DAWY Dawson 6.91 51 P **P 16 38 47.1 -1.3**
ANM Nome 7.73 310 *e*P **P 16 39 01.6 +1.9**
BM3 Burnt Mountain 7.86 20 P **P 16 39 00.6 -0.9**
WHY Whitehorse 8.29 80 P **P 16 39 04.8 -2.5**
TNA Tin City 9.16 313 *e*P **P 16 39 19.6 +0.4**
UNV Unalaska Valle 10.31 238 *e*P **P 16 39 33.5 -1.1**
INK Inuvik 11.25 36 P **P 16 39 44.3 -3.1**
0.7nm,0.3s,baz=234,slow=15,SNR=35
INK LR LR 16 44 42.1
comp=Z,144nm,18.3s,baz=294,slow=41
INK Inuvik 11.25 36 *e*P **P 16 39 45.6 -1.7**
BBB Bella Bella 15.28 111 LR LR 16 45 55.1
comp=Z,139nm,21.9s,baz=261,slow=34
KIWB Kanaga Island 16.45 251 P **P 16 40 55.0 +0.1**
YKW3 Yellowknife Ar 17.71 66 *e*P **P 16 41 09.5 -1.1**
YKA Yellowknife Ar 17.73 67 P **P 16 41 09.6 -1.2**
1.6nm,0.3s,baz=278,slow=11,SNR=89
YKA PcP PcP 16 45 44.6 -1.6
0.2nm,0.3s,baz=285,slow=1.6,SNR=11
YKA LR LR 16 47 37.3
comp=Z,140nm,18.8s,baz=270,slow=36
YKA ScP 16 49 14.7
0.0nm,0.3s,baz=290,slow=2.1,SNR=6.8
YKA Yellowknife Ar 17.73 67 P **P 16 41 09.7 -1.2**
YKA PcP PcP 16 45 44.6 -1.6
YKA LR LR 16 47 37.3
YKA ScP 16 49 14.7
FX1 Attu Island--F 20.55 265 P **P 16 41 41.7 -0.6**
52nm,0.5s,baz=282,slow=2.2,SNR=21
FX1 Attu Island--F 20.55 265 *e*P **P 16 41 41.4 -0.9**
BMW Boistfort Moun 21.60 117 P **P 16 41 54.5 +1.6**
EDM Edmonton 21.87 92 *e*P **P 16 41 55.2 -0.4**
ETW Entiat 22.08 111 P **P 16 41 59.7 +2.0**
WPW White Pass 22.19 114 P **P 16 42 00.5 +1.7**
WTV Waterville 22.19 110 P **P 16 42 00.2 +1.4**
NAC Naches 22.49 113 P **P 16 42 03.6 +1.9**
MXC Moxie City 22.85 113 P **P 16 42 07.3 +2.2**
NEW Newport 23.13 106 P **P 16 42 09.8 +1.9**
9.0nm,0.7s,mb4.2,baz=313,slow=8.3,SNR=20
NEW sP 16 42 32.0
4.0nm,0.8s,baz=323,slow=17,SNR=3.3
NEW LR LR 16 50 45.3
comp=Z,132nm,19.8s,baz=325,slow=35
NEW Newport 23.13 106 *e*P **P 16 42 08.8 +0.9**
6.3nm,0.6s,mb4.1
PRW Prosser 23.40 112 P **P 16 42 13.2 +2.7**
WALA Waterton Lakes 24.15 101 *e*P **P 16 42 18.4 +0.7**
12nm,0.6s,mb4.4
RES Resolute Bay 24.76 32 *e*P **P 16 42 23.2 -0.1**
2.7nm,0.6s,mb3.9
BMO Blue Mountains 25.53 112 *e*P **P 16 42 31.4 +0.5**
35nm,1.6s,mb4.5
YBH Yreka Blue Hor 25.61 123 P **P 16 42 33.5 +1.8**
6.8nm,0.9s,mb4.0,baz=296,slow=3.9,SNR=7.8
CHMT Chamberlain Mo 25.95 104 *e*P **P 16 42 34.5 -0.3**
FFC Flin Flon 26.70 80 *e*P **P 16 42 41.2 -0.4**
12nm,1.3s,mb4.3
HLID Hailey 27.86 110 *e*P **P 16 42 52.4 +0.1**
3.4nm,0.9s,mb3.9
FCC Fort Churchill 28.46 67 *e*P **P 16 42 56.6 -0.9**
4.2nm,0.7s,mb4.1
GCMT Greycliff 28.50 101 *e*P **P 16 42 58.5 +0.5**
IMW Indian Meadow 29.26 105 *e*P **P 16 43 05.7 +0.9**
RRI2 Red Ridge 29.49 107 *e*P **P 16 43 07.2 +0.4**
TPAW Teton Pass 29.56 106 *e*P **P 16 43 08.3 +0.8**
WUWY Wally Ullrich 29.62 106 *e*P **P 16 43 08.8 +0.7**
LOHW Long Hollow 29.64 105 *e*P **P 16 43 08.9 +0.7**
SNOW Snow King Moun 29.68 106 *e*P **P 16 43 09.4 +0.8**
CMB Columbia Colle 29.68 124 *e*P **P 16 43 08.5 -0.2**
NVAR Mina Array Bea 30.23 121 P **P 16 43 14.2 +0.7**
2.5nm,0.7s,mb4.0,baz=313,slow=8.2,SNR=16
NVAR sP sP 16 43 37.4 -1.1
1.9nm,0.7s,baz=311,slow=8.0,SNR=5.2
NVAR PcP PcP 16 46 12.3 -0.6
1.2nm,0.7s,baz=307,slow=2.9,SNR=6.3
NVAR Mina Array Bea 30.23 121 P **P 16 43 14.2 +0.7**
NVAR sP sP 16 43 37.4 -1.1
NVAR PcP PcP 16 46 12.3 -0.6
MNV Mina 30.29 121 *e*P **P 16 43 14.5 +0.5**
2.2nm,0.7s,mb3.9
HWUT Hardware Ranch 30.71 109 *e*P **P 16 43 18.7 +1.1**
3.9nm,0.5s,mb4.4
BW06 Boulder Array 30.77 105 *e*P **P 16 43 17.6 -0.7**
5.9nm,0.8s,mb4.4
PDAR Pinedale Array 30.77 105 P **P 16 43 18.6 +0.4**
4.2nm,0.6s,mb4.4,baz=316,slow=5.5,SNR=35
PDAR sP sP 16 43 42.6 -0.8
1.8nm,0.8s,baz=326,slow=5.3,SNR=3.0
TCUT Toone Canyon 31.16 110 *e*P **P 16 43 22.7 +1.0**
DAU Daniels Canyon 31.79 110 *e*P **P 16 43 27.6 +0.4**
ULM Lac du Bonnet 32.35 83 P **P 16 43 31.4 -0.6**
4.5nm,0.7s,mb4.3,baz=305,slow=7.6,SNR=9.7
ULM sP sP 16 43 54.1 -3.2
3.4nm,0.9s,baz=325,slow=7.1,SNR=3.3
ULM PcP PcP 16 46 17.4 -1.0
0.5nm,0.4s,baz=55,slow=3.7,SNR=3.2
ULM LR LR 16 56 13.9
comp=Z,119nm,18.9s,baz=358,slow=36
MVU Marysvale 32.87 113 *e*P **P 16 43 37.3 +0.7**
9.6nm,1.1s,mb4.5
MSU Marysvale 32.88 113 *e*P **P 16 43 38.0 +1.3**
ARUT Antelope Range 32.90 116 *e*P **P 16 43 37.4 +0.6**
SRU San Rafael 33.16 111 *e*P **P 16 43 39.5 +0.3**
NEN Nelson 34.06 119 *e*P **P 16 43 47.8 +0.9**
PV10 Paradox Valley 34.45 110 *e*P **P 16 43 50.9 +0.8**
PV01 Paradox Valley 34.86 110 *e*P **P 16 43 54.1 +0.4**
YAK Yakutsk 35.89 308 *e*P **P 16 44 02.5 +0.4**
17nm,0.8s,mb5.0
YAK *e*pP pP 16 44 17.0 -2.3
SDCO Great Sand Dun 36.63 107 *e*P **P 16 44 09.3 +0.7**
11nm,0.8s,mb4.8
ANMO Albuquerque 38.43 110 P **P 16 44 24.8 +1.1**
2.0nm,0.6s,mb4.1,baz=322,slow=8.0,SNR=5.2
ANMO PcP PcP 16 46 36.4 0.0
1.4nm,0.6s,baz=269,slow=4.6,SNR=5.1
ANMO Albuquerque 38.43 110 *e*P **P 16 44 24.4 +0.7**
6.3nm,1.3s,mb4.3
KSU1 Kansas State U 39.91 97 *e*P **P 16 44 35.6 -0.4**
DAG Danmarks Havn 40.11 15 ⇓*i*P pP 16 44 54.9 +0.3
12nm,0.9s
AMTX Amarillo 40.76 105 *e*P **P 16 44 43.7 +0.8**
4.8nm,0.6s,mb4.5
CPRX Cap Rock 41.23 109 *e*P **P 16 44 47.5 +0.6**
MNTX Cornudas Mount 41.63 112 *e*P **P 16 44 50.8 +0.7**
5.4nm,1.1s,mb4.2
GDL2 Guadalupe Moun 41.68 111 *e*P **P 16 44 51.5 +0.9**
WMOK Wichita Mounta 42.28 103 *e*P **P 16 44 55.0 -0.4**
9.6nm,0.9s,mb4.5
SCHQ Schefferville 42.86 58 P **P 16 44 59.9 0.0**
8.6nm,0.7s,mb4.6,baz=318,slow=7.8,SNR=39
SCHQ LR LR 17 05 33.5
comp=Z,104nm,18.4s,baz=58,slow=40
CCM Cathedral Cave 43.39 93 *e*P **P 16 45 03.3 -1.1**
SADO Sadowa 44.34 76 LR LR 17 04 39.4
comp=Z,103nm,18.1s,baz=354,slow=37
LTX Lajitas 44.41 112 *e*P **P 16 45 12.7 -0.1**
TXAR Lajitas Array 44.41 112 P **P 16 45 13.6 +0.8**
2.9nm,0.7s,mb4.1,baz=329,slow=7.3,SNR=22
TXAR Lajitas Array 44.41 112 P **P 16 45 13.6 +0.8**
MIAR Mount Ida 44.99 98 *e*P **P 16 45 16.6 -0.7**
5.2nm,0.5s,mb4.5
JCT Junction City 45.27 107 *e*P **P 16 45 19.6 0.0**
43nm,0.8s,mb5.2
JMIC Jan Mayen 46.55 16 LR LR 17 06 57.6
comp=Z,155nm,21.3s,baz=197,slow=39
OXF Oxford 47.08 94 *e*P **P 16 45 33.2 -0.7**
35nm,0.7s,mb5.2
FWV Forest Hill 48.96 84 *e*P **P 16 45 48.1 -0.3**
PWV Princeton 49.03 85 *e*P **P 16 45 48.7 -0.3**
BORG Borgarnes 49.90 25 P **P 16 45 53.9 -1.4**
27nm,1.0s,mb5.1,baz=310,slow=11,SNR=3.0
ARCES ARCESS Array B 50.53 1 P **P 16 45 58.8 -1.3**
6.7nm,0.8s,mb4.7,baz=3.0,slow=7.8,SNR=15
ARCES pP pP 16 46 15.9 -1.9
5.3nm,0.6s,baz=360,slow=7.0,SNR=3.6
ULN Ulaanbaatar 54.94 306 P **P 16 46 33.2 +0.1**
SONM Songino Array 55.23 307 P **P 16 46 36.0 +0.8**
4.0nm,0.9s,mb4.4,baz=43,slow=4.0,SNR=12
SONM pP pP 16 46 53.1 0.0
19nm,0.8s,baz=39,slow=6.2,SNR=26
KAF Kangasniemi 57.99 1 *e*p **P 16 46 45.5 -9.1**
NB2 NORSAR Subarra 58.35 10 P **P 16 46 55.8 -1.3**
5.5nm,1.0s,mb4.5,baz=349,slow=7.0
NOA NORSAR Array B 58.35 10 P **P 16 46 55.9 -1.3**
1.1nm,0.8s,mb3.9,baz=197,slow=6.8,SNR=3.9
FINES FINESS Array B 58.66 1 P **P 16 46 58.0 -1.2**
3.6nm,0.6s,mb4.6,baz=6.0,slow=8.6,SNR=29
FINES pP pP 16 47 15.2 -2.2
25nm,1.1s,baz=26,slow=8.0,SNR=8.4
HFS Hagfors 59.45 8 P **P 16 47 02.2 -2.5**
2.2nm,0.7s,mb4.3,baz=270,slow=1.5,SNR=8.1
HFS pP pP 16 47 19.8 -3.1
8.8nm,1.0s,baz=56,slow=5.3,SNR=5.8
EKA Eskdalemuir Ar 62.10 20 P **P 16 47 21.3 -1.5**
1.9nm,0.5s,mb4.4,baz=327,slow=5.5,SNR=12
EKA pP pP 16 47 39.6 -1.5
3.6nm,0.6s,baz=326,slow=5.0,SNR=7.7
BVAR Borovoye Array 62.20 333 P **P 16 47 21.9 -1.6**
1.5nm,0.7s,mb4.2,baz=45,slow=2.0,SNR=3.5
BVAR pP pP 16 47 39.4 -2.4
2.7nm,0.7s,baz=47,slow=7.8,SNR=3.2
NJ2 Nanjing 62.55 287 *e*P **P 16 47 27.8 +1.7**
NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
WMQ Urumqi 65.59 317 *e*P **P 16 47 51.0 +5.4**
CLL Collm 68.14 10 *e*P **P 16 48 00.0 -1.5**
CLL Collm 68.14 10 P **P 16 48 00.0 -1.5**
GIVF Givet 68.40 16 *e*P **P 16 48 02.2 -1.0**
BRG Berggiesshubel 68.66 10 *i* P **P 16 48 04.9 +0.2**
comp=Z,22nm,1.7s,mb4.7
BRG *i* pP 16 48 23.3 -0.1
MOX Moxa 68.67 11 *e*P **P 16 48 05.0 +0.2**
MOX Moxa 68.67 11 *i* P **P 16 48 05.0 +0.2**
PVCC Panska Ves 69.05 9 *e*P **P 16 48 07.2 0.0**
LDF La Druitiere 69.11 20 *e*P **P 16 48 06.0 -1.6**
NKC Novy Kostel 69.16 11 *e*P **P 16 48 07.8 0.0**
GRR Gorron 69.18 20 *e*P **P 16 48 06.2 -1.8**
UPC Upice 69.18 8 *e*P **P 16 48 08.1 +0.1**
DPC Dobruska-Polom 69.36 8 *e*P **P 16 48 08.9 -0.2**
AKASG Malin Array Be 69.44 359 P **P 16 48 08.5 -1.0**
comp=Z,6.1nm,0.8s,mb4.5,baz=1.6,slow=5.9,SNR=19
AKASG pP pP 16 48 25.8 -2.4
comp=Z,8.4nm,0.6s,baz=4.5,slow=6.0,SNR=17
GRA1 Grafenberg Arr 69.57 12 *e*P **P 16 48 10.6 +0.2**
comp=Z,4.0nm,0.9s,mb4.2
GRF Grafenberg Arr 69.57 12 *e*P **P 16 48 10.6 +0.2**
comp=Z,4.0nm,0.9s,mb4.2
PRU Pruhonice 69.58 9 *e*P **P 16 48 11.0 +0.5**
MORC Moravsky Berou 70.02 7 *e*P **P 16 48 12.6 -0.5**
comp=Z,32nm,1.6s,mb4.9
KHC Kasperske Hory 70.35 10 *e*P **P 16 48 14.9 -0.2**
CDF Champ du Feu 70.38 15 *e*P **P 16 48 14.6 -0.7**
VRAC Vranov 70.42 8 P **P 16 48 14.1 -1.4**
comp=Z,1.6nm,0.4s,mb4.2,baz=26,slow=2.2,SNR=6.8
VRAC pP pP 16 48 33.4 -0.9
comp=Z,3.0nm,0.6s,baz=345,slow=7.9,SNR=3.4
GERES GERESS Array B 70.65 10 P **P 16 48 16.8 -0.1**
comp=Z,2.0nm,0.7s,mb4.1,baz=348,slow=4.5,SNR=22
GERES pP pP 16 48 35.2 -0.4
comp=Z,1.1nm,0.7s,baz=354,slow=4.9,SNR=4.8
HAU Haudompre 70.66 15 *e*P **P 16 48 16.1 -0.9**
HINF Hinteralfeld 70.91 15 *e*P **P 16 48 17.5 -1.0**
MFF Saint Martin d 71.03 20 *e*P **P 16 48 18.3 -1.0**
comp=Z,29nm,1.2s,mb4.7
SSF Saint Saulge 71.18 18 *e*P **P 16 48 19.3 -0.8**
comp=Z,41nm,1.2s,mb4.8
AVF Avril sur Loir 71.42 18 *e*P **P 16 48 20.4 -1.2**
comp=Z,11nm,0.7s,mb4.5
BGF Bois d'Agland 71.57 18 *e*P **P 16 48 21.3 -1.2**
SMF Signal de Mont 71.64 18 *e*P **P 16 48 21.6 -1.3**
TCF Toulx Ste Croi 71.73 19 *e*P **P 16 48 22.2 -1.2**
comp=Z,3.0nm,0.5s,mb4.1
CABF La Chapelle 71.99 16 *e*P **P 16 48 24.6 -0.4**
PSZ Piszkesteto 72.01 6 *e*P **P 16 48 25.7 +0.6**
DAVOX Davos 72.30 13 P **P 16 48 27.6 +0.8**
comp=Z,5.3nm,0.7s,mb4.5,baz=353,slow=4.9,SNR=7.6
LFF La Frestale 72.80 20 *e*P **P 16 48 28.9 -0.7**
LPL La Plagne 73.15 16 *e*P **P 16 48 32.3 +0.6**
VIVF Saint-Julien-l 73.51 17 *e*P **P 16 48 34.1 +0.3**
ORIF Oris-en-Rattie 73.62 16 *e*P **P 16 48 34.2 -0.3**
MBDF Montbardon 73.93 16 *e*P **P 16 48 36.9 +0.6**
comp=Z,19nm,0.9s,mb4.5
SMRF Simiane la Rot 74.50 17 *e*P **P 16 48 39.8 +0.2**
ETSF Etsaut 74.54 22 *e*P **P 16 48 39.8 -0.1**
MLR Muntele Rosu 74.64 2 pP pP 16 48 59.4 +0.1
comp=Z,4.6nm,0.7s,baz=242,slow=5.5,SNR=1.8
KMI Kunming 75.89 296 P **P 16 48 53.4 +5.5**
comp=Z,4.0nm,0.9s,mb4.2
KMI LR LR
comp=Z,100nm,20.9s
ESDC Sonseca Array 76.97 25 P **P 16 48 54.1 +0.3**
comp=Z,1.9nm,0.6s,mb4.0,baz=343,slow=5.7,SNR=11
ESDC pP pP 16 49 12.6 -0.1
comp=Z,1.8nm,0.7s,baz=338,slow=4.7,SNR=4.1
SDV Santo Domingo 77.86 93 P **P 16 49 00.1 +1.0**
comp=Z,8.1nm,0.9s,mb4.4,baz=89,slow=11,SNR=5.7
BRTR Keskin Array B 80.33 356 P **P 16 49 12.5 +0.5**
comp=Z,2.3nm,0.8s,mb4.1,baz=14,slow=3.2,SNR=6.7
BRTR pP pP 16 49 30.1 -0.9
comp=Z,3.9nm,0.7s,baz=21,slow=3.2,SNR=9.8
CMAR Chiang Mai Arr 83.40 296 pP pP 16 49 45.2 -2.3
comp=Z,1.7nm,1.0s,baz=17,slow=5.4,SNR=6.1
ASF Jabal al Asfar 87.69 353 P **P 16 49 49.8 +0.7**
comp=Z,2.9nm,0.8s,mb4.4,baz=185,slow=4.0,SNR=4.8
ASF pP pP 16 50 08.0 -0.5
comp=Z,7.9nm,0.9s,baz=149,slow=0.7,SNR=6.3
QSPA South Pole Qui 150.01 180 ⇑*i*P PKPdf 16 56 50.0 +7.1

*MDD **29** 16:42:58.5±0.4, 36.49N×3.86W, mbLg2.6/13, Error ellipse: s-maj=4.4km s-min=3.0km az=3.0, PRXIMO*
*SFS **29** 16:42:58.0, 36.49N×3.88W*
*NEIC **29** 16:42:58.6, 36.49N×3.88W, h2km, MN2.5(MDD), After MDD.*
*CSEM **29** 16:42:59.2±0.1, 36.48N×3.86W, h8km, ML2.7/4, Error ellipse: s-maj=2.4km s-min=1.8km az=9.0*
ISC 29 16:42:57.7±0.6, 36.56N±0.03×3.84W±0.03, h12km±4km, n55, σ1§22/75, 4C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ELOJ	**Sierra Loja**	**0.64**	**337**		Pg	**Pg**	**16 43 11.7**	**+1.1**
ELOJ					Lg		16 43 19.6	
ELOJ	**Sierra Loja**	**0.64**	**337**		Pg	**Pg**	**16 43 11.5**	**+1.0**
	9.5nm,0.2s,SNR=7.9							
ELOJ					Lg		16 43 19.7	
	34nm,0.2s,SNR=7.9							
ELOJ	**Sierra Loja**	**0.64**	**337**		Pg	**Pg**	**16 43 11.7**	**+1.2**
	9.7nm,0.2s,SNR=7.9							
ELOJ					Lg		16 43 19.6	
	15nm,0.1s,SNR=7.9							
EMIJ	**Mijas**	**0.75**	**271**		Pg	**Pg**	**16 43 11.8**	**-1.0**
	31nm,0.1s,SNR=141							
EMIJ					Lg		16 43 20.3	
	276nm,0.4s							
EBER	**Berja**	**0.84**	**66**	⇑Pg		**Pg**	**16 43 14.0**	**-0.5**
EBER					Lg		16 43 25.1	
EBER	**Berja**	**0.84**	**66**	⇑Pg		**Pg**	**16 43 14.0**	**-0.5**
	56nm,0.2s,SNR=18							
EBER					Lg		16 43 24.9	
	136nm,0.3s							
EBER	**Berja**	**0.84**	**66**	Pg		**Pg**	**16 43 14.0**	**-0.5**
	46nm,0.2s,SNR=18							
EALB	**Alboran**	**0.90**	**133**	Pg		**Pg**	**16 43 14.9**	**-0.8**
EALB					Lg		16 43 26.1	
EALB	**Alboran**	**0.90**	**133**	Pg		**Pg**	**16 43 14.9**	**-0.9**
	112nm,0.2s,SNR=7.9							
EALB					Lg		16 43 25.9	
	250nm,0.3s,SNR=7.9							
EALB	**Alboran**	**0.90**	**133**	Pg		**Pg**	**16 43 14.9**	**-0.9**
	73nm,0.1s,SNR=7.9							
ELUQ	**Luque**	**1.05**	**341**	Pg		**Pg**	**16 43 20.1**	**+1.3**
ELUQ					Lg		16 43 36.0	
ELUQ	**Luque**	**1.05**	**341**	Pg		**Pg**	**16 43 20.1**	**+1.3**
	32nm,0.2s,SNR=7.9							
ELUQ					Lg		16 43 35.9	
	41nm,0.2s,SNR=7.9							
REAL	**Reales**	**1.10**	**266**	Lg			16 43 28.0	
LIJA	**Lijar**	**1.30**	**286**	*e*P		**Pb**	**16 43 24.0**	**+2.4**
LIJA				*e*S		**Sb**	**16 43 43.0**	**+5.0**
EJIF	**Jimena Fronter**	**1.31**	**266**	Lg			16 43 39.0	
	1.6nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**1.38**	**72**	Pg		**Pg**	**16 43 21.8**	**-3.4**
	27nm,0.2s,SNR=29							
ENIJ					Lg		16 43 41.2	
	41nm,0.2s							
EQES	**Quesada**	**1.38**	**26**	⇑Pg		**Pg**	**16 43 25.6**	**+0.2**
EQES					Lg		16 43 44.6	
EQES	**Quesada**	**1.38**	**26**	⇑Pg		**Pg**	**16 43 25.6**	**+0.2**
	36nm,0.3s,SNR=18							
EQES					Lg		16 43 44.5	
	76nm,0.3s							
EQES	**Quesada**	**1.38**	**26**	Pg		**Pg**	**16 43 25.6**	**+0.2**
	17nm,0.2s,SNR=18							
ESPR	**Espera**	**1.65**	**281**	Pg		**Pg**	**16 43 30.1**	**-0.5**
ESPR					Lg		16 43 51.1	
ESPR	**Espera**	**1.65**	**281**	Pg		**Pg**	**16 43 29.6**	**-1.0**
	6.0nm,0.2s,SNR=7.9							
ESPR					Lg		16 43 50.6	
	17nm,0.3s,SNR=7.9							
ESPR	**Espera**	**1.65**	**281**	Pg		**Pg**	**16 43 30.1**	**-0.5**
	1.2nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**1.71**	**340**	Pn		**Pn**	**16 43 29.7**	**+2.2**
EADA				Pg		**Pg**	**16 43 31.0**	**-0.8**
EADA				Sn		**Sn**	**16 43 51.2**	**+1.8**
EADA				Lg			16 43 56.1	
EADA	**Adamuz**	**1.71**	**340**	Pn		**Pn**	**16 43 29.6**	**+2.1**
	1.1nm,0.2s,SNR=7.9							
EADA				Pg		**Pg**	**16 43 31.1**	**-0.7**
	9.2nm,0.3s,SNR=7.9							
EADA				Lg			16 43 55.4	
	47nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**1.71**	**340**	Pn		**Pn**	**16 43 29.7**	**+2.2**
	SNR=7.9							
EADA	**Adamuz**	**1.71**	**340**	Pg		**Pg**	**16 43 31.0**	**-0.8**
	6.6nm,0.1s,SNR=7.9							
EADA				Sn		**Sn**	**16 43 51.2**	**+1.8**
	3.1nm,0.3s,SNR=4.0							
EVIA	**Vianos**	**2.33**	**27**	Pg		**Pg**	**16 43 43.7**	**-0.6**
EVIA				Lg			16 44 16.0	
EVIA	**Vianos**	**2.33**	**27**	Pg		**Pg**	**16 43 43.7**	**-0.6**
	9.6nm,0.3s,SNR=7.9							
EVIA				Sn		**Sn**	**16 44 08.0**	**+2.8**
	12nm,0.4s,SNR=4.0							
EMUR	**La Murta**	**2.44**	**58**	Pn		**Pn**	**16 43 38.8**	**+0.8**
EMUR				Pg		**Pg**	**16 43 44.8**	**-1.6**
EMUR	**La Murta**	**2.44**	**58**	Pn		**Pn**	**16 43 38.8**	**+0.8**
	5.6nm,0.3s,SNR=4.0							
EMUR				Sn		**Sn**	**16 44 06.9**	**-1.1**
	7.0nm,0.4s,SNR=4.0							
EMUR	**La Murta**	**2.44**	**58**	Pn		**Pn**	**16 43 38.8**	**+0.8**
	2.1nm,0.2s,SNR=4.0							
EMUR	**La Murta**	**2.44**	**58**	Pg		**Pg**	**16 43 44.8**	**-1.6**
	7.8nm,0.3s,SNR=4.0							
TZK	**Tazeka**	**2.48**	**187**	*i* P		**Pn**	**16 43 39.0**	**+0.4**
TZK				*i* S		**Sn**	**16 44 10.0**	**+0.9**
EMIN	**Mina Concepcio**	**2.56**	**299**	Pn		**Pn**	**16 43 40.0**	**+0.2**
	0.4nm,0.2s,SNR=7.9							
EMIN				Sn		**Sn**	**16 44 10.8**	**-0.3**
	1.9nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**2.56**	**299**	Pn		**Pn**	**16 43 40.0**	**+0.3**
	0.7nm,0.2s,SNR=7.9							
EMIN				Sn		**Sn**	**16 44 10.8**	**-0.3**
	2.4nm,0.4s,SNR=7.9							
PALC	**Alcoutim**	**3.04**	**288**	*e*Pn		**Pn**	**16 43 46.9**	**+0.3**
PALC				*e*Sn		**Sn**	**16 44 23.2**	**-0.1**
	5.6nm,0.2s							
PALC	**Alcoutim**	**3.04**	**288**	*e*Pn		**Pn**	**16 43 46.9**	**+0.3**
PALC				*e*Sn		**Sn**	**16 44 23.2**	**-0.1**
	5.6nm,0.2s							
EGRO	**El Granado**	**3.07**	**290**	Pn		**Pn**	**16 43 47.1**	**+0.1**
EGRO				Sn		**Sn**	**16 44 22.3**	**-1.7**
EGRO				Lg			16 44 37.3	
EGRO	**El Granado**	**3.07**	**290**	Pn		**Pn**	**16 43 46.8**	**-0.2**
	3.5nm,0.2s,SNR=7.9							
EGRO				Sn		**Sn**	**16 44 22.0**	**-2.0**
	5.6nm,0.3s,SNR=7.9							
EGRO	**El Granado**	**3.07**	**290**	Pn		**Pn**	**16 43 47.1**	**+0.1**
	0.8nm,0.1s,SNR=7.9							
EGRO				Sn		**Sn**	**16 44 22.3**	**-1.7**
	4.6nm,0.4s,SNR=7.9							
ESDC	**Sonseca Array**	**3.11**	**358**	Pn		**Pn**	**16 43 48.7**	**+1.2**
ESDC				Lg			16 44 37.7	
ESDC	**Sonseca Array**	**3.11**	**358**	Pn		**Pn**	**16 43 48.7**	**+1.2**
	1.1nm,0.1s,baz=179,slow=12,SNR=10							
ESDC	**Sonseca Array**	**3.11**	**358**	Pn		**Pn**	**16 43 48.7**	**+1.2**
EBAD	**Badajoz**	**3.34**	**312**	Pn		**Pn**	**16 43 50.8**	**+0.1**
EBAD				Sn		**Sn**	**16 44 28.6**	**-2.1**
EBAD	**Badajoz**	**3.34**	**312**	Pn		**Pn**	**16 43 50.8**	**+0.1**
	1.6nm,0.1s,SNR=11							
EBAD				Sn		**Sn**	**16 44 28.8**	**-1.9**
	7.3nm,0.2s,SNR=5.0							
EBAD	**Badajoz**	**3.34**	**312**	Pn		**Pn**	**16 43 50.8**	**0.0**
EBAD				Sn		**Sn**	**16 44 28.6**	**-2.1**
PBEJ	**Beja**	**3.53**	**296**	*e*Pn		**Pn**	**16 43 54.3**	**+0.8**
PBEJ				*e*Sn		**Sn**	**16 44 34.0**	**-1.5**
EBEN	**Beniarda**	**3.58**	**52**	Pn		**Pn**	**16 43 54.2**	**0.0**
	0.3nm,0.2s,SNR=7.9							
EBEN				Sn		**Sn**	**16 44 37.2**	**+0.3**
	0.9nm,0.4s,SNR=7.9							
PTEO	**Sao Teotonio**	**4.03**	**286**	*e*Pn		**Pn**	**16 44 02.2**	**+1.6**
PTEO				*e*Sn		**Sn**	**16 44 47.3**	**-0.9**
GUD	**Guadarrama**	**4.08**	**357**	Pn		**Pn**	**16 44 00.8**	**-0.6**
	1.0nm,0.4s,SNR=7.9							
GUD				Lg			16 45 08.8	
	4.4nm,0.4s,SNR=4.0							
MOE	**Montemor**	**4.08**	**300**	*e*Sn		**Sn**	**16 44 46.6**	**-3.0**
PCBR	**Castelo Branco**	**4.35**	**320**	*e*Pn		**Pn**	**16 44 06.0**	**+0.8**
EMOS	**Mosqueruela**	**4.63**	**34**	Sn		**Sn**	**16 45 01.1**	**-2.3**
	0.4nm,0.2s,SNR=4.0							
ECAL	**Calabor**	**5.82**	**338**	Pn		**Pn**	**16 44 26.8**	**+0.9**
	0.5nm,0.1s,SNR=7.9							
ECAL				Sn		**Sn**	**16 45 29.4**	**-4.1**
	1.2nm,0.3s,SNR=4.0							
ECAL				Lg			16 46 05.3	
	4.5nm,0.4s,SNR=7.9							
ELOB	**Lobios**	**6.23**	**330**	Lg			16 46 17.6	
	2.2nm,0.3s,SNR=7.9							

*IDC **29** 16:43:43.6±0.9, 8.07N×94.26E, mb3.9/10, mb1 3.9/11, mb1mx3.8/21, mbtmp3.8/11, ML3.4/1, Error ellipse: s-maj=49.7km s-min=19.5km az=49.0*
ISC 29 16:43:47.1±0.8, 8.1N±0.1×94.3E±0.1, h33km, n12, σ0§97/11, mb3.8/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.28**	**23**		Pn	**P**	**16 46 30.3**	**+1.2**
	0.1nm,0.3s,baz=213,slow=14,SNR=4.6							
SONM	**Songino Array**	**40.95**	**12**		P	**P**	**16 51 27.2**	**-1.1**
	0.6nm,1.0s,mb3.2,baz=202,slow=7.8,SNR=2.4							
WRA	**Warramunga Arr**	**48.21**	**126**		P	**P**	**16 52 26.8**	**-0.2**
	0.5nm,0.5s,mb3.8,baz=305,slow=8.4,SNR=9.2							
BVAR	**Borovoye Array**	**48.88**	**341**		P	**P**	**16 52 32.6**	**+0.9**
	0.3nm,0.5s,mb3.6,baz=153,slow=6.4,SNR=2.8							
ASAR	**Alice Springs**	**49.89**	**130**		P	**P**	**16 52 39.9**	**+0.1**
	0.4nm,0.5s,mb3.7,baz=301,slow=7.7,SNR=7.3							
KMBO	**Kilima Mbogo**	**57.62**	**264**		P	**P**	**16 53 38.9**	**+2.0**
	1.2nm,0.4s,mb4.3,baz=75,slow=9.8

JIJ				*eS*	**S**	**16 48 21.1**	**-1.3**
JTJ	**Tarama**	**2.09**	**96**	P	**P**	**16 48 05.3**	**+1.4**
JTJ				S	**S**	**16 48 31.2**	**-0.3**
JMJ	**Miyako jima 2**	**2.61**	**91**	P	**P**	**16 48 12.6**	**+1.9**
JMJ				S	**S**	**16 48 43.3**	**+0.1**
JOGS	**Gusukube**	**2.71**	**92**	P	**P**	**16 48 13.9**	**+1.9**
JOGS				*eS*	**S**	**16 48 46.3**	**+0.7**
JKE	**Kume jima 2**	**4.20**	**69**	P	**P**	**16 48 32.4**	**+0.9**
JKE				*eS*	**S**	**16 49 21.4**	**+1.0**
JAGN	**Aguni-jima**	**4.67**	**67**	P	**P**	**16 48 38.3**	**+0.5**
JJT2	**Tamagusuku 2**	**4.98**	**74**	P	**P**	**16 48 42.2**	**+0.3**
JIH	**Iheya**	**5.44**	**65**	P	**P**	**16 48 47.9**	**-0.1**
JOW	**Kunigami**	**5.62**	**68**	P	**P**	**16 48 49.8**	**-0.7**
8.5nm,0.3s,baz=223,slow=4.3,SNR=39							
JOW				S	**S**	**16 49 50.9**	**-3.6**
2.1nm,0.3s,baz=111,slow=26,SNR=2.5							
JOW	**Kunigami**	**5.62**	**68**	P	**P**	**16 48 49.7**	**-0.8**
JOW				*eS*	**S**	**16 49 51.8**	**-2.6**
JTK	**Tokunoshima**	**6.54**	**62**	P	**P**	**16 49 01.8**	**-1.0**
JAM	**Amami Oshima**	**7.33**	**60**	P	**P**	**16 49 11.6**	**-1.9**
JMZ	**Minamidaito 2**	**8.02**	**81**	P	**P**	**16 49 19.8**	**-2.9**
SONM	**Songino Array**	**26.20**	**335**	P	**P**	**16 52 51.5**	**+0.3**
1.7nm,0.9s,mb3.7,baz=152,slow=8.3,SNR=7.9							
WRA	**Warramunga Arr**	**46.03**	**164**	P	**P**	**16 55 39.2**	**-0.2**
0.3nm,0.4s,mb3.2,baz=347,slow=8.7,SNR=2.6							
BVAR	**Borovoye Array**	**47.87**	**320**	P	**P**	**16 55 53.2**	**-0.1**
0.8nm,0.6s,mb3.5,baz=112,slow=9.5,SNR=5.2							
ASAR	**Alice Springs**	**49.52**	**166**	P	**P**	**16 56 05.9**	**-0.5**
0.2nm,0.9s,mb2.8,baz=119,slow=19,SNR=3.5							
ARCES	**ARCESS Array B**	**69.33**	**338**	P	**P**	**16 58 21.0**	**-0.7**
5.2nm,0.9s,mb4.3,baz=78,slow=8.3,SNR=3.1							
FINES	**FINESS Array B**	**71.42**	**330**	P	**P**	**16 58 34.5**	**+0.1**
1.3nm,0.9s,mb3.6,baz=90,slow=5.7,SNR=4.1							

OTT 29 17:01:42.7±0.2, 52.74N×67.28W, h1km, MN2.9/7, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**2.11**	**7**	PN	Pn	17 02 18.7	-0.9
SCHQ				SN	Sn	17 02 46.2	-0.7
SCHQ				Trac		17 02 49.8	
comp=Z,21nm,0.1s							
MNQ	**Manicouagan**	**2.40**	**203**	PN	Pn	17 02 24.1	+0.4
MNQ				SN	Sn	17 02 55.6	+1.4
MNQ				Trac		17 03 04.8	
comp=Z,22nm,0.2s							
SMQ	**Clarke City**	**2.55**	**172**	PN	Pn	17 02 24.6	-1.3
SMQ				SN	Sn	17 02 56.2	-1.7
SMQ				Trac		17 03 06.8	
comp=Z,18nm,0.2s							
ICQ	**Pointe Anglais**	**3.23**	**180**	PN	Pn	17 02 33.8	-1.7
ICQ				SN	Sn	17 03 11.8	-3.3
ICQ				Trac		17 03 30.2	
comp=Z,10nm,0.2s							
CNQ	**Baie Comeau**	**3.48**	**189**	PN	Pn	17 02 38.4	-0.8
CNQ				SN	Sn	17 03 18.7	-2.9
CNQ				Trac		17 03 31.2	
comp=Z,11nm,0.2s							
GSQ	**Grosses Roches**	**3.84**	**178**	PN	Pn	17 02 42.7	-1.6
GSQ				Trac		17 03 47.4	
comp=Z,7.6nm,0.2s							
LG4Q	**La Grande 4**	**4.20**	**285**	PN	Pn	17 02 46.2	-3.1
LG4Q				Trac		17 03 53.5	
comp=Z,9.6nm,0.2s							
LMQ	**La Malbaie**	**5.56**	**202**	PN	Pn	17 03 05.6	-2.9
LMN	**Caledonia Moun**	**7.08**	**166**	PN	Pn	17 03 26.6	-3.5
DRLN	**Deer Lake**	**7.08**	**116**	PN	Pn	17 03 25.3	-4.8
VLDQ	**Val d'Or**	**7.98**	**239**	PN	Pn	17 03 39.4	-3.2
MALO	**McAlpine Lake**	**8.27**	**256**	PN	P	17 03 41.1	-5.6
VIMO	**Victor Mine**	**9.98**	**277**	PN	P	17 04 03.2	-7.0
SILO	**Sutton Inlier**	**10.62**	**286**	PN	P	17 04 11.3	-7.8

IDC 29 17:03:35.0±1.5, 7.79N×93.86E, mb3.6/6, mb1 3.8/7, mb1mx3.6/19, mbtmp3.6/7, ML3.8/1, MS3.1/1, Ms1 3.3/1, ms1mx2.4/25, Error ellipse: s-maj=57.8km s-min=21.2km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.70**	**25**	Pn	P	17 06 24.7	-1.7
0.2nm,0.3s,baz=211,slow=14,SNR=12							
CMAR				LR	LR	17 11 11.2	
comp=Z,86nm,18.9s,baz=100,slow=39							
SONM	**Songino Array**	**41.31**	**13**	P	P	17 11 22.3	-1.6
0.6nm,0.8s,baz=198,slow=9.3,SNR=5.5							
ZAL	**Zalesovo**	**46.59**	**353**	P	P	17 12 03.6	-2.9
0.9nm,0.4s,baz=305,slow=10,SNR=4.4							
WRA	**Warramunga Arr**	**48.44**	**125**	P	P	17 12 18.9	-2.6
0.4nm,0.5s,baz=305,slow=8.6,SNR=7.9							
BVAR	**Borovoye Array**	**48.98**	**341**	P	P	17 12 23.1	-2.1
1.9nm,1.2s,baz=153,slow=3.2,SNR=3.1							
ASAR	**Alice Springs**	**50.08**	**130**	P	P	17 12 32.6	-1.4
2.9nm,1.3s,baz=307,slow=7.6,SNR=5.6							
FINES	**FINESS Array B**	**72.66**	**332**	P	P	17 15 05.0	-1.3
1.2nm,0.8s,baz=108,slow=4.4,SNR=2.5							

*IDC **29** 17:05:36.5±1.2, 7.44N×93.77E, mb3.9/10, mb1 4.1/11, mb1mx3.9/20, mbtmp3.9/11, ML4.1/1, Error ellipse: s-maj=39.9km s-min=27.5km az=48.0*

ISC 29 17:05:40.0±1.0, 7.6N±0.2×93.9E±0.2, h33km, n12, σ0§90/12, mb3.9/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.88**	**24**	Pn	**P**	**17 08 29.7**	**-0.4**
0.3nm,0.3s,baz=211,slow=14,SNR=11							
SONM	**Songino Array**	**41.52**	**13**	P	**P**	**17 13 25.9**	**+0.1**
2.1nm,1.1s,mb3.7,baz=194,slow=9.1,SNR=7.6							
SONM				PcP	PcP	17 15 23.4	-0.2
0.4nm,0.5s,baz=191,slow=3.6,SNR=4.6							
ZAL	**Zalesovo**	**46.83**	**353**	P	**P**	**17 14 09.1**	**+0.6**
3.1nm,0.4s,mb4.6,baz=307,slow=6.3,SNR=12							
WRA	**Warramunga Arr**	**48.24**	**125**	P	**P**	**17 14 19.9**	**-0.2**
0.6nm,1.0s,mb3.6,baz=305,slow=8.4,SNR=5.0							
BVAR	**Borovoye Array**	**49.22**	**341**	P	**P**	**17 14 26.9**	**-0.3**
0.4nm,0.6s,mb3.6,baz=126,slow=13,SNR=3.8							
BRTR	**Keskin Array B**	**62.48**	**311**	P	**P**	**17 16 00.4**	**-2.3**
0.6nm,0.7s,mb3.8,baz=117,slow=6.4,SNR=2.7							
FINES	**FINESS Array B**	**72.89**	**332**	P	**P**	**17 17 08.1**	**+0.6**
0.9nm,0.4s,mb4.0,baz=108,slow=6.1,SNR=11							
KAF	**Kangasniemi**	**72.98**	**333**	*ep*	**P**	**17 17 06.7**	**-1.2**
3.6nm,0.9s,mb4.3							
ARCES	**ARCESS Array B**	**75.49**	**340**	P	**P**	**17 17 23.4**	**+1.0**
4.0nm,1.0s,mb4.3,baz=98,slow=6.4,SNR=3.3							
GERES	**GERESS Array B**	**77.93**	**318**	P	**P**	**17 17 37.4**	**+0.9**
0.5nm,0.7s,mb3.5,baz=101,slow=6.8,SNR=5.1							
HFS	**Hagfors**	**78.63**	**330**	P	**P**	**17 17 41.1**	**+1.0**
0.8nm,0.4s,mb4.0,baz=101,slow=7.6,SNR=7.5							
NOA	**NORSAR Array B**	**79.91**	**331**	P	**P**	**17 17 46.6**	**-0.4**
0.6nm,0.7s,mb3.6,baz=106,slow=3.5,SNR=3.2							

IDC 29 17:09:19.4±2.8, 8.24N×93.75E, mb3.6/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=88.8km s-min=30.6km az=71.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.34**	**26**	Pn	P	17 12 05.1	-0.9
0.2nm,0.3s,baz=211,slow=14,SNR=7.1							
SONM	**Songino Array**	**40.90**	**13**	P	P	17 17 02.4	-2.6
0.4nm,0.7s,baz=197,slow=6.8,SNR=4.6							
ZAL	**Zalesovo**	**46.14**	**353**	P	P	17 17 45.4	-1.9
1.1nm,0.6s,baz=303,slow=8.0,SNR=6.2							
ASAR	**Alice Springs**	**50.45**	**130**	P	P	17 18 19.6	-1.7
0.5nm,0.8s,baz=300,slow=7.6,SNR=4.5							

*IDC **29** 17:12:11.5±0.5, 7.97N×94.13E, mb4.3/24, mb1 4.4/25, mb1mx4.4/27, mbtmp4.3/25, ML3.9/1, Error ellipse: s-maj=29.0km s-min=12.6km az=55.0*
*BJI **29** 17:12:16.2, 8.07N×93.27E, h24km, mb4.6*
*NEIC **29** 17:12:16.1±0.3, 7.91N×94.16E, h30km, mb4.6/12, Error ellipse: s-maj=9.5km s-min=6.7km az=64.0*

ISC 29 17:12:14.4±0.4, 7.96N±0.06×94.27E±0.07, h30km, (h20km±1.9km:pP-P), n63, σ0§94/59, mb4.5/36, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.07**	**49**	P	**Pn**	**17 14 02.5**	**+3.9**
CM31	**Chiang Mai Arr**	**11.38**	**23**	*eP*	**P**	**17 14 59.5**	**+1.3**
14nm,1.0s							
CMAR	**Chiang Mai Arr**	**11.38**	**23**	Pn	**P**	**17 14 59.1**	**+0.9**
0.2nm,0.3s,baz=212,slow=14,SNR=15							
CHG	**Chiang Mai**	**11.70**	**22**	P	Px	17 15 18.8	
IMP	**Imphal**	**16.73**	**359**	*e*	**P**	**17 16 09.3**	**+0.9**
HYB	**Hyderabad**	**17.97**	**303**	*eP*	**P**	**17 16 25.0**	**+1.1**
HYB	**Hyderabad**	**17.97**	**303**	*i P*	**P**	**17 16 25.0**	**+1.1**
HYB				*eS*	**S**	**17 19 42.5**	**+2.0**
KMI	**Kunming**	**18.88**	**24**	P	**P**	**17 16 39.4**	**+4.4**
7.0nm,1.4s							
JIRN	**Jiri**	**21.03**	**340**	*eP*	**P**	**17 16 57.9**	**-0.3**
PKI	**Pulchoki**	**21.23**	**338**	*eP*	**P**	**17 16 59.7**	**-0.6**
DMN	**Daman**	**21.38**	**337**	*eP*	**P**	**17 17 01.1**	**-0.7**
KKN	**Kakani**	**21.48**	**338**	*eP*	**P**	**17 17 01.0**	**-1.7**
20nm,0.7s,mb4.5							
GKN	**Gorkha**	**21.91**	**337**	*eP*	**P**	**17 17 06.9**	**-0.2**
37nm,0.6s,mb5.0							
KOLN	**Koldanda**	**22.14**	**334**	*eP*	**P**	**17 17 09.3**	**0.0**
98nm,1.1s,mb5.2							
DDI	**Dehra Dun**	**26.94**	**328**	*e*	**P**	**17 18 01.8**	**+6.6**
AAK	**Ala-Archa**	**38.67**	**336**	*eP*	**P**	**17 19 36.8**	**-0.5**
11nm,1.1s,mb4.5							
SONM	**Songino Array**	**41.05**	**12**	P	**P**	**17 19 57.1**	**+0.4**
1.5nm,0.9s,mb3.6,baz=196,slow=9.6,SNR=9.2							
SONM				PcP	PcP	17 21 57.4	+0.6
0.6nm,0.6s,baz=203,slow=2.9,SNR=6.8							
ULN	**Ulaanbaatar**	**41.22**	**13**	*eP*	**P**	**17 19 58.2**	**0.0**
1.2nm,0.6s,mb3.7							
KURK	**Kurchatov**	**44.56**	**346**	*eP*	**P**	**17 20 25.2**	**-0.1**
32nm,1.3s,mb5.0							
NWAO	**Narrogin (SRO)**	**46.17**	**153**	P	**P**	**17 20 37.6**	**-0.8**
9.2nm,1.0s,mb4.7,baz=324,slow=14,SNR=2.5							
ZAL	**Zalesovo**	**46.48**	**352**	P	**P**	**17 20 40.2**	**-0.3**
2.4nm,0.5s,mb4.4,baz=301,slow=5.7,SNR=10							
ZAL	**Zalesovo**	**46.48**	**352**	P	**P**	**17 20 40.2**	**-0.3**
WRA	**Warramunga Arr**	**48.21**	**126**	P	**P**	**17 20 54.1**	**-0.5**
0.8nm,0.6s,mb3.9,baz=305,slow=8.9,SNR=8.5							
BVAR	**Borovoye Array**	**48.95**	**341**	P	**P**	**17 20 58.5**	**-1.3**
1.1nm,0.8s,mb4.0,baz=166,slow=6.1,SNR=6.7							
BVAR				PcP	PcP	17 22 23.9	-0.2
0.7nm,0.6s,baz=135,slow=4.1,SNR=3.1							
RAYN	**Ar Rayn**	**49.17**	**294**	P	**P**	**17 21 03.0**	**+1.0**
78nm,0.6s,SNR=13							
CHKZ	**Chkalovo**	**49.43**	**342**	*eP*	**P**	**17 21 02.5**	**-1.1**
14nm,1.0s,mb5.0							
ASAR	**Alice Springs**	**49.87**	**130**	P	**P**	**17 21 07.6**	**+0.2**
0.7nm,0.6s,mb3.9,baz=300,slow=7.4,SNR=8.8							
ASAR				PcP	PcP	17 22 28.7	+0.9
0.3nm,0.6s,baz=315,slow=3.8,SNR=3.1							
KMBO	**Kilima Mbogo**	**57.56**	**264**	P	**P**	**17 22 06.0**	**+1.8**
6.6nm,0.8s,mb4.7,baz=55,slow=11,SNR=24							
KMBO	**Kilima Mbogo**	**57.56**	**264**	P	**P**	**17 22 06.0**	**+1.8**
KMBO				*eP*		17 22 06.3	
EIL	**Elat**	**59.49**	**300**	P	**P**	**17 22 16.4**	**-1.0**
2.0nm,0.5s,mb4.4,baz=117,slow=9.0,SNR=3.7							
STKA	**Stephens Creek**	**60.07**	**134**	P	**P**	**17 22 21.0**	**-0.3**
2.1nm,1.1s,mb4.1,baz=264,slow=8.5,SNR=2.9							
BRTR	**Keskin Array B**	**62.47**	**311**	P	**P**	**17 22 35.1**	**-2.3**
2.1nm,0.7s,mb4.4,baz=125,slow=7.3,SNR=12							
MA2	**Magadan**	**66.63**	**28**	P	**P**	**17 22 60.0**	**-4.1**
7.2nm,1.0s,mb4.7							
AKASG	**Malin Array Be**	**68.17**	**322**	P	**P**	**17 23 11.8**	**-2.2**
2.8nm,0.8s,mb4.3,baz=91,slow=4.7,SNR=4.5							
IDI	**Anoyia**	**68.62**	**305**	P	**P**	**17 23 16.4**	**-0.7**
8.5nm,0.7s,mb4.8,baz=64,slow=16,SNR=8.0							
MLR	**Muntele Rosu**	**69.20**	**316**	P	**P**	**17 23 19.6**	**-0.8**
3.9nm,0.8s,mb4.4,baz=100,slow=24,SNR=5.1							
FINES	**FINESS Array B**	**72.69**	**332**	P	**P**	**17 23 40.1**	**-1.0**
2.5nm,0.7s,mb4.3,baz=135,slow=5.4,SNR=11							
OJC	**Ojcow**	**73.99**	**320**	*eP*	**P**	**17 23 48.4**	**-0.5**
OKC	**Ostrava-Krasne**	**75.01**	**319**	*eP*	**P**	**17 23 55.0**	**+0.1**
ARCES	**ARCESS Array B**	**75.23**	**340**	P	**P**	**17 23 55.8**	**+0.1**
12nm,1.2s,mb4.7,baz=90,slow=4.9,SNR=8.2							
MORC	**Moravsky Berou**	**75.39**	**319**	*eP*	**P**	**17 23 56.3**	**-0.7**
10nm,1.1s,mb4.7							
DPC	**Dobruska-Polom**	**76.22**	**320**	*eP*	**P**	**17 24 02.4**	**+0.7**
DPC				*epP*	pP	17 24 07.5	-3.7
UPC	**Upice**	**76.43**	**320**	*eP*	**P**	**17 24 03.2**	**+0.3**
UPC				*epP*	pP	17 24 08.8	-3.6
BRG	**Berggiesshubel**	**77.77**	**320**	*i P*	**P**	**17 24 10.8**	**+0.5**
4.3nm,0.9s,mb4.4							
BRG				*e*	pP	17 24 19.7	-0.1
GERES	**GERESS Array B**	**77.85**	**318**	P	**P**	**17 24 11.0**	**+0.2**
3.4nm,0.7s,mb4.4,baz=91,slow=5.0,SNR=24							
KHC	**Kasperske Hory**	**77.94**	**318**	*eP*	**P**	**17 24 10.9**	**-0.4**
HFS	**Hagfors**	**78.45**	**330**	P	**P**	**17 24 13.7**	**-0.1**
2.2nm,0.4s,mb4.4,baz=90,slow=3.0,SNR=12							
MAW	**Mawson**	**78.65**	**192**	P	**P**	**17 24 16.4**	**+1.6**
2.2nm,0.7s,mb4.2,baz=38,slow=11,SNR=3.6							
GRA1	**Grafenberg Arr**	**79.49**	**319**	*eP*	**P**	**17 24 20.2**	**+0.5**
7.0nm,1.0s,mb4.5							
GRA1				*epP*	pP	17 24 26.2	-3.1
GRF	**Grafenberg Arr**	**79.49**	**319**	*eP*	**P**	**17 24 20.2**	**+0.5**
7.0nm,1.0s,mb4.5							
GRF				*epP*	pP	17 24 26.2	-3.1
NB2	**NORSAR Subarra**	**79.72**	**331**	P	**P**	**17 24 20.3**	**-0.4**
5.8nm,0.9s,mb4.5,baz=95,slow=5.0							
NOA	**NORSAR Array B**	**79.72**	**331**	P	**P**	**17 24 20.4**	**-0.3**
1.8nm,0.9s,mb4.0,baz=94,slow=6.6,SNR=4.2							
NOA	**NORSAR Array B**	**79.72**	**331**	P	**P**	**17 24 20.4**	**-0.3**
DAVOX	**Davos**	**80.42**	**316**	P	**P**	**17 24 24.6**	**-0.1**
5.3nm,0.7s,mb4.6,baz=98,slow=7.4,SNR=8.0							
LPG	**La Plagne**	**82.65**	**315**	*eP*	**P**	**17 24 36.7**	**+0.3**
18nm,0.8s,mb4.8							
EKA	**Eskdalemuir Ar**	**87.72**	**325**	P	**P**	**17 25 02.2**	**+0.8**
2.2nm,0.8s,mb4.4,baz=80,slow=5.1,SNR=5.1							
ESDC	**Sonseca Array**	**91.26**	**310**	P	**P**	**17 25 19.2**	**+0.7**
0.7nm,0.5s,mb4.3,baz=63,slow=4.0,SNR=6.5							
VNDA	**Vanda**	**92.99**	**168**	P	**P**	**17 25 26.4**	**+0.8**
1.0nm,0.5s,mb4.5,baz=323,slow=5.1,SNR=7.9							
SPU	**Mount Spurr**	**94.15**	**26**	*eP*	pP	17 25 40.2	-0.6
INK	**Inuvik**	**96.87**	**16**	P	**P**	**17 25 45.1**	**+1.6**
2.0nm,1.1s,mb4.5,baz=254,slow=8.4,SNR=2.8							
YKA	**Yellowknife Ar**	**106.31**	**14**	PP	PP	17 30 51.2	-1.9
0.2nm,0.6s,baz=332,slow=7.4,SNR=3.3							
PDAR	**Pinedale Array**	**125.04**	**21**	PKP	PKPdf	17 31 14.6	-2.8
0.8nm,0.7s,slow=1.5,SNR=6.3							
PLCA	**Paso Flores**	**144.68**	**200**	PKP	PKPdf	17 31 50.0	-3.6
5.6nm,0.9s,baz=191,slow=3.5,SNR=9.3							

*IDC **29** 17:14:21.5±0.7, 7.74N×93.82E, mb4.2/14, mb1 4.3/15, mb1mx4.2/22, mbtmp4.2/15, ML3.8/1, Error ellipse: s-maj=35.6km s-min=15.7km az=51.0*
*BJI **29** 17:14:25.2, 7.75N×93.35E, h32km, mb4.5, Ms4.3, Msz4.1*
*NEIC **29** 17:14:26.1±0.5, 7.69N×93.91E, h30km, mb4.7/8, Error ellipse: s-maj=13.1km s-min=10.9km az=55.0*

ISC 29 17:14:25.2±2.2, 7.70N±0.08×93.94E±0.08, h40km±20km, n38, σ0§90/36, mb4.4/24, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.75**	**24**	*eP*	**P**	**17 17 12.6**	**-0.6**
10.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**11.75**	**24**	Pn	**P**	**17 17 12.6**	**-0.6**
0.2nm,0.3s,baz=212,slow=14,SNR=11							
PALK	**Pallekele**	**13.14**	**269**	P	**P**	**17 17 31.8**	**0.0**
HYB	**Hyderabad**	**17.84**	**304**	*i P*	**P**	**17 18 38.5**	**+6.2**
KMI	**Kunming**	**19.26**	**25**	P	**P**	**17 18 51.4**	**+2.2**
9.0nm,1.3s							
JIRN	**Jiri**	**21.17**	**341**	*eP*	**P**	**17 19 09.5**	**+0.2**
41nm,1.0s,mb4.7							
PKI	**Pulchoki**	**21.36**	**339**	*eP*	**P**	**17 19 11.7**	**+0.5**
DMN	**Daman**	**21.50**	**338**	*eP*	**P**	**17 19 13.7**	**+1.0**
41nm,0.8s,mb4.8							
KKN	**Kakani**	**21.60**	**339**	*eP*	**P**	**17 19 14.0**	**+0.3**
27nm,0.8s,mb4.7							
GKN	**Gorkha**	**22.03**	**338**	*eP*	**P**	**17 19 18.2**	**+0.3**
29nm,0.7s,mb4.8							
LSA	**Lhasa**	**22.04**	**354**	P	**P**	**17 19 17.8**	**-0.3**
KOLN	**Koldanda**	**22.23**	**335**	*eP*	**P**	**17 19 19.8**	**-0.2**
WMQ	**Urumqi**	**36.39**	**352**	*eP*	**P**	**17 21 28.5**	**+0.8**
AAK	**Ala-Archa**	**38.79**	**337**	*eP*	**P**	**17 21 47.5**	**-0.2**
5.3nm,0.9s,mb4.3							
SONM	**Songino Array**	**41.38**	**13**	P	**P**	**17 22 09.3**	**+0.2**
2.3nm,0.8s,mb3.8,baz=200,slow=6.1,SNR=9.1							
SONM				PcP	PcP	17 24 06.9	-0.6
0.4nm,0.7s,baz=254,slow=2.8,SNR=3.6							
KURK	**Kurchatov**	**44.73**	**346**	*eP*	**P**	**17 22 36.2**	**-0.2**
19nm,1.3s,mb4.8							
NWAO	**Narrogin (SRO)**	**46.08**	**153**	P	**P**	**17 22 51.4**	**+4.0**
8.6nm,0.7s,mb4.8,baz=318,slow=9.5,SNR=6.5							
ZAL	**Zalesovo**	**46.69**	**353**	P	**P**	**17 22 51.8**	**-0.1**
6.5nm,1.0s,mb4.5,baz=300,slow=8.8,SNR=15							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.32**	**125**	P	**P**	**17 23 05.4**	**+0.3**
1.4nm,0.5s,mb4.2,baz=305,slow=8.6,SNR=9.3							
WRAB	**Tennant Creek**	**48.32**	**125**	*eP*	**P**	**17 23 04.9**	**-0.2**
32nm,1.6s,mb5.1							
BVAR	**Borovoye Array**	**49.09**	**341**	P	**P**	**17 23 09.0**	**-1.6**
3.4nm,1.1s,mb4.3,baz=135,slow=8.4,SNR=4.1							
CHKZ	**Chkalovo**	**49.58**	**342**	*eP*	**P**	**17 23 13.9**	**-0.4**
15nm,1.1s,mb4.9							
ASAR	**Alice Springs**	**49.95**	**130**	P	**P**	**17 23 17.1**	**-0.5**
2.0nm,1.0s,mb4.1,baz=302,slow=6.8,SNR=3.0							
ASAR				PcP	PcP	17 24 39.1	+1.6
1.4nm,0.6s,baz=307,slow=3.4,SNR=9.0							
PMG	**Port Moresby**	**55.67**	**107**	*eP*	**P**	**17 23 58.3**	**-1.9**
9.4nm,0.8s,mb4.9							
STKA	**Stephens Creek**	**60.13**	**134**	P	**P**	**17 24 33.5**	**+2.2**
1.3nm,0.7s,mb4.1,baz=330,slow=13,SNR=3.5							
STKA	**Stephens Creek**	**60.13**	**134**	P	**P**	**17 24 33.3**	**+2.0**
BRTR	**Keskin Array B**	**62.40**	**311**	P	**P**	**17 24 45.1**	**-1.3**
1.0nm,0.9s,mb3.9,baz=116,slow=7.9,SNR=3.7							
MA2	**Magadan**	**67.01**	**28**	P	**P**	**17 25 21.4**	**+5.4**
6.6nm,0.9s,mb4.7							
AKASG	**Malin Array Be**	**68.17**	**322**	P	**P**	**17 25 22.7**	**-0.7**
2.1nm,0.9s,mb4.2,baz=95,slow=4.1,SNR=4.1							
MLR	**Muntele Rosu**	**69.16**	**316**	P	**P**	**17 25 30.9**	**+1.2**
6.6nm,1.1s,mb4.5,baz=190,slow=17,SNR=2.8							
FINES	**FINESS Array B**	**72.77**	**332**	P	**P**	**17 25 50.6**	**-0.4**
1.5nm,0.7s,mb4.1,baz=130,slow=11,SNR=5.5							
GERES	**GERESS Array B**	**77.83**	**318**	P	**P**	**17 26 20.5**	**+0.3**
2.1nm,0.8s,mb4.1,baz=90,slow=2.7,SNR=6.4							
CLL	**Collm**	**78.37**	**321**	*e*PP*	pP	17 26 30.0	-5.2
HFS	**Hagfors**	**78.51**	**330**	P	**P**	**17 26 24.5**	**+0.8**
2.0nm,0.6s,mb4.2,baz=90,slow=5.9,SNR=7.0							
HFS	**Hagfors**	**78.51**	**330**	P	**P**	**17 26 24.5**	**+0.8**
NB2	**NORSAR Subarra**	**79.79**	**331**	P	**P**	**17 26 27.6**	**-3.1**
3.8nm,1.0s,mb4.3,baz=92,slow=5.8							
NOA	**NORSAR Array B**	**79.79**	**331**	P	**P**	**17 26 30.2**	**-0.5**
1.4nm,0.9s,mb3.9,baz=99,slow=18,SNR=4.3							
PLCA	**Paso Flores**	**144.32**	**200**	PKP	PKPdf	17 34 01.4	+4.0
5.0nm,1.0s,baz=189,slow=2.2,SNR=6.4							

*WAR **29** 17:16:56.6, 49.46N×19.86E, h5km*
*PRU **29** 17:16:56.7, 49.42N×19.87E, High Tatras*
*CSEM **29** 17:16:56.1±0.1, 49.39N×19.92E, h0km, ML4.0/4, Error ellipse: s-maj=2.2km s-min=1.2km az=26.0*
*IPEC **29** 17:16:56.9±0.2, 49.42N×19.94E, h12km±1km, ML3.4/2, Error ellipse: s-maj=1.4km s-min=1.0km az=105.0*
*NEIC **29** 17:16:56.6±0.7, 49.46N×19.86E, h5km, ML3.6(SZGRF), ML3.0(VIE), Error ellipse: s-maj=10.4km s-min=7.8km az=22.0*
*IDC **29** 17:16:56.9±0.9, 49.31N×19.78E, mb3.4/1, mb1 3.6/8, mb1mx3.5/21, mbtmp3.5/8, ML3.1/7, Error ellipse: s-maj=11.5km s-min=7.4km az=166.0*
*BGR **29** 17:17:00.2±1.0, 49.43N×19.67E, h1km, ML3.7/9, Error ellipse: s-maj=23.3km s-min=10.0km az=23.0*

ISC 29 17:16:54.0±0.3, 49.53N±0.02×19.83E±0.02, h5km, n74, σ1§68/130, 5C, Poland

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

GEC2 GERESS Array S 4.08 263 *e*Pn **Pn 17 18 01.3 +2.9**
GERES GERESS Array B 4.08 263 Pn **Pn 17 18 00.9 +2.5**
0.7nm,0.3s,baz=83,slow=15,SNR=26
GERES Sn **Sn 17 18 50.2 +3.1**
2.4nm,0.3s,baz=83,slow=23,SNR=17
GERES Lg 17 19 01.0
3.7nm,0.3s,baz=71,slow=24,SNR=6.9
GKP Gorka Klasztor 4.08 338 *e*Pn **Pg 17 18 17.2 +1.7**
GKP *e*Pg **Pg 17 18 24.1 +8.5**
KHC Kasperske Hory 4.11 267 *e*PN **Pn 17 18 01.0 +2.1**
KHC *e*PG **Pg 17 18 13.1 -2.9**
KHC *ex* x 17 18 44.5
KHC *e*SG **Sg 17 19 07.2 -3.5**
WET Wettzell 4.56 268 *e*Pn **Pn 17 18 08.3 +3.0**
WET Wettzell 4.56 268 *e*Pn **Pn 17 18 08.3 +3.0**
CLL Collm 4.71 295 *e*Sg **Sg 17 19 27.7 -3.3**
CLL Collm 4.71 295 *e*PG **Pg 17 18 27.0 -1.1**
CLL *e*SG **Sg 17 19 30.0 -1.0**
CLL Collm 4.71 295 *e*Sg **Sg 17 19 30.0 -1.0**
TANN Tannenbergstha 4.84 283 *e*Pn **Pn 17 18 13.4 +4.1**
TANN *e*Sg **Sg 17 19 32.3 -2.7**
GUNZ Gunzen 4.91 283 *e*Sg **Sg 17 19 34.3 -3.3**
SUW Suwalki 4.95 24 *e*Pn **Pn 17 18 17.1 +6.2**
SUW *e*Pg **Pg 17 18 39.1 +6.2**
SUW *e*Sn **Sg 17 19 33.7 -5.1**
NOTT Nottersdorf 5.01 276 *e*Sg **Sg 17 19 36.1 -4.7**
MOX Moxa 5.40 285 *e*Sg **Sg 17 19 51.2 -2.7**
GRA1 Grafenberg Arr 5.60 275 *e*Sg **Sg 17 19 53.9 -6.5**
GRF Grafenberg Arr 5.60 275 *e*Sg **Sg 17 19 53.9 -6.4**
GRF Grafenberg Arr 5.60 275 *e*Sg **Sg 17 19 53.9 -6.5**
MLR Muntele Rosu 5.79 132 Pn **Pn 17 18 22.2 -0.4**
0.1nm,0.3s,baz=140,slow=8.3,SNR=3.4
AKASG Malin Array Be 6.16 75 Pn **Pn 17 18 29.9 +2.0**
0.7nm,0.3s,baz=262,slow=13,SNR=3.9
AKASG Sn **Sn 17 19 33.6 -5.9**
0.9nm,0.3s,baz=235,slow=40,SNR=3.3
AKASG Lg 17 20 03.3
1.1nm,0.3s,baz=250,slow=28,SNR=4.4
DAVOX Davos 7.20 251 Pn **Pn 17 18 42.7 +0.2**
0.3nm,0.3s,baz=93,slow=19,SNR=2.8
DAVOX Sn **Sn 17 20 03.3 -2.3**
0.6nm,0.3s,baz=318,slow=23,SNR=6.6
DAVOX Lg 17 20 46.2
0.7nm,0.3s,baz=139,slow=23,SNR=3.4
HFS Hagfors 11.20 344 Pn **P 17 19 35.1 -2.6**
0.0nm,0.3s,baz=156,slow=14,SNR=4.3
HFS Sn **S 17 21 36.3 -8.0**
0.0nm,0.3s,baz=159,slow=20,SNR=3.3
HFS Hagfors 11.20 344 Pn **P 17 19 35.1 -2.6**
HFS Sn **S 17 21 36.3 -8.1**
FINES FINESS Array B 12.45 14 Pn **P 17 19 51.5 -3.1**
0.4nm,0.3s,baz=195,slow=11,SNR=23
FINES Sn **S 17 22 03.7 -11**
0.4nm,0.3s,baz=189,slow=21,SNR=10
NOA NORSAR Array B 12.52 340 Pn **P 17 19 54.2 -1.4**
0.1nm,0.3s,baz=152,slow=13,SNR=2.9
NOA Sn **S 17 22 08.0 -8.6**
0.1nm,0.3s,baz=146,slow=23,SNR=2.4
NOA NORSAR Array B 12.52 340 Pn **P 17 19 54.2 -1.4**
NOA Sn **S 17 22 08.0 -8.6**
ARCES ARCESS Array B 20.26 6 P **P 17 21 34.0 +1.3**
1.8nm,0.8s,baz=193,slow=12,SNR=1.1

*IDC **29** 17:17:21.9±0.7,8.08N×94.01E,h17km±3km,mb4.0/16, mb1 4.1/17,mb1mx4.0/22,mbtmp4.1/17,ML3.5/1,Error ellipse: s-maj=30.0km s-min=14.3km az=56.0*
*BJI **29** 17:17:23.3,7.79N×93.74E,h56km,mb4.5*
*NEIC **29** 17:17:23.6±0.4,8.08N×94.07E,h30km,mb4.4/9,Error ellipse: s-maj=13.7km s-min=9.6km az=72.0*
ISC 29 17:17:20.4±0.5,8.13N±0.07×94.19E±0.10,h18km, h18km±.6km:pP-P,n38,σ1§04/37,mb4.3/26,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.26**	**24**	*e*P	**P**	**17 20 01.8**	**-1.9**
8.8nm,1.0s							
CMAR	**Chiang Mai Arr**	**11.26**	**24**	Pn	**P**	**17 20 04.8**	**+1.0**
0.1nm,0.3s,baz=214,slow=13,SNR=5.6							
KMI	**Kunming**	**18.77**	**25**	P	**P**	**17 21 43.9**	**+2.9**
6.0nm,1.7s							
JIRN	**Jiri**	**20.85**	**340**	*e*P	**P**	**17 22 04.3**	**+0.3**
PKI	**Pulchoki**	**21.05**	**338**	*e*P	**P**	**17 22 06.3**	**+0.3**
93nm,1.3s,mb5.0							
DMN	**Daman**	**21.20**	**337**	*e*P	**P**	**17 22 08.0**	**+0.5**
22nm,0.8s,mb4.6							
KKN	**Kakani**	**21.30**	**338**	*e*P	**P**	**17 22 08.3**	**-0.2**
LSA	**Lhasa**	**21.65**	**353**	*e*P	**P**	**17 22 12.3**	**+0.3**
GKN	**Gorkha**	**21.73**	**337**	*e*P	**P**	**17 22 13.0**	**+0.1**
31nm,0.7s,mb4.8							
KOLN	**Koldanda**	**21.96**	**334**	*e*P	**P**	**17 22 15.7**	**+0.6**
AAK	**Ala-Archa**	**38.49**	**336**	P	**P**	**17 24 37.3**	**-6.1**
7.4nm,1.3s,mb4.3							
SONM	**Songino Array**	**40.91**	**13**	P	**P**	**17 25 03.7**	**+0.4**
1.5nm,1.0s,mb3.6,baz=206,slow=8.4,SNR=4.5							
SONM				pP	pP	17 25 09.4	+0.8
0.7nm,0.6s,baz=200,slow=8.3,SNR=4.7							
SONM				PcP	PcP	17 27 04.8	+0.4
0.4nm,0.5s,baz=191,slow=4.5,SNR=6.6							
SONM				pPcP		17 27 10.0	
0.4nm,0.5s,baz=197,slow=4.2,SNR=5.1							
KURK	**Kurchatov**	**44.38**	**346**	*e*P	**P**	**17 25 31.5**	**-0.2**
22nm,1.4s,mb4.7							
ZAL	**Zalesovo**	**46.30**	**352**	P	**P**	**17 25 46.5**	**-0.4**
1.8nm,0.5s,mb4.3,baz=300,slow=7.3,SNR=7.0							
ZAL				pP	pP	17 25 52.8	+0.5
1.9nm,0.6s,baz=306,slow=7.6,SNR=4.4							
ZAL	**Zalesovo**	**46.30**	**352**	P	**P**	**17 25 46.5**	**-0.4**
ZAL				pP	pP	17 25 52.8	+0.5
NWAO	**Narrogin (SRO)**	**46.35**	**153**	P	**P**	**17 25 48.9**	**+1.3**
8.7nm,1.0s,mb4.6,baz=323,slow=8.6,SNR=6.2							
WRA	**Warramunga Arr**	**48.37**	**126**	P	**P**	**17 26 03.2**	**-0.3**
0.6nm,0.4s,mb4.0,baz=300,slow=9.9,SNR=10.0							
WRA				PcP	PcP	17 27 29.5	-0.9
0.3nm,0.5s,baz=316,slow=2.9,SNR=5.2							
WRAB	**Tennant Creek**	**48.37**	**126**	*e*P	**P**	**17 26 02.3**	**-1.2**
1.4nm,0.4s,mb4.3							
BVAR	**Borovoye Array**	**48.77**	**341**	P	**P**	**17 26 04.4**	**-1.8**
1.5nm,1.0s,mb4.0,baz=117,slow=3.3,SNR=4.0							
BVAR				PcP	PcP	17 27 30.7	-0.7
0.5nm,0.6s,baz=143,slow=7.2,SNR=3.4							
BVAR				pPcP		17 27 36.4	
0.4nm,0.6s,baz=153,slow=3.3,SNR=4.4							
ASAR	**Alice Springs**	**50.04**	**130**	P	**P**	**17 26 16.1**	**-0.3**
0.6nm,0.4s,mb3.9,baz=305,slow=7.9,SNR=11							
ASAR				PcP	PcP	17 27 35.8	-0.6
0.4nm,0.7s,baz=301,slow=6.3,SNR=3.5							
ASAR				pPcP		17 27 41.6	
0.5nm,0.9s,baz=318,slow=4.3,SNR=4.1							
KMBO	**Kilima Mbogo**	**57.50**	**263**	P	**P**	**17 27 14.0**	**+2.5**
0.8nm,0.5s,mb4.0,baz=57,slow=17,SNR=7.2							
KMBO	**Kilima Mbogo**	**57.50**	**263**	*e*P	**P**	**17 27 13.8**	**+2.3**
2.6nm,0.8s,mb4.3							
KMBO				*e*		17 27 24.8	
BRTR	**Keskin Array B**	**62.30**	**311**	P	**P**	**17 27 42.0**	**-2.1**
0.7nm,0.5s,mb4.0,baz=125,slow=5.9,SNR=3.9							
MA2	**Magadan**	**66.52**	**28**	*e*P	**P**	**17 28 11.9**	**+0.8**
14nm,1.2s,mb4.9							
AKASG	**Malin Array Be**	**67.99**	**322**	P	**P**	**17 28 17.8**	**-2.8**
0.7nm,0.6s,mb3.9,baz=86,slow=5.5,SNR=4.0							
AKASG				pP	pP	17 28 23.8	-2.5
0.5nm,0.6s,baz=81,slow=5.2,SNR=2.7							
JOF	**Joensuu**	**70.64**	**334**	*ep*	**P**	**17 28 35.7**	**-1.0**
2.5nm,0.5s,mb4.4							
FINES	**FINESS Array B**	**72.51**	**332**	P	**P**	**17 28 47.5**	**-0.4**
1.5nm,0.6s,mb4.1,baz=99,slow=7.5,SNR=14							
FINES				pP	pP	17 28 52.4	-1.1
1.5nm,0.5s,baz=94,slow=6.6,SNR=2.9							
KAF	**Kangasniemi**	**72.59**	**333**	*ep*	**P**	**17 28 47.5**	**-0.9**
2.5nm,0.6s,mb4.3							
ARCES	**ARCESS Array B**	**75.05**	**340**	P	**P**	**17 29 03.0**	**+0.5**
5.2nm,0.9s,mb4.5,baz=88,slow=5.7,SNR=8.7							
ARCES				pP	pP	17 29 08.3	+0.2
2.7nm,0.6s,baz=76,slow=5.0,SNR=2.6							
ARCES	**ARCESS Array B**	**75.05**	**340**	P	**P**	**17 29 03.0**	**+0.5**
ARCES				pP	pP	17 29 08.3	+0.2
GERES	**GERESS Array B**	**77.67**	**318**	P	**P**	**17 29 17.9**	**+0.3**
1.7nm,0.7s,mb4.1,baz=99,slow=5.3,SNR=13							
GERES				pP	pP	17 29 23.5	+0.2
0.9nm,0.5s,baz=102,slow=5.4,SNR=7.6							
HFS	**Hagfors**	**78.27**	**330**	P	**P**	**17 29 20.9**	**+0.2**
2.2nm,0.6s,mb4.3,baz=104,slow=6.1,SNR=11							
HFS				pP	pP	17 29 26.2	-0.1
2.2nm,0.5s,baz=90,slow=7.4,SNR=3.0							

NB2 NORSAR Subarra 79.54 331 P **P 17 29 27.1 -0.5**
3.0nm,1.0s,mb4.2,baz=93,slow=5.6
NOA NORSAR Array B 79.54 331 P **P 17 29 27.3 -0.3**
0.5nm,0.5s,mb3.7,baz=96,slow=5.0,SNR=3.8
NOA pP pP 17 29 32.9 -0.4
1.4nm,0.7s,baz=90,slow=5.7,SNR=3.5
LPG La Plagne 82.48 315 *e*P **P 17 29 44.1 +0.7**
8.9nm,0.6s,mb4.6
EKA Eskdalemuir Ar 87.54 325 P **P 17 30 09.4 +0.9**
1.0nm,0.6s,mb4.2,baz=90,slow=5.0,SNR=3.5
EKA pP pP 17 30 15.0 +0.8
3.1nm,0.9s,baz=84,slow=6.0,SNR=4.8
ESDC Sonseca Array 91.09 310 P **P 17 30 25.9 +0.3**
0.5nm,0.5s,mb4.1,baz=63,slow=4.2,SNR=4.2
ESDC pP pP 17 30 31.7 +0.4
0.7nm,0.5s,baz=64,slow=4.2,SNR=5.0
PLCA Paso Flores 144.80 200 PKP PKPdf 17 36 57.3 -3.3
2.8nm,0.7s,baz=134,slow=3.7,SNR=5.1

GUC 29 17:23:09.0±0.4,30.03S×71.45W,h10km±4km,MD3.6, ML3.5,1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.58**	**104**	⇓*i*P	Pg	17 23 23.7	+3.0
TLL				*i* S	Sg	17 23 33.0	+4.5
TLL				AMP		17 23 35.0	
comp=E,2μm,0.5s							
VACH	**Vallenar**	**1.57**	**23**	⇑*i*P	Pn	17 23 36.4	-0.8
VACH				*i* S	Sb	17 23 57.0	-0.5
ILCH	**Illapel**	**1.62**	**171**	*i* S	Sn	17 23 58.4	-0.6
ILCH				AMP		17 24 02.9	
comp=E,560nm,0.5s							
PTCH	**Petorca**	**2.27**	**169**	*i* P	Pn	17 23 47.3	+0.1
PTCH				*i* S	Sn	17 24 16.5	+1.0
PTCH				AMP		17 24 19.7	
comp=E,751nm,0.1s							
FCH	**Farellones**	**3.44**	**164**	*i* P	Pn	17 24 05.2	+1.5
FCH				*i* S	Sn	17 24 47.3	+2.3
FCH				AMP		17 25 00.2	
comp=E,68nm,0.3s							
CLCH	**Cerro Calan**	**3.45**	**167**	*i* S	Sn	17 24 45.8	+0.5
CLCH				AMP		17 25 02.8	
comp=E,163nm,0.7s							

IDC 29 17:24:33.0±1.4,10.18N×92.62E,h18km±5km,mb3.5/5, mb1 3.7/6,mb1mx3.4/19,mbtmp3.6/6,ML3.4/1,Error ellipse: s-maj=41.6km s-min=29.9km az=45.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.26**	**36**	Pn	P	17 26 59.5	-3.2
0.1nm,0.3s,baz=214,slow=13,SNR=3.4							
SONM	**Songino Array**	**39.29**	**15**	P	P	17 32 01.0	-1.6
0.3nm,0.9s,baz=190,slow=8.8,SNR=2.8							
WRA	**Warramunga Arr**	**50.81**	**126**	P	P	17 33 32.8	-2.1
0.2nm,0.4s,baz=109,slow=8.0,SNR=4.6							
FINES	**FINESS Array B**	**69.99**	**332**	P	P	17 35 43.6	-1.8
3.5nm,1.1s,baz=90,slow=5.7,SNR=3.7							
FINES				pP	pP	17 35 49.2	-1.6
0.8nm,0.5s,baz=104,slow=7.9,SNR=1.4							
GERES	**GERESS Array B**	**75.12**	**318**	P	P	17 36 14.7	-1.3
0.4nm,0.8s,baz=112,slow=11,SNR=3.1							
GERES				pP	pP	17 36 20.3	-1.2
0.5nm,0.6s,baz=90,slow=5.3,SNR=4.8							
HFS	**Hagfors**	**75.72**	**330**	P	P	17 36 16.9	-2.3
1.5nm,0.8s,baz=76,slow=5.9,SNR=3.9							
HFS				pP	pP	17 36 23.0	-1.8
0.7nm,0.5s,baz=153,slow=3.3,SNR=1.4							

*IDC **29** 17:31:02.2±0.9,7.65N×93.97E,mb3.8/10,mb1 4.0/10, mb1mx3.8/19,mbtmp3.8/10,Error ellipse: s-maj=48.6km s-min=17.6km az=51.0*
*NEIC **29** 17:31:07.5±0.6,8.16N×94.56E,h30km,mb4.2/4,Error ellipse: s-maj=18.4km s-min=11.7km az=55.0*
ISC 29 17:31:05.4±0.7,7.8N±0.1×94.3E±0.2,h30km,n21, σ0§79/21,mb4.0/20,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.51**	**23**	*e*P	**P**	**17 33 42.8**	**-8.2**
5.9nm,0.4s							
JIRN	**Jiri**	**21.17**	**340**	*e*P	**P**	**17 35 49.6**	**-1.1**
11nm,0.7s,mb4.3							
PKI	**Pulchoki**	**21.36**	**338**	*e*P	**P**	**17 35 53.4**	**+0.7**
9.5nm,0.6s,mb4.3							
DMN	**Daman**	**21.51**	**337**	*e*P	**P**	**17 35 55.6**	**+1.4**
16nm,0.9s,mb4.5							
KKN	**Kakani**	**21.61**	**338**	*e*P	**P**	**17 35 54.9**	**-0.3**
6.3nm,0.5s,mb4.3							
GKN	**Gorkha**	**22.05**	**337**	*e*P	**P**	**17 35 59.6**	**+0.1**
8.8nm,0.5s,mb4.4							
KOLN	**Koldanda**	**22.27**	**334**	*e*P	**P**	**17 36 02.2**	**+0.5**
11nm,0.8s,mb4.3							
AAK	**Ala-Archa**	**38.81**	**337**	P	**P**	**17 38 29.0**	**-0.4**
1.8nm,0.9s,mb3.8							
SONM	**Songino Array**	**41.19**	**12**	P	**P**	**17 38 50.2**	**+1.2**
0.9nm,0.7s,mb3.5,baz=203,slow=9.4,SNR=8.1							
SONM				PcP	PcP	17 40 49.2	+0.8
0.5nm,0.5s,baz=214,slow=3.0,SNR=5.4							
KURK	**Kurchatov**	**44.70**	**346**	*e*P	**P**	**17 39 16.9**	**-0.7**
3.2nm,0.8s,mb4.2							
ZAL	**Zalesovo**	**46.62**	**352**	P	**P**	**17 39 33.3**	**+0.6**
2.9nm,0.4s,mb4.5,baz=301,slow=5.2,SNR=13							
WRA	**Warramunga Arr**	**48.12**	**126**	P	**P**	**17 39 44.9**	**-0.1**
0.4nm,0.4s,mb3.8,baz=304,slow=8.7,SNR=10							
WRAB	**Tennant Creek**	**48.13**	**126**	*e*P	**P**	**17 39 45.0**	**-0.1**
4.5nm,1.0s,mb4.5							
BVAR	**Borovoye Array**	**49.08**	**341**	P	**P**	**17 39 51.3**	**-0.7**
0.2nm,0.5s,mb3.4,baz=90,slow=1.5,SNR=4.1							
BVAR				PcP	PcP	17 41 15.7	+0.1
0.3nm,0.4s,baz=153,slow=3.3,SNR=3.6							
ASAR	**Alice Springs**	**49.78**	**130**	P	**P**	**17 39 57.8**	**0.0**
0.6nm,0.9s,mb3.6,baz=306,slow=7.9,SNR=16							
ASAR				PcP	PcP	17 41 18.9	+0.4
0.7nm,0.7s,baz=305,slow=3.8,SNR=6.8							
KMBO	**Kilima Mbogo**	**57.55**	**264**	P	**P**	**17 40 56.6**	**+1.5**
2.9nm,1.2s,mb4.2							
BRTR	**Keskin Array B**	**62.56**	**311**	P	**P**	**17 41 27.4**	**-1.8**
0.4nm,0.6s,mb3.8,baz=124,slow=8.9,SNR=2.7							
FINES	**FINESS Array B**	**72.82**	**332**	P	**P**	**17 42 32.6**	**-0.4**
0.9nm,0.5s,mb4.0,baz=104,slow=7.9,SNR=10.0							
GERES	**GERESS Array B**	**77.95**	**318**	P	**P**	**17 43 02.4**	**0.0**
0.4nm,0.7s,mb3.4,baz=90,slow=4.0,SNR=4.2							
HFS	**Hagfors**	**78.57**	**330**	P	**P**	**17 43 04.9**	**-0.6**
1.0nm,0.5s,mb4.0,baz=117,slow=6.6,SNR=6.6							
NOA	**NORSAR Array B**	**79.84**	**331**	P	**P**	**17 43 12.5**	**0.0**
0.7nm,0.7s,mb3.7,baz=96,slow=5.2,SNR=3.0							

IDC 29 17:34:09.0±1.2,10.93N×140.98E,mb3.6/5,mb1 3.9/5, mb1mx3.6/18,mbtmp3.6/5,Error ellipse: s-maj=58.5km s-min=29.3km az=103.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.37**	**192**	P	P	17 40 31.4	-2.5
0.2nm,0.6s,baz=11,slow=10,SNR=2.8							
BVAR	**Borovoye Array**	**69.68**	**323**	P	P	17 45 21.0	-1.4
0.4nm,0.5s,baz=104,slow=7.1,SNR=5.5							
ILAR	**Eielson Array**	**72.58**	**25**	P	P	17 45 37.0	-2.7
0.5nm,0.7s,baz=254,slow=5.4,SNR=5.1							
YKA	**Yellowknife Ar**	**86.94**	**27**	P	P	17 46 55.2	-1.6
0.2nm,0.6s,baz=291,slow=5.6,SNR=5.6							
PDAR	**Pinedale Array**	**96.51**	**44**	P	P	17 47 42.6	+0.8
2.6nm,1.4s,baz=315,slow=2.6,SNR=3.1							

IDC 29 17:37:02.5±1.4,7.63N×93.84E,mb3.8/6,mb1 3.8/7, mb1mx3.6/19,mbtmp3.7/7,ML3.2/1,Error ellipse: s-maj=47.3km s-min=29.9km az=58.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.85**	**24**	Pn	P	17 39 53.9	-1.9
0.1nm,0.3s,baz=210,slow=14,SNR=4.9							
SONM	**Songino Array**	**41.46**	**13**	P	P	17 44 50.9	-1.8
0.4nm,0.8s,baz=194,slow=5.1,SNR=4.4							
ZAL	**Zalesovo**	**46.75**	**353**	P	P	17 45 32.9	-2.3
0.9nm,0.7s,baz=299,slow=7.7,SNR=4.8							
ASAR	**Alice Springs**	**49.99**	**130**	P	P	17 45 58.8	-2.1
0.2nm,0.5s,baz=305,slow=8.0,SNR=4.3							

FINES FINESS Array B 72.78 332 P P 17 48 31.9 -2.6
1.9nm,0.9s,baz=90,slow=2.8,SNR=4.5
GERES GERESS Array B 77.81 318 P P 17 49 02.2 -1.1
0.2nm,0.4s,baz=101,slow=5.0,SNR=4.1
HFS Hagfors 78.51 330 P P 17 49 06.1 -0.9
2.2nm,1.0s,baz=90,slow=10,SNR=3.7

*IDC **29** 17:38:02.6±1.1,11.62N×92.14E,mb3.8/8,mb1 3.9/9, mb1mx3.7/19,mbtmp3.7/9,ML3.2/1,Error ellipse: s-maj=40.1km s-min=21.2km az=54.0*
ISC 29 17:38:06.1±0.9,11.7N±0.1×92.4E±0.2,h33km,n9,σ0§97/9, mb3.7/8,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.21**	**43**	Pn	**P**	**17 40 18.8**	**-0.9**
0.1nm,0.3s,baz=215,slow=14,SNR=3.3							
SONM	**Songino Array**	**37.86**	**15**	P	**P**	**17 45 22.1**	**+0.6**
0.2nm,0.9s,mb2.9,baz=207,slow=3.2,SNR=2.3							
ZAL	**Zalesovo**	**42.52**	**353**	P	**P**	**17 46 02.0**	**+2.0**
0.7nm,0.5s,mb3.6,baz=295,slow=11,SNR=2.2							
WRA	**Warramunga Arr**	**51.94**	**127**	P	**P**	**17 47 15.3**	**+1.0**
0.7nm,0.9s,mb3.6,baz=307,slow=8.2,SNR=4.5							
ASAR	**Alice Springs**	**53.74**	**131**	P	**P**	**17 47 27.1**	**-0.6**
0.7nm,1.0s,mb3.5,baz=303,slow=7.6,SNR=6.8							
FINES	**FINESS Array B**	**68.50**	**332**	P	**P**	**17 49 07.1**	**+0.1**
1.3nm,0.8s,mb3.9,baz=117,slow=4.3,SNR=4.5							
GERES	**GERESS Array B**	**73.81**	**318**	P	**P**	**17 49 37.7**	**-1.4**
1.0nm,1.0s,mb3.7,baz=90,slow=4.9,SNR=4.2							
HFS	**Hagfors**	**74.26**	**329**	P	**P**	**17 49 41.7**	**+0.2**
2.2nm,0.7s,mb4.2,baz=63,slow=6.4,SNR=2.8							
NOA	**NORSAR Array B**	**75.53**	**330**	P	**P**	**17 49 47.9**	**-0.8**
1.5nm,0.8s,mb4.0,baz=89,slow=5.7,SNR=3.7							

IGQ 29 17:39:05.0,1.63S×81.84W,h12km±10km,mb4.3,2C-1D, Error ellipse: s-maj=14.9km s-min=11.7km az=46.0,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.41**	**66**	⇑P	Pn	17 39 27.7	-2.9
JAMA	**Jama**	**2.12**	**50**	P	Pn	17 39 42.0	+1.3
IGUA	**Igualata**	**3.20**	**88**	P	Pn	17 39 56.7	+0.6
ULBA	**Ulba**	**3.43**	**87**	P	Pn	17 40 00.1	+0.7
ULBA				S	Sn	17 40 37.6	-2.8
PISA	**Pisayambo**	**3.50**	**81**	P	Pn	17 40 01.6	+1.3
NAS1	**Nasa**	**3.50**	**74**	P	Pn	17 40 01.8	+1.4
JUA2	**San Juan 2**	**3.52**	**67**	P	Pn	17 40 02.1	+1.4
JUA2				S	Sn	17 40 41.7	-1.0
TERV	**Terraza Guagua**	**3.54**	**66**	P	Pn	17 40 02.4	+1.4
PINO	**Pino**	**3.54**	**66**	P	Pn	17 40 01.1	+0.1
VC1	**Cotopaxi 1**	**3.57**	**74**	P	Pn	17 40 03.9	+2.5
TAMB	**Tambo**	**3.59**	**75**	⇑P	Pn	17 40 04.1	+2.4
TAMB				S	Sn	17 40 45.8	+1.4
YANA	**Yana**	**3.59**	**65**	P	Pn	17 40 02.8	+1.1
ANTI	**Antisana**	**3.86**	**72**	⇓P	Pn	17 40 07.5	+2.1
COTA	**Cotacachi**	**4.00**	**61**	P	Pn	17 40 09.9	+2.4
CAYR	**Refugio Cayamb**	**4.16**	**67**	P	Pn	17 40 12.6	+2.8
CAYA	**Cayambe**	**4.20**	**66**	P	Pn	17 40 12.8	+2.5
CAYA				S	Sn	17 41 00.8	+1.0

*IDC **29** 17:58:03.2±0.9,7.58N×93.84E,mb3.8/11,mb1 4.0/12, mb1mx3.9/20,mbtmp3.8/12,ML3.8/1,Error ellipse: s-maj=37.2km s-min=18.9km az=52.0*
ISC 29 17:58:06.7±0.8,7.7N±0.1×94.0E±0.2,h33km,n14, σ0§59/12,mb3.8/11,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.79**	**24**	Pn	**P**	**18 00 55.3**	**-0.2**
0.2nm,0.3s,baz=210,slow=14,SNR=9.9							
SONM	**Songino Array**	**41.42**	**13**	P	**P**	**18 05 51.8**	**+0.2**
1.5nm,0.8s,mb3.7,baz=190,slow=7.0,SNR=12							
SONM				PcP	PcP	18 07 50.7	+0.8
0.6nm,0.6s,baz=180,slow=3.7,SNR=5.5							
ZAL	**Zalesovo**	**46.74**	**353**	P	**P**	**18 06 34.6**	**+0.2**
3.0nm,0.6s,mb4.4,baz=301,slow=6.6,SNR=16							
WRA	**Warramunga Arr**	**48.29**	**125**	P	**P**	**18 06 46.9**	**-0.1**
0.4nm,0.5s,mb3.7,baz=304,slow=8.6,SNR=6.6							
BVAR	**Borovoye Array**	**49.13**	**341**	P	**P**	**18 06 53.0**	**-0.2**
0.5nm,0.5s,mb3.8,baz=86,slow=22,SNR=3.4							
ASAR	**Alice Springs**	**49.92**	**130**	P	**P**	**18 06 59.5**	**-0.1**
0.5nm,1.0s,mb3.5,baz=306,slow=7.8,SNR=7.5							
BRTR	**Keskin Array B**	**62.43**	**311**	P	**P**	**18 08 28.2**	**-0.8**
0.3nm,0.4s,mb3.8,baz=140,slow=45,SNR=3.7							
AKASG	**Malin Array Be**	**68.21**	**322**	P	**P**	**18 09 05.2**	**-0.7**
0.2nm,0.5s,mb3.4,baz=86,slow=5.5,SNR=4.1							
FINES	**FINESS Array B**	**72.82**	**332**	P	**P**	**18 09 32.7**	**-0.9**
2.2nm,0.9s,mb4.1,baz=90,slow=8.3,SNR=6.8							
GERES	**GERESS Array B**	**77.86**	**318**	P	**P**	**18 10 03.7**	**+0.9**
0.7nm,0.7s,mb3.7,baz=135,slow=3.8,SNR=7.9							
HFS	**Hagfors**	**78.55**	**330**	P	**P**	**18 10 07.1**	**+0.9**
1.6nm,0.7s,mb4.1,baz=45,slow=2.1,SNR=6.2							
NOA	**NORSAR Array B**	**79.83**	**331**	P	**P**	**18 10 13.9**	**+0.7**
1.0nm,0.8s,mb3.8,baz=86,slow=7.7,SNR=3.5							
PDAR	**Pinedale Array**	**125.44**	**21**	PKP

IFIR				Sg	Sg	18 07 48.8	-0.6
DAMV	**Damavand**	**0.48**	**222**	*e*PG	**Pg**	**18 07 42.9**	**-0.5**
IDMV	**Damavand**	**0.49**	**214**	Sg	**Sg**	**18 07 50.0**	**-0.1**
IDMV	**Damavand**	**0.49**	**214**	Pg	**Pg**	**18 07 43.2**	**-0.4**
IDMV	**Damavand**	**0.49**	**214**	Pg	**Pg**	**18 07 43.2**	**-0.4**
IDMV				Sg	**Sg**	**18 07 50.0**	**-0.1**
IAFJ	**Afjeh**	**0.54**	**257**	Pg	**Pg**	**18 07 44.1**	**-0.6**
IAFJ				Sg	**Sg**	**18 07 50.6**	**-1.4**
ILAS	**Lasjerd**	**0.77**	**141**	Pg	**Pg**	**18 07 48.3**	**-1.0**
IGLO	**Galoogah**	**0.97**	**70**	Pg	**Pg**	**18 07 59.6**	**+6.4**
IKIA	**Kiasar**	**1.09**	**78**	Pg	**Pg**	**18 07 55.8**	**+0.1**
IANJ	**Anjiloo**	**1.36**	**112**	Pg	**Pg**	**18 07 59.2**	**-1.9**
IMHD	**Mahdasht**	**1.41**	**258**	Pn	**Pn**	**18 08 00.3**	**0.0**
IQOM	**Qom**	**1.55**	**223**	Lg		18 08 23.3	
IQOM	**Qom**	**1.55**	**223**	Pn	**Pn**	**18 08 02.9**	**+0.6**
IGZV	**Gazvin**	**1.78**	**284**	Pn	**Pn**	**18 08 07.9**	**+2.3**
IRAZ	**Razeghan**	**2.06**	**254**	Lg		18 08 38.8	
IRAZ	**Razeghan**	**2.06**	**254**	Pn	**Pn**	**18 08 11.1**	**+1.5**
NASN	**Na'in**	**3.20**	**173**	*e*PN	**Pn**	**18 08 27.0**	**+1.2**
NASN				*e*SG	**Sg**	**18 09 13.8**	**-6.5**
NASN				AML	AML	18 09 15.9	
	comp=N,64nm,0.3s						
NASN	**Na'in**	**3.20**	**173**	*e*Pn	**Pn**	**18 08 27.0**	**+1.2**
	SNR=52						
NASN				*e*Sg	**Sg**	**18 09 13.8**	**-6.5**
	comp=N,64nm,0.3s,SNR=90						
ICHK	**Chekchek**	**4.10**	**155**	Pn	**Pn**	**18 08 39.4**	**+0.8**
SNGE	**Sanandaj**	**4.19**	**259**	*e*PN	**Pn**	**18 08 40.4**	**+0.6**
SNGE				AML	AML	18 09 54.1	
	comp=N,11nm,0.6s						
ISAD	**Sadrabad**	**4.21**	**164**	Pn	**Pn**	**18 08 40.9**	**+0.8**
GRMI	**Germi**	**4.54**	**310**	*e*PN	**Pn**	**18 08 44.7**	**-0.2**
GRMI				SN	**Sn**	**18 09 36.3**	**-2.5**
IMEH	**Mehriz**	**4.95**	**157**	Pn	**Pn**	**18 08 50.8**	**+0.1**
IBAF	**Bafgh**	**5.13**	**148**	Pn	**Pn**	**18 08 53.6**	**+0.4**

IDC 29 18:14:08.2±8.1, 6.97N×94.16E, mb3.9/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=202.0km s-min=48.9km az=140.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.33**	**22**	Pn	P	18 17 05.3	-2.7
	0.1nm,0.3s,baz=210,slow=15,SNR=7.6						
SONM	**Songino Array**	**42.04**	**12**	P	P	18 22 01.3	-1.7
	1.0nm,0.9s,baz=188,slow=10,SNR=2.9						
ZAL	**Zalesovo**	**47.44**	**352**	P	P	18 22 44.3	-2.1
	1.4nm,0.5s,baz=303,slow=7.1,SNR=7.4						
FINES	**FINESS Array B**	**73.52**	**332**	P	P	18 25 43.4	-1.0
	2.9nm,1.0s,baz=104,slow=5.7,SNR=4.0						
GERES	**GERESS Array B**	**78.51**	**318**	P	P	18 26 11.2	-1.7
	0.3nm,0.7s,baz=162,slow=9.3,SNR=3.2						

IGQ 29 18:14:47.0, 0.89S×81.22W, h6km±7km, mb4.0, 1C, Error ellipse: s-maj=14.1km s-min=5.2km az=13.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.69**	**104**	⇑P	Pg	18 14 59.6	-1.1
JAMA	**Jama**	**1.19**	**58**	P	Pb	18 15 09.4	0.0
JAMA				S	Sb	18 15 24.8	-0.1
IGUA	**Igualata**	**2.65**	**103**	P	Pn	18 15 32.3	+1.4
JUA2	**San Juan 2**	**2.69**	**76**	P	Pn	18 15 33.2	+1.6
TERV	**Terraza Guagua**	**2.71**	**75**	P	Pn	18 15 32.7	+0.9
PINO	**Pino**	**2.71**	**75**	P	Pn	18 15 32.1	+0.3
NAS1	**Nasa**	**2.75**	**85**	P	Pn	18 15 34.9	+2.5
YANA	**Yana**	**2.75**	**74**	P	Pn	18 15 33.8	+1.4
VC1	**Cotopaxi 1**	**2.82**	**85**	P	Pn	18 15 37.2	+3.8
PISA	**Pisayambo**	**2.83**	**94**	P	Pn	18 15 35.8	+2.1
TAMB	**Tambo**	**2.85**	**86**	P	Pn	18 15 38.7	+4.8
ULBA	**Ulba**	**2.86**	**101**	P	Pn	18 15 35.3	+1.3
ANTI	**Antisana**	**3.08**	**82**	P	Pn	18 15 39.4	+2.2
COTA	**Cotacachi**	**3.12**	**67**	P	Pn	18 15 37.2	-0.5
CAYR	**Refugio Cayambe**	**3.33**	**74**	P	Pn	18 15 43.4	+2.7
CAYA	**Cayambe**	**3.36**	**74**	P	Pn	18 15 43.3	+2.2

*NEIC **29** 18:17:11.8, 17.64N×94.71W, h134km, MD4.1(MEX), After MEX.*

MEX 29 18:17:11.8±0.8, 17.60N×94.71W, h135km±9km, MD4.0, 2C-1D, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.53**	**198**	⇓*i*P	P	18 17 30.1	-2.1
CMIG				*e*S	S	18 17 44.8	-3.0
EVV	**El Vigia**	**1.04**	**325**	*e*P	P	18 17 35.0	-0.8
OXX	**Oaxaca**	**1.99**	**255**	*e*P	P	18 17 45.0	-1.3
OXX				*e*S	S	18 18 11.0	-1.6
VHO	**Vista Hermosa**	**2.00**	**255**	⇑*i*P	P	18 17 44.3	-2.1
VHO				*e*S	S	18 18 10.8	-2.0
CCIG	**Comitan**	**2.79**	**118**	⇑*i*P	P	18 17 55.0	-1.7
CCIG				*e*S	S	18 18 28.6	-2.3
POHV	**Veracruz**	**2.84**	**301**	*e*P	P	18 17 55.5	-1.8
IISM	**Ciudad Serdan**	**2.88**	**299**	*i* P	P	18 17 57.0	-0.8
IISM				*i* S	S	18 18 30.0	-2.9
PPM	**Popocatepetl**	**3.99**	**292**	*e*P	P	18 18 11.7	-0.8
PPM				*e*S	S	18 18 53.5	-5.6
PPM	**Popocatepetl**	**3.99**	**292**	*e*P	P	18 18 11.7	-0.8
PPM				*e*P		18 18 12.0	
PPM				*e*S	S	18 18 53.5	-5.6
PPM				*e*S	S	18 18 54.6	-4.5
YAIG	**Yautepec**	**4.32**	**288**	*e*P	P	18 18 15.0	-1.9
YAIG				*e*S	S	18 19 03.6	-3.4

*CSEM **29** 18:20:53.1, 5.62N×94.33E, h2km, mb5.5*
*BJI **29** 18:20:56.8, 5.27N×94.22E, h43km, mB5.3, mb5.5, Ms4.8, Ms24.7*
*MOS **29** 18:20:58.6±0.9, 5.52N×94.33E, h43km, mb5.5/89, MS4.8/14, Error ellipse: s-maj=7.5km s-min=4.1km az=120.8*
*HRVD **29** 18:20:58.6±0.3, 5.25N×94.15E, h46km, MW5.1/50, Centroid moment Tensor Solution. LP body waves: s38,c61;Mantle waves: s50,c83; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.24±.26; $M_{\theta\theta}$-2.59±.17; $M_{\phi\phi}$-2.66±.19; $M_{r\theta}$2.15±.13; $M_{\theta\phi}$3.15±.12; $M_{r\phi}$-2.03±.16; Best double couple: $M_0$6.251×10^{16} NP1:ϕ_s316°,δ31°,λ92°. NP2:ϕ_s134°,δ59°,λ89°. Principal axes: T 5.985, Plg76°, Azm41°; N .524, Plg1°, Azm135°; P -6.518, Plg14°, Azm225°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 18:20:58.6±0.1, 5.51N×94.32E, h30km, mb5.4/110, MS5.0/4 Error ellipse: s-maj=4.7km s-min=3.1km az=223.0*
*IDC **29** 18:21:00.0±0.6, 5.55N×94.34E, h41km±4km, mb4.9/25, mb1 5.0/26, mb1mx5.0/27, mbtmp5.1/26, ML5.4/1, MS4.4/13, Ms1 4.5/13, ms1mx4.1/33, Error ellipse: s-maj=16.7km s-min=9.6km az=45.0*

ISC 29 18:20:56.8±1.0, 5.49N±0.03×94.29E±0.02, h29km±6km, h38km±1.6km: pP-P, n478, σ0:96/469, mb5.3/157, MS4.7/40, 118C-12D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**6.32**	**346**	*e*P	**Pn**	**18 22 31.9**	**+1.3**
PBA				*e*S	**Sn**	**18 23 37.9**	**-4.6**
NNT	**Nongplab**	**8.87**	**37**	P	**P**	**18 23 08.5**	**+2.3**
NST	**Nakhon Sawan**	**11.64**	**29**	P	**P**	**18 23 46.2**	**+2.0**
PALK	**Pallekele**	**13.62**	**278**	*e*P	**P**	**18 24 09.6**	**-1.1**
	28nm,0.6s						
PALK				*e*S	**S**	**18 26 25.5**	**-16**
CM31	**Chiang Mai Arr**	**13.67**	**19**	*e*P	**P**	**18 24 11.8**	**+0.4**
	78nm,0.7s						
CMAR	**Chiang Mai Arr**	**13.67**	**19**	P	**P**	**18 24 13.7**	**+2.3**
	6.7nm,0.3s,baz=207,slow=12,SNR=172						
CMAR				LR	LR	18 29 15.8	
	comp=Z,995nm,20.5s,baz=205,slow=36						
CMAR				ScP		18 33 05.3	
	0.1nm,0.3s,baz=228,slow=3.3,SNR=15						
CMAR	**Chiang Mai Arr**	**13.67**	**19**	P	**P**	**18 24 13.7**	**+2.3**
CMAR				ScP		18 33 05.3	
CHG	**Chiang Mai**	**14.00**	**19**	⇑P	**P**	**18 24 17.2**	**+1.4**
	150nm,1.1s						
UBT	**Ubonrachathani**	**14.33**	**47**	P	**P**	**18 24 27.5**	**+7.5**
CHRT	**Chiangrai**	**15.27**	**20**	⇑P	**P**	**18 24 34.5**	**+2.2**
	155nm,0.9s						
VIS	**Vishakhapatnam**	**16.20**	**320**	*e*P	**P**	**18 24 43.9**	**-0.5**
VIS				*e*		18 24 46.4	
	comp=Z,39nm,0.7s						
VIS				*e*		18 27 29.5	
VIS				*e*S	**S**	**18 27 41.4**	**-1.4**
BWNR	**Bhubaneshwar**	**16.87**	**332**	*e*P	**P**	**18 24 50.3**	**-2.4**
BWNR				*e*		18 24 52.3	
	comp=Z,193nm,1.1s						
BWNR				*e*		18 27 45.1	
BWNR				*e*S	**S**	**18 27 56.9**	**-1.2**
KOD	**Kodaikanal**	**17.31**	**287**	*e*P	**P**	**18 24 56.5**	**-1.7**
KOD				*e*		18 25 14.8	
	comp=Z,57nm,0.8s						
TRD	**Trivandrum**	**17.46**	**281**	*e*P	**P**	**18 24 57.4**	**-2.7**
TRD				*i* S	**S**	**18 28 11.4**	**-0.1**
COCO	**West Island**	**17.74**	**172**	*e*P	**P**	**18 25 03.8**	**+0.2**
	comp=Z,237nm,1.1s						
IMP	**Imphal**	**19.19**	**359**	*e*P	**P**	**18 25 18.6**	**-2.6**
HYB	**Hyderabad**	**19.43**	**309**	⇑*e*P	**P**	**18 25 24.5**	**+0.5**
HYB				*e*S	**S**	**18 28 43.0**	**-13**
HYB	**Hyderabad**	**19.43**	**309**	⇑*i*P	**P**	**18 25 24.5**	**+0.5**
	comp=Z,40nm,1.0s						
HYB				*e*S	**S**	**18 28 43.0**	**-13**
SHL	**Shillong**	**20.10**	**354**	*e*P	**P**	**18 25 28.5**	**-2.7**
SHL				*e*S	**S**	**18 29 15.7**	**+5.5**
QIZ	**Qiongzhong**	**20.28**	**47**	P	**P**	**18 25 34.0**	**+0.9**
QIZ				PP	PP	18 25 54.8	+1.4
QIZ				S	**S**	**18 29 14.3**	**+0.5**
QIZ				SS	SS	18 29 43.0	-0.5
QIZ				AMB	AMB		
	comp=Z,123nm,0.9s						
QIZ				LR	LR		
	comp=N,2μm,17.1s,MS4.6						
QIZ				LR	LR		
	comp=E,1μm,17.1s,MS4.6						
QIZ				LR	LR		
	comp=Z,2μm,19.2s,MS4.5						
BLSP	**Bilaspur**	**20.30**	**326**	*e*P	**P**	**18 25 29.6**	**-3.6**
BLSP				*e*		18 25 37.3	
	comp=Z,191nm,1.2s						
BLSP				*e*S	**S**	**18 29 16.1**	**+1.9**
MNGI	**Mangalore**	**20.58**	**292**	*i*	**P**	**18 25 48.6**	**+12**
MNGI				*e*	**S**	**18 29 11.0**	**-8.9**
	comp=Z,90nm,1.3s						
SHBG	**Sahibganj**	**20.62**	**343**	*e*P	**P**	**18 25 36.0**	**-0.6**
KMI	**Kunming**	**21.14**	**22**	⇑P	**P**	**18 25 44.0**	**+2.0**
KMI				*SP		18 25 56.0	
KMI				S	**S**	**18 29 35.6**	**+4.9**
KMI				*SS		18 29 48.8	
KMI				SS	SS	18 30 11.4	+7.1
KMI				pmax	pmax		
	comp=Z,110nm,1.3s,mb5.0						
KMI				MLR	MLR		
	comp=Z,1μm,20.1s,MS4.3						
KMI	**Kunming**	**21.14**	**22**	⇑P	**P**	**18 25 44.0**	**+2.0**
	comp=Z,110nm,1.3s,mb5.0						
KMI				sP		18 25 56.0	
KMI				S	**S**	**18 29 35.6**	**+4.9**
KMI				sS		18 29 48.8	
KMI				SS	SS	18 30 11.4	+7.1
KMI				LR	LR		
	comp=Z,1μm,20.1s,MS4.3						
NGP	**Nagpur**	**21.46**	**318**	*e*	**P**	**18 25 46.7**	**+1.5**
NGP				*e*	**S**	**18 29 34.2**	**-2.6**
LATR	**Latur**	**21.55**	**308**	*e*	**P**	**18 25 48.2**	**+2.1**
LATR				*e*	**S**	**18 29 38.0**	**-0.4**
KAD	**Karad**	**22.91**	**302**	*e*	**P**	**18 26 07.7**	**+8.0**
KAD				*i*	**S**	**18 30 12.2**	**+8.9**
ALBI	**Allahabad**	**23.05**	**330**	*e*P	**P**	**18 26 00.0**	**-1.1**
JIRN	**Jiri**	**23.36**	**342**	*e*P	**P**	**18 26 03.8**	**-0.2**
	comp=Z,377nm,0.7s,mb5.9						
PKI	**Pulchoki**	**23.53**	**340**	*e*P	**P**	**18 26 05.7**	**0.0**
	comp=Z,208nm,1.0s,mb5.5						
BATP	**Bataraza**	**23.56**	**81**	*e*P	**P**	**18 26 07.2**	**+1.1**
DMN	**Daman**	**23.67**	**339**	*e*P	**P**	**18 26 07.3**	**+0.3**
	comp=Z,362nm,1.1s,mb5.7						
KKN	**Kakani**	**23.78**	**340**	*e*P	**P**	**18 26 08.0**	**0.0**
	comp=Z,222nm,0.7s,mb5.7						
POO	**Poona**	**23.79**	**305**	*e*P	**P**	**18 26 05.0**	**-3.2**
POO				*i*	**S**	**18 30 29.0**	**+10**
BHPL	**Bhopal**	**24.00**	**319**	*e*P	**P**	**18 26 08.9**	**-1.4**
BHPL				*e*		18 26 13.6	
	comp=Z,76nm,0.8s						
BHPL				*e*S	**S**	**18 30 26.1**	**+3.9**
GKN	**Gorkha**	**24.20**	**339**	*e*P	**P**	**18 26 12.7**	**+0.5**
LSA	**Lhasa**	**24.27**	**353**	P	**P**	**18 26 13.0**	**+0.2**
LSA				AP		18 26 20.5	
LSA				PCP	PcP	18 29 49.3	-4.5
LSA				S	**S**	**18 30 27.0**	**+0.3**
LSA				XS		18 30 48.0	
LSA				PCS		18 33 30.8	
LSA				LR	LR		
	comp=N,3μm,23.7s,MS4.8						
LSA				LR	LR		
	comp=E,3μm,26.2s,MS4.8						
LSA				LR	LR		
	comp=Z,4μm,18.7s						
KOLN	**Koldanda**	**24.38**	**337**	*e*P	**P**	**18 26 14.9**	**+1.0**
	comp=Z,915nm,1.4s,mb6.0						
PPR	**Puerto Princes**	**24.59**	**79**	⇑*e*P	**P**	**18 26 17.4**	**+1.2**
BOM	**Bombay**	**24.82**	**304**	*e*	**P**	**18 26 22.1**	**+3.9**
BOM				*e*S	**S**	**18 30 41.1**	**+5.0**
DGAR	**Diego Garcia**	**25.27**	**240**	P	**P**	**18 26 21.2**	**-1.4**
ENPP	**El Nido**	**25.50**	**75**	*e*P	**P**	**18 26 24.8**	**0.0**
BUSP	**Coron**	**26.40**	**74**	*e*P	**P**	**18 26 33.0**	**0.0**
LUBP	**Lubang**	**26.85**	**70**	*e*P	**P**	**18 26 37.5**	**+0.4**
SJMP	**San Jose**	**27.38**	**73**	*e*P	**P**	**18 26 42.2**	**+0.2**
TGY	**Tagaytay City**	**27.60**	**70**	P	**P**	**18 26 44.8**	**+0.9**
	comp=Z,993nm,1.2s,mb6.3,baz=142,slow=6.1,SNR=13						
NDI	**New Delhi**	**28.18**	**327**	*e*P	**P**	**18 26 48.4**	**-0.7**
NDI				*e*		18 26 49.8	
	comp=Z,32nm,1.2s						
OTRP	**Odiongan**	**28.22**	**74**	*e*P	**P**	**18 26 49.2**	**-0.4**
BOAC	**Boac**	**28.29**	**72**	*e*P	**P**	**18 26 49.0**	**-1.2**
ABRA	**Dolores**	**28.52**	**63**	*e*P	**P**	**18 26 52.9**	**+0.6**
BALP	**Baler**	**28.66**	**67**	*e*P	**P**	**18 26 54.3**	**+0.8**
POLP	**Polilio Island**	**28.70**	**69**	*e*P	**P**	**18 26 54.2**	**+0.3**
RCP	**Roxas**	**28.77**	**76**	⇑*e*P	**P**	**18 26 54.4**	**-0.1**
PAGZ	**Pagadian**	**28.99**	**84**	*e*P	**P**	**18 26 55.7**	**-0.9**
DDI	**Dehra Dun**	**29.05**	**330**	*e*	**P**	**18 26 56.6**	**-0.4**
APYP	**Conner**	**29.07**	**63**	*e*P	**P**	**18 26 57.2**	**0.0**
CAUP	**Cauayan**	**29.27**	**65**	*e*P	**P**	**18 26 58.9**	**-0.1**
TBP	**Tagbilaran**	**29.61**	**85**	*e*P	**P**	**18 27 01.9**	**-0.2**
SMLA	**Simla**	**30.15**	**330**	*e*P	**P**	**18 27 18.6**	**+12**
SMLA				*e*		18 27 39.4	
	comp=Z,40nm,0.7s						
SMLA				*e*S	**S**	**18 32 17.5**	**+15**
QZH	**Quanzhou**	**30.30**	**48**	⇑*i*P	**P**	**18 27 08.5**	**+0.4**
QZH				AMB	AMB		
	comp=Z,110nm,0.8s,mb5.6						
QZH				LR	LR		
	comp=N,2μm,16.0s,MS5.0						
QZH				LR	LR		
	comp=E,1μm,12.0s,MS5.0						
QZH				LR	LR		
	comp=Z,3μm,14.3s,MS5.1						
OCLP	**Ormoc**	**30.50**	**78**	*e*P	**P**	**18 27 08.9**	**-1.1**
PVCP	**Virac**	**30.51**	**73**	*e*P	**P**	**18 27 09.2**	**-0.9**
BBP	**Basco**	**30.72**	**59**	*e*P	**P**	**18 27 10.7**	**-1.1**
WHN	**Wuhan**	**31.27**	**35**	⇑P	**P**	**18 27 16.8**	**+0.2**
WHN				S	**S**	**18 32 22.5**	**+2.3**
WHN				AMB	AMB		
	comp=Z,180nm,1.2s,mb5.8						
WHN				LR	LR		
	comp=Z,3μm,16.4s,MS5.0						
BESP	**Borongan**	**31.38**	**77**	*e*P	**P**	**18 27 17.6**	**-0.1**
XAN	**Xi'an**	**31.49**	**24**	P	**P**	**18 27 17.3**	**-1.2**
XAN				AP	pP	18 27 28.3	+1.3
XAN				AMB	AMB		
	comp=Z,137nm,0.9s,mb5.8						
XAN				LR	LR		
	comp=N,447nm,21.3s,MS4.4						
XAN				LR	LR		
	comp=E,685nm,20.7s,MS4.4						
XAN				LR	LR		
	comp=Z,2μm,21.6s,MS4.6						
LZH	**Lanzhou**	**31.70**	**15**	⇑P	**P**	**18 27 19.5**	**-0.8**
LZH				S	**S**	**18 32 27.0**	**+0.2**
LZH				SCP		18 33 52.5	
LZH				SS	SS	18 34 19.0	+1.5
LZH				AMB	AMB		
	comp=Z,125nm,1.5s,mb5.5						
LZH				AMB	AMB		
	comp=Z,336nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,10.1s						
LZH				LR	LR		
	comp=Z,2μm,11.3s,MS5.0						
LZH	**Lanzhou**	**31.70**	**15**	⇑P	**P**	**18 27 19.6**	**-0.7**
LZH						18 28 34.5	
LZH				S	**S**	**18 32 27.0**	**+0.2**
LZH				SS	SS	18 34 19.0	+1.5
LZH				pmax	pmax		
	comp=Z,125nm,1.5s,mb5.5						
LZH				MLR	MLR		
	comp=Z,2μm,11.3s,MS5.0						
LZH	**Lanzhou**	**31.70**	**15**	⇑P	**P**	**18 27 19.6**	**-0.7**
	comp=Z,125nm,1.5s,mb5.5						
LZH				pP	pP	18 27 22.5	-6.3
LZH				sP	sP	18 27 26.1	-6.4
LZH				PP	PP	18 28 34.5	+8.9
LZH				S	**S**	**18 32 27.0**	**+0.2**
LZH				sS		18 32 34.0	
LZH				ScP		18 33 52.5	
LZH				SS	SS	18 34 19.0	+1.5
LZH				LR	LR		
	comp=Z,2μm,11.3s,MS5.0						
NJ2	**Nanjing**	**35.02**	**38**	*e*P	**P**	**18 27 50.0**	**+0.8**
NJ2				PP	PP	18 29 08.0	+0.2
NJ2				S	**S**	**18 33 21.0**	**+2.5**
NJ2				LR	LR		
	comp=N,2μm,14.9s						
NJ2				LR	LR		
	comp=E,2μm,20.4s						
NJ2				LR	LR		
	comp=Z,3μm,15.9s,MS5.2						
SSE	**Sheshan**	**35.87**	**41**	P	**P**	**18 27 52.5**	**-3.9**
SSE				S	**S**	**18 33 28.8**	**-2.9**
SSE				AMB	AMB		
	comp=Z,24nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,67nm,4.3s						
SSE				LR	LR		
	comp=N,639nm,15.1s,MS4.8						
SSE				LR	LR		
	comp=E,1μm,15.1s,MS4.8						
SSE				LR	LR		
	comp=Z,2μm,14.9s,MS4.9						
SSE	**Sheshan**	**35.87**	**41**	P	**P**	**18 27 52.6**	**-3.8**
	comp=Z,24nm,0.7s,mb5.2						
SSE				sP	sP	18 28 05.3	-3.3
SSE				S	**S**	**18 33 28.8**	**-2.9**
SSE				sS		18 33 44.0	
SSE				SS	SS	18 36 03.9	+10
SSE				LR	LR		
	comp=Z,2μm,14.9s,MS4.9						
MBWA	**Marble Bar**	**36.39**	**137**	*e*P	**P**	**18 27 59.4**	**-1.5**
	comp=Z,54nm,1.4s,mb5.3						
TIA	**Tai'an**	**37.08**	**31**	⇑P	**P**	**18 28 06.5**	**0.0**
TIA				AMB	AMB		
	comp=Z,54nm,1.0s,mb5.3						
WMQ	**Urumqi**	**38.62**	**352**	P	**P**	**18 28 20.5**	**+1.2**
WMQ				AP	pP	18 28 30.3	+2.4
WMQ				XP	sP	18 28 34.0	+2.5
WMQ				PP	PP	18 29 53.0	+1.4
WMQ				PCP	PcP	18 30 33.0	+1.2
WMQ				S	**S**	**18 34 14.0**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,188nm,1.5s,mb5.6						
WMQ				AMB	AMB		
	comp=Z,890nm,5.6s						
WMQ				LR	LR		
	comp=N,2μm,18.4s,MS5.1						
WMQ				LR	LR		
	comp=E,2μm,18.6s,MS5.1						
WMQ				LR	LR		
	comp=Z,3μm,18.8s,MS5.2						
JOW	**Kunigami**	**38.72**	**53**	LR	LR	18 44 38.4	
	comp=Z,899nm,20.6s,MS4.6,baz=261,slow=37						
FITZ	**Fitzroy Crossi**	**38.81**	**128**	⇑*i*P	**P**	**18 28 20.3**	**-0.9**
	comp=Z,30nm,0.8s,mb5.1						
FITZ				*e*		18 28 32.9	
BJI	**Beijing**	**39.65**	**27**	P	**P**	**18 28 29.2**	**+1.3**
BJI				S	**S**	**18 34 34.1**	**+5.1**
BJI				pmax	pmax		
	comp=Z,104nm,1.1s,mb5.5						
BJI				MLR	MLR		
	comp=Z,780nm,26.1s,MS4.4						
BJI	**Beijing**	**39.65**	**27**	P	**P**	**18 28 29.2**	**+1.3**
	comp=Z,104nm,1.1s,mb5.5						
BJI				PP	PP	18 30 15.6	+13
BJI				S	**S**	**18 34 34.1**	**+5.1**
BJI				LR	LR		
	comp=Z,780nm,26.1s,MS4.4						
KZA	**Kyzart**	**40.18**	**338**	P	**P**	**18 28 33.5**	**+1.1**
	SNR=5.5						
UCH	**Uchtor**	**40.59**	**337**	P	**P**	**18 28 36.9**	**+1.2**
	SNR=29						
TKM2	**Tokmak 2**	**40.79**	**339**	P	**P**	**18 28 38.1**	**+0.8**
	SNR=10						
KBK	**Karagaybulak**	**40.80**	**338**	P	**P**	**18 28 38.7**	**+1.4**
	SNR=67						
AML	**Almayashu**	**40.83**	**336**	P	**P**	**18 28 39.0**	**+1.3**
	SNR=31						
AAK	**Ala-Archa**	**40.95**	**338**	P	**P**	**18 28 39.6**	**+1.1**
	SNR=18						
AAK	**Ala-Archa**	**40.95**	**338**	P	**P**	**18 28 39.3**	**+0.7**
AAK				pmax	pmax		
	comp=Z,29nm,1.1s,mb4.8						
AAK	**Ala-Archa**	**40.95**	**338**	*e*P	**P**	**18 28 37.9**	**-0.7**
	comp=Z,45nm,0.8s,mb5.2						
FRU	**Bishkek**	**41.07**	**338**	*e*P	**P**	**18 28 40.5**	**+0.9**
FRU				*e*		18 28 52.0	
FRU				pmax	pmax		
	comp=Z,60nm,2.0s,mb4.9						
FRU				MLR	MLR		
	comp=Z,500nm,20.0s,MS4.4						
CHMS	**Chumysh**	**41.16**	**338**	P	**P**	**18 28 40.7**	**+0.3**
	SNR=17						
EKS2	**Erkin-Say**	**41.24**	**337**	P	**P**	**18 28 42.2**	**+1.2**
	SNR=14						
USP	**Ospenovka**	**41.49**	**338**	P	**P**	**18 28 43.5**	**+0.5**
	SNR=39						
KAKA	**Kakadu**	**42.00**	**116**	*e*P	**P**	**18 28 45.9**	**-1.8**
	comp=Z,37nm,0.6s,mb5.2						
MKAR	**Makanchi Array**	**42.44**	**348**	*i* P	**P**	**18 28 51.0**	**+0.2**
MUN	**Mundaring**	**42.71**	**152**	*e*P	**P**	**18 28 54.0**	**+0.7**
	comp=Z,12nm,0.6s,mb4.8						
MUN	**Mundaring**	**42.71**	**152**	*e*P	**P**	**18 28 54.0**	**+0.7**
MUN				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.8						
KLBR	**

TLY Talaya 46.70 8 *e*P **P 18 29 24.9 0.0**
comp=Z,31nm,0.9s,mb5.2
WRA Warramunga Arr 46.79 124 P **P 18 29 25.7 -0.4**
comp=Z,71nm,0.7s,mb5.7,baz=302,slow=9.4,SNR=591
WRAB Tennant Creek 46.80 124 *e*P **P 18 29 25.9 -0.2**
WRAB pmax pmax
comp=Z,207nm,0.8s,mb6.1
WRAB Tennant Creek 46.80 124 *e*P **P 18 29 25.9 -0.2**
comp=Z,207nm,0.8s,mb6.1
WB2 Warramunga Arr 46.80 124⇑*i*P **P 18 29 25.9 -0.3**
WB2 *e*S **S 18 36 10.6 -3.1**
KURK Kurchatov 46.95 346 *i*P **P 18 29 27.3 +0.4**
KURK pmax pmax
comp=Z,165nm,1.6s,mb5.7
KURK Kurchatov 46.95 346 *e*P **P 18 29 27.2 +0.3**
comp=Z,160nm,1.1s,mb5.9
IRK Irkutsk 47.33 8 *e*P **P 18 29 29.3 -0.7**
IRK *e* 18 29 42.4
IRK *e* 18 30 59.7
IRK pmax pmax
comp=Z,60nm,1.8s,mb5.2
ASPA Alice Springs 48.30 128⇑*i*P **P 18 29 37.5 -0.4**
ASPA *e*S **S 18 36 33.0 -1.9**
ASAR Alice Springs 48.30 128 P **P 18 29 37.5 -0.4**
comp=Z,38nm,0.6s,mb5.6,baz=299,slow=7.6,SNR=495
ASAR LR LR 18 49 11.8
comp=Z,253nm,20.2s,MS4.2,baz=299,slow=35
FORT Forrest 48.41 140⇑*i*P **P 18 29 38.8 +0.2**
comp=Z,129nm,0.8s,mb6.0
ZAL Zalesovo 48.92 353 P **P 18 29 42.4 +0.2**
comp=Z,65nm,0.4s,mb6.0,baz=301,slow=5.5,SNR=310
ZAL LR LR 18 52 38.9
comp=Z,271nm,22.0s,MS4.2,baz=31,slow=39
MDJ Mudanjiang 49.71 33 P **P 18 29 48.5 +0.1**
MDJ XP sP 18 30 01.3 +0.7
MDJ AMB AMB
comp=Z,61nm,1.3s,mb5.5
MDJ AMB AMB
comp=Z,234nm,4.0s
MDJ LR LR
comp=N,126nm,25.4s,MS4.3
MDJ LR LR
comp=E,379nm,22.6s,MS4.3
MDJ LR LR
comp=Z,415nm,19.9s,MS4.4
NVS Novosibirsk 50.01 352⇑*i*P **P 18 29 49.4 -1.2**
NVS *i* *PP pP 18 29 57.7 -1.7
NVS *e*S **S 18 36 57.2 -1.1**
NVS pmax pmax
comp=N,69nm,0.8s
NVS pmax pmax
comp=Z,70nm,0.8s,mb5.7
NVS pmax pmax
comp=E,31nm,0.6s
NVS smax
comp=N,54nm,1.8s
NVS smax
comp=E,97nm,1.8s
RAYN Ar Rayn 50.23 296 P **P 18 29 53.9 +1.2**
comp=E,72nm,0.6s,mb5.9,SNR=14
CBIJ Chichi jima 50.36 59 LR LR 18 48 38.0
comp=E,218nm,20.5s,MS4.2,baz=204,slow=33
GUMO Guam 50.45 77 P **P 18 29 46.1 -8.4**
GUMO pmax pmax
comp=Z,55nm,1.0s,mb5.5
GUMO Guam 50.45 77 P **P 18 29 46.1 -8.3**
comp=Z,55nm,1.0s,mb5.5
MAJO Matsushiro 50.67 46 *e*P **P 18 29 56.2 +0.3**
MAJO pmax pmax
comp=Z,13nm,0.8s,mb4.9
MAJO Matsushiro 50.67 46 *e*P **P 18 29 56.2 +0.3**
comp=Z,13nm,0.8s,mb4.9
MAT Matsushiro 50.67 46 P **P 18 29 56.0 +0.1**
MAT pmax pmax
comp=Z,13nm,0.9s,mb4.9
MAT Matsushiro 50.67 46 P **P 18 29 55.5 -0.4**
BVA0 Borovoye Array 51.28 342 *i*P **P 18 29 59.4 -0.9**
BVA0 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BVAR Borovoye Array 51.28 342 P **P 18 29 59.6 -0.7**
comp=Z,40nm,0.7s,mb5.5,baz=141,slow=9.5,SNR=215
CHKZ Chkalovo 51.77 342 *e*P **P 18 30 03.8 -0.2**
CHKZ pmax pmax
comp=Z,177nm,0.9s,mb6.0
CHKZ Chkalovo 51.77 342 *e*P **P 18 30 03.8 -0.2**
comp=Z,177nm,0.9s,mb6.0
KLR Kul'dur 53.87 30 *e*P **P 18 30 16.2 -3.4**
BOD Bodaibo 54.43 13⇓*i*P **P 18 30 22.3 -1.3**
PMG Port Moresby 54.73 106 *e*P **P 18 30 25.2 -1.2**
PMG pmax pmax
comp=Z,124nm,1.1s
PMG Port Moresby 54.73 106 P **P 18 30 25.6 -0.9**
comp=Z,45nm,0.7s,mb5.6,baz=311,slow=3.2,SNR=26
PMG Port Moresby 54.73 106 *e*P **P 18 30 25.2 -1.2**
comp=Z,124nm,1.1s,mb5.8
BBOO Buckleboo 54.97 137⇑*i*P **P 18 30 26.7 -1.3**
comp=Z,9.0nm,0.7s,mb4.9
GNI Garni 56.21 315 *e*P **P 18 30 35.5 -1.3**
GNI pmax pmax
comp=Z,43nm,1.7s
GNI Garni 56.21 315 P **P 18 30 35.6 -1.2**
comp=Z,7.2nm,0.6s,mb4.9,baz=29,slow=3.0,SNR=7.0
GNI Garni 56.21 315 *e*P **P 18 30 35.2 -1.6**
comp=Z,34nm,1.0s,mb5.3
CLNS Chul'man 56.62 20 *e*P **P 18 30 37.2 -2.3**
CLNS pmax pmax
comp=Z,55nm,1.2s,mb5.5
CLNS pmax pmax
comp=N,30nm,1.0s
CLNS pmax pmax
comp=E,28nm,1.2s
TI2 Plekhanov 56.87 317 *e*P **P 18 30 39.8 -1.7**
TI2 pmax pmax
comp=Z,30nm,0.6s,mb5.5
CTA Charters Tower 57.04 118⇑*i*P **P 18 30 41.9 -1.1**
comp=Z,22nm,1.0s,mb5.2
CTA Charters Tower 57.04 118⇑*i*P **P 18 30 41.9 -1.1**
CTA pmax pmax
comp=Z,23nm,1.0s
CTA Charters Tower 57.04 118 P **P 18 30 42.0 -1.0**
comp=Z,16nm,0.8s,mb5.1,baz=294,slow=8.9,SNR=22
CTA LR LR 18 56 07.8
comp=Z,397nm,20.9s,MS4.5,baz=24,slow=37
CTAO Charters Tower 57.04 118 *e*P **P 18 30 41.5 -1.5**
CTAO *e* 18 30 55.8
CTAO pmax pmax
comp=Z,40nm,1.0s,mb5.4
CTAO Charters Tower 57.04 118 *e*P **P 18 30 41.5 -1.5**
comp=Z,40nm,1.0s,mb5.4
CTAO *e* 18 30 55.8
ASAJ Asahikawa 57.13 40 LR LR 18 55 36.5
comp=Z,413nm,19.8s,MS4.5,baz=219,slow=36
KMBO Kilima Mbogo 57.33 265 *e*P **P 18 30 45.9 +0.7**
KMBO pmax pmax
comp=Z,17nm,1.0s
KMBO Kilima Mbogo 57.33 265 P **P 18 30 46.8 +1.6**
comp=Z,5.9nm,0.9s,mb4.6,baz=55,slow=10,SNR=15
KMBO LR LR 18 51 07.8
comp=Z,606nm,21.9s,MS4.7,baz=276,slow=32
KMBO Kilima Mbogo 57.33 265 *e*P **P 18 30 45.9 +0.7**
comp=Z,17nm,1.0s,mb5.0
ZEI Tsey 57.88 318 *e*P **P 18 30 47.0 -1.6**
ZEI *i* *PP pP 18 31 05.1 +7.6
ZEI pmax pmax
comp=Z,15nm,0.8s,mb5.1
ADE Adelaide 58.01 137 *e*P **P 18 30 50.0 +0.4**
ARU Arti 58.13 338 P **P 18 30 49.1 -1.1**
comp=Z,221nm,1.0s,mb6.1,SNR=26
STKA Stephens Creek 58.38 133⇑*i*P **P 18 30 51.5 -0.7**
comp=Z,21nm,0.8s,mb5.2
STKA Stephens Creek 58.38 133 P **P 18 30 51.5 -0.7**
comp=Z,19nm,0.7s,mb5.3,baz=306,slow=6.4,SNR=94
YSS Yuzh-Sakhalins 58.58 37 *e*P **P 18 30 53.0 -0.4**
YSS *e* 18 31 05.0
YSS pmax pmax
comp=Z,90nm,1.2s,mb5.7
YSS MLR MLR
comp=Z,200nm,18.0s,MS4.3
YSS Yuzh-Sakhalins 58.58 37 *e*P **P 18 30 52.8 -0.7**
comp=Z,134nm,1.3s,mb5.8
KIV Kislovodsk 59.19 319⇓*i*P **P 18 30 56.0 -1.7**
KIV *e* 18 31 10.1
KIV pmax pmax
comp=Z,35nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,600nm,15.0s,MS4.8
KIV Kislovodsk 59.19 319 *e*P **P 18 30 55.7 -2.0**
comp=Z,61nm,1.2s,mb5.5
KIV *e* 18 31 07.3
ASF Jabal al Asfar 59.65 304 P **P 18 31 02.1 +1.0**
comp=Z,6.1nm,0.9s,mb4.6,baz=315,slow=6.6,SNR=7.9
ELZG Elazig 59.77 312 *i*P **P 18 31 00.9 -0.8**
MALT Malatya 60.12 311 *e*P **P 18 31 03.5 -0.7**
MALT pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
MALT Malatya 60.12 311 *e*P **P 18 31 03.5 -0.7**
comp=Z,10nm,1.1s,mb4.8
GZT Gaziantep 60.48 310 *i*P **P 18 31 06.6 -0.1**
EIL Elat 60.75 301 *e*P **P 18 31 08.6 +0.1**
comp=Z,10.0nm,0.8s,mb5.0
SOKR Solikamsk 61.07 339⇓*i*P **P 18 31 07.3 -3.0**
SOKR pmax pmax
comp=Z,30nm,0.8s,mb5.5
KAHT Ahir Dag 61.09 310 *i*P **P 18 31 10.2 -0.6**
YAK Yakutsk 62.20 18*c*/*i*P **P 18 31 16.0 -2.0**
YAK *i* *PP pP 18 31 27.2 +0.3
YAK *i* 18 31 51.9
YAK *e*S **S 18 39 40.7 +0.8**
YAK *e*SS SS 18 43 45.7 +0.7
YAK pmax pmax
comp=Z,37nm,0.8s,mb5.6
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,17nm,1.3s
YAK smax
comp=E,12nm,1.8s
YAK smax
comp=N,4.0nm,1.1s
YAK MLR MLR
comp=Z,338nm,17.0s,MS4.6
YAK MLR MLR
comp=N,242nm,18.0s,MS4.5
YAK MLR MLR
comp=E,182nm,15.0s,MS4.5
YAK Yakutsk 62.20 18 *e*P **P 18 31 15.8 -2.2**
comp=E,119nm,0.7s,mb6.1
YAK *e* 18 31 28.3
ANN Anapa 62.98 318 *e*P **P 18 31 18.7 -4.6**
ANN *e*S **S 18 39 51.1 +1.1**
ANN pmax pmax
comp=Z,38nm,0.9s,mb5.5
ANN MLR MLR
comp=Z,191nm,12.0s,MS4.5
BOYT Boyabat 63.65 314 *i*P **P 18 31 27.0 -0.8**
MBAR Mbarara 63.74 267 *e*P **P 18 31 29.2 +0.3**
MBAR pmax pmax
comp=Z,13nm,1.0s,mb4.9
MBAR Mbarara 63.74 267 *e*P **P 18 31 29.2 +0.3**
comp=Z,13nm,1.0s,mb4.9
TOO Toolangi 64.03 136 *e*P **P 18 31 31.2 +0.8**
comp=Z,1.2nm,0.6s
TOO Toolangi 64.03 136 *e*P **P 18 31 31.2 +0.8**
TOO pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 64.10 312 P **P 18 31 29.5 -1.3**
comp=Z,12nm,0.7s,mb5.0,baz=130,slow=7.3,SNR=74
VRSR Storozhevoye 64.40 325 *e*P **P 18 31 30.0 -2.6**
VRSR *e*S **S 18 40 04.4 -3.1**
VRSR *e* 18 41 19.2
VRSR *e*SS SS 18 44 16.6 -2.7
VRSR pmax pmax
comp=Z,20nm,0.9s,mb5.2
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,0.8s
VRSR smax
comp=N,10.0nm,1.0s
VRSR smax
comp=Z,1.0nm,1.0s
VRSR smax
comp=E,4.0nm,0.7s
VRSR MLR MLR
comp=Z,470nm,18.0s,MS4.7
VRSR MLR MLR
comp=N,1μm,43.7s
VRSR MLR MLR
comp=E,200nm,12.3s
VOR Voronezh 64.61 326 *e*P **P 18 31 32.0 -1.9**
VOR pmax pmax
comp=Z,70nm,1.3s,mb5.5
VOR pmax pmax
comp=Z,50nm,1.1s,mb5.5
SIM Simferopol' 65.26 317*c*/*i*P **P 18 31 37.0 -1.2**
SIM pmax pmax
comp=Z,23nm,0.9s,mb5.2
SIM MLR MLR
comp=Z,850nm,14.3s,MS5.1
ARMA Armidale 65.41 127 *e*P **P 18 31 40.2 +0.8**
ISP Isparta 66.03 309 *e*P **P 18 31 41.3 -2.0**
ISP pmax pmax
comp=Z,67nm,1.1s,mb5.6
ISP Isparta 66.03 309 *e*P **P 18 31 41.3 -1.9**
comp=Z,67nm,1.1s,mb5.6
ESKT Eskisehir 66.14 311 *i*P **P 18 31 43.3 -0.6**
MOS Moscow 67.19 329⇑*i*P **P 18 31 49.1 -1.2**
MOS *e* 18 32 01.9
MOS *e* 18 32 16.1
MOS pmax pmax
comp=Z,75nm,0.6s,mb5.9
OBN Obninsk 67.47 328⇓*i*P **P 18 31 47.7 -4.4**
OBN *i* 18 32 06.0
OBN *i*S S 18 40 40.1 -4.7
OBN pmax pmax
comp=Z,133nm,1.6s,mb5.7
OBN Obninsk 67.47 328 *e*P **P 18 31 47.6 -4.5**
comp=Z,46nm,0.8s,mb5.5
OBN *e* 18 32 05.9
ULDT Uludag 67.56 311 *i*P **P 18 31 52.1 -0.9**
MANT Manisa 67.67 309 *i*P **P 18 31 53.1 -0.6**
SKR Severo-Kuril's 68.15 37 *e*P **P 18 31 55.1 -1.4**
SKR *e* 18 32 08.9
SKR pmax pmax
comp=Z,90nm,0.7s,mb5.9
LSZ Lusaka 68.63 251 *e*P **P 18 32 00.0 0.0**
LSZ pmax pmax
comp=Z,14nm,1.0s,mb4.8
LSZ Lusaka 68.63 251 *e*P **P 18 32 00.0 0.0**
comp=Z,14nm,1.0s,mb4.9
MA2 Magadan 68.81 27 *e*P **P 18 31 59.1 -1.3**
MA2 pmax pmax
comp=Z,63nm,0.9s,mb5.5
MA2 Magadan 68.81 27 *e*P **P 18 31 59.1 -1.3**
comp=Z,63nm,0.9s,mb5.5
XRY Khrisi 69.34 305 *e*PB **P 18 32 04.6 +0.5**
NPS Neapolis 69.46 306 *e*PB **P 18 32 05.2 +0.4**
TIXI Tiksi 69.53 11⇑*i*P **P 18 32 02.9 -1.8**
TIXI pmax pmax
comp=Z,99nm,0.6s,mb5.9
TIXI pmax pmax
comp=N,17nm,0.5s
TIXI pmax pmax
comp=E,12nm,0.5s
TIXI pmax pmax
comp=Z,104nm,0.6s,mb5.9
TIXI MLR MLR
comp=Z,489nm,17.0s,MS4.8
TIXI Tiksi 69.53 11 *i*P **P 18 32 00.8 -3.9**
SANT Santorini 69.74 307 *e*P **P 18 32 05.3 -1.2**
comp=Z,68nm,0.9s,mb5.6
IDI Anoyia 70.05 305 P **P 18 32 08.7 +0.3**
comp=Z,26nm,0.6s,mb5.3,baz=80,slow=8.3,SNR=32
AKASG Malin Array Be 70.11 322 P **P 18 32 06.3 -2.2**
comp=Z,13nm,0.6s,mb5.0,baz=86,slow=5.2,SNR=75
AKASG pP pP 18 32 19.6 +2.2
comp=Z,5.4nm,0.6s,baz=86,slow=5.1,SNR=8.6
PET Petropavlovsk 70.38 35 *e*P **P 18 32 09.0 -1.1**
PET *e*S S 18 41 17.1 -2.2
PET pmax pmax
comp=Z,18nm,0.9s,mb5.0
PET MLR MLR
comp=N,400nm,21.0s,MS4.7
PET MLR MLR
comp=E,200nm,19.0s,MS4.7
PET MLR MLR
comp=Z,400nm,19.0s,MS4.7
VRI Vrincioaia 70.52 317 P **P 18 32 11.3 +0.2**
VAM Vamos 70.62 305 *e*PB **P 18 32 12.4 +0.5**
MLR Muntele Rosu 70.98 316 P **P 18 32 14.4 +0.5**
SEY Seymchan 71.03 24 *e*P **P 18 32 14.7 +0.8**
SEY 18 32 33.2
SEY *e*S S 18 41 32.6 +5.9
SEY pmax pmax
comp=N,20nm,0.9s
SEY pmax pmax
comp=Z,30nm,0.9s,mb5.2
SEY pmax pmax
comp=E,10.0nm,1.0s
SEY smax
comp=N,500nm,20.6s
SEY smax
comp=E,200nm,20.6s
SEY MLR MLR
comp=Z,2μm,19.0s,MS5.3
SEY MLR MLR
comp=N,900nm,18.0s
SEY MLR MLR
comp=E,800nm,26.0s
BURAR Bucovina Array 71.91 318 P **P 18 32 19.6 +0.1**
MNK Minsk 71.99 326 *e*P **P 18 32 15.0 -4.8**
VTS Vitosha 72.40 313 P **P 18 32 22.2 -0.2**
JOF Joensuu 73.05 335 *e*p **P 18 32 24.2 -1.7**
comp=E,24nm,0.8s,mb5.2
LVV L'vov 73.13 320 *e*P **P 18 32 25.2 -1.4**
LVV MLR MLR
comp=Z,800nm,18.0s,MS5.0
LBTB Lobatse 73.24 242 *e*P **P 18 32 28.3 +0.5**
LBTB pmax pmax
comp=Z,14nm,0.8s,mb4.9
LBTB Lobatse 73.24 242 *e*P **P 18 32 28.3 +0.5**
comp=Z,14nm,0.8s,mb5.0
BOLS Boljevac 73.48 314⇓*i*P **P 18 32 27.7 -1.1**
SKO Skopje 73.61 312 *e*P pP 18 32 41.0 +2.4
KWP Kalwaria 73.94 320 *e*P **P 18 32 31.1 -0.2**
KOLS Kolonicke sedl 74.09 319 *i*P **P 18 32 37.2 +5.0**
KOLS Kolonicke sedl 74.09 319 *i* **P 18 32 37.2 +5.0**
APA Apatity 74.12 340⇓*i*P **P 18 32 30.5 -1.5**
APA *i* 18 32 43.5
APA *i* 18 32 48.8
APA pmax pmax
comp=Z,29nm,1.0s,mb5.2
BOSA Boshof 74.45 238 *e*P **P 18 32 35.0 +0.3**
BOSA pmax pmax
comp=Z,14nm,0.8s,mb4.9
BOSA Boshof 74.45 238 *e*P **P 18 32 35.0 +0.3**
comp=Z,14nm,0.8s,mb5.0
SUW Suwalki 74.52 325 *e*P **P 18 32 33.6 -1.0**
CRVS Cervenica-Dubn 74.61 319 *i*P **P 18 32 35.3 +0.1**
CRVS *e* 18 32 49.3
FINES FINESS Array B 74.88 332 P **P 18 32 35.7 -0.8**
comp=Z,23nm,0.7s,mb5.2,baz=100,slow=6.3,SNR=138
FINES pP pP 18 32 48.5 +3.0
comp=Z,33nm,1.0s,baz=92,slow=6.8,SNR=8.0
KAF Kangasniemi 74.97 333 *e*p **P 18 32 35.2 -1.8**
comp=Z,17nm,0.6s,mb5.2,baz=104,slow=5.4
KAF Kangasniemi 74.97 333 *e*P **P 18 32 35.2 -1.8**
KAF pmax pmax
comp=Z,17nm,0.6s,mb5.2
KECS Kecovo 75.19 319 *i*P **P 18 32 38.7 +0.2**
NIE Niedzica 75.44 320 *e*P **P 18 32 40.3 +0.3**
PSZ Piszkesteto 75.50 318 P **P 18 32 40.3 0.0**
PSZ Piszkesteto 75.50 318⇑*i*P **P 18 32 40.2 -0.1**
PSZ Piszkesteto 75.50 318⇑*i*P **P 18 32 40.4 +0.1**
OJC Ojcow 75.89 320⇑*i*P **P 18 32 42.5 0.0**
MAW Mawson 76.24 192 *e*P **P 18 32 45.9 +1.8**
comp=Z,6.7nm,0.6s,mb4.8
MAW Mawson 76.24 192 *e*P **P 18 32 45.9 +1.8**
MAW pmax pmax
comp=Z,7.0nm,0.6s
MAW Mawson 76.24 192 P **P 18 32 45.8 +1.7**
comp=Z,2.5nm,0.5s,mb4.4,baz=275,slow=3.3,SNR=8.1
MAW LR LR 19 00 59.0
comp=Z,316nm,20.5s,MS4.6,baz=53,slow=31
VYHS Vyhne 76.27 318 *i*P **P 18 32 44.5 -0.2**
SRO Srobarova 76.54 318 *i*P **P 18 32 46.7 +0.5**
OKC Ostrava-Krasne 76.89 320⇑*i*P **P 18 32 48.2 +0.1**
RAC Raciborz 76.89 320 *e*P **P 18 32 48.8 +0.7**
KEV Kevo 77.12 341 *e*p **P 18 32 47.5 -1.5**
MORC Moravsky Berou 77.27 320 *e*P **P 18 32 50.2 0.0**
MORC pmax pmax
comp=Z,54nm,1.1s,mb5.4
MORC Moravsky Berou 77.27 320 *e*P **P 18 32 50.2 0.0**
comp=Z,54nm,1.1s,mb5.4
ZST Bratislava 77.39 318 *i*P **P 18 32 51.5 +0.6**
ZST *e*sP sP 18 33 04.5 +1.4
ARCES ARCESS Array B 77.55 340 P **P 18 32 51.1 -0.2**
comp=Z,5.4nm,0.7s,mb4.6,baz=91,slow=5.7,SNR=34
ARCES pP pP 18 33 04.0 +3.6
comp=Z,26nm,0.9s,baz=104,slow=5.0,SNR=5.2
ARCES LR LR 19 11 47.6
comp=Z,504nm,18.0s,MS4.9,baz=20,slow=39
ARE0 ARCESS Array S 77.55 340 *e*P **P 18 32 49.6 -1.7**
GKP Gorka Klasztor 77.88 323 *e*P **P 18 32 53.5 0.0**
VKA Vienna 77.92 318⇑*i*P **P 18 32 54.2 +0.4**
DPC Dobruska-Polom 78.12 320⇑*i*P **P 18 32 55.7 +0.9**
DPC *e*pP pP 18 33 08.3 +4.3
KSP Ksiaz 78.19 321⇑*e*P **P 18 32 55.9 +0.7**
KSP *e*S S 18 42 55.0 +8.5
KSP MLR MLR
comp=Z,2μm,17.2s,MS5.5
KSP Ksiaz 78.19 321 *e*P **P 18 32 55.9 +0.7**
UPC Upice 78.33 320⇑*i*P **P 18 32 56.6 +0.6**
ARSA Arzberg 78.36 317⇑*i*P **P 18 32 56.9 +0.6**
comp=Z,55nm,1.4s,mb5.3
PERS Pernice 78.60 316 *i*P **P 18 32 58.0 +0.4**
comp=Z,79nm,1.1s,mb5.6
FX1 Attu Island--F 78.94 37 P **P 18 32 58.9 -0.3**
comp=Z,38nm,0.7s,mb5.5,baz=131,slow=2.3,SNR=13
LJU Ljubljana 78.96 316 *e*P **P 18 32 59.8 +0.2**
SUR Sutherland 79.11 236 *e*P **P 18 33 02.8 +2.2**
comp=Z,21nm,0.8s,mb5.1
PRU Pruhonice 79.22 320⇑*i*P **P 18 33 01.2 +0.3**
PRU *e*pP pP 18 33 11.5 +1.4
PVCC Panska Ves 79.25 320⇑*i*P **P 18 33 01.5 +0.5**
MOA Molln 79.26 318⇓*i*P **P 18 33 01.2 +0.1**
comp=Z,20nm,0.9s,mb5.0
TSUM Tsumeb 79.32 249 *e*P **P 18 33 03.4 +1.3**
comp=Z,6.0nm,0.8s,mb4.6
BSD Bornholm Skovb 79.44 325⇓*i*P **P 18 33 00.7 -1.3**
BSD pmax pmax
comp=Z,52nm,0.6s,mb5.6
BSD Bornholm Skovb 79.44 325⇓*i*P **P 18 33 00.7 -1.3**
comp=Z,52nm,0.6s,mb5.6
BSD *i* 18 34 18.0
BRG Berggiesshubel 79.67 321⇑*i*P **P 18 33 03.7 +0.4**
BRG pmax pmax
comp=Z,32nm,0.8s,mb5.3
BRG MLR MLR
comp=Z,950nm,12.2s,MS5.3
BRG Berggiesshubel 79.67 321⇑*i*P **P 18 33 03.7 +0.4**
comp=Z,32nm,0.8s,mb5.3
BRG LR LR
comp=Z,950nm,12.2s,MS5.3
GEC2 GERESS Array S 79.69 319 *e*P **P 18 33 04.0 +0.5**
GEC2 pmax pmax
comp=Z,60nm,0.9s,mb5.5
GEC2 GERESS Array S 79.69 319 *e*P **P 18 33 04.0 +0.5**
comp=Z,60nm,0.9s,mb5.5
GERES GERESS Array B 79.69 319 P **P 18 33 04.0 +0.5**
comp=Z,37nm,0.7s,mb5.4,baz=90,slow=5.3,SNR=327
KHC Kasperske Hory 79.79 319⇑*i*P **P 18 33 03.7 -0.3**
PTCC Patocco-Chiusa 79.80 316⇑*i*P **P 18 33 04.2 +0.1**
RUE Ruedersdorf 79.89 322 *e*P **P 18 33 04.2 -0.2**
comp=Z,106nm,0.6s,mb6.0
FVI Forni Avoltri 80.20 316⇑*i*P **P 18 33 06.3 +0.1**
WET Wettzell 80.25 319 *e*P **P 18 33 06.9 +0.4**
WET pmax pmax
comp=Z,34nm,0.9s,mb5.3
WET Wettzell 80.25 319 *e*P **P 18 33 06.9 +0.4**
comp=Z,34nm,0.9s,mb5.3
CLL Collm 80.29 321⇑*i*P **P 18 33 06.6 0.0**
CLL *e* 18 33 21.0
CLL *i* 18 33 25.9
CLL pmax pmax
comp=Z,29nm,1.0s,mb5.2
CLL Collm 80.29 321⇑*i*P **P 18 33 06.6 0.0**
comp=Z,29nm,1.0s,mb5.2
CLL *e* 18 33 21.0
CLL *i* 18 33 25.9
CLL Collm 80.29 321 ⇑P **P 18 33 06.6 0.0**
comp=Z,logA/T=1.5,mb5.2
CLL *e*PP pP 18 33 21.0 +5.2
CLL *i* *SP sP 18 33 25.9 +7.1
CLL *e* 18 35 29.0
NKC Novy Kostel 80.59 320⇑*e*P **P 18 33 08.7 +0.5**
SFI Santa Sofia 80.78 313 *e*P **P 18 33 10.8 +1.5**

COP Copenhagen 80.90 325⇑*i*P P 18 33 10.0 +0.3
COP pmax pmax
comp=Z,23nm,0.5s,mb5.4
COP Copenhagen 80.90 325 *e*P **P 18 33 07.4 -2.3**
COP Copenhagen 80.90 325 *i* P **P 18 33 07.4 -2.3**
COP Copenhagen 80.90 325⇑*i*P P 18 33 10.0 +0.3
comp=Z,23nm,0.5s,mb5.4
CTI Castel Tesino 80.97 316⇑*i*P P 18 33 11.1 +0.8
VMG Vicchio 81.00 314⇑*i*P P 18 33 11.9 +1.4
WTTA Wattenberg 81.01 317⇑*i*P P 18 33 10.4 -0.1
comp=Z,43nm,0.7s,mb5.5
WTTA Wattenberg 81.01 317⇑*i*P P 18 33 10.4 -0.1
WTTA pmax pmax
comp=Z,43nm,0.7s,mb5.5
WATA Walderalm 81.05 317⇑*i*P P 18 33 10.3 -0.4
comp=Z,29nm,1.2s,mb5.1
WATA Walderalm 81.05 317⇑*i*P P 18 33 10.3 -0.4
WATA pmax pmax
comp=Z,29nm,1.2s,mb5.1
MOX Moxa 81.14 320 *e*P **P 18 33 11.4 +0.3**
MOX pmax pmax
comp=Z,45nm,1.1s,mb5.3
MOX Moxa 81.14 320 *e*P **P 18 33 11.4 +0.3**
comp=Z,45nm,1.1s,mb5.3
MOX Moxa 81.14 320 *i* P **P 18 33 11.4 +0.3**
comp=Z,logA/T=1.6,mb5.3
FUR Furstenfeldbru 81.28 318 *e*P **P 18 33 11.9 0.0**
SQTA Sankt Quirin 81.30 317⇑*i*P P 18 33 12.0 0.0
comp=Z,18nm,0.8s,mb5.1
SQTA Sankt Quirin 81.30 317⇑*i*P P 18 33 12.0 0.0
SQTA pmax pmax
comp=Z,18nm,0.8s,mb5.0
GRA1 Grafenberg Arr 81.36 319 *e*P **P 18 33 13.1 +0.8**
comp=Z,55nm,0.8s,mb5.5
GRF Grafenberg Arr 81.36 319 *e*P **P 18 33 13.1 +0.8**
GRF pmax pmax
comp=Z,55nm,0.8s,mb5.5
GRF Grafenberg Arr 81.36 319 *e*P **P 18 33 13.1 +0.8**
GRF pmax pmax
comp=Z,55nm,0.8s,mb5.5
GRF Grafenberg Arr 81.36 319 *e*P **P 18 33 13.1 +0.8**
comp=Z,55nm,0.8s,mb5.5
MOTA Moosalm 81.37 317⇑*i*P P 18 33 12.1 -0.3
comp=Z,24nm,1.1s,mb5.0
MOTA Moosalm 81.37 317⇑*i*P P 18 33 12.1 -0.3
MOTA pmax pmax
comp=Z,24nm,1.1s,mb5.0
ZCCA Zocca 81.41 314 *e*P **P 18 33 14.6 +1.9**
GSCL Gusciola 81.69 314 *e*P **P 18 33 15.5 +1.4**
BRMO Bormio 81.86 316⇑*i*P P 18 33 15.7 +0.7
NB2 NORSAR Subarra 81.87 331 P **P 18 33 13.8 -0.9**
comp=Z,10nm,0.8s,mb4.8,baz=94,slow=5.8
NB2 NORSAR Subarra 81.87 331 P **P 18 33 13.8 -0.9**
NB2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
NOA NORSAR Array B 81.87 331 P **P 18 33 14.0 -0.7**
comp=Z,8.0nm,0.8s,mb4.7,baz=94,slow=5.6,SNR=20
NOA LR LR 19 12 28.1
comp=Z,208nm,20.0s,MS4.5,baz=105,slow=38
CLZ Clausthal 81.95 321 *e*P **P 18 33 15.7 +0.4**
comp=Z,39nm,0.7s,mb5.5
NAO01 NORSAR Array S 82.02 331 P **P 18 33 14.7 -0.8**
comp=Z,17nm,1.0s,mb4.9
DAVA Damuels 82.20 317⇑*i*P P 18 33 17.3 +0.6
comp=Z,49nm,1.1s,mb5.3
MUD Monsted U'grnd 82.76 326 *i* P **P 18 33 19.8 +0.4**
MUD pmax pmax
comp=Z,11nm,0.6s,mb5.1
MUD Monsted U'grnd 82.76 326 *i* P **P 18 33 19.8 +0.4**
comp=Z,11nm,0.6s,mb5.0
PGF Pioggiola 82.85 312⇑*i*P P 18 33 20.6 +0.4
comp=Z,48nm,0.9s,mb5.2
PGF Pioggiola 82.85 312⇑*i*P P 18 33 20.6 +0.4
PGF pmax pmax
comp=Z,24nm,0.9s,mb5.2
TOD Tromm 82.93 319 *e*P **P 18 33 20.6 +0.2**
SPAK Spaichingen 82.94 318 *e*P **P 18 33 20.7 +0.2**
VAI Varese 82.97 315⇑*i*P P 18 33 20.3 -0.4
TNS Taunus Mts 83.15 320 *e*P **P 18 33 22.0 +0.4**
SYO Syowa Base 83.18 197 ⇓P P **18 33 23.4 +2.1**
SYO Syowa Base 83.18 197 ⇓pP pP 18 33 36.0 +5.5
BFO Black Forest 83.25 318 *e*P **P 18 33 22.0 -0.1**
BFO pmax pmax
comp=Z,28nm,0.8s,mb5.3
BFO Black Forest 83.25 318 *e*P **P 18 33 22.0 -0.1**
comp=Z,28nm,0.8s,mb5.3
FIN Finale Ligure 83.40 314⇑*i*P P 18 33 23.2 +0.3
FELD Feldberg 83.47 317 *e*P **P 18 33 23.7 +0.5**
MCGN Macugnaga 83.52 316 *e*P **P 18 33 24.7 +1.2**
LANF Langenberg 83.59 319 *e*P **P 18 33 24.3 +0.5**
LIBD Limburg 83.74 318 *e*P **P 18 33 25.0 +0.4**
ABH Alteburg 83.74 319 *e*P **P 18 33 25.2 +0.6**
BBS Basel-Blauen 83.81 317 *e*P **P 18 33 24.5 -0.5**
CDF Champ du Feu 83.95 318⇑*i*P P 18 33 25.6 -0.1
comp=Z,25nm,0.7s,mb5.2
CDF Champ du Feu 83.95 318⇑*i*P P 18 33 25.6 -0.1
CDF pmax pmax
comp=Z,12nm,0.6s,mb5.2
SBF Sospel 83.97 313⇑*i*P P 18 33 26.3 +0.4
comp=Z,95nm,0.7s,mb5.7
SBF Sospel 83.97 313⇑*i*P P 18 33 26.3 +0.4
SBF pmax pmax
comp=Z,48nm,0.7s,mb5.7
ECH Echery 84.03 318 *e*P **P 18 33 26.0 -0.1**
RUP Ruppelstein 84.06 319 *e*P **P 18 33 26.7 +0.5**
MOF Molkenrain 84.06 317 *e*P **P 18 33 26.5 +0.3**
HINF Hinteralfeld 84.25 317⇑*i*P P 18 33 26.7 -0.5
comp=Z,11nm,0.6s,mb4.8
HINF Hinteralfeld 84.25 317⇑*i*P P 18 33 26.7 -0.5
HINF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
LPG La Plagne 84.40 315⇑*i*P P 18 33 28.7 +0.7
comp=Z,78nm,0.9s,mb5.5
LPG La Plagne 84.40 315⇑*i*P P 18 33 28.7 +0.7
LPG pmax pmax
comp=Z,39nm,0.9s,mb5.5
LPL La Plagne 84.41 315⇑*i*P P 18 33 28.8 +0.7
comp=Z,90nm,0.8s,mb5.6
LPL La Plagne 84.41 315⇑*i*P P 18 33 28.8 +0.7
LPL pmax pmax
comp=Z,45nm,0.8s,mb5.7
MBDF Montbardon 84.41 314 *e*P **P 18 33 27.9 -0.2**
comp=Z,20nm,0.7s,mb5.1
MBDF Montbardon 84.41 314 *e*P **P 18 33 27.9 -0.2**
MBDF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
BNI Bardonecchia 84.47 315 *e*P **P 18 33 28.2 -0.2**
BNI pmax pmax
comp=Z,22nm,0.9s,mb5.3
BNI Bardonecchia 84.47 315 *e*P **P 18 33 28.2 -0.2**
comp=Z,22nm,0.9s,mb5.3
FRF La Foret Royal 84.55 313⇑*i*P P 18 33 29.3 +0.5
comp=Z,74nm,0.8s,mb5.6
FRF La Foret Royal 84.55 313⇑*i*P P 18 33 29.3 +0.5
FRF pmax pmax
comp=Z,37nm,0.8s,mb5.6
HAU Haudompre 84.58 318⇑*i*P P 18 33 28.8 -0.1
comp=Z,82nm,0.7s,mb5.7
HAU *e*R
comp=Z,568nm,18.2s
HAU Haudompre 84.58 318⇑*i*P P 18 33 28.8 -0.1
HAU pmax pmax
comp=Z,41nm,0.7s,mb5.7
HAU MLR MLR
comp=Z,570nm,18.3s,MS5.0
LMR La Mourre 84.66 313⇑*i*P P 18 33 29.8 +0.4
comp=Z,41nm,0.8s,mb5.3
LMR La Mourre 84.66 313⇑*i*P P 18 33 29.8 +0.4
LMR pmax pmax
comp=Z,20nm,0.8s,mb5.3
CABF La Chapelle 84.81 316⇑*i*P P 18 33 30.7 +0.6
comp=Z,47nm,0.7s,mb5.4
CABF La Chapelle 84.81 316⇑*i*P P 18 33 30.7 +0.6
CABF pmax pmax
comp=Z,23nm,0.7s,mb5.4
THEF They Montfort 84.81 318 *e*P **P 18 33 29.9 -0.1**
ORIF Oris-en-Rattie 85.04 315⇑*i*P P 18 33 31.4 +0.2
comp=Z,23nm,0.7s,mb5.1
ORIF *e*R
comp=Z,715nm,22.0s
OG05 Jujurieux 85.28 316 *e*P **P 18 33 33.0 +0.6**
SMRF Simiane la Rot 85.30 314⇑*i*P P 18 33 33.6 +1.0
comp=Z,23nm,0.7s,mb5.1
MEZF Maizieres J'vi 85.42 318⇑*i*P P 18 33 33.2 +0.2
comp=Z,40nm,0.9s,mb5.2
GIVF Givet 85.49 320 *e*P **P 18 33 33.6 +0.3**

BAIF Baives 85.89 320⇑*i*P P 18 33 35.9 +0.6
comp=Z,39nm,0.7s,mb5.5
BAIF Baives 85.89 320⇑*i*P P 18 33 35.9 +0.6
BAIF pmax pmax
comp=Z,20nm,0.7s,mb5.5
VIVF Saint-Julien-l 85.90 315⇑*i*P P 18 33 35.9 +0.4
comp=Z,38nm,0.9s,mb5.3
VIVF Saint-Julien-l 85.90 315⇑*i*P P 18 33 35.9 +0.4
VIVF pmax pmax
comp=Z,19nm,0.9s,mb5.3
SMF Signal de Mont 86.36 316⇑*i*P P 18 33 37.8 +0.1
comp=Z,54nm,0.8s,mb5.5
SMF Signal de Mont 86.36 316⇑*i*P P 18 33 37.8 +0.1
SMF pmax pmax
comp=Z,27nm,0.8s,mb5.5
LASF Ste Croix 86.53 314⇑*i*P P 18 33 39.3 +0.6
SSF Saint Saulge 86.56 317 *e*P **P 18 33 38.9 +0.2**
SSF pmax pmax
comp=Z,13nm,0.8s,mb5.2
SSF Saint Saulge 86.56 317 *e*P **P 18 33 38.9 +0.2**
comp=Z,13nm,0.8s,mb5.2
PLDF La Plantade 86.56 316 *e*P **P 18 33 39.4 +0.7**
AVF Avril sur Loir 86.68 317⇑*i*P P 18 33 39.4 +0.1
comp=Z,46nm,1.0s,mb5.4
AVF Avril sur Loir 86.68 317⇑*i*P P 18 33 39.4 +0.1
AVF pmax pmax
comp=Z,23nm,1.0s,mb5.4
AGO Saint Agoulin 86.89 316 *e*P **P 18 33 41.0 +0.6**
PYM Petit Puy Mans 87.00 315 *e*P **P 18 33 41.5 +0.6**
BGF Bois d'Agland 87.05 316 *e*P **P 18 33 41.5 +0.4**
comp=Z,60nm,1.0s,mb5.5
BGF Bois d'Agland 87.05 316 *e*P **P 18 33 41.5 +0.4**
BGF pmax pmax
comp=Z,30nm,1.0s,mb5.5
HYF Humbligny 87.13 317 *e*P **P 18 33 42.3 +0.8**
TCF Toulx Ste Croi 87.51 316 *e*P **P 18 33 43.8 +0.5**
comp=Z,16nm,0.8s,mb5.0
TCF Toulx Ste Croi 87.51 316 *e*P **P 18 33 43.8 +0.5**
TCF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
CAF Calviac 87.74 315 *e*P **P 18 33 45.2 +0.7**
comp=Z,19nm,0.9s,mb5.0
CAF Calviac 87.74 315 *e*P **P 18 33 45.2 +0.7**
CAF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
URZ Urewera 87.75 129 P **P 18 33 43.0 -1.6**
comp=Z,18nm,0.8s,mb5.3,baz=313,slow=5.3,SNR=5.4
RJF Les Rejaudoux 88.09 315⇑*i*P P 18 33 47.0 +0.9
RJF *e*R
comp=Z,816nm,19.0s
TNA Tin City 88.27 24 *e*P **P 18 33 46.2 -0.3**
comp=Z,20nm,0.6s,mb5.5
LFF La Frestale 88.67 315⇑*i*P P 18 33 49.8 +0.9
comp=Z,25nm,0.8s,mb5.3
LFF La Frestale 88.67 315⇑*i*P P 18 33 49.8 +0.9
LFF pmax pmax
comp=Z,13nm,0.8s,mb5.3
LDF La Druitiere 88.84 319⇑*i*P P 18 33 50.1 +0.5
comp=Z,58nm,0.9s,mb5.6
LDF La Druitiere 88.84 319⇑*i*P P 18 33 50.1 +0.5
LDF pmax pmax
comp=Z,29nm,0.9s,mb5.6
FLN La Foliniere 89.06 319⇑*i*P P 18 33 51.1 +0.4
comp=Z,62nm,0.8s,mb5.7
FLN *e*R
comp=Z,447nm,18.0s
FLN La Foliniere 89.06 319⇑*i*P P 18 33 51.1 +0.4
FLN pmax pmax
comp=Z,31nm,0.8s,mb5.7
FLN MLR MLR
comp=Z,450nm,18.0s,MS4.9
MFF Saint Martin d 89.10 317⇑*i*P P 18 33 51.3 +0.4
comp=Z,21nm,0.7s,mb5.3
MFF Saint Martin d 89.10 317⇑*i*P P 18 33 51.3 +0.4
MFF pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
EPF Esparros 89.18 313⇑*i*P P 18 33 51.8 +0.4
comp=Z,8.3nm,0.6s,mb4.9
EPF Esparros 89.18 313⇑*i*P P 18 33 51.8 +0.4
EPF pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
GRR Gorron 89.35 318 *e*P **P 18 33 52.7 +0.6**
comp=Z,27nm,0.9s,mb5.3
GRR Gorron 89.35 318 *e*P **P 18 33 52.7 +0.6**
GRR pmax pmax
comp=Z,14nm,0.9s,mb5.3
ESK Eskdalemuir 89.79 325 *e*P **P 18 33 54.5 +0.6**
ESK *e* 18 34 07.4
ESK pmax pmax
comp=Z,22nm,0.8s,mb5.5
ESK Eskdalemuir 89.79 325 *e*P **P 18 33 54.5 +0.6**
comp=Z,22nm,0.8s,mb5.5
ESK *e* 18 34 07.3
ETSF Etsaut 89.85 313 *e*P **P 18 33 55.8 +1.3**
comp=Z,18nm,0.6s,mb5.3
ETSF Etsaut 89.85 313 *e*P **P 18 33 55.8 +1.3**
ETSF pmax pmax
comp=Z,9.0nm,0.6s,mb5.3
SJPF Ste Jean 90.31 313⇑*i*P P 18 33 57.9 +1.2
SGMF Saint Gilles 90.49 318⇑*i*P P 18 33 57.8 +0.4
comp=Z,32nm,0.7s,mb5.4
SGMF Saint Gilles 90.49 318⇑*i*P P 18 33 57.8 +0.4
SGMF pmax pmax
comp=Z,16nm,0.7s,mb5.5
VNDA Vanda 90.58 168 *e*P **P 18 33 57.3 +0.1**
VNDA pmax pmax
comp=Z,18nm,1.3s
VNDA Vanda 90.58 168 P **P 18 33 57.5 +0.4**
comp=Z,1.9nm,0.6s,mb4.6,baz=292,slow=7.8,SNR=7.5
VNDA LR LR 19 11 13.2
comp=Z,286nm,18.4s,MS4.7,baz=313,slow=33
VNDA Vanda 90.58 168 *e*P **P 18 33 57.3 +0.1**
comp=Z,18nm,1.3s,mb5.2
QUIF Quistinic 90.95 318⇑*i*P P 18 33 59.8 +0.3
comp=Z,30nm,0.7s,mb5.4
QUIF Quistinic 90.95 318⇑*i*P P 18 33 59.8 +0.3
QUIF pmax pmax
comp=Z,15nm,0.7s,mb5.4
ROSF Rostrenen 90.95 319⇑*i*P P 18 34 00.1 +0.6
comp=Z,88nm,1.1s,mb5.7
ROSF Rostrenen 90.95 319⇑*i*P P 18 34 00.1 +0.6
ROSF pmax pmax
comp=Z,44nm,1.1s,mb5.7
SBA Scott Base 91.68 168 *e*P **P 18 34 03.9 +1.7**
SBA pmax pmax
comp=Z,53nm,1.5s,mb5.7
SBA Scott Base 91.68 168 *e*P **P 18 34 03.9 +1.7**
comp=Z,53nm,1.5s,mb5.7
DLF Lyons Farm 92.07 324⇑*i*P P 18 34 05.3 +0.8
DMUB Kingscourt 92.17 324 *e*P **P 18 34 05.1 +0.2**
DMUB Kingscourt 92.17 324⇑*i*P P 18 34 06.7 +1.8
DCN Croghan 92.50 324 *e*P **P 18 34 05.7 -0.8**
DCN Croghan 92.50 324⇑*i*P P 18 34 07.3 +0.8
ESDC Sonseca Array 92.86 310 P **P 18 34 09.4 +0.9**
comp=Z,2.8nm,0.6s,mb4.9,baz=62,slow=4.1,SNR=26
ESDC pP pP 18 34 21.1 +3.4
comp=Z,3.4nm,0.6s,baz=60,slow=4.2,SNR=10
ESLA Sonseca Array 92.86 310 *e*P **P 18 34 08.2 -0.2**
comp=Z,1.6nm,0.8s,mb4.5
IMA Indian Mountai 93.76 22 *e*P **P 18 34 12.4 +0.4**
SVW2 Sparrevohn 94.79 27 *e*P **P 18 34 17.4 +0.6**
QSPA South Pole Qui 95.40 180 *e*P **P 18 34 20.5 +1.2**
comp=Z,5.1nm,1.1s,mb4.9
MCK McKinley 96.58 24 *e*P **P 18 34 24.0 -0.9**
MCK pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
MCK McKinley 96.58 24 *e*P **P 18 34 24.0 -0.9**
comp=Z,3.6nm,0.6s,mb5.0
ILAR Eielson Array 96.89 22 P **P 18 34 25.4 -0.9**
comp=Z,3.2nm,0.5s,mb5.0,baz=302,slow=4.0,SNR=31
PWA Palmer West 97.10 26 *e*P **P 18 34 27.2 -0.1**
SLKM Skilak Lake 97.44 27 *e*P **P 18 34 28.2 -0.7**
SML Sawmill 97.69 25 *e*P **P 18 34 29.3 -0.7**
DBIC Dimbokro 98.40 278 LR LR 19 22 46.4
comp=Z,219nm,18.2s,MS4.7,baz=40,slow=38
MENT Mentasta 99.02 23 *e*P **P 18 34 36.6 +0.7**
INK Inuvik 99.23 16 *e*P **P 18 34 36.4 -0.4**
INK pmax pmax
comp=Z,13nm,1.1s
INK Inuvik 99.23 16 P **P 18 34 36.4 -0.4**
comp=Z,4.9nm,0.8s,mb5.1,baz=342,slow=4.7,SNR=25
INK Inuvik 99.23 16 *e*P **P 18 34 36.4 -0.4**
comp=Z,13nm,1.1s,mb5.4
RES Resolute Bay 99.77 2 *e*P **P 18 34 39.5 +0.3**
RES *e* 18 34 53.9
RES pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
RES Resolute Bay 99.77 2 *e*P **P 18 34 39.5 +0.4**
comp=Z,9.4nm,0.9s,mb5.2
RES *e* 18 34 53.9
DAWY Dawson 100.02 21 *e*P P 18 34 39.4 -1.1
YKA Yellowknife Ar 108.70 14 Pdiff Pdif 18 35 20.3 +1.5
comp=Z,0.4nm,0.7s,baz=326,slow=4.1,SNR=8.7
SCHQ Schefferville 117.87 348 PKP PKPdf 18 39 41.6 -4.0
comp=Z,2.2nm,0.5s,baz=46,slow=2.3,SNR=12
NEW Newport 119.81 24 PKP PKPdf 18 39 44.4 -5.2
comp=Z,2.3nm,0.7s,baz=324,slow=4.1,SNR=5.2
YBH Yreka Blue Hor 122.15 32 PKP PKPdf 18 39 49.0 -5.3
comp=Z,1.1nm,0.5s,baz=293,slow=7.7,SNR=2.6
MSO Missoula 122.22 23 *e*PKPdf PKPdf 18 39 50.3 -4.0
CHMT Chamberlain Mo 122.41 22 *e*PKPdf PKPdf 18 39 50.5 -4.2
BMO Blue Mountains 122.44 26 *e*PKIKP PKPdf 18 39 50.5 -4.2
MOD Modoc 123.27 30 *e*PKPdf PKPdf 18 39 53.3 -3.1
ULM Lac du Bonnet 123.80 8 PKP PKPdf 18 39 53.0 -4.3
comp=Z,6.4nm,0.7s,baz=16,slow=2.7,SNR=15
ULM Lac du Bonnet 123.80 8 *e*PKPdf PKPdf 18 39 52.4 -4.9
MCMT McKenzie Canyo 124.31 23 *e*PKPdf PKPdf 18 39 55.3 -3.1
HLID Hailey 124.72 25 *e*PKPdf PKPdf 18 39 56.0 -3.2
HLID *e* 18 40 10.6
QLMT Earthquake Lak 124.85 22 *e*PKPdf PKPdf 18 39 55.6 -3.8
YMR Madison River 125.16 22 *e*PKPdf PKPdf 18 39 57.4 -2.7
RRI2 Red Ridge 126.15 23 *e*PKPdf PKPdf 18 39 58.5 -3.5
TPAW Teton Pass 126.17 23 *e*PKPdf PKPdf 18 39 57.9 -4.1
SNOW Snow King Moun 126.27 22 *e*PKPdf PKPdf 18 39 59.4 -2.8
NVAR Mina Array Bea 126.87 32 PKP PKPdf 18 40 00.8 -2.7
comp=Z,3.9nm,0.6s
PDAR Pinedale Array 127.32 22 PKP PKPdf 18 40 00.1 -4.1
comp=Z,4.3nm,0.7s,baz=111,slow=0.7,SNR=34
TRCR Troy Canyon 128.32 30 *e*PKPdf PKPdf 18 40 02.6 -3.7
DAU Daniels Canyon 128.65 25 *e*PKIKP PKPdf 18 40 04.6 -2.3
TMUT Trail Mountain 129.59 26 *e*PKPdf PKPdf 18 40 06.4 -2.4
MVU Marysvale 129.80 27 *e*PKPdf PKPdf 18 40 06.8 -2.3
MVU *e* 18 40 20.3
MSU Marysvale 129.81 27 *e*PKIKP PKPdf 18 40 07.0 -2.2
PV10 Paradox Valley 131.28 24 *e*PKPdf PKPdf 18 40 09.2 -2.8
PV10 *e*SKP 18 43 29.2
ANMO Albuquerque 135.28 24⇓*i*PKIKP PKPdf 18 40 16.1 -3.4
ANMO Albuquerque 135.28 24 *e*PKPdf PKPdf 18 40 16.7 -2.8
LPM Los Pinos Moun 135.76 25 *e*PKPdf PKPdf 18 40 17.9 -2.6
WMOK Wichita Mounta 138.14 16 *e*PKHKP 18 40 08.9
GDL2 Guadalupe Moun 138.53 24 *e*PKPpre 18 40 15.3
GDL2 *e*PKPdf PKPdf 18 40 22.4 -3.1
MNTX Cornudas Mount 138.54 26 *e*PKPdf PKPdf 18 40 21.9 -3.7
TXAR Lajitas Array 141.32 26 PKhKP 18 40 20.1
comp=Z,1.3nm,0.8s,baz=270,slow=2.5,SNR=4.8
TXAR PKP PKPdf 18 40 25.4 -5.3
comp=Z,3.5nm,0.5s,SNR=15
JCT Junction City 141.78 20 *e*PKPpre 18 40 21.4
JCT *e*PKPdf PKPdf 18 40 27.8 -3.6
JCT *e*SKP 18 44 00.9
PLCA Paso Flores 142.36 199 PKP PKPdf 18 40 27.9 -4.2
comp=Z,3.5nm,1.0s,baz=189,slow=6.5,SNR=3.3
SJG San Juan 149.63 321 PKPbc PKPdf 18 40 46.8 +1.9
comp=Z,63nm,0.7s,baz=275,slow=18,SNR=4.8
TEIG Tepich 154.32 6 PKPdf PKPdf 18 40 47.2 -4.5
SDV Santo Domingo 159.27 313 PKP PKPdf 18 40 54.9 -3.3
comp=Z,6.0nm,0.9s,baz=0.6,slow=2.5,SNR=6.8
SDV pPKP 18 41 07.7
comp=Z,6.1nm,0.9s,baz=18,slow=0.3,SNR=3.8
SDV PKPab PKPab 18 41 31.4 -1.5
comp=Z,5.3nm,0.7s,baz=81,slow=6.0,SNR=5.3
LPAZ La Paz 159.69 237 *e*PKIKP PKPdf 18 40 55.4 -3.2
LPAZ La Paz 159.69 237 PKP PKPdf 18 40 55.8 -2.9
comp=Z,2.8nm,0.9s,baz=32,slow=2.4,SNR=6.2
LPAZ pPKP 18 41 08.7
comp=Z,2.8nm,0.8s,baz=37,slow=7.9,SNR=5.7
LPAZ PKPab PKPab 18 41 32.6 -2.1
comp=Z,4.2nm,1.1s,baz=270,slow=3.0,SNR=2.5
LPAZ pPKPab 18 41 47.6
comp=Z,5.3nm,0.8s,baz=112,slow=7.7,SNR=5.5

IDC 29 18:25:11.1±10.0, 2.99N×98.45W, mb3.5/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.5/3, Error ellipse: s-maj=818.6km s-min=49.0km az=90.0, West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**26.66**	**350**	P	P	18 30 52.1	-1.5
	0.3nm,0.6s,baz=156,slow=11,SNR=2.1						
PDAR	**Pinedale Array**	**40.83**	**347**	P	P	18 32 54.9	-1.2
	0.6nm,0.7s,baz=153,slow=6.6,SNR=5.3						
ILAR	**Eielson Array**	**70.69**	**340**	P	P	18 36 28.1	-2.3
	0.7nm,0.7s,baz=143,slow=5.8,SNR=5.8						
ASAR	**Alice Springs**	**125.45**	**243**	PKP	PKPdf	18 44 14.9	-2.0
	0.2nm,0.7s,baz=90,slow=2.0,SNR=4.8						

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*IDC **29** 18:37:52.9±0.5, 8.03N×94.08E, mb4.7/23, mb1 4.7/24, mb1mx4.7/25, mbtmp4.6/24, ML4.1/1, MS3.8/3, Ms1 3.9/3, ms1mx3.1/29, Error ellipse: s-maj=23.8km s-min=12.0km az=52.0*

*MOS **29** 18:37:56.3±1.0, 8.09N×94.20E, h33km, mb5.2/35, Error ellipse: s-maj=10.7km s-min=6.2km az=113.5*

*BJI **29** 18:37:56.9, 7.86N×93.85E, h47km, mB5.2, mb4.7, Ms4.9, Msz4.6*

*HRVD **29** 18:37:57.5±0.6, 8.11N×94.33E, h16km±2km, MW4.8/42, Centroid moment Tensor Solution. LP body waves: s10,c10;Mantle waves: s42,c51; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-1.91±.24; $M_{\theta\theta}$0.55±.14; $M_{\phi\phi}$1.36±.15; $M_{r\theta}$1.13±.54; $M_{\theta\phi}$0.84±.08; $M_{\phi r}$-0.94±.44; Best double couple: $M_0$2.302×10^16 NP1:ϕ_s236°, δ48°, λ-51°. NP2:ϕ_s5°, δ55°, λ-125°. Principal axes: T 1.904, Plg4°, Azm119°; N .796, Plg28°, Azm27°; P -2.701, Plg62°, Azm217°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **29** 18:37:57.5±0.2, 8.07N×94.21E, h30km, mb4.9/48 Error ellipse: s-maj=7.9km s-min=6.0km az=52.0*

ISC 29 18:37:54.4±0.3, 8.07N±0.04×94.26E±0.05, h21km, h21km±1.0km:pP-P,n191,σ1§07/185, mb4.8/72, MS4.6/6, 6C-2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.28**	**23**	*e*P	**P**	**18 40 38.9**	**+1.1**
	11nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.28**	**23**	Pn	**P**	**18 40 40.5**	**+2.8**
	0.4nm,0.3s,baz=211,slow=14,SNR=22						
CMAR				LR	LR	18 45 02.0	
	comp=Z,227nm,19.9s,baz=195,slow=38						
VIS	**Vishakhapatnam**	**14.33**	**313**	*e*P	**P**	**18 41 13.2**	**-5.2**
VIS				*e*		18 41 21.8	
	comp=Z,50nm,0.7s						
VIS				*e*	**S**	**18 43 48.1**	**-9.5**
BWNR	**Bhubaneshwar**	**14.65**	**327**	*e*	**P**	**18 41 17.6**	**-4.9**
BWNR				*e*		18 41 25.8	
	comp=Z,37nm,1.4s						
BWNR				*e*	**S**	**18 43 47.5**	**-18**
IMP	**Imphal**	**16.62**	**359**	*e*P	**P**	**18 41 48.2**	**+0.2**
SHL	**Shillong**	**17.55**	**353**	*e*P	**P**	**18 42 00.5**	**+0.9**
SHL				*i* S	**S**	**18 45 15.0**	**+2.7**
HYB	**Hyderabad**	**17.90**	**303**	*e*P	**P**	**18 42 05.0**	**+1.0**
HYB	**Hyderabad**	**17.90**	**303**	*i* P	**P**	**18 42 05.0**	**+1.0**
BLSP	**Bilaspur**	**18.21**	**321**	*e*	**P**	**18 42 02.5**	**-5.4**
KMI	**Kunming**	**18.79**	**25**	P	**P**	**18 42 19.6**	**+4.7**
KMI				pmax	pmax		
	comp=Z,16nm,1.5s						
KMI	**Kunming**	**18.79**	**25**	P	**P**	**18 42 19.6**	**+4.7**
	comp=Z,16nm,1.5s						
KMI				pP		18 42 26.7	
KMI				PP	PP	18 42 38.0	+6.9
KMI				S	**S**	**18 45 52.8**	**+12**
KMI				sS		18 46 03.6	
MNGI	**Mangalore**	**19.71**	**286**	*i* P	**P**	**18 42 27.6**	**+1.9**
MNGI				*e*S	**S**	**18 46 04.7**	**+3.7**
JIRN	**Jiri**	**20.93**	**340**	*e*P	**P**	**18 42 38.6**	**+0.3**
	comp=Z,122nm,1.1s						
PKI	**Pulchoki**	**21.13**	**338**	*e*P	**P**	**18 42 40.6**	**+0.2**
	comp=Z,92nm,1.0s,mb5.1						
DMN	**Daman**	**21.27**	**337**	*e*P	**P**	**18 42 41.7**	**-0.2**
KKN	**Kakani**	**21.37**	**338**	*e*P	**P**	**18 42 42.3**	**-0.5**
	comp=Z,70nm,0.9s,mb5.0						
KAD	**Karad**	**21.61**	**297**	*e*P	**P**	**18 42 46.1**	**+0.8**
LSA	**Lhasa**	**21.71**	**353**	P	**P**	**18 42 46.8**	**+0.5**
GKN	**Gorkha**	**21.81**	**337**	*e*P	**P**	**18 42 47.1**	**-0.2**
	comp=Z,100nm,0.7s,mb5.3						
KOLN	**Koldanda**	**22.03**	**334**	*e*P	**P**	**18 42 49.5**	**0.0**

comp=Z,83nm,0.6s,mb5.3
BHPL Bhopal 22.10 315 *e*P **P 18 42 47.9 -2.2**
BHPL *e* 18 42 55.0
comp=Z,29nm,1.7s
POO Poona 22.39 300 *e* **P 18 43 02.0 +8.9**
NDI New Delhi 26.04 324 *e*P **P 18 43 26.0 -2.3**
DGAR Diego Garcia 26.63 235 P **P 18 43 36.7 +2.9**
DGAR pmax pmax
comp=Z,193nm,1.3s,mb5.5
DGAR Diego Garcia 26.63 235 P **P 18 43 36.7 +2.9**
comp=Z,193nm,1.3s,mb5.5
DDI Dehra Dun 26.84 328 *e*P **P 18 43 35.2 -0.3**
NJ2 Nanjing 33.05 40 *e*P **P 18 44 32.5 +1.7**
NJ2 AP pP 18 44 41.3 +4.4
NJ2 XP sP 18 44 47.3 +7.8
NJ2 PP PP 18 45 42.8 +1.2
NJ2 S **S 18 49 47.0 -0.3**
NJ2 LR LR
comp=N,2μm,19.9s,MS5.0
NJ2 LR LR
comp=E,2μm,21.4s,MS5.0
NJ2 LR LR
comp=Z,3μm,17.9s,MS5.1
SSE Sheshan 34.00 44 P **P 18 44 37.3 -1.8**
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,919nm,10.4s
SSE Sheshan 34.00 44 P **P 18 44 37.3 -1.8**
comp=Z,28nm,0.7s,mb5.3
WMQ Urumqi 36.07 352 *e*P **P 18 44 57.0 +0.4**
WMQ AP pP 18 45 06.8 +4.1
WMQ XP sP 18 45 10.5 +5.2
WMQ PP PP 18 46 19.3 +0.4
WMQ PCP PcP 18 47 23.5 +0.6
WMQ S **S 18 50 32.8 -1.2**
WMQ AMB AMB
comp=Z,46nm,0.9s,mb5.4
WMQ AMB AMB
comp=Z,340nm,5.3s
WMQ LR LR
comp=N,967nm,16.3s,MS4.7
WMQ LR LR
comp=E,639nm,16.0s,MS4.7
WMQ LR LR
comp=Z,1μm,16.6s,MS4.8
BJI Beijing 37.38 28 P **P 18 45 10.4 +2.8**
BJI pmax pmax
comp=Z,11nm,0.8s,mb4.7
BJI Beijing 37.38 28 P **P 18 45 10.4 +2.8**
comp=Z,11nm,0.8s,mb4.7
UCH Uchtor 38.22 336 P **P 18 45 15.5 +0.8**
SNR=6.2
MBWA Marble Bar 38.34 140 P **P 18 45 12.6 -3.3**
comp=Z,13nm,1.0s,mb4.6
KBK Karagaybulak 38.41 337 P **P 18 45 17.3 +1.0**
SNR=11
AML Almayashu 38.48 335 P **P 18 45 17.8 +1.0**
SNR=11
AAK Ala-Archa 38.57 336 P **P 18 45 18.0 +0.4**
AAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
AAK Ala-Archa 38.57 336 *e*P **P 18 45 17.4 -0.2**
comp=Z,17nm,1.1s,mb4.7
EKS2 Erkin-Say 38.88 336 P **P 18 45 21.1 +0.8**
SNR=5.3
USP Ospenovka 39.10 337 P **P 18 45 21.9 -0.1**
SNR=7.2
MKAR Makanchi Array 39.92 347 *i* P **P 18 45 28.5 -0.3**
MKAR pmax pmax
comp=Z,11nm,0.9s
SONM Songino Array 40.95 12 P **P 18 45 38.5 +1.3**
comp=Z,2.6nm,0.7s,mb4.0,baz=194,slow=10.0,SNR=24
SONM PcP PcP 18 47 38.7 +0.6
comp=Z,1.8nm,0.7s,baz=196,slow=4.1,SNR=8.7
ULN Ulaanbaatar 41.12 13 *i* P **P 18 45 38.2 -0.4**
ULN Ulaanbaatar 41.12 13 *e*P **P 18 45 39.4 +0.8**
comp=Z,4.1nm,0.8s,mb4.1
SNY Shenyang 42.44 33 ⇑P **P 18 45 50.5 +0.9**
ZAK Zakamensk 42.84 8 *e*P **P 18 45 52.4 -0.3**
ZAK *e* 18 47 44.1
TLY Talaya 44.16 8 ⇑*i*P **P 18 46 03.9 +0.5**
TLY pmax pmax
comp=Z,3.0nm,1.3s,mb3.9
TLY Talaya 44.16 8 *e*P **P 18 46 04.8 +1.4**
comp=Z,3.3nm,0.7s,mb4.2
KURK Kurchatov 44.45 346 *e*P **P 18 46 05.5 -0.3**
KURK *e* 18 47 49.6
KURK pmax pmax
comp=Z,43nm,1.3s,mb5.0
KURK Kurchatov 44.45 346 *e*P **P 18 46 05.5 -0.3**
comp=Z,43nm,1.3s,mb5.0
KURK *e*PcP PcP 18 47 49.6 -0.1
KLBR Kellerberrin 45.39 151 *e*P **P 18 46 14.3 +0.7**
comp=Z,56nm,0.7s,mb5.5
NWAO Narrogin (SRO) 46.27 153 P **P 18 46 21.0 +0.5**
NWAO pmax pmax
comp=Z,9.0nm,0.9s
NWAO Narrogin (SRO) 46.27 153 P **P 18 46 20.8 +0.3**
comp=Z,22nm,1.2s,mb5.0,baz=329,slow=15,SNR=4.9
NWAO Narrogin (SRO) 46.27 153 P **P 18 46 21.0 +0.5**
comp=Z,9.1nm,0.9s,mb4.7
ZAL Zalesovo 46.37 352 P **P 18 46 21.6 +0.7**
comp=Z,5.3nm,0.6s,mb4.7,baz=304,slow=7.2,SNR=30
NVS Novosibirsk 47.47 351 *e*P **P 18 46 28.2 -1.4**
NVS *e*S **S 18 53 20.1 -2.0**
NVS pmax pmax
comp=Z,17nm,1.4s,mb4.8
NVS pmax pmax
comp=N,15nm,1.3s
NVS smax
comp=E,16nm,2.2s
WRA Warramunga Arr 48.28 126 P **P 18 46 36.2 -0.3**
comp=E,3.6nm,1.0s,mb4.4,baz=306,slow=8.9,SNR=17
WRAB Tennant Creek 48.28 126 *e*P **P 18 46 35.0 -1.5**
WRAB pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
WRAB Tennant Creek 48.28 126 *e*P **P 18 46 35.0 -1.4**
comp=Z,5.7nm,0.8s,mb4.7
WB2 Warramunga Arr 48.29 126 *e*P **P 18 46 35.5 -1.0**
BVA0 Borovoye Array 48.84 341 P **P 18 46 39.3 -1.0**
BVA0 pmax pmax
comp=Z,1.0nm,1.1s,mb3.8
BVAR Borovoye Array 48.84 341 P **P 18 46 39.7 -0.7**
comp=Z,3.7nm,0.8s,mb4.5,baz=143,slow=7.4,SNR=17
BVAR PcP PcP 18 48 05.1 -0.1
comp=Z,1.8nm,0.7s,baz=135,slow=6.3,SNR=4.6
BRVK Borovoye 48.90 341 P **P 18 46 39.9 -0.9**
BRVK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
BRVK Borovoye 48.90 341 *e*P **P 18 46 38.5 -2.3**
comp=Z,10.0nm,1.0s,mb4.8
RAYN Ar Rayn 49.11 294 P **P 18 46 43.9 +1.1**
comp=Z,207nm,0.7s,SNR=27
CHKZ Chkalovo 49.32 342 *e*P **P 18 46 43.3 -0.7**
CHKZ *e* 18 48 05.9
CHKZ pmax pmax
comp=Z,15nm,0.7s,mb5.1
CHKZ Chkalovo 49.32 342 *e*P **P 18 46 43.3 -0.7**
comp=Z,15nm,0.7s,mb5.1
CHKZ *e*PcP PcP 18 48 05.9 -1.0
ASAR Alice Springs 49.95 130 P **P 18 46 48.7 -0.6**
comp=Z,3.7nm,1.0s,mb4.4,baz=302,slow=7.8,SNR=19
ASAR PcP PcP 18 48 09.3 -0.2
comp=Z,1.1nm,0.9s,baz=307,slow=4.2,SNR=4.1
ASAR LR LR 19 12 12.3
comp=Z,100nm,19.8s,MS3.8,baz=120,slow=41
BOD Bodaibo 51.93 13 *e*P **P 18 47 02.9 -0.9**
GNI Garni 54.38 314 *e*P **P 18 47 19.2 -3.0**
GNI pmax pmax
comp=Z,8.0nm,1.3s
SVE Sverdlovsk 55.26 338 *e*P **P 18 47 24.0 -4.5**
PMG Port Moresby 55.48 107 *e*P **P 18 47 31.6 +1.0**
PMG pmax pmax
comp=Z,11nm,1.0s
PMG Port Moresby 55.48 107 P **P 18 47 32.0 +1.4**
comp=Z,9.0nm,0.9s,mb4.8,baz=282,slow=4.7,SNR=4.2
PMG Port Moresby 55.48 107 *e*P **P 18 47 31.6 +1.0**
comp=Z,11nm,1.0s,mb4.8
YSS Yuzh-Sakhalins 56.55 38 *i* P **P 18 47 37.1 -0.8**
KIV Kislovodsk 57.25 318 *e*P **P 18 47 40.2 -2.7**
KIV *e* 18 49 58.4
KIV pmax pmax
comp=Z,23nm,1.4s,mb5.0
KIV Kislovodsk 57.25 318 *e*P **P 18 47 40.4 -2.5**
comp=Z,23nm,0.9s,mb5.2
KMBO Kilima Mbogo 57.56 264 *e*P **P 18 47 46.9 +1.4**
KMBO pmax pmax
comp=Z,25nm,0.9s
KMBO Kilima Mbogo 57.56 264 P **P 18 47 47.5 +2.0**
comp=Z,15nm,0.8s,mb5.1,baz=57,slow=10,SNR=61
KMBO Kilima Mbogo 57.56 264 *e*P **P 18 47 46.9 +1.4**
comp=Z,24nm,0.9s,mb5.2
ASF Jabal al Asfar 58.21 303 P **P 18 47 49.3 -0.4**
comp=Z,7.6nm,1.1s,mb4.6,baz=305,slow=4.6,SNR=6.1
EIL Elat 59.43 300 *e*P **P 18 47 56.7 -1.6**
comp=Z,8.3nm,0.8s,mb4.8
YAK Yakutsk 59.77 18 *e*P **P 18 48 00.0 -0.2**
YAK pmax pmax
comp=Z,30nm,0.7s,mb5.4
YAK Yakutsk 59.77 18 *e*P **P 18 48 00.0 -0.2**
comp=Z,30nm,0.7s,mb5.4
STKA Stephens Creek 60.16 134 P **P 18 48 02.2 -1.1**
comp=Z,4.1nm,1.0s,mb4.4,baz=304,slow=5.5,SNR=4.7
STKA LR LR 19 17 41.2
comp=Z,168nm,19.3s,MS4.2,baz=201,slow=40
STKA Stephens Creek 60.16 134 *e*P **P 18 48 02.2 -1.0**
BRTR Keskin Array B 62.39 311 P **P 18 48 16.0 -2.2**
comp=Z,5.9nm,0.7s,mb4.8,baz=125,slow=7.6,SNR=28
MBAR Mbarara 63.89 265 *e*P **P 18 48 28.6 0.0**
MBAR pmax pmax
comp=Z,18nm,1.3s,mb4.9
MBAR Mbarara 63.89 265 *e*P **P 18 48 28.6 0.0**
comp=Z,18nm,1.3s,mb5.0
MOS Moscow 64.97 329 *e*P **P 18 48 37.7 +2.8**
MOS pmax pmax
comp=Z,39nm,0.9s,mb5.4
OBN Obninsk 65.28 328 ⇓*i*P **P 18 48 32.0 -4.9**
OBN *i* pP 18 48 39.1 -4.2
OBN pmax pmax
comp=Z,43nm,1.6s,mb5.2
OBN Obninsk 65.28 328 *e*P **P 18 48 32.4 -4.5**
comp=Z,17nm,0.6s,mb5.2
OBN *e* pP 18 48 38.3 -5.0
MA2 Magadan 66.54 28 *e*P **P 18 48 44.5 -0.4**
MA2 *e* pP 18 48 52.3 +1.0
MA2 pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
MA2 Magadan 66.54 28 *e*P **P 18 48 44.9 0.0**
comp=Z,14nm,0.9s,mb5.0
MA2 *e* pP 18 48 51.7 +0.4
TIXI Tiksi 67.02 11 ⇓*i*P **P 18 48 46.5 -1.3**
TIXI pmax pmax
comp=Z,23nm,0.7s,mb5.3
TIXI MLR MLR
comp=Z,191nm,18.0s,MS4.4
AKASG Malin Array Be 68.07 322 P **P 18 48 52.0 -2.7**
comp=Z,8.0nm,0.8s,mb4.8,baz=89,slow=4.9,SNR=34
IDI Anoyia 68.55 305 P **P 18 48 57.2 -0.8**
comp=Z,16nm,0.6s,mb5.2,baz=84,slow=10,SNR=14
LSZ Lusaka 69.44 250 *e*P **P 18 49 04.2 +0.4**
LSZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LSZ Lusaka 69.44 250 *e*P **P 18 49 04.2 +0.4**
comp=Z,4.9nm,0.7s,mb4.5
JOF Joensuu 70.72 334 *e*p **P 18 49 09.4 -1.4**
comp=Z,6.1nm,0.5s,mb4.8
KOLS Kolonicke sedl 72.13 319 *i* P **P 18 49 19.3 -0.2**
SUW Suwalki 72.41 324 *e*P **P 18 49 20.1 -0.9**
FINES FINESS Array B 72.59 332 P **P 18 49 21.4 -0.5**
comp=Z,4.1nm,0.5s,mb4.6,baz=93,slow=6.1,SNR=45
CRVS Cervenica-Dubn 72.66 319 *i* P **P 18 49 22.9 +0.3**
KAF Kangasniemi 72.67 333 *e*p **P 18 49 21.1 -1.3**
comp=Z,5.7nm,0.6s,mb4.7,baz=104,slow=5.7
KAF Kangasniemi 72.67 333 *e*P **P 18 49 21.1 -1.3**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
NIE Niedzica 73.47 319 *e*P **P 18 49 27.7 +0.4**
OJC Ojcow 73.90 320 *e*P **P 18 49 29.3 -0.5**
VYHS Vyhne 74.34 318 *i* P **P 18 49 31.8 -0.6**
LBTB Lobatse 74.44 241 *e*P **P 18 49 34.3 +0.9**
LBTB pmax pmax
comp=Z,12nm,0.9s,mb4.8
LBTB Lobatse 74.44 241 *e*P **P 18 49 34.3 +0.9**
comp=Z,12nm,0.9s,mb4.8
KEV Kevo 74.69 341 *e*p **P 18 49 32.0 -2.0**
comp=Z,9.8nm,0.7s,mb4.8
KEV Kevo 74.69 341 *e*P **P 18 49 32.0 -2.0**
KEV pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
OKC Ostrava-Krasne 74.92 319 *e*P **P 18 49 35.8 +0.1**
OKC *e*pP pP 18 49 41.6 -0.6
ARCES ARCESS Array B 75.12 340 P **P 18 49 36.6 +0.2**
comp=Z,4.8nm,0.6s,mb4.6,baz=87,slow=5.8,SNR=18
MORC Moravsky Berou 75.30 319 *e*P **P 18 49 37.4 -0.5**
MORC *e* pP 18 49 43.9 -0.5
MORC pmax pmax
comp=Z,20nm,1.1s,mb5.0
MORC Moravsky Berou 75.30 319 *e*P **P 18 49 37.4 -0.5**
comp=Z,20nm,1.1s,mb5.0
MORC *e* pP 18 49 43.9 -0.5
ZST Bratislava 75.47 318 *i* P **P 18 49 39.2 +0.3**
BOSA Boshof 75.79 238 *e*P **P 18 49 41.4 +0.3**
BOSA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BOSA Boshof 75.79 238 *e*P **P 18 49 41.4 +0.2**
comp=Z,9.4nm,0.8s,mb4.8
VRAC Vranov 75.88 319 LR LR 19 24 53.2
comp=Z,3μm,21.6s,MS5.6,baz=120,slow=37
DPC Dobruska-Polom 76.13 320 *e*P **P 18 49 42.9 +0.3**
KSP Ksiaz 76.19 320 *e*P **P 18 49 43.4 +0.5**
KSP *e**PP pP 18 49 48.9 -0.5
KSP Ksiaz 76.19 320 *e*P **P 18 49 43.2 +0.3**
UPC Upice 76.34 320 *e*P **P 18 49 44.0 +0.2**
UPC *e*pP pP 18 49 50.0 -0.3
VAE Valguarnera 77.09 307 P **P 18 49 48.0 -0.3**
comp=Z,13nm,0.5s,mb5.1,baz=95,slow=5.1,SNR=4.3
PRU Pruhonice 77.25 319 *e*P **P 18 49 49.0 +0.1**
PRU *e*pP pP 18 49 54.7 -0.7
PVCC Panska Ves 77.26 320 *e*P **P 18 49 49.2 +0.3**
PVCC *e*pP pP 18 49 55.4 0.0
BSD Bornholm Skovb 77.33 325 *i* P **P 18 49 47.9 -1.3**
BSD pmax pmax
comp=Z,14nm,0.6s,mb5.1
BSD Bornholm Skovb 77.33 325 *i* P **P 18 49 47.9 -1.3**
comp=Z,14nm,0.6s,mb5.0
BRG Berggiesshubel 77.67 320 *i* P **P 18 49 51.3 +0.1**
BRG *i* pP 18 49 57.6 -0.1
BRG pmax pmax
comp=Z,34nm,1.6s,mb5.0
BRG Berggiesshubel 77.67 320 *i* P **P 18 49 51.3 +0.1**
comp=Z,34nm,1.6s,mb5.0
BRG *i* pP 18 49 57.6 -0.1
GEC2 GERESS Array S 77.76 318 *e*P **P 18 49 51.9 +0.2**
GEC2 pmax pmax
comp=Z,11nm,0.9s,mb4.8
GEC2 GERESS Array S 77.76 318 *e*P **P 18 49 51.9 +0.2**
comp=Z,11nm,0.9s,mb4.8
GERES GERESS Array B 77.76 318 P **P 18 49 52.0 +0.3**
comp=Z,7.7nm,0.6s,mb4.8,baz=90,slow=5.3,SNR=91
RUE Ruedersdorf 77.85 322 *e*P **P 18 49 52.3 +0.3**
comp=Z,49nm,0.8s,mb5.5
RUE *e* pP 18 49 58.2 -0.4
KHC Kasperske Hory 77.85 318 *e*P **P 18 49 52.0 -0.1**
KHC *e*pP pP 18 49 59.0 +0.3
CLL Collm 78.28 321 ⇑*i*P **P 18 49 54.6 +0.1**
CLL *e* pP 18 50 00.0 -1.0
CLL pmax pmax
comp=Z,16nm,1.3s,mb4.8
CLL Collm 78.28 321 ⇑*i*P **P 18 49 54.6 +0.1**
comp=Z,16nm,1.3s,mb4.8
CLL *e* pP 18 50 00.0 -1.0
CLL Collm 78.28 321 ⇑P **P 18 49 54.6 +0.1**
comp=Z,logA/T=1.1,mb4.8
CLL *e**PP pP 18 50 00.0 -1.0
WET Wettzell 78.31 318 *e*P **P 18 49 54.9 +0.2**
WET pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
WET Wettzell 78.31 318 *e*P **P 18 49 54.9 +0.2**
comp=Z,8.0nm,0.9s,mb4.7
NKC Novy Kostel 78.61 320 *e*P **P 18 49 56.7 +0.4**
MAW Mawson 78.75 192 *e*P **P 18 49 57.5 +0.8**
MAW pmax pmax
comp=Z,15nm,1.3s
MAW Mawson 78.75 192 P **P 18 49 58.3 +1.6**
comp=Z,2.0nm,0.3s,mb4.6,baz=100,slow=22,SNR=6.9
MAW Mawson 78.75 192 *e*P **P 18 49 57.5 +0.8**
comp=Z,14nm,1.3s,mb4.8
MOX Moxa 79.15 320 *e*P **P 18 49 59.4 +0.2**
MOX Moxa 79.15 320 *i* P **P 18 49 59.4 +0.2**
FUR Furstenfeldbru 79.36 317 *e*P **P 18 50 00.2 -0.3**
GRA1 Grafenberg Arr 79.39 319 *e*P **P 18 50 01.2 +0.6**
comp=Z,11nm,0.8s,mb4.8
GRA1 *e*pP pP 18 50 07.4 +0.2
GRF Grafenberg Arr 79.39 319 *e*P **P 18 50 01.2 +0.6**
GRF *e**PP pP 18 50 07.4 +0.2
GRF pmax pmax
comp=Z,11nm,0.8s,mb4.8
GRF Grafenberg Arr 79.39 319 *e*P **P 18 50 01.2 +0.6**
GRF *e**PP pP 18 50 07.4 +0.2
GRF pmax pmax
comp=Z,11nm,0.8s,mb4.8
GRF Grafenberg Arr 79.39 319 *e*P **P 18 50 01.2 +0.6**
comp=Z,11nm,0.8s,mb4.8
GRF *e*pP pP 18 50 07.4 +0.2
NB2 NORSAR Subarra 79.62 331 P **P 18 50 00.7 -0.9**
comp=Z,7.1nm,0.7s,mb4.7,baz=96,slow=5.0
NB2 NORSAR Subarra 79.62 331 P **P 18 50 00.7 -0.9**
NB2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
NOA NORSAR Array B 79.62 331 P **P 18 50 01.5 0.0**
comp=Z,3.2nm,0.7s,mb4.4,baz=97,slow=5.1,SNR=11
NAO01 NORSAR Array S 79.77 330 *e*P **P 18 50 01.7 -0.7**
comp=Z,8.3nm,0.8s,mb4.7
CLZ Clausthal 79.93 321 *e*P **P 18 50 03.8 +0.4**
comp=Z,12nm,0.8s,mb4.9
TSUM Tsumeb 80.21 249 *e*P **P 18 50 06.9 +1.4**
comp=Z,4.5nm,1.0s,mb4.3
MUD Monsted U'grnd 80.61 326 *i* P **P 18 50 05.1 -1.9**
MUD *i* 18 50 14.2
MUD pmax pmax
comp=Z,24nm,1.0s,mb5.1
MUD Monsted U'grnd 80.61 326 *i* P **P 18 50 05.1 -1.9**
comp=Z,24nm,1.0s,mb5.1
MUD *i* 18 50 14.2
TNS Taunus Mts 81.18 320 *e*P **P 18 50 10.4 +0.3**
BFO Black Forest 81.33 318 *e*P **P 18 50 10.7 -0.2**
BFO pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BFO Black Forest 81.33 318 *e*P **P 18 50 10.7 -0.2**
comp=Z,4.0nm,0.8s,mb4.4
LPG La Plagne 82.56 315 *e*P **P 18 50 17.5 +0.1**
comp=Z,38nm,0.8s,mb5.2
LPG La Plagne 82.56 315 *e*P **P 18 50 17.5 +0.1**
LPG pmax pmax
comp=Z,19nm,0.8s,mb5.2
SYO Syowa Base 85.63 197 ⇑P **P 18 50 33.9 +1.5**
ESDC Sonseca Array 91.18 310 P **P 18 51 00.1 +0.6**
comp=Z,1.8nm,0.5s,mb4.7,baz=64,slow=4.1,SNR=16
ESLA Sonseca Array 91.18 310 *e*P **P 18 51 00.1 +0.6**
comp=Z,1.0nm,0.7s,mb4.2
IMA Indian Mountai 91.40 22 *e*P **P 18 51 02.3 +2.4**
MCK McKinley 94.23 23 *e*P **P 18 51 13.5 +0.5**
MCK *e* pP 18 51 20.4 +0.8
MCK pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
MCK McKinley 94.23 23 *e*P **P 18 51 13.5 +0.6**
comp=Z,2.6nm,0.9s,mb4.7
MCK *e* pP 18 51 20.4 +0.8
ILAR Eielson Array 94.52 22 P **P 18 51 14.9 +0.6**
comp=Z,0.7nm,0.9s,mb4.1,baz=307,slow=4.8,SNR=6.7
INK Inuvik 96.77 16 P **P 18 51 25.4 +0.9**
comp=Z,5.8nm,1.2s,mb4.9,baz=12,slow=1.2,SNR=6.3
QSPA South Pole Qui 97.97 180 *e*P **P 18 51 25.5 -4.2**
comp=Z,2.8nm,0.9s,mb4.8
DBIC Dimbokro 98.03 278 *e*P **P 18 51 29.0 -2.4**
DBIC pmax pmax
comp=Z,7.0nm,1.1s
DBIC Dimbokro 98.03 278 P **P 18 51 31.9 +0.5**
comp=Z,3.3nm,0.9s,mb4.8,baz=98,slow=1.0,SNR=4.1
DBIC Dimbokro 98.03 278 *e*P **P 18 51 28.9 -2.5**
comp=Z,6.6nm,1.1s,mb5.1
ULM Lac du Bonnet 121.25 8 PKP PKPdf 18 56 47.5 -2.9
comp=Z,1.9nm,0.6s,baz=25,slow=1.2,SNR=5.2
NVAR Mina Array Bea 124.69 31 PKP PKPdf 18 56 56.1 -1.2
comp=Z,1.4nm,0.6s,baz=304,slow=3.3,SNR=8.6
NVAR Mina Array Bea 124.69 31 PKP PKPdf 18 56 56.1 -1.2
PDAR Pinedale Array 124.94 21 PKP PKPdf 18 56 55.6 -2.1
comp=Z,1.7nm,0.7s,baz=64,slow=0.3,SNR=17
MSU Marysvale 127.53 26 *e*PKIKP PKPdf 18 57 02.2 -0.6
ANMO Albuquerque 132.94 23 PKP PKPdf 18 57 12.6 -0.6
comp=Z,1.5nm,0.7s,baz=313,slow=1.6,SNR=4.2
TXAR Lajitas Array 139.00 24 PKP PKPdf 18 57 22.8 -1.7
comp=Z,1.2nm,0.6s,baz=90,slow=1.8,SNR=4.7
TXAR Lajitas Array 139.00 24 PKP PKPdf 18 57 22.8 -1.7
JCT Junction City 139.36 19 *e*PKIKP PKPdf 18 57 21.0 -4.1
PLCA Paso Flores 144.77 200 *e*PKIKP PKPdf 18 57 30.2 -4.1
PLCA Paso Flores 144.77 200 PKP PKPdf 18 57 31.7 -2.6
comp=Z,12nm,0.9s,baz=157,slow=2.3,SNR=16
LPAZ La Paz 160.96 243 *e*PKIKP PKPdf 18 57 55.8 -2.2
LPAZ *e* 18 58 37.7
LPAZ La Paz 160.96 243 PKP PKPdf 18 57 56.5 -1.4
comp=Z,1.0nm,0.7s,baz=82,slow=3.4,SNR=4.5
LPAZ PKPab PKPab 18 58 37.6 -1.4
comp=Z,2.2nm,0.7s,baz=112,slow=5.0,SNR=8.2

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*CSEM **29** 18:46:00.0, 37.71N×44.00E, h29km, MD3.6, After ISK*

ISC 29 18:46:00.0, 37.71N×44.00E, h29km, MD3.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.24**	**238**	*i* PG	Pb	18 46 07.6	+1.0
HKR				*i* SG	Sb	18 46 12.0	+0.9
VANT	**Van**	**0.88**	**327**	*i* PG	Pn	18 46 17.4	+0.9
VANT				*i* SG	Sb	18 46 29.8	+1.8
TVAN	**Van**	**0.94**	**330**	*i* P	Pn	18 46 18.2	+0.7
TVAN				*i* S	Sb	18 46 29.8	-0.1
VANB	**Van**	**1.01**	**332**	*i* PG	Pn	18 46 17.9	-0.4
VANB				*i* SG	Sn	18 46 32.1	+0.5
MSL	**Mosul**	**1.59**	**208**	*e*Pn	Pn	18 46 35.0	+8.3
MSL				*e*Sb	Sb	18 46 55.0	+6.6
MSL				*i* Sg	Sn	18 46 56.0	+10
BTMT	**Batman**	**2.04**	**284**	*e*PN	Pn	18 46 35.3	+2.1
BEST	**Besiri**	**2.17**	**276**	*i* P	Pn	18 46 38.6	+3.6
BEST				*i* S	Sn	18 47 07.1	+6.0
VRT	**Varto**	**2.41**	**307**	*e*PN	Pn	18 46 38.3	0.0

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*IDC **29** 18:46:02.8±1.1, 7.89N×93.93E, mb3.9/8, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, ML3.8/1, Error ellipse: s-maj=45.8km s-min=21.1km az=57.0*

ISC 29 18:46:06.0±0.9, 7.9N±0.1×94.0E±0.2, h33km, n16, σ0 84/15, mb4.0/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.51**	**24**	Pn	P	**18 48 51.1**	**+0.1**
0.2nm,0.3s,baz=217,slow=14,SNR=6.7							
JIRN	**Jiri**	**20.97**	**340**	*e*P	P	**18 50 48.9**	**+0.2**
17nm,0.7s							
PKI	**Pulchoki**	**21.16**	**338**	*e*P	P	**18 50 50.4**	**-0.3**
13nm,0.5s,mb4.5							
DMN	**Daman**	**21.31**	**338**	*e*P	P	**18 50 53.7**	**+1.6**
KKN	**Kakani**	**21.41**	**338**	*e*P	P	**18 50 51.1**	**-2.0**
8.4nm,0.5s,mb4.3							
GKN	**Gorkha**	**21.84**	**337**	*e*P	P	**18 50 56.8**	**-0.6**
SONM	**Songino Array**	**41.13**	**13**	P	P	**18 53 48.7**	**+0.1**
0.5nm,0.7s,mb3.2,baz=202,slow=6.7,SNR=4.1							
SONM				PcP	PcP	18 55 48.3	+0.1
0.2nm,0.5s,baz=153,slow=3.2,SNR=2.6							
ZAL	**Zalesovo**	**46.47**	**352**	P	P	**18 54 32.1**	**+0.5**
1.4nm,0.3s,mb4.3,baz=298,slow=4.1,SNR=5.8							
WRA	**Warramunga Arr**	**48.40**	**125**	P	P	**18 54 46.1**	**-1.1**
0.2nm,0.5s,mb3.4,baz=304,slow=8.7,SNR=4.6							
ASAR	**Alice Springs**	**50.05**	**130**	P	P	**18 55 00.7**	**+0.8**
0.3nm,0.7s,mb3.4,baz=310,slow=7.0,SNR=4.5							
FINES	**FINESS Array B**	**72.60**	**332**	P	P	**18 57 31.2**	**-0.4**
2.1nm,0.8s,mb4.1,baz=117,slow=6.2,SNR=6.0							
KAF	**Kangasniemi**	**72.68**	**333**	*e*p	P	**18 57 31.2**	**-0.8**
ARCES	**ARCESS Array B**	**75.17**	**340**	P	P	**18 57 46.9**	**+0.5**
2.9nm,0.8s,mb4.2,baz=90,slow=4.9,SNR=4.4							
GERES	**GERESS Array B**	**77.70**	**318**	P	P	**18 58 02.1**	**+1.0**
0.6nm,0.5s,mb3.8,baz=90,slow=6.7,SNR=4.6							
HFS	**Hagfors**	**78.34**	**330**	P	P	**18 58 04.7**	**+0.3**
3.6nm,0.6s,mb4.5,baz=112,slow=8.0,SNR=4.4							
PLCA	**Paso Flores**	**144.56**	**200**	PKP	PKPdf	19 05 42.7	+3.3
2.0nm,0.8s,baz=45,slow=1.4,SNR=3.5							

IDC 29 18:48:12.7±1.4, 7.95N×93.83E, mb3.6/5, mb1 3.8/6, mb1mx3.7/18, mbtmp3.5/6, ML3.7/1, Error ellipse: s-maj=50.4km s-min=22.9km az=61.0, Nicobar Islands region

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

CMAR	Chiang Mai Arr	11.57	25	Pn		P	18 51 00.8	-1.4
	0.2nm,0.3s,baz=212,slow=14,SNR=7.4							
SONM	Songino Array	41.16	13	P		P	18 55 57.8	-2.6
	0.2nm,0.4s,baz=180,slow=4.3,SNR=2.5							
ZAL	Zalesovo	46.43	353	P		P	18 56 41.5	-1.4
	1.2nm,0.6s,baz=292,slow=3.0,SNR=4.9							
WRA	Warramunga Arr	48.56	125	P		P	18 56 58.2	-1.9
	0.4nm,0.6s,baz=304,slow=8.9,SNR=5.1							
ASAR	Alice Springs	50.20	130	P		P	18 57 10.7	-2.0
	0.5nm,0.9s,baz=310,slow=7.4,SNR=3.7							
GERES	GERESS Array B	77.56	318	P		P	19 00 10.9	-1.3
	0.4nm,0.7s,baz=191,slow=5.0,SNR=3.8							

*IDC **29** 18:49:11.7±0.5, 7.04N×92.46E, mb4.3/20, mb1 4.5/21, mb1mx4.4/26, mbtmp4.3/21, ML4.3/1, MS4.4/1, Ms1 4.4/1, ms1mx2.8/26, Error ellipse: s-maj=26.7km s-min=12.3km az=49.0*

*MOS **29** 18:49:14.4±1.3, 6.89N×92.48E, h33km, mb5.0/12, Error ellipse: s-maj=12.9km s-min=7.5km az=106.7*

*BJI **29** 18:49:15.1, 6.85N×92.31E, h40km, mB5.0, mb4.6, Ms5.0, Msz4.5*

*NEIC **29** 18:49:16.1±0.3, 7.01N×92.50E, h30km, mb4.7/16, Error ellipse: s-maj=12.0km s-min=6.7km az=222.0*

ISC 29 18:49:14.2±0.4, 6.90N±0.06×92.44E±0.06, h30km, n83, σ1§15/81, mb4.6/42, MS4.5/4, 2C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	11.65	273	eP	P	18 52 00.1	-1.7
	16nm,0.7s						
CM31	Chiang Mai Arr	13.12	28	eP	P	18 52 22.9	+1.7
	31nm,0.9s						
CMAR	Chiang Mai Arr	13.12	28	Pn	P	18 52 23.8	+2.5
	0.5nm,0.3s,baz=234,slow=14,SNR=22						
HYB	Hyderabad	17.11	309	eP	P	18 53 15.0	+1.9
HYB	Hyderabad	17.11	309	iP	P	18 53 15.0	+1.9
KMI	Kunming	20.62	27	P	P	18 53 53.6	-0.3
KMI				S	S	18 58 02.0	+24
KMI				*SS		18 58 15.0	
KMI				pmax	pmax		
	comp=Z,11nm,0.7s						
KMI				MLR	MLR		
	comp=Z,610nm,14.5s,MS4.1						
KMI	Kunming	20.62	27	P	P	18 53 53.6	-0.3
	comp=Z,11nm,0.7s						
KMI				pP		18 54 00.5	
KMI				S	S	18 58 02.0	+24
KMI				sS		18 58 15.0	
KMI				LR	LR		
	comp=Z,610nm,14.5s,MS4.1						
QIZ	Qiongzhong	20.78	53	P	P	18 54 00.0	+4.4
JIRN	Jiri	21.48	345	eP	P	18 54 03.3	+0.7
	comp=Z,92nm,1.0s,mb5.1						
PKI	Pulchoki	21.61	343	eP	P	18 54 04.6	+0.7
DMN	Daman	21.74	342	eP	P	18 54 05.5	+0.3
KKN	Kakani	21.85	343	eP	P	18 54 06.8	+0.5
	comp=Z,41nm,1.0s,mb4.8						
GKN	Gorkha	22.25	342	eP	P	18 54 10.7	+0.4
	comp=Z,72nm,0.8s,mb5.1						
KOLN	Koldanda	22.38	339	eP	P	18 54 12.5	+0.9
	comp=Z,71nm,1.3s,mb4.9						
XAN	Xi'an	31.01	27	P	P	18 55 29.8	-1.7
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.3						
WHN	Wuhan	31.23	38	eP	P	18 55 36.3	+2.8
NJ2	Nanjing	35.10	41	eP	P	18 56 07.0	-0.1
NJ2				AP	pP	18 56 16.5	+0.5
NJ2				XP	sP	18 56 20.5	+0.7
NJ2				PP	PP	18 57 27.8	+1.8
NJ2				S	S	19 01 40.0	+3.1
NJ2				LR	LR		
	comp=N,2μm,19.9s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,21.4s,MS5.0						
NJ2				LR	LR		
	comp=Z,3μm,17.9s,MS5.1						
SSE	Sheshan	36.09	44	P	P	18 56 13.3	-2.2
SSE				AMB	AMB		
	comp=Z,21nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,128nm,4.8s						
SSE	Sheshan	36.09	44	P	P	18 56 13.2	-2.3
	comp=Z,21nm,0.7s,mb5.2						
AAK	Ala-Archa	38.95	339	P	P	18 56 40.9	+1.5
AAK				pmax	pmax		
	comp=Z,34nm,1.6s,mb4.8						
AAK	Ala-Archa	38.95	339	eP	P	18 56 39.7	+0.3
	comp=Z,23nm,1.4s,mb4.7						
JOW	Kunigami	39.39	56	LR	LR	19 15 26.4	
	comp=Z,474nm,18.2s,MS4.4,baz=147,slow=40						
MKAR	Makanchi Array	40.69	349	eP	P	18 56 53.2	-0.5
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FITZ	Fitzroy Crossi	41.12	128	eP	P	18 56 58.0	+0.5
	comp=Z,13nm,0.9s,mb4.6						
SONM	Songino Array	42.49	14	P	P	18 57 09.1	+0.7
	comp=Z,3.1nm,0.9s,mb3.9,baz=198,slow=8.5,SNR=13						
ULN	Ulaanbaatar	42.68	15	↓iP	P	18 57 08.8	-1.2
ULN	Ulaanbaatar	42.68	15	eP	P	18 57 06.8	-3.2
	comp=Z,5.1nm,1.0s,mb4.2						
ZAK	Zakamensk	44.27	10	eP	P	18 57 23.0	+0.1
ZAK				e		18 59 11.6	
KURK	Kurchatov	45.16	348	iP	P	18 57 30.5	+0.5
KURK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.3						
KURK	Kurchatov	45.16	348	eP	P	18 57 29.6	-0.4
	comp=Z,10nm,0.9s,mb4.7						
MOY	Mondy	45.18	8	eP	P	18 57 31.3	+1.2
TLY	Talaya	45.59	10	iP	P	18 57 33.3	-0.1
TLY				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
NWAO	Narrogin (SRO)	46.10	151	P	P	18 57 38.6	+1.0
	comp=Z,4.3nm,0.8s,mb4.4,baz=92,slow=18,SNR=2.1						
ZAL	Zalesovo	47.30	354	P	P	18 57 46.3	-0.6
	comp=Z,1.9nm,0.4s,mb4.4,baz=315,slow=6.0,SNR=5.7						
NVS	Novosibirsk	48.37	353	eP	P	18 57 53.7	-1.5
WRA	Warramunga Arr	49.10	124	P	P	18 58 01.6	+0.2
	comp=Z,6.2nm,0.9s,mb4.6,baz=302,slow=9.0,SNR=23						
WRA				PcP	PcP	18 59 24.5	-0.4
	comp=Z,1.9nm,0.6s,baz=313,slow=2.8,SNR=5.8						
WRAB	Tennant Creek	49.11	124	eP	P	18 58 01.2	-0.2
WRAB				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1						
WRAB	Tennant Creek	49.11	124	eP	P	18 58 01.1	-0.2
	comp=Z,21nm,1.0s,mb5.1						
WB2	Warramunga Arr	49.11	124	↓iP	P	18 58 01.6	+0.2
BVA0	Borovoye Array	49.38	343	iP	P	18 58 02.2	-0.8
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.7						
BVAR	Borovoye Array	49.38	343	P	P	18 58 02.8	-0.2
	comp=Z,2.2nm,0.7s,mb4.3,baz=135,slow=6.3,SNR=12						
BRVK	Borovoye	49.44	343	P	P	18 58 02.9	-0.6
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
BRVK	Borovoye	49.44	343	eP	P	18 58 01.6	-1.9
	comp=Z,9.2nm,1.1s,mb4.7						
CHKZ	Chkalovo	49.88	343	P	P	18 58 06.3	-0.6
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
CHKZ	Chkalovo	49.88	343	eP	P	18 58 06.0	-0.9
	comp=Z,5.6nm,0.9s,mb4.6						
ASPA	Alice Springs	50.62	128	eP	P	18 58 13.1	+0.2
ASAR	Alice Springs	50.62	128	P	P	18 58 13.8	+0.9
	comp=Z,3.3nm,0.6s,mb4.5,baz=307,slow=7.4,SNR=23						
ASAR				PcP	PcP	18 59 31.4	+1.1
	comp=Z,1.8nm,0.8s,baz=300,slow=4.0,SNR=4.3						
BOD	Bodaibo	53.49	14	eP	P	18 58 33.3	-0.6
KMBO	Kilima Mbogo	55.64	264	P	P	18 58 52.0	+1.7
	comp=Z,1.8nm,1.1s,mb4.0,baz=54,slow=21,SNR=3.2						
SVE	Sverdlovsk	55.69	339	eP	P	18 58 46.0	-4.1
SVE				pmax	pmax		
	comp=Z,40nm,2.0s,mb5.1						
PMG	Port Moresby	56.88	106	eP	P	18 58 57.5	-1.7
PMG				pmax	pmax		
	comp=Z,16nm,1.1s						
PMG	Port Moresby	56.88	106	eP	P	18 58 57.5	-1.7
	comp=Z,16nm,1.1s,mb5.0						
CTA	Charters Tower	59.33	118	eP	P	18 59 16.4	+0.2
	comp=Z,6.2nm,1.1s,mb4.5						
CTA	Charters Tower	59.33	118	eP	P	18 59 16.4	+0.2
CTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CTA	Charters Tower	59.33	118	P	P	18 59 16.1	-0.1
	comp=Z,4.2nm,0.8s,mb4.5,baz=255,slow=8.9,SNR=5.8						
CTAO	Charters Tower	59.33	118	eP	P	18 59 12.9	-3.3
CTAO				pmax	pmax		
	comp=Z,19nm,1.3s,mb5.0						
CTAO	Charters Tower	59.33	118	eP	P	18 59 12.9	-3.3
	comp=Z,19nm,1.3s,mb5.0						
STKA	Stephens Creek	60.68	132	eP	P	18 59 25.4	+0.1
	comp=Z,2.3nm,0.6s,mb4.5						
STKA	Stephens Creek	60.68	132	P	P	18 59 26.0	+0.7
	comp=Z,3.1nm,0.6s,mb4.7,baz=305,slow=7.4,SNR=12						
YAK	Yakutsk	61.45	19	iP	P	18 59 27.7	-2.4
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
BRTR	Keskin Array B	61.79	312	P	P	18 59 31.9	-0.8
	comp=Z,1.4nm,0.9s,mb4.1,baz=136,slow=7.3,SNR=3.6						
OBN	Obninsk	65.30	328	eP	P	18 59 51.1	-4.5
OBN				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
MA2	Magadan	68.40	28	eP	P	19 00 14.1	-1.0
MA2	Magadan	68.40	28	P	P	19 00 12.7	-2.4
	comp=Z,11nm,1.0s,mb4.8						
TIXI	Tiksi	68.51	12	↓iP	P	19 00 15.0	-0.6
TIXI				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
TIXI				MLR	MLR		
	comp=Z,186nm,12.0s,MS4.5						
MLR	Muntele Rosu	68.69	316	P	P	19 00 16.5	-0.7
	comp=Z,4.1nm,0.9s,mb4.4,baz=125,slow=12,SNR=3.8						
FINES	FINESS Array B	72.78	333	P	P	19 00 40.3	-1.2
	comp=Z,2.2nm,0.6s,mb4.3,baz=106,slow=8.7,SNR=4.9						
ARCES	ARCESS Array B	75.61	340	P	P	19 00 56.7	-1.0
	comp=Z,3.9nm,0.9s,mb4.4,baz=90,slow=6.3,SNR=3.6						
GERES	GERESS Array B	77.42	318	P	P	19 01 09.2	+0.9
	comp=Z,2.4nm,0.8s,mb4.2,baz=108,slow=4.2,SNR=12						
KHC	Kasperske Hory	77.52	319	eP	P	19 01 06.5	-2.3
CLL	Collm	78.04	321	P	P	19 01 12.0	+0.4
CLL				ePP	pP	19 01 26.0	+4.9
HFS	Hagfors	78.44	330	P	P	19 01 13.5	-0.1
	comp=Z,2.0nm,0.7s,mb4.2,baz=98,slow=10,SNR=2.7						
FX1	Attu Island--F	78.93	38	P	P	19 01 16.1	-0.3
	comp=Z,11nm,0.6s,mb4.9,baz=238,slow=9.5,SNR=2.1						
NB2	NORSAR Subarra	79.74	331	P	P	19 01 20.3	-0.4
	comp=Z,4.3nm,1.4s,mb4.2,baz=93,slow=5.6						
NB2	NORSAR Subarra	79.74	331	P	P	19 01 20.3	-0.4
NB2				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
NOA	NORSAR Array B	79.74	331	P	P	19 01 20.0	-0.7
	comp=Z,0.7nm,0.8s,mb3.6,baz=177,slow=7.1,SNR=3.2						
DAVOX	Davos	79.91	316	P	P	19 01 23.4	+1.5
	comp=Z,4.4nm,0.7s,mb4.5,baz=108,slow=9.6,SNR=5.9						
LPG	La Plagne	82.10	315	eP	P	19 01 34.5	+1.1
	comp=Z,28nm,1.2s,mb4.8						
LPG	La Plagne	82.10	315	eP	P	19 01 34.5	+1.1
LPG				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
EKA	Eskdalemuir Ar	87.55	325	P	P	19 02 01.9	+1.4
	comp=Z,3.1nm,0.8s,mb4.6,baz=98,slow=5.9,SNR=6.1						
ESDC	Sonseca Array	90.54	310	P	P	19 02 16.5	+1.4
	comp=Z,0.7nm,0.6s,mb4.2,baz=60,slow=4.2,SNR=4.5						
PDAR	Pinedale Array	126.67	20	PKP	PKPdf	19 08 15.1	-5.2
	comp=Z,0.3nm,0.7s,baz=72,slow=2.9,SNR=2.9						
LPAZ	La Paz	158.82	242	PKPab	PKPab	19 09 48.5	+0.4
	comp=Z,1.1nm,0.8s,baz=108,slow=6.8,SNR=4.2						

MAN 29 18:50:28.5, 13.51N×119.96E, h32km, mb3.6, ML2.3, MS1.8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.36	51	eP	Pb	18 50 38.3	+1.3
LUBP				eS	Sb	18 50 43.5	+0.8
BUSP	Coron	1.51	171	eP	Pn	18 50 53.8	0.0
SJMP	San Jose	1.54	132	eP	Pn	18 50 53.9	-0.2
ENPP	El Nido	2.34	193	eP	Pn	18 51 05.3	-0.4

*PRU **29** 18:52:07.1, 36.22N×28.97E, h30km*

*THE **29** 18:52:25.7, 37.97N×27.10E, h9km, ML4.6*

*ISK **29** 18:52:25.9, 38.18N×26.64E, h5km, MD4.2*

*ATH **29** 18:52:27.1, 38.13N×26.93E, h35km±2km, MD4.3/15, ML4.6*

*IDC **29** 18:52:27.3±0.7, 38.12N×26.87E, mb3.9/12, mb1 4.0/23, mb1mx4.0/31, mbtmp3.9/23, ML3.8/10, MS4.1/5, Ms1 4.1/5, ms1mx3.6/29, Error ellipse: s-maj=14.0km s-min=11.8km az=107.0*

*BJI **29** 18:52:27.7, 38.56N×26.56E, h16km, mB4.9, mb4.6, Ms4.6, Msz4.6*

*CSEM **29** 18:52:28.1, 38.20N×26.86E, h10km, mb4.6*

*ZUR_RM **29** 18:52:29, 38.11N×26.87E, h15km, Mw4.8/29, Moment Tensor Solution. s29 Moment tensor: Scale 10^16^Nm; M_{rr}=0.40; $M_{\theta\theta}$2.01; $M_{\phi\phi}$-1.62; $M_{r\theta}$0.12; $M_{\theta\phi}$-0.91; $M_{r\phi}$0.38; Best double couple: $M_0$2.08×10^16^ NP1:φs239°, δ80°, λ-169°. NP2:φs147°, δ79°, λ-10°. Principal axes: T 2.229, Plg1°, Azm13°; N -.293, Plg75°, Azm281°; P -1.936, Plg15°, Azm103°;*

*NEIC **29** 18:52:29.3±0.3, 38.11N×26.87E, h10km, mb4.5/37, MS4.1/1, ML4.4(ISK) Error ellipse: s-maj=4.7km s-min=3.1km az=183.0*

*HLW **29** 18:52:37.9, 37.65N×27.11E, h28km, Mb4.1*

ISC 29 18:52:25.7±0.5, 38.02N±0.01×26.84E±0.02, h0km±4km, n303, σ1§24/332, mb4.3/26, MS4.0/3, 2C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	Samos	0.31	180	ePB	Pb	18 52 37.1	+3.3
SMG				eSB	Sb	18 52 44.2	+5.2
BLCB	Balcova	0.40	23	iPG	Pg	18 52 34.1	+0.3
BLCB				iSG	Sg	18 52 38.7	-0.4
BLCB	Balcova	0.40	23	Pg	Pg	18 52 33.5	-0.3
IZM	Izmir	0.51	41	iPG	Pg	18 52 37.0	+1.1
KDAG	Bornova	0.51	41	iP	Pg	18 52 37.1	+1.2
KDAG	Bornova	0.51	41	iP	Pg	18 52 37.1	+1.2
KDAG				iS	Sg	18 52 49.8	+7.0
AYDN	Tasoluk	0.90	113	iP	Pg	18 52 47.4	+3.8
AYDN				iS	Sg	18 53 00.9	+5.3
MLSB	Milas	1.03	134	iPN	Pn	18 52 49.8	+2.5
MLSB	Milas	1.03	134	Pn	Pn	18 52 49.9	+2.6
BDRM	Kayabasi	1.06	153	iP	Pb	18 52 50.5	+3.8
BDRM				iS	Sb	18 53 07.0	+5.9
AKS	Akhisar	1.15	41	iPN	Pn	18 52 48.5	-0.5
AKS	Akhisar	1.15	41	Pn	Pn	18 52 48.5	-0.5
AYVA	Ayvalik	1.29	355	iP	Pb	18 52 49.0	-1.6
AYVA				iS	Sb	18 53 08.4	+0.7
PRK	Paraskevi	1.31	340	ePN	Pn	18 52 49.5	-1.7
PRK				eSN	Sn	18 53 06.3	-3.3
APE	Apeiranthos	1.41	228	iPN	Pn	18 52 52.4	-0.2
APE	Apeiranthos	1.41	228	ePB	Pb	18 52 53.4	+0.8
APE	Apeiranthos	1.41	228	Pn	Pn	18 52 52.6	0.0
MANT	Manisa	1.43	70	iP	Pn	18 52 54.0	+0.9
MANT				iS	Sb	18 53 12.9	+1.2
YER	Yerkesik	1.45	127	ePN	Pn	18 52 55.9	+2.7
YER	Yerkesik	1.45	127	Pn	Pn	18 52 56.6	+3.4
DENT	Denizli	1.76	98	iPN	Pn	18 53 00.4	+2.8
DENT	Denizli	1.76	98	Pn	Pn	18 52 59.8	+2.1
DNZL	Cakiroluk	1.78	100	iP	Pn	18 53 00.1	+2.2
DNZL				iS	Sn	18 53 27.8	+6.2
BALB	Balikesir	1.81	26	ePN	Pn	18 52 57.3	-1.2
BALB	Balikesir	1.81	26	Pn	Pn	18 52 57.3	-1.1
EZN	Ezine	1.85	348	iPN	Pn	18 52 56.8	-2.2
EZN	Ezine	1.85	348	Pn	Pn	18 52 56.8	-2.2
BOZC	Bozcaada	1.92	342	iP	Pn	18 52 58.0	-2.0
BOZC				iS	Sn	18 53 25.5	+0.2
BTOK	Tokmak	1.98	28	iP	Pn	18 52 59.7	-1.1
SANT	Santorini	1.98	214	ePn	Pn	18 53 00.9	0.0
SANT				ePg	Pg	18 53 06.5	+1.3
SANT				eSn	Sg	18 53 38.0	+6.4
SANT	Santorini	1.98	214	ePn	Pn	18 53 00.9	+0.1
CANB	Canakkale	2.00	5	ePN	Pn	18 52 59.3	-1.9
DST	Dursunbey	2.11	41	iPN	Pn	18 53 02.5	-0.3
DST	Dursunbey	2.11	41	Pn	Pn	18 53 02.4	-0.4
KHL	Karahalli	2.14	81	ePN	Pn	18 53 05.2	+2.1
KHL	Karahalli	2.14	81	Pn	Pn	18 53 04.8	+1.7
KHL	Karahalli	2.14	81	Pn	Pn	18 53 04.8	+1.7
FETY	Fethiye	2.26	127	PN	Pn	18 53 08.8	+4.0
LIA	Limnos Island	2.28	326	ePN	Pn	18 53 03.6	-1.5
PTL	Penteli	2.35	272	ePN	Pn	18 53 06.0	-0.1
LOS	Limnos	2.35	325	ePn	Pn	18 53 05.2	-1.0
LOS				eSn	Sn	18 53 36.7	+0.4
EDC	Edincik	2.46	19	iPN	Pn	18 53 06.3	-1.4
EDC	Edincik	2.46	19	Pn	Pn	18 53 06.3	-1.4
ATH	Athens Observa	2.47	270	ePN	Pn	18 53 08.5	+0.7
KARP	Karpathos	2.48	174	ePN	Pn	18 53 09.2	+1.2
BNT	Bandirma	2.48	19	iPN	Pn	18 53 06.5	-1.5
BNT	Bandirma	2.48	19	Pn	Pn	18 53 06.5	-1.5
KCT	Karacabey	2.54	27	iPN	Pn	18 53 07.8	-1.0
KCT	Karacabey	2.54	27	Pn	Pn	18 53 07.9	-0.9
KCT	Karacabey	2.54	27	Pn	Pn	18 53 07.9	-0.9
ORLT	Orhaneli	2.58	38	ePN	Pn	18 53 08.8	-0.7
ORLT	Orhaneli	2.58	38	Pn	Pn	18 53 09.2	-0.3
ORLT	Orhaneli	2.58	38	Pn	Pn	18 53 09.2	-0.3
AOS	Alonnisos	2.59	297	ePn	Pn	18 53 10.1	+0.5
AOS				eSn	Sn	18 53 43.9	+1.7
MRMT	Marmara Adasi	2.65	13	iPN	Pn	18 53 08.1	-2.3
MRMT	Marmara Adasi	2.65	13	Pn	Pn	18 53 08.0	-2.4
SART	Tekirdag	2.68	6	iP	Pn	18 53 09.4	-1.4
SART				iS	Sn	18 53 50.0	+5.5
ELL	Elmali	2.75	116	iPN	Pn	18 53 15.3	+3.4
ELL	Elmali	2.75	116	Pn	Pn	18 53 14.5	+2.6
ALT	Altintas	2.77	67	ePN	Pn	18 53 13.0	+0.9
ALT	Altintas	2.77	67	Pn	Pn	18 53 12.6	+0.4
ULDT	Uludag	2.77	39	iP	Pn	18 53 10.9	-1.3
ULDT				iS	Sn	18 53 52.8	+5.9
MFT	Murefte	2.79	7	iPN	Pn	18 53 10.6	-1.8
MFT	Murefte	2.79	7	Pn	Pn	18 53 10.4	-2.0
ISP	Isparta	2.91	92	ePN	Pn	18 53 16.5	+2.4
ISP	Isparta	2.91	92	Pn	Pn	18 53 16.4	+2.3
NPS	Neapolis	2.92	200	ePN	Pn	18 53 15.6	+1.3
ALN	Alexandroupoli	2.94	348	ePn	Pn	18 53 13.0	-1.6
BCK	Bucak	3.02	99	iPN	Pn	18 53 18.4	+2.6
BCK	Bucak	3.02	99	Pn	Pn	18 53 18.3	+2.5
LKR	Lokris	3.08	283	ePN	Pn	18 53 16.5	-0.1
NEO	Neokhori	3.11	296	ePN	Pn	18 53 16.6	-0.4
IDI	Anoyia	3.14	211	Pn	Pn	18 53 18.5	+1.0
	18nm,0.3s,baz=5.8,slow=15,SNR=58						
IDI				Pg	Pg	18 53 27.6	-0.9
	20nm,0.3s,baz=30,slow=14,SNR=18						
IDI				Lg		18 54 11.6	
	58nm,0.3s,baz=308,slow=22,SNR=3.1						
XOR	Xorichti	3.16	296	ePn	Pn	18 53 16.9	-0.8
XOR				eSn	Sn	18 53 57.8	+1.3
OUR	Ouranopolis	3.21	317	ePn	Pn	18 53 17.3	-1.0
OUR				eSn	Sn	18 53 58.6	+0.7
YLV	Yalova	3.22	37	ePN	Pn	18 53 18.9	+0.4
YLV	Yalova	3.22	37	Pn	Pn	18 53 18.5	-0.1
YLV	Yalova	3.22	37	Pn	Pn	18 53 18.5	0.0
ANTB	Antalya	3.23	109	ePN	Pn	18 53 21.3	+2.6
RDO	Rodhopi	3.28	343	ePN	Pn	18 53 17.2	-2.3
BADT	Buyukada	3.34	31	iPN	Pn	18 53 19.5	-0.7
BADT	Buyukada	3.34	31	Pn	Pn	18 53 19.3	-0.9
CTT	Catalca	3.36	21	ePN	Pn	18 53 20.1	-0.4
CTT	Catalca	3.36	21	Pn	Pn	18 53 19.4	-1.2
VAM	Vamos	3.36	220	ePN	Pn	18 53 20.7	+0.2
VLI	Veliai	3.37	249	ePN	Pn	18 53 20.5	-0.2
ESKT	Eskisehir	3.48	63	ePN	Pn	18 53 23.7	+1.5
ESKT	Eskisehir	3.48	63	Pn	Pn	18 53 23.1	+0.9
ESKT	Eskisehir	3.48	63	iP	Pn	18 53 23.3	+1.1
ESKT				iS	Sn	18 54 20.1	+15
ESKT	Eskisehir	3.48	63	Pn	Pn	18 53 23.1	+0.9
ISK	Istanbul-Kandi	3.50	29	ePN	Pn	18 53 22.5	0.0
ISK	Istanbul-Kandi	3.50	29	Pn	Pn	18 53 21.9	-0.6
ISK	Istanbul-Kandi	3.50	29	Pn	Pn	18 53 21.9	-0.6
KYTH	Kithira	3.50	241	ePN	Pn	18 53 23.5	+1.0
GPA	Golpazari	3.52	49	ePN	Pn	18 53 23.1	+0.2
GPA	Golpazari	3.52	49	Pn	Pn	18 53 22.2	-0.7
GPA	Golpazari	3.52	49	Pn	Pn	18 53 22.2	-0.7
PLG	Polygyros	3.53	313	ePN	Pn	18 53 22.0	-1.0
HRT	Hereke	3.56	37	ePN	Pn	18 53 23.1	-0.2
HRT	Hereke	3.56	37	Pn	Pn	18 53 22.2	-1.2
EYL	Eskiyayla	3.62	44	ePN	Pn	18 53 23.7	-0.5
EYL	Eskiyayla	3.62	44	Pn	Pn	18 53 24.1	-0.2
AGG	Agios Georgios	3.68	287	ePn	Pn	18 53 24.5	-0.5
EDRB	Edirne	3.83	359	ePN	Pn	18 53 25.5	-1.7
EDRB	Edirne	3.83	359	Pn	Pn	18 53 25.0	-2.1
GVD	Gavdhos	3.87	216	ePn	Pn	18 53 28.4	+0.6
SOH	Sokhos	3.89	317	ePn	Pn	18 53 27.2	-0.9
LIT	Litokhoron	3.97	303	ePn	Pn	18 53 29.2	-0.1
THE	Thessaloniki	3.98	312	ePn	Pn	18 53 29.0	-0.4
SRS	Serrai	3.98	322	ePn	Pn	18 53 28.1	-1.4
ITM	Ithomi	3.99	259	ePN	Pn	18 53 30.9	+1.4
NVR	Nevrokopi	4.04	326	ePN	Pn	18 53 28.6	-1.7
EVR	Evrytania	4.05	284	ePN	Pn	18 53 30.9	+0.6
KIZT	Kizilcal	4.05	76	ePN	Pn	18 53 32.7	+2.4
KIZT	Kizilcal	4.05	76	Pn	Pn	18 53 32.5	+2.1
MDU	Mudurnu	4.18	53	Pn	Pn	18 53 32.6	+0.4
MDU	Mudurnu	4.18	53	Pn	Pn	18 53 32.

GLL Jalalah 9.34 153 P P 18 54 43.5 -1.1
GLL Jalalah 9.34 153 P P 18 54 43.5 -1.1
FG5 Orsara di Pugl 9.50 294 eP P 18 54 47.8 +1.0
SUZ 9.55 147 P P 18 54 46.7 -0.8
AWBH 9.82 169 P P 18 54 50.2 -1.1
VAE Valguarnera 9.86 271 Pn P 18 54 51.4 -0.3
comp=Z,0.5nm,0.3s,baz=322,slow=17,SNR=2.7
ZAF 9.92 150 P P 18 54 51.1 -1.6
ZNM 9.97 148 P P 18 54 52.1 -1.3
HNKL Nakhl 10.01 142 P P 18 54 52.2 -1.6
HNKL S S 18 56 32.7 -15
ASF Jabal al Asfar 10.09 122 Pn P 18 54 55.2 +0.2
comp=Z,1.7nm,0.3s,baz=175,slow=8.2,SNR=17
ASF Sn S 18 56 48.9 -1.2
comp=Z,0.5nm,0.3s,baz=140,slow=16,SNR=2.1
EIL Elat 10.71 139 Pn P 18 55 01.7 -1.7
comp=Z,1.5nm,0.3s,baz=297,slow=7.5,SNR=12
EIL Sn S 18 56 59.6 -5.7
comp=Z,2.6nm,0.3s,baz=319,slow=21,SNR=5.5
EIL Elat 10.71 139 ePn P 18 55 00.8 -2.7
GRB Gharib 10.92 151 P P 18 55 04.9 -1.4
HBST Basata 10.96 141 P P 18 55 05.5 -1.5
ALWS Ilw as Safayha 11.06 139 P P 18 55 07.4 -0.8
NUB 11.08 142 P P 18 55 06.9 -1.6
PSZ Piszkesteto 11.12 335 eP P 18 55 05.5 -3.6
comp=Z,5.5nm,0.8s
PSZ Piszkesteto 11.12 335 eP P 18 55 09.7 +0.7
JMOS Jabal al Moall 11.19 140 P P 18 55 09.1 -1.0
HAQS Haql 11.20 141 P P 18 55 08.5 -1.6
TR2 11.20 147 P P 18 55 08.8 -1.4
ASUT 11.31 158 P P 18 55 10.9 -0.8
HDHB Dhahab 11.32 143 P P 18 55 10.4 -1.4
TR1 11.62 147 P P 18 55 14.2 -1.7
TR1 11.62 147 P P 18 55 14.2 -1.8
BDAS Al Bad' 11.79 142 P P 18 55 16.3 -2.0
JMQS Jabal Moqyreh 11.82 138 P P 18 55 18.8 +0.2
KWP Kalwaria 11.98 347 eP P 18 55 19.1 -1.7
comp=Z,21nm,0.8s
AYUS 'Aynunah 12.08 142 P P 18 55 20.2 -1.9
HHRG Al Ghardaqah 12.16 150 P P 18 55 21.6 -1.6
AKASG Malin Array Be 12.79 7 Pn P 18 55 25.0 -6.7
comp=Z,0.5nm,0.3s,baz=198,slow=13,SNR=5.4
GTR Jabal at Tayr 12.86 165 P P 18 55 31.4 -1.2
HSFG 12.89 150 P P 18 55 31.7 -1.3
KIV Kislovodsk 13.35 59 P P 18 55 39.3 +0.2
comp=Z,38nm,1.4s
KIV Kislovodsk 13.35 59 P P 18 55 39.3 +0.2
comp=Z,38nm,1.4s
VRAC Vranov 13.49 330 Pn P 18 55 40.1 -0.8
comp=Z,0.2nm,0.3s,baz=173,slow=15,SNR=2.3
VSL Villasalto 13.71 282 P P 18 55 44.0 +0.3
comp=Z,18nm,0.9s
HDK2 Wahat Dakhilah 13.77 172 P P 18 55 44.0 -0.7
GNI Garni 14.07 76 Pn P 18 55 50.8 +2.3
comp=Z,0.1nm,0.3s,baz=270,slow=19,SNR=1.9
GNI LR LR 19 01 11.7
comp=Z,628nm,18.3s,baz=293,slow=37
GNI Garni 14.07 76 eP P 18 55 50.4 +1.8
comp=Z,56nm,1.6s
PGF Pioggiola 14.35 294 eP P 18 55 52.7 +0.6
GERES GERESS Array B 14.41 323 Pn P 18 55 52.0 -0.9
comp=Z,0.0nm,0.3s,baz=153,slow=11,SNR=4.2
DPC Dobruska-Polom 14.44 332 eP P 18 55 58.5 +5.3
DPC AMS AMS 19 01 30.0
comp=Z,1μm,13.3s
KHC Kasperske Hory 14.66 323 eP P 18 56 02.4 +6.2
KHC e 18 56 05.0
KHC Kasperske Hory 14.66 323 eP P 18 56 02.4 +6.2
KHC x x 18 56 05.0
KHC AMS AMS 19 02 10.0
comp=Z,1μm,13.4s
UPC Upice 14.68 332 eP P 18 56 04.7 +8.3
PRU Pruhonice 14.86 328 eP P 18 56 07.1 +8.4
PRU AMS AMS 19 01 30.0
comp=Z,1μm,12.7s
PVCC Panska Ves 15.26 329 eP P 18 56 09.4 +5.4
PVCC AMS AMS 19 02 40.0
comp=Z,1μm,10.0s
DAVOX Davos 15.26 310 Pn P 18 56 06.3 +2.3
comp=Z,0.1nm,0.3s,baz=164,slow=18,SNR=4.1
UMJS Umm Lajj 15.54 142 P P 18 56 07.8 -0.1
BRG Berggiesshubel 15.78 329 eP P 18 56 13.4 +2.6
comp=Z,22nm,1.5s
BRG e 18 56 26.7
NKC Novy Kostel 15.96 325 eP P 18 56 18.8 +5.7
NKC AMS AMS 19 02 20.0
comp=Z,1μm,13.1s
GRA1 Grafenberg Arr 16.18 321 eP P 18 56 20.6 +4.7
comp=Z,35nm,1.3s
GRF Grafenberg Arr 16.18 321 eP P 18 56 20.6 +4.7
comp=Z,35nm,1.3s
FRF La Foret Royal 16.25 296 eP P 18 56 16.7 -0.2
comp=Z,103nm,1.2s
LMR La Mourre 16.30 295 eP P 18 56 17.5 0.0
MBDF Montbardon 16.47 300 eP P 18 56 19.4 -0.2
comp=Z,31nm,1.0s
CLL Collm 16.50 328 eP P 18 56 14.0 -5.9
CLL i 18 56 24.7
CLL Collm 16.50 328 P P 18 56 24.7 +4.8
CLL i 18 56 36.0
BNI Bardonecchia 16.63 301 eP P 18 56 28.1 +6.4
comp=Z,72nm,1.4s
MOX Moxa 16.63 324 eP P 18 56 25.3 +3.7
comp=Z,97nm,1.8s
MOX Moxa 16.63 324 i P P 18 56 25.3 +3.7
comp=Z,logA/T=1.7
MOX L 19 02 20.0
LPG La Plagne 16.72 303 eP P 18 56 23.7 +0.9
comp=Z,227nm,1.7s
LPL La Plagne 16.74 303 eP P 18 56 23.9 +0.8
comp=Z,95nm,1.4s
FELD Feldberg 16.91 312 eP P 18 56 26.3 +1.1
FELD Feldberg 16.91 312 eP P 18 56 26.2 +1.0
OG01 Vacheresse 17.06 306 eP P 18 56 27.8 +0.7
OG01 Vacheresse 17.06 306 eP P 18 56 27.3 +0.2
SMRF Simiane la Rot 17.10 297 eP P 18 56 27.7 +0.1
comp=Z,314nm,1.9s
ORIF Oris-en-Rattie 17.13 300 eP P 18 56 28.3 +0.3
comp=Z,68nm,1.5s
ORIF eR
comp=Z,715nm,22.0s
LOMF Lomont 17.38 309 eP P 18 56 31.9 +0.8
MOF Molkenrain 17.41 311 eP P 18 56 33.6 +2.1
CABF La Chapelle 17.55 306 eP P 18 56 34.1 +0.9
comp=Z,169nm,1.6s
WLS Welschbruch 17.55 313 eP P 18 56 37.1 +3.9
HINF Hinteralfeld 17.57 310 eP P 18 56 33.4 0.0
ECH Echery 17.57 312 eP P 18 56 38.4 +4.9
LANF Langenberg 17.58 315 eP P 18 56 37.9 +4.4
CDF Champ du Feu 17.59 312 eP P 18 56 34.2 +0.4
comp=Z,94nm,1.5s
OG05 Jujurieux 17.76 304 eP P 18 56 36.7 +0.9
OG05 Jujurieux 17.76 304 eP P 18 56 37.4 +1.6
VIVF Saint-Julien-l 17.94 299 eP P 18 56 37.9 -0.2
comp=Z,126nm,1.6s
HAU Haudompre 17.96 310 eP P 18 56 38.7 +0.4
comp=Z,38nm,1.2s
HAU eR
comp=Z,568nm,18.2s
ABH Alteburg 18.20 317 eP P 18 56 44.2 +2.8
THEF They Montfort 18.27 311 eP P 18 56 45.7 +3.5
OBN Obninsk 18.33 18 P P 18 56 36.3 -6.6
comp=Z,28nm,1.1s
LASF Ste Croix 18.33 297 eP P 18 56 43.7 +0.7
RUP Ruppelstein 18.37 316 eP P 18 56 44.9 +1.4
MEZF Maizieres J'vi 18.95 311 eP P 18 56 51.6 +1.1
SMF Signal de Mont 19.01 304 eP P 18 56 49.9 -1.4
SSF Saint Saulge 19.37 305 eP P 18 56 55.1 -0.4
comp=Z,12nm,1.0s
AVF Avril sur Loir 19.38 304 eP P 18 56 55.6 0.0
comp=Z,94nm,1.4s
BGF Bois d'Agland 19.64 303 eP P 18 56 58.7 +0.1
comp=Z,57nm,1.0s
GIVF Givet 19.82 315 eP P 18 57 01.0 +0.4
TCF Toulx Ste Croi 19.98 302 eP P 18 57 02.3 -0.2
comp=Z,48nm,1.3s
HYF Humbligny 19.99 305 eP P 18 57 02.6 +0.1
BAIF Baives 20.15 314 eP P 18 57 03.7 -0.5
comp=Z,29nm,1.2s
RJF Les Rejaudoux 20.22 299 eP P 18 57 05.4 +0.5
comp=Z,55nm,1.3s
RJF eR
comp=Z,816nm,19.0s
LFF La Frestale 20.69 298 eP P 18 57 10.3 +0.5

ETSF Etsaut 21.37 292 eP P 18 57 17.7 +0.9
comp=Z,100nm,1.5s,mb4.6
MFF Saint Martin d 21.64 302 eP P 18 57 20.0 +0.5
comp=Z,97nm,1.3s,mb4.8
GRR Gorron 22.58 306 eP P 18 57 29.1 +0.3
comp=Z,59nm,1.2s,mb4.7
FINES FINESS Array B 23.46 359 P P 18 57 36.1 -1.2
comp=Z,2.7nm,0.7s,mb3.9,baz=162,slow=13,SNR=8.2
FINES LR LR 19 07 46.4
comp=Z,437nm,19.3s,MS3.9,baz=357,slow=39
SGMF Saint Gilles 23.63 305 eP P 18 57 39.5 +0.4
comp=Z,208nm,1.7s,mb5.1
HFS Hagfors 23.66 344 P P 18 57 38.5 -0.7
comp=Z,6.2nm,0.9s,mb4.1,baz=150,slow=12,SNR=11
QUIF Quistinic 23.95 304 eP P 18 57 42.9 +0.8
comp=Z,136nm,1.4s,mb5.0
ESDC Sonseca Array 23.99 284 P P 18 57 45.2 +2.5
comp=Z,2.9nm,0.9s,mb3.8,baz=75,slow=10,SNR=9.4
ESLA Sonseca Array 23.99 284 eP P 18 57 44.7 +2.1
comp=Z,22nm,1.5s,mb4.5
NAO01 NORSAR Array S 24.96 341 eP P 18 57 51.7 -0.1
comp=Z,10nm,0.8s,mb4.6
NOA NORSAR Array B 25.04 342 P P 18 57 51.9 -0.7
comp=Z,2.4nm,0.6s,mb4.1,baz=146,slow=8.8,SNR=9.0
NOA NORSAR Array B 25.04 342 P P 18 57 51.9 -0.7
EKA Eskdalemuir Ar 26.60 320 P P 18 58 07.0 -0.2
comp=Z,1.2nm,0.8s,mb3.7,baz=265,slow=15,SNR=2.8
EVO Evora 27.27 282 eP P 18 58 14.4 +0.9
comp=Z,7.7nm,0.9s,mb4.1
EVO eR
comp=Z,323nm,21.0s
CHKZ Chkalovo 33.67 48 eP P 18 59 11.0 +0.9
comp=Z,7.4nm,1.1s,mb4.5
JMIC Jan Mayen 37.76 342 LR LR 19 15 25.9
comp=Z,288nm,18.2s,MS4.1,baz=106,slow=37
MBAR Mbarara 38.59 174 eP P 18 59 54.2 +1.9
comp=Z,14nm,1.4s,mb4.4
ZAL Zalesovo 42.07 48 P P 19 00 19.9 -0.6
comp=Z,0.6nm,0.5s,mb3.6,baz=188,slow=10,SNR=2.5
ZAL LR LR 19 22 55.8
comp=Z,248nm,19.2s,MS4.1,baz=176,slow=44
DBIC Dimbokro 42.41 231 P P 19 00 23.2 -0.6
comp=Z,4.4nm,0.7s,mb4.3,baz=17,slow=9.2,SNR=10.0
DBIC Dimbokro 42.41 231 eP P 19 00 22.2 -1.6
comp=Z,12nm,1.1s,mb4.5
WMQ Urumqi 45.45 63 eP P 19 00 49.8 +1.8
SONM Songino Array 56.66 52 P P 19 02 12.0 -0.8
comp=Z,0.3nm,0.6s,mb3.5,baz=288,slow=8.1,SNR=4.2
ULN Ulaanbaatar 57.05 52 eP P 19 02 15.3 -0.4
comp=Z,1.1nm,0.8s,mb3.9
TSUM Tsumeb 57.57 190 P P 19 02 18.0 -1.7
comp=Z,3.0nm,1.1s,mb4.2
FRB Frobisher Bay 58.91 329 P P 19 02 27.6 -0.9
comp=Z,2.8nm,0.9s,mb4.3,baz=63,slow=16,SNR=2.3
RES Resolute Bay 61.26 345 P P 19 02 40.5 -3.9
RES pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
RES Resolute Bay 61.26 345 P P 19 02 40.5 -3.9
comp=Z,2.1nm,0.9s,mb4.3
SCHQ Schefferville 61.90 319 P P 19 02 47.5 -1.5
comp=Z,1.8nm,0.6s,mb4.5,baz=76,slow=2.5,SNR=5.0
SCHQ Schefferville 61.90 319 eP P 19 02 48.0 -1.1
comp=Z,5.2nm,1.0s,mb4.7
BOSA Boshof 66.30 182 P P 19 03 18.8 +0.7
comp=Z,9.0nm,1.1s,mb4.9
YKA Yellowknife Ar 75.14 343 P P 19 04 09.6 -1.3
comp=Z,0.3nm,0.6s,mb3.5,baz=26,slow=5.5,SNR=7.1
ILAR Eielson Array 77.43 357 P P 19 04 23.4 -0.3
comp=Z,0.3nm,0.6s,mb3.6,baz=346,slow=4.5,SNR=5.9

IDC 29 18:57:34.7±2.8, 8.30N×93.09E, mb3.5/3, mb1 3.7/4, mb1mx3.5/17, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=86.9km s-min=30.1km az=71.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.59	29	Pn	P	19 00 23.2	-1.4
	0.1nm,0.3s,baz=215,slow=14,SNR=3.7						
NANT	Nan	12.79	35	P	P	19 00 40.0	-0.8
SONM	Songino Array	40.99	14	P	P	19 05 18.5	-2.5
	0.3nm,0.8s,baz=180,slow=4.3,SNR=2.5						
ZAL	Zalesovo	46.00	353	P	P	19 05 60.0	-1.6
	0.7nm,0.6s,baz=292,slow=12,SNR=3.3						
ASAR	Alice Springs	50.98	130	P	P	19 06 38.8	-1.9
	0.4nm,0.6s,baz=305,slow=7.4,SNR=5.1						

*BJI **29** 18:58:47.1, 6.87N×93.94E, h30km, mB4.9, mb4.5*
*IDC **29** 18:58:52.4±0.5, 7.77N×94.02E, mb4.4/26, mb1 4.5/27, mb1mx4.4/29, mbtmp4.3/27, ML4.6/1, Error ellipse: s-maj=25.1km s-min=12.2km az=55.0*
*MOS **29** 18:58:55.8±1.1, 7.92N×94.27E, h33km, mb4.9/16, Error ellipse: s-maj=14.0km s-min=7.6km az=111.0*
*NEIC **29** 18:58:56.9±0.3, 7.82N×94.16E, h30km, mb4.7/16, Error ellipse: s-maj=10.7km s-min=7.9km az=58.0*

ISC 29 18:58:55.4±2.7, 7.88N±0.06×94.28E±0.06, h33km±18km, n97, σ1°08/95, mb4.6/52, 4C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	Songkhla	6.32	96	P	Pn	19 00 27.0	-1.9
	400nm,0.9s						
NNT	Nongplab	7.12	48	P	Pn	19 00 40.0	-0.1
CM31	Chiang Mai Arr	11.45	23	eP	P	19 01 41.2	+1.3
	27nm,0.8s						
CMAR	Chiang Mai Arr	11.45	23	Pn	P	19 01 41.3	+1.4
	1.3nm,0.3s,baz=211,slow=14,SNR=58						
VIS	Vishakhapatnam	14.48	314	eP	P	19 02 19.8	-0.4
VIS				e		19 02 25.7	
	comp=E,48nm,1.8s						
BWNR	Bhubaneshwar	14.82	327	eP	P	19 02 20.8	-3.9
BWNR				e		19 02 34.8	
	comp=Z,46nm,1.0s						
BWNR				e		19 04 52.9	
IMP	Imphal	16.81	359	eP	P	19 02 50.1	-0.1
HYB	Hyderabad	18.03	303	eP	P	19 03 07.0	+1.6
HYB	Hyderabad	18.03	303	i P	P	19 03 07.0	+1.6
BLSP	Bilaspur	18.38	322	eP	P	19 03 07.8	-1.9
BLSP				e		19 03 22.4	
	comp=Z,44nm,1.9s						
KMI	Kunming	18.95	24	⇑P	P	19 03 20.7	+4.1
KMI				pmax	pmax		
	comp=Z,26nm,1.2s						
KMI	Kunming	18.95	24	⇑P	P	19 03 20.7	+4.1
	comp=Z,26nm,1.2s						
KMI				pP		19 03 25.2	
JIRN	Jiri	21.11	340	eP	P	19 03 39.4	-0.4
	comp=Z,110nm,1.2s,mb5.1						
PKI	Pulchoki	21.31	338	eP	P	19 03 43.3	+1.5
	comp=Z,68nm,1.0s,mb4.9						
DMN	Daman	21.46	337	eP	P	19 03 43.2	-0.1
	comp=Z,77nm,0.8s,mb5.1						
KKN	Kakani	21.56	338	eP	P	19 03 43.7	-0.6
	comp=Z,33nm,0.7s,mb4.9						
LSA	Lhasa	21.91	353	P	P	19 03 47.8	0.0
LSA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.1						
GKN	Gorkha	22.00	337	eP	P	19 03 48.4	-0.3
	comp=Z,52nm,0.7s,mb5.1						
KOLN	Koldanda	22.22	334	eP	P	19 03 51.1	+0.2
	comp=Z,51nm,0.8s,mb5.0						
BHPL	Bhopal	22.25	315	eP	P	19 03 51.7	+0.4
BHPL				e		19 04 00.1	
	comp=Z,36nm,1.1s						
NDI	New Delhi	26.21	324	eP	P	19 04 31.0	+1.7
NJ2	Nanjing	33.17	40	eP	P	19 05 31.8	+0.5
NJ2				AP	pP	19 05 41.3	+0.2
NJ2				XP	sP	19 05 45.0	-0.3
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.5						
SSE	Sheshan	34.12	44	P	P	19 05 38.3	-1.3
SSE				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,125nm,4.6s						
SSE	Sheshan	34.12	44	P	P	19 05 38.2	-1.4
	comp=Z,27nm,0.8s,mb5.2						
AAK	Ala-Archa	38.76	336	eP	P	19 06 18.2	-0.4
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
AAK	Ala-Archa	38.76	336	eP	P	19 06 18.2	-0.4
	comp=Z,6.6nm,0.8s,mb4.4						
MKAR	Makanchi Array	40.12	347	i P	P	19 06 29.6	-0.2
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SONM	Songino Array	41.13	12	P	P	19 06 39.3	+1.2
	comp=Z,2.7nm,0.9s,mb3.9,baz=200,slow=8.4,SNR=15						
SONM				PcP	PcP	19 08 37.8	0.0
	comp=Z,0.5nm,0.6s,baz=191,slow=2.0,SNR=2.5						
ULN	Ulaanbaatar	41.30	13	eP	P	19 06 40.0	+0.5
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
ULN	Ulaanbaatar	41.30	13	eP	P	19 06 40.0	+0.5
	comp=Z,3.4nm,0.9s,mb4.0						
ZAK	Zakamensk	43.02	8	eP	P	19 06 54.1	+0.5
ZAK				e		19 08 45.0	
TLY	Talaya	44.34	8	eP	P	19 07 03.8	-0.5
KURK	Kurchatov	44.64	346	i P	P	19 07 06.7	0.0
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
KURK	Kurchatov	44.64	346	eP	P	19 07 06.4	-0.3
	comp=Z,21nm,1.1s,mb4.9						
NWAO	Narrogin (SRO)	46.09	153	P	P	19 07 19.4	+0.9
	comp=Z,5.8nm,0.6s,mb4.7,baz=336,slow=4.1,SNR=9.3						
ZAL	Zalesovo	46.56	352	P	P	19 07 22.8	+0.9
	comp=Z,4.7nm,0.4s,mb4.7,baz=307,slow=8.0,SNR=22						
NVS	Novosibirsk	47.66	351	⇑i P	P	19 07 29.8	-0.8
NVS				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
NVS				pmax	pmax		
	comp=N,5.0nm,0.8s						
WRA	Warramunga Arr	48.15	126	P	P	19 07 34.5	-0.4
	comp=N,1.4nm,0.6s,mb4.2,baz=305,slow=8.5,SNR=8.4						
WRAB	Tennant Creek	48.15	126	eP	P	19 07 34.6	-0.2
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
WRAB	Tennant Creek	48.15	126	eP	P	19 07 34.6	-0.3
	comp=Z,6.1nm,0.8s,mb4.7						
BVAR	Borovoye Array	49.03	341	P	P	19 07 40.6	-0.6
	comp=Z,9.9nm,1.2s,mb4.7,baz=135,slow=8.4,SNR=14						
BVAR				PcP	PcP	19 09 05.5	+0.6
	comp=Z,1.1nm,0.6s,baz=165,slow=2.1,SNR=4.4						
BRVK	Borovoye	49.09	341	eP	P	19 07 39.9	-1.8
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
BRVK	Borovoye	49.09	341	eP	P	19 07 39.9	-1.8
	comp=Z,3.8nm,0.8s,mb4.5						
CHKZ	Chkalovo	49.51	342	eP	P	19 07 44.7	-0.2
CHKZ				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
CHKZ	Chkalovo	49.51	342	eP	P	19 07 44.7	-0.2
	comp=Z,13nm,0.9s,mb5.0						
ASAR	Alice Springs	49.81	130	P	P	19 07 47.1	-0.5
	comp=Z,1.7nm,0.9s,mb4.1,baz=300,slow=7.9,SNR=6.7						
ASAR				PcP	PcP	19 09 09.6	+1.4
	comp=Z,0.5nm,0.6s,baz=307,slow=4.1,SNR=2.9						
BOD	Bodaibo	52.11	13	eP	P	19 08 04.5	-0.1
GNI	Garni	54.53	314	P	P	19 08 22.6	-0.1
	comp=Z,1.5nm,0.5s,mb4.3,baz=22,slow=19,SNR=3.6						
PMG	Port Moresby	55.40	107	P	P	19 08 30.9	+1.6
	comp=Z,5.5nm,0.8s,mb4.6,baz=8.5,slow=21,SNR=3.4						
PMG	Port Moresby	55.40	107	P	P	19 08 30.9	+1.6
PMG				eP		19 08 31.1	
SVE	Sverdlovsk	55.45	338	eP	P	19 08 26.0	-3.2
KIV	Kislovodsk	57.41	318	eP	P	19 08 45.5	+2.1
KIV				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
KMBO	Kilima Mbogo	57.56	264	eP	P	19 08 46.7	+1.8
KMBO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KMBO	Kilima Mbogo	57.56	264	P	P	19 08 46.8	+1.9
	comp=Z,2.8nm,0.8s,mb4.4,baz=54,slow=12,SNR=10						
KMBO	Kilima Mbogo	57.56	264	eP	P	19 08 46.7	+1.8
	comp=Z,5.7nm,0.9s,mb4.6						
YAK	Yakutsk	59.95	18	eP	P	19 08 59.8	-0.9
YAK				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
YAK	Yakutsk	59.95	18	eP	P	19 08 59.8	-0.9
	comp=Z,18nm,0.8s,mb5.2						
STKA	Stephens Creek	60.01	134	P	P	19 09 00.4	-1.1
	comp=Z,0.8nm,0.6s,mb3.9,baz=6.3,slow=9.2,SNR=2.5						
STKA	Stephens Creek	60.01	134	P	P	19 09 00.4	-1.1
STKA				eP		19 09 02.1	
BRTR	Keskin Array B	62.53	311	P	P	19 09 16.6	-1.9
	comp=Z,1.7nm,0.6s,mb4.3,baz=125,slow=8.0,SNR=10						
OBN	Obninsk	65.45	328	⇓i P	P	19 09 34.0	-3.3
OBN				pmax	pmax		
	comp=Z,21nm,1.4s,mb5.0						
MA2	Magadan	66.70	28	eP	P	19 09 47.0	+1.8
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MA2	Magadan	66.70	28	eP	P	19 09 47.0	+1.8
	comp=Z,9.6nm,0.9s,mb4.8						
TIXI	Tiksi	67.20	11	⇑i P	P	19 09 47.9	-0.3
TIXI				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
AKASG	Malin Array Be	68.24	322	P	P	19 09 53.0	-2.1
	comp=Z,4.7nm,1.0s,mb4.5,baz=87,slow=4.7,SNR=10						
IDI	Anoyia	68.68	305	P	P	19 09 57.1	-1.0
	comp=Z,11nm,0.9s,mb4.8,baz=120,slow=13,SNR=4.1						
MLR	Muntele Rosu	69.27	316	P	P	19 10 01.4	-0.1
	comp=Z,3.8nm,0.8s,mb4.3,baz=170,slow=12,SNR=3.0						
JOF	Joensuu	70.91	334	ep	P	19 10 09.9	-1.3
	comp=Z,5.8nm,0.9s,mb4.5						
SUW	Suwalki	72.58	324	eP	P	19 10 20.8	-0.6
FINES	FINESS Array B	72.77	332	P	P	19 10 22.0	-0.3
FINES	FINESS Array B	72.77	332	P	P	19 10 21.9	-0.4
	comp=Z,4.4nm,0.8s,mb4.5,baz=99,slow=6.7,SNR=13						
KAF	Kangasniemi	72.85	333	ep	P	19 10 21.8	-1.0
	comp=Z,5.5nm,0.8s,mb4.5						
KAF	Kangasniemi	72.85	333	eP	P	19 10 21.8	-1.0
KAF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
ARCES	ARCESS Array B	75.31	340	P	P	19 10 37.2	+0.4
	comp=Z,1.9nm,0.6s,mb4.2,baz=104,slow=5.7,SNR=7.2						
BOSA	Boshof	75.71	238	eP	P	19 10 40.8	+0.8
BOSA				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
BOSA	Boshof	75.71	238	eP	P	19 10 40.8	+0.9
	comp=Z,19nm,1.3s,mb4.9						
VRAC	Vranov	76.04	319	P	P	19 10 40.7	-0.8
	comp=Z,1.2nm,0.4s,mb4.2,baz=90,slow=4.0,SNR=2.2						
BRG	Berggiesshubel	77.84	320	eP	P	19 10 55.9	+4.6
BRG				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
BRG	Berggiesshubel	77.84	320	eP	P	19 10 55.9	+4.6
	comp=Z,6.6nm,1.1s,mb4.5						
GERES	GERESS Array B	77.92	318	P	P	19 10 52.4	+0.6
	comp=Z,1.9nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=16						
KHC	Kasperske Hory	78.01	318	eP	P	19 10 50.5	-1.8
CLL	Collm	78.45	321	P	P	19 10 55.0	+0.3
CLL	Collm	78.45	321	P	P	19 10 55.0	+0.3
CLL				e*PP	pP	19 11 01.0	-4.1
HFS	Hagfors	78.52	330	P	P	19 10 54.8	-0.1
	comp=Z,3.1nm,0.5s,mb4.5,baz=104,slow=6.1,SNR=22						
MAW	Mawson	78.57	192	P	P	19 10 55.2	+0.2
	comp=Z,2.7nm,0.2s,mb4.7,baz=346,slow=15,SNR=23						
NB2	NORSAR Subarra	79.80	331	P	P	19 11 01.8	0.0
	comp=Z,1.6nm,0.6s,mb4.1,baz=98,slow=4.8						
NB2	NORSAR Subarra	79.80	331	P	P	19 11 01.8	0.0
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
NOA	NORSAR Array B	79.80	331	P	P	19 11 01.7	-0.1
	comp=Z,2.3nm,0.7s,mb4.2,baz=92,slow=5.6,SNR=7.3						
DAVOX	Davos	80.48	316	P	P	19 11 05.7	-0.1
	comp=Z,3.6nm,0.7s,mb4.4,baz=109,slow=10,SNR=4.4						
LPG	La Plagne	82.72	315	eP	P	19 11 18.4	+1.0
	comp=Z,13nm,0.8s,mb4.7						
LPG	La Plagne	82.72	315	eP	P	19 11 18.4	+1.0
LPG				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
EKA	Eskdalemuir Ar	87.80	325	P	P	19 11 43.6	+1.1
	comp=Z,3.3nm,0.8s,mb4.6,baz=94,slow=5.7,SNR=5.2						
ESDC	Sonseca Array	91.32	310	P	P	19 12 00.8	+1.4
	comp=Z,2.4nm,1.1s,mb4.4,baz=58,slow=4.8,SNR=3.9						
ILAR	Eielson Array	94.69	22	P	P	19 12 16.3	+2.0
	comp=Z,0.3nm,0.8s,mb3.8,baz=281,slow=4.6,SNR=3.2						
INK	Inuvik	96.95	16	P	P	19 12 27.9	+3.4
	comp=Z,1.5nm,1.1s,mb4.3,baz=296,slow=4.6,SNR=2.9						
PDAR	Pinedale Array	125.11	21	PKP	PKPdf	19 17 57.8	-0.6
	comp=Z,0.7nm,0.7s,baz=297,slow=2.0,SNR=3.7						
PLCA	Paso Flores	144.60	200	PKP	PKPdf	19 18 30.9	-3.5
	comp

ISC 29 19:03:54.1±0.3,38.17N±0.02×26.77E±0.03,h10km,n46, σ0§92/60,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.30**	**45**	*i* PG	**Pg**	**19 04 00.9**	**+0.4**
BLCB				*i* SG	**Sg**	**19 04 05.0**	**+0.3**
IZM	**Izmir**	**0.45**	**59**	*i* PG	**Pg**	**19 04 03.7**	**+0.4**
KDAG	**Bornova**	**0.46**	**59**	*i* P	**Pg**	**19 04 03.9**	**+0.4**
KDAG				*i* S	**Sg**	**19 04 07.9**	**-1.8**
SMG	**Samos**	**0.46**	**173**	*e*PB	**Pb**	**19 04 03.7**	**-0.2**
SMG				*e*SB	**Sb**	**19 04 10.7**	**+0.2**
AYDN	**Tasoluk**	**1.01**	**120**	*i* P	**Pb**	**19 04 14.1**	**+0.8**
AYDN				*i* S	**Sb**	**19 04 27.3**	**+0.8**
AKS	**Akhisar**	**1.08**	**49**	*i* PN	**Pn**	**19 04 15.0**	**-0.3**
AYVA	**Ayvalik**	**1.14**	**357**	*i* P	**Pb**	**19 04 16.4**	**+0.9**
AYVA				*i* S	**Sb**	**19 04 33.1**	**+2.9**
PRK	**Paraskevi**	**1.14**	**340**	*e*PN	**Pn**	**19 04 16.1**	**-0.1**
PRK				*e*SN	**Sn**	**19 04 32.1**	**+0.2**
MLSB	**Milas**	**1.18**	**137**	*i* PN	**Pn**	**19 04 15.7**	**-1.0**
BDRM	**Kayabasi**	**1.23**	**154**	*i* P	**Pb**	**19 04 17.1**	**+0.1**
BDRM				*i* S	**Sb**	**19 04 33.9**	**+1.2**
MANT	**Manisa**	**1.44**	**77**	*i* P	**Pn**	**19 04 21.8**	**+1.4**
MANT				*i* S	**Sb**	**19 04 39.8**	**+0.8**
APE	**Apeiranthos**	**1.47**	**222**	PN	**Pn**	**19 04 19.5**	**-1.4**
APE	**Apeiranthos**	**1.47**	**222**	*e*PB	**Pb**	**19 04 19.9**	**-1.3**
YER	**Yerkesik**	**1.58**	**130**	PN	**Pn**	**19 04 22.5**	**0.0**
EZN	**Ezine**	**1.69**	**348**	PN	**Pn**	**19 04 23.5**	**-0.5**
BALB	**Balikesir**	**1.71**	**30**	PN	**Pn**	**19 04 24.8**	**+0.6**
BOZC	**Bozcaada**	**1.76**	**342**	*i* P	**Pn**	**19 04 25.0**	**0.0**
BOZC				*i* S	**Sn**	**19 04 50.4**	**+2.8**
DENT	**Denizli**	**1.84**	**102**	PN	**Pn**	**19 04 26.5**	**+0.4**
DNZL	**Cakiroluk**	**1.86**	**104**	*i* P	**Pn**	**19 04 26.8**	**+0.3**
DNZL				*i* S	**Sn**	**19 04 56.4**	**+6.1**
BTOK	**Tokmak**	**1.87**	**31**	*i* P	**Pn**	**19 04 29.7**	**+3.1**
BTOK				*i* S	**Sn**	**19 04 49.0**	**-1.4**
DST	**Dursunbey**	**2.04**	**45**	PN	**Pn**	**19 04 28.5**	**-0.5**
LIA	**Limnos Island**	**2.12**	**325**	*e*PN	**Pn**	**19 04 30.1**	**-0.1**
KHL	**Karahalli**	**2.17**	**85**	*e*PN	**Pn**	**19 04 31.7**	**+0.8**
PTL	**Penteli**	**2.29**	**268**	*e*PN	**Pn**	**19 04 33.0**	**+0.4**
EDC	**Edincik**	**2.33**	**21**	*e*PN	**Pn**	**19 04 32.7**	**-0.5**
BNT	**Bandirma**	**2.36**	**22**	*e*PN	**Pn**	**19 04 33.0**	**-0.6**
FETY	**Fethiye**	**2.40**	**129**	*e*PN	**Pn**	**19 04 34.3**	**+0.2**
ATH	**Athens Observa**	**2.42**	**266**	*e*PN	**Pn**	**19 04 35.2**	**+0.8**
KCT	**Karacabey**	**2.43**	**30**	*e*PN	**Pn**	**19 04 34.0**	**-0.6**
ORLT	**Orhaneli**	**2.50**	**41**	*e*PN	**Pn**	**19 04 36.3**	**+0.7**
MRMT	**Marmara Adasi**	**2.51**	**15**	*e*PN	**Pn**	**19 04 35.2**	**-0.6**
SART	**Tekirdag**	**2.54**	**7**	*i* P	**Pn**	**19 04 37.3**	**+1.2**
KARP	**Karpathos**	**2.64**	**173**	*e*PN	**Pn**	**19 04 35.8**	**-1.7**
MFT	**Murefte**	**2.64**	**8**	*e*PN	**Pn**	**19 04 37.0**	**-0.6**
ULDT	**Uludag**	**2.70**	**42**	*i* P	**Pn**	**19 04 44.1**	**+5.7**
ULDT				*i* S	**Sn**	**19 05 20.0**	**+8.6**
ALT	**Altintas**	**2.76**	**70**	*e*PN	**Pn**	**19 04 39.6**	**+0.3**
ELL	**Elmali**	**2.87**	**119**	*e*PN	**Pn**	**19 04 41.0**	**+0.1**
RDO	**Rodhopi**	**3.12**	**343**	*e*PN	**Pn**	**19 04 43.9**	**-0.5**
YLV	**Yalova**	**3.13**	**39**	*e*PN	**Pn**	**19 04 44.2**	**-0.4**
CTT	**Catalca**	**3.24**	**23**	*e*PN	**Pn**	**19 04 45.5**	**-0.6**
ESKT	**Eskisehir**	**3.46**	**66**	*i* P	**Pn**	**19 04 58.2**	**+8.9**
ESKT				*i* S	**Sg**	**19 05 47.8**	**-1.6**
HRT	**Hereke**	**3.47**	**39**	*e*PN	**Pn**	**19 04 49.7**	**+0.3**
EDRB	**Edirne**	**3.67**	**360**	*e*PN	**Pn**	**19 04 50.9**	**-1.4**
NVR	**Nevrokopi**	**3.89**	**326**	*e*PN	**Pn**	**19 04 55.6**	**+0.3**
MDU	**Mudurnu**	**4.14**	**55**	*e*PN	**Pn**	**19 04 59.2**	**+0.3**
HENT	**Hendek**	**4.15**	**49**	*i* P	**Pg**	**19 05 13.9**	**-3.1**
HENT				*i* S	**Sg**	**19 06 03.6**	**-8.8**

JMA 29 19:04:35.5±0.1,26.64N×129.59E,h44km,M3.5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.19**	**280**	P	P	19 04 56.3	+0.3
JOW				S	S	19 05 11.0	-0.3
JTK	**Tokunoshima**	**1.27**	**334**	P	P	19 04 57.6	+0.4
JTK				S	S	19 05 12.4	-1.0
JIH	**Iheya**	**1.50**	**286**	P	P	19 05 01.0	+0.5
JIH				S	S	19 05 18.5	-0.6
JMZ	**Minamidaito 2**	**1.68**	**119**	P	P	19 05 02.9	0.0
JMZ				S	S	19 05 22.0	-1.4
JZK	**Kikaishima**	**1.70**	**11**	P	P	19 05 04.2	+0.9
JZK				S	S	19 05 25.2	+1.2
JJT2	**Tamagusuku 2**	**1.73**	**254**	P	P	19 05 04.0	+0.4
JJT2				S	S	19 05 24.9	+0.3
NAH1	**Naha**	**1.76**	**256**	P	P	19 05 04.5	+0.4
NAH1				S	S	19 05 25.0	-0.4
JAM	**Amami Oshima**	**1.77**	**0**	P	P	19 05 04.1	-0.1
JAM				S	S	19 05 23.9	-1.6
JAGN	**Aguni-jima**	**2.10**	**269**	P	P	19 05 09.4	+0.4
JAGN				S	S	19 05 32.9	-1.1
JKE	**Kume jima 2**	**2.53**	**264**	P	P	19 05 14.4	-0.7
JKE				S	S	19 05 44.3	-0.6
JOGS	**Gusukube**	**4.21**	**245**	P	P	19 05 37.9	-1.0
JTJ	**Tarama**	**4.84**	**247**	P	P	19 05 45.9	-1.9
JIJ	**Ishigaki jima**	**5.42**	**246**	P	P	19 05 56.0	+0.2

IDC ***29*** *19:06:10.8±0.4, 7.71N×94.02E, mb4.5/29, mb1 4.6/30, mb1mx4.6/32, mbtmp4.5/30, ML5.0/1, MS4.7/17, Ms1 4.7/17, ms1mx4.5/24, Error ellipse: s-maj=23.8km s-min=10.9km az=49.0*

BJI ***29*** *19:06:13.8, 7.41N×93.87E, h47km, mB5.3, mb4.9, Ms5.2, Msz4.9*

MOS ***29*** *19:06:14.5±1.2, 7.79N×94.21E, h33km, mb5.2/39, MS4.8/7, Error ellipse: s-maj=10.9km s-min=5.9km az=115.1*

HRVD ***29*** *19:06:15.7±0.2, 7.72N×94.29E, h15km±1km, MW5.3/59, Centroid moment Tensor Solution. LP body waves: s37, c57; Mantle waves: s59, c110; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}~0.16±.02; $M_{\theta\theta}$~0.79±.02; $M_{\phi\phi}$0.94±.02; $M_{r\theta}$~0.35±.07; $M_{\theta\phi}$~0.08±.02; $M_{\phi r}$~0.28±.07; Best double couple: M_0.992×10^{17} NP1: ϕ_s134°, δ62°, λ-171°. NP2:ϕ_s40°, δ82°, λ-28°. Principal axes: T 1.017, Plg14°, Azm90°; N -.051, Plg61°, Azm206°; P -.966, Plg25°, Azm353°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***29*** *19:06:15.7±0.2, 7.81N×94.28E, h30km, mb5.0/51, MS4.5/1 Error ellipse: s-maj=9.3km s-min=5.2km az=54.0*

ISC 29 19:06:13.5±0.2,7.76N±0.03×94.23E±0.03,h27km, h27km±1.3km:pP-P,n202,σ1§06/212,mb4.8/87,MS4.8/28, 6C-5D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.14**	**339**	*e*P	**Pn**	**19 07 18.4**	**+1.8**
PBA				*e*S	**Sn**	**19 08 03.8**	**-1.0**
CM31	**Chiang Mai Arr**	**11.58**	**23**	*e*P	**P**	**19 09 01.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**11.58**	**23**	Pn	**P**	**19 09 02.4**	**+2.2**
	2.7nm,0.3s,baz=211,slow=14,SNR=56						
CMAR				LR	LR	19 13 29.9	
	comp=Z,2μm,19.1s,baz=215,slow=38						
PALK	**Pallekele**	**13.43**	**269**	*e*Pn	**P**	**19 09 31.8**	**+6.9**
	60nm,1.2s						
PALK				*e*S	Sx	19 11 26.1	
VIS	**Vishakhapatnam**	**14.52**	**314**	*e*P	**P**	**19 09 39.5**	**+0.1**
VIS				*e*		19 09 50.0	
	comp=Z,73nm,0.4s						
VIS				*e*S	**S**	**19 12 20.8**	**+0.5**
BWNR	**Bhubaneshwar**	**14.89**	**328**	*e*P	**P**	**19 09 44.6**	**+0.3**
BWNR				*e*		19 09 53.8	
	comp=Z,128nm,1.1s						
BWNR				*e*S	**S**	**19 12 30.1**	**+1.0**
KOD	**Kodaikanal**	**16.74**	**280**	*e*P	**P**	**19 10 12.6**	**+4.6**
KOD				*e*		19 10 22.9	
	comp=Z,91nm,1.7s						
KOD				*e*		19 13 08.1	
KOD				*e*S	**S**	**19 13 18.9**	**+6.8**
SHL	**Shillong**	**17.85**	**353**	*e*P	**P**	**19 10 20.9**	**-0.9**
HYB	**Hyderabad**	**18.05**	**304**	*e*P	**P**	**19 10 24.5**	**+0.1**
HYB				*e*S	**S**	**19 13 42.0**	**+0.1**
HYB	**Hyderabad**	**18.05**	**304**	*i* P	**P**	**19 10 24.5**	**+0.1**
HYB				*e*S	**S**	**19 13 42.0**	**+0.1**
QIZ	**Qiongzhong**	**18.85**	**52**	P	**P**	**19 10 34.5**	**+0.4**
QIZ				S	**S**	**19 13 59.5**	**-0.4**
KMI	**Kunming**	**19.08**	**24**	⇑P	**P**	**19 10 41.3**	**+4.5**
KMI				S	**S**	**19 14 05.5**	**+0.2**
KMI				pmax	pmax		
	comp=Z,48nm,1.0s						
KMI	**Kunming**	**19.08**	**24**	⇑P	**P**	**19 10 41.3**	**+4.5**
	comp=Z,48nm,1.0s						
KMI				pP		19 10 46.3	
KMI				sP		19 10 48.6	
KMI				PP	PP	19 10 59.4	+5.9
KMI				S	**S**	**19 14 05.5**	**+0.2**
KMI				sS		19 14 14.1	
COCO	**West Island**	**19.99**	**173**	*e*P	**P**	**19 10 44.0**	**-3.1**
	comp=Z,384nm,1.4s						
ALBI	**Allahabad**	**21.10**	**327**	*e*P	**P**	**19 11 00.0**	**+1.6**
JIRN	**Jiri**	**21.21**	**340**	*e*P	**P**	**19 10 58.0**	**-1.5**
	comp=Z,230nm,0.9s,mb5.5						
GOA	**Goa**	**21.40**	**293**	*e*P	**P**	**19 11 13.5**	**+12**
GOA				*e*		19 11 20.2	
	comp=Z,81nm,1.3s						
GOA				*e*S	**S**	**19 15 11.6**	**+19**
PKI	**Pulchoki**	**21.40**	**338**	*e*P	**P**	**19 11 01.3**	**-0.2**
DMN	**Daman**	**21.55**	**337**	*e*P	**P**	**19 11 02.9**	**-0.1**
KKN	**Kakani**	**21.65**	**338**	*e*P	**P**	**19 11 03.8**	**-0.2**
	comp=Z,109nm,0.8s,mb5.3						
KAD	**Karad**	**21.73**	**298**	*e*P	**P**	**19 11 04.8**	**0.0**
KAD				*e*		19 11 20.4	
	comp=Z,79nm,1.4s						
KAD				*e*S	**S**	**19 15 06.4**	**+7.7**
LSA	**Lhasa**	**22.02**	**353**	P	**P**	**19 11 08.5**	**+0.9**
LSA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
GKN	**Gorkha**	**22.08**	**337**	*e*P	**P**	**19 11 07.7**	**-0.6**
	comp=Z,171nm,0.8s,mb5.5						
KOLN	**Koldanda**	**22.30**	**334**	*e*P	**P**	**19 11 10.3**	**-0.2**
	comp=Z,153nm,0.8s,mb5.5						
BHPL	**Bhopal**	**22.30**	**316**	*e*P	**P**	**19 11 12.0**	**+1.5**
BHPL				*e*		19 11 20.6	
	comp=Z,92nm,1.1s						
BHPL				*e*S	**S**	**19 15 17.4**	**+8.1**
NDI	**New Delhi**	**26.28**	**324**	*e*P	**P**	**19 11 48.4**	**-0.3**
NDI				*e*		19 12 04.0	
	comp=Z,106nm,1.3s						
TGY	**Tagaytay City**	**26.95**	**74**	LR	LR	19 22 17.1	
	comp=Z,2μm,18.7s,MS4.7,baz=104,slow=36						
XAN	**Xi'an**	**29.45**	**25**	P	**P**	**19 12 18.8**	**+1.3**
XAN				AP	pP	19 12 28.5	+3.1
XAN				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.7						
WHN	**Wuhan**	**29.47**	**37**	P	**P**	**19 12 19.8**	**+2.2**
WHN				S	**S**	**19 17 07.0**	**-1.9**
LZH	**Lanzhou**	**29.53**	**16**	⇑P	**P**	**19 12 19.5**	**+1.4**
LZH				PP	PP	19 13 15.5	+1.2
LZH				*e*S	**S**	**19 17 10.0**	**+0.2**
LZH				AMB	AMB		
	comp=Z,53nm,1.8s,mb5.0						
LZH				AMB	AMB		
	comp=Z,203nm,5.9s						
LZH				LR	LR		
	comp=E,3μm,12.9s						
LZH				LR	LR		
	comp=Z,4μm,14.3s,MS5.2						
LZH	**Lanzhou**	**29.53**	**16**	⇑P	**P**	**19 12 19.5**	**+1.4**
LZH				*SP	sP	19 12 27.0	-2.7
LZH						19 13 15.5	
LZH				*e*S	**S**	**19 17 10.0**	**+0.2**
LZH				*SS		19 17 22.0	
LZH				SS	SS	19 18 45.0	+1.5
LZH				pmax	pmax		
	comp=Z,53nm,1.8s,mb5.0						
LZH				MLR	MLR		
	comp=Z,4μm,14.3s,MS5.2						
LZH	**Lanzhou**	**29.53**	**16**	⇑P	**P**	**19 12 19.5**	**+1.4**
	comp=Z,53nm,1.8s,mb5.0						
LZH				pP	pP	19 12 25.1	-1.0
LZH				sP	sP	19 12 27.0	-2.7
LZH				PP	PP	19 13 15.5	+1.2
LZH				*e*S	**S**	**19 17 10.0**	**+0.2**
LZH				sS		19 17 22.0	
LZH				SS	SS	19 18 45.0	+1.5
LZH				LR	LR		
	comp=Z,4μm,14.3s,MS5.2						
NJ2	**Nanjing**	**33.30**	**40**	*e*P	**P**	**19 12 57.0**	**+5.8**
NJ2				AP	pP	19 13 06.5	+7.2
NJ2				XP	sP	19 13 10.5	+7.7
NJ2				PP	PP	19 14 09.0	+6.0
NJ2				S	**S**	**19 18 15.0**	**+6.2**
NJ2				XS		19 18 32.0	
NJ2				AMB	AMB		
	comp=Z,60nm,1.1s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,320nm,4.9s						
NJ2				LR	LR		
	comp=Z,5μm,14.3s,MS5.3						
SSE	**Sheshan**	**34.24**	**44**	P	**P**	**19 13 03.0**	**+3.6**
SSE				XP	sP	19 13 15.0	+4.1
SSE				S	**S**	**19 18 28.0**	**+4.5**
SSE				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
SSE				AMB	AMB		
	comp=Z,178nm,6.3s						
SSE				LR	LR		
	comp=N,4μm,15.9s,MS5.3						
SSE				LR	LR		
	comp=E,2μm,15.9s,MS5.3						
SSE				LR	LR		
	comp=Z,3μm,13.8s,MS5.1						
SSE	**Sheshan**	**34.24**	**44**	P	**P**	**19 13 03.1**	**+3.7**
	comp=Z,20nm,1.0s,mb5.0						
SSE				sP	sP	19 13 15.1	+4.2
SSE				S	**S**	**19 18 28.0**	**+4.5**
SSE				sS		19 18 43.1	
SSE				SS	SS	19 20 57.3	+24
SSE				LR	LR		
	comp=Z,3μm,13.8s,MS5.1						
WMQ	**Urumqi**	**36.37**	**352**	P	**P**	**19 13 17.5**	**+0.1**
WMQ				AP	pP	19 13 27.3	+1.8
WMQ				XP	sP	19 13 31.3	+2.4
WMQ				PP	PP	19 14 41.3	+0.2
WMQ				PCP	PcP	19 15 42.3	+0.4
WMQ				S	**S**	**19 18 55.5**	**-0.8**
WMQ				AMB	AMB		
	comp=Z,102nm,1.5s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,485nm,5.6s						
WMQ				LR	LR		
	comp=N,1μm,18.3s,MS4.9						
WMQ				LR	LR		
	comp=E,1μm,18.4s,MS4.9						
WMQ				LR	LR		
	comp=Z,2μm,18.7s,MS4.9						
BJI	**Beijing**	**37.66**	**28**	P	**P**	**19 13 31.5**	**+3.2**
BJI				SS	SS	19 22 16.7	+26
BJI				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
BJI				MLR	MLR		
	comp=Z,910nm,21.7s,MS4.5						
BJI	**Beijing**	**37.66**	**28**	P	**P**	**19 13 31.5**	**+3.2**
	comp=Z,10.0nm,0.9s,mb4.5						
BJI				PP	PP	19 15 05.3	+8.0
BJI				S	**S**	**19 19 35.7**	**+20**
BJI				SS	SS	19 22 16.7	+26
BJI				LR	LR		
	comp=Z,910nm,21.7s,MS4.5						
MBWA	**Marble Bar**	**38.12**	**139**	P	**P**	**19 13 32.2**	**-0.1**
	comp=Z,12nm,0.9s,mb4.6						
UCH	**Uchtor**	**38.49**	**336**	P	**P**	**19 13 36.2**	**+1.0**
	SNR=9.7						
TKM2	**Tokmak 2**	**38.67**	**338**	P	**P**	**19 13 37.1**	**+0.4**
	SNR=7.7						
KBK	**Karagaybulak**	**38.69**	**337**	P	**P**	**19 13 37.2**	**+0.3**
	SNR=13						
AML	**Almayashu**	**38.74**	**335**	P	**P**	**19 13 37.6**	**+0.2**
	SNR=17						
AAK	**Ala-Archa**	**38.84**	**337**	P	**P**	**19 13 38.6**	**+0.5**
	SNR=7.4						
AAK	**Ala-Archa**	**38.84**	**337**	P	**P**	**19 13 38.9**	**+0.7**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**38.84**	**337**	*e*P	**P**	**19 13 36.9**	**-1.3**
	comp=Z,30nm,1.3s,mb4.9						
CHMS	**Chumysh**	**39.05**	**337**	P	**P**	**19 13 40.1**	**+0.2**
	SNR=8.0						
EKS2	**Erkin-Say**	**39.15**	**336**	P	**P**	**19 13 41.7**	**+1.0**
	SNR=8.9						
USP	**Ospenovka**	**39.38**	**337**	P	**P**	**19 13 42.6**	**0.0**
	SNR=12						
MKAR	**Makanchi Array**	**40.22**	**347**	*i* P	**P**	**19 13 48.8**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,19nm,0.8s						
FITZ	**Fitzroy Crossi**	**40.27**	**130**	*e*P	**P**	**19 13 54.6**	**+4.4**
	comp=Z,17nm,0.9s,mb4.8						
SONM	**Songino Array**	**41.25**	**12**	P	**P**	**19 13 58.8**	**+0.8**
	comp=Z,12nm,0.8s,mb4.6,baz=196,slow=7.9,SNR=88						
SONM				PcP	PcP	19 15 56.7	-0.4
	comp=Z,1.2nm,0.6s,baz=189,slow=4.9,SNR=3.1						
ULN	**Ulaanbaatar**	**41.42**	**13**	*e*P	**P**	**19 13 59.1**	**-0.3**
ULN				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**41.42**	**13**	*e*P	**P**	**19 13 59.0**	**-0.3**
	comp=Z,11nm,0.8s,mb4.5						
SNY	**Shenyang**	**42.72**	**33**	⇑P	**P**	**19 14 15.0**	**+4.9**
SNY				XP	sP	19 14 25.3	+3.7
SNY				S	**S**	**19 20 40.5**	**+8.9**
SNY				SS	SS	19 23 46.5	+10
SNY				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.4						
SNY				LR	LR		
	comp=N,980nm,17.4s,MS5.0						
SNY				LR	LR		
	comp=E,1μm,16.5s,MS5.0						
SNY				LR	LR		
	comp=Z,1μm,13.2s,MS5.0						
ZAK	**Zakamensk**	**43.15**	**8**	*e*P	**P**	**19 14 13.9**	**+0.4**
ZAK				*e*		19 15 59.5	
TLY	**Talaya**	**44.47**	**8**	*e*P	**P**	**19 14 25.4**	**+1.2**
TLY				*e*S	**S**	**19 21 03.2**	**+6.3**
TLY				*e*SS	SS	19 24 03.0	-5.0
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
TLY	**Talaya**	**44.47**	**8**	*e*P	**P**	**19 14 25.2**	**+1.1**
	comp=Z,9.4nm,0.8s,mb4.6						
KURK	**Kurchatov**	**44.74**	**346**	*i* P	**P**	**19 14 25.8**	**-0.6**
KURK				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8						
KURK	**Kurchatov**	**44.74**	**346**	*e*P	**P**	**19 14 25.5**	**-0.9**
	comp=Z,44nm,1.1s,mb5.2						
MUN	**Mundaring**	**44.74**	**153**	*e*P	**P**	**19 14 28.2**	**+1.5**
	comp=Z,33nm,1.0s,mb5.1						
MUN	**Mundaring**	**44.74**	**153**	*e*P	**P**	**19 14 28.2**	**+1.5**
MUN				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.1						
KLBR	**Kellerberrin**	**45.13**	**151**	*e*P	**P**	**19 14 32.0**	**+2.2**
	comp=Z,535nm,1.1s						
NWAO	**Narrogin (SRO)**	**46.01**	**153**	*e*P	**P**	**19 14 37.5**	**+0.9**
NWAO				pmax	pmax		
	comp=Z,73nm,1.1s						
NWAO	**Narrogin (SRO)**	**46.01**	**153**	P	**P**	**19 14 37.8**	**+1.1**
	comp=Z,11nm,0.7s,mb4.9,baz=312,slow=7.1,SNR=10						
NWAO	**Narrogin (SRO)**	**46.01**	**153**	*e*P	**P**	**19 14 37.5**	**+0.8**
	comp=Z,73nm,1.1s,mb5.5						
ZAL	**Zalesovo**	**46.67**	**352**	P	**P**	**19 14 41.6**	**0.0**
	comp=Z,19nm,0.5s,mb5.3,baz=295,slow=6.8,SNR=93						
ZAL				LR	LR	19 39 15.6	
	comp=Z,646nm,19.4s,MS4.6,baz=290,slow=42						
NVS	**Novosibirsk**	**47.77**	**351**	*e*P	**P**	**19 14 48.7**	**-1.6**
NVS				*e*S	**S**	**19 21 41.4**	**-2.6**
NVS				*e*SS	SS	19 25 07.2	+0.5
NVS				pmax	pmax		
	comp=N,23nm,0.8s						
NVS				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.3						
NVS				smax			
	comp=E,14nm,1.6s						
MDJ	**Mudanjiang**	**47.85**	**34**	P	**P**	**19 14 49.8**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,150nm,6.6s						
MDJ				LR	LR		
	comp=N,411nm,25.9s,MS4.5						
MDJ				LR	LR		
	comp=E,606nm,25.0s,MS4.5						
MDJ				LR	LR		
	comp=Z,772nm,17.3s						
WRA	**Warramunga Arr**	**48.12**	**126**	P	**P**	**19 14 53.4**	**0.0**
	comp=Z,2.5nm,0.5s,mb4.5,baz=305,slow=8.7,SNR=23						
WRAB	**Tennant Creek**	**48.12**	**125**	*e*P	**P**	**19 14 52.8**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.4						
WRAB	**Tennant Creek**	**48.12**	**125**	*e*P	**P**	**19 14 52.8**	**-0.7**
	comp=Z,38nm,1.0s,mb5.4						
WB2	**Warramunga Arr**	**48.13**	**126**	*e*P	**P**	**19 14 53.3**	**-0.2**
BVA0	**Borovoye Array**	**49.12**	**341**	P	**P**	**19 14 59.9**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
BVAR	**Borovoye Array**	**49.12**	**341**	P	**P**	**19 15 00.1**	**-0.7**
	comp=Z,7.6nm,0.8s,mb4.8,baz=143,slow=7.4,SNR=37						
BVAR				PcP	PcP	19 16 24.8	+0.5
	comp=Z,2.0nm,0.8s,baz=148,slow=14,SNR=2.1						
BRVK	**Borovoye**	**49.19**	**341**	P	**P**	**19 15 00.4**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**49.19**	**341**	*e*P	**P**	**19 14 59.9**	**-1.3**
	comp=Z,17nm,1.0s,mb5.0						
RAYN	**Ar Rayn**	**49.22**	**294**	P	**P**	**19 15 03.9**	**+2.0**
	comp=Z,169nm,0.7s,SNR=30						
CHKZ	**Chkalovo**	**49.61**	**342**	P	**P**	**19 15 04.1**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.2						
CHKZ	**Chkalovo**	**49.61**	**342**	*e*P	**P**	**19 15 03.2**	**-1.3**
	comp=Z,30nm,0.8s,mb5.4						
ASPA	**Alice Springs**	**49.77**	**130**	*e*P	**P**	**19 15 05.9**	**-0.2**
ASAR	**Alice Springs**	**49.77**	**130**	P	**P**	**19 15 06.0**	**-0.2**
	comp=Z,3.3nm,0.9s,mb4.4,baz=305,slow=7.5,SNR=28						
ASAR				LR	LR	19 38 02.6	
	comp=Z,473nm,19.1s,MS4.5,baz=298,slow=38						
FORT	**Forrest**	**50.19**	**141**	*e*P	**P**	**19 15 06.5**	**-2.8**
	comp=Z,82nm,0.8s,mb5.8						
BOD	**Bodaibo**	**52.24**	**13**	*e*P	**P**	**19 15 23.6**	**-0.8**
CLNS	**Chul'man**	**54.51**	**20**	*e*P	**P**	**19 15 41.6**	**+0.5**
CLNS				*e*PP	pP	19 15 49.5	0.0
CLNS				*e*		19 16 47.6	
CLNS				*e*		19 17 38.7	
CLNS				*e*S	**S**	**19 23 12.4**	**-4.3**
CLNS	

KIV MLR MLR
comp=Z,300nm,17.0s,MS4.5
KIV Kislovodsk 57.46 318 *eP* **P 19 16 01.8 -0.8**
comp=Z,33nm,0.9s,mb5.4
KMBO Kilima Mbogo 57.50 264 *eP* **P 19 16 05.2 +1.9**
KMBO pmax pmax
comp=Z,10.0nm,1.0s
KMBO Kilima Mbogo 57.50 264 P **P 19 16 04.1 +0.8**
comp=Z,6.6nm,1.0s,mb4.6,baz=56,slow=10,SNR=9.7
KMBO LR LR 19 39 05.5
comp=Z,790nm,18.7s,MS4.8,baz=96,slow=34
KMBO Kilima Mbogo 57.50 264 *eP* **P 19 16 05.2 +1.9**
comp=Z,9.5nm,1.0s,mb4.8
CTA Charters Tower 58.17 119 P **P 19 16 07.3 -0.6**
comp=Z,1.1nm,0.3s,mb4.4,baz=274,slow=5.9,SNR=2.4
CTA LR LR 19 42 01.3
comp=Z,750nm,21.4s,MS4.8,baz=292,slow=37
CTAO Charters Tower 58.17 119 *eP* **P 19 16 05.9 -2.0**
CTAO pmax pmax
comp=Z,15nm,1.2s,mb4.9
CTAO Charters Tower 58.17 119 *eP* **P 19 16 05.9 -2.0**
comp=Z,15nm,1.2s,mb4.9
ASF Jabal al Asfar 58.35 303 P **P 19 16 05.6 -3.4**
comp=Z,1.3nm,0.8s,mb4.0,baz=74,slow=7.4,SNR=1.9
ASF LR LR 19 43 09.9
comp=Z,377nm,18.8s,MS4.5,baz=186,slow=38
MALT Malatya 58.60 310 *eP* **P 19 16 10.1 -0.6**
MALT pmax pmax
comp=Z,19nm,1.4s,mb4.9
MALT Malatya 58.60 310 *eP* **P 19 16 10.1 -0.6**
comp=Z,19nm,1.4s,mb4.9
SOKR Solikamsk 58.94 339 ||*i*P **P 19 16 11.0 -1.7**
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
SOKR MLR MLR
comp=Z,730nm,21.0s,MS4.8
EIL Elat 59.56 300 P **P 19 16 16.1 -1.3**
comp=Z,4.6nm,0.8s,mb4.6,baz=95,slow=9.4,SNR=6.3
EIL Elat 59.56 300 *eP* **P 19 16 17.1 -0.3**
comp=Z,12nm,0.9s,mb4.9
STKA Stephens Creek 59.96 134 *eP* **P 19 16 19.1 -1.0**
comp=Z,8.1nm,1.1s,mb4.7
STKA Stephens Creek 59.96 134 P **P 19 16 19.5 -0.6**
comp=Z,7.9nm,0.9s,mb4.7,baz=342,slow=10,SNR=6.7
STKA LR LR 19 47 13.0
comp=Z,727nm,18.5s,MS4.8,baz=294,slow=41
YAK Yakutsk 60.07 18 *eP* **P 19 16 20.4 -0.1**
YAK *eS* SS 19 28 23.5 -4.5
YAK pmax pmax
comp=Z,12nm,0.9s,mb4.9
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK smax
comp=E,147nm,17.6s
YAK smax
comp=Z,114nm,15.3s
YAK smax
comp=N,108nm,16.2s
YAK MLR MLR
comp=Z,568nm,18.0s,MS4.8
YAK MLR MLR
comp=N,407nm,17.0s,MS4.8
YAK MLR MLR
comp=E,356nm,17.0s,MS4.8
YAK Yakutsk 60.07 18 *eP* **P 19 16 19.2 -1.3**
comp=E,34nm,0.8s,mb5.4
BRTR Keskin Array B 62.57 311 P **P 19 16 36.0 -1.7**
comp=E,2.2nm,0.6s,mb4.5,baz=128,slow=7.6,SNR=16
MBAR Mbarara 63.84 266 *eP* **P 19 16 48.0 +1.5**
MBAR pmax pmax
comp=Z,17nm,1.3s,mb4.9
MBAR Mbarara 63.84 266 *eP* **P 19 16 48.0 +1.4**
comp=Z,17nm,1.3s,mb4.9
MOS Moscow 65.22 329 *eP* **P 19 16 53.7 -1.0**
MOS *e* 19 16 59.4
MOS pmax pmax
comp=Z,107nm,2.0s,mb5.5
OBN Obninsk 65.52 328 ||*i*P **P 19 16 51.7 -5.0**
OBN *i* pP 19 17 00.3 -4.9
OBN *i* 19 17 31.7
OBN pmax pmax
comp=Z,42nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,600nm,16.0s,MS4.9
OBN Obninsk 65.52 328 P **P 19 16 50.6 -6.0**
comp=Z,48nm,1.2s,mb5.4
MA2 Magadan 66.82 28 *eP* **P 19 17 05.6 +0.7**
MA2 pmax pmax
comp=Z,15nm,0.8s,mb5.1
MA2 Magadan 66.82 28 *eP* **P 19 17 05.6 +0.7**
comp=Z,14nm,0.8s,mb5.1
TIXI Tiksi 67.32 11 ||*i*P **P 19 17 06.4 -1.5**
TIXI pmax pmax
comp=Z,22nm,0.8s,mb5.2
AKASG Malin Array Be 68.30 322 P **P 19 17 12.8 -1.6**
comp=Z,1.1nm,0.5s,mb4.2,baz=86,slow=5.7,SNR=12
IDI Anoyia 68.71 305 P **P 19 17 16.2 -0.9**
comp=Z,12nm,0.7s,mb4.9,baz=88,slow=6.5,SNR=7.9
MLR Muntele Rosu 69.31 316 P **P 19 17 20.7 0.0**
comp=Z,8.7nm,1.0s,mb4.6,baz=213,slow=10,SNR=5.6
MLR LR LR 19 53 51.6
comp=Z,389nm,18.2s,MS4.7,baz=258,slow=41
LSZ Lusaka 69.32 251 *eP* **P 19 17 22.2 +1.0**
LSZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LSZ Lusaka 69.32 251 *eP* **P 19 17 22.2 +1.0**
comp=Z,6.9nm,0.9s,mb4.6
JOF Joensuu 70.99 334 *ep* **P 19 17 27.6 -3.0**
comp=Z,12nm,0.9s,mb4.8
SUW Suwalki 72.65 324 *eP* **P 19 17 38.6 -2.0**
SUW pmax pmax
comp=Z,43nm,0.9s,mb5.4
SUW Suwalki 72.65 324 *eP* **P 19 17 38.6 -2.0**
comp=Z,43nm,0.9s,mb5.4
FINES FINESS Array B 72.85 332 P **P 19 17 40.8 -0.9**
comp=Z,7.3nm,0.5s,mb4.8,baz=97,slow=6.4,SNR=33
FINES LR LR 19 57 34.7
comp=Z,566nm,18.2s,MS4.9,baz=287,slow=42
KAF Kangasniemi 72.93 333 *ep* **P 19 17 41.2 -0.9**
comp=Z,10nm,0.8s,mb4.8
KAF Kangasniemi 72.93 333 *eP* **P 19 17 41.2 -0.9**
KAF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
OJC Ojcow 74.12 320 *eP* **P 19 17 49.4 +0.1**
KEV Kevo 74.97 341 *ep* **P 19 17 53.7 -0.1**
ARCES ARCESS Array B 75.40 340 P **P 19 17 55.5 -0.8**
comp=Z,2.7nm,0.7s,mb4.3,baz=76,slow=5.0,SNR=14
ARCES LR LR 19 53 59.4
comp=Z,806nm,19.1s,MS5.0,baz=150,slow=38
MORC Moravsky Berou 75.52 319 *eP* **P 19 17 56.9 -0.4**
MORC pmax pmax
comp=Z,24nm,1.2s,mb5.0
MORC Moravsky Berou 75.52 319 *eP* **P 19 17 56.9 -0.5**
comp=Z,24nm,1.2s,mb5.0
BOSA Boshof 75.60 238 *eP* **P 19 17 58.2 -0.1**
BOSA pmax pmax
comp=Z,40nm,1.3s,mb5.2
BOSA Boshof 75.60 238 *eP* **P 19 17 58.2 -0.1**
comp=Z,40nm,1.3s,mb5.2
VRAC Vranov 76.10 319 P **P 19 17 57.7 -2.9**
comp=Z,2.2nm,0.8s,mb4.1,baz=97,slow=8.1,SNR=2.5
DPC Dobruska-Polom 76.35 320 *eP* **P 19 18 02.2 +0.2**
DPC *ep*P pP 19 18 10.4 -0.2
UPC Upice 76.56 320 *eP* **P 19 18 03.2 0.0**
UPC *ep*P pP 19 18 11.2 -0.6
PVCC Panska Ves 77.48 320 *eP* **P 19 18 09.9 +1.6**
BRG Berggiesshubel 77.90 320 *eP* **P 19 18 11.3 +0.7**
BRG pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
BRG Berggiesshubel 77.90 320 *eP* **P 19 18 11.3 +0.7**
comp=Z,6.3nm,1.1s,mb4.5
GEC2 GERESS Array S 77.97 318 *eP* **P 19 18 11.2 +0.2**
GEC2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GEC2 GERESS Array S 77.97 318 *eP* **P 19 18 11.2 +0.2**
comp=Z,7.0nm,0.9s,mb4.6
GERES GERESS Array B 77.97 318 P **P 19 18 11.4 +0.4**
comp=Z,2.2nm,0.6s,mb4.2,baz=90,slow=5.3,SNR=23
KHC Kasperske Hory 78.06 319 *eP* **P 19 18 11.5 0.0**
KHC *ep*P pP 19 18 19.7 -0.4
RUE Ruedersdorf 78.07 322 P **P 19 18 12.3 +0.8**
comp=Z,40nm,1.1s,mb5.3
MAW Mawson 78.44 192 *eP* **P 19 18 14.3 +1.1**
MAW pmax pmax
comp=Z,27nm,1.5s
MAW Mawson 78.44 192 P **P 19 18 12.3 -1.0**
comp=Z,1.2nm,0.7s,mb3.9,baz=320,slow=7.9,SNR=2.6
MAW LR LR 19 48 01.0
comp=Z,248nm,18.1s,MS4.6,baz=54,slow=32
MAW Mawson 78.44 192 *eP* **P 19 18 14.3 +1.1**
comp=Z,27nm,1.5s,mb5.0
CLL Collm 78.51 321 *eP* **P 19 18 16.0 +2.1**
CLL *i* pP 19 18 23.9 +1.4
CLL Collm 78.51 321 P **P 19 18 16.0 +2.1**
CLL *i* PP pP 19 18 23.9 +1.4
WET Wettzell 78.52 319 *eP* **P 19 18 14.2 +0.2**
WET pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
WET Wettzell 78.52 319 *eP* **P 19 18 14.2 +0.2**
comp=Z,4.0nm,0.9s,mb4.3
HFS Hagfors 78.60 330 P **P 19 18 14.1 -0.2**
comp=Z,5.0nm,0.6s,mb4.7,baz=108,slow=4.7,SNR=24
MOX Moxa 79.37 320 *eP* **P 19 18 24.9 +6.3**
MOX pmax pmax
comp=Z,20nm,1.6s,mb4.8
MOX Moxa 79.37 320 *i* P **P 19 18 24.9 +6.3**
comp=Z,logA/T=1.1,mb4.8
GRA1 Grafenberg Arr 79.61 319 *eP* **P 19 18 20.5 +0.5**
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 79.61 319 *eP* **P 19 18 20.5 +0.5**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 79.61 319 *eP* **P 19 18 20.5 +0.5**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 79.61 319 *eP* **P 19 18 20.5 +0.5**
comp=Z,8.0nm,0.9s,mb4.7
NB2 NORSAR Subarra 79.87 331 P **P 19 18 20.2 -0.9**
comp=Z,12nm,1.0s,mb4.8,baz=95,slow=5.0
NB2 NORSAR Subarra 79.87 331 P **P 19 18 20.2 -0.9**
NB2 pmax pmax
comp=Z,12nm,1.0s,mb4.8
NOA NORSAR Array B 79.87 331 P **P 19 18 20.6 -0.6**
comp=Z,4.6nm,0.7s,mb4.5,baz=92,slow=5.6,SNR=19
NOA LR LR 19 57 32.6
comp=Z,183nm,21.9s,MS4.4,baz=350,slow=39
NAO01 NORSAR Array S 80.03 330 *eP* **P 19 18 21.7 -0.2**
comp=Z,11nm,0.9s,mb4.8
TSUM Tsumeb 80.07 249 *eP* **P 19 18 23.6 +0.5**
comp=Z,4.8nm,1.0s,mb4.4
CLZ Clausthal 80.16 321 *eP* **P 19 18 23.0 +0.2**
comp=Z,6.0nm,0.9s,mb4.5
SUR Sutherland 80.34 235 *eP* **P 19 18 28.8 +4.5**
comp=Z,36nm,1.3s,mb5.1
DAVOX Davos 80.53 316 P **P 19 18 25.0 +0.1**
comp=Z,4.3nm,0.6s,mb4.5,baz=97,slow=4.3,SNR=6.9
MUD Monsted U'grnd 80.85 326 *eP* pP 19 18 36.7 +1.6
MUD pmax pmax
comp=Z,17nm,1.0s,mb4.9
MUD Monsted U'grnd 80.85 326 *i* P pP 19 18 36.7 +1.6
comp=Z,17nm,1.0s
TNS Taunus Mts 81.40 320 *eP* **P 19 18 29.7 +0.3**
BFO Black Forest 81.54 318 *eP* **P 19 18 29.9 -0.3**
BFO pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
BFO Black Forest 81.54 318 *eP* **P 19 18 29.9 -0.3**
comp=Z,9.0nm,1.2s,mb4.6
LPG La Plagne 82.76 315 *eP* **P 19 18 37.4 +0.8**
comp=Z,18nm,0.8s,mb4.9
LPG La Plagne 82.76 315 *eP* **P 19 18 37.4 +0.8**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SYO Syowa Base 85.33 197 ||PcP PcP 19 18 55.6 +3.1
RPZ Rata Peaks 85.90 135 LR LR 19 58 51.7
comp=Z,538nm,18.4s,MS5.0,baz=183,slow=37
EKA Eskdalemuir Ar 87.87 325 P **P 19 19 02.5 +0.7**
comp=Z,3.0nm,0.8s,mb4.6,baz=102,slow=4.8,SNR=12
ESDC Sonseca Array 91.36 310 P **P 19 19 19.1 +0.6**
comp=Z,2.5nm,0.9s,mb4.5,baz=66,slow=4.6,SNR=6.6
IMA Indian Mountai 91.69 22 *eP* **P 19 19 20.8 +1.4**
VNDA Vanda 92.80 168 P **P 19 19 31.0 +6.7**
VNDA pmax pmax
comp=Z,5.0nm,1.1s
VNDA Vanda 92.80 168 LR LR 20 00 48.3
comp=Z,296nm,18.5s,MS4.8,baz=302,slow=35
VNDA Vanda 92.80 168 P **P 19 19 31.0 +6.7**
comp=Z,4.5nm,1.1s,mb4.8
MCK McKinley 94.53 23 *eP* **P 19 19 33.1 +0.6**
MCK pmax pmax
comp=Z,8.0nm,1.6s,mb4.9
MCK McKinley 94.53 23 *eP* **P 19 19 33.1 +0.7**
comp=Z,8.4nm,1.6s,mb4.9
ILAR Eielson Array 94.81 22 P **P 19 19 33.6 -0.2**
comp=Z,0.4nm,0.8s,mb3.9,baz=270,slow=4.5,SNR=4.1
INK Inuvik 97.08 16 P **P 19 19 44.7 +0.7**
comp=Z,2.6nm,1.1s,mb4.6,baz=318,slow=4.9,SNR=4.2
INK LR LR 20 11 00.9
comp=Z,293nm,18.5s,MS4.8,baz=122,slow=40
INK Inuvik 97.08 16 P **P 19 19 44.7 +0.7**
INK LR LR 20 11 00.9
DBIC Dimbokro 98.05 278 LR LR 20 04 06.6
comp=Z,526nm,19.1s,MS5.0,baz=251,slow=36
ULM Lac du Bonnet 121.56 8 PKP PKPdf 19 25 05.6 -4.2
comp=Z,0.9nm,0.4s,baz=273,slow=1.4,SNR=3.3
ULM Lac du Bonnet 121.56 8 PKP PKPdf 19 25 05.6 -4.2
PDAR Pinedale Array 125.24 21 PKP PKPdf 19 25 14.2 -2.8
comp=Z,1.0nm,1.0s,slow=1.5,SNR=4.6
TXAR Lajitas Array 139.29 24 PKP PKPdf 19 25 41.6 -2.1
comp=Z,0.3nm,0.6s,baz=358,slow=40,SNR=3.3
JCT Junction City 139.66 19 *e*PKIKP PKPdf 19 25 43.1 -1.3
PLCA Paso Flores 144.47 200 *e*PKIKP PKPdf 19 25 49.7 -2.9
PLCA Paso Flores 144.47 200 PKP PKPdf 19 25 49.2 -3.4
comp=Z,7.5nm,0.8s,baz=183,slow=1.9,SNR=7.2
LPAZ La Paz 160.80 242 PKP PKPdf 19 26 15.8 -0.8
comp=Z,2.0nm,1.1s,baz=356,slow=4.7,SNR=4.4
LPAZ PKPab PKPab 19 26 54.8 -1.6
comp=Z,1.6nm,0.9s,baz=111,slow=6.6,SNR=3.6

WEL 29 19:06:47.5±0.8, 36.29S×180.00W, h33km, ML3.7/5, Error ellipse: s-maj=11.9km s-min=10.7km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.26**	**218**	PN	Pn	19 07 22.5	-0.9
PUZ				SN	Sn	19 07 48.3	-2.1
MWZ	**Matawai**	**2.84**	**223**	PN	Pn	19 07 30.1	-1.5
MWZ				SN	Sn	19 08 01.7	-3.4
URZ	**Urewera**	**3.03**	**229**	PN	Pn	19 07 32.1	-2.3
URZ				SN	Sn	19 08 06.1	-3.9
KNZ	**Kokohu**	**3.29**	**213**	PN	Pn	19 07 35.5	-2.6
BKZ	**Black Stump Fm**	**4.00**	**223**	PN	Pn	19 07 45.0	-3.1
BKZ				SN	Sn	19 08 28.8	-5.6
MGZ	**Maungaku**	**4.46**	**231**	PN	Pn	19 07 51.5	-3.2
NGZ	**Ngauruhoe**	**4.53**	**229**	PN	Pn	19 07 52.2	-3.4
CNZ	**Chateau**	**4.57**	**229**	PN	Pn	19 07 52.9	-3.4
MRZ	**Mangatainoka R**	**5.58**	**217**	PN	Pn	19 08 04.2	-6.2

IDC 29 19:13:31.5±1.0, 9.92N×92.67E, mb3.9/10, mb1 4.1/10, mb1mx3.9/18, mbtmp3.9/10, Error ellipse: s-maj=56.5km s-min=20.0km az=47.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.52**	**15**	P	P	19 21 04.6	-1.2
	0.9nm,0.7s,baz=198,slow=8.0,SNR=4.9						
ZAL	**Zalesovo**	**44.35**	**353**	P	P	19 21 46.8	+1.7
	2.3nm,0.8s,baz=276,slow=9.4,SNR=9.3						
BRTR	**Keskin Array B**	**60.00**	**310**	P	P	19 23 41.1	-1.2
	0.8nm,0.8s,baz=125,slow=6.7,SNR=4.4						
FINES	**FINESS Array B**	**70.23**	**332**	P	P	19 24 46.8	-1.3
	0.9nm,0.5s,baz=45,slow=5.4,SNR=7.9						
ARCES	**ARCESS Array B**	**72.86**	**340**	P	P	19 25 01.4	-2.3
	5.4nm,0.9s,baz=6.3,slow=11,SNR=3.7						
GERES	**GERESS Array B**	**75.34**	**318**	P	P	19 25 16.8	-1.7
	0.6nm,0.8s,baz=72,slow=4.2,SNR=4.1						
HFS	**Hagfors**	**75.96**	**330**	P	P	19 25 19.8	-2.0
	2.6nm,0.8s,baz=117,slow=6.6,SNR=8.0						
NOA	**NORSAR Array B**	**77.24**	**330**	P	P	19 25 26.1	-2.8
	0.9nm,0.7s,baz=89,slow=5.9,SNR=3.2						

*IDC **29** 19:13:52.5±1.1, 7.82N×94.00E, mb4.2/14, mb1 4.3/15, mb1mx4.2/21, mbtmp4.2/15, ML4.3/1, Error ellipse: s-maj=38.3km s-min=23.4km az=88.0*
ISC 29 19:13:54.7±0.6, 7.6N±0.1×94.1E±0.1, h33km, n19, σ1§14/18, mb4.1/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.76**	**23**	Pn	P	19 16 45.2	+2.0
	0.6nm,0.3s,baz=210,slow=14,SNR=5.4						
SONM	**Songino Array**	**41.43**	**12**	P	P	19 21 39.8	0.0
	0.9nm,0.7s,mb3.5,baz=196,slow=9.3,SNR=5.1						
ZAL	**Zalesovo**	**46.81**	**352**	P	P	19 22 23.0	0.0
	2.7nm,0.5s,mb4.5,baz=296,slow=4.5,SNR=8.6						
WRA	**Warramunga Arr**	**48.12**	**125**	P	P	19 22 32.7	-1.1
	1.1nm,0.7s,mb4.0,baz=304,slow=8.6,SNR=9.3						
BVAR	**Borovoye Array**	**49.24**	**341**	P	P	19 22 40.9	-1.0
	0.7nm,0.8s,mb3.8,baz=146,slow=5.3,SNR=3.5						
ASAR	**Alice Springs**	**49.76**	**130**	P	P	19 22 45.6	-0.7
	0.5nm,0.6s,mb3.7,baz=301,slow=7.6,SNR=7.0						
ASAR	**Alice Springs**	**49.76**	**130**	PcP	PcP	19 24 07.8	+0.5
	0.7nm,0.9s,baz=303,slow=4.5,SNR=4.1						
KMBO	**Kilima Mbogo**	**57.38**	**264**	P	P	19 23 43.9	+1.2
	0.7nm,0.5s,mb4.0,baz=43,slow=21,SNR=3.1						
BRTR	**Keskin Array B**	**62.59**	**311**	P	P	19 24 16.6	-1.5
	0.9nm,0.5s,mb4.2,baz=133,slow=6.9,SNR=5.0						
AKASG	**Malin Array Be**	**68.36**	**322**	P	P	19 24 52.6	-2.3
	0.4nm,0.5s,mb3.7,baz=90,slow=4.9,SNR=4.0						
IDI	**Anoyia**	**68.71**	**305**	P	P	19 24 57.6	+0.2
	4.7nm,0.6s,mb4.6,baz=316,slow=21,SNR=3.6						
FINES	**FINESS Array B**	**72.94**	**332**	P	P	19 25 21.9	-0.4
	6.8nm,1.1s,mb4.5,baz=106,slow=5.4,SNR=11						
ARCES	**ARCESS Array B**	**75.51**	**340**	P	P	19 25 37.4	+0.3
	1.1nm,0.5s,mb4.0,baz=100,slow=7.4,SNR=5.7						
GERES	**GERESS Array B**	**78.02**	**318**	P	P	19 25 51.1	-0.4
	0.7nm,0.5s,mb3.8,baz=90,slow=5.3,SNR=8.2						
MAW	**Mawson**	**78.27**	**192**	P	P	19 25 55.4	+2.8
	2.0nm,0.6s,mb4.2,baz=69,slow=8.6,SNR=4.7						
HFS	**Hagfors**	**78.68**	**330**	P	P	19 25 55.5	+0.5
	4.4nm,0.7s,mb4.5,baz=117,slow=6.6,SNR=14						
NB2	**NORSAR Subarra**	**79.96**	**331**	P	P	19 26 01.7	-0.2
	1.2nm,0.6s,mb4.0,baz=98,slow=4.8						
NOA	**NORSAR Array B**	**79.96**	**331**	P	P	19 26 02.2	+0.3
	2.3nm,0.9s,mb4.1,baz=92,slow=5.7,SNR=5.2						
EKA	**Eskdalemuir Ar**	**87.93**	**325**	P	P	19 26 43.4	+1.1
	1.3nm,0.6s,mb4.3,baz=108,slow=5.3,SNR=5.5						

*IDC **29** 19:20:28.6±0.7, 7.86N×94.05E, mb4.1/17, mb1 4.2/18, mb1mx4.1/24, mbtmp4.1/18, ML3.7/1, Error ellipse: s-maj=37.9km s-min=15.4km az=52.0*
*BJI **29** 19:20:33.0, 7.80N×94.00E, h25km, mb4.2*
*NEIC **29** 19:20:33.0±0.4, 7.81N×93.97E, h30km, mb4.3/7, Error ellipse: s-maj=14.1km s-min=9.3km az=70.0*
ISC 29 19:20:30.9±7.4, 7.8N±0.1×94.1E±0.2, h28km±51km, n38, σ0§99/36, mb4.3/26, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.58**	**24**	*eP*	P	19 23 16.8	-0.9
	5.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.58**	**24**	Pn	P	19 23 18.5	+0.8
	0.2nm,0.3s,baz=212,slow=14,SNR=5.2						
KMI	**Kunming**	**19.09**	**25**	P	P	19 25 00.1	+5.8
	7.0nm,1.6s						
JIRN	**Jiri**	**21.08**	**340**	*eP*	P	19 25 15.1	-0.4
DMN	**Daman**	**21.42**	**338**	*eP*	P	19 25 19.5	+0.6
KKN	**Kakani**	**21.52**	**338**	*eP*	P	19 25 20.4	+0.5
	28nm,0.8s,mb4.7						
GKN	**Gorkha**	**21.95**	**337**	*eP*	P	19 25 24.4	+0.1
	31nm,0.7s,mb4.8						
KOLN	**Koldanda**	**22.16**	**335**	*eP*	P	19 25 27.3	+0.9
	40nm,0.8s,mb4.9						
AAK	**Ala-Archa**	**38.71**	**337**	P	P	19 27 53.8	-0.5
	5.7nm,1.2s,mb4.2						
SONM	**Songino Array**	**41.22**	**13**	P	P	19 28 15.1	+0.1
	1.6nm,0.9s,mb3.7,baz=196,slow=9.0,SNR=6.4						
ULN	**Ulaanbaatar**	**41.40**	**13**	*eP*	P	19 28 18.7	+2.3
	2.9nm,1.1s,mb3.8						
KURK	**Kurchatov**	**44.63**	**346**	*eP*	P	19 28 41.6	-1.1
	5.9nm,1.0s,mb4.4						
NWAO	**Narrogin (SRO)**	**46.15**	**153**	P	P	19 28 54.4	-0.7
	2.4nm,0.6s,mb4.3,baz=219,slow=16,SNR=2.5						
ZAL	**Zalesovo**	**46.58**	**352**	P	P	19 28 58.4	+0.3
	2.1nm,0.7s,mb4.2,baz=300,slow=8.6,SNR=5.6						
ZAL	**Zalesovo**	**46.58**	**352**	P	P	19 28 58.4	+0.3
WRA	**Warramunga Arr**	**48.31**	**125**	P	P	19 29 12.6	+0.4
	1.0nm,0.7s,mb4.0,baz=307,slow=8.9,SNR=7.5						
WRAB	**Tennant Creek**	**48.31**	**125**	P	P	19 29 06.4	-5.8
BVAR	**Borovoye Array**	**49.00**	**341**	P	P	19 29 15.7	-1.4
	0.9nm,0.8s,mb3.9,baz=101,slow=7.3,SNR=3.0						
CHKZ	**Chkalovo**	**49.49**	**342**	*eP*	P	19 29 18.9	-1.9
	6.4nm,1.0s,mb4.6						
ASAR	**Alice Springs**	**49.95**	**130**	P	P	19 29 24.9	+0.1
	0.8nm,0.6s,mb3.9,baz=303,slow=7.3,SNR=10						
KMBO	**Kilima Mbogo**	**57.33**	**264**	P	P	19 30 23.7	+4.3
	3.3nm,0.7s,mb4.5,baz=55,slow=12,SNR=14						
KMBO	**Kilima Mbogo**	**57.33**	**264**	*eP*	P	19 30 23.3	+3.9
	5.0nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**60.14**	**134**	P	P	19 30 38.3	-0.3
BRTR	**Keskin Array B**	**62.39**	**311**	P	P	19 30 52.6	-1.1
	1.0nm,0.8s,mb4.0,baz=108,slow=9.1,SNR=5.1						
AKASG	**Malin Array Be**	**68.13**	**322**	P	P	19 31 29.1	-1.4
	0.6nm,0.5s,mb3.9,baz=87,slow=4.8,SNR=5.4						
IDI	**Anoyia**	**68.52**	**305**	P	P	19 31 33.8	+0.5
	7.6nm,0.7s,mb4.7,baz=112,slow=8.0,SNR=3.1						
FINES	**FINESS Array B**	**72.71**	**332**	P	P	19 31 58.1	0.0
	1.4nm,0.7s,mb4.0,baz=102,slow=6.0,SNR=9.9						
KAF	**Kangasniemi**	**72.79**	**333**	*ep*	P	19 31 56.5	-2.1
	4.2nm,1.0s,mb4.3						
ARCES	**ARCESS Array B**	**75.28**	**340**	P	P	19 32 12.4	-0.4
	2.5nm,0.8s,mb4.2,baz=153,slow=2.7,SNR=3.9						
VAE	**Valguarnera**	**77.07**	**307**	P	P	19 32 25.4	+1.9
	20nm,1.0s,mb5.0,baz=246,slow=10,SNR=3.3						
GERES	**GERESS Array B**	**77.80**	**318**	P	P	19 32 28.6	+1.2
	1.3nm,0.6s,mb4.0,baz=90,slow=5.3,SNR=13						
HFS	**Hagfors**	**78.45**	**330**	P	P	19 32 31.1	+0.5
	1.3nm,0.4s,mb4.2,baz=117,slow=3.3,SNR=11						
NB2	**NORSAR Subarra**	**79.73**	**331**	P	P	19 32 37.5	-0.1
	6.9nm,1.4s,mb4.4,baz=91,slow=4.8						
NOA	**NORSAR Array B**	**79.73**	**331**	P	P	19 32 38.0	+0.4
	0.8nm,0.8s,mb3.7,baz=96,slow=5.1,SNR=3.1						
DAVOX	**Davos**	**80.36**	**316**	P	P	19 32 42.2	+1.0
	3.6nm,0.7s,mb4.4,baz=123,slow=9.1,SNR=6.3						
EKA	**Eskdalemuir Ar**	**87.71**	**325**	P	P	19 33 19.1	+0.8
	1.0nm,0.8s,mb4.1,baz=198,slow=24,SNR=3.6						
PDAR	**Pinedale Array**	**125.24**	**21**	PKP	PKPdf	19 39 32.1	-2.3
	0.3nm,0.6s,slow=1.5,SNR=3.9						
PLCA	**Paso Flores**	**144.48**	**200**	PKP	PKPdf	19 40 06.9	-3.0
	1.8nm,0.8s,baz=210,slow=2.7,SNR=4.1						

*IDC **29** 19:23:16.1±1.2, 7.45N×93.64E, mb3.9/9, mb1 4.0/10, mb1mx3.8/20, mbtmp3.9/10, ML3.4/1, Error ellipse: s-maj=59.0km s-min=20.0km az=53.0*
ISC 29 19:23:20.8±0.9, 7.7N±0.1×94.2E±0.2, h33km, n16, σ1§06/16, mb4.2/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.61**	**23**	Pn	P	19 26 05.7	-1.5
	0.1nm,0.3s,baz=209,slow=14,SNR=3.6						
JIRN	**Jiri**	**21.22**	**340**	*eP*	P	19 28 06.0	0.0
	20nm,0.9s,mb4.5						
PKI	**Pulchoki**	**21.41**	**338**	*eP*	P	19 28 09.4	+1.4
	20nm,0.8s,mb4.5						
DMN	**Daman**	**21.56**	**338**	*eP*	P	19 28 10.3	+0.8
	29nm,0.9s,mb4.7						
KKN	**Kakani**	**21.66**	**338**	*eP*	P	19 28 10.6	+0.2
	21nm,0.9s,mb4.5						
GKN	**Gorkha**	**22.09**	**337**	*eP*	P	19 28 15.0	+0.2
	20nm,0.8s,mb4.6						
KOLN	**Koldanda**	**22.31**	**335**	*eP*	P	19 28 17.9	+1.0
	12nm,0.7s,mb4.4						
SONM	**Songino Array**	**41.28**	**12**	P	P	19 31 05.9	+1.3
	1.0nm,0.7s,mb3.6,baz=200,slow=5.8,SNR=6.1						
ZAL	**Zalesovo**	**46.69**	**352**	P	P	19 31 48.2	+0.1
	2.

*INMG **29** 19:24:13.8±0.7,36.80N×7.50W,h27km±7km,ML1.8,Error ellipse: s-maj=9.1km s-min=4.7km az=103.0*
MDD 29 19:24:12.9±1.1,36.76N×7.44W,h44km±24km,mb4.0/10, 4C,Error ellipse: s-maj=11.2km s-min=5.9km az=26.0, PRXIMO,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALC	**Alcoutim**	**0.71**	**358**	*i* P	P	19 24 26.1	-0.5
PALC				*e*S	S	19 24 35.7	-0.9
	40nm,0.2s						
PALC	**Alcoutim**	**0.71**	**358**	⇑P	P	19 24 26.1	-0.5
PALC				S	S	19 24 35.7	-0.9
	20nm,0.2s						
EGRO	**El Granado**	**0.78**	**357**	⇑P	P	19 24 26.9	-0.6
EGRO	11nm,0.1s,SNR=18			S	S	19 24 37.3	-1.1
	56nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.18**	**31**	⇑P	P	19 24 32.1	-1.1
EMIN	1.5nm,0.1s,SNR=18			S	S	19 24 46.3	-2.1
	4.6nm,0.1s,SNR=11						
ESPR	**Espera**	**1.27**	**84**	P	P	19 24 33.7	-1.0
ESPR	3.9nm,0.1s,SNR=7.9			S	S	19 24 49.1	-1.8
	129nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**1.29**	**308**	*e*P	P	19 24 33.9	-1.0
PTEO				*e*S	S	19 24 49.0	-2.4
	4.2nm,0.1s						
PTEO	**Sao Teotonio**	**1.29**	**308**	P	P	19 24 33.9	-1.0
PTEO				S	S	19 24 49.0	-2.4
	2.1nm,0.1s						
PBEJ	**Beja**	**1.31**	**345**	*e*P	P	19 24 34.2	-1.1
PBEJ				*e*S	S	19 24 49.6	-2.3
	8.0nm,0.1s						
PBEJ	**Beja**	**1.31**	**345**	P	P	19 24 34.2	-1.1
PBEJ				S	S	19 24 49.6	-2.3
	4.0nm,0.1s						
EJIF	**Jimena Fronter**	**1.61**	**100**	P	P	19 24 38.5	-1.0
	2.7nm,0.2s,SNR=4.0						
MOE	**Montemor**	**1.91**	**338**	*e*Sn	S	19 25 03.7	-2.8
EBAD	**Badajoz**	**2.03**	**9**	⇑P	P	19 24 43.8	-1.5
EBAD	2.2nm,0.1s,SNR=18			S	S	19 25 06.5	-3.0
	2.2nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**2.15**	**94**	S	S	19 25 09.2	-3.5
	1.8nm,0.3s,SNR=7.9						
PLOU	**Loures**	**2.52**	**328**	*e*Sn	S	19 25 20.0	-2.1
ELUQ	**Luque**	**2.66**	**71**	S	S	19 25 23.3	-2.3
	2.8nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.68**	**57**	P	P	19 24 52.8	-1.8
EADA	1.5nm,0.1s,SNR=7.9			S	S	19 25 22.2	-3.9
	1.9nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.08**	**359**	*e*Pn	P	19 24 58.5	-1.8
PCBR				*e*Sn	S	19 25 33.1	-3.2
	2.8nm,0.1s						
PCBR	**Castelo Branco**	**3.08**	**359**	P	P	19 24 58.5	-1.8
PCBR				S	S	19 25 33.1	-3.2
	1.4nm,0.1s						
EQES	**Quesada**	**3.64**	**72**	S	S	19 25 46.0	-4.4
	0.9nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**4.34**	**63**	S	S	19 26 02.0	-6.2
	0.9nm,0.2s,SNR=4.0						
GUD	**Guadarrama**	**4.66**	**32**	P	P	19 25 20.6	-2.0
GUD	0.6nm,0.1s,SNR=7.9			S	S	19 26 08.5	-7.5
	0.3nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.13**	**355**	P	P	19 25 26.4	-2.8
ELOB	1.0nm,0.1s,SNR=7.9			S	S	19 26 22.0	-5.9
	1.3nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.21**	**6**	P	P	19 25 27.5	-2.8
ECAL	0.6nm,0.1s,SNR=7.9			S	S	19 26 23.9	-6.0
	1.7nm,0.2s,SNR=7.9						
ERUA	**La Rua**	**5.63**	**2**	P	P	19 25 33.6	-2.7
	0.6nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**7.16**	**24**	S	S	19 27 07.5	-11
	0.3nm,0.1s,SNR=7.9						

*IDC **29** 19:26:24.1±1.4,8.00N×94.07E,mb3.8/6,mb1 4.0/7, mb1mx3.7/19,mbtmp3.8/7,ML3.5/1,Error ellipse: s-maj=46.0km s-min=28.6km az=56.0*
ISC 29 19:26:27.7±1.2,8.1N±0.2×94.3E±0.2,h33km,n11, σ0§85/11,mb4.1/9,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.29**	**23**	Pn	P	**19 29 09.6**	**-0.3**
	0.1nm,0.3s,baz=213,slow=14,SNR=6.2						
JIRN	**Jiri**	**20.96**	**340**	*e*P	P	**19 31 11.3**	**+0.9**
	5.5nm,0.3s						
DMN	**Daman**	**21.31**	**337**	*e*P	P	**19 31 14.2**	**+0.3**
	20nm,1.0s,mb4.4						
GKN	**Gorkha**	**21.85**	**337**	*e*P	P	**19 31 19.4**	**+0.1**
	20nm,0.6s,mb4.7						
KOLN	**Koldanda**	**22.07**	**334**	*e*P	P	**19 31 22.1**	**+0.6**
	26nm,0.7s,mb4.7						
SONM	**Songino Array**	**40.96**	**12**	P	P	**19 34 09.7**	**+0.7**
	0.6nm,0.9s,mb3.2,baz=162,slow=4.6,SNR=3.7						
ZAL	**Zalesovo**	**46.40**	**352**	P	P	**19 34 51.2**	**-1.6**
	0.7nm,0.4s,mb3.9,baz=308,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**48.23**	**126**	P	P	**19 35 08.1**	**+0.4**
	0.2nm,0.3s,mb3.6,baz=301,slow=9.8,SNR=5.9						
FINES	**FINESS Array B**	**72.63**	**332**	P	P	**19 37 51.6**	**-1.9**
	1.1nm,0.8s,mb3.9,baz=309,slow=12,SNR=3.9						
GERES	**GERESS Array B**	**77.80**	**318**	P	P	**19 38 23.5**	**0.0**
	0.5nm,0.5s,mb3.7,baz=90,slow=5.3,SNR=6.0						
HFS	**Hagfors**	**78.39**	**330**	P	P	**19 38 27.0**	**+0.5**
	6.0nm,1.1s,mb4.4,baz=166,slow=41,SNR=2.6						

*IDC **29** 19:26:45.3±1.1,7.34N×92.26E,mb4.0/8,mb1 4.2/9, mb1mx4.0/19,mbtmp4.0/9,ML4.0/1,Error ellipse: s-maj=60.9km s-min=17.5km az=56.0*
*NEIC **29** 19:26:49.0±0.5,7.13N×92.04E,h30km,mb4.7/5,Error ellipse: s-maj=14.0km s-min=9.3km az=70.0*
ISC 29 19:26:47.4±0.6,7.16N±0.08×92.02E±0.10,h33km,n22, σ0§94/21,mb4.2/13,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**13.10**	**30**	*e*P	P	**19 29 53.4**	**-0.4**
	13nm,0.8s						
CM31				*e*		19 29 60.0	
CMAR	**Chiang Mai Arr**	**13.10**	**30**	Pn	P	**19 29 53.5**	**-0.3**
	0.3nm,0.3s,baz=229,slow=14,SNR=9.5						
HYB	**Hyderabad**	**16.63**	**309**	*i* P	P	**19 30 38.0**	**-1.7**
KMI	**Kunming**	**20.59**	**29**	P	P	**19 31 28.2**	**+1.9**
AAK	**Ala-Archa**	**38.57**	**339**	*e*P	P	**19 34 10.0**	**+1.2**
	5.2nm,0.9s,mb4.3						
AAK				*e*	pP	19 34 18.7	+0.1
FITZ	**Fitzroy Crossi**	**41.61**	**128**	*e*P	P	**19 34 34.8**	**+0.4**
	10nm,0.9s,mb4.5						
SONM	**Songino Array**	**42.34**	**14**	P	P	**19 34 39.6**	**-0.3**
	1.6nm,0.9s,mb3.6,baz=198,slow=8.1,SNR=6.0						
KURK	**Kurchatov**	**44.83**	**348**	*e*P	P	**19 34 59.7**	**-0.3**
	12nm,1.2s,mb4.6						
ZAL	**Zalesovo**	**47.01**	**354**	P	P	**19 35 16.6**	**-0.6**
	1.2nm,0.8s,mb3.9,baz=308,slow=5.2,SNR=3.3						
BVAR	**Borovoye Array**	**49.01**	**343**	P	P	**19 35 33.5**	**+0.6**
	1.4nm,0.8s,mb4.0,baz=149,slow=8.6,SNR=7.9						
WRA	**Warramunga Arr**	**49.59**	**124**	P	P	**19 35 37.7**	**-0.1**
	4.3nm,0.8s,mb4.5,baz=304,slow=8.7,SNR=18						
WRAB	**Tennant Creek**	**49.59**	**124**	*e*P	P	**19 35 37.7**	**-0.1**
	9.1nm,0.7s,mb4.9						
WRAB				*e*		19 35 44.5	
WB2	**Warramunga Arr**	**49.60**	**124**	*e*P	P	**19 35 36.5**	**-1.4**
ASAR	**Alice Springs**	**51.10**	**128**	P	P	**19 35 49.3**	**0.0**
	1.9nm,0.8s,mb4.1,baz=303,slow=7.6,SNR=12						
ASAR				PcP	PcP	19 37 06.0	+1.1
	0.6nm,0.7s,baz=296,slow=3.8,SNR=2.9						
KMBO	**Kilima Mbogo**	**55.26**	**264**	P	P	**19 36 20.7**	**+0.5**
STKA	**Stephens Creek**	**61.16**	**132**	P	P	**19 37 02.0**	**+0.7**
	1.3nm,0.6s,mb4.2,baz=321,slow=8.5,SNR=5.2						
STKA	**Stephens Creek**	**61.16**	**132**	*e*P	P	**19 37 01.5**	**+0.2**
MA2	**Magadan**	**68.37**	**28**	P	P	**19 37 46.7**	**-0.8**
	7.0nm,0.9s,mb4.7						
FINES	**FINESS Array B**	**72.36**	**333**	P	P	**19 38 11.1**	**-0.6**
	1.3nm,0.6s,mb4.0,baz=104,slow=7.9,SNR=6.0						
FINES	**FINESS Array B**	**72.36**	**333**	P	P	**19 38 11.1**	**-0.6**
GERES	**GERESS Array B**	**76.96**	**318**	P	P	**19 38 41.2**	**+2.8**
	0.9nm,0.7s,mb3.8,baz=90,slow=5.3,SNR=6.4						

PDAR	**Pinedale Array**	**126.57**	**20**	PKP	PKPdf	19 45 49.5	+1.7
	0.7nm,0.8s,baz=315,slow=2.1,SNR=4.9						

*CSEM **29** 19:27:41.3±0.2,38.29N×26.73E,h25km,MD3.4,Error ellipse: s-maj=5.8km s-min=3.8km az=129.0*
*ISK **29** 19:27:41.6,38.28N×26.74E,h25km,MD3.4*
*ATH **29** 19:27:42.4,38.14N×26.57E,h22km±2km,MD3.3/3*
ISC 29 19:27:42.2±0.6,38.22N±0.03×26.78E±0.06,h25km,n17, σ1§06/25,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.26**	**52**	*i* PG	Pb	**19 27 48.7**	**0.0**
BLCB				*i* SG	Sb	**19 27 52.8**	**-0.3**
IZM	**Izmir**	**0.42**	**65**	PG	Pb	**19 27 51.6**	**+0.5**
IZM				SG	Sb	**19 27 58.0**	**+0.9**
SMG	**Samos**	**0.52**	**175**	*e*PB	Pb	**19 27 51.8**	**-0.8**
SMG				*e*SB	Sb	**19 27 59.5**	**-0.3**
AYDN	**Tasoluk**	**1.04**	**122**	*i* P	Pn	**19 28 02.3**	**+1.0**
AYDN				*i* S	Sb	**19 28 12.2**	**-2.3**
AKS	**Akhisar**	**1.04**	**51**	PG	Pn	**19 28 01.6**	**+0.2**
PRK	**Paraskevi**	**1.10**	**339**	*e*PN	Pn	**19 28 04.1**	**+2.0**
PRK				*e*SN	Sn	**19 28 19.8**	**+3.2**
BDRM	**Kayabasi**	**1.27**	**155**	*i* P	Pn	**19 28 05.5**	**+0.9**
BDRM				*i* S	Sn	**19 28 22.0**	**+1.0**
APE	**Apeiranthos**	**1.52**	**221**	*e*PN	Pn	**19 28 07.4**	**-0.8**
APE	**Apeiranthos**	**1.52**	**221**	*e*PN	Pn	**19 28 08.1**	**-0.1**
YER	**Yerkesik**	**1.61**	**132**	*e*PN	Pn	**19 28 10.4**	**+0.8**
BALB	**Balikesir**	**1.66**	**31**	*e*PN	Pn	**19 28 09.5**	**-0.6**
DENT	**Denizli**	**1.84**	**104**	*e*PN	Pn	**19 28 12.7**	**-0.1**
DNZL	**Cakiroluk**	**1.87**	**106**	*i* P	Pn	**19 28 18.3**	**+5.1**
DNZL				*i* S	Sn	**19 28 43.6**	**+7.3**
DST	**Dursunbey**	**2.00**	**46**	*e*PN	Pn	**19 28 14.1**	**-0.9**
LIA	**Limnos Island**	**2.08**	**324**	*e*PB	Pb	**19 28 17.8**	**-1.4**
EDC	**Edincik**	**2.28**	**21**	*e*PN	Pn	**19 28 17.6**	**-1.5**
ULDT	**Uludag**	**2.65**	**43**	*i* P	Pn	**19 28 32.3**	**+7.9**
ULDT				*i* S	Sn	**19 29 05.8**	**+10**

*INMG **29** 19:28:31.5±1.2,36.89N×7.67W,h26km±4km,ML3.1,Error ellipse: s-maj=3.6km s-min=2.9km az=42.0*
*IGIL **29** 19:28:31.3,36.90N×7.70W,h27km,ML2.7*
*CSEM **29** 19:28:31.7±0.2,37.12N×7.35W,h88km±4km,ML3.7/1, Error ellipse: s-maj=5.3km s-min=2.6km az=39.0*
*SFS **29** 19:28:31.0,36.94N×7.62W*
*NEIC **29** 19:28:31.8,36.94N×7.62W,h30km,MN2.8(MDD),After MDD.*
*CNRM **29** 19:28:34.0,36.60N×7.51W,h30km,MD3.5*
MDD 29 19:28:31.4±0.6,36.91N×7.64W,h42km±12km,mb4.1/25, 3C-11D,Error ellipse: s-maj=6.4km s-min=3.7km az=40.0,PRXIMO,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALC	**Alcoutim**	**0.57**	**13**	*i* Pg	P	19 28 42.7	-0.5
PALC				*e*Sg	S	19 28 50.9	-0.8
	816nm,0.4s						
PALC	**Alcoutim**	**0.57**	**13**	⇓P	P	19 28 42.7	-0.5
PALC				S	S	19 28 50.9	-0.8
	408nm,0.4s						
EGRO	**El Granado**	**0.64**	**11**	⇓P	P	19 28 43.6	-0.5
EGRO				S	S	19 28 52.1	-1.3
EGRO	**El Granado**	**0.64**	**11**	⇓P	P	19 28 43.6	-0.5
	16nm,0.1s,SNR=18						
EGRO				S	S	19 28 52.2	-1.2
	489nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**0.64**	**11**	P	P	19 28 43.6	-0.5
	16nm,0.1s,SNR=18						
PTEO	**Sao Teotonio**	**1.08**	**307**	*i* P	P	19 28 49.5	-0.7
PTEO				*e*S	S	19 29 02.4	-1.8
	90nm,0.3s						
PTEO	**Sao Teotonio**	**1.08**	**307**	⇓P	P	19 28 49.5	-0.7
PTEO				S	S	19 29 02.4	-1.8
	45nm,0.3s						
PBEJ	**Beja**	**1.13**	**351**	*i* P	P	19 28 50.3	-0.7
PBEJ				*e*S	S	19 29 03.9	-1.8
PBEJ	**Beja**	**1.13**	**351**	⇓P	P	19 28 50.3	-0.7
PBEJ				S	S	19 29 03.9	-1.8
EMIN	**Mina Concepcio**	**1.16**	**42**	P	P	19 28 50.3	-1.1
	3.0nm,0.1s,SNR=35						
EMIN				S	S	19 29 04.0	-2.2
	37nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.16**	**42**	P	P	19 28 50.3	-1.0
	1.6nm,0.1s,SNR=35						
EMIN				S	S	19 29 04.0	-2.2
	34nm,0.1s,SNR=7.9						
SCRT	**Cerro San Cris**	**1.21**	**102**	P	P	19 28 52.1	+0.1
SCRT				S	S	19 29 03.6	-3.9
SCRT	**Cerro San Cris**	**1.21**	**102**	*e*P	P	19 28 52.1	0.0
SCRT				*e*S	S	19 29 03.6	-3.9
CNIL	**Conil**	**1.38**	**112**	P	P	19 28 54.6	-0.1
CNIL	**Conil**	**1.38**	**112**	*e*P	P	19 28 54.6	-0.1
ESPR	**Espera**	**1.43**	**91**	P	P	19 28 54.2	-1.1
ESPR				S	S	19 29 10.2	-3.0
ESPR	**Espera**	**1.43**	**91**	⇓P	P	19 28 54.2	-1.2
	26nm,0.1s,SNR=18						
ESPR				S	S	19 29 10.7	-2.5
	302nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.43**	**91**	P	P	19 28 54.2	-1.2
	24nm,0.1s,SNR=144						
ESPR				S	S	19 29 10.2	-3.0
	54nm,0.1s,SNR=7.9						
MOE	**Montemor**	**1.71**	**341**	*e*Pn	P	19 28 58.3	-1.0
MOE				*e*Sn	S	19 29 18.8	-1.3
MOE				*e*Sg	S	19 29 25.6	+5.5
MOE	**Montemor**	**1.71**	**341**	⇓P	P	19 28 58.3	-1.0
MOE				S	S	19 29 18.8	-1.3
LIJA	**Lijar**	**1.79**	**89**	P	P	19 28 59.7	-0.8
LIJA				S	S	19 29 18.4	-3.7
LIJA	**Lijar**	**1.79**	**89**	*e*P	P	19 28 59.7	-0.8
LIJA				*e*S	S	19 29 18.4	-3.7
EBAD	**Badajoz**	**1.91**	**15**	⇓P	P	19 29 00.7	-1.5
	13nm,0.1s,SNR=18						
EBAD				S	S	19 29 22.4	-2.7
	56nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**1.91**	**15**	P	P	19 29 00.7	-1.5
	10nm,0.1s,SNR=106						
EBAD				S	S	19 29 22.4	-2.8
	15nm,0.1s,SNR=7.9						
LIS	**Lisbon**	**2.17**	**327**	*e*P	P	19 29 03.6	-2.2
LIS				*e*S	S	19 29 27.3	-4.3
LIS				*e*S	S	19 29 27.5	-4.1
LIS				AML	AML	19 29 29.4	
	comp=N,53nm,0.2s						
LIS	**Lisbon**	**2.17**	**327**	P	P	19 29 03.6	-2.2
LIS				S	S	19 29 27.3	-4.3
	comp=N,53nm,0.3s						
PLOU	**Loures**	**2.31**	**329**	*e*Pn	P	19 29 07.0	-0.9
PLOU				*e*Sn	S	19 29 33.3	-1.9
	comp=N,29nm,0.2s						
PLOU	**Loures**	**2.31**	**329**	*e*Pn	P	19 29 07.0	-0.9
PLOU				*e*Sn	S	19 29 33.3	-1.9
	comp=N,29nm,0.2s						
EMIJ	**Mijas**	**2.33**	**98**	P	P	19 29 06.7	-1.4
EMIJ				S	S	19 29 32.9	-2.8
EMIJ	**Mijas**	**2.33**	**98**	P	P	19 29 06.5	-1.6
	comp=N,1.9nm,0.1s,SNR=14						
EMIJ				S	S	19 29 32.3	-3.4
	comp=N,10nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**2.33**	**98**	P	P	19 29 06.7	-1.4
	comp=N,1.0nm,0.1s,SNR=14						
EMIJ				S	S	19 29 32.9	-2.8
	comp=N,5.3nm,0.1s,SNR=7.9						
ALMR	**Almeirim**	**2.37**	**342**	*e*P	P	19 29 07.4	-1.3
ALMR				*e*S	S	19 29 33.0	-3.6
ALMR				*e*S	S	19 29 33.1	-3.6
ALMR				AML	AML	19 29 37.2	
	comp=E,30nm,0.3s						
ALMR	**Almeirim**	**2.37**	**342**	P	P	19 29 07.4	-1.3
ALMR				S	S	19 29 33.0	-3.6
	comp=E,15nm,0.3s						
EADA	**Adamuz**	**2.74**	**62**	⇑P	P	19 29 12.4	-1.6
EADA				S	S	19 29 42.3	-3.8
EADA	**Adamuz**	**2.74**	**62**	⇑P	P	19 29 12.3	-1.7
	comp=E,5.7nm,0.1s,SNR=18						
EADA				S	S	19 29 42.4	-3.8
	comp=E,22nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.74**	**62**	P	P	19 29 12.4	-1.6
	comp=E,5.6nm,0.1s,SNR=18						
EADA				S	S	19 29 42.3	-3.9
	comp=E,0.9nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.77**	**75**	P	P	19 29 12.9	-1.5
ELUQ				S	S	19 29 42.5	-4.4
ELUQ	**Luque**	**2.77**	**75**	P	P	19 29 12.8	-1.6
	comp=E,1.4nm,0.1s,SNR=7.9						
ELUQ				S	S	19 29 42.5	-4.4
	comp=E,16nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**2.77**	**75**	P	P	19 29 12.9	-1.5
	comp=E,0.9nm,0.1s,SNR=7.9						
ELUQ				S	S	19 29 42.5	-4.4
	comp=E,0.9nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.80**	**84**	P	P	19 29 14.2	-0.6
ELOJ				S	S	19 29 43.1	-4.6
ELOJ	**Sierra Loja**	**2.80**	**84**	P	P	19 29 12.8	-2.1
	comp=E,0.6nm,0.1s,SNR=7.9						
ELOJ				S	S	19 29 43.1	-4.6
	comp=E,4.2nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.80**	**84**	P	P	19 29 14.2	-0.7
	comp=E,0.6nm,0.1s,SNR=7.9						
ELOJ				S	S	19 29 43.1	-4.6
	comp=E,2.5nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**2.93**	**2**	*e*Pn	P	19 29 15.0	-1.8
PCBR				*e*Sn	S	19 29 46.5	-4.6
	comp=E,18nm,0.4s						
PCBR	**Castelo Branco**	**2.93**	**2**	⇓P	P	19 29 15.0	-1.8
PCBR				S	S	19 29 46.5	-4.6
	comp=E,8.8nm,0.4s						
MTE	**Manteigas**	**3.49**	**1**	*e*Pn	P	19 29 22.6	-2.0
MTE				*e*Sn	S	19 30 00.8	-4.4
MTE				*e*Sg	S	19 30 24.1	+19
	comp=E,31nm,0.8s						
MTE	**Manteigas**	**3.49**	**1**	⇓P	P	19 29 22.6	-2.0
MTE				S	S	19 30 00.8	-4.4
EQES	**Quesada**	**3.75**	**75**	P	P	19 29 25.1	-3.2
EQES				S	S	19 30 05.9	-5.9
EQES	**Quesada**	**3.75**	**75**	P	P	19 29 25.5	-2.8
	comp=E,1.3nm,0.1s,SNR=7.9						
EQES				S	S	19 30 06.3	-5.4
	comp=E,20nm,0.3s,SNR=7.9						
EQES	**Quesada**	**3.75**	**75**	P	P	19 29 25.1	-3.2
	comp=E,1.4nm,0.1s,SNR=7.9						
EQES				S	S	19 30 05.9	-5.8
	comp=E,10.0nm,0.2s,SNR=7.9						
EBER	**Berja**	**3.81**	**89**	P	P	19 29 28.2	-1.0
EBER				S	S	19 30 08.2	-5.1
EBER	**Berja**	**3.81**	**89**	P	P	19 29 28.2	-1.0
	comp=E,0.7nm,0.1s,SNR=7.9						
EBER				S	S	19 30 08.5	-4.7
	comp=E,18nm,0.4s,SNR=7.9						
EBER	**Berja**	**3.81**	**89**	P	P	19 29 28.2	-0.9
	comp=E,0.4nm,0.1s,SNR=7.9						
EBER				S	S	19 30 08.1	-5.1
	comp=E,1.3nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**3.81**	**357**	*e*Pn	P	19 29 26.9	-2.3
PVIS				*e*Sn	S	19 30 09.1	-4.2
PVIS				*e*Sg	S	19 30 33.8	+21
	comp=E,11nm,0.4s						
ESDC	**Sonseca Array**	**4.00**	**45**	P	P	19 29 29.6	-2.3
	comp=E,7.5nm,0.1s,baz=229,slow=13,SNR=12						
ESDC				S	S	19 30 10.8	-7.3
	comp=E,2.1nm,0.3s,baz=228,slow=24,SNR=7.9						
ESDC	**Sonseca Array**	**4.00**	**45**	P	P	19 29 29.6	-2.3
	comp=E,7.5nm,0.1s,SNR=12						
ESDC				S	S	19 30 10.8	-7.3
	comp=E,2.1nm,0.3s,SNR=7.9						
MIF	**Mishlifen**	**4.01**	**150**	P	P	19 29 28.0	-4.0
MIF				S	S	19 30 10.0	-8.3
MIF	**Mishlifen**	**4.01**	**150**	*i* P	P	19 29 28.0	-4.0
PVRL	**Vila Real**	**4.37**	**359**	*e*Pn	P	19 29 34.4	-2.6
PVRL				*e*Sn	S	19 30 21.4	-5.9
	comp=E,17nm,0.1s						
PVRL	**Vila Real**	**4.37**	**359**	P	P	19 29 34.4	-2.6
PVRL				S	S	19 30 21.4	-5.9
	comp=E,8.4nm,0.1s						
CZD	**Col de Zad**	**4.41**	**150**	P	P	19 29 33.0	-4.7
CZD				S	S	19 30 18.0	-10
CZD	**Col de Zad**	**4.41**	**150**	*i* P	P	19 29 33.0	-4.7
EVIA	**Vianos**	**4.42**	**65**	P	P	19 29 34.5	-3.4
	comp=E,0.8nm,0.1s,SNR=7.9						
EVIA				S	S	19 30 23.0	-5.8
	comp=E,5.3nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**4.42**	**65**	S	S	19 30 23.7	-5.0
	comp=E,2.4nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**4.62**	**35**	P	P	19 29 38.5	-2.1
GUD				S	S	19 30 27.6	-6.1
GUD	**Guadarrama**	**4.62**	**35**	⇑P	P	19 29 38.5	-2.1
	comp=E,1.8nm,0.3s,SNR=18						
GUD				S	S	19 30 28.0	-5.7
	comp=E,4.6nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**4.62**	**35**	P	P	19 29 38.5	-2.1
	comp=E,0.9nm,0.2s,SNR=11						
GUD				S	S	19 30 27.6	-6.1
	comp=E,0.5nm,0.4s,SNR=7.9						
PBRG	**Braganca**	**4.94**	**8**	*e*Pn	P	19 29 42.3	-2.9
PBRG				*e*Sn	S	19 30 34.1	-7.7
	comp=E,2μm,0.7s						
PBRG	**Braganca**	**4.94**	**8**	P	P	19 29 42.3	-2.9
PBRG				S	S	19 30 34.1	-7.7
	comp=E,1μm,0.7s						
ELOB	**Lobios**	**4.97**	**356**	P	P	19 29 42.9	-2.6
ELOB				S	S	19 30 35.2	-7.2
ELOB	**Lobios**	**4.97**	**356**	⇓P	P	19 29 42.8	-2.7
	comp=E,6.1nm,0.2s,SNR=18						
ELOB				S	S	19 30 35.2	-7.3
	comp=E,19nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**4.97**	**356**	P	P	19 29 42.9	-2.6
	comp=E,5.2nm,0.2s,SNR=24						
ELOB				S	S	19 30 35.2	-7.2
	comp=E,4.9nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.08**	**8**	P	P	19 29 44.3	-2.8
ECAL				S	S	19 30 38.5	-6.7
ECAL	**Calabor**	**5.08**	**8**	P	P

comp=E,2.1nm,0.2s,SNR=7.9
EBEN Beniarda 6.14 71 P P 19 29 57.9 -4.0
EBEN S S 19 31 04.3 -7.5
EBEN Beniarda 6.14 71 P P 19 29 57.9 -4.0
comp=E,0.2nm,0.1s,SNR=7.9
EBEN S S 19 31 03.7 -8.1
comp=E,1.4nm,0.2s,SNR=7.9
EBEN Beniarda 6.14 71 P P 19 29 57.9 -4.0
comp=E,18nm,1.3s,SNR=7.9
EBEN S S 19 31 04.3 -7.5
comp=E,0.1nm,0.2s,SNR=7.9
EPON Pontenova 6.42 3 P P 19 30 02.1 -3.8
EPON S S 19 31 12.2 -6.7
EPON Pontenova 6.42 3 P P 19 30 02.1 -3.8
comp=E,0.2nm,0.1s,SNR=7.9
EPON S S 19 31 10.9 -7.9
comp=E,1.0nm,0.2s,SNR=7.9
EPON Pontenova 6.42 3 P P 19 30 02.1 -3.8
comp=E,5.3nm,0.7s,SNR=7.9
EPON S S 19 31 12.2 -6.7
comp=E,0.4nm,0.3s,SNR=7.9
EMOS Mosqueruela 6.59 56 P P 19 30 06.0 -2.2
EMOS S S 19 31 15.0 -7.9
EMOS Mosqueruela 6.59 56 P P 19 30 06.0 -2.2
comp=E,0.0nm,0.1s,SNR=7.9
EMOS S S 19 31 16.0 -6.9
comp=E,1.6nm,0.2s,SNR=7.9
EMOS Mosqueruela 6.59 56 P P 19 30 06.0 -2.2
comp=E,7.9nm,0.9s,SNR=7.9
EMOS S S 19 31 15.0 -7.9
comp=E,0.4nm,0.1s,SNR=7.9
EARI Arriondas 6.65 15 P P 19 30 06.5 -2.6
comp=E,0.5nm,0.2s,SNR=7.9
EARI S S 19 31 15.9 -8.7
comp=E,0.4nm,0.2s,SNR=7.9
EARI Arriondas 6.65 15 P P 19 30 06.5 -2.7
comp=E,9.3nm,0.9s,SNR=7.9
EARI S S 19 31 15.9 -8.7
comp=E,0.3nm,0.1s,SNR=7.9
ELAN Lanestosa 7.09 26 P P 19 30 12.1 -3.2
ELAN S S 19 31 26.9 -8.5
ELAN Lanestosa 7.09 26 P P 19 30 12.0 -3.3
comp=E,0.3nm,0.1s,SNR=7.9
ELAN S S 19 31 26.9 -8.5
comp=E,2.0nm,0.3s,SNR=7.9
ELAN Lanestosa 7.09 26 P P 19 30 12.1 -3.2
comp=E,0.2nm,0.1s,SNR=7.9
ELAN S S 19 31 26.9 -8.6
comp=E,2.8nm,0.3s,SNR=7.9
EALK Alkurruntz 7.87 35 P P 19 30 24.1 -1.8
EALK S S 19 31 45.3 -9.4
EALK Alkurruntz 7.87 35 P P 19 30 24.1 -1.9
comp=E,1.0nm,0.2s,SNR=7.9
EALK S S 19 31 44.7 -10
comp=E,5.5nm,0.3s,SNR=7.9
EALK Alkurruntz 7.87 35 S S 19 31 45.3 -9.3
comp=E,1.6nm,0.2s,SNR=7.9
EBIE Bielsa 8.32 44 P P 19 30 30.0 -2.2
EBIE Bielsa 8.32 44 P P 19 30 30.3 -2.0
comp=E,0.7nm,0.1s,SNR=7.9
EBIE S S 19 31 55.3 -11
comp=E,0.8nm,0.3s,SNR=7.9
EBIE Bielsa 8.32 44 P P 19 30 30.0 -2.2

*IDC **29** 19:31:20.7±0.9, 7.80N×94.33E, mb3.8/10, mb1 4.0/11, mb1mx3.9/20, mbtmp3.8/11, ML3.7/1, Error ellipse: s-maj=35.8km s-min=19.6km az=46.0*
ISC 29 19:31:23.7±0.8, 7.9N±0.1×94.2E±0.1, h33km, n18, σ1§56/18, mb4.0/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.46**	**23**	Pn	**P**	**19 34 10.2**	**+2.0**
	0.2nm,0.3s,baz=213,slow=14,SNR=4.8						
JIRN	**Jiri**	**21.08**	**340**	*e*P	**P**	**19 36 05.1**	**-2.5**
DMN	**Daman**	**21.43**	**337**	*e*P	**P**	**19 36 10.1**	**-1.0**
KKN	**Kakani**	**21.52**	**338**	*e*P	**P**	**19 36 09.7**	**-2.4**
GKN	**Gorkha**	**21.96**	**337**	*e*P	**P**	**19 36 14.1**	**-2.3**
	17nm,0.6s,mb4.7						
KOLN	**Koldanda**	**22.18**	**334**	*e*P	**P**	**19 36 16.9**	**-1.7**
	16nm,0.6s,mb4.6						
TGY	**Tagaytay City**	**26.92**	**74**	P	**P**	**19 37 10.0**	**+5.8**
	42nm,0.4s,baz=242,slow=15,SNR=3.2						
SONM	**Songino Array**	**41.12**	**12**	P	**P**	**19 39 08.3**	**+2.0**
	0.7nm,0.6s,mb3.5,baz=180,slow=5.8,SNR=4.0						
WRA	**Warramunga Arr**	**48.20**	**126**	P	**P**	**19 40 02.2**	**-1.3**
	1.1nm,1.0s,mb3.8,baz=303,slow=8.8,SNR=5.7						
BVAR	**Borovoye Array**	**49.00**	**341**	P	**P**	**19 40 09.0**	**-0.1**
	0.5nm,0.7s,mb3.6,baz=158,slow=7.8,SNR=2.8						
ASAR	**Alice Springs**	**49.86**	**130**	P	**P**	**19 40 15.0**	**-1.2**
	0.6nm,0.6s,mb3.8,baz=306,slow=7.5,SNR=7.4						
KMBO	**Kilima Mbogo**	**57.51**	**264**	P	**P**	**19 41 13.8**	**+1.1**
	0.9nm,0.5s,mb4.1,baz=35,slow=19,SNR=5.9						
BRTR	**Keskin Array B**	**62.48**	**311**	P	**P**	**19 41 48.3**	**+2.0**
	0.5nm,0.5s,mb3.9,baz=135,slow=8.7,SNR=4.0						
AKASG	**Malin Array Be**	**68.19**	**322**	P	**P**	**19 42 23.4**	**+0.5**
	1.3nm,0.9s,mb4.0,baz=87,slow=4.9,SNR=4.4						
FINES	**FINESS Array B**	**72.73**	**332**	P	**P**	**19 42 50.8**	**+0.6**
	2.2nm,0.8s,mb4.1,baz=83,slow=5.2,SNR=11						
KAF	**Kangasniemi**	**72.81**	**333**	*e*p	**P**	**19 42 54.5**	**+3.9**
	3.5nm,0.9s,mb4.3						
GERES	**GERESS Array B**	**77.87**	**318**	P	**P**	**19 43 21.0**	**+1.2**
	0.9nm,0.6s,mb3.9,baz=99,slow=5.4,SNR=9.6						
HFS	**Hagfors**	**78.48**	**330**	P	**P**	**19 43 24.4**	**+1.4**
	1.5nm,0.4s,mb4.2,baz=90,slow=4.4,SNR=12						

*IDC **29** 19:34:23.0±0.9, 7.67N×93.81E, mb3.9/10, mb1 4.0/11, mb1mx3.9/19, mbtmp3.9/11, ML3.7/1, Error ellipse: s-maj=39.8km s-min=19.8km az=56.0*
ISC 29 19:34:26.4±0.8, 7.7N±0.1×94.0E±0.2, h33km, n19, σ0§79/18, mb4.1/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.72**	**24**	Pn	**P**	**19 37 13.2**	**-1.0**
	0.1nm,0.3s,baz=212,slow=14,SNR=4.0						
JIRN	**Jiri**	**21.19**	**340**	*e*P	**P**	**19 39 12.0**	**+0.7**
	18nm,0.9s,mb4.4						
PKI	**Pulchoki**	**21.38**	**339**	*e*P	**P**	**19 39 13.2**	**0.0**
	18nm,0.8s,mb4.4						
DMN	**Daman**	**21.52**	**338**	*e*P	**P**	**19 39 15.1**	**+0.4**
	20nm,0.8s,mb4.6						
KKN	**Kakani**	**21.62**	**339**	*e*P	**P**	**19 39 16.3**	**+0.6**
	14nm,0.9s,mb4.4						
GKN	**Gorkha**	**22.05**	**337**	*e*P	**P**	**19 39 19.8**	**-0.2**
	15nm,0.8s,mb4.5						
KOLN	**Koldanda**	**22.26**	**335**	*e*P	**P**	**19 39 23.1**	**+1.1**
	22nm,0.7s,mb4.7						
TGY	**Tagaytay City**	**27.18**	**74**	P	**P**	**19 40 13.5**	**+4.3**
	79nm,0.3s,baz=343,slow=18,SNR=4.8						
SONM	**Songino Array**	**41.36**	**13**	P	**P**	**19 42 12.2**	**+1.4**
	1.0nm,0.9s,mb3.5,baz=194,slow=9.6,SNR=2.9						
ZAL	**Zalesovo**	**46.70**	**353**	P	**P**	**19 42 52.8**	**-1.0**
	3.7nm,1.2s,mb4.2,baz=270,slow=23,SNR=2.5						
ASAR	**Alice Springs**	**49.90**	**130**	P	**P**	**19 43 19.8**	**+0.6**
	0.8nm,0.9s,mb3.7,baz=302,slow=7.1,SNR=6.2						
KMBO	**Kilima Mbogo**	**57.28**	**264**	P	**P**	**19 44 18.5**	**+4.8**
	2.6nm,0.7s,mb4.4,baz=72,slow=10,SNR=11						
STKA	**Stephens Creek**	**60.08**	**134**	P	**P**	**19 44 32.7**	**-0.2**
	1.2nm,0.8s,mb4.0,baz=208,slow=15,SNR=2.4						
BRTR	**Keskin Array B**	**62.44**	**311**	P	**P**	**19 44 47.7**	**-1.0**
	0.5nm,0.5s,mb3.9,baz=121,slow=7.2,SNR=3.5						
FINES	**FINESS Array B**	**72.80**	**332**	P	**P**	**19 45 52.5**	**-0.8**
	0.9nm,0.6s,mb3.9,baz=135,slow=2.7,SNR=6.6						
GERES	**GERESS Array B**	**77.87**	**318**	P	**P**	**19 46 23.0**	**+0.6**
	0.9nm,0.6s,mb3.9,baz=104,slow=5.5,SNR=10						
HFS	**Hagfors**	**78.54**	**330**	P	**P**	**19 46 25.8**	**-0.1**
	2.2nm,0.8s,mb4.1,baz=135,slow=2.1,SNR=5.6						
NOA	**NORSAR Array B**	**79.82**	**331**	P	**P**	**19 46 31.8**	**-1.0**
	0.7nm,0.8s,mb3.6,baz=103,slow=7.3,SNR=3.0						
PLCA	**Paso Flores**	**144.34**	**200**	PKP	PKPdf	19 54 02.7	+3.2
	2.2nm,0.8s,baz=188,slow=5.8,SNR=3.8						

*IDC **29** 19:39:12.9±1.1, 13.66N×92.92E, mb3.9/10, mb1 4.0/11, mb1mx3.9/20, mbtmp3.9/11, ML3.6/1, Error ellipse: s-maj=38.3km s-min=20.5km az=51.0*
ISC 29 19:39:16.2±0.9, 13.7N±0.1×93.1E±0.1, h33km, n11, σ0§56/11, mb3.9/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.33**	**49**	Pn	**Pn**	**19 41 03.5**	**-0.3**
	0.2nm,0.3s,baz=241,slow=15,SNR=13						
SONM	**Songino Array**	**35.76**	**15**	P	**P**	**19 46 15.4**	**+1.4**
	0.7nm,0.6s,mb3.7,baz=202,slow=6.7,SNR=6.9						
ZAL	**Zalesovo**	**40.64**	**352**	P	**P**	**19 46 54.4**	**-0.3**
	0.8nm,0.6s,mb3.5,baz=326,slow=12,SNR=3.9						
BVAR	**Borovoye Array**	**43.15**	**340**	P	**P**	**19 47 14.4**	**-0.9**
	0.9nm,0.8s,mb3.5,baz=315,slow=2.0,SNR=3.4						
WRA	**Warramunga Arr**	**52.60**	**129**	P	**P**	**19 48 29.6**	**+0.3**
	1.3nm,0.7s,mb4.0,baz=308,slow=8.1,SNR=4.9						
ASAR	**Alice Springs**	**54.54**	**133**	P	**P**	**19 48 43.2**	**-0.3**
	1.9nm,1.3s,mb4.0,baz=161,slow=7.1,SNR=4.0						
FINES	**FINESS Array B**	**67.09**	**331**	P	**P**	**19 50 08.2**	**0.0**
	2.2nm,0.7s,mb4.3,baz=89,slow=7.7,SNR=11						
ARCES	**ARCESS Array B**	**69.44**	**340**	P	**P**	**19 50 22.5**	**-0.2**
	3.1nm,0.8s,mb4.3,baz=90,slow=7.3,SNR=6.8						
GERES	**GERESS Array B**	**72.82**	**317**	P	**P**	**19 50 44.0**	**+0.6**
	0.7nm,0.6s,mb3.8,baz=76,slow=5.5,SNR=8.2						
HFS	**Hagfors**	**72.92**	**329**	P	**P**	**19 50 43.8**	**+0.1**
	1.3nm,0.6s,mb4.0,baz=90,slow=3.0,SNR=4.5						
NOA	**NORSAR Array B**	**74.16**	**330**	P	**P**	**19 50 50.7**	**-0.3**
	0.5nm,0.7s,mb3.6,baz=96,slow=5.6,SNR=3.0						

IDC 29 19:41:22.0±6.4, 6.98N×94.31E, mb3.9/5, mb1 4.1/6, mb1mx3.7/19, mbtmp3.9/6, ML4.4/1, Error ellipse: s-maj=145.6km s-min=56.4km az=142.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.27**	**21**	Pn	P	19 44 18.6	-2.4
	0.7nm,0.3s,baz=211,slow=15,SNR=4.9						
SONM	**Songino Array**	**41.99**	**12**	P	P	19 49 15.0	-1.5
	1.4nm,0.9s,baz=196,slow=8.4,SNR=5.7						
ZAL	**Zalesovo**	**47.45**	**352**	P	P	19 49 58.0	-2.3
	1.7nm,0.4s,baz=310,slow=8.1,SNR=5.8						
BVAR	**Borovoye Array**	**49.88**	**341**	P	P	19 50 16.6	-2.4
	0.4nm,0.7s,baz=120,slow=12,SNR=2.7						
FINES	**FINESS Array B**	**73.57**	**332**	P	P	19 52 56.9	-1.6
	1.9nm,0.8s,baz=90,slow=5.7,SNR=4.7						
NOA	**NORSAR Array B**	**80.58**	**331**	P	P	19 53 36.6	-1.0
	1.0nm,0.7s,baz=95,slow=4.9,SNR=3.5						

*CSEM **29** 19:42:00.4±0.5, 38.63N×28.50W, h1km, ML2.3, Error ellipse: s-maj=14.1km s-min=9.2km az=135.0, After PDA*
*PDA **29** 19:42:00.4±1.5, 38.63N×28.50W, h1km±7km, MD3.0, ML2.3, Error ellipse: s-maj=4.8km s-min=3.4km az=17.0*
SVSA 29 19:42:00.4±1.5, 38.63N×28.50W, h1km±7km, MD3.0, ML2.3, Error ellipse: s-maj=4.8km s-min=3.4km az=17.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PICO	**Pico**	**0.14**	**156**	*i* P	Pg	19 42 03.4	+0.1
PICO				*e*S	Sg	19 42 05.7	+0.5
HOR	**Horta**	**0.15**	**224**	*i* P	Pg	19 42 03.0	-0.3
HOR				*i* S	Sg	19 42 05.8	+0.5
PCED	**Cedros**	**0.16**	**269**	*i* P	Pg	19 42 03.4	-0.1
PCED				*e*S	Sg	19 42 06.1	+0.5
CALA	**Caldeira**	**0.17**	**252**	*i* P	Pg	19 42 03.8	+0.1
CALA				*e*S	Sg	19 42 06.5	+0.6
ROSA	**Rosais**	**0.22**	**67**	*i* P	Pg	19 42 04.9	+0.1
ROSA				*e*S	Sg	19 42 07.8	0.0
PMAN	**Manadas**	**0.32**	**90**	*e*P	Pg	19 42 06.0	-0.8
PMAN				*e*S	Sg	19 42 11.5	+0.4
	289nm,0.1s						
PIED	**Piedade**	**0.41**	**121**	*e*P	Pg	19 42 07.8	-0.8
PGRA	**Graciosa**	**0.57**	**45**	*e*P	Pg	19 42 10.2	-1.5
STGR	**Santa Cruz**	**0.59**	**41**	*e*S	Sg	19 42 19.3	-0.8
	20nm,0.1s						
ASBA	**Santa Barbara**	**0.92**	**84**	*e*S	Sg	19 42 27.1	-4.1
	11nm,0.2s						
PSBA	**Serra de Santa**	**0.93**	**81**	*e*rx		19 42 25.6	
PPAD	**Pico dos Padre**	**0.95**	**85**	*i* S	Sg	19 42 27.4	-4.7
	10nm,0.2s						

*MDD **29** 19:44:02.3±0.5, 36.47N×3.82W, mbLg2.3/7, Error ellipse: s-maj=5.1km s-min=3.3km az=6.0, PRXIMO*
*CSEM **29** 19:44:03.6±0.5, 36.54N×3.76W, h6km±6km, ML2.5/2, Error ellipse: s-maj=12.1km s-min=2.6km az=176.0*
*SFS **29** 19:44:28.0, 36.42N×3.82W*
ISC 29 19:44:01.3±0.8, 36.53N±0.06×3.82W±0.04, h9km±5km, n29, σ1§38/39, 2C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELOJ	**Sierra Loja**	**0.67**	**337**	Pg	**Pg**	**19 44 15.2**	**+0.4**
	3.0nm,0.2s,SNR=7.7						
ELOJ				Lg		19 44 25.2	
	11nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**0.77**	**273**	Pg	**Pg**	**19 44 15.6**	**-1.1**
	13nm,0.1s,SNR=113						
EMIJ				Lg		19 44 24.4	
	100nm,0.4s						
EMIJ	**Mijas**	**0.77**	**273**	Lg		19 44 24.4	
	60nm,0.3s						
EBER	**Berja**	**0.84**	**64**	⇑Pg	**Pg**	**19 44 17.9**	**-0.2**
	34nm,0.3s,SNR=18						
EBER				Lg		19 44 28.9	
	58nm,0.3s						
EBER	**Berja**	**0.84**	**64**	Pg	**Pg**	**19 44 18.0**	**-0.1**
	12nm,0.1s,SNR=99						
EALB	**Alboran**	**0.87**	**132**	Pg	**Pg**	**19 44 18.4**	**-0.3**
	50nm,0.1s,SNR=4.0						
EALB				Lg		19 44 29.8	
	115nm,0.3s,SNR=4.0						
EALB	**Alboran**	**0.87**	**132**	Pg	**Pg**	**19 44 18.9**	**+0.2**
	50nm,0.1s,SNR=4.0						
ELUQ	**Luque**	**1.09**	**341**	Pg	**Pg**	**19 44 24.7**	**+1.6**
	11nm,0.2s,SNR=12						
ELUQ				Lg		19 44 40.6	
	22nm,0.3s						
ELUQ	**Luque**	**1.09**	**341**	Pg	**Pg**	**19 44 24.8**	**+1.7**
	11nm,0.2s,SNR=12						
REAL	**Reales**	**1.12**	**268**	Lg		19 44 33.0	
LIJA	**Lijar**	**1.32**	**287**	*e*P	**Pb**	**19 44 28.0**	**+2.0**
LIJA				*e*S	**Sb**	**19 44 48.0**	**+5.1**
ENIJ	**Nijar**	**1.37**	**71**	Pg	**Pg**	**19 44 26.1**	**-2.6**
	11nm,0.2s,SNR=19						
ENIJ				Lg		19 44 45.7	
	18nm,0.2s,SNR=4.0						
ENIJ	**Nijar**	**1.37**	**71**	Pg	**Pg**	**19 44 26.2**	**-2.6**
	2.9nm,0.2s,SNR=19						
EQES	**Quesada**	**1.41**	**25**	⇑Pg	**Pg**	**19 44 29.4**	**0.0**
	8.6nm,0.2s,SNR=18						
EQES				Lg		19 44 48.5	
	23nm,0.2s						
EQES	**Quesada**	**1.41**	**25**	Pn	**Pn**	**19 44 29.4**	**+2.1**
	2.6nm,0.1s,SNR=26						
ESPR	**Espera**	**1.67**	**282**	Pg	**Pg**	**19 44 33.7**	**-0.9**
	2.2nm,0.2s,SNR=4.0						
ESPR				Sn	**Sn**	**19 44 53.2**	**+0.5**
	8.0nm,0.4s,SNR=4.0						
ESPR	**Espera**	**1.67**	**282**	Pn	**Pn**	**19 44 33.0**	**+2.0**
	SNR=4.0						
EADA	**Adamuz**	**1.74**	**340**	Pn	**Pn**	**19 44 32.9**	**+0.8**
	0.1nm,0.1s,SNR=7.9						
EADA				Pg	**Pg**	**19 44 34.8**	**-1.3**
	3.4nm,0.3s,SNR=31						
EADA				Sn	**Sn**	**19 44 59.0**	**+4.4**
	29nm,0.4s						
EADA	**Adamuz**	**1.74**	**340**	Pn	**Pn**	**19 44 34.8**	**+2.7**
	SNR=31						
EVIA	**Vianos**	**2.35**	**26**	Pg	**Pg**	**19 44 47.4**	**-0.9**
	SNR=7.9						
EVIA				Lg		19 45 20.6	
	1.9nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**2.44**	**57**	Pn	**Pn**	**19 44 43.2**	**+1.1**
	1.8nm,0.2s,SNR=4.0						
EMUR				Sn	**Sn**	**19 45 10.7**	**-1.7**
	1.6nm,0.2s,SNR=4.0						
EMUR	**La Murta**	**2.44**	**57**	Pn	**Pn**	**19 44 42.2**	**+0.1**
	SNR=4.0						
EMUR				Sn	**Sn**	**19 45 11.0**	**-1.5**
	SNR=4.0						
EMIN	**Mina Concepcio**	**2.59**	**299**	Pn	**Pn**	**19 44 45.3**	**+1.1**
	0.5nm,0.1s,SNR=9.1						
EMIN				Sn	**Sn**	**19 45 14.5**	**-1.7**
	1.5nm,0.2s						
EMIN	**Mina Concepcio**	**2.59**	**299**	Pn	**Pn**	**19 44 45.4**	**+1.2**
	1.1nm,0.5s,SNR=9.1						
EMIN				Sn	**Sn**	**19 45 14.6**	**-1.6**
	2.7nm,0.4s						
PALC	**Alcoutim**	**3.07**	**289**	*e*Pn	**Pn**	**19 44 51.0**	**0.0**
PALC				*e*Sn	**Sn**	**19 45 26.9**	**-1.4**
	3.0nm,0.5s						
PALC	**Alcoutim**	**3.07**	**289**	*e*Pn	**Pn**	**19 44 51.0**	**0.0**
PALC				*e*Sn	**Sn**	**19 45 26.9**	**-1.4**
	3.0nm,0.5s						
EGRO	**El Granado**	**3.10**	**290**	Pn	**Pn**	**19 44 51.0**	**-0.4**
	SNR=4.0						
EGRO				Sn	**Sn**	**19 45 26.4**	**-2.6**
	4.1nm,0.3s,SNR=4.0						
ESDC	**Sonseca Array**	**3.14**	**358**	Pn	**Pn**	**19 44 53.1**	**+1.0**
	0.3nm,0.3s,baz=180,slow=12,SNR=5.0						
ESDC				Lg		19 45 41.1	
	2.3nm,0.8s,baz=180,slow=28,SNR=4.3						
EBAD	**Badajoz**	**3.37**	**312**	Pn	**Pn**	**19 44 56.6**	**+1.4**
	0.7nm,0.1s,SNR=6.1						
EBAD				Sn	**Sn**	**19 45 33.3**	**-2.6**
	2.2nm,0.2s,SNR=4.0						

*BJI **29** 19:46:34.1, 63.00N×144.10W, h13km, mB4.2, mb4.6, Ms4.3, Msz4.1*
*IDC **29** 19:46:35.2±0.7, 63.05N×144.10W, mb4.1/20, mb1 4.3/23, mb1mx4.2/27, mbtmp4.1/23, ML3.9/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/31, Error ellipse: s-maj=18.5km s-min=8.6km az=44.0*
*NEIC **29** 19:46:35.1, 63.02N×144.12W, h13km, mb4.3/4, ML4.4(PMR), ML4.2(AEIC), After AEIC.*
*PGC **29** 19:46:37.1, 63.04N×143.94W, h15km, ML4.3/3, Eastern Alaska.*
ISC 29 19:46:34.9±0.2, 63.08N±0.03×143.99W±0.05, h13km, n79, σ1§21/93, mb4.1/21, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MENT	**Mentasta**	**0.19**	**140**	P	**Pg**	**19 46 39.4**	**0.0**
DOT	**Dot Lake**	**0.57**	**357**	P	**Pb**	**19 46 47.6**	**+1.4**
PAX	**Paxson**	**0.68**	**261**	P	**Pb**	**19 46 47.1**	**-1.1**
PAX				S	**Sb**	**19 46 55.2**	**-2.1**
THY	**Trims Highway**	**0.87**	**294**	P	**Pb**	**19 46 51.1**	**-0.2**
BCA3	**Beaver Creek A**	**1.00**	**90**	P	**Pb**	**19 46 54.5**	**+0.9**
WANC	**Wrangell North**	**1.08**	**182**	P	**Pb**	**19 46 54.7**	**-0.3**
DDM	**Donnelly Dome**	**1.10**	**311**	P	**Pb**	**19 46 56.4**	**+1.0**
HDA	**Harding Lake**	**1.87**	**317**	P	**Pn**	**19 47 07.5**	**+0.4**
IL1	**Eielson Array**	**2.12**	**324**	P	**Pn**	**19 47 10.5**	**-0.1**
ILAR	**Eielson Array**	**2.12**	**324**	Pn	**Pn**	**19 47 10.5**	**-0.2**
	31nm,0.3s,baz=153,slow=13,SNR=1994						
ILAR				Pg	**Pg**	**19 47 15.5**	**-1.9**
	145nm,0.3s,baz=144,slow=17,SNR=156						
ILAR				Lg		19 47 41.9	
	729nm,0.3s,baz=138,slow=28,SNR=39						
DIV	**Divide**	**2.13**	**204**	P	**Pn**	**19 47 10.2**	**-0.6**
DAWY	**Dawson**	**2.28**	**62**	P	**Pn**	**19 47 13.9**	**+1.0**
DAWY	**Dawson**	**2.28**	**62**	Pn	**Pn**	**19 47 13.9**	**+1.0**
DAWY				Pg	**Pg**	**19 47 18.0**	**-2.5**
DAWY				Sg	**Sg**	**19 47 48.5**	**-2.5**
DAWY				Trac		19 47 51.4	
	comp=Z,2μm,0.2s						
CCB	**Clear Creek Bu**	**2.31**	**315**	P	**Pn**	**19 47 12.7**	**-0.6**
MCK	**McKinley**	**2.32**	**289**	*e*P	**Pn**	**19 47 13.8**	**+0.3**
SML	**Sawmill**	**2.39**	**240**	*e*P	**Pn**	**19 47 14.8**	**+0.3**
COLA	**College**	**2.48**	**318**	P	**Pn**	**19 47 15.3**	**-0.4**
MDM	**Murphy Dome**	**2.65**	**317**	P	**Pn**	**19 47 17.8**	**-0.4**
EYAK	**Cordova Ski Ar**	**2.68**	**199**	*e*P	**Pn**	**19 47 18.6**	**+0.1**
BWN	**Browne**	**2.68**	**297**	P	**Pn**	**19 47 18.2**	**-0.3**
NEA	**Nenana**	**2.71**	**306**	P	**Pn**	**19 47 19.0**	**0.0**
PMR	**Palmer**	**2.83**	**240**	*e*P	**Pn**	**19 47 21.4**	**+0.7**
PMR				*e*P		19 47 21.6	
PWA	**Palmer West**	**3.10**	**245**	*e*P	**Pn**	**19 47 26.8**	**+2.3**
FIB	**Fire Island**	**3.48**	**239**	*e*P	**Pn**	**19 47 29.7**	**-0.3**
MLY	**Manley**	**3.55**	**306**	P	**Pn**	**19 47 30.8**	**-0.2**
HYT	**Haines Junctio**	**3.81**	**124**	Pn	**Pn**	**19 47 33.6**	**-1.1**
HYT				Pg	**Pg**	**19 47 44.9**	**-6.1**
HYT				Sg	**Sg**	**19 48 34.5**	**-7.3**
HYT				Trac		19 48 42.8	
	comp=Z,205nm,0.4s						
SLKM	**Skilak Lake**	**3.93**	**232**	*e*P	**Pn**	**19 47 37.3**	**+1.0**
SPU	**Mount Spurr**	**4.24**	**247**	*e*P	**Pn**	**19 47 40.8**	**0.0**
BM3	**Burnt Mountain**	**4.36**	**357**	P	**Pn**	**19 47 43.3**	**+0.8**
COLD	**Coldfoot**	**4.92**	**331**	P	**Pn**	**19 47 50.0**	**-0.3**
RSO	**Redoubt South**	**4.92**	**242**	*e*P	**Pn**	**19 47 50.2**	**-0.2**
WHY	**Whitehorse**	**4.95**	**115**	P	**Pn**	**19 47 50.1**	**-0.7**
WHY	**Whitehorse**	**4.95**	**115**	Pn	**Pn**	**19 47 50.1**	**-0.7**
WHY				Pg	**Pg**	**19 48 08.1**	**-5.7**
WHY				Sn	**Sn**	**19 48 46.8**	**-1.7**
WHY				Sg	**Sg**	**19 49 09.5**	**-10**
WHY				Trac		19 49 20.7	
	comp=Z,98nm,0.3s						
IMA	**Indian Mountai**	**5.14**	**310**	*e*P	**Pn**	**19 47 52.8**	**-0.7**
SVW2	**Sparrevohn**	**5.80**	**255**	*e*P	**Pn**	**19 48 01.5**	**-1.3**
INK	**Inuvik**	**6.79**	**35**	Pn	**Pn**	**19 48 15.2**	**-1.6**
	4.9nm,0.3s,baz=231,slow=20,SNR=131						
INK				Lg		19 50 11.6	
	7.5nm,0.3s,baz=128,slow=16,SNR=6.8						
INK				LR	LR	19 51 35.3	
	comp=Z,167nm,18.8s,baz=92,slow=44						
INK	**Inuvik**	**6.79**	**35**	*e*P	**Pn**	**19 48 14.6**	**-2.1**
INK	**Inuvik**	**6.79**	**35**	Pn	**Pn**	**19 48 15.0**	**-1.7**
INK				Pg	**Pg**	**19 48 45.3**	**-5.1**
INK				Sn	**Sn**	**19 49 30.1**	**-4.5**
INK				Sg	**Sg**	**19 50 10.5**	**-10**
INK				Trac		19 50 21.4	
	comp=Z,112nm,0.8s						
KDAK	**Kodiak Island**	**6.80**	**223**	*e*P	**Pn**	**19 48 16.2**	**-0.8**
TNA	**Tin City**	**10.65**	**294**	*e*P	**P**	**19 49 07.3**	**-2.8**
FNBB	**Fort Nelson**	**11.00**	**103**	Pn	**P**	**19 49 11.8**	**-3.0**
FNBB				Sn	**S**	**19 51 11.7**	**-7.0**
FNBB		

DPC Dobruska-Polom 65.85 14 *eP* **P 19 57 23.1 +1.6**
PRU Pruhonice 66.00 15 *eP* **P 19 57 23.9 +1.4**
AKASG Malin Array Be 66.44 5 P **P 19 57 25.4 +0.2**
3.1nm,0.5s,mb4.6,baz=356,slow=6.1,SNR=26
KHC Kasperske Hory 66.73 16 *eP* **P 19 57 23.0 -4.1**
GERES GERESS Array B 67.03 16 P **P 19 57 29.8 +0.7**
0.5nm,0.6s,mb3.7,baz=352,slow=6.9,SNR=4.9
ESDC Sonseca Array 72.72 31 P **P 19 58 04.4 +0.5**
0.4nm,0.5s,mb3.6,baz=341,slow=6.1,SNR=5.3
SDV Santo Domingo 74.61 101 P **P 19 58 13.2 -2.1**
1.3nm,0.4s,mb4.2,baz=342,slow=9.6,SNR=3.2
BRTR Keskin Array B 77.52 2 P **P 19 58 31.6 +0.3**
1.1nm,0.7s,mb3.9,baz=326,slow=4.5,SNR=5.4
CMAR Chiang Mai Arr 85.20 302 P **P 19 59 12.9 +1.0**
1.8nm,0.9s,mb4.2,baz=0.2,slow=5.3,SNR=7.5

*IDC **29** 19:47:53.3±0.7, 8.15N×94.32E, mb4.1/14, mb1 4.2/15, mb1mx4.1/21, mbtmp4.0/15, ML3.4/1, Error ellipse: s-maj=25.6km s-min=17.0km az=63.0*
*NEIC **29** 19:47:57.9±0.4, 8.13N×94.46E, h30km, mb4.5/4, Error ellipse: s-maj=13.6km s-min=9.3km az=81.0*
*BJI **29** 19:48:00.9, 8.06N×93.55E, h52km, mb4.4*
ISC 29 19:47:56.4±0.6, 8.18N±0.08×94.5E±0.1, h33km, n28, σ1ϑ23/24, mb4.0/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.09**	**22**	*eP*	**P**	**19 50 34.2**	**-1.6**
CMAR	**Chiang Mai Arr**	**11.09**	**22**	Pn	**P**	**19 50 35.6**	**-0.2**
	0.1nm,0.3s,baz=218,slow=16,SNR=3.1						
AAK	**Ala-Archa**	**38.57**	**336**	P	**P**	**19 55 20.1**	**+2.3**
SONM	**Songino Array**	**40.78**	**12**	P	**P**	**19 55 38.5**	**+2.3**
	0.6nm,0.7s,mb3.4,baz=207,slow=6.4,SNR=4.6						
KURK	**Kurchatov**	**44.40**	**346**	*eP*	**P**	**19 56 07.5**	**+1.8**
	6.7nm,1.0s,mb4.3						
ZAL	**Zalesovo**	**46.29**	**352**	P	**P**	**19 56 21.5**	**+0.9**
	1.4nm,0.6s,mb4.1,baz=72,slow=2.7,SNR=8.3						
ZAL	**Zalesovo**	**46.29**	**352**	P	**P**	**19 56 21.5**	**+0.9**
WRA	**Warramunga Arr**	**48.15**	**126**	P	**P**	**19 56 36.3**	**+0.6**
	0.5nm,0.5s,mb3.8,baz=307,slow=9.4,SNR=5.6						
BVAR	**Borovoye Array**	**48.81**	**341**	P	**P**	**19 56 40.5**	**+0.1**
	0.9nm,0.8s,mb3.9,baz=135,slow=13,SNR=4.6						
BVAR	**Borovoye Array**	**48.81**	**341**	P	**P**	**19 56 40.5**	**+0.1**
ASAR	**Alice Springs**	**49.84**	**130**	P	**P**	**19 56 48.9**	**+0.2**
	0.9nm,0.9s,mb3.8,baz=303,slow=7.5,SNR=8.3						
KMBO	**Kilima Mbogo**	**57.81**	**263**	P	**P**	**19 57 47.8**	**+0.3**
	2.7nm,0.6s,mb4.5,baz=61,slow=10,SNR=12						
KMBO	**Kilima Mbogo**	**57.81**	**263**	*eP*	**P**	**19 57 47.5**	**0.0**
	3.6nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**60.06**	**134**	P	**P**	**19 58 01.8**	**-1.1**
BRTR	**Keskin Array B**	**62.50**	**311**	P	**P**	**19 58 16.5**	**-2.6**
	0.6nm,0.5s,mb4.0,baz=121,slow=7.2,SNR=4.2						
MA2	**Magadan**	**66.33**	**28**	*eP*	pP	19 58 51.2	-2.8
	12nm,1.1s						
MLR	**Muntele Rosu**	**69.20**	**316**	P	**P**	**19 59 01.5**	**-0.4**
	3.0nm,0.9s,mb4.2,baz=205,slow=17,SNR=2.5						
FINES	**FINESS Array B**	**72.61**	**332**	P	**P**	**19 59 21.7**	**-0.3**
	1.5nm,0.5s,mb4.1,baz=97,slow=6.8,SNR=9.7						
KAF	**Kangasniemi**	**72.68**	**333**	*ep*	**P**	**19 59 20.0**	**-2.5**
ARCES	**ARCESS Array B**	**75.10**	**340**	P	**P**	**19 59 36.7**	**+0.2**
	1.0nm,0.6s,mb3.9,baz=90,slow=6.1,SNR=4.5						
GERES	**GERESS Array B**	**77.84**	**318**	P	**P**	**19 59 52.5**	**+0.2**
	1.2nm,0.5s,mb4.0,baz=87,slow=5.2,SNR=13						
MAW	**Mawson**	**78.91**	**192**	P	**P**	**19 59 58.5**	**+0.7**
	1.5nm,0.6s,mb4.1,baz=198,slow=9.6,SNR=4.7						
NB2	**NORSAR Subarra**	**79.64**	**331**	P	**P**	**19 59 59.1**	**-2.8**
	6.9nm,1.1s,mb4.5,baz=92,slow=5.3						
NOA	**NORSAR Array B**	**79.64**	**331**	P	**P**	**20 00 01.3**	**-0.6**
	0.7nm,0.9s,mb3.6,baz=210,slow=11,SNR=3.7						
DAVOX	**Davos**	**80.42**	**316**	P	**P**	**20 00 06.0**	**-0.3**
	2.0nm,0.5s,mb4.3,baz=346,slow=17,SNR=4.4						
PDAR	**Pinedale Array**	**124.75**	**21**	PKP	PKPdf	20 06 55.5	+2.3
	0.4nm,0.8s,baz=180,slow=3.0,SNR=3.8						
TXAR	**Lajitas Array**	**138.80**	**24**	PKP	PKPdf	20 07 21.9	+1.9
	0.2nm,0.3s,baz=135,slow=2.6,SNR=2.6						
PLCA	**Paso Flores**	**144.96**	**200**	PKP	PKPdf	20 07 31.9	+1.4
	2.6nm,0.9s,baz=161,slow=6.2,SNR=3.8						

*IDC **29** 19:53:27.1±0.8, 8.35N×94.09E, mb3.9/9, mb1 4.0/10, mb1mx3.9/19, mbtmp3.9/10, ML3.8/1, MS3.1/1, Ms1 3.3/1, ms1mx2.6/27, Error ellipse: s-maj=33.2km s-min=19.7km az=55.0*
ISC 29 19:53:29.6±0.8, 8.2N±0.1×94.0E±0.1, h33km, n17, σ0ϑ92/16, mb4.0/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.29**	**25**	Pn	**P**	**19 56 12.7**	**+0.8**
	0.2nm,0.3s,baz=212,slow=14,SNR=9.6						
CMAR				LR	LR	20 00 45.6	
	comp=Z,95nm,18.6s,baz=205,slow=40						
JIRN	**Jiri**	**20.71**	**340**	*eP*	**P**	**19 58 08.1**	**-1.7**
PKI	**Pulchoki**	**20.90**	**338**	*eP*	**P**	**19 58 11.8**	**+0.1**
DMN	**Daman**	**21.05**	**338**	*eP*	**P**	**19 58 13.5**	**+0.3**
	13nm,0.7s,mb4.4						
KKN	**Kakani**	**21.15**	**338**	*eP*	**P**	**19 58 13.0**	**-1.2**
GKN	**Gorkha**	**21.58**	**337**	*eP*	**P**	**19 58 19.5**	**+0.9**
	16nm,0.7s,mb4.6						
KOLN	**Koldanda**	**21.80**	**335**	*eP*	**P**	**19 58 21.8**	**+1.1**
	29nm,1.1s,mb4.6						
SONM	**Songino Array**	**40.89**	**13**	P	**P**	**20 01 10.5**	**+0.2**
	0.8nm,0.8s,mb3.4,baz=200,slow=7.8,SNR=7.1						
ZAL	**Zalesovo**	**46.21**	**353**	P	**P**	**20 01 53.5**	**+0.2**
	1.2nm,0.5s,mb4.1,baz=296,slow=7.2,SNR=7.9						
WRA	**Warramunga Arr**	**48.59**	**126**	P	**P**	**20 02 13.0**	**+0.7**
	1.0nm,0.7s,mb3.9,baz=306,slow=8.6,SNR=5.8						
BVAR	**Borovoye Array**	**48.63**	**341**	P	**P**	**20 02 12.0**	**-0.3**
	0.9nm,0.8s,mb3.9,baz=135,slow=4.2,SNR=5.9						
ASAR	**Alice Springs**	**50.26**	**130**	P	**P**	**20 02 24.1**	**-1.0**
	0.7nm,0.9s,mb3.7,baz=299,slow=8.7,SNR=6.0						
ASAR				PcP	PcP	20 03 46.4	+2.4
	0.5nm,0.8s,baz=330,slow=2.7,SNR=4.2						
KMBO	**Kilima Mbogo**	**57.28**	**263**	P	**P**	**20 03 20.0**	**+3.0**
	3.4nm,1.2s,mb4.2,baz=49,slow=19,SNR=3.1						
FINES	**FINESS Array B**	**72.35**	**332**	P	**P**	**20 04 53.5**	**-0.3**
	1.2nm,0.7s,mb3.9,baz=104,slow=5.7,SNR=3.8						
GERES	**GERESS Array B**	**77.47**	**318**	P	**P**	**20 05 23.1**	**-0.4**
	1.4nm,0.8s,mb3.9,baz=90,slow=5.3,SNR=8.8						
NOA	**NORSAR Array B**	**79.37**	**331**	P	**P**	**20 05 33.0**	**-0.7**
	1.2nm,0.8s,mb3.9,baz=90,slow=6.1,SNR=3.5						
PLCA	**Paso Flores**	**144.78**	**201**	PKP	PKPdf	20 13 05.2	+1.7
	2.7nm,1.1s,baz=100,slow=6.1,SNR=2.2						

IDC 29 19:54:24.9±7.0, 7.00N×94.01E, mb3.7/5, mb1 3.9/6, mb1mx3.6/19, mbtmp3.7/6, ML4.2/1, Error ellipse: s-maj=152.3km s-min=50.2km az=147.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.37**	**22**	Pn	P	19 57 21.5	-3.8
	0.4nm,0.3s,baz=211,slow=14,SNR=6.2						
SONM	**Songino Array**	**42.05**	**12**	P	P	20 02 18.7	-1.2
	0.6nm,0.8s,baz=194,slow=8.0,SNR=2.7						
ZAL	**Zalesovo**	**47.40**	**353**	P	P	20 03 01.7	-1.1
	1.4nm,0.8s,baz=280,slow=5.4,SNR=5.3						
BVAR	**Borovoye Array**	**49.77**	**342**	P	P	20 03 17.3	-3.9
	0.1nm,0.5s,baz=180,slow=1.4,SNR=2.1						
BRTR	**Keskin Array B**	**62.90**	**311**	P	P	20 04 52.7	-2.6
	0.3nm,0.4s,baz=134,slow=48,SNR=1.5						
FINES	**FINESS Array B**	**73.42**	**332**	P	P	20 05 59.9	-0.7
	1.4nm,0.9s,baz=124,slow=10.0,SNR=1.1						

*IDC **29** 19:59:39.5±0.7, 7.91N×94.17E, mb3.9/13, mb1 4.0/14, mb1mx3.9/20, mbtmp3.8/14, ML3.3/1, Error ellipse: s-maj=25.9km s-min=17.8km az=61.0*
ISC 29 19:59:42.7±0.6, 7.9N±0.1×94.2E±0.1, h33km, n15, σ0ϑ99/14, mb3.9/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.42**	**23**	Pn	**P**	**20 02 26.6**	**0.0**
	0.1nm,0.3s,baz=213,slow=15,SNR=2.8						
SONM	**Songino Array**	**41.08**	**13**	P	**P**	**20 07 25.7**	**+0.8**
	0.5nm,0.8s,mb3.2,baz=207,slow=5.5,SNR=4.7						
ZAL	**Zalesovo**	**46.48**	**352**	P	**P**	**20 08 08.4**	**0.0**
	0.9nm,0.5s,mb3.9,baz=291,slow=8.6,SNR=4.8						
WRA	**Warramunga Arr**	**48.25**	**126**	P	**P**	**20 08 22.3**	**-0.5**
	0.9nm,0.8s,mb3.8,baz=307,slow=9.4,SNR=5.2						
BVAR	**Borovoye Array**	**48.94**	**341**	P	**P**	**20 08 26.6**	**-1.1**
	0.4nm,0.5s,mb3.7,baz=180,slow=4.4,SNR=4.0						
ASAR	**Alice Springs**	**49.91**	**130**	P	**P**	**20 08 36.4**	**+0.8**
	0.5nm,0.6s,mb3.7,baz=301,slow=6.9,SNR=5.3						
KMBO	**Kilima Mbogo**	**57.49**	**264**	P	**P**	**20 09 32.9**	**+1.4**
	3.0nm,0.8s,mb4.4,baz=55,slow=11,SNR=13						
ASF	**Jabal al Asfar**	**58.23**	**303**	P	**P**	**20 09 36.4**	**0.0**
	1.7nm,1.0s,mb4.0,baz=30,slow=16,SNR=6.3						
BRTR	**Keskin Array B**	**62.43**	**311**	P	**P**	**20 10 03.9**	**-1.1**
	1.1nm,0.7s,mb4.1,baz=113,slow=7.3,SNR=4.4						
AKASG	**Malin Array Be**	**68.14**	**322**	P	**P**	**20 10 39.8**	**-1.7**
	0.7nm,0.7s,mb3.8,baz=99,slow=5.0,SNR=3.9						
FINES	**FINESS Array B**	**72.68**	**332**	P	**P**	**20 11 08.9**	**+0.1**
	1.0nm,0.6s,mb3.9,baz=72,slow=6.0,SNR=8.0						
GERES	**GERESS Array B**	**77.81**	**318**	P	**P**	**20 11 39.8**	**+1.3**
	1.4nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=14						
MAW	**Mawson**	**78.61**	**192**	P	**P**	**20 11 41.0**	**-1.5**
	3.9nm,0.8s,mb4.4,baz=16,slow=7.4,SNR=3.2						
ESDC	**Sonseca Array**	**91.22**	**310**	P	**P**	**20 12 47.4**	**+1.2**
	0.3nm,0.5s,mb3.9,baz=75,slow=3.9,SNR=4.5						
PLCA	**Paso Flores**	**144.63**	**200**	PKP	PKPdf	20 19 18.6	+2.3
	2.3nm,0.8s,baz=332,slow=4.3,SNR=6.6						

*BJI **29** 20:01:52.1, 7.68N×93.86E, h37km, mB5.4, mb4.9, Ms5.2, Msz4.9*
*IDC **29** 20:01:54.0±0.3, 8.09N×94.13E, h19km±1km, mb4.6/26, mb1 4.7/27, mb1mx4.7/28, mbtmp4.7/27, ML4.7/1, MS4.7/13, Ms1 4.7/13, ms1mx4.3/32, Error ellipse: s-maj=19.1km s-min=8.6km az=53.0*
*MOS **29** 20:01:54.5±0.9, 8.10N×94.20E, h33km, mb5.4/74, MS4.8/12, Error ellipse: s-maj=8.8km s-min=4.5km az=122.7*
*NEIC **29** 20:01:54.3±0.1, 8.06N×94.15E, mb5.2/89, MS4.8/6, Error ellipse: s-maj=5.5km s-min=3.8km az=48.0*
*HRVD **29** 20:01:54.3±0.2, 8.10N×94.22E, h12km, MW5.2/46, Centroid moment Tensor Solution. LP body waves: s38,c57;Mantle waves: s46,c86; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.48±.02; $M_{\theta\theta}$-0.11±.02; $M_{\phi\phi}$0.59±.02; $M_{r\theta}$0.43±.06; $M_{\theta\phi}$0.52±.02; $M_{\phi r}$-0.27±.06; Best double couple: M_0.905×10^{17} NP1: ϕ_s242°,δ57°,λ-37°. NP2:ϕ_s354°,δ60°,λ-141°. Principal axes: T .869, Plg2°, Azm117°; N .071, Plg42°, Azm26°; P -.94, Plg48°, Azm209°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 29 20:01:52.5±0.2, 8.02N±0.03×94.24E±0.03, h21km, h21km±.4km:pP-P, n396, σ1ϑ09/375, mb5.1/124, MS4.8/33, 21C-22D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.90**	**338**	*eP*	**Pn**	**20 02 55.9**	**+3.1**
PBA				*eS*	**Sn**	**20 03 39.8**	**+1.2**
NNT	**Nongplab**	**7.06**	**50**	P	**Pn**	**20 03 37.5**	**+0.1**
NST	**Nakhon Sawan**	**9.54**	**37**	P	**P**	**20 04 13.0**	**+1.0**
CM31	**Chiang Mai Arr**	**11.34**	**23**	*eP*	**P**	**20 04 37.7**	**+1.1**
CMAR	**Chiang Mai Arr**	**11.34**	**23**	Pn	**P**	**20 04 38.2**	**+1.6**
	1.5nm,0.3s,baz=212,slow=14,SNR=42						
CMAR				LR	LR	20 09 11.4	
	comp=Z,3μm,19.2s,baz=215,slow=39						
CHG	**Chiang Mai**	**11.66**	**23**	⇓P	**P**	**20 04 43.2**	**+2.2**
	114nm,1.5s						
KKTK	**Khon Kaen**	**11.77**	**45**	P	**P**	**20 04 47.0**	**+4.5**
NANT	**Nan**	**12.42**	**30**	P	**P**	**20 04 54.0**	**+2.8**
CHRT	**Chiangrai**	**12.95**	**24**	⇓P	**P**	**20 05 02.0**	**+3.8**
	187nm,1.1s						
PALK	**Pallekele**	**13.44**	**268**	P	**P**	**20 04 57.9**	**-6.9**
	45nm,1.4s						
VIS	**Vishakhapatnam**	**14.35**	**313**	*eP*	**P**	**20 05 16.3**	**-0.5**
VIS				*e*		20 05 19.2	
	comp=Z,77nm,0.9s						
VIS				*e*		20 07 45.2	
VIS				*eS*	**S**	**20 07 57.7**	**+1.5**
BWNR	**Bhubaneshwar**	**14.68**	**327**	*eP*	**P**	**20 05 17.9**	**-3.2**
BWNR				*e*		20 05 25.3	
	comp=Z,75nm,0.4s						
BWNR				*eS*	**S**	**20 08 02.3**	**-1.7**
CAL	**Calcutta**	**15.51**	**339**	*e*	**S**	**20 08 44.2**	**+21**
AGT	**Agartala**	**16.03**	**350**	⇓*i*	**P**	**20 05 57.0**	**+18**
AGT				*i*		20 07 19.0	
IMP	**Imphal**	**16.67**	**359**	*e*	**P**	**20 05 44.7**	**-2.0**
KOD	**Kodaikanal**	**16.70**	**279**	*eP*	**P**	**20 05 49.5**	**+2.3**
KOD				*e*		20 06 00.5	
	comp=Z,157nm,1.6s						
KOD				*eS*	**S**	**20 08 53.2**	**+1.8**
TRD	**Trivandrum**	**17.11**	**273**	*e*	**P**	**20 05 48.4**	**-3.9**
TRD				*i*		20 08 50.4	
SHL	**Shillong**	**17.59**	**353**	*eP*	**P**	**20 06 02.8**	**+4.5**
SHL				*eS*	**S**	**20 09 20.3**	**+8.8**
HYB	**Hyderabad**	**17.91**	**303**	*eP*	**P**	**20 06 04.0**	**+1.7**
HYB				*eS*	**S**	**20 09 18.0**	**-0.8**
HYB	**Hyderabad**	**17.91**	**303**	*i* P	**P**	**20 06 04.0**	**+1.7**
	comp=Z,80nm,1.0s						
HYB				*e*		20 09 18.0	
HYB				*eS*	**S**	**20 09 27.0**	**+8.2**
SHBG	**Sahibganj**	**18.21**	**341**	*e*	**P**	**20 06 14.0**	**+7.9**
BLSP	**Bilaspur**	**18.24**	**322**	*eP*	**P**	**20 06 08.6**	**+2.2**
BLSP				*e*		20 06 13.0	
	comp=Z,118nm,1.1s						
BLSP				*eS*	**S**	**20 09 31.0**	**+4.8**
QIZ	**Qiongzhong**	**18.68**	**53**	P	**P**	**20 06 12.8**	**+0.9**
QIZ				S	**S**	**20 09 37.3**	**+1.0**
QIZ				AMB	AMB		
	comp=Z,537nm,6.1s						
QIZ				LR	LR		
	comp=N,12μm,13.8s						
KMI	**Kunming**	**18.84**	**25**	⇑P	**P**	**20 06 18.4**	**+4.7**
KMI				pmax	pmax		
	comp=Z,24nm,1.5s						
KMI	**Kunming**	**18.84**	**25**	⇑P	**P**	**20 06 18.4**	**+4.7**
	comp=Z,24nm,1.5s						
KMI				pP		20 06 22.9	
KMI				sP		20 06 25.4	
KMI				PP	PP	20 06 32.6	+2.6
KMI				S	**S**	**20 09 48.8**	**+9.0**
KMI				sS		20 09 58.3	
KMI				SS	SS	20 10 15.2	+10
NGP	**Nagpur**	**19.63**	**313**	*eP*	**P**	**20 06 23.3**	**+0.4**
NGP				*i*		20 06 28.2	
NGP				*e*		20 06 36.0	
NGP				*e*	**S**	**20 10 07.3**	**+10**
MNGI	**Mangalore**	**19.70**	**286**	*i* P	**P**	**20 06 25.4**	**+1.6**
COCO	**West Island**	**20.25**	**173**	P	**P**	**20 06 28.8**	**-0.7**
	comp=Z,598nm,1.2s						
ALBI	**Allahabad**	**20.88**	**327**	*e*	**P**	**20 06 34.5**	**-1.5**
JIRN	**Jiri**	**20.96**	**340**	*eP*	**P**	**20 06 36.5**	**-0.4**
	comp=Z,408nm,1.1s						
PKI	**Pulchoki**	**21.16**	**338**	*eP*	**P**	**20 06 37.8**	**-1.1**
GOA	**Goa**	**21.31**	**292**	*eP*	**P**	**20 06 49.2**	**+8.8**
GOA				*eS*	**S**	**20 10 45.4**	**+14**
DMN	**Daman**	**21.31**	**337**	*eP*	**P**	**20 06 38.7**	**-1.7**
	comp=Z,87nm,0.7s,mb5.2						
KKN	**Kakani**	**21.41**	**338**	*eP*	**P**	**20 06 40.2**	**-1.2**
	comp=Z,182nm,0.9s,mb5.4						
KAD	**Karad**	**21.61**	**297**	*eP*	**P**	**20 06 43.5**	**0.0**
LSA	**Lhasa**	**21.76**	**353**	P	**P**	**20 06 45.0**	**+0.1**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
GKN	**Gorkha**	**21.85**	**337**	*eP*	**P**	**20 06 45.3**	**-0.5**
	comp=Z,156nm,0.7s,mb5.5						
KOLN	**Koldanda**	**22.07**	**334**	*eP*	**P**	**20 06 48.1**	**+0.1**
BHPL	**Bhopal**	**22.12**	**315**	*eP*	**P**	**20 06 50.0**	**+1.5**
BHPL				*e*		20 06 56.8	
	comp=Z,177nm,1.6s						
BHPL				*eS*	**S**	**20 10 54.3**	**+8.1**
POO	**Poona**	**22.40**	**300**	*eP*	**P**	**20 06 51.0**	**-0.3**
POO				*i* S	**S**	**20 11 00.0**	**+8.7**
BOM	**Bombay**	**23.44**	**300**	*eP*	**P**	**20 06 59.4**	**-2.2**
BOM				*eS*	**S**	**20 11 17.9**	**+7.8**
NDI	**New Delhi**	**26.07**	**324**	*eP*	**P**	**20 07 30.1**	**+3.5**
NDI				*eS*	**S**	**20 12 01.4**	**+6.9**
AJM	**Ajmer**	**26.14**	**317**	*i* P	**P**	**20 07 28.0**	**+0.7**
DDI	**Dehra Dun**	**26.87**	**328**	*eP*	**P**	**20 07 34.0**	**0.0**
DDI				*e*		20 12 31.0	
TGY	**Tagaytay City**	**26.87**	**75**	LR	LR	20 18 31.2	
	comp=Z,2μm,20.0s,MS4.6,baz=69,slow=37						
SMLA	**Simla**	**27.97**	**328**	*eP*	**P**	**20 07 57.5**	**+13**
SMLA				*eS*	**S**	**20 12 41.5**	**+16**
XAN	**Xi'an**	**29.22**	**26**	P	**P**	**20 07 55.0**	**-0.2**
XAN				AMB	AMB		
	comp=Z,21nm,1.7s,mb4.6						
WHN	**Wuhan**	**29.26**	**37**	P	**P**	**20 07 57.5**	**+1.9**
WHN				LR	LR		
	comp=Z,5μm,11.8s,MS5.4						
LZH	**Lanzhou**	**29.28**	**16**	*eP*	**P**	**20 07 59.0**	**+3.3**
LZH				AP	pP	20 08 03.0	+1.2
LZH				XP	sP	20 08 16.5	+12
LZH				PP	PP	20 08 55.0	+4.2
LZH				S	**S**	**20 12 50.0**	**+3.8**
LZH				SS	SS	20 14 22.0	+4.4
LZH				AMB	AMB		
	comp=Z,53nm,1.8s,mb5.0						
LZH				AMB	AMB		
	comp=Z,273nm,4.9s						
LZH				LR	LR		
	comp=E,1μm,10.4s						
LZH				LR	LR		
	comp=Z,2μm,11.5s,MS4.9						
LZH	**Lanzhou**	**29.28**	**16**	*eP*	**P**	**20 07 59.0**	**+3.3**
LZH				*SP	sP	20 08 16.5	+12
LZH						20 08 55.0	
LZH				S	**S**	**20 12 50.0**	**+3.8**
LZH				SS	SS	20 14 22.0	+4.4
LZH				pmax	pmax		
	comp=Z,53nm,1.8s,mb5.0						
LZH				MLR	MLR		
	comp=Z,2μm,11.5s,MS4.9						
LZH	**Lanzhou**	**29.28**	**16**	*eP*	**P**	**20 07 59.0**	**+3.3**
	comp=Z,53nm,1.8s,mb5.0						
LZH				pP	pP	20 08 03.0	+1.2
LZH				sP	sP	20 08 16.5	+12
LZH				PP	PP	20 08 55.0	+4.2
LZH				S	**S**	**20 12 50.0**	**+3.8**
LZH				sS		20 13 00.1	
LZH				SS	SS	20 14 22.0	+4.4
LZH				LR	LR		
	comp=Z,2μm,11.5s,MS4.9						
SSE	**Sheshan**	**34.05**	**44**	P	**P**	**20 08 35.8**	**-1.8**
SSE				AP	pP	20 08 45.0	+1.2
SSE				PP	PP	20 09 53.0	+1.1
SSE				S	**S**	**20 14 01.5**	**+0.5**
SSE				AMB	AMB		
	comp=Z,22nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,71nm,8.2s						
SSE				LR	LR		
	comp=N,2μm,15.8s,MS5.0						
SSE				LR	LR		
	comp=E,1μm,15.7s,MS5.0						
SSE				LR	LR		
	comp=Z,1μm,12.9s,MS4.9						
SSE	**Sheshan**	**34.05**	**44**	P	**P**	**20 08 35.8**	**-1.8**
	comp=Z,22nm,0.8s,mb5.1						
SSE				pP	pP	20 08 45.1	+1.3
SSE				PP	PP	20 09 53.1	+1.2
SSE				S	**S**	**20 14 01.4**	**+0.4**
SSE				sS		20 14 16.6	
SSE				SS	SS	20 16 31.2	+22
SSE				LR	LR		
	comp=Z,1μm,12.9s,MS4.9						
WMQ	**Urumqi**	**36.12**	**352**	*eP*	**P**	**20 08 56.0**	**+0.9**
WMQ				AP	pP	20 09 02.0	+0.7
WMQ				XP	sP	20 09 04.8	+0.9
WMQ				PP	PP	20 10 18.0	+0.4
WMQ				PCP	PcP	20 11 22.5	+1.4
WMQ				S	**S**	**20 14 33.0**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,105nm,1.0s,mb5.7						
WMQ				AMB	AMB		
	comp=Z,721nm,5.4s						
WMQ				LR	LR		
	comp=N,2μm,16.4s,MS5.1						
WMQ				LR	LR		
	comp=E,2μm,16.2s,MS5.1						
WMQ				LR	LR		
	comp=Z,3μm,16.8s,MS5.1						
JOW	**Kunigami**	**37.29**	**56**	LR	LR	20 26 56.9	
	comp=Z,1μm,18.4s,MS4.7,baz=280,slow=40						
BJI	**Beijing**	**37.43**	**28**	P	**P**	**20 09 08.5**	**+2.3**
BJI				S	**S**	**20 15 00.0**	**+7.0**
BJI				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
BJI				MLR	MLR		
	comp=Z,890nm,23.9s,MS4.5						
BJI	**Beijing**	**37.43**	**28**	P	**P**	**20 09 08.5**	**+2.3**
	comp=Z,13nm,1.0s,mb4.7						
BJI				S	**S**	**20 15 00.0**	**+7.0**
BJI				LR	LR		
	comp=Z,890nm,23.9s,MS4.5						
SMDO	**Samad**	**37.80**	**297**	P	**P**	**20 09 12.1**	**+2.7**
	SNR=6.5						
KZA	**Kyzart**	**37.84**	**337**	P	pP	20 09 16.7	+0.9
	SNR=7.3						
BIDO	**Bidbid**	**37.87**	**298**	P	**P**	**20 09 12.8**	**+2.7**
	SNR=9.9						
UCH	**Uchtor**	**38.26**	**336**	P	**P**	**20 09 13.8**	**+0.6**
	SNR=7.1						
MBWA	**Marble Bar**	**38.31**	**140**	P	**P**	**20 09 14.8**	**+1.0**
	comp=Z,26nm,1.2s,mb4.8						
KBK	**Karagaybulak**	**38.45**	**337**	P	**P**	**20 09 15.3**	**+0.5**
	SNR=9.5						
BSY	**Bisya**	**38.46**	**297**	⇑P	**P**	**20 09 17.7**	**+2.7**
AML	**Almayashu**	**38.51**	**335**	P	**P**	**20 09 15.8**	**+0.6**
	SNR=10						
HOQ	**Hoqain**	**38.60**	**298**	⇓P	**P**	**20 09

comp=Z,19nm,1.8s,mb4.6
MUN Mundaring 44.97 153 *e*P **P 20 10 05.7 -2.7**
comp=Z,18nm,0.9s,mb4.9
MUN Mundaring 44.97 153 *e*P **P 20 10 05.7 -2.7**
MUN pmax pmax
comp=Z,18nm,0.9s,mb4.9
KLBR Kellerberrin 45.36 151 *e*P **P 20 10 12.3 +0.9**
comp=Z,751nm,1.3s
NWAO Narrogin (SRO) 46.23 153 *e*P **P 20 10 19.0 +0.7**
NWAO pmax pmax
comp=Z,144nm,1.5s
NWAO Narrogin (SRO) 46.23 153 P **P 20 10 19.2 +0.9**
comp=Z,28nm,1.0s,mb5.2,baz=335,slow=10,SNR=9.8
NWAO pP pP 20 10 26.1 +1.5
comp=Z,39nm,1.0s,baz=320,slow=9.0,SNR=10.0
NWAO Narrogin (SRO) 46.23 153 *e*P **P 20 10 19.0 +0.7**
comp=Z,144nm,1.5s,mb5.7
ZAL Zalesovo 46.41 352 P **P 20 10 19.1 -0.3**
comp=Z,6.4nm,0.4s,mb4.9,baz=295,slow=6.5,SNR=28
ZAL LR LR 20 34 15.8
comp=Z,494nm,19.6s,MS4.5,baz=286,slow=42
NVS Novosibirsk 47.51 351 ⇓*i*P **P 20 10 26.7 -1.4**
NVS *i* S **S 20 17 18.6 -2.2**
NVS *e*SS ScS 20 20 20.4 +2.3
NVS pmax pmax
comp=Z,30nm,0.9s,mb5.3
NVS pmax pmax
comp=N,20nm,0.7s
NVS pmax pmax
comp=E,5.0nm,0.6s
NVS smax
comp=E,22nm,1.9s
MDJ Mudanjiang 47.63 34 P **P 20 10 29.0 -0.2**
MDJ AMB AMB
comp=Z,13nm,1.0s,mb4.9
MDJ AMB AMB
comp=Z,158nm,3.7s
MDJ LR LR
comp=N,2μm,22.1s,MS5.1
MDJ LR LR
comp=E,1μm,18.2s,MS5.1
MDJ LR LR
comp=Z,2μm,16.9s,MS5.0
WRA Warramunga Arr 48.27 126 P **P 20 10 33.6 -0.9**
comp=Z,6.5nm,0.9s,mb4.7,baz=306,slow=8.2,SNR=5.9
WRA pP pP 20 10 40.3 -0.5
comp=Z,9.2nm,0.9s,baz=305,slow=8.7,SNR=12
WRAB Tennant Creek 48.27 126 *e*P **P 20 10 33.5 -1.0**
WRAB pmax pmax
comp=Z,28nm,1.1s,mb5.2
WRAB Tennant Creek 48.27 126 *e*P **P 20 10 33.5 -1.1**
comp=Z,28nm,1.1s,mb5.2
WB2 Warramunga Arr 48.28 126 *e*P **P 20 10 33.7 -0.9**
BVA0 Borovoye Array 48.88 341 *i* P **P 20 10 37.1 -1.7**
BVA0 pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
BVAR Borovoye Array 48.88 341 P **P 20 10 37.4 -1.4**
comp=Z,3.1nm,0.7s,mb4.5,baz=143,slow=7.4,SNR=21
BVAR pP pP 20 10 44.1 -1.0
comp=Z,9.6nm,0.6s,baz=138,slow=8.3,SNR=30
BVAR PcP PcP 20 12 03.1 -0.3
comp=Z,2.3nm,0.7s,baz=153,slow=6.4,SNR=2.8
BVAR pPcP 20 12 09.2
comp=Z,6.1nm,0.7s,baz=176,slow=1.9,SNR=6.3
MAJO Matsushiro 48.99 48 P **P 20 10 39.9 +0.1**
MAJO pmax pmax
comp=Z,31nm,1.4s,mb5.2
MAJO Matsushiro 48.99 48 P **P 20 10 39.9 +0.1**
comp=Z,31nm,1.4s,mb5.1
MAT Matsushiro 48.99 48 P **P 20 10 41.0 +1.2**
MAT *e*S **S 20 17 46.0 +4.1**
MAT Matsushiro 48.99 48 P **P 20 10 41.2 +1.4**
MAT S **S 20 17 46.0 +4.1**
RAYN Ar Rayn 49.11 294 P **P 20 10 41.9 +0.9**
comp=Z,201nm,0.9s,SNR=43
CHKZ Chkalovo 49.36 342 *e*P **P 20 10 41.0 -1.5**
CHKZ *e**PP pP 20 10 47.6 -1.2
CHKZ pmax pmax
comp=Z,18nm,0.7s,mb5.2
CHKZ Chkalovo 49.36 342 *e*P **P 20 10 41.0 -1.5**
comp=Z,18nm,0.7s,mb5.2
CHKZ *e*pP pP 20 10 47.6 -1.2
ASPA Alice Springs 49.93 130 ⇑*i*P **P 20 10 46.6 -0.7**
ASAR Alice Springs 49.94 130 P **P 20 10 46.5 -0.8**
comp=Z,5.3nm,0.8s,mb4.6,baz=306,slow=7.3,SNR=35
ASAR pP pP 20 10 53.3 -0.3
comp=Z,7.5nm,0.9s,baz=302,slow=7.1,SNR=13
ASAR PcP PcP 20 12 07.8 +0.1
comp=Z,1.3nm,0.7s,baz=321,slow=3.3,SNR=2.7
ASAR pPcP 20 12 13.8
comp=Z,3.2nm,0.7s,baz=303,slow=4.3,SNR=6.9
ASAR LR LR 20 34 32.8
comp=Z,389nm,18.2s,MS4.5,baz=291,slow=39
FORT Forrest 50.39 142 *e*P **P 20 10 49.9 -0.8**
comp=Z,51nm,1.0s,mb5.5
BOD Bodaibo 51.98 13 *e*P **P 20 11 01.8 -0.6**
GNI Garni 54.40 314 *e*P **P 20 11 19.4 -1.1**
GNI pmax pmax
comp=Z,64nm,1.3s
GNI Garni 54.40 314 P **P 20 11 20.0 -0.5**
comp=Z,2.5nm,0.5s,mb4.4,slow=5.1,SNR=4.7
GNI LR LR 20 36 47.1
comp=Z,523nm,21.7s,MS4.6,baz=292,slow=39
GNI Garni 54.40 314 *e*P **P 20 11 19.4 -1.2**
comp=Z,64nm,1.3s,mb5.4
TI2 Plekhanov 55.01 316 *e*P **P 20 11 23.0 -2.0**
SVE Sverdlovsk 55.30 338 *e*P **P 20 11 24.0 -2.9**
SVE pmax pmax
comp=Z,100nm,1.6s,mb5.6
SVE MLR MLR
comp=Z,3μm,19.0s,MS5.3
PMG Port Moresby 55.48 107 *e*P **P 20 11 29.6 +0.8**
PMG pmax pmax
comp=Z,30nm,1.0s
PMG Port Moresby 55.48 107 P **P 20 11 29.4 +0.6**
comp=Z,14nm,0.7s,mb5.1,baz=316,slow=7.5,SNR=8.7
PMG Port Moresby 55.48 107 *e*P **P 20 11 29.6 +0.8**
comp=Z,30nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 56.61 38 *e*P **P 20 11 36.7 +0.3**
YSS Yuzh-Sakhalins 56.61 38 P **P 20 11 38.2 +1.8**
comp=Z,28nm,1.0s,mb5.2
KIV Kislovodsk 57.27 318 ⇑*i*P **P 20 11 39.2 -2.0**
KIV *i* pP 20 11 46.7 -0.9
KIV pmax pmax
comp=Z,15nm,0.7s,mb5.1
KIV MLR MLR
comp=Z,400nm,20.0s,MS4.5
KIV Kislovodsk 57.27 318 *e*P **P 20 11 39.4 -1.8**
comp=Z,28nm,0.8s,mb5.3
GOF Gofitskoye 57.48 319 *e*P **P 20 11 44.0 +1.4**
KMBO Kilima Mbogo 57.54 264 *e*P **P 20 11 44.8 +1.3**
KMBO *e**PP pP 20 11 51.6 +1.7
KMBO pmax pmax
comp=Z,37nm,1.0s
KMBO Kilima Mbogo 57.54 264 P **P 20 11 45.5 +2.1**
comp=Z,19nm,0.8s,mb5.2,baz=59,slow=10,SNR=72
KMBO LR LR 20 33 53.8
comp=Z,816nm,19.1s,MS4.8,baz=266,slow=33
KMBO Kilima Mbogo 57.54 264 *e*P **P 20 11 44.8 +1.3**
comp=Z,37nm,1.0s,mb5.4
KMBO *e*pP pP 20 11 51.6 +1.7
ASF Jabal al Asfar 58.22 303 P **P 20 11 47.1 -0.9**
comp=Z,4.2nm,0.8s,mb4.5,baz=23,slow=2.3,SNR=7.9
ASF LR LR 20 38 40.9
comp=Z,593nm,20.3s,MS4.7,baz=142,slow=38
CTA Charters Tower 58.30 119 P **P 20 11 48.5 -0.1**
comp=Z,3.4nm,0.9s,mb4.4,baz=256,slow=7.4,SNR=4.0
CTA LR LR 20 37 32.1
comp=Z,678nm,21.3s,MS4.7,baz=297,slow=37
CTAO Charters Tower 58.30 119 *e*P **P 20 11 48.7 +0.1**
CTAO pmax pmax
comp=Z,16nm,1.4s,mb4.9
CTAO Charters Tower 58.30 119 *e*P **P 20 11 48.7 +0.1**
comp=Z,16nm,1.4s,mb4.9
MALT Malatya 58.44 310 *e*P **P 20 11 47.7 -1.7**
MALT pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
MALT Malatya 58.44 310 *e*P **P 20 11 47.7 -1.7**
comp=Z,9.6nm,1.0s,mb4.8
SOKR Solikamsk 58.70 339 ⇓*i*P **P 20 11 48.0 -2.9**
SOKR *e* pP 20 11 56.0 -1.3
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
SOKR MLR MLR
comp=Z,2μm,22.0s,MS5.2
SOC Sochi 59.14 316 *e*P **P 20 11 42.0 -12**
SOC *e* 20 14 04.9
SOC *e*PPP PPP 20 15 37.7 +6.4
SOC *e*S **S 20 19 49.6 -9.1**
SOC pmax pmax
comp=Z,46nm,1.1s,mb5.4
SOC pmax pmax
comp=N,70nm,1.2s
SOC pmax pmax
comp=E,30nm,1.1s
EIL Elat 59.44 300 LR LR 20 39 42.4
comp=E,738nm,18.3s,MS4.8,baz=268,slow=38
EIL Elat 59.44 300 *e*P **P 20 11 55.8 -0.7**
comp=E,12nm,0.8s,mb5.0
YAK Yakutsk 59.82 18 *e*P **P 20 11 58.0 -0.7**
YAK pmax pmax
comp=Z,106nm,0.8s,mb5.9
YAK Yakutsk 59.82 18 *e*P **P 20 11 58.0 -0.6**
comp=Z,106nm,0.8s,mb5.9
STKA Stephens Creek 60.14 134 *e*P **P 20 12 00.7 -0.6**
comp=Z,6.7nm,1.1s,mb4.6
STKA Stephens Creek 60.14 134 P **P 20 12 00.3 -1.0**
comp=Z,7.4nm,1.0s,mb4.7,baz=324,slow=7.7,SNR=12
STKA LR LR 20 40 57.4
comp=Z,843nm,19.6s,MS4.9,baz=292,slow=39
ANN Anapa 61.09 317 *e*P **P 20 12 07.7 +0.1**
ANN pmax pmax
comp=Z,115nm,1.7s,mb5.7
BRTR Keskin Array B 62.41 311 P **P 20 12 14.0 -2.5**
comp=Z,5.9nm,0.6s,mb4.9,baz=125,slow=7.4,SNR=36
BRTR pP pP 20 12 20.6 -2.4
comp=Z,11nm,0.7s,baz=129,slow=7.2,SNR=23
SIM Simferopol' 63.39 316 *e*P **P 20 12 28.0 +5.1**
SIM pmax pmax
comp=Z,25nm,0.8s,mb5.4
MBAR Mbarara 63.87 265 *e*P **P 20 12 27.3 +0.7**
MBAR *e**PP pP 20 12 33.8 +0.7
MBAR MLR MLR
comp=Z,243nm,21.0s,MS4.4
MOS Moscow 65.00 329 *e*P **P 20 12 32.0 -1.3**
MOS *e* 20 12 47.6
MOS *e* 20 13 05.5
MOS *e*S S 20 21 15.6 +3.1
MOS pmax pmax
comp=Z,33nm,0.7s,mb5.5
OBN Obninsk 65.31 328 ⇓*i*P **P 20 12 29.4 -5.8**
OBN *i* pP 20 12 37.2 -4.5
OBN *e* 20 13 00.0
OBN *e* 20 14 53.7
OBN pmax pmax
comp=Z,21nm,0.8s,mb5.2
OBN MLR MLR
comp=Z,900nm,21.0s,MS4.9
OBN Obninsk 65.31 328 *e*P **P 20 12 30.2 -5.0**
comp=Z,39nm,0.6s,mb5.6
MA2 Magadan 66.59 28 *e*P **P 20 12 43.4 +0.1**
MA2 *e**PP pP 20 12 50.3 +0.5
MA2 pmax pmax
comp=Z,22nm,0.8s,mb5.2
MA2 Magadan 66.59 28 *e*P **P 20 12 43.4 0.0**
comp=Z,22nm,0.8s,mb5.2
MA2 *e*pP pP 20 12 50.3 +0.5
TIXI Tiksi 67.07 11 ⇑*i*P **P 20 12 44.2 -2.0**
TIXI pmax pmax
comp=Z,46nm,1.7s,mb5.2
AKASG Malin Array Be 68.10 322 P **P 20 12 50.2 -2.8**
comp=Z,6.4nm,0.7s,mb4.8,baz=87,slow=4.9,SNR=26
AKASG pP pP 20 12 56.7 -2.8
comp=Z,18nm,0.7s,baz=88,slow=5.3,SNR=33
AKASG PP PP 20 15 20.0 -5.3
comp=Z,2.0nm,0.7s,baz=97,slow=6.9,SNR=4.2
SANT Santorini 68.21 306 P **P 20 12 50.9 -3.1**
comp=Z,71nm,1.1s,mb5.6
SEY Seymchan 68.75 25 *e*P **P 20 12 57.5 +0.6**
SEY 20 13 17.5
SEY *e*S S 20 22 00.9 +3.3
SEY 20 22 45.6
SEY pmax pmax
comp=Z,30nm,0.9s,mb5.2
SEY smax
comp=N,240nm,18.7s
SEY smax
comp=E,600nm,20.2s
SEY MLR MLR
comp=Z,2μm,16.0s,MS5.3
SEY MLR MLR
comp=E,1μm,15.0s
MLR Muntele Rosu 69.13 316 P **P 20 12 58.1 -1.4**
comp=E,12nm,0.8s,mb4.9,baz=148,slow=4.5,SNR=12
MLR pP pP 20 13 04.6 -1.4
comp=E,24nm,0.7s,baz=100,slow=2.7,SNR=14
LSZ Lusaka 69.41 250 *e*P **P 20 13 02.3 +0.6**
LSZ *e**PP pP 20 13 09.1 +0.9
LSZ pmax pmax
comp=Z,18nm,1.1s,mb4.9
LSZ MLR MLR
comp=Z,831nm,21.0s,MS5.0
LSZ Lusaka 69.41 250 *e*P **P 20 13 02.3 +0.6**
comp=Z,18nm,1.1s,mb4.9
LSZ *e*pP pP 20 13 09.1 +0.9
LSZ LR LR
comp=Z,831nm,21.0s,MS5.0
MNK Minsk 69.89 325 *e*P **P 20 13 06.0 +2.0**
JOF Joensuu 70.76 334 *e*p **P 20 13 07.5 -1.6**
comp=Z,35nm,0.6s,mb5.5
APA Apatity 71.75 339 ⇓*i*P **P 20 13 14.5 -0.5**
APA *i* pP 20 13 21.2 -0.3
APA *i* 20 13 37.1
APA pmax pmax
comp=Z,40nm,0.6s,mb5.5
KWP Kalwaria 71.98 320 *e*P **P 20 13 15.9 -0.8**
KWP *e* pP 20 13 22.7 -0.5
KOLS Kolonicke sedl 72.16 319 *i* P **P 20 13 18.7 +0.9**
SUW Suwalki 72.44 324 *e*P **P 20 13 18.1 -1.3**
SUW *e* pP 20 13 24.7 -1.2
FINES FINESS Array B 72.63 332 P **P 20 13 19.3 -1.0**
comp=Z,5.5nm,0.6s,mb4.7,baz=89,slow=5.3,SNR=48
FINES pP pP 20 13 25.4 -1.4
comp=Z,25nm,0.6s,baz=101,slow=7.1,SNR=26
CRVS Cervenica-Dubn 72.68 319 *i* P **P 20 13 21.2 +0.3**
CRVS *e*pP pP 20 13 27.6 +0.2
KAF Kangasniemi 72.70 333 *e*p **P 20 13 19.0 -1.7**
KECS Kecovo 73.27 318 *i* P **P 20 13 23.9 -0.4**
KECS *e*pP pP 20 13 30.4 -0.4
NIE Niedzica 73.50 319 *e*P **P 20 13 25.3 -0.3**
NIE *e* pP 20 13 31.7 -0.4
PSZ Piszkesteto 73.60 318 ⇑*e*P **P 20 13 25.6 -0.6**
OJC Ojcow 73.92 320 ⇑*e*P **P 20 13 33.9 +5.8**
VYHS Vyhne 74.36 318 *i* P **P 20 13 30.0 -0.7**
VYHS *i* pP pP 20 13 36.5 -0.7
LBTB Lobatse 74.40 241 *e*P **P 20 13 32.5 +1.1**
LBTB *e**PP pP 20 13 39.0 +1.1
LBTB pmax pmax
comp=Z,35nm,1.1s,mb5.2
LBTB MLR MLR
comp=Z,630nm,20.0s,MS4.9
LBTB Lobatse 74.40 241 *e*P **P 20 13 32.5 +1.1**
comp=Z,35nm,1.1s,mb5.2
LBTB *e*pP pP 20 13 39.0 +1.2
LBTB LR LR
comp=Z,630nm,20.0s,MS4.9
SRO Srobarova 74.65 317 *e*P pP 20 13 38.9 +0.1
SRO Srobarova 74.65 317 *e*pP pP 20 13 38.9 +0.1
KEV Kevo 74.73 341 *e*p **P 20 13 31.7 -0.7**
comp=Z,29nm,0.6s,mb5.4
KEV Kevo 74.73 341 *e*P **P 20 13 31.7 -0.7**
KEV pmax pmax
comp=Z,29nm,0.6s,mb5.4
OKC Ostrava-Krasne 74.94 319 *e*P **P 20 13 33.4 -0.6**
OKC *e*pP pP 20 13 40.0 -0.5
CASY Casey 75.06 173 P **P 20 13 34.9 +0.5**
comp=Z,27nm,1.2s,mb5.0
CASY *e*pP pP 20 13 41.6 +0.7
ARCES ARCESS Array B 75.16 340 P **P 20 13 34.6 -0.3**
comp=Z,6.9nm,0.8s,mb4.7,baz=97,slow=5.5,SNR=27
ARCES pP pP 20 13 41.0 -0.4
comp=Z,18nm,0.6s,baz=82,slow=6.4,SNR=11
ARCES LR LR 20 49 11.6
comp=Z,2μm,18.7s,MS5.4,baz=116,slow=38
ARCES ARCESS Array B 75.16 340 P **P 20 13 34.6 -0.3**
ARCES pP pP 20 13 41.0 -0.4
ARCES LR LR 20 49 11.6
ARE0 ARCESS Array S 75.16 340 *e*P **P 20 13 34.8 0.0**
MORC Moravsky Berou 75.33 319 *e*P **P 20 13 35.4 -0.8**
MORC *e**PP pP 20 13 42.2 -0.5
MORC pmax pmax
comp=Z,32nm,0.9s,mb5.2
MORC Moravsky Berou 75.33 319 *e*P **P 20 13 35.4 -0.8**
comp=Z,32nm,0.9s,mb5.3
MORC *e*pP pP 20 13 42.2 -0.5
ZST Bratislava 75.49 318 *e*P **P 20 13 37.3 +0.1**
ZST *i* pP pP 20 13 43.7 0.0
BOSA Boshof 75.75 238 *e*P **P 20 13 39.8 +0.8**
BOSA *e**PP pP 20 13 46.6 +1.0
BOSA pmax pmax
comp=Z,13nm,0.6s,mb5.0
BOSA MLR MLR
comp=Z,288nm,19.0s,MS4.6
BOSA Boshof 75.75 238 *e*P **P 20 13 39.8 +0.8**
comp=Z,13nm,0.6s,mb5.0
BOSA *e*pP pP 20 13 46.6 +1.1
BOSA LR LR
comp=Z,288nm,19.0s,MS4.6
GKP Gorka Klasztor 75.84 323 *e*P **P 20 13 38.0 -1.0**
GKP *e* pP 20 13 44.6 -0.9
DPC Dobruska-Polom 76.16 320 *e*P **P 20 13 40.8 -0.1**
DPC *e*pP pP 20 13 47.2 -0.2
KSP Ksiaz 76.21 320 *e*P **P 20 13 41.0 -0.2**
KSP *e**PP pP 20 13 47.5 -0.2
KSP *e* 20 13 51.1
KSP Ksiaz 76.21 320 *e*P **P 20 13 41.9 +0.8**
KSP *e* pP 20 13 48.1 +0.4
UPC Upice 76.36 320 *e*P **P 20 13 42.0 -0.1**
UPC *e*pP pP 20 13 48.4 -0.2
ARSA Arzberg 76.50 317 ⇑*i*P **P 20 13 43.0 +0.1**
comp=Z,28nm,1.5s,mb5.0
VAE Valguarnera 77.11 307 P **P 20 13 48.4 +2.0**
comp=Z,6.8nm,0.6s,mb4.8,baz=275,slow=16,SNR=2.1
PRU Pruhonice 77.28 319 *e*P **P 20 13 47.3 +0.2**
PRU *e*pP pP 20 13 52.6 -1.1
PVCC Panska Ves 77.29 320 *e*P **P 20 13 47.3 +0.1**
PVCC *e*pP pP 20 13 53.5 -0.2
BSD Bornholm Skovb 77.36 325 ⇑*i*P **P 20 13 46.6 -0.9**
BSD *i* pP 20 13 51.9 -2.1
BSD pmax pmax
comp=Z,17nm,0.8s,mb5.0
BSD Bornholm Skovb 77.36 325 ⇑*i*P **P 20 13 46.6 -0.9**
comp=Z,17nm,0.8s,mb5.0
BSD *i* pP 20 13 51.9 -2.1
BRG Berggiesshubel 77.70 320 *i* P **P 20 13 49.3 -0.1**
BRG pmax pmax
comp=Z,12nm,1.0s,mb4.8
BRG Berggiesshubel 77.70 320 *i* P **P 20 13 49.3 -0.1**
comp=Z,12nm,1.0s,mb4.8
GEC2 GERESS Array S 77.78 318 *e*P **P 20 13 49.8 -0.1**
GEC2 pmax pmax
comp=Z,33nm,0.8s,mb5.3
GEC2 GERESS Array S 77.78 318 *e*P **P 20 13 49.8 -0.1**
comp=Z,33nm,0.8s,mb5.3
GERES GERESS Array B 77.78 318 P **P 20 13 49.9 0.0**
comp=Z,12nm,0.8s,mb4.9,baz=90,slow=5.0,SNR=91
GERES pP pP 20 13 56.0 -0.5
comp=Z,21nm,0.6s,baz=90,slow=4.9,SNR=39
KHC Kasperske Hory 77.87 318 *e*P **P 20 13 49.9 -0.5**
KHC *e**PP pP 20 13 56.3 -0.7
KHC *e* 20 14 05.0
KHC Kasperske Hory 77.87 318 *e*P **P 20 13 49.9 -0.5**
KHC *e*pP pP 20 13 56.3 -0.7
KHC x x 20 14 05.0
RUE Ruedersdorf 77.87 322 *e*P **P 20 13 50.2 -0.2**
comp=Z,118nm,0.8s,mb5.9
RUE *e*pP pP 20 13 56.5 -0.4
PTCC Patocco-Chiusa 77.96 316 *e*P **P 20 13 50.8 -0.1**
CLL Collm 78.31 321 ⇓*i*P **P 20 13 52.3 -0.5**
CLL *i* pP 20 13 58.5 -0.8
CLL *i* 20 14 02.1
CLL pmax pmax
comp=Z,14nm,1.2s,mb4.8
CLL Collm 78.31 321 ⇓*i*P **P 20 13 52.3 -0.5**
comp=Z,14nm,1.2s,mb4.8
CLL *i* pP 20 13 58.5 -0.8
CLL *i* 20 14 02.1
CLL Collm 78.31 321 ⇓P **P 20 13 52.3 -0.5**
comp=Z,logA/T=1.1,mb4.8
CLL *i* *PP pP 20 13 58.5 -0.8
CLL *i* *SP sP 20 14 02.1 +0.5
WET Wettzell 78.33 318 *e*P **P 20 13 52.8 -0.1**
WET pmax pmax
comp=Z,20nm,0.8s,mb5.1
WET Wettzell 78.33 318 *e*P **P 20 13 52.8 -0.1**
comp=Z,20nm,0.8s,mb5.1
FVI Forni Avoltri 78.36 316 *e*P **P 20 13 52.8 -0.3**
NKC Novy Kostel 78.63 320 *e*P **P 20 13 53.1 -1.5**
NKC *e*pP pP 20 14 01.0 -0.1
MAW Mawson 78.70 192 ⇓*i*P **P 20 13 56.2 +1.6**
comp=Z,7.4nm,0.9s,mb4.6
MAW Mawson 78.70 192 ⇓*i*P **P 20 13 56.2 +1.6**
MAW pmax pmax
comp=Z,7.0nm,0.9s
MAW Mawson 78.70 192 P **P 20 13 55.6 +1.0**
comp=Z,7.0nm,0.8s,mb4.7,baz=24,slow=8.6,SNR=9.0
COP Copenhagen 78.80 325 *i* P **P 20 14 01.0 +5.6**
COP pmax pmax
comp=Z,54nm,0.7s,mb5.6
COP Copenhagen 78.80 325 *i* P **P 20 14 01.0 +5.6**
comp=Z,54nm,0.7s,mb5.6
SFI Santa Sofia 79.01 313 *e*P **P 20 13 57.7 +0.9**
CTI Castel Tesino 79.14 315 *e*P **P 20 13 57.7 +0.3**
WTTA Wattenberg 79.14 317 ⇑*i*P **P 20 13 56.7 -0.7**
comp=Z,30nm,0.6s,mb5.4
WTTA Wattenberg 79.14 317 ⇑*i*P **P 20 13 56.7 -0.7**
WTTA pmax pmax
comp=Z,30nm,0.6s,mb5.4
MOX Moxa 79.17 320 *e*P **P 20 13 57.3 -0.2**
MOX pmax pmax
comp=Z,15nm,0.8s,mb5.0
MOX Moxa 79.17 320 *e*P **P 20 13 57.3 -0.2**
comp=Z,15nm,0.8s,mb5.0
MOX Moxa 79.17 320 *i* P **P 20 13 57.3 -0.2**
comp=Z,logA/T=1.3,mb5.0
WATA Walderalm 79.18 317 ⇓*i*P **P 20 13 56.6 -1.1**
comp=Z,7.3nm,0.7s,mb4.7
WATA Walderalm 79.18 317 ⇓*i*P **P 20 13 56.6 -1.1**
WATA pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
VMG Vicchio 79.23 313 *e*P **P 20 13 58.9 +0.9**
FUR Furstenfeldbru 79.38 317 *e*P **P 20 13 58.1 -0.6**
GRA1 Grafenberg Arr 79.42 319 *e*P **P 20 13 59.2 +0.3**
comp=Z,36nm,0.9s,mb5.3
GRA1 *e*pP pP 20 14 04.9 -0.6
GRF Grafenberg Arr 79.42 319 *e*P **P 20 13 59.2 +0.3**
GRF *e**PP pP 20 14 04.9 -0.6
GRF pmax pmax
comp=Z,36nm,0.9s,mb5.3
GRF Grafenberg Arr 79.42 319 *e*P **P 20 13 59.2 +0.3**
GRF *e**PP pP 20 14 04.9 -0.6
GRF pmax pmax
comp=Z,36nm,0.9s,mb5.3
GRF Grafenberg Arr 79.42 319 *e*P **P 20 13 59.2 +0.3**
comp=Z,36nm,0.9s,mb5.3
GRF *e*pP pP 20 14 04.9 -0.6
SQTA Sankt Quirin 79.43 317 ⇓*i*P **P 20 13 58.2 -0.8**
comp=Z,21nm,0.9s,mb5.1
SQTA Sankt Quirin 79.43 317 ⇓*i*P **P 20 13 58.2 -0.8**
SQTA pmax pmax
comp=Z,21nm,0.9s,mb5.1
MOTA Moosalm 79.50 317 ⇑*i*P **P 20 13 58.5 -0.9**
comp=Z,14nm,1.0s,mb4.8
MOTA Moosalm 79.50 317 ⇑*i*P **P 20 13 58.5 -0.9**
MOTA pmax pmax
comp=Z,14nm,1.0s,mb4.8
ZCCA Zocca 79.63 314 *e*P **P 20 14 01.6 +1.5**
NB2 NORSAR Subarra 79.65 331 P **P 20 13 59.0 -0.9**
comp=Z,18nm,0.6s,mb5.2,baz=95,slow=5.0
NB2 NORSAR Subarra 79.65 331 P **P 20 13 59.0 -0.9**
baz=95,slow=5.1
NOA NORSAR Array B 79.65 331 P **P 20 13 59.1 -0.8**
comp=Z,7.3nm,1.0s,mb4.6,baz=96,slow=5.6,SNR=14
NOA pP pP 20 14 05.4 -1.0
comp=Z,18nm,0.6s,baz=92,slow=5.6,SNR=31
NAO01 NORSAR Array S 79.80 330 *e*P **P 20 13 59.6 -1.1**
comp=Z,32nm,0.9s,mb5.2
NAO01 *e*pP pP 20 14 06.3 -0.9
GSCL Gusciola 79.91 314 *e*P **P 20 14 02.2 +0.5**
CLZ Clausthal 79.96 321 *e*P **P 20 14 01.7 0.0**
comp=Z,41nm,0.7s,mb5.5
BRMO Bormio 80.02 316 *e*P **P 20 14 02.5 +0.3**
TSUM Tsumeb 80.17 249 *e*P **P 20 14 04.6 +1.1**
comp=Z,7.0nm,1.0s,mb4.5
TSUM LR LR
comp=Z,932nm,20.0s,MS5.1

DAVA Damuels 80.34 317⇑ *i*P P 20 14 03.8 -0.1
comp=Z,24nm,0.6s,mb5.3
DAVOS Davos 80.35 316 P **P 20 14 04.1 +0.2**
comp=Z,16nm,0.8s,mb5.0,baz=109,slow=6.0,SNR=22
DAVOX pP pP 20 14 10.4 -0.1
comp=Z,45nm,0.8s,baz=107,slow=12,SNR=20
SUR Sutherland 80.50 235 *e*P **P 20 14 07.3 +2.3**
comp=Z,35nm,1.0s,mb5.2
SUR *e*pP pP 20 14 13.8 +2.2
MUD Monsted U'grnd 80.64 326⇓ *i*P P 20 14 05.8 +0.5
MUD *i* pP 20 14 11.9 0.0
MUD pmax pmax
comp=Z,20nm,0.8s,mb5.1
MUD Monsted U'grnd 80.64 326⇓ *i*P P 20 14 05.8 +0.5
comp=Z,20nm,0.8s,mb5.1
MUD *i* pP 20 14 11.9 0.0
PGF Pioggiola 81.13 312 *e*P **P 20 14 07.7 -0.4**
comp=Z,19nm,0.7s,mb4.9
PGF Pioggiola 81.13 312 *e*P **P 20 14 07.7 -0.4**
PGF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
VAI Varese 81.15 315 *e*P **P 20 14 07.5 -0.7**
TNS Taunus Mts 81.20 320 *e*P **P 20 14 08.4 +0.1**
BFO Black Forest 81.35 318 *e*P **P 20 14 08.6 -0.5**
BFO pmax pmax
comp=Z,24nm,1.3s,mb5.0
BFO Black Forest 81.35 318 *e*P **P 20 14 08.6 -0.5**
comp=Z,24nm,1.3s,mb5.0
FIN Finale Ligure 81.62 314 *e*P **P 20 14 10.7 0.0**
LANF Langenberg 81.67 318 *e*P **P 20 14 11.3 +0.5**
MCGN Macugnaga 81.69 315 *e*P **P 20 14 12.1 +1.1**
CDF Champ du Feu 82.05 318 *e*P **P 20 14 12.2 -0.6**
comp=Z,15nm,0.6s,mb4.8
CDF Champ du Feu 82.05 318 *e*P **P 20 14 12.2 -0.6**
CDF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
RUP Ruppelstein 82.12 319 *e*P **P 20 14 13.7 +0.6**
MOF Molkenrain 82.17 317 *e*P **P 20 14 13.5 +0.1**
SBF Sospel 82.20 313 *e*P **P 20 14 13.4 -0.3**
comp=Z,103nm,0.8s,mb5.5
SBF Sospel 82.20 313 *e*P **P 20 14 13.4 -0.3**
SBF pmax pmax
comp=Z,51nm,0.8s,mb5.5
HINF Hinteralfeld 82.36 317 *e*P **P 20 14 14.4 0.0**
comp=Z,11nm,0.7s,mb4.6
HINF Hinteralfeld 82.36 317 *e*P **P 20 14 14.4 0.0**
HINF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LPG La Plagne 82.58 315 *e*P **P 20 14 15.8 +0.2**
comp=Z,86nm,0.7s,mb5.6
LPG La Plagne 82.58 315 *e*P **P 20 14 15.8 +0.2**
LPG pmax pmax
comp=Z,43nm,0.7s,mb5.6
LPL La Plagne 82.59 315 *e*P **P 20 14 15.7 0.0**
comp=Z,91nm,0.7s,mb5.6
LPL La Plagne 82.59 315 *e*P **P 20 14 15.7 0.0**
LPL pmax pmax
comp=Z,45nm,0.7s,mb5.6
MBDF Montbardon 82.62 314 *e*P **P 20 14 15.0 -0.8**
comp=Z,22nm,0.6s,mb5.0
MBDF Montbardon 82.62 314 *e*P **P 20 14 15.0 -0.8**
MBDF pmax pmax
comp=Z,11nm,0.6s,mb5.1
BNI Bardonecchia 82.66 314 *e*P **P 20 14 15.6 -0.4**
BNI pmax pmax
comp=Z,19nm,0.7s,mb5.2
BNI Bardonecchia 82.66 314 *e*P **P 20 14 15.6 -0.4**
comp=Z,19nm,0.7s,mb5.2
HAU Haudompre 82.69 317 *e*P **P 20 14 15.6 -0.5**
comp=Z,44nm,0.7s,mb5.3
HAU *e*R
comp=Z,473nm,22.5s
HAU Haudompre 82.69 317 *e*P **P 20 14 15.6 -0.5**
HAU pmax pmax
comp=Z,22nm,0.7s,mb5.3
HAU MLR MLR
comp=Z,470nm,22.5s,MS4.8
FRF La Foret Royal 82.79 313 *e*P **P 20 14 16.5 -0.2**
comp=Z,40nm,0.7s,mb5.2
FRF La Foret Royal 82.79 313 *e*P **P 20 14 16.5 -0.2**
FRF pmax pmax
comp=Z,20nm,0.7s,mb5.3
LMR La Mourre 82.91 313 *e*P **P 20 14 17.1 -0.3**
comp=Z,31nm,0.8s,mb5.1
LMR La Mourre 82.91 313 *e*P **P 20 14 17.1 -0.3**
LMR pmax pmax
comp=Z,16nm,0.8s,mb5.1
THEF They Montfort 82.92 318 *e*P **P 20 14 17.2 -0.1**
CABF La Chapelle 82.97 316 *e*P **P 20 14 17.6 0.0**
comp=Z,37nm,0.8s,mb5.2
CABF La Chapelle 82.97 316 *e*P **P 20 14 17.6 0.0**
CABF pmax pmax
comp=Z,19nm,0.8s,mb5.2
ORIF Oris-en-Rattie 83.24 314 *e*P **P 20 14 19.1 +0.1**
comp=Z,30nm,0.7s,mb5.1
ORIF *e*R
comp=Z,578nm,22.0s
OG05 Jujurieux 83.44 315 *e*P **P 20 14 20.4 +0.4**
MEZF Maizieres J'vi 83.52 318 *e*P **P 20 14 20.3 -0.1**
comp=Z,29nm,0.8s,mb5.1
SMRF Simiane la Rot 83.53 313 *e*P **P 20 14 20.9 +0.3**
GIVF Givet 83.54 320 *e*P **P 20 14 20.5 +0.1**
BAIF Baives 83.94 320 *e*P **P 20 14 22.5 0.0**
comp=Z,41nm,1.0s,mb5.2
BAIF Baives 83.94 320 *e*P **P 20 14 22.5 0.0**
BAIF pmax pmax
comp=Z,21nm,1.0s,mb5.2
VIVF Saint-Julien-l 84.10 314 *e*P **P 20 14 23.3 -0.1**
comp=Z,26nm,0.8s,mb5.1
VIVF Saint-Julien-l 84.10 314 *e*P **P 20 14 23.3 -0.1**
VIVF pmax pmax
comp=Z,13nm,0.8s,mb5.1
SMF Signal de Mont 84.50 316 *e*P **P 20 14 24.9 -0.5**
comp=Z,35nm,0.7s,mb5.3
SMF Signal de Mont 84.50 316 *e*P **P 20 14 24.9 -0.5**
SMF pmax pmax
comp=Z,18nm,0.7s,mb5.3
SSF Saint Saulge 84.69 317 *e*P **P 20 14 26.4 +0.1**
SSF pmax pmax
comp=Z,12nm,0.9s,mb5.0
SSF Saint Saulge 84.69 317 *e*P **P 20 14 26.4 +0.1**
comp=Z,12nm,0.9s,mb5.0
PLDF La Plantade 84.73 316 *e*P **P 20 14 27.1 +0.6**
LASF Ste Croix 84.76 314 *e*P **P 20 14 26.9 +0.2**
AVF Avril sur Loir 84.82 316 *e*P **P 20 14 26.5 -0.5**
comp=Z,38nm,1.1s,mb5.1
AVF Avril sur Loir 84.82 316 *e*P **P 20 14 26.5 -0.5**
AVF pmax pmax
comp=Z,19nm,1.1s,mb5.1
BGF Bois d'Agland 85.20 316 *e*P **P 20 14 28.9 0.0**
comp=Z,17nm,0.7s,mb5.0
BGF Bois d'Agland 85.20 316 *e*P **P 20 14 28.9 0.0**
BGF pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
SYO Syowa Base 85.58 197 ⇑P **P 20 14 32.0 +1.8**
SYO Syowa Base 85.58 197 ⇑PcP PcP 20 14 34.8 +1.1
SYO Syowa Base 85.58 197 ⇑pP pP 20 14 39.0 +2.1
TCF Toulx Ste Croi 85.67 316 *e*P **P 20 14 30.5 -0.7**
comp=Z,8.3nm,0.7s,mb4.8
TCF Toulx Ste Croi 85.67 316 *e*P **P 20 14 30.5 -0.7**
TCF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
CAF Calviac 85.94 315 *e*P **P 20 14 32.8 +0.2**
TNA Tin City 85.99 24 *e*P **P 20 14 33.1 +0.7**
comp=Z,6.6nm,0.8s,mb4.9
TNA *e*pP pP 20 14 39.2 +0.2
RJF Les Rejaudoux 86.27 315 *e*P **P 20 14 34.4 +0.2**
RJF *e*R
comp=Z,345nm,20.8s
JMIC Jan Mayen 86.60 341 LR LR 20 55 14.8
comp=Z,665nm,19.5s,MS5.0,baz=95,slow=37
LFF La Frestale 86.87 315 *e*P **P 20 14 36.8 -0.4**
LDF La Druitiere 86.92 318 *e*P **P 20 14 37.3 0.0**
comp=Z,48nm,1.0s,mb5.4
LDF La Druitiere 86.92 318 *e*P **P 20 14 37.3 0.0**
LDF pmax pmax
comp=Z,24nm,1.0s,mb5.4
FLN La Foliniere 87.13 319 *e*P **P 20 14 37.5 -0.8**
comp=Z,30nm,0.8s,mb5.3
FLN *e*R
comp=Z,669nm,23.0s
FLN La Foliniere 87.13 319 *e*P **P 20 14 37.5 -0.8**
FLN pmax pmax
comp=Z,15nm,0.8s,mb5.3
FLN MLR MLR
comp=Z,670nm,23.0s,MS5.0

MFF Saint Martin d 87.24 317 *e*P **P 20 14 38.7 -0.2**
comp=Z,17nm,0.8s,mb5.0
MFF Saint Martin d 87.24 317 *e*P **P 20 14 38.7 -0.2**
MFF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
GRR Gorron 87.44 318 *e*P **P 20 14 40.0 +0.2**
ETSF Etsaut 88.10 313 *e*P **P 20 14 43.6 +0.5**
comp=Z,14nm,0.6s,mb5.1
ETSF Etsaut 88.10 313 *e*P **P 20 14 43.6 +0.5**
ETSF pmax pmax
comp=Z,7.0nm,0.6s,mb5.1
SJPF Ste Jean 88.55 313 *e*P **P 20 14 45.9 +0.6**
comp=Z,34nm,0.9s,mb5.4
SJPF Ste Jean 88.55 313 *e*P **P 20 14 45.9 +0.6**
SJPF pmax pmax
comp=Z,17nm,0.9s,mb5.4
ROSF Rostrenen 89.03 319 *e*P **P 20 14 47.4 -0.1**
ESLA Sonseca Array 91.20 310 *e*P **P 20 14 58.1 +0.3**
comp=Z,1.9nm,0.7s,mb4.5
ESLA *e*pP pP 20 15 05.0 +0.6
IMA Indian Mountai 91.45 22 *e*P **P 20 15 00.0 +1.7**
VNDA Vanda 93.05 168 *e*P **P 20 15 05.9 +0.4**
VNDA *e**PP pP 20 15 13.4 +1.3
VNDA pmax pmax
comp=Z,30nm,1.8s
VNDA Vanda 93.05 168 P **P 20 15 06.1 +0.6**
comp=Z,3.0nm,1.1s,mb4.7,baz=86,slow=10,SNR=3.7
VNDA Vanda 93.05 168 *e*P **P 20 15 05.9 +0.4**
comp=Z,30nm,1.8s,mb5.4
VNDA *e*pP pP 20 15 13.4 +1.3
SPU Mount Spurr 94.11 26 *e*P **P 20 15 11.6 0.0**
SPU *e*pP pP 20 15 17.9 +0.7
MCK McKinley 94.28 23 *e*P **P 20 15 12.3 +1.0**
MCK *e**PP pP 20 15 18.7 +0.7
MCK pmax pmax
comp=Z,6.0nm,0.7s,mb5.1
MCK McKinley 94.28 23 *e*P **P 20 15 12.3 +0.9**
comp=Z,6.0nm,0.7s,mb5.1
MCK *e*pP pP 20 15 18.7 +0.7
ILAR Eielson Array 94.57 22 P **P 20 15 11.8 -0.8**
comp=Z,1.0nm,0.9s,mb4.3,baz=308,slow=4.9,SNR=11
ILAR PP PP 20 19 00.2 -2.9
comp=Z,0.7nm,0.8s,baz=299,slow=7.3,SNR=4.7
ILAR PKKPbc 20 32 11.2
comp=Z,0.6nm,1.0s,baz=135,slow=1.3,SNR=3.6
PWA Palmer West 94.85 26 *e*P **P 20 15 14.5 +0.5**
SLKM Skilak Lake 95.21 27 P **P 20 15 11.5 -4.2**
SML Sawmill 95.43 25 *e*P **P 20 15 18.9 +2.2**
MENT Mentasta 96.72 23 *e*P **P 20 15 27.0 +4.5**
INK Inuvik 96.82 16 *e*P **P 20 15 23.4 +0.5**
INK pmax pmax
comp=Z,19nm,1.3s
INK Inuvik 96.82 16 P **P 20 15 22.9 0.0**
comp=Z,5.5nm,1.1s,mb4.9,baz=308,slow=4.5,SNR=6.7
INK Inuvik 96.82 16 *e*P **P 20 15 23.4 +0.5**
comp=Z,19nm,1.3s,mb5.4
RES Resolute Bay 97.25 2 *e*P **P 20 15 25.3 +0.6**
RES *e**PP pP 20 15 32.0 +0.7
RES pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
RES Resolute Bay 97.25 2 *e*P **P 20 15 25.3 +0.7**
comp=Z,9.7nm,0.8s,mb5.3
RES *e*pP pP 20 15 32.0 +0.6
DAWY Dawson 97.69 21 *e*P **P 20 15 28.0 +1.2**
QSPA South Pole Qui 97.92 180 *e*P **P 20 15 30.0 +2.4**
DBIC Dimbokro 98.02 278 *e*P **P 20 15 29.0 -0.5**
DBIC pmax pmax
comp=Z,12nm,1.4s
DBIC Dimbokro 98.02 278 P **P 20 15 29.3 -0.2**
comp=Z,1.0nm,0.5s,mb4.6,baz=100,slow=11,SNR=2.1
DBIC Dimbokro 98.02 278 *e*P **P 20 15 28.9 -0.6**
comp=Z,12nm,1.4s,mb5.2
SNAA Sanae 99.80 199 *e*P **P 20 15 33.1 -3.1**
SNAA pmax pmax
comp=Z,80nm,0.9s
SNAA Sanae 99.80 199 *e*P **P 20 15 33.1 -3.1**
comp=Z,80nm,0.9s
YKA Yellowknife Ar 106.26 13 Pdiff Pdif 20 16 05.8 +0.7
comp=Z,0.1nm,0.4s,baz=333,slow=4.7,SNR=3.8
YKA pPdiff 20 16 12.7
comp=Z,0.5nm,0.8s,baz=328,slow=4.4,SNR=8.5
YKA PP PP 20 20 29.8 -2.4
comp=Z,1.3nm,0.7s,baz=334,slow=7.6,SNR=10
YKA PKKPbc 20 31 36.7
comp=Z,0.1nm,0.4s,baz=157,slow=3.0,SNR=4.6
YKA PKKP PKKP 20 31 53.3 +10
comp=Z,0.9nm,0.9s,baz=144,slow=4.1,SNR=8.6
YKA Yellowknife Ar 106.26 13 Pdif Pdif 20 16 05.8 +0.7
YKA PP PP 20 20 29.8 -2.4
YKA PKKPbc 20 31 36.7
YKA PKKP PKKP 20 31 53.4 +10
SCHQ Schefferville 115.40 348 PKP PKPdf 20 20 34.1 -3.0
comp=Z,1.5nm,0.9s,baz=247,slow=7.7,SNR=5.0
SCHQ pPKP 20 20 40.3
comp=Z,1.0nm,0.5s,baz=257,slow=16,SNR=2.3
MOD Modoc 121.11 30 *e*PKPdf PKPdf 20 20 46.9 -1.6
ULM Lac du Bonnet 121.31 8 PKP PKPdf 20 20 45.5 -3.1
comp=Z,2.8nm,0.7s,baz=41,slow=1.6,SNR=7.2
ULM pPKP 20 20 51.6
comp=Z,8.2nm,0.6s,baz=5.9,slow=2.2,SNR=14
HLID Hailey 122.45 24 *e*PKPdf PKPdf 20 20 49.4 -1.5
QLMT Earthquake Lak 122.53 21 *e*PKPdf PKPdf 20 20 49.9 -1.1
QLMT *e*pPKPdf 20 20 56.2
LAO LASA Array 122.56 17 *e*PKPdf PKPdf 20 20 48.9 -2.2
LAO *e*pPKPdf 20 20 56.1
YMR Madison River 122.84 21 *e*PKPdf PKPdf 20 20 50.9 -0.8
YFT Old Faithful 123.07 21 *e*PKPdf PKPdf 20 20 52.0 -0.1
RRI2 Red Ridge 123.84 22 *e*PKPdf PKPdf 20 20 50.7 -3.1
TPAW Teton Pass 123.86 22 *e*PKPdf PKPdf 20 20 52.1 -1.7
LOHW Long Hollow 123.88 22 *e*PKPdf PKPdf 20 20 51.4 -2.4
WUWY Wally Ulrich 123.89 22 *e*PKPdf PKPdf 20 20 52.3 -1.5
SNOW Snow King Moun 123.95 22 *e*PKPdf PKPdf 20 20 52.0 -1.9
NVAR Mina Array Bea 124.74 31 PKP PKPdf 20 20 54.5 -1.1
comp=Z,2.1nm,0.7s,baz=341,slow=1.3,SNR=11
NVAR pPKP 20 21 00.7
comp=Z,3.9nm,0.6s,baz=352,slow=2.7,SNR=12
BW06 Boulder Array 124.99 21 *e*PKPdf PKPdf 20 20 52.4 -3.6
PDAR Pinedale Array 124.99 21 PKP PKPdf 20 20 53.0 -2.9
comp=Z,2.3nm,0.8s,baz=41,slow=0.7,SNR=20
PDAR pPKP 20 20 59.7
comp=Z,4.6nm,0.6s,baz=201,slow=1.0,SNR=26
PDAR PKKPbc 20 30 33.0
comp=Z,0.4nm,0.7s,baz=124,slow=5.3,SNR=4.2
HWUT Hardware Ranch 125.23 24 *e*PKPdf PKPdf 20 20 54.4 -2.0
SADO Sadowa 127.12 354 PKP PKPdf 20 20 57.2 -2.7
comp=Z,3.6nm,0.8s,baz=36,slow=15,SNR=4.3
SADO pPKP 20 21 03.6
comp=Z,4.7nm,0.6s,baz=358,slow=4.1,SNR=5.7
SADO Sadowa 127.12 354 PKP PKPdf 20 20 57.2 -2.8
SADO pPKP 20 21 03.6
MSU Marysvale 127.58 26 *e*PKIKP PKPdf 20 21 00.1 -1.0
MVL Millersville 131.43 350 *e*PKPdf PKPdf 20 21 06.4 -2.0
KSU1 Kansas State U 132.05 11 *e*PKPdf PKPdf 20 21 08.1 -1.5
ANMO Albuquerque 133.00 23 *e*PKIKP PKPdf 20 21 11.4 -0.1
ANMO Albuquerque 133.00 23 PKP PKPdf 20 21 11.3 -0.2
comp=Z,1.8nm,0.8s,baz=318,slow=2.9,SNR=6.3
ANMO pPKP 20 21 16.8
comp=Z,3.4nm,0.6s,baz=316,slow=1.8,SNR=8.1
TXAR Lajitas Array 139.05 24 PKhKP 20 21 13.8
comp=Z,0.6nm,0.6s,baz=315,slow=1.8,SNR=4.1
TXAR PKP PKPdf 20 21 21.6 -1.1
comp=Z,0.5nm,0.4s,baz=200,slow=0.8,SNR=7.4
TXAR pPKP 20 21 27.1
comp=Z,2.8nm,0.5s,baz=176,slow=1.2,SNR=13
TXAR PP PP 20 24 13.4 -2.0
comp=Z,1.1nm,1.0s,baz=304,slow=6.5,SNR=2.7
TXAR Lajitas Array 139.05 24 PKP PKPdf 20 21 21.6 -1.1
TXAR pPKP 20 21 27.1
TXAR PP PP 20 24 13.4 -2.0
JCT Junction City 139.41 19 *e*PKIKP PKPdf 20 21 19.6 -3.8
PLCA Paso Flores 144.72 200 *e*PKIKP PKPdf 20 21 29.5 -2.9
PLCA *e* 20 21 36.1
PLCA Paso Flores 144.72 200 PKP PKPdf 20 21 29.2 -3.1
comp=Z,15nm,0.8s,baz=162,slow=4.2,SNR=27
PLCA pPKP 20 21 36.5
comp=Z,20nm,1.0s,baz=142,slow=5.6,SNR=12
CRM Caravelle 146.55 312‖ *e*P PKPbc 20 21 35.0 +1.7
FDF Fort de France 146.73 313‖ *e*P PKPbc 20 21 35.9 +2.1
TEIG Tepich 151.82 5 *e*PKPdf PKPdf 20 21 42.0 -2.4
TEIG *e*PKPbc PKPdf 20 21 48.4 +4.0
TEIG *e*pPKPbc 20 21 54.5
SDV Santo Domingo 157.43 318 PKP PKPdf 20 21 49.6 -2.6
comp=Z,4.0nm,1.1s,baz=89,slow=2.0,SNR=3.7
SDV PKPab PKPab 20 22 20.1 -2.0
comp=Z,5.4nm,0.8s,baz=55,slow=14,SNR=6.3
SDV pPKPab 20 22 26.5
comp=Z,11nm,0.8s,baz=58,slow=3.5,SNR=9.6
LVC Limon Verde 158.25 226 PKP PKPdf 20 21 52.3 -0.7
comp=Z,1.7nm,0.8s,baz=209,slow=8.8,SNR=2.0
LVC PKPab PKPab 20 22 26.1 +0.8
comp=Z,3.3nm,0.7s,baz=122,slow=2.5,SNR=6.8
LVC Limon Verde 158.25 226 *e*PKPdf PKPdf 20 21 52.3 -0.8
LVC *e*pPKPdf 20 21 59.6
LVC *e*PKPab PKPab 20 22 26.4 +1.1
LPAZ La Paz 160.92 243 *e*PKIKP PKPdf 20 21 54.3 -1.8
LPAZ *e* 20 21 59.7
LPAZ La Paz 160.92 243 PKP PKPdf 20 21 54.2 -1.9
comp=Z,1.6nm,0.9s,baz=107,slow=3.4,SNR=6.9
LPAZ pPKP 20 22 00.8
comp=Z,2.8nm,0.8s,baz=235,slow=2.2,SNR=7.8
LPAZ PKPab PKPab 20 22 36.4 -0.6
comp=Z,2.6nm,0.8s,baz=97,slow=8.4,SNR=6.3
LPAZ pPKPab 20 22 43.2
comp=Z,2.5nm,0.7s,baz=103,slow=6.6,SNR=4.9
ROSC El Rosal 162.86 318 PKP PKPdf 20 21 57.2 -0.9
comp=Z,3.4nm,0.3s,baz=105,slow=19,SNR=2.1
OTAV Otavalo 169.03 318 *e*PKPdf PKPdf 20 22 01.4 -1.8
OTAV *e*pPKPdf 20 22 08.4

IDC 29 20:11:10.7±6.7, 7.12S×154.95E, h45km±58km, mb3.5/6, mb1 3.8/8, mb1mx3.7/15, mbtmp3.8/8, ML2.9/2, Error ellipse: s-maj=50.3km s-min=33.1km az=120.0,
Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.04**	**253**	P	P	20 13 05.4	-2.2
	0.4nm,0.3s,baz=60,slow=8.9,SNR=2.3						
PMG				S	S	20 14 34.7	-3.3
	1.0nm,0.3s,baz=72,slow=18,SNR=3.7						
CTA	**Charters Tower**	**15.40**	**212**	P	P	20 14 52.0	+5.4
	0.1nm,0.3s,baz=36,slow=15,SNR=3.6						
WRA	**Warramunga Arr**	**23.71**	**235**	P	P	20 16 18.1	-1.4
	2.4nm,0.9s,baz=60,slow=9.7,SNR=8.5						
ASAR	**Alice Springs**	**26.05**	**229**	P	P	20 16 40.8	-1.2
	0.9nm,0.8s,baz=59,slow=8.6,SNR=6.9						
CMAR	**Chiang Mai Arr**	**60.79**	**296**	P	P	20 21 18.2	-2.8
	1.1nm,0.7s,baz=122,slow=5.3,SNR=9.2						
SONM	**Songino Array**	**69.41**	**327**	P	P	20 22 15.0	-1.1
	0.5nm,0.8s,baz=135,slow=4.1,SNR=3.2						
ILAR	**Eielson Array**	**83.51**	**21**	P	P	20 23 32.7	-2.1
	0.2nm,0.6s,baz=253,slow=5.1,SNR=3.1						
YKA	**Yellowknife Ar**	**96.47**	**28**	P	P	20 24 34.8	-1.3
	0.3nm,0.6s,baz=267,slow=4.8,SNR=7.1						

IDC 29 20:12:11.6±9.3, 7.29N×94.81E, h50km±54km, mb3.4/5, mb1 3.7/6, mb1mx3.4/18, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=242.9km s-min=35.7km az=130.0,
Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.80**	**20**	P	P	20 14 56.3	-3.6
	0.2nm,0.3s,baz=213,slow=13,SNR=6.9						
SONM	**Songino Array**	**41.59**	**12**	P	P	20 19 54.9	-1.2
	0.3nm,0.9s,baz=197,slow=8.1,SNR=2.0						
ZAL	**Zalesovo**	**47.21**	**352**	P	P	20 20 41.1	-0.1
	1.0nm,0.7s,baz=310,slow=11,SNR=5.5						
KMBO	**Kilima Mbogo**	**58.02**	**264**	P	P	20 22 00.8	-1.5
	0.5nm,0.6s,baz=226,slow=24,SNR=2.9						
FINES	**FINESS Array B**	**73.53**	**332**	P	P	20 23 37.6	-3.2
	2.6nm,1.0s,baz=121,slow=8.1,SNR=3.2						
GERES	**GERESS Array B**	**78.70**	**318**	P	P	20 24 08.3	-2.0
	0.6nm,0.7s,baz=97,slow=7.9,SNR=3.8						

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*IDC **29** 20:13:28.4±5.9, 8.40N×94.46E, h104km±48km, mb3.7/13, mb1 3.7/14, mb1mx3.6/22, mbtmp4.0/14, Error ellipse: s-maj=43.8km s-min=28.0km az=133.0*
NEIC 29 20:13:18.7±1.1, 7.92N×94.04E, h30km, mb4.2/3, Error ellipse: s-maj=30.7km s-min=18.2km az=123.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.51**	**24**	P	P	20 16 02.3	-2.0
	0.1nm,0.3s,baz=216,slow=12,SNR=2.5						
PALK	**Pallekele**	**13.23**	**268**	P	P	20 16 22.0	-5.4
SONM	**Songino Array**	**41.14**	**13**	P	P	20 20 56.5	-5.4
	0.2nm,0.4s,baz=200,slow=8.8,SNR=2.1						
KURK	**Kurchatov**	**44.54**	**346**	P	P	20 21 27.8	-1.8
	4.6nm,1.3s						
ZAL	**Zalesovo**	**46.49**	**352**	P	P	20 21 42.0	-3.0
	0.7nm,0.6s,baz=279,slow=11,SNR=3.1						
BVAR	**Borovoye Array**	**48.91**	**341**	P	P	20 22 00.4	-3.6
	1.0nm,1.0s,baz=104,slow=5.9,SNR=3.1						
KMBO	**Kilima Mbogo**	**57.33**	**264**	P	P	20 23 09.3	+2.4
	2.5nm,0.8s,baz=58,slow=12,SNR=10						
KMBO	**Kilima Mbogo**	**57.33**	**264**	*e*P	P	20 23 08.8	+1.9
	3.1nm,0.8s						
ASF	**Jabal al Asfar**	**58.11**	**303**	P	P	20 23 13.0	+1.0
	1.9nm,0.7s,baz=97,slow=10,SNR=3.0						
BRTR	**Keskin Array B**	**62.32**	**311**	P	P	20 23 38.6	-2.2
	0.6nm,0.6s,baz=129,slow=8.6,SNR=3.4						
IDI	**Anoyia**	**68.46**	**305**	P	P	20 24 19.3	-1.1
	8.9nm,0.9s,baz=226,slow=16,SNR=3.1						
FINES	**FINESS Array B**	**72.62**	**332**	P	P	20 24 43.2	-1.9
	1.0nm,0.5s,baz=94,slow=6.6,SNR=9.0						
KAF	**Kangasniemi**	**72.70**	**333**	*e*p	P	20 24 43.6	-2.0
ARCES	**ARCESS Array B**	**75.19**	**340**	P	P	20 24 58.2	-1.7
	4.0nm,0.9s,baz=90,slow=6.1,SNR=3.9						
GERES	**GERESS Array B**	**77.72**	**318**	P	P	20 25 13.7	-0.8
	1.0nm,0.6s,baz=90,slow=5.3,SNR=10						
NB2	**NORSAR Subarra**	**79.64**	**331**	P	P	20 25 22.3	-2.4
	1.3nm,0.8s,baz=91,slow=5.8						
NOA	**NORSAR Array B**	**79.64**	**331**	P	P	20 25 23.3	-1.4
	1.0nm,1.0s,baz=97,slow=5.2,SNR=2.8						
DAVOX	**Davos**	**80.29**	**316**	P	P	20 25 28.4	-0.1
	2.3nm,0.7s,baz=141,slow=22,SNR=3.2						
ESDC	**Sonseca Array**	**91.11**	**310**	P	P	20 26 22.2	+0.1
	0.4nm,0.6s,baz=50,slow=4.8,SNR=4.7						
PDAR	**Pinedale Array**	**125.16**	**21**	PKP	PKPdf	20 32 16.0	-6.0
	0.4nm,0.8s,baz=346,slow=3.7,SNR=3.4						
PLCA	**Paso Flores**	**144.56**	**200**	PKPbc	PKPbc	20 32 53.0	+0.6
	0.9nm,0.5s,baz=321,slow=18,SNR=3.1						

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*NEIC **29** 20:15:39.2±0.5, 2.35S×140.10E, h10km, mb4.7/7, Error ellipse: s-maj=15.6km s-min=8.2km az=106.0*
*IDC **29** 20:15:43.7±5.4, 2.40S×139.92E, h36km±39km, mb3.7/4, mb1 4.0/7, mb1mx3.8/13, mbtmp4.0/7, ML3.8/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/22, Error ellipse: s-maj=58.1km s-min=17.6km az=108.0*
ISC 29 20:15:43.0±2.1, 2.52S±0.06×140.01E±0.10, h45km±20km, n24, σ1§26/25, mb4.4/9, 1D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.87**	**134**	Pn	P	**20 18 03.6**	**-1.6**
	0.7nm,0.3s,baz=307,slow=5.1,SNR=4.5						
PMG				LR	LR	20 22 05.6	
	comp=Z,173nm,18.7s,baz=186,slow=38						
PMG	**Port Moresby**	**9.87**	**134**	*e*P	P	**20 18 01.2**	**-4.0**
PMG				Pn	P	**20 18 03.6**	**-1.6**
KAKA	**Kakadu**	**12.60**	**216**	*e*P	P	**20 18 41.9**	**-0.3**
	18nm,0.5s						
KAKA				*e*S	S	**20 21 02.2**	**+0.2**
WRAB	**Tennant Creek**	**18.17**	**197**	*e*P	P	**20 19 54.0**	**+0.1**
	19nm,0.7s						
WRAB				*e*S	S	**20 23 09.8**	**-2.1**
WB2	**Warramunga Arr**	**18.18**	**197**	*e*P	P	**20 19 54.2**	**+0.2**
WRA	**Warramunga Arr**	**18.18**	**197**	P	P	**20 19 53.9**	**-0.1**
	1.2nm,0.3s,baz=21,slow=12,SNR=34						
WRA				S	S	**20 23 10.7**	**-1.5**
	0.1nm,0.3s,baz=20,slow=22,SNR=4.4						
CTA	**Charters Tower**	**18.50**	**161**	P	P	**20 20 00.1**	**+2.2**
	0.1nm,0.3s,baz=106,slow=3.2,SNR=2.8						
SCPH	**Surigao**	**18.93**	**310**‖	*e*P	P	**20 20 02.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**20.94**	**221**	*e*P	P	**20 20 27.4**	**+2.9**
	4.5nm,0.5s						
ASAR	**Alice Springs**	**21.84**	**195**	P	P	**20 20 34.2**	**+0.8**
	4.4nm,0.5s,mb4.1,baz=30,slow=10,SNR=58						
ASAR				S	S	**20 24 34.4**	**+7.3**
	1.9nm,1.1s,baz=19,slow=25,SNR=3.3						
ASPA	**Alice Springs**	**21.84**	**195**	*e*P	P	**20 20 34.3**	**+0.9**
STKA	**Stephens Creek**	**29.24**	**177**	P	P	**20 21 42.7**	**-0.3**
	1.0nm,0.6s,mb3.8,baz=17,slow=11,SNR=5.5						
NWAO	**Narrogin (SRO)**	**37.03**	**213**	*e*P	P	**20 22 50.2**	**-0.2**

15nm,1.4s,mb4.6
MA2 Magadan 62.48 6 P **P 20 26 03.3 -0.7**
9.5nm,1.1s,mb4.8
KURK Kurchatov 74.31 325 *eP* **P 20 27 13.5 -4.0**
27nm,1.1s,mb5.1
VNDA Vanda 75.86 175 P **P 20 27 27.8 +1.9**
0.8nm,0.8s,mb3.7,baz=315,slow=6.4,SNR=3.2
CHKZ Chkalovo 79.97 326 *eP* **P 20 27 51.1 +2.1**
21nm,1.1s,mb5.0
MCK McKinley 83.96 25 *eP* **P 20 28 08.1 -1.3**
ILAR Eielson Array 85.12 24 P **P 20 28 13.7 -1.6**
0.4nm,0.7s,mb3.6,baz=262,slow=4.4,SNR=4.6
QSPA South Pole Qui 87.43 180 *eP* **P 20 28 27.2 +1.0**
2.4nm,0.8s,mb4.5
DBIC Dimbokro 144.74 278 PKP PKPdf 20 35 18.8 +2.7
1.5nm,0.7s,baz=91,slow=4.9,SNR=2.9
DBIC Dimbokro 144.74 278 *e*PKPdf PKPdf 20 35 16.7 +0.6
DBIC PKP PKPdf 20 35 18.8 +2.7
LPAZ La Paz 146.50 125 PKPbc PKPbc 20 35 22.4 +2.1
1.3nm,0.3s,baz=236,slow=5.4,SNR=9.1
SDV Santo Domingo 148.88 77 PKPbc PKPdf 20 35 29.2 +6.3
0.9nm,0.4s,baz=89,slow=5.6,SNR=2.9

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*IDC **29** 20:19:00.0±0.6, 7.99N×93.95E, mb4.3/19, mb1 4.4/20, mb1mx4.4/24, mbtmp4.3/20, ML4.6/1, MS4.7/1, Ms1 4.9/1, ms1mx3.1/27, Error ellipse: s-maj=33.6km s-min=14.9km az=52.0*
*BJI **29** 20:19:04.9, 7.83N×93.70E, h46km, mB5.2, mb4.6, Ms5.0, Msz4.7*
*NEIC **29** 20:19:04.7±0.3, 8.00N×94.14E, h30km, mb4.8/27, Error ellipse: s-maj=11.2km s-min=8.1km az=49.0*
ISC 29 20:19:03.4±0.3, 7.90N±0.05×94.06E±0.05, h33km, n78, σ1§22/71, mb4.7/46, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.52**	**24**	*eP*	**P**	**20 21 49.3**	**+0.6**
	20nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.52**	**24**	Pn	**P**	**20 21 49.0**	**+0.3**
	1.3nm,0.3s,baz=210,slow=14,SNR=54						
CMAR				LR	LR	20 26 28.9	
	comp=Z,4μm,18.1s,baz=205,slow=39						
PALK	**Pallekele**	**13.26**	**268**	*eP*	**P**	**20 22 13.6**	**+1.7**
	28nm,1.1s						
IMP	**Imphal**	**16.79**	**360**	*e*	**P**	**20 23 04.1**	**+6.4**
SHL	**Shillong**	**17.70**	**354**	*eP*	**P**	**20 23 07.5**	**-1.5**
SHL				*e*S	**S**	**20 26 31.0**	**+8.3**
HYB	**Hyderabad**	**17.83**	**304**	*i* P	**P**	**20 23 14.0**	**+3.3**
HYB				*e*S	**S**	**20 26 35.5**	**+10**
QIZ	**Qiongzhong**	**18.90**	**53**	P	**P**	**20 23 25.5**	**+1.5**
QIZ				S	**S**	**20 26 50.3**	**+0.4**
QIZ				LR	LR		
	comp=N,8μm,13.5s						
KMI	**Kunming**	**19.03**	**25**	⇑P	**P**	**20 23 28.9**	**+3.5**
	comp=N,23nm,1.3s						
KMI				pP		20 23 37.3	
KMI				sP		20 23 42.0	
KMI				S	Sx	20 27 18.0	
KMI				SS	PcP	20 27 58.0	+8.6
COCO	**West Island**	**20.14**	**172**	P	**P**	**20 23 37.3**	**-0.3**
	comp=N,252nm,1.5s						
JIRN	**Jiri**	**21.02**	**340**	*eP*	**P**	**20 23 46.6**	**-0.1**
	comp=N,57nm,0.9s,mb4.9						
PKI	**Pulchoki**	**21.21**	**338**	*eP*	**P**	**20 23 49.2**	**+0.6**
	comp=N,36nm,0.6s,mb4.9						
DMN	**Daman**	**21.36**	**338**	*eP*	**P**	**20 23 50.2**	**+0.1**
	comp=N,97nm,0.9s,mb5.1						
KKN	**Kakani**	**21.46**	**338**	*eP*	**P**	**20 23 51.0**	**-0.1**
LSA	**Lhasa**	**21.86**	**353**	P	**P**	**20 23 56.3**	**+1.2**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.2						
GKN	**Gorkha**	**21.89**	**337**	*eP*	**P**	**20 23 55.5**	**+0.1**
KOLN	**Koldanda**	**22.11**	**335**	*eP*	**P**	**20 23 58.2**	**+0.7**
	comp=Z,52nm,0.8s,mb5.0						
LZH	**Lanzhou**	**29.45**	**16**	*eP*	**P**	**20 25 05.0**	**-1.4**
LZH				AMB	AMB		
	comp=Z,17nm,1.5s,mb4.5						
LZH	**Lanzhou**	**29.45**	**16**	*eP*	**P**	**20 25 05.0**	**-1.4**
	comp=Z,17nm,1.5s,mb4.5						
LZH				pP	pP	20 25 13.0	-2.9
LZH				sP	sP	20 25 17.2	-3.1
WMQ	**Urumqi**	**36.22**	**352**	*eP*	**P**	**20 26 06.0**	**+0.9**
AAK	**Ala-Archa**	**38.65**	**337**	*eP*	**P**	**20 26 24.6**	**-0.9**
	comp=Z,13nm,1.1s,mb4.6						
SONM	**Songino Array**	**41.16**	**13**	P	**P**	**20 26 46.3**	**0.0**
	comp=Z,4.8nm,0.9s,mb4.1,baz=194,slow=10,SNR=18						
SONM				PcP	PcP	20 28 45.0	-0.7
	comp=Z,1.2nm,0.8s,baz=188,slow=4.1,SNR=4.2						
ULN	**Ulaanbaatar**	**41.33**	**13**	*eP*	**P**	**20 26 44.0**	**-3.7**
	comp=Z,5.1nm,0.8s,mb4.2						
MUN	**Mundaring**	**44.94**	**153**	*eP*	**P**	**20 27 16.1**	**-1.1**
	comp=Z,9.1nm,1.2s,mb4.5						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	P	**P**	**20 27 28.5**	**+1.2**
	comp=Z,4.7nm,0.6s,mb4.6,baz=318,slow=11,SNR=5.1						
ZAL	**Zalesovo**	**46.52**	**352**	P	**P**	**20 27 29.1**	**-0.3**
	comp=Z,7.4nm,0.7s,mb4.7,baz=296,slow=6.4,SNR=21						
WRA	**Warramunga Arr**	**48.34**	**126**	P	**P**	**20 27 44.1**	**0.0**
	comp=Z,2.3nm,0.5s,mb4.5,baz=305,slow=8.6,SNR=10						
WRAB	**Tennant Creek**	**48.34**	**125**	*eP*	**P**	**20 27 42.7**	**-1.5**
	comp=Z,13nm,1.0s,mb4.9						
BVAR	**Borovoye Array**	**48.94**	**341**	P	**P**	**20 27 46.6**	**-1.8**
	comp=Z,2.1nm,0.9s,mb4.2,baz=150,slow=12,SNR=6.0						
BVAR				PcP	PcP	20 29 11.9	-0.7
	comp=Z,1.0nm,0.7s,baz=108,slow=4.6,SNR=1.9						
ASAR	**Alice Springs**	**49.99**	**130**	P	**P**	**20 27 56.6**	**-0.2**
	comp=Z,6.4nm,1.2s,mb4.5,baz=303,slow=7.5,SNR=8.7						
ASAR				PcP	PcP	20 29 18.2	+1.5
	comp=Z,2.5nm,0.9s,baz=304,slow=4.2,SNR=5.5						
FORT	**Forrest**	**50.40**	**141**	*eP*	**P**	**20 28 03.3**	**+3.4**
	comp=Z,42nm,0.7s,mb5.6						
PMG	**Port Moresby**	**55.61**	**107**	P	**P**	**20 28 41.7**	**+3.0**
	comp=Z,6.9nm,0.7s,mb4.8,baz=292,slow=10,SNR=3.0						
PMG	**Port Moresby**	**55.61**	**107**	P	**P**	**20 28 39.8**	**+1.0**
	comp=Z,12nm,0.9s,mb4.9						
KIV	**Kislovodsk**	**57.25**	**318**	*eP*	**P**	**20 28 50.0**	**0.0**
	comp=Z,18nm,1.1s,mb5.0						
KMBO	**Kilima Mbogo**	**57.35**	**264**	P	**P**	**20 28 54.6**	**+3.4**
	comp=Z,8.5nm,0.9s,mb4.8,baz=57,slow=8.9,SNR=13						
KMBO	**Kilima Mbogo**	**57.35**	**264**	*eP*	**P**	**20 28 52.7**	**+1.5**
	comp=Z,9.6nm,0.9s,mb4.8						
CTAO	**Charters Tower**	**58.39**	**119**	*eP*	**P**	**20 28 59.1**	**+0.7**
	comp=Z,10.0nm,1.3s,mb4.7						
EIL	**Elat**	**59.35**	**300**	*eP*	**P**	**20 29 04.1**	**-0.9**
	comp=Z,11nm,1.1s,mb4.8						
YAK	**Yakutsk**	**60.00**	**18**	*eP*	**P**	**20 29 04.8**	**-4.2**
	comp=Z,18nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**60.18**	**134**	*eP*	**P**	**20 29 05.7**	**-4.9**
BRTR	**Keskin Array B**	**62.36**	**311**	P	**P**	**20 29 22.6**	**-2.6**
	comp=Z,2.2nm,0.8s,mb4.3,baz=124,slow=6.7,SNR=8.4						
MBAR	**Mbarara**	**63.69**	**265**	P	**P**	**20 29 32.6**	**-1.8**
	comp=Z,12nm,1.3s,mb4.8						
OBN	**Obninsk**	**65.32**	**328**	P	**P**	**20 29 37.6**	**-6.7**
	comp=Z,41nm,1.2s,mb5.3						
MA2	**Magadan**	**66.78**	**28**	P	**P**	**20 29 51.5**	**-2.1**
	comp=Z,10nm,0.8s,mb4.9						
AKASG	**Malin Array Be**	**68.09**	**322**	P	**P**	**20 29 59.4**	**-2.5**
	comp=Z,3.2nm,0.9s,mb4.3,baz=89,slow=5.0,SNR=7.4						
IDI	**Anoyia**	**68.49**	**305**	P	**P**	**20 30 05.3**	**+0.7**
	comp=Z,9.8nm,0.7s,mb4.9,baz=245,slow=9.6,SNR=4.4						
LSZ	**Lusaka**	**69.20**	**250**	*eP*	**P**	**20 30 09.3**	**0.0**
	comp=Z,5.6nm,0.8s,mb4.5						
JOF	**Joensuu**	**70.80**	**334**	*ep*	**P**	**20 30 18.4**	**+0.1**
	comp=Z,7.8nm,0.9s,mb4.6						
SUW	**Suwalki**	**72.44**	**324**	*eP*	**P**	**20 30 30.1**	**+1.9**
	comp=Z,29nm,0.9s,mb5.2						
FINES	**FINESS Array B**	**72.66**	**332**	P	**P**	**20 30 28.4**	**-1.0**
	comp=Z,5.8nm,0.7s,mb4.6,baz=92,slow=4.9,SNR=13						
KAF	**Kangasniemi**	**72.74**	**333**	*ep*	**P**	**20 30 26.1**	**-3.7**
	comp=Z,7.1nm,0.8s,mb4.7						
LBTB	**Lobatse**	**74.19**	**241**	*eP*	**P**	**20 30 35.3**	**-3.8**
	comp=Z,11nm,0.8s,mb4.8						
ARCES	**ARCESS Array B**	**75.22**	**340**	P	**P**	**20 30 43.7**	**-0.4**
	comp=Z,3.8nm,0.8s,mb4.4,baz=107,slow=7.2,SNR=6.9						
ARCES	**ARCESS Array B**	**75.22**	**340**	P	**P**	**20 30 43.7**	**-0.4**
MORC	**Moravsky Berou**	**75.31**	**319**	*eP*	**P**	**20 30 46.4**	**+1.4**
	comp=Z,5.4nm,1.0s,mb4.4						
BOSA	**Boshof**	**75.53**	**238**	*eP*	**P**	**20 30 47.3**	**+0.5**
	comp=Z,8.3nm,0.9s,mb4.7						
BRG	**Berggiesshubel**	**77.69**	**320**	P	pP	20 31 05.8	-3.0
	comp=Z,4.8nm,1.1s						
GERES	**GERESS Array B**	**77.76**	**318**	P	**P**	**20 30 58.4**	**-0.5**
	comp=Z,2.7nm,0.8s,mb4.2,baz=90,slow=5.3,SNR=16						
KHC	**Kasperske Hory**	**77.85**	**318**	*eP*	**P**	**20 31 01.5**	**+2.1**
CLL	**Collm**	**78.30**	**321**	P	**P**	**20 31 06.0**	**+4.2**
NB2	**NORSAR Subarra**	**79.67**	**331**	P	**P**	**20 31 07.8**	**-1.3**
	comp=Z,2.3nm,0.7s,mb4.2,baz=91,slow=5.6						
NOA	**NORSAR Array B**	**79.67**	**331**	P	**P**	**20 31 08.4**	**-0.7**
	comp=Z,3.0nm,0.7s,mb4.3,baz=93,slow=5.5,SNR=12						
DAVOX	**Davos**	**80.32**	**316**	P	**P**	**20 31 13.7**	**+0.9**
	comp=Z,6.1nm,1.0s,mb4.5,baz=124,slow=18,SNR=4.2						
LPG	**La Plagne**	**82.55**	**315**	*eP*	**P**	**20 31 26.8**	**+2.3**
	comp=Z,27nm,1.1s,mb4.9						
TNA	**Tin City**	**86.18**	**24**	*eP*	**P**	**20 31 41.4**	**-0.8**
ESDC	**Sonseca Array**	**91.14**	**310**	P	**P**	**20 32 04.6**	**-1.9**
	comp=Z,0.5nm,0.8s,mb3.9,baz=53,slow=3.1,SNR=2.8						
IMA	**Indian Mountai**	**91.63**	**22**	*eP*	**P**	**20 32 09.0**	**+0.9**
ILAR	**Eielson Array**	**94.75**	**22**	P	**P**	**20 32 22.4**	**+0.1**
	comp=Z,0.3nm,0.6s,mb3.9,baz=284,slow=4.4,SNR=4.1						
INK	**Inuvik**	**96.99**	**16**	P	**P**	**20 32 32.0**	**-0.6**
	comp=Z,0.8nm,0.9s,mb4.2,baz=273,slow=8.0,SNR=2.7						
RES	**Resolute Bay**	**97.38**	**2**	*eP*	**P**	**20 32 33.5**	**-0.7**
	comp=Z,5.6nm,0.9s,mb5.0						
YKA	**Yellowknife Ar**	**106.42**	**13**	PP	PP	20 37 37.5	-5.1
	comp=Z,0.4nm,0.8s,baz=334,slow=7.6,SNR=4.4						
NVAR	**Mina Array Bea**	**124.94**	**31**	PKP	PKPdf	20 38 02.8	+2.1
	comp=Z,1.1nm,0.8s,baz=342,slow=1.6,SNR=5.0						
PDAR	**Pinedale Array**	**125.17**	**21**	PKP	PKPdf	20 38 03.1	+2.1
	comp=Z,0.6nm,0.7s,baz=315,slow=5.1,SNR=2.2						
TXAR	**Lajitas Array**	**139.24**	**24**	PKP	PKPdf	20 38 29.8	+2.0
	comp=Z,0.3nm,0.3s,baz=333,slow=2.0,SNR=3.0						
TXAR	**Lajitas Array**	**139.24**	**24**	PKP	PKPdf	20 38 29.8	+2.0
JCT	**Junction City**	**139.59**	**19**	*e*PKPdf	PKPdf	20 38 29.6	+1.2
PLCA	**Paso Flores**	**144.54**	**200**	PKP	PKPdf	20 38 39.5	+2.7
	comp=Z,5.4nm,0.9s,baz=142,slow=8.6,SNR=4.6						
LPAZ	**La Paz**	**160.71**	**243**	PKP	PKPdf	20 39 04.2	+3.6
	comp=Z,1.1nm,0.7s,baz=56,slow=4.2,SNR=4.4						
LPAZ	**La Paz**	**160.71**	**243**	PKP	PKPdf	20 39 04.2	+3.6

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*NEIC **29** 20:23:14.3±0.4, 8.06N×94.18E, h30km, mb4.3/8, Error ellipse: s-maj=16.0km s-min=10.8km az=55.0*
*IDC **29** 20:23:16.4±9.3, 8.21N×94.31E, h44km±87km, mb3.9/15, mb1 4.0/15, mb1mx3.9/20, mbtmp4.1/15, Error ellipse: s-maj=28.1km s-min=19.0km az=41.0*
ISC 29 20:23:12.4±0.6, 8.1N±0.1×94.3E±0.1, h30km, n29, σ1§12/27, mb4.1/23, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.28**	**23**	*eP*	**P**	**20 25 46.6**	**-8.2**
	16nm,0.6s						
AAK	**Ala-Archa**	**38.56**	**336**	*eP*	**P**	**20 30 34.1**	**-0.2**
	2.5nm,0.9s,mb3.9						
SONM	**Songino Array**	**40.94**	**12**	P	**P**	**20 30 55.0**	**+1.1**
	0.3nm,0.5s,mb3.2,baz=201,slow=9.8,SNR=4.5						
ULN	**Ulaanbaatar**	**41.11**	**13**	P	**P**	**20 30 57.1**	**+1.7**
	2.4nm,1.0s,mb3.8						
KURK	**Kurchatov**	**44.44**	**346**	*eP*	**P**	**20 31 22.1**	**-0.4**
	9.8nm,1.3s,mb4.4						
ZAL	**Zalesovo**	**46.36**	**352**	P	**P**	**20 31 37.7**	**0.0**
	1.6nm,0.6s,mb4.2,baz=328,slow=5.5,SNR=5.4						
ZAL	**Zalesovo**	**46.36**	**352**	P	**P**	**20 31 37.7**	**0.0**
WRA	**Warramunga Arr**	**48.29**	**126**	P	**P**	**20 31 53.1**	**-0.2**
	0.4nm,0.4s,mb3.9,baz=304,slow=8.7,SNR=3.7						
WRAB	**Tennant Creek**	**48.30**	**126**	P	**P**	**20 31 49.7**	**-3.6**
	11nm,1.3s,mb4.7						
ASAR	**Alice Springs**	**49.96**	**130**	P	**P**	**20 32 05.8**	**-0.3**
	0.4nm,0.5s,mb3.7,baz=303,slow=7.6,SNR=4.9						
KMBO	**Kilima Mbogo**	**57.55**	**264**	P	**P**	**20 33 04.7**	**+2.5**
	2.7nm,0.6s,mb4.5,baz=62,slow=11,SNR=11						
KMBO	**Kilima Mbogo**	**57.55**	**264**	*eP*	**P**	**20 33 04.5**	**+2.3**
	2.9nm,0.7s,mb4.4						
EIL	**Elat**	**59.42**	**300**	P	**P**	**20 33 15.4**	**+0.5**
	1.8nm,0.7s,mb4.2,baz=4.5,slow=19,SNR=3.1						
BRTR	**Keskin Array B**	**62.38**	**311**	P	**P**	**20 33 33.0**	**-1.8**
	1.7nm,0.9s,mb4.2,baz=122,slow=7.5,SNR=5.8						
AKASG	**Malin Array Be**	**68.06**	**322**	P	**P**	**20 34 09.4**	**-1.9**
	0.8nm,0.5s,mb4.0,baz=88,slow=5.2,SNR=5.4						
IDI	**Anoyia**	**68.54**	**305**	P	**P**	**20 34 14.3**	**-0.4**
	7.0nm,0.6s,mb4.8,baz=42,slow=9.1,SNR=5.3						
LSZ	**Lusaka**	**69.44**	**250**	*eP*	**P**	**20 34 20.8**	**+0.3**
	1.6nm,0.8s,mb4.0						
JOF	**Joensuu**	**70.71**	**334**	*ep*	**P**	**20 34 25.8**	**-1.6**
	2.2nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**72.58**	**332**	P	**P**	**20 34 38.1**	**-0.5**
	1.1nm,0.5s,mb4.1,baz=104,slow=7.9,SNR=10						
KAF	**Kangasniemi**	**72.66**	**333**	*ep*	**P**	**20 34 38.0**	**-1.0**
	1.1nm,0.5s,mb4.0						
ARCES	**ARCESS Array B**	**75.11**	**340**	P	**P**	**20 34 52.6**	**-0.5**
	5.9nm,0.9s,mb4.5,baz=98,slow=5.1,SNR=5.4						
GERES	**GERESS Array B**	**77.75**	**318**	P	**P**	**20 35 08.6**	**+0.3**
	1.6nm,0.6s,mb4.2,baz=94,slow=5.0,SNR=13						
NOA	**NORSAR Array B**	**79.61**	**331**	P	**P**	**20 35 17.9**	**-0.3**
	0.8nm,0.7s,mb3.8,baz=95,slow=5.1,SNR=3.3						
NOA	**NORSAR Array B**	**79.61**	**331**	P	**P**	**20 35 17.9**	**-0.3**
LPG	**La Plagne**	**82.55**	**315**	*eP*	**P**	**20 35 35.3**	**+1.3**
	8.7nm,0.8s,mb4.5						
ESDC	**Sonseca Array**	**91.17**	**310**	P	**P**	**20 36 16.8**	**+0.7**
	0.4nm,0.4s,mb4.1,baz=65,slow=4.4,SNR=6.3						
INK	**Inuvik**	**96.77**	**16**	P	**P**	**20 36 42.8**	**+1.7**
	1.9nm,1.1s,mb4.4,baz=14,slow=6.9,SNR=2.1						
PDAR	**Pinedale Array**	**124.94**	**21**	PKP	PKPdf	20 42 13.0	-2.3
	0.4nm,0.7s,baz=297,slow=4.0,SNR=3.6						
PLCA	**Paso Flores**	**144.78**	**200**	PKP	PKPdf	20 42 48.5	-3.3
	2.2nm,0.9s,baz=233,slow=11,SNR=3.8						

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*TIR **29** 20:23:48.9, 42.61N×18.90E, h12km, Ml2.8*
*PDG **29** 20:23:49.0±0.2, 42.64N×18.89E, h23km±1km*
PDG Felt at Danilovgrad, Niksic, Grahovo IV MCS.
*NEIC **29** 20:23:49.0, 42.64N×18.89E, h23km, ML3.1(PDG), After PDG.*
NEIC Felt [IV] at Danilovgrad, Grahovo and Niksic.
*CSEM **29** 20:23:49.4±0.1, 42.66N×18.86E, h12km, ML3.1, Error ellipse: s-maj=3.0km s-min=2.3km az=53.0*
*THE **29** 20:23:50.7, 42.52N×18.87E, h20km*
ISC 29 20:23:49.3±0.3, 42.69N±0.02×18.88E±0.02, h13km±2km, n50, σ1§17/81, 15C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKY	**Niksic**	**0.15**	**35**	⇑*i*Pg	**Pg**	**20 23 54.2**	**+0.9**
NKY				*e*Sg	**Sg**	**20 23 58.2**	**+2.4**
BRY	**Bratogost**	**0.33**	**311**	⇑*i*Pg	**Pg**	**20 23 56.5**	**+0.2**
BRY				*e*Sg	**Sg**	**20 24 03.5**	**+2.5**
HCY	**Herceg Novi**	**0.37**	**230**	⇑*i*Pg	**Pg**	**20 23 56.4**	**-0.7**
HCY				*e*Sg	**Sg**	**20 24 03.0**	**+0.7**
TTG	**Podgorica**	**0.38**	**132**	⇑*i*Pg	**Pg**	**20 23 56.2**	**-1.1**
TTG				*e*Sg	**Sg**	**20 24 02.5**	**-0.1**
BUM	**Brajici-Budva**	**0.39**	**178**	⇓*i*Pg	**Pg**	**20 23 56.5**	**-0.9**
BUM				*e*Sg	**Sg**	**20 24 02.6**	**-0.1**
TREB	**Trebinje**	**0.39**	**275**	Pg	**Pg**	**20 23 57.0**	**-0.5**
TREB	**Trebinje**	**0.39**	**275**	Sg	**Sg**	**20 24 03.8**	**+0.9**
UPM	**Unac-Piva**	**0.52**	**3**	⇑*i*Pg	**Pg**	**20 23 59.8**	**-0.1**
UPM				*e*Sg	**Sg**	**20 24 09.1**	**+2.1**
PLE	**Pljevlja**	**0.75**	**30**	⇑*i*Pg	**Pg**	**20 24 04.0**	**-0.5**
PLE				*e*Sg	**Sg**	**20 24 16.2**	**+1.7**
ULC	**Ulcinj**	**0.77**	**159**	⇑*i*Pg	**Pg**	**20 24 02.5**	**-2.4**
ULC				*e*Sg	**Sg**	**20 24 14.6**	**-0.8**
IVA	**Berane**	**0.77**	**76**	⇓*i*Pg	**Pg**	**20 24 04.1**	**-0.9**
IVA				*e*Sg	**Sg**	**20 24 16.0**	**+0.6**
SDA	**Shkodra**	**0.78**	**144**	*e*Pg	**Pg**	**20 24 03.3**	**-1.8**
SDA				*i* Sg	**Sg**	**20 24 18.4**	**+2.7**
PVY	**Plav**	**0.81**	**96**	⇓*i*Pg	**Pg**	**20 24 04.3**	**-1.4**
PVY				*e*Sg	**Sg**	**20 24 17.1**	**+0.4**
BCI	**Bajram Curri**	**0.94**	**110**	*e*Pg	**Pg**	**20 24 06.6**	**-1.6**
BCI				*i* Sg	**Sg**	**20 24 21.0**	**+0.3**
PUK	**Puka**	**0.99**	**130**	*i* Pn	**Pn**	**20 24 07.6**	**-1.2**
PUK				*i* Sn	**Sn**	**20 24 24.5**	**+1.9**
LACI	**Lac**	**1.22**	**149**	*i* Pn	**Pn**	**20 24 11.3**	**-0.7**
LACI				*i* Sn	**Sn**	**20 24 30.5**	**+2.2**
LACI	**Lac**	**1.22**	**149**	*e*Pn	**Pn**	**20 24 11.3**	**-0.7**
LACI				*i* Sn	**Sn**	**20 24 30.5**	**+2.2**
BBLS	**Bajina Basta -**	**1.24**	**18**	⇓*i*Pg	**Pg**	**20 24 13.3**	**-0.9**
BBLS				Sg	**Sg**	**20 24 31.4**	**+0.4**
TIR	**Tirane**	**1.53**	**151**	*e*Pn	**Pn**	**20 24 17.3**	**+0.9**
TIR				*i* Sn	**Sn**	**20 24 39.0**	**+2.8**
DIVS	**Divcibare**	**1.63**	**30**	⇑*i*Pn	**Pn**	**20 24 18.2**	**+0.3**
DIVS				Sg	**Sg**	**20 24 40.5**	**-3.2**
GRUS	**Gruza**	**1.80**	**48**	⇑*i*Pn	**Pn**	**20 24 20.5**	**+0.1**
GRUS				Sn	**Sn**	**20 24 43.2**	**0.0**
SKO	**Skopje**	**2.03**	**110**	⇑*i*Pn	**Pn**	**20 24 25.1**	**+1.5**
SKO				*i* Sn	**Sn**	**20 24 51.5**	**+2.5**
SKO				Lg		20 24 53.0	
	comp=Z,0.1nm,0.4s						
OHR	**Ohrid**	**2.13**	**137**	*i* Pn	**Pn**	**20 24 26.5**	**+1.4**
OHR				*e*Sn	**Sn**	**20 24 54.4**	**+2.9**
BARS	**Barje**	**2.17**	**85**	⇑*i*Pn	**Pn**	**20 24 25.7**	**0.0**
BARS				Sn	**Sn**	**20 24 51.2**	**-1.4**
SVIS	**Svilajnac**	**2.34**	**46**	⇑*i*Pn	**Pn**	**20 24 27.6**	**-0.6**
SVIS				Sn	**Sn**	**20 24 56.6**	**-0.4**
BEO	**Belgrade**	**2.42**	**28**	⇓*i*Pn	**Pn**	**20 24 28.5**	**-0.8**
BEO				Sg	**Sg**	**20 25 08.9**	**-1.1**
CDT	**Castel del Mon**	**2.52**	**231**	*e*Pn	**Pn**	**20 24 29.0**	**-1.7**
FNA	**Florina**	**2.67**	**135**	*e*Pn	**Pn**	**20 24 33.3**	**+0.5**
FNA				*e*Sn	**Sn**	**20 25 06.6**	**+1.5**
GRG	**Griva**	**3.15**	**122**	*e*Pn	**Pn**	**20 24 39.7**	**+0.1**
GRG				*e*Sn	**Sn**	**20 25 18.6**	**+1.2**
KNT	**Kendrikon**	**3.36**	**116**	*e*Pn	**Pn**	**20 24 42.6**	**-0.1**
RHK1	**Bakonya**	**3.46**	**351**	⇑*i*P	**Pn**	**20 24 43.7**	**-0.3**
RHK1				*e*S	**Sn**	**20 25 23.2**	**-2.0**
PKSM	**Moragy**	**3.53**	**357**	⇓*e*P	**Pn**	**20 24 44.3**	**-0.7**
PKSM				*e*S	**Sn**	**20 25 26.5**	**-0.5**
THE	**Thessaloniki**	**3.69**	**122**	*e*Pn	**Pn**	**20 24 47.3**	**0.0**
LIT	**Litokhoron**	**3.75**	**132**	*e*Pn	**Pn**	**20 24 47.5**	**-0.6**
SOH	**Sokhos**	**3.83**	**118**	*e*Pn	**Pn**	**20 24 49.3**	**0.0**
BOJS	**Bojanci**	**3.84**	**318**	*e*Pn	**Pn**	**20 24 50.1**	**+0.6**
SRS	**Serrai**	**3.85**	**112**	*e*Pn	**Pn**	**20 24 49.6**	**0.0**
SRS				*e*Sn	**Sn**	**20 25 35.1**	**-0.1**
PKS9	**Tamasi**	**3.92**	**354**	⇑*e*P	**Pn**	**20 24 50.2**	**-0.4**
CRES	**Cresnjev**	**3.99**	**323**	*i* Pn	**Pn**	**20 24 52.5**	**+1.0**
KOGS	**Kog**	**4.20**	**334**	*e*Pn	**Pn**	**20 24 54.9**	**+0.3**
PDKS	**Podkum**	**4.37**	**322**	*i* Pn	**Pn**	**20 24 57.7**	**+0.7**
AGG	**Agios Georgios**	**4.50**	**143**	*e*Pn	**Pn**	**20 24 57.1**	**-1.7**
AGG				*e*Sn	**Sn**	**20 25 49.4**	**-2.2**
XOR	**Xorichti**	**4.65**	**134**	*e*Pn	**Pn**	**20 24 59.6**	**-1.3**
PKSG		**4.72**	**356**	⇑*e*P	**Pn**	**20 25 00.8**	**-1.1**
VOY	**Vojsko**	**4.89**	**315**	*e*Pn	**Pn**	**20 25 05.7**	**+1.3**
VOY				*e*Sn	**Sn**	**20 26 01.5**	**0.0**
ALN	**Alexandroupoli**	**5.65**	**106**	*e*Pn	**Pn**	**20 25 14.8**	**-0.2**
KHC	**Kasperske Hory**	**7.43**	**332**	*eP*	**Pn**	**20 25 40.5**	**+0.4**
KHC				*e*		20 25 49.5	
KHC	**Kasperske Hory**	**7.43**	**332**	*eP*	**Pn**	**20 25 40.5**	**+0.4**
KHC				x	x	20 25 49.5	
KHC	**Kasperske Hory**	**7.43**	**332**	*eP*	**Sn**	**20 27 01.0**	**-4.0**
DPC	**Dobruska-Polom**	**7.87**	**348**	*eP*	**Sn**	**20 27 04.6**	**-11**

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*BJI **29** 20:25:24.5, 7.69N×93.74E, h55km, mB5.1, mb4.4, Ms5.2, Msz5.0*
*NEIC **29** 20:25:24.6±0.3, 7.96N×94.16E, h30km, mb4.8/20, Error ellipse: s-maj=10.1km s-min=7.0km az=52.0*
*IDC **29** 20:25:29.5±4.7, 8.03N×94.18E, h72km±43km, mb3.9/17, mb1 4.0/18, mb1mx4.0/23,

BFO	**Black Forest**	81.36	318	*e*P		**P**	**20 37 38.1**	**-0.2**
	comp=Z,2.0nm,0.9s,mb4.0							
LPG	**La Plagne**	82.59	315	*e*P		**P**	**20 37 45.7**	**+1.0**
	comp=Z,23nm,1.0s,mb4.8							
IMA	**Indian Mountai**	91.52	22	*e*P		**P**	**20 38 27.0**	**-0.6**
PDAR	**Pinedale Array**	125.07	21	PKP	PKPdf		20 44 23.1	+2.2
	comp=Z,1.0nm,0.9s,baz=90,slow=1.0,SNR=6.2							
PLCA	**Paso Flores**	144.65	200	PKP	PKPdf		20 44 58.1	+1.1
	comp=Z,4.5nm,0.9s,baz=194,slow=11,SNR=4.5							

IDC ***29*** *20:27:30.5±5.5, 7.91N×94.39E, h117km±49km, mb3.5/13, mb1 3.7/14, mb1mx3.6/19, mbtmp3.9/14, Error ellipse: s-maj=29.9km s-min=19.1km az=53.0*

ISC 29 20:27:18.4±0.8, 7.5N±0.1×94.0E±0.2, h33km, n16, σ0=93/14, mb3.9/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	11.90	24	P		**P**	**20 30 09.5**	**+0.8**
	0.1nm,0.3s,baz=212,slow=12,SNR=3.8						
SONM	**Songino Array**	41.54	13	P		**P**	**20 35 03.5**	**-0.9**
	1.2nm,0.8s,mb3.6,baz=191,slow=7.3,SNR=3.6						
ZAL	**Zalesovo**	46.87	353	P		**P**	**20 35 47.2**	**+0.1**
	1.1nm,0.7s,mb3.9,baz=323,slow=5.1,SNR=3.8						
WRA	**Warramunga Arr**	48.20	125	P		**P**	**20 35 57.6**	**-0.5**
	1.0nm,0.9s,mb3.8,baz=306,slow=8.5,SNR=3.3						
BVAR	**Borovoye Array**	49.26	341	P		**P**	**20 36 06.8**	**+1.0**
	1.1nm,0.7s,mb4.0,baz=135,slow=6.1,SNR=3.3						
ASAR	**Alice Springs**	49.83	130	P		**P**	**20 36 11.2**	**+0.6**
	0.5nm,0.7s,mb3.6,baz=309,slow=5.8,SNR=2.9						
KMBO	**Kilima Mbogo**	57.21	264	P		**P**	**20 37 10.5**	**+5.3**
	3.5nm,1.0s,mb4.4,baz=56,slow=12,SNR=8.2						
BRTR	**Keskin Array B**	62.52	311	P		**P**	**20 37 41.8**	**+0.5**
	1.2nm,0.9s,mb4.0,baz=135,slow=4.1,SNR=3.2						
AKASG	**Malin Array Be**	68.32	322	P		**P**	**20 38 17.9**	**-0.5**
	0.3nm,0.5s,mb3.6,baz=99,slow=4.2,SNR=3.2						
FINES	**FINESS Array B**	72.94	332	P		**P**	**20 38 44.5**	**-1.5**
	2.6nm,0.9s,mb4.2,baz=76,slow=7.9,SNR=5.8						
ARCES	**ARCESS Array B**	75.53	340	P		**P**	**20 39 00.3**	**-0.6**
	1.4nm,0.7s,mb4.0,baz=106,slow=6.6,SNR=2.8						
GERES	**GERESS Array B**	77.97	318	P		**P**	**20 39 15.4**	**+0.3**
	1.7nm,0.6s,mb4.1,baz=72,slow=4.2,SNR=4.5						
NOA	**NORSAR Array B**	79.95	331	P		**P**	**20 39 24.5**	**-1.0**
	1.3nm,0.9s,mb3.8,baz=96,slow=5.8,SNR=2.9						
ESDC	**Sonseca Array**	91.31	310	P		**P**	**20 40 24.1**	**+1.8**
	0.5nm,0.7s,mb3.9,baz=45,slow=7.3,SNR=2.5						
PDAR	**Pinedale Array**	125.56	21	PKP	PKPdf		20 46 19.7	+3.0
	0.4nm,0.8s,slow=3.6,SNR=3.4							
PLCA	**Paso Flores**	144.16	200	PKP	PKPdf		20 46 54.9	+3.8
	1.4nm,0.8s,baz=210,slow=4.4,SNR=2.9							

IDC ***29*** *20:28:20.9±3.4, 7.96N×94.35E, h15km±20km, mb4.8/28, mb1 4.8/29, mb1mx4.8/29, mbtmp4.9/29, ML5.2/1, MS5.1/19, Ms1 5.1/19, ms1mx4.9/27, Error ellipse: s-maj=19.4km s-min=10.7km az=49.0*

MOS ***29*** *20:28:22.2±1.3, 7.86N×94.29E, h33km, mb5.5/52, MS5.2/9, Error ellipse: s-maj=9.2km s-min=5.0km az=118.1*

BJI ***29*** *20:28:23.0, 7.62N×93.84E, h52km, mB5.6, mb5.0, Ms5.7, Msz5.4*

NEIC ***29*** *20:28:23.3±0.2, 7.91N×94.39E, h30km, mb5.2/63, MS5.3/2, Error ellipse: s-maj=7.9km s-min=5.2km az=51.0*

HRVD ***29*** *20:28:23.3±0.2, 7.75N×94.21E, h19km±1km, MW5.6/63, Centroid moment Tensor Solution. LP body waves: s44,c60;Mantle waves: s63,c133; Half duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}~0.16±.06; $M_{\theta\theta}$~2.06±.06; $M_{\phi\phi}$2.22±.06; $M_{r\theta}$~0.74±.15; $M_{\theta\phi}$1.60±.05; $M_{\phi r}$~0.06±.14; Best double couple: $M_0$2.778×10^{17} NP1: ϕ_s154°, δ75°, λ-174°. NP2:ϕ_s63°, δ84°, λ-15°. Principal axes: T 2.783, Plg6°, Azm109°; N -.01, Plg74°, Azm220°; P -2.774, Plg15°, Azm18°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 29 20:28:22.0±0.2, 7.79N±0.03×94.25E±0.03, h31km, h31km±1.4km: pP-P, n317, σ1=32/314, mb5.2/104, MS5.3/37, 15C-18D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	4.12	339	*e*S		**Sn**	**20 30 08.4**	**-4.0**
NST	**Nakhon Sawan**	9.72	36	P		**P**	**20 30 40.0**	**-3.1**
CM31	**Chiang Mai Arr**	11.54	23	*e*P		**P**	**20 31 08.9**	**+1.0**
	41nm,0.6s						
CMAR	**Chiang Mai Arr**	11.54	23	Pn		**P**	**20 31 08.7**	**+0.7**
	4.5nm,0.3s,baz=211,slow=14,SNR=56						
CMAR				LR	LR		20 35 46.3
	comp=Z,12μm,18.2s,baz=205,slow=39						
CMAR				ScP			20 40 28.1
	baz=237,slow=3.5,SNR=5.0						
KKTK	**Khon Kaen**	11.93	44	P		**P**	**20 31 15.0**	**+1.8**
	494nm,0.7s						
NANT	**Nan**	12.61	29	⇑P		**P**	**20 31 24.0**	**+1.7**
	125nm,1.0s						
UBT	**Ubonrachathani**	12.89	54	P		**P**	**20 31 30.0**	**+4.1**
CHRT	**Chiangrai**	13.15	23	⇓P		**P**	**20 31 31.0**	**+1.6**
	516nm,1.4s						
PALK	**Pallekele**	13.45	269	*e*P		**P**	**20 31 33.2**	**-0.1**
	65nm,1.2s						
PALK				*e*S	Sx		20 33 40.0
VIS	**Vishakhapatnam**	14.52	314	*e*P		**P**	**20 31 47.8**	**+0.3**
VIS				*e*			20 31 55.1
	comp=Z,125nm,0.6s						
VIS				*e*			20 34 16.5
VIS				*e*S		**S**	**20 34 27.6**	**-0.6**
MDRS	**Chennai**	14.74	292	*e*		**P**	**20 31 46.0**	**-4.4**
BWNR	**Bhubaneshwar**	14.88	328	*e*P		**P**	**20 31 48.7**	**-3.6**
BWNR				*e*			20 31 56.1
	comp=Z,70nm,0.4s						
BWNR				*e*S		**S**	**20 34 33.2**	**-3.6**
CAL	**Calcutta**	15.74	339	*e*		**P**	**20 32 09.7**	**+6.4**
	comp=Z,658nm,0.3s						
CAL				*e*		**S**	**20 35 12.1**	**+15**
AGT	**Agartala**	16.26	350	⇑*i*P		**P**	**20 32 10.0**	**0.0**
AGT				*i*			20 33 45.0
KOD	**Kodaikanal**	16.76	280	*e*P		**P**	**20 32 18.8**	**+2.5**
KOD				*e*			20 32 22.1
	comp=Z,167nm,1.4s						
SHL	**Shillong**	17.83	353	*e*P		**P**	**20 32 27.7**	**-1.9**
SHL				*e*		**S**	**20 35 33.0**	**-12**
HYB	**Hyderabad**	18.05	304	*e*P		**P**	**20 32 30.0**	**-2.5**
HYB				*e*S		**S**	**20 35 50.0**	**+0.2**
HYB	**Hyderabad**	18.05	304	*i* P		**P**	**20 32 30.0**	**-2.5**
	comp=Z,120nm,1.0s						
HYB				*e*S		**S**	**20 35 50.0**	**+0.2**
BLSP	**Bilaspur**	18.43	322	*e*P		**P**	**20 32 35.5**	**-1.7**
BLSP				*e*			20 35 41.4
BLSP				*e*S		**S**	**20 36 02.6**	**+4.2**
QIZ	**Qiongzhong**	18.82	52	P		**P**	**20 32 43.0**	**+1.2**
QIZ				S		**S**	**20 36 08.8**	**+1.8**
QIZ				AMB	AMB		
	comp=Z,122nm,1.3s						
QIZ				LR	LR		
	comp=N,28μm,12.2s						
KMI	**Kunming**	19.05	24	P		**P**	**20 32 47.4**	**+2.9**
KMI				pmax	pmax		
	comp=Z,112nm,1.3s						
KMI	**Kunming**	19.05	24	P		**P**	**20 32 47.4**	**+2.9**
	comp=Z,112nm,1.3s						
KMI				sP			20 32 59.8
KMI				S		**S**	**20 36 23.4**	**+11**
KMI				sS			20 36 36.1
MNGI	**Mangalore**	19.78	287	*i* P		**P**	**20 32 52.0**	**-0.9**
MNGI				*i*		**S**	**20 36 32.4**	**+3.9**
	comp=Z,147nm,1.4s						
COCO	**West Island**	20.01	173	*e*P		**P**	**20 32 56.4**	**+1.1**
	comp=Z,417nm,1.2s						
GTK	**Gangtok**	20.16	345	*e*P		**P**	**20 32 53.0**	**-3.8**
LATR	**Latur**	20.19	303	*e*P		**P**	**20 32 56.5**	**-0.7**
ALBI	**Allahabad**	21.09	327	*e*P		**P**	**20 33 04.5**	**-1.8**
JIRN	**Jiri**	21.19	340	*e*P		**P**	**20 33 08.4**	**+1.0**
PKI	**Pulchoki**	21.39	338	*e*P		**P**	**20 33 09.5**	**+0.1**
	comp=Z,313nm,0.8s,mb5.7						
GOA	**Goa**	21.41	293	*e*P		**P**	**20 33 16.4**	**+6.7**
GOA				*e*			20 33 19.5
	comp=Z,148nm,1.2s						
GOA				*e*S		**S**	**20 37 13.3**	**+13**
DMN	**Daman**	21.54	337	*e*P		**P**	**20 33 12.1**	**+1.3**
KKN	**Kakani**	21.63	338	*e*P		**P**	**20 33 11.8**	**0.0**
LSA	**Lhasa**	21.99	353	P		**P**	**20 33 12.8**	**-2.6**
GKN	**Gorkha**	22.07	337	*e*P		**P**	**20 33 15.5**	**-0.7**
	comp=Z,351nm,1.0s,mb5.8						
KOLN	**Koldanda**	22.29	334	*e*P		**P**	**20 33 17.5**	**-0.9**
	comp=Z,266nm,0.9s,mb5.7						
BHPL	**Bhopal**	22.30	315	*e*P		**P**	**20 33 19.4**	**+0.9**
BHPL				*e*			20 33 24.6
	comp=Z,314nm,1.1s						
POO	**Poona**	22.53	300	⇓*i*P		**P**	**20 33 20.0**	**-0.9**
	comp=Z,114nm,1.2s,mb5.2						
POO				*i*			20 36 40.0
BOM	**Bombay**	23.57	300	*e*P		**P**	**20 33 32.4**	**+1.3**
BOM				*e*		**S**	**20 37 40.4**	**+0.7**
NDI	**New Delhi**	26.27	324	*e*P		**P**	**20 33 57.4**	**+0.7**
NDI				*e*	pP		20 34 07.7	+2.0
	comp=Z,273nm,1.5s						
NDI				*e*		**S**	**20 38 23.0**	**-2.1**
AJM	**Ajmer**	26.32	317	*i* P		**P**	**20 33 57.0**	**-0.2**
TGY	**Tagaytay City**	26.92	74	P		**P**	**20 34 06.4**	**+3.7**
	comp=Z,50nm,0.3s,mb5.5,baz=282,slow=13,SNR=3.0						
TGY				LR	LR		20 44 33.8
	comp=Z,3μm,19.5s,MS4.9,baz=64,slow=36						
DDI	**Dehra Dun**	27.08	328	*e*P		**P**	**20 34 02.4**	**-1.6**
DDI				*e*		**S**	**20 38 54.8**	**+17**
SMLA	**Simla**	28.18	328	*e*P		**P**	**20 34 28.3**	**+14**
SMLA				*e*			20 34 33.9
	comp=Z,63nm,1.2s						
SMLA				*e*			20 39 01.9
SMLA				*e*S		**S**	**20 39 13.7**	**+18**
WHN	**Wuhan**	29.44	37	P		**P**	**20 34 26.3**	**+0.9**
WHN				S		**S**	**20 39 25.0**	**+8.9**
WHN				LR	LR		
	comp=Z,14μm,12.1s,MS5.8						
LZH	**Lanzhou**	29.50	16	*e*P		**P**	**20 34 26.5**	**+0.6**
LZH				AP	pP		20 34 35.5	+0.6
LZH				AMB	AMB		
	comp=Z,43nm,1.6s,mb4.9						
LZH				AMB	AMB		
	comp=Z,342nm,4.1s						
LZH				LR	LR		
	comp=E,5μm,10.7s						
LZH				LR	LR		
	comp=Z,5μm,12.0s,MS5.4						
LZH	**Lanzhou**	29.50	16	*e*P		**P**	**20 34 26.4**	**+0.5**
LZH				*PP	pP		20 34 35.4	+0.5
LZH				*SP	sP		20 34 39.5	+0.5
LZH				pmax	pmax		
	comp=Z,43nm,1.6s,mb4.9						
LZH				MLR	MLR		
	comp=Z,5μm,12.0s,MS5.4						
LZH	**Lanzhou**	29.50	16	*e*P		**P**	**20 34 26.4**	**+0.5**
	comp=Z,43nm,1.6s,mb4.9						
LZH				pP	pP		20 34 35.4	+0.5
LZH				sP	sP		20 34 39.5	+0.5
LZH				LR	LR		
	comp=Z,5μm,12.0s,MS5.4						
NJ2	**Nanjing**	33.26	40	*e*P		**P**	**20 35 01.0**	**+2.1**
NJ2				AP	pP		20 35 10.5	+2.4
NJ2				XP	sP		20 35 14.5	+2.4
NJ2				PP	PP		20 36 13.0	+2.3
NJ2				AMB	AMB		
	comp=Z,90nm,0.9s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,1μm,8.0s						
NJ2				LR	LR		
	comp=N,11μm,13.8s,MS6.0						
NJ2				LR	LR		
	comp=E,13μm,11.1s,MS6.0						
NJ2				LR	LR		
	comp=Z,10μm,12.4s,MS5.7						
SSE	**Sheshan**	34.21	44	P		**P**	**20 35 03.1**	**-4.0**
	comp=Z,22nm,0.7s,mb5.2						
SSE				sP	sP		20 35 15.3	-4.9
SSE				PP	PP		20 36 20.8	-1.4
SSE				S	S		**20 40 27.3**	**-3.3**
SSE				sS			20 40 40.8
SSE				LR	LR		
	comp=Z,5μm,13.8s,MS5.4						
TIA	**Tai'an**	35.16	33	P		**P**	**20 35 16.5**	**+1.3**
TIA				S		**S**	**20 40 47.5**	**+2.1**
TIA				LR	LR		
	comp=N,2μm,13.5s,MS5.4						
TIA				LR	LR		
	comp=E,3μm,13.1s,MS5.4						
WMQ	**Urumqi**	36.35	352	P		**P**	**20 35 25.8**	**+0.6**
WMQ				AP	pP		20 35 38.0	+3.6
WMQ				XP	sP		20 35 43.3	+5.0
WMQ				PP	PP		20 36 49.8	+0.9
WMQ				PCP	PcP		20 37 50.3	+0.6
WMQ				S	S		**20 41 02.8**	**-0.8**
WMQ				AMB	AMB		
	comp=Z,359nm,1.5s,mb6.1						
WMQ				AMB	AMB		
	comp=Z,2μm,5.6s						
WMQ				LR	LR		
	comp=N,3μm,18.3s,MS5.4						
WMQ				LR	LR		
	comp=E,5μm,18.4s,MS5.4						
WMQ				LR	LR		
	comp=Z,7μm,18.7s,MS5.4						
JOW	**Kunigami**	37.41	55	LR	LR		20 53 21.3
	comp=Z,2μm,19.6s,MS4.9,baz=288,slow=40						
BJI	**Beijing**	37.63	28	P		**P**	**20 35 38.4**	**+2.4**
BJI				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.8						
BJI				MLR	MLR		
	comp=Z,4μm,23.9s,MS5.1						
BJI	**Beijing**	37.63	28	P		**P**	**20 35 38.4**	**+2.4**
	comp=Z,27nm,1.3s,mb4.8						
BJI				S	x		20 40 39.8
BJI				LR	LR		
	comp=Z,4μm,23.9s,MS5.1						
JMDO	**Jabal Madar**	37.67	297	⇑P		**P**	**20 35 37.1**	**+0.6**
SMDO	**Samad**	37.92	298	⇓P		**P**	**20 35 39.4**	**+0.7**
BIDO	**Bidbid**	38.00	298	⇑P		**P**	**20 35 41.6**	**+2.3**
KZA	**Kyzart**	38.06	337	P		**P**	**20 35 40.6**	**+1.1**
SNR=11							
MBWA	**Marble Bar**	38.12	139	P		**P**	**20 35 38.5**	**-1.9**
	comp=Z,28nm,1.2s,mb4.9						
UCH	**Uchtor**	38.48	336	P		**P**	**20 35 45.0**	**+1.9**
SNR=13							
BSY	**Bisya**	38.58	297	P		**P**	**20 35 46.2**	**+2.1**
SNR=10							
TKM2	**Tokmak 2**	38.65	338	P		**P**	**20 35 45.9**	**+1.3**
SNR=11							
KBK	**Karagaybulak**	38.67	337	P		**P**	**20 35 46.8**	**+2.0**
SNR=17							
HOQ	**Hoqain**	38.73	298	⇓P		**P**	**20 35 47.1**	**+1.7**
AML	**Almayashu**	38.73	335	P		**P**	**20 35 47.3**	**+2.1**
SNR=19							
AAK	**Ala-Archa**	38.83	337	P		**P**	**20 35 47.4**	**+1.3**
SNR=11							
AAK	**Ala-Archa**	38.83	337	*e*P		**P**	**20 35 45.9**	**-0.1**
AAK				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.2						
AAK	**Ala-Archa**	38.83	337	*e*P		**P**	**20 35 45.9**	**-0.1**
	comp=Z,49nm,1.0s,mb5.2						
FRU	**Bishkek**	38.95	337	*e*P		**P**	**20 35 48.0**	**+1.0**
FRU				*e*	pP		20 35 59.0	+2.7
FRU				*i*			20 37 48.5
FRU				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.2						
CHMS	**Chumysh**	39.04	337	P		**P**	**20 35 48.9**	**+1.1**
SNR=15							
EKS2	**Erkin-Say**	39.14	336	P		**P**	**20 35 51.0**	**+2.4**
SNR=12							
ARQ	**Araqi**	39.34	297	⇓P		**P**	**20 35 52.2**	**+1.7**
USP	**Ospenovka**	39.36	337	P		**P**	**20 35 51.7**	**+1.2**
SNR=14							
ASHO	**Ashiyiah**	40.15	299	⇑P		**P**	**20 35 58.3**	**+1.1**
SNR=9.7							
RBK	**Rabkut**	40.18	288	⇓P		**P**	**20 35 58.2**	**+0.8**
MKAR	**Makanchi Array**	40.20	347	*i* P		**P**	**20 35 55.5**	**-1.8**
FITZ	**Fitzroy Crossi**	40.27	130	*e*P		**P**	**20 35 57.4**	**-0.8**
	comp=Z,22nm,0.8s,mb5.0						
BANOM	**Banah**	40.35	301	⇑P		**P**	**20 35 59.1**	**+0.3**
ABTO	**Aybut**	41.01	287	⇓P		**P**	**20 36 05.3**	**+1.0**
SONM	**Songino Array**	41.22	12	P		**P**	**20 36 05.1**	**-0.6**
	comp=Z,7.4nm,0.8s,mb4.4,baz=198,slow=7.8,SNR=21						
SONM				PcP	PcP		20 38 04.0	-1.0
	comp=Z,3.0nm,0.7s,baz=196,slow=3.4,SNR=5.3						
SONM				ScP			20 41 52.5
	comp=Z,0.7nm,0.9s,baz=207,slow=2.8,SNR=4.1						
ULN	**Ulaanbaatar**	41.40	13	⇓*i*P		**P**	**20 36 06.0**	**-1.1**
ULN	**Ulaanbaatar**	41.40	13	*e*P		**P**	**20 36 06.1**	**-1.0**
	comp=Z,9.9nm,0.8s,mb4.5						
KS15	**Wonju Array Si**	42.42	41	*e*P		**P**	**20 36 16.1**	**+0.4**
SNY	**Shenyang**	42.68	33	⇓P		**P**	**20 36 19.0**	**+1.2**
SNY				S	S		**20 42 44.3**	**+5.5**
SNY				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7						
SNY				LR	LR		
	comp=E,4μm,13.6s						
SNY				LR	LR		
	comp=Z,4μm,16.7s,MS5.4						
ZAK	**Zakamensk**	43.12	8	*e*P		**P**	**20 36 19.1**	**-2.1**
ZAK				*e*			20 38 08.7
MOY	**Mondy**	44.10	6	*e*P		**P**	**20 36 28.5**	**-0.6**
TLY	**Talaya**	44.44	8	*e*P		**P**	**20 36 31.8**	**-0.1**
TLY				*e*			20 38 10.7
TLY				*e*S		**S**	**20 43 18.8**	**+15**
TLY				*e*SSS	SS		20 46 28.2	+13
TLY				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.5						
TLY	**Talaya**	44.44	8	*e*P		**P**	**20 36 30.9**	**-1.1**
	comp=Z,12nm,1.1s,mb4.6						
KURK	**Kurchatov**	44.72	346	*i* P		**P**	**20 36 32.6**	**-1.6**
KURK				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.2						
KURK	**Kurchatov**	44.72	346	*e*P		**P**	**20 36 32.5**	**-1.7**
	comp=Z,161nm,1.2s,mb5.7						
MUN	**Mundaring**	44.76	153	*e*P		**P**	**20 36 35.9**	**+1.1**
	comp=Z,23nm,1.0s,mb5.0						
MUN	**Mundaring**	44.76	153	*e*P		**P**	**20 36 35.9**	**+1.1**
MUN				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.0						
IRK	**Irkutsk**	45.08	9	*e*P		**P**	**20 36 37.0**	**0.0**
IRK				pmax	pmax		
	comp=Z,28nm,2.4s,mb4.7						
KLBR	**Kellerberrin**	45.15	151	*e*P		**P**	**20 36 38.1**	**+0.3**
	comp=Z,362nm,1.1s,mb6.1						
NWAO	**Narrogin (SRO)**	46.02	153	*e*P		**P**	**20 36 39.4**	**-5.3**
NWAO				pmax	pmax		
	comp=Z,45nm,1.1s						
NWAO	**Narrogin (SRO)**	46.02	153	P		**P**	**20 36 44.2**	**-0.5**
	comp=Z,42nm,1.0s,mb5.3,baz=319,slow=10.0,SNR=12						
NWAO	**Narrogin (SRO)**	46.02	153	*e*P		**P**	**20 36 39.4**	**-5.3**
	comp=Z,45nm,1.1s,mb5.3						
ZAL	**Zalesovo**	46.65	352	P		**P**	**20 36 47.8**	**-1.6**
	comp=Z,18nm,0.6s,mb5.2,baz=292,slow=5.7,SNR=26						
NVS	**Novosibirsk**	47.75	351	*e*P		**P**	**20 36 55.4**	**-2.7**
NVS				*e*PPP	PPP		20 39 30.8	-8.1
NVS				*i* S		**S**	**20 43 49.2**	**-2.1**
NVS				pmax	pmax		
	comp=N,48nm,1.2s						
NVS				pmax	pmax		
	comp=E,26nm,1.2s						
NVS				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.5						
NVS				smax			
	comp=N,55nm,1.9s						
NVS				smax			
	comp=E,24nm,1.8s						
MDJ	**Mudanjiang**	47.82	34	P		**P**	**20 36 57.5**	**-1.3**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,283nm,5.7s						
MDJ				LR	LR		
	comp=N,1μm,16.5s,MS5.5						
MDJ				LR	LR		
	comp=E,3μm,13.9s,MS5.5						
MDJ				LR	LR		
	comp=Z,3μm,13.9s,MS5.4						
WRA	**Warramunga Arr**	48.12	126	P		**P**	**20 36 59.4**	**-2.0**
	comp=Z,9.8nm,0.9s,mb4.8,baz=303,slow=8.3,SNR=15						
WRAB	**Tennant Creek**	48.12	126	⇓*i*P		**P**	**20 36 59.7**	**-1.7**
WRAB	**Tennant Creek**	48.12	126	*e*P		**P**	**20 36 59.0**	**-2.4**
	comp=Z,52nm,1.2s,mb5.4						
WB2	**Warramunga Arr**	48.13	126	*e*P		**P**	**20 37 00.7**	**-0.8**
BVAR	**Borovoye Array**	49.11	341	P		**P**	**20 37 05.2**	**-3.4**
	comp=Z,18nm,0.9s,mb5.1,baz=146,slow=5.3,SNR=28						
BVAR				PcP	PcP		20 38 31.6	-0.5
	comp=Z,3.6nm,0.8s,baz=135,slow=6.1,SNR=2.1						
BVAR				ScP			20 42 25.5
	comp=Z,1.5nm,0.7s,baz=153,slow=6.6,SNR=4.8						
MAJO	**Matsushiro**	49.13	48	P		**P**	**20 37 15.4**	**+6.3**
MAJO				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
MAJO	**Matsushiro**	49.13	48	P		**P**	**20 37 15.4**	**+6.3**
	comp=Z,12nm,0.9s,mb4.9						
RAYN	**Ar Rayn**	49.23	294	P		**P**	**20 37 10.9**	**+1.0**
	comp=Z,313nm,1.3s,mb6.2,SNR=22						
CHKZ	**Chkalovo**	49.59	342	*e*P		**P**	**20 37 10.5**	**-1.8**
CHKZ				pmax	pmax		
	comp=Z,53nm,0.7s,mb5.7						
CHKZ	**Chkalovo**	49.59	342	*e*P		**P**	**20 37 10.5**	**-1.9**
	comp=Z,53nm,0.7s,mb5.7						
ASPA	**Alice Springs**	49.77	130	*e*P		**P**	**20 37 13.0**	**-1.1**
ASAR	**Alice Springs**	49.77	130	P		**P**	**20 37 12.9**	**-1.2**
	comp=Z,5.3nm,0.7s,mb4.7,baz=304,slow=6.9,SNR=20						
ASAR				PcP	PcP		20 38 35.0	+0.1
	comp=Z,5.2nm,1.0s,baz=306,slow=5.3,SNR=2.3						
ASAR				LR	LR		21 00 52.9
	comp=Z,1μm,19.0s,MS4.9,baz=296,slow=39						
GUMO	**Guam**	50.00	79	*e*P		**P**	**20 37 17.7**	**+1.8**
GUMO				pmax	pmax		
	comp=Z,133nm,1.2s,mb5.8						
GUMO	**Guam**	50.00	79	*e*P		**P**	**20 37 17.6**	**+1.7**
	comp=Z,133nm,1.2s,mb5.8						
FORT	**Forrest**	50.20	141	*e*P		**P**	**20 37 17.4**	**+0.1**
	comp=Z,127nm,0.7s,mb6.1						
BOD	**Bodaibo**	52.21	13	*e*P		**P**	**20 37 30.6**	**-1.5**
CLNS	**Chul'man**	54.48	20	*e*P		**P**	**20 37 46.5**	**-2.4**
GNI	**Garni**	54.58	314	*e*P		**P**	**20 37 50.4**	**+0.5**
GNI				pmax	pmax		
	comp=Z,43nm,1.0s						
GNI	**Garni**	54.58	314	P		**P**	**20 37 50.1**	**+0.2**
	comp=Z,12nm,0.7s,mb5.0,baz=348,slow=20,SNR=7.2						
GNI				LR	LR	

comp=Z,26nm,1.4s,mb5.1
CTAO Charters Tower 58.17 119 *e*P **P 20 38 15.3 -0.5**
comp=Z,26nm,1.4s,mb5.1
ELZG Elazig 58.24 311 *i* P **P 20 38 16.0 -0.1**
ASF Jabal al Asfar 58.36 303 P **P 20 38 17.3 +0.3**
comp=Z,10nm,0.9s,mb4.9,baz=1.9,slow=2.1,SNR=13
ASF LR LR 21 06 22.5
comp=Z,1μm,19.0s,MS5.1,baz=132,slow=39
MALT Malatya 58.60 310 *e*P **P 20 38 17.4 -1.2**
MALT pmax pmax
comp=Z,19nm,1.1s,mb5.0
MALT Malatya 58.60 310 *e*P **P 20 38 17.4 -1.2**
comp=Z,19nm,1.1s,mb5.0
SOKR Solikamsk 58.92 339⇓ *i*P **P 20 38 19.2 -1.3**
SOKR pmax pmax
comp=Z,50nm,0.9s,mb5.5
SOKR MLR MLR
comp=Z,3μm,20.0s,MS5.5
GZT Gaziantep 59.01 309 *i* P **P 20 38 19.1 -2.4**
SOC Sochi 59.32 317 *e*P **P 20 38 18.5 -5.0**
SOC *e*S **S 20 46 21.2 -6.9**
SOC pmax pmax
comp=Z,50nm,1.3s,mb5.4
SOC pmax pmax
comp=N,48nm,1.4s
SOC pmax pmax
comp=E,68nm,1.3s
EIL Elat 59.57 300 P **P 20 38 24.4 -1.0**
comp=E,14nm,0.8s,mb5.1,baz=11,slow=4.2,SNR=17
EIL Elat 59.57 300 *e*P **P 20 38 22.8 -2.6**
comp=E,24nm,1.0s,mb5.2
KAHT Ahir Dag 59.61 309 *i* P **P 20 38 25.3 -0.3**
COBT Iskenderun 59.82 308 *i* P pP 20 38 36.2 -0.5
STKA Stephens Creek 59.96 134 *e*P **P 20 38 27.0 -1.1**
comp=E,5.7nm,0.8s,mb4.7
STKA Stephens Creek 59.96 134 P **P 20 38 26.1 -2.0**
comp=E,5.4nm,0.9s,mb4.6,baz=302,slow=4.9,SNR=6.5
STKA LR LR 21 09 30.5
comp=E,2μm,18.1s,MS5.3,baz=295,slow=41
YAK Yakutsk 60.04 18 *e*P **P 20 38 26.5 -1.7**
YAK pmax pmax
comp=Z,70nm,0.9s,mb5.7
YAK Yakutsk 60.04 18 *e*P **P 20 38 26.4 -1.8**
comp=Z,70nm,0.9s,mb5.7
BOYT Boyabat 62.06 313 *i* P **P 20 38 42.0 -0.2**
BRTR Keskin Array B 62.57 311 P **P 20 38 44.4 -1.3**
comp=Z,11nm,0.8s,mb5.0,baz=122,slow=7.3,SNR=23
VOR Voronezh 62.72 325 *e*P **P 20 38 45.0 -1.4**
VOR pmax pmax
comp=Z,100nm,1.2s,mb5.8
VOR pmax pmax
comp=Z,60nm,1.4s,mb5.5
VOR pmax pmax
comp=E,70nm,1.2s
BALT Daday 63.19 313 *i* P **P 20 38 49.9 +0.3**
SIM Simferopol' 63.57 317c *i* P **P 20 38 51.0 -1.1**
SIM pmax pmax
comp=Z,24nm,0.8s,mb5.3
SIM MLR MLR
comp=Z,2μm,23.1s,MS5.1
MBAR Mbarara 63.87 266 *e*P **P 20 38 54.3 -0.3**
MBAR pmax pmax
comp=Z,31nm,1.4s,mb5.2
MBAR Mbarara 63.87 266 *e*P **P 20 38 54.2 -0.4**
comp=Z,31nm,1.4s,mb5.1
ESKT Eskisehir 64.63 310 *i* P **P 20 38 57.2 -2.0**
MOS Moscow 65.21 329⇑ *i*P **P 20 39 02.7 +0.1**
MOS *e* pP 20 39 11.2 -1.1
MOS *e* 20 39 34.4
MOS *e* 20 41 28.3
MOS *e*S S 20 47 41.4 -0.7
MOS pmax pmax
comp=Z,105nm,0.7s,mb6.0
MOS MLR MLR
comp=E,2μm,19.8s
MOS MLR MLR
comp=Z,2μm,19.8s,MS5.4
OBN Obninsk 65.51 328⇑ *i*P **P 20 39 01.3 -3.3**
OBN *i* pP 20 39 10.1 -4.1
OBN *e* 20 41 28.3
OBN *i* S S 20 47 40.3 -5.5
OBN pmax pmax
comp=Z,122nm,1.3s,mb5.8
OBN MLR MLR
comp=Z,2μm,20.0s,MS5.2
OBN Obninsk 65.51 328 *e*P **P 20 39 00.5 -4.0**
comp=Z,126nm,1.1s,mb5.9
ULDT Uludag 66.04 310 *i* P **P 20 39 05.3 -2.9**
MA2 Magadan 66.79 28 *e*P **P 20 39 11.5 -1.1**
MA2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
MA2 Magadan 66.79 28 *e*P **P 20 39 09.9 -2.8**
comp=Z,15nm,0.8s,mb5.1
ARMA Armidale 66.81 128 *e*P **P 20 39 13.4 +0.1**
BTOK Tokmak 66.82 310 *i* P **P 20 39 13.1 -0.1**
TIXI Tiksi 67.30 11 *e*P **P 20 39 13.4 -2.3**
TIXI pmax pmax
comp=Z,48nm,1.0s,mb5.5
TIXI Tiksi 67.30 11⇓ *i*P **P 20 39 13.2 -2.5**
AKASG Malin Array Be 68.29 322 P **P 20 39 21.2 -1.1**
comp=Z,12nm,0.8s,mb5.0,baz=88,slow=4.9,SNR=27
IDI Anoyia 68.71 305 P **P 20 39 24.5 -0.7**
comp=Z,29nm,0.7s,mb5.3,baz=83,slow=7.7,SNR=11
SEY Seymchan 68.96 25 *e*P **P 20 39 26.4 +0.2**
SEY *e* pP 20 39 37.2 +1.4
SEY *e* 20 43 38.3
SEY pmax pmax
comp=Z,30nm,0.9s,mb5.2
SEY pmax pmax
comp=E,20nm,1.2s
LSZ Lusaka 69.35 251 *e*P **P 20 39 29.4 +0.1**
LSZ pmax pmax
comp=Z,16nm,1.1s,mb4.9
LSZ Lusaka 69.35 251 *e*P **P 20 39 29.4 +0.1**
comp=Z,16nm,1.1s,mb4.9
MNK Minsk 70.09 325 *e*P **P 20 39 26.0 -7.2**
JOF Joensuu 70.97 334 *e*p **P 20 39 35.9 -2.6**
comp=Z,29nm,0.8s,mb5.3
LVV L'vov 71.36 320 *e*P **P 20 39 41.2 +0.2**
BOLS Boljevac 71.88 313⇓ *i*P **P 20 39 44.6 +0.3**
APA Apatity 71.97 339⇓ *e*P **P 20 39 42.7 -1.6**
APA *i* 20 39 58.4
APA pmax pmax
comp=Z,23nm,0.9s,mb5.1
APA MLR MLR
comp=Z,5μm,19.0s,MS5.8
KWP Kalwaria 72.17 320 *e*P **P 20 39 45.3 -0.5**
KWP pmax pmax
comp=Z,53nm,1.0s,mb5.4
KWP Kalwaria 72.17 320 *e*P **P 20 39 44.1 -1.7**
KWP Kalwaria 72.17 320 *e*P **P 20 39 44.1 -1.7**
KOLS Kolonicke sedl 72.34 319 *i* P **P 20 39 48.2 +1.3**
SUW Suwalki 72.64 324 *e*P **P 20 39 48.3 -0.3**
FINES FINESS Array B 72.84 332 P **P 20 39 47.4 -2.2**
comp=Z,4.2nm,0.8s,mb4.4,baz=72,slow=6.0,SNR=3.3
FINES LR LR 21 18 03.0
comp=Z,1μm,20.8s,MS5.2,baz=280,slow=41
CRVS Cervenica-Dubn 72.87 319 *i* P **P 20 39 50.2 +0.2**
KAF Kangasniemi 72.92 333 *e*p **P 20 39 47.6 -2.4**
comp=Z,29nm,0.9s,mb5.2
KAF Kangasniemi 72.92 333 *e*P **P 20 39 47.6 -2.4**
KAF pmax pmax
comp=Z,29nm,0.9s,mb5.2
KECS Kecovo 73.46 318 *i* P **P 20 39 54.5 +1.1**
NIE Niedzica 73.68 319 *e*P **P 20 39 56.2 +1.5**
PSZ Piszkesteto 73.78 318⇑ *e*P **P 20 39 55.8 +0.5**
OJC Ojcow 74.11 320 *e*P **P 20 39 58.0 +0.8**
LBTB Lobatse 74.30 241 *e*P **P 20 39 59.3 +0.5**
LBTB pmax pmax
comp=Z,25nm,0.9s,mb5.1
LBTB Lobatse 74.30 241 *e*P **P 20 39 59.3 +0.5**
comp=Z,24nm,0.9s,mb5.1
VYHS Vyhne 74.55 318 *i* P **P 20 40 00.5 +0.8**
CASY Casey 74.83 173 *e*P **P 20 40 00.9 -0.1**
comp=Z,19nm,1.0s,mb5.0
SRO Srobarova 74.83 317 *e*P **P 20 40 02.8 +1.4**
KEV Kevo 74.95 341 *e*p **P 20 39 56.3 -5.4**
OKC Ostrava-Krasne 75.13 319 *e*P **P 20 40 02.8 -0.3**
ARCES ARCESS Array B 75.39 340 P **P 20 40 01.9 -2.3**
comp=Z,7.9nm,0.7s,mb4.8,baz=104,slow=5.5,SNR=11
ARCES LR LR 21 16 07.1
comp=Z,3μm,20.5s,MS5.6,baz=25,slow=38
MORC Moravsky Berou 75.52 319 *e*P **P 20 40 03.6 -1.7**
MORC pmax pmax
comp=Z,32nm,1.1s,mb5.2
MORC Moravsky Berou 75.52 319 *e*P **P 20 40 03.6 -1.7**
comp=Z,32nm,1.1s,mb5.2
BOSA Boshof 75.63 238 *e*P **P 20 40 06.9 +0.5**
BOSA pmax pmax
comp=Z,19nm,0.9s,mb5.0
BOSA Boshof 75.63 238 *e*P **P 20 40 06.8 +0.5**
comp=Z,19nm,0.9s,mb5.0
ZST Bratislava 75.67 318 *i* P **P 20 40 07.5 +1.3**
GKP Gorka Klasztor 76.04 323 *e*P **P 20 40 08.6 +0.5**
DPC Dobruska-Polom 76.35 320 *e*P **P 20 40 10.0 +0.1**
KSP Ksiaz 76.40 320 *e*P **P 20 40 11.0 +0.8**
KSP Ksiaz 76.40 320 *e*P **P 20 40 12.2 +2.0**
UPC Upice 76.56 320 *e*P **P 20 40 11.3 +0.2**
VAE Valguarnera 77.26 307 LR LR 21 18 13.6
comp=Z,1μm,18.0s,MS5.2,baz=328,slow=39
PRU Pruhonice 77.47 319 *e*P **P 20 40 16.3 +0.1**
PVCC Panska Ves 77.48 320 *e*P **P 20 40 16.3 +0.1**
MOA Molln 77.56 317⇑ *i*P **P 20 40 16.9 +0.2**
comp=Z,19nm,1.3s,mb4.9
BSD Bornholm Skovb 77.56 325 *i* P **P 20 40 15.7 -0.8**
BSD pmax pmax
comp=Z,22nm,0.9s,mb5.1
BSD Bornholm Skovb 77.56 325 *i* P **P 20 40 15.7 -0.8**
comp=Z,22nm,0.9s,mb5.1
BRG Berggiesshubel 77.89 320 *i* P **P 20 40 18.5 0.0**
BRG *i* pP 20 40 28.5 +0.2
BRG pmax pmax
comp=Z,18nm,1.0s,mb5.0
BRG MLR MLR
comp=Z,2μm,20.9s,MS5.4
BRG Berggiesshubel 77.89 320 *i* P **P 20 40 18.5 0.0**
comp=Z,18nm,1.0s,mb5.0
BRG *i* pP 20 40 28.5 +0.2
BRG LR LR
comp=Z,2μm,20.9s,MS5.4
GEC2 GERESS Array S 77.97 318 *e*P **P 20 40 18.8 -0.1**
GEC2 pmax pmax
comp=Z,24nm,1.0s,mb5.1
GEC2 GERESS Array S 77.97 318 *e*P **P 20 40 18.8 -0.1**
comp=Z,24nm,1.0s,mb5.1
GERES GERESS Array B 77.97 318 P **P 20 40 17.3 -1.6**
comp=Z,14nm,0.9s,mb4.9,baz=88,slow=4.7,SNR=34
KHC Kasperske Hory 78.06 319 *e*P **P 20 40 17.9 -1.5**
KHC *e* 20 40 25.0
KHC Kasperske Hory 78.06 319 *e*P **P 20 40 17.9 -1.5**
KHC pP pP 20 40 25.0 -4.2
RUE Ruedersdorf 78.07 322 *e*P **P 20 40 18.7 -0.7**
comp=Z,51nm,0.9s,mb5.5
PTCC Patocco-Chiusa 78.14 316 *e*P **P 20 40 20.6 +0.7**
MAW Mawson 78.47 192 *e*P **P 20 40 22.4 +1.1**
MAW pmax pmax
comp=Z,41nm,1.3s
MAW Mawson 78.47 192 P **P 20 40 22.3 +1.0**
comp=Z,5.5nm,0.6s,mb4.7,baz=32,slow=7.3,SNR=4.6
MAW LR LR 21 10 30.3
comp=Z,879nm,19.6s,MS5.1,baz=190,slow=32
MAW Mawson 78.47 192 *e*P **P 20 40 22.4 +1.0**
comp=Z,41nm,1.3s,mb5.2
CLL Collm 78.50 321 *i* P **P 20 40 22.7 +0.9**
CLL *i* 20 40 30.2
CLL pmax pmax
comp=Z,18nm,1.1s,mb4.9
CLL Collm 78.50 321 *i* P **P 20 40 22.7 +0.9**
comp=Z,18nm,1.1s,mb4.9
CLL *i* 20 40 26.7
CLL *i* 20 40 30.2
CLL Collm 78.50 321 P **P 20 40 22.7 +0.9**
comp=Z,logA/T=1.2,mb4.9
CLL *i* *PP pP 20 40 26.7 -4.9
CLL *i* *SP sP 20 40 30.2 -4.7
WET Wettzell 78.52 319 *e*P **P 20 40 21.9 -0.1**
WET pmax pmax
comp=Z,20nm,1.1s,mb5.0
WET Wettzell 78.52 319 *e*P **P 20 40 21.9 -0.1**
comp=Z,20nm,1.1s,mb5.0
FVI Forni Avoltri 78.53 316 *e*P **P 20 40 24.9 +2.8**
NKC Novy Kostel 78.82 320 *e*P **P 20 40 25.5 +1.9**
COP Copenhagen 79.00 325 *e*P **P 20 40 29.7 +5.2**
COP pmax pmax
comp=Z,31nm,0.7s,mb5.3
COP Copenhagen 79.00 325 *i* P **P 20 40 29.7 +5.2**
comp=Z,31nm,0.7s,mb5.3
SFI Santa Sofia 79.19 313 *e*P **P 20 40 27.2 +1.5**
CTI Castel Tesino 79.31 315 *e*P **P 20 40 27.2 +0.8**
WTTA Wattenberg 79.32 317⇑ *i*P **P 20 40 26.5 +0.1**
comp=Z,25nm,0.8s,mb5.2
WTTA Wattenberg 79.32 317⇑ *i*P **P 20 40 26.5 +0.1**
WTTA pmax pmax
comp=Z,25nm,0.8s,mb5.2
MOX Moxa 79.36 320 *e*P **P 20 40 26.9 +0.4**
MOX pmax pmax
comp=Z,114nm,2.4s,mb5.4
MOX MLR MLR
comp=Z,1μm,19.0s,MS5.2
MOX Moxa 79.36 320 *e*P **P 20 40 26.9 +0.4**
comp=Z,114nm,2.4s,mb5.4
MOX LR LR
comp=Z,1μm,19.0s,MS5.2
MOX Moxa 79.36 320 *i* P **P 20 40 26.9 +0.4**
comp=Z,logA/T=1.7,mb5.4
MOX L 21 21 57.0
VMG Vicchio 79.40 313 *e*P **P 20 40 28.9 +2.0**
FUR Furstenfeldbru 79.57 317 *e*P **P 20 40 27.1 -0.6**
GRA1 Grafenberg Arr 79.61 319 *e*P **P 20 40 28.2 +0.3**
comp=Z,25nm,1.0s,mb5.1
GRA1 *e*pP pP 20 40 37.5 -0.2
GRF Grafenberg Arr 79.61 319 *e*P **P 20 40 28.2 +0.3**
GRF *e**PP pP 20 40 37.5 -0.2
GRF pmax pmax
comp=Z,25nm,1.0s,mb5.1
GRF Grafenberg Arr 79.61 319 *e*P **P 20 40 28.2 +0.3**
GRF *e**PP pP 20 40 37.5 -0.2
GRF pmax pmax
comp=Z,25nm,1.0s,mb5.1
GRF Grafenberg Arr 79.61 319 *e*P **P 20 40 28.2 +0.3**
comp=Z,25nm,1.0s,mb5.1
GRF *e*pP pP 20 40 37.5 -0.2
SQTA Sankt Quirin 79.61 317⇑ *i*P **P 20 40 26.9 -1.1**
comp=Z,22nm,1.1s,mb5.0
SQTA Sankt Quirin 79.61 317⇑ *i*P **P 20 40 26.9 -1.1**
SQTA pmax pmax
comp=Z,22nm,1.1s,mb5.0
MOTA Moosalm 79.69 317⇓ *i*P **P 20 40 26.6 -1.8**
comp=Z,15nm,1.0s,mb4.9
MOTA Moosalm 79.69 317⇓ *i*P **P 20 40 26.6 -1.8**
MOTA pmax pmax
comp=Z,15nm,1.0s,mb4.9
NB2 NORSAR Subarra 79.86 331 P **P 20 40 27.0 -2.0**
comp=Z,20nm,0.8s,mb5.1,baz=97,slow=5.0
NB2 NORSAR Subarra 79.86 331 P **P 20 40 27.0 -2.0**
baz=96,slow=5.1
NOA NORSAR Array B 79.86 331 P **P 20 40 26.8 -2.2**
comp=Z,15nm,0.8s,mb5.0,baz=92,slow=5.6,SNR=27
NOA LR LR 21 21 01.3
comp=Z,1μm,18.7s,MS5.2,baz=110,slow=40
NOA NORSAR Array B 79.86 331 P **P 20 40 26.8 -2.2**
NOA LR LR 21 21 01.3
NAO01 NORSAR Array S 80.02 330 *e*P **P 20 40 29.5 -0.4**
comp=Z,39nm,1.0s,mb5.3
GSCL Gusciola 80.08 314 *e*P **P 20 40 32.9 +2.3**
TSUM Tsumeb 80.10 249 *e*P **P 20 40 31.4 +0.2**
comp=Z,12nm,1.1s,mb4.7
CLZ Clausthal 80.15 321 *e*P **P 20 40 30.7 0.0**
comp=Z,22nm,1.0s,mb5.0
BRMO Bormio 80.20 316 *e*P **P 20 40 32.6 +1.5**
SUR Sutherland 80.38 235 *e*P **P 20 40 34.5 +2.2**
comp=Z,19nm,0.9s,mb5.0
MUD Monsted U'grnd 80.84 326 *i* P **P 20 40 37.3 +3.0**
MUD pmax pmax
comp=Z,26nm,0.8s,mb5.2
MUD Monsted U'grnd 80.84 326 *i* P **P 20 40 37.3 +3.0**
comp=Z,26nm,0.8s,mb5.2
VAI Varese 81.33 315 *e*P **P 20 40 37.7 +0.6**
TNS Taunus Mts 81.39 320 *e*P **P 20 40 37.3 0.0**
BFO Black Forest 81.53 318 *e*P **P 20 40 37.5 -0.6**
BFO pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BFO Black Forest 81.53 318 *e*P **P 20 40 37.5 -0.6**
comp=Z,10.0nm,1.1s,mb4.7
MCGN Macugnaga 81.87 315 *e*P **P 20 40 42.2 +2.4**
LPG La Plagne 82.76 315 *e*P **P 20 40 45.8 +1.3**
comp=Z,55nm,0.9s,mb5.3
LPG La Plagne 82.76 315 *e*P **P 20 40 45.8 +1.3**
LPG pmax pmax
comp=Z,27nm,0.9s,mb5.3
BNI Bardonecchia 82.84 314 *e*P **P 20 40 48.1 +3.2**
BNI pmax pmax
comp=Z,24nm,0.9s,mb5.2
BNI Bardonecchia 82.84 314 *e*P **P 20 40 48.1 +3.1**
comp=Z,24nm,0.9s,mb5.2
RPZ Rata Peaks 85.91 135 LR LR 21 16 53.6
comp=Z,1μm,21.6s,MS5.3,baz=182,slow=34
TNA Tin City 86.20 24 *e*P **P 20 40 59.6 -1.8**
comp=Z,4.4nm,0.7s,mb4.8
URZ Urewera 89.20 129 LR LR 21 23 06.4
comp=Z,908nm,18.7s,MS5.2,baz=165,slow=37
ESDC Sonseca Array 91.36 310 P **P 20 41 25.7 -0.8**
comp=Z,5.1nm,0.8s,mb4.9,baz=66,slow=3.8,SNR=12
ESLA Sonseca Array 91.36 310 *e*P **P 20 41 26.7 +0.2**
comp=Z,3.1nm,1.0s,mb4.6
IMA Indian Mountai 91.66 22 *e*P **P 20 41 29.5 +2.3**
VNDA Vanda 92.82 168 P **P 20 41 34.7 +2.3**
comp=Z,5.6nm,1.4s,mb4.8,baz=340,slow=9.7,SNR=3.0
VNDA LR LR 21 20 24.3
comp=Z,661nm,18.3s,MS5.1,baz=306,slow=34
VNDA Vanda 92.82 168 *e*P **P 20 41 31.3 -1.1**
VNDA LR LR 21 20 24.3
SPU Mount Spurr 94.31 26 *e*P **P 20 41 39.2 -0.3**
ILAR Eielson Array 94.78 22 P **P 20 41 41.6 +0.1**
comp=Z,0.5nm,0.7s,mb4.0,baz=297,slow=4.0,SNR=6.9
INK Inuvik 97.05 16 P **P 20 41 51.2 -0.6**
comp=Z,3.8nm,1.1s,mb4.7,baz=315,slow=4.1,SNR=5.6
INK LR LR 21 32 06.4
comp=Z,1μm,19.4s,MS5.4,baz=102,slow=40
INK Inuvik 97.05 16 P **P 20 41 51.2 -0.6**
INK LR LR 21 32 06.4
RES Resolute Bay 97.48 2 *e*P **P 20 41 53.6 -0.1**
RES pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
RES Resolute Bay 97.48 2 *e*P **P 20 41 53.6 -0.1**
comp=Z,7.5nm,0.9s,mb5.1
DBIC Dimbokro 98.07 278 *e*P **P 20 41 58.1 +0.4**
DBIC pmax pmax
comp=Z,16nm,1.3s
DBIC Dimbokro 98.07 278 P **P 20 41 57.5 -0.2**
comp=Z,5.8nm,1.1s,mb5.0,baz=44,slow=1.9,SNR=5.1
DBIC Dimbokro 98.07 278 *e*P **P 20 41 58.1 +0.4**
comp=Z,16nm,1.3s,mb5.4
YKA Yellowknife Ar 106.48 14 PP PP 20 46 56.1 -5.9
comp=Z,0.9nm,0.9s,baz=333,slow=7.7,SNR=6.2
YKA PKKPbc 20 58 04.3
comp=Z,0.2nm,0.5s,baz=152,slow=3.2,SNR=6.8
TBI Tubuai 117.15 112 *e*SP SP 20 58 02.0 +6.3
TBI *e*LR LR 21 22 59.2
comp=Z,756nm,31.8s
PPT Papeete 117.21 106 *e*PP PP 20 48 11.0 -10
PPT *e*SS SS 21 04 36.6 +13
PPT *e*LR LR 21 23 04.3
comp=Z,660nm,25.2s
ULM Lac du Bonnet 121.54 8 PKP PKPdf 20 47 11.4 -6.5
comp=Z,2.4nm,0.6s,baz=360,slow=2.7,SNR=6.9
NVAR Mina Array Bea 124.94 31 PKP PKPdf 20 47 21.6 -3.2
comp=Z,1.0nm,0.6s,baz=352,slow=1.7,SNR=6.5
PDAR Pinedale Array 125.21 21 PKP PKPdf 20 47 21.4 -3.8
comp=Z,1.8nm,0.8s,baz=31,slow=1.8,SNR=11
ANMO Albuquerque 133.21 23 PKP PKPdf 20 47 37.4 -3.4
comp=Z,0.7nm,0.5s,baz=45,slow=1.4,SNR=2.8
TXAR Lajitas Array 139.26 24 PKP PKPdf 20 47 47.6 -4.4
comp=Z,0.7nm,0.7s,baz=330,slow=7.3,SNR=4.7
JCT Junction City 139.63 19 *e*PKIKP PKPdf 20 47 49.9 -2.7
PLCA Paso Flores 144.51 200 *e*PKIKP PKPdf 20 47 56.4 -4.5
PLCA Paso Flores 144.51 200 PKP PKPdf 20 47 56.7 -4.2
comp=Z,12nm,0.8s,baz=155,slow=4.7,SNR=12
SJG San Juan 147.81 323 *e*PKP2 PKPab 20 48 05.6 -3.7
SJG San Juan 147.81 323 PKPbc PKPdf 20 48 06.8 -0.3
comp=Z,13nm,0.6s,baz=82,slow=7.1,SNR=3.3
FCH Farellones 150.84 207⇓ *i*P PKPdf 20 48 14.2 +2.7
SDV Santo Domingo 157.62 317 PKP PKPdf 20 48 19.4 -2.0
comp=Z,3.6nm,0.8s,baz=348,slow=7.9,SNR=2.7
SDV PKPab PKPab 20 48 48.1 -2.6
comp=Z,6.2nm,0.8s,baz=307,slow=5.1,SNR=2.9
SDV Santo Domingo 157.62 317 PKP PKPdf 20 48 19.4 -2.0
SDV PKPab PKPab 20 48 48.1 -2.6
SDV *e*PKPab PKPab 20 48 50.1 -0.6
LVC Limon Verde 158.10 226 PKP PKPdf 20 48 17.8 -4.0
comp=Z,6.6nm,1.2s,baz=316,slow=7.1,SNR=2.0
LVC PKPab PKPab 20 48 53.1 +0.5
comp=Z,7.0nm,0.8s,baz=29,slow=3.7,SNR=5.4
LVC Limon Verde 158.10 226 PKP PKPdf 20 48 17.8 -4.0
LVC PKPab PKPab 20 48 53.1 +0.5
LPAZ La Paz 160.83 242 PKP PKPdf 20 48 21.5 -3.4
comp=Z,7.0nm,1.2s,baz=352,slow=1.6,SNR=6.7
LPAZ PKPab PKPab 20 49 03.6 -0.7
comp=Z,2.8nm,0.9s,baz=216,slow=17,SNR=2.1
LPAZ La Paz 160.83 242 *e*PKPdf PKPdf 20 48 23.4 -1.4
ROSC El Rosal 163.05 317 PKP PKPdf 20 48 24.3 -2.9
comp=Z,2.7nm,0.4s,baz=84,slow=23,SNR=2.2

IDC ***29*** *20:34:21.8±0.6, 8.16N×94.23E, mb4.1/15, mb1 4.2/15, mb1mx4.2/21, mbtmp4.1/15, Error ellipse: s-maj=28.9km s-min=16.1km az=54.0*
NEIC ***29*** *20:34:26.2±0.4, 8.14N×94.22E, h30km, mb4.5/4, Error ellipse: s-maj=19.8km s-min=9.3km az=52.0*
ISC 29 20:34:24.3±0.5, 8.1N±0.1×94.2E±0.2, h30km, n24, σ0.88/20, mb4.2/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**18.75**	**25**	P	**P**	**20 38 50.4**	**+7.0**
	5.0nm,0.9s						
AAK	**Ala-Archa**	**38.50**	**336**	*e*P	**P**	**20 41 41.8**	**-3.9**
	28nm,1.7s,mb4.7						
SONM	**Songino Array**	**40.90**	**13**	P	**P**	**20 42 06.8**	**+1.3**
	2.6nm,1.2s,mb3.7,baz=189,slow=7.8,SNR=5.0						
ZAL	**Zalesovo**	**46.30**	**352**	P	**P**	**20 42 49.0**	**-0.1**
	2.4nm,1.0s,mb4.1,baz=315,slow=7.2,SNR=3.4						
NWAO	**Narrogin (SRO)**	**46.34**	**153**	P	**P**	**20 42 49.5**	**-0.1**
	3.4nm,0.7s,mb4.4,baz=109,slow=5.6,SNR=2.2						
WRA	**Warramunga Arr**	**48.34**	**126**	P	**P**	**20 43 05.5**	**-0.1**
	0.6nm,0.6s,mb3.8,baz=305,slow=9.3,SNR=5.2						
WRAB	**Tennant Creek**	**48.35**	**126**	P	**P**	**20 43 05.8**	**+0.2**
	5.2nm,0.9s,mb4.6						
BVAR	**Borovoye Array**	**48.77**	**341**	P	**P**	**20 43 06.4**	**-2.0**
	0.7nm,0.8s,mb3.8,baz=104,slow=5.9,SNR=2.1						
ASAR	**Alice Springs**	**50.02**	**130**	P	**P**	**20 43 17.9**	**-0.5**
	1.0nm,0.7s,mb4.0,baz=302,slow=7.5,SNR=4.7						
KMBO	**Kilima Mbogo**	**57.53**	**263**	P	**P**	**20 44 14.3**	**+0.4**
	3.6nm,0.7s,mb4.5,baz=53,slow=11,SNR=14						
KMBO	**Kilima Mbogo**	**57.53**	**263**	P	**P**	**20 44 14.3**	**+0.4**
BRTR	**Keskin Array B**	**62.33**	**311**	P	**P**	**20 44 45.2**	**-1.2**
	1.1nm,0.7s,mb4.1,baz=124,slow=6.5,SNR=5.0						
AKASG	**Malin Array Be**	**68.00**	**322**	P	**P**	**20 45 22.6**	**-0.3**
	1.6nm,0.8s,mb4.1,baz=92,slow=4.9,SNR=4.7						
IDI	**Anoyia**	**68.49**	**305**	P	**P**	**20 45 26.5**	**+0.3**
	6.2nm,0.7s,mb4.8,baz=171,slow=14,SNR=3.8						
FINES	**FINESS Array B**	**72.52**	**332**	P	**P**	**20 45 50.1**	**0.0**
	1.1nm,0.5s,mb4.0,baz=90,slow=5.7,SNR=7.4						
KAF	**Kangasniemi**	**72.60**	**333**	*e*p	**P**	**20 45 49.8**	**-0.8**
	3.3nm,0.8s,mb4.3						
ARCES	**ARCESS Array B**	**75.05**	**340**	P	**P**	**20 46 04.8**	**+0.1**
	4.8nm,0.9s,mb4.5,baz=100,slow=5.5,SNR=4.2						
GERES	**GERESS Array B**	**77.69**	**318**	P	**P**	**20 46 20.9**	**+1.1**
	1.9nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=14						
NOA	**NORSAR Array B**	**79.55**	**331**	P	**P**	**20 46 29.9**	**+0.1**
	1.3nm,0.9s,mb3.9,baz=96,slow=5.2,SNR=3.3						
DAVOX	**Davos**	**80.36**	**216**	P	**P**	**20 46 35.4**	**+1.5**
	2.0nm,0.6s,mb4.2,baz=35,slow=11,SNR=3.6						
PDAR	**Pinedale Array**	**124.90**	**21**	PKP	PKPdf	20 53 25.1	-1.9
	0.4nm,0.6s,slow=1.5,SNR=3.9						
PLCA	**Paso Flores**	**144.82**	**200**	PKP	PKPdf	20 54 00.2	-3.6
	2.1nm,0.7s,baz=142,slow=3.6,SNR=4.9						
PLCA	**Paso Flores**	**144.82**	**200**	PKP	PKPdf	20 54 00.2	-3.6
LVC	**Limon Verde**	**158.32**	**227**	PKPab	PKPab	20 54 57.1	+1.2
	3.0nm,0.8s,baz=186,slow=3.9,SNR=3.5						

IDC ***29*** *20:36:05.9±0.6, 7.72N×93.95E, mb4.3/20, mb1 4.4/21, mb1mx4.3/25, mbtmp4.2/21, ML4.3/1, Error ellipse: s-maj=27.5km s-min=13.9km az=48.0*
BJI ***29*** *20:36:09.0, 7.48N×93.77E, h45km, mb4.5*
NEIC ***29*** *20:36:10.4±0.4, 7.70N×93.98E, h30km, mb4.5/11, Error ellipse: s-maj=12.6km s-min=9.1km az=59.0*
ISC 29 20:36:08.9±0.5, 7.68N±0.07×94.01E±0.09, h33km, n49, σ0.88/45, mb4.4/33, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.74**	**24**	*e*P	**P**	**20 38 57.8**	**+0.7**
	11nm,0.7s						

CMAR	Chiang Mai Arr	11.74	24	Pn	P	20 38 56.8	-0.3
	0.6nm,0.3s,baz=210,slow=14,SNR=18						
PALK	Pallekele	13.20	269	eP	P	20 39 23.9	+7.2
PALK				eS	S	20 41 31.2	-12
HYB	Hyderabad	17.91	304	i P	P	20 40 22.0	+4.8
HYB				e		20 40 29.0	
KMI	Kunming	19.25	25	P	P	20 40 35.4	+2.0
	20nm,1.3s						
JIRN	Jiri	21.20	341	eP	P	20 40 54.0	0.0
	40nm,0.7s,mb4.9						
PKI	Pulchoki	21.39	339	eP	P	20 40 56.9	+1.0
	29nm,0.7s,mb4.7						
DMN	Daman	21.54	338	eP	P	20 40 57.8	+0.4
KKN	Kakani	21.64	339	eP	P	20 40 57.9	-0.5
GKN	Gorkha	22.07	337	eP	P	20 41 02.8	+0.1
	50nm,0.8s,mb5.0						
KOLN	Koldanda	22.28	335	eP	P	20 41 05.3	+0.6
	72nm,1.1s,mb5.0						
WMQ	Urumqi	36.42	352	eP	P	20 43 13.0	+0.7
AAK	Ala-Archa	38.83	337	eP	P	20 43 30.7	-1.8
	5.0nm,0.9s,mb4.2						
SONM	Songino Array	41.38	13	P	P	20 43 53.5	0.0
	3.6nm,0.7s,mb4.1,baz=194,slow=9.2,SNR=16						
SONM				PcP	PcP	20 45 52.5	+0.5
	1.4nm,0.7s,baz=191,slow=3.8,SNR=5.5						
ULN	Ulaanbaatar	41.55	13	eP	P	20 43 54.7	-0.3
	3.2nm,0.8s,mb4.0						
KURK	Kurchatov	44.76	346	eP	P	20 44 20.4	-0.7
	25nm,1.2s,mb4.9						
NWAO	Narrogin (SRO)	46.04	153	P	P	20 44 32.5	+1.0
	4.3nm,0.8s,mb4.4,baz=268,slow=2.2,SNR=3.4						
NWAO	Narrogin (SRO)	46.04	153	P	P	20 44 32.5	+1.0
ZAL	Zalesovo	46.72	353	P	P	20 44 36.8	+0.3
	8.0nm,0.7s,mb4.8,baz=297,slow=6.0,SNR=23						
WRA	Warramunga Arr	48.26	125	P	P	20 44 48.8	-0.3
	0.4nm,0.5s,mb3.8,baz=304,slow=8.7,SNR=4.2						
WRAB	Tennant Creek	48.26	125	P	P	20 44 48.1	-0.9
	5.6nm,0.9s,mb4.6						
BVAR	Borovoye Array	49.13	341	P	P	20 44 54.7	-0.6
	1.2nm,0.6s,mb4.1,baz=162,slow=4.7,SNR=5.4						
CHKZ	Chkalovo	49.61	342	eP	P	20 44 58.5	-0.5
	17nm,1.0s,mb5.0						
ASAR	Alice Springs	49.90	130	P	P	20 45 00.8	-0.8
	0.9nm,0.6s,mb4.0,baz=310,slow=7.9,SNR=4.3						
ASAR				PcP	PcP	20 46 22.9	+0.9
	1.0nm,0.6s,baz=305,slow=3.3,SNR=5.7						
PMG	Port Moresby	55.60	107	P	P	20 45 44.9	+0.7
	2.8nm,0.5s,mb4.6,baz=226,slow=12,SNR=2.8						
KMBO	Kilima Mbogo	57.27	264	P	P	20 45 60.0	+3.8
	1.7nm,0.8s,mb4.2,baz=65,slow=10,SNR=5.4						
KMBO	Kilima Mbogo	57.27	264	eP	P	20 45 58.1	+1.9
	2.5nm,1.0s,mb4.2						
EIL	Elat	59.41	300	P	P	20 46 12.1	+1.3
	3.6nm,0.9s,mb4.4,baz=83,slow=14,SNR=3.7						
YAK	Yakutsk	60.22	18	eP	P	20 46 15.0	-1.0
	24nm,0.8s,mb5.3						
BRTR	Keskin Array B	62.45	311	P	P	20 46 29.8	-1.6
	1.1nm,0.6s,mb4.2,baz=123,slow=7.0,SNR=5.9						
MA2	Magadan	67.00	28	eP	P	20 46 59.5	-0.8
	9.0nm,0.8s,mb4.8						
AKASG	Malin Array Be	68.22	322	P	P	20 47 06.8	-1.4
	2.7nm,1.0s,mb4.2,baz=89,slow=5.2,SNR=5.0						
IDI	Anoyia	68.57	305	P	P	20 47 10.6	-0.1
	6.6nm,0.7s,mb4.7,baz=157,slow=9.6,SNR=2.5						
JOF	Joensuu	70.96	335	ep	P	20 47 23.6	-1.2
	3.4nm,0.6s,mb4.5						
FINES	FINESS Array B	72.82	332	P	P	20 47 35.4	-0.4
	7.5nm,1.0s,mb4.6,baz=105,slow=5.9,SNR=12						
KAF	Kangasniemi	72.90	333	ep	P	20 47 35.9	-0.4
	5.1nm,0.7s,mb4.6						
ARCES	ARCESS Array B	75.40	340	P	P	20 47 50.7	0.0
	7.6nm,1.1s,mb4.5,baz=111,slow=7.7,SNR=3.5						
GERES	GERESS Array B	77.88	318	P	P	20 48 05.6	+0.5
	1.8nm,0.8s,mb4.1,baz=90,slow=4.0,SNR=11						
NB2	NORSAR Subarra	79.83	331	P	P	20 48 15.5	0.0
	1.3nm,0.6s,mb4.0,baz=97,slow=5.0						
NOA	NORSAR Array B	79.83	331	P	P	20 48 14.9	-0.6
	1.8nm,0.7s,mb4.1,baz=92,slow=5.7,SNR=5.5						
DAVOX	Davos	80.43	316	P	P	20 48 20.0	+1.0
	1.7nm,0.7s,mb4.1,baz=122,slow=15,SNR=2.8						
ESDC	Sonseca Array	91.24	310	P	P	20 49 13.9	+1.4
	0.6nm,0.6s,mb4.1,baz=54,slow=4.4,SNR=4.1						
ILAR	Eielson Array	94.97	22	P	P	20 49 29.2	+0.3
	0.3nm,0.5s,mb4.0,baz=300,slow=3.9,SNR=7.2						
INK	Inuvik	97.21	16	P	P	20 49 40.1	+1.0
	0.7nm,0.7s,mb4.2,baz=306,slow=8.0,SNR=3.3						
ULM	Lac du Bonnet	121.67	7	PKP	PKPdf	20 55 00.7	+1.1
	0.7nm,0.3s,baz=148,slow=1.5,SNR=2.4						
NVAR	Mina Array Bea	125.15	31	PKP	PKPdf	20 55 10.2	+3.6
	0.5nm,0.7s,baz=330,slow=1.1,SNR=3.7						
PDAR	Pinedale Array	125.39	21	PKP	PKPdf	20 55 09.7	+2.7
	0.8nm,0.8s,baz=86,slow=1.4,SNR=6.6						
ANMO	Albuquerque	133.40	23	PKP	PKPdf	20 55 25.2	+2.7
	0.7nm,0.5s,baz=144,slow=8.1,SNR=2.7						
PLCA	Paso Flores	144.32	200	PKP	PKPdf	20 55 43.5	+1.6
	1.8nm,0.7s,baz=320,slow=8.3,SNR=4.2						

MAN 29 20:37:28.8, 18.02N×120.61E, h22km, mb3.9, ML2.6, MS2.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	0.38	164	eP	Pb	20 37 37.9	+1.0
ABRA				eS	Sb	20 37 44.0	+1.7
APYP	Conner	0.63	104	eP	Pb	20 37 41.5	+0.5
APYP				eS	Sb	20 37 52.2	+2.9
CVP	Callao Caves	1.20	105	eP	Pn	20 37 49.0	-1.5
CVP				eS	Sb	20 38 06.0	+0.2
CAUP	Cauayan	1.58	132	eP	Pn	20 37 56.2	+0.3
BALP	Baler	2.44	158	eP	Pn	20 38 07.7	-0.6

*IGQ **29** 20:42:55.2, 1.29S×81.07W, h14km±10km, mb4.3, Error ellipse: s-maj=9.8km s-min=5.1km az=12.2*
*IDC **29** 20:42:57.8±1.6, 0.30S×79.29W, mb3.8/6, mb1 4.1/7, mb1mx3.9/19, mbtmp3.8/7, ML3.9/1, Error ellipse: s-maj=123.9km s-min=29.2km az=58.0*
ISC 29 20:42:55.9±1.5, 1.26S±0.07×81.09W±0.05, h9km±9km, n32, σ1§16/35, mb3.8/6, 7C-3D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.58	69	⇑P	Pg	20 43 06.0	-1.6
JAMA	Jama	1.33	41	⇓P	Pb	20 43 19.5	-1.1
JAMA				S	Sb	20 43 36.9	-0.6
MAGD	Magdalena	1.77	48	P	Pn	20 43 27.8	+0.8
IGUA	Igualata	2.46	95	⇓P	Pn	20 43 36.2	-0.6
IGUA				S	Sn	20 44 05.8	-1.4
CUSU	Cusua	2.61	94	⇑P	Pn	20 43 40.0	+1.0
JUIV	Juive	2.62	94	⇑P	Pn	20 43 39.0	-0.2
ARRY	Arrayan	2.64	95	⇓P	Pn	20 43 39.0	-0.5
ARRY				S	Sn	20 44 10.1	-1.8
RETU	Refugio	2.65	94	P	Pn	20 43 40.5	+1.0
MARY	Rancho Maria	2.65	79	P	Pn	20 43 39.9	+0.3
PATA	Patacocha	2.66	95	P	Pn	20 43 40.5	+0.8
PATA				S	Sn	20 44 14.3	+1.9
NAS1	Nasa	2.68	77	P	Pn	20 43 39.6	-0.4
ULBA	Ulba	2.68	94	⇑P	Pn	20 43 40.5	+0.4
JUA2	San Juan 2	2.69	67	P	Pn	20 43 40.6	+0.5
PISA	Pisayambo	2.71	86	P	Pn	20 43 40.8	+0.4
TERV	Terraza Guagua	2.71	66	P	Pn	20 43 39.9	-0.5
PINO	Pino	2.71	66	P	Pn	20 43 39.6	-0.8
VC1	Cotopaxi 1	2.75	77	P	Pn	20 43 41.9	+0.9
YANA	Yana	2.76	66	P	Pn	20 43 40.0	-1.1
TAMB	Tambo	2.77	78	P	Pn	20 43 42.0	+0.7
ANTI	Antisana	3.03	75	P	Pn	20 43 45.6	+0.6
COTA	Cotacachi	3.17	60	⇑P	Pn	20 43 47.5	+0.5
CAYR	Refugio Cayamb	3.33	68	⇑P	Pn	20 43 51.5	+2.2
CAYA	Cayambe	3.37	67	⇑P	Pn	20 43 51.9	+2.1
CONE	Cono NE Rev Vo	3.64	71	P	Pn	20 43 59.8	+6.2
LPAZ	La Paz	19.64	140	P	P	20 47 25.4	-2.5
	0.1nm,0.3s,baz=327,slow=9.8,SNR=7.5						
ANMO	Albuquerque	43.15	329	P	P	20 50 60.0	+1.2
	2.1nm,0.9s,mb3.9,baz=151,slow=13,SNR=4.4						
PDAR	Pinedale Array	50.78	333	P	P	20 51 59.7	+1.2
	0.4nm,1.0s,mb3.3,baz=120,slow=7.3,SNR=2.3						
NVAR	Mina Array Bea	52.28	323	P	P	20 52 15.2	+5.1
	0.7nm,0.7s,mb3.7,baz=301,slow=5.3,SNR=4.0						
ULM	Lac du Bonnet	52.86	348	P	P	20 52 11.7	-2.5
	3.9nm,0.7s,mb4.5,baz=159,slow=7.3,SNR=8.9						
YKA	Yellowknife Ar	68.43	344	P	P	20 53 58.5	-1.6
	1.2nm,0.9s,mb3.9,baz=136,slow=6.3,SNR=18						
INK	Inuvik	78.10	342	P	P	20 54 56.4	-0.1
	0.4nm,0.6s,mb3.5,baz=136,slow=2.8,SNR=3.7						
WRA	Warramunga Arr	139.38	237	PKhKP		21 02 21.3	
	0.2nm,0.4s,baz=124,slow=2.9,SNR=3.5						

IDC 29 20:42:57.6±5.7, 7.96N×94.82E, mb3.7/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, ML4.2/1, Error ellipse: s-maj=135.6km s-min=48.8km az=141.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.18	21	Pn	P	20 45 40.9	-1.0
	0.5nm,0.3s,baz=211,slow=14,SNR=14						
SONM	Songino Array	40.94	12	P	P	20 50 41.3	-2.2
	0.3nm,0.6s,baz=190,slow=7.4,SNR=3.7						
ZAL	Zalesovo	46.56	352	P	P	20 51 26.3	-2.5
	1.3nm,0.4s,baz=326,slow=5.6,SNR=4.1						
KMBO	Kilima Mbogo	58.10	264	P	P	20 52 56.1	+0.5
	1.0nm,1.0s,baz=42,slow=21,SNR=3.6						
FINES	FINESS Array B	72.95	332	P	P	20 54 27.9	-2.6
	0.5nm,0.5s,baz=90,slow=6.9,SNR=4.0						
GERES	GERESS Array B	78.21	318	P	P	20 55 00.2	-0.4
	0.2nm,0.6s,baz=80,slow=6.0,SNR=3.5						

IDC 29 20:45:42.2±7.9, 8.19N×93.96E, h77km±58km, mb3.5/5, mb1 3.6/6, mb1mx3.3/18, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=209.4km s-min=36.6km az=132.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.29	25	P	P	20 48 19.9	-2.8
	0.0nm,0.3s,baz=223,slow=13,SNR=2.9						
SONM	Songino Array	40.90	13	P	P	20 53 17.1	-1.3
	0.9nm,1.2s,baz=214,slow=5.2,SNR=3.1						
ZAL	Zalesovo	46.21	353	P	P	20 54 01.3	0.0
	0.8nm,0.6s,baz=287,slow=8.9,SNR=4.0						
KMBO	Kilima Mbogo	57.28	263	P	P	20 55 23.7	-1.1
	0.7nm,0.8s,baz=45,slow=14,SNR=3.7						
FINES	FINESS Array B	72.35	332	P	P	20 56 59.0	-2.5
	1.7nm,0.8s,baz=117,slow=12,SNR=2.5						
GERES	GERESS Array B	77.48	318	P	P	20 57 27.8	-3.2
	0.3nm,0.6s,baz=83,slow=7.9,SNR=3.9						

IGQ 29 20:48:17.5, 1.54S×80.93W, h10km±9km, mb4.0, 1C, Error ellipse: s-maj=29.4km s-min=6.3km az=0.6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.62	38	⇑P	Pb	20 48 29.1	-0.8
JAMA	Jama	1.46	30	P	Pn	20 48 49.8	+5.7
JAMA				S	Sb	20 49 03.5	+0.6
IGUA	Igualata	2.29	89	P	Pn	20 48 57.1	+1.2
ARRY	Arrayan	2.47	89	P	Pn	20 48 59.6	+1.1
ULBA	Ulba	2.52	88	P	Pn	20 49 01.4	+2.2
PISA	Pisayambo	2.59	79	P	Pn	20 49 02.1	+1.9
NAS1	Nasa	2.61	70	P	Pn	20 49 03.3	+2.7
VC1	Cotopaxi 1	2.68	70	P	Pn	20 49 05.3	+3.8
TERV	Terraza Guagua	2.69	60	P	Pn	20 49 03.1	+1.4
TAMB	Tambo	2.69	72	P	Pn	20 49 03.0	+1.3
PINO	Pino	2.70	59	P	Pn	20 49 02.0	+0.2
YANA	Yana	2.75	59	P	Pn	20 49 03.0	+0.5
ANTI	Antisana	2.97	69	P	Pn	20 49 08.6	+2.9
COTA	Cotacachi	3.19	54	P	Pn	20 49 10.7	+1.9
CAYR	Refugio Cayamb	3.31	62	P	Pn	20 49 13.7	+3.3
CAYA	Cayambe	3.35	61	P	Pn	20 49 14.6	+3.6

*IDC **29** 20:48:56.2±1.1, 7.70N×93.91E, mb3.9/7, mb1 3.9/8, mb1mx3.7/20, mbtmp3.8/8, ML3.2/1, Error ellipse: s-maj=40.5km s-min=24.6km az=74.0*
ISC 29 20:48:59.2±1.0, 7.8N±0.1×94.1E±0.2, h33km, n9, σ0§85/8, mb3.9/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.63	24	Pn	P	20 51 45.1	-0.8
	0.0nm,0.3s,baz=210,slow=14,SNR=3.2						
SONM	Songino Array	41.28	13	P	P	20 56 44.9	+1.8
	0.3nm,0.8s,mb3.0,baz=129,slow=7.9,SNR=2.6						
NWAO	Narrogin (SRO)	46.09	153	P	P	20 57 22.0	-0.2
	2.5nm,0.7s,mb4.3,baz=324,slow=15,SNR=2.3						
ZAL	Zalesovo	46.64	352	P	P	20 57 26.0	-0.2
	0.5nm,0.6s,mb3.7,baz=142,slow=7.4,SNR=2.5						
KMBO	Kilima Mbogo	57.34	264	P	P	20 58 51.9	+5.0
	0.8nm,0.5s,mb4.0,baz=52,slow=14,SNR=5.5						
ASF	Jabal al Asfar	58.21	303	P	P	20 58 52.2	-0.6
	1.2nm,0.6s,mb4.1,baz=45,slow=15,SNR=2.5						
FINES	FINESS Array B	72.77	332	P	P	21 00 25.2	-0.6
	17nm,1.4s,mb4.8,baz=100,slow=8.5,SNR=3.7						
GERES	GERESS Array B	77.86	318	P	P	21 00 56.0	+0.8
	0.8nm,0.8s,mb3.7,baz=76,slow=5.5,SNR=6.6						
PLCA	Paso Flores	144.43	200	PKP	PKPdf	21 08 34.9	+2.5
	1.4nm,0.7s,baz=46,slow=3.8,SNR=2.8						

*NEIC **29** 20:51:50.4±0.5, 7.77N×94.16E, h30km, mb4.7/8, Error ellipse: s-maj=13.4km s-min=10.2km az=63.0*
*IDC **29** 20:51:56.2±4.7, 8.06N×94.38E, h71km±43km, mb3.7/15, mb1 3.8/16, mb1mx3.8/21, mbtmp4.0/16, ML3.7/1, Error ellipse: s-maj=27.4km s-min=14.9km az=55.0*
ISC 29 20:51:49.4±0.6, 7.88N±0.08×94.2E±0.1, h33km, n35, σ1§03/33, mb4.3/25, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.47	23	eP	P	20 54 34.5	+0.6
	1.7nm,0.5s						
CMAR	Chiang Mai Arr	11.47	23	P	P	20 54 34.3	+0.3
	0.2nm,0.3s,baz=210,slow=14,SNR=5.2						
JIRN	Jiri	21.10	340	eP	P	20 56 33.5	0.0
PKI	Pulchoki	21.30	338	eP	P	20 56 35.6	+0.1
DMN	Daman	21.45	337	eP	P	20 56 38.3	+1.3
	22nm,1.0s,mb4.5						
KKN	Kakani	21.55	338	eP	P	20 56 37.9	-0.1
	21nm,1.0s,mb4.5						
GKN	Gorkha	21.98	337	eP	P	20 56 41.8	-0.5
	49nm,1.2s,mb4.8						
KOLN	Koldanda	22.20	334	eP	P	20 56 44.4	-0.1
	24nm,0.9s,mb4.6						
AAK	Ala-Archa	38.74	337	eP	P	20 59 13.4	+1.1
	3.8nm,1.0s,mb4.1						
SONM	Songino Array	41.14	12	P	P	20 59 33.2	+1.0
	2.0nm,1.2s,mb3.6,baz=196,slow=8.2,SNR=4.6						
SONM				PcP	PcP	21 01 32.1	+0.4
	0.4nm,0.5s,baz=216,slow=2.0,SNR=5.5						
KURK	Kurchatov	44.63	346	eP	P	20 59 57.2	-3.3
	4.3nm,0.8s,mb4.3						
NWAO	Narrogin (SRO)	46.10	153	P	P	21 00 14.7	+2.2
	2.5nm,0.7s,mb4.2,baz=333,slow=22,SNR=3.1						
ZAL	Zalesovo	46.56	352	P	P	21 00 16.6	+0.8
	1.3nm,0.8s,mb3.9,baz=220,slow=1.2,SNR=4.3						
WRA	Warramunga Arr	48.18	126	P	P	21 00 28.7	-0.3
	1.0nm,0.8s,mb3.9,baz=308,slow=8.7,SNR=4.6						
WRAB	Tennant Creek	48.18	126	P	P	21 00 24.2	-4.8
	15nm,1.2s,mb4.9						
BVAR	Borovoye Array	49.02	341	P	P	21 00 34.1	-0.9
	1.7nm,1.1s,mb4.0,baz=158,slow=8.0,SNR=3.9						
CHKZ	Chkalovo	49.50	342	eP	P	21 00 37.9	-0.8
	8.7nm,1.0s,mb4.7						
ASAR	Alice Springs	49.84	130	P	P	21 00 41.6	-0.1
	0.7nm,0.6s,mb3.9,baz=306,slow=7.5,SNR=6.3						
PMG	Port Moresby	55.43	107	P	P	21 01 21.2	-2.3
	9.6nm,1.0s,mb4.8						
KMBO	Kilima Mbogo	57.52	264	P	P	21 01 41.9	+3.4
	3.7nm,0.7s,mb4.6,baz=62,slow=11,SNR=12						
KMBO	Kilima Mbogo	57.52	264	eP	P	21 01 41.8	+3.3
	6.9nm,0.9s,mb4.7						
BRTR	Keskin Array B	62.51	311	P	P	21 02 11.1	-1.1
	0.9nm,0.7s,mb4.0,baz=128,slow=8.9,SNR=6.0						
AKASG	Malin Array Be	68.22	322	P	P	21 02 47.6	-1.1
	0.7nm,0.7s,mb3.8,baz=97,slow=4.9,SNR=4.3						
IDI	Anoyia	68.65	305	P	P	21 02 51.6	-0.1
	11nm,1.1s,mb4.7,baz=275,slow=22,SNR=3.4						
JOF	Joensuu	70.89	334	ep	P	21 03 02.9	-2.0
FINES	FINESS Array B	72.76	332	P	P	21 03 15.6	-0.4
	0.8nm,0.5s,mb3.9,baz=101,slow=5.4,SNR=9.1						
KAF	Kangasniemi	72.84	333	ep	P	21 03 12.0	-4.5
ARCES	ARCESS Array B	75.30	340	P	P	21 03 30.9	+0.3
	1.3nm,0.6s,mb4.0,baz=90,slow=3.6,SNR=4.4						
GERES	GERESS Array B	77.89	318	P	P	21 03 46.3	+0.7
	2.0nm,0.8s,mb4.1,baz=76,slow=5.5,SNR=13						
NB2	NORSAR Subarra	79.78	331	P	P	21 03 55.1	-0.6
	7.3nm,1.4s,mb4.4,baz=92,slow=5.8						
NOA	NORSAR Array B	79.78	331	P	P	21 03 55.8	+0.1
	0.7nm,0.8s,mb3.6,baz=124,slow=4.0,SNR=2.7						
LPG	La Plagne	82.69	315	eP	P	21 04 12.1	+0.9
	22nm,1.1s,mb4.8						
ESDC	Sonseca Array	91.30	310	P	P	21 04 54.2	+0.9
	0.4nm,0.5s,mb4.0,baz=46,slow=4.0,SNR=4.1						
PDAR	Pinedale Array	125.13	21	PKP	PKPdf	21 10 49.3	+2.3
	0.5nm,0.7s,baz=121,slow=1.1,SNR=5.1						
PLCA	Paso Flores	144.59	200	PKP	PKPdf	21 11 25.8	+2.9
	2.1nm,0.8s,baz=183,slow=7.1,SNR=3.9						

*IDC **29** 20:52:20.3±6.2, 31.50S×179.45W, h308km±59km, mb3.4/4, mb1 3.6/5, mb1mx3.5/15, mbtmp4.1/5, Error ellipse: s-maj=61.3km s-min=37.6km az=17.0*
*NEIC **29** 20:52:22.3±3.1, 31.88S×178.98W, h377km±18km, mb3.7/2, Error ellipse: s-maj=44.9km s-min=18.9km az=53.0*
ISC 29 20:52:22.0±1.1, 31.89S±0.09×179.1W±0.2, h383km±11km, n38, σ0§86/47, mb3.6/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	6.54	199	eP	P	20 54 01.4	+0.7
PUZ				S	S	20 55 19.3	+0.9
PUZ	Puketiti	6.54	199	P	P	20 54 01.2	+0.5
PUZ				S	S	20 55 19.1	+0.7
MWZ	Matawai	7.00	202	eP	P	20 54 06.3	+0.3
MWZ	Matawai	7.00	202	P	P	20 54 06.2	+0.2
MWZ				S	S	20 55 28.6	+0.7
URZ	Urewera	7.08	205	P	P	20 54 06.3	-0.6
	3.9nm,0.3s,baz=316,slow=1.5,SNR=38						
URZ				S	S	20 55 29.3	-0.2
	7.5nm,0.3s,baz=186,slow=21,SNR=14						
URZ	Urewera	7.08	205	eP	P	20 54 06.3	-0.6
URZ	Urewera	7.08	205	P	P	20 54 06.2	-0.7
KNZ	Kokohu	7.59	200	eP	P	20 54 14.8	+2.0
KNZ	Kokohu	7.59	200	P	P	20 54 14.8	+2.0
BKZ	Black Stump Fm	8.11	205	eP	P	20 54 18.5	-0.3
BKZ	Black Stump Fm	8.11	205	P	P	20 54 18.3	-0.5
BKZ				S	S	20 55 50.8	0.0
BFZ	Birch Farm	9.55	202	S	S	20 56 22.3	+1.0
MRZ	Mangatainoka R	9.76	205	eP	P	20 54 37.2	-0.8
MRZ	Mangatainoka R	9.76	205	eP	P	20 54 36.4	-1.6
MRZ				S	S	20 56 23.3	-2.4
KIW	Kapiti Island	10.18	207	P	P	20 54 42.6	-0.5
KIW				eS	S	20 56 34.1	-0.6
CAW	Cannon Point	10.33	205	P	P	20 54 44.0	-0.9
CAW	Cannon Point	10.33	205	P	P	20 54 43.8	-1.1
MRW	Makara Radio	10.57	206	eS	S	20 56 44.2	+1.1
NNZ	Nelson	11.11	211	eP	P	20 54 53.2	-0.8
NNZ	Nelson	11.11	211	P	P	20 54 53.1	-0.9
NNZ				S	S	20 56 53.1	-1.4
QRZ	Quartz Range	11.19	215	eP	P	20 54 54.7	-0.3
QRZ	Quartz Range	11.19	215	P	P	20 54 54.6	-0.4
QRZ				S	S	20 56 56.6	+0.4
THZ	Tophouse	11.76	211	P	P	20 55 01.5	0.0
THZ				S	S	20 57 08.9	+0.5
DSZ	Denniston Nort	12.24	214	S	S	20 57 18.6	0.0
LTZ	Lake Taylor	12.86	210	S	S	20 57 31.5	+0.2
MQZ	McQueen's Vall	13.48	207	S	S	20 57 44.8	+0.7
RPZ	Rata Peaks	14.14	211	S	S	20 57 56.9	-0.5
	0.9nm,0.3s,baz=342,slow=19,SNR=6.9						
CTA	Charters Tower	33.17	282	P	P	20 58 25.9	+0.1
	1.3nm,0.5s,mb3.5,baz=116,slow=11,SNR=4.7						
CTAO	Charters Tower	33.17	282	P	P	20 58 18.6	-7.2
	2.3nm,0.6s,mb3.7						
STKA	Stephens Creek	33.27	259	eP	P	20 58 28.6	+2.0
	1.0nm,0.4s,mb3.5						
STKA	Stephens Creek	33.27	259	P	P	20 58 28.8	+2.2
	2.2nm,0.6s,mb3.7,baz=88,slow=11,SNR=7.7						
STKA	Stephens Creek	33.27	259	eP	P	20 58 28.4	+1.8
PMG	Port Moresby	38.45	298	P	P	20 58 59.2	-11
ASAR	Alice Springs	42.13	269	P	P	20 59 40.4	+0.5
	0.7nm,0.4s,mb3.3,baz=106,slow=7.2,SNR=14						
ASAR				PcP	PcP	21 01 30.2	+3.3
	0.4nm,0.7s,baz=110,slow=3.8,SNR=5.0						
WRAB	Tennant Creek	43.25	274	P	P	20 59 48.3	-0.6
	2.7nm,0.6s,mb3.8						
WRA	Warramunga Arr	43.26	274	P	P	20 59 48.6	-0.3
	1.3nm,0.3s,mb3.7,baz=111,slow=8.1

JIRN Jiri 21.18 340 *eP* **P 20 59 07.1 -0.3**
comp=Z,257nm,1.1s,mb5.5
PKI Pulchoki 21.37 338 *eP* **P 20 59 08.8 -0.5**
comp=Z,132nm,0.9s,mb5.2
DMN Daman 21.52 338 *eP* **P 20 59 10.5 -0.3**
comp=Z,159nm,0.9s,mb5.4
KKN Kakani 21.62 338 *eP* **P 20 59 11.2 -0.6**
comp=Z,240nm,1.1s,mb5.5
KAD Karad 21.66 298 *eP* **P 20 59 11.5 -0.8**
KAD *e* 20 59 18.2
comp=Z,30nm,1.3s
LSA Lhasa 22.00 353 P **P 20 59 15.8 +0.2**
GKN Gorkha 22.05 337 *eP* **P 20 59 15.9 -0.2**
comp=Z,88nm,0.7s,mb5.3
BHPL Bhopal 22.25 316 *eP* **P 20 59 19.6 +1.5**
BHPL *e* 20 59 24.7
comp=Z,59nm,2.0s
KOLN Koldanda 22.27 335 *eP* **P 20 59 18.4 +0.1**
comp=Z,123nm,0.9s,mb5.3
POO Poona 22.45 300 *eP* **P 20 59 19.0 -1.2**
NDI New Delhi 26.23 325 *eP* **P 20 59 56.6 +0.1**
NDI *e* 21 00 09.7
comp=Z,68nm,1.1s
XAN Xi'an 29.49 25 P **P 21 00 26.0 +0.1**
XAN AMB AMB
comp=Z,16nm,0.9s,mb4.8
WHN Wuhan 29.52 37 P **P 21 00 27.3 +1.1**
LZH Lanzhou 29.55 16 ⇓P **P 21 00 26.5 +0.1**
LZH AMB AMB
comp=Z,39nm,1.7s,mb4.9
LZH Lanzhou 29.55 16 ⇓P **P 21 00 26.5 +0.1**
LZH *PP pP 21 00 35.0 -1.6
LZH *SP sP 21 00 39.1 -2.2
LZH pmax pmax
comp=Z,39nm,1.7s,mb4.9
LZH Lanzhou 29.55 16 ⇓P **P 21 00 26.5 +0.1**
comp=Z,39nm,1.7s,mb4.9
LZH pP pP 21 00 35.0 -1.6
LZH sP sP 21 00 39.1 -2.2
NJ2 Nanjing 33.35 40 *eP* **P 21 01 00.3 +0.5**
NJ2 PP PP 21 02 13.8 +1.8
NJ2 S **S 21 06 21.0 +3.9**
NJ2 AMB AMB
comp=Z,70nm,0.7s,mb5.7
NJ2 AMB AMB
comp=Z,740nm,7.0s
NJ2 LR LR
comp=N,2μm,20.1s,MS4.9
NJ2 LR LR
comp=E,1μm,17.7s,MS4.9
NJ2 LR LR
comp=Z,1μm,15.9s,MS4.8
SSE Sheshan 34.29 44 P **P 21 01 06.3 -1.7**
SSE AMB AMB
comp=Z,17nm,1.0s,mb4.9
SSE AMB AMB
comp=Z,773nm,11.1s
SSE Sheshan 34.29 44 P **P 21 01 06.2 -1.8**
comp=Z,17nm,1.0s,mb4.9
WMQ Urumqi 36.36 352 P **P 21 01 26.5 +1.1**
BJI Beijing 37.70 28 P **P 21 01 37.8 +1.1**
BJI pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
BJI Beijing 37.70 28 P **P 21 01 37.8 +1.1**
comp=Z,6.0nm,0.7s,mb4.4
MBWA Marble Bar 38.17 139 P **P 21 01 39.6 -1.3**
comp=Z,11nm,1.0s,mb4.5
UCH Uchtor 38.46 336 P **P 21 01 44.1 +1.1**
SNR=12
KBK Karagaybulak 38.65 337 P **P 21 01 45.4 +0.8**
SNR=18
AML Almayashu 38.71 335 P **P 21 01 46.5 +1.4**
SNR=19
AAK Ala-Archa 38.81 337 P **P 21 01 46.7 +0.8**
SNR=9.3
AAK Ala-Archa 38.81 337 *eP* **P 21 01 45.6 -0.3**
AAK pmax pmax
comp=Z,25nm,1.2s,mb4.8
AAK Ala-Archa 38.81 337 *eP* **P 21 01 45.5 -0.4**
comp=Z,25nm,1.2s,mb4.8
CHMS Chumysh 39.02 337 P **P 21 01 48.1 +0.4**
SNR=9.5
EKS2 Erkin-Say 39.12 336 P **P 21 01 49.3 +0.8**
SNR=8.3
USP Ospenovka 39.34 337 P **P 21 01 50.5 +0.2**
SNR=13
MKAR Makanchi Array 40.20 347 *i* P **P 21 01 56.9 -0.5**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
SONM Songino Array 41.27 13 P **P 21 02 06.7 +0.4**
comp=Z,11nm,0.8s,mb4.5,baz=195,slow=8.0,SNR=67
SONM PcP PcP 21 04 05.6 +0.4
comp=Z,2.7nm,0.7s,baz=211,slow=2.5,SNR=10
ULN Ulaanbaatar 41.44 13 *i* P **P 21 02 07.0 -0.7**
ULN Ulaanbaatar 41.44 13 *eP* **P 21 02 08.1 +0.4**
comp=Z,7.6nm,0.8s,mb4.4
ZAK Zakamensk 43.16 9 *eP* **P 21 02 21.1 -0.6**
TLY Talaya 44.48 8 P **P 21 02 33.7 +1.4**
comp=Z,40nm,0.9s,mb5.1,SNR=7.5
TLY Talaya 44.48 8 *eP* **P 21 02 32.2 -0.1**
TLY *e* 21 04 15.3
TLY pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
KURK Kurchatov 44.72 346 *eP* **P 21 02 33.9 -0.4**
KURK *e* 21 04 16.6
KURK pmax pmax
comp=Z,28nm,0.8s,mb5.1
KURK Kurchatov 44.72 346 *eP* **P 21 02 33.9 -0.4**
comp=Z,28nm,0.8s,mb5.2
KURK *e*PcP PcP 21 04 16.6 -0.2
MUN Mundaring 44.78 153 *eP* **P 21 02 36.3 +1.3**
comp=Z,15nm,0.9s,mb4.8
MUN Mundaring 44.78 153 *eP* **P 21 02 36.3 +1.3**
MUN pmax pmax
comp=Z,15nm,0.9s,mb4.8
KLBR Kellerberrin 45.17 151 *eP* **P 21 02 39.1 +0.9**
comp=Z,87nm,0.7s,mb5.7
NWAO Narrogin (SRO) 46.04 153 *eP* **P 21 02 45.4 +0.3**
NWAO pmax pmax
comp=Z,30nm,1.1s
NWAO Narrogin (SRO) 46.04 153 P **P 21 02 45.6 +0.5**
comp=Z,12nm,0.9s,mb4.8,baz=332,slow=6.1,SNR=14
NWAO Narrogin (SRO) 46.04 153 *eP* **P 21 02 45.4 +0.3**
comp=Z,30nm,1.1s,mb5.1
ZAL Zalesovo 46.66 352 P **P 21 02 50.1 +0.5**
comp=Z,29nm,1.0s,mb5.2,baz=300,slow=6.6,SNR=67
NVS Novosibirsk 47.76 351 ⇓*iP* **P 21 02 57.0 -1.3**
NVS *i* 21 04 56.0
NVS *i* S **S 21 09 50.8 -0.3**
NVS pmax pmax
comp=N,20nm,0.9s
NVS pmax pmax
comp=Z,27nm,0.9s,mb5.3
NVS pmax pmax
comp=E,10.0nm,0.9s
NVS smax
comp=E,16nm,1.5s
WRA Warramunga Arr 48.19 125 P **P 21 03 01.8 -0.3**
comp=E,2.4nm,0.8s,mb4.3,baz=304,slow=8.6,SNR=12
WRAB Tennant Creek 48.19 125 *eP* **P 21 03 01.6 -0.5**
WRAB pmax pmax
comp=Z,13nm,0.8s,mb5.0
WRAB Tennant Creek 48.19 125 *eP* **P 21 03 01.6 -0.5**
comp=Z,13nm,0.8s,mb5.0
WB2 Warramunga Arr 48.20 125 *eP* **P 21 03 01.8 -0.4**
BVA0 Borovoye Array 49.10 341 *i* P **P 21 03 07.6 -1.0**
BVA0 pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
BVAR Borovoye Array 49.10 341 P **P 21 03 07.6 -1.1**
comp=Z,3.6nm,0.6s,mb4.6,baz=143,slow=7.4,SNR=24
BVAR PcP PcP 21 04 31.7 -0.5
comp=Z,2.1nm,0.6s,baz=146,slow=5.3,SNR=5.2
RAYN Ar Rayn 49.14 294 P **P 21 03 10.9 +1.5**
comp=Z,100nm,1.4s,mb5.7,SNR=25
CHKZ Chkalovo 49.58 342 *eP* **P 21 03 11.9 -0.5**
CHKZ pmax pmax
comp=Z,49nm,1.0s,mb5.5
CHKZ Chkalovo 49.58 342 *eP* **P 21 03 11.9 -0.5**
comp=Z,49nm,1.0s,mb5.5
ASPA Alice Springs 49.83 130 *eP* **P 21 03 14.2 -0.5**
ASAR Alice Springs 49.84 130 P **P 21 03 14.1 -0.6**
comp=Z,1.8nm,0.6s,mb4.2,baz=306,slow=7.6,SNR=14
ASAR PcP PcP 21 04 35.6 +0.4
comp=Z,1.4nm,0.6s,baz=306,slow=3.1,SNR=5.8

FORT Forrest 50.24 141 *eP* **P 21 03 18.7 +0.9**
comp=Z,68nm,1.1s,mb5.6
BOD Bodaibo 52.25 13 *eP* **P 21 03 31.5 -1.0**
GNI Garni 54.52 314 P **P 21 03 50.4 +0.8**
comp=Z,9.1nm,0.9s,mb4.8,baz=242,slow=24,SNR=2.2
CLNS Chul'man 54.53 20 *eP* **P 21 03 49.6 +0.1**
CLNS pmax pmax
comp=Z,36nm,0.8s,mb5.5
CLNS pmax pmax
comp=N,18nm,0.7s
CLNS pmax pmax
comp=E,14nm,0.8s
KIV Kislovodsk 57.41 318 *eP* **P 21 04 08.2 -2.1**
KIV pmax pmax
comp=Z,26nm,1.0s,mb5.2
KIV Kislovodsk 57.41 318 *eP* **P 21 04 08.2 -2.1**
comp=Z,26nm,1.0s,mb5.2
KMBO Kilima Mbogo 57.42 264 *eP* **P 21 04 12.5 +1.7**
KMBO pmax pmax
comp=Z,9.0nm,1.0s
KMBO Kilima Mbogo 57.42 264 P **P 21 04 13.8 +3.0**
comp=Z,3.0nm,0.9s,mb4.3,baz=55,slow=12,SNR=9.2
KMBO Kilima Mbogo 57.42 264 *eP* **P 21 04 12.5 +1.7**
comp=Z,8.8nm,1.0s,mb4.7
CTA Charters Tower 58.24 119 P **P 21 04 15.7 -0.7**
comp=Z,5.4nm,1.1s,mb4.5,baz=211,slow=6.2,SNR=4.1
CTAO Charters Tower 58.24 119 *eP* **P 21 04 14.9 -1.5**
ASF Jabal al Asfar 58.29 303 P **P 21 04 16.2 -0.4**
comp=Z,2.3nm,0.8s,mb4.2,baz=337,slow=4.7,SNR=3.8
EIL Elat 59.49 300 P **P 21 04 22.7 -2.3**
comp=Z,14nm,1.2s,mb4.9
STKA Stephens Creek 60.02 134 P **P 21 04 28.6 0.0**
comp=Z,1.2nm,0.5s,mb4.2,baz=238,slow=10,SNR=3.8
STKA Stephens Creek 60.02 134 *eP* **P 21 04 27.9 -0.7**
YAK Yakutsk 60.10 18 *eP* **P 21 04 28.2 -0.5**
YAK pmax pmax
comp=Z,65nm,0.8s,mb5.7
YAK Yakutsk 60.10 18 *eP* **P 21 04 28.2 -0.6**
comp=Z,64nm,0.8s,mb5.7
ANN Anapa 61.23 317 *eP* **P 21 04 41.8 +5.2**
ANN pmax pmax
comp=Z,74nm,1.4s,mb5.6
BRTR Keskin Array B 62.51 311 P **P 21 04 43.6 -1.7**
comp=Z,2.3nm,0.6s,mb4.5,baz=129,slow=7.4,SNR=10
MOS Moscow 65.18 329 *eP* **P 21 05 00.3 -2.2**
MOS pmax pmax
comp=Z,37nm,0.6s,mb5.6
OBN Obninsk 65.48 328⇓*eP* **P 21 04 59.3 -5.1**
OBN pmax pmax
comp=Z,35nm,1.6s,mb5.1
MA2 Magadan 66.86 28 *eP* **P 21 05 12.9 -0.2**
MA2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
TIXI Tiksi 67.34 11⇓*iP* **P 21 05 15.1 -0.8**
TIXI pmax pmax
comp=Z,33nm,0.7s,mb5.5
AKASG Malin Array Be 68.25 322 P **P 21 05 20.2 -1.8**
comp=Z,1.3nm,0.5s,mb4.3,baz=88,slow=5.1,SNR=10
IDI Anoyia 68.64 305 P **P 21 05 24.4 -0.3**
comp=Z,7.3nm,0.6s,mb4.8,baz=77,slow=13,SNR=5.1
LSZ Lusaka 69.24 250 *eP* **P 21 05 29.3 +0.6**
LSZ pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
LSZ Lusaka 69.24 250 *eP* **P 21 05 29.3 +0.7**
comp=Z,8.0nm,1.3s,mb4.5
JOF Joensuu 70.95 334 *ep* **P 21 05 35.9 -2.4**
comp=Z,7.9nm,0.6s,mb4.8
KWP Kalwaria 72.12 320 *eP* **P 21 05 45.8 +0.3**
KOLS Kolonicke sedl 72.30 319 *eP* **P 21 05 47.7 +1.2**
SUW Suwalki 72.60 324 *eP* **P 21 05 47.9 -0.4**
FINES FINESS Array B 72.81 332 P **P 21 05 49.0 -0.3**
comp=Z,21nm,1.0s,mb5.0,baz=105,slow=6.8,SNR=44
KAF Kangasniemi 72.89 333 *ep* **P 21 05 47.2 -2.6**
comp=Z,12nm,1.0s,mb4.8,baz=104,slow=5.6
KAF Kangasniemi 72.89 333 *eP* **P 21 05 47.2 -2.6**
KAF pmax pmax
comp=Z,13nm,1.0s,mb4.8
OJC Ojcow 74.07 320 *eP* **P 21 05 57.1 +0.2**
VYHS Vyhne 74.50 318 *eP* **P 21 05 59.7 +0.2**
KEV Kevo 74.94 341 *ep* **P 21 05 59.9 -1.7**
comp=Z,20nm,0.8s,mb5.1
KEV Kevo 74.94 341 *eP* **P 21 05 59.9 -1.7**
KEV pmax pmax
comp=Z,20nm,0.8s,mb5.1
ARCES ARCESS Array B 75.37 340 P **P 21 06 04.6 +0.5**
comp=Z,7.5nm,1.0s,mb4.6,baz=90,slow=5.8,SNR=17
MORC Moravsky Berou 75.47 319 P **P 21 06 02.3 -2.7**
MORC pmax pmax
comp=Z,16nm,1.3s,mb4.8
MORC Moravsky Berou 75.47 319 P **P 21 06 02.3 -2.7**
comp=Z,16nm,1.3s,mb4.8
ZST Bratislava 75.62 318 *eP* **P 21 06 06.9 +1.0**
DPC Dobruska-Polom 76.30 320 *eP* **P 21 06 10.2 +0.5**
UPC Upice 76.51 320 *eP* **P 21 06 11.7 +0.8**
UPC *ep*P pP 21 06 16.5 -5.5
PRU Pruhonice 77.42 319 *eP* **P 21 06 16.9 +0.8**
PVCC Panska Ves 77.43 320 *eP* pP 21 06 22.6 -4.6
PVCC Panska Ves 77.43 320 *ep*P pP 21 06 22.6 -4.6
BRG Berggiesshubel 77.84 320 *eP* **P 21 06 19.0 +0.6**
BRG *e* pP 21 06 28.0 -1.5
BRG pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
BRG Berggiesshubel 77.84 320 *eP* **P 21 06 19.0 +0.6**
comp=Z,4.6nm,1.0s,mb4.4
BRG *e* pP 21 06 28.0 -1.5
GERES GERESS Array B 77.92 318 P **P 21 06 18.9 +0.1**
comp=Z,3.9nm,0.8s,mb4.4,baz=90,slow=5.3,SNR=30
KHC Kasperske Hory 78.01 319 *eP* **P 21 06 19.6 +0.3**
KHC *ep*P pP 21 06 25.7 -4.7
CLL Collm 78.45 321 *eP* **P 21 06 21.0 -0.7**
CLL Collm 78.45 321 P **P 21 06 21.0 -0.7**
CLL *e**PP pP 21 06 31.0 -1.8
GRA1 Grafenberg Arr 79.56 319 *eP* **P 21 06 28.5 +0.7**
comp=Z,4.0nm,0.9s,mb4.3
GRF Grafenberg Arr 79.56 319 *eP* **P 21 06 28.5 +0.7**
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GRF Grafenberg Arr 79.56 319 *eP* **P 21 06 28.5 +0.7**
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GRF Grafenberg Arr 79.56 319 *eP* **P 21 06 28.5 +0.7**
comp=Z,4.0nm,0.9s,mb4.3
NB2 NORSAR Subarra 79.83 331 P **P 21 06 28.8 -0.2**
comp=Z,3.6nm,0.6s,mb4.5,baz=97,slow=5.0
NB2 NORSAR Subarra 79.83 331 P **P 21 06 28.8 -0.2**
NB2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
NOA NORSAR Array B 79.83 331 P **P 21 06 29.0 0.0**
comp=Z,5.6nm,0.7s,mb4.6,baz=92,slow=5.6,SNR=17
DAVOX Davos 80.48 316 P **P 21 06 33.3 +0.5**
baz=45,slow=4.3
DRV Dumont d'Urvil 81.27 163 L 21 06 00.0
LPG La Plagne 82.70 315 *eP* **P 21 06 44.8 +0.5**
comp=Z,19nm,0.9s,mb4.8
LPG La Plagne 82.70 315 *eP* **P 21 06 44.8 +0.5**
LPG pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ESDC Sonseca Array 91.30 310 P **P 21 07 27.1 +0.9**
comp=Z,1.7nm,0.7s,mb4.5,baz=60,slow=4.4,SNR=8.8
IMA Indian Mountai 91.72 22 *eP* **P 21 07 29.6 +2.0**
IMA pmax pmax
comp=Z,67nm,0.8s
IMA Indian Mountai 91.72 22 *eP* **P 21 07 29.6 +2.0**
comp=Z,68nm,0.8s
ILAR Eielson Array 94.84 22 P **P 21 07 41.8 -0.1**
comp=Z,0.9nm,0.6s,mb4.3,baz=300,slow=4.3,SNR=15
INK Inuvik 97.10 16 P **P 21 07 53.2 +1.2**
comp=Z,1.9nm,0.8s,mb4.6,baz=314,slow=4.2,SNR=5.9
RES Resolute Bay 97.51 2 *eP* **P 21 07 54.6 +0.8**
RES pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
RES Resolute Bay 97.51 2 *eP* **P 21 07 54.5 +0.7**
comp=Z,7.6nm,0.9s,mb5.2
YKA Yellowknife Ar 106.53 13 PP PP 21 12 55.9 -6.6
comp=Z,0.8nm,0.8s,baz=334,slow=7.7,SNR=12
ULM Lac du Bonnet 121.57 8 PKP PKPdf 21 13 14.5 +1.6
comp=Z,2.7nm,0.7s,baz=342,slow=3.1,SNR=7.7
ULM Lac du Bonnet 121.57 8 PKP PKPdf 21 13 14.5 +1.6
NVAR Mina Array Bea 125.01 31 PKP PKPdf 21 13 22.5 +2.6
comp=Z,4.2nm,1.0s,baz=247,slow=0.6,SNR=11
NVAR Mina Array Bea 125.01 31 PKP PKPdf 21 13 22.5 +2.6
ANMO Albuquerque 133.27 23 PKP PKPdf 21 13 39.7 +3.9
comp=Z,1.9nm,0.9s,baz=226,slow=1.2,SNR=6.0
TXAR Lajitas Array 139.32 24 PKP PKPdf 21 13 49.7 +2.7
comp=Z,0.5nm,0.6s,baz=225,slow=1.8,SNR=5.9
JCT Junction City 139.69 19 *e*PKIKP PKPdf 21 13 49.7 +2.1

JCT pmax pmax
comp=Z,1.0nm,0.7s
PLCA Paso Flores 144.45 200 PKP PKPdf 21 13 57.0 +1.4
comp=Z,7.7nm,0.8s,baz=181,slow=5.7,SNR=8.3
SJG San Juan 147.76 323 PKPbc PKPdf 21 14 06.2 +4.3
comp=Z,9.3nm,0.5s,baz=326,slow=23,SNR=4.5
SDV Santo Domingo 157.56 317 PKP PKPdf 21 14 18.7 +2.6
comp=Z,2.1nm,0.8s,baz=322,slow=14,SNR=2.4
LPAZ La Paz 160.72 242 PKP PKPdf 21 14 23.1 +3.4
comp=Z,1.1nm,0.7s,baz=298,slow=5.8,SNR=3.6

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*IDC **29** 20:56:31.1±5.7, 7.99N×94.31E, h104km±52km, mb3.9/13, mb1 4.1/14, mb1mx4.0/21, mbtmp4.3/14, Error ellipse: s-maj=38.3km s-min=14.9km az=56.0*
ISC 29 20:56:21.0±0.7, 7.7N±0.1×93.9E±0.2, h33km, n17, σ0:82/16, mb4.3/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.73**	**24**	P		P	**P**	**20 59 09.3**	**+0.2**
	0.5nm,0.3s,baz=210,slow=14,SNR=6.6								
NWAO	**Narrogin (SRO)**	**46.11**	**153**	P		P	**P**	**21 04 44.4**	**+0.2**
	5.3nm,0.7s,mb4.6,baz=310,slow=9.7,SNR=4.7								
ZAL	**Zalesovo**	**46.67**	**353**	P		P	**P**	**21 04 48.4**	**+0.2**
	5.4nm,0.6s,mb4.7,baz=274,slow=5.6,SNR=6.3								
WRA	**Warramunga Arr**	**48.34**	**125**	P		P	**P**	**21 05 01.5**	**-0.3**
	1.5nm,0.7s,mb4.1,baz=296,slow=9.1,SNR=2.6								
BVAR	**Borovoye Array**	**49.06**	**341**	P		P	**P**	**21 05 07.4**	**+0.6**
	2.8nm,0.9s,mb4.3,baz=146,slow=10,SNR=2.9								
KMBO	**Kilima Mbogo**	**57.20**	**264**	P		P	**P**	**21 06 12.4**	**+4.7**
	1.0nm,0.8s,mb3.9,baz=47,slow=18,SNR=3.3								
STKA	**Stephens Creek**	**60.15**	**134**	P		P	**P**	**21 06 28.1**	**0.0**
	1.8nm,0.7s,mb4.2,baz=322,slow=6.8,SNR=3.7								
BRTR	**Keskin Array B**	**62.37**	**311**	P		P	**P**	**21 06 43.6**	**+0.8**
	1.7nm,0.7s,mb4.3,baz=122,slow=7.7,SNR=4.9								
AKASG	**Malin Array Be**	**68.14**	**322**	P		P	**P**	**21 07 18.3**	**-1.5**
	0.9nm,0.7s,mb3.9,baz=83,slow=5.0,SNR=4.1								
FINES	**FINESS Array B**	**72.75**	**332**	P		P	**P**	**21 07 46.5**	**-1.0**
	3.4nm,0.7s,mb4.4,baz=117,slow=8.5,SNR=4.8								
KAF	**Kangasniemi**	**72.83**	**333**	*ep*		P	**P**	**21 07 46.7**	**-1.3**
	5.7nm,0.8s,mb4.5								
ARCES	**ARCESS Array B**	**75.34**	**340**	P		P	**P**	**21 08 02.8**	**+0.4**
	5.3nm,1.1s,mb4.4,baz=98,slow=6.4,SNR=3.8								
GERES	**GERESS Array B**	**77.80**	**318**	P		P	**P**	**21 08 16.5**	**-0.1**
	2.3nm,0.8s,mb4.2,baz=90,slow=5.3,SNR=6.5								
NB2	**NORSAR Subarra**	**79.76**	**331**	P		P	**P**	**21 08 27.5**	**+0.4**
	13nm,1.4s,mb4.7,baz=92,slow=5.6								
NOA	**NORSAR Array B**	**79.76**	**331**	P		P	**P**	**21 08 26.6**	**-0.6**
	2.4nm,0.8s,mb4.2,baz=93,slow=5.5,SNR=4.2								
DAVOX	**Davos**	**80.35**	**316**	P		P	**P**	**21 08 32.3**	**+1.7**
	3.8nm,0.8s,mb4.4,baz=102,slow=9.0,SNR=2.6								
PLCA	**Paso Flores**	**144.33**	**200**	PKP		PKPdf		21 15 56.1	+2.1
	2.3nm,0.8s,baz=205,slow=1.0,SNR=2.9								

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*BJI **29** 20:58:30.0, 7.73N×93.64E, h30km, mb4.7*
*IDC **29** 20:58:30.9±0.5, 8.22N×93.71E, mb4.6/23, mb1 4.6/24, mb1mx4.6/25, mbtmp4.5/24, ML4.2/1, MS4.5/2, Ms1 4.5/2, ms1mx3.6/19, Error ellipse: s-maj=26.6km s-min=14.3km az=62.0*
*MOS **29** 20:58:34.7±1.0, 8.29N×93.91E, h33km, mb5.2/33, Error ellipse: s-maj=12.6km s-min=6.5km az=116.8*
*HRVD **29** 20:58:35.7±0.6, 8.01N×94.19E, h12km, MW5.0/41, Centroid moment Tensor Solution. LP body waves: s8,c9; Mantle waves: s41,c60; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.97±.29; $M_{\theta\theta}$0.68±.20; $M_{\phi\phi}$2.29±.24; $M_{r\theta}$-1.44±1.16; $M_{\theta\phi}$2.24±.18; $M_{\phi r}$-1.77±.92; Best double couple: $M_0$4.111×10^{16} NP1:ϕ_s211°, δ28°, λ-96°. NP2: ϕ_s38°, δ62°, λ-87°. Principal axes: T 4.555, Plg17°; Azm126°; N -.885, Plg3°, Azm217°; P -3.667, Plg73°, Azm316°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 20:58:35.7±0.3, 8.32N×93.96E, h30km, mb5.0/35 Error ellipse: s-maj=11.2km s-min=7.1km az=54.0*
ISC 29 20:58:34.5±0.3, 8.19N±0.05×94.01E±0.06, h33km, (h19km±2.3km:pP-P), n158, σ19/148, mb4.8/63, MS4.5/2, 3C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.66**	**340**	*eS*		**S**	**S**	**21 00 13.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**11.28**	**25**	Pn		P	**P**	**21 01 18.3**	**+1.9**
	0.5nm,0.3s,baz=212,slow=14,SNR=5.8								
PALK	**Pallekele**	**13.21**	**267**	*eP*		P	**P**	**21 01 44.5**	**+2.1**
	12nm,0.6s								
KOD	**Kodaikanal**	**16.45**	**278**	*eP*		P	**P**	**21 02 29.5**	**+4.9**
KOD				*e*				21 02 39.4	
	comp=Z,86nm,1.5s								
KOD				*eS*		**S**	**S**	**21 05 36.1**	**+11**
SHL	**Shillong**	**17.39**	**354**	*eP*		P	**P**	**21 02 37.7**	**+1.4**
SHL				*e*				21 02 38.8	
	comp=Z,409nm,1.0s								
HYB	**Hyderabad**	**17.62**	**303**	*i* P		P	**P**	**21 02 43.5**	**+4.3**
HYB				*eS*		**S**	**S**	**21 05 56.0**	**+3.8**
KMI	**Kunming**	**18.79**	**25**	P		P	**P**	**21 02 56.9**	**+3.2**
KMI				pmax		pmax			
	comp=Z,11nm,2.0s								
KMI	**Kunming**	**18.79**	**25**	P		P	**P**	**21 02 56.9**	**+3.2**
	comp=Z,11nm,2.0s								
KMI				pP				21 03 03.3	
NGP	**Nagpur**	**19.35**	**313**	*eP*		P	**P**	**21 03 01.1**	**+1.0**
NGP				*e*				21 03 13.1	
	comp=Z,59nm,1.5s								
NGP				*eS*		**S**	**S**	**21 06 41.1**	**+10**
COCO	**West Island**	**20.44**	**172**	*eP*		P	**P**	**21 03 12.2**	**+0.3**
	comp=Z,167nm,1.1s								
JIRN	**Jiri**	**20.73**	**340**	*eP*		P	**P**	**21 03 16.5**	**+1.7**
	comp=Z,423nm,1.6s								
PKI	**Pulchoki**	**20.92**	**338**	*eP*		P	**P**	**21 03 18.5**	**+1.8**
	comp=Z,83nm,0.8s								
DMN	**Daman**	**21.07**	**338**	*eP*		P	**P**	**21 03 19.9**	**+1.7**
	comp=Z,264nm,1.2s,mb5.4								
KKN	**Kakani**	**21.16**	**338**	*eP*		P	**P**	**21 03 20.8**	**+1.6**
	comp=Z,133nm,1.0s,mb5.2								
GKN	**Gorkha**	**21.60**	**337**	*eP*		P	**P**	**21 03 24.6**	**+1.0**
	comp=Z,160nm,0.7s,mb5.6								
KOLN	**Koldanda**	**21.82**	**334**	*eP*		P	**P**	**21 03 27.4**	**+1.7**
	comp=Z,135nm,0.7s,mb5.5								
WHN	**Wuhan**	**29.27**	**38**	P		P	**P**	**21 04 36.8**	**+0.9**
WMQ	**Urumqi**	**35.91**	**352**	*eP*		P	**P**	**21 05 34.3**	**+0.6**
BJI	**Beijing**	**37.39**	**28**	P		P	**P**	**21 05 46.2**	**+0.1**
BJI				pmax		pmax			
	comp=Z,10.0nm,1.7s,mb4.4								
BJI	**Beijing**	**37.39**	**28**	P		P	**P**	**21 05 46.2**	**+0.1**
	comp=Z,10.0nm,1.7s,mb4.4								
AAK	**Ala-Archa**	**38.36**	**337**	⇑*iP*		P	**P**	**21 05 54.5**	**+0.3**
AAK				pmax		pmax			
	comp=Z,15nm,1.3s,mb4.6								
AAK	**Ala-Archa**	**38.36**	**337**	*eP*		P	**P**	**21 05 54.1**	**-0.1**
	comp=Z,13nm,1.0s,mb4.6								
FRU	**Bishkek**	**38.48**	**337**	*eP*		P	**P**	**21 06 00.0**	**+4.8**
SONM	**Songino Array**	**40.88**	**13**	P		P	**P**	**21 06 16.1**	**+1.1**
	comp=Z,5.6nm,1.2s,mb4.1,baz=203,slow=10,SNR=7.3								
SONM				PcP		PcP		21 08 13.5	-2.4
	comp=Z,0.7nm,0.6s,baz=202,slow=3.1,SNR=6.2								
ULN	**Ulaanbaatar**	**41.06**	**13**	*eP*		P	**P**	**21 06 15.7**	**-0.8**
ULN	**Ulaanbaatar**	**41.06**	**13**	*eP*		P	**P**	**21 06 16.6**	**+0.1**
	comp=Z,4.0nm,0.9s,mb4.0								
SNY	**Shenyang**	**42.48**	**33**	⇑P		P	**P**	**21 06 31.3**	**+3.0**
ZAK	**Zakamensk**	**42.76**	**9**	*eP*		P	**P**	**21 06 29.9**	**-0.5**
ZAK				*e*				21 08 21.8	
TLY	**Talaya**	**44.08**	**9**	*eP*		P	**P**	**21 06 41.7**	**+0.6**
TLY				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.1								
TLY	**Talaya**	**44.08**	**9**	*eP*		P	**P**	**21 06 41.6**	**+0.5**
	comp=Z,3.0nm,0.8s,mb4.1								
KURK	**Kurchatov**	**44.27**	**346**	*eP*		P	**P**	**21 06 42.4**	**-0.3**
KURK				pmax		pmax			
	comp=Z,24nm,1.1s,mb4.8								
KURK	**Kurchatov**	**44.27**	**346**	*eP*		P	**P**	**21 06 42.4**	**-0.3**
	comp=Z,24nm,1.1s,mb4.8								
ZAL	**Zalesovo**	**46.22**	**352**	P		P	**P**	**21 06 58.6**	**+0.5**
	comp=Z,3.1nm,0.5s,mb4.5,baz=294,slow=5.8,SNR=6.0								
NWAO	**Narrogin (SRO)**	**46.49**	**153**	P		P	**P**	**21 07 02.3**	**+1.7**
	comp=Z,4.4nm,0.6s,mb4.6,baz=320,slow=8.1,SNR=3.1								
WRA	**Warramunga Arr**	**48.55**	**126**	P		P	**P**	**21 07 18.7**	**+1.8**
	comp=Z,7.1nm,0.9s,mb4.7,baz=314,slow=9.3,SNR=6.1								
WRAB	**Tennant Creek**	**48.56**	**126**	P		P	**P**	**21 07 19.1**	**+2.2**
BVAR	**Borovoye Array**	**48.65**	**341**	P		P	**P**	**21 07 16.5**	**-0.7**
	comp=Z,4.6nm,0.9s,mb4.5,baz=143,slow=7.4,SNR=7.3								
RAYN	**Ar Rayn**	**48.83**	**294**	P		P	**P**	**21 07 20

ASAR Alice Springs 50.22 130 P **P 21 07 31.8 +2.1**
comp=Z,5.1nm,0.7s,mb4.6,baz=314,slow=7.7,SNR=5.0
BOD Bodaibo 51.87 13 *e*P **P 21 07 40.1 -1.6**
GNI Garni 54.12 314 *i*P **P 21 07 51.1 -7.6**
SVE Sverdlovsk 55.06 338 *e*P **P 21 08 01.0 -4.2**
PMG Port Moresby 55.75 107 *e*P **P 21 08 08.3 -2.5**
PMG pmax pmax
comp=Z,26nm,0.9s
PMG Port Moresby 55.75 107 P **P 21 08 08.4 -2.4**
comp=Z,6.4nm,0.8s,mb4.7,baz=280,slow=11,SNR=2.2
PMG Port Moresby 55.75 107 *e*P **P 21 08 08.3 -2.6**
comp=Z,26nm,0.9s,mb5.3
KIV Kislovodsk 56.99 318 *e*P **P 21 08 14.8 -4.6**
KIV pmax pmax
comp=Z,24nm,1.3s,mb5.1
KMBO Kilima Mbogo 57.33 263 *e*P **P 21 08 23.5 +1.4**
KMBO pmax pmax
comp=Z,17nm,0.8s
KMBO Kilima Mbogo 57.33 263 P **P 21 08 23.9 +1.8**
comp=Z,13nm,0.7s,mb5.0,baz=64,slow=11,SNR=34
KMBO Kilima Mbogo 57.33 263 *e*P **P 21 08 23.5 +1.3**
comp=Z,17nm,0.8s,mb5.1
ASF Jabal al Asfar 57.93 303 P **P 21 08 26.4 +0.2**
comp=Z,2.9nm,0.8s,mb4.4,baz=292,slow=11,SNR=4.8
CTA Charters Tower 58.58 119 LR LR 21 36 44.8
comp=Z,306nm,19.0s,MS4.4,baz=268,slow=39
EIL Elat 59.15 300 *e*P **P 21 08 34.1 -0.6**
comp=Z,14nm,1.1s,mb4.9
YAK Yakutsk 59.74 19 *e*P **P 21 08 35.2 -3.1**
YAK pmax pmax
comp=Z,24nm,0.8s,mb5.3
YAK Yakutsk 59.74 19 *e*P **P 21 08 35.2 -3.1**
comp=Z,24nm,0.8s,mb5.3
STKA Stephens Creek 60.42 134 LR LR 21 37 55.6
comp=Z,461nm,18.6s,MS4.7,baz=286,slow=39
STKA Stephens Creek 60.42 134 P **P 21 08 45.2 +1.8**
BRTR Keskin Array B 62.12 311 P **P 21 08 52.7 -2.0**
comp=Z,4.0nm,0.7s,mb4.7,baz=125,slow=7.4,SNR=15
SIM Simferopol' 63.11 316 *e*P **P 21 09 01.0 -0.2**
SIM pmax pmax
comp=Z,13nm,1.0s,mb5.0
MBAR Mbarara 63.65 265 *e*P **P 21 09 05.5 +0.2**
MBAR pmax pmax
comp=Z,18nm,1.3s,mb4.9
MBAR Mbarara 63.65 265 *e*P **P 21 09 05.5 +0.2**
comp=Z,18nm,1.3s,mb4.9
MOS Moscow 64.74 329 *e*P **P 21 09 08.6 -3.0**
OBN Obninsk 65.04 328 ⇑*i*P **P 21 09 08.8 -4.8**
OBN *i* pP 21 09 18.2 -5.7
OBN pmax pmax
comp=Z,29nm,1.2s,mb5.2
MA2 Magadan 66.55 28 *e*P **P 21 09 21.5 -1.6**
MA2 pmax pmax
comp=Z,20nm,1.2s,mb5.0
MA2 Magadan 66.55 28 *e*P **P 21 09 21.5 -1.7**
comp=Z,20nm,1.2s,mb5.0
TIXI Tiksi 66.95 11 ⇓*i*P **P 21 09 23.1 -2.4**
TIXI pmax pmax
comp=Z,15nm,0.6s,mb5.2
AKASG Malin Array Be 67.82 322 P **P 21 09 29.0 -2.3**
comp=Z,5.8nm,0.8s,mb4.6,baz=88,slow=4.9,SNR=15
IDI Anoyia 68.28 305 P **P 21 09 32.5 -1.9**
comp=Z,14nm,0.7s,mb5.1,baz=112,slow=6.6,SNR=6.8
JOF Joensuu 70.50 334 *e*p **P 21 09 45.7 -1.9**
comp=Z,8.6nm,0.6s,mb4.9
KWP Kalwaria 71.70 320 *e*P **P 21 09 54.3 -0.7**
KOLS Kolonicke sedl 71.88 319 *i*P **P 21 09 57.8 +1.7**
SUW Suwalki 72.17 324 *e*P **P 21 09 56.9 -0.8**
FINES FINESS Array B 72.37 332 P **P 21 09 57.8 -1.0**
comp=Z,3.1nm,0.5s,mb4.5,baz=89,slow=6.5,SNR=16
CRVS Cervenica-Dubn 72.40 319 *i*P **P 21 10 00.3 +1.1**
CRVS *e* 21 11 20.2
KAF Kangasniemi 72.45 333 *e*p **P 21 09 57.3 -1.9**
comp=Z,11nm,0.9s,mb4.8
KAF Kangasniemi 72.45 333 *e*P **P 21 09 57.3 -1.9**
KAF pmax pmax
comp=Z,11nm,0.9s,mb4.8
NIE Niedzica 73.22 319 *e*P **P 21 10 05.0 +0.9**
OJC Ojcow 73.64 320 *e*P **P 21 10 05.8 -0.7**
VYHS Vyhne 74.08 318 *i*P **P 21 10 09.0 -0.1**
KEV Kevo 74.49 341 *e*p **P 21 10 09.2 -1.8**
comp=Z,20nm,1.0s,mb5.0
KEV Kevo 74.49 341 *e*P **P 21 10 09.2 -1.8**
KEV pmax pmax
comp=Z,20nm,1.0s,mb5.0
OKC Ostrava-Krasne 74.66 319 *e*P **P 21 10 13.1 +0.7**
ARCES ARCESS Array B 74.92 340 P **P 21 10 12.9 -0.6**
comp=Z,8.7nm,1.0s,mb4.7,baz=93,slow=6.3,SNR=9.6
MORC Moravsky Berou 75.05 319 *e*P **P 21 10 13.7 -0.9**
MORC pmax pmax
comp=Z,22nm,1.2s,mb5.0
MORC Moravsky Berou 75.05 319 *e*P **P 21 10 13.7 -0.9**
comp=Z,22nm,1.2s,mb5.0
ZST Bratislava 75.21 318 *i*P **P 21 10 16.4 +0.8**
DPC Dobruska-Polom 75.88 320 *e*P **P 21 10 19.3 -0.1**
DPC *e*pP pP 21 10 26.1 -3.6
KSP Ksiaz 75.93 320 *e*P **P 21 10 19.4 -0.3**
KSP Ksiaz 75.93 320 *e*P **P 21 10 19.9 +0.3**
UPC Upice 76.09 320 *e*P **P 21 10 21.1 +0.6**
UPC *e*pP pP 21 10 28.5 -2.4
PRU Pruhonice 77.00 319 *e*P **P 21 10 25.6 -0.2**
PVCC Panska Ves 77.01 320 *e*P **P 21 10 25.4 -0.4**
BRG Berggiesshubel 77.42 320 *i*P **P 21 10 28.3 +0.2**
BRG pmax pmax
comp=Z,13nm,1.1s,mb4.8
BRG Berggiesshubel 77.42 320 *i*P **P 21 10 28.3 +0.2**
comp=Z,13nm,1.1s,mb4.8
GERES GERESS Array B 77.50 318 P **P 21 10 28.2 -0.4**
comp=Z,7.3nm,0.7s,mb4.7,baz=90,slow=4.0,SNR=28
KHC Kasperske Hory 77.59 318 *e*P **P 21 10 28.4 -0.7**
KHC *e*pP pP 21 10 35.4 -4.0
RUE Ruedersdorf 77.60 322 *e*P **P 21 10 28.7 -0.3**
comp=Z,38nm,0.8s,mb5.4
CLL Collm 78.03 321 *i*P **P 21 10 31.7 +0.3**
CLL *i* 21 10 37.5
CLL pmax pmax
comp=Z,13nm,1.2s,mb4.7
CLL Collm 78.03 321 *i*P **P 21 10 31.7 +0.3**
comp=Z,13nm,1.2s,mb4.7
CLL *i* 21 10 37.5
CLL Collm 78.03 321 P **P 21 10 31.7 +0.3**
comp=Z,logA/T=1.0,mb4.7
CLL *i**PP pP 21 10 37.5 -4.3
MAW Mawson 78.82 192 P **P 21 10 35.5 +0.1**
comp=Z,4.9nm,0.8s,mb4.5,baz=92,slow=3.8,SNR=2.8
MOX Moxa 78.89 320 *e*P **P 21 10 36.0 -0.2**
GRA1 Grafenberg Arr 79.14 319 *e*P **P 21 10 37.5 0.0**
comp=Z,19nm,1.1s,mb4.9
GRA1 *e*pP pP 21 10 44.1 -3.8
GRF Grafenberg Arr 79.14 319 *e*P **P 21 10 37.5 0.0**
GRF *e**PP pP 21 10 44.1 -3.8
GRF pmax pmax
comp=Z,19nm,1.1s,mb4.9
GRF Grafenberg Arr 79.14 319 *e*P **P 21 10 37.5 0.0**
GRF *e**PP pP 21 10 44.1 -3.8
GRF pmax pmax
comp=Z,19nm,1.1s,mb4.9
GRF Grafenberg Arr 79.14 319 *e*P **P 21 10 37.5 0.0**
comp=Z,19nm,1.1s,mb4.9
GRF *e*pP pP 21 10 44.1 -3.8
NB2 NORSAR Subarra 79.39 331 P **P 21 10 37.2 -1.4**
comp=Z,4.3nm,0.6s,mb4.6,baz=93,slow=4.8
NB2 NORSAR Subarra 79.39 331 P **P 21 10 37.2 -1.4**
NB2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
NOA NORSAR Array B 79.39 331 P **P 21 10 37.9 -0.7**
comp=Z,8.0nm,1.1s,mb4.6,baz=97,slow=5.0,SNR=6.8
DAVOX Davos 80.07 316 P **P 21 10 41.8 -0.8**
comp=Z,14nm,0.8s,mb4.9,baz=102,slow=3.4,SNR=6.9
CDF Champ du Feu 81.77 318 *e*P **P 21 10 50.5 -1.0**
comp=Z,12nm,0.7s,mb4.6
CDF Champ du Feu 81.77 318 *e*P **P 21 10 50.5 -1.0**
CDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
SBF Sospel 81.92 313 *e*P **P 21 10 51.0 -1.4**
comp=Z,75nm,1.0s,mb5.3
SBF Sospel 81.92 313 *e*P **P 21 10 51.0 -1.4**
SBF pmax pmax
comp=Z,38nm,1.0s,mb5.3
HINF Hinteralfeld 82.08 317 *e*P **P 21 10 52.9 -0.2**
LPG La Plagne 82.30 315 *e*P **P 21 10 54.1 -0.2**
comp=Z,31nm,0.7s,mb5.0
LPG La Plagne 82.30 315 *e*P **P 21 10 54.1 -0.2**
LPG pmax pmax
comp=Z,15nm,0.7s,mb5.0
LPL La Plagne 82.31 315 *e*P **P 21 10 54.1 -0.3**
comp=Z,24nm,0.7s,mb5.0
LPL La Plagne 82.31 315 *e*P **P 21 10 54.1 -0.3**
LPL pmax pmax
comp=Z,12nm,0.7s,mb4.9
MBDF Montbardon 82.34 314 *e*P **P 21 10 53.3 -1.2**
comp=Z,15nm,0.7s,mb4.7
MBDF Montbardon 82.34 314 *e*P **P 21 10 53.3 -1.2**
MBDF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
HAU Haudompre 82.41 317 *e*P **P 21 10 53.9 -0.9**
comp=Z,30nm,0.9s,mb4.9
HAU Haudompre 82.41 317 *e*P **P 21 10 53.9 -0.9**
HAU pmax pmax
comp=Z,15nm,0.9s,mb4.9
CABF La Chapelle 82.68 316 *e*P **P 21 10 55.8 -0.4**
comp=Z,37nm,1.0s,mb5.1
CABF La Chapelle 82.68 316 *e*P **P 21 10 55.8 -0.4**
CABF pmax pmax
comp=Z,18nm,1.0s,mb5.1
ORIF Oris-en-Rattie 82.95 314 *e*P **P 21 10 57.3 -0.4**
comp=Z,16nm,0.9s,mb4.8
ORIF Oris-en-Rattie 82.95 314 *e*P **P 21 10 57.3 -0.4**
ORIF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BAIF Baives 83.66 320 *e*P **P 21 11 00.6 -0.5**
comp=Z,37nm,1.1s,mb5.1
BAIF Baives 83.66 320 *e*P **P 21 11 00.6 -0.5**
BAIF pmax pmax
comp=Z,19nm,1.1s,mb5.1
VIVF Saint-Julien-l 83.82 314 *e*P **P 21 11 01.6 -0.5**
comp=Z,26nm,1.1s,mb5.0
VIVF Saint-Julien-l 83.82 314 *e*P **P 21 11 01.6 -0.5**
VIVF pmax pmax
comp=Z,13nm,1.0s,mb5.0
SMF Signal de Mont 84.22 316 *e*P **P 21 11 03.2 -0.9**
SSF Saint Saulge 84.41 317 *e*P **P 21 11 04.7 -0.3**
BGF Bois d'Agland 84.91 316 *e*P **P 21 11 07.2 -0.3**
TNA Tin City 85.93 24 *e*P **P 21 11 11.4 -0.7**
comp=Z,5.8nm,1.0s,mb4.8
RJF Les Rejaudoux 85.99 315 *e*P **P 21 11 12.8 0.0**
comp=Z,22nm,0.9s,mb5.1
RJF Les Rejaudoux 85.99 315 *e*P **P 21 11 12.8 0.0**
RJF pmax pmax
comp=Z,11nm,0.9s,mb5.1
FLN La Foliniere 86.85 319 *e*P **P 21 11 16.4 -0.6**
comp=Z,22nm,0.9s,mb5.1
FLN La Foliniere 86.85 319 *e*P **P 21 11 16.4 -0.6**
FLN pmax pmax
comp=Z,11nm,0.9s,mb5.1
ETSF Etsaut 87.81 313 *e*P **P 21 11 21.8 0.0**
comp=Z,33nm,1.2s,mb5.1
ETSF Etsaut 87.81 313 *e*P **P 21 11 21.8 0.0**
ETSF pmax pmax
comp=Z,16nm,1.2s,mb5.1
ESDC Sonseca Array 90.91 310 P **P 21 11 36.5 0.0**
comp=Z,0.7nm,0.5s,mb4.3,baz=65,slow=4.3,SNR=9.1
IMA Indian Mountai 91.38 22 *e*P **P 21 11 38.3 +0.2**
VNDA Vanda 93.27 168 P **P 21 11 48.3 +1.7**
comp=Z,1.1nm,0.7s,mb4.4,baz=5.8,slow=2.6,SNR=2.8
SPU Mount Spurr 94.06 26 *e*P **P 21 11 52.8 +2.4**
ILAR Eielson Array 94.50 22 P **P 21 11 50.5 -1.8**
comp=Z,1.2nm,1.1s,mb4.2,baz=305,slow=4.9,SNR=3.6
INK Inuvik 96.72 16 P **P 21 12 02.2 -0.1**
comp=Z,4.5nm,1.0s,mb4.9,baz=342,slow=6.9,SNR=6.7
DBIC Dimbokro 97.77 278 P **P 21 12 08.0 -0.4**
comp=Z,2.8nm,0.8s,mb4.8,baz=39,slow=23,SNR=2.2
YKA Yellowknife Ar 106.15 13 PP PP 21 17 10.2 -1.2
comp=Z,0.4nm,0.8s,baz=334,slow=7.6,SNR=5.1
ULM Lac du Bonnet 121.17 7 PKP PKPdf 21 17 23.8 -0.4
comp=Z,1.4nm,0.5s,baz=342,slow=3.1,SNR=3.7
NVAR Mina Array Bea 124.72 31 PKP PKPdf 21 17 32.2 +0.8
comp=Z,1.4nm,0.8s,baz=350,slow=1.0,SNR=5.1
NVAR Mina Array Bea 124.72 31 PKP PKPdf 21 17 32.2 +0.8
PDAR Pinedale Array 124.92 21 PKP PKPdf 21 17 32.0 +0.3
comp=Z,1.3nm,0.7s,baz=54,slow=1.0,SNR=7.6
JCT Junction City 139.33 18 *e*PKIKP PKPdf 21 17 58.8 -0.2
PLCA Paso Flores 144.80 201 PKP PKPdf 21 18 08.0 -0.3
comp=Z,8.9nm,0.9s,baz=193,slow=3.2,SNR=11
PLCA Paso Flores 144.80 201 *e*PKPdf PKPdf 21 18 07.7 -0.6
PLCA PKP PKPdf 21 18 08.0 -0.3
SDV Santo Domingo 157.15 318 PKPab PKPab 21 18 59.0 -1.8
comp=Z,1.5nm,0.4s,baz=346,slow=6.0,SNR=3.6
LVC Limon Verde 158.20 227 PKPab PKPab 21 19 04.1 -1.0
comp=Z,4.9nm,0.9s,baz=122,slow=2.9,SNR=4.3
LPAZ La Paz 160.79 244 PKP PKPdf 21 18 32.2 +0.4
comp=Z,1.3nm,1.0s,baz=58,slow=0.7,SNR=4.4
LPAZ PKPab PKPab 21 19 15.2 -1.2
comp=Z,2.2nm,0.8s,baz=136,slow=3.5,SNR=5.9

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*BJI **29** 21:01:05.8, 1.89S×15.20W, h7km, mB5.4, Ms5.6, Msz5.3*
*IDC **29** 21:01:09.3±0.9, 1.69S×15.47W, mb4.3/15, mb1 4.4/16, mb1mx4.3/24, mbtmp4.4/16, ML4.6/1, MS4.8/11, Ms1 4.8/11, ms1mx4.5/21, Error ellipse: s-maj=28.5km s-min=22.2km az=128.0*
*HRVD **29** 21:01:09.0±0.2, 1.20S×15.56W, h12km, MW5.5/68, Centroid moment Tensor Solution. LP body waves: s47,c83;Mantle waves: s68,c137; Half duration: 1ŝ4 Moment tensor: Scale 10^17^Nm; Mrr-0.13±.03; Mθθ0.77±.03; Mφφ-0.63±.03; Mrθ0.06±.07; Mφφ-1.61±.02; Mφr0.72±.08; Best double couple: M0 1.902×10^17^ NP1: φs260°,δ69°,λ-173° NP2:φs167°,δ83°,λ-22°. Principal axes: T 1.884, Plg10°, Azm215°; N .037, Plg67°, Azm331°; P -1.921, Plg20°, Azm121°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 21:01:09.0±0.5, 1.63S×15.52W, h10km, mb4.9/35 Error ellipse: s-maj=15.4km s-min=11.4km az=127.0*

ISC 29 21:01:07.2±0.4, 1.64S±0.07×15.46W±0.08, h10km, n85, σ1ŝ55/74, mb4.8/50, MS4.9/12, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**13.42**	**52**	Pn	**P**	**21 04 15.9**	**-4.6**
	3.3nm,0.3s,baz=228,slow=15,SNR=50						
DBIC				Sn	**S**	**21 06 35.7**	**-15**
	3.8nm,0.3s,baz=131,slow=8.5,SNR=3.6						
DBIC				LR	LR	21 08 25.6	
	comp=Z,7μm,18.2s,baz=217,slow=32						
DBIC				T		21 14 42.8	
	1.1nm,0.3s,baz=126,slow=21,SNR=3.0						
DBIC	**Dimbokro**	**13.42**	**52**	*e*P	**P**	**21 04 15.8**	**-4.7**
	15nm,0.5s						
DBIC				*e*S	**S**	**21 06 35.0**	**-16**
RCBR	**Riachuelo**	**20.81**	**258**	*e*P	**P**	**21 05 49.0**	**-2.6**
	31nm,1.2s						
TSUM	**Tsumeb**	**36.76**	**121**	*e*P	**P**	**21 08 14.5**	**-2.6**
	20nm,1.3s,mb4.8						
EVO	**Evora**	**40.55**	**9**	*e*P	**P**	**21 08 46.7**	**-1.8**
	14nm,1.0s,mb4.2						
EVO				*e*R			
	3μm,21.5s						
CART	**Cartagena**	**41.26**	**18**	P	**P**	**21 08 59.1**	**+4.8**
LSZ	**Lusaka**	**45.13**	**110**	*e*P	**P**	**21 09 26.2**	**0.0**
	9.7nm,0.8s,mb4.7						
LBTB	**Lobatse**	**45.91**	**124**	*e*P	**P**	**21 09 31.2**	**-1.0**
	24nm,1.1s,mb5.0						
ETSF	**Etsaut**	**46.32**	**15**	*e*P	**P**	**21 09 32.8**	**-2.4**
	25nm,1.0s,mb4.8						
SJPF	**Ste Jean**	**46.35**	**14**	*e*P	**P**	**21 09 30.7**	**-4.7**
	70nm,1.2s,mb5.2						
VSL	**Villasalto**	**46.85**	**26**	*e*P	**P**	**21 09 41.7**	**+2.3**
	65nm,1.3s,mb5.4						
BOSA	**Boshof**	**47.19**	**129**	*e*P	**P**	**21 09 40.7**	**-1.6**
	17nm,0.7s,mb5.1						
MFF	**Saint Martin d**	**49.89**	**14**	*e*P	**P**	**21 10 01.8**	**-1.2**
	82nm,1.7s,mb5.2						
TCF	**Toulx Ste Croi**	**50.20**	**16**	*e*P	**P**	**21 10 01.2**	**-4.2**
	85nm,1.7s,mb5.2						
MBDF	**Montbardon**	**50.23**	**21**	*e*P	**P**	**21 10 06.2**	**+0.6**
	32nm,1.0s,mb5.0						
TIP	**Timpagnande**	**50.25**	**33**	*e*P	**P**	**21 10 05.4**	**-0.4**
BGF	**Bois d'Agland**	**50.63**	**16**	*e*P	**P**	**21 10 06.1**	**-2.5**
	20nm,1.0s,mb4.7						
LPG	**La Plagne**	**50.90**	**20**	*e*P	**P**	**21 10 08.2**	**-2.4**
	14nm,0.9s,mb4.6						
LPL	**La Plagne**	**50.91**	**20**	*e*P	**P**	**21 10 08.5**	**-2.2**
	30nm,1.1s,mb4.8						
AVF	**Avril sur Loir**	**50.98**	**17**	*e*P	**P**	**21 10 10.3**	**-1.0**
SMF	**Signal de Mont**	**50.99**	**17**	*e*P	**P**	**21 10 09.4**	**-1.9**
SSF	**Saint Saulge**	**51.27**	**17**	*e*P	**P**	**21 10 11.3**	**-2.2**
	27nm,1.4s,mb4.7						
IDI	**Anoyia**	**52.64**	**42**	P	**P**	**21 10 27.5**	**+3.6**
	69nm,1.3s,mb5.4,baz=192,slow=20,SNR=2.1						
KMBO	**Kilima Mbogo**	**52.70**	**90**	P	**P**	**21 10 25.6**	**+0.9**
	2.1nm,0.9s,mb4.0,baz=220,slow=6.5,SNR=3.3						
KMBO	**Kilima Mbogo**	**52.70**	**90**	*e*P	**P**	**21 10 25.7**	**+1.0**
	7.4nm,1.4s,mb4.4						
HAU	**Haudompre**	**52.97**	**18**	*e*P	**P**	**21 10 25.0**	**-1.2**
HAU				*e*R			
	1μm,17.2s						
MEZF	**Maizieres J'vi**	**53.02**	**17**	*e*P	**P**	**21 10 24.5**	**-2.1**
DAVOX	**Davos**	**53.11**	**22**	P	**P**	**21 10 28.1**	**+0.8**
	13nm,1.0s,mb4.8,baz=222,slow=9.5,SNR=4.9						
SJG	**San Juan**	**53.59**	**294**	LR	LR	21 28 05.3	
	comp=Z,444nm,20.6s,MS4.5,baz=154,slow=30						
CDF	**Champ du Feu**	**53.62**	**19**	*e*P	**P**	**21 10 30.9**	**-0.1**
	12nm,0.9s,mb4.5						
LPAZ	**La Paz**	**53.84**	**251**	P	**P**	**21 10 31.5**	**-1.4**
	1.3nm,0.7s,mb4.0,baz=59,slow=7.7,SNR=5.6						
LPAZ				LR	LR	21 32 39.8	
	comp=Z,822nm,18.4s,MS4.8,baz=286,slow=35						
LPAZ	**La Paz**	**53.84**	**251**	*e*P	**P**	**21 10 31.4**	**-1.5**
	4.0nm,1.1s,mb4.3						
BAIF	**Baives**	**54.20**	**16**	*e*P	**P**	**21 10 33.1**	**-2.1**
	45nm,1.3s,mb4.9						
GIVF	**Givet**	**54.40**	**16**	*e*P	**P**	**21 10 35.3**	**-1.4**
	30nm,1.0s,mb4.9						
STU	**Stuttgart**	**54.57**	**20**	P	**P**	**21 10 39.1**	**+1.2**
STU				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1						
STU	**Stuttgart**	**54.57**	**20**	P	**P**	**21 10 39.1**	**+1.2**
	comp=Z,18nm,0.9s,mb5.1						
HGN	**Heimansgroeve**	**55.31**	**16**	*e*P	**P**	**21 10 46.4**	**+3.0**
	comp=Z,27nm,2.6s,mb4.8						
TRQA	**Tornquist**	**55.91**	**224**	*e*P	**P**	**21 10 48.0**	**+0.1**
	comp=Z,25nm,1.4s,mb5.0						
GERES	**GERESS Array B**	**56.27**	**23**	P	**P**	**21 10 52.2**	**+1.9**
	comp=Z,3.3nm,0.8s,mb4.4,baz=198,slow=8.4,SNR=6.3						
WTSB	**Winterswijk**	**56.63**	**16**	*e*P	**P**	**21 10 52.0**	**-0.8**
	comp=Z,14nm,1.1s,mb4.9						
EIL	**Elat**	**57.29**	**53**	*e*P	**P**	**21 10 57.4**	**-0.5**
	comp=Z,25nm,1.4s,mb5.1						
ESK	**Eskdalemuir**	**57.65**	**8**	P	**P**	**21 11 06.3**	**+6.3**
BRG	**Berggiesshubel**	**58.01**	**22**	*e*P	**P**	**21 11 05.0**	**+2.5**
	comp=Z,29nm,1.6s,mb5.0						
CLL	**Collm**	**58.03**	**21**	P	**P**	**21 11 05.0**	**+2.3**
VYHS	**Vyhne**	**58.12**	**26**	*e*P	**P**	**21 11 03.3**	**-0.1**
PSZ	**Piszkesteto**	**58.17**	**27**	*e*P	**P**	**21 11 04.4**	**+0.7**
	comp=Z,10nm,1.1s,mb4.8						
MORC	**Moravsky Berou**	**58.54**	**24**	*e*P	**P**	**21 11 10.9**	**+4.6**
	comp=Z,9.0nm,1.1s,mb4.7						
ROSC	**El Rosal**	**59.16**	**277**	P	**P**	**21 11 12.0**	**+0.9**
	comp=Z,17nm,0.9s,mb5.1,baz=276,slow=23,SNR=7.4						
ASF	**Jabal al Asfar**	**59.82**	**51**	P	**P**	**21 11 17.9**	**+2.4**
	comp=Z,4.9nm,1.2s,mb4.4,baz=220,slow=7.9,SNR=2.0						
ASF				LR	LR	21 35 08.2	
	comp=Z,452nm,19.2s,MS4.6,baz=98,slow=34						
KOLS	**Kolonicke sedl**	**60.00**	**28**	*e*P	**P**	**21 11 17.3**	**+0.9**
KWP	**Kalwaria**	**60.70**	**27**	*e*P	**P**	**21 11 23.0**	**+1.8**
	comp=Z,19nm,1.1s,mb5.1						
BRTR	**Keskin Array B**	**60.88**	**42**	P	**P**	**21 11 24.2**	**+1.7**
	comp=Z,7.8nm,1.1s,mb4.8,baz=233,slow=6.2,SNR=14						
MUD	**Monsted U'grnd**	**61.26**	**15**	*e*P	**P**	**21 11 27.6**	**+2.7**
	comp=Z,12nm,0.8s,mb5.1						
MUD	**Monsted U'grnd**	**61.26**	**15**	*i*P	**P**	**21 11 27.6**	**+2.7**
	comp=Z,12nm,0.8s,mb5.1						
OTAV	**Otavalo**	**63.01**	**271**	*e*P	**P**	**21 11 38.7**	**+1.5**
	comp=Z,4.7nm,1.0s,mb4.6						
PLCA	**Paso Flores**	**63.05**	**224**	LR	LR	21 35 19.0	
	comp=Z,558nm,20.1s,MS4.7,baz=124,slow=32						
MALT	**Malatya**	**63.52**	**45**	*e*P	**P**	**21 11 41.6**	**+1.3**
	comp=Z,11nm,1.3s,mb4.7						
SUW	**Suwalki**	**64.03**	**24**	*e*P	**P**	**21 11 43.0**	**-0.4**
	comp=Z,28nm,1.0s,mb5.2						
KONO	**Kongsberg**	**64.19**	**14**	P	**P**	**21 11 43.3**	**-1.0**
AKASG	**Malin Array Be**	**64.53**	**30**	P	**P**	**21 11 47.0**	**+0.3**
	comp=Z,4.1nm,0.9s,mb4.4,baz=231,slow=6.8,SNR=7.8						
NB2	**NORSAR Subarra**	**65.80**	**14**	P	**P**	**21 11 55.4**	**+0.8**
	comp=Z,3.4nm,0.8s,mb4.4,baz=208,slow=6.5						
NOA	**NORSAR Array B**	**65.80**	**14**	P	**P**	**21 11 57.2**	**+2.5**
	comp=Z,2.9nm,1.0s,mb4.3,baz=200,slow=7.7,SNR=3.1						
NOA				LR	LR	21 41 37.0	
	comp=Z,542nm,21.1s,MS4.7,baz=225,slow=37						
NOA	**NORSAR Array B**	**65.80**	**14**	P	**P**	**21 11 57.2**	**+2.5**
USHA	**Ushuaia**	**68.20**	**210**	LR	LR	21 37 28.3	
	comp=Z,951nm,19.4s,MS5.0,baz=70,slow=32						
SNAA	**Sanae**	**70.40**	**176**	P	**P**	**21 12 24.6**	**+1.5**
	comp=Z,2.0nm,0.9s,mb4.0,baz=53,slow=4.7,SNR=3.9						
SNAA	**Sanae**	**70.40**	**176**	*e*P	**P**	**21 12 24.1**	**+0.9**
	comp=Z,139nm,1.0s,mb5.8						
FINES	**FINESS Array B**	**70.45**	**20**	P	**P**	**21 12 23.9**	**+0.2**
	comp=Z,14nm,1.1s,mb4.8,baz=198,slow=3.9,SNR=11						
SADO	**Sadowa**	**72.79**	**318**	LR	LR	21 38 35.5	
	comp=Z,648nm,21.6s,MS4.9,baz=300,slow=31						
FRB	**Frobisher Bay**	**76.02**	**339**	P	**P**	**21 12 59.5**	**+3.3**
	comp=Z,2.5nm,0.9s,mb4.1,baz=80,slow=8.5,SNR=2.9						
ARCES	**ARCESS Array B**	**76.18**	**14**	P	**P**	**21 13 00.2**	**+3.2**
	comp=Z,4.1nm,0.7s,mb4.5,baz=225,slow=3.4,SNR=7.1						
MAW	**Mawson**	**84.05**	**158**	LR	LR	21 43 55.0	
	comp=Z,283nm,18.9s,MS4.7,baz=289,slow=30						
JCT	**Junction City**	**85.94**	**301**	*e*PKPdf	**P**	**21 13 49.8**	**+0.4**
	comp=Z,13nm,0.7s,mb5.3						
QSPA	**South Pole Qui**	**88.44**	**180**	P	**P**	**21 14 10.0**	**+10**
	comp=Z,15nm,0.6s,mb5.4						
BVAR	**Borovoye Array**	**88.79**	**37**	P	**P**	**21 14 02.5**	**-0.1**
	comp=Z,1.3nm,0.9s,mb4.2,baz=225,slow=4.1,SNR=3.7						
CHKZ	**Chkalovo**	**88.98**	**36**	*e*P	**P**	**21 14 04.5**	**+1.0**
	comp=Z,3.5nm,0.8s,mb4.7						
PDAR	**Pinedale Array**	**94.11**	**313**	LR	LR	21 52 10.9	
	comp=Z,674nm,20.9s,MS5.1,baz=1.1,slow=32						
HYB	**Hyderabad**	**94.32**	**73**	*i*P	**P**	**21 14 33.0**	**+4.0**
YKA	**Yellowknife Ar**	**95.67**	**333**	P	**P**	**21 14 38.6**	**+4.4**
	comp=Z,0.1nm,0.6s,mb3.4,baz=85,slow=5.1,SNR=4.3						
ZAL	**Zalesovo**	**97.36**	**36**	LR	LR	22 03 28.3	
	comp=Z,515nm,19.0s,MS5.0,baz=290,slow=38						
WMQ	**Urumqi**	**100.62**	**46**	*e*PDIF	P	21 14 57.0	0.0
WMQ				AP		21 15 02.0	
WMQ				PP	PP	21 19 07.3	+0.4
WMQ				S	S	21 26 30.3	+0.1
WMQ				PS	PS	21 28 06.3	+0.5
WMQ				LR	LR		
	comp=N,1μm,28.0s,MS5.4						
WMQ				LR	LR		
	comp=E,958nm,27.2s,MS5.4						
WMQ				LR	LR		
	comp=Z,1μm,27.4s,MS5.3						
LZH	**Lanzhou**	**114.39**	**51**	*e*PKP	PKPdf	21 19 45.0	-5.8
LZH				XPKP		21 19 49.3	
LZH				PP	PP	21 20 47.0	-1.9
LZH				SKKS		21 27 35.0	
LZH				PP	PP		
	comp=Z,145nm,10.1s						
LZH				LR	LR		
	comp=E,339nm,18.3s						
LZH				LR	LR		
	comp=Z,533nm,19.8s,MS5.2

1.3nm,0.3s,baz=356,slow=14,SNR=23
CTAO Charters Tower 14.85 176 *eP* **P 21 05 57.0 +2.0**
9.6nm,0.6s
WRA Warramunga Arr 18.12 215 P **P 21 06 35.5 -0.3**
2.6nm,0.3s,baz=39,slow=11,SNR=46
ASAR Alice Springs 21.39 210 P **P 21 07 10.4 -0.4**
4.2nm,0.7s,mb3.9,baz=43,slow=7.7,SNR=21
FITZ Fitzroy Crossi 23.07 235 *eP* **P 21 07 28.3 +0.9**
43nm,0.4s,mb5.1
STKA Stephens Creek 26.78 187 P **P 21 08 02.3 -0.2**
2.7nm,0.6s,mb4.0,baz=11,slow=10,SNR=5.7
STKA Stephens Creek 26.78 187 *eP* **P 21 08 02.0 -0.5**
MBWA Marble Bar 29.41 235 *eP* **P 21 08 24.3 -2.0**
16nm,1.1s,mb4.6
NWAO Narrogin (SRO) 38.01 220 P **P 21 09 40.9 +0.9**
3.9nm,0.9s,mb4.2,baz=248,slow=7.2,SNR=2.3
NWAO Narrogin (SRO) 38.01 220 P **P 21 09 40.9 +0.9**
CMAR Chiang Mai Arr 51.34 298 P **P 21 11 26.3 -0.4**
1.2nm,0.6s,mb4.1,baz=122,slow=6.1,SNR=8.9
SONM Songino Array 62.85 332 P **P 21 12 48.2 +0.4**
0.2nm,0.4s,mb3.4,baz=135,slow=4.6,SNR=3.5
VNDA Vanda 72.83 176 P **P 21 13 50.3 +0.8**
2.0nm,0.8s,mb4.0,baz=30,slow=5.8,SNR=5.9
BVAR Borovoye Array 85.09 324 P **P 21 14 56.6 +0.3**
1.3nm,0.7s,mb4.0,baz=104,slow=6.1,SNR=4.7
ILAR Eielson Array 85.42 23 P **P 21 14 56.6 -0.9**
1.0nm,0.7s,mb3.9,baz=250,slow=5.3,SNR=15
GERES GERESS Array B 120.25 325 PKP PKPdf 21 21 11.3 +1.2
0.3nm,0.4s,baz=90,slow=2.9,SNR=5.6
DAVOX Davos 123.53 325 PKP PKPdf 21 21 18.3 +1.8
2.7nm,0.8s,baz=154,slow=8.7,SNR=3.0
DBIC Dimbokro 150.24 274 PKPbc PKPdf 21 22 12.2 +6.5
4.9nm,0.6s,baz=99,slow=3.6,SNR=8.2
DBIC Dimbokro 150.24 274 *e*PKPbc PKPdf 21 22 12.7 +7.0

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*NEIC **29** 21:03:55.5±0.8, 17.66S×178.87W, h529km±10km, mb4.4/14, Error ellipse: s-maj=15.9km s-min=6.6km az=147.0*
*IDC **29** 21:03:60.0±2.6, 17.77S×178.93W, h576km±32km, mb3.5/12, mb1 3.7/12, mb1mx3.6/19, mbtmp4.4/12, Error ellipse: s-maj=26.9km s-min=13.7km az=153.0*
ISC 29 21:03:54.5±1.3, 17.7S±0.1×178.9W±0.1, h528km±18km, n37, σ0§76/33, mb4.2/23, 1C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.83**	**62**	*e*Pn	**P**	**21 05 50.3**	**-0.6**
RPZ	**Rata Peaks**	**27.31**	**196**	P	**P**	**21 08 57.6**	**-0.6**
4.1nm,0.6s,mb4.2,baz=354,slow=14,SNR=2.6							
CTA	**Charters Tower**	**33.01**	**260**	*e*P	**P**	**21 09 47.9**	**+0.7**
4.7nm,0.6s,mb4.2							
CTA	**Charters Tower**	**33.01**	**260**	P	**P**	**21 09 48.2**	**+1.0**
5.4nm,0.6s,mb4.2,baz=86,slow=13,SNR=7.5							
CTAO	**Charters Tower**	**33.01**	**260**	*e*P	**P**	**21 09 47.2**	**0.0**
7.8nm,0.8s,mb4.3							
PMG	**Port Moresby**	**33.95**	**280**	P	**P**	**21 09 56.8**	**+1.6**
12nm,1.0s,mb4.4,baz=135,slow=5.9,SNR=4.3							
PMG	**Port Moresby**	**33.95**	**280**	*e*P	**P**	**21 09 56.5**	**+1.4**
12nm,0.9s,mb4.4							
TAU	**Tasmania Unive**	**38.09**	**221**	*e*P	**P**	**21 10 29.0**	**0.0**
92nm,1.7s,mb5.0							
STKA	**Stephens Creek**	**38.32**	**241**	P	**P**	**21 10 32.7**	**+1.7**
11nm,0.5s,mb4.6,baz=87,slow=9.4,SNR=28							
STKA	**Stephens Creek**	**38.32**	**241**	*e*P	**P**	**21 10 32.6**	**+1.7**
WB2	**Warramunga Arr**	**44.19**	**259**	⇓*i*P	**P**	**21 11 17.4**	**-0.6**
WRAB	**Tennant Creek**	**44.19**	**259**	*e*P	**P**	**21 11 17.4**	**-0.6**
8.9nm,0.7s,mb4.4							
WRA	**Warramunga Arr**	**44.20**	**259**	P	**P**	**21 11 17.7**	**-0.4**
1.7nm,0.3s,mb4.1,baz=90,slow=8.0,SNR=15							
ASAR	**Alice Springs**	**44.39**	**254**	P	**P**	**21 11 19.9**	**+0.4**
41nm,0.6s,mb5.2,baz=90,slow=7.9,SNR=159							
ASAR				ScP		21 15 54.4	
ASAR				S	**S**	**21 17 12.8**	**-3.1**
1.0nm,1.0s,baz=88,slow=15,SNR=4.4							
ASPA	**Alice Springs**	**44.39**	**254**	⇓*i*P	**P**	**21 11 19.9**	**+0.3**
KAKA	**Kakadu**	**47.10**	**269**	*e*P	**P**	**21 11 40.6**	**+0.1**
12nm,0.4s,mb4.8							
FORT	**Forrest**	**49.67**	**244**	*e*P	**P**	**21 11 59.1**	**-0.5**
74nm,0.6s,mb5.3							
FITZ	**Fitzroy Crossi**	**52.59**	**260**	*e*P	**P**	**21 12 21.3**	**+0.2**
3.2nm,0.3s,mb4.1							
MBWA	**Marble Bar**	**57.66**	**256**	*e*P	**P**	**21 12 55.4**	**-1.0**
25nm,1.3s,mb4.3							
KLBR	**Kellerberrin**	**58.50**	**243**	*e*P	**P**	**21 13 01.0**	**-0.9**
74nm,0.7s,mb5.0							
NWAO	**Narrogin (SRO)**	**58.89**	**242**	P	**P**	**21 13 05.2**	**+0.8**
2.7nm,0.7s,mb3.6,baz=120,slow=20,SNR=2.2							
MUN	**Mundaring**	**59.80**	**243**	*e*P	**P**	**21 13 10.7**	**+0.2**
6.0nm,1.2s,mb3.8							
MAJO	**Matsushiro**	**67.44**	**324**	*e*P	**P**	**21 13 58.9**	**-0.2**
4.5nm,0.5s,mb4.2							
KS15	**Wonju Array Si**	**74.23**	**319**	P	**P**	**21 14 38.6**	**-0.2**
NVAR	**Mina Array Bea**	**79.59**	**44**	P	**P**	**21 15 09.1**	**+1.3**
0.9nm,0.6s,mb3.3,baz=220,slow=5.1,SNR=5.0							
MCK	**McKinley**	**84.42**	**13**	*e*P	**P**	**21 15 31.1**	**-0.5**
2.4nm,0.9s,mb3.7							
ILAR	**Eielson Array**	**85.77**	**13**	P	**P**	**21 15 37.8**	**-0.4**
1.1nm,0.4s,mb3.8,baz=225,slow=5.1,SNR=17							
TXAR	**Lajitas Array**	**86.28**	**58**	P	**P**	**21 15 42.3**	**+0.8**
0.8nm,0.7s,mb3.5,baz=225,slow=5.3,SNR=3.6							
PDAR	**Pinedale Array**	**87.52**	**44**	P	**P**	**21 15 47.7**	**+0.8**
0.7nm,0.4s,mb3.7,baz=220,slow=2.5,SNR=5.2							
INK	**Inuvik**	**91.79**	**15**	P	**P**	**21 16 05.3**	**-0.8**
1.4nm,0.9s,mb4.0							
YKA	**Yellowknife Ar**	**94.33**	**25**	P	**P**	**21 16 17.4**	**-0.4**
0.3nm,0.6s,mb3.6,baz=253,slow=4.5,SNR=6.5							
YKA	**Yellowknife Ar**	**94.33**	**25**	P	**P**	**21 16 17.4**	**-0.5**
BVAR	**Borovoye Array**	**116.36**	**321**	PKP	PKPdf	21 21 37.4	-0.1
0.3nm,0.3s,baz=150,slow=3.4,SNR=5.8							
BRTR	**Keskin Array B**	**144.28**	**315**	PKP	PKPdf	21 22 31.4	+1.3
0.7nm,0.5s,baz=95,slow=2.4,SNR=4.5							
CLL	**Collm**	**145.13**	**347**	⇑*i*PKP1	PKPbc	21 22 33.5	+1.4
GERES	**GERESS Array B**	**147.27**	**345**	PKPbc	PKPdf	21 22 39.5	+4.7
1.3nm,0.5s,baz=18,slow=3.0,SNR=16							
DAVOX	**Davos**	**150.08**	**348**	PKPbc	PKPdf	21 22 46.9	+7.6

IDC 29 21:05:12.9±3.2, 7.55N×94.10E, mb3.8/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=86.0km s-min=38.1km az=126.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.82**	**23**	Pn	P	21 08 03.9	-2.0
0.1nm,0.3s,baz=215,slow=14,SNR=3.4							
ZAL	**Zalesovo**	**46.86**	**352**	P	P	21 13 44.6	-1.9
0.9nm,0.5s,baz=298,slow=6.0,SNR=3.2							
KMBO	**Kilima Mbogo**	**57.34**	**264**	P	P	21 15 04.1	-1.6
0.6nm,0.8s,baz=53,slow=19,SNR=2.2							
BRTR	**Keskin Array B**	**62.61**	**311**	P	P	21 15 39.1	-2.4
0.5nm,0.7s,baz=90,slow=5.8,SNR=2.4							
FINES	**FINESS Array B**	**72.98**	**332**	P	P	21 16 43.3	-2.7
1.2nm,0.7s,baz=108,slow=8.8,SNR=3.0							
GERES	**GERESS Array B**	**78.04**	**318**	P	P	21 17 14.3	-0.7
0.4nm,0.5s,baz=104,slow=5.5,SNR=5.4							
PLCA	**Paso Flores**	**144.23**	**200**	PKP	PKPdf	21 24 50.4	-2.6
2.6nm,0.9s,baz=66,slow=6.8,SNR=2.4							

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*ATH **29** 21:07:52.7, 38.12N×26.65E, h27km±24km, MD3.0/3*
*CSEM **29** 21:07:52.6±0.2, 38.22N×26.83E, h24km±1km, MD3.2, Error ellipse: s-maj=6.3km s-min=3.8km az=128.0*
*ISK **29** 21:07:52.5, 38.20N×26.81E, h21km, MD3.2*
ISC 29 21:07:51.9±1.1, 38.15N±0.03×26.73E±0.05, h2km±7km, n15, σ1§01/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.34**	**46**	*i* PG	**Pg**	**21 07 59.1**	**+0.3**
BLCB				*i* SG	**Sg**	21 08 03.2	-0.1
SMG	**Samos**	**0.45**	**169**	*e*PB	**Pb**	21 08 02.2	0.0
SMG				*e*SB	**Sb**	21 08 09.1	0.0
IZM	**Izmir**	**0.49**	**59**	*i* PG	**Pg**	**21 08 01.8**	**+0.1**
IZM				*i* SG	**Sg**	**21 08 08.3**	**+0.1**
KDAG	**Bornova**	**0.49**	**59**	*i* P	**Pg**	**21 08 02.1**	**+0.3**
KDAG				*i* S	**Sg**	**21 08 08.6**	**+0.2**
AYDN	**Tasoluk**	**1.03**	**118**	*i* P	**Pb**	**21 08 12.4**	**+0.2**
AYDN				*i* S	**Sb**	**21 08 25.6**	**-0.5**
AKS	**Akhisar**	**1.12**	**49**	PG	**Pg**	**21 08 13.2**	**-1.1**
PRK	**Paraskevi**	**1.15**	**342**	*e*PN	**Pn**	**21 08 14.9**	**-0.1**
PRK				*e*SN	**Sn**	**21 08 30.7**	**-0.9**
AYVA	**Ayvalik**	**1.16**	**359**	*i* P	**Pb**	**21 08 15.3**	**+1.0**
AYVA				*i* S	**Sb**	**21 08 32.5**	**+2.8**
BDRM	**Kayabasi**	**1.22**	**152**	*i* P	**Pb**	**21 08 16.4**	**+0.9**
BDRM				*i* S	**Sb**	**21 08 32.0**	**+0.4**
APE	**Apeiranthos**	**1.44**	**222**	*e*PN	**Pn**	**21 08 18.9**	**-0.2**
APE	**Apeiranthos**	**1.44**	**222**	*e*PN	**Pn**	**21 08 18.3**	**-0.8**
MANT	**Manisa**	**1.48**	**76**	*i* P	**Pn**	**21 08 20.2**	**+0.5**
MANT				*i* S	**Sb**	**21 08 38.1**	**-0.9**
YER	**Yerkesik**	**1.60**	**129**	*e*PN	**Pn**	**21 08 19.8**	**-1.6**
DNZL	**Cakiroluk**	**1.89**	**103**	*i* P	**Pn**	**21 08 28.9**	**+3.4**
DNZL				*i* S	**Sn**	**21 08 53.6**	**+3.3**
KCT	**Karacabey**	**2.46**	**30**	*e*PN	**Pn**	**21 08 30.9**	**-2.9**

CASC 29 21:09:34.3±1.9, 12.99N×89.17W, h35km±999km, MD4.0, ML3.7, 10C-8D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.64**	**9**	⇓*e*P	P	21 09 46.7	-0.1
LCBS	**La Ceiba**	**0.69**	**16**	⇓*e*P	P	21 09 47.3	-0.2
SNET	**Serv Nac Est T**	**0.70**	**355**	⇓*e*P	P	21 09 47.7	0.0
SNET				*e*S	S	21 09 57.9	+0.5
SNET				*i*		21 09 58.9	
comp=Z,10μm,0.3s							
SNVI	**San Vicente**	**0.70**	**27**	⇓*e*P	P	21 09 47.8	+0.1
SNVI				*e*S	S	21 09 58.5	+1.1
BOQS	**Boqueron**	**0.75**	**352**	⇓*e*P	P	21 09 48.5	+0.1
BOQS				*e*S	S	21 09 59.6	+0.9
LBRS	**Las Brisas**	**0.76**	**9**	⇓*e*P	P	21 09 48.7	+0.3
LBRS				*e*S	S	21 09 60.0	+1.1
LFU	**La Fuente**	**0.76**	**4**	⇓*e*P	P	21 09 48.7	+0.2
SBLS	**San Blas**	**0.95**	**332**	⇓*e*P	P	21 09 51.0	-0.3
SBLS				*e*S	S	21 10 05.5	+1.6
SNJE	**San Jose**	**0.97**	**334**	⇓*e*P	P	21 09 51.2	-0.4
SNJE				*e*S	S	21 10 04.7	+0.3
BLLM	**Bellamira**	**1.01**	**63**	⇓*e*P	P	21 09 52.9	+0.8
BLLM				*e*S	S	21 10 06.1	+0.6
RTR	**El Retiro**	**1.01**	**333**	⇑*e*P	P	21 09 52.1	-0.1
RTR				*e*S	S	21 10 06.7	+1.2
CAHU	**Cacacuatique**	**1.21**	**50**	⇑*e*P	P	21 09 55.7	+0.7
CAHU				*e*S	S	21 10 11.5	+1.0
RBDL	**Robledal**	**1.23**	**336**	⇑*e*P	P	21 09 55.2	0.0
RBDL				*e*S	S	21 10 11.2	+0.4
CNCH	**Conchagua**	**1.33**	**77**	⇑*e*P	P	21 09 56.5	-0.2
CNCH				*e*S	S	21 10 14.2	+0.7
MTO2	**Montecristo 2**	**1.42**	**352**	⇓*e*P	P	21 09 57.9	-0.1
MTO2				*e*S	S	21 10 16.0	+0.4
CRIN	**San Cristobal**	**2.09**	**98**	*e*P	P	21 10 09.2	+1.7
CRIN				*e*S	S	21 10 32.8	+0.2
TEL3	**Telica 3**	**2.31**	**100**	⇑*e*P	P	21 10 10.5	-0.1
TEL3				*e*S	S	21 10 35.8	-2.3
CNGN	**Cerro Negro**	**2.46**	**101**	*e*P	P	21 10 13.0	+0.1
CNGN				*e*S	S	21 10 40.4	-1.7
COPN	**Copaltepe**	**2.64**	**107**	⇑*e*P	P	21 10 14.7	-0.8
COPN				*e*S	S	21 10 45.0	-1.7
APYN	**Apoyeque**	**2.85**	**105**	⇑*e*P	P	21 10 17.9	-0.6
MGAN	**Managua**	**2.97**	**106**	*e*	Sx	21 10 51.3	
comp=N,375nm,0.0s							
MGAN				*e*S	S	21 10 53.4	-1.7
MGAN				*e*		21 10 56.5	
comp=E,153nm,0.4s							

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*IDC **29** 21:10:24.8±7.2, 8.12N×94.38E, h48km±66km, mb3.6/7, mb1 3.8/8, mb1mx3.6/19, mbtmp3.8/8, ML3.6/1, Error ellipse: s-maj=68.9km s-min=18.2km az=62.0*
ISC 29 21:10:21.1±0.9, 8.1N±0.1×94.4E±0.2, h33km, n9, σ0§49/8, mb3.9/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.24**	**23**	P	**P**	**21 13 02.8**	**+0.2**
0.1nm,0.3s,baz=226,slow=14,SNR=6.2							
SONM	**Songino Array**	**40.91**	**12**	P	**P**	**21 18 02.0**	**0.0**
0.5nm,0.9s,mb3.1,baz=190,slow=5.1,SNR=3.5							
NWAO	**Narrogin (SRO)**	**46.24**	**153**	P	**P**	**21 18 44.9**	**-0.4**
4.3nm,0.7s,mb4.5,baz=229,slow=4.7,SNR=2.8							
ZAL	**Zalesovo**	**46.37**	**352**	P	**P**	**21 18 44.9**	**-1.1**
1.3nm,0.3s,mb4.3,baz=295,slow=8.5,SNR=3.7							
WRA	**Warramunga Arr**	**48.21**	**126**	P	**P**	**21 19 01.3**	**+0.4**
0.7nm,0.8s,mb3.7,baz=306,slow=9.0,SNR=4.9							
ASAR	**Alice Springs**	**49.89**	**130**	P	**P**	**21 19 13.7**	**-0.1**
2.0nm,1.2s,mb4.0,baz=302,slow=7.6,SNR=5.6							
FINES	**FINESS Array B**	**72.62**	**332**	P	**P**	**21 21 47.2**	**+0.3**
2.2nm,0.9s,mb4.1,baz=117,slow=8.5,SNR=5.6							
GERES	**GERESS Array B**	**77.81**	**318**	P	**P**	**21 22 17.5**	**+0.6**
0.7nm,0.8s,mb3.6,baz=90,slow=4.0,SNR=5.5							
PLCA	**Paso Flores**	**144.81**	**200**	PKP	PKPdf	21 29 57.0	+2.0
0.7nm,0.5s,baz=40,slow=9.1,SNR=2.4							

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*NEIC **29** 21:12:27.6±0.5, 7.95N×93.56E, h30km, mb4.2/4, Error ellipse: s-maj=16.2km s-min=10.4km az=67.0*
*IDC **29** 21:12:34.3±5.2, 8.16N×93.95E, h88km±48km, mb3.7/14, mb1 3.8/15, mb1mx3.8/21, mbtmp4.0/15, ML4.0/1, Error ellipse: s-maj=31.9km s-min=14.5km az=58.0*
ISC 29 21:12:25.9±0.6, 8.00N±0.08×93.7E±0.1, h30km, n27, σ1§10/27, mb4.2/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.58**	**26**	*e*P	**P**	**21 15 12.4**	**0.0**
CMAR	**Chiang Mai Arr**	**11.58**	**26**	P	**P**	**21 15 12.6**	**+0.2**
0.3nm,0.3s,baz=212,slow=14,SNR=9.1							
HYB	**Hyderabad**	**17.48**	**304**	*i* P	**P**	**21 16 35.0**	**+5.7**
JIRN	**Jiri**	**20.80**	**341**	*e*P	**P**	**21 17 08.8**	**+1.3**
DMN	**Daman**	**21.13**	**338**	*e*P	**P**	**21 17 11.6**	**+0.8**
KKN	**Kakani**	**21.23**	**339**	*e*P	**P**	**21 17 12.7**	**+0.9**
GKN	**Gorkha**	**21.66**	**338**	*e*P	**P**	**21 17 16.0**	**-0.1**
19nm,0.7s,mb4.6							
KOLN	**Koldanda**	**21.86**	**335**	*e*P	**P**	**21 17 17.3**	**-0.8**
19nm,0.9s,mb4.5							
AAK	**Ala-Archa**	**38.42**	**337**	P	**P**	**21 19 47.6**	**+1.0**
2.5nm,0.9s,mb3.9							
SONM	**Songino Array**	**41.14**	**13**	P	**P**	**21 20 08.9**	**-0.1**
0.7nm,0.7s,mb3.4,baz=188,slow=8.7,SNR=5.0							
KURK	**Kurchatov**	**44.38**	**346**	*e*P	**P**	**21 20 35.5**	**0.0**
3.8nm,0.8s,mb4.2							
ZAL	**Zalesovo**	**46.37**	**353**	P	**P**	**21 20 51.1**	**-0.1**
2.2nm,0.4s,mb4.4,baz=296,slow=4.1,SNR=9.4							
NWAO	**Narrogin (SRO)**	**46.46**	**152**	P	**P**	**21 20 53.4**	**+1.1**
3.5nm,0.8s,mb4.4,baz=1.3,slow=16,SNR=2.7							
WRA	**Warramunga Arr**	**48.69**	**125**	P	**P**	**21 21 08.9**	**-0.9**
1.2nm,0.8s,mb4.0,baz=302,slow=8.9,SNR=5.1							
WRAB	**Tennant Creek**	**48.69**	**125**	*e*P	**P**	**21 21 12.3**	**+2.4**
10nm,1.0s,mb4.8							
BVAR	**Borovoye Array**	**48.73**	**341**	P	**P**	**21 21 09.8**	**0.0**
0.2nm,0.3s,mb3.6,baz=150,slow=12,SNR=3.9							
ASAR	**Alice Springs**	**50.33**	**130**	P	**P**	**21 21 20.8**	**-1.6**
0.9nm,0.6s,mb4.0,baz=302,slow=6.3,SNR=6.3							
KMBO	**Kilima Mbogo**	**57.00**	**263**	P	**P**	**21 22 14.5**	**+2.7**
0.9nm,0.6s,mb4.0,baz=71,slow=11,SNR=5.2							
KMBO	**Kilima Mbogo**	**57.00**	**263**	*e*P	**P**	**21 22 14.3**	**+2.5**
1.9nm,0.9s,mb4.1							
BRTR	**Keskin Array B**	**62.02**	**311**	P	**P**	**21 22 45.0**	**-1.0**
1.1nm,0.6s,mb4.2,baz=136,slow=6.3,SNR=5.1							
AKASG	**Malin Array Be**	**67.78**	**322**	P	**P**	**21 23 21.1**	**-2.0**
0.2nm,0.3s,mb3.6,baz=82,slow=4.9,SNR=4.8							
IDI	**Anoyia**	**68.14**	**305**	P	**P**	**21 23 23.5**	**-2.1**
10nm,0.8s,mb4.9,baz=8.9,slow=13,SNR=3.0							
FINES	**FINESS Array B**	**72.40**	**332**	P	**P**	**21 23 50.4**	**-0.7**
1.5nm,0.6s,mb4.1,baz=104,slow=7.0,SNR=8.4							
ARCES	**ARCESS Array B**	**75.00**	**340**	P	**P**	**21 24 05.9**	**-0.1**
3.7nm,0.9s,mb4.3,baz=98,slow=6.4,SNR=3.4							
GERES	**GERESS Array B**	**77.44**	**318**	P	**P**	**21 24 20.9**	**+0.8**
1.1nm,0.8s,mb3.9,baz=90,slow=4.0,SNR=8.4							
NB2	**NORSAR Subarra**	**79.41**	**331**	P	**P**	**21 24 29.8**	**-0.8**
2.5nm,0.9s,mb4.1,baz=90,slow=5.8							
NOA	**NORSAR Array B**	**79.41**	**331**	P	**P**	**21 24 30.1**	**-0.5**
1.1nm,0.7s,mb3.9,baz=91,slow=5.7,SNR=4.4							

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*ATH **29** 21:12:50.3, 38.15N×26.84E, h30km±20km, MD3.2/3*
*CSEM **29** 21:12:50.3±0.1, 38.19N×26.73E, h15km, MD3.3, Error ellipse: s-maj=4.1km s-min=2.7km az=114.0*
*ISK **29** 21:12:50.3, 38.19N×26.73E, h15km, MD3.3*
ISC 29 21:12:50.5±0.5, 38.17N±0.02×26.70E±0.04, h10km, n26, σ0§90/39, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.35**	**51**	*i* PG	**Pg**	**21 12 57.6**	**-0.1**
BLCB				*i* SG	**Sg**	**21 13 01.9**	**-0.6**
SMG	**Samos**	**0.47**	**167**	*e*PB	**Pb**	**21 13 00.5**	**+0.1**
SMG				*e*SB	**Sb**	**21 13 07.0**	**-0.1**
IZM	**Izmir**	**0.50**	**62**	*i* PG	**Pg**	**21 13 00.5**	**-0.2**
IZM				*i* SG	**Sg**	**21 13 07.0**	**-0.4**
KDAG	**Bornova**	**0.51**	**62**	*i* P	**Pg**	**21 13 00.6**	**-0.2**
KDAG				*i* S	**Sg**	**21 13 07.2**	**-0.4**
AYDN	**Tasoluk**	**1.06**	**118**	*i* P	**Pb**	**21 13 10.9**	**+0.4**
AYDN				*i* S	**Sb**	**21 13 24.2**	**-0.1**
AKS	**Akhisar**	**1.13**	**50**	*i* PN	**Pn**	**21 13 12.0**	**-0.3**
PRK	**Paraskevi**	**1.13**	**343**	*e*PB	**Pb**	**21 13 11.5**	**-0.2**
PRK				*e*SN	**Sn**	**21 13 28.9**	**+0.9**
AYVA	**Ayvalik**	**1.14**	**360**	*i* P	**Pb**	**21 13 14.0**	**+2.1**
AYVA				*i* S	**Sb**	**21 13 30.6**	**+4.0**
MLSB	**Milas**	**1.22**	**135**	PN	**Pn**	**21 13 13.4**	**-0.2**
BDRM	**Kayabasi**	**1.25**	**152**	*i* P	**Pb**	**21 13 13.8**	**+0.1**
BDRM				*i* S	**Sb**	**21 13 30.9**	**+1.2**
APE	**Apeiranthos**	**1.44**	**221**	PN	**Pn**	**21 13 16.1**	**-0.6**
APE	**Apeiranthos**	**1.44**	**221**	*e*PB	**Pb**	**21 13 16.5**	**-0.5**
MANT	**Manisa**	**1.50**	**77**	*i* P	**Pn**	**21 13 18.7**	**+1.1**
MANT				*i* S	**Sb**	**21 13 37.1**	**+0.2**
YER	**Yerkesik**	**1.62**	**129**	PN	**Pn**	**21 13 19.3**	**-0.1**
BALB	**Balikesir**	**1.74**	**32**	*e*PN	**Pn**	**21 13 20.9**	**-0.1**
BOZC	**Bozcaada**	**1.75**	**343**	*i* P	**Pn**	**21 13 25.5**	**+4.3**
BOZC				*i* S	**Sn**	**21 13 49.0**	**+5.3**
DENT	**Denizli**	**1.89**	**102**	*e*PN	**Pn**	**21 13 23.2**	**0.0**
BTOK	**Tokmak**	**1.90**	**33**	*i* P	**Pn**	**21 13 26.9**	**+3.5**
BTOK				*i* S	**Sn**	**21 13 50.4**	**+2.8**
DNZL	**Cakiroluk**	**1.92**	**104**	*i* P	**Pn**	**21 13 27.2**	**+3.6**
DNZL				*i* S	**Sn**	**21 13 53.5**	**+5.6**
DST	**Dursunbey**	**2.08**	**46**	*e*PN	**Pn**	**21 13 24.6**	**-1.4**
LIA	**Limnos Island**	**2.10**	**326**	*e*PB	**Pb**	**21 13 27.5**	**-0.7**
BNT	**Bandirma**	**2.38**	**23**	*e*PN	**Pn**	**21 13 29.5**	**-0.8**
KCT	**Karacabey**	**2.46**	**31**	*e*PN	**Pn**	**21 13 30.5**	**-0.9**
MRMT	**Marmara Adasi**	**2.53**	**16**	*e*PN	**Pn**	**21 13 32.2**	**-0.2**
ORLT	**Orhaneli**	**2.54**	**42**	PN	**Pn**	**21 13 31.5**	**-1.0**
ULDT	**Uludag**	**2.73**	**43**	*i* P	**Pn**	**21 13 44.0**	**+8.6**
ULDT				*i* S	**Sn**	**21 14 17.0**	**+8.2**

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*IDC **29** 21:17:46.8±7.6, 7.63N×94.85E, h116km±64km, mb3.3/5, mb1 3.4/6, mb1mx3.2/19, mbtmp3.6/6, Error ellipse: s-maj=128.8km s-min=34.4km az=128.0*
ISC 29 21:17:35.7±5.7, 7.5N±0.7×94.8E±0.8, h33km, n6, σ1§30/6, mb3.6/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.59**	**20**	P	**P**	**21 20 26.6**	**+4.7**
0.1nm,0.3s,baz=217,slow=14,SNR=4.2							
SONM	**Songino Array**	**41.37**	**12**	P	**P**	**21 25 20.3**	**0.0**
0.3nm,0.7s,mb3.0,baz=203,slow=7.9,SNR=2.6							
ZAL	**Zalesovo**	**47.00**	**352**	P	**P**	**21 26 05.9**	**+0.4**
0.7nm,0.3s,mb4.0,baz=18,slow=4.9,SNR=3.0							
BVAR	**Borovoye Array**	**49.56**	**341**	P	**P**	**21 26 25.7**	**+0.3**
0.4nm,0.7s,mb3.6,baz=135,slow=4.1,SNR=3.0							
KMBO	**Kilima Mbogo**	**58.07**	**264**	P	**P**	**21 27 29.3**	**+0.7**
1.3nm,0.8s,mb4.0,baz=69,slow=6.5,SNR=6.1							
GERES	**GERESS Array B**	**78.56**	**318**	P	**P**	**21 29 33.8**	**-1.7**
0.5nm,0.8s,mb3.5,baz=104,slow=4.0,SNR=4.2							

IDC 29 21:26:04.7±1.4, 8.55N×93.57E, mb3.6/6, mb1 3.8/7, mb1mx3.7/18, mbtmp3.6/7, ML3.6/1, Error ellipse: s-maj=50.5km s-min=23.2km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.14**	**27**	Pn	P	21 28 45.2	-3.3
0.1n

comp=Z,3.5nm,0.6s,mb4.5,baz=313,slow=13,SNR=3.3
NWAO **Narrogin (SRO) 46.20 153** P **P 21 38 08.6 +1.6**
ZAL **Zalesovo 46.48 352** P **P 21 38 08.0 -1.0**
comp=Z,2.3nm,0.7s,mb4.2,baz=319,slow=6.2,SNR=12
WRA **Warramunga Arr 48.28 126** P **P 21 38 23.2 -0.3**
comp=Z,1.6nm,0.9s,mb4.1,baz=305,slow=9.2,SNR=9.6
WRAB **Tennant Creek 48.28 126** *eP* **P 21 38 22.9 -0.7**
comp=Z,15nm,1.0s,mb5.0
BVAR **Borovoye Array 48.93 341** P **P 21 38 26.7 -1.4**
comp=Z,2.5nm,1.0s,mb4.2,baz=149,slow=8.6,SNR=8.5
BVAR PcP PcP 21 39 52.5 -0.2
comp=Z,1.1nm,0.8s,baz=153,slow=3.2,SNR=3.3
CHKZ **Chkalovo 49.42 342** *eP* **P 21 38 30.1 -1.8**
comp=Z,18nm,1.1s,mb5.0
ASAR **Alice Springs 49.94 130** P **P 21 38 35.5 -0.8**
comp=Z,1.1nm,0.6s,mb4.0,baz=309,slow=7.8,SNR=13
ASAR PcP PcP 21 39 58.0 +1.2
comp=Z,0.9nm,0.7s,baz=292,slow=4.5,SNR=3.3
PMG **Port Moresby 55.52 107** P **P 21 39 17.9 -0.2**
comp=Z,4.2nm,0.6s,mb4.6,baz=336,slow=10,SNR=2.4
PMG **Port Moresby 55.52 107** *eP* **P 21 39 17.4 -0.6**
comp=Z,26nm,1.0s,mb5.2
KIV **Kislovodsk 57.28 318** *eP* **P 21 39 28.7 -1.6**
comp=Z,15nm,1.0s,mb5.0
KMBO **Kilima Mbogo 57.46 264** P **P 21 39 34.0 +2.2**
comp=Z,3.4nm,0.7s,mb4.5,baz=58,slow=11,SNR=18
KMBO **Kilima Mbogo 57.46 264** *eP* **P 21 39 33.4 +1.5**
comp=Z,7.2nm,0.8s,mb4.8
ASF **Jabal al Asfar 58.20 303** LR LR 22 07 16.8
comp=Z,135nm,18.6s,MS4.1,baz=250,slow=39
CTA **Charters Tower 58.32 119** P **P 21 39 38.0 +0.2**
comp=Z,1.4nm,0.7s,mb4.1,baz=291,slow=2.9,SNR=3.1
EIL **Elat 59.41 300** *eP* **P 21 39 42.2 -3.1**
comp=Z,5.7nm,0.8s,mb4.7
YAK **Yakutsk 59.92 18** *eP* **P 21 39 46.3 -2.0**
comp=Z,11nm,0.8s,mb4.9
STKA **Stephens Creek 60.13 134** P **P 21 39 50.3 +0.1**
comp=Z,3.0nm,0.9s,mb4.3,baz=303,slow=18,SNR=3.3
STKA **Stephens Creek 60.13 134** *eP* **P 21 39 49.7 -0.5**
BRTR **Keskin Array B 62.40 311** P **P 21 40 03.7 -1.8**
comp=Z,0.7nm,0.4s,mb4.1,baz=193,slow=22,SNR=10
MA2 **Magadan 66.69 28** *eP* **P 21 40 33.3 +0.3**
comp=Z,10nm,1.0s,mb4.8
AKASG **Malin Array Be 68.12 322** P **P 21 40 39.9 -2.3**
comp=Z,2.1nm,0.7s,mb4.2,baz=87,slow=4.9,SNR=7.7
IDI **Anoyia 68.55 305** P **P 21 40 44.6 -0.5**
comp=Z,6.9nm,0.7s,mb4.7,baz=239,slow=23,SNR=4.4
JOF **Joensuu 70.80 334** *ep* **P 21 40 54.3 -4.1**
comp=Z,5.2nm,0.6s,mb4.6
KWP **Kalwaria 72.00 320** *eP* **P 21 41 07.2 +1.4**
comp=Z,16nm,0.9s,mb5.0
SUW **Suwalki 72.47 324** *eP* **P 21 41 09.7 +1.2**
comp=Z,52nm,1.1s,mb5.4
FINES **FINESS Array B 72.66 332** P **P 21 41 07.9 -1.6**
comp=Z,3.1nm,0.7s,mb4.3,baz=96,slow=6.2,SNR=11
KAF **Kangasniemi 72.74 333** *ep* **P 21 41 06.8 -3.1**
comp=Z,6.0nm,0.8s,mb4.6
OJC **Ojcow 73.94 320** *eP* **P 21 41 19.8 +2.6**
OKC **Ostrava-Krasne 74.96 319** *eP* **P 21 41 22.9 -0.2**
OKC epP pP 21 41 29.3 +1.1
ARCES **ARCESS Array B 75.21 340** P **P 21 41 23.1 -1.0**
comp=Z,1.9nm,0.6s,mb4.2,baz=117,slow=2.7,SNR=4.7
MORC **Moravsky Berou 75.34 319** *eP* **P 21 41 24.8 -0.5**
comp=Z,12nm,1.0s,mb4.8
DPC **Dobruska-Polom 76.17 320** *eP* **P 21 41 30.1 +0.1**
DPC epP pP 21 41 36.8 +1.7
UPC **Upice 76.38 320** *eP* **P 21 41 34.4 +3.3**
PRU **Pruhonice 77.29 319** *eP* **P 21 41 38.3 +2.1**
PRU epP pP 21 41 43.1 +1.7
GEC2 **GERESS Array S 77.79 318** *eP* **P 21 41 39.2 +0.2**
comp=Z,7.0nm,0.8s,mb4.6
GERES **GERESS Array B 77.79 318** P **P 21 41 39.3 +0.3**
comp=Z,4.0nm,0.8s,mb4.4,baz=90,slow=5.3,SNR=19
KHC **Kasperske Hory 77.88 318** *eP* **P 21 41 39.3 -0.2**
KHC epP pP 21 41 45.8 +1.1
RUE **Ruedersdorf 77.89 322** *eP* **P 21 41 39.4 -0.1**
comp=Z,26nm,0.8s,mb5.2
CLL **Collm 78.33 321** *eP* **P 21 41 45.0 +3.1**
CLL **Collm 78.33 321** P **P 21 41 45.0 +3.1**
WET **Wettzell 78.34 318** *eP* **P 21 41 42.3 +0.3**
comp=Z,4.0nm,0.9s,mb4.3
NKC **Novy Kostel 78.65 320** *eP* **P 21 41 38.8 -4.9**
MOX **Moxa 79.19 320** *eP* **P 21 41 46.8 +0.2**
MOX **Moxa 79.19 320** *i P* **P 21 41 46.8 +0.2**
FUR **Furstenfeldbru 79.39 317** *eP* **P 21 41 47.6 -0.2**
GRA1 **Grafenberg Arr 79.43 319** *eP* **P 21 41 48.6 +0.7**
comp=Z,7.0nm,0.9s,mb4.6
GRA1 epP pP 21 41 52.0 -1.2
GRF **Grafenberg Arr 79.43 319** *eP* **P 21 41 48.6 +0.7**
comp=Z,7.0nm,0.9s,mb4.6
GRF epP pP 21 41 52.0 -1.2
NB2 **NORSAR Subarra 79.68 331** P **P 21 41 47.8 -1.3**
comp=Z,5.5nm,0.8s,mb4.5,baz=95,slow=5.0
NOA **NORSAR Array B 79.68 331** P **P 21 41 48.0 -1.0**
comp=Z,1.7nm,0.7s,mb4.1,baz=97,slow=5.2,SNR=5.3
CLZ **Clausthal 79.97 321** *eP* **P 21 41 51.1 +0.3**
comp=Z,7.0nm,0.9s,mb4.6
DAVOX **Davos 80.36 316** P **P 21 41 53.2 +0.2**
comp=Z,5.5nm,0.7s,mb4.6,baz=126,slow=15,SNR=6.4
TNS **Taunus Mts 81.22 320** *eP* **P 21 41 57.8 +0.4**
BFO **Black Forest 81.36 318** *eP* **P 21 41 58.0 -0.2**
comp=Z,4.0nm,0.9s,mb4.3
LPG **La Plagne 82.59 315** *eP* **P 21 42 03.0 -1.6**
comp=Z,21nm,0.9s,mb4.9
ESDC **Sonseca Array 91.19 310** P **P 21 42 46.9 +0.2**
comp=Z,1.6nm,0.8s,mb4.4,baz=62,slow=4.2,SNR=7.3
IMA **Indian Mountai 91.55 22** *eP* **P 21 42 49.5 +1.8**
comp=Z,24nm,0.8s,mb5.6
ILAR **Eielson Array 94.67 22** P **P 21 43 01.9 -0.2**
comp=Z,0.6nm,0.9s,mb4.0,baz=319,slow=5.1,SNR=4.9
INK **Inuvik 96.92 16** P **P 21 43 12.7 +0.4**
comp=Z,8.0nm,1.4s,mb5.0,baz=314,slow=2.9,SNR=3.5
ULM **Lac du Bonnet 121.39 8** PKP PKPdf 21 48 37.2 -0.2
comp=Z,1.0nm,0.4s,baz=313,slow=2.7,SNR=4.1
NVAR **Mina Array Bea 124.84 31** PKP PKPdf 21 48 43.8 -0.7
comp=Z,1.7nm,1.0s,baz=350,slow=3.0,SNR=3.8
PDAR **Pinedale Array 125.09 21** PKP PKPdf 21 48 42.9 -1.9
comp=Z,0.6nm,0.7s,baz=347,slow=2.2,SNR=5.0
PLCA **Paso Flores 144.62 200** PKP PKPdf 21 49 18.8 -2.0
comp=Z,4.0nm,0.9s,baz=189,slow=5.2,SNR=8.0

IDC 29 21:44:12.8±6.8, 8.92N×93.55E, h80km±67km, mb3.5/6, mb1 3.6/7, mb1mx3.3/19, mbtmp3.7/7, ML3.4/1, Error ellipse: s-maj=223.6km s-min=35.6km az=130.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.83**	**28**	P		21 46 44.8	-2.0
	0.1nm,0.3s,baz=215,slow=14,SNR=3.5						
SONM	**Songino Array**	**40.28**	**13**	P		21 51 42.2	-1.3
	0.4nm,1.0s,baz=180,slow=4.3,SNR=2.8						
ZAL	**Zalesovo**	**45.44**	**353**	P		21 52 23.9	-1.5
	0.6nm,0.7s,baz=293,slow=10,SNR=3.9						
KMBO	**Kilima Mbogo**	**56.96**	**263**	P		21 53 50.9	-1.9
	1.0nm,0.7s,baz=72,slow=15,SNR=5.3						
FINES	**FINESS Array B**	**71.51**	**332**	P		21 55 24.7	-2.0
	4.8nm,1.2s,baz=117,slow=4.3,SNR=5.2						
GERES	**GERESS Array B**	**76.66**	**318**	P		21 55 55.3	-1.5
	0.6nm,0.7s,baz=63,slow=6.0,SNR=5.9						
HFS	**Hagfors**	**77.26**	**330**	P		21 55 58.1	-1.8
	0.6nm,0.4s,baz=180,slow=40,SNR=3.4						

IDC 29 21:45:55.9±6.4, 6.92N×93.95E, mb4.0/8, mb1 4.0/9, mb1mx3.8/22, mbtmp4.0/9, ML3.7/1, Error ellipse: s-maj=157.4km s-min=40.1km az=139.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.46**	**23**	Pn		21 48 54.4	-3.1
	0.1nm,0.3s,baz=211,slow=15,SNR=7.4						
SONM	**Songino Array**	**42.13**	**13**	P		21 53 49.5	-2.1
	0.4nm,0.8s,baz=203,slow=7.9,SNR=3.4						
ZAL	**Zalesovo**	**47.47**	**353**	P		21 54 32.4	-1.9
	1.1nm,0.5s,baz=322,slow=6.4,SNR=5.1						
BVAR	**Borovoye Array**	**49.83**	**342**	P		21 54 50.8	-1.8
	0.5nm,0.8s,baz=141,slow=9.5,SNR=4.1						
IDI	**Anoyia**	**68.95**	**305**	P		21 57 02.1	-3.2
	7.3nm,0.8s,baz=308,slow=14,SNR=2.9						
FINES	**FINESS Array B**	**73.46**	**332**	P		21 57 30.5	-1.4
	3.6nm,1.2s,baz=114,slow=19,SNR=2.5						
GERES	**GERESS Array B**	**78.41**	**318**	P		21 57 58.1	-2.0
	0.4nm,0.6s,baz=90,slow=5.3,SNR=4.9						
HFS	**Hagfors**	**79.18**	**330**	P		21 58 02.5	-1.6
	1.0nm,0.8s,baz=176,slow=39,SNR=2.7						
DAVOX	**Davos**	**80.94**	**316**	P		21 58 14.6	+0.8
	1.6nm,0.7s,baz=133,slow=17,SNR=2.6						

*IDC **29** 21:48:22.1±1.7, 18.08S×69.58W, h114km±14km, mb4.0/7, mb1 4.1/9, mb1mx3.9/17, mbtmp4.4/9, Error ellipse: s-maj=32.2km s-min=9.1km az=100.0*
ISC 29 21:48:21.9±1.6, 18.11S±0.07×69.5W±0.3, h129km±15km, n13, σ1°31/11, mb4.0/7, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.25**	**37**	P		**21 49 00.1**	**+0.6**
	30nm,0.3s,baz=235,slow=8.2,SNR=556						
LPAZ				S		**21 49 28.1**	**+0.2**
	8.1nm,0.3s,baz=129,slow=12,SNR=3.9						
LVC	**Limon Verde**	**4.52**	**173**	P		**21 49 30.1**	**+0.5**
	18nm,0.3s,baz=3.4,slow=11,SNR=103						
LVC				S		**21 50 19.7**	**-2.0**
	25nm,0.3s,baz=258,slow=23,SNR=18						
PLCA	**Paso Flores**	**22.57**	**182**	P		**21 53 14.4**	**+2.6**
	5.4nm,0.7s,mb4.1,baz=356,slow=11,SNR=10						
SDV	**Santo Domingo**	**26.84**	**358**	P		**21 53 52.4**	**0.0**
	1.2nm,0.4s,mb3.9,baz=225,slow=10.0,SNR=3.8						
DBIC	**Dimbokro**	**68.38**	**75**	P		**21 59 11.7**	**-0.4**
	5.9nm,0.5s,mb4.5,baz=229,slow=8.8,SNR=32						
DBIC				pP	pP	21 59 42.0	-1.9
	2.2nm,0.7s,baz=247,slow=5.8,SNR=3.6						
DBIC				sP	sP	21 59 53.4	-4.6
	4.0nm,0.9s,baz=266,slow=5.5,SNR=3.6						
ULM	**Lac du Bonnet**	**71.92**	**343**	P		**21 59 31.3**	**-1.5**
	2.3nm,0.3s,mb4.3,baz=151,slow=9.9,SNR=7.9						
SCHQ	**Schefferville**	**72.68**	**2**	P		**21 59 35.5**	**-1.7**
	0.9nm,0.4s,mb3.8,baz=206,slow=5.9,SNR=6.7						
VNDA	**Vanda**	**80.07**	**190**	P		**22 00 20.6**	**+2.4**
	0.8nm,0.7s,mb3.5,baz=133,slow=5.9,SNR=2.8						
YKA	**Yellowknife Ar**	**87.81**	**341**	P		**22 00 57.5**	**+0.3**
	1.0nm,0.4s,mb4.0,baz=133,slow=4.8,SNR=29						
YKA				pP	pP	22 01 26.6	-3.9
	0.5nm,0.6s,baz=134,slow=4.8,SNR=4.6						
ASAR	**Alice Springs**	**132.60**	**210**	PKP	PKPdf	22 07 23.8	+1.6
	0.3nm,0.6s,baz=143,slow=2.0,SNR=5.3						
WRA	**Warramunga Arr**	**135.52**	**213**	PKP	PKPdf	22 07 30.0	+2.4
	0.6nm,0.5s,baz=153,slow=1.8,SNR=6.1						
ZAL	**Zalesovo**	**139.11**	**23**	PKP	PKPdf	22 07 34.4	+1.2
	0.7nm,0.3s,baz=116,slow=1.1,SNR=4.1						
SONM	**Songino Array**	**150.16**	**6**	PKPbc	PKPdf	22 08 00.3	+8.2
	0.7nm,0.5s,baz=304,slow=1.5,SNR=13						
SONM				PKPab	PKPab	22 08 05.8	-0.2
	0.9nm,0.6s,baz=328,slow=2.0,SNR=9.8						

*IDC **29** 21:48:45.6±5.9, 8.14N×94.42E, h71km±53km, mb3.4/9, mb1 3.5/10, mb1mx3.4/20, mbtmp3.7/10, ML3.8/1, Error ellipse: s-maj=38.8km s-min=20.2km az=52.0*
ISC 29 21:48:39.5±0.8, 8.0N±0.1×94.3E±0.1, h33km, n10, σ1°06/10, mb3.7/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.32**	**23**	P		**21 51 23.4**	**+1.4**
	0.2nm,0.3s,baz=212,slow=15,SNR=6.4						
SONM	**Songino Array**	**40.99**	**12**	P		**21 56 19.0**	**-2.0**
	0.3nm,0.8s,mb3.0,baz=190,slow=8.8,SNR=2.9						
ZAL	**Zalesovo**	**46.44**	**352**	P		**21 57 03.2**	**-1.6**
	0.9nm,0.6s,mb3.9,baz=316,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**48.19**	**126**	P		**21 57 19.9**	**+0.8**
	0.4nm,0.8s,mb3.5,baz=306,slow=8.6,SNR=2.2						
ASAR	**Alice Springs**	**49.86**	**130**	P		**21 57 31.1**	**-0.8**
	0.2nm,0.6s,mb3.3,baz=312,slow=7.1,SNR=2.8						
KMBO	**Kilima Mbogo**	**57.62**	**264**	P		**21 58 29.2**	**0.0**
	1.4nm,0.7s,mb4.1,baz=79,slow=22,SNR=4.1						
GERES	**GERESS Array B**	**77.85**	**318**	P		**22 00 36.4**	**+0.9**
	0.7nm,0.5s,mb3.9,baz=90,slow=5.3,SNR=5.0						
HFS	**Hagfors**	**78.43**	**330**	P		**22 00 38.5**	**+0.1**
	2.4nm,0.8s,mb4.2,baz=113,slow=11,SNR=5.4						
NOA	**NORSAR Array B**	**79.70**	**331**	P		**22 00 46.3**	**+1.0**
	1.1nm,0.8s,mb3.8,baz=104,slow=6.9,SNR=2.6						
DAVOX	**Davos**	**80.42**	**316**	P		**22 00 49.3**	**-0.1**
	2.1nm,0.9s,mb4.0,baz=352,slow=11,SNR=2.3						

*IDC **29** 21:50:37.8±5.7, 8.42N×94.00E, h64km±53km, mb3.5/10, mb1 3.6/11, mb1mx3.5/21, mbtmp3.7/11, ML3.3/1, Error ellipse: s-maj=33.9km s-min=17.9km az=61.0*
ISC 29 21:50:32.4±0.8, 8.4N±0.1×93.9E±0.2, h33km, n11, σ1°00/11, mb3.8/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.17**	**25**	P		**21 53 12.6**	**-0.3**
	0.1nm,0.3s,baz=208,slow=15,SNR=5.0						
SONM	**Songino Array**	**40.74**	**13**	P		**21 58 13.4**	**+1.5**
	0.3nm,0.9s,mb2.9,baz=225,slow=4.1,SNR=2.1						
ZAL	**Zalesovo**	**46.04**	**353**	P		**21 58 55.1**	**+0.4**
	0.5nm,0.3s,mb3.9,baz=322,slow=9.4,SNR=3.1						
NWAO	**Narrogin (SRO)**	**46.68**	**153**	P		**21 58 58.7**	**-1.3**
	3.2nm,0.9s,mb4.2,baz=105,slow=16,SNR=1.8						
BVAR	**Borovoye Array**	**48.46**	**341**	P		**21 59 13.4**	**-0.3**
	0.4nm,0.8s,mb3.5,baz=126,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**48.73**	**126**	P		**21 59 17.1**	**+0.9**
	0.5nm,0.7s,mb3.6,baz=308,slow=8.3,SNR=3.0						
KMBO	**Kilima Mbogo**	**57.25**	**263**	P		**22 00 21.8**	**+2.2**
	0.5nm,0.6s,mb3.7,baz=64,slow=23,SNR=2.2						
BRTR	**Keskin Array B**	**61.94**	**311**	P		**22 00 50.2**	**-1.3**
	0.4nm,0.5s,mb3.8,baz=90,slow=8.6,SNR=2.9						
FINES	**FINESS Array B**	**72.18**	**332**	P		**22 01 55.0**	**-0.5**
	5.5nm,1.2s,mb4.4,baz=230,slow=15,SNR=2.9						
GERES	**GERESS Array B**	**77.32**	**318**	P		**22 02 25.2**	**-0.4**
	0.9nm,0.9s,mb3.7,baz=76,slow=5.5,SNR=4.5						
HFS	**Hagfors**	**77.93**	**330**	P		**22 02 28.2**	**-0.4**
	4.0nm,1.0s,mb4.3,baz=158,slow=8.0,SNR=2.2						

*NEIC **29** 21:53:29.9±0.5, 7.94N×94.27E, h30km, mb4.4/6, Error ellipse: s-maj=15.9km s-min=11.1km az=50.0*
*IDC **29** 21:53:32.6±5.2, 7.99N×94.23E, h49km±49km, mb3.7/15, mb1 3.9/16, mb1mx3.7/23, mbtmp4.0/16, ML3.2/1, Error ellipse: s-maj=33.2km s-min=17.5km az=51.0*
ISC 29 21:53:29.9±4.8, 8.0N±0.1×94.3E±0.1, h45km±41km, n23, σ1°09/22, mb4.1/20, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.36**	**23**	P		**21 56 12.6**	**+0.1**
	0.0nm,0.3s,baz=216,slow=16,SNR=4.1						
SONM	**Songino Array**	**41.04**	**12**	P		**22 01 11.9**	**+1.3**
	0.7nm,1.1s,mb3.2,baz=191,slow=7.3,SNR=3.1						
KS15	**Wonju Array Si**	**42.26**	**41**	P		**22 01 18.3**	**-2.4**
KURK	**Kurchatov**	**44.56**	**346**	P		**22 01 41.9**	**+2.6**
	5.0nm,1.0s,mb4.3						
ZAL	**Zalesovo**	**46.48**	**352**	P		**22 01 54.3**	**-0.1**
	0.6nm,0.3s,mb4.0,baz=298,slow=9.0,SNR=3.2						
WRA	**Warramunga Arr**	**48.18**	**126**	P		**22 02 08.0**	**-0.3**
	0.6nm,0.9s,mb3.6,baz=306,slow=8.4,SNR=3.7						
WRAB	**Tennant Creek**	**48.19**	**126**	P		**22 02 09.0**	**+0.8**
	1.2nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**48.95**	**341**	P		**22 02 13.4**	**-0.3**
	0.4nm,0.7s,mb3.6,baz=233,slow=37,SNR=2.9						
CHKZ	**Chkalovo**	**49.44**	**342**	*eP*		**22 02 17.0**	**-0.5**
	2.8nm,0.3s,mb4.3						
ASAR	**Alice Springs**	**49.85**	**130**	P		**22 02 22.4**	**+1.4**
	0.4nm,0.8s,mb3.5,baz=297,slow=7.6,SNR=3.1						
KIV	**Kislovodsk**	**57.36**	**318**	*eP*		**22 03 14.6**	**-1.5**
	4.3nm,0.9s,mb4.5						
KMBO	**Kilima Mbogo**	**57.60**	**264**	P		**22 03 18.1**	**-0.1**
	0.9nm,0.3s,mb4.3,baz=62,slow=12,SNR=7.2						
CTAO	**Charters Tower**	**58.21**	**119**	P		**22 03 19.9**	**-2.5**
	6.4nm,1.4s,mb4.5						
BRTR	**Keskin Array B**	**62.49**	**311**	P		**22 03 49.9**	**-1.5**
	1.6nm,1.1s,mb4.1,baz=115,slow=9.8,SNR=4.0						
IDI	**Anoyia**	**68.65**	**305**	P		**22 04 30.6**	**-0.3**
	9.2nm,0.7s,mb4.8,baz=77,slow=8.4,SNR=4.1						
MLR	**Muntele Rosu**	**69.22**	**316**	P		**22 04 35.0**	**+0.8**
	2.4nm,0.9s,mb4.1,baz=174,slow=5.4,SNR=3.0						
FINES	**FINESS Array B**	**72.71**	**332**	P		**22 04 53.9**	**-0.9**
	3.4nm,1.1s,mb4.2,baz=124,slow=6.9,SNR=7.9						
ARCES	**ARCESS Array B**	**75.23**	**340**	P		**22 05 09.8**	**+0.4**
	3.8nm,0.9s,mb4.3,baz=90,slow=6.1,SNR=3.5						
GERES	**GERESS Array B**	**77.87**	**318**	P		**22 05 25.5**	**+0.9**
	0.7nm,0.5s,mb3.9,baz=90,slow=5.3,SNR=9.5						
HFS	**Hagfors**	**78.46**	**330**	P		**22 05 27.9**	**+0.3**
	2.5nm,1.1s,mb4.1,baz=90,slow=4.4,SNR=7.1						
NOA	**NORSAR Array B**	**79.73**	**331**	P		**22 05 34.8**	**+0.3**
	1.3nm,0.9s,mb3.8,baz=96,slow=5.5,SNR=2.6						
DAVOX	**Davos**	**80.44**	**316**	P		**22 05 39.6**	**+1.0**
	2.9nm,0.8s,mb4.2,baz=144,slow=17,SNR=4.5						
PLCA	**Paso Flores**	**144.69**	**200**	PKP	PKPdf	22 13 04.4	+2.3
	2.2nm,0.8s,baz=260,slow=5.6,SNR=3.5						

*IDC **29** 21:58:10.7±14.0, 4.41N×95.50E, h132km±123km, mb3.6/7, mb1 3.7/8, mb1mx3.5/19, mbtmp3.9/8, ML3.5/1, Error ellipse: s-maj=111.5km s-min=16.1km az=58.0*
ISC 29 21:57:57.8±1.5, 4.3N±0.3×95.3E±0.4, h33km, n10, σ0°51/10, mb4.0/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.47**	**14**	P		**22 01 28.8**	**+6.3**
	0.1nm,0.3s,baz=207,slow=12,SNR=9.4						
SONM	**Songino Array**	**44.37**	**11**	P		**22 06 07.2**	**+0.3**
	0.1nm,0.4s,mb2.9,baz=207,slow=6.4,SNR=3.8						
WRA	**Warramunga Arr**	**45.29**	**124**	P		**22 06 14.7**	**+0.1**
	1.4nm,0.4s,mb4.1,baz=301,slow=9.4,SNR=9.4						
WB2	**Warramunga Arr**	**45.30**	**124**	*eP*		**22 06 14.2**	**-0.5**
ASPA	**Alice Springs**	**46.77**	**128**	*eP*		**22 06 26.4**	**+0.1**
ASAR	**Alice Springs**	**46.78**	**128**	P		**22 06 26.5**	**+0.2**
	1.3nm,0.4s,mb4.2,baz=300,slow=7.7,SNR=22						
ZAL	**Zalesovo**	**50.19**	**352**	P		**22 06 51.8**	**-0.6**
	1.0nm,0.2s,mb4.4,baz=329,slow=10,SNR=3.1						
BVAR	**Borovoye Array**	**52.70**	**341**	P		**22 07 11.0**	**-0.3**
	0.4nm,0.4s,mb3.7,baz=134,slow=14,SNR=4.2						
FINES	**FINESS Array B**	**76.38**	**332**	P		**22 09 45.3**	**0.0**
	2.8nm,1.0s,mb4.2,baz=90,slow=3.8,SNR=5.8						
ARCES	**ARCESS Array B**	**78.98**	**340**	P		**22 10 00.2**	**+0.6**
	3.3nm,0.8s,mb4.3,baz=80,slow=7.4,SNR=7.1						

*BJI **29** 22:02:54.5, 7.34N×93.94E, h30km, mb4.4*
*IDC **29** 22:02:56.9±0.7, 7.93N×94.09E, mb4.4/19, mb1 4.5/20, mb1mx4.5/24, mbtmp4.3/20, ML3.7/1, Error ellipse: s-maj=30.4km s-min=15.1km az=48.0*
*NEIC **29** 22:03:01.7±0.3, 7.95N×94.14E, h30km, mb4.6/19, Error ellipse: s-maj=8.6km s-min=6.6km az=58.0*
ISC 29 22:03:01.7±2.2, 8.02N±0.08×94.21E±0.08, h43km±18km, h14km±2.8km: pP-P, n70, σ1°00/66, mb4.5/40, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNT	**Nongplab**	**7.08**	**50**	P		**22 04 45.0**	**-0.4**
CM31	**Chiang Mai Arr**	**11.35**	**23**	*eP*		**22 05 44.4**	**+0.2**
	1.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**11.35**	**23**	Pn		**22 05 44.1**	**0.0**
	0.1nm,0.3s,baz=212,slow=14,SNR=14						
CHRT	**Chiangrai**	**12.96**	**24**	P		**22 06 08.0**	**+2.2**
	184nm,1.0s						
HYB	**Hyderabad**	**17.89**	**303**	*i P*		**22 07 12.0**	**+2.8**
KMI	**Kunming**	**18.85**	**25**	⇑P		**22 07 24.3**	**+3.4**
KMI				pP		22 07 30.0	
JIRN	**Jiri**	**20.96**	**340**	*eP*		**22 07 43.1**	**-0.4**
	78nm,1.1s						
PKI	**Pulchoki**	**21.16**	**338**	*eP*		**22 07 44.6**	**-0.9**
DMN	**Daman**	**21.30**	**337**	*eP*		**22 07 45.0**	**-2.0**
KKN	**Kakani**	**21.40**	**338**	*eP*		**22 07 47.2**	**-0.7**
	74nm,1.3s,mb4.9						
LSA	**Lhasa**	**21.76**	**353**	*eP*		**22 07 52.0**	**+0.5**
GKN	**Gorkha**	**21.84**	**337**	*eP*		**22 07 51.7**	**-0.6**
	52nm,0.7s,mb5.0						
KOLN	**Koldanda**	**22.06**	**334**	*eP*		**22 07 54.8**	**+0.3**
	25nm,0.6s,mb4.8						
AAK	**Ala-Archa**	**38.60**	**336**	*eP*		**22 10 20.0**	**-2.4**
	10nm,1.2s,mb4.4						
SONM	**Songino Array**	**41.00**	**13**	P		**22 10 42.2**	**0.0**
	2.7nm,1.0s,mb3.8,baz=200,slow=7.6,SNR=12						
ULN	**Ulaanbaatar**	**41.18**	**13**	*eP*		**22 10 43.5**	**-0.2**
	3.0nm,1.0s,mb3.9						
TLY	**Talaya**	**44.21**	**8**	*eP*		**22 11 09.5**	**+1.1**
	3.0nm,0.9s,mb4.0						
KURK	**Kurchatov**	**44.49**	**346**	*eP*		**22 11 10.2**	**-0.4**
	25nm,1.4s,mb4.8						
NWAO	**Narrogin (SRO)**	**46.24**	**153**	*eP*		**22 11 25.6**	**+0.8**
	28nm,1.4s,mb5.0						
ZAL	**Zalesovo**	**46.41**	**352**	P		**22 11 25.8**	**0.0**
	6.3nm,1.1s,mb4.4,baz=302,slow=9.7,SNR=14						
WRA	**Warramunga Arr**	**48.29**	**126**	P		**22 11 40.7**	**-0.4**
	1.7nm,0.6s,mb4.2,baz=304,slow=9.4,SNR=12						
WRAB	**Tennant Creek**	**48.29**	**126**	*eP*		**22 11 39.7**	**-1.3**
	6.9nm,0.9s,mb4.7						
BVAR	**Borovoye Array**	**48.87**	**341**	P		**22 11 44.0**	**-1.0**
	1.8nm,0.8s,mb4.1,baz=153,slow=13,SNR=8.0						
RAYN	**Ar Rayn**	**49.09**	**294**	P		**22 11 48.8**	**+1.6**
	88nm,0.6s,SNR=13						
CHKZ	**Chkalovo**	**49.36**	**342**	*eP*		**22 11 48.1**	**-0.7**
	14nm,1.0s,mb4.9						
ASAR	**Alice Springs**	**49.95**	**130**	P		**22 11 53.3**	**-0.5**
	1.6nm,0.6s,mb4.2,baz=

ULM	**Lac du Bonnet**	**121.31**	**8**	PKP	PKPdf	22 21 51.9	+1.4
	2.2nm,0.8s,baz=278,slow=3.9,SNR=3.9						
PDAR	**Pinedale Array**	**125.00**	**21**	PKP	PKPdf	22 21 59.2	+1.5
	0.9nm,0.7s,SNR=8.9						
TXAR	**Lajitas Array**	**139.06**	**24**	PKP	PKPdf	22 22 26.8	+2.3
	0.6nm,0.7s,baz=29,slow=0.3,SNR=7.4						
PLCA	**Paso Flores**	**144.71**	**200**	PKP	PKPdf	22 22 36.3	+2.1
	6.8nm,0.9s,baz=166,slow=3.7,SNR=10						

CSEM ***29*** *22:03:18.0, 10.83N×93.08E, h33km, mb5.5*
IDC ***29*** *22:03:32.0±0.5, 7.79N×93.88E, mb4.6/23, mb1 4.7/24, mb1mx4.7/27, mbtmp4.6/24, ML4.3/1, Error ellipse: s-maj=25.7km s-min=12.9km az=48.0*
BJI ***29*** *22:03:36.8, 7.81N×93.77E, h45km, mB5.4, mb4.7, Ms5.5, Msz5.2*
HRVD ***29*** *22:03:37.3±0.2, 7.80N×94.18E, h12km, MW5.4/61, Centroid moment Tensor Solution. LP body waves: s42,c68;Mantle waves: s61,c127; Half duration: 1±2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.40±.03; $M_{\theta\theta}$-1.07±.03; $M_{\phi\phi}$1.47±.03; $M_{r\theta}$-0.46±.07; $M_{\theta\phi}$0.40±.03; $M_{\phi r}$-0.17±.07; Best double couple: $M_0$1.447×10^{17} NP1: ϕ_s146°,δ67°,λ-167° NP2:ϕ_s51°,δ78°,λ-23°. Principal axes: T 1.56, Plg7°, Azm100°; N -.226, Plg64°, Azm204°; P -1.334, Plg25°, Azm6°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***29*** *22:03:37.3±0.2, 8.02N×94.11E, h30km, mb5.1/63 Error ellipse: s-maj=7.0km s-min=5.2km az=55.0*
MOS ***29*** *22:03:38.1±1.2, 8.00N×94.14E, h51km, mb5.3/56, MS4.9/4, Error ellipse: s-maj=10.5km s-min=5.4km az=120.6*

ISC 29 22:03:34.9±0.2, 7.93N±0.04×94.14E±0.04, h26km, h26km±3.1km:pP-P, n239, σ1±24/229, mb5.0/92, MS5.1/7, 1C-6D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Time h m s	Res ISC
PBA	**Port Blair**	**3.95**	**340**	*eS*	Sx	22 05 18.3
NST	**Nakhon Sawan**	**9.67**	**37**	P	**P**	**22 06 02.5 +6.8**
CM31	**Chiang Mai Arr**	**11.46**	**24**	*eP*	**P**	**22 06 18.7 -1.4**
	13nm,0.6s					
CMAR	**Chiang Mai Arr**	**11.46**	**24**	Pn	**P**	**22 06 20.2 +0.1**
	0.6nm,0.3s,baz=213,slow=15,SNR=8.8					
PALK	**Pallekele**	**13.34**	**268**	P	**P**	**22 06 46.5 +1.2**
	26nm,0.7s					
VIS	**Vishakhapatnam**	**14.34**	**314**	*eP*	**P**	**22 07 01.6 +3.1**
VIS				*e*		22 07 17.9
	comp=Z,180nm,1.8s					
VIS				*eS*	**S**	**22 09 38.7 +1.2**
BWNR	**Bhubaneshwar**	**14.70**	**328**	*eP*	**P**	**22 06 59.7 -3.6**
BWNR				*e*		22 07 10.0
	comp=Z,92nm,1.9s					
BWNR				*eS*	**S**	**22 09 41.8 -4.4**
TRD	**Trivandrum**	**17.02**	**273**	*eP*	**P**	**22 07 37.6 +4.5**
TRD				*eS*	**S**	**22 10 45.0 +5.0**
SHL	**Shillong**	**17.67**	**353**	*eP*	**P**	**22 07 46.7 +5.6**
SHL				*eS*	**S**	**22 11 01.8 +7.0**
HYB	**Hyderabad**	**17.88**	**303**	*eP*	**P**	**22 07 47.0 +3.3**
HYB				*eS*	**S**	**22 11 09.0 +9.4**
HYB	**Hyderabad**	**17.88**	**303**	*i* P	**P**	**22 07 47.0 +3.3**
HYB				*e*		22 08 00.0
HYB				*eS*	**S**	**22 11 09.0 +9.4**
BLSP	**Bilaspur**	**18.25**	**322**	*eP*	**P**	**22 07 50.7 +2.3**
BLSP				*e*		22 08 03.4
	comp=Z,65nm,1.3s					
BLSP				*eS*	**S**	**22 11 13.6 +5.6**
QIZ	**Qiongzhong**	**18.82**	**53**	*eP*	**P**	**22 07 57.5 +2.3**
QIZ				XP		22 08 13.5
QIZ				S	**S**	**22 11 22.3 +1.6**
QIZ				LR	LR	
	comp=N,20μm,11.5s					
KMI	**Kunming**	**18.96**	**25**	P	**P**	**22 07 59.8 +2.9**
KMI				pmax	pmax	
	comp=Z,9.0nm,1.3s					
KMI	**Kunming**	**18.96**	**25**	P	**P**	**22 07 59.8 +2.9**
	comp=Z,9.0nm,1.3s					
KMI				pP		22 08 06.4
LATR	**Latur**	**20.02**	**303**	*e*	**P**	**22 08 16.0 +7.1**
COCO	**West Island**	**20.17**	**172**	P	**P**	**22 08 12.4 +1.9**
ALBI	**Allahabad**	**20.91**	**327**	*e*	**P**	**22 08 14.5 -3.5**
KAD	**Karad**	**21.57**	**298**	*e*	**P**	**22 08 32.0 +7.2**
LSA	**Lhasa**	**21.84**	**353**	P	**P**	**22 08 27.3 -0.1**
BHPL	**Bhopal**	**22.12**	**315**	*eP*	**P**	**22 08 31.2 +0.9**
BHPL				*e*		22 08 51.4
	comp=Z,134nm,2.0s					
POO	**Poona**	**22.36**	**300**	*eP*	**P**	**22 08 35.6 +3.0**
POO				*e*		22 08 54.2
	comp=Z,85nm,0.8s					
NDI	**New Delhi**	**26.09**	**324**	*eP*	**P**	**22 09 10.5 +2.0**
NDI				*eS*	**S**	**22 13 38.9 +2.9**
AJM	**Ajmer**	**26.14**	**317**	*i* P	**P**	**22 09 11.0 +2.0**
XAN	**Xi'an**	**29.34**	**26**	P	**P**	**22 09 36.5 -1.5**
XAN				AMB	AMB	
	comp=Z,6.0nm,1.0s,mb4.3					
LZH	**Lanzhou**	**29.39**	**16**	*eP*	**P**	**22 09 41.0 +2.6**
LZH				AP	pP	22 09 52.5 +6.4
LZH				XP	sP	22 09 57.5 +8.0
LZH				PP	PP	22 10 37.0 +3.0
LZH				S	**S**	**22 14 31.0 +1.8**
LZH				XS		22 14 50.0
LZH				SS	SS	22 16 04.5 +2.8
LZH				AMB	AMB	
	comp=Z,23nm,1.0s,mb4.9					
LZH				AMB	AMB	
	comp=Z,180nm,4.8s					
LZH				LR	LR	
	comp=E,5μm,13.6s					
LZH				LR	LR	
	comp=Z,6μm,14.7s,MS5.3					
LZH	**Lanzhou**	**29.39**	**16**	*eP*	**P**	**22 09 41.0 +2.6**
	comp=Z,23nm,1.0s,mb4.9					
LZH				pP	pP	22 09 52.5 +6.4
LZH				sP	sP	22 09 57.5 +8.0
LZH				PP	PP	22 10 37.0 +3.0
LZH				S	**S**	**22 14 31.0 +1.8**
LZH				sS		22 14 50.0
LZH				SS	SS	22 16 04.5 +2.8
WMQ	**Urumqi**	**36.19**	**352**	*eP*	**P**	**22 10 39.0 +1.6**
WMQ				AP	pP	22 10 51.0 +5.8
WMQ				XP	sP	22 10 56.5 +8.0
WMQ				PP	PP	22 12 02.0 +1.7
WMQ				PCP	PcP	22 13 04.5 +1.6
WMQ				S	**S**	**22 16 14.5 -0.6**
WMQ				AMB	AMB	
	comp=Z,132nm,1.1s,mb5.8					
WMQ				AMB	AMB	
	comp=Z,761nm,5.0s					
WMQ				LR	LR	
	comp=N,3μm,17.5s,MS5.1					
WMQ				LR	LR	
	comp=E,1μm,17.2s,MS5.1					
WMQ				LR	LR	
	comp=Z,3μm,17.4s,MS5.1					
BJI	**Beijing**	**37.55**	**28**	P	**P**	**22 10 50.4 +1.5**
BJI				pmax	pmax	
	comp=Z,11nm,1.7s,mb4.3					
BJI	**Beijing**	**37.55**	**28**	P	**P**	**22 10 50.4 +1.5**
	comp=Z,11nm,1.7s,mb4.3					
BJI				S	S	22 16 58.9 +23
MBWA	**Marble Bar**	**38.31**	**139**	P	**P**	**22 10 56.5 +1.1**
AAK	**Ala-Archa**	**38.65**	**337**	*eP*	**P**	**22 10 56.3 -1.8**
AAK				pmax	pmax	
	comp=Z,52nm,1.3s,mb5.1					
AAK	**Ala-Archa**	**38.65**	**337**	*eP*	**P**	**22 10 56.3 -1.8**
	comp=Z,52nm,1.3s,mb5.1					
MKAR	**Makanchi Array**	**40.03**	**347**	*i* P	**P**	**22 11 08.0 -1.5**
MKAR				pmax	pmax	
	comp=Z,8.0nm,0.8s					
SONM	**Songino Array**	**41.10**	**13**	P	**P**	**22 11 20.9 +2.6**
	comp=Z,3.9nm,0.8s,mb4.1,baz=198,slow=7.8,SNR=7.9					
ULN	**Ulaanbaatar**	**41.28**	**13**	*eP*	**P**	**22 11 20.5 +0.8**
ULN				pmax	pmax	
	comp=Z,11nm,0.8s,mb4.5					
ULN	**Ulaanbaatar**	**41.28**	**13**	*eP*	**P**	**22 11 20.5 +0.8**
	comp=Z,11nm,0.8s,mb4.5					
SNY	**Shenyang**	**42.62**	**33**	⇑P	**P**	**22 11 34.3 +3.4**
SNY				AP	pP	22 11 43.5 +4.8
SNY				XP	sP	22 11 47.8 +5.9
SNY				AMB	AMB	
	comp=Z,10.0nm,1.1s,mb4.5					
SNY				LR	LR	
	comp=N,2μm,14.7s,MS5.3					
SNY				LR	LR	
	comp=E,2μm,14.7s,MS5.3					
SNY				LR	LR	
	comp=Z,2μm,15.9s,MS5.2					
MOY	**Mondy**	**43.96**	**6**	*eP*	**P**	**22 11 47.4 +5.8**
TLY	**Talaya**	**44.31**	**8**	*eP*	**P**	**22 11 45.4 +1.0**
TLY				pmax	pmax	
	comp=Z,10.0nm,0.9s,mb4.5					
TLY	**Talaya**	**44.31**	**8**	*eP*	**P**	**22 11 45.4 +1.0**
	comp=Z,9.8nm,0.9s,mb4.5					
KURK	**Kurchatov**	**44.55**	**346**	*eP*	**P**	**22 11 45.4 -1.0**
KURK				*e*		22 12 02.4
KURK				pmax	pmax	
	comp=Z,160nm,1.4s,mb5.7					
KURK	**Kurchatov**	**44.55**	**346**	*eP*	**P**	**22 11 45.4 -1.0**
	comp=Z,160nm,1.4s,mb5.7					
KURK				*e*		22 12 02.4
MUN	**Mundaring**	**44.94**	**153**	*eP*	**P**	**22 11 52.0 +2.2**
	comp=Z,17nm,0.6s,mb5.1					
MUN	**Mundaring**	**44.94**	**153**	*eP*	**P**	**22 11 52.0 +2.2**
MUN				pmax	pmax	
	comp=Z,17nm,0.6s,mb5.0					
KLBR	**Kellerberrin**	**45.33**	**151**	*eP*	**P**	**22 11 54.1 +1.3**
	comp=Z,229nm,0.7s					
NWAO	**Narrogin (SRO)**	**46.20**	**153**	*eP*	**P**	**22 12 00.6 +0.9**
NWAO				pmax	pmax	
	comp=Z,42nm,1.0s					
NWAO	**Narrogin (SRO)**	**46.20**	**153**	P	**P**	**22 11 59.9 +0.2**
	comp=Z,22nm,1.1s,mb5.0,baz=305,slow=9.1,SNR=5.0					
NWAO	**Narrogin (SRO)**	**46.20**	**153**	*eP*	**P**	**22 12 00.6 +0.9**
	comp=Z,42nm,1.0s,mb5.3					
ZAL	**Zalesovo**	**46.49**	**352**	P	**P**	**22 12 02.5 +0.8**
	comp=Z,4.3nm,0.5s,mb4.7,baz=308,slow=8.5,SNR=6.2					
MDJ	**Mudanjiang**	**47.76**	**34**	P	**P**	**22 12 10.5 -1.4**
MDJ				AMB	AMB	
	comp=Z,9.0nm,1.1s,mb4.7					
MDJ				AMB	AMB	
	comp=Z,202nm,4.6s					
MDJ				LR	LR	
	comp=N,597nm,10.8s					
MDJ				LR	LR	
	comp=E,2μm,16.6s					
MDJ				LR	LR	
	comp=Z,2μm,14.9s,MS5.2					
WRA	**Warramunga Arr**	**48.29**	**126**	P	**P**	**22 12 15.9 -0.4**
	comp=Z,4.9nm,0.9s,mb4.5,baz=306,slow=9.3,SNR=9.2					
WRAB	**Tennant Creek**	**48.30**	**126**	*eP*	**P**	**22 12 14.8 -1.6**
WRAB				pmax	pmax	
	comp=Z,30nm,0.9s,mb5.3					
WRAB	**Tennant Creek**	**48.30**	**126**	*eP*	**P**	**22 12 14.8 -1.5**
	comp=Z,30nm,0.9s,mb5.3					
WB2	**Warramunga Arr**	**48.30**	**126**	*eP*	**P**	**22 12 15.5 -0.9**
BVAR	**Borovoye Array**	**48.93**	**341**	P	**P**	**22 12 19.8 -1.0**
	comp=Z,4.1nm,0.8s,mb4.5,baz=143,slow=7.4,SNR=8.5					
CHKZ	**Chkalovo**	**49.42**	**342**	*eP*	**P**	**22 12 22.9 -1.7**
CHKZ				*e*		22 12 39.5
CHKZ				pmax	pmax	
	comp=Z,19nm,0.9s,mb5.1					
CHKZ	**Chkalovo**	**49.42**	**342**	*eP*	**P**	**22 12 22.9 -1.6**
	comp=Z,19nm,0.9s,mb5.1					
CHKZ				*e*		22 12 39.5
ASAR	**Alice Springs**	**49.95**	**130**	P	**P**	**22 12 28.4 -0.7**
	comp=Z,5.6nm,1.0s,mb4.6,baz=306,slow=6.8,SNR=14					
KLR	**Kul'dur**	**51.83**	**31**	*eP*	**P**	**22 12 47.4 +4.4**
KLR				MLR	MLR	
	comp=E,3μm,15.0s					
GNI	**Garni**	**54.40**	**314**	P	**P**	**22 13 01.9 -0.2**
GNI				pmax	pmax	
	comp=Z,127nm,1.6s					
GNI	**Garni**	**54.40**	**314**	P	**P**	**22 13 01.9 -0.2**
	comp=Z,127nm,1.6s,mb5.6					
TI2	**Plekhanov**	**55.01**	**316**	*eP*	**P**	**22 13 03.8 -2.8**
SVE	**Sverdlovsk**	**55.35**	**338**	*eP*	**P**	**22 13 07.0 -1.8**
PMG	**Port Moresby**	**55.55**	**107**	*eP*	**P**	**22 13 11.5 +0.6**
PMG				*e*		22 13 30.3
PMG				pmax	pmax	
	comp=Z,43nm,0.9s					
PMG	**Port Moresby**	**55.55**	**107**	P	**P**	**22 13 11.9 +1.0**
	comp=Z,12nm,0.8s,mb5.0,baz=298,slow=7.5,SNR=5.2					
PMG	**Port Moresby**	**55.55**	**107**	*eP*	**P**	**22 13 11.5 +0.7**
	comp=Z,43nm,0.9s,mb5.5					
PMG				*e*	pP	22 13 18.4 -0.4
PMG				*e*		22 13 30.3
ARU	**Arti**	**55.84**	**337**	P	**P**	**22 13 02.3 -10**
ARU				pmax	pmax	
	comp=Z,14nm,1.2s,mb4.9					
ARU	**Arti**	**55.84**	**337**	P	**P**	**22 13 02.3 -10**
	comp=Z,14nm,1.2s,mb4.9					
YSS	**Yuzh-Sakhalins**	**56.73**	**38**	*eP*	**P**	**22 13 24.0 +5.0**
YSS				MLR	MLR	
	comp=E,1μm,14.0s					
YSS				MLR	MLR	
	comp=Z,500nm,14.0s,MS4.8					
KIV	**Kislovodsk**	**57.27**	**318**	*eP*	**P**	**22 13 21.1 -1.7**
KIV	**Kislovodsk**	**57.27**	**318**	*eP*	**P**	**22 13 21.1 -1.7**
	comp=Z,70nm,1.3s,mb5.5					
KMBO	**Kilima Mbogo**	**57.43**	**264**	P	**P**	**22 13 20.4 -4.0**
	comp=Z,1.4nm,0.8s,mb4.0,baz=62,slow=11,SNR=3.4					
GOF	**Gofitskoye**	**57.48**	**319**	*eP*	**P**	**22 13 29.0 +4.7**
CTA	**Charters Tower**	**58.33**	**119**	*eP*	**P**	**22 13 29.2 -1.3**
	comp=Z,3.1nm,1.0s,mb4.3					
CTA	**Charters Tower**	**58.33**	**119**	*eP*	**P**	**22 13 29.2 -1.3**
CTA				pmax	pmax	
	comp=Z,3.0nm,1.0s					
MALT	**Malatya**	**58.43**	**310**	*eP*	**P**	**22 13 30.1 -0.9**
MALT				pmax	pmax	
	comp=Z,24nm,1.4s,mb5.0					
MALT	**Malatya**	**58.43**	**310**	*eP*	**P**	**22 13 30.1 -0.9**
	comp=Z,24nm,1.4s,mb5.0					
SOKR	**Solikamsk**	**58.74**	**339**	⇓*i P*	**P**	**22 13 34.2 +1.3**
SOKR				pmax	pmax	
	comp=Z,30nm,1.1s,mb5.2					
SOKR				MLR	MLR	
	comp=Z,2μm,21.0s,MS5.2					
EIL	**Elat**	**59.40**	**300**	*eP*	**P**	**22 13 37.9 +0.1**
	comp=Z,31nm,1.1s,mb5.2					
YAK	**Yakutsk**	**59.94**	**18**	*eP*	**P**	**22 13 39.7 -1.4**
YAK				*e*		22 13 55.5
YAK				pmax	pmax	
	comp=Z,21nm,0.8s,mb5.2					
YAK	**Yakutsk**	**59.94**	**18**	*eP*	**P**	**22 13 39.7 -1.4**
	comp=Z,21nm,0.8s,mb5.2					
YAK				*e*		22 13 55.5
STKA	**Stephens Creek**	**60.15**	**134**	*eP*	**P**	**22 13 42.2 -0.7**
	comp=Z,7.4nm,0.9s,mb4.7					
STKA	**Stephens Creek**	**60.15**	**134**	P	**P**	**22 13 42.0 -1.0**
	comp=Z,5.3nm,1.0s,mb4.5,baz=314,slow=6.7,SNR=5.8					
ANN	**Anapa**	**61.09**	**317**	*eP*	**P**	**22 13 40.6 -8.6**
ANN				pmax	pmax	
	comp=Z,59nm,1.2s,mb5.6					
BRTR	**Keskin Array B**	**62.39**	**311**	P	**P**	**22 13 56.1 -1.9**
	comp=Z,5.9nm,0.7s,mb4.8,baz=127,slow=7.6,SNR=12					
SIM	**Simferopol'**	**63.39**	**317**	*eP*	**P**	**22 14 07.0 +2.5**
SIM				pmax	pmax	
	comp=Z,20nm,0.9s,mb5.2					
SIM				MLR	MLR	
	comp=Z,610nm,16.8s,MS4.8					
MBAR	**Mbarara**	**63.77**	**265**	*eP*	**P**	**22 14 08.6 +1.0**
MBAR				pmax	pmax	
	comp=Z,53nm,1.4s,mb5.4					
MBAR	**Mbarara**	**63.77**	**265**	*eP*	**P**	**22 14 08.6 +1.0**
	comp=Z,53nm,1.4s,mb5.4					
OBN	**Obninsk**	**65.33**	**328**	*eP*	**P**	**22 14 15.3 -1.7**
OBN				pmax	pmax	
	comp=Z,40nm,1.5s,mb5.2					
OBN	**Obninsk**	**65.33**	**328**	*eP*	**P**	**22 14 15.8 -1.2**
OBN				*e*		22 14 27.8
MA2	**Magadan**	**66.71**	**28**	*eP*	**P**	**22 14 25.8 +0.1**
MA2				pmax	pmax	
	comp=Z,42nm,1.0s,mb5.4					
MA2	**Magadan**	**66.71**	**28**	*eP*	**P**	**22 14 25.8 0.0**
	comp=Z,42nm,1.0s,mb5.4					
TIXI	**Tiksi**	**67.17**	**11**	*eP*	**P**	**22 14 26.9 -1.6**
TIXI				pmax	pmax	
	comp=Z,26nm,0.9s,mb5.3					
KIS	**Kishinev**	**67.48**	**318**	*eP*	**P**	**22 14 30.0 -0.8**
KIS				*e*		22 14 48.0
AKASG	**Malin Array Be**	**68.11**	**322**	P	**P**	**22 14 32.5 -2.3**
	comp=Z,4.7nm,0.8s,mb4.6,baz=88,slow=4.8,SNR=9.7					
IDI	**Anoyia**	**68.54**	**305**	P	**P**	**22 14 37.1 -0.5**
	comp=Z,15nm,0.7s,mb5.0,baz=35,slow=12,SNR=4.5					
SEY	**Seymchan**	**68.87**	**25**	*eP*	**P**	**22 14 44.7 +5.5**
MLR	**Muntele Rosu**	**69.13**	**316**	P	**P**	**22 14 40.6 -0.5**
	comp=Z,12nm,0.9s,mb4.8,baz=239,slow=3.9,SNR=4.3					
LSZ	**Lusaka**	**69.29**	**250**	*eP*	**P**	**22 14 43.9 +1.3**
LSZ				pmax	pmax	
	comp=Z,32nm,1.4s,mb5.1					
LSZ	**Lusaka**	**69.29**	**250**	*eP*	**P**	**22 14 43.9 +1.4**
	comp=Z,32nm,1.4s,mb5.1					
MNK	**Minsk**	**69.91**	**325**	*eP*	**P**	**22 14 42.0 -3.7**
JOF	**Joensuu**	**70.80**	**334**	*ep*	**P**	**22 14 48.6 -2.4**
	comp=Z,15nm,0.7s,mb5.0					
BOLS	**Boljevac**	**71.70**	**313**	⇓*i P*	**P**	**22 14 56.4 -0.4**
APA	**Apatity**	**71.79**	**339**	⇓*eP*	**P**	**22 14 59.0 +2.1**
APA				*i*	pP	22 15 09.0 +3.9
KWP	**Kalwaria**	**71.99**	**320**	*eP*	**P**	**22 14 57.3 -1.1**
KWP				pmax	pmax	
	comp=Z,48nm,1.3s,mb5.3					
KWP	**Kalwaria**	**71.99**	**320**	*eP*	**P**	**22 14 57.3 -1.1**
	comp=Z,48nm,1.3s,mb5.3					
KOLS	**Kolonicke sedl**	**72.16**	**319**	*eP*	pP	22 15 06.7 -0.9
KOLS	**Kolonicke sedl**	**72.16**	**319**	*e*	pP	22 15 06.7 -0.9
SUW	**Suwalki**	**72.46**	**324**	*eP*	**P**	**22 14 56.6 -4.5**
SUW				pmax	pmax	
	comp=Z,136nm,1.2s,mb5.8					
SUW	**Suwalki**	**72.46**	**324**	*eP*	**P**	**22 14 56.6 -4.4**
	comp=Z,136nm,1.2s,mb5.8					
FINES	**FINESS Array B**	**72.66**	**332**	P	**P**	**22 15 01.1 -1.0**
	comp=Z,4.9nm,0.6s,mb4.6,baz=111,slow=7.9,SNR=11					
CRVS	**Cervenica-Dubn**	**72.69**	**319**	*eP*	**P**	**22 15 02.4 -0.1**
KAF	**Kangasniemi**	**72.74**	**333**	*ep*	**P**	**22 14 59.0 -3.6**
	comp=Z,25nm,1.0s,mb5.1					
KAF	**Kangasniemi**	**72.74**	**333**	*eP*	**P**	**22 14 59.0 -3.6**
KAF				pmax	pmax	
	comp=Z,25nm,1.0s,mb5.1					
PSZ	**Piszkesteto**	**73.60**	**318**	*eP*	**P**	**22 15 09.1 +1.2**
PSZ				pmax	pmax	
	comp=Z,80nm,1.6s,mb5.4					
PSZ	**Piszkesteto**	**73.60**	**318**	*eP*	**P**	**22 15 09.1 +1.3**
	comp=Z,80nm,1.6s,mb5.4					
OJC	**Ojcow**	**73.93**	**320**	*eP*	**P**	**22 15 09.0 -0.7**
LBTB	**Lobatse**	**74.27**	**241**	*eP*	**P**	**22 15 10.8 -1.4**
LBTB				pmax	pmax	
	comp=Z,13nm,0.8s,mb4.9					
LBTB	**Lobatse**	**74.27**	**241**	*eP*	**P**	**22 15 10.8 -1.4**
	comp=Z,13nm,0.8s,mb4.9					
VYHS	**Vyhne**	**74.36**	**318**	*eP*	**P**	**22 15 14.8 +2.5**
OKC	**Ostrava-Krasne**	**74.95**	**319**	*eP*	**P**	**22 15 15.5 -0.1**
OKC				*ep*P	pP	22 15 21.7 -2.1
ARCES	**ARCESS Array B**	**75.21**	**340**	P	**P**	**22 15 16.1 -0.6**
	comp=Z,9.0nm,0.9s,mb4.7,baz=79,slow=6.2,SNR=5.8					
MORC	**Moravsky Berou**	**75.33**	**319**	*eP*	**P**	**22 15 16.7 -1.1**
MORC				pmax	pmax	
	comp=Z,29nm,1.2s,mb5.1					
MORC	**Moravsky Berou**	**75.33**	**319**	*eP*	**P**	**22 15 16.6 -1.2**
	comp=Z,29nm,1.2s,mb5.1					
BOSA	**Boshof**	**75.62**	**238**	*eP*	**P**	**22 15 21.3 +1.4**
BOSA				pmax	pmax	
	comp=Z,33nm,1.1s,mb5.2					
BOSA	**Boshof**	**75.62**	**238**	*eP*	**P**	**22 15 21.3 +1.4**
	comp=Z,33nm,1.1s,mb5.2					
VRAC	**Vranov**	**75.91**	**319**	P	**P**	**22 15 20.4 -0.7**
	comp=Z,2.4nm,0.5s,mb4.4,baz=50,slow=11,SNR=3.2					
DPC	**Dobruska-Polom**	**76.16**	**320**	*eP*	**P**	**22 15 22.6 +0.1**
KSP	**Ksiaz**	**76.22**	**320**	*eP*	**P**	**22 15 22.8 0.0**
KSP				*e*PP	pP	22 15 37.8 +6.7
UPC	**Upice**	**76.37**	**320**	*eP*	**P**	**22 15 23.9 +0.2**
UPC				*ep*P	pP	22 15 30.2 -1.7
PRU	**Pruhonice**	**77.28**	**319**	*eP*	**P**	**22 15 28.6 -0.2**
PRU				*ep*P	pP	22 15 35.0 -2.0
BRG	**Berggiesshubel**	**77.71**	**320**	*i* P	**P**	**22 15 31.2 +0.1**
BRG				*i*	pP	22 15 37.9 -1.4
BRG				*i*		22 15 46.7
BRG				pmax	pmax	
	comp=Z,9.0nm,1.0s,mb4.7					
BRG	**Berggiesshubel**	**77.71**	**320**	*i* P	**P**	**22 15 31.2 +0.1**
	comp=Z,8.9nm,1.0s,mb4.7					
BRG				*i*	pP	22 15 37.9 -1.4
BRG				*i*		22 15 46.7
GEC2	**GERESS Array S**	**77.78**	**318**	*eP*	**P**	**22 15 31.7 +0.2**
GERES	**GERESS Array B**	**77.78**	**318**	P	**P**	**22 15 31.2 -0.3**
	comp=Z,11nm,0.7s,mb4.9,baz=90,slow=5.3,SNR=13					
KHC	**Kasperske Hory**	**77.88**	**318**	*eP*	**P**	**22 15 31.7 -0.3**
KHC				*e*		22 15 47.0
KHC	**Kasperske Hory**	**77.88**	**318**	*eP*	**P**	**22 15 31.7 -0.3**
KHC				*e*		22 15 34.5
KHC				*e*		22 15 47.0
KHC	**Kasperske Hory**	**77.88**	**318**	*eP*	**P**	**22 15 31.7 -0.3**
KHC				x	x	22 15 34.5
KHC				x	x	22 15 47.0
RUE	**Ruedersdorf**	**77.88**	**322**	*eP*	**P**	**22 15 32.0 0.0**
	comp=Z,31nm,0.6s,mb5.4					
CLL	**Collm**	**78.32**	**321**	⇓*i P*	pP	22 15 40.5 -2.2
CLL				*i*		22 15 50.2
CLL				pmax	pmax	
	comp=Z,10.0nm,1.0s,mb4.7					
CLL	**Collm**	**78.32**	**321**	⇓*i**PP	pP	22 15 40.5 -2.2
CLL				*i*		22 15 50.2
CLL				*e*		22 16 59.0
WET	**Wettzell**	**78.33**	**318**	*eP*	**P**	**22 15 34.8 +0.2**
WET				pmax	pmax	
	comp=Z,6.0nm,0.8s,mb4.6					
WET	**Wettzell**	**78.33**	**318**	*eP*	**P**	**22 15 34.8 +0.2**
	comp=Z,6.0nm,0.8s,mb4.6					
MAW	**Mawson**	**78.59**	**192**	*eP*	**P**	**22 15 37.1 +1.5**
MAW				pmax	pmax	
	comp=Z,17nm,0.9s					
MAW	**Mawson**	**78.59**	**192**	*eP*	**P**	**22 15 37.1 +1.5**
	comp=Z,17nm,0.9s,mb5.0					
COP	**Copenhagen**	**78.82**	**325**	*eP*	**P**	**22 15 43.7 +6.6**
COP				pmax	pmax	
	comp=Z,31nm,0.8s,mb5.3					
COP	**Copenhagen**	**78.82**	**325**	*i* P	**P**	**22 15 43.7 +6.6**
	comp=Z,31nm,0.8s,mb5.3					
MOX	**Moxa**	**79.18**	**320**	*eP*	**P**	**22 15 40.8 +1.6**
MOX				pmax	pmax	
	comp=Z,56nm,1.9s,mb5.2					
MOX	**Moxa**	**79.18**	**320**	*eP*	**P**	**22 15 40.8 +1.6**
	comp=Z,56nm,1.9s,mb5.2					
MOX	**Moxa**	**79.18**	**320**	*i* P	**P**	**22 15 40.8 +1.6**
	comp=Z,logA/T=1.5,mb5.2					
FUR	**Furstenfeld

SBF Sospel 82.19 313 *eP* **P 22 15 54.7 -0.5**
comp=Z,103nm,1.1s,mb5.4
SBF Sospel 82.19 313 *eP* **P 22 15 54.7 -0.5**
SBF pmax pmax
comp=Z,52nm,1.0s,mb5.4
LPG La Plagne 82.58 315 *eP* **P 22 15 57.1 -0.1**
comp=Z,23nm,0.7s,mb5.0
LPG La Plagne 82.58 315 *eP* **P 22 15 57.1 -0.1**
LPG pmax pmax
comp=Z,12nm,0.7s,mb5.0
LPL La Plagne 82.59 315 *eP* **P 22 15 57.0 -0.2**
comp=Z,54nm,0.8s,mb5.3
LPL La Plagne 82.59 315 *eP* **P 22 15 57.0 -0.2**
LPL pmax pmax
comp=Z,27nm,0.8s,mb5.3
MBDF Montbardon 82.61 314 *eP* **P 22 15 56.4 -1.0**
comp=Z,40nm,1.2s,mb5.0
MBDF Montbardon 82.61 314 *eP* **P 22 15 56.4 -1.0**
MBDF pmax pmax
comp=Z,20nm,1.3s,mb5.0
BNI Bardonecchia 82.66 314 *eP* **P 22 15 59.3 +1.7**
BNI pmax pmax
comp=Z,25nm,1.0s,mb5.2
BNI Bardonecchia 82.66 314 *eP* **P 22 15 59.2 +1.6**
comp=Z,25nm,1.0s,mb5.2
HAU Haudompre 82.69 317 *eP* **P 22 15 56.8 -0.9**
comp=Z,54nm,1.1s,mb5.2
HAU *eR*
comp=Z,572nm,23.0s
CABF La Chapelle 82.96 316 *eP* **P 22 15 58.8 -0.4**
comp=Z,106nm,1.5s,mb5.3
CABF La Chapelle 82.96 316 *eP* **P 22 15 58.8 -0.4**
CABF pmax pmax
comp=Z,53nm,1.5s,mb5.3
ORIF Oris-en-Rattie 83.23 314 *eP* **P 22 16 00.4 -0.2**
comp=Z,19nm,1.0s,mb4.8
ORIF *eR*
comp=Z,804nm,21.5s
MEZF Maizieres J'vi 83.52 318 *eP* **P 22 16 01.2 -0.8**
GIVF Givet 83.54 320 *eP* **P 22 16 01.3 -0.8**
BAIF Baives 83.94 320 *eP* **P 22 16 03.8 -0.3**
comp=Z,19nm,0.9s,mb4.9
BAIF Baives 83.94 320 *eP* **P 22 16 03.8 -0.3**
BAIF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
VIVF Saint-Julien-l 84.09 314 *eP* **P 22 16 04.4 -0.6**
comp=Z,17nm,0.9s,mb4.9
VIVF Saint-Julien-l 84.09 314 *eP* **P 22 16 04.4 -0.6**
VIVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
SMF Signal de Mont 84.50 316 *eP* **P 22 16 06.1 -0.9**
comp=Z,37nm,1.1s,mb5.1
SMF Signal de Mont 84.50 316 *eP* **P 22 16 06.1 -0.9**
SMF pmax pmax
comp=Z,18nm,1.1s,mb5.1
SSF Saint Saulge 84.69 317 *eP* **P 22 16 07.3 -0.6**
SSF pmax pmax
comp=Z,12nm,1.2s,mb4.9
SSF Saint Saulge 84.69 317 *eP* **P 22 16 07.3 -0.6**
comp=Z,12nm,1.2s,mb4.9
AVF Avril sur Loir 84.82 316 *eP* **P 22 16 07.7 -0.9**
comp=Z,44nm,1.4s,mb5.1
AVF Avril sur Loir 84.82 316 *eP* **P 22 16 07.7 -0.9**
AVF pmax pmax
comp=Z,22nm,1.4s,mb5.1
BGF Bois d'Agland 85.19 316 *eP* **P 22 16 10.1 -0.3**
comp=Z,24nm,1.1s,mb4.9
BGF Bois d'Agland 85.19 316 *eP* **P 22 16 10.1 -0.3**
BGF pmax pmax
comp=Z,12nm,1.1s,mb4.9
SYO Syowa Base 85.46 197 ⇓*sP* *sP* 22 16 31.1 +8.8
TNA Tin City 86.11 24 *eP* **P 22 16 14.2 -0.3**
comp=Z,16nm,1.0s,mb5.2
RJF Les Rejaudoux 86.27 315 *eP* **P 22 16 15.6 -0.2**
RJF *eR*
comp=Z,592nm,22.5s
LFF La Frestale 86.86 315 *eP* **P 22 16 18.9 +0.2**
LDF La Druitiere 86.93 318 *eP* **P 22 16 18.5 -0.4**
EKA Eskdalemuir Ar 87.67 325 P **P 22 16 22.8 +0.4**
comp=Z,5.1nm,0.7s,mb4.8,baz=98,slow=4.9,SNR=9.4
ETSF Etsaut 88.09 313 *eP* **P 22 16 24.0 -0.7**
comp=Z,57nm,1.4s,mb5.3
ETSF Etsaut 88.09 313 *eP* **P 22 16 24.0 -0.7**
ETSF pmax pmax
comp=Z,28nm,1.4s,mb5.3
ESDC Sonseca Array 91.18 310 P **P 22 16 40.2 +1.0**
comp=Z,1.5nm,0.7s,mb4.5,baz=66,slow=3.9,SNR=5.2
ESLA Sonseca Array 91.18 310 *eP* **P 22 16 37.8 -1.4**
IMA Indian Mountai 91.57 22 *eP* **P 22 16 41.6 +1.2**
IMA pmax pmax
comp=Z,74nm,0.7s
IMA Indian Mountai 91.57 22 *eP* **P 22 16 41.6 +1.2**
comp=Z,74nm,0.7s
MCK McKinley 94.40 23 *eP* **P 22 16 53.6 +0.1**
MCK *e* 22 17 09.9
MCK pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
MCK McKinley 94.40 23 *eP* **P 22 16 53.6 +0.1**
comp=Z,6.2nm,1.0s,mb5.0
MCK *e* 22 17 09.9
ILAR Eielson Array 94.69 22 P **P 22 16 54.3 -0.5**
comp=Z,0.8nm,0.9s,mb4.2,baz=311,slow=3.4,SNR=5.7
SML Sawmill 95.55 25 *eP* **P 22 16 55.9 -2.9**
INK Inuvik 96.94 16 *eP* **P 22 17 04.1 -0.8**
INK *e* 22 17 21.2
INK pmax pmax
comp=Z,18nm,1.2s
INK Inuvik 96.94 16 P **P 22 17 04.4 -0.6**
comp=Z,4.6nm,1.2s,mb4.8,baz=258,slow=1.8,SNR=4.1
INK Inuvik 96.94 16 *eP* **P 22 17 04.1 -0.8**
comp=Z,18nm,1.2s,mb5.4
INK *e* 22 17 21.2
RES Resolute Bay 97.34 2 *eP* **P 22 17 07.2 +0.5**
RES pmax pmax
comp=Z,13nm,0.9s,mb5.4
RES Resolute Bay 97.34 2 *eP* **P 22 17 07.2 +0.5**
comp=Z,13nm,0.9s,mb5.3
DAWY Dawson 97.80 21 *eP* **P 22 17 09.4 +0.5**
YKA Yellowknife Ar 106.37 13 PP PP 22 22 11.5 -3.2
comp=Z,0.4nm,0.7s,baz=331,slow=7.6,SNR=3.6
ULM Lac du Bonnet 121.41 8 PKP PKPdf 22 22 27.8 -3.1
comp=Z,2.8nm,0.8s,baz=179,slow=1.2,SNR=4.9
LKWY Lake 123.24 21 *e*PKIKP PKPdf 22 22 33.6 -1.0
WUWY Wally Ulrich 124.01 22 *e*PKPdf PKPdf 22 22 33.6 -2.6
NVAR Mina Array Bea 124.87 31 PKP PKPdf 22 22 35.9 -2.0
comp=Z,1.3nm,0.8s,slow=0.9,SNR=4.5
PDAR Pinedale Array 125.11 21 PKP PKPdf 22 22 34.1 -4.2
comp=Z,1.0nm,0.7s,baz=45,slow=2.1,SNR=6.4
MSU Marysvale 127.70 26 *e*PKIKP PKPdf 22 22 41.7 -1.7
ANMO Albuquerque 133.12 23 PKiKP 22 22 52.5
comp=Z,1.1nm,0.8s,baz=184,slow=0.6,SNR=4.3
TXAR Lajitas Array 139.17 24 PKiKP 22 23 03.6
comp=Z,0.5nm,0.6s,baz=225,slow=1.8,SNR=5.5
JCT Junction City 139.53 19 *e*PKIKP PKPdf 22 22 57.5 -8.2
PLCA Paso Flores 144.60 200 PKP PKPdf 22 23 11.0 -3.3
comp=Z,10nm,1.0s,baz=173,slow=6.5,SNR=7.6
PLCA Paso Flores 144.60 200 *e*PKPdf PKPdf 22 23 11.2 -3.1
SDV Santo Domingo 157.43 317 *e*PKPbc PKPdf 22 23 37.5 +3.2
LPAZ La Paz 160.79 243 *e*PKIKP PKPdf 22 23 35.7 -2.3
LPAZ La Paz 160.79 243 PKP PKPdf 22 23 36.2 -1.8
comp=Z,1.3nm,0.8s,baz=90,slow=1.0,SNR=4.3
OTAV Otavalo 169.03 317 *e*PKPdf PKPdf 22 23 42.1 -3.1
OTAV *e* 22 23 58.5

*IDC **29** 22:03:55.4±2.9, 7.92N×93.95E, h49km±25km, mb4.5/22, mb1 4.7/23, mb1mx4.6/27, mbtmp4.8/23, ML5.2/1, MS5.0/1, Ms1 5.0/1, ms1mx3.2/10, Error ellipse: s-maj=27.0km s-min=12.5km az=45.0*

ISC 29 22:03:52.1±0.4, 7.96N±0.07×94.02E±0.06, h33km, n46, σ0.96/39, mb4.9/25, MS5.0/2, 1C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.48**	**24**	P	**P**	**22 06 38.5**	**+1.6**
	4.5nm,0.3s,baz=211,slow=14,SNR=26						
KKTK	**Khon Kaen**	**11.97**	**45**	P	**P**	**22 06 43.0**	**-0.4**
NANT	**Nan**	**12.58**	**30**	⇑P	**P**	**22 06 52.0**	**+0.4**
	90nm,1.0s						
MDRS	**Chennai**	**14.46**	**292**	*e*	**P**	**22 07 18.0**	**+1.5**
MDRS				*e*		22 09 17.0	
CAL	**Calcutta**	**15.49**	**340**	*e*	**P**	**22 07 28.1**	**-1.8**
CAL				*e*		22 10 37.9	
AGT	**Agartala**	**16.05**	**351**	⇓*i*	**P**	**22 07 33.0**	**-4.1**
AGT				*i*		22 08 38.0	
KOD	**Kodaikanal**	**16.50**	**279**	*eP*	**P**	**22 07 47.3**	**+4.6**
KOD				*e*		22 10 32.9	
KOD				*eS*	**S**	**22 10 52.8**	**+8.7**
MNGI	**Mangalore**	**19.51**	**286**	*e*	**P**	**22 08 19.5**	**0.0**
MNGI				*eS*	**S**	**22 11 45.5**	**-7.0**
	102nm,1.1s						
NGP	**Nagpur**	**19.51**	**314**	*e*	**P**	**22 08 21.0**	**+1.4**
NGP				*e*		22 08 45.4	
NGP				*e*		22 11 55.2	
POO	**Poona**	**22.24**	**300**	*i S*	**S**	**22 13 00.0**	**+15**
BOM	**Bombay**	**23.28**	**300**	*e*	**P**	**22 08 58.1**	**+0.1**
BOM				*e*		22 09 13.6	
BOM				*i*		22 09 37.3	
FRU	**Bishkek**	**38.70**	**337**	*eP*	**P**	**22 11 15.5**	**+0.9**
FRU				*i*		22 13 04.0	
FRU				pmax	pmax		
	comp=Z,60nm,2.0s,mb5.0						
FRU				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.0						
FITZ	**Fitzroy Crossi**	**40.56**	**130**	*eP*	**P**	**22 11 30.4**	**0.0**
	comp=Z,23nm,0.9s,mb4.8						
SONM	**Songino Array**	**41.10**	**13**	P	**P**	**22 11 35.2**	**+0.7**
	comp=Z,12nm,0.8s,mb4.6,baz=198,slow=7.5,SNR=17						
SONM				PcP	PcP	22 13 34.1	-0.2
	comp=Z,4.6nm,0.7s,baz=188,slow=3.5,SNR=4.7						
SONM				ScP		22 17 20.4	
	comp=Z,1.9nm,1.0s,baz=185,slow=3.5,SNR=4.6						
ZAL	**Zalesovo**	**46.44**	**352**	P	**P**	**22 12 17.2**	**-0.3**
	comp=Z,22nm,0.6s,mb5.2,baz=303,slow=7.2,SNR=18						
ZAL				LR	LR	22 37 17.8	
	comp=Z,2μm,19.2s,MS5.0,baz=291,slow=43						
WRA	**Warramunga Arr**	**48.41**	**126**	P	**P**	**22 12 33.4**	**0.0**
	comp=Z,5.7nm,0.5s,mb4.9,baz=304,slow=8.6,SNR=12						
BVAR	**Borovoye Array**	**48.87**	**341**	P	**P**	**22 12 35.7**	**-0.8**
	comp=Z,3.1nm,0.6s,mb4.5,baz=104,slow=12,SNR=6.2						
BVAR				PcP	PcP	22 14 00.8	-0.2
	comp=Z,6.2nm,1.0s,baz=149,slow=8.6,SNR=3.8						
ASPA	**Alice Springs**	**50.06**	**130**	*eP*	**P**	**22 12 42.2**	**-3.9**
ASAR	**Alice Springs**	**50.07**	**130**	P	**P**	**22 12 46.6**	**+0.5**
	comp=Z,11nm,0.8s,mb4.9,baz=303,slow=6.9,SNR=12						
ASAR				PcP	PcP	22 14 03.9	-1.9
	comp=Z,9.3nm,0.7s,baz=309,slow=3.8,SNR=6.5						
FORT	**Forrest**	**50.48**	**141**	*eP*	**P**	**22 12 51.1**	**+1.9**
	comp=Z,116nm,0.7s,mb6.0						
ASF	**Jabal al Asfar**	**58.06**	**303**	P	**P**	**22 13 44.8**	**+0.1**
	comp=Z,16nm,1.3s,mb4.9,baz=350,slow=5.2,SNR=5.2						
CTA	**Charters Tower**	**58.46**	**119**	P	**P**	**22 13 47.6**	**+0.1**
	comp=Z,7.4nm,1.0s,mb4.7,baz=303,slow=7.9,SNR=5.2						
EIL	**Elat**	**59.27**	**300**	P	**P**	**22 13 53.5**	**+0.3**
	comp=Z,9.8nm,0.9s,mb4.8,baz=194,slow=11,SNR=4.4						
STKA	**Stephens Creek**	**60.26**	**134**	P	**P**	**22 13 57.8**	**-2.1**
	comp=Z,2.3nm,0.7s,mb4.3,baz=306,slow=8.2,SNR=2.8						
BRTR	**Keskin Array B**	**62.28**	**311**	P	**P**	**22 14 11.3**	**-2.1**
	comp=Z,4.7nm,0.6s,mb4.8,baz=132,slow=6.8,SNR=8.5						
AKASG	**Malin Array Be**	**68.01**	**322**	P	**P**	**22 14 48.2**	**-1.9**
	comp=Z,4.4nm,0.8s,mb4.6,baz=88,slow=5.0,SNR=6.4						
IDI	**Anoyia**	**68.42**	**305**	P	**P**	**22 14 52.5**	**-0.5**
	comp=Z,18nm,0.7s,mb5.2,baz=75,slow=5.2,SNR=3.7						
MLR	**Muntele Rosu**	**69.02**	**316**	P	**P**	**22 14 56.8**	**+0.3**
	comp=Z,33nm,1.0s,mb5.2,baz=199,slow=3.1,SNR=5.7						
FINES	**FINESS Array B**	**72.58**	**332**	P	**P**	**22 15 17.1**	**-0.5**
	comp=Z,12nm,0.7s,mb4.9,baz=107,slow=5.9,SNR=4.4						
ARCES	**ARCESS Array B**	**75.14**	**340**	P	**P**	**22 15 32.7**	**+0.3**
	comp=Z,4.6nm,0.6s,mb4.6,baz=89,slow=4.1,SNR=7.0						
GERES	**GERESS Array B**	**77.68**	**318**	P	**P**	**22 15 47.6**	**+0.4**
	comp=Z,8.4nm,0.9s,mb4.7,baz=89,slow=5.3,SNR=6.2						
NOA	**NORSAR Array B**	**79.59**	**331**	P	**P**	**22 15 56.5**	**-0.8**
	comp=Z,3.8nm,0.8s,mb4.7,baz=93,slow=5.6,SNR=9.3						
DAVOX	**Davos**	**80.24**	**316**	P	**P**	**22 16 01.5**	**+0.3**
	comp=Z,9.5nm,0.8s,mb4.8,baz=265,slow=21,SNR=3.9						
EKA	**Eskdalemuir Ar**	**87.58**	**325**	P	**P**	**22 16 38.5**	**+0.6**
	comp=Z,8.5nm,1.0s,mb5.0,baz=104,slow=5.1,SNR=4.4						
ESDC	**Sonseca Array**	**91.07**	**310**	P	**P**	**22 16 54.6**	**-0.3**
	comp=Z,3.3nm,0.7s,mb4.8,baz=64,slow=4.3,SNR=6.5						
ILAR	**Eielson Array**	**94.71**	**22**	P	**P**	**22 17 10.4**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.5,baz=297,slow=4.3,SNR=10						
ILAR				PP	PP	22 20 52.6	-9.2
	comp=Z,0.7nm,0.8s,baz=303,slow=6.3,SNR=4.8						
ILAR				PKKPbc		22 34 07.7	
	comp=Z,0.5nm,0.9s,baz=162,slow=2.9,SNR=4.6						
INK	**Inuvik**	**96.94**	**16**	P	**P**	**22 17 21.4**	**+0.3**
	comp=Z,7.5nm,1.0s,mb5.1,baz=311,slow=1.6,SNR=6.8						
YKA	**Yellowknife Ar**	**106.37**	**13**	PP	PP	22 22 24.9	-5.9
	comp=Z,1.0nm,0.8s,baz=335,slow=7.8,SNR=8.7						
YKA				PKKPbc		22 33 32.9	
	comp=Z,0.5nm,0.5s,baz=150,slow=3.0,SNR=6.7						
ULM	**Lac du Bonnet**	**121.39**	**7**	PKP	PKPdf	22 22 42.5	+0.3
	comp=Z,3.6nm,0.7s,baz=343,slow=4.8,SNR=7.1						
NVAR	**Mina Array Bea**	**124.91**	**31**	PKP	PKPdf	22 22 51.3	+1.9
	comp=Z,4.0nm,0.8s,baz=248,slow=0.6,SNR=10						
PDAR	**Pinedale Array**	**125.13**	**21**	PKP	PKPdf	22 22 50.4	+0.7
	comp=Z,3.7nm,0.8s,baz=45,slow=2.1,SNR=10.0						
ANMO	**Albuquerque**	**133.14**	**23**	PKP	PKPdf	22 23 07.1	+1.9
	comp=Z,2.4nm,0.8s,baz=181,slow=0.4,SNR=7.1						
TXAR	**Lajitas Array**	**139.19**	**24**	PKP	PKPdf	22 23 18.4	+1.9
	comp=Z,2.0nm,0.7s,baz=270,slow=0.9,SNR=10						
TXAR				PP	PP	22 26 10.8	-3.2
	comp=Z,1.6nm,1.0s,slow=2.7,SNR=5.2						
PLCA	**Paso Flores**	**144.59**	**200**	PKP	PKPdf	22 23 25.2	-0.4
	comp=Z,11nm,0.8s,baz=208,slow=3.9,SNR=6.3						
SDV	**Santo Domingo**	**157.33**	**317**	PKPab	PKPab	22 24 18.9	-0.4
	comp=Z,4.1nm,0.8s,baz=97,slow=6.7,SNR=4.0						
LPAZ	**La Paz**	**160.70**	**243**	PKP	PKPdf	22 23 51.0	+1.7
	comp=Z,3.3nm,1.1s,baz=79,slow=2.2,SNR=5.4						

*BJI **29** 22:12:32.3, 7.54N×94.10E, h48km, mb4.5*
*IDC **29** 22:12:33.5±0.6, 8.00N×94.14E, h19km±2km, mb4.2/17, mb1 4.3/18, mb1mx4.2/23, mbtmp4.3/18, ML3.7/1, Error ellipse: s-maj=25.1km s-min=12.8km az=45.0*
*NEIC **29** 22:12:33.7±0.4, 7.98N×94.16E, mb4.7/20, Error ellipse: s-maj=11.5km s-min=9.4km az=35.0*
*MOS **29** 22:12:34.3±0.9, 8.11N×94.24E, h33km, mb4.9/19, Error ellipse: s-maj=16.8km s-min=8.5km az=117.8*

ISC 29 22:12:31.7±0.5, 7.98N±0.09×94.34E±0.08, h20km, h20km±.4km: pP-P, n89, σ1$07/84, mb4.5/37, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.34**	**23**	Pn	**P**	**22 15 17.4**	**+1.6**
	0.2nm,0.3s,baz=212,slow=13,SNR=4.9						
HYB	**Hyderabad**	**18.02**	**303**	*i P*	**P**	**22 16 44.5**	**+1.6**
JIRN	**Jiri**	**21.04**	**340**	*eP*	**P**	**22 17 18.5**	**+1.7**
PKI	**Pulchoki**	**21.24**	**338**	*eP*	**P**	**22 17 20.4**	**+1.5**
DMN	**Daman**	**21.39**	**337**	*eP*	**P**	**22 17 21.5**	**+1.1**
KKN	**Kakani**	**21.48**	**338**	*eP*	**P**	**22 17 21.7**	**+0.3**
	52nm,1.0s,mb4.8						
LSA	**Lhasa**	**21.81**	**353**	*eP*	**P**	**22 17 27.8**	**+3.2**
GKN	**Gorkha**	**21.93**	**336**	*eP*	**P**	**22 17 25.4**	**-0.4**
	48nm,0.7s,mb5.0						
KOLN	**Koldanda**	**22.15**	**334**	*eP*	**P**	**22 17 28.1**	**+0.1**
	58nm,0.9s,mb5.0						
NDI	**New Delhi**	**26.16**	**324**	*e*	**P**	**22 18 09.0**	**+2.3**
AAK	**Ala-Archa**	**38.68**	**336**	*eP*	**P**	**22 19 55.0**	**-1.0**
AAK				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.5						
AAK	**Ala-Archa**	**38.68**	**336**	*eP*	**P**	**22 19 55.0**	**-0.9**
	comp=Z,14nm,1.3s,mb4.5						
SONM	**Songino Array**	**41.02**	**12**	P	**P**	**22 20 14.9**	**-0.2**
	comp=Z,1.6nm,0.9s,mb3.6,baz=194,slow=7.5,SNR=7.7						
SONM				pP	pP	22 20 22.6	+1.5
	comp=Z,2.9nm,1.0s,baz=193,slow=6.6,SNR=11						
KURK	**Kurchatov**	**44.55**	**346**	*eP*	**P**	**22 20 43.3**	**-0.7**
KURK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.6						
KURK	**Kurchatov**	**44.55**	**346**	*eP*	**P**	**22 20 43.3**	**-0.7**
	comp=Z,12nm,1.2s,mb4.6						
ZAL	**Zalesovo**	**46.47**	**352**	P	**P**	**22 20 59.1**	**-0.1**
	comp=Z,2.4nm,0.7s,mb4.3,baz=302,slow=8.0,SNR=7.7						
NVS	**Novosibirsk**	**47.57**	**351**	*eP*	**P**	**22 21 04.8**	**-3.0**
WRA	**Warramunga Arr**	**48.16**	**126**	P	**P**	**22 21 13.4**	**+0.5**
	comp=Z,2.2nm,1.0s,mb4.1,baz=302,slow=9.0,SNR=6.3						
WRA				pP	pP	22 21 20.4	+1.4
	comp=Z,2.2nm,0.9s,baz=306,slow=9.3,SNR=7.1						
BVAR	**Borovoye Array**	**48.95**	**341**	P	**P**	**22 21 17.4**	**-1.2**
	comp=Z,1.7nm,0.8s,mb4.1,baz=169,slow=7.6,SNR=5.5						
BVAR				pP	pP	22 21 23.3	-1.3
	comp=Z,6.7nm,1.1s,baz=129,slow=9.5,SNR=5.9						
RAYN	**Ar Rayn**	**49.22**	**294**	P	**P**	**22 21 22.8**	**+1.8**
	comp=Z,92nm,0.6s,SNR=9.0						
CHKZ	**Chkalovo**	**49.43**	**342**	*eP*	**P**	**22 21 21.4**	**-0.9**
CHKZ				*e*	pP	22 21 27.9	-0.5
CHKZ				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
CHKZ	**Chkalovo**	**49.43**	**342**	*eP*	**P**	**22 21 21.4**	**-0.9**
	comp=Z,12nm,1.0s,mb4.9						
CHKZ				*e*	pP	22 21 27.9	-0.5
ASAR	**Alice Springs**	**49.83**	**130**	P	**P**	**22 21 26.5**	**+0.7**
	comp=Z,1.4nm,0.9s,mb4.0,baz=308,slow=8.9,SNR=6.8						
ASAR				pP	pP	22 21 32.8	+0.9
	comp=Z,2.1nm,0.9s,baz=306,slow=8.0,SNR=7.8						
GNI	**Garni**	**54.50**	**314**	P	**P**	**22 21 58.3**	**-2.2**
GNI				pmax	pmax		
	comp=Z,32nm,1.3s						
GNI	**Garni**	**54.50**	**314**	P	**P**	**22 21 58.2**	**-2.2**
	comp=Z,32nm,1.3s,mb5.2						
ARU	**Arti**	**55.87**	**337**	*eP*	**P**	**22 22 02.8**	**-7.4**
ARU				*e*	pP	22 22 09.1	-7.3
ARU				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.8						
ARU	**Arti**	**55.87**	**337**	*eP*	**P**	**22 22 02.8**	**-7.4**
	comp=Z,14nm,1.3s,mb4.8						
ARU				*e*	pP	22 22 09.1	-7.3
YSS	**Yuzh-Sakhalins**	**56.58**	**38**	P	**P**	**22 22 15.0**	**-0.4**
YSS				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.3						
YSS	**Yuzh-Sakhalins**	**56.58**	**38**	P	**P**	**22 22 14.9**	**-0.5**
	comp=Z,46nm,1.3s,mb5.3						
KMBO	**Kilima Mbogo**	**57.63**	**264**	*eP*	**P**	**22 22 25.2**	**+1.9**
KMBO				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KMBO	**Kilima Mbogo**	**57.63**	**264**	P	**P**	**22 22 25.5**	**+2.2**
	comp=Z,7.7nm,0.7s,mb4.9,baz=61,slow=11,SNR=29						
KMBO	**Kilima Mbogo**	**57.63**	**264**	*eP*	**P**	**22 22 25.2**	**+1.8**
	comp=Z,8.2nm,0.7s,mb4.9						
ASF	**Jabal al Asfar**	**58.32**	**303**	P	**P**	**22 22 28.0**	**+0.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=143,slow=7.0,SNR=3.7						
MALT	**Malatya**	**58.54**	**310**	*eP*	**P**	**22 22 27.8**	**-1.6**
MALT				*e*	pP	22 22 33.3	-2.3
MALT				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
MALT	**Malatya**	**58.54**	**310**	*eP*	**P**	**22 22 27.8**	**-1.6**
	comp=Z,4.5nm,1.1s,mb4.4						
MALT				*e*	pP	22 22 33.3	-2.3
EIL	**Elat**	**59.54**	**300**	P	**P**	**22 22 36.5**	**0.0**
	comp=Z,2.6nm,0.6s,mb4.4,baz=344,slow=9.5,SNR=4.1						
EIL	**Elat**	**59.54**	**300**	P	**P**	**22 22 36.5**	**0.0**
YAK	**Yakutsk**	**59.83**	**18**	*eP*	**P**	**22 22 37.7**	**-0.3**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
YAK	**Yakutsk**	**59.83**	**18**	*eP*	**P**	**22 22 37.7**	**-0.3**
	comp=Z,9.1nm,0.7s,mb4.9						
BRTR	**Keskin Array B**	**62.51**	**311**	P	**P**	**22 22 54.1**	**-2.3**
	comp=Z,2.3nm,0.7s,mb4.5,baz=125,slow=7.5,SNR=17						
BRTR				pP	pP	22 23 00.2	-2.5
	comp=Z,2.0nm,0.7s,baz=123,slow=8.2,SNR=8.0						
OBN	**Obninsk**	**65.39**	**328**	*eP*	**P**	**22 23 11.3**	**-3.7**
OBN				pmax	pmax		
	comp=Z,36nm,1.8s,mb5.1						
OBN	**Obninsk**	**65.39**	**328**	*eP*	**P**	**22 23 11.7**	**-3.3**
	comp=Z,23nm,1.1s,mb5.1						
TIXI	**Tiksi**	**67.09**	**11**	*eP*	**P**	**22 23 24.7**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
AKASG	**Malin Array Be**	**68.19**	**322**	P	**P**	**22 23 30.7**	**-2.2**
	comp=Z,1.7nm,0.6s,mb4.2,baz=89,slow=5.0,SNR=10						
AKASG				pP	pP	22 23 36.9	-2.2
	comp=Z,3.1nm,0.7s,baz=88,slow=5.0,SNR=7.4						
IDI	**Anoyia**	**68.67**	**305**	P	**P**	**22 23 35.0**	**-1.1**
	comp=Z,30nm,1.2s,mb5.1,baz=66,slow=10.0,SNR=8.7						
IDI				pP	pP	22 23 41.8	-0.6
	comp=Z,21nm,1.1s,baz=32,slow=4.0,SNR=2.8						
MLR	**Muntele Rosu**	**69.23**	**316**	P	**P**	**22 23 39.3**	**-0.1**
	comp=Z,4.8nm,0.7s,mb4.5,baz=156,slow=13,SNR=4.2						
MLR				pP	pP	22 23 45.1	-0.5
	comp=Z,7.5nm,0.8s,baz=174,slow=8.4,SNR=3.9						
JOF	**Joensuu**	**70.84**	**334**	*ep*	**P**	**22 23 43.3**	**-5.5**
FINES	**FINESS Array B**	**72.71**	**332**	P	**P**	**22 23 59.3**	**-0.7**
	comp=Z,2.6nm,0.6s,mb4.3,baz=93,slow=5.6,SNR=23						
FINES				pP	pP	22 24 05.3	-1.0
	comp=Z,2.7nm,0.7s,baz=117,slow=4.3,SNR=3.7						
CRVS	**Cervenica-Dubn**	**72.78**	**319**	*eP*	**P**	**22 24 01.3**	**+0.6**
KAF	**Kangasniemi**	**72.78**	**333**	*ep*	**P**	**22 23 58.9**	**-1.6**
	comp=Z,2.6nm,0.5s,mb4.4						
KAF	**Kangasniemi**	**72.78**	**333**	*eP*	**P**	**22 23 58.9**	**-1.6**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
OKC	**Ostrava-Krasne**	**75.04**	**319**	*eP*	**P**	**22 24 13.4**	**-0.4**
OKC				*ep*P	pP	22 24 19.4	-0.7
ARCES	**ARCESS Array B**	**75.23**	**340**	P	**P**	**22 24 14.8**	**+0.3**
	comp=Z,2.9nm,0.6s,mb4.4,baz=105,slow=5.1,SNR=9.7						
ZST	**Bratislava**	**75.59**	**318**	*eP*	**P**	**22 24 16.8**	**-0.1**
DPC	**Dobruska-Polom**	**76.25**	**320**	*eP*	**P**	**22 24 20.8**	**+0.1**
DPC				*ep*P	pP	22 24 27.1	+0.1
UPC	**Upice**	**76.46**	**320**	*eP*	**P**	**22 24 22.1**	**+0.3**
PRU	**Pruhonice**	**77.37**	**319**	*eP*	**P**	**22 24 26.7**	**-0.2**
PRU				*ep*P	pP	22 24 33.2	-0.1
BRG	**Berggiesshubel**	**77.79**	**320**	*i P*	**P**	**22 24 29.1**	**-0.1**
BRG				*e*	pP	22 24 35.6	0.0
BRG				*i*		22 24 40.4	

ULM	**Lac du Bonnet**	**121.33**	**8**	PKP	PKPdf	22 31 25.6	-2.3
	comp=Z,0.8nm,0.4s,baz=333,slow=2.3,SNR=2.8						
PDAR	**Pinedale Array**	**125.00**	**21**	PKP	PKPdf	22 31 33.5	-1.7
	comp=Z,0.7nm,0.7s,baz=103,slow=0.3,SNR=6.6						
TXAR	**Lajitas Array**	**139.05**	**24**	PKP	PKPdf	22 32 00.7	-1.3
	comp=Z,0.3nm,0.5s,baz=245,slow=0.7,SNR=5.1						
TXAR				PKIKP		22 32 02.9	
	comp=Z,0.5nm,0.6s,baz=221,slow=0.3,SNR=5.1						
PLCA	**Paso Flores**	**144.72**	**200**	PKP	PKPdf	22 32 09.6	-2.0
	comp=Z,5.4nm,0.9s,baz=164,slow=1.8,SNR=7.3						
PLCA				pPKP		22 32 15.6	
	comp=Z,3.8nm,0.8s,baz=162,slow=3.6,SNR=5.0						

IDC 29 22:13:08.2±1.2, 8.18N×93.73E, mb4.1/9, mb1 4.3/10, mb1mx4.1/18, mbtmp4.1/10, ML4.3/1, Error ellipse: s-maj=45.5km s-min=22.9km az=51.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.40**	**26**	Pn	P	22 15 53.8	-1.8
	0.6nm,0.3s,baz=212,slow=14,SNR=10						
SONM	**Songino Array**	**40.96**	**13**	P	P	22 20 52.0	-2.1
	3.0nm,1.1s,baz=203,slow=8.0,SNR=3.7						
ZAL	**Zalesovo**	**46.19**	**353**	pP	pP	22 21 42.5	+6.0
	2.6nm,0.4s,baz=304,slow=6.9,SNR=3.1						
WRA	**Warramunga Arr**	**48.77**	**125**	P	P	22 21 55.0	-2.2
	2.4nm,0.7s,baz=304,slow=9.3,SNR=6.7						
ASAR	**Alice Springs**	**50.42**	**130**	P	P	22 22 08.1	-1.8
	0.8nm,0.7s,baz=310,slow=7.0,SNR=3.1						
PMG	**Port Moresby**	**56.01**	**107**	P	P	22 22 52.0	+0.6
	4.4nm,0.5s,baz=341,slow=12,SNR=4.2						
KMBO	**Kilima Mbogo**	**57.05**	**263**	P	P	22 23 00.7	+1.8
	2.3nm,0.7s,baz=51,slow=8.0,SNR=4.3						
BRTR	**Keskin Array B**	**61.92**	**311**	P	P	22 23 29.9	-2.3
	1.2nm,1.0s,baz=127,slow=7.7,SNR=2.6						
BRTR				pP	pP	22 23 36.5	+4.4
	1.2nm,0.7s,baz=126,slow=7.0,SNR=3.2						
FINES	**FINESS Array B**	**72.25**	**332**	P	P	22 24 34.9	-2.1
	1.8nm,0.7s,baz=110,slow=6.7,SNR=3.6						
ARCES	**ARCESS Array B**	**74.84**	**340**	P	P	22 24 50.1	-1.9
	4.1nm,0.9s,baz=98,slow=6.4,SNR=2.8						
GERES	**GERESS Array B**	**77.33**	**318**	P	P	22 25 05.9	-0.5
	0.6nm,0.7s,baz=120,slow=26,SNR=2.2						

IDC 29 22:22:13.6±9.1, 7.86N×94.12E, mb3.8/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=229.3km s-min=52.2km az=142.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.53**	**24**	Pn	P	22 25 00.6	-2.0
	0.1nm,0.3s,baz=214,slow=14,SNR=4.7						
SONM	**Songino Array**	**41.18**	**13**	P	P	22 29 59.5	-1.9
	0.2nm,0.6s,baz=207,slow=3.2,SNR=2.7						
FINES	**FINESS Array B**	**72.71**	**332**	P	P	22 33 42.4	-2.7
	3.9nm,1.1s,baz=124,slow=6.9,SNR=3.8						
GERES	**GERESS Array B**	**77.82**	**318**	P	P	22 34 13.9	-0.5
	0.5nm,0.6s,baz=79,slow=6.8,SNR=4.6						
GERES				pP	pP	22 34 20.7	+6.2
	0.9nm,0.6s,baz=76,slow=5.5,SNR=6.3						

IDC 29 22:25:45.2±7.1, 10.17N×92.97E, mb3.5/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=166.8km s-min=42.7km az=153.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.07**	**34**	Pn	P	22 28 12.1	-2.1
	0.1nm,0.3s,baz=227,slow=14,SNR=5.2						
SONM	**Songino Array**	**39.21**	**14**	P	P	22 33 14.7	-2.1
	0.3nm,0.8s,baz=180,slow=10,SNR=2.3						
BRTR	**Keskin Array B**	**60.07**	**310**	P	P	22 35 55.5	-1.1
	0.6nm,0.7s,baz=80,slow=8.8,SNR=3.9						
GERES	**GERESS Array B**	**75.36**	**318**	P	P	22 37 29.9	-2.4
	0.7nm,0.9s,baz=101,slow=5.0,SNR=3.6						

*IDC **29** 22:32:06.8±1.5, 6.25N×93.35E, mb4.1/7, mb1 4.3/8, mb1mx4.0/18, mbtmp4.1/8, ML3.9/1, Error ellipse: s-maj=79.6km s-min=18.7km az=58.0*

ISC 29 22:32:09.7±1.4, 6.2N±0.3×93.4E±0.4, h33km, n10, σ0§64/10, mb4.2/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.35**	**24**	Pn	P	**22 35 26.2**	**+6.9**
	0.2nm,0.3s,baz=231,slow=14,SNR=16						
SONM	**Songino Array**	**42.95**	**13**	P	P	**22 40 07.6**	**+0.3**
	0.3nm,0.4s,mb3.4,baz=191,slow=9.5,SNR=4.6						
SONM				PcP	PcP	22 41 58.4	+0.4
	0.5nm,0.9s,baz=203,slow=2.5,SNR=3.1						
WRA	**Warramunga Arr**	**47.96**	**124**	P	P	**22 40 47.6**	**0.0**
	2.3nm,0.8s,mb4.3,baz=303,slow=9.1,SNR=12						
WB2	**Warramunga Arr**	**47.97**	**124**	*eP*	P	**22 40 47.7**	**+0.1**
ZAL	**Zalesovo**	**48.09**	**353**	P	P	**22 40 47.1**	**-1.0**
	2.8nm,0.3s,mb4.8,baz=299,slow=6.9,SNR=12						
ASPA	**Alice Springs**	**49.47**	**128**	*eP*	P	**22 40 59.1**	**-0.1**
ASAR	**Alice Springs**	**49.48**	**128**	P	P	**22 40 59.2**	**0.0**
	1.9nm,0.5s,mb4.4,baz=298,slow=7.7,SNR=34						
ASAR				PcP	PcP	22 42 22.1	+0.9
	0.5nm,0.6s,baz=305,slow=3.6,SNR=5.1						
STKA	**Stephens Creek**	**59.54**	**133**	P	P	**22 42 12.5**	**-0.1**
	0.8nm,0.4s,mb4.2,baz=334,slow=9.3,SNR=3.7						
FINES	**FINESS Array B**	**73.82**	**333**	P	P	**22 43 42.4**	**-0.1**
	2.0nm,0.9s,mb4.0,baz=104,slow=7.9,SNR=5.0						
ARCES	**ARCESS Array B**	**76.56**	**340**	P	P	**22 43 59.0**	**+0.8**
	4.3nm,1.0s,mb4.3,baz=90,slow=6.1,SNR=6.6						

*BJI **29** 22:34:43.8, 7.54N×93.36E, h46km, mb4.1*
*IDC **29** 22:34:46.6±0.8, 7.86N×94.11E, h18km±4km, mb3.9/13, mb1 4.0/14, mb1mx4.0/19, mbtmp3.9/14, ML3.5/1, Error ellipse: s-maj=43.3km s-min=17.4km az=46.0*
*NEIC **29** 22:34:47.2±0.5, 7.65N×93.86E, h30km, mb4.4/6, Error ellipse: s-maj=14.3km s-min=12.2km az=44.0*

ISC 29 22:34:43.6±0.6, 7.64N±0.09×93.86E±0.09, h19km, h19km±.3km: pP-P, n31, σ1§18/27, mb4.1/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.84**	**24**	P	P	**22 37 43.2**	**+8.5**
	8.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**11.84**	**24**	Pn	P	**22 37 35.0**	**+0.3**
	0.1nm,0.3s,baz=214,slow=14,SNR=3.4						
PALK	**Pallekele**	**13.06**	**269**	P	P	**22 37 49.3**	**-1.7**
	28nm,1.4s						
PALK				*e*		22 38 00.5	
KMI	**Kunming**	**19.35**	**25**	P	P	**22 39 11.1**	**+0.1**
	6.0nm,1.0s						
SONM	**Songino Array**	**41.45**	**13**	P	P	**22 42 30.4**	**-0.5**
	1.4nm,1.0s,mb3.5,baz=193,slow=11,SNR=5.2						
SONM				PcP	PcP	22 44 30.1	+0.9
	0.4nm,0.6s,baz=214,slow=3.6,SNR=4.0						
ULN	**Ulaanbaatar**	**41.63**	**13**	P	P	**22 42 30.9**	**-1.5**
	1.0nm,0.8s,mb3.5						
ZAL	**Zalesovo**	**46.75**	**353**	P	P	**22 43 12.6**	**-0.9**
	1.2nm,0.5s,mb4.1,baz=145,slow=20,SNR=3.3						
WRA	**Warramunga Arr**	**48.35**	**125**	P	P	**22 43 27.5**	**+1.1**
	1.1nm,0.8s,mb4.0,baz=307,slow=9.4,SNR=4.7						
WRAB	**Tennant Creek**	**48.35**	**125**	P	P	**22 43 25.5**	**-1.0**
	4.2nm,0.7s,mb4.6						
ASAR	**Alice Springs**	**49.97**	**130**	P	P	**22 43 39.7**	**+0.7**
	1.0nm,0.9s,mb3.9,baz=301,slow=7.1,SNR=5.7						
KMBO	**Kilima Mbogo**	**57.12**	**264**	P	P	**22 44 36.9**	**+5.0**
	5.9nm,0.9s,mb4.6						
CTA	**Charters Tower**	**58.43**	**119**	P	P	**22 44 39.4**	**-1.6**
	3.2nm,1.2s,mb4.2,baz=340,slow=7.7,SNR=3.6						
BRTR	**Keskin Array B**	**62.38**	**311**	P	P	**22 45 07.8**	**+0.1**
	1.4nm,0.8s,mb4.1,baz=125,slow=7.6,SNR=8.3						
AKASG	**Malin Array Be**	**68.17**	**322**	P	P	**22 45 44.6**	**-0.2**
	1.9nm,0.7s,mb4.2,baz=88,slow=5.2,SNR=4.9						
AKASG				pP	pP	22 45 50.6	-0.2
	2.0nm,0.8s,baz=91,slow=5.0,SNR=5.2						
JOF	**Joensuu**	**70.94**	**335**	*ep*	P	**22 45 59.6**	**-2.0**
	3.5nm,0.7s,mb4.4						
FINES	**FINESS Array B**	**72.79**	**332**	P	P	**22 46 13.3**	**+0.6**
	1.2nm,0.5s,mb4.1,baz=108,slow=5.2,SNR=11						
FINES				pP	pP	22 46 19.1	+0.5
	3.3nm,1.0s,baz=74,slow=6.7,SNR=2.4						

FINES	**FINESS Array B**	**72.79**	**332**	P	P	**22 46 13.3**	**+0.6**
FINES				pP	pP	22 46 19.1	+0.5
KAF	**Kangasniemi**	**72.88**	**333**	*ep*	P	**22 46 12.3**	**-0.8**
	2.7nm,0.6s,mb4.3						
ARCES	**ARCESS Array B**	**75.40**	**340**	P	P	**22 46 28.5**	**+0.9**
	1.5nm,0.6s,mb4.1,baz=56,slow=4.4,SNR=4.7						
GERES	**GERESS Array B**	**77.82**	**318**	P	P	**22 46 43.9**	**+2.4**
	2.0nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=15						
GERES				pP	pP	22 46 49.9	+2.3
	1.9nm,0.6s,baz=90,slow=5.3,SNR=10						
GERES	**GERESS Array B**	**77.82**	**318**	P	P	**22 46 43.9**	**+2.4**
GERES				pP	pP	22 46 49.9	+2.3
KHC	**Kasperske Hory**	**77.91**	**319**	*eP*	P	**22 46 43.5**	**+1.5**
NB2	**NORSAR Subarra**	**79.80**	**331**	P	P	**22 46 52.6**	**+0.5**
	16nm,1.7s,mb4.7,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.80**	**331**	P	P	**22 46 53.1**	**+1.0**
	3.5nm,1.2s,mb4.2,baz=59,slow=8.5,SNR=3.0						
NOA				pP	pP	22 46 59.0	+0.8
	1.2nm,0.6s,baz=92,slow=5.7,SNR=3.9						
NOA	**NORSAR Array B**	**79.80**	**331**	P	P	**22 46 53.1**	**+1.0**
NOA				pP	pP	22 46 59.0	+0.8
ESDC	**Sonseca Array**	**91.16**	**310**	P	P	**22 47 51.8**	**+2.8**
	0.6nm,0.8s,mb4.0,baz=48,slow=4.7,SNR=4.1						
ESDC				pP	pP	22 47 58.2	+3.1
	0.5nm,0.5s,baz=66,slow=4.1,SNR=3.5						
ILAR	**Eielson Array**	**95.07**	**22**	P	P	**22 48 06.5**	**+0.2**
	0.3nm,0.7s,mb3.8,baz=304,slow=3.3,SNR=3.5						
PDAR	**Pinedale Array**	**125.49**	**21**	PKP	PKPdf	22 53 46.9	-1.3
	0.5nm,0.7s,baz=90,slow=2.7,SNR=3.9						
TXAR	**Lajitas Array**	**139.55**	**24**	PKP	PKPdf	22 54 12.3	-2.6
	0.5nm,0.9s,baz=180,slow=3.8,SNR=2.8						
TXAR	**Lajitas Array**	**139.55**	**24**	PKP	PKPdf	22 54 12.3	-2.6
PLCA	**Paso Flores**	**144.23**	**200**	PKP	PKPdf	22 54 22.1	-0.6
	2.4nm,0.7s,baz=210,slow=3.8,SNR=4.9						

*IDC **29** 22:35:41.1±7.6, 11.85N×91.39E, mb3.7/5, mb1 3.9/6, mb1mx3.8/18, mbtmp3.7/6, ML3.7/1, MS3.3/1, Ms1 3.5/1, ms1mx2.6/31, Error ellipse: s-maj=186.9km s-min=35.6km az=156.0*

ISC 29 22:35:46.5±5.8, 12.2N±1.0×91.3E±0.4, h33km, n6, σ1§00/6, mb3.7/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.60**	**49**	Pn	P	**22 38 05.6**	**+0.1**
	0.2nm,0.3s,baz=210,slow=14,SNR=4.1						
CMAR				LR	LR	22 42 30.0	
	comp=Z,147nm,18.0s,baz=165,slow=42						
SONM	**Songino Array**	**37.66**	**17**	P	P	**22 43 00.3**	**0.0**
	0.7nm,0.7s,mb3.5,baz=220,slow=7.8,SNR=3.0						
BRTR	**Keskin Array B**	**57.52**	**309**	P	P	**22 45 36.2**	**+1.1**
	0.8nm,0.7s,mb3.9,baz=118,slow=8.5,SNR=2.9						
AKASG	**Malin Array Be**	**63.04**	**321**	P	P	**22 46 12.7**	**-0.1**
	0.1nm,0.3s,mb3.4,baz=93,slow=5.0,SNR=2.7						
GERES	**GERESS Array B**	**72.75**	**317**	P	P	**22 47 12.0**	**-1.4**
	0.8nm,0.6s,mb3.8,baz=90,slow=4.9,SNR=2.7						
GERES				pP	pP	22 47 18.6	-5.1
	1.0nm,0.6s,baz=87,slow=6.0,SNR=3.0						
ESDC	**Sonseca Array**	**86.31**	**310**	P	P	**22 48 26.8**	**+0.2**
	0.7nm,0.6s,mb4.1,baz=65,slow=4.1,SNR=4.4						

*NNC **29** 22:38:24.9±2.4, 43.97N×84.59E, h32km±11km, mpv3.1, Error ellipse: s-maj=39.2km s-min=16.5km az=61.0*

BJI 29 22:38:22.7, 43.77N×84.42E, h14km, ML3.5, 5C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.37**	**88**	P	Pn	22 39 02.5	+0.6
WMQ				SG	Sg	22 39 34.5	-7.3
WMQ				Smax			
	comp=N,193nm,0.4s						
WMQ				Smax			
	comp=E,201nm,0.4s						
MK31	**Makanchi Array**	**3.38**	**334**	⇓Pn	Pn	22 39 16.3	+0.2
	comp=E,0.6nm,0.2s,baz=149,slow=14,SNR=560						
MK31				⇑Pg	Pg	22 39 24.6	-5.5
	comp=E,5.0nm,0.3s,baz=151,slow=17,SNR=55						
MK31				⇑Lg		22 40 08.8	
	comp=E,16nm,0.3s,baz=148,slow=29,SNR=7.7						
KURK	**Kurchatov**	**7.99**	**332**	⇑Pn	Pn	22 40 17.9	-3.3
	comp=E,0.8nm,0.8s						
KURK				⇑Sn	Sn	22 41 46.1	-6.2
	comp=E,0.5nm,0.5s						
KURK				⇑Lg		22 42 33.3	
	comp=E,7.4nm,0.7s						

*CSEM **29** 22:38:26.7±0.8, 38.63N×28.51W, h5km±14km, ML1.7, Error ellipse: s-maj=6.7km s-min=3.3km az=27.0, After PDA*
*PDA **29** 22:38:26.7±0.8, 38.63N×28.51W, h5km±14km, MD2.9, ML1.7, Error ellipse: s-maj=6.7km s-min=3.3km az=27.0*

SVSA 29 22:38:26.7±0.8, 38.63N×28.51W, h5km±14km, MD2.9, ML1.7, Error ellipse: s-maj=6.7km s-min=3.3km az=27.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.14**	**223**	*eS*	Sg	22 38 31.4	-0.1
PICO	**Pico**	**0.14**	**152**	*eP*	Pg	22 38 29.5	-0.2
PICO				*eS*	Sg	22 38 31.4	-0.3
PCED	**Cedros**	**0.15**	**271**	*eP*	Pg	22 38 29.1	-0.7
PCED				*eS*	Sg	22 38 31.8	-0.1
	59nm,0.1s						
PCED	**Cedros**	**0.15**	**271**	*eP*	Pg	22 38 29.1	-0.7
PCED				*eS*	Sg	22 38 31.8	-0.1
	59nm,0.1s						
CALA	**Caldeira**	**0.16**	**253**	*eP*	Pg	22 38 29.7	-0.2
CALA				*eS*	Sg	22 38 32.1	0.0
ROSA	**Rosais**	**0.23**	**66**	*eP*	Pg	22 38 30.9	-0.5
PMAN	**Manadas**	**0.33**	**89**	*eS*	Sg	22 38 37.4	-0.4

*IDC **29** 22:44:13.6±1.4, 7.65N×94.02E, mb3.8/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, ML4.4/1, Error ellipse: s-maj=44.4km s-min=29.8km az=54.0*

ISC 29 22:44:16.9±1.2, 7.7N±0.2×94.1E±0.2, h33km, n7, σ0§68/7, mb3.7/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.64**	**23**	Pn	P	**22 47 03.4**	**-0.4**
	0.7nm,0.3s,baz=212,slow=14,SNR=6.7						
SONM	**Songino Array**	**41.30**	**13**	P	P	**22 52 01.6**	**+0.7**
	0.4nm,0.8s,mb3.1,baz=194,slow=5.9,SNR=3.2						
ZAL	**Zalesovo**	**46.69**	**352**	P	P	**22 52 44.6**	**+0.3**
	0.7nm,0.3s,mb4.0,baz=317,slow=8.9,SNR=3.2						
ASAR	**Alice Springs**	**49.82**	**130**	P	P	**22 53 08.9**	**-0.1**
	0.7nm,0.9s,mb3.7,baz=315,slow=6.5,SNR=4.3						
BRTR	**Keskin Array B**	**62.53**	**311**	P	P	**22 54 39.2**	**-0.7**
	0.5nm,0.6s,mb3.8,baz=117,slow=8.3,SNR=4.0						
FINES	**FINESS Array B**	**72.84**	**332**	P	P	**22 55 43.1**	**-0.9**
	1.5nm,0.9s,mb3.9,slow=3.8,SNR=3.7						
GERES	**GERESS Array B**	**77.94**	**318**	P	P	**22 56 14.5**	**+1.1**
	1.0nm,0.8s,mb3.8,baz=90,slow=5.3,SNR=7.9						
GERES				pP	pP	22 56 21.0	-2.7
	3.5nm,1.1s,baz=76,slow=5.5,SNR=7.9						

IGQ 29 22:47:50.0, 1.17S×81.34W, h5km±4km, mb4.4, 5C-9D, Error ellipse: s-maj=6.4km s-min=4.0km az=13.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.80**	**81**	⇑P	Pb	22 48 05.0	-1.0
JAMA	**Jama**	**1.45**	**51**	P	Pn	22 48 16.9	0.0
JAMA				S	Sb	22 48 36.0	+0.2
MAGD	**Magdalena**	**1.91**	**55**	P	Pn	22 48 25.7	+2.1
MAGD				S	Sn	22 48 50.1	+1.9
IGUA	**Igualata**	**2.72**	**97**	⇑P	Pn	22 48 36.0	+0.9
CUSU	**Cusua**	**2.87**	**95**	P	Pn	22 48 39.5	+2.3
JUIV	**Juive**	**2.88**	**95**	P	Pn	22 48 38.4	+0.9
JUA2	**San Juan 2**	**2.90**	**71**	P	Pn	22 48 38.9	+1.2
ARRY	**Arrayan**	**2.90**	**97**	⇑P	Pn	22 48 38.7	+1.0
ARRY				S	Sn	22 49 13.5	+0.1
RETU	**Refugio**	**2.91**	**96**	⇑P	Pn	22 48 40.1	+2.3
TERV	**Terraza Guagua**	**2.91**	**70**	⇓P	Pn	22 48 38.8	+1.0
NAS1	**Nasa**	**2.91**	**79**	P	Pn	22 48 39.8	+1.9
PINO	**Pino**	**2.91**	**70**	⇓P	Pn	22 48 38.7	+0.9
PATA	**Patacocha**	**2.92**	**96**	P	Pn	22 48 39.8	+1.7
ULBA	**Ulba**	**2.94**	**95**	⇓P	Pn	22 48 40.1	+1.7
PISA	**Pisayambo**	**2.96**	**88**	⇑P	Pn	22 48 40.4	+1.9
PISA				S	Sn	22 49 16.5	+1.7
YANA	**Yana**	**2.96**	**69**	⇓P	Pn	22 48 39.3	+0.8
VC1	**Cotopaxi 1**	**2.98**	**80**	P	Pn	22 48 41.5	+2.6
TAMB	**Tambo**	**3.01**	**81**	⇓P	Pn	22 48 42.6	+3.3
ANTI	**Antisana**	**3.26**	**77**	⇓P	Pn	22 48 45.0	+2.2
COTA	**Cotacachi**	**3.35**	**64**	⇓P	Pn	22 48 45.1	+0.9
CAYR	**Refugio Cayamb**	**3.54**	**71**	⇓P	Pn	22 48 49.7	+3.0
CAYA	**Cayambe**	**3.57**	**70**	⇓P	Pn	22 48 49.9	+2.7

IDC 29 22:48:35.5±9.8, 6.75N×94.48E, mb4.0/6, mb1 4.2/7, mb1mx3.9/18, mbtmp4.0/7, ML3.6/1, Error ellipse: s-maj=242.7km s-min=46.8km az=141.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.43**	**20**	Pn	P	22 51 35.6	-1.0
	0.1nm,0.3s,baz=212,slow=14,SNR=4.8						
SONM	**Songino Array**	**42.18**	**12**	P	P	22 56 29.6	-2.1
	0.5nm,0.9s,baz=180,slow=7.2,SNR=3.5						
ZAL	**Zalesovo**	**47.70**	**352**	P	P	22 57 13.3	-2.4
	2.2nm,0.3s,baz=97,slow=17,SNR=3.5						
BRTR	**Keskin Array B**	**63.41**	**311**	P	P	22 59 07.0	-2.4
	0.6nm,0.8s,baz=101,slow=3.7,SNR=3.5						
FINES	**FINESS Array B**	**73.86**	**332**	P	P	23 00 11.6	-2.1
	2.7nm,0.9s,baz=90,slow=5.7,SNR=3.9						
ARCES	**ARCESS Array B**	**76.43**	**340**	P	P	23 00 26.4	-2.0
	8.7nm,0.9s,baz=7.1,slow=9.8,SNR=3.6						
GERES	**GERESS Array B**	**78.88**	**318**	P	P	23 00 42.2	-0.1
	0.7nm,0.7s,baz=90,slow=4.0,SNR=5.1						
GERES				pP	pP	23 00 48.8	+6.5
	0.9nm,0.7s,baz=91,slow=5.9,SNR=5.2						

IDC 29 22:50:54.1±10.0, 7.52N×93.74E, mb3.9/5, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=258.0km s-min=41.5km az=144.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.99**	**24**	Pn	P	22 53 47.4	-2.1
	0.2nm,0.3s,baz=216,slow=13,SNR=7.3						
SONM	**Songino Array**	**41.59**	**13**	P	P	22 58 43.5	-1.9
	0.9nm,0.8s,baz=195,slow=9.1,SNR=6.4						
ZAL	**Zalesovo**	**46.84**	**353**	P	P	22 59 25.5	-2.0
	1.5nm,0.3s,baz=128,slow=4.2,SNR=4.7						
BRTR	**Keskin Array B**	**62.35**	**311**	P	P	23 01 18.8	-2.2
	0.4nm,0.6s,baz=117,slow=6.4,SNR=3.9						
FINES	**FINESS Array B**	**72.83**	**332**	P	P	23 02 24.2	-2.1
	2.8nm,0.8s,baz=90,slow=3.8,SNR=7.0						
GERES	**GERESS Array B**	**77.82**	**318**	P	P	23 02 54.1	-0.9
	1.3nm,1.0s,baz=76,slow=5.5,SNR=6.2						

IDC 29 22:53:28.9±1.2, 55.54S×27.24W, mb4.2/2, mb1 4.2/3, mb1mx3.9/12, mbtmp4.0/3, ML3.6/1, Error ellipse: s-maj=66.1km s-min=27.0km az=59.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.22**	**157**	P	P	22 57 53.8	-2.9
	0.2nm,0.3s,baz=329,slow=12,SNR=5.3						
VNDA	**Vanda**	**47.08**	**183**	P	P	23 02 01.8	-1.6
	1.2nm,0.7s,baz=176,slow=7.9,SNR=5.0						
LPAZ	**La Paz**	**50.06**	**305**	P	P	23 02 25.6	-1.7
	3.2nm,0.6s,baz=166,slow=4.2,SNR=20						
YKA	**Yellowknife Ar**	**135.77**	**318**	PKP	PKPdf	23 12 49.7	-2.4
	0.2nm,0.6s,baz=122,slow=2.5,SNR=4.2						
ILAR	**Eielson Array**	**149.75**	**312**	PKPbc	PKPdf	23 13 19.0	+2.9
	1.7nm,0.7s,baz=122,slow=2.9,SNR=17						
SONM	**Songino Array**	**150.72**	**86**	PKPbc	PKPdf	23 13 21.8	+3.6
	1.0nm,0.7s,baz=228,slow=1.8,SNR=7.7						

IDC 29 22:53:50.0±11.0, 9.87N×91.65E, mb3.7/3, mb1 3.9/4, mb1mx3.5/18, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=280.5km s-min=44.8km az=153.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.08**	**39**	Pn	P	22 56 30.2	-2.7
	0.1nm,0.3s,baz=227,slow=13,SNR=5.8						
SONM	**Songino Array**	**39.83**	**16**	P	P	23 01 24.9	-1.9
	0.5nm,0.8s,baz=188,slow=8.7,SNR=3.8						
FINES	**FINESS Array B**	**69.81**	**332**	P	P	23 05 02.3	-1.8
	3.4nm,1.1s,baz=131,slow=20,SNR=2.8						
GERES	**GERESS Array B**	**74.71**	**318**	P	P	23 05 31.7	-1.6
	0.2nm,0.5s,baz=74,slow=7.1,SNR=3.2						
GERES				pP	pP	23 05 37.8	+4.4
	0.5nm,0.6s,baz=90,slow=5.3,SNR=3.6						
HFS	**Hagfors**	**75.50**	**330**	pP	pP	23 05 40.7	+3.0
	1.9nm,0.8s,baz=90,slow=3.0,SNR=2.2						

*IDC **29** 22:58:15.7±0.8, 7.84N×94.00E, mb4.1/15, mb1 4.2/16, mb1mx4.1/22, mbtmp4.1/

FINES FINESS Array B 72.69 332 P **P 23 09 45.0 -0.3**
2.2nm,0.7s,mb4.2,baz=109,slow=8.5,SNR=8.7
ARCES ARCESS Array B 75.25 340 P **P 23 10 00.7 +0.6**
2.4nm,0.8s,mb4.2,baz=117,slow=5.4,SNR=3.8
DPC Dobruska-Polom 76.18 320 *e*P **P 23 10 06.3 +0.6**
DPC *e*pP pP 23 10 11.8 +0.3
UPC Upice 76.39 320 *e*P **P 23 10 07.3 +0.4**
UPC *e*pP pP 23 10 12.8 +0.1
PRU Pruhonice 77.30 319 *e*P **P 23 10 12.8 +0.8**
PRU *e*pP pP 23 10 18.6 +0.8
BRG Berggiesshubel 77.72 320 *e*P **P 23 10 14.7 +0.4**
8.9nm,1.4s,mb4.5
BRG *e* pP 23 10 19.3 -0.8
GERES GERESS Array B 77.80 318 P **P 23 10 15.6 +0.8**
1.8nm,0.7s,mb4.1,baz=84,slow=5.4,SNR=15
KHC Kasperske Hory 77.89 318 *e*P **P 23 10 16.0 +0.8**
KHC *e*pP pP 23 10 22.3 +1.3
CLL Collm 78.33 321 P **P 23 10 19.0 +1.4**
CLL *e**PP pP 23 10 25.0 +1.6
HFS Hagfors 78.43 330 P **P 23 10 18.2 +0.2**
2.2nm,0.6s,mb4.3,baz=90,slow=3.0,SNR=14
GRA1 Grafenberg Arr 79.44 319 *e*P **P 23 10 25.4 +1.7**
2.0nm,0.8s,mb4.1
GRA1 *e*pP pP 23 10 31.7 +2.2
GRF Grafenberg Arr 79.44 319 *e*P **P 23 10 25.4 +1.7**
2.0nm,0.8s,mb4.1
GRF *e*pP pP 23 10 31.7 +2.2
NB2 NORSAR Subarra 79.71 331 P **P 23 10 24.4 -0.5**
3.4nm,0.8s,mb4.3,baz=97,slow=5.0
NOA NORSAR Array B 79.71 331 P **P 23 10 25.4 +0.5**
0.8nm,0.6s,mb3.8,baz=94,slow=5.1,SNR=3.5
DAVOX Davos 80.36 316 P **P 23 10 29.4 +0.7**
1.6nm,0.5s,mb4.2
LPG La Plagne 82.59 315 *e*P **P 23 10 40.4 0.0**
14nm,0.7s,mb4.8
EKA Eskdalemuir Ar 87.69 325 P **P 23 11 06.2 +0.5**
2.6nm,1.0s,mb4.4,baz=220,slow=30,SNR=2.9
ESDC Sonseca Array 91.18 310 P **P 23 11 23.5 +1.1**
1.8nm,1.1s,mb4.3,baz=57,slow=4.9,SNR=4.2
IMA Indian Mountai 91.64 22 *e*P **P 23 11 25.7 +1.8**
PDAR Pinedale Array 125.18 21 PKP PKPdf 23 17 19.4 -1.5
0.2nm,0.6s,baz=180,slow=4.5,SNR=2.5
TXAR Lajitas Array 139.24 24 PKP PKPdf 23 17 45.3 -2.3
0.1nm,0.4s,baz=247,slow=0.8,SNR=5.3
PLCA Paso Flores 144.54 200 PKP PKPdf 23 17 54.9 -1.7
4.1nm,0.9s,baz=203,slow=5.4,SNR=6.4
PLCA Paso Flores 144.54 200 PKP PKPdf 23 17 54.9 -1.7

*IDC **29** 22:59:50.1±0.5, 12.38N×92.30E, mb4.4/22, mb1 4.5/23, mb1mx4.5/27, mbtmp4.4/23, ML4.5/1, MS4.2/5, Ms1 4.3/5, ms1mx4.0/27, Error ellipse: s-maj=26.3km s-min=12.0km az=51.0*
*MOS **29** 22:59:53.2±1.0, 12.36N×92.37E, h33km, mb5.1/26, Error ellipse: s-maj=11.3km s-min=7.2km az=96.9*
*BJI **29** 22:59:53.5, 12.11N×92.27E, h52km, mB5.1, mb5.0, Ms4.6, Msz4.4*
*NEIC **29** 22:59:54.6±0.2, 12.38N×92.36E, h30km, mb5.0/23, Error ellipse: s-maj=6.0km s-min=5.8km az=16.0*
ISC 29 22:59:53.5±0.3, 12.40N±0.05×92.35E±0.04, h37km, h37km±5.7km:pP-P,n122,σ1§18/127, mb4.8/51, MS4.4/10, 8C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**8.22**	**66**	P	**P**	**23 01 52.6**	**-0.6**
CM31	**Chiang Mai Arr**	**8.75**	**46**	*e*P	**P**	**23 01 59.1**	**-1.5**
CMAR	**Chiang Mai Arr**	**8.75**	**46**	Pn	**P**	**23 01 58.9**	**-1.7**
	1.4nm,0.3s,baz=239,slow=13,SNR=19						
CMAR				Sn	**S**	**23 03 33.2**	**-5.9**
	0.4nm,0.3s,baz=11,slow=18,SNR=2.6						
CMAR				LR	LR	23 06 14.8	
	comp=Z,1μm,18.3s,baz=225,slow=44						
BWNR	**Bhubaneshwar**	**10.05**	**322**	*e*	**P**	**23 02 10.0**	**-8.6**
BWNR				*e*		23 03 50.0	
VIS	**Vishakhapatnam**	**10.20**	**302**	*e*P	**P**	**23 02 17.2**	**-3.4**
VIS				*e*		23 02 24.1	
	comp=Z,198nm,0.7s						
VIS				*i* S	**S**	**23 03 59.3**	**-15**
CAL	**Calcutta**	**10.79**	**340**	*e*S	**S**	**23 04 18.2**	**-11**
KKTK	**Khon Kaen**	**10.87**	**68**	P	**P**	**23 02 31.0**	**+1.2**
PALK	**Pallekele**	**12.56**	**247**	*e*P	**P**	**23 02 50.2**	**-2.3**
	comp=Z,68nm,0.9s						
PALK				*e*S	**S**	**23 04 57.6**	**-14**
SHL	**Shillong**	**13.11**	**358**	*e*P	**P**	**23 02 57.0**	**-2.8**
SHL				*i* S	**S**	**23 05 12.0**	**-13**
BLSP	**Bilaspur**	**13.74**	**316**	*e*P	**P**	**23 03 04.7**	**-3.5**
BLSP				*e*		23 05 27.5	
HYB	**Hyderabad**	**14.24**	**292**	*i* P	**P**	**23 03 18.0**	**+3.2**
NGP	**Nagpur**	**15.42**	**306**	*e*P	**P**	**23 03 29.3**	**-0.8**
NGP				*e*		23 06 07.0	
KMI	**Kunming**	**16.02**	**36**	⇑P	**P**	**23 03 39.6**	**+1.8**
KMI				pmax	pmax		
	comp=Z,25nm,1.3s						
KMI	**Kunming**	**16.02**	**36**	⇑P	**P**	**23 03 39.6**	**+1.8**
	comp=Z,25nm,1.3s						
KMI				pP		23 03 43.6	
KMI				sP		23 03 46.5	
KMI				PP	PP	23 03 56.2	+5.4
KMI				S	**S**	**23 06 51.8**	**+18**
KMI				sS		23 06 58.0	
KMI				SS	SS	23 07 11.4	+18
LATR	**Latur**	**16.36**	**293**	*e*P	**P**	**23 03 41.3**	**-0.8**
LATR				*e*		23 06 28.8	
MNGI	**Mangalore**	**17.11**	**274**	*i* P	**P**	**23 03 51.4**	**-0.3**
MNGI				*i*		23 06 45.0	
	comp=Z,111nm,1.1s						
BHPL	**Bhopal**	**17.82**	**309**	*e*P	**P**	**23 04 02.6**	**+2.1**
BHPL				*e*		23 04 11.1	
	comp=Z,59nm,1.7s						
QIZ	**Qiongzhong**	**18.07**	**66**	*e*P	**P**	**23 04 03.5**	**-0.1**
BOM	**Bombay**	**19.89**	**291**	*e*P	**P**	**23 04 24.7**	**0.0**
BOM				*e*		23 07 46.7	
NDI	**New Delhi**	**21.49**	**321**	*e*P	**P**	**23 04 40.0**	**-1.1**
NDI				*e*		23 08 27.5	
DDI	**Dehra Dun**	**22.22**	**326**	*e*S	**S**	**23 08 52.4**	**+6.7**
BHK	**Bhakra**	**23.96**	**325**	*e*	**P**	**23 05 13.3**	**+7.8**
LZH	**Lanzhou**	**25.76**	**22**	⇑P	**P**	**23 05 23.8**	**+1.1**
LZH				AP	pP	23 05 34.0	+1.2
LZH				XP	sP	23 05 38.5	+1.3
LZH				AMB	AMB		
	comp=Z,77nm,1.8s,mb4.9						
LZH				AMB	AMB		
	comp=Z,202nm,4.0s						
LZH				LR	LR		
	comp=E,923nm,13.7s						
LZH				LR	LR		
	comp=Z,1μm,14.8s,MS4.5						
XAN	**Xi'an**	**26.30**	**32**	P	**P**	**23 05 26.5**	**-1.2**
XAN				AMB	AMB		
	comp=Z,88nm,0.8s,mb5.3						
WHN	**Wuhan**	**27.20**	**45**	P	**P**	**23 05 40.0**	**+4.0**
WHN				S	**S**	**23 10 21.0**	**+10**
WHN				LR	LR		
	comp=Z,2μm,16.3s,MS4.8						
NJ2	**Nanjing**	**31.23**	**47**	*e*P	**P**	**23 06 12.3**	**+0.4**
NJ2				AP	pP	23 06 22.0	-0.4
NJ2				PP	PP	23 07 15.0	-0.5
NJ2				S	**S**	**23 11 13.0**	**-1.5**
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,370nm,10.8s						
NJ2				LR	LR		
	comp=N,2μm,21.0s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,16.4s,MS4.9						
NJ2				LR	LR		
	comp=Z,2μm,17.5s,MS4.8						
SSE	**Sheshan**	**32.45**	**50**	P	**P**	**23 06 21.0**	**-1.7**
SSE				S	**S**	**23 11 32.5**	**-1.2**
SSE				AMB	AMB		
	comp=Z,24nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,39μm,3.0s						
SSE				LR	LR		
	comp=N,519nm,22.2s,MS4.2						
SSE				LR	LR		
	comp=E,216nm,22.3s,MS4.2						
SSE				LR	LR		
	comp=Z,264nm,21.8s,MS3.9						
SSE	**Sheshan**	**32.45**	**50**	P	**P**	**23 06 20.9**	**-1.8**
	comp=Z,24nm,0.7s,mb5.1						
SSE				sP	sP	23 06 33.6	-4.4
SSE				S	**S**	**23 11 32.6**	**-1.1**
SSE				sS		23 11 46.1	
AAK	**Ala-Archa**	**33.88**	**336**	*e*P	**P**	**23 06 33.8**	**-1.1**
AAK				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.0						
AAK	**Ala-Archa**	**33.88**	**336**	*e*P	**P**	**23 06 33.8**	**-1.1**
	comp=Z,22nm,1.2s,mb5.0						
FRU	**Bishkek**	**34.00**	**336**	*e*P	sP	23 06 48.0	-3.2
BJI	**Beijing**	**34.63**	**33**	P	**P**	**23 06 42.0**	**+0.6**
BJI				*PP	pP	23 06 47.9	-4.0
BJI				S	**S**	**23 12 17.1**	**+10**
BJI				pmax	pmax		
	comp=Z,43nm,0.8s,mb5.4						
BJI	**Beijing**	**34.63**	**33**	P	**P**	**23 06 42.0**	**+0.6**
	comp=Z,43nm,0.8s,mb5.4						
BJI				pP	pP	23 06 47.9	-4.0
BJI				S	**S**	**23 12 17.1**	**+10**
MKAR	**Makanchi Array**	**35.32**	**348**	*i* P	**P**	**23 06 47.6**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,18nm,0.9s						
SONM	**Songino Array**	**37.23**	**16**	P	**P**	**23 07 04.1**	**+0.8**
	comp=Z,111nm,0.8s,mb4.7,baz=196,slow=9.0,SNR=23						
ULN	**Ulaanbaatar**	**37.44**	**16**	*e*P	**P**	**23 07 05.7**	**+0.7**
ULN				*e*		23 07 11.9	
ULN				*e*		23 07 20.0	
ULN				pmax	pmax		
	comp=Z,34nm,1.4s,mb5.0						
ULN	**Ulaanbaatar**	**37.44**	**16**	*e*P	**P**	**23 07 05.7**	**+0.7**
	comp=Z,34nm,1.4s,mb5.0						
ULN				*e*		23 07 11.9	
ULN				*e*		23 07 20.0	
MOY	**Mondy**	**39.78**	**8**	*e*P	**P**	**23 07 26.5**	**+2.0**
KURK	**Kurchatov**	**39.83**	**346**	*i* P	**P**	**23 07 25.5**	**+0.6**
KURK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.6						
KURK	**Kurchatov**	**39.83**	**346**	*e*P	**P**	**23 07 25.1**	**+0.2**
	comp=Z,30nm,1.1s,mb4.9						
SNY	**Shenyang**	**39.99**	**37**	⇑P	**P**	**23 07 27.0**	**+0.7**
SNY				PP	PP	23 09 02.3	+0.1
SNY				S	**S**	**23 13 22.5**	**-6.6**
SNY				LR	LR		
	comp=E,820nm,15.5s						
SNY				LR	LR		
	comp=Z,720nm,17.7s,MS4.6						
TLY	**Talaya**	**40.23**	**11**	⇓*i*P	**P**	**23 07 29.5**	**+1.3**
TLY				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.5						
KS15	**Wonju Array Si**	**40.36**	**46**	*e*P	**P**	**23 07 28.6**	**-0.9**
ZAL	**Zalesovo**	**41.87**	**353**	P	**P**	**23 07 41.9**	**+0.2**
	comp=Z,7.5nm,0.8s,mb4.4,baz=296,slow=7.9,SNR=13						
ZAL				LR	LR	23 28 46.0	
	comp=Z,592nm,18.1s,MS4.5,baz=297,slow=41						
NVS	**Novosibirsk**	**42.95**	**352**	⇑*i*P	**P**	**23 07 49.7**	**-0.8**
NVS				*i* S	**S**	**23 14 11.1**	**-1.5**
NVS				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
NVS				pmax	pmax		
	comp=N,11nm,1.5s						
NVS				smax			
	comp=N,21nm,2.1s						
BVA0	**Borovoye Array**	**44.17**	**341**	*i* P	**P**	**23 08 00.7**	**+0.3**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
BVAR	**Borovoye Array**	**44.17**	**341**	P	**P**	**23 08 00.8**	**+0.4**
	comp=Z,5.3nm,0.7s,mb4.4,baz=149,slow=8.6,SNR=16						
CHKZ	**Chkalovo**	**44.65**	**342**	*e*P	**P**	**23 08 05.0**	**+0.7**
CHKZ				*e*		23 08 10.8	
CHKZ				pmax	pmax		
	comp=Z,26nm,0.6s,mb5.2						
CHKZ	**Chkalovo**	**44.65**	**342**	*e*P	**P**	**23 08 05.0**	**+0.7**
	comp=Z,26nm,0.6s,mb5.2						
CHKZ				*e*		23 08 10.8	
JHJ	**Hachijo jima 2**	**47.88**	**56**	LR	LR	23 31 06.8	
	comp=Z,213nm,21.8s,MS4.1,baz=52,slow=39						
CBIJ	**Chichi jima**	**48.82**	**65**	LR	LR	23 31 08.0	
	comp=Z,127nm,18.9s,MS3.9,baz=133,slow=38						
GNI	**Garni**	**50.07**	**312**	⇑*i*P	**P**	**23 08 47.4**	**+0.5**
GNI				pmax	pmax		
	comp=Z,32nm,1.6s						
GNI	**Garni**	**50.07**	**312**	P	**P**	**23 08 47.0**	**+0.2**
	comp=Z,9.9nm,0.9s,mb4.8,baz=0.5,slow=11,SNR=4.3						
SVE	**Sverdlovsk**	**50.57**	**338**	*e*P	**P**	**23 08 48.0**	**-2.5**
CLNS	**Chul'man**	**50.88**	**22**	*e*P	**P**	**23 08 53.0**	**+0.2**
CLNS				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.1						
CLNS				pmax	pmax		
	comp=N,14nm,0.9s						
CLNS				pmax	pmax		
	comp=E,15nm,1.1s						
NWAO	**Narrogin (SRO)**	**50.95**	**153**	P	**P**	**23 08 53.2**	**-0.5**
	comp=E,6.6nm,1.0s,baz=344,slow=19,SNR=3.2						
NWAO				LR	LR	23 28 46.9	
	comp=E,3.5nm,21.6s,baz=233,slow=34						
ARU	**Arti**	**51.06**	**337**	*e*P	**P**	**23 08 47.0**	**-7.2**
ARU				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
ARU	**Arti**	**51.06**	**337**	*e*P	**P**	**23 08 47.0**	**-7.3**
	comp=Z,18nm,1.1s,mb4.9						
WRA	**Warramunga Arr**	**52.35**	**127**	P	**P**	**23 09 03.8**	**-0.5**
	comp=Z,5.0nm,1.0s,mb4.4,baz=305,slow=8.4,SNR=8.2						
WRA				PcP	PcP	23 10 15.5	+0.3
	comp=Z,0.9nm,0.8s,baz=354,slow=24,SNR=2.2						
WRAB	**Tennant Creek**	**52.35**	**127**	*e*P	**P**	**23 09 03.9**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**52.35**	**127**	*e*P	**P**	**23 09 03.9**	**-0.5**
	comp=Z,20nm,0.8s,mb5.1						
KIV	**Kislovodsk**	**52.83**	**316**	⇓*i*P	**P**	**23 09 08.1**	**+0.5**
KIV				*e*		23 09 14.5	
KIV				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
KIV				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.5						
KIV	**Kislovodsk**	**52.83**	**316**	*e*P	**P**	**23 09 03.6**	**-4.0**
	comp=Z,26nm,0.9s,mb5.2						
ASAJ	**Asahikawa**	**53.27**	**44**	LR	LR	23 35 05.1	
	comp=Z,343nm,18.7s,MS4.4,baz=159,slow=40						
ASAR	**Alice Springs**	**54.18**	**131**	P	**P**	**23 09 17.2**	**-0.7**
	comp=Z,1.3nm,0.5s,mb4.1,baz=315,slow=6.9,SNR=11						
YSS	**Yuzh-Sakhalins**	**54.41**	**40**	*e*P	**P**	**23 09 20.0**	**+0.8**
YSS				*e*		23 09 25.0	
YAK	**Yakutsk**	**56.33**	**20**	*e*P	**P**	**23 09 31.7**	**-1.2**
YAK				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.4						
YAK	**Yakutsk**	**56.33**	**20**	*e*P	**P**	**23 09 31.7**	**-1.2**
	comp=Z,30nm,0.7s,mb5.4						
ANN	**Anapa**	**56.66**	**316**	P	**P**	**23 09 30.7**	**-4.9**
ANN				S	**S**	**23 17 20.3**	**-3.2**
ANN				pmax	pmax		
	comp=Z,69nm,1.1s,mb5.6						
BRTR	**Keskin Array B**	**58.19**	**309**	P	**P**	**23 09 45.8**	**-0.6**
	comp=Z,2.2nm,0.8s,mb4.3,baz=114,slow=6.9,SNR=7.0						
PMG	**Port Moresby**	**58.60**	**109**	*e*P	**P**	**23 09 49.8**	**+0.2**
PMG				*e*		23 09 56.1	
PMG				pmax	pmax		
	comp=Z,23nm,1.1s						
PMG	**Port Moresby**	**58.60**	**109**	P	**P**	**23 09 50.1**	**+0.5**
	comp=Z,6.3nm,0.8s,mb4.7,baz=89,slow=7.4,SNR=3.1						
PMG	**Port Moresby**	**58.60**	**109**	*e*P	**P**	**23 09 49.8**	**+0.2**
	comp=Z,22nm,1.1s,mb5.1						
PMG				*e*		23 09 56.1	
OBN	**Obninsk**	**60.64**	**327**	⇓*i*P	**P**	**23 09 59.5**	**-3.6**
OBN				*i*	pP	23 10 12.6	-1.5
OBN				pmax	pmax		
	comp=Z,17nm,1.3s,mb5.0						
CTA	**Charters Tower**	**62.08**	**121**	P	**P**	**23 10 13.8**	**+0.6**
	comp=Z,8.6nm,1.2s,mb4.8,baz=274,slow=11,SNR=3.1						
CTAO	**Charters Tower**	**62.08**	**121**	*e*P	**P**	**23 10 11.7**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,19nm,1.3s,mb5.1						
CTAO	**Charters Tower**	**62.08**	**121**	*e*P	**P**	**23 10 11.7**	**-1.5**
	comp=Z,19nm,1.3s,mb5.1						
TIXI	**Tiksi**	**63.19**	**12**	⇑*i*P	**P**	**23 10 19.3**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.4						
AKASG	**Malin Array Be**	**63.55**	**321**	P	**P**	**23 10 22.0**	**-0.6**
	comp=Z,6.1nm,1.0s,mb4.6,baz=88,slow=4.9,SNR=8.6						
MA2	**Magadan**	**63.64**	**29**	*e*P	**P**	**23 10 22.7**	**-0.3**
MA2				*e*		23 10 38.5	
MA2				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
MA2	**Magadan**	**63.64**	**29**	*e*P	**P**	**23 10 22.7**	**-0.3**
	comp=Z,24nm,1.0s,mb5.2						
MA2				*e*		23 10 38.5	
STKA	**Stephens Creek**	**64.50**	**134**	P	**P**	**23 10 29.1**	**0.0**
	comp=Z,3.1nm,0.8s,mb4.4,baz=314,slow=8.7,SNR=5.3						
STKA	**Stephens Creek**	**64.50**	**134**	*e*P	**P**	**23 10 28.3**	**-0.8**
MLR	**Muntele Rosu**	**64.74**	**315**	P	**P**	**23 10 30.4**	**-0.1**
	comp=Z,10nm,1.0s,mb4.8,baz=105,slow=2.6,SNR=5.3						
JOF	**Joensuu**	**66.03**	**334**	*e*p	**P**	**23 10 32.5**	**-5.9**
	comp=Z,7.3nm,0.8s,mb4.8						
JOF	**Joensuu**	**66.03**	**334**	*e*p	**P**	**23 10 38.0**	**-0.4**
	comp=Z,6.9nm,0.7s,mb4.8						
JOF	**Joensuu**	**66.03**	**334**	*e*P	**P**	**23 10 38.0**	**-0.4**
LVV	**L'vov**	**66.65**	**319**	*e*P	**P**	**23 10 38.9**	**-3.6**
FINES	**FINESS Array B**	**67.92**	**332**	P	**P**	**23 10 50.7**	**+0.4**
	comp=Z,3.9nm,0.8s,mb4.5,baz=127,slow=9.5,SNR=5.7						
KAF	**Kangasniemi**	**67.99**	**332**	*e*p	**P**	**23 10 45.6**	**-5.1**
	comp=Z,6.1nm,0.9s,mb4.6						
KAF	**Kangasniemi**	**67.99**	**332**	*e*P	**P**	**23 10 45.6**	**-5.1**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
LSZ	**Lusaka**	**69.20**	**248**	*e*P	**P**	**23 11 00.4**	**+1.4**
LSZ				*e*	pP	23 11 12.4	+2.1
LSZ				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
LSZ	**Lusaka**	**69.20**	**248**	*e*P	**P**	**23 11 00.4**	**+1.4**
	comp=Z,12nm,1.2s,mb4.7						
LSZ				*e*	pP	23 11 12.4	+2.1
ARCES	**ARCESS Array B**	**70.44**	**340**	P	**P**	**23 11 05.6**	**0.0**
	comp=Z,4.7nm,0.7s,mb4.5,baz=79,slow=6.2,SNR=6.1						
BILL	**Bilibino**	**72.58**	**22**	⇑*i*P	**P**	**23 11 17.4**	**-1.0**
BILL				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
BRG	**Berggiesshubel**	**73.18**	**320**	*e*P	**P**	**23 11 25.0**	**+2.7**
BRG				*e*	pP	23 11 33.3	-0.3
BRG				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5						
BRG	**Berggiesshubel**	**73.18**	**320**	*e*P	**P**	**23 11 25.0**	**+2.7**
	comp=Z,9.2nm,1.4s,mb4.5						
BRG				*e*	pP	23 11 33.3	-0.3
GERES	**GERESS Array B**	**73.31**	**317**	P	**P**	**23 11 23.6**	**+0.5**
	comp=Z,7.6nm,1.2s,mb4.5,baz=90,slow=4.0,SNR=6.0						
KHC	**Kasperske Hory**	**73.39**	**318**	*e*P	**P**	**23 11 23.5**	**-0.1**
HFS	**Hagfors**	**73.69**	**329**	P	**P**	**23 11 25.4**	**+0.3**
	comp=Z,3.9nm,0.8s,mb4.4,baz=124,slow=5.3,SNR=3.5						
CLL	**Collm**	**73.78**	**320**	*e*P	**P**	**23 11 27.0**	**+1.2**
CLL				*i*	pP	23 11 41.0	+4.0
CLL	**Collm**	**73.78**	**320**	P	**P**	**23 11 27.0**	**+1.2**
CLL				*i* *PP	pP	23 11 41.0	+4.0
NB2	**NORSAR Subarra**	**74.95**	**330**	P	**P**	**23 11 32.4**	**0.0**
	comp=Z,7.3nm,0.9s,mb4.6,baz=92,slow=5.6						
NB2	**NORSAR Subarra**	**74.95**	**330**	P	**P**	**23 11 32.4**	**0.0**
NB2				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
NOA	**NORSAR Array B**	**74.95**	**330**	P	**P**	**23 11 32.8**	**+0.4**
	comp=Z,2.4nm,0.8s,mb4.2,baz=91,slow=5.8,SNR=5.0						
LPG	**La Plagne**	**78.21**	**314**	*e*P	**P**	**23 11 52.4**	**+1.4**
	comp=Z,18nm,0.8s,mb4.7						
LPG	**La Plagne**	**78.21**	**314**	*e*P	**P**	**23 11 52.4**	**+1.4**
LPG				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
CASY	**Casey**	**79.61**	**173**	*e*P	**P**	**23 11 54.3**	**-4.0**
	comp=Z,33nm,0.6s,mb5.4						
EKA	**Eskdalemuir Ar**	**83.03**	**325**	P	**P**	**23 12 17.9**	**+1.6**
	comp=Z,2.6nm,0.8s,mb4.3,baz=66,slow=8.2,SNR=4.3						
ESDC	**Sonseca Array**	**86.98**	**310**	P	**P**	**23 12 37.6**	**+1.3**
	comp=Z,0.8nm,0.7s,mb4.1,baz=68,slow=4.1,SNR=3.6						
MCK	**McKinley**	**91.02**	**23**	*e*P	**P**	**23 12 56.2**	**+1.3**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb5.0						
MCK	**McKinley**	**91.02**	**23**	*e*P	**P**	**23 12 56.2**	**+1.2**
	comp=Z,8.2nm,1.1s,mb5.0						
ILAR	**Eielson Array**	**91.23**	**22**	P	**P**	**23 12 56.3**	**+0.4**
	comp=Z,1.3nm,0.8s,mb4.3,baz=300,slow=4.7,SNR=12						
PWA	**Palmer West**	**91.71**	**25**	*e*P	**P**	**23 13 00.3**	**+2.1**
RES	**Resolute Bay**	**92.98**	**2**	*e*P	**P**	**23 13 05.0**	**+1.3**
RES				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.9						
RES	**Resolute Bay**	**92.98**	**2**	*e*P	**P**	**23 13 05.0**	**+1.2**
	comp=Z,5.3nm,1.1s,mb4.9						
INK	**Inuvik**	**93.14**	**16**	P	**P**	**23 13 05.9**	**+1.3**
	comp=Z,1.6nm,0.5s,mb4.7,baz=344,slow=3.6,SNR=15						
YKA	**Yellowknife Ar**	**102.44**	**12**	PP	PP	23 17 56.8	-5.5
	comp=Z,0.7nm,0.8s,baz=335,slow=7.7,SNR=6.6						
NVAR	**Mina Array Bea**	**121.87**	**28**	PKP	PKPdf	23 18 47.9	+3.6
	comp=Z,0.4nm,0.3s,baz=186,slow=3.4,SNR=3.7						
NVAR	**Mina Array Bea**	**121.87**	**28**	PKP	PKPdf	23 18 47.9	+3.6
TXAR	**Lajitas Array**	**135.72**	**20**	PKP	PKPdf	23 19 14.3	+3.4
	comp=Z,0.4nm,0.7s,baz=198,slow=0.3,SNR=3.5						
TXAR				PP	PP	23 21 51.0	-2.0
	comp=Z,0.6nm,0.8s,baz=288,slow=4.0,SNR=4.4						
PLCA	**Paso Flores**	**148.03**	**205**	PKPbc	PKPdf	23 19 38.3	+6.1
	comp=Z,2.9nm,1.0s,baz=64,slow=8.5,SNR=2.8						

IDC 29 23:01:58.7±4.0, 8.58N×93.49E, mb4.0/9, mb1 4.1/9, mb1mx4.0/19, mbtmp4.0/9, Error ellipse: s-maj=103.4km s-min=52.3km az=147.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**40.63**	**13**	P	P	23 09 40.2	-1.8
	3.4nm,1.2s,baz=210,slow=6.7,SNR=3.2						
SONM				PcP	PcP	23 11 41.6	-3.0
	0.3nm,0.6s,baz=225,slow=2.8,SNR=1.4						
ZAL	**Zalesovo**	**45.77**	**353**	P	P	23 10 22.7	-0.9
	1.3nm,0.7s,baz=293,slow=8.3,SNR=3.0						
BRTR	**Keskin Array B**	**61.48**	**311**	P	P	23 12 16.5	-3.2
	1.4nm,0.9s,baz=129,slow=7.4,SNR=3.3						
FINES	**FINESS Array B**	**71.79**	**332**	P	P	23 13 22.7	-2.1
	1.2nm,0.7s

ZAL Zalesovo 46.48 352 P **P** 23 19 24.4 -0.6
2.2nm,0.5s,mb4.4,baz=297,slow=8.7,SNR=10
WRA Warramunga Arr 48.15 126 P **P** 23 19 38.6 -0.1
1.3nm,0.8s,mb4.0,baz=305,slow=9.2,SNR=8.4
WRAB Tennant Creek 48.15 126 *eP* **P** 23 19 38.4 -0.2
8.4nm,0.9s,mb4.8
BVAR Borovoye Array 48.97 341 P **P** 23 19 43.0 -1.5
0.5nm,0.5s,mb3.6,baz=146,slow=11,SNR=4.6
CHKZ Chkalovo 49.45 342 *eP* **P** 23 19 45.5 -2.7
8.2nm,0.8s,mb4.8
ASAR Alice Springs 49.82 130 P **P** 23 19 51.2 -0.2
1.2nm,0.7s,mb4.0,baz=302,slow=7.6,SNR=12
GNI Garni 54.52 314 P **P** 23 20 27.1 +0.8
4.3nm,0.8s,mb4.5,baz=24,slow=22,SNR=2.4
PMG Port Moresby 55.37 107 LR LR 23 43 14.4
comp=Z,205nm,20.9s,MS4.2,baz=274,slow=35
KMBO Kilima Mbogo 57.63 264 P **P** 23 20 49.5 +0.4
6.3nm,0.7s,mb4.8,baz=58,slow=12,SNR=4.6
CTAO Charters Tower 58.18 119 P **P** 23 20 52.9 +0.1
2.7nm,0.7s,mb4.4
EIL Elat 59.55 300 P **P** 23 21 02.3 0.0
1.2nm,0.4s,mb4.3,baz=90,slow=10,SNR=2.6
STKA Stephens Creek 60.02 134 P **P** 23 21 05.9 +0.4
1.4nm,0.8s,mb4.1,baz=8.9,slow=18,SNR=3.1
STKA Stephens Creek 60.02 134 *eP* **P** 23 21 05.1 -0.4
BRTR Keskin Array B 62.52 311 P **P** 23 21 21.7 -0.5
3.0nm,0.7s,mb4.5,baz=121,slow=6.8,SNR=8.2
MA2 Magadan 66.59 28 *eP* **P** 23 21 49.1 +0.8
16nm,1.0s,mb5.0
AKASG Malin Array Be 68.21 322 P **P** 23 21 57.0 -1.5
1.9nm,0.6s,mb4.3,baz=84,slow=5.0,SNR=6.5
IDI Anoyia 68.68 305 P **P** 23 21 59.7 -2.1
4.8nm,0.8s,mb4.5,baz=28,slow=17,SNR=2.5
JOF Joensuu 70.85 334 *ep* **P** 23 22 11.9 -2.7
4.2nm,0.7s,mb4.5
FINES FINESS Array B 72.72 332 P **P** 23 22 23.9 -1.7
2.5nm,0.8s,mb4.2,baz=96,slow=5.5,SNR=11
OKC Ostrava-Krasne 75.05 319 *eP* **P** 23 22 41.2 +1.7
ARCES ARCESS Array B 75.25 340 P **P** 23 22 39.6 -0.6
4.2nm,0.9s,mb4.4,baz=100,slow=7.4,SNR=5.4
DPC Dobruska-Polom 76.27 320 *eP* **P** 23 22 46.1 -0.3
UPC Upice 76.48 320 *eP* **P** 23 22 52.4 +4.8
PRU Pruhonice 77.39 319 *eP* **P** 23 22 54.5 +1.7
PVCC Panska Ves 77.40 320 *epP* pP 23 22 58.6 -4.5
BRG Berggiesshubel 77.81 320 *eP* **P** 23 22 57.8 +2.8
8.6nm,1.0s,mb4.6
GERES GERESS Array B 77.89 318 P **P** 23 22 54.7 -0.8
2.3nm,0.6s,mb4.3,baz=93,slow=4.7,SNR=20
RUE Ruedersdorf 77.98 322 *eP* **P** 23 22 55.2 -0.8
18nm,0.5s,mb5.2
KHC Kasperske Hory 77.98 318 *eP* **P** 23 22 57.2 +1.2
KHC *e* 23 23 01.5
KHC Kasperske Hory 77.98 318 *eP* **P** 23 22 57.2 +1.2
KHC pP pP 23 23 01.5 -4.9
CLL Collm 78.42 321 *i* P pP 23 23 04.0 -4.7
8.0nm,1.2s
CLL Collm 78.42 321 *i* *PP pP 23 23 04.0 -4.7
NKC Novy Kostel 78.74 320 *eP* **P** 23 23 04.7 +4.5
MOX Moxa 79.28 320 *eP* **P** 23 23 05.1 +2.0
15nm,1.4s,mb4.7
MOX Moxa 79.28 320 *i* P **P** 23 23 05.1 +2.0
logA/T=1.0,mb4.7
GRA1 Grafenberg Arr 79.53 319 *eP* **P** 23 23 07.2 +2.7
5.0nm,0.9s,mb4.4
GRA1 *epP* pP 23 23 10.9 -4.0
GRF Grafenberg Arr 79.53 319 *eP* **P** 23 23 07.2 +2.7
5.0nm,0.9s,mb4.4
GRF *epP* pP 23 23 10.9 -4.0
NB2 NORSAR Subarra 79.75 331 P **P** 23 23 02.1 -3.3
4.1nm,0.7s,mb4.5,baz=95,slow=5.0
NOA NORSAR Array B 79.75 331 P **P** 23 23 04.5 -0.9
1.5nm,0.6s,mb4.1,baz=92,slow=5.7,SNR=4.9
DAVOX Davos 80.46 316 P **P** 23 23 08.9 -0.6
2.8nm,0.6s,mb4.4
LPG La Plagne 82.70 315 *eP* **P** 23 23 21.8 +0.6
21nm,0.8s,mb4.9
BNI Bardonecchia 82.78 314 *eP* **P** 23 23 27.5 +5.9
19nm,1.0s,mb5.1
ESDC Sonseca Array 91.31 310 P **P** 23 24 02.9 -0.3
1.8nm,1.0s,mb4.4,baz=58,slow=3.9,SNR=4.8
IMA Indian Mountai 91.46 22 P **P** 23 24 06.7 +3.4
MCK McKinley 94.30 23 *eP* **P** 23 24 23.0 +6.7
4.3nm,1.1s,mb4.8
YKA Yellowknife Ar 106.29 14 PP PP 23 29 37.5 +0.1
0.5nm,0.8s,baz=334,slow=7.3,SNR=5.2
PDAR Pinedale Array 125.01 21 PKP PKPdf 23 29 58.2 +1.6
0.6nm,0.8s,baz=90,slow=1.5,SNR=4.6
TXAR Lajitas Array 139.06 24 PKP PKPdf 23 30 25.1 +1.7
0.4nm,0.8s,baz=343,slow=1.7,SNR=5.1
PLCA Paso Flores 144.70 200 PKP PKPdf 23 30 34.5 +1.5
6.1nm,1.0s,baz=156,slow=4.6,SNR=7.0

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*BJI **29** 23:11:37.7, 7.65N×94.02E, h40km, mb4.7*
*NEIC **29** 23:11:40.3±0.8, 7.78N×93.91E, h30km, mb4.6/9, Error ellipse: s-maj=21.2km s-min=15.8km az=111.0*
*IDC **29** 23:11:45.4±10.0, 7.78N×93.80E, h75km±91km, mb4.1/14, mb1 4.2/14, mb1mx4.1/21, mbtmp4.4/14, Error ellipse: s-maj=29.9km s-min=23.4km az=83.0*
ISC 29 23:11:39.3±0.8, 7.8N±0.1×93.9E±0.1, h33km, (h8km±9.2km:pP-P), n39, σ1§36/35, mb4.5/21, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.64**	**24**	P	**P**	**23 14 26.0**	**-0.2**
LZH	**Lanzhou**	**29.55**	**16**	*eP*	**P**	**23 17 43.0**	**-0.2**
LZH				AP	pP	23 17 50.5	-2.3
LZH				XP	sP	23 17 52.8	-4.4
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb4.7						
LZH	**Lanzhou**	**29.55**	**16**	*eP*	**P**	**23 17 43.0**	**-0.2**
	comp=Z,22nm,1.5s,mb4.7						
LZH				pP	pP	23 17 50.4	-2.4
LZH				sP	sP	23 17 52.7	-4.5
AAK	**Ala-Archa**	**38.67**	**337**	*eP*	**P**	**23 19 00.8**	**-0.8**
	comp=Z,10nm,1.0s,mb4.5						
SONM	**Songino Array**	**41.26**	**13**	P	**P**	**23 19 23.3**	**+0.3**
	comp=Z,5.8nm,1.0s,mb4.2,baz=198,slow=7.8,SNR=7.5						
ULN	**Ulaanbaatar**	**41.43**	**13**	*eP*	**P**	**23 19 23.3**	**-1.1**
	comp=Z,4.7nm,0.9s,mb4.1						
KURK	**Kurchatov**	**44.61**	**346**	*eP*	**P**	**23 19 49.6**	**-0.6**
	comp=Z,38nm,1.3s,mb5.1						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	P	**P**	**23 20 02.8**	**-0.3**
	comp=Z,8.7nm,0.9s,mb4.7,baz=296,slow=8.4,SNR=3.4						
ZAL	**Zalesovo**	**46.57**	**353**	P	**P**	**23 20 06.3**	**+0.6**
	comp=Z,5.2nm,0.7s,mb4.6,baz=292,slow=8.5,SNR=7.1						
BVAR	**Borovoye Array**	**48.97**	**341**	P	**P**	**23 20 25.2**	**+0.7**
	comp=Z,7.1nm,1.0s,mb4.7,baz=127,slow=7.4,SNR=8.5						
KMBO	**Kilima Mbogo**	**57.21**	**264**	P	**P**	**23 21 24.9**	**-1.2**
	comp=Z,3.3nm,0.8s,mb4.4,baz=78,slow=9.3,SNR=1.3						
KMBO	**Kilima Mbogo**	**57.21**	**264**	P	**P**	**23 21 24.9**	**-1.2**
KMBO				*e*	pP	23 21 35.3	-1.0
EIL	**Elat**	**59.27**	**300**	P	**P**	**23 21 39.1**	**-1.2**
	comp=Z,4.0nm,0.9s,mb4.4,baz=36,slow=8.2,SNR=2.3						
BRTR	**Keskin Array B**	**62.30**	**311**	P	**P**	**23 21 58.2**	**-2.5**
	comp=Z,1.5nm,0.8s,mb4.2,baz=100,slow=7.5,SNR=2.8						
AKASG	**Malin Array Be**	**68.06**	**322**	P	**P**	**23 22 35.6**	**-2.0**
	comp=Z,3.3nm,0.7s,mb4.5,baz=87,slow=5.1,SNR=3.2						
FINES	**FINESS Array B**	**72.66**	**332**	P	**P**	**23 23 03.3**	**-2.0**
	comp=Z,2.4nm,0.5s,mb4.4,baz=96,slow=7.0,SNR=7.5						
KAF	**Kangasniemi**	**72.74**	**333**	*ep*	**P**	**23 23 01.4**	**-4.4**
	comp=Z,3.1nm,0.6s,mb4.4						
OKC	**Ostrava-Krasne**	**74.89**	**319**	*eP*	**P**	**23 23 23.0**	**+4.4**
ARCES	**ARCESS Array B**	**75.24**	**340**	P	**P**	**23 23 18.9**	**-1.2**
	comp=Z,8.2nm,1.0s,mb4.6,baz=10,slow=27,SNR=2.9						
DPC	**Dobruska-Polom**	**76.11**	**320**	*eP*	**P**	**23 23 28.0**	**+2.5**
UPC	**Upice**	**76.32**	**320**	*eP*	**P**	**23 23 31.9**	**+5.2**
PRU	**Pruhonice**	**77.23**	**319**	*eP*	**P**	**23 23 34.0**	**+2.1**
BRG	**Berggiesshubel**	**77.66**	**320**	*eP*	**P**	**23 23 36.4**	**+2.2**
	comp=Z,6.2nm,1.0s,mb4.5						
BRG				*i*		23 23 42.3	
GERES	**GERESS Array B**	**77.73**	**318**	P	**P**	**23 23 34.4**	**-0.2**
	comp=Z,3.1nm,0.7s,mb4.3,baz=90,slow=5.3,SNR=4.8						
KHC	**Kasperske Hory**	**77.82**	**319**	*eP*	**P**	**23 23 36.7**	**+1.6**
CLL	**Collm**	**78.27**	**321**	*eP*	**P**	**23 23 39.0**	**+1.5**
CLL				*i*		23 23 42.2	
CLL	**Collm**	**78.27**	**321**	P	**P**	**23 23 39.0**	**+1.5**
CLL				*i* *PP	pP	23 23 42.2	-5.7
NKC	**Novy Kostel**	**78.59**	**320**	*eP*	**P**	**23 23 44.3**	**+5.0**
MOX	**Moxa**	**79.13**	**320**	*eP*	pP	23 23 52.0	-0.6
GRA1	**Grafenberg Arr**	**79.37**	**319**	*eP*	**P**	**23 23 46.1**	**+2.5**
	comp=Z,6.0nm,0.9s,mb4.5						
GRA1				*epP*	pP	23 23 49.3	-4.7
GRF	**Grafenberg Arr**	**79.37**	**319**	*eP*	**P**	**23 23 46.1**	**+2.5**
	comp=Z,6.0nm,0.9s,mb4.5						
GRF				*epP*	pP	23 23 49.3	-4.7
NB2	**NORSAR Subarra**	**79.67**	**331**	P	**P**	**23 23 43.0**	**-2.0**
	comp=Z,7.4nm,1.1s,mb4.5,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.67**	**331**	P	**P**	**23 23 46.0**	**+1.0**
	comp=Z,2.1nm,0.8s,mb4.1,baz=95,slow=5.1,SNR=3.6						
ESDC	**Sonseca Array**	**91.09**	**310**	P	**P**	**23 24 42.3**	**+0.1**
	comp=Z,0.8nm,0.6s,mb4.2,baz=62,slow=4.8,SNR=3.1						
INK	**Inuvik**	**97.10**	**16**	P	**P**	**23 25 09.3**	**+0.4**
	comp=Z,4.0nm,1.2s,mb4.7,baz=304,slow=6.6,SNR=2.6						
INK	**Inuvik**	**97.10**	**16**	P	**P**	**23 25 09.3**	**+0.4**
YKA	**Yellowknife Ar**	**106.52**	**13**	PP	PP	23 30 14.0	-5.3
	comp=Z,0.3nm,0.8s,baz=334,slow=8.4,SNR=3.7						
PDAR	**Pinedale Array**	**125.29**	**21**	PKP	PKPdf	23 30 38.0	+0.9
	comp=Z,0.5nm,0.7s,baz=90,slow=3.0,SNR=2.2						
PLCA	**Paso Flores**	**144.43**	**200**	PKP	PKPdf	23 31 13.8	+1.3
	comp=Z,5.0nm,0.8s,baz=173,slow=5.6,SNR=3.9						

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*BJI **29** 23:14:29.6, 7.75N×93.32E, h47km, mB5.3, mb5.2, Ms4.9, Msz4.4*
*NEIC **29** 23:14:30.4±0.2, 7.96N×93.51E, h30km, mb5.0/41, Error ellipse: s-maj=8.6km s-min=5.4km az=54.0*
*MOS **29** 23:14:31.6±1.4, 7.96N×93.47E, h56km, mb5.3/30, Error ellipse: s-maj=9.9km s-min=6.1km az=97.1*
*IDC **29** 23:14:34.0±0.5, 7.96N×93.55E, h60km±4km, mb4.4/23, mb1 4.6/24, mb1mx4.5/26, mbtmp4.7/24, MS4.2/4, Ms1 4.3/4, ms1mx3.8/27, Error ellipse: s-maj=18.9km s-min=9.4km az=47.0*
ISC 29 23:14:32.1±0.2, 7.92N±0.03×93.54E±0.05, h60km, h60km±2.2km:pP-P, n182, σ1§15/171, mb5.0/72, 10C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.79**	**348**	*eP*	**P**	**23 15 31.7**	**+2.2**
PBA				*eS*	**S**	**23 16 14.1**	**+0.8**
CM31	**Chiang Mai Arr**	**11.72**	**26**	*eP*	**P**	**23 17 19.6**	**+0.8**
	180nm,0.9s						
CMAR	**Chiang Mai Arr**	**11.72**	**26**	P	**P**	**23 17 20.3**	**+1.4**
	3.8nm,0.3s,baz=208,slow=9.7,SNR=60						
CMAR				LR	LR	23 21 41.6	
	comp=Z,581nm,18.7s,baz=210,slow=37						
CMAR				ScP		23 26 33.0	
	0.1nm,0.3s,baz=238,slow=2.6,SNR=12						
IMP	**Imphal**	**16.77**	**1**	*eP*	**P**	**23 18 21.5**	**-3.0**
HYB	**Hyderabad**	**17.39**	**304**	*i* P	**P**	**23 18 34.5**	**+2.2**
SHL	**Shillong**	**17.62**	**355**	*eP*	**P**	**23 18 34.0**	**-1.2**
SHL				*e*		23 21 41.7	
SHL				*eS*	**S**	**23 21 50.8**	**+4.0**
BLSP	**Bilaspur**	**17.90**	**323**	*e*	**P**	**23 18 37.2**	**-1.4**
BLSP				*e*		23 21 42.5	
NGP	**Nagpur**	**19.20**	**315**	*eP*	**P**	**23 18 59.2**	**+5.3**
NGP				*e*		23 19 01.0	
	comp=Z,67nm,0.8s						
NGP				*eS*	**S**	**23 22 33.8**	**+12**
KMI	**Kunming**	**19.23**	**26**	P	**P**	**23 18 56.1**	**+1.9**
KMI				pmax	pmax		
	comp=Z,33nm,1.4s						
KMI	**Kunming**	**19.23**	**26**	P	**P**	**23 18 56.1**	**+1.9**
	comp=Z,33nm,1.4s						
KMI				sP		23 19 12.5	
QIZ	**Qiongzhong**	**19.30**	**53**	P	**P**	**23 18 56.5**	**+1.5**
JIRN	**Jiri**	**20.83**	**341**	*eP*	**P**	**23 19 10.8**	**-0.2**
	comp=Z,299nm,0.8s						
PKI	**Pulchoki**	**21.00**	**339**	*eP*	**P**	**23 19 12.5**	**-0.3**
	comp=Z,94nm,0.5s,mb5.4						
DMN	**Daman**	**21.15**	**339**	*eP*	**P**	**23 19 13.9**	**-0.4**
	comp=Z,137nm,0.8s,mb5.3						
KKN	**Kakani**	**21.25**	**339**	*eP*	**P**	**23 19 14.9**	**-0.4**
	comp=Z,227nm,0.7s,mb5.6						
GKN	**Gorkha**	**21.68**	**338**	*eP*	**P**	**23 19 19.5**	**0.0**
	comp=Z,264nm,0.8s,mb5.7						
LSA	**Lhasa**	**21.78**	**354**	P	**P**	**23 19 20.3**	**-0.3**
LSA				AMB	AMB		
	comp=Z,60nm,1.1s,mb4.9						
KOLN	**Koldanda**	**21.87**	**336**	*eP*	**P**	**23 19 21.7**	**+0.3**
	comp=Z,475nm,1.5s,mb5.7						
TGY	**Tagaytay City**	**27.57**	**75**	LR	LR	23 30 19.3	
	comp=Z,580nm,19.9s,baz=205,slow=34						
LZH	**Lanzhou**	**29.57**	**17**	⇑P	**P**	**23 20 33.5**	**-0.1**
LZH				AP	pP	23 20 49.0	+0.6
LZH				XP	sP	23 20 56.0	+0.3
LZH				PCP	PcP	23 23 37.3	-0.1
LZH				S	**S**	**23 25 24.0**	**+1.1**
LZH				XS		23 25 49.0	
LZH				SS	SS	23 27 01.5	+1.6
LZH				SCP		23 27 15.5	
LZH				SCS	ScS	23 31 06.8	+0.7
LZH				AMB	AMB		
	comp=Z,83nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,196nm,4.1s						
LZH				LR	LR		
	comp=E,659nm,12.7s						
LZH				LR	LR		
	comp=Z,962nm,13.4s						
LZH	**Lanzhou**	**29.57**	**17**	⇑P	**P**	**23 20 33.5**	**-0.1**
LZH				*PP	pP	23 20 48.9	+0.5
LZH				*SP	sP	23 20 56.0	+0.3
LZH						23 23 37.3	
LZH				S	**S**	**23 25 24.0**	**+1.1**
LZH				*SS		23 25 49.0	
LZH				SS	SS	23 27 01.5	+1.6
LZH				ScP		23 27 15.5	
LZH				ScS	ScS	23 31 06.8	+0.7
LZH				LR	LR		
	comp=Z,960nm,13.4s						
XAN	**Xi'an**	**29.61**	**26**	P	**P**	**23 20 33.0**	**-0.9**
XAN				AMB	AMB		
	comp=Z,63nm,0.8s,mb5.4						
WHN	**Wuhan**	**29.76**	**38**	P	**P**	**23 20 36.3**	**+1.0**
WMQ	**Urumqi**	**36.12**	**353**	*eP*	**P**	**23 21 32.0**	**+1.7**
WMQ				AP	pP	23 21 47.0	+1.4
WMQ				PP	PP	23 22 55.5	+1.4
WMQ				PCP	PcP	23 23 56.0	+0.6
WMQ				S	**S**	**23 27 06.3**	**+1.5**
WMQ				AMB	AMB		
	comp=Z,79nm,1.1s,mb5.6						
WMQ				AMB	AMB		
	comp=Z,459nm,5.0s						
WMQ				LR	LR		
	comp=N,1μm,17.5s						
WMQ				LR	LR		
	comp=E,1μm,17.2s						
WMQ				LR	LR		
	comp=Z,2μm,17.4s						
BJI	**Beijing**	**37.85**	**29**	P	**P**	**23 21 46.5**	**+1.7**
BJI				pmax	pmax		
	comp=Z,71nm,1.1s,mb5.3						
BJI				MLR	MLR		
	comp=Z,380nm,26.0s						
BJI	**Beijing**	**37.85**	**29**	P	**P**	**23 21 46.5**	**+1.7**
	comp=Z,71nm,1.1s,mb5.3						
BJI				LR	LR		
	comp=Z,380nm,26.0s						
JOW	**Kunigami**	**37.92**	**56**	LR	LR	23 36 43.7	
	comp=Z,550nm,20.5s,baz=261,slow=35						
UCH	**Uchtor**	**38.07**	**337**	P	**P**	**23 21 47.6**	**+1.0**
	SNR=7.3						
TKM2	**Tokmak 2**	**38.26**	**339**	P	**P**	**23 21 48.6**	**+0.4**
	SNR=6.5						
KBK	**Karagaybulak**	**38.27**	**338**	P	**P**	**23 21 49.4**	**+1.1**
	SNR=15						
AML	**Almayashu**	**38.32**	**336**	P	**P**	**23 21 49.8**	**+1.1**
	SNR=17						
AAK	**Ala-Archa**	**38.43**	**337**	P	**P**	**23 21 50.8**	**+1.3**
	SNR=11						
AAK	**Ala-Archa**	**38.43**	**337**	*eP*	**P**	**23 21 49.5**	**-0.1**
AAK				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.9						
AAK	**Ala-Archa**	**38.43**	**337**	*eP*	**P**	**23 21 49.5**	**-0.1**
	comp=Z,26nm,1.0s,mb4.9						
FRU	**Bishkek**	**38.55**	**337**	*eP*	**P**	**23 21 51.0**	**+0.4**
FRU				pmax	pmax		
	comp=Z,70nm,2.0s,mb5.0						
CHMS	**Chumysh**	**38.64**	**338**	P	**P**	**23 21 51.2**	**-0.1**
	SNR=11						
MBWA	**Marble Bar**	**38.69**	**139**	*e*PKPdf	**P**	**23 21 51.2**	**-0.7**
	comp=Z,21nm,1.1s,mb4.8						
EKS2	**Erkin-Say**	**38.73**	**337**	P	**P**	**23 21 53.0**	**+1.0**
	SNR=11						
USP	**Ospenovka**	**38.97**	**338**	P	**P**	**23 21 54.3**	**+0.3**
	SNR=14						
MKAR	**Makanchi Array**	**39.91**	**348**	*eP*	**P**	**23 22 01.3**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
SONM	**Songino Array**	**41.25**	**13**	P	**P**	**23 22 12.9**	**0.0**
	comp=Z,9.1nm,0.8s,mb4.5,baz=196,slow=8.8,SNR=22						
SONM				PcP	PcP	23 24 12.0	+0.5
	comp=Z,3.1nm,0.5s,baz=209,slow=3.8,SNR=8.4						
SONM				pPcP		23 24 27.8	
	comp=Z,1.9nm,0.7s,baz=200,slow=4.3,SNR=3.5						
SONM				ScP		23 27 57.1	
	comp=Z,3.2nm,0.8s,baz=192,slow=3.7,SNR=14						
ULN	**Ulaanbaatar**	**41.43**	**14**	*eP*	**P**	**23 22 13.9**	**-0.4**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
ULN	**Ulaanbaatar**	**41.43**	**14**	*eP*	**P**	**23 22 13.9**	**-0.4**
	comp=Z,6.4nm,0.6s,mb4.4						
KS15	**Wonju Array Si**	**42.79**	**41**	*eP*	**P**	**23 22 26.5**	**+0.8**
SNY	**Shenyang**	**42.96**	**33**	⇑P	**P**	**23 22 28.0**	**+1.0**
SNY				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.2						
ZAK	**Zakamensk**	**43.09**	**9**	*eP*	**P**	**23 22 27.3**	**-0.7**
ZAK				*e*		23 24 12.3	
MOY	**Mondy**	**44.04**	**7**	*eP*	**P**	**23 22 35.8**	**+0.2**
TLY	**Talaya**	**44.41**	**9**	*eP*	**P**	**23 22 39.1**	**+0.5**
TLY				pmax	pmax		
	comp=Z,15nm,1.8s,mb4.4						
TLY				MLR	MLR		
	comp=Z,280nm,19.0s						
TLY	**Talaya**	**44.41**	**9**	*eP*	**P**	**23 22 38.3**	**-0.3**
	comp=Z,3.8nm,0.8s,mb4.2						
KURK	**Kurchatov**	**44.42**	**346**	*eP*	**P**	**23 22 38.4**	**-0.3**
KURK				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.9						
KURK	**Kurchatov**	**44.42**	**346**	*eP*	**P**	**23 22 38.4**	**-0.3**
	comp=Z,24nm,0.9s,mb4.9						
MUN	**Mundaring**	**45.20**	**153**	⇑*i*P	**P**	**23 22 46.5**	**+1.3**
	comp=Z,21nm,0.5s,mb5.2						
MUN	**Mundaring**	**45.20**	**153**	⇑*i*P	**P**	**23 22 46.5**	**+1.3**
MUN				pmax	pmax		
	comp=Z,21nm,0.5s,mb5.2						
KLBR	**Kellerberrin**	**45.61**	**151**	*eP*	**P**	**23 22 49.6**	**+1.2**
	comp=Z,416nm,1.1s						
KLBR				*e*		23 24 26.0	
ZAL	**Zalesovo**	**46.42**	**353**	P	**P**	**23 22 54.4**	**-0.1**
	comp=Z,22nm,0.4s,mb5.4,baz=299,slow=7.4,SNR=61						
ZAL				PcP	PcP	23 24 27.9	-1.0
	comp=Z,3.6nm,0.6s,baz=357,slow=2.8,SNR=3.3						
ZAL				ScP		23 28 17.0	
	comp=Z,1.0nm,0.7s,baz=339,slow=5.2,SNR=3.5						
ZAL	**Zalesovo**	**46.42**	**353**	P	**P**	**23 22 54.4**	**-0.1**
ZAL				PcP	PcP	23 24 27.9	-1.0
ZAL				ScP		23 28 17.0	
NWAO	**Narrogin (SRO)**	**46.46**	**152**	*eP*	**P**	**23 22 55.9**	**+0.7**
NWAO				pmax	pmax		
	comp=Z,13nm,0.6s						
NWAO	**Narrogin (SRO)**	**46.46**	**152**	P	**P**	**23 22 56.1**	**+0.9**
	comp=Z,13nm,0.5s,mb5.2,baz=324,slow=8.6,SNR=20						
NWAO	**Narrogin (SRO)**	**46.46**	**152**	*eP*	**P**	**23 22 55.9**	**+0.7**
	comp=Z,13nm,0.6s,mb5.0						
NVS	**Novosibirsk**	**47.51**	**352**	⇑*i*P	**P**	**23 23 01.5**	**-1.6**
NVS				*eS*	**S**	**23 29 49.3**	**-3.1**
NVS				pmax	pmax		
	comp=N,24nm,0.9s						
NVS				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.3						
NVS				pmax	pmax		
	comp=E,10.0nm,0.6s						
NVS				smax			
	comp=N,23nm,1.8s						
NVS				smax			
	comp=E,8.0nm,1.5s						
MDJ	**Mudanjiang**	**48.10**	**34**	P	**P**	**23 23 08.0**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,43nm,1.4s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,130nm,4.7s						
BVA0	**Borovoye Array**	**48.75**	**342**	*i* P	**P**	**23 23 11.6**	**-1.1**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
BVAR	**Borovoye Array**	**48.75**	**342**	P	**P**	**23 23 11.6**	**-1.1**
	comp=Z,5.2nm,0.6s,mb4.7,baz=143,slow=11,SNR=22						
BVAR				PcP	PcP	23 24 37.3	0.0
	comp=Z,1.9nm,0.5s,baz=180,slow=4.3,SNR=6.5						
BVAR				ScP		23 28 25.6	
	comp=Z,1.2nm,0.9s,baz=135,slow=8.4,SNR=3.6						
WRA	**Warramunga Arr**	**48.77**	**125**	P	**P**	**23 23 12.4**	**-0.9**
WRA				*PP	pP	23 23 28.2	-0.8
WRA						23 24 37.8	
WRA				S	**S**	**23 30 07.1**	**-3.5**
WRA	**Warramunga Arr**	**48.77**	**125**	P	**P**	**23 23 12.4**	**-1.0**
	comp=Z,19nm,0.5s,mb5.4,baz=304,slow=8.8,SNR=82						
WRA				pP	pP	23 23 28.2	-0.8
	comp=Z,6.9nm,0.4s,baz=304,slow=8.6,SNR=5.4						
WRA				PcP	PcP	23 24 37.8	-0.1
	comp=Z,5.4nm,0.9s,baz=312,slow=2.8,SNR=6.1						
WRA				ScP		23 28 26.1	
	comp=Z,4.5nm,1.1s,baz=312,slow=3.6,SNR=6.2						
WRA				S	**S**	**23 30 07.0**	**-3.6**
	comp=Z,1.1nm,0.8s,baz=299,slow=14,SNR=3.5						
WRAB	**Tennant Creek**	**48.78**	**125**	*eP*	**P**	**23 23 12.4**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,33nm,0.5s,mb5.6						
WRAB	**Tennant Creek**	**48.78**	**125**	*eP*	**P**	**23 23 12.4**	**-0.9**
	comp=Z,33nm,0.5s,mb5.6						
WB2	**Warramunga Arr**	**48.78**	**125**	⇑*i*P	**P**	**23 23 12.5**	**-0.9**
CHKZ	**Chkalovo**	**49.24**	**342**	P	**P**	**23 23 15.9**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
CHKZ	**Chkalovo**	**49.24**	**342**	*eP*	**P**	**23 23 15.6**	**-0.9**
	comp=Z,34nm,0.9s,mb5.4						
MAJO	**Matsushiro**	**49.57**	**48**	*eP*	**P**	**23 23 19.3**	**0.0**
MAJO				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
MAJO	**Matsushiro**	**49.57**	**48**	*eP*	**P**

comp=E,16nm,0.7s,mb5.2,baz=212,slow=7.4,SNR=7.0
PMG Port Moresby 56.11 107 *eP* **P 23 24 08.2 +0.1**
PMG pmax pmax
comp=Z,28nm,0.9s
PMG Port Moresby 56.11 107 P **P 23 24 08.4 +0.2**
comp=Z,15nm,0.7s,mb5.2,baz=349,slow=2.5,SNR=8.7
PMG Port Moresby 56.11 107 *eP* **P 23 24 08.2 0.0**
comp=Z,28nm,0.9s,mb5.3
KMBO Kilima Mbogo 56.84 263 *eP* **P 23 24 14.5 +1.2**
KMBO pmax pmax
comp=Z,15nm,1.5s
KMBO Kilima Mbogo 56.84 263 P **P 23 24 14.8 +1.5**
comp=Z,2.2nm,0.3s,mb4.7,baz=56,slow=14,SNR=4.3
KMBO LR LR 23 45 03.5
comp=Z,242nm,19.5s,baz=103,slow=32
KMBO Kilima Mbogo 56.84 263 *eP* **P 23 24 14.5 +1.1**
comp=Z,14nm,1.5s,mb4.8
KIV Kislovodsk 56.88 318 *eP* **P 23 24 11.3 -2.0**
KIV pmax pmax
comp=Z,34nm,1.0s,mb5.3
KIV Kislovodsk 56.88 318 *eP* **P 23 24 11.3 -1.9**
comp=Z,34nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 57.11 38 *eP* **P 23 24 15.0 +0.2**
YSS pmax pmax
comp=Z,113nm,1.3s,mb5.7
YSS Yuzh-Sakhalins 57.11 38 *eP* **P 23 24 15.0 +0.2**
comp=Z,113nm,1.3s,mb5.7
ASF Jabal al Asfar 57.69 303 P **P 23 24 20.1 +0.9**
comp=Z,2.5nm,1.0s,mb4.2,baz=177,slow=21,SNR=3.0
MALT Malatya 57.98 310 P **P 23 24 19.3 -1.7**
MALT pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
MALT Malatya 57.98 310 P **P 23 24 19.3 -1.7**
comp=Z,6.5nm,1.1s,mb4.6
CTA Charters Tower 58.85 119 P **P 23 24 26.4 -0.9**
comp=Z,2.6nm,0.4s,mb4.6,baz=256,slow=8.0,SNR=4.8
CTA PcP PcP 23 25 16.1 +0.2
comp=Z,4.5nm,0.8s,baz=280,slow=6.6,SNR=2.9
CTAO Charters Tower 58.85 119 *eP* **P 23 24 26.4 -0.9**
CTAO pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
CTAO Charters Tower 58.85 119 *eP* **P 23 24 26.4 -0.9**
comp=Z,9.6nm,1.1s,mb4.7
EIL Elat 58.89 300 P **P 23 24 28.5 +1.1**
comp=Z,2.1nm,0.5s,mb4.5,baz=51,slow=5.0,SNR=5.3
EIL Elat 58.89 300 *eP* **P 23 24 28.6 +1.1**
YAK Yakutsk 60.14 19 *eP* **P 23 24 33.6 -2.0**
YAK pmax pmax
comp=Z,28nm,0.7s,mb5.4
YAK Yakutsk 60.14 19 *eP* **P 23 24 33.6 -2.1**
comp=Z,28nm,0.7s,mb5.4
STKA Stephens Creek 60.57 133 *eP* **P 23 24 38.5 -0.5**
comp=Z,12nm,1.1s,mb4.9
STKA Stephens Creek 60.57 133 P **P 23 24 38.6 -0.4**
comp=Z,16nm,0.7s,mb5.2,baz=314,slow=6.6,SNR=29
STKA ScP 23 29 18.8
comp=Z,2.3nm,0.8s,baz=10,slow=6.3,SNR=3.2
BRTR Keskin Array B 61.95 311 P **P 23 24 46.1 -2.1**
comp=Z,1.4nm,0.7s,mb4.2,baz=139,slow=7.9,SNR=4.9
BRTR pP pP 23 25 03.5 -0.9
comp=Z,4.4nm,0.8s,baz=122,slow=7.8,SNR=9.9
MOS Moscow 64.73 329 *eP* **P 23 25 03.7 -2.5**
MA2 Magadan 67.00 28 *eP* **P 23 25 20.4 -0.2**
MA2 pmax pmax
comp=Z,35nm,0.9s,mb5.4
MA2 Magadan 67.00 28 *eP* **P 23 25 20.4 -0.2**
comp=Z,35nm,0.9s,mb5.4
TIXI Tiksi 67.30 11⇑ *iP* **P 23 25 21.1 -1.2**
TIXI pmax pmax
comp=Z,36nm,0.5s,mb5.7
SANT Santorini 67.71 306 P **P 23 25 23.4 -2.0**
comp=Z,133nm,1.3s,mb5.8
SANT *e* 23 25 32.7
AKASG Malin Array Be 67.75 322 pP pP 23 25 41.5 -0.4
comp=Z,4.2nm,0.7s,baz=89,slow=5.0,SNR=9.0
AKASG PP PP 23 27 54.1 -3.2
comp=Z,0.1nm,0.3s,baz=100,slow=7.9,SNR=4.8
CNB Canberra Magne 67.89 133⇑ *iP* **P 23 25 27.0 +0.4**
comp=Z,116nm,0.6s,mb6.1
MLR Muntele Rosu 68.72 316 P **P 23 25 30.9 -0.7**
comp=Z,6.2nm,0.7s,mb4.7,baz=275,slow=18,SNR=4.0
LSZ Lusaka 68.72 250 *eP* **P 23 25 33.0 +0.9**
LSZ *e* pP 23 25 46.9 -1.7
LSZ *e* 23 26 03.1
LSZ pmax pmax
comp=Z,13nm,1.0s,mb4.8
LSZ Lusaka 68.72 250 *eP* **P 23 25 33.0 +0.9**
comp=Z,13nm,1.0s,mb4.8
LSZ *e* pP 23 25 46.9 -1.7
LSZ *e* 23 26 03.1
TAU Tasmania Unive 70.30 141 P **P 23 25 41.5 +0.2**
TAU pmax pmax
comp=Z,33nm,1.1s,mb5.2
TAU Tasmania Unive 70.30 141 P **P 23 25 41.5 +0.2**
comp=Z,33nm,1.1s,mb5.2
JOF Joensuu 70.55 335 *ep* **P 23 25 40.6 -1.8**
comp=Z,5.3nm,0.6s,mb4.7
FINES FINESS Array B 72.39 332 P **P 23 25 52.6 -0.8**
comp=Z,3.1nm,0.4s,mb4.5,baz=96,slow=6.7,SNR=30
FINES pP pP 23 26 10.4 +0.3
comp=Z,4.8nm,0.8s,baz=72,slow=6.0,SNR=4.4
KAF Kangasniemi 72.48 333 *ep* **P 23 25 52.5 -1.5**
comp=Z,2.5nm,0.4s,mb4.5
KAF Kangasniemi 72.48 333 *eP* **P 23 25 52.5 -1.5**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
LBTB Lobatse 73.74 241 *eP* **P 23 26 03.2 +1.1**
LBTB *e* pP 23 26 18.7 -0.1
LBTB pmax pmax
comp=Z,18nm,0.9s,mb5.0
LBTB Lobatse 73.74 241 *eP* **P 23 26 03.1 +1.0**
comp=Z,18nm,0.9s,mb5.0
LBTB *e* pP 23 26 18.7 -0.2
KEV Kevo 74.59 341 *ep* **P 23 26 03.6 -2.5**
comp=Z,15nm,0.9s,mb4.9
KEV Kevo 74.59 341 *eP* **P 23 26 03.6 -2.5**
KEV pmax pmax
comp=Z,15nm,0.9s,mb4.9
ARCES ARCESS Array B 75.02 340 P **P 23 26 08.7 +0.1**
ARCES ARCESS Array B 75.02 340 P **P 23 26 08.6 +0.1**
comp=Z,7.2nm,0.7s,mb4.7,baz=109,slow=5.8,SNR=28
BOSA Boshof 75.11 238 *eP* **P 23 26 11.0 +1.1**
BOSA *e* pP 23 26 26.3 -0.3
BOSA pmax pmax
comp=Z,24nm,1.1s,mb5.0
BOSA Boshof 75.11 238 *eP* **P 23 26 10.9 +1.0**
comp=Z,24nm,1.1s,mb5.0
BOSA *e* pP 23 26 26.3 -0.3
BILL Bilibino 76.26 22 *eP* **P 23 26 15.1 -0.6**
BILL pmax pmax
comp=Z,50nm,1.2s,mb5.3
BILL Bilibino 76.26 22 *eP* **P 23 26 15.1 -0.6**
comp=Z,50nm,1.2s,mb5.3
BRG Berggiesshubel 77.33 320 *eP* **P 23 26 22.3 +0.3**
BRG *e* 23 26 32.5
BRG pmax pmax
comp=Z,16nm,1.6s,mb4.7
BRG Berggiesshubel 77.33 320 *eP* **P 23 26 22.3 +0.3**
comp=Z,16nm,1.6s,mb4.7
BRG *e* 23 26 32.5
BRG *e* 23 26 55.5
GERES GERESS Array B 77.39 318 P **P 23 26 22.1 -0.3**
comp=Z,2.0nm,0.7s,mb4.2,baz=87,slow=6.0,SNR=10.0
GERES pP pP 23 26 39.4 +0.2
comp=Z,3.1nm,0.7s,baz=90,slow=5.3,SNR=8.8
KHC Kasperske Hory 77.49 319 *eP* **P 23 26 20.0 -2.9**
GRA1 Grafenberg Arr 79.04 319 *eP* **P 23 26 32.2 +0.8**
comp=Z,3.0nm,0.9s,mb4.2
GRF Grafenberg Arr 79.04 319 *eP* **P 23 26 32.2 +0.8**
GRF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
GRF Grafenberg Arr 79.04 319 *eP* **P 23 26 32.2 +0.8**
GRF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
GRF Grafenberg Arr 79.04 319 *eP* **P 23 26 32.2 +0.8**
comp=Z,3.0nm,0.9s,mb4.2
NB2 NORSAR Subarra 79.40 331 P **P 23 26 32.3 -0.8**
comp=Z,1.8nm,0.6s,mb4.2,baz=98,slow=4.8
NB2 NORSAR Subarra 79.40 331 P **P 23 26 32.3 -0.8**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
NOA NORSAR Array B 79.40 331 P **P 23 26 32.5 -0.6**
comp=Z,3.9nm,0.8s,mb4.4,baz=93,slow=5.7,SNR=7.4
NOA pP pP 23 26 51.2 +1.3
comp=Z,3.2nm,0.8s,baz=93,slow=5.6,SNR=4.8
TSUM Tsumeb 79.49 249 *eP* **P 23 26 37.6 +3.1**
comp=Z,10nm,1.0s,mb4.7
LPG La Plagne 82.16 315 *eP* **P 23 26 49.3 +1.2**
comp=Z,34nm,1.0s,mb4.9
LPG La Plagne 82.16 315 *eP* **P 23 26 49.3 +1.2**
LPG pmax pmax
comp=Z,17nm,1.0s,mb4.9
SYO Syowa Base 85.28 197 ⇓P **P 23 27 04.8 +1.6**
TNA Tin City 86.37 24 *eP* **P 23 27 08.7 +0.1**
ESDC Sonseca Array 90.73 310 P **P 23 27 30.7 +0.6**
comp=Z,1.4nm,0.6s,mb4.5,baz=65,slow=3.9,SNR=10
ESDC pP pP 23 27 47.9 +0.6
comp=Z,2.2nm,0.7s,baz=64,slow=4.1,SNR=5.3
ESLA Sonseca Array 90.73 310 *eP* **P 23 27 31.6 +1.5**
comp=Z,2.2nm,1.1s,mb4.4
IMA Indian Mountai 91.80 22 *eP* **P 23 27 36.0 +1.6**
VNDA Vanda 93.09 168 *eP* **P 23 27 41.5 +1.4**
VNDA pmax pmax
comp=Z,3.0nm,1.0s
VNDA Vanda 93.09 168 P **P 23 27 40.8 +0.7**
comp=Z,1.9nm,0.9s,mb4.5,baz=284,slow=9.1,SNR=6.4
VNDA Vanda 93.09 168 *eP* **P 23 27 41.5 +1.4**
comp=Z,3.1nm,1.0s,mb4.7
MCK McKinley 94.65 23 *eP* **P 23 27 48.6 +1.2**
MCK pmax pmax
comp=Z,2.0nm,0.7s,mb4.7
MCK McKinley 94.65 23 *eP* **P 23 27 48.6 +1.2**
comp=Z,1.7nm,0.7s,mb4.6
ILAR Eielson Array 94.92 22 P **P 23 27 49.6 +1.0**
comp=Z,65nm,0.3s,baz=45,slow=12,SNR=2.4
INK Inuvik 97.11 16 P **P 23 27 58.5 0.0**
comp=Z,4.4nm,0.9s,mb4.9,baz=306,slow=5.7,SNR=8.3
YKA Yellowknife Ar 106.52 13 PKiKP
comp=Z,0.2nm,0.8s,baz=338,slow=2.5,SNR=4.3
YKA PP PP 23 33 00.9 -8.1
comp=Z,0.2nm,0.6s,baz=337,slow=7.8,SNR=7.0
SCHQ Schefferville 115.35 348 PKP PKPdf 23 33 08.9 +1.9
comp=Z,1.0nm,0.5s,baz=49,slow=4.6,SNR=4.1
ULM Lac du Bonnet 121.49 7 PKP PKPdf 23 33 20.4 +1.5
comp=Z,5.4nm,0.6s,baz=1.4,slow=2.0,SNR=15
ULM Lac du Bonnet 121.49 7 *e*PKPdf PKPdf 23 33 20.1 +1.1
RRI2 Red Ridge 124.20 22 *e*PKPdf PKPdf 23 33 26.1 +1.7
SNOW Snow King Moun 124.30 21 *e*PKPdf PKPdf 23 33 27.7 +3.1
PDAR Pinedale Array 125.33 21 PKP PKPdf 23 33 28.5 +1.9
comp=Z,2.6nm,0.6s,slow=1.5,SNR=9.1
PDAR pPKP 23 33 45.2
comp=Z,1.0nm,0.7s,baz=63,slow=3.3,SNR=3.3
SADO Sadowa 127.14 353 PKP PKPdf 23 33 31.9 +1.8
comp=Z,3.4nm,0.4s,baz=349,slow=2.1,SNR=12
MSU Marysvale 127.97 26 *e*PKiKP PKPdf 23 33 36.1 +4.2
PV10 Paradox Valley 129.37 23 *e*PKPdf PKPdf 23 33 38.0 +3.5
ANMO Albuquerque 133.36 23 PKP PKPdf 23 33 45.0 +2.8
comp=Z,2.4nm,0.8s,baz=197,slow=1.6,SNR=8.4
GDL2 Guadalupe Moun 136.60 22 *e*PKPdf PKPdf 23 33 50.7 +2.5
GDL2 *e*SKP 23 37 17.8
TXAR Lajitas Array 139.42 23 PKhKP 23 33 46.9
comp=Z,0.4nm,0.5s,baz=29,slow=1.0,SNR=7.1
TXAR PKP PKPdf 23 33 56.0 +2.6
comp=Z,1.7nm,0.4s,baz=201,slow=1.7,SNR=40
TXAR pPKP 23 34 12.2
comp=Z,0.6nm,0.5s,baz=231,slow=0.7,SNR=2.8
TXAR Lajitas Array 139.42 23 PKP PKPdf 23 33 56.0 +2.6
TXAR pPKP 23 34 12.2
JCT Junction City 139.73 18 *e*PKPdf PKPdf 23 33 56.0 +2.0
JCT *e*SKP 23 37 27.1
PLCA Paso Flores 144.38 201 PKP PKPdf 23 34 02.5 +0.7
comp=Z,2.0nm,0.6s,baz=56,slow=4.0,SNR=4.5
TEIG Tepich 151.97 4 *e*PKPdf PKPdf 23 34 16.8 +2.1
TEIG *e*PKPbc PKPdf 23 34 23.4 +8.7
TEIG *e* 23 34 32.3
LPAZ La Paz 160.26 243 PKP PKPdf 23 34 28.0 +2.6
comp=Z,1.4nm,0.6s,baz=101,slow=0.5,SNR=8.8
LPAZ pPKPab 23 35 24.3
comp=Z,2.3nm,0.8s,baz=196,slow=4.1,SNR=3.3
LPAZ La Paz 160.26 243 PKP PKPdf 23 34 28.0 +2.6
LPAZ pPKPab 23 35 24.3

*IDC **29** 23:21:57.8±0.9, 7.59N×93.93E, mb3.9/7, mb1 4.0/8, mb1mx3.9/18, mbtmp3.9/8, ML4.0/1, Error ellipse: s-maj=32.1km s-min=21.3km az=55.0*
ISC 29 23:22:00.9±0.8, 7.6N±0.1×94.0E±0.2, h33km, n10, σ0§49/9, mb4.1/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.82**	**24**	Pn	**P**	**23 24 50.1**	**0.0**
	0.3nm,0.3s,baz=211,slow=14,SNR=7.1						
SONM	**Songino Array**	**41.46**	**13**	P	**P**	**23 29 46.0**	**-0.2**
	1.0nm,0.8s,mb3.5,baz=192,slow=8.7,SNR=5.8						
SONM				PcP	PcP	23 31 44.5	+0.3
	0.3nm,0.5s,baz=190,slow=4.0,SNR=4.5						
ZAL	**Zalesovo**	**46.80**	**353**	P	**P**	**23 30 28.7**	**-0.4**
	2.0nm,0.4s,mb4.4,baz=300,slow=5.8,SNR=6.4						
WRA	**Warramunga Arr**	**48.22**	**125**	P	**P**	**23 30 40.8**	**0.0**
	0.6nm,0.5s,mb3.9,baz=305,slow=8.5,SNR=3.9						
ASAR	**Alice Springs**	**49.85**	**130**	P	**P**	**23 30 53.2**	**0.0**
	0.4nm,0.8s,mb3.5,baz=306,slow=8.0,SNR=5.5						
KMBO	**Kilima Mbogo**	**57.25**	**264**	P	**P**	**23 31 47.5**	**-0.5**
	8.8nm,0.2s,mb5.4,baz=62,slow=12,SNR=4.0						
FINES	**FINESS Array B**	**72.88**	**332**	P	**P**	**23 33 27.9**	**-0.4**
	2.1nm,0.9s,mb4.1,baz=146,slow=6.9,SNR=6.4						
GERES	**GERESS Array B**	**77.93**	**318**	P	**P**	**23 33 58.6**	**+1.3**
	0.4nm,0.7s,mb3.5,baz=121,slow=5.7,SNR=4.5						
HFS	**Hagfors**	**78.62**	**330**	P	**P**	**23 34 01.0**	**+0.2**
	3.7nm,1.0s,mb4.3,baz=104,slow=6.1,SNR=4.3						
PLCA	**Paso Flores**	**144.24**	**200**	PKP	PKPdf	23 41 36.1	+2.4
	1.8nm,0.7s,baz=169,slow=11,SNR=3.2						

*CSEM **29** 23:25:59.3±0.9, 38.54N×29.26W, h3km, ML2.3, Error ellipse: s-maj=14.4km s-min=8.1km az=176.0, After PDA*
*PDA **29** 23:25:59.3±0.9, 38.54N×29.26W, h3km, MD3.2, ML2.3, Error ellipse: s-maj=14.4km s-min=8.1km az=176.0*
SVSA 29 23:25:59.3±0.9, 38.54N×29.26W, h3km, MD3.2, ML2.3, Error ellipse: s-maj=14.4km s-min=8.1km az=176.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.44**	**85**	*e*S	Sg	23 26 13.2	-0.9
PCED	**Cedros**	**0.45**	**79**	*e*P	Pg	23 26 07.4	-0.9
PCED				*e*S	Sg	23 26 13.6	-0.7
HOR	**Horta**	**0.50**	**91**	*e*S	Sg	23 26 14.1	-1.8
PICO	**Pico**	**0.66**	**93**	*e*P	Pg	23 26 10.9	-1.6
PICO				*e*S	Sg	23 26 19.3	-1.9
ROSA	**Rosais**	**0.82**	**77**	*e*P	Pg	23 26 12.3	-3.4
ROSA				*e*S	Sg	23 26 22.8	-3.8

*IDC **29** 23:26:51.6±0.9, 7.94N×93.96E, mb3.8/11, mb1 3.9/12, mb1mx3.8/20, mbtmp3.7/12, ML3.6/1, Error ellipse: s-maj=39.6km s-min=19.2km az=51.0*
*NEIC **29** 23:26:55.7±0.8, 7.97N×93.99E, h30km, mb4.2/1, Error ellipse: s-maj=21.1km s-min=16.4km az=74.0*
ISC 29 23:26:54.0±0.8, 8.0N±0.1×94.1E±0.1, h30km, n14, σ1§15/14, mb3.9/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.40**	**24**	P	**P**	**23 29 39.5**	**+1.3**
CMAR	**Chiang Mai Arr**	**11.40**	**24**	Pn	**P**	**23 29 36.4**	**-1.7**
	0.1nm,0.3s,baz=215,slow=14,SNR=4.1						
SONM	**Songino Array**	**41.03**	**13**	P	**P**	**23 34 37.1**	**+0.7**
	0.6nm,1.1s,mb3.1,baz=192,slow=11,SNR=3.4						
SONM				PcP	PcP	23 36 39.3	+2.8
	0.3nm,0.6s,baz=178,slow=4.1,SNR=2.5						
KURK	**Kurchatov**	**44.45**	**346**	P	**P**	**23 35 01.7**	**-2.5**
	2.7nm,0.7s,mb4.1						
ZAL	**Zalesovo**	**46.40**	**352**	P	**P**	**23 35 20.4**	**+0.8**
	1.4nm,0.7s,mb4.0,baz=295,slow=9.4,SNR=7.1						
WRA	**Warramunga Arr**	**48.40**	**126**	P	**P**	**23 35 36.6**	**+0.9**
	0.9nm,1.0s,mb3.7,baz=305,slow=8.9,SNR=2.6						
BVAR	**Borovoye Array**	**48.83**	**341**	P	**P**	**23 35 37.7**	**-0.9**
	0.6nm,0.9s,mb3.6,baz=117,slow=3.2,SNR=3.2						
BVAR				PcP	PcP	23 37 05.4	+2.0
	0.4nm,0.6s,baz=162,slow=4.6,SNR=2.2						
ASAR	**Alice Springs**	**50.06**	**130**	P	**P**	**23 35 47.1**	**-1.3**
	0.4nm,0.7s,mb3.6,baz=302,slow=8.5,SNR=3.7						
BRTR	**Keskin Array B**	**62.29**	**311**	P	**P**	**23 37 15.4**	**-0.5**
	0.4nm,0.7s,mb3.7,baz=108,slow=4.6,SNR=2.8						
FINES	**FINESS Array B**	**72.55**	**332**	P	**P**	**23 38 19.9**	**-0.2**
	1.0nm,0.5s,mb4.0,baz=117,slow=8.5,SNR=6.1						
ARCES	**ARCESS Array B**	**75.11**	**340**	P	**P**	**23 38 36.4**	**+1.7**
	3.2nm,0.8s,mb4.3,baz=72,slow=7.7,SNR=2.2						
GERES	**GERESS Array B**	**77.68**	**318**	P	**P**	**23 38 50.4**	**+0.9**
	1.5nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=5.2						
HFS	**Hagfors**	**78.30**	**330**	P	**P**	**23 38 52.0**	**-0.7**
	2.0nm,0.6s,mb4.2,baz=127,slow=7.4,SNR=6.8						
NOA	**NORSAR Array B**	**79.57**	**331**	P	**P**	**23 39 00.2**	**+0.6**
	1.7nm,1.1s,mb3.9,baz=254,slow=19,SNR=2.5						

IGQ 29 23:27:32.9, 1.00S×81.36W, h7km±7km, mb4.1, 1C-3D, Error ellipse: s-maj=12.1km s-min=5.0km az=18.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.81**	**94**	⇓P	Pb	23 27 47.8	-1.1
JAMA	**Jama**	**1.36**	**57**	P	Pb	23 27 58.7	+0.4
JAMA				S	Sb	23 28 16.1	+0.3
IGUA	**Igualata**	**2.76**	**100**	⇓P	Pn	23 28 20.2	+1.9
JUA2	**San Juan 2**	**2.86**	**74**	P	Pn	23 28 21.2	+1.4
TERV	**Terraza Guagua**	**2.87**	**73**	P	Pn	23 28 21.3	+1.4
PINO	**Pino**	**2.87**	**73**	P	Pn	23 28 20.5	+0.5
NAS1	**Nasa**	**2.90**	**83**	P	Pn	23 28 23.3	+2.9
YANA	**Yana**	**2.92**	**73**	P	Pn	23 28 21.4	+0.7
ARRY	**Arrayan**	**2.94**	**100**	P	Pn	23 28 22.2	+1.3
PISA	**Pisayambo**	**2.97**	**91**	P	Pn	23 28 23.3	+1.9
VC1	**Cotopaxi 1**	**2.97**	**83**	P	Pn	23 28 24.0	+2.6
ULBA	**Ulba**	**2.98**	**99**	P	Pn	23 28 23.0	+1.5
ANTI	**Antisana**	**3.24**	**80**	P	Pn	23 28 26.6	+1.4
COTA	**Cotacachi**	**3.30**	**66**	P	Pn	23 28 26.7	+0.7
CAYR	**Refugio Cayamb**	**3.50**	**73**	⇑P	Pn	23 28 32.0	+3.2
CAYA	**Cayambe**	**3.53**	**72**	⇓P	Pn	23 28 32.0	+2.7

*IDC **29** 23:33:29.8±8.8, 8.15N×94.08E, mb3.9/6, mb1 4.0/7, mb1mx3.8/20, mbtmp3.8/7, ML3.6/1, Error ellipse: s-maj=198.1km s-min=58.9km az=147.0*
ISC 29 23:33:32.6±2.7, 8.1N±0.3×94.0E±0.2, h33km, n13, σ0§64/13, mb4.1/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.39**	**24**	Pn	**P**	**23 36 16.4**	**+0.4**
	0.1nm,0.3s,baz=210,slow=13,SNR=5.7						
JIRN	**Jiri**	**20.86**	**340**	*eP*	**P**	**23 38 14.6**	**+0.3**
	18nm,0.8s						
PKI	**Pulchoki**	**21.05**	**338**	*eP*	**P**	**23 38 16.9**	**+0.7**
	11nm,0.6s,mb4.3						
DMN	**Daman**	**21.20**	**338**	*eP*	**P**	**23 38 18.9**	**+1.2**
KKN	**Kakani**	**21.30**	**338**	*eP*	**P**	**23 38 18.4**	**-0.3**
	20nm,0.9s,mb4.5						
GKN	**Gorkha**	**21.73**	**337**	*eP*	**P**	**23 38 22.2**	**-0.8**
	29nm,0.8s,mb4.8						
KOLN	**Koldanda**	**21.95**	**335**	*eP*	**P**	**23 38 24.5**	**-0.7**
	40nm,1.1s,mb4.8						
SONM	**Songino Array**	**41.01**	**13**	P	**P**	**23 41 13.9**	**-0.3**
	0.5nm,0.8s,mb3.2,baz=211,slow=7.2,SNR=4.6						
ZAL	**Zalesovo**	**46.35**	**352**	P	**P**	**23 41 57.0**	**-0.4**
	0.5nm,0.3s,mb3.9,baz=119,slow=17,SNR=3.1						
BVAR	**Borovoye Array**	**48.78**	**341**	P	**P**	**23 42 15.2**	**-1.2**
	0.3nm,0.6s,mb3.5,baz=143,slow=7.2,SNR=3.0						
GNI	**Garni**	**54.23**	**314**	P	**P**	**23 42 57.9**	**+0.3**
	8.5nm,1.0s,mb4.6,baz=178,slow=22,SNR=2.0						
FINES	**FINESS Array B**	**72.50**	**332**	P	**P**	**23 44 58.0**	**+0.3**
	1.9nm,0.9s,mb4.0,baz=106,slow=10,SNR=3.8						
GERES	**GERESS Array B**	**77.62**	**318**	P	**P**	**23 45 27.8**	**+0.4**
	0.9nm,0.6s,mb3.9,baz=98,slow=6.9,SNR=4.8						

*IDC **29** 23:34:16.8±1.2, 8.04N×94.36E, mb4.0/12, mb1 4.1/13, mb1mx4.0/21, mbtmp4.0/13, Error ellipse: s-maj=52.7km s-min=27.8km az=51.0*
ISC 29 23:34:19.9±1.0, 8.0N±0.1×94.3E±0.2, h33km, n14, σ1§06/14, mb4.0/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.38**	**23**	Pn	**P**	**23 37 04.1**	**+0.9**
	baz=215,slow=14,SNR=2.6						
SONM	**Songino Array**	**41.05**	**12**	P	**P**	**23 42 01.7**	**-0.1**
	1.4nm,1.2s,mb3.5,baz=202,slow=9.3,SNR=2.8						
ZAL	**Zalesovo**	**46.49**	**352**	P	**P**	**23 42 44.5**	**-1.2**
	0.8nm,0.6s,mb3.9,baz=190,slow=1.6,SNR=2.3						
BVAR	**Borovoye Array**	**48.96**	**341**	P	**P**	**23 43 03.9**	**-1.1**
	0.2nm,0.3s,mb3.6,baz=143,slow=7.4,SNR=4.3						
ASAR	**Alice Springs**	**49.85**	**130**	P	**P**	**23 43 12.0**	**-0.3**
	0.7nm,0.6s,mb3.9,baz=306,slow=8.3,SNR=5.3						
BRTR	**Keskin Array B**	**62.49**	**311**	P	**P**	**23 44 42.6**	**+0.1**
	0.8nm,0.6s,mb4.0,baz=132,slow=8.0,SNR=3.9						
FINES	**FINESS Array B**	**72.71**	**332**	P	**P**	**23 45 44.7**	**-1.5**
	1.1nm,0.5s,mb4.0,baz=90,slow=5.7,SNR=6.4						
ARCES	**ARCESS Array B**	**75.24**	**340**	P	**P**	**23 45 59.9**	**-0.9**
	5.2nm,0.9s,mb4.5,baz=354,slow=11,SNR=3.0						
GERES	**GERESS Array B**	**77.87**	**318**	P	**P**	**23 46 15.6**	**-0.4**
	1.3nm,0.8s,mb3.9,baz=108,slow=4.2,SNR=6.8						
HFS	**Hagfors**	**78.46**	**330**	P	**P**	**23 46 21.0**	**+2.0**
	1.8nm,0.4s,mb4.3,baz=108,slow=4.7,SNR=10						
NB2	**NORSAR Subarra**	**79.73**	**331**	P	**P**	**23 46 21.5**	**-4.4**
	7.1nm,1.2s,mb4.5,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**79.73**	**331**	P	**P**	**23 46 27.7**	**+1.8**
	0.8nm,0.5s,mb3.9,baz=95,slow=5.0,SNR=3.4						
DAVOX	**Davos**	**80.44**	**316**	P	**P**	**23 46 31.6**	**+1.6**
	1.9nm,0.5s,mb4.2,baz=165,slow=21,SNR=3.4						
ESDC	**Sonseca Array**	**91.28**	**310**	P	**P**	**23 47 24.0**	**+0.3**
	0.8nm,0.7s,mb4.2,baz=76,slow=4.4,SNR=2.9						

*BJI **29** 23:35:55.6, 7.29N×93.86E, h30km, mB4.9, mb4.8, Ms4.8, Msz4.4*
*MOS **29** 23:36:02.5±0.9, 8.13N×94.21E, h33km, mb5.2/35, Error ellipse: s-maj=10.8km s-min=6.2km az=114.2*
*IDC **29** 23:36:03.3±3.3, 7.98N×94.09E, h29km±22km, mb4.4/26, mb1 4.5/27, mb1mx4.5/30, mbtmp4.6/27, ML4.3/1, Error ellipse: s-maj=24.5km s-min=12.2km az=45.0*
*NEIC **29** 23:36:03.5±0.2, 8.08N×94.21E, h30km, mb4.9/42, Error ellipse: s-maj=8.4km s-min=6.7km az=37.0*
ISC 29 23:36:02.6±1.3, 8.07N±0.05×94.22E±0.05, h36km±11km, h14km±2.9km: pP-P, n179, σ0§97/175, mb4.8/68, MS4.7/2, 2C-5D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.04**	**50**	P	**P**	**23 37 45.5**	**-0.4**
CM31	**Chiang Mai Arr**	**11.30**	**24**	*eP*	**P**	**23 38 45.8**	**+1.1**
	3.7nm,0.6s						
CM31				*e*		23 38 57.0	
CMAR	**Chiang Mai Arr**	**11.30**	**24**	Pn	**P**	**23 38 46.2**	**+1.5**
	0.6nm,0.3s,baz=212,slow=14,SNR=17						
CHG	**Chiang Mai**	**11.62**	**23**	PN	**P**	**23 38 50.6**	**+1.5**
	14nm,0.9s						
BWNR	**Bhubaneshwar**	**14.63**	**327**	*eP*	**P**	**23 39 25.6**	**-3.3**
BWNR				*e*		23 39 42.7	
	comp=Z,65nm,1.2s						
BWNR				*e*S	**S**	**23 42 06.4**	**-4.3**
SHL	**Shillong**	**17.54**	**353**	*eP*	**P**	**23 40 04.0**	**-2.1**
SHL				*e*		23 43 55.0	
HYB	**Hyderabad**	**17.87**	**303**	*i* P	**P**	**23 40 11.0**	**+0.8**
BLSP	**Bilaspur**	**18.19**	**322**	*eP*

LZH PP PP 23 43 00.3 +1.6
LZH eS **S** **23 46 54.0 +1.7**
LZH AMB AMB
comp=Z,30nm,1.7s,mb4.8
LZH AMB AMB
comp=Z,106nm,4.0s
LZH LR LR
comp=E,396nm,10.0s
LZH LR LR
comp=Z,606nm,11.2s,MS4.5
LZH Lanzhou 29.24 16 eP **P** **23 42 04.3 +0.9**
LZH *PP pP 23 42 14.0 +0.5
LZH *SP sP 23 42 17.0 -1.2
LZH 23 43 00.2
LZH eS **S** **23 46 54.0 +1.7**
LZH *SS 23 47 10.0
LZH SS SS 23 48 27.0 +2.8
LZH pmax pmax
comp=Z,30nm,1.7s,mb4.8
LZH Lanzhou 29.24 16 eP **P** **23 42 04.3 +0.9**
comp=Z,30nm,1.7s,mb4.8
LZH pP pP 23 42 14.0 +0.5
LZH sP sP 23 42 17.0 -1.2
LZH PP PP 23 43 00.2 +1.5
LZH eS **S** **23 46 54.0 +1.7**
LZH sS 23 47 10.0
LZH SS SS 23 48 27.0 +2.8
NJ2 Nanjing 33.07 40 eP **P** **23 42 34.8 -2.4**
NJ2 XP sP 23 42 48.3 -3.9
NJ2 AMB AMB
comp=Z,50nm,1.1s,mb5.4
NJ2 AMB AMB
comp=Z,370nm,10.7s
NJ2 LR LR
comp=N,2μm,21.0s
NJ2 LR LR
comp=E,1μm,13.4s
NJ2 LR LR
comp=Z,1μm,13.5s
SSE Sheshan 34.03 44 P **P** **23 42 43.5 -1.9**
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,206nm,4.6s
SSE Sheshan 34.03 44 P **P** **23 42 43.4 -2.0**
comp=Z,20nm,0.7s,mb5.2
WMQ Urumqi 36.06 352 eP **P** **23 43 03.3 +0.6**
WMQ AP pP 23 43 13.0 -0.1
WMQ XP sP 23 43 16.8 -0.9
WMQ PP PP 23 44 25.5 +0.2
WMQ PCP PcP 23 45 29.5 +0.8
WMQ S **S** **23 48 39.0 +0.3**
WMQ AMB AMB
comp=Z,57nm,0.9s,mb5.5
WMQ AMB AMB
comp=Z,423nm,5.3s
WMQ LR LR
comp=N,1μm,16.3s,MS4.8
WMQ LR LR
comp=E,916nm,16.0s,MS4.8
WMQ LR LR
comp=Z,2μm,16.6s,MS4.9
BJI Beijing 37.39 28 P **P** **23 43 16.5 +2.6**
BJI pmax pmax
comp=Z,11nm,1.1s,mb4.6
BJI Beijing 37.39 28 P **P** **23 43 16.5 +2.6**
comp=Z,11nm,1.1s,mb4.6
UCH Uchtor 38.20 336 P **P** **23 43 21.5 +0.8**
SNR=5.7
KBK Karagaybulak 38.40 337 P **P** **23 43 23.2 +0.9**
SNR=8.2
AML Almayashu 38.46 335 P **P** **23 43 23.8 +1.0**
SNR=12
AAK Ala-Archa 38.55 336 P **P** **23 43 24.6 +1.0**
SNR=7.6
AAK Ala-Archa 38.55 336 eP **P** **23 43 23.2 -0.4**
AAK pmax pmax
comp=Z,24nm,1.1s,mb4.8
AAK Ala-Archa 38.55 336 eP **P** **23 43 23.2 -0.4**
comp=Z,24nm,1.1s,mb4.8
CHMS Chumysh 38.76 337 P **P** **23 43 25.4 +0.1**
SNR=6.3
EKS2 Erkin-Say 38.87 336 P **P** **23 43 27.1 +0.9**
SNR=6.5
USP Ospenovka 39.09 337 P **P** **23 43 28.2 +0.2**
SNR=13
SONM Songino Array 40.95 13 P **P** **23 43 44.5 +1.1**
comp=Z,4.4nm,0.8s,mb4.1,baz=196,slow=9.5,SNR=18
SONM PcP PcP 23 45 44.6 +0.7
comp=Z,1.3nm,0.6s,baz=204,slow=3.2,SNR=5.5
ZAK Zakamensk 42.84 9 eP **P** **23 43 58.7 -0.2**
TLY Talaya 44.16 8⇑ iP **P** **23 44 10.1 +0.5**
TLY pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
KURK Kurchatov 44.44 346 eP **P** **23 44 11.4 -0.4**
KURK pmax pmax
comp=Z,43nm,1.2s,mb5.0
KURK Kurchatov 44.44 346 eP **P** **23 44 11.4 -0.4**
comp=Z,43nm,1.2s,mb5.1
NWAO Narrogin (SRO) 46.29 153 eP **P** **23 44 26.4 -0.4**
NWAO pmax pmax
comp=Z,10.0nm,0.6s
NWAO Narrogin (SRO) 46.29 153 P **P** **23 44 26.3 -0.5**
comp=Z,9.9nm,0.6s,mb4.9,baz=334,slow=12,SNR=5.9
NWAO Narrogin (SRO) 46.29 153 eP **P** **23 44 26.4 -0.4**
comp=Z,10nm,0.6s,mb4.9
ZAL Zalesovo 46.36 352 P **P** **23 44 27.6 +0.6**
comp=Z,5.4nm,0.7s,mb4.6,baz=296,slow=8.4,SNR=20
NVS Novosibirsk 47.46 351⇓ iP **P** **23 44 34.5 -1.2**
NVS pmax pmax
comp=Z,15nm,0.9s,mb4.9
NVS pmax pmax
comp=N,8.0nm,0.8s
NVS pmax pmax
comp=E,5.0nm,0.7s
WRA Warramunga Arr 48.31 126 P **P** **23 44 42.1 -0.7**
comp=E,1.5nm,0.7s,mb4.2,baz=304,slow=9.1,SNR=5.9
WRAB Tennant Creek 48.32 126 eP **P** **23 44 41.2 -1.6**
WRAB Tennant Creek 48.32 126 eP **P** **23 44 38.9 -3.9**
comp=E,7.7nm,0.7s,mb4.8
BVAR Borovoye Array 48.83 341 P **P** **23 44 45.7 -0.7**
comp=E,5.0nm,0.9s,mb4.6,baz=143,slow=7.4,SNR=17
BVAR PcP PcP 23 46 10.9 -0.1
comp=E,1.3nm,0.6s,baz=146,slow=5.2,SNR=2.8
MAJO Matsushiro 48.97 48 P **P** **23 44 49.1 +1.4**
RAYN Ar Rayn 49.08 294 P **P** **23 44 49.8 +1.1**
comp=E,168nm,0.8s,SNR=22
CHKZ Chkalovo 49.31 342 eP **P** **23 44 49.2 -0.9**
CHKZ pmax pmax
comp=Z,30nm,1.0s,mb5.3
CHKZ Chkalovo 49.31 342 eP **P** **23 44 49.2 -0.8**
comp=Z,30nm,1.0s,mb5.3
ASAR Alice Springs 49.98 130 P **P** **23 44 54.8 -0.9**
comp=Z,1.6nm,0.8s,mb4.1,baz=307,slow=7.3,SNR=8.3
BOD Bodaibo 51.94 13 eP **P** **23 45 08.9 -1.0**
GNI Garni 54.35 314 P **P** **23 45 27.9 -0.3**
GNI pmax pmax
comp=Z,73nm,1.5s
GNI Garni 54.35 314 P **P** **23 45 28.4 +0.2**
comp=Z,11nm,1.1s,mb4.7,baz=267,slow=14,SNR=3.8
GNI Garni 54.35 314 P **P** **23 45 27.9 -0.2**
comp=Z,73nm,1.5s,mb5.4
SVE Sverdlovsk 55.25 338 eP **P** **23 45 31.0 -3.4**
PMG Port Moresby 55.51 107 eP **P** **23 45 38.0 +1.1**
PMG pmax pmax
comp=Z,6.0nm,0.6s
PMG Port Moresby 55.51 107 P **P** **23 45 38.1 +1.2**
comp=Z,5.2nm,0.5s,mb4.8,baz=310,slow=12,SNR=4.0
PMG Port Moresby 55.51 107 eP **P** **23 45 38.0 +1.1**
comp=Z,6.4nm,0.6s,mb4.8
YSS Yuzh-Sakhalins 56.58 38 P **P** **23 45 43.8 -0.3**
YSS pmax pmax
comp=Z,32nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 56.58 38 P **P** **23 45 43.8 -0.4**
comp=Z,32nm,1.0s,mb5.3
KIV Kislovodsk 57.22 318 eP **P** **23 45 47.6 -1.2**
KIV e 23 45 53.9
KIV pmax pmax
comp=Z,21nm,1.0s,mb5.1
KIV Kislovodsk 57.22 318 eP **P** **23 45 47.5 -1.2**
comp=Z,21nm,1.0s,mb5.1
KIV e 23 45 53.9
KMBO Kilima Mbogo 57.52 264 eP **P** **23 45 53.3 +2.0**
KMBO pmax pmax
comp=Z,12nm,0.9s
KMBO Kilima Mbogo 57.52 264 P **P** **23 45 53.4 +2.1**
comp=Z,20nm,1.2s,mb5.0,baz=59,slow=10,SNR=10
KMBO Kilima Mbogo 57.52 264 eP **P** **23 45 53.3 +2.0**
comp=Z,12nm,0.9s,mb4.9
KMBO e 23 46 25.3
ASF Jabal al Asfar 58.17 303 P **P** **23 45 55.7 +0.1**
comp=Z,4.1nm,0.8s,mb4.5,baz=342,slow=4.9,SNR=7.6
MALT Malatya 58.40 310 eP **P** **23 45 54.3 -2.7**
MALT pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
MALT Malatya 58.40 310 eP **P** **23 45 54.3 -2.7**
comp=Z,7.1nm,1.1s,mb4.6
EIL Elat 59.40 300 P **P** **23 46 04.3 +0.2**
comp=Z,6.6nm,0.8s,mb4.7,baz=62,slow=5.3,SNR=11
EIL Elat 59.40 300 eP **P** **23 46 03.8 -0.3**
comp=Z,8.1nm,0.8s,mb4.8
EIL e 23 46 10.3
YAK Yakutsk 59.78 18 eP **P** **23 46 05.5 -0.8**
YAK e 23 46 11.6
YAK pmax pmax
comp=Z,27nm,0.8s,mb5.3
YAK Yakutsk 59.78 18 eP **P** **23 46 05.5 -0.8**
comp=Z,26nm,0.8s,mb5.3
YAK e 23 46 11.6
STKA Stephens Creek 60.19 134 P **P** **23 46 08.8 -0.8**
comp=Z,1.4nm,0.7s,mb4.1,baz=270,slow=4.1,SNR=3.0
STKA Stephens Creek 60.19 134 eP **P** **23 46 08.2 -1.3**
BRTR Keskin Array B 62.36 311 P **P** **23 46 21.9 -2.1**
comp=Z,5.2nm,0.7s,mb4.8,baz=124,slow=7.5,SNR=27
MBAR Mbarara 63.85 265 eP **P** **23 46 35.0 +0.6**
MBAR pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
MBAR Mbarara 63.85 265 eP **P** **23 46 35.0 +0.6**
comp=Z,10.0nm,1.3s,mb4.7
MOS Moscow 64.95 329 eP **P** **23 46 39.8 -1.0**
MOS pmax pmax
comp=Z,31nm,0.7s,mb5.5
OBN Obninsk 65.25 328d iP **P** **23 46 38.1 -4.7**
OBN i 23 46 44.5
OBN i 23 47 13.7
OBN pmax pmax
comp=Z,25nm,0.9s,mb5.2
OBN Obninsk 65.25 328 eP **P** **23 46 38.7 -4.1**
comp=Z,24nm,0.9s,mb5.2
OBN e 23 46 44.2
MA2 Magadan 66.55 28 eP **P** **23 46 50.4 -0.5**
MA2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
MA2 Magadan 66.55 28 eP **P** **23 46 50.4 -0.6**
comp=Z,8.3nm,0.8s,mb4.8
TIXI Tiksi 67.02 11⇑ iP **P** **23 46 52.3 -1.4**
TIXI pmax pmax
comp=Z,31nm,1.3s,mb5.2
AKASG Malin Array Be 68.05 322 P **P** **23 46 58.6 -1.9**
comp=Z,7.0nm,0.8s,mb4.7,baz=88,slow=4.9,SNR=19
IDI Anoyia 68.52 305 P **P** **23 47 03.0 -0.7**
comp=Z,13nm,0.6s,mb5.1,baz=99,slow=6.3,SNR=10
MLR Muntele Rosu 69.08 316 P **P** **23 47 06.9 -0.1**
comp=Z,8.7nm,0.7s,mb4.8,baz=96,slow=5.2,SNR=6.7
LSZ Lusaka 69.41 250 eP **P** **23 47 10.3 +0.8**
LSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LSZ Lusaka 69.41 250 eP **P** **23 47 10.3 +0.9**
comp=Z,2.8nm,0.8s,mb4.2
LSZ ePcP PcP 23 47 42.0 +9.1
JOF Joensuu 70.70 334 ep **P** **23 47 15.3 -1.3**
comp=Z,11nm,0.8s,mb4.8
APA Apatity 71.69 339⇓ iP **P** **23 47 21.6 -0.8**
APA i 23 47 28.2
APA pmax pmax
comp=Z,18nm,0.9s,mb5.0
KWP Kalwaria 71.93 320 eP **P** **23 47 24.2 +0.1**
KOLS Kolonicke sedl 72.11 319 iP **P** **23 47 25.0 -0.2**
SUW Suwalki 72.39 324 eP **P** **23 47 26.1 -0.7**
FINES FINESS Array B 72.57 332 P **P** **23 47 27.2 -0.5**
comp=Z,7.4nm,0.8s,mb4.7,baz=96,slow=7.0,SNR=17
CRVS Cervenica-Dubn 72.63 319 iP **P** **23 47 29.1 +0.8**
KAF Kangasniemi 72.65 333 ep **P** **23 47 25.8 -2.4**
comp=Z,4.5nm,0.6s,mb4.6
KAF Kangasniemi 72.65 333 eP **P** **23 47 25.8 -2.4**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
NIE Niedzica 73.45 319 eP **P** **23 47 33.9 +0.8**
OJC Ojcow 73.87 320 eP **P** **23 47 35.7 +0.1**
VYHS Vyhne 74.31 318 iP **P** **23 47 37.8 -0.4**
LBTB Lobatse 74.41 241 eP **P** **23 47 40.3 +1.1**
LBTB e 23 48 12.4
KEV Kevo 74.68 341 ep **P** **23 47 38.2 -1.7**
comp=Z,14nm,0.7s,mb5.0
KEV Kevo 74.68 341 eP **P** **23 47 38.2 -1.7**
KEV pmax pmax
comp=Z,14nm,0.7s,mb5.0
OKC Ostrava-Krasne 74.89 319 eP **P** **23 47 41.4 -0.1**
OKC epP pP 23 47 47.0 -5.5
ARCES ARCESS Array B 75.11 340 P **P** **23 47 42.7 +0.4**
comp=Z,6.3nm,0.8s,mb4.6,baz=79,slow=6.2,SNR=9.5
MORC Moravsky Berou 75.28 319 eP **P** **23 47 43.9 +0.2**
MORC e 23 47 49.0
MORC pmax pmax
comp=Z,20nm,1.1s,mb5.0
MORC Moravsky Berou 75.28 319 eP **P** **23 47 43.9 +0.2**
comp=Z,20nm,1.1s,mb5.0
MORC e 23 47 49.0
ZST Bratislava 75.44 318 iP **P** **23 47 44.7 0.0**
ZST epP pP 23 47 50.9 -4.8
BOSA Boshof 75.76 238 eP **P** **23 47 48.1 +1.2**
BOSA pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BOSA Boshof 75.76 238 eP **P** **23 47 48.1 +1.2**
comp=Z,7.1nm,0.9s,mb4.6
GKP Gorka Klasztor 75.79 323 eP **P** **23 47 46.3 -0.3**
VRAC Vranov 75.86 319 P **P** **23 47 46.9 -0.1**
comp=Z,3.9nm,0.9s,mb4.3,baz=102,slow=9.3,SNR=6.2
BILL Bilibino 75.87 22 eP **P** **23 47 47.0 +0.3**
BILL pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BILL Bilibino 75.87 22 eP **P** **23 47 47.0 +0.2**
comp=Z,4.9nm,0.6s,mb4.6
DPC Dobruska-Polom 76.11 320 eP **P** **23 47 48.9 +0.5**
DPC epP pP 23 47 53.9 -5.5
KSP Ksiaz 76.16 320 eP **P** **23 47 49.2 +0.5**
KSP e*PP pP 23 47 54.5 -5.2
KSP Ksiaz 76.16 320 eP **P** **23 47 49.8 +1.1**
UPC Upice 76.31 320 eP **P** **23 47 50.0 +0.4**
PRU Pruhonice 77.23 319 eP **P** **23 47 54.4 -0.4**
PRU epP pP 23 48 00.4 -5.4
PVCC Panska Ves 77.24 320 eP **P** **23 47 55.1 +0.3**
PVCC epP pP 23 48 00.0 -5.9
BSD Bornholm Skovb 77.31 325 iP **P** **23 47 54.3 -0.8**
BSD i 23 48 00.1
BSD pmax pmax
comp=Z,16nm,0.7s,mb5.1
BSD Bornholm Skovb 77.31 325 iP **P** **23 47 54.3 -0.8**
comp=Z,16nm,0.7s,mb5.1
BSD i 23 48 00.1
BRG Berggiesshubel 77.65 320 iP **P** **23 47 57.2 +0.1**
BRG e 23 48 03.0
BRG pmax pmax
comp=Z,11nm,0.9s,mb4.8
BRG Berggiesshubel 77.65 320 iP **P** **23 47 57.2 +0.1**
comp=Z,11nm,0.9s,mb4.8
BRG e 23 48 03.0
GEC2 GERESS Array S 77.73 318 eP **P** **23 47 58.0 +0.4**
GEC2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
GEC2 GERESS Array S 77.73 318 eP **P** **23 47 58.0 +0.4**
comp=Z,10.0nm,0.8s,mb4.8
GERES GERESS Array B 77.73 318 P **P** **23 47 57.8 +0.2**
comp=Z,7.2nm,0.7s,mb4.7,baz=90,slow=5.3,SNR=46
KHC Kasperske Hory 77.82 318 eP **P** **23 47 58.1 0.0**
KHC epP pP 23 48 03.8 -5.3
RUE Ruedersdorf 77.82 322 eP **P** **23 47 57.7 -0.2**
comp=Z,49nm,0.9s,mb5.4
RUE e 23 48 04.0
CLL Collm 78.26 321 iP **P** **23 48 00.6 +0.2**
CLL i 23 48 05.4
CLL Collm 78.26 321 P **P** **23 48 00.6 +0.2**
CLL i *PP pP 23 48 05.4 -6.1
WET Wettzell 78.28 318 eP **P** **23 48 01.0 +0.4**
WET pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
WET Wettzell 78.28 318 eP **P** **23 48 01.0 +0.4**
comp=Z,7.0nm,0.9s,mb4.6
HFS Hagfors 78.33 330 P **P** **23 48 00.7 +0.1**
comp=Z,8.0nm,0.7s,mb4.7,baz=110,slow=2.9,SNR=13
NKC Novy Kostel 78.58 320 eP **P** **23 48 01.9 -0.3**
NKC epP pP 23 48 08.6 -4.7
MOX Moxa 79.12 320 eP **P** **23 48 05.3 +0.1**
MOX pmax pmax
comp=Z,20nm,1.7s,mb4.8
MOX Moxa 79.12 320 eP **P** **23 48 05.3 +0.1**
comp=Z,20nm,1.7s,mb4.8
MOX Moxa 79.12 320 iP **P** **23 48 05.3 +0.1**
comp=Z,logA/T=1.1,mb4.8
FUR Furstenfeldbru 79.33 317 eP **P** **23 48 06.3 -0.1**
GRA1 Grafenberg Arr 79.37 319 eP **P** **23 48 07.4 +0.9**
comp=Z,12nm,0.9s,mb4.8
GRA1 epP pP 23 48 13.1 -4.5
GRF Grafenberg Arr 79.37 319 eP **P** **23 48 07.4 +0.9**
GRF e*PP pP 23 48 13.1 -4.5
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 79.37 319 eP **P** **23 48 07.4 +0.9**
GRF e*PP pP 23 48 13.1 -4.5
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 79.37 319 eP **P** **23 48 07.4 +0.9**
comp=Z,12nm,0.9s,mb4.8
GRF epP pP 23 48 13.1 -4.5
NB2 NORSAR Subarra 79.60 331 P **P** **23 48 06.8 -0.7**
comp=Z,9.5nm,0.8s,mb4.8,baz=95,slow=5.0
NB2 NORSAR Subarra 79.60 331 P **P** **23 48 06.8 -0.7**
NB2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
NOA NORSAR Array B 79.60 331 P **P** **23 48 07.3 -0.2**
comp=Z,5.5nm,0.8s,mb4.5,baz=92,slow=5.6,SNR=8.7
CLZ Clausthal 79.91 321 eP **P** **23 48 09.9 +0.5**
comp=Z,11nm,0.8s,mb4.8
TSUM Tsumeb 80.17 249 P **P** **23 48 10.1 -1.3**
DAVOX Davos 80.30 316 P **P** **23 48 11.9 +0.3**
comp=Z,12nm,0.8s,mb4.9
MUD Monsted U'grnd 80.59 326 iP **P** **23 48 13.9 +1.0**
MUD i 23 48 19.7
MUD pmax pmax
comp=Z,17nm,0.9s,mb5.0
MUD Monsted U'grnd 80.59 326 iP **P** **23 48 13.9 +1.0**
comp=Z,17nm,0.9s,mb5.0
MUD i 23 48 19.7
TNS Taunus Mts 81.15 320 eP **P** **23 48 16.6 +0.6**
BFO Black Forest 81.30 318 eP **P** **23 48 16.9 +0.1**
BFO pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BFO Black Forest 81.30 318 eP **P** **23 48 16.9 +0.1**
comp=Z,4.0nm,0.8s,mb4.4
LPG La Plagne 82.53 315 eP **P** **23 48 23.8 +0.6**
comp=Z,33nm,0.8s,mb5.1
LPG La Plagne 82.53 315 eP **P** **23 48 23.8 +0.6**
LPG pmax pmax
comp=Z,16nm,0.8s,mb5.1
SYO Syowa Base 85.62 197⇓ P **P** **23 48 39.5 +1.3**
SYO Syowa Base 85.62 197⇓ pP pP 23 48 50.0 +0.5
ESDC Sonseca Array 91.15 310 P **P** **23 49 06.5 +1.1**
comp=Z,2.4nm,0.7s,mb4.7,baz=62,slow=4.1,SNR=13
IMA Indian Mountai 91.41 22 eP **P** **23 49 08.1 +2.2**
IMA pmax pmax
comp=Z,43nm,0.9s,mb5.8
IMA Indian Mountai 91.41 22 eP **P** **23 49 08.1 +2.2**
comp=Z,43nm,0.9s,mb5.8
IMA e 23 49 45.9
MCK McKinley 94.25 23 eP **P** **23 49 17.9 -1.0**
MCK pmax pmax
comp=Z,8.0nm,1.4s,mb5.0
MCK McKinley 94.25 23 eP **P** **23 49 17.9 -1.0**
comp=Z,7.6nm,1.4s,mb4.9
ILAR Eielson Array 94.53 22 P **P** **23 49 20.3 +0.1**
comp=Z,0.7nm,1.0s,mb4.0,baz=268,slow=4.7,SNR=4.4
INK Inuvik 96.78 16 P **P** **23 49 31.6 +1.3**
comp=Z,4.7nm,1.1s,mb4.8,baz=285,slow=5.1,SNR=7.8
YKA Yellowknife Ar 106.22 13 PP PP 23 54 34.1 -5.7
comp=Z,0.4nm,0.7s,baz=334,slow=8.0,SNR=5.7
ULM Lac du Bonnet 121.26 8 PKP PKPdf 23 54 52.7 +0.7
comp=Z,2.3nm,0.9s,baz=15,slow=5.8,SNR=4.1
ULM Lac du Bonnet 121.26 8 PKP PKPdf 23 54 52.7 +0.7
NVAR Mina Array Bea 124.71 31 PKP PKPdf 23 55 02.9 +3.8
comp=Z,0.9nm,0.6s,baz=351,slow=2.1,SNR=2.4
PDAR Pinedale Array 124.95 21 PKP PKPdf 23 55 01.7 +2.3
comp=Z,1.2nm,0.8s,baz=69,slow=1.1,SNR=7.3
SADO Sadowa 127.06 354 PKP PKPdf 23 55 03.9 +0.4
comp=Z,2.3nm,0.5s,baz=189,slow=5.0,SNR=3.5
SADO Sadowa 127.06 354 PKP PKPdf 23 55 03.9 +0.4
ANMO Albuquerque 132.96 23 PKP PKPdf 23 55 16.2 +1.3
comp=Z,0.5nm,0.6s,baz=0.4,slow=6.0,SNR=3.6
TXAR Lajitas Array 139.01 24 PKP PKPdf 23 55 26.0 -0.2
comp=Z,0.4nm,0.6s,baz=346,slow=0.4,SNR=5.4
TXAR PP PP 23 58 17.1 -5.9
comp=Z,0.4nm,0.8s,baz=349,slow=4.6,SNR=3.7
TXAR SKPbc 23 59 00.9
comp=Z,0.6nm,0.8s,baz=297,slow=2.8,SNR=4.0
PLCA Paso Flores 144.76 200 PKP PKPdf 23 55 38.1 +2.1
comp=Z,7.3nm,1.2s,baz=184,slow=3.1,SNR=5.8
LPAZ La Paz 160.93 243 PKP PKPdf 23 56 02.2 +2.6
comp=Z,0.9nm,0.8s,baz=65,slow=5.2,SNR=3.6

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*IDC **29** 23:36:30.0±0.8, 7.89N×94.10E, mb4.4/18, mb1 4.5/18, mb1mx4.4/23, mbtmp4.4/18, Error ellipse: s-maj=40.3km s-min=18.4km az=43.0*
*NEIC **29** 23:36:35.0±0.5, 8.03N×94.29E, h30km, mb4.5/2, Error ellipse: s-maj=20.5km s-min=12.2km az=225.0*
ISC 29 23:36:33.4±0.7, 7.9N±0.2×94.2E±0.2, h33km, n26, σ0=84/22, mb4.4/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.12**	**13**	P	P		**P**	**23 44 16.5**	**+0.6**
	1.5nm,0.8s,mb3.7,baz=198,slow=9.1,SNR=2.7								
SONM				PcP	PcP			23 46 16.2	+0.5
	0.6nm,0.5s,baz=199,slow=3.7,SNR=4.2								
ZAL	**Zalesovo**	**46.52**	**352**	P			**P**	**23 45 00.1**	**+0.7**
	3.8nm,0.5s,mb4.6,baz=258,slow=8.2,SNR=3.4								
WRA	**Warramunga Arr**	**48.26**	**126**	P			**P**	**23 45 13.4**	**-0.1**
	5.9nm,1.0s,mb4.6,baz=306,slow=9.1,SNR=5.5								
BVAR	**Borovoye Array**	**48.97**	**341**	P			**P**	**23 45 17.3**	**-1.2**
	1.0nm,0.6s,mb4.0,baz=149,slow=8.6,SNR=2.9								
ASAR	**Alice Springs**	**49.91**	**130**	P			**P**	**23 45 25.9**	**-0.4**
	3.6nm,0.7s,mb4.5,baz=309,slow=7.8,SNR=7.8								
KMBO	**Kilima Mbogo**	**57.46**	**264**	P			**P**	**23 46 25.4**	**+3.5**
	7.3nm,0.2s,mb5.3,baz=54,slow=11,SNR=7.2								
ASF	**Jabal al Asfar**	**58.22**	**303**	P			**P**	**23 46 27.4**	**+0.4**
	2.8nm,0.9s,mb4.3,baz=35,slow=7.8,SNR=3.6								
EIL	**Elat**	**59.43**	**300**	P			**P**	**23 46 35.3**	**-0.2**
	2.3nm,0.5s,mb4.4,baz=307,slow=10,SNR=3.9								
BRTR	**Keskin Array B**	**62.43**	**311**	P			**P**	**23 46 54.0**	**-1.7**
	2.8nm,0.7s,mb4.5,baz=127,slow=7.5,SNR=5.5								
AKASG	**Malin Array Be**	**68.14**	**322**	P			**P**	**23 47 30.5**	**-1.7**
	2.6nm,0.7s,mb4.4,baz=86,slow=5.1,SNR=4.3								
IDI	**Anoyia**	**68.57**	**305**	P			**P**	**23 47 34.9**	**-0.2**
	6.2nm,0.5s,mb4.8,baz=116,slow=9.0,SNR=4.6								
FINES	**FINESS Array B**	**72.69**	**332**	P			**P**	**23 47 59.2**	**-0.3**
	2.4nm,0.7s,mb4.3,baz=103,slow=6.4,SNR=4.9								
ARCES	**ARCESS Array B**	**75.24**	**340**	P			**P**	**23 48 14.3**	**+0.1**
	3.0nm,0.7s,mb4.3,baz=117,slow=8.1,SNR=2.8								
ARCES	**ARCESS Array B**	**75.24**	**340**	P			**P**	**23 48 14.3**	**+0.1**
BRG	**Berggiesshubel**	**77.74**	**320**	iP			**P**	**23 48 29.4**	**+0.7**
	4.7nm,0.9s,mb4.4								
BRG				i				23 48 35.6	
GERES	**GERESS Array B**	**77.82**	**318**	P			**P**	**23 48 29.7**	**+0.5**
	4.1nm,0.8s,mb4.4,baz=81,slow=6.6,SNR=6.0								
CLL	**Collm**	**78.35**	**321**	P			**P**	**23 48 33.0**	**+0.9**
CLL				i *PP	pP			23 48 38.7	-3.7
HFS	**Hagfors**	**78.44**	**330**	P			**P**	**23 48 32.5**	**+0.1**
	3.1nm,0.5s,mb4.5,baz=108,slow=9.4,SNR=4.5								
NB2	**NORSAR Subarra**	**79.72**	**331**	P			**P**	**23 48 38.4**	**-0.9**
	2.8nm,0.6s,mb4.4,baz=92,slow=5.8								
NOA	**NORSAR Array B**	**79.72**	**331**	P			**P**	**23 48 39.0**	**-0.3**
	2.4nm,0.8s,mb4.2,baz=95,slow=5.1,SNR=3.0								
DAVOX	**Davos**	**80.39**	**316**	P			**P**	**23 48 43.8**	**+0.6**
	5.5nm,0.6s,mb4.6,baz=108,slow=18,SNR=2.8								
ESDC	**Sonseca Array**	**91.22**	**310**	P			**P**	**23 49 38.0**	**+1.2**
	0.8nm,0.5s,mb4.3,baz=67,slow=4.1,SNR=5.1								
ULM	**Lac du Bonnet**	**121.43**	**8**	PKP		PKPdf		23 55 25.2	+1.7
	1.8nm,0.6s,baz=89,slow=2.7,SNR=3.0								
PDAR	**Pinedale Array**	**125.12**	**21**	PKP		PKPdf		23 55 33.3	+2.4
	1.0nm,0.7s,baz=254,slow=0.1,SNR=4.6								
TXAR	**Lajitas Array**	**139.18**	**24**	PKP		PKPdf		23 55 59.8	+2.1
	0.5nm,0.6s,baz=353,slow=1.1,SNR=5.1								
PLCA	**Paso Flores**	**144.59**	**200**	PKP		PKPdf		23 56 08.4	+1.6
	6.5nm,0.8s,baz=125,slow=2.5,SNR=7.2								

IDC 29 23:44:20.2±4.7, 8.48N×94.55E, mb3.7/3, mb1 4.0/3,

mb1mx3.6/17, mbtmp3.7/3, Error ellipse: s-maj=172.6km s-min=31.8km az=65.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**40.49**	**12**	P	P	23 52 00.7	-1.6
	0.6nm,1.1s,baz=207,slow=6.4,SNR=3.5						
ZAL	**Zalesovo**	**46.01**	**352**	P	P	23 52 45.2	-1.9
	1.1nm,0.4s,baz=198,slow=6.8,SNR=4.8						
WRA	**Warramunga Arr**	**48.28**	**126**	P	P	23 53 03.4	-2.0
	0.6nm,0.6s,baz=306,slow=8.6,SNR=5.0						

*BJI **29** 23:44:57.7, 7.55N×93.67E, h20km, mB5.0, mb4.7, Ms4.6, Msz4.4*
*IDC **29** 23:44:59.0±0.5, 8.03N×94.30E, mb4.5/25, mb1 4.6/26, mb1mx4.5/29, mbtmp4.5/26, ML4.2/1, Error ellipse: s-maj=26.7km s-min=12.7km az=45.0*
*MOS **29** 23:45:02.7±1.2, 8.05N×94.35E, h33km, mb5.1/29, Error ellipse: s-maj=12.7km s-min=6.8km az=119.9*
*NEIC **29** 23:45:04.1±0.3, 8.14N×94.43E, h30km, mb4.8/30, Error ellipse: s-maj=10.1km s-min=6.6km az=39.0*
ISC 29 23:45:01.7±3.1, 8.04N±0.06×94.40E±0.06, h26km±21km, h17km±9km; pP-P, n136, σ1§24/129, mb4.7/58, MS4.6/1, 9C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.26**	**23**	Pn	P	23 47 45.7	+1.5
	0.5nm,0.3s,baz=214,slow=15,SNR=10.0						
PALK	**Pallekele**	**13.60**	**268**	P	P	23 48 15.7	+0.1
SHL	**Shillong**	**17.60**	**352**	*e*P	P	23 49 00.0	-6.9
SHL				*e*S	S	23 52 23.0	+3.2
HYB	**Hyderabad**	**18.03**	**303**	*e*P	P	23 49 12.0	-0.4
HYB				*e*S	S	23 52 27.0	-2.8
HYB	**Hyderabad**	**18.03**	**303**	*i* P	P	23 49 12.0	-0.4
HYB				*e*S	S	23 52 27.0	-2.8
KMI	**Kunming**	**18.76**	**24**	P	P	23 49 27.3	+6.0
	0.3nm,4.6s						
KMI				pP		23 49 31.9	
KMI				sP		23 49 35.0	
KMI				PP	PP	23 49 47.5	+10
KMI				S	S	23 53 06.4	+20
KMI				SS	SS	23 53 31.8	+21
XAN	**Xi'an**	**29.14**	**25**	P	P	23 51 04.0	+1.1
XAN				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.5						
LZH	**Lanzhou**	**29.22**	**16**	*e*P	P	23 51 07.8	+4.2
LZH				AMB	AMB		
	comp=Z,27nm,1.7s,mb4.7						
LZH				LR	LR		
	comp=E,596nm,10.6s						
LZH				LR	LR		
	comp=Z,893nm,12.3s,MS4.6						
LZH	**Lanzhou**	**29.22**	**16**	*e*P	P	23 51 07.7	+4.1
LZH				*SP	sP	23 51 17.5	+2.7
LZH				pmax	pmax		
	comp=Z,27nm,1.7s,mb4.7						
LZH				MLR	MLR		
	comp=Z,890nm,12.3s,MS4.6						
LZH	**Lanzhou**	**29.22**	**16**	*e*P	P	23 51 07.7	+4.1
	comp=Z,27nm,1.7s,mb4.7						
LZH				pP	pP	23 51 14.5	+3.1
LZH				sP	sP	23 51 17.5	+2.7
LZH				LR	LR		
	comp=Z,890nm,12.3s,MS4.6						
SSE	**Sheshan**	**33.93**	**44**	P	P	23 51 54.0	+9.0
SSE				AMB	AMB		
	comp=Z,32nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,168nm,6.2s						
BJI	**Beijing**	**37.34**	**28**	P	P	23 52 16.2	+2.4
BJI				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.2						
BJI	**Beijing**	**37.34**	**28**	P	P	23 52 16.2	+2.4
	comp=Z,7.0nm,1.6s,mb4.2						
SMDO	**Samad**	**37.93**	**297**	P	P	23 52 21.6	+2.6
	SNR=6.4						
BSY	**Bisya**	**38.59**	**297**	P	P	23 52 27.3	+2.8
	SNR=9.7						
AAK	**Ala-Archa**	**38.66**	**336**	*e*P	P	23 52 23.4	-1.4
AAK				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.7						
AAK	**Ala-Archa**	**38.66**	**336**	*e*P	P	23 52 23.4	-1.4
	comp=Z,19nm,1.2s,mb4.7						
HOQ	**Hoqain**	**38.73**	**298**	P	P	23 52 28.2	+2.5
	SNR=5.4						
SONM	**Songino Array**	**40.95**	**12**	P	P	23 52 43.2	-0.6
	comp=Z,2.1nm,0.7s,mb3.9,baz=198,slow=6.7,SNR=17						
SONM				PcP	PcP	23 54 44.3	-0.1
	comp=Z,1.2nm,0.7s,baz=207,slow=3.2,SNR=4.1						
ULN	**Ulaanbaatar**	**41.12**	**13**	*e*P	P	23 52 44.2	-0.9
ULN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1						
ULN	**Ulaanbaatar**	**41.12**	**13**	*e*P	P	23 52 44.2	-0.9
	comp=Z,5.4nm,1.1s,mb4.1						
ZAK	**Zakamensk**	**42.85**	**8**	*e*P	P	23 52 57.1	-2.2
ZAK				*e*		23 54 50.7	
TLY	**Talaya**	**44.17**	**8**	*i* P	P	23 53 10.0	0.0
KURK	**Kurchatov**	**44.52**	**346**	⇑*i*P	P	23 53 12.2	-0.6
KURK	**Kurchatov**	**44.52**	**346**	*e*P	P	23 53 11.4	-1.4
	comp=Z,25nm,1.2s,mb4.9						
NWAO	**Narrogin (SRO)**	**46.18**	**153**	P	P	23 53 25.8	-0.5
	comp=Z,14nm,1.2s,mb4.8,baz=328,slow=9.1,SNR=2.5						
ZAL	**Zalesovo**	**46.42**	**352**	P	P	23 53 27.1	-0.7
	comp=Z,2.3nm,0.7s,mb4.2,baz=302,slow=7.2,SNR=9.2						
NVS	**Novosibirsk**	**47.52**	**351**	*e*P	P	23 53 34.5	-2.1
WRA	**Warramunga Arr**	**48.15**	**126**	P	P	23 53 40.3	-1.7
	comp=Z,2.7nm,1.0s,mb4.2,baz=304,slow=9.4,SNR=9.4						
WRAB	**Tennant Creek**	**48.15**	**126**	P	P	23 53 42.8	+0.8
WRAB				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
WRAB	**Tennant Creek**	**48.15**	**126**	P	P	23 53 42.8	+0.8
	comp=Z,12nm,1.1s,mb4.8						
BVAR	**Borovoye Array**	**48.92**	**341**	P	P	23 53 45.5	-1.9
	comp=Z,3.6nm,0.9s,mb4.4,baz=146,slow=5.3,SNR=13						
BVAR				PcP	PcP	23 55 12.0	+0.2
	comp=Z,1.3nm,0.7s,baz=162,slow=4.7,SNR=4.2						
RAYN	**Ar Rayn**	**49.25**	**294**	P	P	23 53 51.8	+1.4
	comp=Z,193nm,0.6s,SNR=19						
CHKZ	**Chkalovo**	**49.40**	**342**	*e*P	P	23 53 49.4	-1.7
ASAR	**Alice Springs**	**49.83**	**130**	P	P	23 53 53.9	-0.9
	comp=Z,1.4nm,0.7s,mb4.1,baz=307,slow=7.3,SNR=9.7						
BOD	**Bodaibo**	**51.93**	**13**	*e*P	P	23 54 04.6	-5.7
GNI	**Garni**	**54.50**	**314**	P	P	23 54 28.2	-1.4
	comp=Z,3.9nm,0.7s,mb4.6,baz=358,slow=16,SNR=2.3						
PMG	**Port Moresby**	**55.34**	**107**	*e*P	P	23 54 36.0	-0.1
PMG				pmax	pmax		
	comp=Z,22nm,1.1s						
PMG	**Port Moresby**	**55.34**	**107**	P	P	23 54 36.0	-0.1
	comp=Z,6.2nm,0.8s,mb4.7,baz=275,slow=4.1,SNR=4.2						
PMG	**Port Moresby**	**55.34**	**107**	*e*P	P	23 54 36.0	-0.1
	comp=Z,22nm,1.1s,mb5.1						
SVE	**Sverdlovsk**	**55.34**	**338**	*e*P	P	23 54 32.0	-3.5
KIV	**Kislovodsk**	**57.37**	**318**	⇓*i*P	P	23 54 46.4	-3.8
KIV				*e*		23 55 47.4	
KIV				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
KMBO	**Kilima Mbogo**	**57.69**	**264**	*e*P	P	23 54 54.5	+1.6
KMBO				pmax	pmax		
	comp=Z,29nm,0.9s						
KMBO	**Kilima Mbogo**	**57.69**	**264**	P	P	23 54 54.9	+2.0
	comp=Z,17nm,0.7s,mb5.2,baz=59,slow=11,SNR=20						
KMBO	**Kilima Mbogo**	**57.69**	**264**	*e*P	P	23 54 54.5	+1.6
	comp=Z,29nm,0.9s,mb5.3						
ASF	**Jabal al Asfar**	**58.34**	**303**	P	P	23 54 57.2	0.0
	comp=Z,2.3nm,0.7s,mb4.3,baz=328,slow=5.7,SNR=5.4						
EIL	**Elat**	**59.57**	**300**	P	P	23 55 05.4	-0.3
	comp=Z,5.8nm,0.7s,mb4.8,baz=98,slow=6.3,SNR=8.4						
YAK	**Yakutsk**	**59.76**	**18**	*e*P	P	23 55 11.1	+4.5
YAK				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
STKA	**Stephens Creek**	**60.03**	**134**	P	P	23 55 07.7	-1.2
	comp=Z,3.1nm,1.1s,mb4.3,baz=331,slow=14,SNR=3.1						
STKA	**Stephens Creek**	**60.03**	**134**	*e*P	P	23 55 07.6	-1.3
BRTR	**Keskin Array B**	**62.52**	**311**	P	P	23 55 22.7	-2.8
	comp=Z,11nm,1.1s,mb4.9,baz=128,slow=7.4,SNR=27						
MBAR	**Mbarara**	**64.03**	**265**	*e*P	P	23 55 35.7	-0.3
MBAR				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
MBAR	**Mbarara**	**64.03**	**265**	*e*P	P	23 55 35.7	-0.3
	comp=Z,11nm,1.1s,mb4.8						
OBN	**Obninsk**	**65.38**	**328**	⇓*i*P	P	23 55 39.2	-4.8
OBN				pmax	pmax		
	comp=Z,61nm,2.3s,mb5.2						
MA2	**Magadan**	**66.50**	**28**	*e*P	P	23 55 58.0	+6.9
MA2				pmax	pmax		
	comp=Z,19nm,1.7s,mb4.8						
TIXI	**Tiksi**	**67.02**	**11**	*e*P	P	23 55 52.1	-2.2
TIXI				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
AKASG	**Malin Array Be**	**68.18**	**322**	P	P	23 55 59.1	-2.8
	comp=Z,3.6nm,0.6s,mb4.5,baz=89,slow=4.8,SNR=16						
IDI	**Anoyia**	**68.68**	**305**	P	P	23 56 04.4	-0.9
	comp=Z,10nm,0.6s,mb5.0,baz=96,slow=12,SNR=8.1						
MLR	**Muntele Rosu**	**69.23**	**316**	P	P	23 56 06.8	-1.6
	comp=Z,8.0nm,0.8s,mb4.7,baz=129,slow=3.8,SNR=5.4						
LSZ	**Lusaka**	**69.56**	**250**	*e*P	P	23 56 11.9	+1.0
LSZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
LSZ	**Lusaka**	**69.56**	**250**	*e*P	P	23 56 11.8	+0.9
	comp=Z,4.5nm,0.6s,mb4.6						
KWP	**Kalwaria**	**72.07**	**320**	*e*P	P	23 56 25.6	0.0
SUW	**Suwalki**	**72.52**	**324**	*e*P	P	23 56 26.4	-1.7
	comp=Z,43nm,1.0s,mb5.3						
SUW	**Suwalki**	**72.52**	**324**	*e*P	P	23 56 27.5	-0.6
FINES	**FINESS Array B**	**72.69**	**332**	P	P	23 56 28.0	-0.9
	comp=Z,3.0nm,0.6s,mb4.4,baz=95,slow=6.3,SNR=16						
KAF	**Kangasniemi**	**72.76**	**333**	*e*p	P	23 56 25.5	-3.9
	comp=Z,5.7nm,0.7s,mb4.6						
KAF	**Kangasniemi**	**72.76**	**333**	*e*P	P	23 56 25.5	-3.9
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
NIE	**Niedzica**	**73.59**	**319**	*e*P	P	23 56 35.3	+0.8
OJC	**Ojcow**	**74.01**	**320**	*e*P	P	23 56 36.9	0.0
OKC	**Ostrava-Krasne**	**75.03**	**319**	*e*P	P	23 56 42.8	0.0
ARCES	**ARCESS Array B**	**75.20**	**340**	P	P	23 56 43.9	+0.5
	comp=Z,45nm,1.3s,mb5.2,baz=82,slow=5.8,SNR=7.6						
MORC	**Moravsky Berou**	**75.42**	**319**	*e*P	P	23 56 44.4	-0.6
MORC				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
MORC	**Moravsky Berou**	**75.42**	**319**	*e*P	P	23 56 44.4	-0.6
	comp=Z,17nm,1.1s,mb4.9						
BILL	**Bilibino**	**75.84**	**22**	*e*P	P	23 56 52.2	+5.1
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
DPC	**Dobruska-Polom**	**76.25**	**320**	*e*P	P	23 56 50.2	+0.5
DPC				*e*pP	pP	23 56 55.8	-2.2
KSP	**Ksiaz**	**76.30**	**320**	*e*P	P	23 56 50.7	+0.7
UPC	**Upice**	**76.45**	**320**	*e*P	P	23 56 51.3	+0.4
PRU	**Pruhonice**	**77.37**	**319**	*e*P	P	23 56 56.4	+0.5
PRU				*e*pP	pP	23 57 02.1	-2.2
PVCC	**Panska Ves**	**77.38**	**320**	*e*P	P	23 56 56.3	+0.3
PVCC				*e*pP	pP	23 57 01.9	-2.4
BRG	**Berggiesshubel**	**77.79**	**320**	*i* P	P	23 56 58.9	+0.7
BRG				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
BRG	**Berggiesshubel**	**77.79**	**320**	*i* P	P	23 56 58.9	+0.7
	comp=Z,7.0nm,0.9s,mb4.6						
GEC2	**GERESS Array S**	**77.87**	**318**	*e*P	P	23 56 59.6	+0.9
GEC2				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
GEC2	**GERESS Array S**	**77.87**	**318**	*e*P	P	23 56 59.6	+0.9
	comp=Z,8.0nm,0.8s,mb4.7						
GERES	**GERESS Array B**	**77.87**	**318**	P	P	23 56 57.5	-1.2
	comp=Z,6.4nm,0.7s,mb4.7,baz=93,slow=5.1,SNR=45						
KHC	**Kasperske Hory**	**77.96**	**318**	*e*P	P	23 56 59.6	+0.4
KHC				*e*pP	pP	23 57 04.5	-3.1
CLL	**Collm**	**78.40**	**321**	*i* P	P	23 57 02.0	+0.5
CLL				*i*		23 57 07.4	
CLL				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8						
CLL	**Collm**	**78.40**	**321**	*i* P	P	23 57 02.0	+0.5
	comp=Z,20nm,1.4s,mb4.8						
CLL				*i*		23 57 07.4	
CLL	**Collm**	**78.40**	**321**	P	P	23 57 02.0	+0.5
	comp=Z,logA/T=1.2,mb4.9						
CLL				*i* *PP	pP	23 57 07.4	-2.5
CLL				*e*		23 57 13.0	
WET	**Wettzell**	**78.42**	**318**	*e*P	P	23 57 02.6	+0.9
WET				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
WET	**Wettzell**	**78.42**	**318**	*e*P	P	23 57 02.6	+0.9
	comp=Z,6.0nm,1.0s,mb4.5						
HFS	**Hagfors**	**78.44**	**330**	P	P	23 57 01.6	0.0
	comp=Z,4.2nm,0.4s,mb4.7,baz=104,slow=6.1,SNR=15						
NKC	**Novy Kostel**	**78.72**	**320**	*e*P	P	23 57 03.6	+0.2
WTTA	**Wattenberg**	**79.24**	**317**	⇑*i*P	P	23 57 06.2	-0.1
	comp=Z,22nm,1.3s,mb4.9						
WTTA	**Wattenberg**	**79.24**	**317**	⇑*i*P	P	23 57 06.2	-0.1
WTTA				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.9						
MOX	**Moxa**	**79.26**	**320**	*e*P	P	23 57 03.5	-2.8
MOX				pmax	pmax		
	comp=Z,28nm,2.0s,mb4.8						
MOX	**Moxa**	**79.26**	**320**	*e*P	P	23 57 03.5	-2.8
	comp=Z,28nm,2.0s,mb4.8						
MOX	**Moxa**	**79.26**	**320**	*i* P	P	23 57 03.5	-2.8
	comp=Z,logA/T=1.1,mb4.8						
WATA	**Walderalm**	**79.28**	**317**	⇑*i*P	P	23 57 06.1	-0.4
	comp=Z,8.0nm,1.1s,mb4.6						
WATA	**Walderalm**	**79.28**	**317**	⇑*i*P	P	23 57 06.1	-0.4
WATA				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
FUR	**Furstenfeldbru**	**79.48**	**317**	*e*P	P	23 57 07.0	-0.5
GRA1	**Grafenberg Arr**	**79.51**	**319**	*e*P	P	23 57 09.0	+1.3
	comp=Z,8.0nm,0.9s,mb4.7						
GRA1				*e*pP	pP	23 57 13.7	-2.4
GRF	**Grafenberg Arr**	**79.51**	**319**	*e*P	P	23 57 09.0	+1.3
GRF				*e**PP	pP	23 57 13.7	-2.4
GRF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
GRF	**Grafenberg Arr**	**79.51**	**319**	*e*P	P	23 57 09.0	+1.3
GRF				*e**PP	pP	23 57 13.7	-2.4
GRF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
GRF	**Grafenberg Arr**	**79.51**	**319**	*e*P	P	23 57 09.0	+1.3
	comp=Z,8.0nm,0.9s,mb4.7						
GRF				*e*pP	pP	23 57 13.7	-2.4
SQTA	**Sankt Quirin**	**79.53**	**317**	⇑*i*P	P	23 57 07.9	+0.1
	comp=Z,9.8nm,1.0s,mb4.7						
SQTA	**Sankt Quirin**	**79.53**	**317**	⇑*i*P	P	23 57 07.9	+0.1
SQTA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
MOTA	**Moosalm**	**79.60**	**317**	⇑*i*P	P	23 57 08.1	-0.1
	comp=Z,6.9nm,1.1s,mb4.5						
MOTA	**Moosalm**	**79.60**	**317**	⇑*i*P	P	23 57 08.1	-0.1
MOTA				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
NB2	**NORSAR Subarra**	**79.71**	**331**	P	P	23 57 08.2	-0.3
	comp=Z,7.8nm,0.9s,mb4.6,baz=92,slow=5.6						
NB2	**NORSAR Subarra**	**79.71**	**331**	P	P	23 57 08.2	-0.3
NB2				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
NOA	**NORSAR Array B**	**79.71**	**331**	P	P	23 57 08.3	-0.2
	comp=Z,5.5nm,0.8s,mb4.5,baz=94,slow=5.1,SNR=8.6						
CLZ	**Clausthal**	**80.04**	**321**	*e*P	P	23 57 11.5	+1.0
	comp=Z,9.0nm,0.8s,mb4.8						
DAVA	**Damuels**	**80.44**	**321**	⇓*i*P	P	23 57 13.2	+0.5
	comp=Z,17nm,1.2s,mb4.9						
DAVOX	**Davos**	**80.45**	**316**	P	P	23 57 13.3	+0.6
	comp=Z,8.7nm,0.7s,mb4.8,baz=114,slow=6.1,SNR=12						
DAVOX	**Davos**	**80.45**	**316**	P	P	23 57 13.3	+0.6
SUR	**Sutherland**	**80.63**	**235**	*e*P	P	23 57 16.7	+2.7
	comp=Z,2.8nm,0.6s,mb4.4						
TNS	**Taunus Mts**	**81.29**	**320**	*e*P	P	23 57 18.2	+1.1
BFO	**Black Forest**	**81.44**	**318**	*e*P	P	23 57 18.4	+0.5
BFO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BFO	**Black Forest**	**81.44**	**318**	*e*P	P	23 57 18.4	+0.5
	comp=Z,4.0nm,0.8s,mb4.4						
LPG	**La Plagne**	**82.68**	**315**	*e*P	P	23 57 24.3	-0.1
	comp=Z,22nm,0.7s,mb5.0						
LPG	**La Plagne**	**82.68**	**315**	*e*P	P	23 57 24.3	-0.1
LPG				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
ESDC	**Sonseca Array**	**91.31**	**310**	P	P	23 58 06.7	+0.2
	comp=Z,1.6nm,0.6s,mb4.5,baz=60,slow=4.2,SNR=13						
IMA	**Indian Mountai**	**91.38**	**22**	*e*P	P	23 58 09.0	+2.8
ILAR	**Eielson Array**	**94.50**	**22**	P	P	23 58 21.8	+1.2
	comp=Z,0.4nm,0.8s,mb3.9,baz=286,slow=4.0,SNR=4.2						
INK	**Inuvik**	**96.77**	**16**	P	P	23 58 32.0	+1.1
	comp=Z,2.7nm,1.1s,mb4.6,baz=292,slow=5.4,SNR=4.9						
ULM	**Lac du Bonnet**	**121.27**	**8**	PKP	PKPdf	00 03 54.4	-2.9
	comp=Z,3.1nm,0.9s,baz=124,slow=6.2,SNR=4.2						
ULM	**Lac du Bonnet**	**121.27**	**8**	PKP	PKPdf	00 03 54.4	-2.9
NVAR	**Mina Array Bea**	**124.65**	**31**	PKP	PKPdf	00 04 03.1	-1.1
	comp=Z,0.4nm,0.4s,baz=310,slow=0.5,SNR=4.3						
PDAR	**Pinedale Array**	**124.92**	**21**	PKP	PKPdf	00 04 02.6	-2.0
	comp=Z,0.9nm,0.7s,baz=1.5,slow=2.1,SNR=8.8						
SADO	**Sadowa**	**127.12**	**354**	PKP	PKPdf	00 04 06.3	-2.5
	comp=Z,1.7nm,0.8s,baz=345,slow=22,SNR=2.9						
ANMO	**Albuquerque**	**132.92**	**24**	PKP	PKPdf	00 04 17.9	-2.2
	comp=Z,0.5nm,0.4s,baz=332,slow=8.2,SNR=2.7						
ANMO	**Albuquerque**	**132.92**	**24**	PKP	PKPdf	00 04 17.9	-2.2
TXAR	**Lajitas Array**	**138.97**	**24**	PKP	PKPdf	00 04 29.6	-1.9
	comp=Z,0.5nm,0.6s,baz=114,slow=1.3,SNR=5.4						
PLCA	**Paso Flores**	**144.79**	**200**	PKP	PKPdf	00 04 37.7	-3.6
	comp=Z,6.7nm,0.9s,baz=176,slow=3.1,SNR=10.0						
PLCA	**Paso Flores**	**144.79**	**200**	PKP	PKPdf	00 04 37.7	-3.6
LPAZ	**La Paz**	**161.07**	**243**	PKP	PKPdf	00 05 03.8	-1.2
	comp=Z,1.9nm,1.1s,baz=84,slow=7.9,SNR=4.2						
LPAZ				PKPab	PKPab	00 05 45.8	0.0
	comp=Z,1.5nm,0.8s,baz=75,slow=4.8,SNR=8.6						

*IDC **29** 23:45:52.2±6.5, 27.80N×53.10E, mb3.6/5, mb1 3.8/5, mb1mx3.5/21, mbtmp3.7/5, MS3.8/1, Ms1 3.8/1, ms1mx3.0/30, Error ellipse: s-maj=129.7km s-min=48.3km az=178.0*
*THR **29** 23:45:53.9±0.7, 27.85N×53.00E, h23km±7km, ML3.3*
*CSEM **29** 23:45:54.5±0.2, 27.87N×53.05E, h20km, ML3.3, Error ellipse: s-maj=7.6km s-min=2.3km az=66.0*
*TEH **29** 23:45:56.4, 27.85N×52.97E, h16km, Mn3.3*
*OMAN **29** 23:46:00.6±0.2, 27.65N×53.15E, h20km, Error ellipse: s-maj=19.8km s-min=5.1km az=237.0*
ISC 29 23:45:54.6±1.3, 27.85N±0.05×53.0E±0.1, h24km±9km, n32, σ1§05/36, mb3.6/4, MS3.7/1, 7C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.44**	**3**	*i* PG	Pb	23 46 03.2	-0.5
GHIR				*e*SG	Sb	23 46 09.4	-0.4
GHIR				AML	AML	23 46 18.1	
	comp=N,3μm,0.4s						
GHIR	**Ghir-Karzin**	**0.44**	**3**	*i* Pg	Pb	23 46 03.2	-0.5
	SNR=108						
GHIR				*e*Sg	Sb	23 46 09.4	-0.4
	comp=N,3μm,0.4s,SNR=108						
IMOK	**Mook**	**1.21**	**350**	Pg	Pn	23 46 18.4	+2.2
ISRV	**Sarvestan**	**1.53**	**5**	Pn	Pn	23 46 23.4	+2.6
BNDS	**Bandar-Abbas**	**2.88**	**98**	*e*PN	Pn	23 46 40.1	0.0
BNDS				AML	AML	23 47 38.1	
	comp=N,93nm,0.7s						
BANOM	**Banah**	**3.54**	**122**	⇑P	Pn	23 46 50.6	+1.1
	SNR=18						
IMEH	**Mehriz**	**3.81**	**22**	Pn	Pn	23 46 54.2	+0.9
KRBR	**Kerman**	**3.95**	**57**	*e*PN	Pn	23 46 55.5	+0.2
KRBR				AML	AML	23 48 05.8	
	comp=N,44nm,0.4s						
ISAD	**Sadrabad**	**4.10**	**9**	Pn	Pn	23 46 58.1	+0.7
IBRJ	**Borojen**	**4.17**	**340**	Pn	Pn	23 47 03.2	+4.8
ASHO	**Ashiyiah**	**4.20**	**138**	⇑P	Pn	23 47 00.3	+1.4
	SNR=5.2						
ASHO				⇑S	Sn	23 47 46.9	-0.9
IBAF	**Bafgh**	**4.36**	**31**	Pn	Pn	23 47 00.7	-0.4
ICHK	**Chekchek**	**4.56**	**16**	Pn	Pn	23 47 04.3	+0.4
NASN	**Na'in**	**4.94**	**359**	*e*PN	Pn	23 47 09.5	+0.2
ARQ	**Araqi**	**5.52**	**144**	⇑P	Pn	23 47 18.3	+0.7
	SNR=6.8						
ARQ				⇑S	Sn	23 48 19.0	-2.0
HOQ	**Hoqain**	**5.78**	**136**	⇑P	Pn	23 47 22.1	+0.9
BIDO	**Bidbid**	**6.35**	**132**	⇑P	Pn	23 47 28.2	-0.9
BSY	**Bisya**	**6.37**	**142**	P	Pn	23 47 30.0	+0.6
	SNR=8.1						
BSY				⇓S	Sn	23 48 38.4	-3.7
BSYO	**Bisya**	**6.40**	**142**	P	Pn	23 47 30.0	+0.1
	SNR=8.1						
BSYO				S	Sn	23 48 38.4	-4.5
SMDO	**Samad**	**6.62**	**135**	⇓P	Pn	23 47 33.1	+0.1
	SNR=11						
IVRN	**Varamin**	**7.20**	**352**	Lg		23 49 40.7	
IVRN	**Varamin**	**7.20**	**352**	Pn	Pn	23 47 39.6	-1.6
IDMV	**Damavand**	**7.75**	**354**	Pn	Pn	23 47 47.8	-1.0
DAMV	**Damavand**	**7.80**	**354**	*e*PN	Pn	23 47 48.2	-1.3
DAMV	**Damavand**	**7.80**	**354**	*e*Pn	Pn	23 47 48.2	-1.4
	SNR=54						
IAFJ	**Afjeh**	**8.05**	**353**	Pn	P	23 47 50.9	-2.1
BRTR	**Keskin Array B**	**19.91**	**311**	P	P	23 50 27.3	-0.1
	comp=N,0.5nm,0

EDC	**Edincik**	**2.34**	**21**	*e*PN	**Pn**	**23 51 12.9**	**-0.5**
BNT	**Bandirma**	**2.37**	**22**	*e*PN	**Pn**	**23 51 13.8**	**0.0**
KCT	**Karacabey**	**2.44**	**30**	*e*PN	**Pn**	**23 51 14.1**	**-0.7**
ORLT	**Orhaneli**	**2.52**	**41**	*e*PN	**Pn**	**23 51 15.5**	**-0.4**
ULDT	**Uludag**	**2.71**	**43**	*i* P	**Pn**	**23 51 24.8**	**+6.2**
ULDT				*i* S	**Sn**	**23 51 60.0**	**+8.1**
ALT	**Altintas**	**2.78**	**70**	*e*PN	**Pn**	**23 51 18.9**	**-0.8**
ESKT	**Eskisehir**	**3.48**	**66**	*e*PN	**Pn**	**23 51 29.5**	**-0.1**

*IDC **29** 23:58:35.1±6.1, 8.23N×93.75E, mb3.9/9, mb1 4.0/10, mb1mx3.8/20, mbtmp3.9/10, Error ellipse: s-maj=150.2km s-min=39.8km az=140.0*

ISC 29 23:58:40.7±5.0, 8.6N±0.7×93.6E±0.5, h33km, n10, σ0°38/10, mb3.9/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.09**	**27**	Pn	**P**	**00 01 20.1**	**0.0**
baz=222,slow=13,SNR=3.7							
SONM	**Songino Array**	**40.59**	**13**	P	**P**	**00 06 18.5**	**-0.3**
0.7nm,0.9s,mb3.3,baz=204,slow=9.3,SNR=4.8							
ZAL	**Zalesovo**	**45.78**	**353**	P	**P**	**00 07 01.2**	**+0.3**
0.9nm,0.9s,mb3.7,baz=349,slow=4.1,SNR=3.9							
BVAR	**Borovoye Array**	**48.16**	**341**	P	**P**	**00 07 19.7**	**+0.1**
0.3nm,0.4s,mb3.7,baz=135,slow=2.0,SNR=4.5							
BRTR	**Keskin Array B**	**61.59**	**311**	P	**P**	**00 08 56.6**	**-0.7**
0.8nm,0.7s,mb4.0,baz=123,slow=7.4,SNR=5.5							
FINES	**FINESS Array B**	**71.85**	**332**	P	**P**	**00 10 01.8**	**-0.1**
1.3nm,0.6s,mb4.0,baz=107,slow=4.7,SNR=10							
ARCES	**ARCESS Array B**	**74.43**	**340**	P	**P**	**00 10 16.9**	**+0.1**
8.7nm,1.1s,mb4.6,baz=96,slow=8.2,SNR=4.3							
GERES	**GERESS Array B**	**76.96**	**318**	P	**P**	**00 10 32.5**	**+0.8**
1.1nm,0.7s,mb3.9,baz=90,slow=5.3,SNR=12							
HFS	**Hagfors**	**77.59**	**330**	P	**P**	**00 10 34.6**	**-0.4**
1.5nm,0.5s,mb4.2,baz=90,slow=3.0,SNR=9.7							
ESDC	**Sonseca Array**	**90.38**	**310**	P	**P**	**00 11 40.3**	**+0.1**
0.3nm,0.4s,mb3.9,baz=60,slow=4.3,SNR=4.0							

*IDC **29** 23:58:53.2±0.4, 8.02N×94.10E, mb4.6/27, mb1 4.6/28, mb1mx4.6/30, mbtmp4.5/28, ML4.2/1, MS3.1/1, Ms1 3.3/1, ms1mx2.6/27, Error ellipse: s-maj=22.5km s-min=11.2km az=50.0*

*BJI **29** 23:58:54.4, 7.61N×93.91E, h44km, mB5.2, mb4.6, Ms4.3, Msz4.2*

*NEIC **29** 23:58:56.3±0.2, 8.01N×94.14E, mb4.8/33, Error ellipse: s-maj=6.5km s-min=5.2km az=54.0*

*MOS **29** 23:58:57.0±1.0, 8.14N×94.16E, h33km, mb5.0/28, Error ellipse: s-maj=11.1km s-min=6.3km az=114.4*

ISC 29 23:58:54.4±0.3, 8.07N±0.05×94.21E±0.06, h19km, h19km±.7km: pP-P, n145, σ0°92/133, mb4.7/63, MS4.6/1, 7C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.30**	**24**	P	**P**	**00 01 37.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**11.30**	**24**	Pn	**P**	**00 01 40.0**	**+1.8**
0.5nm,0.3s,baz=208,slow=14,SNR=12							
CMAR				LR	LR	00 06 13.6	
comp=Z,94nm,19.1s,baz=230,slow=39							
SHL	**Shillong**	**17.54**	**353**	*e*P	**P**	**00 02 59.0**	**-0.7**
SHL				*e*S	**S**	**00 06 16.0**	**+3.5**
HYB	**Hyderabad**	**17.86**	**303**	*e*P	**P**	**00 03 04.0**	**+0.3**
KMI	**Kunming**	**18.81**	**25**	P	**P**	**00 03 19.7**	**+4.3**
KMI				pmax	pmax		
comp=Z,11nm,1.4s							
KMI	**Kunming**	**18.81**	**25**	P	**P**	**00 03 19.7**	**+4.3**
comp=Z,11nm,1.4s							
KMI				pP		00 03 25.5	
JIRN	**Jiri**	**20.91**	**340**	*e*P	**P**	**00 03 38.9**	**+0.5**
comp=Z,85nm,1.0s							
PKI	**Pulchoki**	**21.11**	**338**	*e*P	**P**	**00 03 40.4**	**0.0**
comp=Z,80nm,1.0s,mb5.0							
DMN	**Daman**	**21.25**	**337**	*e*P	**P**	**00 03 41.4**	**-0.5**
comp=Z,92nm,0.9s,mb5.1							
KKN	**Kakani**	**21.35**	**338**	*e*P	**P**	**00 03 42.8**	**-0.1**
comp=Z,73nm,0.9s,mb5.0							
LSA	**Lhasa**	**21.71**	**353**	P	**P**	**00 03 47.3**	**+0.9**
GKN	**Gorkha**	**21.79**	**337**	*e*P	**P**	**00 03 46.0**	**-1.3**
comp=Z,94nm,0.9s,mb5.2							
KOLN	**Koldanda**	**22.01**	**334**	*e*P	**P**	**00 03 48.3**	**-1.2**
comp=Z,65nm,0.8s,mb5.1							
XAN	**Xi'an**	**29.19**	**26**	P	**P**	**00 04 57.0**	**0.0**
XAN				AMB	AMB		
comp=Z,11nm,1.0s,mb4.5							
LZH	**Lanzhou**	**29.24**	**16**	*e*P	**P**	**00 04 58.5**	**+1.0**
LZH				AMB	AMB		
comp=Z,24nm,1.5s,mb4.7							
LZH				LR	LR		
comp=E,845nm,13.1s							
LZH				LR	LR		
comp=Z,993nm,14.5s,MS4.6							
LZH	**Lanzhou**	**29.24**	**16**	*e*P	**P**	**00 04 58.6**	**+1.1**
LZH				*SP	sP	00 05 08.0	+2.4
LZH				pmax	pmax		
comp=Z,24nm,1.5s,mb4.7							
LZH				MLR	MLR		
comp=Z,990nm,14.5s,MS4.6							
LZH	**Lanzhou**	**29.24**	**16**	*e*P	**P**	**00 04 58.6**	**+1.1**
comp=Z,24nm,1.5s,mb4.7							
LZH				pP	pP	00 05 05.4	+2.3
LZH				sP	sP	00 05 08.0	+2.4
LZH				LR	LR		
comp=Z,990nm,14.5s,MS4.6							
BJI	**Beijing**	**37.40**	**28**	*e*P	**P**	**00 06 10.7**	**+2.6**
BJI				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.6							
BJI	**Beijing**	**37.40**	**28**	*e*P	**P**	**00 06 10.7**	**+2.6**
comp=Z,9.0nm,0.9s,mb4.6							
MBWA	**Marble Bar**	**38.37**	**140**	P	**P**	**00 06 15.3**	**-1.1**
comp=Z,43nm,1.6s,mb4.9							
AAK	**Ala-Archa**	**38.55**	**336**	*e*P	**P**	**00 06 17.5**	**-0.2**
AAK				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.4							
AAK	**Ala-Archa**	**38.55**	**336**	*e*P	**P**	**00 06 17.5**	**-0.2**
comp=Z,8.2nm,1.0s,mb4.4							
MKAR	**Makanchi Array**	**39.91**	**347**	*i* P	**P**	**00 06 28.7**	**-0.3**
MKAR				pmax	pmax		
comp=Z,4.0nm,0.7s							
SONM	**Songino Array**	**40.96**	**13**	P	**P**	**00 06 38.7**	**+1.1**
comp=Z,3.4nm,0.9s,mb4.0,baz=198,slow=8.9,SNR=18							
SONM				PcP	PcP	00 08 38.9	+0.6
comp=Z,1.8nm,0.8s,baz=197,slow=3.8,SNR=8.7							
ZAK	**Zakamensk**	**42.85**	**9**	⇓*i* P	**P**	**00 06 53.8**	**+0.8**
ZAK				*e*		00 08 42.4	
KURK	**Kurchatov**	**44.44**	**346**	*e*P	**P**	**00 07 06.0**	**+0.1**
KURK				pmax	pmax		
comp=Z,23nm,1.1s,mb4.8							
KURK	**Kurchatov**	**44.44**	**346**	*e*P	**P**	**00 07 06.0**	**0.0**
comp=Z,23nm,1.1s,mb4.8							
NWAO	**Narrogin (SRO)**	**46.29**	**153**	P	**P**	**00 07 21.5**	**+0.6**
comp=Z,7.1nm,0.7s,mb4.7,baz=344,slow=6.2,SNR=5.9							
ZAL	**Zalesovo**	**46.36**	**352**	P	**P**	**00 07 22.1**	**+0.9**
comp=Z,4.8nm,0.9s,mb4.4,baz=297,slow=8.4,SNR=20							
NVS	**Novosibirsk**	**47.46**	**351**	⇑*i* P	**P**	**00 07 27.9**	**-1.9**
NVS				pmax	pmax		
comp=Z,11nm,1.0s,mb4.7							
NVS				pmax	pmax		
comp=N,8.0nm,1.0s							
NVS				pmax	pmax		
comp=E,3.0nm,0.8s							
WRA	**Warramunga Arr**	**48.32**	**126**	P	**P**	**00 07 36.4**	**-0.7**
comp=E,3.2nm,0.9s,mb4.4,baz=306,slow=9.1,SNR=17							
WRA				PcP	PcP	00 09 03.5	-0.6
comp=E,1.0nm,0.8s,baz=315,slow=2.5,SNR=4.0							
WB2	**Warramunga Arr**	**48.33**	**126**	*e*P	**P**	**00 07 36.2**	**-0.9**
BVA0	**Borovoye Array**	**48.82**	**341**	*i* P	**P**	**00 07 39.4**	**-1.0**
BVA0				pmax	pmax		
comp=Z,1.0nm,1.1s,mb3.8							
BVAR	**Borovoye Array**	**48.82**	**341**	P	**P**	**00 07 39.9**	**-0.5**
comp=Z,1.8nm,0.6s,mb4.3,baz=143,slow=7.4,SNR=12							
BVAR				PcP	PcP	00 09 05.2	-0.2
comp=Z,1.4nm,0.7s,baz=180,slow=4.3,SNR=4.3							
BRVK	**Borovoye**	**48.88**	**341**	*e*P	**P**	**00 07 40.0**	**-0.9**
BRVK				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.6							
BRVK	**Borovoye**	**48.88**	**341**	*e*P	**P**	**00 07 40.0**	**-0.9**
comp=Z,6.4nm,1.0s,mb4.6							
CHKZ	**Chkalovo**	**49.31**	**342**	*e*P	**P**	**00 07 43.9**	**-0.3**
CHKZ				pmax	pmax		
comp=Z,18nm,0.9s,mb5.1							
CHKZ	**Chkalovo**	**49.31**	**342**	*e*P	**P**	**00 07 43.9**	**-0.2**
comp=Z,18nm,0.9s,mb5.1							
ASAR	**Alice Springs**	**49.99**	**130**	P	**P**	**00 07 49.0**	**-0.9**
comp=Z,2.3nm,0.7s,mb4.3,baz=302,slow=7.3,SNR=18							
ASAR				PcP	PcP	00 09 09.8	-0.3
comp=Z,1.3nm,0.8s,baz=309,slow=5.4,SNR=5.2							
BOD	**Bodaibo**	**51.94**	**13**	*e*P	**P**	**00 08 02.8**	**-1.4**
GNI	**Garni**	**54.34**	**314**	P	**P**	**00 08 21.0**	**-1.2**
comp=Z,3.0nm,0.7s,mb4.4,baz=331,slow=9.4,SNR=2.8							
PMG	**Port Moresby**	**55.53**	**107**	P	**P**	**00 08 32.4**	**+1.2**
comp=Z,9.0nm,0.7s,mb4.9,baz=298,slow=11,SNR=5.2							
ARU	**Arti**	**55.73**	**337**	*e*P	**P**	**00 08 25.0**	**-7.1**
ARU				pmax	pmax		
comp=Z,15nm,1.3s,mb4.9							
ARU	**Arti**	**55.73**	**337**	*e*P	**P**	**00 08 25.0**	**-7.2**
comp=Z,15nm,1.3s,mb4.9							
KIV	**Kislovodsk**	**57.22**	**318**	*e*P	**P**	**00 08 41.9**	**-1.0**
KIV	**Kislovodsk**	**57.22**	**318**	*e*P	**P**	**00 08 41.9**	**-1.0**
KMBO	**Kilima Mbogo**	**57.51**	**264**	*e*P	**P**	**00 08 47.9**	**+2.5**
KMBO				pmax	pmax		
comp=Z,14nm,0.9s							
KMBO	**Kilima Mbogo**	**57.51**	**264**	P	**P**	**00 08 47.9**	**+2.5**
comp=Z,13nm,0.7s,mb5.1,baz=61,slow=11,SNR=14							
KMBO	**Kilima Mbogo**	**57.51**	**264**	*e*P	**P**	**00 08 47.9**	**+2.5**
comp=Z,14nm,0.9s,mb5.0							
ASF	**Jabal al Asfar**	**58.16**	**303**	P	**P**	**00 08 49.9**	**+0.2**
comp=Z,3.9nm,0.9s,mb4.4,baz=322,slow=4.2,SNR=5.4							
MALT	**Malatya**	**58.38**	**310**	*e*P	**P**	**00 08 50.0**	**-1.2**
MALT				*e*	pP	00 08 55.7	-1.4
EIL	**Elat**	**59.38**	**300**	P	**P**	**00 08 58.8**	**+0.5**
comp=Z,6.2nm,0.8s,mb4.7,baz=92,slow=8.3,SNR=9.3							
EIL	**Elat**	**59.38**	**300**	*e*P	**P**	**00 08 58.2**	**0.0**
comp=Z,14nm,1.3s,mb4.8							
YAK	**Yakutsk**	**59.79**	**18**	P	**P**	**00 08 59.5**	**-1.1**
YAK				*e*	pP	00 09 06.2	-0.3
YAK				pmax	pmax		
comp=Z,17nm,0.6s,mb5.2							
YAK	**Yakutsk**	**59.79**	**18**	P	**P**	**00 08 59.5**	**-1.1**
comp=Z,17nm,0.6s,mb5.2							
YAK				*e*	pP	00 09 06.2	-0.3
STKA	**Stephens Creek**	**60.20**	**134**	P	**P**	**00 09 02.9**	**-0.9**
comp=Z,3.3nm,1.0s,mb4.3,baz=322,slow=5.9,SNR=3.2							
STKA	**Stephens Creek**	**60.20**	**134**	*e*P	**P**	**00 09 02.5**	**-1.3**
BRTR	**Keskin Array B**	**62.35**	**311**	P	**P**	**00 09 16.5**	**-1.8**
comp=Z,4.1nm,0.7s,mb4.7,baz=124,slow=7.5,SNR=24							
BRTR				PcP	PcP	00 09 57.9	+0.3
comp=Z,0.4nm,0.8s,baz=225,slow=24,SNR=3.0							
MBAR	**Mbarara**	**63.84**	**265**	*e*P	**P**	**00 09 28.9**	**+0.3**
MBAR				pmax	pmax		
comp=Z,10.0nm,1.2s,mb4.7							
MBAR	**Mbarara**	**63.84**	**265**	*e*P	**P**	**00 09 28.9**	**+0.3**
comp=Z,10nm,1.2s,mb4.7							
OBN	**Obninsk**	**65.25**	**328**	*e*P	**P**	**00 09 33.0**	**-4.0**
OBN				pmax	pmax		
comp=Z,46nm,1.5s,mb5.3							
OBN	**Obninsk**	**65.25**	**328**	P	**P**	**00 09 32.0**	**-5.0**
comp=Z,31nm,1.1s,mb5.2							
MA2	**Magadan**	**66.56**	**28**	P	**P**	**00 09 45.7**	**+0.4**
MA2				pmax	pmax		
comp=Z,20nm,1.1s,mb5.1							
MA2	**Magadan**	**66.56**	**28**	P	**P**	**00 09 45.7**	**+0.4**
comp=Z,20nm,1.1s,mb5.1							
TIXI	**Tiksi**	**67.03**	**11**	*e*P	**P**	**00 09 47.1**	**-1.0**
TIXI				pmax	pmax		
comp=Z,17nm,0.8s,mb5.1							
AKASG	**Malin Array Be**	**68.04**	**322**	P	**P**	**00 09 52.9**	**-1.9**
comp=Z,6.7nm,0.9s,mb4.7,baz=89,slow=5.0,SNR=17							
SANT	**Santorini**	**68.16**	**306**	P	**P**	**00 09 54.2**	**-1.6**
IDI	**Anoyia**	**68.51**	**305**	P	**P**	**00 09 57.6**	**-0.4**
comp=Z,12nm,0.6s,mb5.0,baz=98,slow=5.4,SNR=8.3							
MLR	**Muntele Rosu**	**69.08**	**316**	P	**P**	**00 10 01.6**	**+0.3**
comp=Z,14nm,1.0s,mb4.9,baz=145,slow=6.3,SNR=5.8							
LSZ	**Lusaka**	**69.39**	**250**	*e*P	**P**	**00 10 03.9**	**+0.2**
LSZ				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.5							
LSZ	**Lusaka**	**69.39**	**250**	*e*P	**P**	**00 10 03.9**	**+0.1**
comp=Z,4.2nm,0.7s,mb4.5							
JOF	**Joensuu**	**70.70**	**334**	*e*p	**P**	**00 10 10.0**	**-0.9**
SUW	**Suwalki**	**72.38**	**324**	*e*P	**P**	**00 10 19.6**	**-1.5**
SUW				*e*	pP	00 10 26.3	-0.8
SUW				pmax	pmax		
comp=Z,62nm,1.0s,mb5.5							
SUW	**Suwalki**	**72.38**	**324**	*e*P	**P**	**00 10 19.6**	**-1.6**
comp=Z,62nm,1.0s,mb5.5							
SUW				*e*	pP	00 10 26.3	-0.9
FINES	**FINESS Array B**	**72.57**	**332**	P	**P**	**00 10 21.7**	**-0.4**
comp=Z,3.2nm,0.5s,mb4.5,baz=99,slow=6.1,SNR=23							
KAF	**Kangasniemi**	**72.64**	**333**	*e*p	**P**	**00 10 21.6**	**-0.9**
comp=Z,2.6nm,0.5s,mb4.4,baz=104,slow=5.6							
KAF	**Kangasniemi**	**72.64**	**333**	*e*P	**P**	**00 10 21.6**	**-0.9**
KAF				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.5							
OJC	**Ojcow**	**73.86**	**320**	*e*P	**P**	**00 10 29.5**	**-0.4**
LBTB	**Lobatse**	**74.39**	**241**	*e*P	**P**	**00 10 34.3**	**+0.8**
LBTB				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.8							
LBTB	**Lobatse**	**74.39**	**241**	*e*P	**P**	**00 10 34.3**	**+0.9**
comp=Z,8.7nm,0.8s,mb4.7							
KEV	**Kevo**	**74.67**	**341**	*e*p	**P**	**00 10 33.8**	**-0.4**
OKC	**Ostrava-Krasne**	**74.88**	**319**	*e*P	**P**	**00 10 36.1**	**+0.3**
OKC				*e*pP	pP	00 10 41.9	+0.1
ARCES	**ARCESS Array B**	**75.10**	**340**	P	**P**	**00 10 36.8**	**+0.1**
comp=Z,5.8nm,0.8s,mb4.5,baz=84,slow=5.3,SNR=9.8							
MORC	**Moravsky Berou**	**75.27**	**319**	*e*P	**P**	**00 10 37.8**	**-0.2**
MORC				*e*	pP	00 10 44.3	+0.3
MORC				pmax	pmax		
comp=Z,17nm,1.2s,mb4.8							
MORC	**Moravsky Berou**	**75.27**	**319**	*e*P	**P**	**00 10 37.8**	**-0.1**
comp=Z,17nm,1.2s,mb4.8							
MORC				*e*	pP	00 10 44.2	+0.2
BOSA	**Boshof**	**75.74**	**238**	*e*P	**P**	**00 10 42.2**	**+1.0**
BOSA				*e*	pP	00 10 48.0	+0.8
VRAC	**Vranov**	**75.85**	**319**	P	**P**	**00 10 40.4**	**-0.9**
comp=Z,2.2nm,0.7s,mb4.2,baz=112,slow=10,SNR=3.6							
BILL	**Bilibino**	**75.88**	**22**	*e*P	**P**	**00 10 40.7**	**-0.4**
BILL				*e*	pP	00 10 47.7	+0.5
BILL				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.5							
BILL	**Bilibino**	**75.88**	**22**	*e*P	**P**	**00 10 40.7**	**-0.4**
comp=Z,4.6nm,0.8s,mb4.5							
BILL				*e*	pP	00 10 47.6	+0.5
DPC	**Dobruska-Polom**	**76.10**	**320**	*e*P	**P**	**00 10 43.1**	**+0.4**
DPC				*e*pP	pP	00 10 48.6	-0.1
UPC	**Upice**	**76.31**	**320**	*e*P	**P**	**00 10 44.5**	**+0.6**
UPC				*e*pP	pP	00 10 52.6	+2.7
PRU	**Pruhonice**	**77.22**	**319**	*e*P	**P**	**00 10 49.3**	**+0.3**
PRU				*e*pP	pP	00 10 54.4	-0.6
PVCC	**Panska Ves**	**77.23**	**320**	*e*P	**P**	**00 10 49.2**	**+0.2**
BRG	**Berggiesshubel**	**77.64**	**320**	⇑*i* P	**P**	**00 10 52.0**	**+0.7**
BRG				*e*	pP	00 10 57.7	+0.4
BRG				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.7							
BRG	**Berggiesshubel**	**77.64**	**320**	⇑*i* P	**P**	**00 10 52.0**	**+0.7**
comp=Z,8.3nm,0.9s,mb4.7							
BRG				*e*	pP	00 10 57.7	+0.4
GEC2	**GERESS Array S**	**77.72**	**318**	*e*P	**P**	**00 10 52.3**	**+0.6**
GEC2				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.7							
GEC2	**GERESS Array S**	**77.72**	**318**	*e*P	**P**	**00 10 52.3**	**+0.6**
comp=Z,9.0nm,0.9s,mb4.7							
GERES	**GERESS Array B**	**77.72**	**318**	P	**P**	**00 10 52.4**	**+0.6**
comp=Z,8.4nm,0.8s,mb4.7,baz=90,slow=5.3,SNR=44							
KHC	**Kasperske Hory**	**77.81**	**318**	*e*P	**P**	**00 10 52.2**	**0.0**
KHC				*e*pP	pP	00 10 58.0	-0.3
RUE	**Ruedersdorf**	**77.81**	**322**	*e*P	**P**	**00 10 52.3**	**+0.1**
comp=Z,36nm,0.8s,mb5.3							
RUE				*e*	pP	00 10 58.5	+0.2
CLL	**Collm**	**78.25**	**321**	⇑*i* P	**P**	**00 10 54.9**	**+0.3**
CLL				*i*	pP	00 11 00.3	-0.3
CLL	**Collm**	**78.25**	**321**	⇑P	**P**	**00 10 54.9**	**+0.3**
CLL				*i* *P	pP	00 11 00.3	-0.3
WET	**Wettzell**	**78.27**	**318**	*e*P	**P**	**00 10 55.3**	**+0.5**
WET				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.6							
WET	**Wettzell**	**78.27**	**318**	*e*P	**P**	**00 10 55.3**	**+0.5**
comp=Z,7.0nm,0.9s,mb4.6							
HFS	**Hagfors**	**78.32**	**330**	P	**P**	**00 10 55.0**	**+0.2**
comp=Z,4.4nm,0.5s,mb4.7,baz=121,slow=3.2,SNR=20							
NKC	**Novy Kostel**	**78.57**	**320**	*e*P	**P**	**00 10 56.6**	**+0.2**
MAW	**Mawson**	**78.74**	**192**	P	**P**	**00 10 56.2**	**-0.8**
comp=Z,4.1nm,0.7s,mb4.5,baz=80,slow=5.2,SNR=3.2							
MOX	**Moxa**	**79.11**	**320**	*e*P	**P**	**00 10 59.8**	**+0.5**
MOX	**Moxa**	**79.11**	**320**	*i* P	**P**	**00 10 59.8**	**+0.5**
FUR	**Furstenfeldbru**	**79.33**	**317**	*e*P	**P**	**00 11 00.5**	**0.0**
GRA1	**Grafenberg Arr**	**79.36**	**319**	*e*P	**P**	**00 11 01.7**	**+1.0**
comp=Z,10.0nm,0.9s,mb4.8							
GRA1				*e*pP	pP	00 11 07.4	+0.6
GRF	**Grafenberg Arr**	**79.36**	**319**	*e*P	**P**	**00 11 01.7**	**+1.0**
GRF				*e*PP	pP	00 11 07.4	+0.6
GRF				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
GRF	**Grafenberg Arr**	**79.36**	**319**	*e*P	**P**	**00 11 01.7**	**+1.0**
GRF				*e*PP	pP	00 11 07.4	+0.6
GRF				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
GRF	**Grafenberg Arr**	**79.36**	**319**	*e*P	**P**	**00 11 01.7**	**+1.0**
comp=Z,10.0nm,0.9s,mb4.8							
GRF				*e*pP	pP	00 11 07.4	+0.6
NB2	**NORSAR Subarra**	**79.59**	**331**	P	**P**	**00 11 01.1**	**-0.6**
comp=Z,16nm,1.2s,mb4.8,baz=92,slow=5.6							
NB2	**NORSAR Subarra**	**79.59**	**331**	P	**P**	**00 11 01.1**	**-0.6**
NB2				pmax	pmax		
comp=Z,16nm,1.2s,mb4.8							
NOA	**NORSAR Array B**	**79.59**	**331**	P	**P**	**00 11 01.6**	**-0.2**
comp=Z,3.6nm,0.8s,mb4.4,baz=94,slow=5.3,SNR=8.2							
CLZ	**Clausthal**	**79.90**	**321**	*e*P	**P**	**00 11 04.2**	**+0.7**
comp=Z,8.0nm,0.9s,mb4.7							
TSUM	**Tsumeb**	**80.16**	**249**	*e*P	**P**	**00 11 06.3**	**+0.8**
comp=Z,4.7nm,1.1s,mb4.3							
DAVOX	**Davos**	**80.29**	**316**	P	**P**	**00 11 06.3**	**+0.5**
comp=Z,11nm,0.8s,mb4.9,baz=118,slow=6.2,SNR=13							
TNS	**Taunus Mts**	**81.14**	**320**	*e*P	**P**	**00 11 10.9**	**+0.7**
BFO	**Black Forest**	**81.29**	**318**	*e*P	**P**	**00 11 11.1**	**+0.1**
BFO				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4							
BFO	**Black Forest**	**81.29**	**318**	*e*P	**P**	**00 11 11.1**	**+0.1**
comp=Z,4.0nm,0.8s,mb4.4							
LPG	**La Plagne**	**82.53**	**315**	⇑*i* P	**P**	**00 11 18.5**	**+1.1**
comp=Z,26nm,0.7s,mb5.1							
LPG	**La Plagne**	**82.53**	**315**	⇑*i* P	**P**	**00 11 18.5**	**+1.1**
LPG				pmax	pmax		
comp=Z,13nm,0.7s,mb5.1							
BNI	**Bardonecchia**	**82.61**	**314**	*e*P	**P**	**00 11 19.4**	**+1.5**
BNI				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.8							
BNI	**Bardonecchia**	**82.61**	**314**	*e*P	**P**	**00 11 19.4**	**+1.6**
comp=Z,8.9nm,0.8s,mb4.8							
ESDC	**Sonseca Array**	**91.14**	**310**	P	**P**	**00 12 00.8**	**+1.1**
comp=Z,1.5nm,0.5s,mb4.5,baz=63,slow=4.2,SNR=13							
ESLA	**Sonseca Array**	**91.14**	**310**	P	**P**	**00 12 00.2**	**+0.6**
IMA	**Indian Mountai**	**91.42**	**22**	*e*P	**P**	**00 12 02.6**	**+2.4**
IMA				*e*	pP	00 12 07.5	+1.1
ILAR	**Eielson Array**	**94.54**	**22**	P	**P**	**00 12 15.2**	**+0.5**
comp=Z,0.6nm,0.8s,mb4.1,baz=287,slow=4.0,SNR=6.5							
INK	**Inuvik**	**96.79**	**16**	P	**P**	**00 12 26.1**	**+1.2**
comp=Z,5.1nm,1.2s,mb4.8,baz=270,slow=5.1,SNR=7.0							
YKA	**Yellowknife Ar**	**106.22**	**13**	P	Pdif	00 13 08.7	+1.6
YKA						00 17 27.6	
YKA	**Yellowknife Ar**	**106.22**	**13**	Pdiff	Pdif	00 13 08.6	+1.5
comp=Z,0.1nm,0.3s,baz=323,slow=4.6,SNR=3.7							
YKA				PP	PP	00 17 27.5	-6.5
comp=Z,0.3nm,0.9s,baz=334,slow=8.1,SNR=3.9							
ULM	**Lac du Bonnet**	**121.26**	**8**	PKP	PKPdf	00 17 47.7	-2.8
comp=Z,2.6nm,0.7s,baz=303,slow=0.8,SNR=5.2							
ULM	**Lac du Bonnet**	**121.26**	**8**	PKP	PKPdf	00 17 47.7	-2.8
NVAR	**Mina Array Bea**	**124.72**	**31**	PKP	PKPdf	00 17 56.5	-1.1
comp=Z,1.8nm,0.7s							
NVAR	**Mina Array Bea**	**124.72**	**31**	PKP	PKPdf	00 17 56.5	-1.1
PDAR	**Pinedale Array**	**124.96**	**21**	PKP	PKPdf	00 17 55.9	-2.0
comp=Z,1.1nm,0.6s,baz=170,slow=0.6,SNR=10							
ANMO	**Albuquerque**	**132.96**	**23**	PKP	PKPdf	00 18 12.8	-0.6

MNGI *i* S **S** **00 15 44.0 +7.1**
COCO West Island 20.42 172 *e*P **P** **00 12 12.2 +0.4**
comp=Z,86nm,0.8s
ALBI Allahabad 20.70 327 *e*P **P** **00 12 11.5 -3.2**
JIRN Jiri 20.78 340 *e*P **P** **00 12 16.1 +0.6**
comp=Z,1μm,1.7s
PKI Pulchoki 20.98 338 *e*P **P** **00 12 17.5 0.0**
comp=Z,786nm,1.5s
DMN Daman 21.13 337 *e*P **P** **00 12 19.7 +0.6**
comp=Z,190nm,1.0s,mb5.4
GOA Goa 21.16 292 *e* **P** **00 12 25.4 +5.9**
comp=Z,56nm,1.4s,mb4.7
GOA *e* 00 16 14.6
KKN Kakani 21.23 338 *e*P **P** **00 12 18.9 -1.1**
comp=Z,656nm,1.6s,mb5.7
KAD Karad 21.46 297 *e*P **P** **00 12 21.5 -1.0**
GKN Gorkha 21.66 337 *e*P **P** **00 12 23.2 -1.2**
comp=Z,424nm,1.1s,mb5.8
KOLN Koldanda 21.89 334 *e*P **P** **00 12 26.1 -0.6**
comp=Z,1μm,1.6s,mb6.0
BHPL Bhopal 21.95 315 *e*P **P** **00 12 27.6 +0.4**
BHPL *e* 00 12 34.6
comp=Z,123nm,1.0s
BHPL ⇓*i* 00 13 53.3
BHPL *e*S **S** **00 16 33.2 +10**
POO Poona 22.24 300 *e*P **P** **00 12 35.0 +4.7**
POO *i* 00 16 44.0
BOM Bombay 23.29 299 *e*P **P** **00 12 43.4 +2.8**
BOM *e*S **S** **00 16 56.0 +8.1**
NDI New Delhi 25.89 324 *e*P **P** **00 13 04.0 -1.5**
NDI *e* 00 18 31.5
DDI Dehra Dun 26.69 328 *e*P **P** **00 13 13.5 +0.7**
DDI *e* 00 18 07.4
XAN Xi'an 29.11 26 P **P** **00 13 34.5 -0.2**
XAN AMB AMB
comp=Z,21nm,1.0s,mb4.8
LZH Lanzhou 29.15 16 *e*P **P** **00 13 36.0 +0.9**
LZH AP pP 00 13 45.0 +4.1
LZH XP sP 00 13 48.8 +5.3
LZH PP PP 00 14 32.0 +2.4
LZH *e*S **S** **00 18 26.0 +1.3**
LZH XS 00 18 41.0
LZH AMB AMB
comp=Z,71nm,1.7s,mb5.1
LZH AMB AMB
comp=Z,223nm,4.0s
LZH LR LR
comp=E,4μm,15.7s
LZH LR LR
comp=Z,4μm,17.9s,MS5.1
LZH Lanzhou 29.15 16 *e*P **P** **00 13 36.1 +1.0**
LZH *PP pP 00 13 44.9 +4.0
LZH *SP sP 00 13 48.8 +5.3
LZH 00 14 32.0
LZH *e*S **S** **00 18 26.0 +1.3**
LZH *SS 00 18 41.0
LZH SS SS 00 19 59.8 +4.7
LZH pmax pmax
comp=Z,71nm,1.7s,mb5.1
LZH MLR MLR
comp=Z,4μm,17.9s,MS5.1
LZH Lanzhou 29.15 16 *e*P **P** **00 13 36.1 +1.0**
comp=Z,71nm,1.7s,mb5.1
LZH pP pP 00 13 44.9 +4.0
LZH sP sP 00 13 48.8 +5.3
LZH PP PP 00 14 32.0 +2.4
LZH *e*S **S** **00 18 26.0 +1.3**
LZH sS 00 18 41.0
LZH SS SS 00 19 59.8 +4.7
LZH LR LR
comp=Z,4μm,17.9s,MS5.1
NJ2 Nanjing 33.03 41 *e*P **P** **00 14 11.5 +2.2**
NJ2 AP pP 00 14 21.0 +5.8
NJ2 XP sP 00 14 25.3 +7.5
NJ2 PP PP 00 15 25.5 +5.4
NJ2 PPP PPP 00 15 42.5 +6.4
NJ2 S **S** **00 19 30.0 +4.3**
NJ2 XS 00 19 44.0
NJ2 AMB AMB
comp=Z,110nm,1.3s,mb5.6
NJ2 AMB AMB
comp=Z,650nm,8.4s
NJ2 LR LR
comp=N,3μm,11.4s,MS5.4
NJ2 LR LR
comp=E,4μm,16.0s,MS5.4
NJ2 LR LR
comp=Z,3μm,11.6s,MS5.2
SSE Sheshan 33.99 44 P **P** **00 14 18.5 +0.8**
SSE AP pP 00 14 27.0 +3.4
SSE XP sP 00 14 31.0 +4.9
SSE S **S** **00 19 48.0 +7.3**
SSE XS 00 20 03.8
SSE AMB AMB
comp=Z,11nm,0.9s,mb4.8
SSE AMB AMB
comp=Z,162nm,5.5s
SSE LR LR
comp=N,1μm,16.3s,MS5.0
SSE LR LR
comp=E,2μm,16.4s,MS5.0
SSE LR LR
comp=Z,2μm,11.3s
SSE Sheshan 33.99 44 P **P** **00 14 18.5 +0.8**
comp=Z,11nm,0.9s,mb4.8
SSE pP pP 00 14 27.0 +3.4
SSE sP sP 00 14 31.0 +4.9
SSE S **S** **00 19 48.1 +7.4**
SSE sS 00 20 03.7
SSE LR LR
comp=Z,2μm,11.3s,MS5.0
AAK Ala-Archa 38.42 336 *e*P **P** **00 14 52.3 -2.8**
AAK pmax pmax
comp=Z,23nm,1.0s,mb4.9
AAK Ala-Archa 38.42 336 *e*P **P** **00 14 52.3 -2.7**
comp=Z,23nm,1.0s,mb4.9
FRU Bishkek 38.55 337 *e*P **P** **00 14 56.5 +0.4**
FRU MLR MLR
comp=Z,2μm,20.0s,MS5.0
ULN Ulaanbaatar 41.03 13⇑*e*P **P** **00 15 17.6 +1.0**
SNY Shenyang 42.41 33 ⇑P **P** **00 15 30.3 +2.4**
SNY AP pP 00 15 36.0 +2.0
SNY AMB AMB
comp=Z,20nm,1.0s,mb4.7
SNY LR LR
comp=N,880nm,13.9s,MS5.1
SNY LR LR
comp=E,1μm,14.3s,MS5.1
SNY LR LR
comp=Z,890nm,15.7s,MS4.8
ZAK Zakamensk 42.74 9 *e*P **P** **00 15 30.6 0.0**
ZAK *e* 00 15 47.4
ZAK *e* 00 17 21.2
TLY Talaya 44.06 8 *e*P **P** **00 15 43.1 +1.8**
TLY *e* 00 25 39.1
TLY pmax pmax
comp=Z,7.0nm,1.4s,mb4.2
TLY MLR MLR
comp=Z,641nm,19.0s,MS4.6
TLY Talaya 44.06 8 *e*P **P** **00 15 40.3 -1.0**
comp=Z,3.8nm,0.9s,mb4.1
KURK Kurchatov 44.31 346 *e*P **P** **00 15 41.8 -1.5**
KURK Kurchatov 44.31 346 *e*P **P** **00 15 41.0 -2.3**
comp=Z,50nm,1.3s,mb5.1
NWAO Narrogin (SRO) 46.42 153 *e*P **P** **00 15 58.3 -2.0**
NWAO pmax pmax
comp=Z,50nm,1.2s
NWAO Narrogin (SRO) 46.42 153 *e*P **P** **00 15 58.3 -2.0**
comp=Z,50nm,1.2s,mb5.3
NVS Novosibirsk 47.34 351⇑*i*P **P** **00 16 05.1 -2.2**
NVS *e* 00 17 33.5
NVS pmax pmax
comp=Z,43nm,1.5s,mb5.2
NVS pmax pmax
comp=N,42nm,1.7s
NVS pmax pmax
comp=E,24nm,1.6s
MDJ Mudanjiang 47.55 34 P **P** **00 16 13.3 +4.2**
MDJ AMB AMB
comp=Z,18nm,1.8s,mb4.8
MDJ AMB AMB
comp=Z,117nm,4.6s
WRAB Tennant Creek 48.44 126⇑*i*P **P** **00 16 14.4 -1.9**
WRAB Tennant Creek 48.44 126 *e*P **P** **00 16 12.5 -3.8**
comp=Z,11nm,0.8s,mb5.0

WB2 Warramunga Arr 48.44 126 *e*P **P** **00 16 15.6 -0.7**
RAYN Ar Rayn 48.97 294 P **P** **00 16 20.5 +0.1**
comp=Z,168nm,1.1s,mb6.0,SNR=16
CHKZ Chkalovo 49.18 342 *e*P **P** **00 16 19.2 -2.4**
CHKZ pmax pmax
comp=Z,35nm,1.0s,mb5.3
CHKZ Chkalovo 49.18 342 *e*P **P** **00 16 19.1 -2.5**
comp=Z,35nm,1.0s,mb5.3
ASPA Alice Springs 50.10 130 *e*P **P** **00 16 25.2 -3.9**
KLR Kul'dur 51.61 31 *e*P **P** **00 16 40.4 +0.2**
KLR MLR MLR
comp=E,1μm,14.5s
KLR MLR MLR
comp=Z,2μm,14.5s,MS5.2
CLNS Chul'man 54.14 20 *e*P **P** **00 17 05.3 +6.4**
CLNS *e* 00 18 06.1
CLNS *e* 00 19 02.1
CLNS *e*PPP PPP 00 20 13.9 +1.7
CLNS *e*S **S** **00 24 45.2 +12**
CLNS pmax pmax
comp=Z,15nm,1.2s,mb4.8
CLNS pmax pmax
comp=N,11nm,1.1s
CLNS pmax pmax
comp=E,11nm,1.3s
CLNS pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,1.0s
CLNS MLR MLR
comp=Z,1μm,13.0s,MS5.1
CLNS MLR MLR
comp=N,900nm,15.0s,MS5.0
CLNS MLR MLR
comp=E,200nm,12.0s,MS5.0
GNI Garni 54.23 314 *e*P **P** **00 16 59.5 -0.2**
GNI pmax pmax
comp=Z,41nm,1.3s
GNI Garni 54.23 314 *e*P **P** **00 16 59.5 -0.2**
comp=Z,41nm,1.3s,mb5.2
SVE Sverdlovsk 55.12 338 *e*P **P** **00 17 02.0 -4.1**
SVE pmax pmax
comp=Z,180nm,1.6s,mb5.8
SVE MLR MLR
comp=Z,3μm,19.0s,MS5.4
ARU Arti 55.61 337⇓*i*P **P** **00 17 02.2 -7.4**
ARU *e* 00 18 01.4
ARU *e*S **S** **00 24 46.2 -6.4**
ARU *e*SS SS 00 28 31.6 -6.2
ARU *e*SSS SSS 00 30 40.8 -1.9
ARU pmax pmax
comp=Z,42nm,1.6s,mb5.2
ARU Arti 55.61 337 P **P** **00 17 01.6 -8.0**
comp=Z,54nm,1.4s,mb5.4
PMG Port Moresby 55.61 107 *e*P **P** **00 17 07.7 -2.5**
PMG Port Moresby 55.61 107 *e*P **P** **00 17 07.4 -2.8**
comp=Z,14nm,0.8s,mb5.0
YSS Yuzh-Sakhalins 56.53 38 *e*P **P** **00 17 18.3 +1.9**
YSS pmax pmax
comp=Z,50nm,1.7s,mb5.3
KIV Kislovodsk 57.10 318 *e*P **P** **00 17 19.7 -0.8**
KIV pmax pmax
comp=Z,16nm,0.8s,mb5.1
KIV Kislovodsk 57.10 318 *e*P **P** **00 17 19.7 -0.7**
comp=Z,16nm,0.8s,mb5.1
KMBO Kilima Mbogo 57.47 263 *e*P **P** **00 17 23.9 +0.4**
KMBO pmax pmax
comp=Z,16nm,0.1s
KMBO Kilima Mbogo 57.47 263 *e*P **P** **00 17 23.9 +0.4**
comp=Z,16nm,0.1s,mb6.0
MALT Malatya 58.27 310 P **P** **00 17 26.2 -2.6**
MALT pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MALT Malatya 58.27 310 P **P** **00 17 26.2 -2.6**
comp=Z,5.7nm,1.0s,mb4.6
SOKR Solikamsk 58.52 339⇓*i*P **P** **00 17 26.1 -4.1**
SOKR pmax pmax
comp=Z,30nm,0.9s,mb5.3
SOKR MLR MLR
comp=Z,2μm,21.0s,MS5.2
EIL Elat 59.28 300 *e*P **P** **00 17 33.0 -2.9**
comp=Z,29nm,1.4s,mb5.1
YAK Yakutsk 59.70 19 *e*P **P** **00 17 38.0 -0.3**
YAK pmax pmax
comp=Z,20nm,1.0s,mb5.1
MBAR Mbarara 63.80 265 *e*P **P** **00 18 06.2 -0.5**
MBAR pmax pmax
comp=Z,15nm,1.1s,mb4.9
MBAR Mbarara 63.80 265 *e*P **P** **00 18 06.2 -0.5**
comp=Z,15nm,1.1s,mb5.0
MOS Moscow 64.82 329 *e*P **P** **00 18 10.6 -2.0**
MOS *e* 00 18 38.7
MOS pmax pmax
comp=Z,105nm,1.6s,mb5.6
OBN Obninsk 65.12 328 *e*P **P** **00 18 09.4 -5.2**
OBN *i* pP 00 18 15.5 -5.3
OBN *e* 00 18 22.2
OBN *e* 00 18 41.1
OBN *e* 00 20 38.5
OBN pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
OBN MLR MLR
comp=Z,1μm,23.0s,MS5.0
MA2 Magadan 66.49 28 *e*P **P** **00 18 24.0 +0.8**
MA2 pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
TIXI Tiksi 66.93 11 *e*P **P** **00 18 24.2 -1.7**
TIXI pmax pmax
comp=Z,20nm,0.9s,mb5.2
TIXI MLR MLR
comp=Z,654nm,13.0s,MS5.0
SEY Seymchan 68.64 25 *e*P **P** **00 18 37.6 +0.9**
SEY pmax pmax
comp=Z,40nm,1.1s,mb5.3
LSZ Lusaka 69.38 250 *e*P **P** **00 18 43.0 +1.0**
LSZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LSZ Lusaka 69.38 250 *e*P **P** **00 18 43.0 +1.0**
comp=Z,4.7nm,0.8s,mb4.5
MNK Minsk 69.71 325 *e*P **P** **00 18 38.0 -5.4**
JOF Joensuu 70.58 334 *e*p **P** **00 18 47.2 -1.3**
KWP Kalwaria 71.80 320 *e*P **P** **00 18 53.7 -2.5**
KOLS Kolonicke sedl 71.98 319 *i* P **P** **00 18 59.4 +2.2**
KOLS *e*pP pP 00 19 02.8 -0.7
SUW Suwalki 72.26 324 *e*P **P** **00 18 55.1 -3.7**
CRVS Cervenica-Dubn 72.50 319 *i* P **P** **00 19 00.4 0.0**
CRVS *i* pP pP 00 19 05.3 -1.3
KAF Kangasniemi 72.52 333 *e*p **P** **00 18 57.5 -2.7**
NIE Niedzica 73.32 319 *e*P **P** **00 19 04.6 -0.5**
PSZ Piszkesteto 73.42 318 *e*P **P** **00 19 09.3 +3.6**
PSZ Piszkesteto 73.42 318 *e* PcP 00 19 19.3 -2.9
OJC Ojcow 73.75 320 *e*P **P** **00 19 07.4 -0.2**
VYHS Vyhne 74.19 318 *e*P **P** **00 19 08.5 -1.6**
VYHS *e* pP 00 19 14.8 -1.6
LBTB Lobatse 74.40 241 *e*P **P** **00 19 12.6 +0.7**
OKC Ostrava-Krasne 74.76 319 *e*P **P** **00 19 13.4 -0.1**
OKC *e*pP pP 00 19 18.7 -1.1
MORC Moravsky Berou 75.15 319 *e*P **P** **00 19 12.5 -3.2**
MORC pmax pmax
comp=Z,25nm,1.2s,mb5.0
MORC Moravsky Berou 75.15 319 *e*P **P** **00 19 12.5 -3.2**
comp=Z,25nm,1.2s,mb5.0
BILL Bilibino 75.80 22 *i* P **P** **00 19 17.5 -1.5**
BILL pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
BILL Bilibino 75.80 22 P **P** **00 19 17.4 -1.6**
comp=Z,15nm,1.2s,mb4.8
DPC Dobruska-Polom 75.98 320 *e*P **P** **00 19 19.4 -1.0**
DPC *e*pP pP 00 19 25.6 -1.1
KSP Ksiaz 76.03 320 *e*P **P** **00 19 20.4 -0.3**
KSP *e*PP pP 00 19 25.9 -1.1
KSP Ksiaz 76.03 320 *e*P **P** **00 19 21.0 +0.3**
UPC Upice 76.19 320 *e*P **P** **00 19 20.1 -1.5**
UPC *e*pP pP 00 19 27.6 -0.3
PERS Pernice 76.57 316 *e*P **P** **00 19 23.8 0.0**
LJU Ljubljana 76.96 315 *e*P **P** **00 19 28.6 +2.6**
PRU Pruhonice 77.10 319 *e*P **P** **00 19 24.8 -1.9**
PRU *e*pP pP 00 19 31.3 -1.7
PVCC Panska Ves 77.11 320 *e*P **P** **00 19 26.9 +0.2**
BRG Berggiesshubel 77.52 320 *i* P **P** **00 19 28.2 -0.8**
BRG *e* pP 00 19 34.5 -0.8
BRG pmax pmax
comp=Z,19nm,1.4s,mb4.8
BRG Berggiesshubel 77.52 320 *i* P **P** **00 19 28.2 -0.8**
comp=Z,19nm,1.4s,mb4.8
BRG *e* pP 00 19 34.5 -0.8
GEC2 GERESS Array S 77.60 318 *e*P **P** **00 19 29.3 -0.2**
GEC2 pmax pmax
comp=Z,34nm,1.4s,mb5.1
GEC2 GERESS Array S 77.60 318 *e*P **P** **00 19 29.3 -0.2**
comp=Z,34nm,1.4s,mb5.1
RUE Ruedersdorf 77.69 322 *e*P **P** **00 19 27.8 -2.1**
comp=Z,71nm,1.2s,mb5.5
KHC Kasperske Hory 77.69 318 *e*P **P** **00 19 28.5 -1.5**
KHC *e*pP pP 00 19 34.8 -1.5
CLL Collm 78.13 321 *i* P **P** **00 19 32.3 0.0**
CLL *i* pP 00 19 36.8 -1.8
CLL pmax pmax
comp=Z,56nm,2.1s,mb5.1
CLL Collm 78.13 321 *i* P **P** **00 19 32.3 0.0**
comp=Z,56nm,2.1s,mb5.1
CLL *i* pP 00 19 36.8 -1.8
CLL Collm 78.13 321 P **P** **00 19 32.3 0.0**
comp=Z,logA/T=1.4,mb5.1
CLL *i* *PP pP 00 19 36.8 -1.8
WET Wettzell 78.15 318 *e*P **P** **00 19 32.3 -0.2**
WET pmax pmax
comp=Z,40nm,1.5s,mb5.1
WET Wettzell 78.15 318 *e*P **P** **00 19 32.3 -0.2**
comp=Z,40nm,1.5s,mb5.1
NKC Novy Kostel 78.45 320 *e*P **P** **00 19 35.3 +1.2**
MAW Mawson 78.84 192 *e*P **P** **00 19 35.9 0.0**
MAW pmax pmax
comp=Z,12nm,0.9s
MAW Mawson 78.84 192 *e*P **P** **00 19 35.9 0.0**
comp=Z,12nm,0.9s,mb4.8
CTI Castel Tesino 78.96 315 *e*P **P** **00 19 37.4 +0.4**
MOX Moxa 78.99 320 *e*P **P** **00 19 37.4 +0.3**
MOX pmax pmax
comp=Z,54nm,1.9s,mb5.2
MOX Moxa 78.99 320 *e*P **P** **00 19 37.4 +0.3**
comp=Z,54nm,1.9s,mb5.2
MOX Moxa 78.99 320 *i* P **P** **00 19 37.4 +0.3**
comp=Z,logA/T=1.4,mb5.1
VMG Vicchio 79.06 313 *e*P **P** **00 19 38.4 +0.8**
FUR Furstenfeldbru 79.21 317 *e*P **P** **00 19 37.5 -0.8**
GRA1 Grafenberg Arr 79.24 319 *e*P **P** **00 19 38.7 +0.3**
comp=Z,22nm,1.2s,mb5.0
GRA1 *e*pP pP 00 19 44.1 -0.7
GRF Grafenberg Arr 79.24 319 *e*P **P** **00 19 38.7 +0.3**
GRF *e**PP pP 00 19 44.1 -0.7
GRF pmax pmax
comp=Z,22nm,1.2s,mb5.0
GRF Grafenberg Arr 79.24 319 *e*P **P** **00 19 38.7 +0.3**
GRF *e**PP pP 00 19 44.1 -0.7
GRF pmax pmax
comp=Z,22nm,1.2s,mb5.0
GRF Grafenberg Arr 79.24 319 *e*P **P** **00 19 38.7 +0.3**
comp=Z,22nm,1.2s,mb5.0
GRF *e*pP pP 00 19 44.1 -0.7
NB2 NORSAR Subarra 79.47 331 P **P** **00 19 36.9 -2.5**
comp=Z,8.4nm,0.8s,mb4.7,baz=92,slow=5.6
NB2 NORSAR Subarra 79.47 331 P **P** **00 19 36.9 -2.5**
NB2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
GSCL Gusciola 79.74 314 *e*P **P** **00 19 39.8 -1.4**
CLZ Clausthal 79.78 321 *e*P **P** **00 19 41.1 -0.2**
comp=Z,45nm,1.4s,mb5.2
BRMO Bormio 79.84 316 *e*P **P** **00 19 42.3 +0.6**
TSUM Tsumeb 80.15 249 *e*P **P** **00 19 46.0 +2.1**
comp=Z,3.8nm,0.8s,mb4.4
PGF Pioggiola 80.96 312 *e*P **P** **00 19 48.1 +0.3**
VAI Varese 80.98 315 *e*P **P** **00 19 46.1 -1.7**
TNS Taunus Mts 81.02 320 *e*P **P** **00 19 47.9 0.0**
BFO Black Forest 81.17 318 *e*P **P** **00 19 48.1 -0.6**
BFO pmax pmax
comp=Z,20nm,1.4s,mb4.8
BFO Black Forest 81.17 318 *e*P **P** **00 19 48.1 -0.6**
comp=Z,20nm,1.4s,mb4.8
FIN Finale Ligure 81.45 313 *e*P **P** **00 19 51.0 +0.7**
CDF Champ du Feu 81.87 318 *e*P **P** **00 19 52.5 +0.1**
comp=Z,24nm,1.2s,mb4.7
CDF Champ du Feu 81.87 318 *e*P **P** **00 19 52.5 +0.1**
CDF pmax pmax
comp=Z,12nm,1.2s,mb4.7
SBF Sospel 82.03 313 *e*P **P** **00 19 53.9 +0.6**
comp=Z,72nm,0.9s,mb5.3
SBF Sospel 82.03 313 *e*P **P** **00 19 53.9 +0.6**
SBF pmax pmax
comp=Z,36nm,0.9s,mb5.3
LPG La Plagne 82.41 315 *e*P **P** **00 19 56.2 +1.0**
comp=Z,42nm,0.8s,mb5.1
LPG La Plagne 82.41 315 *e*P **P** **00 19 56.2 +1.0**
LPG pmax pmax
comp=Z,21nm,0.8s,mb5.1
LPL La Plagne 82.42 315 *e*P **P** **00 19 56.1 +0.8**
comp=Z,41nm,0.8s,mb5.1
LPL La Plagne 82.42 315 *e*P **P** **00 19 56.1 +0.8**
LPL pmax pmax
comp=Z,20nm,0.8s,mb5.1
MBDF Montbardon 82.45 314 *e*P **P** **00 19 55.5 +0.1**
comp=Z,19nm,0.8s,mb4.8
MBDF Montbardon 82.45 314 *e*P **P** **00 19 55.5 +0.1**
MBDF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
HAU Haudompre 82.52 317 *e*P **P** **00 19 55.8 +0.1**
comp=Z,46nm,1.0s,mb5.2
HAU *e*R
comp=Z,535nm,18.5s
HAU Haudompre 82.52 317 *e*P **P** **00 19 55.8 +0.1**
HAU pmax pmax
comp=Z,23nm,1.0s,mb5.2
HAU MLR MLR
comp=Z,530nm,18.5s,MS4.9
FRF La Foret Royal 82.62 313 *e*P **P** **00 19 57.0 +0.6**
CABF La Chapelle 82.79 316 *e*P **P** **00 19 57.9 +0.7**
comp=Z,29nm,1.0s,mb5.0
CABF La Chapelle 82.79 316 *e*P **P** **00 19 57.9 +0.7**
CABF pmax pmax
comp=Z,15nm,1.0s,mb5.0
ORIF Oris-en-Rattie 83.06 314 *e*P **P** **00 19 59.6 +1.0**
comp=Z,25nm,0.9s,mb5.0
ORIF *e*R
comp=Z,500nm,19.2s
MEZF Maizieres J'vi 83.34 318 *e*P **P** **00 20 00.5 +0.5**
GIVF Givet 83.36 320 *e*P **P** **00 20 00.5 +0.5**
BAIF Baives 83.76 320 *e*P **P** **00 20 02.7 +0.6**
comp=Z,36nm,1.1s,mb5.1
BAIF Baives 83.76 320 *e*P **P** **00 20 02.7 +0.6**
BAIF pmax pmax
comp=Z,18nm,1.1s,mb5.1
VIVF Saint-Julien-l 83.92 314 *e*P **P** **00 20 03.5 +0.4**
comp=Z,18nm,0.9s,mb4.9
VIVF Saint-Julien-l 83.92 314 *e*P **P** **00 20 03.5 +0.4**
VIVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
SMF Signal de Mont 84.33 316 *e*P **P** **00 20 05.3 +0.3**
comp=Z,35nm,0.9s,mb5.2
SMF Signal de Mont 84.33 316 *e*P **P** **00 20 05.3 +0.3**
SMF pmax pmax
comp=Z,17nm,0.9s,mb5.2
SSF Saint Saulge 84.52 317 *e*P **P** **00 20 06.4 +0.4**
LASF Ste Croix 84.58 314 *e*P **P** **00 20 07.0 +0.6**
comp=Z,67nm,1.3s,mb5.3
AVF Avril sur Loir 84.65 316 *e*P **P** **00 20 06.8 +0.2**
comp=Z,23nm,1.0s,mb5.0
AVF Avril sur Loir 84.65 316 *e*P **P** **00 20 06.8 +0.2**
AVF pmax pmax
comp=Z,11nm,1.0s,mb4.9
BGF Bois d'Agland 85.02 316 *e*P **P** **00 20 09.2 +0.7**
comp=Z,21nm,0.9s,mb5.0
BGF Bois d'Agland 85.02 316 *e*P **P** **00 20 09.2 +0.7**
BGF pmax pmax
comp=Z,11nm,0.9s,mb5.0
HYF Humbligny 85.08 317 *e*P **P** **00 20 09.7 +0.9**
TCF Toulx Ste Croi 85.49 316 *e*P **P** **00 20 11.7 +0.9**
CAF Calviac 85.76 315 *e*P **P** **00 20 13.4 +1.2**
RJF Les Rejaudoux 86.10 315 *e*P **P** **00 20 14.9 +1.0**
comp=Z,24nm,1.0s,mb5.1
RJF *e*R
comp=Z,695nm,18.5s
RJF Les Rejaudoux 86.10 315 *e*P **P** **00 20 14.9 +1.0**
RJF pmax pmax
comp=Z,12nm,1.0s,mb5.1
RJF MLR MLR
comp=Z,690nm,18.5s,MS5.1
LDF La Druitiere 86.75 318 *e*P **P** **00 20 17.6 +0.6**
comp=Z,56nm,1.2s,mb5.4

LDF	**La Druitiere**	**86.75**	**318**	*e*P	**P**	**00 20 17.6 +0.6**
LDF				pmax	pmax	
	comp=Z,28nm,1.2s,mb5.4					
FLN	**La Foliniere**	**86.95**	**319**	*e*P	**P**	**00 20 18.5 +0.5**
	comp=Z,54nm,1.2s,mb5.3					
FLN				*e*R		
	comp=Z,498nm,19.8s					
FLN	**La Foliniere**	**86.95**	**319**	*e*P	**P**	**00 20 18.5 +0.5**
FLN				pmax	pmax	
	comp=Z,27nm,1.2s,mb5.3					
FLN				MLR	MLR	
	comp=Z,500nm,19.8s,MS4.9					
MFF	**Saint Martin d**	**87.06**	**316**	*e*P	**P**	**00 20 19.0 +0.4**
	comp=Z,62nm,1.4s,mb5.3					
MFF	**Saint Martin d**	**87.06**	**316**	*e*P	**P**	**00 20 19.0 +0.4**
MFF				pmax	pmax	
	comp=Z,31nm,1.4s,mb5.3					
GRR	**Gorron**	**87.26**	**318**	*e*P	**P**	**00 20 20.2 +0.7**
	comp=Z,48nm,1.3s,mb5.3					
GRR	**Gorron**	**87.26**	**318**	*e*P	**P**	**00 20 20.2 +0.7**
GRR				pmax	pmax	
	comp=Z,24nm,1.3s,mb5.3					
ETSF	**Etsaut**	**87.93**	**313**	*e*P	**P**	**00 20 23.9 +1.1**
	comp=Z,27nm,1.1s,mb5.1					
ETSF	**Etsaut**	**87.93**	**313**	*e*P	**P**	**00 20 23.9 +1.1**
ETSF				pmax	pmax	
	comp=Z,13nm,1.1s,mb5.1					
ROSF	**Rostrenen**	**88.86**	**319**	*e*P	**P**	**00 20 27.9 +0.8**
	comp=Z,57nm,1.1s,mb5.5					
ROSF	**Rostrenen**	**88.86**	**319**	*e*P	**P**	**00 20 27.9 +0.8**
ROSF				pmax	pmax	
	comp=Z,28nm,1.1s,mb5.5					
IMA	**Indian Mountai**	**91.33**	**22**	*e*P	**P**	**00 20 39.0 +0.8**
	comp=Z,0.1nm,1.0s					
SBA	**Scott Base**	**94.33**	**168**	*e*P	**P**	**00 20 52.8 +1.0**
INK	**Inuvik**	**96.69**	**16**	*e*P	**P**	**00 21 02.7 -0.1**
INK				pmax	pmax	
	comp=Z,9.0nm,1.3s					
INK	**Inuvik**	**96.69**	**16**	*e*P	**P**	**00 21 02.7 -0.1**
	comp=Z,8.9nm,1.3s,mb5.0					
RES	**Resolute Bay**	**97.09**	**2**	*e*P	**P**	**00 21 06.1 +1.6**
RES				*e**PP	pP	00 21 15.4 +4.5
RES				pmax	pmax	
	comp=Z,7.0nm,1.0s,mb5.0					
RES	**Resolute Bay**	**97.09**	**2**	*e*P	**P**	**00 21 06.1 +1.6**
	comp=Z,7.1nm,1.0s,mb5.0					
RES				*e*pP	pP	00 21 15.4 +4.5
DAWY	**Dawson**	**97.56**	**21**	*e*P	**P**	**00 21 06.4 -0.3**
PLCA	**Paso Flores**	**144.84**	**200**	*e*PKIKP	PKPdf	00 27 09.9 -3.2

*NEIC **30** 00:12:58.5±0.5, 8.24N×94.42E, mb4.7/22, Error ellipse: s-maj=16.5km s-min=10.5km az=222.0*
*BJI **30** 00:12:59.0, 8.11N×93.98E, h21km, mB5.0, mb4.7, Ms5.1, Msz4.8*
ISC 30 00:12:57.4±0.4, 8.26N±0.07×94.35E±0.08, h13km, h13km±1.3km:pP-P, n58, σ1§24/58, mb4.7/27, MS4.8/2, 3C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**13.56**	**267**	P	**P**	**00 16 12.7**	**+0.6**
PALK				*e*		00 18 26.6	
HYB	**Hyderabad**	**17.88**	**302**	*i* P	**P**	**00 17 09.0**	**+1.4**
HYB				*e*S	**S**	**00 20 08.0**	**-16**
QIZ	**Qiongzhong**	**18.46**	**53**	*e*P	**P**	**00 17 18.5**	**+3.6**
KMI	**Kunming**	**18.59**	**25**	⇑P	**P**	**00 17 21.4**	**+5.0**
	14nm,1.2s						
KMI				pP		00 17 27.0	
JIRN	**Jiri**	**20.79**	**339**	*e*P	**P**	**00 17 39.2**	**-1.7**
	123nm,0.9s						
PKI	**Pulchoki**	**20.99**	**337**	*e*P	**P**	**00 17 42.4**	**-0.6**
	119nm,0.9s						
DMN	**Daman**	**21.14**	**337**	*e*P	**P**	**00 17 44.5**	**0.0**
	157nm,0.9s,mb5.3						
KKN	**Kakani**	**21.24**	**337**	*e*P	**P**	**00 17 44.5**	**-1.0**
	72nm,0.8s,mb5.1						
LSA	**Lhasa**	**21.54**	**352**	P	**P**	**00 17 52.8**	**+4.2**
GKN	**Gorkha**	**21.68**	**336**	*e*P	**P**	**00 17 48.5**	**-1.5**
	79nm,0.6s,mb5.3						
KOLN	**Koldanda**	**21.91**	**334**	*e*P	**P**	**00 17 51.7**	**-0.6**
	107nm,0.7s,mb5.4						
XAN	**Xi'an**	**28.96**	**26**	P	**P**	**00 18 59.8**	**+1.0**
XAN				AP	pP	00 19 05.0	+2.3
XAN				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.4						
LZH	**Lanzhou**	**29.03**	**16**	*e*P	**P**	**00 19 07.0**	**+7.6**
LZH				S	**S**	**00 23 55.0**	**+6.2**
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,86nm,4.0s						
LZH				LR	LR		
	comp=E,826nm,11.0s						
LZH				LR	LR		
	comp=Z,1μm,12.2s,MS4.7						
AAK	**Ala-Archa**	**38.44**	**336**	*e*P	**P**	**00 20 19.6**	**-1.0**
	comp=Z,10nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**40.92**	**13**	*e*P	**P**	**00 20 43.6**	**+2.5**
	comp=Z,2.1nm,0.8s,mb3.8						
KURK	**Kurchatov**	**44.29**	**346**	*e*P	**P**	**00 21 08.2**	**-0.4**
	comp=Z,15nm,0.9s,mb4.7						
KURK				*e*		00 21 14.9	
NWAO	**Narrogin (SRO)**	**46.39**	**153**	*e*P	**P**	**00 21 26.5**	**+0.9**
	comp=Z,15nm,0.8s,mb5.0						
MDJ	**Mudanjiang**	**47.38**	**34**	P	**P**	**00 21 32.8**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,12nm,2.3s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,114nm,5.3s						
MDJ				LR	LR		
	comp=N,597nm,14.5s,MS5.0						
MDJ				LR	LR		
	comp=E,1μm,13.4s,MS5.0						
MDJ				LR	LR		
	comp=Z,1μm,14.7s,MS5.0						
WRAB	**Tennant Creek**	**48.32**	**126**	*e*P	**P**	**00 21 38.8**	**-2.0**
	comp=Z,8.8nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**48.33**	**126**	*e*P	**P**	**00 21 39.4**	**-1.5**
CHKZ	**Chkalovo**	**49.18**	**342**	*e*P	**P**	**00 21 45.4**	**-1.6**
	comp=Z,12nm,0.9s,mb4.9						
ASPA	**Alice Springs**	**50.00**	**130**	*e*P	**P**	**00 21 52.3**	**-1.5**
GNI	**Garni**	**54.32**	**314**	P	**P**	**00 22 25.5**	**-0.4**
	comp=Z,1.7nm,0.6s,mb4.2						
KIV	**Kislovodsk**	**57.17**	**318**	*e*P	**P**	**00 22 44.4**	**-2.1**
	comp=Z,13nm,0.9s,mb5.0						
EIL	**Elat**	**59.42**	**300**	*e*P	**P**	**00 23 01.4**	**-1.0**
	comp=Z,14nm,1.3s,mb4.8						
LSZ	**Lusaka**	**69.59**	**250**	*e*P	**P**	**00 24 08.3**	**-0.5**
	comp=Z,3.7nm,0.8s,mb4.4						
JOF	**Joensuu**	**70.59**	**334**	*e*p	**P**	**00 24 13.0**	**-1.1**
KOLS	**Kolonicke sedl**	**72.05**	**319**	*i* sP	sP	00 24 28.9	0.0
KAF	**Kangasniemi**	**72.55**	**333**	*e*p	**P**	**00 24 24.9**	**-0.9**
CRVS	**Cervenica-Dubn**	**72.58**	**319**	*i* P	**P**	**00 24 27.6**	**+1.3**
VYHS	**Vyhne**	**74.26**	**318**	*i* P	**P**	**00 24 36.7**	**+0.6**
LBTB	**Lobatse**	**74.61**	**241**	*e*P	**P**	**00 24 37.8**	**-0.7**
	comp=Z,6.7nm,0.9s,mb4.6						
OKC	**Ostrava-Krasne**	**74.84**	**319**	*e*P	**P**	**00 24 40.2**	**+0.8**
DPC	**Dobruska-Polom**	**76.05**	**320**	*e*P	**P**	**00 24 45.6**	**-0.7**
UPC	**Upice**	**76.26**	**320**	*e*P	**P**	**00 24 45.6**	**-1.9**
PRU	**Pruhonice**	**77.17**	**319**	*e*P	**P**	**00 24 53.2**	**+0.6**
PVCC	**Panska Ves**	**77.18**	**320**	*e*P	**P**	**00 24 54.0**	**+1.4**
BRG	**Berggiesshubel**	**77.59**	**320**	*e*P	**P**	**00 24 55.7**	**+0.8**
	comp=Z,11nm,1.2s,mb4.7						
BRG				*i*	pP	00 25 00.1	+1.0
GEC2	**GERESS Array S**	**77.68**	**318**	*e*P	**P**	**00 24 56.7**	**+1.3**
	comp=Z,6.0nm,0.9s,mb4.5						
KHC	**Kasperske Hory**	**77.77**	**318**	*e*P	**P**	**00 24 54.1**	**-1.8**
KHC				*e*		00 25 06.5	
KHC	**Kasperske Hory**	**77.77**	**318**	*e*P	**P**	**00 24 54.1**	**-1.8**
KHC				x	x	00 25 06.5	
CLL	**Collm**	**78.20**	**321**	*i* P	**P**	**00 24 58.4**	**+0.2**
	comp=Z,34nm,1.9s,mb5.0						
CLL	**Collm**	**78.20**	**321**	P	**P**	**00 24 58.4**	**+0.2**
	comp=Z,logA/T=1.3,mb5.0						
WET	**Wettzell**	**78.23**	**318**	*e*P	**P**	**00 24 59.7**	**+1.3**
	comp=Z,4.0nm,1.0s,mb4.3						
NKC	**Novy Kostel**	**78.53**	**320**	*e*P	**P**	**00 25 00.7**	**+0.7**
MOX	**Moxa**	**79.06**	**320**	*e*P	**P**	**00 25 03.4**	**+0.4**
MOX	**Moxa**	**79.06**	**320**	*i* P	**P**	**00 25 03.4**	**+0.4**
FUR	**Furstenfeldbru**	**79.29**	**317**	*e*P	**P**	**00 25 05.1**	**+0.9**
GRA1	**Grafenberg Arr**	**79.32**	**319**	*e*P	**P**	**00 25 06.1**	**+1.8**
	comp=Z,8.0nm,1.0s,mb4.6						
GRA1				*e*pP	pP	00 25 09.7	+1.1
GRF	**Grafenberg Arr**	**79.32**	**319**	*e*P	**P**	**00 25 06.1**	**+1.8**
	comp=Z,8.0nm,1.0s,mb4.6						
GRF				*e*pP	pP	00 25 09.7	+1.1
NB2	**NORSAR Subarra**	**79.50**	**331**	P	**P**	**00 25 03.9**	**-1.2**
	comp=Z,6.5nm,0.7s,mb4.7,baz=91,slow=5.8						
CLZ	**Clausthal**	**79.84**	**321**	*e*P	**P**	**00 25 08.6**	**+1.5**
	comp=Z,11nm,1.0s,mb4.7						
TNS	**Taunus Mts**	**81.10**	**320**	*e*P	**P**	**00 25 15.3**	**+1.5**
BFO	**Black Forest**	**81.25**	**318**	*e*P	**P**	**00 25 15.6**	**+0.9**
	comp=Z,6.0nm,1.0s,mb4.5						
LPG	**La Plagne**	**82.50**	**315**	*e*P	**P**	**00 25 19.9**	**-1.3**
	comp=Z,26nm,0.8s,mb4.9						
SYO	**Syowa Base**	**85.83**	**197**	⇑P	**P**	**00 25 38.7**	**+1.2**
SYO	**Syowa Base**	**85.83**	**197**	⇑pP	pP	00 25 48.5	+6.7
IMA	**Indian Mountai**	**91.19**	**22**	*e*P	**P**	**00 26 04.7**	**+1.5**

*MOS **30** 00:34:08.8±1.6, 8.01N×94.28E, h33km, mb5.2/43, Error ellipse: s-maj=14.4km s-min=6.7km az=122.6*
*NEIC **30** 00:34:10.0±0.4, 8.06N×94.27E, h30km, mb5.0/44, Error ellipse: s-maj=14.8km s-min=9.6km az=40.0*
*HRVD **30** 00:34:10.0±0.3, 8.07N×94.21E, h14km±1km, MW5.0/52, Centroid moment Tensor Solution. LP body waves: s18, c23; Mantle waves: s52, c88; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.12±.32; $M_{\theta\theta}$=0.31±.18; $M_{\phi\phi}$=2.81±.22; $M_{r\theta}$=0.35±.40; $M_{\theta\phi}$=3.61±.14; $M_{\phi r}$=1.23±.42; Best double couple: M_0=4.64×10^{16} NP1:φ=245°, δ=49°, λ=-45°. NP2:φ=8°, δ=58°, λ=-129° Principal axes: T 5.455, Plg5°, Azm125°; N -1.634, Plg32°, Azm31°; P -3.824, Plg57°, Azm223°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **30** 00:34:12.3, 8.16N×95.37E, h33km, mb5.6*
*BJI **30** 00:34:12.1, 8.00N×93.92E, h41km, mB5.1, mb4.6, Ms4.8, Msz4.4*
ISC 30 00:34:09.6±1.0, 7.98N±0.05×94.22E±0.04, h41km±8km, h26km±6.7km:pP-P, n162, σ1§28/171, mb5.0/56, MS4.3/2, 4C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.93**	**338**	*e*P	Px	00 35 09.6	
PBA				*e*S	Sx	00 35 50.5	
SNG	**Songkhla**	**6.40**	**97**	P	**P**	**00 35 42.5**	**-1.2**
	192nm,1.0s						
NNT	**Nongplab**	**7.11**	**49**	P	**P**	**00 35 53.0**	**-0.7**
CM31	**Chiang Mai Arr**	**11.39**	**23**	*e*P	**P**	**00 36 54.0**	**+1.3**
CHG	**Chiang Mai**	**11.71**	**23**	⇓P	**P**	**00 36 59.1**	**+2.1**
	11nm,1.2s						
PALK	**Pallekele**	**13.41**	**268**	*e*P	**P**	**00 37 20.8**	**+1.0**
PALK				*e*S	**S**	**00 39 36.4**	**-12**
VIS	**Vishakhapatnam**	**14.36**	**313**	*e*P	**P**	**00 37 30.4**	**-1.9**
VIS				*e*		00 37 37.0	
	comp=Z,34nm,1.0s						
VIS				*e*		00 40 03.9	
VIS	**Vishakhapatnam**	**14.36**	**313**	*e*P	**P**	**00 37 30.4**	**-1.9**
VIS				*e*P		00 37 30.4	
VIS				*e*		00 37 37.0	
	comp=Z,34nm,1.0s						
VIS				*e*		00 40 03.9	
VIS				*e*S	**S**	**00 40 11.6**	**+0.7**
MDRS	**Chennai**	**14.63**	**291**	*e*P	**P**	**00 37 37.7**	**+1.9**
MDRS				*e*		00 37 42.9	
BWNR	**Bhubaneshwar**	**14.70**	**327**	*e*P	**P**	**00 37 31.8**	**-4.9**
BWNR				*e*		00 37 33.1	
	comp=Z,31nm,0.5s						
BWNR				*e*		00 40 07.4	
BWNR	**Bhubaneshwar**	**14.70**	**327**	*e*P	**P**	**00 37 31.0**	**-5.7**
BWNR				*e*P		00 37 31.8	
BWNR				*e*		00 37 33.1	
	comp=Z,31nm,0.5s						
BWNR				*e*		00 40 07.4	
BWNR				*e*S	**S**	**00 40 13.6**	**-5.5**
KOD	**Kodaikanal**	**16.69**	**279**	*e*P	**P**	**00 38 10.6**	**+8.5**
KOD				*e*		00 38 13.0	
	comp=Z,66nm,1.7s						
KOD				*e*S	**S**	**00 41 16.9**	**+12**
SHL	**Shillong**	**17.63**	**353**	*e*P	**P**	**00 38 12.0**	**-1.9**
SHL				*e*		00 41 32.0	
SHL	**Shillong**	**17.63**	**353**	*e*P	**P**	**00 38 12.0**	**-1.9**
SHL				*e*		00 41 32.0	
HYB	**Hyderabad**	**17.91**	**303**	*e*P	**P**	**00 38 18.0**	**+0.5**
HYB				*e*S	**S**	**00 41 42.0**	**+9.0**
HYB	**Hyderabad**	**17.91**	**303**	*i* P	**P**	**00 38 18.0**	**+0.5**
HYB				*e*S	**S**	**00 41 42.0**	**+9.0**
BLSP	**Bilaspur**	**18.26**	**322**	*e*P	**P**	**00 38 21.3**	**-0.4**
BLSP				*e*		00 38 29.0	
	comp=Z,47nm,1.5s						
BLSP				*e*S	**S**	**00 41 44.5**	**+3.7**
BLSP	**Bilaspur**	**18.26**	**322**	*e*P	**P**	**00 38 21.3**	**-0.4**
BLSP				*e*		00 38 29.0	
	comp=Z,57nm,1.5s						
BLSP				*e*S	**S**	**00 41 44.5**	**+3.7**
QIZ	**Qiongzhong**	**18.73**	**53**	*e*P	**P**	**00 38 31.5**	**+4.0**
QIZ				S	**S**	**00 41 52.8**	**+1.4**
QIZ				AMB	AMB		
	comp=Z,25nm,1.5s						
QIZ				LR	LR		
	comp=N,5μm,14.1s						
QIZ				LR	LR		
	comp=Z,1μm,15.5s						
KMI	**Kunming**	**18.89**	**25**	⇑P	**P**	**00 38 33.1**	**+3.7**
KMI				pmax	pmax		
	comp=Z,16nm,1.4s						
KMI	**Kunming**	**18.89**	**25**	⇑P	**P**	**00 38 33.1**	**+3.7**
	comp=Z,16nm,1.4s						
KMI				pP		00 38 39.3	
KMI				sP		00 38 42.1	
KMI				PP	PP	00 38 52.0	+6.1
KMI				S	**S**	**00 42 08.1**	**+13**
KMI				SS	SS	00 42 34.9	+14
NGP	**Nagpur**	**19.64**	**313**	*e*P	**P**	**00 38 37.5**	**-0.3**
NGP				*e*S	**S**	**00 42 17.5**	**+5.7**
JIRN	**Jiri**	**21.00**	**340**	*e*P	**P**	**00 38 51.4**	**-0.5**
	comp=Z,112nm,1.0s						
PKI	**Pulchoki**	**21.20**	**338**	*e*P	**P**	**00 38 53.7**	**-0.2**
	comp=Z,184nm,1.2s,mb5.3						
DMN	**Daman**	**21.34**	**337**	*e*P	**P**	**00 38 55.6**	**+0.2**
	comp=Z,124nm,0.9s,mb5.2						
KKN	**Kakani**	**21.44**	**338**	*e*P	**P**	**00 38 55.9**	**-0.5**
	comp=Z,102nm,1.1s,mb5.1						
LSA	**Lhasa**	**21.80**	**353**	P	**P**	**00 39 01.0**	**+1.1**
GKN	**Gorkha**	**21.88**	**337**	*e*P	**P**	**00 38 59.3**	**-1.4**
	comp=Z,68nm,0.6s,mb5.3						
KOLN	**Koldanda**	**22.10**	**334**	*e*P	**P**	**00 39 02.2**	**-0.7**
	comp=Z,186nm,1.3s,mb5.4						
NDI	**New Delhi**	**26.09**	**324**	*e*P	**P**	**00 39 42.0**	**+0.5**
NDI				*e*P		00 39 42.0	
NDI	**New Delhi**	**26.09**	**324**	*e*P	**P**	**00 39 42.6**	**+1.1**
NDI				*e*	pP	00 39 52.0	-0.5
	comp=Z,70nm,1.2s						
NDI				*e*S	**S**	**00 44 13.5**	**+5.7**
DDI	**Dehra Dun**	**26.89**	**328**	*e*	**P**	**00 39 48.5**	**-0.4**
DDI	**Dehra Dun**	**26.89**	**328**	*e*	**P**	**00 39 48.5**	**-0.4**
XAN	**Xi'an**	**29.27**	**26**	P	**P**	**00 40 12.0**	**+1.8**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.3						
SSE	**Sheshan**	**34.10**	**44**	P	**P**	**00 40 51.1**	**-1.4**
	comp=Z,34nm,0.7s,mb5.4						
SSE				sP	sP	00 41 04.3	-4.8
SSE				S	**S**	**00 46 16.7**	**+2.1**
SSE				sS		00 46 30.2	
SSE				LR	LR		
	comp=Z,260nm,19.9s,MS4.0						
MBWA	**Marble Bar**	**38.29**	**140**	*e*P	**P**	**00 41 29.2**	**+1.1**
	comp=Z,1.0nm,0.4s,mb3.9						
AAK	**Ala-Archa**	**38.64**	**336**	⇑*i*P	**P**	**00 41 30.7**	**-0.1**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
AAK	**Ala-Archa**	**38.64**	**336**	*e*P	**P**	**00 41 29.3**	**-1.5**
	comp=Z,16nm,1.1s,mb4.7						
ULN	**Ulaanbaatar**	**41.22**	**13**	⇑*i*P	**P**	**00 41 52.6**	**+0.5**
ZAK	**Zakamensk**	**42.94**	**9**	*e*P	**P**	**00 42 06.2**	**0.0**
ZAK				*e*		00 43 58.0	
KURK	**Kurchatov**	**44.53**	**346**	*e*P	**P**	**00 42 18.5**	**-0.5**
KURK				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.8						
KURK	**Kurchatov**	**44.53**	**346**	*e*P	**P**	**00 42 18.5**	**-0.5**
	comp=Z,17nm,1.0s,mb4.8						
KLBR	**Kellerberrin**	**45.33**	**151**	*e*P	**P**	**00 42 26.5**	**+0.8**
	comp=Z,49nm,0.6s,mb5.5						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	*e*P	**P**	**00 42 33.1**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,14nm,1.1s						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	*e*P	**P**	**00 42 33.1**	**+0.5**
	comp=Z,14nm,1.1s,mb4.8						
NVS	**Novosibirsk**	**47.55**	**351**	*e*P	**P**	**00 42 40.9**	**-2.0**
NVS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
NVS				pmax	pmax		
	comp=N,5.0nm,0.8s						
WRAB	**Tennant Creek**	**48.27**	**126**	*e*P	**P**	**00 42 47.4**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
WRAB	**Tennant Creek**	**48.27**	**126**	*e*P	**P**	**00 42 47.4**	**-1.5**
	comp=Z,6.4nm,0.9s,mb4.7						
WB2	**Warramunga Arr**	**48.27**	**126**	*e*P	**P**	**00 42 47.6**	**-1.4**
RAYN	**Ar Rayn**	**49.11**	**294**	P	**P**	**00 42 56.1**	**+0.7**
	comp=Z,91nm,0.9s,mb5.8,SNR=15						
CHKZ	**Chkalovo**	**49.40**	**342**	*e*P	**P**	**00 42 55.9**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.2						
CHKZ	**Chkalovo**	**49.40**	**342**	*e*P	**P**	**00 42 55.9**	**-1.3**
	comp=Z,24nm,0.9s,mb5.2						
ASPA	**Alice Springs**	**49.92**	**130**	*e*P	**P**	**00 43 01.0**	**-0.6**
BOD	**Bodaibo**	**52.03**	**13**	*e*P	**P**	**00 43 14.0**	**-3.1**
GNI	**Garni**	**54.42**	**314**	*e*P	**P**	**00 43 35.7**	**+0.6**
GNI				pmax	pmax		
	comp=Z,12nm,1.0s						
GNI	**Garni**	**54.42**	**314**	*e*P	**P**	**00 43 35.7**	**+0.7**
	comp=Z,12nm,1.0s,mb4.8						
SVE	**Sverdlovsk**	**55.33**	**338**	*e*P	**P**	**00 43 39.0**	**-2.5**
ARU	**Arti**	**55.82**	**337**	⇓*i*P	**P**	**00 43 39.3**	**-5.7**
ARU				*e*S	**S**	**00 51 23.6**	**-3.9**
ARU				*e*SS	SS	00 55 08.6	-4.7
ARU				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
KIV	**Kislovodsk**	**57.29**	**318**	*e*P	**P**	**00 43 57.4**	**+1.7**
KIV				pmax	pmax		
	comp=N,13nm,1.0s						
KIV				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1						
KIV	**Kislovodsk**	**57.29**	**318**	*e*P	**P**	**00 43 53.6**	**-2.0**
	comp=Z,17nm,0.9s,mb5.1						
KMBO	**Kilima Mbogo**	**57.51**	**264**	*e*P	**P**	**00 43 59.4**	**+1.8**
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KMBO	**Kilima Mbogo**	**57.51**	**264**	*e*P	**P**	**00 43 59.4**	**+1.8**
	comp=Z,3.5nm,0.6s,mb4.6						
MALT	**Malatya**	**58.45**	**310**	*e*P	**P**	**00 44 05.0**	**+1.1**
MALT				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
MALT	**Malatya**	**58.45**	**310**	*e*P	**P**	**00 44 05.0**	**+1.2**
	comp=Z,7.6nm,1.2s,mb4.6						
SOC	**Sochi**	**59.16**	**316**	*e*P	**P**	**00 44 06.2**	**-2.5**
SOC				*e*		00 44 51.4	
SOC				*e*		00 46 14.1	
SOC				*e*S	**S**	**00 52 09.4**	**-2.1**
SOC				*e*		00 53 52.7	
SOC				*e*SSS	SSS	00 58 41.0	+6.4
SOC				pmax	pmax		
	comp=Z,39nm,0.7s,mb5.5						
SOC				pmax	pmax		
	comp=N,48nm,0.8s						
SOC				pmax	pmax		
	comp=E,28nm,0.8s						
EIL	**Elat**	**59.44**	**300**	*e*P	**P**	**00 44 10.5**	**-0.4**
	comp=E,13nm,1.1s,mb4.8						
YAK	**Yakutsk**	**59.87**	**18**	⇓*i*P	**P**	**00 44 13.6**	**+0.2**
YAK				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.1						
YAK	**Yakutsk**	**59.87**	**18**	*e*P	**P**	**00 44 14.7**	**+1.3**
	comp=Z,32nm,0.9s,mb5.3						
MOS	**Moscow**	**65.03**	**329**	*e*P	**P**	**00 44 52.7**	**+5.0**
MOS				*e*	pP	00 45 05.5	+5.6
OBN	**Obninsk**	**65.33**	**328**	*e*P	**P**	**00 44 48.1**	**-1.6**
OBN				*e*	pP	00 44 57.6	-4.2
OBN				*e*		00 45 04.9	
OBN						00 45 25.0	
OBN				pmax	pmax		
	comp=Z,36nm,1.6s,mb5.2						
OBN				MLR	MLR		
	comp=Z,500nm,22.0s,MS4.7						
MA2	**Magadan**	**66.64**	**28**	*e*P	**P**	**00 44 57.0**	**-0.9**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
TIXI	**Tiksi**	**67.12**	**11**	*e*P	**P**	**00 45 00.8**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
LSZ	**Lusaka**	**69.37**	**250**	*e*P	**P**	**00 45 16.9**	**+1.2**
LSZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
LSZ	**Lusaka**	**69.37**	**250**	*e*P	**P**	**00 45 16.9**	**+1.2**
	comp=Z,1.0nm,0.4s,mb4.1						
JOF	**Joensuu**	**70.79**	**334**	*e*p	**P**	**00 45 24.2**	**+0.7**
KWP	**Kalwaria**	**72.00**	**320**	*e*P	**P**	**00 45 31.6**	**+0.6**
KWP				pmax	pmax		
	comp=Z,41nm,1.3s,mb5.2						
KWP	**Kalwaria**	**72.00**	**320**	*e*P	**P**	**00 45 31.6**	**+0.6**
	comp=Z,41nm,1.3s,mb5.2						
KOLS	**Kolonicke sedl**	**72.17**	**319**	*e*P	**P**	**00 45 36.5**	**+4.5**
KOLS	**Kolonicke sedl**	**72.17**	**319**	*e*	**P**	**00 45 36.5**	**+4.5**
SUW	**Suwalki**	**72.47**	**324**	*e*P	**P**	**00 45 38.8**	**+5.2**
FINES	**FINESS Array B**	**72.65**	**332**	*i* P	**P**	**00 45 34.7**	**+0.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CRVS	**Cervenica-Dubn**	**72.70**	**319**	*i* P	**P**	**00 45 42.1**	**+6.9**
CRVS				*e**PP	pP	00 45 46.5	-0.9
CRVS	**Cervenica-Dubn**	**72.70**	**319**	*i*	**P**	**00 45 42.1**	**+6.9**
CR

NB2	**NORSAR Subarra**	**79.68**	**331**	P	**P**	**00 46 12.2**	**-2.2**
NB2				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.5							
MUD	**Monsted U'grnd**	**80.67**	**326**	*i* P	**P**	**00 46 25.8**	**+6.1**
MUD				pmax	pmax		
comp=Z,27nm,1.0s,mb5.1							
MUD	**Monsted U'grnd**	**80.67**	**326**	*i* P	**P**	**00 46 25.8**	**+6.1**
comp=Z,27nm,1.0s,mb5.1							
PGF	**Pioggiola**	**81.14**	**312**	*e*P	**P**	**00 46 21.6**	**-0.9**
comp=Z,67nm,1.2s,mb5.1							
PGF	**Pioggiola**	**81.14**	**312**	*e*P	**P**	**00 46 21.6**	**-0.9**
PGF				pmax	pmax		
comp=Z,34nm,1.2s,mb5.2							
CDF	**Champ du Feu**	**82.06**	**318**	*e*P	**P**	**00 46 25.9**	**-1.3**
comp=Z,22nm,1.2s,mb4.7							
CDF	**Champ du Feu**	**82.06**	**318**	*e*P	**P**	**00 46 25.9**	**-1.3**
CDF				pmax	pmax		
comp=Z,11nm,1.2s,mb4.7							
SBF	**Sospel**	**82.22**	**313**	*e*P	**P**	**00 46 27.1**	**-1.0**
comp=Z,47nm,0.9s,mb5.1							
SBF	**Sospel**	**82.22**	**313**	*e*P	**P**	**00 46 27.1**	**-1.0**
SBF				pmax	pmax		
comp=Z,24nm,0.9s,mb5.1							
LPG	**La Plagne**	**82.60**	**315**	*e*P	**P**	**00 46 29.5**	**-0.5**
comp=Z,27nm,0.8s,mb5.0							
LPG	**La Plagne**	**82.60**	**315**	*e*P	**P**	**00 46 29.5**	**-0.5**
LPG				pmax	pmax		
comp=Z,14nm,0.8s,mb5.0							
LPL	**La Plagne**	**82.61**	**315**	*e*P	**P**	**00 46 29.5**	**-0.5**
comp=Z,30nm,0.8s,mb5.1							
LPL	**La Plagne**	**82.61**	**315**	*e*P	**P**	**00 46 29.5**	**-0.5**
LPL				pmax	pmax		
comp=Z,15nm,0.8s,mb5.1							
MBDF	**Montbardon**	**82.64**	**314**	*e*P	**P**	**00 46 28.8**	**-1.4**
comp=Z,14nm,0.9s,mb4.7							
MBDF	**Montbardon**	**82.64**	**314**	*e*P	**P**	**00 46 28.8**	**-1.4**
MBDF				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.7							
HAU	**Haudompre**	**82.71**	**317**	*e*P	**P**	**00 46 29.4**	**-1.1**
comp=Z,38nm,1.0s,mb5.1							
HAU	**Haudompre**	**82.71**	**317**	*e*P	**P**	**00 46 29.4**	**-1.1**
HAU				pmax	pmax		
comp=Z,19nm,1.0s,mb5.1							
CABF	**La Chapelle**	**82.98**	**316**	*e*P	**P**	**00 46 31.4**	**-0.5**
comp=Z,70nm,1.3s,mb5.2							
CABF	**La Chapelle**	**82.98**	**316**	*e*P	**P**	**00 46 31.4**	**-0.5**
CABF				pmax	pmax		
comp=Z,35nm,1.3s,mb5.2							
ORIF	**Oris-en-Rattie**	**83.25**	**314**	*e*P	**P**	**00 46 33.5**	**+0.2**
comp=Z,18nm,1.0s,mb4.8							
ORIF	**Oris-en-Rattie**	**83.25**	**314**	*e*P	**P**	**00 46 33.5**	**+0.2**
ORIF				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.8							
BAIF	**Baives**	**83.95**	**320**	*e*P	**P**	**00 46 36.2**	**-0.6**
comp=Z,22nm,0.9s,mb5.0							
BAIF	**Baives**	**83.95**	**320**	*e*P	**P**	**00 46 36.2**	**-0.6**
BAIF				pmax	pmax		
comp=Z,11nm,0.9s,mb5.0							
VIVF	**Saint-Julien-l**	**84.11**	**314**	*e*P	**P**	**00 46 37.0**	**-0.7**
comp=Z,20nm,1.0s,mb4.9							
VIVF	**Saint-Julien-l**	**84.11**	**314**	*e*P	**P**	**00 46 37.0**	**-0.7**
VIVF				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.9							
SMF	**Signal de Mont**	**84.52**	**316**	*e*P	**P**	**00 46 38.7**	**-1.0**
comp=Z,55nm,1.3s,mb5.2							
SMF	**Signal de Mont**	**84.52**	**316**	*e*P	**P**	**00 46 38.7**	**-1.0**
SMF				pmax	pmax		
comp=Z,28nm,1.3s,mb5.2							
SSF	**Saint Saulge**	**84.71**	**317**	*e*P	**P**	**00 46 40.0**	**-0.6**
SSF				pmax	pmax		
comp=Z,8.0nm,1.1s,mb4.8							
SSF	**Saint Saulge**	**84.71**	**317**	*e*P	**P**	**00 46 40.0**	**-0.6**
comp=Z,8.3nm,1.1s,mb4.8							
AVF	**Avril sur Loir**	**84.84**	**316**	*e*P	**P**	**00 46 40.4**	**-0.9**
comp=Z,20nm,1.1s,mb4.9							
AVF	**Avril sur Loir**	**84.84**	**316**	*e*P	**P**	**00 46 40.4**	**-0.9**
AVF				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.9							
CAF	**Calviac**	**85.95**	**315**	*e*P	**P**	**00 46 46.5**	**-0.3**
comp=Z,29nm,1.2s,mb5.1							
CAF	**Calviac**	**85.95**	**315**	*e*P	**P**	**00 46 46.5**	**-0.3**
CAF				pmax	pmax		
comp=Z,15nm,1.2s,mb5.1							
TNA	**Tin City**	**86.04**	**24**	*e*P	**P**	**00 46 49.5**	**+2.7**
RJF	**Les Rejaudoux**	**86.29**	**315**	*e*P	**P**	**00 46 48.2**	**-0.2**
LFF	**La Frestale**	**86.88**	**315**	*e*P	**P**	**00 46 51.3**	**-0.1**
comp=Z,61nm,1.3s,mb5.4							
LFF	**La Frestale**	**86.88**	**315**	*e*P	**P**	**00 46 51.3**	**-0.1**
LFF				pmax	pmax		
comp=Z,30nm,1.3s,mb5.4							
LDF	**La Druitiere**	**86.94**	**318**	*e*P	**P**	**00 46 51.0**	**-0.6**
comp=Z,21nm,0.9s,mb5.0							
LDF	**La Druitiere**	**86.94**	**318**	*e*P	**P**	**00 46 51.0**	**-0.6**
LDF				pmax	pmax		
comp=Z,11nm,0.9s,mb5.1							
IMA	**Indian Mountai**	**91.50**	**22**	*e*P	**P**	**00 47 13.6**	**+0.9**
INK	**Inuvik**	**96.87**	**16**	*e*P	**P**	**00 47 40.2**	**+3.0**
INK				pmax	pmax		
comp=Z,10.0nm,1.1s							
INK	**Inuvik**	**96.87**	**16**	*e*P	**P**	**00 47 40.2**	**+3.0**
comp=Z,10nm,1.1s,mb5.2							
RES	**Resolute Bay**	**97.30**	**2**	*e*P	**P**	**00 47 42.4**	**+3.4**
RES				pmax	pmax		
comp=Z,9.0nm,1.2s,mb5.1							
RES	**Resolute Bay**	**97.30**	**2**	*e*P	**P**	**00 47 42.4**	**+3.3**
comp=Z,8.6nm,1.2s,mb5.1							
LKWY	**Lake**	**123.18**	**21**	*e*PKIKP	PKPdf	00 53 07.3	+5.0

ISC 30 00:39:46.6±5.2, 19.0N±0.8×121.1E±0.8, h100km, n6, σ0°78/6, mb4.2/2, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**1.46**	**152**	⇑*i*P	**P**	**00 40 12.8**	**0.0**
WB2	**Warramunga Arr**	**40.83**	**161**	*e*P	**P**	**00 47 19.2**	**-0.8**
ASPA	**Alice Springs**	**44.21**	**163**	⇓*i*P	**P**	**00 47 48.2**	**+0.6**
CTA	**Charters Tower**	**46.01**	**146**	*e*P	**P**	**00 48 02.5**	**+0.5**
4.1nm,0.9s,mb4.2							
FORT	**Forrest**	**49.94**	**172**	*e*P	**P**	**00 48 32.8**	**+0.4**
68nm,0.7s							
STKA	**Stephens Creek**	**54.27**	**158**	*e*P	**P**	**00 49 04.0**	**-0.7**
2.3nm,0.8s,mb4.3							

IGQ 30 00:40:02.3, 1.02S×81.31W, h7km±4km, mb4.1, 1C-3D, Error ellipse: s-maj=7.1km s-min=4.5km az=25.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.77**	**92**	⇑P	Pb	00 40 16.2	-1.3
JAMA	**Jama**	**1.34**	**56**	⇓P	Pb	00 40 28.0	+0.6
JAMA				S	Sb	00 40 43.6	-1.0
MAGD	**Magdalena**	**1.81**	**58**	P	Pn	00 40 36.8	+2.6
IGUA	**Igualata**	**2.71**	**100**	P	Pn	00 40 48.8	+1.6
JUA2	**San Juan 2**	**2.82**	**74**	P	Pn	00 40 50.2	+1.5
JUA2				S	Sn	00 41 22.9	-0.5
TERV	**Terraza Guagua**	**2.83**	**73**	P	Pn	00 40 50.7	+1.8
PINO	**Pino**	**2.84**	**72**	P	Pn	00 40 49.6	+0.7
JOR1	**San Jorge 1**	**2.86**	**69**	P	Pn	00 40 48.4	-0.8
NAS1	**Nasa**	**2.86**	**82**	⇓P	Pn	00 40 51.2	+2.0
NAS1				S	Sn	00 41 28.0	+3.7
CUSU	**Cusua**	**2.86**	**98**	P	Pn	00 40 51.1	+1.8
JUIV	**Juive**	**2.88**	**98**	P	Pn	00 40 52.4	+2.9
YANA	**Yana**	**2.88**	**72**	P	Pn	00 40 50.1	+0.5
ARRY	**Arrayan**	**2.90**	**100**	P	Pn	00 40 51.0	+1.3
ARRY				S	Sn	00 41 23.6	-1.6
RETU	**Refugio**	**2.90**	**99**	P	Pn	00 40 53.1	+3.4
PISA	**Pisayambo**	**2.93**	**91**	P	Pn	00 40 52.7	+2.5
VC1	**Cotopaxi 1**	**2.93**	**83**	P	Pn	00 40 52.9	+2.6
ULBA	**Ulba**	**2.94**	**98**	P	Pn	00 40 52.6	+2.3
TAMB	**Tambo**	**2.96**	**84**	P	Pn	00 40 54.3	+3.6
ANTI	**Antisana**	**3.20**	**80**	P	Pn	00 40 56.9	+2.8
COTA	**Cotacachi**	**3.27**	**66**	⇓P	Pn	00 40 56.8	+1.8
CAYR	**Refugio Cayamb**	**3.46**	**73**	P	Pn	00 41 01.1	+3.3
CAYR				S	Sn	00 41 41.1	+1.6
CAYA	**Cayambe**	**3.49**	**72**	P	Pn	00 41 01.4	+3.1

*CSEM **30** 00:50:10.7±0.1, 38.16N×26.70E, h8km, MD3.5, Error ellipse: s-maj=3.1km s-min=2.1km az=97.0*
*ISK **30** 00:50:10.9, 38.16N×26.71E, h9km, MD3.5*
*ATH **30** 00:50:12.4, 38.12N×26.64E, h27km±12km, MD3.5/4*

ISC 30 00:50:11.3±1.1, 38.17N±0.03×26.70E±0.05, h4km±7km, n31, σ0°72/40, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.34**	**51**	*i* PG	**Pg**	**00 50 18.8**	**+0.6**
BLCB				*i* SG	**Sg**	**00 50 22.9**	**+0.1**
SMG	**Samos**	**0.47**	**167**	*e*PB	**Pb**	**00 50 21.8**	**0.0**
SMG				*e*SB	**Sb**	**00 50 28.9**	**+0.1**
IZM	**Izmir**	**0.50**	**62**	*i* PG	**Pg**	**00 50 21.8**	**+0.5**
IZM				*i* SG	**Sg**	**00 50 28.0**	**+0.1**
AYDN	**Tasoluk**	**1.06**	**118**	*i* P	**Pb**	**00 50 32.1**	**+0.3**
AYDN				*i* S	**Sb**	**00 50 42.3**	**-3.5**
AKS	**Akhisar**	**1.12**	**50**	*i* PN	**Pn**	**00 50 32.8**	**-0.9**
PRK	**Paraskevi**	**1.13**	**343**	*e*PN	**Pn**	**00 50 34.1**	**+0.3**
PRK				*e*SN	**Sn**	**00 50 50.8**	**+1.0**
MLSB	**Milas**	**1.22**	**135**	PN	**Pn**	**00 50 34.5**	**-0.6**
BDRM	**Kayabasi**	**1.25**	**152**	*i* P	**Pb**	**00 50 35.6**	**+0.5**
BDRM				*i* S	**Sb**	**00 50 51.8**	**+0.4**
APE	**Apeiranthos**	**1.44**	**221**	*i* PN	**Pn**	**00 50 37.0**	**-1.2**
APE	**Apeiranthos**	**1.44**	**221**	*e*PN	**Pn**	**00 50 37.8**	**-0.4**
MANT	**Manisa**	**1.49**	**77**	*i* P	**Pn**	**00 50 39.7**	**+0.7**
MANT				*i* S	**Sb**	**00 50 57.6**	**-0.8**
YER	**Yerkesik**	**1.62**	**129**	PN	**Pn**	**00 50 40.5**	**-0.4**
DENT	**Denizli**	**1.89**	**102**	*e*PN	**Pn**	**00 50 44.3**	**-0.3**
DNZL	**Cakiroluk**	**1.91**	**104**	*i* P	**Pn**	**00 50 48.3**	**+3.3**
DNZL				*i* S	**Sn**	**00 51 11.7**	**+1.9**
DST	**Dursunbey**	**2.08**	**46**	*e*PN	**Pn**	**00 50 46.4**	**-0.9**
EDC	**Edincik**	**2.35**	**22**	*e*PN	**Pn**	**00 50 51.0**	**-0.3**
BNT	**Bandirma**	**2.38**	**23**	*e*PN	**Pn**	**00 50 52.1**	**+0.4**
KCT	**Karacabey**	**2.46**	**31**	*e*PN	**Pn**	**00 50 52.3**	**-0.5**
MRMT	**Marmara Adasi**	**2.53**	**16**	*e*PN	**Pn**	**00 50 52.9**	**-0.9**
ORLT	**Orhaneli**	**2.54**	**42**	*e*PN	**Pn**	**00 50 53.5**	**-0.4**
MFT	**Murefte**	**2.65**	**10**	*e*PN	**Pn**	**00 50 55.4**	**-0.2**
ULDT	**Uludag**	**2.73**	**43**	*i* P	**Pn**	**00 51 01.4**	**+4.7**
ULDT				*i* S	**Sn**	**00 51 37.2**	**+6.6**
ALT	**Altintas**	**2.81**	**71**	*e*PN	**Pn**	**00 50 57.0**	**-0.9**
ELL	**Elmali**	**2.92**	**118**	*e*PN	**Pn**	**00 50 59.4**	**0.0**
RDO	**Rodhopi**	**3.11**	**344**	*e*PN	**Pn**	**00 51 02.5**	**+0.5**
BCK	**Bucak**	**3.16**	**102**	*e*PN	**Pn**	**00 51 02.1**	**-0.7**
YLV	**Yalova**	**3.17**	**40**	*e*PN	**Pn**	**00 51 02.4**	**-0.5**
CTT	**Catalca**	**3.26**	**24**	*e*PN	**Pn**	**00 51 04.8**	**+0.6**
BADT	**Buyukada**	**3.27**	**34**	*e*PN	**Pn**	**00 51 04.2**	**-0.1**
HRT	**Hereke**	**3.50**	**40**	*e*PN	**Pn**	**00 51 08.3**	**+0.6**
ESKT	**Eskisehir**	**3.51**	**66**	*e*PN	**Pn**	**00 51 08.1**	**+0.4**

*NEIC **30** 00:57:05.3, 16.67N×94.98W, h98km, MD3.6(MEX), After MEX.*

MEX 30 00:57:05.3±1.0, 16.67N×94.98W, h98km±11km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.43**	**13**	*e*P	P	00 57 19.3	-1.3
CMIG				*e*S	S	00 57 30.0	-2.0
HUIG	**Huatulco**	**1.41**	**230**	*e*P	P	00 57 28.5	-2.2
HUIG				*e*S	S	00 57 48.2	-1.4
OXX	**Oaxaca**	**1.72**	**284**	*e*P	P	00 57 33.8	-0.8
OXX				*e*S	S	00 57 55.0	-1.3
VHO	**Vista Hermosa**	**1.72**	**284**	*e*P	P	00 57 33.6	-1.1
VHO				*e*S	S	00 57 54.3	-2.1
POHV	**Veracruz**	**3.24**	**318**	*e*P	P	00 57 54.0	-1.3

*NEIC **30** 00:57:44.3±0.8, 8.11N×94.33E, h30km, mb4.1/6, Error ellipse: s-maj=17.4km s-min=15.2km az=110.0*

ISC 30 00:57:42.4±6.5, 8.2N±0.1×94.4E±0.1, h31km±46km, n18, σ0°67/18, mb4.4/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.15**	**23**	P	**P**	**01 00 22.7**	**-0.2**
HYB	**Hyderabad**	**17.96**	**302**	*e*P	**P**	**01 01 52.0**	**+0.3**
HYB	**Hyderabad**	**17.96**	**302**	*i* P	**P**	**01 01 52.0**	**+0.3**
JIRN	**Jiri**	**20.89**	**339**	*e*P	**P**	**01 02 24.7**	**0.0**
41nm,0.8s							
PKI	**Pulchoki**	**21.09**	**337**	*e*P	**P**	**01 02 26.5**	**-0.3**
39nm,0.8s,mb4.8							
DMN	**Daman**	**21.24**	**337**	*e*P	**P**	**01 02 28.4**	**+0.1**
51nm,0.9s,mb4.8							
KKN	**Kakani**	**21.34**	**337**	*e*P	**P**	**01 02 28.6**	**-0.6**
36nm,0.9s,mb4.7							
GKN	**Gorkha**	**21.78**	**336**	*e*P	**P**	**01 02 33.6**	**-0.1**
86nm,1.0s,mb5.1							
KOLN	**Koldanda**	**22.01**	**334**	*e*P	**P**	**01 02 36.4**	**+0.4**
26nm,0.6s,mb4.8							
AAK	**Ala-Archa**	**38.54**	**336**	P	**P**	**01 05 03.9**	**-0.1**
ULN	**Ulaanbaatar**	**41.00**	**13**	P	**P**	**01 05 27.1**	**+2.9**
1.8nm,0.8s,mb3.8							
KURK	**Kurchatov**	**44.39**	**346**	*e*P	**P**	**01 05 52.4**	**+0.5**
4.2nm,0.8s,mb4.2							
WRAB	**Tennant Creek**	**48.23**	**126**	*e*P	**P**	**01 06 22.5**	**-0.2**
2.6nm,0.8s,mb4.3							
CHKZ	**Chkalovo**	**49.28**	**342**	*e*P	**P**	**01 06 29.7**	**-0.6**
3.3nm,0.8s,mb4.4							
CHKZ				*e*		01 06 36.7	
LSZ	**Lusaka**	**69.60**	**250**	*e*P	**P**	**01 08 51.2**	**0.0**
0.4nm,0.5s,mb3.6							
KAF	**Kangasniemi**	**72.65**	**333**	*e*p	**P**	**01 09 07.4**	**-1.4**
LBTB	**Lobatse**	**74.60**	**241**	P	**P**	**01 09 21.2**	**+0.3**
0.6nm,0.6s,mb3.7							
NB2	**NORSAR Subarra**	**79.60**	**331**	P	**P**	**01 09 48.4**	**+0.4**
3.3nm,1.1s,mb4.2,baz=92,slow=5.8							

*THE **30** 01:07:09.4, 39.32N×21.87E, h10km, ML3.2*
*ATH **30** 01:07:09.3, 39.31N×21.95E, h11km, MD3.3/4*
*CSEM **30** 01:07:09.4, 39.32N×21.87E, h10km, ML3.2, After THE*

ISC 30 01:07:09.2±0.8, 39.33N±0.03×21.91E±0.06, h8km±8km, n18, σ1°92/24, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.41**	**191**	*e*PG	**Pg**	**01 07 16.8**	**-0.8**
EVR				*e*SB	**Sb**	**01 07 23.4**	**-1.0**
AGG	**Agios Georgios**	**0.45**	**133**	*e*Pg	**Pg**	**01 07 18.0**	**-0.2**
AGG				*e*Sg	**Sg**	**01 07 25.8**	**+1.5**
JAN	**Janina**	**0.88**	**292**	*e*PB	**Pb**	**01 07 27.0**	**+0.7**
LIT	**Litokhoron**	**0.90**	**30**	*e*Pg	**Pg**	**01 07 26.3**	**-0.8**
LIT				*e*Sg	**Sg**	**01 07 40.4**	**+1.3**
LIT	**Litokhoron**	**0.90**	**30**	*e*Pg	**Pg**	**01 07 26.3**	**-0.8**
LIT				*e*Sg	**Sg**	**01 07 40.3**	**+1.2**
KZN	**Kozani**	**0.99**	**354**	*e*PG	**Pg**	**01 07 28.1**	**-0.8**
XOR	**Xorichti**	**1.00**	**87**	*e*Pg	**Pg**	**01 07 28.6**	**-0.5**
XOR				*e*Sg	**Sg**	**01 07 43.9**	**+1.5**
NEO	**Neokhori**	**1.02**	**91**	*e*PN	**Pn**	**01 07 28.5**	**-1.1**
LKR	**Lokris**	**1.08**	**128**	*e*PG	**Pg**	**01 07 29.0**	**-1.9**
RLS	**Riolos of Patr**	**1.31**	**195**	*e*PN	**Pn**	**01 07 33.2**	**-0.6**
RLS				*e*SB	**Sb**	**01 07 51.7**	**+1.3**
FNA	**Florina**	**1.51**	**345**	*e*Pb	**Pb**	**01 07 37.2**	**+0.1**
THE	**Thessaloniki**	**1.54**	**32**	*e*Pb	**Pb**	**01 07 37.8**	**+0.3**
VLS	**Valsamata**	**1.54**	**222**	*e*PB	**Pb**	**01 07 39.4**	**+1.8**
GRG	**Griva**	**1.67**	**13**	*e*Pb	**Pb**	**01 07 39.3**	**-0.5**
OUR	**Ouranopolis**	**1.89**	**57**	*e*Pb	**Pb**	**01 07 42.2**	**-1.2**
OUR	**Ouranopolis**	**1.89**	**57**	*e*Pb	**Pb**	**01 07 42.2**	**-1.3**
SRS	**Serrai**	**2.21**	**35**	*e*Pn	**Pn**	**01 07 46.8**	**+0.2**
SKO	**Skopje**	**2.67**	**352**	*e*Pn	**Pn**	**01 07 54.0**	**+0.8**

JMA 30 01:09:02.4±0.7, 33.81N×141.85E, h18km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.11**	**320**	P	Pb	01 09 22.7	0.0
BSO3	**Boso 3**	**1.49**	**312**	P	Pn	01 09 29.0	+0.5
BSO4	**Boso 4**	**1.72**	**314**	P	Pn	01 09 32.9	+1.1
JIM2	**Oshima 3**	**2.20**	**295**	P	Pn	01 09 38.9	+0.2
JOD2	**Odawara 2**	**2.70**	**303**	P	Pn	01 09 45.5	-0.4
JHU	**Hanno**	**2.94**	**315**	P	Pn	01 09 49.3	+0.1
JHU				S	Sn	01 10 25.1	+0.8
JAG	**Ashikaga**	**3.27**	**324**	P	Pn	01 09 53.3	-0.6
MAT	**Matsushiro**	**4.04**	**313**	P	Pn	01 10 05.3	+0.4
MAT				S	Sn	01 10 51.5	-0.9

MAN 30 01:42:08.5, 9.07N×126.96E, h1km, mb4.5, ML3.3, MS3.2, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.06**	**214**	*e*P	Pb	01 42 29.5	+0.3
BIPH				*e*S	Sb	01 42 40.5	-2.9
BUTP	**Butuan**	**1.32**	**266**	*e*P	Pb	01 42 31.8	-2.0
SCPH	**Surigao**	**1.61**	**296**	⇑*e*P	Pn	01 42 37.1	-1.1
BUKP	**Musuan**	**2.21**	**238**	*e*P	Pn	01 42 47.6	+0.8
BUKP				*e*S	Sn	01 43 14.2	-1.1
CGP	**Cagayan de Oro**	**2.32**	**255**	⇑*e*P	Pn	01 42 47.5	-0.7
CGP				*e*S	Sn	01 43 18.1	+0.3
MSLP	**Maasin**	**2.32**	**297**	*e*P	Pn	01 42 48.9	+0.6
BESP	**Borongan**	**2.92**	**329**	*e*P	Pn	01 42 57.1	+0.1
TBP	**Tagbilaran**	**3.11**	**282**	*e*P	Pn	01 42 59.5	-0.2
TBP				*e*S	Sn	01 43 34.5	-3.6
SNPH	**Sibulan**	**3.68**	**275**	*e*P	Pn	01 43 08.0	+0.3

IGQ 30 01:48:36.3, 1.50S×81.28W, h12km±7km, mb4.2, 3C-1D, Error ellipse: s-maj=11.9km s-min=4.6km az=7.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.86**	**59**	⇑P	Pb	01 48 52.0	-0.6
JAMA	**Jama**	**1.63**	**41**	P	Pn	01 49 06.3	+1.2
JAMA				S	Sn	01 49 23.7	-2.4
MAGD	**Magdalena**	**2.07**	**47**	P	Pn	01 49 13.8	+2.4
IGUA	**Igualata**	**2.64**	**90**	⇑P	Pn	01 49 20.4	+0.9
IGUA				S	Sn	01 49 52.6	+0.8
CUSU	**Cusua**	**2.80**	**89**	P	Pn	01 49 23.7	+1.9
JUIV	**Juive**	**2.82**	**89**	P	Pn	01 49 23.4	+1.3
ARRY	**Arrayan**	**2.83**	**90**	⇓P	Pn	01 49 22.8	+0.7
ARRY				S	Sn	01 49 53.7	-2.7
RETU	**Refugio**	**2.83**	**89**	P	Pn	01 49 24.3	+2.0
ULBA	**Ulba**	**2.87**	**89**	P	Pn	01 49 24.2	+1.4
PISA	**Pisayambo**	**2.93**	**82**	P	Pn	01 49 25.7	+2.1
NAS1	**Nasa**	**2.93**	**73**	⇑P	Pn	01 49 26.6	+2.9
JUA2	**San Juan 2**	**2.96**	**65**	P	Pn	01 49 25.4	+1.3
TERV	**Terraza Guagua**	**2.98**	**64**	P	Pn	01 49 25.6	+1.2
PINO	**Pino**	**2.98**	**64**	P	Pn	01 49 25.2	+0.7
VC1	**Cotopaxi 1**	**3.00**	**74**	P	Pn	01 49 28.0	+3.3
TAMB	**Tambo**	**3.02**	**75**	P	Pn	01 49 27.2	+2.3
JOR1	**San Jorge 1**	**3.03**	**61**	P	Pn	01 49 24.6	-0.5
YANA	**Yana**	**3.04**	**63**	P	Pn	01 49 25.9	+0.7
ANTI	**Antisana**	**3.29**	**72**	P	Pn	01 49 30.9	+2.2
COTA	**Cotacachi**	**3.46**	**58**	P	Pn	01 49 33.2	+2.0
COTA				S	Sn	01 50 15.6	+3.1
CAYR	**Refugio Cayamb**	**3.60**	**65**	P	Pn	01 49 36.9	+3.7
CAYA	**Cayambe**	**3.64**	**65**	P	Pn	01 49 37.6	+3.9
CONE	**Cono NE Rev Vo**	**3.90**	**69**	P	Pn	01 49 42.2	+4.7

KRSC 30 01:48:39.7±0.4, 52.91N×158.53E, h125km±2km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**0.14**	**33**	*i* P	P	01 48 57.4	+0.5
PET				*i* S	S	01 49 10.0	+0.1
KRMR	**Karymshinskiy**	**0.26**	**252**	*i* P	P	01 48 57.6	+0.5
KRMR				*i* S	S	01 49 10.9	+0.4
UGLR	**Uglovaya**	**0.35**	**31**	*i* P	P	01 48 58.5	+1.0
AVH	**Avacha**	**0.38**	**19**	*i* P	P	01 48 58.8	+1.1
AVH				*i* S	S	01 49 12.4	+1.1
KOK	**Koryaka**	**0.39**	**9**	*i* P	P	01 48 58.8	+1.1
KOK				*i* S	S	01 49 12.4	+1.0
SMAR	**Somma**	**0.39**	**25**	*i* P	P	01 48 58.8	+1.1
GRL	**Gorelyy**	**0.45**	**218**	*i* P	P	01 48 59.0	+0.9
GRL				*i* S	S	01 49 13.1	+1.1
RUS	**Russkaya**	**0.48**	**181**	*i* P	P	01 48 58.2	0.0
RUS				*i* S	S	01 49 11.6	-0.6
NLC	**Nalytchevo**	**0.56**	**62**	*i* P	P	01 49 58.9	+0.2
NLC				*i* S	S	01 49 13.2	+0.1
APC	**Apacha**	**0.83**	**272**	*i* P	P	01 49 01.5	+0.7
APC				*i* S	S	01 49 17.5	+0.7
APC				Smax			
250nm,0.7s							
GNL	**Ganaly**	**0.86**	**336**	*i* P	P	01 49 01.6	+0.5
GNL				*i* S	S	01 49 17.7	+0.4
SPN	**Mys Shipunski**	**0.92**	**78**	*e*P	P	01 49 01.9	+0.3
SPN				*e*S	S	01 49 18.7	+0.5
PAU	**Pauzhetka**	**1.79**	**217**	*i* P	P	01 49 11.5	+0.2
PAU				*e*S	S	01 49 34.5	-0.8
TUMR	**Tumrok**	**2.56**	**21**	*e*P	P	01 49 22.7	+1.5
SKR	**Severo-Kuril's**	**2.69**	**215**	*e*P	P	01 49 23.9	+1.0
SKR				*e*S	S	01 49 57.6

JRY	**Ryogami san**	**5.78 360**	P	**P**	**02 21 33.8 +0.4**
JAG	**Ashikaga**	**6.20 4**	P	**P**	**02 21 36.9 -0.9**
JNG	**Nsakai**	**6.20 354**	P	**P**	**02 21 38.3 +0.5**
MAT	**Matsushiro**	**6.33 355**	P	**P**	**02 21 38.8 -0.3**
MAT			S	**S**	**02 22 56.1 -0.8**
MAT	**Matsushiro**	**6.33 355**	P	**P**	**02 21 39.1 0.0**
JHO	**Hitachi**	**6.52 12**	P	**P**	**02 21 41.0 -0.1**
KAF	**Kangasniemi**	**73.41 333**	*e*p	**P**	**02 30 46.3 -0.7**
NB2	**NORSAR Subarra**	**79.64 337**	P	**P**	**02 31 21.7 +0.6**
	0.7nm,0.5s,mb3.5,baz=45,slow=5.0				

HLW ***30*** *02:21:08.1,35.54N×27.86E,h28km,Mb3.2*
ATH ***30*** *02:21:13.6,35.84N×27.34E,h3km,MD3.5/4*
ISC 30 02:21:06.7±0.7,35.19N±0.05×28.0E±0.1,h3km,n12,σ0.91/13,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.76**	**298**	*e*PG	**Pg**	**02 21 19.9**	**-2.0**
ARG	**Arkhangelos**	**1.03**	**6**	*e*PG	**Pg**	**02 21 27.9**	**+0.6**
BDRM	**Kayabasi**	**1.92**	**347**	*i* P	**Pn**	**02 21 40.6**	**-0.1**
NPS	**Neapolis**	**1.94**	**273**	*e*PN	**Pn**	**02 21 41.9**	**+1.0**
AYDN	**Tasoluk**	**2.47**	**358**	*i* P	**Pn**	**02 21 48.0**	**-0.5**
DNZL	**Cakiroluk**	**2.64**	**19**	*i* P	**Pn**	**02 21 50.8**	**-0.1**
VAM	**Vamos**	**3.10**	**275**	*e*PN	**Pn**	**02 21 59.0**	**+1.5**
HMAT	**Matruh**	**4.15**	**191**	P	**Pn**	**02 22 13.3**	**+0.9**
HNAT	**Natroun**	**5.97**	**157**	P	**Pn**	**02 22 38.4**	**+0.2**
SWA1		**6.21**	**199**	P	**Pn**	**02 22 40.9**	**-0.7**
SWA2		**6.30**	**201**	P	**Pn**	**02 22 42.6**	**-0.2**
SWA2				S	**Sn**	**02 23 52.3**	**-3.9**
HDK2	**Wahat Dakhilah**	**10.87**	**175**	P	**P**	**02 23 45.7**	**-0.5**

CSEM ***30*** *02:25:39.9,7.89N×94.73E,h33km,mb5.5*
BJI ***30*** *02:25:40.9,7.72N×93.95E,h42km,mB5.1,mb4.7,Ms4.8,Msz4.6*
HRVD ***30*** *02:25:41.8±0.4,8.03N×94.18E,h12km,MW5.0/47, Centroid moment Tensor Solution. LP body waves: s20,c26;Mantle waves: s47,c74; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.73±.19; Mθθ0.72±.14; Mφφ2.00±.16; Mrθ0.95±.57; Mrφ2.83±.13; Mθφ-0.44±.50; Best double couple: M0=3.798×1016 NP1:φs12°,δ50°, λ-130°. NP2:φs245°,δ54°,λ-52°. Principal axes: T4.273, Plg2°, Azm309°; N -.953, Plg30°, Azm40°; P -3.324, Plg60°, Azm215°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***30*** *02:25:41.8±0.2,8.14N×94.23E,mb5.2/66,MS4.2/8 Error ellipse: s-maj=7.5km s-min=6.5km az=15.0*
MOS ***30*** *02:25:42.7±0.8,8.17N×94.17E,h33km,mb5.3/59,Error ellipse: s-maj=11.1km s-min=5.3km az=121.5*
ISC 30 02:25:40.7±0.3,8.11N±0.04×94.21E±0.04,h20km, h20km±.9km:pP-P,n251,σ0.95/265,mb5.1/83,MS4.4/14, 17C-5D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.81**	**338**	*e*P	**Pn**	**02 26 41.0**	**+1.4**
PBA				*e*S	**Sn**	**02 27 22.8**	**-1.6**
SNG	**Songkhla**	**6.42**	**98**	P	**Pn**	**02 27 09.0**	**-7.6**
	496nm,0.9s						
NNT	**Nongplab**	**7.02**	**50**	P	**Pn**	**02 27 25.0**	**-0.1**
CM31	**Chiang Mai Arr**	**11.27**	**24**	P	**P**	**02 28 21.6**	**-2.2**
PALK	**Pallekele**	**13.41**	**267**	*e*P	**P**	**02 28 54.6**	**+1.9**
VIS	**Vishakhapatnam**	**14.27**	**313**	*e*P	**P**	**02 29 03.8**	**-0.1**
VIS				*e*		02 29 09.1	
	comp=Z,87nm,0.8s						
VIS				*e*		02 29 09.1	
	comp=Z,87nm,0.8s						
VIS				*e*		02 31 34.2	
VIS				*e*S	**S**	**02 31 43.0**	**+0.5**
BWNR	**Bhubaneshwar**	**14.59**	**327**	*e*P	**P**	**02 29 10.3**	**+2.1**
BWNR				*e*		02 29 16.5	
	comp=Z,119nm,1.4s						
BWNR				*e*S	**S**	**02 31 50.0**	**-0.2**
CAL	**Calcutta**	**15.42**	**339**	*e*	**S**	**02 32 25.8**	**+16**
IMP	**Imphal**	**16.58**	**359**	*e*	**P**	**02 29 33.9**	**+0.1**
KOD	**Kodaikanal**	**16.67**	**279**	*e*P	**P**	**02 29 39.8**	**+4.9**
KOD				*e*		02 29 46.9	
	comp=Z,76nm,1.3s						
KOD				*e*S	**S**	**02 32 45.1**	**+6.5**
TRD	**Trivandrum**	**17.08**	**273**	*e*	**P**	**02 29 33.4**	**-6.7**
TRD				*i*		02 32 43.4	
SHL	**Shillong**	**17.50**	**353**	*e*P	**P**	**02 29 44.0**	**-1.4**
SHL				*e*S	**S**	**02 33 01.8**	**+4.1**
HYB	**Hyderabad**	**17.84**	**303**	*e*P	**P**	**02 29 50.0**	**+0.4**
HYB				*e*S	**S**	**02 33 05.0**	**-0.4**
HYB	**Hyderabad**	**17.84**	**303**	*i* P	**P**	**02 29 50.0**	**+0.4**
	comp=Z,40nm,1.0s						
HYB				*e*S	**S**	**02 33 05.0**	**-0.4**
BLSP	**Bilaspur**	**18.15**	**321**	*e*P	**P**	**02 29 53.6**	**+0.1**
BLSP				*e*		02 30 01.7	
	comp=Z,100nm,1.0s						
QIZ	**Qiongzhong**	**18.65**	**53**	P	**P**	**02 30 02.5**	**+2.8**
QIZ				LR	LR		
	comp=N,5μm,13.3s						
QIZ				LR	LR		
	comp=Z,2μm,10.1s						
KMI	**Kunming**	**18.77**	**25**	⇑P	**P**	**02 30 05.9**	**+4.8**
KMI				pmax	pmax		
	comp=Z,13nm,1.2s						
KMI	**Kunming**	**18.77**	**25**	⇑P	**P**	**02 30 05.9**	**+4.8**
	comp=Z,13nm,1.2s						
KMI				pP		02 30 12.6	
KMI				sP		02 30 17.5	
KMI				PP	PP	02 30 27.4	+10
KMI				S	**S**	**02 33 41.1**	**+15**
KMI				sS		02 33 51.1	
KMI				SS	SS	02 34 08.5	+17
NGP	**Nagpur**	**19.55**	**313**	*e*P	**P**	**02 30 08.8**	**-1.5**
NGP				*e*		02 30 25.5	
	comp=Z,54nm,1.6s						
NGP				*e*S	**S**	**02 33 49.4**	**+5.4**
MNGI	**Mangalore**	**19.65**	**286**	*e*P	**P**	**02 30 07.4**	**-4.0**
MNGI				*e*S	**S**	**02 33 52.0**	**+5.8**
COCO	**West Island**	**20.34**	**173**	*e*P	**P**	**02 30 21.5**	**+2.8**
	comp=Z,94nm,0.9s						
ALBI	**Allahabad**	**20.79**	**327**	*e*P	**P**	**02 30 21.5**	**-1.8**
JIRN	**Jiri**	**20.87**	**340**	*e*P	**P**	**02 30 24.4**	**+0.3**
	comp=Z,124nm,0.8s						
PKI	**Pulchoki**	**21.07**	**338**	*e*P	**P**	**02 30 26.9**	**+0.7**
	comp=Z,338nm,1.2s,mb5.5						
DMN	**Daman**	**21.22**	**337**	*e*P	**P**	**02 30 28.0**	**+0.3**
	comp=Z,294nm,1.2s,mb5.5						
KKN	**Kakani**	**21.32**	**338**	*e*P	**P**	**02 30 28.9**	**+0.2**
	comp=Z,239nm,1.2s,mb5.4						
KAD	**Karad**	**21.55**	**297**	*e*P	**P**	**02 30 32.0**	**+0.9**
LSA	**Lhasa**	**21.67**	**353**	P	**P**	**02 30 33.3**	**+1.1**
GKN	**Gorkha**	**21.76**	**337**	*e*P	**P**	**02 30 33.6**	**+0.5**
	comp=Z,114nm,0.7s,mb5.4						
KOLN	**Koldanda**	**21.98**	**334**	*e*P	**P**	**02 30 36.1**	**+0.8**
	comp=Z,234nm,1.2s,mb5.5						
BHPL	**Bhopal**	**22.04**	**315**	*e*P	**P**	**02 30 38.4**	**+2.4**
BHPL				*e*		02 30 40.5	
	comp=Z,55nm,1.1s						
BHPL				*e*		02 34 30.4	
BHPL				*e*S	**S**	**02 34 41.9**	**+8.9**
POO	**Poona**	**22.33**	**300**	*e*P	**P**	**02 30 41.0**	**+2.1**
BOM	**Bombay**	**23.38**	**299**	*e*	**S**	**02 34 55.5**	**-1.6**
NDI	**New Delhi**	**25.99**	**324**	*e*P	**P**	**02 31 14.5**	**+0.4**
NDI				*e*	pP	02 31 22.1	+2.1
	comp=Z,101nm,1.3s						
NDI				*e*S	**S**	**02 35 45.3**	**+4.0**
AJM	**Ajmer**	**26.06**	**317**	*i*	**P**	**02 31 11.6**	**-3.2**
DDI	**Dehra Dun**	**26.78**	**328**	*e*P	**P**	**02 31 22.0**	**+0.6**
DDI				*e*		02 36 20.0	
XAN	**Xi'an**	**29.15**	**26**	P	**P**	**02 31 42.5**	**-0.3**
XAN				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
LZH	**Lanzhou**	**29.20**	**16**	*e*P	**P**	**02 31 44.0**	**+0.7**
LZH				AP	pP	02 31 56.5	+7.3
LZH				XP	sP	02 32 01.0	+9.2
LZH				PP	PP	02 32 39.0	+1.0
LZH				*e*S	**S**	**02 36 34.0**	**+0.7**
LZH				AMB	AMB		
	comp=Z,43nm,1.6s,mb4.9						
LZH				AMB	AMB		
	comp=Z,180nm,4.7s						
LZH				LR	LR		
	comp=E,785nm,10.6s						
LZH				LR	LR		
	comp=Z,1μm,11.7s,MS4.7						
LZH	**Lanzhou**	**29.20**	**16**	*e*P	**P**	**02 31 44.0**	**+0.7**
LZH				*SS		02 31 53.0	
LZH				*PP	pP	02 31 56.5	+7.3
LZH						02 32 39.0	
LZH				*e*S	**S**	**02 36 34.0**	**+0.7**
LZH				SS	SS	02 38 05.0	+1.0
LZH				pmax	pmax		
	comp=Z,43nm,1.6s,mb4.9						
LZH				MLR	MLR		
	comp=Z,1μm,11.7s,MS4.7						
LZH	**Lanzhou**	**29.20**	**16**	*e*P	**P**	**02 31 44.0**	**+0.7**
	comp=Z,43nm,1.6s,mb4.9						
LZH				sS		02 31 53.0	
LZH				pP	pP	02 31 56.5	+7.3
LZH				sP	sP	02 32 01.0	+9.2
LZH				PP	PP	02 32 39.0	+1.0
LZH				*e*S	**S**	**02 36 34.0**	**+0.7**
LZH				SS	SS	02 38 05.0	+1.0
LZH				LR	LR		
	comp=Z,1μm,11.7s,MS4.7						
WHN	**Wuhan**	**29.20**	**37**	P	**P**	**02 31 45.0**	**+1.7**
NJ2	**Nanjing**	**33.04**	**40**	*e*P	**P**	**02 32 19.5**	**+2.4**
NJ2				AP	pP	02 32 29.0	+5.9
NJ2				XP	sP	02 32 33.8	+8.1
NJ2				PP	PP	02 33 32.3	+4.3
NJ2				S	**S**	**02 37 41.0**	**+7.3**
NJ2				AMB	AMB		
	comp=Z,80nm,1.4s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,370nm,4.4s						
NJ2				LR	LR		
	comp=N,1μm,22.3s						
NJ2				LR	LR		
	comp=E,1μm,11.3s						
NJ2				LR	LR		
	comp=Z,890nm,15.8s						
SSE	**Sheshan**	**34.00**	**44**	P	**P**	**02 32 21.2**	**-4.3**
	comp=Z,17nm,0.9s,mb5.0						
SSE				pP	pP	02 32 30.0	-1.4
SSE				S	**S**	**02 37 51.0**	**+2.5**
SSE				sS		02 38 05.8	
SSE				SS	SS	02 40 24.5	+28
SSE				LR	LR		
	comp=Z,600nm,19.9s,MS4.3						
WMQ	**Urumqi**	**36.02**	**352**	P	**P**	**02 32 43.3**	**+0.7**
WMQ				PP	PP	02 34 04.8	+0.2
WMQ				PCP	PcP	02 35 10.3	+1.2
WMQ				S	**S**	**02 38 19.5**	**-0.2**
WMQ				AMB	AMB		
	comp=Z,47nm,0.7s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,430nm,5.0s						
WMQ				LR	LR		
	comp=N,1μm,15.8s,MS4.9						
WMQ				LR	LR		
	comp=E,998nm,15.3s,MS4.9						
WMQ				LR	LR		
	comp=Z,2μm,15.4s,MS4.9						
BJI	**Beijing**	**37.36**	**28**	*e*P	**P**	**02 32 55.0**	**+1.1**
	comp=Z,12nm,1.1s,mb4.6						
BJI				S		02 38 56.6	
BJI				SS	SS	02 41 47.4	+35
BJI				LR	LR		
	comp=Z,280nm,19.7s,MS4.1						
SMDO	**Samad**	**37.73**	**297**	P	**P**	**02 33 00.2**	**+3.0**
	SNR=6.3						
UCH	**Uchtor**	**38.17**	**336**	P	**P**	**02 33 01.7**	**+1.1**
	SNR=10						
KBK	**Karagaybulak**	**38.36**	**337**	P	**P**	**02 33 03.4**	**+1.2**
	SNR=7.6						
BSY	**Bisya**	**38.39**	**297**	P	**P**	**02 33 05.9**	**+3.2**
	SNR=6.8						
AML	**Almayashu**	**38.42**	**335**	P	**P**	**02 33 03.9**	**+1.2**
	SNR=16						
AAK	**Ala-Archa**	**38.52**	**336**	P	**P**	**02 33 04.7**	**+1.2**
	SNR=8.8						
AAK	**Ala-Archa**	**38.52**	**336**	*e*P	**P**	**02 33 03.0**	**-0.5**
AAK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
AAK				MLR	MLR		
	comp=Z,252nm,19.0s,MS4.0						
AAK	**Ala-Archa**	**38.52**	**336**	*e*P	**P**	**02 33 03.0**	**-0.5**
	comp=Z,13nm,1.0s,mb4.6						
AAK				LR	LR		
	comp=Z,252nm,19.0s,MS4.0						
HOQ	**Hoqain**	**38.54**	**298**	P	**P**	**02 33 06.8**	**+2.9**
	SNR=8.3						
FRU	**Bishkek**	**38.64**	**337**	*e*P	**P**	**02 33 05.0**	**+0.5**
CHMS	**Chumysh**	**38.72**	**337**	P	**P**	**02 33 05.5**	**+0.2**
	SNR=6.0						
EKS2	**Erkin-Say**	**38.83**	**336**	P	**P**	**02 33 07.2**	**+1.1**
	SNR=7.4						
USP	**Ospenovka**	**39.05**	**337**	P	**P**	**02 33 07.9**	**0.0**
	SNR=12						
MKAR	**Makanchi Array**	**39.87**	**347**	*i* P	**P**	**02 33 14.5**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ULN	**Ulaanbaatar**	**41.09**	**13**	*e*P	**P**	**02 33 23.0**	**-1.7**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
ULN				MLR	MLR		
	comp=Z,279nm,21.0s,MS4.1						
ULN	**Ulaanbaatar**	**41.09**	**13**	*e*P	**P**	**02 33 23.0**	**-1.8**
	comp=Z,5.7nm,0.9s,mb4.2						
ULN				LR	LR		
	comp=Z,279nm,21.0s,MS4.1						
SNY	**Shenyang**	**42.44**	**33**	⇓P	**P**	**02 33 36.5**	**+0.6**
SNY				AP	pP	02 33 47.3	+5.3
SNY				XP	sP	02 33 50.8	+6.3
SNY				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.6						
SNY				LR	LR		
	comp=N,860nm,15.9s						
SNY				LR	LR		
	comp=Z,320nm,25.5s						
ZAK	**Zakamensk**	**42.81**	**9**	⇓*e*P	**P**	**02 33 39.3**	**+0.5**
ZAK				*e*		02 35 29.7	
TLY	**Talaya**	**44.12**	**8**	⇑*i*P	**P**	**02 33 49.9**	**+0.4**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
KURK	**Kurchatov**	**44.40**	**346**	⇑*i*P	**P**	**02 33 51.1**	**-0.6**
KURK	**Kurchatov**	**44.40**	**346**	*e*P	**P**	**02 33 51.7**	**0.0**
	comp=Z,14nm,0.8s,mb4.8						
NWAO	**Narrogin (SRO)**	**46.32**	**153**	*e*P	**P**	**02 34 06.7**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,67nm,1.4s						
NWAO	**Narrogin (SRO)**	**46.32**	**153**	*e*P	**P**	**02 34 06.7**	**-0.5**
	comp=Z,67nm,1.4s,mb5.4						
NVS	**Novosibirsk**	**47.42**	**351**	*e*P	**P**	**02 34 14.0**	**-1.7**
NVS				*e*		02 35 50.9	
NVS				*e*S	**S**	**02 41 03.1**	**-4.7**
NVS				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
NVS				pmax	pmax		
	comp=N,18nm,1.3s						
NVS				smax			
	comp=N,25nm,2.4s						
NVS				smax			
	comp=E,33nm,2.4s						
MDJ	**Mudanjiang**	**47.57**	**34**	P	**P**	**02 34 17.3**	**+0.3**
MDJ				S	**S**	**02 41 13.5**	**+3.4**
MDJ				AMB	AMB		
	comp=Z,16nm,1.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,149nm,6.0s						
MDJ				LR	LR		
	comp=N,141nm,21.8s,MS4.1						
MDJ				LR	LR		
	comp=E,165nm,22.2s,MS4.1						
MDJ				LR	LR		
	comp=Z,300nm,25.7s,MS4.2						
WRAB	**Tennant Creek**	**48.34**	**126**	*e*P	**P**	**02 34 22.2**	**-1.1**
	comp=Z,16nm,0.8s,mb5.1						
WRAB				*e*	pP	02 34 27.8	-1.7
WRAB				LR	LR		
	comp=Z,197nm,21.0s,MS4.1						
BRVK	**Borovoye**	**48.85**	**341**	*e*P	**P**	**02 34 25.8**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
BRVK	**Borovoye**	**48.85**	**341**	*e*P	**P**	**02 34 25.8**	**-0.9**
	comp=Z,9.4nm,1.0s,mb4.8						
RAYN	**Ar Rayn**	**49.05**	**294**	P	**P**	**02 34 29.0**	**+0.3**
	comp=Z,210nm,0.9s,SNR=32						
CHKZ	**Chkalovo**	**49.27**	**342**	P	**P**	**02 34 29.3**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
CHKZ	**Chkalovo**	**49.27**	**342**	*e*P	**P**	**02 34 29.4**	**-0.6**
	comp=Z,15nm,0.8s,mb5.1						
BOD	**Bodaibo**	**51.90**	**13**	*e*P	**P**	**02 34 48.7**	**-1.3**
CLNS	**Chul'man**	**54.19**	**20**	*e*P	**P**	**02 35 07.2**	**+0.3**
CLNS				*e*		02 36 12.3	
CLNS				*e*		02 37 05.2	
CLNS				*e*S	**S**	**02 42 39.5**	**-1.7**
CLNS				*e*SS	SS	02 46 21.3	-1.4
CLNS				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.1s						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
CLNS				pmax	pmax		
	comp=E,5.0nm,1.0s						
CLNS				smax			
	comp=N,4.0nm,0.6s						
CLNS				smax			
	comp=Z,4.0nm,0.8s						
CLNS				smax			
	comp=E,3.0nm,0.6s						
CLNS				MLR	MLR		
	comp=Z,600nm,20.0s,MS4.7						
CLNS				MLR	MLR		
	comp=N,500nm,19.0s,MS4.7						
CLNS				MLR	MLR		
	comp=E,100nm,14.0s,MS4.7						
GNI	**Garni**	**54.32**	**314**	*e*P	**P**	**02 35 07.8**	**-0.3**
GNI				pmax	pmax		
	comp=Z,22nm,1.1s						
GNI	**Garni**	**54.32**	**314**	*e*P	**P**	**02 35 07.8**	**-0.3**
	comp=Z,22nm,1.1s,mb5.0						
PMG	**Port Moresby**	**55.53**	**107**	*e*P	**P**	**02 35 17.8**	**+0.4**
PMG				pmax	pmax		
	comp=Z,24nm,0.8s						
PMG				MLR	MLR		
	comp=Z,337nm,21.0s						
PMG	**Port Moresby**	**55.53**	**107**	*e*P	**P**	**02 35 17.8**	**+0.5**
	comp=Z,24nm,0.8s,mb5.3						
PMG				LR	LR		
	comp=Z,337nm,21.0s,MS4.4						
ARU	**Arti**	**55.70**	**337**	⇓*i*P	**P**	**02 35 10.3**	**-7.7**
ARU				*e*PPP	PPP	02 38 32.8	-5.8
ARU				*e*S	**S**	**02 42 59.2**	**-2.3**
ARU				*e*SS	SS	02 46 45.8	-1.1
ARU				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
YSS	**Yuzh-Sakhalins**	**56.55**	**38**	⇓*i*P	**P**	**02 35 20.6**	**-3.6**
YSS				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.2						
KIV	**Kislovodsk**	**57.19**	**318**	*e*P	**P**	**02 35 24.7**	**-4.1**
KIV				*e*S	**S**	**02 43 24.2**	**+2.8**
KIV				pmax	pmax		
	comp=N,14nm,0.9s						
KIV				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.3						
KIV				MLR	MLR		
	comp=N,172nm,16.0s						
KIV				MLR	MLR		
	comp=Z,230nm,16.0s,MS4.4						
KIV	**Kislovodsk**	**57.19**	**318**	*e*P	**P**	**02 35 27.5**	**-1.3**
	comp=Z,30nm,1.0s,mb5.3						
MALT	**Malatya**	**58.36**	**310**	*e*P	**P**	**02 35 35.6**	**-1.5**
MALT				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
MALT	**Malatya**	**58.36**	**310**	*e*P	**P**	**02 35 35.6**	**-1.5**
	comp=Z,9.8nm,1.1s,mb4.8						
SOC	**Sochi**	**59.06**	**316**	*e*P	**P**	**02 35 35.2**	**-6.7**
SOC				*e*		02 37 46.0	
SOC				*e*S	**S**	**02 43 45.0**	**-0.9**
SOC				*e*		02 45 24.5	
SOC				*e*SS	SS	02 47 37.1	-4.7
SOC				pmax	pmax		
	comp=N,30nm,0.8s						
SOC				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.5						
SOC				pmax	pmax		
	comp=E,34nm,0.9s						
EIL	**Elat**	**59.37**	**300**	*e*P	**P**	**02 35 44.2**	**0.0**
	comp=E,13nm,0.9s,mb5.0						
EIL				*e*	pP	02 35 50.1	-0.4
YAK	**Yakutsk**	**59.75**	**18**	*e*P	**P**	**02 35 44.0**	**-2.4**
YAK				*e*	pP	02 35 50.9	-1.8
YAK				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,6.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
YAK	**Yakutsk**	**59.75**	**18**	*e*P	**P**	**02 35 45.9**	**-0.5**
	comp=Z,23nm,0.8s,mb5.3						
STKA	**Stephens Creek**	**60.22**	**134**	*e*P	**P**	**02 35 48.4**	**-1.6**
STKA				*e*	pP	02 35 54.6	-1.7
MBAR	**Mbarara**	**63.85**	**265**	*e*P	**P**	**02 36 15.3**	**+0.6**
MBAR				*e*	pP	02 36 21.1	+0.1
MBAR				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.0						
MBAR	**Mbarara**	**63.85**	**265**	*e*P	**P**	**02 36 15.3**	**+0.5**
	comp=Z,22nm,1.3s,mb5.0						
MBAR				*e*	pP	02 36 21.1	+0.1
MOS	**Moscow**	**64.92**	**329**	*e*P	**P**	**02 36 20.3**	**-0.6**
MOS				pmax	pmax		
	comp=Z,37nm,0.8s,mb5.5						
OBN	**Obninsk**	**65.22**	**328**	⇑*i*P	**P**	**02 36 19.0**	**-3.9**
OBN				*e*	pP	02 36 24.8	-4.4
OBN				*e*		02 36 47.8	
OBN				*e*		02 38 45.5	
OBN				pmax	pmax		
	comp=Z,44nm,1.4s,mb5.3						
MA2	**Magadan**	**66.52**	**28**	*e*P	**P**	**02 36 31.8**	**+0.7**
MA2				*e*	pP	02 36 37.6	+0.1
MA2				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
MA2	**Magadan**	**66.52**	**28**	*e*P	**P**	**02 36 31.8**	**+0.6**
	comp=Z,22nm,1.0s,mb5.1						
MA2				*e*	pP	02 36 37.6	+0.1
TIXI	**Tiksi**	**66.99**	**11**	⇓*i*P	**P**	**02 36 32.8**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.4						
TIXI				MLR	MLR		
	comp=Z,193nm,18.0s,MS4.4						
LSZ	**Lusaka**	**69.41**	**250**	*e*P	**P**	**02 36 50.5**	**+0.6**
LSZ				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.8						
LSZ				MLR	MLR		
	comp=Z,524nm,19.0s,MS4.8						
LSZ	**Lusaka**	**69.41**	**250**	*e*P	**P**	**02 36 50.5**	**+0.6**
	comp=Z,20nm,1.5s,mb4.8						
LSZ				LR	LR		
	comp=Z,524nm,19.0s,MS4.8						
MNK	**Minsk**	**69.80**	**325**	*e*P	**P**	**02 36 46.0**	**-5.7**
JOF	**Joensuu**	**70.67**	**334**	*e*p	**P**	**02 36 54.5**	**-2.3**
LVV	**L'vov**	**71.08**	**320**	*i* P	**P**	**02 36 59.5**	**0.0**
LVV				*e*		02 46 15.5	
KWP	**Kalwaria**	**71.90**	**320**	*e*P	**P**	**02 37 03.8**	**-0.6**
KOLS	**Kolonicke sedl**	**72.07**	**319**	*e*P	**P**	**02 37 05.1**	**-0.4**
KOLS				*e*sP	sP	02 37 12.6	-1.5
SUW	**Suwalki**	**72.36**	**324**	*e*P	**P**	**02 37 05.7**	**-1.4**
CRVS	**Cervenica-Dubn**	**72.60**	**319**	*i* P	**P**	**02 37 09.2**	**+0.6**
KAF	**Kangasniemi**	**72.61**	**333**	*e*p	**P**	**02 37 06

LBTB	**Lobatse**	**74.42**	**241**	*e*P	**P**	**02 37 20.6**	**+0.9**
	comp=Z,15nm,0.9s,mb4.9						
LBTB				*e*	pP	02 37 26.5	+0.4
LBTB				LR	LR		
	comp=Z,380nm,20.0s,MS4.7						
OKC	**Ostrava-Krasne**	**74.86**	**319**	*e*P	**P**	**02 37 21.8**	**+0.1**
OKC				*e*pP	pP	02 37 28.0	-0.1
MORC	**Moravsky Berou**	**75.24**	**319**	*e*P	**P**	**02 37 23.0**	**-0.9**
MORC				*e*	pP	02 37 29.9	-0.4
MORC				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
MORC	**Moravsky Berou**	**75.24**	**319**	*e*P	**P**	**02 37 22.9**	**-1.0**
	comp=Z,24nm,1.0s,mb5.1						
MORC				*e*	pP	02 37 29.9	-0.4
ZST	**Bratislava**	**75.41**	**318**	*i* P	**P**	**02 37 25.6**	**+0.7**
GKP	**Gorka Klasztor**	**75.75**	**323**	*e*P	**P**	**02 37 26.4**	**-0.4**
BOSA	**Boshof**	**75.77**	**238**	*e*P	**P**	**02 37 27.7**	**+0.3**
BOSA				*e*	pP	02 37 33.8	0.0
BOSA				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
BOSA	**Boshof**	**75.77**	**238**	*e*P	**P**	**02 37 27.7**	**+0.3**
	comp=Z,15nm,1.0s,mb4.9						
BOSA				*e*	pP	02 37 33.8	0.0
BILL	**Bilibino**	**75.84**	**22**	*e*P	**P**	**02 37 26.9**	**-0.1**
BILL				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
BILL	**Bilibino**	**75.84**	**22**	*e*P	**P**	**02 37 26.9**	**-0.1**
	comp=Z,16nm,1.2s,mb4.8						
DPC	**Dobruska-Polom**	**76.07**	**320**	*e*P	**P**	**02 37 29.4**	**+0.8**
DPC				*e*pP	pP	02 37 35.3	+0.3
KSP	**Ksiaz**	**76.13**	**320**	*e*P	**P**	**02 37 29.1**	**+0.2**
KSP				*e**PP	pP	02 37 34.8	-0.5
KSP	**Ksiaz**	**76.13**	**320**	*e*P	**P**	**02 37 29.1**	**+0.2**
KSP				*e*		02 37 31.7	
KSP				*e*pP	pP	02 37 34.8	-0.5
KSP	**Ksiaz**	**76.13**	**320**	*e*P	**P**	**02 37 29.4**	**+0.4**
UPC	**Upice**	**76.28**	**320**	*e*P	**P**	**02 37 30.1**	**+0.3**
UPC				*e*pP	pP	02 37 36.7	+0.5
BOJS	**Bojanci**	**76.53**	**315**	*e*P	**P**	**02 37 31.1**	**-0.2**
PERS	**Pernice**	**76.67**	**316**	*e*P	**P**	**02 37 31.9**	**-0.1**
PRU	**Pruhonice**	**77.19**	**319**	*e*P	**P**	**02 37 35.3**	**+0.4**
PRU				*e*pP	pP	02 37 41.2	-0.1
PVCC	**Panska Ves**	**77.20**	**320**	*e*P	**P**	**02 37 35.5**	**+0.6**
BRG	**Berggiesshubel**	**77.61**	**320**	*i* P	**P**	**02 37 37.4**	**+0.2**
BRG				*i*	pP	02 37 43.7	+0.1
BRG				pmax	pmax		
	comp=Z,39nm,1.5s,mb5.1						
BRG	**Berggiesshubel**	**77.61**	**320**	*i* P	**P**	**02 37 37.4**	**+0.2**
	comp=Z,39nm,1.5s,mb5.1						
BRG				*i*		02 37 40.2	
BRG				*i*	pP	02 37 43.7	+0.1
GEC2	**GERESS Array S**	**77.70**	**318**	*e*P	**P**	**02 37 37.3**	**-0.4**
GEC2				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
GEC2	**GERESS Array S**	**77.70**	**318**	*e*P	**P**	**02 37 37.3**	**-0.4**
	comp=Z,20nm,1.0s,mb5.0						
RUE	**Ruedersdorf**	**77.79**	**322**	*e*P	**P**	**02 37 38.1**	**0.0**
	comp=Z,70nm,0.9s,mb5.6						
RUE				*e*	pP	02 37 44.2	-0.3
KHC	**Kasperske Hory**	**77.79**	**318**	*e*P	**P**	**02 37 38.4**	**+0.2**
KHC				*e*pP	pP	02 37 44.3	-0.3
PTCC	**Patocco-Chiusa**	**77.88**	**316**	⇑*i*P	**P**	**02 37 38.7**	**0.0**
CLL	**Collm**	**78.22**	**321**	⇑*i*P	**P**	**02 37 40.7**	**+0.2**
CLL				*i*	pP	02 37 46.2	-0.7
CLL				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
CLL	**Collm**	**78.22**	**321**	⇑*i*P	**P**	**02 37 40.7**	**+0.2**
	comp=Z,14nm,1.2s,mb4.8						
CLL				*i*		02 37 43.5	
CLL				*i*	pP	02 37 46.2	-0.7
CLL	**Collm**	**78.22**	**321**	⇑P	**P**	**02 37 40.7**	**+0.2**
	comp=Z,logA/T=1.1,mb4.8						
CLL				*i* *PP	pP	02 37 43.5	-3.4
CLL				*i* *SP	sP	02 37 46.2	-2.9
WET	**Wettzell**	**78.25**	**318**	*e*P	**P**	**02 37 40.3**	**-0.4**
WET				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
WET	**Wettzell**	**78.25**	**318**	*e*P	**P**	**02 37 40.3**	**-0.4**
	comp=Z,21nm,1.1s,mb5.0						
NKC	**Novy Kostel**	**78.55**	**320**	*e*P	**P**	**02 37 42.4**	**+0.1**
NKC				*e*pP	pP	02 37 48.7	-0.1
CTI	**Castel Tesino**	**79.06**	**315**	⇑*i*P	**P**	**02 37 45.8**	**+0.6**
WTTA	**Wattenberg**	**79.06**	**317**	⇑*i*P	**P**	**02 37 44.9**	**-0.3**
	comp=Z,23nm,0.8s,mb5.2						
WTTA	**Wattenberg**	**79.06**	**317**	⇑*i*P	**P**	**02 37 44.9**	**-0.3**
WTTA				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.2						
MOX	**Moxa**	**79.09**	**320**	*e*P	**P**	**02 37 45.6**	**+0.3**
MOX				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
MOX	**Moxa**	**79.09**	**320**	*e*P	**P**	**02 37 45.6**	**+0.3**
	comp=Z,14nm,1.3s,mb4.7						
MOX	**Moxa**	**79.09**	**320**	*i* P	**P**	**02 37 45.6**	**+0.3**
	comp=Z,logA/T=1.0,mb4.7						
VMG	**Vicchio**	**79.15**	**313**	*e*P	**P**	**02 37 47.2**	**+1.4**
FUR	**Furstenfeldbru**	**79.30**	**317**	*e*P	**P**	**02 37 45.7**	**-0.8**
GRA1	**Grafenberg Arr**	**79.33**	**319**	*e*P	**P**	**02 37 47.0**	**+0.3**
	comp=Z,30nm,1.1s,mb5.1						
GRA1				*e*pP	pP	02 37 52.8	-0.3
GRF	**Grafenberg Arr**	**79.33**	**319**	*e*P	**P**	**02 37 47.0**	**+0.3**
GRF				*e**PP	pP	02 37 52.8	-0.3
GRF				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1						
GRF	**Grafenberg Arr**	**79.33**	**319**	*e*P	**P**	**02 37 47.0**	**+0.3**
GRF				*e**PP	pP	02 37 52.8	-0.3
GRF				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1						
GRF	**Grafenberg Arr**	**79.33**	**319**	*e*P	**P**	**02 37 47.0**	**+0.3**
	comp=Z,30nm,1.1s,mb5.1						
GRF				*e*pP	pP	02 37 52.8	-0.3
SQTA	**Sankt Quirin**	**79.35**	**316**	⇑*i*P	**P**	**02 37 46.5**	**-0.3**
	comp=Z,15nm,0.9s,mb4.9						
SQTA	**Sankt Quirin**	**79.35**	**316**	⇑*i*P	**P**	**02 37 46.5**	**-0.3**
SQTA				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
MOTA	**Moosalm**	**79.42**	**317**	⇑*i*P	**P**	**02 37 46.7**	**-0.5**
	comp=Z,11nm,1.0s,mb4.8						
MOTA	**Moosalm**	**79.42**	**317**	⇑*i*P	**P**	**02 37 46.7**	**-0.5**
MOTA				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
NB2	**NORSAR Subarra**	**79.56**	**331**	P	**P**	**02 37 47.1**	**-0.5**
	comp=Z,3.2nm,0.7s,mb4.4,baz=92,slow=5.3						
NB2	**NORSAR Subarra**	**79.56**	**331**	P	**P**	**02 37 47.1**	**-0.5**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
NAO01	**NORSAR Array S**	**79.71**	**330**	*e*P	**P**	**02 37 47.5**	**-0.9**
	comp=Z,20nm,1.0s,mb5.0						
CLZ	**Clausthal**	**79.87**	**321**	*e*P	**P**	**02 37 49.7**	**+0.2**
	comp=Z,39nm,1.2s,mb5.2						
BRMO	**Bormio**	**79.94**	**316**	*e*P	**P**	**02 37 50.5**	**+0.5**
DAVA	**Damuels**	**80.26**	**317**	⇑*i*P	**P**	**02 37 51.9**	**+0.3**
	comp=Z,20nm,0.9s,mb5.1						
MUD	**Monsted U'grnd**	**80.55**	**326**	*i* P	**P**	**02 37 53.8**	**+0.8**
MUD				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.2						
MUD	**Monsted U'grnd**	**80.55**	**326**	*i* P	**P**	**02 37 53.8**	**+0.8**
	comp=Z,33nm,1.1s,mb5.2						
PGF	**Pioggiola**	**81.05**	**312**	*e*P	**P**	**02 37 54.6**	**-1.4**
	comp=Z,78nm,1.2s,mb5.2						
PGF	**Pioggiola**	**81.05**	**312**	*e*P	**P**	**02 37 54.6**	**-1.4**
PGF				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.2						
VAI	**Varese**	**81.07**	**315**	*e*P	**P**	**02 37 55.5**	**-0.5**
TNS	**Taunus Mts**	**81.12**	**320**	*e*P	**P**	**02 37 56.4**	**+0.3**
BFO	**Black Forest**	**81.27**	**318**	*e*P	**P**	**02 37 56.7**	**-0.2**
BFO				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
BFO	**Black Forest**	**81.27**	**318**	*e*P	**P**	**02 37 56.7**	**-0.2**
	comp=Z,12nm,1.1s,mb4.7						
FIN	**Finale Ligure**	**81.55**	**314**	*e*P	**P**	**02 37 58.7**	**+0.2**
LANF	**Langenberg**	**81.59**	**318**	*e*P	**P**	**02 37 59.2**	**+0.6**
CDF	**Champ du Feu**	**81.96**	**318**	*e*P	**P**	**02 37 59.7**	**-0.9**
	comp=Z,35nm,1.2s,mb4.9						
CDF	**Champ du Feu**	**81.96**	**318**	*e*P	**P**	**02 37 59.7**	**-0.9**
CDF				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9						
MOF	**Molkenrain**	**82.09**	**317**	*e*P	**P**	**02 38 01.4**	**+0.2**
SBF	**Sospel**	**82.12**	**313**	*e*P	**P**	**02 38 00.1**	**-1.4**
	comp=Z,116nm,0.9s,mb5.5						
SBF	**Sospel**	**82.12**	**313**	*e*P	**P**	**02 38 00.1**	**-1.4**
SBF				pmax	pmax		
	comp=Z,58nm,0.9s,mb5.5						
HINF	**Hinteralfeld**	**82.28**	**317**	*e*P	**P**	**02 38 01.6**	**-0.6**
LOMF	**Lomont**	**82.33**	**317**	*e*P	**P**	**02 38 02.7**	**+0.2**
LPG	**La Plagne**	**82.50**	**315**	*e*P	**P**	**02 38 03.3**	**-0.1**
	comp=Z,40nm,0.7s,mb5.2						
LPG	**La Plagne**	**82.50**	**315**	*e*P	**P**	**02 38 03.3**	**-0.1**
LPG				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.3						
LPL	**La Plagne**	**82.51**	**315**	*e*P	**P**	**02 38 03.3**	**-0.2**
	comp=Z,53nm,0.8s,mb5.3						
LPL	**La Plagne**	**82.51**	**315**	*e*P	**P**	**02 38 03.3**	**-0.2**
LPL				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.3						
MBDF	**Montbardon**	**82.54**	**314**	*e*P	**P**	**02 38 02.5**	**-1.1**
	comp=Z,37nm,1.0s,mb5.1						
MBDF	**Montbardon**	**82.54**	**314**	*e*P	**P**	**02 38 02.5**	**-1.1**
MBDF				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
HAU	**Haudompre**	**82.61**	**317**	*e*P	**P**	**02 38 03.0**	**-0.9**
	comp=Z,61nm,1.0s,mb5.3						
HAU	**Haudompre**	**82.61**	**317**	*e*P	**P**	**02 38 03.0**	**-0.9**
HAU				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
WLF	**Walferdange**	**82.63**	**319**	*e*P	**P**	**02 38 04.8**	**+0.8**
WLF				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.2						
WLF	**Walferdange**	**82.63**	**319**	*e*P	**P**	**02 38 04.8**	**+0.8**
	comp=Z,34nm,1.3s,mb5.2						
FRF	**La Foret Royal**	**82.71**	**313**	*e*P	**P**	**02 38 04.0**	**-0.6**
	comp=Z,81nm,1.2s,mb5.3						
FRF	**La Foret Royal**	**82.71**	**313**	*e*P	**P**	**02 38 04.0**	**-0.6**
FRF				pmax	pmax		
	comp=Z,41nm,1.2s,mb5.3						
CABF	**La Chapelle**	**82.88**	**316**	*e*P	**P**	**02 38 05.1**	**-0.3**
	comp=Z,51nm,1.2s,mb5.1						
CABF	**La Chapelle**	**82.88**	**316**	*e*P	**P**	**02 38 05.1**	**-0.3**
CABF				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.1						
ORIF	**Oris-en-Rattie**	**83.16**	**314**	*e*P	**P**	**02 38 06.6**	**-0.2**
	comp=Z,19nm,0.8s,mb4.8						
ORIF	**Oris-en-Rattie**	**83.16**	**314**	*e*P	**P**	**02 38 06.6**	**-0.2**
ORIF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
MEZF	**Maizieres J'vi**	**83.44**	**318**	*e*P	**P**	**02 38 07.7**	**-0.5**
GIVF	**Givet**	**83.45**	**320**	*e*P	**P**	**02 38 07.7**	**-0.5**
	comp=Z,42nm,1.1s,mb5.1						
GIVF	**Givet**	**83.45**	**320**	*e*P	**P**	**02 38 07.7**	**-0.5**
GIVF				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.1						
SMRF	**Simiane la Rot**	**83.45**	**313**	*e*P	**P**	**02 38 07.7**	**-0.7**
BAIF	**Baives**	**83.85**	**320**	*e*P	**P**	**02 38 10.1**	**-0.2**
	comp=Z,52nm,1.1s,mb5.3						
BAIF	**Baives**	**83.85**	**320**	*e*P	**P**	**02 38 10.1**	**-0.2**
BAIF				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.3						
VIVF	**Saint-Julien-l**	**84.02**	**314**	*e*P	**P**	**02 38 10.7**	**-0.5**
	comp=Z,27nm,1.0s,mb5.0						
VIVF	**Saint-Julien-l**	**84.02**	**314**	*e*P	**P**	**02 38 10.7**	**-0.5**
VIVF				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.0						
SMF	**Signal de Mont**	**84.42**	**316**	*e*P	**P**	**02 38 12.4**	**-0.8**
SSF	**Saint Saulge**	**84.61**	**317**	*e*P	**P**	**02 38 13.8**	**-0.3**
SSF				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.2						
SSF	**Saint Saulge**	**84.61**	**317**	*e*P	**P**	**02 38 13.8**	**-0.3**
	comp=Z,30nm,1.5s,mb5.2						
PLDF	**La Plantade**	**84.64**	**316**	*e*P	**P**	**02 38 15.0**	**+0.6**
LASF	**Ste Croix**	**84.68**	**314**	*e*P	**P**	**02 38 13.3**	**-1.3**
AVF	**Avril sur Loir**	**84.74**	**316**	*e*P	**P**	**02 38 14.1**	**-0.7**
	comp=Z,47nm,1.3s,mb5.2						
AVF	**Avril sur Loir**	**84.74**	**316**	*e*P	**P**	**02 38 14.1**	**-0.7**
AVF				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.2						
BGF	**Bois d'Agland**	**85.11**	**316**	*e*P	**P**	**02 38 16.6**	**-0.1**
HYF	**Humbligny**	**85.17**	**317**	*e*P	**P**	**02 38 16.9**	**-0.1**
TCF	**Toulx Ste Croi**	**85.58**	**316**	*e*P	**P**	**02 38 18.7**	**-0.3**
CAF	**Calviac**	**85.85**	**315**	*e*P	**P**	**02 38 20.5**	**+0.1**
RJF	**Les Rejaudoux**	**86.19**	**315**	*e*P	**P**	**02 38 22.0**	**-0.1**
	comp=Z,37nm,1.2s,mb5.2						
RJF	**Les Rejaudoux**	**86.19**	**315**	*e*P	**P**	**02 38 22.0**	**-0.1**
RJF				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.2						
LDF	**La Druitiere**	**86.84**	**318**	*e*P	**P**	**02 38 24.8**	**-0.4**
FLN	**La Foliniere**	**87.05**	**319**	*e*P	**P**	**02 38 25.8**	**-0.4**
	comp=Z,41nm,1.1s,mb5.3						
FLN	**La Foliniere**	**87.05**	**319**	*e*P	**P**	**02 38 25.8**	**-0.4**
FLN				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.3						
MFF	**Saint Martin d**	**87.15**	**316**	*e*P	**P**	**02 38 26.0**	**-0.7**
	comp=Z,40nm,1.2s,mb5.2						
MFF	**Saint Martin d**	**87.15**	**316**	*e*P	**P**	**02 38 26.0**	**-0.7**
MFF				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.2						
GRR	**Gorron**	**87.35**	**318**	*e*P	**P**	**02 38 27.3**	**-0.4**
ETSF	**Etsaut**	**88.02**	**313**	*e*P	**P**	**02 38 31.3**	**+0.3**
ROSF	**Rostrenen**	**88.95**	**319**	*e*P	**P**	**02 38 35.1**	**-0.2**
	comp=Z,98nm,1.4s,mb5.7						
ROSF	**Rostrenen**	**88.95**	**319**	*e*P	**P**	**02 38 35.1**	**-0.2**
ROSF				pmax	pmax		
	comp=Z,49nm,1.4s,mb5.6						
IMA	**Indian Mountai**	**91.38**	**22**	*e*P	**P**	**02 38 47.7**	**+1.5**
IMA				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.9						
IMA	**Indian Mountai**	**91.38**	**22**	*e*P	**P**	**02 38 47.7**	**+1.6**
	comp=Z,60nm,0.9s,mb5.9						
MCK	**McKinley**	**94.21**	**23**	*e*P	**P**	**02 38 59.3**	**+0.1**
MCK				pmax	pmax		
	comp=Z,14nm,1.4s,mb5.2						
MCK	**McKinley**	**94.21**	**23**	*e*P	**P**	**02 38 59.3**	**0.0**
	comp=Z,14nm,1.4s,mb5.2						
INK	**Inuvik**	**96.75**	**16**	*e*P	**P**	**02 39 11.5**	**+0.8**
INK				pmax	pmax		
	comp=Z,15nm,1.2s						
INK	**Inuvik**	**96.75**	**16**	*e*P	**P**	**02 39 11.5**	**+0.7**
	comp=Z,15nm,1.2s,mb5.3						
INK				*e*	pP	02 39 17.3	0.0
RES	**Resolute Bay**	**97.16**	**2**	*e*P	**P**	**02 39 13.3**	**+0.8**
RES				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb5.0						
RES	**Resolute Bay**	**97.16**	**2**	*e*P	**P**	**02 39 13.3**	**+0.8**
	comp=Z,6.6nm,1.0s,mb5.0						
DAWY	**Dawson**	**97.61**	**21**	*e*P	**P**	**02 39 14.9**	**+0.2**
DAWY				*e*	pP	02 39 21.7	+0.4
LKWY	**Lake**	**123.05**	**21**	*e*PKIKP	PKPdf	02 44 37.7	-2.5
SNOW	**Snow King Moun**	**123.88**	**22**	*e*PKPdf	PKPdf	02 44 40.3	-1.7
MSU	**Marysvale**	**127.51**	**26**	*e*PKIKP	PKPdf	02 44 47.5	-1.6
PV10	**Paradox Valley**	**128.93**	**24**	*e*PKPdf	PKPdf	02 44 50.1	-1.7
GDL2	**Guadalupe Moun**	**136.17**	**23**	*e*PKPdf	PKPdf	02 45 03.1	-2.4
JCT	**Junction City**	**139.34**	**19**	*e*PKIKP	PKPdf	02 45 07.1	-4.3
PLCA	**Paso Flores**	**144.79**	**200**	*e*PKIKP	PKPdf	02 45 17.3	-3.4
PLCA				*e*		02 45 23.3	
TEIG	**Tepich**	**151.74**	**5**	*e*PKPab	PKPab	02 45 42.4	-3.5
SDV	**Santo Domingo**	**157.35**	**318**	*e*PKPdf	PKPdf	02 45 38.1	-2.2
SDV				*e*		02 45 44.6	
LPAZ	**La Paz**	**160.94**	**243**	*e*PKIKP	PKPdf	02 45 41.7	-2.6
LPAZ				*e*		02 46 24.2	

WEL 30 02:33:04.5±0.2, 38.38S×176.04E, h142km±2km, ML3.7/4, 2C, Error ellipse: s-maj=2.1km s-min=1.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.85**	**82**	PN	P	02 33 27.1	-0.4
URZ				SN	S	02 33 44.5	-0.7
URZ				SN	S	02 33 44.7	-0.6
BKZ	**Black Stump Fm**	**0.86**	**156**	⇑PN	P	02 33 27.4	-0.2
BKZ				SN	S	02 33 44.7	-0.7
BKZ				SN	S	02 33 44.7	-0.7
HIZ	**Hauiti**	**0.94**	**261**	*e*PN	P	02 33 27.6	-0.6
HIZ				*e*SN	S	02 33 46.0	-0.4
WNVZ	**Wahianoa**	**1.01**	**200**	PN	P	02 33 26.9	-1.8
WNVZ				*e*SN	S	02 33 45.3	-2.0
MWZ	**Matawai**	**1.17**	**88**	PN	P	02 33 30.5	+0.1
MWZ				SN	S	02 33 49.6	-0.6
MWZ				SN	S	02 33 49.7	-0.5
WAZ	**Wanganui**	**1.60**	**210**	PN	P	02 33 34.0	-0.9
WAZ				SN	S	02 33 57.7	-0.5
MRZ	**Mangatainoka R**	**2.31**	**189**	⇑PN	P	02 33 40.7	-2.6
MRZ				SN	S	02 34 08.4	-4.7
MRZ				SN	S	02 34 08.4	-4.6
KIW	**Kapiti Island**	**2.63**	**199**	PN	P	02 33 43.9	-3.5
KIW				*e*SN	S	02 34 16.0	-4.3
CAW	**Cannon Point**	**2.83**	**195**	PN	P	02 33 46.4	-3.6
BHW	**Baring Head**	**3.16**	**196**	PN	P	02 33 50.1	-4.3

MOS ***30*** *02:35:16.3±0.9, 8.14N×94.19E, h33km, mb5.2/45, MS4.7/9, Error ellipse: s-maj=12.0km s-min=6.3km az=118.4*

HRVD ***30*** *02:35:16.5±0.2, 8.06N×94.23E, h12km, MW5.2/59, Centroid moment Tensor Solution. LP body waves: s26,c40;Mantle waves: s59,c112; Half duration: 1s0 Moment tensor: Scale 10^16^Nm; M_{rr}-4.05±.20; $M_{\theta\theta}$0.57±.16; $M_{\phi\phi}$3.48±.20; $M_{r\theta}$1.68±.52; $M_{\theta\phi}$6.71±.14; $M_{\phi r}$-0.88±.52; Best double couple: $M_0$7.626×10^16^ NP1: ϕ_s1°, δ62°, λ-151°. NP2:ϕ_s256°, δ65°, λ-31°. Principal axes: T 8.901, Plg2°, Azm309°; N -2.551, Plg51°, Azm41°; P -6.352, Plg39°, Azm218°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***30*** *02:35:16.6±0.2, 8.17N×94.27E, mb5.0/47, MS4.5/1 Error ellipse: s-maj=7.2km s-min=4.8km az=52.0*

BJI ***30*** *02:35:17.1, 7.89N×93.76E, h47km, mB5.3, mb4.8, Ms5.1, Msz4.8*

ISC 30 02:35:14.8±0.2, 8.13N±0.04×94.23E±0.03, h22km, h22km±1.0km: pP-P, n201, σ1§10/212, mb5.0/63, MS4.8/9, 9C-11D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.80**	**337**	*e*P	**Pn**	**02 36 16.2**	**+2.6**
PBA				*e*S	**Sn**	**02 36 55.7**	**-2.5**
NST	**Nakhon Sawan**	**9.46**	**37**	P	**P**	**02 37 31.0**	**-2.0**
CM31	**Chiang Mai Arr**	**11.24**	**24**	*e*P	**P**	**02 37 53.7**	**-3.8**
	10nm,0.6s						
CHRT	**Chiangrai**	**12.86**	**24**	⇓P	**P**	**02 38 20.5**	**+1.3**
	158nm,1.2s						
PALK	**Pallekele**	**13.44**	**267**	*e*P	**P**	**02 38 27.6**	**+0.7**
	38nm,1.2s						
VIS	**Vishakhapatnam**	**14.27**	**313**	*e*P	**P**	**02 38 38.3**	**+0.3**
VIS				*e*		02 38 39.9	
	comp=Z,101nm,1.1s						
VIS				*e*		02 41 04.6	
VIS				*e*S	**S**	**02 41 15.6**	**-0.9**
VIS				*i*		02 42 04.7	
VIS				*i*		02 42 23.9	
BWNR	**Bhubaneshwar**	**14.59**	**327**	*e*P	**P**	**02 38 38.8**	**-3.3**
BWNR				*e*		02 38 45.9	
	comp=Z,97nm,0.8s						
BWNR				*e*		02 38 49.7	
	comp=Z,152nm,0.9s						
BWNR				*e*		02 41 13.4	
BWNR				*e*S	**S**	**02 41 19.8**	**-4.3**
BWNR				*i*		02 43 02.9	
BWNR				*i*		02 43 02.9	
CAL	**Calcutta**	**15.41**	**339**	*e*P	**P**	**02 38 50.0**	**-2.9**
CAL				*e*		02 41 59.3	
IMP	**Imphal**	**16.57**	**359**	*e*	**P**	**02 39 06.8**	**-0.8**
KOD	**Kodaikanal**	**16.68**	**278**	*e*P	**P**	**02 39 12.8**	**+3.7**
KOD				*e*		02 39 19.0	
TRD	**Trivandrum**	**17.10**	**273**	*e*	**P**	**02 39 03.4**	**-11**
TRD				*i*		02 42 13.4	
SHL	**Shillong**	**17.49**	**353**	*e*P	**P**	**02 39 17.1**	**-2.1**
SHL				*e*		02 42 42.0	
HYB	**Hyderabad**	**17.85**	**303**	*i* P	**P**	**02 39 23.0**	**-0.7**
	comp=Z,70nm,1.0s						
HYB				*e*		02 42 31.0	
HYB				*e*S	**S**	**02 42 40.0**	**+0.5**
BLSP	**Bilaspur**	**18.15**	**321**	*e*P	**P**	**02 39 27.0**	**-0.5**
BLSP				*e*		02 42 54.1	
QIZ	**Qiongzhong**	**18.63**	**53**	P	**P**	**02 39 37.5**	**+4.1**
QIZ				S	**S**	**02 42 59.0**	**+1.8**
QIZ				LR	LR		
	comp=Z,2μm,14.8s						
KMI	**Kunming**	**18.75**	**25**	⇑P	**P**	**02 39 39.3**	**+4.5**
KMI				pmax	pmax		
	comp=Z,32nm,2.0s						
KMI	**Kunming**	**18.75**	**25**	⇑P	**P**	**02 39 39.3**	**+4.5**
	comp=Z,32nm,2.0s						
KMI				pP		02 39 45.3	
KMI				sP		02 39 48.8	
KMI				PP	PP	02 39 53.9	+3.0
KMI				S	**S**	**02 43 10.4**	**+11**
KMI				sS		02 43 21.3	
KMI				SS	SS	02 43 36.4	+11
NGP	**Nagpur**	**19.56**	**313**	*e*P	**P**	**02 39 44.6**	**+0.4**
NGP				*e*		02 39 54.0	
	comp=Z,136nm,1.5s						
NGP				*e*S	**S**	**02 43 24.8**	**+6.8**
MNGI	**Mangalore**	**19.67**	**286**	*i*	**P**	**02 39 50.4**	**+4.9**
MNGI				*i* S	**S**	**02 43 26.9**	**+6.5**
	comp=Z,74nm,1.4s						
LATR	**Latur**	**19.99**	**303**	*e*P	**P**	**02 39 49.7**	**+0.7**
COCO	**West Island**	**20.35**

WMQ	Urumqi	36.01	352	P	P	02 42 16.8	+0.4
BJI	Beijing	37.34	28	eP	P	02 42 29.6	+2.0
BJI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
BJI				MLR	MLR		
	comp=Z,910nm,21.6s,MS4.5						
BJI	Beijing	37.34	28	eP	P	02 42 29.6	+2.0
	comp=Z,10.0nm,0.8s,mb4.7						
BJI				LR	LR		
	comp=Z,910nm,21.6s,MS4.5						
KZA	Kyzart	37.74	337	P	P	02 42 31.8	+0.9
	SNR=6.7						
SMDO	Samad	37.75	297	⇑P	P	02 42 33.7	+2.5
	SNR=6.2						
BIDO	Bidbid	37.82	298	⇓P	P	02 42 34.3	+2.5
UCH	Uchtor	38.16	336	P	P	02 42 35.5	+1.0
	SNR=7.5						
KBK	Karagaybulak	38.35	337	P	P	02 42 37.3	+1.2
	SNR=9.0						
MBWA	Marble Bar	38.40	140	eP	P	02 42 35.5	-1.1
BSY	Bisya	38.41	296	⇓P	P	02 42 39.4	+2.7
	SNR=11						
AML	Almayashu	38.42	335	P	P	02 42 37.8	+1.2
	SNR=13						
AAK	Ala-Archa	38.51	336	P	P	02 42 38.5	+1.1
	SNR=9.3						
AAK	Ala-Archa	38.51	336	eP	P	02 42 36.6	-0.8
AAK				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.9						
AAK	Ala-Archa	38.51	336	eP	P	02 42 36.6	-0.8
	comp=Z,25nm,1.1s,mb4.8						
HOQ	Hoqain	38.55	298	⇑P	P	02 42 40.5	+2.6
	SNR=7.4						
FRU	Bishkek	38.63	337	eP	P	02 42 45.0	+6.6
FRU				pmax	pmax		
	comp=Z,50nm,2.0s,mb4.9						
CHMS	Chumysh	38.72	337	P	P	02 42 39.5	+0.3
	SNR=5.6						
USP	Ospenovka	39.05	337	P	P	02 42 42.2	+0.3
	SNR=14						
ARQ	Araqi	39.17	297	⇑P	P	02 42 45.3	+2.2
MKAR	Makanchi Array	39.86	347	i P	P	02 42 48.3	-0.3
MKAR				pmax	pmax		
	comp=Z,12nm,0.9s						
ASHO	Ashiyiah	39.97	299	⇑P	P	02 42 54.4	+4.7
	SNR=6.6						
SNY	Shenyang	42.41	33	⇑P	P	02 43 11.5	+1.9
SNY				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.5						
ZAK	Zakamensk	42.79	9	eP	P	02 43 12.9	+0.3
ZAK				e		02 44 56.2	
MOY	Mondy	43.76	6	eP	P	02 43 27.9	+7.4
MOY				e		02 45 11.1	
TLY	Talaya	44.11	8	eP	P	02 43 24.4	+1.1
TLY				e*PP	pP	02 43 31.2	+1.4
TLY				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
TLY	Talaya	44.11	8	eP	P	02 43 24.4	+1.1
	comp=Z,8.1nm,1.0s,mb4.4						
TLY				epP	pP	02 43 31.1	+1.3
KURK	Kurchatov	44.39	346	eP	P	02 43 24.9	-0.7
KURK				e*PP	pP	02 43 32.4	+0.3
KURK				pmax	pmax		
	comp=Z,63nm,1.1s,mb5.3						
KURK	Kurchatov	44.39	346	eP	P	02 43 24.9	-0.6
	comp=Z,63nm,1.1s,mb5.3						
KURK				epP	pP	02 43 32.4	+0.3
MUN	Mundaring	45.07	153	eP	P	02 43 31.3	0.0
	comp=Z,17nm,0.9s,mb4.9						
MUN	Mundaring	45.07	153	eP	P	02 43 31.3	0.0
MUN				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.9						
KLBR	Kellerberrin	45.45	151	eP	P	02 43 32.7	-1.6
	comp=Z,179nm,0.8s,mb6.0						
NWAO	Narrogin (SRO)	46.33	153	eP	P	02 43 40.0	-1.2
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NWAO	Narrogin (SRO)	46.33	153	eP	P	02 43 40.0	-1.2
	comp=Z,8.8nm,0.6s,mb4.9						
NVS	Novosibirsk	47.41	351	eP	P	02 43 48.3	-1.2
NVS				eS	S	02 50 33.7	-7.7
NVS				pmax	pmax		
	comp=N,21nm,0.8s						
NVS				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
NVS				pmax	pmax		
	comp=E,13nm,0.8s						
NVS				smax			
	comp=N,21nm,2.4s						
NVS				smax			
	comp=E,46nm,2.8s						
WRAB	Tennant Creek	48.34	126	eP	P	02 43 55.6	-1.6
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
WRAB	Tennant Creek	48.34	126	eP	P	02 43 55.6	-1.6
	comp=Z,8.2nm,0.8s,mb4.8						
WB2	Warramunga Arr	48.34	126	eP	P	02 43 55.7	-1.5
BRVK	Borovoye	48.84	341	eP	P	02 43 59.2	-1.4
BRVK				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
BRVK	Borovoye	48.84	341	eP	P	02 43 59.1	-1.5
	comp=Z,13nm,0.8s,mb5.0						
RAYN	Ar Rayn	49.07	294	P	P	02 44 03.0	+0.2
	comp=Z,350nm,0.8s,SNR=15						
CHKZ	Chkalovo	49.27	342	P	P	02 44 03.1	-0.8
CHKZ				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
CHKZ	Chkalovo	49.27	342	eP	P	02 44 02.7	-1.2
	comp=Z,24nm,0.7s,mb5.3						
ASPA	Alice Springs	50.00	130	eP	P	02 44 08.3	-1.7
FORT	Forrest	50.48	142	eP	P	02 44 13.6	+0.1
	comp=Z,52nm,0.9s,mb5.6						
KLR	Kul'dur	51.62	31	eP	P	02 44 27.7	+5.8
KLR				MLR	MLR		
	comp=E,1μm,15.5s						
KLR				MLR	MLR		
	comp=Z,2μm,15.5s,MS5.1						
BOD	Bodaibo	51.89	13	eP	P	02 44 22.9	-0.9
GNI	Garni	54.33	314	eP	P	02 44 40.8	-1.3
GNI				pmax	pmax		
	comp=Z,48nm,1.4s						
GNI	Garni	54.33	314	eP	P	02 44 40.8	-1.3
	comp=Z,48nm,1.4s,mb5.2						
SVE	Sverdlovsk	55.20	338	eP	P	02 44 46.0	-2.3
SVE				pmax	pmax		
	comp=Z,80nm,1.7s,mb5.5						
SVE				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.5						
PMG	Port Moresby	55.52	107	eP	P	02 44 51.5	+0.3
PMG				e*PP	pP	02 44 57.9	+0.1
PMG				pmax	pmax		
	comp=Z,17nm,0.7s						
PMG	Port Moresby	55.52	107	eP	P	02 44 51.5	+0.4
	comp=Z,17nm,0.7s,mb5.2						
PMG				epP	pP	02 44 57.9	0.0
ARU	Arti	55.70	337	⇑i P	P	02 44 44.6	-7.3
ARU				e		02 46 50.2	
ARU				eS	S	02 52 24.7	-10
ARU				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
ARU	Arti	55.70	337	eP	P	02 44 44.3	-7.5
	comp=Z,34nm,1.1s,mb5.3						
YSS	Yuzh-Sakhalins	56.53	38	⇓i P	P	02 44 58.8	+0.8
YSS				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.3						
KIV	Kislovodsk	57.19	318	eP	P	02 45 01.8	-1.0
KIV				pmax	pmax		
	comp=N,21nm,1.0s						
KIV				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.2						
KIV				MLR	MLR		
	comp=Z,365nm,20.0s,MS4.5						
KIV				MLR	MLR		
	comp=N,185nm,17.0s,MS4.6						
KIV				MLR	MLR		
	comp=E,411nm,20.0s,MS4.6						
KIV	Kislovodsk	57.19	318	eP	P	02 45 01.6	-1.2
	comp=E,24nm,0.9s,mb5.2						
CTA	Charters Tower	58.35	120	eP	P	02 45 14.6	+3.4
	comp=E,4.2nm,1.4s,mb4.3						
CTA	Charters Tower	58.35	120	eP	P	02 45 14.6	+3.4
CTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
MALT	Malatya	58.37	310	eP	P	02 45 09.5	-1.6
MALT				e*PP	pP	02 45 15.8	-2.0
MALT				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
MALT	Malatya	58.37	310	eP	P	02 45 09.5	-1.6
	comp=Z,15nm,1.1s,mb5.0						
MALT				epP	pP	02 45 15.8	-2.1
SOKR	Solikamsk	58.60	339	⇓i P	P	02 45 10.5	-1.9
SOKR				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.5						
SOKR				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.2						
EIL	Elat	59.38	300	eP	P	02 45 17.8	-0.4
	comp=Z,22nm,0.9s,mb5.2						
EIL				epP	pP	02 45 25.3	+0.3
YAK	Yakutsk	59.73	18	eP	P	02 45 18.9	-1.3
YAK				pmax	pmax		
	comp=N,13nm,1.2s						
YAK				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.0						
YAK				pmax	pmax		
	comp=E,10.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,330nm,13.0s,MS4.7						
YAK				MLR	MLR		
	comp=N,255nm,14.0s,MS4.7						
YAK				MLR	MLR		
	comp=E,265nm,13.0s,MS4.7						
STKA	Stephens Creek	60.21	134	eP	P	02 45 23.9	0.0
	comp=E,2.9nm,0.7s,mb4.4						
MBAR	Mbarara	63.87	265	eP	P	02 45 48.8	0.0
MBAR				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
MBAR	Mbarara	63.87	265	eP	P	02 45 48.8	0.0
	comp=Z,14nm,1.2s,mb4.9						
ISP	Isparta	64.36	308	eP	P	02 45 45.8	-5.7
MOS	Moscow	64.91	329	eP	P	02 45 54.1	-0.7
MOS				pmax	pmax		
	comp=Z,42nm,0.6s,mb5.7						
OBN	Obninsk	65.22	328	⇓eP	P	02 45 51.8	-5.0
OBN				e	pP	02 45 58.9	-4.7
OBN				e		02 46 24.9	
OBN				e		02 48 19.2	
OBN				e		02 49 53.5	
OBN				eS	S	02 54 28.8	-8.3
OBN				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.1						
OBN				MLR	MLR		
	comp=Z,900nm,22.0s,MS4.9						
MA2	Magadan	66.50	28	P	P	02 46 05.3	+0.4
MA2				pmax	pmax		
	comp=Z,47nm,1.3s,mb5.4						
MA2	Magadan	66.50	28	P	P	02 46 05.3	+0.4
	comp=Z,47nm,1.3s,mb5.4						
TIXI	Tiksi	66.97	11	eP	P	02 46 06.5	-1.2
TIXI				pmax	pmax		
	comp=Z,86nm,1.2s,mb5.7						
TIXI				MLR	MLR		
	comp=Z,447nm,14.0s,MS4.8						
SEY	Seymchan	68.66	25	eP	P	02 46 20.7	+2.2
SEY				pmax	pmax		
	comp=Z,90nm,1.5s,mb5.5						
SEY				pmax	pmax		
	comp=E,40nm,1.4s						
LSZ	Lusaka	69.44	250	eP	P	02 46 24.2	+0.2
LSZ				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
LSZ	Lusaka	69.44	250	eP	P	02 46 24.1	+0.2
	comp=Z,7.2nm,0.9s,mb4.6						
MNK	Minsk	69.80	325	eP	P	02 46 21.0	-4.6
JOF	Joensuu	70.66	334	ep	P	02 46 29.0	-1.7
KWP	Kalwaria	71.90	320	eP	P	02 46 37.8	-0.6
KOLS	Kolonicke sedl	72.08	319	i P	P	02 46 38.9	-0.5
SUW	Suwalki	72.36	324	eP	P	02 46 39.8	-1.2
CRVS	Cervenica-Dubn	72.60	319	i P	P	02 46 43.0	+0.5
KAF	Kangasniemi	72.61	333	ep	P	02 46 41.0	-1.3
	comp=Z,4.6nm,0.6s,mb4.6,baz=104,slow=5.6						
KAF	Kangasniemi	72.61	333	eP	P	02 46 41.0	-1.3
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
NIE	Niedzica	73.42	319	eP	P	02 46 47.6	+0.3
OJC	Ojcow	73.84	320	eP	P	02 46 49.2	-0.5
VYHS	Vyhne	74.28	318	i P	P	02 46 51.7	-0.6
VYHS				e	pP	02 46 57.4	-1.8
VYHS				ePP	PP	02 49 37.6	-2.6
LBTB	Lobatse	74.44	241	eP	P	02 46 54.4	+0.7
LBTB				e*PP	pP	02 47 00.9	+0.3
LBTB				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
LBTB	Lobatse	74.44	241	eP	P	02 46 54.4	+0.6
	comp=Z,16nm,0.9s,mb5.0						
LBTB				epP	pP	02 47 00.9	+0.3
OKC	Ostrava-Krasne	74.86	319	eP	P	02 46 55.7	+0.1
MORC	Moravsky Berou	75.25	319	eP	P	02 46 57.4	-0.5
MORC				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
MORC	Moravsky Berou	75.25	319	eP	P	02 46 57.4	-0.4
	comp=Z,12nm,1.0s,mb4.8						
BOSA	Boshof	75.79	238	eP	P	02 47 01.8	+0.4
BOSA				e*PP	pP	02 47 07.7	-0.6
BOSA				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
BOSA	Boshof	75.79	238	eP	P	02 47 01.8	+0.4
	comp=Z,14nm,0.9s,mb4.9						
BOSA				epP	pP	02 47 07.7	-0.6
BILL	Bilibino	75.82	22	eP	P	02 47 00.6	-0.2
BILL				pmax	pmax		
	comp=Z,36nm,1.4s,mb5.1						
BILL	Bilibino	75.82	22	eP	P	02 47 00.6	-0.1
	comp=Z,36nm,1.4s,mb5.1						
DPC	Dobruska-Polom	76.08	320	eP	P	02 47 03.0	+0.5
KSP	Ksiaz	76.13	320	eP	P	02 47 02.5	-0.3
KSP				e	pP	02 47 08.2	-1.5
KSP	Ksiaz	76.13	320	eP	P	02 47 03.4	+0.5
UPC	Upice	76.28	320	eP	P	02 47 03.8	+0.1
PRU	Pruhonice	77.20	319	eP	P	02 47 08.8	0.0
PVCC	Panska Ves	77.20	320	eP	P	02 47 09.1	+0.3
BSD	Bornholm Skovb	77.27	325	eP	P	02 47 07.6	-1.5
BSD				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
BSD	Bornholm Skovb	77.27	325	eP	P	02 47 07.6	-1.5
	comp=Z,19nm,0.8s,mb5.1						
BSD	Bornholm Skovb	77.27	325	i P	P	02 47 07.6	-1.5
	comp=Z,19nm,0.8s,mb5.1						
BRG	Berggiesshubel	77.62	320	i P	P	02 47 11.4	+0.3
BRG				i	pP	02 47 17.1	-0.9
BRG				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
BRG	Berggiesshubel	77.62	320	i P	P	02 47 11.4	+0.3
	comp=Z,9.0nm,0.8s,mb4.8						
BRG				i	pP	02 47 17.1	-0.9
GEC2	GERESS Array S	77.70	318	eP	P	02 47 11.5	-0.1
GEC2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
GEC2	GERESS Array S	77.70	318	eP	P	02 47 11.5	-0.1
	comp=Z,10.0nm,0.9s,mb4.8						
RUE	Ruedersdorf	77.79	322	eP	P	02 47 12.2	+0.1
	comp=Z,39nm,0.8s,mb5.4						
RUE				epP	pP	02 47 18.0	-0.9
KHC	Kasperske Hory	77.79	318	eP	P	02 47 11.8	-0.3
KHC				e	pP	02 47 18.0	-1.0
KHC	Kasperske Hory	77.79	318	eP	P	02 47 11.8	-0.3
KHC				pP	pP	02 47 18.0	-1.0
PTCC	Patocco-Chiusa	77.88	316	eP	P	02 47 12.3	-0.3
CLL	Collm	78.23	321	i P	P	02 47 14.1	-0.3
CLL				e	pP	02 47 20.0	-1.3
CLL				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
CLL	Collm	78.23	321	i P	P	02 47 14.1	-0.3
	comp=Z,9.0nm,1.1s,mb4.6						
CLL				e	pP	02 47 20.0	-1.3
CLL	Collm	78.23	321	P	P	02 47 14.1	-0.3
	comp=Z,logA/T=0.9,mb4.6						
CLL				e*PP	pP	02 47 20.0	-1.3
WET	Wettzell	78.25	318	eP	P	02 47 14.6	0.0
WET				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
WET	Wettzell	78.25	318	eP	P	02 47 14.6	0.0
	comp=Z,9.0nm,1.0s,mb4.7						
FVI	Forni Avoltri	78.28	316	eP	P	02 47 14.5	-0.3
NKC	Novy Kostel	78.55	320	eP	P	02 47 19.6	+3.3
CTI	Castel Tesino	79.06	315	eP	P	02 47 19.3	+0.2
MOX	Moxa	79.09	320	eP	P	02 47 19.2	0.0
MOX				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
MOX	Moxa	79.09	320	eP	P	02 47 19.2	0.0
	comp=Z,17nm,1.1s,mb4.9						
MOX	Moxa	79.09	320	i P	P	02 47 19.2	0.0
	comp=Z,logA/T=1.2,mb4.9						
VMG	Vicchio	79.16	313	eP	P	02 47 20.6	+0.9
GRA1	Grafenberg Arr	79.34	319	eP	P	02 47 21.0	+0.4
	comp=Z,8.0nm,0.8s,mb4.7						
GRA1				epP	pP	02 47 26.9	-0.6
GRF	Grafenberg Arr	79.34	319	eP	P	02 47 21.0	+0.4
GRF				e*PP	pP	02 47 26.9	-0.6
GRF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
GRF	Grafenberg Arr	79.34	319	eP	P	02 47 21.0	+0.4
GRF				e*PP	pP	02 47 26.9	-0.6
GRF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
GRF	Grafenberg Arr	79.34	319	eP	P	02 47 21.0	+0.4
	comp=Z,8.0nm,0.8s,mb4.7						
GRF				epP	pP	02 47 26.9	-0.6
NB2	NORSAR Subarra	79.56	331	P	P	02 47 20.7	-0.8
	comp=Z,16nm,0.8s,mb5.0,baz=92,slow=5.6						
NB2	NORSAR Subarra	79.56	331	P	P	02 47 20.7	-0.8
	baz=92,slow=5.9						
NAO01	NORSAR Array S	79.71	330	eP	P	02 47 21.7	-0.6
GSCL	Gusciola	79.84	314	eP	P	02 47 24.3	+1.0
CLZ	Clausthal	79.87	321	eP	P	02 47 23.4	0.0
	comp=Z,10.0nm,0.7s,mb4.8						
BRMO	Bormio	79.94	316	eP	P	02 47 24.1	+0.2
TSUM	Tsumeb	80.20	249	eP	P	02 47 26.6	+0.8
	comp=Z,5.1nm,1.1s,mb4.4						
MUD	Monsted U'grnd	80.55	326	i P	P	02 47 26.7	-0.2
MUD				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
MUD	Monsted U'grnd	80.55	326	i P	P	02 47 26.7	-0.2
	comp=Z,24nm,1.2s,mb5.0						
VAI	Varese	81.07	315	eP	P	02 47 29.2	-0.7
TNS	Taunus Mts	81.12	320	eP	P	02 47 30.1	+0.1
BFO	Black Forest	81.27	318	eP	P	02 47 30.4	-0.5
BFO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BFO	Black Forest	81.27	318	eP	P	02 47 30.4	-0.5
	comp=Z,4.0nm,0.8s,mb4.4						
FIN	Finale Ligure	81.55	314	eP	P	02 47 32.5	+0.1
MCGN	Macugnaga	81.61	315	eP	P	02 47 32.6	-0.1
LPG	La Plagne	82.51	315	⇓i P	P	02 47 37.4	+0.1
	comp=Z,40nm,0.8s,mb5.2						
LPG	La Plagne	82.51	315	⇓i P	P	02 47 37.4	+0.1
LPG				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
TNA	Tin City	85.90	24	eP	P	02 47 52.7	-1.3
	comp=Z,6.7nm,0.9s,mb4.9						
TNA				epP	pP	02 48 02.7	+1.6
IMA	Indian Mountai	91.36	22	eP	P	02 48 21.9	+1.9
	comp=Z,0.2nm,1.0s						
IMA				epP	pP	02 48 30.5	+3.5
MCK	McKinley	94.19	23	P	P	02 48 33.3	+0.2
MCK				e*PP	pP	02 48 42.1	+2.0
MCK				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb5.0						
MCK	McKinley	94.19	23	P	P	02 48 33.2	+0.2
	comp=Z,7.6nm,1.2s,mb5.0						
MCK				epP	pP	02 48 42.1	+2.0
INK	Inuvik	96.73	16	eP	P	02 48 44.7	+0.2
INK				pmax	pmax		
	comp=Z,13nm,1.1s						
INK	Inuvik	96.73	16	eP	P	02 48 44.7	+0.1
	comp=Z,13nm,1.1s,mb5.3						
RES	Resolute Bay	97.15	2	eP	P	02 48 46.5	+0.2
RES				e*PP	pP	02 48 54.4	+1.0
RES				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.3						
RES	Resolute Bay	97.15	2	eP	P	02 48 46.5	+0.1
	comp=Z,13nm,1.0s,mb5.3						
RES				epP	pP	02 48 54.4	+1.0
DAWY	Dawson	97.59	21	eP	P	02 48 49.2	+0.6
DAWY				epP	pP	02 48 57.4	+1.9
HLID	Hailey	122.36	24	ePKPdf	PKPdf	02 54 10.9	-2.1
SNOW	Snow King Moun	123.86	22	ePKPdf	PKPdf	02 54 14.0	-2.0
NEN	Nelson	128.56	30	PKPdf	PKPdf	02 54 22.6	-2.6
JCT	Junction City	139.32	19	ePKIKP	PKPdf	02 54 42.3	-3.1
PLCA	Paso Flores	144.81	200	ePKIKP	PKPdf	02 54 50.9	-3.9
LPAZ	La Paz	160.96	243	ePKIKP	PKPdf	02 55 15.8	-2.5

HRVD ***30*** *03:13:27.7±0.3, 8.06N×94.25E, h19km±1km, MW5.1/61, Centroid moment Tensor Solution. LP body waves: s31,c49;Mantle waves: s61,c107; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.64±.18; $M_{\theta\theta}$-1.68±.14; $M_{\phi\phi}$2.32±.16; $M_{r\theta}$-0.51±.32; $M_{\theta\phi}$4.73±.14; $M_{\phi r}$-0.59±.32; Best double couple: $M_0$5.186×10^{16} NP1: ϕ_s168°, δ84°, λ176°. NP2:ϕ_s259°, δ86°, λ6°. Principal axes: T 5.553, Plg7°, Azm124°; N -.734, Plg83°, Azm292°; P -4.818, Plg1°, Azm33°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***30*** *03:13:27.7±0.6, 7.68N×94.13E, h30km, mb4.8/46, MS4.7/4 Error ellipse: s-maj=16.9km s-min=13.6km az=48.0*

NEIC Second event about 8 seconds later.

ISC 30 03:13:26.4±0.5, 7.62N±0.08×94.12E±0.08, h30km, n33, σ1$30/35, mb4.6/18, MS4.7/2, 5C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SNG	Songkhla	6.46	94	P		Pn	03 14 46.5	-16
	440nm,0.9s							
NNT	Nongplab	7.41	48	P		Pn	03 15 13.0	-2.4
NST	Nakhon Sawan	9.93	36	P		P	03 15 40.0	-10
NANT	Nan	12.82	29	P		P	03 16 30.0	+0.5
PALK	Pallekele	13.30	269	eP		P	03 16 35.4	-0.5
	26nm,1.3s							
PALK				eS		S	03 18 49.9	-14
TRD	Trivandrum	17.01	274	e		P	03 17 15.4	-8.6
TRD				i			03 20 07.4	
POO	Poona	22.49	301	⇑i		P	03 18 14.0	-11
POO				i			03 22 46.0	
LZH	Lanzhou	29.69	16	⇑P		P	03 19 35.4	+3.3
LZH				*PP		pP	03 19 43.0	+2.1
LZH				*SP		sP	03 19 49.5	+4.7
LZH				pmax		pmax		
	comp=Z,36nm,1.7s,mb4.8							
LZH				MLR		MLR		
	comp=Z,2μm,15.7s,MS4.8							
LZH	Lanzhou	29.69	16	⇑P		P	03 19 35.4	+3.3
	comp=Z,36nm,1.7s,mb4.8							
LZH				pP		pP	03 19 43.0	+2.1
LZH				sP		sP	03 19 49.5	+4.7
LZH				LR		LR		
	comp=Z,2μm,15.7s,MS4.8							
BJI	Beijing	37.84	28	eP		P	03 20 46.1	+3.9
BJI				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.4							
BJI				MLR		MLR		
	comp=Z,750nm,19.8s,MS4.5							
BJI	Beijing	37.84	28	eP		P	03 20 46.1	+3.9
	comp=Z,7.0nm,0.9s,mb4.4							
BJI				S		S	03 26 56.9	+26
BJI				SS		SS	03 29 35.6	+28
BJI				LR		LR		
	comp=Z,750nm,19.8s,MS4.5							
AAK	Ala-Archa	38.92	337	P		P	03 20 51.6	+0.3
	comp=Z,3.2nm,0.8s,mb4.1							
ULN	Ulaanbaatar	41.58	13	P		P	03 21 12.5	-0.7
	comp=Z,1.1nm,0.7s,mb3.6							
ZAK	Zakamensk	43.30	9	eP		P	03 21 29.9	+2.7
ZAK				e			03 23 24.4	
KURK	Kurchatov	44.84	346	eP		P	03 21

SOC				pmax	pmax		
	comp=N,23nm,0.9s						
SOC				pmax	pmax		
	comp=E,47nm,1.1s						
EIL	**Elat**	**59.53**	**300**	P	**P**	**03 23 31.1**	**+1.4**
	comp=E,7.9nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**59.95**	**134**	P	**P**	**03 23 34.0**	**+1.5**
OBN	**Obninsk**	**65.58**	**328**α	*i*P	**P**	**03 24 12.8**	**+3.3**
OBN				*e*		03 24 19.8	
OBN				*e*		03 24 30.1	
OBN						03 24 48.0	
OBN						03 26 41.0	
OBN				*e*PPP	PPP	03 28 11.1	+0.5
OBN				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.1						
LSZ	**Lusaka**	**69.16**	**251**	P	**P**	**03 24 32.4**	**-0.3**
	comp=Z,4.6nm,1.1s,mb4.3						
JOF	**Joensuu**	**71.06**	**335**	*e*p	**P**	**03 24 43.3**	**-0.2**
KAF	**Kangasniemi**	**73.00**	**333**	*e*p	**P**	**03 24 57.1**	**+2.1**
LBTB	**Lobatse**	**74.10**	**241**	P	**P**	**03 25 02.8**	**+0.6**
	comp=Z,6.3nm,1.0s,mb4.5						
BOSA	**Boshof**	**75.43**	**238**	P	**P**	**03 25 07.8**	**-1.9**
	comp=Z,1.7nm,0.6s,mb4.2						
BNI	**Bardonecchia**	**82.85**	**314**	P	**P**	**03 25 49.5**	**0.0**
	comp=Z,8.1nm,0.9s,mb4.8						
RES	**Resolute Bay**	**97.65**	**2**	P	**P**	**03 26 56.3**	**-2.7**
	comp=Z,1.6nm,0.9s,mb4.5						

MOS ***30*** *03:13:41.3±2.8, 8.24N×93.67E, h33km, mb5.2/34, MS4.5/4, Error ellipse: s-maj=13.6km s-min=7.6km az=108.3*
BJI ***30*** *03:13:43.3, 8.55N×94.28E, h30km, mB5.2, mb4.8, Ms4.9, Msz4.5*
NEIC ***30*** *03:13:44.0±0.5, 8.01N×94.25E, h30km, mb5.0/19, Error ellipse: s-maj=20.4km s-min=12.7km az=82.0*
CSEM ***30*** *03:13:54.2, 11.87N×94.28E, h33km, mb5.5*
ISC 30 03:13:37.4±0.3, 8.27N±0.05×93.77E±0.05, h20km, h20km±1.1km:pP-P, n173, σ1s06/142, mb4.9/63, MS4.6/7, 6C-2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.51**	**343**	*e*P	**Pn**	**03 14 37.4**	**+5.1**
PBA				*e*S	**Sn**	**03 15 20.5**	**+6.7**
CM31	**Chiang Mai Arr**	**11.31**	**26**	*e*P	**P**	**03 16 19.1**	**-2.1**
	9.9nm,0.6s						
CHG	**Chiang Mai**	**11.62**	**25**	⇓P	**P**	**03 16 24.3**	**-1.1**
	27nm,1.1s						
KKTK	**Khon Kaen**	**11.94**	**47**	P	**P**	**03 16 27.0**	**-2.7**
CHRT	**Chiangrai**	**12.92**	**26**	⇓P	**P**	**03 16 42.8**	**0.0**
	182nm,1.4s						
VIS	**Vishakhapatnam**	**13.84**	**314**	*e*P	**P**	**03 16 59.4**	**+4.3**
VIS				*e*		03 17 00.8	
	comp=Z,93nm,1.4s						
VIS				*e*		03 19 26.4	
VIS				*e*S	**S**	**03 19 39.7**	**+11**
BWNR	**Bhubaneshwar**	**14.22**	**328**	*e*P	**P**	**03 16 58.8**	**-1.3**
BWNR				*e*		03 17 07.5	
	comp=Z,85nm,0.7s						
BWNR				*e*		03 19 34.7	
BWNR				*e*S	**S**	**03 19 41.5**	**+3.3**
BWNR				*i*		03 21 27.8	
KOD	**Kodaikanal**	**16.21**	**278**	*e*P	**P**	**03 17 32.7**	**+6.8**
KOD				*e*		03 17 36.7	
	comp=Z,96nm,1.6s						
KOD				*e*		03 20 20.9	
KOD				*e*S	**S**	**03 20 37.5**	**+13**
SHL	**Shillong**	**17.30**	**354**	*e*S	**S**	**03 21 00.3**	**+11**
BLSP	**Bilaspur**	**17.76**	**322**	*e*P	**P**	**03 17 47.2**	**+1.9**
BLSP				*e*		03 17 49.8	
	comp=Z,71nm,1.7s						
BLSP				*e*		03 21 10.0	
BLSP				*i*		03 22 58.7	
KMI	**Kunming**	**18.82**	**26**	⇑P	**P**	**03 17 57.5**	**-0.9**
KMI				S	**S**	**03 21 37.6**	**+13**
KMI				pmax	pmax		
	comp=Z,28nm,1.2s						
KMI	**Kunming**	**18.82**	**26**	⇑P	**P**	**03 17 57.5**	**-0.9**
	comp=Z,28nm,1.2s						
KMI				pP		03 18 06.2	
KMI				sP		03 18 10.8	
KMI				S	**S**	**03 21 37.6**	**+13**
KMI				sS		03 21 49.9	
KMI				SS	SS	03 22 07.9	+18
QIZ	**Qiongzhong**	**18.91**	**54**	P	**P**	**03 17 55.0**	**-4.5**
QIZ				S	**S**	**03 21 15.3**	**-11**
QIZ				AMB	AMB		
	comp=Z,429nm,3.1s						
QIZ				LR	LR		
	comp=N,5μm,14.1s						
QIZ				LR	LR		
	comp=Z,1μm,17.6s						
NGP	**Nagpur**	**19.12**	**314**	*e*P	**P**	**03 18 04.5**	**+2.4**
NGP				*e*		03 18 14.9	
	comp=Z,73nm,1.3s						
MNGI	**Mangalore**	**19.19**	**286**	*e*P	**P**	**03 18 08.6**	**+5.7**
MNGI				*e*S	**S**	**03 21 49.5**	**+17**
ALBI	**Allahabad**	**20.43**	**327**	*e*	**P**	**03 18 16.0**	**-0.3**
COCO	**West Island**	**20.55**	**171**	*e*P	**P**	**03 18 17.0**	**-0.7**
	comp=E,81nm,0.8s						
JIRN	**Jiri**	**20.58**	**341**	*e*P	**P**	**03 18 17.8**	**0.0**
	comp=Z,320nm,1.1s						
PKI	**Pulchoki**	**20.76**	**339**	*e*P	**P**	**03 18 18.3**	**-1.5**
	comp=Z,254nm,1.0s						
GOA	**Goa**	**20.78**	**292**	*e*P	**P**	**03 18 26.6**	**+6.6**
GOA				*e*		03 18 46.5	
	comp=Z,117nm,1.7s						
DMN	**Daman**	**20.91**	**338**	*e*P	**P**	**03 18 19.8**	**-1.5**
	comp=Z,241nm,0.8s						
KKN	**Kakani**	**21.01**	**339**	*e*P	**P**	**03 18 20.8**	**-1.5**
	comp=Z,355nm,1.2s,mb5.6						
KAD	**Karad**	**21.09**	**297**	*e*	**P**	**03 18 22.0**	**-1.1**
GKN	**Gorkha**	**21.44**	**337**	*e*P	**P**	**03 18 24.7**	**-2.0**
	comp=Z,270nm,1.1s,mb5.5						
LSA	**Lhasa**	**21.46**	**354**	P	**P**	**03 18 28.0**	**+1.1**
LSA				AP		03 18 39.5	
LSA				S	**S**	**03 22 22.3**	**+3.3**
LSA				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.6						
LSA				AMB	AMB		
	comp=Z,110nm,5.9s						
LSA				LR	LR		
	comp=N,1μm,17.6s,MS5.3						
LSA				LR	LR		
	comp=E,11μm,17.6s,MS5.3						
LSA				LR	LR		
	comp=Z,2μm,17.6s,MS4.5						
BHPL	**Bhopal**	**21.62**	**315**	*e*	**P**	**03 18 29.4**	**+0.9**
BHPL				*e*P		03 18 32.5	
BHPL				*e*		03 18 33.1	
	comp=Z,83nm,0.7s						
BHPL				*i*		03 24 47.4	
KOLN	**Koldanda**	**21.65**	**335**	*e*P	**P**	**03 18 25.0**	**-3.8**
	comp=Z,248nm,1.0s,mb5.6						
NDI	**New Delhi**	**25.60**	**325**	*e*P	**P**	**03 19 12.3**	**+5.0**
DDI	**Dehra Dun**	**26.42**	**328**	*e*P	**P**	**03 19 16.0**	**+1.2**
DDI				*e*		03 22 40.8	
XAN	**Xi'an**	**29.20**	**26**	P	**P**	**03 19 36.8**	**-3.2**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
NJ2	**Nanjing**	**33.21**	**41**	*e*P	**P**	**03 20 16.5**	**+1.2**
NJ2				AP	pP	03 20 25.5	+4.2
NJ2				XP	sP	03 20 30.5	+6.7
NJ2				PP	PP	03 21 29.3	+2.5
NJ2				PPP	PPP	03 21 47.0	+3.8
NJ2				S	**S**	**03 25 34.0**	**+1.0**
NJ2				XS		03 25 47.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,480nm,11.2s						
NJ2				LR	LR		
	comp=N,2μm,12.3s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,17.1s,MS5.0						
NJ2				LR	LR		
	comp=Z,1μm,17.8s,MS4.7						
SSE	**Sheshan**	**34.20**	**45**	P	**P**	**03 20 24.0**	**+0.1**
SSE				XP	sP	03 20 36.5	+4.1
SSE				S	**S**	**03 25 52.0**	**+3.7**
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,103nm,3.8s						
SSE				LR	LR		
	comp=N,499nm,20.7s,MS4.3						
SSE				LR	LR		
	comp=E,444nm,20.9s,MS4.3						
SSE				LR	LR		
	comp=Z,315nm,19.7s,MS4.0						
SSE	**Sheshan**	**34.20**	**45**	P	**P**	**03 20 23.9**	**0.0**
	comp=Z,39nm,0.7s,mb5.5						
SSE				sP	sP	03 20 36.5	+4.1
SSE				S	**S**	**03 25 52.0**	**+3.7**
SSE				sS		03 26 06.9	
SSE				SS	SS	03 28 23.3	+26
SSE				LR	LR		
	comp=Z,320nm,19.7s,MS4.1						
WMQ	**Urumqi**	**35.81**	**352**	*e*P	**P**	**03 20 39.3**	**+1.8**
UCH	**Uchtor**	**37.85**	**336**	P	**P**	**03 20 59.9**	**+5.2**
	SNR=6.6						
AML	**Almayashu**	**38.10**	**336**	P	pP	03 21 04.8	+2.0
	SNR=5.7						
AAK	**Ala-Archa**	**38.20**	**337**	P	pP	03 21 06.5	+2.9
	SNR=7.6						
AAK	**Ala-Archa**	**38.20**	**337**	P	pP	03 21 04.1	+0.5
AAK				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.9						
AAK	**Ala-Archa**	**38.20**	**337**	P	pP	03 21 04.1	+0.5
	comp=Z,23nm,0.9s						
FRU	**Bishkek**	**38.32**	**337**	*e*P	pP	03 21 05.5	+0.9
CHMS	**Chumysh**	**38.41**	**337**	P	pP	03 21 06.8	+1.4
	SNR=6.9						
EKS2	**Erkin-Say**	**38.51**	**336**	P	pP	03 21 08.1	+1.9
	SNR=6.9						
USP	**Ospenovka**	**38.73**	**337**	P	pP	03 21 09.6	+1.5
	SNR=7.6						
ULN	**Ulaanbaatar**	**41.04**	**14**	*e*P	pP	03 21 26.6	-0.5
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
ULN	**Ulaanbaatar**	**41.04**	**14**	*e*P	pP	03 21 26.6	-0.5
	comp=Z,2.7nm,0.6s						
TLY	**Talaya**	**44.04**	**9**	*e*P	**P**	**03 21 50.1**	**+4.6**
TLY				*e*		03 31 27.6	
TLY				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
TLY				MLR	MLR		
	comp=Z,479nm,24.0s,MS4.3						
TLY	**Talaya**	**44.04**	**9**	*e*P	pP	03 21 51.3	-0.2
	comp=Z,4.8nm,0.9s						
KURK	**Kurchatov**	**44.14**	**346**⇑	*e*P	pP	03 21 52.6	+0.2
KURK				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.1						
KURK	**Kurchatov**	**44.14**	**346**⇑	*e*P	pP	03 21 52.5	+0.2
	comp=Z,43nm,1.0s						
NWAO	**Narrogin (SRO)**	**46.66**	**153**	*e*P	**P**	**03 22 07.8**	**+1.1**
NWAO				pmax	pmax		
	comp=Z,23nm,1.1s						
NWAO	**Narrogin (SRO)**	**46.66**	**153**	*e*P	**P**	**03 22 07.8**	**+1.1**
	comp=Z,23nm,1.1s,mb5.0						
NVS	**Novosibirsk**	**47.20**	**352**	*e*P	**P**	**03 22 09.7**	**-1.0**
NVS				*e*S	**S**	**03 28 57.7**	**-3.8**
NVS				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.1						
NVS				pmax	pmax		
	comp=N,10.0nm,0.9s						
NVS				smax			
	comp=N,7.0nm,1.5s						
NVS				smax			
	comp=E,24nm,2.2s						
MDJ	**Mudanjiang**	**47.69**	**34**	P	**P**	**03 22 16.5**	**+1.8**
MDJ				AMB	AMB		
	comp=Z,16nm,1.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,211nm,6.6s						
WRAB	**Tennant Creek**	**48.79**	**126**	*e*P	**P**	**03 22 24.3**	**+0.8**
WRAB	**Tennant Creek**	**48.79**	**126**	*e*P	**P**	**03 22 22.6**	**-0.9**
	comp=Z,11nm,0.8s,mb5.0						
CHKZ	**Chkalovo**	**48.99**	**342**	*e*P	pP	03 22 31.1	+0.5
CHKZ				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.4						
CHKZ	**Chkalovo**	**48.99**	**342**	*e*P	pP	03 22 31.1	+0.5
	comp=Z,36nm,0.9s						
GNI	**Garni**	**53.90**	**314**	*e*P	**P**	**03 22 57.7**	**-4.1**
GNI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CLNS	**Chul'man**	**54.20**	**21**	*e*P	**P**	**03 23 09.3**	**+5.6**
CLNS				*e*		03 24 12.4	
CLNS				*e*		03 25 05.2	
CLNS				*e*PPP	PPP	03 26 14.7	-2.6
CLNS				*e*S	**S**	**03 30 46.5**	**+8.4**
CLNS				*e*SS	SS	03 34 28.2	+8.6
CLNS				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,4.0nm,1.1s						
CLNS				smax			
	comp=N,4.0nm,0.9s						
CLNS				smax			
	comp=Z,5.0nm,0.7s						
CLNS				smax			
	comp=E,13nm,0.9s						
CLNS				MLR	MLR		
	comp=N,400nm,14.0s,MS4.7						
CLNS				MLR	MLR		
	comp=Z,400nm,14.0s,MS4.6						
CLNS				MLR	MLR		
	comp=E,100nm,13.0s,MS4.7						
PMG	**Port Moresby**	**56.00**	**107**	*i*P	**P**	**03 23 18.4**	**+1.0**
YSS	**Yuzh-Sakhalins**	**56.70**	**38**	*e*P	**P**	**03 23 23.6**	**+1.6**
YSS				*e*	pP	03 23 31.3	+3.1
YSS				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.7						
KIV	**Kislovodsk**	**56.78**	**318**	*e*P	**P**	**03 23 22.2**	**-0.5**
KIV				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
KIV	**Kislovodsk**	**56.78**	**318**	*e*P	**P**	**03 23 22.1**	**-0.5**
	comp=Z,18nm,1.0s,mb5.1						
SOKR	**Solikamsk**	**58.30**	**339**⇑	*i*P	**P**	**03 23 38.8**	**+5.7**
SOKR				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
SOKR				MLR	MLR		
	comp=Z,700nm,20.0s,MS4.8						
EIL	**Elat**	**58.91**	**300**	P	pP	03 23 45.0	+0.9
	comp=Z,7.9nm,0.8s						
YAK	**Yakutsk**	**59.74**	**19**	*e*P	**P**	**03 23 42.7**	**-0.4**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**60.64**	**134**	*e*P	**P**	**03 23 50.9**	**+1.2**
MOS	**Moscow**	**64.55**	**329**	*e*P	**P**	**03 24 14.8**	**-0.5**
MOS				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.5						
MA2	**Magadan**	**66.59**	**28**	*e*P	pP	03 24 34.0	-0.6
MA2				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.2						
MA2	**Magadan**	**66.59**	**28**	*e*P	pP	03 24 34.0	-0.6
	comp=Z,27nm,1.0s						
TIXI	**Tiksi**	**66.92**	**11**	*e*P	**P**	**03 24 30.3**	**0.0**
TIXI				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
SEY	**Seymchan**	**68.72**	**25**	*e*P	**P**	**03 24 43.5**	**+1.8**
SEY				*e*		03 25 09.8	
SEY				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.4						
SEY				pmax	pmax		
	comp=E,20nm,1.3s						
APA	**Apatity**	**71.35**	**339**⇑	*i*P	**P**	**03 24 57.4**	**-0.2**
APA				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.1						
KWP	**Kalwaria**	**71.49**	**320**	*e*P	**P**	**03 24 58.8**	**0.0**
KWP				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
KWP	**Kalwaria**	**71.49**	**320**	*e*P	**P**	**03 24 58.8**	**0.0**
	comp=Z,16nm,1.0s,mb4.9						
KOLS	**Kolonicke sedl**	**71.67**	**319**	*i*P	pP	03 25 03.8	-2.3
KOLS	**Kolonicke sedl**	**71.67**	**319**	*i*sP	pP	03 25 03.8	-2.3
SUW	**Suwalki**	**71.97**	**324**	*e*P	**P**	**03 24 59.1**	**-2.5**
SUW				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.3						
SUW	**Suwalki**	**71.97**	**324**	*e*P	**P**	**03 24 59.1**	**-2.5**
	comp=Z,38nm,0.9s,mb5.3						
CRVS	**Cervenica-Dubn**	**72.19**	**319**	*i*P	**P**	**03 25 03.9**	**+0.9**
CRVS	**Cervenica-Dubn**	**72.19**	**319**	*i*pP	**P**	**03 25 03.9**	**+0.9**
VYHS	**Vyhne**	**73.87**	**318**	*i*P	**P**	**03 25 12.6**	**-0.2**
VYHS				*e*PP	pP	03 25 19.1	0.0
VYHS	**Vyhne**	**73.87**	**318**	*e*P	pP	03 25 19.1	0.0
VYHS	**Vyhne**	**73.87**	**318**	*i*pP	**P**	**03 25 12.6**	**-0.2**
LBTB	**Lobatse**	**74.11**	**241**	*e*P	pP	03 25 20.4	-0.6
LBTB				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
LBTB	**Lobatse**	**74.11**	**241**	*e*P	pP	03 25 20.4	-0.6
	comp=Z,8.4nm,0.7s						
OKC	**Ostrava-Krasne**	**74.45**	**319**	*e*P	**P**	**03 25 15.3**	**-0.8**
OKC				*e*	pP	03 25 22.3	-0.1
OKC	**Ostrava-Krasne**	**74.45**	**319**	*e*P	pP	03 25 22.3	-0.1
BOSA	**Boshof**	**75.48**	**238**	*e*P	**P**	**03 25 27.2**	**+4.7**
BOSA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
BOSA	**Boshof**	**75.48**	**238**	*e*P	**P**	**03 25 27.2**	**+4.7**
	comp=Z,9.0nm,1.0s,mb4.7						
DPC	**Dobruska-Polom**	**75.67**	**320**	*e*P	**P**	**03 25 23.9**	**+0.8**
DPC				*e*	pP	03 25 29.9	+0.5
DPC	**Dobruska-Polom**	**75.67**	**320**	*e*P	pP	03 25 29.9	+0.5
KSP	**Ksiaz**	**75.73**	**320**	*e*P	**P**	**03 25 23.4**	**0.0**
KSP				*e*pP	pP	03 25 30.1	+0.4
BILL	**Bilibino**	**75.86**	**22**	P	**P**	**03 25 25.6**	**+1.8**
BILL				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
BILL	**Bilibino**	**75.86**	**22**	P	**P**	**03 25 25.6**	**+1.7**
	comp=Z,14nm,0.9s,mb4.9						
UPC	**Upice**	**75.88**	**320**	*e*P	**P**	**03 25 24.7**	**+0.4**
UPC				*e*	pP	03 25 31.0	+0.4
UPC	**Upice**	**75.88**	**320**	*e*P	pP	03 25 31.0	+0.4
PERS	**Pernice**	**76.25**	**316**	*e*P	**P**	**03 25 26.8**	**+0.4**
PRU	**Pruhonice**	**76.79**	**319**	*e*P	**P**	**03 25 29.6**	**+0.2**
PRU				*e*	pP	03 25 35.2	-0.5
PRU	**Pruhonice**	**76.79**	**319**	*e*P	pP	03 25 35.2	-0.5
PVCC	**Panska Ves**	**76.80**	**320**	*e*P	**P**	**03 25 30.3**	**+0.8**
PVCC				*e*	pP	03 25 36.4	+0.6
PVCC	**Panska Ves**	**76.80**	**320**	*e*P	pP	03 25 36.4	+0.6
BRG	**Berggiesshubel**	**77.22**	**320**	*i*P	**P**	**03 25 32.3**	**+0.5**
BRG				*i*	pP	03 25 38.4	+0.3
BRG				pmax	pmax		
	comp=Z,22nm,1.6s,mb4.8						
BRG	**Berggiesshubel**	**77.22**	**320**	*i*P	**P**	**03 25 32.3**	**+0.5**
	comp=Z,22nm,1.6s,mb4.8						
BRG				*i*	pP	03 25 38.4	+0.3
GEC2	**GERESS Array S**	**77.29**	**318**	*e*P	**P**	**03 25 31.9**	**-0.3**
GEC2				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
GEC2	**GERESS Array S**	**77.29**	**318**	*e*P	**P**	**03 25 31.9**	**-0.3**
	comp=Z,7.0nm,0.9s,mb4.6						
KHC	**Kasperske Hory**	**77.38**	**318**	*e*P	**P**	**03 25 33.1**	**+0.4**
KHC				*e*	pP	03 25 38.5	-0.5
KHC	**Kasperske Hory**	**77.38**	**318**	*e*P	pP	03 25 38.5	-0.5
RUE	**Ruedersdorf**	**77.39**	**322**	*e*P	**P**	**03 25 33.0**	**+0.3**
	comp=Z,33nm,1.0s,mb5.2						
CLL	**Collm**	**77.83**	**321**	*e*P	**P**	**03 25 35.0**	**-0.1**
CLL				*e*	pP	03 25 40.0	-1.4
CLL	**Collm**	**77.83**	**321**	*e*PP	**P**	**03 25 35.0**	**-0.1**
CLL	**Collm**	**77.83**	**321**	P	pP	03 25 41.0	-0.4
WET	**Wettzell**	**77.84**	**318**	*e*P	**P**	**03 25 34.9**	**-0.3**
WET				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
WET	**Wettzell**	**77.84**	**318**	*e*P	**P**	**03 25 34.9**	**-0.3**
	comp=Z,5.0nm,1.0s,mb4.4						
NKC	**Novy Kostel**	**78.15**	**320**	*e*P	**P**	**03 25 38.7**	**+1.8**
NKC				*e*	pP	03 25 43.7	+0.5
NKC	**Novy Kostel**	**78.15**	**320**	*e*P	pP	03 25 43.7	+0.5
MOX	**Moxa**	**78.69**	**320**	*e*P	pP	03 25 46.2	0.0
MOX				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
MOX	**Moxa**	**78.69**	**320**	*e*P	pP	03 25 46.2	0.0
	comp=Z,11nm,1.1s						
MOX	**Moxa**	**78.69**	**320**	*i*P	pP	03 25 46.2	0.0
	comp=Z,logA/T=1.0						
MAW	**Mawson**	**78.84**	**192**	P	**P**	**03 25 40.4**	**0.0**
FUR	**Furstenfeldbru**	**78.89**	**317**	*e*P	**P**	**03 25 39.6**	**-1.4**
GRA1	**Grafenberg Arr**	**78.93**	**319**	*e*P	**P**	**03 25 40.4**	**-0.8**
	comp=Z,8.0nm,0.8s,mb4.7						
GRF	**Grafenberg Arr**	**78.93**	**319**	*e*P	**P**	**03 25 40.4**	**-0.8**
GRF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
GRF	**Grafenberg Arr**	**78.93**	**319**	*e*P	**P**	**03 25 40.4**	**-0.8**
	comp=Z,8.0nm,0.8s,mb4.7						
NB2	**NORSAR Subarra**	**79.21**	**331**	P	**P**	**03 25 41.9**	**-0.6**
	comp=Z,7.4nm,0.7s,mb4.7,baz=91,slow=5.8						
CLZ	**Clausthal**	**79.48**	**321**	*e*P	**P**	**03 25 43.8**	**-0.3**
	comp=Z,9.0nm,0.7s,mb4.8						
PGF	**Pioggiola**	**80.62**	**312**	*e*P	**P**	**03 25 50.0**	**-0.5**
TNS	**Taunus Mts**	**80.72**	**320**	*e*P	**P**	**03 25 50.5**	**-0.3**
BFO	**Black Forest**	**80.86**	**318**	*e*P	**P**	**03 25 50.7**	**-0.8**
BFO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
BFO	**Black Forest**	**80.86**	**318**	*e*P	**P**	**03 25 50.7**	**-0.8**
	comp=Z,4.0nm,0.7s,mb4.5						
CDF	**Champ du Feu**	**81.55**	**318**	*e*P	**P**	**03 25 54.5**	**-0.7**
	comp=Z,5.2nm,0.6s,mb4.3						
SBF	**Sospel**	**81.70**	**313**	*e*P	**P**	**03 25 55.0**	**-1.0**
	comp=Z,71nm,0.9s,mb5.3						
HINF	**Hinteralfeld**	**81.87**	**317**	*e*P	**P**	**03 25 57.1**	**+0.3**
	comp=Z,4.4nm,0.5s,mb4.3						
LPG	**La Plagne**	**82.08**	**315**	*e*P	**P**	**03 25 58.3**	**+0.3**
	comp=Z,25nm,0.6s,mb5.0						
LPL	**La Plagne**	**82.09**	**315**	*e*P	**P**	**03 25 58.0**	**0.0**
	comp=Z,40nm,0.7s,mb5.2						
MBDF	**Montbardon**	**82.12**	**314**	*e*P	**P**	**03 25 57.4**	**-0.8**
	comp=Z,19nm,0.8s,mb4.8						
BNI	**Bardonecchia**	**82.16**	**314**	*e*P	pP	03 26 07.0	+2.2
BNI				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
BNI	**Bardonecchia**	**82.16**	**314**	*e*P	pP	03 26 07.0	+2.2
	comp=Z,12nm,0.7s						
HAU	**Haudompre**	**82.20**	**317**	*e*P	**P**	**03 25 57.9**	**-0.6**
	comp=Z,31nm,0.8s,mb5.0						
HAU				*e*R			
	comp=Z,414nm,18.0s						
FRF	**La Foret Royal**	**82.29**	**313**	*e*P	**P**	**03 25 59.0**	**-0.1**
	comp=Z,19nm,0.7s,mb4.9						
LMR	**La Mourre**	**82.40**	**313**	*e*P	**P**	**03 25 59.9**	**+0.2**
CABF	**La Chapelle**	**82.47**	**316**	*e*P	**P**	**03 26 00.0**	**0.0**
	comp=Z,12nm,0.6s,mb4.7						
ORIF	**Oris-en-Rattie**	**82.74**	**314**	*e*P	**P**	**03 26 01.6**	**+0.2**
	comp=Z,19nm,0.7s,mb4.9						
ORIF				*e*R			
	comp=Z,379nm,19.5s						
MEZF	**Maizieres J'vi**

INK				pmax	pmax		
	comp=Z,13nm,1.1s						
INK	**Inuvik**	**96.72**	**16**	*e*P	**P**	**03 27 09.9**	**+2.6**
	comp=Z,13nm,1.1s,mb5.3						
RES	**Resolute Bay**	**97.03**	**2**	*e*P	pP	03 27 15.1	0.0
RES				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.9						
RES	**Resolute Bay**	**97.03**	**2**	*e*P	pP	03 27 15.1	+0.1
	comp=Z,4.5nm,0.9s						
BOZ	**Bozeman (W)**	**121.69**	**21**	*e*PKIKP	PKPdf	03 32 34.6	+0.2
HLID	**Hailey**	**122.42**	**24**	PKPdf	PKPdf	03 32 35.2	-0.6
MSU	**Marysvale**	**127.56**	**26**	*e*PKIKP	PKPdf	03 32 47.2	+1.3
JCT	**Junction City**	**139.33**	**18**	*e*PKPpre		03 33 03.0	
PLCA	**Paso Flores**	**144.79**	**201**	PKIKP	PKPdf	03 33 17.8	+0.4

NEIC ***30*** *03:24:32.7, 38.44S×175.84E, h153km, After WEL.*
WEL 30 03:24:32.8±0.3, 38.46S×175.86E, h152km±2km, ML3.8/10, 3C, Error ellipse: s-maj=3.0km s-min=2.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGZ	**Maungaku**	**0.60**	**204**	PN	P	03 24 55.2	-0.2
KRVZ	**Karewarewa**	**0.66**	**195**	PN	P	03 24 54.8	-0.9
WTVZ	**West Tongariro**	**0.69**	**197**	P	P	03 24 55.6	-0.3
WTVZ	**West Tongariro**	**0.69**	**197**	PN	P	03 24 55.8	-0.1
TWVZ	**Taurewa**	**0.70**	**208**	P	P	03 24 55.5	-0.4
TWVZ	**Taurewa**	**0.70**	**208**	PN	P	03 24 55.4	-0.5
NGZ	**Ngauruhoe**	**0.75**	**195**	P	P	03 24 56.2	0.0
NGZ	**Ngauruhoe**	**0.75**	**195**	PN	P	03 24 56.1	-0.1
CNZ	**Chateau**	**0.78**	**198**	P	P	03 24 56.1	-0.3
CNZ	**Chateau**	**0.78**	**198**	PN	P	03 24 56.3	-0.1
TUVZ	**Tukino**	**0.83**	**191**	P	P	03 24 56.7	0.0
TUVZ	**Tukino**	**0.83**	**191**	PN	P	03 24 56.7	0.0
BKZ	**Black Stump Fm**	**0.87**	**145**	P	P	03 24 57.0	0.0
BKZ				S	S	03 25 15.6	0.0
BKZ	**Black Stump Fm**	**0.87**	**145**	⇑PN	P	03 24 57.0	0.0
BKZ				SN	S	03 25 15.5	-0.1
WNVZ	**Wahianoa**	**0.90**	**193**	PN	P	03 24 55.4	-1.7
WNVZ				SN	S	03 25 14.5	-1.4
MOVZ	**Moawhango**	**0.96**	**185**	P	P	03 24 57.2	-0.4
MOVZ	**Moawhango**	**0.96**	**185**	⇑PN	P	03 24 57.2	-0.3
MOVZ				SN	S	03 25 15.7	-1.0
URZ	**Urewera**	**1.00**	**79**	P	P	03 24 57.4	-0.6
URZ	**Urewera**	**1.00**	**79**	PN	P	03 24 57.4	-0.6
URZ				SN	S	03 25 16.6	-0.7
MWZ	**Matawai**	**1.32**	**85**	*e*P	P	03 25 01.4	+0.4
MWZ	**Matawai**	**1.32**	**85**	PN	P	03 25 01.2	+0.2
MWZ				SN	S	03 25 21.9	-0.9
WAZ	**Wanganui**	**1.47**	**207**	PN	P	03 25 02.0	-0.5
WAZ				SN	S	03 25 25.0	-0.4
KNZ	**Kokohu**	**1.53**	**112**	*e*P	P	03 25 03.1	-0.1
KNZ	**Kokohu**	**1.53**	**112**	PN	P	03 25 03.0	-0.1
KNZ				SN	S	03 25 25.1	-1.5
TSZ	**Takapari Road**	**1.61**	**177**	P	P	03 25 03.3	-0.7
TSZ	**Takapari Road**	**1.61**	**177**	PN	P	03 25 03.3	-0.7
PUZ	**Puketiti**	**1.93**	**79**	*e*P	P	03 25 06.6	-0.9
PUZ	**Puketiti**	**1.93**	**79**	PN	P	03 25 06.6	-0.9
PUZ				SN	S	03 25 32.5	-1.7
MRZ	**Mangatainoka R**	**2.22**	**185**	P	P	03 25 09.0	-2.0
MRZ				S	S	03 25 36.5	-3.9
MRZ	**Mangatainoka R**	**2.22**	**185**	PN	P	03 25 09.0	-2.0
MRZ				SN	S	03 25 35.6	-4.8
BFZ	**Birch Farm**	**2.24**	**172**	*e*P	P	03 25 09.7	-1.7
BFZ	**Birch Farm**	**2.24**	**172**	PN	P	03 25 09.7	-1.7
BFZ				SN	S	03 25 37.5	-3.5
KIW	**Kapiti Island**	**2.51**	**197**	P	P	03 25 11.9	-2.9
KIW	**Kapiti Island**	**2.51**	**197**	PN	P	03 25 11.9	-2.9
KIW				*e*SN	S	03 25 43.0	-3.9
MTW	**Mount Morrison**	**2.71**	**186**	P	P	03 25 14.3	-3.0
MTW	**Mount Morrison**	**2.71**	**186**	⇑PN	P	03 25 14.3	-3.1
MTW				*e*SN	S	03 25 46.3	-5.0
CAW	**Cannon Point**	**2.72**	**193**	PN	P	03 25 14.4	-3.0
CAW				SN	S	03 25 47.5	-4.0
MRW	**Makara Radio**	**2.91**	**197**	P	P	03 25 16.4	-3.4
MRW	**Makara Radio**	**2.91**	**197**	PN	P	03 25 16.4	-3.4
MRW				SN	S	03 25 50.7	-5.0
MSWZ	**Moikau Station**	**2.99**	**189**	P	P	03 25 17.3	-3.6
MSWZ	**Moikau Station**	**2.99**	**189**	PN	P	03 25 17.2	-3.7
MSWZ				SN	S	03 25 51.3	-6.4
BHW	**Baring Head**	**3.05**	**194**	SN	S	03 25 52.3	-6.5
TUWZ	**Tuamarina**	**3.32**	**206**	*e*PN	P	03 25 20.9	-4.1
TUWZ				SN	S	03 25 59.3	-5.8
NNZ	**Nelson**	**3.36**	**214**	*e*PN	P	03 25 21.8	-3.8
NNZ				SN	S	03 26 01.2	-4.8
QRZ	**Quartz Range**	**3.50**	**226**	*e*P	P	03 25 22.3	-5.1
QRZ	**Quartz Range**	**3.50**	**226**	PN	P	03 25 22.2	-5.2
QRZ				SN	S	03 26 03.3	-5.9
THZ	**Tophouse**	**4.01**	**213**	*e*PN	P	03 25 28.9	-5.1
KHZ	**Kahutara**	**4.34**	**203**	*e*P	P	03 25 33.7	-4.7
KHZ	**Kahutara**	**4.34**	**203**	PN	P	03 25 33.7	-4.7
KHZ				SN	S	03 26 22.6	-6.3
DSZ	**Denniston Nort**	**4.53**	**222**	PN	P	03 25 34.7	-6.2
DSZ				SN	S	03 26 25.3	-8.0
LTZ	**Lake Taylor**	**5.11**	**211**	*e*PN	P	03 25 43.0	-5.7
LTZ				*e*SN	S	03 26 37.1	-10
MQZ	**McQueen's Vall**	**5.78**	**204**	SN	S	03 26 51.7	-12

WEL 30 03:36:38.3±0.3, 38.61S×175.93E, h144km±2km, ML3.8/9, 10C-1D, Error ellipse: s-maj=2.7km s-min=2.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGZ	**Maungaku**	**0.49**	**218**	PN	P	03 36 58.9	-0.4
OTVZ	**Oturere**	**0.59**	**201**	PN	P	03 36 59.7	-0.1
OTVZ				*e*SN	S	03 37 16.2	-0.1
TWVZ	**Taurewa**	**0.60**	**220**	⇑PN	P	03 36 59.3	-0.6
NGZ	**Ngauruhoe**	**0.62**	**204**	⇓PN	P	03 36 59.7	-0.3
CNZ	**Chateau**	**0.66**	**207**	PN	P	03 36 59.7	-0.5
WPVZ	**Whakapapa**	**0.66**	**207**	PN	P	03 36 59.9	-0.4
TUVZ	**Tukino**	**0.69**	**198**	PN	P	03 37 00.2	-0.3
TUVZ				*e*SN	S	03 37 17.0	-0.5
BKZ	**Black Stump Fm**	**0.71**	**142**	⇑PN	P	03 37 00.4	-0.1
BKZ				SN	S	03 37 16.6	-1.0
FWVZ	**Far West T-bar**	**0.71**	**205**	PN	P	03 37 00.2	-0.3
WNVZ	**Wahianoa**	**0.76**	**200**	⇑PN	P	03 36 58.8	-2.0
WNVZ				SN	S	03 37 15.7	-2.5
MOVZ	**Moawhango**	**0.81**	**190**	⇑PN	P	03 37 00.5	-0.7
MOVZ				SN	S	03 37 16.7	-2.0
URZ	**Urewera**	**0.99**	**70**	PN	P	03 37 02.3	-0.2
URZ				SN	S	03 37 20.0	-1.1
URZ				SN	S	03 37 20.0	-1.1
MWZ	**Matawai**	**1.28**	**78**	PN	P	03 37 05.4	0.0
MWZ				SN	S	03 37 25.2	-1.1
WAZ	**Wanganui**	**1.36**	**212**	⇑PN	P	03 37 05.1	-1.0
WAZ				SN	S	03 37 26.4	-1.2
KNZ	**Kokohu**	**1.42**	**107**	PN	P	03 37 07.1	+0.3
TSZ	**Takapari Road**	**1.45**	**179**	⇑PN	P	03 37 06.3	-0.8
MRZ	**Mangatainoka R**	**2.06**	**187**	⇑PN	P	03 37 12.1	-2.0
MRZ				SN	S	03 37 37.1	-4.6
BFZ	**Birch Farm**	**2.08**	**173**	*e*PN	P	03 37 12.9	-1.5
KIW	**Kapiti Island**	**2.38**	**199**	⇑PN	P	03 37 15.2	-3.0
MTW	**Mount Morrison**	**2.56**	**187**	PN	P	03 37 17.3	-3.2
CAW	**Cannon Point**	**2.58**	**195**	PN	P	03 37 17.6	-3.1
CAW				*e*SN	S	03 37 47.4	-5.7
MRW	**Makara Radio**	**2.78**	**200**	PN	P	03 37 19.7	-3.5
PAWZ	**Paruwai Farm**	**2.79**	**188**	⇑PN	P	03 37 20.1	-3.4
MSWZ	**Moikau Station**	**2.85**	**190**	PN	P	03 37 20.5	-3.6
MSWZ				*e*SN	S	03 37 52.9	-6.3
BHW	**Baring Head**	**2.91**	**196**	⇑PN	P	03 37 21.1	-3.8
TUWZ	**Tuamarina**	**3.20**	**208**	PN	P	03 37 24.6	-4.1
TUWZ				*e*SN	S	03 38 00.6	-6.7
NNZ	**Nelson**	**3.26**	**216**	PN	P	03 37 25.2	-4.3
NNZ				SN	S	03 38 03.4	-5.3

BJI ***30*** *03:37:31.7, 12.53N×93.10E, h58km, mB4.8, mb4.6, Msz4.4*
NEIC ***30*** *03:37:34.7±0.4, 13.11N×93.04E, h30km, mb4.6/20, Error ellipse: s-maj=11.3km s-min=10.1km az=4.0*
ISC 30 03:37:34.1±0.6, 13.32N±0.09×92.92E±0.05, h30km, n54, σ1°95/55, mb4.6/19, 2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**7.37**	**71**	P	**Pn**	**03 39 18.5**	**-3.9**
CM31	**Chiang Mai Arr**	**7.72**	**48**	*e*P	**Pn**	**03 39 27.5**	**0.0**
	11nm,0.5s						
CHG	**Chiang Mai**	**7.96**	**46**	P	**Pn**	**03 39 32.7**	**+2.0**
	16nm,0.8s						
BWNR	**Bhubaneshwar**	**9.72**	**316**	*e*P	**P**	**03 39 52.3**	**-2.9**
BWNR				*e*		03 41 38.3	
	comp=N,106nm,0.2s						
BWNR				*e*		03 41 38.4	
	comp=E,195nm,0.4s						
KKTK	**Khon Kaen**	**10.03**	**71**	P	**P**	**03 40 02.0**	**+2.5**
	comp=E,833nm,1.0s						
VIS	**Vishakhapatnam**	**10.23**	**297**	*e*P	**P**	**03 40 00.6**	**-1.6**
VIS				*e*		03 40 03.0	
	comp=Z,72nm,0.3s						
HYB	**Hyderabad**	**14.44**	**288**	*i* P	**P**	**03 40 59.0**	**+0.3**
HYB				*e*		03 43 29.5	
HYB				*e*S	**S**	**03 43 40.0**	**+1.4**
KMI	**Kunming**	**14.95**	**37**	P	**P**	**03 41 13.1**	**+7.8**
	comp=Z,10.0nm,1.1s						
JIRN	**Jiri**	**15.60**	**337**	*e*P	**P**	**03 41 14.0**	**+0.4**
	comp=Z,58nm,0.6s						
PKI	**Pulchoki**	**15.82**	**335**	*e*P	**P**	**03 41 16.7**	**+0.1**
	comp=Z,58nm,0.6s						
DMN	**Daman**	**15.98**	**334**	*e*P	**P**	**03 41 18.5**	**-0.1**
	comp=Z,89nm,0.7s						
KKN	**Kakani**	**16.07**	**335**	*e*P	**P**	**03 41 19.7**	**0.0**
	comp=Z,24nm,0.6s						
GKN	**Gorkha**	**16.53**	**333**	*e*P	**P**	**03 41 23.7**	**-1.9**
	comp=Z,54nm,0.5s						
KOLN	**Koldanda**	**16.81**	**330**	*e*P	**P**	**03 41 27.4**	**-1.7**
	comp=Z,41nm,0.7s						
SONA	**Sohna**	**20.94**	**318**	*e*P	**P**	**03 42 17.4**	**+0.4**
AYAN	**Aya Nagar**	**21.07**	**318**	*e*P	**P**	**03 42 17.7**	**-0.6**
JOSI	**Joshimath**	**21.13**	**326**	*e*P	**P**	**03 42 15.2**	**-3.7**
KHET	**Khetri**	**21.68**	**315**	*e*P	**P**	**03 42 26.2**	**+1.7**
LZH	**Lanzhou**	**24.71**	**22**	⇓P	**P**	**03 42 56.5**	**+2.4**
LZH				AP		03 43 06.0	
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,110nm,4.0s						
LZH	**Lanzhou**	**24.71**	**22**	⇓P	**P**	**03 42 56.5**	**+2.4**
	comp=Z,25nm,1.0s,mb4.7						
LZH				pP		03 43 06.0	
LZH				sP		03 43 09.5	
LZH				PP	PP	03 43 46.5	+16
XAN	**Xi'an**	**25.23**	**32**	P	**P**	**03 42 57.5**	**-1.6**
XAN				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.6						
AAK	**Ala-Archa**	**33.28**	**335**	*e*P	**P**	**03 44 11.3**	**+0.1**
	comp=Z,7.1nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**36.40**	**16**	*e*P	**P**	**03 44 37.6**	**-0.2**
KURK	**Kurchatov**	**39.07**	**346**	*e*P	**P**	**03 45 00.2**	**0.0**
	comp=Z,8.6nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**43.97**	**341**	*e*P	**P**	**03 45 40.5**	**+0.3**
	comp=Z,16nm,0.6s,mb4.9						
GNI	**Garni**	**49.87**	**312**	*e*P	**P**	**03 46 28.9**	**+2.1**
	comp=Z,24nm,1.3s,mb5.1						
WRAB	**Tennant Creek**	**52.47**	**128**	*e*P	**P**	**03 46 42.9**	**-4.0**
	comp=Z,2.5nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**52.48**	**128**	*e*P	**P**	**03 46 42.8**	**-4.1**
KIV	**Kislovodsk**	**52.56**	**316**	*e*P	**P**	**03 46 47.8**	**+0.7**
	comp=Z,12nm,0.8s,mb4.9						
EIL	**Elat**	**55.80**	**297**	*e*P	**P**	**03 47 10.8**	**-0.3**
	comp=Z,3.9nm,0.7s,mb4.5						
JOF	**Joensuu**	**65.46**	**334**	*e*p	**P**	**03 48 14.9**	**-1.4**
KAF	**Kangasniemi**	**67.44**	**332**	*e*p	**P**	**03 48 28.5**	**-0.4**
OJC	**Ojcow**	**69.09**	**319**	*e*P	**P**	**03 48 39.2**	**-0.2**
LSZ	**Lusaka**	**70.06**	**248**	*e*P	**P**	**03 48 46.3**	**+0.5**
	comp=Z,2.3nm,0.8s,mb4.2						
DPC	**Dobruska-Polom**	**71.32**	**319**	*e*P	**P**	**03 48 53.3**	**+0.4**
PVCC	**Panska Ves**	**72.45**	**319**	*e*P	**P**	**03 49 00.2**	**+0.6**
PRU	**Pruhonice**	**72.46**	**318**	*e*P	**P**	**03 49 00.0**	**+0.3**
BRG	**Berggiesshubel**	**72.84**	**319**	*i* P	**P**	**03 49 02.0**	**0.0**
	comp=Z,3.8nm,0.7s,mb4.4						
GEC2	**GERESS Array S**	**73.02**	**317**	*e*P	**P**	**03 49 03.2**	**+0.2**
	comp=Z,6.0nm,0.8s,mb4.6						
KHC	**Kasperske Hory**	**73.09**	**318**	*e*P	**P**	**03 49 03.2**	**-0.3**
CLL	**Collm**	**73.44**	**320**	P	**P**	**03 49 05.0**	**-0.4**
WET	**Wettzell**	**73.55**	**318**	*e*P	**P**	**03 49 06.3**	**+0.2**
	comp=Z,3.0nm,0.7s,mb4.3						
MOX	**Moxa**	**74.33**	**319**	*e*P	**P**	**03 49 10.7**	**+0.1**
MOX	**Moxa**	**74.33**	**319**	*i* P	**P**	**03 49 10.7**	**+0.1**
NB2	**NORSAR Subarra**	**74.44**	**330**	P	**P**	**03 49 10.0**	**-1.0**
	comp=Z,11nm,1.2s,mb4.7,baz=90,slow=5.8						
GRA1	**Grafenberg Arr**	**74.62**	**318**	*e*P	**P**	**03 49 12.9**	**+0.6**
	comp=Z,4.0nm,0.7s,mb4.5						
GRF	**Grafenberg Arr**	**74.62**	**318**	*e*P	**P**	**03 49 12.9**	**+0.6**
	comp=Z,4.0nm,0.7s,mb4.5						
FUR	**Furstenfeldbru**	**74.65**	**317**	*e*P	**P**	**03 49 11.4**	**-1.1**
CLZ	**Clausthal**	**75.06**	**320**	*e*P	**P**	**03 49 15.0**	**+0.2**
	comp=Z,4.0nm,0.8s,mb4.4						
LBTB	**Lobatse**	**75.86**	**240**	*e*P	**P**	**03 49 20.1**	**+0.2**
	comp=Z,5.1nm,0.8s,mb4.5						
TNS	**Taunus Mts**	**76.37**	**319**	*e*P	**P**	**03 49 22.4**	**+0.1**
LPG	**La Plagne**	**77.97**	**314**	*e*P	**P**	**03 49 31.4**	**+0.2**
	comp=Z,17nm,0.7s,mb4.8						
RES	**Resolute Bay**	**92.04**	**2**	*e*P	**P**	**03 50 41.6**	**+0.7**
INK	**Inuvik**	**92.12**	**16**	*e*P	**P**	**03 50 41.1**	**-0.3**
	comp=Z,1.8nm,0.6s,mb4.6						

BJI ***30*** *03:44:09.6, 7.64N×93.79E, h44km, mB5.1, mb4.8, Ms4.4, Msz4.3*
CSEM ***30*** *03:44:10.8, 8.07N×94.43E, h33km, mb5.7*
HRVD ***30*** *03:44:10.4±0.7, 8.00N×94.08E, h12km, MW4.7/40, Centroid moment Tensor Solution. LP body waves: s6,c6; Mantle waves: s40,c50; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.22±.09; $M_{\theta\theta}$0.55±.07; $M_{\phi\phi}$0.67±.08; $M_{r\theta}$-0.32±.32; $M_{\theta\phi}$0.70±.06; $M_{\phi r}$0.87±.34; Best double couple: $M_0$1.549×10^{16} NP1:ϕ_s64°, δ41°, λ-49°. NP2: ϕ_s195°, δ61°, λ-119°. Principal axes: T 1.399, Plg11°, Azm306°; N .303, Plg25°, Azm211°; P -1.699, Plg62°, Azm58°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***30*** *03:44:10.4±0.2, 8.03N×94.11E, mb5.0/49 Error ellipse: s-maj=7.8km s-min=5.9km az=41.0*
MOS ***30*** *03:44:11.4±0.8, 8.13N×94.18E, h33km, mb5.2/50, Error ellipse: s-maj=13.1km s-min=5.9km az=123.5*
ISC 30 03:44:08.9±0.3, 8.02N±0.05×94.08E±0.04, h17km, h17km±.7km: pP-P, n196, σ0°90/199, mb5.0/66, MS4.4/3, 15C-8D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.85**	**340**	*e*P	**Pn**	**03 45 16.6**	**+7.9**
PBA				*e*S	**Sn**	**03 45 59.0**	**+5.0**
SNG	**Songkhla**	**6.53**	**97**	P	**Pn**	**03 45 48.0**	**+1.2**
NNT	**Nongplab**	**7.18**	**50**	P	**Pn**	**03 45 55.0**	**-0.8**
CM31	**Chiang Mai Arr**	**11.40**	**24**	*e*P	**P**	**03 46 53.9**	**-0.3**
	22nm,0.7s						
CHG	**Chiang Mai**	**11.72**	**23**	⇑P	**P**	**03 47 00.0**	**+1.4**
	11nm,0.8s						
NANT	**Nan**	**12.50**	**30**	P	**P**	**03 47 15.0**	**+6.0**
VIS	**Vishakhapatnam**	**14.23**	**314**	*e*P	**P**	**03 47 31.7**	**-0.3**
VIS				*e*		03 47 34.8	
	comp=Z,36nm,1.2s						
VIS				*e*		03 49 57.6	
VIS				*e*		03 49 59.5	
VIS				*e*S	**S**	**03 50 09.3**	**-1.1**
KOD	**Kodaikanal**	**16.55**	**279**	*e*P	**P**	**03 48 07.7**	**+5.6**
KOD				*e*		03 48 09.8	
	comp=Z,51nm,1.3s						
KOD				*e*S	**S**	**03 51 12.4**	**+7.6**
IMP	**Imphal**	**16.67**	**360**	*e*	**P**	**03 48 06.2**	**+2.7**
SHL	**Shillong**	**17.57**	**353**	*e*P	**P**	**03 48 16.1**	**+1.3**
SHL				*e*		03 51 24.0	
HYB	**Hyderabad**	**17.78**	**303**	*e*P	**P**	**03 48 19.0**	**+1.5**
HYB				*e*S	**S**	**03 51 39.0**	**+6.2**
HYB	**Hyderabad**	**17.78**	**303**	*i* P	**P**	**03 48 19.0**	**+1.5**
HYB				*e*S	**S**	**03 51 39.0**	**+6.2**
BLSP	**Bilaspur**	**18.14**	**322**	*e*P	**P**	**03 48 21.6**	**-0.4**
BLSP				*e*		03 48 29.4	
	comp=Z,54nm,1.2s						
BLSP				*i*		03 54 49.5	
QIZ	**Qiongzhong**	**18.81**	**53**	*e*P	**P**	**03 48 32.0**	**+1.8**
KMI	**Kunming**	**18.91**	**25**	⇑P	**P**	**03 48 34.6**	**+3.3**
KMI				pmax	pmax		
	comp=Z,21nm,1.0s						
KMI	**Kunming**	**18.91**	**25**	⇑P	**P**	**03 48 34.6**	**+3.3**
	comp=Z,21nm,1.0s						
KMI				pP		03 48 43.7	
JIRN	**Jiri**	**20.91**	**340**	*e*P	**P**	**03 48 52.4**	**-0.8**
	comp=Z,255nm,1.0s						
PKI	**Pulchoki**	**21.11**	**338**	*e*P	**P**	**03 48 54.6**	**-0.6**
	comp=Z,282nm,1.1s,mb5.5						
GOA	**Goa**	**21.16**	**292**	*e*P	**P**	**03 48 54.4**	**-1.3**
GOA				*e*		03 49 07.5	
	comp=Z,64nm,1.1s						
GUN	**Gumba**	**21.25**	**340**	*e*P	**P**	**03 48 55.9**	**-0.7**
DMN	**Daman**	**21.25**	**338**	*e*P	**P**	**03 48 56.6**	**-0.1**
	comp=Z,217nm,0.9s,mb5.5						
KKN	**Kakani**	**21.35**	**338**	*e*P	**P**	**03 48 57.4**	**-0.3**
	comp=Z,168nm,0.9s,mb5.3						
KAD	**Karad**	**21.48**	**297**	*e*P	**P**	**03 48 59.8**	**+0.9**
KAD				*e*		03 49 04.6	
	comp=Z,37nm,0.8s						
LSA	**Lhasa**	**21.74**	**353**	P	**P**	**03 49 01.8**	**+0.2**
LSA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.4						
GKN	**Gorkha**	**21.79**	**337**	*e*P	**P**	**03 49 01.8**	**-0.2**
	comp=Z,211nm,0.8s,mb5.6						
KOLN	**Koldanda**	**22.00**	**335**	*e*P	**P**	**03 49 04.7**	**+0.5**
	comp=Z,392nm,1.2s,mb5.7						
BHPL	**Bhopal**	**22.01**	**315**	*e*P	**P**	**03 49 05.5**	**+1.2**
BHPL				*e*		03 49 10.6	
	comp=Z,58nm,0.8s						
AGRA	**Agra**	**24.47**	**323**	*e*	**P**	**03 49 31.4**	**+3.0**
SONA	**Sohna**	**25.74**	**324**	*e*	**P**	**03 49 45.4**	**+4.9**
SONA				*e*		03 51 31.2	
	comp=N,15nm,0.2s						
AYAN	**Aya Nagar**	**25.89**	**324**	*e*P	**P**	**03 49 41.9**	**+0.1**
NDI	**New Delhi**	**25.98**	**324**	*e*P	**P**	**03 49 43.3**	**+0.6**
NDI				*e*		03 49 52.8	
	comp=Z,115nm,1.6s						
NDI				*e*		03 51 33.5	
JOSI	**Joshimath**	**26.22**	**331**	*e*	**P**	**03 49 36.2**	**-8.7**
JOSI				*e*		03 51 09.6	
KHET	**Khetri**	**26.38**	**321**	*e*P	**P**	**03 49 43.8**	**-2.5**
KHET				*e*		03 51 23.3	
DDI	**Dehra Dun**	**26.79**	**328**	*e*P	**P**	**03 49 50.3**	**+0.2**
DDI				*e*		03 51 57.0	
XAN	**Xi'an**	**29.29**	**26**	P	**P**	**03 50 12.0**	**-0.7**
XAN				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.6						
LZH	**Lanzhou**	**29.33**	**16**	⇑P	**P**	**03 50 13.5**	**+0.5**
LZH				AP	pP	03 50 23.0	+4.9
LZH				XP	sP	03 50 28.0	+7.6
LZH				AMB	AMB		
	comp=Z,48nm,1.7s,mb5.0						
LZH				AMB	AMB		
	comp=Z,130nm,4.0s						
LZH				LR	LR		
	comp=E,375nm,11.9s						
LZH				LR	LR		
	comp=Z,506nm,13.3s,MS4.3						
LZH	**Lanzhou**	**29.33**	**16**	⇑P	**P**	**03 50 13.5**	**+0.5**
	comp=Z,48nm,1.7s,mb5.0						
LZH				pP	pP	03 50 23.0	+4.9
LZH				sP	sP	03 50 28.0	+7.6
LZH				PP	PP	03 51 18.5	+10
LZH				LR	LR		
	comp=Z,510nm,13.3s,MS4.3						
NJ2	**Nanjing**	**33.20**	**41**	*e*P	**P**	**03 50 48.5**	**+1.4**
NJ2				AP	pP	03 50 58.0	+5.7
NJ2				XP	sP	03 51 03.0	+8.5
NJ2				PP	PP	03 51 59.5	+1.0
NJ2				PPP	PPP	03 52 19.3	+4.4
NJ2				S	**S**	**03 56 07.0**	**+2.0**
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,430nm,10.0s						
NJ2				LR	LR		
	comp=N,520nm,14.2s,MS4.4						
NJ2				LR	LR		
	comp=E,320nm,15.2s,MS4.4						
NJ2				LR	LR		
	comp=Z,440nm,12.2s,MS4.4						
SSE	**Sheshan**	**34.16**	**44**	P	**P**	**03 50 54.0**	**-1.5**
SSE				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,127nm,10.2s						
SSE	**Sheshan**	**34.16**	**44**	P	**P**	**03 50 54.0**	**-1.5**
	comp=Z,22nm,0.7s,mb5.2						
WMQ	**Urumqi**	**36.10**	**352**	*e*P	**P**	**03 51 12.3**	**+0.5**
BJI	**Beijing**	**37.51**	**28**	*e*P	**P**	**03 51 25.3**	**+1.6**
BJI				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.5						
BJI	**Beijing**	**37.51**	**28**	*e*P	**P**	**03 51 25.3**	**+1.6**
	comp=Z,12nm,1.1s,mb4.5						
MBWA	**Marble Bar**	**38.41**	**139**	*e*P	**P**	**03 51 31.2**	**-0.3**
AAK	**Ala-Archa**	**38.55**	**337**	*e*P	**P**	**03 51 31.2**	**-1.2**
ZAK	**Zakamensk**	**42.92**	**9**	*e*P	**P**	**03 52 08.4**	**0.0**
ZAK				*e*		03 53 57.3	
TLY	**Talaya**	**44.23**	**9**

YAK	**Yakutsk**	**59.88**	**18**	*e*P	**P**	**03 54 14.5**	**-1.5**
YAK				*e**PP	pP	03 54 20.0	-1.4
YAK				pmax	pmax		
comp=Z,30nm,0.8s,mb5.4							
YAK	**Yakutsk**	**59.88**	**18**	*e*P	**P**	**03 54 14.5**	**-1.4**
comp=Z,30nm,0.8s,mb5.4							
YAK				*e*pP	pP	03 54 20.0	-1.4
ANN	**Anapa**	**60.99**	**317**	*e*P	**P**	**03 54 16.5**	**-7.3**
ANN				pmax	pmax		
comp=Z,124nm,1.3s,mb5.9							
MBAR	**Mbarara**	**63.71**	**265**	*e*P	**P**	**03 54 44.1**	**+1.6**
MBAR				pmax	pmax		
comp=Z,15nm,1.2s,mb4.9							
MBAR	**Mbarara**	**63.71**	**265**	*e*P	**P**	**03 54 44.1**	**+1.6**
comp=Z,15nm,1.2s,mb4.9							
ISP	**Isparta**	**64.30**	**308**	*e*P	**P**	**03 54 43.2**	**-2.7**
MOS	**Moscow**	**64.92**	**329**	*e*P	**P**	**03 54 48.2**	**-1.5**
MOS				pmax	pmax		
comp=Z,58nm,1.2s,mb5.5							
OBN	**Obninsk**	**65.22**	**328**	⇓*i*P	**P**	**03 54 47.5**	**-4.1**
OBN				*i*	pP	03 54 52.8	-4.2
OBN				*e*		03 57 14.4	
OBN				pmax	pmax		
comp=Z,42nm,1.2s,mb5.3							
MA2	**Magadan**	**66.66**	**28**	*e*P	**P**	**03 54 59.8**	**-0.9**
MA2				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.8							
MA2	**Magadan**	**66.66**	**28**	*e*P	**P**	**03 55 00.6**	**-0.1**
comp=Z,10nm,0.9s,mb4.8							
LSZ	**Lusaka**	**69.26**	**250**	*e*P	**P**	**03 55 19.1**	**+1.4**
LSZ				pmax	pmax		
comp=Z,20nm,1.6s,mb4.8							
LSZ	**Lusaka**	**69.26**	**250**	*e*P	**P**	**03 55 19.1**	**+1.4**
comp=Z,20nm,1.6s,mb4.8							
JOF	**Joensuu**	**70.69**	**334**	*e*p	**P**	**03 55 23.6**	**-2.0**
KWP	**Kalwaria**	**71.88**	**320**	*e*P	**P**	**03 55 32.9**	**-0.2**
KWP				*e*	pP	03 55 38.7	+0.2
KOLS	**Kolonicke sedl**	**72.06**	**319**	*i* P	**P**	**03 55 34.1**	**0.0**
SUW	**Suwalki**	**72.35**	**324**	*e*P	**P**	**03 55 35.1**	**-0.6**
SUW				*e*	pP	03 55 40.5	-0.7
CRVS	**Cervenica-Dubn**	**72.58**	**319**	*i* P	**P**	**03 55 37.9**	**+0.7**
CRVS				*e*pP	pP	03 55 43.0	+0.3
KAF	**Kangasniemi**	**72.64**	**333**	*e*p	**P**	**03 55 35.7**	**-1.5**
comp=Z,6.1nm,0.7s,mb4.6							
KAF	**Kangasniemi**	**72.64**	**333**	*e*P	**P**	**03 55 35.7**	**-1.5**
KAF				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.6							
NIE	**Niedzica**	**73.40**	**319**	*e*P	**P**	**03 55 42.7**	**+0.7**
OJC	**Ojcow**	**73.83**	**320**	*e*P	**P**	**03 55 44.4**	**0.0**
LBTB	**Lobatse**	**74.26**	**241**	*e*P	**P**	**03 55 49.1**	**+1.6**
LBTB				pmax	pmax		
comp=Z,12nm,0.9s,mb4.8							
LBTB	**Lobatse**	**74.26**	**241**	*e*P	**P**	**03 55 49.1**	**+1.6**
comp=Z,12nm,0.9s,mb4.8							
VYHS	**Vyhne**	**74.26**	**318**	*i* P	**P**	**03 55 46.9**	**-0.1**
VYHS				*i* pP	pP	03 55 52.2	-0.2
OKC	**Ostrava-Krasne**	**74.84**	**319**	*e*P	**P**	**03 55 50.4**	**+0.1**
OKC				*e*pP	pP	03 55 55.7	-0.1
MORC	**Moravsky Berou**	**75.23**	**319**	*e*P	**P**	**03 55 52.3**	**-0.2**
MORC				*e**PP	pP	03 55 57.6	-0.4
MORC				pmax	pmax		
comp=Z,24nm,1.1s,mb5.0							
MORC	**Moravsky Berou**	**75.23**	**319**	*e*P	**P**	**03 55 52.3**	**-0.3**
comp=Z,24nm,1.1s,mb5.0							
MORC				*e*pP	pP	03 55 57.6	-0.4
ZST	**Bratislava**	**75.39**	**318**	*i* P	**P**	**03 55 53.9**	**+0.4**
ZST				*i* pP	pP	03 55 59.0	0.0
GKP	**Gorka Klasztor**	**75.75**	**323**	*e*P	**P**	**03 55 54.2**	**-1.2**
GKP				*e*	pP	03 56 00.4	-0.5
GKP	**Gorka Klasztor**	**75.75**	**323**	*e*P	**P**	**03 55 54.2**	**-1.2**
GKP				*e*	pP	03 56 00.5	-0.5
BILL	**Bilibino**	**75.97**	**22**	⇑*i*P	**P**	**03 55 55.2**	**-1.2**
BILL				pmax	pmax		
comp=Z,12nm,1.7s,mb4.5							
DPC	**Dobruska-Polom**	**76.06**	**320**	*e*P	**P**	**03 55 57.9**	**+0.7**
DPC				*e*pP	pP	03 56 03.1	+0.4
KSP	**Ksiaz**	**76.11**	**320**	*e*P	**P**	**03 55 57.5**	**0.0**
KSP				*e**PP	pP	03 56 03.0	0.0
KSP	**Ksiaz**	**76.11**	**320**	*e*P	**P**	**03 55 57.9**	**+0.3**
KSP				*e*	pP	03 56 03.9	+0.8
UPC	**Upice**	**76.27**	**320**	*e*P	**P**	**03 55 59.0**	**+0.6**
UPC				*e*pP	pP	03 56 04.3	+0.4
ARSA	**Arzberg**	**76.39**	**317**	⇓*i*P	**P**	**03 55 59.6**	**+0.4**
comp=Z,17nm,1.4s,mb4.8							
PRU	**Pruhonice**	**77.18**	**319**	*e*P	**P**	**03 56 03.8**	**+0.3**
PRU				*e*pP	pP	03 56 09.1	+0.1
PVCC	**Panska Ves**	**77.19**	**320**	*e*P	**P**	**03 56 03.9**	**+0.4**
PVCC				*e*pP	pP	03 56 08.9	-0.1
BRG	**Berggiesshubel**	**77.60**	**320**	*i* P	**P**	**03 56 06.2**	**+0.4**
BRG				*i*	pP	03 56 11.6	+0.3
BRG				pmax	pmax		
comp=Z,38nm,1.7s,mb5.0							
BRG	**Berggiesshubel**	**77.60**	**320**	*i* P	**P**	**03 56 06.2**	**+0.4**
comp=Z,38nm,1.7s,mb5.0							
BRG				*i*	pP	03 56 11.6	+0.3
GEC2	**GERESS Array S**	**77.68**	**318**	*e*P	**P**	**03 56 06.8**	**+0.5**
GEC2				pmax	pmax		
comp=Z,11nm,0.8s,mb4.8							
GEC2	**GERESS Array S**	**77.68**	**318**	*e*P	**P**	**03 56 06.8**	**+0.5**
comp=Z,11nm,0.8s,mb4.8							
KHC	**Kasperske Hory**	**77.77**	**318**	*e*P	**P**	**03 56 06.9**	**+0.1**
KHC				*e*pP	pP	03 56 12.2	-0.1
RUE	**Ruedersdorf**	**77.78**	**322**	*e*P	**P**	**03 56 06.7**	**-0.1**
comp=Z,58nm,1.1s,mb5.4							
RUE				*e*pP	pP	03 56 12.2	0.0
CLL	**Collm**	**78.21**	**321**	⇓*i*P	**P**	**03 56 09.0**	**-0.1**
CLL				*i*	pP	03 56 13.9	-0.8
CLL				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
CLL	**Collm**	**78.21**	**321**	⇓*i*P	**P**	**03 56 09.0**	**-0.1**
comp=Z,10.0nm,0.9s,mb4.8							
CLL				*i*	pP	03 56 13.9	-0.8
CLL	**Collm**	**78.21**	**321**	⇓P	**P**	**03 56 09.0**	**-0.1**
comp=Z,logA/T=1.0,mb4.7							
CLL				*i* *PP	pP	03 56 13.9	-0.8
CLL				*e*		03 56 38.0	
WET	**Wettzell**	**78.23**	**318**	*e*P	**P**	**03 56 09.8**	**+0.5**
WET				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.7							
WET	**Wettzell**	**78.23**	**318**	*e*P	**P**	**03 56 09.8**	**+0.5**
comp=Z,8.0nm,0.9s,mb4.7							
NKC	**Novy Kostel**	**78.53**	**320**	*e*P	**P**	**03 56 11.8**	**+0.9**
NKC				*e*pP	pP	03 56 16.5	0.0
WTTA	**Wattenberg**	**79.04**	**317**	⇑*i*P	**P**	**03 56 13.5**	**-0.3**
comp=Z,39nm,1.4s,mb5.1							
WTTA	**Wattenberg**	**79.04**	**317**	⇑*i*P	**P**	**03 56 13.5**	**-0.3**
WTTA				pmax	pmax		
comp=Z,39nm,1.4s,mb5.1							
MOX	**Moxa**	**79.07**	**320**	*e*P	**P**	**03 56 14.4**	**+0.5**
MOX				pmax	pmax		
comp=Z,13nm,1.3s,mb4.7							
MOX	**Moxa**	**79.07**	**320**	*e*P	**P**	**03 56 14.4**	**+0.5**
comp=Z,13nm,1.3s,mb4.7							
MOX	**Moxa**	**79.07**	**320**	*i* P	**P**	**03 56 14.4**	**+0.5**
comp=Z,logA/T=1.0,mb4.7							
WATA	**Walderalm**	**79.08**	**317**	⇑*i*P	**P**	**03 56 13.6**	**-0.4**
comp=Z,23nm,1.3s,mb4.9							
WATA	**Walderalm**	**79.08**	**317**	⇑*i*P	**P**	**03 56 13.6**	**-0.4**
WATA				pmax	pmax		
comp=Z,23nm,1.3s,mb5.0							
FUR	**Furstenfeldbru**	**79.28**	**317**	*e*P	**P**	**03 56 15.1**	**0.0**
GRA1	**Grafenberg Arr**	**79.32**	**319**	*e*P	**P**	**03 56 16.2**	**+0.9**
comp=Z,12nm,0.9s,mb4.8							
GRA1				*e*pP	pP	03 56 21.4	+0.6
GRF	**Grafenberg Arr**	**79.32**	**319**	*e*P	**P**	**03 56 16.2**	**+0.9**
GRF				*e**PP	pP	03 56 21.4	+0.6
GRF				pmax	pmax		
comp=Z,12nm,0.9s,mb4.8							
GRF	**Grafenberg Arr**	**79.32**	**319**	*e*P	**P**	**03 56 16.2**	**+0.9**
comp=Z,12nm,0.9s,mb4.8							
GRF				*e*pP	pP	03 56 21.4	+0.6
SQTA	**Sankt Quirin**	**79.33**	**317**	⇑*i*P	**P**	**03 56 15.1**	**-0.3**
comp=Z,11nm,0.9s,mb4.8							
SQTA	**Sankt Quirin**	**79.33**	**317**	⇑*i*P	**P**	**03 56 15.1**	**-0.3**
SQTA				pmax	pmax		
comp=Z,11nm,0.9s,mb4.8							
MOTA	**Moosalm**	**79.40**	**317**	⇓*i*P	**P**	**03 56 15.4**	**-0.3**
comp=Z,12nm,1.0s,mb4.8							
MOTA	**Moosalm**	**79.40**	**317**	⇓*i*P	**P**	**03 56 15.4**	**-0.3**
MOTA				pmax	pmax		
comp=Z,12nm,1.0s,mb4.8							
NB2	**NORSAR Subarra**	**79.58**	**331**	P	**P**	**03 56 15.7**	**-0.7**
comp=Z,18nm,1.0s,mb5.0,baz=92,slow=5.6							
NB2	**NORSAR Subarra**	**79.58**	**331**	P	**P**	**03 56 15.7**	**-0.7**
baz=92,slow=5.9							
CLZ	**Clausthal**	**79.86**	**321**	*e*P	**P**	**03 56 18.7**	**+0.6**
comp=Z,12nm,0.9s,mb4.8							
DAVA	**Damuels**	**80.23**	**317**	⇑*i*P	**P**	**03 56 20.3**	**+0.1**
comp=Z,22nm,1.4s,mb4.9							
MUD	**Monsted U'grnd**	**80.56**	**326**	*i* P	**P**	**03 56 21.6**	**-0.1**
MUD				pmax	pmax		
comp=Z,35nm,1.1s,mb5.2							
MUD	**Monsted U'grnd**	**80.56**	**326**	*i* P	**P**	**03 56 21.6**	**-0.1**
comp=Z,35nm,1.1s,mb5.2							
PGF	**Pioggiola**	**81.02**	**312**	*e*P	**P**	**03 56 24.2**	**-0.3**
comp=Z,49nm,1.0s,mb5.1							
PGF	**Pioggiola**	**81.02**	**312**	*e*P	**P**	**03 56 24.2**	**-0.3**
PGF				pmax	pmax		
comp=Z,25nm,1.0s,mb5.1							
TNS	**Taunus Mts**	**81.10**	**320**	*e*P	**P**	**03 56 25.3**	**+0.6**
BFO	**Black Forest**	**81.25**	**318**	*e*P	**P**	**03 56 25.6**	**+0.1**
BFO				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.5							
BFO	**Black Forest**	**81.25**	**318**	*e*P	**P**	**03 56 25.6**	**+0.1**
comp=Z,6.0nm,0.9s,mb4.5							
CDF	**Champ du Feu**	**81.94**	**318**	*e*P	**P**	**03 56 28.7**	**-0.4**
comp=Z,11nm,0.8s,mb4.5							
CDF	**Champ du Feu**	**81.94**	**318**	*e*P	**P**	**03 56 28.7**	**-0.4**
CDF				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.5							
SBF	**Sospel**	**82.09**	**313**	*e*P	**P**	**03 56 29.9**	**-0.1**
comp=Z,96nm,1.2s,mb5.3							
SBF	**Sospel**	**82.09**	**313**	*e*P	**P**	**03 56 29.9**	**-0.1**
SBF				pmax	pmax		
comp=Z,48nm,1.2s,mb5.3							
HINF	**Hinteralfeld**	**82.26**	**317**	*e*P	**P**	**03 56 31.5**	**+0.7**
LPG	**La Plagne**	**82.47**	**315**	*e*P	**P**	**03 56 32.3**	**+0.3**
comp=Z,30nm,0.8s,mb5.0							
LPG	**La Plagne**	**82.47**	**315**	*e*P	**P**	**03 56 32.3**	**+0.3**
LPG				pmax	pmax		
comp=Z,15nm,0.8s,mb5.0							
LPL	**La Plagne**	**82.49**	**315**	*e*P	**P**	**03 56 32.3**	**+0.3**
comp=Z,38nm,0.7s,mb5.1							
LPL	**La Plagne**	**82.49**	**315**	*e*P	**P**	**03 56 32.3**	**+0.3**
LPL				pmax	pmax		
comp=Z,19nm,0.7s,mb5.1							
MBDF	**Montbardon**	**82.51**	**314**	*e*P	**P**	**03 56 31.5**	**-0.7**
comp=Z,22nm,0.8s,mb4.9							
MBDF	**Montbardon**	**82.51**	**314**	*e*P	**P**	**03 56 31.5**	**-0.7**
MBDF				pmax	pmax		
comp=Z,11nm,0.8s,mb4.9							
HAU	**Haudompre**	**82.59**	**317**	*e*P	**P**	**03 56 32.0**	**-0.5**
comp=Z,44nm,1.0s,mb5.1							
HAU	**Haudompre**	**82.59**	**317**	*e*P	**P**	**03 56 32.0**	**-0.5**
HAU				pmax	pmax		
comp=Z,22nm,1.0s,mb5.1							
FRF	**La Foret Royal**	**82.68**	**313**	*e*P	**P**	**03 56 33.1**	**0.0**
LMR	**La Mourre**	**82.80**	**313**	*e*P	**P**	**03 56 33.6**	**-0.1**
CABF	**La Chapelle**	**82.86**	**316**	*e*P	**P**	**03 56 34.1**	**+0.2**
ORIF	**Oris-en-Rattie**	**83.13**	**314**	*e*P	**P**	**03 56 35.6**	**+0.2**
comp=Z,13nm,0.8s,mb4.7							
ORIF	**Oris-en-Rattie**	**83.13**	**314**	*e*P	**P**	**03 56 35.6**	**+0.2**
ORIF				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.7							
MEZF	**Maizieres J'vi**	**83.42**	**318**	*e*P	**P**	**03 56 36.5**	**-0.3**
BAIF	**Baives**	**83.83**	**320**	*e*P	**P**	**03 56 39.0**	**+0.1**
comp=Z,28nm,1.1s,mb5.0							
BAIF	**Baives**	**83.83**	**320**	*e*P	**P**	**03 56 39.0**	**+0.1**
BAIF				pmax	pmax		
comp=Z,14nm,1.1s,mb5.0							
VIVF	**Saint-Julien-l**	**83.99**	**314**	*e*P	**P**	**03 56 39.9**	**+0.1**
SMF	**Signal de Mont**	**84.40**	**316**	*e*P	**P**	**03 56 41.4**	**-0.4**
comp=Z,24nm,1.0s,mb5.0							
SMF	**Signal de Mont**	**84.40**	**316**	*e*P	**P**	**03 56 41.4**	**-0.4**
SMF				pmax	pmax		
comp=Z,12nm,1.0s,mb5.0							
SSF	**Saint Saulge**	**84.58**	**317**	*e*P	**P**	**03 56 42.3**	**-0.4**
AVF	**Avril sur Loir**	**84.72**	**316**	*e*P	**P**	**03 56 43.0**	**-0.4**
comp=Z,38nm,1.3s,mb5.1							
AVF	**Avril sur Loir**	**84.72**	**316**	*e*P	**P**	**03 56 43.0**	**-0.4**
AVF				pmax	pmax		
comp=Z,19nm,1.3s,mb5.1							
BGF	**Bois d'Agland**	**85.09**	**316**	*e*P	**P**	**03 56 45.3**	**+0.1**
comp=Z,27nm,1.0s,mb5.0							
BGF	**Bois d'Agland**	**85.09**	**316**	*e*P	**P**	**03 56 45.3**	**+0.1**
BGF				pmax	pmax		
comp=Z,14nm,1.0s,mb5.0							
HYF	**Humbligny**	**85.15**	**317**	*e*P	**P**	**03 56 46.0**	**+0.5**
CAF	**Calviac**	**85.83**	**315**	*e*P	**P**	**03 56 49.2**	**+0.2**
RJF	**Les Rejaudoux**	**86.16**	**315**	*e*P	**P**	**03 56 51.0**	**+0.4**
LDF	**La Druitiere**	**86.82**	**318**	*e*P	**P**	**03 56 53.6**	**-0.2**
FLN	**La Foliniere**	**87.03**	**319**	*e*P	**P**	**03 56 54.7**	**-0.1**
MFF	**Saint Martin d**	**87.13**	**316**	*e*P	**P**	**03 56 55.3**	**0.0**
comp=Z,9.2nm,0.9s,mb4.7							
MFF	**Saint Martin d**	**87.13**	**316**	*e*P	**P**	**03 56 55.3**	**0.0**
MFF				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.7							
GRR	**Gorron**	**87.34**	**318**	*e*P	**P**	**03 56 56.0**	**-0.3**
ETSF	**Etsaut**	**87.99**	**313**	*e*P	**P**	**03 57 00.0**	**+0.5**
SJPF	**Ste Jean**	**88.43**	**313**	*e*P	**P**	**03 57 02.3**	**+0.6**
IMA	**Indian Mountai**	**91.51**	**22**	*e*P	**P**	**03 57 17.1**	**+1.6**
IMA				pmax	pmax		
comp=Z,48nm,1.0s,mb5.8							
IMA	**Indian Mountai**	**91.51**	**22**	*e*P	**P**	**03 57 17.1**	**+1.7**
comp=Z,48nm,1.0s,mb5.8							
INK	**Inuvik**	**96.87**	**16**	*e*P	**P**	**03 57 40.5**	**+0.5**
INK				pmax	pmax		
comp=Z,10.0nm,1.3s							
INK	**Inuvik**	**96.87**	**16**	*e*P	**P**	**03 57 40.5**	**+0.5**
comp=Z,10nm,1.3s,mb5.1							
INK				*e*pP	pP	03 57 45.7	+0.1
RES	**Resolute Bay**	**97.26**	**2**	*e*P	**P**	**03 57 41.7**	**+0.1**
RES				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.8							
RES	**Resolute Bay**	**97.26**	**2**	*e*P	**P**	**03 57 41.7**	**+0.1**
comp=Z,3.7nm,1.0s,mb4.8							
RES				*e*pP	pP	03 57 47.6	+0.4
SNOW	**Snow King Moun**	**124.02**	**22**	*e*PKPdf	PKPdf	04 03 09.4	-1.3
MSU	**Marysvale**	**127.65**	**26**	*e*PKIKP	PKPdf	04 03 17.2	-0.6
JCT	**Junction City**	**139.47**	**19**	*e*PKIKP	PKPdf	04 03 37.9	-2.2
PLCA	**Paso Flores**	**144.66**	**200**	*e*PKIKP	PKPdf	04 03 46.3	-2.6
LPAZ	**La Paz**	**160.78**	**243**	*e*PKIKP	PKPdf	04 04 11.1	-1.4
OTAV	**Otavalo**	**168.92**	**317**	*e*PKPdf	PKPdf	04 04 18.1	-1.5

NEIC ***30*** *04:14:47.5±1.4, 7.66N×93.76E, mb4.2/3, Error ellipse: s-maj=35.7km s-min=20.5km az=71.0*
ISC 30 04:14:48.0±1.4,**7.8N**±0.2×**94.0E**±0.2,**h33**^{km},**n11,**
σ0^{s}**42**/11,**mb4.5**/8,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.69**	**24**	P	**P**	**04 17 35.5**	**0.0**
JIRN	**Jiri**	**21.12**	**341**	*e*P	**P**	**04 19 32.4**	**+0.1**
50nm,1.1s,mb4.8							
PKI	**Pulchoki**	**21.30**	**339**	*e*P	**P**	**04 19 34.2**	**+0.1**
18nm,0.6s,mb4.5							
DMN	**Daman**	**21.45**	**338**	*e*P	**P**	**04 19 36.0**	**+0.4**
KKN	**Kakani**	**21.55**	**339**	*e*P	**P**	**04 19 36.6**	**0.0**
GKN	**Gorkha**	**21.98**	**338**	*e*P	**P**	**04 19 40.6**	**-0.3**
39nm,0.7s,mb4.9							
KOLN	**Koldanda**	**22.19**	**335**	*e*P	**P**	**04 19 43.4**	**+0.4**
26nm,0.7s,mb4.8							
KURK	**Kurchatov**	**44.68**	**346**	P	**P**	**04 22 59.7**	**+0.2**
2.0nm,0.6s,mb4.1							
KURK				*e*pP	pP	04 23 05.5	-3.9
WRAB	**Tennant Creek**	**48.35**	**125**	*e*P	**P**	**04 23 29.0**	**+0.1**
0.7nm,0.6s,mb3.9							
CHKZ	**Chkalovo**	**49.52**	**342**	*e*P	**P**	**04 23 36.4**	**-1.1**
6.8nm,0.9s,mb4.7							
CHKZ				*e*pP	pP	04 23 43.1	-4.3
NB2	**NORSAR Subarra**	**79.74**	**331**	P	**P**	**04 27 01.6**	**+7.5**
1.0nm,0.6s,mb3.9,baz=97,slow=5.0							

MOS ***30*** *05:00:04.2±1.3, 7.97N×94.04E, h33*^{km}*, mb5.0/29, Error ellipse: s-maj=12.8km s-min=7.1km az=111.1*
BJI ***30*** *05:00:05.0, 7.91N×93.70E, h42*^{km}*, mB5.0, mb4.6, Ms4.8, Msz4.4*
NEIC ***30*** *05:00:05.3±0.4, 8.04N×94.20E, h30*^{km}*, mb4.7/27, MS4.1/1, Error ellipse: s-maj=9.7km s-min=8.8km az=11.0*
ISC 30 05:00:03.6±0.4,**8.02N**±0.05×**94.14E**±0.05,**h30**^{km},**n118,**
σ1^{s}**25**/130,**mb4.9**/45,**MS4.4**/6,**4C-3D,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.38**	**24**	*e*P	**P**	**05 02 46.5**	**-1.0**
PALK	**Pallekele**	**13.34**	**268**	*e*P	**P**	**05 03 15.4**	**+1.7**
VIS	**Vishakhapatnam**	**14.28**	**314**	*e*P	**P**	**05 03 23.4**	**-2.7**
VIS				*e*		05 03 27.1	
comp=Z,68nm,1.2s							
VIS				*e*		05 05 58.8	
VIS				*i*		05 08 03.9	
CAL	**Calcutta**	**15.48**	**339**	*e*S	**S**	**05 06 35.2**	**+2.6**
IMP	**Imphal**	**16.67**	**359**	*e*	**P**	**05 04 05.6**	**+8.7**
SHL	**Shillong**	**17.58**	**353**	*e*P	**P**	**05 04 05.0**	**-3.3**
SHL				*e*S	**S**	**05 07 20.0**	**-0.9**
HYB	**Hyderabad**	**17.83**	**303**	*e*P	**P**	**05 04 12.0**	**+0.6**
HYB				*e*S	**S**	**05 07 31.5**	**+4.9**
HYB	**Hyderabad**	**17.83**	**303**	*i* P	**P**	**05 04 12.0**	**+0.6**
HYB				*e*S	**S**	**05 07 31.5**	**+4.9**
QIZ	**Qiongzhong**	**18.77**	**53**	P	**P**	**05 04 26.0**	**+3.1**
QIZ				LR	LR		
comp=Z,1μm,17.9s							
KMI	**Kunming**	**18.89**	**25**	P	**P**	**05 04 27.4**	**+3.1**
KMI				pmax	pmax		
comp=Z,14nm,1.1s							
KMI	**Kunming**	**18.89**	**25**	P	**P**	**05 04 27.4**	**+3.1**
comp=Z,14nm,1.1s							
KMI				pP		05 04 33.6	
KMI				sP		05 04 38.2	
KMI				PP	PP	05 04 44.7	+4.1
KMI				S	**S**	**05 08 03.5**	**+13**
KMI				sS		05 08 11.3	
KMI				SS	SS	05 08 29.2	+14
JIRN	**Jiri**	**20.93**	**340**	*e*P	**P**	**05 04 46.3**	**-0.2**
comp=Z,247nm,1.3s							
PKI	**Pulchoki**	**21.13**	**338**	*e*P	**P**	**05 04 47.9**	**-0.6**
comp=Z,226nm,1.3s,mb5.3							
GUN	**Gumba**	**21.27**	**339**	*e*P	**P**	**05 04 49.2**	**-0.7**
comp=Z,198nm,0.9s,mb5.4							
DMN	**Daman**	**21.28**	**337**	*e*P	**P**	**05 04 49.8**	**-0.2**
comp=Z,137nm,0.8s,mb5.3							
KKN	**Kakani**	**21.38**	**338**	*e*P	**P**	**05 04 50.1**	**-0.9**
comp=Z,145nm,1.0s,mb5.3							
KAD	**Karad**	**21.53**	**297**	*e*	**P**	**05 04 59.6**	**+7.0**
comp=Z,51nm,1.3s,mb4.8							
KAD				*e*S	**S**	**05 08 51.2**	**+6.7**
LSA	**Lhasa**	**21.75**	**353**	P	**P**	**05 04 55.3**	**+0.6**
LSA				S	**S**	**05 08 57.5**	**+8.9**
LSA				AMB	AMB		
comp=Z,20nm,0.7s,mb4.7							
GKN	**Gorkha**	**21.81**	**337**	*e*P	**P**	**05 04 54.9**	**-0.5**
comp=Z,162nm,0.9s,mb5.5							
KOLN	**Koldanda**	**22.03**	**334**	*e*P	**P**	**05 04 57.5**	**-0.1**
comp=Z,114nm,0.8s,mb5.3							
BHPL	**Bhopal**	**22.05**	**315**	*e*P	**P**	**05 04 56.9**	**-0.9**
BHPL				*e*		05 05 00.6	
comp=Z,42nm,0.7s							
BHPL				*e*S	**S**	**05 08 59.4**	**+5.1**
POO	**Poona**	**22.32**	**300**	*e*P	**P**	**05 05 02.0**	**+1.6**
AJM	**Ajmer**	**26.08**	**317**	⇑*i*P	**P**	**05 05 38.0**	**+1.4**
DDI	**Dehra Dun**	**26.82**	**328**	*e*	**P**	**05 05 46.8**	**+3.4**
XAN	**Xi'an**	**29.26**	**26**	P	**P**	**05 06 05.5**	**0.0**
XAN				AMB	AMB		
comp=Z,8.0nm,1.7s,mb4.2							
LZH	**Lanzhou**	**29.31**	**16**	⇑P	**P**	**05 06 09.0**	**+3.1**
LZH				AP	pP	05 06 20.0	+5.3
LZH				XP	sP	05 06 26.5	+7.9
LZH				PP	PP	05 07 05.0	+3.8
LZH				*e*S	**S**	**05 10 57.0**	**+1.2**
LZH				AMB	AMB		
comp=Z,39nm,1.7s,mb4.9							
LZH				AMB	AMB		
comp=Z,123nm,4.0s							
LZH				LR	LR		
comp=E,1μm,15.0s							
LZH				LR	LR		
comp=Z,2μm,16.4s,MS4.7							
LZH	**Lanzhou**	**29.31**	**16**	⇑P	**P**	**05 06 09.0**	**+3.1**
comp=Z,39nm,1.7s,mb4.9							
LZH				pP	pP	05 06 20.0	+5.3
LZH				sP	sP	05 06 26.5	+7.9
LZH				PP	PP	05 07 05.0	+3.8
LZH				*e*S	**S**	**05 10 57.0**	**+1.2**
LZH				sS		05 11 15.5	
LZH				sS		05 12 33.0	
LZH				LR	LR		
comp=Z,2μm,16.4s,MS4.7							
NJ2	**Nanjing**	**33.16**	**40**	*e*P	**P**	**05 06 41.3**	**+1.5**
NJ2				PP	PP	05 07 53.5	+2.3
NJ2				S	**S**	**05 11 59.0**	**+

WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**48.35**	**126**	*eP*	**P**	**05 08 44.2**	**-0.8**
	comp=Z,4.8nm,0.7s,mb4.6						
WB2	**Warramunga Arr**	**48.35**	**126**	*eP*	**P**	**05 08 43.9**	**-1.1**
BRVK	**Borovoye**	**48.91**	**341**	*eP*	**P**	**05 08 47.3**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**48.91**	**341**	*eP*	**P**	**05 08 47.3**	**-1.6**
	comp=Z,5.0nm,0.9s,mb4.5						
RAYN	**Ar Rayn**	**49.03**	**294**	P	**P**	**05 08 52.9**	**+2.7**
	comp=Z,112nm,1.2s,mb5.8,SNR=14						
CHKZ	**Chkalovo**	**49.34**	**342**	P	**P**	**05 08 51.2**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
CHKZ	**Chkalovo**	**49.34**	**342**	*eP*	**P**	**05 08 51.0**	**-1.1**
	comp=Z,15nm,0.8s,mb5.1						
BOD	**Bodaibo**	**52.01**	**13**	*eP*	**P**	**05 09 08.8**	**-3.6**
GNI	**Garni**	**54.34**	**314**	*eP*	**P**	**05 09 27.5**	**-2.3**
GNI				pmax	pmax		
	comp=Z,11nm,1.2s						
SVE	**Sverdlovsk**	**55.27**	**338**	*eP*	**P**	**05 09 33.0**	**-3.5**
ARU	**Arti**	**55.76**	**337**	⇓*iP*	**P**	**05 09 31.8**	**-8.2**
ARU				*e*		05 10 37.9	
ARU				*e*		05 19 21.7	
ARU				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.9						
YSS	**Yuzh-Sakhalins**	**56.67**	**38**	*eP*	**P**	**05 09 46.9**	**+0.2**
YSS				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.1						
KIV	**Kislovodsk**	**57.21**	**318**	*eP*	**P**	**05 09 49.6**	**-1.0**
KIV				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
KIV	**Kislovodsk**	**57.21**	**318**	*eP*	**P**	**05 09 49.6**	**-0.9**
	comp=Z,20nm,1.0s,mb5.1						
EIL	**Elat**	**59.35**	**300**	*eP*	**P**	**05 10 05.1**	**-0.6**
	comp=Z,23nm,1.4s,mb5.0						
YAK	**Yakutsk**	**59.86**	**18**	*eP*	**P**	**05 10 08.1**	**-0.6**
YAK				pmax	pmax		
	comp=Z,41nm,1.3s,mb5.3						
YAK	**Yakutsk**	**59.86**	**18**	*eP*	**P**	**05 10 08.1**	**-0.7**
	comp=Z,41nm,1.3s,mb5.3						
ISP	**Isparta**	**64.35**	**308**	*i P*	**P**	**05 10 37.9**	**-1.2**
MOS	**Moscow**	**64.96**	**329**	*eP*	**P**	**05 10 47.1**	**+4.3**
MOS				pmax	pmax		
	comp=Z,33nm,0.8s,mb5.4						
OBN	**Obninsk**	**65.26**	**328**	⇓*eP*	**P**	**05 10 40.9**	**-3.8**
OBN				*e*	pP	05 10 50.1	-4.0
OBN				pmax	pmax		
	comp=Z,23nm,1.7s,mb4.9						
MA2	**Magadan**	**66.64**	**28**	*eP*	**P**	**05 10 52.9**	**-0.5**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
TIXI	**Tiksi**	**67.09**	**11**	⇑*iP*	**P**	**05 10 54.7**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.3						
TIXI				MLR	MLR		
	comp=Z,170nm,16.0s,MS4.4						
LSZ	**Lusaka**	**69.32**	**250**	*eP*	**P**	**05 11 11.9**	**+1.0**
LSZ				pmax	pmax		
	comp=Z,26nm,1.7s,mb4.9						
LSZ	**Lusaka**	**69.32**	**250**	*eP*	**P**	**05 11 11.9**	**+1.0**
	comp=Z,26nm,1.7s,mb4.9						
JOF	**Joensuu**	**70.72**	**334**	*ep*	**P**	**05 11 16.2**	**-2.5**
KOLS	**Kolonicke sedl**	**72.09**	**319**	*eP*	**P**	**05 11 33.6**	**+6.4**
KOLS	**Kolonicke sedl**	**72.09**	**319**	*e*	**P**	**05 11 33.6**	**+6.4**
SUW	**Suwalki**	**72.39**	**324**	*eP*	**P**	**05 11 26.8**	**-2.0**
SUW				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.3						
SUW	**Suwalki**	**72.39**	**324**	*eP*	**P**	**05 11 26.8**	**-2.0**
	comp=Z,38nm,1.0s,mb5.3						
CRVS	**Cervenica-Dubn**	**72.62**	**319**	*eP*	**P**	**05 11 33.8**	**+3.5**
CRVS	**Cervenica-Dubn**	**72.62**	**319**	*e*	**P**	**05 11 33.8**	**+3.5**
KAF	**Kangasniemi**	**72.66**	**333**	*ep*	**P**	**05 11 29.2**	**-1.1**
OJC	**Ojcow**	**73.86**	**320**	*eP*	**P**	**05 11 37.4**	**-0.1**
LBTB	**Lobatse**	**74.31**	**241**	*eP*	**P**	**05 11 40.6**	**0.0**
LBTB				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
LBTB	**Lobatse**	**74.31**	**241**	*eP*	**P**	**05 11 40.6**	**0.0**
	comp=Z,8.3nm,1.0s,mb4.6						
OKC	**Ostrava-Krasne**	**74.88**	**319**	*eP*	**P**	**05 11 43.3**	**-0.1**
MORC	**Moravsky Berou**	**75.27**	**319**	*eP*	**P**	**05 11 45.0**	**-0.6**
MORC				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
MORC	**Moravsky Berou**	**75.27**	**319**	*eP*	**P**	**05 11 45.0**	**-0.6**
	comp=Z,11nm,1.1s,mb4.7						
ZST	**Bratislava**	**75.43**	**318**	*eP*	**P**	**05 11 47.9**	**+1.3**
BILL	**Bilibino**	**75.95**	**22**	⇓*iP*	**P**	**05 11 51.4**	**+2.2**
BILL				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
DPC	**Dobruska-Polom**	**76.10**	**320**	*eP*	**P**	**05 11 50.8**	**+0.5**
UPC	**Upice**	**76.31**	**320**	*eP*	**P**	**05 11 52.2**	**+0.7**
PRU	**Pruhonice**	**77.22**	**319**	*eP*	**P**	**05 11 57.3**	**+0.7**
PVCC	**Panska Ves**	**77.23**	**320**	*eP*	**P**	**05 11 58.0**	**+1.4**
BRG	**Berggiesshubel**	**77.64**	**320**	*eP*	**P**	**05 12 00.4**	**+1.5**
BRG				*i*		05 12 06.8	
BRG				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
BRG	**Berggiesshubel**	**77.64**	**320**	*eP*	**P**	**05 12 00.4**	**+1.5**
	comp=Z,6.1nm,1.0s,mb4.5						
BRG				*i*		05 12 06.8	
GEC2	**GERESS Array S**	**77.72**	**318**	*eP*	**P**	**05 11 59.7**	**+0.4**
GEC2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
GEC2	**GERESS Array S**	**77.72**	**318**	*eP*	**P**	**05 11 59.7**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.4						
KHC	**Kasperske Hory**	**77.81**	**318**	*eP*	**P**	**05 11 59.1**	**-0.7**
CLL	**Collm**	**78.25**	**321**	*eP*	**P**	**05 12 02.0**	**-0.2**
CLL	**Collm**	**78.25**	**321**	P	**P**	**05 12 02.0**	**-0.2**
WET	**Wettzell**	**78.27**	**318**	*eP*	**P**	**05 12 02.8**	**+0.4**
WET				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
WET	**Wettzell**	**78.27**	**318**	*eP*	**P**	**05 12 02.8**	**+0.4**
	comp=Z,3.0nm,0.8s,mb4.3						
NKC	**Novy Kostel**	**78.57**	**320**	*eP*	**P**	**05 11 58.2**	**-5.8**
MOX	**Moxa**	**79.11**	**320**	*eP*	**P**	**05 12 07.2**	**+0.3**
MOX	**Moxa**	**79.11**	**320**	*i P*	**P**	**05 12 07.2**	**+0.3**
FUR	**Furstenfeldbru**	**79.32**	**317**	*eP*	**P**	**05 12 08.0**	**-0.1**
GRA1	**Grafenberg Arr**	**79.36**	**319**	*eP*	**P**	**05 12 09.1**	**+0.8**
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	**Grafenberg Arr**	**79.36**	**319**	*eP*	**P**	**05 12 09.1**	**+0.8**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	**Grafenberg Arr**	**79.36**	**319**	*eP*	**P**	**05 12 09.1**	**+0.8**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	**Grafenberg Arr**	**79.36**	**319**	*eP*	**P**	**05 12 09.1**	**+0.8**
	comp=Z,6.0nm,0.9s,mb4.5						
NB2	**NORSAR Subarra**	**79.61**	**331**	P	**P**	**05 12 08.8**	**-0.6**
	comp=Z,3.4nm,0.7s,mb4.4,baz=92,slow=5.6						
NB2	**NORSAR Subarra**	**79.61**	**331**	P	**P**	**05 12 08.8**	**-0.6**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
CLZ	**Clausthal**	**79.90**	**321**	*eP*	**P**	**05 12 11.6**	**+0.4**
	comp=Z,4.0nm,0.7s,mb4.5						
TNS	**Taunus Mts**	**81.14**	**320**	*eP*	**P**	**05 12 18.3**	**+0.5**
BFO	**Black Forest**	**81.29**	**318**	*eP*	**P**	**05 12 18.6**	**0.0**
BFO				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
BFO	**Black Forest**	**81.29**	**318**	*eP*	**P**	**05 12 18.6**	**0.0**
	comp=Z,4.0nm,1.1s,mb4.3						
LPG	**La Plagne**	**82.52**	**315**	*eP*	**P**	**05 12 25.0**	**0.0**
	comp=Z,22nm,0.8s,mb5.0						
LPG	**La Plagne**	**82.52**	**315**	*eP*	**P**	**05 12 25.0**	**0.0**
LPG				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
IMA	**Indian Mountai**	**91.49**	**22**	*eP*	**P**	**05 13 09.8**	**+1.6**
INK	**Inuvik**	**96.85**	**16**	P	**P**	**05 13 34.0**	**+1.3**
INK				pmax	pmax		
	comp=Z,13nm,1.3s						
INK	**Inuvik**	**96.85**	**16**	P	**P**	**05 13 34.0**	**+1.3**
	comp=Z,13nm,1.3s,mb5.2						
PLCA	**Paso Flores**	**144.68**	**200**	*eP*KIKP	PKPdf	05 19 38.7	-4.2
PLCA				*e*		05 19 45.2	

IGQ 30 05:00:29.4, 1.48S×81.03W, h22km±5km, mb4.2, 4C-2D, Error ellipse: s-maj=9.5km s-min=4.2km az=172.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.65**	**49**	⇑P	Pb	05 00 41.5	-0.4
JAMA	**Jama**	**1.47**	**34**	P	Pn	05 00 55.6	+0.8
JAMA				S	Sn	05 01 15.4	+1.9
MAGD	**Magdalena**	**1.88**	**42**	P	Pn	05 01 03.1	+2.2
IGUA	**Igualata**	**2.39**	**90**	⇑P	Pn	05 01 09.4	+1.2
IGUA				S	Sn	05 01 38.8	+1.7
CUSU	**Cusua**	**2.55**	**89**	P	Pn	05 01 12.4	+2.0
JUIV	**Juive**	**2.57**	**89**	P	Pn	05 01 12.3	+1.6
ARRY	**Arrayan**	**2.58**	**91**	⇓P	Pn	05 01 11.8	+1.1
RETU	**Refugio**	**2.59**	**89**	P	Pn	05 01 12.8	+2.0
ULBA	**Ulba**	**2.62**	**89**	P	Pn	05 01 13.1	+1.6
MARY	**Rancho Maria**	**2.65**	**74**	P	Pn	05 01 15.8	+4.0
PISA	**Pisayambo**	**2.68**	**81**	⇑P	Pn	05 01 14.5	+2.3
NAS1	**Nasa**	**2.69**	**72**	P	Pn	05 01 14.5	+2.1
JUA2	**San Juan 2**	**2.73**	**63**	P	Pn	05 01 13.6	+0.6
JUA2				S	Sn	05 01 52.6	+6.8
TERV	**Terraza Guagua**	**2.75**	**62**	P	Pn	05 01 14.3	+1.0
PINO	**Pino**	**2.76**	**62**	P	Pn	05 01 13.8	+0.5
VC1	**Cotopaxi 1**	**2.76**	**72**	P	Pn	05 01 15.8	+2.4
GGP	**Refugio Guagua**	**2.76**	**62**	P	Pn	05 01 15.7	+2.3
TAMB	**Tambo**	**2.78**	**74**	P	Pn	05 01 16.1	+2.5
YANA	**Yana**	**2.81**	**61**	⇓P	Pn	05 01 14.7	+0.7
JOR1	**San Jorge 1**	**2.81**	**58**	P	Pn	05 01 12.9	-1.1
ANTI	**Antisana**	**3.05**	**70**	P	Pn	05 01 20.7	+3.2
COTA	**Cotacachi**	**3.24**	**56**	P	Pn	05 01 22.6	+2.4
CAYR	**Refugio Cayamb**	**3.37**	**64**	⇑P	Pn	05 01 26.2	+4.1
CAYA	**Cayambe**	**3.41**	**63**	P	Pn	05 01 26.1	+3.5
CONE	**Cono NE Rev Vo**	**3.67**	**68**	P	Pn	05 01 30.6	+4.3

*BJI **30** 05:28:39.8, 8.08N×94.03E, h25km, mB5.1, mb4.6, Ms4.5, Msz4.0*
*NEIC **30** 05:28:40.2±0.4, 8.02N×94.08E, h30km, mb4.6/19, Error ellipse: s-maj=13.7km s-min=10.2km az=57.0*
ISC 30 05:28:38.5±0.5, 8.07N±0.08×94.24E±0.09, h30km, n55, σ1§02/57, mb4.7/25, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.29**	**23**	*eP*	**P**	**05 31 23.2**	**+2.1**
VIS	**Vishakhapatnam**	**14.31**	**313**	*eP*	**P**	**05 31 57.4**	**-4.0**
VIS				*e*		05 31 57.8	
	comp=Z,33nm,2.3s						
VIS				*eS*	**S**	**05 34 32.7**	**-7.2**
SHL	**Shillong**	**17.54**	**353**	*eP*	**P**	**05 32 41.0**	**-1.7**
HYB	**Hyderabad**	**17.88**	**303**	*eP*	**P**	**05 32 49.5**	**+2.6**
HYB				*eS*	**S**	**05 36 10.0**	**+7.4**
HYB	**Hyderabad**	**17.88**	**303**	*i P*	**P**	**05 32 49.5**	**+2.6**
HYB				*eS*	**S**	**05 36 10.0**	**+7.4**
BLSP	**Bilaspur**	**18.20**	**321**	*eP*	**P**	**05 32 47.8**	**-3.1**
BLSP				*e*		05 32 53.2	
	comp=Z,23nm,1.6s						
JIRN	**Jiri**	**20.92**	**340**	*eP*	**P**	**05 33 21.8**	**+0.6**
	comp=Z,82nm,0.8s						
PKI	**Pulchoki**	**21.12**	**338**	*eP*	**P**	**05 33 23.5**	**+0.2**
	comp=Z,90nm,1.1s,mb5.0						
GUN	**Gumba**	**21.26**	**339**	*eP*	**P**	**05 33 24.2**	**-0.5**
	comp=Z,158nm,1.1s,mb5.3						
DMN	**Daman**	**21.27**	**337**	*eP*	**P**	**05 33 25.2**	**+0.4**
	comp=Z,91nm,1.0s,mb5.1						
KKN	**Kakani**	**21.36**	**338**	*eP*	**P**	**05 33 25.0**	**-0.7**
	comp=Z,80nm,1.0s,mb5.0						
GKN	**Gorkha**	**21.80**	**337**	*eP*	**P**	**05 33 30.2**	**+0.1**
	comp=Z,66nm,0.7s,mb5.2						
KOLN	**Koldanda**	**22.02**	**334**	*eP*	**P**	**05 33 32.6**	**+0.2**
	comp=Z,57nm,0.7s,mb5.1						
AGRA	**Agra**	**24.52**	**323**	*eP*	**P**	**05 33 58.5**	**+1.6**
SONA	**Sohna**	**25.79**	**323**	*eP*	**P**	**05 34 09.6**	**+0.7**
SONA				*e*		05 34 15.9	
	comp=Z,17nm,0.8s						
AYAN	**Aya Nagar**	**25.93**	**324**	*eP*	**P**	**05 34 11.1**	**+0.9**
AYAN				*e*		05 34 12.2	
	comp=Z,11nm,1.2s						
NDI	**New Delhi**	**26.03**	**324**	*eP*	**P**	**05 34 10.0**	**-1.1**
JOSI	**Joshimath**	**26.25**	**330**	*eP*	**P**	**05 34 09.2**	**-3.9**
KHET	**Khetri**	**26.44**	**321**	*eP*	**P**	**05 34 15.6**	**+0.8**
KHET				*e*		05 34 17.7	
	comp=Z,14nm,0.8s						
DDI	**Dehra Dun**	**26.83**	**328**	*e*	**P**	**05 34 21.2**	**+2.8**
XAN	**Xi'an**	**29.17**	**26**	P	**P**	**05 34 40.0**	**+0.4**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
BJI	**Beijing**	**37.39**	**28**	*eP*	**P**	**05 35 55.0**	**+4.4**
	comp=Z,9.0nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**38.56**	**336**	*eP*	**P**	**05 36 00.4**	**-0.1**
	comp=Z,7.6nm,1.1s,mb4.3						
KURK	**Kurchatov**	**44.44**	**346**	*eP*	**P**	**05 36 47.7**	**-0.9**
	comp=Z,18nm,1.1s,mb4.7						
KURK				*ep*P	pP	05 36 55.1	-2.5
NWAO	**Narrogin (SRO)**	**46.28**	**153**	*eP*	**P**	**05 37 03.6**	**+0.2**
	comp=Z,12nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**48.30**	**126**	*eP*	**P**	**05 37 18.6**	**-0.8**
	comp=Z,4.7nm,0.8s,mb4.6						
RAYN	**Ar Rayn**	**49.09**	**294**	P	**P**	**05 37 27.9**	**+2.4**
	comp=Z,75nm,0.6s,SNR=9.6						
CHKZ	**Chkalovo**	**49.32**	**342**	*eP*	**P**	**05 37 26.0**	**-0.8**
	comp=Z,12nm,0.8s,mb5.0						
CHKZ				*ep*P	pP	05 37 31.4	-4.6
PMG	**Port Moresby**	**55.50**	**107**	*eP*	**P**	**05 38 14.5**	**+0.9**
	comp=Z,8.2nm,0.7s,mb4.9						
MBAR	**Mbarara**	**63.87**	**265**	*eP*	**P**	**05 39 11.1**	**-0.2**
	comp=Z,7.9nm,1.2s,mb4.6						
LSZ	**Lusaka**	**69.42**	**250**	*eP*	**P**	**05 39 47.1**	**+0.7**
	comp=Z,2.0nm,0.6s,mb4.2						
KAF	**Kangasniemi**	**72.66**	**333**	*ep*	**P**	**05 40 03.7**	**-1.4**
OKC	**Ostrava-Krasne**	**74.90**	**319**	*eP*	**P**	**05 40 18.2**	**-0.2**
DPC	**Dobruska-Polom**	**76.12**	**320**	*eP*	**P**	**05 40 25.7**	**+0.4**
UPC	**Upice**	**76.33**	**320**	*eP*	**P**	**05 40 24.6**	**-1.9**
PRU	**Pruhonice**	**77.24**	**319**	*eP*	**P**	**05 40 30.2**	**-1.4**
BRG	**Berggiesshubel**	**77.66**	**320**	*eP*	**P**	**05 40 34.2**	**+0.3**
	comp=Z,4.9nm,1.2s,mb4.3						
GEC2	**GERESS Array S**	**77.74**	**318**	*eP*	**P**	**05 40 34.2**	**-0.2**
	comp=Z,4.0nm,0.8s,mb4.4						
KHC	**Kasperske Hory**	**77.83**	**318**	*eP*	**P**	**05 40 34.9**	**+0.1**
CLL	**Collm**	**78.27**	**321**	*eP*	**P**	**05 40 36.0**	**-1.2**
CLL	**Collm**	**78.27**	**321**	P	**P**	**05 40 36.0**	**-1.2**
WET	**Wettzell**	**78.29**	**318**	*eP*	**P**	**05 40 37.2**	**-0.2**
	comp=Z,3.0nm,0.9s,mb4.2						
MOX	**Moxa**	**79.13**	**320**	*eP*	**P**	**05 40 41.7**	**-0.2**
MOX	**Moxa**	**79.13**	**320**	*i P*	**P**	**05 40 41.7**	**-0.2**
FUR	**Furstenfeldbru**	**79.35**	**317**	*eP*	**P**	**05 40 42.6**	**-0.5**
GRA1	**Grafenberg Arr**	**79.38**	**319**	*eP*	**P**	**05 40 43.6**	**+0.3**
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	**Grafenberg Arr**	**79.38**	**319**	*eP*	**P**	**05 40 43.6**	**+0.3**
	comp=Z,6.0nm,0.9s,mb4.5						
NB2	**NORSAR Subarra**	**79.61**	**331**	P	**P**	**05 40 43.2**	**-1.1**
	comp=Z,2.8nm,0.8s,mb4.2,baz=95,slow=5.0						
CLZ	**Clausthal**	**79.92**	**321**	*eP*	**P**	**05 40 46.1**	**0.0**
	comp=Z,5.0nm,0.8s,mb4.5						
TNS	**Taunus Mts**	**81.16**	**320**	*eP*	**P**	**05 40 52.8**	**0.0**
BFO	**Black Forest**	**81.31**	**318**	*eP*	**P**	**05 40 53.0**	**-0.6**
	comp=Z,2.0nm,0.8s,mb4.1						
LPG	**La Plagne**	**82.55**	**315**	*eP*	**P**	**05 40 59.9**	**-0.1**
	comp=Z,11nm,0.7s,mb4.7						
ESLA	**Sonseca Array**	**91.16**	**310**	*eP*	**P**	**05 41 43.2**	**+1.0**
	comp=Z,0.1nm,0.6s						
INK	**Inuvik**	**96.78**	**16**	*eP*	**P**	**05 42 07.9**	**+0.6**
	comp=Z,4.1nm,1.2s,mb4.7						
PLCA	**Paso Flores**	**144.77**	**200**	*eP*	PKPbc	05 48 14.1	+1.4

IGQ 30 05:32:00.7, 1.51S×81.55W, h12km±8km, mb4.2, 2C-2D, Error ellipse: s-maj=9.7km s-min=7.1km az=4.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.11**	**65**	⇑P	Pb	05 32 20.7	-0.6
JAMA	**Jama**	**1.83**	**47**	P	Pn	05 32 34.6	+2.2
JAMA				S	Sn	05 32 55.3	-0.3
IGUA	**Igualata**	**2.91**	**90**	P	Pn	05 32 48.2	+0.4
IGUA				S	Sn	05 33 19.5	-3.6
JUIV	**Juive**	**3.09**	**88**	P	Pn	05 32 52.0	+1.8
ARRY	**Arrayan**	**3.10**	**90**	⇑P	Pn	05 32 50.7	+0.3
ULBA	**Ulba**	**3.14**	**89**	P	Pn	05 32 52.0	+0.9
NAS1	**Nasa**	**3.20**	**74**	P	Pn	05 32 54.3	+2.5
NAS1				S	Sn	05 33 31.2	+1.0
PISA	**Pisayambo**	**3.20**	**82**	P	Pn	05 32 54.1	+2.3
JUA2	**San Juan 2**	**3.22**	**66**	⇓P	Pn	05 32 53.3	+1.2
TERV	**Terraza Guagua**	**3.23**	**66**	P	Pn	05 32 53.8	+1.4
PINO	**Pino**	**3.24**	**65**	P	Pn	05 32 53.3	+0.9
VC1	**Cotopaxi 1**	**3.27**	**75**	P	Pn	05 32 56.1	+3.4
JOR1	**San Jorge 1**	**3.28**	**63**	P	Pn	05 32 52.2	-0.8
TAMB	**Tambo**	**3.29**	**76**	P	Pn	05 32 56.1	+3.0
YANA	**Yana**	**3.29**	**65**	P	Pn	05 32 54.3	+1.2
ANTI	**Antisana**	**3.55**	**73**	P	Pn	05 32 59.3	+2.4
ANTI				S	Sn	05 33 40.3	+1.1
COTA	**Cotacachi**	**3.70**	**60**	P	Pn	05 33 01.5	+2.5
COTA				S	Sn	05 33 46.1	+3.1
CAYR	**Refugio Cayamb**	**3.86**	**67**	P	Pn	05 33 05.5	+4.3
CAYA	**Cayambe**	**3.89**	**66**	⇓P	Pn	05 33 05.5	+3.8

IGQ 30 05:47:04.9, 1.62S×81.20W, h5km±5km, mb4.4, 6C-4D, Error ellipse: s-maj=11.3km s-min=3.6km az=1.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.86**	**49**	⇑P	Pb	05 47 21.8	-0.1
JAMA	**Jama**	**1.67**	**36**	P	Pn	05 47 35.6	+0.6
JAMA				S	Sn	05 47 56.8	-0.3
MAGD	**Magdalena**	**2.10**	**43**	⇓P	Pn	05 47 43.9	+2.8
MAGD				S	Sn	05 48 10.8	+3.0
IGUA	**Igualata**	**2.56**	**87**	⇑P	Pn	05 47 49.1	+1.4
CUSU	**Cusua**	**2.72**	**86**	P	Pn	05 47 52.0	+2.0
JUIV	**Juive**	**2.74**	**86**	P	Pn	05 47 52.0	+1.8
ARRY	**Arrayan**	**2.74**	**88**	⇑P	Pn	05 47 51.6	+1.3
RETU	**Refugio**	**2.75**	**87**	P	Pn	05 47 52.8	+2.3
ULBA	**Ulba**	**2.79**	**87**	⇑P	Pn	05 47 52.9	+1.9
PISA	**Pisayambo**	**2.86**	**79**	P	Pn	05 47 54.3	+2.2
NAS1	**Nasa**	**2.89**	**70**	P	Pn	05 47 54.8	+2.4
JUA2	**San Juan 2**	**2.94**	**62**	⇑P	Pn	05 47 54.2	+1.0
VC1	**Cotopaxi 1**	**2.96**	**71**	P	Pn	05 47 56.0	+2.6
TERV	**Terraza Guagua**	**2.96**	**61**	⇓P	Pn	05 47 54.5	+1.0
PINO	**Pino**	**2.97**	**61**	P	Pn	05 47 54.0	+0.5
GGP	**Refugio Guagua**	**2.97**	**61**	P	Pn	05 47 55.5	+1.9
TAMB	**Tambo**	**2.97**	**72**	P	Pn	05 47 55.9	+2.3
YANA	**Yana**	**3.02**	**60**	⇑P	Pn	05 47 55.3	+1.0
JOR1	**San Jorge 1**	**3.02**	**58**	P	Pn	05 47 53.0	-1.3
ANTI	**Antisana**	**3.25**	**69**	⇓P	Pn	05 48 00.4	+2.8
COTA	**Cotacachi**	**3.46**	**56**	⇓P	Pn	05 48 02.4	+1.9
CAYR	**Refugio Cayamb**	**3.58**	**63**	P	Pn	05 48 05.8	+3.5
CAYA	**Cayambe**	**3.62**	**62**	P	Pn	05 48 05.7	+2.9
CONE	**Cono NE Rev Vo**	**3.87**	**67**	P	Pn	05 48 12.1	+5.8

*NSSP **30** 06:06:36.8, 38.50N×44.62E, h9km, ML3.9*
*TIF **30** 06:06:39.8, 38.68N×44.86E, h1km±5km*
*THR **30** 06:06:46.6±0.7, 38.94N×44.58E, h14km±6km, ML3.9*
*CSEM **30** 06:06:47.2±0.1, 38.93N×44.60E, h16km, mb4.2/2, ML4.4/2, Error ellipse: s-maj=2.4km s-min=1.5km az=37.0*
*TEH **30** 06:06:51.0, 38.75N×44.64E, h4km, Mn4.2*
*MOS **30** 06:06:51.4±2.1, 39.00N×44.71E, h33km, mb4.5/4, Error ellipse: s-maj=15.7km s-min=7.2km az=104.7*
ISC 30 06:06:46.7±0.2, 38.88N±0.02×44.73E±0.03, h4km, n98, σ1§58/115, mb4.1/3, 4C-11D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKU	**Maku**	**0.48**	**356**	*i* PG	**Pg**	**06 06 55.2**	**-1.1**
MAKU				AML	AML	06 07 09.6	
	comp=N,9μm,0.3s						
IMRD	**Marand**	**0.78**	**102**	Pg	**Pg**	**06 07 02.2**	**-0.1**
TVAN	**Van**	**1.09**	**252**	*i* P	**Pb**	**06 07 14.0**	**+6.3**
VANT	**Van**	**1.13**	**248**	*i* PN	**Pn**	**06 07 06.7**	**-2.6**
VRNZ	**Vardanashen**	**1.24**	**341**	⇓P	**Pb**	**06 07 07.2**	**-3.2**
VRNZ				S	**Sb**	**06 07 28.6**	**+2.0**
GNI	**Garni**	**1.27**	**1**	*i* PG	**Pg**	**06 07 09.7**	**-2.4**
GNI				pmax	pmax		
	comp=Z,3μm,0.9s						
GNI	**Garni**	**1.27**	**1**	*i* Pg	**Pg**	**06 07 09.7**	**-2.4**
	comp=Z,3μm,0.9s						
GNI	**Garni**	**1.27**	**1**	P	**Pb**	**06 07 10.2**	**-0.7**
ITBZ	**Tabriz**

SOC				MLR	MLR		
	comp=E,727nm,13.0s						
SOC	**Sochi**	**6.03**	**323**	*e*P	**Pn**	**06 08 14.9**	**-4.0**
	comp=E,16nm,0.6s						
SOC				*e*S	**Sn**	**06 09 25.4**	**-3.9**
	comp=E,2μm,14.0s						
IAFJ	**Afjeh**	**6.33**	**116**	Pn	**Pn**	**06 08 24.0**	**+0.9**
IAFJ				Sn	**Sn**	**06 09 33.0**	**-3.8**
IPRN	**Paran-Amol**	**6.53**	**111**	Pn	**Pn**	**06 08 28.2**	**+2.3**
DAMV	**Damavand**	**6.62**	**117**	*e*PN	**Pn**	**06 08 28.2**	**+0.9**
DAMV	**Damavand**	**6.62**	**117**	*e*Pn	**Pn**	**06 08 28.2**	**+0.9**
	SNR=52						
IDMV	**Damavand**	**6.70**	**117**	Pn	**Pn**	**06 08 29.0**	**+0.7**
IVRN	**Varamin**	**6.81**	**122**	Pn	**Pn**	**06 08 30.6**	**+0.6**
COBT	**Iskenderun**	**7.12**	**253**	*e*P	**Pb**	**06 08 48.6**	**-2.3**
IFIR	**Firoozkooh**	**7.17**	**114**	Pn	**Pn**	**06 08 36.2**	**+1.2**
IGLO	**Galoogah**	**7.42**	**108**	Pn	**Pn**	**06 08 42.1**	**+3.6**
IKIA	**Kiasar**	**7.60**	**108**	Pn	**Pn**	**06 08 43.0**	**+2.0**
ANN	**Anapa**	**8.04**	**320**	*e*P	**P**	**06 08 44.8**	**-2.3**
ANN				pmax	pmax		
	comp=Z,79nm,1.7s						
ANN	**Anapa**	**8.04**	**320**	*e*P	**P**	**06 08 44.8**	**-2.3**
	comp=Z,79nm,1.7s						
BANOM	**Banah**	**16.18**	**140**	⇑P	**P**	**06 10 36.6**	**0.0**
ASHO	**Ashiyiah**	**17.10**	**143**	⇑P	**P**	**06 10 46.6**	**-1.6**
	SNR=12						
OBN	**Obninsk**	**17.15**	**344**	*e*P	**P**	**06 10 47.0**	**-1.7**
OBN				pmax	pmax		
	comp=Z,55nm,1.3s						
OBN	**Obninsk**	**17.15**	**344**	*e*P	**P**	**06 10 47.0**	**-1.7**
	comp=Z,55nm,1.3s						
MOS	**Moscow**	**17.53**	**347**	*e*P	**P**	**06 10 55.4**	**+2.0**
MOS				pmax	pmax		
	comp=Z,63nm,1.3s						
ARQ	**Araqi**	**18.46**	**144**	P	**P**	**06 11 03.7**	**-1.6**
	SNR=25						
HOQ	**Hoqain**	**18.63**	**141**	⇑P	**P**	**06 11 06.7**	**-0.7**
BSY	**Bisya**	**19.29**	**143**	P	**P**	**06 11 12.8**	**-2.4**
	SNR=9.8						
BSYO	**Bisya**	**19.32**	**143**	P	**P**	**06 11 12.8**	**-2.8**
	SNR=9.8						
SMDO	**Samad**	**19.43**	**140**	⇓P	**P**	**06 11 16.5**	**-0.4**
ARU	**Arti**	**19.82**	**23**	⇑*i*P	**P**	**06 11 13.4**	**-7.6**
ARU				*e*S	**S**	**06 14 53.0**	**-5.9**
ARU				pmax	pmax		
	comp=Z,28nm,1.4s						
JMDO	**Jabal Madar**	**20.04**	**141**	⇓P	**P**	**06 11 23.0**	**-0.7**
	SNR=6.5						
WBK	**Wadi Bani Khal**	**20.27**	**139**	⇓P	**P**	**06 11 26.4**	**+0.3**
SVE	**Sverdlovsk**	**20.80**	**25**	*e*P	**P**	**06 11 31.0**	**-0.4**
SVE				*e*		06 15 20.0	
SVE				pmax	pmax		
	comp=Z,100nm,2.0s						
SVE	**Sverdlovsk**	**20.80**	**25**	*e*P	**P**	**06 11 31.0**	**-0.4**
	comp=Z,100nm,2.0s						
OKC	**Ostrava-Krasne**	**21.82**	**309**	*e*P	**P**	**06 11 43.5**	**+1.7**
ABTO	**Aybut**	**22.71**	**158**	⇓P	**P**	**06 11 48.0**	**-2.9**
AAK	**Ala-Archa**	**22.80**	**71**	*i*P	**P**	**06 11 51.6**	**+0.1**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.8s,mb3.9						
AAK	**Ala-Archa**	**22.80**	**71**	*i*P	**P**	**06 11 51.6**	**+0.1**
	comp=Z,8.0nm,1.8s,mb3.9						
RBK	**Rabkut**	**22.85**	**156**	⇓P	**P**	**06 11 49.5**	**-2.7**
DPC	**Dobruska-Polom**	**23.10**	**309**	*e*P	Px	06 12 11.3	
UPC	**Upice**	**23.34**	**309**	*e*P	**P**	**06 12 00.5**	**+3.8**
PVCC	**Panska Ves**	**24.22**	**309**	*e*P	**P**	**06 12 03.7**	**-1.5**
KHC	**Kasperske Hory**	**24.48**	**305**	*e*P	**P**	**06 12 05.6**	**-2.2**
CLL	**Collm**	**25.40**	**310**	*e*P	**P**	**06 12 14.0**	**-2.5**
JOF	**Joensuu**	**25.41**	**346**	*e*p	**P**	**06 12 11.1**	**-5.4**
NKC	**Novy Kostel**	**25.45**	**307**	*e*P	**P**	**06 12 20.7**	**+3.7**
KAF	**Kangasniemi**	**25.86**	**340**	*e*p	**P**	**06 12 22.1**	**+1.4**
GRA1	**Grafenberg Arr**	**26.10**	**305**	*e*P	**P**	**06 12 21.3**	**-1.8**
	comp=Z,15nm,1.2s,mb4.4						
GRF	**Grafenberg Arr**	**26.10**	**305**	*e*P	**P**	**06 12 21.3**	**-1.8**
GRF				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.4						
KURK	**Kurchatov**	**26.57**	**52**	*i*P	**P**	**06 12 26.6**	**-0.8**
ZAK	**Zakamensk**	**42.19**	**54**	*e*P	**P**	**06 14 41.1**	**-0.9**
BOD	**Bodaibo**	**47.48**	**43**	*e*P	**P**	**06 15 22.1**	**-2.2**
TIXI	**Tiksi**	**51.82**	**24**	*e*P	**P**	**06 15 59.6**	**+2.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						

BJI ***30*** *06:08:06.6, 8.10N×94.30E, h15km, mb4.5, Ms4.5, Msz4.4*
NEIC ***30*** *06:08:06.6±0.4, 8.14N×94.25E, mb4.7/24, Error ellipse: s-maj=15.2km s-min=9.9km az=53.0*
MOS ***30*** *06:08:07.2±0.8, 8.19N×94.28E, h33km, mb4.9/21, Error ellipse: s-maj=21.9km s-min=7.6km az=127.5*

ISC 30 06:08:04.6±0.5, 8.02N±0.08×94.27E±0.08, h19km, h19km±.5km:pP-P, n91, σ0$90/89, mb4.7/29, MS4.6/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.33**	**23**	P	**P**	**06 10 52.0**	**+3.3**
PALK	**Pallekele**	**13.47**	**268**	P	**P**	**06 11 21.9**	**+4.5**
PALK				*e*S	**S**	**06 13 31.8**	**-16**
HYB	**Hyderabad**	**17.94**	**303**	*e*P	**P**	**06 12 16.0**	**+1.1**
HYB	**Hyderabad**	**17.94**	**303**	*i*P	**P**	**06 12 16.0**	**+1.1**
HYB				*e*S	**S**	**06 15 33.0**	**+1.1**
JIRN	**Jiri**	**20.98**	**340**	*e*P	**P**	**06 12 50.1**	**+0.8**
	22nm,0.6s						
PKI	**Pulchoki**	**21.18**	**338**	*e*P	**P**	**06 12 51.7**	**+0.3**
	62nm,0.9s,mb5.0						
GUN	**Gumba**	**21.32**	**339**	*e*P	**P**	**06 12 52.9**	**+0.2**
DMN	**Daman**	**21.33**	**337**	*e*P	**P**	**06 12 53.5**	**+0.6**
	56nm,0.9s,mb4.9						
KKN	**Kakani**	**21.43**	**338**	*e*P	**P**	**06 12 54.9**	**+1.1**
GKN	**Gorkha**	**21.87**	**337**	*e*P	**P**	**06 12 58.4**	**+0.2**
	56nm,0.7s,mb5.1						
KOLN	**Koldanda**	**22.09**	**334**	*e*P	**P**	**06 13 00.9**	**+0.4**
	54nm,0.8s,mb5.0						
AAK	**Ala-Archa**	**38.63**	**336**	*e*P	**P**	**06 15 27.3**	**-1.2**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
AAK	**Ala-Archa**	**38.63**	**336**	*e*P	**P**	**06 15 27.3**	**-1.3**
	comp=Z,8.4nm,1.1s,mb4.4						
ULN	**Ulaanbaatar**	**41.17**	**13**	*e*P	**P**	**06 15 50.3**	**+0.8**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
ULN	**Ulaanbaatar**	**41.17**	**13**	*e*P	**P**	**06 15 50.2**	**+0.8**
	comp=Z,2.2nm,0.8s,mb3.8						
KURK	**Kurchatov**	**44.51**	**346**	*e*P	**P**	**06 16 15.9**	**-0.8**
KURK				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.6						
KURK	**Kurchatov**	**44.51**	**346**	*e*P	**P**	**06 16 15.9**	**-0.7**
	comp=Z,14nm,1.4s,mb4.6						
NWAO	**Narrogin (SRO)**	**46.21**	**153**	P	**P**	**06 16 32.0**	**+1.5**
NWAO				pmax	pmax		
	comp=Z,20nm,1.2s						
NWAO	**Narrogin (SRO)**	**46.21**	**153**	P	**P**	**06 16 31.9**	**+1.5**
	comp=Z,20nm,1.2s,mb4.9						
NVS	**Novosibirsk**	**47.52**	**351**	*e*P	**P**	**06 16 39.5**	**-1.0**
WRAB	**Tennant Creek**	**48.24**	**126**	*e*P	**P**	**06 16 46.8**	**+0.2**
WRAB				*e**PP	pP	06 16 53.1	+0.6
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
WRAB	**Tennant Creek**	**48.24**	**126**	*e*P	**P**	**06 16 46.8**	**+0.2**
	comp=Z,5.6nm,0.9s,mb4.6						
WRAB				*e*pP	pP	06 16 53.1	+0.7
CHKZ	**Chkalovo**	**49.38**	**342**	*e*P	**P**	**06 16 53.6**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**49.38**	**342**	*e*P	**P**	**06 16 53.6**	**-1.3**
	comp=Z,7.0nm,0.8s,mb4.7						
EIL	**Elat**	**59.47**	**300**	*e*P	**P**	**06 18 08.4**	**-0.6**
	comp=Z,11nm,1.1s,mb4.8						
EIL				*e*pP	pP	06 18 15.1	0.0
OBN	**Obninsk**	**65.33**	**328**	*e*P	**P**	**06 18 50.0**	**+2.3**
OBN				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.1						
TIXI	**Tiksi**	**67.07**	**11**	*e*P	**P**	**06 18 57.7**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
TIXI				MLR	MLR		
	comp=Z,284nm,14.0s,MS4.6						
LSZ	**Lusaka**	**69.44**	**250**	*e*P	**P**	**06 19 15.3**	**+1.1**
LSZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
LSZ	**Lusaka**	**69.44**	**250**	*e*P	**P**	**06 19 15.3**	**+1.1**
	comp=Z,1.5nm,0.6s,mb4.1						
JOF	**Joensuu**	**70.78**	**334**	*e*p	**P**	**06 19 19.6**	**-2.0**
CRVS	**Cervenica-Dubn**	**72.71**	**319**	*e*P	**P**	**06 19 34.0**	**+0.6**
KAF	**Kangasniemi**	**72.72**	**333**	*e*p	**P**	**06 19 31.8**	**-1.4**
OJC	**Ojcow**	**73.95**	**320**	*e*P	**P**	**06 19 40.1**	**-0.4**
LBTB	**Lobatse**	**74.43**	**241**	*e*P	**P**	**06 19 45.1**	**+1.3**
OKC	**Ostrava-Krasne**	**74.97**	**319**	*e*P	**P**	**06 19 46.5**	**0.0**
OKC				*e*pP	pP	06 19 52.8	+0.2
DPC	**Dobruska-Polom**	**76.18**	**320**	*e*P	**P**	**06 19 53.8**	**+0.5**
DPC				*e*pP	pP	06 19 59.8	+0.3
UPC	**Upice**	**76.39**	**320**	*e*P	**P**	**06 19 54.8**	**+0.3**
PRU	**Pruhonice**	**77.31**	**319**	*e*P	**P**	**06 19 59.8**	**+0.2**
PRU				*e*pP	pP	06 20 06.2	+0.5
PVCC	**Panska Ves**	**77.31**	**320**	*e*P	**P**	**06 20 00.2**	**+0.6**
BRG	**Berggiesshubel**	**77.73**	**320**	*i*P	**P**	**06 20 02.3**	**+0.4**
BRG				*e*	pP	06 20 08.6	+0.6
BRG				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BRG	**Berggiesshubel**	**77.73**	**320**	*i*P	**P**	**06 20 02.3**	**+0.4**
	comp=Z,6.1nm,0.9s,mb4.5						
BRG				*e*	pP	06 20 08.6	+0.6
GEC2	**GERESS Array S**	**77.81**	**318**	*e*P	**P**	**06 20 02.7**	**+0.3**
GEC2				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
GEC2	**GERESS Array S**	**77.81**	**318**	*e*P	**P**	**06 20 02.7**	**+0.3**
	comp=Z,5.0nm,0.8s,mb4.5						
KHC	**Kasperske Hory**	**77.90**	**318**	*e*P	**P**	**06 20 03.1**	**+0.2**
KHC				*e*pP	pP	06 20 09.0	0.0
CLL	**Collm**	**78.33**	**321**	P	pP	06 20 11.0	-0.4
CLL	**Collm**	**78.33**	**321**	*e**PP	pP	06 20 11.0	-0.4
WET	**Wettzell**	**78.36**	**318**	*e*P	**P**	**06 20 05.7**	**+0.3**
WET				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
WET	**Wettzell**	**78.36**	**318**	*e*P	**P**	**06 20 05.7**	**+0.3**
	comp=Z,4.0nm,0.9s,mb4.3						
NKC	**Novy Kostel**	**78.66**	**320**	*e*P	**P**	**06 20 08.1**	**+1.1**
MOX	**Moxa**	**79.20**	**320**	*e*P	**P**	**06 20 10.2**	**+0.2**
MOX	**Moxa**	**79.20**	**320**	*i*P	**P**	**06 20 10.2**	**+0.2**
FUR	**Furstenfeldbru**	**79.41**	**317**	*e*P	**P**	**06 20 11.0**	**-0.2**
GRA1	**Grafenberg Arr**	**79.45**	**319**	*e*P	**P**	**06 20 12.1**	**+0.8**
	comp=Z,9.0nm,1.0s,mb4.7						
GRA1				*e*pP	pP	06 20 17.7	+0.2
GRF	**Grafenberg Arr**	**79.45**	**319**	*e*P	**P**	**06 20 12.1**	**+0.8**
GRF				*e**PP	pP	06 20 17.7	+0.2
GRF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**79.45**	**319**	*e*P	**P**	**06 20 12.1**	**+0.8**
GRF				*e**PP	pP	06 20 17.7	+0.2
GRF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**79.45**	**319**	*e*P	**P**	**06 20 12.1**	**+0.8**
	comp=Z,9.0nm,1.0s,mb4.7						
GRF				*e*pP	pP	06 20 17.7	+0.2
NB2	**NORSAR Subarra**	**79.67**	**331**	P	**P**	**06 20 11.4**	**-0.9**
	comp=Z,1.5nm,0.6s,mb4.1,baz=95,slow=5.0						
NB2	**NORSAR Subarra**	**79.67**	**331**	P	**P**	**06 20 11.4**	**-0.9**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
CLZ	**Clausthal**	**79.98**	**321**	*e*P	**P**	**06 20 14.6**	**+0.4**
	comp=Z,5.0nm,0.8s,mb4.5						
PGF	**Pioggiola**	**81.16**	**312**	*e*P	**P**	**06 20 19.8**	**-0.8**
TNS	**Taunus Mts**	**81.23**	**320**	*e*P	**P**	**06 20 21.3**	**+0.5**
BFO	**Black Forest**	**81.38**	**318**	*e*P	**P**	**06 20 21.6**	**0.0**
BFO				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BFO	**Black Forest**	**81.38**	**318**	*e*P	**P**	**06 20 21.6**	**0.0**
	comp=Z,2.0nm,0.8s,mb4.1						
CDF	**Champ du Feu**	**82.08**	**318**	*e*P	**P**	**06 20 24.2**	**-1.0**
	comp=Z,5.1nm,0.7s,mb4.3						
CDF	**Champ du Feu**	**82.08**	**318**	*e*P	**P**	**06 20 24.2**	**-1.0**
CDF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
SBF	**Sospel**	**82.23**	**313**	*e*P	**P**	**06 20 24.9**	**-1.2**
	comp=Z,93nm,1.0s,mb5.4						
SBF	**Sospel**	**82.23**	**313**	*e*P	**P**	**06 20 24.9**	**-1.2**
SBF				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.4						
LPG	**La Plagne**	**82.61**	**315**	*e*P	**P**	**06 20 27.8**	**-0.3**
	comp=Z,20nm,0.8s,mb4.9						
LPG	**La Plagne**	**82.61**	**315**	*e*P	**P**	**06 20 27.8**	**-0.3**
LPG				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
LPL	**La Plagne**	**82.62**	**315**	*e*P	**P**	**06 20 27.8**	**-0.3**
	comp=Z,20nm,0.7s,mb5.0						
LPL	**La Plagne**	**82.62**	**315**	*e*P	**P**	**06 20 27.8**	**-0.3**
LPL				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
HAU	**Haudompre**	**82.72**	**317**	*e*P	**P**	**06 20 27.5**	**-1.1**
	comp=Z,11nm,0.7s,mb4.7						
HAU	**Haudompre**	**82.72**	**317**	*e*P	**P**	**06 20 27.5**	**-1.1**
HAU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
FRF	**La Foret Royal**	**82.82**	**313**	*e*P	**P**	**06 20 28.4**	**-0.8**
	comp=Z,32nm,1.0s,mb5.0						
FRF	**La Foret Royal**	**82.82**	**313**	*e*P	**P**	**06 20 28.4**	**-0.8**
FRF				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
LMR	**La Mourre**	**82.94**	**313**	*e*P	**P**	**06 20 28.9**	**-0.9**
CABF	**La Chapelle**	**82.99**	**316**	*e*P	**P**	**06 20 29.5**	**-0.5**
ORIF	**Oris-en-Rattie**	**83.27**	**314**	*e*P	**P**	**06 20 31.1**	**-0.4**
GIVF	**Givet**	**83.56**	**320**	*e*P	**P**	**06 20 32.3**	**-0.6**
SMRF	**Simiane la Rot**	**83.56**	**313**	*e*P	**P**	**06 20 32.6**	**-0.4**
BAIF	**Baives**	**83.96**	**320**	*e*P	**P**	**06 20 34.5**	**-0.4**
	comp=Z,8.7nm,0.8s,mb4.7						
BAIF	**Baives**	**83.96**	**320**	*e*P	**P**	**06 20 34.5**	**-0.4**
BAIF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
SMF	**Signal de Mont**	**84.53**	**316**	*e*P	**P**	**06 20 36.8**	**-1.1**
SSF	**Saint Saulge**	**84.72**	**317**	*e*P	**P**	**06 20 37.9**	**-0.9**
AVF	**Avril sur Loir**	**84.85**	**316**	*e*P	**P**	**06 20 38.5**	**-1.0**
MFF	**Saint Martin d**	**87.26**	**317**	*e*P	**P**	**06 20 50.6**	**-0.8**
IMA	**Indian Mountai**	**91.44**	**22**	*e*P	**P**	**06 21 12.2**	**+1.7**
IMA				*e**PP	pP	06 21 18.7	+1.9
RES	**Resolute Bay**	**97.25**	**2**	*e*P	**P**	**06 21 38.3**	**+1.3**
RES				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.6						
RES	**Resolute Bay**	**97.25**	**2**	*e*P	**P**	**06 21 38.3**	**+1.3**
	comp=Z,1.8nm,0.8s,mb4.5						
JCT	**Junction City**	**139.41**	**19**	*e*PKIKP	PKPdf	06 27 34.0	-1.6
PLCA	**Paso Flores**	**144.73**	**200**	*e*PKIKP	PKPdf	06 27 42.1	-2.5

NIED ***30*** *06:17:00, 24.00N×122.90E, h32km, Mw4.5 Best double couple: M0 5.41×10^15 NP1:φ=295°, δ57°, λ-124°. NP2: φ=166°, δ46°, λ-50°.*
JMA ***30*** *06:17:01.3±0.1, 23.99N×122.93E, h25km±3km, M4.6*

ISC 30 06:17:00.2±0.8, 24.08N±0.08×122.83E±0.07, h49km±8km, n18, σ1$20/24, mb5.0/2, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.41**	**24**	P	**P**	**06 17 11.0**	**+0.6**
YOJ				*e*S	**S**	**06 17 17.8**	**+0.1**
IRIF	**Iriomote-Funau**	**0.86**	**73**	P	**P**	**06 17 16.3**	**+0.2**
IRIF				*e*S	**S**	**06 17 27.2**	**-0.7**
HATJ	**Hateruma jima**	**0.89**	**92**	P	**P**	**06 17 16.4**	**-0.2**
HATJ				*e*S	**S**	**06 17 26.5**	**-2.2**
JKRS	**Kuro-shima**	**1.09**	**82**	P	**P**	**06 17 19.9**	**+0.5**
JIJ	**Ishigaki jima**	**1.23**	**77**	P	**P**	**06 17 21.9**	**+0.5**
JIJ				*e*S	**S**	**06 17 37.8**	**+0.7**
JTJ	**Tarama**	**1.79**	**72**	P	**P**	**06 17 30.2**	**+0.8**
JMJ	**Miyako jima 2**	**2.36**	**72**	P	**P**	**06 17 39.1**	**+1.7**
JMJ				*e*S	**S**	**06 18 07.1**	**+1.9**
JOGS	**Gusukube**	**2.44**	**73**	P	**P**	**06 17 40.4**	**+1.8**
JKE	**Kume jima 2**	**4.22**	**57**	P	**P**	**06 18 03.4**	**-0.4**
JKE				*e*S	**S**	**06 18 51.3**	**-1.0**
JAGN	**Aguni-jima**	**4.71**	**57**	*e*S	**S**	**06 19 05.2**	**+0.6**
JOW	**Kunigami**	**5.63**	**60**	P	**P**	**06 18 21.8**	**-1.6**
CVP	**Callao Caves**	**6.42**	**189**	*e*P	**P**	**06 18 34.0**	**-0.5**
JTK	**Tokunoshima**	**6.63**	**55**	P	**P**	**06 18 35.6**	**-1.9**
JAM	**Amami Oshima**	**7.45**	**53**	P	**P**	**06 18 47.1**	**-1.9**
WB2	**Warramunga Arr**	**45.18**	**165**	*e*P	**P**	**06 25 11.6**	**-2.7**
ASPA	**Alice Springs**	**48.67**	**166**	⇓*i*P	**P**	**06 25 42.8**	**+1.1**
FORT	**Forrest**	**54.78**	**174**	⇑*i*P	**P**	**06 26 28.7**	**+1.2**
	33nm,0.7s,mb5.5						
STKA	**Stephens Creek**	**58.47**	**161**	*e*P	**P**	**06 26 53.6**	**-0.1**
	4.4nm,0.9s,mb4.5						

BJI ***30*** *06:26:13.4, 13.80N×93.02E, h22km, mB5.2, mb4.7, Ms4.9, Msz4.5*
MOS ***30*** *06:26:15.1±1.0, 13.77N×93.09E, h33km, mb5.0/31, MS4.5/6, Error ellipse: s-maj=12.8km s-min=7.4km az=105.5*
HRVD ***30*** *06:26:15.4±0.4, 13.80N×93.02E, h14km±1km, MW5.0/52, Centroid moment Tensor Solution. LP body waves: s32,c46;Mantle waves: s52,c88; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.12±.16; Mθθ4.74±.17; Mφφ-3.62±.14; Mrθ2.09±.39; Mrφ-0.44±.11; Mθφ-0.41±.30; Best double couple: M0 4.565×10^16 NP1:φ=46°, δ71°, λ173°. NP2:φ=138°, δ84°, λ19°. Principal axes: T5.441, Plg18°, Azm4°; N-1.754, Plg70°, Azm157°; P-3.688, Plg8°, Azm271°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***30*** *06:26:15.4±0.3, 13.78N×93.15E, mb4.8/35, MS4.8/1 Error ellipse: s-maj=8.7km s-min=7.3km az=46.0*

ISC 30 06:26:13.4±0.3, 13.89N±0.04×92.96E±0.03, h20km, h20km±1.6km:pP-P, n146, σ1$28/158, mb4.8/45, MS4.6/7, 5C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**7.16**	**75**	P	**Pn**	**06 28 00.0**	**+0.3**
	183nm,0.5s						
CM31	**Chiang Mai Arr**	**7.32**	**51**	*e*P	**Pn**	**06 28 00.6**	**-1.4**
	66nm,0.6s						
CHG	**Chiang Mai**	**7.54**	**49**	P	**Pn**	**06 28 03.5**	**-1.6**
CHG	**Chiang Mai**	**7.54**	**49**	⇑P	**Pn**	**06 28 21.4**	**+16**
	52nm,0.8s						
BWNR	**Bhubaneshwar**	**9.35**	**314**	*e*P	**P**	**06 28 27.1**	**-3.1**
BWNR				*e*S	**Sn**	**06 30 02.9**	**-13**
BWNR				*e*		06 30 07.7	
	comp=E,2μm,0.4s						
BWNR				*e*		06 30 08.7	
	comp=N,1000nm,0.5s						
CAL	**Calcutta**	**9.66**	**334**	*e*	**P**	**06 28 45.4**	**+11**
CAL				*e*		06 30 16.1	
KKTK	**Khon Kaen**	**9.83**	**74**	P	**P**	**06 28 39.0**	**+2.1**
	comp=N,1μm,0.9s						
VIS	**Vishakhapatnam**	**10.02**	**294**	*e*P	**P**	**06 28 37.8**	**-1.8**
VIS				*e*S	**S**	**06 30 16.6**	**-16**
AGT	**Agartala**	**10.07**	**351**	⇓*i*P	**P**	**06 28 38.0**	**-2.2**
AGT				*i*		06 29 47.0	
IMP	**Imphal**	**10.87**	**5**	*e*P	**P**	**06 28 49.1**	**-2.1**
SHL	**Shillong**	**11.66**	**355**	*e*	**P**	**06 28 56.0**	**-5.9**
SHL				*e*S	**S**	**06 31 01.0**	**-11**
BLSP	**Bilaspur**	**13.16**	**310**	*e*P	**P**	**06 29 21.5**	**-0.4**
BLSP				*e*		06 29 28.3	
	comp=Z,72nm,1.2s						
BLSP				*e*S	**S**	**06 31 32.9**	**-16**
PALK	**Pallekele**	**13.73**	**243**	*e*P	**P**	**06 29 30.5**	**+0.9**
	comp=Z,32nm,0.8s						
HYB	**Hyderabad**	**14.31**	**286**	*e*P	**P**	**06 29 36.0**	**-1.3**
HYB				*e*S	**S**	**06 32 16.0**	**-0.3**
HYB				pmax	pmax		
	comp=Z,54nm,0.8s						
HYB	**Hyderabad**	**14.31**	**286**	*e*P	**P**	**06 29 36.0**	**-1.3**
	comp=Z,54nm,0.8s						
HYB				*e*S	**S**	**06 32 16.0**	**-0.3**
HYB	**Hyderabad**	**14.31**	**286**	*i*P	**P**	**06 29 36.0**	**-1.3**
	comp=Z,54nm,0.8s						
HYB				*e*		06 31 59.0	
HYB				*e*S	**S**	**06 32 16.0**	**-0.3**
SALM	**Salem**	**14.57**	**263**	*e*P	**P**	**06 29 38.0**	**-2.7**
JIRN	**Jiri**	**15.08**	**336**	*e*P	**P**	**06 29 46.5**	**-0.8**
	comp=Z,93nm,0.8s						
NGP	**Nagpur**	**15.10**	**300**	*e*P	**P**	**06 29 46.7**	**-0.9**
NGP				*e*		06 32 24.7	
PKI	**Pulchoki**	**15.32**	**334**	*e*P	**P**	**06 29 49.9**	**-0.6**
	comp=Z,28nm,0.3s						
GUN	**Gumba**	**15.43**	**336**	*e*P	**P**	**06 29 51.4**	**-0.4**
	comp=Z,33nm,0.5s						
ALBI	**Allahabad**	**15.46**	**319**	*e*	**P**	**06 30 02.0**	**+10**
DMN	**Daman**	**15.49**	**333**	*e*P	**P**	**06 29 52.3**	**-0.3**
	comp=Z,86nm,0.7s						
KKN	**Kakani**	**15.57**	**334**	*e*P	**P**	**06 29 53.5**	**-0.2**
	comp=Z,43nm,0.6s						
LSA	**Lhasa**	**15.82**	**354**	P	**P**	**06 30 01.3**	**+4.5**
GKN	**Gorkha**	**16.04**	**332**	*e*P	**P**	**06 29 58.9**	**-0.7**
	comp=Z,60nm,0.3s						
KOLN	**Koldanda**	**16.33**	**329**	*e*P	**P**	**06 30 03.1**	**-0.3**
	comp=Z,118nm,0.8s						
LATR	**Latur**	**16.39**	**288**	*e*P	**P**	**06 30 05.0**	**+0.9**
LATR				*e*		06 32 45.4	
QIZ	**Qiongzhong**	**16.97**

comp=Z,860nm,29.0s,MS4.3
BJI Beijing 33.06 34 *e*P **P 06 32 50.3 +0.4**
comp=Z,9.0nm,1.2s,mb4.6
BJI S **S 06 38 01.4 -5.1**
BJI LR LR
comp=Z,860nm,29.0s,MS4.3
ULN Ulaanbaatar 35.84 16 *e*P **P 06 33 14.1 +0.4**
ULN pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
ULN Ulaanbaatar 35.84 16 *e*P **P 06 33 14.1 +0.3**
comp=Z,5.9nm,1.1s,mb4.4
ZAK Zakamensk 37.35 11 *e*P **P 06 33 27.6 +1.3**
ZAK *e* 06 35 50.9
MOY Mondy 38.23 8 *e*P **P 06 33 35.1 +1.4**
KURK Kurchatov 38.53 345 *i* P **P 06 33 37.0 +0.7**
KURK Kurchatov 38.53 345 *e*P **P 06 33 36.8 +0.6**
comp=Z,19nm,1.1s,mb4.7
TLY Talaya 38.66 11 *e*P **P 06 33 39.5 +2.1**
TLY pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
TLY MLR MLR
comp=Z,561nm,19.0s,MS4.4
NVS Novosibirsk 41.56 352 *e*P **P 06 34 00.5 -0.7**
NVS *e*S **S 06 40 14.6 -1.2**
NVS pmax pmax
comp=Z,17nm,1.6s,mb4.4
NVS pmax pmax
comp=N,17nm,1.5s
NVS smax
comp=N,14nm,1.7s
NVS smax
comp=E,13nm,1.7s
MBWA Marble Bar 43.64 142 P **P 06 34 15.1 -3.6**
comp=E,22nm,1.2s,mb4.8
FITZ Fitzroy Crossi 45.27 134 *e*P **P 06 34 29.8 -2.0**
comp=E,13nm,0.8s,mb4.8
MAT Matsushiro 46.20 52 *e*P **P 06 34 38.0 -1.0**
MAT pmax pmax
comp=Z,12nm,0.8s,mb4.9
MAT MLR MLR
comp=Z,1μm,20.0s,MS4.8
MAT Matsushiro 46.20 52 *e*P **P 06 34 38.0 -1.0**
comp=Z,12nm,0.8s,mb4.9
MAT LR LR
comp=Z,1μm,20.0s,MS4.8
MAT Matsushiro 46.20 52 P **P 06 34 37.5 -1.5**
BOD Bodaibo 46.64 15 *e*P **P 06 34 41.4 -0.7**
CLNS Chul'man 49.28 23 *e*P **P 06 35 10.2 +7.4**
CLNS pmax pmax
comp=Z,13nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,12nm,0.8s
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
CLNS pmax pmax
comp=N,6.0nm,0.7s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS MLR MLR
comp=Z,700nm,15.0s,MS4.8
CLNS MLR MLR
comp=N,500nm,14.0s,MS4.7
CLNS MLR MLR
comp=E,100nm,13.0s,MS4.7
SVE Sverdlovsk 49.42 337 *e*P **P 06 35 05.0 +1.1**
GNI Garni 49.52 311 *e*P **P 06 35 07.3 +2.5**
GNI pmax pmax
comp=Z,44nm,1.4s
GNI Garni 49.52 311 *e*P **P 06 35 07.3 +2.4**
comp=Z,44nm,1.4s,mb5.3
ARU Arti 49.95 336⇑ *i*P **P 06 35 05.6 -2.2**
ARU *e* 06 36 25.1
ARU *e*PPP PPP 06 37 59.4 +0.2
ARU *e*S **S 06 42 14.1 -1.8**
ARU *e* 06 44 53.5
ARU *e*SS SS 06 45 45.7 +0.2
ARU pmax pmax
comp=Z,12nm,1.1s,mb4.8
MUN Mundaring 50.76 154 *e*P **P 06 35 13.4 -1.0**
comp=Z,14nm,0.8s,mb5.0
MUN Mundaring 50.76 154 *e*P **P 06 35 13.4 -1.0**
MUN pmax pmax
comp=Z,14nm,0.8s,mb4.9
NWAO Narrogin (SRO) 52.01 154 *e*P **P 06 35 21.9 -2.0**
NWAO pmax pmax
comp=Z,22nm,1.1s
NWAO Narrogin (SRO) 52.01 154 *e*P **P 06 35 21.9 -2.0**
comp=Z,22nm,1.1s,mb5.0
KIV Kislovodsk 52.18 315 *e*P **P 06 35 25.1 +0.1**
KIV *e* 06 36 33.5
KIV *e*S **S 06 42 48.9 +2.1**
KIV pmax pmax
comp=Z,25nm,0.9s,mb5.1
KIV MLR MLR
comp=N,300nm,17.0s,MS4.6
KIV MLR MLR
comp=E,326nm,17.0s,MS4.6
KIV MLR MLR
comp=Z,437nm,17.0s,MS4.6
KIV Kislovodsk 52.18 315 *e*P **P 06 35 26.0 +1.0**
comp=Z,11nm,0.7s,mb4.9
WRAB Tennant Creek 52.80 129 *e*P **P 06 35 28.0 -1.9**
WRAB pmax pmax
comp=Z,17nm,0.8s,mb5.0
WRAB Tennant Creek 52.80 129 *e*P **P 06 35 28.0 -1.9**
comp=Z,17nm,0.8s,mb5.0
WB2 Warramunga Arr 52.80 129 *e*P **P 06 35 28.1 -1.9**
YSS Yuzh-Sakhalins 52.89 41 P **P 06 35 35.2 +4.9**
YSS *e* 06 35 46.0
MALT Malatya 53.80 307 *e*P **P 06 35 37.6 +0.5**
MALT pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MALT Malatya 53.80 307 *e*P **P 06 35 37.6 +0.5**
comp=Z,6.9nm,0.9s,mb4.6
YAK Yakutsk 54.73 20 *i* P **P 06 35 43.7 +0.1**
YAK pmax pmax
comp=Z,11nm,0.5s,mb5.1
ASPA Alice Springs 54.73 133⇓ *i*P **P 06 35 42.4 -1.7**
OBN Obninsk 59.73 326 *e*P **P 06 36 19.1 0.0**
OBN pmax pmax
comp=Z,51nm,2.2s,mb5.2
TIXI Tiksi 61.61 12 *i* P **P 06 36 30.3 -1.4**
TIXI pmax pmax
comp=Z,18nm,2.2s,mb4.8
MA2 Magadan 62.05 29 *e*P **P 06 36 33.8 -1.0**
MA2 pmax pmax
comp=Z,10.0nm,1.4s,mb4.8
CTA Charters Tower 62.34 122 *e*P **P 06 36 42.5 +5.2**
comp=Z,1.7nm,0.6s,mb4.3
CTA Charters Tower 62.34 122 *e*P **P 06 36 42.5 +5.2**
CTA pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 64.96 334 *e*p **P 06 36 54.3 +0.5**
STKA Stephens Creek 65.12 135 *e*P **P 06 37 00.1 +4.7**
comp=Z,5.5nm,0.6s,mb4.8
STKA Stephens Creek 65.12 135 *e*P **P 06 36 54.7 -0.7**
STKA *e*pP pP 06 36 59.9 -1.8
KWP Kalwaria 66.76 318 *e*P **P 06 37 04.9 -0.6**
KWP pmax pmax
comp=Z,23nm,1.0s,mb5.2
KWP Kalwaria 66.76 318 *e*P **P 06 37 04.9 -0.6**
comp=Z,23nm,1.0s,mb5.2
KAF Kangasniemi 66.95 332 *e*p **P 06 37 09.2 +2.6**
SUW Suwalki 67.00 323 *e*P **P 06 37 10.0 +3.0**
SUW pmax pmax
comp=Z,55nm,1.0s,mb5.5
SUW Suwalki 67.00 323 *e*P **P 06 37 10.0 +3.0**
comp=Z,55nm,1.0s,mb5.5
OKC Ostrava-Krasne 69.73 318 *e*P **P 06 37 27.5 +3.5**
MORC Moravsky Berou 70.11 318 *e*P **P 06 37 26.5 +0.1**
MORC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MORC Moravsky Berou 70.11 318 *e*P **P 06 37 26.5 +0.2**
comp=Z,10nm,0.9s,mb4.8
LSZ Lusaka 70.31 248 *e*P **P 06 37 28.9 +0.8**
LSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LSZ Lusaka 70.31 248 *e*P **P 06 37 28.9 +0.8**
comp=Z,5.8nm,0.8s,mb4.6
DPC Dobruska-Polom 70.92 319 *e*P pP 06 37 39.3 +1.7
BILL Bilibino 70.97 22 *i* P **P 06 37 30.4 -0.9**
BILL pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
UPC Upice 71.12 319 *e*P pP 06 37 41.1 +2.3
UPC Upice 71.12 319 *e*pP pP 06 37 41.1 +2.3
PVCC Panska Ves 72.04 319 *e*P **P 06 37 42.3 +4.3**
PRU Pruhonice 72.06 318 *e*P **P 06 37 41.7 +3.6**
BRG Berggiesshubel 72.44 319 *e*P **P 06 37 44.6 +4.3**
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BRG Berggiesshubel 72.44 319 *e*P **P 06 37 44.6 +4.3**
comp=Z,6.4nm,0.9s,mb4.5
BRG *i* 06 37 48.5
RUE Ruedersdorf 72.53 321 *e*P **P 06 37 41.4 +0.6**
comp=Z,6.6nm,0.5s,mb4.8
GEC2 GERESS Array S 72.62 317 *e*P **P 06 37 42.3 +0.8**
GEC2 pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GEC2 GERESS Array S 72.62 317 *e*P **P 06 37 42.3 +0.8**
comp=Z,4.0nm,0.9s,mb4.3
KHC Kasperske Hory 72.70 317 *e*P **P 06 37 41.9 0.0**
KHC *e* 06 37 59.5
KHC Kasperske Hory 72.70 317 *e*P **P 06 37 41.9 0.0**
KHC *e* pP 06 37 46.5 -1.8
KHC *e* 06 37 59.5
KHC Kasperske Hory 72.70 317 *e*P **P 06 37 41.9 0.0**
KHC pP pP 06 37 46.5 -1.8
KHC sP sP 06 37 59.5 +8.9
CLL Collm 73.02 320 *e*P **P 06 37 44.0 +0.3**
CLL *i* pP 06 37 51.4 +1.2
CLL Collm 73.02 320 P **P 06 37 44.0 +0.3**
CLL *i* *PP pP 06 37 51.4 +1.2
WET Wettzell 73.16 317 *e*P **P 06 37 45.5 +0.9**
WET pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
WET Wettzell 73.16 317 *e*P **P 06 37 45.5 +0.9**
comp=Z,2.0nm,0.9s,mb4.0
NKC Novy Kostel 73.40 319 *e*PCP PcP 06 38 03.9 +1.5
MOX Moxa 73.92 319 *e*P **P 06 37 53.5 +4.5**
MOX Moxa 73.92 319 *i* P **P 06 37 53.5 +4.5**
NB2 NORSAR Subarra 73.96 330 P **P 06 37 48.6 -0.4**
comp=Z,8.1nm,0.9s,mb4.7,baz=91,slow=5.8
NB2 NORSAR Subarra 73.96 330 P **P 06 37 48.6 -0.4**
NB2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRA1 Grafenberg Arr 74.22 318 *e*P **P 06 37 52.0 +1.3**
comp=Z,6.0nm,0.9s,mb4.5
GRA1 *e*pP pP 06 37 59.4 +2.3
GRF Grafenberg Arr 74.22 318 *e*P **P 06 37 52.0 +1.3**
GRF *e* *PP pP 06 37 59.4 +2.3
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
GRF Grafenberg Arr 74.22 318 *e*P **P 06 37 52.0 +1.3**
GRF *e* *PP pP 06 37 59.4 +2.3
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
GRF Grafenberg Arr 74.22 318 *e*P **P 06 37 52.0 +1.3**
comp=Z,6.0nm,0.9s,mb4.5
GRF *e*pP pP 06 37 59.4 +2.3
FUR Furstenfeldbru 74.26 317 *e*P **P 06 37 51.4 +0.4**
CLZ Clausthal 74.64 320 *e*P **P 06 37 54.1 +1.0**
comp=Z,3.0nm,0.6s,mb4.4
TNS Taunus Mts 75.97 319 *e*P **P 06 38 01.6 +0.9**
LBTB Lobatse 76.19 240 *e*P **P 06 38 03.5 +1.0**
LBTB *e* *PP pP 06 38 09.5 +0.5
LBTB pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LBTB Lobatse 76.19 240 *e*P **P 06 38 03.5 +1.0**
comp=Z,9.7nm,0.9s,mb4.7
LBTB *e*pP pP 06 38 09.5 +0.6
BFO Black Forest 76.21 317 *e*P **P 06 38 02.5 +0.3**
BFO pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BFO Black Forest 76.21 317 *e*P **P 06 38 02.5 +0.3**
comp=Z,2.0nm,0.8s,mb4.1
LPG La Plagne 77.60 314 *e*P **P 06 38 09.8 -0.1**
comp=Z,30nm,0.7s,mb5.0
LPG La Plagne 77.60 314 *e*P **P 06 38 09.8 -0.1**
LPG pmax pmax
comp=Z,15nm,0.7s,mb5.0
BNI Bardonecchia 77.71 314 *e*P **P 06 38 11.3 +0.8**
BNI pmax pmax
comp=Z,15nm,0.9s,mb4.9
BNI Bardonecchia 77.71 314 *e*P **P 06 38 11.3 +0.7**
comp=Z,16nm,0.9s,mb4.9
BOSA Boshof 77.86 236 *e*P **P 06 38 12.7 +1.0**
BOSA *PP pP 06 38 18.6 +0.4
BOSA pmax pmax
comp=Z,12nm,1.0s,mb4.8
BOSA Boshof 77.86 236 *e*P **P 06 38 12.7 +1.0**
comp=Z,12nm,1.0s,mb4.8
BOSA pP pP 06 38 18.6 +0.4
IMA Indian Mountai 86.52 22 *e*P **P 06 38 57.2 +1.3**
RES Resolute Bay 91.47 2 P **P 06 39 20.8 +1.7**
RES pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
RES Resolute Bay 91.47 2 P **P 06 39 20.8 +1.7**
comp=Z,2.5nm,0.9s,mb4.5
INK Inuvik 91.55 16 *e*P **P 06 39 20.2 +0.6**
INK pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 91.55 16 *e*P **P 06 39 20.2 +0.6**
comp=Z,2.7nm,0.9s,mb4.6
PLCA Paso Flores 149.62 205 PKP2 PKPdf 06 46 03.3 +1.9

BJI ***30*** *06:36:57.8, 7.51N×93.78E, h36km, mB5.1, mb4.8, Ms4.7, Msz4.4*
MOS ***30*** *06:36:59.8±1.4, 7.77N×94.12E, h33km, mb5.1/22, Error ellipse: s-maj=14.5km s-min=7.7km az=92.0*
NEIC ***30*** *06:36:59.8±0.4, 7.71N×94.13E, mb4.8/21, Error ellipse: s-maj=12.4km s-min=11.6km az=148.0*
ISC 30 06:36:58.8±0.4, 7.76N±0.06×94.14E±0.05, h27km, h27km±5.6km:pP-P, n89, σ1°27/88, mb4.9/30, MS4.7/3, 3C-6D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.45**	**95**	P	**Pn**	**06 38 36.0**	**+1.3**
	390nm,0.9s						
NNT	**Nongplab**	**7.31**	**48**	P	**Pn**	**06 38 45.0**	**-1.7**
NST	**Nakhon Sawan**	**9.82**	**36**	P	**P**	**06 39 14.5**	**-7.1**
CM31	**Chiang Mai Arr**	**11.62**	**23**	*e*P	**P**	**06 39 46.9**	**+0.6**
	3.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**11.62**	**23**	*i* P	**P**	**06 39 47.5**	**+1.3**
CMAR				pmax	pmax		
	comp=Z,22nm,0.7s						
PALK	**Pallekele**	**13.33**	**269**	*e*P	**P**	**06 40 09.2**	**+0.2**
	comp=Z,14nm,0.8s						
QIZ	**Qiongzhong**	**18.93**	**52**	P	**P**	**06 41 22.5**	**+2.1**
KMI	**Kunming**	**19.13**	**24**	P	**P**	**06 41 25.0**	**+2.2**
KMI				pmax	pmax		
	comp=Z,44nm,1.1s						
KMI	**Kunming**	**19.13**	**24**	P	**P**	**06 41 25.0**	**+2.2**
	comp=Z,44nm,1.1s						
KMI				pP		06 41 37.4	
KMI				sP		06 41 43.3	
KMI				S	**S**	**06 44 31.0**	**-21**
LATR	**Latur**	**20.11**	**304**	*e*P	**P**	**06 41 41.0**	**+7.3**
KAD	**Karad**	**21.65**	**298**	*e*P	**P**	**06 41 51.0**	**+1.6**
LZH	**Lanzhou**	**29.56**	**16**	⇑P	**P**	**06 43 04.3**	**+0.5**
LZH				AP	pP	06 43 14.5	+2.8
LZH				XP	sP	06 43 20.0	+4.9
LZH				AMB	AMB		
	comp=Z,33nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,933nm,4.0s						
LZH				LR	LR		
	comp=E,770nm,12.3s						
LZH				LR	LR		
	comp=Z,991nm,13.4s,MS4.6						
LZH	**Lanzhou**	**29.56**	**16**	⇑P	**P**	**06 43 04.2**	**+0.4**
	comp=Z,33nm,1.5s,mb4.8						
LZH				*PP	pP	06 43 14.5	+2.8
LZH				*SP	sP	06 43 20.0	+4.9
LZH				pmax	pmax		
	comp=Z,33nm,1.5s,mb4.8						
LZH				MLR	MLR		
	comp=Z,990nm,13.4s,MS4.6						
LZH	**Lanzhou**	**29.56**	**16**	⇑P	**P**	**06 43 04.2**	**+0.4**
	comp=Z,33nm,1.5s,mb4.8						
LZH				pP	pP	06 43 14.5	+2.8
LZH				sP	sP	06 43 20.0	+4.9
LZH				LR	LR		
	comp=Z,990nm,13.4s,MS4.6						
NJ2	**Nanjing**	**33.36**	**40**	*e*P	**P**	**06 43 39.0**	**+1.8**
NJ2				AP	pP	06 43 48.8	+3.7
NJ2				XP	sP	06 43 53.5	+5.0
NJ2				PP	PP	06 44 51.3	+2.1
NJ2				PPP	PPP	06 45 09.0	+3.1
NJ2				S	**S**	**06 48 58.0**	**+2.7**
NJ2				XS		06 49 17.0	
NJ2				AMB	AMB		
	comp=Z,110nm,1.2s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,310nm,11.5s						
NJ2				LR	LR		
	comp=N,1μm,16.5s						
NJ2				LR	LR		
	comp=E,1μm,11.2s						
NJ2				LR	LR		
	comp=Z,780nm,13.7s,MS4.6						
SSE	**Sheshan**	**34.31**	**44**	P	**P**	**06 43 44.3**	**-1.1**
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,104nm,3.6s						
SSE	**Sheshan**	**34.31**	**44**	P	**P**	**06 43 44.3**	**-1.1**
	comp=Z,27nm,0.7s,mb5.3						
WMQ	**Urumqi**	**36.36**	**352**	P	**P**	**06 44 03.5**	**+0.8**
BJI	**Beijing**	**37.71**	**28**	*e*P	**P**	**06 44 15.7**	**+1.6**
BJI				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
BJI	**Beijing**	**37.71**	**28**	*e*P	**P**	**06 44 15.7**	**+1.6**
	comp=Z,12nm,1.0s,mb4.6						
AAK	**Ala-Archa**	**38.81**	**337**	*e*P	**P**	**06 44 22.0**	**-1.3**
AAK				*e*PP	pP	06 44 28.3	-3.0
AAK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**38.81**	**337**	*e*P	**P**	**06 44 22.0**	**-1.3**
	comp=Z,8.1nm,0.8s,mb4.5						
AAK				*e*pP	pP	06 44 28.3	-3.0
MKAR	**Makanchi Array**	**40.20**	**347**	*i* P	**P**	**06 44 33.9**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ULN	**Ulaanbaatar**	**41.45**	**13**	*i* P	**P**	**06 44 44.8**	**-0.2**
ZAK	**Zakamensk**	**43.17**	**9**	⇓*i*P	**P**	**06 44 59.2**	**+0.2**
TLY	**Talaya**	**44.49**	**8**	*d*/*i*P	**P**	**06 45 10.2**	**+0.5**
TLY				pmax	pmax		
	comp=Z,10.0nm,2.0s,mb4.2						
KURK	**Kurchatov**	**44.72**	**346**	⇓*i*P	**P**	**06 45 10.8**	**-0.9**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
KURK	**Kurchatov**	**44.72**	**346**	*e*P	**P**	**06 45 11.0**	**-0.7**
	comp=Z,21nm,0.9s,mb5.0						
NVS	**Novosibirsk**	**47.76**	**352**	⇓*i*P	**P**	**06 45 33.9**	**-1.7**
NVS				*e*S	**S**	**06 52 25.5**	**-3.8**
NVS				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
NVS				pmax	pmax		
	comp=N,11nm,0.9s						
NVS				smax			
	comp=E,11nm,1.3s						
WRAB	**Tennant Creek**	**48.20**	**125**	*i* P	**P**	**06 45 39.0**	**-0.5**
WRAB	**Tennant Creek**	**48.20**	**125**	*e*P	**P**	**06 45 38.4**	**-1.0**
	comp=E,6.7nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**48.21**	**125**	⇓*i*P	**P**	**06 45 38.4**	**-1.1**
RAYN	**Ar Rayn**	**49.13**	**294**	P	**P**	**06 45 48.8**	**+2.2**
	comp=E,76nm,0.7s,mb5.8,SNR=11						
CHKZ	**Chkalovo**	**49.58**	**342**	P	**P**	**06 45 48.8**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
ASPA	**Alice Springs**	**49.84**	**130**	*e*P	**P**	**06 45 51.1**	**-1.0**
BOD	**Bodaibo**	**52.27**	**13**	*e*P	**P**	**06 46 07.8**	**-2.2**
ARU	**Arti**	**56.00**	**337**	⇓*i*P	**P**	**06 46 30.5**	**-6.9**
ARU				*e*		06 48 36.2	
ARU				*e*S	**S**	**06 54 15.5**	**-6.6**
ARU				*e*		06 56 14.7	
ARU				*e*SS	SS	06 58 00.5	-7.8
ARU				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.8						
KIV	**Kislovodsk**	**57.40**	**318**	P	**P**	**06 46 45.3**	**-2.3**
KIV				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
KIV	**Kislovodsk**	**57.40**	**318**	P	**P**	**06 46 45.3**	**-2.3**
	comp=Z,12nm,0.9s,mb4.9						
SOC	**Sochi**	**59.26**	**317**	*e*P	**P**	**06 46 55.1**	**-5.5**
SOC				*e*S	**S**	**06 55 00.2**	**-5.0**
SOC				*e*		06 56 42.0	
SOC				*e*SS	SS	06 58 58.5	-3.0
SOC				*e*SSS	SSS	07 01 25.7	-2.7
SOC				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.4						
SOC				pmax	pmax		
	comp=N,46nm,0.9s						
SOC				pmax	pmax		
	comp=E,8.0nm,0.8s						
EIL	**Elat**	**59.48**	**300**	*e*P	**P**	**06 47 02.4**	**+0.2**
	comp=E,12nm,1.2s,mb4.8						
YAK	**Yakutsk**	**60.11**	**18**	*e*P	**P**	**06 47 05.3**	**-0.8**
YAK				pmax	pmax		
	comp=Z,44nm,0.8s,mb5.5						
YAK	**Yakutsk**	**60.11**	**18**	*e*P	**P**	**06 47 05.3**	**-0.9**
	comp=Z,44nm,0.8s,mb5.5						
MOS	**Moscow**	**65.18**	**329**	*e*P	**P**	**06 47 38.9**	**-1.0**
OBN	**Obninsk**	**65.48**	**328**	*e*P	**P**	**06 47 36.2**	**-5.6**
OBN				*e*		06 47 42.0	
OBN						06 48 14.0	
OBN				pmax	pmax		
	comp=Z,91nm,2.4s,mb5.4						
MA2	**Magadan**	**66.87**	**28**	*e*P	**P**	**06 47 50.4**	**-0.2**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
TIXI	**Tiksi**	**67.35**	**11**	*i* P	**P**	**06 47 52.3**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,55nm,1.6s,mb5.3						
SEY	**Seymchan**	**69.04**	**25**	*e*P	**P**	**06 48 01.2**	**-2.9**
SEY						06 48 26.2	
SEY				*e*		06 50 32.7	
SEY				*e*S	S	06 57 05.1	-0.8
SEY						06 57 57.6	
SEY				SS	SS	07 01 30.2	-3.6
SEY				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
SEY				MLR	MLR		
	comp=Z,420nm,19.0s,MS4.7						
SEY				MLR	MLR		
	comp=N,370nm,17.0s,MS4.8						
SEY				MLR	MLR		
	comp=E,400nm,19.0s,MS4.8						
LSZ	**Lusaka**	**69.22**	**250**	*e*P	**P**	**06 48 07.3**	**+1.3**
LSZ				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
LSZ	**Lusaka**	**69.22**	**250**	*e*P	**P**	**06 48 07.3**	**+1.3**
	comp=Z,12nm,1.4s,mb4.7						
JOF	**Joensuu**	**70.95**	**334**	*e*p	**P**	**06 48 13.8**	**-2.0**
KAF	**Kangasniemi**	**72.89**	**333**	*e*p	**P**	**06 48 25.0**	**-2.3**
LBTB	**Lobatse**	**74.18**	**241**	*e*P	**P**	**06 48 36.9**	**+1.3**
LBTB				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
LBTB	**Lobatse**	**74.18**	**241**	*e*P	**P**	**06 48 36.9**	**+1.4**
	comp=Z,9.4nm,0.8s,mb4.8						
OKC	**Ostrava-Krasne**	**75.08**	**319**	*e*P	**P**	**06 48 40.1**	**-0.1**
BILL	**Bilibino**	**76.20**	**22**	*e*P	**P**	**06 48 45.8**	**-0.4**
BILL				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9						
BILL	**Bilibino**	**76.20**	**22**	*e*P	**P**	**06 48 45.8**	**-0.4**
	comp=Z,22nm,1.4s,mb4.9						
DPC	**Dobruska-Polom**	**76.29**	**320**	*e*P	**P**	**06 48 47.6**	**+0.5**
UPC	**Upice**	**76.50**	**320**	*e*P	**P**	**06 48 51.1**	**+2.8**
PRU	**Pruhonice**	**77.41**	**319**	*e*P	**P**	**06 48 56.1**	**+2.8**
PVCC	**Panska Ves**	**77.42**	**320**	*e*P	**P**	**06 48 57.4**	**+4.0**
BRG	**Berggiesshubel**	**77.84**	**320**	*e*P	**P**	**06 48 56.0**	**+0.3**
BRG				*i*		06 48 59.7	
BRG				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.8						
BRG	**Berggiesshubel**	**77.84**	**320**	*e*P	**P**	**06 48 56.0**	**+0.3**
	comp=Z,16nm,1.4s,mb4.8						
BRG				*i*		06 48 59.7	
KHC	**Kasperske Hory**	**78.00**	**319**	*e*P	**P**	**06 48 56.7**	**+0.1**
MAW	**Mawson**	**78.42**	**192**	*e*P	**P**	**06 48 58.3**	**-0.2**
MAW				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MAW	**Mawson**	**78.42**	**192**	*e*P	**P**	**06 48 58.3**	**-0.2**
	comp=Z,6.7nm,0.8s,mb4.6						
CLL	**Collm**	**78.45**	**321**	*e*P	**P**	**06 49 03.0**	**+4.0**
CLL	**Collm**	**78.45**	**321**	P	**P**	**06 48 59.0**	**0.0**
NKC	**Novy Kostel**	**78.77**	**320**	*e*P	**P**	**06 49 05.7**	**+4.9**
GRA1	**Grafenberg Arr**	**79.55**	**319**	*e*P	**P**	**06 49 04.9**	**-0.2**
	comp=Z,9.0nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	**79.55**	**319**	*e*P	**P**	**06 49 04.9**	**-0.2**
GRF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	**79.55**	**319**	*e*P	**P**	**06 49 04.9**	**-0.2**

GRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
GRF Grafenberg Arr 79.55 319 *e*P **P 06 49 04.9 -0.2**
comp=Z,9.0nm,1.1s,mb4.6
NB2 NORSAR Subarra 79.83 331 P **P 06 49 05.6 -0.7**
comp=Z,3.0nm,0.7s,mb4.3,baz=95,slow=5.3
NB2 NORSAR Subarra 79.83 331 P **P 06 49 05.6 -0.7**
NB2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LPG La Plagne 82.70 315 *e*P **P 06 49 21.7 0.0**
comp=Z,16nm,0.9s,mb4.8
LPG La Plagne 82.70 315 *e*P **P 06 49 21.7 0.0**
LPG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
TNA Tin City 86.28 24 *e*P **P 06 49 39.9 +0.7**
IMA Indian Mountai 91.73 22 *e*P **P 06 50 06.6 +1.6**
INK Inuvik 97.11 16 *e*P **P 06 50 29.6 0.0**
INK pmax pmax
comp=Z,10.0nm,1.4s
INK Inuvik 97.11 16 *e*P **P 06 50 29.6 0.0**
comp=Z,9.9nm,1.4s,mb5.0
RES Resolute Bay 97.52 2 *e*P **P 06 50 32.1 +0.8**
RES *e**PP pP 06 50 38.3 -1.6
RES pmax pmax
comp=Z,5.0nm,0.9s,mb5.0
RES Resolute Bay 97.52 2 *e*P **P 06 50 32.1 +0.8**
comp=Z,5.2nm,0.9s,mb5.1
RES *e*pP pP 06 50 38.3 -1.7
LAO LASA Array 122.84 17 *e*PKPdf PKPdf 06 55 55.6 -2.0
SNOW Snow King Moun 124.24 22 *e*PKPdf PKPdf 06 55 58.5 -2.0
MSU Marysvale 127.86 26 *e*PKPdf PKPdf 06 56 06.6 -1.0
ANMO Albuquerque 133.28 23 *e*PKPdf PKPdf 06 56 16.4 -1.6
GDL2 Guadalupe Moun 136.52 23 *e*PKPdf PKPdf 06 56 22.5 -1.5
PLCA Paso Flores 144.44 200 *e*PKPdf PKPdf 06 56 34.2 -3.7

IGQ ***30*** *06:49:23.5, 0.72S×81.40W, h14km±6km, mb4.8, Error ellipse: s-maj=7.4km s-min=4.1km az=25.4*
NEIC ***30*** *06:49:29.9±0.6, 0.86S×80.98W, h10km, mb4.3/13, Error ellipse: s-maj=13.4km s-min=9.8km az=54.0*
ISC 30 06:49:27.6±1.5, 0.82S±0.06×81.13W±0.03, h3km±11km, n46, σ1§11/48, mb4.5/12, 20C-1D, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.62**	**112**	⇑P	**Pg**	**06 49 39.6**	**-0.5**
JAMA	**Jama**	**1.07**	**59**	⇑P	**Pb**	**06 49 47.8**	**-0.5**
JAMA				S	**Sb**	**06 50 02.7**	**+0.1**
MAGD	**Magdalena**	**1.54**	**61**	⇑P	**Pn**	**06 49 56.1**	**+0.1**
IGUA	**Igualata**	**2.58**	**105**	⇑P	**Pn**	**06 50 11.0**	**+0.2**
JUA2	**San Juan 2**	**2.59**	**77**	⇑P	**Pn**	**06 50 10.4**	**-0.6**
TERV	**Terraza Guagua**	**2.60**	**76**	⇑P	**Pn**	**06 50 10.3**	**-0.9**
PINO	**Pino**	**2.60**	**75**	⇑P	**Pn**	**06 50 10.2**	**-1.0**
GGP	**Refugio Guagua**	**2.61**	**76**	P	**Pn**	**06 50 10.7**	**-0.6**
JOR1	**San Jorge 1**	**2.62**	**72**	⇑P	**Pn**	**06 50 09.1**	**-2.3**
MARY	**Rancho Maria**	**2.64**	**88**	P	**Pn**	**06 50 13.1**	**+1.3**
YANA	**Yana**	**2.65**	**75**	⇑P	**Pn**	**06 50 10.7**	**-1.1**
NAS1	**Nasa**	**2.65**	**86**	⇑P	**Pn**	**06 50 12.7**	**+0.7**
CUSU	**Cusua**	**2.72**	**103**	P	**Pn**	**06 50 13.5**	**+0.6**
JUIV	**Juive**	**2.73**	**103**	⇓P	**Pn**	**06 50 13.4**	**+0.4**
VC1	**Cotopaxi 1**	**2.73**	**86**	⇑P	**Pn**	**06 50 13.9**	**+0.9**
PISA	**Pisayambo**	**2.75**	**95**	P	**Pn**	**06 50 13.9**	**+0.6**
RETU	**Refugio**	**2.75**	**103**	P	**Pn**	**06 50 14.3**	**+1.0**
ARRY	**Arrayan**	**2.76**	**104**	⇑P	**Pn**	**06 50 13.7**	**+0.3**
TAMB	**Tambo**	**2.76**	**88**	⇑P	**Pn**	**06 50 14.1**	**+0.6**
PATA	**Patacocha**	**2.78**	**104**	P	**Pn**	**06 50 14.7**	**+1.0**
ULBA	**Ulba**	**2.79**	**103**	⇑P	**Pn**	**06 50 14.3**	**+0.5**
OTAV	**Otavalo**	**2.87**	**69**	⇑*i*Pn	**Pn**	**06 50 13.6**	**-1.5**
OTAV				*e*Sn	**Sn**	**06 50 49.0**	**-1.5**
ANTI	**Antisana**	**2.99**	**83**	⇑P	**Pn**	**06 50 17.5**	**+0.8**
COTA	**Cotacachi**	**3.01**	**68**	⇑P	**Pn**	**06 50 16.2**	**-0.8**
CAYR	**Refugio Cayamb**	**3.23**	**75**	⇑P	**Pn**	**06 50 21.0**	**+0.9**
CAYA	**Cayambe**	**3.26**	**74**	⇑P	**Pn**	**06 50 21.2**	**+0.7**
CAYA				S	**Sn**	**06 51 01.2**	**+0.9**
CONE	**Cono NE Rev Vo**	**3.56**	**78**	⇑P	**Pn**	**06 50 27.5**	**+2.7**
PAYG	**Puerto Ayora**	**9.16**	**271**	*e*Pn	**P**	**06 51 43.7**	**+0.1**
NNA	**Nana** 44nm,1.1s	**11.89**	**159**	*e*Pn	**P**	**06 52 18.4**	**-2.6**
SDV	**Santo Domingo** 40nm,0.8s	**14.22**	**47**	*e*Pn	**P**	**06 52 51.7**	**-0.5**
SDV				*e*		06 52 58.8	
LPAZ	**La Paz** 7.2nm,0.9s	**20.01**	**141**	*e*P	**P**	**06 54 02.1**	**-2.4**
TEIG	**Tepich** 1.6nm,0.5s,mb3.7	**22.05**	**342**	*e*P	**P**	**06 54 25.9**	**+0.5**
LVC	**Limon Verde** 11nm,1.1s,mb4.3	**24.71**	**152**	P	**P**	**06 54 51.2**	**-0.2**
JCT	**Junction City** 11nm,0.7s,mb4.9	**35.84**	**332**	*e*P	**P**	**06 56 27.4**	**-3.2**
WMOK	**Wichita Mounta** 6.7nm,1.1s,mb4.3	**39.04**	**337**	*e*P	**P**	**06 56 57.9**	**+0.5**
CCM	**Cathedral Cave**	**39.79**	**347**	*e*P	**P**	**06 57 05.7**	**+2.1**
AMTX	**Amarillo** 13nm,1.3s,mb4.5	**40.39**	**334**	P	**P**	**06 57 08.0**	**-0.5**
KSU1	**Kansas State U**	**42.19**	**342**	*e*P	**P**	**06 57 24.0**	**+0.7**
ANMO	**Albuquerque** 4.2nm,0.8s,mb4.2	**42.75**	**329**	*e*P	**P**	**06 57 28.5**	**+0.5**
SDCO	**Great Sand Dun** 12nm,1.2s,mb4.5	**44.49**	**332**	*e*P	**P**	**06 57 42.3**	**+0.2**
BW06	**Boulder Array** 6.0nm,1.6s,mb4.4	**50.36**	**333**	P	**P**	**06 58 28.1**	**+0.2**
ULM	**Lac du Bonnet** 17nm,1.3s,mb4.8	**52.41**	**348**	*e*P	**P**	**06 58 41.2**	**-2.2**
HLID	**Hailey** 2.3nm,0.9s,mb4.1	**53.28**	**330**	*e*P	**P**	**06 58 49.7**	**-0.3**
WVOR	**Wild Horse Val** 11nm,1.3s,mb4.7	**54.71**	**326**	P	**P**	**06 59 03.1**	**+2.6**
FCC	**Fort Churchill** 32nm,1.6s,mb5.1	**60.28**	**352**	*e*P	**P**	**06 59 36.4**	**-3.2**
FCC				*e*pP	pP	06 59 40.7	0.0
MBWA	**Marble Bar**	**150.12**	**222**	PKPdf	PKPdf	07 09 19.3	+1.5

CASC 30 06:54:33.9±2.3, 8.41N×82.83W, h10km, MD4.0, 8C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.38**	**85**	⇓*i*P	Pg	06 54 41.6	0.0
ACR	**Cerro Adams**	**0.41**	**306**	⇑*i*P	Pg	06 54 41.7	-0.7
ACR				*e*S	Sg	06 54 49.3	+1.2
PTP1	**Petroterminal**	**0.45**	**117**	⇑*i*P	Pg	06 54 39.0	-3.9
CNI	**Changuinola**	**1.05**	**17**	⇓*e*P	Pb	06 54 53.4	-0.3
BUS	**Buena Vista**	**1.47**	**321**	⇑*e*P	Pn	06 54 58.6	-1.9
BUS				*e*S	Sb	06 55 19.1	-0.2
LCR2	**La Lucha 2**	**1.76**	**319**	*e*P	Pn	06 55 03.0	-1.8
LCR2				*e*S	Sn	06 55 29.1	+1.7
ICR	**Volcan Irazu**	**1.85**	**328**	⇓*e*P	Pn	06 55 05.1	-0.9
ICR				*e*S	Sn	06 55 30.2	+0.6
LAJ	**Bijagual**	**1.93**	**319**	⇑*e*P	Pn	06 55 08.2	+1.0
LAJ				*e*S	Sn	06 55 37.3	+5.6
SJS	**Escuela Geolog**	**1.94**	**322**	*e*P	Pn	06 55 06.3	-1.1
SJS				*e*S	Sn	06 55 32.2	+0.1
PRS1	**Puriscal**	**2.14**	**317**	⇑*e*P	Pn	06 55 08.3	-2.0
PRS1				*e*S	Sn	06 55 36.6	-0.5
CGA2	**Cerro Gallo 2**	**2.27**	**315**	*e*P	Pn	06 55 11.6	-0.5
CGA2				*e*S	Sn	06 55 42.5	+2.1
TRTC	**Tortuguero**	**2.33**	**338**	⇑*e*P	Pn	06 55 12.2	-0.6
TRTC				*e*S	Sn	06 55 41.3	-0.4
AZU	**Azuero**	**2.60**	**103**	⇑*e*P	Pn	06 55 15.1	-1.7
JCR	**Jicaral**	**2.67**	**303**	⇓*e*P	Pn	06 55 18.4	+0.6
FORC	**Fortuna**	**2.74**	**319**	⇑*e*P	Pn	06 55 19.1	+0.4
FORC				*e*S	Sn	06 55 53.8	+1.6
VCR	**Vista de Mar**	**3.25**	**302**	*e*P	Pn	06 55 25.5	-0.5
UPA	**Univ. de Panam**	**3.31**	**80**	*e*P	Pn	06 55 26.9	0.0

NEIC ***30*** *06:56:51.8±1.0, 8.08N×94.18E, mb4.7/17, Error ellipse: s-maj=26.3km s-min=14.3km az=131.0*
BJI ***30*** *06:56:53.6, 7.73N×94.03E, h50km, mB5.3, mb4.5, Ms4.7, Msz4.3*
ISC 30 06:56:50.5±0.7, 8.12N±0.09×94.11E±0.09, h21km, h21km±1.5km: pP-P, n49, σ0§84/49, mb4.7/23, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.30**	**24**	P	**P**	**06 59 35.1**	**+1.0**
HYB	**Hyderabad**	**17.75**	**303**	*e*P	**P**	**07 01 01.0**	**+2.7**
HYB	**Hyderabad**	**17.75**	**303**	*i*P	**P**	**07 01 01.0**	**+2.7**
HYB				*e*S	**S**	**07 04 12.0**	**-1.1**
JIRN	**Jiri** 131nm,1.0s	**20.83**	**340**	*e*P	**P**	**07 01 34.3**	**+0.8**
PKI	**Pulchoki** 123nm,1.2s,mb5.1	**21.03**	**338**	*e*P	**P**	**07 01 35.7**	**+0.2**
GUN	**Gumba** 193nm,1.1s,mb5.3	**21.17**	**339**	*e*P	**P**	**07 01 37.6**	**+0.7**
DMN	**Daman** 138nm,1.0s,mb5.2	**21.17**	**337**	*e*P	**P**	**07 01 37.7**	**+0.7**
KKN	**Kakani** 95nm,0.9s,mb5.1	**21.27**	**338**	*e*P	**P**	**07 01 38.8**	**+0.8**
GKN	**Gorkha** 84nm,0.8s,mb5.2	**21.71**	**337**	*e*P	**P**	**07 01 42.7**	**+0.3**
KOLN	**Koldanda** 123nm,1.1s,mb5.2	**21.93**	**334**	*e*P	**P**	**07 01 45.2**	**+0.6**
AAK	**Ala-Archa** 7.7nm,1.0s,mb4.4	**38.47**	**337**	*e*P	**P**	**07 04 10.6**	**-2.3**
SNY	**Shenyang**	**42.49**	**33**	⇓P	**P**	**07 04 46.3**	**+0.2**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4						
KURK	**Kurchatov**	**44.37**	**346**	*e*P	**P**	**07 05 00.3**	**-0.9**
	comp=Z,23nm,1.1s,mb4.8						
RAYN	**Ar Rayn**	**48.95**	**294**	P	**P**	**07 05 39.8**	**+2.0**
	comp=Z,106nm,0.6s,SNR=9.7						
MBAR	**Mbarara**	**63.75**	**265**	*e*P	**P**	**07 07 24.0**	**+0.2**
	comp=Z,5.1nm,1.0s,mb4.5						
LSZ	**Lusaka**	**69.32**	**250**	*e*P	**P**	**07 07 59.6**	**+0.4**
JOF	**Joensuu**	**70.61**	**334**	*e*p	**P**	**07 08 04.8**	**-1.5**
KOLS	**Kolonicke sedl**	**72.00**	**319**	*e*P	**P**	**07 08 15.0**	**+0.1**
CRVS	**Cervenica-Dubn**	**72.52**	**319**	*i*P	**P**	**07 08 18.1**	**+0.1**
KAF	**Kangasniemi**	**72.56**	**333**	*e*p	**P**	**07 08 16.3**	**-1.6**
OJC	**Ojcow**	**73.77**	**320**	*e*P	**P**	**07 08 24.4**	**-0.8**
LBTB	**Lobatse**	**74.33**	**241**	*e*P	**P**	**07 08 29.7**	**+0.7**
	comp=Z,7.6nm,0.8s,mb4.7						
OKC	**Ostrava-Krasne**	**74.78**	**319**	*e*P	**P**	**07 08 30.6**	**-0.5**
MORC	**Moravsky Berou**	**75.17**	**319**	*e*P	**P**	**07 08 33.0**	**-0.3**
	comp=Z,9.4nm,1.0s,mb4.7						
DPC	**Dobruska-Polom**	**76.00**	**320**	*e*P	**P**	**07 08 38.1**	**+0.1**
UPC	**Upice**	**76.21**	**320**	*e*P	**P**	**07 08 39.2**	**0.0**
PRU	**Pruhonice**	**77.12**	**319**	*e*pP	pP	07 08 51.2	+0.4
PVCC	**Panska Ves**	**77.13**	**320**	*e*P	**P**	**07 08 43.7**	**-0.6**
BRG	**Berggiesshubel**	**77.54**	**320**	*i*P	**P**	**07 08 46.4**	**-0.2**
	comp=Z,8.8nm,1.0s,mb4.6						
BRG				*i*	pP	07 08 53.5	+0.3
GEC2	**GERESS Array S**	**77.62**	**318**	*e*P	**P**	**07 08 47.2**	**+0.1**
	comp=Z,5.0nm,0.8s,mb4.5						
KHC	**Kasperske Hory**	**77.71**	**318**	*e*P	**P**	**07 08 46.9**	**-0.7**
KHC				*e*	pP	07 08 52.0	-2.1
KHC	**Kasperske Hory**	**77.71**	**318**	*e*P	**P**	**07 08 46.9**	**-0.7**
KHC				pP	pP	07 08 52.0	-2.1
RUE	**Ruedersdorf**	**77.72**	**322**	*e*P	**P**	**07 08 46.9**	**-0.6**
	comp=Z,8.4nm,0.8s,mb4.7						
CLL	**Collm**	**78.15**	**321**	*e*P	**P**	**07 08 50.0**	**+0.1**
CLL				*e*	pP	07 08 57.0	+0.5
CLL	**Collm**	**78.15**	**321**	P	**P**	**07 08 50.0**	**+0.1**
CLL				*e**PP	pP	07 08 57.0	+0.5
WET	**Wettzell**	**78.17**	**318**	*e*P	**P**	**07 08 50.2**	**+0.1**
	comp=Z,4.0nm,0.9s,mb4.3						
NKC	**Novy Kostel**	**78.47**	**320**	*e*P	**P**	**07 08 53.6**	**+1.9**
MOX	**Moxa**	**79.01**	**320**	*e*P	**P**	**07 08 54.7**	**0.0**
MOX	**Moxa**	**79.01**	**320**	*i*P	**P**	**07 08 54.7**	**0.0**
FUR	**Furstenfeldbru**	**79.22**	**317**	*e*P	**P**	**07 08 55.5**	**-0.4**
GRA1	**Grafenberg Arr**	**79.26**	**319**	*e*P	**P**	**07 08 56.6**	**+0.6**
	comp=Z,7.0nm,0.9s,mb4.6						
GRA1				*e*pP	pP	07 09 03.4	+0.8
GRF	**Grafenberg Arr**	**79.26**	**319**	*e*P	**P**	**07 08 56.6**	**+0.6**
	comp=Z,7.0nm,0.9s,mb4.6						
GRF				*e*pP	pP	07 09 03.4	+0.8
NB2	**NORSAR Subarra**	**79.50**	**331**	P	**P**	**07 08 56.0**	**-1.1**
	comp=Z,1.6nm,0.5s,mb4.2,baz=97,slow=5.0						
CLZ	**Clausthal**	**79.80**	**321**	*e*P	**P**	**07 08 59.0**	**+0.1**
	comp=Z,4.0nm,0.8s,mb4.4						
TNS	**Taunus Mts**	**81.05**	**320**	*e*P	**P**	**07 09 05.7**	**+0.2**
BFO	**Black Forest**	**81.19**	**318**	*e*P	**P**	**07 09 06.0**	**-0.3**
	comp=Z,4.0nm,1.2s,mb4.2						
LPG	**La Plagne**	**82.42**	**315**	*e*P	**P**	**07 09 12.7**	**-0.1**
	comp=Z,22nm,0.9s,mb4.8						
INK	**Inuvik**	**96.77**	**16**	*e*P	**P**	**07 10 20.2**	**-0.5**
	comp=Z,6.9nm,1.3s,mb4.9						
RES	**Resolute Bay**	**97.16**	**2**	*e*P	**P**	**07 10 22.4**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.5						

MOS ***30*** *07:02:23.3±1.3, 13.11N×93.01E, h33km, mb5.2/58, MS4.9/13, Error ellipse: s-maj=9.6km s-min=5.1km az=120.1*
BJI ***30*** *07:02:25.1, 13.06N×93.11E, h50km, mB5.2, mb5.0, Ms4.9, Msz4.7*
HRVD ***30*** *07:02:26.7±0.4, 13.20N×92.97E, h23km±1km, MW5.1/53, Centroid moment Tensor Solution. LP body waves: s26,c35;Mantle waves: s53,c92; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.83±.23; $M_{\theta\theta}$1.01±.16; $M_{\phi\phi}$-2.84±.22; $M_{r\theta}$0.78±.26; $M_{\theta\phi}$4.96±.17; $M_{\phi r}$1.43±.33; Best double couple: $M_0$5.685×10^{16} NP1:ϕ_s103°, δ69°, λ14°. NP2:ϕ_s8°, δ77°, λ158°. Principal axes: T 5.065, Plg24°, Azm324°; N 1.239, Plg65°, Azm158°; P -6.305, Plg5°, Azm56°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***30*** *07:02:26.7±1.3, 13.15N×92.93E, h43km±11km, mb4.9/54, MS5.0/8 Error ellipse: s-maj=12.1km s-min=8.4km az=153.0*
ISC 30 07:02:23.7±1.1, 13.20N±0.04×92.94E±0.03, h31km±8km, h28km±4.1km: pP-P, n229, σ1§24/247, mb5.0/71, MS4.7/17, 10C-12D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.55**	**187**	*e*P	**Pn**	**07 02 51.1**	**+1.5**
PBA				*e*S	**Sn**	**07 03 13.3**	**+4.6**
NNT	**Nongplab**	**6.65**	**94**	P	**Pn**	**07 04 02.5**	**+0.6**
NST	**Nakhon Sawan** 115nm,0.6s	**7.39**	**70**	P	**Pn**	**07 04 12.5**	**+0.2**
CM31	**Chiang Mai Arr** 67nm,0.6s	**7.79**	**47**	*e*Pn	**Pn**	**07 04 17.2**	**-0.6**
CHG	**Chiang Mai** 38nm,1.1s	**8.03**	**45**	⇓P	**P**	**07 04 19.4**	**-1.8**
NANT	**Nan** 90nm,1.0s	**9.31**	**52**	⇑P	**P**	**07 04 38.0**	**-0.9**
BWNR	**Bhubaneshwar**	**9.82**	**317**	*e*P	**P**	**07 04 43.2**	**-2.9**
BWNR				*e*S	**Sn**	**07 06 24.1**	**-12**
BWNR				*i*		07 06 24.2	
BWNR				*e*		07 06 30.6	
	comp=N,419nm,0.4s						
BWNR				*e*		07 06 30.8	
	comp=E,2μm,0.5s						
KKTK	**Khon Kaen**	**10.05**	**71**	⇓P	**P**	**07 04 51.5**	**+2.2**
	comp=E,3μm,1.0s						
CAL	**Calcutta**	**10.27**	**335**	*e*P	**P**	**07 04 47.2**	**-5.1**
CAL				*e*		07 06 41.3	
VIS	**Vishakhapatnam**	**10.30**	**297**	*e*P	**P**	**07 04 51.1**	**-1.6**
VIS				*e*S	**S**	**07 06 38.2**	**-10**
VIS				*e*		07 06 42.4	
	comp=N,525nm,0.9s						
VIS				*e*		07 06 42.9	
	comp=E,324nm,0.6s						
SHL	**Shillong**	**12.34**	**356**	*e*P	**P**	**07 05 15.4**	**-4.9**
PALK	**Pallekele**	**13.41**	**245**	*e*Pn	**P**	**07 05 33.4**	**-1.1**
	comp=E,11nm,0.8s						
BLSP	**Bilaspur**	**13.59**	**312**	*e*P	**P**	**07 05 36.0**	**-1.0**
BLSP				*i*		07 07 58.0	
HYB	**Hyderabad**	**14.50**	**289**	*e*P	**P**	**07 05 49.0**	**+0.1**
HYB				*e*		07 08 30.0	
HYB	**Hyderabad**	**14.50**	**289**	*e*P	**P**	**07 05 49.0**	**+0.1**
HYB				*e*S	**S**	**07 08 20.0**	**-9.4**
HYB				*e*		07 08 30.0	
HYB	**Hyderabad**	**14.50**	**289**	*i*P	**P**	**07 05 49.0**	**+0.1**
HYB				*e*		07 08 20.0	
HYB				*e*S	**S**	**07 08 30.0**	**+0.6**
KMI	**Kunming**	**15.03**	**36**	P	**P**	**07 05 57.9**	**+2.0**
KMI				S	**S**	**07 08 44.4**	**+2.4**
KMI				pmax	pmax		
	comp=Z,70nm,1.1s						
KMI	**Kunming**	**15.03**	**36**	P	**P**	**07 05 57.9**	**+2.0**
	comp=Z,70nm,1.1s						
KMI				pP		07 06 03.4	
KMI				S	**S**	**07 08 44.4**	**+2.4**
KMI				SSS	SSS	07 09 14.4	+1.4
KOD	**Kodaikanal**	**15.44**	**261**	*e*P	**P**	**07 06 00.3**	**-0.9**
KOD				*e*		07 06 05.1	
	comp=Z,67nm,1.9s						
KOD				*e*		07 08 36.0	
KOD				*e*S	**S**	**07 08 53.5**	**+1.9**
JIRN	**Jiri**	**15.71**	**337**	*e*P	**P**	**07 06 03.4**	**-1.2**
PKI	**Pulchoki**	**15.94**	**335**	*e*P	**P**	**07 06 06.3**	**-1.3**
	comp=Z,78nm,0.4s						
GUN	**Gumba**	**16.05**	**337**	*e*P	**P**	**07 06 07.9**	**-1.1**
DMN	**Daman**	**16.10**	**334**	*e*P	**P**	**07 06 08.4**	**-1.2**
	comp=Z,175nm,0.7s						
KKN	**Kakani**	**16.18**	**335**	*e*P	**P**	**07 06 10.2**	**-0.5**
LSA	**Lhasa**	**16.50**	**354**	*e*P	**P**	**07 06 19.0**	**+4.3**
GKN	**Gorkha**	**16.64**	**334**	*e*P	**P**	**07 06 15.6**	**-0.9**
	comp=Z,103nm,0.3s						
KOLN	**Koldanda**	**16.92**	**330**	*e*P	**P**	**07 06 18.8**	**-1.2**
	comp=Z,117nm,0.7s						
QIZ	**Qiongzhong**	**17.23**	**68**	*e*P	**P**	**07 06 25.8**	**+1.8**
BHPL	**Bhopal**	**17.79**	**306**	*e*P	**P**	**07 06 32.0**	**+1.2**
BHPL				*e*S	**S**	**07 09 49.2**	**+3.7**
BHPL				*e*		07 10 43.2	
	comp=E,56nm,0.5s						
BHPL				*e*		07 10 43.3	
	comp=N,57nm,1.1s						
KAD	**Karad**	**18.55**	**285**	*e*P	**P**	**07 06 41.8**	**+1.4**
KAD				*e*		07 09 52.7	
KAD				*e*S	**S**	**07 10 10.1**	**+7.3**
GOA	**Goa**	**18.66**	**279**	*e*P	**P**	**07 06 43.5**	**+1.8**
GOA				*e*		07 10 03.1	
BOM	**Bombay**	**20.15**	**289**	*e*P	**P**	**07 06 59.6**	**+1.2**
BOM				*e*		07 07 04.1	
	comp=Z,198nm,1.5s						
BOM				*e*		07 10 30.0	
BOM				*e*S	**S**	**07 10 43.7**	**+5.9**
SMLA	**Simla**	**23.01**	**323**	*e*P	**P**	**07 07 44.5**	**+17**
SMLA				*e*		07 07 47.2	
	comp=Z,395nm,1.2s						
SMLA				*e*S	S	07 11 55.7	+24
LZH	**Lanzhou**	**24.81**	**21**	⇓*i*P	**P**	**07 07 45.5**	**+0.9**
LZH				AP		07 07 53.0	
LZH				XS		07 12 28.0	
LZH				AMB	AMB		
	comp=Z,97nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,250nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,13.6s						
LZH				LR	LR		
	comp=Z,2μm,14.5s,MS4.7						
LZH	**Lanzhou**	**24.81**	**21**	⇓*i*P	**P**	**07 07 45.5**	**+0.9**
LZH				*PP		07 07 53.0	
LZH				*SP		07 07 56.5	
LZH						07 08 29.0	
LZH				pmax	pmax		
	comp=Z,97nm,1.5s,mb5.1						
LZH				MLR	MLR		
	comp=Z,2μm,14.5s,MS4.7						
LZH	**Lanzhou**	**24.81**	**21**	⇓*i*P	**P**	**07 07 45.5**	**+0.9**
	comp=Z,97nm,1.5s,mb5.1						
LZH				pP		07 07 53.0	
LZH				sP		07 07 56.5	
LZH				PP	PP	07 08 29.0	+7.3
LZH				S	**S**	**07 12 14.0**	**+12**
LZH				sS		07 12 28.0	
LZH				SS	SS	07 13 26.0	+25
LZH				LR	LR		
	comp=Z,2μm,14.5s,MS4.7						
XAN	**Xi'an**	**25.32**	**32**	P	**P**	**07 07 48.5**	**-1.0**
XAN				S	**S**	**07 12 12.5**	**+1.6**
XAN				AMB	AMB		
	comp=Z,124nm,0.8s,mb5.5						
XAN				LR	LR		
	comp=N,717nm,17.0s,MS4.5						
XAN				LR	LR		
	comp=E,1μm,17.4s,MS4.5						
XAN				LR	LR		
	comp=Z,1μm,17.8s,MS4.4						
NJ2	**Nanjing**	**30.26**	**47**	*e*P	**P**	**07 08 34.3**	**0.0**
NJ2				AP	pP	07 08 43.0	-0.4
NJ2				XP	sP	07 08 48.5	+1.1
NJ2				PP	PP	07 09 33.3	-0.3
NJ2				PPP	PPP	07 09 48.5	+0.6
NJ2				S	**S**	**07 13 28.0**	**-2.8**
NJ2				AMB	AMB		
	comp=Z,120nm,0.9s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,410nm,10.8s						
NJ2				LR	LR		
	comp=N,3μm,15.1s,MS5.2						
NJ2				LR	LR		
	comp=E,2μm,13.8s,MS5.2						
NJ2				LR	LR		
	comp=Z,4μm,13.4s,MS5.2						
WMQ	**Urumqi**	**30.85**	**353**	*e*P	**P**	**07 08 41.3**	**+2.0**
WMQ				PP	PP	07 09 43.5	+2.5
WMQ				PCP	PcP	07 11 37.0	+1.1
WMQ				S	**S**	**07 13 44.0**	**+4.1**
WMQ				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,171nm,5.4s						
WMQ				LR	LR		
	comp=N,1μm,16.3s,MS4.8						
WMQ				LR	LR		
	comp=E,1μm,17.4s,MS4.8						
WMQ				LR	LR		
	comp=Z,2μm,18.2s,MS4.8						
SSE	**Sheshan**	**31.50**	**51**	P	**P**	**07 08 41.0**	**-4.3**
SSE				S	**S**	**07 13 45.3**	**-5.0**
SSE				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,140nm,4.6s						
SSE				LR	LR		
	comp=N,463nm,21.8s,MS4.4						
SSE				LR	LR		
	comp=E,707nm,21.7s,MS4.4						
SSE				LR	LR		
	comp=Z,588nm,24.1s,MS4.2						
SSE	**Sheshan**	**31.50**	**51**	P	**P**	**07 08 40.9**	**-4.4**
	comp=Z,25nm,0.7s,mb5.2						
SSE				sP	sP	07 08 53.8	-4.6
SSE				S	**S**	**07 13 45.3**	**-5.0**
SSE				sS		07 14 00.4	
SSE				LR	LR		
	comp=Z,590

SNY			AP	pP	07 10 00.8	+2.3
SNY			XP	sP	07 10 05.0	+2.7
SNY			S	**S**	**07 15 46.5**	**+0.7**
SNY			XS		07 16 03.5	
SNY			AMB	AMB		
	comp=Z,30nm,1.2s,mb4.9					
SNY			LR	LR		
	comp=N,990nm,16.9s,MS4.8					
SNY			LR	LR		
	comp=E,690nm,19.6s,MS4.8					
SNY			LR	LR		
	comp=Z,1μm,15.7s,MS4.8					
KURK	**Kurchatov**	**39.19 346**	P	**P**	**07 09 51.7**	**+1.1**
KURK			pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7					
KURK	**Kurchatov**	**39.19 346**	*e*P	**P**	**07 09 51.5**	**+0.9**
	comp=Z,16nm,0.8s,mb4.8					
TLY	**Talaya**	**39.34 11**	P	**P**	**07 09 54.0**	**+2.1**
	comp=Z,68nm,0.9s,mb5.4,SNR=11					
TLY	**Talaya**	**39.34 11**	*e*P	**P**	**07 09 53.0**	**+1.1**
TLY			*e*		07 18 41.9	
TLY			pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6					
TLY			MLR	MLR		
	comp=Z,662nm,20.0s,MS4.5					
TLY	**Talaya**	**39.34 11**	*e*P	**P**	**07 09 53.4**	**+1.6**
	comp=Z,13nm,0.9s,mb4.7					
KS15	**Wonju Array Si**	**39.39 46**	*e*P	**P**	**07 09 52.2**	**-0.3**
NVS	**Novosibirsk**	**42.24 352**	*e*P	**P**	**07 10 14.7**	**-0.9**
NVS			*e*		07 12 12.9	
NVS			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3					
NVS			pmax	pmax		
	comp=N,6.0nm,0.8s					
BVA0	**Borovoye Array**	**43.60 340**	P	**P**	**07 10 27.3**	**+0.5**
BVA0			pmax	pmax		
	comp=Z,2.0nm,1.0s					
BRVK	**Borovoye**	**43.67 340**	*e*P	**P**	**07 10 27.5**	**+0.2**
BRVK			pmax	pmax		
	comp=Z,59nm,1.1s,mb5.2					
BRVK	**Borovoye**	**43.67 340**	*e*P	**P**	**07 10 27.5**	**+0.2**
	comp=Z,59nm,1.1s,mb5.2					
CHKZ	**Chkalovo**	**44.08 341**	P	**P**	**07 10 31.6**	**+0.9**
CHKZ			pmax	pmax		
	comp=Z,25nm,0.8s,mb5.0					
MDJ	**Mudanjiang**	**44.20 38**	P	**P**	**07 10 31.8**	**0.0**
MDJ			AMB	AMB		
	comp=Z,12nm,1.5s,mb4.4					
MDJ			AMB	AMB		
	comp=Z,208nm,8.3s					
MDJ			LR	LR		
	comp=N,619nm,22.1s,MS4.6					
MDJ			LR	LR		
	comp=E,299nm,18.5s,MS4.6					
MDJ			LR	LR		
	comp=Z,623nm,18.7s,MS4.5					
BOD	**Bodaibo**	**47.31 15**	*e*P	**P**	**07 10 55.5**	**-0.7**
KLR	**Kul'dur**	**48.02 34**	*e*P	**P**	**07 10 59.0**	**-2.9**
KLR			MLR	MLR		
	comp=E,1μm,14.0s					
KLR			MLR	MLR		
	comp=Z,2μm,14.0s,MS5.2					
CLNS	**Chul'man**	**49.93 22**	*e*P	**P**	**07 11 15.8**	**-0.7**
CLNS			pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1					
CLNS			pmax	pmax		
	comp=N,11nm,0.8s					
CLNS			pmax	pmax		
	comp=E,11nm,1.2s					
GNI	**Garni**	**49.96 312**	*e*P	**P**	**07 11 19.5**	**+2.5**
GNI			pmax	pmax		
	comp=Z,121nm,1.4s					
GNI	**Garni**	**49.96 312**	*e*P	**P**	**07 11 19.5**	**+2.5**
	comp=Z,121nm,1.4s,mb5.7					
SVE	**Sverdlovsk**	**50.05 337**	*e*P	**P**	**07 11 16.0**	**-1.5**
SVE			pmax	pmax		
	comp=Z,120nm,1.8s,mb5.6					
MSL	**Mosul**	**50.13 306**	*e*P	**P**	**07 11 20.5**	**+2.1**
MUN	**Mundaring**	**50.15 154**	*e*P	**P**	**07 11 17.4**	**-1.2**
	comp=Z,12nm,0.7s,mb5.0					
MUN	**Mundaring**	**50.15 154**	*e*P	**P**	**07 11 17.4**	**-1.2**
MUN			pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0					
ARU	**Arti**	**50.57 336**	P	**P**	**07 11 21.8**	**+0.4**
	comp=Z,118nm,0.7s,mb5.9,SNR=13					
ARU	**Arti**	**50.57 336** ⇓	*i*P	**P**	**07 11 14.7**	**-6.7**
ARU			*e*S	**S**	**07 18 23.7**	**-8.6**
ARU			*e*SS	SS	07 21 59.6	-4.2
ARU			pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0					
ZEI	**Tsey**	**51.42 315**	*e*P	**P**	**07 11 26.7**	**-1.4**
ZEI			*i* *PP	pP	07 11 32.6	-4.9
ZEI			*i*		07 13 24.1	
ZEI			pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0					
WRAB	**Tennant Creek**	**52.38 128**	*e*P	**P**	**07 11 34.8**	**-0.9**
KIV	**Kislovodsk**	**52.65 316**	P	**P**	**07 11 38.4**	**+1.0**
	comp=Z,270nm,0.8s,SNR=8.7					
KIV	**Kislovodsk**	**52.65 316**	*c i*P	**P**	**07 11 38.7**	**+1.3**
KIV			pmax	pmax		
	comp=Z,55nm,1.1s,mb5.4					
KIV	**Kislovodsk**	**52.65 316**	*e*P	**P**	**07 11 38.3**	**+0.9**
	comp=Z,80nm,1.3s,mb5.5					
GOF	**Gofitskoye**	**52.80 317**	*e*P	**P**	**07 11 40.0**	**+1.6**
YSS	**Yuzh-Sakhalins**	**53.43 41** ⇑	*i*P	**P**	**07 11 42.7**	**-0.3**
YSS			pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2					
YSS			MLR	MLR		
	comp=Z,1μm,15.0s,MS5.0					
SOKR	**Solikamsk**	**53.44 338** ⇓	*i*P	**P**	**07 11 41.9**	**-1.1**
SOKR			pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2					
SOC	**Sochi**	**54.58 314**	*e*P	**P**	**07 11 49.6**	**-1.9**
SOC			*e*		07 12 49.1	
SOC			*e*		07 13 52.6	
SOC			*e*PPP	PPP	07 15 08.5	+1.5
SOC			*e*S	**S**	**07 19 24.7**	**-2.5**
SOC			*e*		07 21 39.0	
SOC			*e*SS	SS	07 23 13.3	+3.7
SOC			*e*SSS	SSS	07 25 10.2	+1.6
SOC			pmax	pmax		
	comp=Z,24nm,0.5s,mb5.5					
SOC			pmax	pmax		
	comp=N,34nm,0.8s					
SOC			pmax	pmax		
	comp=E,12nm,0.7s					
YAK	**Yakutsk**	**55.38 20**	*i*P	**P**	**07 11 55.6**	**-1.5**
VOR	**Voronezh**	**57.60 324**	*e*P	**P**	**07 12 13.0**	**-0.1**
VOR			pmax	pmax		
	comp=E,80nm,1.3s					
VOR			pmax	pmax		
	comp=Z,80nm,1.3s,mb5.6					
SIM	**Simferopol'**	**58.82 315**	P	**P**	**07 12 23.4**	**+1.7**
SIM			pmax	pmax		
	comp=Z,33nm,0.8s,mb5.4					
MOS	**Moscow**	**59.96 328**	*e*P	**P**	**07 12 29.9**	**+0.5**
MOS			*e*		07 13 10.1	
MOS			pmax	pmax		
	comp=Z,60nm,1.3s,mb5.5					
OBN	**Obninsk**	**60.29 327** ⇓	*i*P	**P**	**07 12 29.1**	**-2.6**
OBN			*e*	pP	07 12 37.1	-4.2
OBN			*e*		07 14 43.0	
OBN			*e*PPP	PPP	07 16 12.9	-0.3
OBN			pmax	pmax		
	comp=Z,55nm,1.6s,mb5.3					
OBN	**Obninsk**	**60.29 327**	*i* P	**P**	**07 12 29.5**	**-2.2**
TIXI	**Tiksi**	**62.29 12**	*i* P	**P**	**07 12 43.4**	**-1.6**
MA2	**Magadan**	**62.66 29**	*e*P	**P**	**07 12 46.1**	**-1.5**
MA2			pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9					
MA2	**Magadan**	**62.66 29**	*e*P	**P**	**07 12 46.0**	**-1.5**
CFR	**Carcaliu**	**63.02 314** ⇑	P	**P**	**07 12 51.0**	**+0.8**
MBAR	**Mbarara**	**63.14 263**	*e*P	**P**	**07 12 51.9**	**+0.5**
MBAR			pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.7					
MBAR	**Mbarara**	**63.14 263**	*e*P	**P**	**07 12 51.9**	**+0.5**
	comp=Z,9.0nm,1.3s,mb4.7					
VRI	**Vrincioaia**	**64.10 315** ⇓	P	**P**	**07 12 58.7**	**+1.4**
MLR	**Muntele Rosu**	**64.60 314** ⇑	P	**P**	**07 13 02.1**	**+1.6**
BURAR	**Bucovina Array**	**65.36 316** ⇓	P	**P**	**07 13 05.9**	**+0.5**
JOF	**Joensuu**	**65.57 334**	*e*p	**P**	**07 13 05.6**	**-0.9**
LVV	**L'vov**	**66.43 319**	*i* P	**P**	**07 13 11.5**	**-0.7**
LVV			*i*		07 13 17.5	
KWP	**Kalwaria**	**67.26 318**	*e*P	**P**	**07 13 18.0**	**+0.5**
KWP	**Kalwaria**	**67.26 318**	*e*P	**P**	**07 13 18.0**	**+0.5**
KOLS	**Kolonicke sedl**	**67.47 318**	*i* P	**P**	**07 13 19.6**	**+0.8**
SUW	**Suwalki**	**67.54 323**	*e*P	**P**	**07 13 18.8**	**-0.4**
KAF	**Kangasniemi**	**67.55 332**	*e*p	**P**	**07 13 18.0**	**-1.1**
CRVS	**Cervenica-Dubn**	**68.00 318**	*i* P	**P**	**07 13 23.4**	**+1.3**
NIE	**Niedzica**	**68.80 318**	*e*P	**P**	**07 13 28.0**	**+0.9**
OJC	**Ojcow**	**69.19 319**	*e*P	**P**	**07 13 30.2**	**+0.7**
SRO	**Srobarova**	**70.03 316**	*i* P	**P**	**07 13 35.7**	**+1.1**
LSZ	**Lusaka**	**70.03 248**	*e*P	**P**	**07 13 35.6**	**+0.4**
LSZ			pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7					
LSZ	**Lusaka**	**70.03 248**	*e*P	**P**	**07 13 35.6**	**+0.4**
	comp=Z,13nm,1.3s,mb4.7					
OKC	**Ostrava-Krasne**	**70.23 318**	*e*P	**P**	**07 13 36.8**	**+1.0**
OKC			AMS	AMS	08 00 10.0	
MORC	**Moravsky Berou**	**70.62 318**	*e*P	**P**	**07 13 38.9**	**+0.7**
MORC			pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9					
MORC	**Moravsky Berou**	**70.62 318**	*e*P	**P**	**07 13 38.9**	**+0.8**
	comp=Z,12nm,0.8s,mb4.9					
DPC	**Dobruska-Polom**	**71.42 319**	*e*P	**P**	**07 13 44.2**	**+1.2**
DPC			AMS	AMS	07 59 00.0	
	comp=Z,1μm,22.3s					
KSP	**Ksiaz**	**71.46 319**	*e*P	**P**	**07 13 44.4**	**+1.2**
KSP	**Ksiaz**	**71.46 319**	*e*P	**P**	**07 13 44.5**	**+1.2**
UPC	**Upice**	**71.62 319**	*e*P	**P**	**07 13 45.5**	**+1.3**
BOJS	**Bojanci**	**72.10 314**	*e*P	**P**	**07 13 47.2**	**+0.1**
PERS	**Pernice**	**72.19 315**	*e*P	**P**	**07 13 48.0**	**+0.3**
PVCC	**Panska Ves**	**72.55 319**	*e*P	**P**	**07 13 50.7**	**+1.0**
PVCC			AMS	AMS	07 58 50.0	
	comp=Z,1μm,20.3s					
PRU	**Pruhonice**	**72.56 318**	*e*P	**P**	**07 13 50.6**	**+0.8**
PRU			AMS	AMS	07 58 40.0	
	comp=Z,800nm,20.7s					
BRG	**Berggiesshubel**	**72.95 319** ⇑	*i*P	**P**	**07 13 52.9**	**+0.9**
BRG			*e*		07 14 00.2	
BRG			pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9					
BRG	**Berggiesshubel**	**72.95 319** ⇑	*i*P	**P**	**07 13 52.9**	**+0.9**
	comp=Z,13nm,0.9s,mb4.9					
BRG			*e*		07 14 00.2	
BRG			*e*		07 30 47.0	
BRG			*i*		07 31 25.0	
RUE	**Ruedersdorf**	**73.05 321**	*e*P	**P**	**07 13 52.6**	**0.0**
	comp=Z,26nm,0.8s,mb5.2					
GEC2	**GERESS Array S**	**73.12 317**	*e*P	**P**	**07 13 54.0**	**+0.9**
GEC2			pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9					
GEC2	**GERESS Array S**	**73.12 317**	*e*P	**P**	**07 13 54.0**	**+0.9**
	comp=Z,14nm,0.8s,mb4.9					
KHC	**Kasperske Hory**	**73.19 318**	*e*P	**P**	**07 13 54.5**	**+1.0**
KHC			AMS	AMS	08 03 40.0	
	comp=Z,800nm,21.4s					
ROBS	**Robic**	**73.30 315**	*i* P	**P**	**07 13 54.0**	**-0.2**
CLL	**Collm**	**73.54 320** ⇑	*i*P	**P**	**07 13 55.8**	**+0.3**
CLL			pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8					
CLL	**Collm**	**73.54 320** ⇑	*i*P	**P**	**07 13 55.8**	**+0.3**
	comp=Z,15nm,1.1s,mb4.8					
CLL	**Collm**	**73.54 320** ⇑	P	**P**	**07 13 55.8**	**+0.3**
	comp=Z,logA/T=1.1,mb4.8					
WET	**Wettzell**	**73.65 318**	*e*P	**P**	**07 13 57.1**	**+0.9**
WET			pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6					
WET	**Wettzell**	**73.65 318**	*e*P	**P**	**07 13 57.1**	**+0.9**
	comp=Z,6.0nm,0.8s,mb4.6					
NKC	**Novy Kostel**	**73.91 319**	*e*P	**P**	**07 13 58.9**	**+1.3**
NKC			AMS	AMS	07 58 10.0	
	comp=Z,1μm,23.7s					
MOX	**Moxa**	**74.43 319**	*e*P	**P**	**07 14 01.4**	**+0.8**
MOX			MLR	MLR		
	comp=Z,900nm,21.0s,MS5.0					
MOX	**Moxa**	**74.43 319**	*i* P	**P**	**07 14 01.4**	**+0.8**
MOX			L		07 58 31.0	
NB2	**NORSAR Subarra**	**74.55 330**	P	**P**	**07 14 00.5**	**-0.6**
	comp=Z,8.4nm,0.8s,mb4.7,baz=91,slow=5.8					
NB2	**NORSAR Subarra**	**74.55 330**	P	**P**	**07 14 00.5**	**-0.6**
NB2			pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7					
GRA1	**Grafenberg Arr**	**74.72 318**	*e*P	**P**	**07 14 03.7**	**+1.4**
	comp=Z,9.0nm,0.8s,mb4.8					
GRF	**Grafenberg Arr**	**74.72 318**	*e*P	**P**	**07 14 03.7**	**+1.4**
GRF			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8					
GRF	**Grafenberg Arr**	**74.72 318**	*e*P	**P**	**07 14 03.7**	**+1.4**
GRF			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8					
GRF	**Grafenberg Arr**	**74.72 318**	*e*P	**P**	**07 14 03.7**	**+1.4**
	comp=Z,9.0nm,0.8s,mb4.8					
FUR	**Furstenfeldbru**	**74.75 317**	*e*P	**P**	**07 14 03.0**	**+0.4**
CLZ	**Clausthal**	**75.16 320**	*e*P	**P**	**07 14 05.9**	**+1.0**
	comp=Z,14nm,0.8s,mb4.9					
LBTB	**Lobatse**	**75.82 240**	*e*P	**P**	**07 14 09.6**	**+0.4**
LBTB			pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5					
LBTB	**Lobatse**	**75.82 240**	*e*P	**P**	**07 14 09.6**	**+0.4**
	comp=Z,4.0nm,0.6s,mb4.5					
TNS	**Taunus Mts**	**76.47 319**	*e*P	**P**	**07 14 13.3**	**+1.0**
BFO	**Black Forest**	**76.70 317**	*e*P	**P**	**07 14 13.6**	**0.0**
BFO			pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3					
BFO	**Black Forest**	**76.70 317**	*e*P	**P**	**07 14 13.6**	**0.0**
	comp=Z,4.0nm,1.0s,mb4.3					
PGF	**Pioggiola**	**76.77 311**	*e*P	**P**	**07 14 12.3**	**-1.9**
CDF	**Champ du Feu**	**77.40 317**	*e*P	**P**	**07 14 15.7**	**-1.8**
	comp=Z,15nm,1.0s,mb4.6					
CDF	**Champ du Feu**	**77.40 317**	*e*P	**P**	**07 14 15.7**	**-1.8**
CDF			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6					
BOSA	**Boshof**	**77.47 236**	*e*P	**P**	**07 14 19.2**	**+0.9**
BOSA			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8					
BOSA	**Boshof**	**77.47 236**	*e*P	**P**	**07 14 19.2**	**+0.9**
	comp=Z,10nm,0.8s,mb4.8					
HINF	**Hinteralfeld**	**77.74 317**	*e*P	**P**	**07 14 17.6**	**-1.8**
	comp=Z,9.1nm,0.9s,mb4.4					
HINF	**Hinteralfeld**	**77.74 317**	*e*P	**P**	**07 14 17.6**	**-1.8**
HINF			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4					
HAU	**Haudompre**	**78.06 317**	*e*P	**P**	**07 14 19.4**	**-1.7**
	comp=Z,26nm,0.9s,mb4.8					
HAU			*e*R			
	comp=Z,544nm,19.2s					
HAU	**Haudompre**	**78.06 317**	*e*P	**P**	**07 14 19.4**	**-1.7**
HAU			pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9					
HAU			MLR	MLR		
	comp=Z,540nm,19.3s,MS4.9					
LPG	**La Plagne**	**78.07 314**	*e*P	**P**	**07 14 20.3**	**-0.9**
	comp=Z,44nm,0.7s,mb5.2					
LPG	**La Plagne**	**78.07 314**	*e*P	**P**	**07 14 20.3**	**-0.9**
LPG			pmax	pmax		
	comp=Z,22nm,0.7s,mb5.2					
LPL	**La Plagne**	**78.08 314**	*e*P	**P**	**07 14 20.3**	**-1.0**
	comp=Z,47nm,0.7s,mb5.2					
LPL	**La Plagne**	**78.08 314**	*e*P	**P**	**07 14 20.3**	**-1.0**
LPL			pmax	pmax		
	comp=Z,24nm,0.7s,mb5.2					
MBDF	**Montbardon**	**78.14 313**	*e*P	**P**	**07 14 19.7**	**-2.0**
	comp=Z,29nm,1.1s,mb4.8					
MBDF	**Montbardon**	**78.14 313**	*e*P	**P**	**07 14 19.7**	**-2.0**
MBDF			pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8					
BNI	**Bardonecchia**	**78.17 314**	*e*P	**P**	**07 14 22.5**	**+0.7**
BNI			pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8					
BNI	**Bardonecchia**	**78.17 314**	*e*P	**P**	**07 14 22.5**	**+0.7**
	comp=Z,7.7nm,0.7s,mb4.7					
FRF	**La Foret Royal**	**78.37 312**	*e*P	**P**	**07 14 21.5**	**-1.4**
	comp=Z,39nm,0.9s,mb5.0					
FRF	**La Foret Royal**	**78.37 312**	*e*P	**P**	**07 14 21.5**	**-1.4**
FRF			pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0					
CABF	**La Chapelle**	**78.39 315**	*e*P	**P**	**07 14 21.7**	**-1.3**
	comp=Z,63nm,1.2s,mb5.1					
CABF	**La Chapelle**	**78.39 315**	*e*P	**P**	**07 14 21.7**	**-1.3**
CABF			pmax	pmax		
	comp=Z,32nm,1.2s,mb5.1					
ORIF	**Oris-en-Rattie**	**78.75 314**	*e*P	**P**	**07 14 23.9**	**-1.1**
	comp=Z,24nm,1.0s,mb4.8					
ORIF			*e*R			
	comp=Z,1μm,20.8s					
GIVF	**Givet**	**78.80 319**	*e*P	**P**	**07 14 23.8**	**-1.4**
MEZF	**Maizieres J'vi**	**78.86 317**	*e*P	**P**	**07 14 24.2**	**-1.3**
SMRF	**Simiane la Rot**	**79.09 313**	*e*P	**P**	**07 14 25.9**	**-1.0**
BAIF	**Baives**	**79.20 319**	*e*P	**P**	**07 14 26.2**	**-1.1**
	comp=Z,21nm,0.9s,mb4.8					
BAIF	**Baives**	**79.20 319**	*e*P	**P**	**07 14 26.2**	**-1.1**
BAIF			pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8					
VIVF	**Saint-Julien-l**	**79.61 314**	*e*P	**P**	**07 14 28.2**	**-1.4**
	comp=Z,24nm,1.0s,mb4.8					
VIVF	**Saint-Julien-l**	**79.61 314**	*e*P	**P**	**07 14 28.2**	**-1.4**
VIVF			pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8					
SMF	**Signal de Mont**	**79.92 316**	*e*P	**P**	**07 14 29.6**	**-1.7**
	comp=Z,29nm,0.9s,mb4.9					
SMF	**Signal de Mont**	**79.92 316**	*e*P	**P**	**07 14 29.6**	**-1.7**
SMF			pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9					
SSF	**Saint Saulge**	**80.09 316**	*e*P	**P**	**07 14 30.6**	**-1.6**
SSF			pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8					
SSF	**Saint Saulge**	**80.09 316**	*e*P	**P**	**07 14 30.6**	**-1.6**
	comp=Z,12nm,0.9s,mb4.8					
AVF	**Avril sur Loir**	**80.23 316**	*e*P	**P**	**07 14 31.3**	**-1.7**
	comp=Z,22nm,0.9s,mb4.8					
AVF	**Avril sur Loir**	**80.23 316**	*e*P	**P**	**07 14 31.3**	**-1.7**
AVF			pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8					
LASF	**Ste Croix**	**80.30 313**	*e*P	**P**	**07 14 32.5**	**-0.9**
BGF	**Bois d'Agland**	**80.61 316**	*e*P	**P**	**07 14 33.8**	**-1.2**
	comp=Z,17nm,0.8s,mb4.7					
BGF	**Bois d'Agland**	**80.61 316**	*e*P	**P**	**07 14 33.8**	**-1.2**
BGF			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8					
HYF	**Humbligny**	**80.64 316**	*e*P	**P**	**07 14 34.1**	**-1.0**
TCF	**Toulx Ste Croi**	**81.09 315**	*e*P	**P**	**07 14 36.4**	**-1.1**
	comp=Z,17nm,1.0s,mb4.6					
TCF	**Toulx Ste Croi**	**81.09 315**	*e*P	**P**	**07 14 36.4**	**-1.1**
TCF			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6					
CAF	**Calviac**	**81.43 314**	*e*P	**P**	**07 14 38.3**	**-1.0**
	comp=Z,17nm,0.9s,mb4.7					
CAF	**Calviac**	**81.43 314**	*e*P	**P**	**07 14 38.3**	**-1.0**
CAF			pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7					
RJF	**Les Rejaudoux**	**81.74 315**	*e*P	**P**	**07 14 39.2**	**-1.7**
	comp=Z,16nm,0.9s,mb4.6					
RJF			*e*R			
	comp=Z,831nm,21.5s					
RJF	**Les Rejaudoux**	**81.74 315**	*e*P	**P**	**07 14 39.2**	**-1.7**
RJF			pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7					
RJF			MLR	MLR		
	comp=Z,830nm,21.5s,MS5.1					
TNA	**Tin City**	**81.84 25**	*e*P	**P**	**07 14 41.4**	**+0.5**
LDF	**La Druitiere**	**82.24 318**	*e*P	**P**	**07 14 41.9**	**-1.5**
	comp=Z,43nm,1.1s,mb5.0					
LDF	**La Druitiere**	**82.24 318**	*e*P	**P**	**07 14 41.9**	**-1.5**
LDF			pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0					
LFF	**La Frestale**	**82.35 314**	*e*P	**P**	**07 14 43.3**	**-0.8**
	comp=Z,25nm,0.9s,mb4.8					
LFF	**La Frestale**	**82.35 314**	*e*P	**P**	**07 14 43.3**	**-0.8**
LFF			pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8					
FLN	**La Foliniere**	**82.44 318**	*e*P	**P**	**07 14 42.8**	**-1.6**
	comp=Z,55nm,1.3s,mb5.0					
FLN			*e*R			
	comp=Z,1μm,22.0s					
FLN	**La Foliniere**	**82.44 318**	*e*P	**P**	**07 14 42.8**	**-1.6**
FLN			pmax	pmax		
	comp=Z,27nm,1.3s,mb5.0					
FLN			MLR	MLR		
	comp=Z,1μm,22.0s,MS5.1					
MFF	**Saint Martin d**	**82.64 316**	*e*P	**P**	**07 14 44.1**	**-1.4**
	comp=Z,27nm,1.0s,mb5.0					
MFF	**Saint Martin d**	**82.64 316**	*e*P	**P**	**07 14 44.1**	**-1.4**
MFF			pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0					
ETSF	**Etsaut**	**83.67 312**	*e*P	**P**	**07 14 50.3**	**-0.7**
	comp=Z,32nm,1.1s,mb5.0					
ETSF	**Etsaut**	**83.67 312**	*e*P	**P**	**07 14 50.3**	**-0.7**
ETSF			pmax	pmax		
	comp=Z,16nm,1.1s,mb5.1					
SGMF	**Saint Gilles**	**83.89 318**	*e*P	**P**	**07 14 50.7**	**-1.2**
ROSF	**Rostrenen**	**84.34 318**	*e*P	**P**	**07 14 53.0**	**-1.2**
	comp=Z,48nm,1.1s,mb5.2					
ROSF	**Rostrenen**	**84.34 318**	*e*P	**P**	**07 14 53.0**	**-1.2**
ROSF			pmax	pmax		
	comp=Z,24nm,1.1s,mb5.2					
IMA	**Indian Mountai**	**87.16 22**	*e*P	**P**	**07 15 09.3**	**+1.6**
MCK	**McKinley**	**90.06 23**	*e*P	**P**	**07 15 18.2**	**-3.3**
MCK			pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.9					
MCK	**McKinley**	**90.06 23**	*e*P	**P**	**07 15 18.2**	**-3.3**
	comp=Z,7.3nm,1.1s,mb4.9					
THY	**Trims Highway**	**91.44 23**	*e*P	**P**	**07 15 28.3**	**+0.4**
INK	**Inuvik**	**92.22 16**	*e*P	**P**	**07 15 31.5**	**+0.1**
INK			pmax	pmax		
	comp=Z,3.0nm,0.6s					
INK	**Inuvik**	**92.22 16**	*e*P	**P**	**07 15 31.5**	**+0.1**
	comp=Z,3.0nm,0.6s,mb4.8					
DAWY	**Dawson**	**93.32 20**	*e*P	**P**	**07 15 37.6**	**+1.1**
MVU	**Marysvale**	**123.44 24**	*e*PKPdf	PKPdf	07 21 21.7	-1.9
MSU	**Marysvale**	**123.44 24**	*e*PKIKP	PKPdf	07 21 21.6	-2.0
SDV	**Santo Domingo**	**152.66 323**	PKPdf	PKPdf	07 22 13.5	-2.8
SDV			*e*PKPab	PKPab	07 22 32.2	+0.9
LPAZ	**La Paz**	**161.44 258**	*e*PKP2	PKPab	07 23 10.2	+1.5

ISC 30 07:06:16.2±2.6,**8.2S**±0.1×**128.6E**±0.1,**h124**km±28km,**n5**, σ1§00/8,**mb3.6**/1,**1C-1D**,**Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.87**	**140**	⇓ *i*P	**P**	**07 07 42.6**	**+0.7**
	224nm,0.2s						
FITZ	**Fitzroy Crossi**	**10.26**	**196**	⇑ *i*P	**P**	**07 08 40.9**	**-0.3**
	12nm,0.3s						
FITZ				*e*S	**S**	**07 10 34.7**	**+0.1**
WB2	**Warramunga Arr**	**12.94**	**155**	*e*P	**P**	**07 09 15.1**	**-1.4**
WB2				*e*S	**S**	**07 11 37.3**	**-0.

ARRY	Arrayan	2.80	104	⇑P		Pn	07 07 30.8 +0.4
PISA	Pisayambo	2.80	94	P		Pn	07 07 31.8 +1.4
TAMB	Tambo	2.81	87	⇑P		Pn	07 07 31.2 +0.6
PATA	Patacocha	2.82	103	P		Pn	07 07 31.7 +1.0
ULBA	Ulba	2.83	102	⇑P		Pn	07 07 31.4 +0.5
OTAV	Otavalo	2.93	68	Pn		Pn	07 07 30.7 -1.6
OTAV	Otavalo	2.93	68	⇑ePn		Pn	07 07 30.6 -1.7
OTAV				eSn		Sn	07 08 04.8 -3.2
ANTI	Antisana	3.04	83	⇑P		Pn	07 07 34.6 +0.7
COTA	Cotacachi	3.07	68	⇑P		Pn	07 07 33.2 -1.1
CAYR	Refugio Cayamb	3.28	75	⇑P		Pn	07 07 38.7 +1.3
CAYA	Cayambe	3.31	74	⇑P		Pn	07 07 38.3 +0.5
CONE	Cono NE Rev Vo	3.62	78	P		Pn	07 07 43.2 +1.1
PAYG	Puerto Ayora	9.11	271	Pn		P	07 09 00.6 +1.3
PAYG	Puerto Ayora	9.11	271	⇓ePn		P	07 08 59.9 +0.6
	2μm,1.8s						
PAYG				eSn		Sn	07 10 40.8 -2.2
SJS	Escuela Geolog	11.09	345	⇓e		P	07 09 28.6 +2.0
	baz=212,slow=2.8						
SJS				eP			07 09 28.9
SJS				eS		S	07 11 33.3 +1.6
JTS	JuntasAbangare	11.68	341	ePn		P	07 09 33.9 -0.8
	94nm,1.4s						
NNA	Nana	11.88	159	ePn		P	07 09 33.8 -3.4
	51nm,1.0s						
NNA				eSn		S	07 11 43.5 -7.4
SDV	Santo Domingo	14.28	47	ePn		P	07 10 08.6 -0.7
	98nm,0.8s						
SDV				e			07 10 16.2
ARE	Arequipa	18.22	149	eP		P	07 11 04.0 +4.4
ARE				e			07 11 15.0
LPAZ	La Paz	20.02	141	⇑eP		P	07 11 18.3 -2.5
	50nm,1.1s						
RCC	Rio Carpintero	21.40	14	eP		P	07 11 35.2 +0.3
RCC				eS		S	07 15 08.3 -19
	comp=N,7μm,6.2s						
	comp=E,6μm,6.2s						
MASC	Masc	21.97	18	eP		P	07 11 42.4 +1.7
MASC				eS		S	07 15 49.9 +12
	comp=N,6μm,8.2s						
	comp=E,12μm,10.9s						
TEIG	Tepich	22.07	342	eP		P	07 11 41.9 +0.2
	comp=E,158nm,1.7s,mb5.2						
TPP	Pointe-a-Pierr	22.54	60	eP		P	07 11 46.6 0.0
TRN	Trinidad (W)	22.74	59	eP		P	07 11 47.5 -1.1
MGV	Manicaragua	22.85	3	eP		P	07 11 51.4 +1.9
MGV				eS		S	07 15 55.2 +1.0
	comp=N,2μm,2.6s						
	comp=E,2μm,2.6s						
SOR	Soroa	23.56	356	eP		P	07 11 58.8 +2.4
SOR				eS		S	07 16 07.8 +1.0
	comp=N,9μm,6.9s						
	comp=E,10μm,6.9s						
SJG	San Juan	23.95	37	eP		P	07 11 58.5 -1.7
	comp=E,448nm,1.8s,mb5.6						
LVC	Limon Verde	24.71	152	⇑eP		P	07 12 07.2 -0.4
	comp=E,161nm,1.6s,mb5.3						
LVC				LR		LR	
	comp=Z,4μm,21.0s,MS4.9						
MDN	Morne-Daniel	25.31	50	eP		P	07 12 11.1 -2.3
HKT	Hockley	33.66	337	eP		P	07 13 26.8 -1.3
	comp=Z,137nm,2.1s,mb5.5						
FCH	Farellones	33.89	164	eP		P	07 13 29.1 -0.9
LRAL	Lakeview Retre	34.14	351	eP		P	07 13 31.1 -1.0
	comp=Z,30nm,1.2s,mb5.1						
JSC	Jenkinsville	34.94	360	eP		P	07 13 39.9 +0.9
MYNC	Murphy	35.84	356	eP		P	07 13 46.6 0.0
	comp=Z,57nm,1.4s,mb5.3						
JCT	Junction City	35.85	332	eP		P	07 13 46.8 +0.1
	comp=Z,137nm,1.6s,mb5.6						
CPCT	Cooper Cave	36.24	355	eP		P	07 13 49.8 -0.3
LTX	Lajitas	36.91	326	eP		P	07 13 55.9 +0.2
LTX				LR		LR	
	comp=Z,2μm,19.0s,MS5.0						
UALR	University of	36.95	345	eP		P	07 13 54.8 -1.1
	comp=Z,50nm,1.4s,mb5.2						
MIAR	Mount Ida	37.08	343	eP		P	07 13 57.2 +0.2
	comp=Z,107nm,1.9s,mb5.3						
WVT	Waverly	37.30	351	eP		P	07 13 57.6 -1.4
	comp=Z,23nm,1.3s,mb4.9						
WMOK	Wichita Mounta	39.05	337	eP		P	07 14 13.7 +0.1
	comp=Z,240nm,2.5s,mb5.5						
WMOK				LR		LR	
	comp=Z,1μm,21.0s,MS4.7						
USIN	University of	39.08	352	eP		P	07 14 12.9 -0.9
	comp=Z,83nm,1.4s,mb5.3						
WCI	Wyandotte Cave	39.17	354	P		P	07 14 12.0 -2.6
	comp=Z,65nm,1.5s,mb5.1						
GDL2	Guadalupe Moun	39.52	328	eP		P	07 14 18.6 +1.1
FVM	French Village	39.57	348	eP		P	07 14 16.7 -1.2
	comp=Z,58nm,1.4s,mb5.1						
MNTX	Cornudas Mount	39.67	327	eP		P	07 14 18.1 -0.7
	comp=Z,278nm,2.2s,mb5.6						
CCM	Cathedral Cave	39.81	348	eP		P	07 14 18.8 -1.1
CCM				LR		LR	
	comp=Z,50nm,1.4s,mb5.0						
	comp=Z,2μm,19.0s,MS4.9						
CPRX	Cap Rock	39.91	330	eP		P	07 14 20.3 -0.5
BLO	Bloomington	40.12	354	eP		P	07 14 20.8 -1.7
	comp=Z,54nm,1.5s,mb5.1						
AMTX	Amarillo	40.39	334	eP		P	07 14 24.6 -0.1
	comp=Z,30nm,1.3s,mb4.9						
PLCA	Paso Flores	40.86	168	eP		P	07 14 24.9 -3.6
	comp=Z,152nm,1.8s,mb5.3						
PLCA				LR		LR	
	comp=Z,2μm,21.0s,MS4.8						
MVL	Millersville	40.89	6	eP		P	07 14 26.3 -2.4
ACSO	Alum Creek Sta	40.91	358	eP		P	07 14 28.1 -0.8
	comp=Z,68nm,1.4s,mb5.1						
TRQA	Tornquist	41.02	157	eP		P	07 14 28.7 -1.2
	comp=Z,268nm,1.7s,mb5.6						
SSPA	Standing Stone	41.39	4	eP		P	07 14 31.4 -1.4
	comp=Z,55nm,1.5s,mb5.0						
KSU1	Kansas State U	42.20	342	eP		P	07 14 39.4 -0.2
ALLY	Alegheny Colle	42.31	1	P		P	07 14 39.2 -1.2
LPM	Los Pinos Moun	42.35	328	eP		P	07 14 42.5 +1.6
LENM	Lemitar	42.42	328	eP		P	07 14 42.0 +0.6
ANMO	Albuquerque	42.75	329	eP		P	07 14 45.1 +0.9
	comp=Z,12nm,0.8s,mb4.7						
ANMO				LR		LR	
	comp=Z,2μm,19.0s,MS5.0						
BINY	Binghamton	43.10	6	eP		P	07 14 44.3 -2.6
	comp=Z,73nm,1.5s,mb5.2						
TUC	Tucson	43.25	322	eP		P	07 14 47.8 -0.5
	comp=Z,30nm,1.4s,mb4.8						
SDCO	Great Sand Dun	44.49	332	eP		P	07 14 59.1 +0.9
	comp=Z,14nm,0.8s,mb4.7						
NCB	Newcomb	45.05	7	eP		P	07 15 02.1 -0.5
	comp=Z,19nm,1.3s,mb4.8						
RCBR	Riachuelo	45.45	97	P		P	07 15 03.3 -2.9
	comp=Z,86nm,1.8s,mb5.3						
ISCO	Idaho Springs	46.21	334	eP		P	07 15 12.8 +1.0
	comp=Z,15nm,1.0s,mb4.9						
PV01	Paradox Valley	46.29	330	eP		P	07 15 13.8 +1.3
PV10	Paradox Valley	46.71	330	eP		P	07 15 16.4 +0.6
PHWY	Pilot Hill	47.38	335	eP		P	07 15 23.0 +1.9
PFO	Pinyon Flat Ob	47.69	319	eP		P	07 15 23.7 +0.1
	comp=Z,47nm,1.3s,mb5.4						
LDFC	Landfair	47.77	322	eP		P	07 15 23.9 -0.4
NEN	Nelson	47.99	323	eP		P	07 15 27.1 +1.1
SRU	San Rafael	48.02	329	eP		P	07 15 26.4 +0.2
SRU				epP		pP	07 15 35.3 +6.1
MSU	Marysvale	48.45	327	eP		P	07 15 30.4 +0.9
MVU	Marysvale	48.46	327	eP		P	07 15 27.9 -1.6
	comp=Z,28nm,1.3s,mb5.1						
TMUT	Trail Mountain	48.51	329	eP		P	07 15 30.3 +0.4
MPU	Maple Canyon	49.27	329	eP		P	07 15 35.9 +0.2
DAU	Daniels Canyon	49.37	330	eP		P	07 15 36.5 -0.1
TCUT	Toone Canyon	49.98	330	eP		P	07 15 41.0 -0.2
NOQ	North Oquirrh	49.99	329	eP		P	07 15 41.7 +0.4
TRCR	Troy Canyon	50.24	325	eP		P	07 15 44.6 +1.4
BW06	Boulder Array	50.37	333	eP		P	07 15 44.2 +0.1
	comp=Z,16nm,1.3s,mb4.9						
BW06				epP		pP	07 15 52.5 +5.4
BW06				LR		LR	
	comp=Z,3μm,19.0s,MS5.3						
HWUT	Hardware Ranch	50.42	331	eP		P	07 15 44.6 0.0
	comp=Z,12nm,0.9s,mb4.9						
BGU	Big Grassy Mou	50.66	329	eP		P	07 15 46.4 +0.1
TPH	Tonopah	51.02	323	eP		P	07 15 49.0 -0.2
	comp=Z,20nm,1.1s,mb5.0						
AHID	Auburn Hatcher	51.08	332	eP		P	07 15 49.8 +0.3
	comp=Z,5.1nm,0.8s,mb4.5						
HVU	Hansel Valley	51.15	330	P		P	07 15 48.1 -2.0
SNOW	Snow King Moun	51.45	333	eP		P	07 15 52.6 +0.2
LOHW	Long Hollow	51.50	333	P		P	07 15 52.8 +0.1
WUWY	Wally Ulrich	51.51	333	P		P	07 15 52.7 -0.1
TPAW	Teton Pass	51.57	333	eP		P	07 15 53.3 +0.1
RRI2	Red Ridge	51.63	332	eP		P	07 15 53.6 -0.1
MOOW	Moose Ponds	51.67	333	eP		P	07 15 53.8 -0.3
OMM	Old Mammoth Mi	51.81	322	eP		P	07 15 56.1 +1.0
MNV	Mina	51.81	323	eP		P	07 15 55.8 +0.7
	comp=Z,45nm,1.3s,mb5.2						
IMW	Indian Meadow	51.88	333	eP		P	07 15 53.6 -1.9
LKWY	Lake	52.16	334	P		P	07 15 58.9 +1.2
	comp=Z,12nm,1.3s,mb4.7						
YFT	Old Faithful	52.26	333	eP		P	07 15 59.3 +0.9
ULM	Lac du Bonnet	52.44	348	eP		P	07 15 57.4 -2.3
	comp=Z,82nm,1.4s,mb5.5						
ULM				LR		LR	
	comp=Z,2μm,20.0s,MS5.1						
YMR	Madison River	52.49	333	eP		P	07 15 58.6 -1.6
GCMT	Greycliff	52.81	335	eP		P	07 16 03.0 +0.5
CMB	Columbia Colle	52.93	321	P		P	07 16 02.9 -0.6
	comp=Z,25nm,1.5s,mb4.9						
DGMT	Dagmar	53.02	341	P		P	07 16 04.3 +0.2
HLID	Hailey	53.28	330	eP		P	07 16 05.9 -0.2
	comp=Z,91nm,2.1s,mb5.3						
PAHR	Pah Rah Range	53.36	324	eP		P	07 16 07.5 +0.8
	comp=Z,13nm,0.8s,mb4.9						
MCMT	McKenzie Canyo	53.47	332	eP		P	07 16 06.7 -0.7
BOZ	Bozeman (W)	53.55	334	eP		P	07 16 06.5 -1.5
	comp=Z,45nm,1.3s,mb5.2						
BOZ				LR		LR	
	comp=Z,2μm,19.0s,MS5.2						
OHCM	Honcut	54.40	322	eP		P	07 16 14.7 +0.3
WVOR	Wild Horse Val	54.71	327	eP		P	07 16 16.4 -0.2
	comp=Z,83nm,1.4s,mb5.6						
WVOR				epP		pP	07 16 25.2 +5.6
MOD	Modoc	55.30	325	eP		P	07 16 20.3 -0.6
	comp=Z,29nm,1.3s,mb5.2						
MSO	Missoula	55.48	333	eP		P	07 16 21.9 -0.2
	comp=Z,33nm,1.5s,mb5.2						
MSO				epP		pP	07 16 30.3 +5.1
BMO	Blue Mountains	55.66	329	eP		P	07 16 22.4 -1.0
	comp=Z,14nm,1.1s,mb4.9						
YBH	Yreka Blue Hor	56.60	324	eP		P	07 16 29.3 -1.0
	comp=Z,16nm,1.0s,mb5.0						
YBH				epP		pP	07 16 37.7 +4.4
FFC	Flin Flon	57.98	346	eP		P	07 16 38.9 -0.8
	comp=Z,25nm,1.4s,mb5.1						
NEW	Newport	58.00	332	eP		P	07 16 39.5 -0.5
	comp=Z,18nm,1.3s,mb4.9						
NEW				epP		pP	07 16 48.6 +5.5
NEW				LR		LR	
	comp=Z,2μm,21.0s,MS5.1						
TAOE	Nuku Hiva Isla	59.23	260	eP		P	07 16 34.0 -15
TAOE				eS		S	07 24 40.7 -14
TAOE				eLR		LR	07 34 06.6
EDM	Edmonton	60.19	338	eP		P	07 16 52.9 -2.2
FCC	Fort Churchill	60.30	352	eP		P	07 16 53.3 -2.5
FCC				pmax		pmax	
	comp=Z,68nm,1.4s,mb5.5						
FCC	Fort Churchill	60.30	352	eP		P	07 16 53.3 -2.6
	comp=Z,68nm,1.4s,mb5.5						
YKW3	Yellowknife Ar	68.07	344	eP		P	07 17 45.5 -1.0
PPT	Papeete	69.17	252	eP		P	07 17 41.4 -13
PPT				eS		S	07 26 42.9 -15
PPT				eSS		SS	07 31 17.5 -9.0
PPT				eLQ			07 35 48.7
PPT				eLR		LR	07 38 46.6
	comp=Z,3μm,25.8s						
TBI	Tubuai	69.77	246	eP		P	07 17 47.6 -10
TBI				eS		S	07 26 53.2 -12
TBI				eSS		SS	07 31 19.6 -16
TBI				eLR		LR	07 38 56.4
	comp=Z,2μm,28.5s						
DBIC	Dimbokro	76.52	83	eP		P	07 18 35.2 -2.3
	comp=Z,123nm,1.6s,mb5.6						
DAWY	Dawson	77.38	337	eP		P	07 18 40.9 -0.4
EVO	Evora	77.41	50	eP		P	07 18 40.5 -1.5
	comp=Z,125nm,1.6s,mb5.3						
EVO				eR			
	comp=Z,984nm,18.2s						
INK	Inuvik	77.67	342	eP		P	07 18 42.8 0.0
	comp=Z,28nm,1.3s,mb5.0						
ESLA	Sonseca Array	80.71	50	eP		P	07 18 57.3 -2.6
	comp=Z,27nm,1.6s,mb4.9						
ROSF	Rostrenen	82.59	41	eP		P	07 19 09.7 +0.2
	comp=Z,120nm,1.7s,mb5.3						
QUIF	Quistinic	82.60	42	eP		P	07 19 09.8 +0.3
	comp=Z,226nm,1.9s,mb5.6						
SGMF	Saint Gilles	83.05	41	eP		P	07 19 11.8 -0.1
	comp=Z,143nm,1.7s,mb5.4						
SJPF	Ste Jean	83.24	47	eP		P	07 19 13.7 +0.7
	comp=Z,150nm,1.7s,mb5.5						
ETSF	Etsaut	83.69	47	eP		P	07 19 16.2 +0.9
	comp=Z,187nm,1.8s,mb5.6						
GRR	Gorron	84.19	41	eP		P	07 19 17.7 0.0
	comp=Z,162nm,1.6s,mb5.6						
EPF	Esparros	84.37	47	eP		P	07 19 19.3 +0.6
	comp=Z,269nm,1.7s,mb5.8						
MFF	Saint Martin d	84.44	43	eP		P	07 19 19.3 +0.3
	comp=Z,202nm,1.8s,mb5.7						
FLN	La Foliniere	84.49	41	eP		P	07 19 19.9 +0.7
FLN				eR			
	comp=Z,1μm,22.0s						
LDF	La Druitiere	84.71	41	eP		P	07 19 20.7 +0.4
	comp=Z,134nm,1.7s,mb5.5						
DAG	Danmarks Havn	84.72	12	⇑iP		P	07 19 23.7 +3.9
	comp=Z,33nm,1.2s,mb5.3						
LFF	La Frestale	84.86	45	eP		P	07 19 21.4 +0.3
	comp=Z,195nm,1.5s,mb5.7						
RJF	Les Rejaudoux	85.45	45	eP		P	07 19 24.1 0.0
	comp=Z,178nm,1.7s,mb5.6						
RJF				eR			
	comp=Z,831nm,21.5s						
CAF	Calviac	85.80	45	eP		P	07 19 26.1 +0.3
	comp=Z,225nm,1.8s,mb5.8						
TCF	Toulx Ste Croi	86.03	44	eP		P	07 19 26.9 0.0
	comp=Z,143nm,1.7s,mb5.6						
HYF	Humbligny	86.41	43	eP		P	07 19 29.2 +0.4
BGF	Bois d'Agland	86.49	43	eP		P	07 19 29.4 +0.2
	comp=Z,259nm,1.6s,mb5.9						
AGO	Saint Agoulin	86.64	44	eP		P	07 19 32.8 +2.8
AVF	Avril sur Loir	86.86	43	eP		P	07 19 30.7 -0.3
	comp=Z,78nm,1.4s,mb5.4						
PLDF	La Plantade	86.98	44	eP		P	07 19 35.1 +3.5
SSF	Saint Saulge	86.98	43	eP		P	07 19 31.2 -0.4
	comp=Z,129nm,1.7s,mb5.6						
LASF	Ste Croix	87.01	46	eP		P	07 19 32.6 +0.8
	comp=Z,217nm,1.7s,mb5.8						
SMF	Signal de Mont	87.18	43	eP		P	07 19 32.6 +0.1
	comp=Z,167nm,1.6s,mb5.7						
VIVF	Saint-Julien-l	87.64	45	eP		P	07 19 35.9 +1.1
BAIF	Baives	87.67	40	eP		P	07 19 35.1 +0.3
	comp=Z,56nm,1.6s,mb5.2						
GIVF	Givet	88.07	40	eP		P	07 19 37.2 +0.5
	comp=Z,178nm,1.6s,mb5.8						
MEZF	Maizieres J'vi	88.12	42	eP		P	07 19 37.3 +0.3
	comp=Z,165nm,1.8s,mb5.7						
SMRF	Simiane la Rot	88.24	46	eP		P	07 19 38.1 +0.4
ORIF	Oris-en-Rattie	88.50	45	eP		P	07 19 40.0 +1.1
	comp=Z,72nm,1.5s,mb5.5						
ORIF				eR			
	comp=Z,1μm,20.8s						
CABF	La Chapelle	88.72	44	eP		P	07 19 40.5 +0.5
	comp=Z,73nm,1.4s,mb5.5						
THEF	They Montfort	88.73	42	eP		P	07 19 42.8 +2.9
LMR	La Mourre	88.89	47	eP		P	07 19 40.8 0.0
HAU	Haudompre	88.96	42	eP		P	07 19 41.1 0.0
	comp=Z,155nm,1.9s,mb5.7						
HAU				eR			
	comp=Z,544nm,19.2s						
FRF	La Foret Royal	89.00	47	eP		P	07 19 41.3 0.0
	comp=Z,74nm,1.2s,mb5.6						
LPL	La Plagne	89.13	45	eP		P	07 19 43.0 +1.1
MBDF	Montbardon	89.13	45	eP		P	07 19 42.5 +0.6
	comp=Z,151nm,1.8s,mb5.7						
LPG	La Plagne	89.14	45	eP		P	07 19 43.6 +1.6
	comp=Z,108nm,1.6s,mb5.6						
QSPA	South Pole Qui	89.21	180	eP		P	07 19 46.1 +4.5
	comp=Z,46nm,1.4s,mb5.6						
LOMF	Lomont	89.26	43	eP		P	07 19 45.1 +2.6
HINF	Hinteralfeld	89.29	42	eP		P	07 19 42.6 0.0
	comp=Z,74nm,1.7s,mb5.5						
MOF	Molkenrain	89.48	42	eP		P	07 19 45.8 +2.3
ECH	Echery	89.51	42	eP		P	07 19 46.7 +3.0
SBF	Sospel	89.58	46	eP		P	07 19 44.3 +0.2
	comp=Z,53nm,0.9s,mb5.6						
CDF	Champ du Feu	89.60	42	eP		P	07 19 44.3 +0.3
	comp=Z,73nm,1.6s,mb5.5						
WLS	Welschbruch	89.65	42	eP		P	07 19 47.3 +3.0
LANF	Langenberg	89.96	41	eP		P	07 19 48.4 +2.7
PGF	Pioggiola	90.70	48	eP		P	07 19 49.2 -0.1
	comp=Z,52nm,1.1s,mb5.5						
NKC	Novy Kostel	92.97	40	eP		P	07 20 03.2 +3.7
CLL	Collm	93.28	39	eP		P	07 20 05.0 +4.1
CLL	Collm	93.28	39	P		P	07 20 05.0 +4.1
KHC	Kasperske Hory	93.76	41	eP		P	07 20 05.7 +2.5
KHC				e			07 20 18.5
KHC	Kasperske Hory	93.76	41	eP		P	07 20 05.7 +2.5
KHC				x		x	07 20 18.5
PVCC	Panska Ves	94.31	40	eP		P	07 20 07.6 +1.9
PRU	Pruhonice	94.33	40	eP		P	07 20 09.9 +4.1
UPC	Upice	95.23	40	eP		P	07 20 10.0 +0.1
DPC	Dobruska-Polom	95.44	40	eP		P	07 20 12.9 +2.0
OKC	Ostrava-Krasne	96.67	40	eP		P	07 20 21.0 +4.5
SYO	Syowa Base	99.83	162	⇓P		Px	07 20 49.7
WMQ	Urumqi	136.08	12	PKP		PKPdf	07 26 06.0 -3.7
WMQ				XPKP			07 26 20.5
WMQ				PP		PP	07 28 49.5 -0.5
WMQ				PKS		PKS	07 29 41.0 -0.8
WMQ				SKS		SKS	07 33 11.5 -8.3
WMQ				SS		SS	07 46 44.8 -2.6
WMQ				PP		PP	
	comp=Z,46nm,11.0s						
WMQ				LR		LR	
	comp=N,243nm,25.0s,MS4.9						
WMQ				LR		LR	
	comp=E,215nm,27.2s,MS4.9						
WMQ				LR		LR	
	comp=Z,418nm,28.9s,MS5.0						
BJI	Beijing	137.91	340	eP		PKPdf	07 26 12.4 -0.8
LZH	Lanzhou	144.63	353	⇓PKP		PKPdf	07 26 23.0 -2.2
LZH				APKP			07 26 33.3
LZH				XPKP			07 26 37.3
LZH				PP		PP	07 29 43.0 +0.4
LZH				SKS		SKS	07 33 27.5 -6.3
LZH				SKKS			07 36 28.0
LZH				PP		PP	
	comp=Z,228nm,5.9s						
LZH				LR		LR	
	comp=E,655nm,18.9s						
LZH				LR		LR	
	comp=Z,1μm,21.0s,MS5.6						
DDI	Dehra Dun	144.66	32	ePKP		PKPdf	07 26 22.2 -3.2
KHET	Khetri	145.09	37	ePKP		PKPdf	07 26 26.7 +0.5
KUDL	Kundal	145.45	36	ePKP		PKPdf	07 26 25.0 -1.8
NDI	New Delhi	145.47	35	ePKP		PKPdf	07 26 23.5 -3.4
AYAN	Aya Nagar	145.57	35	ePKP		PKPdf	07 26 24.9 -2.2
KOLN	Koldanda	149.51	27	eP		PKPdf	07 26 35.5 +2.0
	comp=Z,221nm,1.7s						
BHPL	Bhopal	149.55	41	e		PKPdf	07 26 39.9 +6.2
BHPL				e			07 26 42.7
	comp=Z,82nm,1.2s						
GKN	Gorkha	149.77	25	eP		PKPdf	07 26 36.8 +2.9
	comp=Z,262nm,1.4s						
KKN	Kakani	150.23	25	eP		PKPdf	07 26 38.2 +3.5
	comp=Z,210nm,1.4s						
DMN	Daman	150.32	25	eP		PKPdf	07 26 37.5 +2.7
	comp=Z,213nm,1.5s						
GUN	Gumba	150.37	24	eP		PKPdf	07 26 37.8 +2.9
	comp=Z,518nm,1.7s						
LSA	Lhasa	150.39	14	ePKP		PKPdf	07 26 39.3 +4.4
PKI	Pulchoki	150.48	25	eP		PKPdf	07 26 37.1 +2.1
	comp=Z,151nm,1.6s						
JIRN	Jiri	150.72	23	eP		PKPdf	07 26 37.0 +1.6
	comp=Z,121nm,1.2s						
KAD	Karad	150.76	55	e		PKPdf	07 26 42.0 +6.3
HYB	Hyderabad	154.14	49	eP		PKPdf	07 26 43.0 +2.5
HYB	Hyderabad	154.14	49	iPKP		PKPdf	07 26 43.0 +2.5
CAL	Calcutta	156.14	25	ePKP		PKPdf	07 26 44.6 +1.5

*BJI **30** 07:12:34.8, 7.67N×94.07E, h43km, mb4.3*
*NEIC **30** 07:12:35.4±0.5, 8.12N×94.29E, mb4.6/13, Error ellipse: s-maj=19.8km s-min=12.6km az=49.0*

ISC 30 07:12:33.4±0.7, 7.9N±0.1×94.3E±0.2, h19km, h19km±.2km: pP-P, n35, σ0°93/33, mb4.6/19, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	Jiri	21.06	340	eP	P	07 17 21.3	+2.4
	62nm,1.0s,mb4.9						
PKI	Pulchoki	21.26	338	eP	P	07 17 23.1	+2.2
	49nm,0.9s,mb4.8						
GUN	Gumba	21.40	339	eP	P	07 17 22.5	+0.2
	45nm,0.8s,mb4.8						
DMN	Daman	21.41	337	eP	P	07 17 24.2	+1.8
	42nm,0.8s,mb4.8						
KKN	Kakani	21.51	338	eP	P	07 17 23.8	+0.4
	66nm,1.1s,mb5.0						
GKN	Gorkha	21.95	337	eP	P	07 17 26.6	-1.2
	52nm,0.8s,mb5.0						
KOLN	Koldanda	22.17	334	eP	P	07 17 29.5	-0.5
	32nm,0.7s,mb4.9						
AAK	Ala-Archa	38.71	336	eP	P	07 19 57.0	-1.0
	7.3nm,1.1s,mb4.3						
KURK	Kurchatov	44.59	346	eP	P	07 20 45.1	-1.0
	9.7nm,1.2s,mb4.5						
WRAB	Tennant Creek	48.18	126	eP	P	07 21 15.4	+0.6
	4.8nm,0.8s,mb4.6						
RAYN	Ar Rayn	49.20	294	P	P	07 21 23.8	+1.1
	85nm,0.6s,SNR=9.7						
LSZ	Lusaka	69.44	250	eP	P	07 23 43.6	+0.7
JOF	Joensuu	70.86	334	ep	P	07 23 48.8	-2.0
KOLS	Kolonicke sedl	72.26	319	iP	P	07 24 00.1	+0.7

YANA	Yana	2.82	77	P	Pn	07 17 17.6	+0.1
NAS1	Nasa	2.84	87	P	Pn	07 17 20.1	+2.3
VC1	Cotopaxi 1	2.91	87	P	Pn	07 17 22.1	+3.2
PISA	Pisayambo	2.94	95	P	Pn	07 17 22.6	+3.4
RETU	Refugio	2.94	103	P	Pn	07 17 20.2	+0.9
TAMB	Tambo	2.94	88	P	Pn	07 17 22.5	+3.1
ARRY	Arrayan	2.95	104	⇑P	Pn	07 17 21.0	+1.6
ULBA	Ulba	2.98	103	P	Pn	07 17 21.8	+2.0
ANTI	Antisana	3.17	84	P	Pn	07 17 24.8	+2.3
COTA	Cotacachi	3.17	70	P	Pn	07 17 23.7	+1.2
CAYR	Refugio Cayamb	3.40	77	P	Pn	07 17 28.8	+3.0
CAYA	Cayambe	3.43	76	P	Pn	07 17 28.6	+2.4

NEIC ***30*** *07:34:17.1±0.8, 8.34N×94.25E, h30km, mb4.4/8, Error ellipse: s-maj=27.6km s-min=16.6km az=212.0*
BJI ***30*** *07:34:18.6, 7.98N×93.92E, h54km, mb4.4*
ISC 30 07:34:15.4±0.8, 8.2N±0.1×94.0E±0.1, h30km, n25, σ1ŝ13/25, mb4.6/12, MS3.5/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.26	25	eP	P	07 36 59.3	+1.7
HYB	Hyderabad	17.66	303	eP	P	07 38 22.5	+1.5
HYB	Hyderabad	17.66	303	i P	P	07 38 22.5	+1.5
KMI	Kunming	18.77	25	P	P	07 38 39.8	+5.1
	10.0nm,1.1s						
JIRN	Jiri	20.74	340	eP	P	07 38 55.9	-0.4
	64nm,0.8s						
PKI	Pulchoki	20.94	338	eP	P	07 38 58.0	-0.3
	38nm,0.7s						
GUN	Gumba	21.08	340	eP	P	07 38 59.1	-0.6
	54nm,0.8s,mb4.9						
DMN	Daman	21.09	337	eP	P	07 39 00.0	+0.2
	56nm,0.8s,mb5.0						
KKN	Kakani	21.18	338	eP	P	07 39 00.3	-0.5
	84nm,1.0s,mb5.0						
GKN	Gorkha	21.62	337	eP	P	07 39 04.1	-1.1
	51nm,0.7s,mb5.0						
KOLN	Koldanda	21.84	334	eP	P	07 39 06.9	-0.4
	37nm,0.7s,mb4.9						
BJI	Beijing	37.38	28	eP	P	07 41 29.8	+2.5
	8.0nm,1.3s,mb4.4						
BJI				S	S	07 46 49.9	-23
BJI				LR	LR		
	comp=Z,150nm,39.5s,MS3.5						
AAK	Ala-Archa	38.38	337	P	P	07 41 34.7	-1.1
	comp=Z,10nm,1.3s,mb4.4						
KURK	Kurchatov	44.28	346	eP	P	07 42 22.5	-1.6
	comp=Z,1.3nm,0.5s,mb3.9						
WRAB	Tennant Creek	48.53	126	eP	P	07 42 57.0	-1.1
	comp=Z,3.1nm,0.6s,mb4.5						
WRAB				epP	pP	07 43 02.0	-5.2
KMBO	Kilima Mbogo	57.36	263	eP	P	07 44 04.3	+0.6
	comp=Z,3.1nm,0.8s,mb4.4						
KAF	Kangasniemi	72.47	333	ep	P	07 45 39.2	-1.7
DPC	Dobruska-Polom	75.90	320	eP	P	07 46 03.3	+2.3
PRU	Pruhonice	77.03	319	eP	P	07 46 14.0	+6.8
KHC	Kasperske Hory	77.62	318	eP	P	07 46 15.0	+4.5
NB2	NORSAR Subarra	79.41	331	P	P	07 46 20.2	+0.1
	comp=Z,2.8nm,0.7s,mb4.3,baz=91,slow=5.8						
LPG	La Plagne	82.33	315	eP	P	07 46 36.9	+1.1
	comp=Z,13nm,0.9s,mb4.5						
IMA	Indian Mountai	91.37	22	P	P	07 47 19.6	+0.2
INK	Inuvik	96.72	16	eP	P	07 47 42.9	-0.9
RES	Resolute Bay	97.09	2	eP	P	07 47 46.2	+0.8

BJI ***30*** *08:08:24.8, 24.04S×175.69W, h22km, mB6.1, mb5.9, Ms5.6, Msz5.3*
MOS ***30*** *08:08:26.1±1.1, 24.40S×176.10W, h33km, mb5.8/40, MS5.3/36, Error ellipse: s-maj=11.7km s-min=7.9km az=68.6*
NEIC ***30*** *08:08:26.7±0.1, 24.42S×176.00W, mb5.5/65, MS5.4/127, Error ellipse: s-maj=7.3km s-min=4.3km az=145.0*
HRVD ***30*** *08:08:26.7±0.2, 24.57S×175.37W, h18km, MW5.6/70, Centroid moment Tensor Solution. LP body waves: s61,c112;Mantle waves: s70,c142; Half duration: 1ŝ5 Moment tensor: Scale 10^{17}Nm; M_{rr}2.10±.06; $M_{\theta\theta}$-0.02±.04; $M_{\phi\phi}$-2.07±.04; $M_{r\theta}$0.59±.10; $M_{\theta\phi}$-0.56±.03; $M_{\phi r}$1.86±.12; Best double couple: $M_0$2.908×10^{17} NP1: ϕ_s192°, δ24°, λ86°. NP2 ϕ_s17°, δ66°, λ92°. Principal axes: T 2.853, Plg69°, Azm290°; N .119, Plg2°, Azm196°; P -2.963, Plg21°, Azm105°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BGS ***30*** *08:08:31.1±2.6, 24.42S×176.00W, h33km*
ORF ***30*** *08:08:36.0, 24.55S×178.08W, h30km, mb6.2*
ISC 30 08:08:24.7±0.2, 24.49S±0.04×175.93W±0.04, h28km, h28km±2.5km; pP-P, n438, σ0ŝ98/220, mb5.6/82, MS5.4/134, 44C-10D, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.07	200	eP	Pn	08 09 39.9	-1.0
RAO				eS	Sn	08 10 39.2	0.0
RAO				pmax	pmax		
	comp=Z,880nm,0.9s						
RAO	Raoul Island	5.07	200	eP	Pn	08 09 39.9	-0.9
	comp=Z,880nm,0.9s						
RAO				eS	Sn	08 10 39.2	0.0
AFI	Afiamalu	11.23	21	eP	P	08 10 56.1	-11
AFI				pmax	pmax		
	comp=Z,356nm,0.9s						
AFI	Afiamalu	11.23	21	eP	P	08 10 56.1	-11
	comp=Z,356nm,0.9s						
RAR	Rarotonga	15.25	81	eP	P	08 11 49.3	-11
DZM	Mont Dzumac	16.37	275	eP	P	08 12 15.3	+0.9
DZM	Mont Dzumac	16.37	275	eP	P	08 12 15.2	+0.9
NOUC	Port Laguerre	16.49	275	eP	P	08 12 19.9	+4.0
THZ	Tophouse	19.57	206	eP	P	08 12 45.2	-8.2
KHZ	Kahutara	19.89	203	eP	P	08 12 47.9	-9.0
TBI	Tubuai	24.21	93	eP	P	08 13 40.0	-0.3
	comp=Z,334nm,1.3s,mb5.6						
TBI				eLQ		08 17 59.0	
TBI				eLR	LR	08 19 07.8	
	comp=Z,8μm,30.2s,baz=264						
PAE	Paea	25.48	80	eP	P	08 13 51.0	-1.4
	comp=Z,466nm,1.5s,mb5.8						
PPT	Papeete	25.52	79	eP	P	08 13 51.7	-1.1
	comp=Z,176nm,1.5s,mb5.4						
PPT	Papeete	25.52	79	eLQ		08 18 42.5	
PPT				eLR	LR	08 19 39.7	
	comp=Z,8μm,24.2s						
TIAR	Tiarei	25.73	80	eP	P	08 13 53.7	-1.0
	comp=Z,718nm,1.4s,mb6.0						
TVO	Taravao	25.74	80	eP	P	08 13 53.6	-1.2
	comp=Z,295nm,1.3s,mb5.6						
MEH	Mehetia	26.77	81	eP	P	08 14 03.4	-0.9
	comp=Z,89nm,1.2s,mb5.2						
CTA	Charters Tower	35.19	270	⇑i P	P	08 15 17.4	-1.2
	comp=Z,47nm,1.1s,mb5.3						
CTA	Charters Tower	35.19	270	⇑i P	P	08 15 17.4	-1.2
CTA				pmax	pmax		
	comp=Z,47nm,1.1s						
CTAO	Charters Tower	35.19	270	eP	P	08 15 16.5	-2.1
CTAO				pmax	pmax		
	comp=Z,99nm,1.1s,mb5.7						
CTAO	Charters Tower	35.19	270	⇑eP	P	08 15 17.3	-1.4
	comp=Z,99nm,1.1s,mb5.7						
CTAO				LR	LR		
	comp=Z,5μm,20.0s,MS5.2						
TOO	Toolangi	35.29	239	eP	P	08 15 19.2	-0.2
	comp=Z,2.3nm,1.2s						
TOO	Toolangi	35.29	239	eP	P	08 15 19.2	-0.2
TOO				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TAU	Tasmania Unive	35.31	230	PFAKE		08 15 30.0	+11
TAU				LR	LR		
	comp=Z,1μm,19.0s,MS4.7						
TAOE	Nuku Hiva Isla	37.49	72	eS	S	08 21 25.1	+0.4
TAOE				eLR	LR	08 25 26.9	
STKA	Stephens Creek	37.97	249	⇓i P	P	08 15 41.5	-0.4
	comp=Z,12nm,1.1s,mb4.5						
PMG	Port Moresby	38.21	287	eP	P	08 15 41.9	-2.2
PMG				pmax	pmax		
	comp=Z,229nm,1.0s						
PMG				MLR	MLR		
	comp=Z,4μm,20.0s						
PMG	Port Moresby	38.21	287	eP	P	08 15 41.9	-2.2
	comp=Z,230nm,1.0s,mb5.9						
PMG				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
PTCN	Pitcairn Islan	41.47	101	PFAKE		08 16 20.0	+9.0
PTCN				LR	LR		
	comp=Z,6μm,19.0s,MS5.5						
ASPA	Alice Springs	45.60	260	eP	P	08 16 43.8	-0.8
WB2	Warramunga Arr	46.06	265	⇓i P	P	08 16 46.2	-2.0
WRAB	Tennant Creek	46.06	265	eP	P	08 16 45.7	-2.5
WRAB				pmax	pmax		
	comp=Z,82nm,1.0s,mb5.6						
WRAB				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.2						
WRAB	Tennant Creek	46.06	265	eP	P	08 16 45.7	-2.5
	comp=Z,82nm,1.0s,mb5.6						
WRAB				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
WAKE	Wake Island	46.70	337	PFAKE		08 17 00.0	+6.8
WAKE				LR	LR		
	comp=Z,27μm,21.0s,MS6.2						
FORT	Forrest	49.59	250	eP	P	08 17 13.2	-2.4
	comp=Z,87nm,0.7s,mb5.9						
KAKA	Kakadu	50.06	274	⇑i P	P	08 17 16.2	-3.2
	comp=Z,23nm,0.8s,mb5.3						
GUMO	Guam	53.82	310	PFAKE		08 18 00.0	+12
GUMO				LR	LR		
	comp=Z,3μm,22.0s,MS5.2						
SBA	Scott Base	54.05	184	eP	P	08 17 50.2	+1.7
SBA				pmax	pmax		
	comp=Z,179nm,1.4s,mb5.8						
SBA				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.2						
SBA	Scott Base	54.05	184	eP	P	08 17 50.2	+1.7
	comp=Z,179nm,1.4s,mb5.8						
SBA				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
VNDA	Vanda	54.14	186	eP	P	08 17 50.1	+0.9
VNDA				pmax	pmax		
	comp=Z,72nm,1.3s						
VNDA				MLR	MLR		
	comp=Z,2μm,20.0s						
VNDA	Vanda	54.14	186	eP	P	08 17 50.1	+0.9
	comp=Z,72nm,1.3s,mb5.4						
VNDA				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
FITZ	Fitzroy Crossi	54.48	265	⇑i P	P	08 17 50.3	-2.1
	comp=Z,65nm,1.0s,mb5.5						
KLBR	Kellerberrin	58.18	247	eP	P	08 18 16.8	-2.0
	comp=Z,268nm,0.8s,mb6.3						
NWAO	Narrogin (SRO)	58.37	245	PFAKE		08 18 30.0	+10
NWAO				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
MBWA	Marble Bar	58.92	259	eP	P	08 18 21.9	-2.2
	comp=Z,63nm,1.1s,mb5.6						
MBWA				LR	LR		
	comp=Z,5μm,19.0s,MS5.6						
CASY	Casey	61.22	206	eP	P	08 18 39.4	+0.2
	comp=Z,174nm,1.0s,mb6.1						
CASY				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
QSPA	South Pole Qui	65.60	180	eP	P	08 19 08.6	+0.8
	comp=Z,57nm,0.8s,mb5.7						
QSPA				LR	LR		
	comp=Z,3μm,20.0s,MS5.5						
MIR	Mirnyy	68.22	206	⇑eP	P	08 19 24.4	-0.1
MIR				e		08 19 48.2	
MIR				e		08 22 00.0	
MIR				pmax	pmax		
	comp=Z,135nm,1.6s,mb5.7						
MIR				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.3						
MAJO	Matsushiro	74.54	323	eP	P	08 20 01.1	-1.8
MAJO				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.1						
MAJO				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.3						
MAJO	Matsushiro	74.54	323	eP	P	08 20 01.1	-1.8
	comp=Z,25nm,0.9s,mb5.1						
MAJO				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
MAT	Matsushiro	74.54	323	eP	P	08 20 01.0	-1.9
MAT				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.1						
MAT				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.4						
MAT	Matsushiro	74.54	323	eP	P	08 20 01.0	-1.9
	comp=Z,24nm,0.9s,mb5.1						
MAT				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
MAT	Matsushiro	74.54	323	P	P	08 20 01.1	-1.8
KIWB	Kanaga Island	76.01	359	eP	P	08 20 09.4	-1.6
PMSA	Palmer Station	76.89	156	PFAKE		08 20 30.0	+14
PMSA				LR	LR		
	comp=Z,2μm,21.0s,MS5.3						
SMY	Shemya	77.38	354	PFAKE		08 20 30.0	+11
SMY				LR	LR		
	comp=Z,6μm,19.0s,MS6.0						
TATO	Taipei	78.01	305	PFAKE		08 20 30.0	+7.4
TATO				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
UNV	Unalaska Valle	78.43	6	PFAKE		08 20 40.0	+16
UNV				LR	LR		
	comp=Z,6μm,20.0s,MS5.9						
MAW	Mawson	78.47	200	eP	P	08 20 25.2	+0.9
	comp=Z,37nm,1.4s,mb5.1						
MAW	Mawson	78.47	200	eP	P	08 20 25.2	+0.9
MAW				pmax	pmax		
	comp=Z,37nm,1.4s						
SAO	San Andreas Ge	79.67	42	P	P	08 20 32.1	+0.7
SAO				pmax	pmax		
	comp=Z,72nm,1.2s,mb5.5						
SAO	San Andreas Ge	79.67	42	eP	P	08 20 31.3	-0.1
	comp=Z,72nm,1.2s,mb5.5						
SAO				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
LRV	Little Rabbit	79.70	42	eP	P	08 20 32.1	+0.5
MWC	Mount Wilson	80.17	45	P	P	08 20 34.4	+0.2
MWC	Mount Wilson	80.17	45	eP	P	08 20 33.6	-0.6
HOPS	Hopland	80.19	39	PFAKE		08 20 50.0	+16
HOPS				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
PET	Petropavlovsk	80.29	345	eP	P	08 20 33.2	-1.2
PET				ePPP	PPP	08 25 25.0	-4.9
PET				eS	S	08 30 40.3	+3.6
PET				pmax	pmax		
	comp=Z,53nm,1.5s,mb5.2						
PET				pmax	pmax		
	comp=Z,500nm,13.7s						
PET				pmax	pmax		
	comp=Z,300nm,16.2s						
PET				smax			
	comp=E,500nm,16.6s						
PET				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.3						
PET	Petropavlovsk	80.29	345	eP	P	08 20 33.4	-1.0
	comp=Z,84nm,1.4s,mb5.5						
PET				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
YSS	Yuzh-Sakhalins	80.30	333	⇑i P	P	08 20 35.0	+0.4
YSS				e*SP	sP	08 20 42.0	-4.3
YSS				S	S	08 30 38.0	+1.1
YSS				pmax	pmax		
	comp=Z,320nm,1.2s,mb6.1						
YSS				pmax	pmax		
	comp=N,160nm,1.5s						
YSS				pmax	pmax		
	comp=E,140nm,1.2s						
YSS				pmax	pmax		
	comp=Z,320nm,1.5s,mb6.0						
YSS				MLR	MLR		
	comp=Z,700nm,19.0s,MS5.0						
YSS	Yuzh-Sakhalins	80.30	333	eP	P	08 20 35.1	+0.6
	comp=Z,312nm,1.2s,mb6.1						
YSS				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
PFO	Pinyon Flat Ob	80.85	47	eP	P	08 20 37.7	-0.1
PFO				e*PP	pP	08 20 47.3	+0.7
PFO				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
PFO				MLR	MLR		
	comp=Z,411nm,19.0s,MS4.8						
PFO	Pinyon Flat Ob	80.85	47	eP	P	08 20 37.7	-0.1
	comp=Z,15nm,1.0s,mb4.9						
PFO				epP	pP	08 20 47.3	+0.7
PFO				LR	LR		
	comp=Z,411nm,19.0s,MS4.8						
CMB	Columbia Colle	81.13	41	P	P	08 20 39.1	-0.1
CMB				pmax	pmax		
	comp=Z,56nm,1.2s,mb5.4						
CMB	Columbia Colle	81.13	41	eP	P	08 20 38.7	-0.5
	comp=Z,56nm,1.3s,mb5.3						
CMB				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
KS15	Wonju Array Si	81.14	318	eP	P	08 20 40.1	+0.9
OHCM	Honcut	81.34	40	eP	P	08 20 40.1	-0.1
WDC	Whiskeytown Da	81.56	38	P	P	08 20 42.0	+0.6
WDC				pmax	pmax		
	comp=Z,62nm,1.3s,mb5.4						
WDC	Whiskeytown Da	81.56	38	eP	P	08 20 41.4	0.0
	comp=Z,62nm,1.4s,mb5.3						
WDC				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
SSE	Sheshan	81.69	310	P	P	08 20 43.3	+1.0
SSE				XP	sP	08 20 52.5	-1.5
SSE				S	S	08 30 54.8	+3.1
SSE				XS		08 31 06.3	
SSE				AMB	AMB		
	comp=Z,35nm,1.1s,mb5.2						
SSE				AMB	AMB		
	comp=Z,402nm,10.0s						
SSE				LR	LR		
	comp=N,474nm,20.8s,MS5.0						
SSE				LR	LR		
	comp=E,557nm,20.8s,MS5.0						
SSE				LR	LR		
	comp=Z,948nm,21.2s,MS5.1						
SSE	Sheshan	81.69	310	P	P	08 20 43.3	+1.0
	comp=Z,35nm,1.1s,mb5.2						
SSE				sP	sP	08 20 52.6	-1.4
SSE				S	S	08 30 54.8	+3.1
SSE				sS		08 31 06.2	
SSE				LR	LR		
	comp=Z,950nm,21.2s,MS5.1						
OMM	Old Mammoth Mi	81.71	42	eP	P	08 20 42.8	+0.6
OMM				epP	pP	08 20 52.8	+1.8
YBH	Yreka Blue Hor	82.24	37	P	P	08 20 46.1	+1.2
YBH				pmax	pmax		
	comp=Z,49nm,1.3s						
YBH	Yreka Blue Hor	82.24	37	eP	P	08 20 45.3	+0.5
	comp=Z,49nm,1.4s,mb5.2						
YBH				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
WCN	Washoe City	82.33	41	P	P	08 20 46.4	+1.0
WCN				pmax	pmax		
	comp=Z,61nm,1.1s,mb5.4						
WCN	Washoe City	82.33	41	eP	P	08 20 45.5	+0.1
	comp=Z,61nm,1.2s,mb5.4						
LTIM	Timbered Crate	82.55	38	P	P	08 20 47.1	+0.7
COCO	West Island	82.56	260	eP	P	08 20 48.8	+1.7
	comp=Z,254nm,1.3s,mb6.1						
COCO				LR	LR		
	comp=Z,943nm,19.0s,MS5.2						
LDFC	Landfair	82.62	46	eP	P	08 20 48.1	+1.2
HUMO	Hull Mountain	82.70	36	eP	P	08 20 47.7	+0.5
	comp=Z,53nm,1.4s,mb5.4						
HUMO				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
MNV	Mina	82.74	42	P	P	08 20 47.7	+0.2
MNV				pmax	pmax		
	comp=Z,63nm,1.1s,mb5.6						
MNV	Mina	82.74	42	eP	P	08 20 47.5	0.0
	comp=Z,63nm,1.2s,mb5.5						
MNV				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
PAHR	Pah Rah Range	82.81	40	eP	P	08 20 46.3	-1.6
	comp=Z,48nm,1.3s,mb5.4						
TPH	Tonopah	83.09	43	P	P	08 20 50.1	+0.8
TPH				pmax	pmax		
	comp=Z,74nm,1.2s,mb5.6						
TPH	Tonopah	83.09	43	eP	P	08 20 49.5	+0.2
	comp=Z,74nm,1.3s,mb5.5						
TPH				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
NEN	Nelson	83.13	46	eP	P	08 20 49.6	0.0
SYO	Syowa Base	83.26	192	⇓P	P	08 20 49.6	0.0
SYO	Syowa Base	83.26	192	⇓PcP	PcP	08 20 52.1	-2.4
SYO	Syowa Base	83.26	192	⇑pP	pP	08 20 58.9	+0.5
SYO	Syowa Base	83.26	192	⇓sP	sP	08 21 03.2	+1.9
MOD	Modoc	83.70	38	eP	P	08 20 52.5	+0.1
	comp=Z,57nm,1.2s,mb5.6						
MOD				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
COR	Corvallis	83.87	35	PFAKE		08 21 00.0	+6.8
COR				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
NJ2	Nanjing	83.88	309	eP	P	08 20 54.3	+0.8
NJ2				AP	pP	08 21 03.3	+0.9
NJ2				XP	sP	08 21 08.5	+3.3
NJ2				PP	PP	08 24 06.0	-2.8
NJ2				SKS	SKS	08 31 10.0	-8.8
NJ2				S	S	08 31 16.0	+2.2
NJ2				XS		08 31 33.0	
NJ2				AMB	AMB		
	comp=Z,290nm,1.1s,mb6.3						
NJ2				AMB	AMB		
	comp=Z,1μm,7.3s						
NJ2				LR	LR		
	comp=N,2μm,20.7s,MS5.6						
NJ2				LR	LR		
	comp=E,2μm,22.6s,MS5.6						
NJ2				LR	LR		
	comp=Z,3μm,22.1s,MS5.6						
TUC	Tucson	83.97	51	eP	P	08 20 54.0	0.0
TUC				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.2						
TUC				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.5						
TUC	Tucson	83.97	51	eP	P	08 20 54.0	-0.1
	comp=Z,25nm,1.3s,mb5.2						
TUC				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
SNAA	Sanae	83.98	178	i P	P	08 20 54.0	+0.9
SNAA	Sanae	83.98	178	eP	P	08 20 53.1	0.0
	comp=Z,398nm,1.0s,mb6.5						
VNA3	Neumayer Olymp	84.05	176	e	P	08 20 57.6	+4.1
VNA3	Neumayer Olymp	84.05	176	e	P	08 20 58.9	+5.4
VNA3	Neumayer Olymp	84.05	176	e	P	08 21 00.0	+6.5
VNA3	Neumayer Olymp	84.05	176	⇑i P	P	08 20 53.8	+0.3
VNA3				e		08 20 57.6	
VNA3				e		08 20 58.9	
VNA3				e		08 21 00.0	
KDAK	Kodiak Island	84.26	12	PFAKE		08 21 10.0	+15
KDAK				LR	LR		
	comp=Z,644nm,21.0s,MS5.0						
VNA2	Neumayer--Watz	84.51	176	e	P	08 21 00.6	+4.8
VNA2	Neumayer--Watz	84.51	176	e	P	08 21 01.8	+6.0
VNA2	Neumayer--Watz	84.51	176	e	P	08 21 03.8	+8.0
VNA2	Neumayer--Watz	84.51	176	⇑i P	P	08 20 56.7	+0.9
VNA2				e		08 21 00.6	
VNA2				e		08 21 01.8	
VNA2				e	pP	08 21 03.8	-0.8
VNA1	Neumayer--Stat	84.73	176	e	P	08 21 02.2	+5.3
VNA1	Neumayer--Stat	84.73	176	e	P	08 21 03.2	+6.3
VNA1	Neumayer--Stat	84.73	176	⇑i P	P	08 20 57.9	+1.0
VNA1				e		08 21 02.2	
VNA1				e		08 21 03.2	
MDJ	Mudanjiang	84.86	324	P	P	08 20 59.0	+0.9
MDJ				AMB	AMB		
	comp=Z,130nm,1.2s,mb5.9						
MDJ				AMB	AMB		
	comp=Z,712nm,8.3s						
MDJ				LR	LR		
	comp=N,181nm,19.0s,MS5.0						
MDJ				LR	LR		
	comp=E,542nm,20.6s,MS5.0						
MDJ				LR	LR		
	comp=Z,586nm,19.8s,MS5.0						
WVOR	Wild Horse Val	84.99	39	eP	P	08 20 58.5	-0.3
WVOR				pmax	pmax		
	comp=Z,61nm,1.2s,mb5.6						
WVOR				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.5						
WVOR	Wild Horse Val	84.99	39	eP	P	08 20 58.5	-0.4
	comp=Z,61nm,1.2s,mb5.6						
WVOR				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
PLCA	Paso Flores	85.17	133	eP	P	08 20 59.3	-0.5
PLCA				pmax	pmax		
	comp=Z,75nm,1.6s						
PLCA				MLR	MLR		
	comp=Z,1μm,20.0s						
PLCA	Paso Flores	85.17	133	eP	P

comp=Z,1μm,20.0s,MS5.3
VIPM Ingram Point 85.24 36 P **P 08 21 00.4 +0.4**
OCWA Octopus Mounta 85.61 32 PFAKE 08 21 10.0 +8.2
OCWA LR LR
comp=Z,1μm,21.0s,MS5.3
PAYG Puerto Ayora 85.76 89 PFAKE 08 21 10.0 +6.6
PAYG LR LR
comp=Z,873nm,20.0s,MS5.2
WHN Wuhan 86.33 306 ⇑P **P 08 21 06.5 +0.7**
SNY Shenyang 86.47 319 ⇑*i*P **P 08 21 07.0 +0.8**
SNY AP pP 08 21 15.8 +0.7
SNY LR LR
comp=N,1μm,20.0s
MVU Marysvale 86.50 45 *e*P **P 08 21 07.5 +1.0**
comp=N,48nm,1.3s,mb5.6
MVU LR LR
comp=Z,967nm,20.0s,MS5.2
MSU Marysvale 86.53 45 P **P 08 21 07.7 +1.1**
MSU Marysvale 86.53 45 *e*P **P 08 21 07.6 +1.0**
UBT Ubonrachathani 86.60 288 P **P 08 21 09.5 +2.1**
KLR Kul'dur 86.91 329 *e*P **P 08 21 05.5 -2.7**
KLR *e* 08 32 46.5
KLR pmax pmax
comp=Z,57nm,1.4s,mb5.6
KLR pmax pmax
comp=Z,1μm,8.0s
MDW Midway 87.07 35 P **P 08 21 09.7 +0.7**
GBL Gable Mountain 87.22 35 P **P 08 21 10.3 +0.6**
SLKM Skilak Lake 87.25 12 P **P 08 21 10.3 +0.8**
SLKM Skilak Lake 87.25 12 *e*P **P 08 21 09.4 -0.1**
BMO Blue Mountains 87.27 37 *e*P **P 08 21 09.2 -0.8**
BMO pmax pmax
comp=Z,74nm,2.0s,mb5.6
BMO MLR MLR
comp=Z,1μm,19.0s,MS5.4
BMO Blue Mountains 87.27 37 *e*P **P 08 21 09.2 -0.8**
comp=Z,74nm,2.0s,mb5.6
BMO LR LR
comp=Z,1μm,19.0s,MS5.4
BGU Big Grassy Mou 87.39 42 P **P 08 21 11.5 +0.8**
MNTX Cornudas Mount 87.53 54 *e*P **P 08 21 11.1 -0.5**
comp=Z,32nm,1.2s,mb5.4
MNTX LR LR
comp=Z,1μm,19.0s,MS5.3
TMUT Trail Mountain 87.60 45 *e*P **P 08 21 12.3 +0.6**
LTX Lajitas 87.62 56 *e*P **P 08 21 12.1 0.0**
LTX *e**PP pP 08 21 23.3 +2.3
LTX pmax pmax
comp=Z,101nm,1.6s,mb5.8
LTX MLR MLR
comp=Z,1μm,19.0s,MS5.4
LTX Lajitas 87.62 56 *e*P **P 08 21 12.1 0.0**
comp=Z,100nm,1.6s,mb5.8
LTX *e*pP pP 08 21 23.3 +2.4
LTX LR LR
comp=Z,1μm,19.0s,MS5.4
LENM Lemitar 87.66 51 *e*P **P 08 21 12.7 +0.5**
MPU Maple Canyon 87.74 44 *e*P **P 08 21 12.4 +0.1**
FIB Fire Island 87.86 12 PFAKE 08 21 20.0 +7.5
FIB LR LR
comp=Z,2μm,19.0s,MS5.5
SRU San Rafael 87.94 45 P **P 08 21 14.0 +0.7**
SRU San Rafael 87.94 45 *e*P **P 08 21 13.4 +0.1**
LPM Los Pinos Moun 87.98 51 *e*P **P 08 21 14.0 +0.3**
HVU Hansel Valley 88.05 42 P **P 08 21 14.3 +0.5**
HVU Hansel Valley 88.05 42 *e*P **P 08 21 13.7 -0.1**
HLID Hailey 88.12 40 *e*P **P 08 21 14.0 -0.1**
comp=Z,8.7nm,1.2s,mb4.9
HLID *e*pP pP 08 21 24.9 +1.9
HLID LR LR
comp=Z,755nm,19.0s,MS5.1
MA2 Magadan 88.12 344 *e*P **P 08 21 14.0 +0.3**
MA2 *e*S S 08 31 53.7 -0.3
MA2 pmax pmax
comp=Z,50nm,1.3s,mb5.6
MA2 MLR MLR
comp=Z,2μm,20.0s,MS5.6
MA2 Magadan 88.12 344 *e*P **P 08 21 13.3 -0.5**
comp=Z,63nm,1.1s,mb5.8
MA2 LR LR
comp=Z,1μm,20.0s,MS5.3
OD2 Odessa Site #2 88.12 35 P **P 08 21 14.5 +0.4**
SIT Sitka 88.12 21 PFAKE 08 21 20.0 +6.2
SIT LR LR
comp=Z,1μm,19.0s,MS5.3
DAU Daniels Canyon 88.20 44 P **P 08 21 15.3 +0.7**
DAU Daniels Canyon 88.20 44 *e*P **P 08 21 14.4 -0.2**
ANMO Albuquerque 88.43 50 P **P 08 21 16.4 +0.6**
ANMO pmax pmax
comp=Z,40nm,1.3s
ANMO Albuquerque 88.43 50 *e*P **P 08 21 16.2 +0.4**
comp=Z,40nm,1.3s,mb5.5
ANMO LR LR
comp=Z,2μm,20.0s,MS5.6
PMR Palmer 88.46 12 *e*P **P 08 21 15.0 -0.3**
PMR MLR MLR
comp=Z,1μm,17.0s,MS5.4
PV10 Paradox Valley 88.50 46 *e*P **P 08 21 15.6 -0.5**
TCUT Toone Canyon 88.50 43 *e*P **P 08 21 15.9 -0.2**
GDL2 Guadalupe Moun 88.53 54 *e*P **P 08 21 16.0 -0.4**
PV01 Paradox Valley 88.68 47 *e*P **P 08 21 16.6 -0.3**
HWUT Hardware Ranch 88.69 43 *e*P **P 08 21 16.0 -0.8**
comp=Z,6.7nm,0.9s,mb5.0
HWUT LR LR
comp=Z,2μm,19.0s,MS5.5
DIV Divide 88.74 14 *e*P **P 08 21 16.2 -0.5**
comp=Z,423nm,1.7s,mb6.5
DIV LR LR
comp=Z,5μm,20.0s,MS6.0
SML Sawmill 88.81 13 P **P 08 21 17.9 +0.9**
SML Sawmill 88.81 13 *e*P **P 08 21 16.6 -0.4**
KKTK Khon Kaen 88.97 288 ⇑P **P 08 21 20.8 +2.0**
comp=Z,988nm,1.0s
ANM Nome 89.14 5 *e*P **P 08 21 18.4 -0.1**
CPRX Cap Rock 89.31 53 *e*P **P 08 21 19.7 -0.3**
NEW Newport 89.50 35 P **P 08 21 20.5 -0.1**
NEW pmax pmax
comp=Z,22nm,1.3s
NEW Newport 89.50 35 *e*P **P 08 21 20.0 -0.6**
comp=Z,22nm,1.3s,mb5.3
NEW LR LR
comp=Z,2μm,19.0s,MS5.7
AHID Auburn Hatcher 89.63 42 *e*P **P 08 21 21.6 +0.3**
comp=Z,18nm,1.1s,mb5.3
AHID LR LR
comp=Z,1μm,20.0s,MS5.4
MCMT McKenzie Canyo 89.78 39 *e*P **P 08 21 21.4 -0.6**
RRI2 Red Ridge 89.83 41 *e*P **P 08 21 22.5 +0.3**
TNA Tin City 89.97 3 *e*P **P 08 21 21.9 -0.4**
comp=Z,36nm,1.3s,mb5.5
TNA LR LR
comp=Z,693nm,20.0s,MS5.1
BJI Beijing 90.05 315 *e*P **P 08 21 24.2 +0.8**
BJI pmax pmax
comp=Z,71nm,1.5s,mb5.8
BJI MLR MLR
comp=Z,860nm,19.5s,MS5.2
BJI Beijing 90.05 315 *e*P **P 08 21 24.2 +0.8**
comp=Z,71nm,1.5s,mb5.8
BJI LR LR
comp=Z,860nm,19.5s,MS5.2
NNT Nongplab 90.08 284 P **P 08 21 26.0 +1.9**
TPAW Teton Pass 90.13 41 *e*P **P 08 21 23.8 +0.2**
TPAW *e*pP pP 08 21 33.8 +1.3
SNOW Snow King Moun 90.23 41 *e*P **P 08 21 24.2 +0.1**
SNOW *e*pP pP 08 21 34.9 +1.9
WUWY Wally Ulrich 90.28 41 *e*P **P 08 21 24.6 +0.2**
MSO Missoula 90.34 37 *e*P **P 08 21 23.1 -1.4**
comp=Z,18nm,1.3s,mb5.2
MSO LR LR
comp=Z,1μm,19.0s,MS5.3
IMW Indian Meadow 90.36 41 *e*P **P 08 21 24.5 -0.2**
MOOW Moose Ponds 90.40 41 *e*P **P 08 21 24.2 -0.7**
LOHW Long Hollow 90.41 41 *e*P **P 08 21 24.8 -0.1**
MCK McKinley 90.45 12 P **P 08 21 24.7 +0.1**
MCK pmax pmax
comp=Z,24nm,1.2s,mb5.4
MCK McKinley 90.45 12 *e*P **P 08 21 23.8 -0.8**
comp=Z,24nm,1.3s,mb5.4
MCK LR LR
comp=Z,1μm,19.0s,MS5.3
SDCO Great Sand Dun 90.53 48 *e*P **P 08 21 25.8 +0.2**
comp=Z,26nm,1.3s,mb5.4
SDCO LR LR
comp=Z,2μm,19.0s,MS5.5

BW06 Boulder Array 90.57 42 *e*P **P 08 21 24.7 -1.0**
comp=Z,20nm,1.4s,mb5.3
BW06 LR LR
comp=Z,1μm,19.0s,MS5.4
QLMT Earthquake Lak 90.60 40 *e*P **P 08 21 26.5 +0.7**
SEY Seymchan 90.68 346 *e*P **P 08 21 26.3 +0.6**
SEY *e* 08 25 08.3
SEY *e*S S 08 32 15.5 -1.8
SEY PS PS 08 33 30.6 -1.4
SEY SS SS 08 38 25.0 +2.0
SEY pmax pmax
comp=Z,250nm,1.2s,mb6.4
SEY pmax pmax
comp=N,70nm,1.3s
SEY pmax pmax
comp=E,40nm,1.3s
SEY smax
comp=N,1μm,19.2s
SEY smax
comp=E,2μm,23.1s
SEY MLR MLR
comp=Z,6μm,20.0s,MS6.0
SEY MLR MLR
comp=N,4μm,19.0s,MS5.9
SEY MLR MLR
comp=E,2μm,18.0s,MS5.9
YFT Old Faithful 90.74 41 *e*P **P 08 21 28.3 +1.9**
CHMT Chamberlain Mo 90.77 38 *e*P **P 08 21 25.9 -0.6**
YMR Madison River 90.78 40 *e*P **P 08 21 27.3 +0.7**
THY Trims Highway 90.79 13 *e*P **P 08 21 26.4 +0.2**
MENT Mentasta 90.80 14 *e*P **P 08 21 26.5 +0.3**
BOZ Bozeman (W) 90.95 39 P **P 08 21 27.6 +0.2**
BOZ pmax pmax
comp=Z,49nm,1.2s,mb5.7
BOZ Bozeman (W) 90.95 39 *e*P **P 08 21 27.3 -0.1**
comp=Z,49nm,1.3s,mb5.7
BOZ LR LR
comp=Z,1μm,19.0s,MS5.3
NST Nakhon Sawan 91.03 287 P **P 08 21 29.2 +0.8**
comp=Z,108nm,0.9s,mb6.2
LKWY Lake 91.06 41 *e*P **P 08 21 30.0 +2.1**
LKWY pmax pmax
comp=Z,27nm,1.2s,mb5.5
LKWY Lake 91.06 41 *e*P **P 08 21 29.5 +1.6**
comp=Z,27nm,1.2s,mb5.5
LKWY LR LR
comp=Z,1μm,20.0s,MS5.3
JCT Junction City 91.12 57 P **P 08 21 28.1 -0.4**
JCT pmax pmax
comp=Z,2.0nm,1.3s
JCT Junction City 91.12 57 *e*P **P 08 21 27.6 -0.9**
comp=Z,29nm,1.4s,mb5.4
JCT LR LR
comp=Z,1μm,21.0s,MS5.2
WALA Waterton Lakes 91.68 36 *e*P **P 08 21 30.6 0.0**
comp=Z,46nm,1.5s,mb5.6
COLA College 91.69 12 P **P 08 21 29.7 -0.6**
COLA pmax pmax
comp=Z,39nm,1.2s,mb5.6
COLA College 91.69 12 *e*P **P 08 21 29.6 -0.7**
AMTX Amarillo 91.80 52 *e*P **P 08 21 31.4 -0.1**
comp=Z,26nm,1.3s,mb5.4
AMTX LR LR
comp=Z,2μm,19.0s,MS5.7
IMA Indian Mountai 91.85 9 *e*P **P 08 21 31.6 +0.6**
NANT Nan 91.85 290 ⇑P **P 08 21 31.0 -1.1**
comp=Z,194nm,1.0s,mb6.4
XAN Xi'an 92.05 307 P **P 08 21 33.8 +1.1**
XAN AP pP 08 21 39.0 -2.6
XAN AMB AMB
comp=Z,114nm,1.2s,mb6.1
GCMT Greycliff 92.17 40 *e*P **P 08 21 33.0 0.0**
TRQA Tornquist 92.23 134 PFAKE 08 21 50.0 +17
TRQA LR LR
comp=Z,1μm,21.0s,MS5.4
PHWY Pilot Hill 92.38 45 *e*P **P 08 21 34.8 +0.7**
DAWY Dawson 92.77 15 *e*P **P 08 21 35.2 -0.1**
KMI Kunming 92.84 296 P **P 08 21 38.0 +1.5**
KMI *PP pP 08 21 43.8 -1.6
KMI S S 08 32 41.8 +4.6
KMI SS SS 08 39 00.5 +5.5
KMI pmax pmax
comp=Z,112nm,1.1s,mb6.2
KMI MLR MLR
comp=Z,2μm,21.4s,MS5.5
KMI Kunming 92.84 296 P **P 08 21 38.0 +1.5**
comp=Z,112nm,1.1s,mb6.2
KMI pP pP 08 21 43.8 -1.6
KMI S S 08 32 41.8 +4.6
KMI SS SS 08 39 00.5 +5.5
KMI LR LR
comp=Z,2μm,21.4s,MS5.5
CHRT Chiangrai 93.09 290 ⇑P **P 08 21 40.5 +2.7**
comp=Z,921nm,0.9s
BILL Bilibino 93.19 353 *i* P **P 08 21 36.8 -0.3**
BILL pmax pmax
comp=Z,47nm,1.4s,mb5.7
BILL Bilibino 93.19 353 *e*P **P 08 21 35.6 -1.5**
comp=Z,61nm,1.4s,mb5.8
BILL LR LR
comp=Z,3μm,20.0s,MS5.8
NNA Nana 93.20 105 PFAKE 08 21 50.0 +12
NNA LR LR
comp=Z,625nm,20.0s,MS5.1
CM31 Chiang Mai Arr 93.22 289 *e*P **P 08 21 40.2 +1.8**
comp=Z,166nm,1.0s,mb6.4
CM31 LR LR
comp=Z,724nm,19.0s,MS5.2
CHG Chiang Mai 93.37 289 ⇑P **P 08 21 41.0 +1.9**
comp=Z,150nm,1.1s,mb6.3
WMOK Wichita Mounta 93.84 54 *e*P **P 08 21 39.9 -1.0**
WMOK pmax pmax
comp=Z,14nm,1.4s,mb5.2
WMOK MLR MLR
comp=Z,980nm,22.0s,MS5.2
WMOK Wichita Mounta 93.84 54 *e*P **P 08 21 39.9 -1.1**
comp=Z,14nm,1.4s,mb5.2
WMOK LR LR
comp=Z,980nm,22.0s,MS5.2
HKT Hockley 93.94 59 *e*P **P 08 21 40.1 -1.4**
HKT LR LR
comp=Z,811nm,20.0s,MS5.2
EDM Edmonton 94.42 32 *e*P **P 08 21 41.3 -1.8**
LAO LASA Array 94.67 40 *e*P **P 08 21 44.4 -0.1**
comp=Z,36nm,1.1s,mb5.7
LAO LR LR
comp=Z,1μm,19.0s,MS5.3
CLNS Chul'man 95.03 332 *e*P **P 08 21 45.0 -0.8**
CLNS pmax pmax
comp=Z,21nm,1.4s,mb5.4
CLNS pmax pmax
comp=N,11nm,1.2s
CLNS pmax pmax
comp=E,9.0nm,1.0s
JTS JuntasAbangare 95.08 81 PFAKE 08 22 00.0 +13
JTS LR LR
comp=Z,182nm,22.0s,MS4.5
LVC Limon Verde 95.10 117 *e*P **P 08 21 47.7 +0.7**
LVC LR LR
comp=Z,1μm,19.0s,MS5.4
NATX Nacogdoches 95.63 58 PFAKE 08 22 00.0 +11
NATX LR LR
comp=Z,2μm,19.0s,MS5.6
TEIG Tepich 96.12 71 PFAKE 08 22 00.0 +8.3
TEIG LR LR
comp=Z,574nm,19.0s,MS5.1
YAK Yakutsk 96.51 337 *e*P **P 08 21 50.7 -1.8**
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,15nm,1.0s,mb5.4
YAK Yakutsk 96.51 337 *i* P **P 08 21 51.9 -0.6**
YAK LR LR
comp=Z,754nm,20.0s,MS5.2
LZH Lanzhou 96.68 307 ⇑*e*P **P 08 21 55.3 +1.4**
LZH AP pP 08 21 59.5 -3.3
LZH XP sP 08 22 02.8 -2.8
LZH PP PP 08 25 53.0 +1.8
LZH SKS SKS 08 32 30.0 -5.6
LZH S S 08 33 13.0 +3.1
LZH AMB AMB
comp=Z,70nm,1.5s,mb5.9
LZH AMB AMB
comp=Z,186nm,4.0s

LZH LR LR
comp=E,2μm,18.2s
LZH LR LR
comp=Z,2μm,19.5s,MS5.6
LZH Lanzhou 96.68 307 ⇑*e*P **P 08 21 55.2 +1.3**
LZH *SP sP 08 22 02.8 -2.8
LZH 08 25 53.0
LZH 08 32 30.0
LZH S S 08 33 13.0 +3.1
LZH SS SS 08 39 54.0 +5.2
LZH pmax pmax
comp=Z,70nm,1.5s,mb5.9
LZH MLR MLR
comp=Z,2μm,19.5s,MS5.6
LZH Lanzhou 96.68 307 ⇑*e*P **P 08 21 55.2 +1.3**
comp=Z,70nm,1.5s,mb5.9
LZH pP pP 08 21 59.5 -3.3
LZH sP sP 08 22 02.8 -2.8
LZH PP PP 08 25 53.0 +1.8
LZH SKS SKS 08 32 30.0 -5.6
LZH S S 08 33 13.0 +3.1
LZH sS 08 33 20.0
LZH SS SS 08 39 54.0 +5.2
LZH LR LR
comp=Z,2μm,19.5s,MS5.6
DGMT Dagmar 96.75 40 PFAKE 08 22 10.0 +16
DGMT LR LR
comp=Z,933nm,20.0s,MS5.3
OTAV Otavalo 96.91 93 PFAKE 08 22 10.0 +15
OTAV LR LR
comp=Z,837nm,20.0s,MS5.2
LPAZ La Paz 98.78 112 PFAKE 08 22 20.0 +16
LPAZ LR LR
comp=Z,606nm,20.0s,MS5.1
ULN Ulaanbaatar 99.61 318 *e*P **P 08 22 06.3 -0.5**
ULN pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
ULN MLR MLR
comp=Z,960nm,19.0s,MS5.3
ULN Ulaanbaatar 99.61 318 *e*P **P 08 22 06.3 -0.5**
comp=Z,8.2nm,1.1s,mb5.1
ULN LR LR
comp=Z,960nm,19.0s,MS5.3
CCM Cathedral Cave 100.74 53 PFAKE 08 22 20.0 +7.8
CCM LR LR
comp=Z,2μm,19.0s,MS5.5
OXF Oxford 100.77 57 PFAKE 08 22 20.0 +7.6
OXF LR LR
comp=Z,1μm,20.0s,MS5.4
LRAL Lakeview Retre 102.09 59 PFAKE 08 22 30.0 +12
LRAL LR LR
comp=Z,1μm,20.0s,MS5.4
ULM Lac du Bonnet 102.42 40 PFAKE 08 22 30.0 +11
ULM LR LR
comp=Z,2μm,20.0s,MS5.5
WVT Waverly 102.56 56 PFAKE 08 22 30.0 +10
WVT LR LR
comp=Z,2μm,19.0s,MS5.6
ZAK Zakamensk 102.90 320 *e*P Pdif 08 22 21.6 +0.1
TIXI Tiksi 103.08 345 *e*P Pdif 08 22 20.3 -1.5
TIXI pmax pmax
comp=Z,10.0nm,2.1s
TIXI Tiksi 103.08 345 *i* P Pdif 08 22 21.1 -0.7
TIXI LR LR
comp=Z,874nm,20.0s,MS5.3
TLY Talaya 103.19 321 PFAKE 08 22 30.0 +7.3
TLY LR LR
comp=Z,217nm,20.0s,MS4.7
WCI Wyandotte Cave 104.45 54 PFAKE 08 22 40.0 +11
WCI LR LR
comp=Z,1μm,20.0s,MS5.5
DWPF Disney 104.85 66 PFAKE 08 22 40.0 +9.4
DWPF LR LR
comp=Z,595nm,19.0s,MS5.2
PALK Pallekele 105.12 271 PFAKE 08 27 00.0
PALK LR LR
comp=Z,615nm,21.0s,MS5.1
DGAR Diego Garcia 106.26 254 PFAKE 08 27 00.0
DGAR LR LR
comp=Z,711nm,20.0s,MS5.2
NHSC New Hope 107.50 61 PFAKE 08 27 00.0
NHSC LR LR
comp=Z,1μm,19.0s,MS5.5
SDV Santo Domingo 107.51 88 PFAKE 08 27 00.0
SDV LR LR
comp=Z,1μm,20.0s,MS5.4
ACSO Alum Creek Sta 107.52 53 PFAKE 08 27 00.0
ACSO LR LR
comp=Z,2μm,21.0s,MS5.6
AAM Ann Arbor 107.65 51 PFAKE 08 27 00.0
AAM LR LR
comp=Z,2μm,19.0s,MS5.7
BLA Blacksburg 108.55 57 PFAKE 08 27 00.0
BLA LR LR
comp=Z,1μm,19.0s,MS5.6
ERPA Erie 110.22 52 PFAKE 08 27 10.0 +11
ERPA LR LR
comp=Z,2μm,20.0s,MS5.6
WMQ Urumqi 110.95 310 PDIF Pdif 08 22 58.0 +0.9
WMQ PP PP 08 27 39.0 +0.8
WMQ SKS SKS 08 34 04.8 +23
WMQ S 08 35 09.0
WMQ PS PS 08 37 04.8 +0.8
WMQ SS SS 08 43 04.5 +0.1
WMQ PP PP
comp=Z,122nm,11.0s
WMQ LR LR
comp=N,846nm,25.0s,MS5.3
WMQ LR LR
comp=E,836nm,27.2s,MS5.3
WMQ LR LR
comp=Z,1μm,28.9s,MS5.4
SSPA Standing Stone 111.37 54 PFAKE 08 27 10.0 +9.0
SSPA LR LR
comp=Z,2μm,19.0s,MS5.6
BINY Binghamton 113.13 53 PFAKE 08 27 10.0 +5.6
BINY LR LR
comp=Z,2μm,19.0s,MS5.7
NCB Newcomb 114.75 51 PFAKE 08 27 20.0 +12
NCB LR LR
comp=Z,1μm,20.0s,MS5.6
SJG San Juan 114.87 81 PFAKE 08 27 20.0 +12
SJG LR LR
comp=Z,639nm,21.0s,MS5.2
NVS Novosibirsk 115.80 321 *e*PKIKP PKPdf 08 27 02.9 -6.5
NVS *e* 08 28 09.2
NVS *e*S SKS 08 33 53.8 -6.1
NVS pmax pmax
comp=Z,10.0nm,1.3s
NVS smax
comp=E,20nm,2.0s
HRV Harvard--Oak R 116.41 53 PFAKE 08 27 20.0 +9.2
HRV LR LR
comp=Z,2μm,20.0s,MS5.7
WES Weston 116.56 53 PFAKE 08 27 20.0 +8.9
WES LR LR
comp=Z,3μm,20.0s,MS5.8
WVL Waterville 118.08 51 PFAKE 08 27 20.0 +6.0
WVL LR LR
comp=Z,8μm,20.0s,MS6.3
KURK Kurchatov 118.19 316 *e*PKIKP PKPdf 08 27 09.4 -4.7
KURK MLR MLR
comp=Z,413nm,19.0s,MS5.1
PQI Presque Isle 119.46 49 PFAKE 08 27 20.0 +3.4
PQI LR LR
comp=Z,8μm,20.0s,MS6.4
EMMW East Machias 119.66 51 PFAKE 08 27 20.0 +3.0
EMMW LR LR
comp=Z,8μm,19.0s,MS6.3
BBSR BB Station 119.93 66 PFAKE 08 27 30.0 +12
BBSR LR LR
comp=Z,504nm,19.0s,MS5.2
AAK Ala-Archa 120.22 306 *i* PKIKP PKPdf 08 27 13.6 -4.6
AAK Ala-Archa 120.22 306 *i* PKP PKPdf 08 27 13.7 -4.5
AAK LR LR
comp=Z,379nm,19.0s,MS5.0
SCHQ Schefferville 120.58 39 PFAKE 08 27 30.0 +11
SCHQ LR LR
comp=Z,2μm,19.0s,MS5.7
SUR Sutherland 121.24 197 PFAKE 08 27 30.0 +10
SUR LR LR
comp=Z,448nm,20.0s,MS5.1
BRVK Borovoye 123.40 319 *e*PKIKP PKPdf 08 27 19.2 -4.9
BRVK *e* 08 27 29.3
BOSA Boshof 123.40 202 PFAKE 08 27 30.0 +5.3

BOSA LR LR
comp=Z,1μm,20.0s,MS5.5
LBTB Lobatse 126.56 204 PFAKE 08 27 40.0 +9.1
LBTB LR LR
comp=Z,1μm,19.0s,MS5.6
SVE Sverdlovsk 128.34 324 *e*PKIKP PKPdf 08 27 25.0 -8.5
ARU Arti 129.54 324 *i* PKIKP PKPdf 08 27 24.9 -11
RCBR Riachuelo 130.78 122 PFAKE 08 27 50.0 +11
RCBR LR LR
comp=Z,1μm,19.0s,MS5.7
LSZ Lusaka 134.00 213 *e*PKIKP PKPdf 08 27 41.7 -3.5
LSZ *e* 08 27 53.7
LSZ MLR MLR
comp=Z,1μm,19.0s,MS5.6
TSUM Tsumeb 134.62 198 *e*PKPdf PKPdf 08 27 43.4 -3.0
TSUM LR LR
comp=Z,2μm,20.0s,MS5.9
JOF Joensuu 137.50 342 *ep* PKPdf 08 27 44.5 -5.9
KMBO Kilima Mbogo 138.97 236 PFAKE 08 28 00.0 +5.5
KMBO LR LR
comp=Z,651nm,20.0s,MS5.4
KAF Kangasniemi 139.49 344 *ep* PKPdf 08 27 48.7 -5.4
MOS Moscow 140.29 331 *e*PKIKP PKPdf 08 27 52.1 -3.6
MOS *e* 08 30 55.4
MOS pmax pmax
comp=Z,44nm,1.1s
OBN Obninsk 141.16 331 *e*PKHKP 08 27 45.4
OBN 08 31 00.0
OBN SS SS 08 49 51.0 +29
OBN pmax pmax
comp=Z,29nm,1.4s
OBN pmax pmax
comp=Z,36nm,1.1s
OBN MLR MLR
comp=Z,1μm,20.0s,MS5.6
OBN Obninsk 141.16 331 *i* P PKPdf 08 27 49.7 -7.5
OBN LR LR
comp=Z,1μm,20.0s,MS5.6
VOR Voronezh 141.83 325 PKIKP PKPdf 08 27 56.0 -2.5
VOR pmax pmax
comp=Z,120nm,2.0s
GOF Gofitskoye 142.45 313 *e*PKIKP PKPdf 08 27 52.0 -7.8
ZEI Tsey 142.57 309 *i* PKHKP 08 27 51.2
ZEI pmax pmax
comp=Z,6.0nm,1.4s
GNI Garni 142.60 305 PFAKE 08 28 10.0 +10
GNI LR LR
comp=Z,638nm,19.0s,MS5.4
KIV Kislovodsk 143.06 311 *i* PKIKP PKPdf 08 27 53.5 -7.3
KIV pmax pmax
comp=Z,22nm,1.2s
KIV Kislovodsk 143.06 311 *i* P PKPbc 08 27 54.3 +0.4
KIV LR LR
comp=Z,290nm,20.0s,MS5.0
NB2 NORSAR Subarra143.14 354 PKPbc PKPbc 08 27 52.8 -0.8
comp=Z,56nm,1.7s,baz=14,slow=4.3
NB2 NORSAR Subarra143.14 354 PKPb PKPbc 08 27 52.8 -0.8
baz=14,slow=4.3
MBAR Mbarara 144.08 230 *e*PKIKP PKPdf 08 27 58.2 -5.3
MBAR MLR MLR
comp=Z,323nm,19.0s,MS5.1
MSL Mosul 144.56 299 *i* PKP PKPdf 08 28 02.0 -1.7
BCA Borcka 144.57 308 P PKPbc 08 27 58.7 +0.2
ERZM Erzurum 145.17 305 *i* P PKPbc 08 28 01.8 +1.6
EZM Erzurum 145.18 305 *i* P PKPbc 08 28 01.9 +1.8
SOC Sochi 145.20 312 *i* PKHKP 08 27 49.5
SOC *e*SS SS 08 50 43.5 +35
MNK Minsk 145.20 336⇑*e*PKHKP 08 27 57.0
VRT Varto 145.24 304 *i* P PKPbc 08 28 01.8 +1.5
BTMT Batman 145.48 302 *e*P PKPbc 08 28 02.5 +1.5
BEST Besiri 145.72 302 *i* P PKPbc 08 28 03.1 +1.6
BINT Bingol 146.09 304 *e*P PKPbc 08 28 04.7 +2.2
EZC Erzincan 146.37 306 *e*P PKPbc 08 28 03.2 +0.1
GUMT Gumushane 146.41 307 *i* P PKPbc 08 28 05.2 +2.1
SUW Suwalki 147.23 339 PKP2 PKPab 08 28 05.4 -3.5
SUW Suwalki 147.23 339 *e*PKP PKPdf 08 28 06.2 -1.5
ELZG Elazig 147.32 304 *i* P PKPdf 08 28 08.8 +0.4
URFA Urfa 147.71 302 *e*P PKPdf 08 28 09.1 +0.1
MYA Malataya 147.79 304 *e*P PKPdf 08 28 08.6 -0.5
MALT Malatya 147.79 304 *e*P PKPdf 08 28 05.7 -3.4
MALT Malatya 147.79 304 *e*PKPdf PKPdf 08 28 05.1 -4.0
MALT *e*PKPbc PKPdf 08 28 09.2 +0.1
MUD Monsted U'grnd 147.85 355⇑*i*P PKPdf 08 28 08.2 -0.4
comp=Z,94nm,1.1s
COP Copenhagen 148.23 351 *i* P Px 08 28 37.2
SIM Simferopol' 148.24 318 PKIKP PKPdf 08 28 05.8 -3.8
SIM pmax pmax
comp=Z,84nm,1.0s
SIM MLR MLR
comp=Z,800nm,19.0s,MS5.5
BSD Bornholm Skovb 148.37 348⇑*e*PKP2 PKPab 08 28 09.2 -4.2
BSD Bornholm Skovb 148.37 348⇑*i*P PKPdf 08 28 09.2 -0.3
comp=Z,66nm,0.9s
GZT Gaziantep 148.70 302 *i* P PKPdf 08 28 07.7 -2.9
ESK Eskdalemuir 148.74 8 PFAKE 08 28 20.0 +10
ESK LR LR
comp=Z,308nm,20.0s,MS5.1
BWH Wardlaw 148.82 9 *e*P PKPdf 08 28 10.3 +0.2
BBH Bruntsheil 148.95 8 *e*P PKPdf 08 28 10.8 +0.4
BHH Howats Hill 148.96 8 *e*P PKPdf 08 28 10.7 +0.3
GAZ Gaziantep 149.02 302 *i* P PKPdf 08 28 06.9 -4.2
BTA Talkin 149.21 8 *e*P PKPdf 08 28 11.2 +0.4
BBO1 Bothel 149.30 8 *e*P PKPdf 08 28 11.6 +0.6
BOYT Boyabat 149.32 311 *i* P PKPdf 08 28 12.9 +1.4
BYBT Boyabat 149.39 311 *e*P PKPdf 08 28 12.4 +0.9
WAR Warsaw 149.42 339 *e*PKP PKPdf 08 28 13.5 +2.3
DMUB Kingscourt 149.49 13⇑*i*P PKPdf 08 28 12.2 +0.9
GKP Gorka Klasztor 149.59 344 *e*PKP PKPdf 08 28 13.3 +1.8
CTKT Corum 149.71 310 *i* P PKPdf 08 28 14.6 +2.5
COBT Iskenderun 149.93 301 *i* P PKPdf 08 28 15.2 +2.6
DCN Croghan 149.94 14 *e*Ps 08 28 05.1
DCN Croghan 149.94 14⇑*i*P PKPdf 08 28 13.1 +1.1
DCN Croghan 149.94 14⇑*i*P PKPdf 08 28 13.1 +1.1
CORM Corum 149.99 309 *e*P PKPdf 08 28 14.5 +1.9
TOS Tosya 150.08 311 *e*P PKPdf 08 28 13.9 +1.2
KIS Kishinev 150.09 325 *e*PKHKP 08 28 12.0
KIS pmax pmax
comp=Z,180nm,1.4s
KIS MLR MLR
comp=Z,1μm,20.0s,MS5.7
DLF Lyons Farm 150.14 13 *e*P PKPdf 08 28 05.6 -6.7
DLF Lyons Farm 150.14 13⇑*i*P PKPdf 08 28 13.6 +1.3
DLF Lyons Farm 150.14 13⇑*i*P PKPdf 08 28 13.6 +1.3
CEYT Ceyhan 150.19 302 *e*P PKPdf 08 28 15.7 +2.7
BSEG Bad Segeberg 150.22 353 *e*PKIKP PKPdf 08 27 57.4 -15
CANT Cankiri 150.54 310 *e*P PKPdf 08 28 16.6 +3.2
ELDT Eldivan 150.72 310 *i* P PKPdf 08 28 16.0 +2.4
SAFT Safranbolu 150.91 312 *i* P PKPdf 08 28 16.6 +2.7
KAMT Kaman 150.95 308 *i* P PKPdf 08 28 16.6 +2.6
KWP Kalwaria 150.99 335 *e*PKP PKPdf 08 28 16.9 +3.2
RUE Ruedersdorf 151.09 348 *e*PKPbc PKPdf 08 28 15.3 +1.6
ANTO Ankara 151.41 309 *e*P PKPdf 08 28 18.0 +3.3
LOD Lodumlu 151.43 309 *e*P PKPdf 08 28 18.2 +3.5
BURAR Bucovina Array 151.45 329 ⇓P PKPdf 08 28 12.9 -1.5
MEST Erdemli 151.54 302 *i* P PKPdf 08 28 17.7 +2.7
OJC Ojcow 151.55 339 *e*PKP PKPdf 08 28 17.7 +3.1
WIT Witteveen 151.65 357 *e*PKP PKPdf 08 28 18.6 +4.0
KOLS Kolonicke sedl 151.72 334 *i* PKP PKPdf 08 28 18.7 +3.9
KOLS *e* 08 28 34.8
VRI Vrincioaia 151.93 325⇑PKIKP PKPdf 08 28 18.1 +2.8
KSP Ksiaz 152.04 343 *e*PKIKP PKPdf 08 28 12.0 -3.3
KSP *e* 08 28 19.0
KSP *e* 08 28 23.3
KSP *e* 08 28 28.2
KSP MLR MLR
comp=Z,2μm,19.6s,MS6.0
KSP Ksiaz 152.04 343 *e*PKP PKPdf 08 28 19.1 +3.8
NIE Niedzica 152.05 337 *e*PKP PKPdf 08 28 12.9 -2.4
NIE *e* 08 28 19.7
CRVS Cervenica-Dubn 152.06 335 *e*PKP PKPdf 08 28 19.4 +4.0
CRVS *e* 08 28 29.3
MDU Mudurnu 152.25 312 *e*P PKPdf 08 28 19.6 +3.7
CLZ Clausthal 152.26 352 *e*PKP PKPdf 08 28 06.1 -9.5
HENT Hendek 152.30 313 *i* P PKPdf 08 28 16.6 +0.6
CLL Collm 152.35 348⇓*i*PKIKP PKPdf 08 28 12.5 -3.2
comp=Z,logA/T=1.2
CLL *i* PKP1 PKPdf 08 28 19.3 +3.6
CLL *e*PKP2 PKPab 08 28 27.0 -3.1
CLL *i* 08 28 35.6
OKC Ostrava-Krasne 152.41 340 *e*PKPDF PKPdf 08 28 13.0 -2.8
OKC ⇑*e*PKPB 08 28 20.2
OKC *e*PKPAB PKPab 08 28 30.2 -0.2
OKC AMS AMS 09 35 30.0
UPC Upice 152.42 343 *e*PKPDF PKPdf 08 28 13.0 -2.8
UPC ⇑*e*PKPB 08 28 20.0
UPC *e*PKPAB PKPab 08 28 30.2 -0.2
KIZT Kizilcal 152.46 308 *e*P PKPdf 08 28 18.8 +2.6
DPC Dobruska-Polom 152.48 343 *e*PKIKP PKPdf 08 28 13.2 -2.7
DPC *e* 08 28 20.2
DPC MLR MLR
comp=Z,900nm,23.5s,MS5.5
DPC Dobruska-Polom 152.48 343 *e*PKPDF PKPdf 08 28 13.2 -2.7
DPC ⇑*e*PKPB 08 28 20.2
DPC *e*PKPAB PKPab 08 28 30.7 0.0
DPC AMS AMS 09 38 50.0
comp=Z,900nm,23.5s
WTSB Winterswijk 152.48 356 *e*PKP PKPdf 08 28 19.4 +3.6
BRG Berggiesshubel 152.57 346 *i* PKP PKPdf 08 28 12.4 -3.6
BRG *i* 08 28 20.0
BRG *i* 08 28 32.6
BRG *i* 08 28 44.3
BRG *i* pPKP 08 30 35.0
BRG *i* 08 30 46.5
MLR Muntele Rosu 152.59 325 ⇓PKIKP PKPdf 08 28 20.0 +3.8
CSS Prodhromos 152.62 299 *e*PKPbc PKPdf 08 28 19.1 +2.5
CSS *e*PKPab PKPab 08 28 29.0 -2.8
MORC Moravsky Berou 152.65 341 *e*PKIKP PKPdf 08 28 12.9 -3.3
MORC *e* 08 28 20.0
PVCC Panska Ves 152.76 345 *e*PKPDF PKPdf 08 28 13.3 -3.0
PVCC ⇑*e*PKPB 08 28 20.6
PVCC *e*PKPAB PKPab 08 28 31.1 -0.7
PVCC AMS AMS 09 38 50.0
comp=Z,1μm,22.4s
KECS Kecovo 152.77 336 *e*PKP PKPab 08 28 31.6 -0.4
ESKT Eskisehir 152.92 310 *e*P PKPdf 08 28 21.1 +4.2
ESKT Eskisehir 152.92 310 *i* P PKPdf 08 28 21.0 +4.1
MOX Moxa 153.24 349 *e*PKIKP PKPdf 08 28 13.5 -3.5
MOX Moxa 153.24 349 *i* P PKPdf 08 28 13.5 -3.5
comp=Z,logA/T=1.6
PRU Pruhonice 153.27 345 *e*PKPDF PKPdf 08 28 14.3 -2.7
PRU ⇑*e*PKPB 08 28 21.7
PRU *e*PKPAB PKPab 08 28 33.4 -0.6
PRU AMS AMS 09 39 40.0
comp=Z,1μm,19.8s
PSZ Piszkesteto 153.46 336 *e*PKPdf PKPdf 08 28 14.1 -3.3
PSZ ⇓*e*P 08 28 34.9
PSZ Piszkesteto 153.46 336⇓*e*PKP/p 08 28 34.9
NKC Novy Kostel 153.49 348 *e*PKPDF PKPdf 08 28 14.5 -2.8
NKC ⇑*e*PKPB 08 28 21.3
NKC *e*PKPAB PKPab 08 28 34.3 -0.6
NKC AMS AMS 09 42 30.0
comp=Z,1μm,20.4s
HGN Heimansgroeve 153.73 357 *e*PKP PKPdf 08 28 20.1 +2.5
comp=Z,16nm,1.3s
ULDT Uludag 153.81 313 *i* P PKPdf 08 28 23.0 +4.9
TNS Taunus Mts 154.08 354 *e*PKIKP PKPdf 08 28 13.7 -4.4
SRO Srobarova 154.12 338 *e*PKP PKPab 08 28 38.3 +0.7
ZST Bratislava 154.19 340 *e*PKP PKPdf 08 28 16.2 -2.1
ZST *i* 08 28 39.2
SRO1 Iza 154.19 338 *i* PKP PKPab 08 28 38.4 +0.5
GRA1 Grafenberg Arr 154.23 349 *e*PKP PKPdf 08 28 14.6 -3.7
GRA1 LR LR
comp=Z,1μm,20.5s,MS5.7
GRF Grafenberg Arr 154.23 349 *e*PKIKP PKPdf 08 28 14.6 -3.7
GRF MLR MLR
comp=Z,1μm,20.5s,MS5.7
KHC Kasperske Hory 154.29 346 *e*PKPDF PKPdf 08 28 15.2 -3.3
KHC ⇑*e*PKPB 08 28 24.5
KHC *e*PKPAB PKPab 08 28 35.7 -2.6
KHC AMS AMS 09 39 50.0
comp=Z,2μm,24.2s
WET Wettzell 154.44 347 *e*PKIKP PKPdf 08 28 15.6 -3.0
BAIF Baives 154.47 360 *e*PKP1 PKPdf 08 28 11.7 -7.0
GEC2 GERESS Array S 154.53 345 *e*PKIKP PKPdf 08 28 15.6 -3.2
SOP Sopron 154.81 340⇑*e*P PKPab 08 28 41.4 +0.8
WLF Walferdange 154.81 357 PKIKP PKPdf 08 28 16.8 -2.3
WLF *e* 08 28 24.8
WLF *e* 08 28 39.0
PKSM Moragy 155.36 335⇑*e*PKIKP PKPdf 08 28 15.9 -4.0
STU Stuttgart 155.43 352 *e*PKIKP PKPdf 08 28 14.3 -5.6
FUR Furstenfeldbru 155.69 348 *e*PKIKP PKPdf 08 28 20.7 +0.4
BEO Belgrade 155.73 331⇑*i*PKP PKPab 08 28 43.1 -1.5
BFO Black Forest 155.97 353 *e*PKIKP PKPdf 08 28 21.5 +0.9
CDF Champ du Feu 155.99 355 *e*PKP1 PKPdf 08 28 16.0 -4.7
PERS Pernice 156.19 341 *e*PKPbc PKPab 08 28 46.2 -0.3
HAU Haudompre 156.46 356 *e*PKP1 PKPdf 08 28 17.0 -4.3
comp=Z,80nm,1.6s
WTTA Wattenberg 156.48 347⇑*i*P PKPdf 08 28 19.1 -2.3
WTTA *i* 08 28 48.7
DIVS Divcibare 156.50 330⇑*i*(PKP) 08 28 16.2
MOTA Moosalm 156.51 348⇑*i*P PKPdf 08 28 18.8 -2.6
MOTA *i* 08 28 47.2
SQTA Sankt Quirin 156.61 348⇑*i*P PKPdf 08 28 17.8 -3.8
VISS Visnje 157.02 340 *e*PKPbc PKPab 08 28 49.0 -1.1
JAVS Javornik 157.17 342 *e*PKPbc PKPab 08 28 49.6 -1.2
CEY Cerknica 157.21 341 *e*PKPbc PKPab 08 28 50.1 -0.8
SKO Skopje 157.38 325 *e*PKP PKPdf 08 28 20.0 -2.8
SKO *i* 08 28 51.1
SSF Saint Saulge 157.47 1 *e*PKP1 PKPdf 08 28 18.3 -4.5
comp=Z,82nm,1.6s
AVF Avril sur Loir 157.74 1 *e*PKP1 PKPdf 08 28 19.6 -3.5
comp=Z,18nm,1.4s
CABF La Chapelle 157.86 356 *e*PKP1 PKPdf 08 28 19.0 -4.3
comp=Z,144nm,1.7s
SMF Signal de Mont 157.89 0 *e*PKP1 PKPdf 08 28 19.9 -3.4
comp=Z,87nm,1.6s
BGF Bois d'Agland 157.96 2 *e*PKP1 PKPdf 08 28 20.3 -3.1
TCF Toulx Ste Croi 158.19 3 *e*PKP1 PKPdf 08 28 20.3 -3.4
MCGN Macugnaga 158.34 353 *e*PKP PKPdf 08 28 21.9 -2.0
DBIC Dimbokro 160.33 153 PKPdf PKPdf 08 28 23.5 -3.5
DBIC Dimbokro 160.33 153 *e*PKPdf PKPdf 08 28 22.5 -4.6
DBIC LR LR
comp=Z,822nm,19.0s
EVO Evora 162.64 33 *e*PKIKP PKPdf 08 28 25.6 -3.1
comp=Z,37nm,1.1s
ESLA Sonseca Array 163.41 22 PFAKE 08 28 40.0 +11
ESLA LR LR
comp=Z,5μm,20.0s

BJI ***30*** *08:10:44.3, 22.90S×175.20W, h47km, mB5.9, mb5.5, Ms5.4, Msz5.2*
HRVD ***30*** *08:10:44.4±0.3, 23.11S×174.56W, h12km, MW5.5/68, Centroid moment Tensor Solution. LP body waves: s42, c65; Mantle waves: s68, c119; Half duration: 1s3 Moment tensor: Scale 1017Nm; Mrr1.19±.05; Mθθ-0.08±.05; Mφφ-1.11±.04; Mrθ0.73±.14; Mrφ-0.48±.04; Mθφ1.19±.13; Best double couple: M0=1.872×1017 NP1: φs193°, δ22°, λ74°. NP2: φs29°, δ69°, λ96°. Principal axes: T 1.83, Plg65°, Azm309°; N .081, Plg6°, Azm207°; P -1.914, Plg24°, Azm115°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***30*** *08:10:44.4±0.5, 22.90S×175.17W, mb5.3/23 Error ellipse: s-maj=24.1km s-min=9.8km az=148.0*
ISC 30 08:10:42.9±0.3, 22.89S±0.09×175.22W±0.09, h47km, h47km±1.2km: pP-P, n48, σ1°11/42, mb5.2/24, MS4.9/1, 2C-2D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.52**	**21**	*e*P	**P**	**08 12 54.0**	**-6.2**
RAR	**Rarotonga**	**14.43**	**86**	*e*P	**P**	**08 13 53.3**	**-13**
FOZ	**Fox Glacier**	**24.10**	**208**	P	**P**	**08 15 55.0**	**0.0**
FOZ				*e*E		08 16 07.4	
JCZ	**Jackson Bay**	**24.91**	**208**	*e*P	**P**	**08 16 03.2**	**+0.3**
JCZ				*e*E		08 16 17.2	
CTA	**Charters Tower**	**35.89**	**267**	*e*P	**P**	**08 17 41.1**	**+0.5**
	21nm,0.6s,mb5.2						
CTAO	**Charters Tower**	**35.89**	**267**	*e*P	**P**	**08 17 40.8**	**+0.2**
PMG	**Port Moresby**	**38.41**	**284**	*e*P	**P**	**08 18 01.7**	**-0.1**
	68nm,0.9s,mb5.4						
STKA	**Stephens Creek**	**39.16**	**247**	*e*P	**P**	**08 18 08.8**	**+1.0**
	6.3nm,0.6s,mb4.5						
ASPA	**Alice Springs**	**46.53**	**259**	*e*P	**P**	**08 19 08.3**	**+0.4**
WB2	**Warramunga Arr**	**46.85**	**264**	*e*P	**P**	**08 19 09.4**	**-1.1**
WRAB	**Tennant Creek**	**46.86**	**264**	*e*P	**P**	**08 19 08.9**	**-1.6**
	32nm,0.7s,mb5.4						
FORT	**Forrest**	**50.77**	**248**	*e*P	**P**	**08 19 38.6**	**-2.0**
	86nm,0.6s,mb5.9						
FITZ	**Fitzroy Crossi**	**55.29**	**263**	*e*P	**P**	**08 20 14.3**	**0.0**
	32nm,0.9s,mb5.4						
KLBR	**Kellerberrin**	**59.41**	**246**	*e*P	**P**	**08 20 42.4**	**-0.8**
	1μm,1.6s						
MUN	**Mundaring**	**60.65**	**245**	*e*P	**P**	**08 20 51.8**	**+0.1**
	8.5nm,0.7s,mb5.0						
CASY	**Casey**	**62.93**	**206**	P	**P**	**08 21 02.5**	**-4.1**
	31nm,1.3s,mb5.3						
QSPA	**South Pole Qui**	**67.19**	**180**⇑	*i*P	**P**	**08 21 35.9**	**+2.3**
	41nm,1.2s,mb5.3						
QSPA				⇓*i*P	pP	08 21 47.3	+0.2
CMB	**Columbia Colle**	**79.51**	**41**	P	**P**	**08 22 45.1**	**-1.4**
	19nm,1.1s,mb4.9						
CMB				*ep*P	pP	08 22 59.8	-0.4
OMM	**Old Mammoth Mi**	**80.10**	**42**	*e*P	**P**	**08 22 48.5**	**-1.2**
MAW	**Mawson**	**80.18**	**199**	*e*P	**P**	**08 22 50.6**	**+1.2**
	36nm,1.3s,mb5.2						
MAW				*ep*P	pP	08 23 04.0	+0.8
YBH	**Yreka Blue Hor**	**80.59**	**37**	*e*P	**P**	**08 22 47.5**	**-4.5**
WCN	**Washoe City**	**80.70**	**40**	*e*P	**P**	**08 22 53.0**	**+0.3**
	16nm,1.0s,mb4.9						
WCN				*ep*P	pP	08 23 06.5	0.0
HUMO	**Hull Mountain**	**81.04**	**36**	*e*P	**P**	**08 22 55.8**	**+1.3**
	13nm,0.9s,mb4.9						
HUMO				*ep*P	pP	08 23 08.6	+0.4
MOD	**Modoc**	**82.05**	**38**	*e*P	**P**	**08 23 00.3**	**+0.6**
	12nm,1.0s,mb4.8						
MOD				*ep*P	pP	08 23 13.3	-0.2
WVOR	**Wild Horse Val**	**83.34**	**38**	P	**P**	**08 23 05.1**	**-1.2**
	26nm,1.0s,mb5.2						
WVOR				*ep*P	pP	08 23 19.9	-0.2
MDJ	**Mudanjiang**	**83.96**	**324**	P	**P**	**08 23 12.0**	**+2.6**
MDJ				AMB	AMB		
	comp=Z,595nm,7.2s						
MDJ				LR	LR		
	comp=N,237nm,19.5s,MS4.9						
MDJ				LR	LR		
	comp=E,413nm,21.1s,MS4.9						
MDJ				LR	LR		
	comp=Z,668nm,20.1s,MS5.0						
MVU	**Marysvale**	**84.92**	**45**	P	**P**	**08 23 12.4**	**-1.9**
	comp=Z,22nm,1.3s,mb5.1						
MVU				*ep*P	pP	08 23 28.7	+0.5
SYO	**Syowa Base**	**84.95**	**192**	⇓P	**P**	**08 23 12.5**	**-1.3**
SYO	**Syowa Base**	**84.95**	**192**	⇑pP	pP	08 23 27.3	-0.4
VNA3	**Neumayer Olymp**	**85.58**	**175**	*e*	**P**	**08 23 17.2**	**+0.4**
TMUT	**Trail Mountain**	**86.01**	**44**	*e*P	**P**	**08 23 20.6**	**+0.9**
TMUT				*ep*P	pP	08 23 33.9	+0.3
VNA2	**Neumayer--Watz**	**86.05**	**176**	*e*	**P**	**08 23 19.3**	**+0.2**
LTX	**Lajitas**	**86.20**	**56**	P	**P**	**08 23 19.6**	**-1.2**
	comp=Z,41nm,1.5s,mb5.4						
LTX				*ep*P	pP	08 23 34.5	-0.3
ANMO	**Albuquerque**	**86.92**	**50**	P	**P**	**08 23 22.5**	**-1.7**
	comp=Z,33nm,1.5s,mb5.3						
MCK	**McKinley**	**88.77**	**11**	*e*P	**P**	**08 23 33.3**	**+0.9**
	comp=Z,20nm,1.3s,mb5.3						
BW06	**Boulder Array**	**88.96**	**42**	P	**P**	**08 23 34.1**	**+0.3**
	comp=Z,0.7nm,0.6s,mb4.2						
THY	**Trims Highway**	**89.10**	**13**	*e*P	**P**	**08 23 34.5**	**+0.5**
THY				*ep*P	pP	08 23 48.2	+0.2
COLA	**College**	**90.01**	**11**	*e*P	**P**	**08 23 39.4**	**+1.2**
	comp=Z,12nm,0.8s,mb5.3						
DAWY	**Dawson**	**91.07**	**15**	*e*P	**P**	**08 23 44.7**	**+1.5**
EDM	**Edmonton**	**92.73**	**32**	P	**P**	**08 23 50.1**	**-1.0**
EDM				*ep*P	pP	08 24 04.1	-1.1
LAO	**LASA Array**	**93.04**	**40**	P	**P**	**08 23 52.4**	**-0.3**
	comp=Z,16nm,1.2s,mb5.3						
LAO				*ep*P	pP	08 24 06.9	+0.1
DGMT	**Dagmar**	**95.12**	**39**	*e*P	**P**	**08 24 02.0**	**-0.1**
	comp=Z,32nm,1.0s,mb5.7						
DGMT				*ep*P	pP	08 24 15.7	-0.5
INK	**Inuvik**	**95.92**	**14**	*e*P	**P**	**08 24 06.8**	**+1.5**
	comp=Z,24nm,1.7s,mb5.4						
MBAR	**Mbarara**	**145.59**	**231**	*e*PKPdf	PKPdf	08 30 20.1	+3.1
MBAR				*e*		08 30 32.0	
KSP	**Ksiaz**	**150.69**	**345**	*e*PKP	PKPdf	08 30 33.1	+9.1
CLL	**Collm**	**150.93**	**349**	*e*PKIKP	PKPdf	08 30 25.0	+0.6
CLL				*i* PKP1	PKPdf	08 30 33.4	+9.0
CLL				*i* PKP2	PKPab	08 30 44.3	+4.4
CLL				*i*		08 30 49.8	
PRU	**Pruhonice**	**151.89**	**347**	*e*PKPab	PKPab	08 30 48.7	+4.8
KHC	**Kasperske Hory**	**152.90**	**347**	*e*PKPab	PKPab	08 30 50.0	+1.8
KHC				pPKP		08 30 59.0	

IGQ 30 08:24:47.4, 1.23S×81.15W, h5km±5km, mb4.1, 5C-1D, Error ellipse: s-maj=9.0km s-min=6.3km az=14.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.63**	**73**	⇑P	Pg	08 24 59.1	-0.9
MAGD	**Magdalena**	**1.79**	**50**	P	Pn	08 25 20.4	+1.1
IGUA	**Igualata**	**2.52**	**96**	⇑P	Pn	08 25 31.1	+1.4
IGUA				S	Sn	08 26 03.8	+2.5
CUSU	**Cusua**	**2.67**	**95**	P	Pn	08 25 34.6	+2.6
JUIV	**Juive**	**2.69**	**94**	P	Pn	08 25 35.4	+3.2
ARRY	**Arrayan**	**2.71**	**96**	⇑P	Pn	08 25 33.5	+1.2
NAS1	**Nasa**	**2.73**	**77**	P	Pn	08 25 35.2	+2.4
TERV	**Terraza Guagua**	**2.75**	**68**	P	Pn	08 25 35.4	+2.4
PINO	**Pino**	**2.75**	**67**	P	Pn	08 25 33.3	+0.3
PISA	**Pisayambo**	**2.77**	**86**	P	Pn	08 25 34.7	+1.4
YANA	**Yana**	**2.80**	**67**	P	Pn	08 25 34.0	+0.2
YANA				S	Sn	08 26 08.4	0.0
VC1	**Cotopaxi 1**	**2.81**	**78**	P	Pn	08 25 36.1	+2.3
TAMB	**Tambo**	**2.83**	**79**	P	Pn	08 25 37.0	+2.8
ANTI	**Antisana**	**3.08**	**75**	⇑P	Pn	08 25 40.6	+2.8
COTA	**Cotacachi**	**3.21**	**61**	P	Pn	08 25 39.9	+0.3
COTA				S	Sn	08 26 20.9	+2.1
CAYR	**Refugio Cayamb**	**3.38**	**69**	⇑P	Pn	08 25 44.5	+2.6
CAYA	**Cayambe**	**3.41**	**68**	⇓P	Pn	08 25 44.8	+2.4

THR ***30*** *08:30:51.6±0.6, 29.28N×58.46E, h14km, ML4.3*
TEH ***30*** *08:30:58.0, 28.59N×58.45E, h18km, Mn3.5*
OMAN ***30*** *08:30:58.0±1.4, 28.78N×59.03E, h21km, Error ellipse: s-maj=97.6km s-min=6.5km az=12.0*
CSEM ***30*** *08:31:02.4±0.3, 28.87N×57.57E, h2km, ML5.2/1, Error ellipse: s-maj=7.3km s-min=4.7km az=99.0*
ISC 30 08:31:00.8±1.3, 28.86N±0.05×57.69E±0.09, h7km±10km, n26, σ1°37/33, 2C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**1.38**	**324**	*e*PG	**Pn**	**08 31 23.2**	**-3.4**
KRBR				*e*SG	**Sg**	**08 31 45.9**	**-1.0**
KRBR				AML	AML	08 31 47.2	
	comp=N,7μm,0.6s						
KRBR				AML	AML	08 31 51.8	
	comp=E,4μm,0.5s						
BNDS	**Bandar-Abbas**	**1.98**	**223**	*e*PN	**Pn**	**08 31 37.6**	**+2.5**
BNDS				AML	AML	08 32 24.7	
	comp=N,1μm,0.6s						
BNDS				AML	AML	08 32 27.1	
	comp=E,1μm,0.7s						
BANOM	**Banah**	**3.18**	**203**	⇓P	**Pn**	**08 31 52.0**	**-0.2**
	SNR=15						
BANOM				⇑S	**Sn**	**08 32 38.8**	**+7.9**
IBAF	**Bafgh**	**3.28**	**326**	Pn	**Pn**	**08 31 56.3**	**+2.5**
IMEH	**Mehriz**	**3.67**	**314**	Pn	**Pn**	**08 32 05.4**	**+6.1**
ISRV	**Sarvestan**	**4.04**	**278**	Pn	**Pn**	**08 32 06.3**	**+1.8**
GHIR	**Ghir-Karzin**	**4.18**	**263**	*e*PN	**Pn**	**08 32 07.9**	**+1.5**
GHIR				AML	AML	08 33 15.1	
	comp=E,141nm,0.4s						
IMOK	**Mook**	**4.37**	**274**	Pn	**Pn**	**08 32 12.2**	**+3.1**
ICHK	**Chekchek**	**4.40**	**321**	Pn	**Pn**	**08 32 12.6**	**+2.9**
ASHO	**Ashiyiah**	**4.41**	**200**	P	**Pn**	**08 32 09.8**	**+0.1**
	SNR=11						
ISAD	**Sadrabad**	**4.61**	**312**	Pn	**Pn**	**08 32 17.6**	**+5.0**
BIDO	**Bidbid**	**5.33**	**176**	P	**Pn**	**08 32 15.2**	**-7.6**
	SNR=22						
BIDO				⇑S	**Sn**	**08 33 17.9**	**-7.4**
ARQ	**Araqi**	**5.60**	**191**	P	**Pn**	**08 32 24.1**	**-2.5**
	SNR=17						
SMDO	**Samad**	**5.79**	**177**	P	**Pn**	**08 32 22.5**	**-6.7**
	SNR=17						
WBK	**Wadi Bani Khal**	**6.33**	**169**	P	**Pn**	**08 32 28.0**	**-

UMR	**Umm Al-Rimmam**	**8.75**	**277**	*eP*	**P**	**08 33 10.6**	**-0.1**
UMR				*eS*	**Sn**	**08 34 50.5**	**-0.1**
RDF	**Al-Radifah**	**8.89**	**273**	*eP*	**P**	**08 33 11.8**	**-0.9**
NAY	**Al-Naaiem**	**9.15**	**275**	*eP*	**P**	**08 33 14.9**	**-1.4**
NAY				*eS*	**Sn**	**08 35 01.0**	**+0.2**
RST	**Umm Al-Ruwaisa**	**9.37**	**276**	*eP*	**P**	**08 33 18.1**	**-1.2**
RST				*eS*	**Sn**	**08 35 05.4**	**-0.7**

BJI ***30*** *08:49:35.0, 7.83N×93.90E, h31km, mB5.2, mb4.8, Ms5.0, Msz4.7*

HRVD ***30*** *08:49:36.8±0.3, 7.94N×94.18E, h12km, MW5.1/51, Centroid moment Tensor Solution. LP body waves: s19,c26;Mantle waves: s51,c81; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.71±.29; $M_{\theta\theta}$2.11±.21; $M_{\phi\phi}$2.61±.26; $M_{r\theta}$-2.23±.93; $M_{\theta\phi}$4.30±.19; $M_{r\phi}$0.72±.87; Best double couple: $M_0$6.338×10^{16} NP1:φ₁198°, δ47°, λ-130°. NP2:φ₂68°, δ56°, λ-56°. Principal axes: T 6.76, Plg5°, Azm135°; N -.834, Plg28°, Azm227°; P -5.916, Plg62°, Azm35°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***30*** *08:49:36.8±0.3, 8.01N×94.02E, mb5.2/68, MS5.2/6 Error ellipse: s-maj=9.4km s-min=7.2km az=45.0*

MOS ***30*** *08:49:37.2±1.1, 8.08N×94.12E, h35km, mb5.4/61, MS5.1/11, Error ellipse: s-maj=11.0km s-min=5.5km az=123.4*

ISC 30 08:49:34.8±0.2, 7.94N±0.04×94.12E±0.03, h21km, h21km±.6km:pP-P, n252, σ1°19/259, mb5.1/85, MS5.0/9, 9C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.93**	**340**	*eP*	**Pn**	**08 50 40.8**	**+5.3**
PBA				*eS*	**Sn**	**08 51 23.2**	**+1.6**
SNG	**Songkhla**	**6.48**	**96**	P	**Pn**	**08 51 11.0**	**-0.6**
	426nm,0.9s						
NNT	**Nongplab**	**7.20**	**50**	P	**Pn**	**08 51 20.5**	**-1.1**
CM31	**Chiang Mai Arr**	**11.45**	**24**	*eP*	**P**	**08 52 20.2**	**-0.2**
CHG	**Chiang Mai**	**11.78**	**23**	⇑P	**P**	**08 52 26.0**	**+1.2**
	16nm,1.2s						
NANT	**Nan**	**12.54**	**30**	P	**P**	**08 52 37.0**	**+1.9**
PALK	**Pallekele**	**13.32**	**268**	*eP*	**P**	**08 52 49.0**	**+3.6**
	10nm,0.8s						
VIS	**Vishakhapatnam**	**14.32**	**314**	*eP*	**P**	**08 53 00.5**	**+1.8**
VIS				*e*		08 53 06.1	
	comp=Z,76nm,0.9s						
VIS				*e*		08 55 27.5	
VIS				*eS*	**S**	**08 55 42.5**	**+4.8**
BWNR	**Bhubaneshwar**	**14.68**	**328**	*eP*	**P**	**08 52 59.9**	**-3.5**
BWNR				*e*		08 53 04.1	
	comp=Z,23nm,0.3s						
BWNR				*eS*	**S**	**08 55 43.4**	**-3.0**
CAL	**Calcutta**	**15.54**	**340**	*eP*	**P**	**08 53 21.8**	**+7.2**
CAL				*e*		08 56 23.1	
KOD	**Kodaikanal**	**16.60**	**279**	*eP*	**P**	**08 53 34.0**	**+5.8**
KOD				*e*		08 53 44.0	
	comp=Z,64nm,1.6s						
KOD				*eS*	**S**	**08 56 39.6**	**+8.4**
HYB	**Hyderabad**	**17.86**	**303**	*eP*	**P**	**08 53 45.0**	**+1.1**
HYB				*eS*	**S**	**08 57 06.0**	**+6.2**
HYB	**Hyderabad**	**17.86**	**303**	*i P*	**P**	**08 53 45.0**	**+1.1**
HYB				*eS*	**S**	**08 56 56.5**	**-3.3**
QIZ	**Qiongzhong**	**18.82**	**53**	P	**P**	**08 53 56.8**	**+1.0**
QIZ				S	**S**	**08 57 20.8**	**-0.9**
QIZ				LR	LR		
	comp=N,6μm,13.4s						
QIZ				LR	LR		
	comp=Z,3μm,10.4s						
KMI	**Kunming**	**18.96**	**25**	P	**P**	**08 54 00.3**	**+2.9**
KMI				S	**S**	**08 57 25.8**	**+1.1**
KMI				pmax	pmax		
	comp=Z,29nm,1.8s						
KMI	**Kunming**	**18.96**	**25**	P	**P**	**08 54 00.3**	**+2.9**
	comp=Z,29nm,1.8s						
KMI				S	**S**	**08 57 25.8**	**+1.1**
NGP	**Nagpur**	**19.60**	**314**	*eP*	**P**	**08 54 09.0**	**+4.2**
NGP				*eS*	**S**	**08 57 45.9**	**+6.8**
COCO	**West Island**	**20.18**	**172**	*eP*	**P**	**08 54 15.1**	**+4.0**
	comp=Z,251nm,1.3s						
JIRN	**Jiri**	**21.00**	**340**	*eP*	**P**	**08 54 19.9**	**+0.4**
	comp=Z,145nm,0.8s						
PKI	**Pulchoki**	**21.19**	**338**	*eP*	**P**	**08 54 21.4**	**0.0**
	comp=Z,457nm,1.4s,mb5.6						
GOA	**Goa**	**21.23**	**293**	*eP*	**P**	**08 54 27.7**	**+5.9**
GOA				*e*		08 54 36.2	
	comp=Z,43nm,1.0s						
GUN	**Gumba**	**21.34**	**340**	*eP*	**P**	**08 54 22.4**	**-0.5**
	comp=Z,191nm,0.9s,mb5.4						
DMN	**Daman**	**21.34**	**338**	*eP*	**P**	**08 54 23.6**	**+0.7**
	comp=Z,285nm,0.9s,mb5.6						
KKN	**Kakani**	**21.44**	**338**	*eP*	**P**	**08 54 23.2**	**-0.7**
	comp=Z,174nm,1.0s,mb5.3						
KAD	**Karad**	**21.55**	**297**	*eP*	**P**	**08 54 26.9**	**+1.9**
LSA	**Lhasa**	**21.82**	**353**	P	**P**	**08 54 27.5**	**-0.3**
LSA				S	**S**	**08 58 30.5**	**+7.6**
LSA				LR	LR		
	comp=N,7μm,21.6s,MS5.2						
LSA				LR	LR		
	comp=E,8μm,21.6s,MS5.2						
LSA				LR	LR		
	comp=Z,21μm,19.1s,MS5.6						
GKN	**Gorkha**	**21.87**	**337**	*eP*	**P**	**08 54 26.1**	**-2.2**
	comp=Z,203nm,0.7s,mb5.7						
KOLN	**Koldanda**	**22.09**	**335**	*eP*	**P**	**08 54 28.8**	**-1.6**
	comp=Z,130nm,0.6s,mb5.5						
BHPL	**Bhopal**	**22.10**	**315**	*eP*	**P**	**08 54 33.5**	**+3.0**
BHPL				*e*		08 54 41.8	
	comp=Z,102nm,1.0s						
BHPL				*e*		08 58 27.8	
BHPL				*eS*	**S**	**08 58 37.8**	**+10**
POO	**Poona**	**22.34**	**300**	*eP*	**P**	**08 54 36.7**	**+3.7**
BOM	**Bombay**	**23.38**	**300**	*eP*	**P**	**08 54 48.6**	**+5.4**
BOM				*e*		08 55 10.1	
	comp=Z,80nm,1.2s						
BOM				*eS*	**S**	**08 59 03.4**	**+12**
SONA	**Sohna**	**25.82**	**324**	*eP*	**P**	**08 55 06.8**	**+0.2**
SONA				*e*		08 55 09.5	
	comp=Z,41nm,0.9s						
AYAN	**Aya Nagar**	**25.97**	**324**	*eP*	**P**	**08 55 07.7**	**-0.3**
AYAN				*e*		08 55 10.7	
	comp=Z,32nm,0.9s						
NDI	**New Delhi**	**26.07**	**324**	*eP*	**P**	**08 55 09.0**	**+0.1**
KUDL	**Kundal**	**26.10**	**323**	*eP*	**P**	**08 55 08.8**	**-0.4**
KUDL				*e*		08 55 11.3	
	comp=Z,11nm,1.0s						
AJM	**Ajmer**	**26.12**	**317**	⇑*i P*	**P**	**08 55 10.0**	**+0.6**
KHET	**Khetri**	**26.46**	**321**	*eP*	**P**	**08 55 13.6**	**+1.1**
KHET				*e*		08 55 17.0	
	comp=N,30nm,1.0s						
DDI	**Dehra Dun**	**26.88**	**328**	*e*	**P**	**08 55 15.2**	**-1.1**
KLP	**Kalpa**	**27.75**	**330**	*eP*	**P**	**08 55 24.1**	**-0.1**
SMLA	**Simla**	**27.98**	**328**	*e*	**P**	**08 55 38.5**	**+12**
SMLA				*e*		08 55 46.6	
	comp=Z,38nm,1.2s						
JASL	**Jaisalmer**	**29.00**	**313**	*eP*	**P**	**08 55 37.7**	**+2.1**
XAN	**Xi'an**	**29.34**	**26**	P	**P**	**08 55 37.3**	**-1.2**
XAN				AP	pP	08 55 43.3	-1.3
XAN				AMB	AMB		
	comp=Z,27nm,1.1s,mb4.9						
LZH	**Lanzhou**	**29.39**	**16**	⇑P	**P**	**08 55 39.0**	**+0.1**
LZH				AP	pP	08 55 47.3	+2.2
LZH				XP	sP	08 55 51.3	+3.5
LZH				PP	PP	08 56 35.0	+0.5
LZH				S	**S**	**09 00 29.8**	**-0.4**
LZH				XS		09 00 45.0	
LZH				SS	SS	09 02 02.0	-0.5
LZH				AMB	AMB		
	comp=Z,66nm,1.6s,mb5.1						
LZH				AMB	AMB		
	comp=Z,290nm,6.4s						
LZH				LR	LR		
	comp=E,992nm,12.2s						
LZH				LR	LR		
	comp=Z,1μm,13.4s,MS4.7						
LZH	**Lanzhou**	**29.39**	**16**	⇑P	**P**	**08 55 39.0**	**+0.1**
LZH				*PP	pP	08 55 47.3	+2.2
LZH				*SP	sP	08 55 51.2	+3.4
LZH						08 56 35.0	
LZH				S	**S**	**09 00 29.7**	**-0.5**
LZH				*SS		09 00 45.0	
LZH				SS	SS	09 02 02.0	-0.5
LZH				pmax	pmax		
	comp=Z,66nm,1.6s,mb5.1						
LZH				MLR	MLR		
	comp=Z,1μm,13.4s,MS4.7						
LZH	**Lanzhou**	**29.39**	**16**	⇑P	**P**	**08 55 39.0**	**+0.1**
	comp=Z,66nm,1.6s,mb5.1						
LZH				pP	pP	08 55 47.3	+2.2
LZH				sP	sP	08 55 51.2	+3.4
LZH				PP	PP	08 56 35.0	+0.5
LZH				S	**S**	**09 00 29.7**	**-0.5**
LZH				sS		09 00 45.0	
LZH				SS	SS	09 02 02.0	-0.5
LZH				LR	LR		
	comp=Z,1μm,13.4s,MS4.7						
NJ2	**Nanjing**	**33.23**	**40**	*eP*	**P**	**08 56 15.5**	**+2.7**
NJ2				AP	pP	08 56 25.0	+6.1
NJ2				XP	sP	08 56 30.0	+8.4
NJ2				PP	PP	08 57 26.5	+2.3
NJ2				PPP	PPP	08 57 45.5	+4.8
NJ2				S	**S**	**09 01 34.0**	**+3.5**
NJ2				XS		09 01 51.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,520nm,4.8s						
NJ2				LR	LR		
	comp=N,1μm,13.4s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,13.5s,MS5.0						
NJ2				LR	LR		
	comp=Z,1μm,17.9s,MS4.7						
SSE	**Sheshan**	**34.19**	**44**	P	**P**	**08 56 21.5**	**+0.4**
SSE				AMB	AMB		
	comp=Z,49nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,334nm,11.1s						
SSE	**Sheshan**	**34.19**	**44**	P	**P**	**08 56 21.5**	**+0.4**
	comp=Z,49nm,0.7s,mb5.5						
WMQ	**Urumqi**	**36.18**	**352**	*eP*	**P**	**08 56 39.3**	**+1.4**
WMQ				AP	pP	08 56 45.0	+0.9
WMQ				XP	sP	08 56 48.0	+1.3
WMQ				PCP	PcP	08 59 05.3	+1.7
WMQ				S	**S**	**09 02 17.0**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,120nm,1.2s,mb5.7						
WMQ				AMB	AMB		
	comp=Z,658nm,5.2s						
WMQ				LR	LR		
	comp=N,2μm,17.8s,MS5.0						
WMQ				LR	LR		
	comp=E,1μm,17.5s,MS5.0						
WMQ				LR	LR		
	comp=Z,3μm,17.6s,MS5.1						
BJI	**Beijing**	**37.55**	**28**	*eP*	**P**	**08 56 51.6**	**+2.1**
BJI				pmax	pmax		
	comp=Z,26nm,1.2s,mb4.8						
BJI	**Beijing**	**37.55**	**28**	*eP*	**P**	**08 56 51.6**	**+2.1**
	comp=Z,26nm,1.2s,mb4.8						
AAK	**Ala-Archa**	**38.63**	**337**	*i P*	**P**	**08 56 57.8**	**-0.7**
AAK				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.7						
AAK	**Ala-Archa**	**38.63**	**337**	*eP*	**P**	**08 56 57.0**	**-1.6**
	comp=Z,27nm,1.0s,mb4.9						
MKAR	**Makanchi Array**	**40.02**	**347**	*i P*	**P**	**08 57 08.9**	**-1.1**
ULN	**Ulaanbaatar**	**41.27**	**13**	*eP*	**P**	**08 57 20.9**	**+0.6**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**41.27**	**13**	*eP*	**P**	**08 57 20.9**	**+0.6**
	comp=Z,8.0nm,0.8s,mb4.4						
TLY	**Talaya**	**44.30**	**8**	*eP*	**P**	**08 57 45.7**	**+0.7**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
TLY	**Talaya**	**44.30**	**8**	*eP*	**P**	**08 57 46.0**	**+1.0**
	comp=Z,4.0nm,0.8s,mb4.2						
KURK	**Kurchatov**	**44.54**	**346**	*eP*	**P**	**08 57 44.3**	**-2.6**
KURK				*e*	pP	08 57 51.9	-1.2
KURK				*e*		08 59 30.6	
KURK				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.2						
KURK	**Kurchatov**	**44.54**	**346**	*eP*	**P**	**08 57 44.3**	**-2.6**
	comp=Z,38nm,0.9s,mb5.2						
KURK				*e*	pP	08 57 51.9	-1.3
KURK				*e*		08 59 30.6	
MUN	**Mundaring**	**44.95**	**153**	*eP*	**P**	**08 57 53.0**	**+2.5**
	comp=Z,19nm,1.3s,mb4.8						
MUN	**Mundaring**	**44.95**	**153**	*eP*	**P**	**08 57 53.0**	**+2.5**
MUN				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.8						
KLBR	**Kellerberrin**	**45.34**	**151**	*eP*	**P**	**08 57 54.1**	**+0.5**
	comp=Z,314nm,1.3s,mb6.0						
NWAO	**Narrogin (SRO)**	**46.22**	**153**	*eP*	**P**	**08 58 00.0**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,29nm,1.3s						
NWAO	**Narrogin (SRO)**	**46.22**	**153**	*eP*	**P**	**08 57 60.0**	**-0.5**
	comp=Z,29nm,1.3s,mb5.0						
NVS	**Novosibirsk**	**47.57**	**351**	*eP*	**P**	**08 58 08.1**	**-2.8**
NVS				pmax	pmax		
	comp=N,35nm,1.4s						
NVS				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.1						
MDJ	**Mudanjiang**	**47.76**	**34**	P	**P**	**08 58 14.5**	**+2.0**
MDJ				AMB	AMB		
	comp=Z,16nm,1.7s,mb4.8						
WRAB	**Tennant Creek**	**48.32**	**126**	*i P*	**P**	**08 58 16.8**	**-0.3**
WRAB	**Tennant Creek**	**48.32**	**126**	*eP*	**P**	**08 58 15.7**	**-1.4**
	comp=Z,15nm,1.0s,mb5.0						
WB2	**Warramunga Arr**	**48.33**	**126**	*eP*	**P**	**08 58 14.1**	**-3.1**
BVA0	**Borovoye Array**	**48.92**	**341**	P	**P**	**08 58 21.0**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
RAYN	**Ar Rayn**	**49.04**	**294**	P	**P**	**08 58 24.8**	**+2.1**
	comp=Z,311nm,0.9s,SNR=19						
CHKZ	**Chkalovo**	**49.40**	**342**	*eP*	**P**	**08 58 23.6**	**-1.4**
CHKZ				*e*	pP	08 58 30.1	-1.3
CHKZ				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
CHKZ	**Chkalovo**	**49.40**	**342**	*eP*	**P**	**08 58 23.6**	**-1.5**
	comp=Z,24nm,1.0s,mb5.2						
CHKZ				*e*	pP	08 58 30.1	-1.3
ASPA	**Alice Springs**	**49.97**	**130**	*eP*	**P**	**08 58 29.8**	**0.0**
KLR	**Kul'dur**	**51.83**	**31**	*eP*	**P**	**08 58 43.8**	**+0.2**
KLR				MLR	MLR		
	comp=E,800nm,15.0s						
KLR				MLR	MLR		
	comp=Z,1μm,15.0s,MS5.0						
BOD	**Bodaibo**	**52.09**	**13**	*eP*	**P**	**08 58 42.5**	**-2.9**
CLNS	**Chul'man**	**54.38**	**20**	*eP*	**P**	**08 59 03.7**	**+1.4**
CLNS				pmax	pmax		
	comp=N,15nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.1s						
SVE	**Sverdlovsk**	**55.33**	**338**	*eP*	**P**	**08 59 06.0**	**-3.3**
SVE				pmax	pmax		
	comp=Z,80nm,2.0s,mb5.4						
SVE				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.2						
PMG	**Port Moresby**	**55.57**	**107**	*eP*	**P**	**08 59 12.2**	**+0.6**
PMG				*e*	pP	08 59 18.2	+0.2
PMG				pmax	pmax		
	comp=Z,78nm,1.4s						
PMG	**Port Moresby**	**55.57**	**107**	*eP*	**P**	**08 59 12.2**	**+0.6**
	comp=Z,78nm,1.4s,mb5.5						
PMG				*e*	pP	08 59 18.2	+0.2
ARU	**Arti**	**55.82**	**337**	⇑*i P*	**P**	**08 59 05.8**	**-7.0**
ARU				*eS*	**S**	**09 06 48.5**	**-8.5**
ARU				*e*SS	SS	09 10 37.9	-4.9
ARU				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
YSS	**Yuzh-Sakhalins**	**56.74**	**38**	*i P*	**P**	**08 59 21.7**	**+2.1**
KIV	**Kislovodsk**	**57.25**	**318**	*eP*	**P**	**08 59 22.8**	**-0.5**
KIV				pmax	pmax		
	comp=N,16nm,1.0s						
KIV				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
KIV	**Kislovodsk**	**57.25**	**318**	*eP*	**P**	**08 59 22.4**	**-0.9**
	comp=Z,26nm,0.8s,mb5.3						
KMBO	**Kilima Mbogo**	**57.41**	**264**	*eP*	**P**	**08 59 26.8**	**+2.0**
KMBO				*e*	pP	08 59 33.7	+2.4
KMBO				pmax	pmax		
	comp=Z,12nm,0.6s						
KMBO	**Kilima Mbogo**	**57.41**	**264**	*eP*	**P**	**08 59 26.8**	**+1.9**
	comp=Z,12nm,0.6s,mb5.1						
KMBO				*e*	pP	08 59 33.7	+2.5
CTAO	**Charters Tower**	**58.36**	**119**	*eP*	**P**	**08 59 31.0**	**-0.3**
MALT	**Malatya**	**58.40**	**310**	*eP*	**P**	**08 59 30.8**	**-0.6**
MALT				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
MALT	**Malatya**	**58.40**	**310**	*eP*	**P**	**08 59 30.8**	**-0.7**
	comp=Z,8.2nm,0.9s,mb4.8						
SOKR	**Solikamsk**	**58.73**	**339**	⇑*i P*	**P**	**08 59 32.6**	**-0.8**
SOKR				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.5						
SOKR				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.0						
SOC	**Sochi**	**59.12**	**316**	*eP*	**P**	**08 59 31.5**	**-4.8**
SOC				*e*		09 00 21.1	
SOC				*e*		09 01 48.6	
SOC				*eS*	**S**	**09 07 33.5**	**-7.1**
SOC				*e*		09 09 18.1	
SOC				pmax	pmax		
	comp=N,6.0nm,0.6s						
SOC				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.2						
SOC				pmax	pmax		
	comp=E,12nm,0.8s						
EIL	**Elat**	**59.38**	**300**	*eP*	**P**	**08 59 37.8**	**-0.5**
	comp=E,18nm,0.8s,mb5.2						
EIL				*e*	pP	08 59 45.2	+0.4
YAK	**Yakutsk**	**59.93**	**18**	*i* P	**P**	**08 59 41.4**	**-0.3**
YAK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
YAK	**Yakutsk**	**59.93**	**18**	*i* P	**P**	**08 59 41.4**	**-0.3**
	comp=Z,1.8nm,0.3s,mb4.6						
STKA	**Stephens Creek**	**60.17**	**134**	*eP*	**P**	**08 59 42.3**	**-1.4**
MBAR	**Mbarara**	**63.75**	**265**	*eP*	**P**	**09 00 09.5**	**+1.4**
MBAR				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.9						
MBAR	**Mbarara**	**63.75**	**265**	*eP*	**P**	**09 00 09.5**	**+1.4**
	comp=Z,18nm,1.3s,mb4.9						
MOS	**Moscow**	**65.01**	**329**	*eP*	**P**	**09 00 14.1**	**-1.5**
MOS				*e*		09 00 27.9	
MOS				*eS*	S	09 08 55.8	+1.0
MOS				*e*		09 09 59.5	
MOS				pmax	pmax		
	comp=Z,58nm,0.7s,mb5.7						
OBN	**Obninsk**	**65.31**	**328**	*eP*	**P**	**09 00 14.0**	**-3.5**
OBN				*i*	pP	09 00 19.7	-4.3
OBN				*e*		09 00 28.7	
OBN				*e*		09 02 41.4	
OBN				pmax	pmax		
	comp=Z,55nm,1.7s,mb5.3						
OBN	**Obninsk**	**65.31**	**328**	*eP*	**P**	**09 00 13.6**	**-3.9**
	comp=Z,14nm,0.6s,mb5.2						
MA2	**Magadan**	**66.71**	**28**	*eP*	**P**	**09 00 25.0**	**-1.4**
MA2				*e*	pP	09 00 31.9	-1.0
MA2				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.2						
MA2	**Magadan**	**66.71**	**28**	*eP*	**P**	**09 00 25.0**	**-1.4**
	comp=Z,29nm,1.1s,mb5.2						
MA2				*e*	pP	09 00 31.9	-0.9
TIXI	**Tiksi**	**67.17**	**11**	*i P*	**P**	**09 00 27.3**	**-1.8**
KIS	**Kishinev**	**67.46**	**318**	*eP*	**P**	**09 00 30.0**	**-1.3**
LSZ	**Lusaka**	**69.28**	**250**	*eP*	**P**	**09 00 44.5**	**+1.4**
LSZ				*e*	pP	09 00 50.6	+1.0
LSZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
LSZ	**Lusaka**	**69.28**	**250**	*eP*	**P**	**09 00 44.5**	**+1.4**
	comp=Z,5.2nm,0.7s,mb4.6						
LSZ				*e*	pP	09 00 50.6	+1.0
JOF	**Joensuu**	**70.78**	**334**	*ep*	**P**	**09 00 50.3**	**-1.2**
ZAPS	**Zavoj/Pirot**	**71.14**	**313**	⇑*i P*	**P**	**09 00 58.4**	**+4.3**
KWP	**Kalwaria**	**71.97**	**320**	*eP*	**P**	**09 00 59.3**	**+0.4**
KWP				*e*	pP	09 01 05.1	-0.3
KOLS	**Kolonicke sedl**	**72.14**	**319**	*eP*	**P**	**09 01 01.9**	**+2.0**
KOLS				*i* pP	pP	09 01 06.1	-0.3
SUW	**Suwalki**	**72.44**	**324**	*eP*	**P**	**09 01 00.9**	**-0.7**
SUW				*e*	pP	09 01 07.1	-1.0
CRVS	**Cervenica-Dubn**	**72.67**	**319**	*i P*	**P**	**09 01 03.1**	**+0.1**
CRVS				*i* pP	pP	09 01 09.9	+0.3
KAF	**Kangasniemi**	**72.72**	**333**	*ep*	**P**	**09 01 02.1**	**-1.0**
NIE	**Niedzica**	**73.48**	**319**	*eP*	**P**	**09 01 08.9**	**+1.1**
PSZ	**Piszkesteto**	**73.58**	**318**	*eP*	**P**	**09 01 08.4**	**0.0**
PSZ				*e*	pP	09 01 14.4	-0.5
PSZ				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
PSZ	**Piszkesteto**	**73.58**	**318**	*eP*	**P**	**09 01 08.4**	**0.0**
	comp=Z,15nm,0.9s,mb4.9						
PSZ				*e*	pP	09 01 14.4	-0.6
OJC	**Ojcow**	**73.91**	**320**	*eP*	**P**	**09 01 09.8**	**-0.4**
LBTB	**Lobatse**	**74.26**	**241**	*eP*	**P**	**09 01 14.7**	**+1.9**
LBTB				*e*	pP	09 01 21.0	+1.6
LBTB				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
LBTB	**Lobatse**	**74.26**	**241**	*eP*	**P**	**09 01 14.7**	**+1.9**
	comp=Z,12nm,0.8s,mb4.9						
LBTB				*e*	pP	09 01 21.0	+1.7
OKC	**Ostrava-Krasne**	**74.93**	**319**	*eP*	**P**	**09 01 16.4**	**+0.3**
OKC				*ep*P	pP	09 01 22.7	0.0
MORC	**Moravsky Berou**	**75.31**	**319**	*eP*	**P**	**09 01 18.0**	**-0.4**
MORC				*e*	pP	09 01 24.8	-0.1
MORC				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.1						
MORC	**Moravsky Berou**	**75.31**	**319**	*eP*	**P**	**09 01 17.9**	**-0.4**
	comp=Z,25nm,0.9s,mb5.2						
MORC				*e*	pP	09 01 24.8	-0.2
ZST	**Bratislava**	**75.47**	**318**	*i P*	**P**	**09 01 20.7**	**+1.4**
ZST				*i* pP	pP	09 01 26.2	+0.3
GKP	**Gorka Klasztor**	**75.83**	**323**	*eP*	**P**	**09 01 25.4**	**+4.2**
DPC	**Dobruska-Polom**	**76.14**	**320**	*eP*	**P**	**09 01 23.4**	**+0.3**
DPC				*ep*P	pP	09 01 30.1	+0.5
KSP	**Ksiaz**	**76.20**	**320**	*eP*	**P**	**09 01 23.2**	**-0.2**
KSP				*e*PP	pP	09 01 29.1	-0.8
KSP	**Ksiaz**	**76.20**	**320**	*eP*	**P**	**09 01 23.6**	**+0.3**
KSP				*e*	pP	09 01 30.5	+0.6
UPC	**Upice**	**76.35**	**320**	*eP*	**P**	**09 01 24.6**	**+0.4**
UPC				*ep*P	pP	09 01 30.3	-0.5
PDKS	**Podkum**	**76.78**	**315**	*eP*	**P**	**09 01 33.2**	**+6.4**
PRU	**Pruhonice**	**77.26**	**319**	*eP*	**P**	**09 01 30.5**	**+1.2**
PVCC	**Panska Ves**	**77.27**	**320**	*eP*	**P**	**09 01 29.6**	**+0.3**
PVCC				*ep*P	pP	09 01 36.0	+0.1
BSD	**Bornholm Skovb**	**77.35**	**325**	⇓*i P*	**P**	**09 01 34.9**	**+5.2**
BSD				pmax	pmax		
	comp=Z,31nm,0.6s,mb5.4						
BSD	**Bornholm Skovb**	**77.35**	**325**	⇓*i P*	**P**	**09 01 34.9**	**+5.2**
	comp=Z,31nm,0.6s,mb5.4						
**J

NKC	**Novy Kostel**	**78.62**	**320**	*e*P	**P**	**09 01 37.0 +0.3**
NKC				*e*pP	pP	09 01 43.1 -0.2
COP	**Copenhagen**	**78.80**	**325**	*e*P	**P**	**09 01 40.9 +3.3**
COP				pmax	pmax	
	comp=Z,33nm,0.6s,mb5.4					
COP	**Copenhagen**	**78.80**	**325**	*e*P	**P**	**09 01 40.9 +3.3**
	comp=Z,33nm,0.6s,mb5.4					
COP	**Copenhagen**	**78.80**	**325**	*i* P	**P**	**09 01 40.9 +3.3**
	comp=Z,33nm,0.6s,mb5.4					
SFI	**Santa Sofia**	**78.98**	**313**	*e*P	**P**	**09 01 40.3 +1.4**
CTI	**Castel Tesino**	**79.11**	**315**	*e*P	**P**	**09 01 41.1 +1.6**
MOX	**Moxa**	**79.16**	**320**	*e*P	**P**	**09 01 39.7 0.0**
MOX				pmax	pmax	
	comp=Z,33nm,1.5s,mb5.0					
MOX				MLR	MLR	
	comp=Z,1μm,21.0s,MS5.1					
MOX	**Moxa**	**79.16**	**320**	*e*P	**P**	**09 01 39.7 0.0**
	comp=Z,33nm,1.5s,mb5.0					
MOX	**Moxa**	**79.16**	**320**	*i* P	**P**	**09 01 39.7 0.0**
	comp=Z,logA/T=1.3,mb5.0					
MOX				L		09 42 43.0
VMG	**Vicchio**	**79.20**	**313**	*e*P	**P**	**09 01 41.5 +1.5**
FUR	**Furstenfeldbru**	**79.36**	**317**	*e*P	**P**	**09 01 40.3 -0.6**
GRA1	**Grafenberg Arr**	**79.40**	**319**	*e*P	**P**	**09 01 41.4 +0.4**
	comp=Z,26nm,0.8s,mb5.2					
GRA1				*e*pP	pP	09 01 48.3 +0.6
GRF	**Grafenberg Arr**	**79.40**	**319**	*e*P	**P**	**09 01 41.4 +0.4**
GRF				*e**PP	pP	09 01 48.3 +0.6
GRF				pmax	pmax	
	comp=Z,26nm,0.8s,mb5.2					
GRF	**Grafenberg Arr**	**79.40**	**319**	*e*P	**P**	**09 01 41.4 +0.4**
GRF				*e**PP	pP	09 01 48.3 +0.6
GRF				pmax	pmax	
	comp=Z,26nm,0.8s,mb5.2					
GRF	**Grafenberg Arr**	**79.40**	**319**	*e*P	**P**	**09 01 41.4 +0.4**
	comp=Z,26nm,0.8s,mb5.2					
GRF				*e*pP	pP	09 01 48.3 +0.6
NB2	**NORSAR Subarra**	**79.66**	**331**	P	**P**	**09 01 41.3 -0.9**
	comp=Z,13nm,0.6s,mb5.0,baz=96,slow=5.0					
NB2	**NORSAR Subarra**	**79.66**	**331**	P	**P**	**09 01 41.3 -0.9**
	baz=96,slow=5.1					
CLZ	**Clausthal**	**79.95**	**321**	*e*P	**P**	**09 01 43.9 0.0**
	comp=Z,26nm,0.8s,mb5.2					
BRMO	**Bormio**	**79.99**	**316**	*e*P	**P**	**09 01 45.8 +1.5**
MUD	**Monsted U'grnd**	**80.64**	**326**	*i* P	**P**	**09 01 53.2 +5.7**
MUD				pmax	pmax	
	comp=Z,45nm,1.1s,mb5.3					
MUD	**Monsted U'grnd**	**80.64**	**326**	*i* P	**P**	**09 01 53.2 +5.7**
	comp=Z,45nm,1.1s,mb5.3					
PGF	**Pioggiola**	**81.10**	**312**	*e*P	**P**	**09 01 49.1 -1.1**
	comp=Z,84nm,1.3s,mb5.2					
PGF	**Pioggiola**	**81.10**	**312**	*e*P	**P**	**09 01 49.1 -1.1**
PGF				pmax	pmax	
	comp=Z,42nm,1.3s,mb5.2					
VAI	**Varese**	**81.12**	**315**	*e*P	**P**	**09 01 50.8 +0.5**
TNS	**Taunus Mts**	**81.19**	**320**	*e*P	**P**	**09 01 50.5 0.0**
BFO	**Black Forest**	**81.33**	**318**	*e*P	**P**	**09 01 50.8 -0.5**
BFO				pmax	pmax	
	comp=Z,11nm,0.9s,mb4.8					
BFO	**Black Forest**	**81.33**	**318**	*e*P	**P**	**09 01 50.8 -0.5**
	comp=Z,11nm,0.9s,mb4.8					
CDF	**Champ du Feu**	**82.03**	**318**	*e*P	**P**	**09 01 53.6 -1.3**
	comp=Z,16nm,0.9s,mb4.7					
CDF	**Champ du Feu**	**82.03**	**318**	*e*P	**P**	**09 01 53.6 -1.3**
CDF				pmax	pmax	
	comp=Z,8.0nm,0.9s,mb4.7					
SBF	**Sospel**	**82.17**	**313**	*e*P	**P**	**09 01 54.7 -1.1**
	comp=Z,64nm,0.8s,mb5.3					
SBF	**Sospel**	**82.17**	**313**	*e*P	**P**	**09 01 54.7 -1.1**
SBF				pmax	pmax	
	comp=Z,32nm,0.8s,mb5.3					
HINF	**Hinteralfeld**	**82.34**	**317**	*e*P	**P**	**09 01 56.2 -0.4**
	comp=Z,5.4nm,0.5s,mb4.4					
HINF	**Hinteralfeld**	**82.34**	**317**	*e*P	**P**	**09 01 56.2 -0.4**
HINF				pmax	pmax	
	comp=Z,3.0nm,0.5s,mb4.5					
LPG	**La Plagne**	**82.56**	**315**	*e*P	**P**	**09 01 57.3 -0.4**
	comp=Z,44nm,0.8s,mb5.2					
LPG	**La Plagne**	**82.56**	**315**	*e*P	**P**	**09 01 57.3 -0.4**
LPG				pmax	pmax	
	comp=Z,22nm,0.8s,mb5.2					
LPL	**La Plagne**	**82.57**	**315**	*e*P	**P**	**09 01 57.2 -0.6**
	comp=Z,69nm,0.7s,mb5.5					
LPL	**La Plagne**	**82.57**	**315**	*e*P	**P**	**09 01 57.2 -0.6**
LPL				pmax	pmax	
	comp=Z,35nm,0.7s,mb5.5					
MBDF	**Montbardon**	**82.59**	**314**	*e*P	**P**	**09 01 56.2 -1.7**
	comp=Z,22nm,0.8s,mb5.0					
MBDF	**Montbardon**	**82.59**	**314**	*e*P	**P**	**09 01 56.2 -1.7**
MBDF				pmax	pmax	
	comp=Z,11nm,0.8s,mb4.9					
BNI	**Bardonecchia**	**82.64**	**314**	*e*P	**P**	**09 02 01.7 +3.5**
BNI				pmax	pmax	
	comp=Z,22nm,0.9s,mb5.2					
BNI	**Bardonecchia**	**82.64**	**314**	*e*P	**P**	**09 02 01.7 +3.6**
	comp=Z,22nm,0.9s,mb5.2					
HAU	**Haudompre**	**82.67**	**317**	*e*P	**P**	**09 01 57.0 -1.3**
	comp=Z,56nm,0.9s,mb5.3					
HAU	**Haudompre**	**82.67**	**317**	*e*P	**P**	**09 01 57.0 -1.3**
HAU				pmax	pmax	
	comp=Z,28nm,0.9s,mb5.3					
WLF	**Walferdange**	**82.69**	**319**	*e*P	**P**	**09 01 56.6 -1.8**
WLF				*e*	pP	09 02 05.0 0.0
WLF				pmax	pmax	
	comp=Z,19nm,1.0s,mb5.1					
WLF	**Walferdange**	**82.69**	**319**	*e*P	**P**	**09 01 56.6 -1.7**
	comp=Z,19nm,1.0s,mb5.1					
WLF				*e*	pP	09 02 05.0 -0.1
FRF	**La Foret Royal**	**82.76**	**313**	*e*P	**P**	**09 01 57.9 -0.9**
LMR	**La Mourre**	**82.88**	**313**	*e*P	**P**	**09 01 58.5 -0.9**
	comp=Z,22nm,0.8s,mb5.0					
LMR	**La Mourre**	**82.88**	**313**	*e*P	**P**	**09 01 58.5 -0.9**
LMR				pmax	pmax	
	comp=Z,11nm,0.8s,mb4.9					
CABF	**La Chapelle**	**82.94**	**316**	*e*P	**P**	**09 01 58.9 -0.8**
	comp=Z,19nm,0.6s,mb5.0					
CABF	**La Chapelle**	**82.94**	**316**	*e*P	**P**	**09 01 58.9 -0.8**
CABF				pmax	pmax	
	comp=Z,10.0nm,0.6s,mb5.0					
ORIF	**Oris-en-Rattie**	**83.21**	**314**	*e*P	**P**	**09 02 01.0 -0.1**
	comp=Z,16nm,0.8s,mb4.8					
MEZF	**Maizieres J'vi**	**83.50**	**318**	*e*P	**P**	**09 02 01.7 -0.8**
GIVF	**Givet**	**83.52**	**320**	*e*P	**P**	**09 02 01.8 -0.8**
	comp=Z,37nm,1.0s,mb5.2					
GIVF	**Givet**	**83.52**	**320**	*e*P	**P**	**09 02 01.8 -0.8**
GIVF				pmax	pmax	
	comp=Z,19nm,1.0s,mb5.2					
BAIF	**Baives**	**83.92**	**320**	*e*P	**P**	**09 02 04.0 -0.6**
	comp=Z,40nm,0.9s,mb5.2					
BAIF	**Baives**	**83.92**	**320**	*e*P	**P**	**09 02 04.0 -0.6**
BAIF				pmax	pmax	
	comp=Z,20nm,0.9s,mb5.2					
VIVF	**Saint-Julien-l**	**84.07**	**314**	*e*P	**P**	**09 02 04.6 -0.9**
	comp=Z,52nm,1.2s,mb5.2					
VIVF	**Saint-Julien-l**	**84.07**	**314**	*e*P	**P**	**09 02 04.6 -0.9**
VIVF				pmax	pmax	
	comp=Z,26nm,1.2s,mb5.2					
SMF	**Signal de Mont**	**84.48**	**316**	*e*P	**P**	**09 02 06.4 -1.1**
	comp=Z,29nm,0.9s,mb5.1					
SMF	**Signal de Mont**	**84.48**	**316**	*e*P	**P**	**09 02 06.4 -1.1**
SMF				pmax	pmax	
	comp=Z,15nm,0.9s,mb5.1					
SSF	**Saint Saulge**	**84.67**	**317**	*e*P	**P**	**09 02 07.4 -1.1**
SSF				pmax	pmax	
	comp=Z,6.0nm,0.8s,mb4.8					
SSF	**Saint Saulge**	**84.67**	**317**	*e*P	**P**	**09 02 07.4 -1.1**
	comp=Z,5.8nm,0.8s,mb4.8					
AVF	**Avril sur Loir**	**84.80**	**316**	*e*P	**P**	**09 02 07.8 -1.3**
	comp=Z,40nm,1.1s,mb5.1					
AVF	**Avril sur Loir**	**84.80**	**316**	*e*P	**P**	**09 02 07.8 -1.3**
AVF				pmax	pmax	
	comp=Z,20nm,1.1s,mb5.2					
BGF	**Bois d'Agland**	**85.17**	**316**	*e*P	**P**	**09 02 09.5 -1.5**
SYO	**Syowa Base**	**85.47**	**197**	⇑P	**P**	**09 02 15.1 +3.2**
SYO	**Syowa Base**	**85.47**	**197**	⇓PcP	PcP	09 02 18.2 +2.7
TCF	**Toulx Ste Croi**	**85.64**	**316**	*e*P	**P**	**09 02 12.6 -0.7**
CAF	**Calviac**	**85.91**	**315**	*e*P	**P**	**09 02 14.5 -0.2**
RJF	**Les Rejaudoux**	**86.25**	**315**	*e*P	**P**	**09 02 16.2 -0.2**
	comp=Z,15nm,0.7s,mb5.0					
RJF	**Les Rejaudoux**	**86.25**	**315**	*e*P	**P**	**09 02 16.2 -0.2**
RJF				pmax	pmax	
	comp=Z,7.0nm,0.7s,mb5.0					
LFF	**La Frestale**	**86.84**	**315**	*e*P	**P**	**09 02 19.1 -0.2**
LDF	**La Druitiere**	**86.91**	**318**	*e*P	**P**	**09 02 18.6 -0.9**
	comp=Z,48nm,1.2s,mb5.3					
LDF	**La Druitiere**	**86.91**	**318**	*e*P	**P**	**09 02 18.6 -0.9**
LDF				pmax	pmax	
	comp=Z,24nm,1.2s,mb5.3					
FLN	**La Foliniere**	**87.12**	**319**	*e*P	**P**	**09 02 19.7 -0.8**
	comp=Z,34nm,1.0s,mb5.2					
FLN	**La Foliniere**	**87.12**	**319**	*e*P	**P**	**09 02 19.7 -0.8**
FLN				pmax	pmax	
	comp=Z,17nm,1.0s,mb5.2					
MFF	**Saint Martin d**	**87.21**	**316**	*e*P	**P**	**09 02 20.4 -0.6**
	comp=Z,24nm,1.0s,mb5.1					
MFF	**Saint Martin d**	**87.21**	**316**	*e*P	**P**	**09 02 20.4 -0.6**
MFF				pmax	pmax	
	comp=Z,12nm,1.0s,mb5.1					
GRR	**Gorron**	**87.42**	**318**	*e*P	**P**	**09 02 21.3 -0.7**
	comp=Z,68nm,1.4s,mb5.4					
GRR	**Gorron**	**87.42**	**318**	*e*P	**P**	**09 02 21.3 -0.7**
GRR				pmax	pmax	
	comp=Z,34nm,1.4s,mb5.4					
ETSF	**Etsaut**	**88.07**	**313**	*e*P	**P**	**09 02 25.1 -0.1**
	comp=Z,30nm,0.9s,mb5.2					
ETSF	**Etsaut**	**88.07**	**313**	*e*P	**P**	**09 02 25.1 -0.1**
ETSF				pmax	pmax	
	comp=Z,15nm,0.9s,mb5.2					
SJPF	**Ste Jean**	**88.52**	**313**	*e*P	**P**	**09 02 27.1 -0.3**
	comp=Z,30nm,1.1s,mb5.3					
SJPF	**Ste Jean**	**88.52**	**313**	*e*P	**P**	**09 02 27.1 -0.3**
SJPF				pmax	pmax	
	comp=Z,15nm,1.1s,mb5.2					
IMA	**Indian Mountai**	**91.56**	**22**	*e*P	**P**	**09 02 43.3 +2.3**
PWA	**Palmer West**	**94.97**	**26**	*e*P	**P**	**09 02 58.3 +1.5**
INK	**Inuvik**	**96.93**	**16**	*e*P	**P**	**09 03 06.4 +0.8**
INK				pmax	pmax	
	comp=Z,14nm,1.1s					
INK	**Inuvik**	**96.93**	**16**	*e*P	**P**	**09 03 06.4 +0.8**
	comp=Z,14nm,1.1s,mb5.3					
INK				*e*	pP	09 03 11.8 -0.5
RES	**Resolute Bay**	**97.33**	**2**	*e*P	**P**	**09 03 07.5 +0.2**
RES				pmax	pmax	
	comp=Z,9.0nm,1.0s,mb5.2					
RES	**Resolute Bay**	**97.33**	**2**	*e*P	**P**	**09 03 07.5 +0.2**
	comp=Z,9.0nm,1.0s,mb5.2					
RES				*e*	pP	09 03 13.8 -0.3
DAWY	**Dawson**	**97.80**	**21**	*e*P	**P**	**09 03 10.9 +1.4**
LAO	**LASA Array**	**122.67**	**17**	PKPdf	PKPdf	09 08 32.9 -0.6
WCN	**Washoe City**	**123.47**	**31**	*e*PKIKP	PKPdf	09 08 35.4 +0.1
SNOW	**Snow King Moun**	**124.07**	**22**	*e*PKPdf	PKPdf	09 08 33.6 -2.8
SNOW				*e*		09 08 40.5
HWUT	**Hardware Ranch**	**125.35**	**23**	*e*PKPdf	PKPdf	09 08 36.9 -2.1
HWUT				*e*		09 08 42.5
TRCR	**Troy Canyon**	**126.27**	**29**	*e*PKPdf	PKPdf	09 08 40.1 -0.6
MSU	**Marysvale**	**127.70**	**26**	*e*PKIKP	PKPdf	09 08 43.5 -0.1
GDL2	**Guadalupe Moun**	**136.35**	**23**	*e*PKPdf	PKPdf	09 08 58.4 -1.6
JCT	**Junction City**	**139.53**	**19**	*e*PKIKP	PKPdf	09 09 04.5 -1.3
PLCA	**Paso Flores**	**144.61**	**200**	*e*PKIKP	PKPdf	09 09 11.4 -3.1
PLCA				*e*		09 09 17.6
TEIG	**Tepich**	**151.91**	**5**	*e*PKPbc	PKPdf	09 09 30.6 +3.8
LPAZ	**La Paz**	**160.78**	**243**	*e*PKIKP	PKPdf	09 09 36.3 -1.9
LPAZ				*e*		09 09 42.7
OTAV	**Otavalo**	**169.01**	**317**	*e*PKPdf	PKPdf	09 09 43.6 -1.7

*NEIC **30** 09:04:17.5,38.48S×175.90E,h156km,After WEL.*
WEL 30 09:04:17.4±0.2,38.49S×175.88E,h156km±2km,ML4.0/6, 17C-3D,Error ellipse: s-maj=1.4km s-min=1.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.39**	**193**	P	P	09 04 39.2	-0.2
RATZ	**Rangitukua**	**0.39**	**193**	⇑PN	P	09 04 39.2	-0.2
RITZ	**Rihia Road**	**0.49**	**182**	P	P	09 04 40.0	+0.2
RITZ	**Rihia Road**	**0.49**	**182**	PN	P	09 04 39.9	0.0
MGZ	**Maungaku**	**0.58**	**208**	P	P	09 04 40.3	0.0
MGZ	**Maungaku**	**0.58**	**208**	⇑PN	P	09 04 40.3	0.0
WTVZ	**West Tongariro**	**0.67**	**200**	P	P	09 04 40.5	-0.2
WTVZ	**West Tongariro**	**0.67**	**200**	⇑PN	P	09 04 40.6	-0.2
OTVZ	**Oturere**	**0.70**	**194**	⇑PN	P	09 04 40.7	-0.1
OTVZ				SN	S	09 04 58.8	-0.1
NGZ	**Ngauruhoe**	**0.72**	**198**	P	P	09 04 40.9	-0.1
NGZ	**Ngauruhoe**	**0.72**	**198**	⇑PN	P	09 04 40.7	-0.3
CNZ	**Chateau**	**0.76**	**200**	P	P	09 04 41.2	0.0
CNZ	**Chateau**	**0.76**	**200**	PN	P	09 04 40.9	-0.3
WPVZ	**Whakapapa**	**0.77**	**200**	P	P	09 04 41.3	0.0
WPVZ	**Whakapapa**	**0.77**	**200**	⇑PN	P	09 04 41.3	0.0
TUVZ	**Tukino**	**0.80**	**193**	⇑PN	P	09 04 41.6	+0.1
TUVZ				SN	S	09 04 59.7	-0.3
HIZ	**Hauiti**	**0.81**	**268**	P	P	09 04 41.2	-0.3
HIZ	**Hauiti**	**0.81**	**268**	⇑PN	P	09 04 41.2	-0.4
HIZ				*e*SN	S	09 04 59.3	-0.8
FWVZ	**Far West T-bar**	**0.81**	**199**	P	P	09 04 41.4	-0.2
FWVZ	**Far West T-bar**	**0.81**	**199**	PN	P	09 04 41.5	-0.1
FWVZ				SN	S	09 04 59.7	-0.4
DRZ	**Dome Shelter**	**0.83**	**197**	PN	P	09 04 41.9	+0.2
BKZ	**Black Stump Fm**	**0.83**	**145**	P	P	09 04 41.7	0.0
BKZ				S	S	09 04 59.5	-0.9
BKZ	**Black Stump Fm**	**0.83**	**145**	⇑PN	P	09 04 41.7	0.0
BKZ				SN	S	09 04 59.5	-0.9
WNVZ	**Wahianoa**	**0.87**	**195**	P	P	09 04 40.3	-1.6
WNVZ	**Wahianoa**	**0.87**	**195**	⇑PN	P	09 04 40.3	-1.7
WNVZ				SN	S	09 04 58.7	-2.2
MOVZ	**Moawhango**	**0.93**	**186**	P	P	09 04 42.0	-0.3
MOVZ	**Moawhango**	**0.93**	**186**	⇑PN	P	09 04 42.0	-0.3
MOVZ				SN	S	09 05 00.1	-1.5
URZ	**Urewera**	**0.99**	**77**	P	P	09 04 42.4	-0.4
URZ	**Urewera**	**0.99**	**77**	⇑PN	P	09 04 42.4	-0.4
URZ				SN	S	09 05 01.2	-1.1
MWZ	**Matawai**	**1.30**	**84**	P	P	09 04 45.6	-0.1
MWZ	**Matawai**	**1.30**	**84**	⇑PN	P	09 04 45.5	-0.2
MWZ				SN	S	09 05 06.4	-1.2
RAEZ	**Rainy Point**	**1.41**	**235**	P	P	09 04 46.5	-0.3
RAEZ	**Rainy Point**	**1.41**	**235**	*e*PN	P	09 04 46.4	-0.4
WAZ	**Wanganui**	**1.45**	**209**	P	P	09 04 46.5	-0.7
WAZ	**Wanganui**	**1.45**	**209**	⇑PN	P	09 04 46.5	-0.7
WAZ				*e*SN	S	09 05 09.5	-0.7
KNZ	**Kokohu**	**1.50**	**111**	P	P	09 04 47.8	+0.1
KNZ	**Kokohu**	**1.50**	**111**	PN	P	09 04 47.7	0.0
KNZ				*e*SN	S	09 05 09.8	-1.3
TSZ	**Takapari Road**	**1.57**	**178**	P	P	09 04 47.9	-0.6
TSZ	**Takapari Road**	**1.57**	**178**	⇑PN	P	09 04 47.9	-0.7
NEZ	**North Egmont**	**1.60**	**240**	P	P	09 04 47.8	-1.0
NEZ	**North Egmont**	**1.60**	**240**	PN	P	09 04 47.8	-1.0
PKE	**Pukeiti**	**1.64**	**244**	P	P	09 04 48.5	-0.7
PKE	**Pukeiti**	**1.64**	**244**	PN	P	09 04 48.5	-0.7
OTAZ	**Otara**	**1.71**	**333**	P	P	09 04 49.5	-0.5
OTAZ	**Otara**	**1.71**	**333**	⇓PN	P	09 04 49.4	-0.6
PWZ	**Pawanui**	**1.72**	**154**	P	P	09 04 49.7	-0.4
PWZ	**Pawanui**	**1.72**	**154**	PN	P	09 04 49.7	-0.3
PWZ				SN	S	09 05 13.9	-1.4
NRZ	**Ngariki Road**	**1.74**	**240**	P	P	09 04 49.4	-0.9
NRZ	**Ngariki Road**	**1.74**	**240**	*e*PN	P	09 04 49.3	-1.0
NWEZ	**Newall Road**	**1.76**	**243**	P	P	09 04 49.8	-0.7
NWEZ	**Newall Road**	**1.76**	**243**	PN	P	09 04 49.7	-0.8
MTAZ	**Motutapu**	**1.86**	**335**	P	P	09 04 50.9	-0.7
MTAZ	**Motutapu**	**1.86**	**335**	PN	P	09 04 50.9	-0.7
WTAZ	**Waiatarua**	**1.87**	**326**	⇓PN	P	09 04 51.3	-0.4
PUZ	**Puketiti**	**1.91**	**78**	*e*P	P	09 04 51.6	-0.6
PUZ	**Puketiti**	**1.91**	**78**	PN	P	09 04 51.4	-0.8
PUZ				SN	S	09 05 16.8	-2.3
MRZ	**Mangatainoka R**	**2.19**	**186**	P	P	09 04 53.5	-2.0
MRZ	**Mangatainoka R**	**2.19**	**186**	⇑PN	P	09 04 53.5	-1.9
BFZ	**Birch Farm**	**2.21**	**173**	*e*P	P	09 04 54.2	-1.6
BFZ	**Birch Farm**	**2.21**	**173**	⇓PN	P	09 04 54.3	-1.4
KIW	**Kapiti Island**	**2.49**	**197**	P	P	09 04 56.5	-2.7
KIW	**Kapiti Island**	**2.49**	**197**	⇑PN	P	09 04 56.5	-2.7
KIW				SN	S	09 05 26.2	-5.1
MTW	**Mount Morrison**	**2.69**	**186**	P	P	09 04 58.8	-2.9
MTW	**Mount Morrison**	**2.69**	**186**	PN	P	09 04 58.8	-2.9
CAW	**Cannon Point**	**2.69**	**193**	P	P	09 04 59.0	-2.8
CAW	**Cannon Point**	**2.69**	**193**	PN	P	09 04 58.9	-2.9
MRW	**Makara Radio**	**2.89**	**198**	P	P	09 05 01.1	-3.1
MSWZ	**Moikau Station**	**2.97**	**189**	P	P	09 05 01.9	-3.3
BHW	**Baring Head**	**3.02**	**195**	P	P	09 05 02.4	-3.5
NNZ	**Nelson**	**3.34**	**214**	P	P	09 05 05.9	-4.2
QRZ	**Quartz Range**	**3.49**	**227**	*e*P	P	09 05 07.3	-4.7
BSWZ	**Blackbirch Sta**	**3.57**	**205**	P	P	09 05 09.3	-3.8
THZ	**Tophouse**	**3.99**	**214**	*e*P	P	09 05 13.8	-4.7
KHZ	**Kahutara**	**4.32**	**204**	P	P	09 05 18.5	-4.3
DSZ	**Denniston Nort**	**4.51**	**223**	P	P	09 05 19.9	-5.5
LTZ	**Lake Taylor**	**5.10**	**212**	*e*P	P	09 05 27.1	-5.9
MQZ	**McQueen's Vall**	**5.76**	**204**	P	P	09 05 35.3	-6.5
ODZ	**Otahua Downs**	**7.63**	**209**	*e*P	P	09 06 00.7	-6.2

*NEIC **30** 09:22:54.1,38.17S×176.77E,h80km,ML3.8(WEL),After WEL.*
WEL 30 09:22:53.6±0.2,38.15S×176.77E,h84km±2km,ML3.8/7, 8C-6D,Error ellipse: s-maj=1.3km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDRZ	**Edgecumbe**	**0.05**	**331**	P	P	09 23 05.4	-0.2
EDRZ	**Edgecumbe**	**0.05**	**331**	P*	P	09 23 05.3	-0.3
MARZ	**Manawahe**	**0.18**	**336**	P	P	09 23 05.9	+0.1
MARZ	**Manawahe**	**0.18**	**336**	⇓P*	P	09 23 05.8	+0.1
TAZ	**Tarawera**	**0.22**	**247**	P	P	09 23 06.1	+0.1
TAZ	**Tarawera**	**0.22**	**247**	⇑P*	P	09 23 06.0	0.0
URZ	**Urewera**	**0.29**	**113**	P	P	09 23 06.0	-0.4
URZ	**Urewera**	**0.29**	**113**	⇓P*	P	09 23 06.0	-0.5
URZ				S*	S	09 23 15.7	-0.4
LIRZ	**Lichensteins R**	**0.33**	**295**	P	P	09 23 06.5	-0.1
LIRZ	**Lichensteins R**	**0.33**	**295**	P*	P	09 23 06.4	-0.2
UTU	**Utuhina**	**0.45**	**266**	*e*P*	P	09 23 07.1	-0.4
PATZ	**Paeroa**	**0.46**	**240**	P	P	09 23 07.5	0.0
PATZ	**Paeroa**	**0.46**	**240**	⇓P*	P	09 23 07.4	-0.1
TGRZ	**Tauranga**	**0.58**	**316**	P	P	09 23 08.3	-0.3
TGRZ	**Tauranga**	**0.58**	**316**	⇓P*	P	09 23 08.3	-0.3
MWZ	**Matawai**	**0.63**	**108**	P	P	09 23 08.9	-0.2
MWZ	**Matawai**	**0.63**	**108**	⇓P*	P	09 23 08.9	-0.2
MWZ				S*	S	09 23 20.8	+0.3
HATZ	**Hinemaiaia**	**0.91**	**215**	P	P	09 23 11.5	-0.6
HATZ	**Hinemaiaia**	**0.91**	**215**	P*	P	09 23 11.5	-0.5
HATZ				S*	S	09 23 25.1	-0.9
MYRZ	**Mayor Island**	**0.96**	**334**	P*	P	09 23 12.5	-0.1
BKZ	**Black Stump Fm**	**1.04**	**192**	P	P	09 23 13.0	-0.6
BKZ	**Black Stump Fm**	**1.04**	**192**	⇑P*	P	09 23 13.0	-0.6
BKZ				S*	S	09 23 27.7	-0.9
TOZ	**Tahuroa Road**	**1.08**	**292**	P	P	09 23 13.9	-0.2
TOZ	**Tahuroa Road**	**1.08**	**292**	⇑P*	P	09 23 13.9	-0.3
TOZ				S*	S	09 23 29.1	-0.5
RITZ	**Rihia Road**	**1.09**	**220**	P	P	09 23 14.2	-0.1
RITZ	**Rihia Road**	**1.09**	**220**	P*	P	09 23 13.8	-0.4
KNZ	**Kokohu**	**1.12**	**141**	*e*P	P	09 23 14.1	-0.6
KNZ	**Kokohu**	**1.12**	**141**	⇑PN	P	09 23 14.1	-0.5
KNZ				SN	S	09 23 30.5	0.0
PUZ	**Puketiti**	**1.18**	**87**	*e*P	P	09 23 15.6	+0.2
PUZ	**Puketiti**	**1.18**	**87**	PN	P	09 23 15.4	+0.1
PUZ				SN	S	09 23 31.1	-0.6
KATZ	**Kakaramea**	**1.18**	**225**	P	P	09 23 15.2	-0.2
KATZ	**Kakaramea**	**1.18**	**225**	P*	P	09 23 15.2	-0.2
MGZ	**Maungaku**	**1.28**	**228**	P	P	09 23 16.4	-0.3
MGZ	**Maungaku**	**1.28**	**228**	P*	P	09 23 16.2	-0.5
KRVZ	**Karewarewa**	**1.29**	**223**	P*	P	09 23 17.3	+0.4
OTVZ	**Oturere**	**1.33**	**220**	P*	P	09 23 17.1	-0.4
OTVZ				S*	S	09 23 35.4	+0.3
WTVZ	**West Tongariro**	**1.34**	**223**	P	P	09 23 17.0	-0.5
WTVZ	**West Tongariro**	**1.34**	**223**	P*	P	09 23 17.0	-0.5
MXZ	**Matakaoa Point**	**1.35**	**65**	P	P	09 23 19.0	+1.3
NGZ	**Ngauruhoe**	**1.37**	**221**	P	P	09 23 17.7	-0.3
NGZ	**Ngauruhoe**	**1.37**	**221**	P*	P	09 23 17.7	-0.2
TWVZ	**Taurewa**	**1.39**	**228**	P	P	09 23 17.7	-0.5
TWVZ	**Taurewa**	**1.39**	**228**	P*	P	09 23 17.7	-0.5
TUVZ	**Tukino**	**1.42**	**218**	P	P	09 23 18.1	-0.4
TUVZ	**Tukino**	**1.42**	**218**	P*	P	09 23 18.1	-0.4
TUVZ				S*	S	09 23 35.8	-1.1
CNZ	**Chateau**	**1.42**	**222**	P	P	09 23 18.6	+0.1
CNZ	**Chateau**	**1.42**	**222**	P*	P	09 23 18.2	-0.4

20nm,1.3s,mb4.8
CHKZ Chkalovo 49.60 342 *e*P **P 09 56 18.5 -0.8**
10nm,0.9s,mb4.8
KIV Kislovodsk 57.40 318 *e*P **P 09 57 17.1 +0.1**
6.5nm,0.8s,mb4.7
KAF Kangasniemi 72.91 333 *e*p **P 09 58 56.2 -0.6**
NB2 NORSAR Subarra 79.84 331 P **P 09 59 36.0 +0.2**
3.0nm,0.9s,mb4.2,baz=96,slow=5.0
INK Inuvik 97.15 16 *e*P **P 10 01 00.2 +1.0**
3.6nm,1.2s,mb4.7
RES Resolute Bay 97.56 2 *e*P **P 10 01 02.6 +1.7**
1.6nm,0.7s,mb4.7

IGQ 30 09:47:47.3, 1.33S×81.29W, h5km±6km, mb4.1, 1D, Error ellipse: s-maj=10.5km s-min=6.7km az=92.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.79**	**70**	⇓P	Pg	09 48 02.1	-0.9
HOJA				S	Sg	09 48 12.1	-1.5
IGUA	**Igualata**	**2.65**	**93**	P	Pn	09 48 33.2	+1.8
ARRY	**Arrayan**	**2.83**	**94**	P	Pn	09 48 35.0	+0.9
ARRY				S	Sn	09 49 10.0	+1.0
NAS1	**Nasa**	**2.89**	**76**	P	Pn	09 48 39.0	+4.2
PISA	**Pisayambo**	**2.91**	**85**	P	Pn	09 48 36.6	+1.4
TERV	**Terraza Guagua**	**2.92**	**67**	P	Pn	09 48 38.4	+3.2
PINO	**Pino**	**2.92**	**67**	P	Pn	09 48 35.8	+0.5
VC1	**Cotopaxi 1**	**2.96**	**77**	P	Pn	09 48 38.9	+3.0
YANA	**Yana**	**2.97**	**66**	P	Pn	09 48 37.6	+1.6
TAMB	**Tambo**	**2.98**	**78**	P	Pn	09 48 38.5	+2.4
COTA	**Cotacachi**	**3.38**	**61**	P	Pn	09 48 41.8	0.0
CAYR	**Refugio Cayamb**	**3.54**	**68**	P	Pn	09 48 46.8	+2.7
CAYA	**Cayambe**	**3.58**	**67**	P	Pn	09 48 47.0	+2.4

IGQ 30 09:56:06.3, 1.31S×81.50W, h12km±8km, mb4.1, 2D, Error ellipse: s-maj=11.8km s-min=5.3km az=78.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.99**	**75**	⇓P	Pb	09 56 23.8	-1.1
HOJA				S	Sb	09 56 37.4	-0.3
IGUA	**Igualata**	**2.87**	**94**	⇓P	Pn	09 56 53.9	+1.1
IGUA				S	Sn	09 57 30.2	+2.6
ARRY	**Arrayan**	**3.05**	**94**	P	Pn	09 56 56.0	+0.6
ARRY				S	Sn	09 57 32.5	+0.3
NAS1	**Nasa**	**3.10**	**78**	P	Pn	09 56 58.8	+2.7
TERV	**Terraza Guagua**	**3.11**	**69**	P	Pn	09 56 59.0	+2.8
PINO	**Pino**	**3.11**	**68**	P	Pn	09 56 55.9	-0.4
PISA	**Pisayambo**	**3.12**	**86**	P	Pn	09 56 58.8	+2.4
YANA	**Yana**	**3.16**	**68**	P	Pn	09 56 57.5	+0.5
VC1	**Cotopaxi 1**	**3.17**	**78**	P	Pn	09 56 59.9	+2.8
VC1				S	Sn	09 57 41.3	+6.2
COTA	**Cotacachi**	**3.56**	**63**	P	Pn	09 57 04.0	+1.3
CAYR	**Refugio Cayamb**	**3.73**	**69**	P	Pn	09 57 03.4	-1.7
CAYA	**Cayambe**	**3.77**	**69**	P	Pn	09 57 03.1	-2.5

*CSEM **30** 10:03:32.9±0.1, 44.76N×7.73E, h2km, ML2.7/9, Error ellipse: s-maj=1.8km s-min=1.0km az=74.0*
*GEN **30** 10:03:32.2, 44.82N×7.80E, ML2.9*
*ROM **30** 10:03:32.0±0.1, 44.81N×7.80E, h10km±2km, MD2.6/5, ML2.0/4, Error ellipse: s-maj=1.0km s-min=0.7km az=90.0*
*NEIC **30** 10:03:32.2, 44.82N×7.80E, MD2.6(ROM), ML2.9(GEN), ML2.7(LDG), ML2.5(STR), After GEN.*
*LDG **30** 10:03:33.5±0.1, 44.80N×7.75E, h2km, Md2.5/2, Ml2.7/12, Error ellipse: s-maj=2.5km s-min=1.2km az=91.0*
ISC 30 10:03:31.8±0.3, 44.82N±0.01×7.77E±0.02, h10km±2km, n70, σ0§86/128, 3C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHB	**Bricherasio**	**0.36 273**		P	**Pg**	**10 03 40.2**	**+1.0**
BHB				S	**Sg**	**10 03 45.5**	**+1.2**
BHB	**Bricherasio**	**0.36 273**		P	**Pg**	**10 03 40.2**	**+1.0**
DOI	**San Damiano**	**0.49 230**		⇑*i*PG	**Pg**	**10 03 42.4**	**+0.6**
DOI				SG	**Sg**	**10 03 49.8**	**+1.4**
103nm,0.2s							
DOI	**San Damiano**	**0.49 230**		⇑*i*Pg	**Pg**	**10 03 42.4**	**+0.6**
DOI				*e*Sg	**Sg**	**10 03 49.8**	**+1.3**
DOI	**San Damiano**	**0.49 230**		⇑*i*Pg	**Pg**	**10 03 42.4**	**+0.6**
103nm,0.2s							
DOI				Sg	**Sg**	**10 03 49.8**	**+1.4**
RSP	**Reno Superiore**	**0.49 312**		P	**Pg**	**10 03 42.0**	**+0.2**
RSP				S	**Sg**	**10 03 48.8**	**+0.3**
RSP	**Reno Superiore**	**0.49 312**		P	**Pg**	**10 03 42.0**	**+0.2**
ROB	**Roburent**	**0.53 172**		P	**Pg**	**10 03 42.8**	**+0.2**
ROB	**Roburent**	**0.53 172**		P	**Pg**	**10 03 42.8**	**+0.3**
FENE	**Fenestrelle**	**0.55 293**		P	**Pg**	**10 03 43.3**	**+0.5**
FENE				S	**Sg**	**10 03 51.1**	**+0.9**
FENE	**Fenestrelle**	**0.55 293**		P	**Pg**	**10 03 43.3**	**+0.5**
PZZ	**Prazzo**	**0.57 237**		P	**Pg**	**10 03 43.8**	**+0.4**
PZZ				S	**Sg**	**10 03 51.0**	**-0.1**
PZZ	**Prazzo**	**0.57 237**		P	**Pg**	**10 03 43.8**	**+0.4**
OG22	**Abries**	**0.59 270**		Pg	**Pg**	**10 03 44.3**	**+0.6**
OG22				Sg	**Sg**	**10 03 52.2**	**+0.6**
PCP	**Pian Castagno**	**0.62 117**		P	**Pb**	**10 03 44.2**	**0.0**
PCP				S	**Sg**	**10 03 52.1**	**-0.4**
ENR	**Entracque**	**0.65 203**		P	**Pb**	**10 03 44.9**	**+0.2**
ENR				S	**Sb**	**10 03 53.2**	**-0.3**
ENR	**Entracque**	**0.65 203**		P	**Pb**	**10 03 44.9**	**+0.2**
STV2	**Anna di Valdie**	**0.66 209**		P	**Pb**	**10 03 45.3**	**+0.4**
STV2				S	**Sb**	**10 03 54.1**	**+0.2**
STV2	**Anna di Valdie**	**0.66 209**		P	**Pb**	**10 03 45.3**	**+0.4**
STV	**Sta Anna Valdi**	**0.66 209**		P	**Pb**	**10 03 45.3**	**+0.3**
STV				S	**Sb**	**10 03 54.0**	**+0.1**
STV	**Sta Anna Valdi**	**0.66 209**		P	**Pb**	**10 03 45.3**	**+0.4**
FIN	**Finale Ligure**	**0.69 153**		*e*PG	**Pg**	**10 03 45.7**	**+0.1**
FIN				SG	**Sg**	**10 03 55.0**	**+0.1**
127nm,0.4s							
FIN	**Finale Ligure**	**0.69 153**		*e*Pg	**Pg**	**10 03 45.6**	**0.0**
FIN				*e*Sg	**Sg**	**10 03 55.0**	**+0.1**
FIN	**Finale Ligure**	**0.69 153**		P	**Pb**	**10 03 45.5**	**+0.1**
FIN	**Finale Ligure**	**0.69 153**		*e*Pg	**Pg**	**10 03 45.7**	**+0.1**
127nm,0.4s							
FIN				Sg	**Sg**	**10 03 55.0**	**+0.1**
TRAV		**0.69 358**		P	**Pb**	**10 03 46.0**	**+0.6**
TRAV				S	**Sb**	**10 03 55.6**	**+0.8**
RRL	**Cesana Torines**	**0.71 278**		P	**Pb**	**10 03 46.5**	**+0.7**
RRL				S	**Sb**	**10 03 56.3**	**+1.0**
RRL	**Cesana Torines**	**0.71 278**		P	**Pb**	**10 03 46.5**	**+0.7**
MBDF	**Montbardon**	**0.72 263**		*e*Pg	**Pg**	**10 03 46.7**	**+0.4**
MBDF				*e*Sg	**Sg**	**10 03 56.1**	**+0.2**
118nm,0.3s							
MONE	**Monesi**	**0.74 181**		P	**Pb**	**10 03 46.6**	**+0.3**
MONE				S	**Sb**	**10 03 56.8**	**+0.5**
MONE	**Monesi**	**0.74 181**		P	**Pb**	**10 03 46.6**	**+0.3**
SURF	**Saint Ours**	**0.77 244**		Pg	**Pg**	**10 03 47.3**	**+0.1**
SURF				Sg	**Sg**	**10 03 57.9**	**+0.5**
LSD	**Ceresole Reale**	**0.77 326**		P	**Pb**	**10 03 47.3**	**+0.5**
LSD				S	**Sb**	**10 03 58.3**	**+1.2**
ORO	**Oropa**	**0.82 10**		*e*PG	**Pg**	**10 03 48.5**	**+0.3**
ORO				SG	**Sg**	**10 04 00.0**	**+0.8**
53nm,0.2s							
ORO	**Oropa**	**0.82 10**		*e*Pg	**Pg**	**10 03 48.5**	**+0.3**
ORO				*e*Sg	**Sg**	**10 04 00.0**	**+0.8**
ORO	**Oropa**	**0.82 10**		*e*Pg	**Pg**	**10 03 48.5**	**+0.3**
53nm,0.2s							
ORO				Sg	**Sg**	**10 04 00.0**	**+0.8**
SAOF	**Saorge**	**0.85 191**		Pg	**Pg**	**10 03 48.7**	**-0.1**
SAOF				Sg	**Sg**	**10 04 00.9**	**+0.7**
AUTN	**L'Aution**	**0.86 197**		Pg	**Pg**	**10 03 49.1**	**0.0**
AUTN				Sg	**Sg**	**10 04 01.4**	**+0.7**
TOUF	**Mont Tournerai**	**0.89 205**		Pg	**Pg**	**10 03 49.6**	**-0.1**
IMI	**Imperia**	**0.92 175**		*e*PG	**Pg**	**10 03 50.1**	**0.0**
IMI				SG	**Sg**	**10 04 02.6**	**+0.2**
49nm,0.3s							
IMI	**Imperia**	**0.92 175**		*e*Pg	**Pg**	**10 03 50.1**	**0.0**
IMI				*e*Sg	**Sg**	**10 04 02.6**	**+0.2**
IMI	**Imperia**	**0.92 175**		*e*Pg	**Pg**	**10 03 50.1**	**0.0**
49nm,0.3s							
IMI				Sg	**Sg**	**10 04 02.6**	**+0.2**
NEGI	**Negi**	**0.98 183**		P	**Pb**	**10 03 51.1**	**+0.8**
NEGI				S	**Sb**	**10 04 04.4**	**+1.4**
NEGI	**Negi**	**0.98 183**		P	**Pb**	**10 03 51.1**	**+0.8**
NEGI				S	**Sb**	**10 04 04.4**	**+1.3**
LPG	**La Plagne**	**0.99 313**		*e*Pg	**Pg**	**10 03 50.8**	**-0.8**
LPG				*e*Sg	**Sg**	**10 04 04.7**	**-0.1**
31nm,0.3s							
SBF	**Sospel**	**0.99 194**		*e*Pg	**Pg**	**10 03 51.4**	**-0.2**
SBF				*e*Sg	**Sg**	**10 04 03.9**	**-0.9**
132nm,0.2s							
SBF				*e*Sn	**Sn**	**10 04 05.4**	**-0.3**
LPL	**La Plagne**	**1.01 314**		*e*Pg	**Pg**	**10 03 51.5**	**-0.6**
LPL				*e*Sg	**Sg**	**10 04 05.4**	**-0.2**
19nm,0.3s							
MVIF	**Mont Vial**	**1.03 206**		Pg	**Pg**	**10 03 51.9**	**-0.5**
REVF	**Revere**	**1.12 195**		Pg	**Pg**	**10 03 54.8**	**+0.6**
MCGN	**Macugnaga**	**1.15 8**		*e*PN	**Pn**	**10 03 54.2**	**+0.4**
MCGN				SN	**Sn**	**10 04 09.5**	**-0.2**
23nm,0.2s							
MCGN	**Macugnaga**	**1.15 8**		*e*Pg	**Pg**	**10 03 54.2**	**-0.6**
MCGN				*e*Sg	**Sg**	**10 04 09.5**	**-0.6**
MCGN	**Macugnaga**	**1.15 8**		*e*Pn	**Pn**	**10 03 54.2**	**+0.4**
23nm,0.2s							
MCGN				Sn	**Sn**	**10 04 09.5**	**-0.2**
ORIF	**Oris-en-Rattie**	**1.35 275**		*e*Pn	**Pn**	**10 03 58.0**	**+1.2**
ORIF				*e*Pg	**Pg**	**10 03 59.9**	**+1.1**
ORIF				*e*Sn	**Sn**	**10 04 14.7**	**-0.1**
ORIF				*e*Sg	**Sg**	**10 04 16.4**	**-0.4**
27nm,0.3s							
FRF	**La Foret Royal**	**1.50 213**		*e*Pn	**Pn**	**10 03 59.7**	**+0.8**
FRF				*e*Sn	**Sn**	**10 04 17.5**	**-1.1**
FRF				*e*Sg	**Sg**	**10 04 19.8**	**-2.0**
19nm,0.2s							
GRAM		**1.67 101**		P	**Pn**	**10 04 00.9**	**-0.5**
LMR	**La Mourre**	**1.75 212**		*e*Pn	**Pn**	**10 04 02.8**	**+0.4**
LMR				*e*Pg	**Pg**	**10 04 05.3**	**-1.4**
LMR				*e*Sn	**Sn**	**10 04 23.5**	**-1.4**
LMR				*e*Sg	**Sg**	**10 04 27.3**	**-2.6**
15nm,0.2s							
SMRF	**Simiane la Rot**	**1.79 243**		*e*Pn	**Pn**	**10 04 03.4**	**+0.4**
SMRF				*e*Pg	**Pg**	**10 04 06.4**	**-1.1**
SMRF				*e*Sg	**Sg**	**10 04 29.1**	**-2.3**
15nm,0.3s							
CABF	**La Chapelle**	**2.14 327**		*e*Pn	**Pn**	**10 04 09.4**	**+1.3**
CABF				*e*Pg	**Pg**	**10 04 13.8**	**-0.8**
CABF				*e*Sn	**Sn**	**10 04 34.3**	**-0.7**
CABF				*e*Sg	**Sg**	**10 04 41.6**	**-1.6**
3.7nm,0.4s							
VIVF	**Saint-Julien-I**	**2.21 272**		*e*Pn	**Pn**	**10 04 09.5**	**+0.5**
VIVF				*e*Pg	**Pg**	**10 04 14.4**	**-1.4**
VIVF				*e*Sn	**Sn**	**10 04 36.6**	**0.0**
6.7nm,0.4s							
LASF	**Ste Croix**	**2.90 256**		*e*Pn	**Pn**	**10 04 19.5**	**+0.5**
LASF				*e*Pg	**Pg**	**10 04 26.6**	**-3.1**
LASF				*e*Sn	**Sn**	**10 04 52.2**	**-2.1**
4.1nm,0.3s							
HINF	**Hinteralfeld**	**3.06 348**		*e*Pn	**Pn**	**10 04 21.5**	**+0.3**
HINF				*e*Pg	**Pg**	**10 04 30.0**	**-2.9**
HINF				*e*Sg	**Sg**	**10 05 10.4**	**-3.4**
2.7nm,0.3s							
SMF	**Signal de Mont**	**3.30 305**		*e*Pn	**Pn**	**10 04 25.4**	**+0.8**
HAU	**Haudompre**	**3.33 343**		*e*Pn	**Pn**	**10 04 25.5**	**+0.4**
CDF	**Champ du Feu**	**3.61 355**		*e*Pn	**Pn**	**10 04 28.8**	**-0.2**
CDF				*e*Sn	**Sn**	**10 05 09.3**	**-2.8**
1.6nm,0.3s							
AVF	**Avril sur Loir**	**3.67 304**		*e*Pn	**Pn**	**10 04 29.2**	**-0.6**
SSF	**Saint Saulge**	**3.73 308**		*e*Pn	**Pn**	**10 04 31.1**	**+0.5**
BGF	**Bois d'Agland**	**3.86 298**		*e*Pn	**Pn**	**10 04 33.1**	**+0.5**
CAF	**Calviac**	**4.06 273**		*e*Pn	**Pn**	**10 04 35.1**	**-0.3**
MEZF	**Maizieres J'vi**	**4.13 334**		*e*Pn	**Pn**	**10 04 35.8**	**-0.6**
RJF	**Les Rejaudoux**	**4.46 278**		*e*Pn	**Pn**	**10 04 40.0**	**-1.1**

*NDI **30** 10:06:37.3±5.3, 28.93N×78.77E, h36km±23km, ML4.0*
*DMN **30** 10:06:40.7±0.7, 29.59N×79.58E, h10km, Ml4.5/6, Error ellipse: s-maj=55.5km s-min=12.7km az=19.0*
ISC 30 10:06:37.3±0.3, 28.89N±0.04×78.86E±0.02, h33km, n28, σ1§43/44, mb3.6/1, 1D, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALG	**Kalgarh**	**0.62 351**		*e*P	**P**	**10 06 36.6**	**-13**
KALG				*e*S	**S**	**10 06 43.7**	**-15**
KALG				*e*		10 06 45.3	
comp=E,17μm,0.2s							
KALG				*e*		10 06 45.4	
comp=N,19μm,0.1s							
ASOR	**Ausora**	**0.97 262**		*e*P	**P**	**10 06 55.5**	**+1.0**
ASOR				*e*S	**S**	**10 07 05.9**	**-1.3**
NDI	**New Delhi**	**1.46 262**		*e*P	**P**	**10 07 01.5**	**0.0**
NDI				*e*		10 07 15.0	
AYAN	**Aya Nagar**	**1.58 256**		*e*P	**P**	**10 07 03.7**	**+0.5**
AYAN				*e*		10 07 15.4	
DDI	**Dehra Dun**	**1.59 334**		*e*P	**P**	**10 07 04.4**	**+1.0**
DDI				*e*S	**S**	**10 07 21.6**	**-1.4**
SONA	**Sohna**	**1.69 248**		*e*P	**P**	**10 07 05.9**	**+1.1**
SONA				*e*S	**S**	**10 07 24.8**	**-0.7**
SONA				*e*		10 07 26.9	
comp=N,1μm,0.2s							
SONA				*e*		10 07 26.9	
comp=E,999nm,0.3s							
BHGR	**Bahadurgarh**	**1.70 264**		*e*P	**P**	**10 07 05.6**	**+0.6**
JOSI	**Joshimath**	**1.77 20**		*e*P	**P**	**10 07 03.4**	**-2.5**
JOSI				*e*		10 07 13.1	
AGRA	**Agra**	**1.84 206**		*e*	**P**	**10 07 16.4**	**+9.4**
RTK	**Rohtak**	**2.15 274**		*e*	**P**	**10 07 23.8**	**+12**
KUDL	**Kundal**	**2.22 251**		*e*P	**P**	**10 07 12.3**	**-0.1**
KUDL				*i*		10 07 19.4	
KUDL				*e*		10 07 50.1	
comp=Z,162nm,0.2s							
KLP	**Kalpa**	**2.69 349**		*e*P	**P**	**10 07 20.9**	**+1.8**
KLP				*e*S	**S**	**10 07 50.2**	**-0.6**
KLP				*e*		10 08 14.1	
comp=N,3μm,1.0s							
KLP				*e*		10 08 14.4	
comp=E,4μm,0.9s							
KHET	**Khetri**	**2.81 254**		*e*P	**P**	**10 07 21.1**	**+0.2**
KHET				*e*		10 07 43.0	
BHK	**Bhakra**	**3.29 321**		*e*P	**P**	**10 07 28.6**	**+0.9**
BHK				*e*		10 08 17.2	
KOLN	**Koldanda**	**4.32 104**		*e*Pn	**Pn**	**10 07 46.2**	**+3.7**
KOLN				*e*Sn	**Sn**	**10 08 35.4**	**+3.0**
comp=E,180nm,0.3s							
ALBI	**Allahabad**	**4.43 143**		*e*	**P**	**10 08 03.0**	**+19**
ALBI				*e*S	**S**	**10 08 33.5**	**-1.5**
AJM	**Ajmer**	**4.45 238**		⇓*i*P	**P**	**10 07 43.0**	**-1.1**
AJM				*i* S	**S**	**10 08 30.0**	**-5.4**
GKN	**Gorkha**	**5.16 98**		*e*Pn	**Pn**	**10 07 56.3**	**+2.0**
GKN				*e*Sn	**Sn**	**10 08 52.0**	**-1.5**
comp=E,227nm,0.3s							
DMN	**Daman**	**5.65 102**		*e*Pn	**Pn**	**10 08 03.8**	**+2.5**
DMN				*e*Sn	**Sn**	**10 09 06.0**	**+0.2**
comp=E,94nm,0.4s							
KKN	**Kakani**	**5.76 99**		*e*Pn	**Pn**	**10 08 04.3**	**+1.5**
KKN				*e*Sn	**Sn**	**10 09 06.6**	**-1.9**
comp=E,110nm,0.3s							
BHPL	**Bhopal**	**5.77 193**		*e*P	**P**	**10 08 02.4**	**-0.4**
BHPL				*e*S	**S**	**10 09 00.8**	**-8.0**
BHPL				*e*		10 09 50.2	
comp=E,188nm,0.3s							
BHPL				*e*		10 09 52.4	
comp=N,114nm,0.4s							
PKI	**Pulchoki**	**5.92 101**		*e*Pn	**Pn**	**10 08 06.7**	**+1.6**
PKI				*e*Sn	**Sn**	**10 09 11.6**	**-1.0**
comp=N,76nm,0.3s							
GUN	**Gumba**	**6.26 97**		*e*Pn	**Pn**	**10 08 11.1**	**+1.3**
GUN				*e*Sn	**Sn**	**10 09 19.1**	**-1.8**
JIRN	**Jiri**	**6.58 99**		*e*Pn	**Pn**	**10 08 16.2**	**+1.9**
JIRN				*e*Sn	**Sn**	**10 09 27.4**	**-1.5**
comp=N,126nm,0.2s							
POO	**Poona**	**11.29 205**		*e*P	**P**	**10 09 15.0**	**-4.3**
POO				*i* S	**S**	**10 11 13.0**	**-12**
KAD	**Karad**	**12.30 201**		*e*P	**P**	**10 09 28.0**	**-5.0**
KAF	**Kangasniemi**	**47.56 330**		*e*p	**P**	**10 15 08.0**	**-3.2**
NB2	**NORSAR Subarra**	**54.40 326**		P	**P**	**10 15 59.9**	**-3.1**
comp=N,0.4nm,0.5s,mb3.6,baz=95,slow=7.0							

*NSSP **30** 10:06:53.9, 38.43N×44.80E, h9km, ML3.5*
*TEH **30** 10:06:59.2, 38.85N×44.38E, h4km, Mn3.7*
*ISK **30** 10:07:03.6, 38.76N×44.44E, h5km, MD3.6*
CSEM 30 10:07:00.4±0.1, 38.83N×44.70E, h2km, MD3.6, 3D, Error ellipse: s-maj=3.3km s-min=2.0km az=50.0, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**1.05 257**		*i* PG	Pg	10 07 20.7	-0.7
TVAN	**Van**	**1.06 254**		*i* P	Pb	10 07 20.8	-0.3
TVAN				*i* S	Sb	10 07 41.5	+6.3
VANT	**Van**	**1.10 250**		*i* PG	Pg	10 07 23.4	+1.1
VNNZ	**Vanand**	**1.44 332**		⇓P	Pn	10 07 27.9	+0.4
HKR	**Hakkari**	**1.46 211**		*i* PN	Pn	10 07 28.9	+1.0
HKR				*i* SN	Sn	10 07 49.2	+1.4
ARUZ	**Aruch**	**1.52 342**		⇓P	Pn	10 07 28.6	-0.2
ARUZ				S	Sb	10 07 53.8	+5.1
IAZR	**Azarshahr**	**1.53 138**		Pg	Pn	10 07 30.2	+1.3
AMBZ	**Amberd**	**1.59 348**		⇓P	Pn	10 07 30.4	+0.7
AMBZ				S	Sb	10 07 50.9	+0.2
IHRS	**Heris**	**1.91 105**		Pg	Pn	10 07 37.9	+3.6
IBST	**Bostanabad**	**2.06 123**		Pg	Pn	10 07 40.3	+3.8
IHSH	**Hashtroud**	**2.08 104**		Pg	Pg	10 07 48.6	+6.7
KARS	**Kars**	**2.17 326**		PN	Pn	10 07 42.4	+4.4
KARS				SN	Sn	10 08 09.7	+4.0
VRT	**Varto**	**2.49 278**		PN	Pn	10 07 44.0	+1.4
BTMT	**Batman**	**2.60 257**		PN	Pn	10 07 47.3	+3.2
ERZM	**Erzurum**	**2.80 294**		*i* P	Pn	10 07 52.0	+5.0
ERZM				*i* S	Sn	10 08 29.9	+8.1
EZM	**Erzurum**	**2.80 294**		PN	Pn	10 07 49.5	+2.5
BEST	**Besiri**	**2.85 252**		*i* P	Pn	10 07 50.2	+2.4
BEST				*i* S	Sn	10 08 29.5	+6.3
IDHR	**Dehrash**	**4.34 161**		Pn	Pn	10 08 12.8	+3.9
IGZV	**Gazvin**	**5.02 117**		Pn	Pn	10 08 17.5	-1.0
IGZV	**Gazvin**	**5.02 117**		Lg		10 09 42.6	
GZT	**Gaziantep**	**5.82 258**		*i* P	Pn	10 08 33.7	+3.9
GZT				*i* S	Sn	10 10 07.5	+30

*BJI **30** 10:32:49.7, 7.71N×93.86E, h21km, mB5.2, mb4.8, Ms4.9, Msz4.6*
*MOS **30** 10:32:53.8±0.9, 8.06N×94.20E, h33km, mb5.3/30, Error ellipse: s-maj=14.6km s-min=7.4km az=123.3*
*HRVD **30** 10:32:54.0±0.3, 8.04N×94.22E, h12km, MW5.0/58, Centroid moment Tensor Solution. LP body waves: s32,c41;Mantle waves: s58,c106; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.15±.14; $M_{\theta\theta}$0.53±.12; $M_{\phi\phi}$1.62±.13; $M_{r\theta}$0.44±.37; $M_{\theta\phi}$3.85±.10; $M_{\phi r}$-0.57±.35; Best double couple: $M_0$4.112×10^{16} NP1: ϕ_s261°, δ67°, λ-23°. NP2:ϕ_s1°, δ69°, λ-155°. Principal axes: T 4.967, Plg1°, Azm131°; N -1.708, Plg58°, Azm39°; P -3.258, Plg32°, Azm222°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 10:32:54.0±0.3, 8.08N×94.23E, mb5.0/33, MS4.2/7 Error ellipse: s-maj=13.0km s-min=8.2km az=52.0*
ISC 30 10:32:52.0±0.3, 8.06N±0.04×94.21E±0.04, h18km, h18km±1.2km: pP-P, n139, σ1§18/147, mb5.0/47, MS4.3/12, 3C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.85 338**		*e*P	**Pn**	**10 33 51.9**	**+0.1**
PBA				*e*S	**Sn**	**10 34 34.8**	**-2.4**
SNG	**Songkhla**	**6.42 97**		P	**Pn**	**10 34 17.0**	**-11**
NNT	**Nongplab**	**7.06 50**		P	**Pn**	**10 34 36.5**	**-0.6**
CM31	**Chiang Mai Arr**	**11.32 24**		*e*P	**P**	**10 35 27.6**	**-8.4**
CM31				*e*pP		10 35 37.0	
CHG	**Chiang Mai**	**11.64 23**		⇓P	**P**	**10 35 40.9**	**+0.5**
18nm,0.9s							
NANT	**Nan**	**12.40 30**		P	**P**	**10 35 53.0**	**+2.3**
VIS	**Vishakhapatnam**	**14.30 313**		*e*P	**P**	**10 36 16.8**	**+1.0**
VIS				*e*		10 36 35.0	
comp=Z,108nm,1.1s							
VIS				*e*		10 38 40.8	
VIS				*e*S	**S**	**10 38 53.0**	**-1.8**
BWNR	**Bhubaneshwar**	**14.63 327**		*e*	**P**	**10 36 16.2**	**-4.0**
BWNR				*e*		10 36 16.8	
comp=Z,15nm,0.3s							
SALM	**Salem**	**16.17 284**		*e*P	**P**	**10 36 45.0**	**+4.9**
SALM				*e*		10 39 28.0	
KOD	**Kodaikanal**	**16.67 279**		*e*P	**P**	**10 36 51.0**	**+4.5**
KOD				*e*		10 37 03.3	
comp=Z,52nm,1.6s							
KOD				*e*		10 39 30.7	
KOD				*e*S	**S**	**10 39 57.7**	**+7.4**
HYB	**Hyderabad**	**17.86 303**		*e*P	**P**	**10 37 00.0**	**-1.4**
HYB				*e*S	**S**	**10 40 19.0**	**+1.4**
HYB	**Hyderabad**	**17.86 303**		*i* P	**P**	**10 37 00.0**	**-1.4**
HYB				*e*S	**S**	**10 40 19.0**	**+1.4**
QIZ	**Qiongzhong**	**18.69 53**		P	**P**	**10 37 15.5**	**+3.9**
QIZ				S	**S**	**10 40 36.3**	**0.0**
QIZ				LR	LR		
comp=N,6μm,13.8s							
QIZ				LR	LR		
comp=Z,1μm,16.9s							
NGP	**Nagpur**	**19.58 313**		*e*	**P**	**10 37 17.7**	**-4.4**
NGP				*e*		10 40 49.2	
COCO	**West Island**	**20.28 173**		*e*P	**P**	**10 37 31.2**	**+1.6**
comp=Z,72nm,0.8s							
JIRN	**Jiri**	**20.92 340**		*e*P	**P**	**10 37 25.0**	**-11**
comp=Z,163nm,1.0s							
PKI	**Pulchoki**	**21.12 338**		*e*P	**P**	**10 37 27.8**	**-10**
comp=Z,127nm,0.9s,mb5.3							
GUN	**Gumba**	**21.26 339**		*e*P	**P**	**10 37 28.7**	**-11**
comp=Z,367nm,1.2s,mb5.6							

comp=Z,322nm,19.9s,MS4.0
SSE Sheshan 34.05 44 P **P 10 39 38.2 +0.8**
comp=Z,36nm,0.7s,mb5.4
SSE sP sP 10 39 46.2 +1.0
SSE S **S 10 45 16.3 +15**
SSE sS 10 45 27.6
SSE LR LR
comp=Z,320nm,19.9s,MS4.0
WMQ Urumqi 36.08 352 *e*P **P 10 39 53.8 -0.8**
BJI Beijing 37.41 28 *e*P **P 10 40 09.0 +3.2**
BJI S **S 10 46 01.4 +8.7**
BJI SS SS 10 48 55.8 +30
BJI pmax pmax
comp=Z,20nm,1.4s,mb4.8
BJI MLR MLR
comp=Z,520nm,21.0s,MS4.3
BJI Beijing 37.41 28 *e*P **P 10 40 09.0 +3.2**
comp=Z,20nm,1.4s,mb4.8
BJI S **S 10 46 01.4 +8.7**
BJI SS SS 10 48 55.8 +30
BJI LR LR
comp=Z,520nm,21.0s,MS4.3
MBWA Marble Bar 38.36 140 *e*P **P 10 40 13.6 -0.4**
AAK Ala-Archa 38.56 336 *e*P **P 10 40 15.3 -0.2**
AAK pmax pmax
comp=Z,27nm,1.1s,mb4.9
AAK MLR MLR
comp=Z,340nm,20.0s,MS4.2
AAK Ala-Archa 38.56 336 *e*P **P 10 40 15.3 -0.2**
comp=Z,27nm,1.1s,mb4.9
AAK LR LR
comp=Z,340nm,20.0s,MS4.2
ULN Ulaanbaatar 41.14 13 *e*P **P 10 40 38.2 +1.5**
ULN pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
ULN MLR MLR
comp=Z,368nm,19.0s,MS4.3
ULN Ulaanbaatar 41.14 13 *e*P **P 10 40 38.2 +1.5**
comp=Z,4.3nm,0.9s,mb4.1
ULN LR LR
comp=Z,368nm,19.0s,MS4.3
SNY Shenyang 42.48 33 ⇑P **P 10 40 53.5 +5.7**
SNY AP pP 10 40 59.0 +5.7
SNY XP sP 10 41 02.5 +6.9
SNY S **S 10 47 15.3 +6.6**
SNY AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
SNY LR LR
comp=E,660nm,18.6s
SNY LR LR
comp=Z,460nm,13.1s
ZAK Zakamensk 42.86 9 *e*P **P 10 40 51.6 +0.8**
ZAK *e* 10 42 42.8
TLY Talaya 44.18 8 *i* P **P 10 41 06.0 +4.5**
TLY pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
KURK Kurchatov 44.45 346 *i* P **P 10 41 03.9 +0.2**
KURK Kurchatov 44.45 346 *e*P **P 10 41 02.6 -1.1**
comp=Z,58nm,1.3s,mb5.2
NWAO Narrogin (SRO) 46.28 153 *e*P **P 10 41 17.9 -0.6**
NVS Novosibirsk 47.47 351 *e*P **P 10 41 15.2 -12**
NVS pmax pmax
comp=Z,19nm,1.1s,mb4.9
NVS pmax pmax
comp=N,16nm,1.2s
NVS pmax pmax
comp=E,8.0nm,0.9s
WRAB Tennant Creek 48.32 126 *e*P **P 10 41 32.7 -2.0**
WRAB pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
WRAB MLR MLR
comp=Z,147nm,21.0s,MS3.9
WRAB Tennant Creek 48.32 126 *e*P **P 10 41 32.7 -2.0**
comp=Z,4.6nm,0.7s,mb4.6
WRAB LR LR
comp=Z,147nm,21.0s,MS3.9
WB2 Warramunga Arr 48.32 126 *e*P **P 10 41 32.2 -2.5**
CHKZ Chkalovo 49.32 342 *e*P **P 10 41 40.8 -1.1**
CHKZ pmax pmax
comp=Z,38nm,1.0s,mb5.4
CHKZ Chkalovo 49.32 342 *e*P **P 10 41 40.8 -1.2**
comp=Z,38nm,1.0s,mb5.4
ASPA Alice Springs 49.98 130 *e*P **P 10 41 45.8 -1.6**
BOD Bodaibo 51.96 13 *e*P **P 10 41 50.1 -12**
SVE Sverdlovsk 55.26 338 *e*P **P 10 42 21.0 -5.3**
SVE pmax pmax
comp=Z,60nm,1.6s,mb5.4
SVE MLR MLR
comp=Z,100nm,20.0s,MS3.9
PMG Port Moresby 55.52 107 *e*P **P 10 42 29.2 +0.4**
PMG pmax pmax
comp=Z,8.0nm,0.6s
PMG Port Moresby 55.52 107 *e*P **P 10 42 29.1 +0.3**
comp=Z,7.9nm,0.6s,mb4.9
ARU Arti 55.75 337 ⇑*i*P **P 10 42 24.5 -5.4**
ARU *e*S **S 10 50 20.4 +6.6**
ARU pmax pmax
comp=Z,24nm,1.0s,mb5.2
KIV Kislovodsk 57.23 318 *e*P **P 10 42 39.7 -0.9**
KIV pmax pmax
comp=Z,30nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,77nm,20.0s,MS3.8
KIV Kislovodsk 57.23 318 *e*P **P 10 42 39.7 -1.0**
comp=Z,30nm,1.0s,mb5.3
KIV LR LR
comp=Z,77nm,20.0s,MS3.8
KMBO Kilima Mbogo 57.51 264 *e*P **P 10 42 44.1 +1.1**
KMBO pmax pmax
comp=Z,9.0nm,0.8s
KMBO Kilima Mbogo 57.51 264 *e*P **P 10 42 44.1 +1.1**
comp=Z,9.2nm,0.8s,mb4.9
MALT Malatya 58.39 310 *e*P **P 10 42 46.9 -2.0**
MALT pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
MALT Malatya 58.39 310 *e*P **P 10 42 46.9 -2.0**
comp=Z,10nm,1.0s,mb4.8
SOKR Solikamsk 58.65 339 ⇑*i*P **P 10 42 52.9 +2.5**
SOKR pmax pmax
comp=Z,50nm,1.0s,mb5.5
SOKR MLR MLR
comp=Z,960nm,21.0s,MS4.9
EIL Elat 59.39 300 P **P 10 42 57.6 +1.6**
comp=Z,12nm,1.0s,mb4.9
YAK Yakutsk 59.80 18 *e*P **P 10 42 57.6 -0.7**
YAK MLR MLR
comp=Z,321nm,20.0s,MS4.5
MOS Moscow 64.96 329 *e*P **P 10 43 31.8 -1.0**
MOS pmax pmax
comp=Z,45nm,0.9s,mb5.5
OBN Obninsk 65.26 328 *e*P **P 10 43 28.9 -5.8**
OBN *e* pP 10 43 35.9 -4.5
OBN *e* 10 43 47.3
OBN *e* 10 44 08.0
OBN *e* 10 45 55.3
OBN pmax pmax
comp=Z,48nm,1.4s,mb5.3
OBN MLR MLR
comp=Z,600nm,19.0s,MS4.8
MA2 Magadan 66.57 28 *e*P **P 10 43 43.1 +0.1**
MA2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
TIXI Tiksi 67.04 11 *i* P **P 10 43 44.5 -1.3**
TIXI pmax pmax
comp=Z,28nm,1.5s,mb5.1
LSZ Lusaka 69.39 250 *e*P **P 10 44 00.6 -0.8**
LSZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LSZ Lusaka 69.39 250 *e*P **P 10 44 00.6 -0.7**
comp=Z,2.9nm,0.7s,mb4.3
KOLS Kolonicke sedl 72.11 319 *e*pP pP 10 44 22.6 -0.4
SUW Suwalki 72.39 324 *e*P **P 10 44 17.9 -1.0**
SUW *e* pP 10 44 22.5 -2.1
SUW Suwalki 72.39 324 *e*P **P 10 44 17.9 -1.0**
SUW *e* pP 10 44 22.6 -2.1
CRVS Cervenica-Dubn 72.64 319 *e*P **P 10 44 21.1 +0.7**
CRVS *e*pP pP 10 44 26.9 +0.7
KAF Kangasniemi 72.66 333 *e*p **P 10 44 18.1 -2.2**
NIE Niedzica 73.45 319 *e*P **P 10 44 24.0 -1.1**
OJC Ojcow 73.88 320 *e*P **P 10 44 26.6 -1.0**
LBTB Lobatse 74.39 241 *e*P **P 10 44 31.6 +0.5**
LBTB pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LBTB Lobatse 74.39 241 *e*P **P 10 44 31.6 +0.5**
comp=Z,4.9nm,0.7s,mb4.5
OKC Ostrava-Krasne 74.89 319 *e*P **P 10 44 33.6 +0.1**
OKC *e*pP pP 10 44 39.5 +0.2
MORC Moravsky Berou 75.28 319 *e*P **P 10 44 34.7 -1.0**
MORC pmax pmax
comp=Z,31nm,1.1s,mb5.2
MORC Moravsky Berou 75.28 319 *e*P **P 10 44 34.7 -1.0**
comp=Z,31nm,1.1s,mb5.2
ZST Bratislava 75.44 318 *e*P **P 10 44 36.3 -0.4**
ZST *e*pP pP 10 44 43.2 +0.7
BILL Bilibino 75.89 22 *e*P **P 10 44 38.7 -0.1**
BILL pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BILL Bilibino 75.89 22 *e*P **P 10 44 38.7 -0.1**
comp=Z,2.6nm,0.8s,mb4.2
DPC Dobruska-Polom 76.11 320 *e*P **P 10 44 40.3 -0.1**
DPC *e*pP pP 10 44 45.8 -0.4
KSP Ksiaz 76.16 320 *e*P **P 10 44 41.3 +0.6**
KSP *e*pP pP 10 44 47.0 +0.5
KSP Ksiaz 76.16 320 *e*P **P 10 44 40.7 0.0**
KSP *e* pP 10 44 47.4 +0.9
UPC Upice 76.32 320 *e*P **P 10 44 42.2 +0.6**
UPC *e*pP pP 10 44 47.1 -0.3
PRU Pruhonice 77.23 319 *e*P **P 10 44 48.9 +2.2**
PRU *e*pP pP 10 44 53.1 +0.6
PVCC Panska Ves 77.24 320 *e*P **P 10 44 46.7 0.0**
PVCC *e*pP pP 10 44 53.0 +0.5
BRG Berggiesshubel 77.65 320 *i* P **P 10 44 48.4 -0.6**
BRG *i* pP 10 44 54.9 +0.1
BRG pmax pmax
comp=Z,11nm,1.3s,mb4.6
BRG Berggiesshubel 77.65 320 *i* P **P 10 44 48.4 -0.6**
comp=Z,10nm,1.3s,mb4.6
BRG *i* pP 10 44 54.9 +0.1
GEC2 GERESS Array S 77.73 318 *e*P **P 10 44 49.2 -0.3**
GEC2 pmax pmax
comp=Z,17nm,0.9s,mb5.0
GEC2 GERESS Array S 77.73 318 *e*P **P 10 44 49.2 -0.3**
comp=Z,17nm,0.9s,mb5.0
KHC Kasperske Hory 77.82 318 *e*P **P 10 44 49.5 -0.5**
KHC *e*pP pP 10 44 54.9 -0.9
RUE Ruedersdorf 77.83 322 *e*P **P 10 44 48.7 -1.2**
comp=Z,28nm,0.6s,mb5.4
CLL Collm 78.26 321 P **P 10 44 53.9 +1.6**
CLL *i* *PP pP 10 44 57.8 -0.3
CLL Collm 78.26 321 P Px 10 45 19.4
WET Wettzell 78.28 318 *e*P **P 10 44 52.2 -0.3**
WET pmax pmax
comp=Z,13nm,0.9s,mb4.9
WET Wettzell 78.28 318 *e*P **P 10 44 52.2 -0.3**
comp=Z,13nm,0.9s,mb4.9
NKC Novy Kostel 78.58 320 *e*P **P 10 44 56.4 +2.3**
NKC *e*pP pP 10 45 00.5 +0.6
MAW Mawson 78.73 192 *e*P **P 10 44 55.4 +0.9**
MAW pmax pmax
comp=Z,8.0nm,1.0s
MAW Mawson 78.73 192 *e*P **P 10 44 55.4 +0.8**
comp=Z,7.8nm,1.0s,mb4.6
MOX Moxa 79.12 320 *e*P **P 10 44 56.3 -0.8**
MOX pmax pmax
comp=Z,32nm,1.4s,mb5.1
MOX Moxa 79.12 320 *e*P **P 10 44 56.3 -0.8**
comp=Z,32nm,1.4s,mb5.1
MOX Moxa 79.12 320 *i* P **P 10 44 56.3 -0.8**
comp=Z,logA/T=1.4,mb5.1
VMG Vicchio 79.18 313 *e*P **P 10 44 59.3 +1.8**
FUR Furstenfeldbru 79.34 317 *e*P **P 10 44 57.5 -0.8**
GRA1 Grafenberg Arr 79.37 319 *e*P **P 10 44 58.6 +0.2**
comp=Z,24nm,0.9s,mb5.1
GRA1 *e*pP pP 10 45 04.5 +0.3
GRF Grafenberg Arr 79.37 319 *e*P **P 10 44 58.6 +0.2**
GRF *e*PP pP 10 45 04.5 +0.3
GRF pmax pmax
comp=Z,24nm,0.9s,mb5.1
GRF Grafenberg Arr 79.37 319 *e*P **P 10 44 58.6 +0.2**
GRF *e*PP pP 10 45 04.5 +0.3
GRF pmax pmax
comp=Z,24nm,0.9s,mb5.1
GRF Grafenberg Arr 79.37 319 *e*P **P 10 44 58.6 +0.2**
comp=Z,24nm,0.9s,mb5.1
GRF *e*pP pP 10 45 04.5 +0.3
NB2 NORSAR Subarra 79.60 331 P **P 10 44 58.5 -0.9**
comp=Z,8.4nm,0.8s,mb4.7,baz=96,slow=5.0
NB2 NORSAR Subarra 79.60 331 P **P 10 44 58.5 -0.9**
NB2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CLZ Clausthal 79.91 321 *e*P **P 10 45 01.1 -0.2**
comp=Z,19nm,0.9s,mb5.0
BRMO Bormio 79.97 316 *e*P **P 10 45 04.1 +2.4**
VAI Varese 81.10 315 *e*P **P 10 45 06.4 -1.3**
TNS Taunus Mts 81.16 320 *e*P **P 10 45 07.7 -0.2**
BFO Black Forest 81.30 318 *e*P **P 10 45 08.0 -0.7**
BFO pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BFO Black Forest 81.30 318 *e*P **P 10 45 08.0 -0.7**
comp=Z,8.0nm,0.9s,mb4.7
LPG La Plagne 82.53 315 *e*P **P 10 45 15.2 0.0**
comp=Z,49nm,0.9s,mb5.2
LPG La Plagne 82.53 315 *e*P **P 10 45 15.2 0.0**
LPG pmax pmax
comp=Z,25nm,0.9s,mb5.2
BNI Bardonecchia 82.62 314 *e*P **P 10 45 17.0 +1.4**
BNI pmax pmax
comp=Z,24nm,1.0s,mb5.2
BNI Bardonecchia 82.62 314 *e*P **P 10 45 17.0 +1.4**
comp=Z,24nm,1.0s,mb5.2
IMA Indian Mountai 91.43 22 *e*P **P 10 45 59.0 +1.0**
INK Inuvik 96.80 16 *e*P **P 10 46 21.2 -1.4**
INK pmax pmax
comp=Z,10.0nm,1.1s
INK Inuvik 96.80 16 *e*P **P 10 46 21.2 -1.4**
comp=Z,10nm,1.1s,mb5.2
RES Resolute Bay 97.22 2 *e*P **P 10 46 23.8 -0.5**
RES pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
RES Resolute Bay 97.22 2 *e*P **P 10 46 23.8 -0.5**
comp=Z,4.3nm,1.0s,mb4.8
MSU Marysvale 127.56 26 *e*PKIKP PKPdf 10 51 57.4 -3.2
PLCA Paso Flores 144.74 200 *e*PKIKP PKPdf 10 52 27.9 -4.1

BJI ***30*** *10:40:17.7, 8.10N×94.40E, h20km, mB5.3, mb4.6*
NEIC ***30*** *10:40:17.8±0.3, 8.07N×94.36E, mb4.8/34, Error ellipse: s-maj=10.8km s-min=8.2km az=55.0*
CSEM ***30*** *10:40:22.9, 9.28N×94.49E, h33km, mb5.7*
ISC 30 10:40:16.0±0.4, 8.02N±0.06×94.39E±0.07, h20km, h20km±1.0km:pP-P, n83, σ0=87/84, mb4.7/40, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**13.59**	**268**	P	**P**	**10 43 35.8**	**+5.4**
PALK				*e*S	**S**	**10 45 47.5**	**-14**
BWNR	**Bhubaneshwar**	**14.76**	**327**	*e*	Sx	10 46 20.2	
BWNR				*e*		10 46 20.4	
comp=Z,13nm,0.2s							
SHL	**Shillong**	**17.61**	**352**	*e*P	**P**	**10 44 20.5**	**-1.6**
SHL				*e*S	**S**	**10 47 37.5**	**+2.0**
HYB	**Hyderabad**	**18.04**	**303**	*e*P	**P**	**10 44 29.5**	**+2.0**
HYB				*e*S	**S**	**10 47 43.0**	**-2.3**
HYB	**Hyderabad**	**18.04**	**303**	*i* P	**P**	**10 44 29.5**	**+2.0**
HYB				*e*S	**S**	**10 47 47.0**	**+1.7**
JIRN	**Jiri**	**21.02**	**339**	*e*P	**P**	**10 45 00.3**	**-0.7**
comp=Z,52nm,0.9s,mb4.9							
PKI	**Pulchoki**	**21.22**	**337**	*e*P	**P**	**10 45 03.0**	**0.0**
comp=Z,51nm,0.8s,mb4.9							
GUN	**Gumba**	**21.36**	**339**	*e*P	**P**	**10 45 03.7**	**-0.7**
comp=Z,61nm,0.8s,mb5.0							
DMN	**Daman**	**21.37**	**337**	*e*P	**P**	**10 45 04.7**	**+0.1**
comp=Z,48nm,0.8s,mb4.9							
KKN	**Kakani**	**21.47**	**337**	*e*P	**P**	**10 45 05.4**	**-0.1**
KAD	**Karad**	**21.75**	**297**	*e*P	**P**	**10 45 10.5**	**+2.1**
GKN	**Gorkha**	**21.91**	**336**	*e*P	**P**	**10 45 09.6**	**-0.3**
comp=Z,54nm,0.6s,mb5.1							
KOLN	**Koldanda**	**22.14**	**334**	*e*P	**P**	**10 45 12.0**	**-0.2**
comp=Z,27nm,0.6s,mb4.9							
BHPL	**Bhopal**	**22.23**	**315**	*e*P	**P**	**10 45 15.2**	**+2.1**
BHPL				*e*		10 45 16.8	
comp=Z,13nm,0.5s							
AYAN	**Aya Nagar**	**26.07**	**324**	*e*P	**P**	**10 45 49.5**	**-0.7**
NDI	**New Delhi**	**26.16**	**324**	*e*P	**P**	**10 45 54.0**	**+2.9**
KHET	**Khetri**	**26.57**	**321**	*e*P	**P**	**10 45 54.9**	**+0.1**
XAN	**Xi'an**	**29.15**	**25**	P	**P**	**10 46 19.0**	**+0.8**
XAN				AP	pP	10 46 25.0	+1.0
XAN				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.5							
LZH Lanzhou 29.24 16 *e*P **P 10 46 20.0 +1.1**							
LZH				AP	pP	10 46 28.5	+3.8
LZH				XP	sP	10 46 34.5	+7.2
LZH				AMB	AMB		
comp=Z,24nm,1.7s,mb4.7							
LZH Lanzhou 29.24 16 *e*P **P 10 46 20.0 +1.1**							
comp=Z,24nm,1.7s,mb4.7							
LZH				pP	pP	10 46 28.5	+3.8
LZH				sP	sP	10 46 34.5	+7.2
AAK Ala-Archa 38.67 336 *e*P **P 10 47 39.5 -0.6**							
comp=Z,10nm,1.1s,mb4.5							
ULN Ulaanbaatar 41.14 13 *e*P **P 10 48 01.4 +0.9**							
comp=Z,2.6nm,0.8s,mb3.9							
KURK Kurchatov 44.53 346 *e*P **P 10 48 27.1 -1.1**							
comp=Z,16nm,1.0s,mb4.8							
NWAO Narrogin (SRO) 46.16 153 *e*P **P 10 48 40.1 -1.3**							
comp=Z,23nm,1.3s,mb5.0							
WRAB Tennant Creek 48.15 126 *e*P **P 10 48 57.2 +0.1**							
comp=Z,8.5nm,1.0s,mb4.7							
WB2 Warramunga Arr 48.15 126 *e*P **P 10 48 58.1 +0.9**							
RAYN Ar Rayn 49.25 294 P **P 10 49 06.7 +1.1**							
comp=Z,116nm,0.6s,SNR=12							
CHKZ Chkalovo 49.41 342 *e*P **P 10 49 05.7 -0.8**							
comp=Z,15nm,0.9s,mb5.0							
CHKZ *e*pP pP 10 49 11.3 -1.2							
KMBO Kilima Mbogo 57.69 264 *e*P **P 10 50 09.3 +1.2**							
comp=Z,10nm,0.9s,mb4.9							
EIL Elat 59.57 300 *e*P **P 10 50 20.0 -1.0**							
comp=Z,3.8nm,0.7s,mb4.5							
YAK Yakutsk 59.78 18 *e*P **P 10 50 22.2 +0.2**							
comp=Z,18nm,0.6s,mb5.3							
MBAR Mbarara 64.02 265 *e*P **P 10 50 51.1 -0.1**							
comp=Z,2.4nm,0.7s,mb4.3							
LSZ Lusaka 69.55 250 *e*P **P 10 51 26.3 +0.2**							
comp=Z,3.4nm,0.6s,mb4.5							
JOF Joensuu 70.82 334 *e*p **P 10 51 32.0 -1.1**							
KOLS Kolonicke sedl 72.26 319 *i* P **P 10 51 42.5 +0.6**							
KAF Kangasniemi 72.77 333 *e*p **P 10 51 43.3 -1.4**							
comp=Z,2.4nm,0.5s,mb4.4							
CRVS Cervenica-Dubn 72.78 319 *i* P **P 10 51 45.5 +0.5**							
LBTB Lobatse 74.53 241 *e*P **P 10 51 56.5 +0.8**							
comp=Z,8.4nm,0.8s,mb4.7							
OKC Ostrava-Krasne 75.04 319 *e*P **P 10 51 58.4 +0.3**							
OKC *e*pP pP 10 52 04.1 -0.3							
MORC Moravsky Berou 75.43 319 *e*P **P 10 51 59.6 -0.8**							
comp=Z,9.7nm,0.9s,mb4.7							
MORC *e*pP pP 10 52 05.6 -1.0							
ZST Bratislava 75.59 318 *i* pP pP 10 52 07.5 -0.1							
DPC Dobruska-Polom 76.26 320 *e*P **P 10 52 05.3 +0.3**							
DPC *e*pP pP 10 52 10.9 -0.4							
KSP Ksiaz 76.31 320 *e*P **P 10 52 05.2 -0.1**							
KSP *e* pP 10 52 10.7 -0.9							
UPC Upice 76.46 320 *e*P **P 10 52 06.2 0.0**							
UPC *e*pP pP 10 52 15.8 +3.4							
PRU Pruhonice 77.38 319 *e*P **P 10 52 11.5 +0.2**							
PRU *e*pP pP 10 52 17.7 +0.2							
PVCC Panska Ves 77.39 320 *e*P **P 10 52 11.4 +0.1**							
PVCC *e*pP pP 10 52 17.5 -0.1							
BRG Berggiesshubel 77.80 320 *i* P **P 10 52 13.5 0.0**							
comp=Z,23nm,1.9s,mb4.8							
BRG *e* 10 52 16.8							
GEC2 GERESS Array S 77.88 318 *e*P **P 10 52 14.0 -0.1**							
comp=Z,6.0nm,0.8s,mb4.6							
RUE Ruedersdorf 77.97 322 *e*P **P 10 52 14.3 -0.2**							
comp=Z,21nm,0.6s,mb5.2							
RUE *e*pP pP 10 52 20.4 -0.3							
KHC Kasperske Hory 77.97 318 *e*P **P 10 52 14.2 -0.3**							
KHC *e*pP pP 10 52 20.4 -0.4							
CLL Collm 78.41 321 P **P 10 52 16.0 -0.9**							
CLL *i* *PP pP 10 52 22.0 -1.2							
WET Wettzell 78.43 318 *e*P **P 10 52 17.0 -0.1**							
comp=Z,3.0nm,0.7s,mb4.3							
MAW Mawson 78.73 192 *e*P **P 10 52 20.2 +1.9**							
comp=Z,5.3nm,0.6s,mb4.7							
MOX Moxa 79.27 320 *e*P **P 10 52 21.5 -0.1**							
MOX Moxa 79.27 320 *i* P **P 10 52 21.5 -0.1**							
FUR Furstenfeldbru 79.49 317 *e*P **P 10 52 22.3 -0.6**							
GRA1 Grafenberg Arr 79.52 319 *e*P **P 10 52 23.4 +0.4**							
comp=Z,5.0nm,0.8s,mb4.5							
GRA1 *e*pP pP 10 52 29.3 0.0							
GRF Grafenberg Arr 79.52 319 *e*P **P 10 52 23.4 +0.4**							
comp=Z,5.0nm,0.8s,mb4.5							
GRF *e*pP pP 10 52 29.3 0.0							
NB2 NORSAR Subarra 79.73 331 P **P 10 52 22.8 -1.1**							
comp=Z,7.1nm,0.9s,mb4.6,baz=92,slow=5.8							
CLZ Clausthal 80.05 321 *e*P **P 10 52 25.9 +0.1**							
comp=Z,6.0nm,0.8s,mb4.6							
PGF Pioggiola 81.25 312 *e*P **P 10 52 31.6 -0.7**							
TNS Taunus Mts 81.30 320 *e*P **P 10 52 32.6 +0.2**							
BFO Black Forest 81.45 318 *e*P **P 10 52 32.8 -0.5**							
comp=Z,4.0nm,0.9s,mb4.3							
CDF Champ du Feu 82.15 318 *e*P **P 10 52 36.1 -0.8**							
comp=Z,4.3nm,0.6s,mb4.2							
SBF Sospel 82.31 313 *e*P **P 10 52 37.4 -0.4**							
comp=Z,48nm,0.9s,mb5.1							
LPG La Plagne 82.69 315 *e*P **P 10 52 39.8 +0.1**							
comp=Z,27nm,0.8s,mb5.0							
LPL La Plagne 82.70 315 *e*P **P 10 52 39.8 0.0**							
comp=Z,26nm,0.7s,mb5.1							
MBDF Montbardon 82.73 314 *e*P **P 10 52 39.0 -1.0**							
comp=Z,22nm,1.1s,mb4.8							
HAU Haudompre 82.80 317 *e*P **P 10 52 39.5 -0.7**							
comp=Z,22nm,0.9s,mb4.9							
FRF La Foret Royal 82.91 313 *e*P **P 10 52 40.6 -0.3**							
CABF La Chapelle 83.07 316 *e*P **P 10 52 41.5 -0.2**							
ORIF Oris-en-Rattie 83.35 314 *e*P **P 10 52 43.2 0.0**							
comp=Z,12nm,0.9s,mb4.6							
BAIF Baives 84.03 320 *e*P **P 10 52 46.6 +0.1**							
SMF Signal de Mont 84.61 316 *e*P **P 10 52 48.9 -0.6**							
comp=Z,11nm,0.9s,mb4.7							
AVF Avril sur Loir 84.93 316 *e*P **P 10 52 50.6 -0.5**							
BGF Bois d'Agland 85.30 316 *e*P **P 10 52 52.8 -0.2**							
RJF Les Rejaudoux 86.38 315 *e*P **P 10 52 58.3 0.0**							
LDF La Druitiere 87.02 318 *e*P **P 10 53 01.1 -0.3**							
FLN La Foliniere 87.23 319 *e*P **P 10 53 01.5 -0.9**							
SJPF Ste Jean 88.66 313 *e*P **P 10 53 09.3 -0.1**							
IMA Indian Mountai 91.39 22 *e*P **P 10 53 23.6 +2.1**							
IMA *e*pP pP 10 53 29.7 +1.8							
INK Inuvik 96.78 16 *e*P **P 10 53 47.4 +1.1**							
comp=Z,7.6nm,1.2s,mb5.0							
INK *e*pP pP 10 53 53.3 +0.7							
JCT Junction City 139.37 19 *e*P PKPdf 10 59 43.5 -3.3							

CSEM ***30*** *11:08:49.3±0.9, 38.64N×28.55W, h10km, ML1.5, Error ellipse: s-maj=4.3km s-min=2.7km az=177.0, After PDA*
PDA ***30*** *11:08:49.3±0.9, 38.64N×28.55W, h10km, MD2.9, ML1.5, Error ellipse: s-maj=4.3km s-min=2.7km az=177.0*
SVSA 30 11:08:49.3±0.9, 38.64N×28.55W, h10km, MD2.9, ML1.5, Error ellipse: s-maj=4.3km s-min=2.7km az=177.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.12**	**263**	*e*P	Pg	11 08 51.6	-0.7
PCED				*e*S	Sg	11 08 53.8	-0.4
32nm,0.2s							
PCED	**Cedros**	**0.12**	**263**	*e*S	Sg	11 08 53.8	-0.4
32nm,0.2s							
HOR	**Horta**	**0.13**	**207**	*e*rx		11 09 00.1	
CALA	**Caldeira**	**0.13**	**242**	*e*P	Pg	11 08 52.4	-0.1
CALA				*e*S	Sg	11 08 54.7	+0.1
PICO	**Pico**	**0.17**	**145**	*e*P	Pg	11 08 52.5	-0.7
PICO				*e*S	Sg	11 08 55.5	-0.3
ROSA	**Rosais**	**0.26**	**73**	*e*S	Sg	11 08 57.5	-0.8

NNC ***30*** *11:13:36.0±37.0, 36.63N×71.26E, h139km±395km, mpv4.3, Error ellipse: s-maj=640.6km s-min=343.4km az=102.0*
ISC 30 11:13:31.2±0.6, 36.36N±0.04×71.03E±0.10, h144km±10km, n31, σ0=77/33, mb3.6/1, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.63**	**164**	⇑P	**P**	**11 14 14.9**	**+0.6**
CHCP	**Chirah Chowk**	**3.26**	**145**	P	**P**	**11 14 23.3**	**+0.8**
THW	**Thamme Wali**	**3.61**	**170**	⇑P	**P**	**11 14 27.0**	**0.0**
SBDP	**Sheikh Budin**	**4.05**	**183**	⇑P	**P**	**11 14 32.4**	**-0.5**
SARP	**Sargodha**	**4.63**	**162**	P	**P**	**11 14 40.0**	**-0.5**
DRP	**Derazinda**	**4.66**	**189**	⇓P	**P**	**11 14 40.2**	**-0.6**
DRP				S	**S**	**11 15 30.0**	**-4.5**
AML	**Almayashu**	**6.12**	**19**	P	**P**	**11 14 60.0**	**-0.4**

	SNR=276							
UCH	**Uchtor**	**6.45**	**24**	P	**P**	**11 15 05.0**	**+0.1**
	SNR=30							
KZA	**Kyzart**	**6.58**	**29**	P	**P**	**11 15 06.6**	**-0.1**
	SNR=11							
EKS2	**Erkin-Say**	**6.64**	**18**	P	**P**	**11 15 06.8**	**-0.6**
	SNR=20							
AAK	**Ala-Archa**	**6.81**	**22**	⇑P	**P**	**11 15 09.2**	**-0.5**
	11nm,0.5s							
AAK				⇑S	**S**	**11 16 22.8**	**-3.5**
	31nm,0.5s							
AAK	**Ala-Archa**	**6.81**	**22**	P	**P**	**11 15 09.7**	**0.0**
	SNR=22							
KBK	**Karagaybulak**	**6.98**	**25**	P	**P**	**11 15 14.7**	**+2.7**
	SNR=8.0							
CHMS	**Chumysh**	**7.22**	**22**	P	**P**	**11 15 15.8**	**+0.5**
	SNR=22							
USP	**Ospenovka**	**7.40**	**20**	P	**P**	**11 15 17.0**	**-0.5**
	SNR=19							
TKM2	**Tokmak 2**	**7.44**	**27**	P	**P**	**11 15 18.7**	**+0.6**
	SNR=9.8							
DDI	**Dehra Dun**	**8.41**	**134**	*e*	**P**	**11 15 32.5**	**+1.4**
DDI				*e*		11 17 03.6	
NDI	**New Delhi**	**9.27**	**144**	*e*P	**S**	**11 17 19.0**	**-6.1**
MK31	**Makanchi Array**	**13.39**	**35**	⇓P	**P**	**11 16 36.9**	**+0.6**
	2.6nm,0.8s,baz=221,slow=14,SNR=25							
KOLN	**Koldanda**	**13.66**	**125**	*e*P	**P**	**11 16 38.8**	**-1.1**
	6.3nm,0.3s							
GKN	**Gorkha**	**14.21**	**122**	*e*P	**P**	**11 16 46.9**	**+0.1**
KKN	**Kakani**	**14.79**	**121**	*e*P	**P**	**11 16 53.3**	**-0.8**
	11nm,0.4s							
PKI	**Pulchoki**	**15.01**	**122**	*e*P	**P**	**11 16 56.5**	**-0.5**
GUN	**Gumba**	**15.13**	**120**	*e*P	**P**	**11 16 57.8**	**-0.6**
	10nm,0.4s							
JIRN	**Jiri**	**15.50**	**120**	*e*P	**P**	**11 17 03.0**	**-0.1**
	36nm,0.4s							
BVA0	**Borovoye Array**	**16.67**	**359**	⇓P	**P**	**11 17 16.9**	**-0.5**
	0.7nm,0.7s,baz=302,slow=1.1,SNR=25							
CHKZ	**Chkalovo**	**17.32**	**359**	⇑P	**P**	**11 17 24.9**	**-0.4**
	7.9nm,2.2s							
HYB	**Hyderabad**	**20.01**	**159**	*e*P	**P**	**11 17 56.0**	**+1.5**
JOF	**Joensuu**	**36.00**	**330**	*e*p	**P**	**11 20 19.7**	**+0.1**
KAF	**Kangasniemi**	**37.76**	**327**	*e*p	**P**	**11 20 34.3**	**0.0**
NB2	**NORSAR Subarra**	**44.51**	**323**	P	**P**	**11 21 29.6**	**+0.2**
	0.7nm,0.4s,mb3.6,baz=100,slow=7.4							

*TAP **30** 11:28:56.2, 24.28N×122.26E, h7km, ML2.9*

JMA 30 11:28:56.8±0.6, 24.25N×122.28E, h24km, M2.3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.70**	**72**	P	Pb	11 29 10.0	-0.2
YOJ				S	Sb	11 29 19.3	-0.1
IRIF	**Iriomote-Funau**	**1.33**	**86**	P	Pn	11 29 19.2	-0.9
IRIF				S	Sn	11 29 37.2	+0.1
HATJ	**Hateruma jima**	**1.41**	**98**	P	Pn	11 29 21.7	+0.4
HATJ				S	Sn	11 29 39.5	+0.3
JKRS	**Kuro-shima**	**1.58**	**90**	P	Pn	11 29 22.0	-0.8
JKRS				*e*S	Sn	11 29 44.3	+0.8
JIJ	**Ishigaki jima**	**1.70**	**86**	P	Pn	11 29 23.9	-1.6
JIJ				S	Sn	11 29 45.3	-1.4

*IGQ **30** 11:37:36.3, 0.98S×81.54W, h4km±6km, mb4.8, Error ellipse: s-maj=12.3km s-min=6.0km az=177.3*
*NEIC **30** 11:37:48.1±0.7, 0.75S×80.83W, h10km, mb4.3/7, MD4.8(IGQ), Error ellipse: s-maj=15.3km s-min=13.5km az=12.0*
NEIC Felt strongly at Manta.

ISC 30 11:37:46.3±0.6, 0.88S±0.07×80.97W±0.05, h10km, n34, σ1§13/37, mb4.4/6, 8C-3D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.46**	**112**	⇑P	**Pg**	**11 37 54.2**	**-1.4**
MAGD	**Magdalena**	**1.44**	**56**	P	**Pn**	**11 38 13.5**	**+0.9**
IGUA	**Igualata**	**2.41**	**105**	⇓P	**Pn**	**11 38 25.6**	**-0.8**
TERV	**Terraza Guagua**	**2.46**	**74**	P	**Pn**	**11 38 26.4**	**-0.8**
PINO	**Pino**	**2.46**	**73**	P	**Pn**	**11 38 25.8**	**-1.4**
GGP	**Refugio Guagua**	**2.47**	**74**	P	**Pn**	**11 38 27.1**	**-0.3**
MARY	**Rancho Maria**	**2.48**	**87**	P	**Pn**	**11 38 29.4**	**+1.9**
NAS1	**Nasa**	**2.50**	**84**	⇑P	**Pn**	**11 38 28.1**	**+0.4**
YANA	**Yana**	**2.51**	**73**	⇑P	**Pn**	**11 38 26.9**	**-1.0**
CUSU	**Cusua**	**2.55**	**103**	⇑P	**Pn**	**11 38 28.9**	**+0.4**
JUIV	**Juive**	**2.56**	**102**	P	**Pn**	**11 38 27.9**	**-0.8**
VC1	**Cotopaxi 1**	**2.57**	**85**	P	**Pn**	**11 38 28.9**	**+0.1**
RETU	**Refugio**	**2.58**	**103**	P	**Pn**	**11 38 29.4**	**+0.5**
PISA	**Pisayambo**	**2.59**	**94**	P	**Pn**	**11 38 29.3**	**+0.3**
ARRY	**Arrayan**	**2.59**	**104**	⇓P	**Pn**	**11 38 28.4**	**-0.7**
TAMB	**Tambo**	**2.60**	**86**	P	**Pn**	**11 38 29.4**	**+0.2**
PATA	**Patacocha**	**2.61**	**104**	⇑P	**Pn**	**11 38 30.5**	**+1.2**
PATA				S	**Sn**	**11 39 05.8**	**+4.5**
ULBA	**Ulba**	**2.62**	**103**	P	**Pn**	**11 38 29.2**	**-0.3**
OTAV	**Otavalo**	**2.75**	**66**	⇑*e*Pn	**Pn**	**11 38 30.3**	**-1.0**
OTAV				*e*S	**Sn**	**11 39 05.2**	**+0.3**
ANTI	**Antisana**	**2.84**	**81**	⇓P	**Pn**	**11 38 32.8**	**+0.2**
COTA	**Cotacachi**	**2.89**	**65**	⇑P	**Pn**	**11 38 33.5**	**+0.2**
CAYR	**Refugio Cayamb**	**3.09**	**73**	P	**Pn**	**11 38 37.5**	**+1.3**
CAYA	**Cayambe**	**3.12**	**72**	⇑P	**Pn**	**11 38 37.7**	**+1.1**
CAYA				S	**Sn**	**11 39 20.2**	**+5.8**
CONE	**Cono NE Rev Vo**	**3.42**	**76**	P	**Pn**	**11 38 42.6**	**+1.8**
PAYG	**Puerto Ayora**	**9.32**	**271**	*e*P	**P**	**11 40 03.5**	**-0.3**
NNA	**Nana**	**11.77**	**160**	*e*P	**P**	**11 40 32.8**	**-4.7**
	15nm,0.5s						
SDV	**Santo Domingo**	**14.14**	**47**	P	**P**	**11 41 06.7**	**-2.5**
	16nm,0.8s						
SDV				*e*		11 41 16.1	
LPAZ	**La Paz**	**19.86**	**141**	*e*P	**P**	**11 42 18.3**	**-2.4**
	5.6nm,0.8s						
LVC	**Limon Verde**	**24.58**	**152**	*e*P	**P**	**11 43 10.1**	**+2.1**
	4.6nm,0.8s,mb4.1						
PLCA	**Paso Flores**	**40.78**	**168**	*e*P	**P**	**11 45 32.8**	**+3.3**
	7.0nm,1.1s,mb4.2						
ANMO	**Albuquerque**	**42.88**	**329**	*e*P	**P**	**11 45 47.6**	**+0.8**
	10nm,1.4s,mb4.4						
SDCO	**Great Sand Dun**	**44.62**	**332**	*e*P	**P**	**11 46 01.1**	**+0.2**
	3.2nm,0.7s,mb4.3						
DBIC	**Dimbokro**	**76.31**	**83**	*e*P	**P**	**11 49 35.6**	**-2.4**
	13nm,1.2s,mb4.7						
INK	**Inuvik**	**77.76**	**342**	*e*P	**P**	**11 49 44.6**	**-0.4**
	11nm,1.3s,mb4.6						

NEIC 30 11:37:50.7±0.4, 34.77N×111.08W, h5km, ML4.0, MW4.0(SLM), Error ellipse: s-maj=6.5km s-min=5.9km az=193.0, Eastern Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVA	**Apache Junctio**	**1.40**	**197**	P	Pn	11 38 17.4	+0.4
TUC	**Tucson**	**2.46**	**174**	*e*Pn	Pn	11 38 31.4	-0.7
TUC				*e*Pg	Pg	11 38 35.9	-4.0
TUC				*e*S	Sn	11 39 00.8	-2.2
NEN	**Nelson**	**3.21**	**287**	*e*Pn	Pn	11 38 43.0	+0.2
LAZ	**Ladron**	**3.27**	**95**	Pn	Pn	11 38 42.7	-1.0
LDFC	**Landfair**	**3.33**	**277**	Pn	Pn	11 38 42.5	-1.9
LENM	**Lemitar**	**3.44**	**99**	*e*Pn	Pn	11 38 45.0	-1.2
LPM	**Los Pinos Moun**	**3.70**	**96**	*e*Pn	Pn	11 38 48.6	-1.2
ANMO	**Albuquerque**	**3.80**	**86**	*e*Pn	Pn	11 38 50.1	-1.2
MVU	**Marysvale**	**3.84**	**347**	Pn	Pn	11 38 50.0	-1.8
MSU	**Marysvale**	**3.84**	**347**	Pn	Pn	11 38 50.5	-1.3
PV01	**Paradox Valley**	**3.92**	**30**	*e*Pn	Pn	11 38 52.5	-0.5
PV10	**Paradox Valley**	**3.96**	**24**	*e*Pn	Pn	11 38 52.7	-0.8
SRU	**San Rafael**	**4.36**	**6**	*e*Pn	Pn	11 38 59.6	+0.5
TMUT	**Trail Mountain**	**4.52**	**359**	*e*Pn	Pn	11 39 01.1	-0.4
PFO	**Pinyon Flat Ob**	**4.60**	**257**	*e*Pn	Pn	11 39 00.3	-2.3
TRCR	**Troy Canyon**	**5.09**	**316**	Pn	Pn	11 39 06.9	-2.6
NLU	**North Lily Min**	**5.24**	**352**	Pn	Pn	11 39 10.4	-1.2
MPU	**Maple Canyon**	**5.26**	**355**	Pn	Pn	11 39 10.5	-1.4
SDCO	**Great Sand Dun**	**5.40**	**55**	*e*Pn	Pn	11 39 12.2	-1.7
DAU	**Daniels Canyon**	**5.64**	**359**	Pn	Pn	11 39 15.4	-1.8
MNTX	**Cornudas Mount**	**5.67**	**121**	*e*Pn	Pn	11 39 14.8	-2.8
NOQ	**North Oquirrh**	**5.93**	**352**	Pn	Pn	11 39 19.9	-1.5
CTU	**Camp Tracy**	**5.94**	**355**	Pn	Pn	11 39 20.8	-0.7
TPH	**Tonopah**	**5.95**	**305**	Pn	Pn	11 39 19.9	-1.7
GDL2	**Guadalupe Moun**	**6.17**	**113**	*e*Pn	Pn	11 39 23.3	-1.3
CPRX	**Cap Rock**	**6.24**	**104**	Pn	Pn	11 39 25.4	-0.3
BGU	**Big Grassy Mou**	**6.34**	**346**	*e*Pn	Pn	11 39 25.1	-2.1
TCUT	**Toone Canyon**	**6.35**	**358**	Pn	Pn	11 39 25.9	-1.3
SPUT	**South Promonto**	**6.62**	**351**	Pn	Pn	11 39 29.9	-1.2
MNV	**Mina**	**6.76**	**305**	*e*Pn	Pn	11 39 29.1	-4.0
HWUT	**Hardware Ranch**	**6.84**	**357**	*e*Pn	Pn	11 39 33.2	-1.0
HVU	**Hansel Valley**	**7.13**	**350**	Pn	Pn	11 39 37.4	-0.8
AMTX	**Amarillo**	**7.73**	**86**	*e*Pn	Pn	11 39 48.0	+1.4
PHWY	**Pilot Hill**	**7.89**	**33**	*e*Pn	Pn	11 39 46.9	-1.9
AHID	**Auburn Hatcher**	**7.99**	**360**	Pn	Pn	11 39 51.5	+1.2
BW06	**Boulder Array**	**8.08**	**8**	*e*Pn	P	11 39 48.5	-3.0
RRI2	**Red Ridge**	**8.57**	**359**	Pn	P	11 39 55.5	-2.9
SNOW	**Snow King Moun**	**8.69**	**2**	Pn	P	11 39 58.8	-1.2
TPAW	**Teton Pass**	**8.71**	**1**	*e*Pn	P	11 39 57.0	-3.3
WUWY	**Wally Ulrich**	**8.77**	**2**	Pn	P	11 39 57.8	-3.2
LOHW	**Long Hollow**	**8.84**	**2**	Pn	P	11 39 58.1	-4.1
MOOW	**Moose Ponds**	**8.97**	**2**	*e*Pn	P	11 39 59.1	-4.8
IMW	**Indian Meadow**	**9.12**	**1**	*e*Pn	P	11 40 02.1	-3.8
WMOK	**Wichita Mounta**	**10.12**	**87**	*e*Pn	P	11 40 16.6	-3.2

OTT 30 11:49:22.0±0.1, 65.82N×90.44W, h18km, MN2.6/5, 205km west from Repulse Bay, Nu Boothia Ungava Seismic Zone. Boothia Ungava Seismic Zone. 205km west from Repulse Bay, Nu, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YRTN	**Rankin Inlet**	**3.11**	**194**	PN	Pn	11 50 10.1	-1.2
YRTN				SG	Sn	11 50 56.0	+7.7
YRTN				Trac		11 51 00.6	
	comp=Z,15nm,0.2s						
IGLN	**Igloolik**	**4.85**	**39**	PN	Pn	11 50 33.1	-2.8
IGLN				SN	Sn	11 51 26.8	-5.6
IGLN				LG		11 51 51.6	
IGLN				Trac		11 51 54.6	
	comp=Z,9.9nm,0.3s						
FCC	**Fort Churchill**	**7.29**	**195**	PN	Pn	11 51 07.2	-3.1
FCC				SN	Sn	11 52 23.9	-9.4
FCC				Trac		11 53 13.4	
	comp=Z,1.1nm,0.2s						
PINU	**Pond Inlet**	**8.18**	**27**	PN	P	11 51 22.6	-0.2
PINU				SN	Sn	11 52 45.1	-10
LGSN	**Lac de Gras So**	**8.44**	**269**	SN	Sn	11 52 51.4	-11
LGSN				LG		11 53 41.6	
LUPN	**Lupin Mine**	**8.55**	**279**	PN	P	11 51 23.6	-4.3
LUPN				SN	Sn	11 52 52.8	-12
LUPN				Trac		11 53 46.1	
	comp=Z,0.5nm,0.1s						
YNEN	**Yamba Lake Nor**	**8.60**	**275**	PN	P	11 51 22.5	-6.2
YNEN				SN	Sn	11 52 55.5	-11
FRB	**Frobisher Bay**	**9.55**	**92**	PN	P	11 51 32.4	-9.1
YKW3	**Yellowknife Ar**	**11.00**	**264**	PN	P	11 51 56.9	-4.5
YKW3				SN	S	11 53 52.0	-13
YKW3				Trac		11 55 02.0	
	comp=Z,0.4nm,0.3s						
GALN	**Gameti Lake**	**11.47**	**274**	PN	P	11 52 04.6	-3.2
SILO	**Sutton Inlier**	**11.70**	**164**	PN	P	11 52 06.1	-4.8
SILO				SN	S	11 54 09.4	-13
SILO				Trac		11 55 34.1	
	comp=Z,0.4nm,0.5s						
VIMO	**Victor Mine**	**13.47**	**162**	PN	P	11 52 30.6	-4.0
VIMO				SN	S	11 54 50.5	-14
VIMO				Trac		11 55 43.5	
	comp=Z,0.2nm,0.3s						
RLKO	**Red Lake**	**14.89**	**188**	PN	P	11 52 22.4	-31
SOLO	**Sioux Lookout**	**15.87**	**184**	PN	P	11 53 02.5	-3.3
SOLO				SN	S	11 55 47.4	-14
SOLO				Trac		11 56 01.2	
	comp=Z,0.3nm,0.3s						
ULM	**Lac du Bonnet**	**15.87**	**193**	PN	P	11 53 04.2	-1.6

*NEIC **30** 12:01:06.7±1.1, 8.41N×94.71E, h30km, mb4.4/4, Error ellipse: s-maj=26.0km s-min=20.6km az=198.0*
*BJI **30** 12:01:09.7, 8.40N×94.70E, h30km, mb4.4*

ISC 30 12:01:04.7±1.0, 8.3N±0.1×94.6E±0.1, h30km, n16, σ1§00/16, mb4.6/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**13.83**	**267**	*e*P	**P**	**12 04 22.6**	**+1.3**
HYB	**Hyderabad**	**18.11**	**302**	*i*P	**P**	**12 05 13.0**	**-3.0**
JIRN	**Jiri**	**20.88**	**339**	*e*P	**P**	**12 05 47.4**	**+0.4**
	27nm,0.8s						
PKI	**Pulchoki**	**21.09**	**337**	*e*P	**P**	**12 05 49.9**	**+0.7**
	33nm,0.9s,mb4.7						
GUN	**Gumba**	**21.22**	**338**	*e*P	**P**	**12 05 51.2**	**+0.7**
	36nm,0.7s,mb4.8						
DMN	**Daman**	**21.25**	**336**	*e*P	**P**	**12 05 51.4**	**+0.7**
	47nm,0.9s,mb4.8						
KKN	**Kakani**	**21.34**	**337**	*e*P	**P**	**12 05 52.6**	**+0.9**
	18nm,0.7s,mb4.5						
GKN	**Gorkha**	**21.78**	**336**	*e*P	**P**	**12 05 56.8**	**+0.6**
	24nm,0.7s,mb4.8						
KOLN	**Koldanda**	**22.02**	**333**	*e*P	**P**	**12 05 58.0**	**-0.6**
	29nm,0.9s,mb4.7						
NDI	**New Delhi**	**26.11**	**323**	*e*P	**P**	**12 06 37.0**	**-1.0**
AAK	**Ala-Archa**	**38.54**	**336**	*e*P	**P**	**12 08 25.8**	**-0.6**
	3.4nm,1.0s,mb4.0						
KURK	**Kurchatov**	**44.35**	**345**	*e*P	**P**	**12 09 14.8**	**+0.7**
	9.3nm,1.1s,mb4.4						
WRAB	**Tennant Creek**	**48.10**	**126**	P	**P**	**12 09 44.5**	**+0.4**
	19nm,1.6s,mb4.9						
CHKZ	**Chkalovo**	**49.26**	**341**	*e*P	**P**	**12 09 52.4**	**-0.2**
	9.2nm,0.9s,mb4.8						
KAF	**Kangasniemi**	**72.67**	**333**	*e*p	**P**	**12 12 29.6**	**-1.7**
NB2	**NORSAR Subarra**	**79.63**	**331**	P	**P**	**12 13 09.2**	**-1.4**
	2.6nm,0.8s,mb4.2,baz=96,slow=4.8						

IGQ 30 12:24:26.1, 1.19S×81.25W, h13km±4km, mb4.1, 1D, Error ellipse: s-maj=7.7km s-min=5.5km az=109.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.72**	**79**	⇓P	Pb	12 24 39.0	-1.0
HOJA				S	Sb	12 24 49.7	+0.2
IGUA	**Igualata**	**2.63**	**97**	P	Pn	12 25 09.8	+0.7
JUIV	**Juive**	**2.79**	**95**	P	Pn	12 25 12.8	+1.4
ARRY	**Arrayan**	**2.81**	**96**	P	Pn	12 25 12.8	+1.1
ARRY				S	Sn	12 25 46.0	+0.2
RETU	**Refugio**	**2.82**	**95**	P	Pn	12 25 14.7	+2.9
NAS1	**Nasa**	**2.83**	**79**	P	Pn	12 25 16.9	+4.9
TERV	**Terraza Guagua**	**2.83**	**69**	P	Pn	12 25 16.6	+4.6
PINO	**Pino**	**2.83**	**69**	P	Pn	12 25 14.1	+2.0
ULBA	**Ulba**	**2.85**	**95**	P	Pn	12 25 15.3	+3.0
PISA	**Pisayambo**	**2.87**	**87**	P	Pn	12 25 14.0	+1.5
YANA	**Yana**	**2.88**	**68**	P	Pn	12 25 13.4	+0.7
VC1	**Cotopaxi 1**	**2.90**	**79**	P	Pn	12 25 15.0	+2.1
TAMB	**Tambo**	**2.92**	**80**	P	Pn	12 25 16.0	+2.7
ANTI	**Antisana**	**3.18**	**77**	P	Pn	12 25 19.0	+2.1
COTA	**Cotacachi**	**3.28**	**63**	P	Pn	12 25 20.0	+1.6
CAYR	**Refugio Cayamb**	**3.46**	**70**	P	Pn	12 25 23.2	+2.4
CAYA	**Cayambe**	**3.49**	**69**	P	Pn	12 25 23.1	+1.7

JMA 30 12:45:03.4±0.2, 24.16N×125.16E, h18km, M3.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.64**	**319**	P	Pb	12 45 15.7	0.0
JTJ				S	Sb	12 45 24.5	+0.5
JOGS	**Gusukube**	**0.64**	**21**	P	Pb	12 45 16.0	+0.3
JOGS				S	Sb	12 45 25.1	+1.0
JMJ	**Miyako jima 2**	**0.66**	**11**	P	Pb	12 45 16.1	0.0
JMJ				S	Sb	12 45 25.5	+0.7
JIJ	**Ishigaki jima**	**0.95**	**283**	P	Pb	12 45 21.3	+0.3
JIJ				S	Sb	12 45 33.8	+0.7
JKRS	**Kuro-shima**	**1.05**	**274**	P	Pb	12 45 23.1	+0.3
JKRS				S	Sb	12 45 37.2	+1.0
HATJ	**Hateruma jima**	**1.24**	**266**	P	Pb	12 45 25.4	-0.6
HATJ				S	Sb	12 45 41.6	0.0
IRIF	**Iriomote-Funau**	**1.32**	**278**	P	Pn	12 45 26.7	-0.4

IGQ 30 13:09:00.8, 0.90S×81.20W, h12km±4km, mb4.2, 8C-3D, Error ellipse: s-maj=7.0km s-min=4.5km az=4.3, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.67**	**103**	⇑P	Pb	13 09 12.9	-1.0
JAMA	**Jama**	**1.18**	**58**	⇑P	Pb	13 09 22.9	+0.4
JAMA				S	Sb	13 09 37.5	0.0
MAGD	**Magdalena**	**1.64**	**60**	P	Pn	13 09 31.9	+2.1
IGUA	**Igualata**	**2.62**	**103**	⇓P	Pn	13 09 45.0	+1.3
IGUA				S	Sn	13 10 17.9	+2.1
JUA2	**San Juan 2**	**2.68**	**75**	⇑P	Pn	13 09 45.8	+1.2
TERV	**Terraza Guagua**	**2.69**	**75**	P	Pn	13 09 45.8	+1.1
PINO	**Pino**	**2.69**	**74**	⇑P	Pn	13 09 45.0	+0.2
NAS1	**Nasa**	**2.73**	**85**	⇓P	Pn	13 09 47.8	+2.5
YANA	**Yana**	**2.74**	**74**	⇓P	Pn	13 09 45.9	+0.5
CUSU	**Cusua**	**2.77**	**101**	P	Pn	13 09 50.6	+4.8
JUIV	**Juive**	**2.78**	**101**	P	Pn	13 09 47.8	+1.8
RETU	**Refugio**	**2.81**	**101**	P	Pn	13 09 49.0	+2.7
VC1	**Cotopaxi 1**	**2.81**	**85**	P	Pn	13 09 48.7	+2.3
ARRY	**Arrayan**	**2.81**	**102**	⇑P	Pn	13 09 47.2	+0.8
ARRY				S	Sn	13 10 21.5	+1.1
PISA	**Pisayambo**	**2.82**	**93**	P	Pn	13 09 48.8	+2.3
PATA	**Patacocha**	**2.83**	**102**	P	Pn	13 09 49.3	+2.6
TAMB	**Tambo**	**2.84**	**86**	P	Pn	13 09 49.7	+2.9
ULBA	**Ulba**	**2.84**	**101**	P	Pn	13 09 48.7	+1.8
ANTI	**Antisana**	**3.07**	**82**	⇑P	Pn	13 09 52.6	+2.5
COTA	**Cotacachi**	**3.11**	**67**	P	Pn	13 09 51.6	+0.9
CAYR	**Refugio Cayamb**	**3.32**	**74**	⇑P	Pn	13 09 56.8	+3.2
CAYA	**Cayambe**	**3.35**	**73**	⇑P	Pn	13 09 56.8	+2.7

MAN 30 13:10:17.0, 11.26N×125.61E, h16km, mb4.0, ML2.8, MS2.6, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.38**	**333**	*e*P	Pb	13 10 25.6	+0.6
BESP				*e*S	Sb	13 10 33.1	+2.7
PLP	**Palo**	**0.63**	**262**	*i*P	Pb	13 10 28.9	-0.3
PLP				*i*S	Sb	13 10 37.9	+0.4
OCLP	**Ormoc**	**1.01**	**258**	*e*P	Pb	13 10 35.7	+0.1
MSLP	**Maasin**	**1.34**	**214**	*e*P	Pn	13 10 40.5	-0.6
MSLP				*e*S	Sb	13 10 58.2	+0.2
SCPH	**Surigao**	**1.47**	**185**	⇑*e*P	Pn	13 10 40.0	-3.1
SCPH				*e*S	Sb	13 11 01.1	-0.7
PVCP	**Virac**	**2.73**	**329**	*e*P	Pn	13 11 00.9	-0.2
GUIM	**Jordan**	**3.04**	**258**	*e*P	Pn	13 11 05.3	-0.1

*CSEM **30** 13:31:53.3±0.0, 67.13N×20.89E, ML3.0, Error ellipse: s-maj=0.5km s-min=0.3km az=26.0, Suspected Mining explosion.*
*UPP **30** 13:31:54.1, 67.18N×20.70E, h0km, ML3.0, Suspected Mining explosion.*

HEL 30 13:31:54.6±0.1, 67.18N×20.69E, ML3.0(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**217**	*i*P	Pg	13 31 55.8	-0.4
DUNU				*i*S	Sg	13 31 57.2	0.0
MASU	**Masugnsbyn**	**0.58**	**61**	*i*P	Pg	13 32 04.9	-1.2
KUA	**Kurravaara**	**0.79**	**350**	*i*P	Pg	13 32 08.8	-1.5
PAJU	**Pajala**	**0.96**	**98**	*e*P	Pg	13 32 11.9	-1.9
SJUU	**Sjulsmark**	**1.72**	**167**	*e*P	Pn	13 32 25.2	-0.8
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	Pn	13 32 27.2	-0.4
KIF				*e*S	Sn	13 32 52.0	+0.2
KIF	**Kilpisjarvi**	**1.83**	**1**	P	Pn	13 32 27.1	-0.5
KIF				S	Sn	13 32 52.0	+0.2

*CSEM **30** 13:32:17.9, 37.89N×27.25E, h27km, MD3.1, After ISK*
*ISK **30** 13:32:17.9, 37.89N×27.25E, h27km, MD3.1*
*ATH **30** 13:32:22.2, 37.97N×27.10E, h10km, MD3.2/3*

ISC 30 13:32:19.4±0.6, 37.95N±0.04×27.41E±0.05, h24km±10km, n12, σ1§12/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZM	**Izmir**	**0.47**	**346**	*i*PG	**Pb**	**13 32 28.7**	**-0.3**
AYDN	**Tasoluk**	**0.47**	**127**	*i*P	**Pb**	**13 32 28.2**	**-0.8**
AYDN				*i*S	**Sb**	**13 32 37.1**	**+1.5**
SMG	**Samos**	**0.51**	**243**	*e*PG	**Pb**	**13 32 28.0**	**-1.7**
BLCB	**Balcova**	**0.53**	**327**	*i*PG	**Pb**	**13 32 29.8**	**-0.2**
BLCB				*i*SG	**Sb**	**13 32 37.3**	**+0.1**
MLSB	**Milas**	**0.71**	**156**	*e*PG	**Pb**	**13 32 31.6**	**-1.5**
AKS	**Akhisar**	**0.98**	**19**	PN	**Pn**	**13 32 38.2**	**+0.4**
MANT	**Manisa**	**1.06**	**59**	*i*P	**Pb**	**13 32 38.3**	**-0.6**
MANT				*i*S	**Sb**	**13 32 51.1**	**-1.2**
YER	**Yerkesik**	**1.07**	**139**	PN	**Pn**	**13 32 38.0**	**-1.0**
DENT	**Denizli**	**1.30**	**98**	*e*PN	**Pn**	**13 32 42.5**	**+0.2**
DNZL	**Cakiroluk**	**1.32**	**101**	*i*P	**Pn**	**13 32 43.0**	**+0.3**
DNZL				*i*S	**Sb**	**13 33 01.8**	**+1.8**
PRK	**Paraskevi**	**1.57**	**326**	*e*PB	**Pb**	**13 32 49.0**	**+1.3**
APE	**Apeiranthos**	**1.73**	**240**	*e*PB	**P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKN	Gorkha	21.97	338	eP	P	14 31 21.3	-0.6
	34nm,0.3s,mb5.2						
LSA	Lhasa	21.99	354	P	P	14 31 21.8	-0.3
LSA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
KOLN	Koldanda	22.17	335	eP	P	14 31 24.2	+0.3
	comp=Z,23nm,0.5s,mb4.8						
BJI	Beijing	37.83	28	eP	P	14 33 46.1	+1.7
	comp=Z,5.0nm,0.9s,mb4.2						
AAK	Ala-Archa	38.73	337	P	P	14 33 57.2	+5.3
	comp=Z,3.0nm,0.8s,mb4.1						
KURK	Kurchatov	44.67	346	eP	P	14 34 39.3	-1.3
	comp=Z,2.8nm,0.8s,mb4.1						
WRAB	Tennant Creek	48.38	125	eP	P	14 35 10.0	-0.2
CHKZ	Chkalovo	49.52	342	eP	P	14 35 17.6	-0.9
	comp=Z,3.0nm,0.8s,mb4.4						
KAF	Kangasniemi	72.80	333	ep	P	14 37 56.2	+0.2
KHC	Kasperske Hory	77.86	319	epP	pP	14 38 32.0	-2.6
LPG	La Plagne	82.54	315	eP	P	14 38 56.6	+6.5
	comp=Z,7.5nm,0.7s,mb4.5						

*NEIC **30** 14:48:42.4,32.84S×71.15W,h54km,MD3.4(GUC),After GUC.*

GUC 30 14:48:42.4±0.7,32.84S×71.15W,h54km±2km,MD3.4, ML3.5,13C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	El Roble	0.18	139	⇓iP	P	14 48 52.0	+1.0
ROCH				i S	S	14 48 59.1	+1.7
PACH	Papudo	0.38	321	⇑iP	P	14 48 52.9	+0.1
PACH				i S	S	14 49 00.6	+0.2
IHA	Instituto Hidr	0.45	245	⇑iP	P	14 48 53.5	0.0
IHA				i S	S	14 49 02.0	+0.5
JACH	Jahuel	0.50	72	⇑iP	P	14 48 54.5	+0.5
JACH				i S	S	14 49 03.6	+1.3
PTCH	Petorca	0.60	18	⇑iP	P	14 48 55.7	+0.5
PTCH				i S	S	14 49 05.8	+1.2
PTCH				AMP		14 49 07.0	
	comp=E,26μm,0.2s						
PUEX	Pudahuel	0.69	151	AMP		14 49 12.5	
	comp=N,2μm,0.3s						
RCDM	Rinconada Maip	0.71	156	⇑iP	P	14 48 56.7	+0.1
RCDM				i S	S	14 49 07.7	+0.6
RCDM				AMP		14 49 08.7	
	comp=E,4μm,0.1s						
LCCH	Las Cruces	0.73	209	⇑iP	P	14 48 56.9	+0.1
LCCH				i S	S	14 49 08.3	+0.9
SAN	Santiago	0.74	146	AMP		14 49 11.5	
	comp=E,942nm,0.4s						
CLCH	Cerro Calan	0.76	137	⇑iP	P	14 48 57.6	+0.4
CLCH				i S	S	14 49 08.8	+0.7
CLCH				AMP		14 49 11.2	
	comp=E,3μm,0.6s						
CLCH				AMP		14 49 11.9	
	comp=E,3μm,0.6s						
TACH	Talagante	0.83	168	i P	P	14 48 58.4	+0.3
TACH				i S	S	14 49 10.6	+0.7
ANTU	Antumapu	0.85	149	⇑iP	P	14 48 58.5	+0.1
ANTU				i S	S	14 49 10.8	+0.5
ANTU				AMP		14 49 11.6	
	comp=E,2μm,0.2s						
FCH	Farellones	0.87	124	AMP		14 49 12.3	
	comp=E,4μm,0.3s						
PCH	Pirque	0.95	146	⇑iP	P	14 48 59.7	0.0
PCH				i S	S	14 49 13.8	+1.2
SJCH	San Jose de Ma	1.04	140	⇓iP	P	14 49 00.9	-0.2
SJCH				i S	S	14 49 15.2	+0.3
SJCH				AMP		14 49 15.5	
	comp=E,803nm,0.2s						
LNV	Longovilo	1.14	191	i P	P	14 49 01.9	-0.4
LNV				i S	S	14 49 17.9	+0.8
CHCH	Chadas Angostu	1.17	159	i P	P	14 49 02.9	+0.1
CHCH				i S	S	14 49 19.0	+1.0
ILCH	Illapel	1.20	359	⇑iP	P	14 49 03.6	+0.4
ILCH				i S	S	14 49 19.8	+1.1
ILCH				AMP		14 49 20.7	
	comp=E,4μm,0.2s						
LMEL	Las Melosas	1.28	142	⇑iP	P	14 49 04.7	+0.3
LMEL				i S	S	14 49 22.0	+1.2
LMEL				AMP		14 49 23.3	
	comp=E,1μm,0.2s						
CACH	El Canelo	1.36	160	⇑iP	P	14 49 06.3	+0.8
CACH				i S	S	14 49 24.6	+1.9
CICH	Cipreses	1.60	158	i P	P	14 49 09.2	+0.3
CICH				i S	S	14 49 29.3	+0.7
SFDO	San Fernando	1.78	176	i P	P	14 49 11.2	-0.2
SFDO				i S	S	14 49 33.7	+0.9
ZON	Zonda	2.46	59	eP	P	14 49 23.0	+2.0
ZON				eS	S	14 49 53.0	+3.0
TLL	Tololo Astrono	2.68	6	⇑iP	P	14 49 24.1	0.0
TLL				i S	S	14 49 55.8	+0.4
TLL				AMP		14 50 08.3	
	comp=N,316nm,0.3s						

*NEIC **30** 14:59:19.1±2.4,20.03S×70.58W,h10km,ML4.6(GUC), Error ellipse: s-maj=48.7km s-min=13.2km az=97.0*
*GUC **30** 14:59:21.4±0.6,20.26S×70.52W,h10km,ML4.6*

ISC 30 14:59:18.2±1.4,20.10S±0.06×70.6W±0.1,h10km,n5, σ0°80/9,1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.95	148	⇓iP	Pn	15 00 06.2	+0.1
LVC				i S	Sn	15 00 41.1	-0.8
LVC				AMP		15 00 44.9	
	comp=N,2μm,0.6s						
ANCH	Antofagasta	3.57	177	i P	Pn	15 00 15.6	+0.8
ANCH				i S	Sn	15 00 57.0	-0.7
ANCH				AMP		15 01 24.6	
	comp=N,532nm,0.5s						
SPCH	San Pedro de A	3.58	142	i P	Pn	15 00 16.2	+1.3
SPCH				i S	Sn	15 00 58.1	+0.4
SPCH				AMP		15 01 29.6	
	comp=N,2μm,0.7s						
LPAZ	La Paz	4.45	32	ePn	Pn	15 00 26.4	-1.0
CPN1	Cerro Paranal	4.51	178	i P	Pn	15 00 28.9	+0.7
CPN1				i S	Sn	15 01 20.5	-0.9

IGQ 30 15:17:36.8,0.97S×81.22W,h7km±5km,mb4.0,1C,Error ellipse: s-maj=8.1km s-min=5.0km az=8.0,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.68	97	⇑P	Pg	15 17 49.0	-1.4
JAMA	Jama	1.23	55	P	Pb	15 18 00.6	+0.5
JAMA				S	Sb	15 18 15.6	-0.4
MAGD	Magdalena	1.70	58	P	Pn	15 18 09.2	+2.0
IGUA	Igualata	2.63	101	P	Pn	15 18 23.0	+2.5
JUA2	San Juan 2	2.72	74	P	Pn	15 18 22.5	+0.8
TERV	Terraza Guagua	2.73	73	P	Pn	15 18 23.2	+1.3
PINO	Pino	2.73	73	P	Pn	15 18 23.0	+1.1
YANA	Yana	2.78	72	P	Pn	15 18 22.9	+0.2
ARRY	Arrayan	2.82	101	P	Pn	15 18 23.8	+0.6
ARRY				S	Sn	15 18 59.1	+1.4
VC1	Cotopaxi 1	2.84	84	P	Pn	15 18 26.7	+3.3
PISA	Pisayambo	2.84	92	P	Pn	15 18 25.4	+2.0
ULBA	Ulba	2.85	100	P	Pn	15 18 25.5	+1.8
TAMB	Tambo	2.87	85	P	Pn	15 18 26.0	+2.2
ANTI	Antisana	3.10	80	P	Pn	15 18 30.4	+3.2
COTA	Cotacachi	3.16	66	P	Pn	15 18 29.0	+1.0
CAYR	Refugio Cayamb	3.36	73	P	Pn	15 18 33.4	+2.6
CAYA	Cayambe	3.39	72	P	Pn	15 18 34.1	+2.8

IGQ 30 15:22:36.3,3.12S×78.29W,h12km±4km,mb4.1,6C-2D, Error ellipse: s-maj=20.4km s-min=3.2km az=170.8, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	Arrayan	1.61	354	⇑P	Pn	15 23 05.7	+0.9
ARRY				S	Sn	15 23 26.2	+0.6
PATA	Patacocha	1.62	355	⇑P	Pn	15 23 06.4	+1.6
PATA				S	Sn	15 23 28.2	+2.6
IGUA	Igualata	1.66	348	⇑P	Pn	15 23 08.4	+3.0
IGUA				S	Sn	15 23 31.7	+4.9
ULBA	Ulba	1.67	356	P	Pn	15 23 06.8	+1.3
ULBA				S	Sn	15 23 29.6	+2.6
RETU	Refugio	1.67	355	⇑P	Pn	15 23 07.4	+1.8
RETU				S	Sn	15 23 29.7	+2.7
CUSU	Cusua	1.68	354	⇑P	Pn	15 23 08.4	+2.6
CUSU				S	Sn	15 23 29.8	+2.4
JUIV	Juive	1.70	354	P	Pn	15 23 07.8	+1.8
JUIV				S	Sn	15 23 30.8	+3.1
PISA	Pisayambo	2.05	357	⇓P	Pn	15 23 13.2	+2.1
PISA				S	Sn	15 23 41.9	+5.1
TAMB	Tambo	2.42	358	⇓P	Pn	15 23 19.0	+2.8
TAMB				S	Sn	15 23 49.5	+3.5
VC1	Cotopaxi 1	2.47	357	P	Pn	15 23 21.1	+4.1
VC1				S	Sn	15 23 53.9	+6.5
ANTI	Antisana	2.66	3	⇑P	Pn	15 23 21.7	+1.9
ANTI				S	Sn	15 23 56.0	+3.8
TERV	Terraza Guagua	2.95	354	P	Pn	15 23 30.4	+6.5
PINO	Pino	2.96	354	P	Pn	15 23 31.1	+7.0
YANA	Yana	3.00	355	P	Pn	15 23 30.7	+6.1
YANA				S	Sn	15 24 09.9	+9.2
HOJA	Cerro de Hojas	3.05	312	P	Pn	15 23 30.1	+4.8
CAYR	Refugio Cayamb	3.13	5	P	Pn	15 23 31.4	+4.9
CAYA	Cayambe	3.19	5	P	Pn	15 23 31.4	+4.1
COTA	Cotacachi	3.44	359	P	Pn	15 23 41.2	+10

*NEIC **30** 15:29:00.9±0.3,19.95S×178.43W,h600km,mb4.5/19, Error ellipse: s-maj=14.2km s-min=7.4km az=147.0*
*BJI **30** 15:29:02.9,20.00S×178.40W,h600km,mB5.2,mb4.6*

ISC 30 15:28:57.6±1.2,20.21S±0.07×178.37W±0.09, h579km±16km,n66,σ1°01/46,mb4.5/17,1C-7D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.88	46	eP	P	15 31 06.2	+0.8
	22nm,0.5s						
MWZ	Matawai	18.41	190	P	P	15 32 37.8	-0.8
URZ	Urewera	18.41	191	P	P	15 32 37.6	-1.0
BKZ	Black Stump Fm	19.41	192	P	P	15 32 46.3	-1.6
TSZ	Takapari Road	20.38	193	P	P	15 32 56.7	-0.1
MRZ	Mangatainoka R	21.04	193	P	P	15 33 02.0	-0.8
QRZ	Quartz Range	21.97	199	P	P	15 33 12.6	+1.2
NNZ	Nelson	22.09	197	P	P	15 33 11.8	-0.7
THZ	Tophouse	22.73	197	P	P	15 33 17.9	-0.3
DSZ	Denniston Nort	23.04	199	P	P	15 33 20.9	0.0
KHZ	Kahutara	23.18	195	⇓P	P	15 33 21.7	-0.5
LTZ	Lake Taylor	23.85	197	P	P	15 33 27.2	-1.0
FOZ	Fox Glacier	25.35	201	P	P	15 33 40.6	-0.8
JCZ	Jackson Bay	26.11	201	P	P	15 33 48.7	+0.6
MSZ	Milford Sound	26.92	202	P	P	15 33 56.8	+1.6
CTA	Charters Tower	33.17	264	⇓iP	P	15 34 50.4	+1.7
	17nm,0.4s,mb5.0						
CTAO	Charters Tower	33.17	264	⇓iP	P	15 34 50.4	+1.6
	20nm,0.4s,mb5.1						
PMG	Port Moresby	34.94	283	eP	P	15 35 04.7	+1.2
	20nm,0.8s,mb4.8						
STKA	Stephens Creek	37.61	244	eP	P	15 35 27.1	+1.9
	4.6nm,0.5s,mb4.3						
WB2	Warramunga Arr	44.29	262	⇓iP	P	15 36 18.6	0.0
WRAB	Tennant Creek	44.29	262	⇓eP	P	15 36 18.2	-0.4
	29nm,0.8s,mb4.9						
KAKA	Kakadu	47.62	271	⇓iP	P	15 36 43.9	-0.2
	19nm,0.6s,mb4.8						
FORT	Forrest	49.09	246	eP	P	15 36 54.3	-0.6
	48nm,0.6s,mb5.1						
MBWA	Marble Bar	57.58	257	eP	P	15 37 54.3	-0.6
	11nm,0.7s,mb4.1						
SBA	Scott Base	58.14	184	eP	P	15 38 00.2	+2.1
VNDA	Vanda	58.17	185	eP	P	15 37 59.3	+1.1
MAT	Matsushiro	69.77	324	eP	P	15 39 11.0	-1.0
MAT	Matsushiro	69.77	324	P	P	15 39 10.5	-1.5
QSPA	South Pole Qui	69.86	180	⇑iP	P	15 39 13.0	+1.2
	9.2nm,0.8s,mb4.3						
QZH	Quanzhou	75.96	303	P	P	15 39 53.0	+5.6
SSE	Sheshan	77.23	310	P	P	15 39 58.0	+3.8
SSE				AMB	AMB		
	comp=Z,27nm,0.8s,mb4.7						
SSE				AMB	AMB		
	comp=Z,100nm,4.4s						
SSE	Sheshan	77.23	310	P	P	15 39 58.0	+3.8
	comp=Z,27nm,0.8s,mb4.7						
MNV	Mina	81.15	44	eP	P	15 40 14.7	+0.2
	comp=Z,5.0nm,1.0s,mb3.9						
MOD	Modoc	81.81	40	eP	P	15 40 18.3	+0.5
	comp=Z,8.1nm,1.0s,mb4.2						
SLKM	Skilak Lake	83.60	14	eP	P	15 40 25.6	-0.7
BMO	Blue Mountains	85.30	39	eP	P	15 40 35.0	0.0
	comp=Z,2.5nm,0.7s,mb4.0						
HLID	Hailey	86.33	41	eP	P	15 40 40.6	+0.7
	comp=Z,4.2nm,0.9s,mb4.1						
MCK	McKinley	86.76	13	eP	P	15 40 40.1	-1.4
	comp=Z,5.0nm,0.8s,mb4.3						
THY	Trims Highway	87.17	14	eP	P	15 40 42.9	-0.6
PV10	Paradox Valley	87.23	47	eP	P	15 40 44.0	-0.3
MCMT	McKenzie Canyo	87.95	40	eP	P	15 40 48.3	+0.8
COLA	College	88.00	13	eP	P	15 40 45.6	-1.6
	comp=Z,14nm,0.8s,mb4.7						
RRI2	Red Ridge	88.15	42	eP	P	15 40 49.0	+0.5
QLMT	Earthquake Lak	88.82	41	eP	P	15 40 52.6	+1.0
BOZ	Bozeman (W)	89.11	40	eP	P	15 40 53.0	+0.1
	comp=Z,5.2nm,1.1s,mb4.3						
YAK	Yakutsk	91.71	338	eP	P	15 41 01.8	-2.6
	comp=Z,12nm,0.8s,mb5.0						
KIEV	Kiev	142.60	331	PP	PKPdf	15 47 21.8	-3.0
MALT	Malatya	143.48	308	eP	PKPbc	15 47 27.2	+1.3
DMUB	Kingscourt	145.73	9	eP	PKPdf	15 47 32.3	+2.2
KWP	Kalwaria	146.17	335	ePKPbc	PKPbc	15 47 33.7	+1.0
KWP				ePKPab	PKPab	15 47 36.6	-1.6
DCN	Croghan	146.22	10	eP	PKPdf	15 47 33.3	+2.4
DLF	Lyons Farm	146.37	9	eP	PKPdf	15 47 33.6	+2.4
KOLS	Kolonicke sedl	146.90	335	ePKP	PKPdf	15 47 36.6	+4.4
CRVS	Cervenica-Dubn	147.24	336	ePKP	PKPdf	15 47 39.5	+6.7
KSP	Ksiaz	147.31	343	eP	PKPdf	15 47 37.1	+4.3
OKC	Ostrava-Krasne	147.64	340	ePKPbc	PKPdf	15 47 37.4	+4.0
OKC				ePKPab	PKPab	15 47 42.8	-1.1
UPC	Upice	147.69	343	ePKPbc	PKPdf	15 47 38.1	+4.6
UPC				ePKPab	PKPab	15 47 45.5	+1.4
CLL	Collm	147.70	347	⇓iPKP1	PKPdf	15 47 37.8	+4.4
CLL				i PKP2	PKPab	15 47 41.9	-2.2
DPC	Dobruska-Polom	147.74	342	ePKPbc	PKPdf	15 47 38.3	+4.8
DPC				ePKPab	PKPab	15 47 46.8	+2.5
BRG	Berggiesshubel	147.89	345	i P	PKPdf	15 47 38.3	+4.5
BRG				i		15 47 43.0	
PVCC	Panska Ves	148.05	344	ePKPbc	PKPdf	15 47 39.1	+5.1
PVCC				ePKPab	PKPab	15 47 44.2	-1.3
PRU	Pruhonice	148.56	344	ePKPbc	PKPdf	15 47 40.2	+5.4
PRU				ePKPab	PKPab	15 47 46.5	-1.1
NKC	Novy Kostel	148.83	347	ePKPbc	PKPdf	15 47 41.1	+5.9
NKC				ePKPab	PKPab	15 47 47.1	-1.6
KHC	Kasperske Hory	149.59	344	ePKPbc	PKPdf	15 47 42.7	+6.2
KHC				ePKPab	PKPab	15 47 51.0	-0.9
GEC2	GERESS Array S	149.82	344	ePKPbc	PKPdf	15 47 43.2	+6.4
WLF	Walferdange	150.38	354	ePKPbc	PKPdf	15 47 44.8	+7.1

*BJI **30** 15:33:12.0,7.81N×93.80E,h38km,mB5.6,mb5.2,Ms5.4, Msz5.2*
*HRVD **30** 15:33:13.5±0.2,8.14N×94.22E,h12km,MW5.4/56, Centroid moment Tensor Solution. LP body waves: s40,c73;Mantle waves: s56,c109; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.05±.04; $M_{\theta\theta}$-0.10±.04; $M_{\phi\phi}$ 1.15±.04; $M_{r\theta}$0.95±.10; $M_{\theta\phi}$0.88±.03; $M_{\phi r}$-0.58±.09; Best double couple: $M_0$1.772×10^{17} NP1: ϕ_s239°,δ55°,λ-40°. NP2:ϕ_s355°,δ58°,λ-137°. Principal axes: T 1.604, Plg2°, Azm116°; N .338, Plg39°, Azm24°; P -1.94, Plg51°, Azm209°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 15:33:13.5±0.1,8.12N×94.06E,mb5.6/122,MS4.7/8, MW5.3 Error ellipse: s-maj=5.5km s-min=3.9km az=219.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^{16} Nm; M_{rr}-8.60; $M_{\theta\theta}$4.08; $M_{\phi\phi}$4.52; $M_{r\theta}$-0.85; $M_{\theta\phi}$4.87; $M_{\phi r}$-1.77; Best double couple: $M_0$9.1×10^{16} NP1:ϕ_s228°, δ39°,λ-83°. NP2:ϕ_s40°,δ51°,λ-95°. Principal axes: T 9.37, Plg6°, Azm133°; N -.53, Plg4°, Azm43°; P -8.84, Plg83°, Azm278°;*
*MOS **30** 15:33:14.3±0.9,8.19N×94.09E,h33km,mb5.8/95, MS5.0/19 Error ellipse: s-maj=8.9km s-min=3.8km az=126.3*
*DHMR **30** 15:33:15.1±3.0,8.06N×94.07E,h10km,mb5.6*
*BGS **30** 15:33:24.5,8.71N×91.94E,h33km,mb5.8*

ISC 30 15:33:11.5±0.2,8.05N±0.03×94.14E±0.03,h18km, h18km±.3km:pP-P,n580,σ1°03/546,mb5.6/161,MS5.1/28, 42C-37D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	3.84	339	eP	Pn	15 34 13.3	+2.1
PBA				eS	Sn	15 34 54.7	-1.7
SNG	Songkhla	6.48	97	P	Pn	15 34 47.0	-1.5
	816nm,1.0s						
CM31	Chiang Mai Arr	11.36	24	eP	P	15 35 56.7	+0.6
	29nm,0.8s						
KKTK	Khon Kaen	11.83	45	P	P	15 35 54.5	-8.0
PALK	Pallekele	13.34	268	eP	P	15 36 21.6	-1.1
	236nm,1.7s						
VIS	Vishakhapatnam	14.26	313	eP	P	15 36 34.8	-0.1
VIS				e		15 36 36.9	
	comp=Z,111nm,0.8s						
VIS				e		15 38 57.0	
VIS				eS	S	15 39 13.3	-0.1
MDRS	Chennai	14.54	291	eP	P	15 36 38.0	-0.5
BWNR	Bhubaneshwar	14.61	327	eP	P	15 36 37.2	-2.2
BWNR				e		15 36 41.0	
	comp=Z,106nm,0.7s						
BWNR				i		15 39 09.5	
BWNR				eS	S	15 39 24.0	+2.3
CAL	Calcutta	15.46	339	e	P	15 36 57.0	+6.5
CAL				e		15 39 59.5	
AGT	Agartala	15.99	350	⇑iP	P	15 36 58.0	+0.6
AGT				i		15 37 48.0	
SALM	Salem	16.11	284	eP	P	15 37 01.0	+2.1
KOD	Kodaikanal	16.61	279	eP	P	15 37 06.6	+1.4
KOD				e		15 37 18.3	
	comp=Z,463nm,1.4s						
KOD				e		15 39 48.6	
KOD				eS	S	15 40 08.6	+0.2
IMP	Imphal	16.65	359	eP	P	15 37 05.0	-0.7
TRD	Trivandrum	17.01	273	eP	P	15 37 09.4	-0.9
TRD				i S	S	15 40 21.4	+3.7
SHL	Shillong	17.56	353	eP	P	15 37 17.1	0.0
SHL				eS	S	15 40 33.1	+3.0
HYB	Hyderabad	17.82	303	⇑eP	P	15 37 20.5	+0.1
HYB				eS	S	15 40 37.0	+1.0
HYB	Hyderabad	17.82	303	⇑iP	P	15 37 20.5	+0.1
	comp=Z,314nm,1.2s						
HYB				eS	S	15 40 37.0	+1.0
HYB				LR	LR	15 43 20.0	
	comp=Z,7.0nm,24.0s						
SHBG	Sahibganj	18.16	341	eP	P	15 37 27.0	+2.4
BLSP	Bilaspur	18.16	322	eP	P	15 37 24.1	-0.6
BLSP				e		15 37 31.4	
	comp=Z,256nm,1.2s						
BLSP				eS	S	15 40 50.4	+6.5
QIZ	Qiongzhong	18.75	53	P	P	15 37 34.0	+2.1
QIZ				S	S	15 40 59.0	+1.8
QIZ				LR	LR		
	comp=Z,7μm,9.7s						
KMI	Kunming	18.86	25	⇓P	P	15 37 36.4	+3.2
KMI				pmax	pmax		
	comp=Z,83nm,1.2s						
KMI	Kunming	18.86	25	⇓P	P	15 37 36.4	+3.2
	comp=Z,83nm,1.2s						
KMI				pP		15 37 43.7	
KMI				sP		15 37 47.9	
KMI				PP	PP	15 37 55.8	+6.2
KMI				S	S	15 41 11.7	+12
KMI				SS	SS	15 41 41.9	+17
NGP	Nagpur	19.54	313	eP	P	15 37 41.4	+0.2
NGP				e		15 41 21.3	
MNGI	Mangalore	19.60	286	i P	P	15 37 44.5	+2.6
LATR	Latur	19.96	303	eP	P	15 37 46.5	+0.7
COCO	West Island	20.28	172	eP	P	15 37 50.0	+0.9
	comp=Z,551nm,1.3s						
ALBI	Allahabad	20.81	327	eP	P	15 37 53.5	-1.1
JIRN	Jiri	20.91	340	eP	P	15 37 55.5	-0.1
	comp=Z,756nm,1.2s						
PKI	Pulchoki	21.11	338	eP	P	15 37 57.0	-0.6
	comp=Z,487nm,1.0s,mb5.8						
GOA	Goa	21.21	292	e	P	15 38 05.7	+7.1
GOA				e		15 38 15.4	
	comp=Z,351nm,1.3s						
GOA				e		15 42 00.9	
DMN	Daman	21.25	337	eP	P	15 37 59.1	0.0
	comp=Z,698nm,1.1s,mb5.9						
DMN				eS	S	15 41 59.1	+10
KKN	Kakani	21.35	338	eP	P	15 37 59.3	-0.8
	comp=Z,397nm,0.9s,mb5.7						
VLK	Valmikinagar	21.50	334	i P	P	15 38 02.0	+0.4
VLK				i		15 38 07.0	
KAD	Karad	21.52	297	eP	P	15 38 03.4	+1.6
LSA	Lhasa	21.73	353	P	P	15 38 03.8	0.0
LSA				AP		15 38 14.5	
LSA				S	S	15 42 01.8	+3.4
LSA				AMB	AMB		
	comp=Z,60nm,1.2s,mb4.9						
LSA				AMB	AMB		
	comp=Z,190nm,4.3s						
LSA				LR	LR		
	comp=N,4μm,15.1s						
LSA				LR	LR		
	comp=Z,2μm,20.0s,MS4.5						
GKN	Gorkha	21.79	337	eP	P	15 38 04.0	-0.5
	comp=Z,470nm,0.8s,mb6.0						
KOLN	Koldanda	22.01	334	eP	P	15 38 06.8	+0.1
	comp=Z,401nm,0.7s,mb6.0						
BHPL	Bhopal	22.04	315	eP	P	15 38 08.2	+1.2
BHPL				e		15 38 09.8	
	comp=Z,95nm,0.6s						
BHPL				eS	S	15 42 09.9	+5.7
POO	Poona	22.30	300	eP	P	15 38 10.7	+1.0
POO				e		15 38 18.7	
	comp=Z,309nm,1.4s						
BOM	Bombay	23.35	300	eP	P	15 38 22.5	+2.5
BOM				e		15 38 31.5	
	comp=Z,497nm,1.5s						
BOM				e		15 42 19.3	
NDI	New Delhi	26.00	324	eP	P	15 38 44.0	-1.3
NDI				e		15 43 25.0	
AJM	Ajmer	26.06	317	⇓iP	P	15 38 47.0	+1.1
BHK	Bhakra	28.53	327	e	P	15 39 18.2	+10
XAN	Xi'an	29.24	26	P	P	15 39 14.3	-0.4
XAN				AMB	AMB		
	comp=Z,53nm,1.0s,mb5.2						
LZH	Lanzhou	29.29	16	eP	P	15 39 15.5	+0.4
LZH				S	S	15 44 06.8	+0.9
LZH				SS	SS	15 45 37.5	+0.3
LZH				AMB	AMB		
	comp=Z,119nm,1.7s,mb5.3						
LZH				AMB	AMB		
	comp=Z,333nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,12.0s						
LZH				LR	LR		
	comp=Z,3μm,13.2s,MS5.0						
LZH	Lanzhou	29.29	16	eP	P	15 39 15.4	+0.3
LZH				*SP	sP	15 39

NJ2				PP	PP	15 41 00.0	-0.2
NJ2				PPP	PPP	15 41 19.0	+2.5
NJ2				S	**S**	**15 45 09.0**	**+2.6**
NJ2				XS		15 45 27.0	
NJ2				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,490nm,5.1s						
NJ2				LR	LR		
	comp=Z,5μm,10.5s,MS5.5						
SSE	**Sheshan**	**34.10**	**44**	pP	pP	15 40 03.8	+0.9
SSE				S	**S**	**15 45 24.0**	**+2.7**
SSE				sS		15 45 35.0	
SSE				SS	SS	15 47 52.5	+23
SSE				LR	LR		
	comp=Z,3μm,12.1s,MS5.2						
SSE	**Sheshan**	**34.10**	**44**	S	**S**	**15 45 24.0**	**+2.7**
SSE				LR	LR		
	comp=N,3μm,15.5s,MS5.3						
SSE				LR	LR		
	comp=E,3μm,15.5s,MS5.3						
SSE				LR	LR		
	comp=Z,3μm,12.1s,MS5.2						
TIA	**Tai'an**	**35.01**	**33**	*e*P	**P**	**15 40 06.0**	**+0.9**
WMQ	**Urumqi**	**36.08**	**352**	P	**P**	**15 40 15.0**	**+0.9**
WMQ				AP	pP	15 40 19.5	-0.1
WMQ				PP	PP	15 41 36.8	+0.4
WMQ				PCP	PcP	15 42 41.8	+1.4
WMQ				S	**S**	**15 45 52.5**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,48nm,0.5s,mb5.7						
WMQ				AMB	AMB		
	comp=Z,559nm,4.7s						
WMQ				LR	LR		
	comp=N,5μm,16.3s,MS5.4						
WMQ				LR	LR		
	comp=E,3μm,15.5s,MS5.4						
WMQ				LR	LR		
	comp=Z,6μm,18.1s,MS5.4						
WBK	**Wadi Bani Khal**	**36.76**	**297**	P	**P**	**15 40 23.6**	**+3.6**
	SNR=10						
BJI	**Beijing**	**37.46**	**28**	P	**P**	**15 40 27.9**	**+2.2**
BJI				S	**S**	**15 46 20.6**	**+7.7**
BJI				pmax	pmax		
	comp=Z,68nm,1.4s,mb5.3						
BJI				MLR	MLR		
	comp=Z,1μm,22.8s,MS4.7						
BJI	**Beijing**	**37.46**	**28**	P	**P**	**15 40 27.9**	**+2.2**
	comp=Z,68nm,1.4s,mb5.3						
BJI				S	**S**	**15 46 20.6**	**+7.7**
BJI				SS	SS	15 49 04.5	+19
BJI				LR	LR		
	comp=Z,1μm,22.8s,MS4.7						
SMDO	**Samad**	**37.70**	**297**	P	**P**	**15 40 31.2**	**+3.2**
	SNR=18						
BIDO	**Bidbid**	**37.77**	**298**	P	**P**	**15 40 32.1**	**+3.6**
	SNR=15						
KZA	**Kyzart**	**37.78**	**337**	P	**P**	**15 40 29.3**	**+0.8**
	SNR=17						
UCH	**Uchtor**	**38.20**	**336**	P	**P**	**15 40 32.5**	**+0.5**
	SNR=37						
BSY	**Bisya**	**38.36**	**297**	P	**P**	**15 40 36.6**	**+3.1**
	SNR=26						
TKM2	**Tokmak 2**	**38.37**	**338**	P	**P**	**15 40 33.1**	**-0.3**
	SNR=11						
KBK	**Karagaybulak**	**38.39**	**337**	P	**P**	**15 40 34.0**	**+0.4**
	SNR=40						
AML	**Almayashu**	**38.45**	**335**	P	**P**	**15 40 35.5**	**+1.4**
	SNR=6.0						
HOQ	**Hoqain**	**38.51**	**298**	P	**P**	**15 40 37.9**	**+3.2**
	SNR=26						
AAK	**Ala-Archa**	**38.55**	**337**	P	**P**	**15 40 35.9**	**+1.0**
	SNR=32						
AAK	**Ala-Archa**	**38.55**	**337⇓**	*i*P	**P**	**15 40 34.5**	**-0.4**
AAK				pmax	pmax		
	comp=Z,53nm,1.0s,mb5.2						
AAK	**Ala-Archa**	**38.55**	**337**	*e*P	**P**	**15 40 33.8**	**-1.1**
	comp=Z,123nm,1.3s,mb5.5						
FRU	**Bishkek**	**38.67**	**337**	*e*P	**P**	**15 40 38.0**	**+2.1**
FRU				pmax	pmax		
	comp=Z,10.0nm,2.5s						
FRU				MLR	MLR		
	comp=Z,4μm,19.0s						
CHMS	**Chumysh**	**38.76**	**337**	P	**P**	**15 40 36.5**	**-0.2**
	SNR=27						
EKS2	**Erkin-Say**	**38.86**	**336**	P	**P**	**15 40 38.0**	**+0.5**
	SNR=32						
USP	**Ospenovka**	**39.08**	**337**	P	**P**	**15 40 39.2**	**-0.1**
	SNR=45						
ARQ	**Araqi**	**39.13**	**297**	P	**P**	**15 40 42.7**	**+2.8**
	SNR=13						
MKAR	**Makanchi Array**	**39.92**	**347**	*i* P	**P**	**15 40 45.2**	**-1.1**
ASHO	**Ashiyiah**	**39.93**	**299**	P	**P**	**15 40 49.5**	**+2.9**
	SNR=17						
WHFO	**Wadi Hawf**	**40.46**	**288**	P	**P**	**15 40 53.4**	**+2.4**
	SNR=33						
ABTO	**Aybut**	**40.83**	**287**	P	**P**	**15 40 57.1**	**+3.1**
	SNR=7.0						
ULN	**Ulaanbaatar**	**41.17**	**13**	*e*P	**P**	**15 40 55.6**	**-0.9**
ULN				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.7						
ULN				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.7						
ULN	**Ulaanbaatar**	**41.17**	**13**	*e*P	**P**	**15 40 55.6**	**-0.9**
	comp=Z,17nm,0.9s,mb4.7						
ULN				LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
SNY	**Shenyang**	**42.53**	**33**	⇓P	**P**	**15 41 09.0**	**+1.2**
SNY				S	**S**	**15 47 27.8**	**-1.1**
SNY				AMB	AMB		
	comp=Z,50nm,1.5s,mb5.0						
SNY				AMB	AMB		
	comp=Z,390nm,5.9s						
SNY				LR	LR		
	comp=E,2μm,14.9s						
SNY				LR	LR		
	comp=Z,2μm,13.3s,MS5.1						
ZAK	**Zakamensk**	**42.88**	**9⇑**	*e*P	**P**	**15 41 10.3**	**-0.2**
ZAK				*e*		15 43 02.7	
MOY	**Mondy**	**43.85**	**6**	*e*P	**P**	**15 41 19.0**	**+0.6**
TLY	**Talaya**	**44.20**	**8**	P	**P**	**15 41 21.9**	**+0.7**
	comp=Z,77nm,0.8s,mb5.5,SNR=12						
TLY	**Talaya**	**44.20**	**8**	*e*P	**P**	**15 41 21.6**	**+0.4**
TLY				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.6						
TLY	**Talaya**	**44.20**	**8**	*e*P	**P**	**15 41 21.6**	**+0.4**
	comp=Z,12nm,0.9s,mb4.6						
KURK	**Kurchatov**	**44.45**	**346**	P	**P**	**15 41 22.6**	**-0.6**
KURK				pmax	pmax		
	comp=Z,133nm,1.4s,mb5.5						
KURK	**Kurchatov**	**44.45**	**346**	*e*P	**P**	**15 41 22.2**	**-1.0**
	comp=Z,158nm,1.3s,mb5.6						
IRK	**Irkutsk**	**44.84**	**9**	*e*P	**P**	**15 41 14.9**	**-11**
IRK				pmax	pmax		
	comp=Z,427nm,0.7s,mb6.4						
MUN	**Mundaring**	**45.04**	**153**	*e*P	**P**	**15 41 28.8**	**+0.6**
	comp=Z,27nm,0.8s,mb5.1						
MUN	**Mundaring**	**45.04**	**153**	*e*P	**P**	**15 41 28.8**	**+0.6**
MUN				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.1						
KLBR	**Kellerberrin**	**45.42**	**151**	*e*P	**P**	**15 41 31.4**	**+0.1**
	comp=Z,1μm,1.3s,mb6.5						
NWAO	**Narrogin (SRO)**	**46.30**	**153**	*e*P	**P**	**15 41 38.5**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,192nm,1.4s						
NWAO				MLR	MLR		
	comp=Z,2μm,22.0s						
NWAO	**Narrogin (SRO)**	**46.30**	**153**	*e*P	**P**	**15 41 38.5**	**+0.3**
	comp=Z,192nm,1.4s,mb5.8						
NWAO				LR	LR		
	comp=Z,2μm,22.0s,MS5.1						
NVS	**Novosibirsk**	**47.48**	**351⇓**	*i*P	**P**	**15 41 46.0**	**-1.2**
NVS				*i* S	**S**	**15 48 38.5**	**-1.4**
NVS				pmax	pmax		
	comp=Z,99nm,1.5s,mb5.5						
NVS				pmax	pmax		
	comp=N,153nm,1.8s						
NVS				pmax	pmax		
	comp=E,54nm,1.3s						
NVS				smax			
	comp=E,71nm,2.1s						
NVS				smax			
	comp=N,34nm,1.9s						
MDJ	**Mudanjiang**	**47.67**	**34**	P	**P**	**15 41 50.5**	**+1.7**
MDJ				PCP	PcP	15 43 18.8	+0.2
MDJ				PP	PP	15 43 41.0	+1.1
MDJ				PCS		15 47 12.3	
MDJ				S	**S**	**15 48 50.8**	**+8.1**
MDJ				AMB	AMB		
	comp=Z,35nm,2.0s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,285nm,4.2s						
MDJ				LR	LR		
	comp=N,734nm,18.5s,MS4.9						
MDJ				LR	LR		
	comp=E,883nm,18.5s,MS4.9						
MDJ				LR	LR		
	comp=Z,718nm,19.3s,MS4.7						
LBOS		**48.28**	**281⇓**	*e*P	**P**	**15 41 56.3**	**+2.4**
LBOS				AMb	AMB	15 41 57.5	
	comp=Z,109nm,1.1s,mb5.8						
WRAB	**Tennant Creek**	**48.36**	**126**	*e*P	**P**	**15 41 51.9**	**-2.7**
WRAB				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2						
WRAB				MLR	MLR		
	comp=Z,375nm,19.0s,MS4.4						
WRAB	**Tennant Creek**	**48.36**	**126**	*e*P	**P**	**15 41 51.9**	**-2.7**
	comp=Z,19nm,0.8s,mb5.2						
WRAB				LR	LR		
	comp=Z,375nm,19.0s,MS4.4						
WB2	**Warramunga Arr**	**48.37**	**126**	*e*P	**P**	**15 41 53.5**	**-1.1**
BRVK	**Borovoye**	**48.89**	**341**	*e*P	**P**	**15 41 56.7**	**-1.5**
BRVK				*e*		15 43 27.7	
BRVK				pmax	pmax		
	comp=Z,48nm,1.1s						
BRVK				MLR	MLR		
	comp=Z,131nm,21.0s						
BRVK	**Borovoye**	**48.89**	**341**	*e*P	**P**	**15 41 56.7**	**-1.4**
	comp=Z,48nm,1.1s						
BRVK				*e*PcP	PcP	15 43 27.7	+4.9
BRVK				LR	LR		
	comp=Z,131nm,21.0s						
RAYN	**Ar Rayn**	**49.02**	**294**	P	**P**	**15 42 00.6**	**+1.1**
	comp=Z,700nm,0.7s						
MAT	**Matsushiro**	**49.05**	**48**	*e*P	**P**	**15 42 00.0**	**+0.4**
MAT	**Matsushiro**	**49.05**	**48**	P	**P**	**15 41 59.4**	**-0.2**
MAT				S	**S**	**15 49 02.0**	**-0.2**
DHBB	**Dhamar BB**	**49.13**	**282⇓**	*e*P	**P**	**15 42 02.9**	**+2.4**
CHKZ	**Chkalovo**	**49.31**	**342**	*e*P	**P**	**15 42 00.3**	**-1.1**
CHKZ				*e*	pP	15 42 06.9	-0.1
CHKZ				pmax	pmax		
	comp=Z,120nm,1.0s,mb5.9						
CHKZ	**Chkalovo**	**49.31**	**342**	*e*P	**P**	**15 42 00.3**	**-1.1**
	comp=Z,120nm,1.0s,mb5.9						
CHKZ				*e*	pP	15 42 06.8	-0.2
TRBA	**At Turbah**	**49.37**	**280⇑**	*e*P	**P**	**15 42 04.7**	**+2.3**
TRBA				AMb	AMB	15 42 06.0	
	comp=Z,157nm,1.5s,mb5.8						
FORT	**Forrest**	**50.47**	**141**	*e*P	**P**	**15 42 10.5**	**-0.1**
	comp=Z,75nm,0.9s,mb5.7						
KLR	**Kul'dur**	**51.74**	**31**	*e*P	**P**	**15 42 16.0**	**-4.0**
KLR				*e*		15 44 19.8	
KLR				pmax	pmax		
	comp=E,90nm,2.4s						
KLR				pmax	pmax		
	comp=Z,110nm,2.4s,mb5.4						
KLR				MLR	MLR		
	comp=Z,3μm,13.5s,MS5.5						
BOD	**Bodaibo**	**51.98**	**13**	*e*P	**P**	**15 42 20.8**	**-0.9**
CLNS	**Chul'man**	**54.28**	**20**	*e*P	**P**	**15 42 39.3**	**+0.6**
CLNS				*e*		15 43 37.8	
CLNS				*e*		15 44 44.2	
CLNS				*e*PPP	PPP	15 45 51.5	-1.1
CLNS				*e*S	**S**	**15 50 24.5**	**+11**
CLNS				pmax	pmax		
	comp=Z,52nm,1.3s,mb5.3						
CLNS				pmax	pmax		
	comp=N,26nm,1.0s						
CLNS				pmax	pmax		
	comp=E,25nm,1.3s						
CLNS				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
CLNS				pmax	pmax		
	comp=N,11nm,1.0s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
CLNS				MLR	MLR		
	comp=N,1μm,13.0s,MS5.2						
CLNS				MLR	MLR		
	comp=Z,1μm,13.0s,MS5.2						
CLNS				MLR	MLR		
	comp=E,500nm,12.0s,MS5.2						
GNI	**Garni**	**54.32**	**314**	*i* P	**P**	**15 42 38.7**	**-0.5**
GNI				pmax	pmax		
	comp=Z,55nm,1.1s						
GNI	**Garni**	**54.32**	**314**	*e*P	**P**	**15 42 39.0**	**-0.2**
	comp=Z,153nm,1.3s,mb5.8						
PMG	**Port Moresby**	**55.58**	**107**	*e*P	**P**	**15 42 49.5**	**+0.7**
PMG				*e*	pP	15 42 54.9	+0.4
PMG				pmax	pmax		
	comp=Z,61nm,1.1s						
PMG	**Port Moresby**	**55.58**	**107**	*e*P	**P**	**15 42 49.5**	**+0.7**
	comp=Z,61nm,1.1s,mb5.5						
PMG				*e*	pP	15 42 54.9	+0.4
ARU	**Arti**	**55.73**	**337**	P	**P**	**15 42 48.4**	**-0.9**
	comp=Z,254nm,0.8s,mb6.3,SNR=18						
ARU	**Arti**	**55.73**	**337⇓**	*i*P	**P**	**15 42 41.2**	**-8.1**
ARU				*e*S	**S**	**15 50 23.3**	**-10**
ARU				*e*		15 52 25.5	
ARU				*e*SS	SS	15 54 11.7	-7.0
ARU				pmax	pmax		
	comp=Z,112nm,1.3s,mb5.7						
ARU				MLR	MLR		
	comp=N,2μm,20.0s,MS5.3						
ARU				MLR	MLR		
	comp=E,2μm,20.0s,MS5.3						
ARU				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.4						
ZEI	**Tsey**	**55.91**	**317**	*i* P	**P**	**15 42 50.2**	**-0.6**
ZEI				*i* *PP	pP	15 42 58.7	+2.2
ZEI				*i*		15 44 55.2	
ZEI				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
BEST	**Besiri**	**56.09**	**311**	*i* P	**P**	**15 42 49.9**	**-2.2**
YSS	**Yuzh-Sakhalins**	**56.65**	**38**	*i* P	**P**	**15 42 54.4**	**-1.6**
KIV	**Kislovodsk**	**57.19**	**318**	P	**P**	**15 42 59.9**	**0.0**
	comp=Z,610nm,1.0s,mb6.6,SNR=20						
KIV	**Kislovodsk**	**57.19**	**318**	*d i*P	**P**	**15 42 58.0**	**-1.9**
KIV				*e*		15 43 52.3	
KIV				*e*S	**S**	**15 50 52.9**	**+0.2**
KIV				pmax	pmax		
	comp=Z,125nm,1.1s,mb5.9						
KIV				pmax	pmax		
	comp=N,52nm,0.9s						
KIV				pmax	pmax		
	comp=E,56nm,1.1s						
KIV				MLR	MLR		
	comp=Z,931nm,22.0s,MS4.8						
KIV				MLR	MLR		
	comp=N,343nm,19.0s,MS4.9						
KIV				MLR	MLR		
	comp=E,896nm,22.0s,MS4.9						
KIV	**Kislovodsk**	**57.19**	**318**	*e*P	**P**	**15 42 58.8**	**-1.2**
	comp=E,94nm,0.9s,mb5.8						
KIV				*e*	pP	15 43 04.8	-0.8
KIV				LR	LR		
	comp=Z,280nm,21.0s,MS4.3						
GOF	**Gofitskoye**	**57.40**	**319**	*e*P	**P**	**15 43 00.0**	**-1.4**
GOF				pmax	pmax		
	comp=Z,70nm,1.2s,mb5.6						
KMBO	**Kilima Mbogo**	**57.44**	**264**	*e*P	**P**	**15 43 04.2**	**+2.1**
KMBO				*e*	pP	15 43 10.4	+2.6
KMBO				pmax	pmax		
	comp=Z,107nm,1.0s						
KMBO	**Kilima Mbogo**	**57.44**	**264**	*e*P	**P**	**15 43 04.2**	**+2.1**
	comp=Z,107nm,1.0s,mb5.8						
KMBO				*e*	pP	15 43 10.4	+2.6
ELZG	**Elazig**	**57.98**	**311**	*i* P	**P**	**15 43 03.9**	**-1.7**
MALT	**Malatya**	**58.35**	**310**	*e*P	**P**	**15 43 06.9**	**-1.2**
MALT				*e*	pP	15 43 12.8	-1.1
MALT				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.4						
MALT	**Malatya**	**58.35**	**310**	*e*P	**P**	**15 43 06.9**	**-1.2**
	comp=Z,44nm,1.0s,mb5.4						
MALT				*e*	pP	15 43 12.8	-1.0
CTA	**Charters Tower**	**58.39**	**119⇑**	*i*P	**P**	**15 43 08.1**	**-0.5**
	comp=Z,10.0nm,1.4s,mb4.7						
CTA	**Charters Tower**	**58.39**	**119⇑**	*i*P	**P**	**15 43 08.1**	**-0.5**
CTA				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CTAO	**Charters Tower**	**58.39**	**119**	*e*P	**P**	**15 43 08.1**	**-0.5**
CTAO				*e*	pP	15 43 13.7	-0.7
CTAO				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.1						
CTAO				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.0						
CTAO	**Charters Tower**	**58.39**	**119**	*e*P	**P**	**15 43 08.1**	**-0.5**
	comp=Z,27nm,1.4s,mb5.1						
CTAO				*e*	pP	15 43 13.7	-0.7
CTAO				LR	LR		
	comp=Z,1μm,20.0s,MS5.0						
SOKR	**Solikamsk**	**58.64**	**339⇑**	*i*P	**P**	**15 43 08.4**	**-1.4**
SOKR				pmax	pmax		
	comp=Z,90nm,0.9s,mb5.8						
SOKR				MLR	MLR		
	comp=Z,4μm,21.0s,MS5.5						
GZT	**Gaziantep**	**58.76**	**309**	*i* P	**P**	**15 43 09.1**	**-1.9**
SOC	**Sochi**	**59.06**	**316**	*e*P	**P**	**15 43 09.3**	**-3.7**
SOC				*e*		15 44 01.0	
SOC				*e*		15 45 19.5	
SOC				*e*S	**S**	**15 51 15.6**	**-1.6**
SOC				*e*SS	SS	15 55 10.8	-2.3
SOC				*e*SSS	SSS	15 57 34.6	-3.7
SOC				pmax	pmax		
	comp=Z,63nm,0.8s,mb5.7						
SOC				pmax	pmax		
	comp=N,30nm,1.0s						
SOC				pmax	pmax		
	comp=E,14nm,0.8s						
EIL	**Elat**	**59.34**	**300**	*e*P	**P**	**15 43 15.1**	**0.0**
	comp=E,90nm,1.1s,mb5.7						
EIL				*e*	pP	15 43 20.8	-0.1
YAK	**Yakutsk**	**59.83**	**18**	*e*P	**P**	**15 43 16.8**	**-1.3**
YAK				*e*	pP	15 43 22.7	-1.1
YAK				pmax	pmax		
	comp=Z,93nm,0.8s,mb5.9						
YAK	**Yakutsk**	**59.83**	**18**	*e*P	**P**	**15 43 16.8**	**-1.3**
	comp=Z,93nm,0.8s,mb5.9						
YAK				*e*	pP	15 43 22.7	-1.1
STKA	**Stephens Creek**	**60.22**	**134⇓**	*i*P	**P**	**15 43 19.7**	**-1.5**
	comp=Z,14nm,1.0s,mb5.0						
AVNT	**Avonos**	**61.18**	**310**	*i* P	**P**	**15 43 24.9**	**-2.6**
VOR	**Voronezh**	**62.44**	**325**	*e*P	**P**	**15 43 34.5**	**-1.4**
VOR				pmax	pmax		
	comp=Z,130nm,1.2s,mb5.9						
VOR				pmax	pmax		
	comp=E,70nm,1.4s						
ELDT	**Eldivan**	**62.65**	**312**	*i* P	**P**	**15 43 35.9**	**-1.5**
SIM	**Simferopol'**	**63.30**	**316**	P	**P**	**15 43 41.4**	**-0.3**
SIM				pmax	pmax		
	comp=Z,75nm,0.9s,mb5.8						
SIM				MLR	MLR		
	comp=Z,1μm,21.0s,MS5.0						
MBAR	**Mbarara**	**63.77**	**265**	*e*P	**P**	**15 43 45.8**	**+0.5**
MBAR				*e*	pP	15 43 52.2	+1.1
MBAR				pmax	pmax		
	comp=Z,84nm,1.3s,mb5.6						
MBAR	**Mbarara**	**63.77**	**265**	*e*P	**P**	**15 43 45.8**	**+0.5**
	comp=Z,84nm,1.3s,mb5.6						
MBAR				*e*	pP	15 43 52.2	+1.1
ISP	**Isparta**	**64.33**	**308**	P	**P**	**15 43 48.1**	**-0.5**
ISP				pmax	pmax		
	comp=Z,150nm,1.5s,mb5.8						
ISP	**Isparta**	**64.33**	**308**	*e*P	**P**	**15 43 47.6**	**-1.0**
	comp=Z,148nm,1.5s,mb5.8						
ESKT	**Eskisehir**	**64.38**	**310**	*i* P	**P**	**15 43 47.2**	**-1.7**
MOS	**Moscow**	**64.93**	**329⇑**	*i*P	**P**	**15 43 51.7**	**-0.5**
MOS				*e*		15 44 24.9	
MOS				pmax	pmax		
	comp=Z,356nm,1.5s,mb6.2						
MOS				MLR	MLR		
	comp=Z,2μm,19.1s,MS5.4						
MOS				MLR	MLR		
	comp=N,1μm,18.1s,MS5.4						
MOS				MLR	MLR		
	comp=E,2μm,18.1s,MS5.4						
OBN	**Obninsk**	**65.23**	**328κ**	*i*P	**P**	**15 43 49.9**	**-4.2**
OBN				*i*	pP	15 43 55.7	-4.1
OBN						15 44 21.0	
OBN				*e*		15 46 12.5	
OBN				*e*PPP	PPP	15 47 55.8	+1.7
OBN				*e*S	S	15 52 33.9	-1.0
OBN				pmax	pmax		
	comp=Z,140nm,1.4s,mb5.8						
OBN				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.1						
OBN	**Obninsk**	**65.23**	**328**	*e*P	**P**	**15 43 49.4**	**-4.7**
	comp=Z,223nm,1.3s,mb6.0						
OBN				*e*	pP	15 43 55.6	-4.2
ULDT	**Uludag**	**65.79**	**310**	*i* P	**P**	**15 43 51.9**	**-6.0**
TOO	**Toolangi**	**65.98**	**137**	*e*P	**P**	**15 43 59.9**	**+0.7**
	comp=Z,0.8nm,1.2s						
TOO	**Toolangi**	**65.98**	**137**	*e*P	**P**	**15 43 59.9**	**+0.7**
TOO				pmax	pmax		
	comp=Z,1.0nm,1.2s						
MA2	**Magadan**	**66.61**	**28**	*e*P	**P**	**15 44 02.8**	**0.0**
MA2				*e*		15 53 20.6	
MA2				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
MA2	**Magadan**	**66.61**	**28**	*e*P	**P**	**15 44 03.2**	**+0.3**
	comp=Z,38nm,0.9s,mb5.4						
MA2				*e*	pP	15 44 09.0	+0.4
KDAG	**Bornova**	**66.95**	**308**	*i* P	**P**	**15 43 59.8**	**-5.5**
TIXI	**Tiksi**	**67.07**	**11⇓**	*i*P	**P**	**15 44 03.4**	**-2.2**
TIXI				*e*S	S	15 52 54.5	-2.4
TIXI				pmax	pmax		
	comp=Z,71nm,0.8s,mb5.8						
TIXI	**Tiksi**	**67.07**	**11**	*i* P	**P**	**15 44 04.5**	**-1.1**
TIRR	**Tirgusor**	**67.14**	**315**	⇓P	**P**	**15 44 05.1**	**-1.3**
KIS	**Kishinev**	**67.40**	**318**	*e*P	**P**	**15 44 06.0**	**-2.0**
KIS				*e*	pP	15 44 12.0	-1.8
KIS				*e*		15 44 28.0	
CFR	**Carcaliu**	**67.47**	**316**	⇑P	**P**	**15 44 06.9**	**-1.6**
HARR	**Harsova**	**67.52**	**315**	⇑P	**P**	**15 44 07.6**	**-1.2**
KIEV	**Kiev**	**68.03**	**322**	P	**P**	**15 44 09.9**	**-2.0**
ALN	**Alexandroupoli**	**68.24**	**311**	*e*P	**P**	**15 44 12.5**	**-1.0**
VRI	**Vrincioaia**	**68.58**	**316**	⇑P	**P**	**15 44 15.0**	**-0.4**
VRI	**Vrincioaia**	**68.58**	**316**	P	**P**	**15 44 15.7**	**+0.3**
SEY	**Seymchan**	**68.77**	**25**	*e*P	**P**	**15 44 14.0**	**-2.3**
SEY						15 44 37.2	
SEY				PPP	PPP	15 48 28.3	0.0
SEY				*e*S	S	15 53 16.6	-0.8
SEY				PS	PS	15 53 42.0	-3.2
SEY						15 54 12.3	
SEY				SS	SS	15 57 43.6	-0.7
SEY				pmax	pmax		
	comp=Z,80nm,1.1s,mb5.6						
SEY				pmax	pmax		
	comp=N,40nm,1.3s						
SEY				pmax	pmax		
	comp=E,50nm,1.3s						
SEY				smax			
	comp=N,260nm,17.0s						
SEY				smax			
	comp=E,20nm,14.9s						
SEY				MLR	MLR		
	comp=Z,3μm,15.0s,MS5.6						
SEY				MLR	MLR		
	comp=E,2μm,16.0s						
MLR	**Muntele Rosu**	**69.05**	**316**	P	**P**	**15 44 18.3**	**0.0**
LSZ	**Lusaka**	**69.32**	**250**	*e*P	**P**	**15 44 21.4**	**+0.9**
LSZ				*e*	pP	15 44 27.5	+1.2
LSZ				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
LSZ	**Lusaka**	**69.32**	**250**	*e*P	**P**	**15 44 21.4**	**+0.9**
	comp=Z,17nm,0.8s,mb5.0						
LSZ				*e*	pP	15 44 27.5	+1.3
MNK	**Minsk**	**69.82**	**325⇑**	*e*P	**P**	**15 44 18.0**	**-4.9**
BURAR	**Bucovina Array**	**69.92**	**318**	P	**P**	**15 44 23.9**	**+0.3**
SRS	**Serrai**	**70.11**	**311**	*e*P	**P**	**15 44 23.1**	**-1.8**
THE	**Thessaloniki**	**70.53**	**310**	*e*P	**P**	**15 44 25.6**	**-1.9**
VTS	**Vitosha**	**70.57**	**312**	P	**P**	**15 44 26.6**	**-1.1**
KNT	**Kendrikon**	**70.63**	**311**	*e*P	**P**	**15 44 26.3**	**-1.8**
JOF	**Joensuu**	**70.69**	**334**	*e*p	**P**	**15 44 26.6**	**-1.5**
**LIT

SKO Skopje 71.81 311 *i* P **P 15 44 33.3 -1.8**
SKO *i* pP 15 44 39.3 -1.6
KWP Kalwaria 71.90 320 *eP* **P 15 44 34.8 -0.7**
KWP *e* pP 15 44 41.2 -0.1
KOLS Kolonicke sedl 72.08 319 *i* P **P 15 44 36.7 +0.1**
KOLS *e* pP 15 44 40.7 -1.7
SUW Suwalki 72.37 324 *eP* **P 15 44 37.1 -1.2**
SUW *e* pP 15 44 43.3 -0.7
GRUS Gruza 72.52 313 ⇓*iP* **P 15 44 35.7 -3.7**
CRVS Cervenica-Dubn 72.60 319 *i* P **P 15 44 40.3 +0.6**
CRVS *i* pP pP 15 44 45.0 -0.5
KAF Kangasniemi 72.64 333 *ep* **P 15 44 38.4 -1.3**
comp=Z,23nm,0.7s,mb5.2,baz=104,slow=5.7
KAF Kangasniemi 72.64 333 *eP* **P 15 44 38.4 -1.3**
KAF pmax pmax
comp=Z,23nm,0.7s,mb5.2
BEO Belgrade 72.80 314 ⇓*iP* **P 15 44 45.4 +4.4**
DIVS Divcibare 73.06 314 ⇑*iP* **P 15 44 41.5 -1.1**
KECS Kecovo 73.19 318 *i* P **P 15 44 42.6 -0.6**
KECS *i* pP pP 15 44 48.5 -0.5
NIE Niedzica 73.42 319 *eP* **P 15 44 44.6 +0.1**
PSZ Piszkesteto 73.52 318 P **P 15 44 43.9 -1.2**
PSZ pmax pmax
comp=Z,100nm,1.3s,mb5.6
PSZ Piszkesteto 73.52 318 ⇑*eP* **P 15 44 44.4 -0.7**
OJC Ojcow 73.84 320 *eP* **P 15 44 46.5 -0.5**
PKSM Moragy 74.20 316 ⇓*eP* **P 15 44 48.2 -0.9**
LBTB Lobatse 74.32 241 *eP* **P 15 44 51.5 +1.2**
LBTB *e* pP 15 44 57.6 +1.5
LBTB pmax pmax
comp=Z,47nm,0.9s,mb5.4
LBTB Lobatse 74.32 241 *eP* **P 15 44 51.5 +1.2**
comp=Z,47nm,0.9s,mb5.4
LBTB *e* pP 15 44 57.6 +1.6
SRO2 Moca 74.51 317 *i* P **P 15 44 51.5 +0.7**
SRO2 *i* pP pP 15 44 56.5 -0.1
SRO Srobarova 74.56 317 *i* P **P 15 44 51.7 +0.5**
SRO *i* pP pP 15 44 57.5 +0.5
KOLL Kolacno 74.58 318 *i* P **P 15 44 51.2 0.0**
KOLL *i* pP pP 15 44 56.9 -0.1
SRO1 Iza 74.61 317 *i* P **P 15 44 51.8 +0.3**
SRO1 *i* pP pP 15 44 56.9 -0.4
KEV Kevo 74.68 341 *ep* **P 15 44 50.3 -1.1**
comp=Z,38nm,0.7s,mb5.4
KEV Kevo 74.68 341 *eP* **P 15 44 50.3 -1.1**
KEV pmax pmax
comp=Z,38nm,0.7s,mb5.4
RAC Raciborz 74.86 320 *eP* **P 15 44 53.4 +0.6**
OKC Ostrava-Krasne 74.86 319 *eP* **P 15 44 52.7 -0.2**
OKC *ep*P pP 15 44 58.5 -0.2
CASY Casey 75.10 173 *eP* **P 15 44 54.1 +0.2**
comp=Z,138nm,1.9s,mb5.6
CASY *e* pP 15 45 00.0 +0.3
TIP Timpagrande 75.19 308 *eP* **P 15 44 54.0 -1.0**
TIP *e* pP 15 45 00.0 -0.8
SMOL Smolenice 75.22 318 *i* P **P 15 44 55.2 +0.3**
MORC Moravsky Berou 75.25 319 *eP* **P 15 44 54.7 -0.4**
MORC *e* pP 15 45 00.7 -0.2
MORC pmax pmax
comp=Z,109nm,1.0s,mb5.7
MORC Moravsky Berou 75.25 319 *eP* **P 15 44 54.7 -0.3**
comp=Z,109nm,1.0s,mb5.7
MORC *e* pP 15 45 00.7 -0.2
ZST Bratislava 75.41 318 *i* P **P 15 44 56.5 +0.5**
ZST *i* pP pP 15 45 01.8 0.0
GRI Girifalco 75.44 308 *eP* **P 15 44 57.0 +0.6**
BOSA Boshof 75.67 238 P **P 15 44 59.0 +1.0**
BOSA pP pP 15 45 05.1 +1.3
BOSA Boshof 75.67 238 *eP* **P 15 44 58.6 +0.6**
BOSA *e* pP 15 45 05.0 +1.2
BOSA pmax pmax
comp=Z,52nm,1.0s,mb5.4
BOSA MLR MLR
comp=Z,638nm,20.0s,MS4.9
BOSA Boshof 75.67 238 *eP* **P 15 44 58.6 +0.6**
comp=Z,52nm,1.0s,mb5.4
BOSA *e* pP 15 45 05.0 +1.2
BOSA LR LR
comp=Z,638nm,20.0s,MS4.9
KTK1 Kautokeino 75.73 339 *eP* **P 15 44 57.5 0.0**
KTK1 *ep*P pP 15 45 03.4 +0.1
KTK1 AMb AMB 15 45 19.3
comp=Z,102nm,1.8s,mb5.5
SOP Sopron 75.74 317 ⇓*eP* **P 15 44 57.9 0.0**
GKP Gorka Klasztor 75.76 323 *eP* **P 15 44 57.1 -0.8**
GKP *e* pP 15 45 03.5 -0.3
VRAC Vranov 75.83 319 ⇑P **P 15 44 57.8 -0.6**
BILL Bilibino 75.93 22 *eP* **P 15 44 58.1 -0.5**
BILL pmax pmax
comp=Z,22nm,0.9s,mb5.1
BILL Bilibino 75.93 22 *eP* **P 15 44 58.1 -0.5**
comp=Z,22nm,0.9s,mb5.1
VKA Vienna 75.94 318 ⇑*iP* **P 15 44 59.3 +0.3**
MTTG Motta San Giov 76.00 307 ⇑*iP* **P 15 45 00.3 +0.7**
DPC Dobruska-Polom 76.08 320 *eP* **P 15 45 00.1 +0.3**
DPC *ep*P pP 15 45 06.1 +0.5
KSP Ksiaz 76.13 320 ⇑*eP* **P 15 45 00.0 -0.1**
KSP *e**PP pP 15 45 05.8 -0.1
KSP Ksiaz 76.13 320 *eP* **P 15 45 00.2 +0.1**
KSP *e* pP 15 45 06.5 +0.6
UPC Upice 76.29 320 *eP* **P 15 45 01.4 +0.5**
UPC *ep*P pP 15 45 07.4 +0.6
ARSA Arzberg 76.41 317 ⇑*iP* **P 15 45 01.9 +0.2**
comp=Z,104nm,1.5s,mb5.5
BOJS Bojanci 76.52 315 *eP* **P 15 45 01.8 -0.6**
BOJS *e*PcP PcP 15 45 07.8 -6.6
PERS Pernice 76.66 316 *eP* **P 15 45 03.2 0.0**
PERS *e*PcP PcP 15 45 08.3 -6.7
LJU Ljubljana 77.05 315 *eP* **P 15 45 05.5 +0.2**
LJU *e*PcP PcP 15 45 11.2 -5.5
OBKA Obir 77.05 316 ⇓*iP* **P 15 45 05.8 +0.5**
comp=Z,98nm,1.2s,mb5.6
PRU Pruhonice 77.20 319 *eP* **P 15 45 06.3 +0.3**
PRU *ep*P pP 15 45 11.9 0.0
PVCC Panska Ves 77.21 320 *eP* **P 15 45 06.4 +0.3**
PVCC *ep*P pP 15 45 12.2 +0.3
BSD Bornholm Skovb 77.28 325 *i* P **P 15 45 05.9 -0.5**
BSD *i* pP 15 45 11.0 -1.2
BSD pmax pmax
comp=Z,48nm,0.7s,mb5.5
BSD Bornholm Skovb 77.28 325 *i* P **P 15 45 05.9 -0.5**
comp=Z,48nm,0.7s,mb5.5
BSD *i* pP 15 45 11.0 -1.2
MOA Molln 77.29 317 ⇑*iP* **P 15 45 06.2 -0.4**
comp=Z,56nm,1.1s,mb5.4
TRO Tromso 77.37 340 *eP* **P 15 45 05.1 -1.5**
TRO *ep*P pP 15 45 11.4 -1.0
TRO AMb AMB 15 45 17.6
comp=Z,140nm,1.5s,mb5.7
VOY Vojsko 77.49 315 *eP* **P 15 45 07.1 -0.6**
VOY *e*PcP PcP 15 45 13.0 -5.5
BRG Berggiesshubel 77.62 320 ⇓*iP* **P 15 45 08.8 +0.5**
BRG *i* pP 15 45 14.4 +0.2
BRG pmax pmax
comp=Z,218nm,1.7s,mb5.8
BRG Berggiesshubel 77.62 320 ⇓*iP* **P 15 45 08.8 +0.5**
comp=Z,218nm,1.7s,mb5.8
BRG *i* pP 15 45 14.4 +0.2
GEC2 GERESS Array S 77.70 318 *eP* **P 15 45 09.0 +0.2**
GEC2 pmax pmax
comp=Z,55nm,0.8s,mb5.5
GEC2 GERESS Array S 77.70 318 *eP* **P 15 45 09.0 +0.2**
comp=Z,55nm,0.8s,mb5.5
KHC Kasperske Hory 77.79 318 *eP* **P 15 45 09.4 +0.1**
KHC *ep*P pP 15 45 15.3 +0.2
RUE Ruedersdorf 77.80 322 *eP* **P 15 45 09.1 -0.2**
comp=Z,269nm,0.9s,mb6.2
RUE *e* pP 15 45 15.0 -0.1
PTCC Patocco-Chiusa 77.87 316 *eP* **P 15 45 09.5 -0.3**
KBA Koelnbreinsper 77.89 316 ⇑*iP* **P 15 45 09.7 -0.2**
comp=Z,64nm,1.1s,mb5.5
KBA Koelnbreinsper 77.89 316 ⇑*iP* **P 15 45 09.7 -0.2**
KBA pmax pmax
comp=Z,64nm,1.1s,mb5.5
GMNA Gemona 77.95 316 *eP* **P 15 45 10.2 0.0**
ARV Arcevia 78.13 313 *eP* **P 15 45 11.8 +0.5**
SNTG Esanatoglia 78.13 312 *eP* **P 15 45 11.6 +0.2**
CLL Collm 78.23 321 ⇓*iP* **P 15 45 11.6 -0.1**
CLL *i* pP 15 45 17.3 -0.2
CLL pmax pmax
comp=Z,50nm,1.2s,mb5.3
CLL Collm 78.23 321 ⇓*iP* **P 15 45 11.6 -0.1**
comp=Z,50nm,1.2s,mb5.3
CLL *i* pP 15 45 17.3 -0.2
CLL Collm 78.23 321 ⇓P **P 15 45 11.6 -0.1**
comp=Z,logA/T=1.6,mb5.3
CLL *i* *PP pP 15 45 17.3 -0.2
WET Wettzell 78.25 318 *eP* **P 15 45 12.0 +0.2**
WET pmax pmax
comp=Z,37nm,0.9s,mb5.3
WET Wettzell 78.25 318 *eP* **P 15 45 12.0 +0.2**
comp=Z,37nm,0.9s,mb5.3
FVI Forni Avoltri 78.27 316 *eP* **P 15 45 11.9 -0.1**
MOR8 Moi Rana 78.52 336 *eP* **P 15 45 12.7 -0.2**
comp=Z,150nm,1.4s,mb5.7
MOR8 Moi Rana 78.52 336 *eP* **P 15 45 12.7 -0.2**
MOR8 *ep*P pP 15 45 18.3 -0.6
MOR8 AMb AMB 15 45 20.5
comp=Z,150nm,1.4s,mb5.7
NKC Novy Kostel 78.55 320 *eP* **P 15 45 14.4 +0.9**
NKC *ep*P pP 15 45 19.6 +0.3
MAW Mawson 78.70 192 *eP* **P 15 45 15.6 +1.7**
comp=Z,21nm,1.4s,mb4.9
MAW Mawson 78.70 192 *eP* **P 15 45 15.1 +1.2**
MAW *e**PP pP 15 45 21.2 +1.4
COP Copenhagen 78.73 325 ⇓*iP* **P 15 45 14.7 +0.4**
COP *i* pP 15 45 19.9 -0.3
COP pmax pmax
comp=Z,59nm,0.8s,mb5.6
COP Copenhagen 78.73 325 ⇓*iP* **P 15 45 14.7 +0.4**
comp=Z,59nm,0.8s,mb5.6
COP *i* pP 15 45 19.9 -0.3
CRE Caprese Michel 78.85 313 *eP* **P 15 45 15.7 +0.4**
SFI Santa Sofia 78.93 313 *eP* **P 15 45 16.7 +1.0**
PGD Poggio Sodo 79.02 313 *eP* **P 15 45 17.3 +1.1**
CTI Castel Tesino 79.05 315 *eP* **P 15 45 16.5 +0.2**
WTTA Wattenberg 79.06 317 ⇑*iP* **P 15 45 15.5 -0.8**
comp=Z,106nm,0.9s,mb5.8
WTTA Wattenberg 79.06 317 ⇑*iP* **P 15 45 15.5 -0.8**
WTTA pmax pmax
comp=Z,106nm,0.9s,mb5.8
MOX Moxa 79.09 320 *eP* **P 15 45 16.3 -0.1**
MOX pmax pmax
comp=Z,106nm,1.4s,mb5.6
MOX Moxa 79.09 320 *eP* **P 15 45 16.3 -0.1**
comp=Z,106nm,1.4s,mb5.6
MOX Moxa 79.09 320 *i* P **P 15 45 16.3 -0.1**
comp=Z,logA/T=1.9,mb5.6
WATA Walderalm 79.10 317 ⇑*iP* **P 15 45 15.6 -0.9**
comp=Z,79nm,1.2s,mb5.5
WATA Walderalm 79.10 317 ⇑*iP* **P 15 45 15.6 -0.9**
WATA pmax pmax
comp=Z,79nm,1.2s,mb5.5
VMG Vicchio 79.14 313 *eP* **P 15 45 17.8 +0.9**
SEI Scarperia 79.28 313 *eP* **P 15 45 18.9 +1.3**
FUR Furstenfeldbru 79.30 317 *eP* **P 15 45 17.3 -0.3**
GRA1 Grafenberg Arr 79.34 319 *eP* **P 15 45 18.4 +0.6**
comp=Z,88nm,1.2s,mb5.6
GRA1 *ep*P pP 15 45 23.7 +0.1
GRF Grafenberg Arr 79.34 319 *eP* **P 15 45 18.4 +0.6**
GRF *e**PP pP 15 45 23.7 +0.1
GRF pmax pmax
comp=Z,88nm,1.2s,mb5.6
GRF Grafenberg Arr 79.34 319 *eP* **P 15 45 18.4 +0.6**
GRF *e**PP pP 15 45 23.7 +0.1
GRF pmax pmax
comp=Z,88nm,1.2s,mb5.6
GRF Grafenberg Arr 79.34 319 *eP* **P 15 45 18.4 +0.6**
comp=Z,88nm,1.2s,mb5.6
GRF *ep*P pP 15 45 23.7 +0.1
SQTA Sankt Quirin 79.35 317 *i* P **P 15 45 17.3 -0.6**
comp=Z,67nm,0.9s,mb5.6
SQTA Sankt Quirin 79.35 317 *i* P **P 15 45 17.3 -0.6**
SQTA pmax pmax
comp=Z,67nm,0.9s,mb5.6
MOTA Moosalm 79.42 317 ⇑*iP* **P 15 45 17.5 -0.8**
comp=Z,42nm,1.0s,mb5.3
MOTA Moosalm 79.42 317 ⇑*iP* **P 15 45 17.5 -0.8**
MOTA pmax pmax
comp=Z,42nm,1.0s,mb5.3
ZCCA Zocca 79.55 314 *eP* **P 15 45 20.6 +1.6**
GRFL Gerfalco 79.57 312 *eP* **P 15 45 18.7 -0.5**
NB2 NORSAR Subarra 79.58 331 P **P 15 45 17.9 -1.0**
comp=Z,52nm,0.9s,mb5.5,baz=91,slow=4.8
NB2 NORSAR Subarra 79.58 331 P **P 15 45 17.9 -1.0**
baz=91,slow=5.1
NAO01 NORSAR Array S 79.74 330 *eP* **P 15 45 19.2 -0.4**
comp=Z,48nm,0.9s,mb5.4
NAO01 *e* pP 15 45 24.8 -0.8
BDI Bagni Di Lucca 79.83 313 *eP* **P 15 45 19.7 -0.8**
GSCL Gusciola 79.83 314 *eP* **P 15 45 21.5 +1.0**
SAL Salo 79.84 315 *eP* **P 15 45 22.0 +1.4**
CLZ Clausthal 79.88 321 *eP* **P 15 45 20.8 +0.2**
comp=Z,80nm,1.1s,mb5.6
PII Pisa 79.89 313 *eP* **P 15 45 20.0 -0.9**
BRMO Bormio 79.93 316 *eP* **P 15 45 21.2 +0.1**
ERBM Eremo 79.95 314 *eP* **P 15 45 23.0 +1.8**
SARO Sassorosso 79.96 313 P **P 15 45 21.4 +0.1**
VLC Villacollemand 79.97 313 *eP* **P 15 45 22.7 +1.3**
comp=Z,20nm,0.8s,mb5.1
HDH Heidenheim 80.01 318 ⇓*eP* **P 15 45 21.2 -0.2**
VALM 80.07 314 P **P 15 45 22.3 +0.4**
UBR Uberruh 80.09 317 *eP* **P 15 45 21.7 -0.2**
VINC Vinca 80.14 313 P **P 15 45 21.2 -1.0**
GRAM 80.20 314 P **P 15 45 21.4 -1.2**
DAVA Damuels 80.25 317 ⇑*iP* **P 15 45 22.8 +0.1**
comp=Z,136nm,1.1s,mb5.8
CODM 80.35 314 P **P 15 45 22.4 -0.9**
SIND Sindeldorf 80.39 319 ⇓*eP* **P 15 45 23.8 +0.4**
MUD Monsted U'grnd 80.57 326 ⇓*iP* **P 15 45 25.1 +0.9**
MUD *i* pP 15 45 30.8 +0.7
MUD pmax pmax
comp=Z,52nm,0.8s,mb5.5
MUD Monsted U'grnd 80.57 326 ⇓*iP* **P 15 45 25.1 +0.9**
comp=Z,52nm,0.8s,mb5.5
MUD *i* pP 15 45 30.8 +0.7
BUCH Bad Urach 80.58 318 *eP* **P 15 45 24.6 +0.1**
BOB Bobbio (Coli) 80.63 314 *eP* **P 15 45 25.8 +1.0**
STU Stuttgart 80.68 318 *eP* **P 15 45 24.6 -0.4**
STU pmax pmax
comp=Z,75nm,1.0s,mb5.6
STU Stuttgart 80.68 318 *eP* **P 15 45 24.6 -0.3**
comp=Z,75nm,1.0s,mb5.6
GUT Gutenstein 80.75 317 *eP* **P 15 45 25.4 0.0**
VSL Villasalto 80.91 309 *eP* **P 15 45 25.6 -0.8**
comp=Z,54nm,0.9s,mb5.5
TOD Tromm 80.91 319 *eP* **P 15 45 26.0 -0.2**
TOD Tromm 80.91 319 ⇓*eP* **P 15 45 26.4 +0.2**
LBG Lerchenberg 80.95 318 ⇓*eP* **P 15 45 26.5 +0.1**
SPAK Spaichingen 80.97 317 ⇓*eP* **P 15 45 26.7 +0.2**
SWS Schriesheim 80.98 319 *eP* **P 15 45 26.9 +0.4**
GENL Genova Univers 80.98 314 P **P 15 45 25.6 -1.1**
PGF Pioggiola 81.05 312 *eP* **P 15 45 26.4 -0.6**
comp=Z,162nm,1.2s,mb5.5
PGF Pioggiola 81.05 312 *eP* **P 15 45 26.4 -0.6**
PGF pmax pmax
comp=Z,81nm,1.2s,mb5.5
VAI Varese 81.07 315 *eP* **P 15 45 26.3 -0.8**
TNS Taunus Mts 81.12 320 *eP* **P 15 45 27.5 +0.2**
BFO Black Forest 81.27 318 *eP* **P 15 45 27.8 -0.3**
BFO pmax pmax
comp=Z,36nm,1.2s,mb5.2
BFO Black Forest 81.27 318 *eP* **P 15 45 27.8 -0.3**
comp=Z,36nm,1.2s,mb5.2
PCP Pian Castagno 81.28 314 P **P 15 45 27.7 -0.5**
FELD Feldberg 81.50 317 *eP* **P 15 45 29.3 0.0**
FIN Finale Ligure 81.54 314 *eP* **P 15 45 29.4 -0.2**
LANF Langenberg 81.59 318 *eP* **P 15 45 29.9 +0.2**
MCGN Macugnaga 81.61 315 *eP* **P 15 45 30.3 +0.5**
ABH Alteburg 81.72 319 *eP* **P 15 45 30.8 +0.4**
ABH Alteburg 81.72 319 ⇓*eP* **P 15 45 30.9 +0.5**
LIBD Limburg 81.76 318 *eP* **P 15 45 31.0 +0.4**
LIBD Limburg 81.76 318 *eP* **P 15 45 31.1 +0.5**
ROB Roburent 81.78 314 P **P 15 45 29.8 -1.0**
IMI Imperia 81.78 313 P **P 15 45 29.4 -1.4**
TRAV 81.80 315 P **P 15 45 29.7 -1.2**
BBS Basel-Blauen 81.86 317 *eP* **P 15 45 30.6 -0.5**
BBS Basel-Blauen 81.86 317 ⇓*eP* **P 15 45 31.0 -0.1**
MONE Monesi 81.87 313 P **P 15 45 29.4 -1.9**
WLS Welschbruch 81.91 318 *eP* **P 15 45 31.2 -0.2**
NEGI Negi 81.92 313 P **P 15 45 30.6 -0.9**
CDF Champ du Feu 81.97 318 *eP* **P 15 45 30.9 -0.8**
comp=Z,76nm,1.0s,mb5.3
CDF Champ du Feu 81.97 318 *eP* **P 15 45 30.9 -0.8**
CDF pmax pmax
comp=Z,38nm,1.0s,mb5.3
SAOF Saorge 82.02 313 *eP* **P 15 45 32.4 +0.3**
RUP Ruppelstein 82.04 319 *eP* **P 15 45 32.3 +0.3**
RUP Ruppelstein 82.04 319 *eP* **P 15 45 32.7 +0.7**
ECH Echery 82.05 318 *eP* **P 15 45 32.5 +0.4**
WTSB Winterswijk 82.09 321 *eP* **P 15 45 32.7 +0.5**
comp=Z,80nm,1.1s,mb5.6
MOF Molkenrain 82.09 317 *eP* **P 15 45 32.7 +0.4**
ENR Entracque 82.10 314 P **P 15 45 30.9 -1.6**
AUTN L'Aution 82.11 313 *eP* **P 15 45 33.1 +0.6**
SBF Sospel 82.12 313 *eP* **P 15 45 32.0 -0.6**
comp=Z,232nm,0.8s,mb5.8
SBF Sospel 82.12 313 *eP* **P 15 45 32.0 -0.6**
SBF pmax pmax
comp=Z,116nm,0.8s,mb5.9
WIT Witteveen 82.13 322 *eP* **P 15 45 33.7 +1.3**
RSP Reno Superiore 82.16 315 P **P 15 45 32.2 -0.6**
STV2 Anna di Valdie 82.17 314 P **P 15 45 31.5 -1.3**
STV Sta Anna Valdi 82.17 314 P **P 15 45 31.5 -1.3**
BHB Bricherasio 82.18 314 P **P 15 45 31.5 -1.3**
DOI San Damiano 82.21 314 *eP* **P 15 45 31.8 -1.2**
LSD Ceresole Reale 82.22 315 P **P 15 45 33.5 +0.4**
TOUF Mont Tournerai 82.24 313 *eP* **P 15 45 33.7 +0.5**
HINF Hinteralfeld 82.28 317 *eP* **P 15 45 32.2 -1.1**
FENE Fenestrelle 82.31 314 P **P 15 45 32.7 -0.8**
PZZ Prazzo 82.31 314 P **P 15 45 32.2 -1.4**
MVIF Mont Vial 82.32 313 *eP* **P 15 45 33.9 +0.3**
LOMF Lomont 82.33 317 *eP* **P 15 45 33.8 +0.2**
OG01 Vacheresse 82.49 316 *eP* **P 15 45 32.0 -2.5**
LPG La Plagne 82.50 315 *eP* **P 15 45 34.5 0.0**
comp=Z,174nm,0.8s,mb5.7
LPG La Plagne 82.50 315 *eP* **P 15 45 34.5 0.0**
LPG pmax pmax
comp=Z,87nm,0.8s,mb5.7
LPL La Plagne 82.51 315 *eP* **P 15 45 34.5 -0.1**
comp=Z,223nm,0.8s,mb6.0
LPL La Plagne 82.51 315 *eP* **P 15 45 34.5 -0.1**
LPL pmax pmax
comp=Z,111nm,0.8s,mb5.9
RRL Cesana Torines 82.51 314 P **P 15 45 34.6 0.0**
SURF Saint Ours 82.52 314 *eP* **P 15 45 35.5 +0.8**
MBDF Montbardon 82.53 314 *eP* **P 15 45 33.7 -1.0**
comp=Z,61nm,0.7s,mb5.4
MBDF Montbardon 82.53 314 *eP* **P 15 45 33.7 -1.0**
MBDF pmax pmax
comp=Z,30nm,0.7s,mb5.4
BNI Bardonecchia 82.58 314 *eP* **P 15 45 34.8 -0.1**
BNI pmax pmax
comp=Z,60nm,1.0s,mb5.6
BNI Bardonecchia 82.58 314 *eP* **P 15 45 34.8 -0.2**
comp=Z,60nm,1.0s,mb5.6
HAU Haudompre 82.61 317 *eP* **P 15 45 34.2 -0.8**
comp=Z,266nm,1.1s,mb5.9
HAU *e*R
comp=Z,496nm,21.5s
HAU Haudompre 82.61 317 *eP* **P 15 45 34.2 -0.8**
HAU pmax pmax
comp=Z,133nm,1.1s,mb5.9
HAU MLR MLR
comp=Z,500nm,21.5s,MS4.8
WLF Walferdange 82.63 319 *eP* **P 15 45 36.1 +1.0**
WLF *e* pP 15 45 41.4 +0.4
WLF pmax pmax
comp=Z,80nm,1.1s,mb5.7
WLF Walferdange 82.63 319 *eP* **P 15 45 36.1 +1.0**
comp=Z,80nm,1.1s,mb5.7
WLF *e* pP 15 45 41.4 +0.4
HGN Heimansgroeve 82.70 320 *eP* **P 15 45 36.2 +0.8**
FRF La Foret Royal 82.71 313 *eP* **P 15 45 35.3 -0.3**
comp=Z,168nm,1.1s,mb5.7
FRF La Foret Royal 82.71 313 *eP* **P 15 45 35.3 -0.3**
FRF pmax pmax
comp=Z,84nm,1.1s,mb5.7
LMR La Mourre 82.82 313 *eP* **P 15 45 35.8 -0.5**
comp=Z,260nm,1.5s,mb5.8
LMR La Mourre 82.82 313 *eP* **P 15 45 35.8 -0.5**
LMR pmax pmax
comp=Z,130nm,1.5s,mb5.7
THEF They Montfort 82.84 318 *eP* **P 15 45 35.8 -0.4**
CABF La Chapelle 82.88 316 *eP* **P 15 45 36.3 -0.2**
comp=Z,196nm,1.2s,mb5.7
CABF La Chapelle 82.88 316 *eP* **P 15 45 36.3 -0.2**
CABF pmax pmax
comp=Z,98nm,1.2s,mb5.7
GDM Grand'Maison 82.97 315 *eP* **P 15 45 37.1 +0.1**
OG25 Le Caire 83.06 314 *eP* **P 15 45 38.1 +0.7**
ORIF Oris-en-Rattie 83.15 314 *eP* **P 15 45 37.8 -0.1**
comp=Z,59nm,0.8s,mb5.4
ORIF *e*R
comp=Z,672nm,23.0s
GRN Grenoble 83.22 315 *eP* **P 15 45 38.9 +0.6**
OG05 Jujurieux 83.36 315 *eP* **P 15 45 40.9 +1.9**
OG05 Jujurieux 83.36 315 *eP* **P 15 45 39.7 +0.7**
OG05 *e*P 15 45 40.9
MEZF Maizieres J'vi 83.44 318 *eP* **P 15 45 38.8 -0.5**
comp=Z,101nm,1.0s,mb5.5
SMRF Simiane la Rot 83.45 313 *eP* **P 15 45 39.6 +0.1**
comp=Z,172nm,1.4s,mb5.6
GIVF Givet 83.46 320 *eP* **P 15 45 39.0 -0.4**
comp=Z,141nm,1.3s,mb5.5
GIVF Givet 83.46 320 *eP* **P 15 45 39.0 -0.4**
GIVF pmax pmax
comp=Z,71nm,1.3s,mb5.5
OCF Saint Nazaire 83.59 314 *eP* **P 15 45 41.1 +0.9**
OG26 St.-Nazaire-De 83.59 314 *eP* **P 15 45 41.1 +0.9**
BAIF Baives 83.86 320 *eP* **P 15 45 41.3 -0.1**
comp=Z,168nm,1.1s,mb5.8
BAIF Baives 83.86 320 *eP* **P 15 45 41.3 -0.1**
BAIF pmax pmax
comp=Z,84nm,1.1s,mb5.8
VIVF Saint-Julien-l 84.01 314 *eP* **P 15 45 41.9 -0.4**
comp=Z,112nm,1.1s,mb5.6
VIVF Saint-Julien-l 84.01 314 *eP* **P 15 45 41.9 -0.4**
VIVF pmax pmax
comp=Z,56nm,1.1s,mb5.6
SMF Signal de Mont 84.42 316 *eP* **P 15 45 43.6 -0.7**
comp=Z,118nm,1.0s,mb5.7
SMF Signal de Mont 84.42 316 *eP* **P 15 45 43.6 -0.7**
SMF pmax pmax
comp=Z,59nm,1.0s,mb5.7
SSF Saint Saulge 84.61 317 *eP* **P 15 45 44.8 -0.5**
SSF pmax pmax
comp=Z,98nm,1.5s,mb5.7
SSF Saint Saulge 84.61 317 *eP* **P 15 45 44.8 -0.5**
comp=Z,98nm,1.5s,mb5.7
COLF Collangettes 84.64 315 *eP* **P 15 45 46.1 +0.7**
PLDF La Plantade 84.64 316 *eP* **P 15 45 46.0 +0.5**
LASF Ste Croix 84.67 314 *eP* **P 15 45 45.6 -0.1**
comp=Z,221nm,1.4s,mb5.8
AVF Avril sur Loir 84.74 316 *eP* **P 15 45 45.2 -0.7**
comp=Z,144nm,1.3s,mb5.7
AVF Avril sur Loir 84.74 316 *eP* **P 15 45 45.2 -0.7**
AVF pmax pmax
comp=Z,72nm,1.3s,mb5.6
AGO Saint Agoulin 84.97 316 *eP* **P 15 45 47.9 +0.8**
LBL Lubilhac 84.98 315 *eP* **P 15 45 48.1 +0.9**
PYM Petit Puy Mans 85.09 315 *eP* **P 15 45 48.1 +0.4**
BGF Bois d'Agland 85.11 316 *eP* **P 15 45 47.5 -0.3**
comp=Z,102nm,1.0s,mb5.6
BGF Bois d'Agland 85.11 316 *eP* **P 15 45 47.5 -0.3**
BGF pmax pmax
comp=Z,51nm,1.0s,mb5.6
HYF Humbligny 85.17 317 *eP* **P 15 45 48.0 -0.1**
EJON La Jonquera 85.56 312 P **P 15 45 49.7 -0.4**
comp=Z,12nm,0.8s,mb5.2
SYO Syowa Base 85.57 197 ⇑P **P 15 45 51.1 +1.6**
SYO Syowa Base 85.57 197 ⇓PcP PcP 15 45 54.4 +1.4
SYO Syowa Base 85.57 197 ⇑pP pP 15 45 57.6 +2.1
TCF Toulx Ste Croi 85.58 316 *eP* **P 15 45 49.9 -0.2**
comp=Z,127nm,1.4s,mb5.7
TCF Toulx Ste Croi 85.58 316 *eP* **P 15 45 49.9 -0.2**
TCF pmax pmax
comp=Z,63nm,1.4s,mb5.7
CAF Calviac 85.85 315 *eP* **P 15 45 51.5 0.0**
comp=Z,116nm,1.2s,mb5.7
CAF Calviac 85.85 315 *eP* **P 15 45 51.5 0.0**
CAF pmax pmax
comp=Z,58nm,1.2s,mb5.7
TNA Tin City 86.01 24 *eP* **P 15 45 51.9 +0.1**
TNA *e* pP 15 45 58.3 +0.6
RJF Les Rejaudoux 86.19 315 *eP* **P 15 45 53.2 0.0**
comp=Z,287nm,1.5s,mb6.0
RJF *e*R
comp=Z,435nm,23.0s
RJF Les Rejaudoux 86.19 315 *eP* **P 15 45 53.2 0.0**
RJF pmax pmax
comp=Z,144nm,1.5s,mb6.0

RJF				MLR	MLR		
	comp=Z,430nm,23.0s,MS4.8						
LMK	**Market Rasen**	**86.26**	**323**	*e*P	**P**	**15 45 53.8**	**+0.5**
KTG1	**Tilbrook Grang**	**86.47**	**322**	*e*P	**P**	**15 45 55.0**	**+0.7**
EMIR	**Miracle**	**86.63**	**312**	P	**P**	**15 45 56.0**	**+0.6**
	comp=Z,38nm,1.1s,mb5.5						
LCP	**Cassop**	**86.73**	**325**	*e*P	**P**	**15 45 57.0**	**+1.4**
LFF	**La Frestale**	**86.78**	**315**	*e*P	**P**	**15 45 56.1**	**0.0**
	comp=Z,184nm,1.4s,mb5.8						
LFF	**La Frestale**	**86.78**	**315**	*e*P	**P**	**15 45 56.1**	**0.0**
LFF				pmax	pmax		
	comp=Z,92nm,1.4s,mb5.8						
LDF	**La Druitiere**	**86.84**	**318**	*e*P	**P**	**15 45 55.9**	**-0.4**
	comp=Z,102nm,1.0s,mb5.7						
LDF	**La Druitiere**	**86.84**	**318**	*e*P	**P**	**15 45 55.9**	**-0.4**
LDF				pmax	pmax		
	comp=Z,51nm,1.0s,mb5.7						
HPK	**Haverah Park**	**86.94**	**324⇑**	*e*P	**P**	**15 45 57.3**	**+0.7**
HPK				AMb	AMB	15 45 59.4	
	comp=Z,257nm,1.2s,mb6.3						
KBI1	**Birley Grange**	**87.00**	**323⇑**	*e*P	**P**	**15 45 57.2**	**+0.3**
KBI1				AMb	AMB	15 46 04.6	
	comp=Z,214nm,1.1s,mb6.3						
EPOB	**Poblet**	**87.04**	**311**	P	**P**	**15 45 58.0**	**+0.6**
	comp=Z,23nm,0.8s,mb5.5						
FLN	**La Foliniere**	**87.05**	**319**	*e*P	**P**	**15 45 56.9**	**-0.4**
	comp=Z,125nm,1.1s,mb5.8						
FLN				*e*R			
	comp=Z,461nm,22.8s						
FLN	**La Foliniere**	**87.05**	**319**	*e*P	**P**	**15 45 56.9**	**-0.4**
FLN				pmax	pmax		
	comp=Z,63nm,1.1s,mb5.8						
FLN				MLR	MLR		
	comp=Z,460nm,22.8s,MS4.8						
LHO	**Holmfirth**	**87.14**	**324**	*e*P	**P**	**15 45 58.2**	**+0.6**
LHO				AMb	AMB	15 46 05.5	
	comp=Z,224nm,1.3s,mb6.2						
MFF	**Saint Martin d**	**87.15**	**316**	*e*P	**P**	**15 45 57.4**	**-0.5**
	comp=Z,124nm,1.2s,mb5.7						
MFF	**Saint Martin d**	**87.15**	**316**	*e*P	**P**	**15 45 57.4**	**-0.5**
MFF				pmax	pmax		
	comp=Z,62nm,1.2s,mb5.7						
KWE	**Weaver Farm**	**87.22**	**323⇑**	*e*P	**P**	**15 45 58.5**	**+0.4**
KWE				AMb	AMB	15 46 06.6	
	comp=Z,249nm,1.6s,mb6.2						
DAG	**Danmarks Havn**	**87.31**	**348⇑**	*i*P	**P**	**15 45 57.7**	**-0.3**
DAG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
DAG	**Danmarks Havn**	**87.31**	**348⇑**	*i*P	**P**	**15 45 57.7**	**-0.3**
	comp=Z,3.7nm,0.8s,mb4.7						
EPF	**Esparros**	**87.34**	**313**	*e*P	**P**	**15 45 58.4**	**-0.4**
GRR	**Gorron**	**87.36**	**318**	*e*P	**P**	**15 45 58.5**	**-0.3**
	comp=Z,110nm,1.4s,mb5.6						
GRR	**Gorron**	**87.36**	**318**	*e*P	**P**	**15 45 58.5**	**-0.3**
GRR				pmax	pmax		
	comp=Z,55nm,1.4s,mb5.6						
EDI	**Edinburgh**	**87.49**	**326**	*e*P	**P**	**15 46 00.1**	**+0.9**
EDI				AMb	AMB	15 46 08.9	
	comp=Z,108nm,1.5s,mb5.9						
EBIE	**Bielsa**	**87.53**	**313**	P	**P**	**15 46 00.7**	**+0.9**
	comp=Z,13nm,0.9s,mb5.2						
EBR	**Ebro Roquetas**	**87.55**	**311**	*e*PCP	PcP	15 46 01.0	-1.3
ESK	**Eskdalemuir**	**87.61**	**325**	*e*P	**P**	**15 46 00.9**	**+1.1**
ESK				*e*	pP	15 46 06.4	+0.7
ESK				pmax	pmax		
	comp=Z,76nm,1.0s,mb5.9						
ESK	**Eskdalemuir**	**87.61**	**325**	*e*P	**P**	**15 46 00.9**	**+1.1**
	comp=Z,76nm,1.0s,mb5.9						
ESK				*e*	pP	15 46 06.4	+0.7
ESK	**Eskdalemuir**	**87.61**	**325**	*e*P	**P**	**15 46 00.8**	**+1.0**
ESK				AMb	AMB	15 46 07.7	
	comp=Z,108nm,1.6s,mb5.8						
EAU	**Auchinoon**	**87.65**	**326**	*e*P	**P**	**15 46 01.5**	**+1.5**
EAU				AMb	AMB	15 46 08.3	
	comp=Z,125nm,1.2s,mb6.0						
ERTA	**Horta de San J**	**87.65**	**311**	P	**P**	**15 46 01.2**	**+0.8**
	comp=Z,20nm,1.7s,mb5.1						
ETSF	**Etsaut**	**88.01**	**313**	*e*P	**P**	**15 46 02.3**	**+0.2**
	comp=Z,50nm,0.9s,mb5.5						
ETSF	**Etsaut**	**88.01**	**313**	*e*P	**P**	**15 46 02.3**	**+0.2**
ETSF				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.4						
EAB	**Aberfoyle**	**88.07**	**326**	*e*P	**P**	**15 46 03.2**	**+1.2**
EAB				AMb	AMB	15 46 15.5	
	comp=Z,90nm,2.0s,mb5.7						
ESAC	**San Caprasio**	**88.13**	**312**	P	**P**	**15 46 03.3**	**+0.6**
	comp=Z,40nm,0.8s,mb5.7						
EMOS	**Mosqueruela**	**88.35**	**310**	P	**P**	**15 46 03.4**	**-0.3**
	comp=Z,44nm,0.9s,mb5.7						
SJPF	**Ste Jean**	**88.46**	**313**	*e*P	**P**	**15 46 04.6**	**+0.4**
	comp=Z,82nm,1.1s,mb5.6						
SJPF	**Ste Jean**	**88.46**	**313**	*e*P	**P**	**15 46 04.6**	**+0.4**
SJPF				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.6						
SGMF	**Saint Gilles**	**88.50**	**318**	*e*P	**P**	**15 46 04.0**	**-0.2**
EALK	**Alkurruntz**	**88.65**	**313**	P	**P**	**15 46 05.3**	**+0.2**
	comp=Z,21nm,0.8s,mb5.5						
HSA	**Swansea**	**88.85**	**322**	*e*P	**P**	**15 46 06.8**	**+0.9**
ROSF	**Rostrenen**	**88.95**	**319**	*e*P	**P**	**15 46 06.2**	**-0.2**
	comp=Z,217nm,1.5s,mb6.0						
ROSF	**Rostrenen**	**88.95**	**319**	*e*P	**P**	**15 46 06.2**	**-0.2**
ROSF				pmax	pmax		
	comp=Z,108nm,1.5s,mb6.0						
QUIF	**Quistinic**	**88.96**	**318**	*e*P	**P**	**15 46 05.9**	**-0.6**
DLF	**Lyons Farm**	**89.94**	**324**	*e*P	**P**	**15 46 06.5**	**-4.4**
DMUB	**Kingscourt**	**90.01**	**324**	*e*P	**P**	**15 46 07.4**	**-3.9**
EVIA	**Vianos**	**90.19**	**309**	P	**P**	**15 46 13.5**	**+1.0**
EVIA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.1						
EVIA	**Vianos**	**90.19**	**309**	P	**P**	**15 46 13.5**	**+1.1**
	comp=Z,7.9nm,0.8s,mb5.1						
DCN	**Croghan**	**90.36**	**324**	*e*P	**P**	**15 46 09.2**	**-3.7**
EQES	**Quesada**	**90.78**	**308**	P	**P**	**15 46 16.6**	**+1.4**
	comp=Z,21nm,1.2s,mb5.3						
EBER	**Berja**	**90.81**	**307**	P	**P**	**15 46 16.1**	**+0.8**
	comp=Z,34nm,0.9s,mb5.7						
GUD	**Guadarrama**	**91.06**	**311**	P	**P**	**15 46 17.9**	**+1.5**
GUD				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.3						
GUD	**Guadarrama**	**91.06**	**311**	P	**P**	**15 46 17.9**	**+1.5**
	comp=Z,13nm,0.8s,mb5.3						
ESDC	**Sonseca Array**	**91.11**	**310**	P	**P**	**15 46 17.1**	**+0.5**
	comp=Z,6.5nm,0.6s,mb5.1						
ESLA	**Sonseca Array**	**91.11**	**310**	*e*P	**P**	**15 46 17.1**	**+0.4**
	comp=Z,15nm,1.2s,mb5.2						
ESLA				*e*	pP	15 46 23.1	+0.5
ESLA				LR	LR		
	comp=Z,5μm,19.0s,MS6.0						
EARI	**Arriondas**	**91.29**	**314**	P	**P**	**15 46 16.4**	**-1.0**
	comp=Z,26nm,1.0s,mb5.5						
IMA	**Indian Mountai**	**91.47**	**22**	P	**P**	**15 46 19.5**	**+1.8**
IMA				pmax	pmax		
	comp=Z,150nm,1.0s,mb6.3						
IMA	**Indian Mountai**	**91.47**	**22**	*e*P	**P**	**15 46 19.1**	**+1.4**
EADA	**Adamuz**	**91.88**	**309**	P	**P**	**15 46 20.9**	**+0.7**
	comp=Z,10nm,1.1s,mb5.1						
SVW2	**Sparrevohn**	**92.59**	**27**	*e*P	**P**	**15 46 25.4**	**+2.4**
ECAL	**Calabor**	**92.69**	**313**	P	**P**	**15 46 22.4**	**-1.5**
	comp=Z,24nm,1.0s,mb5.6						
ERUA	**La Rua**	**92.87**	**313**	P	**P**	**15 46 25.0**	**+0.3**
ERUA				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb5.1						
ERUA	**La Rua**	**92.87**	**313**	P	**P**	**15 46 25.0**	**+0.3**
	comp=Z,5.8nm,0.7s,mb5.1						
EINC	**Incio**	**92.96**	**314**	P	**P**	**15 46 25.9**	**+0.8**
	comp=Z,22nm,1.4s,mb5.4						
EMIN	**Mina Concepcio**	**93.58**	**309**	P	**P**	**15 46 26.0**	**-2.1**
	comp=Z,8.5nm,1.1s,mb5.1						
MTE	**Manteigas**	**93.64**	**311**	*e*P	**P**	**15 46 30.0**	**+1.7**
MTE				*e*LQ		16 13 50.3	
MTE				*e*LR	LR	16 19 30.7	
	comp=Z,1μm,15.3s						
MCK	**McKinley**	**94.30**	**23**	*e*P	**P**	**15 46 31.6**	**+0.8**
MCK				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.3						
MCK	**McKinley**	**94.30**	**23**	*e*P	**P**	**15 46 31.6**	**+0.8**
	comp=Z,15nm,1.2s,mb5.3						
SLKM	**Skilak Lake**	**95.23**	**27**	*e*P	**P**	**15 46 35.0**	**-0.1**
SLKM				*e*	pP	15 46 41.1	+0.1
SML	**Sawmill**	**95.45**	**25**	*e*P	**P**	**15 46 36.9**	**+0.8**
INK	**Inuvik**	**96.83**	**16**	*e*P	**P**	**15 46 42.6**	**+0.4**
INK				pmax	pmax		
	comp=Z,26nm,1.0s						
INK	**Inuvik**	**96.83**	**16**	*e*P	**P**	**15 46 42.6**	**+0.3**
	comp=Z,26nm,1.0s,mb5.6						
RES	**Resolute Bay**	**97.23**	**2**	*e*P	**P**	**15 46 44.7**	**+0.8**
RES				*e*	pP	15 46 50.9	+1.0
RES				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.5						
RES	**Resolute Bay**	**97.23**	**2**	*e*P	**P**	**15 46 44.7**	**+0.8**
	comp=Z,20nm,1.0s,mb5.5						
RES				*e*	pP	15 46 50.9	+1.0
DAWY	**Dawson**	**97.70**	**21**	*e*P	**P**	**15 46 47.2**	**+1.0**
DAWY				*e*	pP	15 46 52.5	+0.4
DBIC	**Dimbokro**	**97.92**	**278**	P	**P**	**15 46 50.1**	**+1.7**
DBIC	**Dimbokro**	**97.92**	**278**	*e*P	**P**	**15 46 49.9**	**+1.5**
DBIC				pmax	pmax		
	comp=Z,23nm,1.2s						
DBIC	**Dimbokro**	**97.92**	**278**	*e*P	**P**	**15 46 49.9**	**+1.5**
	comp=Z,23nm,1.2s,mb5.6						
DBIC				*e*	pP	15 46 55.5	+1.1
TBI	**Tubuai**	**117.35**	**112**	*e*SP	SP	16 02 49.0	-1.4
TBI				*e*SS	SS	16 09 18.1	-0.3
TBI				*e*LR	LR	16 27 39.7	
PPT	**Papeete**	**117.39**	**106**	*e*SP	SP	16 02 49.7	-1.1
PPT				*e*LR	LR	16 27 40.9	
	comp=Z,980nm,34.8s						
HUMO	**Hull Mountain**	**119.30**	**31**	*e*PKPdf	PKPdf	15 52 02.3	-1.7
HUMO				*e*		15 52 08.1	
MSO	**Missoula**	**119.92**	**22**	*e*PKPdf	PKPdf	15 52 01.9	-3.2
MSO				*e*		15 52 08.2	
CHMT	**Chamberlain Mo**	**120.10**	**21**	*e*PKPdf	PKPdf	15 52 02.6	-2.8
BMO	**Blue Mountains**	**120.21**	**25**	PKIKP	PKPdf	15 52 03.8	-1.9
BMO	**Blue Mountains**	**120.21**	**25**	*e*PKPdf	PKPdf	15 52 03.4	-2.3
MOD	**Modoc**	**121.14**	**30**	*e*PKPdf	PKPdf	15 52 06.1	-1.6
MOD				*e*		15 52 12.0	
ULM	**Lac du Bonnet**	**121.30**	**8**	*e*PKPdf	PKPdf	15 52 04.6	-3.2
ULM				*e*		15 52 10.2	
HLID	**Hailey**	**122.47**	**24**	*e*PKPdf	PKPdf	15 52 08.3	-1.8
HLID				*e*		15 52 14.6	
QLMT	**Earthquake Lak**	**122.55**	**21**	*e*PKPdf	PKPdf	15 52 09.3	-0.9
QLMT				*e*		15 52 15.0	
YMR	**Madison River**	**122.85**	**21**	*e*PKPdf	PKPdf	15 52 09.4	-1.4
YMR				*e*		15 52 15.6	
YFT	**Old Faithful**	**123.09**	**21**	*e*PKPdf	PKPdf	15 52 11.5	+0.3
LKWY	**Lake**	**123.14**	**21**	*e*PKIKP	PKPdf	15 52 11.0	-0.4
LKWY				*e*		15 52 17.5	
IMW	**Indian Meadow**	**123.53**	**22**	*e*PKPdf	PKPdf	15 52 10.8	-1.4
MOOW	**Moose Ponds**	**123.73**	**22**	*e*PKPdf	PKPdf	15 52 10.6	-2.0
MOOW				*e*		15 52 16.6	
RRI2	**Red Ridge**	**123.86**	**22**	*e*PKPdf	PKPdf	15 52 10.9	-2.0
TPAW	**Teton Pass**	**123.88**	**22**	*e*PKPdf	PKPdf	15 52 11.4	-1.5
LOHW	**Long Hollow**	**123.90**	**21**	*e*PKPdf	PKPdf	15 52 10.8	-2.2
LOHW				*e*		15 52 16.7	
WUWY	**Wally Ulrich**	**123.91**	**22**	*e*PKPdf	PKPdf	15 52 11.0	-1.9
SNOW	**Snow King Moun**	**123.97**	**22**	*e*PKPdf	PKPdf	15 52 11.5	-1.6
SNOW				*e*		15 52 17.6	
MNV	**Mina**	**124.85**	**31**	*e*PKIKP	PKPdf	15 52 13.7	-1.3
MNV				*e*		15 52 19.5	
HWUT	**Hardware Ranch**	**125.25**	**23**	*e*PKPdf	PKPdf	15 52 13.4	-2.3
HWUT				*e*		15 52 19.4	
TRCR	**Troy Canyon**	**126.18**	**29**	*e*PKPdf	PKPdf	15 52 15.7	-1.7
TRCR				*e*		15 52 22.3	
MIV	**Mineville/With**	**126.94**	**349**	*e*PKPdf	PKPdf	15 52 16.4	-2.3
MDV	**Middlebury**	**126.94**	**349**	*e*PKPdf	PKPdf	15 52 16.3	-2.4
MDV				*e*		15 52 22.5	
MVU	**Marysvale**	**127.59**	**26**	*e*PKPdf	PKPdf	15 52 19.5	-0.7
MVU				*e*		15 52 25.4	
MSU	**Marysvale**	**127.60**	**26**	*e*PKIKP	PKPdf	15 52 19.7	-0.5
MSU				*e*		15 52 25.7	
NEN	**Nelson**	**128.67**	**30**	*e*PKPdf	PKPdf	15 52 21.0	-1.4
NEN				*e*		15 52 26.9	
PV10	**Paradox Valley**	**129.02**	**23**	*e*PKPdf	PKPdf	15 52 21.6	-1.4
PV10				*e*		15 52 27.9	
BINY	**Binghamton**	**129.19**	**351**	*e*PKPdf	PKPdf	15 52 21.1	-2.1
BINY				*e*		15 52 26.9	
PV01	**Paradox Valley**	**129.41**	**23**	PKPdf	PKPdf	15 52 22.6	-1.1
KSU1	**Kansas State U**	**132.04**	**11**	*e*PKPdf	PKPdf	15 52 26.2	-2.5
KSU1				*e*		15 52 32.2	
ANMO	**Albuquerque**	**133.01**	**23**	*e*PKIKP	PKPdf	15 52 29.1	-1.6
TUC	**Tucson**	**133.36**	**29**	*e*PKIKP	PKPdf	15 52 30.3	-1.0
LPM	**Los Pinos Moun**	**133.51**	**24**	*e*PKPdf	PKPdf	15 52 30.1	-1.5
WMOK	**Wichita Mounta**	**135.73**	**15**	*e*PKIKP	PKPdf	15 52 33.8	-1.9
WMOK				*e*		15 52 39.9	
WVT	**Waverly**	**136.02**	**2**	*e*PKIKP	PKPdf	15 52 34.4	-1.8
GDL2	**Guadalupe Moun**	**136.26**	**23**	*e*PKPdf	PKPdf	15 52 34.8	-1.8
MNTX	**Cornudas Mount**	**136.29**	**24**	*e*PKPpre		15 52 24.4	
MIAR	**Mount Ida**	**137.02**	**9**	*e*PKIKP	PKPdf	15 52 36.2	-1.7
JCT	**Junction City**	**139.43**	**19**	*e*PKIKP	PKPdf	15 52 40.7	-1.8
PLCA	**Paso Flores**	**144.71**	**200**	*e*PKIKP	PKPdf	15 52 48.5	-3.0
PLCA				*e*		15 52 54.6	
CPB	**Codrington**	**145.14**	**317**	*e*P	PKPbc	15 52 51.1	+1.8
DEG	**La Desirade**	**145.53**	**315**	*e*P	PKPbc	15 52 50.6	+0.3
BPA	**Boggy Peak**	**145.58**	**316**	*e*P	PKPbc	15 52 52.4	+2.0
SEG	**Port Louis**	**145.78**	**315**	*e*P	PKPbc	15 52 58.0	+7.1
BBL	**Barber's Block**	**146.35**	**314**	*e*P	PKPbc	15 52 54.4	+2.1
CRM	**Caraveile**	**146.46**	**312⇑**	*e*P	PKPbc	15 52 54.6	+2.0
MVM	**Montagne Vaucl**	**146.57**	**312**	*e*P	PKPbc	15 52 55.2	+2.4
FDF	**Fort de France**	**146.65**	**313⇑**	*e*P	PKPbc	15 52 55.5	+2.5
BIM	**Bigot**	**146.73**	**312⇑**	*e*P	PKPbc	15 52 55.8	+2.7
CPUP	**Villa Florida**	**147.37**	**233**	PKPdf	PKPdf	15 52 56.6	+0.1
CPUP				PKPdf	PKPdf	15 52 56.8	+0.3
CPUP				PKiKP		15 53 02.6	
CPUP				PKiKP		15 53 02.6	
SJG	**San Juan**	**147.53**	**323**	*e*PKP2	PKPab	15 52 56.3	-3.5
MDZ	**Mendoza**	**150.68**	**210**	*e*PKIKP	PKPdf	15 52 57.0	-4.5
ZON	**Zonda**	**151.66**	**212**	*e*PKIKP	PKPdf	15 53 01.0	-2.0
TEIG	**Tepich**	**151.81**	**5**	PKPdf	PKPdf	15 53 02.1	-1.4
TEIG				*e*		15 53 07.8	
SDV	**Santo Domingo**	**157.35**	**318**	*e*PKPdf	PKPdf	15 53 09.5	-1.8
SDV				*e*		15 53 15.4	
SAML	**Samuel**	**157.55**	**266**	*e*PKPdf	PKPdf	15 53 10.1	-1.4
SAML				*e*		15 53 15.9	
LVC	**Limon Verde**	**158.20**	**226**	*e*PKPdf	PKPdf	15 53 11.5	-0.6
LVC				*e*PKPab	PKPab	15 53 45.6	+1.2
LVC				*e*		15 53 52.0	
LPAZ	**La Paz**	**160.84**	**243**	*e*PKIKP	PKPdf	15 53 13.8	-1.3
LPAZ				*e*		15 53 19.8	
LPAZ				MLR	MLR		
	comp=Z,370nm,20.0s						

IGQ 30 15:45:45.4, 0.68S×81.31W, h8km±5km, mb4.3, 3C-10D, Error ellipse: s-maj=6.8km s-min=4.9km az=9.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.84**	**116**	⇑P	Pb	15 46 00.3	-1.6
JAMA	**Jama**	**1.18**	**69**	⇑P	Pb	15 46 08.2	+0.6
JAMA				S	Sb	15 46 22.4	-0.5
MAGD	**Magdalena**	**1.65**	**68**	P	Pn	15 46 17.1	+2.2
JUA2	**San Juan 2**	**2.74**	**80**	⇓P	Pn	15 46 31.6	+1.0
PINO	**Pino**	**2.75**	**79**	⇓P	Pn	15 46 31.3	+0.7
PINO				S	Sn	15 47 03.1	-1.3
TERV	**Terraza Guagua**	**2.75**	**79**	⇓P	Pn	15 46 31.4	+0.7
IGUA	**Igualata**	**2.78**	**107**	P	Pn	15 46 32.3	+1.1
YANA	**Yana**	**2.79**	**78**	⇓P	Pn	15 46 31.8	+0.5
NAS1	**Nasa**	**2.83**	**89**	⇓P	Pn	15 46 33.6	+1.8
VC1	**Cotopaxi 1**	**2.90**	**89**	⇓P	Pn	15 46 34.8	+1.9
CUSU	**Cusua**	**2.92**	**105**	P	Pn	15 46 35.9	+2.7
JUIV	**Juive**	**2.93**	**105**	P	Pn	15 46 35.5	+2.2
TAMB	**Tambo**	**2.94**	**90**	P	Pn	15 46 35.8	+2.4
PISA	**Pisayambo**	**2.94**	**97**	P	Pn	15 46 35.2	+1.7
RETU	**Refugio**	**2.96**	**105**	P	Pn	15 46 35.8	+2.1
ARRY	**Arrayan**	**2.96**	**106**	P	Pn	15 46 34.8	+1.0
ARRY				S	Sn	15 47 10.4	+0.4
ULBA	**Ulba**	**3.00**	**105**	⇓P	Pn	15 46 36.8	+2.6
ULBA				S	Sn	15 47 11.7	+1.0
COTA	**Cotacachi**	**3.13**	**71**	⇓P	Pn	15 46 37.5	+1.3
ANTI	**Antisana**	**3.15**	**86**	⇑P	Pn	15 46 38.6	+2.2
CAYR	**Refugio Cayamb**	**3.37**	**78**	⇓P	Pn	15 46 42.6	+3.1
CAYA	**Cayambe**	**3.40**	**77**	⇓P	Pn	15 46 42.4	+2.5

*NEIC **30** 15:52:15.4, 29.99S×71.34W, h44km, MD3.8(GUC), After GUC.*

GUC 30 15:52:15.4±0.8, 29.99S×71.34W, h44km±2km, MD3.8, ML3.9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.50**	**111**	*i*P	P	15 52 27.6	+1.3
TLL				*i*S	S	15 52 35.6	+1.6
TLL				AMP		15 52 37.0	
	comp=E,8μm,0.6s						
OVCH	**Ovalle**	**0.63**	**169**	*i*P	P	15 52 28.1	+0.1
OVCH				*i*S	S	15 52 37.8	+0.6
OVCH				AMP		15 52 37.9	
	comp=N,6μm,0.3s						
VACH	**Vallenar**	**1.50**	**20**	*i*P	P	15 52 40.5	+0.1
VACH				*i*S	S	15 52 59.8	+0.9
ILCH	**Illapel**	**1.65**	**175**	*i*P	P	15 52 42.3	-0.1
ILCH				*i*S	S	15 53 03.3	+0.8
ILCH				AMP		15 53 08.5	
	comp=N,917nm,0.2s						
PTCH	**Petorca**	**2.29**	**171**	*i*P	P	15 52 51.8	+0.2
PTCH				*i*S	S	15 53 18.8	0.0
PTCH				AMP		15 53 26.5	
	comp=E,2μm,0.3s						
PACH	**Papudo**	**2.54**	**182**	*i*S	S	15 53 25.0	-0.1
FCH	**Farellones**	**3.45**	**165**	*e*P	P	15 53 08.1	+0.2
FCH				*i*S	S	15 53 48.4	+0.3
FCH				AMP		15 54 06.9	
	comp=E,174nm,0.2s						
CLCH	**Cerro Calan**	**3.46**	**169**	AMP		15 53 59.9	
	comp=E,319nm,0.2s						
LCCH	**Las Cruces**	**3.48**	**183**	*i*P	P	15 53 07.6	-0.9
RCDM	**Rinconada Maip**	**3.52**	**173**	*i*P	P	15 53 08.4	-0.6
RCDM				*i*S	S	15 53 48.3	-1.5
RCDM				AMP		15 54 03.7	
	comp=E,246nm,0.4s						
TACH	**Talagante**	**3.67**	**175**	*i*P	P	15 53 10.6	-0.5
PCH	**Pirque**	**3.69**	**169**	*i*P	P	15 53 10.7	-0.7
LMEL	**Las Melosas**	**3.97**	**166**	AMP		15 54 15.1	
	comp=N,131nm,0.4s						
CHCH	**Chadas Angostu**	**3.98**	**172**	*i*P	P	15 53 14.9	-0.6
CHCH				*i*S	S	15 54 00.1	-1.3

OTT 30 15:57:58.9±0.2, 52.81N×67.27W, MN2.8/7, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**2.05**	**7**	PN	Pn	15 58 34.9	0.0
SCHQ				SG	Sg	15 59 02.2	-4.8
SCHQ				Trac		15 59 05.7	
	comp=Z,32nm,0.2s						
MNQ	**Manicouagan**	**2.46**	**203**	PN	Pn	15 58 40.8	0.0
MNQ				SN	Sn	15 59 14.8	+2.7
MNQ				Trac		15 59 15.8	
	comp=Z,11nm,0.1s						
SMQ	**Clarke City**	**2.61**	**172**	PN	Pn	15 58 41.7	-1.3
SMQ				SG	Sg	15 59 17.2	-8.6
SMQ				Trac		15 59 18.4	
	comp=Z,14nm,0.2s						
ICQ	**Pointe Anglais**	**3.29**	**180**	PN	Pn	15 58 50.7	-2.0
ICQ				SN	Sn	15 59 28.6	-4.4
ICQ				Trac		15 59 46.4	
	comp=Z,12nm,0.2s						
CNQ	**Baie Comeau**	**3.54**	**189**	PN	Pn	15 58 54.9	-1.4
CNQ				SN	Sn	15 59 32.6	-6.9
CNQ				Trac		15 59 51.5	
	comp=Z,7.9nm,0.2s						
GSQ	**Grosses Roches**	**3.90**	**178**	PN	Pn	15 58 59.2	-2.2
GSQ				Trac		16 00 07.4	
	comp=Z,7.2nm,0.2s						
LG4Q	**La Grande 4**	**4.19**	**284**	PN	Pn	15 59 03.1	-2.3
LG4Q				PG	Pg	15 59 12.1	-10
LG4Q				SN	Sn	15 59 54.0	-1.8
LG4Q				SG	Sg	16 00 07.3	-11
LG4Q				Trac		16 00 12.9	
	comp=Z,6.6nm,0.2s						
LMQ	**La Malbaie**	**5.62**	**202**	PN	Pn	15 59 22.2	-3.5
DRLN	**Deer Lake**	**7.11**	**116**	PN	Pn	15 59 41.9	-4.8
VLDQ	**Val d'Or**	**8.02**	**238**	PN	P	15 59 56.4	-3.0
MALO	**McAlpine Lake**	**8.29**	**255**	PN	P	15 59 58.2	-5.1
VIMO	**Victor Mine**	**9.98**	**277**	PN	P	16 00 21.3	-5.2
SILO	**Sutton Inlier**	**10.61**	**286**	PN	P	16 00 28.5	-6.6

IGQ 30 16:20:55.6, 0.76S×81.33W, h14km±6km, mb4.2, 5D, Error ellipse: s-maj=11.3km s-min=5.4km az=165.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.84**	**110**	⇓P	Pb	16 21 10.9	-0.6
JAMA	**Jama**	**1.23**	**66**	P

KARP	Karpathos	2.09	264	Pn	P	16 24 23.8	+0.8
ISP	Isparta	2.13	17	PN	P	16 24 23.9	+0.3
ISP	Isparta	2.13	17	*i* P	P	16 24 23.3	-0.3
ISP	Isparta	2.13	17⇑	*e*Pn	P	16 24 23.7	+0.1
MLSB	Milas	2.15	314	*e*PN	P	16 24 23.1	-0.8
MLSB	Milas	2.15	314	Pn	P	16 24 23.2	-0.7
AKMC	Akamas	2.27	109⇑	*e*P	P	16 24 27.5	+1.9
PPCY	Paphos	2.34	112⇑	*e*P	P	16 24 28.6	+2.0
AYDN	Tasoluk	2.37	322	*i* P	P	16 24 28.0	+1.1
AYDN				*i* S	S	16 24 47.9	-7.0
ALFC	Alevga	2.44	105⇑	*e*P	P	16 24 29.1	+1.1
ALFC				S	S	16 24 58.3	+1.4
KHL	Karahalli	2.52	357	PN	P	16 24 27.7	-1.4
KHL	Karahalli	2.52	357	Pn	P	16 24 28.7	-0.4
HDMB	Hadim	2.52	62	*e*PN	P	16 24 30.9	+1.8
HDMB	Hadim	2.52	62	Pn	P	16 24 29.9	+0.8
LEF	Lefka	2.68	104	PN	P	16 24 32.0	+0.5
SZAC	Souni-Zanaja	2.80	111⇑	*e*P	P	16 24 34.7	+1.6
MANT	Manisa	2.83	341	*i* P	P	16 24 32.2	-1.4
MANT				*i* S	S	16 24 47.9	-19
MAMC	Mammari	2.93	101⇑	*e*P	P	16 24 35.5	+0.5
SMG	Samos	2.99	310	Pn	P	16 24 34.6	-1.2
KONT	Konya--Tatoy	3.01	44	PN	P	16 24 37.8	+1.7
KONT	Konya--Tatoy	3.01	44	Pn	P	16 24 36.5	+0.4
CSS	Prodhromos	3.07	105⇑	*e*P	P	16 24 37.6	+0.6
	33nm,0.5s						
CSS				S	S	16 25 14.2	+1.3
IZM	Izmir	3.25	324	PN	P	16 24 37.8	-1.6
IZM	Izmir	3.25	324	P	P	16 24 38.3	-1.1
KDAG	Bornova	3.25	324	*i* P	P	16 24 38.0	-1.5
KDAG				*i* S	S	16 24 47.9	-29
ALT	Altintas	3.26	5	PN	P	16 24 38.9	-0.7
BLCB	Balcova	3.34	321	PN	P	16 24 39.2	-1.6
BLCB	Balcova	3.34	321	Pn	P	16 24 39.5	-1.3
AKS	Akhisar	3.42	334	PN	P	16 24 39.8	-2.1
AKS	Akhisar	3.42	334	Pn	P	16 24 41.3	-0.6
SANT	Santorini	3.49	281	*e*Pn	P	16 24 42.2	-0.7
SANT	Santorini	3.49	281	*e*Pn	P	16 24 42.2	-0.7
KIZT	Kizilcal	3.52	29	PN	P	16 24 43.4	0.0
KIZT	Kizilcal	3.52	29	Pn	P	16 24 44.1	+0.7
APE	Apeiranthos	3.60	292	*e*PN	P	16 24 44.1	-0.4
APE	Apeiranthos	3.60	292	Pn	P	16 24 43.7	-0.8
PHNC	Paralimni	3.62	102	P	P	16 24 47.4	+2.7
MEST	Erdemli	3.67	76	*i* P	P	16 24 46.1	+0.7
MEST				*i* S	S	16 24 47.9	-40
ESKT	Eskisehir	3.82	13	*e*PN	P	16 24 46.2	-1.3
ESKT	Eskisehir	3.82	13	*i* P	P	16 24 46.5	-1.0
ESKT				*i* S	S	16 24 47.9	-44
ESKT	Eskisehir	3.82	13	Pn	P	16 24 47.7	+0.2
DST	Dursunbey	3.89	348	PN	P	16 24 49.1	+0.5
IDI	Anoyia	3.96	264	P	P	16 24 50.0	+0.4
ORLT	Orhaneli	4.28	352	PN	P	16 24 52.8	-1.3
ORLT	Orhaneli	4.28	352	Pn	P	16 24 53.9	-0.2
PRK	Paraskevi	4.39	323	P	P	16 24 55.0	-0.6
GPA	Golpazari	4.50	6	*e*PN	P	16 24 57.6	+0.4
NIG	Nigde	4.55	58	*e*PN	P	16 24 58.9	+1.0
CANB	Canakkale	4.70	334	*e*PN	P	16 25 00.2	+0.2
GVD	Gavdhos	4.70	260	*e*Pn	P	16 24 59.8	-0.2
GVD				*e*Sn	S	16 25 52.6	-1.3
GVD	Gavdhos	4.70	260	*e*Pn	P	16 24 59.8	-0.2
ANTO	Ankara	4.73	30	PN	P	16 24 58.0	-2.5
LOD	Lodumlu	4.74	30	PN	P	16 25 01.0	+0.4
BNT	Bandirma	4.76	343	*e*PN	P	16 25 00.0	-0.8
YLV	Yalova	4.76	357	*e*PN	P	16 25 01.2	+0.3
EDC	Edincik	4.76	343	*e*PN	P	16 25 01.2	+0.3
EYL	Eskiyayla	4.77	4	*e*PN	P	16 25 01.2	+0.3
KAMT	Kaman	4.77	41	PN	P	16 25 01.0	0.0
MDU	Mudurnu	4.80	14	PN	P	16 25 01.8	+0.4
DABA	Dabaa	4.93	194	P	P	16 25 04.1	+0.9
HRT	Hereke	5.01	360	*e*PN	P	16 25 05.4	+1.0
HRT	Hereke	5.01	360	Pn	P	16 25 04.8	+0.4
CEYT	Ceyhan	5.01	74	PN	P	16 25 04.8	+0.4
BADT	Buyukada	5.06	355	*e*PN	P	16 25 04.3	-0.8
BADT	Buyukada	5.06	355	Pn	P	16 25 05.1	0.0
MRMT	Marmara Adasi	5.07	341	*e*PN	P	16 25 03.5	-1.7
MRMT	Marmara Adasi	5.07	341	Pn	P	16 25 04.8	-0.4
MATL	Matirih	5.17	115	*e*PN	P	16 25 06.2	-0.4
MATL	Matirih	5.17	115	*e*Pn	P	16 25 06.2	-0.5
HMAT	Matruh	5.18	206	P	P	16 25 07.4	+0.7
HBRG	Burj al 'Arab	5.22	179	P	P	16 25 08.2	+0.9
HBRG	Burj al 'Arab	5.22	179	P	P	16 25 08.1	+0.8
HTY	Hatay	5.22	85	*e*PN	P	16 25 06.4	-0.9
HTY	Hatay	5.22	85	Pn	P	16 25 07.8	+0.5
BHL	Bhannes	5.24	110	*e*PN	P	16 25 05.9	-1.6
BHL				SN	S	16 26 02.3	-5.3
BHL	Bhannes	5.24	110	P	P	16 25 06.1	-1.5
HNTI	Hanita	5.27	119	P	P	16 25 08.0	+0.1
HNTI	Hanita	5.27	119	Sn	S	16 26 04.8	-3.4
ISK	Istanbul-Kandi	5.28	355	*e*PN	P	16 25 06.6	-1.5
ISK	Istanbul-Kandi	5.28	355	P	P	16 25 08.4	+0.3
MFT	Murefte	5.33	340	*e*PN	P	16 25 08.5	-0.3
MFT	Murefte	5.33	340	Pn	P	16 25 07.8	-1.0
HAF	Haifa	5.33	123	P	P	16 25 09.0	+0.1
HWQ	Hawqa	5.34	105	*e*PN	P	16 25 08.8	-0.1
HWQ				SN	S	16 26 06.0	-4.0
HWQ	Hawqa	5.34	105	P	P	16 25 08.7	-0.2
HWQ				Sn	S	16 26 05.9	-4.1
OFRI	'Ofer	5.40	125	P	P	16 25 09.8	0.0
VLI	Veliai	5.55	281	Pn	P	16 25 12.4	+0.5
KSDI	Kefar Szold	5.56	116	P	P	16 25 12.1	+0.1
SLTI	Sal'it	5.67	127	P	P	16 25 13.8	+0.2
CANT	Cankiri	5.70	32	*e*PN	P	16 25 12.7	-1.2
CANT	Cankiri	5.70	32	Pn	P	16 25 14.1	+0.2
SLUM		5.71	222	P	P	16 25 14.1	0.0
SLUM				S	S	16 26 12.9	-6.3
FKH	Fakeheh	5.71	104	*e*PN	P	16 25 14.0	0.0
FKH				SN	S	16 26 16.2	-3.1
BNN	Bunyan	5.76	56	*e*PN	P	16 25 15.8	+1.0
KSHT	Keshet	5.78	117	P	P	16 25 15.8	+0.8
MMLI	Mount Malkishu	5.80	124	P	P	16 25 15.8	+0.4
ALN	Alexandroupoli	5.84	332	*e*P	P	16 25 14.4	-1.5
CORM	Corum	5.84	40	*e*PN	P	16 25 15.5	-0.5
YOZ	Yozgat	5.87	48	*e*PN	P	16 25 17.1	+0.8
YOZ	Yozgat	5.87	48	Pn	P	16 25 18.1	+1.8
SAFT	Safranbolu	5.91	22	*e*PN	P	16 25 16.6	-0.2
SAFT	Safranbolu	5.91	22	Pn	P	16 25 16.8	-0.1
KHB	Jabal al Khash	5.96	169	P	P	16 25 19.1	+1.5
HHAG	Hagoal	6.17	160	P	P	16 25 21.3	+0.7
HHAG	Hagoal	6.17	160	P	P	16 25 21.3	+0.7
GAZ	Gaziantep	6.19	75	*e*PN	P	16 25 19.6	-1.3
GAZ	Gaziantep	6.19	75	Pn	P	16 25 19.7	-1.2
FYM	Al Fayyum	6.20	169	P	P	16 25 21.5	+0.5
FYM	Al Fayyum	6.20	169	P	P	16 25 21.6	+0.6
AYT	Al 'Ayyat	6.20	168	P	P	16 25 22.2	+1.1
AYT	Al 'Ayyat	6.20	168	P	P	16 25 22.3	+1.2
TOS	Tosya	6.22	32	*e*PN	P	16 25 20.8	-0.5
TOS	Tosya	6.22	32	Pn	P	16 25 21.1	-0.2
KZIT	Kziot	6.26	140	P	P	16 25 22.6	+0.7
XOR	Xorichti	6.28	306	*e*P	P	16 25 29.1	+7.0
DRGI	Dragot	6.33	130	P	P	16 25 23.3	+0.5
OUR	Ouranopolis	6.39	317	*e*P	P	16 25 22.3	-1.4
MASH	Mash'abbe Sade	6.40	137	P	P	16 25 24.3	+0.4
ITM	Ithomi	6.42	285	P	P	16 25 26.2	+2.1
GLL	Jalalah	6.43	164	P	P	16 25 24.8	+0.5
GLL	Jalalah	6.43	164	P	P	16 25 24.8	+0.5
EDRB	Edirne	6.46	340	*e*PN	P	16 25 22.2	-2.5
EDRB	Edirne	6.46	340	Pn	P	16 25 24.0	-0.7
SUZ		6.50	155	P	P	16 25 25.6	+0.3
MZDA	Masada	6.51	132	P	P	16 25 26.0	+0.7
MZDA				S	S	16 26 36.7	-2.4
AGG	Agios Georgios	6.69	301	*e*P	P	16 25 29.4	+1.4
HNKL	Nakhl	6.87	147	P	P	16 25 30.2	-0.3
HNKL	Nakhl	6.87	147	P	P	16 25 30.3	-0.2
BYBT	Boyabat	6.90	33	*e*PN	P	16 25 30.5	-0.4
BYBT	Boyabat	6.90	33	Pn	P	16 25 31.9	+1.0
ZAF		6.93	159	P	P	16 25 30.9	-0.4
ZAF		6.93	159	⇓P	P	16 25 31.2	-0.1
ZNM		6.94	157	P	P	16 25 31.5	0.0
ZNM		6.94	157	P	P	16 25 31.5	+0.1
ZFRI	Zfri	6.96	137	P	P	16 25 31.4	-0.3
BZK	Bozkurt	7.00	27	*e*PN	P	16 25 33.1	+0.9
TOKT	Tokat	7.03	48	PN	P	16 25 33.7	+1.1
SOH	Sokhos	7.07	317	*e*P	P	16 25 43.1	+10
KMTI	Karmit	7.08	142	P	P	16 25 33.0	-0.3
LIT	Litokhoron	7.14	309	*e*P	P	16 25 34.1	0.0
SRS	Serrai	7.15	320	*e*P	P	16 25 32.4	-1.9
THE	Thessaloniki	7.17	314	*e*P	P	16 25 36.7	+2.1
NVR	Nevrokopi	7.18	322	Pn	P	16 25 34.8	0.0
SWA1		7.34	208	P	P	16 25 35.8	-1.2
SWA1		7.34	208	P	P	16 25 36.7	-0.4
MALT	Malatya	7.40	68⇑	*e*P	P	16 25 36.3	-1.6
MALT				pmax	pmax		
	comp=Z,16nm,0.6s						
MALT	Malatya	7.40	68⇑	*e*Pn	P	16 25 36.3	-1.5
	comp=Z,16nm,0.6s						
MYA	Malataya	7.41	68	*e*PN	P	16 25 37.3	-0.6
SWA2		7.46	210	P	P	16 25 37.3	-1.4
SWA2		7.46	210	⇓P	P	16 25 37.4	-1.3
AWBH		7.49	185	P	P	16 25 38.2	-0.9
URFA	Urfa	7.50	75	*e*PN	P	16 25 40.3	+1.0
EIL	Elat	7.54	143⇓	*e*Pn	P	16 25 39.3	-0.4
	comp=Z,105nm,0.5s						
EIL				*e*Sn	S	16 26 58.9	-6.0
KNT	Kendrikon	7.56	317	*e*P	P	16 25 39.4	-0.6
VLS	Valsamata	7.67	291	P	P	16 25 41.1	-0.5
GRG	Griva	7.71	314	*e*P	P	16 25 41.8	-0.2
GRB	Gharib	7.95	160	P	P	16 25 44.6	-0.8
GRB	Gharib	7.95	160	P	P	16 25 44.6	-0.8
HKAT	Jabal Katrina	8.12	152	P	P	16 25 47.3	-0.4
TR2		8.14	154	P	P	16 25 47.3	-0.8
TR2		8.14	154	P	P	16 25 47.4	-0.7
FNA	Florina	8.22	310	*e*P	P	16 25 51.1	+1.9
PTK	Pertek	8.30	65	*e*PN	P	16 25 49.9	-0.4
BIA	Bitola	8.39	311	*i* Pn	P	16 25 59.9	+8.4
BIA				*i*		16 26 09.2	
BIA				*i* Sn	S	16 27 38.0	+12
VTS	Vitosha	8.45	325	P	P	16 25 53.6	+1.3
ASUT		8.53	169	P	P	16 25 52.8	-0.6
ZEIT		8.55	157	P	P	16 25 52.3	-1.5
ZEIT		8.55	157	P	P	16 25 52.4	-1.4
TR1		8.57	154	P	P	16 25 53.0	-0.9
SHRM		8.74	153	P	P	16 25 56.0	-0.3
SHRM		8.74	153	P	P	16 25 56.1	-0.2
OHR	Ohrid	8.77	310	*e*Pn	P	16 26 01.6	+4.9
OHR				*i*		16 26 02.8	
OHR				*i*		16 26 09.7	
OHR				*i* Pg	P	16 26 23.3	+27
OHR				*i* Sn	S	16 27 52.0	+17
OHR				*i*		16 28 03.4	
OHR				*i* Sb	S	16 28 18.4	+43
OHR				*i* Sg		16 28 48.4	
SKO	Skopje	8.91	316	*i* Pn	P	16 26 03.0	+4.3
SKO				*i*		16 26 11.6	
HARR	Harsova	8.98	352	P	P	16 26 06.7	+7.1
HARR	Harsova	8.98	352	⇑*i*P	P	16 26 01.8	+2.2
GUMT	Gumushane	8.99	56	*i* PN	P	16 25 59.6	-0.2
BINT	Bingol	9.11	67	*e*PN	P	16 26 01.4	-0.1
HHRG	Al Ghardaqah	9.17	158	P	P	16 26 01.2	-1.1
HHRG	Al Ghardaqah	9.17	158	P	P	16 26 01.2	-1.0
BARS	Barje	9.29	321	⇑*i*P	P	16 26 04.3	+0.4
CFR	Carcaliu	9.44	353	⇑*i*P	P	16 26 07.7	+1.7
TIR	Tirane	9.49	309	*i* p	P	16 26 09.7	+3.1
QSH	Qafa e Shtames	9.56	310	*i* p	P	16 26 13.8	+6.2
BTMT	Batman	9.72	72	*e*PN	P	16 26 06.2	-3.6
SIM	Simferopol'	9.73	19	P	P	16 26 08.4	-1.5
SIM				S	S	16 28 08.7	+10
SIM				pmax	pmax		
	comp=Z,258nm,0.8s						
SIM				MLR	MLR		
	comp=Z,4μm,21.0s						
VRT	Varto	9.96	67	*e*PN	P	16 26 13.4	+0.2
BOLS	Boljevac	9.98	326	⇓*i*Pn	P	16 26 15.8	+2.4
BOLS				Sn	S	16 27 56.2	-9.0
MTUR	Matau	10.05	341	P	P	16 26 20.0	+5.6
EZM	Erzurum	10.08	63	*i* PN	P	16 26 15.2	+0.4
MLR	Muntele Rosu	10.09	345	P	P	16 26 20.9	+6.1
MLR	Muntele Rosu	10.09	345	⇑*e*P	P	16 26 18.6	+3.7
PVY	Plav	10.15	315	⇓*i*Pn	P	16 26 15.9	+0.2
PVY				*e*Sn	S	16 28 05.1	-4.1
LCI	Lecce	10.20	300	*e*P	P	16 26 15.4	-1.0
ULC	Ulcinj	10.21	310	⇓*i*Pn	P	16 26 16.7	+0.1
ULC				*e*Sn	S	16 28 06.6	-4.1
HDK1	Dakhla	10.23	182	P	P	16 26 15.2	-1.7
AKRG	Al Kharijah	10.29	176	P	P	16 26 16.3	-1.4
VRI	Vrincioaia	10.30	348	P	P	16 26 24.4	+6.6
VRI	Vrincioaia	10.30	348	⇑*i*P	P	16 26 29.8	+12
IVA	Berane	10.37	316	⇓*i*Pn	P	16 26 18.8	+0.1
IVA				*e*Sn	S	16 28 10.6	-4.0
TTG	Podgorica	10.47	312	⇓*i*Pn	P	16 26 20.6	+0.6
TTG				*e*Sn	S	16 28 12.6	-4.4
BUM	Brajici-Budva	10.61	311	*e*Pn	P	16 26 22.0	-0.1
BUM				*e*Sn	S	16 28 16.0	-4.6
GRUS	Gruza	10.62	322	⇑*i*P	P	16 26 27.5	+5.3
ANN	Anapa	10.74	31	*e*P	P	16 26 28.4	+4.6
ANN				*e*S	S	16 28 29.4	+5.8
ANN				pmax	pmax		
	comp=Z,120nm,1.2s						
ANN				MLR	MLR		
	comp=N,7μm,22.0s						
ANN				MLR	MLR		
	comp=Z,1μm,22.0s						
ANN				MLR	MLR		
	comp=E,1μm,11.0s						
TIP	Timpagrande	10.83	292	⇓*e*Pn	P	16 26 21.1	-3.9
TIP				*e*Sn	S	16 28 10.7	-15
NKY	Niksic	10.85	313	⇓*i*Pn	P	16 26 25.1	-0.1
NKY				*e*Sn	S	16 28 21.7	-4.6
BCA	Borcka	10.88	55	*e*PN	P	16 26 26.1	+0.4
NVSS	Nova Varos 2	10.89	318	⇑*i*P	P	16 26 32.1	+6.4
SOC	Sochi	10.94	42	*e*P	P	16 26 23.8	-2.6
SOC				*e*		16 28 23.9	
SOC				pmax	pmax		
	comp=Z,27nm,0.8s						
SOC				pmax	pmax		
	comp=N,28nm,1.0s						
SOC				pmax	pmax		
	comp=E,21nm,0.8s						
SOC				MLR	MLR		
	comp=Z,7μm,20.0s						
SOC				MLR	MLR		
	comp=N,7μm,19.0s						
SOC				MLR	MLR		
	comp=E,3μm,16.0s						
SOC	Sochi	10.94	42	*e*P	P	16 26 24.3	-2.1
HCY	Herceg Novi	10.94	311	⇓*i*Pn	P	16 26 26.7	+0.2
HCY				*e*Sn	S	16 28 24.1	-4.5
PLE	Pljevlja	10.94	316	⇓*i*Pn	P	16 26 26.6	+0.1
PLE				*e*Sn	S	16 28 23.8	-4.7
GRI	Girifalco	11.01	290	*e*P	P	16 26 23.5	-3.9
BRT	Bari-Castellan	11.05	301	*e*P	P	16 26 27.1	-0.9
HEDF	Idfu	11.09	163	P	P	16 26 27.2	-1.3
HEDF	Idfu	11.09	163	P	P	16 26 27.3	-1.3
UPM	Unac-Piva	11.14	315	⇓*i*Pn	P	16 26 29.5	+0.4
UPM				*e*Sn	S	16 28 28.7	-4.6
DIVS	Divcibare	11.14	321	⇑*i*P	P	16 26 37.1	+7.9
SOI	Samo	11.16	286	*e*P	P	16 26 25.1	-4.4
BRY	Bratogost	11.17	313	⇓*i*Pn	P	16 26 30.0	+0.4
BRY				*e*Sn	S	16 28 29.6	-4.5
KIS	Kishinev	11.20	357	*e*P	P	16 26 29.0	-1.0
KIS				*e*S	S	16 28 31.0	-3.9
KIS				MLR	MLR		
	comp=Z,4μm,16.0s						
KIS				MLR	MLR		
	comp=N,5μm,13.0s						
KIS				MLR	MLR		
	comp=E,7μm,15.0s						
LTRZ	Laterza	11.21	299	*e*Pn	P	16 26 28.3	-1.9
VANT	Van	11.23	72	P	P	16 26 30.3	-0.2
VANB	Van	11.26	72	*e*PN	P	16 26 30.3	-0.5
ORI	Oriolo Calabro	11.30	290	*e*P	P	16 26 29.4	-2.0
CEL	Celeste	11.31	287	P	P	16 26 30.3	-1.3
MTTG	Motta San Giov	11.44	285	*e*Pn	P	16 26 30.0	-3.2
BEO	Belgrade	11.44	325	⇓*i*P	P	16 26 38.8	+5.6
SCLL	Scilla	11.45	286	*e*Pn	P	16 26 29.6	-3.8
HDK2	Wahat Dakhilah	11.47	183	P	P	16 26 31.7	-2.0
HDK2	Wahat Dakhilah	11.47	183	P	P	16 26 31.8	-1.9
MSI	Messina ING	11.57	286	*e*P	P	16 26 31.6	-3.4
AGST	Augusta-Monte	11.74	281	*e*Pn	P	16 26 33.2	-4.2
PZI	Palazzolo	11.96	280	*e*P	P	16 26 36.7	-3.6
MGR	Morigerati	11.98	295	*e*Pn	P	16 26 37.3	-3.2
AKH	Akhalkalaki	12.14	58	P	P	16 26 43.2	+0.5
SLNA	Salina	12.18	287	*e*Pn	P	16 26 38.9	-4.4
MNO	Monte Soro	12.21	284	*e*P	P	16 26 40.6	-3.1
MRLC	Muro Lucano	12.22	298	*e*Pn	P	16 26 40.8	-2.9
FGMS	Monte Sant'Ang	12.24	303	*e*Pn	P	16 26 40.3	-3.8
BURAR	Bucovina Array	12.27	346	P	P	16 26 52.4	+8.1
SGO	Sicignano	12.29	297	*e*P	P	16 26 41.9	-2.7
FG4	Candela	12.33	300	*e*P	P	16 26 43.6	-1.6
RGNG	Rignano Grg	12.48	302	*e*Pn	P	16 26 47.6	+0.3
FG5	Orsara di Pugl	12.56	300	*e*P	P	16 26 46.3	-2.0
ASHG	Umm Shaghir	12.61	172	P	P	16 26 47.5	-1.5
ASHG	Umm Shaghir	12.61	172	P	P	16 26 47.5	-1.5
ONI	Oni	12.62	53	P	P	16 26 48.8	-0.3
GNI	Garni	12.63	65	*e*P	P	16 26 48.5	-0.7
GNI				pmax	pmax		
	comp=Z,99nm,1.3s						
GNI	Garni	12.63	65	*e*P	P	16 26 48.5	-0.7
	comp=Z,98nm,1.3s						
MRB1	Monte Rocchett	12.71	299	P	P	16 26 52.9	+2.6
CSLB	Castelbuono	12.72	284	*e*Pn	P	16 26 48.8	-1.6
GIB	Gibilmanna	12.75	284	*e*P	P	16 26 48.3	-2.5
KIV	Kislovodsk	12.86	47	Pn	P	16 26 52.3	+0.1
	comp=Z,604nm,1.4s,SNR=11						
KIV	Kislovodsk	12.86	47	*c i*P	P	16 26 52.5	+0.3
KIV				*e*S	S	16 29 16.7	+1.9
KIV				pmax	pmax		
	comp=Z,175nm,1.5s						
KIV				MLR	MLR		
	comp=Z,3μm,20.0s						
KIV				MLR	MLR		
	comp=N,584nm,13.0s						
KIV				MLR	MLR		
	comp=E,2μm,20.0s						
KIV	Kislovodsk	12.86	47	*e*P	P	16 26 52.2	0.0
	comp=E,244nm,1.4s						
KIV				*e*		16 27 01.2	
PSB1	Pescosannita	12.86	299	P	P	16 26 52.6	+0.3
KMPD	K-Podol'skiy	12.97	350	P	P	16 26 55.0	+1.2
FAVR	Favara	12.99	281	*e*Pn	P	16 26 53.2	-0.8
ZEI	Tsey	13.00	53	*e*P	P	16 26 54.0	-0.1
TI2	Plekhanov	13.14	59	*i* P	P	16 27 04.4	+8.5
TI2				pmax	pmax		
	comp=Z,130nm,1.0s						
TI2				MLR	MLR		
	comp=N,4μm,14.0s						
TI2				MLR	MLR		
	comp=E,4μm,14.0s						
TI2				MLR	MLR		
	comp=Z,6μm,14.0s						
TI2	Plekhanov	13.14	59	⇑*i*P	P	16 26 56.4	+0.5
MTA	Mtatsminda	13.15	59	P	P	16 26 56.6	+0.4
MTA				S	S	16 29 35.0	+13
PKS6	Bocsa	13.20	328	⇑*e*P	P	16 27 04.8	+8.0
PKSM	Moragy	13.32	325	P	P	16 27 00.5	+2.1
CII	Carovilli	13.39	301	*e*Pn	P	16 27 01.0	+1.8
RFI	Roccamonfina	13.47	299	*e*Pn	P	16 27 00.9	+0.6
USI	Ustica	13.49	287	*e*Pn	P	16 26 55.3	-5.2
RNI2	Rionero Sannit	13.49	301	P	P	16 27 02.6	+2.1
RHK1	Bakonya	13.51	323	*e*P	P	16 27 07.3	+6.5
HSHL	Bi'r Shalatayn	13.59	157	P	P	16 27 02.1	+0.2
GOF	Gofitskoye	13.71	44	*e*P	P	16 27 11.0	+7.6
GOF				pmax	pmax		
	comp=Z,350nm,1.5s						
GOF				pmax	pmax		
	comp=Z,4μm,6.0s						
GOF				MLR	MLR		
	comp=Z,7μm,16.0s						
PKS7	Kunszentmiklos	13.72	328	⇑*e*P	P	16 27 09.6	+6.0
SDI	San Donato	13.73	300	P	P	16 27 04.9	+1.2
PKS9	Tamasi	13.77	325	⇑*e*P	P	16 27 10.6	+6.4
VVLD	Villa Vallelon	13.92	301	P	P	16 27 06.8	+0.7
PSZ	Piszkesteto	14.13	332	⇑*e*P	P	16 27 14.8	+6.0
PSZ				pmax	pmax		
	comp=Z,4.0nm,1.3s						
PSZ	Piszkesteto	14.13	332	⇑*e*P	P	16 27 14.8	+6.0
	comp=Z,4.0nm,1.3s						
PSZ	Piszkesteto	14.13	332	⇑*e*sp		16 27 14.8	
PTQR	Pietraquaria	14.13	301	*e*Pn	P	16 27 08.7	-0.2
KOLS	Kolonicke sedl	14.21	340	*e*P	P	16 27 17.1	+7.1
AQU	L'Aquila	14.25	302	*e*P	P	16 27 07.6	-2.8
AQU				pmax	pmax		
	comp=Z,145nm,1.0s						
AQU	L'Aquila	14.25	302	*e*P	P	16 27 07.5	-2.9
	comp=Z,144nm,1.0s						
PKSG		14.32	327	⇑*e*P	P	16 27 17.6	+6.2
KECS	Kecovo	14.38	335	*i* P	P	16 27 21.5	+9.3
CERT	Cerreto	14.39	300	P	P	16 27 13.5	+1.1
CRVS	Cervenica-Dubn	14.43	338	*e*P	P	16 27 21.1	+8.4
CRVS				*e*		16 32 04.1	
LVV	L'vov	14.61	345	*e*P	P	16 27 15.9	+0.8
LVV				MLR	MLR		
	comp=Z,2μm,11.0s						
LVV	L'vov

VRSR MLR MLR
comp=N,3µm,20.5s
VRSR MLR MLR
comp=Z,4µm,20.5s
VRSR MLR MLR
comp=E,2µm,20.3s
CGRP Cima Grappa 16.85 312⇑ eP P 16 27 46.0 +2.3
GSCL Gusciola 16.91 306 eP P 16 27 45.2 +0.7
GSCL Gusciola 16.91 306 eP P 16 27 45.2 +0.6
VLC Villacollemand 16.97 305 eP P 16 27 45.6 +0.3
comp=E,19nm,0.6s
CTI Castel Tesino 17.02 312 eP P 16 27 48.1 +2.2
ERBM Eremo 17.06 306 eP P 16 27 47.2 +0.9
VOR Voronezh 17.31 20 eP P 16 27 50.0 +0.5
VOR pmax pmax
comp=Z,300nm,2.0s
PGF Pioggiola 17.39 299 eP P 16 27 48.3 -2.3
comp=Z,574nm,1.5s
PGF Pioggiola 17.39 299 eP P 16 27 48.3 -2.3
PGF pmax pmax
comp=Z,287nm,1.5s
DPC Dobruska-Polom 17.48 330 eP P 16 27 50.0 -1.7
DPC eS S 16 31 26.9 +24
DPC AMS AMS 16 36 10.0
comp=Z,2µm,13.9s
APPI Appiano 17.49 313 P P 16 27 54.3 +2.4
SAL Salo 17.50 310 eP P 16 27 52.1 +0.2
GEC2 GERESS Array S 17.56 323 eP P 16 27 52.8 +0.2
GEC2 pmax pmax
comp=Z,75nm,1.0s
GEC2 GERESS Array S 17.56 323 ePn P 16 27 52.8 +0.2
comp=Z,75nm,1.0s
WAR Warsaw 17.56 342 eP P 16 27 54.7 +2.1
WAR epP 16 28 04.1
WAR Warsaw 17.56 342 eP P 16 27 54.7 +2.0
WAR epP 16 28 04.1
WTTA Wattenberg 17.68 316⇑ iP P 16 27 55.7 +1.5
comp=Z,48nm,0.7s
WTTA Wattenberg 17.68 316⇑ iP P 16 27 55.7 +1.5
WTTA pmax pmax
comp=Z,48nm,0.7s
MABI Malga Bissina 17.71 311 P P 16 27 55.2 +0.6
UPC Upice 17.73 330 eP P 16 27 53.9 -0.8
WATA Walderalm 17.75 316⇓ iP P 16 27 55.5 +0.4
comp=Z,54nm,0.7s
WATA Walderalm 17.75 316⇓ iP P 16 27 55.5 +0.4
WATA pmax pmax
comp=Z,54nm,0.7s
KHC Kasperske Hory 17.81 323 eP P 16 27 56.3 +0.5
KHC e 16 28 01.5
KHC e 16 28 11.0
KHC eS S 16 31 28.8 +19
KHC Kasperske Hory 17.81 323 eP P 16 27 56.3 +0.5
KHC pP 16 28 01.5
KHC x x 16 28 11.0
KHC eS S 16 31 28.8 +19
KHC AMS AMS 16 35 40.0
comp=Z,3µm,12.7s
BOB Bobbio (Coli) 17.83 306 P P 16 27 58.3 +2.3
KSP Ksiaz 17.88 331 eP P 16 27 56.0 -0.6
KSP eS S 16 31 20.0 +8.3
KSP Ksiaz 17.88 331 eP P 16 27 56.0 -0.6
KSP ePP PP 16 28 09.5 -2.1
KSP eS S 16 31 20.0 +8.3
KSP Ksiaz 17.88 331 eP P 16 27 57.1 +0.5
KSP epP 16 28 02.8
SQTA Sankt Quirin 17.90 315⇑ iP P 16 27 58.1 +1.2
comp=Z,46nm,0.7s
SQTA Sankt Quirin 17.90 315⇑ iP P 16 27 58.1 +1.2
SQTA pmax pmax
comp=Z,46nm,0.7s
PRU Pruhonice 17.96 327 eP P 16 27 56.8 -0.8
PRU eS S 16 31 31.7 +18
PRU AMS AMS 16 35 50.0
comp=Z,3µm,12.1s
BRMO Bormio 18.00 312 eP P 16 28 03.0 +4.8
MOTA Moosalm 18.02 315⇑ iP P 16 27 59.4 +0.9
comp=Z,30nm,0.9s
MOTA Moosalm 18.02 315⇑ iP P 16 27 59.4 +0.9
MOTA pmax pmax
comp=Z,30nm,0.9s
WET Wettzell 18.16 322 eP P 16 27 58.4 -1.8
WET pmax pmax
comp=Z,69nm,1.0s
WET Wettzell 18.16 322 eP P 16 27 58.4 -1.8
comp=Z,69nm,1.0s
PCP Pian Castagno 18.34 305 P P 16 27 59.5 -2.9
PVCC Panska Ves 18.34 328 eP P 16 28 01.1 -1.3
PVCC eS S 16 31 41.5 +19
PVCC AMS AMS 16 36 10.0
comp=Z,2µm,17.9s
RAYN Ar Rayn 18.36 128 Pn P 16 28 05.5 +2.7
comp=Z,140nm,1.3s,SNR=10
FUR Furstenfeldbru 18.39 318 eP P 16 28 01.2 -1.8
FUR pmax pmax
comp=Z,102nm,0.9s
FUR Furstenfeldbru 18.39 318 eP P 16 28 01.2 -1.8
comp=Z,102nm,0.9s
FIN Finale Ligure 18.45 304 P P 16 28 01.8 -2.0
CAEH 'Ain El Ouahch 18.45 280 P P 16 28 05.5 +1.7
IMI Imperia 18.57 302 P P 16 28 02.3 -2.9
CKFL Kef-Lekhel 18.59 279 P P 16 28 06.0 +0.5
NEGI Negi 18.68 302 P P 16 28 05.0 -1.5
DAVA Damuels 18.70 314⇑ iP P 16 28 06.8 0.0
comp=Z,36nm,0.6s
ROB Roburent 18.71 304 P P 16 28 04.3 -2.6
VAI Varese 18.71 309 eP P 16 28 06.0 -0.9
MONE Monesi 18.72 303 P P 16 28 05.0 -2.0
MNK Minsk 18.74 357⇓ eP P 16 28 05.0 -2.2
SUW Suwalki 18.77 348 eP P 16 28 06.0 -1.5
SUW epP 16 28 13.9
SUW Suwalki 18.77 348 eP P 16 28 06.0 -1.5
SUW epP 16 28 13.9
UBR Uberruh 18.77 315 P P 16 28 07.7 +0.1
CASM Ain Smara 18.78 278 P P 16 28 07.5 -0.3
SAOF Saorge 18.82 302 eP P 16 28 07.1 -1.1
SBF Sospel 18.87 302 eP P 16 28 04.4 -4.3
comp=Z,306nm,0.9s
SBF Sospel 18.87 302 eP P 16 28 04.4 -4.3
SBF pmax pmax
comp=Z,153nm,0.9s
BRG Berggiesshubel 18.87 328 i P P 16 28 09.1 +0.4
BRG i S S 16 31 46.0 +12
BRG pmax pmax
comp=Z,135nm,1.7s
BRG Berggiesshubel 18.87 328 i P P 16 28 09.1 +0.4
comp=Z,135nm,1.7s
BRG i 16 28 15.9
BRG e 16 28 24.5
BRG i S S 16 31 46.0 +12
BRG Berggiesshubel 18.87 328 eP P 16 28 07.4 -1.3
comp=Z,132nm,1.7s
CTEI Djebel Teioual 18.87 278 P P 16 28 09.0 +0.2
AUTN L'Aution 18.91 302 eP P 16 28 11.1 +1.8
ENR Entracque 18.99 303 P P 16 28 07.2 -3.0
TOUF Mont Tournerai 19.04 302 eP P 16 28 09.8 -1.0
STV Sta Anna Valdi 19.06 303 P P 16 28 08.7 -2.3
STV2 Anna di Valdie 19.06 303 P P 16 28 08.8 -2.2
MVIF Mont Vial 19.07 302 eP P 16 28 10.5 -0.6
NKC Novy Kostel 19.10 324 eP P 16 28 10.6 -0.7
NKC eS S 16 31 53.9 +15
NKC AMS AMS 16 35 30.0
comp=Z,2µm,17.1s
DOI San Damiano 19.20 304 eP P 16 28 11.3 -1.2
TRAV 19.23 307 P P 16 28 10.3 -2.5
MCGN Macugnaga 19.25 308 eP P 16 28 12.9 -0.2
DFRA Djebel Bou Aff 19.25 279 P P 16 28 15.0 +1.9
PZZ Prazzo 19.30 304 P P 16 28 10.6 -3.0
BHB Bricherasio 19.30 305 P P 16 28 11.9 -1.7
FRF La Foret Royal 19.33 301 eP P 16 28 09.1 -4.8
comp=Z,212nm,1.1s
FRF La Foret Royal 19.33 301 eP P 16 28 09.1 -4.8
FRF pmax pmax
comp=Z,106nm,1.1s
CMER Merouana 19.33 276 P P 16 28 11.0 -3.0
GRA1 Grafenberg Arr 19.34 322 eP P 16 28 10.9 -3.1
comp=Z,138nm,1.3s
GRA1 eS S 16 31 58.5 +14
GRF Grafenberg Arr 19.34 322 eP P 16 28 10.9 -3.1
GRF pmax pmax
comp=Z,138nm,1.3s
GRF Grafenberg Arr 19.34 322 eP P 16 28 10.9 -3.1
GRF pmax pmax
comp=Z,138nm,1.3s
GRF Grafenberg Arr 19.34 322 eP P 16 28 10.9 -3.1
comp=Z,138nm,1.3s
GRF eS S 16 31 58.5 +14
GRFO Grafenberg 19.34 322 eP P 16 28 10.7 -3.4
comp=Z,112nm,1.2s
LMR La Mourre 19.36 300 eP P 16 28 10.9 -3.4
comp=Z,211nm,1.3s
LMR La Mourre 19.36 300 eP P 16 28 10.9 -3.4
LMR pmax pmax
comp=Z,106nm,1.3s
RSP Reno Superiore 19.41 306 P P 16 28 11.9 -3.0
SISB Singen-Sch Ber 19.44 314 P P 16 28 16.9 +1.8
SURF Saint Ours 19.48 303 eP P 16 28 19.0 +3.4
FENE Fenestrelle 19.50 305 P P 16 28 14.4 -1.4
OG22 Abries 19.51 304 eP P 16 28 15.3 -0.6
GKP Gorka Klasztor 19.54 337 eP P 16 28 14.4 -1.8
GKP epP 16 28 22.3
GKP Gorka Klasztor 19.54 337 eP P 16 28 14.4 -1.8
GKP epP 16 28 22.3
GUT Gutenstein 19.55 315 P P 16 28 19.1 +2.8
LSD Ceresole Reale 19.59 306 P P 16 28 13.7 -3.1
CLL Collm 19.59 327⇓ iP P 16 28 15.0 -1.8
CLL pmax pmax
comp=Z,29nm,1.4s
CLL Collm 19.59 327⇓ iP P 16 28 15.0 -1.8
comp=Z,29nm,1.4s
CLL i 16 28 24.6
CLL eS S 16 32 07.0 +17
CLL Collm 19.59 327 ⇓P P 16 28 15.0 -1.8
comp=Z,logA/T=1.3
CLL i 16 28 24.6
CLL i 16 28 33.7
CLL i 16 28 51.8
CLL eS S 16 32 07.0 +17
CLL Collm 19.59 327 eP P 16 28 13.4 -3.4
comp=Z,168nm,1.6s
MBDF Montbardon 19.59 304 eP P 16 28 12.8 -4.0
comp=Z,122nm,0.6s
MBDF Montbardon 19.59 304 eP P 16 28 12.8 -4.0
MBDF pmax pmax
comp=Z,61nm,0.6s
CKHR Kef el Ahmar 19.60 278 P P 16 28 18.0 +1.1
BUCH Bad Urach 19.61 316 P P 16 28 18.3 +1.3
RRL Cesana Torines 19.65 305 P P 16 28 14.9 -2.5
SET Setif 19.67 278 P P 16 28 18.0 +0.3
BNI Bardonecchia 19.76 305 eP P 16 28 17.6 -1.1
BNI pmax pmax
comp=Z,59nm,1.0s
BNI Bardonecchia 19.76 305 eP P 16 28 17.6 -1.1
comp=Z,60nm,1.0s
MOX Moxa 19.77 324 eP P 16 28 16.3 -2.4
MOX pmax pmax
comp=Z,208nm,1.7s
MOX Moxa 19.77 324 eP P 16 28 16.3 -2.4
comp=Z,208nm,1.7s
MOX Moxa 19.77 324 i P P 16 28 16.3 -2.4
comp=Z,logA/T=2.1
MOX L 16 36 36.0
MOX Moxa 19.77 324 eP P 16 28 15.8 -2.9
comp=Z,84nm,1.3s
LPG La Plagne 19.87 306 eP P 16 28 18.0 -1.8
comp=Z,185nm,0.8s
LPG La Plagne 19.87 306 eP P 16 28 18.0 -1.8
LPG pmax pmax
comp=Z,93nm,0.8s
STU Stuttgart 19.88 317 eP P 16 28 17.6 -2.3
STU pmax pmax
comp=Z,27nm,0.9s
STU Stuttgart 19.88 317 eP P 16 28 17.6 -2.3
comp=Z,27nm,0.9s
STU Stuttgart 19.88 317 eP P 16 28 16.4 -3.5
comp=Z,147nm,1.3s
OBN Obninsk 19.88 12 eP P 16 28 13.8 -6.1
OBN e 16 28 18.3
OBN i 16 28 43.6
OBN eS S 16 31 49.7 -6.5
OBN pmax pmax
comp=Z,83nm,1.6s
OBN MLR MLR
comp=Z,1µm,17.0s
OBN Obninsk 19.88 12 eP P 16 28 12.3 -7.5
comp=Z,95nm,1.3s
LPL La Plagne 19.89 306 eP P 16 28 18.1 -1.9
comp=Z,111nm,0.6s
LPL La Plagne 19.89 306 eP P 16 28 18.1 -1.9
LPL pmax pmax
comp=Z,56nm,0.6s
SIND Sindeldorf 19.98 319 P P 16 28 20.4 -0.5
FELD Feldberg 20.10 314 eP P 16 28 21.8 -0.4
BFO Black Forest 20.13 315 eP P 16 28 22.5 -0.1
BFO pmax pmax
comp=Z,65nm,1.1s
BFO Black Forest 20.13 315 eP P 16 28 22.5 -0.1
comp=Z,65nm,1.1s
RUE Ruedersdorf 20.14 331 eP P 16 28 20.6 -2.0
comp=Z,28nm,0.9s
RUE Ruedersdorf 20.14 331 eP P 16 28 20.4 -2.2
comp=Z,302nm,1.6s
SMRF Simiane la Rot 20.19 301 eP P 16 28 21.1 -2.1
comp=Z,164nm,1.1s
GDM Grand'Maison 20.19 305 eP P 16 28 22.9 -0.3
BBS Basel-Blauen 20.20 312 eP P 16 28 23.5 +0.2
OG01 Vacheresse 20.23 308 eP P 16 28 18.2 -5.4
ORIF Oris-en-Rattie 20.25 304 eP P 16 28 22.5 -1.4
comp=Z,146nm,1.0s
ORIF eR
comp=Z,3µm,21.0s
GRN Grenoble 20.45 305 eP P 16 28 24.5 -1.4
LIBD Limburg 20.47 314 eP P 16 28 32.6 +6.5
TOD Tromm 20.55 319 eP P 16 28 23.5 -3.5
LOMF Lomont 20.56 311 eP P 16 28 30.0 +2.9
MOF Molkenrain 20.60 313 eP P 16 28 33.0 +5.5
MOS Moscow 20.66 13 eP P 16 28 25.6 -2.4
MOS e 16 28 55.9
MOS e 16 32 54.9
MOS pmax pmax
comp=Z,190nm,1.6s
MOS MLR MLR
comp=Z,2µm,20.0s,MS4.5
CABF La Chapelle 20.72 309 eP P 16 28 26.5 -2.2
comp=Z,201nm,0.7s
CABF La Chapelle 20.72 309 eP P 16 28 26.5 -2.2
CABF pmax pmax
comp=Z,101nm,0.7s
WLS Welschbruch 20.74 314 eP P 16 28 30.9 +2.0
HINF Hinteralfeld 20.75 312 eP P 16 28 26.1 -2.9
comp=Z,29nm,0.6s
HINF Hinteralfeld 20.75 312 eP P 16 28 26.1 -2.9
HINF pmax pmax
comp=Z,14nm,0.6s
ECH Echery 20.76 314 eP P 16 28 31.3 +2.2
CDF Champ du Feu 20.78 314 eP P 16 28 27.4 -1.9
comp=Z,133nm,1.0s
CDF Champ du Feu 20.78 314 eP P 16 28 27.4 -1.9
CDF pmax pmax
comp=Z,66nm,1.0s
OG05 Jujurieux 20.91 307 eP P 16 28 30.0 -0.6
VIVF Saint-Julien-I 21.05 303 eP P 16 28 29.5 -2.6
comp=Z,260nm,1.0s,mb5.2
VIVF Saint-Julien-I 21.05 303 eP P 16 28 29.5 -2.6
VIVF pmax pmax
comp=Z,130nm,1.0s,mb5.2
TNS Taunus Mts 21.09 320 eP P 16 28 31.3 -1.2
TNS pmax pmax
comp=Z,127nm,1.3s,mb5.1
TNS Taunus Mts 21.09 320 eP P 16 28 31.3 -1.2
comp=Z,127nm,1.3s,mb5.1
HAU Haudompre 21.14 312 eP P 16 28 30.5 -2.5
comp=Z,106nm,0.9s,mb4.9
HAU eR
comp=Z,4µm,21.0s
HAU Haudompre 21.14 312 eP P 16 28 30.5 -2.5
HAU pmax pmax
comp=Z,53nm,0.9s,mb4.9
HAU MLR MLR
comp=Z,4µm,21.0s,MS4.8
CLZ Clausthal 21.15 325 eP P 16 28 30.4 -2.6
comp=Z,50nm,1.2s,mb4.7
LASF Ste Croix 21.41 301 eP P 16 28 35.9 +0.2
comp=Z,161nm,1.0s,mb5.0
THEF They Montfort 21.46 313 eP P 16 28 37.4 +1.3
ABA Alger-Bouzarea 21.50 281 P P 16 28 35.0 -1.7
RUP Ruppelstein 21.56 317 eP P 16 28 36.9 -0.2
EMHD Djebel Mahouad 21.63 279 P P 16 28 37.0 -1.0
EJON La Jonquera 21.79 296 P P 16 28 38.3 -1.2
comp=Z,8.9nm,0.7s,mb4.3,SNR=6.0
BSD Bornholm Skovb 21.84 337 eP P 16 28 44.2 +4.4
BSD pmax pmax
comp=Z,86nm,0.8s,mb5.2
BSD Bornholm Skovb 21.84 337 eP P 16 28 44.2 +4.4
comp=Z,86nm,0.8s,mb5.2
BSD Bornholm Skovb 21.84 337 i P P 16 28 44.2 +4.4
comp=Z,86nm,0.8s,mb5.2
COLF Collangettes 21.91 304 eP P 16 28 40.9 +0.3
WLF Walferdange 22.05 316 P P 16 28 40.1 -1.9
WLF pmax pmax
comp=Z,26nm,0.8s,mb4.7
WLF Walferdange 22.05 316 P P 16 28 40.0 -1.9
comp=Z,26nm,0.8s,mb4.7
PLDF La Plantade 22.09 305 eP P 16 28 42.5 0.0
LBL Lubilhac 22.13 303 eP P 16 28 44.4 +1.6
MEZF Maizieres J'vi 22.14 313 eP P 16 28 43.3 +0.4
SMF Signal de Mont 22.17 307 eP P 16 28 41.1 -2.1
comp=Z,231nm,0.9s,mb5.3
SMF Signal de Mont 22.17 307 eP P 16 28 41.1 -2.1
SMF pmax pmax
comp=Z,116nm,0.9s,mb5.3
BUG Bochum--Univer 22.41 321 eP P 16 28 43.8 -1.7
comp=Z,55nm,1.1s,mb4.9
VALF Valcebollere 22.42 295 eP P 16 28 48.0 +2.3
PYM Petit Puy Mans 22.44 304 eP P 16 28 46.1 +0.2
AGO Saint Agoulin 22.45 305 eP P 16 28 46.7 +0.8
SSF Saint Saulge 22.53 308 eP P 16 28 46.8 +0.1
SSF pmax pmax
comp=Z,92nm,0.9s,mb5.2
SSF Saint Saulge 22.53 308 eP P 16 28 46.8 +0.1
comp=Z,92nm,0.9s,mb5.2
AVF Avril sur Loir 22.54 307 eP P 16 28 45.7 -1.1
comp=Z,82nm,0.9s,mb4.9
AVF Avril sur Loir 22.54 307 eP P 16 28 45.7 -1.1
AVF pmax pmax
comp=Z,41nm,0.9s,mb4.9
BSEG Bad Segeberg 22.62 329 eP P 16 28 48.4 +0.9
comp=Z,70nm,1.4s,mb4.9
FRNF Fournols 22.64 303 eP P 16 28 48.8 +1.0
IBBN Ibbenburen 22.69 323 eP P 16 28 49.5 +1.3
comp=Z,40nm,1.2s,mb4.7
EIBI Ibiza 22.72 287 P P 16 28 51.7 +3.0
comp=Z,57nm,1.3s,mb4.8
EIBI Ibiza 22.72 287 P P 16 28 51.7 +3.0
comp=Z,57nm,1.3s,mb4.8,SNR=7.9
EMIR Miracle 22.72 294 P P 16 28 50.5 +1.8
comp=Z,43nm,1.1s,mb4.8
EMIR Miracle 22.72 294 P P 16 28 50.5 +1.8
comp=Z,43nm,1.1s,mb4.8,SNR=4.9
HGN Heimansgroeve 22.73 318 eP P 16 28 50.2 +1.5
comp=Z,24nm,3.1s
HGN eS S 16 33 01.8 +12
EBNR Beni Rached 22.76 280 P P 16 28 51.0 +1.9
BGF Bois d'Agland 22.79 306 eP P 16 28 49.5 +0.2
comp=Z,65nm,0.6s,mb4.9
BGF Bois d'Agland 22.79 306 eP P 16 28 49.5 +0.2
BGF pmax pmax
comp=Z,32nm,0.6s,mb4.9
CAF Calviac 22.86 302 eP P 16 28 50.3 +0.3
comp=Z,86nm,1.0s,mb4.8
CAF Calviac 22.86 302 eP P 16 28 50.3 +0.3
CAF pmax pmax
comp=Z,43nm,1.0s,mb4.8
ECHA Ech Chlef 22.91 279 P P 16 28 53.5 +2.9
WTSB Winterswijk 22.95 322 eP P 16 28 56.4 +5.6
EPOB Poblet 23.00 293 P P 16 28 51.6 +0.2
comp=Z,47nm,1.2s,mb4.8
EPOB Poblet 23.00 293 P P 16 28 51.6 +0.2
comp=Z,47nm,1.2s,mb4.8,SNR=13
GIVF Givet 23.01 316 eP P 16 28 51.1 -0.3
comp=Z,39nm,0.8s,mb4.6
GIVF Givet 23.01 316 eP P 16 28 51.1 -0.3
GIVF pmax pmax
comp=Z,20nm,0.8s,mb4.6
ETRT Tiaret 23.08 277 P P 16 28 56.0 +3.8
TCF Toulx Ste Croi 23.13 305 eP P 16 28 53.8 +1.2
comp=Z,122nm,1.2s,mb4.9
TCF Toulx Ste Croi 23.13 305 eP P 16 28 53.8 +1.2
TCF pmax pmax
comp=Z,61nm,1.2s,mb4.9
EANR 'Ain N'Sour 23.15 279 P P 16 28 54.0 +1.1
RJF Les Rejaudoux 23.33 303 eP P 16 28 55.1 +0.6
comp=Z,136nm,1.0s,mb5.0
RJF eR
comp=Z,1µm,21.8s
RJF Les Rejaudoux 23.33 303 eP P 16 28 55.1 +0.6
RJF pmax pmax
comp=Z,68nm,1.0s,mb5.0
RJF MLR MLR
comp=Z,1µm,21.8s,MS4.4
BAIF Baives 23.34 316 eP P 16 28 53.7 -0.9
comp=Z,20nm,0.6s,mb4.4
BAIF Baives 23.34 316 eP P 16 28 53.7 -0.9
BAIF pmax pmax
comp=Z,10.0nm,0.6s,mb4.4
EBR Ebro Roquetas 23.41 291 eTs 16 28 59.0
ERTA Horta de San J 23.54 292 P P 16 28 59.4 +2.8
comp=Z,43nm,1.0s,mb4.8
ERTA Horta de San J 23.54 292 P P 16 28 59.4 +2.8
comp=Z,43nm,1.0s,mb4.8,SNR=6.3
RESF Ens 23.70 296 eP P 16 28 58.4 +0.2
EPF Esparros 23.73 297 eP P 16 28 58.2 -0.2
comp=Z,42nm,0.9s,mb4.6
EPF Esparros 23.73 297 eP P 16 28 58.2 -0.2
EPF pmax pmax
comp=Z,21nm,0.9s,mb4.6
LFF La Frestale 23.78 301 eP P 16 28 59.2 +0.3
comp=Z,74nm,0.9s,mb4.8
LFF La Frestale 23.78 301 eP P 16 28 59.2 +0.3
LFF pmax pmax
comp=Z,37nm,0.9s,mb4.8
EBIE Bielsa 23.83 296 P P 16 29 00.7 +1.3
comp=Z,26nm,1.0s,mb4.6
EBIE Bielsa 23.83 296 P P 16 29 00.7 +1.3
comp=Z,26nm,1.0s,mb4.6,SNR=7.9
LABF Labassere 23.93 297 eP P 16 29 03.5 +3.2
EBEN Beniarda 23.95 286 P P 16 29 02.7 +2.0
comp=Z,35nm,0.7s,mb4.9
EBEN Beniarda 23.95 286 P P 16 29 02.7 +2.0
comp=Z,35nm,0.7s,mb4.9,SNR=12
EMOS Mosqueruela 24.13 290 P P 16 29 05.3 +2.9
comp=Z,46nm,0.9s,mb4.8
EMOS Mosqueruela 24.13 290 P P 16 29 05.3 +2.9
comp=Z,46nm,0.9s,mb4.9,SNR=5.7
ESAC San Caprasio 24.19 293 P P 16 29 06.3 +3.4
comp=Z,62nm,1.0s,mb5.0
ESAC San Caprasio 24.19 293 P P 16 29 06.3 +3.4
comp=Z,62nm,1.0s,mb5.0,SNR=4.7
ETSF Etsaut 24.37 296 eP P 16 29 06.1 +1.4
comp=Z,78nm,0.9s,mb4.8
ETSF Etsaut 24.37 296 eP P 16 29 06.1 +1.4
ETSF pmax pmax
comp=Z,39nm,0.9s,mb4.8
EMUR La Murta 24.81 284 P P 16 29 10.9 +1.9
comp=Z,18nm,0.9s,mb4.6
EMUR La Murta 24.81 284 P P 16 29 10.9 +1.9
comp=Z,18nm,0.9s,mb4.6,SNR=6.9
SJPF Ste Jean 24.88 297 eP P 16 29 09.4 -0.2
comp=Z,178nm,1.3s,mb5.2
SJPF Ste Jean 24.88 297 eP P 16 29 09.4 -0.2
SJPF pmax pmax
comp=Z,89nm,1.3s,mb5.1
MUD Monsted U'grnd 24.90 332 eP P 16 29 12.1 +2.4
MUD pmax pmax
comp=Z,90nm,1.2s,mb5.2
MUD Monsted U'grnd 24.90 332 eP P 16 29 12.1 +2.4
comp=Z,90nm,1.2s,mb5.2
MUD Monsted U'grnd 24.90 332 i P P 16 29 12.1 +2.4
comp=Z,90nm,1.2s,mb5.2
EALK Alkurruntz 25.09 297 P P 16 29 12.8 +1.1
comp=Z,30nm,0.8s,mb4.9
EALK Alkurruntz 25.09 297 P P 16 29 12.8 +1.1
comp=Z,30nm,0.8s,mb4.9,SNR=6.7
LDF La Druitiere 25.35 310 eP P 16 29 13.3 -0.7
comp=Z,119nm,1.0s,mb5.1
LDF La Druitiere 25.35 310 eP P 16 29 13.3 -0.7
LDF pmax pmax
comp=Z,60nm,1.0s,mb5.1
FLN La Foliniere 25.63 310 eP P 16 29 15.0 -1.7
comp=Z,53nm,0.8s,mb4.8
FLN eR
comp=Z,1µm,18.0s
FLN La Foliniere 25.63 310 eP P 16 29 15.0 -1.7
FLN pmax pmax

comp=Z,27nm,0.8s,mb4.8
FLN MLR MLR
comp=Z,1μm,18.0s,MS4.5
ENIJ Nijar 25.66 282 P **P 16 29 18.9 +1.8**
ENIJ pmax pmax
comp=Z,63nm,0.6s,mb5.3
ENIJ Nijar 25.66 282 P **P 16 29 18.9 +1.8**
comp=Z,62nm,0.6s,mb5.3
ENIJ Nijar 25.66 282 P **P 16 29 18.9 +1.8**
comp=Z,62nm,0.6s,mb5.3,SNR=8.9
EVIA Vianos 25.74 286 P **P 16 29 18.3 +0.5**
EVIA pmax pmax
comp=Z,94nm,0.6s,mb5.5
EVIA Vianos 25.74 286 P **P 16 29 18.3 +0.5**
comp=Z,94nm,0.6s,mb5.5
EVIA Vianos 25.74 286 P **P 16 29 18.3 +0.5**
comp=Z,94nm,0.6s,mb5.5,SNR=17
GRR Gorron 25.75 309 *e*P **P 16 29 16.9 -0.9**
comp=Z,72nm,0.8s,mb5.0
GRR Gorron 25.75 309 *e*P **P 16 29 16.9 -0.9**
GRR pmax pmax
comp=Z,36nm,0.8s,mb5.0
EBER Berja 26.21 282 P **P 16 29 24.2 +2.0**
comp=Z,113nm,0.7s,mb5.5
EBER Berja 26.21 282 P **P 16 29 24.2 +2.0**
comp=Z,113nm,0.7s,mb5.5,SNR=22
EQES Quesada 26.25 284 P **P 16 29 22.3 -0.2**
comp=Z,79nm,0.7s,mb5.3
EQES Quesada 26.25 284 P **P 16 29 22.3 -0.3**
comp=Z,79nm,0.7s,mb5.4,SNR=16
KAF Kangasniemi 26.42 356 *e*p **P 16 29 22.6 -1.2**
ELAN Lanestosa 26.50 296 P **P 16 29 26.4 +1.7**
comp=Z,45nm,0.9s,mb5.0
ELAN Lanestosa 26.50 296 P **P 16 29 26.4 +1.7**
comp=Z,45nm,0.9s,mb5.0,SNR=8.2
SGMF Saint Gilles 26.80 308 *e*P **P 16 29 26.9 -0.5**
comp=Z,35nm,0.8s,mb4.7
SGMF Saint Gilles 26.80 308 *e*P **P 16 29 26.9 -0.5**
SGMF pmax pmax
comp=Z,18nm,0.8s,mb4.7
ESBB Sonseca Array 26.82 288 P **P 16 29 27.3 -0.4**
comp=Z,53nm,0.8s,mb5.1,SNR=7.9
ESDC Sonseca Array 26.82 288 P **P 16 29 27.3 -0.4**
comp=Z,28nm,1.8s,mb4.5
ESDC Sonseca Array 26.82 288 P **P 16 29 26.6 -1.1**
comp=Z,28nm,1.9s,mb4.5,SNR=32
ESLA Sonseca Array 26.82 288 *e*P **P 16 29 27.6 -0.1**
comp=Z,16nm,0.9s,mb4.5
GUD Guadarrama 26.94 291 P **P 16 29 30.3 +1.5**
GUD pmax pmax
comp=Z,16nm,1.0s,mb4.5
GUD Guadarrama 26.94 291 P **P 16 29 30.3 +1.5**
comp=Z,16nm,1.0s,mb4.5
GUD Guadarrama 26.94 291 P **P 16 29 30.3 +1.5**
comp=Z,16nm,1.0s,mb4.5,SNR=14
QUIF Quistinic 27.10 307 *e*P **P 16 29 28.5 -1.8**
comp=Z,39nm,0.8s,mb4.7
QUIF Quistinic 27.10 307 *e*P **P 16 29 28.5 -1.8**
QUIF pmax pmax
comp=Z,19nm,0.8s,mb4.7
JOF Joensuu 27.16 2 *e*p **P 16 29 28.6 -2.0**
ELOJ Sierra Loja 27.18 283 P **P 16 29 32.8 +1.7**
ELOJ pmax pmax
comp=Z,5.0nm,0.5s,mb4.3
ELOJ Sierra Loja 27.18 283 P **P 16 29 32.8 +1.7**
comp=Z,5.1nm,0.5s,mb4.3
ELOJ Sierra Loja 27.18 283 P **P 16 29 32.8 +1.7**
comp=Z,5.1nm,0.5s,mb4.3,SNR=6.7
ELUQ Luque 27.22 284 P **P 16 29 31.7 +0.2**
ELUQ pmax pmax
comp=Z,31nm,0.6s,mb5.0
ELUQ Luque 27.22 284 P **P 16 29 31.7 +0.2**
comp=Z,31nm,0.6s,mb5.0
ELUQ Luque 27.22 284 P **P 16 29 31.7 +0.2**
comp=Z,31nm,0.6s,mb5.0,SNR=17
ROSF Rostrenen 27.28 308 *e*P **P 16 29 30.0 -1.9**
comp=Z,41nm,0.9s,mb4.6
ROSF Rostrenen 27.28 308 *e*P **P 16 29 30.0 -1.9**
ROSF pmax pmax
comp=Z,20nm,0.9s,mb4.7
EADA Adamuz 27.40 285 P **P 16 29 32.1 -1.0**
comp=Z,55nm,1.0s,mb5.0
EADA Adamuz 27.40 285 P **P 16 29 32.1 -1.0**
comp=Z,55nm,1.0s,mb5.0,SNR=24
EMIJ Mijas 27.76 282 P **P 16 29 36.6 +0.3**
comp=Z,30nm,1.2s,mb4.8
EMIJ Mijas 27.76 282 P **P 16 29 36.7 +0.3**
comp=Z,30nm,1.2s,mb4.8,SNR=7.7
EARI Arriondas 27.80 296 P **P 16 29 37.1 +0.4**
comp=Z,37nm,1.1s,mb4.9
EARI Arriondas 27.80 296 P **P 16 29 37.1 +0.5**
comp=Z,37nm,1.1s,mb4.9,SNR=7.7
NAO01 NORSAR Array S 27.80 340 *e*P **P 16 29 36.2 -0.3**
comp=Z,47nm,0.8s,mb5.2
NB2 NORSAR Subarra 27.87 341 P **P 16 29 37.9 +0.8**
comp=Z,49nm,1.1s,mb5.0,baz=146,slow=9.3
NB2 NORSAR Subarra 27.87 341 P **P 16 29 37.9 +0.8**
baz=146,slow=9.3
ARU Arti 28.38 34⇓ *i*P **P 16 29 35.0 -6.7**
ARU *e*PPP PPP 16 30 41.1 -5.2
ARU *e* 16 40 19.6
ARU pmax pmax
comp=Z,64nm,0.6s,mb5.4
ARU MLR MLR
comp=Z,2μm,22.0s,MS4.6
ARU MLR MLR
comp=N,1μm,23.0s,MS4.5
ARU MLR MLR
comp=E,1μm,23.0s,MS4.5
ESPR Espera 28.57 283 P **P 16 29 44.3 +0.7**
comp=E,42nm,1.0s,mb5.1
ESPR Espera 28.57 283 P **P 16 29 44.3 +0.7**
comp=E,42nm,1.0s,mb5.1,SNR=9.1
ECAL Calabor 28.88 293 P **P 16 29 46.3 0.0**
comp=E,15nm,0.6s,mb4.9,SNR=6.6
PBRG Braganca 28.88 293 *e*P **P 16 29 47.7 +1.4**
comp=E,28nm,1.5s,mb4.8
PBRG Braganca 28.88 293 *e*P **P 16 29 47.6 +1.3**
EMIN Mina Concepcio 29.09 285 P **P 16 29 46.9 -1.3**
comp=E,22nm,0.8s,mb5.0
EMIN Mina Concepcio 29.09 285 P **P 16 29 46.9 -1.4**
comp=E,22nm,0.8s,mb5.0,SNR=22
ERUA La Rua 29.18 294 P **P 16 29 45.9 -3.1**
ERUA pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
ERUA La Rua 29.18 294 P **P 16 29 45.9 -3.1**
comp=Z,6.9nm,0.8s,mb4.4
ERUA La Rua 29.18 294 P **P 16 29 45.9 -3.1**
comp=Z,6.9nm,0.8s,mb4.4,SNR=7.9
EPON Pontenova 29.21 296 P **P 16 29 46.7 -2.6**
comp=Z,33nm,1.1s,mb5.0
EPON Pontenova 29.21 296 P **P 16 29 46.7 -2.5**
comp=Z,33nm,1.1s,mb5.0,SNR=6.7
EBAD Badajoz 29.25 287 P **P 16 29 49.0 -0.6**
comp=Z,29nm,0.9s,mb5.0
EBAD Badajoz 29.25 287 P **P 16 29 49.0 -0.6**
comp=Z,29nm,0.9s,mb5.0,SNR=8.9
EINC Incio 29.34 295 P **P 16 29 49.2 -1.2**
comp=Z,14nm,0.9s,mb4.7
EINC Incio 29.34 295 P **P 16 29 49.2 -1.2**
comp=Z,14nm,0.9s,mb4.7,SNR=4.0
PCBR Castelo Branco 29.51 289 *e*P **P 16 29 54.3 +2.3**
comp=Z,32nm,1.8s,mb4.8
PCBR Castelo Branco 29.51 289 *e*P **P 16 29 53.3 +1.3**
MTE Manteigas 29.53 290 *e*P **P 16 29 53.5 +1.4**
comp=Z,62nm,1.5s,mb5.1
MTE *e*S **S 16 34 51.2 +8.7**
MTE *e*- 16 36 48.8
comp=Z,1μm,20.0s
MTE Manteigas 29.53 290 *e*P **P 16 29 52.4 +0.3**
comp=Z,33nm,1.0s,mb5.0
SVE Sverdlovsk 29.56 35 *e*P **P 16 29 52.0 -0.2**
SVE pmax pmax
comp=Z,160nm,1.8s
SVE MLR MLR
comp=Z,100nm,20.0s
SOKR Solikamsk 29.57 28⇑ *i*P **P 16 30 06.7 +14**
SOKR pmax pmax
comp=Z,60nm,1.1s,mb5.2
SOKR MLR MLR
comp=Z,1μm,18.0s,MS4.6
PVRL Vila Real 29.62 292 *e*P **P 16 29 57.4 +4.5**
EGRO El Granado 29.76 285 P **P 16 29 52.7 -1.5**
comp=Z,41nm,0.7s,mb5.3
EGRO El Granado 29.76 285 P **P 16 29 52.7 -1.5**
comp=Z,41nm,0.7s,mb5.2,SNR=7.9
PALC Alcoutim 29.77 284 *e*P **P 16 29 53.5 -0.7**

PVIS Viseu 29.78 291 *e*P **P 16 29 58.1 +3.8**
ELOB Lobios 29.87 293 P **P 16 29 58.3 +3.2**
comp=Z,12nm,0.7s,mb4.7
ELOB Lobios 29.87 293 P **P 16 29 58.3 +3.2**
comp=Z,12nm,0.7s,mb4.7,SNR=7.8
PBEJ Beja 30.00 286 *e*P **P 16 29 56.7 +0.4**
comp=Z,91nm,1.4s,mb5.3
EVO Evora 30.05 287 *e*P **P 16 29 54.7 -2.1**
comp=Z,33nm,0.9s,mb4.7
EVO *e*R
comp=Z,1μm,22.0s
EMAZ Mazaricos 30.54 295 P **P 16 30 05.8 +4.7**
comp=Z,25nm,1.1s,mb4.9,SNR=7.9
PTEO Sao Teotonio 30.74 285 *e*P **P 16 30 05.9 +3.0**
PTEO Sao Teotonio 30.74 285 *e*P **P 16 30 05.1 +2.2**
PLOU Loures 30.89 287 *e*P **P 16 30 05.2 +1.0**
APA Apatity 31.88 3⇑ *i*P **P 16 30 18.0 +5.4**
APA *i* 16 30 22.2
APA pmax pmax
comp=Z,20nm,0.8s,mb5.0
APA MLR MLR
comp=Z,5μm,16.0s,MS5.3
BVA0 Borovoye Array 33.22 46 P **P 16 30 22.9 -1.5**
BVA0 pmax pmax
comp=Z,12nm,1.4s,mb4.6
CHKZ Chkalovo 33.52 45 *e*P **P 16 30 25.5 -1.5**
CHKZ pmax pmax
comp=Z,10.0nm,0.4s,mb5.1
CHKZ Chkalovo 33.52 45 *e*P **P 16 30 25.5 -1.5**
comp=Z,9.9nm,0.4s,mb5.1
AAK Ala-Archa 35.03 65 P **P 16 30 40.0 -0.1**
AAK pmax pmax
comp=Z,12nm,0.7s,mb4.9
AAK Ala-Archa 35.03 65 *e*P **P 16 30 38.7 -1.4**
comp=Z,7.9nm,0.5s,mb4.9
FRU Bishkek 35.11 65 *e*P **P 16 30 41.5 +0.8**
FRU *i* 16 30 47.0
FRU pmax pmax
comp=Z,166nm,2.5s,mb5.5
MBAR Mbarara 36.23 178 *e*P **P 16 30 50.6 0.0**
MBAR pmax pmax
comp=Z,35nm,1.4s,mb5.1
MBAR Mbarara 36.23 178 *e*P **P 16 30 50.6 0.0**
comp=Z,35nm,1.4s,mb5.1
EFAM Famara 36.86 272 P **P 16 30 57.0 +1.3**
comp=Z,31nm,0.7s,mb5.2
KMBO Kilima Mbogo 37.41 168 *e*P **P 16 31 03.3 +2.9**
KURK Kurchatov 37.88 51 *i*P **P 16 31 02.9 -1.1**
KURK pmax pmax
comp=Z,19nm,0.7s,mb4.9
KURK Kurchatov 37.88 51 *e*P **P 16 31 02.6 -1.4**
comp=Z,34nm,1.0s,mb5.0
EOSO Osorio 38.90 272 P **P 16 31 13.3 +0.5**
comp=Z,43nm,1.2s,mb5.1
AJM Ajmer 39.28 91⇑ *i*P **P 16 31 16.0 +0.1**
EBAJ Bajamar 39.36 273 P **P 16 31 15.7 -0.9**
comp=Z,34nm,0.9s,mb5.1
CCAN Las Canadas 39.70 272 P **P 16 31 19.6 +0.3**
comp=Z,25nm,0.9s,mb4.9
MKAR Makanchi Array 40.31 58 *i*P **P 16 31 23.2 -1.0**
MKAR pmax pmax
comp=Z,11nm,0.5s
NDI New Delhi 40.48 86 *e*P **P 16 31 26.0 +0.1**
DDI Dehra Dun 40.56 84 *e*P **P 16 31 27.0 +0.5**
DDI *e* 16 37 44.2
NVS Novosibirsk 41.01 45⇑ *i*P **P 16 31 28.4 -1.5**
NVS *e* 16 33 00.7
NVS *e* 16 41 29.5
NVS pmax pmax
comp=N,52nm,1.4s
NVS pmax pmax
comp=Z,85nm,1.4s,mb5.2
NVS pmax pmax
comp=Z,48nm,1.4s,mb4.9
NVS pmax pmax
comp=E,40nm,1.8s
DBIC Dimbokro 42.94 236 *e*P **P 16 31 46.3 +0.1**
DBIC pmax pmax
comp=Z,55nm,1.0s
DBIC Dimbokro 42.94 236 *e*P **P 16 31 46.3 +0.1**
comp=Z,55nm,1.0s,mb5.2
DBIC Dimbokro 42.94 236 P'P'df **P 16 31 46.7 +0.5**
BHPL Bhopal 42.98 93 *e*P **P 16 31 46.1 -0.4**
BHPL *e* 16 31 52.5
comp=Z,28nm,0.5s
BHPL *e* 16 33 36.3
KAD Karad 43.42 103 *e*P **P 16 31 52.3 +2.2**
KAD *e* 16 31 56.9
comp=Z,12nm,1.2s
KAD *e* 16 33 50.8
SCO Scoresbysund 44.11 338 *i*P **P 16 31 58.7 +3.7**
SCO pmax pmax
comp=Z,31nm,0.8s,mb5.1
SCO Scoresbysund 44.11 338 *i*P **P 16 31 58.7 +3.7**
comp=Z,31nm,0.8s,mb5.1
WMQ Urumqi 44.45 61 *e*P **P 16 32 00.3 +2.2**
WMQ PP PP 16 33 45.0 +1.7
WMQ S **S 16 38 32.0 +2.6**
WMQ AMB AMB
comp=Z,84nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,95nm,5.4s
WMQ LR LR
comp=N,638nm,17.8s,MS4.7
WMQ LR LR
comp=E,532nm,18.4s,MS4.7
WMQ LR LR
comp=Z,523nm,18.7s,MS4.5
KOLN Koldanda 46.02 84 *e*P **P 16 32 10.8 0.0**
comp=Z,231nm,1.1s,mb6.0
DAG Danmarks Havn 46.28 346⇓ *e*P **P 16 32 14.1 +1.9**
DAG pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
DAG Danmarks Havn 46.28 346⇓ *e*P **P 16 32 14.1 +1.9**
comp=Z,4.0nm,1.0s,mb4.3
DAG Danmarks Havn 46.28 346⇓ *i*P **P 16 32 14.1 +1.9**
comp=Z,4.0nm,1.0s,mb4.3
GKN Gorkha 46.76 83 *e*P **P 16 32 16.6 0.0**
comp=Z,310nm,1.0s
HYB Hyderabad 46.84 100 *e*P **P 16 32 18.0 +0.7**
HYB *e* 16 32 24.5
HYB Hyderabad 46.84 100 *i*P **P 16 32 18.0 +0.7**
comp=Z,50nm,1.0s,mb5.4
HYB *e* 16 32 24.5
DMN Daman 47.30 84 *e*P **P 16 32 20.8 -0.1**
comp=Z,186nm,0.8s,mb6.0
BLSP Bilaspur 47.33 92 *e*P **P 16 32 20.6 -0.6**
BLSP *e* 16 32 26.8
comp=Z,23nm,0.4s
BLSP *i* 16 34 41.4
BLSP *e* 16 39 08.2
KKN Kakani 47.37 83 *e*P **P 16 32 21.0 -0.4**
comp=Z,99nm,0.7s,mb5.8
PKI Pulchoki 47.56 84 *e*P **P 16 32 22.9 0.0**
comp=Z,120nm,0.8s,mb6.0
JIRN Jiri 48.15 83 *e*P **P 16 32 27.1 -0.4**
comp=Z,226nm,1.2s
VIS Vishakhapatnam 50.52 96 *e* **P 16 32 59.3 +13**
LSZ Lusaka 50.82 182 *e*P **P 16 32 49.6 +1.5**
LSZ pmax pmax
comp=Z,58nm,1.9s,mb5.2
LSZ Lusaka 50.82 182 *e*P **P 16 32 49.6 +1.5**
comp=Z,58nm,1.9s,mb5.2
BWNR Bhubaneshwar 51.21 92 *e*P **P 16 32 50.0 -1.0**
LSA Lhasa 51.30 78 P **P 16 32 52.5 +0.9**
LSA AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
MOY Mondy 51.82 49 *e*P **P 16 32 54.9 -0.3**
TLY Talaya 53.43 48 *e*P **P 16 33 06.1 -1.1**
TLY *e* 16 40 32.7
TLY pmax pmax
comp=Z,18nm,1.0s,mb5.0
TLY MLR MLR
comp=Z,1μm,22.0s,MS4.9
TLY Talaya 53.43 48 *e*P **P 16 33 06.4 -0.8**
comp=Z,8.8nm,1.1s,mb4.6
ZAK Zakamensk 53.51 50⇑ *e*P **P 16 33 06.8 -1.0**
SHL Shillong 53.65 83 *e*P **P 16 33 08.0 -1.2**
IRK Irkutsk 53.67 47 *e*P **P 16 33 06.5 -2.5**
IRK pmax pmax
comp=Z,51nm,2.6s,mb5.0
PALK Pallekele 54.49 109 P **P 16 33 13.2 -2.2**
comp=Z,26nm,1.3s,mb5.0
TSUM Tsumeb 55.90 194 *e*P **P 16 33 25.4 -0.2**
comp=Z,34nm,1.4s,mb5.2
ULN Ulaanbaatar 56.59 52 *i*P **P 16 33 29.2 -1.0**

ULN Ulaanbaatar 56.59 52 *e*P **P 16 33 28.6 -1.6**
comp=Z,6.3nm,1.0s,mb4.6
BOD Bodaibo 57.64 39 *e*P **P 16 33 34.7 -2.8**
LZH Lanzhou 58.56 66 *e*P **P 16 33 43.5 -0.7**
LZH AP pP 16 33 50.8 -5.9
LZH XP sP 16 33 55.0 -6.8
LZH PP PP 16 35 54.5 -1.2
LZH S **S 16 41 43.5 +0.4**
LZH AMB AMB
comp=Z,39nm,1.7s,mb5.2
LZH AMB AMB
comp=Z,93nm,4.0s
LZH LR LR
comp=E,863nm,17.0s
LZH LR LR
comp=Z,1μm,18.2s,MS5.0
LZH Lanzhou 58.56 66 *e*P **P 16 33 43.5 -0.7**
LZH *PP pP 16 33 50.7 -6.0
LZH 16 35 54.5
LZH S **S 16 41 43.5 +0.4**
LZH *SS 16 41 57.5
LZH SS SS 16 45 37.0 -0.8
LZH pmax pmax
comp=Z,39nm,1.7s,mb5.2
LZH MLR MLR
comp=Z,1μm,18.2s,MS5.0
LZH Lanzhou 58.56 66 *e*P **P 16 33 43.5 -0.7**
comp=Z,39nm,1.7s,mb5.2
LZH pP pP 16 33 50.7 -6.0
LZH sP sP 16 33 55.0 -6.8
LZH PP PP 16 35 54.5 -1.2
LZH S **S 16 41 43.5 +0.4**
LZH sS 16 41 57.5
LZH SS SS 16 45 37.0 -0.8
LZH LR LR
comp=Z,1μm,18.2s,MS5.0
TIXI Tiksi 59.24 21 *i*P **P 16 33 46.7 -1.8**
TIXI pmax pmax
comp=Z,20nm,2.3s,mb4.7
TIXI MLR MLR
comp=Z,1μm,21.0s,MS5.1
LBTB Lobatse 60.61 184 *e*P **P 16 34 01.2 +2.7**
LBTB pmax pmax
comp=Z,70nm,1.6s,mb5.5
LBTB Lobatse 60.61 184 *e*P **P 16 34 01.2 +2.7**
comp=Z,70nm,1.6s,mb5.5
KMI Kunming 62.55 78 P **P 16 34 11.5 0.0**
KMI *PP pP 16 34 20.0 -4.1
KMI 16 36 32.6
KMI S **S 16 42 35.2 +0.9**
KMI *SS 16 42 51.0
KMI SS SS 16 46 46.1 +5.4
KMI pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
KMI MLR MLR
comp=Z,480nm,23.1s,MS4.6
KMI Kunming 62.55 78 P **P 16 34 11.5 0.0**
comp=Z,10.0nm,1.2s,mb4.8
KMI pP pP 16 34 20.0 -4.1
KMI sP sP 16 34 23.4 -5.7
KMI PP PP 16 36 32.6 +1.4
KMI S **S 16 42 35.2 +0.9**
KMI sS 16 42 51.0
KMI SS SS 16 46 46.1 +5.4
KMI LR LR
comp=Z,480nm,23.1s,MS4.6
CHRT Chiangrai 62.77 84⇑P **P 16 34 12.0 -1.0**
comp=Z,208nm,1.1s
CM31 Chiang Mai Arr 62.81 86 *e*P **P 16 34 12.1 -1.3**
comp=Z,4.6nm,0.6s,mb4.8
XAN Xi'an 63.20 66 P **P 16 34 14.0 -1.7**
XAN AMB AMB
comp=Z,9.0nm,1.4s,mb4.7
YAK Yakutsk 63.43 31 *e*P **P 16 34 17.4 +0.6**
YAK pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
YAK Yakutsk 63.43 31 *e*P **P 16 34 17.4 +0.6**
comp=Z,7.8nm,0.6s,mb5.0
RES Resolute Bay 63.97 346 *e*P **P 16 34 19.7 -0.4**
RES pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
RES Resolute Bay 63.97 346 *e*P **P 16 34 19.7 -0.4**
comp=Z,4.8nm,1.0s,mb4.5
NANT Nan 64.06 85 P **P 16 34 19.0 -2.5**
BOSA Boshof 64.21 184 *e*P **P 16 34 24.2 +1.8**
BOSA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BOSA Boshof 64.21 184 *e*P **P 16 34 24.2 +1.8**
comp=Z,10.0nm,0.9s,mb4.8
SCHQ Schefferville 65.07 321 *e*P **P 16 34 27.8 +0.2**
comp=Z,9.4nm,0.8s,mb4.9
NST Nakhon Sawan 65.24 88 P **P 16 34 27.6 -1.7**
comp=Z,48nm,0.9s,mb5.5
BJI Beijing 65.69 57 *e*P **P 16 34 31.0 -0.7**
BJI S S 16 43 21.7 +8.8
BJI pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
BJI MLR MLR
comp=Z,810nm,21.1s,MS4.9
BJI Beijing 65.69 57 *e*P **P 16 34 31.0 -0.7**
comp=Z,9.0nm,1.3s,mb4.6
BJI S S 16 43 21.7 +8.8
BJI LR LR
comp=Z,810nm,21.1s,MS4.9
NNT Nongplab 66.59 91 P **P 16 34 37.0 -0.9**
KKTK Khon Kaen 67.07 86 PG **P 16 34 40.0 -0.8**
KKTK SG pP 16 34 51.8 -1.8
WHN Wuhan 68.90 67 *e*P **P 16 34 50.5 -1.5**
UBT Ubonrachathani 69.44 86 P **P 16 35 04.0 +8.4**
KLR Kul'dur 70.81 43 *e*P **P 16 35 02.6 -0.8**
BILL Bilibino 71.48 16 *e*P **P 16 35 05.5 -1.6**
BILL pmax pmax
comp=Z,40nm,1.5s,mb5.1
BILL Bilibino 71.48 16 *e*P **P 16 35 05.5 -1.6**
comp=Z,40nm,1.5s,mb5.1
SEY Seymchan 71.51 24 *e*P **P 16 35 09.0 +1.7**
SEY *e* 16 35 27.1
SEY 16 37 51.3
SEY *e*S S 16 44 21.1 -0.4
SEY *SS 16 44 52.9
SEY pmax pmax
comp=Z,30nm,0.9s,mb5.2
SEY MLR MLR
comp=Z,4μm,24.0s,MS5.6
SEY MLR MLR
comp=N,800nm,17.0s
SEY MLR MLR
comp=E,1μm,23.0s
MDJ Mudanjiang 72.06 48 P **P 16 35 11.8 +0.9**
MDJ AMB AMB
comp=Z,14nm,1.9s,mb4.6
MDJ AMB AMB
comp=Z,214nm,4.5s
MDJ LR LR
comp=N,439nm,27.5s,MS4.6
MDJ LR LR
comp=E,143nm,31.9s,MS4.6
MDJ LR LR
comp=Z,443nm,20.4s
MA2 Magadan 73.27 27 *e*P **P 16 35 17.1 -0.6**
MA2 *e*PP pP 16 35 40.0 +9.5
MA2 *e*S S 16 44 38.7 -2.9
MA2 pmax pmax
comp=Z,20nm,1.5s,mb4.8
MA2 MLR MLR
comp=Z,3μm,23.0s,MS5.5
MA2 Magadan 73.27 27 *e*P **P 16 35 16.9 -0.8**
comp=Z,95nm,1.8s,mb5.4
SSE Sheshan 73.66 63 P **P 16 35 21.0 +0.4**
SSE AP pP 16 35 30.5 -2.9
SSE S S 16 44 47.8 +1.2
SSE XS 16 45 04.8
SSE AMB AMB
comp=Z,23nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,198nm,5.8s
SSE LR LR
comp=N,149nm,30.2s,MS4.6
SSE LR LR
comp=E,413nm,30.3s,MS4.6
SSE LR LR
comp=Z,339nm,21.6s
SSE Sheshan 73.66 63 P **P 16 35 21.0 +0.4**
comp=Z,23nm,0.7s,mb5.2
SSE pP pP 16 35 30.4 -3.0

SSE			sP	sP	16 35 33.0	-5.2
SSE			S	S	16 44 47.7	+1.1
SSE			sS		16 45 04.7	
SSE			LR	LR		
	comp=Z,340nm,21.6s,MS4.6					
HNH	**Hanover**	**73.83 312**	*e*P	**P**	**16 35 29.1**	**+7.7**
	comp=Z,3.3nm,1.1s,mb4.2					
WES	**Weston**	**73.98 311**	P	**P**	**16 35 23.7**	**+1.5**
WES			pmax	pmax		
	comp=Z,43nm,0.9s,mb5.4					
WES	**Weston**	**73.98 311**	P	**P**	**16 35 23.7**	**+1.5**
	comp=Z,43nm,0.9s,mb5.4					
ACCN	**Adirondack Com**	**74.84 313**	*e*P	**P**	**16 35 36.5**	**+9.4**
FCC	**Fort Churchill**	**74.84 333**	*e*P	**P**	**16 35 25.1**	**-1.7**
FCC			pmax	pmax		
	comp=Z,24nm,1.5s,mb4.9					
FCC	**Fort Churchill**	**74.84 333**	*e*P	**P**	**16 35 25.1**	**-1.7**
	comp=Z,24nm,1.5s,mb4.9					
INK	**Inuvik**	**75.44 354**	*e*P	**P**	**16 35 30.6**	**+0.5**
INK			pmax	pmax		
	comp=Z,7.0nm,1.0s					
INK	**Inuvik**	**75.44 354**	*e*P	**P**	**16 35 30.6**	**+0.4**
	comp=Z,7.3nm,1.0s,mb4.6					
YKW3	**Yellowknife Ar**	**77.86 344**	*e*P	**P**	**16 35 44.1**	**+0.3**
YSS	**Yuzh-Sakhalins**	**78.09 40**	*e*P	**P**	**16 35 45.1**	**-0.3**
YSS			*e*		16 36 01.8	
YSS	**Yuzh-Sakhalins**	**78.09 40**	*i* P	**P**	**16 35 45.5**	**+0.1**
IMA	**Indian Mountai**	**78.42 1**	*e*P	**P**	**16 35 49.2**	**+2.4**
MVL	**Millersville**	**78.46 311**	*e*P	**P**	**16 35 48.5**	**+1.0**
SDMD	**Soldier's Deli**	**79.11 311**	*e*P	**P**	**16 35 51.2**	**+0.1**
COLA	**College**	**79.64 359**	*i* P	**P**	**16 35 50.5**	**-3.0**
DAWY	**Dawson**	**80.09 355**	*e*P	**P**	**16 35 56.3**	**+0.4**
FFC	**Flin Flon**	**80.75 334**	*e*P	**P**	**16 36 00.5**	**+0.9**
FFC			pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6					
FFC	**Flin Flon**	**80.75 334**	*e*P	**P**	**16 36 00.5**	**+0.9**
	comp=Z,6.5nm,0.8s,mb4.6					
MENT	**Mentasta**	**81.46 357**	*e*P	**P**	**16 36 04.8**	**+1.7**
ULM	**Lac du Bonnet**	**81.79 328**	*e*P	**P**	**16 36 05.8**	**+0.7**
	comp=Z,4.8nm,0.7s,mb4.5					
MAT	**Matsushiro**	**82.09 50**	*e*P	**P**	**16 36 05.0**	**-2.0**
MAT			pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0					
MAT	**Matsushiro**	**82.09 50**	*e*P	**P**	**16 36 05.0**	**-2.0**
	comp=Z,18nm,1.0s,mb5.0					
MAT	**Matsushiro**	**82.09 50**	P	**P**	**16 36 05.4**	**-1.6**
PWA	**Palmer West**	**82.89 360**	*e*P	**P**	**16 36 12.4**	**+1.9**
BLO	**Bloomington**	**85.00 316**	*e*P	**P**	**16 36 23.4**	**+1.8**
BLO			pmax	pmax		
	comp=Z,12nm,0.7s,mb5.1					
BLO	**Bloomington**	**85.00 316**	*e*P	**P**	**16 36 23.4**	**+1.7**
	comp=Z,12nm,0.7s,mb5.1					
EDM	**Edmonton**	**85.72 339**	*e*P	**P**	**16 36 25.7**	**+0.9**
FX1	**Attu Island--F**	**86.13 21**	*e*P	**P**	**16 36 30.1**	**+3.4**
CPCT	**Cooper Cave**	**86.34 312**	*e*P	**P**	**16 36 29.3**	**+1.1**
FVM	**French Village**	**88.03 317**	P	**P**	**16 36 38.3**	**+1.9**
FVM			pmax	pmax		
	comp=Z,27nm,1.1s,mb5.4					
FVM	**French Village**	**88.03 317**	P	**P**	**16 36 38.3**	**+1.9**
	comp=Z,27nm,1.1s,mb5.4					
CCM	**Cathedral Cave**	**88.43 317**	*e*P	**P**	**16 36 38.8**	**+0.5**
CCM			pmax	pmax		
	comp=Z,14nm,1.0s,mb5.2					
CCM	**Cathedral Cave**	**88.43 317**	*e*P	**P**	**16 36 38.8**	**+0.5**
	comp=Z,14nm,1.0s,mb5.1					
LRAL	**Lakeview Retre**	**89.48 311**	*e*P	**P**	**16 36 44.0**	**+0.5**
NEW	**Newport**	**91.22 339**	*e*P	**P**	**16 36 51.0**	**-0.2**
NEW			pmax	pmax		
	comp=Z,10.0nm,1.0s					
NEW	**Newport**	**91.22 339**	*e*P	**P**	**16 36 51.0**	**-0.2**
	comp=Z,10nm,1.0s,mb5.1					
PHWY	**Pilot Hill**	**92.95 328**	*e*P	**P**	**16 37 00.5**	**+1.2**
TPAW	**Teton Pass**	**93.33 332**	*e*P	**P**	**16 37 12.4**	**+11**
BW06	**Boulder Array**	**93.42 331**	*e*P	**P**	**16 37 00.7**	**-0.7**
RRI2	**Red Ridge**	**93.59 333**	*e*P	**P**	**16 37 04.6**	**+2.4**
BMO	**Blue Mountains**	**94.34 337**	*e*P	**P**	**16 37 04.7**	**-0.7**
	comp=Z,3.7nm,1.0s,mb4.8					
HWUT	**Hardware Ranch**	**95.18 332**	*e*P	**P**	**16 37 11.3**	**+1.9**
	comp=Z,4.8nm,0.9s,mb4.9					
QSPA	**South Pole Qui**	**125.65 180**	P	PKPdf	16 42 45.0	-0.4
QSPA			*e*PKPdf	PKPdf	16 42 48.2	+2.8

*CSEM **30** 16:35:45.7±0.8, 38.78N×28.95W, h2km, ML1.9, Error ellipse: s-maj=8.0km s-min=5.9km az=83.0, After PDA*
*PDA **30** 16:35:45.7±0.8, 38.78N×28.95W, h2km, MD3.2, ML1.9, Error ellipse: s-maj=8.0km s-min=5.9km az=83.0*
SVSA 30 16:35:45.7±0.8, 38.78N×28.95W, h2km, MD3.2, ML1.9, Error ellipse: s-maj=8.0km s-min=5.9km az=83.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.25**	**128**	*i* P	Pg	16 35 50.4	-0.2
PCED				*i* S	Sg	16 35 54.0	+0.1
	20nm,0.1s						
PCED	**Cedros**	**0.25**	**128**	*i* S	Sg	16 35 54.0	+0.1
	20nm,0.1s						
CALA	**Caldeira**	**0.28**	**136**	*e*P	Pg	16 35 50.7	-0.6
CALA				*e*S	Sg	16 35 54.2	-0.8
PICO	**Pico**	**0.50**	**124**	*i* P	Pg	16 35 54.5	-1.1
PICO				*i* S	Sg	16 36 01.4	-0.8
PICO	**Pico**	**0.50**	**124**	*i* S	Sg	16 36 01.4	-0.8
ROSA	**Rosais**	**0.56**	**96**	*e*S	Sg	16 36 02.4	-1.8

*CSEM **30** 16:36:45.7±0.8, 40.65N×29.36W, h20km, ML2.9, Error ellipse: s-maj=24.1km s-min=9.2km az=102.0, After PDA*
*PDA **30** 16:36:45.7±1.1, 40.65N×29.36W, h20km, MD3.9, ML2.9, Error ellipse: s-maj=33.3km s-min=7.6km az=93.0*
SVSA 30 16:36:45.7±1.1, 40.65N×29.36W, h20km, MD3.9, ML2.9, Error ellipse: s-maj=33.3km s-min=7.6km az=93.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**2.08**	**166**	*e*S	Sn	16 37 38.1	-7.6
ROSA	**Rosais**	**2.11**	**156**	*e*P	Pn	16 37 16.6	-4.0
ROSA				*e*S	Sn	16 37 39.4	-7.0
CALA	**Caldeira**	**2.12**	**166**	*e*S	Sn	16 37 39.4	-7.4
HOR	**Horta**	**2.19**	**165**	*e*S	Sn	16 37 41.1	-7.4
PMAN	**Manadas**	**2.24**	**154**	*erx*		16 37 44.1	
PICO	**Pico**	**2.26**	**161**	*e*P	Pn	16 37 18.8	-3.9
PICO				*e*S	Sn	16 37 43.5	-6.8
ASBA	**Santa Barbara**	**2.48**	**140**	*e*P	Pn	16 37 20.9	-5.0
PBIS	**Biscoitos**	**2.49**	**139**	*e*P	Pn	16 37 21.7	-4.3
	40nm,0.3s						
PVNV	**Vila Nova**	**2.54**	**137**	*i* P	Pn	16 37 22.2	-4.5
	59nm,0.2s						

IGQ 30 16:41:33.4, 0.79S×81.35W, h12km±5km, mb4.3, 7C-5D, Error ellipse: s-maj=6.8km s-min=4.7km az=29.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.84**	**108**	⇑P	Pb	16 41 48.4	-1.1
JAMA	**Jama**	**1.26**	**65**	⇑P	Pb	16 41 57.1	+0.5
JAMA				S	Sb	16 42 12.5	-0.1
IGUA	**Igualata**	**2.80**	**104**	P	Pn	16 42 20.4	+1.5
JUA2	**San Juan 2**	**2.80**	**78**	⇑P	Pn	16 42 20.1	+1.1
JUA2				S	Sn	16 42 55.0	+2.0
TERV	**Terraza Guagua**	**2.81**	**77**	⇓P	Pn	16 42 19.9	+0.8
PINO	**Pino**	**2.81**	**77**	⇓P	Pn	16 42 19.8	+0.8
YANA	**Yana**	**2.86**	**77**	⇓P	Pn	16 42 20.3	+0.6
NAS1	**Nasa**	**2.88**	**87**	P	Pn	16 42 22.1	+2.1
CUSU	**Cusua**	**2.94**	**103**	P	Pn	16 42 25.2	+4.3
VC1	**Cotopaxi 1**	**2.95**	**87**	⇑P	Pn	16 42 23.0	+2.0
JUIV	**Juive**	**2.95**	**102**	P	Pn	16 42 25.0	+3.9
PISA	**Pisayambo**	**2.98**	**95**	⇑P	Pn	16 42 24.1	+2.7
RETU	**Refugio**	**2.98**	**103**	P	Pn	16 42 23.6	+2.2
ARRY	**Arrayan**	**2.98**	**104**	⇑P	Pn	16 42 22.8	+1.3
ARRY				S	Sn	16 42 57.3	-0.2
TAMB	**Tambo**	**2.98**	**88**	P	Pn	16 42 24.4	+2.9
ULBA	**Ulba**	**3.01**	**103**	⇑P	Pn	16 42 23.9	+2.0
ANTI	**Antisana**	**3.21**	**84**	⇓P	Pn	16 42 27.1	+2.4
ANTI				S	Sn	16 43 05.1	+2.0
COTA	**Cotacachi**	**3.21**	**70**	P	Pn	16 42 25.9	+1.2
CAYR	**Refugio Cayamb**	**3.44**	**77**	⇓P	Pn	16 42 31.1	+3.2
CAYA	**Cayambe**	**3.46**	**76**	P	Pn	16 42 31.0	+2.6

*BJI **30** 17:04:56.9, 15.60S×173.90W, h47km, mB5.0, mb4.7, Ms4.9, Msz4.7*
*NEIC **30** 17:04:57.0±1.3, 15.61S×173.87W, h47km±12km, mb4.8/13, Error ellipse: s-maj=13.9km s-min=7.8km az=143.0*
ISC 30 17:04:54.8±1.9, 15.68S±0.10×173.90W±0.10, h41km±18km, n84, σ1º02/29, mb4.7/13, 1C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.71**	**50**	⇑*e*P	**P**	**17 05 37.5**	**+0.6**
AFI				*e*S	**S**	**17 06 03.1**	**-5.6**
RAR	**Rarotonga**	**14.48**	**114**	*e*P	**P**	**17 08 18.3**	**-0.8**
CTA	**Charters Tower**	**38.11**	**257**	*e*P	**P**	**17 12 11.9**	**+0.1**
	3.7nm,0.6s,mb4.3						
CTAO	**Charters Tower**	**38.11**	**257**	*e*P	**P**	**17 12 11.6**	**-0.2**
	5.2nm,0.6s,mb4.4						
PMG	**Port Moresby**	**38.48**	**275**	*e*P	**P**	**17 12 16.9**	**+2.0**
	16nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**43.48**	**240**	⇓*i*P	**P**	**17 12 56.2**	**+0.1**
	15nm,0.7s,mb4.8						
WB2	**Warramunga Arr**	**49.30**	**257**	⇓*i*P	**P**	**17 13 41.5**	**-0.6**
WRAB	**Tennant Creek**	**49.30**	**257**	*e*P	**P**	**17 13 41.2**	**-1.0**
	22nm,0.8s,mb5.2						
ASPA	**Alice Springs**	**49.57**	**252**	⇓*i*P	**P**	**17 13 43.5**	**-0.7**
FORT	**Forrest**	**54.86**	**243**	*e*P	**P**	**17 14 22.8**	**-0.9**
	88nm,0.6s						
MBWA	**Marble Bar**	**62.82**	**254**	*e*P	**P**	**17 15 18.2**	**-0.9**
SBA	**Scott Base**	**62.93**	**185**	*e*P	**P**	**17 15 21.0**	**+1.9**
	0.7nm,0.4s,mb4.1						
KLBR	**Kellerberrin**	**63.68**	**242**	*e*P	**P**	**17 15 23.8**	**-0.9**
	394nm,0.8s						
MUN	**Mundaring**	**64.98**	**242**	*e*P	**P**	**17 15 32.7**	**-0.4**
	14nm,0.7s,mb5.1						
CASY	**Casey**	**69.95**	**205**	*e*P	**P**	**17 16 03.3**	**-0.3**
	7.8nm,0.8s,mb4.7						
QSPA	**South Pole Qui**	**74.36**	**180**	*e*P	**P**	**17 16 31.0**	**+1.5**
	8.5nm,1.0s,mb4.6						
RSO	**Redoubt South**	**77.77**	**11**	*e*P	**P**	**17 16 47.8**	**-1.4**
MDJ	**Mudanjiang**	**78.96**	**323**	P	**P**	**17 16 57.5**	**+1.5**
MDJ				AMB	AMB		
	comp=Z,12nm,2.3s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,369nm,4.2s						
HLID	**Hailey**	**80.15**	**39**	*e*P	**P**	**17 17 02.7**	**+0.2**
	comp=Z,1.1nm,0.7s,mb3.9						
TNA	**Tin City**	**81.12**	**3**	*e*P	**P**	**17 17 07.0**	**-0.1**
ANMO	**Albuquerque**	**81.35**	**50**	*e*P	**P**	**17 17 09.0**	**0.0**
MCK	**McKinley**	**81.49**	**11**	*e*P	**P**	**17 17 07.6**	**-1.5**
	comp=Z,8.4nm,1.2s,mb4.5						
COLA	**College**	**82.73**	**11**	*e*P	**P**	**17 17 14.4**	**-1.0**
IMA	**Indian Mountai**	**82.91**	**8**	*e*P	**P**	**17 17 16.7**	**+0.3**
DAWY	**Dawson**	**83.81**	**15**	*e*P	**P**	**17 17 20.9**	**0.0**
CM31	**Chiang Mai Arr**	**92.25**	**288**	*e*P	**P**	**17 18 03.4**	**+1.0**
	comp=Z,7.6nm,0.6s,mb5.2						
LZH	**Lanzhou**	**93.00**	**307**	*e*P	**P**	**17 18 08.0**	**+2.4**
LZH				AP	pP	17 18 20.5	+2.4
LZH				AMB	AMB		
	comp=Z,17nm,1.5s,mb5.2						
LZH	**Lanzhou**	**93.00**	**307**	*e*P	**P**	**17 18 08.0**	**+2.4**
	comp=Z,17nm,1.5s,mb5.2						
LZH				pP	pP	17 18 20.6	+2.5
LZH				sP	sP	17 18 28.1	+5.9
CHKZ	**Chkalovo**	**117.55**	**323**	*e*PKPdf	PKPdf	17 23 35.7	-0.6
CLL	**Collm**	**144.03**	**353**	*i* PKIKP	PKPdf	17 24 25.2	-0.7
	comp=Z,logA/T=0.9						
KOLS	**Kolonicke sedl**	**144.29**	**342**	*i* PKP	PKPdf	17 24 26.1	-0.3
UPC	**Upice**	**144.35**	**349**	*e*PKP	PKPdf	17 24 26.3	-0.2
DPC	**Dobruska-Polom**	**144.45**	**349**	*e*PKP	PKPdf	17 24 26.6	-0.1
OKC	**Ostrava-Krasne**	**144.56**	**347**	*e*PKP	PKPdf	17 24 26.8	-0.1
CRVS	**Cervenica-Dubn**	**144.56**	**342**	*i* PKP	PKPdf	17 24 26.9	0.0
PVCC	**Panska Ves**	**144.58**	**351**	*e*PKP	PKPdf	17 24 26.8	-0.1
MORC	**Moravsky Berou**	**144.75**	**347**	*e*PKPdf	PKPdf	17 24 27.3	+0.1
KMBO	**Kilima Mbogo**	**144.98**	**244**	*e*PKPdf	PKPdf	17 24 30.1	+1.3
PRU	**Pruhonice**	**145.11**	**350**	*e*PKP	PKPdf	17 24 28.7	+0.8
NKC	**Novy Kostel**	**145.16**	**353**	*e*PKP	PKPdf	17 24 28.9	+1.0
KECS	**Kecovo**	**145.22**	**343**	*i* PKP	PKPdf	17 24 29.1	+1.0
TNS	**Taunus Mts**	**145.50**	**357**	*e*PKPbc	PKPbc	17 24 29.9	+0.8
GIVF	**Givet**	**145.66**	**1**	*e*PKP1	PKPbc	17 24 29.6	+0.1
BAIF	**Baives**	**145.68**	**2**	*e*PKP1	PKPbc	17 24 29.8	+0.2
	comp=Z,39nm,1.1s						
GRA1	**Grafenberg Arr**	**145.83**	**354**	*e*PKPbc	PKPbc	17 24 31.2	+1.2
GRF	**Grafenberg Arr**	**145.83**	**354**	*e*PKP	PKPdf	17 24 31.2	+2.1
SMOL	**Smolenice**	**145.96**	**347**	*i* PKP	PKPdf	17 24 32.0	+2.6
KHC	**Kasperske Hory**	**146.09**	**351**	*e*PKP	PKPdf	17 24 31.8	+2.2
WET	**Wettzell**	**146.17**	**352**	*e*PKPbc	PKPbc	17 24 31.6	+0.8
ZST	**Bratislava**	**146.34**	**347**	*e*PKP	PKPdf	17 24 35.6	+5.6
GEC2	**GERESS Array S**	**146.35**	**351**	*e*PKPbc	PKPbc	17 24 32.4	+1.2
SRO	**Srobarova**	**146.41**	**345**	*e*PKP	PKPdf	17 24 33.8	+3.6
ROSF	**Rostrenen**	**146.54**	**11**	*e*PKP1	PKPbc	17 24 32.9	+1.2
FLN	**La Foliniere**	**146.57**	**8**	*e*PKP1	PKPbc	17 24 32.0	+0.2
	comp=Z,40nm,1.0s						
SGMF	**Saint Gilles**	**146.75**	**11**	*e*PKP1	PKPbc	17 24 32.6	+0.4
	comp=Z,14nm,0.7s						
LDF	**La Drutiere**	**146.79**	**8**	*e*PKP1	PKPbc	17 24 32.7	+0.5
	comp=Z,35nm,1.0s						
GRR	**Gorron**	**146.89**	**9**	*e*PKP1	PKPbc	17 24 33.2	+0.7
	comp=Z,50nm,1.1s						
QUIF	**Quistinic**	**146.96**	**11**	*e*PKP1	PKPbc	17 24 33.2	+0.5
FUR	**Furstenfeldbru**	**147.33**	**354**	*e*PKPbc	PKPdf	17 24 35.6	+3.9
CDF	**Champ du Feu**	**147.35**	**359**	*e*PKP1	PKPdf	17 24 34.8	+3.1
	comp=Z,14nm,0.8s						
BFO	**Black Forest**	**147.39**	**357**	*e*PKPbc	PKPdf	17 24 34.3	+2.5
HAU	**Haudompre**	**147.77**	**360**	*e*PKP1	PKPdf	17 24 35.9	+3.5
	comp=Z,16nm,0.7s						
HINF	**Hinteralfeld**	**147.95**	**359**	*e*PKP1	PKPdf	17 24 36.1	+3.4
	comp=Z,6.1nm,0.8s						
SSF	**Saint Saulge**	**148.64**	**3**	*e*PKP1	PKPdf	17 24 38.5	+4.7
	comp=Z,28nm,1.1s						
MFF	**Saint Martin d**	**148.74**	**8**	*e*PKP1	PKPdf	17 24 38.3	+4.3
	comp=Z,20nm,1.0s						
AVF	**Avril sur Loir**	**148.90**	**4**	*e*PKP1	PKPdf	17 24 38.7	+4.5
	comp=Z,15nm,0.9s						
SMF	**Signal de Mont**	**149.07**	**3**	*e*PKP1	PKPdf	17 24 39.1	+4.6
	comp=Z,29nm,1.3s						
BGF	**Bois d'Agland**	**149.10**	**4**	*e*PKP1	PKPdf	17 24 39.4	+4.8
	comp=Z,30nm,0.9s						
CABF	**La Chapelle**	**149.17**	**0**	*e*PKP1	PKPdf	17 24 40.3	+5.6
	comp=Z,45nm,1.0s						
TCF	**Toulx Ste Croi**	**149.32**	**5**	*e*PKP1	PKPdf	17 24 39.8	+4.9
	comp=Z,10nm,0.9s						
RJF	**Les Rejaudoux**	**150.22**	**7**	*e*PKP1	PKPdf	17 24 42.1	+5.7
LPG	**La Plagne**	**150.27**	**359**	*e*PKP1	PKPdf	17 24 43.6	+7.2
	comp=Z,23nm,1.0s						
LFF	**La Frestale**	**150.49**	**8**	*e*PKP1	PKPdf	17 24 42.8	+6.0
	comp=Z,33nm,0.9s						
CAF	**Calvaciaro**	**150.65**	**6**	*e*PKP1	PKPdf	17 24 43.3	+6.3
ORIF	**Oris-en-Rattie**	**150.86**	**0**	*e*PKP1	PKPdf	17 24 44.1	+6.8
VIVF	**Saint-Julien-l**	**150.90**	**2**	*e*PKP1	PKPdf	17 24 44.4	+7.0
	comp=Z,11nm,0.7s						
MBDF	**Montbardon**	**151.04**	**359**	*e*PKP1	PKPdf	17 24 45.2	+7.6
	comp=Z,6.1nm,0.6s						
LASF	**Ste Croix**	**151.64**	**3**	*e*PKP1	PKPdf	17 24 46.1	+7.6
SMRF	**Simiane la Rot**	**151.80**	**1**	*e*PKP1	PKPdf	17 24 46.7	+7.9
SBF	**Sospel**	**151.89**	**358**	*e*PKP1	PKPdf	17 24 47.1	+8.2
	comp=Z,67nm,1.1s						
SJPF	**Ste Jean**	**151.95**	**11**	*e*PKP1	PKPdf	17 24 47.7	+8.7
ETSF	**Etsaut**	**152.28**	**11**	*e*PKP1	PKPdf	17 24 47.5	+8.0
	comp=Z,17nm,0.7s						
EPF	**Esparros**	**152.30**	**9**	*e*PKP1	PKPdf	17 24 47.6	+8.1
	comp=Z,3.2nm,0.6s						
PGF	**Pioggiola**	**153.11**	**355**	*e*PKP1	PKPdf	17 24 46.2	+5.5
	comp=Z,56nm,1.1s						

*CSEM **30** 17:09:54.3±0.2, 35.02N×3.86W, h12km, MD3.2, Error ellipse: s-maj=5.7km s-min=4.0km az=97.0*
*MDD **30** 17:09:55.5±0.4, 35.02N×3.87W, mbLg2.4/8, Error ellipse: s-maj=4.3km s-min=2.8km az=55.0, PRXIMO*
*CNRM **30** 17:09:55.0, 35.03N×3.80W, h2km, MD3.2*
*NEIC **30** 17:09:55.8, 35.05N×3.92W, MG3.2(MDD), After MDD.*
ISC 30 17:09:54.6±0.6, 35.04N±0.02×3.91W±0.03, h11km±3km, n33, σ1º24/60, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.15**	**121**	P	**Pg**	**17 09 57.5**	**-0.7**
TOU				S	**Sg**	**17 09 59.0**	**-1.6**
TOU	**Touzarine**	**0.15**	**121**	*i* P	**Pg**	**17 09 57.5**	**-0.7**
MPAL	**Palemas**	**0.19**	**351**	P	**Pg**	**17 09 59.0**	**+0.1**
MPAL				S	**Sg**	**17 10 03.0**	**+1.2**
EMEL	**Melilla**	**0.82**	**71**	P	**Pb**	**17 10 10.8**	**+0.4**
	239nm,0.3s,SNR=6.2						
EMEL				S	**Sb**	**17 10 22.1**	**+1.0**
	133nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**0.83**	**71**	P	**Pb**	**17 10 10.8**	**+0.3**
	239nm,0.3s,SNR=6.2						
EMLI				S	**Sb**	**17 10 22.1**	**+0.8**
	133nm,0.1s,SNR=7.9						
ZAI	**Zaio**	**0.95**	**94**	P	**Pb**	**17 10 10.0**	**-2.7**
ZAI				S	**Sb**	**17 10 23.0**	**-2.1**
TZK	**Tazeka**	**0.97**	**194**	*i* P	**Pb**	**17 10 14.0**	**+1.0**
TZK				*i* S	**Sb**	**17 10 26.0**	**+0.3**
EMIJ	**Mijas**	**1.68**	**335**	P	**Pn**	**17 10 24.3**	**+0.2**
EMIJ				S	**Sn**	**17 10 45.3**	**-0.4**
EMIJ	**Mijas**	**1.68**	**335**	P	**Pn**	**17 10 24.3**	**+0.2**
	2.0nm,0.2s,SNR=5.6						
EMIJ				S	**Sn**	**17 10 45.9**	**+0.2**
	11nm,0.3s						
EMIJ	**Mijas**	**1.68**	**335**	P	**Pn**	**17 10 24.3**	**+0.2**
	2.0nm,0.2s,SNR=5.6						
EMIJ				S	**Sn**	**17 10 45.3**	**-0.4**
	14nm,0.5s						
MIF	**Mishlifen**	**1.96**	**214**	*i* P	**Pn**	**17 10 29.0**	**+0.8**
MIF				*i* S	**Sn**	**17 10 53.5**	**+0.6**
EBER	**Berja**	**2.03**	**24**	P	**Pn**	**17 10 30.0**	**+0.8**
	3.4nm,0.4s,SNR=4.6						
EBER				S	**Sn**	**17 10 55.9**	**+1.2**
	21nm,0.4s						
EBER	**Berja**	**2.03**	**24**	P	**Pn**	**17 10 30.0**	**+0.8**
	3.4nm,0.4s,SNR=4.6						
EBER				S	**Sn**	**17 10 55.9**	**+1.2**
	15nm,0.4s						
CZD	**Col de Zad**	**2.21**	**206**	*i* P	**Pn**	**17 10 33.0**	**+1.2**
CZD				*i* S	**Sn**	**17 10 59.0**	**-0.3**
ESPR	**Espera**	**2.42**	**320**	P	**Pn**	**17 10 39.4**	**+4.7**
ESPR				S	**Sn**	**17 11 07.5**	**+3.0**
ESPR	**Espera**	**2.42**	**320**	P	**Pn**	**17 10 39.4**	**+4.7**
	0.5nm,0.1s,SNR=4.0						
ESPR				S	**Sn**	**17 11 04.3**	**-0.2**
	3.5nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.42**	**320**	S	**Sn**	**17 11 07.4**	**+2.9**
	4.3nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.84**	**13**	P	**Pn**	**17 10 42.2**	**+1.4**
	0.9nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**17 11 16.0**	**+0.8**
	12nm,0.5s,SNR=7.9						
EQES	**Quesada**	**2.84**	**13**	P	**Pn**	**17 10 42.2**	**+1.4**
	0.9nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**17 11 16.0**	**+0.8**
	8.2nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.17**	**350**	P	**Pn**	**17 10 46.1**	**+0.7**
EADA				S	**Sn**	**17 11 23.0**	**-0.6**
EADA	**Adamuz**	**3.17**	**350**	P	**Pn**	**17 10 46.1**	**+0.7**
	0.3nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**17 11 23.2**	**-0.4**
	3.4nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.17**	**350**	P	**Pn**	**17 10 46.1**	**+0.7**
	0.3nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**17 11 23.0**	**-0.6**
	3.7nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.52**	**321**	P	**Pn**	**17 10 50.6**	**+0.2**
	0.6nm,0.2s,SNR=6.2						
EMIN				S	**Sn**	**17 11 30.1**	**-2.3**
	0.9nm,0.3s						
EMIN	**Mina Concepcio**	**3.52**	**321**	S	**Sn**	**17 11 30.1**	**-2.4**
	1.3nm,0.4s						
EMIN	**Mina Concepcio**	**3.52**	**321**	P	**Pn**	**17 10 50.6**	**+0.2**
	0.6nm,0.2s,SNR=6.2						
EMUR	**La Murta**	**3.53**	**37**	S	**Sn**	**17 11 29.3**	**-3.4**
	5.6nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**3.53**	**37**	S	**Sn**	**17 11 29.3**	**-3.4**
	4.2nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**3.81**	**312**	P	**Pn**	**17 10 51.9**	**-2.7**
EGRO				S	**Sn**	**17 11 37.3**	**-2.6**
EGRO	**El Granado**	**3.81**	**312**	P	**Pn**	**17 10 54.2**	**-0.4**
	0.6nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**17 11 37.3**	**-2.6**
	3.

	comp=Z,12nm,1.2s,mb5.2						
KAF	Kangasniemi	144.56	341	ep	PKPbc	17 35 19.3	-4.2
ZEI	Tsey	144.77	302	ePKIKP	PKPdf	17 35 22.6	-2.1
ZEI				pmax	pmax		
	comp=Z,11nm,0.9s						
GOF	Gofitskoye	145.03	306	⇑/PKIKP	PKPdf	17 35 23.5	-1.6
GOF				pmax	pmax		
	comp=Z,70nm,1.4s						
OBN	Obninsk	145.29	326	⇓/PKHKP		17 35 19.6	
OBN				pmax	pmax		
	comp=Z,92nm,2.3s						
KIV	Kislovodsk	145.47	305	ePKIKP	PKPdf	17 35 25.2	-0.7
KIV	Kislovodsk	145.47	305	ePKPbc	PKPbc	17 35 25.2	-1.3
NB2	NORSAR Subarra	148.69	352	PKP	PKPdf	17 35 30.8	+0.2
	comp=Z,5.3nm,1.0s,baz=16,slow=3.1						
MALT	Malatya	149.36	295	ePKP2	PKPab	17 35 36.9	-6.9
CLL	Collm	157.57	342	ePKP2	PKPab	17 36 12.0	-6.0
KHC	Kasperske Hory	159.36	339	ePKPab	PKPab	17 36 20.0	-5.8
KHC				pPKP		17 36 30.0	

IGQ 30 17:34:36.2, 0.88S×81.15W, h15km±5km, mb4.0, 8C-2D, Error ellipse: s-maj=8.7km s-min=5.2km az=3.6, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.63	106	⇑P	Pb	17 34 47.6	-0.8
JAMA	Jama	1.13	57	⇑P	Pb	17 34 56.9	+0.1
JAMA				S	Sb	17 35 11.7	+0.6
MAGD	Magdalena	1.60	60	P	Pn	17 35 06.7	+2.6
IGUA	Igualata	2.59	104	P	Pn	17 35 19.8	+1.5
JUA2	San Juan 2	2.63	76	P	Pn	17 35 19.8	+0.9
TERV	Terraza Guagua	2.64	75	⇑P	Pn	17 35 20.1	+1.0
PINO	Pino	2.64	74	⇑P	Pn	17 35 20.0	+0.9
JOR1	San Jorge 1	2.66	71	P	Pn	17 35 18.4	-1.0
NAS1	Nasa	2.69	85	P	Pn	17 35 24.2	+4.5
YANA	Yana	2.69	74	⇓P	Pn	17 35 20.0	+0.3
JUIV	Juive	2.74	101	P	Pn	17 35 23.4	+2.9
VC1	Cotopaxi 1	2.76	85	⇑P	Pn	17 35 23.3	+2.6
RETU	Refugio	2.77	102	P	Pn	17 35 25.0	+4.1
ARRY	Arrayan	2.77	103	P	Pn	17 35 22.2	+1.3
ARRY				S	Sn	17 35 55.1	+0.8
PISA	Pisayambo	2.77	94	P	Pn	17 35 23.8	+2.9
TAMB	Tambo	2.79	86	P	Pn	17 35 24.4	+3.2
ANTI	Antisana	3.02	82	⇑P	Pn	17 35 27.1	+2.7
COTA	Cotacachi	3.06	67	⇓P	Pn	17 35 25.6	+0.6
CAYR	Refugio Cayamb	3.27	74	⇑P	Pn	17 35 31.0	+3.0
CAYA	Cayambe	3.30	73	⇑P	Pn	17 35 31.0	+2.6

IGQ 30 17:44:51.7, 0.88S×81.26W, h9km±4km, mb4.0, 1C, Error ellipse: s-maj=6.7km s-min=4.8km az=12.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.74	104	⇑P	Pb	17 45 05.1	-1.2
JAMA	Jama	1.22	60	P	Pb	17 45 14.9	+0.4
JAMA				S	Sb	17 45 29.9	-0.3
MAGD	Magdalena	1.69	62	P	Pn	17 45 23.6	+1.9
IGUA	Igualata	2.69	103	P	Pn	17 45 37.8	+1.8
JUA2	San Juan 2	2.74	76	P	Pn	17 45 37.6	+0.9
PINO	Pino	2.75	75	P	Pn	17 45 37.3	+0.5
TERV	Terraza Guagua	2.75	75	P	Pn	17 45 37.8	+1.0
YANA	Yana	2.79	74	P	Pn	17 45 37.9	+0.4
JUIV	Juive	2.85	101	P	Pn	17 45 39.8	+1.5
VC1	Cotopaxi 1	2.87	85	P	Pn	17 45 41.4	+2.9
ARRY	Arrayan	2.88	103	P	Pn	17 45 39.6	+1.0
ARRY				S	Sn	17 46 13.4	-0.3
PISA	Pisayambo	2.88	94	P	Pn	17 45 42.1	+3.4
TAMB	Tambo	2.90	86	P	Pn	17 45 44.7	+5.7
ULBA	Ulba	2.91	101	P	Pn	17 45 41.2	+2.1
ULBA				S	Sn	17 46 15.8	+1.3
ANTI	Antisana	3.13	82	P	Pn	17 45 44.9	+2.6
COTA	Cotacachi	3.16	68	P	Pn	17 45 43.6	+0.9
CAYR	Refugio Cayamb	3.37	75	P	Pn	17 45 48.6	+2.9
CAYR				S	Sn	17 46 28.0	+1.7
CAYA	Cayambe	3.40	74	P	Pn	17 45 48.7	+2.6

OTT 30 18:06:45.2±0.1, 48.13N×77.97W, h19km, MN3.8/30, 1C-1D, Southern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLDQ	Val d'Or	0.34	93	⇑PG	Pb	18 06 49.6	-2.9
VLDQ				SG	Sb	18 06 52.4	-5.1
VLDQ				Trac		18 06 53.1	
	comp=Z,2μm,0.1s						
KILO	Kirkland Lake	1.23	288	⇓PG	Pn	18 07 07.2	-0.3
KILO				SG	Sb	18 07 22.8	-0.2
KILO				Trac		18 07 25.0	
	comp=Z,1μm,0.1s						
CBRQ	Cabonga Reserv	1.30	129	PG	Pn	18 07 08.5	-0.1
CBRQ				SG	Sb	18 07 25.0	-0.2
CBRQ				Trac		18 07 26.2	
	comp=Z,216nm,0.1s						
EEO	Eldee	1.67	207	PN	Pn	18 07 13.0	-0.9
EEO				PG	Pn	18 07 14.1	+0.2
EEO				SN	Sn	18 07 34.9	-0.1
EEO				Trac		18 07 35.8	
	comp=Z,625nm,0.2s						
GRQ	Grand Remous	2.09	136	PN	Pn	18 07 19.1	-0.8
GRQ				SN	Sn	18 07 44.0	-1.7
GRQ				SG	Sn	18 07 48.2	+2.5
GRQ				Trac		18 07 48.9	
	comp=Z,100nm,0.1s						
CRLO	Chalk River	2.13	169	PN	Pn	18 07 21.2	+0.7
CRLO				SG	Sn	18 07 50.4	+3.6
CRLO				Trac		18 07 54.2	
	comp=Z,126nm,0.1s						
ALGO	Algonquin Park	2.18	182	PN	Pn	18 07 20.4	-0.8
ALGO				SN	Sn	18 07 46.9	-1.0
ALGO				SG	Sn	18 07 49.5	+1.6
ALGO				Trac		18 07 54.5	
	comp=Z,348nm,0.1s						
MALO	McAlpine Lake	2.23	329	PN	Pn	18 07 22.2	+0.3
MALO				PG	Pn	18 07 25.8	+3.9
MALO				SN	Sn	18 07 48.8	-0.4
MALO				SG	Sn	18 07 53.8	+4.6
MALO				Trac		18 07 56.8	
	comp=Z,310nm,0.2s						
RSPO	Restoule Provi	2.40	211	PN	Pn	18 07 23.1	-1.1
RSPO				SN	Sn	18 07 51.7	-1.7
RSPO				SG	Sn	18 07 56.2	+2.8
RSPO				Trac		18 07 56.8	
	comp=Z,154nm,0.2s						
PEMO	Pembroke	2.51	168	PN	Pn	18 07 24.6	-1.2
PEMO				SN	Sn	18 07 54.1	-2.0
PEMO				Trac		18 08 05.6	
	comp=Z,42nm,0.1s						
SUNO	Sudbury Onapin	2.74	238	PN	Pn	18 07 27.4	-1.7
SUNO				SN	Sn	18 07 58.8	-3.2
SUNO				SG	Sn	18 08 06.3	+4.3
SUNO				Trac		18 08 08.9	
	comp=Z,186nm,0.1s						
BUKO	Buck Lake	2.87	201	PN	Pn	18 07 30.1	-0.9
BUKO				SN	Sn	18 08 03.5	-1.8
BUKO				SG	Sn	18 08 09.9	+4.6
BUKO				Trac		18 08 16.0	
	comp=Z,68nm,0.1s						
GAC	Glen Almond	2.97	144	PN	Pn	18 07 30.9	-1.5
GAC				PN	Pn	18 07 30.9	-1.5
GAC				SN	Sn	18 08 03.6	-4.3
GAC				SN	Sn	18 08 05.2	-2.7
GAC				SG	Sn	18 08 12.9	+5.0
GAC				SG	Sn	18 08 14.8	+6.9
GAC				Trac		18 08 16.5	
	comp=Z,56nm,0.2s						
GAC				Trac		18 08 20.5	
	comp=Z,79nm,0.3s						
TRQ	Mont Tremblant	3.01	128	PN	Pn	18 07 31.4	-1.6
TRQ				PG	Pn	18 07 38.7	+5.7
TRQ				SN	Sn	18 08 06.2	-2.8
TRQ				SG	Sn	18 08 17.1	+8.2
TRQ				Trac		18 08 20.1	
	comp=Z,72nm,0.1s						
BANO	Bancroft	3.12	180	PN	Pn	18 07 33.6	-0.9
BANO				SN	Sn	18 08 09.2	-2.4
BANO				SG	Sn	18 08 15.7	+4.1
BANO				Trac		18 08 24.4	
	comp=Z,28nm,0.0s						
OTT	Ottawa	3.15	150	PN	Pn	18 07 33.4	-1.5
OTT				PN	Pn	18 07 33.6	-1.3
OTT				PG	Pn	18 07 41.5	+6.6
OTT				PG	Pn	18 07 41.5	+6.6
OTT				SN	Sn	18 08 07.1	-5.3
OTT				SN	Sn	18 08 08.2	-4.2
OTT				SG	Sn	18 08 18.2	+5.8
OTT				SG	Sn	18 08 20.5	+8.2
OTT				Trac		18 08 26.4	
	comp=Z,84nm,0.2s						
OTT				Trac		18 08 26.5	
	comp=Z,133nm,0.2s						
PLVO	Plevna	3.16	168	PN	Pn	18 07 33.8	-1.3
PLVO				SN	Sn	18 08 09.8	-2.8
PLVO				SG	Sn	18 08 17.7	+5.1
PLVO				Trac		18 08 23.9	
	comp=Z,64nm,0.1s						
OTRO	Otter Rapids	3.16	312	PN	Pn	18 07 34.6	-0.5
OTRO				SN	Sn	18 08 10.9	-1.8
OTRO				SG	Sn	18 08 21.9	+9.2
OTRO				Trac		18 08 23.7	
	comp=Z,407nm,0.1s						
KLBO	Killbear Provi	3.18	210	PN	Pn	18 07 33.5	-1.9
KLBO				SN	Sn	18 08 09.2	-4.0
KLBO				SG	Sn	18 08 20.4	+7.2
KLBO				Trac		18 08 23.6	
	comp=Z,103nm,0.2s						
ALFO	Alfred	3.28	139	PN	Pn	18 07 35.4	-1.4
ALFO				SN	Sn	18 08 12.1	-3.6
ALFO				SG	Sn	18 08 24.5	+8.8
ALFO				Trac		18 08 28.7	
	comp=Z,74nm,0.2s						
KAPO	Kapuskasing	3.28	295	PN	Pn	18 07 35.8	-1.0
KAPO				PG	Pn	18 07 42.2	+5.4
KAPO				SN	Sn	18 08 12.2	-3.6
KAPO				Trac		18 08 13.6	
	comp=Z,75nm,0.1s						
KAPO				SG	Sn	18 08 22.7	+7.0
MRHQ	Morin Heights	3.41	130	PN	Pn	18 07 36.3	-2.4
MRHQ				SN	Sn	18 08 14.4	-4.7
MRHQ				SG	Sn	18 08 27.4	+8.3
MRHQ				Trac		18 08 31.2	
	comp=Z,69nm,0.2s						
SADO	Sadowa	3.46	194	PN	Pn	18 07 37.7	-1.7
SADO				SN	Sn	18 08 16.3	-4.1
SADO				SG	Sn	18 08 28.0	+7.7
SADO				Trac		18 08 37.4	
	comp=Z,30nm,0.1s						
MPPO	Murphy's Point	3.56	160	PN	Pn	18 07 39.0	-1.8
MPPO				SN	Sn	18 08 19.1	-3.8
MPPO				SG	Sn	18 08 31.0	+8.0
MPPO				Trac		18 08 36.1	
	comp=Z,67nm,0.3s						
DELO	Deloro Mine	3.62	176	PN	Pn	18 07 39.8	-1.9
DELO				SN	Sn	18 08 21.3	-3.2
DELO				SG	Sn	18 08 34.9	+10
DELO				Trac		18 08 45.4	
	comp=Z,25nm,0.1s						
WBO	Williamsburg	3.64	148	PN	Pn	18 07 40.3	-1.7
WBO				SN	Sn	18 08 21.4	-3.6
WBO				SG	Sn	18 08 35.4	+10
WBO				Trac		18 08 41.6	
	comp=Z,33nm,0.1s						
TOBO	Tobermory, Bru	3.80	221	PN	Pn	18 07 42.6	-1.6
TOBO				SN	Sn	18 08 25.3	-3.7
TOBO				SG	Sn	18 08 39.4	+10
TOBO				Trac		18 08 46.5	
	comp=Z,55nm,0.2s						
DPQ	Saint Jean	3.81	111	PN	Pn	18 07 41.8	-2.6
DPQ				PG	Pn	18 07 50.8	+6.4
DPQ				SN	Sn	18 08 25.2	-4.0
DPQ				SG	Sn	18 08 40.6	+11
DPQ				Trac		18 08 44.0	
	comp=Z,59nm,0.1s						
LINO	Lindsay	3.82	189	PN	Pn	18 07 42.4	-2.1
LINO				SN	Sn	18 08 24.4	-5.1
LINO				SG	Sn	18 08 39.1	+10
LINO				Trac		18 08 45.7	
	comp=Z,43nm,0.1s						
MNT	Montreal	3.98	130	PN	Pn	18 07 44.9	-1.9
MNT				SN	Sn	18 08 27.3	-6.0
MNT				SG	Sn	18 08 45.0	+12
MNT				Trac		18 08 48.7	
	comp=Z,142nm,0.3s						
CLWO	Collingwood	4.03	205	PN	Pn	18 07 45.9	-1.6
CLWO				SN	Sn	18 08 30.4	-4.2
CLWO				SG	Sn	18 08 47.7	+13
CLWO				Trac		18 08 56.1	
	comp=Z,78nm,0.2s						
KGNO	Kingston	4.04	165	PN	Pn	18 07 45.5	-2.1
KGNO				PG	Pn	18 07 55.4	+7.8
KGNO				SN	Sn	18 08 31.1	-3.9
KGNO				SG	Sn	18 08 47.8	+13
KGNO				Trac		18 08 49.1	
	comp=Z,38nm,0.2s						
WLVO	Wesleyville	4.22	184	PN	Pn	18 07 48.1	-2.1
WLVO				PG	Pn	18 07 58.4	+8.2
WLVO				SN	Sn	18 08 34.3	-5.3
WLVO				SG	Sn	18 08 52.4	+13
WLVO				Trac		18 08 54.1	
	comp=Z,50nm,0.2s						
PKRO	Pickering	4.24	191	PN	Pn	18 07 48.4	-2.1
PKRO				SN	Sn	18 08 34.3	-5.8
PKRO				SG	Sn	18 08 53.5	+13
PKRO				Trac		18 09 01.1	
	comp=Z,246nm,0.3s						
PECO	Prince Edward	4.25	170	PN	Pn	18 07 48.6	-2.1
PECO				SN	Sn	18 08 36.2	-4.3
PECO				SG	Sn	18 08 53.2	+13
PECO				Trac		18 08 57.4	
	comp=Z,28nm,0.2s						
DAQ	Lac Daran	4.51	90	PN	Pn	18 07 50.6	-3.7
DAQ				PG	Pn	18 08 03.1	+8.7
DAQ				SN	Sn	18 08 42.3	-4.7
DAQ				SG	Sn	18 09 05.4	+18
DAQ				Trac		18 09 16.4	
	comp=Z,33nm,0.2s						
BRCO	Bruce Peninsul	4.58	213	PN	Pn	18 07 54.7	-0.6
BRCO				SN	Sn	18 08 45.5	-3.1
BRCO				SG	Sn	18 09 03.2	+15
BRCO				Trac		18 09 10.6	
	comp=Z,85nm,0.2s						
QCQ	Quebec	4.74	104	SN	Sn	18 08 45.7	-6.9
QCQ				SG	Sn	18 09 10.3	+18
QCQ				Trac		18 09 16.6	
	comp=Z,38nm,0.2s						
ACTO	Acton	4.76	199	PN	Pn	18 07 55.4	-2.4
ACTO				SN	Sn	18 08 50.2	-2.9
ACTO				SG	Sn	18 09 06.6	+13
ACTO				Trac		18 09 13.5	
	comp=Z,30nm,0.1s						
ELGO	Elora Gorge	4.78	202	PN	Pn	18 07 55.7	-2.4
ELGO				SN	Sn	18 08 47.9	-5.8
ELGO				SG	Sn	18 09 08.9	+15
ELGO				Trac		18 09 16.9	
	comp=Z,52nm,0.3s						
MOQ	Mont Orford	4.84	124	PN	Pn	18 07 56.4	-2.5
MOQ				SN	Sn	18 08 50.0	-5.1
MOQ				SG	Sn	18 09 11.9	+17
MOQ				Trac		18 09 18.5	
	comp=Z,49nm,0.2s						
MEDO	Medina	4.98	184	PN	Pn	18 07 58.4	-2.6
MEDO				SN	Sn	18 08 51.0	-7.8
MEDO				SG	Sn	18 09 15.8	+17
MEDO				Trac		18 09 18.6	
	comp=Z,35nm,0.2s						
STCO	Saint Catharin	5.00	190	PN	Pn	18 07 58.2	-3.0
STCO				SN	Sn	18 08 48.8	-10
STCO				SG	Sn	18 09 15.4	+16
STCO				Trac		18 09 22.2	
	comp=Z,51nm,0.2s						
A54	Misere	5.13	95	PN	Pn	18 07 58.6	-4.5
A54				SN	Sn	18 08 55.7	-6.9
A54				SG	Sn	18 09 23.7	+21
A54				Trac		18 09 26.2	
	comp=Z,24nm,0.2s						
LMQ	La Malbaie	5.18	94	PN	Pn	18 07 59.2	-4.5
LMQ				SN	Sn	18 08 58.8	-4.9
LMQ				LG		18 09 21.3	
LMQ				Trac		18 09 27.2	
	comp=Z,25nm,0.2s						
TYNO	Tyneside	5.21	196	SN	Sn	18 09 01.0	-3.6
TYNO				SG	Sn	18 09 23.0	+18
TYNO				Trac		18 09 26.1	
	comp=Z,31nm,0.2s						
A61	Sainte Mathild	5.31	92	PN	Pn	18 08 01.2	-4.5
A61				SN	Sn	18 08 59.7	-7.4
A61				SG	Sn	18 09 26.7	+20
A61				Trac		18 09 33.5	
	comp=Z,23nm,0.2s						
HGVO	Hagersville	5.39	197	PN	Pn	18 08 02.6	-4.1
HGVO				SN	Sn	18 09 04.0	-5.0
HGVO				SG	Sn	18 09 28.3	+19
HGVO				Trac		18 09 33.6	
	comp=Z,13nm,0.1s						
A16	Riviere Ouelle	5.40	94	PN	Pn	18 08 02.0	-4.9
A16				SN	Sn	18 09 03.2	-6.2
A16				Trac		18 09 33.2	
	comp=Z,23nm,0.3s						
A16				LG		18 09 33.3	
A64	Saint Simeon	5.43	90	PN	Pn	18 08 02.7	-4.6
A64				SN	Sn	18 09 01.6	-8.4
A64				SG	Sn	18 09 31.0	+21
A64				Trac		18 09 42.2	
	comp=Z,16nm,0.2s						
PNPO	Pukaskwa Natio	5.56	278	PN	Pn	18 08 07.3	-1.9
PNPO				SN	Sn	18 09 06.5	-6.9
PNPO				Trac		18 09 14.4	
	comp=Z,7.5nm,0.1s						
PNPO				SG	Sn	18 09 32.2	+19
A21	Saint Andre	5.58	91	PN	Pn	18 08 04.7	-4.8
A21				SN	Sn	18 09 06.4	-7.4
A21				LG		18 09 35.6	
A21				Trac		18 09 45.2	
	comp=Z,43nm,0.4s						
VIMO	Victor Mine	5.96	324	PN	Pn	18 08 12.1	-2.8
VIMO				SN	Sn	18 09 17.1	-6.4
VIMO				SG	Sn	18 09 46.7	+23
VIMO				Trac		18 09 51.2	
	comp=Z,29nm,0.3s						
LG4Q	La Grande 4	6.02	23	PN	Pn	18 08 11.5	-4.1
LG4Q				SN	Sn	18 09 16.5	-8.3
LG4Q				SG	Sn	18 09 49.2	+24
LG4Q				Trac		18 09 50.8	
	comp=Z,19nm,0.2s						
GTO	Geraldton	6.14	289	PN	Pn	18 08 15.0	-2.4
GTO				SN	Sn	18 09 19.3	-8.6
GTO				SG	Sn	18 09 48.7	+21
GTO				Trac		18 09 55.3	
	comp=Z,25nm,0.3s						
MNQ	Manicouagan	6.47	65	PN	Pn	18 08 18.5	-3.4
MNQ				SN	Sn	18 09 28.1	-8.0
MNQ				LG		18 10 03.5	
MNQ				Trac		18 10 20.4	
	comp=Z,45nm,0.4s						
CNQ	Baie Comeau	6.65	76	PN	Pn	18 08 18.7	-5.8
CNQ				SN	Sn	18 09 28.9	-12
CNQ				LG		18 10 11.0	
CNQ				Trac		18 10 16.8	
	comp=Z,27nm,0.3s						
PLIO	Pelee Island,	7.19	209	PN	Pn	18 08 28.7	-3.4
PLIO				SN	Sn	18 09 45.1	-8.9
PLIO				SG	Sn	18 10 22.8	+29
PLIO				Trac		18 10 34.5	
	comp=Z,13nm,0.2s						
ICQ	Pointe Anglais	7.20	75	PN	Pn	18 08 25.9	-6.3
ICQ				SN	Sn	18 09 43.0	-11
ICQ				LG		18 10 25.2	
GSQ	Grosses Roches	7.25	80	PN	Pn	18 08 27.4	-5.5
GSQ				SN	Sn	18 09 46.1	-10
GSQ				LG		18 10 29.5	
GSQ				Trac		18 10 36.5	
	comp=Z,20nm,0.4s						
TBO	Thunder Bay	7.64	278	PN	Pn	18 08 35.6	-2.8
TBO				SN	Sn	18 09 55.7	-10
TBO				LG		18 10 39.4	
TBO				Trac		18 10 52.8	
	comp=Z,9.9nm,0.3s						
SMQ	Clarke City	7.67	70	PN	Pn	18 08 33.1	-5.8
SMQ				SN	Sn	18 09 54.2	-12
SMQ				LG		18 10 41.9	
SMQ				Trac		18 10 51.5	
	comp=Z,15nm,0.2s						
SILO	Sutton Inlier	7.70	328	PN	Pn	18 08 35.4	-3.8
SILO				SN	Sn	18 09 57.8	-8.9
SILO				Trac		18 10 04.5	
	comp=Z,4.2nm,0.1s						
SILO				LG		18 10 41.7	
LDIO	Lac des Isle M	7.77	282	SN	Sn	18 09 56.9	-12
LDIO				LG		18 10 41.2	
GGN	Saint George	8.23	107	PN	P	18 08 41.4	-5.2
GGN				SN	Sn	18 10 08.4	-12
GGN				LG		18 11 01.1	
PKLO	Pickle Lake	8.69	297	PN	P	18 08 49.1	-3.9
PKLO				SN	Sn	18 10 19.6	-12
PKLO				LG		18 11 08.2	
ATKO	Atikokan Iron	9.09	279	PN	P	18 08 51.9	-6.5
ATKO				SN	Sn	18 10 28.3	-13
ATKO				LG		18 11 19.7	
LMN	Caledonia Moun	9.28	99	PN	P	18 08 54.1	-7.0
LMN				SN	Sn	18 10 31.5	-15
SOLO	Sioux Lookout	9.46	287	PN	P	18 08 59.1	-4.5
SOLO				SN	Sn	18 10 37.9	-13
SOLO				LG		18 11 35.1	
SOLO				Trac		18 11 44.3	
	comp=Z,8.2nm,0.3s						
SCHQ	Schefferville	9.65	42	PN	P	18 08 59.9	-6.1
SCHQ				SN	Sn	18 10 42.1	-13
SCHQ				LG		18 11 39.8	
SCHQ				Trac		18 11 45.7	
	comp=Z,58nm,1.1s						
EPLO	Experimental L	10.49	284	PN	P	18 09 15.8	-2.0
EPLO				SN	S	18 11 01.0	-15
EPLO				LG		18 12 04.9	
RLKO	Red Lake	10.66	292	PN	P	18 09 18.2	-1.9
RLKO				SN	S	18 11 06.2	-14
ULM	Lac du Bonnet	11.91	287	PN	P	18 09 26.1	-11
ULM				SN	S	18 11 34.3	-16
ULM				LG		18 12 52.6	
DRLN	Deer Lake	13.56	78	PN	P	18 09 52.2	-6.7
DRLN				SN	S	18 12 12.9	-17
DRLN				LG		18 13 45.5	
FCC	Fort Churchill	14.29	324	PN	P	18 10 00.7	-7.7
FCC				SN	S	18 12 38.3	-9.0
YRTN	Rankin Inlet	16.69	337	PN	P	18 10 30.5	-8.8
QILN	Qililugaq Expl	19.08	350	PN	P	18 11 10.0	+1.1
QILN				SN	S	18 14 25.9	-12

IGQ 30 18:17:07.4, 1.09S×81.09W, h14km±4km, mb4.1, 2C-3D, Error ellipse: s-maj=6.5km s-min=4.3km az=177.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.54	86	⇑P	Pb	18 17 17.4	-0.8
JAMA	Jama	1.21	47	P	Pb	18 17 29.2	-0.3
JAMA				S	Sb	18 17 45.2	+0.3
MAGD	Magdalena	1.66	52	P	Pn	18 17 38.6	+2.2
IGUA	Igualata	2.48	99	P	Pn	18 17 49.2	+1.1
IGUA				S	Sn	18 18 20.4	+2.0
CUSU	Cusua	2.63	98	P	Pn	18 17 52.1	+1.8
JUA2	San Juan 2	2.63	71	P	Pn	18 17 51.2	+0.9
JUIV	Juive	2.64	97	P	Pn	18 17 52.4	+1.9
TERV	Terraza Guagua	2.64	70	P	Pn	18 17 52.1	+1.6
PINO	Pino	2.65	69	P	Pn	18 17 51.1	+0.6
NAS1	Nasa	2.65	80	P	Pn	18 17 52.2	+1.6
ARRY	Arrayan	2.66	99	P	Pn	18 17 52.3	+1.5
ARRY				S	Sn	18 18 24.5	+1.4
RETU	Refugio	2.66	98	P	Pn	18 17 53.0	+2.3
YANA	Yana	2.69	69	⇓P	Pn	18 17 52.1	+0.9
PISA	Pisayambo	2.70	89	P	Pn	18 17 52.9	+1.6
ULBA	Ulba	2.70	98	P	Pn	18 17 53.1	+1.8
VC1	Cotopaxi 1	2.72	81	P	Pn	18 17 54.7	+3.1
TAMB	Tambo	2.75	82	P	Pn	18 17 54.7	+2.7
ANTI	Antisana	2.99	78	⇓P	Pn	18 17 57.4	+1.9
COTA	Cotacachi	3.09	63	P	Pn	18 17 57.9	+1.0

ellipse: s-maj=9.9km s-min=7.2km az=54.0

ISC 30 18:20:03.4±0.5,0.88S±0.05×81.22W±0.03,h10km,n42, σ1§17/46,mb4.6/9,18C-1D,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.69	104	⇑P	Pb	18 20 15.5	-1.6
JAMA	Jama	1.18	59	⇑P	Pb	18 20 24.1	-1.4
JAMA				S	Sb	18 20 40.5	-0.1
MAGD	Magdalena	1.65	61	P	Pn	18 20 32.9	+0.2
IGUA	Igualata	2.65	103	⇑P	Pn	18 20 46.9	0.0
IGUA				S	Sn	18 21 21.7	+2.3
JUA2	San Juan 2	2.69	76	⇑P	Pn	18 20 46.9	-0.7
TERV	Terraza Guagua	2.71	75	P	Pn	18 20 46.4	-1.4
PINO	Pino	2.71	75	⇑P	Pn	18 20 46.5	-1.3
JOR1	San Jorge 1	2.72	71	P	Pn	18 20 46.5	-1.5
MARY	Rancho Maria	2.73	87	P	Pn	18 20 50.0	+1.9
NAS1	Nasa	2.75	85	⇑P	Pn	18 20 48.8	+0.4
YANA	Yana	2.75	74	⇑P	Pn	18 20 46.9	-1.5
CUSU	Cusua	2.79	102	⇑P	Pn	18 20 48.9	-0.1
JUIV	Juive	2.80	101	P	Pn	18 20 49.0	-0.1
VC1	Cotopaxi 1	2.82	85	⇑P	Pn	18 20 50.0	+0.6
RETU	Refugio	2.83	102	⇑P	Pn	18 20 50.6	+1.1
ARRY	Arrayan	2.83	103	⇑P	Pn	18 20 49.5	0.0
ARRY				S	Sn	18 21 25.1	+1.1
PISA	Pisayambo	2.84	94	⇓P	Pn	18 20 50.6	+1.0
TAMB	Tambo	2.85	86	⇑P	Pn	18 20 50.2	+0.3
ULBA	Ulba	2.87	101	P	Pn	18 20 50.1	+0.1
OTAV	Otavalo	2.98	68	⇑ePn	Pn	18 20 49.8	-1.8
OTAV				eSn	Sn	18 21 29.2	+1.3
ANTI	Antisana	3.08	82	⇑P	Pn	18 20 53.7	+0.5
COTA	Cotacachi	3.12	67	⇑P	Pn	18 20 52.3	-1.4
CAYR	Refugio Cayamb	3.33	75	⇑P	Pn	18 20 57.8	+1.2
CAYA	Cayambe	3.36	74	⇑P	Pn	18 20 57.6	+0.5
CONE	Cono NE Rev Vo	3.66	77	⇑P	Pn	18 21 03.6	+2.3
PAYG	Puerto Ayora 49nm,1.2s	9.07	271	eP	P	18 22 17.7	+0.3
NNA	Nana 54nm,1.3s	11.86	159	eP	P	18 22 51.3	-4.4
SDV	Santo Domingo 50nm,1.0s	14.33	47	ePn	P	18 23 25.8	-2.8
SDV				epP		18 23 35.2	
SAML	Samuel 41nm,1.3s	19.66	115	eP	P	18 24 29.6	-6.0
LPAZ	La Paz 24nm,1.4s	20.02	141	eP	P	18 24 37.2	-2.2
TEIG	Tepich 13nm,1.1s,mb4.3	22.09	342	eP	P	18 25 01.8	+1.2
SJG	San Juan 179nm,1.7s,mb5.2	24.00	37	P	P	18 25 19.7	+0.3
LVC	Limon Verde 19nm,1.2s,mb4.5	24.70	152	eP	P	18 25 26.7	+0.6
WMOK	Wichita Mounta 6.7nm,1.3s,mb4.2	39.07	337	eP	P	18 27 33.1	+0.6
PLCA	Paso Flores	40.83	168	eP	P	18 27 45.7	-1.2
KSU1	Kansas State U	42.23	342	P	P	18 27 58.9	+0.4
ANMO	Albuquerque 3.6nm,0.8s,mb4.2	42.76	329	eP	P	18 28 03.1	+0.3
SDCO	Great Sand Dun 7.7nm,1.1s,mb4.5	44.51	332	eP	P	18 28 18.4	+1.3
ULM	Lac du Bonnet 10nm,1.1s,mb4.7	52.46	348	eP	P	18 29 17.1	-1.5
HLID	Hailey	53.29	330	eP	P	18 29 25.2	+0.4
WVOR	Wild Horse Val 14nm,1.5s,mb4.8	54.72	327	eP	P	18 29 36.4	+1.1
DBIC	Dimbokro 52nm,1.8s,mb5.2	76.56	83	eP	P	18 31 54.4	-2.0

MAN 30 18:36:50.6,12.97N×124.99E,h42km,mb4.2,ML3.0, MS2.7,1C-1D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	Virac	1.03	308	eP	P	18 37 09.0	+0.3
PVCP				eS	S	18 37 24.6	+2.4
BESP	Borongan	1.43	162	eP	P	18 37 14.1	-0.3
MMPH	Masbate	1.46	246	eP	P	18 37 15.0	0.0
MMPH				eS	S	18 37 35.0	+1.9
PLP	Palo	1.79	180	i P	P	18 37 19.8	+0.2
PLP				i S	S	18 37 41.6	+0.4
RCP	Roxas	2.60	238	⇓eP	P	18 37 31.4	+0.2
BOAC	Boac	3.10	279	eP	P	18 37 38.5	+0.2
SCPH	Surigao	3.20	171	⇑eP	P	18 37 46.3	+6.6
GUIM	Jordan	3.31	226	eP	P	18 37 40.8	-0.3

IGQ 30 18:37:01.8,0.79S×81.00W,h10km±6km,mb4.0,2C,Error ellipse: s-maj=15.8km s-min=4.5km az=10.9,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.52	119	⇑P	Pg	18 37 11.4	-0.9
JAMA	Jama	0.96	56	P	Pb	18 37 19.6	-0.5
JAMA				S	Sb	18 37 32.5	0.0
MAGD	Magdalena	1.42	60	P	Pn	18 37 28.5	+0.6
JUA2	San Juan 2	2.46	76	P	Pn	18 37 43.1	+0.3
TERV	Terraza Guagua	2.48	76	P	Pn	18 37 44.5	+1.6
PINO	Pino	2.48	75	P	Pn	18 37 43.2	+0.3
YANA	Yana	2.52	75	P	Pn	18 37 45.0	+1.4
NAS1	Nasa	2.53	86	P	Pn	18 37 45.2	+1.5
VC1	Cotopaxi 1	2.60	87	P	Pn	18 37 47.7	+2.9
TAMB	Tambo	2.63	88	P	Pn	18 37 47.6	+2.4
ARRY	Arrayan	2.64	106	P	Pn	18 37 47.5	+2.2
ULBA	Ulba	2.67	104	P	Pn	18 37 47.8	+2.1
ANTI	Antisana	2.86	83	⇑P	Pn	18 37 51.0	+2.6
COTA	Cotacachi	2.89	67	P	Pn	18 37 53.0	+4.2
CAYR	Refugio Cayamb	3.10	75	P	Pn	18 37 54.2	+2.4
CAYA	Cayambe	3.13	74	P	Pn	18 37 54.0	+1.7

IGQ 30 19:34:05.3,1.19S×81.34W,h7km±5km,mb4.4,8C-2D, Error ellipse: s-maj=7.5km s-min=5.4km az=4.9,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.80	80	⇑P	Pb	19 34 20.2	-0.8
JAMA	Jama	1.46	51	P	Pn	19 34 32.6	+0.5
JAMA				S	Sb	19 34 51.0	+0.1
MAGD	Magdalena	1.92	54	P	Pn	19 34 40.7	+2.0
IGUA	Igualata	2.71	96	⇑P	Pn	19 34 51.0	+1.0
IGUA				S	Sn	19 35 26.5	+3.0
CUSU	Cusua	2.87	95	P	Pn	19 34 53.9	+1.6
JUIV	Juive	2.88	95	⇑P	Pn	19 34 54.1	+1.7
MARY	Rancho Maria	2.88	81	P	Pn	19 34 57.9	+5.4
ARRY	Arrayan	2.90	96	⇑P	Pn	19 34 53.7	+1.0
ARRY				S	Sn	19 35 28.1	0.0
JUA2	San Juan 2	2.90	70	⇑P	Pn	19 34 54.1	+1.4
RETU	Refugio	2.90	95	P	Pn	19 34 54.4	+1.7
NAS1	Nasa	2.91	79	P	Pn	19 34 54.1	+1.3
TERV	Terraza Guagua	2.91	70	⇑P	Pn	19 34 54.2	+1.3
PINO	Pino	2.92	69	⇑P	Pn	19 34 54.0	+1.1
ULBA	Ulba	2.94	95	P	Pn	19 34 54.6	+1.4
PISA	Pisayambo	2.95	87	P	Pn	19 34 55.1	+1.7
YANA	Yana	2.96	69	⇑P	Pn	19 34 54.6	+1.0
VC1	Cotopaxi 1	2.98	79	P	Pn	19 34 55.9	+2.0
TAMB	Tambo	3.01	81	P	Pn	19 34 55.7	+1.5
COTA	Cotacachi	3.36	63	⇓P	Pn	19 35 00.5	+1.3
CAYR	Refugio Cayamb	3.54	70	P	Pn	19 35 04.6	+2.8
CAYA	Cayambe	3.57	69	⇓P	Pn	19 35 04.9	+2.7

*CSEM **30** 19:35:12.3±0.6,36.64N×9.72W,h2km,ML2.7/5,Error ellipse: s-maj=11.9km s-min=10.0km az=94.0*
*NEIC **30** 19:35:12.6,36.65N×9.67W,MG3.3(MDD),After MDD.*
*INMG **30** 19:35:14.5±0.5,36.54N×9.87W,h31km,ML1.7,Error ellipse: s-maj=3.5km s-min=2.4km az=65.0*

MDD 30 19:35:12.8±1.9,36.65N×9.72W,mbLg2.0/8,Error ellipse: s-maj=15.5km s-min=13.0km az=67.0,PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.20	41	eP	Pb	19 35 36.1	+0.1
PTEO				eS	Sb	19 35 52.0	+0.1
	4.5nm,0.1s						
PTEO	Sao Teotonio	1.20	41	eP	Pb	19 35 36.1	+0.1
PTEO				eS	Sb	19 35 52.0	+0.1
	4.5nm,0.1s						
PALC	Alcoutim	1.97	65	ePn	Pn	19 35 46.2	-1.5
PALC				eSn	Sn	19 36 10.4	-3.1
EGRO	El Granado	1.99	63	Pn	Pn	19 35 45.7	-2.3
EGRO				Sn	Sn	19 36 11.0	-3.1
EGRO	El Granado	1.99	63	P	Pn	19 35 46.6	-1.5
	0.7nm,0.1s,SNR=7.9						
EGRO				S	Sn	19 36 11.1	-3.0
	1.1nm,0.1s,SNR=7.9						
EGRO	El Granado	1.99	63	Pn	Pn	19 35 45.7	-2.4
	0.8nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	19 36 11.0	-3.1
	1.0nm,0.1s,SNR=7.9						
PBEJ	Beja	2.02	46	ePn	Pn	19 35 47.1	-1.3
PBEJ				eSn	Sn	19 36 11.3	-3.4
	1.8nm,0.1s						
PBEJ	Beja	2.02	46	ePn	Pn	19 35 47.1	-1.3
PBEJ				eSn	Sn	19 36 11.3	-3.4
	1.8nm,0.1s						
MOE	Montemor	2.16	30	eSn	Sn	19 36 14.9	-3.5
PLOU	Loures	2.28	11	ePn	Pn	19 35 50.2	-2.0
PLOU				eSn	Sn	19 36 17.1	-4.3
EMIN	Mina Concepcio	2.67	64	Pn	Pn	19 35 55.9	-1.9
EMIN				Sn	Sn	19 36 26.8	-4.7
EMIN	Mina Concepcio	2.67	64	P	Pn	19 35 55.9	-1.9
	0.2nm,0.1s,SNR=8.3						
EMIN				S	Sn	19 36 26.9	-4.6
	0.5nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	2.67	64	Pn	Pn	19 35 55.9	-1.9
	0.5nm,0.1s,SNR=8.3						
EMIN				Sn	Sn	19 36 26.8	-4.6
	0.7nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.00	45	Pn	Pn	19 35 59.2	-3.3
EBAD				Sn	Sn	19 36 35.7	-4.1
EBAD	Badajoz	3.00	45	P	Pn	19 35 59.6	-2.9
	0.8nm,0.2s,SNR=6.3						
EBAD				S	Sn	19 36 35.6	-4.2
	0.7nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.00	45	Pn	Pn	19 35 59.2	-3.3
	0.5nm,0.1s,SNR=6.3						
EBAD				Sn	Sn	19 36 35.7	-4.1
	0.8nm,0.1s,SNR=7.9						
ESPR	Espera	3.11	85	P	Pn	19 36 01.3	-2.7
	1.2nm,0.2s,SNR=4.9						
ESPR				S	Sn	19 36 36.9	-5.5
	7.8nm,0.3s,SNR=7.9						
ESPR	Espera	3.11	85	Pn	Pn	19 36 01.3	-2.7
	1.6nm,0.2s,SNR=4.9						
ESPR				Sn	Sn	19 36 36.9	-5.5
	3.9nm,0.2s,SNR=7.9						
EADA	Adamuz	4.36	68	Pn	Pn	19 36 17.7	-4.1
EADA				Sn	Sn	19 37 05.2	-9.1
EADA	Adamuz	4.36	68	P	Pn	19 36 18.8	-3.0
	0.5nm,0.1s,SNR=7.9						
EADA				S	Sn	19 37 05.3	-8.9
	0.4nm,0.1s,SNR=7.9						
EADA	Adamuz	4.36	68	Pn	Pn	19 36 17.7	-4.2
	0.1nm,0.1s,SNR=7.9						
EADA				Sn	Sn	19 37 05.2	-9.0
	0.2nm,0.1s,SNR=7.9						
ELOB	Lobios	5.37	13	S	Sn	19 37 30.4	-9.2
	0.9nm,0.2s,SNR=7.9						
EQES	Quesada	5.43	76	S	Sn	19 37 33.9	-7.1
	0.2nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	5.45	55	P	Pn	19 36 33.7	-3.5
	0.2nm,0.2s,baz=240,slow=13,SNR=10						
ESDC	Sonseca Array	5.45	55	Pn	Pn	19 36 33.7	-3.5
	0.2nm,0.2s,SNR=10						

ISC 30 19:41:50.5±1.0,7.3N±0.2×92.6E±0.2,h33km,n11, σ0§46/12,mb4.6/6,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYB	Hyderabad	16.96	308	eP	P	19 45 51.0	+4.1
HYB				eS	S	19 48 53.0	-0.1
JIRN	Jiri 15nm,0.7s,mb4.5	21.11	344	eP	P	19 46 35.1	+0.5
PKI	Pulchoki 29nm,0.8s,mb4.7	21.25	342	eP	P	19 46 36.0	-0.1
DMN	Daman 25nm,0.7s,mb4.6	21.38	342	eP	P	19 46 37.8	+0.4
KKN	Kakani 19nm,0.8s,mb4.5	21.49	342	eP	P	19 46 38.5	0.0
GKN	Gorkha 19nm,0.6s,mb4.7	21.89	341	eP	P	19 46 42.5	0.0
KOLN	Koldanda	22.04	338	eP	P	19 46 43.0	-0.9
WB2	Warramunga Arr	49.24	124	eP	P	19 50 38.0	-0.2
ASPA	Alice Springs	50.77	129	eP	P	19 50 50.0	+0.1
STKA	Stephens Creek 3.0nm,0.6s,mb4.6	60.87	133	eP	P	19 52 02.4	0.0
KAF	Kangasniemi	72.57	333	ep	P	19 53 24.5	+8.6

IGQ 30 19:51:05.9,0.86S×81.04W,h19km±4km,mb4.3,5C-4D, Error ellipse: s-maj=8.6km s-min=4.5km az=9.0,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.53	110	⇑P	Pb	19 51 15.5	-0.9
JAMA	Jama	1.03	54	⇓P	Pb	19 51 25.1	+0.3
JAMA				S	Sb	19 51 38.3	+0.3
MAGD	Magdalena	1.50	58	P	Pn	19 51 34.2	+2.1
IGUA	Igualata	2.48	105	⇑P	Pn	19 51 47.3	+1.1
JUA2	San Juan 2	2.52	75	P	Pn	19 51 47.4	+0.7
TERV	Terraza Guagua	2.53	74	P	Pn	19 51 47.5	+0.6
PINO	Pino	2.54	74	P	Pn	19 51 47.5	+0.5
NAS1	Nasa	2.58	85	P	Pn	19 51 49.7	+2.1
YANA	Yana	2.58	73	⇓P	Pn	19 51 48.1	+0.5
YANA				S	Sn	19 52 20.5	+1.8
CUSU	Cusua	2.63	103	P	Pn	19 51 51.4	+3.1
JUIV	Juive	2.64	102	⇓P	Pn	19 51 50.4	+1.9
VC1	Cotopaxi 1	2.65	85	P	Pn	19 51 51.0	+2.4
RETU	Refugio	2.66	103	P	Pn	19 51 51.3	+2.5
ARRY	Arrayan	2.67	104	⇑P	Pn	19 51 49.5	+0.7
ARRY				S	Sn	19 52 21.8	+0.8
PISA	Pisayambo	2.67	94	P	Pn	19 51 51.9	+3.1
TAMB	Tambo	2.68	86	P	Pn	19 51 51.4	+2.4
ULBA	Ulba	2.70	102	P	Pn	19 51 51.3	+2.0
COTA	Cotacachi	2.96	66	⇓P	Pn	19 51 54.1	+1.1
CAYR	Refugio Cayamb	3.16	74	⇑P	Pn	19 51 59.3	+3.5
CAYA	Cayambe	3.19	73	⇑P	Pn	19 51 59.0	+2.8
CONE	Cono NE Rev Vo	3.49	77	P	Pn	19 52 05.7	+5.1

*NEIC **30** 19:59:22.4±1.1,17.45S×174.73W,h186km±11km,mb4.3/9, Error ellipse: s-maj=24.1km s-min=9.3km az=133.0*

ISC 30 19:59:20.3±1.2,17.4S±0.1×174.7W±0.2,h182km±15km, n42,σ0§88/14,mb4.3/8,2C,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.46	40	eP	P	20 00 31.0	+2.9
AFI				eS	S	20 01 19.4	-1.1
RAO	Raoul Island	12.18	193	eP	P	20 02 08.4	-0.5
CTA	Charters Tower 5.0nm,0.6s,mb4.3	37.00	260	eP	P	20 06 14.6	+0.5
CTAO	Charters Tower 5.2nm,0.6s,mb4.3	37.00	260	eP	P	20 06 14.2	+0.1
STKA	Stephens Creek 4.6nm,1.0s,mb4.1	41.97	241	eP	P	20 06 55.8	+0.7
WB2	Warramunga Arr	48.17	259	eP	P	20 07 44.1	-0.2
WRAB	Tennant Creek 5.0nm,0.3s,mb4.6	48.17	259	eP	P	20 07 43.6	-0.7
ASPA	Alice Springs	48.32	254	⇑i P	P	20 07 45.2	-0.2
HLID	Hailey 2.0nm,0.7s,mb3.9	81.95	40	eP	P	20 11 22.0	+0.9
MCK	McKinley 3.8nm,1.0s,mb4.1	83.29	11	eP	P	20 11 26.4	-1.2
COLA	College 10nm,0.8s,mb4.6	84.53	11	eP	P	20 11 33.5	-0.1
BILL	Biibino 10nm,1.0s,mb4.5	86.29	353	eP	P	20 11 42.9	+0.7
INK	Inuvik 2.8nm,1.1s,mb4.1	90.48	14	P	P	20 12 01.7	-0.3
MALT	Malatya	144.31	312	eP	PKPbc	20 18 36.8	+2.4
KSP	Ksiaz	145.47	348	eP	PKPdf	20 18 39.0	+2.6
CLL	Collm logA/T=1.3	145.59	351	⇑i PKIKP	PKPdf	20 18 38.9	+2.3
UPC	Upice	145.84	348	ePKP	PKPdf	20 18 40.2	+3.2
BRG	Berggiesshubel	145.87	350	P	PKPdf	20 18 40.2	+3.2
DPC	Dobruska-Polom	145.93	347	ePKP	PKPdf	20 18 40.8	+3.6
OKC	Ostrava-Krasne	145.99	345	ePKP	PKPdf	20 18 41.3	+4.0
PVCC	Panska Ves	146.09	349	ePKP	PKPdf	20 18 41.3	+3.9
MOX	Moxa	146.42	353	eP	PKPdf	20 18 42.0	+4.1
PRU	Pruhonice	146.62	349	ePKP	PKPdf	20 18 42.5	+4.2
VYHS	Vyhne	147.05	343	ePKP	PKPdf	20 18 43.7	+4.7
GIVF	Givet 20nm,1.0s	147.35	1	ePKP1	PKPdf	20 18 44.0	+4.5
BAIF	Baives	147.38	1	ePKP1	PKPdf	20 18 44.3	+4.7
GRA1	Grafenberg Arr	147.41	353	ePKP	PKPdf	20 18 46.8	+7.2
GRF	Grafenberg Arr	147.41	353	ePKP	PKPdf	20 18 46.8	+7.2
KHC	Kasperske Hory	147.61	350	ePKP	PKPdf	20 18 45.2	+5.2
GEC2	GERESS Array S	147.87	350	ePKP	PKPdf	20 18 45.7	+5.3
FLN	La Foliniere	148.34	7	ePKP1	PKPdf	20 18 46.2	+5.0
LDF	La Druitiere	148.55	7	ePKP1	PKPdf	20 18 46.7	+5.2
GRR	Gorron 13nm,0.8s	148.66	8	ePKP1	PKPdf	20 18 47.1	+5.4
CDF	Champ du Feu 10nm,1.0s	149.00	357	ePKP1	PKPdf	20 18 48.4	+6.2
HAU	Haudompre 21nm,1.1s	149.44	359	ePKP1	PKPdf	20 18 49.4	+6.5
HINF	Hinteralfeld 7.3nm,0.9s	149.61	358	ePKP1	PKPdf	20 18 49.6	+6.4
SSF	Saint Saulge 15nm,1.1s	150.36	2	ePKP1	PKPdf	20 18 51.8	+7.4
AVF	Avril sur Loir 16nm,1.1s	150.62	3	ePKP1	PKPdf	20 18 51.9	+7.1
SMF	Signal de Mont	150.79	2	ePKP1	PKPdf	20 18 52.4	+7.4
BGF	Bois d'Agland 8.4nm,0.7s	150.83	3	ePKP1	PKPdf	20 18 52.7	+7.6
CABF	La Chapelle 15nm,0.9s	150.84	359	ePKP1	PKPdf	20 18 53.4	+8.3
TCF	Toulx Ste Croi	151.06	4	ePKP1	PKPdf	20 18 52.9	+7.4

*NEIC **30** 20:06:33.7,37.32S×177.32E,h145km,After WEL.*

WEL 30 20:06:33.4±0.2,37.26S×177.36E,h141km±2km,ML3.7/9, 1C,Error ellipse: s-maj=3.2km s-min=2.1km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	Manawahe	0.91	217	P	P	20 06 56.6	-0.2
MARZ	Manawahe	0.91	217	PN	P	20 06 56.5	-0.2
EDRZ	Edgecumbe	0.98	210	PN	P	20 06 57.5	+0.1
URZ	Urewera	1.02	191	⇑PN	P	20 06 57.4	-0.2
URZ				SN	S	20 07 15.9	-0.4
PUZ	Puketiti	1.08	139	eP	P	20 06 58.1	-0.2
PUZ				S	S	20 07 16.3	-1.0
PUZ	Puketiti	1.08	139	PN	P	20 06 58.1	-0.2
PUZ				SN	S	20 07 16.3	-1.0
MWZ	Matawai	1.08	173	PN	P	20 06 58.0	-0.3
MWZ				SN	S	20 07 16.7	-0.6
TAZ	Tarawera	1.18	215	P	P	20 07 00.0	+0.7
TAZ	Tarawera	1.18	215	PN	P	20 06 59.9	+0.6
KNZ	Kokohu	1.77	172	eP	P	20 07 05.2	-0.5
KNZ	Kokohu	1.77	172	PN	P	20 07 05.2	-0.6
KNZ				SN	S	20 07 29.9	-0.5
BKZ	Black Stump Fm	2.02	200	P	P	20 07 08.3	-0.3
BKZ	Black Stump Fm	2.02	200	PN	P	20 07 08.1	-0.5
BKZ				SN	S	20 07 36.1	+0.5
NGZ	Ngauruhoe	2.36	215	P	P	20 07 13.4	+0.4
NGZ	Ngauruhoe	2.36	215	PN	P	20 07 13.4	+0.5
CNZ	Chateau	2.41	216	P	P	20 07 14.0	+0.5
CNZ	Chateau	2.41	216	PN	P	20 07 14.0	+0.5
WPVZ	Whakapapa	2.41	216	P	P	20 07 13.6	0.0
WPVZ	Whakapapa	2.41	216	PN	P	20 07 13.2	-0.4
TUVZ	Tukino	2.41	213	P	P	20 07 13.6	0.0
TUVZ	Tukino	2.41	213	PN	P	20 07 13.5	-0.1
FWVZ	Far West T-bar	2.45	215	eP	P	20 07 14.1	0.0
FWVZ	Far West T-bar	2.45	215	PN	P	20 07 14.2	+0.1
WNVZ	Wahianoa	2.49	213	P	P	20 07 12.6	-2.0
MOVZ	Moawhango	2.49	210	P	P	20 07 13.5	-1.1
MOVZ	Moawhango	2.49	210	PN	P	20 07 13.3	-1.2
PWZ	Pawanui	2.79	188	eP	P	20 07 16.9	-1.6
PWZ	Pawanui	2.79	188	PN	P	20 07 16.8	-1.7
PWZ				SN	S	20 07 50.9	-1.9
TSZ	Takapari Road	3.00	201	P	P	20 07 19.2	-2.0
TSZ	Takapari Road	3.00	201	PN	P	20 07 19.2	-2.1
TSZ				SN	S	20 07 56.2	-1.5
MRZ	Mangatainoka R	3.67	202	P	P	20 07 27.0	-3.0
MRZ	Mangatainoka R	3.67	202	PN	P	20 07 27.0	-3.0
MRZ				SN	S	20 08 09.7	-3.6
KIW	Kapiti Island	4.07	207	P	P	20 07 31.9	-3.4
KIW	Kapiti Island	4.07	207	PN	P	20 07 31.8	-3.5
KIW				SN	S	20 08 18.4	-4.4
MTW	Mount Morrison	4.15	200	P	P	20 07 32.6	-3.8
MTW	Mount Morrison	4.15	200	PN	P	20 07 32.6	-3.8
CAW	Cannon Point	4.24	204	P	P	20 07 33.6	-3.9
CAW	Cannon Point	4.24	204	PN	P	20 07 33.7	-3.8
MSWZ	Moikau Station	4.46	201	P	P	20 07 36.3	-4.2
BHW	Baring Head	4.57	204	P	P	20 07 37.6	-4.3
QRZ	Quartz Range	5.18	225	eP	P	20 07 46.5	-3.5
THZ	Tophouse	5.66	216	eP	P	20 07 52.3	-4.2

IGQ 30 20:08:14.7,0.90S×80.99W,h15km±5km,mb4.2,3C-2D, Error ellipse: s-maj=11.5km s-min=3.5km az=4.0,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.47	109	⇑P	Pb	20 08 23.4	-0.7
JAMA	Jama	1.01	51	P	Pb	20 08 33.1	-0.2
JAMA				S	Sb	20 08 46.2	+0.1
MAGD	Magdalena	1.47	56	P	Pn	20 08 42.1	+1.3
IGUA	Igualata	2.43	104	P	Pn	20 08 55.5	+1.0
JUA2	San Juan 2	2.48	74	P	Pn	20 08 55.8	+0.5
TERV	Terraza Guagua	2.49	73	P	Pn	20 08 55.8	+0.3
PINO	Pino	2.49	73	⇓P	Pn	20 08 55.5	+0.1
NAS1	Nasa	2.53	84	⇑P	Pn	20 08 58.3	+2.4
YANA	Yana	2.54	72	P	Pn	20 08 56.0	-0.2
CUSU	Cusua	2.57	102	P	Pn	20 08 58.4	+1.9
JUIV	Juive	2.58	102	P	Pn	20 08 58.3	+1.6
VC1	Cotopaxi 1	2.60	84	P	Pn	20 08 59.0	+2.0
RETU	Refugio	2.60	102	P	Pn	20 08 59.9	+2.9
ARRY	Arrayan	2.61	103	P	Pn	20 08 58.2	+1.1
PISA	Pisayambo	2.61	94	P	Pn	20 08 59.7	+2.6
TAMB	Tambo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.06**	**62**	P	Pn	20 16 25.3	-0.5
IRIF	**Iriomote-Funau**	**1.64**	**77**	P	Pn	20 16 33.5	-0.6
IRIF				S	Sn	20 16 53.2	-1.0
HATJ	**Hateruma jima**	**1.67**	**87**	P	Pn	20 16 33.8	-0.7
HATJ				S	Sn	20 16 54.0	-1.1
JKRS	**Kuro-shima**	**1.87**	**81**	P	Pn	20 16 36.9	-0.5
JKRS				S	Sn	20 16 59.5	-0.7
JIJ	**Ishigaki jima**	**2.01**	**78**	P	Pn	20 16 38.2	-1.2
JIJ				S	Sn	20 17 01.2	-2.6
JTJ	**Tarama**	**2.57**	**74**	*e*S	Sn	20 17 15.4	-2.5

WEL 30 20:28:03.3±0.2, 38.35S×175.87E, h160km±2km, ML3.8/11, 2C, Error ellipse: s-maj=2.3km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KATZ	**Kakaramea**	**0.64**	**192**	PN	P	20 28 26.9	+0.1
MGZ	**Maungaku**	**0.70**	**201**	PN	P	20 28 27.0	-0.1
NGZ	**Ngauruhoe**	**0.85**	**194**	PN	P	20 28 28.2	+0.1
CNZ	**Chateau**	**0.88**	**196**	PN	P	20 28 28.2	-0.1
TUVZ	**Tukino**	**0.93**	**190**	PN	P	20 28 28.6	+0.1
TUVZ				SN	S	20 28 47.8	-0.3
FWVZ	**Far West T-bar**	**0.93**	**195**	PN	P	20 28 28.5	-0.1
BKZ	**Black Stump Fm**	**0.95**	**149**	PN	P	20 28 28.7	0.0
BKZ				SN	S	20 28 47.8	-0.5
URZ	**Urewera**	**0.98**	**85**	PN	P	20 28 28.7	-0.2
URZ				SN	S	20 28 48.5	-0.2
WNVZ	**Wahianoa**	**1.00**	**192**	PN	P	20 28 27.3	-1.8
WNVZ				SN	S	20 28 47.1	-1.8
MOVZ	**Moawhango**	**1.06**	**185**	⇑PN	P	20 28 29.1	-0.5
MOVZ				SN	S	20 28 48.7	-1.2
MWZ	**Matawai**	**1.31**	**90**	PN	P	20 28 31.8	-0.2
MWZ				SN	S	20 28 53.4	-0.7
WAZ	**Wanganui**	**1.56**	**206**	PN	P	20 28 34.1	-0.4
KNZ	**Kokohu**	**1.56**	**116**	PN	P	20 28 34.7	+0.1
KNZ				SN	S	20 28 58.1	-0.7
TSZ	**Takapari Road**	**1.71**	**178**	⇑PN	P	20 28 35.2	-0.9
PWZ	**Pawanui**	**1.84**	**155**	PN	P	20 28 37.1	-0.5
PWZ				SN	S	20 29 03.5	-0.6
PUZ	**Puketiti**	**1.91**	**82**	PN	P	20 28 38.0	-0.2
PUZ				SN	S	20 29 04.3	-0.9
MRZ	**Mangatainoka R**	**2.32**	**185**	PN	P	20 28 41.0	-2.2
MRZ				SN	S	20 29 09.2	-4.6
BFZ	**Birch Farm**	**2.34**	**173**	PN	P	20 28 41.8	-1.7
BFZ				SN	S	20 29 10.6	-3.8
KIW	**Kapiti Island**	**2.61**	**196**	PN	P	20 28 43.8	-3.1
KIW				SN	S	20 29 15.2	-5.0
MTW	**Mount Morrison**	**2.82**	**186**	PN	P	20 28 46.1	-3.2
CAW	**Cannon Point**	**2.82**	**192**	PN	P	20 28 46.2	-3.3
MRW	**Makara Radio**	**3.01**	**197**	PN	P	20 28 48.2	-3.6
MRW				SN	S	20 29 23.0	-6.0
PAWZ	**Paruwai Farm**	**3.04**	**186**	PN	P	20 28 48.7	-3.6
MSWZ	**Moikau Station**	**3.10**	**189**	PN	P	20 28 49.2	-3.7
BHW	**Baring Head**	**3.15**	**194**	PN	P	20 28 49.6	-4.0
TUWZ	**Tuamarina**	**3.41**	**205**	PN	P	20 28 53.0	-4.0
NNZ	**Nelson**	**3.44**	**213**	PN	P	20 28 52.9	-4.5
NNZ				SN	S	20 29 33.4	-5.5
QRZ	**Quartz Range**	**3.57**	**225**	PN	P	20 28 53.9	-5.1
THZ	**Tophouse**	**4.09**	**213**	PN	P	20 29 01.0	-4.8
THZ				SN	S	20 29 48.2	-5.8
KHZ	**Kahutara**	**4.43**	**203**	PN	P	20 29 05.5	-4.7
DSZ	**Denniston Nort**	**4.60**	**221**	*e*PN	P	20 29 06.3	-6.2
LTZ	**Lake Taylor**	**5.20**	**211**	PN	P	20 29 14.6	-5.8
MQZ	**McQueen's Vall**	**5.87**	**203**	SN	S	20 30 23.8	-12

IGQ 30 20:53:59.7, 1.15S×81.23W, h10km±5km, mb4.2, 3C-2D, Error ellipse: s-maj=8.5km s-min=5.1km az=6.3, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.69**	**82**	⇑P	Pb	20 54 12.8	-0.6
JAMA	**Jama**	**1.35**	**49**	P	Pb	20 54 23.8	-0.9
JAMA				S	Sb	20 54 42.5	+0.6
MAGD	**Magdalena**	**1.81**	**54**	P	Pn	20 54 32.6	+1.3
IGUA	**Igualata**	**2.61**	**97**	P	Pn	20 54 43.2	+0.4
JUIV	**Juive**	**2.78**	**96**	P	Pn	20 54 49.2	+4.1
JUA2	**San Juan 2**	**2.79**	**71**	P	Pn	20 54 46.7	+1.5
ARRY	**Arrayan**	**2.80**	**97**	P	Pn	20 54 45.9	+0.5
ARRY				S	Sn	20 55 20.1	+0.5
TERV	**Terraza Guagua**	**2.80**	**70**	P	Pn	20 54 47.1	+1.7
NAS1	**Nasa**	**2.80**	**79**	⇓P	Pn	20 54 48.9	+3.5
RETU	**Refugio**	**2.80**	**96**	P	Pn	20 54 47.8	+2.4
PINO	**Pino**	**2.80**	**69**	P	Pn	20 54 46.0	+0.6
ULBA	**Ulba**	**2.84**	**96**	P	Pn	20 54 47.2	+1.2
PISA	**Pisayambo**	**2.85**	**88**	P	Pn	20 54 48.3	+2.2
YANA	**Yana**	**2.85**	**69**	P	Pn	20 54 46.7	+0.6
VC1	**Cotopaxi 1**	**2.87**	**80**	P	Pn	20 54 49.9	+3.5
TAMB	**Tambo**	**2.90**	**81**	P	Pn	20 54 49.6	+2.8
ANTI	**Antisana**	**3.15**	**77**	⇓P	Pn	20 54 52.3	+2.0
COTA	**Cotacachi**	**3.25**	**63**	P	Pn	20 54 53.7	+1.9
CAYR	**Refugio Cayamb**	**3.43**	**70**	⇑P	Pn	20 54 56.9	+2.6
CAYA	**Cayambe**	**3.46**	**69**	⇑P	Pn	20 54 57.0	+2.3

IGQ 30 20:58:49.8, 0.79S×81.04W, h20km±4km, mb4.5, 1C-3D, Error ellipse: s-maj=7.1km s-min=4.0km az=2.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.56**	**118**	⇑P	Pb	20 58 59.6	-1.1
JAMA	**Jama**	**0.98**	**58**	⇓P	Pb	20 59 08.3	+0.3
JAMA				S	Sb	20 59 20.8	+0.3
MAGD	**Magdalena**	**1.45**	**60**	P	Pn	20 59 17.6	+2.3
IGUA	**Igualata**	**2.50**	**106**	P	Pn	20 59 32.3	+2.0
IGUA				S	Sn	21 00 01.3	+0.9
JUA2	**San Juan 2**	**2.50**	**77**	⇓P	Pn	20 59 31.3	+1.0
PINO	**Pino**	**2.51**	**76**	P	Pn	20 59 30.7	+0.3
TERV	**Terraza Guagua**	**2.51**	**76**	P	Pn	20 59 31.1	+0.7
MARY	**Rancho Maria**	**2.55**	**89**	P	Pn	20 59 33.4	+2.4
YANA	**Yana**	**2.56**	**75**	P	Pn	20 59 31.5	+0.5
NAS1	**Nasa**	**2.56**	**87**	P	Pn	20 59 33.0	+1.8
CUSU	**Cusua**	**2.64**	**104**	P	Pn	20 59 34.5	+2.3
VC1	**Cotopaxi 1**	**2.64**	**87**	P	Pn	20 59 34.0	+1.8
JUIV	**Juive**	**2.65**	**104**	P	Pn	20 59 34.3	+1.9
PISA	**Pisayambo**	**2.67**	**96**	P	Pn	20 59 34.7	+2.1
TAMB	**Tambo**	**2.67**	**88**	P	Pn	20 59 35.3	+2.6
RETU	**Refugio**	**2.67**	**104**	P	Pn	20 59 35.3	+2.6
ARRY	**Arrayan**	**2.68**	**105**	P	Pn	20 59 34.1	+1.3
ARRY				S	Sn	21 00 07.1	+2.0
ULBA	**Ulba**	**2.71**	**104**	P	Pn	20 59 35.6	+2.4
ANTI	**Antisana**	**2.90**	**83**	⇓P	Pn	20 59 38.0	+2.1
COTA	**Cotacachi**	**2.92**	**68**	P	Pn	20 59 37.2	+1.0
CAYR	**Refugio Cayamb**	**3.13**	**75**	P	Pn	20 59 42.2	+3.0
CAYA	**Cayambe**	**3.17**	**74**	P	Pn	20 59 42.6	+2.9
CONE	**Cono NE Rev Vo**	**3.47**	**78**	P	Pn	20 59 48.8	+4.7

*GUC **30** 20:59:22.6±0.5, 27.41S×71.09W, h30km±4km, ML4.9*
*NEIC **30** 20:59:22.6, 27.41S×71.09W, h30km, ML4.9(GUC), After GUC.*

ISC 30 20:59:22.8±0.7, 27.39S±0.03×71.10W±0.08, h30km, n15, σ1°23/23, 7C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.67**	**88**	⇑*i*P	**Pb**	**20 59 35.2**	**-0.6**
CPCH				*i* S	**Sb**	**20 59 44.7**	**-0.1**
CPCH				AMP		20 59 48.3	
	comp=E,97μm,0.1s						
VACH	**Vallenar**	**1.22**	**166**	*i* P	**Pn**	**20 59 43.8**	**-0.3**
VACH				*i* S	**Sn**	**20 59 59.4**	**-0.3**
TLL	**Tololo Astrono**	**2.78**	**175**	⇑*i*P	**Pn**	**21 00 06.9**	**+0.5**
TLL				*i* S	**Sn**	**21 00 40.4**	**+1.0**
TLL				AMP		21 00 53.8	
	comp=N,13μm,0.6s						
CPN1	**Cerro Paranal**	**2.82**	**13**	⇑*i*P	**Pn**	**21 00 08.0**	**+1.1**
CPN1				*i* S	**Sn**	**21 00 42.4**	**+2.0**
CPN1				AMP		21 00 57.1	
	comp=E,2μm,0.4s						
ANCH	**Antofagasta**	**3.74**	**10**	⇑*i*P	**Pn**	**21 00 19.5**	**-0.5**
ANCH				*i* S	**Sn**	**21 01 03.2**	**-0.5**
ANCH				AMP		21 01 32.0	
	comp=N,817nm,0.5s						
ZON	**Zonda**	**4.65**	**154**	*e*P	**Pn**	**21 00 35.0**	**+2.1**
ZON				*e*S	**Sn**	**21 01 35.0**	**+8.4**
LVC	**Limon Verde**	**5.15**	**23**	⇑*e*Pn	**Pn**	**21 00 40.6**	**+0.6**
	comp=N,25nm,0.6s						
LVC				*e*Sn	**Sn**	**21 01 51.9**	**+13**
MDZ	**Mendoza**	**5.81**	**161**	*e*P	**Pn**	**21 00 53.1**	**+3.8**
MDZ				*i* S	**Sn**	**21 02 15.3**	**+20**
LPAZ	**La Paz**	**11.38**	**15**	*e*Pn	**P**	**21 02 04.4**	**-2.2**
	comp=N,4.0nm,0.4s						
TRQA	**Tornquist**	**13.11**	**147**	*e*Pn	**P**	**21 02 26.5**	**-3.1**
	comp=N,30nm,0.6s						
PLCA	**Paso Flores**	**13.32**	**178**	*e*P	**P**	**21 02 30.1**	**-2.3**
SAML	**Samuel**	**19.81**	**24**	*e*P	**P**	**21 03 53.7**	**-0.3**
	comp=N,4.2nm,0.7s						
VNA3	**Neumayer Olymp**	**55.21**	**160**	⇓*i*	**P**	**21 08 54.2**	**-0.7**
VNA2	**Neumayer--Watz**	**55.83**	**159**	⇑*i*	**P**	**21 08 58.7**	**-0.6**
VNA2	**Neumayer--Watz**	**55.83**	**159**	⇑*i*	**P**	**21 09 09.1**	**+10**

IGQ 30 21:02:32.0, 0.79S×81.08W, h19km±7km, mb4.2, 5C-1D, Error ellipse: s-maj=15.9km s-min=5.3km az=9.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.59**	**116**	⇑P	Pb	21 02 42.4	-1.1
JAMA	**Jama**	**1.02**	**59**	⇑P	Pb	21 02 50.9	+0.1
JAMA				S	Sb	21 03 04.0	+0.2
MAGD	**Magdalena**	**1.49**	**61**	P	Pn	21 03 00.4	+2.4
IGUA	**Igualata**	**2.54**	**106**	P	Pn	21 03 14.8	+1.7
JUA2	**San Juan 2**	**2.54**	**77**	⇓P	Pn	21 03 14.1	+1.0
TERV	**Terraza Guagua**	**2.55**	**76**	P	Pn	21 03 14.3	+1.0
PINO	**Pino**	**2.55**	**76**	P	Pn	21 03 13.9	+0.7
MARY	**Rancho Maria**	**2.59**	**89**	P	Pn	21 03 16.1	+2.2
YANA	**Yana**	**2.59**	**75**	P	Pn	21 03 14.2	+0.3
NAS1	**Nasa**	**2.61**	**87**	P	Pn	21 03 15.9	+1.8
CUSU	**Cusua**	**2.68**	**104**	P	Pn	21 03 16.1	+1.0
VC1	**Cotopaxi 1**	**2.68**	**87**	P	Pn	21 03 17.6	+2.5
JUIV	**Juive**	**2.69**	**104**	P	Pn	21 03 17.4	+2.2
PISA	**Pisayambo**	**2.71**	**96**	P	Pn	21 03 17.9	+2.4
TAMB	**Tambo**	**2.71**	**88**	P	Pn	21 03 17.7	+2.1
RETU	**Refugio**	**2.71**	**104**	P	Pn	21 03 18.3	+2.7
ARRY	**Arrayan**	**2.72**	**105**	P	Pn	21 03 17.1	+1.5
ULBA	**Ulba**	**2.75**	**104**	P	Pn	21 03 18.4	+2.3
ANTI	**Antisana**	**2.94**	**83**	⇑P	Pn	21 03 21.3	+2.5
COTA	**Cotacachi**	**2.96**	**68**	P	Pn	21 03 20.3	+1.2
CAYR	**Refugio Cayamb**	**3.17**	**75**	⇑P	Pn	21 03 24.9	+2.8
CAYA	**Cayambe**	**3.21**	**75**	⇑P	Pn	21 03 25.2	+2.6

*INMG **30** 21:12:48.5±1.1, 37.85N×1.82W, h3km±3km, ML3.0, Error ellipse: s-maj=2.0km s-min=1.7km az=145.0*
*NEIC **30** 21:12:48.7, 37.86N×1.80W, h1km, ML3.1(LDG), MN2.9(MDD), After MDD.*
NEIC Felt [III] at La Paca and Zarcilla de Ramos.
*CSEM **30** 21:12:49.1±0.1, 37.89N×1.77W, h5km, ML3.3/14, Error ellipse: s-maj=3.7km s-min=2.5km az=156.0*
*LDG **30** 21:12:50.2±0.3, 37.85N×1.85W, h5km, Md3.9/1, Ml3.1/5, Error ellipse: s-maj=6.1km s-min=2.8km az=141.0*

MDD 30 21:12:49.1±0.2, 37.82N×1.76W, h11km, mbLg2.9/32, 5C-3D, Error ellipse: s-maj=3.3km s-min=1.9km az=174.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMUR	**La Murta**	**0.41**	**86**	⇑Pg	Pg	21 12 56.6	-0.9
	SNR=18						
EMUR				Lg		21 13 03.3	
	1μm,0.5s,SNR=12						
EMUR	**La Murta**	**0.41**	**86**	Pg	Pg	21 12 56.6	-0.9
	65nm,0.1s,SNR=18						
CART	**Cartagena**	**0.64**	**110**	⇑*e*Pg	Pg	21 13 01.1	-1.0
CART				*e*Sg	Sg	21 13 11.6	+0.8
CART	**Cartagena**	**0.64**	**110**	Pg	Pg	21 13 01.0	-1.1
CART				Lg		21 13 08.1	
CART	**Cartagena**	**0.64**	**110**	⇑*e*Pg	Pg	21 13 01.1	-1.0
CART				*e*Sg	Sg	21 13 11.6	+0.9
ENIJ	**Nijar**	**0.91**	**203**	⇓Pg	Pg	21 13 06.0	-1.4
	38nm,0.3s,SNR=18						
ENIJ				Lg		21 13 17.9	
	209nm,0.6s,SNR=12						
EVIA	**Vianos**	**1.01**	**325**	⇓Pg	Pg	21 13 06.1	-3.2
	226nm,0.6s,SNR=18						
EVIA				Lg		21 13 20.9	
	128nm,0.2s,SNR=19						
EQES	**Quesada**	**1.04**	**270**	⇓Pg	Pg	21 13 07.4	-2.5
	46nm,0.2s,SNR=18						
EQES				Lg		21 13 22.1	
	314nm,0.4s,SNR=9.8						
EQES	**Quesada**	**1.04**	**270**	Pg	Pg	21 13 07.4	-2.5
	46nm,0.2s,SNR=18						
EBER	**Berja**	**1.28**	**225**	⇑Pg	Pg	21 13 11.7	-3.1
	34nm,0.4s,SNR=18						
EBER				Lg		21 13 30.4	
	204nm,0.5s,SNR=9.7						
EBER	**Berja**	**1.28**	**225**	⇑Pg	Pg	21 13 11.8	-3.0
EBEN	**Beniarda**	**1.50**	**53**	Pn	Pn	21 13 13.6	-2.5
	1.6nm,0.3s,SNR=32						
EBEN				Pg	Pg	21 13 16.1	-3.0
	19nm,0.2s,SNR=12						
EBEN				Lg		21 13 36.5	
	62nm,0.4s,SNR=6.8						
EBEN	**Beniarda**	**1.50**	**53**	Pn	Pn	21 13 13.6	-2.5
	1.6nm,0.3s,SNR=32						
EBEN	**Beniarda**	**1.50**	**53**	Pg	Pg	21 13 16.1	-3.0
	19nm,0.2s,SNR=12						
ELUQ	**Luque**	**2.00**	**263**	Pn	Pn	21 13 22.9	-0.4
ELUQ				Sn	Sn	21 13 49.4	+0.8
ELUQ	**Luque**	**2.00**	**263**	Pn	Pn	21 13 22.9	-0.4
	21nm,0.3s,SNR=13						
ELUQ				Sn	Sn	21 13 47.1	-1.5
	26nm,0.2s,SNR=12						
ELUQ	**Luque**	**2.00**	**263**	Pn	Pn	21 13 22.9	-0.4
	21nm,0.3s,SNR=13						
ELUQ				Sn	Sn	21 13 49.4	+0.8
	26nm,0.2s,SNR=12						
ELOJ	**Sierra Loja**	**2.02**	**251**	Pn	Pn	21 13 23.9	+0.4
ELOJ				Sn	Sn	21 13 51.2	+2.3
ELOJ				Lg		21 13 56.0	
ELOJ	**Sierra Loja**	**2.02**	**251**	Pn	Pn	21 13 23.9	+0.4
	18nm,0.4s,SNR=13						
ELOJ				Lg		21 13 51.4	
	21nm,0.4s,SNR=4.0						
EADA	**Adamuz**	**2.25**	**280**	Pn	Pn	21 13 24.7	-2.2
	6.2nm,0.1s,SNR=53						
EADA				Sn	Sn	21 13 52.4	-2.5
	34nm,0.3s,SNR=8.6						
EADA				Lg		21 13 58.6	
	109nm,0.4s,SNR=9.1						
EADA	**Adamuz**	**2.25**	**280**	Pn	Pn	21 13 24.7	-2.2
	6.2nm,0.1s,SNR=53						
EADA				Sn	Sn	21 13 52.4	-2.5
	34nm,0.3s,SNR=8.6						
ESDC	**Sonseca Array**	**2.53**	**318**	Pn	Pn	21 13 27.9	-3.0
	4.6nm,0.4s,baz=128,slow=13,SNR=26						
ESDC				Pg	Pg	21 13 32.5	-7.2
	31nm,0.3s,baz=135,slow=16,SNR=4.2						
ESDC				Lg		21 14 05.2	
	54nm,0.3s,baz=137,slow=30,SNR=14						
ESDC	**Sonseca Array**	**2.53**	**318**	Pn	Pn	21 13 27.9	-3.0
	4.6nm,0.4s,SNR=26						
ESDC	**Sonseca Array**	**2.53**	**318**	Pg	Pg	21 13 32.5	-7.2
	31nm,0.3s,SNR=4.2						
ESLA	**Sonseca Array**	**2.53**	**318**	*e*Pn	Pn	21 13 27.5	-3.4
ESLA				*e*Pg	Pg	21 13 34.1	-5.6
ESLA				*e*S	Sn	21 14 05.0	+3.0
ESLA	**Sonseca Array**	**2.53**	**318**	*e*Pn	Pn	21 13 27.5	-3.4
ESLA	**Sonseca Array**	**2.53**	**318**	*e*Pg	Pg	21 13 34.2	-5.5
EMIJ	**Mijas**	**2.71**	**244**	Pn	Pn	21 13 33.9	+0.5
EMIJ				Pg	Pg	21 13 39.4	-3.8
EMIJ				Lg		21 14 17.1	
EMIJ	**Mijas**	**2.71**	**244**	Pn	Pn	21 13 33.5	+0.1
	2.4nm,0.4s,SNR=7.4						
EMIJ				Pg	Pg	21 13 39.4	-3.8
	6.8nm,0.3s,SNR=7.9						
EMIJ				Lg		21 14 13.4	
	18nm,0.4s,SNR=5.7						
EMIJ	**Mijas**	**2.71**	**244**	Pn	Pn	21 13 33.9	+0.5
	2.4nm,0.4s,SNR=7.4						
EIBI	**Ibiza**	**2.72**	**63**	Pn	Pn	21 13 31.2	-2.4
	1.4nm,0.1s,SNR=7.9						
EIBI				Sn	Sn	21 14 02.0	-4.8
	7.5nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.72**	**63**	Pn	Pn	21 13 31.2	-2.4
	1.4nm,0.1s,SNR=7.9						
EIBI				Sn	Sn	21 14 02.0	-4.8
	7.5nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.74**	**21**	Pn	Pn	21 13 32.3	-1.4
	1.5nm,0.2s,SNR=12						
EMOS				Sn	Sn	21 14 04.7	-2.4
	5.4nm,0.2s,SNR=7.7						
EMOS				Lg		21 14 11.5	
	22nm,0.5s,SNR=6.3						
EMOS	**Mosqueruela**	**2.74**	**21**	Pn	Pn	21 13 32.3	-1.5
	1.5nm,0.2s,SNR=12						
EMOS				Sn	Sn	21 14 04.7	-2.4
	5.4nm,0.2s,SNR=7.7						
LIJA	**Lijar**	**3.04**	**254**	Pg	Pg	21 13 46.0	-3.9
LIJA				Lg		21 14 30.0	
GUD	**Guadarrama**	**3.38**	**327**	Pn	Pn	21 13 41.3	-1.7
	1.3nm,0.2s,SNR=11						
GUD				Pg	Pg	21 13 49.9	-6.7
	6.3nm,0.2s,SNR=23						
GUD				Lg		21 14 32.6	
	26nm,0.3s,SNR=9.9						
ESPR	**Espera**	**3.40**	**255**	Pn	Pn	21 13 42.8	-0.4
ESPR				Sn	Sn	21 14 21.5	-2.5
ESPR	**Espera**	**3.40**	**255**	Pn	Pn	21 13 42.8	-0.4
	1.0nm,0.1s,SNR=5.9						
ESPR				Sn	Sn	21 14 20.0	-4.0
	16nm,0.5s,SNR=5.6						
ESPR	**Espera**	**3.40**	**255**	Pn	Pn	21 13 42.8	-0.4
	1.0nm,0.1s,SNR=5.9						
ESPR				Sn	Sn	21 14 21.5	-2.4
	16nm,0.5s,SNR=5.6						
EBR	**Ebro Roquetas**	**3.47**	**30**	*e*Rs	Pg	21 13 57.5	-1.0
EBR	**Ebro Roquetas**	**3.47**	**30**	*e*SN	Sn	21 14 23.5	-2.3
ERTA	**Horta de San J**	**3.53**	**27**	Pn	Pn	21 13 43.3	-1.8
	2.9nm,0.2s,SNR=18						
ERTA				Sn	Sn	21 14 24.1	-3.2
	6.8nm,0.2s,SNR=5.6						
ERTA				Lg		21 14 37.9	
	12nm,0.3s,SNR=5.7						
ERTA	**Horta de San J**	**3.53**	**27**	Pn	Pn	21 13 43.3	-1.8
	2.9nm,0.2s,SNR=18						
ERTA				Sn	Sn	21 14 24.1	-3.2
	6.8nm,0.2s,SNR=5.6						
EMIN	**Mina Concepcio**	**3.89**	**271**	Pn	Pn	21 13 46.9	-3.4
EMIN				Pg	Pg	21 14 00.8	-6.0
EMIN				Sn	Sn	21 14 31.1	-5.3
EMIN				Lg		21 14 48.6	
EMIN	**Mina Concepcio**	**3.89**	**271**	Pn	Pn	21 13 46.9	-3.4
	1.0nm,0.1s,SNR=26						
EMIN				Pg	Pg	21 13 59.2	-7.7
	1.0nm,0.2s,SNR=4.0						
EMIN				Sn	Sn	21 14 31.1	-5.3
	11nm,0.3s,SNR=10						
EMIN				Lg		21 14 48.6	
	26nm,0.4s,SNR=5.9						
EMIN	**Mina Concepcio**	**3.89**	**271**	Pn	Pn	21 13 46.9	-3.3
	1.0nm,0.1s,SNR=26						
EMIN	**Mina Concepcio**	**3.89**	**271**	Pg	Pg	21 14 00.8	-6.0
	1.0nm,0.2s,SNR=4.0						
EMIN				Sn	Sn	21 14 31.1	-5.3
	11nm,0.3s,SNR=10						
ESAC	**San Caprasio**	**4.03**	**14**	Pg	Pg	21 14 03.4	-6.1
ESAC				Lg		21 14 53.6	
ESAC	**San Caprasio**	**4.03**	**14**	Pg	Pg	21 14 02.4	-7.1
	20nm,0.3s,SNR=5.1						
ESAC				Lg		21 14 53.6	
	46nm,0.3s,SNR=4.9						
ESAC	**San Caprasio**	**4.03**	**14**	Pg	Pg	21 14 03.4	-6.1
	20nm,0.3s,SNR=5.1						
EPOB	**Poblet**	**4.16**	**31**	Pn	Pn	21 13 52.1	-1.9
	3.6nm,0.3s,SNR=14						
EPOB				Sn	Sn	21 14 38.3	-4.8
	2.6nm,0.4s,SNR=7.2						
EPOB				Lg		21 14 56.8	
	4.2nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**4.16**	**31**	Pn	Pn	21 13 52.1	-1.9
	3.6nm,0.3s,SNR=14						
EPOB				Sn	Sn	21 14 38.3	-4.9
	2.6nm,0.4s,SNR=7.2						
EBAD	**Badajoz**	**4.24**	**284**	Pn	Pn	21 13 51.8	-3.4
	2.9nm,0.2s,SNR=12						
EBAD				Pg	Pg	21 14 05.4	-8.3
	1.7nm,0.1s,SNR=11						
EBAD				Sn	Sn	21 14 39.9	-5.4
	12nm,0.2s,SNR=9.0						
EBAD				Lg		21 15 00.4	
	50nm,0.3s,SNR=7.1						
EBAD	**Badajoz**	**4.24**	**284**	Pn	Pn	21 13 51.8	-3.4
	2.9nm,0.2s,SNR=12						
EBAD	**Badajoz**	**4.24**	**284**	Pg	Pg	21 14 05.4	-8.3
	1.7nm,0.1s,SNR=11						
EBAD				Sn	Sn	21 14 39.9	-5.3
	12nm,0.2s,SNR=9.0						
EGRO	**El Granado**	**4.55**	**268**	Pn	Pn	21 13 56.2	-3.3
	2.0nm,0.2s,SNR=7.9						
EGRO				Sn	Sn	21 14 47.1	-6.0
	10nm,0.3s,SNR=7.9						
EGRO				Lg		21 15 13.8	
	23nm,0.5s,SNR=7.9						
EGRO	**El Granado**	**4.55**	**268**	Pn	Pn	21 13 56.2	-3.4
	2.0nm,0.2s,SNR=7.9						
EGRO	**El Granado

EPF	**Esparros**	**5.45**	**16**	*e*Sn	Sn	21 15 09.5	-6.3
EPF				*e*Sg	Sg	21 15 40.1	-10
	6.6nm,0.4s						
PBRG	**Braganca**	**5.53**	**318**	*e*Sg	Sg	21 15 40.6	-13
	11nm,0.5s						
PBRG	**Braganca**	**5.53**	**318**	Lg		21 15 40.6	
	5.7nm,0.5s						
PTEO	**Sao Teotonio**	**5.53**	**269**	*e*Sn	Sn	21 15 11.7	-6.1
PTEO				*e*Sg	Sg	21 15 44.8	-8.5
	14nm,0.6s						
PTEO	**Sao Teotonio**	**5.53**	**269**	Sn	Sn	21 15 11.7	-6.1
PTEO				Lg		21 15 44.8	
	6.9nm,0.6s						
ELAN	**Lanestosa**	**5.56**	**347**	Pn	Pn	21 14 10.8	-3.0
	0.4nm,0.1s,SNR=5.7						
ELAN				Sn	Sn	21 15 10.0	-8.4
	4.1nm,0.4s,SNR=7.9						
ELAN				Lg		21 15 43.5	
	3.4nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**5.56**	**347**	Pn	Pn	21 14 10.8	-3.0
ELAN				Sn	Sn	21 15 10.1	-8.4
PVIS	**Viseu**	**5.57**	**303**	*e*Pn	Pn	21 14 10.7	-3.3
PVIS				*e*Sn	Sn	21 15 11.1	-7.7
PVIS				*e*Sg	Sg	21 15 44.3	-10
	15nm,0.6s						
PVIS	**Viseu**	**5.57**	**303**	Pn	Pn	21 14 10.7	-3.3
PVIS				Sn	Sn	21 15 11.1	-7.7
PVIS				Lg		21 15 44.3	
	7.3nm,0.6s						
ECAL	**Calabor**	**5.62**	**319**	Pn	Pn	21 14 09.8	-4.9
	3.1nm,0.3s,SNR=5.1						
ECAL				Lg		21 15 43.6	
	29nm,0.6s,SNR=5.4						
ECAL	**Calabor**	**5.62**	**319**	Pn	Pn	21 14 09.8	-4.9
PVRL	**Vila Real**	**5.76**	**309**	*e*Sn	Sn	21 15 16.9	-6.5
PVRL				*e*Sg	Sg	21 15 49.6	-11
	10.0nm,0.5s						
PVRL	**Vila Real**	**5.76**	**309**	Sn	Sn	21 15 16.9	-6.5
PVRL				Lg		21 15 49.6	
	5.0nm,0.5s						
PLOU	**Loures**	**5.91**	**283**	*e*Sn	Sn	21 15 20.3	-6.9
PLOU				*e*Sg	Sg	21 15 55.3	-11
	38nm,0.6s						
PLOU	**Loures**	**5.91**	**283**	Sn	Sn	21 15 20.3	-6.9
PLOU				Lg		21 15 55.3	
	19nm,0.6s						
EARI	**Arriondas**	**6.08**	**335**	Pn	Pn	21 14 18.0	-3.2
EARI				Lg		21 15 57.2	
EARI	**Arriondas**	**6.08**	**335**	Pn	Pn	21 14 18.0	-3.2
	0.5nm,0.1s,SNR=12						
EARI				Sn	Sn	21 15 21.5	-10
	1.1nm,0.5s,SNR=7.9						
EARI				Lg		21 15 57.2	
	2.6nm,0.4s,SNR=6.0						
EARI	**Arriondas**	**6.08**	**335**	Pn	Pn	21 14 18.0	-3.1
ERUA	**La Rua**	**6.16**	**320**	Pn	Pn	21 14 18.6	-3.6
	0.5nm,0.3s,SNR=7.9						
ERUA				Pg	Pg	21 14 40.5	-12
	1.0nm,0.3s,SNR=7.9						
ERUA				Lg		21 15 58.5	
	8.9nm,0.4s,SNR=5.6						
ELOB	**Lobios**	**6.32**	**312**	Pn	Pn	21 14 20.5	-4.0
	0.7nm,0.3s,SNR=7.9						
ELOB				Sn	Sn	21 15 28.7	-8.7
	1.8nm,0.3s,SNR=7.9						
ELOB				Lg		21 16 05.7	
	27nm,0.6s,SNR=4.8						
ELOB	**Lobios**	**6.32**	**312**	Pn	Pn	21 14 20.5	-4.0
ELOB				Sn	Sn	21 15 28.7	-8.7
EINC	**Incio**	**6.46**	**320**	Lg		21 16 10.2	
	2.1nm,0.3s,SNR=5.2						
EPON	**Pontenova**	**6.87**	**325**	Pn	Pn	21 14 28.3	-3.9
	0.7nm,0.2s,SNR=4.0						
EPON				Lg		21 16 23.5	
	4.5nm,0.4s,SNR=5.1						
EPON	**Pontenova**	**6.87**	**325**	Pn	Pn	21 14 28.3	-3.9
LFF	**La Frestale**	**7.36**	**14**	*e*Pn	Pn	21 14 35.8	-3.4
LASF	**Ste Croix**	**7.56**	**32**	*e*Pn	Pn	21 14 39.0	-3.0
LASF				*e*Sg	Sg	21 16 46.2	-15
	0.8nm,0.3s						
CAF	**Calviac**	**7.66**	**21**	*e*Pn	Pn	21 14 39.8	-3.6
QUIF	**Quistinic**	**10.15**	**355**	*e*Pn	P	21 15 13.2	-4.6
SGMF	**Saint Gilles**	**10.45**	**357**	*e*Pn	P	21 15 17.0	-4.9
ROSF	**Rostrenen**	**10.57**	**354**	*e*Pn	P	21 15 18.6	-5.0

*NEIC **30** 21:16:09.9±0.4, 1.98S×28.97E, h10km, mb4.5/19, Error ellipse: s-maj=10.8km s-min=7.3km az=89.0*
ISC 30 21:16:08.1±0.5,**1.91S**±0.07×**29.00E**±0.07,**h10**km,**n29**, σ0**93**/32,**mb4.5**/18,**1D,Zaire**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**2.17**	**53**	⇓*e*Pn	**Pn**	**21 16 46.5**	**+1.7**
MBAR				*e*Pg	**Pg**	**21 16 49.1**	**-2.4**
MBAR				*e*Sg	**Sg**	**21 17 12.5**	**-7.9**
KMBO	**Kilima Mbogo**	**8.29**	**85**	*e*Pn	**P**	**21 18 11.8**	**+0.6**
	9.5nm,0.6s						
LSZ	**Lusaka**	**13.31**	**183**	*e*P	**P**	**21 19 15.8**	**-4.0**
	7.7nm,0.9s						
LSZ				Sn	**S**	**21 21 40.9**	**-8.0**
TSUM	**Tsumeb**	**20.50**	**212**	*e*P	**P**	**21 20 49.7**	**+0.5**
	2.0nm,0.6s						
LBTB	**Lobatse**	**23.21**	**188**	*e*P	**P**	**21 21 17.6**	**+1.2**
	14nm,1.3s,mb4.2						
BOSA	**Boshof**	**26.80**	**187**	*e*P	**P**	**21 21 49.8**	**-0.7**
	10.0nm,1.3s,mb4.2						
DBIC	**Dimbokro**	**34.85**	**284**	*e*P	**P**	**21 22 59.7**	**-2.1**
	1.4nm,0.5s,mb4.2						
LMR	**La Mourre**	**49.37**	**338**	*e*P	**P**	**21 24 59.6**	**-0.2**
FRF	**La Foret Royal**	**49.51**	**339**	*e*P	**P**	**21 25 00.7**	**-0.3**
	23nm,0.9s,mb4.9						
MBDF	**Montbardon**	**50.48**	**340**	*e*P	**P**	**21 25 08.9**	**+0.5**
	20nm,0.8s,mb4.9						
BNI	**Bardonecchia**	**50.80**	**340**	*e*P	**P**	**21 25 11.3**	**+0.5**
	5.8nm,0.8s,mb4.6						
LPG	**La Plagne**	**51.16**	**340**	*e*P	**P**	**21 25 12.9**	**-0.6**
	6.4nm,0.8s,mb4.3						
LPL	**La Plagne**	**51.18**	**340**	*e*P	**P**	**21 25 13.5**	**-0.2**
EPF	**Esparros**	**51.64**	**333**	*e*P	**P**	**21 25 18.1**	**+0.9**
	9.4nm,0.8s,mb4.4						
ETSF	**Etsaut**	**51.94**	**333**	*e*P	**P**	**21 25 20.3**	**+0.8**
	14nm,0.9s,mb4.6						
SJPF	**Ste Jean**	**52.42**	**332**	*e*P	**P**	**21 25 24.1**	**+1.1**
	34nm,1.0s,mb4.9						
CAF	**Calviac**	**52.43**	**336**	*e*P	**P**	**21 25 23.5**	**+0.4**
	4.5nm,0.6s,mb4.3						
KHC	**Kasperske Hory**	**52.56**	**347**	*e*P	**P**	**21 25 23.0**	**-1.0**
RJF	**Les Rejaudoux**	**52.96**	**336**	*e*P	**P**	**21 25 27.6**	**+0.5**
	21nm,1.1s,mb4.7						
LFF	**La Frestale**	**52.99**	**335**	*e*P	**P**	**21 25 27.4**	**+0.1**
	23nm,0.8s,mb4.9						
HINF	**Hinteralfeld**	**53.16**	**341**	*e*P	**P**	**21 25 28.4**	**-0.1**
SMF	**Signal de Mont**	**53.18**	**339**	*e*P	**P**	**21 25 28.5**	**-0.2**
AVF	**Avril sur Loir**	**53.48**	**338**	*e*P	**P**	**21 25 30.4**	**-0.5**
	9.0nm,1.0s,mb4.4						
TCF	**Toulx Ste Croi**	**53.49**	**337**	*e*P	**P**	**21 25 31.9**	**+0.9**
	26nm,1.3s,mb4.7						
CDF	**Champ du Feu**	**53.56**	**342**	*e*P	**P**	**21 25 30.6**	**-0.8**
	9.2nm,0.8s,mb4.4						
SSF	**Saint Saulge**	**53.65**	**339**	*e*P	**P**	**21 25 32.0**	**-0.1**
MEZF	**Maizieres J'vi**	**54.35**	**341**	*e*P	**P**	**21 25 37.3**	**+0.1**
	22nm,1.1s,mb4.7						
GIVF	**Givet**	**55.81**	**341**	*e*P	**P**	**21 25 47.8**	**-0.1**
BAIF	**Baives**	**55.97**	**341**	*e*P	**P**	**21 25 48.8**	**-0.2**
	6.6nm,0.9s,mb4.3						

*NEIC **30** 21:17:01.1, 17.31N×100.75W, h14km, MD3.5(MEX), After MEX.*
MEX 30 21:17:00.5±1.7,**17.31N×100.75W,h10**km±18km,**MD3.5, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.53**	**120**	*i* P	Pg	21 17 09.6	-1.6
CAIG				*i* S	Sg	21 17 17.6	-0.7
ZIIG	**Zihuatanejo**	**0.75**	**293**	*i* P	Pb	21 17 13.2	-2.0
ZIIG				*i* S	Sb	21 17 23.0	-2.2
ACX	**Acapulco**	**0.91**	**119**	*i* P	Pb	21 17 17.2	-0.7
ACX				*i* S	Sb	21 17 25.5	-4.4
PLIG	**Platanillo**	**1.60**	**48**	*e*P	Pn	21 17 24.3	-4.8
PLIG				*i* S	Sb	21 17 45.5	-4.4
PPM	**Popocatepetl**	**2.67**	**49**	*e*P	Pn	21 17 36.0	-8.3
POHV	**Veracruz**	**3.73**	**62**	*e*P	Pn	21 17 57.0	-2.5

*TAP **30** 21:34:58.1, 23.21N×121.37E, h20km, ML3.8*
TAP Felt II J at Chenggung, I J at Yuli, I J at Hungye, I J at Lidau.
*JMA **30** 21:34:59.3±0.5, 23.21N×121.53E, h85km, M2.8*
ISC 30 21:34:57.5±0.3,**23.18N**±0.02×**121.51E**±0.02,**h17**km±4km, **n59**, σ0**89**/98,**10C-4D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.15**	**237**	⇓*i*P	**Pb**	**21 35 02.7**	**+0.9**
CHKT				S	**Sb**	**21 35 05.8**	**+1.2**
TWF1	**Yuli**	**0.26**	**311**	⇑*i*P	**Pb**	**21 35 03.2**	**-0.1**
TWF1				S	**Sb**	**21 35 06.9**	**-0.4**
EHY	**Hungye**	**0.36**	**332**	⇑*i*P	**Pb**	**21 35 05.0**	**-0.2**
EHY				S	**Sb**	**21 35 10.0**	**-0.3**
ELDTW	**Lidau**	**0.45**	**271**	⇑*i*P	**Pb**	**21 35 05.5**	**-1.2**
ELDTW				S	**Sb**	**21 35 10.1**	**-2.7**
TWG	**Pinlang**	**0.54**	**228**	⇓*i*P	**Pb**	**21 35 07.8**	**-0.3**
TWG				S	**Sb**	**21 35 15.1**	**-0.3**
TTN	**Taitung**	**0.54**	**218**	*e*P	**Pb**	**21 35 09.1**	**+0.9**
TTN				S	**Sb**	**21 35 17.2**	**+1.8**
YUS	**Yu-Shan**	**0.59**	**301**	⇑*i*P	**Pb**	**21 35 08.4**	**-0.7**
YUS				S	**Sb**	**21 35 15.5**	**-1.5**
ESL	**Shilin**	**0.63**	**354**	*e*P	**Pb**	**21 35 09.7**	**0.0**
ESL				S	**Sb**	**21 35 19.0**	**+0.9**
STYT	**Tauyuan**	**0.69**	**268**	⇑*i*P	**Pb**	**21 35 09.8**	**-0.9**
STYT				S	**Sb**	**21 35 17.8**	**-1.9**
ALS	**Alishan**	**0.72**	**297**	⇑*i*P	**Pb**	**21 35 10.8**	**-0.5**
ALS				S	**Sb**	**21 35 19.3**	**-1.4**
ECL	**Taimali**	**0.78**	**221**	⇓*i*P	**Pb**	**21 35 11.0**	**-1.2**
HWA	**Hwalien**	**0.80**	**7**	*e*P	**Pb**	**21 35 13.4**	**+0.9**
WTP	**Ta-pu**	**0.82**	**275**	⇑*i*P	**Pb**	**21 35 12.7**	**-0.3**
WTP				S	**Sb**	**21 35 22.9**	**-0.7**
CHN4	**Tsaushan**	**0.86**	**281**	⇑P	**Pb**	**21 35 13.3**	**-0.2**
CHN4				S	**Sb**	**21 35 24.5**	**-0.1**
SGST	**Jiashian**	**0.86**	**263**	P	**Pb**	**21 35 13.4**	**-0.1**
SGST				S	**Sb**	**21 35 24.3**	**-0.3**
CHN5	**Tsauling**	**0.86**	**299**	⇑*i*P	**Pb**	**21 35 13.7**	**0.0**
CHN5				S	**Sb**	**21 35 24.7**	**-0.1**
SMLT	**Sun Moon Lake**	**0.89**	**321**	P	**Pb**	**21 35 13.9**	**-0.3**
SMLT				S	**Sb**	**21 35 24.6**	**-1.0**
TWD	**Chiawan**	**0.90**	**5**	*e*P	**Pb**	**21 35 14.3**	**+0.1**
TWD				S	**Sb**	**21 35 28.4**	**+2.7**
CHN1	**Nanshi**	**0.90**	**270**	*e*P	**Pb**	**21 35 14.3**	**0.0**
CHN1				S	**Sb**	**21 35 26.0**	**+0.1**
SSD	**Sandimen**	**0.92**	**242**	*e*P	**Pb**	**21 35 13.6**	**-1.9**
SSD				S	**Sb**	**21 35 26.2**	**-0.1**
TYC	**Yuchr**	**0.93**	**320**	P	**Pb**	**21 35 14.6**	**-0.3**
TYC				S	**Sb**	**21 35 26.6**	**-0.1**
TWK	**Hsinying**	**0.94**	**275**	⇑*i*P	**Pb**	**21 35 14.8**	**-0.2**
TWK				S	**Sb**	**21 35 26.6**	**-0.4**
WHF	**Hehuan Shan**	**0.98**	**347**	*e*P	**Pb**	**21 35 15.2**	**-0.5**
TAW	**Tawu**	**1.00**	**215**	*e*P	**Pb**	**21 35 14.6**	**-1.4**
WGK	**Gukeng**	**1.00**	**300**	*e*P	**Pb**	**21 35 16.2**	**+0.2**
WGK				S	**Sb**	**21 35 29.6**	**+0.8**
EAST	**Anshuo**	**1.00**	**217**	⇓P	**Pb**	**21 35 14.9**	**-1.2**
CHN2	**Minshiung**	**1.01**	**290**	*e*P	**Pb**	**21 35 16.0**	**-0.2**
CHN2				S	**Sb**	**21 35 30.1**	**+1.1**
WNT	**Mingjian**	**1.02**	**313**	*e*P	**Pb**	**21 35 16.7**	**+0.3**
WNT				S	**Sb**	**21 35 29.9**	**+0.5**
SGLT	**Jiouru**	**1.04**	**244**	*e*P	**Pb**	**21 35 17.5**	**+0.7**
CHY	**Chiayi**	**1.04**	**288**	*e*P	**Pb**	**21 35 16.9**	**+0.1**
CHY				S	**Sb**	**21 35 30.1**	**+0.2**
CHN3	**Shinhua**	**1.06**	**264**	*e*P	**Pb**	**21 35 18.0**	**+1.1**
CHN3				S	**Sb**	**21 35 32.8**	**+2.4**
TWM1	**Shoushan**	**1.06**	**250**	*e*P	**Pb**	**21 35 18.4**	**+1.4**
TWT	**Tachien**	**1.11**	**344**	*e*P	**Pb**	**21 35 17.6**	**-0.2**
TWT				S	**Sb**	**21 35 31.2**	**-0.6**
LAY	**Lan-yu**	**1.14**	**178**	*e*P	**Pb**	**21 35 17.4**	**-1.0**
LAY				S	**Sb**	**21 35 32.9**	**+0.1**
SCZT	**Fangliau**	**1.15**	**226**	*e*P	**Pb**	**21 35 17.9**	**-0.6**
SCZT				S	**Sb**	**21 35 35.6**	**+2.6**
CHN8	**Yiju**	**1.20**	**278**	*e*P	**Pb**	**21 35 19.4**	**0.0**
CHN8				S	**Sb**	**21 35 35.6**	**+1.1**
ENA	**Nanau**	**1.26**	**10**	*e*P	**Pb**	**21 35 19.8**	**-0.7**
NNS	**Nan Shan**	**1.26**	**354**	*e*P	**Pb**	**21 35 20.4**	**0.0**
WSF	**Szhu**	**1.26**	**291**	*e*P	**Pb**	**21 35 20.1**	**-0.4**
WSF				S	**Sb**	**21 35 35.6**	**-0.8**
TWP	**Hsiaoliuchiu**	**1.34**	**232**	*e*P	**Pn**	**21 35 23.4**	**+1.6**
HEN	**Hengchun**	**1.37**	**211**	*e*P	**Pn**	**21 35 23.6**	**+1.5**
TWK1	**Hengchun**	**1.39**	**208**	*e*P	**Pn**	**21 35 23.2**	**+0.8**
NSY	**Sanyi**	**1.40**	**331**	*e*P	**Pn**	**21 35 23.5**	**+0.9**
NSY				S	**Sb**	**21 35 41.5**	**+1.1**
ENTT	**Nioudou**	**1.45**	**2**	*e*P	**Pn**	**21 35 23.3**	**+0.1**
TWC	**Suao**	**1.45**	**12**	*e*P	**Pn**	**21 35 24.0**	**+0.7**
TWC				S	**Sb**	**21 35 42.6**	**+0.8**
NSK	**Sanguang**	**1.49**	**355**	*e*P	**Pn**	**21 35 23.8**	**-0.1**
NSTT	**Nanjuang**	**1.51**	**342**	*e*P	**Pn**	**21 35 24.6**	**+0.5**
NSTT				S	**Sn**	**21 35 43.3**	**-0.3**
TWE	**Neicheng**	**1.54**	**5**	*e*P	**Pn**	**21 35 25.3**	**+0.8**
WDGT	**Dungji**	**1.70**	**273**	*e*P	**Pn**	**21 35 26.0**	**-0.8**
TWA	**Mucha**	**1.79**	**2**	*e*P	**Pn**	**21 35 28.6**	**+0.5**
PNG	**Penghu**	**1.83**	**282**	*e*P	**Pn**	**21 35 27.7**	**-1.0**
YOJ	**Yonaguni jima**	**1.88**	**47**	*e*S	**Sn**	**21 35 52.5**	**-0.2**
NWF	**Wu-fen Shan**	**1.90**	**8**	*e*P	**Pn**	**21 35 30.0**	**+0.4**
NWF				S	**Sn**	**21 35 54.9**	**+1.6**
TWS1	**Kuangyinshan**	**1.91**	**358**	*e*P	**Pn**	**21 35 33.2**	**+3.4**
HATJ	**Hateruma jima**	**2.28**	**67**	P	**Pn**	**21 35 35.3**	**+0.2**
HATJ				S	**Sn**	**21 36 02.1**	**-0.9**
IRIF	**Iriomote-Funau**	**2.34**	**60**	P	**Pn**	**21 35 36.3**	**+0.4**
IRIF				S	**Sn**	**21 36 04.7**	**+0.2**
JKRS	**Kuro-shima**	**2.52**	**65**	P	**Pn**	**21 35 39.0**	**+0.4**
JKRS				S	**Sn**	**21 36 08.9**	**-0.3**
JIJ	**Ishigaki jima**	**2.69**	**64**	P	**Pn**	**21 35 40.4**	**-0.5**
JIJ				S	**Sn**	**21 36 11.5**	**-1.8**
JTJ	**Tarama**	**3.27**	**63**	P	**Pn**	**21 35 48.7**	**-0.4**
JTJ				*e*S	**Sn**	**21 36 26.5**	**-1.5**

*BJI **30** 21:39:02.1, 8.36N×93.42E, h23km, mB5.3, mb4.8, Ms5.3, Msz5.0*
*HRVD **30** 21:39:03.4±0.2, 8.13N×94.24E, h16km±1km, MW5.3/60, Centroid moment Tensor Solution. LP body waves: s43,c68;Mantle waves: s60,c122; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.04±.02; $M_{\theta\theta}$0.20±.02; $M_{\phi\phi}$-0.16±.02; $M_{r\theta}$0.07±.05; $M_{r\phi}$0.92±.02; $M_{\theta\phi}$0.34±.06; Best double couple: M_0.994×10^{17} NP1:φs96°, δ70°,λ0°. NP2:φs6°, δ90°,λ160°. Principal axes: T 1.019, Plg14°, Azm319°; N -.05, Plg70°, Azm185°; P -.969, Plg14°, Azm53°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 21:39:03.4±0.2, 8.22N×94.28E, mb5.1/78, MS4.7/4 Error ellipse: s-maj=6.0km s-min=4.3km az=47.0*
*MOS **30** 21:39:05.4±0.9, 8.22N×94.24E, h47km, mb5.3/72, MS4.8/9, Error ellipse: s-maj=10.0km s-min=4.8km az=123.8*
ISC 30 21:39:01.8±1.3,**8.13N**±0.03×**94.27E**±0.03,**h22**km±9km, **h21**km±.6km:**pP-P,n298,**σ1°**01**/308,**mb5.1**/97,**MS4.9**/16, **19C-16D,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.81**	**337**	*e*P	**Pn**	**21 40 05.2**	**+4.5**
PBA				*e*S	**Sn**	**21 40 46.7**	**+1.3**
PBA				*e*		21 41 13.3	
	comp=N,6μm,0.7s						
PBA				*e*		21 41 14.6	
	comp=E,7μm,1.2s						
SNG	**Songkhla**	**6.36**	**98**	P	**Pn**	**21 40 35.5**	**-1.2**
NST	**Nakhon Sawan**	**9.43**	**37**	P	**P**	**21 41 19.0**	**-0.6**
	comp=E,42nm,0.6s						
CM31	**Chiang Mai Arr**	**11.22**	**23**	*e*P	**P**	**21 41 39.6**	**-4.6**
	comp=E,18nm,0.6s						
CHG	**Chiang Mai**	**11.54**	**23**	⇑P	**P**	**21 41 50.1**	**+1.5**
	comp=E,30nm,1.0s						
KKTK	**Khon Kaen**	**11.67**	**45**	P	**P**	**21 41 53.0**	**+2.7**
	comp=E,432nm,1.0s						
UBT	**Ubonrachathani**	**12.67**	**55**	P	**P**	**21 42 07.0**	**+3.3**
PALK	**Pallekele**	**13.48**	**267**	*e*P	**P**	**21 42 11.3**	**-3.1**
	comp=E,30nm,1.3s						
VIS	**Vishakhapatnam**	**14.30**	**313**	*e*	**P**	**21 42 26.3**	**+1.1**
	comp=Z,154nm,0.5s						
VIS				*e*		21 43 52.1	
MDRS	**Chennai**	**14.63**	**291**	*e*	**P**	**21 42 27.2**	**-2.5**
MDRS				*e*		21 42 32.5	
	comp=Z,199nm,0.8s						
MDRS				*e*		21 44 21.2	
MDRS				*e*		21 46 13.0	
MDRS				*e*		21 48 47.0	
CAL	**Calcutta**	**15.42**	**339**	*e*	**P**	**21 42 35.0**	**-5.0**
CAL				*e*		21 45 41.7	
SALM	**Salem**	**16.21**	**284**	*e*P	**P**	**21 42 54.0**	**+3.8**
SALM				*e*		21 45 37.0	
KOD	**Kodaikanal**	**16.72**	**278**	*e*P	**P**	**21 42 59.7**	**+3.1**
KOD				*e*		21 43 26.6	
	comp=Z,136nm,1.8s						
KOD				*e*S	**S**	**21 46 09.5**	**+8.7**
SHL	**Shillong**	**17.49**	**353**	*e*P	**P**	**21 43 03.3**	**-2.8**
SHL				*e*		21 43 08.1	
	comp=Z,2μm,0.9s						
SHL				*e*S	**S**	**21 46 18.4**	**+0.3**
HYB	**Hyderabad**	**17.88**	**303**	⇓*i*P	**P**	**21 43 11.0**	**-0.1**
	comp=Z,100nm,1.0s						
HYB				*e*S	**S**	**21 46 32.0**	**+4.8**
BLSP	**Bilaspur**	**18.17**	**321**	*e*P	**P**	**21 43 19.0**	**+4.2**
KMI	**Kunming**	**18.73**	**25**	P	**P**	**21 43 25.4**	**+3.9**
KMI				pmax	pmax		
	comp=Z,35nm,0.9s						
KMI	**Kunming**	**18.73**	**25**	P	**P**	**21 43 25.4**	**+3.9**
	comp=Z,35nm,0.9s						
KMI				pP		21 43 31.3	
KMI				PP	PP	21 43 46.4	+8.9
KMI				S	**S**	**21 46 59.9**	**+14**
KMI				sS		21 47 07.4	
KMI				SS	SS	21 47 26.6	+15
LATR	**Latur**	**20.02**	**302**	*e*P	**P**	**21 43 36.5**	**+0.2**
COCO	**West Island**	**20.35**	**173**	*e*P	**P**	**21 43 40.8**	**+1.0**
	comp=Z,194nm,1.2s						
ALBI	**Allahabad**	**20.81**	**327**	*e*P	**P**	**21 43 43.0**	**-1.4**
JIRN	**Jiri**	**20.87**	**340**	*e*P	**P**	**21 43 45.8**	**+0.7**
	comp=Z,688nm,1.1s						
PKI	**Pulchoki**	**21.07**	**338**	*e*P	**P**	**21 43 46.7**	**-0.4**
	comp=Z,428nm,1.0s,mb5.7						
DMN	**Daman**	**21.23**	**337**	*e*P	**P**	**21 43 48.1**	**-0.5**
	comp=Z,666nm,1.1s,mb5.9						
GOA	**Goa**	**21.30**	**292**	*e*P	**P**	**21 43 52.4**	**+3.0**
GOA				*e*		21 44 09.1	
	comp=Z,94nm,1.3s						
GOA				*e*S	**S**	**21 47 50.5**	**+11**
KKN	**Kakani**	**21.32**	**338**	*e*P	**P**	**21 43 49.6**	**0.0**
	comp=Z,567nm,1.1s,mb5.8						
VLK	**Valmikinagar**	**21.48**	**334**	*i* P	**P**	**21 43 51.0**	**-0.2**
VLK				*i*		21 44 08.0	
KAD	**Karad**	**21.59**	**297**	*e*P	**P**	**21 43 52.9**	**+0.5**
KAD				*e*		21 43 54.5	
	comp=Z,72nm,0.8s						
KAD				*e*		21 47 09.7	
GKN	**Gorkha**	**21.76**	**336**	*e*P	**P**	**21 43 54.0**	**0.0**
	comp=Z,398nm,0.8s,mb5.9						
KOLN	**Koldanda**	**21.99**	**334**	*e*P	**P**	**21 43 56.9**	**+0.6**
	comp=Z,371nm,0.8s,mb5.9						
BHPL	**Bhopal**	**22.07**	**315**	*e*	**P**	**21 43 52.5**	**-4.6**
BHPL				*e*		21 43 59.7	
	comp=Z,134nm,1.1s						
BHPL				*e*		21 47 16.3	
POO	**Poona**	**22.37**	**300**	*e*P	**P**	**21 44 01.0**	**+0.9**
POO				*e*		21 44 02.5	
	comp=Z,58nm,0.6s						
POO				*e*		21 48 16.0	
NDI	**New Delhi**	**26.00**	**324**	*e*P	**P**	**21 44 34.0**	**-1.2**
NDI				*e*		21 48 40.0	
AJM	**Ajmer**	**26.09**	**317**	⇓*i*P	**P**	**21 44 34.0**	**-1.9**
DDI	**Dehra Dun**	**26.80**	**328**	*e*	**P**	**21 44 36.7**	**-5.7**
DDI				*e*		21 49 12.7	
SMLA	**Simla**	**27.90**	**327**	*e*P	**P**	**21 45 02.0**	**+10**
SMLA				*e*		21 45 05.8	
	comp=Z,90nm,1.1s						
SMLA				*e*S	**S**	**21 49 45.8**	**+13**
XAN	**Xi'an**	**29.10**	**26**	P	**P**	**21 45 03.5**	**+0.2**
XAN				AP	pP	21 45 09.8	0.0
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
WHN	**Wuhan**	**29.15**	**37**	*e*P	**P**	**21 45 07.5**	**+3.7**
WHN				LR	LR		
	comp=N,1μm,18.5s						
WHN				LR	LR		
	comp=E,4μm,11.4s						
WHN				LR	LR		
	comp=Z,4μm,13.2s						
LZH	**Lanzhou**	**29.16**	**16**	*e*P	**P**	**21 45 04.8**	**+1.0**
LZH				AP	pP	21 45 08.8	-1.5
LZH				PP	PP	21 45 58.8	+0.3
LZH				S	**S**	**21 49 55.5**	**+2.1**
LZH				SS	SS	21 51 25.8	+1.9
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,220nm,4.5s						
LZH				LR	LR		
	comp=E,5μm,16.3s						
LZH				LR	LR		
	comp=Z,6μm,17.8s,MS5.2						
LZH	**Lanzhou**	**29.16**	**16**	*e*P	**P**	**21 45 04.7**	**+0.9**
L

WMQ LR LR
comp=Z,2μm,15.4s,MS4.9
BJI Beijing 37.32 28 P **P 21 46 16.8 +2.4**
BJI pmax pmax
comp=Z,14nm,0.8s,mb4.8
BJI MLR MLR
comp=Z,1μm,20.8s,MS4.7
BJI Beijing 37.32 28 P **P 21 46 16.8 +2.4**
comp=Z,14nm,0.8s,mb4.8
BJI S **S 21 52 09.2 +9.0**
BJI SS SS 21 54 46.8 +15
BJI LR LR
comp=Z,1μm,20.8s,MS4.7
SMDO Samad 37.78 297 P **P 21 46 21.1 +2.7**
SNR=9.6
BIDO Bidbid 37.85 298 P **P 21 46 22.2 +3.2**
SNR=12
BSY Bisya 38.44 296 P **P 21 46 26.9 +2.9**
SNR=16
AAK Ala-Archa 38.52 336 *i* P **P 21 46 22.3 -2.2**
AAK pmax pmax
comp=Z,32nm,1.1s,mb5.0
AAK Ala-Archa 38.52 336 *e*P **P 21 46 21.3 -3.2**
comp=Z,28nm,1.0s,mb5.0
HOQ Hoqain 38.58 298 P **P 21 46 27.9 +2.7**
SNR=16
FRU Bishkek 38.64 337 *e*P **P 21 46 33.0 +7.5**
ARQ Araqi 39.20 297 P **P 21 46 33.0 +2.6**
SNR=9.5
WHFO Wadi Hawf 40.56 288 P **P 21 46 43.6 +2.1**
SNR=9.0
ULN Ulaanbaatar 41.06 13 *i* P **P 21 46 45.0 -0.4**
ULN Ulaanbaatar 41.06 13 *e*P **P 21 46 45.9 +0.5**
comp=Z,7.0nm,0.8s,mb4.3
SNY Shenyang 42.38 33 ⇑P **P 21 46 58.3 +1.9**
SNY AP pP 21 47 04.3 +1.3
SNY XP sP 21 47 07.0 +1.3
SNY S **S 21 53 20.0 +3.8**
SNY AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
SNY AMB AMB
comp=Z,140nm,4.5s
SNY LR LR
comp=E,1μm,14.7s
SNY LR LR
comp=Z,1μm,15.5s,MS4.9
ZAK Zakamensk 42.78 8 *e*P **P 21 46 59.8 +0.3**
ZAK *e* 21 48 54.3
MOY Mondy 43.75 6 *e*P **P 21 47 07.3 0.0**
TLY Talaya 44.09 8 *e*P **P 21 47 08.0 -2.1**
TLY *e*S **S 21 53 39.8 -1.2**
TLY pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
TLY MLR MLR
comp=Z,503nm,14.0s,MS4.6
TLY Talaya 44.09 8 *i* P **P 21 47 08.8 -1.3**
KURK Kurchatov 44.39 346 *i* P **P 21 47 11.6 -1.0**
KURK Kurchatov 44.39 346 *e*P **P 21 47 10.1 -2.5**
comp=Z,35nm,1.1s,mb5.0
IRK Irkutsk 44.73 9 *e*P **P 21 47 15.8 +0.5**
IRK pmax pmax
comp=Z,24nm,4.5s
MUN Mundaring 45.05 153 *e*P **P 21 47 18.7 +0.5**
comp=Z,24nm,0.9s,mb5.0
MUN Mundaring 45.05 153 *e*P **P 21 47 18.7 +0.5**
MUN pmax pmax
comp=Z,24nm,0.9s,mb5.0
KLBR Kellerberrin 45.44 151 ⇓*i*P **P 21 47 21.7 +0.5**
comp=Z,256nm,0.9s,mb6.0
NWAO Narrogin (SRO) 46.32 153 *e*P **P 21 47 28.1 0.0**
NWAO pmax pmax
comp=Z,29nm,0.8s
NWAO Narrogin (SRO) 46.32 153 *e*P **P 21 47 28.1 -0.1**
comp=Z,29nm,0.8s,mb5.3
NVS Novosibirsk 47.41 351 *i* P **P 21 47 34.8 -1.6**
NVS pmax pmax
comp=Z,33nm,1.1s,mb5.2
NVS pmax pmax
comp=N,31nm,1.3s
NVS pmax pmax
comp=E,16nm,1.3s
WRAB Tennant Creek 48.31 126 *e*P **P 21 47 42.1 -1.8**
WRAB pmax pmax
comp=Z,19nm,0.9s,mb5.1
WRAB Tennant Creek 48.31 126 *e*P **P 21 47 42.1 -1.8**
comp=Z,19nm,0.9s,mb5.1
WB2 Warramunga Arr 48.31 126 *e*P **P 21 47 43.4 -0.6**
MAT Matsushiro 48.89 48 P **P 21 47 47.0 -1.2**
MAT *e*S **S 21 54 51.6 +2.1**
RAYN Ar Rayn 49.10 294 P **P 21 47 50.3 +0.3**
comp=Z,228nm,0.9s,SNR=32
CHKZ Chkalovo 49.27 342 *e*P **P 21 47 49.5 -1.4**
CHKZ pmax pmax
comp=Z,46nm,0.8s,mb5.6
CHKZ Chkalovo 49.27 342 *e*P **P 21 47 49.5 -1.3**
comp=Z,46nm,0.8s,mb5.6
ASPA Alice Springs 49.98 130 *e*P **P 21 47 55.9 -0.8**
FORT Forrest 50.46 142 *e*P **P 21 48 00.1 -0.2**
comp=Z,56nm,0.8s,mb5.6
BOD Bodaibo 51.87 13 *e*P **P 21 48 09.9 -0.7**
CLNS Chul'man 54.15 20 *e*P **P 21 48 28.5 +1.0**
CLNS pmax pmax
comp=Z,23nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,24nm,0.9s
CLNS pmax pmax
comp=E,18nm,1.1s
GNI Garni 54.35 314 *e*P **P 21 48 28.6 -0.6**
GNI pmax pmax
comp=Z,17nm,0.7s
GNI Garni 54.35 314 *e*P **P 21 48 28.6 -0.7**
comp=Z,17nm,0.7s,mb5.1
TI2 Plekhanov 54.95 316 ⇓*i*P **P 21 48 33.4 -0.3**
TI2 pmax pmax
comp=Z,30nm,0.8s,mb5.4
SVE Sverdlovsk 55.21 338 *e*P **P 21 48 32.0 -3.3**
SVE MLR MLR
comp=Z,200nm,20.0s,MS4.2
PMG Port Moresby 55.48 107 *e*P **P 21 48 37.4 -0.5**
PMG pmax pmax
comp=Z,26nm,0.8s
PMG Port Moresby 55.48 107 *e*P **P 21 48 37.4 -0.4**
comp=Z,26nm,0.8s,mb5.3
ARU Arti 55.70 337 P **P 21 48 37.9 -1.0**
comp=Z,117nm,1.1s,mb5.8,SNR=11
ARU Arti 55.70 337 ⇓*i*P **P 21 48 30.7 -8.2**
ARU *e* 21 49 30.8
ARU *e*S **S 21 56 10.1 -12**
ARU *e*SS SS 22 00 07.2 -0.5
ARU pmax pmax
comp=Z,25nm,1.1s,mb5.2
YSS Yuzh-Sakhalins 56.50 38 *i* P **P 21 48 44.4 -0.3**
KIV Kislovodsk 57.22 318 *d i* P **P 21 48 49.0 -0.9**
KIV pmax pmax
comp=Z,31nm,1.0s,mb5.3
KIV Kislovodsk 57.22 318 *e*P **P 21 48 47.8 -2.1**
comp=Z,27nm,0.9s,mb5.3
KMBO Kilima Mbogo 57.58 263 *e*P **P 21 48 54.2 +1.3**
KMBO pmax pmax
comp=Z,14nm,0.9s
KMBO Kilima Mbogo 57.58 263 *e*P **P 21 48 54.2 +1.3**
comp=Z,14nm,0.9s,mb5.0
ELZG Elazig 58.03 311 *i* P **P 21 48 54.6 -1.1**
CTAO Charters Tower 58.32 120 *e*P **P 21 48 57.7 -0.2**
CTAO pmax pmax
comp=Z,11nm,1.0s,mb4.8
CTAO Charters Tower 58.32 120 *e*P **P 21 48 57.7 -0.2**
comp=Z,11nm,1.0s,mb4.8
MALT Malatya 58.40 310 *e*P **P 21 48 56.7 -1.5**
MALT pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
MALT Malatya 58.40 310 *e*P **P 21 48 56.7 -1.5**
comp=Z,2.4nm,0.7s,mb4.3
SOKR Solikamsk 58.61 339 ⇓*i*P **P 21 48 56.5 -2.9**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.3
SOKR MLR MLR
comp=Z,2μm,21.0s,MS5.1
GZT Gaziantep 58.80 309 *i* P **P 21 48 59.3 -1.8**
SOC Sochi 59.09 316 *e*P **P 21 48 58.2 -4.8**
SOC *e* 21 49 45.4
SOC *e* 21 51 08.0
SOC *e*S **S 21 57 02.4 -4.6**
SOC *e* 21 58 45.7
SOC *e*SSS SSS 22 03 32.8 +4.3
SOC pmax pmax
comp=N,56nm,1.1s
SOC pmax pmax
comp=E,76nm,1.1s
SOC pmax pmax
comp=Z,57nm,1.1s,mb5.5
KAHT Ahir Dag 59.41 309 *i* P **P 21 49 04.0 -1.3**
EIL Elat 59.41 300 *e*P **P 21 49 04.6 -0.8**
comp=Z,56nm,1.4s,mb5.4
YAK Yakutsk 59.71 18 *e*P **P 21 49 04.5 -2.5**
YAK *e* 21 49 15.3
YAK pmax pmax
comp=Z,14nm,0.9s,mb5.0
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,21nm,1.0s,mb5.1
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK MLR MLR
comp=N,300nm,12.0s,MS4.8
YAK MLR MLR
comp=Z,300nm,12.0s,MS4.7
YAK MLR MLR
comp=E,400nm,14.0s,MS4.8
YAK Yakutsk 59.71 18 *e*P **P 21 49 06.7 -0.3**
comp=E,15nm,0.8s,mb5.1
STKA Stephens Creek 60.19 134 *e*P **P 21 49 09.6 -1.1**
comp=E,7.9nm,1.1s,mb4.7
ANN Anapa 61.04 317 *e*P **P 21 49 07.2 -9.1**
ANN pmax pmax
comp=Z,42nm,0.9s,mb5.6
SIM Simferopol' 63.33 316 P **P 21 49 30.7 -0.9**
SIM pmax pmax
comp=Z,23nm,0.7s,mb5.4
MBAR Mbarara 63.91 265 *e*P **P 21 49 36.8 +0.8**
MBAR pmax pmax
comp=Z,17nm,1.2s,mb5.0
MBAR Mbarara 63.91 265 *e*P **P 21 49 36.8 +0.8**
comp=Z,17nm,1.2s,mb4.9
MBAR *e* pP 21 49 43.7 +0.7
ESKT Eskisehir 64.42 310 *i* P **P 21 49 37.1 -1.8**
MOS Moscow 64.93 329 *e*P **P 21 49 40.2 -1.7**
MOS *e* 21 49 52.7
MOS *e* 21 52 04.8
MOS pmax pmax
comp=Z,47nm,0.9s,mb5.5
OBN Obninsk 65.23 328 ⇓*i*P **P 21 49 39.7 -4.1**
OBN *e* 21 50 02.7
OBN 21 50 16.0
OBN pmax pmax
comp=Z,73nm,2.0s,mb5.4
OBN Obninsk 65.23 328 *e*P **P 21 49 39.1 -4.8**
comp=Z,26nm,1.0s,mb5.2
MA2 Magadan 66.48 28 *e*P **P 21 49 52.7 +1.0**
MA2 *e* 21 52 26.8
MA2 *e*S S 21 58 37.6 -1.8
MA2 *e*PS PS 21 58 57.4 -7.1
MA2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
MA2 MLR MLR
comp=Z,400nm,18.0s,MS4.7
MA2 Magadan 66.48 28 *e*P **P 21 49 52.2 +0.5**
comp=Z,25nm,1.1s,mb5.2
TIXI Tiksi 66.95 11 *i* P **P 21 49 53.7 -0.9**
KDAG Bornova 67.00 308 *i* P **P 21 49 54.5 -0.9**
CFR Carcaliu 67.50 316 ⇓P **P 21 49 57.0 -1.5**
PET Petropavlovsk 68.25 36 *e*P **P 21 49 51.8 -11**
PET *e*S S 21 58 49.5 -11
PET pmax pmax
comp=Z,100nm,9.7s
PET MLR MLR
comp=Z,600nm,18.0s,MS4.9
VRI Vrincioaia 68.61 316 ⇑P **P 21 50 04.7 -0.7**
SEY Seymchan 68.64 25 *e*P **P 21 50 06.1 +0.8**
SEY 21 50 30.3
SEY 21 52 42.9
SEY *e*S S 21 59 07.8 +2.5
SEY SS SS 22 03 29.5 -2.0
SEY pmax pmax
comp=E,20nm,1.4s
SEY pmax pmax
comp=Z,40nm,1.4s,mb5.2
SEY smax
comp=N,460nm,19.2s
SEY smax
comp=E,50nm,10.5s
SEY MLR MLR
comp=Z,4μm,19.0s,MS5.7
SEY MLR MLR
comp=N,2μm,18.0s,MS5.4
SEY MLR MLR
comp=E,2μm,20.0s,MS5.4
MLR Muntele Rosu 69.08 316 ⇓P **P 21 50 07.7 -0.6**
LSZ Lusaka 69.48 250 *e*P **P 21 50 12.0 +0.8**
LSZ pmax pmax
comp=Z,15nm,1.2s,mb4.8
LSZ Lusaka 69.48 250 *e*P **P 21 50 11.9 +0.7**
comp=Z,15nm,1.2s,mb4.8
LSZ *e* pP 21 50 18.8 +0.7
BURAR Bucovina Array 69.94 318 ⇓P **P 21 50 13.2 -0.3**
VTS Vitosha 70.61 312 ⇓P **P 21 50 16.7 -1.0**
JOF Joensuu 70.67 334 *ep* **P 21 50 16.0 -1.7**
APA Apatity 71.65 339 ⇑*i*P **P 21 50 23.0 -0.6**
APA pmax pmax
comp=Z,58nm,1.2s,mb5.4
KWP Kalwaria 71.92 320 *e*P **P 21 50 24.8 -0.6**
KOLS Kolonicke sedl 72.10 319 *i* P **P 21 50 26.7 +0.2**
SUW Suwalki 72.37 324 *e*P **P 21 50 26.3 -1.8**
KAF Kangasniemi 72.62 333 *ep* **P 21 50 28.7 -0.7**
comp=Z,11nm,0.9s,mb4.8
KAF Kangasniemi 72.62 333 *e*P **P 21 50 28.7 -0.7**
KAF pmax pmax
comp=Z,11nm,0.9s,mb4.8
CRVS Cervenica-Dubn 72.62 319 *i* P **P 21 50 29.4 -0.2**
CRVS *i* pP pP 21 50 35.6 -1.0
NIE Niedzica 73.44 319 *e*P **P 21 50 34.5 +0.1**
OJC Ojcow 73.86 320 *e*P **P 21 50 36.7 -0.1**
VYHS Vyhne 74.30 318 *i* P **P 21 50 38.8 -0.6**
VYHS *e**SP sP 21 50 48.8 0.0
VYHS *e* 21 50 53.8
VYHS Vyhne 74.30 318 *i* P **P 21 50 38.8 -0.6**
VYHS *i* pP pP 21 50 44.7 -1.7
VYHS *e*sP sP 21 50 48.8 0.0
VYHS *e* 21 50 53.8
LBTB Lobatse 74.48 241 *e*P **P 21 50 41.9 +1.0**
LBTB *e* pP 21 50 48.6 +0.7
LBTB pmax pmax
comp=Z,20nm,1.0s,mb5.0
LBTB Lobatse 74.48 241 *e*P **P 21 50 41.9 +1.0**
comp=Z,20nm,1.0s,mb5.0
LBTB *e* pP 21 50 48.6 +0.7
KEV Kevo 74.64 341 *ep* **P 21 50 39.8 -1.1**
OKC Ostrava-Krasne 74.88 319 *e*P **P 21 50 42.7 0.0**
OKC *ep*P pP 21 50 49.1 -0.6
MORC Moravsky Berou 75.27 319 *e*P **P 21 50 44.7 -0.2**
MORC pmax pmax
comp=Z,20nm,0.9s,mb5.0
MORC Moravsky Berou 75.27 319 *e*P **P 21 50 44.7 -0.3**
comp=Z,20nm,0.9s,mb5.0
ZST Bratislava 75.43 318 *i* P **P 21 50 46.0 +0.1**
ZST *e**SP sP 21 50 56.6 +1.3
ZST Bratislava 75.43 318 *i* P **P 21 50 46.0 +0.1**
ZST *i* pP pP 21 50 52.6 -0.3
ZST *e* 21 50 56.6
GKP Gorka Klasztor 75.77 323 *e*P **P 21 50 47.2 -0.6**
BILL Bilibino 75.80 22 *e*P **P 21 50 46.7 -0.9**
BILL pmax pmax
comp=Z,14nm,1.1s,mb4.8
BILL Bilibino 75.80 22 *e*P **P 21 50 46.7 -0.9**
comp=Z,14nm,1.1s,mb4.8
BOSA Boshof 75.83 238 *e*P **P 21 50 49.5 +0.9**
BOSA *e* pP 21 50 56.0 +0.4
BOSA pmax pmax
comp=Z,20nm,1.2s,mb4.9
BOSA Boshof 75.83 238 *e*P **P 21 50 49.5 +0.9**
comp=Z,20nm,1.2s,mb4.9
BOSA *e* pP 21 50 56.0 +0.4
VRAC Vranov 75.85 319 ⇑P **P 21 50 48.2 -0.1**
DPC Dobruska-Polom 76.09 320 *e*P **P 21 50 50.2 +0.6**
DPC *ep*P pP 21 50 56.0 -0.6
KSP Ksiaz 76.15 320 ⇑*e*P **P 21 50 50.0 +0.1**
KSP *ep*P pP 21 50 55.5 -1.4
KSP Ksiaz 76.15 320 *e*P **P 21 50 49.9 0.0**
UPC Upice 76.30 320 *e*P **P 21 50 51.2 +0.4**
UPC *ep*P pP 21 51 00.6 +2.8
ARSA Arzberg 76.44 317 ⇓*i*P **P 21 50 51.7 +0.1**
comp=Z,27nm,1.6s,mb4.9
BOJS Bojanci 76.56 315 *e*P **P 21 50 52.1 -0.2**
PERS Pernice 76.69 316 *e*P **P 21 50 53.2 +0.2**
PRU Pruhonice 77.22 319 *e*P **P 21 50 56.1 +0.2**
PRU *ep*P pP 21 51 02.8 -0.1
PVCC Panska Ves 77.22 320 *e*P **P 21 50 56.5 +0.6**
PVCC *ep*P pP 21 51 02.8 -0.1
BRG Berggiesshubel 77.64 320 *i* P **P 21 50 58.2 0.0**
BRG *e* pP 21 51 04.9 -0.3
BRG pmax pmax
comp=Z,15nm,0.9s,mb4.9
BRG Berggiesshubel 77.64 320 *i* P **P 21 50 58.2 0.0**
comp=Z,15nm,0.9s,mb4.9
BRG *e* pP 21 51 04.9 -0.3
GEC2 GERESS Array S 77.72 318 *e*P **P 21 50 58.7 0.0**
GEC2 pmax pmax
comp=Z,20nm,0.8s,mb5.1
GEC2 GERESS Array S 77.72 318 *e*P **P 21 50 58.7 0.0**
comp=Z,20nm,0.8s,mb5.1
RUE Ruedersdorf 77.81 322 *e*P **P 21 50 59.3 +0.2**
comp=Z,62nm,0.8s,mb5.6
RUE *e* pP 21 51 05.5 -0.6
KHC Kasperske Hory 77.81 318 *e*P **P 21 50 59.2 0.0**
KHC *ep*P pP 21 51 05.9 -0.3
PTCC Patocco-Chiusa 77.90 316 *e*P **P 21 50 59.7 -0.1**
KBA Koelnbreinsper 77.92 316 ⇑*i*P **P 21 50 59.5 -0.3**
comp=Z,16nm,1.1s,mb4.8
KBA Koelnbreinsper 77.92 316 ⇑*i*P **P 21 50 59.5 -0.3**
KBA pmax pmax
comp=Z,16nm,1.1s,mb4.9
CLL Collm 78.25 321 ⇑*i*P **P 21 51 01.1 -0.4**
CLL *i* 21 51 11.6
CLL pmax pmax
comp=Z,13nm,0.9s,mb4.9
CLL Collm 78.25 321 ⇑*i*P **P 21 51 01.1 -0.4**
comp=Z,13nm,0.9s,mb4.9
CLL *i* 21 51 11.6
CLL Collm 78.25 321 ⇑P **P 21 51 01.1 -0.4**
comp=Z,logA/T=1.2,mb4.9
CLL *e**PP pP 21 51 08.0 -0.5
CLL *i* *SP sP 21 51 11.6 +0.7
WET Wettzell 78.27 318 *e*P **P 21 51 01.8 +0.1**
WET pmax pmax
comp=Z,11nm,0.8s,mb4.8
WET Wettzell 78.27 318 *e*P **P 21 51 01.8 +0.1**
comp=Z,11nm,0.8s,mb4.8
FVI Forni Avoltri 78.30 316 *e*P **P 21 51 01.9 0.0**
NKC Novy Kostel 78.57 320 *e*P **P 21 51 03.8 +0.5**
SFI Santa Sofia 78.96 313 *e*P **P 21 51 06.8 +1.2**
CTI Castel Tesino 79.08 315 *e*P **P 21 51 06.7 +0.5**
WTTA Wattenberg 79.09 317 ⇑*i*P **P 21 51 05.8 -0.4**
comp=Z,29nm,0.9s,mb5.2
WTTA Wattenberg 79.09 317 ⇑*i*P **P 21 51 05.8 -0.4**
WTTA pmax pmax
comp=Z,29nm,0.9s,mb5.2
MOX Moxa 79.11 320 *e*P **P 21 51 06.5 +0.2**
MOX pmax pmax
comp=Z,19nm,1.2s,mb4.9
MOX Moxa 79.11 320 *e*P **P 21 51 06.5 +0.2**
comp=Z,19nm,1.2s,mb4.9
MOX Moxa 79.11 320 *i* P **P 21 51 06.5 +0.2**
comp=Z,logA/T=1.2,mb4.9
WATA Walderalm 79.13 317 ⇓*i*P **P 21 51 05.9 -0.5**
comp=Z,9.3nm,0.9s,mb4.7
WATA Walderalm 79.13 317 ⇓*i*P **P 21 51 05.9 -0.5**
WATA pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
VMG Vicchio 79.18 313 *e*P **P 21 51 08.1 +1.3**
FUR Furstenfeldbru 79.33 317 *e*P **P 21 51 07.0 -0.5**
GRA1 Grafenberg Arr 79.36 319 *e*P **P 21 51 08.1 +0.4**
comp=Z,17nm,0.9s,mb5.0
GRA1 *ep*P pP 21 51 15.1 +0.4
GRF Grafenberg Arr 79.36 319 *e*P **P 21 51 08.1 +0.4**
GRF *e**PP pP 21 51 15.1 +0.4
GRF pmax pmax
comp=Z,17nm,0.9s,mb5.0
GRF Grafenberg Arr 79.36 319 *e*P **P 21 51 08.1 +0.4**
GRF *e**PP pP 21 51 15.1 +0.4
GRF pmax pmax
comp=Z,17nm,0.9s,mb5.0
GRF Grafenberg Arr 79.36 319 *e*P **P 21 51 08.1 +0.4**
comp=Z,17nm,0.9s,mb5.0
GRF *ep*P pP 21 51 15.1 +0.4
SQTA Sankt Quirin 79.38 316 ⇑*i*P **P 21 51 07.2 -0.6**
comp=Z,12nm,0.8s,mb4.9
SQTA Sankt Quirin 79.38 316 ⇑*i*P **P 21 51 07.2 -0.6**
SQTA pmax pmax
comp=Z,12nm,0.8s,mb4.9
MOTA Moosalm 79.45 317 ⇑*i*P **P 21 51 07.3 -0.9**
comp=Z,8.6nm,0.9s,mb4.7
MOTA Moosalm 79.45 317 ⇑*i*P **P 21 51 07.3 -0.9**
MOTA pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
NB2 NORSAR Subarra 79.57 331 P **P 21 51 07.8 -0.8**
comp=Z,1.1nm,0.7s,baz=94,slow=5.8
NB2 NORSAR Subarra 79.57 331 P **P 21 51 07.8 -0.8**
NB2 pmax pmax
comp=Z,1.0nm,0.7s
ZCCA Zocca 79.58 314 *e*P **P 21 51 10.7 +1.7**
GSCL Gusciola 79.86 314 *e*P **P 21 51 11.5 +1.0**
CLZ Clausthal 79.89 321 *e*P **P 21 51 10.6 +0.1**
comp=Z,21nm,0.8s,mb5.1
BRMO Bormio 79.96 316 *e*P **P 21 51 11.1 +0.1**
DAVA Damuels 80.28 317 ⇓*i*P **P 21 51 12.8 +0.1**
comp=Z,35nm,1.1s,mb5.2
MUD Monsted U'grnd 80.57 326 *i* P **P 21 51 14.3 +0.3**
MUD pmax pmax
comp=Z,46nm,1.1s,mb5.3
MUD Monsted U'grnd 80.57 326 *i* P **P 21 51 14.3 +0.3**
comp=Z,46nm,1.1s,mb5.3
PGF Pioggiola 81.08 312 *e*P **P 21 51 16.0 -1.0**
comp=Z,98nm,1.3s,mb5.3
PGF Pioggiola 81.08 312 *e*P **P 21 51 16.0 -1.0**
PGF pmax pmax
comp=Z,49nm,1.3s,mb5.3
VAI Varese 81.10 315 *e*P **P 21 51 16.5 -0.5**
TNS Taunus Mts 81.14 320 *e*P **P 21 51 17.2 +0.1**
BFO Black Forest 81.29 318 *e*P **P 21 51 17.5 -0.4**
BFO pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BFO Black Forest 81.29 318 *e*P **P 21 51 17.5 -0.4**
comp=Z,6.0nm,0.8s,mb4.6
FIN Finale Ligure 81.58 314 *e*P **P 21 51 19.6 +0.1**
LANF Langenberg 81.61 318 *e*P **P 21 51 20.2 +0.6**
MCGN Macugnaga 81.64 315 *e*P **P 21 51 21.2 +1.4**
CDF Champ du Feu 81.99 318 *e*P **P 21 51 21.2 -0.4**
comp=Z,19nm,0.9s,mb4.7
CDF Champ du Feu 81.99 318 *e*P **P 21 51 21.2 -0.4**
CDF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SBF Sospel 82.15 313 *e*P **P 21 51 22.3 -0.2**
comp=Z,67nm,0.9s,mb5.2
SBF Sospel 82.15 313 *e*P **P 21 51 22.3 -0.2**
SBF pmax pmax
comp=Z,34nm,0.9s,mb5.3
HINF Hinteralfeld 82.31 317 *e*P **P 21 51 23.8 +0.6**
LOMF Lomont 82.35 317 *e*P **P 21 51 23.7 +0.2**
LPG La Plagne 82.53 315 *e*P **P 21 51 24.8 +0.4**
comp=Z,61nm,0.8s,mb5.4
LPG La Plagne 82.53 315 *e*P **P 21 51 24.8 +0.4**
LPG pmax pmax
comp=Z,30nm,0.8s,mb5.4
LPL La Plagne 82.54 315 *e*P **P 21 51 24.7 +0.2**
comp=Z,78nm,0.9s,mb5.4
LPL La Plagne 82.54 315 *e*P **P 21 51 24.7 +0.2**
LPL pmax pmax
comp=Z,39nm,0.9s,mb5.4
MBDF Montbardon 82.57 314 *e*P **P 21 51 23.9 -0.8**
comp=Z,56nm,1.3s,mb5.1
MBDF Montbardon 82.57 314 *e*P **P 21 51 23.9 -0.8**
MBDF pmax pmax
comp=Z,28nm,1.3s,mb5.1
BNI Bardonecchia 82.61 314 *e*P **P 21 51 25.1 +0.2**
BNI pmax pmax
comp=Z,16nm,0.8s,mb5.1
BNI Bardonecchia 82.61 314 *e*P **P 21 51 25.1 +0.2**
comp=Z,16nm,0.8s,mb5.1
HAU Haudompre 82.63 317 *e*P **P 21 51 24.5 -0.4**

comp=Z,50nm,0.9s,mb5.2
HAU eR
HAU Haudompre 82.63 317 *eP* **P 21 51 24.5 -0.4**
HAU pmax pmax
comp=Z,25nm,0.9s,mb5.2
HAU MLR MLR
comp=Z,290nm,18.5s,MS4.7
FRF La Foret Royal 82.74 313 *eP* **P 21 51 25.5 -0.1**
comp=Z,38nm,0.9s,mb5.1
FRF La Foret Royal 82.74 313 *eP* **P 21 51 25.5 -0.1**
FRF pmax pmax
comp=Z,19nm,0.9s,mb5.1
THEF They Montfort 82.86 318 *eP* **P 21 51 26.0 -0.1**
LMR La Mourre 82.86 313 *eP* **P 21 51 25.9 -0.3**
comp=Z,82nm,1.3s,mb5.3
LMR La Mourre 82.86 313 *eP* **P 21 51 25.9 -0.3**
LMR pmax pmax
comp=Z,41nm,1.3s,mb5.3
CABF La Chapelle 82.91 316 *eP* **P 21 51 26.5 +0.1**
comp=Z,33nm,1.0s,mb5.0
CABF La Chapelle 82.91 316 *eP* **P 21 51 26.5 +0.1**
CABF pmax pmax
comp=Z,16nm,1.0s,mb5.0
ORIF Oris-en-Rattie 83.19 314 *eP* **P 21 51 28.1 +0.2**
comp=Z,36nm,1.0s,mb5.1
ORIF eR
comp=Z,384nm,21.9s
OG05 Jujurieux 83.39 315 *eP* **P 21 51 29.4 +0.5**
MEZF Maizieres J'vi 83.46 318 *eP* **P 21 51 29.0 -0.2**
comp=Z,16nm,0.9s,mb4.8
GIVF Givet 83.47 320 *eP* **P 21 51 29.3 +0.1**
SMRF Simiane la Rot 83.48 313 *eP* **P 21 51 29.7 +0.3**
BAIF Baives 83.87 320 *eP* **P 21 51 31.5 +0.3**
comp=Z,26nm,0.9s,mb5.1
BAIF Baives 83.87 320 *eP* **P 21 51 31.5 +0.3**
BAIF pmax pmax
comp=Z,13nm,0.9s,mb5.1
VIVF Saint-Julien-l 84.05 314 *eP* **P 21 51 32.1 -0.2**
comp=Z,46nm,1.2s,mb5.2
VIVF Saint-Julien-l 84.05 314 *eP* **P 21 51 32.1 -0.2**
VIVF pmax pmax
comp=Z,23nm,1.2s,mb5.2
SMF Signal de Mont 84.45 316 *eP* **P 21 51 33.8 -0.4**
comp=Z,36nm,0.9s,mb5.2
SMF Signal de Mont 84.45 316 *eP* **P 21 51 33.8 -0.4**
SMF pmax pmax
comp=Z,18nm,0.9s,mb5.2
SSF Saint Saulge 84.64 317 *eP* **P 21 51 34.9 -0.2**
SSF pmax pmax
comp=Z,16nm,1.2s,mb5.0
SSF Saint Saulge 84.64 317 *eP* **P 21 51 34.9 -0.2**
comp=Z,16nm,1.2s,mb5.0
PLDF La Plantade 84.67 316 *eP* **P 21 51 36.1 +0.7**
LASF Ste Croix 84.71 314 *eP* **P 21 51 35.9 +0.3**
AVF Avril sur Loir 84.77 316 *eP* **P 21 51 35.4 -0.4**
comp=Z,24nm,1.0s,mb5.0
AVF Avril sur Loir 84.77 316 *eP* **P 21 51 35.4 -0.4**
AVF pmax pmax
comp=Z,12nm,1.0s,mb5.0
AGO Saint Agoulin 85.00 316 *eP* **P 21 51 37.8 +0.8**
PYM Petit Puy Mans 85.12 315 *eP* **P 21 51 39.0 +1.4**
BGF Bois d'Agland 85.14 316 *eP* **P 21 51 37.9 +0.2**
comp=Z,34nm,1.1s,mb5.1
BGF Bois d'Agland 85.14 316 *eP* **P 21 51 37.9 +0.2**
BGF pmax pmax
comp=Z,17nm,1.0s,mb5.1
HYF Humbligny 85.20 317 *eP* **P 21 51 38.4 +0.4**
TCF Toulx Ste Croi 85.61 316 *eP* **P 21 51 40.2 +0.2**
comp=Z,23nm,1.3s,mb5.0
TCF Toulx Ste Croi 85.61 316 *eP* **P 21 51 40.2 +0.2**
TCF pmax pmax
comp=Z,12nm,1.3s,mb5.0
SYO Syowa Base 85.69 197 ⇑P **P 21 51 39.7 -0.2**
SYO Syowa Base 85.69 197 ⇑PcP PcP 21 51 44.8 +1.5
TNA Tin City 85.88 24 *eP* **P 21 51 41.9 +1.0**
CAF Calviac 85.88 315 *eP* **P 21 51 41.7 +0.3**
comp=Z,13nm,0.8s,mb4.9
CAF Calviac 85.88 315 *eP* **P 21 51 41.7 +0.3**
CAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
RJF Les Rejaudoux 86.22 315 *eP* **P 21 51 43.5 +0.4**
comp=Z,19nm,0.9s,mb5.0
RJF eR
comp=Z,421nm,20.8s
RJF Les Rejaudoux 86.22 315 *eP* **P 21 51 43.5 +0.4**
RJF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
RJF MLR MLR
comp=Z,420nm,20.8s,MS4.8
LFF La Frestale 86.81 315 *eP* **P 21 51 46.5 +0.5**
comp=Z,32nm,1.0s,mb5.2
LFF La Frestale 86.81 315 *eP* **P 21 51 46.5 +0.5**
LFF pmax pmax
comp=Z,16nm,1.0s,mb5.2
LDF La Druitiere 86.86 318 *eP* **P 21 51 46.2 +0.1**
comp=Z,30nm,1.0s,mb5.2
LDF La Druitiere 86.86 318 *eP* **P 21 51 46.2 +0.1**
LDF pmax pmax
comp=Z,15nm,1.0s,mb5.2
FLN La Foliniere 87.07 319 *eP* **P 21 51 47.1 -0.1**
comp=Z,32nm,1.0s,mb5.2
FLN eR
comp=Z,340nm,21.0s
FLN La Foliniere 87.07 319 *eP* **P 21 51 47.1 -0.1**
FLN pmax pmax
comp=Z,16nm,1.0s,mb5.2
FLN MLR MLR
comp=Z,340nm,21.0s,MS4.7
MFF Saint Martin d 87.18 317 *eP* **P 21 51 47.7 0.0**
comp=Z,20nm,1.0s,mb5.0
MFF Saint Martin d 87.18 317 *eP* **P 21 51 47.7 0.0**
MFF pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
ETSF Etsaut 88.05 313 *eP* **P 21 51 53.3 +1.3**
comp=Z,36nm,1.1s,mb5.2
ETSF Etsaut 88.05 313 *eP* **P 21 51 53.3 +1.3**
ETSF pmax pmax
comp=Z,18nm,1.1s,mb5.2
SJPF Ste Jean 88.50 313 *eP* **P 21 51 54.9 +0.8**
IMA Indian Mountai 91.33 22 *eP* **P 21 52 08.9 +2.1**
INK Inuvik 96.71 16 *eP* **P 21 52 32.2 +0.8**
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 96.71 16 *eP* **P 21 52 32.2 +0.8**
comp=Z,9.1nm,1.1s,mb5.1
RES Resolute Bay 97.14 2 *eP* **P 21 52 34.4 +1.1**
RES pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
RES Resolute Bay 97.14 2 *eP* **P 21 52 34.4 +1.2**
comp=Z,10nm,0.9s,mb5.3
RES *e* pP 21 52 40.8 +0.5
MSU Marysvale 127.46 26 *e*PKIKP PKPdf 21 58 07.5 -2.6
JCT Junction City 139.30 19 *e*PKIKP PKPdf 21 58 29.9 -2.5
BAO Brasilia Array 142.38 255 P PKPdf 21 58 42.1 +3.9
BAO *e* 21 58 46.8
TRQA Tornquist 143.29 212 *e*PKPpre 21 58 33.8
PLCA Paso Flores 144.84 200 *e*PKPdf PKPdf 21 58 39.0 -2.8
PLCA *e* 21 58 44.9
TEIG Tepich 151.71 5 PKPab PKPab 21 59 04.2 -2.5
SDV Santo Domingo 157.37 318 *e*PKPab PKPab 21 59 30.1 -0.8
SAML Samuel 157.69 266 *e*PKPdf PKPdf 21 58 59.8 -2.0
LPAZ La Paz 161.00 243 *e*PKIKP PKPdf 21 59 03.2 -2.2

*CSEM **30** 22:19:14.8±0.2, 35.01N×3.85W, h10km, MD2.8, Error ellipse: s-maj=6.5km s-min=5.3km az=64.0*
*MDD **30** 22:19:16.4±0.5, 35.03N×3.86W, mbLg2.3/6, Error ellipse: s-maj=5.0km s-min=4.0km az=54.0, PRXIMO*
*CNRM **30** 22:19:16.0, 35.04N×3.79W, h4km, MD2.8*
*NEIC **30** 22:19:16.3, 35.03N×3.91W, MG3.3(MDD), After MDD.*
ISC 30 22:19:15.5±0.8, 35.06N±0.03×3.93W±0.04, h9km±6km, n30, σ1§22/48, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.17**	**358**	*i* P	**Pg**	**22 19 20.0**	**+0.8**
TOU	**Touzarine**	**0.17**	**122**	*i* P	**Pg**	**22 19 18.0**	**-1.3**
EMEL	**Melilla**	**0.84**	**73**	P	**Pb**	**22 19 30.5**	**-1.1**
	79nm,0.1s,SNR=8.9						
EMEL				S	**Sb**	**22 19 43.3**	**+0.5**
	143nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**0.84**	**73**	P	**Pb**	**22 19 30.5**	**-1.3**
	79nm,0.1s,SNR=8.9						
EMLI				S	**Sb**	**22 19 43.3**	**+0.4**
	143nm,0.1s,SNR=7.9						
ZAI	**Zaio**	**0.98**	**95**	P	**Pb**	**22 19 33.0**	**-1.1**
ZAI				S	**Sb**	**22 19 44.0**	**-2.9**
ZAI	**Zaio**	**0.98**	**95**	*i* P	**Pb**	**22 19 33.0**	**-1.1**
TZK	**Tazeka**	**0.99**	**192**	*i* P	**Pb**	**22 19 35.0**	**+0.8**
TZK				*i* S	**Sb**	**22 19 48.5**	**+1.4**
EALB	**Alboran**	**1.15**	**39**	P	**Pb**	**22 19 37.5**	**+0.5**
EALB				S	**Sb**	**22 19 52.4**	**+0.6**
EALB	**Alboran**	**1.15**	**39**	P	**Pb**	**22 19 37.7**	**+0.7**
	6.2nm,0.1s,SNR=4.0						
EALB				S	**Sb**	**22 19 52.4**	**+0.6**
	19nm,0.1s,SNR=7.9						
EALB	**Alboran**	**1.15**	**39**	P	**Pb**	**22 19 37.5**	**+0.5**
	3.1nm,0.1s,SNR=4.0						
EALB				S	**Sb**	**22 19 52.4**	**+0.6**
	14nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.65**	**336**	P	**Pn**	**22 19 45.9**	**+1.1**
	2.1nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**22 20 05.9**	**-0.4**
	3.9nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.02**	**24**	P	**Pn**	**22 19 50.7**	**+0.5**
EBER				S	**Sn**	**22 20 16.9**	**+1.2**
EBER	**Berja**	**2.02**	**24**	P	**Pn**	**22 19 50.7**	**+0.6**
	1.0nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**22 20 17.0**	**+1.2**
	9.1nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.02**	**24**	P	**Pn**	**22 19 50.7**	**+0.5**
	0.1nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**22 20 17.0**	**+1.2**
	SNR=7.9						
EQES	**Quesada**	**2.83**	**14**	P	**Pn**	**22 20 03.4**	**+1.8**
	1.0nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**22 20 38.1**	**+1.9**
	1.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.83**	**14**	S	**Sn**	**22 20 38.1**	**+1.9**
	0.9nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.83**	**14**	P	**Pn**	**22 20 03.4**	**+1.7**
	0.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.15**	**351**	P	**Pn**	**22 20 07.3**	**+1.1**
EADA				S	**Sn**	**22 20 42.4**	**-1.9**
EADA	**Adamuz**	**3.15**	**351**	P	**Pn**	**22 20 07.1**	**+0.9**
	0.3nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**22 20 42.4**	**-1.9**
	0.8nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**3.15**	**351**	P	**Pn**	**22 20 07.3**	**+1.1**
	SNR=7.9						
EADA				S	**Sn**	**22 20 42.4**	**-1.9**
	SNR=4.0						
EMIN	**Mina Concepcio**	**3.49**	**322**	P	**Pn**	**22 20 10.7**	**-0.4**
EMIN				S	**Sn**	**22 20 51.2**	**-1.9**
EMIN	**Mina Concepcio**	**3.49**	**322**	P	**Pn**	**22 20 10.7**	**-0.4**
	0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**22 20 51.4**	**-1.6**
	0.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.49**	**322**	S	**Sn**	**22 20 51.2**	**-1.8**
	SNR=7.9						
EMIN	**Mina Concepcio**	**3.49**	**322**	P	**Pn**	**22 20 10.7**	**-0.4**
	0.5nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.79**	**312**	P	**Pn**	**22 20 14.3**	**-0.9**
EGRO	**El Granado**	**3.79**	**312**	P	**Pn**	**22 20 15.8**	**+0.5**
	0.4nm,0.1s,SNR=4.0						
EGRO	**El Granado**	**3.79**	**312**	P	**Pn**	**22 20 14.3**	**-1.0**
	0.4nm,0.1s,SNR=4.0						
EBAD	**Badajoz**	**4.44**	**327**	P	**Pn**	**22 20 24.6**	**0.0**
	0.3nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**22 21 14.1**	**-2.9**
	2.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.44**	**327**	S	**Sn**	**22 21 14.1**	**-2.9**
EBAD	**Badajoz**	**4.44**	**327**	P	**Pn**	**22 20 24.6**	**0.0**
	0.3nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**22 22 23.4**	**-2.1**
	0.7nm,0.1s,SNR=7.9						

*CSEM **30** 22:20:22.6±0.3, 35.00N×3.92W, h5km, MD2.7, Error ellipse: s-maj=6.5km s-min=4.6km az=41.0*
*MDD **30** 22:20:23.5±1.1, 34.95N×3.93W, mbLg2.4/6, Error ellipse: s-maj=11.4km s-min=5.2km az=27.0, PRXIMO SOLUCIN POBRE*
*NEIC **30** 22:20:23.9, 34.93N×3.94W, MG3.3(MDD), After MDD.*
*CNRM **30** 22:20:24.0, 35.04N×3.79W, h4km, MD2.7*
ISC 30 22:20:23.0±1.0, 35.00N±0.05×3.99W±0.04, h8km±6km, n30, σ0§95/52, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.20**	**99**	*i* P	**Pg**	**22 20 26.0**	**-1.2**
MPAL	**Palemas**	**0.23**	**10**	*i* P	**Pg**	**22 20 28.0**	**+0.1**
EMEL	**Melilla**	**0.90**	**70**	P	**Pb**	**22 20 40.0**	**-0.5**
	159nm,0.1s,SNR=7.9						
EMEL				S	**Sb**	**22 20 53.0**	**+0.7**
	186nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**0.91**	**70**	P	**Pb**	**22 20 40.0**	**-0.5**
	159nm,0.1s,SNR=7.9						
EMLI				S	**Sb**	**22 20 53.0**	**+0.5**
	186nm,0.1s,SNR=7.9						
TZK	**Tazeka**	**0.92**	**190**	P	**Sb**	**22 20 53.0**	**+0.1**
TZK	**Tazeka**	**0.92**	**190**	*i* S	**Sb**	**22 20 56.5**	**+3.6**
ZAI	**Zaio**	**1.02**	**91**	P	**Pb**	**22 20 41.0**	**-1.5**
ZAI				S	**Sb**	**22 20 52.0**	**-3.9**
ZAI	**Zaio**	**1.02**	**91**	*i* P	**Pb**	**22 20 41.0**	**-1.5**
EALB	**Alboran**	**1.23**	**39**	P	**Pb**	**22 20 46.3**	**+0.3**
EALB	**Alboran**	**1.23**	**39**	P	**Pb**	**22 20 48.7**	**+2.7**
	26nm,0.2s,SNR=7.9						
EALB				S	**Sb**	**22 21 01.6**	**-0.1**
	18nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.23**	**39**	P	**Pb**	**22 20 46.3**	**+0.3**
	6.9nm,0.0s,SNR=7.9						
EMIJ	**Mijas**	**1.69**	**338**	P	**Pn**	**22 20 53.9**	**+0.9**
EMIJ				S	**Sn**	**22 21 14.2**	**-0.9**
EMIJ	**Mijas**	**1.69**	**338**	P	**Pn**	**22 20 53.1**	**0.0**
	1.8nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**22 21 14.0**	**-1.0**
	7.1nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**1.69**	**338**	P	**Pn**	**22 20 53.9**	**+0.8**
	1.0nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**22 21 14.2**	**-0.9**
	3.5nm,0.1s,SNR=7.9						
EBER	**Berja**	**2.10**	**25**	P	**Pn**	**22 20 58.8**	**-0.2**
EBER				S	**Sn**	**22 21 25.2**	**-0.3**
EBER	**Berja**	**2.10**	**25**	P	**Pn**	**22 20 58.7**	**-0.2**
	3.0nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**22 21 25.5**	**+0.1**
	13nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.10**	**25**	P	**Pn**	**22 20 58.8**	**-0.1**
	0.2nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**22 21 25.2**	**-0.3**
	1.9nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.90**	**15**	P	**Pn**	**22 21 11.9**	**+1.6**
EQES				S	**Sn**	**22 21 46.7**	**+1.0**
EQES	**Quesada**	**2.90**	**15**	P	**Pn**	**22 21 11.9**	**+1.6**
	1.7nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**22 21 46.6**	**+0.8**
	2.9nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.90**	**15**	P	**Pn**	**22 21 11.9**	**+1.6**
	0.8nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**22 21 46.7**	**+0.9**
	3.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.20**	**352**	P	**Pn**	**22 21 16.0**	**+1.4**
EADA				S	**Sn**	**22 21 52.9**	**-0.5**
EADA	**Adamuz**	**3.20**	**352**	P	**Pn**	**22 21 15.9**	**+1.3**
	0.6nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**22 21 52.6**	**-0.8**
	1.8nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.20**	**352**	P	**Pn**	**22 21 16.0**	**+1.4**
	0.4nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**22 21 52.9**	**-0.5**
	SNR=7.9						
EMIN	**Mina Concepcio**	**3.51**	**323**	P	**Pn**	**22 21 19.4**	**+0.3**
EMIN				S	**Sn**	**22 22 00.8**	**-0.5**
EMIN	**Mina Concepcio**	**3.51**	**323**	P	**Pn**	**22 21 19.4**	**+0.4**
	0.8nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**22 22 00.5**	**-0.8**
	0.6nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.51**	**323**	P	**Pn**	**22 21 19.4**	**+0.3**
	0.8nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**22 22 00.8**	**-0.5**
	SNR=7.9						
EGRO	**El Granado**	**3.79**	**313**	P	**Pn**	**22 21 23.7**	**+0.6**
	0.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.47**	**328**	P	**Pn**	**22 21 33.4**	**+0.7**
EBAD				S	**Sn**	**22 22 23.4**	**-2.1**
EBAD	**Badajoz**	**4.47**	**328**	P	**Pn**	**22 21 32.8**	**+0.1**
	0.7nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**22 22 23.1**	**-2.3**
	2.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.47**	**328**	P	**Pn**	**22 21 33.4**	**+0.8**

IGQ 30 22:24:31.2, 1.42S×81.49W, h8km±6km, mb4.0, 1C, Error ellipse: s-maj=9.1km s-min=5.9km az=93.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.01**	**69**	P	Pb	22 24 50.1	-0.5
HOJA				S	Sb	22 25 03.3	-0.5
JAMA	**Jama**	**1.72**	**48**	P	Pn	22 25 03.4	+1.7
IGUA	**Igualata**	**2.85**	**91**	P	Pn	22 25 19.5	+1.6
ARRY	**Arrayan**	**3.03**	**92**	⇑P	Pn	22 25 21.4	+0.9
ARRY				S	Sn	22 25 57.9	+0.5
ULBA	**Ulba**	**3.08**	**91**	P	Pn	22 25 25.8	+4.7
NAS1	**Nasa**	**3.11**	**75**	P	Pn	22 25 27.9	+6.3
JUA2	**San Juan 2**	**3.12**	**67**	P	Pn	22 25 23.0	+1.3
TERV	**Terraza Guagua**	**3.14**	**67**	P	Pn	22 25 22.8	+0.8
PINO	**Pino**	**3.14**	**66**	P	Pn	22 25 22.7	+0.7
VC1	**Cotopaxi 1**	**3.18**	**76**	P	Pn	22 25 25.2	+2.7
YANA	**Yana**	**3.19**	**66**	P	Pn	22 25 23.5	+0.8
TAMB	**Tambo**	**3.20**	**77**	P	Pn	22 25 26.1	+3.2
ANTI	**Antisana**	**3.46**	**74**	P	Pn	22 25 29.1	+2.5
CAYR	**Refugio Cayamb**	**3.76**	**68**	P	Pn	22 25 33.7	+2.8
CAYA	**Cayambe**	**3.80**	**67**	P	Pn	22 25 32.8	+1.5

IGQ 30 22:42:57.3, 0.77S×81.11W, h20km±4km, mb4.0, 5C-3D, Error ellipse: s-maj=6.5km s-min=4.5km az=18.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.63**	**116**	⇑P	Pb	22 43 08.3	-1.2
JAMA	**Jama**	**1.04**	**61**	P	Pb	22 43 16.6	+0.2
JAMA				S	Sb	22 43 30.4	+0.8
MAGD	**Magdalena**	**1.51**	**62**	P	Pn	22 43 26.1	+2.5
JUA2	**San Juan 2**	**2.57**	**78**	P	Pn	22 43 39.9	+1.2
JUA2				S	Sn	22 44 10.4	+0.8
IGUA	**Igualata**	**2.57**	**106**	P	Pn	22 43 40.7	+1.9
IGUA				S	Sn	22 44 11.6	+1.7
PINO	**Pino**	**2.58**	**76**	⇑P	Pn	22 43 40.0	+1.1
TERV	**Terraza Guagua**	**2.58**	**77**	P	Pn	22 43 39.9	+1.1
JOR1	**San Jorge 1**	**2.59**	**73**	P	Pn	22 43 38.6	-0.4
YANA	**Yana**	**2.62**	**76**	⇑P	Pn	22 43 40.4	+0.9
YANA				S	Sn	22 44 09.9	-1.1
NAS1	**Nasa**	**2.64**	**87**	P	Pn	22 43 42.3	+2.6
VC1	**Cotopaxi 1**	**2.71**	**87**	P	Pn	22 43 43.8	+3.0
JUIV	**Juive**	**2.73**	**104**	P	Pn	22 43 44.9	+3.9
PISA	**Pisayambo**	**2.74**	**96**	P	Pn	22 43 44.9	+3.7
TAMB	**Tambo**	**2.75**	**88**	P	Pn	22 43 43.7	+2.4
ARRY	**Arrayan**	**2.75**	**105**	⇓P	Pn	22 43 43.4	+2.0
ARRY				S	Sn	22 44 16.1	+1.7
ULBA	**Ulba**	**2.79**	**104**	P	Pn	22 43 44.3	+2.4
ANTI	**Antisana**	**2.97**	**84**	⇑P	Pn	22 43 47.1	+2.7
COTA	**Cotacachi**	**2.98**	**68**	⇓P	Pn	22 43 46.5	+1.8
CAYR	**Refugio Cayamb**	**3.20**	**76**	⇑P	Pn	22 43 51.3	+3.5
CAYA	**Cayambe**	**3.23**	**75**	⇓P	Pn	22 43 51.2	+3.0
CAYA				S	Sn	22 44 29.1	+2.6

IGQ 30 23:30:53.9, 1.40S×81.07W, h13km±6km, mb4.4, 10C-10D, Error ellipse: s-maj=9.9km s-min=4.9km az=177.3, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.63**	**57**	⇑P	Pb	23 31 05.9	-0.3
JAMA	**Jama**	**1.42**	**37**	P	Pn	23 31 19.6	+0.1
JAMA				S	Sb	23 31 38.5	+0.9
MAGD	**Magdalena**	**1.85**	**44**	P	Pn	23 31 28.1	+2.4
IGUA	**Igualata**	**2.43**	**92**	⇑P	Pn	23 31 35.0	+1.0
CUSU	**Cusua**	**2.59**	**91**	⇑P	Pn	23 31 38.6	+2.3
JUIV	**Juive**	**2.60**	**91**	⇓P	Pn	23 31 38.0	+1.6
ARRY	**Arrayan**	**2.62**	**92**	⇑P	Pn	23 31 37.6	+0.9
ARRY				S	Sn	23 32 09.8	+1.3
RETU	**Refugio**	**2.62**	**91**	⇓P	Pn	23 31 39.1	+2.4
ULBA	**Ulba**	**2.66**	**91**	⇓P	Pn	23 31 39.2	+1.9
NAS1	**Nasa**	**2.70**	**74**	⇓P	Pn	23 31 39.6	+1.7
PISA	**Pisayambo**	**2.70**	**83**	⇑P	Pn	23 31 39.8	+1.8
JUA2	**San Juan 2**	**2.73**	**64**	⇑P	Pn	23 31 39.4	+1.1
TERV	**Terraza Guagua**	**2.75**	**64**	⇑P	Pn	23 31 40.6	+2.1
PINO	**Pino**	**2.75**	**63**	⇓P	Pn	23 31 39.2	+0.6
VC1	**Cotopaxi 1**	**2.77**	**74**	⇑P	Pn	23 31 41.7	+2.9
TAMB	**Tambo**	**2.79**	**76**	⇑P	Pn	23 31 41.1	+2.0
JOR1	**San Jorge 1**	**2.80**	**60**	⇑P	Pn	23 31 38.0	-1.3
YANA	**Yana**	**2.80**	**63**	⇓P	Pn	23 31 40.2	+0.8
ANTI	**Antisana**	**3.06**	**72**	⇓P	Pn	23 31 46.1	+3.2
COTA	**Cotacachi**	**3.23**	**58**	⇓P	Pn	23 31 47.0	+1.7
CAYR	**Refugio Cayamb**	**3.37**	**65**	⇓P	Pn	23 31 51.1	+3.8
CAYA	**Cayambe**	**3.41**	**65**	⇓P	Pn	23 31 51.2	+3.3
CONE	**Cono NE Rev Vo**	**3.67**	**69**	P	Pn	23 31 57.0	+5.3

*MDD **30** 23:58:37.0±0.8, 38.90N×9.26W, h11km, mbLg2.1/12, Error ellipse: s-maj=7.1km s-min=3.5km az=100.0, PRXIMO*
*IGIL **30** 23:58:37.7, 38.91N×9.27W, h0km, ML1.8*
*CSEM **30** 23:58:37.4±0.1, 38.91N×9.18W, h10km, ML2.6/7, Error ellipse: s-maj=3.4km s-min=2.1km az=83.0*
INMG 30 23:58:37.1±0.9, 38.91N×9.25W, h13km±2km, MD1.9, ML1.7, Error ellipse: s-maj=4.8km s-min=1.8km az=90.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**0.08**	**108**	*e*Pg	Pg	23 58 39.5	-0.5
PLOU				*e*Sg	Sg	23 58 41.5	-0.4
	195nm,0.1s						
PLOU	**Loures**	**0.08**	**108**	*e*Pg	Pg	23 58 39.5	-0.5
PLOU				*e*Sg	Sg	23 58 41.5	-0.4
	195nm,0.1s						
LIS	**Lisbon**	**0.21**	**157**	*e*P	Pg	23 58 41.1	-0.8
LIS				*e*		23 58 41.3	
	baz=210,slow=3.6						
LIS				AML	AML	23 58 41.4	
	comp=Z,138nm,0.0s						
LIS				*e*S	Sg	23 58 44.4	-0.8
LIS				*e*S	Sg	23 58 44.4	-0.8
LIS	**Lisbon**	**0.21**	**157**	Pg	Pg	23 58 41.1	-0.8
	comp=Z,138nm,0.0s						
LIS				Lg		23 58 44.4	
ALMR	**Almeirim**	**0.58**	**65**	*e*P	Pb	23 58 48.5	-0.1
ALMR				AML	AML	23 58 48.8	
	comp=Z,56nm,0.1s						
ALMR				*e*S	Sb	23 58 56.4	-0.1
ALMR				*e*S	Sb	23 58 56.4	-0.1
ALMR	**Almeirim**	**0.58**	**65**	Pg	Pg	23 58 48.5	-0.4
	comp=Z,28nm,0.1s						
ALMR				Lg		23 58 56.4	
MOE	**Montemor**	**0.81**	**118**	*e*P	Pb	23 58 51.7	-0.7
MOE				*e*S	Sb	23 59 02.2	-0.7
PBEJ	**Beja**	**1.40**	**129**	*e*Pg	Pg	23 59 01.8	-3.4
PBEJ				*e*Sg	Sg	23 59 21.0	-2.9
	comp=Z,4.3nm,0.1s						
PBEJ	**Beja**	**1.40**	**129**	*e*Pg	Pg	23 59 01.8	-3.4
PBEJ				*e*Sg	Sg	23 59 21.0	-2

EBAD	**Badajoz**	**1.76**	**94**	Pg	Pg	23 59 08.3	-3.9
	comp=Z,1.3nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	23 59 27.2	-2.6
	comp=Z,1.2nm,0.1s,SNR=4.0						
EGRO	**El Granado**	**1.96**	**134**	Pn	Pn	23 59 08.8	-1.6
	comp=Z,0.2nm,0.1s,SNR=7.9						
EGRO				Pg	Pg	23 59 11.9	-4.3
	comp=Z,1.9nm,0.2s,SNR=7.9						
EGRO				Sn	Sn	23 59 31.9	-3.0
	comp=Z,1.7nm,0.1s,SNR=7.9						
EGRO				Lg		23 59 37.5	
	comp=Z,4.0nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.96**	**134**	Pn	Pn	23 59 08.8	-1.6
	comp=Z,0.3nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**1.99**	**41**	*e*Sg	Sg	23 59 38.7	-4.7
	comp=Z,5.7nm,0.4s						
MTE	**Manteigas**	**1.99**	**41**	Lg		23 59 38.7	
	comp=Z,2.8nm,0.4s						
PALC	**Alcoutim**	**2.01**	**135**	*e*Pn	Pn	23 59 09.4	-1.8
PALC				*e*Sn	Sn	23 59 34.2	-2.1
	comp=Z,6.4nm,0.3s						
PALC	**Alcoutim**	**2.01**	**135**	Pn	Pn	23 59 09.4	-1.8
PALC				Sn	Sn	23 59 34.2	-2.1
	comp=Z,3.2nm,0.3s						
EMIN	**Mina Concepcio**	**2.33**	**119**	Pn	Pn	23 59 13.7	-2.0
	comp=Z,0.3nm,0.1s,SNR=7.9						
EMIN				Pg	Pg	23 59 18.7	-5.0
	comp=Z,0.5nm,0.2s,SNR=4.0						
EMIN				Sn	Sn	23 59 41.5	-2.9
	comp=Z,1.1nm,0.1s,SNR=7.9						
EMIN				Lg		23 59 47.6	
	comp=Z,1.7nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.33**	**119**	Pn	Pn	23 59 13.6	-2.1
	comp=Z,0.1nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	23 59 41.5	-2.9
	comp=Z,1.3nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**3.09**	**17**	Pn	Pn	23 59 24.7	-1.9
	comp=Z,0.4nm,0.1s,SNR=4.0						
ELOB				Sn	Sn	23 59 58.5	-5.2
	comp=Z,0.6nm,0.2s,SNR=4.0						
ELOB				Lg		00 00 12.7	
	comp=Z,6.7nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**3.09**	**17**	Pn	Pn	23 59 24.7	-1.9
	comp=Z,0.3nm,0.2s,SNR=4.0						
ESPR	**Espera**	**3.37**	**126**	Sn	Sn	00 00 06.4	-4.4
	comp=Z,0.8nm,0.2s,SNR=7.9						
ESPR				Lg		00 00 21.0	
	comp=Z,2.7nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**3.58**	**32**	Pn	Pn	23 59 31.6	-2.0
	comp=Z,1.0nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	00 00 12.5	-3.7
	comp=Z,0.5nm,0.1s,SNR=4.0						
ECAL				Lg		00 00 29.8	
	comp=Z,7.2nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**3.58**	**32**	Pn	Pn	23 59 31.5	-2.1
	SNR=7.9						
EADA	**Adamuz**	**3.74**	**100**	Pn	Pn	23 59 33.4	-2.4
	comp=Z,0.1nm,0.1s,SNR=7.9						
EADA				Sn	Sn	00 00 15.0	-5.1
	comp=Z,0.4nm,0.2s,SNR=7.9						
EADA				Lg		00 00 34.0	
	comp=Z,1.3nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**4.17**	**78**	Pn	Pn	23 59 38.3	-3.6
	comp=Z,0.4nm,0.1s,baz=262,slow=14,SNR=6.0						
ESDC				Sn	Sn	00 00 25.9	-5.3
	comp=Z,0.2nm,0.2s,baz=262,slow=24,SNR=7.9						
ESDC				Lg		00 00 47.6	
	baz=257,slow=28,SNR=7.9						
ESDC	**Sonseca Array**	**4.17**	**78**	Pn	Pn	23 59 38.3	-3.7
	comp=Z,0.4nm,0.1s,slow=13,SNR=6.0						
EQES	**Quesada**	**4.98**	**101**	Lg		00 01 10.8	
	comp=Z,0.1nm,0.1s,SNR=4.0						

JMA ***31*** *00:52:07.8±0.1,33.10N×137.09E,h35km±4km,M3.5*
ISC 31 00:52:07.9±1.3,33.12N±0.08×137.08E±0.06,h29km±9km,
n13,σ0§45/25,6D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.77**	**33**	P	**Pb**	**00 52 22.4**	**-0.3**
TK01				S	**Sb**	**00 52 32.5**	**-0.4**
TK02	**Tokai 2**	**1.00**	**34**	⇓P	**Pn**	**00 52 25.8**	**-0.3**
TK02				S	**Sb**	**00 52 39.4**	**0.0**
JWZ	**Kozaga**	**1.21**	**290**	⇓P	**Pn**	**00 52 28.9**	**-0.3**
JWZ				S	**Sn**	**00 52 43.8**	**-0.9**
TK03	**Tokai 3**	**1.28**	**35**	S	**Sn**	**00 52 46.2**	**-0.2**
JIE	**Ise**	**1.31**	**346**	⇓P	**Pn**	**00 52 31.0**	**+0.5**
JIE				S	**Sn**	**00 52 47.6**	**+0.5**
TK04	**Tokai 4**	**1.43**	**27**	⇓P	**Pn**	**00 52 32.1**	**-0.1**
TK04				S	**Sn**	**00 52 50.0**	**-0.2**
JWM	**Minabe**	**1.61**	**297**	P	**Pn**	**00 52 34.9**	**0.0**
JWM				S	**Sn**	**00 52 54.0**	**-0.9**
JWY	**Kouya**	**1.66**	**312**	P	**Pn**	**00 52 36.2**	**+0.7**
JWY				S	**Sn**	**00 52 56.1**	**+0.1**
TSUJ	**Tsu 2**	**1.68**	**341**	P	**Pn**	**00 52 36.2**	**+0.4**
TSUJ				S	**Sn**	**00 52 56.5**	**-0.1**
JHE	**Heguri**	**1.92**	**323**	⇓P	**Pn**	**00 52 39.8**	**+0.5**
JHE				S	**Sn**	**00 53 02.7**	**0.0**
JWT	**Wachi**	**2.57**	**328**	P	**Pn**	**00 52 49.0**	**+0.5**
JWT				S	**Sn**	**00 53 19.2**	**+0.1**
JGM	**Miyama**	**2.59**	**353**	⇓P	**Pn**	**00 52 49.2**	**+0.3**
JGM				S	**Sn**	**00 53 20.2**	**+0.4**
MAT	**Matsushiro**	**3.54**	**15**	P	**Pn**	**00 53 02.8**	**+0.5**
MAT				S	**Sn**	**00 53 42.9**	**-0.8**

NSSP ***31*** *00:59:01.9,38.57N×44.80E,h10km,ML3.3*
TIF ***31*** *00:59:08.1,38.78N×44.69E,h1km±3km*
CSEM ***31*** *00:59:10.5±0.1,38.68N×44.65E,h2km,MD3.8,Error ellipse: s-maj=2.6km s-min=2.4km az=178.0*
ISK ***31*** *00:59:11.4,38.71N×44.53E,h5km,MD3.8*
NEIC ***31*** *00:59:12.5,38.61N×44.75E,h30km,ML3.9(ISK),After ISK.*
THR ***31*** *00:59:12.4±1.0,38.97N×44.73E,h14km±10km,ML3.1*
ISC 31 00:59:09.9±0.5,38.72N±0.03×44.79E±0.04,h2km,n39,
σ1§29/48,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKU	**Maku**	**0.64**	**352**	*i* PG	**Pg**	**00 59 20.2**	**-2.5**
MAKU				AML	AML	00 59 34.6	
	comp=N,2μm,0.4s						
TVAN	**Van**	**1.10**	**261**	*i* P	**Pb**	**00 59 29.1**	**-2.2**
TVAN				*i* S	**Sb**	**00 59 46.1**	**+0.2**
VANB	**Van**	**1.10**	**264**	PG	**Pg**	**00 59 29.0**	**-2.9**
VANB	**Van**	**1.10**	**264**	Pn	**Pn**	**00 59 29.1**	**-3.1**
VANB				Sg	**Sg**	**00 59 46.1**	**-0.6**
VANB	**Van**	**1.10**	**264**	Sg	**Sg**	**00 59 46.1**	**-0.6**
VANT	**Van**	**1.13**	**257**	PG	**Pg**	**00 59 32.3**	**-0.2**
VANT	**Van**	**1.13**	**257**	Pn	**Pn**	**00 59 32.5**	**-0.2**
HKR	**Hakkari**	**1.41**	**216**	PN	**Pn**	**00 59 36.9**	**+0.3**
HKR				SN	**Sn**	**00 59 56.4**	**+0.5**
HKR	**Hakkari**	**1.41**	**216**	Pn	**Pn**	**00 59 35.6**	**-0.9**
GNI	**Garni**	**1.43**	**359**	*e*Pn	**Pn**	**00 59 34.3**	**-2.6**
GNI				*e*Sn	**Sn**	**00 59 55.9**	**-0.6**
GNI	**Garni**	**1.43**	**359**	*e*Pn	**Pn**	**00 59 34.3**	**-2.6**
GNI				*e*Sn	**Sn**	**00 59 55.9**	**-0.6**
KARS	**Kars**	**2.30**	**326**	PN	**Pn**	**00 59 50.4**	**+1.0**
GRMI	**Germi**	**2.43**	**87**	*e*PN	**Pn**	**00 59 54.7**	**+3.5**
GRMI				*e*SG	**Sg**	**01 00 29.9**	**-0.8**
GRMI				AML	AML	01 00 39.0	
	comp=N,90nm,0.6s						
VRT	**Varto**	**2.58**	**280**	PN	**Pn**	**00 59 53.4**	**+0.1**
VRT	**Varto**	**2.58**	**280**	Pn	**Pn**	**00 59 53.5**	**+0.1**
BTMT	**Batman**	**2.65**	**260**	PN	**Pn**	**00 59 56.0**	**+1.7**
AKH	**Akhalkalaki**	**2.87**	**340**	P	**Pn**	**00 59 59.6**	**+2.1**
BEST	**Besiri**	**2.89**	**255**	*i* P	**Pn**	**01 00 00.1**	**+2.3**
BEST				*i* S	**Sn**	**01 00 38.1**	**+4.5**
EZM	**Erzurum**	**2.91**	**295**	PN	**Pn**	**00 59 59.0**	**+0.9**
MTA	**Mtatsminda**	**2.97**	**0**	P	**Pn**	**00 59 58.7**	**-0.2**
MTA	**Mtatsminda**	**2.97**	**0**	P	**Pn**	**01 00 00.6**	**+1.6**
TI2	**Plekhanov**	**3.01**	**359**	*e*P	**Pn**	**01 00 01.2**	**+1.7**
BINT	**Bingol**	**3.37**	**274**	PN	**Pn**	**01 00 04.4**	**-0.1**
BINT	**Bingol**	**3.37**	**274**	Pn	**Pn**	**01 00 04.5**	**-0.1**
BINT	**Bingol**	**3.37**	**274**	Pn	**Pn**	**01 00 04.5**	**0.0**
DUS	**Dusheti**	**3.37**	**359**	P	**Pn**	**01 00 03.5**	**-1.1**
BCA	**Borcka**	**3.65**	**319**	*e*PN	**Pn**	**01 00 09.6**	**+1.0**
BCA	**Borcka**	**3.65**	**319**	Pn	**Pn**	**01 00 09.6**	**+1.0**
DIY	**Diyarbakir**	**3.68**	**259**	*e*PN	**Pn**	**01 00 08.8**	**-0.2**
DIY	**Diyarbakir**	**3.68**	**259**	Pn	**Pn**	**01 00 08.8**	**-0.2**
ONI	**Oni**	**3.99**	**346**	P	**Pn**	**01 00 18.7**	**+5.3**
SNGE	**Sanandaj**	**4.16**	**150**	*e*PN	**Pn**	**01 00 21.5**	**+5.7**
SNGE				AML	AML	01 00 54.9	
	comp=N,11nm,0.6s						
SNGE				*e*SG	**Sg**	**01 01 28.4**	**+0.1**
PTK	**Pertek**	**4.22**	**274**	*e*PN	**Pn**	**01 00 16.7**	**0.0**
GUMT	**Gumushane**	**4.46**	**295**	*e*PN	**Pn**	**01 00 20.7**	**+0.7**
ELZG	**Elazig**	**4.55**	**269**	*i* P	**Pn**	**01 00 28.0**	**+6.6**
ELZG				*i* S	**Sn**	**01 01 34.7**	**+19**
MALT	**Malatya**	**5.01**	**267**	*e*Pn	**Pn**	**01 00 26.1**	**-1.8**
MALT				*e*P		01 00 40.1	
MALT	**Malatya**	**5.01**	**267**	*e*Pn	**Pn**	**01 00 26.1**	**-1.8**
GAZ	**Gaziantep**	**6.19**	**258**	Pn	**Pn**	**01 00 44.4**	**0.0**
GAZ	**Gaziantep**	**6.19**	**258**	Pn	**Pn**	**01 00 44.4**	**-0.1**

LDG ***31*** *01:05:28.4±0.3,37.74N×20.36E,h10km,Mb5.3/45, Ms4.9/8,Error ellipse: s-maj=16.1km s-min=6.8km az=32.0*
ATH ***31*** *01:05:29.1,37.41N×20.11E,h16km±2km,ML5.7*
CSEM ***31*** *01:05:29.2±0.0,37.60N×20.18E,h15km,mb5.2/34,Ms5.2, Mw5.8,Error ellipse: s-maj=1.4km s-min=0.9km az=10.0*
BGS ***31*** *01:05:30.5±1.6,37.34N×20.45E,h33km,mb5.2*
BJI ***31*** *01:05:30.1,37.82N×20.29E,h20km,mB6.0,mb5.3,Ms5.8, Msz5.5*
PDG ***31*** *01:05:31.8±0.3,37.61N×20.07E,h26km±1km*
PDG Felt at Danilovgrad, Niksic, Grahovo IV MCS.
IGIL ***31*** *01:05:31.2,37.60N×20.20E,h30km,mb4.8*
NIC ***31*** *01:05:31.3±0.7,37.59N×20.20E,h30km,Earthquake Ionian Sea 57 km W Katastarion.*
MOS ***31*** *01:05:32.2±1.1,37.62N×20.17E,h33km,mb5.5/49, MS5.4/47,Error ellipse: s-maj=3.0km s-min=1.9km az=107.0*
HRVD ***31*** *01:05:33.6±0.2,37.37N×19.97E,h12km,MW5.7/70, Centroid moment Tensor Solution. LP body waves: s60,c114;Mantle waves: s70,c148; Half duration: 1§8 Moment tensor: Scale 10^17^Nm; M_{rr}1.95±.04; $M_{\theta\theta}$-0.31±.04; $M_{\phi\phi}$-1.64±.04; $M_{r\theta}$2.94±.12; $M_{\theta\phi}$1.29±.04; $M_{\phi r}$-2.83±.11; Best double couple: $M_0$4.64×10^17^ NP1: ϕ_s346°,δ16°,λ120°. NP2:ϕ_s135°,δ76°,λ82°. Principal axes: T 4.475, Plg58°, Azm34°; N .327, Plg8°, Azm137°; P -4.805, Plg31°, Azm232°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***31*** *01:05:33.6±0.6,37.54N×20.16E,h32km±4km,mb5.1/118, MS5.4/104,MW5.7,ML5.7(PDG),ML5.1(THE), MW5.7(CSEM) Error ellipse: s-maj=3.2km s-min=1.5km az=188.0,Moment Tensor Solution. s18 Moment tensor: Scale 10^17^Nm; M_{rr}0.86; $M_{\theta\theta}$0.00; $M_{\phi\phi}$-0.86; $M_{r\theta}$2.62; $M_{\theta\phi}$0.03; $M_{\phi r}$-3.53; Best double couple: $M_0$4.5×10^17^ NP1: ϕ_s12°,δ7°,λ138°. NP2:ϕ_s144°,δ85°,λ85°. Principal axes: T 4.61, Plg49°, Azm49°; N -.27, Plg5°, Azm145°; P -4.34, Plg40°, Azm239°;*
NEIC Felt on Zakynthos, Greece.
ZUR_RM ***31*** *01:05;33,37.54N×20.16E,h24km,Mw5.8/26,Moment Tensor Solution. s26 Moment tensor: Scale 10^17^Nm; M_{rr}3.97; $M_{\theta\theta}$-1.01; $M_{\phi\phi}$-2.96; $M_{r\theta}$1.70; $M_{\theta\phi}$2.56; $M_{\phi r}$-2.20; Best double couple: $M_0$5.16×10^17^ NP1:ϕ_s143°,δ61°,λ88°. NP2:ϕ_s328°,δ29°,λ94°. Principal axes: T 4.786, Plg74°, Azm48°; N .753, Plg2°, Azm144°; P -5.539, Plg16°, Azm235°;*
HLW ***31*** *01:05:34.7,37.32N×20.32E,h30km,Mb4.8*
UPP ***31*** *01:05:49.4,37.58N×20.40E,h32km*
ISC 31 01:05:30.7±0.4,37.58N±0.01×20.18E±0.01,h24km±2km,
h22km±2.0km:pP-P,n1116,σ1§29/1168,mb5.3/119,
MS5.4/128,75C-51D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.68**	**28**	*e*PN	**Pn**	**01 05 45.3**	**+0.5**
VLS				*e*SN	**Sn**	**01 05 58.7**	**+4.1**
VLS	**Valsamata**	**0.68**	**28**	Pn	**Pn**	**01 05 45.6**	**+0.8**
RLS	**Riolos of Patr**	**1.12**	**65**	*e*PN	**Pn**	**01 05 52.9**	**+1.8**
RLS				*e*SN	**Sn**	**01 06 09.7**	**+3.8**
ITM	**Ithomi**	**1.45**	**106**	*e*PN	**Pn**	**01 05 56.7**	**+0.9**
ITM				*e*SN	**Sn**	**01 06 17.1**	**+3.0**
ITM	**Ithomi**	**1.45**	**106**	Pn	**Pn**	**01 05 57.0**	**+1.2**
EVR	**Evrytania**	**1.85**	**43**	*e*PN	**Pn**	**01 06 05.8**	**+4.3**
EVR				*e*SN	**Sn**	**01 06 30.7**	**+6.4**
JAN	**Janina**	**2.14**	**14**	*e*PB	**Pb**	**01 06 08.7**	**+0.1**
JAN				*e*SN	**Sn**	**01 06 37.8**	**+6.1**
AGG	**Agios Georgios**	**2.22**	**49**	P	**Pn**	**01 06 10.6**	**+3.8**
VLI	**Veliai**	**2.36**	**111**	*e*PN	**Pn**	**01 06 10.6**	**+1.7**
LKR	**Lokris**	**2.46**	**63**	*e*PN	**Pn**	**01 06 12.4**	**+2.1**
MGER	**Gerania Oros**	**2.47**	**80**	*e*PN	**Pn**	**01 06 12.0**	**+1.6**
KYTH	**Kithira**	**2.63**	**119**	*e*PB	**Pb**	**01 06 14.5**	**-2.5**
TPE	**Tepelena**	**2.71**	**357**	*e*Pn	**Pn**	**01 06 16.4**	**+2.5**
ATH	**Athens Observa**	**2.83**	**81**	*e*PN	**Pn**	**01 06 16.5**	**+1.0**
MPAR	**Parnis Oros**	**2.87**	**77**	*e*PN	**Pn**	**01 06 17.2**	**+1.1**
VLO	**Vlora**	**2.93**	**350**	*e*Pn	**Pn**	**01 06 18.9**	**+1.9**
NEO	**Neokhori**	**2.94**	**53**	*e*PN	**Pn**	**01 06 19.1**	**+1.9**
XOR	**Xorichti**	**2.96**	**52**	*e*P	**Pn**	**01 06 19.5**	**+2.2**
XOR	**Xorichti**	**2.96**	**52**	P	**Pn**	**01 06 19.5**	**+2.2**
XOR				S	**Sn**	**01 06 54.0**	**+1.4**
XOR	**Xorichti**	**2.96**	**52**	S	**Sn**	**01 06 54.0**	**+1.5**
KZN	**Kozani**	**2.99**	**24**	*e*PN	**Pn**	**01 06 20.9**	**+3.1**
KBN	**Korca**	**3.08**	**9**	*e*Pn	**Pn**	**01 06 23.1**	**+4.1**
KBN				*i* Sn	**Sn**	**01 06 54.1**	**-1.4**
KBN	**Korca**	**3.08**	**9**	*i* Sn	**Sn**	**01 06 54.1**	**-1.4**
LIT	**Litokhoron**	**3.09**	**35**	*e*P	**Pn**	**01 06 21.9**	**+2.6**
LIT	**Litokhoron**	**3.09**	**35**	P	**Pn**	**01 06 21.9**	**+2.6**
LIT				S	**Sn**	**01 06 57.9**	**+1.9**
LIT	**Litokhoron**	**3.09**	**35**	S	**Sn**	**01 06 57.9**	**+1.9**
TIP	**Timpagrande**	**3.13**	**302**	⇓*e*Pn	**Pn**	**01 06 19.7**	**-0.1**
TIP	**Timpagrande**	**3.13**	**302**	⇓*e*Pn	**Pn**	**01 06 19.7**	**-0.1**
LCI	**Lecce**	**3.19**	**330**	*e*P	**Pn**	**01 06 21.7**	**+1.1**
GRI	**Girifalco**	**3.21**	**294**	⇓*i* P	**Pn**	**01 06 20.9**	**-0.1**
GRI	**Girifalco**	**3.21**	**294**	*i* P	**Pn**	**01 06 20.9**	**-0.1**
SOI	**Samo**	**3.31**	**280**	⇓*i* P	**Pn**	**01 06 21.9**	**-0.4**
SOI	**Samo**	**3.31**	**280**	*i* P	**Pn**	**01 06 21.9**	**-0.4**
AOS	**Alonnisos**	**3.31**	**60**	P	**Pn**	**01 06 23.8**	**+1.4**
AOS				S	**Sn**	**01 07 02.9**	**+1.5**
AOS	**Alonnisos**	**3.31**	**60**	*e*P	**Pn**	**01 06 23.8**	**+1.4**
AOS				S	**Sn**	**01 07 02.9**	**+1.5**
FNA	**Florina**	**3.33**	**16**	*e*P	**Pn**	**01 06 25.7**	**+3.0**
CEL	**Celeste**	**3.46**	**283**	P	**Pn**	**01 06 24.2**	**-0.3**
GMB	**Gambarie**	**3.50**	**281**	P	**Pn**	**01 06 24.8**	**-0.2**
BIA	**Bitola**	**3.55**	**14**	*i* Pn	**Pn**	**01 06 29.2**	**+3.5**
BIA				*i* Pg	**Pn**	**01 06 45.2**	**+19**
BIA				*i* Sb	**Sb**	**01 07 21.8**	**+6.2**
OHR	**Ohrid**	**3.56**	**8**	⇑*i*Pn	**Pn**	**01 06 28.6**	**+2.7**
OHR				*i*		01 06 32.2	
OHR				*i* Pg	**Pn**	**01 06 42.6**	**+17**
OHR				*i* Sb	**Sb**	**01 07 21.6**	**+5.6**
OHR				*i* Sg	**Sn**	**01 07 27.7**	**+20**
MTTG	**Motta San Giov**	**3.58**	**278**	⇓*i*Pn	**Pn**	**01 06 25.6**	**-0.6**
MTTG	**Motta San Giov**	**3.58**	**278**	⇓*i*Pn	**Pn**	**01 06 25.6**	**-0.6**
SCLL	**Scilla**	**3.60**	**282**	*e*Pn	**Pn**	**01 06 25.8**	**-0.7**
SCLL				*e*Sn	**Sn**	**01 07 05.3**	**-3.3**
SCLL	**Scilla**	**3.60**	**282**	*e*Pn	**Pn**	**01 06 25.8**	**-0.7**
SCLL	**Scilla**	**3.60**	**282**	*e*Sn	**Sn**	**01 07 05.3**	**-3.4**
PAIG	**Paliouri**	**3.60**	**48**	*e*P	**Pn**	**01 06 28.0**	**+1.6**
MSI	**Messina ING**	**3.71**	**281**	*e*P	**Pn**	**01 06 27.7**	**-0.4**
THE	**Thessaloniki**	**3.74**	**35**	*e*P	**Pn**	**01 06 30.4**	**+1.9**
TIR	**Tirane**	**3.77**	**356**	P	**Pn**	**01 06 30.3**	**+1.4**
TIR	**Tirane**	**3.77**	**356**	*e*Pn	**Pn**	**01 06 30.6**	**+1.7**
TIR				*i* Sn	**Sn**	**01 06 58.2**	**-15**
GRG	**Griva**	**3.79**	**26**	*e*P	**Pn**	**01 06 31.1**	**+2.0**
ORI	**Oriolo Calabro**	**3.83**	**312**	*e*Pn	**Pn**	**01 06 30.6**	**+0.9**
ORI				*e*Sn	**Sn**	**01 07 18.1**	**+3.6**
ORI	**Oriolo Calabro**	**3.83**	**312**	*e*P	**Pn**	**01 06 30.6**	**+0.9**
PE1	**Pezze di Greco**	**3.87**	**327**	*e*Pn	**Pn**	**01 06 30.6**	**+0.3**
VAM	**Vamos**	**3.90**	**123**	*e*PN	**Pn**	**01 06 30.5**	**-0.2**
QSH	**Qafa e Shtames**	**3.94**	**357**	*e*Pn	**Pn**	**01 06 34.0**	**+2.7**
QSH				*i* Sn	**Sn**	**01 07 13.0**	**-4.4**
AGST	**Augusta-Monte**	**3.96**	**267**	*e*Pn	**Pn**	**01 06 28.8**	**-2.7**
AGST				*e*Sn	**Sn**	**01 07 11.8**	**-6.1**
AGST	**Augusta-Monte**	**3.96**	**267**	*e*Pn	**Pn**	**01 06 28.8**	**-2.8**
AGST				*e*Sn	**Sn**	**01 07 11.8**	**-6.0**
LTRZ	**Laterza**	**4.00**	**320**	*e*Pn	**Pn**	**01 06 33.3**	**+1.2**
BRT	**Bari-Castellan**	**4.02**	**326**	*e*P	**Pn**	**01 06 34.3**	**+1.8**
OUR	**Ouranopolis**	**4.04**	**46**	*e*P	**Pn**	**01 06 34.6**	**+1.8**
LACI	**Lac**	**4.07**	**355**	*i* Pn	**Pn**	**01 06 33.9**	**+0.8**
LACI	**Lac**	**4.07**	**355**	*e*Pn	**Pn**	**01 06 33.9**	**+0.8**
SOH	**Sokhos**	**4.07**	**36**	*e*P	**Pn**	**01 06 35.5**	**+2.3**
KNT	**Kendrikon**	**4.15**	**30**	*e*P	**Pn**	**01 06 35.8**	**+1.5**
VAY	**Valandovo**	**4.17**	**26**	⇑*i*Pn	**Pn**	**01 06 36.1**	**+1.6**
VAY				*i* Pg	**Pn**	**01 06 53.7**	**+19**
VAY				*i*		01 07 32.8	
VAY				*i* Sg	Sn	01 07 43.8	+21
GVD	**Gavdhos**	**4.18**	**130**	*e*Pn	**Pn**	**01 06 32.9**	**-1.8**
PZI	**Palazzolo**	**4.21**	**264**	*e*Pn	**Pn**	**01 06 33.1**	**-2.0**
PZI				*e*Sn	**Sn**	**01 07 20.4**	**-3.8**
SG1	**Sgolgore (BA)**	**4.24**	**321**	*e*Pn	**Pn**	**01 06 35.7**	**+0.1**
APE	**Apeiranthos**	**4.29**	**95**	*e*PN	Px	01 06 51.3	
APE	**Apeiranthos**	**4.29**	**95**	⇓P	**Pn**	**01 06 36.2**	**-0.1**
SLNA	**Salina**	**4.33**	**285**	*e*Pn	**Pn**	**01 06 36.5**	**-0.4**
SLNA	**Salina**	**4.33**	**285**	*e*Pn	**Pn**	**01 06 36.5**	**-0.4**
MNO	**Monte Soro**	**4.36**	**276**	*e*P	**Pn**	**01 06 36.8**	**-0.5**
SANT	**Santorini**	**4.39**	**104**	*e*Pn	**Pn**	**01 06 36.2**	**-1.5**
SANT	**Santorini**	**4.39**	**104**	*e*Pn	**Pn**	**01 06 36.2**	**-1.6**
SRS	**Serrai**	**4.41**	**36**	*e*P	**Pn**	**01 06 39.5**	**+1.5**
MGR	**Morigerati**	**4.42**	**307**	*e*Pn	**Pn**	**01 06 38.6**	**+0.4**
ULC	**Ulcinj**	**4.44**	**351**	⇓*i*Pn	**Pn**	**01 06 38.0**	**-0.4**
ULC				*e*Sn	**Sn**	**01 07 28.3**	**-1.6**
SKO	**Skopje**	**4.49**	**12**	⇑*i*Pn	**Pn**	**01 06 40.3**	**+1.1**
SKO				*i* Pb	**Pb**	**01 06 49.0**	**+0.3**
SKO				*i* Pg	Pn	01 07 00.7	+22
SKO				*i* Sn	**Sn**	**01 07 29.7**	**-1.6**
SKO				*i* Sg	Sn	01 08 02.0	+31
SKO				Lg		01 08 30.0	
	comp=N,15nm,1.8s						
SKO				Lm		01 08 35.0	
	comp=E,54nm,3.5s						
SKO				Lm		01 08 40.0	
	comp=N,52nm,3.5s						
LOS	**Limnos**	**4.49**	**57**	*e*P	**Pn**	**01 06 41.3**	**+2.1**
LIA	**Limnos Island**	**4.54**	**58**	*e*PN	**Pn**	**01 06 41.9**	**+2.0**
CDT	**Castel del Mon**	**4.63**	**320**	*e*Pn	**Pn**	**01 06 40.8**	**-0.3**
BUM	**Brajici-Budva**	**4.82**	**349**	⇓*i*Pn	**Pn**	**01 06 43.0**	**-0.7**
BUM				*e*Sn	**Sn**	**01 07 37.9**	**-1.6**
SGO	**Sicignano**	**4.82**	**310**	*e*P	**Pn**	**01 06 43.9**	**+0.1**
MRLC	**Muro Lucano**	**4.83**	**312**	*e*Pn	**Pn**	**01 06 44.6**	**+0.6**
CSLB	**Castelbuono**	**4.87**	**276**	*e*Pn	**Pn**	**01 06 43.4**	**-1.0**
CSLB				*e*Sn	**Sn**	**01 07 41.3**	**+0.5**
GIB	**Gibilmanna**	**4.89**	**277**	*e*Pn	**Pn**	**01 06 44.4**	**-0.5**
GIB				*e*Sn	**Sn**	**01 07 39.8**	**-1.7**
GIB	**Gibilmanna**	**4.89**	**277**	*e*P	**Pn**	**01 06 44.4**	**-0.5**
GIB				*e*S	**Sn**	**01 07 39.8**	**-1.7**
TTG	**Podgorica**	**4.89**	**352**	⇓*i*Pn	**Pn**	**01 06 44.5**	**-0.4**
TTG				*e*Sn	**Sn**	**01 07 39.4**	**-2.0**
PVY	**Plav**	**5.01**	**358**	⇑*i*Pn	**Pn**	**01 06 46.9**	**+0.4**
PVY				*e*Sn	**Sn**	**01 07 42.8**	**-1.6**
HCY	**Herceg Novi**	**5.03**	**346**	⇑*i*Pn	**Pn**	**01 06 45.4**	**-1.3**
HCY				*e*Sn	**Sn**	**01 07 41.9**	**-2.9**
FG4	**Candela**	**5.06**	**316**	*e*P	**Pn**	**01 06 48.3**	**+1.1**
BOZC	**Bozcaada**	**5.12**	**62**	*i* P	**Pn**	**01 06 50.0**	**+2.1**
FAVR	**Favara**	**5.20**	**269**	*e*Pn	**Pn**	**01 06 48.6**	**-0.5**
FAVR				*e*Sn	**Sn**	**01 07 49.2**	**+0.2**
FAVR	**Favara**	**5.20**	**269**	*e*Pn	**Pn**	**01 06 48.6**	**-0.5**
FGMS	**Monte Sant'Ang**	**5.26**	**323**	*e*Pn	**Pn**	**01 06 50.0**	**+0.1**
IVA	**Berane**	**5.29**	**358**	⇓*i*Pn	**Pn**	**01 06 50.7**	**+

VSL	Villasalto	8.68	286	ePn	P	01 07 35.4	-2.5
	comp=N,120nm,1.1s						
CRE	Caprese Michel	8.69	317	eP	P	01 07 40.8	+2.7
PKSM	Moragy	8.70	353	eP	P	01 07 35.1	-3.1
BOJS	Bojanci	8.73	337	ePn	P	01 07 37.5	-1.2
BOJS				eSn	Sn	01 09 12.6	-4.9
SNX	Sinaia	8.74	26	⇑P	P	01 07 40.0	+1.3
SNX	Sinaia	8.74	26	P	P	01 07 39.1	+0.4
SNX	Sinaia	8.74	26	P	P	01 07 40.0	+1.3
HENT	Hendek	8.93	65	iP	P	01 07 42.2	+0.8
SFI	Santa Sofia	8.94	318	eP	P	01 07 43.2	+1.7
PGD	Poggio Sodo	8.98	317	eP	P	01 07 45.7	+3.5
MLR	Muntele Rosu	9.00	27	⇑P	P	01 07 44.4	+2.0
MLR	Muntele Rosu	9.00	27	⇓iP	P	01 07 43.4	+0.9
MLR	Muntele Rosu	9.00	27	⇓iP	P	01 07 43.4	+1.0
MDU	Mudurnu	9.05	68	ePN	P	01 07 45.9	+2.8
MDU	Mudurnu	9.05	68	Pn	P	01 07 45.9	+2.8
PKS9	Tamasi	9.11	352	⇓eP	P	01 07 43.6	-0.3
VISS	Visnje	9.13	336	ePn	P	01 07 43.0	-1.3
VMG	Vicchio	9.14	317	ePn	P	01 07 47.6	+3.3
HARR	Harsova	9.19	37	⇓iP	P	01 07 45.1	+0.1
HARR	Harsova	9.19	37	⇓iP	P	01 07 45.1	+0.1
HARR	Harsova	9.19	37	P	P	01 07 45.3	+0.3
TIRR	Tirgusor	9.26	40	⇑P	P	01 07 45.0	-1.0
KIZT	Kizilcal	9.30	78	ePN	P	01 07 46.5	0.0
KIZT	Kizilcal	9.30	78	Pn	P	01 07 46.5	+0.1
KOGS	Kog	9.33	343	ePn	P	01 07 44.4	-2.5
DABA	Dabaa	9.37	132	⇓P	P	01 07 43.0	-4.5
SWA2		9.41	151	⇑P	P	01 07 43.3	-4.7
TRI	Trieste	9.43	331	eP	P	01 07 46.5	-1.8
LJU	Ljubljana	9.45	335	iPn	P	01 07 47.1	-1.4
LJU				e		01 07 57.5	
LJU				e		01 08 06.5	
LJU				eSn	Sn	01 09 30.7	-4.4
LJU	Ljubljana	9.45	335	iPn	P	01 07 47.1	-1.5
LJU				eSn	Sn	01 09 30.7	-4.4
PII	Pisa	9.56	313	eP	P	01 07 54.3	+4.2
VRI	Vrincioaia	9.61	28	⇑iP	P	01 07 52.4	+1.6
CFR	Carcaliu	9.66	36	⇑P	P	01 07 51.0	-0.4
CFR	Carcaliu	9.66	36	⇓iP	P	01 07 50.9	-0.5
CFR	Carcaliu	9.66	36	⇓iP	P	01 07 50.9	-0.5
CFR	Carcaliu	9.66	36	P	P	01 07 51.0	-0.4
VOY	Vojsko	9.66	333	ePn	P	01 07 48.1	-3.3
VOY				e		01 07 50.7	
VOY				eSn	Sn	01 09 30.0	-10
ZCCA	Zocca	9.70	317	ePn	P	01 07 56.2	+4.2
BDI	Bagni Di Lucca	9.73	315	eP	P	01 07 55.2	+2.8
PERS	Pernice	9.80	339	iPn	P	01 07 51.0	-2.4
HDMB	Hadim	9.83	90	ePN	P	01 07 55.5	+1.8
HDMB	Hadim	9.83	90	Pn	P	01 07 55.5	+1.8
OBKA	Obir	9.85	337	iPN	P	01 07 52.6	-1.5
OBKA				iSN	Sn	01 09 38.0	-7.0
GORS	Gorjuse	9.87	334	ePn	P	01 07 53.0	-1.3
TLI	Talmassons	9.87	330	⇑eP	P	01 07 53.0	-1.3
DRE	Drenchia	9.87	332	⇓eP	P	01 07 53.0	-1.3
PKSG		9.89	353	⇑eP	P	01 07 52.5	-2.1
PGF	Pioggiola	9.90	304	eP	P	01 07 55.3	+0.5
	comp=N,172nm,0.9s						
VLC	Villacollemand	9.91	315	ePn	P	01 07 55.6	+0.8
	comp=N,37nm,1.1s						
GSCL	Gusciola	9.91	316	ePn	P	01 07 57.4	+2.4
SARO	Sassorosso	9.91	315	P	P	01 07 57.1	+2.1
BUD	Budapest	9.93	355	⇑eP	P	01 07 54.5	-0.7
BUD	Budapest	9.93	355	⇑e	P	01 07 54.5	-0.7
ROBS	Robic	9.98	332	ePn	P	01 07 55.6	-0.2
TLCR		9.98	38	⇑P	P	01 07 56.7	+0.8
VINC	Vinca	10.03	314	P	P	01 07 59.3	+2.8
ERBM	Eremo	10.05	316	ePn	P	01 08 00.1	+3.2
LOD	Lodumlu	10.10	73	ePN	P	01 07 56.6	-0.8
LOD	Lodumlu	10.10	73	Pn	P	01 07 56.6	-0.8
VALM		10.10	315	P	P	01 07 59.3	+1.8
GMNA	Gemona	10.11	331	ePn	P	01 07 56.5	-1.0
AKMC	Akamas	10.13	101	⇑P	P	01 07 54.9	-3.0
PTCC	Patocco-Chiusa	10.17	332	ePn	P	01 07 57.0	-1.5
PPCY	Paphos	10.19	102	P	P	01 07 55.6	-3.1
ARSA	Arzberg	10.26	342	⇑iPN	P	01 07 57.1	-2.5
ARSA				iSN	S	01 09 47.2	-7.7
SRO2	Moca	10.26	353	iPN	P	01 07 59.6	-0.1
SRO1	Iza	10.28	353	iPN	P	01 08 00.5	+0.6
GRAM		10.29	315	P	P	01 08 02.9	+2.8
ALFC	Alevga	10.30	100	P	P	01 07 57.7	-2.6
	comp=N,14nm,0.6s						
ALFC				S	S	01 09 52.6	-3.4
SRO	Srobarova	10.32	353	iPN	P	01 08 01.0	+0.5
PSZ	Piszkesteto	10.33	359	⇑P	P	01 08 00.5	-0.2
PSZ	Piszkesteto	10.33	359	⇓eP	P	01 08 00.0	-0.7
SAFT	Safranbolu	10.34	65	ePN	P	01 08 01.9	+1.1
SAFT	Safranbolu	10.34	65	Pn	P	01 08 02.0	+1.2
CODM		10.35	314	P	P	01 08 03.5	+2.6
CGRP	Cima Grappa	10.39	326	⇑eP	P	01 08 01.0	-0.4
SOP	Sopron	10.44	346	eP	P	01 08 03.1	+1.0
LEF	Lefka	10.54	100	ePN	P	01 07 58.4	-5.1
LEF	Lefka	10.54	100	Pn	P	01 07 58.5	-5.0
FVI	Forni Avoltri	10.55	331	eP	P	01 08 02.1	-1.5
CTI	Castel Tesino	10.58	326	eP	P	01 08 01.7	-2.4
HBRG	Burj al 'Arab	10.62	128	⇑P	P	01 08 00.4	-4.3
SZAC	Souni-Zanaja	10.65	102	P	P	01 08 01.1	-3.9
	comp=N,14nm,0.9s						
SZAC				S	S	01 10 00.6	-3.9
BURAR	Bucovina Array	10.69	19	⇑P	P	01 08 05.8	+0.3
ELDT	Eldivan	10.70	70	iP	P	01 08 07.0	+1.2
KBA	Koelnbreinsper	10.75	334	⇓iPN	P	01 08 05.4	-1.0
KBA				iSN	S	01 10 00.2	-6.8
KAMT	Kaman	10.76	76	ePN	P	01 08 08.1	+1.6
KAMT	Kaman	10.76	76	Pn	P	01 08 08.2	+1.7
MAMC	Mammari	10.78	99	P	P	01 08 04.8	-2.0
SAL	Salo	10.79	321	eP	P	01 08 05.0	-1.9
BOB	Bobbio (Coli)	10.81	315	eP	P	01 08 10.2	+3.0
ZST	Bratislava	10.85	349	iPN	P	01 08 07.3	-0.4
ZST				i		01 11 20.8	
CANT	Cankiri	10.87	70	ePN	P	01 08 07.9	-0.1
SEST	Monte Rota	10.90	330	P	P	01 08 07.5	-0.9
KECS	Kecovo	10.90	1	iPN	P	01 08 09.3	+0.9
CSS	Prodhromos	10.93	100	⇓P	P	01 08 03.7	-5.2
	comp=N,6.5nm,0.5s						
CSS				S	S	01 10 07.0	-4.4
VYHS	Vyhne	10.95	355	iPN	P	01 08 07.1	-2.0
VYHS				e		01 11 20.7	
IAS	Iasi	11.04	27	P	P	01 08 11.2	+0.9
VKA	Vienna	11.05	346	⇓iP	P	01 08 10.4	0.0
VKA				MLRZ		01 13 30.0	
	comp=N,25nm,11.0s						
BRES	Bressanone	11.05	328	P	P	01 08 09.9	-0.6
APPI	Appiano	11.10	326	P	P	01 08 10.0	-1.2
MOA	Molln	11.14	339	iPN	P	01 08 09.7	-2.0
MOA				iSN	S	01 10 09.2	-7.4
UZH	Uzhgorod	11.15	7	eP	P	01 08 11.7	-0.1
PCP	Pian Castagno	11.20	312	P	P	01 08 14.3	+1.8
MEST	Erdemli	11.20	91	iP	P	01 08 13.3	+0.8
FIN	Finale Ligure	11.22	310	P	P	01 08 13.2	+0.4
IMI	Imperia	11.26	308	ePn	P	01 08 13.5	+0.2
TOS	Tosya	11.26	68	iPN	P	01 08 12.4	-1.0
NEGI	Negi	11.35	307	P	P	01 08 14.1	-0.5
CRVS	Cervenica-Dubn	11.35	4	iPN	P	01 08 13.7	-0.9
CRVS				i		01 11 35.8	
KIS	Kishinev	11.37	31	eP	P	01 08 13.0	-1.8
KIS				iS	S	01 10 18.0	-4.1
KIS				MLR	MLR		
	comp=N,32µm,13.0s						
KIS				MLR	MLR		
	comp=Z,52µm,13.0s						
KIS				MLR	MLR		
	comp=E,17µm,12.0s						
KIS				MLR	MLR		
	comp=Z,39µm,13.0s						
KIS	Kishinev	11.37	31	eP	P	01 08 12.0	-2.8
NIG	Nigde	11.42	83	iPN	P	01 08 15.1	-0.5
NIG	Nigde	11.42	83	Pn	P	01 08 15.1	-0.4
MONE	Monesi	11.43	308	P	P	01 08 15.9	+0.2
KOLS	Kolonicke sedl	11.45	7	iPN	P	01 08 15.5	-0.4
ROB	Roburent	11.47	310	P	P	01 08 17.0	+0.8
BRMO	Bormio	11.49	324	ePn	P	01 08 15.4	-1.0
BZK	Bozkurt	11.50	63	ePN	P	01 08 18.0	+1.4
SAOF	Saorge	11.51	308	eP	P	01 08 16.9	+0.2
REVF	Revere	11.51	306	eP	P	01 08 17.6	+0.9
SBF	Sospel	11.52	307	eP	P	01 08 16.5	-0.4
	comp=Z,360nm,1.0s						
SBF	Sospel	11.52	307	eP	P	01 08 16.5	-0.4
SBF				pmax	pmax		
	comp=Z,180nm,1.0s						
WTTA	Wattenberg	11.55	330	iSN	S	01 10 20.2	-6.2
WTTA	Wattenberg	11.55	330	⇑iPn	P	01 08 17.4	+0.2
WTTA				iSn	S	01 10 20.2	-6.2
WTTA	Wattenberg	11.55	330	iP	P	01 08 17.4	+0.2
CORM	Corum	11.56	73	ePN	P	01 08 16.2	-1.2
AUTN	L'Aution	11.59	308	eP	P	01 08 19.5	+1.6
AVNT	Avonos	11.61	80	iP	P	01 08 19.9	+1.8
WATA	Walderalm	11.63	330	iSN	S	01 10 22.6	-5.8
WATA	Walderalm	11.63	330	⇑iPn	P	01 08 18.6	+0.3
WATA				iSn	S	01 10 22.6	-5.8
WATA	Walderalm	11.63	330	iP	P	01 08 18.6	+0.3
SQTA	Sankt Quirin	11.69	328	iSN	S	01 10 24.4	-5.4
SQTA	Sankt Quirin	11.69	328	⇓iPn	P	01 08 18.6	-0.5
SQTA				iSn	S	01 10 24.4	-5.4
SQTA	Sankt Quirin	11.69	328	iP	P	01 08 18.6	-0.5
ENR	Entracque	11.71	309	P	P	01 08 19.8	+0.5
TOUF	Mont Tournerai	11.71	307	eP	P	01 08 21.1	+1.6
MVIF	Mont Vial	11.72	307	eP	P	01 08 19.0	-0.6
CTKT	Corum	11.75	71	iP	P	01 08 23.7	+3.7
HMYD	Mayadein	11.76	128	P	P	01 08 15.3	-4.8
HNAT	Natroun	11.76	129	P	P	01 08 15.3	-4.9
AWBH		11.78	139	⇓P	P	01 08 14.7	-5.7
STV	Sta Anna Valdi	11.78	308	P	P	01 08 20.8	+0.4
STV2	Anna di Valdie	11.78	308	P	P	01 08 20.6	+0.2
MOTA	Moosalm	11.83	328	iSN	S	01 10 27.7	-5.6
MOTA	Moosalm	11.83	328	⇑iPn	P	01 08 19.9	-1.1
MOTA				iSn	S	01 10 27.7	-5.6
MOTA	Moosalm	11.83	328	iP	P	01 08 19.9	-1.1
NIE	Niedzica	11.83	0	⇑eP	P	01 08 20.6	-0.5
VAI	Varese	11.88	318	eP	P	01 08 19.1	-2.6
LMR	La Mourre	11.89	303	eP	P	01 08 20.2	-1.7
	comp=Z,190nm,1.1s						
LMR	La Mourre	11.89	303	eP	P	01 08 20.2	-1.7
LMR				pmax	pmax		
	comp=Z,95nm,1.1s						
FRF	La Foret Royal	11.89	304	eP	P	01 08 20.6	-1.3
	comp=Z,127nm,1.1s						
FRF	La Foret Royal	11.89	304	eP	P	01 08 20.6	-1.3
FRF				pmax	pmax		
	comp=Z,64nm,1.1s						
BYBT	Boyabat	11.91	66	ePN	P	01 08 22.5	+0.3
BYBT	Boyabat	11.91	66	Pn	P	01 08 22.6	+0.4
SET	Setif	11.92	268	P	P	01 08 24.0	+1.7
DOI	San Damiano	11.96	309	eP	P	01 08 22.8	0.0
FYM	Al Fayyum	11.98	128	⇓P	P	01 08 18.9	-4.3
BOYT	Boyabat	12.00	67	iP	P	01 08 34.0	+11
VRAC	Vranov	12.01	349	P	P	01 08 22.2	-1.2
YOZ	Yozgat	12.02	76	ePN	P	01 08 24.6	+1.0
AYT	Al 'Ayyat	12.04	127	P	P	01 08 19.3	-4.7
PZZ	Prazzo	12.05	309	P	P	01 08 23.3	-0.7
HLW	Helwan	12.06	126	P	P	01 08 19.9	-4.3
BHB	Bricherasio	12.13	311	P	P	01 08 25.7	+0.6
ORO	Oropa	12.16	315	eP	P	01 08 25.3	-0.1
KWP	Kalwaria	12.18	8	eP	P	01 08 26.9	+1.1
KWP				MLR	MLR	01 13 55.7	
	comp=Z,28µm,16.7s						
GEC2	GERESS Array S	12.21	339	eP	P	01 08 22.9	-3.2
SURF	Saint Ours	12.22	309	eP	P	01 08 26.4	+0.2
TRAV		12.22	314	P	P	01 08 27.9	+1.6
RSP	Reno Superiore	12.30	312	P	P	01 08 28.3	+1.0
DAVA	Damuels	12.32	325	⇑iPn	P	01 08 27.9	+0.3
DAVA				iSn	S	01 10 39.7	-5.4
MORC	Moravsky Berou	12.34	352	eP	P	01 08 26.2	-1.7
MORC				pmax	pmax		
	comp=Z,13nm,0.9s						
MORC	Moravsky Berou	12.34	352	ePn	P	01 08 26.2	-1.7
	comp=Z,13nm,0.9s						
MORC	Moravsky Berou	12.34	352	eP	P	01 08 26.2	-1.7
	comp=Z,13nm,0.9s						
OKC	Ostrava-Krasne	12.34	354	eP	P	01 08 25.9	-2.0
OKC				eS	S	01 10 41.6	-4.1
OKC				AMS	AMS	01 14 40.0	
	comp=Z,28µm,14.9s						
FENE	Fenestrelle	12.35	311	P	P	01 08 28.5	+0.5
MCGN	Macugnaga	12.36	316	ePn	P	01 08 31.7	+3.6
HSAF	As Saff	12.36	127	⇑P	P	01 08 22.9	-5.3
MBDF	Montbardon	12.37	309	eP	P	01 08 28.8	+0.6
	comp=Z,249nm,0.9s						
MBDF	Montbardon	12.37	309	eP	P	01 08 28.8	+0.6
MBDF				pmax	pmax		
	comp=Z,125nm,0.9s						
BNN	Bunyan	12.39	79	ePN	P	01 08 27.0	-1.6
CEYT	Ceyhan	12.41	88	ePN	P	01 08 27.2	-1.7
CEYT	Ceyhan	12.41	88	Pn	P	01 08 27.2	-1.7
FUR	Furstenfeldbru	12.42	331	eP	P	01 08 27.6	-1.4
RRL	Cesana Torines	12.46	310	P	P	01 08 29.1	-0.4
GLL	Jalalah	12.48	126	P	P	01 08 24.9	-5.0
KHC	Kasperske Hory	12.50	340	eP	P	01 08 26.1	-3.9
KHC				MLR	MLR		
	comp=Z,15µm,12.9s						
KHC	Kasperske Hory	12.50	340	eP	P	01 08 26.1	-3.9
KHC				x	x	01 08 30.0	
KHC				x	x	01 08 34.5	
KHC				AMS	AMS	01 15 20.0	
	comp=Z,15µm,12.9s						
LSD	Ceresole Reale	12.53	313	P	P	01 08 32.7	+2.3
LVV	L'vov	12.54	12	eP	P	01 08 31.5	+0.9
RAC	Raciborz	12.58	354	eP	P	01 08 30.5	-0.6
RAC				LME		01 12 59.0	
RAC				LMN		01 14 57.3	
RAC				MLR	MLR	01 15 03.9	
	comp=Z,35µm,14.4s						
BNI	Bardonecchia	12.59	311	eP	P	01 08 30.4	-0.8
BNI				pmax	pmax		
	comp=Z,67nm,1.0s						
BNI	Bardonecchia	12.59	311	ePn	P	01 08 30.4	-0.9
	comp=Z,67nm,1.0s						
BNI	Bardonecchia	12.59	311	eP	P	01 08 30.4	-0.8
	comp=Z,67nm,1.0s						
HBNS	Bani Suwayf	12.61	130	⇑P	P	01 08 26.5	-5.1
OJC	Ojcow	12.64	359	eP	P	01 08 30.5	-1.4
WET	Wettzell	12.71	338	eP	P	01 08 29.6	-3.3
SMRF	Simiane la Rot	12.78	305	eP	P	01 08 36.0	+2.3
	comp=Z,227nm,1.2s						
LPG	La Plagne	12.79	312	eP	P	01 08 35.0	+1.1
	comp=Z,172nm,1.0s						
LPG	La Plagne	12.79	312	eP	P	01 08 35.0	+1.1
LPG				pmax	pmax		
	comp=Z,86nm,1.0s						
SIM	Simferopol'	12.80	51	eP	P	01 08 35.3	+1.3
SIM				S	S	01 10 50.0	-6.7
SIM				pmax	pmax		
	comp=Z,3µm,16.0s						
SIM				MLR	MLR		
	comp=Z,12µm,15.0s						
SIM	Simferopol'	12.80	51	eP	P	01 08 35.3	+1.3
	comp=Z,3µm,16.0s						
LPL	La Plagne	12.81	312	eP	P	01 08 34.0	-0.1
	comp=Z,69nm,0.7s						
LPL	La Plagne	12.81	312	eP	P	01 08 34.0	-0.1
LPL				pmax	pmax		
	comp=Z,35nm,0.7s						
HTY	Hatay	12.87	92	eP	P	01 08 33.2	-1.7
HTY	Hatay	12.87	92	Pn	P	01 08 33.3	-1.7
COBT	Iskenderun	12.89	90	iP	P	01 08 34.0	-1.2
ORIF	Oris-en-Rattie	13.01	309	eP	P	01 08 36.6	-0.2
	comp=Z,249nm,1.0s						
ORIF				eR			
	comp=Z,11µm,17.0s						
TOKT	Tokat	13.03	73	eP	P	01 08 36.8	-0.3
TOKT	Tokat	13.03	73	Pn	P	01 08 36.9	-0.2
SISB	Singen-Sch Ber	13.03	324	P	P	01 08 37.3	+0.2
HNTI	Hanita	13.04	106	Pn	P	01 08 34.2	-3.0
HNTI				Sn	S	01 10 47.7	-15
PRU	Pruhonice	13.05	344	eP	P	01 08 35.4	-1.9
PRU				AMS	AMS	01 14 30.0	
	comp=Z,23µm,13.1s						
DPC	Dobruska-Polom	13.06	349	eP	P	01 08 35.9	-1.6
DPC				AMS	AMS	01 14 40.0	
	comp=Z,27µm,11.8s						
OFRI	'Ofer	13.09	108	Pn	P	01 08 33.5	-4.4
BHL	Bhannes	13.09	102	ePN	P	01 08 34.4	-3.5
PRA	Prague	13.15	344	AMS	AMS	01 15 40.0	
ZAF		13.22	125	P	P	01 08 35.6	-4.1
KAHT	Ahir Dag	13.24	85	iP	P	01 08 40.4	+0.5
GUT	Gutenstein	13.25	326	P	P	01 08 39.3	-0.6
UPC	Upice	13.26	348	eP	P	01 08 39.5	-0.6
SVST	Sivas	13.29	75	iP	P	01 08 50.4	+10
SLTI	Sal'it	13.30	109	Pn	P	01 08 36.0	-4.7
KSDI	Kefar Szold	13.36	105	Pn	P	01 08 36.3	-5.2
ZNM		13.38	124	⇑P	P	01 08 37.4	-4.3
HRI	Mount Hermon	13.39	104	Pn	P	01 08 39.5	-2.4
SPAK	Spaichingen	13.42	325	eP	P	01 08 44.0	+1.8
BUCH	Bad Urach	13.43	327	P	P	01 08 42.3	0.0
MMLI	Mount Malkishu	13.50	108	Pn	P	01 08 40.4	-2.9
KZIT	Kziot	13.51	115	Pn	P	01 08 37.8	-5.6
KZIT				Sn	S	01 10 54.7	-19
KSP	Ksiaz	13.55	349	eP	P	01 08 43.9	+0.1
KSP				eS	S	01 11 12.0	-2.5
KSP	Ksiaz	13.55	349	eP	P	01 08 43.9	+0.1
KSP				ePP	PP	01 08 54.1	-0.3
KSP				eS	S	01 11 12.0	-2.5
KSP	Ksiaz	13.55	349	eP	P	01 08 44.2	+0.4
KSP				eS	rx	01 11 37.8	
KSP				MLR	MLR	01 14 29.9	
	comp=Z,16µm,19.8s						
KSP	Ksiaz	13.55	349	eS	S	01 11 12.0	-2.5
PVCC	Panska Ves	13.55	345	eP	P	01 08 41.5	-2.4
PVCC				AMS	AMS	01 14 50.0	
	comp=Z,16µm,13.0s						
GAZ	Gaziantep	13.55	87	eP	P	01 08 43.5	-0.5
GAZ	Gaziantep	13.55	87	Pn	P	01 08 43.5	-0.5
KSHT	Keshet	13.56	105	Pn	P	01 08 41.1	-3.1
BBS	Basel-Blauen	13.58	321	eP	P	01 08 45.4	+1.1
FELD	Feldberg	13.62	323	eP	P	01 08 43.8	-1.0
FELD	Feldberg	13.62	323	eP	P	01 08 43.3	-1.5
ABA	Alger-Bouzarea	13.70	272	P	P	01 08 49.0	+3.1
KIZ	Kirchzarten	13.72	323	P	P	01 08 45.8	-0.3
GRA1	Grafenberg Arr	13.72	335	eP	P	01 08 45.1	-1.0
GRA1				eS	S	01 11 40.3	+22
GRF	Grafenberg Arr	13.72	335	eP	P	01 08 45.1	-1.0
GRF				eS	S	01 11 40.3	+22
MASH	Mash'abbe Sade	13.74	114	Pn	P	01 08 42.0	-4.4
VIVF	Saint-Julien-l	13.74	307	eP	P	01 08 45.3	-1.1
	comp=Z,243nm,1.3s						
VIVF	Saint-Julien-l	13.74	307	eP	P	01 08 45.3	-1.1
VIVF				pmax	pmax		
	comp=Z,122nm,1.3s						
STU	Stuttgart	13.74	328	eP	P	01 08 45.1	-1.3
STU				pmax	pmax		
	comp=Z,29nm,0.6s						
STU	Stuttgart	13.74	328	ePn	P	01 08 45.1	-1.3
	comp=Z,28nm,0.6s						
STU	Stuttgart	13.74	328	eP	P	01 08 45.1	-1.3
	comp=Z,29nm,0.6s						
BFO	Black Forest	13.79	325	eP	P	01 08 47.3	+0.2
CABF	La Chapelle	13.80	315	eP	P	01 08 47.6	+0.4
	comp=Z,93nm,0.8s						
CABF	La Chapelle	13.80	315	eP	P	01 08 47.6	+0.4
CABF				pmax	pmax		
	comp=Z,47nm,0.8s						
NKC	Novy Kostel	13.81	339	eP	P	01 08 46.4	-0.9
NKC				AMS	AMS	01 15 30.0	
	comp=Z,13µm,14.5s						
GZT	Gaziantep	13.81	86	iP	P	01 08 47.4	0.0
LBG	Lerchenberg	13.84	327	P	P	01 08 47.5	-0.1
EMHD	Djebel Mahouad	13.86	270	P	P	01 08 50.0	+1.9
DRGI	Dragot	13.87	111	Pn	P	01 08 43.8	-4.5
LASF	Ste Croix	13.95	303	eP	P	01 08 48.3	-0.9
	comp=Z,151nm,1.1s						
MZDA	Masada	13.99	112	Pn	P	01 08 44.9	-4.9
LIBD	Limburg	14.01	323	eP	P	01 08 50.4	+0.5
BRG	Berggiesshubel	14.01	343	iP	P	01 08 48.2	-1.8
BRG				pmax	pmax		
	comp=Z,114nm,1.4s						
BRG	Berggiesshubel	14.01	343	iP	P	01 08 48.2	-1.8
	comp=Z,114nm,1.4s						
BRG				i		01 09 00.0	
BRG				e		01 09 04.0	
BRG				e		01 09 56.8	
BRG				eS	S	01 11 43.0	+17
BRG				e		01 18 23.1	
BRG	Berggiesshubel	14.01	343	eP	P	01 08 47.9	-2.1
BRG	Berggiesshubel	14.01	343	eS	S	01 11 44.8	+19
MOF	Molkenrain	14.03	321	eP	P	01 08 50.2	0.0
HINF	Hinteralfeld	14.15	321	eP	P	01 08 49.5	-2.2
	comp=Z,106nm,0.8s						
HINF	Hinteralfeld	14.15	321	eP	P	01 08 49.5	-2.2
HINF				pmax	pmax		
	comp=Z,53nm,0.8s						
ZFRI	Zfri	14.26	115	Pn	P	01 08 49.0	-4.3
ECH	Echery	14.26	322	eP	P	01 08 52.7	-0.6
WLS	Welschbruch	14.31	323	eP	P	01 08 53.5	-0.3
CDF	Champ du Feu	14.34	323	eP	P	01 08 52.7	-1.6
	comp=Z,193nm,0.9s						
CDF	Champ du Feu	14.34	323	eP	P	01 08 52.7	-1.6
CDF				pmax	pmax		
	comp=Z,96nm,0.9s						
MYA	Malataya	14.42	81	eP	P	01 08 55.1	-0.2
MYA	Malataya	14.42	81	Pn	P	01 08 55.1	-0.2
MYA	Malataya	14.42	81	P	P	01 08 55.2	-0.1
MALT	Malatya	14.42	82	eP	P	01 08 54.9	-0.5
MALT	Malatya	14.42	82	⇓P	P	01 08 56.3	+0.9
MALT	Malatya	14.42	82	P	P	01 08 56.3	+0.9
MOX	Moxa	14.42	338	eP	P	01 08 54.7	-0.6
MOX	Moxa	14.42	338	iP	P	01 08 54.7	-0.6
	comp=Z,logA/T=2.3						
MOX			

ABH	**Alteburg**	**15.29 328**	*e*P	**P**	**01 09 13.2 +6.6**
ETRT	**Tiaret**	**15.35 268**	P	**P**	**01 09 09.0 +1.5**
RUP	**Ruppelstein**	**15.37 326**	*e*P	**P**	**01 09 12.8 +5.1**
EANR	**'Ain N'Sour**	**15.38 270**	P	**P**	**01 09 08.0 0.0**
SALF	**Salau**	**15.41 296**	*e*P	**P**	**01 09 13.8 +5.6**
CAF	**Calviac**	**15.46 304**	*e*P	**P**	**01 09 08.5 -0.4**
	comp=Z,79nm,1.1s				
CAF	**Calviac**	**15.46 304**	*e*P	**P**	**01 09 08.5 -0.4**
CAF			pmax	pmax	
	comp=Z,40nm,1.1s				
AVF	**Avril sur Loir**	**15.48 312**	*e*P	**P**	**01 09 06.7 -2.4**
	comp=Z,80nm,0.8s				
AVF	**Avril sur Loir**	**15.48 312**	*e*P	**P**	**01 09 06.7 -2.4**
AVF			pmax	pmax	
	comp=Z,40nm,0.8s				
EZC	**Erzincan**	**15.49 76**	*e*P	**P**	**01 09 08.7 -0.6**
MEZF	**Maizieres J'vi**	**15.51 320**	*e*P	**P**	**01 09 09.9 +0.4**
	comp=Z,321nm,1.1s				
SSF	**Saint Saulge**	**15.53 313**	*e*P	**P**	**01 09 08.6 -1.1**
SSF			pmax	pmax	
	comp=Z,63nm,0.9s				
SSF	**Saint Saulge**	**15.53 313**	*e*P	**P**	**01 09 08.6 -1.1**
	comp=Z,63nm,0.9s				
RUE	**Ruedersdorf**	**15.56 345**	*e*Pn	**P**	**01 09 10.4 +0.3**
	comp=Z,24nm,1.0s				
RUE			*e*P		01 09 15.7
RUE	**Ruedersdorf**	**15.56 345**	*e*P	**P**	**01 09 10.6 +0.5**
RUE			*e*S	**S**	**01 12 16.4 +14**
EBR	**Ebro Roquetas**	**15.60 288**	*e*PN	**P**	**01 09 16.0 +5.2**
BGF	**Bois d'Agland**	**15.66 310**	*e*P	**P**	**01 09 13.0 +1.5**
	comp=Z,153nm,0.9s				
BGF	**Bois d'Agland**	**15.66 310**	*e*P	**P**	**01 09 13.0 +1.5**
BGF			pmax	pmax	
	comp=Z,77nm,0.9s				
ERTA	**Horta de San J**	**15.74 289**	P	**P**	**01 09 17.2 +4.7**
	comp=Z,86nm,0.9s				
ERTA	**Horta de San J**	**15.74 289**	P	**P**	**01 09 17.2 +4.7**
	comp=Z,86nm,0.9s,SNR=20				
WLF	**Walferdange**	**15.75 325**	*e*P	**P**	**01 09 13.0 +0.4**
WLF			pmax	pmax	
	comp=Z,278nm,1.1s				
WLF	**Walferdange**	**15.75 325**	*e*Pn	**P**	**01 09 13.0 +0.4**
	comp=Z,278nm,1.1s				
WLF			*e*		01 09 18.4
WLF	**Walferdange**	**15.75 325**	*e*P	**P**	**01 09 18.8 +6.2**
WLF			*e*S	**S**	**01 12 20.1 +14**
OJGS	**Djebel Guires**	**15.76 268**	P	**P**	**01 09 12.0 -0.8**
GKP	**Gorka Klasztor**	**15.82 353**	*e*P	**P**	**01 09 18.8 +5.3**
GKP			*ep*P		01 09 24.3
GKP			*e*S	**S**	**01 12 24.6 +16**
GKP	**Gorka Klasztor**	**15.82 353**	*e*P	**P**	**01 09 18.8 +5.2**
GKP			*ep*P		01 09 24.3
GKP			*e*S	**S**	**01 12 24.6 +16**
GKP			MLR	MLR	01 15 15.8
	comp=Z,7μm,22.4s				
CLZ	**Clausthal**	**15.85 337**	*e*P	**P**	**01 09 18.9 +5.0**
DIY	**Diyarbakir**	**15.86 83**	*e*P	**P**	**01 09 14.4 +0.3**
DIY	**Diyarbakir**	**15.86 83**	Pn	**P**	**01 09 14.4 +0.3**
TCF	**Toulx Ste Croi**	**15.93 309**	*e*P	**P**	**01 09 18.1 +3.2**
	comp=Z,110nm,0.9s				
TCF	**Toulx Ste Croi**	**15.93 309**	*e*P	**P**	**01 09 18.1 +3.2**
TCF			pmax	pmax	
	comp=Z,55nm,0.9s				
RJF	**Les Rejaudoux**	**15.96 305**	*e*P	**P**	**01 09 15.2 -0.1**
	comp=Z,143nm,1.1s				
RJF			*e*R		
	comp=Z,8μm,19.5s				
SOC	**Sochi**	**15.99 62**	*i* P	**P**	**01 09 12.3 -3.5**
SOC			*e*		01 12 03.8
SOC			pmax	pmax	
	comp=N,41nm,0.9s				
SOC			pmax	pmax	
	comp=E,85nm,0.9s				
SOC			pmax	pmax	
	comp=Z,40nm,0.9s				
SOC			MLR	MLR	
	comp=Z,6μm,13.0s				
SOC			MLR	MLR	
	comp=N,3μm,12.0s				
SOC			MLR	MLR	
	comp=E,5μm,11.0s				
BINT	**Bingol**	**16.01 79**	*e*P	**P**	**01 09 16.5 +0.5**
BINT	**Bingol**	**16.01 79**	Pn	**P**	**01 09 16.5 +0.5**
RESF	**Ens**	**16.03 295**	*e*P	**P**	**01 09 19.4 +3.2**
OJBR	**Djebel Berber**	**16.06 269**	P	**P**	**01 09 15.0 -1.7**
EPF	**Esparros**	**16.07 296**	*e*P	**P**	**01 09 19.0 +2.2**
	comp=E,78nm,1.1s				
EPF	**Esparros**	**16.07 296**	*e*P	**P**	**01 09 19.0 +2.2**
EPF			pmax	pmax	
	comp=Z,39nm,1.0s				
EBEN	**Beniarda**	**16.10 280**	P	**P**	**01 09 20.9 +3.8**
	comp=Z,148nm,0.8s				
EBEN	**Beniarda**	**16.10 280**	P	**P**	**01 09 20.9 +3.8**
	comp=Z,148nm,0.8s,SNR=28				
HYF	**Humbligny**	**16.14 312**	*e*P	**P**	**01 09 15.7 -1.9**
EBIE	**Bielsa**	**16.14 295**	P	**P**	**01 09 21.5 +3.8**
EBIE	**Bielsa**	**16.14 295**	P	**P**	**01 09 21.5 +3.8**
	SNR=7.9				
LABF	**Labassere**	**16.27 296**	*e*P	**P**	**01 09 21.6 +2.3**
EMOS	**Mosqueruela**	**16.30 286**	P	**P**	**01 09 21.1 +1.4**
EMOS	**Mosqueruela**	**16.30 286**	P	**P**	**01 09 21.1 +1.4**
	SNR=7.9				
LFF	**La Frestale**	**16.34 303**	*e*P	**P**	**01 09 24.0 +3.8**
	comp=Z,148nm,0.9s				
LFF	**La Frestale**	**16.34 303**	*e*P	**P**	**01 09 24.0 +3.8**
LFF			pmax	pmax	
	comp=Z,74nm,0.9s				
ESAC	**San Caprasio**	**16.43 291**	P	**P**	**01 09 24.0 +2.7**
ESAC	**San Caprasio**	**16.43 291**	P	**P**	**01 09 24.0 +2.7**
	SNR=7.9				
SUW	**Suwalki**	**16.56 6**	*e*P	**P**	**01 09 22.2 -0.7**
SUW			*e*S	**S**	**01 12 34.3 +8.9**
SUW	**Suwalki**	**16.56 6**	*e*P	**P**	**01 09 22.2 -0.7**
SUW			*ep*P		01 09 27.8
SUW			*e*S	**S**	**01 12 34.3 +8.9**
SUW	**Suwalki**	**16.56 6**	*e*P	**P**	**01 09 22.2 -0.7**
SUW			*ep*P		01 09 27.8
SUW			*e*S	**S**	**01 12 34.3 +8.9**
SUW			MLR	MLR	01 17 45.3
	comp=Z,24μm,12.9s				
BUG	**Bochum--Univer**	**16.60 331**	*e*P	**P**	**01 09 27.4 +4.0**
BUG			*e*S	**S**	**01 12 40.7 +14**
REYF	**Montagne du Re**	**16.61 296**	*e*P	**P**	**01 09 25.3 +1.7**
HGN	**Heimansgroeve**	**16.64 327**	*e*P	**P**	**01 09 28.9 +5.0**
	comp=Z,132nm,1.9s				
HGN			*e*S	**S**	**01 12 32.8 +5.7**
GIVF	**Givet**	**16.67 324**	*e*P	**P**	**01 09 26.1 +1.8**
	comp=Z,321nm,1.1s				
GIVF	**Givet**	**16.67 324**	*e*P	**P**	**01 09 26.1 +1.8**
GIVF			pmax	pmax	
	comp=Z,161nm,1.1s				
EZM	**Erzurum**	**16.68 75**	*e*P	**P**	**01 09 25.4 +0.8**
BEST	**Besiri**	**16.69 82**	*i* P	**P**	**01 09 26.0 +1.4**
ERZM	**Erzurum**	**16.69 75**	*i* P	**P**	**01 09 27.6 +3.0**
ETSF	**Etsaut**	**16.69 295**	*e*P	**P**	**01 09 26.2 +1.6**
	comp=Z,321nm,0.9s				
ETSF	**Etsaut**	**16.69 295**	*e*P	**P**	**01 09 26.2 +1.6**
ETSF			pmax	pmax	
	comp=Z,161nm,0.9s				
VRT	**Varto**	**16.82 78**	*i* P	**P**	**01 09 26.7 +0.5**
VRT	**Varto**	**16.82 78**	Pn	**P**	**01 09 26.8 +0.6**
BTMT	**Batman**	**16.83 81**	*e*P	**P**	**01 09 25.5 -0.9**
BAIF	**Baives**	**16.94 322**	*e*P	**P**	**01 09 29.0 +1.3**
	comp=Z,130nm,0.9s				
BAIF	**Baives**	**16.94 322**	*e*P	**P**	**01 09 29.0 +1.3**
BAIF			pmax	pmax	
	comp=Z,65nm,0.9s				
EMUR	**La Murta**	**16.96 277**	P	**P**	**01 09 28.8 +0.8**
	comp=Z,21nm,0.9s				
EMUR	**La Murta**	**16.96 277**	P	**P**	**01 09 28.8 +0.8**
	comp=Z,21nm,0.9s,SNR=7.0				
BCA	**Borcka**	**16.98 70**	*e*P	**P**	**01 09 28.7 +0.4**
BCA	**Borcka**	**16.98 70**	Pn	**P**	**01 09 28.8 +0.5**
LARF	**Larrau**	**17.03 295**	*e*P	**P**	**01 09 30.5 +1.6**
OTSS	**Djebel Tessala**	**17.04 269**	P	**P**	**01 09 28.0 -1.0**
IBBN	**Ibbenburen**	**17.11 333**	*e*P	**P**	**01 09 31.7 +1.8**
IBBN			*e*S	**S**	**01 12 49.2 +11**
WTSB	**Winterswijk**	**17.20 331**	*e*P	**P**	**01 09 34.9 +4.0**
	comp=Z,45nm,1.0s				
SJPF	**Ste Jean**	**17.21 295**	*e*P	**P**	**01 09 32.5 +1.3**
	comp=Z,232nm,0.8s				
SJPF	**Ste Jean**	**17.21 295**	*e*P	**P**	**01 09 32.5 +1.3**
SJPF			pmax	pmax	
	comp=Z,116nm,0.8s				
OSSF	**Osses**	**17.27 296**	*e*P	**P**	**01 09 32.1 +0.2**
EALK	**Alkurruntz**	**17.44 296**	P	**P**	**01 09 36.7 +2.7**
	comp=Z,44nm,0.7s				
EALK	**Alkurruntz**	**17.44 296**	P	**P**	**01 09 36.7 +2.7**
	comp=Z,44nm,0.7s,SNR=13				
MFF	**Saint Martin d**	**17.54 307**	*e*P	**P**	**01 09 35.8 +0.6**
	comp=Z,170nm,1.0s				
MFF	**Saint Martin d**	**17.54 307**	*e*P	**P**	**01 09 35.8 +0.6**
MFF			pmax	pmax	
	comp=Z,85nm,1.0s				
RGN	**Rugen**	**17.61 347**	*e*S	**S**	**01 12 59.3 +10**
BSEG	**Bad Segeberg**	**17.72 341**	*e*P	**P**	**01 09 36.1 -1.3**
BSEG			*e*S	**S**	**01 13 00.5 +8.8**
ENIJ	**Nijar**	**17.83 275**	P	**P**	**01 09 38.7 -0.2**
	SNR=7.9				
EVIA	**Vianos**	**17.88 280**	P	**P**	**01 09 38.6 -0.9**
	SNR=7.9				
BSD	**Bornholm Skovb**	**17.90 350⇑**	*i* P	**P**	**01 09 41.0 +1.3**
	comp=Z,60nm,0.8s				
BSD			*i* S	**S**	**01 13 03.8 +7.9**
	comp=Z,5μm,17.0s				
WIT	**Witteveen**	**17.91 333**	*e*P	**P**	**01 09 43.5 +3.7**
KARS	**Kars**	**18.03 73**	*e*P	**P**	**01 09 43.0 +1.6**
KIV	**Kislovodsk**	**18.17 62**	P	**P**	**01 09 44.3 +1.2**
	comp=Z,705nm,0.9s,SNR=18				
KIV	**Kislovodsk**	**18.17 62⇑**	*i* P	**P**	**01 09 42.7 -0.4**
KIV			pmax	pmax	
	comp=Z,175nm,1.2s				
KIV			MLR	MLR	
	comp=Z,4μm,13.0s				
KIV	**Kislovodsk**	**18.17 62**	*e*P	**P**	**01 09 42.3 -0.8**
	comp=Z,125nm,1.0s				
KIV	**Kislovodsk**	**18.17 62**	*i* P	**P**	**01 09 42.7 -0.4**
	comp=Z,4μm,13.0s				
IIGN	**Ignalina**	**18.24 11**	*i* P	**P**	**01 09 42.1 -1.9**
IIGN			AMPb	AMB	01 09 52.6
	comp=Z,112nm,1.5s				
IDID	**Didziasalis**	**18.29 12**	*i* P	**P**	**01 09 42.3 -2.3**
IDID			AMPb	AMB	01 09 52.2
	comp=Z,58nm,1.2s				
VANB	**Van**	**18.29 80**	*e*P	**P**	**01 09 45.7 +1.0**
VANB	**Van**	**18.29 80**	Pn	**P**	**01 09 45.8 +1.1**
VANT	**Van**	**18.30 80**	*e*P	**P**	**01 09 44.9 +0.1**
VANT	**Van**	**18.30 80**	P	**P**	**01 09 45.0 +0.2**
TVAN	**Van**	**18.31 80**	*i* P	**P**	**01 09 46.3 +1.4**
AKH	**Akhalkalaki**	**18.38 71**	P	**P**	**01 09 39.0 -6.7**
EBER	**Berja**	**18.38 275**	P	**P**	**01 09 45.4 -0.4**
EBER	**Berja**	**18.38 275**	P	**P**	**01 09 45.4 -0.4**
	SNR=7.9				
EQES	**Quesada**	**18.40 278**	P	**P**	**01 09 45.6 -0.5**
	comp=Z,51nm,0.8s				
EQES	**Quesada**	**18.40 278**	P	**P**	**01 09 45.6 -0.4**
	comp=Z,51nm,0.8s,SNR=26				
LDF	**La Druitiere**	**18.41 313**	*e*P	**P**	**01 09 44.4 -1.7**
	comp=Z,92nm,0.8s				
LDF	**La Druitiere**	**18.41 313**	*e*P	**P**	**01 09 44.4 -1.7**
LDF			pmax	pmax	
	comp=Z,46nm,0.8s				
TAF	**Taforalt**	**18.44 268**	P	**P**	**01 09 45.0 -1.5**
ISAL	**Salakas**	**18.44 11**	*i* P	**P**	**01 09 44.5 -1.8**
ISAL			AMPb	AMB	01 09 54.2
	comp=Z,93nm,1.0s				
ISAL	**Salakas**	**18.44 11**	*i* P	**P**	**01 09 44.5 -1.9**
ONI	**Oni**	**18.47 67**	P	**P**	**01 09 46.3 -0.5**
ONI			S	**S**	**01 13 15.1 +6.2**
IZAR	**Zarasai**	**18.63 11**	*i* P	**P**	**01 09 46.8 -1.9**
IZAR			AMPb	AMB	01 09 56.4
	comp=Z,107nm,1.3s				
HKR	**Hakkari**	**18.67 83**	*i* P	**P**	**01 09 49.1 -0.2**
HKR	**Hakkari**	**18.67 83**	Pn	**P**	**01 09 49.2 -0.1**
EALB	**Alboran**	**18.67 272**	P	**P**	**01 09 48.4 -0.9**
EALB	**Alboran**	**18.67 272**	P	**P**	**01 09 48.4 -0.9**
	SNR=7.9				
GOF	**Gofitskoye**	**18.68 59**	*e*P	**P**	**01 09 47.0 -2.4**
GOF			pmax	pmax	
	comp=Z,550nm,2.4s				
GOF			pmax	pmax	
	comp=Z,3μm,3.4s				
GOF			pmax	pmax	
	comp=Z,14μm,8.0s				
GOF			MLR	MLR	
	comp=N,36μm,10.0s				
GOF			MLR	MLR	
	comp=E,20μm,10.0s				
GOF			MLR	MLR	
	comp=Z,26μm,10.0s				
GOF	**Gofitskoye**	**18.68 59**	*e*P	**P**	**01 09 47.0 -2.4**
	comp=Z,14μm,8.0s				
FLN	**La Foliniere**	**18.70 313**	*e*P	**P**	**01 09 47.9 -1.7**
	comp=Z,95nm,0.7s				
FLN			*e*R		
	comp=Z,9μm,19.5s				
GRR	**Gorron**	**18.74 312**	*e*P	**P**	**01 09 48.8 -1.3**
	comp=Z,120nm,0.9s				
GRR	**Gorron**	**18.74 312**	*e*P	**P**	**01 09 48.8 -1.3**
GRR			pmax	pmax	
	comp=Z,60nm,0.9s				
ELAN	**Lanestosa**	**18.82 295**	P	**P**	**01 09 51.6 +0.5**
	comp=Z,73nm,0.8s				
ELAN	**Lanestosa**	**18.82 295**	P	**P**	**01 09 51.6 +0.5**
	comp=Z,73nm,0.8s,SNR=18				
ZEI	**Tsey**	**18.82 67**	*e*P	**P**	**01 09 51.4 +0.3**
ZEI			pmax	pmax	
	comp=Z,134nm,0.7s				
ZEI	**Tsey**	**18.82 67**	*e*P	**P**	**01 09 51.4 +0.3**
	comp=Z,134nm,0.7s				
COP	**Copenhagen**	**18.85 346**	*e*P	**P**	**01 09 53.1 +1.7**
COP			pmax	pmax	
	comp=Z,58nm,0.8s				
COP	**Copenhagen**	**18.85 346**	*e*P	**P**	**01 09 53.1 +1.7**
	comp=Z,58nm,0.8s				
COP			*i*		01 10 14.9
COP			*i* S	**S**	**01 13 26.4 +9.0**
COP	**Copenhagen**	**18.85 346**	*i* P	**P**	**01 09 53.1 +1.7**
	comp=Z,58nm,0.8s				
COP			*i*		01 10 14.9
COP			*i* S	**S**	**01 13 26.4 +9.0**
	comp=Z,4μm,16.0s				
ESDC	**Sonseca Array**	**18.97 284**	P	**P**	**01 09 51.7 -1.2**
	comp=Z,18nm,0.8s				
ESDC	**Sonseca Array**	**18.97 284**	P	**P**	**01 09 51.7 -1.2**
	comp=Z,18nm,0.8s,SNR=56				
ESLA	**Sonseca Array**	**18.97 284**	*e*P	**P**	**01 09 51.5 -1.3**
	comp=Z,12nm,1.0s				
GUD	**Guadarrama**	**19.12 287**	P	**P**	**01 09 53.9 -0.7**
GUD			pmax	pmax	
	comp=Z,18nm,0.8s				
GUD	**Guadarrama**	**19.12 287**	P	**P**	**01 09 53.9 -0.7**
	comp=Z,18nm,0.8s				
GUD	**Guadarrama**	**19.12 287**	P	**P**	**01 09 53.9 -0.7**
	comp=Z,18nm,0.8s,SNR=17				
VRSR	**Storozhevoye**	**19.16 39***c*	*i* P	**P**	**01 09 54.2 -0.9**
VRSR			*e*S	**S**	**01 13 24.7 +0.2**
VRSR			pmax	pmax	
	comp=N,90nm,0.8s				
VRSR			pmax	pmax	
	comp=Z,120nm,0.8s				
VRSR			pmax	pmax	
	comp=E,80nm,0.7s				
VRSR			smax		
	comp=N,240nm,1.0s				
VRSR			smax		
	comp=Z,30nm,0.9s				
VRSR			smax		
	comp=E,40nm,0.8s				
VRSR			MLR	MLR	
	comp=Z,16μm,13.7s				
VRSR			MLR	MLR	
	comp=N,7μm,15.0s				
VRSR			MLR	MLR	
	comp=E,8μm,13.6s				
VRSR	**Storozhevoye**	**19.16 39**	*i* P	**P**	**01 09 54.2 -0.9**
VRSR			*e*S	**S**	**01 13 24.7 +0.2**
	comp=E,7μm,15.0s				
GNI	**Garni**	**19.28 75**	*e*P	**P**	**01 09 55.1 -1.4**
GNI			pmax	pmax	
	comp=Z,672nm,1.5s				
GNI	**Garni**	**19.28 75**	*e*P	**P**	**01 09 55.1 -1.5**
	comp=Z,672nm,1.5s				
DUS	**Dusheti**	**19.34 69**	P	**P**	**01 09 56.1 -1.1**
ELOJ	**Sierra Loja**	**19.34 276**	P	**P**	**01 09 57.9 +0.7**
ELOJ			pmax	pmax	
	comp=Z,17nm,1.1s				
ELOJ	**Sierra Loja**	**19.34 276**	P	**P**	**01 09 57.9 +0.6**
	comp=Z,17nm,1.1s				
ELOJ	**Sierra Loja**	**19.34 276**	P	**P**	**01 09 57.9 +0.7**
	comp=Z,17nm,1.1s,SNR=8.2				
TI2	**Plekhanov**	**19.34 70⇑**	*i* P	**P**	**01 09 56.2 -1.0**
TI2			pmax	pmax	
	comp=Z,50nm,0.8s				
TI2			MLR	MLR	
	comp=N,50μm,10.0s				
TI2			MLR	MLR	
	comp=E,5μm,10.0s				
TI2			MLR	MLR	
	comp=Z,11μm,10.0s				
TI2	**Plekhanov**	**19.34 70⇑**	*i* P	**P**	**01 09 56.2 -1.0**
	comp=Z,50nm,0.8s				
MTA	**Mtatsminda**	**19.37 70**	P	**P**	**01 09 55.9 -1.7**
MTA			S	**S**	**01 13 32.1 +2.9**
ELUQ	**Luque**	**19.37 277**	P	**P**	**01 09 57.2 -0.4**
ELUQ			pmax	pmax	
	comp=Z,56nm,0.7s				
ELUQ	**Luque**	**19.37 277**	P	**P**	**01 09 57.2 -0.3**
	comp=Z,56nm,0.7s				
ELUQ	**Luque**	**19.37 277**	P	**P**	**01 09 57.2 -0.4**
	comp=Z,56nm,0.7s,SNR=48				
VOR	**Voronezh**	**19.49 37**	*e*P	**P**	**01 09 57.7 -1.1**
VOR			*e*		01 13 39.0
VOR			pmax	pmax	
	comp=N,850nm,3.0s				
VOR			pmax	pmax	
	comp=E,800nm,3.0s				
VOR			pmax	pmax	
	comp=Z,1μm,3.0s				
EADA	**Adamuz**	**19.55 279**	P	**P**	**01 09 58.2 -1.3**
	comp=Z,12nm,0.7s				
EADA	**Adamuz**	**19.55 279**	P	**P**	**01 09 58.2 -1.3**
	comp=Z,12nm,0.7s,SNR=14				
SGMF	**Saint Gilles**	**19.70 310**	*e*P	**P**	**01 10 00.7 -0.5**
	comp=Z,221nm,0.9s				
SGMF	**Saint Gilles**	**19.70 310**	*e*P	**P**	**01 10 00.7 -0.5**
SGMF			pmax	pmax	
	comp=Z,110nm,0.9s				
JVM	**Valle D.L. Mar**	**19.92 313**	*e*P	**P**	**01 10 02.2 -1.3**
EMIJ	**Mijas**	**19.93 275**	P	**P**	**01 10 01.7 -2.1**
EMIJ	**Mijas**	**19.93 275**	P	**P**	**01 10 01.7 -2.1**
	SNR=7.9				
QUIF	**Quistinic**	**19.94 309**	*e*P	**P**	**01 10 03.1 -0.8**
	comp=Z,181nm,0.7s				
QUIF	**Quistinic**	**19.94 309**	*e*P	**P**	**01 10 03.1 -0.8**
QUIF			pmax	pmax	
	comp=Z,90nm,0.7s				
TZK	**Tazeka**	**20.05 267**	*i* P	**P**	**01 10 03.0 -2.0**
EARI	**Arriondas**	**20.12 294**	P	**P**	**01 10 06.1 +0.5**
	comp=Z,42nm,0.8s				
EARI	**Arriondas**	**20.12 294**	P	**P**	**01 10 06.1 +0.4**
	comp=Z,42nm,0.8s,SNR=13				
GOTU	**Gotland**	**20.14 357**	P	**P**	**01 10 05.1 -0.8**
ROSF	**Rostrenen**	**20.18 310**	*e*P	**P**	**01 10 04.2 -2.0**
	comp=Z,232nm,1.0s				
ROSF	**Rostrenen**	**20.18 310**	*e*P	**P**	**01 10 04.2 -2.0**
ROSF			pmax	pmax	
	comp=Z,116nm,1.0s				
MUD	**Monsted U'grnd**	**20.27 342**	*i* P	**P**	**01 10 07.6 +0.4**
	comp=Z,233nm,0.9s				
MUD			*i* S	**S**	**01 13 52.2 +4.1**
	comp=Z,3μm,16.0s				
LIJA	**Lijar**	**20.37 276**	*e*P	**P**	**01 10 06.0 -2.3**
ESPR	**Espera**	**20.73 276**	P	**P**	**01 10 10.2 -1.9**
	comp=Z,76nm,0.8s,SNR=39				
OBN	**Obninsk**	**20.77 27**	*i* P	**P**	**01 10 08.2 -4.2**
OBN			*e*		01 10 19.7
OBN			*e*		01 10 30.5
OBN			*e*S	**S**	**01 13 59.2 +1.0**
OBN			*e*SS	SS	01 14 23.0 -6.8
OBN			pmax	pmax	
	comp=Z,145nm,1.1s				
OBN			MLR	MLR	
	comp=Z,10μm,13.0s,MS5.4				
OBN	**Obninsk**	**20.77 27⇑**	*e*P	**P**	**01 10 07.1 -5.3**
	comp=Z,106nm,0.7s				
OBN			LR	LR	
	comp=Z,1μm,19.0s				
IFR	**Ifrane**	**20.97 266**	P	**P**	**01 10 17.0 +2.5**
CNIL	**Conil**	**20.98 275**	*e*P	**P**	**01 10 13.0 -1.6**
SCRT	**Cerro San Cris**	**21.02 275**	*e*P	**P**	**01 10 14.0 -1.1**
SFS	**San Fernando**	**21.08 275**	*e*P	**P**	**01 10 13.7 -2.0**
SFS			pmax	pmax	
	comp=Z,275nm,0.9s,mb5.6				
SFS	**San Fernando**	**21.08 275**	*e*P	**P**	**01 10 13.7 -2.0**
	comp=Z,275nm,0.9s,mb5.6				
MIF	**Mishlifen**	**21.08 266**	*i* P	**P**	**01 10 15.0 -0.7**
PBRG	**Braganca**	**21.11 290**	*e*P	**P**	**01 10 15.4 -0.5**
PBRG			*e*S	**S**	**01 14 06.5 +1.8**
PBRG	**Braganca**	**21.11 290**	*e*P	**P**	**01 10 14.8 -1.1**
ECAL	**Calabor**	**21.11 290**	P	**P**	**01 10 15.4 -0.5**
	comp=Z,128nm,0.9s,mb5.2				
ECAL	**Calabor**	**21.11 290**	P	**P**	**01 10 15.4 -0.5**
	comp=Z,128nm,0.9s,mb5.2,SNR=25				
EMIN	**Mina Concepcio**	**21.24 279**	P	**P**	**01 10 15.6 -1.6**
	comp=Z,55nm,0.9s,mb4.9				
EMIN	**Mina Concepcio**	**21.24 279**	P	**P**	**01 10 15.6 -1.6**
	comp=Z,55nm,0.9s,mb4.9,SNR=23				
EBAD	**Badajoz**	**21.39 282**	P	**P**	**01 10 17.0 -1.8**
EBAD	**Badajoz**	**21.39 282**	P	**P**	**01 10 17.0 -1.8**
	SNR=7.9				
ERUA	**La Rua**	**21.44 292**	P	**P**	**01 10 18.7 -0.5**
ERUA			pmax	pmax	
	comp=Z,26nm,0.8s,mb4.6				
ERUA	**La Rua**	**21.44 292**	P	**P**	**01 10 18.7 -0.5**
	comp=Z,26nm,0.8s,mb4.6,SNR=10				
HGH	**Gray Hill**	**21.45 318⇓**	*e*P	**P**	**01 10 19.6 +0.3**
HGH			AMb	AMB	01 10 27.8
	comp=Z,334nm,1.2s,mb5.5				
MAK	**Makhachkala**	**21.48 67**	*e*P	**P**	**01 10 19.8 +0.1**
EPON	**Pontenova**	**21.52 294**	P	**P**	**01 10 20.7 +0.6**
EPON	**Pontenova**	**21.52 294**	P	**P**	**01 10 20.7 +0.6**
	SNR=7.9				
HAE	**Alders End**	**21.53 319⇓**	*e*P	**P**	**01 10 20.2 +0.2**
HAE			AMb	AMB	01 10 28.1
	comp=Z,317nm,1.5s,mb5.5				
EINC	**Incio**	**21.61 292**	P	**P**	**01 10 19.6 -1.3**
	comp=Z,43nm,0.7s,mb5.0				
EINC	**Incio**	**21.61 292**	P	**P**	**01 10 19.6 -1.4**
	comp=Z,43nm,0.7s,mb5.0,SNR=12				
MOS	**Moscow**	**21.64 27**α	*i* P	**P**	**01 10 20.5 -0.7**
MOS			*e*		01 10 30.2
MOS			*e*PPP	PPP	01 10 46.3 -9.4
MOS			*i* S	**S**	**01 14 20.5 +5.9**
MOS			*e*SS	SS	01 14 46.2 -5.1
MOS			pmax	pmax	
	comp=Z,301nm,1.1s,mb5.6				
MOS			pmax	pmax	
	comp=N,125nm,0.9s				
MOS			pmax	pmax	
	comp=E,190nm,0.9s				
MOS			pmax	pmax	
	comp=Z,2μm,2.5s,mb6.1				
MOS			smax		
	comp=E,4μm,4.3s				
MOS			MLR	MLR	
	comp=Z,23μm,12.6s,MS5.8				
MOS			MLR	MLR	
	comp=N,13μm,11.6s,MS5.7				
MOS			MLR	MLR	
	comp=E,11μm,11.3s,MS5.7				
PCBR	**Castelo Branco**	**21.67 285**	*e*P	**P**	**01 10 20.8 -0.8**
PCBR			*e*S	**S**	**01 14 17.8 +2.5**
PCBR	**Castelo Branco**	**21.67 285**	*e*P	**P**	**01 10 20.7 -0.9**
MTE	**Manteigas**	**21.70 286**	*e*P	**P**	**01 10 20.9 -1.0**
	comp=E,108nm,0.9s,mb5.3				
MTE			*e*P		01 10 34.3
MTE			*e*S	**S**	**01 14 18.4 +2.6**
MTE			*e*LR	LR	01 16 02.4
	comp=E,5μm,18.0s				
MTE	**Manteigas**	**21.70 286**	*e*P	**P**	**01 10 20.6 -1.3**
	comp=E,95nm,0.8s,mb5.3				

comp=Z,62nm,0.9s,mb5.0
PVIS eS S 01 14 21.8 +1.2
PVIS Viseu 21.96 287 eP P 01 10 24.1 -0.4
HLM1 Long Mynd 21.97 320 eP P 01 10 24.6 +0.2
HLM1 AMb AMB 01 10 32.6
comp=Z,242nm,1.8s,mb5.3
CSA1 St Austell 21.98 314 eP P 01 10 25.5 +0.9
CGH1 Goonhilly 22.01 313 eP P 01 10 24.9 0.0
SSP1 Stoney Pound 22.03 320 eP P 01 10 25.4 +0.3
SSP1 AMb AMB 01 10 28.9
comp=Z,159nm,1.3s,mb5.3
LHO Holmfirth 22.06 323⇓eP P 01 10 25.9 +0.5
CRQ2 Rosemanowes 2 22.06 313 eP P 01 10 25.7 +0.3
ELOB Lobios 22.10 290 P P 01 10 25.4 -0.4
comp=Z,28nm,0.9s,mb4.7
ELOB Lobios 22.10 290 P P 01 10 25.4 -0.4
comp=Z,28nm,0.9s,mb4.7,SNR=7.7
CCA1 Carnmenellis 22.11 313 eP P 01 10 26.1 +0.3
PBEJ Beja 22.14 280 eP P 01 10 27.3 +1.0
comp=Z,54nm,1.0s,mb4.9
PBEJ eS S 01 14 31.6 +7.7
PBEJ Beja 22.14 280 eP P 01 10 26.2 -0.1
EVO Evora 22.19 281 eP P 01 10 25.9 -0.9
comp=Z,140nm,1.1s,mb5.0
EVO eR
comp=Z,5μm,17.5s
HPK Haverah Park 22.21 324⇓eP P 01 10 27.1 +0.3
CPZ Penzance 22.30 313 eP P 01 10 28.5 +0.7
SBD1 Bryn Du 22.37 321⇓eP P 01 10 29.3 +0.8
ALMR Almeirim 22.57 283 eP P 01 10 29.1 -1.5
EZAM Zamans 22.58 291 P P 01 10 30.7 +0.1
LCP Cassop 22.64 326⇓eP P 01 10 31.4 +0.4
AVE Averroes 22.85 268 P P 01 10 34.8 +1.5
PTEO Sao Teotonio 22.88 279 eP P 01 10 34.4 +0.8
PTEO eS S 01 14 41.1 +3.8
WPM1 Penmaenmawr 22.89 321⇓eP P 01 10 34.5 +1.0
WPM1 AMb AMB 01 10 38.2
comp=Z,114nm,0.9s,mb5.3
YRE Yr Eifl 23.01 320⇓eP P 01 10 35.6 +0.9
YRE AMb AMB 01 10 39.3
comp=Z,103nm,1.3s,mb5.1
PLOU Loures 23.04 282 eP P 01 10 35.8 +0.7
PLOU Loures 23.04 282 eP P 01 10 35.7 +0.6
LIS Lisbon 23.06 282 eP P 01 10 34.2 -1.1
LIS AMb AMB 01 14 42.9
comp=N,81nm,1.6s
LIS eS S 01 14 43.8 +3.4
LIS eS S 01 14 43.9 +3.5
PUL Pulkovo 23.14 13 eP P 01 10 35.1 -0.7
PUL eS S 01 14 46.7 +5.1
PUL pmax pmax
comp=N,409nm,0.9s
PUL pmax pmax
comp=Z,418nm,0.9s,mb5.9
PUL pmax pmax
comp=E,413nm,1.0s
PUL pmax pmax
comp=N,876nm,1.0s
PUL pmax pmax
comp=Z,533nm,1.0s,mb5.9
PUL pmax pmax
comp=E,379nm,0.8s
PUL smax
comp=Z,3μm,3.3s
PUL smax
comp=N,5μm,4.1s
PUL smax
comp=E,2μm,3.7s
PUL MLR MLR
comp=Z,9μm,12.0s,MS5.4
PUL MLR MLR
comp=N,6μm,13.0s,MS5.3
PUL MLR MLR
comp=E,5μm,16.0s,MS5.3
OSL Oslo 23.18 348 eP P 01 10 36.1 -0.1
OSL AMb AMB 01 10 53.0
comp=Z,352nm,1.1s,mb5.7
YRC Rhoscolyn 23.23 320 eP P 01 10 37.8 +1.0
YRC AMb AMB 01 10 39.6
comp=Z,70nm,1.2s,mb5.0
WCB1 Church Bay 23.28 321 eP P 01 10 37.7 +0.4
WCB1 AMb AMB 01 10 44.8
comp=Z,115nm,1.2s,mb5.2
BTA Talkin 23.29 325 eP P 01 10 38.2 +0.9
BDL Dobcross Hall 23.34 325 eP P 01 10 39.2 +1.3
BBO1 Bothel 23.44 325 eP P 01 10 39.6 +0.8
BBH Bruntsheil 23.54 326⇓eP P 01 10 40.7 +0.9
BLS5 Blasjo 23.58 342 eP P 01 10 42.1 +2.0
BLS5 epP 01 10 50.9
BLS5 AMb AMB 01 10 57.1
comp=Z,86nm,1.9s,mb4.9
TIO Tiouine 23.59 262 P P 01 10 42.0 +1.5
BHH Howats Hill 23.64 325⇓eP P 01 10 42.0 +1.2
RST Umm Al-Ruwaisa 23.70 102 eP P 01 10 40.8 -0.8
ESK Eskdalemuir 23.78 326 eP P 01 10 41.8 -0.3
ESK pmax pmax
comp=Z,120nm,0.9s
ESK MLR MLR
comp=Z,1μm,20.0s
ESK Eskdalemuir 23.78 326 eP P 01 10 41.8 -0.3
comp=Z,120nm,0.9s
ESK LR LR
comp=Z,1μm,20.0s
NAY Al-Naaiem 24.01 102 eP P 01 10 44.3 -0.3
NAO01 NORSAR Array S 24.02 349 eP P 01 10 45.3 +0.9
comp=Z,166nm,0.9s,mb5.5
NB2 NORSAR Subarra 24.15 349 P P 01 10 46.4 +0.7
comp=Z,8.1nm,0.8s,mb4.2,baz=158,slow=10
NB2 NORSAR Subarra 24.15 349 P P 01 10 46.4 +0.7
baz=158,slow=11
DLF Lyons Farm 24.26 319 eP P 01 10 37.4 -9.4
DLF Lyons Farm 24.26 319⇑iP P 01 10 47.4 +0.6
MRKH Merkhyat 24.32 150⇑eP P 01 10 48.5 +0.8
MRKH ⇓e 01 12 32.1
baz=307,slow=11
RDF Al-Radifah 24.39 103 eP P 01 10 48.4 0.0
CIA Chichaoua 24.52 264 i P P 01 10 50.0 +0.4
DCN Croghan 24.67 319 eP P 01 10 41.4 -9.4
DCN Croghan 24.67 319⇑iP P 01 10 51.6 +0.8
BER Bergen 24.70 342 eS S 01 15 27.1 +19
BER AMS AMS 01 23 45.8
comp=Z,6μm,16.6s,MS5.2
DMUB Kingscourt 24.75 320 eP P 01 10 50.0 -1.6
QRN Al-Qurain 24.76 103 eP P 01 10 52.6 +0.6
KAF Kangasniemi 24.85 7 ep P 01 10 52.7 +0.3
comp=Z,60nm,0.7s,mb5.2,baz=183,slow=9.4
KAF Kangasniemi 24.85 7 eP P 01 10 52.7 +0.3
KAF pmax pmax
comp=Z,60nm,0.7s,mb5.2
DOMB Dombas 25.44 348 eP P 01 10 57.9 -0.2
DOMB AMb AMB 01 11 15.3
comp=Z,261nm,1.4s,mb5.6
VAL Valentia 25.71 314 eP P 01 11 02.4 +1.8
VAL eS S 01 15 35.9 +10
RAYN Ar Rayn 25.82 116 P P 01 11 02.6 +0.7
comp=Z,370nm,1.1s,mb5.8,SNR=72
JOF Joensuu 26.27 12 ep P 01 11 05.0 -0.7
NSS Namsos 27.43 352 eP P 01 11 14.9 -1.3
NSS AMS AMS 01 24 27.2
comp=Z,6μm,15.6s,MS5.3
MOR8 Moi Rana 28.83 355 eP P 01 11 28.1 -0.8
comp=Z,121nm,1.9s,mb5.3
MOR8 Moi Rana 28.83 355 eP P 01 11 28.1 -0.8
MOR8 AMb AMB 01 11 39.4
comp=Z,121nm,1.9s,mb5.3
APA Apatity 30.95 10⇑iP P 01 11 47.0 -0.8
APA i 01 13 04.7
APA pmax pmax
comp=Z,64nm,1.3s,mb5.3
APA MLR MLR
comp=Z,15μm,13.0s,MS5.8
DHBB Dhamar BB 31.41 130⇓eP P 01 11 54.5 +2.1
KTK1 Kautokeino 31.53 2 eP P 01 11 52.4 -0.6
KTK1 AMb AMB 01 12 15.0
comp=Z,125nm,1.5s,mb5.5
ARU Arti 31.68 41 P P 01 11 52.3 -2.1
comp=Z,183nm,0.6s,mb6.1,SNR=21
ARU Arti 31.68 41 eP P 01 11 46.1 -8.3
ARU eSSS tx 01 18 48.9
ARU e 01 22 14.8
ARU MLR MLR
comp=E,7μm,15.0s,MS5.5
ARU MLR MLR
comp=Z,10μm,15.0s,MS5.6
ARU MLR MLR
comp=N,4μm,17.0s,MS5.5
SOKR Solikamsk 32.07 35⇓iP P 01 11 55.8 -1.9
SOKR pmax pmax
comp=Z,90nm,1.0s,mb5.5
SOKR MLR MLR
comp=Z,8μm,18.0s,MS5.4
CCAN Las Canadas 32.10 264 P P 01 11 60.0 +1.7
TRO Tromso 32.12 359 eP P 01 11 56.1 -1.9
TRO eS S 01 17 07.3 -0.5
TRO AMS AMS 01 27 06.9
comp=Z,11μm,18.6s,MS5.6
ARE0 ARCESS Array S 32.14 4 eP P 01 11 57.2 -1.1
KEV Kevo 32.45 4 ep P 01 12 00.0 -0.9
LBOS 32.48 130⇑eP P 01 12 03.5 +1.8
BANOM Banah 32.65 100 P P 01 12 02.0 -1.1
SNR=27
BANOM P 01 12 02.0
SNR=27
SVE Sverdlovsk 32.90 41 eP P 01 12 00.0 -4.9
SVE pmax pmax
comp=Z,640nm,1.8s,mb6.2
SVE MLR MLR
comp=Z,2μm,13.0s,MS5.0
ASHO Ashiyiah 33.09 102 P P 01 12 05.6 -1.3
SNR=37
ASHO P 01 12 05.6
SNR=37
ARQ Araqi 34.16 104 P P 01 12 15.3 -0.9
SNR=23
ARQ P 01 12 15.3
SNR=23
HOQ Hoqain 34.64 103 P P 01 12 18.8 -1.5
SNR=9.2
HOQ P 01 12 18.8
SNR=9.2
BSY Bisya 35.01 104 P P 01 12 22.2 -1.3
SNR=16
BSY P 01 12 22.2
SNR=16
BSYO Bisya 35.05 104 P P 01 12 22.2 -1.6
SNR=16
ABTO Aybut 35.36 116 P P 01 12 26.2 -0.3
SNR=14
ABTO P 01 12 26.2
SNR=14
SMDO Samad 35.49 103 P P 01 12 26.6 -1.0
SNR=34
SMDO P 01 12 26.6
SNR=34
JMDO Jabal Madar 35.91 104 P P 01 12 30.0 -1.1
SNR=18
JMDO P 01 12 30.0
SNR=18
RBK Rabkut 35.91 114 P P 01 12 30.8 -0.4
SNR=25
RBK P 01 12 30.8
SNR=25
WBK Wadi Bani Khal 36.45 103 P P 01 12 35.4 -0.3
SNR=15
WBK P 01 12 35.4
SNR=15
JMIC Jan Mayen 36.66 345 AMS AMS 01 30 36.2
comp=Z,2μm,16.9s,MS5.0
BJO Bjornoya 37.01 360 AMS AMS 01 30 32.6
comp=Z,4μm,21.7s,MS5.2
BVA0 Borovoye Array 37.71 49 i P P 01 12 45.2 -0.8
BVA0 pmax pmax
comp=Z,17nm,1.4s,mb4.6
CHKZ Chkalovo 37.89 48 P P 01 12 46.8 -0.7
CHKZ pmax pmax
comp=Z,86nm,1.0s,mb5.4
CHKZ Chkalovo 37.89 48 eP P 01 12 46.7 -0.8
comp=Z,118nm,1.1s,mb5.5
CHKZ Chkalovo 37.89 48 eP P 01 12 46.7 -0.8
comp=Z,118nm,1.1s,mb5.5
DBIC Dimbokro 38.27 223 eP P 01 12 49.9 -1.2
DBIC pmax pmax
comp=Z,174nm,1.1s
DBIC MLR MLR
comp=Z,6μm,19.0s
DBIC Dimbokro 38.27 223 eP P 01 12 49.9 -1.2
comp=Z,174nm,1.1s,mb5.7
DBIC LR LR
comp=Z,6μm,19.0s,MS5.5
DBIC Dimbokro 38.27 223 eP P 01 12 49.9 -1.2
comp=Z,174nm,1.1s,mb5.7
MBAR Mbarara 39.23 163 eP P 01 12 58.8 -0.3
MBAR pmax pmax
comp=Z,20nm,1.1s,mb4.8
MBAR MLR MLR
comp=Z,728nm,19.0s,MS4.5
MBAR Mbarara 39.23 163 eP P 01 12 58.8 -0.3
comp=Z,20nm,1.1s,mb4.8
MBAR LR LR
comp=Z,728nm,19.0s,MS4.5
MBAR Mbarara 39.23 163 eP P 01 12 58.8 -0.3
comp=Z,20nm,1.1s,mb4.8
SCO Scoresbysund 39.65 339 i P P 01 13 04.2 +2.2
SCO pmax pmax
comp=Z,34nm,0.7s,mb5.2
SCO Scoresbysund 39.65 339 i P P 01 13 04.2 +2.2
comp=Z,34nm,0.7s,mb5.2
AAK Ala-Archa 41.25 65 i P P 01 13 15.4 0.0
AAK pmax pmax
comp=Z,43nm,2.4s,mb4.7
AAK MLR MLR
comp=Z,4μm,21.0s,MS5.3
AAK Ala-Archa 41.25 65 eP P 01 13 13.8 -1.7
comp=Z,5.7nm,0.6s,mb4.4
AAK LR LR
comp=Z,546nm,21.0s,MS4.4
AAK Ala-Archa 41.25 65 eP P 01 13 13.8 -1.6
comp=Z,5.7nm,0.6s,mb4.4
FRU Bishkek 41.30 65 eP P 01 13 16.8 +1.0
FRU pmax pmax
comp=Z,420nm,2.2s,mb5.7
KMBO Kilima Mbogo 41.63 154 eP P 01 13 21.1 +2.2
KMBO pmax pmax
comp=Z,49nm,1.3s
KMBO MLR MLR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 41.63 154 eP P 01 13 21.1 +2.2
comp=Z,49nm,1.3s,mb5.0
KMBO LR LR
comp=Z,2μm,20.0s,MS4.9
KMBO Kilima Mbogo 41.63 154 eP P 01 13 21.1 +2.2
comp=Z,49nm,1.3s,mb5.0
DAG Danmarks Havn 42.82 348⇑eP P 01 13 36.0 +8.1
DAG pmax pmax
comp=Z,14nm,1.1s,mb4.6
DAG Danmarks Havn 42.82 348⇑eP P 01 13 36.0 +8.1
comp=Z,14nm,1.1s,mb4.6
DAG Danmarks Havn 42.82 348⇑iP P 01 13 36.0 +8.1
comp=Z,14nm,1.1s,mb4.6
KURK Kurchatov 42.85 53 i P P 01 13 27.3 -1.1
KURK pmax pmax
comp=Z,38nm,1.1s,mb5.0
KURK Kurchatov 42.85 53 eP P 01 13 26.9 -1.5
comp=Z,33nm,0.8s,mb5.1
KURK LR LR
comp=Z,850nm,19.0s,MS4.7
KURK Kurchatov 42.85 53 eP P 01 13 26.9 -1.5
comp=Z,33nm,0.8s,mb5.1
NVS Novosibirsk 45.28 47⇑iP P 01 13 47.2 -0.8
NVS e 01 15 26.2
NVS eS S 01 20 19.4 -6.8
NVS e 01 23 40.6
NVS pmax pmax
comp=Z,213nm,1.3s,mb5.8
NVS pmax pmax
comp=N,72nm,1.4s
NVS pmax pmax
comp=E,127nm,1.2s
NVS smax
comp=N,110nm,2.1s
NVS smax
comp=E,90nm,2.2s
MKAR Makanchi Array 45.84 58 eP P 01 13 51.4 -1.1
MKAR pmax pmax
comp=Z,10.0nm,0.5s
BHK Bhakra 46.17 80 e P 01 13 55.0 -0.3
AJM Ajmer 46.90 87⇑iP P 01 14 01.0 -0.2
DDI Dehra Dun 47.90 81 eP P 01 14 07.8 -1.2
DDI e 01 17 26.6
NDI New Delhi 47.95 83 eP P 01 14 07.5 -1.9
NDI eS S 01 21 02.0 -2.5
WMQ Urumqi 50.28 60 eP P 01 14 28.0 +0.8
WMQ AP pP 01 14 32.5 -2.0
WMQ XP sP 01 14 35.0 -2.3
WMQ PCP PcP 01 15 47.0 +0.9
WMQ PP PP 01 16 24.3 +0.8
WMQ S S 01 21 39.0 +2.0
WMQ AMB AMB
comp=Z,123nm,1.2s,mb5.8
WMQ AMB AMB
comp=Z,905nm,5.1s
WMQ LR LR
comp=N,5μm,20.2s,MS5.7
WMQ LR LR
comp=E,4μm,20.0s,MS5.7
WMQ LR LR
comp=Z,7μm,20.3s,MS5.7
POO Poona 50.32 97 eP P 01 14 27.0 -0.8
POO e 01 14 28.7
comp=Z,30nm,0.6s
BHPL Bhopal 50.68 89 eP P 01 14 29.5 -0.9
BHPL e 01 14 30.5
comp=Z,32nm,0.6s
KAD Karad 51.27 98 eP P 01 14 33.1 -1.9
GOA Goa 52.03 100 e P 01 14 46.9 +6.2
NGP Nagpur 53.04 91 eP P 01 14 46.0 -2.2
NGP eS S 01 22 14.4 -0.6
LSZ Lusaka 53.11 170 eP P 01 14 48.9 +0.1
LSZ pmax pmax
comp=Z,39nm,0.9s,mb5.3
LSZ MLR MLR
comp=Z,3μm,20.0s,MS5.4
LSZ Lusaka 53.11 170 eP P 01 14 48.9 0.0
comp=Z,40nm,0.9s,mb5.3
LSZ LR LR
comp=Z,3μm,20.0s,MS5.4
LSZ Lusaka 53.11 170 eP P 01 14 48.9 +0.1
comp=Z,40nm,0.9s,mb5.3
KOLN Koldanda 53.38 81 eP P 01 14 49.2 -1.5
comp=Z,190nm,0.8s,mb6.1
GKN Gorkha 54.09 80 eP P 01 14 54.3 -1.5
comp=Z,221nm,0.8s,mb6.2
MNGI Mangalore 54.31 102 i P P 01 14 57.1 -0.5
MNGI i S S 01 22 33.6 +1.2
DMN Daman 54.64 80 eP P 01 14 58.9 -1.0
HYB Hyderabad 54.66 95 i P P 01 14 58.0 -2.2
comp=Z,70nm,1.0s,mb5.7
HYB eS S 01 22 36.0 -1.0
HYB Hyderabad 54.66 95 eP P 01 14 58.0 -2.2
HYB eS S 01 22 36.0 -1.0
KKN Kakani 54.69 80 eP P 01 14 58.8 -1.5
comp=Z,151nm,0.8s,mb6.0
PKI Pulchoki 54.89 80 eP P 01 15 00.2 -1.6
comp=Z,473nm,1.4s,mb6.3
JIRN Jiri 55.46 80 eP P 01 15 04.4 -1.5
comp=Z,441nm,1.4s,mb6.3
MOY Mondy 56.35 48 eP P 01 15 11.8 -0.1
TSUM Tsumeb 56.53 183 eP P 01 15 12.8 -0.8
comp=Z,24nm,1.2s,mb5.1
TSUM LR LR
comp=Z,5μm,19.0s,MS5.7
TSUM Tsumeb 56.53 183 eP P 01 15 12.9 -0.8
comp=Z,24nm,1.2s,mb5.1
GTK Gangtok 57.51 79 eP P 01 15 17.0 -3.6
TLY Talaya 57.89 47 P P 01 15 22.2 -0.6
comp=Z,225nm,1.2s,mb6.1,SNR=12
TLY Talaya 57.89 47 eP P 01 15 22.9 +0.1
TLY e 01 17 29.0
TLY eS S 01 23 24.1 +4.7
TLY pmax pmax
comp=Z,56nm,1.1s,mb5.5
TLY MLR MLR
comp=Z,4μm,13.0s,MS5.7
TLY Talaya 57.89 47 eP P 01 15 22.1 -0.7
comp=Z,43nm,1.0s,mb5.4
TLY LR LR
comp=Z,602nm,19.0s,MS4.7
TLY Talaya 57.89 47 eP P 01 15 22.1 -0.7
comp=Z,43nm,1.0s,mb5.4
KOD Kodaikanal 58.01 102 eP P 01 15 24.0 -0.2
IRK Irkutsk 58.05 46 eP P 01 15 21.9 -2.0
IRK pmax pmax
comp=Z,104nm,1.8s,mb5.6
ZAK Zakamensk 58.15 48 i P P 01 15 24.0 -0.7
VIS Vishakhapatnam 58.28 91 eP P 01 15 21.8 -4.3
VIS e pP 01 15 27.4 -6.1
comp=Z,72nm,1.0s
LSA Lhasa 58.35 75 eP P 01 15 26.0 -0.4
MDRS Chennai 58.48 98 e P 01 15 26.0 -1.5
TRD Trivandrum 58.68 104 eP P 01 15 24.4 -4.5
CAL Calcutta 59.68 84 eP P 01 15 33.3 -2.4
CAL e 01 19 51.0
CAL eS S 01 23 43.2 +0.1
RES Resolute Bay 60.27 344 eP P 01 15 38.9 -0.2
RES pmax pmax
comp=Z,20nm,1.0s,mb5.1
RES Resolute Bay 60.27 344 eP P 01 15 38.9 -0.2
comp=Z,20nm,1.0s,mb5.1
RES Resolute Bay 60.27 344 eP P 01 15 38.9 -0.2
comp=Z,20nm,1.0s,mb5.1
TIXI Tiksi 60.30 20 i P P 01 15 39.1 -0.2
TIXI pmax pmax
comp=Z,165nm,2.9s,mb5.6
TIXI MLR MLR
comp=Z,20μm,21.0s,MS6.2
TIXI Tiksi 60.30 20 i P P 01 15 39.2 -0.1
TIXI LR LR
comp=Z,16μm,19.0s,MS6.2
TIXI Tiksi 60.30 20 i P P 01 15 39.2 -0.1
SHL Shillong 60.92 79⇑iP P 01 15 42.0 -2.2
SHL i S S 01 23 56.0 -3.0
BOD Bodaibo 61.01 38 eP P 01 15 42.0 -2.3
AGT Agartala 61.28 81⇑i P 01 15 50.0 +3.4
AGT i 01 16 38.0
ULN Ulaanbaatar 61.43 50 eP P 01 15 46.4 -0.9
ULN pmax pmax
comp=Z,488nm,2.1s,mb6.3
ULN MLR MLR
comp=Z,2μm,22.0s,MS5.2
ULN Ulaanbaatar 61.43 50 eP P 01 15 46.4 -0.9
comp=Z,488nm,2.1s,mb6.3
ULN LR LR
comp=Z,2μm,22.0s,MS5.2
ULN Ulaanbaatar 61.43 50 eP P 01 15 46.4 -0.9
comp=Z,488nm,2.1s,mb6.3
PALK Pallekele 62.34 103 eP P 01 15 52.6 -1.2
comp=Z,69nm,1.2s,mb5.7
PALK LR LR
comp=Z,271nm,19.0s,MS4.4
PALK Pallekele 62.34 103 eP P 01 15 52.7 -1.2
comp=Z,69nm,1.2s,mb5.7
LBTB Lobatse 62.47 174 eP P 01 15 54.8 +0.2
LBTB pmax pmax
comp=Z,67nm,1.4s,mb5.6
LBTB MLR MLR
comp=Z,4μm,19.0s,MS5.6
LBTB Lobatse 62.47 174 eP P 01 15 54.8 +0.2
comp=Z,67nm,1.4s,mb5.6
LBTB LR LR
comp=Z,4μm,19.0s,MS5.6
LBTB Lobatse 62.47 174 eP P 01 15 54.8 +0.2
comp=Z,67nm,1.4s,mb5.6
IMP Imphal 62.92 79 eP P 01 15 56.1 -1.4
LZH Lanzhou 64.71 63 ⇑P P 01 16 08.5 -0.6
LZH AP pP 01 16 12.8 -3.8
LZH XP sP 01 16 16.0 -3.3
LZH S S 01 24 45.5 -0.8
LZH SS SS 01 28 55.5 -3.8
LZH AMB AMB
comp=Z,90nm,1.8s,mb5.5
LZH AMB AMB
comp=Z,342nm,4.0s
LZH LR LR
comp=E,2μm,12.1s
LZH LR LR
comp=Z,3μm,16.0s,MS5.5
LZH Lanzhou 64.71 63 ⇑P P 01 16 08.5 -0.6
LZH *SP sP 01 16 16.1 -3.2
LZH S S 01 24 45.5 -0.8
LZH SS SS 01 28 55.5 -3.8
LZH pmax pmax
comp=Z,90nm,1.8s,mb5.5
LZH MLR MLR
comp=Z,3μm,16.0s,MS5.5
LZH Lanzhou 64.71 63 ⇑P P 01 16 08.5 -0.6
comp=Z,90nm,1.8s,mb5.5
LZH pP pP 01 16 12.7 -3.9

LZH sP sP 01 16 16.1 -3.2
LZH PP PP 01 18 42.0 +8.5
LZH S **S** **01 24 45.5 -0.8**
LZH sS 01 24 54.0
LZH SS SS 01 28 55.5 -3.8
LZH LR LR
comp=Z,3μm,16.0s,MS5.5
LZH Lanzhou 64.71 63 ⇑P **P** **01 16 08.5 -0.6**
comp=Z,90nm,1.8s,mb5.5
LZH pP pP 01 16 12.7 -3.9
LZH S **S** **01 24 45.5 -0.8**
YAK Yakutsk 65.76 29 *c iP* **P** **01 16 14.6 -0.8**
YAK *e**PP pP 01 16 24.9 +2.0
YAK *e* 01 16 45.4
YAK *e* 01 18 39.4
YAK *e*PPP PPP 01 20 13.4 -3.8
YAK *e*S S 01 24 58.2 -0.6
YAK *e* 01 26 07.8
YAK *e*SS SS 01 29 15.1 +0.3
YAK pmax pmax
comp=Z,44nm,0.7s,mb5.6
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,29nm,1.2s
YAK pmax pmax
comp=N,5.0nm,0.8s
YAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
YAK pmax pmax
comp=E,12nm,1.2s
YAK smax
comp=N,6.0nm,1.1s
YAK smax
comp=E,6.0nm,1.1s
YAK MLR MLR
comp=Z,2μm,14.0s,MS5.5
YAK MLR MLR
comp=N,1μm,15.0s,MS5.4
YAK MLR MLR
comp=E,1μm,15.0s,MS5.4
YAK Yakutsk 65.76 29 *eP* **P** **01 16 14.5 -0.9**
comp=E,56nm,0.6s,mb5.8
YAK LR LR
comp=Z,4μm,20.0s,MS5.6
YAK Yakutsk 65.76 29 *eP* **P** **01 16 14.5 -0.9**
comp=Z,56nm,0.6s,mb5.8
BOSA Boshof 66.02 175 *eP* **P** **01 16 17.4 -0.2**
BOSA pmax pmax
comp=Z,33nm,1.0s,mb5.3
BOSA MLR MLR
comp=Z,5μm,19.0s,MS5.7
BOSA Boshof 66.02 175 *eP* **P** **01 16 17.4 -0.2**
comp=Z,33nm,1.0s,mb5.3
BOSA LR LR
comp=Z,5μm,19.0s,MS5.7
BOSA Boshof 66.02 175 *eP* **P** **01 16 17.4 -0.2**
comp=Z,33nm,1.0s,mb5.3
CLNS Chul'man 66.64 35 *eP* **P** **01 16 20.9 -0.2**
CLNS *e**PP pP 01 16 28.7 +0.1
CLNS *e* 01 16 50.5
CLNS *e* 01 18 43.9
CLNS *e*PPP PPP 01 20 19.2 -6.9
CLNS *e*S S 01 25 07.8 -1.8
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS pmax pmax
comp=Z,21nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=Z,19nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,12nm,0.8s
CLNS pmax pmax
comp=E,18nm,0.9s
CLNS smax
comp=N,510nm,10.2s
CLNS smax
comp=Z,231nm,10.2s
CLNS smax
comp=E,133nm,11.3s
CLNS MLR MLR
comp=N,5μm,14.0s,MS5.9
CLNS MLR MLR
comp=E,1μm,14.0s,MS5.9
CLNS MLR MLR
comp=Z,8μm,14.0s,MS6.1
WES Weston 66.89 306 *eP* **P** **01 16 23.8 +0.8**
HRV Harvard--Oak R 66.98 307 *eP* **P** **01 16 24.2 +0.6**
HRV pmax pmax
comp=Z,16nm,0.8s,mb5.1
HRV MLR MLR
comp=Z,2μm,20.0s,MS5.4
HRV Harvard--Oak R 66.98 307 *eP* **P** **01 16 24.1 +0.6**
comp=Z,16nm,0.8s,mb5.1
HRV LR LR
comp=Z,2μm,20.0s,MS5.4
HRV Harvard--Oak R 66.98 307 *eP* **P** **01 16 24.1 +0.5**
comp=Z,16nm,0.8s,mb5.1
BBSR BB Station 67.44 294 PFAKE 01 16 40.0 +13
BBSR LR LR
comp=Z,1μm,19.0s,MS5.2
RCBR Riachuelo 67.68 243 PFAKE 01 16 40.0 +12
RCBR LR LR
comp=Z,5μm,19.0s,MS5.7
ACCN Adirondack Com 67.87 308 *eP* **P** **01 16 30.0 +0.9**
ACCN *e* pP 01 16 36.9 +0.3
ACCN Adirondack Com 67.87 308 *eP* **P** **01 16 30.0 +0.9**
NCB Newcomb 67.91 309 PFAKE 01 16 40.0 +11
NCB LR LR
comp=Z,2μm,20.0s,MS5.3
PAL Palisades 69.27 306 *eP* **P** **01 16 38.5 +0.7**
PAL pmax pmax
comp=Z,13nm,0.8s,mb4.9
PAL Palisades 69.27 306 *eP* **P** **01 16 38.5 +0.7**
comp=Z,14nm,0.8s,mb4.9
PAL Palisades 69.27 306 *eP* **P** **01 16 38.5 +0.7**
comp=Z,14nm,0.8s,mb4.9
XAN Xi'an 69.33 63 P **P** **01 16 37.0 -1.4**
XAN AP pP 01 16 51.5 +5.7
XAN AMB AMB
comp=Z,52nm,1.4s,mb5.3
KMI Kunming 69.53 74 P **P** **01 16 38.2 -1.5**
KMI 01 17 00.0
KMI 01 19 13.7
KMI PPP PPP 01 20 53.0 -1.5
KMI S S 01 25 43.6 -1.0
KMI PS PS 01 26 11.4 -2.5
KMI 01 26 33.7
KMI SS SS 01 30 12.6 -1.4
KMI SSS SSS 01 33 16.2 -1.4
KMI MLR MLR
comp=Z,1μm,15.5s,MS5.3
KMI Kunming 69.53 74 P **P** **01 16 38.2 -1.5**
KMI pP pP 01 16 43.2 -4.0
KMI PcP PcP 01 17 00.0 -2.8
KMI PP PP 01 19 13.7 -1.8
KMI PPP PPP 01 20 53.0 -1.5
KMI PcS 01 21 05.4
KMI S S 01 25 43.6 -1.0
KMI PS PS 01 26 11.4 -2.5
KMI SKS SKS 01 26 33.7 -8.0
KMI SS SS 01 30 12.6 -1.4
KMI SSS SSS 01 33 16.2 -1.4
KMI LR LR
comp=Z,1μm,15.5s,MS5.3
SUR Sutherland 69.60 179 PFAKE 01 16 50.0 +10
SUR LR LR
comp=Z,1μm,19.0s,MS5.2
FCC Fort Churchill 69.63 330 *eP* **P** **01 16 39.6 -0.1**
FCC pmax pmax
comp=Z,14nm,0.9s,mb4.9
FCC Fort Churchill 69.63 330 *eP* **P** **01 16 39.6 -0.1**
comp=Z,14nm,0.9s,mb4.9
FCC Fort Churchill 69.63 330 *eP* **P** **01 16 39.6 -0.1**
comp=Z,14nm,0.9s,mb4.9
BINY Binghamton 69.94 308 P **P** **01 16 42.1 +0.2**
comp=Z,10.0nm,0.8s,mb4.8
BINY LR LR
comp=Z,2μm,19.0s,MS5.3
BINY Binghamton 69.94 308 P **P** **01 16 42.1 +0.2**
comp=Z,10.0nm,0.8s,mb4.8
CHG Chiang Mai 70.04 81 ⇑P **P** **01 16 41.9 -1.0**
comp=Z,26nm,0.9s,mb5.2
CHRT Chiangrai 70.11 80 ⇑P **P** **01 16 44.0 +0.7**
CHRT SG PcP 01 17 00.5 -4.9
CM31 Chiang Mai Arr 70.24 82 PFAKE 01 17 00.0 +16
CM31 LR LR
comp=Z,704nm,20.0s,MS4.9
GENY Geneseo 70.77 309 *eP* **P** **01 16 47.6 +0.7**
GENY *e* pP 01 16 54.3 -0.1
GENY Geneseo 70.77 309 *eP* **P** **01 16 47.6 +0.7**
BJI Beijing 71.01 54 *eP* **P** **01 16 47.9 -0.5**
BJI 01 19 27.5
BJI S S 01 25 52.4 -9.2
BJI SS SS 01 30 43.3 +6.4
BJI pmax pmax
comp=Z,28nm,1.0s,mb5.2
BJI Beijing 71.01 54 *eP* **P** **01 16 47.9 -0.5**
comp=Z,28nm,1.0s,mb5.2
BJI PP PP 01 19 27.5 -0.5
BJI S S 01 25 52.4 -9.2
BJI SS SS 01 30 43.3 +6.4
BJI Beijing 71.01 54 *eP* **P** **01 16 47.9 -0.5**
comp=Z,28nm,1.0s,mb5.2
NANT Nan 71.43 80 P **P** **01 16 50.6 -0.7**
BILL Bilibino 71.66 13 *eP* **P** **01 16 51.7 -0.2**
BILL pmax pmax
comp=Z,30nm,1.1s,mb5.1
BILL MLR MLR
comp=Z,3μm,19.0s,MS5.6
BILL Bilibino 71.66 13 *eP* **P** **01 16 51.7 -0.1**
comp=Z,30nm,1.1s,mb5.1
BILL LR LR
comp=Z,3μm,19.0s,MS5.6
BILL Bilibino 71.66 13 *eP* **P** **01 16 51.7 -0.2**
comp=Z,30nm,1.1s,mb5.1
SSPA Standing Stone 72.00 308 *eP* **P** **01 16 55.3 +1.0**
comp=Z,15nm,0.9s,mb4.9
SSPA *e* pP 01 17 02.0 +0.1
SSPA LR LR
comp=Z,2μm,20.0s,MS5.3
SSPA Standing Stone 72.00 308 *eP* **P** **01 16 55.3 +0.9**
ERPA Erie 72.46 310 *eP* **P** **01 16 57.7 +0.7**
comp=Z,61nm,1.3s,mb5.4
ERPA *e* pP 01 17 04.5 -0.1
ERPA LR LR
comp=Z,1μm,20.0s,MS5.2
ERPA Erie 72.46 310 *eP* **P** **01 16 57.7 +0.6**
INK Inuvik 72.61 350 *eP* **P** **01 16 56.9 -0.5**
INK pmax pmax
comp=Z,20nm,1.4s
INK Inuvik 72.61 350 *eP* **P** **01 16 56.9 -0.5**
comp=Z,20nm,1.4s,mb4.8
INK Inuvik 72.61 350 *eP* **P** **01 16 56.9 -0.5**
comp=Z,20nm,1.4s,mb4.8
NST Nakhon Sawan 72.75 83 P **P** **01 16 55.0 -4.2**
SEY Seymchan 72.79 21 *eP* **P** **01 16 58.4 -0.1**
SEY 01 17 15.1
SEY 01 19 40.7
SEY *e*S S 01 26 22.7 +1.2
SEY 01 27 08.1
SEY SS SS 01 30 58.8 -5.1
SEY pmax pmax
comp=Z,50nm,0.9s,mb5.4
SEY smax
comp=N,900nm,17.1s
SEY smax
comp=E,2μm,18.8s
SEY MLR MLR
comp=Z,22μm,23.0s,MS6.4
SEY MLR MLR
comp=N,10μm,24.0s,MS6.1
SEY MLR MLR
comp=E,7μm,22.0s,MS6.1
CBN Corbin 73.04 305 PFAKE 01 17 10.0 +9.5
CBN LR LR
comp=Z,2μm,19.0s,MS5.4
TIA Tai'an 73.77 57 P **P** **01 17 04.3 -0.5**
YKW3 Yellowknife Ar 73.81 340 *eP* **P** **01 17 04.4 0.0**
YKW3 Yellowknife Ar 73.81 340 *eP* **P** **01 17 04.4 -0.1**
NNT Nongplab 74.20 86 P **P** **01 17 07.5 -0.2**
KKTK Khon Kaen 74.48 81 PG **P** **01 17 09.0 -0.3**
KLR Kul'dur 74.50 39 *eP* **P** **01 17 06.1 -2.7**
KLR *e* 01 21 46.7
KLR *e*S S 01 26 39.0 -2.0
KLR pmax pmax
comp=E,160nm,2.8s
KLR pmax pmax
comp=Z,240nm,2.8s,mb5.6
KLR MLR MLR
comp=E,5μm,12.5s
KLR MLR MLR
comp=Z,10μm,12.5s,MS6.3
AAM Ann Arbor 74.56 312 PFAKE 01 17 20.0 +11
AAM LR LR
comp=Z,2μm,19.0s,MS5.4
SNY Shenyang 74.58 49 ⇑P **P** **01 17 08.3 -1.1**
SNY AP pP 01 17 18.8 +1.9
SNY S S 01 26 42.3 +0.3
SNY AMB AMB
comp=Z,960nm,4.9s
SNY LR LR
comp=N,2μm,11.8s,MS5.9
SNY LR LR
comp=E,3μm,13.9s,MS5.9
SNY LR LR
comp=Z,4μm,16.7s,MS5.8
MA2 Magadan 74.95 24 *c iP* **P** **01 17 11.8 +0.7**
MA2 *e*PPP PPP 01 21 50.8 +4.7
MA2 *e*S S 01 26 48.3 +2.5
MA2 *e*PS PS 01 27 17.9 -6.7
MA2 *e*SSS SSS 01 34 49.6 -0.9
MA2 pmax pmax
comp=Z,30nm,1.0s,mb5.2
MA2 MLR MLR
comp=Z,11μm,24.0s,MS6.1
MA2 Magadan 74.95 24 *eP* **P** **01 17 11.1 0.0**
comp=Z,85nm,1.3s,mb5.5
MA2 LR LR
comp=Z,2μm,19.0s,MS5.5
MA2 Magadan 74.95 24 *eP* **P** **01 17 11.1 0.0**
comp=Z,85nm,1.3s,mb5.5
WHN Wuhan 75.09 63 *eP* **P** **01 17 12.5 -0.1**
WHN S S 01 26 49.0 +1.0
ACSO Alum Creek Sta 75.39 310 P **P** **01 17 13.7 -0.4**
comp=Z,27nm,1.0s,mb5.1
ACSO *e* pP 01 17 20.3 -1.4
ACSO LR LR
comp=Z,2μm,22.0s,MS5.3
ACSO Alum Creek Sta 75.39 310 P **P** **01 17 13.7 -0.4**
FFC Flin Flon 75.56 330 P **P** **01 17 15.4 +0.7**
comp=Z,96nm,1.4s,mb5.5,SNR=12
FFC Flin Flon 75.56 330 *eP* **P** **01 17 14.6 -0.1**
FFC pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
FFC MLR MLR
comp=Z,816nm,19.0s,MS5.0
FFC Flin Flon 75.56 330 *eP* **P** **01 17 14.6 -0.2**
comp=Z,10nm,0.7s,mb4.9
FFC LR LR
comp=Z,816nm,19.0s,MS5.0
FFC Flin Flon 75.56 330 *eP* **P** **01 17 14.6 -0.1**
comp=Z,10nm,0.7s,mb4.9
BLA Blacksburg 75.58 306 PFAKE 01 17 30.0 +15
BLA LR LR
comp=Z,2μm,20.0s,MS5.4
ULM Lac du Bonnet 76.02 324 *eP* **P** **01 17 16.3 -1.1**
comp=Z,31nm,1.1s,mb5.2
ULM LR LR
comp=Z,2μm,19.0s,MS5.5
ULM Lac du Bonnet 76.02 324 *eP* **P** **01 17 16.3 -1.1**
comp=Z,31nm,1.1s,mb5.2
MDJ Mudanjiang 76.32 44 P **P** **01 17 19.0 -0.2**
MDJ AP pP 01 17 25.5 -1.3
MDJ XP sP 01 17 28.0 -1.4
MDJ PCP PcP 01 17 31.0 -0.4
MDJ S S 01 27 04.0 +2.9
MDJ SCS ScS 01 27 32.8 +3.2
MDJ AMB AMB
comp=Z,596nm,8.2s
MDJ LR LR
comp=N,2μm,20.8s,MS5.6
MDJ LR LR
comp=E,2μm,19.5s,MS5.6
MDJ LR LR
comp=Z,2μm,16.1s,MS5.5
SJG San Juan 76.35 282 PFAKE 01 17 30.0 +10
SJG LR LR
comp=Z,971nm,22.0s,MS5.1
IMA Indian Mountai 76.57 357 *eP* **P** **01 17 22.0 +1.8**
TNA Tin City 77.00 3 *eP* **P** **01 17 22.7 +0.1**
TNA Tin City 77.00 3 *eP* **P** **01 17 22.7 +0.1**
NJ2 Nanjing 77.35 59 *eP* **P** **01 17 23.3 -1.9**
NJ2 AP pP 01 17 33.8 +1.0
NJ2 XP sP 01 17 37.5 +2.1
NJ2 PP PP 01 20 18.0 -3.3
NJ2 S S 01 27 08.0 -4.6
NJ2 XS 01 27 23.0
NJ2 SCS ScS 01 27 32.0 -6.2
NJ2 AMB AMB
comp=Z,70nm,0.7s,mb5.7
NJ2 AMB AMB
comp=Z,2μm,3.8s
NJ2 LR LR
comp=N,3μm,21.6s,MS5.6
NJ2 LR LR
comp=E,2μm,24.1s,MS5.6
NJ2 LR LR
comp=Z,6μm,24.8s,MS5.8
DAWY Dawson 77.41 351 *eP* **P** **01 17 25.8 +0.9**
DAWY Dawson 77.41 351 *eP* **P** **01 17 25.8 +0.9**
COLA College 77.45 355 *eP* **P** **01 17 26.0 +0.9**
COLA pmax pmax
comp=Z,27nm,1.4s,mb5.0
COLA MLR MLR
comp=Z,1μm,20.0s,MS5.3
COLA College 77.45 355 *eP* **P** **01 17 26.0 +1.0**
comp=Z,27nm,1.4s,mb5.0
COLA LR LR
comp=Z,1μm,20.0s,MS5.3
COLA College 77.45 355 *eP* **P** **01 17 26.0 +0.9**
comp=Z,27nm,1.4s,mb5.0
NHSC New Hope 77.87 302 PFAKE 01 17 40.0 +12
NHSC LR LR
comp=Z,1μm,19.0s,MS5.3
SNG Songkhla 78.09 90 P **P** **01 17 28.5 -1.1**
ANM Nome 78.10 2 *eP* **P** **01 17 29.5 +0.9**
BLO Bloomington 78.20 310 *eP* **P** **01 17 30.4 +0.7**
comp=Z,26nm,0.8s,mb5.2
QIZ Qiongzhong 78.39 75 P **P** **01 17 31.3 +0.1**
QIZ PP PP 01 20 27.8 -2.7
QIZ S S 01 27 25.8 +1.8
QIZ XS 01 27 34.5
QIZ SS SS 01 32 33.0 +3.0
QIZ AMB AMB
comp=Z,910nm,9.3s
QIZ LR LR
comp=E,959nm,17.3s
QIZ LR LR
comp=Z,993nm,14.0s,MS5.3
WCI Wyandotte Cave 78.65 310 *eP* **P** **01 17 31.8 -0.5**
WCI *e* pP 01 17 39.8 -0.1
WCI pmax pmax
comp=Z,15nm,0.8s,mb5.0
WCI MLR MLR
comp=Z,1μm,20.0s,MS5.3
WCI Wyandotte Cave 78.65 310 *eP* **P** **01 17 31.8 -0.5**
comp=Z,15nm,0.8s,mb5.0
WCI *e* pP 01 17 39.8 -0.1
WCI LR LR
comp=Z,1μm,20.0s,MS5.3
MCK McKinley 78.66 355 PFAKE 01 17 40.0 +8.3
MCK LR LR
comp=Z,728nm,19.0s,MS5.0
MYNC Murphy 79.26 306 PFAKE 01 17 50.0 +14
MYNC LR LR
comp=Z,2μm,19.0s,MS5.5
SSE Sheshan 79.51 59 P **P** **01 17 37.0 -0.1**
SSE AP pP 01 17 40.3 -4.4
SSE PP PP 01 20 40.3 +1.0
SSE S S 01 27 36.3 +0.6
SSE XS 01 27 45.5
SSE SCS ScS 01 27 58.0 +2.2
SSE AMB AMB
comp=Z,23nm,0.9s,mb5.1
SSE AMB AMB
comp=Z,579nm,5.9s
SSE LR LR
comp=N,492nm,17.8s,MS5.4
SSE LR LR
comp=E,1μm,17.8s,MS5.4
SSE LR LR
comp=Z,2μm,16.0s,MS5.4
SSE Sheshan 79.51 59 P **P** **01 17 37.0 -0.1**
comp=Z,23nm,0.9s,mb5.1
SSE pP pP 01 17 40.2 -4.5
SSE PP PP 01 20 40.2 +0.9
SSE S S 01 27 36.2 +0.5
SSE sS 01 27 45.4
SSE ScS ScS 01 27 58.1 +2.3
SSE SS SS 01 33 16.1 +29
SSE LR LR
comp=Z,2μm,16.0s,MS5.4
USIN University of 79.66 310 *eP* **P** **01 17 38.7 +1.0**
comp=Z,16nm,0.8s,mb5.0
KS15 Wonju Array Si 79.90 50 P **P** **01 17 39.8 +0.7**
SML Sawmill 80.52 354 *eP* **P** **01 17 42.9 +1.1**
SLM Saint Louis 80.76 312 P **P** **01 17 44.7 +1.1**
SLM pmax pmax
comp=Z,48nm,1.3s,mb5.3
SLM Saint Louis 80.76 312 P **P** **01 17 44.7 +1.1**
comp=Z,48nm,1.3s,mb5.3
PWA Palmer West 80.79 355 *eP* **P** **01 17 44.6 +1.4**
PMR Palmer 80.79 355 *eP* **P** **01 17 44.5 +1.2**
WVT Waverly 80.93 309 *eP* **P** **01 17 44.8 +0.3**
WVT pmax pmax
comp=Z,11nm,0.9s,mb4.8
WVT MLR MLR
comp=Z,2μm,20.0s,MS5.4
WVT Waverly 80.93 309 *eP* **P** **01 17 44.8 +0.2**
comp=Z,11nm,0.9s,mb4.8
WVT LR LR
comp=Z,2μm,20.0s,MS5.4
EDM Edmonton 81.01 334 *eP* **P** **01 17 45.4 +0.8**
DGMT Dagmar 81.10 326 PFAKE 01 18 00.0 +15
DGMT LR LR
comp=Z,1μm,19.0s,MS5.3
FIB Fire Island 81.29 355 PFAKE 01 18 00.0 +14
FIB LR LR
comp=Z,3μm,21.0s,MS5.6
FVM French Village 81.30 312 *eP* **P** **01 17 46.8 +0.4**
YSS Yuzh-Sakhalins 81.41 36 *eP* **P** **01 17 54.0 +7.2**
YSS *e* 01 18 03.8
YSS pmax pmax
comp=Z,120nm,1.2s,mb5.7
YSS MLR MLR
comp=E,4μm,16.0s,MS6.1
YSS MLR MLR
comp=Z,6μm,16.0s,MS6.1
YSS MLR MLR
comp=N,7μm,18.0s,MS6.1
YSS Yuzh-Sakhalins 81.41 36 P **P** **01 17 47.3 +0.5**
comp=N,89nm,1.1s,mb5.6
YSS LR LR
comp=Z,3μm,19.0s,MS5.7
SVW2 Sparrevohn 81.61 358 *eP* **P** **01 17 50.1 +2.6**
CCM Cathedral Cave 81.74 312 *eP* **P** **01 17 48.9 +0.2**
CCM pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CCM MLR MLR
comp=Z,2μm,19.0s,MS5.4
CCM Cathedral Cave 81.74 312 *eP* **P** **01 17 48.9 +0.2**
comp=Z,8.2nm,0.8s,mb4.7
CCM LR LR
comp=Z,2μm,19.0s,MS5.4
DWPF Disney 81.76 299 PFAKE 01 18 00.0 +11
DWPF LR LR
comp=Z,1μm,19.0s,MS5.3
RSO Redoubt South 82.14 356 *eP* **P** **01 17 50.8 +0.5**
LRAL Lakeview Retre 82.39 306 *eP* **P** **01 17 52.8 +0.6**
comp=Z,19nm,0.9s,mb5.0
LRAL LR LR
comp=Z,1μm,19.0s,MS5.4
PET Petropavlovsk 82.84 24 *eP* **P** **01 17 54.2 +0.1**
PET *e* 01 21 07.6
PET *e*PPP PPP 01 22 53.5 -5.7
PET *e*S S 01 28 09.5 -0.1
PET *e*PS PS 01 29 03.8 -0.5
PET *e*SSS SSS 01 37 01.5 +0.8
PET pmax pmax
comp=Z,400nm,13.3s
PET pmax pmax
comp=Z,300nm,12.4s

PET	**Petropavlovsk**	**82.84**	**24**	PFAKE		01 18 10.0	+16
PET				LR	LR		
comp=Z,2μm,21.0s,MS5.5							
OXF	**Oxford**	**82.96**	**308**	*e*P	**P**	**01 17 55.6**	**+0.5**
OXF				pmax	pmax		
comp=Z,74nm,1.2s,mb5.6							
OXF				MLR	MLR		
comp=Z,1μm,20.0s,MS5.2							
OXF	**Oxford**	**82.96**	**308**	*e*P	**P**	**01 17 55.6**	**+0.5**
comp=Z,74nm,1.2s,mb5.6							
OXF				LR	LR		
comp=Z,1μm,20.0s,MS5.2							
BAO	**Brasilia Array**	**83.00**	**244**	P	**P**	**01 17 59.2**	**+3.6**
BAO				*e*		01 18 02.9	
BAO				*e*		01 18 13.8	
LAO	**LASA Array**	**83.35**	**326**	*e*P	**P**	**01 17 58.2**	**+1.4**
comp=Z,25nm,0.9s,mb5.2							
LAO				LR	LR		
comp=Z,2μm,20.0s,MS5.5							
TATO	**Taipei**	**83.47**	**64**	PFAKE		01 18 10.0	+12
TATO				LR	LR		
comp=Z,991nm,20.0s,MS5.2							
KSU1	**Kansas State U**	**84.10**	**316**	*e*P	**P**	**01 18 01.4**	**+0.6**
UALR	**University of**	**84.59**	**310**	*e*P	**P**	**01 18 04.6**	**+1.2**
comp=Z,9.5nm,0.8s,mb5.0							
WALA	**Waterton Lakes**	**84.62**	**332**	*e*P	**P**	**01 18 03.9**	**+0.8**
comp=Z,14nm,0.9s,mb5.1							
SDV	**Santo Domingo**	**85.30**	**278**	*e*P	**P**	**01 18 08.6**	**+1.3**
comp=Z,61nm,1.1s,mb5.6							
SDV				LR	LR		
comp=Z,499nm,22.0s,MS4.9							
MIAR	**Mount Ida**	**85.49**	**311**	*e*P	**P**	**01 18 09.5**	**+1.6**
MIAR				pmax	pmax		
comp=Z,19nm,0.8s,mb5.3							
MIAR				MLR	MLR		
comp=Z,2μm,19.0s,MS5.5							
MIAR	**Mount Ida**	**85.49**	**311**	*e*P	**P**	**01 18 09.5**	**+1.6**
comp=Z,19nm,0.8s,mb5.3							
MIAR				LR	LR		
comp=Z,2μm,19.0s,MS5.5							
GCMT	**Greycliff**	**85.55**	**327**	P	**P**	**01 18 09.5**	**+1.7**
CHMT	**Chamberlain Mo**	**86.12**	**330**	*e*P	**P**	**01 18 11.8**	**+1.1**
MSO	**Missoula**	**86.46**	**330**	P	**P**	**01 18 11.7**	**-0.7**
comp=Z,6.9nm,1.1s,mb4.8							
MSO				LR	LR		
comp=Z,1μm,19.0s,MS5.4							
NEW	**Newport**	**86.47**	**333**	*e*P	**P**	**01 18 12.7**	**+0.4**
NEW				pmax	pmax		
comp=Z,13nm,1.0s							
NEW				MLR	MLR		
comp=Z,2μm,20.0s							
NEW	**Newport**	**86.47**	**333**	*e*P	**P**	**01 18 12.7**	**+0.4**
comp=Z,13nm,1.0s,mb5.1							
NEW				LR	LR		
comp=Z,2μm,20.0s,MS5.5							
BOZ	**Bozeman (W)**	**86.49**	**328**	*e*P	**P**	**01 18 13.6**	**+1.1**
BOZ				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.9							
BOZ				MLR	MLR		
comp=Z,2μm,20.0s,MS5.5							
BOZ	**Bozeman (W)**	**86.49**	**328**	*e*P	**P**	**01 18 13.6**	**+1.1**
comp=Z,8.4nm,1.0s,mb4.9							
BOZ				LR	LR		
comp=Z,2μm,20.0s,MS5.5							
MAJO	**Matsushiro**	**86.59**	**45**	PFAKE		01 18 30.0	+17
MAJO				LR	LR		
comp=Z,2μm,19.0s,MS5.4							
MAT	**Matsushiro**	**86.59**	**45**	P	**P**	**01 18 16.8**	**+3.5**
LKWY	**Lake**	**86.83**	**327**	*e*P	**P**	**01 18 17.0**	**+2.8**
LKWY				pmax	pmax		
comp=Z,10.0nm,0.8s,mb5.1							
LKWY				MLR	MLR		
comp=Z,5μm,19.0s,MS5.9							
LKWY	**Lake**	**86.83**	**327**	*e*P	**P**	**01 18 17.0**	**+2.7**
comp=Z,9.8nm,0.8s,mb5.1							
LKWY				LR	LR		
comp=Z,5μm,19.0s,MS5.9							
YMR	**Madison River**	**86.99**	**327**	*e*P	**P**	**01 18 16.4**	**+1.4**
COCO	**West Island**	**87.02**	**108**	P	**P**	**01 18 15.6**	**-0.2**
comp=Z,215nm,1.4s,mb6.2							
QLMT	**Earthquake Lak**	**87.06**	**328**	P	**P**	**01 18 18.0**	**+2.7**
PHWY	**Pilot Hill**	**87.11**	**322**	*e*P	**P**	**01 18 17.2**	**+1.6**
SMY	**Shemya**	**87.24**	**16**	PFAKE		01 18 30.0	+14
SMY				LR	LR		
comp=Z,5μm,22.0s,MS5.9							
IMW	**Indian Meadow**	**87.60**	**327**	*e*P	**P**	**01 18 18.7**	**+0.7**
MOOW	**Moose Ponds**	**87.64**	**327**	*e*P	**P**	**01 18 20.1**	**+1.9**
MCMT	**McKenzie Canyo**	**87.66**	**329**	P	**P**	**01 18 18.1**	**0.0**
LOHW	**Long Hollow**	**87.68**	**327**	*e*P	**P**	**01 18 18.6**	**+0.3**
WUWY	**Wally Ulrich**	**87.80**	**327**	P	**P**	**01 18 20.6**	**+1.7**
BW06	**Boulder Array**	**87.89**	**325**	*e*P	**P**	**01 18 17.9**	**-1.4**
comp=Z,3.2nm,0.9s,mb4.5							
BW06				LR	LR		
comp=Z,3μm,21.0s,MS5.6							
TPAW	**Teton Pass**	**87.93**	**327**	*e*P	**P**	**01 18 21.4**	**+1.8**
NATX	**Nacogdoches**	**88.07**	**309**	PFAKE		01 18 30.0	+10
NATX				LR	LR		
comp=Z,1μm,20.0s,MS5.3							
RRI2	**Red Ridge**	**88.21**	**327**	*e*P	**P**	**01 18 22.1**	**+1.2**
ISCO	**Idaho Springs**	**88.33**	**321**	*e*P	**P**	**01 18 22.7**	**+1.2**
ISCO				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.5							
ISCO				MLR	MLR		
comp=Z,2μm,20.0s,MS5.4							
ISCO	**Idaho Springs**	**88.33**	**321**	*e*P	**P**	**01 18 22.7**	**+1.2**
comp=Z,2.3nm,0.7s,mb4.5							
ISCO				LR	LR		
comp=Z,2μm,20.0s,MS5.4							
WMOK	**Wichita Mounta**	**88.42**	**314**	*e*P	**P**	**01 18 23.3**	**+1.2**
WMOK				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.9							
WMOK				MLR	MLR		
comp=Z,2μm,19.0s,MS5.5							
WMOK	**Wichita Mounta**	**88.42**	**314**	*e*P	**P**	**01 18 23.3**	**+1.2**
comp=Z,7.4nm,0.9s,mb4.9							
WMOK				LR	LR		
comp=Z,2μm,19.0s,MS5.5							
AHID	**Auburn Hatcher**	**88.58**	**326**	PFAKE		01 18 30.0	+7.3
AHID				LR	LR		
comp=Z,2μm,19.0s,MS5.5							
OCWA	**Octopus Mounta**	**89.29**	**337**	PFAKE		01 18 40.0	+14
OCWA				LR	LR		
comp=Z,3μm,20.0s,MS5.7							
HLID	**Hailey**	**89.34**	**329**	PFAKE		01 18 40.0	+14
HLID				LR	LR		
comp=Z,2μm,20.0s,MS5.6							
BMO	**Blue Mountains**	**89.41**	**331**	*e*P	**P**	**01 18 26.6**	**0.0**
comp=Z,4.7nm,0.6s,mb5.0							
BMO				LR	LR		
comp=Z,2μm,19.0s,MS5.6							
HWUT	**Hardware Ranch**	**89.71**	**326**	*e*P	**P**	**01 18 28.9**	**+0.9**
comp=Z,9.8nm,0.7s,mb5.2							
HWUT				LR	LR		
comp=Z,2μm,20.0s,MS5.5							
SDCO	**Great Sand Dun**	**89.84**	**320**	*e*P	**P**	**01 18 29.1**	**+0.3**
comp=Z,5.4nm,0.9s,mb4.9							
SDCO				LR	LR		
comp=Z,2μm,19.0s,MS5.6							
AMTX	**Amarillo**	**89.95**	**316**	PFAKE		01 18 40.0	+11
AMTX				LR	LR		
comp=Z,1μm,20.0s,MS5.2							
TCUT	**Toone Canyon**	**90.04**	**326**	*e*P	**P**	**01 18 30.5**	**+0.9**
HKT	**Hockley**	**90.05**	**309**	PFAKE		01 18 40.0	+10
HKT				LR	LR		
comp=Z,1μm,20.0s,MS5.4							
SAML	**Samuel**	**90.18**	**259**	*e*P	**P**	**01 18 31.5**	**+0.7**
comp=Z,17nm,1.3s,mb5.2							
SAML				LR	LR		
comp=Z,1μm,19.0s,MS5.3							
JLU	**Jordanelle**	**90.47**	**325**	*e*P	**P**	**01 18 32.2**	**+0.6**
BGU	**Big Grassy Mou**	**90.91**	**326**	*e*P	**P**	**01 18 33.8**	**+0.1**
PV01	**Paradox Valley**	**91.07**	**322**	*e*P	**P**	**01 18 35.0**	**+0.5**
PV10	**Paradox Valley**	**91.11**	**322**	*e*P	**P**	**01 18 36.2**	**+1.6**
SRU	**San Rafael**	**91.24**	**324**	*e*P	**P**	**01 18 35.6**	**+0.4**
TMUT	**Trail Mountain**	**91.41**	**324**	*e*P	**P**	**01 18 36.9**	**+1.0**
TEIG	**Tepich**	**91.58**	**297**	PFAKE		01 18 50.0	+13
TEIG				LR	LR		
comp=Z,318nm,19.0s,MS4.8							
COR	**Corvallis**	**91.80**	**335**	PFAKE		01 18 50.0	+12
COR				LR	LR		
comp=Z,2μm,22.0s,MS5.5							
WVOR	**Wild Horse Val**	**91.97**	**331**	PFAKE		01 18 50.0	+12
WVOR				LR	LR		
comp=Z,2μm,20.0s,MS5.5							
JCT	**Junction City**	**92.08**	**312**	P	**P**	**01 18 40.2**	**+1.0**
JCT				pmax	pmax		
comp=Z,9.0nm,1.0s,mb5.0							
JCT				MLR	MLR		
comp=Z,2μm,20.0s,MS5.5							
JCT	**Junction City**	**92.08**	**312**	P	**P**	**01 18 40.2**	**+1.0**
comp=Z,9.3nm,1.0s,mb5.1							
JCT				LR	LR		
comp=Z,2μm,20.0s,MS5.5							
ANMO	**Albuquerque**	**92.47**	**319**	P	**P**	**01 18 41.2**	**+0.2**
ANMO				pmax	pmax		
comp=Z,3.0nm,0.9s							
ANMO				MLR	MLR		
comp=Z,2μm,19.0s							
ANMO	**Albuquerque**	**92.47**	**319**	P	**P**	**01 18 41.1**	**+0.2**
comp=Z,2.6nm,0.9s,mb4.6							
ANMO				LR	LR		
comp=Z,2μm,19.0s,MS5.6							
MSU	**Marysvale**	**92.49**	**325**	*e*P	**P**	**01 18 42.4**	**+1.5**
MSU				*e*		01 18 48.0	
MVU	**Marysvale**	**92.51**	**325**	P	**P**	**01 18 41.6**	**+0.5**
comp=Z,6.2nm,0.9s,mb5.0							
MVU				LR	LR		
comp=Z,2μm,20.0s,MS5.5							
CPRX	**Cap Rock**	**92.53**	**316**	*e*P	**P**	**01 18 42.1**	**+0.8**
MOD	**Modoc**	**93.06**	**332**	*e*P	**P**	**01 18 45.6**	**+2.1**
comp=Z,10nm,1.3s,mb5.1							
MOD				LR	LR		
comp=Z,2μm,20.0s,MS5.6							
BMN	**Battle Mountai**	**93.10**	**329**	PFAKE		01 19 00.0	+16
BMN				LR	LR		
comp=Z,2μm,20.0s,MS5.5							
HUMO	**Hull Mountain**	**93.42**	**334**	PFAKE		01 19 00.0	+15
HUMO				LR	LR		
comp=Z,2μm,19.0s,MS5.5							
GDL2	**Guadalupe Moun**	**93.44**	**316**	*e*P	**P**	**01 18 47.0**	**+1.5**
YBH	**Yreka Blue Hor**	**94.10**	**333**	PFAKE		01 19 00.0	+12
YBH				LR	LR		
comp=Z,3μm,19.0s,MS5.7							
MNTX	**Cornudas Mount**	**94.38**	**316**	*e*P	**P**	**01 18 49.5**	**-0.3**
comp=Z,15nm,1.6s,mb5.2							
MNTX				LR	LR		
comp=Z,1μm,20.0s,MS5.3							
WDC	**Whiskeytown Da**	**95.05**	**332**	PFAKE		01 19 00.0	+7.3
WDC				LR	LR		
comp=Z,3μm,20.0s,MS5.7							
TPH	**Tonopah**	**95.08**	**328**	PFAKE		01 19 10.0	+17
TPH				LR	LR		
comp=Z,2μm,19.0s,MS5.5							
MNV	**Mina**	**95.18**	**328**	PFAKE		01 19 10.0	+17
MNV				LR	LR		
comp=Z,2μm,20.0s,MS5.6							
LTX	**Lajitas**	**95.19**	**313**	*e*P	**P**	**01 18 55.6**	**+2.0**
LTX				pmax	pmax		
comp=Z,17nm,1.3s,mb5.3							
LTX				MLR	MLR		
comp=Z,946nm,20.0s,MS5.3							
LTX	**Lajitas**	**95.19**	**313**	*e*P	**P**	**01 18 55.6**	**+2.0**
comp=Z,17nm,1.3s,mb5.3							
LTX				LR	LR		
comp=Z,946nm,20.0s,MS5.3							
JTS	**JuntasAbangare**	**95.53**	**287**	PFAKE		01 19 10.0	+15
JTS				LR	LR		
comp=Z,239nm,21.0s,MS4.6							
CMB	**Columbia Colle**	**96.43**	**330**	PFAKE		01 19 10.0	+11
CMB				LR	LR		
comp=Z,1μm,21.0s,MS5.4							
HOPS	**Hopland**	**96.64**	**332**	PFAKE		01 19 10.0	+10
HOPS				LR	LR		
comp=Z,2μm,21.0s,MS5.7							
OTAV	**Otavalo**	**96.71**	**275**	*e*P	**P**	**01 19 02.8**	**+2.0**
comp=Z,14nm,1.1s,mb5.3							
OTAV				LR	LR		
comp=Z,608nm,22.0s,MS5.0							
DAC	**Darwin (Calif)**	**96.76**	**327**	PFAKE		01 19 10.0	+9.5
DAC				LR	LR		
comp=Z,1μm,21.0s,MS5.4							
TUC	**Tucson**	**96.78**	**320**	PFAKE		01 19 10.0	+9.3
TUC				LR	LR		
comp=Z,2μm,20.0s,MS5.5							
ISA	**Isabella**	**97.66**	**327**	PFAKE		01 19 20.0	+15
ISA				LR	LR		
comp=Z,190nm,21.0s,MS4.6							
SAO	**San Andreas Ge**	**97.95**	**330**	PFAKE		01 19 20.0	+14
SAO				LR	LR		
comp=Z,1μm,22.0s,MS5.3							
LPAZ	**La Paz**	**98.44**	**256**	PFAKE		01 19 20.0	+11
LPAZ				LR	LR		
comp=Z,763nm,19.0s,MS5.2							
PFO	**Pinyon Flat Ob**	**98.48**	**325**	PFAKE		01 19 20.0	+12
PFO				LR	LR		
comp=Z,419nm,21.0s,MS4.9							
NNA	**Nana**	**102.73**	**265**	PFAKE		01 19 40.0	+12
NNA				LR	LR		
comp=Z,174nm,20.0s,MS4.6							
LVC	**Limon Verde**	**102.74**	**251**	PFAKE		01 19 40.0	+12
LVC				LR	LR		
comp=Z,1μm,19.0s,MS5.4							
TRQA	**Tornquist**	**106.69**	**235**	PFAKE		01 24 10.0	
TRQA				LR	LR		
comp=Z,1μm,20.0s,MS5.5							
SYO	**Syowa Base**	**107.25**	**173**	⇑Pdiff	Pdif	01 19 48.8	+2.3
SYO	**Syowa Base**	**107.25**	**173**	⇓PP	PP	01 24 12.6	-4.4
GUMO	**Guam**	**107.33**	**57**	PFAKE		01 24 10.0	
GUMO				LR	LR		
comp=Z,900nm,21.0s,MS5.3							
MBWA	**Marble Bar**	**109.93**	**102**	PFAKE		01 24 10.0	
MBWA				LR	LR		
comp=Z,738nm,20.0s,MS5.3							
PLCA	**Paso Flores**	**113.73**	**236**	PFAKE		01 24 20.0	+8.3
PLCA				LR	LR		
comp=Z,2μm,19.0s,MS5.7							
WRAB	**Tennant Creek**	**120.78**	**92**	*e*PKIKP	PKPdf	01 24 22.7	-3.1
WRAB				MLR	MLR		
comp=Z,232nm,19.0s,MS4.8							
WB2	**Warramunga Arr**	**120.79**	**92**	*e*PKP	PKPdf	01 24 22.3	-3.6
PMSA	**Palmer Station**	**120.96**	**210**	PFAKE		01 24 30.0	+4.9
PMSA				LR	LR		
comp=Z,850nm,21.0s,MS5.4							
CASY	**Casey**	**123.87**	**151**	PFAKE		01 24 40.0	+9.3
CASY				LR	LR		
comp=Z,897nm,20.0s,MS5.4							
QSPA	**South Pole Qui**	**127.44**	**180**	*e*P	PKPdf	01 24 34.7	-2.5
QSPA				LR	LR		
comp=Z,1μm,20.0s,MS5.7							
CTA	**Charters Tower**	**130.32**	**85**	*e*PKP	PKPdf	01 24 47.3	+3.1
comp=Z,5.5nm,1.1s							
CTAO	**Charters Tower**	**130.32**	**85**	PFAKE		01 24 50.0	+5.8
CTAO				LR	LR		
comp=Z,551nm,19.0s,MS5.3							
STKA	**Stephens Creek**	**132.18**	**102**	*e*PKP	PKPdf	01 24 45.0	-2.5
comp=Z,4.6nm,0.8s							
TAOE	**Nuku Hiva Isla**	**146.32**	**323**	*e*LR	LR	02 13 34.2	
NOUC	**Port Laguerre**	**147.02**	**72**	*e*P	PKPdf	01 25 15.4	+1.1
PPT	**Papeete**	**158.12**	**333**	*e*PP	PP	01 29 36.4	-6.7
PPT				*e*SS	SS	01 49 28.1	-10
PPT				*e*LR	LR	02 19 01.7	
comp=Z,1μm,23.8s							
TBI	**Tubuai**	**163.26**	**325**	*e*SS	SS	01 50 24.5	-6.8
TBI				*e*LR	LR	02 21 36.8	
comp=Z,803nm,23.2s							

IGQ 31 01:19:37.6, 0.72S×81.36W, h12km±11km, mb4.0, 3C-6D, Error ellipse: s-maj=12.2km s-min=5.9km az=19.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.88**	**112**	⇓P	Pb	01 19 53.1	-1.3
JAMA	**Jama**	**1.25**	**68**	⇑P	Pb	01 20 01.0	+0.4
JAMA				S	Sb	01 20 16.8	+0.3
MAGD	**Magdalena**	**1.72**	**68**	P	Pn	01 20 10.0	+2.3
JUA2	**San Juan 2**	**2.81**	**80**	⇑P	Pn	01 20 24.3	+1.1
PINO	**Pino**	**2.81**	**78**	⇓P	Pn	01 20 23.9	+0.6
TERV	**Terraza Guagua**	**2.81**	**79**	P	Pn	01 20 24.2	+1.0
JOR1	**San Jorge 1**	**2.82**	**75**	P	Pn	01 20 22.6	-0.8
IGUA	**Igualata**	**2.83**	**106**	P	Pn	01 20 26.0	+2.5
YANA	**Yana**	**2.86**	**78**	P	Pn	01 20 24.3	+0.3
NAS1	**Nasa**	**2.89**	**88**	⇓P	Pn	01 20 26.4	+2.0
VC1	**Cotopaxi 1**	**2.96**	**88**	P	Pn	01 20 27.9	+2.5
TAMB	**Tambo**	**3.00**	**89**	P	Pn	01 20 28.8	+2.9
PISA	**Pisayambo**	**3.00**	**96**	P	Pn	01 20 27.9	+2.0
RETU	**Refugio**	**3.01**	**104**	P	Pn	01 20 29.3	+3.3
ARRY	**Arrayan**	**3.01**	**105**	⇓P	Pn	01 20 27.2	+1.1
ULBA	**Ulba**	**3.04**	**104**	P	Pn	01 20 28.1	+1.6
COTA	**Cotacachi**	**3.20**	**71**	P	Pn	01 20 29.9	+1.0
ANTI	**Antisana**	**3.21**	**85**	⇑P	Pn	01 20 31.4	+2.4
CAYR	**Refugio Cayamb**	**3.44**	**78**	⇓P	Pn	01 20 35.1	+2.9
CAYA	**Cayambe**	**3.46**	**77**	⇓P	Pn	01 20 35.1	+2.6

*LDG **31** 01:27:00.6±0.1, 49.95N×7.40E, h10km, Md2.7/1, Ml2.4/10, Error ellipse: s-maj=1.5km s-min=0.9km az=74.0*
*BNS **31** 01:27:02.5±0.6, 50.04N×7.39E, h11km±6km, ML1.4*
BGR 31 01:27:00.6±0.4, 49.93N×7.53E, h10km, ML1.8/3, 1D, Error ellipse: s-maj=4.4km s-min=2.2km az=159.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGG	**Burgeitz**	**0.30**	**336**	⇓*i*Pg	Pg	01 27 06.1	-0.8
BGG				*i* Sg	Sg	01 27 09.1	-1.9
77nm,0.3s							
RUP	**Ruppelstein**	**0.38**	**233**	*e*Pg	Pg	01 27 08.1	-0.4
RUP				*e*Sg	Sg	01 27 12.9	-0.8
TNS	**Taunus Mts**	**0.66**	**64**	*e*Pg	Pg	01 27 13.0	-0.8
TNS				*e*Sg	Sg	01 27 22.0	-0.7
STB	**Steinbach**	**0.80**	**326**	*e*Pg	Pg	01 27 14.9	-1.7
STB				*e*Sg	Sg	01 27 24.1	-3.1
18nm,0.5s							
TOD	**Tromm**	**0.89**	**111**	*e*Sg	Sg	01 27 28.5	-1.8
WLF	**Walferdange**	**0.93**	**254**	*e*Pg	Pg	01 27 17.9	-1.4
WLF				*e*Sg	Sg	01 27 30.4	-1.4
LANF	**Langenberg**	**0.97**	**169**	*e*Pg	Pg	01 27 20.0	-0.1
BNS	**Bensberg**	**1.06**	**348**	*e*Sg	Sg	01 27 31.9	-4.0
KLL	**Kalltalsperre**	**1.06**	**313**	*e*Pg	Pg	01 27 19.6	-2.3
CDF	**Champ du Feu**	**1.53**	**186**	*e*Pn	Pn	01 27 26.8	-1.4
CDF				*e*P		01 27 28.6	
CDF				*e*Pg	Pg	01 27 29.7	-1.6
CDF				*e*Sn	Sn	01 27 45.6	-2.7
CDF				*e*Sg	Sg	01 27 48.6	-3.1
4.0nm,0.2s							
BFO	**Black Forest**	**1.69**	**162**	*e*Sg	Sg	01 27 54.0	-2.9
GIVF	**Givet**	**1.75**	**277**	*e*Pn	Pn	01 27 28.4	-3.0
GIVF				*e*Pg	Pg	01 27 31.8	-3.9
GIVF				*e*Sn	Sn	01 27 48.1	-5.8
GIVF				*e*Sg	Sg	01 27 53.1	-6.0
7.2nm,0.3s							
UBBA	**Unterbreizbach**	**1.81**	**60**	*e*Sg	Sg	01 27 58.0	-3.1
RFYF	**Reffroy**	**1.88**	**227**	*e*Pn	Pn	01 27 30.5	-2.6
RFYF				*e*Pg	Pg	01 27 34.6	-3.5
baz=44							
RFYF				*e*Sn	Sn	01 27 52.2	-4.8
RFYF				*e*Sg	Sg	01 27 58.6	-4.5
5.6nm,0.3s,baz=45							
HAU	**Haudompre**	**2.08**	**202**	*e*Pn	Pn	01 27 33.9	-2.2
HAU				*e*Pg	Pg	01 27 38.8	-3.4
HAU				*e*Sn	Sn	01 27 58.0	-4.3
HAU				*e*Sg	Sg	01 28 05.1	-4.9
4.3nm,0.3s							
BAIF	**Baives**	**2.15**	**275**	*e*Pn	Pn	01 27 33.6	-3.4
BAIF				*e*Pg	Pg	01 27 38.7	-4.8
BAIF				*e*Sn	Sn	01 27 58.2	-5.7
BAIF				*e*Sg	Sg	01 28 05.5	-6.7
5.2nm,0.4s							
HINF	**Hinteralfeld**	**2.17**	**192**	*e*Pn	Pn	01 27 35.3	-2.0
HINF				*e*Pg	Pg	01 27 40.7	-3.2
HINF				*e*Sn	Sn	01 28 00.3	-4.1
HINF				*e*Sg	Sg	01 28 08.2	-4.6
3.6nm,0.2s							
MEZF	**Maizieres J'vi**	**2.17**	**230**	*e*Pn	Pn	01 27 34.1	-3.2
MEZF				*e*Pg	Pg	01 27 40.0	-3.9
MEZF				*e*Sn	Sn	01 27 59.0	-5.4
baz=48							
MEZF				*e*Sg	Sg	01 28 07.4	-5.4
2.0nm,0.3s							
TANN	**Tannenbergstha**	**3.21**	**79**	*e*Sg	Sg	01 28 42.3	-5.1
CABF	**La Chapelle**	**3.46**	**197**	*e*Pn	Pn	01 27 53.4	-2.3
CABF				*e*Pg	Pg	01 28 04.8	-5.0
WET	**Wettzell**	**3.57**	**101**	*e*Sg	Sg	01 28 54.0	-5.6
SSF	**Saint Saulge**	**3.93**	**224**	*e*Pn	Pn	01 27 58.0	-4.3
SSF				*e*Pg	Pg	01 28 12.9	-6.1
SSF				*e*Sg	Sg	01 29 02.0	-9.4
0.3nm,0.2s							
SMF	**Signal de Mont**	**4.11**	**218**	*e*Pn	Pn	01 28 01.3	-3.7
SMF				*e*Pg	Pg	01 28 15.9	-6.8
SMF				*e*Sn	Sn	01 28 46.0	-7.7
AVF	**Avril sur Loir**	**4.20**	**223**	*e*Pn	Pn	01 28 02.9	-3.3
AVF				*e*Pg	Pg	01 28 17.0	-7.5
AVF				*e*Sn	Sn	01 28 47.8	-8.2

*MOS **31** 01:32:04.2±0.9, 23.50N×143.25E, h33km, mb4.9/8, Error ellipse: s-maj=22.7km s-min=9.3km az=109.0*
*NEIC **31** 01:32:07.6±3.3, 23.41N×143.28E, h50km±30km, mb4.8/17, Error ellipse: s-maj=12.5km s-min=6.3km az=88.0*
*BJI **31** 01:32:14.3, 24.02N×142.43E, h49km, mB5.3, mb4.8, Ms5.2, Msz4.8*
ISC 31 01:32:05.0±0.4, 23.41N±0.06×143.33E±0.08, h38km, h38km±2.2km: pP-P, n76, σ1§14/73, mb4.9/29, 2C, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAJO	**Matsushiro**	**13.82**	**342**	*e*P	**P**	**01 35 17.4**	**-3.1**
MAJO				pmax	pmax		
comp=Z,19nm,0.8s							
MAJO	**Matsushiro**	**13.82**	**342**	*e*P	**P**	**01 35 17.4**	**-3.1**
comp=Z,19nm,0.8s							
MAT	**Matsushiro**	**13.82**	**342**	*e*P	**P**	**01 35 14.0**	**-6.5**
MAT				pmax	pmax		
comp=Z,21nm,0.9s							
MAT	**Matsushiro**	**13.82**	**342**	*e*P	**P**	**01 35 14.0**	**-6.5**
comp=Z,21nm,0.9s							
MAT	**Matsushiro**	**13.82**	**342**	P	**P**	**01 35 14.3**	**-6.2**
KS15	**Wonju Array Si**	**19.28**	**320**	*e*P	**P**	**01 36 27.4**	**-1.7**
YSS	**Yuzh-Sakhalins**	**23.50**	**359**	*e*P	**P**	**01 37 14.0**	**+1.9**
YSS				*e*		01 37 40.0	
MDJ	**Mudanjiang**	**23.96**	**335**	P	**P**	**01 37 17.8**	**+1.2**
MDJ				AMB	AMB		
comp=Z,22nm,1.1s,mb4.5							
MDJ				AMB	AMB		
comp=Z,397nm,7.3s							
SNY	**Shenyang**	**24.68**	**323**	⇑P	**P**	**01 37 22

BILL	**Bilibino**	**46.83**	**12**	*eP*	**P**	**01 40 31.6**	**-0.9**
	comp=Z,13nm,1.3s,mb4.7						
TIXI	**Tiksi**	**48.97**	**354**	*eP*	**P**	**01 40 48.6**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.7						
JIRN	**Jiri**	**51.35**	**287**	*eP*	**P**	**01 41 09.1**	**+1.1**
	comp=Z,52nm,0.8s,mb5.5						
PKI	**Pulchoki**	**52.05**	**287**	*eP*	**P**	**01 41 13.9**	**+0.7**
KKN	**Kakani**	**52.13**	**288**	*eP*	**P**	**01 41 14.4**	**+0.6**
GKN	**Gorkha**	**52.66**	**288**	*eP*	**P**	**01 41 18.4**	**+0.6**
	comp=Z,91nm,1.2s,mb5.6						
KOLN	**Koldanda**	**53.60**	**288**	*eP*	**P**	**01 41 24.2**	**-0.6**
	comp=Z,45nm,1.0s,mb5.4						
NVS	**Novosibirsk**	**54.05**	**322**	*eP*	**P**	**01 41 25.0**	**-2.7**
STKA	**Stephens Creek**	**55.00**	**182**	*eP*	**P**	**01 41 33.5**	**-1.4**
	comp=Z,5.1nm,0.6s,mb4.7						
FORT	**Forrest**	**55.83**	**196**	*eP*	**P**	**01 41 40.1**	**-0.9**
	comp=Z,32nm,0.6s,mb5.5						
KURK	**Kurchatov**	**56.33**	**316**	*eP*	**P**	**01 41 43.2**	**-1.1**
KURK				pmax	pmax		
	comp=Z,39nm,0.9s,mb5.4						
KURK	**Kurchatov**	**56.33**	**316**	*eP*	**P**	**01 41 43.2**	**-1.1**
	comp=Z,39nm,0.9s,mb5.4						
IMA	**Indian Mountai**	**57.94**	**25**	*eP*	**P**	**01 41 55.4**	**-0.1**
TKM2	**Tokmak 2**	**58.42**	**307**	P	**P**	**01 42 00.1**	**+1.0**
	SNR=19						
KZA	**Kyzart**	**58.73**	**306**	P	**P**	**01 42 03.7**	**+2.3**
	SNR=15						
KBK	**Karagaybulak**	**58.91**	**307**	P	**P**	**01 42 03.8**	**+1.2**
	SNR=28						
CHMS	**Chumysh**	**59.03**	**307**	P	**P**	**01 42 04.2**	**+0.8**
	SNR=11						
USP	**Ospenovka**	**59.20**	**308**	P	**P**	**01 42 04.7**	**+0.2**
	SNR=14						
AAK	**Ala-Archa**	**59.25**	**307**	P	**P**	**01 42 05.3**	**+0.4**
	SNR=11						
UCH	**Uchtor**	**59.27**	**306**	P	**P**	**01 42 06.6**	**+1.5**
	SNR=31						
AML	**Almayashu**	**59.88**	**306**	P	**P**	**01 42 10.9**	**+1.6**
	SNR=27						
HYB	**Hyderabad**	**60.58**	**277**	*eP*	**P**	**01 42 14.5**	**+0.2**
HYB	**Hyderabad**	**60.58**	**277**	*i* P	**P**	**01 42 14.5**	**+0.2**
CHKZ	**Chkalovo**	**61.32**	**320**	*eP*	**P**	**01 42 17.8**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.5						
CHKZ	**Chkalovo**	**61.32**	**320**	*eP*	**P**	**01 42 17.8**	**-1.1**
	comp=Z,41nm,1.0s,mb5.5						
BRVK	**Borovoye**	**61.53**	**319**	*eP*	**P**	**01 42 19.8**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,73nm,1.0s,mb5.8						
BRVK	**Borovoye**	**61.53**	**319**	*eP*	**P**	**01 42 19.8**	**-0.6**
	comp=Z,73nm,1.0s,mb5.8						
INK	**Inuvik**	**65.96**	**24**	*eP*	**P**	**01 42 48.4**	**-0.6**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**65.96**	**24**	*eP*	**P**	**01 42 48.4**	**-0.6**
	comp=Z,1.7nm,0.6s,mb4.2						
ARU	**Arti**	**67.98**	**323**	P	**P**	**01 43 01.7**	**-0.2**
	comp=Z,207nm,0.5s,SNR=18						
ARU	**Arti**	**67.98**	**323**	⇑*iP*	**P**	**01 42 54.9**	**-7.0**
ARU				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
YKW3	**Yellowknife Ar**	**74.86**	**28**	*eP*	**P**	**01 43 43.0**	**+0.1**
RES	**Resolute Bay**	**75.39**	**14**	*eP*	**P**	**01 43 45.9**	**+0.1**
RES				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
RES	**Resolute Bay**	**75.39**	**14**	*eP*	**P**	**01 43 45.9**	**+0.1**
	comp=Z,3.0nm,0.9s,mb4.2						
KEV	**Kevo**	**76.79**	**341**	*ep*	**P**	**01 43 53.5**	**-0.4**
JOF	**Joensuu**	**78.84**	**334**	*ep*	**P**	**01 44 05.1**	**-0.2**
	comp=Z,2.0nm,0.3s,mb4.5						
BMO	**Blue Mountains**	**80.14**	**45**	*eP*	**P**	**01 44 13.4**	**+0.7**
BMO				*e*	pP	01 44 25.5	+1.1
CMB	**Columbia Colle**	**80.62**	**53**	*eP*	**P**	**01 44 15.8**	**+0.4**
CMB				*e*	pP	01 44 27.9	+0.8
CMB				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
CMB	**Columbia Colle**	**80.62**	**53**	*eP*	**P**	**01 44 15.8**	**+0.4**
	comp=Z,5.2nm,1.2s,mb4.3						
CMB				*e*	pP	01 44 27.9	+0.8
ZEI	**Tsey**	**81.00**	**313**	*eP*	**P**	**01 44 16.6**	**-0.7**
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
KAF	**Kangasniemi**	**81.24**	**335**	*ep*	**P**	**01 44 17.0**	**-1.1**
FFC	**Flin Flon**	**84.31**	**32**	P	**P**	**01 44 35.7**	**+1.8**
	comp=Z,62nm,1.1s,mb5.7,SNR=11						
HWUT	**Hardware Ranch**	**85.31**	**47**	*eP*	**P**	**01 44 40.5**	**+1.3**
	comp=Z,9.9nm,1.3s,mb4.8						
LAO	**LASA Array**	**86.24**	**40**	P	**P**	**01 44 44.3**	**+0.7**
	comp=Z,13nm,1.1s,mb5.1						
RAYN	**Ar Rayn**	**87.60**	**294**	P	**P**	**01 44 52.5**	**+1.7**
	comp=Z,56nm,1.2s,mb5.7,SNR=11						
PLCA	**Paso Flores**	**146.76**	**129**	*e*PKIKP	PKPdf	01 51 42.7	+1.5
LPAZ	**La Paz**	**149.62**	**82**	*e*PKP2	PKPab	01 51 53.5	-5.0
SAML	**Samuel**	**150.84**	**65**	PKPdf	PKPdf	01 51 48.1	-0.4
SAML				*e*PKPbc	PKPdf	01 51 55.4	+6.9

IGQ 31 01:33:15.6, 1.27S×81.02W, h19km±4km, mb4.4, 3C-4D, Error ellipse: s-maj=6.6km s-min=4.7km az=172.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.52**	**65**	⇑P	Pb	01 33 25.1	-0.9
JAMA	**Jama**	**1.29**	**39**	⇓P	Pn	01 33 39.6	+0.8
JAMA				S	Sb	01 33 56.6	+1.3
MAGD	**Magdalena**	**1.73**	**46**	P	Pn	01 33 47.6	+2.5
IGUA	**Igualata**	**2.39**	**95**	P	Pn	01 33 55.6	+1.0
IGUA				S	Sn	01 34 25.6	+2.1
CUSU	**Cusua**	**2.54**	**94**	P	Pn	01 34 00.0	+3.3
JUIV	**Juive**	**2.56**	**93**	P	Pn	01 33 58.3	+1.4
ARRY	**Arrayan**	**2.57**	**95**	⇓P	Pn	01 33 58.1	+1.0
ARRY				S	Sn	01 34 29.6	+1.4
RETU	**Refugio**	**2.58**	**94**	P	Pn	01 34 00.2	+2.9
ULBA	**Ulba**	**2.62**	**94**	P	Pn	01 33 59.3	+1.5
NAS1	**Nasa**	**2.62**	**76**	P	Pn	01 33 59.7	+1.9
JUA2	**San Juan 2**	**2.63**	**66**	⇑P	Pn	01 33 59.2	+1.2
PISA	**Pisayambo**	**2.64**	**85**	P	Pn	01 34 00.7	+2.6
TERV	**Terraza Guagua**	**2.65**	**66**	P	Pn	01 34 00.0	+1.8
PINO	**Pino**	**2.65**	**65**	P	Pn	01 33 59.2	+0.9
VC1	**Cotopaxi 1**	**2.69**	**77**	P	Pn	01 34 01.0	+2.2
JOR1	**San Jorge 1**	**2.69**	**62**	P	Pn	01 33 58.1	-0.8
YANA	**Yana**	**2.70**	**65**	P	Pn	01 34 00.2	+1.2
TAMB	**Tambo**	**2.71**	**78**	P	Pn	01 34 02.2	+3.0
ANTI	**Antisana**	**2.97**	**74**	⇑P	Pn	01 34 05.8	+2.9
COTA	**Cotacachi**	**3.12**	**59**	P	Pn	01 34 06.2	+1.3
CAYR	**Refugio Cayamb**	**3.27**	**67**	⇓P	Pn	01 34 11.2	+4.1
CAYA	**Cayambe**	**3.31**	**66**	⇓P	Pn	01 34 11.4	+3.8

*THE **31** 01:39:35.7, 40.09N×24.83E, h6km, ML3.4*
*CSEM **31** 01:39:35.7±0.2, 40.11N×24.81E, h2km, ML3.4, Error ellipse: s-maj=4.0km s-min=2.9km az=14.0*
*ATH **31** 01:39:36.6, 40.18N×24.80E, h35km*
ISC 31 01:39:35.4±0.6, 40.09N±0.04×24.81E±0.03, h7km±5km, n18, σ1§04/29, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.26**	**127**	*e*Pg	**Pg**	**01 39 40.9**	**+0.1**
LOS				*e*Sg	**Sg**	**01 39 44.6**	**+0.3**
OUR	**Ouranopolis**	**0.68**	**291**	*e*Pg	**Pg**	**01 39 48.8**	**-0.1**
OUR				*e*Sg	**Sg**	**01 39 59.4**	**+1.4**
PAIG	**Paliouri**	**0.88**	**260**	*e*Pg	**Pg**	**01 39 52.1**	**-0.9**
PAIG				*e*Sg	**Sg**	**01 40 05.3**	**+0.5**
BOZC	**Bozcaada**	**0.99**	**104**	*i* P	**Pb**	**01 39 54.9**	**+0.5**
BOZC				*i* S	**Sb**	**01 40 08.6**	**+1.1**
PLG	**Polygyros**	**1.08**	**286**	*e*PN	**Pn**	**01 39 56.0**	**-0.8**
AOS	**Alonnisos**	**1.17**	**218**	*e*Pb	**Pb**	**01 39 57.4**	**-0.1**
AOS				*e*Sb	**Sb**	**01 40 15.3**	**+2.6**
RDO	**Rodhopi**	**1.19**	**28**	*e*PN	**Pn**	**01 39 57.5**	**-0.9**
ALN	**Alexandroupoli**	**1.24**	**49**	*e*Pb	**Pb**	**01 39 58.3**	**-0.5**
ALN				*e*Sb	**Sb**	**01 40 15.8**	**+1.0**
SOH	**Sokhos**	**1.33**	**304**	*e*Pb	**Pb**	**01 39 59.8**	**-0.4**
SRS	**Serrai**	**1.38**	**318**	*e*Pb	**Pb**	**01 40 00.6**	**-0.5**
SRS				*e*Sb	**Sb**	**01 40 20.4**	**+1.6**
PRK	**Paraskevi**	**1.41**	**126**	*e*PN	**Pn**	**01 40 02.5**	**+0.9**
THE	**Thessaloniki**	**1.51**	**292**	*e*Pb	**Pb**	**01 40 02.1**	**-1.2**
THE				*e*Sb	**Sb**	**01 40 23.8**	**+1.2**
AYVA	**Ayvalik**	**1.65**	**118**	*i* P	**Pn**	**01 40 05.6**	**+0.6**
AYVA				*i* S	**Sn**	**01 40 26.0**	**-0.6**
KNT	**Kendrikon**	**1.80**	**307**	*e*Pb	**Pb**	**01 40 06.7**	**-1.6**
AGG	**Agios Georgios**	**2.19**	**242**	*e*Pn	**Pn**	**01 40 11.6**	**-1.2**
KDAG	**Bornova**	**2.55**	**131**	*i* P	**Pn**	**01 40 13.2**	**-4.6**
KDAG				*i* S	**Sn**	**01 40 46.1**	**-3.4**
FNA	**Florina**	**2.71**	**286**	*e*Pn	**Pn**	**01 40 19.7**	**-0.4**
ZAPS	**Zavoj/Pirot**	**3.60**	**334**	⇑*i*Pn	**Pn**	**01 40 32.0**	**-0.8**
ZAPS				Sn	**Sn**	**01 41 19.6**	**+3.6**

IGQ 31 01:47:36.4, 1.39S×81.10W, h11km±7km, mb4.1, 1C-3D, Error ellipse: s-maj=17.2km s-min=5.5km az=3.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.64**	**59**	⇑P	Pb	01 47 48.7	-0.5
JAMA	**Jama**	**1.43**	**39**	P	Pn	01 48 02.3	-0.1
JAMA				S	Sb	01 48 21.1	+0.5
IGUA	**Igualata**	**2.46**	**92**	P	Pn	01 48 18.0	+0.8
ARRY	**Arrayan**	**2.64**	**93**	P	Pn	01 48 20.5	+0.7
ULBA	**Ulba**	**2.69**	**91**	P	Pn	01 48 22.4	+2.0
NAS1	**Nasa**	**2.72**	**74**	P	Pn	01 48 23.6	+2.6
PISA	**Pisayambo**	**2.73**	**83**	P	Pn	01 48 22.7	+1.7
JUA2	**San Juan 2**	**2.75**	**65**	P	Pn	01 48 22.3	+1.0
TERV	**Terraza Guagua**	**2.77**	**64**	P	Pn	01 48 23.4	+1.9
PINO	**Pino**	**2.77**	**64**	P	Pn	01 48 22.4	+0.8
VC1	**Cotopaxi 1**	**2.79**	**75**	P	Pn	01 48 24.4	+2.5
TAMB	**Tambo**	**2.81**	**76**	P	Pn	01 48 24.4	+2.1
JOR1	**San Jorge 1**	**2.82**	**61**	P	Pn	01 48 22.4	+0.1
YANA	**Yana**	**2.82**	**64**	P	Pn	01 48 22.9	+0.6
ANTI	**Antisana**	**3.08**	**72**	P	Pn	01 48 29.2	+3.2
COTA	**Cotacachi**	**3.25**	**58**	⇓P	Pn	01 48 29.9	+1.5
CAYR	**Refugio Cayamb**	**3.39**	**66**	⇓P	Pn	01 48 34.0	+3.6
CAYA	**Cayambe**	**3.43**	**65**	⇓P	Pn	01 48 34.0	+3.1

*MOS **31** 02:20:43.8±0.7, 8.20N×94.24E, h33km, mb5.1/46, Error ellipse: s-maj=13.8km s-min=5.8km az=125.6*
*BJI **31** 02:20:43.1, 7.96N×93.89E, h34km, mB5.7, mb4.7, Ms4.5, Msz4.0*
*NEIC **31** 02:20:44.0±0.3, 8.13N×94.20E, mb4.9/52, Error ellipse: s-maj=8.2km s-min=7.5km az=49.0*
*HRVD **31** 02:20:44.0±1.0, 8.02N×94.23E, h18km±2km, MW4.8/38, Centroid moment Tensor Solution. LP body waves: s11,c12;Mantle waves: s38,c45; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.49±.29; $M_{\theta\theta}$1.31±.19; $M_{\phi\phi}$0.17±.18; $M_{r\theta}$0.20±.35; $M_{\theta\phi}$0.75±.11; $M_{\phi r}$-0.81±.50; Best double couple: $M_0$1.791×10^{16} NP1:ϕ_s267°, δ47°, λ-54°. NP2:ϕ_s40°, δ54°, λ-122°. Principal axes: T 1.693, Plg4°, Azm152°; N .193, Plg25°, Azm60°; P -1.888, Plg64°, Azm250°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 31 02:20:42.3±0.4, 8.14N±0.06×94.30E±0.05, h25km, h25km±2.7km: pP-P, n183, σ0§78/186, mb4.9/67, MS4.5/2, 15C-6D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.21**	**23**	P	**P**	**02 23 24.4**	**+0.2**
HYB	**Hyderabad**	**17.90**	**303**	*eP*	**P**	**02 24 53.0**	**+1.5**
HYB				*eS*	**S**	**02 28 08.5**	**+0.8**
HYB	**Hyderabad**	**17.90**	**303**	*i* P	**P**	**02 24 53.0**	**+1.5**
HYB				*eS*	**S**	**02 28 08.5**	**+0.8**
KMI	**Kunming**	**18.71**	**24**	P	**P**	**02 25 06.0**	**+4.5**
KMI				pmax	pmax		
	comp=Z,23nm,1.1s						
KMI	**Kunming**	**18.71**	**24**	P	**P**	**02 25 06.0**	**+4.5**
	comp=Z,23nm,1.1s						
KMI				S	S	02 27 58.0	-28
JIRN	**Jiri**	**20.88**	**339**	*eP*	**P**	**02 25 25.1**	**-0.2**
PKI	**Pulchoki**	**21.08**	**338**	*eP*	**P**	**02 25 27.1**	**-0.3**
	comp=Z,167nm,1.1s,mb5.3						
DMN	**Daman**	**21.23**	**337**	*eP*	**P**	**02 25 29.1**	**+0.2**
KKN	**Kakani**	**21.33**	**338**	*eP*	**P**	**02 25 29.5**	**-0.3**
GKN	**Gorkha**	**21.77**	**336**	*eP*	**P**	**02 25 34.1**	**-0.2**
	comp=Z,114nm,0.9s,mb5.3						
KOLN	**Koldanda**	**21.99**	**334**	*eP*	**P**	**02 25 37.0**	**+0.5**
	comp=Z,104nm,0.8s,mb5.3						
NDI	**New Delhi**	**26.02**	**324**	*eP*	**P**	**02 26 15.0**	**-0.4**
DDI	**Dehra Dun**	**26.80**	**328**	*e*	**P**	**02 26 22.0**	**-0.7**
XAN	**Xi'an**	**29.09**	**26**	P	**P**	**02 26 43.3**	**0.0**
XAN				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
LZH	**Lanzhou**	**29.15**	**16**	*eP*	**P**	**02 26 49.5**	**+5.6**
LZH				AP	pP	02 26 55.0	+3.9
LZH				AMB	AMB		
	comp=Z,30nm,1.7s,mb4.8						
NJ2	**Nanjing**	**32.97**	**40**	*eP*	**P**	**02 27 21.0**	**+3.5**
NJ2				AP	pP	02 27 31.5	+6.7
NJ2				XP	sP	02 27 35.5	+7.5
NJ2				PP	PP	02 28 35.8	+7.7
NJ2				S	**S**	**02 32 44.0**	**+11**
NJ2				XS		02 33 00.0	
NJ2				PCS		02 33 44.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				LR	LR		
	comp=N,940nm,22.4s,MS4.7						
NJ2				LR	LR		
	comp=E,1μm,25.0s,MS4.7						
NJ2				LR	LR		
	comp=Z,400nm,25.2s,MS4.0						
SSE	**Sheshan**	**33.92**	**44**	*eP*	**P**	**02 27 26.0**	**+0.2**
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,170nm,4.0s						
SSE	**Sheshan**	**33.92**	**44**	*eP*	**P**	**02 27 26.0**	**+0.2**
	comp=Z,30nm,0.8s,mb5.3						
WMQ	**Urumqi**	**36.01**	**352**	*eP*	**P**	**02 27 44.5**	**+1.0**
BJI	**Beijing**	**37.30**	**28**	*eP*	**P**	**02 27 57.4**	**+3.0**
BJI				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.6						
BJI	**Beijing**	**37.30**	**28**	*eP*	**P**	**02 27 57.4**	**+3.0**
	comp=Z,11nm,1.1s,mb4.6						
SMDO	**Samad**	**37.80**	**297**	P	**P**	**02 28 00.9**	**+2.2**
	SNR=6.6						
UCH	**Uchtor**	**38.18**	**336**	P	**P**	**02 28 02.5**	**+0.8**
	SNR=8.5						
KBK	**Karagaybulak**	**38.37**	**337**	P	**P**	**02 28 04.2**	**+0.9**
	SNR=9.1						
AML	**Almayashu**	**38.43**	**335**	P	**P**	**02 28 04.7**	**+0.8**
	SNR=18						
BSY	**Bisya**	**38.46**	**296**	P	**P**	**02 28 06.9**	**+2.6**
	SNR=9.7						
AAK	**Ala-Archa**	**38.53**	**336**	P	**P**	**02 28 05.8**	**+1.2**
	SNR=8.7						
AAK	**Ala-Archa**	**38.53**	**336**	*i* P	**P**	**02 28 04.1**	**-0.6**
AAK				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.7						
AAK	**Ala-Archa**	**38.53**	**336**	*eP*	**P**	**02 28 03.7**	**-0.9**
	comp=Z,15nm,1.1s,mb4.6						
HOQ	**Hoqain**	**38.60**	**298**	P	**P**	**02 28 07.9**	**+2.4**
	SNR=8.1						
CHMS	**Chumysh**	**38.73**	**337**	P	**P**	**02 28 06.7**	**+0.3**
	SNR=5.0						
USP	**Ospenovka**	**39.06**	**337**	P	**P**	**02 28 09.2**	**+0.1**
	SNR=11						
WHFO	**Wadi Hawf**	**40.58**	**288**	P	**P**	**02 28 23.5**	**+1.6**
	SNR=15						
ULN	**Ulaanbaatar**	**41.05**	**13**	*eP*	**P**	**02 28 26.7**	**+1.3**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**41.05**	**13**	*eP*	**P**	**02 28 26.7**	**+1.3**
	comp=Z,2.5nm,0.8s,mb3.9						
ZAK	**Zakamensk**	**42.77**	**8**	*eP*	**P**	**02 28 40.0**	**+0.5**
ZAK				*e*		02 30 30.6	
TLY	**Talaya**	**44.09**	**8**	*i* P	**P**	**02 28 51.7**	**+1.5**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb3.8						
KURK	**Kurchatov**	**44.39**	**346**	*i* P	**P**	**02 28 53.1**	**+0.4**
KURK	**Kurchatov**	**44.39**	**346**	*eP*	**P**	**02 28 52.2**	**-0.5**
	comp=Z,21nm,1.1s,mb4.8						
NWAO	**Narrogin (SRO)**	**46.31**	**153**	P	**P**	**02 29 09.4**	**+1.2**
NWAO				pmax	pmax		
	comp=Z,21nm,1.1s						
NWAO	**Narrogin (SRO)**	**46.31**	**153**	P	**P**	**02 29 09.3**	**+1.2**
	comp=Z,21nm,1.1s,mb5.0						
NVS	**Novosibirsk**	**47.41**	**351**	⇓*iP*	**P**	**02 29 15.6**	**-1.0**
NVS				pmax	pmax		
	comp=N,8.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**48.29**	**126**	*eP*	**P**	**02 29 22.9**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
WRAB	**Tennant Creek**	**48.29**	**126**	*eP*	**P**	**02 29 22.9**	**-1.0**
	comp=Z,4.3nm,0.7s,mb4.6						
BRVK	**Borovoye**	**48.85**	**341**	*eP*	**P**	**02 29 27.1**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
BRVK	**Borovoye**	**48.85**	**341**	*eP*	**P**	**02 29 27.1**	**-0.7**
	comp=Z,6.9nm,1.0s,mb4.6						
RAYN	**Ar Rayn**	**49.12**	**294**	P	**P**	**02 29 31.5**	**+1.2**
	comp=Z,218nm,0.6s,SNR=37						
CHKZ	**Chkalovo**	**49.27**	**342**	*eP*	**P**	**02 29 30.6**	**-0.4**
CHKZ				*e*		02 30 53.4	
CHKZ				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
CHKZ	**Chkalovo**	**49.27**	**342**	*eP*	**P**	**02 29 30.6**	**-0.5**
	comp=Z,22nm,0.9s,mb5.2						
CHKZ				*e*PcP	PcP	02 30 53.4	-0.7
BOD	**Bodaibo**	**51.86**	**13**	*eP*	**P**	**02 29 50.8**	**+0.1**
GNI	**Garni**	**54.37**	**314**	*eP*	**P**	**02 30 08.6**	**-0.9**
GNI				*e*PP	pP	02 30 16.9	-0.2
GNI				pmax	pmax		
	comp=Z,27nm,1.2s						
GNI	**Garni**	**54.37**	**314**	*eP*	**P**	**02 30 08.6**	**-0.9**
	comp=Z,27nm,1.2s,mb5.0						
GNI				*e*pP	pP	02 30 16.9	-0.2
SVE	**Sverdlovsk**	**55.22**	**338**	*eP*	**P**	**02 30 11.0**	**-4.5**
ARU	**Arti**	**55.71**	**337**	⇑*iP*	**P**	**02 30 10.6**	**-8.5**
ARU				*e*		02 32 22.1	
ARU				*eS*	**S**	**02 37 55.9**	**-6.3**
ARU				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.9						
KIV	**Kislovodsk**	**57.23**	**318**	*eP*	**P**	**02 30 29.0**	**-1.1**
KIV				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
KIV	**Kislovodsk**	**57.23**	**318**	*eP*	**P**	**02 30 29.0**	**-1.1**
	comp=Z,13nm,0.8s,mb5.0						
KMBO	**Kilima Mbogo**	**57.61**	**263**	*eP*	**P**	**02 30 34.2**	**+1.0**
KMBO				pmax	pmax		
	comp=Z,19nm,0.8s						
KMBO	**Kilima Mbogo**	**57.61**	**263**	*eP*	**P**	**02 30 34.2**	**+1.0**
	comp=Z,19nm,0.8s,mb5.2						
SOC	**Sochi**	**59.10**	**316**	*eP*	**P**	**02 30 35.8**	**-7.4**
SOC				*e*		02 32 49.1	
SOC				*eS*	**S**	**02 38 43.7**	**-3.3**
SOC				*e*		02 40 22.8	
SOC				*e*SS	SS	02 42 39.4	-3.6
SOC				pmax	pmax		
	comp=Z,53nm,1.2s,mb5.5						
SOC				pmax	pmax		
	comp=N,46nm,0.9s						
SOC				pmax	pmax		
	comp=E,44nm,1.0s						
YAK	**Yakutsk**	**59.70**	**18**	*i* P	**P**	**02 30 47.2**	**+0.2**
YAK				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.4						
STKA	**Stephens Creek**	**60.17**	**134**	*eP*	**P**	**02 30 51.1**	**+0.4**
ANN	**Anapa**	**61.05**	**317**	*eP*	**P**	**02 30 55.4**	**-1.1**
ANN				*i* *PP	pP	02 31 04.8	+0.5
ANN				*i*		02 31 39.6	
ANN				*eS*	**S**	**02 39 25.3**	**+13**
ANN				pmax	pmax		
	comp=Z,93nm,1.4s,mb5.7						
MBAR	**Mbarara**	**63.94**	**265**	*eP*	**P**	**02 31 16.3**	**0.0**
MBAR				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
MBAR	**Mbarara**	**63.94**	**265**	*eP*	**P**	**02 31 16.3**	**-0.1**
	comp=Z,6.5nm,0.9s,mb4.7						
OBN	**Obninsk**	**65.24**	**328**	*i* P	**P**	**02 31 20.0**	**-4.0**
OBN				*e*		02 33 45.2	
OBN				*e*SS	SS	02 44 20.9	+2.0
OBN				pmax	pmax		
	comp=Z,42nm,1.3s,mb5.3						
OBN				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.6						
MA2	**Magadan**	**66.46**	**28**	*eP*	**P**	**02 31 32.4**	**+0.7**
MA2				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
TIXI	**Tiksi**	**66.94**	**11**	*i* P	**P**	**02 31 33.7**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.2						
VRI	**Vrincioaia**	**68.62**	**316**	⇓*iP*	**P**	**02 31 45.0**	**-0.6**
MLR	**Muntele Rosu**	**69.09**	**316**	⇑*iP*	**P**	**02 31 47.7**	**-0.8**
LSZ	**Lusaka**	**69.51**	**250**	*eP*	**P**	**02 31 51.7**	**+0.2**
LSZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
LSZ	**Lusaka**	**69.51**	**250**	*eP*	**P**	**02 31 51.7**	**+0.2**
	comp=Z,3.4nm,0.8s,mb4.3						
BURAR	**Bucovina Array**	**69.96**	**318**	⇑*iP*	**P**	**02 31 52.8**	**-0.9**
JOF	**Joensuu**	**70.68**	**334**	*ep*	**P**	**02 31 56.5**	**-1.4**
KWP	**Kalwaria**	**71.93**	**320**	*eP*	**P**	**02 32 04.9**	**-0.8**
KOLS	**Kolonicke sedl**	**72.11**	**319**	*i* P	**P**	**02 32 06

WATA				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
VMG	**Vicchio**	**79.20**	**313**	*eP*	**P**	**02 32 48.4**	**+1.3**
GRA1	**Grafenberg Arr**	**79.37**	**319**	*eP*	**P**	**02 32 48.4**	**+0.6**
	comp=Z,13nm,0.9s,mb4.9						
GRF	**Grafenberg Arr**	**79.37**	**319**	*eP*	**P**	**02 32 48.4**	**+0.6**
GRF				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
GRF	**Grafenberg Arr**	**79.37**	**319**	*eP*	**P**	**02 32 48.4**	**+0.6**
GRF				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
GRF	**Grafenberg Arr**	**79.37**	**319**	*eP*	**P**	**02 32 48.4**	**+0.6**
	comp=Z,13nm,0.9s,mb4.9						
SQTA	**Sankt Quirin**	**79.39**	**316**⇑	*iP*	**P**	**02 32 47.3**	**-0.7**
	comp=Z,8.5nm,0.9s,mb4.7						
SQTA	**Sankt Quirin**	**79.39**	**316**⇑	*iP*	**P**	**02 32 47.3**	**-0.7**
SQTA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
MOTA	**Moosalm**	**79.46**	**317**⇓	*iP*	**P**	**02 32 47.6**	**-0.8**
	comp=Z,11nm,1.1s,mb4.7						
MOTA	**Moosalm**	**79.46**	**317**⇓	*iP*	**P**	**02 32 47.6**	**-0.8**
MOTA				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
NB2	**NORSAR Subarra**	**79.58**	**331**	P	**P**	**02 32 48.1**	**-0.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=96,slow=5.0						
NB2	**NORSAR Subarra**	**79.58**	**331**	P	**P**	**02 32 48.1**	**-0.6**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
GSCL	**Gusciola**	**79.88**	**314**	*eP*	**P**	**02 32 51.8**	**+1.1**
CLZ	**Clausthal**	**79.91**	**321**	*eP*	**P**	**02 32 50.9**	**+0.2**
	comp=Z,13nm,0.9s,mb4.9						
DAVA	**Damuels**	**80.30**	**317**⇑	*iP*	**P**	**02 32 53.2**	**+0.4**
	comp=Z,26nm,1.3s,mb5.0						
PGF	**Pioggiola**	**81.10**	**312**	*eP*	**P**	**02 32 56.6**	**-0.6**
TNS	**Taunus Mts**	**81.16**	**320**	*eP*	**P**	**02 32 57.6**	**+0.3**
BFO	**Black Forest**	**81.31**	**318**	*eP*	**P**	**02 32 57.9**	**-0.2**
BFO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
BFO	**Black Forest**	**81.31**	**318**	*eP*	**P**	**02 32 57.9**	**-0.2**
	comp=Z,5.0nm,0.8s,mb4.5						
CDF	**Champ du Feu**	**82.00**	**318**	*eP*	**P**	**02 33 01.0**	**-0.8**
	comp=Z,14nm,0.9s,mb4.6						
CDF	**Champ du Feu**	**82.00**	**318**	*eP*	**P**	**02 33 01.0**	**-0.8**
CDF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
SBF	**Sospel**	**82.17**	**313**	*eP*	**P**	**02 33 01.8**	**-0.9**
	comp=Z,52nm,0.8s,mb5.2						
SBF	**Sospel**	**82.17**	**313**	*eP*	**P**	**02 33 01.8**	**-0.9**
SBF				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.2						
LPG	**La Plagne**	**82.55**	**315**	*eP*	**P**	**02 33 04.7**	**+0.1**
	comp=Z,38nm,0.9s,mb5.1						
LPG	**La Plagne**	**82.55**	**315**	*eP*	**P**	**02 33 04.7**	**+0.1**
LPG				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1						
LPL	**La Plagne**	**82.56**	**315**	*eP*	**P**	**02 33 04.7**	**0.0**
	comp=Z,46nm,0.9s,mb5.2						
LPL	**La Plagne**	**82.56**	**315**	*eP*	**P**	**02 33 04.7**	**0.0**
LPL				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.2						
MBDF	**Montbardon**	**82.58**	**314**	*eP*	**P**	**02 33 04.0**	**-0.9**
	comp=Z,13nm,0.7s,mb4.8						
MBDF	**Montbardon**	**82.58**	**314**	*eP*	**P**	**02 33 04.0**	**-0.9**
MBDF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
HAU	**Haudompre**	**82.65**	**317**	*eP*	**P**	**02 33 04.5**	**-0.6**
	comp=Z,34nm,1.0s,mb5.0						
HAU	**Haudompre**	**82.65**	**317**	*eP*	**P**	**02 33 04.5**	**-0.6**
HAU				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
FRF	**La Foret Royal**	**82.76**	**313**	*eP*	**P**	**02 33 05.5**	**-0.3**
CABF	**La Chapelle**	**82.93**	**316**	*eP*	**P**	**02 33 06.4**	**-0.2**
	comp=Z,14nm,0.9s,mb4.7						
CABF	**La Chapelle**	**82.93**	**316**	*eP*	**P**	**02 33 06.4**	**-0.2**
CABF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
ORIF	**Oris-en-Rattie**	**83.20**	**314**	*eP*	**P**	**02 33 08.0**	**0.0**
	comp=Z,14nm,0.9s,mb4.7						
ORIF	**Oris-en-Rattie**	**83.20**	**314**	*eP*	**P**	**02 33 08.0**	**0.0**
ORIF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
MEZF	**Maizieres J'vi**	**83.47**	**318**	*eP*	**P**	**02 33 09.1**	**-0.3**
BAIF	**Baives**	**83.89**	**320**	*eP*	**P**	**02 33 11.4**	**0.0**
	comp=Z,24nm,1.1s,mb5.0						
BAIF	**Baives**	**83.89**	**320**	*eP*	**P**	**02 33 11.4**	**0.0**
BAIF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.9						
VIVF	**Saint-Julien-l**	**84.06**	**314**	*eP*	**P**	**02 33 12.1**	**-0.4**
	comp=Z,160nm,1.9s,mb5.5						
VIVF	**Saint-Julien-l**	**84.06**	**314**	*eP*	**P**	**02 33 12.1**	**-0.4**
VIVF				pmax	pmax		
	comp=Z,80nm,1.9s,mb5.5						
SMF	**Signal de Mont**	**84.47**	**316**	*eP*	**P**	**02 33 13.8**	**-0.6**
	comp=Z,18nm,0.9s,mb4.9						
SMF	**Signal de Mont**	**84.47**	**316**	*eP*	**P**	**02 33 13.8**	**-0.6**
SMF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
SSF	**Saint Saulge**	**84.65**	**317**	*eP*	**P**	**02 33 14.9**	**-0.4**
LASF	**Ste Croix**	**84.72**	**314**	*eP*	**P**	**02 33 15.8**	**0.0**
	comp=Z,116nm,1.5s,mb5.5						
AVF	**Avril sur Loir**	**84.78**	**316**	*eP*	**P**	**02 33 15.5**	**-0.5**
	comp=Z,27nm,1.2s,mb5.0						
AVF	**Avril sur Loir**	**84.78**	**316**	*eP*	**P**	**02 33 15.5**	**-0.5**
AVF				pmax	pmax		
	comp=Z,14nm,1.2s,mb5.0						
BGF	**Bois d'Agland**	**85.16**	**316**	*eP*	**P**	**02 33 17.8**	**-0.1**
	comp=Z,18nm,1.0s,mb4.8						
BGF	**Bois d'Agland**	**85.16**	**316**	*eP*	**P**	**02 33 17.8**	**-0.1**
BGF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
TCF	**Toulx Ste Croi**	**85.62**	**316**	*eP*	**P**	**02 33 20.2**	**0.0**
CAF	**Calviac**	**85.90**	**315**	*eP*	**P**	**02 33 21.6**	**0.0**
RJF	**Les Rejaudoux**	**86.23**	**315**	*eP*	**P**	**02 33 23.4**	**+0.1**
	comp=Z,21nm,1.1s,mb5.0						
RJF	**Les Rejaudoux**	**86.23**	**315**	*eP*	**P**	**02 33 23.4**	**+0.1**
RJF				pmax	pmax		
	comp=Z,11nm,1.1s,mb5.0						
LFF	**La Frestale**	**86.83**	**315**	*eP*	**P**	**02 33 26.6**	**+0.4**
	comp=Z,48nm,1.3s,mb5.3						
LFF	**La Frestale**	**86.83**	**315**	*eP*	**P**	**02 33 26.6**	**+0.4**
LFF				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.3						
LDF	**La Druitiere**	**86.88**	**318**	*eP*	**P**	**02 33 26.1**	**-0.2**
	comp=Z,14nm,0.9s,mb4.8						
LDF	**La Druitiere**	**86.88**	**318**	*eP*	**P**	**02 33 26.1**	**-0.2**
LDF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.9						
FLN	**La Foliniere**	**87.09**	**319**	*eP*	**P**	**02 33 27.0**	**-0.3**
	comp=Z,14nm,1.0s,mb4.9						
FLN	**La Foliniere**	**87.09**	**319**	*eP*	**P**	**02 33 27.0**	**-0.3**
FLN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
MFF	**Saint Martin d**	**87.19**	**317**	*eP*	**P**	**02 33 27.6**	**-0.3**
	comp=Z,8.0nm,0.9s,mb4.6						
MFF	**Saint Martin d**	**87.19**	**317**	*eP*	**P**	**02 33 27.6**	**-0.3**
MFF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.7						
ROSF	**Rostrenen**	**88.99**	**319**	*eP*	**P**	**02 33 36.4**	**-0.1**
	comp=Z,23nm,1.0s,mb5.2						
ROSF	**Rostrenen**	**88.99**	**319**	*eP*	**P**	**02 33 36.4**	**-0.1**
ROSF				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.2						
IMA	**Indian Mountai**	**91.32**	**22**	*eP*	**P**	**02 33 48.3**	**+1.4**
IMA				e*PP	pP	02 33 55.1	+0.3
INK	**Inuvik**	**96.70**	**16**	*eP*	**P**	**02 34 12.6**	**+1.1**
INK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
INK	**Inuvik**	**96.70**	**16**	*eP*	**P**	**02 34 12.6**	**+1.1**
	comp=Z,4.6nm,1.1s,mb4.8						
JCT	**Junction City**	**139.29**	**19**	*e*PKIKP	PKPdf	02 40 09.6	-3.1
PLCA	**Paso Flores**	**144.85**	**200**	*e*PKIKP	PKPdf	02 40 18.2	-4.0
LPAZ	**La Paz**	**161.03**	**243**	*e*PKIKP	PKPdf	02 40 43.5	-2.3

IGQ 31 02:33:40.7, 1.40S×81.30W, h8km±4km, mb4.3, 4C-3D, Error ellipse: s-maj=7.6km s-min=3.8km az=17.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.83**	**65**	⇑P	Pb	02 33 56.4	-0.5
JAMA	**Jama**	**1.57**	**44**	P	Pn	02 34 10.6	+1.5
JAMA				S	Sb	02 34 29.2	-0.4
MAGD	**Magdalena**	**2.02**	**49**	P	Pn	02 34 18.5	+3.0
IGUA	**Igualata**	**2.66**	**92**	P	Pn	02 34 26.0	+1.3
CUSU	**Cusua**	**2.82**	**91**	P	Pn	02 34 29.3	+2.4
JUIV	**Juive**	**2.83**	**91**	P	Pn	02 34 28.3	+1.1
ARRY	**Arrayan**	**2.84**	**92**	⇑P	Pn	02 34 28.0	+0.7
RETU	**Refugio**	**2.85**	**91**	P	Pn	02 34 29.6	+2.2
ULBA	**Ulba**	**2.89**	**91**	P	Pn	02 34 29.7	+1.8
NAS1	**Nasa**	**2.92**	**75**	P	Pn	02 34 30.0	+1.6
PISA	**Pisayambo**	**2.93**	**83**	P	Pn	02 34 30.6	+2.1
JUA2	**San Juan 2**	**2.94**	**66**	P	Pn	02 34 29.9	+1.2
TERV	**Terraza Guagua**	**2.96**	**66**	P	Pn	02 34 30.6	+1.7
PINO	**Pino**	**2.96**	**65**	⇓P	Pn	02 34 29.6	+0.7
VC1	**Cotopaxi 1**	**2.99**	**75**	P	Pn	02 34 31.9	+2.5
JOR1	**San Jorge 1**	**3.00**	**62**	⇑P	Pn	02 34 28.5	-1.0
YANA	**Yana**	**3.01**	**65**	P	Pn	02 34 31.0	+1.3
YANA				S	Sn	02 35 07.6	+1.2
TAMB	**Tambo**	**3.01**	**77**	P	Pn	02 34 32.2	+2.5
ANTI	**Antisana**	**3.27**	**73**	P	Pn	02 34 36.2	+2.8
ANTI				S	Sn	02 35 15.0	+2.0
COTA	**Cotacachi**	**3.42**	**60**	⇓P	Pn	02 34 37.6	+2.0
COTA				S	Sn	02 35 24.2	+7.3
CAYR	**Refugio Cayamb**	**3.58**	**67**	⇑P	Pn	02 34 41.9	+4.1
CAYA	**Cayambe**	**3.62**	**66**	⇓P	Pn	02 34 41.7	+3.5

IGQ 31 02:49:06.1, 1.38S×81.19W, h12km±6km, mb4.2, 5C-3D, Error ellipse: s-maj=10.4km s-min=5.9km az=5.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.72**	**63**	⇑P	Pb	02 49 19.7	-0.5
JAMA	**Jama**	**1.48**	**41**	P	Pn	02 49 33.4	+0.5
JAMA				S	Sb	02 49 52.6	+0.7
IGUA	**Igualata**	**2.55**	**92**	P	Pn	02 49 49.3	+1.2
JUIV	**Juive**	**2.72**	**91**	P	Pn	02 49 52.6	+2.0
ARRY	**Arrayan**	**2.73**	**93**	⇑P	Pn	02 49 50.9	+0.2
ARRY				S	Sn	02 50 25.1	+1.1
RETU	**Refugio**	**2.74**	**91**	P	Pn	02 49 53.6	+2.8
NAS1	**Nasa**	**2.81**	**75**	P	Pn	02 49 53.4	+1.6
PISA	**Pisayambo**	**2.82**	**84**	P	Pn	02 49 54.2	+2.2
JUA2	**San Juan 2**	**2.83**	**66**	P	Pn	02 49 52.5	+0.4
TERV	**Terraza Guagua**	**2.85**	**65**	⇑P	Pn	02 49 54.2	+1.9
PINO	**Pino**	**2.85**	**65**	⇓P	Pn	02 49 52.9	+0.4
VC1	**Cotopaxi 1**	**2.88**	**75**	P	Pn	02 49 55.6	+2.8
TAMB	**Tambo**	**2.90**	**76**	P	Pn	02 49 55.7	+2.6
YANA	**Yana**	**2.90**	**64**	P	Pn	02 49 53.8	+0.7
ANTI	**Antisana**	**3.17**	**73**	⇑P	Pn	02 49 59.4	+2.5
COTA	**Cotacachi**	**3.32**	**59**	⇓P	Pn	02 50 00.8	+1.7
CAYR	**Refugio Cayamb**	**3.47**	**66**	⇑P	Pn	02 50 04.8	+3.5
CAYA	**Cayambe**	**3.51**	**66**	⇓P	Pn	02 50 04.9	+3.1

*NEIC **31** 02:50:25.4±1.3, 8.02N×94.50E, h30km, mb4.4/8, Error ellipse: s-maj=29.7km s-min=22.1km az=146.0*
*BJI **31** 02:50:28.9, 7.83N×94.76E, h38km, mb4.5*
ISC 31 02:50:25.1±4.8, **8.1N**±0.2×**94.5E**±0.1, **h41**km±40km, **n19, σ0§73/21, mb4.6**/11, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYB	**Hyderabad**	**18.09**	**302**	*eP*	**P**	**02 54 36.0**	**+0.8**
HYB				*e*S	**S**	**02 57 53.0**	**+0.4**
HYB	**Hyderabad**	**18.09**	**302**	*i P*	**P**	**02 54 36.0**	**+0.8**
HYB				*e*S	**S**	**02 57 53.0**	**+0.4**
JIRN	**Jiri**	**21.01**	**339**	*eP*	**P**	**02 55 07.3**	**-0.3**
	80nm,1.0s,mb5.0						
PKI	**Pulchoki**	**21.22**	**337**	*eP*	**P**	**02 55 09.7**	**0.0**
	68nm,1.2s,mb4.9						
KKN	**Kakani**	**21.46**	**337**	*eP*	**P**	**02 55 12.3**	**+0.2**
	80nm,1.2s,mb4.9						
GKN	**Gorkha**	**21.91**	**336**	*eP*	**P**	**02 55 15.9**	**-0.7**
KOLN	**Koldanda**	**22.14**	**334**	*eP*	**P**	**02 55 18.4**	**-0.5**
	63nm,0.9s,mb5.0						
NDI	**New Delhi**	**26.18**	**324**	*e*	**P**	**02 56 03.0**	**+5.1**
AAK	**Ala-Archa**	**38.66**	**336**	P	**P**	**02 57 46.5**	**-0.1**
	4.4nm,1.1s,mb4.1						
ULN	**Ulaanbaatar**	**41.07**	**13**	P	**P**	**02 58 08.2**	**+1.8**
	1.5nm,0.6s,mb3.8						
KURK	**Kurchatov**	**44.51**	**346**	*eP*	**P**	**02 58 33.6**	**-0.8**
	9.0nm,1.0s,mb4.5						
RAYN	**Ar Rayn**	**49.32**	**294**	P	**P**	**02 59 12.5**	**-0.1**
	60nm,0.6s,SNR=8.7						
CHKZ	**Chkalovo**	**49.40**	**342**	*eP*	**P**	**02 59 11.5**	**-1.2**
	6.9nm,0.8s,mb4.7						
CHKZ				*e*pP	pP	02 59 18.7	-5.7
LSZ	**Lusaka**	**69.65**	**250**	*eP*	**P**	**03 01 32.7**	**-0.2**
	2.2nm,0.7s,mb4.2						
KHC	**Kasperske Hory**	**78.00**	**318**	*eP*	**P**	**03 02 20.0**	**-1.0**
GRA1	**Grafenberg Arr**	**79.55**	**319**	*eP*	**P**	**03 02 30.0**	**+0.6**
	3.0nm,0.8s,mb4.3						
GRF	**Grafenberg Arr**	**79.55**	**319**	*eP*	**P**	**03 02 30.0**	**+0.6**
	3.0nm,0.8s,mb4.3						
LPG	**La Plagne**	**82.72**	**315**	*eP*	**P**	**03 02 46.5**	**+0.3**
	12nm,0.9s,mb4.7						
INK	**Inuvik**	**96.72**	**16**	*eP*	**P**	**03 03 53.0**	**+1.0**

IGQ 31 03:01:52.6, 1.36S×81.30W, h19km±5km, mb4.2, 5C-4D, Error ellipse: s-maj=7.2km s-min=4.7km az=0.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.81**	**68**	⇑P	Pb	03 02 07.6	-0.3
JAMA	**Jama**	**1.54**	**45**	P	Pn	03 02 21.4	+1.9
JAMA				S	Sn	03 02 40.4	+1.3
MAGD	**Magdalena**	**1.99**	**50**	P	Pn	03 02 27.8	+1.9
IGUA	**Igualata**	**2.66**	**93**	⇑P	Pn	03 02 36.2	+0.7
IGUA				S	Sn	03 03 09.5	+1.9
CUSU	**Cusua**	**2.82**	**92**	P	Pn	03 02 39.9	+2.1
JUIV	**Juive**	**2.83**	**91**	⇓P	Pn	03 02 40.1	+2.1
ARRY	**Arrayan**	**2.85**	**93**	⇑P	Pn	03 02 38.8	+0.7
ARRY				S	Sn	03 03 13.0	+0.7
RETU	**Refugio**	**2.85**	**92**	⇑P	Pn	03 02 40.6	+2.4
NAS1	**Nasa**	**2.91**	**76**	P	Pn	03 02 41.1	+2.0
JUA2	**San Juan 2**	**2.92**	**67**	P	Pn	03 02 40.3	+1.0
PISA	**Pisayambo**	**2.93**	**84**	P	Pn	03 02 40.9	+1.6
TERV	**Terraza Guagua**	**2.94**	**66**	P	Pn	03 02 40.8	+1.3
PINO	**Pino**	**2.94**	**66**	⇓P	Pn	03 02 40.1	+0.7
JOR1	**San Jorge 1**	**2.98**	**63**	P	Pn	03 02 38.8	-1.3
VC1	**Cotopaxi 1**	**2.98**	**76**	P	Pn	03 02 42.5	+2.5
YANA	**Yana**	**2.99**	**66**	P	Pn	03 02 41.2	+1.0
TAMB	**Tambo**	**3.00**	**77**	P	Pn	03 02 42.5	+2.1
ANTI	**Antisana**	**3.27**	**74**	⇑P	Pn	03 02 47.2	+3.2
COTA	**Cotacachi**	**3.41**	**60**	⇓P	Pn	03 02 48.6	+2.6
CAYR	**Refugio Cayamb**	**3.56**	**68**	P	Pn	03 02 52.6	+4.4
CAYA	**Cayambe**	**3.60**	**67**	⇓P	Pn	03 02 52.8	+4.0

*BJI **31** 03:02:48.9, 13.51N×92.79E, h13km, mB5.2, mb4.7, Ms4.3, Msz4.1*
*NEIC **31** 03:02:50.0±0.4, 13.23N×92.94E, h30km, mb4.7/13, Error ellipse: s-maj=11.0km s-min=8.9km az=69.0*
ISC 31 03:02:47.9±0.3, **13.33N**±0.05×**92.83E**±0.04, **h30**km, **n54, σ1§54/65, mb4.8**/16, **3C-1D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.67**	**183**	*eP*	**Pn**	**03 03 17.9**	**+2.3**
PBA				*e*S	**Sn**	**03 03 43.0**	**+6.8**
NNT	**Nongplab**	**6.77**	**95**	P	**Pn**	**03 04 30.0**	**+2.0**
NST	**Nakhon Sawan**	**7.45**	**71**	P	**Pn**	**03 04 38.0**	**+0.6**
	100nm,0.5s						
CM31	**Chiang Mai Arr**	**7.78**	**48**	*eP*	**Pn**	**03 04 40.2**	**-1.9**
NANT	**Nan**	**9.32**	**53**	P	**P**	**03 05 06.0**	**+2.6**
BWNR	**Bhubaneshwar**	**9.65**	**317**	*eP*	**P**	**03 05 01.0**	**-7.0**
BWNR				*e*S	**Sn**	**03 06 38.0**	**-18**
VIS	**Vishakhapatnam**	**10.14**	**297**	*eP*	**P**	**03 05 12.5**	**-2.3**
VIS				*e*S	**S**	**03 06 55.4**	**-13**
VIS				*e*		03 07 01.9	
	comp=E,208nm,0.3s						
VIS				*e*		03 07 02.1	
	comp=N,379nm,0.3s						
AGT	**Agartala**	**10.60**	**352**	*e*	**P**	**03 05 35.0**	**+14**
IMP	**Imphal**	**11.44**	**5**	⇓*iP*	**P**	**03 05 30.4**	**-2.1**
SHL	**Shillong**	**12.20**	**356**	*eP*	**P**	**03 05 35.7**	**-7.1**
SHL				*e*		03 07 47.7	
PALK	**Pallekele**	**13.36**	**244**	*eP*	**P**	**03 05 57.1**	**-1.0**
	comp=N,8.1nm,0.3s						
HYB	**Hyderabad**	**14.35**	**288**	*eP*	**P**	**03 06 19.0**	**+7.7**
HYB				*e*S	**S**	**03 08 52.0**	**+1.8**
HYB	**Hyderabad**	**14.35**	**288**	*i P*	**P**	**03 06 19.0**	**+7.7**
	comp=N,40nm,1.0s						
HYB				*e*S	**S**	**03 08 52.0**	**+1.8**
SALM	**Salem**	**14.38**	**265**	*eP*	**P**	**03 06 11.0**	**-0.7**
JIRN	**Jiri**	**15.54**	**338**	*eP*	**P**	**03 06 22.7**	**-4.1**
PKI	**Pulchoki**	**15.77**	**335**	*eP*	**P**	**03 06 27.3**	**-2.4**
PKI				*e*S	**S**	**03 09 12.5**	**-11**
	comp=N,72nm,0.6s						
DMN	**Daman**	**15.93**	**334**	*eP*	**P**	**03 06 29.4**	**-2.4**
LATR	**Latur**	**16.44**	**290**	*eP*	**P**	**03 06 35.5**	**-2.8**
LATR				*e*		03 09 24.9	
GKN	**Gorkha**	**16.47**	**334**	*eP*	**P**	**03 06 36.2**	**-2.5**
GKN				*e*S	**S**	**03 09 29.8**	**-10**
	comp=N,60nm,0.6s						
KOLN	**Koldanda**	**16.75**	**330**	*eP*	**P**	**03 06 41.2**	**-0.9**
BHPL	**Bhopal**	**17.62**	**306**	*eP*	**P**	**03 06 54.4**	**+1.4**
BHPL				*e*		03 06 56.0	
	comp=Z,14nm,0.8s						
BHPL				*e*S	**S**	**03 10 05.0**	**-1.0**
KAD	**Karad**	**18.41**	**285**	*eP*	**P**	**03 07 03.0**	**+0.1**
KAD				*e*		03 07 04.6	
	comp=Z,19nm,0.9s						
KAD				*e*		03 10 14.0	
POO	**Poona**	**18.96**	**288**	*eP*	**P**	**03 07 09.1**	**-0.4**
POO				*e*		03 07 11.0	
	comp=Z,32nm,0.7s						
POO				*e*S	**S**	**03 10 43.0**	**+6.6**
NDI	**New Delhi**	**21.07**	**319**	*e*	**P**	**03 07 36.0**	**+3.8**
NDI				*e*		03 11 13.0	
AJM	**Ajmer**	**21.49**	**310**	*eP*	**P**	**03 07 38.0**	**+1.5**
AJM				*e*		03 07 43.7	
	comp=Z,37nm,1.1s						
AJM				*e*S	**S**	**03 11 33.7**	**+5.7**
DDI	**Dehra Dun**	**21.73**	**323**	*e*	**P**	**03 07 44.3**	**+5.5**
DDI				*e*S	**S**	**03 11 34.5**	**+2.0**
LZH	**Lanzhou**	**24.73**	**22**	⇑P	**P**	**03 08 11.3**	**+3.1**
LZH				AP		03 08 15.0	
LZH				XP		03 08 18.0	
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.7						
LZH	**Lanzhou**	**24.73**	**22**	⇑P	**P**	**03 08 11.2**	**+3.0**
	comp=Z,25nm,1.0s,mb4.7						
LZH				pP		03 08 14.9	
LZH				sP		03 08 18.0	
XAN	**Xi'an**	**25.27**	**33**	P	**P**	**03 08 13.5**	**+0.2**
XAN				AP	pP	03 08 25.3	+3.2
XAN				AMB	AMB		
	comp=Z,26nm,0.7s,mb4.9						
WMQ	**Urumqi**	**30.70**	**353**	*eP*	**P**	**03 09 09.3**	**+6.9**
AAK	**Ala-Archa**	**33.23**	**335**	*eP*	**P**	**03 09 26.0**	**+1.5**
	comp=Z,18nm,1.5s,mb4.8						
BJI	**Beijing**	**33.60**	**33**	*eP*	**P**	**03 09 25.9**	**-1.9**
ULN	**Ulaanbaatar**	**36.41**	**16**	*eP*	**P**	**03 09 52.6**	**+0.9**
	comp=Z,5.1nm,1.0s,mb4.4						
KURK	**Kurchatov**	**39.03**	**346**	*eP*	**P**	**03 10 14.7**	**+1.0**
	comp=Z,17nm,1.0s,mb4.7						
CHKZ	**Chkalovo**	**43.92**	**341**	*eP*	**P**	**03 10 54.2**	**+0.5**
	comp=Z,7.9nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**44.98**	**133**⇑	*iP*	**P**	**03 11 01.0**	**-1.7**
	comp=Z,15nm,0.4s,mb5.2						
GNI	**Garni**	**49.79**	**312**	*eP*	**P**	**03 11 41.8**	**+1.8**
	comp=Z,28nm,1.3s,mb5.1						
MUN	**Mundaring**	**50.32**	**154**	*eP*	**P**	**03 11 43.6**	**-0.6**
	comp=Z,11nm,0.9s,mb4.9						
NWAO	**Narrogin (SRO)**	**51.57**	**154**	*eP*	**P**	**03 11 52.6**	**-1.1**
WRAB	**Tennant Creek**	**52.56**	**128**	*eP*	**P**	**03 11 59.9**	**-1.4**
	comp=Z,10nm,0.6s,mb4.9						
WB2	**Warramunga Arr**	**52.56**	**128**	*eP*	**P**	**03 11 59.8**	**-1.5**
FORT	**Forrest**	**55.41**	**143**	*eP*	**P**	**03 12 21.1**	**-1.1**
	comp=Z,34nm,1.0s,mb5.3						
STKA	**Stephens Creek**	**64.82**	**135**	*eP*	**P**	**03 13 25.6**	**-1.0**
JOF	**Joensuu**	**65.40**	**334**	*ep*	**P**	**03 13 31.6**	**+1.8**
KAF	**Kangasniemi**	**67.38**	**332**	*ep*	**P**	**03 13 45.8**	**+3.4**
KEV	**Kevo**	**69.29**	**340**	*ep*	**P**	**03 13 54.1**	**0.0**
LSZ	**Lusaka**	**69.98**	**248**	*eP*	**P**	**03 14 00.6**	**+1.5**
BRG	**Berggiesshubel**	**72.77**	**319**	*eP*	**P**	**03 14 16.4**	**+1.0**
	comp=Z,4.3nm,0.8s,mb4.4						
BRG				*e*		03 14 21.5	
BRG				*e*	pP	03 14 25.7	+0.9
KHC	**Kasperske Hory**	**73.02**	**318**	*eP*	**P

comp=Z,18nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,77nm,3.7s
BJI Beijing 39.75 26 *e*P **P 03 15 44.3 +0.7**
BJI pmax pmax
comp=Z,16nm,0.9s,mb4.8
BJI MLR MLR
comp=Z,170nm,32.5s,MS3.7
BJI Beijing 39.75 26 *e*P **P 03 15 44.3 +0.7**
comp=Z,16nm,0.9s,mb4.8
BJI LR LR
comp=Z,170nm,32.5s,MS3.7
UCH Uchtor 40.89 337 P **P 03 15 53.9 +0.9**
SNR=9.2
TKM2 Tokmak 2 41.08 339 P **P 03 15 55.1 +0.5**
SNR=9.8
KBK Karagaybulak 41.09 338 P **P 03 15 55.6 +0.9**
SNR=17
AML Almayashu 41.13 336 P **P 03 15 55.3 +0.3**
SNR=25
AAK Ala-Archa 41.24 337 *e*P **P 03 15 55.7 -0.3**
AAK pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
AAK Ala-Archa 41.24 337 *e*P **P 03 15 55.7 -0.3**
comp=Z,3.6nm,0.5s,mb4.3
KAKA Kakadu 41.70 116 *e*P **P 03 15 59.7 -0.4**
comp=Z,8.2nm,0.6s,mb4.5
USP Ospenovka 41.78 338 P **P 03 16 00.4 -0.1**
SNR=14
ULN Ulaanbaatar 43.79 12 *e*P **P 03 16 15.7 -1.1**
ULN pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
ULN Ulaanbaatar 43.79 12 *e*P **P 03 16 15.7 -1.1**
comp=Z,5.5nm,0.6s,mb4.5
ZAK Zakamensk 45.57 8 *e*P **P 03 16 29.9 -1.1**
ZAK *e* 03 18 02.1
WRAB Tennant Creek 46.48 124 *e*P **P 03 16 38.8 +0.2**
WRAB pmax pmax
comp=Z,25nm,0.7s,mb5.2
WRAB Tennant Creek 46.48 124 *e*P **P 03 16 38.8 +0.2**
comp=Z,25nm,0.7s,mb5.2
WB2 Warramunga Arr 46.49 124 *e*P **P 03 16 39.4 +0.8**
TLY Talaya 46.89 8 *i*P **P 03 16 41.0 -0.4**
TLY pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
KURK Kurchatov 47.22 346 *e*P **P 03 16 43.8 -0.2**
KURK pmax pmax
comp=Z,21nm,0.6s,mb5.2
KURK Kurchatov 47.22 346 *e*P **P 03 16 43.8 -0.2**
comp=Z,21nm,0.6s,mb5.2
NVS Novosibirsk 50.27 352 *e*P **P 03 17 05.6 -1.9**
NVS *e**PP pP 03 17 16.6 -3.3
NVS *e*S **S 03 24 19.7 +4.3**
NVS pmax pmax
comp=Z,16nm,0.8s,mb5.1
NVS pmax pmax
comp=N,10.0nm,0.7s
NVS pmax pmax
comp=E,11nm,0.5s
NVS smax
comp=E,16nm,1.8s
BRVK Borovoye 51.63 342 *e*P **P 03 17 16.8 -1.0**
BRVK pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
BRVK Borovoye 51.63 342 *e*P **P 03 17 16.8 -1.1**
comp=Z,8.5nm,0.6s,mb4.8
CHKZ Chkalovo 52.06 342 *e*P **P 03 17 20.2 -0.8**
CHKZ pmax pmax
comp=Z,23nm,0.6s,mb5.3
CHKZ Chkalovo 52.06 342 *e*P **P 03 17 20.2 -0.8**
comp=Z,23nm,0.6s,mb5.3
BOD Bodaibo 54.60 13 *e*P **P 03 17 38.7 -1.1**
CTAO Charters Tower 56.73 118 *e*P **P 03 17 55.2 -0.5**
CTAO pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
CTAO Charters Tower 56.73 118 *e*P **P 03 17 55.2 -0.5**
comp=Z,2.7nm,0.9s,mb4.3
STKA Stephens Creek 58.05 133 *e*P **P 03 18 04.9 +0.1**
comp=Z,1.9nm,0.4s,mb4.5
ARU Arti 58.43 337 ⇓*i*P **P 03 18 09.8 +2.7**
ARU *e* 03 18 55.6
ARU *e* 03 20 11.3
ARU *e*S **S 03 26 18.8 +14**
ARU pmax pmax
comp=Z,27nm,1.1s,mb5.2
KIV Kislovodsk 59.51 319 *e*P **P 03 18 13.1 -1.7**
KIV pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
KIV Kislovodsk 59.51 319 *e*P **P 03 18 13.1 -1.7**
comp=Z,9.3nm,0.7s,mb4.9
SOC Sochi 61.34 317 *e*P **P 03 18 24.2 -3.0**
SOC *e* 03 19 05.1
SOC *e* 03 20 41.0
SOC *e*PPP PPP 03 22 08.5 -4.7
SOC *e*S **S 03 26 41.2 -1.5**
SOC *e* 03 28 09.0
SOC *e*SS SS 03 30 46.8 +1.7
SOC pmax pmax
comp=Z,19nm,0.5s,mb5.5
SOC pmax pmax
comp=N,57nm,0.7s
SOC pmax pmax
comp=E,28nm,0.7s
YAK Yakutsk 62.35 18 *i*P **P 03 18 31.4 -2.3**
YAK pmax pmax
comp=Z,13nm,0.8s,mb5.1
ANN Anapa 63.31 318 *e*P **P 03 18 49.4 +9.0**
ANN *e**PP pP 03 18 58.3 +5.1
ANN *i* 03 19 10.1
ANN *e*S **S 03 27 17.0 +10**
ANN pmax pmax
comp=Z,121nm,1.0s
OBN Obninsk 67.78 328 *i*P **P 03 19 04.6 -4.2**
OBN *e*S S 03 28 06.1 +4.1
OBN pmax pmax
comp=Z,33nm,1.3s,mb5.2
MA2 Magadan 68.91 27 *i*P **P 03 19 11.2 -4.5**
MA2 pmax pmax
comp=Z,13nm,1.5s,mb4.6
TIXI Tiksi 69.71 11 *i*P **P 03 19 18.7 -1.8**
TIXI pmax pmax
comp=Z,28nm,1.6s,mb4.9
VRI Vrincioaia 70.84 317 ⇓*i*P **P 03 19 27.8 0.0**
MLR Muntele Rosu 71.30 316 ⇑*i*P **P 03 19 30.2 -0.3**
BURAR Bucovina Array 72.23 318 ⇓*i*P **P 03 19 36.2 +0.2**
KWP Kalwaria 74.26 320 *e*P **P 03 19 47.5 -0.3**
KOLS Kolonicke sedl 74.41 319 *i*P **P 03 19 49.2 +0.4**
SUW Suwalki 74.84 325 *e*P **P 03 19 50.1 -1.1**
CRVS Cervenica-Dubn 74.93 319 *i*P **P 03 19 51.8 0.0**
KAF Kangasniemi 75.28 333 *e*p **P 03 19 50.6 -2.9**
comp=Z,11nm,1.1s,mb4.7
KAF Kangasniemi 75.28 333 *e*P **P 03 19 50.6 -2.9**
KAF pmax pmax
comp=Z,11nm,1.1s,mb4.7
OJC Ojcow 76.21 320 *e*P **P 03 19 58.8 -0.2**
VYHS Vyhne 76.60 319 *i*P **P 03 20 01.2 -0.1**
SRO Srobarova 76.86 318 *e*P **P 03 20 03.4 +0.6**
OKC Ostrava-Krasne 77.21 320 *e*P **P 03 20 04.6 -0.1**
ZST Bratislava 77.71 318 *e*P **P 03 20 07.8 +0.3**
DPC Dobruska-Polom 78.44 320 *e*P **P 03 20 12.0 +0.6**
KSP Ksiaz 78.51 321 *e*P **P 03 20 12.0 +0.2**
KSP Ksiaz 78.51 321 *e*P **P 03 20 12.7 +0.9**
UPC Upice 78.65 320 *e*P **P 03 20 12.5 -0.1**
PRU Pruhonice 79.55 320 *e*P **P 03 20 17.6 +0.1**
PVCC Panska Ves 79.57 320 *e*P **P 03 20 17.8 +0.2**
BRG Berggiesshubel 79.99 321 *i*P **P 03 20 17.1 -2.8**
BRG *i* pP 03 20 34.0 +1.0
BRG pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BRG Berggiesshubel 79.99 321 *i*P **P 03 20 17.1 -2.8**
comp=Z,4.9nm,0.6s,mb4.6
BRG *i* 03 20 19.9
BRG *i* pP 03 20 34.0 +1.0
GEC2 GERESS Array S 80.02 319 *e*P **P 03 20 20.5 +0.5**
GEC2 pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
GEC2 GERESS Array S 80.02 319 *e*P **P 03 20 20.5 +0.5**
comp=Z,8.0nm,0.7s,mb4.8
KHC Kasperske Hory 80.11 319 *e*P **P 03 20 20.5 -0.1**
KHC *e*pP pP 03 20 35.0 +1.3
WET Wettzell 80.58 319 *e*P **P 03 20 23.4 +0.4**
WET pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
WET Wettzell 80.58 319 *e*P **P 03 20 23.4 +0.4**
comp=Z,4.0nm,0.8s,mb4.4
CLL Collm 80.61 321 *e*P **P 03 20 23.0 -0.2**
CLL Collm 80.61 321 P **P 03 20 23.0 -0.2**
MOX Moxa 81.46 320 *e*P **P 03 20 27.5 -0.1**
MOX Moxa 81.46 320 *i*P **P 03 20 27.5 -0.1**
GRA1 Grafenberg Arr 81.68 319 *e*P **P 03 20 29.6 +0.8**
comp=Z,6.0nm,0.8s,mb4.6
GRF Grafenberg Arr 81.68 319 *e*P **P 03 20 29.6 +0.8**
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
GRF Grafenberg Arr 81.68 319 *e*P **P 03 20 29.6 +0.8**
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
GRF Grafenberg Arr 81.68 319 *e*P **P 03 20 29.6 +0.8**
comp=Z,6.0nm,0.8s,mb4.6
CLZ Clausthal 82.27 321 *e*P **P 03 20 32.1 +0.3**
comp=Z,5.0nm,0.8s,mb4.5
TNS Taunus Mts 83.48 320 *e*P **P 03 20 38.5 +0.6**
BFO Black Forest 83.57 318 *e*P **P 03 20 38.4 -0.1**
BFO pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
BFO Black Forest 83.57 318 *e*P **P 03 20 38.4 -0.1**
comp=Z,4.0nm,0.7s,mb4.7
CDF Champ du Feu 84.27 318 ⇑*i*P **P 03 20 41.7 -0.3**
comp=Z,6.5nm,0.7s,mb4.6
CDF Champ du Feu 84.27 318 ⇑*i*P **P 03 20 41.7 -0.3**
CDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
SBF Sospel 84.29 313 *e*P **P 03 20 42.2 0.0**
comp=Z,42nm,0.8s,mb5.3
SBF Sospel 84.29 313 *e*P **P 03 20 42.2 0.0**
SBF pmax pmax
comp=Z,21nm,0.8s,mb5.3
LPG La Plagne 84.72 315 ⇑*i*P **P 03 20 44.8 +0.5**
comp=Z,9.1nm,0.6s,mb4.8
LPG La Plagne 84.72 315 ⇑*i*P **P 03 20 44.8 +0.5**
LPG pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
LPL La Plagne 84.73 315 ⇑*i*P **P 03 20 44.7 +0.3**
comp=Z,21nm,0.9s,mb5.0
LPL La Plagne 84.73 315 ⇑*i*P **P 03 20 44.7 +0.3**
LPL pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
MBDF Montbardon 84.73 314 *e*P **P 03 20 43.5 -0.9**
FRF La Foret Royal 84.87 313 *e*P **P 03 20 45.3 +0.2**
HAU Haudompre 84.90 318 ⇑*i*P **P 03 20 44.9 -0.3**
comp=Z,18nm,0.7s,mb5.0
HAU Haudompre 84.90 318 ⇑*i*P **P 03 20 44.9 -0.3**
HAU pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
CABF La Chapelle 85.14 316 ⇑*i*P **P 03 20 46.7 +0.3**
comp=Z,6.7nm,0.5s,mb4.7
CABF La Chapelle 85.14 316 ⇑*i*P **P 03 20 46.7 +0.3**
CABF pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
ORIF Oris-en-Rattie 85.36 315 *e*P **P 03 20 47.9 +0.4**
comp=Z,3.9nm,0.6s,mb4.4
ORIF Oris-en-Rattie 85.36 315 *e*P **P 03 20 47.9 +0.4**
ORIF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
SMRF Simiane la Rot 85.62 314 *e*P **P 03 20 49.6 +0.7**
BAIF Baives 86.21 320 ⇑*i*P **P 03 20 51.8 +0.3**
comp=Z,9.5nm,0.6s,mb4.9
BAIF Baives 86.21 320 ⇑*i*P **P 03 20 51.8 +0.3**
BAIF pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
VIVF Saint-Julien-l 86.22 315 *e*P **P 03 20 51.4 -0.3**
SMF Signal de Mont 86.68 316 ⇑*i*P **P 03 20 53.9 0.0**
comp=Z,7.8nm,0.7s,mb4.8
SMF Signal de Mont 86.68 316 ⇑*i*P **P 03 20 53.9 0.0**
SMF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
SSF Saint Saulge 86.88 317 *e*P **P 03 20 54.9 0.0**
comp=Z,5.3nm,0.8s,mb4.5
SSF Saint Saulge 86.88 317 *e*P **P 03 20 54.9 0.0**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
AVF Avril sur Loir 87.00 317 *e*P **P 03 20 55.4 -0.1**
comp=Z,12nm,1.0s,mb4.8
AVF Avril sur Loir 87.00 317 *e*P **P 03 20 55.4 -0.1**
AVF pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
BGF Bois d'Agland 87.37 316 *e*P **P 03 20 57.8 +0.5**
HYF Humbligny 87.45 317 *e*P **P 03 20 58.2 +0.5**
TCF Toulx Ste Croi 87.83 316 *e*P **P 03 20 59.8 +0.3**
RJF Les Rejaudoux 88.41 315 *e*P **P 03 21 02.9 +0.6**
LDF La Druitiere 89.16 319 *e*P **P 03 21 06.1 +0.3**
comp=Z,15nm,1.1s,mb4.9
LDF La Druitiere 89.16 319 *e*P **P 03 21 06.1 +0.3**
LDF pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
FLN La Foliniere 89.38 319 *e*P **P 03 21 07.0 +0.2**
comp=Z,16nm,0.8s,mb5.1
FLN La Foliniere 89.38 319 *e*P **P 03 21 07.0 +0.2**
FLN pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
MFF Saint Martin d 89.42 317 *e*P **P 03 21 07.3 +0.2**
GRR Gorron 89.67 318 *e*P **P 03 21 08.8 +0.6**
ETSF Etsaut 90.17 313 *e*P **P 03 21 12.5 +1.8**
ROSF Rostrenen 91.28 319 *e*P **P 03 21 16.0 +0.3**
INK Inuvik 99.39 16 *e*P **P 03 21 52.7 +0.5**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 99.39 16 *e*P **P 03 21 52.7 +0.5**
comp=Z,0.7nm,0.5s,mb4.5
RES Resolute Bay 99.98 3 *e*P **P 03 21 55.3 +0.5**
RES pmax pmax
comp=Z,2.0nm,0.8s,mb4.6
RES Resolute Bay 99.98 3 *e*P **P 03 21 55.3 +0.5**
comp=Z,1.7nm,0.8s,mb4.5

NEIC ***31*** *03:17:19.4±0.4, 8.17N×94.35E, mb4.7/19, Error ellipse: s-maj=17.6km s-min=11.3km az=64.0*
MOS ***31*** *03:17:20.1±0.8, 8.21N×94.42E, h33km, mb4.9/23, Error ellipse: s-maj=20.3km s-min=9.7km az=115.4*
BJI ***31*** *03:17:20.1, 7.96N×93.96E, h32km, mb4.6, Ms4.7*
ISC 31 03:17:17.7±0.4, 8.13N±0.07×94.36E±0.09, h16km, h16km±.3km:pP-P, n67, σ0§95/66, mb4.7/26, 1C-2D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.19**	**23**	P	**P**	**03 19 60.0**	**-0.2**
JIRN	**Jiri**	**20.91**	**339**	*e*P	**P**	**03 22 02.8**	**+0.8**
PKI	**Pulchoki**	**21.12**	**337**	*e*P	**P**	**03 22 05.0**	**+0.9**
KKN	**Kakani**	**21.36**	**337**	*e*P	**P**	**03 22 07.4**	**+0.8**
LSA	**Lhasa**	**21.67**	**352**	P	**P**	**03 22 13.5**	**+3.8**
LSA				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
GKN	**Gorkha**	**21.80**	**336**	*e*P	**P**	**03 22 11.4**	**+0.4**
	comp=Z,64nm,0.6s,mb5.2						
KOLN	**Koldanda**	**22.03**	**334**	*e*P	**P**	**03 22 13.7**	**+0.4**
	comp=Z,69nm,0.7s,mb5.2						
XAN	**Xi'an**	**29.07**	**25**	P	**P**	**03 23 20.3**	**+0.7**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.4						
NJ2	**Nanjing**	**32.94**	**40**	*e*P	**P**	**03 24 00.0**	**+6.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
NJ2				LR	LR		
	comp=N,450nm,10.9s						
NJ2				LR	LR		
	comp=E,400nm,8.8s						
AAK	**Ala-Archa**	**38.56**	**336**	*e*P	**P**	**03 24 41.0**	**-0.4**
AAK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**38.56**	**336**	*e*P	**P**	**03 24 41.0**	**-0.5**
	comp=Z,11nm,1.0s,mb4.5						
MKAR	**Makanchi Array**	**39.89**	**347**	*i*P	**P**	**03 24 52.2**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ULN	**Ulaanbaatar**	**41.04**	**13**	*e*P	**P**	**03 25 02.4**	**+0.5**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.2						
ULN	**Ulaanbaatar**	**41.04**	**13**	*e*P	**P**	**03 25 02.4**	**+0.5**
	comp=Z,7.7nm,1.3s,mb4.2						
KURK	**Kurchatov**	**44.42**	**346**	*i*P	**P**	**03 25 29.2**	**-0.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
KURK	**Kurchatov**	**44.42**	**346**	*e*P	**P**	**03 25 29.7**	**+0.2**
	comp=Z,22nm,1.1s,mb4.8						
NWAO	**Narrogin (SRO)**	**46.27**	**153**	*e*P	**P**	**03 25 44.8**	**+0.4**
NWAO				pmax	pmax		
	comp=Z,37nm,1.3s						
NWAO	**Narrogin (SRO)**	**46.27**	**153**	*e*P	**P**	**03 25 44.8**	**+0.5**
	comp=Z,37nm,1.3s,mb5.2						
NVS	**Novosibirsk**	**47.43**	**351**	*e*P	**P**	**03 25 51.1**	**-2.1**
NVS				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
NVS				pmax	pmax		
	comp=N,9.0nm,0.9s						
WRAB	**Tennant Creek**	**48.23**	**126**	*e*P	**P**	**03 25 59.3**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
WRAB	**Tennant Creek**	**48.23**	**126**	*e*P	**P**	**03 25 59.3**	**-0.6**
	comp=Z,5.1nm,0.8s,mb4.6						
WB2	**Warramunga Arr**	**48.24**	**126**	*e*P	**P**	**03 25 59.6**	**-0.4**
BRVK	**Borovoye**	**48.89**	**341**	*e*P	**P**	**03 26 08.3**	**+3.7**
BRVK				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.7						
BRVK	**Borovoye**	**48.89**	**341**	*e*P	**P**	**03 26 08.3**	**+3.7**
	comp=Z,11nm,1.4s,mb4.7						
RAYN	**Ar Rayn**	**49.19**	**294**	P	**P**	**03 26 07.5**	**+0.2**
	comp=Z,75nm,0.5s,SNR=14						
CHKZ	**Chkalovo**	**49.30**	**342**	P	**P**	**03 26 07.4**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
CHKZ	**Chkalovo**	**49.30**	**342**	*e*P	**P**	**03 26 07.5**	**-0.3**
	comp=Z,14nm,0.9s,mb5.0						
BOD	**Bodaibo**	**51.85**	**13**	*e*P	**P**	**03 26 26.8**	**-0.4**
KIV	**Kislovodsk**	**57.28**	**318**	*e*P	**P**	**03 27 06.0**	**-1.0**
KIV				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.0						
KIV	**Kislovodsk**	**57.28**	**318**	*e*P	**P**	**03 27 06.0**	**-1.0**
	comp=Z,19nm,1.2s,mb5.0						
KMBO	**Kilima Mbogo**	**57.67**	**264**	*e*P	**P**	**03 27 11.4**	**+1.2**
KMBO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KMBO	**Kilima Mbogo**	**57.67**	**264**	*e*P	**P**	**03 27 11.3**	**+1.2**
	comp=Z,7.2nm,0.8s,mb4.8						
YAK	**Yakutsk**	**59.69**	**18**	*e*P	**P**	**03 27 23.5**	**0.0**
YAK				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
OBN	**Obninsk**	**65.29**	**328**	*e*P	**P**	**03 28 01.6**	**+0.7**
OBN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
VRI	**Vrincioaia**	**68.67**	**316**	⇑*i*P	**P**	**03 28 22.2**	**-0.3**
MLR	**Muntele Rosu**	**69.15**	**316**	⇓*i*P	**P**	**03 28 22.2**	**-3.2**
LSZ	**Lusaka**	**69.56**	**250**	*e*P	**P**	**03 28 27.8**	**-0.6**
LSZ				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
LSZ	**Lusaka**	**69.56**	**250**	*e*P	**P**	**03 28 27.8**	**-0.6**
	comp=Z,1.7nm,0.4s,mb4.3						
BURAR	**Bucovina Array**	**70.01**	**318**	⇓*i*P	**P**	**03 28 29.0**	**-1.6**
JOF	**Joensuu**	**70.72**	**334**	*e*p	**P**	**03 28 33.7**	**-1.0**
KAF	**Kangasniemi**	**72.67**	**333**	*e*p	**P**	**03 28 45.9**	**-0.4**
	comp=Z,3.8nm,0.5s,mb4.6						
KAF	**Kangasniemi**	**72.67**	**333**	*e*P	**P**	**03 28 45.9**	**-0.4**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
LBTB	**Lobatse**	**74.56**	**241**	*e*P	**P**	**03 28 58.3**	**+0.2**
LBTB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
LBTB	**Lobatse**	**74.56**	**241**	*e*P	**P**	**03 28 58.3**	**+0.2**
	comp=Z,5.3nm,0.8s,mb4.5						
OKC	**Ostrava-Krasne**	**74.94**	**319**	*e*P	**P**	**03 28 59.6**	**-0.2**
OKC				*e*x	x	03 29 04.5	
DPC	**Dobruska-Polom**	**76.16**	**320**	*e*P	**P**	**03 29 06.7**	**0.0**
DPC				*e*x	x	03 29 11.8	
KSP	**Ksiaz**	**76.21**	**320**	*e*P	**P**	**03 29 11.7**	**+4.7**
UPC	**Upice**	**76.37**	**320**	*e*P	**P**	**03 29 09.8**	**+2.0**
PRU	**Pruhonice**	**77.28**	**319**	*e*P	**P**	**03 29 13.1**	**+0.2**
BRG	**Berggiesshubel**	**77.70**	**320**	*e*P	**P**	**03 29 10.1**	**-5.1**
BRG				*e*		03 29 20.8	
BRG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BRG	**Berggiesshubel**	**77.70**	**320**	*e*P	**P**	**03 29 10.1**	**-5.1**
	comp=Z,4.3nm,0.9s,mb4.4						
BRG				*e*		03 29 20.8	
KHC	**Kasperske Hory**	**77.88**	**318**	*e*P	**P**	**03 29 15.2**	**-1.0**
KHC				*e*x	x	03 29 21.1	
MAW	**Mawson**	**78.82**	**192**	*e*P	**P**	**03 29 22.0**	**+0.9**
GRA1	**Grafenberg Arr**	**79.42**	**319**	*e*P	**P**	**03 29 25.0**	**+0.3**
	comp=Z,6.0nm,0.9s,mb4.5						
GRA1				*e*pP	pP	03 29 30.3	+0.4
GRF	**Grafenberg Arr**	**79.42**	**319**	*e*P	**P**	**03 29 25.0**	**+0.3**
GRF				*e**PP	pP	03 29 30.3	+0.4
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	**Grafenberg Arr**	**79.42**	**319**	*e*P	**P**	**03 29 25.0**	**+0.3**
GRF				*e**PP	pP	03 29 30.3	+0.4
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	**Grafenberg Arr**	**79.42**	**319**	*e*P	**P**	**03 29 25.0**	**+0.3**
	comp=Z,6.0nm,0.9s,mb4.5						
GRF				*e*pP	pP	03 29 30.3	+0.4
NB2	**NORSAR Subarra**	**79.62**	**331**	P	**P**	**03 29 25.1**	**-0.4**
	comp=Z,2.6nm,0.6s,mb4.3,baz=91,slow=5.8						
NB2	**NORSAR Subarra**	**79.62**	**331**	P	**P**	**03 29 25.1**	**-0.4**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LPG	**La Plagne**	**82.60**	**315**	*e*P	**P**	**03 29 41.0**	**-0.5**
	comp=Z,27nm,0.9s,mb5.0						
LPG	**La Plagne**	**82.60**	**315**	*e*P	**P**	**03 29 41.0**	**-0.5**
LPG				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
IMA	**Indian Mountai**	**91.31**	**22**	*e*P	**P**	**03 30 25.8**	**+2.4**
IMA				*e*	pP	03 30 30.8	+2.2
INK	**Inuvik**	**96.69**	**16**	*e*P	**P**	**03 30 49.2**	**+1.1**
INK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
INK	**Inuvik**	**96.69**	**16**	*e*P	**P**	**03 30 49.2**	**+1.1**
	comp=Z,8.3nm,1.3s,mb5.0						
RES	**Resolute Bay**	**97.14**	**2**	P	**P**	**03 30 48.0**	**-2.0**
RES				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.6						
RES	**Resolute Bay**	**97.14**	**2**	P	**P**	**03 30 48.0**	**-1.9**
	comp=Z,2.3nm,0.8s,mb4.7						
PLCA	**Paso Flores**	**144.86**	**200**	*e*PKIKP	PKPdf	03 36 55.2	-2.8

NSSP ***31*** *03:59:42.2, 38.47N×44.97E, h8km, ML3.7*
CSEM ***31*** *03:59:48.8±0.1, 38.77N×44.66E, h5km, mb4.1/2, ML4.2/1, Error ellipse: s-maj=3.0km s-min=2.1km az=132.0*
MOS ***31*** *03:59:50.9±2.9, 38.79N×44.76E, h10km, mb4.3/3, Error ellipse: s-maj=13.1km s-min=10.9km az=70.4*
NEIC ***31*** *03:59:50.9±0.9, 38.58N×44.65E, h5km, mb4.1/3, ML4.4(ISK), Error ellipse: s-maj=14.0km s-min=9.2km az=140.0*
THR ***31*** *03:59:53.4±0.9, 38.99N×44.70E, h14km±16km, ML3.5*
ISC 31 03:59:51.0±0.5, 38.82N±0.03×44.78E±0.04, h5km, n53, σ1§58/62, mb3.9/3, 1C-5D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKU	**Maku**	**0.54**	**352**	*i*PG	**Pg**	**04 00 00.6**	**-1.2**
MAKU				*e*SG	**Sg**	**04 00 06.7**	**-2.4**
MAKU				AML	AML	04 00 10.2	
	comp=N,9μm,0.5s						
MAKU				AML	AML	04 00 12.2	
	comp=E,11μm,0.5s						
MAKU	**Maku**	**0.54**	**352**	*i*Pg	**Pg**	**04 00 00.6**	**-1.2**
	SNR=91						
MAKU				*e*Sg	**Sg**	**04 00 06.7**	**-2.3**
	comp=E,11μm,0.5s,SNR=91						
VANB	**Van**	**1.11**	**259**	*i*PN	**Pn**	**04 00 09.4**	**-3.8**
VANB				*i*SN	**Sn**	**04 00 26.3**	**-2.7**
VANB	**Van**	**1.11**	**259**	Pn	**Pn**	**04 00 09.4**	**-3.7**
MGRZ	**Megri**	**1.14**	**86**	S	**Sb**	**04 00 30.9**	**+3.1**
MGRZ	**Megri**	**1.14**	**86**	⇓P	**Pb**	**04 00 08.2**	**-4.6**
VANT	**Van**	**1.16**	**251**	*i*PN	**Pn**	**04 00 12.0**	**-1.8**
VRNZ	**Vardanashen**	**1.31**	**340**	⇓P	**Pb**	**04 00 14.4**	**-1.3**
VRNZ				S	**Sb**	**04 00 32.8**	**+0.1**
XTNZ	**Xhotanan**	**1.32**	**69**	⇓P	**Pb**	**04 00 10.9**	**-5.1**
XTNZ				S	**Sb**	**04 00 31.6**	**-1.5**
GNI	**Garni**	**1.33**	**359**	*i*PN	**Pn**	**04 00 15.8**	**-0.4**
GNI	**Garni**	**1.33**	**359**	Pg	**Pg**	**04 00 16.2**	**-1.3**
PAAR	**P'arak'ar**	**1.37**	**348**	P	**Pb**	**04 00 14.8**	**-1.9**
PAAR				S	**Sb**	**04 00 34.8**	**+0.4**
VNNZ	**Vanand**	**1.48**	**330**	⇓P	**Pn**	**04 00 16.6**	**-1.8**
HKR	**Hakkari**	**1.49**	**214**	*i*PN	**Pn**	**04 00 15.9**	**-2.6**
HKR	**Hakkari**	**1.49**	**214**	Pn	**Pn**	**04 00 15.9**	**-2.6**
AMBZ	**Amberd**	**1.62**	**346**	S	**Sb**	**04 00 45.6**	**+4.0**
AMBZ	**Amberd**	**1.62**	**346**	⇓P	**Pn**	**04 00 19.0**	**-1.4**

STE	**Stepanavan**	**2.20**	**352**	P	**Pn**	**04 00 29.0**	**+0.3**
KARS	**Kars**	**2.21**	**324**	PN	**Pn**	**04 00 30.4**	**+1.5**
KARS	**Kars**	**2.21**	**324**	PN	**Pn**	**04 00 30.5**	**+1.6**
GRMI	**Germi**	**2.43**	**89**	*e*PN	**Pn**	**04 00 35.9**	**+3.9**
GRMI				*e*SG	**Sg**	**04 01 11.4**	**-0.5**
GRMI				AML	AML	04 01 18.9	
	comp=E,174nm,0.8s						
GRMI				AML	AML	04 01 24.8	
	comp=N,200nm,0.5s						
VRT	**Varto**	**2.56**	**278**	PN	**Pn**	**04 00 35.2**	**+1.4**
VRT	**Varto**	**2.56**	**278**	Pn	**Pn**	**04 00 35.2**	**+1.4**
BTMT	**Batman**	**2.66**	**257**	PN	**Pn**	**04 00 36.1**	**+0.8**
AKH	**Akhalkalaki**	**2.77**	**339**	P	**Pn**	**04 00 40.3**	**+3.5**
AKH				S	**Sn**	**04 01 19.0**	**+7.9**
EZM	**Erzurum**	**2.87**	**293**	PN	**Pn**	**04 00 39.9**	**+1.7**
MTA	**Mtatsminda**	**2.87**	**0**	P	**Pn**	**04 00 40.9**	**+2.6**
MTA				S	**Sn**	**04 01 22.9**	**+9.3**
TI2	**Plekhanov**	**2.91**	**360**	⇑*i*PN	**Pn**	**04 00 41.2**	**+2.3**
TI2				pmax	pmax		
	comp=Z,50nm,1.0s						
DUS	**Dusheti**	**3.27**	**359**	P	**Pn**	**04 00 46.6**	**+2.7**
BINT	**Bingol**	**3.35**	**272**	PN	**Pn**	**04 00 48.5**	**+3.3**
BCA	**Borcka**	**3.57**	**318**	*e*PN	**Pn**	**04 00 49.5**	**+1.3**
BCA	**Borcka**	**3.57**	**318**	Pn	**Pn**	**04 00 49.5**	**+1.3**
DIY	**Diyarbakir**	**3.70**	**257**	*e*PN	**Pn**	**04 00 50.2**	**+0.1**
DIY	**Diyarbakir**	**3.70**	**257**	Pn	**Pn**	**04 00 50.3**	**+0.2**
ONI	**Oni**	**3.89**	**345**	P	**Sg**	**04 01 55.4**	**-5.1**
SNGE	**Sanandaj**	**4.25**	**150**	*e*PN	**Pn**	**04 01 02.4**	**+4.5**
SNGE				AML	AML	04 02 22.4	
	comp=E,30nm,0.7s						
SNGE				AML	AML	04 02 24.0	
	comp=N,23nm,0.7s						
GUMT	**Gumushane**	**4.41**	**293**	*e*PN	**Pn**	**04 01 02.0**	**+1.8**
URFA	**Urfa**	**4.90**	**256**	*e*PN	**Pn**	**04 01 06.7**	**-0.4**
MALT	**Malatya**	**5.01**	**266**	*e*Pn	**Pn**	**04 01 05.7**	**-2.9**
MYA	**Malataya**	**5.01**	**266**	*e*PN	**Pn**	**04 01 09.1**	**+0.5**
KIV	**Kislovodsk**	**5.37**	**344**	*e*Pg	**Pg**	**04 01 38.1**	**0.0**
	comp=N,39nm,1.0s						
GAZ	**Gaziantep**	**6.20**	**257**	*e*P	**Pn**	**04 01 26.3**	**+0.8**
GAZ	**Gaziantep**	**6.20**	**257**	Pn	**Pn**	**04 01 26.4**	**+0.9**
ISP	**Isparta**	**11.26**	**269**	P	**P**	**04 02 31.9**	**-3.7**
OBN	**Obninsk**	**17.21**	**344**	*e*P	**P**	**04 03 48.8**	**-4.8**
OBN				pmax	pmax		
	comp=Z,23nm,1.1s						
ARU	**Arti**	**19.85**	**23**	*e*P	**P**	**04 04 20.0**	**-5.5**
BRVK	**Borovoye**	**22.58**	**43**	*e*P	**P**	**04 04 52.9**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb3.9						
BRVK	**Borovoye**	**22.58**	**43**	*e*P	**P**	**04 04 52.9**	**-0.4**
	comp=Z,6.0nm,1.1s,mb3.9						
CHKZ	**Chkalovo**	**23.06**	**41**	*e*P	**P**	**04 05 00.4**	**+2.4**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb3.9						
CHKZ	**Chkalovo**	**23.06**	**41**	*e*P	**P**	**04 05 00.4**	**+2.4**
	comp=Z,7.0nm,1.3s,mb3.9						
KURK	**Kurchatov**	**26.57**	**52**	P	**P**	**04 05 31.9**	**+0.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
KURK	**Kurchatov**	**26.57**	**52**	P	**P**	**04 05 31.9**	**+0.4**
	comp=Z,5.1nm,1.1s,mb4.0						
KURK	**Kurchatov**	**26.57**	**52**	P	**P**	**04 05 31.9**	**+0.4**
	comp=Z,5.0nm,1.1s,mb4.0						

NIED ***31*** *04:01:00,33.90N×142.50E,h8km,Mw4.2 Best double couple: M0.2.29×10^15 NP1:φs170°,δ59°,λ-118°. NP2: φs36°,δ41°,λ-52°.*
NEIC ***31*** *04:01:11.6±0.9,33.94N×142.52E,h10km,mb4.7/6, MW4.2(NIED),Error ellipse: s-maj=24.4km s-min=15.3km az=45.0*
MOS ***31*** *04:01:12.5±1.6,33.89N×142.43E,h33km,mb4.9/7,Error ellipse: s-maj=33.4km s-min=12.1km az=128.0*
JMA ***31*** *04:01:12.9±0.3,33.94N×142.47E,h67km,M3.9*
BJI ***31*** *04:01:14.5,34.23N×141.69E,h5km,mB5.0,mb4.7,Ms4.6, Msz4.0*

ISC 31 04:01:13.1±0.7,34.01N±0.05×142.49E±0.06,h33km,n37, σ1§05/51,mb4.7/8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.41**	**298**	P	**P**	**04 01 37.1**	**+0.5**
BSO1				*e*S	**S**	**04 01 55.5**	**+1.4**
BSO3	**Boso 3**	**1.82**	**296**	P	**P**	**04 01 43.2**	**+0.7**
BSO3				S	**S**	**04 02 06.7**	**+2.1**
BSO4	**Boso 4**	**2.03**	**300**	P	**P**	**04 01 46.8**	**+1.3**
BSO4				*e*S	**S**	**04 02 12.9**	**+3.0**
CHOJ	**Chosi**	**2.16**	**322**	P	**P**	**04 01 47.7**	**+0.3**
CHOJ				*e*S	**S**	**04 02 14.0**	**+0.8**
JHJ2	**Mitsune**	**2.40**	**249**	P	**P**	**04 01 51.0**	**+0.2**
JHJ2				S	**S**	**04 02 18.5**	**-0.9**
JIZS	**Izushimoda**	**3.07**	**284**	P	**P**	**04 01 59.8**	**-0.6**
JIZS				*e*S	**S**	**04 02 35.1**	**-1.2**
JOD2	**Odawara 2**	**3.07**	**295**	P	**P**	**04 01 59.9**	**-0.5**
JOD2				*e*S	**S**	**04 02 35.4**	**-1.0**
JAG	**Ashikaga**	**3.46**	**315**	P	**P**	**04 02 05.7**	**-0.3**
JAG				S	**S**	**04 02 45.7**	**-0.7**
JRY	**Ryogami san**	**3.56**	**305**	P	**P**	**04 02 07.1**	**-0.3**
JRY				*e*S	**S**	**04 02 48.4**	**-0.5**
JYN	**Shimob**	**3.57**	**296**	P	**P**	**04 02 07.5**	**0.0**
JYN				*e*S	**S**	**04 02 48.8**	**-0.3**
JMM	**Marumori**	**4.09**	**341**	P	**P**	**04 02 13.0**	**-1.9**
JMM				*e*S	**S**	**04 02 57.6**	**-4.6**
MAJO	**Matsushiro**	**4.32**	**307**	*e*P	**P**	**04 02 18.5**	**+0.4**
MAT	**Matsushiro**	**4.32**	**307**	*e*P	**P**	**04 02 18.0**	**-0.1**
MAT				*e*S	**S**	**04 03 07.0**	**-1.1**
MAT	**Matsushiro**	**4.32**	**307**	P	**P**	**04 02 18.4**	**+0.3**
MAT				S	**S**	**04 03 06.5**	**-1.6**
MAT	**Matsushiro**	**4.32**	**307**	P	**P**	**04 02 18.3**	**+0.2**
MAT				S	**S**	**04 03 07.8**	**-0.3**
JNS	**Sasagawa**	**4.59**	**327**	P	**P**	**04 02 22.3**	**+0.3**
JNS				S	**S**	**04 03 13.6**	**-1.3**
YAK	**Yakutsk**	**29.21**	**348**	*e*P	**P**	**04 07 11.7**	**-1.8**
YAK				pmax	pmax		
	comp=Z,28nm,0.5s,mb5.2						
YAK	**Yakutsk**	**29.21**	**348**	*e*P	**P**	**04 07 11.7**	**-1.8**
	comp=Z,28nm,0.5s,mb5.2						
ULN	**Ulaanbaatar**	**29.85**	**308**	*e*P	**P**	**04 07 20.8**	**+1.5**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**29.85**	**308**	*e*P	**P**	**04 07 20.8**	**+1.5**
	comp=Z,6.5nm,0.8s,mb4.4						
BOD	**Bodaibo**	**30.57**	**330**	*e*P	**P**	**04 07 24.0**	**-1.6**
LZH	**Lanzhou**	**31.57**	**285**	*e*P	**P**	**04 07 30.8**	**-3.9**
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb4.9						
LZH	**Lanzhou**	**31.57**	**285**	*e*P	**P**	**04 07 30.7**	**-4.0**
LZH				pmax	pmax		
	comp=Z,31nm,1.5s,mb4.9						
LZH	**Lanzhou**	**31.57**	**285**	*e*P	**P**	**04 07 30.7**	**-4.0**
	comp=Z,31nm,1.5s,mb4.9						
LZH				pP	pP	04 07 58.3	+14
LZH				sP	sP	04 08 05.5	+17
ZAK	**Zakamensk**	**32.89**	**312**	*e*P	**P**	**04 07 47.2**	**+1.2**
WMQ	**Urumqi**	**43.05**	**300**	*e*P	**P**	**04 09 13.3**	**+2.0**
NVS	**Novosibirsk**	**45.59**	**316**	*e*P	**P**	**04 09 31.3**	**-0.3**
NVS				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
NVS				pmax	pmax		
	comp=E,7.0nm,0.8s						
KURK	**Kurchatov**	**48.52**	**310**	*e*P	**P**	**04 09 55.0**	**+0.4**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
KURK	**Kurchatov**	**48.52**	**310**	*e*P	**P**	**04 09 55.0**	**+0.4**
	comp=Z,9.0nm,0.9s,mb4.8						
CHKZ	**Chkalovo**	**53.04**	**315**	*e*P	**P**	**04 10 28.5**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
CHKZ	**Chkalovo**	**53.04**	**315**	*e*P	**P**	**04 10 28.5**	**-0.3**
	comp=Z,6.6nm,1.1s,mb4.5						
BRVK	**Borovoye**	**53.34**	**314**	*e*P	**P**	**04 10 31.6**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
BRVK	**Borovoye**	**53.34**	**314**	*e*P	**P**	**04 10 31.6**	**+0.5**
	comp=Z,5.0nm,1.1s,mb4.4						
WRAB	**Tennant Creek**	**54.20**	**189**	*e*P	**P**	**04 10 36.6**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
WRAB	**Tennant Creek**	**54.20**	**189**	*e*P	**P**	**04 10 36.5**	**-1.3**
	comp=Z,16nm,1.0s,mb4.9						
INK	**Inuvik**	**56.69**	**26**	*e*P	**P**	**04 10 56.4**	**+1.1**
	comp=Z,0.2nm,0.5s						
SAML	**Samuel**	**145.66**	**49**	*e*PKP	PKPdf	04 20 50.9	+2.3

NEIC ***31*** *04:03:29.2,32.69S×70.26W,h108km,MD4.1(GUC),After GUC.*

GUC 31 04:03:29.2±0.7,32.69S×70.26W,h108km±3km,MD4.1, ML4.0,4C-6D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.28**	**271**	⇓*i*P	P	04 03 45.0	+0.2
FCH	**Farellones**	**0.64**	**182**	⇓*i*P	P	04 03 47.8	+0.8
FCH				*i* S	S	04 04 01.5	+1.1
FCH				AMP		04 04 02.3	
	comp=E,13μm,0.2s						
ROCH	**El Roble**	**0.69**	**245**	⇓*i*P	P	04 03 47.9	+0.5
ROCH				*i* S	S	04 04 02.0	+0.8
PTCH	**Petorca**	**0.70**	**307**	⇓*i*P	P	04 03 48.1	+0.6
PTCH				*i* S	S	04 04 02.2	+0.9
PTCH				AMP		04 04 02.7	
	comp=N,25μm,0.2s						
CLCH	**Cerro Calan**	**0.74**	**198**	⇓*i*P	P	04 03 48.3	+0.3
CLCH				*i* S	S	04 04 02.4	+0.3
CLCH				AMP		04 04 04.7	
	comp=E,4μm,0.5s						
STL	**Santa Lucia**	**0.81**	**203**	*e*P	P	04 03 48.8	+0.2
STL				*i* S	S	04 04 03.4	+0.2
STL				AMP		04 04 04.2	
	comp=E,3μm,0.4s						
SAN	**Santiago**	**0.83**	**203**	*e*P	P	04 03 48.9	0.0
SAN				*i* S	S	04 04 04.0	+0.5
PUEX	**Pudahuel**	**0.86**	**209**	*e*P	P	04 03 49.0	-0.1
PUEX				*i* S	S	04 04 04.1	+0.1
PUEX				AMP		04 04 05.6	
	comp=E,5μm,0.5s						
RCDM	**Rinconada Maip**	**0.92**	**209**	⇓*i*P	P	04 03 49.9	+0.2
RCDM				*i* S	S	04 04 05.3	+0.2
RCDM				AMP		04 04 06.7	
	comp=E,9μm,0.1s						
ANTU	**Antumapu**	**0.93**	**199**	*e*P	P	04 03 50.1	+0.2
ANTU				*i* S	S	04 04 05.8	+0.5
ANTU				AMP		04 04 06.4	
	comp=N,3μm,0.1s						
SJCH	**San Jose de Ma**	**0.95**	**185**	*e*P	P	04 03 50.0	-0.1
SJCH				*i* S	S	04 04 06.3	+0.5
SJCH				AMP		04 04 06.9	
	comp=E,1μm,0.3s						
PCH	**Pirque**	**0.96**	**193**	*e*P	P	04 03 50.1	0.0
PCH				*i* S	S	04 04 06.0	+0.2
PACH	**Papudo**	**1.00**	**278**	⇑*i*P	P	04 03 50.5	0.0
TACH	**Talagante**	**1.12**	**210**	*e*P	P	04 03 51.6	-0.2
TACH				*i* S	S	04 04 08.6	-0.2
LMEL	**Las Melosas**	**1.16**	**178**	*e*P	P	04 03 52.7	+0.3
LMEL				*i* S	S	04 04 11.2	+1.5
LMEL				AMP		04 04 15.2	
	comp=N,3μm,0.1s						
IHA	**Instituto Hidr**	**1.21**	**253**	⇑*i*P	P	04 03 52.4	-0.5
IHA				*i* S	S	04 04 10.2	-0.5
CHCH	**Chadas Angostu**	**1.29**	**195**	⇑*i*P	P	04 03 54.0	+0.2
CHCH				*i* S	S	04 04 12.2	-0.1
ILCH	**Illapel**	**1.30**	**324**	⇓*i*P	P	04 03 54.1	+0.2
ILCH				*i* S	S	04 04 12.5	0.0
ILCH				AMP		04 04 13.9	
	comp=E,4μm,0.2s						
LCCH	**Las Cruces**	**1.35**	**234**	*e*P	P	04 03 54.4	-0.2
CACH	**El Canelo**	**1.45**	**191**	*e*P	P	04 03 56.6	+0.8
ZON	**Zonda**	**1.76**	**50**	*e*P	P	04 03 59.0	-0.5
ZON				*e*S	S	04 04 23.0	+0.8
SFDO	**San Fernando**	**2.02**	**198**	*e*P	P	04 04 02.6	-0.3
TLL	**Tololo Astrono**	**2.55**	**349**	*e*P	P	04 04 10.1	+0.1
TLL				*i* S	S	04 04 41.0	+0.3
TLL				AMP		04 04 45.2	
	comp=N,535nm,0.4s						

MAN 31 04:04:01.2,10.01N×121.99E,h1km,mb4.6,ML3.5,MS3.4, 2C,Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAP	**Anini-y**	**0.41**	**354**	⇑*i*P	Pg	04 04 08.5	-0.9
GUIM	**Jordan**	**0.85**	**44**	*e*P	Pg	04 04 18.2	+0.1
GUIM				*e*S	Sg	04 04 30.0	+0.5
CUYO	**Cuyo Island**	**1.27**	**311**	*e*P	Pb	04 04 26.4	+0.8
SNPH	**Sibulan**	**1.40**	**118**	*e*P	Pb	04 04 27.0	-0.8
SNPH				*i* S	Sb	04 04 45.0	-1.0
RCP	**Roxas**	**1.71**	**26**	⇑*e*P	Pn	04 04 34.2	+1.9
RCP				*e*S	Sb	04 04 57.3	+2.2
TBP	**Tagbilaran**	**1.87**	**100**	*e*P	Pn	04 04 34.3	-0.4
TBP				*i* S	Sn	04 04 55.5	-3.8
OTRP	**Odiongan**	**2.34**	**1**	*e*P	Pn	04 04 41.0	-0.3
PAGZ	**Pagadian**	**2.55**	**147**	*e*P	Pn	04 04 44.7	+0.3
ENPP	**El Nido**	**2.79**	**295**	*e*P	Pn	04 04 47.7	0.0
MSLP	**Maasin**	**2.83**	**87**	*e*P	Pn	04 04 49.2	+0.8

JMA 31 04:05:15.8±0.4,33.99N×142.47E,h95km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**2.16**	**323**	P	P	04 05 50.8	-0.1
JHJ2	**Mitsune**	**2.38**	**249**	P	P	04 05 53.5	-0.5
JHJ2				S	S	04 06 21.8	-0.5
JOD2	**Odawara 2**	**3.06**	**295**	P	P	04 06 03.0	-0.4
JOD2				*e*S	S	04 06 39.0	-0.1
JAG	**Ashikaga**	**3.46**	**315**	P	P	04 06 07.9	-0.9
JYN	**Shimob**	**3.56**	**296**	*e*S	S	04 06 53.1	+1.6

BJI ***31*** *04:24:32.7,7.36N×93.98E,h30km,mB5.1,mb4.8,Ms4.7, Msz4.4*
MOS ***31*** *04:24:39.1±0.8,8.15N×94.34E,h33km,mb4.9/22,Error ellipse: s-maj=15.4km s-min=7.8km az=122.2*
NEIC ***31*** *04:24:40.0±0.4,8.00N×94.26E,h30km,mb4.7/23, MS4.0/2,Error ellipse: s-maj=11.6km s-min=9.6km az=59.0*

ISC 31 04:24:38.5±0.4,8.06N±0.05×94.39E±0.06,h33km,n99, σ0§96/107,mb4.7/37,MS4.6/4,5C-1D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.24**	**23**	*e*P	**P**	**04 27 22.6**	**+2.6**
VIS	**Vishakhapatnam**	**14.43**	**313**	*e*P	**P**	**04 27 59.6**	**-3.0**
VIS				*e*		04 28 09.2	
	comp=Z,42nm,0.6s						
VIS				*e*S	**S**	**04 30 28.2**	**-14**
IMP	**Imphal**	**16.64**	**359**	*e*	**P**	**04 28 31.0**	**+0.1**
SHL	**Shillong**	**17.58**	**352**	*i* P	**P**	**04 28 39.2**	**-3.4**
SHL				*e*S	**S**	**04 31 56.2**	**+1.1**
HYB	**Hyderabad**	**18.02**	**303**	*e*P	**P**	**04 28 48.0**	**-0.2**
HYB				*e*S	**S**	**04 32 07.0**	**+1.8**
HYB	**Hyderabad**	**18.02**	**303**	*i* P	**P**	**04 28 48.0**	**-0.2**
HYB				*e*S	**S**	**04 32 07.0**	**+1.8**
JIRN	**Jiri**	**20.99**	**339**	*e*P	**P**	**04 29 20.8**	**-0.7**
	comp=Z,189nm,1.2s						
PKI	**Pulchoki**	**21.19**	**337**	*e*P	**P**	**04 29 23.4**	**-0.1**
	comp=Z,282nm,1.4s,mb5.4						
DMN	**Daman**	**21.34**	**337**	*e*P	**P**	**04 29 25.3**	**+0.3**
	comp=Z,151nm,1.1s,mb5.2						
KKN	**Kakani**	**21.44**	**337**	*e*P	**P**	**04 29 25.2**	**-0.8**
	comp=Z,47nm,0.7s,mb4.9						
KAD	**Karad**	**21.73**	**297**	*e*P	**P**	**04 29 33.4**	**+4.4**
KAD				*e*		04 29 36.4	
	comp=Z,33nm,1.2s						
LSA	**Lhasa**	**21.74**	**352**	P	**P**	**04 29 30.3**	**+1.2**
LSA				S	**S**	**04 33 30.5**	**+7.8**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
LSA				LR	LR		
	comp=N,7μm,18.7s,MS5.2						
LSA				LR	LR		
	comp=E,5μm,14.7s,MS5.2						
LSA				LR	LR		
	comp=Z,1μm,19.8s						
GKN	**Gorkha**	**21.88**	**336**	*e*P	**P**	**04 29 29.6**	**-0.8**
	comp=Z,67nm,0.8s,mb5.1						
KOLN	**Koldanda**	**22.11**	**334**	*e*P	**P**	**04 29 31.8**	**-0.9**
	comp=Z,85nm,0.7s,mb5.3						
BHPL	**Bhopal**	**22.21**	**315**	⇑*i*P	**P**	**04 29 33.9**	**+0.2**
BHPL				*e*		04 29 40.8	
	comp=Z,58nm,1.1s						
BHPL				*e*S	**S**	**04 33 31.7**	**+0.5**
DDI	**Dehra Dun**	**26.92**	**328**	*e*	**P**	**04 30 18.5**	**-0.4**

XAN	**Xi'an**	**29.12**	**25**	P	**P**	**04 30 39.5**	**+0.9**
XAN				AP	pP	04 30 44.8	-3.4
XAN				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.7						
NJ2	**Nanjing**	**32.97**	**40**	*e*P	**P**	**04 31 10.8**	**-1.8**
NJ2				AP	pP	04 31 20.8	-1.5
NJ2				XP	sP	04 31 24.0	-2.6
NJ2				PCS		04 37 41.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,820nm,3.8s						
NJ2				LR	LR		
	comp=N,770nm,10.6s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,11.0s,MS5.0						
SSE	**Sheshan**	**33.92**	**44**	*e*P	**P**	**04 31 20.0**	**-0.8**
SSE				XP	sP	04 31 32.5	-2.3
SSE				S	**S**	**04 36 52.0**	**+10**
SSE				XS		04 37 06.3	
SSE				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,65nm,3.7s						
SSE				LR	LR		
	comp=N,307nm,17.5s,MS4.2						
SSE				LR	LR		
	comp=E,324nm,17.6s,MS4.2						
SSE				LR	LR		
	comp=Z,197nm,19.5s,MS3.8						
SSE	**Sheshan**	**33.92**	**44**	*e*P	**P**	**04 31 19.9**	**-0.9**
	comp=Z,26nm,0.8s,mb5.2						
SSE				sP	sP	04 31 32.5	-2.3
SSE				S	**S**	**04 36 51.9**	**+10**
SSE				sS		04 37 06.3	
SSE				SS	SS	04 39 23.6	+34
SSE				LR	LR		
	comp=Z,200nm,19.5s,MS3.9						
BJI	**Beijing**	**37.33**	**28**	*e*P	**P**	**04 31 53.5**	**+3.9**
BJI				S	**S**	**04 37 34.5**	**-0.1**
BJI				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.6						
BJI				MLR	MLR		
	comp=Z,350nm,20.7s,MS4.1						
BJI	**Beijing**	**37.33**	**28**	*e*P	**P**	**04 31 53.5**	**+3.9**
	comp=Z,11nm,1.2s,mb4.6						
BJI				S	**S**	**04 37 34.5**	**-0.1**
BJI				LR	LR		
	comp=Z,350nm,20.7s,MS4.1						
MBWA	**Marble Bar**	**38.24**	**140**	*e*P	**P**	**04 31 57.6**	**+0.2**
	comp=Z,1.1nm,0.5s,mb3.8						
AAK	**Ala-Archa**	**38.64**	**336**	*i* P	**P**	**04 32 00.5**	**0.0**
AAK				pmax	pmax		
	comp=Z,14nm,2.1s,mb4.3						
AAK	**Ala-Archa**	**38.64**	**336**	*e*P	**P**	**04 32 00.0**	**-0.5**
	comp=Z,11nm,1.2s,mb4.5						
ULN	**Ulaanbaatar**	**41.10**	**13**	*e*P	**P**	**04 32 22.3**	**+1.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
ULN	**Ulaanbaatar**	**41.10**	**13**	*e*P	**P**	**04 32 22.3**	**+1.3**
	comp=Z,2.3nm,0.8s,mb3.9						
ZAK	**Zakamensk**	**42.83**	**8**	*e*P	**P**	**04 32 36.2**	**+1.1**
ZAK				*e*		04 34 21.1	
TLY	**Talaya**	**44.15**	**8**	*i* P	**P**	**04 32 47.1**	**+1.3**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
KURK	**Kurchatov**	**44.49**	**346**	*i* P	**P**	**04 32 48.4**	**-0.1**
KURK	**Kurchatov**	**44.49**	**346**	*e*P	**P**	**04 32 48.1**	**-0.5**
	comp=Z,25nm,1.3s,mb4.8						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	*e*P	**P**	**04 33 03.2**	**+0.9**
NWAO				pmax	pmax		
	comp=Z,12nm,0.9s						
NWAO	**Narrogin (SRO)**	**46.20**	**153**	*e*P	**P**	**04 33 03.2**	**+0.9**
	comp=Z,12nm,0.9s,mb4.8						
NVS	**Novosibirsk**	**47.50**	**351**	*e*P	**P**	**04 33 10.6**	**-1.7**
NVS				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
WRAB	**Tennant Creek**	**48.17**	**126**	*e*P	**P**	**04 33 18.5**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**48.17**	**126**	*e*P	**P**	**04 33 18.4**	**+0.5**
	comp=Z,10.0nm,1.0s,mb4.8						
BRVK	**Borovoye**	**48.96**	**341**	*e*P	**P**	**04 33 22.1**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
BRVK	**Borovoye**	**48.96**	**341**	*e*P	**P**	**04 33 22.1**	**-1.5**
	comp=Z,8.3nm,1.2s,mb4.6						
RAYN	**Ar Rayn**	**49.24**	**294**	P	**P**	**04 33 27.4**	**+1.2**
	comp=Z,108nm,0.9s,SNR=13						
CHKZ	**Chkalovo**	**49.38**	**342**	*e*P	**P**	**04 33 25.8**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**49.38**	**342**	*e*P	**P**	**04 33 25.8**	**-1.0**
	comp=Z,11nm,0.8s,mb4.9						
BOD	**Bodaibo**	**51.91**	**13**	*e*P	**P**	**04 33 45.4**	**-0.6**
SVE	**Sverdlovsk**	**55.32**	**338**	*e*P	**P**	**04 34 05.0**	**-6.2**
ARU	**Arti**	**55.82**	**337**	*e*P	**P**	**04 34 07.4**	**-7.4**
KIV	**Kislovodsk**	**57.35**	**318**	*e*P	**P**	**04 34 24.8**	**-1.1**
KIV				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
KMBO	**Kilima Mbogo**	**57.69**	**264**	*e*P	**P**	**04 34 30.0**	**+1.3**
KMBO				*e*		04 34 35.4	
KMBO				pmax	pmax		
	comp=Z,16nm,0.9s						
KMBO	**Kilima Mbogo**	**57.69**	**264**	*e*P	**P**	**04 34 30.0**	**+1.2**
	comp=Z,16nm,0.9s,mb5.0						
KMBO				*e*		04 34 35.4	
YAK	**Yakutsk**	**59.74**	**18**	*i* P	**P**	**04 34 41.7**	**-0.6**
YAK				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.2						
STKA	**Stephens Creek**	**60.05**	**134**	*e*P	**P**	**04 34 44.0**	**-0.9**
MBAR	**Mbarara**	**64.03**	**265**	*e*P	**P**	**04 35 11.7**	**-0.1**

WET	Wettzell	78.41	318	eP	P	04 36 37.8	+0.2
	comp=Z,4.0nm,0.9s,mb4.3						
MOX	Moxa	79.24	320	eP	P	04 36 42.0	-0.1
MOX	Moxa	79.24	320	i P	P	04 36 42.0	-0.1
GRA1	Grafenberg Arr	79.49	319	eP	P	04 36 44.2	+0.7
	comp=Z,4.0nm,0.8s,mb4.4						
GRF	Grafenberg Arr	79.49	319	eP	P	04 36 44.2	+0.7
GRF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
GRF	Grafenberg Arr	79.49	319	eP	P	04 36 44.2	+0.7
GRF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
GRF	Grafenberg Arr	79.49	319	eP	P	04 36 44.2	+0.7
	comp=Z,4.0nm,0.8s,mb4.4						
NB2	NORSAR Subarra	79.69	331	P	P	04 36 43.5	-0.8
	comp=Z,26nm,1.4s,mb5.0,baz=92,slow=5.6						
NB2	NORSAR Subarra	79.69	331	P	P	04 36 43.5	-0.8
	baz=92,slow=5.6						
CLZ	Clausthal	80.03	321	eP	P	04 36 46.7	+0.4
	comp=Z,8.0nm,0.9s,mb4.7						
TNS	Taunus Mts	81.28	320	eP	P	04 36 53.4	+0.5
BFO	Black Forest	81.43	318	eP	P	04 36 53.7	-0.1
BFO				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BFO	Black Forest	81.43	318	eP	P	04 36 53.7	-0.1
	comp=Z,2.0nm,0.8s,mb4.1						
LPG	La Plagne	82.67	315	⇑ i P	P	04 37 00.8	+0.6
	comp=Z,34nm,1.0s,mb5.0						
LPG	La Plagne	82.67	315	⇑ i P	P	04 37 00.8	+0.6
LPG				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
IMA	Indian Mountai	91.36	22	eP	P	04 37 44.5	+2.5
INK	Inuvik	96.75	16	eP	P	04 38 08.1	+1.6
INK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
INK	Inuvik	96.75	16	eP	P	04 38 08.1	+1.5
	comp=Z,4.3nm,1.1s,mb4.8						
PLCA	Paso Flores	144.81	200	ePKIKP	PKPdf	04 44 13.8	+1.4
LPAZ	La Paz	161.07	243	ePKIKP	PKPdf	04 44 37.7	+1.6

IGQ 31 04:26:52.6, 0.74N×80.58W, h19km±6km, mb4.5, 3C-8D, Error ellipse: s-maj=7.5km s-min=5.3km az=30.7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	Jama	1.06	159	⇑P	Pb	04 27 13.0	+0.8
JAMA				S	Sb	04 27 25.5	-0.2
MAGD	Magdalena	1.14	135	⇓P	Pb	04 27 14.4	+0.9
HOJA	Cerro de Hojas	1.78	179	P	Pn	04 27 25.1	+2.3
JOR1	San Jorge 1	2.08	111	⇑P	Pn	04 27 28.9	+1.8
PINO	Pino	2.17	114	⇓P	Pn	04 27 29.3	+1.0
TERV	Terraza Guagua	2.18	115	⇓P	Pn	04 27 29.7	+1.2
YANA	Yana	2.18	113	⇓P	Pn	04 27 29.6	+1.0
JUA2	San Juan 2	2.19	116	⇑P	Pn	04 27 29.9	+1.2
COTA	Cotacachi	2.28	100	⇓P	Pn	04 27 32.0	+2.1
NAS1	Nasa	2.51	123	⇓P	Pn	04 27 35.3	+2.0
MARY	Rancho Maria	2.56	125	P	Pn	04 27 35.8	+1.8
VC1	Cotopaxi 1	2.58	122	P	Pn	04 27 36.7	+2.5
TAMB	Tambo	2.63	123	P	Pn	04 27 37.1	+2.1
CAYR	Refugio Cayamb	2.67	106	⇓P	Pn	04 27 39.1	+3.5
CAYR				S	Sn	04 28 12.0	+4.2
CAYA	Cayambe	2.67	104	⇓P	Pn	04 27 39.0	+3.3
PISA	Pisayambo	2.83	129	P	Pn	04 27 39.6	+1.7
IGUA	Igualata	2.95	139	P	Pn	04 27 42.4	+2.9
JUIV	Juive	3.02	135	P	Pn	04 27 44.3	+3.8
CUSU	Cusua	3.02	136	P	Pn	04 27 42.3	+1.7
CONE	Cono NE Rev Vo	3.05	105	P	Pn	04 27 46.4	+5.5
RETU	Refugio	3.05	136	P	Pn	04 27 44.4	+3.4
ARRY	Arrayan	3.08	136	P	Pn	04 27 44.0	+2.5

JSN 31 04:27:51.7±0.8, 17.74N×79.92W, MD4.5, 2C-5D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEJ	Negril	1.60	71	⇓ i P	Pn	04 28 20.1	-1.3
MCJ	Malvern	2.14	85	⇓ eP	Pn	04 28 27.3	-1.8
MCJ				eS	Sn	04 28 54.1	-2.6
CVJ	Coleyville	2.33	78	⇓ eP	Pn	04 28 29.6	-2.2
BBJ	Bamboo Saint A	2.61	75	⇓ i P	Pn	04 28 33.8	-2.1
STH	Stony Hill	2.98	83	⇑ eP	Pn	04 28 39.2	-2.0
HOJ	Hope	3.04	84	⇑ eP	Pn	04 28 40.6	-1.3
GWJ	Greenwich	3.06	83	⇓ eP	Pn	04 28 40.4	-1.8

*MOS **31** 04:32:11.1±1.6, 7.94N×94.36E, h33km, mb5.0/15, Error ellipse: s-maj=17.1km s-min=9.1km az=110.9*
*NEIC **31** 04:32:11.7±0.9, 8.09N×94.54E, h30km, mb4.7/12, Error ellipse: s-maj=21.9km s-min=16.3km az=171.0*
*BJI **31** 04:32:15.7, 8.10N×94.50E, h30km, mB5.3, mb4.5, Ms4.8, Msz4.5*
ISC 31 04:32:10.4±0.6, 7.99N±0.09×94.48E±0.07, h30km, n61, σ1°44/66, mb4.8/22, MS4.3/2, 3C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	Songkhla	6.14	97	P	Pn	04 33 47.0	+5.4
	162nm,0.9s						
PALK	Pallekele	13.67	268	eP	P	04 35 25.6	+0.6
	9.2nm,0.8s						
VIS	Vishakhapatnam	14.54	313	eP	P	04 35 33.0	-3.3
VIS				e		04 35 43.4	
	comp=Z,30nm,0.4s						
SHL	Shillong	17.65	352	eP	P	04 36 13.7	-2.3
SHL				e		04 39 38.7	
HYB	Hyderabad	18.13	303	eP	P	04 36 20.0	-2.0
HYB				eS	S	04 39 42.0	+1.9
HYB	Hyderabad	18.13	303	i P	P	04 36 20.0	-2.0
HYB				eS	S	04 39 42.0	+1.9
KMI	Kunming	18.77	24	P	P	04 36 38.4	+8.6
JIRN	Jiri	21.08	339	eP	P	04 36 54.7	-0.1
	comp=Z,44nm,0.7s,mb4.9						
PKI	Pulchoki	21.28	337	eP	P	04 36 56.8	0.0
	comp=Z,43nm,0.7s,mb4.9						
DMN	Daman	21.43	337	eP	P	04 36 58.1	-0.3
KKN	Kakani	21.53	337	eP	P	04 36 58.6	-0.7
KAD	Karad	21.84	297	e	P	04 37 09.9	+7.4
KAD				e		04 37 10.7	
	comp=Z,6.5nm,0.4s						
GKN	Gorkha	21.97	336	eP	P	04 37 03.3	-0.5
	comp=Z,77nm,0.9s,mb5.1						
KOLN	Koldanda	22.20	334	eP	P	04 37 05.5	-0.5
	comp=Z,52nm,0.9s,mb5.0						
BHPL	Bhopal	22.31	315	eP	P	04 37 08.7	+1.5
BHPL				e		04 37 10.1	
	comp=Z,13nm,0.8s						
POO	Poona	22.62	300	eP	P	04 37 14.3	+4.0
POO				e		04 37 15.5	
	comp=Z,6.6nm,0.5s						
NDI	New Delhi	26.24	324	eP	P	04 37 46.5	+1.6
LZH	Lanzhou	29.24	16	eP	P	04 38 15.0	+2.9
LZH				AP	pP	04 38 22.3	+1.4
LZH				XP	sP	04 38 25.0	+0.2
LZH				AMB	AMB		
	comp=Z,26nm,1.5s,mb4.7						
LZH				LR	LR		
	comp=E,745nm,10.0s						
LZH				LR	LR		
	comp=Z,919nm,11.2s,MS4.7						
LZH	Lanzhou	29.24	16	eP	P	04 38 15.0	+2.9
LZH				*SP	sP	04 38 25.1	+0.3
LZH				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.7						
LZH				MLR	MLR		
	comp=Z,920nm,11.2s,MS4.7						
LZH	Lanzhou	29.24	16	eP	P	04 38 15.0	+2.9
	comp=Z,26nm,1.5s,mb4.7						
LZH				pP	pP	04 38 22.3	+1.4
LZH				sP	sP	04 38 25.1	+0.3
LZH				LR	LR		
	comp=Z,920nm,11.2s,MS4.7						
SSE	Sheshan	33.91	44	eP	P	04 38 49.6	-3.5
	comp=Z,22nm,1.1s,mb5.0						
SSE				S	S	04 44 00.4	-14
SSE				sS		04 44 16.3	
SSE				SS	SS	04 46 22.9	+0.8
SSE				LR	LR		
	comp=Z,250nm,15.2s,MS4.1						
WMQ	Urumqi	36.18	352	eP	P	04 39 13.5	+1.2
AAK	Ala-Archa	38.73	336	i P	P	04 39 33.4	-0.4
AAK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4						
AAK	Ala-Archa	38.73	336	eP	P	04 39 32.9	-0.8
	comp=Z,11nm,1.3s,mb4.4						
ULN	Ulaanbaatar	41.15	13	i P	P	04 39 50.7	-2.9
ULN	Ulaanbaatar	41.15	13	eP	P	04 39 50.4	-3.2
	comp=Z,1.3nm,0.3s,mb4.0						
ZAK	Zakamensk	42.89	8	eP	P	04 40 09.1	+1.2
ZAK				e		04 41 59.6	
KURK	Kurchatov	44.58	346	i P	P	04 40 21.5	-0.1
KURK	Kurchatov	44.58	346	eP	P	04 40 21.2	-0.4
	comp=Z,12nm,1.1s,mb4.6						
NVS	Novosibirsk	47.58	351	eP	P	04 40 44.2	-1.1
NVS				eS	S	04 47 38.7	+1.1
NVS				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
NVS				smax			
	comp=E,24nm,1.8s						
WRAB	Tennant Creek	48.06	126	eP	P	04 40 49.6	+0.1
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
WRAB	Tennant Creek	48.06	126	eP	P	04 40 49.6	0.0
	comp=Z,8.6nm,0.8s,mb4.8						
BRVK	Borovoye	49.05	341	P	P	04 40 55.6	-1.1
RAYN	Ar Rayn	49.34	294	P	P	04 40 58.4	-1.0
	comp=Z,78nm,0.5s,SNR=10						
CHKZ	Chkalovo	49.47	342	eP	P	04 40 58.9	-1.0
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
CHKZ	Chkalovo	49.47	342	eP	P	04 40 58.9	-1.1
	comp=Z,5.4nm,0.8s,mb4.6						
BOD	Bodaibo	51.96	13	eP	P	04 41 19.3	+0.5
GNI	Garni	54.59	314	i P	P	04 41 46.0	+7.4
GNI				pmax	pmax		
	comp=Z,15nm,1.3s						
ARU	Arti	55.91	337	eP	P	04 41 45.4	-2.5
KIV	Kislovodsk	57.46	318	P	P	04 41 59.8	+0.7
KIV				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1						
KIV	Kislovodsk	57.46	318	P	P	04 41 59.8	+0.8
	comp=Z,21nm,1.0s,mb5.1						
SOC	Sochi	59.33	316	eP	P	04 42 14.7	+2.6
SOC				e		04 43 01.8	
SOC				e		04 44 22.8	
SOC				eS	S	04 50 15.2	-1.6
SOC				e		04 51 56.4	
SOC				eSS	SS	04 54 10.5	-2.7
SOC				pmax	pmax		
	comp=N,15nm,0.6s						
SOC				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.5						
YAK	Yakutsk	59.78	18	i P	P	04 42 14.8	-0.2
YAK				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
MBAR	Mbarara	64.10	265	eP	P	04 42 43.7	-1.0
MBAR				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
MBAR	Mbarara	64.10	265	eP	P	04 42 43.6	-1.1
	comp=Z,3.8nm,1.0s,mb4.4						
OBN	Obninsk	65.46	328	i P	P	04 42 54.7	+1.9
OBN				pmax	pmax		
	comp=Z,19nm,1.3s,mb5.0						
MA2	Magadan	66.51	27	eP	P	04 42 59.2	-0.2
MA2				e		04 52 56.7	
MA2				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
VRI	Vrincioaia	68.85	316	⇑ i P	P	04 43 12.9	-1.4
MLR	Muntele Rosu	69.32	316	⇑ i P	P	04 43 19.6	+2.4
LSZ	Lusaka	69.62	250	eP	P	04 43 17.3	-2.3
LSZ				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
LSZ	Lusaka	69.62	250	eP	P	04 43 17.3	-2.3
	comp=Z,8.0nm,1.3s,mb4.5						
BURAR	Bucovina Array	70.19	318	⇑ i P	P	04 43 21.0	-1.5
JOF	Joensuu	70.89	334	ep	P	04 43 23.6	-2.9
KAF	Kangasniemi	72.84	333	ep	P	04 43 38.4	+0.3
BILL	Bilibino	75.86	22	i P	P	04 43 57.2	+1.8
BILL				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.4						
KHC	Kasperske Hory	78.05	318	eP	P	04 44 10.5	+2.5
NB2	NORSAR Subarra	79.79	331	P	P	04 44 18.0	+0.8
	comp=Z,5.7nm,0.8s,mb4.5,baz=92,slow=5.0						
NB2	NORSAR Subarra	79.79	331	P	P	04 44 18.0	+0.8
NB2				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LPG	La Plagne	82.77	315	eP	P	04 44 33.6	+0.5
	comp=Z,11nm,0.7s,mb4.7						
LPG	La Plagne	82.77	315	eP	P	04 44 33.6	+0.5
LPG				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
IMA	Indian Mountai	91.39	22	eP	P	04 45 16.4	+1.9

*NEIC **31** 04:38:07.4±1.6, 7.99N×93.96E, mb4.3/4, Error ellipse: s-maj=80.6km s-min=21.9km az=51.0*
ISC 31 04:38:08.1±1.2, 7.9N±0.3×94.1E±0.4, h33km, (h11km±5.0km:pP-P), n13, σ1°16/13, mb4.5/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	Jiri	21.00	340	eP	P	04 42 51.9	+0.7
	32nm,0.9s,mb4.7						
PKI	Pulchoki	21.20	338	eP	P	04 42 55.2	+2.1
	31nm,0.8s,mb4.7						
KKN	Kakani	21.44	338	eP	P	04 42 56.4	+0.8
	16nm,0.6s,mb4.6						
GKN	Gorkha	21.88	337	eP	P	04 42 59.3	-0.6
	30nm,0.6s,mb4.9						
KOLN	Koldanda	22.09	335	eP	P	04 43 01.9	-0.1
	15nm,0.6s,mb4.6						
AAK	Ala-Archa	38.63	337	P	P	04 45 27.6	-2.5
	5.3nm,1.1s,mb4.2						
KURK	Kurchatov	44.55	346	eP	P	04 46 16.9	-1.6
	5.8nm,1.0s,mb4.4						
WRAB	Tennant Creek	48.36	125	P	P	04 46 48.7	-0.3
	1.9nm,0.7s,mb4.2						
CHKZ	Chkalovo	49.41	342	eP	P	04 46 55.4	-1.3
	5.8nm,0.8s,mb4.7						
CHKZ				e	pP	04 47 01.5	-5.0
KHC	Kasperske Hory	77.83	318	eP	P	04 50 04.5	+0.5
KHC				x	pP	04 50 08.5	-5.8
NB2	NORSAR Subarra	79.65	331	P	P	04 50 13.4	-0.3
	3.5nm,0.8s,mb4.3,baz=95,slow=5.0						
LPG	La Plagne	82.53	315	eP	P	04 50 29.7	+0.6
	15nm,0.8s,mb4.8						
IMA	Indian Mountai	91.62	22	eP	P	04 51 14.3	+1.6
IMA				e	pP	04 51 19.9	-3.5

*ATH **31** 04:40:10.0, 38.14N×27.05E, h30km±1km, MD3.2/3*
*CSEM **31** 04:40:11.1, 38.25N×26.82E, h23km, MD2.9, After ISK*
*ISK **31** 04:40:11.1, 38.25N×26.82E, h23km, MD2.9*
ISC 31 04:40:11.3±1.3, 38.16N±0.04×26.9E±0.1, h12km±12km, n7, σ0°79/12, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	Balcova	0.26	29	ePG	Pg	04 40 17.0	0.0
BLCB				eSG	Sg	04 40 21.0	+0.3
IZM	Izmir	0.39	51	i PG	Pg	04 40 19.9	+0.6
IZM				i SG	Sg	04 40 26.2	+1.5
SMG	Samos	0.45	184	ePB	Pb	04 40 20.0	-0.7
SMG				eSB	Sb	04 40 27.5	+0.5
AKS	Akhisar	1.03	45	ePG	Pg	04 40 31.1	-0.9
AKS				eSG	Sg	04 40 44.0	-1.8
MLSB	Milas	1.12	140	ePN	Pn	04 40 33.0	+0.2
PRK	Paraskevi	1.19	337	ePN	Pn	04 40 33.5	-0.3
PRK				eSN	Sn	04 40 50.5	+0.6
APE	Apeiranthos	1.52	225	ePN	Pn	04 40 38.5	-0.1

IGQ 31 04:58:00.6, 1.37S×81.09W, h26km±4km, mb4.3, 3C-3D, Error ellipse: s-maj=10.5km s-min=5.0km az=154.3, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.63	60	⇑P	Pb	04 58 12.6	-0.3
JAMA	Jama	1.41	39	P	Pn	04 58 26.6	+1.6
MAGD	Magdalena	1.84	46	P	Pn	04 58 33.9	+2.7
IGUA	Igualata	2.46	93	P	Pn	04 58 41.7	+1.8
CUSU	Cusua	2.61	92	P	Pn	04 58 44.4	+2.3
JUIV	Juive	2.63	91	P	Pn	04 58 44.2	+1.9
ARRY	Arrayan	2.64	93	P	Pn	04 58 43.2	+0.7
ARRY				S	Sn	04 59 15.1	+1.0
RETU	Refugio	2.65	92	P	Pn	04 58 44.3	+1.7
NAS1	Nasa	2.71	74	⇓P	Pn	04 58 45.8	+2.2
PISA	Pisayambo	2.72	84	P	Pn	04 58 45.9	+2.2
JUA2	San Juan 2	2.74	65	⇑P	Pn	04 58 44.8	+0.9
TERV	Terraza Guagua	2.76	65	P	Pn	04 58 45.3	+1.1
PINO	Pino	2.76	64	⇓P	Pn	04 58 45.1	+0.9
VC1	Cotopaxi 1	2.78	75	P	Pn	04 58 47.0	+2.4
JOR1	San Jorge 1	2.80	61	P	Pn	04 58 43.7	-1.2
TAMB	Tambo	2.80	76	P	Pn	04 58 46.8	+2.0
YANA	Yana	2.81	64	⇑P	Pn	04 58 45.8	+0.9
COTA	Cotacachi	3.23	58	⇓P	Pn	04 58 53.7	+2.8
CAYR	Refugio Cayamb	3.38	66	P	Pn	04 58 56.9	+3.9
CAYA	Cayambe	3.42	65	P	Pn	04 58 57.3	+3.8
CONE	Cono NE Rev Vo	3.68	70	P	Pn	04 59 03.4	+6.0

IGQ 31 05:03:11.7, 1.27S×81.12W, h24km±4km, mb4.6, 10C-8D, Error ellipse: s-maj=10.2km s-min=3.2km az=178.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.61	69	⇑P	Pb	05 03 23.2	-0.5
JAMA	Jama	1.36	42	⇓P	Pn	05 03 37.0	+1.6
JAMA				S	Sn	05 03 54.4	+1.6
MAGD	Magdalena	1.80	49	P	Pn	05 03 44.4	+2.6
IGUA	Igualata	2.49	95	P	Pn	05 03 53.0	+1.3
CUSU	Cusua	2.65	94	⇑P	Pn	05 03 56.0	+2.1
JUIV	Juive	2.66	93	⇑P	Pn	05 03 55.9	+1.8
ARRY	Arrayan	2.68	95	⇓P	Pn	05 03 55.6	+1.3
RETU	Refugio	2.68	94	⇓P	Pn	05 03 56.8	+2.4
MARY	Rancho Maria	2.69	79	P	Pn	05 03 57.6	+3.1
PATA	Patacocha	2.70	95	⇓P	Pn	05 03 56.8	+2.2
NAS1	Nasa	2.72	77	⇓P	Pn	05 03 56.3	+1.4
JUA2	San Juan 2	2.73	67	⇑P	Pn	05 03 55.9	+0.9
TERV	Terraza Guagua	2.74	67	⇓P	Pn	05 03 56.6	+1.4
PISA	Pisayambo	2.74	86	⇑P	Pn	05 03 57.1	+1.9
PINO	Pino	2.75	66	⇑P	Pn	05 03 56.5	+1.2
GGP	Refugio Guagua	2.75	67	P	Pn	05 03 57.7	+2.4
JOR1	San Jorge 1	2.78	63	P	Pn	05 03 54.6	-1.2
VC1	Cotopaxi 1	2.79	77	⇓P	Pn	05 03 57.5	+1.6
YANA	Yana	2.79	66	⇑P	Pn	05 03 57.0	+1.0
TAMB	Tambo	2.81	78	⇓P	Pn	05 03 57.7	+1.5
COTA	Cotacachi	3.21	60	⇑P	Pn	05 04 03.5	+1.7
CAYR	Refugio Cayamb	3.37	68	P	Pn	05 04 07.6	+3.5
CAYA	Cayambe	3.40	67	⇑P	Pn	05 04 08.1	+3.5
CAYA				S	Sn	05 04 54.8	+10
CONE	Cono NE Rev Vo	3.68	71	⇑P	Pn	05 04 14.3	+5.8

IGQ 31 05:13:15.3, 1.37S×81.08W, h10km±5km, mb4.3, 5C-4D, Error ellipse: s-maj=9.4km s-min=4.4km az=6.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.62	60	⇑P	Pb	05 13 27.3	-0.4
JAMA	Jama	1.40	39	⇓P	Pn	05 13 41.4	+0.4
JAMA				S	Sb	05 13 58.3	-0.6
MAGD	Magdalena	1.84	45	P	Pn	05 13 48.7	+1.6
IGUA	Igualata	2.44	93	P	Pn	05 13 57.4	+1.5
CUSU	Cusua	2.60	92	P	Pn	05 14 00.3	+2.2
JUIV	Juive	2.62	91	P	Pn	05 14 00.2	+1.8
ARRY	Arrayan	2.63	93	⇓P	Pn	05 13 60.0	+1.5
ARRY				S	Sn	05 14 29.9	-0.8
RETU	Refugio	2.64	92	P	Pn	05 14 01.6	+3.0
PATA	Patacocha	2.65	93	P	Pn	05 14 01.1	+2.3
MARY	Rancho Maria	2.67	76	P	Pn	05 14 02.8	+3.7
NAS1	Nasa	2.70	74	P	Pn	05 14 00.6	+1.0
PISA	Pisayambo	2.71	84	P	Pn	05 14 01.2	+1.5
JUA2	San Juan 2	2.73	65	P	Pn	05 14 01.2	+1.3
TERV	Terraza Guagua	2.75	64	⇓P	Pn	05 14 02.3	+2.1
PINO	Pino	2.75	64	P	Pn	05 14 00.7	+0.5
GGP	Refugio Guagua	2.75	65	P	Pn	05 14 02.6	+2.3
VC1	Cotopaxi 1	2.77	75	⇑P	Pn	05 14 02.9	+2.3
JOR1	San Jorge 1	2.79	61	P	Pn	05 14 00.7	-0.2
TAMB	Tambo	2.79	76	⇑P	Pn	05 14 03.6	+2.7
YANA	Yana	2.80	64	⇓P	Pn	05 14 01.4	+0.5
COTA	Cotacachi	3.22	58	⇑P	Pn	05 14 09.1	+2.2
COTA				S	Sn	05 14 49.9	+4.1
CAYR	Refugio Cayamb	3.37	66	⇑P	Pn	05 14 13.3	+4.3
CAYA	Cayambe	3.41	65	P	Pn	05 14 13.0	+3.5
CONE	Cono NE Rev Vo	3.67	70	P	Pn	05 14 18.4	+5.0

*NEIC **31** 05:15:22.2±1.4, 7.53N×93.78E, h30km, mb4.3/4, Error ellipse: s-maj=35.0km s-min=19.9km az=72.0*
ISC 31 05:15:21.1±1.4, 7.6N±0.2×94.0E±0.2, h30km, n11, σ0°71/11, mb4.3/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	11.83	24	eP	P	05 18 11.2	+0.2
	10nm,0.4s						
JIRN	Jiri	21.28	341	eP	P	05 20 07.0	-0.5
	19nm,0.8s,mb4.5						
PKI	Pulchoki	21.47	339	eP	P	05 20 10.2	+0.8
	8.5nm,0.5s,mb4.3						
DMN	Daman	21.61	338	eP	P	05 20 12.3	+1.5
KKN	Kakani	21.72	339	eP	P	05 20 12.5	+0.7
GKN	Gorkha	22.14	338	eP	P	05 20 15.3	-0.8
KOLN	Koldanda	22.35	335	eP	P	05 20 18.0	-0.2
	17nm,0.7s,mb4.6						
ULN	Ulaanbaatar	41.65	13	eP	P	05 23 07.9	-0.5
	2.1nm,1.0s,mb3.7						
KURK	Kurchatov	44.85	346	eP	P	05 23 34.0	-0.4
	5.7nm,1.0s,mb4.4						
WRAB	Tennant Creek	48.23	125	P	P	05 24 01.8	+0.3
	1.0nm,0.4s,mb4.2						
CHKZ	Chkalovo	49.69	342	eP	P	05 24 11.4	-0.9
	5.9nm,1.2s,mb4.5						

*JMA **31** 05:20:54.6±0.3, 30.98N×138.80E, h421km, M4.3*
ISC 31 05:20:53.0±0.7, 30.93N±0.10×138.8E±0.3, h427km±18km, n12, σ0°72/17, mb4.5/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.35	22	P	P	05 21 54.3	+0.3
JHJ2				eS	S	05 22 41.5	-0.6
JHMK	Hamakita	3.97	348	P	P	05 22 07.2	+0.2
HMMJ	Hamamatsu 2	4.02	347	P	P	05 22 07.9	+0.5
BSO3	Boso 3	4.13	20	P	P	05 22 10.1	+1.7

CHKZ	**Chkalovo**	**49.33**	**342**	*e*P	**P**	**05 41 39.0**	**-0.9**
	13nm,0.8s,mb5.0						
CHKZ				*e*	pP	05 41 44.6	-1.0
LSZ	**Lusaka**	**69.27**	**250**	*e*P	**P**	**05 43 59.7**	**+1.2**
	2.3nm,0.6s,mb4.3						
LBTB	**Lobatse**	**74.26**	**241**	*e*P	**P**	**05 44 29.7**	**+1.4**
	5.7nm,0.8s,mb4.5						
MORC	**Moravsky Berou**	**75.24**	**319**	*e*P	**P**	**05 44 33.2**	**-0.2**
	6.4nm,0.8s,mb4.6						
PRU	**Pruhonice**	**77.19**	**319**	*e*P	**P**	**05 44 44.5**	**+0.1**
BRG	**Berggiesshubel**	**77.62**	**320**	*i* P	**P**	**05 44 52.6**	**+5.9**
	4.1nm,0.7s,mb4.5						
GEC2	**GERESS Array S**	**77.69**	**318**	*e*P	**P**	**05 44 47.4**	**+0.3**
	7.0nm,0.8s,mb4.6						
KHC	**Kasperske Hory**	**77.78**	**318**	*e*P	**P**	**05 44 47.0**	**-0.6**
KHC				x	pP	05 44 53.0	-0.5
CLL	**Collm**	**78.23**	**321**	*e*P	**P**	**05 44 50.0**	**0.0**
CLL				*e*	pP	05 44 56.0	+0.1
CLL	**Collm**	**78.23**	**321**	P	**P**	**05 44 50.0**	**0.0**
CLL				*e**PP	pP	05 44 56.0	+0.1
WET	**Wettzell**	**78.25**	**318**	*e*P	**P**	**05 44 50.4**	**+0.2**
	4.0nm,0.9s,mb4.3						
MOX	**Moxa**	**79.09**	**320**	*e*P	**P**	**05 44 54.0**	**-0.8**
MOX	**Moxa**	**79.09**	**320**	*i* P	**P**	**05 44 54.0**	**-0.8**
GRA1	**Grafenberg Arr**	**79.33**	**319**	*e*P	**P**	**05 44 56.8**	**+0.7**
	10.0nm,0.9s,mb4.8						
GRA1				*e*pP	pP	05 45 02.6	+0.6
GRF	**Grafenberg Arr**	**79.33**	**319**	*e*P	**P**	**05 44 56.8**	**+0.7**
	10.0nm,0.9s,mb4.8						
GRF				*e*pP	pP	05 45 02.6	+0.6
NB2	**NORSAR Subarra**	**79.59**	**331**	P	**P**	**05 44 56.3**	**-1.0**
	5.4nm,0.7s,mb4.6,baz=92,slow=5.8						
CLZ	**Clausthal**	**79.88**	**321**	*e*P	**P**	**05 44 59.3**	**+0.3**
	9.0nm,0.8s,mb4.8						
TNS	**Taunus Mts**	**81.12**	**320**	*e*P	**P**	**05 45 06.0**	**+0.4**
BFO	**Black Forest**	**81.26**	**318**	*e*P	**P**	**05 45 06.2**	**-0.2**
	3.0nm,0.8s,mb4.3						
LPG	**La Plagne**	**82.49**	**315**	*e*P	**P**	**05 45 12.8**	**0.0**
	24nm,0.7s,mb4.9						
IMA	**Indian Mountai**	**91.52**	**22**	*e*P	**P**	**05 45 57.5**	**+1.2**
IMA				*e*	pP	05 46 03.5	+1.2

IGQ 31 05:42:14.0, 1.21S×81.41W, h7km±5km, mb4.4, 3C-10D, Error ellipse: s-maj=6.0km s-min=4.4km az=15.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.88**	**80**	P	Pb	05 42 30.3	-0.8
JAMA	**Jama**	**1.52**	**52**	⇓P	Pn	05 42 42.8	+1.0
JAMA				S	Sb	05 43 01.6	-0.1
MAGD	**Magdalena**	**1.99**	**55**	P	Pn	05 42 50.6	+2.2
IGUA	**Igualata**	**2.78**	**96**	⇓P	Pn	05 43 01.3	+1.4
CUSU	**Cusua**	**2.94**	**95**	P	Pn	05 43 03.3	+1.3
JUIV	**Juive**	**2.95**	**94**	⇓P	Pn	05 43 04.0	+1.7
ARRY	**Arrayan**	**2.97**	**96**	⇑P	Pn	05 43 03.6	+1.1
ARRY				S	Sn	05 43 38.9	+0.1
JUA2	**San Juan 2**	**2.97**	**71**	⇓P	Pn	05 43 03.9	+1.4
RETU	**Refugio**	**2.97**	**95**	P	Pn	05 43 05.1	+2.6
NAS1	**Nasa**	**2.98**	**79**	⇓P	Pn	05 43 04.6	+1.9
TERV	**Terraza Guagua**	**2.98**	**70**	⇑P	Pn	05 43 04.1	+1.4
PINO	**Pino**	**2.99**	**70**	⇓P	Pn	05 43 03.7	+0.9
JOR1	**San Jorge 1**	**3.02**	**67**	⇓P	Pn	05 43 02.5	-0.6
PISA	**Pisayambo**	**3.02**	**87**	P	Pn	05 43 05.0	+1.7
PISA				S	Sn	05 43 42.4	+2.2
YANA	**Yana**	**3.04**	**69**	⇓P	Pn	05 43 04.3	+0.9
VC1	**Cotopaxi 1**	**3.06**	**79**	P	Pn	05 43 05.5	+1.8
TAMB	**Tambo**	**3.08**	**81**	P	Pn	05 43 05.9	+1.9
COTA	**Cotacachi**	**3.43**	**64**	⇓P	Pn	05 43 10.5	+1.5
CAYR	**Refugio Cayamb**	**3.61**	**70**	⇑P	Pn	05 43 14.9	+3.3
CAYA	**Cayambe**	**3.65**	**70**	⇓P	Pn	05 43 14.9	+2.8
CONE	**Cono NE Rev Vo**	**3.93**	**73**	P	Pn	05 43 23.1	+7.0

*NEIC **31** 05:43:31.8±1.0, 8.26N×94.53E, h30km, mb4.7/10, Error ellipse: s-maj=44.1km s-min=17.9km az=220.0*
*BJI **31** 05:43:34.7, 8.43N×93.75E, h31km, mB4.8, mb4.4, Ms4.7, Msz4.1*
ISC 31 05:43:29.0±1.0, 7.9N±0.1×94.44E±0.09, h30km, n24, σ1§61/24, mb4.6/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.17**	**96**	P	**Pn**	**05 45 09.0**	**+8.5**
	180nm,1.0s						
NNT	**Nongplab**	**7.01**	**48**	P	**Pn**	**05 45 14.0**	**+1.6**
CHG	**Chiang Mai**	**11.73**	**21**	P	**P**	**05 46 24.0**	**+6.5**
NANT	**Nan**	**12.45**	**29**	P	**P**	**05 46 24.0**	**-3.3**
HYB	**Hyderabad**	**18.16**	**303**	*e*P	**P**	**05 47 41.0**	**+0.1**
HYB				*e*S	**S**	**05 51 02.0**	**+2.6**
HYB	**Hyderabad**	**18.16**	**303**	*i* P	**P**	**05 47 41.0**	**+0.1**
HYB				*e*S	**S**	**05 51 02.0**	**+2.6**
DDI	**Dehra Dun**	**27.11**	**328**	*e*	**P**	**05 49 14.5**	**+3.1**
XAN	**Xi'an**	**29.27**	**25**	P	**P**	**05 49 31.5**	**+0.6**
XAN				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
WMQ	**Urumqi**	**36.30**	**352**	*e*P	**P**	**05 50 34.0**	**+2.1**
AAK	**Ala-Archa**	**38.83**	**336**	*e*P	**P**	**05 50 50.9**	**-2.3**
	comp=Z,5.7nm,0.9s,mb4.3						
KURK	**Kurchatov**	**44.69**	**346**	*e*P	**P**	**05 51 39.4**	**-1.6**
	comp=Z,30nm,1.3s,mb5.0						
WRAB	**Tennant Creek**	**48.02**	**126**	*e*P	**P**	**05 52 09.2**	**+1.4**
	comp=Z,3.1nm,0.7s,mb4.5						
BRVK	**Borovoye**	**49.15**	**341**	*e*P	**P**	**05 52 14.4**	**-1.6**
	comp=Z,5.4nm,1.1s,mb4.5						
CHKZ	**Chkalovo**	**49.57**	**342**	*e*P	**P**	**05 52 17.3**	**-2.0**
	comp=Z,13nm,1.0s,mb4.9						
CRVS	**Cervenica-Dubn**	**72.93**	**319**	*e*	**P**	**05 55 05.0**	**+7.5**
VYHS	**Vyhne**	**74.61**	**318**	*e*	**P**	**05 55 13.4**	**+6.2**
MORC	**Moravsky Berou**	**75.57**	**319**	*e*P	**P**	**05 55 12.0**	**-0.7**
	comp=Z,18nm,1.4s,mb4.8						
BRG	**Berggiesshubel**	**77.94**	**320**	*i* P	**P**	**05 55 32.1**	**+6.2**
	comp=Z,5.3nm,0.8s,mb4.5						
BRG				*e*		05 55 34.9	
KHC	**Kasperske Hory**	**78.12**	**318**	*e*P	**P**	**05 55 26.5**	**-0.4**
KHC				x	x	05 55 32.0	
CLL	**Collm**	**78.55**	**321**	*e**PP	pP	05 55 37.0	-1.7
NB2	**NORSAR Subarra**	**79.88**	**331**	P	**P**	**05 55 33.9**	**-2.3**
	comp=Z,5.2nm,0.8s,mb4.5,baz=94,slow=5.3						
LPG	**La Plagne**	**82.83**	**315**	*e*P	**P**	**05 55 52.4**	**+0.4**
	comp=Z,9.9nm,0.7s,mb4.7						
INK	**Inuvik**	**96.92**	**16**	*e*P	**P**	**05 56 58.7**	**+0.4**
	comp=Z,5.2nm,1.3s,mb4.8						
JCT	**Junction City**	**139.50**	**19**	*e*PKPdf	PKPdf	06 02 58.7	-0.8

*ISK **31** 05:50:26.8, 37.04N×28.68E, h11km, MD3.5*
*ATH **31** 05:50:27.6, 37.11N×28.67E, h18km±4km, MD3.9/11*
*CSEM **31** 05:50:27.4±0.2, 36.97N×28.71E, h24km±1km, MD3.5, Error ellipse: s-maj=3.6km s-min=1.5km az=89.0*
*HLW **31** 05:50:38.8, 36.44N×28.78E, h30km, Mb3.9*
ISC 31 05:50:27.9±0.6, 36.99N±0.03×28.71E±0.04, h23km±7km, n44, σ1§08/50, 1C-3D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.46**	**139**	*i* PG	**Pb**	**05 50 37.5**	**+0.2**
FETY				*i* SG	**Sb**	**05 50 44.5**	**+0.8**
DENT	**Denizli**	**0.81**	**19**	*i* PG	**Pb**	**05 50 41.8**	**-1.3**
ARG	**Arkhangelos**	**0.90**	**211**	*e*PB	**Pb**	**05 50 45.6**	**+1.0**
ELL	**Elmali**	**0.99**	**103**	*i* PG	**Pb**	**05 50 47.2**	**+1.0**
KSL	**Kastellorizon**	**1.09**	**139**	*e*PB	**Pb**	**05 50 49.0**	**+1.1**
KSL				*e*SN	**Sn**	**05 51 08.0**	**+5.6**
NISR	**Nisiros**	**1.32**	**254**	*e*PN	**Pn**	**05 50 54.0**	**+2.8**
KHL	**Karahalli**	**1.48**	**26**	*i* PN	**Pn**	**05 50 53.6**	**+0.1**
ANTB	**Antalya**	**1.56**	**93**	PN	**Pn**	**05 50 55.5**	**+0.8**
BCK	**Bucak**	**1.58**	**72**	PN	**Pn**	**05 50 56.3**	**+1.4**
SMG	**Samos**	**1.66**	**296**	*e*PN	**Pn**	**05 50 56.5**	**+0.5**
SMG				*e*SN	**Sn**	**05 51 17.1**	**+0.4**
ISP	**Isparta**	**1.67**	**59**	PN	**Pn**	**05 50 57.1**	**+0.9**
IZM	**Izmir**	**1.82**	**321**	PN	**Pn**	**05 50 58.7**	**+0.4**
KARP	**Karpathos**	**1.90**	**221**	*e*PB	**Pb**	**05 51 01.8**	**+0.1**
KARP				*e*SN	**Sn**	**05 51 28.5**	**+5.5**
BLCB	**Balcova**	**1.92**	**317**	PN	**Pn**	**05 50 59.8**	**0.0**
AKS	**Akhisar**	**2.02**	**340**	PN	**Pn**	**05 51 00.9**	**-0.3**
ALT	**Altintas**	**2.34**	**28**	PN	**Pn**	**05 51 05.2**	**-0.7**
APE	**Apeiranthos**	**2.54**	**273**	PN	**Pn**	**05 51 08.8**	**+0.1**
APE	**Apeiranthos**	**2.54**	**273**	*e*PN	**Pn**	**05 51 10.0**	**+1.3**
PRK	**Paraskevi**	**2.96**	**320**	*e*PB	**Pb**	**05 51 16.0**	**-3.8**
HDMB	**Hadim**	**3.03**	**89**	*e*PN	**Pn**	**05 51 16.3**	**+0.7**
NPS	**Neapolis**	**3.04**	**236**	*e*PB	**Pb**	**05 51 19.1**	**-2.0**
NPS				*e*SN	**Sn**	**05 51 55.0**	**+3.2**
NPS	**Neapolis**	**3.04**	**236**	*e*PN	**Pn**	**05 51 17.9**	**+2.2**
ESKT	**Eskisehir**	**3.04**	**33**	*e*PN	**Pn**	**05 51 15.4**	**-0.4**
ORLT	**Orhaneli**	**3.06**	**3**	*e*PN	**Pn**	**05 51 15.9**	**-0.1**
KIZT	**Kizilcal**	**3.14**	**52**	PN	**Pn**	**05 51 18.1**	**+0.9**
XRY	**Khrisi**	**3.23**	**230**	*e*PN	**Pn**	**05 51 21.5**	**+3.1**
KCT	**Karacabey**	**3.29**	**355**	*e*PN	**Pn**	**05 51 18.9**	**-0.4**
BNT	**Bandirma**	**3.42**	**350**	*e*PN	**Pn**	**05 51 20.3**	**-0.9**
GPA	**Golpazari**	**3.53**	**20**	*e*PN	**Pn**	**05 51 23.0**	**+0.3**
EYL	**Eskiyayla**	**3.75**	**17**	*e*PN	**Pn**	**05 51 25.2**	**-0.7**
HRT	**Hereke**	**3.90**	**11**	*e*PN	**Pn**	**05 51 27.9**	**-0.1**
VAM	**Vamos**	**3.97**	**248**	*e*PB	**Pb**	**05 51 33.5**	**-3.5**
MDU	**Mudurnu**	**3.99**	**29**	*e*PN	**Pn**	**05 51 29.2**	**0.0**
VLI	**Veliai**	**4.63**	**268**	*e*PB	**Pb**	**05 51 44.0**	**-4.3**
HMAT	**Matruh**	**6.03**	**193**	⇑P	**Pn**	**05 51 58.4**	**+0.4**
HBRG	**Burj al 'Arab**	**6.46**	**171**	⇓P	**Pn**	**05 52 04.1**	**-0.1**
HNAT	**Natroun**	**7.50**	**167**	P	**Pn**	**05 52 17.7**	**-1.1**
FYM	**Al Fayyum**	**7.53**	**164**	P	**Pn**	**05 52 18.2**	**-1.0**
AYT	**Al 'Ayyat**	**7.54**	**164**	P	**Pn**	**05 52 18.4**	**-0.9**
HHAG	**Hagoal**	**7.56**	**157**	P	**Pn**	**05 52 19.3**	**-0.3**
HHAG				S	**Sn**	**05 53 33.2**	**-12**
GLL	**Jalalah**	**7.80**	**160**	⇓P	**Pn**	**05 52 21.5**	**-1.5**
SWA1		**8.10**	**199**	P	**P**	**05 52 26.2**	**-0.9**
ZAF		**8.33**	**156**	⇓P	**P**	**05 52 29.0**	**-1.3**
ASUT		**9.86**	**165**	P	**P**	**05 52 49.5**	**-2.0**

MAN 31 05:56:44.6, 10.65N×126.15E, h17km, mb4.6, ML3.5, MS3.5, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.08**	**217**	⇓*e*P	Pb	05 57 03.6	-0.9
SCPH				*e*S	Sb	05 57 16.9	-1.4
BESP	**Borongan**	**1.17**	**323**	*e*P	Pb	05 57 05.4	-0.6
BESP				*e*S	Sb	05 57 21.9	+1.2
PLP	**Palo**	**1.26**	**294**	*e*P	Pb	05 57 06.2	-1.2
PLP				*e*S	Sb	05 57 21.4	-1.8
MSLP	**Maasin**	**1.37**	**248**	*e*P	Pn	05 57 08.0	-1.2
OCLP	**Ormoc**	**1.56**	**285**	*e*P	Pn	05 57 13.0	+1.1
TBP	**Tagbilaran**	**2.45**	**247**	*e*P	Pn	05 57 21.7	-2.8
TBP				*e*S	Sn	05 57 51.7	-2.6
BIPH	**Bislig**	**2.46**	**175**	*e*P	Pn	05 57 23.5	-1.3
BIPH				*e*S	Sn	05 57 53.5	-1.2
CGP	**Cagayan de Oro**	**2.62**	**213**	⇑*e*P	Pn	05 57 27.8	+0.9
CGP				*e*S	Sn	05 57 59.2	+0.7
SNPH	**Sibulan**	**3.15**	**246**	*e*P	Pn	05 57 35.0	+0.4
RCP	**Roxas**	**3.46**	**285**	⇑*e*P	Pn	05 57 39.6	+0.6
GUIM	**Jordan**	**3.50**	**270**	*e*P	Pn	05 57 39.1	-0.4
PAGZ	**Pagadian**	**3.90**	**225**	*e*P	Pn	05 57 45.0	-0.2

*NEIC **31** 06:04:27.5±0.7, 8.22N×94.33E, h30km, mb4.5/8, Error ellipse: s-maj=24.0km s-min=18.1km az=62.0*
ISC 31 06:04:25.5±0.9, 8.2N±0.2×94.4E±0.2, h30km, n12, σ0§78/11, mb4.4/8, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**38.49**	**336**	*e*P	**P**	**06 11 46.5**	**-0.2**
	4.9nm,1.0s,mb4.2						
KURK	**Kurchatov**	**44.34**	**346**	*e*P	**P**	**06 12 34.9**	**+0.1**
	8.3nm,1.2s,mb4.3						
WRAB	**Tennant Creek**	**48.27**	**126**	*e*P	**P**	**06 13 05.8**	**-0.4**
	8.2nm,1.1s,mb4.7						
BRVK	**Borovoye**	**48.81**	**341**	*e*P	**P**	**06 13 09.0**	**-0.8**
RAYN	**Ar Rayn**	**49.17**	**294**	P	**P**	**06 13 13.4**	**+0.3**
	83nm,0.6s,SNR=10						
CHKZ	**Chkalovo**	**49.23**	**342**	*e*P	**P**	**06 13 13.2**	**+0.1**
	6.5nm,0.9s,mb4.7						
CHKZ				*e*		06 13 19.0	
KMBO	**Kilima Mbogo**	**57.70**	**263**	*e*P	**P**	**06 14 17.1**	**+0.8**
	5.4nm,0.8s,mb4.6						
LSZ	**Lusaka**	**69.61**	**250**	P	**P**	**06 15 33.9**	**-0.6**
	2.0nm,0.6s,mb4.2						
NB2	**NORSAR Subarra**	**79.55**	**331**	P	**P**	**06 16 30.3**	**-0.7**
	1.3nm,0.7s,mb4.0,baz=90,slow=5.6						
LPG	**La Plagne**	**82.55**	**315**	*e*P	**P**	**06 16 47.1**	**+0.1**
	21nm,1.0s,mb4.8						
IMA	**Indian Mountai**	**91.21**	**22**	*e*P	**P**	**06 17 31.6**	**+2.9**
JCT	**Junction City**	**139.18**	**19**	PKPdf	PKPdf	06 23 52.7	-2.7

CASC 31 06:15:36.1±1.9, 12.27N×87.52W, h56km±57km, MD3.6, ML2.8, 4C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.63**	**47**	*e*P	P	06 15 50.4	+1.1
LEON	**Leon**	**0.63**	**76**	*e*P	P	06 15 49.1	-0.2
TEL3	**Telica 3**	**0.72**	**65**	⇓*e*P	P	06 15 50.6	+0.1
MIRN	**Miramar**	**0.81**	**77**	⇑*e*P	P	06 15 51.4	-0.1
MIRN				*e*S	S	06 16 03.4	+0.3
CNGN	**Cerro Negro**	**0.83**	**74**	*e*P	P	06 15 52.6	+0.6
COPN	**Copaltepe**	**0.91**	**95**	⇑*e*P	P	06 15 52.6	-0.3
MOMJ	**Momotombo**	**0.97**	**81**	⇑*e*P	P	06 15 53.9	+0.2
CNCH	**Conchagua**	**1.05**	**343**	*e*P	P	06 15 55.9	+0.9
CNCH				*e*S	S	06 16 09.4	+0.5
APYN	**Apoyeque**	**1.14**	**91**	⇑*e*P	P	06 15 56.1	0.0
XAVN	**Gruta Xavier**	**1.17**	**96**	*e*P	P	06 15 56.4	-0.1
MGAN	**Managua**	**1.25**	**95**	⇓*e*P	P	06 15 56.5	-1.2
MGAN				*e*S	S	06 16 12.8	-0.9
MGAN				*i*		06 16 13.6	
	comp=E,143nm,0.2s						
TICN	**Ticuantepe**	**1.28**	**100**	*e*P	P	06 15 57.9	-0.2
WILN	**Americas 2**	**1.30**	**94**	*e*P	P	06 15 58.2	-0.4
WILN				*e*S	S	06 16 14.9	-0.3
BLLM	**Bellamira**	**1.36**	**329**	*e*P	P	06 16 00.2	+0.8
BLLM				*e*S	S	06 16 16.1	-0.6
APON	**Apoyo**	**1.46**	**104**	*e*P	P	06 15 59.5	-1.3
LCBS	**La Ceiba**	**1.98**	**314**	*e*P	P	06 16 08.4	+0.5
LCBS				*e*S	S	06 16 30.8	-0.8
LFRS	**El Faro**	**2.02**	**312**	*e*P	P	06 16 08.6	+0.1
LFRS				*e*S	S	06 16 32.2	-0.4

*LDG **31** 06:43:25.5±0.2, 49.98N×88.20E, h10km, Mb4.8/21, Ms3.6/1, Error ellipse: s-maj=12.9km s-min=4.5km az=39.0*
*MOS **31** 06:43:27.8±1.6, 49.87N×88.26E, h21km, mb4.9/25, Error ellipse: s-maj=8.7km s-min=6.1km az=127.0*
MOS Felt (II) at Ust'-Kamenogorsk, Zyrjanovsk.
*BJI **31** 06:43:28.7, 49.63N×88.41E, h8km, mB4.9, mb4.5, ML5.5, Ms4.7, Msz4.2*
*NEIC **31** 06:43:30.4±3.0, 49.91N×88.25E, h27km±23km, mb4.7/24, Error ellipse: s-maj=16.3km s-min=7.6km az=193.0*
NEIC Felt [II] at Ust'-Kamenogorsk and Zyryanovsk.
*NNC **31** 06:43:35.5±3.9, 49.70N×87.69E, h24km±18km, mpv5.2, Error ellipse: s-maj=21.3km s-min=12.3km az=74.0*
ISC 31 06:43:28.2±0.9, 49.91N±0.03×88.28E±0.05, h23km±6km, n127, σ1§40/149, mb4.7/31, MS4.1/6, 18C-3D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.59**	**315**	*e*PG	**Pb**	**06 43 38.8**	**-1.0**
AKAR				*e*S	**Sb**	**06 43 47.5**	**-0.2**
KTNR	**Kaitanak**	**1.83**	**279**	*e*PN	**Pn**	**06 43 59.7**	**+0.9**
KTNR				*e*S	**Sn**	**06 44 26.6**	**+5.1**
ELDR	**Elanda**	**1.91**	**314**	*e*PN	**Pn**	**06 44 02.1**	**+2.1**
ELDR				*e*S	**Sn**	**06 44 27.9**	**+4.3**
ARTR	**Artybash**	**1.99**	**342**	*e*PN	**Pn**	**06 44 05.0**	**+3.8**
ARTR				*e*S	**Sn**	**06 44 28.5**	**+2.8**
UKR	**Ust'-Kan**	**2.47**	**296**	*e*PN	**Pn**	**06 44 12.1**	**+4.1**
UKR				*e*S	**Sn**	**06 44 46.0**	**+8.3**
MK31	**Makanchi Array**	**5.06**	**234**	⇑Pn	**Pn**	**06 44 46.4**	**+1.6**
	149nm,0.4s,baz=67,slow=10,SNR=6025						
MK31				⇓Sn	**Sn**	**06 45 42.8**	**-0.5**
	633nm,0.6s,baz=54,slow=20,SNR=7.4						
MK31				⇑Lg		06 46 03.4	
	1μm,0.6s,baz=55,slow=30,SNR=7.2						
MKAR	**Makanchi Array**	**5.06**	**234**	*e*PN	**Pn**	**06 44 46.3**	**+1.5**
MKAR				pmax	pmax		
	comp=Z,125nm,0.4s						
NVS	**Novosibirsk**	**5.82**	**330**	*e*PN	**Pn**	**06 44 55.3**	**-0.3**
NVS				*e*		06 45 13.4	
NVS				*e*		06 46 02.1	
WMQ	**Urumqi**	**6.10**	**184**	P	**Pn**	**06 44 59.5**	**0.0**
WMQ				SG	Sn	06 46 32.0	+23
WMQ				Smax			
	comp=N,631nm,1.2s						
WMQ				Smax			
	comp=E,527nm,1.3s						
WMQ				LR	LR		
	comp=N,1μm,4.0s						
WMQ				LR	LR		
	comp=Z,1μm,4.2s						
KURK	**Kurchatov**	**6.24**	**281**	⇑Pn	**Pn**	**06 45 01.2**	**-0.2**
	comp=Z,193nm,0.8s,baz=93,slow=9.6,SNR=446						
KURK				⇑Sn	**Sn**	**06 46 09.9**	**-2.9**
	comp=Z,252nm,0.7s,baz=325,slow=15,SNR=3.9						
KURK				⇑Lg		06 46 43.3	
	comp=Z,618nm,0.8s,baz=196,slow=11,SNR=4.2						
KURK	**Kurchatov**	**6.24**	**281**	⇑*i*PN	**Pn**	**06 45 01.2**	**-0.2**
KURK				*e*		06 46 13.0	
KURK				pmax	pmax		
	comp=Z,350nm,0.6s						
KURK	**Kurchatov**	**6.24**	**281**	⇑*i*Pn	**Pn**	**06 45 01.2**	**-0.2**
	comp=Z,350nm,0.6s						
KURK				*e*Sn	**Sn**	**06 46 13.0**	**+0.2**
KURK				*e*Sg	Sn	06 46 43.1	+30
MOY	**Mondy**	**8.25**	**73**	*e*P	**P**	**06 45 35.1**	**+5.5**
MOY				pmax	pmax		
	comp=Z,116nm,0.8s						
ZAK	**Zakamensk**	**9.65**	**81**	*e*P	**P**	**06 45 50.1**	**+1.3**
ZAK				pmax	pmax		
	comp=Z,43nm,0.8s						
TLY	**Talaya**	**9.89**	**74**	*e*P	**P**	**06 45 58.5**	**+6.3**
TLY				pmax	pmax		
	comp=Z,14nm,0.7s						
TLY				MLR	MLR		
	comp=Z,701nm,11.0s						
AAA	**Alma-Ata**	**10.23**	**234**	*i* P	**P**	**06 46 09.0**	**+12**
AAA				*e*S	**S**	**06 48 02.8**	**+11**
TKM2	**Tokmak 2**	**11.19**	**236**	P	**P**	**06 46 07.7**	**-2.2**
	SNR=37						
ULHL	**Ulahol**	**11.33**	**232**	P	**P**	**06 46 11.0**	**-0.8**
	SNR=18						
CHKZ	**Chkalovo**	**11.56**	**296**	⇑Pn	**P**	**06 46 17.3**	**+2.3**
	comp=Z,18nm,0.6s						
CHKZ				⇑Sn	**S**	**06 48 26.3**	**+1.9**
	comp=Z,89nm,0.8s						
CHKZ	**Chkalovo**	**11.56**	**296**	P	**P**	**06 46 17.2**	**+2.2**
CHKZ						06 48 26.2	
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USP	**Ospenovka**	**11.56**	**240**	P	**P**	**06 46 14.2**	**-0.8**
	SNR=17						
BVA0	**Borovoye Array**	**11.58**	**292**	Pn	**P**	**06 46 12.5**	**-2.7**
	comp=Z,7.3nm,0.8s,baz=110,slow=14,SNR=183						
BVA0				⇑Sn	**S**	**06 48 18.4**	**-6.5**
	comp=Z,18nm,0.8s,baz=105,slow=23,SNR=5.5						
BVA0	**Borovoye Array**	**11.58**	**292**	*e*P	**P**	**06 46 12.4**	**-2.8**
BVA0						06 48 18.4	
BVA0				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHMS	**Chumysh**	**11.60**	**239**	P	**P**	**06 46 15.0**	**-0.5**
	SNR=31						
BRVK	**Borovoye**	**11.65**	**293**	*e*P	**P**	**06 46 13.6**	**-2.6**
BRVK				pmax	pmax		
	comp=Z,25nm,0.6s						
BRVK	**Borovoye**	**11.65**	**293**	*e*Pn	**P**	**06 46 13.6**	**-2.5**
	comp=Z,25nm,0.6s						
BRVK				*e*Sn	**S**	**06 48 16.5**	**-10**
KBK	**Karagaybulak**	**11.72**	**237**	P	**P**	**06 46 22.0**	**+4.8**
	SNR=7.0						
FRU	**Bishkek**	**11.78**	**238**	*e*P	**P**	**06 46 18.0**	**0.0**
FRU				*i*		06 48 38.0	
FRU				pmax	pmax		
	comp=Z,50nm,1.1s						
KZA	**Kyzart**	**11.96**	**234**	P	**P**	**06 46 24.0**	**+3.6**
	SNR=6.4						
AAK	**Ala-Archa**	**11.98**	**238**	⇓Pn	**P**	**06 46 20.3**	**-0.4**
	comp=Z,37nm,0.5s						
AAK				⇓Sn	**S**	**06 48 27.5**	**-7.1**
	comp=Z,83nm,0.9s						
AAK				⇑Lg		06 49 42.0	
	comp=Z,647nm,1.5s						
AAK	**Ala-Archa**	**11.98**	**238**	P	**P**	**06 46 20.7**	**0.0**
	SNR=37						
AAK	**Ala-Archa**	**11.98**	**238**	*e*Pn	**P**	**06 46 19.1**	**-1.6**
	comp=Z,35nm,0.5s						
UCH	**Uchtor**	**12.25**	**236**	P	**P**	**06 46 25.6**	**+1.3**
	SNR=18						
EKS2	**Erkin-Say**	**12.36**	**240**	P	**P**	**06 46 26.9**	**+1.2**
	SNR=19						

comp=Z,500nm,13.0s,MS4.1
CLNS MLR MLR
YAK Yakutsk 25.66 46 *e*P **P 06 48 57.0 -0.5**
YAK pmax pmax
comp=Z,15nm,0.9s,mb4.5
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK Yakutsk 25.66 46 *e*P **P 06 48 57.9 +0.3**
comp=E,33nm,0.9s,mb4.9
SNY Shenyang 25.68 95 ⇑P **P 06 49 02.8 +4.8**
SNY AMB AMB
comp=Z,40nm,1.3s,mb4.8
SNY LR LR
comp=N,640nm,19.2s,MS4.4
SNY LR LR
comp=E,970nm,22.2s,MS4.4
SNY LR LR
comp=Z,610nm,18.1s,MS4.2
TIXI Tiksi 28.46 26 *e*P **P 06 49 22.8 -0.3**
TIXI pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
TIXI MLR MLR
comp=Z,368nm,13.0s,MS4.2
SSE Sheshan 30.94 115 *e*P **P 06 49 42.5 -3.1**
SSE AP pP 06 49 51.5 -0.8
SSE XP sP 06 49 55.3 0.0
SSE S **S 06 54 43.5 -4.0**
SSE XS 06 54 59.0
SSE AMB AMB
comp=Z,14nm,0.9s,mb4.8
SSE LR LR
comp=N,946nm,21.0s,MS4.6
SSE LR LR
comp=E,857nm,20.9s,MS4.6
SSE LR LR
comp=Z,693nm,15.9s
SSE Sheshan 30.94 115 *e*P **P 06 49 42.5 -3.1**
comp=Z,14nm,0.9s,mb4.8
SSE pP pP 06 49 51.4 -0.9
SSE sP sP 06 49 55.3 0.0
SSE S **S 06 54 43.5 -4.0**
SSE sS 06 54 59.1
SSE SS SS 06 57 02.5 +31
SSE LR LR
comp=Z,690nm,15.9s,MS4.4
ZEI Tsey 31.08 274 *e*P **P 06 49 49.3 +2.6**
ZEI pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
JOF Joensuu 32.90 315 *e*p **P 06 50 02.7 +0.3**
SOC Sochi 33.38 278 *e*P **P 06 50 01.0 -5.8**
SOC *e* 06 51 14.1
SOC *e*S **S 06 55 18.7 -6.7**
SOC *e*SS SS 06 57 21.0 -7.6
SOC *e* 07 00 23.8
SOC pmax pmax
comp=N,39nm,0.6s
SOC pmax pmax
comp=Z,32nm,0.6s,mb5.4
SOC pmax pmax
comp=E,14nm,0.5s
KEV Kevo 34.58 327 *e*p **P 06 50 14.8 -2.1**
KAF Kangasniemi 35.30 314 *e*p **P 06 50 28.4 +5.3**
KOLS Kolonicke sedl 41.68 295 *e*P **P 06 51 20.4 +4.1**
KOLS Kolonicke sedl 41.68 295 *e* **P 06 51 20.4 +4.1**
CRVS Cervenica-Dubn 42.17 295 *e*P **P 06 51 25.3 +5.0**
CRVS Cervenica-Dubn 42.17 295 *e* **P 06 51 25.3 +5.0**
RAYN Ar Rayn 42.41 248 P **P 06 51 22.9 +0.2**
comp=E,349nm,0.7s,SNR=9.3
NB2 NORSAR Subarra 42.53 315 P **P 06 51 23.2 0.0**
comp=E,10nm,0.8s,mb4.6,baz=66,slow=7.9
NB2 NORSAR Subarra 42.53 315 P **P 06 51 23.2 0.0**
NB2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
VYHS Vyhne 43.89 296 *i* P **P 06 51 39.1 +4.7**
VYHS Vyhne 43.89 296 *i* **P 06 51 39.1 +4.7**
DPC Dobruska-Polom 44.43 300 *e*P **P 06 51 40.4 +1.7**
UPC Upice 44.53 300 *e*P **P 06 51 44.0 +4.5**
ZST Bratislava 45.05 297 *e*S **S 06 58 21.0 +0.5**
PRU Pruhonice 45.61 300 *e*P **P 06 51 53.4 +5.3**
CLL Collm 45.81 302 *i* P **P 06 51 50.0 +0.3**
CLL *i* 06 51 53.5
CLL pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
CLL Collm 45.81 302 *i* P **P 06 51 50.0 +0.3**
comp=Z,7.0nm,0.7s,mb4.7
CLL *i* 06 51 53.5
CLL Collm 45.81 302 P **P 06 51 50.0 +0.3**
comp=Z,logA/T=1.0,mb4.7
CLL *i* *PP pP 06 51 53.5 -3.0
CLL *i* 06 52 12.1
CLL *i* PP PP 06 53 42.4 +5.0
KHC Kasperske Hory 46.58 299 *e*P **P 06 51 57.2 +1.4**
KHC *ex* x 06 52 00.0
CDF Champ du Feu 50.49 301 *e*P **P 06 52 23.3 -2.8**
comp=Z,6.7nm,0.7s,mb4.5
CDF Champ du Feu 50.49 301 *e*P **P 06 52 23.3 -2.8**
CDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
HINF Hinteralfeld 51.06 301 *e*P **P 06 52 28.5 -1.9**
comp=Z,9.3nm,0.7s,mb4.5
HINF Hinteralfeld 51.06 301 *e*P **P 06 52 28.5 -1.9**
HINF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BAIF Baives 51.22 305 *e*P **P 06 52 30.7 -0.9**
HAU Haudompre 51.23 301 *e*P **P 06 52 30.4 -1.3**
comp=Z,10nm,0.7s,mb4.5
HAU Haudompre 51.23 301 *e*P **P 06 52 30.4 -1.3**
HAU pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LPG La Plagne 52.46 299 *e*P **P 06 52 41.3 +0.2**
comp=Z,18nm,0.6s,mb4.9
LPG La Plagne 52.46 299 *e*P **P 06 52 41.3 +0.2**
LPG pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LPL La Plagne 52.46 299 *e*P **P 06 52 42.2 +1.1**
comp=Z,9.1nm,0.4s,mb4.7
MBDF Montbardon 52.91 298 *e*P **P 06 52 46.1 +1.7**
comp=Z,34nm,0.7s,mb5.1
MBDF Montbardon 52.91 298 *e*P **P 06 52 46.1 +1.7**
MBDF pmax pmax
comp=Z,17nm,0.7s,mb5.1
SBF Sospel 53.04 297 *e*P **P 06 52 44.7 -0.8**
ORIF Oris-en-Rattie 53.30 299 *e*P **P 06 52 46.1 -1.2**
comp=Z,14nm,0.7s,mb4.7
ORIF Oris-en-Rattie 53.30 299 *e*P **P 06 52 46.1 -1.2**
ORIF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
SSF Saint Saulge 53.34 302 *e*P **P 06 52 47.5 -0.1**
comp=Z,8.8nm,0.6s,mb4.6
SSF Saint Saulge 53.34 302 *e*P **P 06 52 47.5 -0.1**
SSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
AVF Avril sur Loir 53.59 302 *e*P **P 06 52 46.2 -3.2**
comp=Z,8.5nm,0.7s,mb4.5
AVF Avril sur Loir 53.59 302 *e*P **P 06 52 46.2 -3.2**
AVF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
VIVF Saint-Julien-l 54.02 299 *e*P **P 06 52 51.2 -1.4**
comp=Z,21nm,0.8s,mb4.8
VIVF Saint-Julien-l 54.02 299 *e*P **P 06 52 51.2 -1.4**
VIVF pmax pmax
comp=Z,11nm,0.8s,mb4.8
LDF La Druitiere 54.37 305 *e*P **P 06 52 53.5 -1.6**
comp=Z,14nm,0.5s,mb4.9
LDF La Druitiere 54.37 305 *e*P **P 06 52 53.5 -1.6**
LDF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
FLN La Foliniere 54.46 306 *e*P **P 06 52 54.6 -1.2**
comp=Z,18nm,0.5s,mb4.9
FLN La Foliniere 54.46 306 *e*P **P 06 52 54.6 -1.2**
FLN pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
TCF Toulx Ste Croi 54.52 302 *e*P **P 06 52 56.5 +0.2**
comp=Z,8.2nm,0.6s,mb4.6
TCF Toulx Ste Croi 54.52 302 *e*P **P 06 52 56.5 +0.2**
TCF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
DLF Lyons Farm 54.72 313 *e*P **P 06 52 59.2 +1.6**
GRR Gorron 54.89 305 *e*P **P 06 52 58.4 -0.5**
DCN Croghan 55.04 313 *e*P **P 06 53 02.8 +2.8**
MFF Saint Martin d 55.61 303 *e*P **P 06 53 04.1 -0.1**
comp=Z,15nm,0.6s,mb4.9
MFF Saint Martin d 55.61 303 *e*P **P 06 53 04.1 -0.1**
MFF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
RES Resolute Bay 55.68 1 *e*P **P 06 53 03.5 -0.8**
RES pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
RES Resolute Bay 55.68 1 *e*P **P 06 53 03.5 -0.8**
comp=Z,4.9nm,1.2s,mb4.4
SGMF Saint Gilles 55.86 306 *e*P **P 06 53 04.2 -1.8**
LFF La Frestale 56.17 301 *e*P **P 06 53 07.1 -1.1**
comp=Z,34nm,0.7s,mb5.2
LFF La Frestale 56.17 301 *e*P **P 06 53 07.1 -1.1**
LFF pmax pmax
comp=Z,17nm,0.7s,mb5.2
QUIF Quistinic 56.39 306 *e*P **P 06 53 09.6 -0.2**
comp=Z,10nm,0.4s,mb4.9
EPF Esparros 57.60 300 *e*P **P 06 53 17.4 -1.1**
comp=Z,9.3nm,0.8s,mb4.6
EPF Esparros 57.60 300 *e*P **P 06 53 17.4 -1.1**
EPF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
INK Inuvik 58.06 17 *e*P **P 06 53 20.9 -0.4**
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 58.06 17 *e*P **P 06 53 20.9 -0.4**
comp=Z,2.8nm,0.6s,mb4.5
CHMT Chamberlain Mo 81.77 15 *e*P **P 06 55 46.1 +0.1**
LSZ Lusaka 83.60 237 *e*P **P 06 55 58.4 +2.3**
LSZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
LSZ Lusaka 83.60 237 *e*P **P 06 55 58.4 +2.2**
comp=Z,7.6nm,0.8s,mb4.9
MCMT McKenzie Canyo 83.87 15 *e*P **P 06 55 57.9 +1.0**

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*MOS **31** 06:45:43.5±1.8,4.04N×96.72E,h33km,mb5.1/15,Error ellipse: s-maj=17.1km s-min=7.9km az=132.9*
*HRVD **31** 06:45:44.0±0.4,4.14N×96.72E,h16km±1km,MW5.0/54, Centroid moment Tensor Solution. LP body waves: s27,c37;Mantle waves: s54,c85; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.15±.16; Mθθ-3.38±.15; Mφφ3.53±.16; Mrθ-1.69±.47; Mrφ-1.79±.13; Mθφ-1.30±.49; Best double couple: M0:4.416×10^16 NP1:φs124°,δ64°, λ-172°. NP2:φs30°,δ83°,λ-26°. Principal axes: T 4.161, Plg13°, Azm79°; N .516, Plg63°, Azm195°; P -4.672, Plg24°, Azm344°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **31** 06:45:44.0±0.3,4.06N×96.77E,h30km,mb5.0/26, MS4.1/1 Error ellipse: s-maj=13.4km s-min=7.3km az=47.0*
*BJI **31** 06:45:46.0,4.10N×96.80E,h30km,mB5.5,mb4.9,Msz4.3*
ISC 31 06:45:43.9±1.3,3.97N±0.06×96.74E±0.06,h41km±11km, n106,σ1§41/106,mb5.0/27,MS4.0/2,4C-9D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**5.00**	**50**	P	**P**	**06 46 58.0**	**-0.5**
	1μm,1.0s						
PBA	**Port Blair**	**8.60**	**333**	*e*P	**P**	**06 47 49.6**	**+0.9**
CM31	**Chiang Mai Arr**	**14.56**	**8**	*e*P	**P**	**06 49 08.9**	**-0.2**
	31nm,0.8s						
NANT	**Nan**	**15.24**	**14**	P	**P**	**06 49 14.0**	**-4.0**
COCO	**West Island**	**16.05**	**180**	P	**P**	**06 49 28.4**	**-0.1**
	118nm,1.0s						
PALK	**Pallekele**	**16.30**	**282**	*e*P	**P**	**06 49 30.9**	**-0.6**
	131nm,0.8s						
MDRS	**Chennai**	**18.64**	**300**	*e*P	**P**	**06 49 59.9**	**-0.9**
MDRS				*e*		06 56 50.0	
VIS	**Vishakhapatnam**	**18.96**	**317**	*e*P	**P**	**06 50 04.5**	**0.0**
VIS				*e*		06 50 05.8	
	comp=Z,93nm,0.9s						
QIZ	**Qiongzhong**	**19.69**	**40**	P	**P**	**06 50 14.5**	**+1.9**
QIZ				LR	LR		
	comp=Z,874nm,12.8s						
KOD	**Kodaikanal**	**20.11**	**289**	*e*P	**P**	**06 50 21.5**	**+4.4**
KOD				*e*		06 53 46.6	
KMI	**Kunming**	**21.81**	**15**	P	**P**	**06 50 37.4**	**+3.1**
KMI				pmax	pmax		
	comp=Z,37nm,1.1s,mb4.7						
KMI				MLR	MLR		
	comp=Z,500nm,24.6s,MS3.8						
KMI	**Kunming**	**21.81**	**15**	P	**P**	**06 50 37.4**	**+3.1**
	comp=Z,37nm,1.1s,mb4.7						
KMI				LR	LR		
	comp=Z,500nm,24.6s,MS3.8						
SHL	**Shillong**	**21.98**	**348**	*e*S	**S**	**06 54 39.0**	**+8.0**
HYB	**Hyderabad**	**22.28**	**308**	*e*P	**P**	**06 50 39.0**	**-0.1**
HYB				*e*S	**S**	**06 54 35.0**	**-1.7**
HYB	**Hyderabad**	**22.28**	**308**	*i* P	**P**	**06 50 39.0**	**-0.1**
	comp=Z,100nm,1.0s,mb5.2						
HYB				*e*S	**S**	**06 54 35.0**	**-1.7**
NGP	**Nagpur**	**24.24**	**316**	*e*P	**P**	**06 51 02.4**	**+4.2**
KAD	**Karad**	**25.79**	**303**	*e*P	**P**	**06 51 16.4**	**+3.3**
KAD				*e*		06 51 18.0	
KAD				*e*		06 51 23.0	
	comp=Z,65nm,1.4s						
MBWA	**Marble Bar**	**33.64**	**139**	*e*P	**P**	**06 52 21.9**	**-1.1**
	comp=Z,5.2nm,0.6s,mb4.6						
FITZ	**Fitzoy Crossi**	**35.95**	**128**	⇓*i*P	**P**	**06 52 41.2**	**-1.6**
	comp=Z,34nm,0.7s,mb5.4						
KAKA	**Kakadu**	**39.14**	**116**	*e*P	**P**	**06 53 08.2**	**-1.3**
	comp=Z,17nm,0.6s,mb5.0						
BJI	**Beijing**	**39.97**	**23**	*e*P	**P**	**06 53 16.4**	**+0.2**
BJI				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.0						
BJI				MLR	MLR		
	comp=Z,290nm,21.3s,MS4.1						
BJI	**Beijing**	**39.97**	**23**	*e*P	**P**	**06 53 16.4**	**+0.2**
	comp=Z,19nm,0.6s,mb5.0						
BJI				LR	LR		
	comp=Z,290nm,21.3s,MS4.1						
MUN	**Mundaring**	**40.26**	**154**	*e*P	**P**	**06 53 22.4**	**+3.8**
	comp=Z,24nm,0.9s,mb4.9						
MUN	**Mundaring**	**40.26**	**154**	*e*P	**P**	**06 53 22.4**	**+3.8**
MUN				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.9						
KLBR	**Kellerberrin**	**40.63**	**152**	*e*P	**P**	**06 53 24.9**	**+3.2**
	comp=Z,185nm,0.6s,mb5.9						
NWAO	**Narrogin (SRO)**	**41.52**	**154**	*e*P	**P**	**06 53 30.5**	**+1.4**
NWAO				pmax	pmax		
	comp=Z,28nm,0.9s						
NWAO	**Narrogin (SRO)**	**41.52**	**154**	*e*P	**P**	**06 53 30.4**	**+1.4**
	comp=Z,28nm,0.9s,mb4.9						
WRAB	**Tennant Creek**	**43.92**	**124**	*e*P	**P**	**06 53 48.6**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,168nm,0.7s,mb5.9						
WRAB	**Tennant Creek**	**43.92**	**124**	*e*P	**P**	**06 53 48.6**	**-0.3**
	comp=Z,168nm,0.7s,mb5.9						
WB2	**Warramunga Arr**	**43.93**	**124**	⇓*i*P	**P**	**06 53 48.5**	**-0.4**
ASPA	**Alice Springs**	**45.45**	**129**	*e*P	**P**	**06 54 00.7**	**-0.3**
FORT	**Forrest**	**45.69**	**141**	*e*P	**P**	**06 54 03.2**	**+0.3**
	comp=Z,98nm,0.7s,mb5.8						
MDJ	**Mudanjiang**	**49.71**	**31**	P	**P**	**06 54 35.0**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,13nm,1.8s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,228nm,4.4s						
RAYN	**Ar Rayn**	**53.09**	**296**	P	**P**	**06 54 59.5**	**-0.3**
	comp=Z,144nm,0.7s,mb6.0,SNR=7.9						
CTA	**Charters Tower**	**54.17**	**118**	*e*P	**P**	**06 55 11.0**	**+3.2**
	comp=Z,7.7nm,1.1s,mb4.5						
CTA	**Charters Tower**	**54.17**	**118**	*e*P	**P**	**06 55 11.0**	**+3.2**
CTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CTAO	**Charters Tower**	**54.17**	**118**	*e*P	**P**	**06 55 07.4**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
CTAO	**Charters Tower**	**54.17**	**118**	*e*P	**P**	**06 55 07.3**	**-0.5**
	comp=Z,16nm,1.1s,mb4.9						
STKA	**Stephens Creek**	**55.56**	**133**	*e*P	**P**	**06 55 17.1**	**-0.6**
	comp=Z,8.1nm,0.6s,mb4.9						
GNI	**Garni**	**59.01**	**315**	*i* P	**P**	**06 55 44.1**	**+2.1**
KMBO	**Kilima Mbogo**	**59.67**	**266**	*e*P	**P**	**06 55 47.9**	**+1.0**
KMBO				*e*		06 55 54.2	
KMBO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KMBO	**Kilima Mbogo**	**59.67**	**266**	*e*P	**P**	**06 55 47.9**	**+0.9**
	comp=Z,8.9nm,0.9s,mb4.8						
KMBO				*e*		06 55 54.2	
ERZM	**Erzurum**	**61.32**	**314**	*i* P	**P**	**06 56 00.8**	**+3.0**
KIV	**Kislovodsk**	**61.94**	**318**	*i* P	**P**	**06 56 03.2**	**+1.3**
ELZG	**Elazig**	**62.60**	**312**	*i* P	**P**	**06 56 05.7**	**-0.8**
YAK	**Yakutsk**	**62.91**	**17**	*i* P	**P**	**06 56 14.4**	**+6.2**
MALT	**Malatya**	**62.96**	**311**	*e*P	**P**	**06 56 06.3**	**-2.5**
MALT				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.0						
MALT	**Malatya**	**62.96**	**311**	*e*P	**P**	**06 56 06.3**	**-2.5**
	comp=Z,13nm,1.1s,mb5.0						
GZT	**Gaziantep**	**63.33**	**310**	*i* P	**P**	**06 56 09.9**	**-1.4**
EIL	**Elat**	**63.62**	**301**	*e*P	**P**	**06 56 14.1**	**+0.7**
	comp=Z,25nm,1.2s,mb5.1						
COBT	**Iskenderun**	**64.11**	**309**	*i* P	**P**	**06 56 14.8**	**-1.6**
AVNT	**Avonos**	**65.78**	**311**	*i* P	**P**	**06 56 25.2**	**-1.9**
MBAR	**Mbarara**	**66.11**	**268**	*e*P	**P**	**06 56 29.9**	**+0.2**
MBAR				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
MBAR	**Mbarara**	**66.11**	**268**	*e*P	**P**	**06 56 29.9**	**+0.2**
	comp=Z,12nm,1.1s,mb4.8						
ELDT	**Eldivan**	**67.28**	**312**	*i* P	**P**	**06 56 36.0**	**-0.7**
SGKT	**Sivrigoynuk**	**68.32**	**312**	*i* P	**P**	**06 56 42.4**	**-0.7**
ISP	**Isparta**	**68.88**	**309**	*d* P	**P**	**06 56 49.4**	**+2.8**
ESKT	**Eskisehir**	**68.98**	**311**	*i* P	**P**	**06 56 45.3**	**-1.9**
MA2	**Magadan**	**69.06**	**26**	*e*P	**P**	**06 56 44.9**	**-2.4**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
LSZ	**Lusaka**	**70.49**	**252**	*e*P	**P**	**06 56 57.4**	**+0.6**
LSZ				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
LSZ	**Lusaka**	**70.49**	**252**	*e*P	**P**	**06 56 57.4**	**+0.7**
	comp=Z,3.6nm,0.5s,mb4.6						
KDAG	**Bornova**	**71.50**	**309**	*i* P	**P**	**06 57 04.4**	**+1.9**
TIRR	**Tirgusor**	**71.83**	**316**	⇓*i*P	**P**	**06 57 01.4**	**-3.0**
CFR	**Carcaliu**	**72.18**	**316**	⇑*i*P	**P**	**06 57 04.6**	**-1.8**
HARR	**Harsova**	**72.22**	**316**	⇓*i*P	**P**	**06 57 04.9**	**-1.8**
VRI	**Vrincioaia**	**73.30**	**317**	⇓*i*P	**P**	**06 57 12.1**	**-1.0**
MLR	**Muntele Rosu**	**73.76**	**316**	⇓*i*P	**P**	**06 57 14.8**	**-1.0**
BURAR	**Bucovina Array**	**74.66**	**318**	⇓P	**P**	**06 57 20.2**	**-0.7**
BURAR	**Bucovina Array**	**74.66**	**318**	⇓*i*P	**P**	**06 57 20.2**	**-0.7**
LBTB	**Lobatse**	**74.72**	**243**	*e*P	**P**	**06 57 22.7**	**+1.0**
LBTB				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
LBTB	**Lobatse**	**74.72**	**243**	*e*P	**P**	**06 57 22.7**	**+1.0**
	comp=Z,9.5nm,0.7s,mb4.8						
LVV	**L'vov**	**75.85**	**320**	*e*P	**P**	**06 57 29.7**	**+2.0**
KOLS	**Kolonicke sedl**	**76.83**	**319**	*i* P	**P**	**06 57 33.4**	**+0.1**
KOLS				*i*		06 57 37.2	
CRVS	**Cervenica-Dubn**	**77.36**	**319**	*e*P	**P**	**06 57 35.6**	**-0.6**
NIE	**Niedzica**	**78.17**	**320**	*e*P	**P**	**06 57 40.5**	**-0.2**
PSZ	**Piszkesteto**	**78.25**	**318**	*e*P	**P**	**06 57 40.1**	**-1.1**
PSZ	**Piszkesteto**	**78.25**	**318**	*e*	**P**	**06 57 40.1**	**-1.1**
OJC	**Ojcow**	**78.61**	**320**	*e*P	**P**	**06 57 41.8**	**-1.3**
VYHS	**Vyhne**	**79.03**	**319**	*e*P	**P**	**06 57 44.5**	**-0.9**
VYHS				*e*		06 57 47.9	
OKC	**Ostrava-Krasne**	**79.62**	**320**	*e*P	**P**	**06 57 51.2**	**+2.6**
ZST	**Bratislava**	**80.15**	**318**	*e*P	**P**	**06 57 50.7**	**-0.7**
ZST				*e*		06 57 54.3	
DPC	**Dobruska-Polom**	**80.84**	**320**	*e*P	**P**	**06 57 54.3**	**-0.8**
DPC				*ex*	x	06 57 58.2	
UPC	**Upice**	**81.05**	**320**	*e*P	**P**	**06 57 59.1**	**+2.9**
TSUM	**Tsumeb**	**81.09**	**250**	*e*P	**P**	**06 57 58.6**	**+1.5**
	comp=Z,9.1nm,1.0s,mb4.7						
LEGS	**Legarje**	**81.20**	**316**	*e*P	**P**	**06 58 00.3**	**+3.3**
PRU	**Pruhonice**	**81.96**	**320**	*e*P	**P**	**06 57 59.9**	**-1.0**
PRU				*ex*	x	06 58 04.0	
PVCC	**Panska Ves**	**81.97**	**320**	*e*P	**P**	**06 58 03.6**	**+2.6**
CADS	**Cadrg**	**82.31**	**316**	*e*P	**P**	**06 58 05.8**	**+3.0**
BRG	**Berggiesshubel**	**82.39**	**321**	*e*P	**P**	**06 58 02.2**	**-0.9**
BRG				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
BRG	**Berggiesshubel**	**82.39**	**321**	*e*P	**P**	**06 58 02.2**	**-0.9**
	comp=Z,9.9nm,0.9s,mb4.7						
BRG				*i*		06 58 06.2	
KHC	**Kasperske Hory**	**82.54**	**319**	*e*P	**P**	**06 58 03.1**	**-0.8**
KHC				*ex*	x	06 58 06.3	
PTCC	**Patocco-Chiusa**	**82.58**	**316**	*e*P	**P**	**06 58 03.3**	**-0.9**
CLL	**Collm**	**83.00**	**321**	⇑*i*P	**P**	**06 58 09.0**	**+2.8**
CLL				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.1						
CLL	**Collm**	**83.00**	**321**	⇑*i*P	**P**	**06 58 09.0**	**+2.8**
	comp=Z,27nm,1.4s,mb5.1						
CLL	**Collm**	**83.00**	**321**	⇑P	**P**	**06 58 09.0**	**+2.8**
	comp=Z,logA/T=1.3,mb5.1						
CTI	**Castel Tesino**	**83.76**	**316**	*e*P	**P**	**06 58 10.0**	**-0.2**
MOX	**Moxa**	**83.86**	**320**	*e*P	**P**	**06 58 12.0**	**+1.4**
GRA1	**Grafenberg Arr**	**84.10**	**319**	*e*P	**P**	**06 58 11.3**	**-0.5**
	comp=Z,14nm,1.0s,mb5.0						
GRF	**Grafenberg Arr**	**84.10**	**319**	*e*P	**P**	**06 58 11.3**	**-0.5**
GRF				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
GRF	**Grafenberg Arr**	**84.10**	**319**	*e*P	**P**	**06 58 11.3**	**-0.5**
GRF				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
GRF	**Grafenberg Arr**	**84.10**	**319**	*e*P	**P**	**06 58 11.3**	**-0.5**
	comp=Z,14nm,1.0s,mb5.0						
NB2	**NORSAR Subarra**	**84.38**	**331**	P	**P**	**06 58 15.0**	**+2.0**
	comp=Z,1.6nm,0.7s,mb4.3,baz=90,slow=5.3						
NB2	**NORSAR Subarra**	**84.38**	**331**	P	**P**	**06 58 15.0**	**+2.0**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
FIN	**Finale Ligure**	**86.21**	**314**	*e*P	**P**	**06 58 25.8**	**+3.4**
ULM	**Lac du Bonnet**	**124.91**	**10**	*e*PKPdf	PKPdf	07 04 40.0	+0.2
JCT	**Junction City**	**142.27**	**24**	*e*PKIKP	PKPdf	07 05 10.1	-2.6

MAN 31 06:52:51.0,13.41N×120.09E,h8km,mb3.7,ML2.5,MS2.5, 1C-2D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.35**	**26**	*e*P	Pg	06 52 58.7	+0.4
LUBP				*e*S	Sg	06 53 02.4	-0.7
TGY	**Tagaytay City**	**1.07**	**50**	⇑*e*P	Pb	06 53 11.0	-0.4
TGY				*i* S	Sb	06 53 25.1	-0.3
SJMP	**San Jose**	**1.38**	**133**	*e*P	Pn	06 53 15.7	-1.0
SJMP				*e*S	Sb	06 53 32.7	-1.7
BUSP	**Coron**	**1.41**	**176**	*e*P	Pn	06 53 16.9	-0.1
LQP	**Lukban**	**1.57**	**64**	⇓*e*P	Pn	06 53 18.9	-0.5
BOAC	**Boac**	**1.71**	**88**	*e*P	Pn	06 53 20.6	-0.8
ENPP	**El Nido**	**2.29**	**197**	*e*P	Pn	06 53 29.6	0.0
GQP	**Guinayangan**	**2.34**	**78**	⇓*e*P	Pn	06 53 30.0	-0.4
GQP				*e*S	Sn	06 54 00.5	+0.7
CUYO	**Cuyo Island**	**2.70**	**160**	*e*P	Pn	06 53 34.4	-1.2

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*MDD **31** 06:55:41.4±0.4,45.42N×0.50E,h10km,mb3.4/8,Error ellipse: s-maj=3.2km s-min=2.6km az=103.0*
*LDG **31** 06:55:41.1±0.0,45.43N×0.50E,h2km,Md3.2/2,Ml3.3/25, Error ellipse: s-maj=0.9km s-min=0.8km az=35.0*
*CSEM **31** 06:55:41.3±0.1,45.42N×0.51E,h8km,ML3.3/26,Error ellipse: s-maj=1.0km s-min=0.8km az=45.0*
*NEIC **31** 06:55:41.1,45.43N×0.50E,h2km,ML3.4(STR), ML3.3(LDG),After LDG.*
ISC 31 06:55:38.0±0.3,45.43N±0.01×0.49E±0.02,h7km±2km,n72, σ1§45/157,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFF	**La Frestale**	**0.52**	**160**	*e*Pg	**Pg**	**06 55 50.6**	**+2.1**
LFF				*e*Pn	**Pn**	**06 55 52.7**	**+1.2**
LFF				*e*Sg	**Sg**	**06 55 57.5**	**+2.1**
	395nm,0.3s						
MATF	**Mathat**	**0.68**	**307**	Pg	**Pg**	**06 55 54.1**	**+2.4**
MATF				Sg	**Sg**	**06 56 04.4**	**+3.6**
RJF	**Les Rejaudoux**	**0.73**	**99**	*e*Pg	**Pg**	**06 55 54.5**	**+1.8**
RJF				*e*Pn	**Pn**	**06 55 56.1**	**+1.5**
RJF				*e*Sg	**Sg**	**06 56 03.8**	**+1.3**
	302nm,0.2s						
CAF	**Calviac**	**1.22**	**114**	*e*Pn	**Pn**	**06 56 03.2**	**+1.7**
CAF				*e*Pg	**Pg**	**06 56 03.8**	**+1.4**
CAF				*e*Sg	**Sg**	**06 56 20.0**	**+1.3**
	197nm,0.3s						
CAF	**Calviac**	**1.22**	**114**	*e*Pg	**Pg**	**06 56 03.8**	**+1.4**
CAF				*e*Sg	**Sg**	**06 56 20.0**	**+1.3**
	98nm,0.3s						
MFF	**Saint Martin d**	**1.26**	**339**	*e*Pn	**Pn**	**06 56 04.3**	**+2.2**
MFF				*e*Pg	**Pg**	**06 56 04.6**	**+1.5**
MFF				*

TCF			*e*Pg	**Pg**	**06 56 08.7**	**+1.2**
TCF			*e*Sg	**Sg**	**06 56 27.4**	**+0.2**
	94nm,0.2s					
LCHF	**La Chataignera**	**1.51 326**	Pn	**Pn**	**06 56 08.4**	**+2.7**
LCHF			Pg	**Pg**	**06 56 09.7**	**+1.5**
LCHF			Sg	**Sg**	**06 56 30.4**	**+2.1**
LCHF	**La Chataignera**	**1.51 326**	Pg	**Pg**	**06 56 09.7**	**+1.5**
LCHF			Sg	**Sg**	**06 56 30.4**	**+2.1**
PYM	**Petit Puy Mans**	**1.79 79**	Pg	**Pg**	**06 56 14.9**	**+1.0**
LRYF	**La Roche-sur-Y**	**1.83 310**	Pn	**Pn**	**06 56 12.3**	**+2.0**
LRYF			Pg	**Pg**	**06 56 14.9**	**+0.3**
LRYF	**La Roche-sur-Y**	**1.83 310**	Pg	**Pg**	**06 56 14.9**	**+0.3**
AGO	**Saint Agoulin**	**1.95 70**	Pn	**Pn**	**06 56 14.3**	**+2.3**
AGO			Pg	**Pg**	**06 56 17.4**	**+0.4**
AGO	**Saint Agoulin**	**1.95 70**	Pg	**Pg**	**06 56 17.4**	**+0.4**
BGF	**Bois d'Agland**	**1.99 55**	*e*Pn	**Pn**	**06 56 14.4**	**+1.8**
BGF			*e*Pg	**Pg**	**06 56 17.6**	**-0.2**
BGF			*e*Sn	**Sn**	**06 56 38.0**	**-0.1**
BGF			*e*Sg	**Sg**	**06 56 43.0**	**-1.4**
	130nm,0.4s					
PLDF	**La Plantade**	**2.26 75**	Pn	**Pn**	**06 56 18.5**	**+2.1**
PLDF			Pg	**Pg**	**06 56 23.4**	**+0.3**
PLDF	**La Plantade**	**2.26 75**	Pg	**Pg**	**06 56 23.4**	**+0.3**
HYF	**Humbligny**	**2.37 38**	*e*Pn	**Pn**	**06 56 19.2**	**+1.3**
HYF			*e*Pg	**Pg**	**06 56 24.6**	**-0.7**
HYF			*e*Sg	**Sg**	**06 56 55.1**	**-1.7**
HYF	**Humbligny**	**2.37 38**	*e*Pg	**Pg**	**06 56 24.6**	**-0.7**
HYF			*e*Sg	**Sg**	**06 56 55.1**	**-1.7**
EPF	**Esparros**	**2.40 183**	*e*Pn	**Pn**	**06 56 18.8**	**+0.4**
EPF			*e*Pg	**Pg**	**06 56 25.6**	**-0.3**
EPF			*e*Sn	**Sn**	**06 56 47.5**	**-0.9**
EPF			*e*Sg	**Sg**	**06 56 57.0**	**-0.9**
	25nm,0.2s					
AVF	**Avril sur Loir**	**2.41 55**	*e*Pn	**Pn**	**06 56 20.0**	**+1.4**
AVF			*e*Sn	**Sn**	**06 56 47.5**	**-1.2**
AVF			*e*Sg	**Sg**	**06 56 55.8**	**-2.5**
	24nm,0.3s					
SJPF	**Ste Jean**	**2.62 209**	*e*Pn	**Pn**	**06 56 22.3**	**+0.7**
SJPF			*e*Pg	**Pg**	**06 56 29.4**	**-1.0**
SJPF			*e*Sn	**Sn**	**06 56 52.8**	**-1.3**
SJPF			*e*Sg	**Sg**	**06 57 03.3**	**-2.1**
	8.7nm,0.3s					
SMF	**Signal de Mont**	**2.63 61**	*e*Pn	**Pn**	**06 56 23.0**	**+1.3**
SMF			*e*Pg	**Pg**	**06 56 29.9**	**-0.7**
SMF			*e*Sg	**Sg**	**06 57 03.2**	**-2.4**
	44nm,0.5s					
EALK	**Alkurruntz**	**2.63 214**	Pn	**Pn**	**06 56 23.1**	**+1.4**
EALK			Lg		06 57 05.6	
EALK	**Alkurruntz**	**2.63 214**	Pn	**Pn**	**06 56 21.0**	**-0.8**
	0.5nm,0.2s,SNR=4.0					
EALK			Pg	**Pg**	**06 56 29.4**	**-1.2**
	5.6nm,0.3s,SNR=7.9					
EALK			Sn	**Sn**	**06 56 54.0**	**-0.4**
	5.0nm,0.2s,SNR=6.4					
EALK			Lg		06 57 05.4	
	18nm,0.3s,SNR=7.9					
EALK	**Alkurruntz**	**2.63 214**	Pn	**Pn**	**06 56 23.1**	**+1.3**
	5.0nm,0.4s,SNR=7.3					
ETSF	**Etsaut**	**2.64 197**	*e*Pn	**Pn**	**06 56 22.6**	**+0.7**
ETSF			*e*Pg	**Pg**	**06 56 29.9**	**-0.8**
ETSF			*e*Sn	**Sn**	**06 56 53.4**	**-1.1**
ETSF			*e*Sg	**Sg**	**06 57 03.3**	**-2.6**
	10nm,0.2s					
SSF	**Saint Saulge**	**2.65 51**	*e*Pn	**Pn**	**06 56 23.2**	**+1.2**
SSF			*e*Pg	**Pg**	**06 56 30.3**	**-0.7**
SSF			*e*Sg	**Sg**	**06 57 02.8**	**-3.6**
	23nm,0.3s					
SSF	**Saint Saulge**	**2.65 51**	*e*Pg	**Pg**	**06 56 30.3**	**-0.7**
SSF			*e*Sg	**Sg**	**06 57 02.8**	**-3.6**
	12nm,0.3s					
LASF	**Ste Croix**	**2.75 118**	*e*Pn	**Pn**	**06 56 25.1**	**+1.7**
LASF			*e*Pg	**Pg**	**06 56 32.3**	**-0.7**
LASF			*e*Sn	**Sn**	**06 56 57.2**	**-0.2**
LASF			*e*Sg	**Sg**	**06 57 07.7**	**-1.9**
	26nm,0.3s					
EBIE	**Bielsa**	**2.75 185**	Pn	**Pn**	**06 56 27.4**	**+4.0**
EBIE			Sn	**Sn**	**06 57 02.1**	**+4.7**
EBIE	**Bielsa**	**2.75 185**	Pn	**Pn**	**06 56 27.4**	**+4.0**
	0.7nm,0.2s,SNR=14					
EBIE			Sn	**Sn**	**06 56 59.8**	**+2.4**
	7.2nm,0.2s,SNR=5.0					
EBIE			Lg		06 57 08.5	
	9.8nm,0.2s,SNR=4.0					
EBIE	**Bielsa**	**2.75 185**	Pn	**Pn**	**06 56 27.4**	**+3.9**
	1.2nm,0.1s,SNR=14					
VIVF	**Saint-Julien-l**	**3.01 99**	*e*Pn	**Pn**	**06 56 28.3**	**+1.1**
VIVF			*e*Pg	**Pg**	**06 56 36.8**	**-1.4**
VIVF			*e*Sg	**Sg**	**06 57 15.7**	**-2.6**
	26nm,0.4s					
GRR	**Gorron**	**3.10 343**	*e*Pn	**Pn**	**06 56 29.2**	**+0.8**
GRR			*e*Pg	**Pg**	**06 56 38.7**	**-1.3**
GRR			*e*Sn	**Sn**	**06 57 03.5**	**-2.8**
GRR			*e*Sg	**Sg**	**06 57 17.7**	**-3.7**
	19nm,0.2s					
LDF	**La Druitiere**	**3.19 353**	*e*Pn	**Pn**	**06 56 30.1**	**+0.3**
LDF			*e*Pg	**Pg**	**06 56 40.9**	**-0.9**
LDF			*e*Sn	**Sn**	**06 57 06.7**	**-1.9**
LDF			*e*Sg	**Sg**	**06 57 20.9**	**-3.5**
	20nm,0.2s					
FLN	**La Foliniere**	**3.40 349**	*e*Pn	**Pn**	**06 56 33.0**	**+0.3**
FLN			*e*Sn	**Sn**	**06 57 11.0**	**-2.8**
FLN			*e*Sg	**Sg**	**06 57 27.2**	**-4.1**
	17nm,0.2s					
EJON	**La Jonquera**	**3.44 149**	Lg		06 57 28.6	
	3.1nm,0.1s,SNR=4.0					
SGMF	**Saint Gilles**	**3.52 325**	*e*Pn	**Pn**	**06 56 35.3**	**+1.0**
SGMF			*e*Pg	**Pg**	**06 56 45.6**	**-2.7**
SGMF			*e*Sn	**Sn**	**06 57 14.2**	**-2.5**
SGMF			*e*Sg	**Sg**	**06 57 30.9**	**-4.3**
	21nm,0.4s					
QUIF	**Quistinic**	**3.54 316**	*e*Pn	**Pn**	**06 56 35.6**	**+0.9**
QUIF			*e*Pg	**Pg**	**06 56 47.1**	**-1.6**
QUIF			*e*Sn	**Sn**	**06 57 14.7**	**-2.6**
QUIF			*e*Sg	**Sg**	**06 57 32.1**	**-3.8**
	11nm,0.2s					
ELAN	**Lanestosa**	**3.57 233**	Pn	**Pn**	**06 56 36.4**	**+1.3**
ELAN			Sn	**Sn**	**06 57 16.6**	**-1.6**
ELAN	**Lanestosa**	**3.57 233**	Pn	**Pn**	**06 56 35.8**	**+0.7**
	2.3nm,0.2s,SNR=7.6					
ELAN			Sn	**Sn**	**06 57 16.2**	**-2.0**
	2.6nm,0.2s,SNR=7.9					
ELAN			Lg		06 57 33.3	
	2.4nm,0.3s,SNR=4.0					
ELAN	**Lanestosa**	**3.57 233**	Pn	**Pn**	**06 56 36.4**	**+1.3**
	2.0nm,0.3s,SNR=7.6					
ELAN			Sn	**Sn**	**06 57 16.6**	**-1.5**
	1.4nm,0.2s,SNR=7.9					
ESAC	**San Caprasio**	**3.77 191**	Pn	**Pn**	**06 56 38.4**	**+0.5**
ESAC			Sn	**Sn**	**06 57 23.4**	**+0.2**
ESAC	**San Caprasio**	**3.77 191**	Pn	**Pn**	**06 56 38.5**	**+0.6**
	12nm,0.4s,SNR=4.0					
ESAC			Sn	**Sn**	**06 57 22.2**	**-1.0**
	20nm,0.4s,SNR=7.9					
ESAC			Lg		06 57 40.5	
	28nm,0.3s,SNR=4.0					
ESAC	**San Caprasio**	**3.77 191**	Pn	**Pn**	**06 56 38.4**	**+0.5**
	1.0nm,0.2s,SNR=4.0					
ESAC			Sn	**Sn**	**06 57 23.4**	**+0.3**
	17nm,0.3s,SNR=7.9					
ORIF	**Oris-en-Rattie**	**3.84 96**	*e*Sg	**Sg**	**06 57 41.4**	**-4.6**
	4.4nm,0.3s					
ROSF	**Rostrenen**	**3.89 320**	*e*Pn	**Pn**	**06 56 40.4**	**+0.8**
ROSF			*e*Sn	**Sn**	**06 57 23.1**	**-3.1**
ROSF			*e*Sg	**Sg**	**06 57 42.6**	**-5.0**
	12nm,0.3s					
SMRF	**Simiane la Rot**	**3.90 110**	*e*Pg	**Pg**	**06 56 53.5**	**-2.5**
SMRF			*e*Sg	**Sg**	**06 57 43.3**	**-4.7**
	12nm,0.5s					
CABF	**La Chapelle**	**4.07 71**	*e*Pn	**Pn**	**06 56 42.9**	**+0.7**
CABF			*e*Sg	**Sg**	**06 57 48.8**	**-4.8**
	9.4nm,0.4s					
EPOB	**Poblet**	**4.10 174**	Pg	**Pg**	**06 56 56.9**	**-2.9**
	0.8nm,0.4s,SNR=4.0					
EPOB			Sn	**Sn**	**06 57 29.2**	**-2.2**
	0.6nm,0.1s,SNR=4.0					
EPOB			Lg		06 57 48.4	
	2.6nm,0.3s,SNR=7.9					
EPOB	**Poblet**	**4.10 174**	Sn	**Sn**	**06 57 31.9**	**+0.5**
	0.9nm,0.1s,SNR=4.0					
MEZF	**Maizieres J'vi**	**4.38 44**	*e*Pn	**Pn**	**06 56 46.4**	**-0.2**
ERTA	**Horta de San J**	**4.47 182**	Sn	**Sn**	**06 57 36.3**	**-4.6**
	1.3nm,0.3s,SNR=7.9					
ERTA			Lg		06 58 02.1	
	5.2nm,0.3s,SNR=7.9					
MBDF	**Montbardon**	**4.50 97**	*e*Pg	**Pg**	**06 57 03.7**	**-4.2**
EARI	**Arriondas**	**4.61 245**	Pn	**Pn**	**06 56 49.3**	**-0.5**
EARI			Sn	**Sn**	**06 57 38.5**	**-5.9**
EARI	**Arriondas**	**4.61 245**	Pn	**Pn**	**06 56 49.3**	**-0.5**
	0.8nm,0.2s,SNR=7.9					
EARI			Sn	**Sn**	**06 57 39.9**	**-4.4**
	0.5nm,0.1s,SNR=7.9					
EARI	**Arriondas**	**4.61 245**	Sn	**Sn**	**06 57 38.5**	**-5.9**
	0.3nm,0.2s,SNR=7.9					
EARI	**Arriondas**	**4.61 245**	Pn	**Pn**	**06 56 49.3**	**-0.5**
	0.2nm,0.2s,SNR=7.9					
HAU	**Haudompre**	**4.78 55**	*e*Pn	**Pn**	**06 56 52.2**	**-0.1**
HAU			*e*Sg	**Sg**	**06 58 10.6**	**-6.6**
	5.7nm,0.3s					
FRF	**La Foret Royal**	**4.78 111**	*e*Pg	**Pg**	**06 57 09.5**	**-4.0**
FRF			*e*Sn	**Sn**	**06 57 44.7**	**-4.0**
FRF			*e*Sg	**Sg**	**06 58 10.7**	**-6.5**
	7.5nm,0.3s					
HINF	**Hinteralfeld**	**4.99 59**	*e*Pn	**Pn**	**06 56 54.6**	**-0.6**
HINF			*e*Sg	**Sg**	**06 58 17.2**	**-7.0**
	6.0nm,0.3s					
EMOS	**Mosqueruela**	**5.11 188**	Pn	**Pn**	**06 56 57.5**	**+0.5**
	0.7nm,0.4s,SNR=7.9					
EMOS			Sn	**Sn**	**06 57 52.2**	**-4.9**
	0.2nm,0.1s,SNR=7.9					
EMOS			Lg		06 58 26.7	
	1.2nm,0.3s,SNR=4.0					
BAIF	**Baives**	**5.27 27**	*e*Pn	**Pn**	**06 56 58.5**	**-0.6**
BAIF			*e*Sn	**Sn**	**06 57 55.3**	**-5.7**
GIVF	**Givet**	**5.51 30**	*e*Pn	**Pn**	**06 57 01.7**	**-0.9**
CDF	**Champ du Feu**	**5.52 55**	*e*Pn	**Pn**	**06 57 02.2**	**-0.5**
EPON	**Pontenova**	**5.87 252**	Pn	**Pn**	**06 57 07.6**	**0.0**
	0.2nm,0.1s,SNR=7.9					
EPON			Sn	**Sn**	**06 58 10.1**	**-5.9**
	0.4nm,0.1s,SNR=7.9					
GUD	**Guadarrama**	**5.87 217**	Pn	**Pn**	**06 57 07.0**	**-0.6**
	0.7nm,0.2s,SNR=4.0					
ECAL	**Calabor**	**6.29 239**	Pn	**Pn**	**06 57 13.9**	**+0.3**
	1.4nm,0.3s,SNR=7.9					
ECAL			Sn	**Sn**	**06 58 20.5**	**-6.2**
	0.9nm,0.3s,SNR=7.9					

*CSEM **31** 06:58:18.7,28.72N×51.87E,h120km,mb3.7,Error ellipse: s-maj=193.3km s-min=8.0km az=309.0,After OMAN*
*OMAN **31** 06:58:18.7,28.72N×51.87E,h120km,Error ellipse: s-maj=193.0km s-min=8.0km az=309.0*
*THR **31** 06:58:48.9±0.5,26.50N×53.74E,h36km±9km,ML3.6*

ISC 31 06:58:50.2±0.9,26.74N±0.07×53.8E±0.1,h10km,n12, σ0°69/13,1C-2D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.71**	**335**	*e*PG	**Pg**	**06 59 23.1**	**-1.2**
GHIR				*e*SG	**Sg**	**06 59 47.9**	**+0.8**
GHIR				AML	AML	06 59 56.5	
	comp=N,524nm,0.5s						
GHIR				AML	AML	06 59 59.5	
	comp=E,590nm,0.5s						
BNDS	**Bandar-Abbas**	**2.20**	**72**	*e*PN	**Pn**	**06 59 27.1**	**-0.2**
BNDS				AML	AML	07 00 06.6	
	comp=E,259nm,0.4s						
BNDS				AML	AML	07 00 08.4	
	comp=N,334nm,0.5s						
BANOM	**Banah**	**2.37**	**110**	P	**Pn**	**06 59 29.4**	**-0.4**
	SNR=50						
BANOM				P		06 59 29.4	
	SNR=50						
ASHO	**Ashiyiah**	**2.88**	**135**	P	**Pn**	**06 59 38.1**	**+1.0**
	SNR=24						
ASHO				P		06 59 38.1	
	SNR=24						
KRBR	**Kerman**	**4.14**	**38**	*e*PN	**Pn**	**06 59 55.6**	**+0.6**
KRBR				AML	AML	07 00 49.4	
	comp=N,40nm,0.5s						
ARQ	**Araqi**	**4.18**	**144**	⇑P	**Pn**	**06 59 56.2**	**+0.6**
HOQ	**Hoqain**	**4.46**	**134**	⇓P	**Pn**	**07 00 00.0**	**+0.5**
BSY	**Bisya**	**5.03**	**142**	P	**Pn**	**07 00 07.7**	**+0.2**
	SNR=16						
BIDO	**Bidbid**	**5.05**	**128**	⇓P	**Pn**	**07 00 06.6**	**-1.3**
BSYO	**Bisya**	**5.06**	**141**	P	**Pn**	**07 00 07.7**	**-0.3**
	SNR=16						
SMDO	**Samad**	**5.31**	**133**	P	**Pn**	**07 00 11.4**	**-0.1**
	SNR=19						
NASN	**Na'in**	**6.10**	**352**	*e*PN	**Pn**	**07 00 22.3**	**-0.4**

*NEIC **31** 07:21:01.2,34.99S×70.57W,h5km,ML2.6(GUC),After GUC.*

GUC 31 07:21:01.2±0.8,34.99S×70.57W,h5km,MD3.7,ML2.6, 1C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.53**	**315**	⇓*i*P	Pg	07 21 11.8	0.0
SFDO				*i* S	Sg	07 21 19.9	+1.1
NICH	**Los Niches**	**0.55**	**268**	*e*P	Pg	07 21 12.2	+0.1
NICH				*i* S	Sg	07 21 20.6	+1.2
CACH	**El Canelo**	**0.87**	**358**	⇑*i*P	Pb	07 21 16.9	-1.6
CACH				*i* S	Sb	07 21 29.0	-1.2
CHCH	**Chadas Angostu**	**1.06**	**356**	*i* P	Pb	07 21 20.6	-1.0
CHCH				*i* S	Sb	07 21 35.4	-0.1
LMEL	**Las Melosas**	**1.18**	**15**	*e*P	Pb	07 21 22.3	-1.4
LMEL				*i* S	Sb	07 21 38.7	-0.3
LMEL				AMP		07 21 39.5	
	comp=N,119nm,0.2s						
PCH	**Pirque**	**1.37**	**2**	*e*P	Pb	07 21 25.9	-1.0
PCH				*i* S	Sb	07 21 44.7	+0.2
TACH	**Talagante**	**1.37**	**347**	*i* P	Pb	07 21 26.1	-0.9
TACH				*i* S	Sb	07 21 44.9	+0.3
ANTU	**Antumapu**	**1.42**	**358**	*e*P	Pn	07 21 26.4	-1.3
ANTU				*i* S	Sb	07 21 46.3	+0.2
ANTU				AMP		07 21 48.0	
	comp=E,220nm,0.1s						
RCDM	**Rinconada Maip**	**1.51**	**352**	*e*P	Pn	07 21 28.5	-0.6
RCDM				*i* S	Sb	07 21 48.9	+0.2
RCDM				AMP		07 21 50.0	
	comp=E,245nm,0.2s						
CLCH	**Cerro Calan**	**1.59**	**1**	*e*P	Pn	07 21 29.7	-0.5
CLCH				*i* S	Sb	07 21 51.5	+0.5
CLCH				AMP		07 21 55.0	
	comp=N,83nm,0.3s						
FCH	**Farellones**	**1.67**	**8**	*e*P	Pn	07 21 31.3	-0.1
FCH				*i* S	Sn	07 21 54.2	+0.8
FCH				AMP		07 21 55.1	
	comp=N,202nm,0.3s						
LCCH	**Las Cruces**	**1.73**	**331**	*e*P	Pn	07 21 31.8	-0.3
LCCH				*i* S	Sn	07 21 55.0	+0.2
JACH	**Jahuel**	**2.30**	**359**	*e*P	Pn	07 21 41.9	+1.6
JACH				*i* S	Sn	07 22 11.9	+2.5

JMA 31 07:21:02.1±0.2,29.42N×132.10E,h63km,M3.8, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.57**	**322**	P	P	07 21 28.3	0.0
JTN				S	S	07 21 47.6	-0.1
JKC	**Kuchinoerabu**	**1.95**	**303**	P	P	07 21 34.2	+0.6
JKC				S	S	07 21 57.7	+0.8
JNN	**Nakanoshima**	**1.98**	**283**	P	P	07 21 34.4	+0.4
JNN				*e*S	S	07 21 58.0	+0.4
JTSR	**Tashiro 2**	**2.02**	**330**	P	P	07 21 34.5	0.0
JTSR				S	S	07 21 58.3	-0.2
JZK	**Kikaishima**	**2.17**	**240**	*e*S	S	07 22 03.8	+1.5
JNAR	**Kushima--Naru**	**2.22**	**341**	P	P	07 21 37.5	+0.1
JNAR				S	S	07 22 03.4	-0.2
JAM	**Amami Oshima**	**2.41**	**246**	P	P	07 21 39.0	-1.0
JAM				*e*S	S	07 22 06.7	-1.6
JTZ	**Takazaki**	**2.62**	**341**	P	P	07 21 43.0	-0.1
JTZ				S	S	07 22 13.5	-0.3
JSJ	**Shimokoshiki**	**3.05**	**318**	P	P	07 21 48.1	-1.0
JSJ				S	S	07 22 22.6	-1.9
JTK	**Tokunoshima**	**3.21**	**240**	P	P	07 21 50.6	-0.8
JTK				S	S	07 22 26.9	-1.8
JTO	**Tosashimizu**	**3.48**	**10**	P	P	07 21 53.3	-1.9
JTO				*e*S	S	07 22 29.0	-6.4

MOS 31 07:25:18.0±3.0,9.00N×93.14E,h33km,mb5.1/6,3C, Error ellipse: s-maj=29.3km s-min=14.7km az=96.0,

Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.39**	**61**	P	P	07 26 54.5	-12
SNG	**Songkhla**	**7.62**	**103**	P	P	07 26 43.5	-26
	170nm,1.0s						
NANT	**Nan**	**12.19**	**36**	P	P	07 28 08.0	-4.3
HYB	**Hyderabad**	**16.47**	**302**	*e*P	P	07 29 22.0	+14
HYB				*e*S	S	07 32 33.0	+24
SHL	**Shillong**	**16.52**	**356**	*e*P	P	07 28 57.7	-11
SHL				*e*S	S	07 32 27.2	+17
NDI	**New Delhi**	**24.65**	**325**	*e*P	P	07 30 27.0	-10
AAK	**Ala-Archa**	**37.29**	**337**	⇑*e*P	P	07 32 32.4	+3.7
AAK				pmax	pmax		
	comp=Z,26nm,2.2s						
ULN	**Ulaanbaatar**	**40.49**	**14**	⇑*e*P	P	07 32 56.7	+1.4
ZAK	**Zakamensk**	**42.10**	**10**	*e*P	P	07 33 11.7	+3.1
ZAK				*e*		07 34 53.7	
NVS	**Novosibirsk**	**46.40**	**352**	*e*P	P	07 33 43.6	+0.5
BOD	**Bodaibo**	**51.30**	**14**	*e*P	P	07 34 08.3	-13
ARU	**Arti**	**54.48**	**337**	*e*P	P	07 34 39.6	-4.9
SOC	**Sochi**	**57.69**	**316**	*e*P	P	07 34 57.8	-10
SOC				*e*		07 35 04.9	
SOC				pmax	pmax		
	comp=N,160nm,0.5s						
SOC				pmax	pmax		
	comp=Z,40nm,0.5s						
SOC				pmax	pmax		
	comp=E,22nm,0.3s						
YAK	**Yakutsk**	**59.25**	**19**	*i* P	P	07 35 18.7	+0.3
YAK				pmax	pmax		
	comp=Z,19nm,0.6s						
ANN	**Anapa**	**59.64**	**317**	*e*P	P	07 35 20.5	-0.9
MBAR	**Mbarara**	**62.87**	**265**	*i* P	P	07 35 47.7	+4.1
OBN	**Obninsk**	**63.91**	**328**	*e*P	P	07 35 47.9	-1.9
OBN				pmax	pmax		
	comp=Z,16nm,1.2s						
MA2	**Magadan**	**66.24**	**28**	*e*P	P	07 36 03.5	-1.2
MA2				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TIXI	**Tiksi**	**66.33**	**12**	⇑*e*P	P	07 36 05.4	+0.3
TIXI				pmax	pmax		
	comp=Z,19nm,0.9s						
KAF	**Kangasniemi**	**71.34**	**333**	*e*p	P	07 36 33.6	-2.6
	comp=Z,3.8nm,0.7s,baz=115,slow=6.0						
KAF	**Kangasniemi**	**71.34**	**333**	*e*P	P	07 36 33.6	-2.6
KAF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BILL	**Bilibino**	**75.41**	**22**	*i* P	P	07 36 56.4	-3.5
BRG	**Berggiesshubel**	**76.26**	**320**	*i* P	P	07 37 04.9	-0.1
BRG				*i*		07 37 13.4	
BRG				pmax	pmax		
	comp=Z,11nm,1.2s						
KHC	**Kasperske Hory**	**76.42**	**318**	x	Px	07 37 04.5	
KHC	**Kasperske Hory**	**76.42**	**318**	*e*P	P	07 36 59.0	-7.0
CLL	**Collm**	**76.87**	**321**	P	P	07 37 13.0	+4.5
NB2	**NORSAR Subarra**	**78.27**	**331**	P	P	07 37 13.2	-2.8
	comp=Z,4.7nm,0.8s,baz=92,slow=5.8						
LPG	**La Plagne**	**81.13**	**315**	*e*P	P	07 37 18.9	-13
	comp=Z,11nm,0.6s						

*NIED **31** 07:30:00,36.20N×141.40E,h38km,Mw3.7 Best double couple: M0:4.51×10^14 NP1:φs246°,δ84°,λ-116°. NP2: φs145°,δ26°,λ-13°.*

JMA 31 07:29:58.0±0.1,36.14N×141.29E,h54km±2km,M3.7, 4C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.56**	**219**	⇑P	P	07 30 10.1	-0.1
CHOJ				S	S	07 30 19.3	+0.1
JHO	**Hitachi**	**0.75**	**309**	⇓P	P	07 30 12.5	-0.1
JHO				S	S	07 30 23.1	-0.3
JYT	**Yasato**	**0.89**	**276**	⇓P	P	07 30 14.6	+0.1
JYT				S	S	07 30 26.7	-0.2
ONAJ	**Iwakimizuishiy**	**1.04**	**338**	⇑P	P	07 30 16.1	-0.5
ONAJ				S	S	07 30 29.4	-0.9
JFK	**Kawauchi**	**1.27**	**345**	⇑P	P	07 30 19.2	-0.6
JFK				S	S	07 30 35.8	-0.2
BSO3	**Boso 3**	**1.48**	**206**	P	P	07 30 22.9	+0.1
BSO1	**Boso 1**	**1.50**	**190**	P	P	07 30 22.6	-0.6
JAG	**Ashikaga**	**1.51**	**281**	⇓P	P	07 30 23.5	+0.2
JAG				S	S	07 30 42.8	+0.8
JFT	**Otama**	**1.57**	**331**	⇑P	P	07 30 24.9	+0.8
JFT				S	S	07 30 44.8	+1.3
MAT	**Matsushiro**	**2.52**	**280**	P	P	07 30 38.5	+1.0
MAT				S	S	07 31 09.4	+2.3

*MOS **31** 07:33:57.7±1.9,4.68N×95.14E,h33km,mb5.1/5,Error ellipse: s-maj=37.9km s-min=15.9km az=106.5*

ISC 31 07:33:59.6±0.9,4.9N±0.2×95.6E±0.2,h33km,n27, σ1°09/24,mb4.9/7,3C-3D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**5.51**	**66**	P	Px	07 35 30.0	
	210nm,0.8s						
CHG	**Chiang Mai**	**14.20**	**13**	P	Px	07 37 30.7	
	18nm,0.8s						
NANT	**Nan**	**14.68**	**20**	P	Px	07 37 38.5	
ULHL	**Ulahol**	**40.95**	**338**	P	**P**	**07 41 41.4**	**+0.6**
	SNR=9.6						
KZA	**Kyzart**	**41.18**	**337**	P	**P**	**07 41 43.5**	**+0.8**
	SNR=8.3						
UCH	**Uchtor**	**41.60**	**336**	P	**P**	**07 41 47.3**	**+1.1**
	SNR=23						
TKM2	**Tokmak 2**	**41.77**	**338**	P	**P**	**07 41 48.0**	**+0.4**
	SNR=7.1						
AML	**Almayashu**	**41.85**	**335**	P	**P**	**07 41 49.3**	**+1.1**
	SNR=22						
AAK	**Ala-Archa**	**41.95**	**337**	P	**P**	**07 41 51.0**	**+2.0**
	SNR=14						
AAK	**Ala-Archa**	**41.95**	**337**	*d* iP	**P**	**07 41 49.6**	**+0.6**
AAK				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.7						
CHMS	**Chumysh**	**42.16**	**337**	P	**P**	**07 41 51.4**	**+0.6**
	SNR=5.6						
EKS2	**Erkin-Say**	**42.26**	**336**	P	**P**	**07 41 52.5**	**+0.9**
	SNR=9.4					

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.50**	**299**	P	**P**	**07 38 40.4**	**-0.1**
BSO1				S	**S**	**07 38 59.7**	**+0.7**
BSO3	**Boso 3**	**1.91**	**297**	P	**P**	**07 38 46.7**	**+0.4**
BSO3				S	**S**	**07 39 10.8**	**+1.4**
BSO4	**Boso 4**	**2.12**	**300**	P	**P**	**07 38 50.4**	**+1.0**
BSO4				S	**S**	**07 39 16.3**	**+1.5**
CHOJ	**Chosi**	**2.25**	**322**	P	**P**	**07 38 52.5**	**+1.3**
JHJ2	**Mitsune**	**2.45**	**251**	P	**P**	**07 38 54.0**	**-0.1**
JHJ2				S	**S**	**07 39 22.4**	**-0.7**
JOD2	**Odawara 2**	**3.16**	**296**	P	**P**	**07 39 04.0**	**-0.2**
JOD2				*e*S	**S**	**07 39 40.2**	**-1.0**
JAG	**Ashikaga**	**3.55**	**315**	P	**P**	**07 39 09.8**	**0.0**
JRY	**Ryogami san**	**3.65**	**305**	P	**P**	**07 39 11.0**	**-0.2**
JYN	**Shimob**	**3.66**	**296**	P	**P**	**07 39 11.1**	**-0.2**
JYN				S	**S**	**07 39 52.4**	**-1.5**
JMM	**Marumori**	**4.17**	**340**	P	**P**	**07 39 16.6**	**-2.0**
JMM				S	**S**	**07 40 01.4**	**-5.4**
MAT	**Matsushiro**	**4.41**	**307**	P	**P**	**07 39 21.3**	**-0.7**
MAT				S	**S**	**07 40 09.0**	**-4.0**
WB2	**Warramunga Arr**	**54.16**	**190**	*e*P	**P**	**07 47 40.3**	**+0.2**
ASPA	**Alice Springs**	**57.88**	**189**	*e*P	**P**	**07 48 07.4**	**+0.6**

NEIC ***31*** *07:46:09.6±0.9, 8.27N×94.37E, h30km, mb4.4/6, Error ellipse: s-maj=30.4km s-min=24.7km az=52.0*
BJI ***31*** *07:46:19.3, 8.93N×93.57E, h30km, mb4.5, Ms4.3, Msz4.2*
ISC 31 07:46:08.1±0.9, 8.2N±0.1×94.4E±0.2, h30km, n17, σ1§21/17, mb4.5/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BWNR	**Bhubaneshwar**	**14.63**	**326**	*e*P	**P**	**07 49 33.9**	**-1.3**
BWNR				AMb	AMB	07 49 44.3	
comp=Z,11nm,0.4s							
LSA	**Lhasa**	**21.64**	**352**	*e*P	**P**	**07 50 58.5**	**+0.4**
BHPL	**Bhopal**	**22.11**	**315**	*e*P	**P**	**07 51 03.3**	**+0.5**
BHPL				AMb	AMB	07 51 10.1	
comp=Z,11nm,0.3s,mb4.8							
AGRA	**Agra**	**24.53**	**323**	*e*P	**P**	**07 51 31.7**	**+5.2**
AGRA				AMb	AMB	07 51 33.5	
comp=Z,27nm,0.2s,mb5.4							
SONA	**Sohna**	**25.79**	**323**	*i*P	**P**	**07 51 37.9**	**-0.6**
SONA				AMb	AMB	07 51 45.0	
comp=Z,6.7nm,0.2s,mb4.7							
JOSI	**Joshimath**	**26.24**	**330**	*e*P	**P**	**07 51 45.0**	**+2.5**
KHET	**Khetri**	**26.45**	**321**	*i*P	**P**	**07 51 44.9**	**+0.4**
KHET				AMb	AMB	07 51 49.9	
comp=Z,7.8nm,0.6s,mb4.4							
KLP	**Kalpa**	**27.68**	**329**	*e*	**P**	**07 52 03.3**	**+7.5**
AAK	**Ala-Archa**	**38.53**	**336**	P	**P**	**07 53 27.2**	**-2.6**
comp=Z,5.0nm,0.9s,mb4.2							
KURK	**Kurchatov**	**44.39**	**346**	*e*P	**P**	**07 54 16.5**	**-1.3**
comp=Z,3.4nm,1.0s,mb4.0							
WRAB	**Tennant Creek**	**48.25**	**126**	*e*P	**P**	**07 54 47.9**	**-0.8**
comp=Z,4.6nm,0.9s,mb4.5							
KMBO	**Kilima Mbogo**	**57.67**	**263**	*e*P	**P**	**07 55 59.4**	**+0.7**
comp=Z,4.9nm,0.8s,mb4.6							
LSZ	**Lusaka**	**69.56**	**250**	*e*P	**P**	**07 57 16.2**	**-0.7**
comp=Z,2.2nm,0.7s,mb4.2							
KHC	**Kasperske Hory**	**77.85**	**318**	*e*P	**P**	**07 58 09.5**	**+5.0**
NB2	**NORSAR Subarra**	**79.59**	**331**	P	**P**	**07 58 18.7**	**+4.9**
comp=Z,3.7nm,0.8s,mb4.4,baz=92,slow=5.6							
LPG	**La Plagne**	**82.57**	**315**	*e*P	**P**	**07 58 30.2**	**+0.4**
comp=Z,14nm,0.9s,mb4.7							
IMA	**Indian Mountai**	**91.28**	**22**	*e*P	**P**	**07 59 13.6**	**+1.9**
IMA				*e*		07 59 20.9	

IGQ 31 08:00:45.3, 1.15S×81.34W, h12km±4km, mb4.5, 9C-5D, Error ellipse: s-maj=9.7km s-min=5.5km az=141.4, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.80**	**83**	⇓P	Pb	08 01 00.1	-0.5
MAGD	**Magdalena**	**1.89**	**56**	P	Pn	08 01 19.8	+2.0
IGUA	**Igualata**	**2.72**	**97**	⇑P	Pn	08 01 30.6	+0.9
IGUA				S	Sn	08 02 04.1	+1.3
CUSU	**Cusua**	**2.87**	**96**	P	Pn	08 01 34.1	+2.2
JUIV	**Juive**	**2.88**	**96**	⇑P	Pn	08 01 33.7	+1.7
JUIV				S	Sn	08 02 14.2	+7.2
TERV	**Terraza Guagua**	**2.90**	**71**	⇑P	Pn	08 01 33.4	+1.2
PINO	**Pino**	**2.90**	**70**	⇑P	Pn	08 01 33.3	+1.0
ARRY	**Arrayan**	**2.90**	**97**	⇑P	Pn	08 01 33.3	+1.0
ARRY				S	Sn	08 02 08.6	+1.2
NAS1	**Nasa**	**2.90**	**80**	⇓P	Pn	08 01 34.0	+1.7
RETU	**Refugio**	**2.91**	**96**	P	Pn	08 01 34.8	+2.5
YANA	**Yana**	**2.95**	**70**	⇑P	Pn	08 01 33.7	+0.8
PISA	**Pisayambo**	**2.95**	**88**	⇓P	Pn	08 01 34.6	+1.6
VC1	**Cotopaxi 1**	**2.98**	**80**	⇓P	Pn	08 01 35.8	+2.5
TAMB	**Tambo**	**3.00**	**81**	⇓P	Pn	08 01 36.4	+2.7
COTA	**Cotacachi**	**3.34**	**64**	⇑P	Pn	08 01 39.5	+1.0
CAYR	**Refugio Cayamb**	**3.52**	**71**	⇑P	Pn	08 01 44.1	+3.0
CAYA	**Cayambe**	**3.56**	**70**	⇑P	Pn	08 01 44.3	+2.7
CONE	**Cono NE Rev Vo**	**3.84**	**74**	P	Pn	08 01 53.8	+8.2

JMA ***31*** *08:13:27.6±0.5, 33.93N×142.64E, h52km, M3.5*
ISC 31 08:13:28.5±1.8, 33.93N±0.09×142.6E±0.1, h80km±30km, n10, σ0§86/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.49**	**299**	P	**P**	**08 13 53.5**	**-0.7**
BSO1				*e*S	**S**	**08 14 12.1**	**-1.0**
BSO2	**Boso 2**	**1.70**	**299**	*e*S	**S**	**08 14 18.8**	**+1.0**
BSO3	**Boso 3**	**1.90**	**298**	P	**P**	**08 13 59.5**	**-0.1**
BSO3				*e*S	**S**	**08 14 23.0**	**+0.5**
BSO4	**Boso 4**	**2.11**	**301**	P	**P**	**08 14 03.3**	**+0.8**
BSO4				*e*S	**S**	**08 14 28.9**	**+1.2**
JHJ2	**Mitsune**	**2.42**	**251**	P	**P**	**08 14 06.9**	**0.0**
JHJ2				*e*S	**S**	**08 14 35.3**	**-0.2**
JHO	**Hitachi**	**3.13**	**329**	P	**P**	**08 14 15.2**	**-1.6**
JOD2	**Odawara 2**	**3.15**	**296**	P	**P**	**08 14 17.0**	**-0.1**
JOD2				*e*S	**S**	**08 14 52.4**	**-1.2**
JAG	**Ashikaga**	**3.55**	**315**	P	**P**	**08 14 23.3**	**+0.6**
JRY	**Ryogami san**	**3.65**	**306**	P	**P**	**08 14 23.9**	**-0.1**
MAT	**Matsushiro**	**4.41**	**307**	P	**P**	**08 14 36.1**	**+1.6**
MAT				S	**S**	**08 15 24.3**	**-0.7**

BJI ***31*** *08:15:04.7, 7.86N×93.94E, h30km, mB5.4, mb4.9, Ms5.1, Msz4.8*
HRVD ***31*** *08:15:05.9±0.2, 8.09N×94.22E, h12km, MW5.1/64, Centroid moment Tensor Solution. LP body waves: s35,c55;Mantle waves: s64,c111; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.22±.15; $M_{\theta\theta}$0.31±.14; $M_{\phi\phi}$1.91±.16; $M_{r\theta}$1.14±.37; $M_{\theta\phi}$4.99±.11; $M_{\phi r}$-0.08±.39; Best double couple: $M_0$5.284×10^{16} NP1: ϕ_s357°, δ70°, λ-166°. NP2:ϕ_s262°, δ77°, λ-21°. Principal axes: T 6.218, Plg5°, Azm311°; N -1.869, Plg66°, Azm51°; P -4.351, Plg24°, Azm219°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***31*** *08:15:05.9±0.4, 7.98N×94.26E, mb5.2/46, MS4.5/7 Error ellipse: s-maj=10.5km s-min=9.5km az=53.0*
MOS ***31*** *08:15:06.9±1.2, 8.03N×94.23E, h33km, mb5.4/46, MS4.6/10, Error ellipse: s-maj=10.9km s-min=5.6km az=120.9*
CSEM ***31*** *08:15:19.0, 8.84N×92.39E, h33km, mb5.6*
ISC 31 08:15:03.8±0.3, 7.96N±0.05×94.26E±0.04, h15km, h15km±1.4km: pP-P, n195, σ1§24/204, mb5.1/59, MS4.7/17, 4C-14D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.96**	**338**	*e*P	**Pn**	**08 16 03.9**	**-1.6**
PBA				*e*S	**Sn**	**08 16 47.9**	**-4.3**
SNG	**Songkhla**	**6.35**	**97**	P	**Pn**	**08 16 38.5**	**-0.7**
450nm,0.9s							
NNT	**Nongplab**	**7.08**	**49**	P	**Pn**	**08 16 48.0**	**-1.5**
CM31	**Chiang Mai Arr**	**11.38**	**23**	*e*P	**P**	**08 17 48.5**	**-0.6**
5.8nm,0.4s							
CHG	**Chiang Mai**	**11.71**	**22**	P	**P**	**08 17 53.4**	**0.0**
24nm,0.9s							
NANT	**Nan**	**12.46**	**29**	P	**P**	**08 18 05.0**	**+1.5**
CHRT	**Chiangrai**	**12.99**	**24**	P	**P**	**08 18 11.0**	**+0.4**
232nm,1.3s							
VIS	**Vishakhapatnam**	**14.40**	**313**	*e*P	**P**	**08 18 27.9**	**-1.5**
VIS				*e*		08 18 47.9	
comp=Z,168nm,1.6s							
VIS				*e*		08 20 56.4	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BWNR	**Bhubaneshwar**	**14.74**	**327**	*e*P	**P**	**08 18 32.1**	**-1.7**
KOD	**Kodaikanal**	**16.74**	**279**	*e*P	**P**	**08 19 03.8**	**+4.3**
KOD				*e*		08 19 15.8	
comp=Z,63nm,1.4s							
KOD				*e*		08 21 51.8	
KOD				*e*S	**S**	**08 22 10.9**	**+6.7**
HYB	**Hyderabad**	**17.96**	**303**	*i*P	**P**	**08 19 13.0**	**-1.8**
comp=Z,50nm,1.0s							
HYB				*e*S	**S**	**08 22 28.5**	**-3.7**
HYB				*e*		08 22 37.0	
KMI	**Kunming**	**18.89**	**24**	P	**P**	**08 19 27.0**	**+0.9**
KMI				pmax	pmax		
comp=Z,43nm,1.1s							
KMI	**Kunming**	**18.89**	**24**	P	**P**	**08 19 27.0**	**+0.9**
comp=Z,43nm,1.1s							
KMI				pP		08 19 34.0	
KMI				sP		08 19 37.5	
KMI				PP	PP	08 19 45.9	+3.3
KMI				PPP	PPP	08 19 54.8	+3.2
KMI				S	**S**	**08 23 02.6**	**+10**
KMI				SS	SS	08 23 29.5	+11
KMI				SSS	SSS	08 23 43.1	+11
NGP	**Nagpur**	**19.69**	**313**	*e*P	**P**	**08 19 31.5**	**-4.0**
NGP				*e*		08 23 10.2	
NGP				*e*S	**S**	**08 23 14.5**	**+3.5**
COCO	**West Island**	**20.18**	**173**	P	**P**	**08 19 41.2**	**+0.4**
comp=Z,82nm,1.0s							
GOA	**Goa**	**21.35**	**292**	*e*P	**P**	**08 20 03.0**	**+10**
GOA				*e*		08 20 08.5	
comp=Z,79nm,1.2s							
GOA				*e*S	**S**	**08 24 01.6**	**+17**
KAD	**Karad**	**21.66**	**297**	*e*P	**P**	**08 19 55.9**	**-0.1**
KAD				*e*		08 20 01.4	
comp=Z,67nm,1.4s							
LSA	**Lhasa**	**21.82**	**353**	P	**P**	**08 19 56.3**	**-1.2**
LSA				AP		08 20 08.3	
LSA				S	**S**	**08 23 54.3**	**+1.2**
LSA				AMB	AMB		
comp=Z,20nm,0.9s,mb4.5							
LSA				AMB	AMB		
comp=Z,100nm,3.9s							
LSA				LR	LR		
comp=N,5μm,20.5s,MS5.3							
LSA				LR	LR		
comp=E,11μm,17.8s,MS5.3							
LSA				LR	LR		
comp=Z,6μm,20.5s,MS5.0							
BHPL	**Bhopal**	**22.18**	**315**	*e*P	**P**	**08 20 00.9**	**-0.3**
BHPL				*e*		08 20 11.8	
comp=Z,119nm,1.3s							
POO	**Poona**	**22.45**	**300**	*e*P	**P**	**08 20 02.4**	**-1.4**
POO				*e*		08 20 15.0	
comp=Z,53nm,1.4s							
BOM	**Bombay**	**23.49**	**300**	*e*P	**P**	**08 20 12.5**	**-1.6**
BOM				*e*		08 20 25.5	
comp=Z,97nm,2.2s							
SONA	**Sohna**	**25.89**	**323**	*e*P	**P**	**08 20 35.9**	**-1.1**
AYAN	**Aya Nagar**	**26.04**	**324**	*e*P	**P**	**08 20 37.1**	**-1.2**
XAN	**Xi'an**	**29.26**	**25**	P	**P**	**08 21 06.5**	**-1.1**
XAN				AMB	AMB		
comp=Z,20nm,1.7s,mb4.6							
WHN	**Wuhan**	**29.29**	**37**	*e*P	**P**	**08 21 10.5**	**+2.6**
WHN				LR	LR		
comp=N,410nm,8.7s							
WHN				LR	LR		
comp=E,2μm,9.4s							
WHN				LR	LR		
comp=Z,3μm,13.3s,MS5.1							
LZH	**Lanzhou**	**29.33**	**16**	⇓P	**P**	**08 21 09.3**	**+1.1**
LZH				AP	pP	08 21 16.5	+3.8
LZH				XP	sP	08 21 19.0	+4.3
LZH				AMB	AMB		
comp=Z,62nm,1.8s,mb5.0							
LZH				AMB	AMB		
comp=Z,283nm,6.6s							
LZH				LR	LR		
comp=E,2μm,14.2s							
LZH				LR	LR		
comp=Z,2μm,15.9s,MS4.9							
LZH	**Lanzhou**	**29.33**	**16**	⇓P	**P**	**08 21 09.3**	**+1.1**
LZH				*SP	sP	08 21 19.0	+4.3
LZH				pmax	pmax		
comp=Z,62nm,1.8s,mb5.0							
LZH				MLR	MLR		
comp=Z,2μm,15.9s,MS4.9							
LZH	**Lanzhou**	**29.33**	**16**	⇓P	**P**	**08 21 09.3**	**+1.1**
comp=Z,62nm,1.8s,mb5.0							
LZH				pP	pP	08 21 16.4	+3.7
LZH				sP	sP	08 21 19.0	+4.3
LZH				LR	LR		
comp=Z,2μm,15.9s,MS4.9							
NJ2	**Nanjing**	**33.12**	**40**	*e*P	**P**	**08 21 41.5**	**-0.1**
NJ2				AP	pP	08 21 50.0	+3.9
NJ2				XP	sP	08 21 54.5	+6.4
NJ2				PP	PP	08 22 53.3	+0.6
NJ2				S	**S**	**08 26 58.0**	**-1.1**
NJ2				XS		08 27 14.0	
NJ2				PCS		08 28 08.0	
NJ2				AMB	AMB		
comp=Z,30nm,0.8s,mb5.3							
NJ2				AMB	AMB		
comp=Z,1μm,3.8s							
NJ2				LR	LR		
comp=N,2μm,10.2s,MS5.2							
NJ2				LR	LR		
comp=E,2μm,11.1s,MS5.2							
SSE	**Sheshan**	**34.08**	**44**	*e*P	**P**	**08 21 46.8**	**-3.1**
SSE				AP	pP	08 21 56.5	+2.1
SSE				PP	PP	08 23 04.0	-0.2
SSE				S	**S**	**08 27 10.8**	**-3.1**
SSE				XS		08 27 26.8	
SSE				AMB	AMB		
comp=Z,12nm,0.8s,mb4.9							
SSE				AMB	AMB		
comp=Z,84nm,3.3s							
SSE				LR	LR		
comp=N,1μm,15.3s,MS4.9							
SSE				LR	LR		
comp=E,1μm,15.2s,MS4.9							
SSE				LR	LR		
comp=Z,901nm,14.0s,MS4.7							
SSE	**Sheshan**	**34.08**	**44**	*e*P	**P**	**08 21 46.7**	**-3.2**
comp=Z,12nm,0.8s,mb4.9							
SSE				pP	pP	08 21 56.5	+2.1
SSE				PP	PP	08 23 04.0	-0.2
SSE				S	**S**	**08 27 10.8**	**-3.1**
SSE				sS		08 27 26.7	
SSE				SS	SS	08 29 34.9	+13
SSE				LR	LR		
comp=Z,900nm,14.0s,MS4.7							
BJI	**Beijing**	**37.47**	**28**	*e*P	**P**	**08 22 19.8**	**+1.2**
BJI				S	**S**	**08 28 11.1**	**+5.0**
BJI				pmax	pmax		
comp=Z,25nm,1.2s,mb4.9							
BJI				MLR	MLR		
comp=Z,750nm,21.3s,MS4.5							
BJI	**Beijing**	**37.47**	**28**	*e*P	**P**	**08 22 19.8**	**+1.2**
comp=Z,25nm,1.2s,mb4.9							
BJI				S	**S**	**08 28 11.1**	**+5.0**
BJI				SS	SS	08 30 58.9	+20
BJI				LR	LR		
comp=Z,750nm,21.3s,MS4.5							
KZA	**Kyzart**	**37.90**	**337**	P	**P**	**08 22 24.5**	**+2.3**
SNR=6.4							
UCH	**Uchtor**	**38.32**	**336**	P	**P**	**08 22 27.6**	**+1.9**
SNR=16							
AML	**Almayashu**	**38.58**	**335**	P	**P**	**08 22 27.3**	**-0.6**
SNR=12							
AAK	**Ala-Archa**	**38.67**	**336**	P	**P**	**08 22 28.1**	**-0.5**
SNR=15							
AAK	**Ala-Archa**	**38.67**	**336**	*e*P	**P**	**08 22 26.9**	**-1.7**
AAK				*e*		08 22 33.6	
AAK				pmax	pmax		
comp=Z,39nm,1.1s,mb5.0							
AAK	**Ala-Archa**	**38.67**	**336**	*e*P	**P**	**08 22 26.9**	**-1.7**
comp=Z,39nm,1.1s,mb5.0							
AAK				*e*		08 22 33.5	
FRU	**Bishkek**	**38.79**	**337**	*e*P	**P**	**08 22 32.0**	**+2.3**
FRU				MLR	MLR		
comp=Z,2μm,20.0s,MS4.8							
CHMS	**Chumysh**	**38.88**	**337**	P	**P**	**08 22 35.4**	**+5.0**
SNR=7.6							
EKS2	**Erkin-Say**	**38.98**	**336**	P	**P**	**08 22 33.2**	**+1.9**
SNR=9.1							
USP	**Ospenovka**	**39.20**	**337**	P	**P**	**08 22 34.3**	**+1.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNR=16							
MKAR	**Makanchi Array**	**40.03**	**347**	*i*P	**P**	**08 22 37.9**	**-2.0**
MKAR				pmax	pmax		
comp=Z,8.0nm,0.7s							
ULN	**Ulaanbaatar**	**41.22**	**13**	⇓*e*P	**P**	**08 22 51.1**	**+1.4**
SNY	**Shenyang**	**42.53**	**33**	⇑P	**P**	**08 23 03.5**	**+3.0**
SNY				AMB	AMB		
comp=Z,30nm,2.5s,mb4.6							
SNY				LR	LR		
comp=E,830nm,16.5s							
SNY				LR	LR		
comp=Z,660nm,10.0s							
ZAK	**Zakamensk**	**42.95**	**8**	*e*P	**P**	**08 23 04.7**	**+0.9**
ZAK				*e*		08 24 53.8	
TLY	**Talaya**	**44.26**	**8**	⇑*e*P	**P**	**08 23 16.8**	**+2.4**
KURK	**Kurchatov**	**44.55**	**346**	*i*P	**P**	**08 23 15.9**	**-0.9**
KURK				pmax	pmax		
comp=Z,29nm,1.1s,mb5.0							
KURK	**Kurchatov**	**44.55**	**346**	*e*P	**P**	**08 23 15.1**	**-1.7**
comp=Z,39nm,0.9s,mb5.2							
KURK				LR	LR		
comp=Z,237nm,20.0s,MS4.1							
NVS	**Novosibirsk**	**47.58**	**351**	*e*P	**P**	**08 23 38.6**	**-2.1**
NVS				pmax	pmax		
comp=Z,35nm,1.2s,mb5.3							
NVS				pmax	pmax		
comp=N,38nm,1.7s							
NVS				pmax	pmax		
comp=E,19nm,1.3s							
WRAB	**Tennant Creek**	**48.22**	**126**	*e*P	**P**	**08 23 45.0**	**-1.2**
WRAB				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.6							
WRAB				MLR	MLR		
comp=Z,279nm,22.0s,MS4.2							
WRAB	**Tennant Creek**	**48.22**	**126**	*e*P	**P**	**08 23 45.0**	**-1.1**
comp=Z,3.7nm,0.6s,mb4.6							
WRAB				LR	LR		
comp=Z,279nm,22.0s,MS4.2							
WB2	**Warramunga Arr**	**48.22**	**126**	*e*P	**P**	**08 23 45.4**	**-0.8**
CHKZ	**Chkalovo**	**49.43**	**342**	P	**P**	**08 23 52.7**	**-2.3**
CHKZ				pmax	pmax		
comp=Z,29nm,0.8s,mb5.4							
KLR	**Kul'dur**	**51.75**	**31**	*e*P	**P**	**08 24 15.3**	**+2.5**
BOD	**Bodaibo**	**52.04**	**13**	*e*P	**P**	**08 24 14.2**	**-0.6**
CLNS	**Chul'man**	**54.31**	**20**	*e*P	**P**	**08 24 29.2**	**-2.5**
CLNS				pmax	pmax		
comp=N,15nm,1.3s							
CLNS				pmax	pmax		
comp=Z,20nm,1.3s,mb4.9							
CLNS				pmax	pmax		
comp=E,15nm,1.5s							
CLNS				pmax	pmax		
comp=N,600nm,13.7s							
CLNS				pmax	pmax		
comp=Z,100nm,13.8s							
CLNS				pmax	pmax		
comp=E,100nm,14.4s							
CLNS				MLR	MLR		
comp=Z,400nm,13.0s,MS4.7							
CLNS				MLR	MLR		
comp=N,400nm,14.0s,MS4.7							
CLNS				MLR	MLR		
comp=E,100nm,13.0s,MS4.7							
GNI	**Garni**	**54.46**	**314**	*e*P	**P**	**08 24 33.1**	**+0.1**
GNI				pmax	pmax		
comp=Z,29nm,1.2s							
GNI	**Garni**	**54.46**	**314**	*e*P	**P**	**08 24 33.1**	**0.0**
comp=Z,29nm,1.2s,mb5.1							
ARU	**Arti**	**55.86**	**337**	⇓*i*P	**P**	**08 24 36.2**	**-6.7**
ARU				*e*		08 25 35.9	
ARU				*e*S	**S**	**08 32 16.6**	**-11**
ARU				pmax	pmax		
comp=Z,37nm,1.0s,mb5.4							
KIV	**Kislovodsk**	**57.33**	**318**	P	**P**	**08 24 53.9**	**+0.2**
KIV				pmax	pmax		
comp=Z,35nm,0.9s,mb5.4							
KIV	**Kislovodsk**	**57.33**	**318**	P	**P**	**08 24 53.9**	**+0.2**
comp=Z,35nm,0.9s,mb5.4							
KMBO	**Kilima Mbogo**	**57.55**	**264**	*e*P	**P**	**08 24 56.9**	**+1.3**
KMBO				*e*	pP	08 25 02.8	+2.4
KMBO				pmax	pmax		
comp=Z,18nm,1.0s							
KMBO				MLR	MLR		
comp=Z,306nm,20.0s							
KMBO	**Kilima Mbogo**	**57.55**	**264**	*e*P	**P**	**08 24 56.9**	**+1.2**
comp=Z,18nm,1.0s,mb5.1							
KMBO				*e*	pP	08 25 02.8	+2.5
KMBO				LR	LR		
comp=Z,306nm,20.0s,MS4.4							
MALT	**Malatya**	**58.50**	**310**	*e*P	**P**	**08 25 01.8**	**-0.1**
MALT				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.8							
MALT	**Malatya**	**58.50**	**310**	*e*P	**P**	**08 25 01.8**	**-0.1**
comp=Z,9.0nm,0.9s,mb4.8							
SOKR	**Solikamsk**	**58.76**	**339**	⇑*i*P	**P**	**08 25 06.4**	**+3.0**
SOKR				pmax	pmax		
comp=Z,50nm,0.9s,mb5.5							
SOKR				MLR	MLR		
comp=Z,1μm,21.0s,MS5.0							
SOC	**Sochi**	**59.20**	**316**	*e*P	**P**	**08 25 03.4**	**-3.3**
SOC				*e*		08 25 50.0	
SOC				*e*S	**S**	**08 33 08.0**	**-4.1**
SOC				*e*		08 34 50.9	
SOC				*e*SSS	SSS	08 39 35.2	+0.9
SOC				pmax	pmax		
comp=Z,63nm,0.8s,mb5.7							
SOC				pmax	pmax		
comp=N,32nm,0.5s							
SOC				pmax	pmax		
comp=E,38nm,0.7s							
EIL	**Elat**	**59.49**	**300**	*e*P	**P**	**08 25 07.8**	**-1.1**
comp=E,12nm,0.8s,mb5.0							
YAK	**Yakutsk**	**59.87**	**18**	*d i*P	**P**	**08 25 11.3**	**+0.2**
YAK				pmax	pmax		
comp=Z,7.0nm,0.3s,mb5.2							
STKA	**Stephens Creek**	**60.08**	**134**	P	**P**	**08 25 11.6**	**-1.4**
ANN	**Anapa**	**61.15**	**317**	*e*P	**P**	**08 25 24.4**	**+4.3**
ANN				*e*		08 25 57.7	
ANN				*e*S	**S**	**08 33 48.7**	**+12**
ANN				pmax	pmax		
comp=Z,224nm,1.1s							
MBAR	**Mbarara**	**63.89**	**265**	*d i*P	**P**	**08 25 38.6**	**-0.2**
MBAR	**Mbarara**	**63.89**	**265**	*e*P	**P**	**08 25 38.8**	**-0.1**
comp=Z,16nm,1.4s,mb4.9							
OBN	**Obninsk**	**65.37**	**328**	⇑*e*P	**P**	**08 25 45.0**	**-2.7**
OBN				*e*		08 28 10.8	
OBN				*e*S	S	08 34 24.3	-5.3
OBN				*e*SS	SS	08 38 43.6	-1.0
OBN				pmax	pmax		
comp=Z,50nm,1.2s,mb5.4							
OBN				MLR	MLR		
comp=Z,700nm,22.0s,MS4.8							
MA2	**Magadan**	**66.63**	**28**	*e*P	**P**	**08 25 55.8**	**+0.1**
MA2				*e*S	S	08 34 41.7	-3.2
MA2				*e*SS	SS	08 39 08.6	+4.5
MA2				pmax	pmax		
comp=Z,20nm,1.7s,mb4.9							
MA2				MLR	MLR		
comp=Z,300nm,18.0s,MS4.5							

KAF	Kangasniemi	72.77	333	*ep*	P	08 26 36.2 +3.0
	comp=Z,16nm,0.8s,mb5.0					
KAF	Kangasniemi	72.77	333	*eP*	P	08 26 36.2 +3.0
KAF				pmax	pmax	
	comp=Z,17nm,0.8s,mb5.0					
NIE	Niedzica	73.56	319	*eP*	P	08 26 39.7 +1.6
OJC	Ojcow	73.99	320	*eP*	P	08 26 41.6 +1.1
LBTB	Lobatse	74.39	241	*eP*	P	08 26 44.1 +0.7
LBTB				*e*	pP	08 26 50.1 +1.9
LBTB				pmax	pmax	
	comp=Z,6.0nm,0.8s,mb4.6					
LBTB				MLR	MLR	
	comp=Z,316nm,20.0s,MS4.6					
LBTB	Lobatse	74.39	241	*eP*	P	08 26 44.1 +0.7
	comp=Z,6.0nm,0.8s,mb4.6					
LBTB				*e*	pP	08 26 50.1 +1.9
LBTB				LR	LR	
	comp=Z,316nm,20.0s,MS4.6					
VYHS	Vyhne	74.42	318	*i* P	P	08 26 44.0 +0.9
VYHS				*e**SP	sP	08 26 51.9 +2.3
VYHS	Vyhne	74.42	318	*i* P	P	08 26 44.0 +0.9
VYHS				*i* pP	pP	08 26 47.4 -0.5
VYHS				*es*P	sP	08 26 51.9 +2.3
SRO	Srobarova	74.71	317	*eP*	P	08 26 49.6 +4.8
SRO	Srobarova	74.71	317	*ep*P	pP	08 26 49.6 0.0
KEV	Kevo	74.79	341	*ep*	P	08 26 45.3 +0.5
	comp=Z,28nm,1.0s,mb5.2					
KEV	Kevo	74.79	341	*eP*	P	08 26 45.3 +0.5
KEV				pmax	pmax	
	comp=Z,29nm,1.0s,mb5.2					
OKC	Ostrava-Krasne	75.00	319	*eP*	P	08 26 47.2 +0.8
MORC	Moravsky Berou	75.39	319	*eP*	P	08 26 48.2 -0.4
MORC				pmax	pmax	
	comp=Z,41nm,1.1s,mb5.3					
MORC	Moravsky Berou	75.39	319	*eP*	P	08 26 48.1 -0.5
	comp=Z,41nm,1.1s,mb5.3					
ZST	Bratislava	75.55	318	*eP*	P	08 26 51.0 +1.4
ZST				*i* pP	pP	08 26 56.0 +1.6
BILL	Bilibino	75.96	22	*eP*	P	08 26 50.8 -0.7
BILL				pmax	pmax	
	comp=Z,37nm,1.5s,mb5.1					
BILL	Bilibino	75.96	22	*eP*	P	08 26 50.8 -0.7
	comp=Z,37nm,1.5s,mb5.1					
DPC	Dobruska-Polom	76.22	320	*eP*	P	08 26 53.7 +0.4
DPC				*ep*P	pP	08 26 58.1 0.0
KSP	Ksiaz	76.27	320	*eP*	P	08 26 54.0 +0.4
KSP				*e**PP	pP	08 26 59.7 +1.3
KSP	Ksiaz	76.27	320	*eP*	P	08 26 54.3 +0.7
KSP				*e*	pP	08 26 58.1 -0.4
UPC	Upice	76.43	320	*eP*	P	08 26 56.1 +1.6
PRU	Pruhonice	77.34	319	*eP*	P	08 27 00.7 +1.1
PRU				*ep*P	pP	08 27 04.3 -0.1
PVCC	Panska Ves	77.35	320	*eP*	P	08 27 02.2 +2.6
BRG	Berggiesshubel	77.76	320	*i* P	P	08 27 03.5 +1.6
BRG				*i*	pP	08 27 07.1 +0.4
BRG				pmax	pmax	
	comp=Z,40nm,1.7s,mb5.1					
BRG	Berggiesshubel	77.76	320	*i* P	P	08 27 03.5 +1.6
	comp=Z,40nm,1.7s,mb5.1					
BRG				*i*	pP	08 27 07.1 +0.4
GEC2	GERESS Array S	77.84	318	*eP*	P	08 27 02.2 -0.2
GEC2				pmax	pmax	
	comp=Z,19nm,0.9s,mb5.0					
GEC2	GERESS Array S	77.84	318	*eP*	P	08 27 02.2 -0.2
	comp=Z,19nm,0.9s,mb5.0					
KHC	Kasperske Hory	77.93	318	*eP*	P	08 27 03.0 +0.2
KHC				*ep*P	pP	08 27 07.0 -0.7
RUE	Ruedersdorf	77.93	322	*eP*	P	08 27 03.2 +0.5
	comp=Z,42nm,0.8s,mb5.4					
PTCC	Patocco-Chiusa	78.02	316	*eP*	P	08 27 04.6 +1.3
CLL	Collm	78.37	321	⇓*i*P	P	08 27 06.1 +0.9
CLL				*i*	pP	08 27 10.6 +0.6
CLL				pmax	pmax	
	comp=Z,21nm,1.4s,mb4.9					
CLL	Collm	78.37	321	⇓*i*P	P	08 27 06.1 +0.9
	comp=Z,21nm,1.4s,mb4.9					
CLL				*i*	pP	08 27 10.6 +0.6
CLL	Collm	78.37	321	⇓P	P	08 27 06.1 +0.9
	comp=Z,logA/T=1.2,mb4.9					
CLL				*i* *PP	pP	08 27 10.6 +0.6
CLL				*e*		08 27 18.0
WET	Wettzell	78.39	318	*eP*	P	08 27 05.3 -0.1
WET				pmax	pmax	
	comp=Z,19nm,1.0s,mb5.0					
WET	Wettzell	78.39	318	*eP*	P	08 27 05.3 -0.1
	comp=Z,19nm,1.0s,mb5.0					
NKC	Novy Kostel	78.69	320	*eP*	P	08 27 06.8 -0.2
SFI	Santa Sofia	79.07	313	*eP*	P	08 27 10.2 +1.0
PGD	Poggio Sodo	79.16	313	*eP*	P	08 27 12.4 +2.7
CTI	Castel Tesino	79.20	315	*eP*	P	08 27 11.7 +1.8
MOX	Moxa	79.23	320	*eP*	P	08 27 09.8 -0.1
MOX				pmax	pmax	
	comp=Z,27nm,1.3s,mb5.0					
MOX	Moxa	79.23	320	*eP*	P	08 27 09.8 -0.1
	comp=Z,27nm,1.3s,mb5.0					
MOX	Moxa	79.23	320	*i* P	P	08 27 09.8 -0.1
	comp=Z,logA/T=1.3,mb5.0					
VMG	Vicchio	79.29	313	*eP*	P	08 27 13.1 +2.7
SEI	Scarperia	79.42	313	*eP*	P	08 27 12.6 +1.5
FUR	Furstenfeldbru	79.44	317	*eP*	P	08 27 10.6 -0.5
GRA1	Grafenberg Arr	79.48	319	*eP*	P	08 27 11.6 +0.3
	comp=Z,28nm,0.9s,mb5.2					
GRA1				*ep*P	pP	08 27 16.7 +0.5
GRF	Grafenberg Arr	79.48	319	*eP*	P	08 27 11.6 +0.3
GRF				*e**PP	pP	08 27 16.7 +0.5
GRF				pmax	pmax	
	comp=Z,28nm,0.9s,mb5.2					
GRF	Grafenberg Arr	79.48	319	*eP*	P	08 27 11.6 +0.3
GRF				*e**PP	pP	08 27 16.7 +0.5
GRF				pmax	pmax	
	comp=Z,28nm,0.9s,mb5.2					
GRF	Grafenberg Arr	79.48	319	*eP*	P	08 27 11.6 +0.3
	comp=Z,28nm,0.9s,mb5.2					
GRF				*ep*P	pP	08 27 16.7 +0.5
NB2	NORSAR Subarra	79.71	331	P	P	08 27 10.4 -1.9
	comp=Z,18nm,0.8s,mb5.0,baz=92,slow=5.8					
NB2	NORSAR Subarra	79.71	331	P	P	08 27 10.4 -1.9
	baz=92,slow=5.9					
CLZ	Clausthal	80.02	321	*eP*	P	08 27 14.1 0.0
	comp=Z,29nm,1.0s,mb5.2					
MUD	Monsted U'grnd	80.70	326	*i* P	P	08 27 17.1 -0.6
MUD				pmax	pmax	
	comp=Z,57nm,1.2s,mb5.4					
MUD	Monsted U'grnd	80.70	326	*i* P	P	08 27 17.1 -0.6
	comp=Z,56nm,1.2s,mb5.4					
VAI	Varese	81.21	315	*eP*	P	08 27 21.5 +0.9
TNS	Taunus Mts	81.26	320	*eP*	P	08 27 20.8 0.0
BFO	Black Forest	81.41	318	*eP*	P	08 27 21.1 -0.5
BFO				pmax	pmax	
	comp=Z,11nm,0.9s,mb4.8					
BFO	Black Forest	81.41	318	*eP*	P	08 27 21.1 -0.5
	comp=Z,11nm,0.9s,mb4.8					
CDF	Champ du Feu	82.11	318	*eP*	P	08 27 24.0 -1.2
	comp=Z,18nm,0.9s,mb4.7					
CDF	Champ du Feu	82.11	318	*eP*	P	08 27 24.0 -1.2
CDF				pmax	pmax	
	comp=Z,9.0nm,0.9s,mb4.7					
SBF	Sospel	82.26	313	*eP*	P	08 27 25.2 -0.9
	comp=Z,95nm,0.8s,mb5.5					
SBF	Sospel	82.26	313	*eP*	P	08 27 25.2 -0.9
SBF				pmax	pmax	
	comp=Z,47nm,0.8s,mb5.5					
LPG	La Plagne	82.64	315	*eP*	P	08 27 27.7 -0.3
	comp=Z,64nm,0.8s,mb5.4					
LPG	La Plagne	82.64	315	*eP*	P	08 27 27.7 -0.3
LPG				pmax	pmax	
	comp=Z,32nm,0.8s,mb5.4					
LPL	La Plagne	82.65	315	*eP*	P	08 27 27.6 -0.5
	comp=Z,104nm,0.9s,mb5.6					
LPL	La Plagne	82.65	315	*eP*	P	08 27 27.6 -0.5
LPL				pmax	pmax	
	comp=Z,52nm,0.9s,mb5.6					
MBDF	Montbardon	82.68	314	*eP*	P	08 27 26.9 -1.3
	comp=Z,19nm,0.9s,mb4.8					
MBDF	Montbardon	82.68	314	*eP*	P	08 27 26.9 -1.3
MBDF				pmax	pmax	
	comp=Z,10.0nm,0.9s,mb4.8					
BNI	Bardonecchia	82.72	314	*eP*	P	08 27 29.7 +1.2
BNI				pmax	pmax	
	comp=Z,41nm,1.3s,mb5.3					
BNI	Bardonecchia	82.72	314	*eP*	P	08 27 29.7 +1.2
	comp=Z,41nm,1.3s,mb5.3					
HAU	Haudompre	82.75	317	*eP*	P	08 27 27.4 -1.1
	comp=Z,65nm,1.0s,mb5.3					
HAU				*e*R		
	comp=Z,303nm,17.5s					
HAU	Haudompre	82.75	317	*eP*	P	08 27 27.4 -1.1
HAU				pmax	pmax	
	comp=Z,33nm,1.0s,mb5.3					
HAU				MLR	MLR	
	comp=Z,300nm,17.5s,MS4.7					
FRF	La Foret Royal	82.85	313	*eP*	P	08 27 28.5 -0.7
CABF	La Chapelle	83.03	316	*eP*	P	08 27 29.3 -0.7
	comp=Z,62nm,1.1s,mb5.2					
CABF	La Chapelle	83.03	316	*eP*	P	08 27 29.3 -0.7
CABF				pmax	pmax	
	comp=Z,31nm,1.1s,mb5.2					
ORIF	Oris-en-Rattie	83.30	314	*eP*	P	08 27 30.3 -1.1
	comp=Z,19nm,0.8s,mb4.9					
ORIF				*e*R		
	comp=Z,243nm,19.8s					
GIVF	Givet	83.60	320	*eP*	P	08 27 32.2 -0.6
BAIF	Baives	84.00	320	*eP*	P	08 27 34.4 -0.5
VIVF	Saint-Julien-l	84.16	314	*eP*	P	08 27 35.0 -0.8
	comp=Z,22nm,0.9s,mb5.0					
VIVF	Saint-Julien-l	84.16	314	*eP*	P	08 27 35.0 -0.8
VIVF				pmax	pmax	
	comp=Z,11nm,0.9s,mb5.0					
SMF	Signal de Mont	84.56	316	*eP*	P	08 27 36.7 -1.1
	comp=Z,55nm,1.0s,mb5.3					
SMF	Signal de Mont	84.56	316	*eP*	P	08 27 36.7 -1.1
SMF				pmax	pmax	
	comp=Z,28nm,1.0s,mb5.3					
SSF	Saint Saulge	84.75	317	*eP*	P	08 27 38.2 -0.5
AVF	Avril sur Loir	84.88	316	*eP*	P	08 27 38.3 -1.1
	comp=Z,64nm,1.4s,mb5.3					
AVF	Avril sur Loir	84.88	316	*eP*	P	08 27 38.3 -1.1
AVF				pmax	pmax	
	comp=Z,32nm,1.4s,mb5.3					
BGF	Bois d'Agland	85.26	316	*eP*	P	08 27 40.8 -0.5
TCF	Toulx Ste Croi	85.72	316	*eP*	P	08 27 42.9 -0.7
CAF	Calviac	85.99	315	*eP*	P	08 27 44.6 -0.4
RJF	Les Rejaudoux	86.33	315	*eP*	P	08 27 46.5 -0.1
RJF				*e*R		
	comp=Z,454nm,21.0s					
LDF	La Druitiere	86.98	318	*eP*	P	08 27 49.0 -0.7
	comp=Z,41nm,1.1s,mb5.3					
LDF	La Druitiere	86.98	318	*eP*	P	08 27 49.0 -0.7
LDF				pmax	pmax	
	comp=Z,21nm,1.1s,mb5.3					
FLN	La Foliniere	87.19	319	*eP*	P	08 27 50.0 -0.8
	comp=Z,52nm,1.0s,mb5.4					
FLN				*e*R		
	comp=Z,261nm,19.8s					
FLN	La Foliniere	87.19	319	*eP*	P	08 27 50.0 -0.8
FLN				pmax	pmax	
	comp=Z,26nm,1.0s,mb5.4					
FLN				MLR	MLR	
	comp=Z,260nm,19.8s,MS4.6					
MFF	Saint Martin d	87.30	317	*eP*	P	08 27 50.7 -0.6
GRR	Gorron	87.50	318	*eP*	P	08 27 51.9 -0.3
ETSF	Etsaut	88.16	313	*eP*	P	08 27 55.4 -0.1
	comp=Z,39nm,1.2s,mb5.2					
ETSF	Etsaut	88.16	313	*eP*	P	08 27 55.4 -0.1
ETSF				pmax	pmax	
	comp=Z,19nm,1.2s,mb5.2					
IMA	Indian Mountai	91.50	22	*eP*	P	08 28 11.6 +1.0
MSU	Marysvale	127.62	26	*e*PKIKP	PKPdf	08 34 11.7 -1.0
PV10	Paradox Valley	129.04	24	*e*PKPdf	PKPdf	08 34 14.3 -1.1
JCT	Junction City	139.47	19	*e*PKHKP		08 34 26.3
PLCA	Paso Flores	144.67	200	*e*PKIKP	PKPdf	08 34 40.6 -3.3
OTAV	Otavalo	169.09	318	*e*PKPdf	PKPdf	08 35 13.6 -1.1

*NEIC **31** 08:19:34.5, 45.69S×167.18E, h12km, ML3.9(WEL), After WEL.*

WEL 31 08:19:32.1±0.7, 45.61S×167.00E, h12km, ML4.0/6, 2C-2D, Error ellipse: s-maj=5.9km s-min=2.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.17	39	⇑P*	Pb	08 19 36.2	-0.5
DCZ				SG	Sg	08 19 39.1	+0.3
WHZ	Wether Hill Ro	0.72	113	P	Pb	08 19 45.3	-0.8
WHZ				S	Sb	08 19 55.0	-0.6
WHZ	Wether Hill Ro	0.72	113	⇓P*	Pb	08 19 45.3	-0.8
WHZ				S*	Sb	08 19 54.9	-0.7
MLZ	Mavora Lakes	0.86	73	P	Pb	08 19 47.6	-1.0
MLZ				S	Sb	08 19 59.0	-0.8
MLZ	Mavora Lakes	0.86	73	⇑P*	Pb	08 19 47.6	-0.9
MLZ				S*	Sb	08 19 58.9	-1.0
MSZ	Milford Sound	1.15	35	P*	Pb	08 19 52.0	-1.3
MSZ				S*	Sb	08 20 07.3	-0.7
WKZ	Wanaka	1.62	62	P	Pn	08 20 01.5	+0.7
WKZ	Wanaka	1.62	62	PN	Pn	08 20 01.1	+0.3
EAZ	Earnscleugh	1.67	78	P	Pn	08 20 02.0	+0.6
EAZ	Earnscleugh	1.67	78	PN	Pn	08 20 01.9	+0.5
TUZ	Tuapeka	1.87	102	P	Pn	08 20 04.8	+0.5
TUZ	Tuapeka	1.87	102	PN	Pn	08 20 04.3	0.0
JCZ	Jackson Bay	1.98	40	*eP*	Pn	08 20 06.9	+1.0
JCZ	Jackson Bay	1.98	40	PN	Pn	08 20 06.8	+0.9
LBZ	Lake Benmore	2.57	63	*eP*	Pn	08 20 13.7	-0.6
LBZ	Lake Benmore	2.57	63	PN	Pn	08 20 13.5	-0.8
ODZ	Otahua Downs	2.63	79	P	Pn	08 20 14.4	-0.8
ODZ	Otahua Downs	2.63	79	⇓PN	Pn	08 20 14.4	-0.8
FOZ	Fox Glacier	2.81	44	PN	Pn	08 20 18.6	+0.9
RPZ	Rata Peaks	3.46	58	*e*P	Pn	08 20 25.8	-1.1
RPZ	Rata Peaks	3.46	58	*e*PN	Pn	08 20 24.9	-2.1
WVZ	Waitaha Valley	3.69	48	*e*P	Pn	08 20 30.6	+0.4
WVZ	Waitaha Valley	3.69	48	*e*PN	Pn	08 20 30.4	+0.2
DSZ	Denniston Nort	5.20	44	*e*P	Pn	08 20 50.5	-1.2
DSZ	Denniston Nort	5.20	44	*e*PN	Pn	08 20 50.3	-1.3

JMA 31 08:42:11.9±0.5, 33.95N×142.62E, h68km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.53	298	P	P	08 42 37.4	-0.3
BSO1				*e*S	S	08 42 56.7	-0.1
BSO2	Boso 2	1.74	298	*e*S	S	08 43 03.3	+1.6
BSO3	Boso 3	1.94	297	P	P	08 42 43.8	+0.5
JHJ2	Mitsune	2.49	251	P	P	08 42 51.3	+0.3
JHJ2				*e*S	S	08 43 19.6	-0.6
JOD2	Odawara 2	3.19	295	P	P	08 43 00.4	-0.6
JOD2				*e*S	S	08 43 37.4	-0.6
JAG	Ashikaga	3.58	314	P	P	08 43 07.0	+0.6
JRY	Ryogami san	3.68	305	P	P	08 43 07.8	0.0

*BJI **31** 08:56:09.7, 7.16N×93.17E, h30km, mb4.3*
*NEIC **31** 08:56:17.7±1.6, 7.92N×93.96E, h30km, mb4.2/4, Error ellipse: s-maj=66.7km s-min=17.9km az=55.0*

ISC 31 08:56:15.7±1.8, 7.8N±0.3×93.9E±0.4, h30km, n13, σ1§60/13, mb4.5/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	Jiri	21.02	341	*eP*	P	09 00 58.8	-0.6
	26nm,0.6s,mb4.7						
PKI	Pulchoki	21.21	339	*eP*	P	09 01 03.0	+1.7
	22nm,0.6s,mb4.7						
DMN	Daman	21.35	338	*eP*	P	09 01 03.5	+0.7
KKN	Kakani	21.45	339	*eP*	P	09 01 03.4	-0.4
	27nm,0.8s,mb4.6						
GKN	Gorkha	21.88	338	*eP*	P	09 01 07.5	-0.6
	31nm,0.6s,mb4.9						
LSA	Lhasa	21.90	354	P	P	09 01 08.5	+0.2
LSA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
KOLN	Koldanda	22.09	335	*eP*	P	09 01 10.0	-0.2
	comp=Z,39nm,1.0s,mb4.8						
AAK	Ala-Archa	38.64	337	*eP*	P	09 03 38.1	-0.2
	comp=Z,4.5nm,1.3s,mb4.0						
ULN	Ulaanbaatar	41.43	13	*eP*	P	09 04 00.9	-0.3
	comp=Z,4.1nm,1.3s,mb3.9						
KURK	Kurchatov	44.59	346	*eP*	P	09 04 27.2	+0.3
WRAB	Tennant Creek	48.45	125	*eP*	P	09 04 57.8	+0.1
	comp=Z,2.4nm,0.7s,mb4.3						
CHKZ	Chkalovo	49.43	342	*eP*	P	09 05 04.3	-0.6
	comp=Z,1.2nm,0.4s,mb4.3						
INK	Inuvik	97.10	16	*eP*	P	09 09 46.0	+0.1

IGQ 31 08:58:15.5, 1.66S×81.21W, h12km±13km, mb4.0, 1C-2D, Error ellipse: s-maj=14.2km s-min=9.4km az=161.9, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.89	48	⇑P	Pb	08 58 31.2	-1.3
MAGD	Magdalena	2.13	42	P	Pn	08 58 53.6	+2.1
IGUA	Igualata	2.57	86	P	Pn	08 58 58.7	+1.0
JUIV	Juive	2.75	85	P	Pn	08 59 01.8	+1.4
ARRY	Arrayan	2.75	87	P	Pn	08 59 00.9	+0.5
ARRY				S	Sn	08 59 35.4	+1.6
RETU	Refugio	2.77	86	P	Pn	08 59 02.7	+2.2
PISA	Pisayambo	2.88	78	P	Pn	08 59 03.7	+1.6
NAS1	Nasa	2.91	70	⇓P	Pn	08 59 05.6	+3.0
VC1	Cotopaxi 1	2.98	70	P	Pn	08 59 06.2	+2.6
TERV	Terraza Guagua	2.99	61	P	Pn	08 59 04.3	+0.5
PINO	Pino	2.99	60	P	Pn	08 59 03.8	0.0
TAMB	Tambo	2.99	71	P	Pn	08 59 05.4	+1.6
YANA	Yana	3.04	60	P	Pn	08 59 05.1	+0.6
COTA	Cotacachi	3.48	55	P	Pn	08 59 11.7	+0.9
CAYR	Refugio Cayamb	3.60	63	⇓P	Pn	08 59 15.9	+3.4
CAYA	Cayambe	3.65	62	P	Pn	08 59 16.1	+3.0

MEX 31 09:01:50.2±1.6, 15.79N×93.75W, h46km±626km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	San Cristobal	1.42	49	*eP*	P	09 02 15.3	+1.2
CCIG	Comitan	1.62	72	*eP*	P	09 02 16.5	-0.4
CCIG				*i* S	S	09 02 33.4	-3.5
CMIG	Matias Romero	1.69	320	*eP*	P	09 02 15.1	-2.7
CMIG				*i* S	S	09 02 36.6	-1.8
OXX	Oaxaca	3.13	295	*eP*	P	09 02 38.3	0.0
VHO	Vista Hermosa	3.13	294	*i* P	P	09 02 36.0	-2.3
VHO				*i* S	S	09 03 10.9	-4.0
POHV	Veracruz	4.69	315	*eP*	P	09 02 57.0	-3.3

*NEIC **31** 09:19:27.7±0.8, 13.62N×92.82E, h30km, mb4.3/6, Error ellipse: s-maj=22.9km s-min=12.6km az=84.0*

ISC 31 09:19:24.9±0.8, 13.7N±0.1×92.7E±0.1, h30km, n13, σ1§02/13, mb4.3/6, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	7.67	51	P	Pn	09 21 16.4	-1.1
JIRN	Jiri	15.19	337	*eP*	P	09 22 59.8	+0.5
	22nm,0.5s						
PKI	Pulchoki	15.42	335	*eP*	P	09 23 01.5	-0.7
	24nm,0.5s						
DMN	Daman	15.58	334	*eP*	P	09 23 03.2	-1.1
	53nm,0.6s						
GKN	Gorkha	16.12	334	*eP*	P	09 23 10.9	-0.3
	23nm,0.3s						
KOLN	Koldanda	16.40	330	*eP*	P	09 23 14.0	-0.7
	8.3nm,0.3s						
LZH	Lanzhou	24.48	22	*eP*	P	09 24 45.0	+2.3
	36nm,1.5s,mb4.6						
LZH				pP		09 24 52.9	
LZH				sP		09 24 57.3	
CHKZ	Chkalovo	43.57	341	*eP*	P	09 27 29.0	+1.2
	2.4nm,0.7s,mb4.0						
NWAO	Narrogin (SRO)	51.92	154	*eP*	P	09 28 33.5	+0.2
	1.7nm,0.5s,mb4.2						
WRAB	Tennant Creek	52.86	128	*eP*	P	09 28 39.6	-0.9
	8.0nm,0.5s,mb4.9						
WB2	Warramunga Arr	52.87	128	*eP*	P	09 28 39.8	-0.8
WB2				*e*	pP	09 28 48.0	-1.8
STKA	Stephens Creek	65.15	135	⇓*i*P	P	09 30 06.1	+0.5
	1.7nm,0.7s,mb4.2						
INK	Inuvik	91.85	16	*eP*	P	09 32 32.6	+1.6
	0.3nm,0.4s,mb4.0						

*NIED **31** 09:39:00, 41.80N×143.80E, h29km, Mw5.5 Best double couple: M_0:1.78×10^{17} NP1:ϕ_s19°, δ60°, λ72°. NP2:ϕ_s232°, δ35°, λ118°.*

*MOS **31** 09:39:44.7±0.8, 41.95N×143.67E, h10km, mb5.8/103, MS5.3/39, Error ellipse: s-maj=6.7km s-min=3.6km az=101.4*

*BJI **31** 09:39:45.3, 41.73N×143.61E, h22km, mB5.6, mb5.7, Ms5.4, Msz5.2*

*HRVD **31** 09:39:47.6±0.2, 41.64N×144.18E, h45km±1km, MW5.4/63, Centroid moment Tensor Solution. LP body waves: s56,c108;Mantle waves: s63,c130; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.02±.04; $M_{\theta\theta}$-0.12±.03; $M_{\phi\phi}$-0.89±.03; $M_{r\theta}$0.45±.03; $M_{\theta\phi}$-0.74±.03; $M_{\phi r}$0.75±.03; Best double couple: $M_0$1.47×10^{17} NP1: ϕ_s212°, δ27°, λ91°. NP2:ϕ_s31°, δ63°, λ90°. Principal axes: T 1.31, Plg72°, Azm300°; N .323, Plg0°, Azm31°; P -1.63, Plg18°, Azm121°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **31** 09:39:47.6±1.4, 41.83N×143.64E, h22km±9km, mb5.5/154, MS5.2/17, MW5.5(NIED) Error ellipse: s-maj=4.2km s-min=2.6km az=169.0*

NEIC Recorded [3 JMA] in the Churui-Hiroo area; [2 JMA] in the Kushiro area and in south-central Hokkaido; [1 JMA] in eastern and southwestern Hokkaido. Also recorded [2 JMA] in Aomori and [1 JMA] in Iwate and Miyagi Prefectures, Honshu.

*JMA **31** 09:39:48.3±0.2, 41.76N×143.82E, h48km±3km, M5.4*

JMA Felt III J1.

*CSEM **31** 09:39:49.4, 42.21N×143.68E, h33km, mb5.6*

ISC 31 09:39:46.8±0.1, 41.72N±0.02×143.73E±0.03, h29km, h29km±.8km: pP-P, n724, σ0§88/743, mb5.5/186, MS5.3/41, 216C-15D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	0.52	304	P	Pb	09 39 59.6	+2.1
JEM				*es*	Sb	09 40 08.7	+3.9
JNBK	Urakawa-nobuka	0.92	308	⇑P	Pn	09 40 06.4	+2.6
JCH	Churui	0.93	343	⇑P	Pn	09 40 05.1	+1.1
JCH				*es*	Sb	09 40 18.5	+2.2
JOB	Onbets	1.18	4	⇑P	Pn	09 40 08.6	+1.0
JOB				*es*	Sn	09 40 24.1	+1.3
JAK	Akkeshi	1.46	29	⇑P	Pn	09 40 11.5	0.0
JAK				*es*	Sn	09 40 29.0	-0.8
JBT2	Biratori 2	1.47	316	⇑P	Pn	09 40 12.9	+1.3
JAR	Ashorobuto	1.57	1	⇑P	Pn	09 40 13.6	+0.4
JAR				*es*	Sn	09 40 33.0	+0.3
JFR	Furan	1.67	330	⇑P	Pn	09 40 14.4	-0.1
JFR				*es*	Sn	09 40 37.0	+1.8
JNK	Nakash	2.00	21	⇑P	Pn	09 40 18.5	-0.8
JKB	Kayabe	2.03	276	⇑P	Pn	09 40

JMK	**Ichinoseki**	**3.37 216**	P	**Pn**	**09 40 39.1**	**+0.3**
JYW	**Yuwa**	**3.46 232**	P	**Pn**	**09 40 41.7**	**+1.7**
JIO	**Ouri**	**3.74 210**	P	**Pn**	**09 40 43.5**	**-0.6**
KUR	**Kuril'sk**	**4.62 39⇓**	*i*P	**Pn**	**09 40 53.5**	**-3.1**
KUR			*i* S	**Sn**	**09 41 45.0**	**-5.0**
KUR			pmax	pmax		
	comp=Z,3μm,1.0s					
KUR			smax			
	comp=N,7μm,1.0s					
KUR			smax			
	comp=E,4μm,1.0s					
YSS	**Yuzh-Sakhalins**	**5.28 353⇑**	*e*P	**Pn**	**09 41 04.0**	**-1.8**
YSS			*i* S	**Sn**	**09 42 04.0**	**-2.4**
YSS			pmax	pmax		
	comp=N,160nm,1.0s					
YSS			pmax	pmax		
	comp=Z,190nm,1.0s					
YSS			pmax	pmax		
	comp=E,120nm,0.8s					
YSS			smax			
	comp=N,770nm,1.0s					
YSS			MLR	MLR		
	comp=N,26μm,16.0s					
YSS			MLR	MLR		
	comp=Z,26μm,16.0s					
YSS			MLR	MLR		
	comp=E,18μm,15.0s					
YSS	**Yuzh-Sakhalins**	**5.28 353**	*e*P	**Pn**	**09 41 03.1**	**-2.8**
	comp=E,167nm,1.0s					
MAJO	**Matsushiro**	**6.72 221**	*e*P	**Pn**	**09 41 25.4**	**-0.8**
MAJO			pmax	pmax		
	comp=Z,179nm,0.7s					
MAJO	**Matsushiro**	**6.72 221**	*e*P	**Pn**	**09 41 25.4**	**-0.8**
	comp=Z,179nm,0.7s					
MAT	**Matsushiro**	**6.72 221**	*e*P	**Pn**	**09 41 26.0**	**-0.2**
MAT			*e*S	**Sn**	**09 42 45.0**	**+2.4**
MAT			pmax	pmax		
	comp=Z,204nm,0.8s					
MAT	**Matsushiro**	**6.72 221**	*e*P	**Pn**	**09 41 26.0**	**-0.2**
	comp=Z,204nm,0.8s					
MAT			*e*S	**Sn**	**09 42 45.0**	**+2.4**
MAT	**Matsushiro**	**6.72 221**	P	**Pn**	**09 41 25.7**	**-0.5**
MAT			S	**Sn**	**09 42 44.7**	**+2.1**
UGL	**Uglegorsk**	**7.45 352⇑**	*i*P	**Pn**	**09 41 31.8**	**-4.6**
UGL			S	**Sn**	**09 42 50.0**	**-11**
UGL			pmax	pmax		
	comp=N,220nm,1.0s					
UGL			pmax	pmax		
	comp=E,400nm,1.0s					
UGL			pmax	pmax		
	comp=Z,340nm,1.0s					
UGL			pmax	pmax		
	comp=Z,1μm,1.0s					
UGL			smax			
	comp=E,2μm,3.0s					
UGL			smax			
	comp=N,600nm,1.5s					
UGL			MLR	MLR		
	comp=N,9μm,16.0s					
UGL			MLR	MLR		
	comp=E,8μm,16.0s					
UGL			MLR	MLR		
	comp=Z,19μm,16.0s					
VLA	**Vladivostok**	**8.87 283⇓**	*i*P	**P**	**09 41 56.0**	**-0.1**
VLA			*i*		09 43 36.0	
VLA			pmax	pmax		
	comp=Z,2μm,6.0s					
VLA			MLR	MLR		
	comp=Z,24μm,16.0s					
VLA			MLR	MLR		
	comp=N,14μm,17.0s					
VLA			MLR	MLR		
	comp=E,19μm,17.0s					
JKY	**Yasaka**	**9.08 231**	P	**P**	**09 41 59.3**	**+0.2**
JWT	**Wachi**	**9.16 228**	P	**P**	**09 42 00.2**	**0.0**
TYV	**Tymovskoe**	**9.17 356**	*e*P	**P**	**09 41 55.6**	**-4.7**
TYV			*e*S	**Sn**	**09 43 47.0**	**+3.4**
TYV			pmax	pmax		
	comp=Z,155nm,0.9s					
TYV			pmax	pmax		
	comp=N,2μm,3.0s					
TYV			pmax	pmax		
	comp=E,1μm,3.0s					
TYV			pmax	pmax		
	comp=Z,2μm,3.0s					
TYV			smax			
	comp=E,3μm,6.0s					
TYV			MLR	MLR		
	comp=N,18μm,15.0s					
TYV			MLR	MLR		
	comp=E,10μm,15.0s					
TYV			MLR	MLR		
	comp=Z,30μm,15.0s					
JKS	**Kasai**	**9.69 229**	P	**P**	**09 42 07.6**	**+0.1**
JAD	**Aida**	**10.11 231**	P	**P**	**09 42 13.0**	**-0.2**
MDJ	**Mudanjiang**	**10.73 290**	P	**P**	**09 42 19.5**	**-2.1**
MDJ			PP	PP	09 42 27.8	-1.6
MDJ			PPP	PPP	09 42 36.5	-0.6
MDJ			S	**S**	**09 44 18.5**	**-3.2**
MDJ			SS	SS	09 44 34.0	-1.4
MDJ			PCP	PcP	09 48 22.0	+0.3
MDJ			SCP		09 51 53.3	
MDJ			PCS		09 51 56.0	
MDJ			SCS	ScS	09 55 29.5	+4.9
MDJ			AMB	AMB		
	comp=Z,29nm,1.0s					
MDJ			AMB	AMB		
	comp=Z,1μm,7.7s					
MDJ			LR	LR		
	comp=E,9μm,18.2s					
MDJ			LR	LR		
	comp=Z,13μm,20.5s					
KLR	**Kul'dur**	**11.27 316**	*e*P	**P**	**09 42 25.0**	**-3.9**
KLR			*e*		09 44 29.5	
KLR			pmax	pmax		
	comp=N,80nm,1.2s					
KLR			pmax	pmax		
	comp=E,120nm,1.2s					
KLR			pmax	pmax		
	comp=Z,73nm,1.2s					
KLR			pmax	pmax		
	comp=N,2μm,6.5s					
KLR			pmax	pmax		
	comp=E,2μm,6.5s					
KLR			pmax	pmax		
	comp=Z,2μm,6.5s					
KLR			MLR	MLR		
	comp=E,8μm,13.0s					
KLR			MLR	MLR		
	comp=Z,12μm,13.0s					
SKR	**Severo-Kuril's**	**12.39 39**	*e*P	**P**	**09 42 39.5**	**-4.6**
SKR			S	**S**	**09 44 50.5**	**-12**
SKR			pmax	pmax		
	comp=E,800nm,0.6s					
SKR			pmax	pmax		
	comp=Z,100nm,0.6s					
SKR			smax			
	comp=N,800nm,1.5s					
SKR			smax			
	comp=E,800nm,1.5s					
SKR			MLR	MLR		
	comp=N,6μm,16.0s					
SKR			MLR	MLR		
	comp=E,6μm,16.0s					
SKR			MLR	MLR		
	comp=Z,6μm,16.0s					
KS15	**Wonju Array Si**	**12.95 256**	*e*P	**P**	**09 42 50.7**	**-0.9**
JSU	**Suzuyama**	**14.74 230**	P	**P**	**09 43 13.7**	**-1.3**
SNY	**Shenyang**	**15.04 277**	⇑P	**P**	**09 43 18.5**	**-0.5**
SNY			AP		09 43 23.0	
SNY			XP		09 43 27.0	
SNY			S	**S**	**09 45 56.5**	**-8.8**
SNY			AMB	AMB		
	comp=Z,90nm,1.2s					
SNY			AMB	AMB		
	comp=Z,460nm,9.2s					
SNY			LR	LR		
	comp=E,9μm,15.3s					
SNY			LR	LR		
	comp=Z,9μm,15.3s					
PET	**Petropavlovsk**	**15.13 37**	*e*P	**P**	**09 43 19.3**	**-0.7**
PET			*e*S	**S**	**09 46 11.2**	**+4.0**
PET			pmax	pmax		
	comp=Z,21nm,1.0s					
PET			MLR	MLR		
	comp=Z,4μm,20.0s					
MA2	**Magadan**	**18.40 11**	*c i*P	**P**	**09 43 57.6**	**-3.8**
MA2			pmax	pmax		
	comp=Z,67nm,0.8s					
MA2			MLR	MLR		
	comp=Z,5μm,19.0s					
MA2	**Magadan**	**18.40 11**	*e*P	**P**	**09 43 56.9**	**-4.5**
	comp=Z,43nm,0.6s					
CLNS	**Chul'man**	**19.39 328**	*e*P	**P**	**09 44 10.0**	**-3.0**
CLNS			*e*S	**S**	**09 47 50.2**	**+5.6**
CLNS			pmax	pmax		
	comp=Z,299nm,0.9s					
CLNS			pmax	pmax		
	comp=N,178nm,1.0s					
CLNS			pmax	pmax		
	comp=E,87nm,1.2s					
CLNS			smax			
	comp=N,52nm,1.0s					
CLNS			smax			
	comp=E,43nm,1.0s					
CLNS			smax			
	comp=Z,21nm,0.9s					
CLNS			MLR	MLR		
	comp=Z,6μm,20.0s					
CLNS			MLR	MLR		
	comp=N,5μm,19.0s					
CLNS			MLR	MLR		
	comp=E,1μm,15.0s					
JOW	**Kunigami**	**19.55 225**	P	**P**	**09 44 13.3**	**-1.7**
BJI	**Beijing**	**20.88 275**	*e*P	**P**	**09 44 25.4**	**-3.5**
BJI			pmax	pmax		
	comp=Z,724nm,2.0s					
BJI			MLR	MLR		
	comp=Z,7μm,19.1s,MS5.1					
BJI	**Beijing**	**20.88 275**	*e*P	**P**	**09 44 25.4**	**-3.5**
	comp=Z,724nm,2.0s					
BJI			S	**S**	**09 48 27.9**	**+13**
BJI			LR	LR		
	comp=Z,7μm,19.1s,MS5.1					
SSE	**Sheshan**	**20.96 247**	P	**P**	**09 44 30.3**	**+0.5**
SSE			AP		09 44 35.0	
SSE			XP		09 44 38.3	
SSE			S	**S**	**09 48 22.8**	**+5.8**
SSE			XS		09 48 31.8	
SSE			AMB	AMB		
	comp=Z,83nm,0.8s					
SSE			AMB	AMB		
	comp=Z,272nm,3.1s					
SSE			LR	LR		
	comp=N,4μm,19.8s,MS4.8					
SSE			LR	LR		
	comp=E,1μm,19.8s,MS4.8					
SSE			LR	LR		
	comp=Z,3μm,20.6s,MS4.7					
SSE	**Sheshan**	**20.96 247**	P	**P**	**09 44 30.2**	**+0.4**
	comp=Z,83nm,0.8s					
SSE			pP		09 44 34.9	
SSE			sP		09 44 38.2	
SSE			S	**S**	**09 48 22.8**	**+5.8**
SSE			sS		09 48 31.8	
SSE			LR	LR		
	comp=Z,3μm,20.6s,MS4.7					
TIA	**Tai'an**	**21.37 264**	P	**P**	**09 44 30.8**	**-3.1**
TIA			S	**S**	**09 48 22.0**	**-2.6**
TIA			AMB	AMB		
	comp=Z,63nm,1.0s,mb4.9					
TIA			LR	LR		
	comp=E,4μm,17.0s					
SEY	**Seymchan**	**21.85 11**	*e*P	**P**	**09 44 36.9**	**-1.7**
SEY			*SP		09 44 56.7	
SEY			*e*		09 45 13.6	
SEY			*e*S	**S**	**09 48 28.5**	**-4.9**
SEY			*e*SS	SS	09 49 01.6	-10
SEY			*e*SSS	SSS	09 49 14.6	-12
SEY			pmax	pmax		
	comp=Z,240nm,0.9s,mb5.6					
SEY			pmax	pmax		
	comp=N,240nm,1.1s					
SEY			smax			
	comp=N,540nm,3.8s					
SEY			smax			
	comp=E,320nm,3.3s					
SEY			MLR	MLR		
	comp=N,18μm,18.0s,MS5.6					
SEY			MLR	MLR		
	comp=Z,26μm,18.0s,MS5.7					
SEY			MLR	MLR		
	comp=E,11μm,16.0s,MS5.6					
YAK	**Yakutsk**	**22.02 342**	*e*P	**P**	**09 44 35.1**	**-5.1**
YAK			pmax	pmax		
	comp=Z,443nm,0.8s,mb5.9					
YAK			MLR	MLR		
	comp=Z,6μm,20.0s,MS5.0					
YAK	**Yakutsk**	**22.02 342**	*e*P	**P**	**09 44 35.0**	**-5.2**
	comp=Z,443nm,0.8s,mb5.9					
YAK			LR	LR		
	comp=Z,6μm,20.0s,MS5.0					
NJ2	**Nanjing**	**22.05 252**	*e*P	**P**	**09 44 37.3**	**-3.5**
NJ2			AP		09 44 50.5	
NJ2			PP	PP	09 45 09.0	+2.0
NJ2			PPP	PPP	09 45 18.3	+1.3
NJ2			S	**S**	**09 48 36.0**	**-1.3**
NJ2			AMB	AMB		
	comp=Z,260nm,0.6s,mb5.8					
NJ2			AMB	AMB		
	comp=Z,720nm,8.4s					
NJ2			LR	LR		
	comp=N,10μm,16.3s,MS5.5					
NJ2			LR	LR		
	comp=E,11μm,18.0s,MS5.5					
NJ2			LR	LR		
	comp=Z,45μm,18.2s,MS5.9					
FX1	**Attu Island--F**	**22.70 50**	*e*P	**P**	**09 44 47.5**	**+0.5**
BOD	**Bodaibo**	**24.77 321⇑**	*i*P	**P**	**09 45 03.5**	**-3.6**
WHN	**Wuhan**	**26.10 254⇓**	P	**P**	**09 45 19.0**	**-0.8**
WHN			AMB	AMB		
	comp=Z,344nm,0.7s,mb6.0					
WHN			LR	LR		
	comp=E,6μm,14.6s					
WHN			LR	LR		
	comp=Z,12μm,19.3s,MS5.4					
ULN	**Ulaanbaatar**	**26.56 296**	*e*P	**P**	**09 45 23.2**	**-0.7**
ULN			pmax	pmax		
	comp=Z,346nm,1.1s,mb5.8					
ULN			MLR	MLR		
	comp=Z,9μm,20.0s,MS5.3					
ULN	**Ulaanbaatar**	**26.56 296**	*e*P	**P**	**09 45 23.1**	**-0.7**
	comp=Z,346nm,1.1s,mb5.8					
ULN			LR	LR		
	comp=Z,9μm,20.0s,MS5.3					
QZH	**Quanzhou**	**26.71 239**	P	**P**	**09 45 26.3**	**+0.8**
QZH			S	**S**	**09 50 02.3**	**+5.0**
QZH			LR	LR		
	comp=N,2μm,14.6s,MS5.0					
QZH			LR	LR		
	comp=E,2μm,12.1s,MS5.0					
QZH			LR	LR		
	comp=Z,5μm,17.6s					
XAN	**Xi'an**	**28.38 266**	P	**P**	**09 45 38.5**	**-2.0**
XAN			AMB	AMB		
	comp=Z,72nm,1.1s,mb5.2					
XAN			LR	LR		
	comp=N,635nm,17.6s,MS4.9					
XAN			LR	LR		
	comp=E,3μm,18.2s,MS4.9					
XAN			LR	LR		
	comp=Z,4μm,14.8s,MS5.1					
IRK	**Irkutsk**	**28.57 305**	*e*P	**P**	**09 45 40.6**	**-1.4**
IRK			*e*		09 46 40.7	
IRK			pmax	pmax		
	comp=Z,276nm,1.1s,mb5.9					
TLY	**Talaya**	**28.91 304**	P	**P**	**09 45 44.5**	**-0.6**
	comp=Z,1μm,0.8s					
TLY	**Talaya**	**28.91 304**	*e*P	**P**	**09 45 44.5**	**-0.6**
TLY			*e*		09 46 30.7	
TLY			*e*S	**S**	**09 50 37.2**	**+4.9**
TLY			pmax	pmax		
	comp=Z,213nm,0.9s,mb5.9					
TLY			MLR	MLR		
	comp=Z,7μm,19.0s,MS5.3					
TLY	**Talaya**	**28.91 304**	*e*P	**P**	**09 45 44.3**	**-0.8**
	comp=Z,172nm,0.8s,mb5.8					
BILL	**Biiibino**	**29.02 17**	*c i*P	**P**	**09 45 42.8**	**-3.2**
BILL			MLR	MLR		
	comp=Z,2μm,17.0s,MS4.9					
BILL	**Biiibino**	**29.02 17**	*e*P	**P**	**09 45 41.6**	**-4.4**
	comp=Z,20nm,1.0s,mb4.8					
ZAK	**Zakamensk**	**29.07 301⇑**	*i*P	**P**	**09 45 45.6**	**-1.0**
CVP	**Callao Caves**	**30.41 225**	*e*P	**P**	**09 45 58.0**	**-0.8**
MOY	**Mondy**	**30.55 304**	*e*P	**P**	**09 45 59.0**	**-0.8**
TIXI	**Tiksi**	**30.90 351⇑**	*i*P	**P**	**09 45 57.1**	**-5.5**
TIXI			*e*S	**S**	**09 51 00.3**	**-3.4**
TIXI			*e*SS	SS	09 52 38.9	-8.8
TIXI			pmax	pmax		
	comp=Z,27nm,0.9s,mb5.1					
TIXI			MLR	MLR		
	comp=Z,5μm,16.0s,MS5.3					
TIXI	**Tiksi**	**30.90 351⇑**	*e*P	**P**	**09 45 57.5**	**-5.1**
LZH	**Lanzhou**	**31.34 273**	⇑P	**P**	**09 46 06.0**	**-0.9**
LZH			AP	pP	09 46 11.0	-4.5
LZH			XP	sP	09 46 13.3	-5.9
LZH			PP	PP	09 47 09.0	-1.6
LZH			S	**S**	**09 51 10.0**	**-1.0**
LZH			XS		09 51 20.0	
LZH			SS	SS	09 52 56.0	-2.7
LZH			AMB	AMB		
	comp=Z,119nm,1.5s,mb5.5					
LZH			AMB	AMB		
	comp=Z,620nm,4.6s					
LZH			LR	LR		
	comp=E,5μm,15.8s					
LZH			LR	LR		
	comp=Z,5μm,16.8s,MS5.3					
LZH	**Lanzhou**	**31.34 273**	⇑P	**P**	**09 46 06.1**	**-0.8**
LZH			*PP	pP	09 46 11.1	-4.4
LZH					09 47 09.0	
LZH			S	**S**	**09 51 10.0**	**-1.0**
LZH			SS	SS	09 52 56.0	-2.7
LZH			pmax	pmax		
	comp=Z,119nm,1.5s,mb5.5					
LZH			MLR	MLR		
	comp=Z,5μm,16.8s,MS5.3					
LZH	**Lanzhou**	**31.34 273**	⇑P	**P**	**09 46 06.1**	**-0.8**
	comp=Z,119nm,1.5s,mb5.5					
LZH			pP	pP	09 46 11.1	-4.4
LZH			sP	sP	09 46 13.3	-5.9
LZH			PP	PP	09 47 09.0	-1.6
LZH			S	**S**	**09 51 10.0**	**-1.0**
LZH			sS		09 51 20.0	
LZH			SS	SS	09 52 56.0	-2.7
LZH			LR	LR		
	comp=Z,5μm,16.8s,MS5.3					
TNA	**Tin City**	**35.91 32**	*e*P	**P**	**09 46 44.3**	**-1.7**
QIZ	**Qiongzhong**	**36.61 242**	P	**P**	**09 46 53.0**	**+0.7**
QIZ			XP	sP	09 47 03.0	-1.7
QIZ			PP	PP	09 48 17.8	+0.6
QIZ			S	**S**	**09 52 35.0**	**+2.3**
QIZ			XS		09 52 47.3	
QIZ			LR	LR		
	comp=N,1μm,18.8s,MS5.1					
QIZ			LR	LR		
	comp=E,2μm,20.1s,MS5.1					
QIZ			LR	LR		
	comp=Z,2μm,17.5s,MS5.0					
ANM	**Nome**	**36.69 34**	*e*P	**P**	**09 46 51.3**	**-1.3**
KMI	**Kunming**	**37.61 257**	P	**P**	**09 47 00.9**	**+0.1**
KMI			*PP	pP	09 47 05.9	-3.5
KMI					09 48 28.1	
KMI			PPP	PPP	09 48 49.1	-1.8
KMI			S	**S**	**09 52 47.1**	**-1.0**
KMI			*SS		09 52 55.9	
KMI			SS	SS	09 55 18.4	-4.3
KMI			SSS	SSS	09 55 49.4	-4.9
KMI			pmax	pmax		
	comp=Z,117nm,1.0s,mb5.6					
KMI			MLR	MLR		
	comp=Z,3μm,19.8s,MS5.1					
KMI	**Kunming**	**37.61 257**	P	**P**	**09 47 00.9**	**+0.1**
	comp=Z,117nm,1.0s,mb5.6					
KMI			pP	pP	09 47 05.9	-3.5
KMI			PP	PP	09 48 28.1	-1.6
KMI			PPP	PPP	09 48 49.1	-1.8
KMI			S	**S**	**09 52 47.1**	**-1.0**
KMI			sS		09 52 55.9	
KMI			SS	SS	09 55 18.4	-4.3
KMI			SSS	SSS	09 55 49.4	-4.9
KMI			LR	LR		
	comp=Z,3μm,19.8s,MS5.1					
WMQ	**Urumqi**	**40.52 292**	*e*P	**P**	**09 47 25.5**	**+0.7**
WMQ			AP	pP	09 47 31.3	-2.2
WMQ			XP	sP	09 47 34.3	-2.8
WMQ			PP	PP	09 49 02.5	+1.1
WMQ			PCP	PcP	09 49 29.0	+1.5
WMQ			S	**S**	**09 53 32.5**	**+0.8**
WMQ			AMB	AMB		
	comp=Z,41nm,1.5s,mb4.8					
WMQ			AMB	AMB		
	comp=Z,192nm,5.6s					
WMQ			LR	LR		
	comp=N,2μm,20.0s,MS5.2					
WMQ			LR	LR		
	comp=E,3μm,24.2s,MS5.2					
WMQ			LR	LR		
	comp=Z,3μm,18.8s					
NVS	**Novosibirsk**	**41.05 310⇑**	*i*P	**P**	**09 47 27.8**	**-1.2**
NVS			pmax	pmax		
	comp=E,174nm,1.4s					
NVS			pmax	pmax		
	comp=Z,171nm,1.4s,mb5.5					
IMA	**Indian Mountai**	**41.76 33**	*e*P	**P**	**09 47 34.5**	**-0.1**
RSO	**Redoubt South**	**42.15 41**	*e*P	**P**	**09 47 38.4**	**+0.6**
KDAK	**Kodiak Island**	**42.47 45**	*e*P	**P**	**09 47 39.1**	**-1.3**
	comp=Z,36nm,0.9s,mb5.0					
CHRT	**Chiangrai**	**43.01 253**	P	**P**	**09 47 46.0**	**+0.6**
	comp=Z,566nm,0.9s,mb6.3					
NANT	**Nan**	**43.05 251**	⇑P	**P**	**09 47 46.0**	**+0.2**
	comp=Z,138nm,0.7s,mb5.8					
KKTK	**Khon Kaen**	**43.24 247**	⇑P	**P**	**09 47 47.5**	**+0.2**
	comp=Z,2μm,0.4s					
MKAR	**Makanchi Array**	**43.31 298**	*i* P	**P**	**09 47 56.5**	**+9.0**
MKAR			pmax	pmax		
	comp=Z,208nm,0.9s					
SLKM	**Skilak Lake**	**43.40 41**	*e*P	**P**	**09 47 49.0**	**+1.0**
PWA	**Palmer West**	**43.47 39**	*e*P	**P**	**09 47 48.5**	**-0.1**
LSA	**Lhasa**	**43.73 272**	P	**P**	**09 47 53.5**	**+2.4**
LSA			AMB	AMB		
	comp=Z,160nm,1.2s,mb5.6					
MCK	**McKinley**	**43.77 36**	*e*P	**P**	**09 47 50.4**	**-0.6**
MCK			pmax	pmax		
	comp=Z,24nm,0.8s,mb5.0					
MCK	**McKinley**	**43.77 36**	*e*P	**P**	**09 47 50.4**	**-0.5**
	comp=Z,24nm,0.8s,mb5.0					
PMR	**Palmer**	**43.83 40**	*e*P	**P**	**09 47 50.9**	**-0.6**
COLA	**College**	**44.18 35**	*e*P	**P**	**09 47 53.8**	**-0.5**
SML	**Sawmill**	**44.19 39**	*e*P	**P**	**09 47 53.5**	**-0.9**
CHG	**Chiang Mai**	**44.29 253**	⇑P	**P**	**09 47 56.1**	**+0.3**
	comp=Z,60nm,0.8s,mb5.4					
IMP	**Imphal**	**44.31 264**	*e*P	**P**	**09 47 54.5**	**-1.4**
CM31	**Chiang Mai Arr**	**44.53 252**	P	**P**	**09 47 57.7**	**-0.1**
KURK	**Kurchatov**	**44.60 305**	*e*P	**P**	**09 47 56.9**	**-1.0**
KURK			pmax	pmax		
	comp=Z,179nm,0.8s,mb6.0					
KURK			MLR	MLR		
	comp=Z,613nm,19.0s,MS4.5					
KURK	**Kurchatov**	**44.60 305**	*e*P	**P**	**09 47 56.9**	**-1.0**
	comp=Z,179nm,0.8s,mb6.0					
KURK			LR	LR		
	comp=Z,613nm,19.0s,MS4.5					
SHL	**Shillong**	**45.39 266⇑**	*i*P	**P**	**09 48 04.0**	**-0.6**
SHL			*e*		09 54 55.0	
DIV	**Divide**	**45.49 40**	*e*P	**P**	**09 48 04.7**	**-0.1**
NST	**Nakhon Sawan**	**45.56 249**	P	**P**	**09 48 07.0**	**+1.1**
EYAK	**Cordova Ski Ar**	**45.59 41**	P	**P**	**09 48 03.5**	**-2.1**
MENT	**Mentasta**	**46.19 37**	*e*P	**P**	**09 48 11.0**	**+0.7**
DAWY	**Dawson**	**47.91 35**	*e*P	**P**	**09 48 22.8**	**-1.1**
JIRN	**Jiri**	**48.51 272**	*e*P	**P**	**09 48 29.3**	**+0.3**
	comp=Z,388nm,0.9s,mb6.4					
CHKZ	**Chkalovo**	**48.53 311⇑**	*e*P	**P**	**09 48 27.6**	**-1.2**
CHKZ			pmax	pmax		
	comp=Z,197nm,0.9s,mb6.1					
CHKZ	**Chkalovo**	**48.53 311⇑**	*e*P	**P**	**09 48 27.6**	**-1.1**
	comp=Z,197nm,0.9s,mb6.1					
BVA0	**Borovoye Array**	**48.85 310**	P	**P**	**09 48 30.8**	**-0.5**
BVA0			pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1					
ULHL	**Ulahol**	**48.94 295**	P	**P**	**09 48 31.9**	**-0.2**
	SNR=30					
TKM2	**Tokmak 2**	**49.11 296**	P	**P**	**09 48 33.5**	**+0.1**
	SNR=287					
KKN	**Kakani**	**49.12 273**	*e*P	**P**	**09 48 34.0**	**+0.3**
	comp=Z,925nm,0.8s					

PKI Pulchoki 49.14 273 *eP* **P 09 48 33.8 -0.1**
comp=Z,647nm,1.1s,mb6.5
DMN Daman 49.35 273 *eP* **P 09 48 35.7 +0.2**
comp=Z,640nm,0.8s
INK Inuvik 49.41 29 *eP* **P 09 48 34.5 -0.9**
INK pmax pmax
comp=Z,59nm,0.8s
INK Inuvik 49.41 29 *eP* **P 09 48 34.5 -0.9**
comp=Z,59nm,0.8s,mb5.7
GKN Gorkha 49.49 274 *eP* **P 09 48 36.4 -0.1**
comp=Z,347nm,0.7s,mb6.5
CHMS Chumysh 49.65 296 P **P 09 48 36.9 -0.7**
SNR=24
KBK Karagaybulak 49.65 296 P **P 09 48 37.1 -0.5**
SNR=58
KZA Kyzart 49.68 295 P **P 09 48 38.6 +0.8**
SNR=67
USP Ospenovka 49.71 296 P **P 09 48 37.3 -0.8**
SNR=92
FRU Bishkek 49.80 296 *i* P **P 09 48 39.0 +0.2**
FRU pmax pmax
comp=Z,220nm,2.0s,mb5.8
FRU MLR MLR
comp=Z,6μm,18.0s,MS5.6
AAK Ala-Archa 49.97 296 P **P 09 48 39.5 -0.5**
SNR=45
AAK Ala-Archa 49.97 296⇑ *eP* **P 09 48 38.4 -1.6**
AAK pmax pmax
comp=Z,127nm,1.3s,mb5.8
AAK Ala-Archa 49.97 296⇑ *eP* **P 09 48 38.4 -1.6**
comp=Z,127nm,1.3s,mb5.8
UCH Uchtor 50.12 295 P **P 09 48 40.7 -0.5**
SNR=25
KOLN Koldanda 50.38 274 *eP* **P 09 48 43.5 +0.1**
comp=Z,731nm,0.9s
EKS2 Erkin-Say 50.44 296 P **P 09 48 43.2 -0.4**
SNR=87
AML Almayashu 50.71 295 P **P 09 48 46.0 +0.3**
SNR=89
SNG Songkhla 51.35 240 P **P 09 48 51.5 +0.6**
comp=Z,200nm,1.0s,mb6.0
SVE Sverdlovsk 52.89 317⇑ *eP* **P 09 48 58.0 -3.9**
SVE pmax pmax
comp=Z,320nm,1.4s,mb6.1
SVE MLR MLR
comp=Z,4μm,15.0s,MS5.6
BWNR Bhubaneshwar 53.01 265 *eP* **P 09 49 02.8 -0.5**
BWNR *e* 09 49 03.8
comp=Z,229nm,1.3s
ALBI Allahabad 53.08 273 *eP* **P 09 49 00.5 -3.2**
DDI Dehra Dun 53.16 280 *eP* **P 09 49 02.6 -1.7**
DDI *e* 09 54 44.6
SOKR Solikamsk 53.77 321⇓ *iP* **P 09 49 04.0 -4.3**
SOKR pmax pmax
comp=Z,170nm,0.9s,mb6.0
SOKR MLR MLR
comp=Z,1μm,20.0s,MS5.0
BHK Bhakra 53.79 282 *e* **P 09 49 09.0 +0.1**
ARU Arti 54.10 317 P **P 09 49 09.0 -1.8**
comp=Z,2μm,0.8s,SNR=75
ARU Arti 54.10 317⇑ *iP* **P 09 49 03.0 -7.8**
ARU pmax pmax
comp=Z,227nm,0.8s,mb6.2
ARU MLR MLR
comp=E,1μm,17.0s,MS5.1
ARU MLR MLR
comp=Z,2μm,17.0s,MS5.3
ARU MLR MLR
comp=N,600nm,16.0s,MS5.1
NDI New Delhi 54.64 279⇑ *iP* **P 09 49 13.0 -2.2**
KAKA Kakadu 55.15 193 *eP* **P 09 49 17.4 -1.7**
comp=N,34nm,0.8s,mb5.4
VIS Vishakhapatnam 56.43 264 *eP* **P 09 49 27.9 -0.3**
VIS *e* 09 49 29.2
comp=Z,182nm,0.8s
BHPL Bhopal 57.53 273 *eP* **P 09 49 34.8 -1.3**
BHPL *e* 09 49 37.2
comp=Z,73nm,1.1s
RES Resolute Bay 57.61 16 *eP* **P 09 49 33.7 -2.2**
RES pmax pmax
comp=Z,102nm,0.8s,mb5.9
RES Resolute Bay 57.61 16 *eP* **P 09 49 33.7 -2.2**
comp=Z,102nm,0.8s,mb5.9
YKW3 Yellowknife Ar 58.83 32 *eP* **P 09 49 42.3 -2.2**
APA Apatity 59.17 335⇑ *iP* **P 09 49 44.6 -2.3**
APA *i* pP 09 49 53.2 -2.7
APA *i* 09 50 36.0
APA pmax pmax
comp=Z,160nm,1.4s,mb5.9
KEV Kevo 59.71 339 *ep* **P 09 49 48.7 -1.8**
comp=Z,95nm,0.7s,mb5.9
KEV Kevo 59.71 339 *eP* **P 09 49 48.7 -1.8**
KEV pmax pmax
comp=Z,95nm,0.7s,mb5.9
HYB Hyderabad 60.18 267 *i* P **P 09 49 53.0 -1.4**
comp=Z,143nm,1.2s,mb5.9
ARE0 ARCESS Array S 60.26 339 *eP* **P 09 49 52.6 -1.7**
KTK1 Kautokeino 61.21 339 *eP* **P 09 49 59.0 -1.8**
comp=Z,130nm,0.8s,mb6.1
KTK1 Kautokeino 61.21 339 *eP* **P 09 49 59.0 -1.8**
KTK1 AMb AMB 09 50 01.5
comp=Z,130nm,0.8s,mb6.1
DAG Danmarks Havn 61.26 355⇓ *iP* **P 09 49 58.9 -2.1**
DAG pmax pmax
comp=Z,36nm,0.9s,mb5.5
DAG Danmarks Havn 61.26 355⇓ *iP* **P 09 49 58.9 -2.1**
comp=Z,36nm,0.9s,mb5.5
CTA Charters Tower 61.54 177 *eP* **P 09 50 03.0 -0.6**
comp=Z,5.5nm,1.3s,mb4.5
FITZ Fitzroy Crossi 61.83 200 *eP* **P 09 50 04.4 -1.3**
comp=Z,40nm,0.9s,mb5.5
TRO Tromso 61.87 341 *eP* **P 09 50 02.3 -2.9**
WRAB Tennant Creek 61.95 190 *eP* **P 09 50 04.1 -2.4**
WRAB pmax pmax
comp=Z,41nm,1.1s,mb5.5
WRAB MLR MLR
comp=Z,194nm,22.0s,MS4.2
WRAB Tennant Creek 61.95 190 *eP* **P 09 50 04.1 -2.3**
comp=Z,40nm,1.1s,mb5.5
WRAB LR LR
comp=Z,194nm,22.0s,MS4.2
WB2 Warramunga Arr 61.96 190 *eP* **P 09 50 03.3 -3.2**
JOF Joensuu 62.69 332 *ep* **P 09 50 08.9 -1.8**
comp=Z,95nm,0.7s,mb6.0
POO Poona 63.02 271 *eP* **P 09 50 12.3 -1.2**
POO *e* 09 50 15.1
comp=Z,158nm,0.9s
KAD Karad 63.52 270 *eP* **P 09 50 16.0 -0.9**
KAD *e* 09 58 53.1
KAD *e* 10 19 59.2
comp=Z,737nm,11.3s
RCM Mount Rainier- 63.80 50 P **P 09 50 19.1 +0.9**
TBM Table Mountain 64.26 49 P **P 09 50 21.3 +0.1**
LOF Lofoten 64.30 341 *eP* **P 09 50 21.7 +0.6**
EBG Ellensburg 64.42 49 P **P 09 50 22.8 +0.5**
KEBM Edson Butte 64.47 55 P **P 09 50 23.4 +0.7**
MOS Moscow 64.58 323α *iP* **P 09 50 22.0 -1.1**
MOS *e* 09 51 03.8
MOS *eS* **S 09 59 16.7 +18**
MOS pmax pmax
comp=Z,301nm,1.3s,mb6.2
MOS pmax pmax
comp=N,155nm,1.1s
MOS Moscow 64.58 323 *eP* **P 09 50 20.9 -2.2**
EDM Edmonton 64.59 40 *eP* **P 09 50 22.1 -1.1**
MXC Moxie City 64.77 49 P **P 09 50 25.3 +0.8**
KAF Kangasniemi 64.97 333 *ep* **P 09 50 23.2 -2.4**
comp=N,91nm,0.7s,mb5.9,baz=45,slow=6.2
KAF Kangasniemi 64.97 333 *eP* **P 09 50 23.2 -2.4**
KAF pmax pmax
comp=Z,91nm,0.7s,mb5.9
PUL Pulkovo 65.08 329⇑ *eP* **P 09 50 25.5 -0.8**
PALK Pallekele 65.15 257 *eP* **P 09 50 26.5 -1.0**
comp=Z,63nm,1.2s,mb5.5
OBN Obninsk 65.43 323*c iP* **P 09 50 24.3 -4.4**
OBN *e* 09 50 58.6
OBN *eS* S 09 59 03.6 -6.0
OBN MLR MLR
comp=Z,2μm,19.0s,MS5.4
OBN Obninsk 65.43 323 *eP* **P 09 50 24.1 -4.6**
comp=Z,300nm,1.3s,mb6.2
NEW Newport 65.56 46 *eP* **P 09 50 28.8 -0.8**
NEW pmax pmax
comp=Z,28nm,1.1s
NEW Newport 65.56 46 *eP* **P 09 50 28.8 -0.8**
comp=Z,28nm,1.1s,mb5.2

MOR8 Moi Rana 65.59 340⇑ *iP* **P 09 50 26.6 -2.9**
MOR8 *es*P sP 09 50 36.2 -5.6
VIPM Ingram Point 65.77 51 P **P 09 50 31.5 +0.5**
BUOR Burton Butte 66.08 54 P **P 09 50 33.9 +0.9**
YBH Yreka Blue Hor 66.11 55 *eP* **P 09 50 34.1 +0.9**
YBH pmax pmax
comp=Z,16nm,1.0s
YBH Yreka Blue Hor 66.11 55 *eP* **P 09 50 34.1 +0.9**
comp=Z,16nm,1.0s,mb5.0
VOR Voronezh 66.27 319 P **P 09 50 32.5 -1.6**
VOR pmax pmax
comp=N,100nm,1.3s
VOR pmax pmax
comp=E,200nm,1.3s
VOR pmax pmax
comp=Z,200nm,1.3s,mb6.0
MBWA Marble Bar 66.40 204 *eP* **P 09 50 34.0 -1.4**
VRSR Storozhevoye 66.59 318*c iP* **P 09 50 35.2 -0.9**
VRSR pmax pmax
comp=Z,140nm,1.0s,mb6.0
VRSR pmax pmax
comp=N,120nm,0.8s
VRSR pmax pmax
comp=E,70nm,0.7s
WALA Waterton Lakes 66.80 44 *eP* **P 09 50 36.8 -0.7**
comp=E,22nm,1.0s,mb5.1
LASM Arnica Sink 66.88 54 P **P 09 50 39.3 +1.2**
WDC Whiskeytown Da 66.89 56 *eP* **P 09 50 38.0 -0.2**
WDC pmax pmax
comp=Z,29nm,1.1s,mb5.2
WDC Whiskeytown Da 66.89 56 *eP* **P 09 50 38.0 -0.2**
comp=Z,29nm,1.1s,mb5.2
TRD Trivandrum 67.08 261 *eP* **P 09 50 38.7 -1.2**
TRD *e* 09 50 41.8
comp=Z,31nm,0.8s
LBCM Butte Creek Ri 67.47 55 P **P 09 50 42.6 +0.8**
BMO Blue Mountains 67.47 50 *eP* **P 09 50 41.4 -0.4**
comp=Z,10nm,1.0s,mb4.8
MOD Modoc 67.47 53 *eP* **P 09 50 42.4 +0.5**
comp=Z,8.5nm,0.8s,mb4.8
NSS Namsos 67.53 340 *eP* **P 09 50 39.4 -2.5**
comp=Z,186nm,1.6s,mb5.9
NSS Namsos 67.53 340 *eP* **P 09 50 39.4 -2.5**
NSS AMb AMB 09 50 43.5
comp=Z,186nm,1.6s,mb5.9
SCO Scoresbysund 67.62 355 *i* P **P 09 50 41.6 -0.8**
SCO pmax pmax
comp=Z,23nm,0.9s,mb5.2
SCO Scoresbysund 67.62 355 *i* P **P 09 50 41.6 -0.8**
comp=Z,23nm,0.9s,mb5.2
MSO Missoula 68.14 46 *eP* **P 09 50 45.2 -0.7**
comp=Z,11nm,1.0s,mb4.8
WVOR Wild Horse Val 68.15 52 *eP* **P 09 50 46.2 +0.1**
WVOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
WVOR Wild Horse Val 68.15 52 *eP* **P 09 50 46.2 +0.1**
comp=Z,9.3nm,0.9s,mb4.8
OHCM Honcut 68.27 56 *eP* **P 09 50 46.1 -0.9**
GOF Gofitskoye 68.33 311⇓ *iP* **P 09 50 47.0 -0.2**
GOF pmax pmax
comp=Z,270nm,1.2s,mb6.2
CHMT Chamberlain Mo 68.46 46 *eP* **P 09 50 47.1 -0.9**
FFC Flin Flon 68.81 35 P **P 09 50 49.8 -0.2**
comp=Z,185nm,0.8s,mb6.1,SNR=23
FFC Flin Flon 68.81 35 *eP* **P 09 50 49.2 -0.8**
FFC pmax pmax
comp=Z,28nm,0.9s,mb5.2
FFC Flin Flon 68.81 35 *eP* **P 09 50 49.2 -0.8**
comp=Z,28nm,0.9s,mb5.2
FCC Fort Churchill 69.02 28 *eP* **P 09 50 49.7 -1.5**
FCC pmax pmax
comp=Z,30nm,0.9s,mb5.2
FCC Fort Churchill 69.02 28 *eP* **P 09 50 49.7 -1.5**
comp=Z,30nm,0.9s,mb5.2
DUS Dusheti 69.19 308 P **P 09 50 52.5 0.0**
KIV Kislovodsk 69.21 311 P **P 09 50 52.3 -0.3**
comp=Z,2μm,0.8s,SNR=55
KIV Kislovodsk 69.21 311 *eP* **P 09 50 52.6 0.0**
KIV pmax pmax
comp=Z,345nm,0.9s,mb6.3
KIV Kislovodsk 69.21 311 *eP* **P 09 50 52.6 0.0**
comp=Z,345nm,0.9s,mb6.3
ZEI Tsey 69.24 309 *eP* **P 09 50 51.4 -1.4**
ZEI *i* 09 53 25.3
ZEI *eS* S 09 59 56.5 +0.9
ZEI pmax pmax
comp=Z,113nm,1.1s,mb5.7
PAHR Pah Rah Range 69.35 55 *eP* **P 09 50 54.4 +0.9**
WCN Washoe City 69.36 55 *eP* **P 09 50 54.3 +0.6**
MTA Mtatsminda 69.38 308 P **P 09 50 53.5 -0.2**
TI2 Plekhanov 69.38 308 *iP* **P 09 50 52.6 -1.1**
TI2 pmax pmax
comp=Z,290nm,1.0s,mb6.2
ONI Oni 69.62 309 P **P 09 50 55.5 +0.4**
MNK Minsk 69.65 326 *eP* **P 09 50 51.0 -4.1**
CMB Columbia Colle 69.74 57 *eP* **P 09 50 56.3 +0.3**
CMB pmax pmax
comp=Z,17nm,1.0s,mb4.9
CMB MLR MLR
comp=Z,642nm,19.0s,MS4.9
CMB Columbia Colle 69.74 57 *eP* **P 09 50 56.3 +0.3**
comp=Z,17nm,1.0s,mb4.9
CMB LR LR
comp=Z,642nm,19.0s,MS4.9
HLID Hailey 69.91 49 *eP* **P 09 50 56.9 +0.1**
comp=Z,12nm,1.1s,mb4.7
MCMT McKenzie Canyo 69.99 47 *eP* **P 09 50 57.1 -0.2**
BOZ Bozeman (W) 70.13 46 *eP* **P 09 50 58.2 0.0**
BOZ pmax pmax
comp=Z,14nm,0.7s,mb5.0
BOZ MLR MLR
comp=Z,966nm,22.0s,MS5.0
BOZ Bozeman (W) 70.13 46 *eP* **P 09 50 58.2 0.0**
comp=Z,14nm,0.7s,mb5.0
BOZ LR LR
comp=Z,966nm,22.0s,MS5.0
BMN Battle Mountai 70.22 53 *eP* **P 09 50 59.9 +1.1**
BMN pmax pmax
comp=Z,20nm,1.0s,mb5.0
BMN Battle Mountai 70.22 53 *eP* **P 09 50 59.9 +1.1**
comp=Z,20nm,1.0s,mb5.0
AKH Akhalkalaki 70.32 308 P **P 09 51 00.2 +0.8**
GNI Garni 70.36 306 *eP* **P 09 51 00.2 +0.5**
GNI pmax pmax
comp=Z,216nm,1.4s
GNI Garni 70.36 306 *eP* **P 09 51 00.2 +0.5**
comp=Z,216nm,1.4s,mb5.9
NB2 NORSAR Subarra 70.55 338 P **P 09 50 59.4 -1.1**
comp=Z,126nm,1.1s,mb5.8,baz=36,slow=6.2
NB2 NORSAR Subarra 70.55 338 P **P 09 50 59.4 -1.1**
baz=36,slow=6.2
QLMT Earthquake Lak 70.76 47 *eP* **P 09 51 02.3 +0.3**
NAO01 NORSAR Array S 70.80 338 *eP* **P 09 51 00.4 -1.7**
comp=Z,28nm,0.8s,mb5.2
MNV Mina 70.89 55 *eP* **P 09 51 03.6 +0.7**
MNV pmax pmax
comp=Z,35nm,1.2s,mb5.2
MNV Mina 70.89 55 *eP* **P 09 51 03.6 +0.7**
comp=Z,35nm,1.2s,mb5.2
GCMT Greycliff 71.09 45 *eP* **P 09 51 04.4 +0.4**
SOC Sochi 71.11 312 *eP* **P 09 51 02.6 -1.6**
SOC *e*PP PP 09 53 41.5 -2.5
SOC *e*PPP PPP 09 55 27.5 +2.4
SOC *eS* S 10 00 15.0 -2.5
SOC *i* SCS ScS 10 01 01.7 -0.9
YMR Madison River 71.12 47 *eP* **P 09 51 04.9 +0.7**
YFT Old Faithful 71.33 47 *eP* **P 09 51 07.6 +2.1**
BANOM Banah 71.43 288 P **P 09 51 06.1 -0.3**
SNR=49
BANOM P 09 51 06.1
SNR=49
WBK Wadi Bani Khal 71.54 284 P **P 09 51 07.7 +0.6**
SNR=22
WBK P 09 51 07.7
SNR=22
BIDO Bidbid 71.59 285 P **P 09 51 08.3 +0.8**
SNR=11
IMW Indian Meadow 71.64 47 *eP* **P 09 51 08.2 +0.9**
TPH Tonopah 71.68 55 *eP* **P 09 51 08.2 +0.5**
TPH pmax pmax
comp=Z,30nm,0.8s,mb5.3
TPH Tonopah 71.68 55 *eP* **P 09 51 08.2 +0.4**
comp=Z,30nm,0.8s,mb5.3
FOO Floro 71.73 341 *eP* **P 09 51 10.2 +2.6**
RRI2 Red Ridge 71.78 48 *eP* **P 09 51 09.1 +0.8**

HYA Hoyanger 71.81 340 *eP* **P 09 51 08.4 +0.3**
comp=Z,137nm,1.4s,mb5.7
HYA Hoyanger 71.81 340 *eP* **P 09 51 08.4 +0.3**
HYA AMb AMB 09 51 14.1
comp=Z,137nm,1.4s,mb5.7
MOOW Moose Ponds 71.84 47 *eP* **P 09 51 09.0 +0.5**
TPAW Teton Pass 71.89 48 *eP* **P 09 51 09.6 +0.7**
SUW Suwalki 71.90 328 *eP* **P 09 51 07.6 -1.2**
SUW *e*PP PP 09 53 55.3 +5.2
SUW MLR MLR 10 23 58.5
comp=Z,1μm,25.9s,MS5.1
SMDO Samad 71.94 285 P **P 09 51 09.8 +0.3**
SNR=12
SMDO P 09 51 09.8
SNR=12
WUWY Wally Ulrich 71.98 47 *eP* **P 09 51 09.9 +0.5**
LOHW Long Hollow 72.00 47 *eP* **P 09 51 09.8 +0.3**
SNOW Snow King Moun 72.02 48 *eP* **P 09 51 10.3 +0.7**
DGMT Dagmar 72.08 40 *eP* **P 09 51 09.0 -0.9**
comp=Z,33nm,0.8s,mb5.3
HOQ Hoqain 72.14 286 P **P 09 51 10.5 -0.2**
SNR=44
HOQ P 09 51 10.5
SNR=44
VANB Van 72.15 306 *eP* **P 09 51 11.1 +0.6**
TVAN Van 72.18 306 *i* P **P 09 51 05.8 -4.8**
AHID Auburn Hatcher 72.28 48 *eP* **P 09 51 11.6 +0.4**
comp=Z,15nm,1.0s,mb4.9
LAO LASA Array 72.28 43 *eP* **P 09 51 11.0 -0.1**
comp=Z,21nm,0.9s,mb5.1
JMDO Jabal Madar 72.32 284 P **P 09 51 11.7 -0.1**
SNR=25
JMDO P 09 51 11.7
SNR=25
ASHO Ashiyiah 72.36 287 P **P 09 51 11.7 -0.3**
SNR=52
ASHO P 09 51 11.7
SNR=52
TRCR Troy Canyon 72.51 54 *eP* **P 09 51 13.2 +0.6**
ERZM Erzurum 72.52 308 *i* P **P 09 51 13.4 +0.8**
EZM Erzurum 72.53 308 *i* P **P 09 51 13.4 +0.7**
BSY Bisya 72.74 285 P **P 09 51 14.6 +0.3**
SNR=27
BSY P 09 51 14.6
SNR=27
HWUT Hardware Ranch 72.78 49 *eP* **P 09 51 14.3 +0.2**
comp=Z,18nm,1.0s,mb5.0
ARQ Araqi 72.86 286 P **P 09 51 15.2 +0.3**
SNR=19
ARQ P 09 51 15.2
SNR=19
VRT Varto 72.92 307 *i* P **P 09 51 16.4 +1.4**
NOQ North Oquirrh 73.08 50 *eP* **P 09 51 16.3 +0.4**
TCUT Toone Canyon 73.18 50 *eP* **P 09 51 16.3 -0.2**
SIM Simferopol' 73.24 316⇑ *eP* **P 09 51 16.8 +0.1**
SIM *e**PP pP 09 51 27.3 +1.4
SIM pmax pmax
comp=Z,83nm,0.7s,mb5.8
SIM MLR MLR
comp=Z,2μm,20.0s,MS5.4
STKA Stephens Creek 73.26 182 *eP* **P 09 51 18.3 +1.2**
comp=Z,7.7nm,0.9s,mb4.6
GUMT Gumushane 73.27 309 *i* P **P 09 51 17.5 +0.6**
JLU Jordanelle 73.50 50 *eP* **P 09 51 18.8 +0.4**
FORT Forrest 73.58 194 *eP* **P 09 51 19.1 +0.1**
comp=Z,53nm,0.7s,mb5.6
BINT Bingol 73.71 308 P **P 09 51 20.1 +0.5**
DAU Daniels Canyon 73.73 50 *eP* **P 09 51 19.7 0.0**
MPU Maple Canyon 73.78 51 *eP* **P 09 51 20.4 +0.4**
WAR Warsaw 74.09 327 *eP* **P 09 51 17.1 -4.3**
WAR MLR MLR 10 26 41.4
comp=Z,2μm,21.2s,MS5.3
BSD Bornholm Skovb 74.15 332⇑ *iP* **P 09 51 20.9 -0.9**
comp=Z,126nm,1.2s,mb5.7
comp=Z,1μm,23.0s
PTK Pertek 74.34 308 P **P 09 51 24.7 +1.5**
MVU Marysvale 74.43 52 *eP* **P 09 51 24.8 +1.0**
comp=Z,16nm,1.0s,mb4.9
MSU Marysvale 74.44 52 *eP* **P 09 51 24.7 +0.9**
KIS Kishinev 74.48 320 *eP* **P 09 51 22.0 -1.9**
KIS *e* pP 09 51 31.0 -2.0
KIS MLR MLR
comp=Z,3μm,20.0s,MS5.5
TMUT Trail Mountain 74.50 51 *eP* **P 09 51 24.5 +0.4**
COP Copenhagen 74.54 334 *i* P **P 09 51 24.3 +0.3**
COP pmax pmax
comp=Z,66nm,0.6s,mb5.7
COP MLR MLR
comp=Z,1μm,18.0s,MS5.3
COP Copenhagen 74.54 334 *i* P **P 09 51 24.3 +0.3**
comp=Z,66nm,0.6s,mb5.7
comp=Z,1μm,18.0s
ULM Lac du Bonnet 74.62 35 *eP* **P 09 51 23.1 -1.5**
comp=Z,9.6nm,0.9s,mb4.7
LVV L'vov 74.64 324⇓ *iP* **P 09 51 23.5 -1.2**
LVV *e* 09 51 28.7
LVV *e* 09 54 07.9
LVV MLR MLR
comp=Z,2μm,20.7s,MS5.3
LVV MLR MLR
comp=E,800nm,18.8s,MS5.2
LVV MLR MLR
comp=N,800nm,22.0s,MS5.2
NEN Nelson 74.69 56 *eP* **P 09 51 26.2 +0.8**
GKP Gorka Klasztor 74.77 330 *eP* **P 09 51 25.1 -0.3**
GKP *e* pP 09 51 34.7 +0.1
GKP MLR MLR
comp=Z,3μm,21.4s,MS5.6
GKP Gorka Klasztor 74.77 330 *eP* **P 09 51 25.1 -0.3**
GKP *e*PcP PcP 09 51 34.7 -5.0
GKP *e*PP PP 09 54 03.8 -11
GKP LR LR
comp=Z,3μm,21.4s,MS5.6
GKP Gorka Klasztor 74.77 330 *eP* **P 09 51 25.1 -0.3**
GKP *e*PcP PcP 09 51 34.7 -5.0
GKP *e*PP PP 09 54 03.8 -11
GKP MLR MLR 10 26 56.1
comp=Z,3μm,21.4s,MS5.6
ELZG Elazig 74.84 308 *iP* **P 09 51 26.9 +0.7**
MUD Monsted U'grnd 74.94 336 *iP* **P 09 51 26.2 -0.1**
comp=Z,29nm,0.7s,mb5.3
comp=Z,940nm,20.0s
IAS Iasi 74.95 321 P **P 09 51 26.3 -0.3**
PFO Pinyon Flat Ob 75.00 58 *eP* **P 09 51 26.8 -0.4**
PFO pmax pmax
comp=Z,19nm,1.0s,mb5.0
PFO Pinyon Flat Ob 75.00 58 *eP* **P 09 51 26.8 -0.3**
comp=Z,19nm,1.0s,mb5.0
SRU San Rafael 75.02 51 *eP* **P 09 51 27.5 +0.3**
BOYT Boyabat 75.21 313 *iP* **P 09 51 27.8 -0.4**
MYA Malataya 75.28 308 *iP* **P 09 51 29.4 +0.7**
MALT Malatya 75.29 308 *eP* **P 09 51 29.4 +0.7**
MALT *e* pP 09 51 39.5 +1.6
MALT pmax pmax
comp=Z,98nm,1.1s,mb5.7
MALT Malatya 75.29 308 *eP* **P 09 51 29.4 +0.7**
comp=Z,98nm,1.1s,mb5.7
MALT *e* pP 09 51 39.5 +1.6
KWP Kalwaria 75.36 325 *eP* **P 09 51 29.0 +0.1**
KWP *e*PP PP 09 54 10.3 -9.5
KWP Kalwaria 75.36 325 *eP* **P 09 51 29.0 +0.2**
KWP *e*PP PP 09 54 10.3 -9.4
KWP MLR MLR 10 27 33.4
comp=Z,3μm,20.4s,MS5.5
BAR Barrett 75.46 59 *eP* **P 09 51 29.7 -0.1**
URFA Urfa 75.64 307 *eP* **P 09 51 31.9 +1.2**
BURAR Bucovina Array 75.73 322 P **P 09 51 30.6 -0.4**
BURAR Bucovina Array 75.73 322⇓ *iP* **P 09 51 31.4 +0.3**
CTKT Corum 75.82 312 *iP* **P 09 51 31.1 -0.6**
BALT Daday 75.96 313 *iP* **P 09 51 31.6 -0.9**
KOLS Kolonicke sedl 76.07 325 *iP* **P 09 51 33.2 +0.3**
OJC Ojcow 76.13 327⇑ *eP* **P 09 51 33.6 +0.3**
PV10 Paradox Valley 76.37 51 *eP* **P 09 51 35.5 +0.7**
PHWY Pilot Hill 76.37 46 *eP* **P 09 51 34.8 0.0**
BNN Bunyan 76.43 310 *iP* **P 09 51 35.7 +0.6**
GZT Gaziantep 76.44 308 *iP* **P 09 51 36.1 +0.8**
CRVS Cervenica-Dubn 76.44 325 *iP* **P 09 51 34.9 -0.1**
CRVS *i* *SP sP 09 51 47.5 +0.2
CRVS Cervenica-Dubn 76.44 325 *iP* **P 09 51 34.9 -0.1**
CRVS *i* sP sP 09 51 45.0 -2.3
CRVS *e* 09 51 47.5
TIRR Tirgusor 76.50 318⇓ *iP* **P 09 51 35.5 +0.1**
NIE Niedzica 76.53 326⇑ *eP* **P 09 51 36.0 +0.5**
SAFT Safranbolu 76.55 314 *eP* **P 09 51 36.2 +0.5**

KAHT Ahir Dag 76.66 309 *i* P P 09 51 37.3 +0.9
ELDT Eldivan 76.66 313 *i* P P 09 51 32.7 -3.7
RUE Ruedersdorf 76.67 331 *eP* P 09 51 36.2 0.0
comp=Z,266nm,1.5s,mb6.0
RUE *e* pP 09 51 45.6 +0.2
GAZ Gaziantep 76.77 308 *i* P P 09 51 37.6 +0.5
KLBR Kellerberrin 76.78 203 *eP* P 09 51 37.2 -0.1
comp=Z,321nm,1.2s,mb6.1
PV01 Paradox Valley 76.81 51 *eP* P 09 51 37.5 +0.3
SHAO Shalim 76.86 282 P P 09 51 38.2 +0.2
SNR=7.0
MLR Muntele Rosu 76.95 320 P P 09 51 38.2 +0.3
MLR Muntele Rosu 76.95 320⇓*iP* P 09 51 38.3 +0.4
MLR Muntele Rosu 76.95 320⇓*iP* P 09 51 38.3 +0.4
AVNT Avonos 77.04 311 *i* P P 09 51 38.8 +0.2
KSP Ksiaz 77.04 329⇑*eP* P 09 51 38.4 +0.1
KSP *e**PP pP 09 51 48.0 +0.5
KSP MLR MLR
comp=Z,5μm,21.9s,MS5.8
KSP Ksiaz 77.04 329 *eP* P 09 51 38.5 +0.2
KSP MLR MLR 10 28 29.3
comp=Z,4μm,21.9s,MS5.7
OKC Ostrava-Krasne 77.10 327⇑*iP* P 09 51 38.9 +0.2
OKC *ep*P pP 09 51 48.8 +0.9
KAMT Kaman 77.28 312 *i* P P 09 51 40.1 +0.2
SGKT Sivrigoynuk 77.35 313 *i* P P 09 51 38.4 -1.9
MORC Moravsky Berou 77.39 328 *eP* P 09 51 40.4 +0.1
MORC *e* pP 09 51 49.7 +0.2
MORC pmax pmax
comp=Z,57nm,0.9s,mb5.5
MORC Moravsky Berou 77.39 328 *eP* P 09 51 40.4 +0.1
comp=Z,57nm,0.9s,mb5.5
MORC *e* pP 09 51 49.7 +0.2
UPC Upice 77.42 329⇑*iP* P 09 51 40.5 +0.1
UPC *ep*P pP 09 51 49.3 -0.3
DPC Dobruska-Polom 77.42 329 *eP* P 09 51 40.9 +0.5
DPC *ep*P pP 09 51 50.8 +1.2
DPC AMS AMS 10 28 00.0
comp=Z,2μm,20.1s
ANTO Ankara 77.44 313 P P 09 51 41.7 +0.9
NIG Nigde 77.64 310 *eP* P 09 51 42.8 +0.9
COBT Iskenderun 77.78 308 *i* P P 09 51 42.4 -0.3
PSZ Piszkesteto 77.87 325⇑*eP* P 09 51 43.5 +0.6
MDU Mudurnu 77.89 314 *i* P P 09 51 43.3 +0.1
CLL Collm 77.91 331⇑*iP* P 09 51 42.7 -0.3
CLL *i* 09 51 47.1
CLL *i* pP 09 51 52.5 +0.2
CLL pmax pmax
comp=Z,100nm,0.8s,mb5.8
CLL MLR MLR
comp=Z,4μm,21.5s,MS5.7
CLL Collm 77.91 331⇑*iP* P 09 51 42.7 -0.3
comp=Z,100nm,0.8s,mb5.8
CLL *i* 09 51 47.1
CLL *i* pP 09 51 52.5 +0.2
CLL LR LR
comp=Z,4μm,21.5s,MS5.7
CLL Collm 77.91 331 ⇑P P 09 51 42.7 -0.3
comp=Z,logA/T=2.1,mb5.8
CLL *i* *PP pP 09 51 47.1 -5.2
CLL *i* *SP sP 09 51 52.5 -2.9
CLL *i* 09 51 59.1
CLL *i* PP PP 09 54 38.3 -2.7
CLL *i* *SPP 09 54 47.5
BRG Berggiesshubel 77.91 330⇑*iP* P 09 51 42.9 -0.2
BRG *i* pP 09 51 52.8 +0.5
BRG pmax pmax
comp=Z,42nm,1.0s,mb5.3
BRG Berggiesshubel 77.91 330⇑*iP* P 09 51 42.9 -0.2
comp=Z,42nm,1.0s,mb5.3
BRG *i* pP 09 51 52.8 +0.5
PVCC Panska Ves 77.96 330⇑*eP* P 09 51 43.8 +0.5
PVCC *ep*P pP 09 51 53.2 +0.7
PVCC AMS AMS 10 28 30.0
comp=Z,4μm,22.1s
KOLL Kolacno 77.98 326 *i* P P 09 51 44.3 +0.8
KOLL *ep*P pP 09 51 50.5 -2.2
VRAC Vranov 78.14 328 P P 09 51 45.1 +0.7
RBK Rabkut 78.23 283 P P 09 51 45.0 -0.5
SNR=11
CLZ Clausthal 78.40 333 *eP* P 09 51 45.7 0.0
comp=Z,97nm,0.8s,mb5.8
PRU Pruhonice 78.40 329⇑*iP* P 09 51 46.1 +0.3
PRU *ep*P pP 09 51 55.9 +0.9
PRU AMS AMS 10 28 10.0
comp=Z,2μm,21.6s
SRO Srobarova 78.62 326 *i* P P 09 51 48.1 +1.1
SRO *ep*P pP 09 51 53.8 -2.5
SRO *es*P sP 09 51 56.9 -2.5
KIZT Kizilcal 78.64 312 *i* P P 09 51 47.4 +0.1
SRO1 Iza 78.69 326 *i* P P 09 51 48.4 +0.9
ESKT Eskisehir 78.75 313 *i* P P 09 51 47.5 -0.4
ESKT Eskisehir 78.75 313 *i* P P 09 51 47.4 -0.6
ZST Bratislava 78.82 327 *i* P P 09 51 48.9 +0.8
SDCO Great Sand Dun 78.83 49 *eP* P 09 51 49.4 +0.9
comp=Z,6.8nm,0.8s,mb4.6
MOX Moxa 78.95 331 *eP* P 09 51 48.6 -0.2
MOX pmax pmax
comp=Z,81nm,1.6s,mb5.4
MOX MLR MLR
comp=Z,2μm,20.0s,MS5.4
MOX Moxa 78.95 331 *eP* P 09 51 48.6 -0.2
comp=Z,81nm,1.6s,mb5.4
MOX LR LR
comp=Z,2μm,20.0s,MS5.4
MOX Moxa 78.95 331 *i* P P 09 51 48.6 -0.2
comp=Z,logA/T=1.7,mb5.4
MOX QM 10 28 32.0
MOX RM 10 29 43.0
MEST Erdemli 78.96 309 *i* P P 09 51 47.7 -1.4
ABTO Aybut 78.98 283 P P 09 51 49.1 -0.5
SNR=17
NKC Novy Kostel 78.99 331⇑*eP* P 09 51 49.0 0.0
NKC *ep*P pP 09 51 58.9 +0.6
NKC AMS AMS 10 29 20.0
comp=Z,2μm,18.5s
KONT Konya--Tatoy 79.03 311 P P 09 51 49.2 -0.3
ULDT Uludag 79.23 315 *i* P P 09 51 50.4 -0.2
ESK Eskdalemuir 79.32 341 *eP* P 09 51 50.3 -0.4
ESK pmax pmax
comp=Z,26nm,0.9s,mb5.2
ESK Eskdalemuir 79.32 341 *eP* P 09 51 50.3 -0.4
comp=Z,26nm,0.9s,mb5.2
TUC Tucson 79.43 56 *eP* P 09 51 52.5 +0.7
TUC *e* pP 09 52 02.2 +1.2
TUC pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TUC Tucson 79.43 56 *eP* P 09 51 52.5 +0.7
comp=Z,7.5nm,1.0s,mb4.6
TUC *e* pP 09 52 02.2 +1.2
KHC Kasperske Hory 79.46 329⇑*iP* P 09 51 51.9 +0.3
KHC *e* 09 51 56.5
KHC *e* pP 09 52 01.8 +0.9
KHC MLR MLR
comp=Z,3μm,23.0s,MS5.5
KHC Kasperske Hory 79.46 329⇑*iP* P 09 51 51.9 +0.3
KHC pP pP 09 51 56.5 -4.4
KHC *es*P sP 09 52 01.8 -2.2
KHC AMS AMS 10 29 30.0
comp=Z,3μm,23.0s
WTSB Winterswijk 79.48 335⇑*iP* P 09 51 51.4 -0.3
comp=Z,91nm,0.7s,mb5.8
PKS9 Tamasi 79.59 325 *eP* P 09 51 52.1 -0.3
GEC2 GERESS Array S 79.65 329 *eP* P 09 51 52.3 -0.3
GEC2 pmax pmax
comp=Z,27nm,0.9s,mb5.2
GEC2 GERESS Array S 79.65 329 *eP* P 09 51 52.3 -0.3
comp=Z,27nm,0.9s,mb5.2
WET Wettzell 79.72 330 *eP* P 09 51 53.2 +0.2
WET pmax pmax
comp=Z,58nm,0.9s,mb5.5
WET Wettzell 79.72 330 *eP* P 09 51 53.2 +0.2
comp=Z,58nm,0.9s,mb5.5
GRA1 Grafenberg Arr 79.88 331 *eP* P 09 51 54.1 +0.2
comp=Z,113nm,0.8s,mb5.8
GRA1 *ep*P pP 09 52 03.1 0.0
GRA1 LR LR
comp=Z,2μm,20.0s,MS5.5
GRF Grafenberg Arr 79.88 331 *eP* P 09 51 54.1 +0.2
GRF *e**PP pP 09 52 03.1 0.0
GRF pmax pmax
comp=Z,113nm,0.8s,mb5.8
GRF MLR MLR
comp=Z,2μm,20.0s,MS5.5
GRF Grafenberg Arr 79.88 331 *eP* P 09 51 54.1 +0.2
GRF *e**PP pP 09 52 03.1 0.0
GRF pmax pmax
comp=Z,113nm,0.8s,mb5.8
GRF *ep*P pP 09 52 03.1 0.0
GRF LR LR
comp=Z,2μm,20.0s,MS5.5
BEO Belgrade 80.01 323⇓*iP* P 09 51 54.3 -0.4
RHK1 Bakonya 80.07 325 *eP* P 09 51 55.0 +0.1
BOLS Boljevac 80.08 321⇑*iP* P 09 51 54.4 -0.7
BTOK Tokmak 80.09 315 *i* P P 09 51 52.9 -2.3
ISP Isparta 80.13 312 *eP* P 09 51 54.8 -0.7
ISP pmax pmax
comp=Z,31nm,1.0s,mb5.2
ISP Isparta 80.13 312 *eP* P 09 51 54.8 -0.6
comp=Z,31nm,1.0s,mb5.2
ZAPS Zavoj/Pirot 80.18 321⇑*iP* P 09 51 55.5 0.0
ARSA Arzberg 80.22 327⇑*iP* P 09 51 56.3 +0.6
comp=Z,31nm,1.0s,mb5.2
ANMO Albuquerque 80.23 52 *eP* P 09 51 56.7 +0.7
ANMO pmax pmax
comp=Z,26nm,1.0s
ANMO Albuquerque 80.23 52 *eP* P 09 51 56.7 +0.6
comp=Z,26nm,1.0s,mb5.1
ANMO *e* pP 09 52 07.1 +1.8
MOA Molln 80.24 328⇑*iP* P 09 51 56.1 +0.3
comp=Z,25nm,1.2s,mb5.0
TNS Taunus Mts 80.42 333 *eP* P 09 51 56.4 -0.3
TNS pmax pmax
comp=Z,42nm,0.9s,mb5.4
TNS Taunus Mts 80.42 333 *eP* P 09 51 56.4 -0.3
comp=Z,42nm,0.9s,mb5.4
VTS Vitosha 80.43 320 P P 09 51 58.0 +1.1
LENM Lemitar 80.47 53 *eP* P 09 51 58.8 +1.4
LENM *e* pP 09 52 08.1 +1.5
RAYN Ar Rayn 80.52 293 P P 09 51 57.3 -0.5
comp=Z,338nm,1.0s,mb6.2,SNR=54
CSS Prodhromos 80.57 309 *eP* P 09 51 57.8 -0.1
comp=Z,42nm,0.9s,mb5.4
LPM Los Pinos Moun 80.57 52 *eP* P 09 51 58.7 +0.8
LPM *e* pP 09 52 08.5 +1.4
GRUS Gruza 80.61 322⇓*iP* P 09 51 57.9 0.0
SIND Sindeldorf 80.75 332⇑*eP* P 09 51 58.3 -0.2
DIVS Divcibare 80.78 323⇓*iP* P 09 51 58.5 -0.2
HGN Heimansgroeve 80.80 334⇑*iP* P 09 51 58.4 -0.2
comp=Z,60nm,1.3s,mb5.4
TOD Tromm 80.82 332 *eP* P 09 51 59.0 +0.2
TOD Tromm 80.82 332⇑*eP* P 09 51 58.8 0.0
GROS Grobnik 80.86 327⇑*eP* P 09 51 59.1 0.0
GROS *e* pP 09 52 08.3 -0.1
SWS Schriesheim 80.96 332⇑*eP* P 09 51 59.4 -0.2
ABH Alteburg 81.02 333 *eP* P 09 51 59.7 -0.2
ABH Alteburg 81.02 333⇑*eP* P 09 51 59.9 0.0
HDH Heidenheim 81.17 331 *eP* P 09 52 00.7 0.0
OBKA Obir 81.21 327⇑*iP* P 09 52 01.1 +0.1
comp=Z,35nm,0.8s,mb5.3
KBA Koelnbreinsper 81.23 328⇑*iP* P 09 52 01.4 +0.4
comp=Z,130nm,1.4s,mb5.7
KBA Koelnbreinsper 81.23 328⇑*iP* P 09 52 01.4 +0.4
KBA pmax pmax
comp=Z,130nm,1.4s,mb5.7
KTD Kalmit 81.31 332 *eP* P 09 52 01.3 -0.1
KTD Kalmit 81.31 332 *eP* P 09 52 01.4 0.0
RUP Ruppelstein 81.33 333 *eP* P 09 52 01.3 -0.2
RUP Ruppelstein 81.33 333⇑*eP* P 09 52 01.4 -0.1
LEGS Legarje 81.35 326⇑*iP* P 09 52 01.5 -0.1
STU Stuttgart 81.38 332 *eP* P 09 52 02.2 +0.4
STU *e* pP 09 52 11.8 +0.8
PDKS Podkum 81.39 327⇑*iP* P 09 52 01.7 -0.2
DMUB Kingscourt 81.47 343⇑*iP* P 09 52 02.4 +0.3
BUCH Bad Urach 81.60 331⇑*eP* P 09 52 03.2 +0.3
LBG Lerchenberg 81.61 332 *eP* P 09 52 03.3 +0.3
PLE Pljevlja 81.65 322⇑*iP* P 09 52 04.2 +0.8
WLF Walferdange 81.67 334 *eP* P 09 52 01.9 -1.4
WLF pmax pmax
comp=Z,50nm,1.1s,mb5.4
WLF Walferdange 81.67 334 *eP* P 09 52 01.9 -1.3
comp=Z,50nm,1.1s,mb5.4
WLF *e* pP 09 52 13.0 +0.4
LANF Langenberg 81.69 332 *eP* P 09 52 03.4 0.0
VAY Valandovo 81.70 319⇑*iP* P 09 52 04.3 +0.7
WATA Walderalm 81.70 329⇑*iP* P 09 52 03.9 +0.4
comp=Z,39nm,1.0s,mb5.3
WATA Walderalm 81.70 329⇑*iP* P 09 52 03.9 +0.4
WATA pmax pmax
comp=Z,39nm,1.0s,mb5.3
GIVF Givet 81.72 335⇑*iP* P 09 52 03.2 -0.3
comp=Z,64nm,0.9s,mb5.2
GIVF Givet 81.72 335⇑*iP* P 09 52 03.2 -0.3
GIVF pmax pmax
comp=Z,32nm,0.9s,mb5.2
WTTA Wattenberg 81.74 329⇑*iP* P 09 52 04.3 +0.6
comp=Z,62nm,0.8s,mb5.6
WTTA Wattenberg 81.74 329⇑*iP* P 09 52 04.3 +0.6
WTTA pmax pmax
comp=Z,62nm,0.8s,mb5.6
SKO Skopje 81.75 320⇑*iP* P 09 52 04.8 +0.9
comp=Z,0.1nm,0.8s
SKO *i* pP 09 52 14.7 +1.6
PTCC Patocco-Chiusa 81.78 328 *eP* P 09 52 03.1 -0.8
IVA Berane 81.78 322⇑*iP* P 09 52 04.6 +0.6
FETY Fethiye 81.79 312 *eP* P 09 52 03.5 -0.6
FVI Forni Avoltri 81.85 328 *eP* P 09 52 01.4 -2.9
VOY Vojsko 81.86 327 *e*(P) P 09 52 03.3 -1.1
VOY *e* pP 09 52 12.7 -0.9
MOTA Moosalm 81.88 330⇑*iP* P 09 52 04.8 +0.4
comp=Z,40nm,0.9s,mb5.3
MOTA Moosalm 81.88 330⇑*iP* P 09 52 04.8 +0.4
MOTA pmax pmax
comp=Z,40nm,0.9s,mb5.3
SQTA Sankt Quirin 81.94 330⇑*iP* P 09 52 05.2 +0.5
comp=Z,37nm,1.0s,mb5.3
SQTA Sankt Quirin 81.94 330⇑*iP* P 09 52 05.2 +0.5
SQTA pmax pmax
comp=Z,37nm,1.0s,mb5.3
DLF Lyons Farm 81.95 343⇑*iP* P 09 52 04.8 +0.2
PVY Plav 81.96 322 *eP* P 09 52 04.8 -0.1
BAIF Baives 81.96 335⇑*iP* P 09 52 04.5 -0.2
UBR Uberruh 81.97 330⇑*eP* P 09 52 04.8 -0.1
UPM Unac-Piva 81.97 323⇑*iP* P 09 52 04.9 -0.1
GUT Gutenstein 82.00 331⇑*eP* P 09 52 05.2 +0.2
BFO Black Forest 82.06 332 *eP* P 09 52 05.2 -0.1
BFO pmax pmax
comp=Z,149nm,1.8s,mb5.6
BFO Black Forest 82.06 332 *eP* P 09 52 05.2 -0.1
comp=Z,149nm,1.8s,mb5.6
DCN Croghan 82.07 343⇑*iP* P 09 52 05.6 +0.4
SPAK Spaichingen 82.09 331 *eP* P 09 52 05.7 +0.2
SPAK Spaichingen 82.09 331⇑*eP* P 09 52 05.8 +0.3
NKY Niksic 82.24 322⇑*iP* P 09 52 05.4 -1.0
WLS Welschbruch 82.33 332 *eP* P 09 52 06.7 -0.1
CDF Champ du Feu 82.36 332⇑*iP* P 09 52 06.8 -0.1
comp=Z,84nm,0.9s,mb5.3
CDF Champ du Feu 82.36 332⇑*iP* P 09 52 06.8 -0.1
CDF pmax pmax
comp=Z,42nm,0.9s,mb5.4
BRY Bratogost 82.37 323⇑*iP* P 09 52 06.3 -0.7
DAVA Damuels 82.38 330⇑*iP* P 09 52 07.6 +0.6
comp=Z,93nm,1.0s,mb5.7
TTG Podgorica 82.42 322⇑*iP* P 09 52 07.1 -0.2
LIBD Limburg 82.47 332 *eP* P 09 52 07.4 -0.1
LIBD Limburg 82.47 332 *eP* P 09 52 07.9 +0.4
SLE Schleitheim 82.48 331⇑*iP* P 09 52 07.2 -0.3
TRULL Truellikon 82.52 331⇑*iP* P 09 52 07.2 -0.5
LIENZ Alp Oberkamor 82.52 331⇑*iP* P 09 52 08.0 +0.3
KIZ Kirchzarten 82.53 332⇑*eP* P 09 52 07.6 -0.2
FELD Feldberg 82.56 332⇑*eP* P 09 52 08.0 0.0
ECH Echery 82.57 332 *eP* P 09 52 07.8 -0.2
KSU1 Kansas State U 82.63 43 *eP* P 09 52 07.5 -1.0
BUM Brajici-Budva 82.68 322⇑*iP* P 09 52 08.7 0.0
CTI Castel Tesino 82.74 329⇑*iP* P 09 52 08.2 -0.7
HCY Herceg Novi 82.75 322⇑*iP* P 09 52 08.8 -0.2
PLONS Plons 82.77 330⇑*iP* P 09 52 09.2 +0.2
ULC Ulcinj 82.79 322⇑*iP* P 09 52 09.0 -0.2
FUORN Ofenpass 82.80 330⇑*iP* P 09 52 10.0 +0.8
DAVOX Davos 82.81 330⇑*iP* P 09 52 09.8 +0.6
SULZ Sulz-Cheisache 82.82 331⇑*iP* P 09 52 09.3 0.0
BRMO Bormio 82.88 330⇑*iP* P 09 52 10.3 +0.7
MOF Molkenrain 82.89 332 *eP* P 09 52 09.5 -0.2
THEF They Montfort 82.97 333 *eP* P 09 52 09.9 -0.1
HINF Hinteralfeld 83.02 332⇑*iP* P 09 52 10.0 -0.3
comp=Z,32nm,0.8s,mb5.1
HINF Hinteralfeld 83.02 332⇑*iP* P 09 52 10.0 -0.3
HINF pmax pmax
comp=Z,16nm,0.8s,mb5.1
AMTX Amarillo 83.03 49 *eP* P 09 52 11.0 +0.3
comp=Z,14nm,0.8s,mb5.0
AMTX *e* pP 09 52 20.5 +0.5
HAU Haudompre 83.03 333⇑*iP* P 09 52 10.1 -0.3
comp=Z,51nm,0.9s,mb5.2
HAU *e*R
comp=Z,2μm,22.5s
HAU Haudompre 83.03 333⇑*iP* P 09 52 10.1 -0.3
HAU pmax pmax
comp=Z,26nm,0.9s,mb5.3
HAU MLR MLR
comp=Z,2μm,22.5s,MS5.4
MEZF Maizieres J'vi 83.04 334⇑*iP* P 09 52 10.6 +0.2
comp=Z,147nm,1.0s,mb5.7
BERNI Berninapass 83.06 330⇑*iP* P 09 52 11.2 +0.6
LLS Linth-Limmern 83.07 331⇑*iP* P 09 52 10.8 +0.2
BBS Basel-Blauen 83.09 332 *eP* P 09 52 10.7 0.0
BBS Basel-Blauen 83.09 332⇑*eP* P 09 52 10.8 +0.1
CPRX Cap Rock 83.10 51 *eP* P 09 52 11.9 +0.8
MUO Muotathal 83.11 331⇑*iP* P 09 52 11.1 +0.3
BALST Balsthal 83.14 332⇑*iP* P 09 52 11.0 +0.1
MNTX Cornudas Mount 83.15 53 *eP* P 09 52 11.8 +0.4
comp=Z,56nm,1.7s,mb5.3
MNTX *e* pP 09 52 19.9 -0.8
VDL Val di Lei 83.21 330⇑*iP* P 09 52 11.8 +0.5
BOURR Bourrignon 83.25 332⇑*iP* P 09 52 11.6 +0.1
BNALP Bannalp 83.27 331⇑*iP* P 09 52 12.0 +0.4
EIL Elat 83.30 304 *eP* P 09 52 12.1 0.0
comp=Z,93nm,1.4s,mb5.6
EIL *e* pP 09 52 22.4 +1.0
GDL2 Guadalupe Moun 83.40 52 *eP* P 09 52 13.1 +0.4
GDL2 *e* pP 09 52 21.8 -0.2
LOMF Lomont 83.43 332 *eP* P 09 52 12.3 -0.1
HASLI Hasliberg 83.46 331⇑*iP* P 09 52 12.8 +0.2
FUSIO Fusio 83.53 331⇑*iP* P 09 52 13.3 +0.4
WIMIS Wimmis 83.73 331⇑*iP* P 09 52 13.9 0.0
MUGIO Muggio 83.84 330⇑*iP* P 09 52 14.0 -0.5
BRANT Les Verrieres 83.91 332⇑*iP* P 09 52 15.0 +0.2
LKBD Leukerbad 83.97 331⇑*iP* P 09 52 15.3 +0.2
VAI Varese 83.99 330⇑*iP* P 09 52 15.0 -0.2
SENIN Lac Senin 84.11 331⇑*iP* P 09 52 16.2 +0.4
MCGN Macugnaga 84.20 331⇑*iP* P 09 52 16.7 +0.4
FSSB Fossombrone 84.23 327 *eP* P 09 52 17.0 +0.4
GRYON Gryon 84.27 331⇑*iP* P 09 52 16.9 +0.3
CABF La Chapelle 84.32 332⇑*iP* P 09 52 17.1 +0.2
comp=Z,29nm,0.9s,mb5.1
CABF La Chapelle 84.32 332⇑*iP* P 09 52 17.1 +0.2
CABF pmax pmax
comp=Z,15nm,0.9s,mb5.1
ZCCA Zocca 84.42 328 *eP* P 09 52 19.2 +1.8
SFI Santa Sofia 84.44 327 *eP* P 09 52 18.6 +1.1
ORO Oropa 84.49 331 *eP* P 09 52 17.8 +0.1
EMV Vieux Emosson 84.51 331⇑*iP* P 09 52 18.3 +0.5
SEI Scarperia 84.51 328 *eP* P 09 52 19.4 +1.5
PGD Poggio Sodo 84.51 327⇑*iP* P 09 52 19.5 +1.6
VMG Vicchio 84.51 327 *eP* P 09 52 19.4 +1.5
SNTG Esanatoglia 84.53 326 *eP* P 09 52 18.7 +0.7
FLN La Foliniere 84.53 337⇑*iP* P 09 52 17.8 -0.1
comp=Z,56nm,0.8s,mb5.5
FLN *e*R
comp=Z,2μm,22.8s
FLN La Foliniere 84.53 337⇑*iP* P 09 52 17.8 -0.1
FLN pmax pmax
comp=Z,28nm,0.8s,mb5.4
FLN MLR MLR
comp=Z,2μm,22.8s,MS5.4
GSCL Gusciola 84.57 328⇑*iP* P 09 52 19.2 +1.0
LDF La Druitiere 84.58 337⇑*iP* P 09 52 17.8 -0.3
comp=Z,58nm,0.7s,mb5.5
LDF La Druitiere 84.58 337⇑*iP* P 09 52 17.8 -0.3
LDF pmax pmax
comp=Z,29nm,0.7s,mb5.5
ERBM Eremo 84.58 328⇑*iP* P 09 52 19.5 +1.3
CRE Caprese Michel 84.63 327 *eP* P 09 52 19.2 +0.7
GRAM 84.66 329 P P 09 52 19.0 +0.4
BOB Bobbio (Coli) 84.66 329⇑*iP* P 09 52 19.1 +0.5
TRAV 84.67 331 P P 09 52 18.2 -0.4
VALM 84.71 328 P P 09 52 19.4 +0.6
WMOK Wichita Mounta 84.75 47 *eP* P 09 52 19.4 +0.1
WMOK pmax pmax
comp=Z,17nm,0.9s,mb5.2
WMOK Wichita Mounta 84.75 47 *eP* P 09 52 19.4 0.0
comp=Z,17nm,0.9s,mb5.2
WMOK *e* pP 09 52 29.3 +0.7
SARO Sassorosso 84.78 328 P P 09 52 20.1 +0.9
NRCA Norcia 84.80 326⇑*iP* P 09 52 19.9 +0.5
SSF Saint Saulge 84.81 334⇑*iP* P 09 52 19.4 +0.1
comp=Z,57nm,0.8s,mb5.5
SSF Saint Saulge 84.81 334⇑*iP* P 09 52 19.4 +0.1
SSF pmax pmax
comp=Z,28nm,0.8s,mb5.4
BDI Bagni Di Lucca 84.81 328 *eP* P 09 52 18.9 -0.5
VLC Villacollemand 84.81 328 *eP* P 09 52 19.8 +0.4
comp=Z,166nm,1.6s,mb5.9
CODM 84.83 329 P P 09 52 19.6 +0.1
HYF Humbligny 84.91 335⇑*iP* P 09 52 20.2 +0.4
VINC Vinca 84.92 328 P P 09 52 19.1 -0.8
LSD Ceresole Reale 84.93 331 P P 09 52 20.7 +0.7
GRR Gorron 84.98 337⇑*iP* P 09 52 20.3 +0.2
comp=Z,100nm,1.0s,mb5.6
GRR Gorron 84.98 337⇑*iP* P 09 52 20.3 +0.2
GRR pmax pmax
comp=Z,50nm,1.0s,mb5.6
LPL La Plagne 85.04 331⇑*iP* P 09 52 21.2 +0.7
comp=Z,117nm,0.9s,mb5.7
LPL La Plagne 85.04 331⇑*iP* P 09 52 21.2 +0.7
LPL pmax pmax
comp=Z,59nm,0.9s,mb5.7
LPG La Plagne 85.05 331⇑*iP* P 09 52 21.4 +0.9
comp=Z,146nm,0.9s,mb5.8
LPG La Plagne 85.05 331⇑*iP* P 09 52 21.4 +0.9
LPG pmax pmax
comp=Z,73nm,0.9s,mb5.8
SMF Signal de Mont 85.06 334⇑*iP* P 09 52 20.9 +0.3
comp=Z,108nm,0.8s,mb5.7
SMF Signal de Mont 85.06 334⇑*iP* P 09 52 20.9 +0.3
SMF pmax pmax
comp=Z,54nm,0.8s,mb5.7
AQU L'Aquila 85.07 325 *eP* P 09 52 21.0 +0.3
AQU pmax pmax
comp=Z,45nm,1.1s,mb5.5
AQU L'Aquila 85.07 325 *eP* P 09 52 20.9 +0.2
comp=Z,45nm,1.1s,mb5.5
AQU *e* pP 09 52 30.8 +0.7
AVF Avril sur Loir 85.09 334⇑*iP* P 09 52 21.0 +0.3
comp=Z,121nm,0.7s,mb5.8
AVF Avril sur Loir 85.09 334⇑*iP* P 09 52 21.0 +0.3
AVF pmax pmax
comp=Z,60nm,0.7s,mb5.8
PII Pisa 85.12 328 *eP* P 09 52 20.1 -0.8
RSP Reno Superiore 85.16 331 P P 09 52 20.3 -0.8
PCP Pian Castagno 85.20 330 P P 09 52 20.6 -0.7
PPT Papeete 85.20 118 *e*SS SS 10 08 33.9 +8.0
PPT *e*LR LR 10 18 21.4
comp=Z,2μm,24.2s,baz=313
FENE Fenestrelle 85.33 331 P P 09 52 22.4 +0.4
PTQR Pietraquaria 85.34 325 *eP* P 09 52 22.8 +0.7
MNS Montasola 85.35 326 *eP* P 09 52 22.1 0.0
GRFL Gerfalco 85.42 327 *eP* P 09 52 22.5 0.0
BHB Bricherasio 85.42 331 P P 09 52 20.9 -1.5
SDI San Donato 85.42 325 *eP* P 09 52 22.0 -0.5
BNI Bardonecchia 85.45 331 *eP* P 09 52 22.9 +0.3
BNI pmax pmax
comp=Z,32nm,0.8s,mb5.5
BNI Bardonecchia 85.45 331 *eP* P 09 52 22.9 +0.3
comp=Z,32nm,0.8s,mb5.5
MRLC Muro Lucano 85.46 323 *eP* P 09 52 23.3 +0.6
BGF Bois d'Agland 85.47 334⇑*iP* P 09 52 22.7 +0.1
GDM Grand'Maison 85.53 331 *eP* P 09 52 23.6 +0.7
RRL Cesana Torines 85.53 331 P P 09 52 23.5 +0.5
OG22 Abries 85.56 331 *eP* P 09 52 23.4 +0.3
ORI Oriolo Calabro 85.58 322 *eP* P 09 52 24.7 +1.4
SGMF Saint Gilles 85.58 338⇑*iP* P 09 52 23.6 +0.5
comp=Z,123nm,1.0s,mb5.8
SGMF Saint Gilles 85.58 338⇑*iP* P 09 52 23.6 +0.5
SGMF pmax pmax
comp=Z,61nm,1.0s,mb5.8
FIN Finale Ligure 85.61 330 *eP* P 09 52 23.0 -0.4

GRN	Grenoble	85.63	332	eP	P	09 52 24.2	+0.8
TAOE	Nuku Hiva Isla	85.64	106	eS	S	10 02 49.8	-3.0
TAOE				eLR	LR	10 18 42.1	
	baz=321						
ROB	Roburent	85.66	330	P	P	09 52 22.8	-0.8
MBDF	Montbardon	85.70	331	⇑iP	P	09 52 23.9	+0.1
	comp=Z,71nm,0.7s,mb5.7						
MBDF	Montbardon	85.70	331	⇑iP	P	09 52 23.9	+0.1
MBDF				pmax	pmax		
	comp=Z,35nm,0.7s,mb5.7						
SGO	Sicignano	85.70	323	eP	P	09 52 23.6	-0.3
ROSF	Rostrenen	85.70	339	⇑iP	P	09 52 24.2	+0.5
	comp=Z,229nm,1.1s,mb6.0						
ROSF	Rostrenen	85.70	339	⇑iP	P	09 52 24.2	+0.5
ROSF				pmax	pmax		
	comp=Z,114nm,1.1s,mb6.0						
DOI	San Damiano	85.72	330	eP	P	09 52 22.6	-1.3
PLDF	La Plantade	85.73	333	eP	P	09 52 24.6	+0.7
PZZ	Prazzo	85.77	330	P	P	09 52 22.8	-1.4
AGO	Saint Agoulin	85.82	334	eP	P	09 52 25.0	+0.6
GVD	Gavdhos	85.84	314	P	P	09 52 25.4	+0.6
	comp=Z,202nm,1.1s,mb6.3						
ORIF	Oris-en-Rattie	85.86	331	⇑iP	P	09 52 25.2	+0.6
	comp=Z,104nm,0.8s,mb5.8						
ORIF				eR			
	comp=Z,1μm,20.5s						
LTX	Lajitas	85.87	54	eP	P	09 52 25.5	+0.4
LTX				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.3						
LTX	Lajitas	85.87	54	eP	P	09 52 25.4	+0.4
	comp=Z,15nm,0.7s,mb5.3						
LTX				e	pP	09 52 34.8	+0.4
ENR	Entracque	85.89	330	P	P	09 52 22.9	-1.9
MONE	Monesi	85.89	330	P	P	09 52 24.4	-0.4
SURF	Saint Ours	85.90	331	eP	P	09 52 25.2	+0.4
STV2	Anna di Valdie	85.91	330	P	P	09 52 23.0	-1.9
STV	Sta Anna Valdi	85.91	330	P	P	09 52 23.0	-1.9
TCF	Toulx Ste Croi	85.91	334	⇑iP	P	09 52 25.4	+0.6
	comp=Z,131nm,1.2s,mb5.7						
TCF	Toulx Ste Croi	85.91	334	⇑iP	P	09 52 25.4	+0.6
TCF				pmax	pmax		
	comp=Z,65nm,1.3s,mb5.7						
IMI	Imperia	85.98	330	eP	P	09 52 25.4	+0.1
SAOF	Saorge	86.04	330	eP	P	09 52 25.2	-0.3
QUIF	Quistinic	86.06	338	⇑iP	P	09 52 25.8	+0.3
	comp=Z,59nm,0.8s,mb5.5						
QUIF	Quistinic	86.06	338	⇑iP	P	09 52 25.8	+0.3
QUIF				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.6						
AAM	Ann Arbor	86.07	33	eP	P	09 52 26.0	+0.3
AAM				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.2						
AAM	Ann Arbor	86.07	33	eP	P	09 52 26.0	+0.3
	comp=Z,14nm,0.8s,mb5.2						
COLF	Collangettes	86.10	333	eP	P	09 52 26.6	+0.8
NEGI	Negi	86.11	330	P	P	09 52 24.9	-1.0
CCM	Cathedral Cave	86.11	40	eP	P	09 52 25.8	-0.2
CCM				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.6						
CCM	Cathedral Cave	86.11	40	eP	P	09 52 25.8	-0.3
	comp=Z,32nm,0.8s,mb5.6						
CCM				e	pP	09 52 35.6	+0.2
PYM	Petit Puy Mans	86.12	334	eP	P	09 52 26.4	+0.5
TOUF	Mont Tournerai	86.14	330	eP	P	09 52 25.8	-0.2
TIP	Timpagrande	86.15	322	eP	P	09 52 26.3	+0.2
SBF	Sospel	86.19	330	⇑iP	P	09 52 26.1	-0.2
	comp=Z,112nm,0.8s,mb5.8						
SBF	Sospel	86.19	330	⇑iP	P	09 52 26.1	-0.2
SBF				pmax	pmax		
	comp=Z,56nm,0.8s,mb5.8						
OG25	Le Caire	86.26	331	eP	P	09 52 27.0	+0.4
MVIF	Mont Vial	86.27	330	eP	P	09 52 26.5	-0.2
REVF	Revere	86.33	330	eP	P	09 52 26.8	-0.1
VIVF	Saint-Julien-l	86.34	332	⇑iP	P	09 52 27.5	+0.5
	comp=Z,138nm,0.8s,mb5.9						
VIVF	Saint-Julien-l	86.34	332	⇑iP	P	09 52 27.5	+0.5
VIVF				pmax	pmax		
	comp=Z,69nm,0.8s,mb5.9						
MFF	Saint Martin d	86.37	336	⇑iP	P	09 52 27.8	+0.7
	comp=Z,159nm,0.9s,mb6.0						
MFF	Saint Martin d	86.37	336	⇑iP	P	09 52 27.8	+0.7
MFF				pmax	pmax		
	comp=Z,79nm,0.9s,mb5.9						
LCHF	La Chataignera	86.49	336	eP	P	09 52 28.9	+1.2
FVM	French Village	86.56	40	eP	P	09 52 28.2	0.0
FVM				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.2						
FVM	French Village	86.56	40	eP	P	09 52 28.2	0.0
	comp=Z,13nm,0.8s,mb5.2						
FRNF	Fournols	86.59	334	eP	P	09 52 29.2	+1.0
PGF	Pioggiola	86.71	328	eP	P	09 52 28.5	-0.4
SMRF	Simiane la Rot	86.78	331	⇑iP	P	09 52 29.6	+0.4
	comp=Z,114nm,1.2s,mb5.7						
LMR	La Mourre	86.99	330	⇑iP	P	09 52 30.1	-0.1
	comp=Z,153nm,1.0s,mb5.9						
LMR	La Mourre	86.99	330	⇑iP	P	09 52 30.1	-0.1
LMR				pmax	pmax		
	comp=Z,76nm,1.0s,mb5.9						
RJF	Les Rejaudoux	87.01	334	⇑iP	P	09 52 30.8	+0.6
	comp=Z,137nm,1.1s,mb5.8						
RJF				eR			
	comp=Z,2μm,23.0s						
RJF	Les Rejaudoux	87.01	334	⇑iP	P	09 52 30.8	+0.6
RJF				pmax	pmax		
	comp=Z,69nm,1.1s,mb5.8						
RJF				MLR	MLR		
	comp=Z,2μm,23.0s,MS5.5						
MSNY	Massena	87.01	26	eP	P	09 52 29.4	-0.9
CAF	Calviac	87.16	334	⇑iP	P	09 52 32.2	+1.2
	comp=Z,186nm,0.9s,mb6.0						
CAF	Calviac	87.16	334	⇑iP	P	09 52 32.2	+1.2
CAF				pmax	pmax		
	comp=Z,93nm,0.9s,mb6.0						
LASF	Ste Croix	87.30	332	⇑iP	P	09 52 32.5	+0.8
JCT	Junction City	87.33	51	eP	P	09 52 31.9	-0.2
JCT				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.2						
JCT	Junction City	87.33	51	eP	P	09 52 31.9	-0.2
	comp=Z,11nm,0.7s,mb5.2						
JCT				e	pP	09 52 41.5	0.0
SOI	Samo	87.36	321	eP	P	09 52 32.0	-0.1
BLO	Bloomington	87.42	37	eP	P	09 52 32.4	0.0
BLO				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.5						
BLO	Bloomington	87.42	37	eP	P	09 52 32.4	+0.1
	comp=Z,37nm,1.3s,mb5.5						
LFF	La Frestale	87.58	335	⇑iP	P	09 52 34.0	+1.0
	comp=Z,180nm,1.0s,mb6.0						
LFF	La Frestale	87.58	335	⇑iP	P	09 52 34.0	+1.0
LFF				pmax	pmax		
	comp=Z,90nm,1.0s,mb6.0						
MIAR	Mount Ida	87.68	44	eP	P	09 52 33.8	+0.1
MIAR				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.5						
MIAR	Mount Ida	87.68	44	eP	P	09 52 33.8	0.0
	comp=Z,28nm,0.8s,mb5.5						
MIAR				e	pP	09 52 43.1	0.0
ALLY	Alegheny Colle	88.02	31	eP	P	09 52 35.2	0.0
ACSO	Alum Creek Sta	88.07	34	eP	P	09 52 35.5	+0.1
	comp=Z,52nm,0.8s,mb5.8						
ACSO				e	pP	09 52 45.0	+0.2
WCI	Wyandotte Cave	88.29	37	eP	P	09 52 36.3	-0.3
WCI				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.7						
WCI	Wyandotte Cave	88.29	37	eP	P	09 52 36.3	-0.2
	comp=Z,39nm,0.8s,mb5.7						
WCI				e	pP	09 52 46.1	+0.2
MDV	Middlebury	88.45	26	eP	P	09 52 37.0	-0.1
MTLF	Montolieu	88.52	333	⇑iP	P	09 52 38.4	+0.9
	comp=Z,58nm,1.0s,mb5.6						
MTLF	Montolieu	88.52	333	⇑iP	P	09 52 38.4	+0.9
MTLF				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.6						
ACCN	Adirondack Com	88.84	26	eP	P	09 52 38.4	-0.7
BINY	Binghamton	89.09	28	eP	P	09 52 40.0	-0.3
WVT	Waverly	89.28	39	eP	P	09 52 41.1	-0.3
WVT				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.2						
WVT	Waverly	89.28	39	eP	P	09 52 41.1	-0.3
	comp=Z,11nm,0.8s,mb5.2						
WVT				e	pP	09 52 51.3	+0.6
EPF	Esparros	89.42	334	⇑iP	P	09 52 41.8	0.0
	comp=Z,32nm,1.0s,mb5.3						
EPF	Esparros	89.42	334	⇑iP	P	09 52 41.8	0.0
EPF				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.3						
TBI	Tubuai	89.44	122	ePP	PP	09 56 13.6	-2.4
TBI				eS	S	10 03 25.1	-3.4
TBI				eLR	LR	10 20 20.2	
	comp=Z,1μm,22.8s,baz=319						
SSPA	Standing Stone	89.76	30	eP	P	09 52 43.5	0.0
	comp=Z,36nm,0.9s,mb5.7						
EBIE	Bielsa	89.79	334	P	P	09 52 45.1	+1.6
	comp=Z,13nm,0.7s,mb5.4						
OXF	Oxford	89.82	41	eP	P	09 52 43.2	-0.7
OXF				pmax	pmax		
	comp=Z,59nm,1.0s,mb5.9						
OXF	Oxford	89.82	41	eP	P	09 52 43.2	-0.7
	comp=Z,60nm,1.0s,mb5.9						
ETSF	Etsaut	89.83	335	⇑iP	P	09 52 44.8	+1.1
	comp=Z,53nm,0.8s,mb5.6						
ETSF	Etsaut	89.83	335	⇑iP	P	09 52 44.8	+1.1
ETSF				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.6						
EALK	Alkurruntz	89.84	335	P	P	09 52 36.7	-7.1
	comp=Z,38nm,1.6s,mb5.5						
SJPF	Ste Jean	89.85	335	⇑iP	P	09 52 44.9	+1.1
ELAN	Lanestosa	90.41	337	P	P	09 52 46.2	-0.2
	comp=Z,15nm,0.9s,mb5.3						
EPOB	Poblet	90.67	333	P	P	09 52 48.0	+0.3
	comp=Z,19nm,0.9s,mb5.4						
EARI	Arriondas	90.86	338	P	P	09 52 48.9	+0.4
	comp=Z,27nm,1.3s,mb5.4						
ERTA	Horta de San J	91.28	333	P	P	09 52 50.9	+0.5
	comp=Z,22nm,1.1s,mb5.4						
EPON	Pontenova	91.37	339	P	P	09 52 50.5	-0.4
	comp=Z,26nm,0.9s,mb5.6						
EINC	Incio	92.05	339	P	P	09 52 54.7	+0.8
	comp=Z,33nm,1.4s,mb5.5						
EMOS	Mosqueruela	92.08	333	P	P	09 52 55.1	+1.0
	comp=Z,9.8nm,0.7s,mb5.2						
GUD	Guadarrama	93.00	336	P	P	09 52 59.2	+0.8
GUD				pmax	pmax		
	comp=Z,11nm,1.0s,mb5.2						
GUD	Guadarrama	93.00	336	P	P	09 52 59.2	+0.8
	comp=Z,10nm,1.0s,mb5.2						
ESDC	Sonseca Array	93.83	336	P	P	09 53 02.6	+0.4
	comp=Z,7.7nm,0.8s,mb5.2						
ESDC				pP	pP	09 53 12.4	+0.8
EVIA	Vianos	94.31	334	P	P	09 53 05.5	+1.0
EVIA				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.6						
EVIA	Vianos	94.31	334	P	P	09 53 05.5	+1.0
	comp=Z,22nm,0.8s,mb5.6						
EQES	Quesada	95.25	334	P	P	09 53 09.5	+0.7
	comp=Z,9.7nm,1.0s,mb5.2						
EVO	Evora	96.08	338	eP	P	09 53 13.3	+0.7
EVO				eR			
	comp=Z,2μm,23.0s						
LBTB	Lobatse	126.81	268	ePKIKP	PKPdf	09 58 49.7	-3.2
SAML	Samuel	139.63	44	ePKPpre		09 59 03.5	
LPAZ	La Paz	142.69	57	ePKIKP	PKPdf	09 59 16.0	-6.5
LPAZ				e		09 59 19.7	
SNAA	Sanae	145.75	198	ePKIKP	PKPdf	09 59 22.7	-3.5
LVC	Limon Verde	146.71	65	ePKPdf	PKPdf	09 59 26.6	-2.7
VNA2	Neumayer--Watz	147.32	197	e	PKPdf	09 59 29.9	+1.0
VNA2	Neumayer--Watz	147.32	197	e	PKPdf	09 59 32.3	+3.4
VNA2	Neumayer--Watz	147.32	197	e	PKPdf	09 59 34.8	+5.9
VNA2	Neumayer--Watz	147.32	197	e	PKPdf	09 59 37.6	+8.7
VNA2	Neumayer--Watz	147.32	197	⇑iPKPdf	PKPdf	09 59 27.9	-1.0
VNA2				e		09 59 29.9	
VNA2				e		09 59 32.3	
VNA2				e		09 59 34.8	
VNA2				e		09 59 37.6	
VNA2				e		10 02 42.7	
VNA2				e		10 03 04.8	
VNA3	Neumayer Olymp	147.56	196	e	PKPdf	09 59 31.0	+1.8
VNA3	Neumayer Olymp	147.56	196	e	PKPdf	09 59 36.1	+6.9
VNA3	Neumayer Olymp	147.56	196	⇑iPKPdf	PKPdf	09 59 28.3	-0.9
VNA3				e		09 59 31.0	
VNA3				e		09 59 36.1	
VNA3				e		10 02 42.1	
BAO	Brasilia Array	152.10	25	P	PKPdf	09 59 43.0	+5.1
BAO				i		09 59 52.1	

NIED ***31*** *10:10:00, 22.40N×121.10E, h20km, Mw4.5 Best double couple: M0 5.44×10^15 NP1:φ=91°, δ=66°, λ=123°. NP2:φ=213°, δ=40°, λ=39°.*

JMA ***31*** *10:10:08.6±0.2, 22.40N×121.13E, h26km, M4.2*

TAP ***31*** *10:10:08.8, 22.42N×120.91E, h16km, ML4.8*

TAP Felt IV J at Tawa, IV J at Taimali, II J at Fangliau, I J at Taitung, II J at Sandimen, I J at Pinlang, I J at Hengchun, I J at Jiouru, I J at Shiaulioucho, I J, II J at Kaohsiung, I J at Shoushan, II J at Lanyu, I J at Chiayi, I J at Tsauling.

NEIC ***31*** *10:10:08.1±0.8, 22.14N×120.59E, h10km, mb4.3/7, ML4.8(TAP), Error ellipse: s-maj=26.4km s-min=13.7km az=68.0*

NEIC Recorded [4 TAP] in T'ai-tung and [2 TAP] in P'ing-tung Counties.

BJI ***31*** *10:10:11.9, 22.84N×120.59E, h5km, mB5.0, mb4.4, ML4.5, Ms4.3, Msz4.2*

ISC 31 10:10:08.1±0.3, 22.37N±0.02×121.06E±0.02, h21km±2km, n85, σ1=33/122, mb4.3/5, 13C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAW	Tawu	0.15	267	⇓iP	Pb	10 10 12.0	-0.8
TAW				S	Sb	10 10 14.6	-1.4
EAST	Anshuo	0.20	275	⇓iP	Pb	10 10 12.3	-1.1
EAST				S	Sb	10 10 14.7	-2.2
ECL	Taimali	0.25	337	⇑iP	Pb	10 10 13.0	-1.1
ECL				S	Sb	10 10 16.5	-1.7
TTN	Taitung	0.40	12	P	Pb	10 10 17.0	+0.6
TTN				S	Sb	10 10 24.2	+2.2
SCZT	Fangliau	0.41	271	⇓iP	Pb	10 10 15.4	-1.3
SCZT				S	Sb	10 10 20.0	-2.4
TWG	Pinlang	0.45	1	⇑iP	Pb	10 10 16.4	-0.9
TWG				S	Sb	10 10 23.4	-0.3
HEN	Hengchun	0.47	220	⇑iP	Pb	10 10 18.4	+0.8
HEN				S	Sb	10 10 26.8	+2.8
TWK1	Hengchun	0.48	209	⇑iP	Pb	10 10 18.8	+1.0
TWK1				S	Sb	10 10 26.7	+2.2
SSD	Sandimen	0.55	314	⇑iP	Pb	10 10 17.3	-1.7
SSD				S	Sb	10 10 23.3	-3.1
LAY	Lan-yu	0.56	126	P	Pb	10 10 20.4	+1.3
LAY				S	Sb	10 10 29.4	+2.7
SGLT	Jiouru	0.64	304	eP	Pb	10 10 19.9	-0.6
SGLT				S	Sb	10 10 28.4	-0.5
TWP	Hsiaoliuchiu	0.65	268	eP	Pb	10 10 22.6	+2.0
KAU	Kaohsiung	0.72	286	eP	Pb	10 10 23.3	+1.3
TWM1	Shoushan	0.74	308	⇑P	Pb	10 10 22.5	+0.2
CHKT	Chengkung	0.78	21	eP	Pb	10 10 22.3	-0.6
CHKT				S	Sb	10 10 33.2	+0.2
ELDTW	Lidau	0.82	357	eP	Pb	10 10 22.4	-1.2
SGST	Jiashian	0.84	328	⇑iP	Pb	10 10 23.6	-0.2
SGST				S	Sb	10 10 34.0	-0.7
STYT	Tauyuan	0.84	341	⇑iP	Pb	10 10 23.4	-0.5
STYT				S	Sb	10 10 34.6	-0.2
CHN1	Nanshi	0.95	329	⇑iP	Pb	10 10 26.5	+0.7
CHN1				S	Sb	10 10 39.2	+1.2
CHN3	Shinhua	0.95	318	eP	Pb	10 10 27.3	+1.5
WTP	Ta-pu	0.97	335	⇑iP	Pb	10 10 26.3	+0.2
WTP				S	Sb	10 10 39.7	+1.2
TWF1	Yuli	1.01	12	eP	Pb	10 10 24.6	-2.1
TWK	Hsinying	1.04	330	⇑P	Pb	10 10 27.6	+0.3
TWK				S	Sb	10 10 42.2	+1.6
CHN4	Tsaushan	1.07	336	⇑P	Pb	10 10 28.2	+0.3
YUS	Yu-Shan	1.12	355	eP	Pb	10 10 28.3	-0.4
SCLT	Jiali	1.14	315	eP	Pb	10 10 28.5	-0.4
SCLT				S	Sb	10 10 44.4	+1.1
EHY	Hungye	1.16	12	eP	Pn	10 10 27.3	-2.0
ALS	Alishan	1.16	348	eP	Pn	10 10 29.1	-0.2
ALS				S	Sb	10 10 47.6	+3.5
CHN8	Yiju	1.25	321	eP	Pn	10 10 29.9	-0.7
CHN8				S	Sb	10 10 46.3	-0.3
CHY	Chiayi	1.27	333	eP	Pn	10 10 31.5	+0.6
CHY				S	Sb	10 10 48.2	+1.0
CHN5	Tsauling	1.27	344	⇑iP	Pn	10 10 31.8	+0.9
CHN2	Minshiung	1.28	335	eP	Pn	10 10 31.6	+0.6
CHN2				S	Sb	10 10 49.0	+1.6
WGK	Gukeng	1.39	341	eP	Pn	10 10 32.8	+0.1
WGK				S	Sn	10 10 51.9	+1.4
ESL	Shilin	1.48	13	eP	Pn	10 10 34.0	+0.1
WSF	Szhu	1.48	329	eP	Pn	10 10 33.5	-0.5
WSF				S	Sn	10 10 52.4	-0.4
SMLT	Sun Moon Lake	1.52	354	eP	Pn	10 10 35.7	+1.3
SMLT				S	Sn	10 10 57.7	+4.0
TYC	Yuchr	1.54	353	eP	Pn	10 10 36.0	+1.2
WNT	Mingjian	1.54	347	eP	Pn	10 10 35.2	+0.4
WNT				S	Sn	10 10 56.0	+1.7
WDGT	Dungji	1.57	305	eP	Pn	10 10 33.3	-1.8
WDGT				S	Sn	10 10 51.8	-3.2
WTCT	Ta-ch'eng	1.66	334	eP	Pn	10 10 35.7	-0.7
WTCT				S	Sn	10 10 56.9	-0.3
HWA	Hwalien	1.68	17	eP	Pn	10 10 39.3	+2.5
TWD	Chiawan	1.78	16	eP	Pn	10 10 36.8	-1.3
TWD				S	Sn	10 11 03.5	+3.3
WHF	Hehuan Shan	1.78	6	eP	Pn	10 10 37.9	-0.3
TCU	Taichung	1.81	349	eP	Pn	10 10 38.9	+0.3
PNG	Penghu	1.83	311	eP	Pn	10 10 37.0	-1.9
PNG				S	Sn	10 10 58.3	-3.3
TWT	Tachien	1.88	3	eP	Pn	10 10 40.1	+0.5
TWQ1	Liyutan	1.99	352	eP	Pn	10 10 42.2	+1.0
NSY	Sanyi	2.06	352	eP	Pn	10 10 42.8	+0.6
NSY				S	Sn	10 11 10.5	+3.1
NNS	Nan Shan	2.08	8	eP	Pn	10 10 44.8	+2.3
ENA	Nanau	2.15	17	eP	Pn	10 10 45.2	+1.7
NSTT	Nanjuang	2.26	359	eP	Pn	10 10 45.7	+0.7
ENTT	Nioudou	2.31	11	eP	Pn	10 10 46.1	+0.3
NSK	Sanguang	2.32	7	eP	Pn	10 10 46.1	+0.2
TWC	Suao	2.35	18	eP	Pn	10 10 47.0	+0.7
TWE	Neicheng	2.41	13	eP	Pn	10 10 50.0	+2.8
NCU	National Centr	2.59	3	eP	Pn	10 10 52.5	+2.6
TATO	Taipei	2.63	8	ePn	Pn	10 10 55.4	+5.1
TWA	Mucha	2.65	10	eP	Pn	10 10 54.1	+3.5
TAP1	Taipei	2.69	9	eP	Pn	10 10 53.3	+2.0
TWS1	Kuangyinshan	2.74	7	eP	Pn	10 10 52.9	+1.0
YOJ	Yonaguni jima	2.75	40	P	Pn	10 10 51.5	-0.5
YOJ				eS	Sn	10 11 23.6	-1.4
TWB1	Santiao Chiao	2.76	18	eP	Pn	10 10 54.2	+1.9
NWF	Wu-fen Shan	2.77	14	eP	Pn	10 10 52.9	+0.5
TWY	Chenhua	2.94	10	eP	Pn	10 10 56.9	+2.1
HATJ	Hateruma jima	3.03	56	P	Pn	10 10 55.5	-0.6
HATJ				eS	Sn	10 11 30.4	-1.8
IRIF	Iriomote-Funau	3.14	51	eS	Sn	10 11 33.3	-1.5
KNM	Kinmen	3.16	311	eP	Pn	10 10 57.1	-0.7
JKRS	Kuro-shima	3.29	55	P	Pn	10 10 59.4	-0.3
JKRS				eS	Sn	10 11 37.0	-1.6
QZH	Quanzhou	3.42	319	⇓iP	Pn	10 10 59.5	-2.1
QZH				S	Sn	10 11 38.3	-3.7
QZH				Smax			
	comp=N,730nm,0.8s						
QZH				Smax			
	comp=E,850nm,0.9s						
JIJ	Ishigaki jima	3.46	54	P	Pn	10 11 01.5	-0.6
JIJ				eS	Sn	10 11 40.7	-2.3
JTJ	Tarama	4.04	55	P	Pn	10 11 09.4	-0.9
JTJ				eS	Sn	10 11 55.0	-2.6
JMJ	Miyako jima 2	4.58	57	P	Pn	10 11 17.2	-0.9
JOGS	Gusukube	4.64	58	P	Pn	10 11 18.3	-0.7
CVP	Callao Caves	4.69	171	eP	Pn	10 11 23.0	+3.4
NJ2	Nanjing	9.85	349	eP	P	10 12 28.0	-3.7
NJ2				AP		10 12 31.3	
NJ2				XP		10 12 34.3	
NJ2				PP	PP	10 12 37.5	-2.0
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s						
NJ2				LR	LR		
	comp=N,4μm,10.5s						
NJ2				LR	LR		
	comp=E,1μm,10.2s						
NJ2				LR	LR		
	comp=Z,3μm,9.8s						
BJI	Beijing	18.10	348	eP	P	10 14 27.6	+7.5
	comp=Z,26nm,1.2s						
LZH	Lanzhou	20.27	316	eP	P	10 14 44.3	-0.9
LZH				AP		10 14 52.0	
LZH				XP		10 14 56.5	
LZH				AMB	AMB		
	comp=Z,28nm,1.5s						
LZH	Lanzhou	20.27	316	eP	P	10 14 44.2	-1.0
	comp=Z,28nm,1.5s						
LZH				pP		10 14 52.0	
LZH				sP		10 14 56.4	
LSA	Lhasa	27.80	292	P	P	10 15 58.8	+0.9
ULN	Ulaanbaatar	27.81	340	P	P	10 15 56.6	-1.2
KURK	Kurchatov	43.42	321	eP	P	10 18 09.8	-1.2
	comp=Z,22nm,1.5s,mb4.7						
AAK	Ala-Archa	43.53	309	eP	P	10 18 10.9	-1.1
	comp=Z,1.6nm,0.7s,mb3.9						
WRAB	Tennant Creek	44.00	162	P	P	10 18 14.7	-1.4
	comp=Z,2.3nm,0.4s,mb4.3						
CTAO	Charters Tower	48.84	148	eP	P	10 18 55.2	+0.9
	comp=Z,1.7nm,0.7s,mb4.2						
CHKZ	Chkalovo	49.10	323	eP	P	10 18 54.4	-1.5
	comp=Z,7.4nm,1.0s,mb4.7						

JMA 31 10:31:06.1±0.5, 33.91N×142.42E, h4km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.41	302	P	Pn	10 31 32.2	-0.3
BSO1				S	Sb	10 31 51.2	+0.5
BSO3	Boso 3	1.81	300	P	Pn	10 31 38.5	+0.1
BSO3				eS	Sn	10 32 03.9	+1.8
BSO4	Boso 4	2.03	303	P	Pn	10 31 42.5	+1.0
JHJ2	Mitsune	2.32	251	P	Pn	10 31 46.3	+0.7
JHJ2				S	Sn	10 32 13.9	-1.0
JYN	Shimob	3.56	297	eS	Sn	10 32 43.9	-2.6
JMM	Marumori	4.16	342	P	Pn	10 32 08.6	-3.3
JMM				eS	Sn	10 32 53.3	-8.4

**WEL 31 10:36:43.4±0.4, 37.10S×177.59E, h161km±3km, ML3.6/6, Error ellipse: s-maj=5.3km s-min

CHCH	**Chadas Angostu**	**1.52**	**144**	*e*P	Pn	10 39 20.9	+0.6
CHCH				*i* S	Sn	10 39 40.4	+1.1

*MOS **31** 10:39:34.6±1.4,53.94N×163.64E,h42km,mb3.9/1,Error ellipse: s-maj=47.4km s-min=29.3km az=47.8*

KRSC 31 10:39:33.0±1.1,53.86N×164.09E,h40km±10km,ML4.2, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.74**	**38**	*i* P	P	10 39 58.9	-2.4
BKI				*i* S	S	10 40 18.6	-3.8
KBTR	**Krutoberegovo**	**2.46**	**343**	P	P	10 40 09.0	-2.6
KBTR				S	S	10 40 35.1	-5.7
KBTR	**Krutoberegovo**	**2.46**	**343**	*e*P	P	10 40 09.3	-2.3
KBTR				*e*S	S	10 40 39.3	-1.5
KBG	**Krutoberegovo**	**2.53**	**342**	*e*P	P	10 40 12.2	-0.4
KBG				*e*S	S	10 40 40.2	-2.2
KBG				Smax			
	280nm,0.9s						
SPN	**Mys Shipunski**	**2.55**	**254**	P	P	10 40 11.9	-0.9
SPN				S	S	10 40 38.4	-4.5
SPN	**Mys Shipunski**	**2.55**	**254**	*e*P	P	10 40 12.5	-0.3
SPN				*e*S	S	10 40 41.9	-1.0
TUMR	**Tumrok**	**2.70**	**303**	*i* P	P	10 40 15.3	+0.3
TUMR				*i* S	S	10 40 45.9	-0.9
NLC	**Nalytchevo**	**2.92**	**258**	P	P	10 40 16.2	-1.9
NLC				S	S	10 40 46.6	-5.6
NLC	**Nalytchevo**	**2.92**	**258**	*e*P	P	10 40 17.2	-0.9
NLC				*e*S	S	10 40 50.1	-2.1
KMNR	**Kamenistaya**	**2.93**	**312**	*e*P	P	10 40 18.4	+0.1
KMNR				*e*S	S	10 40 52.8	+0.2
SVLR	**Shiveluch**	**3.18**	**330**	*e*P	P	10 40 21.6	-0.2
SVLR				*e*S	S	10 40 57.7	-1.3
SMAR	**Somma**	**3.21**	**261**	*e*P	P	10 40 21.7	-0.6
UGLR	**Uglovaya**	**3.21**	**260**	*e*P	P	10 40 21.4	-0.8
AVH	**Avacha**	**3.25**	**262**	*e*P	P	10 40 22.9	+0.1
AVH				*e*S	S	10 40 59.1	-1.5
KOK	**Koryaka**	**3.30**	**262**	*e*P	P	10 40 22.5	-1.0
PET	**Petropavlovsk**	**3.36**	**258**	P	P	10 40 24.6	+0.3
PET				S	S	10 40 59.5	-4.0
PET	**Petropavlovsk**	**3.36**	**258**	*e*P	P	10 40 24.6	+0.3
PET				*e*S	S	10 41 01.0	-2.5
SRDR	**Sredinnyy**	**3.52**	**316**	*e*P	P	10 40 26.2	-0.4
RUS	**Russkaya**	**3.65**	**249**	P	P	10 40 27.0	-1.5
RUS				S	S	10 41 04.9	-6.0
RUS	**Russkaya**	**3.65**	**249**	*e*P	P	10 40 28.6	+0.1
RUS				*e*S	S	10 41 09.2	-1.7
GNL	**Ganaly**	**3.65**	**270**	*e*P	P	10 40 29.6	+1.1
GNL				*e*S	S	10 41 09.8	-1.1
KRMR	**Karymshinskiy**	**3.72**	**256**	*e*P	P	10 40 29.0	-0.5
KRMR				*e*S	S	10 41 10.1	-2.5
ESO	**Esso**	**3.74**	**306**	*e*P	P	10 40 29.0	-0.7
ESO				*e*S	S	10 41 09.0	-4.1
ESO				Smax			
	40nm,0.7s						
GRL	**Gorelyy**	**3.85**	**253**	*e*P	P	10 40 31.9	+0.6
GRL				*e*S	S	10 41 13.7	-2.2

*CSEM **31** 10:44:48.9±0.1,39.72N×16.86E,h5km,mb4.1/1,Error ellipse: s-maj=2.1km s-min=1.6km az=7.0*
*ROM **31** 10:44:49.8±0.2,39.66N×16.88E,h5km,MD3.5/11, ML3.5/8,Error ellipse: s-maj=2.5km s-min=1.3km az=90.0*
*NEIC **31** 10:44:49.8,39.66N×16.88E,h5km,mb4.1/1,MD4.2(PDG), MD3.5(ROM),After ROM.*
*PDG **31** 10:44:51.4±1.2,39.76N×16.96E,h14km±3km*
PDG Felt at Danilovgrad, Niksic, Grahovo IV MCS.

ISC 31 10:44:48.7±0.3,39.75N±0.02×16.77E±0.02,h5km,n130, σ1§31/176,mb4.2/1,11C-17D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORI	**Oriolo Calabro**	**0.40**	**322**	⇑*i*PG	**Sg**	**10 45 01.0**	**-1.1**
ORI	**Oriolo Calabro**	**0.40**	**322**	⇑*i*Pg	**Sg**	**10 45 01.0**	**-1.1**
TIP	**Timpagrande**	**0.57**	**181**	⇑*i*PG	**Pg**	**10 45 00.3**	**+0.3**
TIP				SG	**Sg**	**10 45 07.8**	**+0.2**
TIP	**Timpagrande**	**0.57**	**181**	⇑*i*Pg	**Pg**	**10 45 00.3**	**+0.3**
TIP				*e*Sg	**Sg**	**10 45 07.8**	**+0.2**
LTRZ	**Laterza**	**0.86**	**3**	*e*PG	**Pg**	**10 45 07.2**	**+1.4**
LTRZ	**Laterza**	**0.86**	**3**	*e*Pg	**Pg**	**10 45 07.2**	**+1.4**
GRI	**Girifalco**	**0.96**	**196**	*e*PG	**Pg**	**10 45 07.7**	**-0.2**
GRI	**Girifalco**	**0.96**	**196**	*e*Pg	**Pg**	**10 45 07.7**	**-0.2**
MGR	**Morigerati**	**1.01**	**293**	*e*PN	**Pn**	**10 45 11.0**	**+1.6**
MGR	**Morigerati**	**1.01**	**293**	*e*Pg	**Pg**	**10 45 11.0**	**+2.2**
SG1	**Sgolgore (BA)**	**1.09**	**356**	*e*Sg	**Sg**	**10 45 30.5**	**+5.4**
SG1	**Sgolgore (BA)**	**1.09**	**356**	*e*Pg	**Pg**	**10 45 10.8**	**+0.3**
PE1	**Pezze di Greco**	**1.17**	**25**	*e*Sg	**Sg**	**10 45 32.3**	**+4.7**
PE1	**Pezze di Greco**	**1.17**	**25**	*e*Pg	**Pg**	**10 45 13.2**	**+1.2**
BRT	**Bari-Castellan**	**1.18**	**16**	⇓*i*PN	**Pn**	**10 45 13.6**	**+1.9**
BRT				SN	**Sn**	**10 45 30.5**	**+2.2**
	118nm,0.5s						
BRT	**Bari-Castellan**	**1.18**	**16**	⇓*i*Pg	**Pg**	**10 45 13.6**	**+1.4**
BRT				*e*Sg	**Sg**	**10 45 30.5**	**+2.6**
BRT	**Bari-Castellan**	**1.18**	**16**	⇓*i*Pn	**Pn**	**10 45 13.6**	**+1.9**
	118nm,0.5s						
BRT				Sn	**Sn**	**10 45 30.5**	**+2.2**
LCI	**Lecce**	**1.19**	**60**	*e*PN	**Pg**	**10 45 12.6**	**+0.2**
LCI				SN	**Sn**	**10 45 29.9**	**+1.4**
	1μm,0.4s						
LCI	**Lecce**	**1.19**	**60**	*e*Pg	**Pg**	**10 45 12.6**	**+0.2**
LCI				*e*Sg	**Sg**	**10 45 29.9**	**+1.7**
LCI	**Lecce**	**1.19**	**60**	*e*Pn	**Pg**	**10 45 12.6**	**+0.2**
	1μm,0.4s						
LCI				Sn	**Sn**	**10 45 29.9**	**+1.4**
BAI	**Bari**	**1.36**	**4**	*e*Sg	**Sg**	**10 45 37.5**	**+3.5**
BAI	**Bari**	**1.36**	**4**	*e*Pg	**Pg**	**10 45 16.9**	**+1.1**
SGO	**Sicignano**	**1.38**	**306**	*e*PN	**Pn**	**10 45 17.5**	**+2.8**
SGO	**Sicignano**	**1.38**	**306**	*e*Pg	**Pg**	**10 45 17.5**	**+1.2**
CDT	**Castel del Mon**	**1.39**	**344**	*e*Pg	**Pg**	**10 45 17.3**	**+1.0**
CDT				*e*Sg	**Sg**	**10 45 38.8**	**+4.0**
MRLC	**Muro Lucano**	**1.41**	**316**	*e*PN	**Pn**	**10 45 18.2**	**+3.2**
CEL	**Celeste**	**1.63**	**205**	*e*PN	**Pn**	**10 45 20.1**	**+1.8**
SCLL	**Scilla**	**1.70**	**209**	*e*PN	**Pn**	**10 45 19.4**	**+0.2**
SCLL	**Scilla**	**1.70**	**209**	*e*Pg	**Pg**	**10 45 19.4**	**-3.2**
SOI	**Samo**	**1.76**	**199**	*e*PN	**Pn**	**10 45 20.6**	**+0.5**
	321nm,0.6s						
SOI	**Samo**	**1.76**	**199**	*e*Pg	**Pg**	**10 45 20.6**	**-3.2**
SOI	**Samo**	**1.76**	**199**	*e*Pn	**Pn**	**10 45 20.6**	**+0.5**
	321nm,0.6s						
SLNA	**Salina**	**1.91**	**232**	*e*PN	**Pn**	**10 45 22.4**	**+0.2**
	377nm,0.4s						
SLNA	**Salina**	**1.91**	**232**	*e*Pg	**Pg**	**10 45 22.4**	**-4.4**
SLNA	**Salina**	**1.91**	**232**	*e*Pn	**Pn**	**10 45 22.4**	**+0.2**
	377nm,0.4s						
FG5	**Orsara di Pugl**	**1.91**	**324**	*e*PN	**Pn**	**10 45 23.8**	**+1.5**
	510nm,0.7s						
FG5	**Orsara di Pugl**	**1.91**	**324**	*e*Pg	**Pg**	**10 45 23.8**	**-3.1**
FG5	**Orsara di Pugl**	**1.91**	**324**	*e*Pn	**Pn**	**10 45 23.8**	**+1.5**
	510nm,0.7s						
FGMS	**Monte Sant'Ang**	**2.06**	**343**	*e*PN	**Pn**	**10 45 26.6**	**+2.3**
	1μm,0.4s						
FGMS	**Monte Sant'Ang**	**2.06**	**343**	*e*Pg	**Pg**	**10 45 26.6**	**-3.1**
FGMS	**Monte Sant'Ang**	**2.06**	**343**	*e*Pn	**Pn**	**10 45 26.6**	**+2.3**
	1μm,0.4s						
MS1	**Monte Sant'Ang**	**2.06**	**342**	*e*Pg	**Pg**	**10 45 26.3**	**-3.4**
RGNG	**Rignano Grg**	**2.12**	**335**	*e*PN	**Pn**	**10 45 27.7**	**+2.4**
RGNG	**Rignano Grg**	**2.12**	**335**	*e*Pg	**Pg**	**10 45 27.7**	**-3.4**
RFI	**Roccamonfina**	**2.63**	**307**	*e*PN	**Pn**	**10 45 35.3**	**+2.8**
	227nm,0.8s						
RFI	**Roccamonfina**	**2.63**	**307**	*e*Pn	**Pn**	**10 45 35.2**	**+2.8**
RFI	**Roccamonfina**	**2.63**	**307**	*e*Pn	**Pn**	**10 45 35.2**	**+2.7**
CII	**Carovilli**	**2.72**	**317**	*e*Pb	**Pb**	**10 45 38.6**	**+1.1**
TIR	**Tirane**	**2.85**	**55**	*e*Pn	**Pn**	**10 45 36.6**	**+0.9**
TIR				*i* Sn	**Sg**	**10 46 25.0**	**+1.4**
ULC	**Ulcinj**	**2.91**	**40**	⇓*i*Pn	**Pn**	**10 45 36.9**	**+0.4**
ULC				*e*Sn	**Sn**	**10 46 12.1**	**-0.1**
QSH	**Qafa e Shtames**	**2.97**	**52**	*i* Pn	**Pn**	**10 45 38.0**	**+0.6**
QSH				*i* Sn	**Sg**	**10 46 26.0**	**-1.6**
QSH	**Qafa e Shtames**	**2.97**	**52**	*e*Pn	**Pn**	**10 45 38.0**	**+0.6**
SDI	**San Donato**	**2.98**	**312**	*e*PN	**Pn**	**10 45 40.0**	**+2.5**
	105nm,0.5s						
SDI	**San Donato**	**2.98**	**312**	*e*Pn	**Pn**	**10 45 40.0**	**+2.5**
SDI	**San Donato**	**2.98**	**312**	*e*Pn	**Pn**	**10 45 40.0**	**+2.5**
	105nm,0.5s						
HCY	**Herceg Novi**	**3.00**	**25**	⇓*i*Pn	**Pn**	**10 45 37.6**	**-0.1**
HCY				*e*Sn	**Sn**	**10 46 14.2**	**-0.3**
BUM	**Brajici-Budva**	**3.02**	**32**	⇓*i*Pn	**Pn**	**10 45 38.3**	**+0.3**
BUM				*e*Sn	**Sn**	**10 46 14.6**	**-0.5**
TREB	**Trebinje**	**3.20**	**21**	Pn	**Pn**	**10 45 40.1**	**-0.5**
TREB				Sg	**Sn**	**10 46 17.8**	**-1.8**
TTG	**Podgorica**	**3.28**	**34**	⇓*i*Pn	**Pn**	**10 45 42.0**	**+0.3**
TTG				*e*Sn	**Sn**	**10 46 20.9**	**-0.7**
PUK	**Puka**	**3.30**	**45**	*e*Pn	**Pn**	**10 45 43.1**	**+1.1**
PUK				*i* Sn	**Sn**	**10 46 21.6**	**-0.5**
BRY	**Bratogost**	**3.42**	**22**	⇓*i*Pn	**Pn**	**10 45 44.1**	**+0.3**
BRY				*e*Sn	**Sn**	**10 46 25.1**	**-0.1**
NKY	**Niksic**	**3.49**	**28**	⇓*i*Pn	**Pn**	**10 45 45.2**	**+0.4**
NKY				*e*Sn	**Sn**	**10 46 26.2**	**-0.9**
AQU	**L'Aquila**	**3.64**	**317**	*e*Pn	**Pn**	**10 45 51.5**	**+4.6**
FNA	**Florina**	**3.67**	**72**	*e*P	**Pn**	**10 45 47.2**	**-0.1**
FNA	**Florina**	**3.67**	**72**	P	**Pn**	**10 45 47.2**	**-0.1**
FNA				S	**Sn**	**10 46 27.6**	**-4.0**
FNA	**Florina**	**3.67**	**72**	S	**Sn**	**10 46 27.6**	**-4.0**
FNA	**Florina**	**3.67**	**72**	P	**Pn**	**10 45 47.2**	**-0.2**
PVY	**Plav**	**3.73**	**39**	⇓*i*Pn	**Pn**	**10 45 49.0**	**+0.8**
PVY				*e*Sn	**Sn**	**10 46 32.6**	**-0.6**
UPM	**Unac-Piva**	**3.81**	**24**	⇓*i*Pn	**Pn**	**10 45 50.2**	**+0.9**
UPM				*e*Sn	**Sn**	**10 46 33.9**	**-1.1**
IVA	**Berane**	**3.91**	**36**	⇓*i*Pn	**Pn**	**10 45 51.8**	**+1.1**
IVA				*e*Sn	**Sn**	**10 46 37.2**	**-0.5**
PLE	**Pljevlja**	**4.09**	**28**	⇓*i*Pn	**Pn**	**10 45 54.0**	**+0.8**
PLE				*e*Sn	**Sn**	**10 46 41.4**	**-0.6**
SKO	**Skopje**	**4.18**	**56**	*i* Pn	**Pn**	**10 45 54.3**	**-0.3**
SKO				*i*		10 46 06.7	
SKO				*i*		10 46 14.0	
SKO				*i*		10 46 33.0	
SKO				*i*		10 46 41.8	
NVSS	**Nova Varos 2**	**4.35**	**29**	⇑*i*Pn	**Pn**	**10 45 58.3**	**+1.3**
NVSS				Sn	**Sn**	**10 46 48.8**	**0.0**
AGG	**Agios Georgios**	**4.37**	**98**	*e*P	**Pn**	**10 45 58.0**	**+0.7**
AGG	**Agios Georgios**	**4.37**	**98**	P	**Pn**	**10 45 58.0**	**+0.7**
AGG				S	**Sn**	**10 46 46.2**	**-3.1**
AGG	**Agios Georgios**	**4.37**	**98**	P	**Pn**	**10 45 58.0**	**+0.8**
AGG				S	**Sn**	**10 46 46.2**	**-3.1**
GRG	**Griva**	**4.47**	**73**	*e*P	**Pn**	**10 45 58.1**	**-0.5**
KNT	**Kendrikon**	**4.88**	**71**	*e*P	**Pn**	**10 46 03.5**	**-1.1**
KNT	**Kendrikon**	**4.88**	**71**	P	**Pn**	**10 46 03.5**	**-1.1**
KNT				S	**Sn**	**10 46 57.1**	**-5.2**
KNT	**Kendrikon**	**4.88**	**71**	P	**Pn**	**10 46 03.5**	**-1.1**
KNT				S	**Sn**	**10 46 57.1**	**-5.2**
DIVS	**Divcibare**	**4.97**	**28**	⇓*i*Pn	**Pn**	**10 46 05.2**	**-0.5**
DIVS				Sn	**Sn**	**10 46 59.3**	**-5.0**
XOR	**Xorichti**	**4.98**	**92**	*e*P	**Pn**	**10 46 06.3**	**+0.4**
BLY	**Banja Luka**	**5.01**	**3**	Pn	**Pn**	**10 46 08.1**	**+1.8**
NVLJ	**Novalja**	**5.02**	**344**	*i* Pn	**Pn**	**10 46 07.3**	**+0.9**
NVLJ				*i* Sn	**Sn**	**10 47 03.2**	**-2.4**
GRUS	**Gruza**	**5.08**	**34**	⇓*i*Pn	**Pn**	**10 46 08.9**	**+1.6**
GRUS				Sn	**Sn**	**10 47 06.0**	**-1.2**
SOH	**Sokhos**	**5.15**	**76**	*e*P	**Pn**	**10 46 07.5**	**-0.8**
PAIG	**Paliouri**	**5.32**	**86**	*e*P	**Pn**	**10 46 10.3**	**-0.5**
SRS	**Serrai**	**5.38**	**73**	*e*P	**Pn**	**10 46 10.4**	**-1.1**
SRS	**Serrai**	**5.38**	**73**	P	**Pn**	**10 46 10.4**	**-1.2**
AOS	**Alonnisos**	**5.53**	**94**	*e*P	**Pn**	**10 46 13.1**	**-0.6**
OUR	**Ouranopolis**	**5.57**	**82**	*e*P	**Pn**	**10 46 13.4**	**-0.8**
BOLS	**Boljevac**	**5.63**	**42**	*e*Pn	**Pg**	**10 46 44.0**	**+3.0**
ZAPS	**Zavoj/Pirot**	**5.64**	**49**	⇓*i*Pn	**Pn**	**10 46 14.3**	**-1.0**
BEO	**Belgrade**	**5.76**	**27**	*e*	**Sn**	**10 47 34.2**	**+10**
BOJS	**Bojanci**	**5.86**	**350**	*i* Pn	**Pn**	**10 46 19.5**	**+1.2**
BOJS				*e*Sn	**Sn**	**10 47 24.6**	**-2.2**
VISS	**Visnje**	**6.22**	**347**	*i* Pn	**Pn**	**10 46 24.2**	**+0.8**
PGF	**Pioggiola**	**6.50**	**298**	*e*Pn	**Pn**	**10 46 26.5**	**-0.8**
PGF				*e*Sn	**Sn**	**10 47 38.4**	**-4.3**
	2.1nm,0.4s						
LJU	**Ljubljana**	**6.50**	**346**	*e*Pn	**Pn**	**10 46 28.1**	**+0.7**
LJU				*e*Sn	**Sn**	**10 47 42.0**	**-0.9**
VOY	**Vojsko**	**6.63**	**342**	*e*Pn	**Pn**	**10 46 28.9**	**-0.2**
VOY				*e*Sn	**Sn**	**10 47 44.3**	**-1.6**
KOGS	**Kog**	**6.71**	**357**	*i* Pn	**Pn**	**10 46 30.2**	**-0.1**
OBKA	**Obir**	**6.95**	**347**	⇑*i*PN	**Pn**	**10 46 33.6**	**-0.1**
OBKA				*i* SN	**Sn**	**10 47 47.9**	**-6.1**
PERS	**Pernice**	**6.99**	**351**	*e*Pn	**Pn**	**10 46 34.2**	**0.0**
ALN	**Alexandroupoli**	**7.18**	**78**	*e*P	**Pn**	**10 46 36.4**	**-0.5**
ARSA	**Arzberg**	**7.55**	**354**	⇑*i*PN	**Pn**	**10 46 41.7**	**-0.5**
ARSA				*i* SN	**Sn**	**10 48 01.8**	**-7.4**
SANT	**Santorini**	**7.64**	**113**	*e*Pn	**Pn**	**10 46 41.1**	**-2.3**
SANT	**Santorini**	**7.64**	**113**	*e*Pn	**Pn**	**10 46 41.1**	**-2.2**
KBA	**Koelnbreinsper**	**7.74**	**342**	⇑*i*PN	**Pn**	**10 46 44.8**	**+0.1**
KBA				*i* SN	**Sn**	**10 48 08.1**	**-5.7**
SBF	**Sospel**	**8.09**	**304**	*e*Pn	**P**	**10 46 48.0**	**-1.7**
MOA	**Molln**	**8.30**	**348**	⇑*i*PN	**P**	**10 46 52.4**	**-0.1**
MOA				*i* SN	**Sn**	**10 48 21.1**	**-6.6**
WTTA	**Wattenberg**	**8.39**	**335**	⇑*i*PN	**P**	**10 46 55.1**	**+1.3**
WTTA				*i* SN	**Sn**	**10 48 24.8**	**-5.1**
WATA	**Walderalm**	**8.47**	**335**	⇓*i*PN	**P**	**10 46 55.8**	**+0.9**
WATA				*i* SN	**Sn**	**10 48 26.7**	**-5.3**
PSZ	**Piszkesteto**	**8.47**	**14**	*e*Pn	**P**	**10 46 52.7**	**-2.3**
	7.9nm,0.8s						
PSZ	**Piszkesteto**	**8.47**	**14**	*e*Pn	**P**	**10 46 52.7**	**-2.3**
	7.9nm,0.8s						
SQTA	**Sankt Quirin**	**8.49**	**333**	⇑*i*PN	**P**	**10 46 56.6**	**+1.4**
SQTA				*i* SN	**Sn**	**10 48 28.2**	**-4.3**
MBDF	**Montbardon**	**8.93**	**307**	*e*Pg	**P**	**10 46 58.8**	**-2.5**
GEC2	**GERESS Array S**	**9.36**	**347**	*e*Pn	**P**	**10 47 06.5**	**-0.7**
GEC2				*e*Sn	**Sn**	**10 48 48.0**	**-6.0**
SMRF	**Simiane la Rot**	**9.36**	**300**	*e*Pg	**P**	**10 47 05.7**	**-1.5**
ORIF	**Oris-en-Rattie**	**9.57**	**306**	*e*Pg	**P**	**10 47 07.5**	**-2.6**
KHC	**Kasperske Hory**	**9.65**	**347**	*e*PN	**P**	**10 47 09.8**	**-1.4**
KHC				x	x	10 47 16.0	
KHC				x	x	10 47 39.5	
KHC				*e*SN	**Sn**	**10 48 54.9**	**-6.4**
WET	**Wettzell**	**9.80**	**345**	*e*Pn	**P**	**10 47 12.0**	**-1.2**
WET				*e*Sn	**Sn**	**10 48 59.1**	**-5.7**
MORC	**Moravsky Berou**	**10.04**	**3**	*e*Pn	**P**	**10 47 16.7**	**+0.1**
	6.7nm,0.8s						
VIVF	**Saint-Julien-l**	**10.31**	**304**	*e*Pg	**P**	**10 47 17.7**	**-2.6**
PRU	**Pruhonice**	**10.36**	**352**	*e*PN	**P**	**10 47 19.2**	**-1.8**
HINF	**Hinteralfeld**	**10.78**	**322**	*e*Pg	**P**	**10 47 23.1**	**-3.6**
CDF	**Champ du Feu**	**11.02**	**325**	*e*Pg	**P**	**10 47 27.3**	**-2.7**
HAU	**Haudompre**	**11.16**	**321**	*e*Pg	**P**	**10 47 28.1**	**-3.8**
MOX	**Moxa**	**11.48**	**343**	*e*Pn	**P**	**10 47 35.0**	**-1.3**
MOX	**Moxa**	**11.48**	**343**	*i* P	**P**	**10 47 35.0**	**-1.3**
CLL	**Collm**	**11.86**	**348**	*e*P	**P**	**10 47 41.0**	**-0.3**
NB2	**NORSAR Subarra**	**21.59**	**353**	P	**P**	**10 49 40.7**	**-0.4**
	7.1nm,0.8s,mb4.2,baz=169,slow=10						

IGQ 31 11:26:35.6,1.18S×81.16W,h12km±15km,mb4.1,1C-2D, Error ellipse: s-maj=42.9km s-min=10.5km az=171.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.63**	**78**	⇑P	Pb	11 26 47.2	-0.8
IGUA	**Igualata**	**2.54**	**97**	P	Pn	11 27 18.6	+1.2
ARRY	**Arrayan**	**2.72**	**97**	P	Pn	11 27 20.7	+0.7
RETU	**Refugio**	**2.73**	**96**	P	Pn	11 27 23.1	+3.0
NAS1	**Nasa**	**2.74**	**79**	P	Pn	11 27 24.1	+3.9
TERV	**Terraza Guagua**	**2.75**	**69**	P	Pn	11 27 21.8	+1.5
PINO	**Pino**	**2.75**	**68**	P	Pn	11 27 20.9	+0.5
PISA	**Pisayambo**	**2.78**	**88**	P	Pn	11 27 22.3	+1.5
YANA	**Yana**	**2.80**	**68**	P	Pn	11 27 21.6	+0.6
VC1	**Cotopaxi 1**	**2.81**	**79**	P	Pn	11 27 25.5	+4.3
TAMB	**Tambo**	**2.83**	**80**	P	Pn	11 27 24.9	+3.3
ANTI	**Antisana**	**3.09**	**76**	P	Pn	11 27 27.1	+2.0
COTA	**Cotacachi**	**3.20**	**62**	P	Pn	11 27 28.8	+2.0
CAYR	**Refugio Cayamb**	**3.37**	**69**	⇓P	Pn	11 27 31.8	+2.5
CAYA	**Cayambe**	**3.41**	**69**	⇓P	Pn	11 27 31.9	+2.2

CASC 31 11:32:05.5±1.4,13.57N×90.74W,h32km±5km,MD3.5, ML3.9,6C-4D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.66**	**25**	⇑*e*P	Pb	11 32 18.6	+0.1
IXG				*e*S	Sb	11 32 28.6	+1.1
IXG				AML	AML	11 32 34.6	
	comp=N,16μm,0.5s						
FUG	**Fuego 3**	**0.88**	**353**	⇑*e*P	Pn	11 32 21.8	+0.1
NBG	**Las Nubes**	**1.08**	**20**	⇑*e*P	Pn	11 32 25.6	+1.0
NBG				*e*S	Sn	11 32 40.7	+2.2
NBG				AML	AML	11 32 44.7	
	comp=N,3μm,0.5s						
RTR	**El Retiro**	**1.11**	**73**	⇑*e*P	Pn	11 32 24.9	-0.1
RTR				*e*S	Sn	11 32 39.6	+0.4
SBLS	**San Blas**	**1.11**	**76**	⇑*e*P	Pn	11 32 24.6	-0.4
SBLS				*e*S	Sn	11 32 40.0	+0.6
SNJE	**San Jose**	**1.14**	**75**	⇑*e*P	Pn	11 32 25.2	-0.2
SNJE				*e*S	Sn	11 32 40.0	0.0
RBDL	**Robledal**	**1.15**	**62**	⇓*e*P	Pn	11 32 25.8	+0.2
RBDL				*e*S	Sn	11 32 41.4	+1.0
BOQS	**Boqueron**	**1.42**	**83**	⇓*e*P	Pn	11 32 29.4	-0.1
BOQS				*e*S	Sn	11 32 49.3	+2.0
SNET	**Serv Nac Est T**	**1.47**	**85**	*e*P	Pn	11 32 29.4	-0.7
SNET				*e*S	Sn	11 32 48.6	+0.3
SNET				*i*		11 32 50.9	
	comp=Z,520nm,0.2s						
LFRS	**El Faro**	**1.63**	**88**	⇓*e*P	Pn	11 32 32.4	-0.1
LFRS				*e*S	Sn	11 32 53.1	+0.7
LBRS	**Las Brisas**	**1.65**	**84**	*e*P	Pn	11 32 32.7	0.0
LBRS				*e*S	Sn	11 32 54.2	+1.1
LCBS	**La Ceiba**	**1.71**	**87**	⇓*e*P	Pn	11 32 33.6	0.0
LCBS				*e*S	Sn	11 32 55.0	+0.4
SNVI	**San Vicente**	**1.84**	**89**	*e*P	Pn	11 32 35.7	+0.1
SNVI				*e*S	Sn	11 32 58.6	+0.6

IGQ 31 11:40:50.9,1.41S×81.25W,h12km±8km,mb4.2,5C-1D, Error ellipse: s-maj=9.6km s-min=7.3km az=161.2,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.79**	**63**	⇑P	Pb	11 41 04.5	-1.5
MAGD	**Magdalena**	**1.99**	**48**	P	Pn	11 41 25.8	+1.1
IGUA	**Igualata**	**2.62**	**92**	⇑P	Pn	11 41 34.7	+1.0
IGUA				S	Sn	11 42 08.9	+3.2
CUSU	**Cusua**	**2.77**	**91**	P	Pn	11 41 38.5	+2.5
JUIV	**Juive**	**2.79**	**90**	P	Pn	11 41 38.0	+1.8
ARRY	**Arrayan**	**2.80**	**92**	⇑P	Pn	11 41 37.4	+1.1
ARRY				S	Sn	11 42 08.9	-1.4
RETU	**Refugio**	**2.81**	**91**	P	Pn	11 41 38.2	+1.7
NAS1	**Nasa**	**2.88**	**75**	P	Pn	11 41 39.3	+1.8
PISA	**Pisayambo**	**2.89**	**83**	P	Pn	11 41 38.6	+1.0
PISA				S	Sn	11 42 13.6	+1.0
TERV	**Terraza Guagua**	**2.92**	**65**	P	Pn	11 41 40.1	+2.0
PINO	**Pino**	**2.92**	**65**	P	Pn	11 41 39.0	+0.9
VC1	**Cotopaxi 1**	**2.95**	**75**	P	Pn	11 41 40.1	+1.6
TAMB	**Tambo**	**2.97**	**76**	P	Pn	11 41 40.9	+2.1
YANA	**Yana**	**2.97**	**65**	P	Pn	11 41 40.1	+1.3
ANTI	**Antisana**	**3.24**	**73**	⇑P	Pn	11 41 44.8	+2.3
COTA	**Cotacachi**	**3.39**	**59**	P	Pn	11 41 46.4	+1.6
CAYR	**Refugio Cayamb**	**3.54**	**67**	⇑P	Pn	11 41 50.5	+3.6
CAYA	**Cayambe**	**3.58**	**66**	⇓P	Pn	11 41 50.5	+3.0

MAN 31 11:56:42.6,17.73N×121.22E,h1km,mb3.9,ML2.7,MS2.3, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.14**	**9**	*e*P	Pg	11 56 45.5	+0.2
APYP				*e*S	Sg	11 56 47.5	+

	1.8nm,0.3s					
CHG	**Chiang Mai**	**11.62**	**22**	P	**P**	**12 09 25.3 +1.6**
IMP	**Imphal**	**16.65**	**359**	*e*	**P**	**12 10 24.7 -5.9**
SHL	**Shillong**	**17.58**	**353**	⇓*i*P	**P**	**12 10 37.5 -3.8**
HYB	**Hyderabad**	**17.95**	**303**	*e*P	**P**	**12 10 48.0 +2.1**
HYB				*e*S	**S**	**12 14 03.0 +0.4**
HYB	**Hyderabad**	**17.95**	**303**	*i* P	**P**	**12 10 48.0 +2.1**
HYB				*e*S	**S**	**12 14 03.0 +0.4**
JIRN	**Jiri**	**20.97**	**340**	*e*P	**P**	**12 11 18.9 -1.1**
	154nm,1.1s					
PKI	**Pulchoki**	**21.17**	**338**	*e*P	**P**	**12 11 21.9 -0.2**
	57nm,0.7s,mb5.0					
DMN	**Daman**	**21.32**	**337**	*e*P	**P**	**12 11 23.1 -0.5**
	118nm,0.8s,mb5.3					
KKN	**Kakani**	**21.41**	**338**	*e*P	**P**	**12 11 23.2 -1.3**
	76nm,1.0s,mb5.0					
LSA	**Lhasa**	**21.75**	**353**	P	**P**	**12 11 27.0 -0.9**
GKN	**Gorkha**	**21.85**	**337**	*e*P	**P**	**12 11 28.1 -0.9**
	64nm,0.4s,mb5.4					
KOLN	**Koldanda**	**22.08**	**334**	*e*P	**P**	**12 11 31.5 +0.3**
	70nm,0.6s,mb5.2					
DDI	**Dehra Dun**	**26.88**	**328**	*e*	**P**	**12 12 16.7 -0.5**
XAN	**Xi'an**	**29.18**	**25**	P	**P**	**12 12 39.0 +1.1**
XAN				AMB	AMB	
	comp=Z,22nm,0.9s,mb4.9					
LZH	**Lanzhou**	**29.25**	**16**	*e*P	**P**	**12 12 41.5 +3.0**
LZH				AP	pP	12 12 48.5 +3.0
LZH				XP	sP	12 12 52.0 +3.4
LZH				AMB	AMB	
	comp=Z,19nm,1.5s,mb4.6					
LZH	**Lanzhou**	**29.25**	**16**	*e*P	**P**	**12 12 41.5 +3.0**
LZH				*SP	sP	12 12 52.0 +3.4
LZH				pmax	pmax	
	comp=Z,19nm,1.5s,mb4.6					
LZH	**Lanzhou**	**29.25**	**16**	*e*P	**P**	**12 12 41.5 +3.0**
	comp=Z,19nm,1.5s,mb4.6					
LZH				pP	pP	12 12 48.5 +3.0
LZH				sP	sP	12 12 52.0 +3.4
NJ2	**Nanjing**	**33.04**	**40**	*e*P	**P**	**12 13 14.0 +2.0**
NJ2				AP	pP	12 13 24.0 +5.0
NJ2				XP	sP	12 13 28.0 +5.9
NJ2				PP	PP	12 14 25.0 +2.1
NJ2				S	**S**	**12 18 33.0 +4.8**
NJ2				PCS		12 19 44.0
NJ2				AMB	AMB	
	comp=Z,40nm,1.0s,mb5.3					
NJ2				AMB	AMB	
	comp=Z,606nm,4.1s					
NJ2				LR	LR	
	comp=N,560nm,12.6s,MS4.7					
NJ2				LR	LR	
	comp=E,680nm,10.4s,MS4.7					
NJ2				LR	LR	
	comp=Z,670nm,12.0s,MS4.6					
SSE	**Sheshan**	**33.99**	**44**	*e*P	**P**	**12 13 20.0 -0.3**
SSE				AP	pP	12 13 29.5 +2.2
SSE				S	**S**	**12 18 45.3 +2.3**
SSE				XS		12 19 00.0
SSE				AMB	AMB	
	comp=Z,13nm,0.8s,mb4.9					
SSE				AMB	AMB	
	comp=Z,146nm,4.8s					
SSE				LR	LR	
	comp=N,290nm,13.2s,MS4.4					
SSE				LR	LR	
	comp=E,399nm,13.3s,MS4.4					
SSE				LR	LR	
	comp=Z,360nm,17.6s,MS4.2					
SSE	**Sheshan**	**33.99**	**44**	*e*P	**P**	**12 13 19.9 -0.4**
	comp=Z,13nm,0.8s,mb4.9					
SSE				pP	pP	12 13 29.4 +2.1
SSE				S	**S**	**12 18 45.3 +2.3**
SSE				sS		12 18 59.9
SSE				SS	SS	12 21 01.9 +11
SSE				LR	LR	
	comp=Z,360nm,17.6s,MS4.2					
WMQ	**Urumqi**	**36.10**	**352**	*e*P	**P**	**12 13 38.0 -0.1**
BJI	**Beijing**	**37.38**	**28**	*e*P	**P**	**12 13 52.5 +3.6**
BJI				S	**S**	**12 19 43.1 +7.9**
BJI				pmax	pmax	
	comp=Z,8.0nm,1.3s,mb4.4					
BJI				MLR	MLR	
	comp=Z,280nm,17.6s,MS4.1					
BJI	**Beijing**	**37.38**	**28**	*e*P	**P**	**12 13 52.5 +3.6**
	comp=Z,8.0nm,1.3s,mb4.4					
BJI				S	**S**	**12 19 43.1 +7.9**
BJI				LR	LR	
	comp=Z,280nm,17.6s,MS4.1					
AAK	**Ala-Archa**	**38.61**	**336**	*e*P	**P**	**12 13 57.5 -1.7**
AAK				*e**PP	pP	12 14 05.2 -1.1
AAK				pmax	pmax	
	comp=Z,8.0nm,0.9s,mb4.5					
AAK	**Ala-Archa**	**38.61**	**336**	*e*P	**P**	**12 13 57.5 -1.7**
	comp=Z,7.8nm,0.9s,mb4.4					
AAK				*e*pP	pP	12 14 05.2 -1.1
MKAR	**Makanchi Array**	**39.96**	**347**	*i* P	**P**	**12 14 08.9 -1.5**
MKAR				pmax	pmax	
	comp=Z,7.0nm,0.8s					
ULN	**Ulaanbaatar**	**41.14**	**13**	*e*P	**P**	**12 14 20.3 +0.3**
ULN				*e**PP	pP	12 14 26.5 -0.7
ULN				pmax	pmax	
	comp=Z,4.0nm,0.8s,mb4.1					
ULN	**Ulaanbaatar**	**41.14**	**13**	*e*P	**P**	**12 14 20.3 +0.3**
	comp=Z,4.3nm,0.8s,mb4.1					
ULN				*e*pP	pP	12 14 26.5 -0.6
ZAK	**Zakamensk**	**42.86**	**8**	*e*P	**P**	**12 14 38.4 +4.3**
ZAK				*e*		12 16 25.0
TLY	**Talaya**	**44.18**	**8**	*i* P	**P**	**12 14 46.3 +1.5**
TLY				*i* *PP	pP	12 14 53.8 +1.8
KURK	**Kurchatov**	**44.49**	**346**	*e*P	**P**	**12 14 45.8 -1.5**
KURK				*e**PP	pP	12 14 52.9 -1.6
KURK				pmax	pmax	
	comp=Z,7.0nm,0.8s,mb4.4					
KURK	**Kurchatov**	**44.49**	**346**	*e*P	**P**	**12 14 45.8 -1.5**
	comp=Z,6.9nm,0.8s,mb4.4					
KURK				*e*pP	pP	12 14 52.9 -1.5
NVS	**Novosibirsk**	**47.50**	**351**	*e*P	**P**	**12 15 09.6 -1.6**
NVS				pmax	pmax	
	comp=N,3.0nm,0.7s					
NVS				pmax	pmax	
	comp=E,1.0nm,0.7s					
NVS				pmax	pmax	
	comp=Z,11nm,0.7s,mb5.0					
WRAB	**Tennant Creek**	**48.24**	**126**	*e*P	**P**	**12 15 16.8 -0.6**
WRAB				*e**PP	pP	12 15 24.9 +0.3
WRAB				pmax	pmax	
	comp=Z,11nm,1.1s,mb4.8					
WRAB	**Tennant Creek**	**48.24**	**126**	*e*P	**P**	**12 15 16.8 -0.5**
	comp=Z,11nm,1.1s,mb4.8					
WRAB				*e*pP	pP	12 15 24.9 +0.3
WB2	**Warramunga Arr**	**48.24**	**126**	*e*P	**P**	**12 15 15.3 -2.1**
CHKZ	**Chkalovo**	**49.36**	**342**	*e*P	**P**	**12 15 24.2 -1.4**
CHKZ				*e**PP	pP	12 15 30.6 -2.2
CHKZ				pmax	pmax	
	comp=Z,10.0nm,0.7s,mb5.0					
CHKZ	**Chkalovo**	**49.36**	**342**	*e*P	**P**	**12 15 24.2 -1.4**
	comp=Z,10.0nm,0.7s,mb5.0					
CHKZ				*e*pP	pP	12 15 30.6 -2.3
BOD	**Bodaibo**	**51.95**	**13**	*e*P	**P**	**12 15 43.7 -1.5**
ARU	**Arti**	**55.80**	**337**	⇓*i*P	**P**	**12 16 05.1 -8.4**
ARU				pmax	pmax	
	comp=Z,16nm,1.6s,mb4.8					
KMBO	**Kilima Mbogo**	**57.59**	**264**	*e*P	**P**	**12 16 27.9 +1.0**
KMBO				pmax	pmax	
	comp=Z,10.0nm,0.9s					
KMBO	**Kilima Mbogo**	**57.59**	**264**	*e*P	**P**	**12 16 27.9 +0.9**
	comp=Z,10nm,0.9s,mb4.8					
YAK	**Yakutsk**	**59.79**	**18**⇑	*e*P	**P**	**12 16 42.0 +0.5**
YAK				pmax	pmax	
	comp=Z,10.0nm,0.9s,mb4.8					
MBAR	**Mbarara**	**63.93**	**265**	*e*P	**P**	**12 17 10.3 +0.2**
MBAR				*e**PP	pP	12 17 17.9 +0.4
OBN	**Obninsk**	**65.32**	**328**	*e*P	**P**	**12 17 19.1 +0.7**
OBN				pmax	pmax	
	comp=Z,8.0nm,0.8s,mb4.8					
TIXI	**Tiksi**	**67.04**	**11**⇑	*e*P	**P**	**12 17 29.3 +0.2**
TIXI				pmax	pmax	
	comp=Z,9.0nm,1.1s,mb4.7					
CRVS	**Cervenica-Dubn**	**72.70**	**319**	*i* P	**P**	**12 18 04.3 +0.2**
CRVS				*e**SP	sP	12 18 15.0 +0.8
CRVS	**Cervenica-Dubn**	**72.70**	**319**	*i* P	**P**	**12 18 04.3 +0.2**
CRVS				*i* pP	pP	12 18 11.0 -0.6
CRVS				*es*P	sP	12 18 15.0 +0.8
VYHS	**Vyhne**	**74.39**	**318**	*i* P	**P**	**12 18 20.0 +6.1**
VYHS	**Vyhne**	**74.39**	**318**	*i*	**P**	**12 18 20.0 +6.1**
LBTB	**Lobatse**	**74.46**	**241**	*e*P	**P**	**12 18 14.9 +0.1**
LBTB				pmax	pmax	
	comp=Z,4.0nm,0.6s,mb4.5					
LBTB	**Lobatse**	**74.46**	**241**	*e*P	**P**	**12 18 14.9 +0.1**
	comp=Z,3.7nm,0.6s,mb4.5					
OKC	**Ostrava-Krasne**	**74.96**	**319**	*e*P	pP	12 18 23.5 -1.2
MORC	**Moravsky Berou**	**75.35**	**319**	*e*P	**P**	**12 18 19.5 +0.1**
MORC				*e**PP	pP	12 18 25.4 -1.5
MORC				pmax	pmax	
	comp=Z,10.0nm,0.9s,mb4.8					
MORC	**Moravsky Berou**	**75.35**	**319**	*e*P	**P**	**12 18 19.5 +0.1**
	comp=Z,10nm,0.9s,mb4.8					
MORC				*e*pP	pP	12 18 25.4 -1.5
ZST	**Bratislava**	**75.51**	**318**	*e*P	pP	12 18 27.1 -0.8
ZST	**Bratislava**	**75.51**	**318**	*e*pP	pP	12 18 27.1 -0.8
BILL	**Bilibino**	**75.88**	**22**⇑	*e*P	**P**	**12 18 21.1 -0.9**
BILL				*e*		12 18 36.7
BILL				*i*		12 21 12.6
BILL				pmax	pmax	
	comp=Z,6.0nm,1.8s,mb4.2					
DPC	**Dobruska-Polom**	**76.18**	**320**	*e*P	pP	12 18 30.8 -0.8
KSP	**Ksiaz**	**76.23**	**320**	*e*P	**P**	**12 18 25.7 +1.3**
KSP				*e*pP	pP	12 18 30.5 -1.4
UPC	**Upice**	**76.39**	**320**	*e*P	pP	12 18 31.9 -0.9
PRU	**Pruhonice**	**77.30**	**319**	*e*P	pP	12 18 37.1 -0.8
PVCC	**Panska Ves**	**77.31**	**320**	*e*P	pP	12 18 39.1 +1.2
BRG	**Berggiesshubel**	**77.72**	**320**	*e*P	**P**	**12 18 35.3 +2.7**
BRG				pmax	pmax	
	comp=Z,13nm,1.6s,mb4.6					
BRG	**Berggiesshubel**	**77.72**	**320**	*e*P	**P**	**12 18 35.3 +2.7**
	comp=Z,13nm,1.6s,mb4.6					
BRG				*i*		12 18 39.1
KHC	**Kasperske Hory**	**77.89**	**318**	*e*P	pP	12 18 40.2 -0.9
GRA1	**Grafenberg Arr**	**79.44**	**319**	*e*P	pP	12 18 48.8 -0.8
	comp=Z,15nm,1.0s					
GRF	**Grafenberg Arr**	**79.44**	**319**	*e*P	pP	12 18 48.8 -0.8
GRF				pmax	pmax	
	comp=Z,15nm,1.0s,mb4.9					
GRF	**Grafenberg Arr**	**79.44**	**319**	*e*P	pP	12 18 48.8 -0.8
GRF				pmax	pmax	
	comp=Z,15nm,1.0s,mb4.9					
GRF	**Grafenberg Arr**	**79.44**	**319**	*e*P	pP	12 18 48.8 -0.8
	comp=Z,15nm,1.0s					
LPG	**La Plagne**	**82.61**	**315**	*e*P	**P**	**12 18 59.0 +0.2**
	comp=Z,25nm,0.8s,mb5.0					
LPG	**La Plagne**	**82.61**	**315**	*e*P	**P**	**12 18 59.0 +0.2**
LPG				pmax	pmax	
	comp=Z,12nm,0.8s,mb5.0					
BNI	**Bardonecchia**	**82.69**	**314**	*e*P	pP	12 19 04.6 -2.3
BNI				pmax	pmax	
	comp=Z,9.0nm,0.8s,mb4.8					
BNI	**Bardonecchia**	**82.69**	**314**	*e*P	pP	12 19 04.6 -2.3
	comp=Z,9.1nm,0.8s					
IMA	**Indian Mountai**	**91.41**	**22**	*e*P	**P**	**12 19 43.0 +1.9**
VNA2	**Neumayer--Watz**	**101.37**	**199**	*e*	Px	12 20 34.5
VNA2	**Neumayer--Watz**	**101.37**	**199**	⇓*i*Pdif	P	12 20 25.6 -0.8
VNA2				*e*		12 20 34.5
VNA1	**Neumayer--Stat**	**101.70**	**199**	*e*	Px	12 20 40.7
VNA1	**Neumayer--Stat**	**101.70**	**199**	⇓*i*Pdif	P	12 20 33.1 +5.2
VNA1				*e*		12 20 40.7
VNA3	**Neumayer Olymp**	**102.05**	**199**	*e*	Pdif	12 20 41.0 +12
VNA3	**Neumayer Olymp**	**102.05**	**199**	⇓*i*Pdif	Pdif	12 20 32.6 +3.1
VNA3				*e*		12 20 41.0

ISC 31 12:21:47.2±1.6, 16.8N±0.1×95.37E±0.05, h10km, n11, σ0.97/13, 1C-1D, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHG	**Chiang Mai**	**3.96**	**59**	⇓P	**Pn**	**12 22 49.3**	**-0.1**
	16nm,0.9s						
NST	**Nakhon Sawan**	**4.71**	**103**	P	**Pn**	**12 22 53.0**	**-7.1**
	158nm,0.9s						
CHRT	**Chiangrai**	**5.19**	**53**	⇑PN	**Pn**	**12 23 07.5**	**+0.6**
CHRT				PG	rx	12 24 32.0	
CHRT				SG	**Sg**	**12 24 41.5**	**+1.4**
NANT	**Nan**	**5.46**	**68**	P	**Pn**	**12 23 10.0**	**-0.7**
NANT				S	**Sn**	**12 24 13.0**	**-1.3**
SHL	**Shillong**	**9.32**	**340**	*e*P	**P**	**12 24 03.5**	**-1.2**
SHL				*e*S	**Sn**	**12 25 49.0**	**-1.6**
JIRN	**Jiri**	**13.75**	**323**	*e*P	**P**	**12 25 04.3**	**-0.5**
PKI	**Pulchoki**	**14.14**	**321**	*e*P	**P**	**12 25 10.0**	**+0.1**
	28nm,0.6s						
DMN	**Daman**	**14.35**	**320**	*e*P	**P**	**12 25 13.5**	**+0.8**
	27nm,0.6s						
GKN	**Gorkha**	**14.92**	**320**	*e*P	**P**	**12 25 20.6**	**+0.5**
KOLN	**Koldanda**	**15.42**	**317**	*e*P	**P**	**12 25 27.7**	**+1.1**
HYB	**Hyderabad**	**16.09**	**275**	*e*P	Px	12 25 11.0	
HYB				*e*		12 25 36.0	

MOS ***31*** *13:14:33.6±1.0, 8.14N×94.14E, h33km, mb5.4/41, MS4.8/11, Error ellipse: s-maj=11.7km s-min=5.7km az=123.0*

BJI ***31*** *13:14:33.3, 7.73N×94.00E, h52km, mB5.4, mb4.8, Ms5.1, Msz4.7*

HRVD ***31*** *13:14:33.3±0.3, 8.03N×94.22E, h12km, MW5.1/61, Centroid moment Tensor Solution. LP body waves: s29,c44;Mantle waves: s61,c112; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.88±.15; $M_{\theta\theta}$1.14±.13; $M_{\phi\phi}$0.73±.16; $M_{r\theta}$0.04±.38; $M_{\theta\phi}$5.38±.11; $M_{\phi r}$-0.12±.41; Best double couple: $M_0$5.387×10^{16} NP1: ϕ_s271°, δ88°, λ-2°. NP2:ϕ_s1°, δ88°, λ-178°. Principal axes: T 6.322, Plg0°, Azm136°; N -1.875, Plg87°, Azm38°; P -4.451, Plg3°, Azm226°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***31*** *13:14:33.3±0.3, 8.17N×94.27E, mb5.1/41, MS4.8/2 Error ellipse: s-maj=8.1km s-min=6.8km az=2.0*

ISC 31 13:14:31.5±0.3, 8.10N±0.04×94.20E±0.03, h20km, h20km±.6km: pP-P, n202, σ1.913/222, mb5.1/62, MS4.9/16, 23C-8D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.81**	**338**	*e*P	**Pn**	**13 15 31.6**	**+1.0**
PBA				*e*S	**Sn**	**13 16 08.2**	**-7.2**
SNG	**Songkhla**	**6.42**	**98**	P	**Pn**	**13 16 06.0**	**-1.6**
	500nm,0.9s						
NNT	**Nongplab**	**7.04**	**50**	P	**Pn**	**13 16 15.5**	**-0.7**
NST	**Nakhon Sawan**	**9.50**	**37**	P	**P**	**13 16 50.0**	**-0.6**
CM31	**Chiang Mai Arr**	**11.28**	**24**	*e*Pn	**P**	**13 17 13.5**	**-1.4**
	4.7nm,0.4s						
CHG	**Chiang Mai**	**11.60**	**23**	⇑P	**P**	**13 17 20.4**	**+1.1**
NANT	**Nan**	**12.37**	**30**	P	**P**	**13 17 32.5**	**+2.9**
UBT	**Ubonrachathani**	**12.75**	**55**	P	**P**	**13 17 38.5**	**+3.8**
CHRT	**Chiangrai**	**12.89**	**24**	⇑P	**P**	**13 17 30.5**	**-6.0**
	145nm,1.2s						
PALK	**Pallekele**	**13.40**	**267**	*e*Pn	**P**	**13 17 43.4**	**0.0**
	32nm,1.6s						
VIS	**Vishakhapatnam**	**14.27**	**313**	*e*P	**P**	**13 17 54.5**	**-0.3**
VIS				*e*		13 17 56.6	
	comp=Z,99nm,1.1s						
VIS				*i*		13 20 22.4	
VIS				*e*S	**S**	**13 20 32.1**	**-1.3**
BWNR	**Bhubaneshwar**	**14.59**	**327**	*e*P	**P**	**13 17 55.7**	**-3.4**
BWNR				*e*		13 18 00.9	
	comp=Z,92nm,1.5s						
BWNR				*i*		13 20 30.7	
BWNR				*e*		13 20 30.8	
BWNR				*e*S	**S**	**13 20 38.5**	**-2.6**
KOD	**Kodaikanal**	**16.66**	**279**	*e*P	**P**	**13 18 29.6**	**+3.9**
KOD				*e*		13 18 33.1	
	comp=Z,68nm,1.4s						
KOD				*i*		13 21 19.1	
HYB	**Hyderabad**	**17.84**	**303**	*e*P	**P**	**13 18 38.0**	**-2.5**
HYB				*e*S	**S**	**13 22 05.0**	**+8.7**
HYB	**Hyderabad**	**17.84**	**303**	*i* P	**P**	**13 18 38.0**	**-2.5**
	comp=Z,80nm,1.0s						
HYB				*e*		13 18 42.0	
HYB				*e*S	**S**	**13 22 00.0**	**+3.7**
HYB				*e*		13 22 05.0	
QIZ	**Qiongzhong**	**18.67**	**53**	P	**P**	**13 18 53.0**	**+2.3**
QIZ				S	**S**	**13 22 18.3**	**+3.3**
QIZ				LR	LR		
	comp=N,8μm,14.2s						
QIZ				LR	LR		
	comp=Z,3μm,10.2s						
KMI	**Kunming**	**18.79**	**25**	P	**P**	**13 18 56.1**	**+4.0**
KMI				pmax	pmax		
	comp=Z,47nm,1.4s						
KMI	**Kunming**	**18.79**	**25**	P	**P**	**13 18 56.1**	**+4.0**
	comp=Z,47nm,1.4s						
KMI				pP		13 19 02.0	
KMI				sP		13 19 04.9	
KMI				PP	PP	13 19 13.2	+4.9
KMI				PPP	PPP	13 19 22.8	+5.5
KMI				S	**S**	**13 22 30.0**	**+12**
KMI				sS		13 22 38.5	
KMI				SS	SS	13 22 56.4	+14
KMI				SSS	SSS	13 23 09.9	+14
NGP	**Nagpur**	**19.55**	**313**	*e*P	**P**	**13 19 01.1**	**+0.1**
NGP				*e*S	**S**	**13 22 40.4**	**+5.6**
JIRN	**Jiri**	**20.88**	**340**	*e*P	**P**	**13 19 14.6**	**-0.5**
	comp=Z,580nm,1.2s						
PKI	**Pulchoki**	**21.08**	**338**	*e*P	**P**	**13 19 17.0**	**-0.1**
	comp=Z,614nm,1.3s,mb5.8						
DMN	**Daman**	**21.23**	**337**	*e*P	**P**	**13 19 19.4**	**+0.8**
	comp=Z,442nm,1.3s,mb5.6						
GOA	**Goa**	**21.24**	**292**	*e*P	**P**	**13 19 26.3**	**+7.5**
GOA				*e*		13 19 39.6	
	comp=Z,87nm,1.1s						
GOA				*e*S	**S**	**13 23 22.8**	**+14**
KKN	**Kakani**	**21.32**	**338**	*e*P	**P**	**13 19 19.0**	**-0.6**
	comp=Z,233nm,1.1s,mb5.4						
KAD	**Karad**	**21.55**	**297**	*e*P	**P**	**13 19 22.8**	**+0.9**
KAD				*e*		13 19 26.0	
	comp=Z,78nm,2.3s						
LSA	**Lhasa**	**21.68**	**353**	P	**P**	**13 19 23.5**	**+0.4**
LSA				AP		13 19 35.5	
LSA				XP		13 19 42.0	
LSA				S	**S**	**13 23 16.3**	**-0.8**
LSA				XS		13 23 44.0	
LSA				SCP		13 26 53.0	
LSA				AMB	AMB		
	comp=Z,40nm,1.1s,mb4.8						
LSA				LR	LR		
	comp=N,4μm,21.4s						
LSA				LR	LR		
	comp=Z,2μm,19.9s,MS4.5						
GKN	**Gorkha**	**21.76**	**337**	*e*P	**P**	**13 19 24.0**	**0.0**
	comp=Z,143nm,0.8s,mb5.5						
KOLN	**Koldanda**	**21.98**	**334**	*e*P	**P**	**13 19 26.9**	**+0.7**
	comp=Z,436nm,1.2s,mb5.8						
BHPL	**Bhopal**	**22.04**	**315**	*e*P	**P**	**13 19 27.9**	**+1.0**
BHPL				*e*		13 19 30.9	
	comp=Z,98nm,1.2s						
POO	**Poona**	**22.33**	**300**	*e*P	**P**	**13 19 30.9**	**+1.2**
POO				*e*		13 19 38.2	
	comp=Z,91nm,1.3s						
NDI	**New Delhi**	**25.99**	**324**	*e*P	**P**	**13 20 05.1**	**+0.1**
NDI				*e*		13 20 15.2	
	comp=Z,204nm,1.2s						
NDI				*e*S	**S**	**13 24 33.6**	**+1.4**
XAN	**Xi'an**	**29.16**	**26**	P	**P**	**13 20 34.0**	**+0.2**
XAN				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.8						
LZH	**Lanzhou**	**29.21**	**16**	*e*P	**P**	**13 20 36.5**	**+2.3**
LZH				AP	pP	13 20 44.0	+3.8
LZH				PP	PP	13 21 28.5	-0.6
LZH				S	**S**	**13 25 22.0**	**-2.4**
LZH				AMB	AMB		
	comp=Z,59nm,1.8s,mb5.0						
LZH				AMB	AMB		
	comp=Z,179nm,4.0s						
LZH				LR	LR		
	comp=E,3μm,17.4s						
LZH				LR	LR		
	comp=Z,4μm,18.5s,MS5.1						
LZH	**Lanzhou**	**29.21**	**16**	*e*P	**P**	**13 20 36.5**	**+2.3**
LZH				*PP	pP	13 20 44.0	+3.8
LZH				*SP	sP	13 20 49.0	+6.2
LZH						13 21 28.5	
LZH				S	**S**	**13 25 22.0**	**-2.4**
LZH				pmax	pmax		
	comp=Z,59nm,1.8s,mb5.0						
LZH				MLR	MLR		
	comp=Z,4μm,18.5s,MS5.1						
LZH	**Lanzhou**	**29.21**	**16**	*e*P	**P**	**13 20 36.5**	**+2.3**
	comp=Z,59nm,1.8s,mb5.0						
LZH				pP	pP	13 20 44.0	+3.8
LZH				sP	sP	13 20 49.0	+6.2
LZH				PP	PP	13 21 28.5	-0.6
LZH				S	**S**	**13 25 22.0**	**-2.4**
LZH				sS		13 26 36.0	
LZH				SS	SS	13 26 46.0	-9.2
LZH				LR	LR		
	comp=Z,4μm,18.5s,MS5.1						
WHN	**Wuhan**	**29.22**	**37**	*e*P	**P**	**13 20 37.5**	**+3.1**
WHN				LR	LR		
	comp=N,480nm,10.4s,MS5.2						
WHN				LR	LR		
	comp=E,3μm,11.4s,MS5.2						
WHN				LR	LR		
	comp=Z,3μm,12.0s,MS5.2						
NJ2	**Nanjing**	**33.06**	**40**	*e*P	**P**	**13 21 06.5**	**-1.6**
NJ2				PP	PP	13 22 18.0	-1.0
NJ2				S	**S**	**13 26 21.0**	**-3.8**
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,402nm,4.4s						
NJ2				LR	LR		
	comp=N,1μm,12.0s,MS5.2						
NJ2				LR	LR		
	comp=E,3μm,14.3s,MS5.2						
NJ2				LR	LR		
	comp=Z,4μm,10.0s,MS5.4						
SSE	**Sheshan**	**34.02**	**44**	*e*P	**P**	**13 21 15.5**	**-1.0**
SSE				S	**S**	**13 26 40.8**	**+1.2**
SSE				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
SSE				AMB	AMB		
	comp=Z,146nm,4.0s						
SSE				LR	LR		
	comp=N,1μm,15.7s,MS4.9						
SSE				LR	LR		
	comp=E,1μm,15.7s,MS4.9						
SSE				LR	LR		
	comp=Z,1μm,14.3s,MS4.7						
SSE	**Sheshan**	**34.02**	**44**	*e*P	**P**	**13 21 15.4**	**-1.1**
	comp=Z,20nm,0.9s,mb5.0						
SSE				pP	pP	13 21 24.3	+1.9
SSE				sP	sP	13 21 27.5	+2.5
SSE				S	**S**	**13 26 40.8**	**+1.2**
SSE				sS		13 26 56.5	
SSE				SS	SS	13 29 14.4	+27
SSE				LR	LR		
	comp=Z,1μm,14.3s,MS4.7						
WMQ	**Urumqi**	**36.03**	**352**	*e*P	**P**	**13 21 34.5**	**+1.0**
BJI	**Beijing**	**37.38**	**28**	*e*P	**P**	**13 21 47.1**	**+2.2**
BJI				SS	SS	13 30 32.7	+29
BJI				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.6						
BJI				MLR	MLR		
	comp=Z,810nm,19.6s,MS4.5						
BJI	**Beijing**	**37.38**	**28**	*e*P	**P**	**13 21 47.1**	**+2.2**
	comp=Z,15nm,1.4s,mb4.6						
BJI				S	**S**	**13 27 40.7**	**+9.4**
BJI				SS	SS	13 30 32.7	+29
BJI				LR	LR		
	comp=Z,810nm,19.6s,MS4.5						
SMDO	**Samad**	**37.73**	**297**	P	**P**	**13 21 51.0**	**+3.0**
	SNR=10						
SMDO				P		13 21 51.0	
	SNR

comp=Z,23nm,1.3s,mb4.8
AAK Ala-Archa 38.52 336 *e*P **P 13 21 53.0 -1.5**
comp=Z,66nm,1.5s,mb5.2
HOQ Hoqain 38.53 298 P **P 13 21 57.7 +3.0**
SNR=11
FRU Bishkek 38.64 337 *e*P **P 13 21 57.0 +1.5**
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.0
FRU MLR MLR
comp=Z,2μm,20.0s,MS4.8
CHMS Chumysh 38.73 337 P **P 13 21 55.4 -0.8**
SNR=8.3
EKS2 Erkin-Say 38.83 336 P **P 13 21 57.8 +0.7**
SNR=10
USP Ospenovka 39.05 337 P **P 13 21 58.8 -0.1**
SNR=15
ARQ Araqi 39.16 297 P **P 13 22 02.6 +2.7**
SNR=9.4
MKAR Makanchi Array 39.88 347 *i* P **P 13 22 04.8 -0.9**
MKAR pmax pmax
comp=Z,14nm,0.9s
ASHO Ashiyiah 39.96 299 P **P 13 22 08.3 +1.7**
SNR=7.3
WHFO Wadi Hawf 40.50 288 P **P 13 22 13.2 +2.1**
SNR=26
ULN Ulaanbaatar 41.10 13⇓*e*P **P 13 22 16.6 +0.9**
SNY Shenyang 42.45 33 ⇓P **P 13 22 28.0 +1.1**
SNY AMB AMB
comp=Z,20nm,2.5s,mb4.3
SNY LR LR
comp=N,690nm,14.2s,MS4.9
SNY LR LR
comp=E,910nm,12.3s,MS4.9
SNY LR LR
comp=Z,700nm,15.0s,MS4.7
ZAK Zakamensk 42.82 9 *e*P **P 13 22 27.8 -2.0**
ZAK *e* 13 24 16.3
TLY Talaya 44.14 8 *i* P **P 13 22 43.4 +2.9**
KURK Kurchatov 44.41 346 *e*P **P 13 22 42.2 -0.5**
KURK *e**PP pP 13 22 48.6 -0.1
KURK pmax pmax
comp=Z,74nm,1.4s,mb5.2
KURK Kurchatov 44.41 346 *e*P **P 13 22 42.2 -0.5**
comp=Z,74nm,1.4s,mb5.2
KURK *e*pP pP 13 22 48.6 -0.1
NVS Novosibirsk 47.43 351 *e*P **P 13 23 05.2 -1.4**
NVS *e*S **S 13 29 49.3 -10**
NVS pmax pmax
comp=N,31nm,1.3s
NVS pmax pmax
comp=E,18nm,1.3s
NVS pmax pmax
comp=Z,54nm,1.3s,mb5.3
NVS smax
comp=N,23nm,2.0s
NVS smax
comp=E,20nm,2.0s
MDJ Mudanjiang 47.59 34 P **P 13 23 09.8 +1.8**
MDJ PP PP 13 24 55.3 -3.6
MDJ SCS ScS 13 32 53.5 -4.4
MDJ AMB AMB
comp=Z,24nm,2.0s,mb4.9
MDJ AMB AMB
comp=Z,230nm,4.7s
MDJ LR LR
comp=N,254nm,31.1s,MS4.2
MDJ LR LR
comp=E,265nm,29.3s,MS4.2
MDJ LR LR
comp=Z,514nm,19.2s
WRAB Tennant Creek 48.35 126 *e*P **P 13 23 12.6 -1.6**
WRAB *e**PP pP 13 23 19.5 -0.8
WRAB pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
WRAB Tennant Creek 48.35 126 *e*P **P 13 23 12.6 -1.7**
comp=Z,5.0nm,0.8s,mb4.6
WRAB *e*pP pP 13 23 19.4 -0.9
WB2 Warramunga Arr 48.35 126 *e*P **P 13 23 12.7 -1.5**
BVA0 Borovoye Array 48.80 341 P **P 13 23 16.1 -1.1**
BVA0 pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
RAYN Ar Rayn 49.05 294 P **P 13 23 20.1 +0.5**
comp=Z,307nm,0.7s,SNR=38
CHKZ Chkalovo 49.28 342 *e*P **P 13 23 20.0 -0.9**
CHKZ *e**PP pP 13 23 26.2 -0.9
CHKZ pmax pmax
comp=Z,73nm,1.4s,mb5.5
CHKZ Chkalovo 49.28 342 *e*P **P 13 23 20.0 -0.9**
comp=Z,73nm,1.4s,mb5.5
CHKZ *e*pP pP 13 23 26.2 -0.9
ASPA Alice Springs 50.01 130 *e*P **P 13 23 26.0 -1.0**
KLR Kul'dur 51.66 31 *e*P **P 13 23 41.6 +2.5**
KLR MLR MLR
comp=E,1μm,14.0s
KLR MLR MLR
comp=Z,2μm,14.0s,MS5.2
BOD Bodaibo 51.91 13 *e*P **P 13 23 41.8 +0.8**
CLNS Chul'man 54.20 20 *e*P **P 13 23 58.3 +0.4**
CLNS pmax pmax
comp=Z,14nm,0.9s,mb4.9
CLNS pmax pmax
comp=N,7.0nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=N,900nm,14.1s
CLNS pmax pmax
comp=Z,100nm,11.5s
CLNS pmax pmax
comp=E,100nm,11.3s
CLNS MLR MLR
comp=Z,500nm,14.0s,MS4.7
CLNS MLR MLR
comp=N,600nm,13.0s,MS4.8
CLNS MLR MLR
comp=E,100nm,13.0s,MS4.8
GNI Garni 54.32 314 *e*P **P 13 23 58.6 -0.4**
GNI pmax pmax
comp=Z,46nm,1.3s
GNI Garni 54.32 314 *e*P **P 13 23 58.6 -0.4**
comp=Z,46nm,1.3s,mb5.2
TI2 Plekhanov 54.93 316 *e*P **P 13 24 02.0 -1.5**
SVE Sverdlovsk 55.21 338 *e*P **P 13 24 01.0 -4.4**
SVE pmax pmax
comp=Z,100nm,1.6s,mb5.6
SVE MLR MLR
comp=Z,2μm,16.0s,MS5.3
ARU Arti 55.71 337⇓*i*P **P 13 24 00.8 -8.1**
ARU *e* 13 25 04.7
ARU *e*S **S 13 31 41.4 -11**
ARU *e* 13 33 54.9
ARU pmax pmax
comp=Z,52nm,1.4s,mb5.4
KIV Kislovodsk 57.19 318 *e*P **P 13 24 18.7 -1.0**
KIV pmax pmax
comp=Z,76nm,1.4s,mb5.5
KIV Kislovodsk 57.19 318 *e*P **P 13 24 18.7 -1.0**
comp=Z,76nm,1.4s,mb5.5
KMBO Kilima Mbogo 57.51 263 *e*P **P 13 24 24.2 +1.8**
KMBO pmax pmax
comp=Z,37nm,0.9s
KMBO Kilima Mbogo 57.51 263 *e*P **P 13 24 24.2 +1.8**
comp=Z,36nm,0.9s,mb5.4
MALT Malatya 58.36 310 *e*P **P 13 24 26.6 -1.4**
MALT *e**PP pP 13 24 33.7 -0.6
MALT pmax pmax
comp=Z,23nm,1.4s,mb5.0
MALT Malatya 58.36 310 *e*P **P 13 24 26.6 -1.4**
comp=Z,23nm,1.4s,mb5.0
MALT *e*pP pP 13 24 33.7 -0.5
SOKR Solikamsk 58.61 339⇓*i*P **P 13 24 27.1 -2.3**
SOKR pmax pmax
comp=Z,80nm,1.6s,mb5.5
SOKR MLR MLR
comp=Z,1μm,21.0s,MS5.0
SOC Sochi 59.06 316 *e*P **P 13 24 29.5 -3.3**
SOC *e* 13 25 19.0
SOC *e* 13 26 40.1
SOC *e*S **S 13 32 34.5 -2.3**
SOC *e* 13 34 14.2
SOC pmax pmax
comp=Z,74nm,1.1s,mb5.6
SOC pmax pmax
comp=N,47nm,0.6s
SOC pmax pmax
comp=E,35nm,0.6s
EIL Elat 59.37 300 *e*P **P 13 24 33.9 -1.2**
comp=E,22nm,1.1s,mb5.1
EIL pP pP 13 24 41.1 -0.3
YAK Yakutsk 59.76 18 *e*P **P 13 24 35.8 -1.6**
YAK *e**PP pP 13 24 43.1 -0.6
YAK pmax pmax
comp=Z,26nm,0.8s,mb5.3
YAK Yakutsk 59.76 18 *e*P **P 13 24 35.8 -1.6**
comp=Z,26nm,0.8s,mb5.3
YAK *e*pP pP 13 24 43.1 -0.5
MBAR Mbarara 63.84 265 *e*P **P 13 25 06.0 +0.5**
MBAR pmax pmax
comp=Z,21nm,1.2s,mb5.0
MBAR Mbarara 63.84 265 *e*P **P 13 25 06.0 +0.4**
comp=Z,22nm,1.2s,mb5.0
MOS Moscow 64.92 329 *e*P **P 13 25 10.5 -1.3**
MOS pmax pmax
comp=Z,103nm,0.7s,mb6.0
OBN Obninsk 65.22 328 *e*P **P 13 25 09.8 -4.0**
OBN *e* 13 25 41.0
OBN *e* 13 27 36.7
OBN *e*S S 13 33 51.6 -2.7
OBN *e*SS SS 13 38 07.5 -1.4
OBN pmax pmax
comp=Z,51nm,1.3s,mb5.4
OBN MLR MLR
comp=Z,600nm,21.0s,MS4.8
MA2 Magadan 66.54 28 *e*P **P 13 25 22.6 +0.5**
MA2 *e*S S 13 34 11.7 +1.4
MA2 pmax pmax
comp=Z,20nm,1.2s,mb5.0
MA2 Magadan 66.54 28 *e*P **P 13 25 19.1 -3.1**
TIXI Tiksi 67.00 11⇑*i*P **P 13 25 23.9 -1.0**
TIXI pmax pmax
comp=Z,27nm,1.0s,mb5.2
TIXI MLR MLR
comp=Z,380nm,17.0s,MS4.7
TIRR Tirgusor 67.14 315⇑*i*P **P 13 25 24.7 -1.5**
CFR Carcaliu 67.47 316⇑*i*P **P 13 25 27.0 -1.3**
MLR Muntele Rosu 69.05 316⇑*i*P **P 13 25 37.7 -0.4**
LSZ Lusaka 69.40 250 *e*P **P 13 25 41.1 +0.4**
LSZ pmax pmax
comp=Z,14nm,1.2s,mb4.8
LSZ Lusaka 69.40 250 *e*P **P 13 25 41.1 +0.4**
comp=Z,14nm,1.2s,mb4.8
BURAR Bucovina Array 69.92 318⇑P **P 13 25 43.0 -0.4**
BURAR Bucovina Array 69.92 318⇑*i*P **P 13 25 43.0 -0.4**
LVV L'vov 71.08 320 *e*P **P 13 25 55.3 +4.9**
ZAPS Zavoj/Pirot 71.09 313⇑*i*P **P 13 25 48.5 -2.2**
KWP Kalwaria 71.90 320 *e*P **P 13 25 54.7 -0.6**
KWP *e* pP 13 26 00.2 -1.4
KOLS Kolonicke sedl 72.07 319 *e*P **P 13 25 56.1 -0.3**
KOLS Kolonicke sedl 72.07 319 *i* P **P 13 25 56.3 -0.1**
SUW Suwalki 72.36 324 *e*P **P 13 25 56.3 -1.6**
comp=Z,106nm,1.0s,mb5.7
SUW *e*pP pP 13 26 02.8 -1.5
SUW Suwalki 72.36 324 *e*P **P 13 25 56.8 -1.1**
SUW *e* pP 13 26 02.6 -1.6
CRVS Cervenica-Dubn 72.60 319 *e*P **P 13 25 59.9 +0.4**
CRVS *e* pP 13 26 05.5 -0.3
KECS Kecovo 73.19 318 *e*P **P 13 26 02.4 -0.6**
NIE Niedzica 73.41 319 *e*P **P 13 26 04.4 +0.2**
PSZ Piszkesteto 73.52 318 *e*P **P 13 26 04.0 -0.9**
PSZ *e**PP pP 13 26 10.4 -0.8
PSZ pmax pmax
comp=Z,35nm,1.4s,mb5.1
PSZ Piszkesteto 73.52 318 *e*P **P 13 26 04.0 -0.9**
comp=Z,36nm,1.4s,mb5.1
PSZ *e*pP pP 13 26 10.4 -0.8
OJC Ojcow 73.84 320 *e*P **P 13 26 06.1 -0.6**
VYHS Vyhne 74.28 318 *i* P **P 13 26 08.8 -0.5**
VYHS *i* pP 13 26 14.5 -1.1
LBTB Lobatse 74.40 241 *e*P **P 13 26 11.3 +0.8**
LBTB pmax pmax
comp=Z,21nm,1.0s,mb5.0
LBTB Lobatse 74.40 241 *e*P **P 13 26 11.3 +0.8**
comp=Z,20nm,1.0s,mb5.0
OKC Ostrava-Krasne 74.86 319 *e*P **P 13 26 12.6 0.0**
OKC *e*pP pP 13 26 18.5 -0.5
MORC Moravsky Berou 75.24 319 *e*P **P 13 26 14.6 -0.2**
MORC *e**PP pP 13 26 20.5 -0.7
MORC pmax pmax
comp=Z,38nm,1.2s,mb5.2
MORC Moravsky Berou 75.24 319 *e*P **P 13 26 14.6 -0.3**
comp=Z,38nm,1.2s,mb5.2
MORC *e*pP pP 13 26 20.5 -0.7
ZST Bratislava 75.41 318 *e*P **P 13 26 14.2 -1.6**
ZST *i* pP pP 13 26 21.6 -0.6
BOSA Boshof 75.76 238 *e*P **P 13 26 18.5 +0.3**
BOSA *e**PP pP 13 26 25.7 +1.1
BOSA pmax pmax
comp=Z,30nm,1.2s,mb5.1
BOSA Boshof 75.76 238 *e*P **P 13 26 18.5 +0.3**
comp=Z,30nm,1.2s,mb5.1
BOSA *e*pP pP 13 26 25.7 +1.2
BILL Bilibino 75.86 22⇑*e*P **P 13 26 18.0 +0.1**
BILL *e* 13 29 08.7
BILL S S 13 35 59.7 +1.9
BILL *e*SS SS 13 40 51.3 -1.8
BILL pmax pmax
comp=Z,11nm,1.3s,mb4.6
BILL MLR MLR
comp=Z,500nm,15.0s,MS4.9
BILL Bilibino 75.86 22 *e*P **P 13 26 17.5 -0.5**
comp=Z,14nm,1.1s,mb4.8
DPC Dobruska-Polom 76.07 320 *e*P **P 13 26 19.8 +0.3**
DPC *e*pP pP 13 26 25.8 -0.1
KSP Ksiaz 76.13 320 *e*P **P 13 26 19.5 -0.3**
KSP *e**PP pP 13 26 25.4 -0.8
KSP Ksiaz 76.13 320 *e*P **P 13 26 20.0 +0.2**
KSP *e* pP 13 26 26.2 0.0
UPC Upice 76.28 320 *e*P **P 13 26 21.1 +0.4**
UPC *e*pP pP 13 26 27.1 0.0
PERS Pernice 76.67 316 *i* P **P 13 26 22.9 -0.1**
PRU Pruhonice 77.19 319 *e*P **P 13 26 26.0 +0.2**
PRU *e*pP pP 13 26 31.9 -0.3
PVCC Panska Ves 77.20 320 *e*P **P 13 26 26.4 +0.6**
PVCC *e*pP pP 13 26 32.3 +0.1
BRG Berggiesshubel 77.62 320 *i* P **P 13 26 28.4 +0.3**
BRG *i* pP 13 26 33.9 -0.6
BRG pmax pmax
comp=Z,57nm,1.6s,mb5.2
BRG Berggiesshubel 77.62 320 *i* P **P 13 26 28.4 +0.3**
comp=Z,57nm,1.6s,mb5.2
BRG *i* pP 13 26 33.9 -0.6
GEC2 GERESS Array S 77.70 318 *e*P **P 13 26 28.7 +0.1**
GEC2 pmax pmax
comp=Z,12nm,0.8s,mb4.9
GEC2 GERESS Array S 77.70 318 *e*P **P 13 26 28.7 +0.1**
comp=Z,12nm,0.8s,mb4.9
RUE Ruedersdorf 77.79 322 *e*P **P 13 26 28.8 -0.2**
comp=Z,23nm,0.3s,mb5.6
KHC Kasperske Hory 77.79 318 *e*P **P 13 26 29.1 0.0**
KHC *e*pP pP 13 26 35.0 -0.5
PTCC Patocco-Chiusa 77.88 316 *e*P **P 13 26 29.3 -0.3**
KBA Koelnbreinsper 77.89 316⇑*i*P **P 13 26 29.4 -0.3**
comp=Z,27nm,1.2s,mb5.1
KBA Koelnbreinsper 77.89 316⇑*i*P **P 13 26 29.4 -0.3**
KBA pmax pmax
comp=Z,27nm,1.2s,mb5.0
CLL Collm 78.22 321⇓*i*P **P 13 26 30.7 -0.7**
CLL *i* pP 13 26 36.8 -1.0
CLL Collm 78.22 321⇓P **P 13 26 30.7 -0.7**
comp=Z,logA/T=1.2,mb4.9
CLL *i* *PP pP 13 26 36.8 -1.0
WET Wettzell 78.25 318 *e*P **P 13 26 31.7 +0.1**
WET pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
WET Wettzell 78.25 318 *e*P **P 13 26 31.7 +0.1**
comp=Z,9.0nm,0.9s,mb4.7
FVI Forni Avoltri 78.27 316 *e*P **P 13 26 31.6 -0.2**
NKC Novy Kostel 78.55 320 *e*P **P 13 26 33.7 +0.5**
NKC *e*pP pP 13 26 39.2 -0.4
SFI Santa Sofia 78.93 313 *e*P **P 13 26 36.4 +0.9**
PGD Poggio Sodo 79.02 313⇑*i*P **P 13 26 37.0 +1.0**
CTI Castel Tesino 79.06 315⇑*i*P **P 13 26 36.5 +0.4**
WTTA Wattenberg 79.06 317⇓*i*P **P 13 26 35.3 -0.8**
comp=Z,33nm,1.0s,mb5.2
WTTA Wattenberg 79.06 317⇓*i*P **P 13 26 35.3 -0.8**
WTTA pmax pmax
comp=Z,33nm,1.0s,mb5.2
MOX Moxa 79.09 320 *e*P **P 13 26 36.3 +0.1**
MOX pmax pmax
comp=Z,37nm,1.6s,mb5.1
MOX Moxa 79.09 320 *e*P **P 13 26 36.3 +0.1**
comp=Z,37nm,1.6s,mb5.1
MOX Moxa 79.09 320 *i* P **P 13 26 36.3 +0.1**
comp=Z,logA/T=1.4,mb5.1
WATA Walderalm 79.10 317⇑*i*P **P 13 26 35.6 -0.7**
comp=Z,22nm,1.2s,mb5.0
WATA Walderalm 79.10 317⇑*i*P **P 13 26 35.6 -0.7**
WATA pmax pmax
comp=Z,22nm,1.2s,mb5.0
VMG Vicchio 79.15 313 *e*P **P 13 26 37.6 +1.0**
GRA1 Grafenberg Arr 79.34 319 *e*P **P 13 26 38.1 +0.6**
comp=Z,12nm,0.8s,mb4.9
GRA1 *e*pP pP 13 26 44.0 +0.1
GRF Grafenberg Arr 79.34 319 *e*P **P 13 26 38.1 +0.6**
GRF *e**PP pP 13 26 44.0 +0.1
GRF pmax pmax
comp=Z,12nm,0.8s,mb4.9
GRF Grafenberg Arr 79.34 319 *e*P **P 13 26 38.1 +0.6**
GRF *e**PP pP 13 26 44.0 +0.1
GRF pmax pmax
comp=Z,12nm,0.8s,mb4.9
GRF Grafenberg Arr 79.34 319 *e*P **P 13 26 38.1 +0.6**
comp=Z,12nm,0.8s,mb4.9
GRF *e*pP pP 13 26 44.0 +0.1
SQTA Sankt Quirin 79.35 316⇑*i*P **P 13 26 36.9 -0.8**
comp=Z,19nm,1.1s,mb4.9
SQTA Sankt Quirin 79.35 316⇑*i*P **P 13 26 36.9 -0.8**
SQTA pmax pmax
comp=Z,19nm,1.1s,mb4.9
MOTA Moosalm 79.42 317⇑*i*P **P 13 26 37.3 -0.8**
comp=Z,24nm,1.2s,mb5.0
MOTA Moosalm 79.42 317⇑*i*P **P 13 26 37.3 -0.8**
MOTA pmax pmax
comp=Z,24nm,1.2s,mb5.0
ZCCA Zocca 79.55 314⇑*i*P **P 13 26 40.4 +1.6**
NB2 NORSAR Subarra 79.56 331 P **P 13 26 37.5 -1.0**
comp=Z,2.8nm,0.6s,mb4.4,baz=97,slow=5.0
NB2 NORSAR Subarra 79.56 331 P **P 13 26 37.5 -1.0**
NB2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
GRFL Gerfalco 79.58 312 *e*P **P 13 26 38.2 -0.8**
GSCL Gusciola 79.83 314 *e*P **P 13 26 41.4 +1.1**
CLZ Clausthal 79.87 321 *e*P **P 13 26 40.6 +0.2**
comp=Z,13nm,0.8s,mb4.9
BRMO Bormio 79.94 316 *e*P **P 13 26 41.2 +0.4**
DAVA Damuels 80.26 317⇑*i*P **P 13 26 42.7 +0.2**
comp=Z,31nm,1.2s,mb5.1
SPAK Spaichingen 80.97 317 *e*P **P 13 26 46.6 +0.3**
VAI Varese 81.07 315 *e*P **P 13 26 46.3 -0.5**
TNS Taunus Mts 81.12 320 *e*P **P 13 26 47.2 +0.2**
BFO Black Forest 81.27 318 *e*P **P 13 26 47.5 -0.3**
BFO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BFO Black Forest 81.27 318 *e*P **P 13 26 47.5 -0.3**
comp=Z,5.0nm,0.8s,mb4.5
FELD Feldberg 81.50 317 *e*P **P 13 26 48.7 -0.4**
FIN Finale Ligure 81.55 314 *e*P **P 13 26 49.4 0.0**
LANF Langenberg 81.59 318 *e*P **P 13 26 49.5 0.0**
WLS Welschbruch 81.91 318 *e*P **P 13 26 51.1 -0.1**
RUP Ruppelstein 82.04 319 *e*P **P 13 26 52.2 +0.4**
ECH Echery 82.06 318 *e*P **P 13 26 52.5 +0.6**
LPG La Plagne 82.50 315 *e*P **P 13 26 55.0 +0.7**
comp=Z,35nm,0.8s,mb5.2
LPG La Plagne 82.50 315 *e*P **P 13 26 55.0 +0.7**
LPG pmax pmax
comp=Z,17nm,0.8s,mb5.1
BNI Bardonecchia 82.58 314 *e*P **P 13 26 54.1 -0.6**
BNI pmax pmax
comp=Z,24nm,1.1s,mb5.1
BNI Bardonecchia 82.58 314 *e*P **P 13 26 54.1 -0.6**
comp=Z,24nm,1.1s,mb5.1
IMA Indian Mountai 91.39 22 *e*P **P 13 27 38.3 +1.2**
IMA pmax pmax
comp=Z,32nm,0.8s,mb5.7
IMA Indian Mountai 91.39 22 *e*P **P 13 27 38.3 +1.2**
comp=Z,32nm,0.8s,mb5.7
BAO Brasilia Array 142.30 255 P PKPdf 13 34 07.5 -0.4

IGQ 31 13:14:52.5, 0.85S×81.06W, h10km±8km, mb4.0, 2C-1D,
Error ellipse: s-maj=15.2km s-min=5.3km az=17.1, Off
coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.55**	**111**	⇑P	Pg	13 15 02.6	-1.0
JAMA	**Jama**	**1.03**	**55**	P	Pb	13 15 12.2	+0.3
JAMA				S	Sb	13 15 25.4	0.0
JUA2	**San Juan 2**	**2.53**	**76**	P	Pn	13 15 35.4	+1.0
TERV	**Terraza Guagua**	**2.54**	**75**	P	Pn	13 15 35.9	+1.4
PINO	**Pino**	**2.54**	**74**	P	Pn	13 15 34.9	+0.4
NAS1	**Nasa**	**2.59**	**85**	⇑P	Pn	13 15 37.5	+2.4
YANA	**Yana**	**2.59**	**74**	P	Pn	13 15 35.5	+0.4
VC1	**Cotopaxi 1**	**2.66**	**86**	P	Pn	13 15 39.2	+3.0
ARRY	**Arrayan**	**2.68**	**104**	P	Pn	13 15 36.9	+0.4
TAMB	**Tambo**	**2.69**	**87**	P	Pn	13 15 39.5	+2.9
ULBA	**Ulba**	**2.71**	**103**	P	Pn	13 15 39.5	+2.6
ANTI	**Antisana**	**2.92**	**82**	P	Pn	13 15 42.3	+2.4
COTA	**Cotacachi**	**2.96**	**67**	P	Pn	13 15 42.6	+2.1
CAYR	**Refugio Cayamb**	**3.17**	**74**	⇓P	Pn	13 15 46.6	+3.1
CAYA	**Cayambe**	**3.20**	**73**	P	Pn	13 15 46.5	+2.6

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*BJI **31** 13:35:04.5, 7.66N×94.03E, h15km, mb4.5*
*NEIC **31** 13:35:08.2±1.1, 8.20N×94.45E, mb4.5/7, Error ellipse:*
s-maj=45.0km s-min=17.0km az=220.0
ISC 31 13:35:06.5±1.2, 8.2N±0.2×94.5E±0.2, h16km,
h16km±1.8km: pP-P, n18, σ0s97/18, mb4.5/12, Nicobar
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**17.41**	**352**	*e*PG	P	**13 39 03.0**	**-7.5**
SHL				*e*SG	rx	13 39 09.0	
HYB	**Hyderabad**	**18.01**	**302**	*e*P	P	**13 39 17.0**	**-1.1**
HYB	**Hyderabad**	**18.01**	**302**	*i* P	P	**13 39 17.0**	**-1.1**
JIRN	**Jiri**	**20.85**	**339**	*e*P	P	**13 39 51.4**	**+1.1**
	57nm,0.8s						
PKI	**Pulchoki**	**21.06**	**337**	*e*P	P	**13 39 51.3**	**-1.2**
	126nm,1.3s,mb5.1						
KKN	**Kakani**	**21.31**	**337**	*e*P	P	**13 39 54.5**	**-0.5**
	29nm,0.9s,mb4.6						
LSA	**Lhasa**	**21.58**	**352**	P	P	**13 40 01.3**	**+3.6**
GKN	**Gorkha**	**21.75**	**336**	*e*P	P	**13 39 58.9**	**-0.6**
	45nm,0.7s,mb5.0						
KOLN	**Koldanda**	**21.99**	**333**	*e*P	P	**13 40 01.2**	**-0.6**
	101nm,1.0s,mb5.2						
NDI	**New Delhi**	**26.05**	**324**	*e*	P	**13 40 43.0**	**+1.9**
AAK	**Ala-Archa**	**38.51**	**336**	*e*P	P	**13 42 29.7**	**-0.2**
	5.5nm,1.1s,mb4.2						
AAK				*e*pP	pP	13 42 35.3	+0.7
KURK	**Kurchatov**	**44.34**	**346**	*e*P	P	**13 43 18.0**	**+0.2**
	11nm,1.3s,mb4.4						
WRAB	**Tennant Creek**	**48.19**	**126**	*e*P	P	**13 43 48.1**	**-0.5**
	2.4nm,0.8s,mb4.3						
CHKZ	**Chkalovo**	**49.24**	**341**	*e*P	P	**13 43 55.7**	**-0.5**
	7.0nm,0.9s,mb4.7						
CHKZ				*e*pP	pP	13 44 00.9	-0.1
GNI	**Garni**	**54.44**	**314**	*e*P	P	**13 44 36.3**	**+0.8**
	5.0nm,0.6s,mb4.6						
MORC	**Moravsky Berou**	**75.33**	**319**	*e*P	P	**13 46 51.8**	**+0.9**
	3.7nm,1.0s,mb4.3						
MORC				*e*pP	pP	13 46 55.5	-0.4
BRG	**Berggiesshubel**	**77.70**	**320**	P	P	**13 47 08.6**	**+4.4**
	5.9nm,1.1s,mb4.4						
NB2	**NORSAR Subarra**	**79.59**	**331**	P	P	**13 47 18.3**	**+4.0**
	0.2nm,0.5s,mb3.3,baz=96,slow=5.6						

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*MOS **31** 13:56:37.8±0.8, 56.13S×27.18W, h117km, mb5.6/8, Error ellipse: s-maj=25.7km s-min=11.5km az=100.5*
*BJI **31** 13:56:37.5, 56.10S×27.40W, h109km, mB5.7*
*HRVD **31** 13:56:37.5±0.2, 56.13S×27.15W, h114km±1km, MW5.5/65, Centroid moment Tensor Solution. LP body waves: s59,c103; Mantle waves: s65,c131; Half duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}0.74±.04; $M_{\theta\theta}$-0.50±.06; $M_{\phi\phi}$-0.23±.05; $M_{r\theta}$-1.71±.04; $M_{\theta\phi}$1.73±.05; $M_{\phi r}$0.05±.03; Best double couple: $M_0$2.508×10^{17} NP1: ϕ_s173°, δ43°, λ164°. NP2: ϕ_s276°, δ79°, λ48°. Principal axes: T 2.369, Plg41°, Azm147°; N .276, Plg41°, Azm285°; P -2.646, Plg23°, Azm36°; nsta1 refers to body waves,*

cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC ***31*** *13:56:37.5±0.1,56.08S×27.40W,mb5.5/27,MW5.5 Error ellipse: s-maj=6.2km s-min=4.5km az=56.0,Moment Tensor Solution. s5 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.70; $M_{\theta\theta}$=0.42; $M_{\phi\phi}$=-1.12; $M_{r\theta}$=-0.71; $M_{r\phi}$=1.48; $M_{\theta\phi}$=-0.18; Best double couple: M_0=1.9×10^{17} NP1:φs189°,δ63°,λ158°. NP2:φs289°,δ71°,λ28°. Principal axes: T 1.78, Plg33°, Azm151°; N .26, Plg56°, Azm320°; P -2.04, Plg5°, Azm58°;*
ISC 31 13:56:36.7±1.4,**56.07S**±0.05×**27.4W**±0.1,**h114**km±13km, **h106**km±2.6km:**pP-P,n190,**σ0**s81**/69,**mb5.5**/26,**33C-8B, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.49**	**285**	Pn	**P**	**13 57 57.5**	**+0.1**
	657nm,0.2s						
VNA1	**Neumayer--Stat**	**16.83**	**158**	⇑*iP*	**P**	**14 00 26.6**	**+0.4**
VNA3	**Neumayer Olymp**	**17.02**	**160**	⇓*i*	**P**	**14 00 29.7**	**+1.2**
VNA2	**Neumayer Olymp**	**17.02**	**160**	⇓*i*	**P**	**14 00 43.6**	**+15**
VNA3	**Neumayer Olymp**	**17.02**	**160**	⇑*i*S	**S**	**14 03 32.9**	**+0.5**
VNA3	**Neumayer Olymp**	**17.02**	**160**	⇑*i*Pn	**P**	**14 00 28.4**	**-0.1**
VNA3				*i* S	**S**	**14 03 32.9**	**+0.5**
VNA2	**Neumayer--Watz**	**17.23**	**158**	⇑*i*	**P**	**14 00 31.0**	**-0.1**
VNA2	**Neumayer--Watz**	**17.23**	**158**	⇑*i*S	**S**	**14 03 35.0**	**-2.1**
VNA2	**Neumayer--Watz**	**17.23**	**158**	⇑*i*S	**S**	**14 03 39.4**	**+2.3**
VNA2	**Neumayer--Watz**	**17.23**	**158**	⇑*i*Pn	**P**	**14 00 30.1**	**-1.0**
VNA2				*i* S	**S**	**14 03 39.4**	**+2.3**
SNAA	**Sanae**	**18.78**	**156**	*c iP*	**P**	**14 00 47.7**	**-1.3**
SNAA	**Sanae**	**18.78**	**156**	*eP*	**P**	**14 00 47.5**	**-1.6**
	6um,0.5s						
PMSA	**Palmer Station**	**19.79**	**229**	*eP*	**P**	**14 00 59.5**	**-0.2**
	232nm,1.0s						
TRIS	**Tristan da Cun**	**21.57**	**35**	*eP*	**P**	**14 01 19.3**	**+1.5**
	806nm,1.2s,mb5.9						
NVL	**N'lazarevskaya**	**22.32**	**146**	⇑*eP*	**P**	**14 01 26.0**	**+0.9**
NVL				*e*S	**S**	**14 05 24.0**	**+6.0**
NVL				pmax	pmax		
	comp=Z,2μm,3.9s						
TRQA	**Tornquist**	**29.21**	**293**	*eP*	**P**	**14 02 28.7**	**-0.6**
	comp=Z,119nm,1.8s,mb5.2						
SYO	**Syowa Base**	**31.66**	**141**	⇓P	**P**	**14 02 49.4**	**-1.2**
SYO	**Syowa Base**	**31.66**	**141**	⇑pP	pP	14 03 14.7	-1.2
PLCA	**Paso Flores**	**31.87**	**280**	*eP*	**P**	**14 02 50.9**	**-1.8**
PLCA				*e*PP	pP	14 03 15.4	-2.7
PLCA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PLCA	**Paso Flores**	**31.87**	**280**	*eP*	**P**	**14 02 50.9**	**-1.8**
	comp=Z,6.4nm,0.9s,mb4.3						
PLCA				*e*pP	pP	14 03 15.4	-2.7
QSPA	**South Pole Qui**	**34.19**	**180**	⇑*iP*	**P**	**14 03 12.9**	**+0.6**
	comp=Z,189nm,0.6s,mb6.1						
CPUP	**Villa Florida**	**36.72**	**312**	P	**P**	**14 03 34.5**	**+0.3**
CPUP				pP	pP	14 03 57.0	-3.2
MAW	**Mawson**	**40.22**	**144**	⇑*iP*	**P**	**14 04 02.9**	**+0.1**
MAW				*e*		14 06 03.8	
MAW				pmax	pmax		
	comp=Z,367nm,1.2s						
MAW	**Mawson**	**40.22**	**144**	⇑*iP*	**P**	**14 04 02.9**	**0.0**
	comp=Z,367nm,1.2s,mb6.1						
MAW				*e*PcP	PcP	14 06 03.8	-1.5
SUR	**Sutherland**	**40.77**	**75**	*eP*	**P**	**14 04 07.7**	**0.0**
	comp=Z,53nm,1.3s,mb5.2						
BAO	**Brasilia Array**	**43.31**	**330**	*eP*	**P**	**14 04 32.8**	**+4.2**
BAO				*e*		14 04 39.1	
BAO				*e*	pP	14 04 56.1	+1.1
LVC	**Limon Verde**	**45.19**	**300**	*e*pP	pP	14 05 07.9	-2.3
	comp=Z,66nm,0.8s						
SBA	**Scott Base**	**46.05**	**184**	⇑*eP*	**P**	**14 04 50.6**	**+0.9**
SBA				pmax	pmax		
	comp=Z,326nm,1.3s,mb5.9						
SBA	**Scott Base**	**46.05**	**184**	⇑*eP*	**P**	**14 04 50.6**	**+0.8**
	comp=Z,326nm,1.3s,mb5.9						
BOSA	**Boshof**	**46.10**	**76**	*eP*	**P**	**14 04 50.5**	**-0.3**
BOSA				*e*PP	pP	14 05 14.1	-3.3
BOSA				pmax	pmax		
	comp=Z,32nm,1.4s,mb4.9						
BOSA	**Boshof**	**46.10**	**76**	*eP*	**P**	**14 04 50.5**	**-0.3**
	comp=Z,32nm,1.4s,mb4.8						
BOSA				*e*pP	pP	14 05 14.1	-3.2
BOSA				*e*ScP		14 10 06.5	
VNDA	**Vanda**	**46.55**	**183**	P	**P**	**14 04 54.4**	**+0.7**
VNDA				PcP	PcP	14 06 26.5	0.0
VNDA	**Vanda**	**46.55**	**183**	⇑*iP*	**P**	**14 04 54.3**	**+0.6**
	comp=Z,201nm,1.1s,mb5.8						
VNDA				*e*PcP	PcP	14 06 26.4	-0.1
VNDA				*e*pP	PP	14 06 42.0	-2.4
LBTB	**Lobatse**	**49.14**	**73**	*eP*	**P**	**14 05 13.1**	**-1.3**
LBTB				*e*		14 06 36.8	
LBTB				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.1						
LBTB	**Lobatse**	**49.14**	**73**	*eP*	**P**	**14 05 13.1**	**-1.3**
	comp=Z,26nm,1.1s,mb5.1						
LBTB				*e*PcP	PcP	14 06 36.8	+0.3
LBTB				*e*ScP		14 10 19.6	
TSUM	**Tsumeb**	**49.81**	**61**	⇓*iP*	**P**	**14 05 19.7**	**+0.1**
	comp=Z,31nm,1.1s,mb5.2						
TSUM				*e*pP	pP	14 05 46.4	-0.2
MIR	**Mirnyy**	**49.83**	**153**	⇑*eP*	**P**	**14 05 18.4**	**-0.8**
MIR				pmax	pmax		
	comp=Z,270nm,1.6s,mb5.9						
LPAZ	**La Paz**	**50.28**	**305**	⇑*iP*	**P**	**14 05 23.7**	**+0.5**
LPAZ				*e*PP	pP	14 05 46.7	-3.5
LPAZ				pmax	pmax		
	comp=Z,62nm,1.2s						
LPAZ	**La Paz**	**50.28**	**305**	⇑*iP*	**P**	**14 05 23.7**	**+0.5**
	comp=Z,62nm,1.2s,mb5.4						
LPAZ				*e*pP	pP	14 05 46.7	-3.5
LPAZ				*e*ScP		14 10 23.0	
ARE	**Arequipa**	**51.70**	**302**	*eP*	**P**	**14 05 35.0**	**+1.1**
CASY	**Casey**	**53.94**	**160**	⇑*iP*	**P**	**14 05 49.6**	**-0.3**
	comp=Z,187nm,1.1s,mb6.0						
DRV	**Dumont d'Urvil**	**57.23**	**174**	P	**P**	**14 06 12.0**	**-1.5**
NNA	**Nana**	**58.14**	**299**	*eP*	**P**	**14 06 20.2**	**-0.4**
	comp=Z,35nm,1.0s,mb5.3						
NNA				*e*pP	pP	14 06 46.5	-1.7
LSZ	**Lusaka**	**58.50**	**69**	⇓*iP*	**P**	**14 06 22.7**	**-0.4**
LSZ				*e*PP	pP	14 06 49.5	-1.3
LSZ				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.2						
LSZ	**Lusaka**	**58.50**	**69**	⇓*iP*	**P**	**14 06 22.7**	**-0.4**
	comp=Z,26nm,1.0s,mb5.2						
LSZ				*e*pP	pP	14 06 49.5	-1.3
DBIC	**Dimbokro**	**65.24**	**25**	⇓*iP*	**P**	**14 07 08.0**	**-0.1**
DBIC				pmax	pmax		
	comp=Z,65nm,0.9s						
DBIC	**Dimbokro**	**65.24**	**25**	⇓*iP*	**P**	**14 07 08.0**	**-0.1**
	comp=Z,65nm,0.9s,mb5.5						
OTAV	**Otavalo**	**69.55**	**304**	*eP*	**P**	**14 07 36.0**	**+1.0**
	comp=Z,108nm,1.4s,mb5.5						
MBAR	**Mbarara**	**72.28**	**63**	*eP*	**P**	**14 07 52.1**	**+0.7**
MBAR				*e*PP	pP	14 08 21.1	+0.9
MBAR				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.8						
MBAR	**Mbarara**	**72.28**	**63**	*eP*	**P**	**14 07 52.1**	**+0.7**
	comp=Z,23nm,1.4s,mb4.8						
MBAR				*e*pP	pP	14 08 21.1	+0.9
SDV	**Santo Domingo**	**73.92**	**315**	*eP*	**P**	**14 08 00.1**	**-0.9**
	comp=Z,40nm,1.3s,mb5.0						
SDV				*e*pP	pP	14 08 27.7	-2.3
KMBO	**Kilima Mbogo**	**75.17**	**69**	*eP*	**P**	**14 08 08.3**	**+0.2**
KMBO				*e*PP	pP	14 08 37.4	+0.2
KMBO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KMBO	**Kilima Mbogo**	**75.17**	**69**	*eP*	**P**	**14 08 08.3**	**+0.2**
	comp=Z,3.6nm,1.0s						
KMBO				*e*pP	pP	14 08 37.4	+0.2
TAU	**Tasmania Unive**	**81.30**	**176**	P	**P**	**14 08 40.9**	**-0.1**
TAU				pmax	pmax		
	comp=Z,260nm,1.0s,mb6.0						
TAU	**Tasmania Unive**	**81.30**	**176**	*eP*	**P**	**14 08 40.7**	**-0.3**
	comp=Z,259nm,1.0s,mb6.0						
JTS	**JuntasAbangare**	**81.41**	**303**	*eP*	**P**	**14 08 42.7**	**+0.5**
JTS				*e*PP	pP	14 09 10.2	-1.4
NWAO	**Narrogin (SRO)**	**86.38**	**151**	*eP*	**P**	**14 09 06.3**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,43nm,1.1s						
NWAO	**Narrogin (SRO)**	**86.38**	**151**	*eP*	**P**	**14 09 06.3**	**-0.4**
	comp=Z,43nm,1.1s,mb5.3						
TOO	**Toolangi**	**86.53**	**174**	⇑*iP*	**P**	**14 09 07.6**	**+0.3**
	comp=Z,1.7nm,0.8s						
MUN	**Mundaring**	**86.99**	**150**	⇑*iP*	**P**	**14 09 09.7**	**0.0**
	comp=Z,71nm,1.0s,mb5.5						
MUN	**Mundaring**	**86.99**	**150**	⇑*iP*	**P**	**14 09 09.7**	**0.0**
MUN				pmax	pmax		
	comp=Z,71nm,1.0s,mb5.5						
KLBR	**Kellerberrin**	**87.78**	**151**	⇑*iP*	**P**	**14 09 13.6**	**+0.1**
	comp=Z,930nm,1.0s						
ADE	**Adelaide**	**88.56**	**169**	⇑*iP*	**P**	**14 09 18.0**	**+0.9**
CNB	**Canberra Magne**	**88.94**	**177**	⇑*iP*	**P**	**14 09 19.3**	**+0.4**
	comp=Z,573nm,1.2s						
FORT	**Forrest**	**91.01**	**159**	⇑*iP*	**P**	**14 09 29.4**	**+0.7**
	comp=Z,134nm,0.8s,mb6.1						
STKA	**Stephens Creek**	**91.91**	**171**	⇑*iP*	**P**	**14 09 33.1**	**+0.3**
	comp=Z,19nm,0.9s,mb5.3						
STKA				*e*PP	PP	14 13 12.5	-3.3
MBWA	**Marble Bar**	**98.20**	**149**	*eP*	**P**	**14 10 00.3**	**-1.4**
	comp=Z,25nm,1.1s,mb5.7						
ASPA	**Alice Springs**	**99.02**	**163**	*eP*	**P**	**14 10 04.9**	**-0.5**
ASPA				*e*PP	PP	14 14 00.5	-10
WB2	**Warramunga Arr**	**102.73**	**162**	*eP*	Pdif	14 10 21.6	-0.4
WB2				*e*PP	PP	14 14 31.4	-8.0
WRAB	**Tennant Creek**	**102.74**	**162**	*eP*	Pdif	14 10 21.5	-0.6
WRAB				*e*		14 14 35.1	
WRAB				pmax	pmax		
	comp=Z,14nm,0.9s						
WRAB	**Tennant Creek**	**102.74**	**162**	*e*Pdif	Pdif	14 10 21.5	-0.6
	comp=Z,14nm,0.9s						
WRAB				*e*PP	PP	14 14 35.1	-4.3
TUC	**Tucson**	**112.67**	**294**	*e*PKIKP	PKPdf	14 15 00.4	+1.4
HYB	**Hyderabad**	**113.19**	**93**	*e*PKIKP	PKPdf	14 15 01.0	+0.6
HYB	**Hyderabad**	**113.19**	**93**	*i* P	PKPdf	14 15 01.0	+0.6
SDCO	**Great Sand Dun**	**114.38**	**302**	*e*PKP	PKPdf	14 15 03.7	+1.3
PV10	**Paradox Valley**	**116.59**	**300**	*e*PKPdf	PKPdf	14 15 07.7	+1.2
NEN	**Nelson**	**117.37**	**294**	*e*PKPdf	PKPdf	14 15 09.5	+1.3
NEN				*e*SKP		14 18 33.3	
SRU	**San Rafael**	**117.89**	**299**	PKIKP	PKPdf	14 15 09.4	+0.4
SRU	**San Rafael**	**117.89**	**299**	*e*PKPdf	PKPdf	14 15 08.5	-0.5
MSU	**Marysvale**	**118.24**	**298**	*e*PKPdf	PKPdf	14 15 11.6	+1.9
MSU				*e*SKP		14 18 35.3	
MVU	**Marysvale**	**118.25**	**298**	*e*PKPdf	PKPdf	14 15 11.7	+1.9
MVU				*ep*PKPdf		14 15 40.8	
MVU				*e*SKP		14 18 35.6	
DAU	**Daniels Canyon**	**119.25**	**300**	*e*PKPdf	PKPdf	14 15 13.6	+1.9
DAU				*e*SKP		14 18 37.9	
TCUT	**Toone Canyon**	**119.86**	**300**	*e*PKPdf	PKPdf	14 15 14.9	+2.1
BW06	**Boulder Array**	**120.24**	**302**	*e*PKPdf	PKPdf	14 15 13.8	+0.3
HWUT	**Hardware Ranch**	**120.31**	**300**	*e*PKPdf	PKPdf	14 15 14.8	+1.0
HWUT				*e*SKP		14 18 38.3	
BGU	**Big Grassy Mou**	**120.51**	**299**	*e*PKPdf	PKPdf	14 15 15.6	+1.5
BGU				*e*SKP		14 18 39.3	
MNV	**Mina**	**121.20**	**293**	*e*PKIKP	PKPdf	14 15 17.4	+1.9
NDI	**New Delhi**	**121.33**	**84**	*e*	PKPdf	14 15 16.0	0.0
SNOW	**Snow King Moun**	**121.33**	**302**	*e*PKPdf	PKPdf	14 15 17.0	+1.3
LOHW	**Long Hollow**	**121.38**	**302**	*e*PKPdf	PKPdf	14 15 16.4	+0.7
LOHW				*e*SKP		14 18 40.7	
TPAW	**Teton Pass**	**121.45**	**302**	*e*PKPdf	PKPdf	14 15 17.7	+1.9
RRI2	**Red Ridge**	**121.52**	**302**	*e*PKPdf	PKPdf	14 15 17.5	+1.5
MOOW	**Moose Ponds**	**121.55**	**302**	*e*PKPdf	PKPdf	14 15 17.1	+1.1
MOOW				*e*SKP		14 18 40.8	
LAO	**LASA Array**	**121.70**	**307**	*e*PKPdf	PKPdf	14 15 17.3	+1.0
IMW	**Indian Meadow**	**121.75**	**302**	*e*PKPdf	PKPdf	14 15 18.2	+1.7
LKWY	**Lake**	**122.00**	**303**	*e*PKIKP	PKPdf	14 15 19.6	+2.7
CMB	**Columbia Colle**	**122.06**	**291**	*e*PKPdf	PKPdf	14 15 18.9	+1.7
CMB				*e*SKP		14 18 42.3	
YFT	**Old Faithful**	**122.12**	**303**	*e*PKPdf	PKPdf	14 15 20.2	+3.1
BMN	**Battle Mountai**	**122.23**	**296**	*e*PKPdf	PKPdf	14 15 19.1	+1.6
BMN				*e*SKP		14 18 42.8	
YMR	**Madison River**	**122.34**	**303**	*e*PKPdf	PKPdf	14 15 19.6	+2.1
OBN	**Obninsk**	**122.44**	**38**	*e*PKIKP	PKPdf	14 15 15.4	-2.0
OBN				*e*		14 15 46.1	
OBN				*e*		14 16 58.2	
OBN				*e*		14 22 05.3	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
OBN				pmax	pmax		
	comp=Z,14nm,1.1s						
OBN	**Obninsk**	**122.44**	**38**	*i* PKP	PKPdf	14 15 19.6	+2.2
QLMT	**Earthquake Lak**	**122.69**	**303**	*e*PKPdf	PKPdf	14 15 20.8	+2.6
DDI	**Dehra Dun**	**123.05**	**84**	*e*	PKPdf	14 15 21.2	+2.0
HLID	**Hailey**	**123.17**	**300**	*e*PKPdf	PKPdf	14 15 20.8	+1.7
MCMT	**McKenzie Canyo**	**123.36**	**302**	*e*PKPdf	PKPdf	14 15 21.3	+1.8
BOZ	**Bozeman (W)**	**123.39**	**303**	*e*PKIKP	PKPdf	14 15 21.2	+1.7
NSHM	**Saint Helena R**	**123.59**	**290**	*e*PKPdf	PKPdf	14 15 21.8	+1.7
KOLN	**Koldanda**	**124.20**	**90**	*eP*	PKPdf	14 15 22.2	+0.6
	comp=Z,77nm,1.1s						
WVOR	**Wild Horse Val**	**124.43**	**296**	*e*PKPdf	PKPdf	14 15 23.5	+1.9
WVOR				*e*SKP		14 18 47.7	
MOD	**Modoc**	**124.88**	**295**	*e*PKPdf	PKPdf	14 15 24.2	+1.8
MOD				*e*SKP		14 18 48.9	
DMN	**Daman**	**124.92**	**92**	*eP*	PKPdf	14 15 24.0	+1.1
GKN	**Gorkha**	**124.96**	**91**	*eP*	PKPdf	14 15 23.6	+0.6
	comp=Z,58nm,1.1s						
PKI	**Pulchoki**	**125.06**	**92**	*eP*	PKPdf	14 15 23.2	0.0
	comp=Z,69nm,1.2s						
WDC	**Whiskeytown Da**	**125.07**	**292**	*e*PKPdf	PKPdf	14 15 24.2	+1.4
WDC				*e*SKP		14 18 48.2	
CHMT	**Chamberlain Mo**	**125.08**	**303**	*e*PKPdf	PKPdf	14 15 24.1	+1.5
KKN	**Kakani**	**125.15**	**92**	*eP*	PKPdf	14 15 23.3	0.0
	comp=Z,36nm,1.1s						
CM31	**Chiang Mai Arr**	**125.19**	**111**	*e*PKPdf	PKPdf	14 15 24.6	+0.9
MSO	**Missoula**	**125.34**	**303**	*e*PKPdf	PKPdf	14 15 24.9	+1.7
MSO				*ep*PKPdf		14 15 53.3	
CHG	**Chiang Mai**	**125.48**	**111**	⇑P	PKPdf	14 15 24.9	+0.7
	comp=Z,12nm,1.2s						
BMO	**Blue Mountains**	**125.53**	**299**	*e*PKIKP	PKPdf	14 15 24.9	+1.3
JIRN	**Jiri**	**125.56**	**92**	*eP*	PKPdf	14 15 24.6	+0.5
	comp=Z,71nm,1.0s						
BUOR	**Burton Butte**	**126.15**	**294**	P	PKPdf	14 15 26.8	+2.0
NANT	**Nan**	**126.39**	**112**	P	PKPdf	14 15 26.7	+0.8
HUMO	**Hull Mountain**	**126.75**	**293**	*e*PKPdf	PKPdf	14 15 27.7	+1.8
WALA	**Waterton Lakes**	**126.94**	**305**	*e*PKPdf	PKPdf	14 15 26.9	+0.7
CRCR	**Criterion Ridg**	**127.44**	**297**	P	PKPdf	14 15 29.8	+2.5
FRIS	**Frissel Point**	**127.46**	**295**	P	PKPdf	14 15 29.3	+2.0
NEW	**Newport**	**127.88**	**302**	*e*PKIKP	PKPdf	14 15 28.9	+0.9
MXC	**Moxie City**	**128.22**	**299**	P	PKPdf	14 15 31.3	+2.5
AML	**Almayashu**	**129.33**	**71**	P	PKPdf	14 15 32.9	+1.9
	SNR=21						
EDM	**Edmonton**	**129.61**	**309**	PKIKP	PKPdf	14 15 32.1	+0.9
EDM				*e*		14 16 01.1	
EDM	**Edmonton**	**129.61**	**309**	*e*PKPdf	PKPdf	14 15 31.5	+0.4
EDM				*ep*PKPdf		14 16 00.6	
EKS2	**Erkin-Say**	**129.75**	**70**	P	PKPdf	14 15 33.5	+1.7
	SNR=24						
UCH	**Uchtor**	**129.83**	**71**	P	PKPdf	14 15 34.2	+2.3
	SNR=19						
LSA	**Lhasa**	**129.91**	**95**	*e*PKP	PKPdf	14 15 34.0	+1.6
AAK	**Ala-Archa**	**130.11**	**71**	P	PKPdf	14 15 32.9	+0.5
	SNR=5.1						
AAK	**Ala-Archa**	**130.11**	**71**	*e*PKPdf	PKPdf	14 15 33.1	+0.7
AAK				*e*SKP		14 18 44.5	
KZA	**Kyzart**	**130.12**	**72**	P	PKPdf	14 15 34.6	+2.1
	SNR=16						
FRU	**Bishkek**	**130.31**	**71**	*e*PKIKP	PKPdf	14 15 35.0	+2.2
KBK	**Karagaybulak**	**130.36**	**71**	P	PKPdf	14 15 35.0	+2.1
	SNR=10						
CHMS	**Chumysh**	**130.50**	**71**	P	PKPdf	14 15 34.5	+1.3
	SNR=5.4						
USP	**Ospenovka**	**130.55**	**70**	P	PKPdf	14 15 34.4	+1.1
	SNR=6.3						
TKM2	**Tokmak 2**	**130.89**	**71**	P	PKPdf	14 15 35.4	+1.5
	SNR=8.1						
ARU	**Arti**	**131.81**	**48**	*i* PKIKP	PKPdf	14 15 29.4	-5.9
KMI	**Kunming**	**132.65**	**110**	PKIKP	PKPdf	14 15 39.6	+1.8
KMI						14 18 11.0	
KMI				MLR	MLR		
	comp=Z,240nm,12.4s						
DAG	**Danmarks Havn**	**132.69**	**3**	⇑*e*PKIKP	PKPdf	14 15 36.9	+0.4
DAG	**Danmarks Havn**	**132.69**	**3**	⇑*iP*	PKPdf	14 15 36.9	+0.4
	comp=Z,3.0nm,1.0s						
SVE	**Sverdlovsk**	**132.94**	**49**	*e*PKIKP	PKPdf	14 15 34.0	-3.4
BVA0	**Borovoye Array**	**134.90**	**58**	*i* PKIKP	PKPdf	14 15 42.4	+1.2
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CHKZ	**Chkalovo**	**135.41**	**57**	*e*PKIKP	PKPdf	14 15 43.2	+1.1
YKW3	**Yellowknife Ar**	**136.14**	**318**	*e*PKPdf	PKPdf	14 15 43.9	+0.8
YKW3				*e*SKP		14 19 02.7	
MKAR	**Makanchi Array**	**137.02**	**72**	*i* PKIKP	PKPdf	14 15 45.8	+0.7
KURK	**Kurchatov**	**137.53**	**65**	⇑*i*PKIKP	PKPdf	14 15 49.5	+3.5
KURK	**Kurchatov**	**137.53**	**65**	*e*PKPpre		14 15 42.4	
KURK				*e*PKPdf	PKPdf	14 15 46.9	+0.9
KURK				*e*SKP		14 19 08.7	
RES	**Resolute Bay**	**137.82**	**339**	*e*PKPdf	PKPdf	14 15 47.0	+1.0
RES				*e*SKP		14 19 08.9	
WMQ	**Urumqi**	**138.04**	**79**	PKP	PKPdf	14 15 49.5	+2.3
WMQ				XPKP		14 16 26.8	
WMQ				PP	PP	14 18 43.0	+2.7
WMQ				PKS	PKS	14 19 24.0	+1.8
WMQ				SKS	SKS	14 22 48.3	+4.0
WMQ				SS	SS	14 36 43.0	+3.4
LZH	**Lanzhou**	**141.74**	**101**	*e*PKP	PKPdf	14 15 58.5	+4.6
LZH				XPKP		14 16 41.0	
LZH				PP	PP	14 19 07.5	+5.1
LZH				SKKS		14 25 48.0	
LZH				SS	SS	14 37 30.0	+6.9
LZH				PP	PP		
	comp=Z,170nm,5.6s						
LZH				LR	LR		
	comp=E,315nm,18.9s						
LZH				LR	LR		
	comp=Z,520nm,19.5s						
LZH	**Lanzhou**	**141.74**	**101**	*e*PKIKP	PKPdf	14 15 51.5	-2.4
LZH						14 19 07.5	
LZH				*e*		14 22 59.0	
LZH				SS	SS	14 37 30.0	+6.9
LZH				MLR	MLR		
	comp=Z,520nm,19.5s						
LZH	**Lanzhou**	**141.74**	**101**	*eP*	PKPdf	14 15 51.5	-2.4
LZH				pP		14 15 56.6	
LZH				sP		14 15 58.5	
LZH				sPKP		14 16 41.0	
LZH				PP	PP	14 19 07.5	+5.1
LZH				*e*SKS	SKS	14 22 59.0	+8.5
LZH				SKKS		14 25 48.0	
LZH				SS	SS	14 37 30.0	+6.9
LZH				LR	LR		
	comp=Z,520nm,19.5s						
NVS	**Novosibirsk**	**142.17**	**62**	*e*PKHKP		14 15 50.9	
NVS				pmax	pmax		
	comp=N,9.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,38nm,1.1s						
XAN	**Xi'an**	**142.97**	**108**	PKP	PKPdf	14 15 54.0	-2.1
INK	**Inuvik**	**145.73**	**321**	*e*PKIKP	PKPdf	14 16 01.1	+1.3
INK				*e*		14 16 02.1	
INK				*e*		14 19 28.8	
NJ2	**Nanjing**	**146.45**	**121**	*e*PKP	PKPdf	14 16 05.3	+3.2
NJ2				PKP2	PKPab	14 16 11.0	+4.0
NJ2				APKP		14 16 31.5	
NJ2				XPKP		14 16 42.5	
NJ2				PP	PP	14 19 34.0	+3.2
NJ2				PKS	PKS	14 19 39.0	+2.6
NJ2				SKS	SKS	14 23 03.0	+5.5
NJ2				LR	LR		
	comp=N,300nm,21.7s						
NJ2				LR	LR		
	comp=E,370nm,22.5s						
NJ2				LR	LR		
	comp=Z,540nm,25.0s						
DAWY	**Dawson**	**146.70**	**312**	*e*PKPdf	PKPdf	14 16 02.8	+1.2
DAWY				*e*PKPbc	PKPbc	14 16 04.7	+1.6
DAWY				*ep*PKPdf		14 16 33.5	
SSE	**Sheshan**	**146.74**	**125**	PKP	PKPdf	14 16 06.0	+3.4
SSE				PP	PP	14 19 39.3	+6.7
SSE				SS	SS	14 38 25.0	+4.6
SSE				LR	LR		
	comp=N,50nm,19.3s						
SSE				LR	LR		
	comp=E,79nm,19.4s						
SSE				LR	LR		
	comp=Z,77nm,20.1s						
SSE	**Sheshan**	**146.74**	**125**	PKP	PKPdf	14 16 06.0	+3.4
SSE				PP	PP	14 19 39.2	+6.6
SSE				SS	SS	14 38 24.9	+4.5
SSE				LR	LR		
	comp=Z,80nm,20.1s						
MENT	**Mentasta**	**148.20**	**309**	*eP*	PKPdf	14 16 09.5	+5.5
EYAK	**Cordova Ski Ar**	**148.35**	**304**	*e*PKPbc	PKPdf	14 16 10.2	+5.8
DIV	**Divide**	**148.55**	**305**	*e*PKPbc	PKPdf	14 16 10.5	+5.9
MOY	**Mondy**	**149.86**	**76**	*e*PKIKP	PKPdf	14 16 07.9	+0.9
SML	**Sawm

JAMA	**Jama**	**1.82**	**42**	P	Pn	15 35 11.5	+1.2
IGUA	**Igualata**	**2.77**	**87**	P	Pn	15 35 24.8	+0.8
CUSU	**Cusua**	**2.94**	**86**	P	Pn	15 35 27.3	+1.0
ARRY	**Arrayan**	**2.96**	**88**	P	Pn	15 35 26.8	+0.2
ARRY				S	Sn	15 36 01.7	-0.7
RETU	**Refugio**	**2.97**	**87**	P	Pn	15 35 30.3	+3.5
ULBA	**Ulba**	**3.01**	**87**	P	Pn	15 35 28.2	+0.9
PISA	**Pisayambo**	**3.08**	**79**	P	Pn	15 35 30.6	+2.3
NAS1	**Nasa**	**3.10**	**71**	P	Pn	15 35 30.7	+2.1
NAS1				S	Sn	15 36 05.9	0.0
JUA2	**San Juan 2**	**3.14**	**63**	P	Pn	15 35 29.5	+0.3
TERV	**Terraza Guagua**	**3.16**	**63**	P	Pn	15 35 30.4	+1.0
TERV				S	Sn	15 36 09.3	+1.9
PINO	**Pino**	**3.16**	**62**	P	Pn	15 35 30.2	+0.8
PINO				S	Sn	15 36 08.1	+0.6
VC1	**Cotopaxi 1**	**3.16**	**72**	P	Pn	15 35 32.4	+2.9
VC1				S	Sn	15 36 10.6	+3.0
TAMB	**Tambo**	**3.18**	**73**	P	Pn	15 35 32.6	+2.8
YANA	**Yana**	**3.21**	**62**	P	Pn	15 35 31.1	+0.9
YANA				S	Sn	15 36 06.8	-1.9
ANTI	**Antisana**	**3.45**	**70**	P	Pn	15 35 36.7	+3.1
ANTI				S	Sn	15 36 20.8	+5.9
COTA	**Cotacachi**	**3.64**	**58**	P	Pn	15 35 38.8	+2.5
CAYR	**Refugio Cayamb**	**3.77**	**64**	P	Pn	15 35 41.4	+3.2
CAYA	**Cayambe**	**3.81**	**64**	P	Pn	15 35 42.5	+3.8

NIED ***31*** *15:57:00,41.70N×143.90E,h32km,Mw4.7 Best double couple: M0 1.21×10^16 NP1:φs 15°,δ67°,λ82°. NP2:φs 214°,δ24°,λ108°.*
MOS ***31*** *15:57:27.5±0.8,41.86N×143.67E,h10km,mb4.9/36,Error ellipse: s-maj=10.4km s-min=5.9km az=98.0*
BJI ***31*** *15:57:30.3,41.72N×143.78E,h39km,mB5.3,mb4.8, Ms4.4,Msz4.1*
JMA ***31*** *15:57:31.1±0.2,41.71N×143.85E,h47km±3km,M4.7*
JMA Felt I J1.
NEIC ***31*** *15:57:32.3±2.2,41.78N×143.71E,h34km±16km,mb4.8/33, MW4.7(NIED),Error ellipse: s-maj=10.7km s-min=6.4km az=143.0*
NEIC Recorded [1 JMA] in south-central Hokkaido.

ISC 31 15:57:29.8±0.3,41.64N±0.03×143.86E±0.05,h33km, (h23km±7.9km:pP-P),n145,σ1§06/156,mb4.8/48,MS4.0/4, 15C,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.65**	**306**	P	**P**	**15 57 42.9**	**+0.5**
JEM				*e*S	**S**	**15 57 52.4**	**+0.9**
JCH	**Churui**	**1.04**	**339**	⇑P	**P**	**15 57 48.6**	**+0.5**
JCH				*e*S	**S**	**15 58 02.5**	**+0.8**
JNBK	**Urakawa-nobuka**	**1.05**	**308**	⇑P	**P**	**15 57 49.8**	**+1.7**
JOB	**Onbets**	**1.27**	**359**	⇑P	**P**	**15 57 52.1**	**+0.9**
JOB				*e*S	**S**	**15 58 08.6**	**+1.3**
JAK	**Akkeshi**	**1.49**	**24**	⇑P	**P**	**15 57 54.9**	**+0.4**
JAK				*e*S	**S**	**15 58 13.0**	**0.0**
JBT2	**Biratori 2**	**1.59**	**316**	P	**P**	**15 57 56.3**	**+0.4**
JAR	**Ashorobuto**	**1.66**	**358**	⇑P	**P**	**15 57 57.0**	**+0.1**
JAR				*e*S	**S**	**15 58 17.8**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**2.81**	**31**	*e*P	**P**	**15 58 12.7**	**-0.7**
YUK				*i*S	**S**	**15 58 44.5**	**-2.0**
YUK				pmax	pmax		
	comp=Z,260nm,0.4s						
YUK				pmax	pmax		
	comp=N,190nm,0.5s						
YUK				pmax	pmax		
	comp=E,110nm,0.4s						
YUK				smax			
	comp=N,3μm,0.5s						
YUK				smax			
	comp=E,690nm,0.5s						
YUK				smax			
	comp=N,5μm,1.0s						
YUK				smax			
	comp=E,5μm,0.7s						
YUK				MLR	MLR		
	comp=Z,3μm,13.0s						
KUR	**Kuril'sk**	**4.63**	**38**	*e*P	**P**	**15 58 37.2**	**-2.0**
KUR				*i*S	**S**	**15 59 29.0**	**-3.5**
KUR				pmax	pmax		
	comp=N,80nm,0.5s						
KUR				pmax	pmax		
	comp=E,60nm,0.5s						
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR				smax			
	comp=N,340nm,0.8s						
KUR				smax			
	comp=E,150nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.38**	**352**	*e*P	**P**	**15 58 47.0**	**-2.7**
YSS				*i*S	**S**	**15 59 45.0**	**-6.3**
YSS				MLR	MLR		
	comp=N,2μm,16.0s						
YSS				MLR	MLR		
	comp=E,1μm,16.0s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**5.38**	**352**	*e*Pn	**Pn**	**15 58 49.2**	**-0.6**
	comp=Z,7.1nm,0.4s						
MAJO	**Matsushiro**	**6.72**	**223**	*e*P	**P**	**15 59 08.7**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,15nm,0.6s						
MAJO	**Matsushiro**	**6.72**	**223**	*e*Pn	**Pn**	**15 59 08.7**	**-0.2**
	comp=Z,15nm,0.6s						
MAT	**Matsushiro**	**6.72**	**223**	*e*P	**P**	**15 59 08.0**	**-0.6**
MAT				pmax	pmax		
	comp=Z,15nm,0.8s						
MAT	**Matsushiro**	**6.72**	**223**	P	**P**	**15 59 08.1**	**-0.5**
MAT				*e*S	**S**	**16 00 24.1**	**-0.8**
UGL	**Uglegorsk**	**7.55**	**351**	P	**P**	**15 59 16.0**	**-4.2**
UGL				MLR	MLR		
	comp=N,1μm,16.0s						
UGL				MLR	MLR		
	comp=E,1μm,16.0s						
UGL				MLR	MLR		
	comp=Z,2μm,16.0s						
MDJ	**Mudanjiang**	**10.85**	**291**	P	**P**	**16 00 07.5**	**+1.8**
MDJ				AMB	AMB		
	comp=Z,20nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,247nm,4.3s						
KLR	**Kul'dur**	**11.39**	**316**	*e*P	**P**	**16 00 11.0**	**-2.1**
PET	**Petropavlovsk**	**15.14**	**36**	*e*P	**P**	**16 01 06.1**	**+3.5**
PET				pmax	pmax		
	comp=Z,100nm,17.0s						
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
SNY	**Shenyang**	**15.15**	**277**	⇑P	**P**	**16 01 03.5**	**+0.7**
SNY				LR	LR		
	comp=Z,720nm,17.5s						
CLNS	**Chul'man**	**19.51**	**328**	*e*P	**P**	**16 01 52.5**	**-4.2**
CLNS				pmax	pmax		
	comp=N,8.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,23nm,0.9s						
BJI	**Beijing**	**20.98**	**275**	*e*P	**P**	**16 02 08.4**	**-3.9**
BJI				S	S	16 06 23.9	+25
BJI				pmax	pmax		
	comp=Z,19nm,0.9s						
BJI				MLR	MLR		
	comp=Z,430nm,20.2s,MS3.8						
BJI	**Beijing**	**20.98**	**275**	*e*P	**P**	**16 02 08.4**	**-3.9**
	comp=Z,19nm,0.9s						
BJI				S	S	16 06 23.9	+25
BJI				LR	LR		
	comp=Z,430nm,20.2s,MS3.8						
SSE	**Sheshan**	**21.01**	**247**	*e*P	**P**	**16 02 13.0**	**+0.2**
SSE				XP		16 02 33.0	
SSE				S	**S**	**16 06 05.5**	**+5.5**
SSE				AMB	AMB		
	comp=Z,24nm,0.8s,mb4.6						
SSE				AMB	AMB		
	comp=Z,115nm,6.1s						
SSE				LR	LR		
	comp=N,180nm,19.5s,MS3.5						
SSE				LR	LR		
	comp=E,75nm,19.4s,MS3.5						
SSE				LR	LR		
	comp=Z,146nm,22.3s,MS3.3						
SSE	**Sheshan**	**21.01**	**247**	*e*P	**P**	**16 02 13.0**	**+0.2**
	comp=Z,24nm,0.8s,mb4.6						
SSE				sP		16 02 33.0	
SSE				S	**S**	**16 06 05.4**	**+5.4**
SSE				sS		16 06 27.9	
SSE				ScS	ScS	16 13 25.9	-8.4
SSE				LR	LR		
	comp=Z,150nm,22.3s,MS3.3						
SEY	**Seymchan**	**21.92**	**10**	*e*P	**P**	**16 02 19.9**	**-1.7**
SEY				*e*		16 06 25.1	
SEY				pmax	pmax		
	comp=Z,40nm,0.9s,mb4.8						
SEY				pmax	pmax		
	comp=N,30nm,0.8s						
SEY				pmax	pmax		
	comp=E,10.0nm,0.8s						
YAK	**Yakutsk**	**22.13**	**342**	*e*P	**P**	**16 02 18.2**	**-5.5**
YAK				*e*S	**S**	**16 06 11.7**	**-8.8**
YAK				*e*		16 06 16.5	
YAK				pmax	pmax		
	comp=N,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.5						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				smax			
	comp=N,12nm,1.1s						
YAK				smax			
	comp=E,7.0nm,1.0s						
YAK	**Yakutsk**	**22.13**	**342**	*e*P	**P**	**16 02 18.5**	**-5.2**
	comp=E,34nm,0.8s,mb4.8						
BOD	**Bodaibo**	**24.90**	**321**	*e*P	**P**	**16 02 46.5**	**-4.2**
WHN	**Wuhan**	**26.17**	**254**	P	**P**	**16 03 02.5**	**-0.4**
ULN	**Ulaanbaatar**	**26.68**	**296**	*e*P	**P**	**16 03 06.3**	**-1.2**
ULN				pmax	pmax		
	comp=Z,26nm,1.1s,mb4.7						
ULN	**Ulaanbaatar**	**26.68**	**296**	*e*P	**P**	**16 03 06.3**	**-1.1**
	comp=Z,26nm,1.1s,mb4.7						
XAN	**Xi'an**	**28.47**	**266**	P	**P**	**16 03 22.8**	**-1.0**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.1						
IRK	**Irkutsk**	**28.70**	**305**	*e*P	**P**	**16 03 24.6**	**-1.0**
IRK				*e*	pP	16 03 33.1	-2.0
IRK				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.7						
TLY	**Talaya**	**29.03**	**304**	*e*P	**P**	**16 03 28.9**	**+0.3**
TLY				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.8						
TLY				MLR	MLR		
	comp=Z,548nm,19.0s,MS4.2						
TLY	**Talaya**	**29.03**	**304**	*e*P	**P**	**16 03 28.5**	**-0.1**
	comp=Z,18nm,0.9s,mb4.8						
BILL	**Bilibino**	**29.08**	**17**	*e*P	**P**	**16 03 27.1**	**-1.7**
BILL				*e*S	**S**	**16 08 12.8**	**-4.1**
BILL				*e*SS	SS	16 09 42.2	-5.0
BILL				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
BILL	**Bilibino**	**29.08**	**17**	*e*P	**P**	**16 03 26.9**	**-2.0**
ZAK	**Zakamensk**	**29.20**	**301**	⇑*e*P	**P**	**16 03 28.8**	**-1.3**
MOY	**Mondy**	**30.68**	**304**	*e*P	**P**	**16 03 42.8**	**-0.5**
TIXI	**Tiksi**	**31.00**	**351**	⇑*e*P	**P**	**16 03 40.8**	**-5.1**
LZH	**Lanzhou**	**31.44**	**273**	*e*P	**P**	**16 03 51.0**	**+0.8**
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,86nm,4.0s						
LZH				LR	LR		
	comp=E,432nm,14.0s						
LZH				LR	LR		
	comp=Z,659nm,15.3s,MS4.4						
LZH	**Lanzhou**	**31.44**	**273**	*e*P	**P**	**16 03 51.1**	**+0.9**
	comp=Z,27nm,1.4s,mb4.9						
LZH				pP	pP	16 03 55.0	-4.8
LZH				sP	sP	16 03 58.3	-5.9
LZH				LR	LR		
	comp=Z,660nm,15.3s,MS4.4						
KMI	**Kunming**	**37.69**	**257**	P	**P**	**16 04 44.2**	**+0.4**
KMI				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
KMI	**Kunming**	**37.69**	**257**	P	**P**	**16 04 44.2**	**+0.4**
	comp=Z,17nm,1.0s,mb4.7						
WMQ	**Urumqi**	**40.64**	**293**	*e*P	**P**	**16 05 08.0**	**-0.1**
NVS	**Novosibirsk**	**41.18**	**310**	*e*P	**P**	**16 05 10.5**	**-2.0**
NVS				pmax	pmax		
	comp=N,2.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,12nm,1.0s						
NVS				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.6						
IMA	**Indian Mountai**	**41.78**	**33**	*e*P	**P**	**16 05 17.7**	**+0.6**
IMA				pmax	pmax		
	comp=Z,55nm,1.0s,mb5.1						
IMA	**Indian Mountai**	**41.78**	**33**	*e*P	**P**	**16 05 17.7**	**+0.6**
	comp=Z,55nm,1.0s,mb5.1						
MKAR	**Makanchi Array**	**43.44**	**299**	*i*P	**P**	**16 05 30.3**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MCK	**McKinley**	**43.78**	**36**	*e*P	**P**	**16 05 34.0**	**+0.5**
LSA	**Lhasa**	**43.83**	**272**	*e*P	**P**	**16 05 36.5**	**+2.1**
COLA	**College**	**44.20**	**35**	*e*P	**P**	**16 05 37.4**	**+0.6**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
COLA	**College**	**44.20**	**35**	*e*P	**P**	**16 05 37.4**	**+0.5**
	comp=Z,9.9nm,0.8s,mb4.6						
KURK	**Kurchatov**	**44.72**	**305**	*e*P	**P**	**16 05 40.1**	**-1.1**
KURK				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.9						
KURK	**Kurchatov**	**44.72**	**305**	*e*P	**P**	**16 05 40.1**	**-1.1**
	comp=Z,11nm,0.6s,mb4.9						
JIRN	**Jiri**	**48.61**	**272**	*e*P	**P**	**16 06 12.7**	**+0.6**
	comp=Z,11nm,0.4s,mb5.2						
CHKZ	**Chkalovo**	**48.66**	**311**	*e*P	**P**	**16 06 11.0**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
CHKZ	**Chkalovo**	**48.66**	**311**	*e*P	**P**	**16 06 11.0**	**-1.2**
	comp=Z,14nm,0.8s,mb5.1						
BVA0	**Borovoye Array**	**48.98**	**310**	P	**P**	**16 06 14.0**	**-0.6**
KKN	**Kakani**	**49.22**	**273**	*e*P	**P**	**16 06 16.9**	**+0.1**
	comp=Z,64nm,0.9s,mb5.7						
TKM2	**Tokmak 2**	**49.23**	**296**	P	**P**	**16 06 16.8**	**+0.1**
	SNR=35						
PKI	**Pulchoki**	**49.24**	**273**	*e*P	**P**	**16 06 17.0**	**0.0**
	comp=Z,11nm,0.4s,mb5.2						
INK	**Inuvik**	**49.44**	**29**	*e*P	**P**	**16 06 18.1**	**+0.1**
INK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
INK	**Inuvik**	**49.44**	**29**	*e*P	**P**	**16 06 18.1**	**+0.1**
	comp=Z,7.5nm,0.7s,mb4.8						
DMN	**Daman**	**49.45**	**273**	*e*P	**P**	**16 06 17.9**	**-0.7**
	comp=Z,37nm,0.8s,mb5.5						
GKN	**Gorkha**	**49.59**	**274**	*e*P	**P**	**16 06 19.4**	**-0.3**
	comp=Z,22nm,0.5s,mb5.5						
KBK	**Karagaybulak**	**49.77**	**296**	P	**P**	**16 06 20.7**	**-0.2**
	SNR=23						
KZA	**Kyzart**	**49.80**	**295**	P	**P**	**16 06 21.9**	**+0.7**
	SNR=6.7						
USP	**Ospenovka**	**49.83**	**297**	P	**P**	**16 06 20.8**	**-0.6**
	SNR=11						
AAK	**Ala-Archa**	**50.09**	**296**	*e*P	**P**	**16 06 21.6**	**-1.7**
AAK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.7						
AAK	**Ala-Archa**	**50.09**	**296**	*e*P	**P**	**16 06 21.6**	**-1.7**
	comp=Z,11nm,1.3s,mb4.7						
KOLN	**Koldanda**	**50.48**	**274**	*e*P	**P**	**16 06 26.7**	**+0.1**
	comp=Z,28nm,0.6s,mb5.5						
EKS2	**Erkin-Say**	**50.56**	**296**	P	**P**	**16 06 26.3**	**-0.6**
	SNR=10						
AML	**Almayashu**	**50.83**	**296**	P	**P**	**16 06 29.2**	**+0.2**
	SNR=7.5						
ARU	**Arti**	**54.23**	**317**	P	**P**	**16 06 52.5**	**-1.7**
	comp=Z,96nm,0.9s,mb5.7,SNR=8.6						
ARU	**Arti**	**54.23**	**317**	⇑*i*P	**P**	**16 06 46.0**	**-8.2**
ARU				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
NDI	**New Delhi**	**54.75**	**279**	*e*	**P**	**16 06 56.0**	**-2.3**
RES	**Resolute Bay**	**57.67**	**16**	*e*P	**P**	**16 07 17.1**	**-1.6**
RES				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
RES	**Resolute Bay**	**57.67**	**16**	*e*P	**P**	**16 07 17.1**	**-1.6**
	comp=Z,9.6nm,0.8s,mb4.9						
KEV	**Kevo**	**59.83**	**339**	*e*p	**P**	**16 07 30.1**	**-3.6**
DAG	**Danmarks Havn**	**61.35**	**355**	⇑*e*P	**P**	**16 07 42.7**	**-1.3**
DAG				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.0						
DAG	**Danmarks Havn**	**61.35**	**355**	⇑*e*P	**P**	**16 07 42.7**	**-1.3**
	comp=Z,1.5nm,0.8s,mb4.2						
DAG	**Danmarks Havn**	**61.35**	**355**	⇑*i*P	**P**	**16 07 42.7**	**-1.3**
	comp=Z,1.5nm,0.8s,mb4.2						
JOF	**Joensuu**	**62.81**	**332**	*e*p	**P**	**16 07 52.2**	**-1.7**
	comp=Z,7.5nm,0.5s,mb5.1						
KAF	**Kangasniemi**	**65.09**	**333**	*e*p	**P**	**16 08 06.7**	**-2.0**
	comp=Z,7.9nm,0.9s,mb4.7,baz=46,slow=6.2						
KAF	**Kangasniemi**	**65.09**	**333**	*e*P	**P**	**16 08 06.7**	**-2.0**
KAF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
OBN	**Obninsk**	**65.56**	**323**	⇑*e*P	**P**	**16 08 07.3**	**-4.5**
OBN				*e*		16 08 40.7	
OBN				*e*S	S	16 16 49.7	-3.4
OBN				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
FINES	**FINESS Array B**	**65.63**	**332**	*e*P	**P**	**16 08 11.0**	**-1.1**
FFC	**Flin Flon**	**68.83**	**35**	*e*P	**P**	**16 08 32.3**	**0.0**
FFC				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
FFC	**Flin Flon**	**68.83**	**35**	*e*P	**P**	**16 08 32.3**	**0.0**
	comp=Z,3.0nm,0.7s,mb4.3						
FCC	**Fort Churchill**	**69.05**	**28**	*e*P	**P**	**16 08 33.1**	**-0.5**
FCC				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
FCC	**Fort Churchill**	**69.05**	**28**	*e*P	**P**	**16 08 33.1**	**-0.5**
	comp=Z,6.1nm,1.0s,mb4.5						
KIV	**Kislovodsk**	**69.33**	**311**	*e*P	**P**	**16 08 36.6**	**+1.0**
KIV				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
KIV	**Kislovodsk**	**69.33**	**311**	*e*P	**P**	**16 08 36.6**	**+1.0**
	comp=Z,16nm,0.9s,mb4.9						
ZEI	**Tsey**	**69.37**	**309**	*e*P	**P**	**16 08 35.1**	**-0.8**
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
BOZ	**Bozeman (W)**	**70.12**	**46**	*e*P	**P**	**16 08 41.8**	**+1.4**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BOZ	**Bozeman (W)**	**70.12**	**46**	*e*P	**P**	**16 08 41.8**	**+1.4**
	comp=Z,2.1nm,0.7s,mb4.2						
NB2	**NORSAR Subarra**	**70.67**	**338**	P	**P**	**16 08 42.7**	**-0.7**
	comp=Z,2.2nm,0.8s,mb4.1,baz=34,slow=6.2						
NB2	**NORSAR Subarra**	**70.67**	**338**	P	**P**	**16 08 42.7**	**-0.7**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
SOC	**Sochi**	**71.24**	**312**	*e*P	**P**	**16 08 46.4**	**-0.8**
SOC				pmax	pmax		
	comp=Z,77nm,1.0s,mb5.6						
MOOW	**Moose Ponds**	**71.83**	**47**	*e*P	**P**	**16 08 52.7**	**+2.0**
BW06	**Boulder Array**	**73.13**	**48**	*e*P	**P**	**16 08 59.3**	**+0.9**
MALT	**Malatya**	**75.42**	**308**	*e*P	**P**	**16 09 12.8**	**+1.0**
KWP	**Kalwaria**	**75.48**	**325**	*e*P	**P**	**16 09 12.6**	**+0.7**
PV10	**Paradox Valley**	**76.35**	**51**	*e*P	**P**	**16 09 19.3**	**+2.3**
ISCO	**Idaho Springs**	**77.32**	**48**	P	**P**	**16 09 24.2**	**+1.7**
ISCO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ISCO	**Idaho Springs**	**77.32**	**48**	P	**P**	**16 09 24.2**	**+1.7**
	comp=Z,0.9nm,0.5s,mb4.0						
DPC	**Dobruska-Polom**	**77.55**	**329**	*e*P	pP	16 09 30.1	-3.8
DPC	**Dobruska-Polom**	**77.55**	**329**	*e*pP	pP	16 09 30.1	-3.8
CLL	**Collm**	**78.03**	**331**	⇑*i*P	**P**	**16 09 26.0**	**-0.1**
CLL				*i*	pP	16 09 35.5	-1.0
CLL	**Collm**	**78.03**	**331**	⇑P	**P**	**16 09 26.0**	**-0.1**
	comp=Z,logA/T=1.1,mb4.8						
CLL				*e*		16 09 31.0	
CLL				*i* *PP	pP	16 09 35.5	-1.0
PVCC	**Panska Ves**	**78.08**	**330**	*e*P	**P**	**16 09 26.8**	**+0.4**
PRU	**Pruhonice**	**78.52**	**329**	*e*P	**P**	**16 09 29.7**	**+0.8**
KHC	**Kasperske Hory**	**79.59**	**329**	*e*P	**P**	**16 09 35.3**	**+0.6**
GRA1	**Grafenberg Arr**	**80.00**	**331**	*e*P	**P**	**16 09 37.5**	**+0.6**
	comp=Z,5.0nm,0.9s,mb4.4						
GRF	**Grafenberg Arr**	**80.00**	**331**	*e*P	**P**	**16 09 37.5**	**+0.6**
GRF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
GRF	**Grafenberg Arr**	**80.00**	**331**	*e*P	**P**	**16 09 37.5**	**+0.6**
GRF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
GRF	**Grafenberg Arr**	**80.00**	**331**	*e*P	**P**	**16 09 37.5**	**+0.6**
	comp=Z,5.0nm,0.9s,mb4.4						
FLN	**La Foliniere**	**84.65**	**337**	*e*P	**P**	**16 10 00.7**	**-0.1**
LDF	**La Druitiere**	**84.69**	**337**	*e*P	**P**	**16 10 01.7**	**+0.7**
SSF	**Saint Saulge**	**84.93**	**334**	*e*P	**P**	**16 10 02.5**	**+0.3**
LPL	**La Plagne**	**85.16**	**331**	*e*P	**P**	**16 10 04.4**	**+1.0**
	comp=Z,11nm,0.8s,mb4.7						
LPL	**La Plagne**	**85.16**	**331**	*e*P	**P**	**16 10 04.4**	**+1.0**
LPL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
LPG	**La Plagne**	**85.17**	**331**	*e*P	**P**	**16 10 04.5**	**+1.0**
	comp=Z,13nm,0.9s,mb4.8						
LPG	**La Plagne**	**85.17**	**331**	*e*P	**P**	**16 10 04.5**	**+1.0**
LPG				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
SMF	**Signal de Mont**	**85.18**	**334**	*e*P	**P**	**16 10 03.8**	**+0.3**
	comp=Z,16nm,0.9s,mb4.8						
SMF	**Signal de Mont**	**85.18**	**334**	*e*P	**P**	**16 10 03.8**	**+0.3**
SMF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
AVF	**Avril sur Loir**	**85.21**	**334**	*e*P	**P**	**16 10 04.1**	**+0.4**
	comp=Z,14nm,0.8s,mb4.8						
AVF	**Avril sur Loir**	**85.21**	**334**	*e*P	**P**	**16 10 04.1**	**+0.4**
AVF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
MBDF	**Montbardon**	**85.82**	**331**	*e*P	**P**	**16 10 07.0**	**+0.3**
	comp=Z,12nm,0.8s,mb4.8						
MBDF	**Montbardon**	**85.82**	**331**	*e*P	**P**	**16 10 07.0**	**+0.3**
MBDF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
ORIF	**Oris-en-Rattie**	**85.98**	**332**	*e*P	**P**	**16 10 08.3**	**+0.9**
	comp=Z,11nm,0.8s,mb4.8						
ORIF	**Oris-en-Rattie**	**85.98**	**332**	*e*P	**P**	**16 10 08.3**	**+0.9**
ORIF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.8						
TCF	**Toulx Ste Croi**	**86.03**	**334**	*e*P	**P**	**16 10 08.3**	**+0.6**
VIVF	**Saint-Julien-l**	**86.46**	**332**	*e*P	**P**	**16 10 10.7**	**+0.9**
	comp=Z,24nm,1.1s,mb5.0						
VIVF	**Saint-Julien-l**	**86.46**	**332**	*e*P	**P**	**16 10 10.7**	**+0.9**
VIVF				pmax	pmax		
	comp=Z,12nm,1.1s,mb5.0						
MFF	**Saint Martin d**	**86.49**	**336**	*e*P	**P**	**16 10 10.8**	**+0.9**
	comp=Z,12nm,0.8s,mb4.9						
MFF	**Saint Martin d**	**86.49**	**336**	*e*P	**P**	**16 10 10.8**	**+0.9**
MFF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
SMRF	**Simiane la Rot**	**86.90**	**331**	*e*P	**P**	**16 10 12.8**	**+0.8**
LMR	**La Mourre**	**87.12**	**330**	*e*P	**P**	**16 10 13.0**	**-0.1**
RJF	**Les Rejaudoux**	**87.13**	**334**	*e*P	**P**	**16 10 14.1**	**+1.0**
**CA

SMDO Samad 4.09 178 ⇓P **Pn** **16 25 17.0 +0.4**
SNR=12

MOS ***31*** *16:30:17.7±0.9,8.16N×94.14E,h33km,mb5.3/50, MS4.6/10,Error ellipse: s-maj=12.2km s-min=5.7km az=124.2*
BJI ***31*** *16:30:17.0,7.71N×93.76E,h48km,mB5.2,mb4.9,Ms5.0, Msz4.7*
HRVD ***31*** *16:30:17.1±0.3,8.09N×94.26E,h12km,MW5.1/46, Centroid moment Tensor Solution. LP body waves: s17,c30;Mantle waves: s46,c86; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-3.45±.19; Mθθ-0.26±.16; Mφφ3.70±.16; Mrθ2.18±.54; Mrφ3.02±.13; Mθφ-1.79±.45; Best double couple: M0:5.466×10^16^ NP1:φs239°,δ52°, λ-41°. NP2:φs357°,δ59°,λ-134°. Principal axes: T 5.369, Plg4°, Azm117°; N .187, Plg37°, Azm24°; P -5.563, Plg53°, Azm212°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***31*** *16:30:17.1±0.5,8.07N×94.06E,mb5.1/50 Error ellipse: s-maj=13.2km s-min=8.4km az=149.0*
ISC 31 16:30:15.0±0.3,8.02N±0.05×94.16E±0.04,h19km, h19km±.5km:pP-P,n201,σ0:97/217,mb5.0/69,MS4.8/12, 15C-10D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.87**	**339**	*e*P	**Pn**	**16 31 15.8**	**+0.8**
PBA				*e*S	**Sn**	**16 32 00.3**	**-0.3**
SNG	**Songkhla**	**6.45**	**97**	P	**Pn**	**16 31 51.0**	**-0.6**
	242nm,1.0s						
NNT	**Nongplab**	**7.12**	**50**	P	**Pn**	**16 32 02.0**	**+1.1**
NST	**Nakhon Sawan**	**9.59**	**37**	P	**P**	**16 32 36.0**	**+0.6**
CM31	**Chiang Mai Arr**	**11.37**	**24**	*e*Pn	**P**	**16 32 59.6**	**-0.1**
	4.2nm,0.6s						
CHG	**Chiang Mai**	**11.69**	**23**	⇓P	**P**	**16 33 05.5**	**+1.4**
	11nm,1.2s						
NANT	**Nan**	**12.46**	**30**	P	**P**	**16 33 18.0**	**+3.6**
VIS	**Vishakhapatnam**	**14.29**	**313**	*e*P	**P**	**16 33 36.7**	**-2.0**
VIS				*e*		16 33 46.6	
	comp=Z,62nm,0.9s						
BWNR	**Bhubaneshwar**	**14.64**	**327**	*e*P	**P**	**16 33 41.9**	**-1.4**
BWNR				*e*		16 33 53.3	
	comp=Z,54nm,0.7s						
CAL	**Calcutta**	**15.49**	**339**	*e*	**P**	**16 34 00.4**	**+6.0**
CAL				*e*		16 37 05.0	
KOD	**Kodaikanal**	**16.63**	**279**	*e*	**P**	**16 34 14.5**	**+5.5**
SHL	**Shillong**	**17.58**	**353**	*e*P	**P**	**16 34 21.9**	**+1.0**
HYB	**Hyderabad**	**17.85**	**303**	*e*P	**P**	**16 34 26.0**	**+1.8**
HYB				*e*S	**S**	**16 37 41.0**	**+0.8**
HYB	**Hyderabad**	**17.85**	**303**	*i* P	**P**	**16 34 26.0**	**+1.8**
HYB				*e*S	**S**	**16 37 41.0**	**+0.8**
QIZ	**Qiongzhong**	**18.75**	**53**	P	**P**	**16 34 37.5**	**+2.2**
QIZ				S	**S**	**16 37 59.5**	**-1.0**
QIZ				LR	LR		
	comp=N,6μm,13.7s						
QIZ				LR	LR		
	comp=Z,2μm,9.5s						
KMI	**Kunming**	**18.88**	**25**	P	**P**	**16 34 41.1**	**+4.3**
KMI				pmax	pmax		
	comp=Z,32nm,1.8s						
KMI	**Kunming**	**18.88**	**25**	P	**P**	**16 34 41.1**	**+4.3**
	comp=Z,32nm,1.8s						
KMI				pP		16 34 47.4	
KMI				S	**S**	**16 38 18.9**	**+16**
KMI				SS	SS	16 38 47.0	+18
NGP	**Nagpur**	**19.58**	**313**	*e*P	**P**	**16 34 43.3**	**-1.7**
NGP				*e*S	**S**	**16 38 23.7**	**+4.6**
JIRN	**Jiri**	**20.94**	**340**	*e*P	**P**	**16 34 58.7**	**-0.6**
	comp=Z,58nm,0.5s						
PKI	**Pulchoki**	**21.14**	**338**	*e*P	**P**	**16 35 01.1**	**-0.2**
	comp=Z,134nm,0.8s,mb5.3						
DMN	**Daman**	**21.28**	**337**	*e*P	**P**	**16 35 02.4**	**-0.4**
	comp=Z,119nm,0.8s,mb5.3						
KKN	**Kakani**	**21.38**	**338**	*e*P	**P**	**16 35 03.1**	**-0.7**
	comp=Z,134nm,1.0s,mb5.2						
KAD	**Karad**	**21.55**	**297**	*e*P	**P**	**16 35 06.7**	**+1.1**
KAD				*e*		16 35 11.4	
	comp=Z,46nm,1.2s						
LSA	**Lhasa**	**21.75**	**353**	P	**P**	**16 35 07.8**	**+0.3**
LSA				S	**S**	**16 39 10.8**	**+8.6**
LSA				AMB	AMB		
	comp=Z,100nm,1.2s,mb5.1						
LSA				AMB	AMB		
	comp=Z,100nm,5.4s						
LSA				LR	LR		
	comp=N,8μm,14.9s,MS5.4						
LSA				LR	LR		
	comp=E,9μm,14.9s,MS5.4						
LSA				LR	LR		
	comp=Z,8μm,14.9s,MS5.3						
GKN	**Gorkha**	**21.82**	**337**	*e*P	**P**	**16 35 07.9**	**-0.3**
	comp=Z,144nm,1.0s,mb5.4						
KOLN	**Koldanda**	**22.04**	**334**	*e*P	**P**	**16 35 10.9**	**+0.5**
	comp=Z,618nm,1.3s,mb5.9						
BHPL	**Bhopal**	**22.07**	**315**	*e*P	**P**	**16 35 12.4**	**+1.6**
BHPL				*e*		16 35 18.9	
	comp=Z,117nm,1.4s						
SONA	**Sohna**	**25.78**	**323**	*e*P	**P**	**16 35 47.0**	**+0.3**
SONA				*e*		16 35 57.2	
	comp=Z,70nm,0.8s						
AYAN	**Aya Nagar**	**25.93**	**324**	*e*P	**P**	**16 35 48.0**	**-0.1**
NDI	**New Delhi**	**26.03**	**324**	*e*P	**P**	**16 35 48.9**	**-0.1**
NDI				*e*		16 35 59.5	
	comp=Z,140nm,1.5s						
NDI				*e*S	**S**	**16 40 20.8**	**+4.1**
KUDL	**Kundal**	**26.06**	**322**	*e*P	**P**	**16 35 49.3**	**0.0**
KHET	**Khetri**	**26.43**	**321**	*e*P	**P**	**16 35 53.1**	**+0.5**
XAN	**Xi'an**	**29.25**	**26**	P	**P**	**16 36 18.0**	**-0.3**
XAN				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.5						
LZH	**Lanzhou**	**29.30**	**16**	*e*P	**P**	**16 36 20.5**	**+1.8**
LZH				PP	PP	16 37 16.3	+2.4
LZH				SS	SS	16 42 43.0	+2.0
LZH				AMB	AMB		
	comp=Z,65nm,1.8s,mb5.1						
LZH				AMB	AMB		
	comp=Z,185nm,4.0s						
LZH				LR	LR		
	comp=E,865nm,10.1s						
LZH				LR	LR		
	comp=Z,1μm,11.4s,MS4.7						
LZH	**Lanzhou**	**29.30**	**16**	*e*P	**P**	**16 36 20.5**	**+1.8**
LZH				*SP	sP	16 36 28.5	+1.8
LZH						16 37 16.3	
LZH				SS	SS	16 42 43.0	+2.0
LZH				pmax	pmax		
	comp=Z,65nm,1.8s,mb5.1						
LZH				MLR	MLR		
	comp=Z,1μm,11.4s,MS4.7						
LZH	**Lanzhou**	**29.30**	**16**	*e*P	**P**	**16 36 20.5**	**+1.8**
	comp=Z,65nm,1.8s,mb5.1						
LZH				pP	pP	16 36 26.0	+1.7
LZH				sP	sP	16 36 28.5	+1.8
LZH				PP	PP	16 37 16.3	+2.4
LZH				*e*S	**S**	**16 41 29.0**	**+19**
LZH				sS		16 41 40.0	
LZH				SS	SS	16 42 43.0	+2.0
LZH				LR	LR		
	comp=Z,1μm,11.4s,MS4.7						
WHN	**Wuhan**	**29.31**	**37**	P	**P**	**16 36 22.5**	**+3.7**
WHN				LR	LR		
	comp=N,2μm,13.6s						
WHN				LR	LR		
	comp=E,2μm,8.6s						
NJ2	**Nanjing**	**33.15**	**40**	*e*P	**P**	**16 36 50.5**	**-2.0**
NJ2				S	**S**	**16 42 04.0**	**-5.9**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,504nm,3.6s						
NJ2				LR	LR		
	comp=N,2μm,15.1s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,17.4s,MS4.9						
NJ2				LR	LR		
	comp=Z,2μm,18.3s,MS5.0						
SSE	**Sheshan**	**34.10**	**44**	*e*P	**P**	**16 36 59.0**	**-1.9**
SSE				PP	PP	16 38 15.0	-0.3
SSE				S	**S**	**16 42 23.8**	**-0.9**
SSE				SCS	ScS	16 47 12.8	-8.9
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,142nm,5.4s						
SSE				LR	LR		
	comp=N,912nm,15.7s,MS4.7						
SSE				LR	LR		
	comp=E,781nm,15.7s,MS4.7						
SSE				LR	LR		
	comp=Z,837nm,11.4s,MS4.7						
SSE	**Sheshan**	**34.10**	**44**	*e*P	**P**	**16 36 59.1**	**-1.8**
	comp=Z,20nm,0.7s,mb5.2						
SSE				pP	pP	16 37 07.6	+1.1
SSE				PP	PP	16 38 15.1	-0.2
SSE				S	**S**	**16 42 23.8**	**-0.9**
SSE				sS		16 42 39.9	
SSE				SS	SS	16 44 57.6	+24
SSE				ScS	ScS	16 47 12.7	-9.0
SSE				LR	LR		
	comp=Z,840nm,11.4s,MS4.7						
WMQ	**Urumqi**	**36.11**	**352**	*e*P	**P**	**16 37 18.0**	**+0.2**
BJI	**Beijing**	**37.47**	**28**	*e*P	**P**	**16 37 28.8**	**-0.5**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
BJI				MLR	MLR		
	comp=Z,450nm,21.8s,MS4.2						
BJI	**Beijing**	**37.47**	**28**	*e*P	**P**	**16 37 28.8**	**-0.5**
	comp=Z,4.0nm,0.8s,mb4.3						
BJI				S	**S**	**16 43 29.3**	**+13**
BJI				LR	LR		
	comp=Z,450nm,21.8s,MS4.2						
UCH	**Uchtor**	**38.23**	**336**	P	**P**	**16 37 36.4**	**+0.7**
	SNR=7.1						
TKM2	**Tokmak 2**	**38.40**	**338**	P	**P**	**16 37 38.9**	**+1.8**
	SNR=6.4						
KBK	**Karagaybulak**	**38.42**	**337**	P	**P**	**16 37 38.1**	**+0.8**
	SNR=10.0						
AML	**Almayashu**	**38.48**	**335**	P	**P**	**16 37 38.6**	**+0.8**
	SNR=17						
AAK	**Ala-Archa**	**38.58**	**337**	P	**P**	**16 37 39.6**	**+1.0**
	SNR=9.7						
AAK	**Ala-Archa**	**38.58**	**337**	*e*P	**P**	**16 37 37.8**	**-0.8**
AAK				*e**PP	pP	16 37 44.3	0.0
FRU	**Bishkek**	**38.70**	**337**	*e*P	**P**	**16 37 40.0**	**+0.4**
FRU				*e*		16 39 16.0	
FRU				pmax	pmax		
	comp=Z,40nm,1.8s,mb4.8						
FRU				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.7						
EKS2	**Erkin-Say**	**38.89**	**336**	P	**P**	**16 37 41.9**	**+0.7**
	SNR=8.0						
USP	**Ospenovka**	**39.11**	**337**	P	**P**	**16 37 43.4**	**+0.3**
	SNR=11						
MKAR	**Makanchi Array**	**39.95**	**347**	*i* P	**P**	**16 37 49.4**	**-0.5**
ULN	**Ulaanbaatar**	**41.19**	**13⇑**	*e*P	**P**	**16 38 00.8**	**+0.7**
SNY	**Shenyang**	**42.54**	**33⇑**	P	**P**	**16 38 15.3**	**+4.0**
SNY				LR	LR		
	comp=E,900nm,14.9s						
SNY				LR	LR		
	comp=Z,610nm,13.2s,MS4.7						
ZAK	**Zakamensk**	**42.90**	**9**	*e*P	**P**	**16 38 12.0**	**-2.1**
TLY	**Talaya**	**44.22**	**8⇑**	*e*P	**P**	**16 38 31.3**	**+6.5**
KURK	**Kurchatov**	**44.47**	**346**	*e*P	**P**	**16 38 25.9**	**-1.0**
KURK				*e*PP	pP	16 38 32.6	0.0
KURK				pmax	pmax		
	comp=Z,48nm,1.2s,mb5.1						
KURK	**Kurchatov**	**44.47**	**346**	*e*P	**P**	**16 38 25.9**	**-1.0**
	comp=Z,48nm,1.2s,mb5.1						
KURK				*e*pP	pP	16 38 32.6	0.0
NVS	**Novosibirsk**	**47.50**	**351**	*e*P	**P**	**16 38 49.5**	**-1.3**
NVS				*e*S	**S**	**16 45 46.1**	**+2.5**
NVS				pmax	pmax		
	comp=N,29nm,1.4s						
NVS				pmax	pmax		
	comp=E,13nm,1.4s						
NVS				pmax	pmax		
	comp=Z,47nm,1.4s,mb5.3						
NVS				smax			
	comp=N,14nm,2.4s						
NVS				smax			
	comp=E,41nm,2.4s						
WRAB	**Tennant Creek**	**48.33**	**126**	*e*P	**P**	**16 38 58.3**	**+0.5**
WRAB				*e**PP	pP	16 39 03.5	0.0
WRAB				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.0						
WRAB	**Tennant Creek**	**48.33**	**126**	*e*P	**P**	**16 38 58.2**	**+0.5**
	comp=Z,25nm,1.4s,mb5.1						
WRAB				*e*pP	pP	16 39 03.5	0.0
CHKZ	**Chkalovo**	**49.34**	**342**	*e*P	**P**	**16 39 04.4**	**-0.7**
CHKZ				*e**PP	pP	16 39 10.5	-0.4
KLR	**Kul'dur**	**51.75**	**31**	*e*P	**P**	**16 39 24.2**	**+0.7**
KLR				MLR	MLR		
	comp=Z,1μm,14.0s,MS5.0						
BOD	**Bodaibo**	**52.00**	**13**	*e*P	**P**	**16 39 24.6**	**-0.7**
GNI	**Garni**	**54.35**	**314**	*e*P	**P**	**16 39 38.8**	**-4.1**
GNI				*e**PP	pP	16 39 45.1	-3.6
GNI				pmax	pmax		
	comp=Z,37nm,1.3s						
GNI	**Garni**	**54.35**	**314**	*e*P	**P**	**16 39 38.8**	**-4.1**
	comp=Z,36nm,1.3s,mb5.2						
GNI				*e*pP	pP	16 39 45.1	-3.6
SVE	**Sverdlovsk**	**55.27**	**338**	*e*P	**P**	**16 39 45.0**	**-4.4**
SVE				pmax	pmax		
	comp=Z,100nm,2.0s,mb5.5						
ARU	**Arti**	**55.76**	**337⇑**	*i* P	**P**	**16 39 44.5**	**-8.5**
ARU				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.1						
KIV	**Kislovodsk**	**57.22**	**318**	*i* P	**P**	**16 40 01.8**	**-1.8**
KIV				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
KIV	**Kislovodsk**	**57.22**	**318**	*i* P	**P**	**16 40 01.8**	**-1.8**
	comp=Z,2.3nm,1.0s,mb4.2						
KMBO	**Kilima Mbogo**	**57.46**	**264**	*e*P	**P**	**16 40 08.1**	**+2.4**
KMBO				*e**PP	pP	16 40 14.4	+2.8
KMBO				pmax	pmax		
	comp=Z,28nm,1.2s						
KMBO	**Kilima Mbogo**	**57.46**	**264**	*e*P	**P**	**16 40 08.1**	**+2.4**
	comp=Z,28nm,1.2s,mb5.2						
KMBO				*e*pP	pP	16 40 14.4	+2.8
MALT	**Malatya**	**58.38**	**310**	*e*P	**P**	**16 40 10.3**	**-1.5**
MALT				*e**PP	pP	16 40 16.4	-1.3
MALT				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
MALT	**Malatya**	**58.38**	**310**	*e*P	**P**	**16 40 10.3**	**-1.5**
	comp=Z,9.1nm,1.1s,mb4.7						
MALT				*e*pP	pP	16 40 16.4	-1.3
SOKR	**Solikamsk**	**58.67**	**339**	*i*P	**P**	**16 40 12.3**	**-1.2**
SOKR				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4						
SOKR				MLR	MLR		
	comp=Z,1μm,22.0s,MS4.9						
SOC	**Sochi**	**59.09**	**316**	*e*P	**P**	**16 40 13.1**	**-3.5**
SOC				*e*		16 40 58.2	
SOC				*e*S	**S**	**16 48 17.0**	**-4.0**
SOC				pmax	pmax		
	comp=Z,63nm,1.0s,mb5.6						
SOC				pmax	pmax		
	comp=N,35nm,0.6s						
SOC				pmax	pmax		
	comp=E,49nm,0.8s						
YAK	**Yakutsk**	**59.85**	**18⇑**	*i*P	**P**	**16 40 21.1**	**-0.5**
VRSR	**Storozhevoye**	**62.27**	**324**	*e*P	**P**	**16 40 36.2**	**-2.0**
VRSR				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
VRSR				pmax	pmax		
	comp=N,4.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,9.0nm,0.8s						
MBAR	**Mbarara**	**63.79**	**265**	*e*P	**P**	**16 40 49.1**	**+0.2**
MBAR				*e**PP	pP	16 40 56.2	+1.4
MBAR				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.0						
MBAR	**Mbarara**	**63.79**	**265**	*e*P	**P**	**16 40 49.1**	**+0.2**
	comp=Z,22nm,1.3s,mb5.0						
MBAR				*e*pP	pP	16 40 56.2	+1.4
MOS	**Moscow**	**64.97**	**329**	*e*P	**P**	**16 40 54.1**	**-1.7**
MOS				*e*S	**S**	**16 49 38.0**	**+3.1**
MOS				pmax	pmax		
	comp=Z,88nm,1.5s,mb5.6						
OBN	**Obninsk**	**65.27**	**328⇑**	*e*P	**P**	**16 40 53.9**	**-3.8**
OBN				*e*		16 43 15.9	
OBN				*e*SS	SS	16 53 47.3	-6.1
OBN				pmax	pmax		
	comp=Z,49nm,1.5s,mb5.3						
OBN				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.7						
MA2	**Magadan**	**66.63**	**28**	*e*P	**P**	**16 41 07.2**	**+0.9**
MA2				*e*		16 49 49.8	
MA2				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
MA2	**Magadan**	**66.63**	**28**	*i* P	**P**	**16 41 07.6**	**+1.3**
TIXI	**Tiksi**	**67.08**	**11⇓**	*i*P	**P**	**16 41 08.0**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.3						
TIXI	**Tiksi**	**67.08**	**11⇓**	*e*P	**P**	**16 41 07.0**	**-2.1**
MLR	**Muntele Rosu**	**69.08**	**316⇑**	P	**P**	**16 41 21.4**	**-0.6**
LSZ	**Lusaka**	**69.34**	**250**	*e*P	**P**	**16 41 24.4**	**+0.4**
LSZ				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
LSZ	**Lusaka**	**69.34**	**250**	*e*P	**P**	**16 41 24.4**	**+0.4**
	comp=Z,12nm,1.2s,mb4.7						
BURAR	**Bucovina Array**	**69.95**	**318**	⇓P	**P**	**16 41 27.4**	**+0.2**
LVV	**L'vov**	**71.12**	**320**	*e*P	**P**	**16 41 39.3**	**+5.0**
KOLS	**Kolonicke sedl**	**72.11**	**319**	*e*P	**P**	**16 41 41.2**	**+1.0**
SUW	**Suwalki**	**72.40**	**324**	*e*P	**P**	**16 41 40.9**	**-1.0**
SUW				*e*	pP	16 41 46.5	-1.3
SUW	**Suwalki**	**72.40**	**324**	*e*P	**P**	**16 41 40.9**	**-0.9**
SUW				*e*	pP	16 41 46.5	-1.3
CRVS	**Cervenica-Dubn**	**72.63**	**319**	*e*P	**P**	**16 41 44.1**	**+0.7**
CRVS				epP	pP	16 41 49.1	-0.2
PSZ	**Piszkesteto**	**73.55**	**318**	*e*P	**P**	**16 41 48.9**	**+0.2**
PSZ				*e**PP	pP	16 41 54.4	-0.3
PSZ				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.0						
PSZ	**Piszkesteto**	**73.55**	**318**	*e*P	**P**	**16 41 48.9**	**+0.1**
	comp=Z,27nm,1.4s,mb5.0						
PSZ				epP	pP	16 41 54.4	-0.3
OJC	**Ojcow**	**73.88**	**320**	*e*P	**P**	**16 41 50.4**	**-0.2**
LBTB	**Lobatse**	**74.33**	**241**	*e*P	**P**	**16 41 55.2**	**+1.5**
LBTB				*e**PP	pP	16 42 02.3	+2.6
LBTB				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
LBTB	**Lobatse**	**74.33**	**241**	*e*P	**P**	**16 41 55.2**	**+1.5**
	comp=Z,5.7nm,0.7s,mb4.6						
LBTB				epP	pP	16 42 02.3	+2.6
OKC	**Ostrava-Krasne**	**74.89**	**319**	*e*P	**P**	**16 41 55.9**	**-0.6**
OKC				epP	pP	16 42 02.6	+0.1
MORC	**Moravsky Berou**	**75.28**	**319**	*e*P	**P**	**16 41 58.8**	**+0.1**
MORC				*e**PP	pP	16 42 04.8	+0.1
MORC				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.1						
MORC	**Moravsky Berou**	**75.28**	**319**	*e*P	**P**	**16 41 58.8**	**+0.2**
	comp=Z,28nm,1.1s,mb5.1						
MORC				epP	pP	16 42 04.8	+0.2
ZST	**Bratislava**	**75.44**	**318**	*e*P	**P**	**16 41 59.8**	**+0.2**
ZST				epP	pP	16 42 04.9	-0.7
BILL	**Bilibino**	**75.94**	**22⇓**	*e*P	**P**	**16 42 02.7**	**+0.6**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
BILL				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.7						
BILL	**Bilibino**	**75.94**	**22⇓**	*e*P	**P**	**16 42 02.8**	**+0.7**
DPC	**Dobruska-Polom**	**76.11**	**320**	*e*P	**P**	**16 42 04.0**	**+0.6**
DPC				epP	pP	16 42 09.8	+0.4
KSP	**Ksiaz**	**76.16**	**320**	*e*P	**P**	**16 42 04.1**	**+0.4**
KSP				epP	pP	16 42 09.2	-0.5
KSP	**Ksiaz**	**76.16**	**320**	*e*P	**P**	**16 42 03.9**	**+0.2**
KSP				*e*	pP	16 42 10.3	+0.6
UPC	**Upice**	**76.32**	**320**	*e*P	**P**	**16 42 04.9**	**+0.3**
UPC				epP	pP	16 42 11.0	+0.4
ARSA	**Arzberg**	**76.44**	**317⇑**	*i*P	**P**	**16 42 05.7**	**+0.4**
	comp=Z,30nm,1.7s,mb4.9						
PERS	**Pernice**	**76.69**	**316**	*e*P	**P**	**16 42 06.6**	**-0.2**
PRU	**Pruhonice**	**77.23**	**319**	*e*P	**P**	**16 42 10.1**	**+0.5**
PRU				epP	pP	16 42 16.1	+0.4
PVCC	**Panska Ves**	**77.24**	**320**	*e*P	**P**	**16 42 10.5**	**+0.8**
PVCC				epP	pP	16 42 16.3	+0.6
MOA	**Molln**	**77.32**	**317⇑**	*i*P	**P**	**16 42 10.2**	**0.0**
	comp=Z,19nm,1.3s,mb4.9						
BRG	**Berggiesshubel**	**77.65**	**320**	*i* P	**P**	**16 42 12.5**	**+0.6**
BRG				*e*	pP	16 42 17.8	-0.2
BRG				pmax	pmax		
	comp=Z,39nm,1.7s,mb5.1						
BRG	**Berggiesshubel**	**77.65**	**320**	*i* P	**P**	**16 42 12.5**	**+0.6**
	comp=Z,39nm,1.7s,mb5.1						
BRG				*e*	pP	16 42 17.8	-0.2
GEC2	**GERESS Array S**	**77.73**	**318**	*e*P	**P**	**16 42 12.8**	**+0.4**
GEC2				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
GEC2	**GERESS Array S**	**77.73**	**318**	*e*P	**P**	**16 42 12.8**	**+0.4**
	comp=Z,8.0nm,0.9s,mb4.7						
KHC	**Kasperske Hory**	**77.82**	**318⇑**	*e*P	**P**	**16 42 13.5**	**+0.6**
KHC	**Kasperske Hory**	**77.82**	**318**	*e*P	**P**	**16 42 13.3**	**+0.4**
KHC				epP	pP	16 42 18.8	-0.1
RUE	**Ruedersdorf**	**77.83**	**322**	*e*P	**P**	**16 42 12.7**	**-0.2**
	comp=Z,15nm,0.4s,mb5.3						
RUE				epP	pP	16 42 19.2	+0.3
PTCC	**Patocco-Chiusa**	**77.90**	**316⇑**	*i*P	**P**	**16 42 13.6**	**+0.2**
CLL	**Collm**	**78.26**	**321**	*e*P	**P**	**16 42 15.0**	**-0.3**
CLL				*i*	pP	16 42 20.8	-0.5
CLL				pmax	pmax		
	comp=Z,36nm,1.7s,mb5.0						
CLL	**Collm**	**78.26**	**321**	*e*P	**P**	**16 42 15.0**	**-0.3**
	comp=Z,36nm,1.7s,mb5.0						
CLL				*i*	pP	16 42 20.8	-0.5
CLL	**Collm**	**78.26**	**321**	P	**P**	**16 42 15.0**	**-0.3**
	comp=Z,logA/T=1.3,mb5.0						
CLL				*i **PP	pP	16 42 20.8	-0.5
WET	**Wettzell**	**78.28**	**318**	*e*P	**P**	**16 42 15.9**	**+0.5**
WET				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
WET	**Wettzell**	**78.28**	**318**	*e*P	**P**	**16 42 15.9**	**+0.5**
	comp=Z,6.0nm,0.9s,mb4.5						
NKC	**Novy Kostel**	**78.58**	**320**	*e*P	**P**	**16 42 17.9**	**+0.8**
NKC				epP	pP	16 42 23.4	+0.3
SFI	**Santa Sofia**	**78.96**	**313**	*e*P	**P**	**16 42 20.6**	**+1.3**
PGD	**Poggio Sodo**	**79.05**	**313**	*e*P	**P**	**16 42 21.2**	**+1.4**
CTI	**Castel Tesino**	**79.08**	**315**	*e*P	**P**	**16 42 20.7**	**+0.8**
WTTA	**Wattenberg**	**79.09**	**317⇓**	*i*P	**P**	**16 42 19.2**	**-0.7**
	comp=Z,30nm,1.1s,mb5.1						
WTTA	**Wattenberg**	**79.09**	**317⇓**	*i*P	**P**	**16 42 19.2**	**-0.7**
WTTA				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1						
MOX	**Moxa**	**79.12**	**320**	*e*P	**P**	**16 42 20.4**	**+0.4**
MOX				pmax	pmax		
	comp=Z,43nm,1.9s,mb5.0						
MOX	**Moxa**	**79.12**	**320**	*e*P	**P**	**16 42 20.4**	**+0.4**
	comp=Z,43nm,1.9s,mb5.0						
MOX	**Moxa**	**79.12**	**320**	*i* P	**P**	**16 42 20.4**	**+0.4**
	comp=Z,logA/T=1.4,mb5.1						
VMG	**Vicchio**	**79.18**	**313**	*e*P	**P**	**16 42 22.4**	**+1.9**
GRA1	**Grafenberg Arr**	**79.37**	**319**	*e*P	**P**	**16 42 22.2**	**+0.8**
	comp=Z,7.0nm,0.8s,mb4.6						
GRA1				epP	pP	16 42 27.6	+0.2
GRF	**Grafenberg Arr**	**79.37**	**319**	*e*P	**P**	**16 42

comp=Z,11nm,1.3s,mb4.6
FIN Finale Ligure 81.57 314 *e*P **P 16 42 33.5 +0.3**
CDF Champ du Feu 82.00 318 *e*P **P 16 42 34.3 -1.0**
comp=Z,10nm,0.7s,mb4.5
CDF Champ du Feu 82.00 318 *e*P **P 16 42 34.3 -1.0**
CDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SBF Sospel 82.15 313 *e*P **P 16 42 35.5 -0.7**
comp=Z,56nm,0.9s,mb5.2
SBF Sospel 82.15 313 *e*P **P 16 42 35.5 -0.7**
SBF pmax pmax
comp=Z,28nm,0.9s,mb5.2
HINF Hinteralfeld 82.31 317 *e*P **P 16 42 35.7 -1.2**
LPG La Plagne 82.53 315 *e*P **P 16 42 37.8 -0.3**
comp=Z,25nm,0.8s,mb5.0
LPG La Plagne 82.53 315 *e*P **P 16 42 37.8 -0.3**
LPG pmax pmax
comp=Z,12nm,0.8s,mb5.0
LPL La Plagne 82.54 315 *e*P **P 16 42 37.9 -0.3**
comp=Z,47nm,0.8s,mb5.3
LPL La Plagne 82.54 315 *e*P **P 16 42 37.9 -0.3**
LPL pmax pmax
comp=Z,24nm,0.8s,mb5.3
MBDF Montbardon 82.57 314 *e*P **P 16 42 36.9 -1.4**
comp=Z,11nm,0.7s,mb4.7
MBDF Montbardon 82.57 314 *e*P **P 16 42 36.9 -1.4**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
BNI Bardonecchia 82.61 314 *e*P **P 16 42 40.0 +1.5**
BNI pmax pmax
comp=Z,18nm,1.0s,mb5.1
BNI Bardonecchia 82.61 314 *e*P **P 16 42 40.0 +1.5**
comp=Z,18nm,1.0s,mb5.1
HAU Haudompre 82.64 317 *e*P **P 16 42 37.7 -0.9**
comp=Z,64nm,1.2s,mb5.2
HAU *e*R
comp=Z,201nm,17.8s
HAU Haudompre 82.64 317 *e*P **P 16 42 37.7 -0.9**
HAU pmax pmax
comp=Z,32nm,1.2s,mb5.2
HAU MLR MLR
comp=Z,200nm,17.8s,MS4.5
FRF La Foret Royal 82.74 313 *e*P **P 16 42 38.6 -0.6**
comp=Z,88nm,1.4s,mb5.3
FRF La Foret Royal 82.74 313 *e*P **P 16 42 38.6 -0.6**
FRF pmax pmax
comp=Z,44nm,1.4s,mb5.3
CABF La Chapelle 82.91 316 *e*P **P 16 42 39.6 -0.5**
comp=Z,61nm,1.4s,mb5.2
CABF La Chapelle 82.91 316 *e*P **P 16 42 39.6 -0.5**
CABF pmax pmax
comp=Z,31nm,1.4s,mb5.2
ORIF Oris-en-Rattie 83.19 314 *e*P **P 16 42 41.2 -0.3**
comp=Z,16nm,0.9s,mb4.8
ORIF *e*R
comp=Z,212nm,20.8s
GIVF Givet 83.49 320 *e*P **P 16 42 42.5 -0.4**
BAIF Baives 83.89 320 *e*P **P 16 42 44.6 -0.4**
comp=Z,40nm,1.0s,mb5.2
BAIF Baives 83.89 320 *e*P **P 16 42 44.6 -0.4**
BAIF pmax pmax
comp=Z,20nm,1.0s,mb5.2
SMF Signal de Mont 84.45 316 *e*P **P 16 42 46.9 -1.0**
comp=Z,60nm,1.2s,mb5.3
SMF Signal de Mont 84.45 316 *e*P **P 16 42 46.9 -1.0**
SMF pmax pmax
comp=Z,30nm,1.2s,mb5.3
SSF Saint Saulge 84.64 317 *e*P **P 16 42 48.3 -0.5**
AVF Avril sur Loir 84.77 316 *e*P **P 16 42 48.6 -0.9**
comp=Z,35nm,1.2s,mb5.1
AVF Avril sur Loir 84.77 316 *e*P **P 16 42 48.6 -0.9**
AVF pmax pmax
comp=Z,18nm,1.2s,mb5.1
BGF Bois d'Agland 85.14 316 *e*P **P 16 42 50.9 -0.5**
comp=Z,15nm,0.8s,mb4.8
BGF Bois d'Agland 85.14 316 *e*P **P 16 42 50.9 -0.5**
BGF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
TCF Toulx Ste Croi 85.61 316 *e*P **P 16 42 53.4 -0.3**
CAF Calviac 85.88 315 *e*P **P 16 42 54.8 -0.3**
comp=Z,56nm,1.5s,mb5.3
CAF Calviac 85.88 315 *e*P **P 16 42 54.8 -0.3**
CAF pmax pmax
comp=Z,28nm,1.5s,mb5.3
TNA Tin City 86.03 24 *e*P **P 16 42 55.7 +0.3**
comp=Z,2.6nm,0.8s,mb4.5
TNA *e*pP pP 16 43 01.8 +0.4
RJF Les Rejaudoux 86.22 315 *e*P **P 16 42 55.8 -1.0**
RJF *e*R
comp=Z,229nm,20.0s
LDF La Druitiere 86.87 318 *e*P **P 16 42 59.2 -0.7**
FLN La Foliniere 87.08 319 *e*P **P 16 43 00.2 -0.7**
FLN *e*R
comp=Z,193nm,18.2s
ETSF Etsaut 88.04 313 *e*P **P 16 43 05.8 +0.1**
comp=Z,18nm,1.0s,mb5.0
ETSF Etsaut 88.04 313 *e*P **P 16 43 05.8 +0.1**
ETSF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
SJPF Ste Jean 88.49 313 *e*P **P 16 43 06.8 -1.0**
IMA Indian Mountai 91.48 22 *e*P **P 16 43 23.3 +2.1**
IMA *e**PP pP 16 43 28.6 +1.3
IMA pmax pmax
comp=Z,46nm,0.8s,mb5.9
IMA Indian Mountai 91.48 22 *e*P **P 16 43 23.3 +2.1**
comp=Z,46nm,0.8s,mb5.9
IMA *e*pP pP 16 43 28.6 +1.3
INK Inuvik 96.85 16 *e*P **P 16 43 46.8 +1.1**
INK pmax pmax
comp=Z,10.0nm,1.2s
INK Inuvik 96.85 16 *e*P **P 16 43 46.8 +1.0**
comp=Z,10.0nm,1.2s,mb5.1
INK *e*pP pP 16 43 52.5 +0.7

NIED ***31*** *16:30:00, 42.90N×142.00E, h116km, Mw3.9 Best double couple: M0 6.79×10^14 NP1:φ=218°, δ82°, λ41°. NP2:φ=120°, δ50°, λ169°.*
JMA ***31*** *16:30:55.0±0.1, 42.86N×142.01E, h118km±1km, M3.5*
ISC 31 16:30:54.8±0.9, 42.80N±0.04×142.07E±0.05, h116km±7km, n17, σ0=46/31, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JBT2	**Biratori 2**	**0.22**	**95**	P		**P**	**16 31 11.7**	**+0.7**
JBT2				*e*S		**S**	**16 31 24.2**	**+0.9**
JEW	**Eniwo**	**0.46**	**275**	P		**P**	**16 31 12.2**	**0.0**
JEW				*e*S		**S**	**16 31 24.7**	**-0.5**
JFR	**Furan**	**0.53**	**47**	P		**P**	**16 31 12.7**	**+0.1**
JAB	**Ashibetsu**	**0.71**	**9**	P		**P**	**16 31 14.3**	**+0.3**
JAB				*e*S		**S**	**16 31 28.6**	**+0.1**
JNBK	**Urakawa-nobuka**	**0.73**	**135**	P		**P**	**16 31 15.4**	**+1.3**
JNB	**Noboribetsu**	**0.83**	**247**	P		**P**	**16 31 15.0**	**0.0**
JNB				*e*S		**S**	**16 31 30.1**	**-0.1**
JCH	**Churui**	**0.97**	**100**	P		**P**	**16 31 16.3**	**-0.2**
JCH				*e*S		**S**	**16 31 32.4**	**-0.4**
JHR	**Hokuryu**	**0.98**	**345**	P		**P**	**16 31 16.8**	**+0.2**
JHR				*e*S		**S**	**16 31 33.0**	**+0.2**
JKK2	**Kamakawa 2**	**1.18**	**25**	P		**P**	**16 31 18.7**	**-0.1**
JKK2				*e*S		**S**	**16 31 36.1**	**-0.6**
JKB	**Kayabe**	**1.19**	**220**	P		**P**	**16 31 18.9**	**0.0**
JKB				*e*S		**S**	**16 31 36.6**	**-0.3**
JSK	**Shakotan**	**1.29**	**296**	P		**P**	**16 31 19.8**	**-0.2**
JSK				*e*S		**S**	**16 31 38.7**	**-0.2**
JAR	**Ashorobuto**	**1.34**	**68**	P		**P**	**16 31 20.6**	**0.0**
JAR				*e*S		**S**	**16 31 39.7**	**-0.4**
JOT	**Ohata**	**1.61**	**208**	P		**P**	**16 31 23.7**	**0.0**
JOT				*e*S		**S**	**16 31 45.2**	**-0.2**
JYG	**Yagishiri**	**1.69**	**344**	P		**P**	**16 31 24.7**	**0.0**
JYG				*e*S		**S**	**16 31 47.0**	**-0.2**
JTKR	**Abashiri--Toko**	**1.78**	**48**	P		**P**	**16 31 26.5**	**+0.7**
JTKR				*e*S		**S**	**16 31 49.7**	**+0.6**
JAK	**Akkeshi**	**1.94**	**83**	P		**P**	**16 31 27.3**	**-0.5**
JAK				*e*S		**S**	**16 31 51.6**	**-1.0**
MAT	**Matsushiro**	**6.92**	**207**	P		**P**	**16 32 34.9**	**-0.1**

MAN 31 16:33:19.5, 13.37N×120.18E, h3km, mb4.0, ML2.7, MS2.4, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.36**	**11**	*e*P		Pg	16 33 26.8	0.0
LUBP				*e*S		Sg	16 33 30.4	-1.3
SJMP	**San Jose**	**1.29**	**134**	*e*P		Pb	16 33 43.8	-0.3
BUSP	**Coron**	**1.36**	**179**	*e*P		Pb	16 33 45.3	0.0
LQP	**Lukban**	**1.52**	**61**	*e*P		Pn	16 33 46.8	-0.8
BOAC	**Boac**	**1.63**	**87**	*e*P		Pn	16 33 48.1	-1.1
ENPP	**El Nido**	**2.27**	**199**	*e*P		Pn	16 33 57.8	-0.7

MAN 31 16:34:19.0, 20.12N×120.98E, h1km, mb3.9, ML2.8, MS2.5, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**0.98**	**71**	*e*P		Pb	16 34 38.4	0.0
BBP				*e*S		Sg	16 34 48.3	-3.3
APYP	**Conner**	**2.26**	**174**	*e*P		Pn	16 34 58.2	+0.2
APYP				*e*S		Sn	16 35 25.4	-1.5
ABRA	**Dolores**	**2.47**	**186**	*e*P		Pn	16 35 00.3	-0.8
CVP	**Callao Caves**	**2.54**	**161⇓**	*e*P		Pn	16 35 03.2	+1.2
CVP				*i* S		Sn	16 35 32.0	-1.9
CAUP	**Cauayan**	**3.26**	**166**	*e*P		Pn	16 35 14.1	+1.8
PALP	**Palanan**	**3.34**	**155**	*e*P		Pn	16 35 13.2	-0.2
BALP	**Baler**	**4.39**	**172**	*e*P		Pn	16 35 29.3	+0.9

BJI ***31*** *16:49:22.4, 8.04N×93.97E, h25km, mb4.5*
NEIC ***31*** *16:49:22.2±0.7, 8.05N×94.30E, mb4.6/17, Error ellipse: s-maj=17.5km s-min=15.2km az=182.0*
ISC 31 16:49:20.6±0.7, 8.1N±0.1×94.3E±0.1, h19km, h19km±.5km:pP-P, n33, σ0=92/33, mb4.7/22, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HYB	**Hyderabad**	**17.94**	**303**	*e*P		**P**	**16 53 32.0**	**+1.1**
HYB	**Hyderabad**	**17.94**	**303**	*i* P		**P**	**16 53 32.0**	**+1.1**
JIRN	**Jiri**	**20.92**	**339**	*e*P		**P**	**16 54 04.7**	**0.0**
	64nm,1.0s							
PKI	**Pulchoki**	**21.12**	**338**	*e*P		**P**	**16 54 06.4**	**-0.4**
	52nm,0.8s,mb4.9							
DMN	**Daman**	**21.27**	**337**	*e*P		**P**	**16 54 07.6**	**-0.7**
	60nm,0.9s,mb4.9							
KKN	**Kakani**	**21.37**	**338**	*e*P		**P**	**16 54 09.0**	**-0.3**
	54nm,1.0s,mb4.8							
GKN	**Gorkha**	**21.81**	**336**	*e*P		**P**	**16 54 13.3**	**-0.4**
	47nm,0.7s,mb5.0							
KOLN	**Koldanda**	**22.04**	**334**	*e*P		**P**	**16 54 16.0**	**0.0**
	34nm,0.6s,mb5.0							
XAN	**Xi'an**	**29.12**	**25**	P		**P**	**16 55 23.0**	**+0.4**
XAN					AP	pP	16 55 28.5	+0.3
XAN					AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3							
BJI	**Beijing**	**37.33**	**28**	*e*P		**P**	**16 56 36.3**	**+2.7**
	comp=Z,6.0nm,0.7s,mb4.5							
AAK	**Ala-Archa**	**38.57**	**336**	*e*P		**P**	**16 56 43.6**	**-0.5**
	comp=Z,7.9nm,1.1s,mb4.4							
ULN	**Ulaanbaatar**	**41.08**	**13**	*e*P		**P**	**16 57 05.4**	**+0.6**
	comp=Z,3.1nm,0.9s,mb3.9							
ULN				*e*pP		pP	16 57 11.4	+1.0
KURK	**Kurchatov**	**44.44**	**346**	*e*P		**P**	**16 57 31.7**	**-0.4**
	comp=Z,14nm,1.1s,mb4.6							
WRAB	**Tennant Creek**	**48.25**	**126**	*e*P		**P**	**16 58 01.6**	**-1.1**
	comp=Z,5.3nm,0.8s,mb4.6							
CHKZ	**Chkalovo**	**49.32**	**342**	*e*P		**P**	**16 58 09.5**	**-1.0**
	comp=Z,11nm,0.8s,mb4.9							
CHKZ				*e*pP		pP	16 58 15.2	-1.0
KMBO	**Kilima Mbogo**	**57.62**	**264**	*e*P		**P**	**16 59 12.9**	**+0.6**
	comp=Z,5.4nm,0.8s,mb4.6							
YAK	**Yakutsk**	**59.73**	**18**	*e*P		**P**	**16 59 24.8**	**-1.6**
	comp=Z,12nm,0.8s,mb5.0							
LBTB	**Lobatse**	**74.50**	**241**	*e*P		**P**	**17 01 00.2**	**-0.1**
	comp=Z,5.1nm,0.7s,mb4.6							
LBTB				*e*pP		pP	17 01 07.1	+0.9
OKC	**Ostrava-Krasne**	**74.94**	**319**	*e*P		**P**	**17 01 07.6**	**+5.3**
MORC	**Moravsky Berou**	**75.32**	**319**	*e*P		**P**	**17 01 05.3**	**+0.8**
	comp=Z,4.3nm,0.9s,mb4.4							
BILL	**Bilibino**	**75.81**	**22**	*e*P		**P**	**17 01 06.8**	**-0.1**
	comp=Z,3.4nm,0.8s,mb4.3							
BILL				*e*pP		pP	17 01 12.8	-0.2
DPC	**Dobruska-Polom**	**76.15**	**320**	*e*P		**P**	**17 01 15.1**	**+5.9**
UPC	**Upice**	**76.36**	**320**	*e*P		**P**	**17 01 16.4**	**+6.1**
PRU	**Pruhonice**	**77.27**	**319**	*e*P		**P**	**17 01 21.4**	**+6.0**
RUE	**Ruedersdorf**	**77.86**	**322**	*e*P		**P**	**17 01 18.1**	**-0.5**
	comp=Z,14nm,0.3s,mb5.4							
KHC	**Kasperske Hory**	**77.87**	**318**	*e*P		**P**	**17 01 18.0**	**-0.7**
KHC					pP	pP	17 01 24.1	-0.6
CLL	**Collm**	**78.30**	**321**	P		**P**	**17 01 23.0**	**+1.9**
GRA1	**Grafenberg Arr**	**79.42**	**319**	*e*P		**P**	**17 01 27.1**	**-0.1**
	comp=Z,7.0nm,0.9s,mb4.6							
GRA1				*e*pP		pP	17 01 33.0	-0.2
GRF	**Grafenberg Arr**	**79.42**	**319**	*e*P		**P**	**17 01 27.1**	**-0.1**
	comp=Z,7.0nm,0.9s,mb4.6							
GRF				*e*pP		pP	17 01 33.0	-0.2
NB2	**NORSAR Subarra**	**79.62**	**331**	P		**P**	**17 01 27.0**	**-1.1**
	comp=Z,2.4nm,0.6s,mb4.3,baz=91,slow=5.6							
LPG	**La Plagne**	**82.59**	**315**	*e*P		**P**	**17 01 43.4**	**-0.6**
	comp=Z,21nm,0.8s,mb4.9							
IMA	**Indian Mountai**	**91.35**	**22**	*e*P		**P**	**17 02 28.1**	**+2.0**
IMA				*e*pP		pP	17 02 33.4	+1.1
INK	**Inuvik**	**96.73**	**16**	*e*P		**P**	**17 02 51.5**	**+0.7**
	comp=Z,3.4nm,1.1s,mb4.7							

IGQ 31 16:54:02.7, 1.41S×80.77W, h16km±12km, mb4.0, 1C, Error ellipse: s-maj=19.0km s-min=10.8km az=166.7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.42**	**31**	⇑P		Pb	16 54 10.7	-0.6
HOJA				S		Sb	16 54 21.0	+3.8
IGUA	**Igualata**	**2.13**	**92**	P		Pn	16 54 39.1	+0.9
ARRY	**Arrayan**	**2.31**	**92**	P		Pn	16 54 42.0	+1.2
ARRY				S		Sn	16 55 10.6	+1.5
RETU	**Refugio**	**2.32**	**91**	P		Pn	16 54 43.3	+2.4
ULBA	**Ulba**	**2.36**	**91**	P		Pn	16 54 44.0	+2.6
PISA	**Pisayambo**	**2.41**	**82**	P		Pn	16 54 44.2	+2.1
NAS1	**Nasa**	**2.42**	**71**	P		Pn	16 54 44.6	+2.4
VC1	**Cotopaxi 1**	**2.48**	**72**	P		Pn	16 54 47.1	+3.9
TERV	**Terraza Guagua**	**2.49**	**60**	P		Pn	16 54 45.1	+1.8
PINO	**Pino**	**2.49**	**60**	P		Pn	16 54 43.6	+0.2
TAMB	**Tambo**	**2.50**	**73**	P		Pn	16 54 47.1	+3.6
YANA	**Yana**	**2.54**	**60**	P		Pn	16 54 44.3	+0.2
ANTI	**Antisana**	**2.77**	**70**	P		Pn	16 54 49.2	+1.8
COTA	**Cotacachi**	**2.98**	**54**	P		Pn	16 54 49.5	-0.9
CAYR	**Refugio Cayamb**	**3.10**	**63**	P		Pn	16 54 55.7	+3.6
CAYA	**Cayambe**	**3.14**	**62**	P		Pn	16 54 55.7	+3.1

ATH ***31*** *17:09:35.8, 40.08N×24.80E, h25km±2km, MD3.6/9, ML3.8*
THE ***31*** *17:09:36.6, 40.07N×24.76E, h7km, ML3.5*
CSEM ***31*** *17:09:36.6±0.2, 40.08N×24.84E, h15km, ML3.5, Error ellipse: s-maj=5.6km s-min=4.4km az=5.0*
NEIC ***31*** *17:09:36.6, 40.07N×24.76E, h8km, After THE.*
ISC 31 17:09:35.8±0.6, 40.07N±0.03×24.74E±0.02, h8km±4km, n40, σ0=95/57, 4C-4D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.29**	**117**	*e*Pg		**Pg**	**17 09 41.6**	**-0.2**
LOS				*e*Sg		**Sg**	**17 09 47.0**	**+1.1**
LIA	**Limnos Island**	**0.38**	**117**	*e*PB		**Pb**	**17 09 43.5**	**-0.9**
OUR	**Ouranopolis**	**0.64**	**295**	*e*Pg		**Pg**	**17 09 49.5**	**+0.8**
OUR				*e*Sg		**Sg**	**17 09 58.1**	**+0.9**
BOZC	**Bozcaada**	**1.03**	**102**	*i* P		**Pb**	**17 09 55.7**	**+0.1**
BOZC				*i* S		**Sb**	**17 10 10.0**	**+0.9**
PLG	**Polygyros**	**1.04**	**287⇓**	*i* PN		**Pn**	**17 09 56.7**	**+0.1**
PLG				*e*SN		**Sn**	**17 10 11.1**	**-0.3**
AOS	**Alonnisos**	**1.12**	**217**	*e*Pg		**Pg**	**17 09 57.1**	**-1.1**
AOS				*e*Sg		**Sg**	**17 10 14.6**	**+1.4**
RDO	**Rodhopi**	**1.23**	**29**	*e*PN		**Pn**	**17 09 58.5**	**-0.9**
ALN	**Alexandroupoli**	**1.29**	**50**	*e*Pb		**Pb**	**17 09 59.0**	**-1.0**
ALN				*e*Sb		**Sb**	**17 10 18.4**	**+1.8**
ALN	**Alexandroupoli**	**1.29**	**50**	S		**Sb**	**17 10 18.4**	**+1.8**
SOH	**Sokhos**	**1.30**	**306**	*e*Pb		**Pb**	**17 10 00.4**	**+0.2**
SOH				*e*Sb		**Sb**	**17 10 18.5**	**+1.6**
SRS	**Serrai**	**1.36**	**320**	*e*Pb		**Pb**	**17 10 01.3**	**0.0**
SRS				*e*Sb		**Sb**	**17 10 20.3**	**+1.6**
XOR	**Xorichti**	**1.39**	**240**	*e*Pb		**Pb**	**17 10 00.9**	**-0.7**
XOR				*e*Sb		**Sb**	**17 10 21.3**	**+1.9**
XOR	**Xorichti**	**1.39**	**240**	*e*Pb		**Pb**	**17 10 00.9**	**-0.7**
XOR				*e*Sb		**Sb**	**17 10 21.3**	**+1.9**
NEO	**Neokhori**	**1.40**	**237**	*e*PB		**Pb**	**17 10 00.8**	**-1.0**
NEO				*e*SN		**Sn**	**17 10 21.0**	**+0.4**
PRK	**Paraskevi**	**1.44**	**124**	*e*PN		**Pn**	**17 10 03.2**	**+0.8**
NVR	**Nevrokopi**	**1.44**	**333**	*e*PN		**Pn**	**17 10 02.2**	**-0.2**
AYVA	**Ayvalik**	**1.69**	**116**	*i* P		**Pn**	**17 10 06.9**	**+1.0**
AYVA				*i* S		**Sn**	**17 10 27.7**	**-0.2**
LIT	**Litokhoron**	**1.73**	**272**	*e*Pb		**Pb**	**17 10 05.9**	**-1.6**
LIT				*e*Sb		**Sb**	**17 10 29.1**	**-0.2**
KNT	**Kendrikon**	**1.78**	**308**	*e*Pb		**Pb**	**17 10 07.5**	**-0.8**
LKR	**Lokris**	**1.96**	**224**	*e*PB		**Pb**	**17 10 10.1**	**-1.3**
GRG	**Griva**	**1.99**	**297**	*e*Pn		**Pn**	**17 10 10.8**	**+0.5**
MPAR	**Parnis Oros**	**2.07**	**203**	*e*PN		**Pn**	**17 10 10.5**	**-0.9**
VAY	**Valandovo**	**2.07**	**308**	*i* Pn		**Pn**	**17 10 16.9**	**+5.5**
VAY				⇓*i* Sg		**Sg**	**17 10 44.4**	**-0.4**
AGG	**Agios Georgios**	**2.14**	**241**	*e*Pn		**Pn**	**17 10 12.2**	**-0.2**
ATH	**Athens Observa**	**2.24**	**201**	*e*PN		**Pn**	**17 10 13.5**	**-0.3**
KZN	**Kozani**	**2.29**	**277**	*e*PB		**Pb**	**17 10 17.0**	**-0.1**
NAIG	**Nisos Aigina**	**2.51**	**203**	*e*PN		**Pn**	**17 10 18.0**	**+0.4**
EVR	**Evrytania**	**2.55**	**244**	*e*PN		**Pn**	**17 10 18.5**	**+0.3**
BTOK	**Tokmak**	**2.55**	**96**	*i* P		**Pn**	**17 10 22.3**	**+4.1**
BTOK				*i* S		**Sn**	**17 10 54.7**	**+4.9**
KDAG	**Bornova**	**2.57**	**130**	*i* P		**Pn**	**17 10 18.6**	**0.0**
KDAG				*i* S		**Sn**	**17 10 56.5**	**+6.1**
FNA	**Florina**	**2.67**	**287**	*e*Pn		**Pn**	**17 10 19.7**	**-0.2**
SMG	**Samos**	**2.87**	**145**	*e*PN		**Pn**	**17 10 21.9**	**-0.9**
SKO	**Skopje**	**3.14**	**308**	*e*Pn		**Pn**	**17 10 32.2**	**+5.6**
SKO				*e*			17 10 38.3	
ULDT	**Uludag**	**3.37**	**87**	*i* P		**Pn**	**17 10 31.1**	**+1.2**
ULDT				*i* S		**Sn**	**17 11 21.3**	**+11**
HARR	**Harsova**	**5.18**	**26⇑**	*i* P		**Pn**	**17 10 54.4**	**-1.3**
HARR	**Harsova**	**5.18**	**26⇑**	*i* P		**Pn**	**17 10 54.3**	**-1.4**
MLR	**Muntele Rosu**	**5.49**	**9⇓**	*i* P		**Pn**	**17 10 59.4**	**-0.6**
MLR	**Muntele Rosu**	**5.49**	**9⇓**	*i* P		**Pn**	**17 10 59.4**	**-0.6**
CFR	**Carcaliu**	**5.69**	**25⇑**	*i* P		**Pn**	**17 11 00.2**	**-2.5**
CFR	**Carcaliu**	**5.69**	**25⇑**	*i* P		**Pn**	**17 11 00.2**	**-2.5**

ATH ***31*** *17:14:36.8, 40.12N×24.81E, h14km±14km, MD3.2/3*
THE ***31*** *17:14:37.0, 40.02N×24.76E, h6km, ML2.9*
CSEM ***31*** *17:14:37.0, 40.02N×24.76E, h6km, ML2.9, After THE*
ISC 31 17:14:36.3±0.7, 40.05N±0.05×24.76E±0.04, h4km±7km, n14, σ1=18/22, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.27**	**115**	*e*Pg		**Pg**	**17 14 42.2**	**+0.3**
LOS				*e*Sg		**Sg**	**17 14 45.9**	**+0.4**
LIA	**Limnos Island**	**0.36**	**115**	*e*PB		**Pb**	**17 14 44.0**	**-0.9**
LIA				*e*SB		**Sb**	**17 14 48.8**	**-1.8**
OUR	**Ouranopolis**	**0.66**	**296**	*e*Pg		**Pg**	**17 14 50.2**	**+0.7**
OUR				*e*Sg		**Sg**	**17 14 59.5**	**+1.2**
PLG	**Polygyros**	**1.06**	**288**	*e*PN		**Pn**	**17 14 57.3**	**-0.5**
PLG				*e*SB		**Sb**	**17 15 11.7**	**+0.9**
RDO	**Rodhopi**	**1.24**	**28**	*e*PB		**Pb**	**17 14 59.0**	**-1.0**
RDO				*e*SB		**Sb**	**17 15 15.5**	**-0.7**
ALN	**Alexandroupoli**	**1.29**	**49**	*e*Pb		**Pb**	**17 15 01.1**	**+0.2**
ALN				*e*Sb		**Sb**	**17 15 19.4**	**+1.7**
SOH	**Sokhos**	**1.32**	**306**	*e*Pb		**Pb**	**17 15 01.2**	**-0.1**
SOH	**Sokhos**	**1.32**	**306**	*e*Pb		**Pb**	**17 15 01.2**	**-0.1**
SRS	**Serrai**	**1.39**	**320**	*e*Pb		**Pb**	**17 15 01.8**	**-0.6**
SRS				*e*Sb		**Sb**	**17 15 22.1**	**+1.7**
PRK	**Paraskevi**	**1.42**	**124**	*e*PB		**Pb**	**17 15 04.0**	**+1.0**
PRK				*e*SB		**Sb**	**17 15 23.4**	**+2.1**
NVR	**Nevrokopi**	**1.47**	**333**	*e*PG		**Pg**	**17 15 02.9**	**-2.7**
LIT	**Litokhoron**	**1.74**	**272**	*e*Pb		**Pb**	**17 15 06.8**	**-1.8**
KNT	**Kendrikon**	**1.80**	**309**	*e*Pb		**Pb**	**17 15 08.0**	**-1.5**
GRG	**Griva**	**2.01**	**297**	*e*Pn		**Pn**	**17 15 11.8**	**+0.3**

MOS ***31*** *17:20:42.6±1.1, 63.88N×142.83E, h10km, mb4.3/1, Error ellipse: s-maj=28.2km s-min=13.5km az=89.5*
MOS Felt (II-III) at Ust'-Nera.
NERS ***31*** *17:20:48.0, 63.69N×143.01E, h15km*
ISC 31 17:20:40.7±0.9, 63.76N±0.04×143.07E±0.08, h6km±7km, n18, σ1=40/33, mb3.9/1, 3D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
UNR	**Ust'-Nera**	**0.82**	**5**	*i* P		**Pb**	**17 20 58.2**	**+1.3**
UNR				*i*			17 21 08.6	
SUUS	**Susuman**	**2.51**	**111**	*e*P		**Pg**	**17 21 31.8**	**+1.0**
SUUS				*e*Pg		Px	17 21 34.2	
SUUS				Pgmax			17 21 34.6	
	20nm,0.3s							
SUUS				Pgmax			17 21 34.6	
	20nm,0.3s							
SUUS				Pgmax			17 21 34.6	
	20nm,0.3s							
SUUS				*e*			17 21 57.6	
SUUS				*e*Sg		**Sg**	**17 22 06.2**	**+2.0**
SUUS				Sgmax			17 22 12.5	
	130nm,0.3s							
SUUS				Sgmax			17 22 12.5	
	50nm,0.3s							
OCHR	**Omchak**	**3.05**	**131**	*e*P		**Pn**	**17 21 35.3**	**+4.9**
OCHR				*e*Pg		**Pg**	**17 21 43.8**	**+2.2**
OCHR				Pgmax			17 21 47.3	
	10.0nm,0.3s							
OCHR				Pgmax			17 21 47.3	
	40nm,0.3s							
OCHR				*e*Sg		**Sg**	**17 22 23.0**	**+0.7**
OCHR				Sgmax			17 22 30.8	
	230nm,0.6s							
OCHR				Sgmax			17 22 30.8	
	160nm,0.6s							
SEY	**Seymchan**	**4.28**	**97**	*e*P		**Pn**	**17 21 54.0**	**+6.1**
SEY				Pmax			17 21 56.6	
SEY				*e*Pg		**Pg**	**17 22 06.9**	**+0.8**
SEY				Pgmax			17 22 11.8	
SEY				*e*Sg		**Sg**	**17 23 03.9**	**+0.7**
SEY				Sgmax			17 23 10.9	
	80nm,0.4s							
SEY				Sgmax			17 23 10.9	
	110nm,0.4s							
TLAR	**Talaya**	**5.07**	**117**	*e*		**Pn**	**17 22 01.1**	**+2.0**
TLAR				*e*Pg		**

CLNS			*e*S	S	17 25 33.7	-0.6
CLNS			pmax	pmax		
	comp=N,9.0nm,0.7s					
CLNS			pmax	pmax		
	comp=E,9.0nm,0.7s					
CLNS			pmax	pmax		
	comp=Z,11nm,0.7s					
CLNS			pmax	pmax		
	comp=Z,4.0nm,1.0s					
CLNS			pmax	pmax		
	comp=N,4.0nm,0.8s					
CLNS			pmax	pmax		
	comp=E,6.0nm,0.9s					
CLNS			smax			
	comp=N,13nm,0.7s					
CLNS			smax			
	comp=E,13nm,0.7s					
CLNS			smax			
	comp=Z,7.0nm,0.7s					
CLNS			MLR	MLR		
	comp=Z,100nm,13.0s					
CLNS			MLR	MLR		
	comp=N,100nm,14.0s					
CLNS			MLR	MLR		
	comp=E,30nm,11.0s					
BOD	**Bodaibo**	**15.28 260**	*e*P	**P**	**17 24 14.1**	**-4.2**
ULN	**Ulaanbaatar**	**25.26 248**	⇓*e*P	**P**	**17 26 13.3**	**+4.7**
KURK	**Kurchatov**	**35.58 280**	⇓*e*P	**P**	**17 27 41.7**	**+1.4**
AAK	**Ala-Archa**	**43.59 275**	⇓*e*P	**P**	**17 28 48.7**	**+2.0**
AAK			pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9					

*WEL **31** 17:31:53.3±0.2, 41.46S×175.76E, h20km±1km, ML5.3/35, Error ellipse: s-maj=1.5km s-min=1.3km az=90.0*
WEL Felt between Wanganui, Wairarapa and Nelson, maximum reported intensity MM 6.
*HRVD **31** 17:31:53.5±0.5, 41.56S×175.79E, h18km±2km, MW5.0/48, Centroid moment Tensor Solution. LP body waves: s26,c35;Mantle waves: s48,c70; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}1.22±.23; $M_{\theta\theta}$-1.10±.17; $M_{\phi\phi}$-0.11±.17; $M_{r\theta}$-0.22±.38; $M_{\theta\phi}$-2.64±.13; $M_{\phi r}$3.61±.64; Best double couple: $M_0$4.608×10^16 NP1:φs267°,δ38°, λ164°. NP2:φs9°,δ80°,λ53°. Principal axes: T 4.85, Plg43°, Azm244°; N -.484, Plg36°, Azm17°; P -4.365, Plg26°, Azm127°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **31** 17:31:53.5, 41.44S×175.75E, h22km, mb5.2/14, ML5.3(WEL), After WEL.*
NEIC Felt in the Wairarapa South-Wellington area.
*MOS **31** 17:31:56.8±1.5, 41.25S×175.42E, h33km, mb5.2/6, Error ellipse: s-maj=45.1km s-min=19.5km az=16.3*

ISC 31 17:31:51.1±0.4, 41.60S±0.02×175.84E±0.04, h20km, n177, σ1§12/151, mb5.1/13, 17C-15D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAWZ	**Paruwai Farm**	**0.38**	**305**	⇓P*	Pb	17 31 59.1	0.0
PAWZ				S*	Sb	17 32 03.1	-1.3
MSWZ	**Moikau Station**	**0.48**	**293**	⇑P	Pb	17 32 01.3	+0.6
MSWZ				S	Sb	17 32 06.9	-0.4
MSWZ	**Moikau Station**	**0.48**	**293**	⇑P*	Pb	17 32 01.3	+0.6
MSWZ				S*	Sb	17 32 06.9	-0.4
MTW	**Mount Morrison**	**0.51**	**330**	⇓P	Pb	17 32 00.3	-0.9
MTW				S	Sb	17 32 06.3	-1.8
MTW	**Mount Morrison**	**0.51**	**330**	⇓P*	Pb	17 32 00.3	-0.9
BHW	**Baring Head**	**0.75**	**284**	⇑P	Pb	17 32 06.5	+1.2
BHW				S	Sb	17 32 15.8	+0.7
BHW	**Baring Head**	**0.75**	**284**	⇑P*	Pb	17 32 06.5	+1.2
BHW				S*	Sb	17 32 15.8	+0.6
CAW	**Cannon Point**	**0.76**	**310**	⇓P	Pb	17 32 05.5	0.0
CAW				S	Sb	17 32 14.6	-0.8
CAW	**Cannon Point**	**0.76**	**310**	⇓P*	Pb	17 32 05.5	+0.1
CAW				S*	Sb	17 32 14.6	-0.8
WEL	**Wellington**	**0.86**	**291**	⇑P	Pb	17 32 08.1	+0.9
WEL				S	Sb	17 32 19.0	+0.7
WEL	**Wellington**	**0.86**	**291**	⇑P*	Pb	17 32 08.1	+0.8
MRW	**Makara Radio**	**0.93**	**293**	⇑P	Pb	17 32 09.1	+0.7
MRW				S	Sb	17 32 20.5	+0.2
MRW	**Makara Radio**	**0.93**	**293**	⇑P*	Pb	17 32 09.1	+0.7
MRW				S*	Sb	17 32 20.4	+0.1
MRZ	**Mangatainoka R**	**0.96**	**348**	⇓P	Pb	17 32 08.6	-0.2
MRZ				S	Sb	17 32 20.3	-0.8
MRZ	**Mangatainoka R**	**0.96**	**348**	⇓P*	Pb	17 32 08.6	-0.2
MRZ				S*	Sb	17 32 20.3	-0.8
BFZ	**Birch Farm**	**0.97**	**19**	⇑P	Pb	17 32 09.6	+0.6
BFZ	**Birch Farm**	**0.97**	**19**	⇑P*	Pb	17 32 09.6	+0.6
KIW	**Kapiti Island**	**1.02**	**316**	⇑P	Pb	17 32 09.7	-0.2
KIW				S	Sb	17 32 21.1	-1.7
KIW	**Kapiti Island**	**1.02**	**316**	⇑P*	Pb	17 32 09.7	-0.1
CMWZ	**Cape Campbell**	**1.23**	**263**	⇑P*	Pb	17 32 14.6	+1.2
TUWZ	**Tuamarina**	**1.43**	**276**	P*	Pb	17 32 16.1	-0.8
BSWZ	**Blackbirch Sta**	**1.48**	**265**	P	Pn	17 32 17.6	+0.7
BSWZ	**Blackbirch Sta**	**1.48**	**265**	⇑PN	Pn	17 32 17.6	+0.8
TSZ	**Takapari Road**	**1.54**	**4**	P	Pn	17 32 17.6	-0.2
TSZ	**Takapari Road**	**1.54**	**4**	P*	Pb	17 32 17.5	-1.3
PWZ	**Pawanui**	**1.75**	**27**	P	Pn	17 32 20.1	-0.7
PWZ	**Pawanui**	**1.75**	**27**	PN	Pn	17 32 20.0	-0.8
NNZ	**Nelson**	**1.89**	**281**	*e*P	Pn	17 32 23.3	+0.5
NNZ	**Nelson**	**1.89**	**281**	PN	Pn	17 32 22.4	-0.4
KHZ	**Kahutara**	**1.90**	**244**	P	Pn	17 32 23.6	+0.7
KHZ	**Kahutara**	**1.90**	**244**	⇑PN	Pn	17 32 23.6	+0.7
WAZ	**Wanganui**	**1.95**	**340**	P	Pn	17 32 25.9	+2.2
WAZ	**Wanganui**	**1.95**	**340**	*e*PN	Pn	17 32 25.1	+1.4
MOVZ	**Moawhango**	**2.19**	**358**	P	Pn	17 32 27.3	+0.2
MOVZ	**Moawhango**	**2.19**	**358**	PN	Pn	17 32 27.1	0.0
THZ	**Tophouse**	**2.20**	**265**	*e*P	Pn	17 32 27.2	-0.1
THZ	**Tophouse**	**2.20**	**265**	⇑PN	Pn	17 32 27.2	-0.2
WNVZ	**Wahianoa**	**2.28**	**355**	P	Pn	17 32 27.1	-1.3
DRZ	**Dome Shelter**	**2.33**	**355**	P	Pn	17 32 30.8	+1.7
TUVZ	**Tukino**	**2.33**	**356**	P	Pn	17 32 29.8	+0.6
TUVZ	**Tukino**	**2.33**	**356**	PN	Pn	17 32 29.7	+0.5
FWVZ	**Far West T-bar**	**2.35**	**355**	P	Pn	17 32 30.3	+0.9
FWVZ	**Far West T-bar**	**2.35**	**355**	PN	Pn	17 32 30.2	+0.8
WPVZ	**Whakapapa**	**2.40**	**355**	P	Pn	17 32 31.0	+0.8
CNZ	**Chateau**	**2.41**	**355**	P	Pn	17 32 31.2	+1.0
CNZ	**Chateau**	**2.41**	**355**	PN	Pn	17 32 31.1	+0.9
NGZ	**Ngauruhoe**	**2.43**	**356**	P	Pn	17 32 31.7	+1.2
NGZ	**Ngauruhoe**	**2.43**	**356**	PN	Pn	17 32 30.9	+0.4
OTVZ	**Oturere**	**2.44**	**357**	PN	Pn	17 32 31.0	+0.3
BKZ	**Black Stump Fm**	**2.48**	**12**	P	Pn	17 32 30.6	-0.7
BKZ	**Black Stump Fm**	**2.48**	**12**	*e*PN	Pn	17 32 30.3	-1.0
WTVZ	**West Tongariro**	**2.49**	**356**	P	Pn	17 32 31.8	+0.4
WTVZ	**West Tongariro**	**2.49**	**356**	PN	Pn	17 32 31.6	+0.3
TWVZ	**Taurewa**	**2.54**	**353**	P	Pn	17 32 32.6	+0.4
TWVZ	**Taurewa**	**2.54**	**353**	PN	Pn	17 32 32.2	0.0
RAEZ	**Rainy Point**	**2.56**	**334**	P	Pn	17 32 35.7	+3.3
MGZ	**Maungaku**	**2.61**	**355**	P	Pn	17 32 33.7	+0.6
QRZ	**Quartz Range**	**2.61**	**286**	P	Pn	17 32 33.5	+0.3
QRZ	**Quartz Range**	**2.61**	**286**	PN	Pn	17 32 33.1	0.0
RITZ	**Rihia Road**	**2.62**	**0**	P	Pn	17 32 33.8	+0.6
RITZ	**Rihia Road**	**2.62**	**0**	*e*PN	Pn	17 32 33.5	+0.3
KATZ	**Kakaramea**	**2.62**	**358**	P	Pn	17 32 34.0	+0.7
KATZ	**Kakaramea**	**2.62**	**358**	*e*PN	Pn	17 32 33.9	+0.6
DFE	**Dawson Falls**	**2.63**	**329**	P	Pn	17 32 38.4	+5.0
NEZ	**North Egmont**	**2.68**	**330**	P	Pn	17 32 37.3	+3.2
NRZ	**Ngariki Road**	**2.69**	**327**	P	Pn	17 32 38.1	+3.9
HATZ	**Hinemaiaia**	**2.71**	**4**	P	Pn	17 32 34.3	-0.3
HATZ	**Hinemaiaia**	**2.71**	**4**	*e*PN	Pn	17 32 35.9	+1.3
RATZ	**Rangitukua**	**2.73**	**359**	P	Pn	17 32 35.0	+0.2
RATZ	**Rangitukua**	**2.73**	**359**	*e*PN	Pn	17 32 34.4	-0.4
NWEZ	**Newall Road**	**2.77**	**326**	P	Pn	17 32 39.1	+3.7
PKE	**Pukeiti**	**2.79**	**329**	P	Pn	17 32 38.6	+3.0
WATZ	**Wairara**	**2.89**	**358**	P	Pn	17 32 36.7	-0.4
WATZ	**Wairara**	**2.89**	**358**	*e*PN	Pn	17 32 35.7	-1.4
LTZ	**Lake Taylor**	**2.90**	**245**	*e*P	Pn	17 32 37.4	+0.1
LTZ	**Lake Taylor**	**2.90**	**245**	PN	Pn	17 32 37.0	-0.2
KNZ	**Kokohu**	**2.93**	**29**	*e*P	Pn	17 32 35.1	-2.6
KNZ	**Kokohu**	**2.93**	**29**	*e*PN	Pn	17 32 35.3	-2.4
DSZ	**Denniston Nort**	**3.03**	**266**	P	Pn	17 32 38.8	-0.2
DSZ	**Denniston Nort**	**3.03**	**266**	PN	Pn	17 32 38.3	-0.8
CRLZ	**Canterbury Las**	**3.09**	**229**	P	Pn	17 32 40.3	+0.4
CRLZ	**Canterbury Las**	**3.09**	**229**	*e*PN	Pn	17 32 39.7	-0.2
MQZ	**McQueen's Vall**	**3.15**	**227**	P	Pn	17 32 40.7	-0.2
MQZ	**McQueen's Vall**	**3.15**	**227**	PN	Pn	17 32 40.5	-0.3
HIZ	**Hauiti**	**3.17**	**346**	P	Pn	17 32 42.4	+1.3
TAZ	**Tarawera**	**3.40**	**9**	*e*PN	Pn	17 32 43.0	-1.3
URZ	**Urewera**	**3.48**	**17**	*e*P	Pn	17 32 43.2	-2.2
URZ	**Urewera**	**3.48**	**17**	*e*PN	Pn	17 32 42.6	-2.8
MWZ	**Matawai**	**3.51**	**22**	P	Pn	17 32 43.3	-2.6
MWZ	**Matawai**	**3.51**	**22**	*e*PN	Pn	17 32 42.9	-3.0
PUZ	**Puketiti**	**3.98**	**29**	*e*P	Pn	17 32 49.3	-3.3
PUZ	**Puketiti**	**3.98**	**29**	*e*PN	Pn	17 32 49.0	-3.6
WVZ	**Waitaha Valley**	**4.06**	**247**	*e*PN	Pn	17 32 52.6	-1.1
RPZ	**Rata Peaks**	**4.11**	**237**	P	Pn	17 32 54.1	-0.4
RPZ	**Rata Peaks**	**4.11**	**237**	*e*PN	Pn	17 32 53.2	-1.3
WTAZ	**Waiatarua**	**4.76**	**348**	*e*PN	Pn	17 33 03.7	0.0
FOZ	**Fox Glacier**	**4.95**	**245**	*e*PN	Pn	17 33 04.2	-2.1
LBZ	**Lake Benmore**	**5.00**	**234**	*e*P	Pn	17 33 06.6	-0.4
LBZ	**Lake Benmore**	**5.00**	**234**	*e*PN	Pn	17 33 06.6	-0.3
ODZ	**Otahua Downs**	**5.12**	**226**	*e*P	Pn	17 33 08.1	-0.6
ODZ	**Otahua Downs**	**5.12**	**226**	*e*PN	Pn	17 33 07.5	-1.2
JCZ	**Jackson Bay**	**5.76**	**242**	*e*P	Pn	17 33 16.7	-1.1
JCZ	**Jackson Bay**	**5.76**	**242**	*e*PN	Pn	17 33 16.0	-1.8
WCZ	**Waipu Caves**	**5.77**	**348**	*e*P	Pn	17 33 18.3	+0.4
WCZ	**Waipu Caves**	**5.77**	**348**	*e*PN	Pn	17 33 16.6	-1.3
WKZ	**Wanaka**	**5.94**	**235**	*e*P	Pn	17 33 19.0	-1.2
WKZ	**Wanaka**	**5.94**	**235**	*e*PN	Pn	17 33 17.4	-2.8
EAZ	**Earnscleugh**	**5.98**	**230**	*e*P	Pn	17 33 20.7	-0.2
TUZ	**Tuapeka**	**6.25**	**224**	*e*P	Pn	17 33 24.7	0.0
TUZ	**Tuapeka**	**6.25**	**224**	*e*PN	Pn	17 33 23.9	-0.8
MSZ	**Milford Sound**	**6.55**	**239**	*e*PN	Pn	17 33 26.9	-2.0
MLZ	**Mavora Lakes**	**6.72**	**234**	*e*P	Pn	17 33 30.8	-0.4
DZM	**Mont Dzumac**	**21.02**	**335**	*e*P	**P**	**17 36 38.9**	**+2.9**
NOUC	**Port Laguerre**	**21.03**	**335**	*e*P	**P**	**17 36 36.5**	**+0.4**
NOUC	**Port Laguerre**	**21.03**	**335**	*e*P	**P**	**17 36 36.5**	**+0.4**
CNB	**Canberra Magne**	**21.61**	**278**	⇓*i*P	**P**	**17 36 43.1**	**+1.2**
	566nm,1.1s,mb5.9						
TOO	**Toolangi**	**23.67**	**270**	*e*P	**P**	**17 37 04.7**	**+2.6**
	1.8nm,1.0s						
TOO	**Toolangi**	**23.67**	**270**	*e*P	**P**	**17 37 04.7**	**+2.6**
TOO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
STKA	**Stephens Creek**	**28.95**	**278**	*e*P	**P**	**17 37 53.0**	**+1.8**
	comp=Z,36nm,1.0s,mb5.1						
CTA	**Charters Tower**	**32.98**	**302**	⇓*i*P	**P**	**17 38 27.4**	**+0.6**
	comp=Z,24nm,0.9s,mb5.1						
CTA	**Charters Tower**	**32.98**	**302**	⇓*i*P	**P**	**17 38 27.4**	**+0.6**
CTA				pmax	pmax		
	comp=Z,24nm,0.9s						
CTAO	**Charters Tower**	**32.98**	**302**	*e*P	**P**	**17 38 26.1**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.3						
CTAO	**Charters Tower**	**32.98**	**302**	*e*P	**P**	**17 38 26.1**	**-0.7**
	comp=Z,43nm,1.0s,mb5.3						
FORT	**Forrest**	**39.60**	**270**	*e*P	**P**	**17 39 24.2**	**+1.4**
	comp=Z,59nm,0.8s,mb5.4						
WB2	**Warramunga Arr**	**41.16**	**289**	⇓*i*P	**P**	**17 39 35.3**	**-0.5**
WRAB	**Tennant Creek**	**41.17**	**289**	*e*P	**P**	**17 39 34.7**	**-1.2**
WRAB				*e*		17 39 43.7	
WRAB				pmax	pmax		
	comp=Z,21nm,0.6s,mb4.9						
WRAB	**Tennant Creek**	**41.17**	**289**	*e*P	**P**	**17 39 34.7**	**-1.2**
	comp=Z,21nm,0.6s,mb4.9						
WRAB				*e*		17 39 43.7	
CASY	**Casey**	**42.97**	**213**	*e*P	**P**	**17 39 51.7**	**+1.6**
	comp=Z,14nm,0.9s,mb4.7						
KAKA	**Kakadu**	**47.44**	**294**	⇑*i*P	**P**	**17 40 26.2**	**-0.2**
	comp=Z,21nm,1.1s,mb5.0						
MUN	**Mundaring**	**47.87**	**261**	*e*P	**P**	**17 40 30.5**	**+0.9**
	comp=Z,18nm,0.7s,mb5.2						
MUN	**Mundaring**	**47.87**	**261**	*e*P	**P**	**17 40 30.5**	**+0.9**
MUN				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.2						
QSPA	**South Pole Qui**	**48.53**	**180**	⇓*i*P	**P**	**17 40 40.3**	**+6.2**
	comp=Z,26nm,1.1s,mb5.2						
FITZ	**Fitzroy Crossi**	**48.63**	**283**	⇓*i*P	**P**	**17 40 35.1**	**-0.5**
	comp=Z,26nm,0.6s,mb5.4						
MBWA	**Marble Bar**	**51.12**	**276**	*e*P	**P**	**17 40 54.3**	**-0.3**
	comp=Z,26nm,1.0s,mb5.1						
PLCA	**Paso Flores**	**78.37**	**135**	*e*P	**P**	**17 43 56.9**	**+5.4**
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PLCA	**Paso Flores**	**78.37**	**135**	*e*P	**P**	**17 43 56.9**	**+5.5**
	comp=Z,3.4nm,0.7s,mb4.4						
CM31	**Chiang Mai Arr**	**92.68**	**292**	*e*P	**P**	**17 45 04.7**	**+1.7**
	comp=Z,6.6nm,0.7s,mb5.2						
ZAK	**Zakamensk**	**111.36**	**319**	*e*PKIKP	PKPdf	17 50 34.6	+7.4
TLY	**Talaya**	**112.01**	**320**	⇓*e*PKIKP	PKPdf	17 50 25.3	-3.1
KZA	**Kyzart**	**122.97**	**299**	P	PKPdf	17 50 49.8	-0.1
	SNR=6.5						
UCH	**Uchtor**	**123.52**	**299**	P	PKPdf	17 50 51.0	0.0
	SNR=8.1						
AAK	**Ala-Archa**	**123.73**	**300**	*e*PKIKP	PKPdf	17 50 49.7	-1.8
CHMS	**Chumysh**	**123.73**	**300**	P	PKPdf	17 50 50.3	-1.2
	SNR=5.6						
AML	**Almayashu**	**124.02**	**299**	P	PKPdf	17 50 51.9	-0.2
	SNR=10						
USP	**Ospenovka**	**124.02**	**300**	P	PKPdf	17 50 51.1	-0.9
	SNR=6.2						
EKS2	**Erkin-Say**	**124.21**	**299**	P	PKPdf	17 50 52.1	-0.3
	SNR=5.5						
KURK	**Kurchatov**	**124.78**	**310**	*e*PKIKP	PKPdf	17 50 51.3	-1.9
DBAS	**Duba**	**144.24**	**259**	P	PKPbc	17 51 28.3	+3.2
TBKS	**Tabuk**	**144.38**	**261**	P	PKPbc	17 51 28.8	+3.3
DBIC	**Dimbokro**	**145.21**	**179**	*e*PKIKP	PKPdf	17 51 31.5	-0.4
JMQS	**Jabal Moqyreh**	**145.23**	**262**	P	PKPbc	17 51 31.6	+3.8
AYUS	**'Aynunah**	**145.30**	**260**	P	PKPbc	17 51 31.2	+3.2
BDAS	**Al Bad'**	**145.56**	**260**	P	PKPbc	17 51 31.5	+2.9
ERZM	**Erzurum**	**145.77**	**283**	*i* P	PKPbc	17 51 32.9	+4.1
TAYS	**Tayyib Ism**	**145.79**	**260**	P	PKPbc	17 51 32.9	+3.7
GOF	**Gofitskoye**	**145.87**	**292**	⇑*i*PKIKP	PKPdf	17 51 32.0	0.0
GOF				pmax	pmax		
	comp=Z,80nm,1.3s						
JMOS	**Jabal al Moall**	**145.95**	**261**	P	PKPbc	17 51 34.2	+4.7
HAQS	**Haql**	**146.02**	**261**	P	PKPbc	17 51 33.6	+3.9
ALWS	**Ilw as Safayha**	**146.05**	**262**	P	PKPbc	17 51 34.0	+4.2
EIL	**Elat**	**146.33**	**262**	*e*PKPbc	PKPbc	17 51 34.2	+3.8
ELZG	**Elazig**	**147.08**	**279**	*i* P	PKPdf	17 51 37.0	+2.7
MALT	**Malatya**	**147.43**	**279**	*e*PKP2	PKPab	17 51 36.6	-0.8
GZT	**Gaziantep**	**147.74**	**276**	*i* P	PKPdf	17 51 38.1	+2.7
KAHT	**Ahir Dag**	**148.35**	**277**	*i* P	PKPdf	17 51 40.1	+3.7
SVST	**Sivas**	**148.97**	**280**	*i* P	PKPdf	17 51 40.7	+3.4
CSS	**Prodhromos**	**150.00**	**270**	*e*PKPbc	PKPdf	17 51 42.1	+3.0
MEST	**Erdemli**	**150.02**	**273**	*i* P	PKPdf	17 51 43.8	+4.8
JOF	**Joensuu**	**150.19**	**328**	*e*pkp	PKPdf	17 51 36.7	-1.8
OBN	**Obninsk**	**150.22**	**311**	*e*PKHKP		17 51 40.6	
OBN				pmax	pmax		
	comp=Z,22nm,1.2s						
AVNT	**Avonos**	**150.23**	**278**	*i* P	PKPdf	17 51 44.2	+4.9
CTKT	**Corum**	**150.80**	**281**	*i* P	PKPdf	17 51 45.2	+5.0
BOYT	**Boyabat**	**150.91**	**283**	*i* P	PKPdf	17 51 44.7	+4.4
ELDT	**Eldivan**	**151.77**	**280**	*i* P	PKPdf	17 51 47.5	+6.0
KAF	**Kangasniemi**	**152.59**	**329**	*e*pkp	PKPdf	17 51 46.8	+4.8
	comp=Z,5.4nm,1.0s,baz=50,slow=2.2						
ESKT	**Eskisehir**	**153.43**	**277**	*i* P	PKPdf	17 51 51.1	+7.2
ULDT	**Uludag**	**154.86**	**278**	*i* P	PKPdf	17 51 53.5	+7.6
CLL	**Collm**	**164.73**	**315**	*e*PKP2	PKPab	17 52 51.0	+0.6

WEL 31 17:34:08.8±0.2, 41.42S×175.75E, h12km±1km, ML4.2/10, 2C-1D, Error ellipse: s-maj=1.6km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAWZ	**Paruwai Farm**	**0.24**	**279**	⇑PG	Pg	17 34 14.1	-0.1
PAWZ				SG	Sg	17 34 17.2	-0.5
PAWZ				SG	Sg	17 34 18.1	+0.3
MTW	**Mount Morrison**	**0.32**	**325**	⇓PG	Pg	17 34 15.4	-0.2
MTW				SG	Sg	17 34 20.4	+0.2
MSWZ	**Moikau Station**	**0.37**	**271**	PG	Pg	17 34 16.3	-0.2
CAW	**Cannon Point**	**0.60**	**301**	P*	Pb	17 34 20.7	0.0
CAW				SG	Sg	17 34 29.2	+0.1
BHW	**Baring Head**	**0.66**	**271**	⇑P*	Pb	17 34 21.7	0.0
BHW				SG	Sg	17 34 30.9	-0.1
WEL	**Wellington**	**0.75**	**280**	P*	Pb	17 34 23.2	0.0
WEL				SG	Sg	17 34 33.7	-0.3
MRZ	**Mangatainoka R**	**0.77**	**350**	P*	Pb	17 34 23.7	+0.1
MRW	**Makara Radio**	**0.81**	**283**	P*	Pb	17 34 24.2	-0.1
BFZ	**Birch Farm**	**0.83**	**27**	*e*P*	Pb	17 34 25.7	+1.0
KIW	**Kapiti Island**	**0.84**	**311**	P*	Pb	17 34 24.9	0.0
CMWZ	**Cape Campbell**	**1.20**	**254**	*e*P*	Pb	17 34 31.7	+0.8
TUWZ	**Tuamarina**	**1.36**	**269**	*e*P*	Pb	17 34 34.1	+0.5
TSZ	**Takapari Road**	**1.37**	**7**	P*	Pb	17 34 33.1	-0.8
BSWZ	**Blackbirch Sta**	**1.43**	**258**	*e*P*	Pb	17 34 34.5	-0.4
PWZ	**Pawanui**	**1.63**	**32**	PN	Pn	17 34 39.2	+1.7
WAZ	**Wanganui**	**1.76**	**341**	*e*PN	Pn	17 34 42.7	+3.3
NNZ	**Nelson**	**1.79**	**276**	*e*PN	Pn	17 34 40.9	+1.0

WEL 31 17:35:17.9±0.6, 45.62S×166.95E, h12km, ML3.5/5, 1C, Error ellipse: s-maj=4.3km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.20**	**46**	⇑P*	Pb	17 35 22.3	-0.7
DCZ				SG	Sg	17 35 25.4	0.0
DCZ				SG	Sg	17 35 25.5	+0.1
WHZ	**Wether Hill Ro**	**0.75**	**112**	P*	Pb	17 35 31.3	-1.1
WHZ				S*	Sb	17 35 41.3	-1.0
MLZ	**Mavora Lakes**	**0.90**	**73**	P*	Pb	17 35 33.8	-1.1
MLZ				S*	Sb	17 35 45.3	-1.3
MLZ				S*	Sb	17 35 45.5	-1.2
MSZ	**Milford Sound**	**1.17**	**37**	P*	Pb	17 35 39.0	-0.6
MSZ				S*	Sb	17 35 53.9	-0.5
MSZ				S*	Sb	17 35 54.0	-0.4
WKZ	**Wanaka**	**1.66**	**62**	PN	Pn	17 35 48.2	+1.1
WKZ				SN	Sn	17 36 09.9	+1.5
EAZ	**Earnscleugh**	**1.70**	**78**	PN	Pn	17 35 48.2	+0.5
EAZ				SN	Sn	17 36 09.6	+0.1
TUZ	**Tuapeka**	**1.91**	**101**	PN	Pn	17 35 50.9	+0.3
TUZ				SN	Sn	17 36 15.1	+0.5
JCZ	**Jackson Bay**	**2.01**	**40**	*e*PN	Pn	17 35 53.5	+1.4
LBZ	**Lake Benmore**	**2.60**	**63**	*e*PN	Pn	17 36 00.5	0.0
LBZ				SN	Sn	17 36 35.5	+3.1
ODZ	**Otahua Downs**	**2.67**	**79**	PN	Pn	17 36 00.8	-0.7
FOZ	**Fox Glacier**	**2.83**	**45**	*e*PN	Pn	17 36 08.3	+4.4

WEL 31 17:35:34.5±0.4, 41.44S×175.68E, h16km±2km, ML3.7/14, 5C-1D, Error ellipse: s-maj=2.3km s-min=2.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAWZ	**Paruwai Farm**	**0.20**	**286**	⇑P*	Pb	17 35 39.2	-0.3
PAWZ				S*	Sb	17 35 42.7	0.0
PAWZ				S*	Sb	17 35 42.7	+0.1
MTW	**Mount Morrison**	**0.31**	**334**	⇓P*	Pb	17 35 40.7	-0.5
MTW				S*	Sb	17 35 45.4	-0.3
MTW				S*	Sb	17 35 45.7	0.0
MSWZ	**Moikau Station**	**0.32**	**273**	⇑P*	Pb	17 35 41.4	-0.1
CAW	**Cannon Point**	**0.56**	**305**	⇑P*	Pb	17 35 45.8	+0.2
CAW				S*	Sb	17 35 54.0	+0.9
BHW	**Baring Head**	**0.61**	**272**	⇑P*	Pb	17 35 46.8	+0.4
BHW				S*	Sb	17 35 55.9	+1.5
MRW	**Makara Radio**	**0.77**	**285**	⇑P*	Pb	17 35 49.5	+0.5
MRW				S*	Sb	17 36 00.3	+1.4
MRZ	**Mangatainoka R**	**0.78**	**354**	P*	Pb	17 35 49.3	+0.1
MRZ				S*	Sb	17 36 00.6	+1.3
KIW	**Kapiti Island**	**0.82**	**314**	P*	Pb	17 35 50.2	+0.3
KIW				S*	Sb	17 36 01.7	+1.2
BFZ	**Birch Farm**	**0.87**	**30**	P*	Pb	17 35 51.3	+0.6
CMWZ	**Cape Campbell**	**1.14**	**254**	*e*P*	Pb	17 35 55.8	+0.3
TUWZ	**Tuamarina**	**1.31**	**270**	P*	Pb	17 35 56.8	-1.4
BSWZ	**Blackbirch Sta**	**1.38**	**258**	P*	Pb	17 35 58.2	-1.3
TSZ	**Takapari Road**	**1.39**	**9**	P*	P

ROSA	**Rosais**	**0.81**	**85**	*e*S	Sg	18 14 04.4	-3.1

IGQ 31 18:33:35.8, 1.41S×81.12W, h8km±5km, mb4.1, 1C-2D, Error ellipse: s-maj=8.8km s-min=4.6km az=7.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.67**	**58**	⇑P	Pg	18 33 49.0	-0.3
JAMA	**Jama**	**1.46**	**39**	P	Pn	18 34 02.7	0.0
JAMA				S	Sb	18 34 20.4	-1.0
MAGD	**Magdalena**	**1.89**	**45**	P	Pn	18 34 10.4	+1.6
IGUA	**Igualata**	**2.48**	**92**	P	Pn	18 34 18.4	+1.1
CUSU	**Cusua**	**2.64**	**91**	P	Pn	18 34 22.0	+2.5
JUIV	**Juive**	**2.66**	**90**	P	Pn	18 34 21.2	+1.5
ARRY	**Arrayan**	**2.67**	**92**	⇓P	Pn	18 34 21.0	+1.1
ARRY				S	Sn	18 34 53.4	+0.6
RETU	**Refugio**	**2.67**	**91**	P	Pn	18 34 21.9	+1.9
ULBA	**Ulba**	**2.71**	**91**	P	Pn	18 34 22.1	+1.5
NAS1	**Nasa**	**2.75**	**74**	P	Pn	18 34 23.0	+1.9
PISA	**Pisayambo**	**2.75**	**83**	P	Pn	18 34 23.3	+2.1
JUA2	**San Juan 2**	**2.78**	**65**	P	Pn	18 34 23.0	+1.5
TERV	**Terraza Guagua**	**2.80**	**64**	P	Pn	18 34 24.1	+2.4
TERV				S	Sn	18 34 59.7	+3.6
PINO	**Pino**	**2.80**	**64**	P	Pn	18 34 21.8	-0.1
VC1	**Cotopaxi 1**	**2.82**	**74**	P	Pn	18 34 23.9	+1.8
TAMB	**Tambo**	**2.84**	**76**	P	Pn	18 34 23.2	+0.8
YANA	**Yana**	**2.85**	**63**	P	Pn	18 34 23.9	+1.3
ANTI	**Antisana**	**3.11**	**72**	P	Pn	18 34 28.6	+2.4
COTA	**Cotacachi**	**3.27**	**58**	P	Pn	18 34 30.6	+2.0
CAYR	**Refugio Cayamb**	**3.42**	**66**	P	Pn	18 34 34.0	+3.4
CAYA	**Cayambe**	**3.46**	**65**	⇓P	Pn	18 34 34.7	+3.6
CONE	**Cono NE Rev Vo**	**3.72**	**69**	P	Pn	18 34 40.3	+5.4

MAN 31 20:06:00.2, 13.46N×120.10E, h21km, mb4.0, ML2.8, MS2.4, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.31**	**27**	*e*P	Pb	20 06 07.5	+0.4
LUBP				*e*S	Sb	20 06 11.3	-0.4
TGY	**Tagaytay City**	**1.03**	**52**	⇑*e*P	Pb	20 06 19.4	+0.1
TGY				*i* S	Sb	20 06 33.3	+1.0
SJMP	**San Jose**	**1.40**	**135**	*e*P	Pn	20 06 24.0	-0.8
BUSP	**Coron**	**1.45**	**176**	*e*P	Pn	20 06 25.5	0.0
ENPP	**El Nido**	**2.34**	**197**	*e*P	Pn	20 06 38.1	-0.1
CUYO	**Cuyo Island**	**2.75**	**161**	*e*P	Pn	20 06 42.8	-1.3

OTT 31 20:18:21.3±0.5, 52.91N×66.91W, MN2.7/7, Blast, Labrador City, Nl Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**1.93**	**1**	PN	Pn	20 18 55.6	-0.2
SCHQ				SN	Sn	20 19 20.9	-0.1
SCHQ				Trac		20 19 26.1	
	comp=Z,36nm,0.3s						
MNQ	**Manicouagan**	**2.65**	**207**	PN	Pn	20 19 06.7	+0.8
MNQ				SN	Sn	20 19 38.0	-1.2
MNQ				Trac		20 19 43.6	
	comp=Z,8.8nm,0.2s						
SMQ	**Clarke City**	**2.69**	**177**	PN	Pn	20 19 05.0	-1.7
SMQ				SG	Sg	20 19 43.7	-7.2
SMQ				Trac		20 19 45.4	
	comp=Z,9.5nm,0.2s						
ICQ	**Pointe Anglais**	**3.40**	**184**	PN	Pn	20 19 14.8	-1.8
ICQ				SN	Sn	20 19 55.3	-2.9
ICQ				Trac		20 20 12.0	
	comp=Z,37nm,0.8s						
CNQ	**Baie Comeau**	**3.68**	**192**	PN	Pn	20 19 18.4	-2.3
CNQ				Trac		20 20 20.0	
	comp=Z,4.1nm,0.2s						
GSQ	**Grosses Roches**	**4.00**	**182**	PN	Pn	20 19 22.4	-2.9
GSQ				SN	Sn	20 20 11.0	-2.6
GSQ				Trac		20 20 30.9	
	comp=Z,17nm,0.5s						
LG4Q	**La Grande 4**	**4.38**	**282**	PN	Pn	20 19 27.2	-3.4
LG4Q				PG	Pg	20 19 38.2	-10
LG4Q				SN	Sn	20 20 16.7	-6.4
LG4Q				LG		20 20 34.3	
LG4Q				Trac		20 20 39.8	
	comp=Z,6.0nm,0.3s						
LMQ	**La Malbaie**	**5.79**	**204**	PN	Pn	20 19 47.5	-3.1
DRLN	**Deer Lake**	**6.96**	**118**	PN	Pn	20 20 03.0	-4.0
DRLN				SN	Sn	20 21 14.8	-13
LMN	**Caledonia Moun**	**7.19**	**168**	PN	Pn	20 20 05.2	-5.1
MALO	**McAlpine Lake**	**8.53**	**255**	PN	P	20 20 23.9	-5.1
VIMO	**Victor Mine**	**10.19**	**276**	PN	P	20 20 44.6	-7.1
SILO	**Sutton Inlier**	**10.79**	**286**	PN	P	20 20 53.0	-7.0

MOS ***31*** *20:21:09.9±1.1, 8.44S×112.48E, h72km, mb4.9/7, Error ellipse: s-maj=14.6km s-min=11.1km az=30.6*
BJI ***31*** *20:21:12.4, 8.60S×112.50E, h83km, mB5.1, mb4.9, Ms4.9, Msz5.0*
NEIC ***31*** *20:21:12.5±1.2, 8.60S×112.51E, h83km±9km, mb4.6/15, Error ellipse: s-maj=15.5km s-min=8.0km az=48.0*
NEIC Felt [III] at Karangkates and Sawahan. Also felt at Blitar and Malang.

ISC 31 20:21:12.5±1.2, 8.53S±0.09×112.63E±0.09, h101km±10km, n69, σ1§05/68, mb4.7/25, 4C-4D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.49**	**88**	⇓*i*Pg	**P**	**20 21 39.2**	**0.0**
SRDI				*e*Sg	**S**	**20 21 58.6**	**-0.4**
KELI	**Kelakatan**	**1.86**	**80**	⇓*i*Pn	**P**	**20 21 45.8**	**+2.0**
KELI				*e*Sn	**S**	**20 22 09.6**	**+2.5**
RATI	**Rata**	**2.87**	**94**	⇑*e*Pn	**P**	**20 21 57.8**	**+0.2**
RATI				*e*Sn	**S**	**20 22 29.5**	**-1.9**
KEDI	**Kedomdong**	**3.44**	**90**	⇓*e*Pn	**P**	**20 22 04.8**	**-0.5**
KEDI				*e*Sn	**S**	**20 22 43.8**	**-1.6**
MBWA	**Marble Bar**	**14.30**	**152**	*e*P	**P**	**20 24 24.1**	**-7.3**
	19nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.82**	**128**	*e*P	**P**	**20 24 47.8**	**-3.0**
	14nm,0.9s						
FITZ				*e*S	**S**	**20 27 31.1**	**-12**
KAKA	**Kakadu**	**19.90**	**104**	*e*P	**P**	**20 25 38.8**	**+0.3**
	8.8nm,0.3s						
WRAB	**Tennant Creek**	**23.87**	**121**	*e*P	**P**	**20 26 18.3**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.3						
WRAB	**Tennant Creek**	**23.87**	**121**	*e*P	**P**	**20 26 18.3**	**+0.5**
	comp=Z,8.9nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**23.88**	**121**	⇑*i*P	**P**	**20 26 18.6**	**+0.8**
WB2				*e*		20 30 00.1	
CM31	**Chiang Mai Arr**	**30.03**	**333**	*e*P	**P**	**20 27 14.4**	**+0.1**
	comp=Z,4.0nm,0.8s,mb4.1						
CTA	**Charters Tower**	**34.47**	**113**	*e*P	**P**	**20 27 54.2**	**+1.4**
	comp=Z,1.7nm,0.5s,mb4.1						
CTA	**Charters Tower**	**34.47**	**113**	*e*P	**P**	**20 27 54.2**	**+1.4**
CTA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CTAO	**Charters Tower**	**34.47**	**113**	*e*P	**P**	**20 27 53.7**	**+0.9**
STKA	**Stephens Creek**	**35.54**	**135**	⇑*i*P	**P**	**20 28 02.6**	**+0.7**
	comp=Z,6.9nm,0.4s,mb4.9						
SHL	**Shillong**	**39.45**	**330**	⇓*i*P	**P**	**20 28 35.2**	**+0.6**
SSE	**Sheshan**	**40.24**	**11**	*e*P	**P**	**20 28 42.8**	**+1.7**
SSE				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.1						
SSE	**Sheshan**	**40.24**	**11**	*e*P	**P**	**20 28 42.7**	**+1.6**
	comp=Z,22nm,0.7s,mb5.1						
NJ2	**Nanjing**	**40.79**	**8**	*e*P	**P**	**20 28 48.0**	**+2.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
LSA	**Lhasa**	**43.27**	**332**	P	**P**	**20 29 07.8**	**+1.9**
LSA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
JIRN	**Jiri**	**44.15**	**325**	*e*P	**P**	**20 29 13.3**	**+0.2**
	comp=Z,17nm,0.4s,mb5.1						
PKI	**Pulchoki**	**44.53**	**325**	*e*P	**P**	**20 29 15.9**	**-0.2**
	comp=Z,9.8nm,0.5s,mb4.8						
DMN	**Daman**	**44.73**	**324**	*e*P	**P**	**20 29 16.9**	**-0.8**
	comp=Z,30nm,0.6s,mb5.2						
KKN	**Kakani**	**44.77**	**325**	*e*P	**P**	**20 29 17.1**	**-0.9**
	comp=Z,8.4nm,0.4s,mb4.8						
LZH	**Lanzhou**	**45.14**	**350**	*e*P	**P**	**20 29 22.5**	**+1.6**
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
LZH	**Lanzhou**	**45.14**	**350**	*e*P	**P**	**20 29 22.4**	**+1.5**
LZH				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
GKN	**Gorkha**	**45.30**	**324**	*e*P	**P**	**20 29 20.8**	**-1.4**
	comp=Z,16nm,0.3s,mb5.3						
KOLN	**Koldanda**	**45.73**	**323**	*e*P	**P**	**20 29 24.7**	**-0.9**
	comp=Z,13nm,0.3s,mb5.2						
BJI	**Beijing**	**48.44**	**4**	*e*P	**P**	**20 29 47.1**	**+0.5**
MDJ	**Mudanjiang**	**55.07**	**15**	P	**P**	**20 30 36.0**	**-0.3**
MDJ				PCP	PcP	20 31 36.8	+0.5
MDJ				SCP		20 35 32.0	
MDJ				PCS		20 35 36.8	
MDJ				S	**S**	**20 38 21.5**	**+12**
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,156nm,4.9s						
MDJ				LR	LR		
	comp=N,129nm,20.1s						
MDJ				LR	LR		
	comp=E,55nm,15.5s						
WMQ	**Urumqi**	**56.80**	**339**	*e*P	**P**	**20 30 49.0**	**+0.3**
KLR	**Kul'dur**	**59.91**	**14**	*e*P	**P**	**20 31 06.9**	**-3.3**
KZA	**Kyzart**	**60.88**	**329**	P	**P**	**20 31 17.0**	**+0.1**
	SNR=13						
TKM2	**Tokmak 2**	**61.32**	**330**	P	**P**	**20 31 19.3**	**-0.6**
	SNR=18						
MKAR	**Makanchi Array**	**61.35**	**337**	*e*P	**P**	**20 31 19.3**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
UCH	**Uchtor**	**61.36**	**329**	P	**P**	**20 31 20.5**	**+0.3**
	SNR=6.6						
YSS	**Yuzh-Sakhalins**	**61.40**	**23**	*e*P	**P**	**20 31 20.0**	**-0.4**
KBK	**Karagaybulak**	**61.45**	**329**	P	**P**	**20 31 20.8**	**+0.1**
	SNR=24						
AAK	**Ala-Archa**	**61.66**	**329**	P	**P**	**20 31 22.1**	**-0.1**
	SNR=9.8						
AAK	**Ala-Archa**	**61.66**	**329**	*e*P	**P**	**20 31 20.5**	**-1.7**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
AAK	**Ala-Archa**	**61.66**	**329**	*e*P	**P**	**20 31 20.5**	**-1.7**
	comp=Z,8.8nm,1.0s,mb4.7						
AML	**Almayashu**	**61.72**	**328**	P	**P**	**20 31 22.5**	**-0.1**
	SNR=15						
EKS2	**Erkin-Say**	**62.05**	**328**	P	**P**	**20 31 24.7**	**-0.1**
	SNR=18						
USP	**Ospenovka**	**62.12**	**329**	P	**P**	**20 31 24.5**	**-0.7**
	SNR=9.3						
KURK	**Kurchatov**	**65.95**	**337**	*i* P	**P**	**20 31 49.3**	**-0.8**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
KURK	**Kurchatov**	**65.95**	**337**	*e*P	**P**	**20 31 48.8**	**-1.3**
	comp=Z,4.2nm,0.7s,mb4.4						
BOD	**Bodaibo**	**66.13**	**1**	*e*P	**P**	**20 31 48.5**	**-2.6**
BVA0	**Borovoye Array**	**71.04**	**335**	*i* P	**P**	**20 32 20.4**	**-1.0**
CHKZ	**Chkalovo**	**71.41**	**335**	P	**P**	**20 32 23.2**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
CHKZ	**Chkalovo**	**71.41**	**335**	*e*P	**P**	**20 32 22.6**	**-1.1**
	comp=Z,3.7nm,0.6s,mb4.4						
YAK	**Yakutsk**	**71.59**	**8**	*e*P	**P**	**20 32 24.4**	**-0.1**
YAK				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.2						
YAK	**Yakutsk**	**71.59**	**8**	*e*P	**P**	**20 32 24.4**	**-0.2**
	comp=Z,36nm,0.9s,mb5.2						
MA2	**Magadan**	**74.39**	**19**	*e*P	**P**	**20 32 42.0**	**+1.0**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
MA2				MLR	MLR		
	comp=Z,220nm,18.0s						
KMBO	**Kilima Mbogo**	**75.38**	**271**	P	**P**	**20 32 47.6**	**+0.1**
TIXI	**Tiksi**	**80.73**	**5**	⇑*i*P	**P**	**20 33 15.8**	**0.0**
TIXI				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.8						
MBAR	**Mbarara**	**81.89**	**271**	*e*P	**P**	**20 33 23.3**	**+0.3**
MBAR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
MBAR	**Mbarara**	**81.89**	**271**	*e*P	**P**	**20 33 23.3**	**+0.2**
	comp=Z,4.9nm,0.8s,mb4.4						
LSZ	**Lusaka**	**82.47**	**256**	*e*P	**P**	**20 33 26.3**	**+0.4**
LSZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
LSZ	**Lusaka**	**82.47**	**256**	*e*P	**P**	**20 33 26.2**	**+0.4**
	comp=Z,4.9nm,0.7s,mb4.5						
MALT	**Malatya**	**83.06**	**310**	*e*P	**P**	**20 33 29.6**	**+1.1**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
MALT	**Malatya**	**83.06**	**310**	*e*P	**P**	**20 33 29.6**	**+1.1**
	comp=Z,3.6nm,0.8s,mb4.2						
EIL	**Elat**	**83.62**	**301**	*e*P	**P**	**20 33 31.9**	**+0.4**
	comp=Z,6.5nm,0.7s,mb4.6						
MDV	**Middlebury**	**144.31**	**7**	*e*PKP	PKPdf	20 40 38.5	+1.6
MIAR	**Mount Ida**	**144.66**	**39**	*e*PKIKP	PKPdf	20 40 37.7	-0.1
UALR	**University of**	**145.26**	**38**	*e*PKP	PKPdf	20 40 41.3	+2.4
WCI	**Wyandotte Cave**	**145.86**	**27**	PKP2	PKPab	20 40 43.0	-0.3
SSPA	**Standing Stone**	**146.69**	**15**	*e*PKPbc	PKPbc	20 40 45.7	+3.1
WVT	**Waverly**	**146.79**	**31**	*e*PKP2	PKPab	20 40 46.1	-0.9
OXF	**Oxford**	**147.16**	**35**	*e*PKP2	PKPab	20 40 47.3	-1.2

IGIL ***31*** *20:29:04.9, 65.90N×10.00W, h2km, MS4.4*
CSEM ***31*** *20:29:05.5, 65.90N×9.94W, h10km, mb5.2*
MOS ***31*** *20:29:05.5±1.1, 65.84N×10.09W, h10km, mb5.3/87, MS4.7/27, Error ellipse: s-maj=10.8km s-min=2.7km az=106.3*
BJI ***31*** *20:29:06.2, 65.94N×10.25W, h24km, mB5.5, mb4.9, Ms5.2, Msz4.9*
BER ***31*** *20:29:07.6±4.7, 65.82N×10.32W, h10km±29km, MD4.2, ML4.2, ML4.4(NAO)*
HRVD ***31*** *20:29:08.4±0.2, 65.88N×9.41W, h12km, MW5.2/66, Centroid moment Tensor Solution. LP body waves: s48,c84;Mantle waves: s66,c126; Half duration: 1§0 Moment tensor: Scale 10^{16}Nm; M_{rr}6.84±.12; $M_{\theta\theta}$-5.40±.13; $M_{\phi\phi}$-1.44±.10; $M_{r\theta}$-0.92±.36; $M_{\theta\phi}$3.09±.09; $M_{\phi r}$2.55±.35; Best double couple: $M_0$7.476×10^{16} NP1: ϕ_s105°,δ38°,λ68°. NP2:ϕ_s312°,δ55°,λ106°. Principal axes: T 7.562, Plg74°, Azm269°; N -.174, Plg13°, Azm123°; P -7.389, Plg8°, Azm31°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ZUR_RM ***31*** *20:29:08, 65.90N×9.78W, h15km, Mw5.2/20, Moment Tensor Solution. s20 Moment tensor: Scale 10^{16}Nm; M_{rr}8.49; $M_{\theta\theta}$-5.50; $M_{\phi\phi}$-2.99; $M_{r\theta}$-1.87; $M_{\theta\phi}$2.59; $M_{\phi r}$0.05; Best double couple: $M_0$8.02×10^{16} NP1:ϕ_s296°,δ51°,λ83°. NP2:ϕ_s127°,δ39°,λ98°. Principal axes: T 8.743, Plg82°, Azm169°; N -1.453, Plg5°, Azm301°; P -7.291, Plg6°, Azm31°;*
NEIC ***31*** *20:29:08.3±0.1, 65.90N×9.78W, mb5.2/157, MS4.6/7 Error ellipse: s-maj=3.3km s-min=1.7km az=224.0*
NAO ***31*** *20:29:09.2±4.7, 65.95N×9.18W, ML4.4*

ISC 31 20:29:07.0±0.1, 65.89N±0.01×10.00W±0.03, h19km, h19km±.6km: pP-P, n905, σ1§09/966, mb5.2/161, MS4.7/33, 62C-32D, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IADA	**Aoalbol**	**2.48**	**252**	P	**Pn**	**20 29 47.2**	**0.0**
IADA				S	**Sn**	**20 30 17.1**	**-0.2**
IGRS	**Grimsstaoir**	**2.54**	**267**	P	**Pn**	**20 29 47.5**	**-0.5**
IGRS				S	**Sn**	**20 30 16.4**	**-2.3**
IGIL	**Gilhagi**	**2.60**	**277**	P	**Pn**	**20 29 47.6**	**-1.4**
IGIL				S	**Sn**	**20 30 17.9**	**-2.5**
IHVA	**Hvannstoosfjol**	**2.62**	**252**	P	**Pn**	**20 29 49.0**	**-0.2**
IHVA				S	**Sn**	**20 30 20.5**	**-0.4**
IVSH	**V-Sauoahnukur**	**2.63**	**248**	P	**Pn**	**20 29 49.1**	**-0.3**
IVSH				S	**Sn**	**20 30 21.4**	**+0.3**
ILEI	**Leirhofn**	**2.69**	**284**	P	**Pn**	**20 29 49.8**	**-0.4**
IBRU	**Bruarjokull**	**2.76**	**250**	P	**Pn**	**20 29 50.8**	**-0.4**
IBRU				S	**Sn**	**20 30 24.2**	**-0.2**
IKVO	**Krokottuvotn**	**2.84**	**270**	P	**Pn**	**20 29 51.3**	**-1.0**
IREN	**Reynihlio**	**2.86**	**268**	P	**Pn**	**20 29 51.6**	**-1.0**
IREN				S	**Sn**	**20 30 26.5**	**-0.3**
IHED	**Heoinshofoi**	**3.00**	**277**	P	**Pn**	**20 29 53.3**	**-1.2**
IHED				S	**Sn**	**20 30 28.0**	**-2.3**
ISVA	**Svartarkot**	**3.06**	**263**	P	**Pn**	**20 29 54.5**	**-0.9**
ISVA				S	**Sn**	**20 30 33.4**	**+1.5**
IGRA	**Granastaoir**	**3.11**	**274**	P	**Pn**	**20 29 55.0**	**-1.1**
IGRA				S	**Sn**	**20 30 33.1**	**0.0**
IFLA	**Flatey**	**3.21**	**279**	P	**Pn**	**20 29 57.0**	**-0.6**
IBRE	**Brettingsstaoi**	**3.24**	**278**	P	**Pn**	**20 29 56.9**	**-1.1**
IGRF	**Grimsfjall**	**3.41**	**248**	P	**Pn**	**20 30 00.4**	**0.0**
IHLA	**Hella**	**3.44**	**275**	P	**Pn**	**20 29 59.9**	**-0.9**
IFAG	**Fagurholsmyri**	**3.48**	**238**	P	**Pn**	**20 30 01.4**	**0.0**
IFAG				S	**Sn**	**20 30 44.5**	**+1.9**
ISIG	**Siglufjorour**	**3.65**	**278**	P	**Pn**	**20 30 02.4**	**-1.4**
ISKR	**Skrokkalda**	**3.77**	**253**	P	**Pn**	**20 30 05.5**	**0.0**
IKAL	**Kalfafell**	**3.81**	**243**	P	**Pn**	**20 30 06.3**	**+0.3**
IHVE	**Hveravellir**	**4.13**	**260**	P	**Pn**	**20 30 11.2**	**+0.6**
IVAT	**Vatnsfell**	**4.14**	**250**	P	**Pn**	**20 30 11.4**	**+0.5**
ISNB	**Snabyli**	**4.27**	**244**	P	**Pn**	**20 30 13.0**	**+0.3**
IHVO	**Lagu-Hvolar**	**4.47**	**242**	P	**Pn**	**20 30 15.4**	**-0.1**
IHAU	**Haukadalur**	**4.65**	**250**	P	**Pn**	**20 30 19.2**	**+1.1**
IMID	**Miomork**	**4.78**	**247**	P	**Pn**	**20 30 21.6**	**+1.7**
ISAU	**Saurbar**	**4.82**	**252**	P	**Pn**	**20 30 21.4**	**+1.0**
BORG	**Borgarnes**	**4.88**	**262**	*e*P	**Pn**	**20 30 23.3**	**+2.0**
IKRO	**Krokur**	**5.05**	**254**	P	**Pn**	**20 30 25.2**	**+1.6**
ISOL	**Solvholt**	**5.05**	**252**	P	**Pn**	**20 30 25.2**	**+1.5**
JMI	**Jan Mayen**	**5.09**	**5**	*e*P	**Pn**	**20 30 21.4**	**-2.9**
JMI				*e*S	**Sn**	**20 31 16.8**	**-6.4**
JMI	**Jan Mayen**	**5.09**	**5**	*e*P	**Pn**	**20 30 21.4**	**-2.9**
JMI				*e*S	**Sn**	**20 31 17.0**	**-6.2**
JMI				AML	AML	20 31 19.4	
	comp=Z,1μm,0.6s						
JMI	**Jan Mayen**	**5.09**	**5**	*e*S	**Sn**	**20 31 16.8**	**-6.4**
JMIC	**Jan Mayen**	**5.16**	**5**	*e*P	**Pn**	**20 30 23.7**	**-1.5**
JNE	**Jan Mayen East**	**5.17**	**6**	*e*P	**Pn**	**20 30 23.3**	**-2.0**
JNE				*e*S	**Sn**	**20 31 20.4**	**-4.8**
JNE				AML	AML	20 31 26.7	
	comp=Z,3μm,0.7s						
JNE	**Jan Mayen East**	**5.17**	**6**	*e*P	**Pn**	**20 30 23.3**	**-2.0**
	SNR=49						
JNE				*e*S	**Sn**	**20 31 20.4**	**-4.8**
	comp=Z,3μm,0.7s,SNR=49						
JNW	**Jan Mayen West**	**5.20**	**6**	*e*P	**Pn**	**20 30 24.2**	**-1.6**
JNW				*e*S	**Sn**	**20 31 21.4**	**-4.6**
JNW				AML	AML	20 31 24.6	
	comp=Z,2μm,0.4s						
JNW	**Jan Mayen West**	**5.20**	**6**	*e*P	**Pn**	**20 30 24.2**	**-1.6**
	SNR=49						
SCO	**Scoresbysund**	**6.40**	**321**	*e*P	**Pn**	**20 30 47.5**	**+4.7**
SCO				pmax	pmax		
	comp=Z,53nm,0.7s						
SCO	**Scoresbysund**	**6.40**	**321**	*e*P	**Pn**	**20 30 47.5**	**+4.7**
	comp=Z,53nm,0.7s						
SCO	**Scoresbysund**	**6.40**	**321**	*i* P	**Pn**	**20 30 47.5**	**+4.7**
	comp=Z,53nm,0.7s						
FOO	**Floro**	**7.93**	**116**	*e*P	**Pn**	**20 31 00.2**	**-3.9**
FOO				*e*S	**Sn**	**20 32 22.9**	**-11**
FOO				AML	AML	20 32 29.3	
	comp=Z,122nm,0.7s						
SUE	**Sulen**	**8.18**	**119**	*e*P	**P**	**20 31 03.6**	**-4.0**
SUE				*e*S	**Sn**	**20 32 27.5**	**-13**
HYA	**Hoyanger**	**8.63**	**116**	*e*P	**P**	**20 31 11.0**	**-2.9**
HYA				*e*S	**Sn**	**20 32 42.8**	**-8.8**
HYA	**Hoyanger**	**8.63**	**116**	*e*P	**P**	**20 31 11.0**	**-2.9**
HYA				*e*S	**Sn**	**20 32 42.5**	**-9.2**
ASK	**Askoy**	**8.73**	**121**	*e*P	**P**	**20 31 11.6**	**-3.7**
ASK				*e*S	**Sn**	**20 32 42.2**	**-12**
RUND	**Rundenannen**	**8.84**	**121**	*e*P	**P**	**20 31 13.0**	**-3.9**
RUND				AML	AML	20 32 57.8	
	comp=Z,73nm,0.5s						
BER	**Bergen**	**8.85**	**121**	*e*P	**P**	**20 31 13.0**	**-4.0**
EGD	**Espegrend**	**8.89**	**122**	*e*P	**P**	**20 31 13.4**	**-4.2**
EGD				*e*S	**Sn**	**20 32 44.0**	**-14**
DOMB	**Dombas**	**9.21**	**106**	*e*P	**P**	**20 31 18.0**	**-3.9**
DOMB				AML	AML	20 33 12.9	
	comp=Z,133nm,0.7s						
NSS	**Namsos**	**9.31**	**88**	*e*P	**P**	**20 31 17.8**	**-5.6**
NSS				AML	AML	20 33 13.3	
	comp=Z,99nm,0.4s						
LOF	**Lofoten**	**9.46**	**66**	*e*P	**P**	**20 31 21.6**	**-3.7**
LOF				*e*S	**Sn**	**20 33 02.3**	**-10**
ODD1	**Odda**	**9.64**	**121**	*e*P	**P**	**20 31 22.8**	**-4.9**
ODD1				AML	AML	20 33 09.7	
	comp=Z,99nm,0.4s						
BLS5	**Blasjo**	**9.94**	**123**	*e*P	**P**	**20 31 28.2**	**-3.6**
BLS5				*e*S	**Sn**	**20 33 11.9**	**-12**
BLS5	**Blasjo**	**9.94**	**123**	*e*P	**P**	**20 31 28.2**	**-3.6**
BLS5				*e*S	**Sn**	**20 33 11.3**	**-13**
STAV	**Stavanger**	**10.05**	**126**	*e*P	**P**	**20 31 28.8**	**-4.5**
STAV				*e*S	**S**	**20 33 10.0**	**-17**
STAV				AML	AML	20 33 24.9	
	comp=Z,72nm,0.8s						
NAO01	**NORSAR Array S**	**10.62**	**109**	*e*P	**P**	**20 31 36.7**	**-4.4**
NB2	**NORSAR Subarra**	**10.63**	**107**	Pn	**P**	**20 31 36.6**	**-4.7**
NC6	**NORSAR Subarra**	**10.90**	**108**	Pn	**P**	**20 31 39.8**	**-5.1**
SNART	**Snartemo**	**11.02**	**125**	*e*P	**P**	**20 31 42.3**	**-4.2**
SNART				*e*S	**S**	**20 33 35.9**	**-14**
ESK	**Eskdalemuir**	**11.11**	**159**	*e*P	**P**	**20 31 43.4**	**-4.4**
DAG	**Danmarks Havn**	**11.26**	**350**	*i* P	**P**	**20 31 51.0**	**+1.1**
DAG	**Danmarks Havn**	**11.26**	**350**	*e*P	**P**	**20 31 51.0**	**+1.1**
TRO	**Tromso**	**11.51**	**58**	*e*P	**P**	**20 31 46.

comp=Z,171nm,1.1s
BAIF Baives 17.49 148 *eP* **P 20 33 07.2 -3.9**
BAIF pmax pmax
comp=Z,86nm,1.1s
DOU Dourbes 17.54 147 P **P 20 33 12.3 +0.6**
comp=Z,42nm,1.4s
GIVF Givet 17.59 147 *eP* **P 20 33 09.5 -2.8**
JOF Joensuu 17.86 80 *ep* **P 20 33 14.0 -1.6**
comp=Z,176nm,1.0s
FLN La Foliniere 17.88 159 *eP* **P 20 33 14.0 -2.0**
comp=Z,246nm,1.1s
FLN *eR*
comp=Z,2µm,21.0s
ROSF Rostrenen 17.95 165 *eP* **P 20 33 16.8 -0.1**
comp=Z,401nm,1.6s
ROSF Rostrenen 17.95 165 *eP* **P 20 33 16.8 -0.1**
ROSF pmax pmax
comp=Z,201nm,1.6s
RUE Ruedersdorf 17.97 127 *eP* **P 20 33 16.0 -1.0**
comp=Z,143nm,1.4s
RUE Ruedersdorf 17.97 127 *eP* **P 20 33 16.0 -1.0**
comp=Z,143nm,1.4s
LDF La Druitiere 18.10 158 *eP* **P 20 33 15.8 -3.0**
comp=Z,450nm,1.3s
LDF La Druitiere 18.10 158 *eP* **P 20 33 15.8 -3.0**
LDF pmax pmax
comp=Z,225nm,1.3s
SGMF Saint Gilles 18.11 164 *eP* **P 20 33 16.7 -2.2**
comp=Z,102nm,0.9s
SGMF Saint Gilles 18.11 164 *eP* **P 20 33 16.7 -2.2**
SGMF pmax pmax
comp=Z,51nm,0.9s
GRR Gorron 18.20 160 *eP* **P 20 33 17.4 -2.5**
comp=Z,21nm,0.6s
GRR Gorron 18.20 160 *eP* **P 20 33 17.4 -2.5**
GRR pmax pmax
comp=Z,10.0nm,0.6s
WLF Walferdange 18.30 145 *eP* **P 20 33 20.5 -0.7**
WLF pmax pmax
comp=Z,99nm,1.3s
WLF Walferdange 18.30 145 *eP* **P 20 33 20.5 -0.7**
comp=Z,99nm,1.3s
WLF Walferdange 18.30 145 *eP* **P 20 33 20.5 -0.7**
comp=Z,99nm,1.3s
TNS Taunus Mts 18.36 140 *eP* **P 20 33 20.6 -1.4**
TNS pmax pmax
comp=Z,79nm,1.0s
TNS Taunus Mts 18.36 140 *eP* **P 20 33 20.6 -1.4**
comp=Z,79nm,1.0s
QUIF Quistinic 18.38 165 *eP* **P 20 33 19.7 -2.5**
comp=Z,133nm,1.1s
QUIF Quistinic 18.38 165 *eP* **P 20 33 19.7 -2.5**
QUIF pmax pmax
comp=Z,67nm,1.1s
ABH Alteburg 18.44 142⇑ *eP* **P 20 33 22.9 -0.1**
ABH Alteburg 18.44 142 *eP* **P 20 33 22.7 -0.3**
RUP Ruppelstein 18.49 143 *eP* **P 20 33 24.0 +0.5**
RUP Ruppelstein 18.49 143 *eP* **P 20 33 23.6 +0.1**
GKP Gorka Klasztor 18.50 120 *eP* **P 20 33 24.6 +1.0**
GKP *eS* **S 20 36 52.4 +6.2**
GKP MLR MLR 20 41 33.2
comp=Z,2µm,16.9s
CLL Collm 18.72 130⇓ *iP* **P 20 33 23.6 -2.7**
CLL *eS* **S 20 36 55.0 +3.8**
CLL pmax pmax
comp=Z,75nm,1.1s
CLL Collm 18.72 130⇓ *iP* **P 20 33 23.6 -2.7**
comp=Z,75nm,1.1s
CLL *i* 20 33 26.4
CLL *eS* **S 20 36 55.0 +3.8**
CLL Collm 18.72 130 ⇓P **P 20 33 23.6 -2.7**
comp=Z,logA/T=1.1
CLL *i* *PP 20 33 26.4
CLL *i* 20 33 32.8
CLL *e*PPP PPP 20 33 47.0 -4.4
CLL *i* 20 34 08.8
CLL *e* 20 36 30.0
CLL *eS* **S 20 36 55.0 +3.8**
MOX Moxa 18.88 134 *eP* **P 20 33 27.7 -0.5**
MOX pmax pmax
comp=Z,73nm,1.2s
MOX Moxa 18.88 134 *eP* **P 20 33 27.7 -0.5**
comp=Z,73nm,1.2s
MOX *eS* **S 20 37 06.0 +11**
MOX Moxa 18.88 134 *i* P **P 20 33 27.7 -0.5**
comp=Z,logA/T=1.8
MOX S **S 20 37 06.0 +11**
MOX L 20 41 53.0
TOD Tromm 19.02 140⇑ *eP* **P 20 33 29.5 -0.4**
TOD Tromm 19.02 140 *eP* **P 20 33 29.7 -0.2**
KTD Kalmit 19.09 142 *eP* **P 20 33 30.5 -0.3**
SWS Schriesheim 19.10 140 *eP* **P 20 33 30.9 0.0**
MEZF Maizieres J'vi 19.14 148 *eP* **P 20 33 28.3 -3.1**
comp=Z,145nm,1.1s
LANF Langenberg 19.34 143 *eP* **P 20 33 36.2 +2.5**
BRG Berggiesshubel 19.39 129 *i* P **P 20 33 33.5 -0.8**
BRG *eS* **S 20 37 12.0 +5.5**
BRG pmax pmax
comp=Z,88nm,1.2s
BRG Berggiesshubel 19.39 129 *i* P **P 20 33 33.5 -0.8**
comp=Z,88nm,1.2s
BRG *i* 20 33 35.6
BRG *e* 20 33 58.6
BRG *eS* **S 20 37 12.0 +5.5**
SIND Sindeldorf 19.47 139 *eP* **P 20 33 34.5 -0.6**
NKC Novy Kostel 19.49 133 *eP* **P 20 33 34.8 -0.6**
NKC AMS AMS 20 42 30.0
comp=Z,2µm,17.1s
NKC Novy Kostel 19.49 133 P **P 20 33 34.7 -0.7**
GRA1 Grafenberg Arr 19.61 136 *eP* **P 20 33 36.4 -0.3**
comp=Z,131nm,1.4s
GRF Grafenberg Arr 19.61 136 *eP* **P 20 33 36.4 -0.3**
GRF pmax pmax
comp=Z,131nm,1.4s
GRF Grafenberg Arr 19.61 136 *eP* **P 20 33 36.4 -0.3**
GRF pmax pmax
comp=Z,131nm,1.4s
GRF Grafenberg Arr 19.61 136 *eP* **P 20 33 36.4 -0.3**
comp=Z,131nm,1.4s
THEF They Montfort 19.61 147 *eP* **P 20 33 36.0 -0.8**
CDF Champ du Feu 19.74 144 *eP* **P 20 33 37.4 -0.8**
comp=Z,228nm,1.2s
CDF Champ du Feu 19.74 144 *eP* **P 20 33 37.4 -0.8**
CDF pmax pmax
comp=Z,114nm,1.2s
WLS Welschbruch 19.75 144 *eP* **P 20 33 37.9 -0.5**
HYF Humbligny 19.84 154 *eP* **P 20 33 37.9 -1.5**
LBG Lerchenberg 19.88 141 *eP* **P 20 33 39.3 -0.4**
STU Stuttgart 19.89 140 *eP* **P 20 33 39.0 -0.8**
STU pmax pmax
comp=Z,217nm,1.3s
STU Stuttgart 19.89 140 *eP* **P 20 33 39.0 -0.8**
comp=Z,217nm,1.3s
ECH Echery 19.89 145 *eP* **P 20 33 39.3 -0.6**
PVCC Panska Ves 19.89 129 *eP* **P 20 33 38.5 -1.4**
PVCC MLR MLR
comp=Z,2µm,18.5s
PVCC Panska Ves 19.89 129 *eP* **P 20 33 38.5 -1.4**
PVCC *eS* **S 20 37 28.4 +11**
PVCC AMS AMS 20 43 10.0
comp=Z,2µm,18.5s
LCHF La Chataignera 19.89 161 *eP* **P 20 33 39.3 -0.6**
HAU Haudompre 19.90 146 *eP* **P 20 33 39.5 -0.5**
comp=Z,329nm,1.4s
HAU *eR*
comp=Z,2µm,19.5s
MFF Saint Martin d 20.04 160 *eP* **P 20 33 38.8 -2.7**
comp=Z,154nm,1.3s
MFF Saint Martin d 20.04 160 *eP* **P 20 33 38.8 -2.7**
MFF pmax pmax
comp=Z,77nm,1.3s
LIBD Limburg 20.06 144 *eP* **P 20 33 41.4 -0.2**
LIBD Limburg 20.06 144 *eP* **P 20 33 41.7 +0.1**
BFO Black Forest 20.07 142 *eP* **P 20 33 40.8 -1.0**
BFO pmax pmax
comp=Z,208nm,1.2s
BFO Black Forest 20.07 142 *eP* **P 20 33 40.8 -1.0**
comp=Z,208nm,1.2s
SUW Suwalki 20.13 110 *eP* **P 20 33 40.5 -1.9**
SUW *ep*P 20 33 43.4
SUW *eS* **S 20 37 25.8 +3.6**
SUW MLR MLR 20 41 31.1
comp=Z,2µm,19.9s,MS4.4
KSP Ksiaz 20.19 126 *eP* **P 20 33 41.2 -1.7**
KSP *ep*P 20 33 44.3
KSP MLR MLR 20 42 58.3
comp=Z,3µm,16.0s,MS4.7
KSP Ksiaz 20.19 126 *eP* **P 20 33 41.8 -1.1**
KSP *ep*P 20 33 46.7
HINF Hinteralfeld 20.20 146 *eP* **P 20 33 42.3 -0.7**
comp=Z,226nm,1.4s
HINF Hinteralfeld 20.20 146 *eP* **P 20 33 42.3 -0.7**
HINF pmax pmax
comp=Z,113nm,1.4s
SSF Saint Saulge 20.20 152 *eP* **P 20 33 41.0 -2.1**
SSF pmax pmax
comp=Z,97nm,1.1s
SSF Saint Saulge 20.20 152 *eP* **P 20 33 41.0 -2.1**
comp=Z,97nm,1.1s
BUCH Bad Urach 20.23 140⇑ *eP* **P 20 33 43.0 -0.4**
MOF Molkenrain 20.23 145 *eP* **P 20 33 42.4 -1.0**
KIZ Kirchzarten 20.32 143 *eP* **P 20 33 43.7 -0.6**
HDH Heidenheim 20.33 139 *eP* **P 20 33 43.7 -0.7**
PRU Pruhonice 20.35 130 *eP* **P 20 33 43.9 -0.8**
PRU MLR MLR
comp=Z,3µm,11.5s,MS4.8
PRU Pruhonice 20.35 130 *eP* **P 20 33 43.9 -0.8**
PRU *eS* **S 20 37 40.5 +14**
PRU AMS AMS 20 44 50.0
comp=Z,3µm,11.5s
PRU Pruhonice 20.35 130 P **P 20 33 43.7 -1.0**
UPC Upice 20.38 126 *eP* **P 20 33 43.7 -1.3**
SPAK Spaichingen 20.40 142 *eP* **P 20 33 44.9 -0.3**
SPAK Spaichingen 20.40 142 *eP* **P 20 33 45.1 -0.1**
FELD Feldberg 20.41 143 *eP* **P 20 33 45.0 -0.3**
FELD Feldberg 20.41 143 *eP* **P 20 33 45.2 -0.1**
AVF Avril sur Loir 20.44 153 *eP* **P 20 33 43.6 -2.0**
comp=Z,247nm,1.1s
AVF Avril sur Loir 20.44 153 *eP* **P 20 33 43.6 -2.0**
AVF pmax pmax
comp=Z,123nm,1.1s
GUT Gutenstein 20.51 141⇑ *eP* **P 20 33 45.8 -0.6**
BGF Bois d'Agland 20.57 154 *eP* **P 20 33 45.0 -1.9**
comp=Z,195nm,0.9s
BGF Bois d'Agland 20.57 154 *eP* **P 20 33 45.0 -1.9**
BGF pmax pmax
comp=Z,97nm,0.9s
WET Wettzell 20.59 133 *eP* **P 20 33 46.2 -0.9**
WET pmax pmax
comp=Z,74nm,1.4s
WET Wettzell 20.59 133 *eP* **P 20 33 46.2 -0.9**
comp=Z,74nm,1.4s
DPC Dobruska-Polom 20.62 126 *eP* **P 20 33 46.9 -0.5**
DPC MLR MLR
comp=Z,2µm,17.8s,MS4.5
DPC Dobruska-Polom 20.62 126 *eP* **P 20 33 46.9 -0.5**
DPC *eS* **S 20 37 47.9 +16**
DPC AMS AMS 20 46 10.0
comp=Z,2µm,17.8s
DPC Dobruska-Polom 20.62 126 P **P 20 33 46.6 -0.8**
LOMF Lomont 20.63 146 *eP* **P 20 33 47.3 -0.2**
SLE Schleitheim 20.64 143 *iP* **P 20 33 47.2 -0.4**
SMF Signal de Mont 20.67 152 *eP* **P 20 33 46.6 -1.4**
comp=Z,277nm,1.3s
SMF Signal de Mont 20.67 152 *eP* **P 20 33 46.6 -1.4**
SMF pmax pmax
comp=Z,138nm,1.3s
BBS Basel-Blauen 20.68 145 *eP* **P 20 33 47.8 -0.3**
BBS Basel-Blauen 20.68 145 *eP* **P 20 33 48.2 +0.1**
BOURR Bourrignon 20.68 145⇑ *iP* **P 20 33 47.9 -0.2**
WAR Warsaw 20.70 116 *eP* **P 20 33 48.2 -0.1**
WAR *ep*P 20 33 50.8
WAR *eS* **S 20 37 37.0 +3.3**
WAR MLR MLR 20 42 58.0
comp=Z,2µm,16.7s,MS4.6
TCF Toulx Ste Croi 20.72 155 *eP* **P 20 33 46.5 -2.0**
comp=Z,169nm,1.2s
TCF Toulx Ste Croi 20.72 155 *eP* **P 20 33 46.5 -2.0**
TCF pmax pmax
comp=Z,84nm,1.2s
SULZ Sulz-Cheisache 20.77 144⇑ *iP* **P 20 33 48.5 -0.5**
MATF Mathat 20.78 161 *eP* **P 20 33 49.7 +0.6**
TRULL Truellikon 20.79 142⇑ *iP* **P 20 33 48.5 -0.8**
KHC Kasperske Hory 20.81 132 *eP* **P 20 33 49.4 0.0**
KHC *e* 20 34 15.5
KHC MLR MLR
comp=Z,4µm,10.6s,MS5.0
KHC Kasperske Hory 20.81 132 *eP* **P 20 33 49.4 0.0**
KHC *ex* x 20 34 15.5
KHC *eS* **S 20 37 50.5 +15**
KHC AMS AMS 20 45 20.0
comp=Z,4µm,10.6s
KHC Kasperske Hory 20.81 132⇑ *iP* **P 20 33 48.5 -0.9**
STEIN Stein am Rhein 20.82 142⇑ *iP* **P 20 33 49.3 -0.2**
BALST Balsthal 20.84 144⇑ *iP* **P 20 33 49.6 -0.2**
BRANT Les Verrieres 20.94 147⇑ *iP* **P 20 33 50.5 -0.2**
WEIN Weingarten 20.98 142⇑ *iP* **P 20 33 51.0 -0.2**
FUR Furstenfeldbru 21.00 137 *eP* **P 20 33 50.9 -0.5**
FUR pmax pmax
comp=Z,261nm,1.2s,mb5.4
FUR Furstenfeldbru 21.00 137 *eP* **P 20 33 50.9 -0.5**
comp=Z,261nm,1.2s,mb5.4
ZUR Zurich 21.03 143⇑ *iP* **P 20 33 51.4 -0.3**
WILA Wila 21.07 142⇑ *iP* **P 20 33 51.8 -0.3**
GEC2 GERESS Array S 21.10 132 *eP* **P 20 33 51.0 -1.4**
GEC2 pmax pmax
comp=Z,140nm,1.2s,mb5.2
GEC2 GERESS Array S 21.10 132 *eP* **P 20 33 51.0 -1.4**
comp=Z,140nm,1.2s,mb5.2
AGO Saint Agoulin 21.11 154 *eP* **P 20 33 51.2 -1.3**
UBR Uberruh 21.13 140 *eP* **P 20 33 52.8 +0.1**
CABF La Chapelle 21.16 148 *eP* **P 20 33 52.5 -0.5**
comp=Z,347nm,1.3s,mb5.2
CABF La Chapelle 21.16 148 *eP* **P 20 33 52.5 -0.5**
CABF pmax pmax
comp=Z,174nm,1.3s,mb5.2
TORNY Torny 21.20 146⇑ *iP* **P 20 33 53.3 -0.1**
GIMEL Gimel 21.27 148⇑ *iP* **P 20 33 53.8 -0.3**
PLDF La Plantade 21.28 153 *eP* **P 20 33 53.1 -1.1**
VERF Verneugheol 21.29 155 *eP* **P 20 33 58.0 +3.7**
LIENZ Alp Oberkamor 21.33 141⇑ *iP* **P 20 33 54.9 +0.2**
PYM Petit Puy Mans 21.38 154 *eP* **P 20 33 54.5 -0.7**
MUO Muotathal 21.42 143⇑ *iP* **P 20 33 55.6 0.0**
DAVA Damuels 21.43 141⇑ *iP* **P 20 33 56.2 +0.4**
comp=Z,883nm,2.7s,mb5.6
BNALP Bannalp 21.46 144⇑ *iP* **P 20 33 56.0 0.0**
WIMIS Wimmis 21.46 145⇑ *iP* **P 20 33 56.0 0.0**
HASLI Hasliberg 21.50 144⇑ *iP* **P 20 33 56.3 -0.1**
MORC Moravsky Berou 21.52 125 *eP* **P 20 33 55.2 -1.4**
MORC pmax pmax
comp=Z,95nm,1.3s,mb5.1
MORC Moravsky Berou 21.52 125 *eP* **P 20 33 55.2 -1.4**
comp=Z,95nm,1.3s,mb5.1
MORC Moravsky Berou 21.52 125 *eP* **P 20 33 55.2 -1.4**
comp=Z,95nm,1.3s,mb5.1
PLONS Plons 21.53 142⇑ *iP* **P 20 33 56.4 -0.3**
OG01 Vacheresse 21.56 147 *eP* **P 20 33 53.7 -3.3**
OG01 Vacheresse 21.56 147 *eP* **P 20 33 54.4 -2.6**
RJF Les Rejaudoux 21.56 157 *eP* **P 20 33 56.0 -1.0**
comp=Z,325nm,1.1s,mb5.4
RJF *eR*
comp=Z,2µm,19.2s
RJF Les Rejaudoux 21.56 157 *eP* **P 20 33 56.0 -1.0**
RJF pmax pmax
comp=Z,162nm,1.1s,mb5.4
RJF MLR MLR
comp=Z,2µm,19.3s,MS4.6
MNK Minsk 21.60 104 *eP* **P 20 33 52.0 -5.3**
VRAC Vranov 21.61 127⇓ *iP* **P 20 33 57.1 -0.4**
AIGLE Aigle 21.61 147⇑ *iP* **P 20 33 57.1 -0.4**
LLS Linth-Limmern 21.62 143⇑ *iP* **P 20 33 57.5 -0.1**
FRNF Fournols 21.65 155 *eP* **P 20 33 57.0 -1.0**
SENIN Lac Senin 21.67 146⇑ *iP* **P 20 33 58.2 +0.1**
OKC Ostrava-Krasne 21.67 124 *eP* **P 20 33 57.4 -0.7**
OKC AMS AMS 20 46 00.0
comp=Z,3µm,10.9s
OKC Ostrava-Krasne 21.67 124 P **P 20 33 57.8 -0.3**
MOTA Moosalm 21.71 139⇑ *iP* **P 20 33 58.4 -0.1**
comp=Z,121nm,1.4s,mb5.1
MOTA Moosalm 21.71 139⇑ *iP* **P 20 33 58.4 -0.1**
MOTA pmax pmax
comp=Z,121nm,1.4s,mb5.1
LKBD Leukerbad 21.72 145⇑ *iP* **P 20 33 58.8 +0.2**
COLF Collangettes 21.73 153 *eP* **P 20 33 58.2 -0.5**
COLF Collangettes 21.73 153 *eP* **P 20 33 58.9 +0.2**
COLF Collangettes 21.73 153 *eP* **P 20 33 58.9 +0.2**
GRYON Gryon 21.73 147⇑ *iP* **P 20 33 58.5 -0.2**
KRUC Moravsky 21.75 128 P **P 20 33 58.8 -0.2**
LFF La Frestale 21.80 159 *eP* **P 20 33 59.0 -0.4**
comp=Z,261nm,1.0s,mb5.3
LFF La Frestale 21.80 159 *eP* **P 20 33 59.0 -0.4**
LFF pmax pmax
comp=Z,131nm,1.0s,mb5.3
SALAN Lac Salanfe 21.80 147⇓ *iP* **P 20 34 00.1 +0.7**
WATA Walderalm 21.84 138⇓ *iP* **P 20 33 59.9 0.0**
comp=Z,108nm,1.3s,mb5.1
WATA Walderalm 21.84 138⇓ *iP* **P 20 33 59.9 0.0**
WATA pmax pmax
comp=Z,108nm,1.3s,mb5.1
SQTA Sankt Quirin 21.85 138⇓ *iP* **P 20 33 59.9 0.0**
comp=Z,197nm,1.3s,mb5.4
SQTA Sankt Quirin 21.85 138⇓ *iP* **P 20 33 59.9 0.0**
SQTA pmax pmax
comp=Z,197nm,1.3s,mb5.4
EMV Vieux Emosson 21.86 147⇑ *iP* **P 20 33 59.9 -0.1**
FUSIO Fusio 21.90 144⇑ *iP* **P 20 34 01.0 +0.5**
DAVOX Davos 21.90 141⇑ *iP* **P 20 34 00.8 +0.3**
OJC Ojcow 21.92 121 *eP* **P 20 33 59.0 -1.6**
WTTA Wattenberg 21.93 138⇑ *iP* **P 20 34 01.1 +0.4**
comp=Z,494nm,1.7s,mb5.7
WTTA Wattenberg 21.93 138⇑ *iP* **P 20 34 01.1 +0.4**
WTTA pmax pmax
comp=Z,494nm,1.7s,mb5.7
DIX Grande Dixence 21.96 146⇑ *iP* **P 20 34 01.3 +0.3**
CAF Calviac 22.02 157 *eP* **P 20 34 00.8 -0.8**
comp=Z,503nm,1.5s,mb5.4
CAF Calviac 22.02 157 *eP* **P 20 34 00.8 -0.8**
CAF pmax pmax
comp=Z,251nm,1.5s,mb5.4
VDL Val di Lei 22.07 142⇑ *iP* **P 20 34 02.9 +0.7**
MMK Mattmark 22.11 145⇑ *iP* **P 20 34 03.5 +0.9**
RSL Roselend 22.16 148 *eP* **P 20 34 02.7 -0.3**
MOA Molln 22.16 133⇑ *iP* **P 20 34 02.8 -0.2**
comp=Z,480nm,2.9s,mb5.4
MCGN Macugnaga 22.21 145 *eP* **P 20 34 05.1 +1.6**
MCGN Macugnaga 22.21 145 *eP* **P 20 34 05.1 +1.6**
BERNI Berninapass 22.28 141⇑ *iP* **P 20 34 05.3 +1.0**
BRMO Bormio 22.31 141 *eP* **P 20 34 06.0 +1.5**
BRMO Bormio 22.31 141 *eP* **P 20 34 06.1 +1.5**
LPL La Plagne 22.34 148 *eP* **P 20 34 03.5 -1.3**
comp=Z,134nm,1.3s,mb4.9
LPL La Plagne 22.34 148 *eP* **P 20 34 03.5 -1.3**
LPL pmax pmax
comp=Z,67nm,1.3s,mb4.9
JAVC Velka Javorina 22.35 126 P **P 20 34 06.2 +1.3**
LPG La Plagne 22.36 148 *eP* **P 20 34 03.5 -1.6**
comp=Z,323nm,1.5s,mb5.2
LPG La Plagne 22.36 148 *eP* **P 20 34 03.5 -1.6**
LPG pmax pmax
comp=Z,162nm,1.5s,mb5.2
VAI Varese 22.48 144 *eP* **P 20 34 06.6 +0.4**
LSD Ceresole Reale 22.49 147 P **P 20 34 07.4 +1.1**
MUGIO Muggio 22.49 143⇑ *iP* **P 20 34 06.7 +0.3**
GDM Grand'Maison 22.51 149 *eP* **P 20 34 06.9 +0.6**
ORX Oropa 22.51 146 P **P 20 34 07.0 +0.6**
ORO Oropa 22.52 146 *eP* **P 20 34 08.1 +1.6**
VIVF Saint-Julien-l 22.55 152 *eP* **P 20 34 06.4 -0.4**
comp=Z,187nm,1.3s,mb5.1
VIVF Saint-Julien-l 22.55 152 *eP* **P 20 34 06.4 -0.4**
VIVF pmax pmax
comp=Z,94nm,1.3s,mb5.1
SMOL Smolenice 22.57 127 *eP* **P 20 34 08.3 +1.4**
TRAV 22.57 146 P **P 20 34 07.6 +0.6**
TRAV 22.57 146 P **P 20 34 07.6 +0.6**
KBA Koelnbreinsper 22.58 135⇓ *iP* **P 20 34 08.1 +1.0**
comp=Z,600nm,2.7s,mb5.5
KBA Koelnbreinsper 22.58 135⇓ *iP* **P 20 34 08.1 +1.0**
KBA pmax pmax
comp=Z,600nm,2.7s,mb5.5
EPON Pontenova 22.66 175 ⇑P **P 20 34 07.9 0.0**
comp=Z,142nm,1.1s,mb5.3
EPON Pontenova 22.66 175 P **P 20 34 07.9 0.0**
comp=Z,142nm,1.1s,mb5.3,SNR=18
LIKS Likavka 22.67 124 *eP* **P 20 34 10.5 +2.6**
ORIF Oris-en-Rattie 22.73 150 *eP* **P 20 34 07.2 -1.4**
comp=Z,264nm,1.2s,mb5.2
ORIF *eR*
comp=Z,2µm,19.2s
ZST Bratislava 22.74 128 P **P 20 34 09.9 +1.3**
ZST Bratislava 22.74 128 *eP* **P 20 34 08.7 +0.1**
ZST *e* 20 34 35.7
BNI Bardonecchia 22.77 148 *eP* **P 20 34 09.7 +0.7**
BNI pmax pmax
comp=Z,149nm,1.3s,mb5.3
BNI Bardonecchia 22.77 148 *eP* **P 20 34 09.7 +0.8**
comp=Z,149nm,1.3s,mb5.3
BNI Bardonecchia 22.77 148 *eP* **P 20 34 09.7 +0.7**
comp=Z,149nm,1.3s,mb5.3
NIE Niedzica 22.77 122⇓ *eP* **P 20 34 09.5 +0.6**
EARI Arriondas 22.79 171 P **P 20 34 09.3 +0.2**
comp=Z,194nm,1.5s,mb5.3
EARI Arriondas 22.79 171 P **P 20 34 09.3 +0.2**
comp=Z,194nm,1.5s,mb5.3,SNR=8.6
RSP Reno Superiore 22.80 147 P **P 20 34 10.7 +1.4**
KOLL Kolacno 22.84 126 P **P 20 34 10.4 +0.9**
FVI Forni Avoltri 22.86 137 *eP* **P 20 34 11.8 +2.0**
FENE Fenestrelle 22.88 148 P **P 20 34 10.8 +0.8**
FENE Fenestrelle 22.88 148 P **P 20 34 10.8 +0.8**
RRL Cesana Torines 22.92 148 P **P 20 34 11.6 +1.2**
EMAZ Mazaricos 22.99 178 P **P 20 34 10.8 -0.4**
comp=Z,254nm,1.7s,mb5.4
EMAZ Mazaricos 22.99 178 P **P 20 34 10.8 -0.3**
comp=Z,254nm,1.7s,mb5.4,SNR=6.7
ELAN Lanestosa 22.99 168 P **P 20 34 11.2 +0.1**
comp=Z,189nm,2.1s,mb5.2
ELAN Lanestosa 22.99 168 P **P 20 34 11.2 +0.1**
comp=Z,189nm,2.1s,mb5.2,SNR=6.3
SOP Sopron 23.02 129 P **P 20 34 13.1 +1.8**
CTI Castel Tesino 23.05 139 *eP* **P 20 34 13.7 +2.1**
OG22 Abries 23.05 148 *eP* **P 20 34 13.5 +1.9**
VYHS Vyhne 23.05 125 P **P 20 34 12.3 +0.6**
VYHS Vyhne 23.05 125 *eP* **P 20 34 12.1 +0.4**
STS Santiago 23.06 177 P **P 20 34 12.3 +0.5**
STS pmax pmax
comp=Z,233nm,1.8s,mb5.3
STS Santiago 23.06 177 P **P 20 34 12.3 +0.5**
comp=Z,232nm,1.8s,mb5.3
STS Santiago 23.06 177 P **P 20 34 12.3 +0.5**
comp=Z,232nm,1.8s,mb5.3,SNR=6.3
ARSA Arzberg 23.08 131⇑ *iP* **P 20 34 12.6 +0.7**
comp=Z,437nm,2.4s,mb5.5
BHB Bricherasio 23.10 147 P **P 20 34 13.4 +1.2**
BHB Bricherasio 23.10 147 P **P 20 34 13.4 +1.2**
MBDF Montbardon 23.10 148 *eP* **P 20 34 13.2 +1.0**
comp=Z,546nm,1.4s,mb5.5
MBDF Montbardon 23.10 148 *eP* **P 20 34 13.2 +1.0**
MBDF pmax pmax
comp=Z,273nm,1.4s,mb5.5
LASF Ste Croix 23.15 154 *eP* **P 20 34 10.8 -1.8**
comp=Z,462nm,1.8s,mb5.3
SAL Salo 23.16 141 *eP* **P 20 34 14.6 +1.9**
OSSF Osses 23.19 164 *eP* **P 20 34 12.4 -0.7**
PTCC Patocco-Chiusa 23.19 136 *eP* **P 20 34 14.2 +1.1**
PTCC Patocco-Chiusa 23.19 136 *eP* **P 20 34 14.1 +1.0**
EALK Alkurruntz 23.20 164 ⇑P **P 20 34 13.7 +0.6**
comp=Z,505nm,1.9s,mb5.6
EALK Alkurruntz 23.20 164 P **P 20 34 13.7 +0.6**
comp=Z,505nm,1.9s,mb5.6,SNR=18
GMNA Gemona 23.28 136 *eP* **P 20 34 15.2 +1.3**
OG25 Le Caire 23.30 150 *eP* **P 20 34 15.2 +1.1**
EINC Incio 23.32 175 P **P 20 34 15.3 +1.0**
comp=Z,125nm,1.4s,mb5.2
EINC Incio 23.32 175 P **P 20 34 15.4 +1.1**
comp=Z,125nm,1.4s,mb5.1,SNR=14
SJPF Ste Jean 23.34 164 *eP* **P 20 34 13.6 -0.9**
SURF Saint Ours 23.34 148 *eP* **P 20 34 15.9 +1.4**
PZZ Prazzo 23.38 148 P **P 20 34 16.3 +1.4**
DOI San Damiano 23.42 148 *eP* **P 20 34 16.7 +1.5**
LARF Larrau 23.44 163 *eP* **P 20 34 15.0 -0.5**
LARF Larrau 23.44 163 *eP* **P 20 34 16.2 +0.7**
KWP Kalwaria 23.45 118 *eP* **P 20 34 16.2 +0.8**
KWP *ep*P 20 34 20.4
KWP *eS* **S 20 38 30.0 +5.9**
KWP MLR MLR 20 43 59.0
comp=Z,1µm,18.0s,MS4.4
OBKA Obir 23.45 134⇓ *iP* **P 20 34 16.4 +0.9**
comp=Z,546nm,3.1s
CADS Cadrg 23.47 135 *eP* **P 20 34 16.2 +0.5**
CADS *eS* **S 20 38 38.2 +14**
SRO Srobarova 23.47 127 *eP* **P 20 34 17.1 +1.4**
PERS Pernice 23.50 133⇑ *eP* **P 20 34 17.0 +0.9**
comp=Z,482nm,2.7s,mb5.5

PERS *e*S **S** **20 38 38.0 +13**
LABF Labassere 23.56 161 *e*P **P** **20 34 13.8 -2.9**
SMRF Simiane la Rot 23.57 151 *e*P **P** **20 34 15.0 -1.7**
comp=Z,359nm,1.6s,mb5.2
MTLF Montolieu 23.59 157 *e*P **P** **20 34 17.3 +0.4**
comp=Z,321nm,1.5s,mb5.2
MTLF Montolieu 23.59 157 *e*P **P** **20 34 17.3 +0.4**
MTLF pmax pmax
comp=Z,161nm,1.5s,mb5.2
ERUA La Rua 23.59 175 P **P** **20 34 17.9 +0.9**
ERUA pmax pmax
comp=Z,118nm,1.0s,mb5.3
ERUA La Rua 23.59 175 P **P** **20 34 17.9 +0.9**
comp=Z,118nm,1.0s,mb5.3
ERUA La Rua 23.59 175 P **P** **20 34 17.9 +0.9**
comp=Z,118nm,1.0s,mb5.3,SNR=18
CRVS Cervenica-Dubn 23.61 121 *e*P **P** **20 34 17.8 +0.7**
EPF Esparros 23.61 161 *e*P **P** **20 34 17.2 0.0**
comp=Z,301nm,1.3s,mb5.3
EPF Esparros 23.61 161 *e*P **P** **20 34 17.2 0.0**
EPF pmax pmax
comp=Z,150nm,1.3s,mb5.3
KECS Kecovo 23.63 123 *e*P **P** **20 34 17.4 +0.2**
ETSF Etsaut 23.63 162 *e*P **P** **20 34 18.4 +1.1**
comp=Z,364nm,1.7s,mb5.2
ETSF Etsaut 23.63 162 *e*P **P** **20 34 18.4 +1.1**
ETSF pmax pmax
comp=Z,182nm,1.7s,mb5.2
PRAF Pradon 23.66 152 *e*P **P** **20 34 19.1 +1.5**
PCP Pian Castagno 23.68 145 P **P** **20 34 18.4 +0.7**
BOB Bobbio (Coli) 23.68 144 *e*P **P** **20 34 20.2 +2.4**
STV2 Anna di Valdie 23.68 148 P **P** **20 34 18.5 +0.7**
STV2 Anna di Valdie 23.68 148 P **P** **20 34 18.5 +0.7**
STV Sta Anna Valdi 23.68 148 P **P** **20 34 18.5 +0.7**
VOY Vojsko 23.69 135 *e*P **P** **20 34 18.3 +0.4**
VIEF Viey 23.72 161 *e*P **P** **20 34 20.0 +1.8**
ENR Entracque 23.72 148 P **P** **20 34 18.4 +0.2**
VILF Villemus 23.72 151 *e*P **P** **20 34 19.1 +0.9**
ROB Roburent 23.75 147 P **P** **20 34 18.7 +0.2**
LVV L'vov 23.78 116 *i* P **P** **20 34 17.9 -0.8**
LVV *e*S **S** **20 38 33.7 +3.9**
LVV MLR MLR
comp=Z,1µm,15.8s,MS4.4
LVV MLR MLR
comp=N,1µm,15.6s,MS4.6
LVV MLR MLR
comp=E,900nm,15.0s,MS4.6
MLS Moulis 23.79 159 *e*P **P** **20 34 17.6 -1.3**
EZAM Zamans 23.80 178 P **P** **20 34 19.4 +0.5**
EZAM pmax pmax
comp=Z,29nm,0.8s,mb4.8
EZAM Zamans 23.80 178 P **P** **20 34 19.4 +0.5**
comp=Z,29nm,0.8s,mb4.8
EZAM Zamans 23.80 178 P **P** **20 34 19.4 +0.5**
comp=Z,29nm,0.8s,mb4.7,SNR=5.4
RESF Ens 23.83 161 *e*P **P** **20 34 18.6 -0.7**
LJU Ljubljana 23.86 134 *e*P **P** **20 34 20.6 +1.1**
LJU *e*S **S** **20 38 45.2 +14**
KOLS Kolonicke sedl 23.87 120 P **P** **20 34 20.9 +1.3**
KOLS Kolonicke sedl 23.87 120 *e*P **P** **20 34 20.5 +0.9**
KOLS *e* 20 34 27.4
KOLS Kolonicke sedl 23.87 120 *e*P **P** **20 34 20.5 +0.9**
KOLS *e*pP 20 34 27.4
TOUF Mont Tournerai 23.88 148 *e*P **P** **20 34 19.1 -0.7**
GENL Genova Univers 23.90 145 P **P** **20 34 20.7 +0.7**
GENL Genova Univers 23.90 145 P **P** **20 34 20.7 +0.8**
PSZ Piszkesteto 23.91 124⇑ *e*P **P** **20 34 21.0 +1.0**
FIN Finale Ligure 23.91 146 P **P** **20 34 20.8 +0.8**
EBIE Bielsa 23.93 161 P **P** **20 34 21.2 +1.0**
comp=Z,197nm,2.2s,mb5.2
EBIE Bielsa 23.93 161 P **P** **20 34 21.2 +1.0**
comp=Z,197nm,2.2s,mb5.2,SNR=14
MONE Monesi 23.93 147 P **P** **20 34 21.0 +0.8**
MONE Monesi 23.93 147 P **P** **20 34 21.0 +0.8**
AUTN L'Aution 23.94 148 *e*P **P** **20 34 18.9 -1.4**
TRI Trieste 23.95 136 *e*P **P** **20 34 21.6 +1.2**
MVIF Mont Vial 23.98 148 P **P** **20 34 22.7 +2.0**
SAOF Saorge 23.98 148 *e*P **P** **20 34 18.6 -2.1**
BUD Budapest 23.99 126 P **P** **20 34 22.8 +2.0**
SALF Salau 24.00 159 *e*P **P** **20 34 21.2 +0.3**
TAVF Tavernes 24.01 150 *e*P **P** **20 34 22.0 +1.0**
PUYF Puyloubier 24.02 151 *e*P **P** **20 34 22.2 +1.1**
ECAL Calabor 24.06 174 P **P** **20 34 21.5 -0.1**
comp=Z,144nm,1.5s,mb5.2
ECAL Calabor 24.06 174 P **P** **20 34 21.5 0.0**
comp=Z,144nm,1.5s,mb5.2,SNR=14
SBF Sospel 24.07 148 *e*P **P** **20 34 18.9 -2.7**
comp=Z,598nm,1.4s,mb5.5
SBF Sospel 24.07 148 *e*P **P** **20 34 18.9 -2.7**
SBF pmax pmax
comp=Z,299nm,1.4s,mb5.5
GRAM 24.09 143 P **P** **20 34 23.1 +1.4**
GRAM 24.09 143 P **P** **20 34 23.1 +1.3**
ELOB Lobios 24.09 176 P **P** **20 34 21.9 +0.1**
comp=Z,100nm,1.8s,mb4.9
ELOB Lobios 24.09 176 P **P** **20 34 21.9 +0.1**
comp=Z,100nm,1.8s,mb4.9,SNR=7.0
CEY Cerknica 24.11 135 *e*P **P** **20 34 22.6 +0.6**
IMI Imperia 24.12 147 P **P** **20 34 22.6 +0.5**
IMI Imperia 24.12 147 P **P** **20 34 22.6 +0.5**
CODM 24.13 143 P **P** **20 34 23.6 +1.4**
CODM 24.13 143 P **P** **20 34 23.6 +1.4**
NEGI Negi 24.14 147 P **P** **20 34 23.1 +0.7**
NEGI Negi 24.14 147 P **P** **20 34 23.0 +0.7**
REVF Revere 24.17 148 *e*P **P** **20 34 18.4 -4.2**
FRF La Foret Royal 24.19 149 *e*P **P** **20 34 21.4 -1.4**
comp=Z,296nm,1.6s,mb5.2
FRF La Foret Royal 24.19 149 *e*P **P** **20 34 21.4 -1.4**
FRF pmax pmax
comp=Z,148nm,1.6s,mb5.2
PBRG Braganca 24.20 174 *e*P **P** **20 34 24.8 +1.9**
comp=Z,108nm,1.4s,mb5.1
PBRG *e*S **S** **20 38 42.6 +5.5**
BERF Bertagne 24.23 151 *e*P **P** **20 34 19.8 -3.4**
ERBM Eremo 24.24 142 *e*P **P** **20 34 26.0 +2.8**
VALM 24.27 143 P **P** **20 34 24.1 +0.6**
GSCL Gusciola 24.35 142 *e*P **P** **20 34 26.4 +2.1**
GSCL Gusciola 24.35 142 *e*P **P** **20 34 26.4 +2.1**
LMR La Mourre 24.38 150 *e*P **P** **20 34 22.3 -2.3**
comp=Z,67nm,1.1s,mb4.7
LMR La Mourre 24.38 150 *e*P **P** **20 34 22.3 -2.3**
LMR pmax pmax
comp=Z,33nm,1.1s,mb4.7
VINC Vinca 24.44 143 P **P** **20 34 26.7 +1.6**
VINC Vinca 24.44 143 P **P** **20 34 26.7 +1.5**
VINC Vinca 24.44 143 P **P** **20 34 26.7 +1.5**
ZCCA Zocca 24.45 142 *e*P **P** **20 34 27.4 +2.1**
ZCCA Zocca 24.45 142 *e*P **P** **20 34 27.4 +2.1**
SARO Sassorosso 24.46 143 P **P** **20 34 26.6 +1.3**
SARO Sassorosso 24.46 143 P **P** **20 34 26.6 +1.2**
SARO Sassorosso 24.46 143 P **P** **20 34 26.6 +1.2**
VALF Valcebollere 24.47 158 *e*P **P** **20 34 24.0 -1.5**
VLC Villacollemand 24.48 143 *e*P **P** **20 34 26.8 +1.3**
comp=Z,192nm,0.9s,mb5.5
VLC Villacollemand 24.48 143 *e*P **P** **20 34 26.8 +1.2**
comp=Z,192nm,0.9s,mb5.5
EJON La Jonquera 24.56 157 P **P** **20 34 26.9 +0.5**
comp=Z,127nm,1.7s,mb5.2
EJON La Jonquera 24.56 157 P **P** **20 34 26.9 +0.5**
comp=Z,127nm,1.7s,mb5.2,SNR=7.9
BDI Bagni Di Lucca 24.62 142 *e*P **P** **20 34 28.5 +1.5**
PVRL Vila Real 24.69 176 *e*P **P** **20 34 29.0 +1.3**
comp=Z,82nm,1.3s,mb5.1
MOS Moscow 24.70 91 *e*P **P** **20 34 26.6 -1.0**
MOS *e*S **S** **20 38 47.3 +1.8**
MOS pmax pmax
comp=Z,121nm,1.2s,mb5.3
MOS MLR MLR
comp=Z,900nm,13.2s,MS4.5
MOS Moscow 24.70 91 *e*P **P** **20 34 26.6 -1.0**
comp=Z,121nm,1.2s,mb5.3
MOS *e*S **S** **20 38 47.3 +1.8**
comp=Z,900nm,13.2s
OBN Obninsk 24.70 93⇓ *e*P **P** **20 34 24.8 -2.8**
OBN *e* 20 34 57.8
OBN *e* 20 38 54.9
OBN pmax pmax
comp=Z,122nm,1.1s,mb5.3
OBN MLR MLR
comp=Z,2µm,16.0s,MS4.6
OBN Obninsk 24.70 93 *e*P **P** **20 34 23.4 -4.2**
comp=Z,113nm,1.0s,mb5.3
OBN Obninsk 24.70 93 *e*P **P** **20 34 24.8 -2.8**
comp=Z,122nm,1.1s,mb5.3

ESAC San Caprasio 24.80 163 P **P** **20 34 29.3 +0.7**
comp=Z,247nm,1.9s,mb5.4
ESAC San Caprasio 24.80 163 P **P** **20 34 29.3 +0.6**
comp=Z,247nm,1.9s,mb5.4,SNR=7.6
SEI Scarperia 24.82 141 *e*P **P** **20 34 30.9 +2.0**
SEI Scarperia 24.82 141 *e*P **P** **20 34 30.9 +2.0**
EMIR Miracle 24.88 159 P **P** **20 34 29.6 +0.2**
comp=Z,147nm,1.3s,mb5.3
EMIR Miracle 24.88 159 P **P** **20 34 29.6 +0.2**
comp=Z,147nm,1.3s,mb5.3,SNR=7.8
RHK1 Bakonya 24.91 129⇓ *e*P **P** **20 34 30.3 +0.6**
PII Pisa 24.92 143 *e*P **P** **20 34 30.2 +0.3**
VMG Vicchio 24.96 141 *e*P **P** **20 34 33.0 +2.8**
PKSM Moragy 24.98 128⇑ *e*P **P** **20 34 30.2 -0.2**
PGD Poggio Sodo 25.08 141 *e*P **P** **20 34 33.3 +1.9**
SFI Santa Sofia 25.09 141 *e*P **P** **20 34 33.0 +1.6**
PVIS Viseu 25.25 176 *e*P **P** **20 34 33.5 +0.6**
comp=Z,51nm,1.3s,mb4.9
EPOB Poblet 25.36 160 P **P** **20 34 34.3 +0.3**
comp=Z,113nm,1.4s,mb5.2
EPOB Poblet 25.36 160 P **P** **20 34 34.3 +0.3**
comp=Z,113nm,1.4s,mb5.2,SNR=11
CRE Caprese Michel 25.38 141 *e*P **P** **20 34 35.7 +1.5**
GUD Guadarrama 25.51 170 P **P** **20 34 35.5 +0.1**
GUD pmax pmax
comp=Z,100nm,1.4s,mb5.2
GUD Guadarrama 25.51 170 P **P** **20 34 35.5 +0.1**
comp=Z,100nm,1.4s,mb5.2
GUD Guadarrama 25.51 170 P **P** **20 34 35.5 +0.1**
comp=Z,100nm,1.4s,mb5.1,SNR=20
FSSB Fossombrone 25.53 139 *e*P **P** **20 34 36.5 +0.9**
FSSB Fossombrone 25.53 139 *e*P **P** **20 34 36.5 +0.9**
MTE Manteigas 25.57 176 *e*P **P** **20 34 37.5 +1.5**
comp=Z,156nm,1.6s,mb5.3
MTE *i* S **S** **20 39 16.3 +16**
comp=Z,2µm,16.0s
MTE Manteigas 25.57 176 *e*P **P** **20 34 36.2 +0.2**
comp=Z,146nm,1.4s,mb5.3
MTE Manteigas 25.57 176 *e*P **P** **20 34 36.2 +0.2**
comp=Z,145nm,1.4s,mb5.3
GRFL Gerfalco 25.57 143 *e*P **P** **20 34 36.1 +0.1**
GRFL Gerfalco 25.57 143 *e*P **P** **20 34 36.1 +0.1**
ERTA Horta de San J 25.65 162 P **P** **20 34 36.6 -0.2**
comp=Z,252nm,1.6s,mb5.5
ERTA Horta de San J 25.65 162 P **P** **20 34 36.6 -0.2**
comp=Z,252nm,1.6s,mb5.5,SNR=11
PGF Pioggiola 25.67 146 *e*P **P** **20 34 36.1 -0.8**
comp=Z,555nm,1.5s,mb5.6
PGF Pioggiola 25.67 146 *e*P **P** **20 34 36.1 -0.8**
PGF pmax pmax
comp=Z,278nm,1.5s,mb5.6
ARV Arcevia 25.76 139⇓ *i*P **P** **20 34 38.6 +1.0**
ARV Arcevia 25.76 139⇓ *i*P **P** **20 34 38.7 +1.0**
EBR Ebro Roquetas 25.81 161 *e*P **P** **20 34 39.5 +1.3**
SNTG Esanatoglia 25.98 139⇓ *i*P **P** **20 34 40.6 +0.8**
SNTG Esanatoglia 25.98 139⇓ *i*P **P** **20 34 40.6 +0.8**
BURAR Bucovina Array 26.05 117⇓ *i*P **P** **20 34 40.0 -0.3**
PCBR Castelo Branco 26.13 176 *e*P **P** **20 34 41.2 0.0**
comp=Z,72nm,1.6s,mb5.0
EMOS Mosqueruela 26.14 163 P **P** **20 34 41.7 +0.5**
comp=Z,138nm,1.8s,mb5.2
EMOS Mosqueruela 26.14 163 P **P** **20 34 41.7 +0.4**
comp=Z,138nm,1.8s,mb5.2,SNR=8.4
NRCA Norcia 26.42 140 *e*P **P** **20 34 44.7 +0.9**
NRCA Norcia 26.42 140 *e*P **P** **20 34 44.7 +0.9**
ESBB Sonseca Array 26.48 170 P **P** **20 34 44.3 -0.1**
comp=Z,66nm,1.5s,mb5.0,SNR=7.9
ESDC Sonseca Array 26.48 170 ⇑P **P** **20 34 44.0 -0.5**
comp=Z,15nm,1.4s,mb4.3
ESDC Sonseca Array 26.48 170 P **P** **20 34 44.0 -0.5**
comp=Z,15nm,1.4s,mb4.3,SNR=18
ESLA Sonseca Array 26.48 170 *e*Pn **P** **20 34 44.1 -0.3**
comp=Z,24nm,1.4s,mb4.5
ESLA Sonseca Array 26.48 170 *e*Pn **P** **20 34 44.1 -0.4**
comp=Z,24nm,1.4s,mb4.5
MNS Montasola 26.73 141 *e*P **P** **20 34 46.0 -0.6**
AQU L'Aquila 26.95 139 *e*P **P** **20 34 47.7 -1.0**
ETOS Mallorca 27.17 158 P **P** **20 34 48.8 -1.9**
comp=Z,149nm,1.9s,mb5.2
ETOS Mallorca 27.17 158 P **P** **20 34 48.8 -1.9**
comp=Z,149nm,1.9s,mb5.2,SNR=7.9
LIS Lisbon 27.22 179 *e*P **P** **20 34 50.1 -1.0**
LIS *e*S **S** **20 39 30.5 +3.1**
LIS *e*S **S** **20 39 31.1 +3.7**
LIS AMS AMS 20 45 07.1
comp=Z,1µm,22.3s,MS4.5
EBAD Badajoz 27.23 175 P **P** **20 34 50.3 -1.0**
comp=Z,65nm,1.6s,mb4.9
EBAD Badajoz 27.23 175 P **P** **20 34 50.3 -1.0**
comp=Z,65nm,1.6s,mb4.9,SNR=5.5
PTQR Pietraquaria 27.25 140⇓ *i*P **P** **20 34 52.2 +0.7**
PTQR Pietraquaria 27.25 140⇓ *i*P **P** **20 34 52.2 +0.7**
IAS Iasi 27.27 115 P **P** **20 34 51.0 -0.5**
RES Resolute Bay 27.30 325 *e*P **P** **20 34 50.2 -1.4**
RES pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
RES Resolute Bay 27.30 325 *e*P **P** **20 34 50.2 -1.4**
comp=Z,7.9nm,0.9s,mb4.2
RES Resolute Bay 27.30 325 *e*P **P** **20 34 50.2 -1.4**
comp=Z,7.9nm,0.9s,mb4.2
DIVS Divcibare 27.30 128⇑ *i*P **P** **20 34 52.0 +0.1**
EVO Evora 27.42 177 *e*P **P** **20 34 51.0 -2.0**
comp=Z,55nm,1.4s,mb4.6
EVO *e*R
comp=Z,2µm,17.0s
EVIA Vianos 27.63 167 P **P** **20 34 54.6 -0.4**
EVIA pmax pmax
comp=Z,36nm,1.1s,mb4.9
EVIA Vianos 27.63 167 P **P** **20 34 54.6 -0.3**
comp=Z,36nm,1.1s,mb4.9
EVIA Vianos 27.63 167 P **P** **20 34 54.6 -0.4**
comp=Z,36nm,1.1s,mb4.9,SNR=6.3
SDI San Donato 27.66 139 *e*P **P** **20 34 55.2 +0.1**
GRUS Gruza 27.72 127⇓ *i*P **P** **20 34 54.8 -0.9**
KIS Kishinev 27.90 114 *e*P **P** **20 34 50.0 -7.3**
KIS *e* 20 35 48.0
KIS MLR MLR
comp=Z,3µm,15.0s,MS5.0
KIS MLR MLR
comp=Z,1µm,15.0s
PBEJ Beja 27.93 176 *e*P **P** **20 34 56.6 -1.1**
comp=Z,54nm,1.9s,mb4.9
EADA Adamuz 27.94 171 P **P** **20 34 57.4 -0.3**
comp=Z,89nm,1.9s,mb5.1,SNR=6.7
MTUR Matau 28.03 120 P **P** **20 35 00.7 +2.2**
MTUR Matau 28.03 120⇓ *i*P **P** **20 35 00.8 +2.3**
MTUR Matau 28.03 120⇓ *i*P **P** **20 35 00.8 +2.3**
SNX Sinaia 28.08 120 P **P** **20 35 00.8 +1.9**
MLR Muntele Rosu 28.12 119⇓ *i*P **P** **20 35 00.4 +1.1**
MLR Muntele Rosu 28.12 119⇓ *i*P **P** **20 35 00.3 +1.0**
BOLS Boljevac 28.18 126⇑ *i*P **P** **20 34 59.6 -0.3**
EMIN Mina Concepcio 28.23 174 P **P** **20 34 59.0 -1.4**
comp=Z,37nm,1.6s,mb4.8
EMIN Mina Concepcio 28.23 174 P **P** **20 34 59.0 -1.3**
comp=Z,37nm,1.6s,mb4.8,SNR=7.9
VOR Voronezh 28.25 96 P **P** **20 34 59.7 -0.7**
VOR pmax pmax
comp=Z,100nm,2.0s,mb5.1
VOR pmax pmax
comp=N,80nm,1.8s
VOR pmax pmax
comp=E,90nm,2.0s
VOR Voronezh 28.25 96 P **P** **20 34 59.7 -0.7**
comp=E,80nm,1.8s,mb5.0
EQES Quesada 28.41 168 P **P** **20 35 01.1 -0.9**
comp=E,52nm,1.3s,mb5.0
EQES Quesada 28.41 168 P **P** **20 35 01.1 -0.9**
comp=E,52nm,1.3s,mb5.0,SNR=5.5
EMUR La Murta 28.55 165 P **P** **20 35 03.7 +0.5**
comp=E,45nm,1.5s,mb5.0
EMUR La Murta 28.55 165 P **P** **20 35 03.7 +0.5**
comp=E,45nm,1.5s,mb5.0,SNR=5.2
ELUQ Luque 28.56 170 P **P** **20 35 03.7 +0.3**
ELUQ pmax pmax
comp=Z,30nm,1.2s,mb4.9
ELUQ Luque 28.56 170 P **P** **20 35 03.7 +0.3**
comp=Z,30nm,1.2s,mb4.9
ELUQ Luque 28.56 170 P **P** **20 35 03.7 +0.3**
comp=Z,30nm,1.2s,mb4.9,SNR=7.1
ELOJ Sierra Loja 28.98 170 P **P** **20 35 07.0 -0.1**
ELOJ pmax pmax
comp=Z,29nm,1.6s,mb4.8
ELOJ Sierra Loja 28.98 170 P **P** **20 35 07.0 -0.1**
comp=Z,29nm,1.6s,mb4.8
ELOJ Sierra Loja 28.98 170 P **P** **20 35 07.0 -0.1**
comp=Z,29nm,1.6s,mb4.8,SNR=5.9

BARS Barje 29.04 127⇑ *i*P **P** **20 35 06.8 -0.8**
SCHQ Schefferville 29.11 275 *e*P **P** **20 35 07.1 -1.1**
comp=Z,9.5nm,0.6s,mb4.7
SCHQ Schefferville 29.11 275 *e*P **P** **20 35 07.1 -1.0**
comp=Z,9.5nm,0.6s,mb4.7
BUC1 Bucharest 29.14 120 P **P** **20 35 08.3 -0.2**
LIJA Lijar 29.15 172 *e*P **P** **20 35 09.0 +0.4**
ESPR Espera 29.16 173 P **P** **20 35 08.4 -0.3**
comp=Z,59nm,2.0s,mb5.0
ESPR Espera 29.16 173 P **P** **20 35 08.4 -0.4**
comp=Z,59nm,2.0s,mb5.0,SNR=4.7
VTS Vitosha 29.70 125 P **P** **20 35 14.0 +0.4**
SOKR Solikamsk 29.87 70⇓ *i*P **P** **20 35 16.9 +2.0**
SOKR pmax pmax
comp=Z,20nm,1.1s,mb4.8
SOKR MLR MLR
comp=Z,2µm,18.0s,MS4.8
TIRR Tirgusor 29.90 117⇑ *i*P **P** **20 35 12.9 -2.4**
KNT Kendrikon 30.88 127 *e*P **P** **20 35 24.8 +0.8**
GRG Griva 30.90 128 *e*P **P** **20 35 24.2 0.0**
SRS Serrai 31.15 126 *e*P **P** **20 35 25.6 -0.8**
SOH Sokhos 31.34 127 *e*P **P** **20 35 28.1 0.0**
THE Thessaloniki 31.38 127 *e*P **P** **20 35 27.1 -1.3**
RDO Rodhopi 31.78 124 P **P** **20 35 31.8 -0.1**
ALN Alexandroupoli 32.18 123 *e*P **P** **20 35 34.7 -0.7**
XOR Xorichti 32.60 128 *e*P **P** **20 35 39.2 +0.1**
AGG Agios Georgios 32.64 129 *e*P **P** **20 35 39.0 -0.4**
ARU Arti 32.70 73 P **P** **20 35 40.6 +0.8**
comp=Z,334nm,0.7s,SNR=40
ARU Arti 32.70 73 *e*P **P** **20 35 33.2 -6.6**
ARU MLR MLR
comp=Z,2µm,16.5s,MS4.9
ARU MLR MLR
comp=N,2µm,17.0s,MS4.8
ARU MLR MLR
comp=E,400nm,16.0s,MS4.8
SVE Sverdlovsk 33.23 71 *e*P **P** **20 35 41.0 -3.4**
SVE *e*S **S** **20 41 00.0 -2.3**
SVE pmax pmax
comp=Z,120nm,2.0s,mb5.5
SVE smax
comp=E,4µm,15.5s
ULDT Uludag 33.93 120 *i*P **P** **20 35 49.7 -0.9**
SGKT Sivrigoynuk 34.61 116 *i*P **P** **20 35 56.2 -0.3**
BOYT Boyabat 34.94 112 *i*P **P** **20 35 59.9 +0.6**
SOC Sochi 34.98 105 *e*P **P** **20 35 58.1 -1.5**
SOC *e* 20 37 19.6
SOC *e* 20 38 28.7
SOC *e*S **S** **20 41 27.1 -2.4**
SOC *e*SS SS 20 43 39.5 -5.1
SOC *e*SSS SSS 20 44 10.6 -1.0
SOC *e* 20 46 13.8
SOC pmax pmax
comp=Z,45nm,1.0s,mb5.3
SOC pmax pmax
comp=N,39nm,0.7s
SOC pmax pmax
comp=E,12nm,0.5s
SOC MLR MLR
comp=Z,1µm,15.0s,MS4.7
SOC MLR MLR
comp=N,860nm,16.0s,MS4.7
SOC MLR MLR
comp=E,614nm,15.0s,MS4.7
SOC Sochi 34.98 105 *e*P **P** **20 35 58.1 -1.5**
comp=E,39nm,0.7s,mb5.5
SOC Sochi 34.98 105 *e*PcP PcP 20 38 28.7 -3.3
GOF Gofitskoye 35.09 100⇑ *i*P **P** **20 36 01.5 +1.0**
GOF pmax pmax
comp=Z,100nm,1.4s,mb5.5
GOF MLR MLR
comp=Z,4µm,14.0s,MS5.3
GOF Gofitskoye 35.09 100 *i* P **P** **20 36 01.5 +1.0**
comp=Z,4µm,14.0s
ELDT Eldivan 35.19 115 *i* P **P** **20 36 02.5 +1.0**
CTKT Corum 35.59 113 *i* P **P** **20 36 03.7 -1.1**
KIV Kislovodsk 35.86 101 *c i*P **P** **20 36 06.7 -0.4**
KIV pmax pmax
comp=Z,48µm,1.8s
KIV MLR MLR
comp=Z,1µm,10.0s
KIV Kislovodsk 35.86 101 *e*P **P** **20 36 07.2 +0.1**
comp=Z,43nm,1.0s,mb5.3
KIV Kislovodsk 35.86 101 *e*P **P** **20 36 07.2 +0.1**
comp=Z,43nm,1.0s,mb5.3
ISP Isparta 36.46 120 *i* P **P** **20 36 13.5 +1.3**
FCC Fort Churchill 36.85 300 *e*P **P** **20 36 14.7 -0.6**
FCC pmax pmax
comp=Z,70nm,1.8s,mb5.2
FCC Fort Churchill 36.85 300 *e*P **P** **20 36 14.7 -0.6**
comp=Z,70nm,1.8s,mb5.2
FCC Fort Churchill 36.85 300 *e*P **P** **20 36 14.7 -0.6**
comp=Z,70nm,1.8s,mb5.2
AVNT Avonos 37.22 114 *i* P **P** **20 36 19.6 +1.0**
ZEI Tsey 37.34 101 *e*P **P** **20 36 19.1 -0.4**
ZEI *i* *PP pP 20 36 23.8 -1.4
ZEI *i* 20 37 41.4
ZEI pmax pmax
comp=Z,15nm,1.5s,mb4.6
ZEI Tsey 37.34 101 *e*P **P** **20 36 19.1 -0.4**
comp=Z,15nm,1.5s,mb4.6
TI2 Plekhanov 38.55 101 *e*P **P** **20 36 31.0 +1.3**
ERZM Erzurum 38.75 106 *i* P **P** **20 36 33.9 +2.4**
MALT Malatya 38.98 111 *e*P **P** **20 36 33.8 +0.4**
MALT pmax pmax
comp=Z,42nm,1.0s,mb5.1
MALT Malatya 38.98 111 *e*P **P** **20 36 33.8 +0.4**
comp=Z,42nm,1.0s,mb5.1
MALT Malatya 38.98 111 *e*P **P** **20 36 33.8 +0.4**
comp=Z,42nm,1.0s,mb5.1
ELZG Elazig 39.04 110 *i* P **P** **20 36 36.1 +2.3**
CHKZ Chkalovo 39.41 68 P **P** **20 36 36.8 0.0**
CHKZ pmax pmax
comp=Z,171nm,2.1s,mb5.4
CHKZ Chkalovo 39.41 68 *e*P **P** **20 36 36.6 -0.1**
comp=Z,8.0nm,1.0s,mb4.4
CHKZ Chkalovo 39.41 68 *e*P **P** **20 36 36.7 -0.1**
comp=Z,8.0nm,1.0s,mb4.4
BVA0 Borovoye Array 39.83 68 *i* P **P** **20 36 40.4 +0.2**
BVA0 pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
BVA0 Borovoye Array 39.83 68 *i* P **P** **20 36 40.4 +0.2**
comp=Z,7.0nm,1.0s,mb4.3
GNI Garni 39.89 103 *e*P **P** **20 36 41.2 +0.3**
GNI pmax pmax
comp=Z,138nm,1.6s
GNI Garni 39.89 103 *e*P **P** **20 36 41.2 +0.3**
comp=Z,138nm,1.6s,mb5.4
GNI Garni 39.89 103 *e*P **P** **20 36 41.2 +0.3**
comp=Z,138nm,1.6s,mb5.4
TIXI Tiksi 39.94 19 *e*P **P** **20 36 42.9 +1.9**
TIXI *e* 20 38 17.7
TIXI *e*S **S** **20 42 49.0 +4.1**
TIXI pmax pmax
comp=Z,43nm,0.9s,mb5.2
TIXI MLR MLR
comp=Z,630nm,14.0s,MS4.6
TIXI Tiksi 39.94 19⇓ *e*P **P** **20 36 43.0 +2.0**
MSNY Massena 39.98 271 P **P** **20 36 42.7 +1.2**
MSNY Massena 39.98 271 P **P** **20 36 42.7 +1.2**
CSS Prodhromos 40.05 119 *e*P **P** **20 36 41.9 -0.3**
comp=Z,27nm,0.6s,mb5.2
MIV Mineville/With 40.19 269 *e*P **P** **20 36 43.4 +0.1**
MIV Mineville/With 40.19 269 *e*P **P** **20 36 43.4 +0.1**
INK Inuvik 40.36 331 *e*P **P** **20 36 43.7 -0.8**
INK pmax pmax
comp=Z,35nm,0.8s
INK Inuvik 40.36 331 *e*P **P** **20 36 43.7 -0.7**
comp=Z,35nm,0.8s,mb5.2
INK Inuvik 40.36 331 *e*P **P** **20 36 43.7 -0.8**
comp=Z,35nm,0.8s,mb5.2
YKW3 Yellowknife Ar 40.54 316 *e*P **P** **20 36 45.6 -0.4**
YKW3 Yellowknife Ar 40.54 316 *e*P **P** **20 36 45.6 -0.4**
HRV Harvard--Oak R 40.67 266 *e*P **P** **20 36 48.2 +0.9**
HRV pmax pmax
comp=Z,16nm,0.8s,mb4.7
HRV Harvard--Oak R 40.67 266 *e*P **P** **20 36 48.2 +0.9**
comp=Z,16nm,0.8s,mb4.7
HRV Harvard--Oak R 40.67 266 *e*P **P** **20 36 48.2 +0.9**
comp=Z,16nm,0.8s,mb4.7
FFC Flin Flon 42.74 301 P **P** **20 37 05.6 +1.6**
comp=Z,371nm,0.8s,mb6.2,SNR=59
GENY Geneseo 43.02 272 *e*P **P** **20 37 06.2 -0.2**
GENY Geneseo 43.02 272 *e*P **P** **20 37 06.2 -0.2**
NVS Novosibirsk 43.09 58 *e*P **P** **20 37 06.7 -0.1**

NVS e 20 38 46.6
NVS eS **S** **20 43 34.0 +2.5**
NVS pmax pmax
comp=N,76nm,1.8s
NVS pmax pmax
comp=E,48nm,1.8s
NVS pmax pmax
comp=Z,270nm,1.8s,mb5.7
NVS smax
comp=N,47nm,2.3s
NVS smax
comp=E,19nm,2.3s
ULM Lac du Bonnet 44.11 293 eP **P** **20 37 15.2 0.0**
comp=E,26nm,0.6s,mb5.1
ULM epP pP 20 37 21.0 +0.1
ULM Lac du Bonnet 44.11 293 eP **P** **20 37 15.2 +0.1**
comp=E,26nm,0.6s,mb5.1
ULM epP pP 20 37 21.0 +0.1
MVL Millersville 44.74 269 eP **P** **20 37 21.5 +1.1**
MVL Millersville 44.74 269 eP **P** **20 37 21.5 +1.1**
KURK Kurchatov 44.76 64 d i P **P** **20 37 18.9 -1.5**
KURK pmax pmax
comp=Z,30nm,1.2s,mb5.0
KURK Kurchatov 44.76 64 eP **P** **20 37 17.9 -2.5**
comp=Z,15nm,0.8s,mb4.9
KURK Kurchatov 44.76 64 eP **P** **20 37 17.9 -2.5**
comp=Z,15nm,0.8s,mb4.9
ALLY Alegheny Colle 44.91 273 P **P** **20 37 21.3 -0.5**
ALLY Alegheny Colle 44.91 273 P **P** **20 37 21.3 -0.4**
DAWY Dawson 45.24 331 eP **P** **20 37 24.5 +0.5**
DAWY epP pP 20 37 30.7 +1.0
DAWY Dawson 45.24 331 eP **P** **20 37 24.5 +0.5**
EIL Elat 45.41 120 eP **P** **20 37 24.9 -0.9**
comp=Z,22nm,0.9s,mb5.0
EIL Elat 45.41 120 eP **P** **20 37 24.9 -0.9**
comp=Z,22nm,0.9s,mb5.0
SDMD Soldier's Deli 45.44 269 eP **P** **20 37 26.4 +0.5**
IMA Indian Mountai 45.78 340 eP **P** **20 37 29.5 +1.2**
COLA College 46.02 337 eP **P** **20 37 31.9 +1.7**
BILL Bilibino 46.33 2‖ eP **P** **20 37 33.9 +1.3**
BILL e pP 20 37 39.4 +1.0
BILL e 20 39 05.1
BILL eSS SS 20 47 44.8 +8.8
BILL pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BILL Bilibino 46.33 2 eP **P** **20 37 33.2 +0.7**
comp=Z,15nm,0.9s,mb4.9
BILL Bilibino 46.33 2 eP **P** **20 37 33.2 +0.6**
comp=Z,15nm,0.9s,mb4.9
BILL Bilibino 46.33 2 ePcP PcP 20 39 05.1 -3.0
MCK McKinley 47.26 337 eP **P** **20 37 40.4 +0.4**
MCK pmax pmax
comp=Z,23nm,1.1s,mb5.0
MCK McKinley 47.26 337 eP **P** **20 37 40.4 +0.4**
comp=Z,23nm,1.1s,mb5.0
MCK McKinley 47.26 337 eP **P** **20 37 40.4 +0.4**
comp=Z,23nm,1.1s,mb5.0
ACSO Alum Creek Sta 47.27 275 eP **P** **20 37 41.0 +0.7**
ACSO Alum Creek Sta 47.27 275 eP **P** **20 37 41.0 +0.6**
EDM Edmonton 47.82 308 eP **P** **20 37 44.7 +0.1**
EDM e*PP pP 20 37 50.7 +0.3
TNA Tin City 47.88 348 eP **P** **20 37 45.5 +0.6**
ANM Nome 48.62 346 eP **P** **20 37 51.8 +1.2**
FWV Forest Hill 48.62 271 eP **P** **20 37 51.5 +0.5**
DGMT Dagmar 48.66 298 eP **P** **20 37 51.8 +0.7**
comp=Z,15nm,0.8s,mb5.1
DGMT Dagmar 48.66 298 eP **P** **20 37 51.8 +0.7**
comp=Z,15nm,0.8s,mb5.1
ELN Prospectdale 48.90 271 eP **P** **20 37 53.5 +0.3**
ELN Prospectdale 48.90 271 eP **P** **20 37 53.5 +0.4**
SML Sawmill 48.96 335 eP **P** **20 37 53.9 +0.7**
SML Sawmill 48.96 335 eP **P** **20 37 53.8 +0.6**
YAK Yakutsk 48.98 24 eP **P** **20 37 52.5 -0.9**
YAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
YAK pmax pmax
comp=N,9.0nm,1.6s
YAK pmax pmax
comp=E,5.0nm,1.6s
YAK Yakutsk 48.98 24 eP **P** **20 37 52.3 -1.1**
comp=E,16nm,0.7s,mb5.2
YAK Yakutsk 48.98 24 eP **P** **20 37 52.3 -1.1**
comp=E,16nm,0.7s,mb5.2
USP Ospenova 49.35 73 P **P** **20 37 56.9 +0.3**
SNR=11
MKAR Makanchi Array 49.37 65 i P **P** **20 37 56.4 -0.2**
EKS2 Erkin-Say 49.58 74 P **P** **20 37 59.2 +0.9**
SNR=18
BOD Bodaibo 49.67 36 eP **P** **20 37 56.9 -1.9**
CHMS Chumysh 49.68 73 P **P** **20 38 00.2 +1.2**
SNR=8.4
FRU Bishkek 49.77 74 eP **P** **20 38 02.0 +2.3**
FRU pmax pmax
comp=Z,120nm,2.2s,mb5.5
AAK Ala-Archa 49.89 74 P **P** **20 38 01.8 +1.1**
SNR=17
AAK Ala-Archa 49.89 74 eP **P** **20 37 59.8 -0.8**
AAK pmax pmax
comp=Z,48nm,1.0s,mb5.5
AAK Ala-Archa 49.89 74 eP **P** **20 37 59.8 -0.8**
comp=Z,48nm,1.0s,mb5.5
AAK Ala-Archa 49.89 74 eP **P** **20 37 59.8 -0.8**
comp=Z,48nm,1.0s,mb5.5
AML Almayashu 49.99 75 P **P** **20 38 03.3 +1.9**
SNR=28
KBK Karagaybulak 50.05 73 P **P** **20 38 03.7 +1.8**
SNR=14
TKM2 Tokmak 2 50.08 73 P **P** **20 38 03.7 +1.6**
SNR=16
UCH Uchtor 50.24 74 P **P** **20 38 05.9 +2.6**
SNR=11
WCI Wyandotte Cave 50.32 276 eP **P** **20 38 04.5 +0.5**
WCI pmax pmax
comp=Z,33nm,0.8s,mb5.4
WCI Wyandotte Cave 50.32 276 eP **P** **20 38 04.5 +0.5**
comp=Z,33nm,0.8s,mb5.4
WCI Wyandotte Cave 50.32 276 eP **P** **20 38 04.5 +0.5**
comp=Z,33nm,0.8s,mb5.4
KZA Kyzart 50.65 74 P **P** **20 38 08.7 +2.2**
SNR=8.2
LAO LASA Array 50.90 298 eP **P** **20 38 09.2 +0.9**
comp=Z,33nm,1.1s,mb5.2
LAO LASA Array 50.90 298 eP **P** **20 38 09.2 +0.9**
comp=Z,33nm,1.1s,mb5.2
RSO Redoubt South 50.96 337 eP **P** **20 38 08.2 -0.3**
RSO Redoubt South 50.96 337 eP **P** **20 38 08.2 -0.3**
USIN University of 51.10 277 eP **P** **20 38 09.5 -0.5**
WALA Waterton Lakes 51.56 305 eP **P** **20 38 12.9 -0.3**
comp=Z,28nm,0.9s,mb5.2
WALA Waterton Lakes 51.56 305 eP **P** **20 38 12.9 -0.3**
comp=Z,28nm,0.9s,mb5.2
MOY Mondy 51.57 48 eP **P** **20 38 15.1 +1.8**
CPCT Cooper Cave 51.98 273 eP **P** **20 38 17.1 +0.5**
CPCT Cooper Cave 51.98 273 eP **P** **20 38 17.1 +0.5**
IRK Irkutsk 52.04 45 eP **P** **20 38 16.7 -0.1**
IRK pmax pmax
comp=Z,61nm,1.9s,mb5.2
IRK Irkutsk 52.04 45 eP **P** **20 38 16.7 -0.1**
comp=Z,61nm,1.9s,mb5.2
FVM French Village 52.21 280 eP **P** **20 38 17.8 -0.5**
TLY Talaya 52.35 46 eP **P** **20 38 18.7 -0.5**
TLY e 20 40 26.0
TLY eS **S** **20 45 46.9 +4.7**
TLY eSS ScS 20 48 13.0 +8.1
TLY eSSS SS 20 49 26.2 +7.6
TLY pmax pmax
comp=Z,17nm,1.2s,mb4.8
TLY MLR MLR
comp=Z,431nm,16.0s,MS4.6
TLY Talaya 52.35 46 eP **P** **20 38 19.0 -0.2**
comp=Z,20nm,1.3s,mb4.9
TLY Talaya 52.35 46 eP **P** **20 38 19.0 -0.2**
comp=Z,20nm,1.3s,mb4.9
CCM Cathedral Cave 52.48 280 eP **P** **20 38 19.3 -1.1**
CCM e*PP pP 20 38 25.3 -0.9
CCM pmax pmax
comp=Z,15nm,0.6s,mb5.1
CCM Cathedral Cave 52.48 280 eP **P** **20 38 19.3 -1.1**
comp=Z,15nm,0.6s,mb5.1
CCM epP pP 20 38 25.3 -0.9
CCM Cathedral Cave 52.48 280 eP **P** **20 38 19.3 -1.1**
comp=Z,15nm,0.6s,mb5.1
CCM epP pP 20 38 25.3 -0.9
WVT Waverly 52.75 276 eP **P** **20 38 21.6 -0.8**
WVT pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
WVT Waverly 52.75 276 eP **P** **20 38 21.6 -0.8**
comp=Z,4.9nm,0.7s,mb4.5
WVT Waverly 52.75 276 eP **P** **20 38 21.5 -0.9**
comp=Z,4.9nm,0.7s,mb4.5
CLNS Chul'man 52.97 29 eP **P** **20 38 27.0 +3.3**
CLNS pmax pmax
comp=Z,28nm,0.7s,mb5.3
CLNS pmax pmax
comp=N,19nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.6s
CLNS MLR MLR
comp=Z,900nm,18.0s,MS4.9
CLNS MLR MLR
comp=N,400nm,16.0s,MS4.6
CLNS MLR MLR
comp=E,100nm,12.0s,MS4.6
CHMT Chamberlain Mo 53.19 304 eP **P** **20 38 24.7 -0.8**
CHMT Chamberlain Mo 53.19 304 eP **P** **20 38 24.7 -0.8**
NEW Newport 53.31 307 eP **P** **20 38 25.8 -0.6**
NEW pmax pmax
comp=Z,13nm,0.8s
NEW Newport 53.31 307 eP **P** **20 38 25.8 -0.6**
comp=Z,13nm,0.8s,mb4.9
NEW Newport 53.31 307 eP **P** **20 38 25.8 -0.6**
comp=Z,13nm,0.8s,mb4.9
ZAK Zakamensk 53.39 47‖ eP **P** **20 38 26.9 0.0**
ZAK Zakamensk 53.39 47 eP **P** **20 38 26.9 0.0**
MSO Missoula 53.50 304 eP **P** **20 38 27.2 -0.6**
comp=Z,24nm,0.8s,mb5.2
MSO epP pP 20 38 32.8 -0.8
MSO Missoula 53.50 304 eP **P** **20 38 27.2 -0.6**
comp=Z,24nm,0.8s,mb5.2
MSO epP pP 20 38 32.8 -0.8
KSU1 Kansas State U 53.73 286 eP **P** **20 38 28.8 -0.7**
KSU1 epP pP 20 38 34.0 -1.5
KSU1 Kansas State U 53.73 286 eP **P** **20 38 28.8 -0.8**
KSU1 epP pP 20 38 34.0 -1.4
WMQ Urumqi 53.90 63 P **P** **20 38 31.5 +0.8**
WMQ AP pP 20 38 37.5 +0.9
WMQ XP sP 20 38 40.5 +1.6
WMQ PCP PcP 20 39 37.3 +1.2
WMQ PP PP 20 40 34.0 +0.4
WMQ S **S** **20 46 03.5 +0.2**
WMQ AMB AMB
comp=Z,123nm,1.2s,mb5.7
WMQ AMB AMB
comp=Z,905nm,5.1s
WMQ LR LR
comp=Z,2μm,20.3s,MS5.1
MA2 Magadan 54.03 12 eP **P** **20 38 35.9 +4.5**
MA2 e 20 40 38.7
MA2 eS **S** **20 46 13.6 +8.7**
MA2 pmax pmax
comp=Z,20nm,1.3s,mb4.9
LKWY Lake 54.23 300 eP **P** **20 38 34.7 +1.6**
LKWY pmax pmax
comp=Z,11nm,0.8s,mb4.8
LKWY Lake 54.23 300 eP **P** **20 38 34.7 +1.6**
comp=Z,11nm,0.8s,mb4.8
LKWY Lake 54.23 300 eP **P** **20 38 34.7 +1.6**
comp=Z,11nm,0.8s,mb4.8
YMR Madison River 54.34 300 eP **P** **20 38 34.5 +0.6**
QLMT Earthquake Lak 54.36 301 eP **P** **20 38 34.8 +0.7**
QLMT Earthquake Lak 54.36 301 eP **P** **20 38 34.8 +0.7**
YFT Old Faithful 54.48 300 eP **P** **20 38 36.1 +1.1**
OD2 Odessa Site #2 54.59 308 P **P** **20 38 35.7 0.0**
OD2 Odessa Site #2 54.59 308 P **P** **20 38 35.7 -0.1**
MCMT McKenzie Canyo 54.86 302 eP **P** **20 38 38.1 +0.3**
MCMT McKenzie Canyo 54.86 302 eP **P** **20 38 38.1 +0.3**
IMW Indian Meadow 55.00 300 eP **P** **20 38 39.4 +0.5**
IMW Indian Meadow 55.00 300 eP **P** **20 38 39.3 +0.4**
MOOW Moose Ponds 55.06 300 eP **P** **20 38 38.8 -0.5**
LOHW Long Hollow 55.13 300 eP **P** **20 38 39.7 0.0**
LOHW epP pP 20 38 45.7 0.0
LOHW Long Hollow 55.13 300 eP **P** **20 38 39.7 -0.1**
WUWY Wally Ulrich 55.24 300 eP **P** **20 38 40.7 +0.1**
WUWY Wally Ulrich 55.24 300 eP **P** **20 38 40.7 +0.1**
PHWY Pilot Hill 55.25 294 eP **P** **20 38 40.4 -0.3**
PHWY Pilot Hill 55.25 294 eP **P** **20 38 40.4 -0.3**
SNOW Snow King Moun 55.31 300 eP **P** **20 38 41.8 +0.7**
SNOW Snow King Moun 55.31 300 eP **P** **20 38 41.8 +0.7**
TPAW Teton Pass 55.36 300 eP **P** **20 38 42.0 +0.5**
TPAW Teton Pass 55.36 300 eP **P** **20 38 42.0 +0.6**
LOCW Locke Island 55.42 308 P **P** **20 38 42.3 +0.5**
LOCW Locke Island 55.42 308 P **P** **20 38 42.3 +0.5**
BW06 Boulder Array 55.49 298‖ eP **P** **20 38 41.6 -0.8**
comp=Z,32nm,0.8s,mb5.4
BW06 epP pP 20 38 47.4 -0.9
BW06 Boulder Array 55.49 298‖ eP **P** **20 38 41.6 -0.8**
comp=Z,32nm,0.8s,mb5.4
BW06 epP pP 20 38 47.4 -0.9
RRI2 Red Ridge 55.62 300 eP **P** **20 38 43.5 +0.2**
UALR University of 55.76 279 eP **P** **20 38 43.8 -0.6**
UALR University of 55.76 279 eP **P** **20 38 43.8 -0.6**
MXC Moxie City 55.82 309 P **P** **20 38 45.2 +0.5**
MXC Moxie City 55.82 309 P **P** **20 38 45.2 +0.5**
PRW Prosser 55.95 308 P **P** **20 38 46.6 +1.0**
PRW Prosser 55.95 308 P **P** **20 38 46.6 +1.0**
BMO Blue Mountains 56.37 305 eP **P** **20 38 47.6 -1.0**
comp=Z,51nm,0.8s,mb5.6
BMO Blue Mountains 56.37 305 eP **P** **20 38 47.6 -1.0**
comp=Z,51nm,0.8s,mb5.6
MIAR Mount Ida 56.45 280 eP **P** **20 38 48.8 -0.6**
MIAR e*PP pP 20 38 54.5 -0.9
MIAR pmax pmax
comp=Z,32nm,0.9s,mb5.3
MIAR Mount Ida 56.45 280 eP **P** **20 38 48.8 -0.7**
comp=Z,32nm,0.9s,mb5.4
MIAR epP pP 20 38 54.5 -0.9
MIAR Mount Ida 56.45 280 eP **P** **20 38 48.8 -0.6**
comp=Z,32nm,0.9s,mb5.4
MIAR epP pP 20 38 54.5 -0.9
HLID Hailey 56.51 302 eP **P** **20 38 49.4 -0.4**
comp=Z,16nm,0.9s,mb5.0
HLID Hailey 56.51 302 eP **P** **20 38 49.4 -0.3**
comp=Z,16nm,0.9s,mb5.0
ULN Ulaanbaatar 56.76 46 eP **P** **20 38 50.9 -0.5**
ULN pmax pmax
comp=Z,27nm,1.3s,mb5.1
ULN Ulaanbaatar 56.76 46 eP **P** **20 38 50.9 -0.5**
comp=Z,27nm,1.3s,mb5.1
ULN Ulaanbaatar 56.76 46 eP **P** **20 38 50.9 -0.5**
comp=Z,27nm,1.3s,mb5.1
BANOM Banah 56.97 100 P **P** **20 38 52.9 -0.3**
SNR=14
HWUT Hardware Ranch 57.23 299 eP **P** **20 38 54.7 -0.1**
comp=Z,28nm,0.8s,mb5.3
HWUT Hardware Ranch 57.23 299 eP **P** **20 38 54.7 -0.2**
comp=Z,28nm,0.8s,mb5.3
HVU Hansel Valley 57.51 300 eP **P** **20 38 56.7 -0.1**
TCUT Toone Canyon 57.60 299 eP **P** **20 38 57.6 +0.1**
TCUT Toone Canyon 57.60 299 eP **P** **20 38 57.6 +0.1**
SPUT South Promonto 57.80 300 eP **P** **20 38 59.3 +0.4**
SPUT epP pP 20 39 05.1 +0.3
SPUT South Promonto 57.80 300 eP **P** **20 38 59.3 +0.4**
ASHO Ashiyiah 57.98 101 P **P** **20 38 59.8 -0.5**
SNR=17
ASHO P 20 38 59.8
SNR=17
DAU Daniels Canyon 58.16 298 eP **P** **20 39 02.0 +0.6**
NOQ North Oquirrh 58.26 299 P **P** **20 39 01.3 -0.8**
NOQ North Oquirrh 58.26 299 P **P** **20 39 01.3 -0.8**
BGU Big Grassy Mou 58.35 300 eP **P** **20 39 02.8 +0.1**
SDCO Great Sand Dun 58.36 292 eP **P** **20 39 02.0 -0.8**
comp=Z,32nm,0.5s,mb5.6
SDCO LR LR
comp=Z,536nm,21.0s,MS4.6
SDCO Great Sand Dun 58.36 292 eP **P** **20 39 02.0 -0.8**
comp=Z,32nm,0.5s,mb5.6
WMOK Wichita Mounta 58.38 285 eP **P** **20 39 02.1 -0.8**
comp=Z,34nm,1.1s,mb5.3
WMOK LR LR
comp=Z,1μm,20.0s,MS5.0
WMOK Wichita Mounta 58.38 285 eP **P** **20 39 02.1 -0.9**
comp=Z,34nm,1.1s,mb5.3
BROR Big Rock Looko 58.57 309 P **P** **20 39 04.7 +0.5**
BROR Big Rock Looko 58.57 309 P **P** **20 39 04.7 +0.5**
MPU Maple Canyon 58.65 298 eP **P** **20 39 05.2 +0.4**
WVOR Wild Horse Val 58.95 305 eP **P** **20 39 06.0 -0.9**
WVOR e*PP pP 20 39 12.6 -0.3
WVOR pmax pmax
comp=Z,15nm,0.9s,mb5.0
WVOR MLR MLR
comp=Z,603nm,20.0s,MS4.7
WVOR Wild Horse Val 58.95 305 eP **P** **20 39 06.0 -0.9**
comp=Z,15nm,0.9s,mb5.0
WVOR epP pP 20 39 12.6 -0.4
WVOR LR LR
comp=Z,603nm,20.0s,MS4.7
WVOR Wild Horse Val 58.95 305 eP **P** **20 39 06.0 -0.9**
comp=Z,15nm,0.9s,mb5.0
SRU San Rafael 59.04 297 eP **P** **20 39 07.0 -0.6**
TMUT Trail Mountain 59.13 298 eP **P** **20 39 07.9 -0.3**
TMUT Trail Mountain 59.13 298 eP **P** **20 39 07.9 -0.3**
PV10 Paradox Valley 59.14 295 eP **P** **20 39 08.5 +0.2**
PV10 Paradox Valley 59.14 295 eP **P** **20 39 08.5 +0.2**
PV01 Paradox Valley 59.18 295 eP **P** **20 39 08.3 -0.2**
PV01 epP pP 20 39 14.7 +0.2
PV01 Paradox Valley 59.18 295 eP **P** **20 39 08.3 -0.2**
DBIC Dimbokro 59.23 174 eP **P** **20 39 06.8 -2.4**
DBIC pmax pmax
comp=Z,99nm,1.5s
DBIC MLR MLR
comp=Z,403nm,19.0s
DBIC Dimbokro 59.23 174 eP **P** **20 39 06.8 -2.4**
comp=Z,99nm,1.5s,mb5.6
DBIC LR LR
comp=Z,403nm,19.0s,MS4.6
DBIC Dimbokro 59.23 174 eP **P** **20 39 06.8 -2.4**
comp=Z,99nm,1.5s,mb5.6
NATX Nacogdoches 59.33 280 eP **P** **20 39 09.4 -0.2**
NATX Nacogdoches 59.33 280 eP **P** **20 39 09.4 -0.3**
AMTX Amarillo 59.39 287 eP **P** **20 39 09.7 -0.4**
comp=Z,23nm,1.0s,mb5.2
AMTX Amarillo 59.39 287 eP **P** **20 39 09.7 -0.4**
comp=Z,23nm,1.0s,mb5.2
MOD Modoc 59.99 306 eP **P** **20 39 14.2 +0.1**
comp=Z,23nm,0.8s,mb5.3
MOD Modoc 59.99 306 eP **P** **20 39 14.2 +0.2**
comp=Z,23nm,0.8s,mb5.3
BSY Bisya 60.17 101 P **P** **20 39 15.1 -0.5**
SNR=16
MSU Marysvale 60.17 298 eP **P** **20 39 16.0 +0.6**
MVU Marysvale 60.19 298 eP **P** **20 39 16.1 +0.6**
comp=Z,47nm,1.0s,mb5.5
MVU Marysvale 60.19 298 eP **P** **20 39 16.1 +0.6**
comp=Z,47nm,1.0s,mb5.5
BSYO Bisya 60.20 101 P **P** **20 39 15.1 -0.7**
SNR=16
HUMO Hull Mountain 60.22 308 eP **P** **20 39 14.3 -1.4**
comp=Z,5.8nm,0.7s,mb4.7
HUMO Hull Mountain 60.22 308 eP **P** **20 39 14.3 -1.3**
comp=Z,5.8nm,0.7s,mb4.7
SMDO Samad 60.23 100 P **P** **20 39 15.7 -0.3**
SNR=10
BMN Battle Mountai 60.26 303 eP **P** **20 39 15.7 -0.2**
BMN pmax pmax
comp=Z,14nm,1.0s,mb5.0
BMN Battle Mountai 60.26 303 eP **P** **20 39 15.7 -0.2**
comp=Z,14nm,1.0s,mb5.0
JMDO Jabal Madar 60.87 101 P **P** **20 39 19.7 -0.6**
SNR=15
LTIM Timbered Crate 61.03 307 P **P** **20 39 21.9 +0.8**
LTIM Timbered Crate 61.03 307 P **P** **20 39 22.0 +0.8**
PET Petropavlovsk 61.10 8 eP **P** **20 39 29.5 +8.0**
PET eS **S** **20 47 38.1 +0.3**
PET pmax pmax
comp=Z,100nm,7.2s
PET pmax pmax
comp=Z,100nm,14.0s
PET smax
comp=N,300nm,40.6s
PET MLR MLR
comp=Z,300nm,17.0s,MS4.5
ANMO Albuquerque 61.19 291 eP **P** **20 39 22.3 0.0**
ANMO e*PP pP 20 39 28.2 -0.1
ANMO pmax pmax
comp=Z,10.0nm,0.8s
ANMO MLR MLR
comp=Z,397nm,20.0s
ANMO Albuquerque 61.19 291 eP **P** **20 39 22.3 0.0**
comp=Z,10nm,0.8s,mb5.0
ANMO epP pP 20 39 28.2 -0.1
ANMO LR LR
comp=Z,397nm,20.0s,MS4.6
ANMO Albuquerque 61.19 291 eP **P** **20 39 22.3 0.0**
comp=Z,10nm,0.8s,mb5.0
ARUT Antelope Range 61.27 299 eP **P** **20 39 23.3 +0.4**
ARUT Antelope Range 61.27 299 eP **P** **20 39 23.2 +0.3**
HKT Hockley 61.39 280 eP **P** **20 39 23.3 -0.5**
HKT pmax pmax
comp=Z,82nm,1.9s,mb5.5
HKT Hockley 61.39 280 eP **P** **20 39 23.3 -0.5**
comp=Z,82nm,1.9s,mb5.5
HKT Hockley 61.39 280 eP **P** **20 39 23.3 -0.5**
comp=Z,82nm,1.9s,mb5.5
KLR Kul'dur 61.51 27 eP **P** **20 39 25.3 +1.0**
KLR MLR MLR
comp=N,900nm,16.0s
KLR MLR MLR
comp=Z,1μm,16.0s,MS5.1
TRCR Troy Canyon 61.54 301 eP **P** **20 39 25.2 +0.5**
TRCR Troy Canyon 61.54 301 eP **P** **20 39 25.2 +0.5**
LPM Los Pinos Moun 61.82 291 eP **P** **20 39 27.3 +0.7**
LPM Los Pinos Moun 61.82 291 eP **P** **20 39 27.3 +0.7**
CPRX Cap Rock 61.88 288 eP **P** **20 39 27.1 +0.1**
WDC Whiskeytown Da 61.91 307 eP **P** **20 39 26.4 -0.8**
WDC pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
WDC Whiskeytown Da 61.91 307 eP **P** **20 39 26.4 -0.8**
comp=Z,9.2nm,0.7s,mb5.0
WDC Whiskeytown Da 61.91 307 eP **P** **20 39 26.4 -0.8**
comp=Z,9.2nm,0.7s,mb5.0
LAZ Ladron 61.93 292 eP **P** **20 39 27.8 +0.4**
LAZ Ladron 61.93 292 eP **P** **20 39 27.8 +0.4**
LENM Lemitar 62.08 291 eP **P** **20 39 28.9 +0.6**
LENM Lemitar 62.08 291 eP **P** **20 39 28.9 +0.5**
WCN Washoe City 62.13 304 eP **P** **20 39 28.9 +0.2**
WCN e*PP pP 20 39 35.3 +0.6
TPH Tonopah 62.36 302 eP **P** **20 39 29.7 -0.5**
TPH pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
TPH Tonopah 62.36 302 eP **P** **20 39 29.7 -0.5**
comp=Z,9.2nm,0.8s,mb5.0
TPH Tonopah 62.36 302 eP **P** **20 39 29.7 -0.5**
comp=Z,9.1nm,0.8s,mb5.0
MNV Mina 62.37 303 eP **P** **20 39 29.8 -0.4**
MNV e*PP pP 20 39 36.0 -0.2
MNV pmax pmax
comp=Z,13nm,0.8s,mb5.1
MNV Mina 62.37 303 eP **P** **20 39 29.8 -0.4**
comp=Z,14nm,0.8s,mb5.1
MNV epP pP 20 39 36.0 -0.2
MNV Mina 62.37 303 eP **P** **20 39 29.8 -0.4**
comp=Z,14nm,0.8s,mb5.1
JCT Junction City 62.52 283 eP **P** **20 39 31.4 0.0**
JCT pmax pmax
comp=Z,87nm,0.7s,mb6.0
JCT Junction City 62.52 283 eP **P** **20 39 31.4 0.0**
comp=Z,87nm,0.7s,mb6.0
JCT Junction City 62.52 283 eP **P** **20 39 31.4 0.0**
comp=Z,87nm,0.7s,mb6.0
OHCM Honcut 62.69 306 eP **P** **20 39 31.6 -0.7**
OHCM Honcut 62.69 306 eP **P** **20 39 31.6 -0.7**
GDL2 Guadalupe Moun 62.81 288 eP **P** **20 39 32.8 -0.4**
OMM Old Mammoth Mi 63.38 303 eP **P** **20 39 38.1 +1.2**
OMM epP pP 20 39 44.4 +1.5
CMB Columbia Colle 63.49 304 eP **P** **20 39 37.4 -0.2**
CMB e*PP pP 20 39 42.6 -1.0
CMB pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
CMB Columbia Colle 63.49 304 eP **P** **20 39 37.4 -0.2**
comp=Z,9.8nm,0.8s,mb5.0
CMB epP pP 20 39 42.6 -1.0
CMB Columbia Colle 63.49 304 eP **P** **20 39 37.4 -0.2**
comp=Z,9.8nm,0.8s,mb5.0
CMB epP pP 20 39 42.6 -1.0
MNTX Cornudas Mount 63.65 289 eP **P** **20 39 37.8 -0.8**
comp=Z,8.5nm,0.9s,mb4.8
MNTX Cornudas Mount 63.65 289 eP **P** **20 39 37.8 -0.9**
comp=Z,8.5nm,0.9s,mb4.8
LDFC Landfair 64.29 298 eP **P** **20 39 43.8 +0.9**
LDFC epP pP 20 39 49.5 +0.7
LDFC Landfair 64.29 298 eP **P** **20 39 43.8 +1.0**
LTX Lajitas 65.08 286 eP **P** **20 39 47.3 -0.7**
LTX pmax pmax
comp=Z,19nm,0.8s,mb5.2

LTX	**Lajitas**	**65.08**	**286**	*e*P		**P**	**20 39 47.3**	**-0.7**
	comp=Z,19nm,0.8s,mb5.2							
LTX	**Lajitas**	**65.08**	**286**	*e*P		**P**	**20 39 47.3**	**-0.7**
	comp=Z,19nm,0.8s,mb5.2							
TUC	**Tucson**	**65.17**	**294**	*e*P		**P**	**20 39 48.8**	**+0.2**
TUC				pmax		pmax		
	comp=Z,10.0nm,0.7s,mb5.0							
TUC	**Tucson**	**65.17**	**294**	*e*P		**P**	**20 39 48.8**	**+0.2**
	comp=Z,9.9nm,0.7s,mb5.0							
MDJ	**Mudanjiang**	**65.50**	**31**	P		**P**	**20 39 48.5**	**-1.9**
MDJ				PCP		PcP	20 40 21.0	-1.1
MDJ				PP		PP	20 42 13.0	-3.8
MDJ				S		S	20 48 33.0	+0.3
MDJ				SCS		ScS	20 49 44.0	+2.7
MDJ				SS		SS	20 52 41.5	-6.6
MDJ				AMB		AMB		
	comp=Z,8.0nm,2.0s,mb4.4							
MDJ				AMB		AMB		
	comp=Z,249nm,5.6s							
MDJ				LR		LR		
	comp=N,159nm,21.6s,MS4.3							
MDJ				LR		LR		
	comp=E,140nm,21.6s,MS4.3							
MDJ				LR		LR		
	comp=Z,210nm,22.8s,MS4.3							
YSS	**Yuzh-Sakhalins**	**65.55**	**20**	P		**P**	**20 39 51.6**	**+0.9**
YSS				pmax		pmax		
	comp=Z,21nm,0.9s,mb5.2							
YSS	**Yuzh-Sakhalins**	**65.55**	**20**	P		**P**	**20 39 51.6**	**+0.9**
	comp=Z,21nm,0.9s,mb5.2							
PFO	**Pinyon Flat Ob**	**66.10**	**299**	*e*P		**P**	**20 39 55.0**	**+0.5**
PFO				pmax		pmax		
	comp=Z,12nm,0.8s,mb5.0							
PFO	**Pinyon Flat Ob**	**66.10**	**299**	*e*P		**P**	**20 39 55.0**	**+0.5**
	comp=Z,12nm,0.8s,mb5.0							
PFO	**Pinyon Flat Ob**	**66.10**	**299**	*e*P		**P**	**20 39 55.0**	**+0.5**
	comp=Z,12nm,0.8s,mb5.0							
LZH	**Lanzhou**	**66.42**	**54**	⇑P		**P**	**20 39 58.0**	**+1.5**
LZH				AMB		AMB		
	comp=Z,90nm,1.7s,mb5.5							
LZH				AMB		AMB		
	comp=Z,320nm,4.0s							
LZH				LR		LR		
	comp=Z,3μm,16.8s,MS5.5							
LZH	**Lanzhou**	**66.42**	**54**	⇑P		**P**	**20 39 58.0**	**+1.5**
	comp=Z,90nm,1.7s,mb5.5							
LZH				pP		pP	20 40 03.5	+1.0
LZH				sP		sP	20 40 06.4	+1.8
LZH				PP		PP	20 42 26.0	+1.2
LZH	**Lanzhou**	**66.42**	**54**	P		**P**	**20 39 58.0**	**+1.5**
	comp=Z,90nm,1.7s,mb5.5							
KOLN	**Koldanda**	**66.44**	**75**	*e*P		**P**	**20 39 56.3**	**-0.5**
	comp=Z,54nm,1.0s,mb5.5							
BJI	**Beijing**	**66.55**	**42**	*e*P		**P**	**20 39 57.4**	**+0.2**
BJI				PPP		PPP	20 44 09.7	+7.8
BJI				pmax		pmax		
	comp=Z,13nm,1.8s,mb4.7							
BJI				MLR		MLR		
	comp=Z,390nm,18.7s,MS4.7							
BJI	**Beijing**	**66.55**	**42**	*e*P		**P**	**20 39 57.4**	**+0.2**
	comp=Z,13nm,1.8s,mb4.7							
BJI				PPP		PPP	20 44 09.7	+7.8
BJI				S		S	20 49 01.3	+16
BJI				SS		tx	20 53 53.0	
BJI				LR		LR		
	comp=Z,390nm,18.7s,MS4.7							
GKN	**Gorkha**	**66.65**	**74**	*e*P		**P**	**20 39 57.2**	**-0.9**
	comp=Z,121nm,1.4s,mb5.7							
BAR	**Barrett**	**67.01**	**299**	*e*P		**P**	**20 40 01.1**	**+0.8**
BAR				*e*pP		pP	20 40 07.0	+0.7
KKN	**Kakani**	**67.09**	**73**	*e*P		**P**	**20 40 00.4**	**-0.5**
	comp=Z,216nm,1.7s,mb5.9							
DMN	**Daman**	**67.18**	**74**	*e*P		**P**	**20 40 01.4**	**-0.1**
	comp=Z,50nm,0.9s,mb5.5							
PKI	**Pulchoki**	**67.33**	**73**	*e*P		**P**	**20 40 02.1**	**-0.3**
	comp=Z,67nm,1.2s,mb5.6							
JIRN	**Jiri**	**67.56**	**73**	*e*P		**P**	**20 40 03.8**	**-0.1**
	comp=Z,140nm,1.3s,mb5.8							
LSA	**Lhasa**	**67.65**	**67**	P		**P**	**20 40 05.8**	**+1.4**
LSA				AMB		AMB		
	comp=Z,10.0nm,1.4s,mb4.7							
SDV	**Santo Domingo**	**70.18**	**246**	*e*P		**P**	**20 40 20.6**	**+0.4**
	comp=Z,21nm,0.8s,mb5.1							
MBAR	**Mbarara**	**72.44**	**137**	*e*P		**P**	**20 40 32.8**	**-1.0**
MBAR				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.7							
MBAR	**Mbarara**	**72.44**	**137**	*e*P		**P**	**20 40 32.8**	**-1.0**
	comp=Z,8.4nm,0.8s,mb4.7							
MBAR	**Mbarara**	**72.44**	**137**	*e*P		**P**	**20 40 32.8**	**-1.0**
	comp=Z,8.0nm,0.8s,mb4.7							
HYB	**Hyderabad**	**73.67**	**84**	*i* P		**P**	**20 40 40.0**	**-0.9**
HYB	**Hyderabad**	**73.67**	**84**	*e*P		**P**	**20 40 40.0**	**-0.9**
NJ2	**Nanjing**	**74.78**	**43**	*e*P		**P**	**20 40 44.5**	**-2.5**
NJ2				AP		pP	20 40 54.8	+1.7
NJ2				XP		sP	20 40 59.3	+4.1
NJ2				PP		PP	20 43 33.0	-3.5
NJ2				PPP		PPP	20 45 19.3	-2.2
NJ2				S		S	20 50 17.0	-4.2
NJ2				XS			20 50 34.0	
NJ2				AMB		AMB		
	comp=Z,20nm,0.8s,mb5.1							
NJ2				AMB		AMB		
	comp=Z,840nm,7.8s							
KMBO	**Kilima Mbogo**	**74.87**	**130**	*e*P		**P**	**20 40 48.0**	**+0.1**
KMI	**Kunming**	**76.06**	**59**	P		**P**	**20 40 53.8**	**-0.7**
KMI				*PP		pP	20 40 59.4	-1.1
KMI				S		S	20 50 32.8	-2.7
KMI				pmax		pmax		
	comp=Z,15nm,1.5s,mb4.7							
KMI				MLR		MLR		
	comp=Z,150nm,10.3s,MS4.6							
KMI	**Kunming**	**76.06**	**59**	P		**P**	**20 40 53.8**	**-0.7**
	comp=Z,15nm,1.5s,mb4.7							
KMI				pP		pP	20 40 59.4	-1.1
KMI				S		S	20 50 32.8	-2.7
KMI				LR		LR		
	comp=Z,150nm,10.3s,MS4.6							
KMI	**Kunming**	**76.06**	**59**	P		**P**	**20 40 53.8**	**-0.7**
	comp=Z,15nm,1.5s,mb4.7							
SSE	**Sheshan**	**76.33**	**42**	*e*P		**P**	**20 40 55.8**	**-0.1**
SSE				AP		pP	20 41 01.3	-0.6
SSE				XP		sP	20 41 05.3	+1.3
SSE				S		S	20 50 39.8	+1.5
SSE				XS			20 50 50.5	
SSE				AMB		AMB		
	comp=Z,17nm,0.7s,mb5.1							
SSE				AMB		AMB		
	comp=Z,225nm,4.2s							
SSE				LR		LR		
	comp=N,520nm,16.5s,MS5.0							
SSE				LR		LR		
	comp=E,214nm,16.5s,MS5.0							
SSE				LR		LR		
	comp=Z,613nm,15.4s,MS5.0							
SSE	**Sheshan**	**76.33**	**42**	*e*P		**P**	**20 40 55.7**	**-0.2**
	comp=Z,17nm,0.7s,mb5.1							
SSE				pP		pP	20 41 01.3	-0.6
SSE				sP		sP	20 41 05.3	+1.3
SSE				S		S	20 50 39.7	+1.4
SSE				sS			20 50 50.4	
SSE				SS		SS	20 55 52.7	+17
SSE				LR		LR		
	comp=Z,610nm,15.4s,MS5.0							
CHG	**Chiang Mai**	**80.45**	**65**	⇑P		**P**	**20 41 18.7**	**+0.1**
	comp=Z,14nm,0.8s,mb5.0							
CM31	**Chiang Mai Arr**	**80.78**	**65**	*e*P		**P**	**20 41 20.4**	**+0.1**
	comp=Z,5.3nm,0.8s,mb4.5							
OTAV	**Otavalo**	**81.10**	**250**	*e*P		**P**	**20 41 23.6**	**+1.4**
	comp=Z,23nm,1.1s,mb5.0							
NANT	**Nan**	**81.12**	**64**	P		**P**	**20 41 22.0**	**-0.1**
KKTK	**Khon Kaen**	**84.16**	**63**	P		**P**	**20 41 39.0**	**+1.2**
LSZ	**Lusaka**	**85.82**	**143**	*e*P		**P**	**20 41 47.4**	**+1.3**
LSZ				pmax		pmax		
	comp=Z,64nm,1.4s,mb5.7							
LSZ	**Lusaka**	**85.82**	**143**	*e*P		**P**	**20 41 47.4**	**+1.3**
	comp=Z,64nm,1.4s,mb5.7							
LSZ	**Lusaka**	**85.82**	**143**	*e*P		**P**	**20 41 47.4**	**+1.3**
	comp=Z,64nm,1.4s,mb5.7							
BAO	**Brasilia Array**	**86.11**	**216**	P		**P**	**20 41 50.1**	**+2.5**
BAO				*e*			20 41 54.1	
TSUM	**Tsumeb**	**87.36**	**154**	*e*P		**P**	**20 41 53.5**	**-0.1**
WB2	**Warramunga Arr**	**128.55**	**45**	*e*PKP		PKPdf	20 48 13.5	-3.1

*MOS **31** 20:42:48.6±1.1, 14.39N×92.25E, h33km, mb5.0/10, Error*

ellipse: s-maj=17.2km s-min=11.3km az=107.1
*NEIC **31** 20:42:50.3±0.5, 14.41N×92.20E, h30km, mb4.9/9, Error ellipse: s-maj=13.0km s-min=10.3km az=194.0*
*BJI **31** 20:42:58.7, 15.39N×91.74E, h40km, mB4.8, mb4.8, mb4.5, Ms4.4, Msz4.4*
ISC 31 20:42:48.4±0.5, **14.58N**±0.07×**92.19E**±0.06, **h30**km, **n53,** σ1§**49**/51, **mb4.8**/12, **MS4.4**/1, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**7.54**	**58**	*e*P		**Pn**	**20 44 41.0**	**+1.8**
	4.8nm,0.8s							
BWNR	**Bhubaneshwar**	**8.34**	**314**	*e*P		**P**	**20 44 43.0**	**-7.3**
BWNR				*e*S		**Sn**	**20 46 12.0**	**-12**
BWNR				*e*			20 46 41.4	
	comp=N,675nm,0.4s							
BWNR				*e*			20 46 41.9	
	comp=E,1μm,0.5s							
CAL	**Calcutta**	**8.72**	**336**	*e*		**P**	**20 45 10.7**	**+15**
CAL				*e*			20 47 27.9	
VIS	**Vishakhapatnam**	**9.07**	**291**	*e*P		**P**	**20 44 59.5**	**-1.0**
VIS				AMb		AMB	20 45 02.3	
	comp=Z,50nm,1.0s							
VIS				*e*S		**Sn**	**20 46 34.4**	**-8.3**
HYB	**Hyderabad**	**13.41**	**284**	*e*P		**P**	**20 45 59.5**	**+0.1**
HYB				*e*S		**S**	**20 48 18.0**	**-10**
HYB	**Hyderabad**	**13.41**	**284**	*i* P		**P**	**20 45 59.5**	**+0.1**
HYB				*e*S		**S**	**20 48 18.0**	**-10**
JIRN	**Jiri**	**14.17**	**338**	*e*P		**P**	**20 46 06.1**	**-3.3**
	comp=Z,42nm,0.8s							
PKI	**Pulchoki**	**14.39**	**335**	*e*P		**P**	**20 46 09.7**	**-2.6**
	comp=Z,56nm,0.8s							
DMN	**Daman**	**14.55**	**334**	*e*P		**P**	**20 46 11.6**	**-2.8**
	comp=Z,74nm,0.8s							
KKN	**Kakani**	**14.64**	**335**	*e*P		**P**	**20 46 12.3**	**-3.2**
	comp=Z,16nm,0.5s							
GKN	**Gorkha**	**15.09**	**333**	*e*P		**P**	**20 46 19.5**	**-2.0**
	comp=Z,26nm,0.3s							
KOLN	**Koldanda**	**15.37**	**330**	*e*P		**P**	**20 46 23.6**	**-1.5**
	comp=Z,67nm,0.9s							
BHPL	**Bhopal**	**16.41**	**304**	*e*P		**P**	**20 46 41.0**	**+2.7**
BHPL				AMb		AMB	20 46 47.9	
	comp=Z,29nm,0.9s							
KAD	**Karad**	**17.53**	**281**	*e*P		**P**	**20 46 55.0**	**+2.5**
KAD				*e*S		**S**	**20 50 06.0**	**+1.5**
NDI	**New Delhi**	**19.74**	**318**	*e*P		**P**	**20 47 20.0**	**+1.1**
NDI				*e*			20 51 05.0	
LZH	**Lanzhou**	**23.83**	**24**	*e*P		**P**	**20 48 01.3**	**+1.4**
LZH				AP			20 48 13.5	
LZH				XP			20 48 16.3	
LZH				AMB		AMB		
	comp=Z,28nm,1.5s,mb4.5							
LZH				AMB		AMB		
	comp=Z,175nm,4.0s							
LZH				LR		LR		
	comp=E,630nm,13.7s							
LZH				LR		LR		
	comp=Z,936nm,15.0s,MS4.4							
MKAR	**Makanchi Array**	**33.17**	**348**	*i* P		**P**	**20 49 25.3**	**+0.8**
MKAR				pmax		pmax		
	comp=Z,28nm,0.9s							
ULN	**Ulaanbaatar**	**35.41**	**17**	*e*P		**P**	**20 49 43.8**	**+0.1**
ULN				pmax		pmax		
	comp=Z,16nm,1.4s,mb4.8							
ULN	**Ulaanbaatar**	**35.41**	**17**	*e*P		**P**	**20 49 43.8**	**+0.1**
	comp=Z,16nm,1.4s,mb4.8							
ZAK	**Zakamensk**	**36.83**	**12**	*e*P		**P**	**20 49 56.6**	**+0.9**
KURK	**Kurchatov**	**37.69**	**346**	P		**P**	**20 50 04.2**	**+1.3**
KURK				pmax		pmax		
	comp=Z,22nm,1.0s,mb4.8							
KURK	**Kurchatov**	**37.69**	**346**	*e*P		**P**	**20 50 03.5**	**+0.7**
	comp=Z,47nm,1.0s,mb5.2							
NVS	**Novosibirsk**	**40.78**	**352**	*e*P		pP	20 50 35.0	-2.5
BVA0	**Borovoye Array**	**42.07**	**340**	*i* P		**P**	**20 50 40.0**	**+0.9**
BVA0				pmax		pmax		
	comp=Z,1.0nm,1.1s							
CHKZ	**Chkalovo**	**42.55**	**341**	P		**P**	**20 50 44.3**	**+1.2**
CHKZ	**Chkalovo**	**42.55**	**341**	*e*P		**P**	**20 50 43.8**	**+0.7**
	comp=Z,6.6nm,0.8s,mb4.4							
BOD	**Bodaibo**	**46.19**	**16**	*e*P		**P**	**20 51 11.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**46.28**	**133**	*e*P		**P**	**20 51 12.6**	**-0.9**
	comp=Z,12nm,0.7s,mb4.9							
GNI	**Garni**	**48.51**	**311**	*e*P		**P**	**20 51 33.1**	**+2.4**
GNI				pmax		pmax		
	comp=Z,25nm,1.0s							
GNI	**Garni**	**48.51**	**311**	*e*P		**P**	**20 51 33.1**	**+2.4**
	comp=Z,25nm,1.0s,mb5.2							
ARU	**Arti**	**49.02**	**336**	*e*P		**P**	**20 51 32.5**	**-1.9**
KIV	**Kislovodsk**	**51.17**	**315**	*e*P		**P**	**20 51 52.0**	**+1.0**
KIV	**Kislovodsk**	**51.17**	**315**	*e*P		**P**	**20 51 52.0**	**+1.1**
WRAB	**Tennant Creek**	**53.81**	**129**	*e*P		**P**	**20 52 09.4**	**-1.6**
WRAB				pmax		pmax		
	comp=Z,18nm,0.9s,mb5.0							
WRAB	**Tennant Creek**	**53.81**	**129**	*e*P		**P**	**20 52 09.4**	**-1.6**
	comp=Z,18nm,0.9s,mb5.0							
WB2	**Warramunga Arr**	**53.81**	**129**	*e*P		**P**	**20 52 10.2**	**-0.8**
YAK	**Yakutsk**	**54.36**	**21**	*e*P		**P**	**20 52 20.4**	**+6.0**
YAK				pmax		pmax		
	comp=Z,11nm,0.8s,mb4.8							
YAK				pmax		pmax		
	comp=N,6.0nm,1.2s							
YAK				pmax		pmax		
	comp=E,7.0nm,1.7s							
TIXI	**Tiksi**	**61.11**	**12**	*e*P		**P**	**20 53 01.3**	**-0.6**
TIXI				pmax		pmax		
	comp=Z,12nm,1.0s,mb5.0							
MORC	**Moravsky Berou**	**69.11**	**318**	*e*P		**P**	**20 53 54.7**	**+0.9**
LSZ	**Lusaka**	**69.87**	**248**	P		**P**	**20 53 57.9**	**-1.1**
BILL	**Bilibino**	**70.63**	**23**	*e*P		**P**	**20 54 07.3**	**+4.5**
BILL				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.3							
PRU	**Pruhonice**	**71.05**	**318**	*e*P		pP	20 54 15.4	+0.3
BRG	**Berggiesshubel**	**71.43**	**319**	*i* P		pP	20 54 17.2	-0.1
BRG				*e*			20 54 21.4	
BRG				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
BRG	**Berggiesshubel**	**71.43**	**319**	*i* P		pP	20 54 17.2	-0.1
	comp=Z,6.3nm,0.8s							
BRG				*e*			20 54 21.4	
KHC	**Kasperske Hory**	**71.69**	**317**	*e*P		**P**	**20 54 14.5**	**+5.0**
KHC				x		x	20 54 18.5	
CLL	**Collm**	**72.02**	**320**	*e*P		pP	20 54 20.0	-0.8
CLL	**Collm**	**72.02**	**320**	*e*PP		pP	20 54 20.0	-0.8
MOX	**Moxa**	**72.92**	**319**	*e*P		**P**	**20 54 12.0**	**-4.7**
NB2	**NORSAR Subarra**	**73.00**	**330**	P		pP	20 54 24.6	-1.8
	comp=Z,2.8nm,0.8s,baz=91,slow=4.8							
LBTB	**Lobatse**	**75.89**	**239**	P		**P**	**20 54 33.9**	**-0.5**
LPG	**La Plagne**	**76.59**	**314**	*e*P		**P**	**20 54 41.0**	**+3.1**
	comp=Z,29nm,0.9s,mb4.9							
LPG	**La Plagne**	**76.59**	**314**	*e*P		**P**	**20 54 41.0**	**+3.1**
LPG				pmax		pmax		
	comp=Z,15nm,0.9s,mb4.9							
IMA	**Indian Mountai**	**86.17**	**22**	P		**P**	**20 55 28.9**	**+1.2**

*ROM **31** 20:47:00.3±0.4, 46.28N×13.65E, h5km, MD2.4/2, ML1.8/5, Error ellipse: s-maj=2.8km s-min=2.5km az=90.0*
*LJU **31** 20:47:01.2, 46.32N×13.63E, h7km, ML1.9*
*CSEM **31** 20:47:01.0±0.1, 46.28N×13.64E, h12km, ML2.6/7, Error ellipse: s-maj=1.2km s-min=0.9km az=33.0*
*NEIC **31** 20:47:01.2±0.3, 46.31N×13.65E, h10km, MD2.4(ROM), ML2.3(VIE), ML2.0(LJU), Error ellipse: s-maj=4.3km s-min=2.9km az=194.0*
NEIC Felt at Drezniske Ravne and Magozd.
ISC 31 20:47:00.8±0.4, **46.34N**±0.02×**13.65E**±0.03, **h10**km±5km, **n39,** σ0§**92**/73, **8C-5D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADS	**Cadrg**	**0.13**	**151**	⇓*i*Pg		**Pg**	**20 47 03.8**	**-0.1**
CADS				*i* Sg		**Sg**	**20 47 05.7**	**-0.2**
	comp=Z,637nm,0.1s							
CADS	**Cadrg**	**0.13**	**151**	⇓*i*Pg		**Pg**	**20 47 03.8**	**-0.1**
CADS				*i* Sg		**Sg**	**20 47 05.7**	**-0.2**
	comp=Z,637nm,0.1s							
ROBS	**Robic**	**0.14**	**226**	⇑*i*Pg		**Pg**	**20 47 03.7**	**-0.3**
ROBS				*i* Sg		**Sg**	**20 47 05.5**	**-0.7**
	comp=Z,344nm,0.1s							
ROBS	**Robic**	**0.14**	**226**	Pg		**Pg**	**20 47 03.7**	**-0.4**
ROBS				*i* Sg		**Sg**	**20 47 05.5**	**-0.7**
	comp=Z,344nm,0.1s							
PTCC	**Patocco-Chiusa**	**0.21**	**288**	*e*PG		**Pg**	**20 47 05.7**	**+0.2**
PTCC				SG		**Sg**	**20 47 09.8**	**+1.2**
	comp=Z,153nm,0.3s							
PTCC	**Patocco-Chiusa**	**0.21**	**288**	*e*Pg		**Pg**	**20 47 05.7**	**+0.2**
PTCC				*e*Sg		**Sg**	**20 47 09.8**	**+1.2**
PTCC	**Patocco-Chiusa**	**0.21**	**288**	*e*Pg		**Pg**	**20 47 05.7**	**+0.2**
PTCC				*e*Sg		**Sg**	**20 47 09.8**	**+1.2**
GORS	**Gorjuse**	**0.24**	**95**	⇑*i*Pg		**Pg**	**20 47 06.4**	**+0.4**
GORS				*i* Sg		**Sg**	**20 47 11.4**	**+2.0**
	comp=Z,138nm,0.1s							
GMNA	**Gemona**	**0.29**	**258**	*e*PG		**Pg**	**20 47 08.0**	**+1.1**
GMNA				SG		**Sg**	**20 47 13.8**	**+2.8**
	comp=Z,160nm,0.4s							
GMNA	**Gemona**	**0.29**	**258**	*e*Pg		**Pg**	**20 47 08.0**	**+1.0**
GMNA				*e*Sg		**Sg**	**20 47 13.8**	**+2.8**
VOJS	**Vojsko**	**0.35**	**152**	⇓*i*Pg		**Pg**	**20 47 07.7**	**-0.3**
VOJS				*i* Sg		**Sg**	**20 47 13.4**	**+0.6**
JAVS	**Javornik**	**0.53**	**147**	⇓*i*Pg		**Pg**	**20 47 10.8**	**-0.7**
JAVS				*i* Sg		**Sg**	**20 47 19.2**	**+0.4**
	comp=Z,11nm,0.1s							
JAVS	**Javornik**	**0.53**	**147**	⇓*i*Pg		**Pg**	**20 47 10.8**	**-0.8**
JAVS				*i* Sg		**Sg**	**20 47 19.2**	**+0.5**
	comp=Z,11nm,0.1s							
TRI	**Trieste**	**0.64**	**173**	*e*PG		**Pg**	**20 47 12.4**	**-1.2**
TRI				SG		**Sg**	**20 47 21.7**	**-0.5**
	comp=Z,25nm,0.4s							
TRI	**Trieste**	**0.64**	**173**	*e*Pg		**Pg**	**20 47 12.4**	**-1.2**
TRI				*e*Sg		**Sg**	**20 47 21.7**	**-0.5**
TRI	**Trieste**	**0.64**	**173**	*e*Pg		**Pg**	**20 47 12.4**	**-1.2**
TRI				*e*Sg		**Sg**	**20 47 21.7**	**-0.5**
OBKA	**Obir**	**0.65**	**74**	⇑*i*PG		**Pg**	**20 47 13.9**	**+0.1**
OBKA				*i* SG		**Sg**	**20 47 23.1**	**+0.6**
	comp=Z,11nm,0.1s							
FVI	**Forni Avoltri**	**0.65**	**294**	*e*PG		**Pg**	**20 47 13.9**	**-0.1**
	comp=Z,32nm,0.5s							
LJU	**Ljubljana**	**0.68**	**115**	*i* Pg		**Pg**	**20 47 14.7**	**+0.2**
LJU				*i* Sg		**Sg**	**20 47 24.7**	**+1.1**
	comp=Z,20nm,0.1s							
LJU	**Ljubljana**	**0.68**	**115**	*i* Pg		**Pg**	**20 47 14.7**	**+0.2**
LJU				*i* Sg		**Sg**	**20 47 24.7**	**+1.1**
	comp=Z,20nm,0.1s							
KBA	**Koelnbreinsper**	**0.77**	**344**	⇑*i*PG		**Pg**	**20 47 16.5**	**+0.2**
KBA				*i* SG		**Sg**	**20 47 27.6**	**+1.0**
	comp=Z,6.8nm,0.1s							
CEY	**Cerknica**	**0.81**	**138**	*i* Pg		**Pg**	**20 47 15.8**	**-1.3**
CEY				*i* Sg		**Sg**	**20 47 29.3**	**+1.4**
	comp=Z,6.0nm,0.1s							
PERS	**Pernice**	**1.06**	**73**	*i* Pg		**Pg**	**20 47 21.5**	**-0.5**
PERS				*i* Sg		**Sg**	**20 47 36.7**	**+0.6**
	comp=Z,2.0nm,0.1s							
PERS	**Pernice**	**1.06**	**73**	*i* Pg		**Pg**	**20 47 21.5**	**-0.5**
PERS				*i* Sg		**Sg**	**20 47 36.7**	**+0.6**
	comp=Z,2.0nm,0.1s							
DOBS	**Dobrina**	**1.28**	**98**	*i* Pg		**Pg**	**20 47 25.9**	**-0.5**
BOJS	**Bojanci**	**1.40**	**126**	*i* Pg		**Pg**	**20 47 27.4**	**-1.3**
BOJS				*e*Sg		**Sg**	**20 47 46.7**	**-0.7**
	comp=Z,3.0nm,0.1s							
BOJS	**Bojanci**	**1.40**	**126**	*i* Pg		**Pg**	**20 47 27.5**	**-1.3**
BOJS				*e*Sg		**Sg**	**20 47 46.7**	**-0.7**
	comp=Z,3.0nm,0.1s							
GOLS	**Golise**	**1.41**	**103**	*e*Pg		**Pg**	**20 47 28.4**	**-0.7**
	comp=Z,5.0nm,0.1s							
GOLS	**Golise**	**1.41**	**103**	*e*Pg		**Pg**	**20 47 28.4**	**-0.7**
	comp=Z,5.0nm,0.1s							
CTI	**Castel Tesino**	**1.42**	**259**	*e*PN		**Pn**	**20 47 27.9**	**+1.1**
	comp=Z,26nm,0.4s							
MOA	**Molln**	**1.57**	**15**	⇑*i*PG		**Pg**	**20 47 31.9**	**-0.3**
MOA				*i* SG		**Sg**	**20 47 54.0**	**+0.8**
	comp=Z,3.3nm,0.3s							
ARSA	**Arzberg**	**1.58**	**54**	⇑*i*PG		**Pg**	**20 47 31.4**	**-1.0**
ARSA				*i* SG		**Sg**	**20 47 53.7**	**+0.2**
	comp=Z,3.4nm,0.3s							
WTTA	**Wattenberg**	**1.66**	**305**	⇑*i*PG		**Pg**	**20 47 33.2**	**-0.9**
WTTA				*i* SG		**Sg**	**20 47 56.2**	**-0.1**
	comp=Z,5.6nm,0.4s							
WATA	**Walderalm**	**1.74**	**306**	⇑*i*PG		**Pg**	**20 47 34.6**	**-1.0**
WATA				*i* SG		**Sg**	**20 47 58.9**	**+0.1**
	comp=Z,3.1nm,0.3s							
KHC	**Kasperske Hory**	**2.79**	**359**	*e*PN		**Pn**	**20 47 50.0**	**+3.5**
KHC				*e*PG		**Pg**	**20 47 55.7**	**-1.0**
KHC				*e*SN		**Sn**	**20 48 21.5**	**+0.8**
KHC				*e*SG		**Sg**	**20 48 33.5**	**-0.4**
KHC	**Kasperske Hory**	**2.79**	**359**	*e*Pg		**Pg**	**20 47 55.7**	**-1.0**
KHC				*e*Sn		**Sn**	**20 48 21.5**	**+0.8**
KHC				*e*Sg		**Sg**	**20 48 33.5**	**-0.4**
PRU	**Pruhonice**	**3.70**	**9**	*e*SG		**Sg**	**20 49 01.1**	**-3.0**
NKC	**Novy Kostel**	**3.98**	**349**	*e*SG		**Sg**	**20 49 12.5**	**-0.9**
UPC	**Upice**	**4.46**	**20**	*e*SG		**Sg**	**20 49 24.6**	**-4.7**

TAP 31 21:00:07.2, 24.26N×121.29E, h13km, ML3.6, Taiwan

NEIC 31 21:08:48.6±2.0, **23.92S**×**179.35W, h468**km±30km, **mb4.7**/5, **1C-7D, Error ellipse: s-maj=43.7km s-min=18.5km az=140.0, South of Fiji Islands**

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

PAU				*i* S	**S**	**22 23 27.0**	**+2.6**
PET	**Petropavlovsk**	**5.32**	**30**	*e*PN	**P**	**22 23 12.2**	**+0.4**
PET				*e*S	**S**	**22 24 12.8**	**+0.3**
PET				pmax	pmax		
	comp=Z,111nm,1.9s						
PET				smax			
	comp=N,94nm,0.4s						
PET				smax			
	comp=E,134nm,0.5s						
PET	**Petropavlovsk**	**5.32**	**30**	*e*P	**P**	**22 23 12.2**	**+0.4**
PET				AMB	AMB	22 23 15.7	
	comp=E,110nm,1.9s						
PET				*e*S	**S**	**22 24 12.8**	**+0.3**
PET				A		22 24 22.9	
	comp=E,90nm,0.5s						
PET				A		22 24 22.9	
	comp=E,130nm,0.5s						
KUR	**Kuril'sk**	**5.47**	**236**	*e*PN	**P**	**22 23 13.0**	**-0.8**
KUR				*e*S	**S**	**22 24 16.5**	**+0.4**
KUR				pmax	pmax		
	comp=Z,140μm,0.9s						
KUR	**Kuril'sk**	**5.47**	**236**	*e*P	**P**	**22 23 13.0**	**-0.8**
KUR				AMB	AMB	22 23 15.0	
	comp=Z,140nm,0.9s						
KUR				*e*S	**S**	**22 24 16.5**	**+0.4**
KUR				A		22 24 20.0	
	comp=Z,250nm,1.1s						
KUR				A		22 24 20.0	
	comp=Z,370nm,1.1s						
YSS	**Yuzh-Sakhalins**	**7.92**	**263**	*e*P	**P**	**22 23 49.9**	**+2.0**
YSS	**Yuzh-Sakhalins**	**7.92**	**263**	*e*P	**P**	**22 23 50.5**	**+2.6**
YSS				*e*S	**S**	**22 25 16.0**	**-0.8**
NKL	**Nikolayevsk**	**9.79**	**304**	*e*rx	rx	22 24 12.0	
FX1	**Attu Island--F**	**12.75**	**63**	*e*P	**P**	**22 24 48.2**	**-4.8**
IMA	**Indian Mountai**	**31.94**	**37**	*e*P	**P**	**22 28 14.1**	**+0.1**
KURK	**Kurchatov**	**47.08**	**303**	*e*P	**P**	**22 30 19.9**	**+0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
KURK	**Kurchatov**	**47.08**	**303**	*e*P	**P**	**22 30 19.9**	**+0.4**
	comp=Z,2.4nm,0.6s,mb4.1						
CHKZ	**Chkalovo**	**49.93**	**309**	*e*P	**P**	**22 30 40.7**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**49.93**	**309**	*e*P	**P**	**22 30 40.7**	**-0.8**
	comp=Z,2.7nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**53.78**	**296**	*e*P	**P**	**22 31 10.9**	**+0.3**
FFC	**Flin Flon**	**58.91**	**41**	*e*P	**P**	**22 31 46.9**	**0.0**
FFC				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
FFC	**Flin Flon**	**58.91**	**41**	*e*P	**P**	**22 31 46.9**	**0.0**
	comp=Z,2.2nm,0.7s,mb4.3						
FCC	**Fort Churchill**	**59.38**	**34**	*e*P	**P**	**22 31 49.7**	**-0.4**
FCC				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
FCC	**Fort Churchill**	**59.38**	**34**	*e*P	**P**	**22 31 49.7**	**-0.5**
	comp=Z,3.3nm,1.0s,mb4.3						
HLID	**Hailey**	**59.89**	**57**	P	**P**	**22 31 53.8**	**-0.1**
BW06	**Boulder Array**	**63.09**	**55**	*e*P	**P**	**22 32 15.6**	**+0.1**
	comp=Z,1.0nm,0.7s,mb3.9						

*BJI **31** 22:30:41.3, 6.07N×92.74E, h59km, mb4.3*
*NEIC **31** 22:30:42.8±1.2, 6.61N×92.73E, h30km, mb4.2/2, Error ellipse: s-maj=30.0km s-min=19.2km az=64.0*
ISC 31 22:30:41.7±1.4,**6.7N**±0.2×**93.0E**±0.2,**h30**km,**n8**,σ0§**97**/8, **mb4.2**/3,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**13.04**	**26**	P	**P**	**22 33 49.0**	**+1.2**
	9.5nm,0.8s						
HYB	**Hyderabad**	**17.68**	**308**	*e*P	**P**	**22 34 49.0**	**+1.4**
HYB	**Hyderabad**	**17.68**	**308**	*i* P	**P**	**22 34 49.0**	**+1.4**
XAN	**Xi'an**	**30.94**	**26**	P	**P**	**22 36 58.0**	**-0.5**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**39.35**	**338**	*e*P	**P**	**22 38 10.2**	**0.0**
	comp=Z,3.5nm,0.9s,mb4.1						
KURK	**Kurchatov**	**45.48**	**347**	P	**P**	**22 38 59.0**	**-1.2**
WRAB	**Tennant Creek**	**48.53**	**124**	P	**P**	**22 39 24.9**	**+0.4**
CHKZ	**Chkalovo**	**50.24**	**343**	*e*P	**P**	**22 39 35.8**	**-1.3**
	comp=Z,3.3nm,0.9s,mb4.4						

*BJI **31** 22:34:36.7, 7.46N×93.86E, h48km, mB4.6, mb4.5, Ms4.4, Msz3.9*
*NEIC **31** 22:34:37.2±0.6, 7.73N×94.00E, h30km, mb4.7/10, Error ellipse: s-maj=17.1km s-min=12.6km az=116.0*
ISC 31 22:34:35.6±0.7,**7.73N**±0.09×**94.1E**±0.1,**h30**km,**n36**, σ1§**18**/34,**mb4.8**/15,**MS3.7**/1,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**11.65**	**23**	*e*P	**P**	**22 37 21.6**	**-1.4**
VIS	**Vishakhapatnam**	**14.46**	**314**	*e*P	**P**	**22 38 00.6**	**+0.1**
VIS				*e*		22 38 04.4	
	comp=Z,28nm,0.9s						
BWNR	**Bhubaneshwar**	**14.86**	**328**	*e*P	**P**	**22 38 01.3**	**-4.3**
BWNR				*e*		22 38 12.9	
	comp=Z,31nm,0.8s						
KMI	**Kunming**	**19.15**	**24**	P	**P**	**22 39 04.1**	**+4.6**
	comp=Z,9.0nm,1.5s						
JIRN	**Jiri**	**21.19**	**340**	*e*P	**P**	**22 39 21.3**	**+0.2**
	comp=Z,112nm,1.2s,mb5.1						
PKI	**Pulchoki**	**21.39**	**338**	*e*P	**P**	**22 39 22.9**	**-0.2**
	comp=Z,93nm,1.1s,mb5.0						
DMN	**Daman**	**21.53**	**338**	*e*P	**P**	**22 39 22.0**	**-2.5**
	comp=Z,64nm,0.9s,mb5.0						
KKN	**Kakani**	**21.63**	**338**	*e*P	**P**	**22 39 26.1**	**+0.6**
	comp=Z,106nm,1.3s,mb5.1						
KAD	**Karad**	**21.64**	**298**	*e*P	**P**	**22 39 26.1**	**+0.4**
LSA	**Lhasa**	**22.03**	**353**	*e*P	**P**	**22 39 29.3**	**-0.2**
GKN	**Gorkha**	**22.07**	**337**	*e*P	**P**	**22 39 29.7**	**-0.2**
	comp=Z,39nm,0.7s,mb4.9						
BHPL	**Bhopal**	**22.24**	**316**	*e*P	**P**	**22 39 33.0**	**+1.3**
BHPL				*e*		22 39 38.3	
	comp=Z,22nm,0.7s						
KOLN	**Koldanda**	**22.28**	**335**	*e*P	**P**	**22 39 31.9**	**-0.1**
	comp=Z,69nm,0.9s,mb5.1						
NDI	**New Delhi**	**26.24**	**325**	*e*	**P**	**22 40 17.0**	**+6.9**
DDI	**Dehra Dun**	**27.05**	**328**	*e*	**P**	**22 40 24.7**	**+7.2**
BJI	**Beijing**	**37.74**	**28**	*e*P	**P**	**22 41 54.7**	**+4.1**
	comp=Z,10.0nm,1.3s,mb4.4						
BJI				S	**S**	**22 47 23.2**	**-16**
BJI				LR	LR		
	comp=Z,130nm,19.7s,MS3.7						
AAK	**Ala-Archa**	**38.82**	**337**	*e*P	**P**	**22 41 58.6**	**-1.1**
	comp=Z,6.8nm,1.1s,mb4.3						
KURK	**Kurchatov**	**44.74**	**346**	*e*P	**P**	**22 42 46.7**	**-1.4**
	comp=Z,5.8nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**48.20**	**125**	*e*P	**P**	**22 43 15.8**	**+0.1**
CHKZ	**Chkalovo**	**49.60**	**342**	*e*P	**P**	**22 43 25.2**	**-0.9**
	comp=Z,10.0nm,1.0s,mb4.8						
KMBO	**Kilima Mbogo**	**57.39**	**264**	P	**P**	**22 44 22.2**	**-2.0**
	comp=Z,7.7nm,0.8s,mb4.8						
LSZ	**Lusaka**	**69.20**	**250**	P	**P**	**22 45 40.5**	**-1.7**
LBTB	**Lobatse**	**74.16**	**241**	*e*P	**P**	**22 46 10.7**	**-1.0**
OKC	**Ostrava-Krasne**	**75.08**	**319**	*e*P	**P**	**22 46 18.1**	**+1.6**
MORC	**Moravsky Berou**	**75.47**	**319**	*e*P	**P**	**22 46 19.0**	**+0.3**
	comp=Z,12nm,1.3s,mb4.7						
DPC	**Dobruska-Polom**	**76.30**	**320**	*e*P	**P**	**22 46 25.4**	**+2.0**
UPC	**Upice**	**76.51**	**320**	*e*pP	pP	22 46 35.5	+1.4
PRU	**Pruhonice**	**77.42**	**319**	*e*pP	pP	22 46 36.9	-2.2
BRG	**Berggiesshubel**	**77.85**	**320**	*i* P	**P**	**22 46 38.8**	**+6.8**
	comp=Z,18nm,1.6s,mb4.8						
KHC	**Kasperske Hory**	**78.01**	**319**	*e*P	**P**	**22 46 34.9**	**+2.0**
CLL	**Collm**	**78.46**	**321**	*e*P	**P**	**22 46 35.0**	**-0.3**
CLL				*e*	pP	22 46 44.0	-0.8
CLL	**Collm**	**78.46**	**321**	P	**P**	**22 46 35.0**	**-0.3**
CLL				*e**PP	pP	22 46 44.0	-0.8
NKC	**Novy Kostel**	**78.78**	**320**	*e*pP	pP	22 46 43.9	-2.7
NB2	**NORSAR Subarra**	**79.84**	**331**	P	**P**	**22 46 43.5**	**+0.9**
	comp=Z,5.9nm,0.5s,mb4.8,baz=90,slow=5.3						
LPG	**La Plagne**	**82.70**	**315**	*e*P	**P**	**22 46 59.1**	**+1.1**
	comp=Z,27nm,1.1s,mb4.9						
IMA	**Indian Mountai**	**91.76**	**22**	*e*P	**P**	**22 47 43.0**	**+1.7**

JMA 31 23:38:00.4±0.7,**33.86N**×**142.06E**,**h17**km,**M3.6**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.20**	**312**	P	Pb	23 38 22.2	0.0
BSO1				*e*S	Sb	23 38 37.6	+0.4
BSO2	**Boso 2**	**1.40**	**310**	*e*S	Sb	23 38 45.3	+2.2
BSO3	**Boso 3**	**1.59**	**307**	P	Pn	23 38 28.0	-0.1
BSO4	**Boso 4**	**1.82**	**309**	P	Pn	23 38 32.0	+0.7
JHJ2	**Mitsune**	**2.02**	**249**	P	Pn	23 38 35.2	+1.0
JOD2	**Odawara 2**	**2.82**	**301**	P	Pn	23 38 44.9	-0.8
JYN	**Shimob**	**3.33**	**300**	P	Pn	23 38 53.5	+0.7
JYN				*e*S	Sn	23 39 31.5	-0.9
JAG	**Ashikaga**	**3.33**	**321**	P	Pn	23 38 52.4	-0.6
JRY	**Ryogami san**	**3.37**	**311**	P	Pn	23 38 52.8	-0.7
JMM	**Marumori**	**4.13**	**346**	P	Pn	23 39 02.6	-1.6
MAT	**Matsushiro**	**4.14**	**311**	P	Pn	23 39 04.5	+0.1
MAT				S	Sn	23 39 49.7	-3.2
MAT	**Matsushiro**	**4.14**	**311**	P	Pn	23 39 05.4	+1.0

*BJI **31** 23:51:15.6, 9.02N×93.14E, h44km, mB5.1, mb4.6*
*NEIC **31** 23:51:19.2±1.1, 9.35N×93.01E, h30km, mb4.6/4, Error ellipse: s-maj=24.3km s-min=17.5km az=168.0*
ISC 31 23:51:17.9±1.0,**9.4N**±0.1×**92.9E**±0.1,**h30**km,**n19**, σ0§**97**/20,**mb4.5**/4,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**10.70**	**32**	*e*P	**P**	**23 53 52.5**	**0.0**
	7.3nm,0.4s						
PALK	**Pallekele**	**12.28**	**261**	P	**P**	**23 54 13.4**	**-0.5**
	6.5nm,0.5s						
HYB	**Hyderabad**	**16.07**	**301**	*e*P	**P**	**23 55 07.0**	**+3.4**
HYB				*e*		23 55 22.0	
HYB				*e*S	**S**	**23 57 47.0**	**-13**
JIRN	**Jiri**	**19.21**	**342**	*e*P	**P**	**23 55 41.8**	**-0.6**
	24nm,0.3s						
PKI	**Pulchoki**	**19.39**	**340**	*e*P	**P**	**23 55 44.5**	**+0.1**
	32nm,0.5s						
DMN	**Daman**	**19.53**	**339**	*e*P	**P**	**23 55 45.7**	**-0.3**
	56nm,0.7s						
KKN	**Kakani**	**19.63**	**339**	*e*P	**P**	**23 55 45.7**	**-1.5**
	34nm,0.6s						
GKN	**Gorkha**	**20.05**	**338**	*e*P	**P**	**23 55 50.8**	**-0.9**
	32nm,0.2s						
LSA	**Lhasa**	**20.23**	**356**	P	**P**	**23 55 57.0**	**+3.5**
KOLN	**Koldanda**	**20.25**	**335**	*e*P	**P**	**23 55 52.9**	**-0.8**
	23nm,0.4s						
TKM2	**Tokmak 2**	**36.64**	**338**	P	**P**	**23 58 24.5**	**+0.8**
	SNR=5.6						
KBK	**Karagaybulak**	**36.65**	**338**	P	**P**	**23 58 25.1**	**+1.3**
	SNR=9.7						
AML	**Almayashu**	**36.70**	**336**	P	**P**	**23 58 25.4**	**+1.3**
	SNR=6.2						
AAK	**Ala-Archa**	**36.81**	**337**	*e*P	**P**	**23 58 24.9**	**-0.2**
	3.6nm,0.8s,mb4.2						
EKS2	**Erkin-Say**	**37.11**	**336**	P	**P**	**23 58 28.9**	**+1.3**
	SNR=6.8						
USP	**Ospenovka**	**37.35**	**338**	P	**P**	**23 58 30.1**	**+0.5**
	SNR=14						
KURK	**Kurchatov**	**42.82**	**347**	*e*P	**P**	**23 59 13.4**	**-1.4**
	2.1nm,0.8s,mb3.9						
WRAB	**Tennant Creek**	**50.15**	**126**	*e*P	**P**	**00 00 12.6**	**-0.4**
	9.1nm,0.6s,mb5.0						
LPG	**La Plagne**	**80.67**	**315**	*e*P	**P**	**00 03 30.0**	**+0.3**
	18nm,0.8s,mb4.8						

*ATH **31** 23:55:12.1, 37.25N×28.98E, h38km*
*ISK **31** 23:55:23.5, 37.10N×27.76E, h22km, MD3.1*
ISC 31 23:55:22.0±0.8,**36.96N**±0.04×**27.70E**±0.07,**h19**km±9km, **n14**,σ0§**96**/19,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.23**	**298**	*i* P	**Pb**	**23 55 27.4**	**0.0**
BDRM				*i* S	**Sb**	**23 55 32.1**	**+1.0**
MLSB	**Milas**	**0.34**	**11**	PG	**Pb**	**23 55 28.2**	**-1.1**
MLSB				SG	**Sb**	**23 55 33.6**	**-0.6**
AYDN	**Tasoluk**	**0.72**	**12**	*i* P	**Pb**	**23 55 35.0**	**-0.6**
AYDN				*i* S	**Sb**	**23 55 46.1**	**+1.1**
ARG	**Arkhangelos**	**0.82**	**155**	*e*PN	**Pn**	**23 55 36.1**	**-2.4**
ARG				*e*SN	**Sn**	**23 55 51.0**	**+0.9**
SMG	**Samos**	**1.01**	**318**	*e*PN	**Pn**	**23 55 42.0**	**+0.7**
FETY	**Fethiye**	**1.16**	**106**	*e*PN	**Pn**	**23 55 44.3**	**+0.9**
DNZL	**Cakiroluk**	**1.30**	**56**	*i* P	**Pn**	**23 55 44.6**	**-0.8**
DNZL				*i* S	**Sb**	**23 56 06.3**	**+4.3**
DENT	**Denizli**	**1.33**	**53**	PN	**Pn**	**23 55 45.1**	**-0.7**
KARP	**Karpathos**	**1.47**	**197**	*e*PN	**Pn**	**23 55 46.9**	**-1.0**
IZM	**Izmir**	**1.48**	**347**	*e*PN	**Pn**	**23 55 47.6**	**-0.3**
BLCB	**Balcova**	**1.52**	**340**	*e*PN	**Pn**	**23 55 48.8**	**+0.3**
ELL	**Elmali**	**1.79**	**96**	PN	**Pn**	**23 55 53.9**	**+1.5**
AKS	**Akhisar**	**1.92**	**3**	*e*PN	**Pn**	**23 55 53.8**	**-0.4**
BCK	**Bucak**	**2.36**	**77**	*e*PN	**Pn**	**23 56 01.5**	**+0.9**

IGQ 31 23:58:17.0, 1.48S×80.93W, h12km±9km, mb4.0, 1C, Error ellipse: s-maj=31.0km s-min=13.3km az=166.2, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.57**	**42**	⇑P	Pb	23 58 27.6	-0.9
ARRY	**Arrayan**	**2.48**	**91**	P	Pn	23 58 59.0	+1.1
NAS1	**Nasa**	**2.59**	**71**	P	Pn	23 59 02.0	+2.4
JUA2	**San Juan 2**	**2.64**	**62**	P	Pn	23 59 02.2	+1.9
VC1	**Cotopaxi 1**	**2.66**	**72**	P	Pn	23 59 03.0	+2.5
PINO	**Pino**	**2.67**	**61**	P	Pn	23 59 01.3	+0.6
GGP	**Refugio Guagua**	**2.67**	**61**	P	Pn	23 59 04.1	+3.5
YANA	**Yana**	**2.72**	**60**	P	Pn	23 59 00.5	-0.8
ANTI	**Antisana**	**2.95**	**70**	P	Pn	23 59 07.0	+2.4

ISC Computed Locations for January 2005

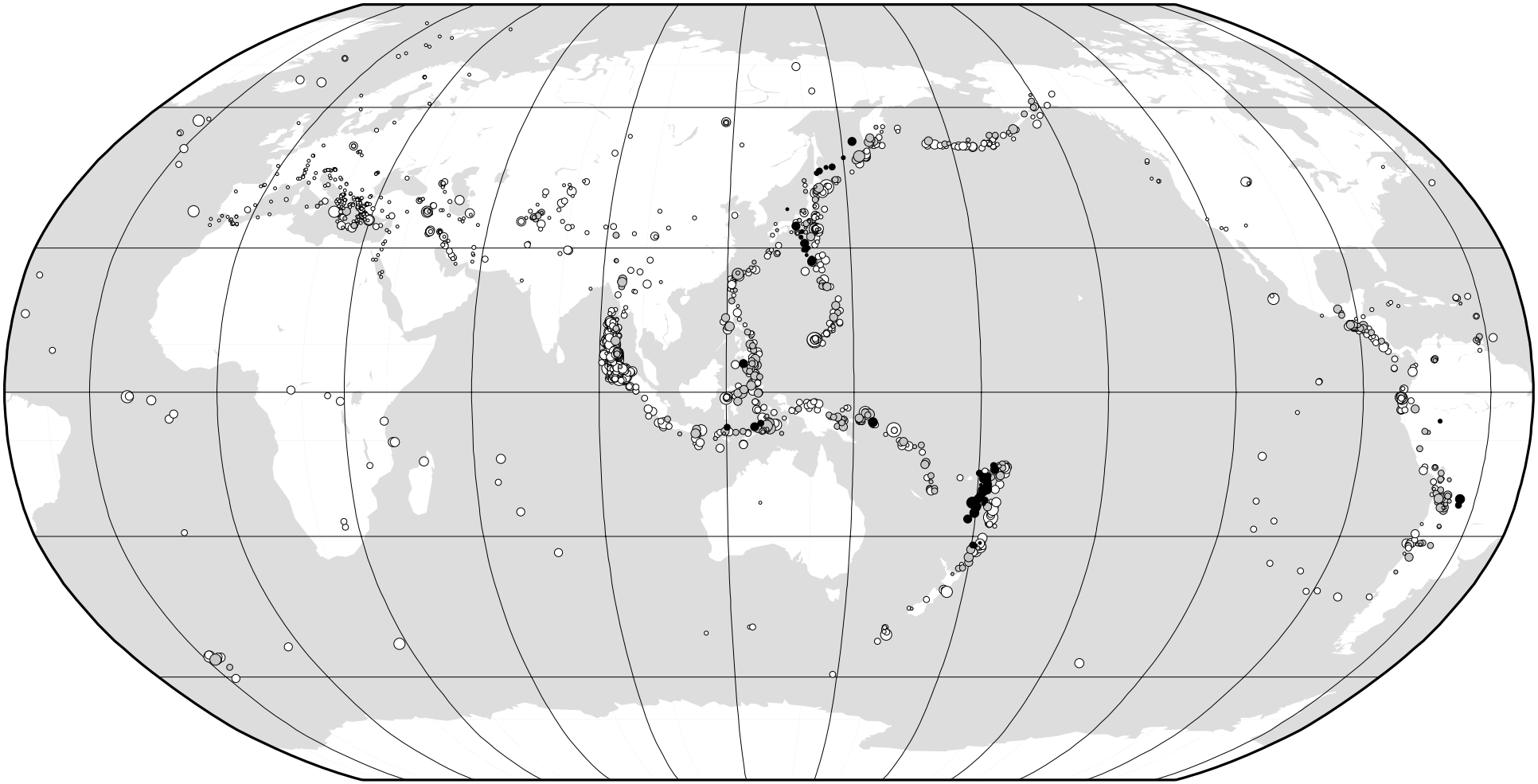

Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

3214 Events